

D.K.G.

636001

**MICROFILMED**

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Received & Answered				1 DEC 1982
DEPT. OF MINES				REGISTRAR
APP. No. 10,077/82				E.A.I.

**QAC**

PROJECT NAME: RAMSAY

TITLE: 1982 AEROMAGNETIC SURVEY INTERPRETATION

**OPEN FILE**

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APPENDICES:

AUTHOR/S: D B Trussell

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**83-1910**

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RAMSAY AEROMAGNETIC SURVEY1. INTRODUCTION

In March 1982 Geoex carried out an airborne total magnetic field survey over the Ramsay area. The area covered is shown on 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. The location of the various Ramsay Input anomalies are marked on the overlays. These were obtained by superimposing the Input aeromagnetic contour plan on the Geoex contour plan and transferring the Input anomaly locations in this way into metric co-ordinates.

The boundaries of the various Input follow-up grids have also been marked on the overlay.

3. DISCUSSION

The contour map, while not able to accurately portray details of the magnetic field, is useful in giving a general overview of the data. In particular, magnetic gradients accurately delineate the boundaries of the Meridith Granite to the west, the Ramsay group rocks to the east and the Dundas group to the far east. Overall, the magnetic field is exceedingly uniform except for the Crimson Creek rocks, and a small section in the north east corner which may be an area of basalt.

The location of all Input follow-up grids are correct with respect to the metric co-ordinate locations of the EM anomalies obtained from superimposition of the aeromagnetic maps.

2.

The ground magnetic data from CAF, CAG, CAI, CAJ, CAL and CAM was compared to the aeromagnetic data. In each case good agreement was obtained between the two.

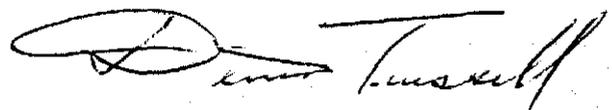
The usefulness of carrying out detailed aeromagnetic surveys was clearly apparent in the simplicity of the airborne results compared to the ground surveys.

The principal anomaly extends from north to south right across the survey area. It is double peaked on many lines. It is on strike with the Huskisson ultrabasics.

Several as yet uninvestigated localised magnetic anomalies of low amplitude occur in the survey area. With two exceptions all of these anomalies lie in the same position as the skarn i.e. between the Meridith granite and the main Crimson Creek magnetic marker. One exception lies in the extreme south east corner of the survey area on line 40 at fid 2704. The source is within 20m of the surface. The other exception is on line 30 at fid 2392. The source is at a depth of up to 200m.

It is recommended that one east west oriented line (preferably two lines 500 metres long) be established across each isolated magnetic anomaly. These lines should be covered with PEM using a coil spacing of 100 metres. The positions of the anomalies in locations similar to the skarn zone are:

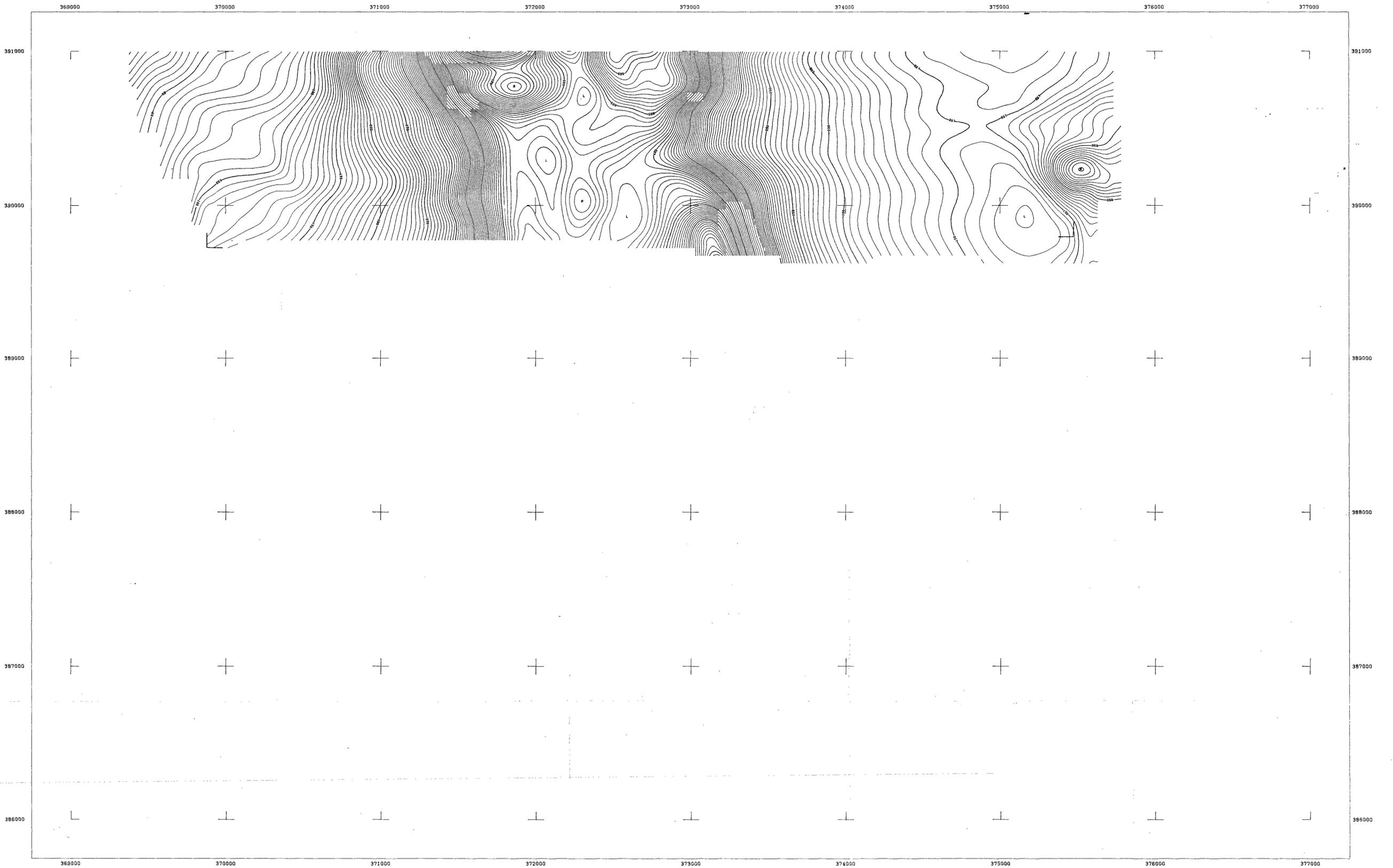
Line 80 fid 2543  
Line 211 fid 1117  
Line 250 fid 2802.



D B Trussell

## PLANS

CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY ( 5 SHEETS : RAMS (1,2,3,5,6,)	1:10,000
RAMSAY AEROMAGNETIC INTERPRETATION ( 3 SHEETS : A,B,C,)	1:10,000



Airborne Geophysical Survey and Compilation by



for

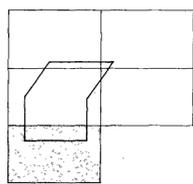
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MT RAMSAY AREA TASMANIA

CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY



SURVEY LOCATION



SHEET INDEX

SCALE 1:10000

0 200 400 600 800 1000 METRES

5 cm

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 - Metres. The sensor height was 3 metres. The adopted value for this location was 62174 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.

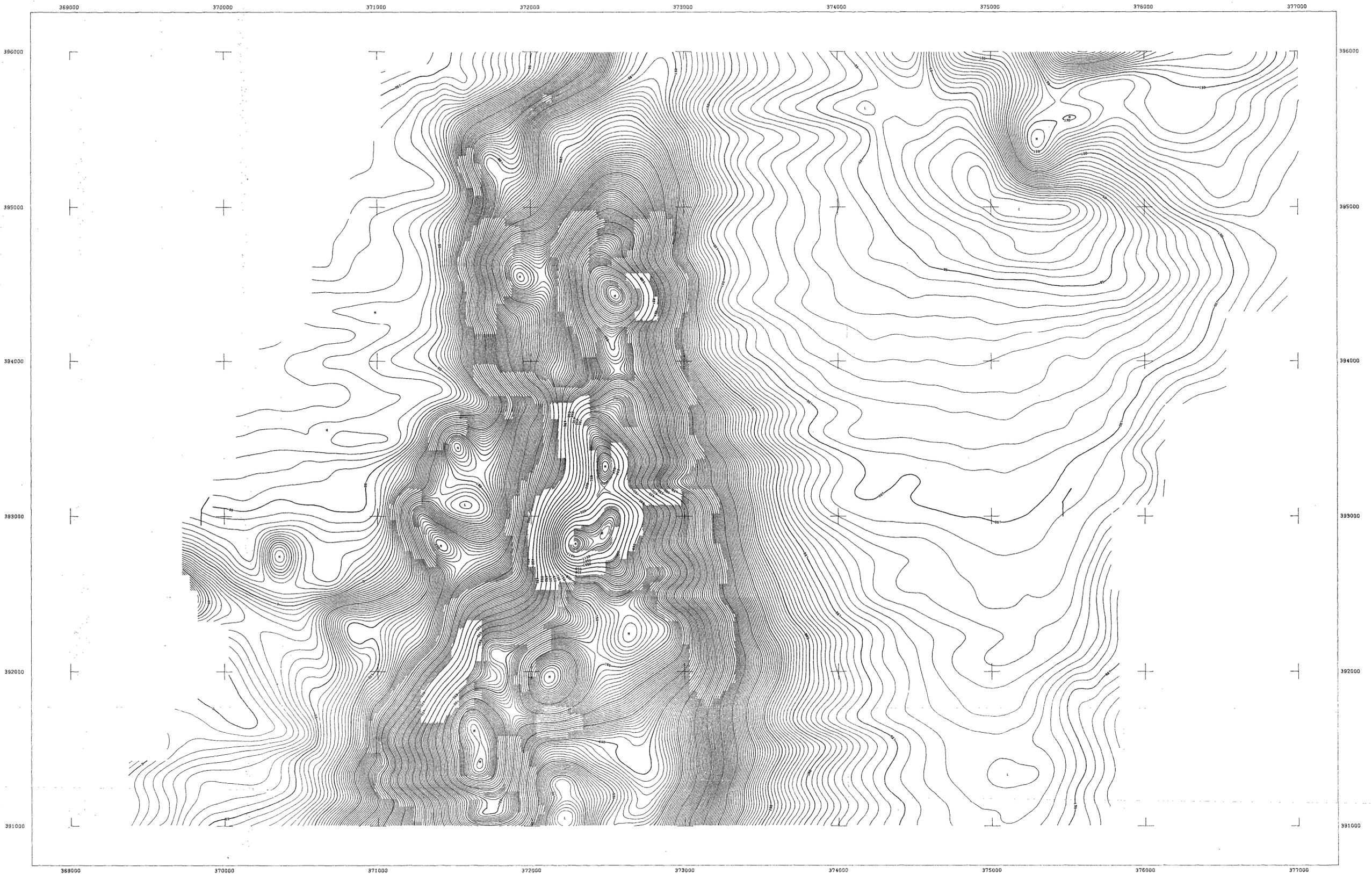
**EQUIPMENT SPECIFICATIONS**  
Cessna 441B5E Aircraft  
SONOTEK IGSSI SYSTEM  
0.1 nT MAGNETOMETER  
256 CHANNEL SPECTROMETER  
24 Line (MAGIT) DETECTOR  
KING KRA10 RADAR ALTIMETER  
16mm Ground Tracking Camera  
Industry Standard 8 track  
32 Rfmc Magnetic Tape  
8 Channel Analogue Recorder  
3 Channel Analogue Recorder for Magnetometer

The nominal flight line separation was 150 metres, and the nominal tie-line bearing was 0 degrees. The observed mean sample interval in the flight direction was 39 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 0.1 nT.

SURVEY BOUNDARY

CONTOUR INTERVAL 5 nTesla

PROJECT NUMBER 82733 SURVEYED MARCH 1982



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for

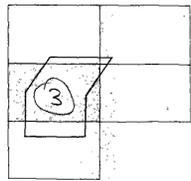
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MT RAMSAY AREA TASMANIA

CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY

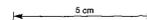
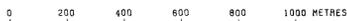


SURVEY LOCATION



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 - 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 441B5 Aircraft  
 SONOTEK IGSSI SYSTEM  
 0.1 nT MAGNETOMETER  
 256 CHANNEL SPECTROMETER  
 24 Litre (Maiti) DETECTOR  
 KING RALPH RADAR ALTIMETER  
 16mm Ground Tracking Camera  
 Industry Standard 9 track  
 32 Reels Magnetic Tape  
 8 Channel Analogue Recorder  
 3 Channel Analogue Recorder for Magnetometer

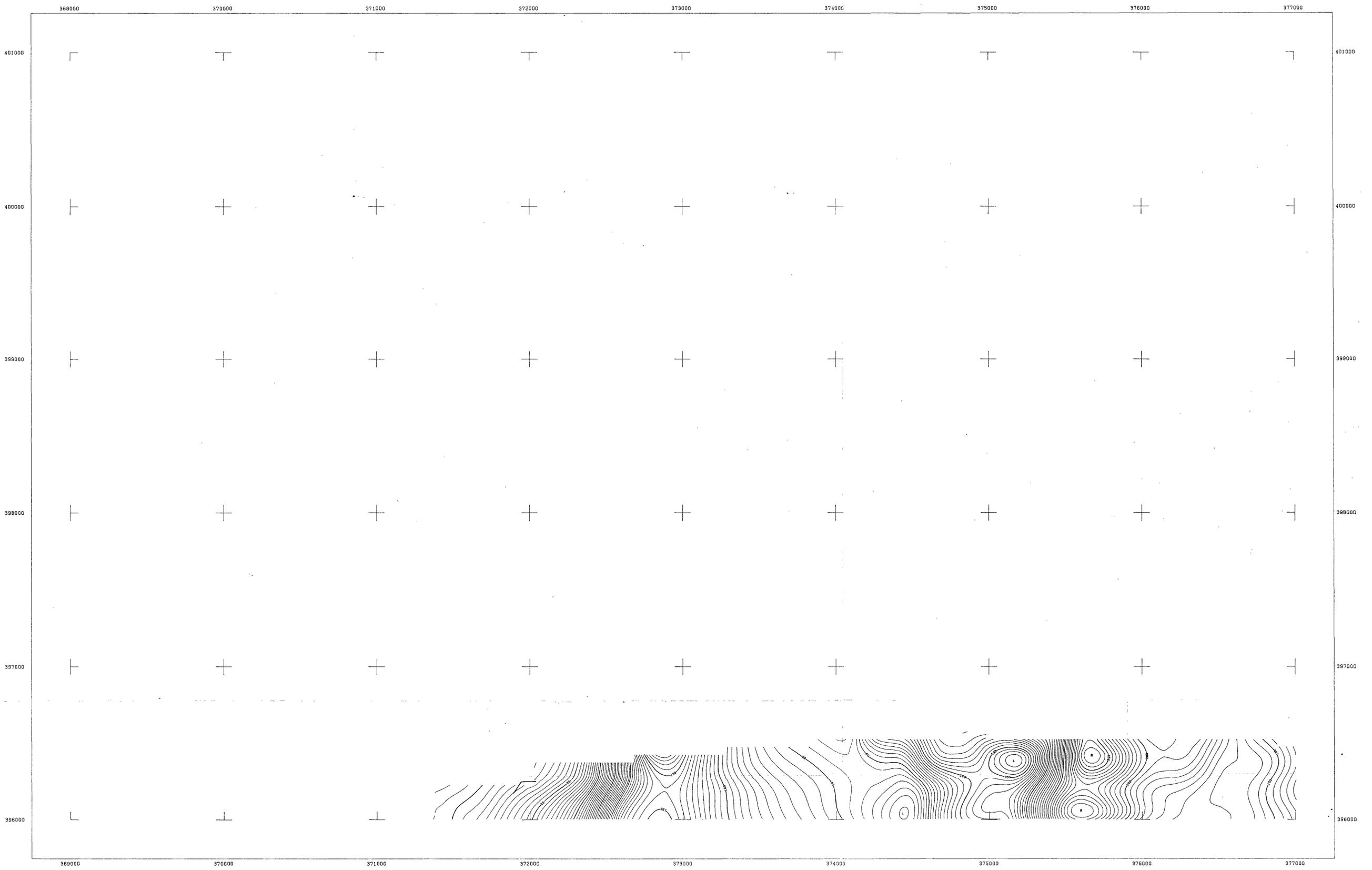
The nominal flight line separation was 150 metres, and the nominal tie-line bearing was 0 degrees. The observed mean sample interval in the flight direction was 39 metres, achieved with a nominal aircraft speed of 100 Knots, and a reading interval of 0.8 seconds. The mean sensor height was 150 metres, using a towed bird configuration. The magnetometer accuracy is 1.0 nT, and the resolution 0.1 nT.

SURVEY BOUNDARY

CONTOUR INTERVAL 5 nTesla

PROJECT NUMBER 82733 SURVEYED MARCH 1982

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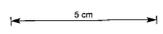
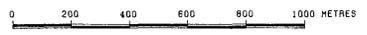
for

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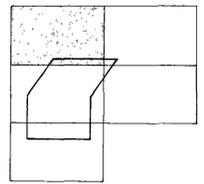
MT RAMSAY AREA TASMANIA

CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY

SCALE 1:10000



SURVEY LOCATION



SHEET INDEX

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 - Metres. The adopted value for this location was 62174 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.

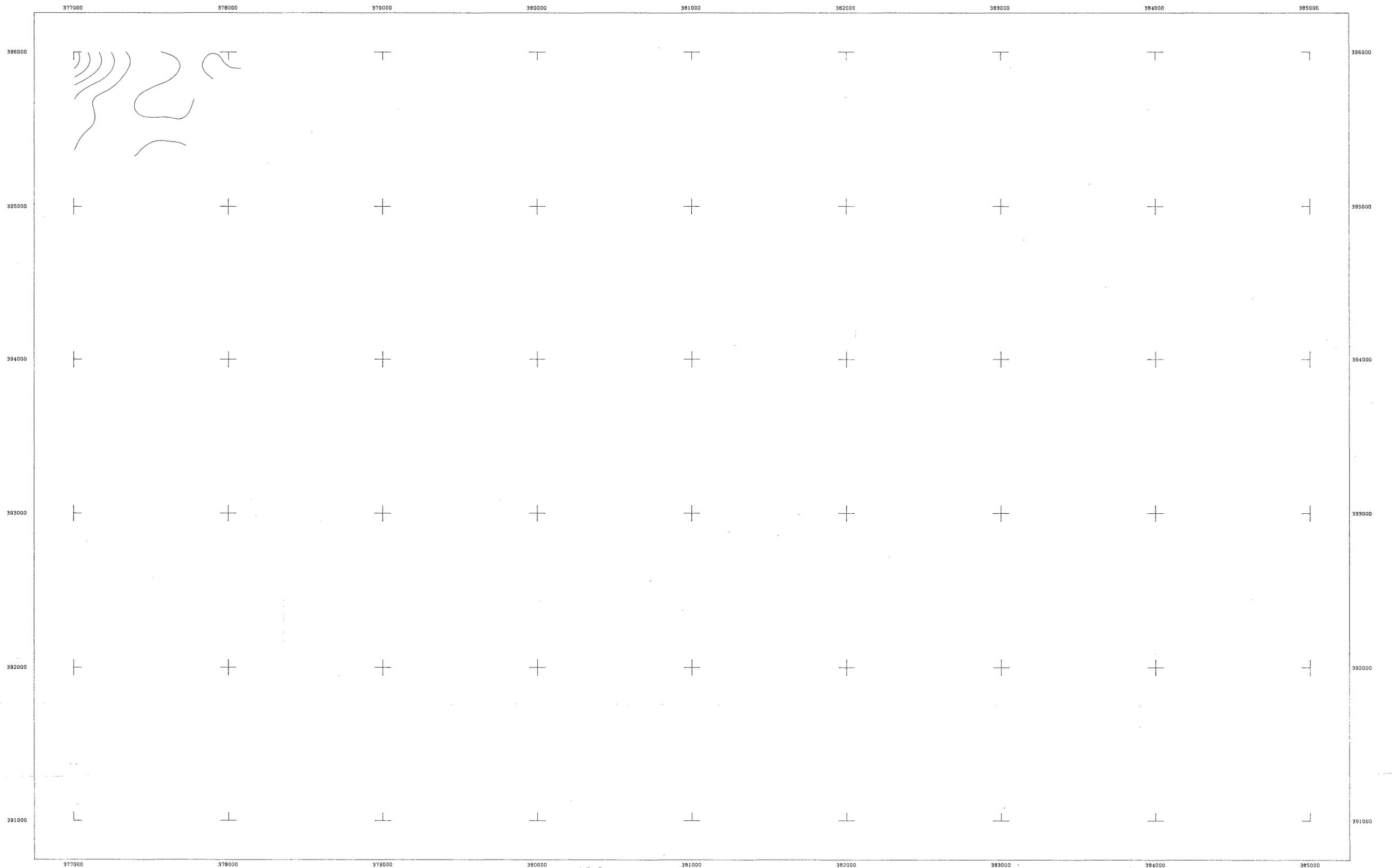
EQUIPMENT SPECIFICATIONS  
Cessna 441BQ Aircraft  
SONOTEK IGSS1 SYSTEM  
0.1 nT MAGNETOMETER  
256 CHANNEL SPECTROMETER  
24 Litre NaI(Tl) DETECTOR  
KING RADIO RADAR ALTIMETER  
15mm Ground Tracking Camera  
Industry Standard 9 track  
32 RPM Magnetic Tape  
8 Channel Analogue Recorder  
3 Channel Analogue Recorder for Magnetometer

The nominal flight line separation was 150 metres, and the nominal tie-line bearing was 0 degrees. The observed mean sample interval in the flight direction was 39 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 0.1 nT.

SURVEY BOUNDARY

CONTOUR INTERVAL 5 nTesla

PROJECT NUMBER 82733 SURVEYED MARCH 1982



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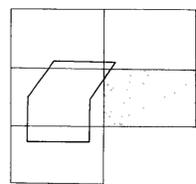
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MT RAMSAY AREA TASMANIA

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 SMITHSON Airfield, Latitude 40.837 S Longitude 145.083 E. Altitude - Metres. The sensor height was 3 metres. The adopted value for this location was 62174 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 A185E Aircraft  
SONOTEK IGSS1 SYSTEM  
0.1 nT MAGNETOMETER  
255 CHANNEL SPECTROMETER  
24 Litre Nal(Tl) DETECTOR  
KING KH10 RADAR ALTIMETER  
15ms Ground Tracking Camera  
Industry Standard 9 track  
32 RPM Magnetic Tape  
8 Channel Analogue Recorder  
3 Channel Analogue Recorder  
for Magnetometer

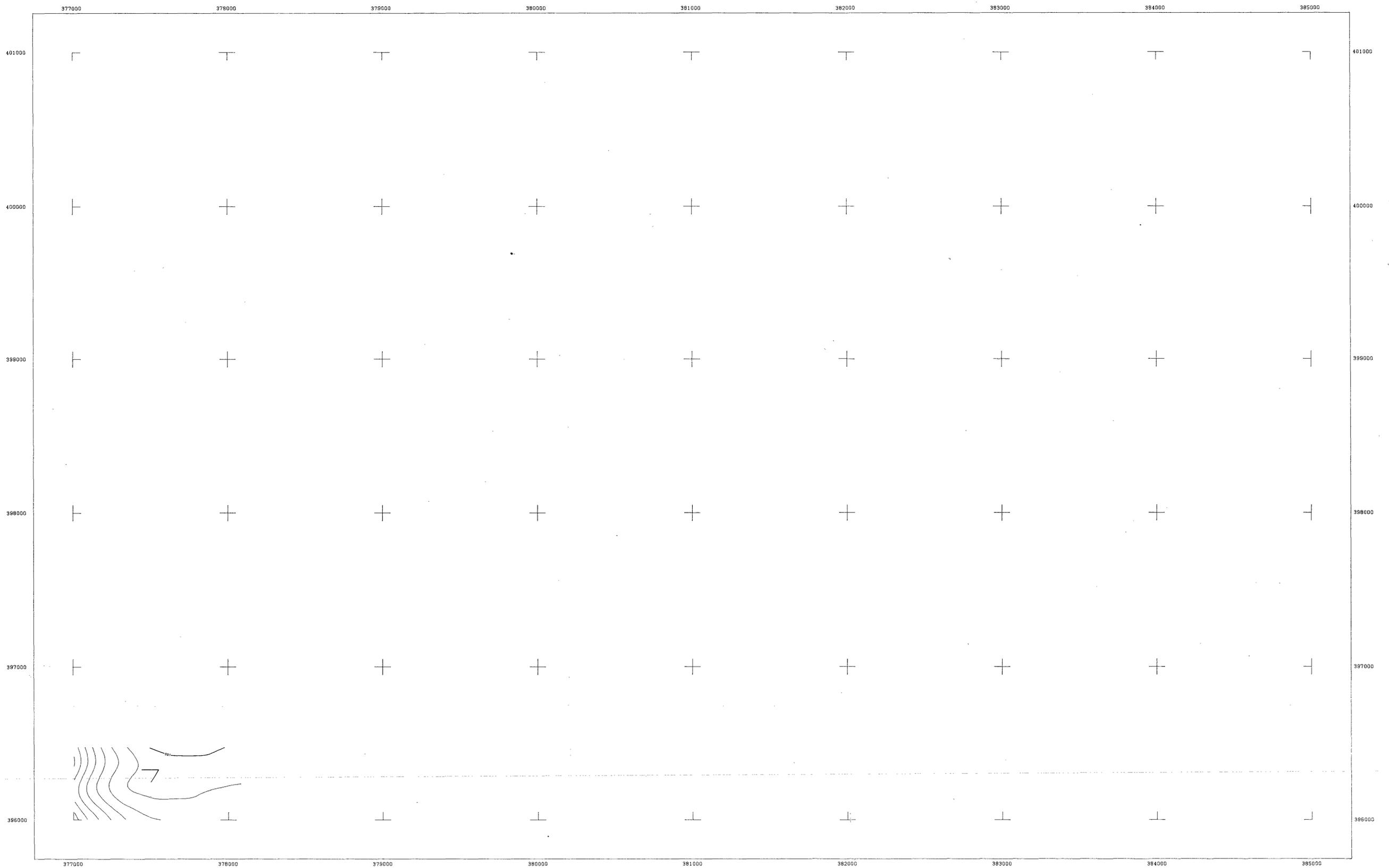
The nominal flight line separation was 150 metres, and the nominal tie-line bearing was 0 degrees. The observed mean sample interval in the flight direction was 39 metres, achieved with a nominal aircraft speed of 100 knots, and a reading interval of 0.8 seconds. The mean sensor height was 150 metres, using a towed bird configuration. The magnetometer accuracy is 1.0 nT, and the resolution 0.1 nT.

— SURVEY BOUNDARY

CONTOUR INTERVAL 5 nTesla

PROJECT NUMBER 82733 SURVEYED MARCH 1982

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for

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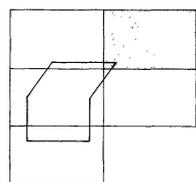
MT RAMSAY AREA TASMANIA

CONTOURS OF RESIDUAL TOTAL MAGNETIC INTENSITY

SCALE 1:10000



SURVEY LOCATION



SHEET INDEX

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 SKITHTON Airfield, Latitude 40.837 S Longitude 145.083 E. Altitude - Metres. The adopted value for this location was 62174 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 441BSP Aircraft  
SONOTEK IGSSI SYSTEM  
0.1 nT MAGNETOMETER  
256 CHANNEL SPECTROMETER  
24 Litre NaI(Tl) DETECTOR  
RING MARIO RADAR ALTIMETER  
18mm Ground Tracking Camera  
Industry Standard 9 track  
32 RPM Magnetic Tape  
8 Channel Analogue Recorder  
3 Channel Analogue Recorder  
for Magnetometer

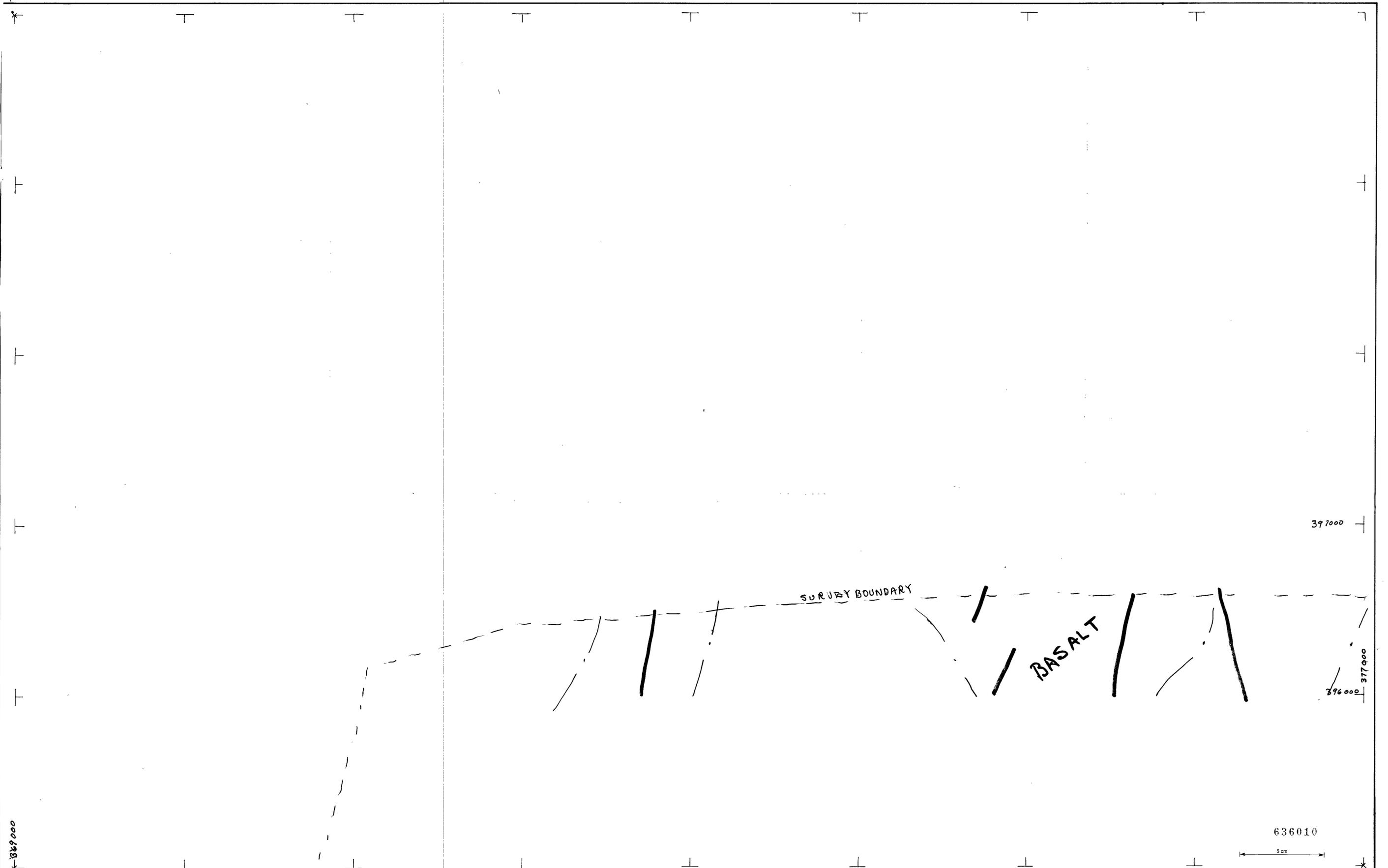
The nominal flight line separation was 150 metres, and the nominal tie-line bearing was 0 degrees. The observed mean sample interval in the flight direction was 39 metres, achieved with a nominal aircraft speed of 100 Knots, and a reading interval of 0.8 seconds. The mean sensor height was 150 metres, using a towed bird configuration. The magnetometer accuracy is 1.0 nT, and the resolution 0.1 nT.

— SURVEY BOUNDARY

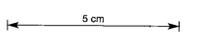
CONTOUR INTERVAL 5 nTesla

PROJECT NUMBER 82733 SURVEYED MARCH 1982

636009



636010



AUSTRALIAN ANGLIO AMERICAN LTD			
PROJECT			
AREA	RAMSAY		
DATA	AERO MAGNETIC INTERPRETATION		
COMPILED	Oct, 1982	SCALE	1:10,000
DRAWN	DBT	REF No	A
AMENDED			

MERIDITH GRANITE

Survey Boundary

CAF GRID

GROUP

CAF GRID

CREEK

CRIMSON

CAI GRID

CAM GRID

BASALT

RAMSAY GROUP

DUNDAS GROUP

Survey Boundary

36000

39

39

377000

636011

5cm

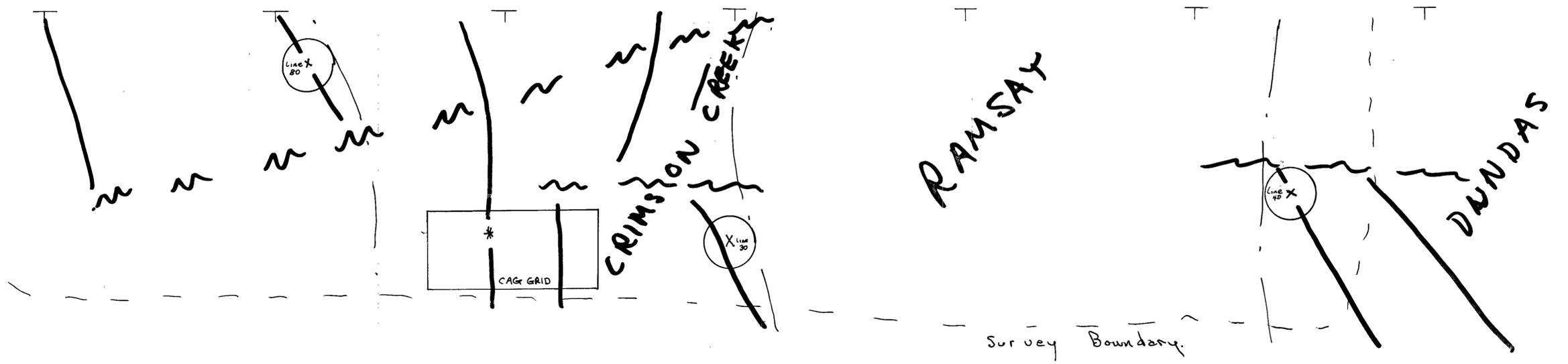
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-  FAULT
-  INPUT ANOMALY
-  MAGNETIC ANOMALY RECOMMENDED FOR FOLLOW UP
-  Geologic boundary

AUSTRALIAN ANGLO AMERICAN LTD			
PROJECT	RAMSAY		
AREA	AEROMAGNETIC INTERPRETATION		
DATA	OCT 1, 1982		
COMPILED	OCT 1, 1982	SCALE	1:10000
DRAWN	DBT	REF No	B
AMENDED			

\* 391000

390000

369000 \*



-  MAGNETIC ANOMALY
-  FAULT
-  INPUT ANOMALY
-  MAGNETIC ANOMALY RECOMMENDED FOR FOLLOW UP
-  GEOLOGIC BOUNDARY

636012

5 cm

AUSTRALIAN ANGLO AMERICAN LTD			
PROJECT	RAMSAY		
AREA	AEROMAGNETIC INTERPRETATION		
DATA	AEROMAGNETIC INTERPRETATION		
COMPILED	Oct 1, 1982	SCALE	1:10 000
DRAWN	DBT	REF No	C
AMENDED			

000215