COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

RECORD No. 1966/98

RUM JUNGLE EAST AREA ELECTROMAGNETIC AND RADIOMETRIC SURVEYS,

NORTHERN TERRITORY 1964

by

K. DUCKWORTH

CONTENTS

ILLUSTRATIONS

SUMMARY

Electromagnetic and radiometric investigations of an area six miles to the east of the Rum Jungle mine were carried out in 1964 by the Bureau of Mineral Resources. The area included part of the Coomalie Dolomite/Golden Dyke Formation contact, with which mineralisation in the Rum Jungle district is commonly associated. Two zones of unusually strong electromagnetic anomalies were revealed, one of which corresponded to radiometric anomalies that might be caused by uranium mineralisation.

The electromagnetic anomalies are probably not due to economic base-metal mineralisation, a more likely cause being pyrite. The known association of sulphides and uranium mineralisation in the Rum Jungle area indicates that the two areas of electromagnetic anomalies are worthy of further investigation, and suggestions are made for initial test drilling.

1. INTRODUCTION

In the Rum Jungle area, most of the known mineralisation occurs in the Golden Dyke Formation, close to its contact with the Coomalie Dolomite. The investigation of this contact on the eastern side of the Rum Jungle Granite was the primary aim of a programme of geological mapping and geophysical and geochemical work carried out by the Bureau of Mineral Resources in 1964 in the area known as Rum Jungle East. The geophysical survey covered the area shown in Plates 1 and 2.

The contact between the Golden Dyke Formation and the Coomalie Dolomite is not easily defined in the Rum Jungle East area as it is not visible in any outcrop. Mineralisation in the Rum Jungle area occurs not only along this contact but also within the Coomalie Dolomite and the Golden Dyke Formation and at the contact between the Coomalie Dolomite and the Crater Formation. The geophysical traverses were arranged to ensure that the main contact was covered and were extended to include as far as possible all the most likely environments for mineralisation.

The geophysical survey, using electromagnetic and radiometric methods, was made between 1st June and 21st November 1964. The field party consisted of K. Duckworth (party leader), R. W. Eastick, B. Riley, and four field-hands. The Department of the Interior was responsible for the surveying and pegging of the traverses and engaged a contractor, Timbs and Britten of Sydney, for this work.

2. GEOLOGY

The geology shown in Plate 2 is based on work done in 1964 by Dodson and Shatwell (1965).

The overall structure is synclinal, although the northern half of the area is dominated by an anticline. An easterly dip predominates except where it has been modified by minor structures. Faults in the area have a general trend similar to that of the Giant's Reef Fault.

3. METHODS

A discussion of the electromagnetic methods may be found in a report by Daly (1962). The methods are capable of detecting zones of good conductivity. Good conductors include metals, metallic ores, and some solutions. As many base-metal ores are good conductors, the search for such ores may be assisted by the use of electromagnetic methods.

The methods involve the measurement of the magnetic fields produced by alternating currents flowing in subsurface conducting bodies. These currents are induced in the conducting bodies by a primary alternating magnetic field generated by some form of coil on the Earth's surface. The presence of a subsurface conductor is indicated by the magnitude of the induced field and its phase relationship with the primary field. The method provides good accuracy in the location of the conducting bodies (± 25 feet) but depth estimates are very generalised and can only be made with a knowledge of the conditions to be expected in an area.

The equipment used in the electromagnetic surveying was the Aktiebolaget Electrisk Malmletning Slingram and Turam equipment. The ease of use made the Slingram method ideal for reconnaissance, but the Turam method, because of its greater depth penetration, was better suited to detailed work.

The Slingram equipment consists of two coils, one for transmission and the other for reception, plus associated generating and measuring apparatus. The coils were used with a constant separation of 200 feet and readings were made at 50-ft intervals along traverses. The transmission frequency was 1760 c/s. The quantities measured in the Slingram method are the real and imaginary components of the induced field, i.e. the components that are in phase and 90° out of phase with the primary field, respectively.

The Slingram equipment is calibrated to read a hundred percent and zero percent in the real and imaginary components, respectively, over undisturbed poorly conducting ground. Real-component values below 100% and negative imaginary-component values are to be expected over a good conductor. There is the special case of the excellent conductor which, owing to its low capacitance and self-inductance, produces little phase shift in the induced signal and therefore has little effect on the imaginary component.

In the Turam method the primary field is produced by means of a large rectangular loop of wire laid on the surface. Measurements of the induced effects are made by two receiver coils maintained at constant separation (50 feet in this survey) and moved along traverses perpendicular to, and outside, the long side of the primary loop. The quantities measured are the ratios and phase relations of the signals picked up by the two coils. The instrument is calibrated in a region of zero field gradient to read a ratio of 1.0 and a phase difference of zero. Good conductors produce ratios greater than 1.0 and negative phase differences. Again, there is the special case of excellent conductors which give large ratio and small phase difference anomalies.

The radiometric survey was made with a Harwell ratemeter, type 1368A. Radiometric readings were taken at 50-ft intervals along the traverses. The radiometric survey should reveal any radioactive orebodies that lie close to the surface and possibly deeper ones if leaching has carried radioactive solutions to the surface. Unfortunately the Rum Jungle district contains large areas of valueless superficial deposits of high radioactive content. These create spurious anomalies and make it necessary to compare all surface radiometric anomalies with those from auger holes. Only when a surface anomaly coincides with auger hole probes that show increasing radioactivity with depth, can the surface anomaly be considered significant.

4. FIELD OPERATIONS

An initial reconnaissance survey with Slingram and radiometric methods was made on traverses spaced 2400 feet apart. The results showed interesting electromagnetic anomalies in two areas, which fall between traverses 216S and 264S and between 312S and 432S, and which are referred to as Huandot North and Coomalie Gap West respectively. Intermediate traverses at 400-ft spacing were then surveyed in both areas as shown in Plate 2. The Slingram method was used over the whole intermediate traverse plan so that the Turam method was needed only on the most promising sections.

In the Huandot North area, Turam measurements are made only within 2000 feet east and west of the base line. In the Coomalie Gap West area it was necessary to attempt to cover the whole traverse plan as shown in Plate 2. Radiometric measurements at 50-ft spacing were made along all traverses.

5. RESULTS AND INTERPRETATION

The results of the Slingram reconnaissance survey are shown in Plate 3 in the form of profiles of real and imaginary components. The general picture is one of well-defined zones of anomalies and zones showing little disturbance. The boundaries between the zones are shown in Plate 2 and appear to approximate roughly the geological boundaries plotted by Dodson and Shatwell (1965). The general conclusion from this rough correlation is that electromagnetic anomalies are to be expected over the Golden Dyke and Crater Formations but not over the Coomalie Dolomite. The exceptionally strong Slingram anomalies on traverse 240S and on traverses 336S to 432S led to the selection of the Huandot North and Coomalie Gap West areas for more detailed investigation.

The radiometric profiles on the reconnaissance traverses are shown in Plate 4. The highest radiometric readings found were of the order of 0.05 milliroentgen per hour, which in this area represents approximately three times background. Plate 2 shows places where the surface radioactivity exceeded 0.020 milliroentgen per hour, together with the location of auger hole values greater than 0.040 milliroentgen per hour.

Huandot North area

The results of the detailed Slingram survey are presented in Plates 5 and 6, in the form of contours of the real and imaginary components. There are four main anomalous zones, two west and two east of the baseline, all showing strong north to north-east trends and widths of the order of 500 feet. The anomalies are more pronounced in the real than imaginary components, indicating the presence of very good conductors. The sharpness of the anomalies suggests that they are probably due to near-surface conductors.

The more interesting part of the Huandot North area was covered by the Turam survey. The Turam ratio and phase-difference contours are shown in Plates 7 and 8. The high ratios and moderate phase differences confirm the Slingram evidence of the presence of very good conductors.

In order to compare the Slingram and Turam results, the Slingram real-component 100% contour and the Turam ratio 1.2 contour are shown together in Plate 9. The letters S and T denote the main Slingram and Turam anomalies, respectively. The general Turam picture is remarkably similar to that produced by the Slingram method, in that Turam anomalies are present which by their trend, length, width, and position correspond to the four main Slingram anomaly zones. However, some marked differences are evident when a detailed comparison is made.

The Slingram feature S1 is a strong, wide, single anomaly. The corresponding Turam anomaly T1 has two peaks and is effectively as wide as S1. It seems possible that two near-vertical tabular conducting bodies are responsible rather than one single wide body.

The sharp Turam features T2 correspond to similar Slingram features, but the Turam method failed to detect much of the wider Slingram zone S2. Thus a wide conductor at depth seems to be ruled out, but there appear to be near-surface bodies of exceptionally high conductivity.

Both S3 and T3 are typical of a good conductor and their width, length, and position are in good agreement. Both methods indicate the existence of a body which has a high conductivity and which does not come close to the surface at any point. Model experiments and the anomalies over known conducting bodies in the Rum Jungle area indicate the depth to the top of this body to be between 100 and 150 feet below the surface.

There is a good general agreement between S4 and T4 and between S5 and T5. However, T5 indicates a much better conductor than S5, which is very weak. This may be because the conducting body is at a depth near the limit of penetration of the Slingram method, i.e. the top of the body may be 150 feet or more below the surface. From the Turam results, the body would appear to be of the order of 2000 to 3000 feet long and possibly 100 feet wide.

The detailed radiometric results in the Huandot North area are shown as profiles in Plate 10. There are two zones of weak radiometric anomalies. The first at about 36W on traverses 252S and 248S has been previously investigated as part of the Area 44 survey (Douglas, 1963). The other lies between the baseline and 12E between traverses 280S and 244S. It has a north-south elongation, which agrees with the trend of the electromagnetic disturbance. An auger hole radiometric anomaly was encountered on traverse 240S at about 18E, showing some increase of radioactivity with depth, but the anomaly has no surface counterpart. Another auger hole anomaly occurs on traverse 264S at about 4E and falls within the zone discussed above. However, there is no increase in radioactivity with depth and the anomaly is probably only superficial. The radiometric results are inconclusive with regard to economic uranium mineralisation in this area.

Coomalie Gap West area

The Slingram, Turam, and radiometric results in this area are shown in Plates 11, 12, 13, 14, and 15.

The Slingram results show strong real-component anomalies generally throughout the area, accompanied by only moderate imaginary-component anomalies. The contour maps (Plates 11 & 12) show a marked north-south trend, which is in agreement with the known strike of the geological boundaries in the area.

The real-component contours exhibit four main features :

(1) A strong narrow anomaly along the western boundary of the area accompanied over most of its length by a parallel zone of anomalies of similar magnitude. These probably represent two tabular bodies striking north and dipping about 50° to the east. The bodies are probably no more than 20 feet wide and are separated by a distance of 250 to 600 feet. The depths to the tops of both bodies are about 50 to 75 feet.

(2) A central zone of low values with an average width of about 700 feet. This feature appears to be due to a combination of several narrow vertical conductors that strike north and to a broad horizontal conducting sheet almost 600 feet wide and elongated north-south. This sheet possibly represents the water table, which may have good conducting properties due to dissolved

salts. In support of this hypothesis it is noted that the mean real-component values decrease from the north and south towards traverse 368S. As the drainage is generally towards traverse 368S, a relative rise in the water table and a consequent increased effect on the real component would be expected.

(3) A zone consisting of a single trough flanked by two peaks. The zone persists through the whole area, except for minor discontinuities and changes of strike, which are probably due to faulting. The Slingram results could be caused by a tabular conducting body striking north and dipping at 60° or more to the east, between 20 and 50 feet wide and separated from the conducting zones to the east and west of it by at least 250 feet.

(4) A broad zone of low values on the eastern edge of the area. This is probably another water table effect as the anomalies in the zone are characteristic of the general change of level in Slingram values found when a broad, horizontal, sheet-like conductor is encountered.

The Turam ratio and phase contour maps (Plates 13 & 14) show a good agreement with the trends in the Slingram results. The Turam contours indicate three main zones corresponding to the three westerly Slingram features. The fourth Slingram feature was not covered as the Turam work was curtailed by the onset of wet conditions. The high conductivities in the area are confirmed by the large ratios and moderate phase differences.

Along the western boundary, the Turam results support the Slingram interpretation of two nearby parallel conducting bodies. The Turam anomalies are slightly to the east of the Slingram anomalies, which would be in agreement with the inferred dip of these conductors to the east.

A central zone of Turam ratios generally greater than 1.2 corresponds to the zone of low Slingram real-component values and supports the original interpretation of this zone as a broad horizontal conductor probably caused by the water table.

A zone of Turam anomalies shows very good agreement in trend with the third Slingram feature. However, the Turam ratios show two peaks separated by a trough, and this trough almost exactly coincides with the Slingram trough. Thus it seems that there are two conductors rather than the one inferred from the Slingram interpretation. If the Turam interpretation is correct, this requires a model which will allow the Slingram to give a maximum real-component reading when centred over the conductor instead of the expected minimum. This may be achieved by a horizontal tabular body at shallow depth and having a width of the order of the coil spacing.

Two such bodies, at depths of about 30 feet and having widths of approximately 200 feet, situated parallel to one another and separated by an insulator that can be very narrow would provide an explanation of both the Turam and Slingram anomalies. A likely cause of such conducting bodies lies in the possibility of the water table becoming a good conductor where it intersects a body of high pyrite content. The localisation of this conducting zone in the water table would be a result of the dynamic process in which pyrite is oxidised above the water table into sulphuric acid and ferrous sulphate. These move down into the water table and take part in a further reaction. Thus there will be a concentration of sulphuric acid localised in, and just below, the water table, making the water table an excellent conductor. The lateral diffusion of this conducting solution is prevented by the continuous production and consumption of the solvents in the oxidation and reduction processes occurring above and below the water table.

It is probable that both metallic and ionic conduction are acting in this area but it is not possible to say which is the dominant effect.

The results of the radiometric survey in the Coomalie Gap West area are shown in Plate 15. Three zones A, B, and C of anomalously high radiometric values are denoted. All three persist for at least 2000 feet and are elongated in trends similar to those of the electromagnetic anomalies.

Zones A and C correspond to the broad central zones of low Slingram real-component and high Turam ratio values. It is possible that these zones would join were it not for the increasing depth of overburden towards traverse 368S. Zone C corresponds to an anomaly detected by an airborne survey in 1957 (Livingstone, 1959).

Zone B is situated over an area of shallow overburden, which is mainly gravel of a type often found associated with the superficial radioactive laterite deposits of the area. Thus it is possible that this anomalous zone is caused by superficial deposits.

All three anomalous zones have some counterpart in the radiometric probes of geochemical auger holes and there are indications of an increase of radioactivity with depth.

The relation of these zones to the Coomalie Dolomite/Golden Dyke Formation boundary and to the probable sulphide mineralisation shown by the Slingram and Turam surveys indicates a good possibility of uranium mineralisation.

6. CONCLUSIONS

The electromagneitc anomalies of the Huandot North and Coomalie Gap West areas do not correspond to any major geochemical anomalies. Thus it seems that there is little possibility of economic base-metal mineralisation being the cause of these anomalies. Experience of other electromagnetic anomalies in the Rum Jungle area indicates that if economic basemetal minerals are not responsible then pyritic mineralisation is the most probable cause.

In the Coomalie Gap West area radiometric results indicate a strong possibility of uranium mineralisation associated with the pyrite.

In the Huandot North area no significant radiometric anomalies were observed. However, if some of the conductors in this area are situated below 100 feet, then uranium mineralisation could be associated with them without producing any surface radiometric effects.

There is a strong possibility that the conductive features of these two areas are related, with the consequence that both areas may possibly contain uranium mineralisation. However, it seems best that initial investigations of the mineralisation be concentrated on the Coomalie Gap West area in view of its close proximity to the Coomalie Dolomite/Golden Dyke Formation contact and the good radiometric indications. In this area the anomalies that might be most profitably investigated by drilling are the western boundary anomalies in the region of traverse 348S, the sharp double feature in the east on traverse 340S and the central anomaly zone in the region of traverses 348S and 408S.

7. REFERENCES

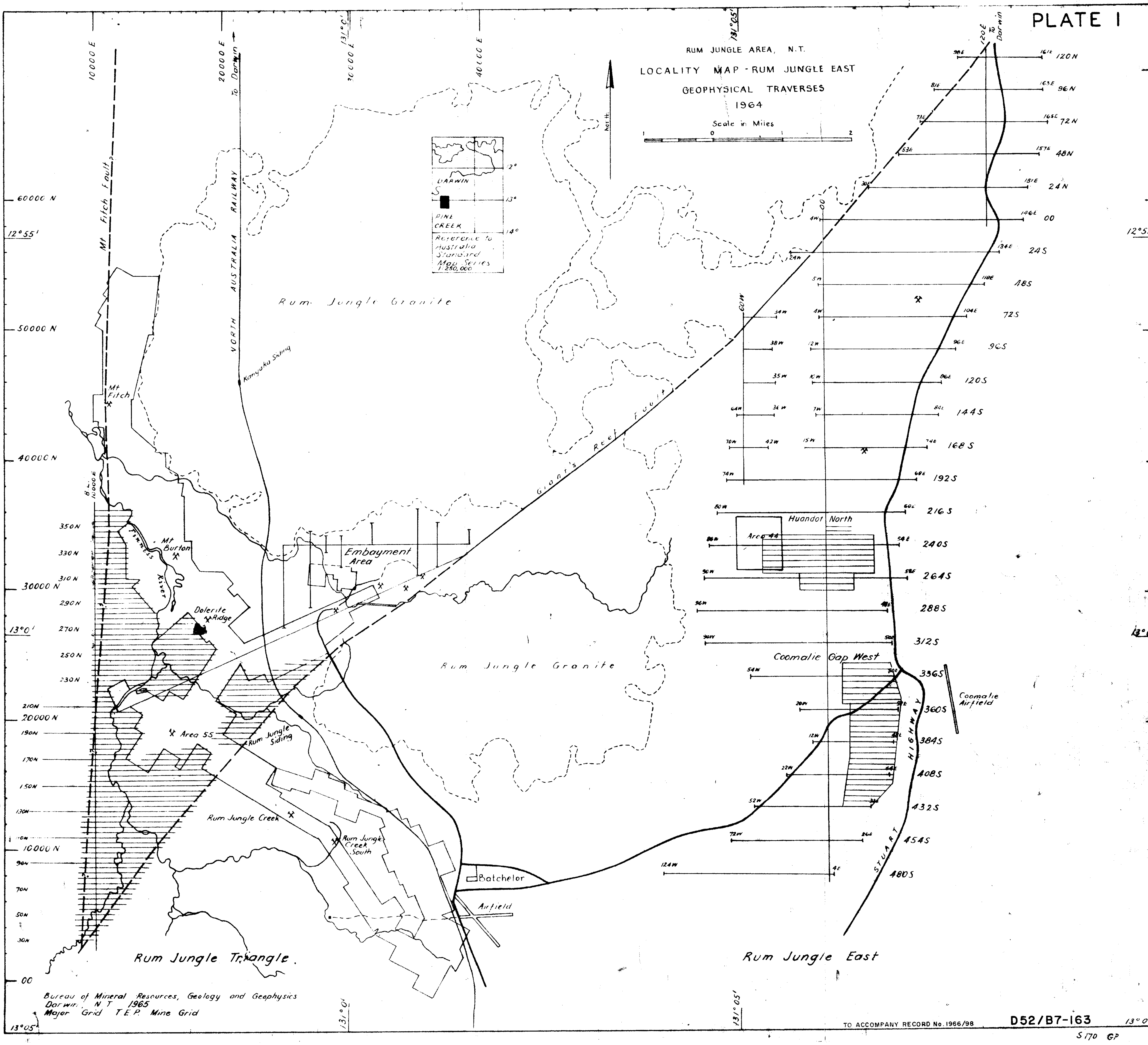
DALY, J. 1962 Rum Jungle district, NT, introductory report on geophysical surveys 1960-61. Bur. Min. Resour. Aust. Rec. 1962/27.

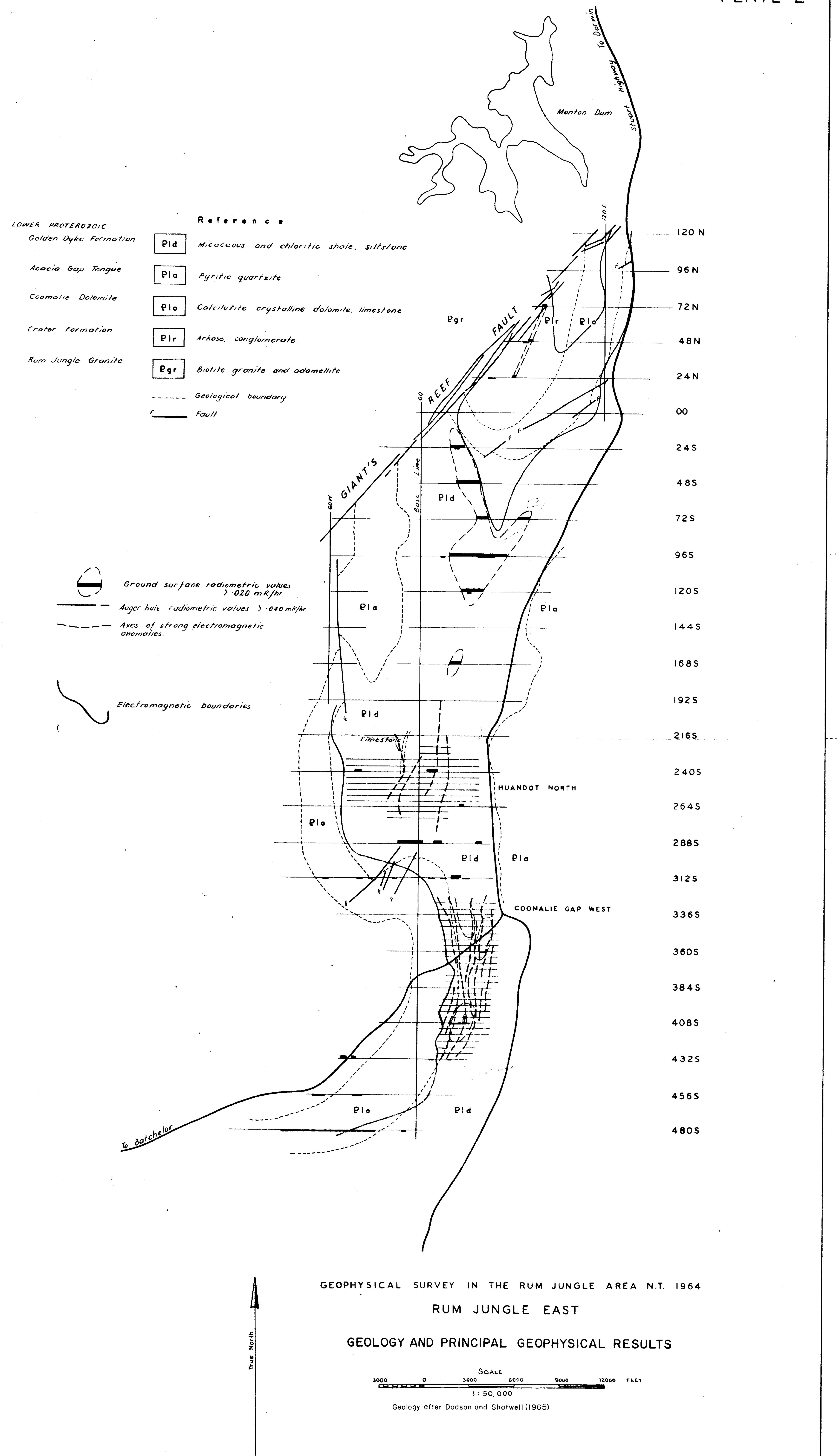
DOUGLAS, A. 1963 Area 44 geophysical survey, NT, 1962. Bur. Min. Resour. Aust. Rec. 1963/104.

DODSON, R.G. and SHATWELL, D.O. 1965 Geochemical and radiometric survey, Rum Jungle 1964. Bur. Min. Resour. Aust. Rec. 1965/254.

LIVINGSTONE, D.F. 1959 Airborne radiometric survey of the Rum Jungle region, NT 1957. Bur. Min. Resour. Aust. Rec. 1959/9.

PLATE I


RUM JUNGLE AREA, N.T.
LOCALITY MAP - RUM JUNGLE EAST
GEOPHYSICAL TRAVERSES
1964
Scale in Miles
North
Rum Jungle Granite
Rum Jungle Granite
NORTH AUSTRALIA RAILWAY
To Darwin
Kangaroo Siding
Mt Fitch Fault
Mt Fitch
Mt Burton
Finniss River
Dolerite Ridge
Embayment Area
Giant's Reef Fault
Huandot North
Area 44
Coomalie Gap West
Coomalie Airfield
STUART HIGHWAY
Area 55
Rum Jungle Siding
Rum Jungle Creek
Rum Jungle Creek South
Batchelor
Airfield
Rum Jungle Triangle
Rum Jungle East
DARWIN
PINE CREEK
Reference to Australia Standard Map Series 1:250,000
10000 E
20000 E
30000 E
40000 E
60000 N
50000 N
40000 N
30000 N
20000 N
10000 N
00
12°55'
13°0'
13°05'
131°0'
131°05'
120 N
96 N
72 N
48 N
24 N
00
24 S
48 S
72 S
96 S
120 S
144 S
168 S
192 S
216 S
240 S
264 S
288 S
312 S
336 S
360 S
384 S
408 S
432 S
454 S
480 S
Bureau of Mineral Resources, Geology and Geophysics
Darwin N.T. 1965
Major Grid T.E.P. Mine Grid
TO ACCOMPANY RECORD No. 1966/98
D52/B7-163
S170 GP



GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

RUM JUNGLE EAST

GEOLOGY AND PRINCIPAL GEOPHYSICAL RESULTS

SCALE 3000 0 3000 6000 9000 12000 FEET

1 : 50,000

Geology after Dodson and Shatwell (1965)

Bureau of Mineral Resources, Geology and Geophysics, Darwin May 1965

TO ACCOMPANY RECORD No. 1966/98

D52/B7-164

PLATE 3

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA, N.T. 1964

RUM JUNGLE EAST

SLINGRAM REAL- AND IMAGINARY- COMPONENT PROFILES

Bureau of Mineral Resources, Geology and Geophysics, Darwin March 1965

TO ACCOMPANY RECORD No. 1966/98

Sheet 1 of 3 Sheets D52/B7-165

PLATE 3

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA, N.T. 1964

RUM JUNGLE EAST

SLINGRAM REAL- AND IMAGINARY-COMPONENT PROFILES

Real
Imaginary

Frequency 1760 c/s
Coil separation 200 ft.

Traverse spacing not to scale

Scale
Horizontal 400 0 400 800 1200 Feet
Vertical 20 0 20 40 60 %

Bureau of Mineral Resources, Geology and Geophysics, Darwin, March 1965

TO ACCOMPANY RECORD No. 1966/98

Sheet 2 of 3 Sheets D52/B7-166

S149

PLATE 3

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA, N.T. 1964

RUM JUNGLE EAST

SLINGRAM REAL- AND IMAGINARY-COMPONENT PROFILES

Bureau of Mineral Resources, Geology and Geophysics, Darwin, March 1965

TO ACCOMPANY RECORD No. 1966/98

Sheet 3 of 3 Sheets D52/B7-167

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

RUM JUNGLE EAST
RADIOMETRIC PROFILES

Traverse spacing not to scale

Scale

HORIZ. 400 0 400 800 1200 FEET

VERT. 0 ·010 ·020 ·030 ·040 mR/hr

Base Line = ·010 mR/hr.

TO ACCOMPANY RECORD No. 1966/98

Sheet 1 of 2 Sheets

D52/B7-168

S157A · GP

Bureau of Mineral Resources, Geology and Geophysics. Darwin. April 1965

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

RUM JUNGLE EAST

RADIOMETRIC PROFILES

Traverse spacing not to scale

HORIZ. 400 0 1200 FEET
VERT. 0 ·010 mR/Hr

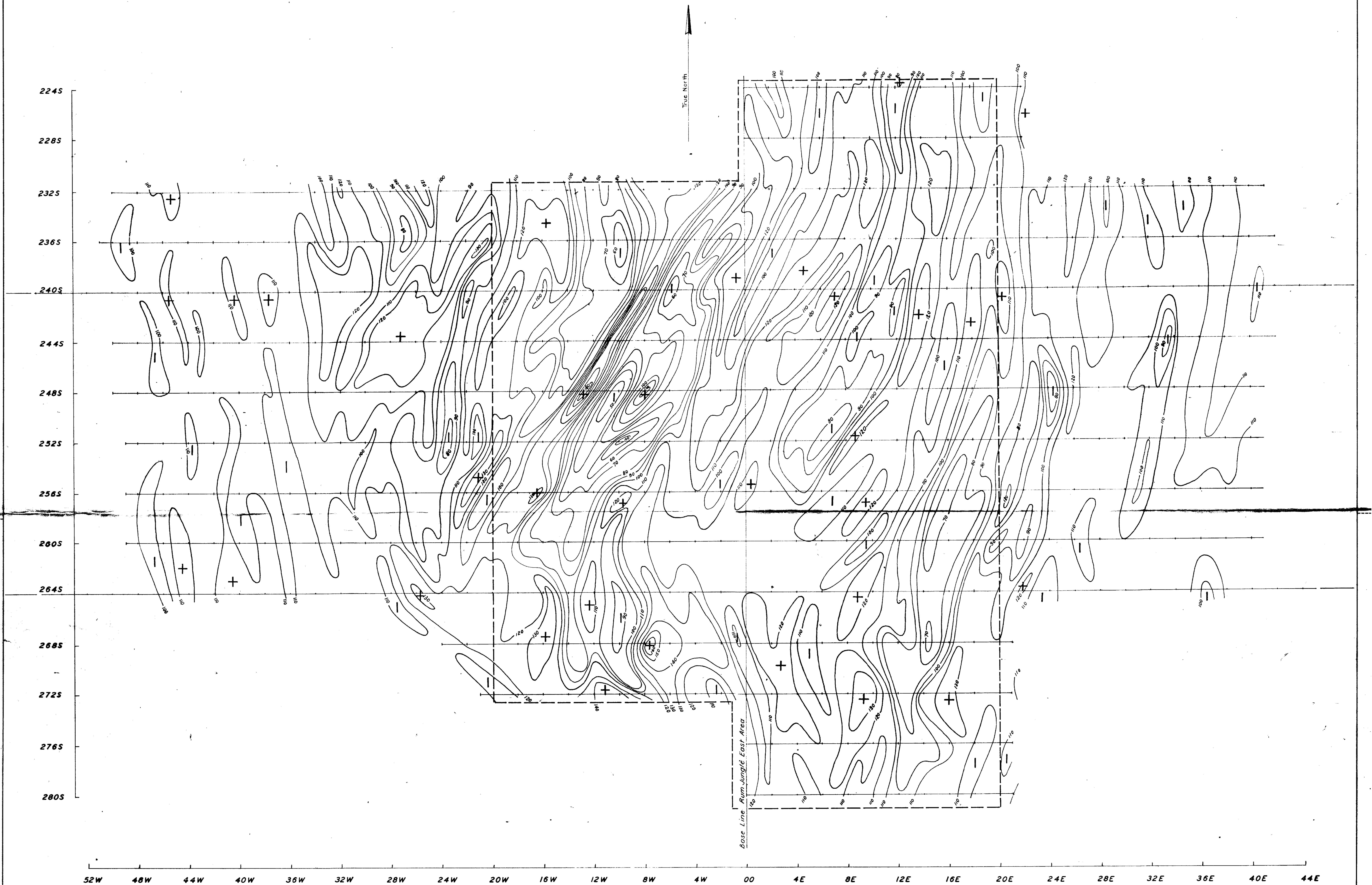
Base Line = ·010 mR/Hr

Bureau of Mineral Resources, Geology and Geophysics. Darwin, April 1965

TO ACCOMPANY RECORD No.1966/98

Sheet 2 of 2 Sheets

D52/B7-169



GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

HUANDOT NORTH, RUM JUNGLE EAST

SLINGRAM REAL-COMPONENT CONTOURS

Frequency 1760 c/s
Coil Separation 200 ft.
Contour Interval 10 %
Boundary of Turam Survey — — —

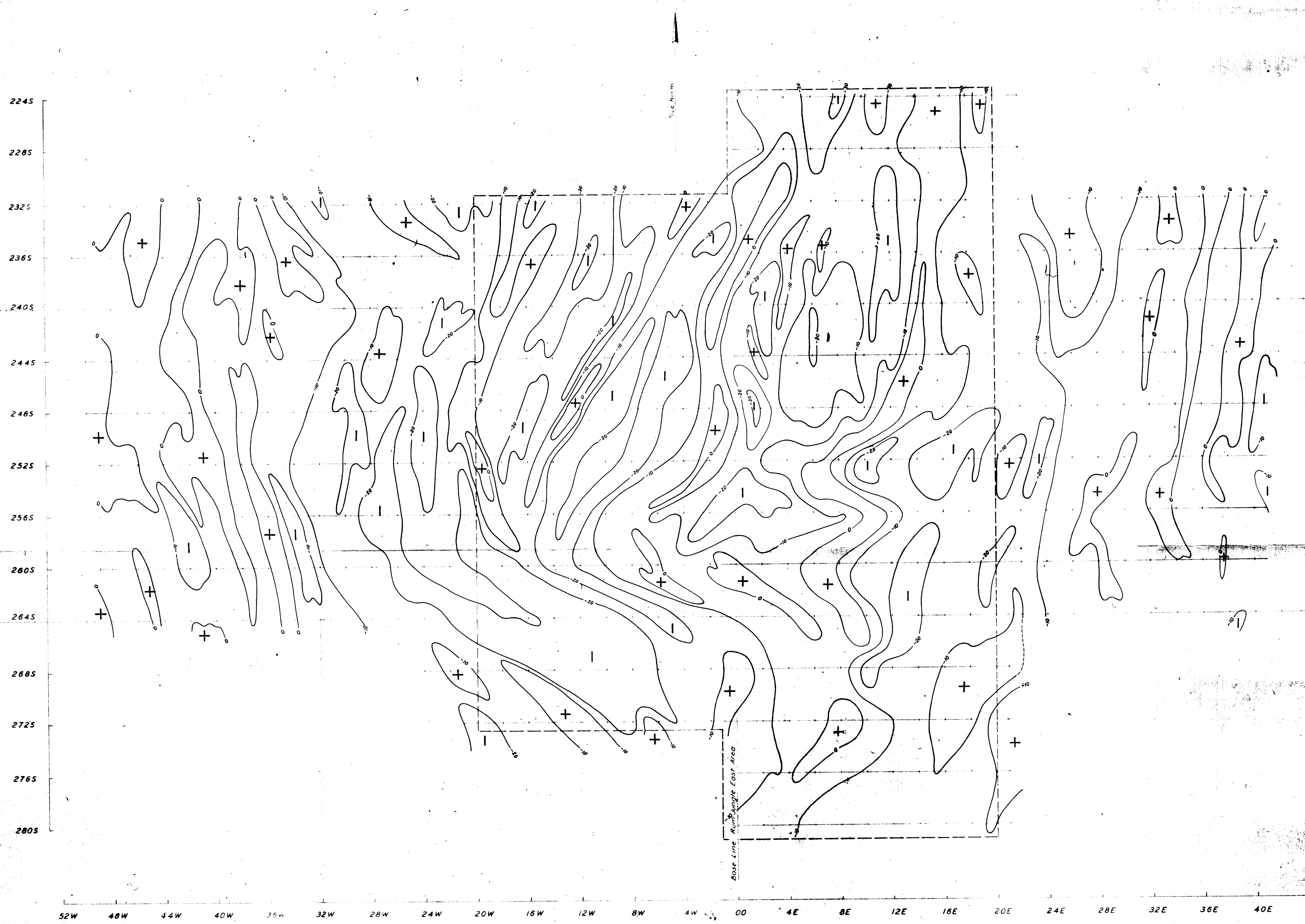
Scale
400 0 400 800 1200 Ft.

Bureau of Mineral Resources, Geology and Geophysics, Darwin. Feb 1965

TO ACCOMPANY RECORD No. 1966/98

D52/B7-170

PLATE 6



GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

HUANDOT NORTH, RUM JUNGLE EAST

SLINGRAM IMAGINARY-COMPONENT CONTOURS

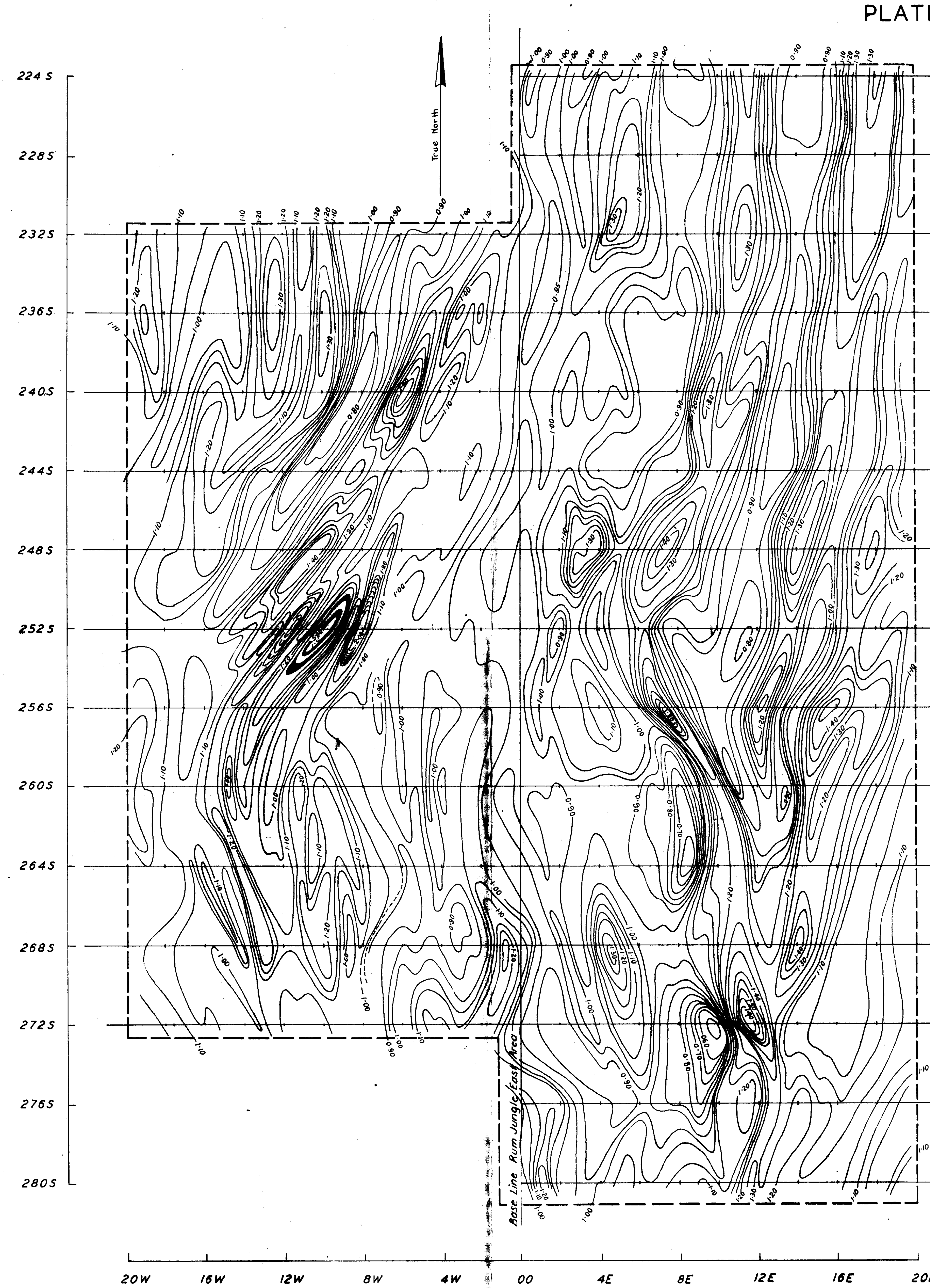
Frequency 1760 c/s
Coil Separation 200 ft.
Contour Interval 10 %

Bureau of Mineral Resources, Geology and Geophysics, Darwin. Feb 1966

TO ACCOMPANY RECORD No.1966/98

D52/B7-171

PLATE 7



GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

HUANDOT NORTH, RUM JUNGLE EAST.

TURAM RATIO CONTOURS

Frequency 440 c/s
Coil Separation 50 ft.
Contour Interval 0·05

Scale

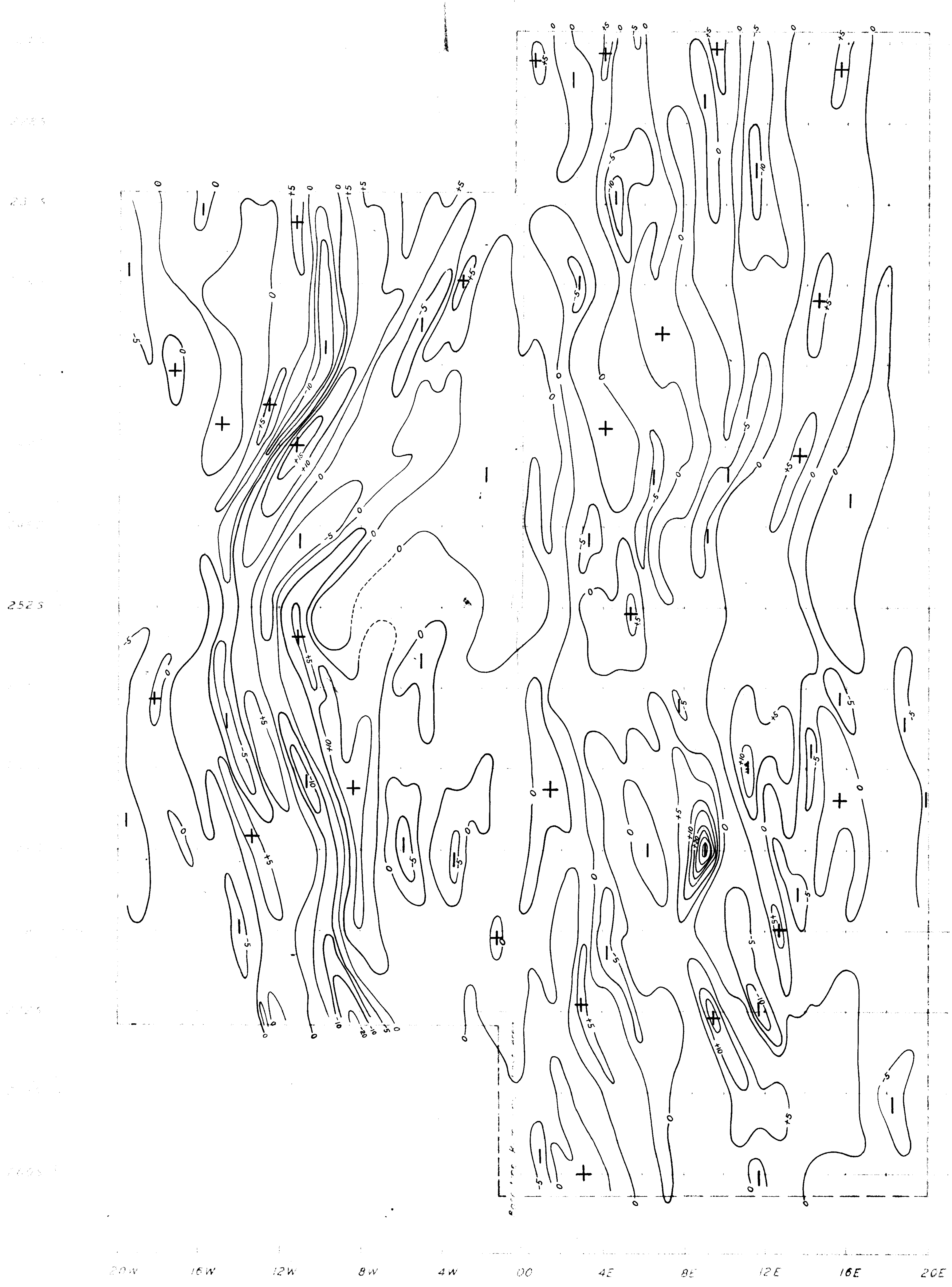
400 0 400 800 1200 Ft.

Bureau of Mineral Resources, Geology and Geophysics, Darwin, Feb. 1964

TO ACCOMPANY RECORD No. 1966/98 D52/B7-172

S148·GP

PLATE 8



GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

HUANDOT NORTH, RUM JUNGLE EAST.

TURAM PHASE CONTOURS

Frequency 440 c/s
Coil Separation 50 ft.
Contour Interval 5°

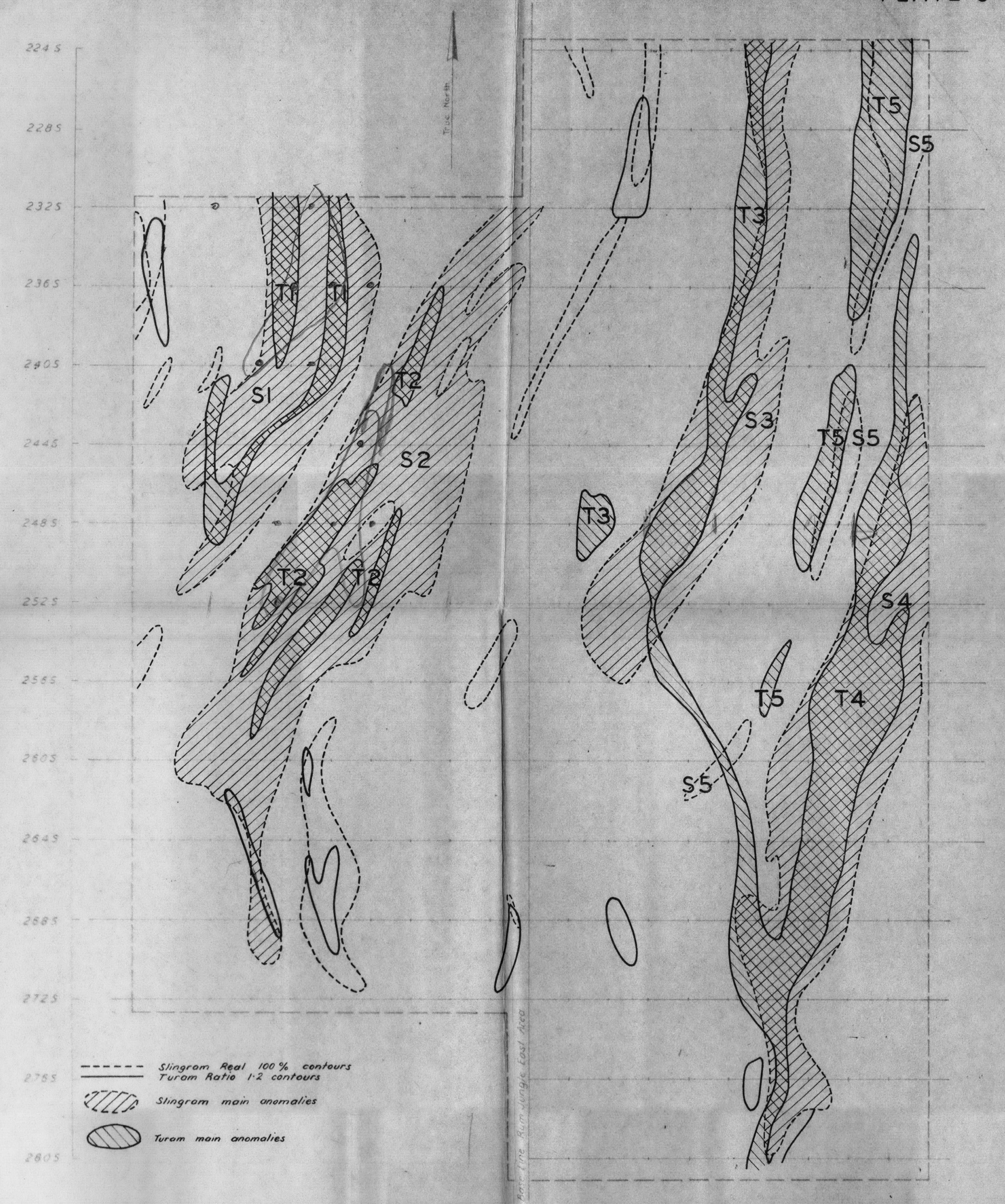
Scale

TO ACCOMPANY RECORD No. 1966/98

D52/B7-173

S147 · GP

PLATE 9



GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

HUANDOT NORTH, RUM JUNGLE EAST.

COMPARISON OF MAIN SLINGRAM AND TURAM ANOMALIES

Scale

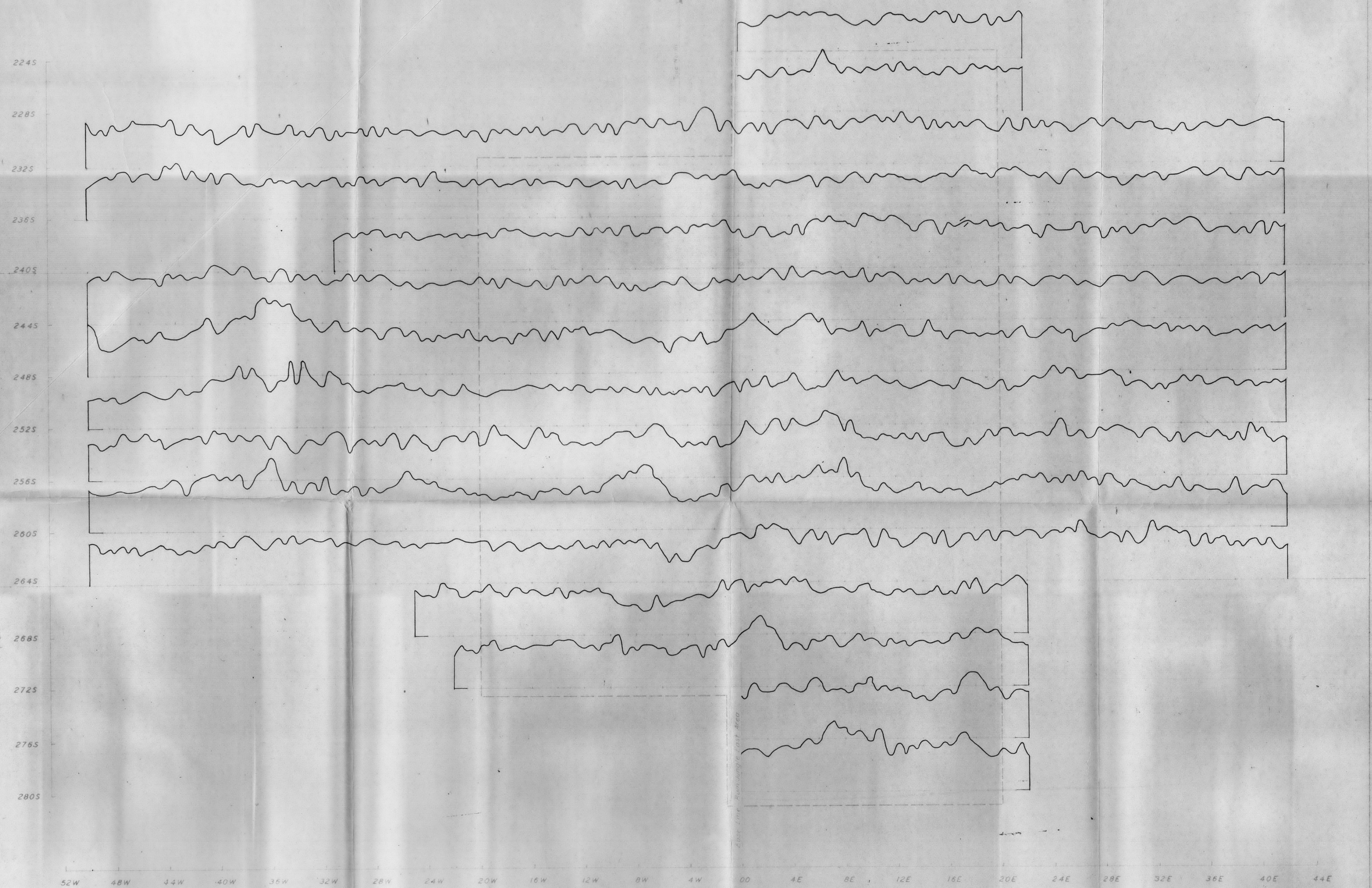
400 0 400 800 1200 Ft.

Bureau of Mineral Resources, Geology and Geophysics Darwin Feb 1964

TO ACCOMPANY RECORD No. 1966/98 D52/B7-174

S150 GP

PLATE 10



GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

HUANDOT NORTH, RUM JUNGLE EAST

RADIOMETRIC PROFILES

Scale

Vertical : 1 inch = ·020 mR/hr

TO ACCOMPANY RECORD No.1966/98 D52/B7-175

S151 · GP

PLATE II

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

COOMALIE GAP WEST

RUM JUNGLE EAST

SLINGRAM REAL-COMPONENT CONTOURS

Frequency 1760c/s
Coil separation 200 ft.
Contour interval 5%

\+ *Peak* | *Trough*

True North

Scale 400 0 400 800 1200 FT.

Bureau of Mineral Resources, Geology and Geophysics, Darwin Feb. 1965

TO ACCOMPANY RECORD No.1966/98 D52/B7-176

GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

COOMALIE GAP WEST
RUM JUNGLE EAST

SLINGRAM IMAGINARY-COMPONENT CONTOURS

Frequency 1760 c/s
Coil separation 200 ft
Contour interval 5%

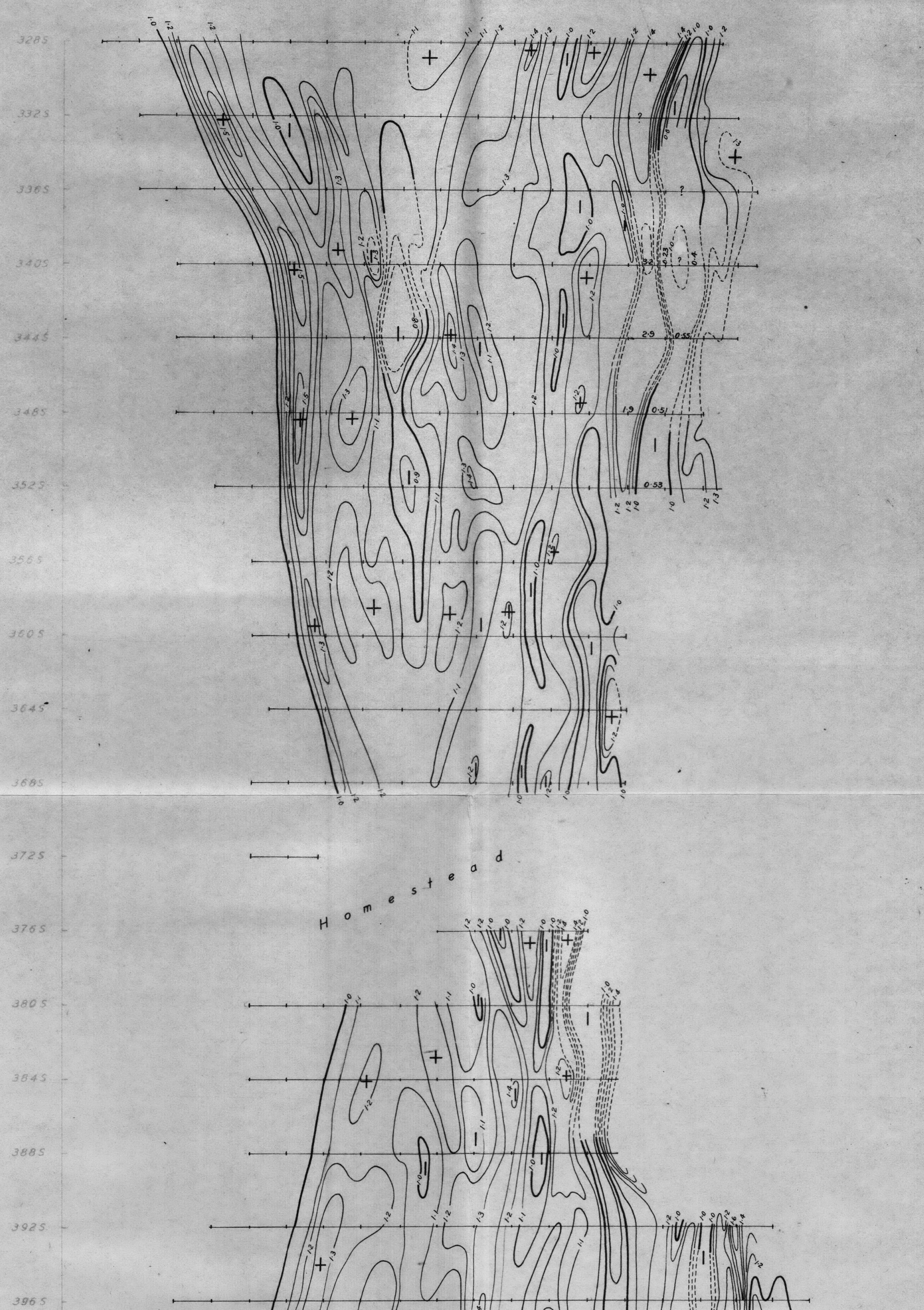
+ Peak | Trough

Scale
400 0 400 800 1200 FT.

Bureau of Mineral Resources, Geology and Geophysics, Darwin Feb. 1965

TO ACCOMPANY RECORD No. 1966/98 D52/B7-177

S153-GP



GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

COOMALIE GAP WEST

RUM JUNGLE EAST

TURAM RATIO CONTOURS

Frequency 440 c/s
Coil separation 50 ft.
Contour interval 0·1

True North

+ *Peak* | *Trough*

Scale
400 0 400 800 1200 FT

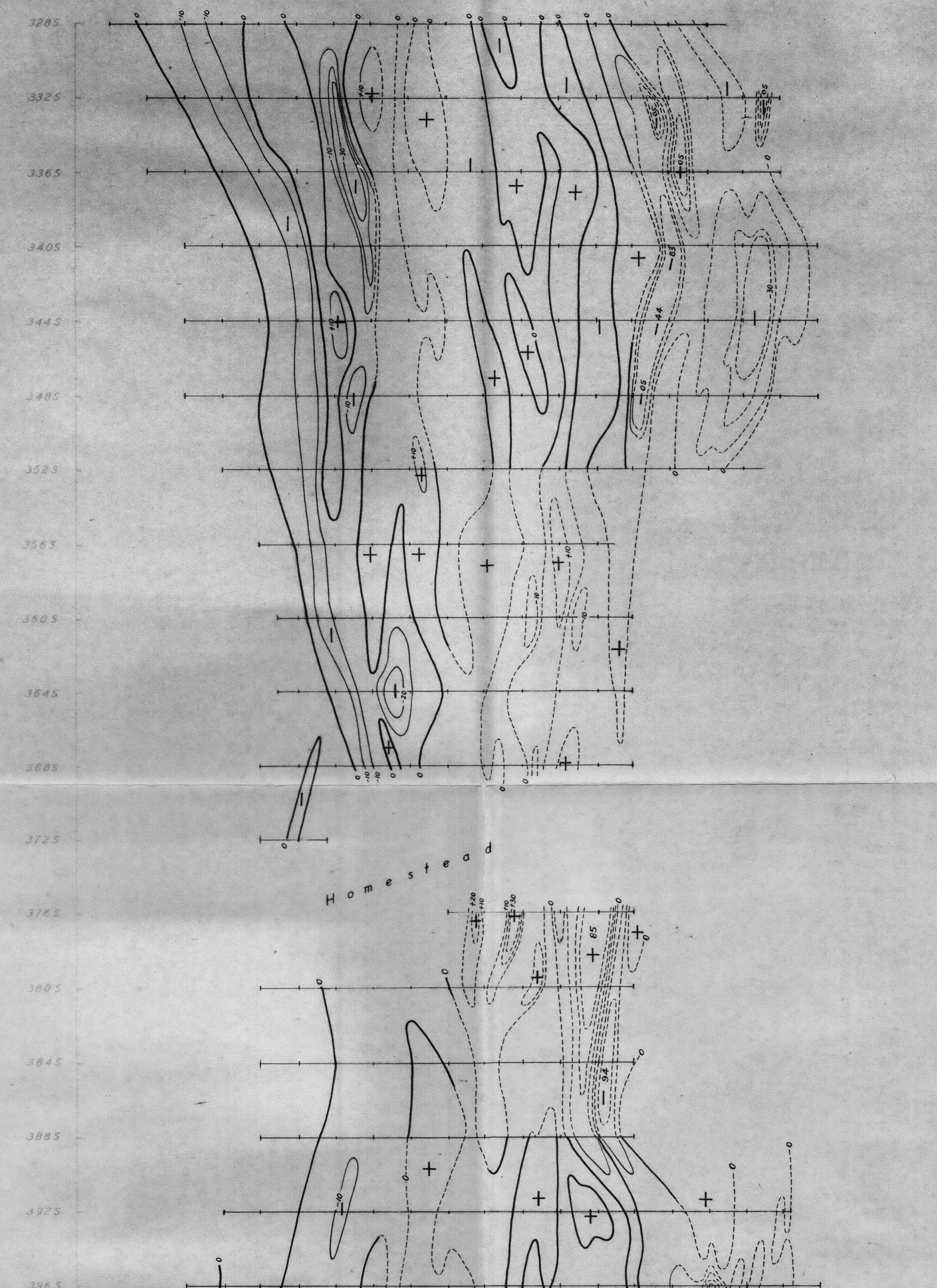
Bureau of Mineral Resources, Geology and Geophysics, Darwin Feb. 1965

TO ACCOMPANY RECORD No.1966/98

D52/B7-178

S154·GP

PLATE 14



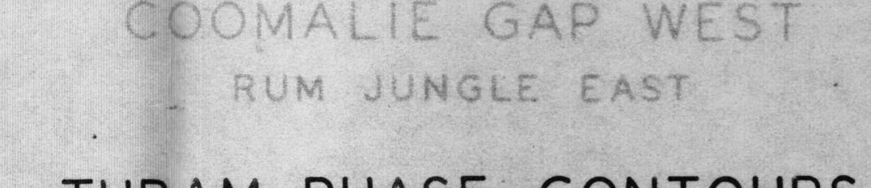
GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

COOMALIE GAP WEST
RUM JUNGLE EAST

TURAM PHASE CONTOURS

Frequency 440 c/s
Coil separation 50 ft.
Contour interval 10°

+ *Peak* | *Trough*

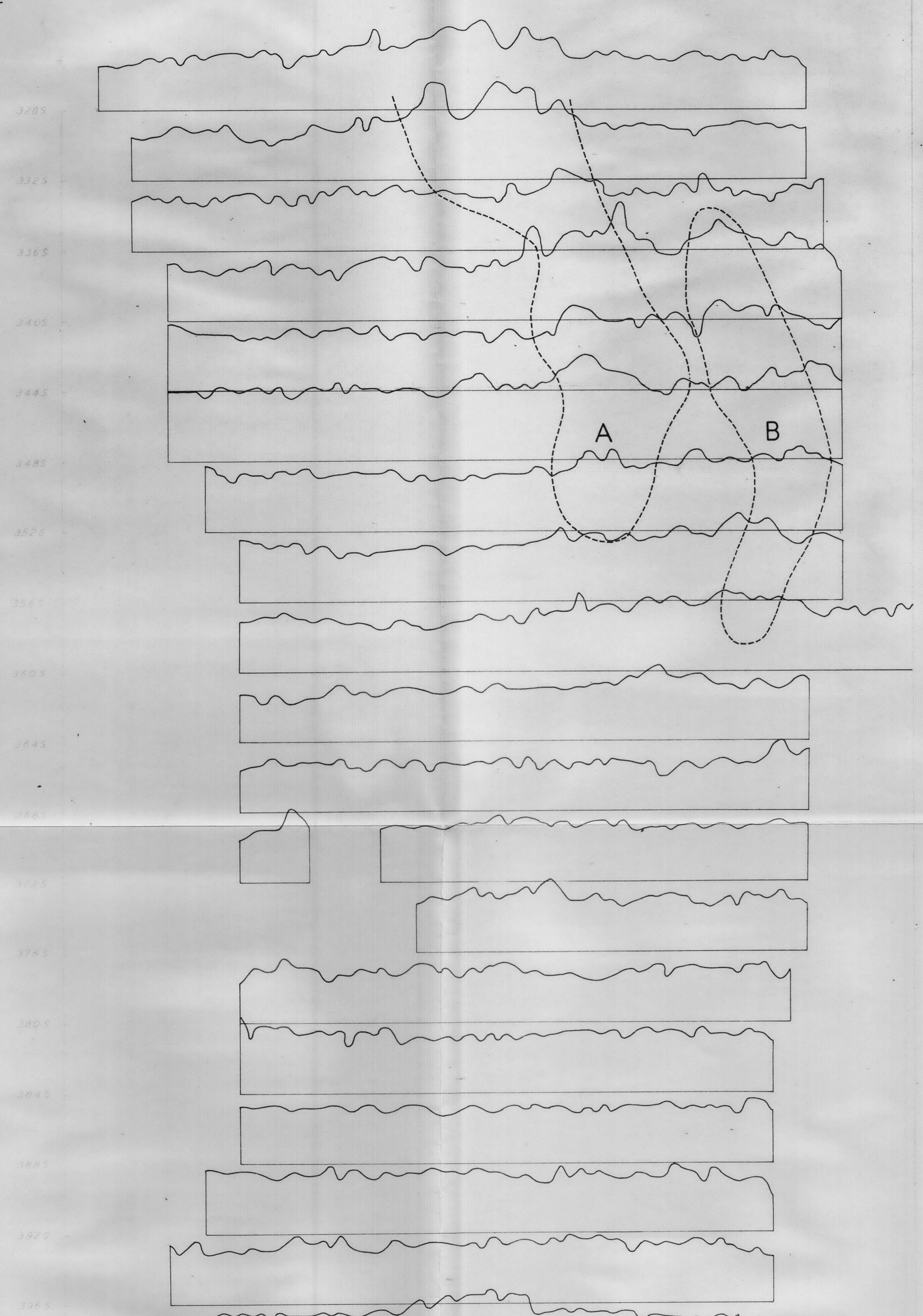


Bureau of Mineral Resources, Geology and Geophysics Darwin. Feb. 1965

TO ACCOMPANY RECORD No. 1966/98

D52/B7-179

5155 GP



GEOPHYSICAL SURVEY IN THE RUM JUNGLE AREA N.T. 1964

COOMALIE GAP WEST

RUM JUNGLE EAST

RADIOMETRIC PROFILES

Denotes areas of Anomalous Radiometric Values.

Scale

HORIZ. 400 0 400 800 1200 FT

VERT. 0·02 0 0·02 0·04 0·06 MR/hr

Bureau of Mineral Resources, Geology and Geophysics, Darwin Feb. 1965

TO ACCOMPANY RECORD No. 1966/98 D52/B7-180

S156·GP.