

D.K.S.G

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of M	A.O.	C.G.	E.O.	D.S.M.E.
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999

PROJECT NAME: ARTHUR RIVER

TITLE: 1982 AEROMAGNETIC SURVEY INTERPRETATION
OF AN AREA WEST OF WARATAH

OPEN FILE

AREA NAME/S, STATE 1:250,000 SHEET NO/S & COORDINATES: Burnie

COMMODITY/IES:

TEXT PAGES NO: 2

PLAN NOS: 3

TABLE NOS:

APPENDICES:

AUTHOR/S: D B Trussell

DATE: 6th October 1982

83-1912

AUSTRALIAN ANGLO AMERICAN LIMITED

Incorporated in the State of Victoria

ARTHUR RIVER AEROMAGNETIC SURVEY1. INTRODUCTION

In March 1982 Geoex carried out an airborne total magnetic field survey over an area west of Waratah, Tasmania.. The location is shown in figure 1. A mean terrain clearance of 225 metres was used. Flight line spacing was 200m. The magnetometer had a sensitivity of 1nT and a sample interval of 0.8 seconds.

2. PROCEDURE

The original flight path recovery was done on a photomosaic with an inaccurate scale. Metric grid points were marked on the photographs and a new plot of the flight path and contours was carried out on standard 1:100,000 map sheets. These 1:10,000 plans were used for the work described here.

Many magnetic anomalies are so close together that they do not appear as separate responses on the contour plan. For this reason and also to check the quality of the Geoex work, a detailed study was made of the original analog records. The Geoex stacked profile plans were not found to be very useful in this regard since filtering had been applied to the data before the plotting was done. This tended to degrade anomaly resolution.

All readily discernable magnetic responses were plotted at their correct position on the flight path recovery plan. An overlay with this information has been prepared and is included with this report.

3. DISCUSSION

The contour map as already noted did not accurately portray the details of the magnetic field and so was not used in the interpretation.

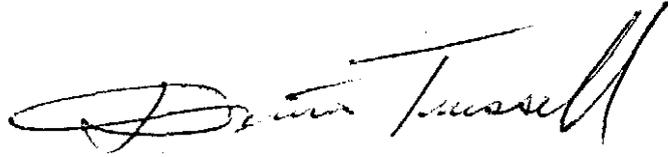
The northern two thirds of the area has a ENE strike direction. This is evident in the geologic mapping as well as the aeromagnetic data. In the southern third of the area there is no geological information available. In this area the strike, as shown in the aeromagnetics, is essentially east west.

There is one area with possible similarity to Mt Bischoff, it is marked as target one on the accompanying plan. The source of this response is possibly as great as 100 metres.

The various small prospects within the survey area do not have any magnetic expression. There is, however, a small amplitude anomaly (250 nT) just north of the Magnet mine. It is not known if this is directly associated with mine mineralisation.

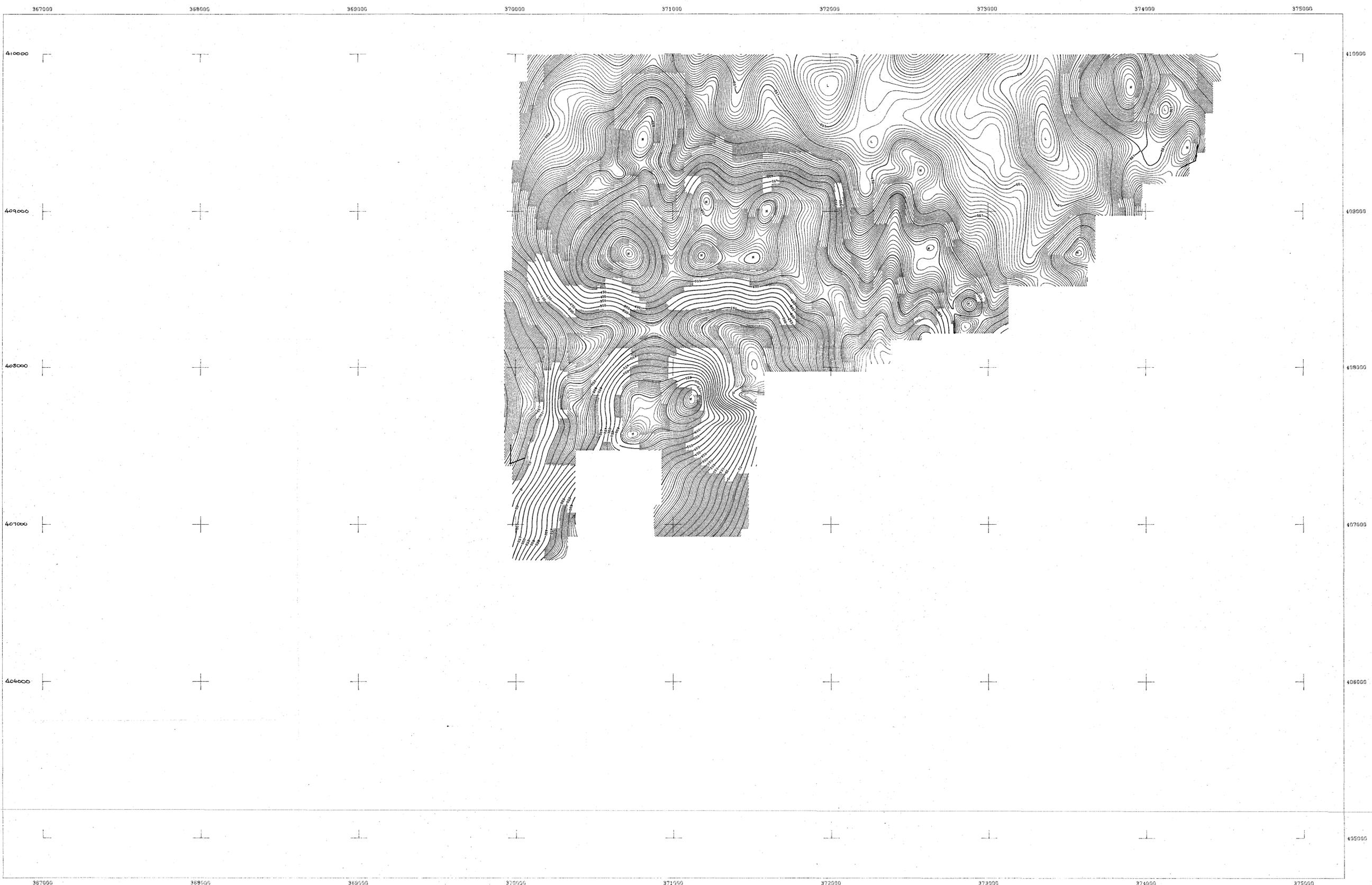
4. CONCLUSIONS

A grid should be established on target one. It should be covered with a magnetic survey and the results examined with a view to carrying out EM work.

A handwritten signature in cursive script, appearing to read "D B Trussell". The signature is written in dark ink and is positioned above the typed name.

D B Trussell

DBT:pmck
6.10.82



Airborne Geophysical Survey and Compilation by



for

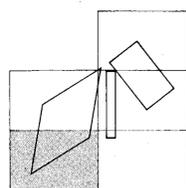
AUSTRALIAN ANGLO AMERICAN LIMITED

MT. BISCHOFF AREA TASMANIA

CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY

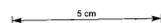
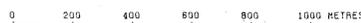


SURVEY LOCATION



SHEET INDEX

SCALE 1:10000



The data presented is the residual magnetic intensity, after subtracting the International Geomagnetic Reference Field from the observed Total Magnetic Intensity. The data was corrected for diurnal drift using a base station monitor at SMITHTON Airfield, Latitude 40.837 S, Longitude 145.083 E, Altitude 9 Metres. The sensor height was 3 metres. The adopted value for this location was 52174 nT. Final detailed levelling of the data was performed using tie-line crossover analysis. A simple 3 point filter was applied to the data, which was then gridded and contoured using a 50m by 50m mesh cell.

EQUIPMENT SPECIFICATIONS
 Cessna 441BSE Aircraft
 SONOTEK 10551 SYSTEM
 0.1 nT MAGNETOMETER
 256 CHANNEL SPECTROMETER
 24 Litre NAI(TL) DETECTOR
 KING KRAIO RADAR ALTIMETER
 16mm Ground Tracking Camera
 Industry Standard 9 track
 32 RPM Magnetic Tape
 8 Channel Analogue Recorder
 3 Channel Analogue Recorder for Magnetometer

The nominal flight line separation was 150 metres, and the nominal tie-line bearing was -90 degrees. The observed mean sample interval in the flight direction was 38 metres, achieved with a nominal aircraft speed of 100 Knots, and a reading interval of 0.8 seconds. The mean sensor height was 150 metres, using a towed bird configuration. The magnetometer accuracy is 1.0 nT, and the resolution 1.0 nT.

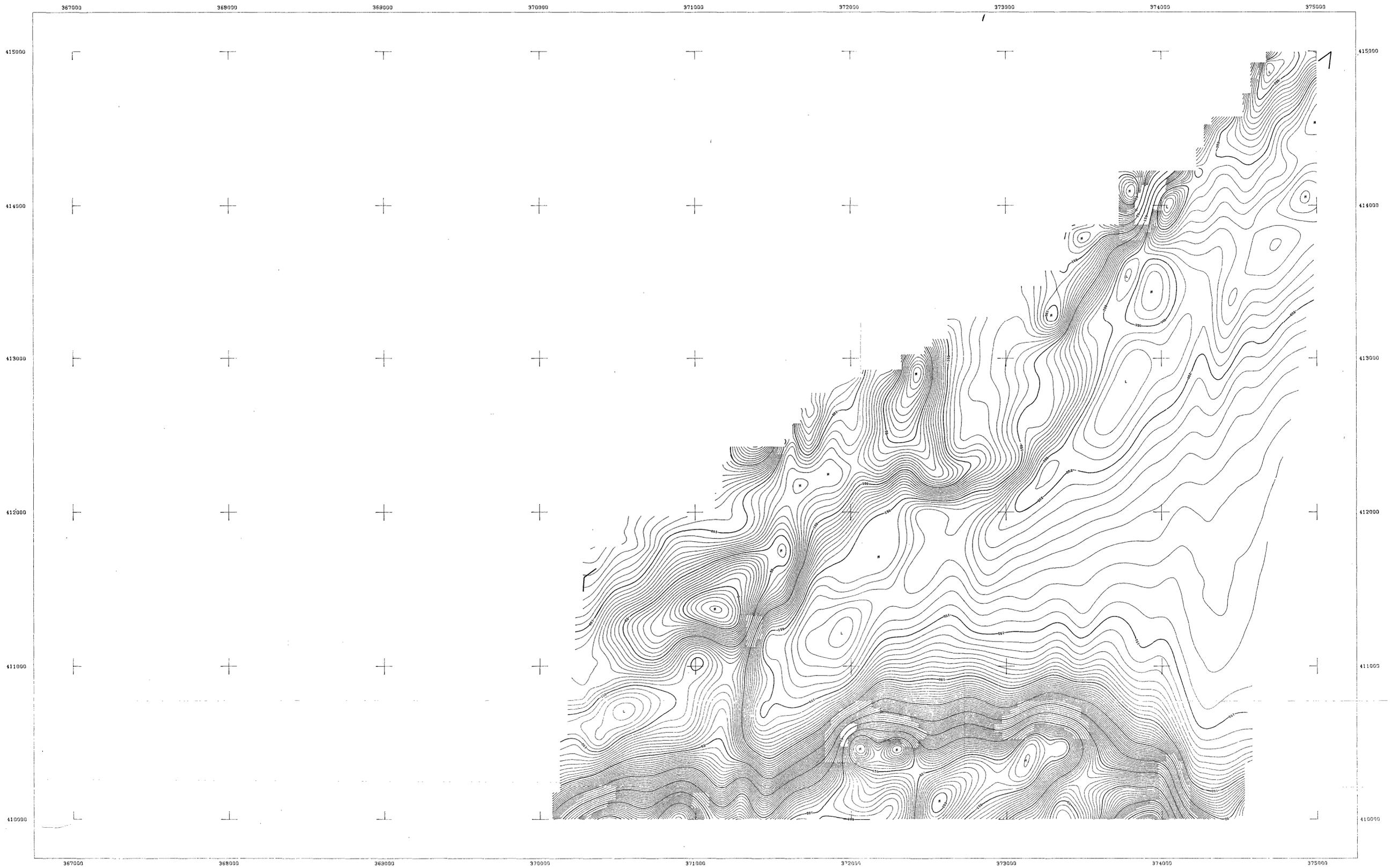
SURVEY BOUNDARY

634004

CONTOUR INTERVAL 5 nTesla

PROJECT NUMBER 82756

SURVEYED MARCH 1982



Airborne Geophysical Survey and Compilation by

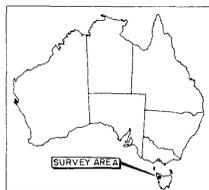


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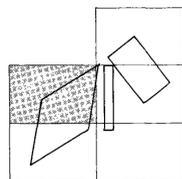
AUSTRALIAN ANGLØ AMERICAN LIMITED

MT. BISCHØFF AREA TASMANIA

CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY

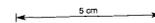


SURVEY LOCATION



SHEET INDEX

SCALE 1:10000



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EQUIPMENT SPECIFICATIONS
 Cessna 441B5 Aircraft
 SONOTEK GSSI SYSTEM
 0.1 nT MAGNETOMETER
 256 CHANNEL SPECTROMETER
 24 Litre Nd (Ti) DETECTOR
 KING KRA10 RADAR ALTIMETER
 15mm Ground Tracking Camera
 Industry Standard 8 track
 32 RPM Magnetic Tape
 8 Channel Analogue Recorder
 3 Channel Analogue Recorder
 for Magnetometer

The nominal flight line separation was 150 metres, and the nominal tie-line bearing was -80 degrees. The observed mean sample interval in the flight direction was 38 metres, achieved with a nominal aircraft speed of 100 knots, and a reading interval of 0.5 seconds. The mean sensor height was 150 metres, using a towed bird configuration. The magnetometer accuracy is 1.0 nT, and the resolution is 1.0 nT.

— SURVEY BOUNDARY

CONTOUR INTERVAL 5 nTesla
 PROJECT NUMBER 82756 SURVEYED MARCH 1982

634005



4/5000E

4/2000E

4/2000E

634006

375000E

~ faults
 - - - - survey boundary

MAGNETIC ANOMALIES

- ===== 700 + nT
- =====
----- 550 - 700 nT
- =====
----- 350 - 550 nT
- =====
----- 150 - 350 nT
- < 150 nT

AUSTRALIAN ANGLIO AMERICAN LTD			
PROJECT	5 cm		
AREA	ARTHUR RIVER		
DATA	AERO MAGNETIC INTERPRETATION		
COMPILED		SCALE	1:10000
DRAWN	DBT	REF No	A
AMENDED			



TARGET 1

N 000 014

634007

AUSTRALIAN ANGLo AMERICAN LTD			
PROJECT			
AREA	5cm		
DATA	ARTHUR RIVER AEROMAGNETIC INTERPRETATION		
COMPILED	Oct 5, 1982	SCALE	1:10,000
DRAWN	DBT	REF No	B
AMENDED			

Legend is on adjoining sheet