MRC9502054-DCR

SAGASCO RESOURCES LIMITED

AEROMAGNETIC SURVEY OVER T/RL1 BASS BASIN 1994

FINAL REPORT

MARCH 1995

By David H Tucker (Preview Resources Pty Ltd)
and
Doug C Roberts (SAGASCO Resources Ltd)

CONTENTS

1. INTRODUCTION

2. OBJECTIVE OF THE SURVEY

3. LOCATION OF LICENCE

4. REGIONAL GEOLOGY

5. FIELD OPERATIONS
- 5.1 General
- 5.2 Real Time Differential GPS Navigation
- 5.3 Magnetometer Base Stations
- 5.4 Noise Envelope
- 5.5 Swell Noise

6. DATA PROCESSING
- 6.1 By Tesla-10 Ltd
- 6.2 By Pitt Research Pty Ltd

7. INTERPRETATION
- 7.1 Characteristics of Magnetic Field
- 7.2 Physical Property Data
- 7.3 Pseudo-Depth-Slicing
- 7.4 Computer Modelling of Magnetic Anomalies
- 7.5 Computer Modelling of Miocene Volcanics Mapped by 2D Seismic
- 7.6 Structural Skeletons

8. CONCLUSIONS

9. RECOMMENDATIONS

10. REFERENCES

TABLES
1. Magnetic Lithostratigraphy Adopted
2. Comparison of Depths in Pseudo-Depth-Slices
3. Summary of Magnetic Model Depth and Other Parameters

APPENDICES
1. Proposal
2. Survey Specifications
3. Operations Report (includes lists of maps supplied by Tesla-10)
4. Located Data tape Format Descriptions
5. Computer Models for Magnet Anomalies

LIST OF MAPS

FIGURE	DESCRIPTION	SCALE
1	Survey location map	no set scale
2a	Tectonic Elements Map	
2b	Stratigraphic Column	
3	Aeromagnetic image Montage 1 TMI and derivatives	no set scale
4	Aeromagnetic image Montage 2 Analytic signal and derivatives no set scale	no set scale
5	Aeromagnetic image Montage 3 Pseudo-depth-slices	no set scale
6	Computer models depth summary location map	no set scale
7	Thickness of Miocene volcanics (overlay)	1:150 000
8	Susceptibility computer model for Miocene volcanics	1:150 000
9	Remanence computer model for Miocene volcanics	1:150 000
10	Hybrid susceptibility/remanence model for Miocene volcanics and Anomaly A	1:150 000

ENCLOSURES IN POCKET

Enclosure 1	TMI contours 0.5nT intervals	1:50 000
Enclosure 2	TMI contours 0.2nT intervals	1:50 000
Enclosure 3	First vertical derivative of TMI contours	1:50 000
Enclosure 4	Pseudo depth slice 1150 metres and 2D seismic lines	1:150 000

ENCLOSURES SUPPLIED SEPARATELY

Enclosure 5	Interpretation Montage of Models and Anomalies	1:150 000
Enclosure 6	Structural skeleton Montage from 4 pseudo-depth-slices	1:150 000
Enclosure 7	Aeromagnetic image Montage 1 TMI and derivatives (laminated)	1:150 000
Enclosure 8	Aeromagnetic image Montage 2 Analytic signal and derivatives (laminated)	1:150 000
Enclosure 9	Aeromagnetic image Montage 3 Pseudo-depth-slices (laminated)	1:150 000

1 INTRODUCTION

An airborne magnetic survey was undertaken by Tesla Airborne Geoscience over most of T/RL1 using a Cessna 210 aircraft. The survey was particularly placed to overfly the Yolla 3D seismic survey. Figure 1 shows the location of the survey.

The traverse line spacing was 400 metres with lines oriented 054/234 degrees and the tie line spacing was 2000 metres with tie lines oriented 144/324 degrees. The flying height was 120 metres above sea level. The survey was carried out between 27 June to 1 July 1994. A total of 2868 kilometres of survey data was accepted for processing.

The data was processed by Tesla Airborne Geoscience and several map and digital tape products were delivered to SAGASCO, including total magnetic intensity, derivatives, reduction to the pole, and pseudo-depth-slices. The data were further levelled and processed by Pitt Research Pty Ltd and high resolution map and tape products were obtained, including total magnetic intensity, analytic signal, maximum gradient and derivatives.

Computer models were run on specific anomalies to give general depth estimates to magnetic sources. Models were run to estimate the likely magnetic response from seismically mapped Mesozoic aged volcanics.

Structural mapping was undertaken using derivatives and pseudo-depth-slices.

2 OBJECTIVE OF THE SURVEY

The objectives of the survey were:

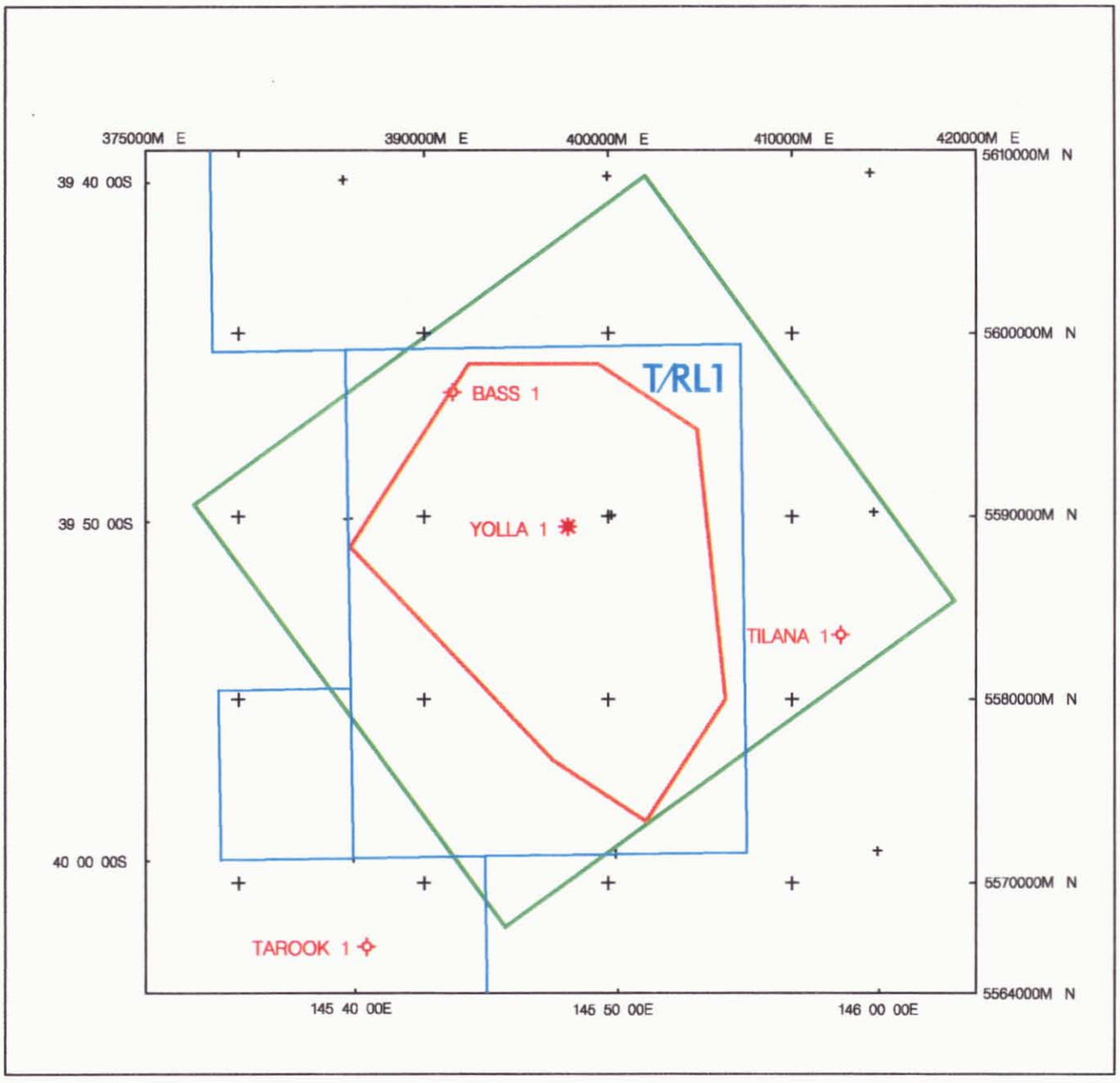
- To support the interpretation of the Yolla 3D seismic survey by identifying and mapping intrasedimentary volcanic units. At least 3 different volcanic suites are recognised from seismic data and wells.

	2 way time	Depth
Miocene Extrusives	1000-1300ms	1125-1495m
EVCM Intrusive Sills (Miocene)	1600-2500ms	1960-3690m
Deep Volcanic Extrusive	2200-2500ms	3058-3690m

- To determine if variations in the type of Miocene volcanics can be mapped. Depth conversion of seismic data beneath the Miocene extrusive volcanics is affected by apparent strong velocity variations within these volcanics. Both velocity pushdown and pull up are observed beneath these volcanics.

- To aid mapping of deep structural controls. The seismic data below 2000ms becomes very low in resolution and is difficult to interpret. The aeromagnetic data may assist in providing additional support for postulated structural controls.

SAGASCO Resources



N

TRUE NORTH IS SHOWN
FOR THE CENTRE OF THE MAP

1:250000

0 3 6 9 12

KILOMETRES

UNIVERSAL TRANSVERSE MERCATOR PROJECTION
AUSTRALIAN NATIONAL SPHEROID
CENTRAL MERIDIAN 147 00 00E

Outline of Aeromagnetic Survey
Outline of Yolla 3d Seismic Survey
Permit Outlines

5 cm

BASS BASIN TASMANIA

T/RL1 Aeromagnetic Survey
Location Map

12800.0295 Fig. 1

3 LOCATION OF LICENCE

The licence T/RL1 is wholly located over the waters of Bass Straight (Figure 1).

4 REGIONAL GEOLOGY

4.1 Tectonic Evolution

The progressive dissection of eastern Gondwana occurred through five separate seafloor spreading episodes (Falvey, 1981). The intracratonic Bass Basin is one of a series of basins along the southern margin of Australia that were formed as a result of Cretaceous-Early Tertiary rifting between Australia and Antarctica. In particular episodes recognised in the Gippsland Basin (Lowry and Longley 1991) are likely to be the key tectonic events in the Bass Basin's development. These are Southern Ocean rifting and spreading (from 120Ma to present) and the Tasman Sea rifting and spreading (from 98Ma to 52Ma).

The Bass Basin was initiated by NE-SW lithospheric extension, largely during the Early Cretaceous. The extensional stage was followed by a Late Cretaceous to Pliocene thermal subsidence stage and a late stage of compressional tectonic overprinting (Etheridge, 1985).

Major NW to SE longitudinal normal faults occurred in the Early Cretaceous rifting creating asymmetric depressions which dominated sediment accommodation until the early Eocene. Thereafter regional basin sag occurred more or less uninterrupted until the present day. Basin inversion in areas such as Cormorant is related to a compressional event during the Miocene. The present day major tectonic elements are presented in Figure 2a.

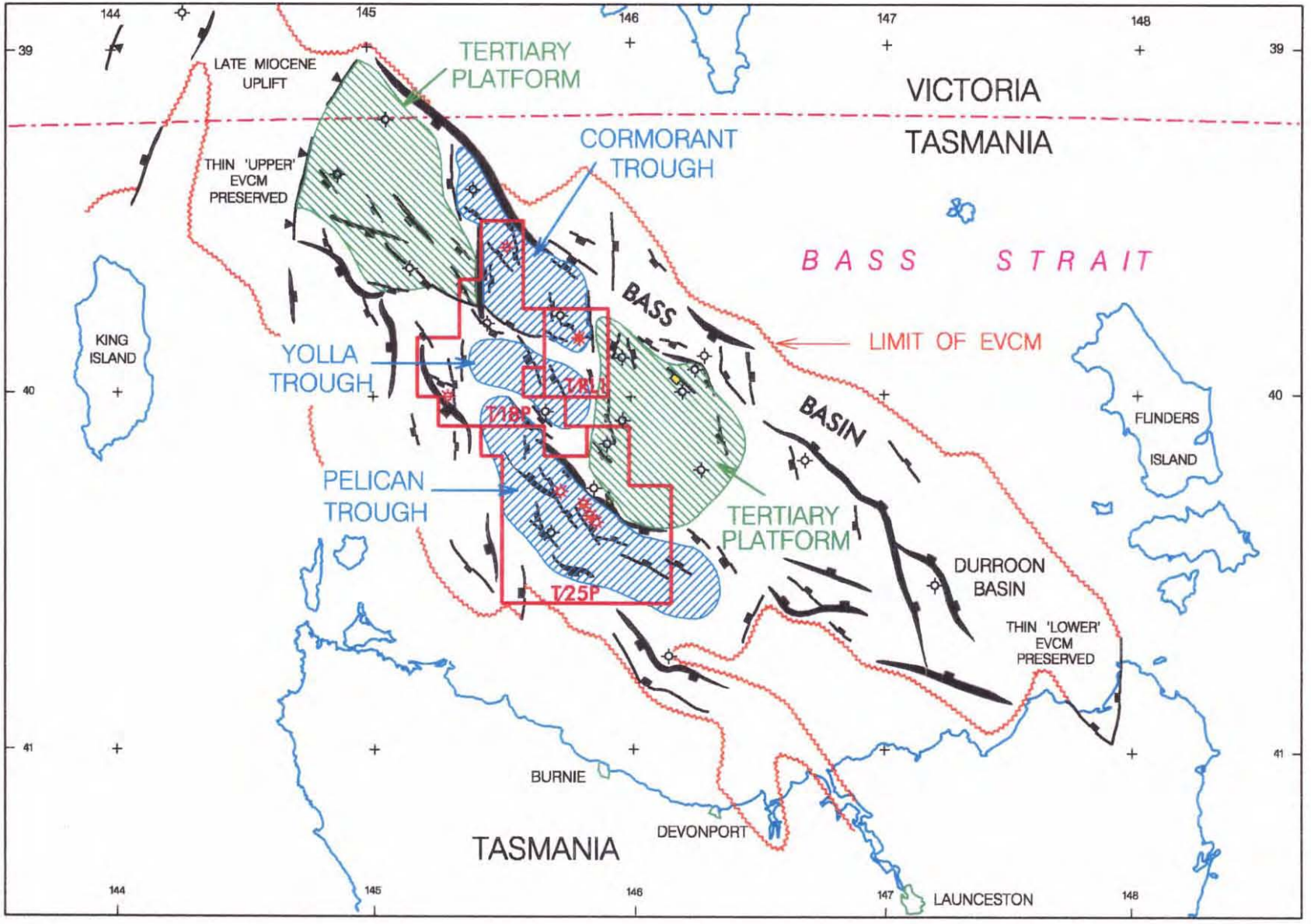
4.2 Stratigraphy

The stratigraphy of the central Bass Basin is only known from well control, however this together with the available regional seismic data allows correlation with subcropping rocks and well bores from the generically similar Otway and Gippsland Basins.

Basement in the Bass Basin is slightly metamorphosed and may be as old as 589my which is Cambrian in age. Bass 2 drilled through low-angled, altered tuffaceous mudstone radiometrically dated as Early Palaeozoic or Cambrian. Bass 3 reached TD in 40 degree dipping, silicified blackshale and quartzite sandstone and siltstone, believed to be Early Palaeozoic in age.

A generalised stratigraphic column for the Bass Basin is shown in Figure 2b. The Early Cretaceous Basin received rapidly deposited and generally poorly sorted argillaceous and arenaceous terrigenous detritus from the Tasmanian provenance to the south. Major fault movements produced rapidly subsiding depressions and rugged, linear, mountainous islands. Some of the local sub basins are estimated to contain up to 3000m of lower Cretaceous section. Subsequently the erosion of the faulted island masses produced an unconformity which apparently marks the boundary between the Upper and Lower Cretaceous (Brown, 1976). This also marks the base

SAGASCO Resources



0 20 40 60
Kilometres

BASS BASIN – TASMANIA

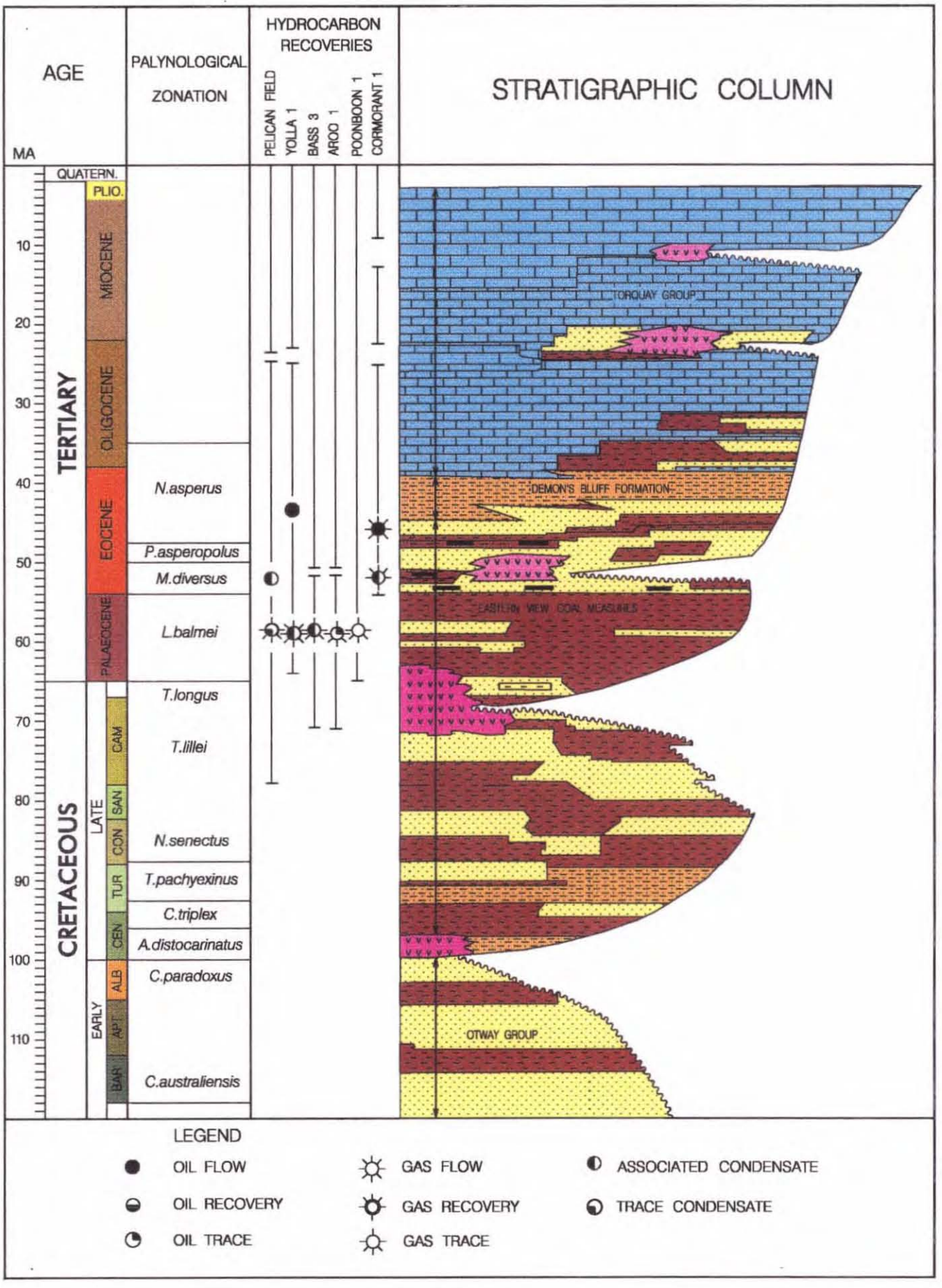
TECTONIC ELEMENTS MAP

No: 10821.0794 FIG. 2a

503008

SAGASCO Resources

BASS BASIN – TASMANIA
STRATIGRAPHIC COLUMN



No: 10816.0794 Fig 2b

of the Eastern View Coal Measures. The Late Cretaceous section is almost unknown as few wells have penetrated it, but it should infill linear deep basins present by the end of the Early Cretaceous. The lithologies of the Late Cretaceous were sand, silt, shale and coal typical of the rest of the EVCM. These sediments were mainly sourced from the south (Tasmania) but subsidiary provenance areas were the "Bassian Rise" (Wilson's Promontory to Flinders 1 Island) as well as the Australian Continent to the north (Brown, 1976).

The Palaeocene provenance was still to the south as evidenced by coarse sandstone development at Durroon 1. The Palaeocene basin was a land locked deltaic plain which collected a minimum of 600m of fine sediments in the centre and 500m of coarse sediments on the margins. Structurally the Palaeocene was quiescent with relatively uniform thicknesses of sediments observed away from the Basin margins. Thick coals developed in the Eocene, particularly in the Pelican area, but by the end of the Early Eocene structural movements were intensified with extensive normal faulting aligned with and reactivating the basin forming NW-SE Cretaceous faults. Relief at any one time was not great so depositional patterns of environment remained generally constant.

Extensive erosion occurred at the end of middle *M.diversus* time peneplaining the faulted topography and marking an end to the "Lower EVCM" (Brown, 1976). Up to 2000m of Lower EVCM may have been deposited. The basin depocentres became independent from the Cretaceous synrift basins at this time and the basin axis is longitudinally focussed in the Poonboon 1 area and trending NW-SE until the present day. The "Upper EVCM" commenced deposition in this new sag basin with the coaly upper *M.diversus*. Sometime after deposition of the upper *M.diversus* and possibly as late as middle *P.asperopolus* time, another regional unconformity occurred. This did not result in any change in the basin framework and probably is more accurately described as a sequence boundary resulting from a relative eustatic lowstand. The effect of this is minor subcrop of the upper *M.diversus* sediments over many of the older highs and at the basin margins. Some growth faulting persisted after this time but almost all fault movement had ceased by the time of the Demon's Bluff flooding event. The upper EVCM below the Demon's Bluff may be up to 1000m thick in parts.

The Demon's Bluff Formation was deposited at the conclusion of the Eocene and was transgressive over a vast area. The basin thereafter continued to subside and mostly fine-grained marine sediments were deposited in the low relief topography. Structural movements intermittent along fault lines produced drape structures. Thinning of Oligocene sediments, apparently due to subcrop at the Oligocene/Miocene boundary, suggests a reversal of the stress regime from extensional to compressional at this time. This is recognised in the Gippsland Basin and a S-SE compression has been suggested (Davidson, 1980). Early Oligocene uplift is seen in the Torquay Basin and the Otway Ranges probably underwent a major compression in the late Early Miocene. Significant sections of weathered extrusive miocene volcanics were intersected in Bass 1 and Yolla 1 wells and are prominent features on seismic data north of the Yolla field.

Footnote: The above description have been extracted from internal SAGASCO Resources sources and the references cited.

5 FIELD OPERATIONS

5.1 General

The survey aircraft was a single engined Cessna 210N VH-JBH navigating by means of GPS and equipped with a stinger installed Scintrex Cesium vapour magnetometer sampling at 0.1 second intervals giving an effective interval of 7 metres between samples. The system used an RMS AADC Compensator.

The aircraft operated from Wynyard airport from Monday 27 June until Friday 1 July. Survey flying was undertaken in daylight hours. The ferry distance to the field area was approximately 100 kilometres. The survey was conducted during a window of relatively good weather in a period of generally very bad weather.

The survey crew comprised three people, a pilot, a pilot/operator and an operations manager. All survey flights operated with a crew of two.

A field processing centre was operated from a motel room in Wynyard, and this comprised a 486 PC, a tape reader to down load the airborne data and GPS base station data, and hard copy device. Magnetometer base stations were down loaded directly to the PC. In the field processing centre each day's data was preprocessed and verified. Thus the GPS base station was merged with the field GPS flight path and a preliminary flight path was prepared, the diurnal variation was removed from the survey data and a preliminary image and profiles and other quality control products were prepared each night.

5.2 Real Time Differential GPS Navigation

Real time differential GPS navigation was not possible because the radio link from the shore to the aircraft could not be continuously maintained, despite the beacon being placed on a suitably high vantage point (106 metres above sea level) close to the ocean. Accordingly the flight path was post processed to give the correct flight path. Despite this problem it appears that 'Selective Availability' was not operating during this survey, and a high quality flight path was achieved.

5.3 Magnetometer Base Stations

Operations over water in this area were difficult with regard to obtaining a diurnal background relevant to the field area, which was some 100 kilometres away from the nearest land and the magnetometer base stations. There is magnetic 'Coastal Effect' which produces local diurnal variations which normally attenuate seawards and landwards and which is quite spurious with regard to a distant field area.

Initially the two magnetometer base stations were operated from quiet locations at Wynyard airport. Because it was feared that the diurnal recordings showed a significant 'coastal effect' one base station was moved 5 kilometres inland. There was only a slight attenuation of high frequency anomalies in the landward base station. It was concluded that there was little advantage to be gained by not using the airport base station in this case.

5.4 Noise Envelope

The quality control products indicated that the effective point to point noise envelope for this survey was generally 0.1-0.15nT, and differed between flight lines and tie lines by up to 50%. These figures are double the 0.05nT and 25% specified in the contract but were deemed acceptable under the circumstances of the weather and the newness of the survey crew to this kind of operation.

5.5 Swell Noise

A phenomenon referred to as 'Swell Noise' is common in areas of rough ocean conditions and was observed in this survey. Swell noise is attributed to electromagnetic effects caused by the movement of ocean swells and manifests itself as magnetic anomalies which can have wavelengths indistinguishable from some geological sources. Typically the magnetic wavelengths lie in the range 1000-2500 metres and amplitudes lie in the range from 0.5-5.0nT. Swell noise can often be distinguished from geology by the fact that it tends to be random and can not be traced from line to line.

The Swell Noise present in the aeromagnetic data for T/RL1 was assessed to have wavelengths in the range 1300-2000 metres and amplitude of 0.2-1.0 nT. The equivalent depth below sensor for geological sources with these wavelengths lies in the range 200-300 metres.

6 DATA PROCESSING

6.1 By Tesla-10 Pty Ltd

Tesla-10 Pty Ltd undertook processing at their Perth facility of the aeromagnetic data acquired from T/RL1. The data were subjected to a series of corrections and levelling processes in accord with good industry practice.

Levelling was a problem probably because of the combined influences of Swell Noise and remoteness of the diurnal base stations from the field area.

The final delivered located digital data included raw and processed channels of aeromagnetic data.

The levelled aeromagnetic data was gridded at 135 metres grid cell size in accord with good industry practice. Various operations were then performed on the grids to produce various derivatives, reduction to the pole and Pseudo-depth-slices. The final grids were delivered in ER Mapper format.

Various map products at a scale of 1:50 000 on laminated paper were delivered to portray the characteristics of the data. HPGL files of all final maps were provided.

All digital data were provided on Exabyte tape in TAR format.

6.2 By Pitt Research Pty Ltd

Further processing of the aeromagnetic data was undertaken in Adelaide by Pitt Research Pty Ltd. In particular Pitt undertook to use their proprietary techniques to attempt to improve the levelling of the located data, starting from the compensated data and going beyond the standard achieved by Tesla-10. The data was gridded at a 50 metre grid cell size.

Pitt then applied their suite of operators to the new grids of total magnetic intensity to produce horizontal and vertical derivatives and analytic signal (Qin, 1994). Pitt then portrayed these grids in high quality four part montage presentations at 1:150 000 scale (Enclosures 7 and 8 and reduced in Figures 3 and 4).

Pitt in addition portrayed Tesla-10's Pseudo-depth-slices in a corresponding four part montage (Enclosure 9 and reduce in Figure 5).

7 INTERPRETATION

7.1 Characteristics of the Total Magnetic Field and Sources of Anomalies

In this area the average absolute value of the Total Magnetic Intensity (TMI) of the earth's magnetic field is 61275nT, the magnetic inclination is -70.6 degrees and the declination is 12.5 degrees east. The dynamic range of the T/RL1 magnetic data is 185nT which is a relatively small range typical of sedimentary basins where the dynamic range is commonly up to 500nT (in mineral provinces the dynamic range is commonly up to 5000nT).

The characteristics of the total magnetic intensity observed in T/RL1 are portrayed in pixel map form in Enclosure 7 (Figure 3), and in contour form in Enclosures 1 and 2. Anomalies identified in the Total Magnetic Intensity and from the First Vertical Derivative of the TMI are indicated and given an identifying letter in Enclosure 5. Note that the First Vertical Derivative has the effect of sharpening the short wavelength anomalies Enclosure 7 (Figure 3). The data show the presence of four distinct ensembles of anomalies which can be described in terms of their shape and half-width as below (half-width is the width of the total intensity anomaly at half maximum amplitude and is very approximately double the depth to the source magnetic bodies).

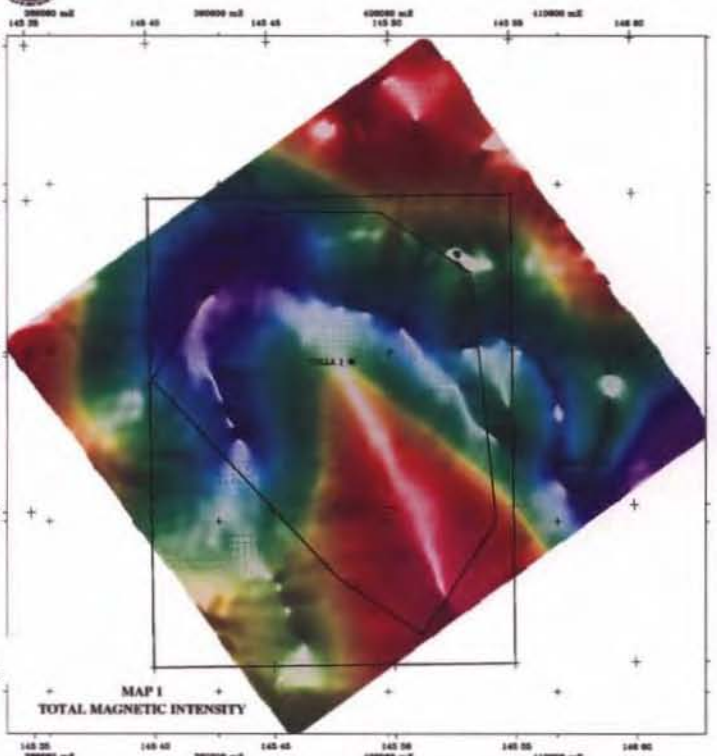
- Elongate anomalies with half-width 5-8 kilometres and amplitude up to 150nT.
- Circular-elliptical anomalies with half-width 1.5-3 kilometres and amplitude 10-45nT and positive or negative sign.
- Circular-elliptical and narrow curvilinear anomalies with half-width 300-600 metres and amplitude 0.1-0.5nT.
- Circular-dipolar anomalies with half-width 300 metres and amplitude 2-6nT (Culture-well infrastructure).

5 cm

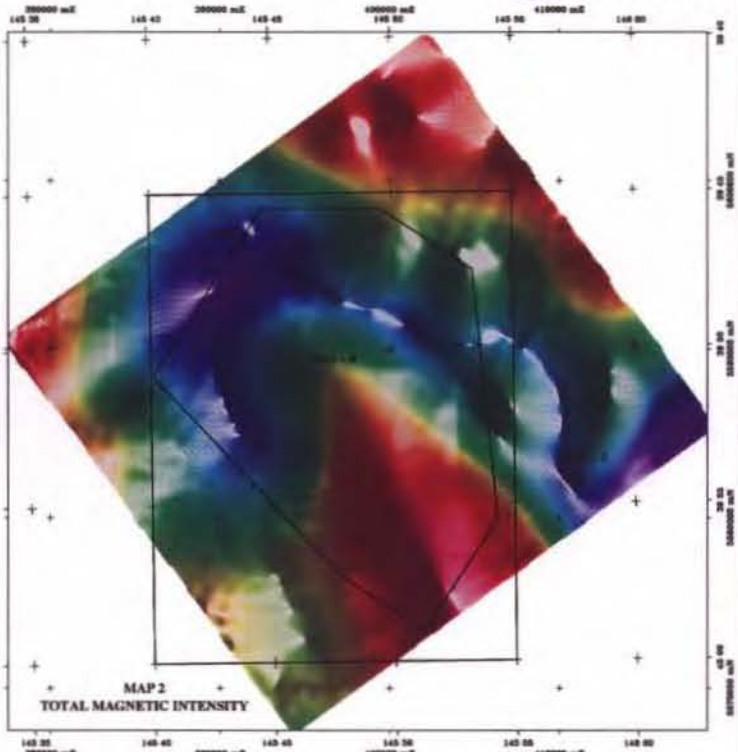
503013

AREA T/RL1 - Bass Strait

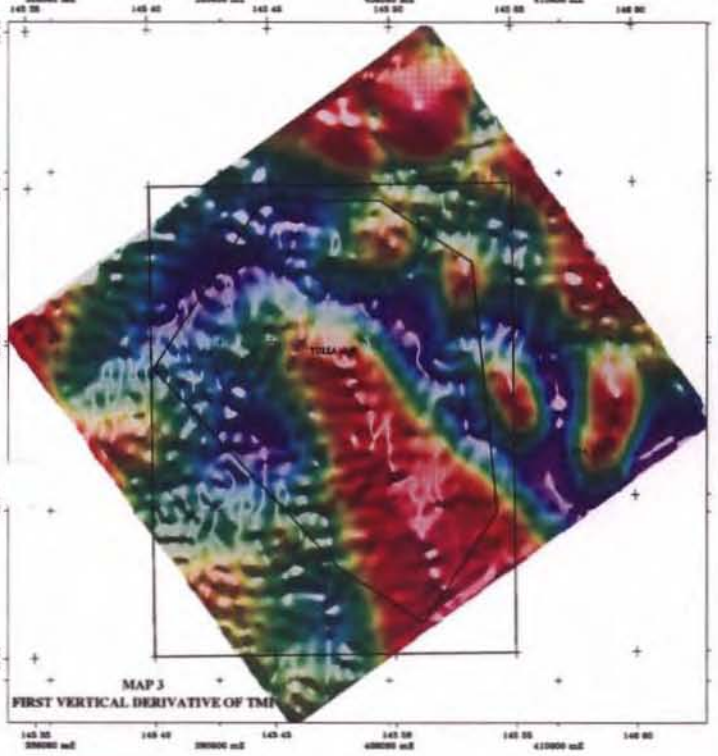
SAGASCO Resources Ltd.



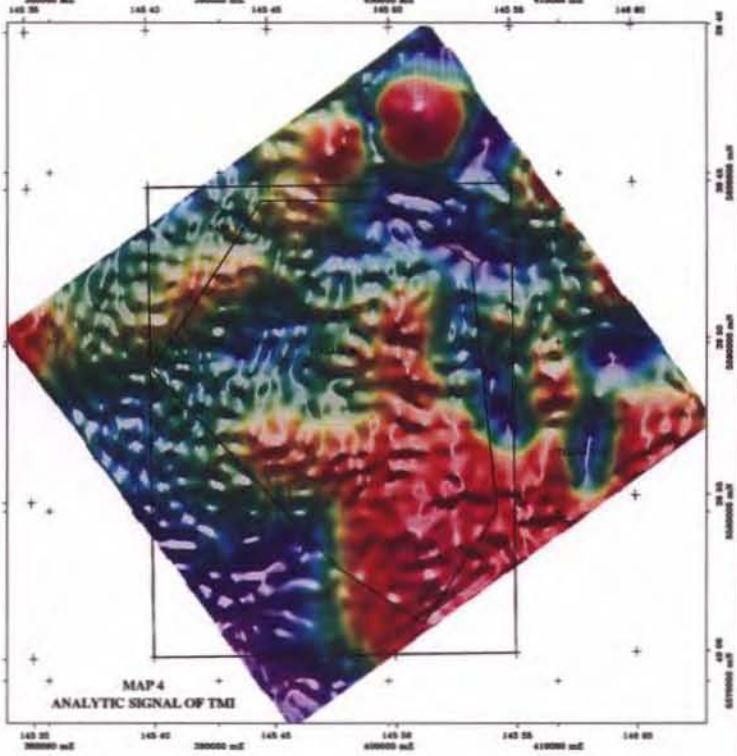
MAP 1
TOTAL MAGNETIC INTENSITY



MAP 2
TOTAL MAGNETIC INTENSITY



MAP 3
FIRST VERTICAL DERIVATIVE OF TMI



MAP 4
ANALYTIC SIGNAL OF TMI

TECHNICAL SUPERVISION

Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Pioneer Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1994. Montage of Aeromagnetic pixel maps of Area T/RL1 (Bass Strait). Total Magnetic Intensity (TMI) (in North direction), TMI (in East direction), First Vertical Derivative, and Analytic Signal image map montage 1. Map 1, 3 and 4 with relief shading and highlights from true north, and map 2 from true east.

True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° west per year.

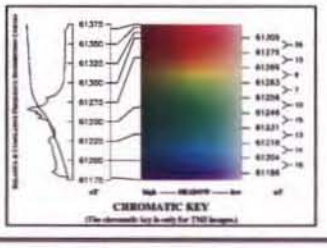
Grid convergence ..... 0.59°
Grid-magnetic angle ..... 11.5°
True-magnetic angle ..... 12.0°
Magnetic inclination ..... -70.0°

AEROMAGNETIC DATA
MAGNETIC IMAGE MONTAGE 1

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection
Central Meridian 147° East, AMG Zone 55
Grid Cell Size 50 metres
Graticules 5 minutes and 10 kilometres



DATA ACQUISITION CONTRACTOR
Tesla - 10
41 Kalorin Road, Applecross, WA.
Ph (09) 3546444 Fax (09) 3346075

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatel running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JSH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTesla SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data: 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth (3C to 2.0 Hz). Effective noise envelope mostly less than 0.05 nT NS,EW,NE; noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: - System parallax of - 1 Hex. - Diurnal field at base station 1 - IGRF model 1990 removed, base value 61,035 nT at mag centre - Altitude compensation using post processed GPS height - Heading error, 1.5 nT on traverses, 3.5 nT on tie.
SURVEY MANAGEMENT	Rod Pullen.

DATA PROCESSING CONTRACTOR
Pitt Research Pty Ltd
Final data processing, microlevelling and mapping by Pitt Research.
9 Dash Street, Port Adelaide, SA, 5015
Phone: 08 341 8026 Fax: 08 341 8040

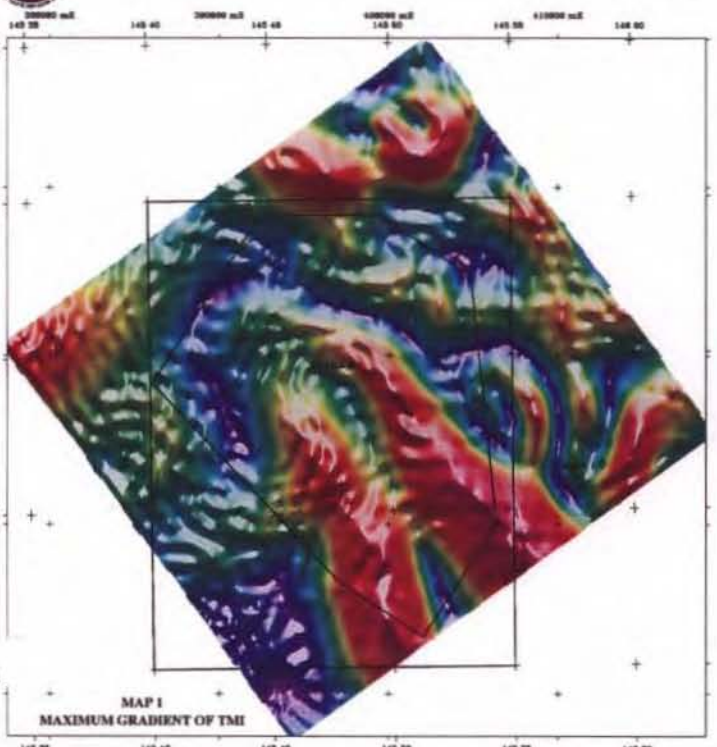
MAGNETIC DATA PROCESSING	Tie-line levelling, Tie levelling and Microlevelling have been applied. Inclination and declination computed continuously over whole area using IGRF model 1990 computed at year 1991. INCLINATION for map centre -70.0° DECLINATION for map centre 12.0°
	A low pass filter was applied to the TMI grid before generating further products. The Fast Fourier Transform technique has been used for all filter operations.
IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Colour scaled total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 2 :	Colour scaled total magnetic intensity with relief shading and highlights (in the direction of True East).
MAP 3 :	First vertical derivative of total magnetic intensity has been computed directly from the levelled TMI grid data.
MAP 4 :	Analytic Signal image has been computed directly from the levelled total magnetic intensity grid data. [The Analytic Signal technique is a rational alternative to Reduction to the Pole' as it eliminates distortions of the field due to magnetic inclination.] The resulting data grids have been been subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading enhanced with Automatic Gain Control. The effect of the data stretch, colour assignment and relief shading is illustrated in the chromatic key for the TMI images.
GRIDDING PARAMETERS	ALGORITHM: Minimic spline Within Size: 50 = 50 metres
PROCESSING MANAGEMENT	Jing Ping Zhu

Fig. 3

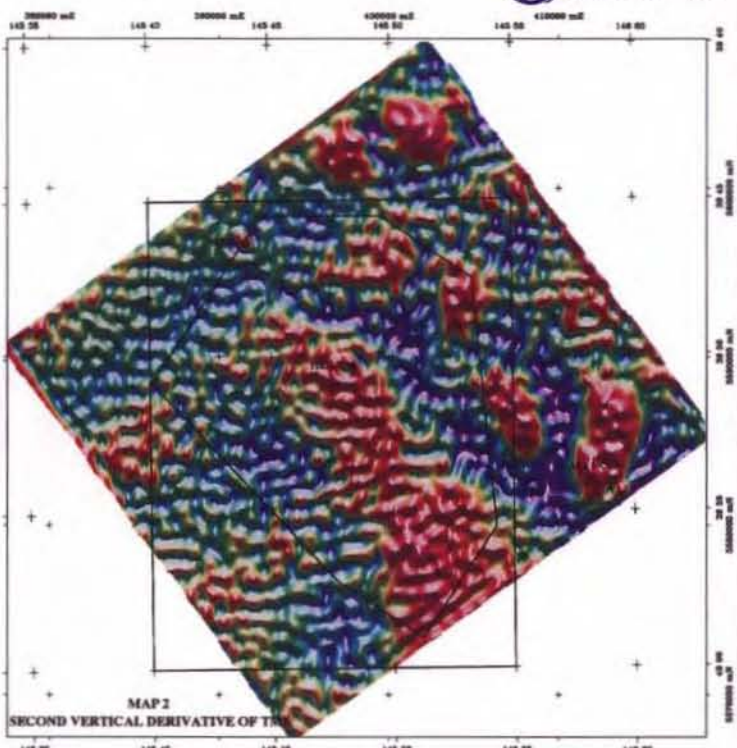
503014

AREA T/RL1 - Bass Strait

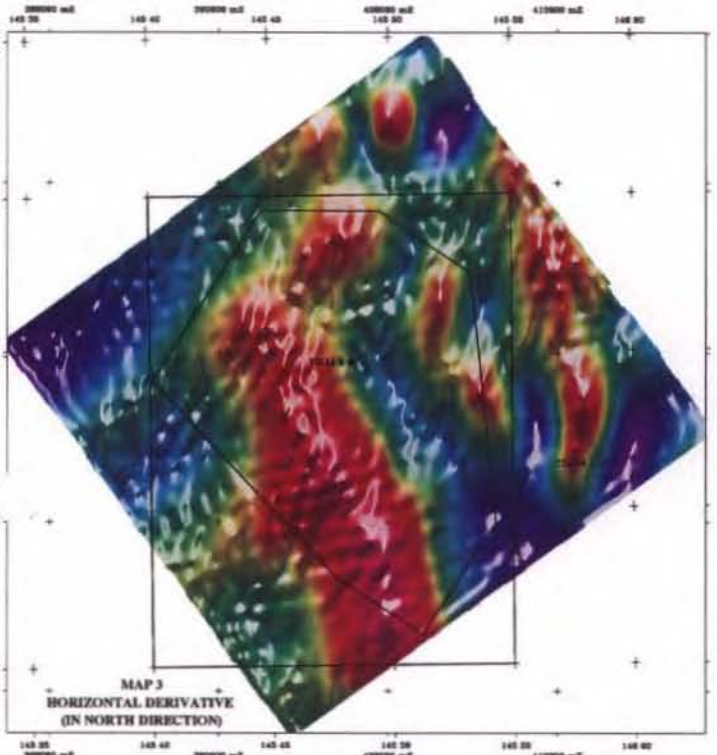
SAGASCO Resources Ltd.



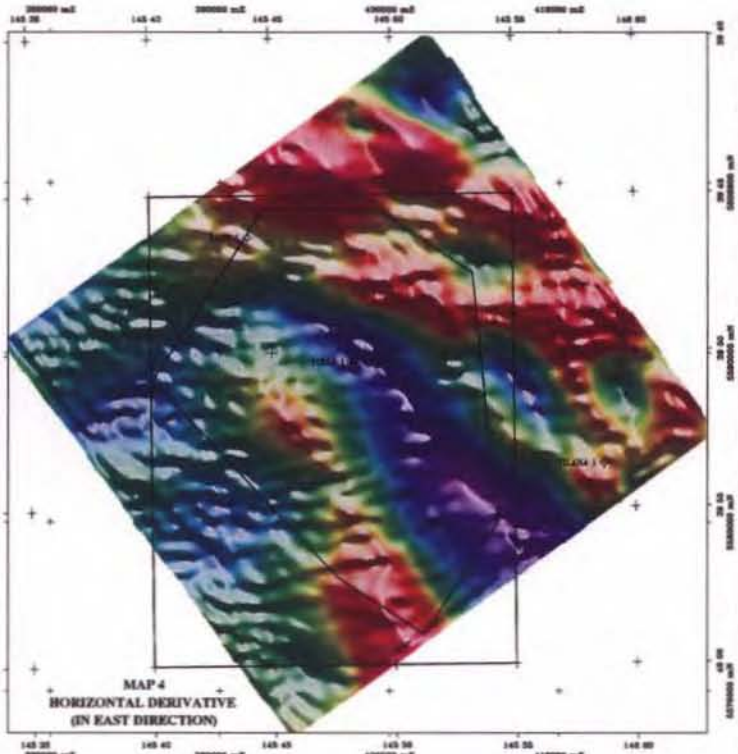
MAP 1
MAXIMUM GRADIENT OF TMI



MAP 2
SECOND VERTICAL DERIVATIVE OF TMI



MAP 3
HORIZONTAL DERIVATIVE
(IN NORTH DIRECTION)



MAP 4
HORIZONTAL DERIVATIVE
(IN EAST DIRECTION)

TECHNICAL SUPERVISION

Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David N. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1994. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. Maximum Gradient of TMI, Second Vertical Derivative, Horizontal Derivative (in North direction), and Horizontal Derivative (in East direction) Image map montage 2. Each image with relief shading and highlights from true north.

True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.59°
Grid-magnetic angle	11.6°
True-magnetic angle	12.2°
Magnetic inclination	-70.4°

AEROMAGNETIC DATA

MAGNETIC IMAGE MONTAGE 2

Scale: 1:150 000

2000 0 2000 4000 6000 8000 10000 metres

Universal Transverse Mercator Projection
Central Meridians 147° East, AMG Zone 55
Grid Cell Size 50 metres
Graticules 5 minutes and 10 kilometres

5 cm

DATA ACQUISITION CONTRACTOR

Tesla - W

41 Kitchen Road, Applecross, WA
Ph (09) 3648444 Fax (09) 3648575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 094-274 deg TIE LINES: 144-324 deg
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatel tracking real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JSH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTesla SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NOISE ENVELOPE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 2m along ground).
PROCESSING APPLIED	Corrections have been applied for: - System parallax of -1.64s - Diurnal field at base station 1 - IGRF model 1990 removed, base value 61333 nT at map centre - Altitude compensation using post processed GPS height - Heading error, 1.5 nT on traverses, 3.5 nT on ties
SURVEY MANAGEMENT	Rod Pullen.

DATA PROCESSING CONTRACTOR

Pitt Research Pty Ltd

Final data processing, micrometching and imaging by Pitt Research.
9 Devitt Street, Port Adelaide, SA, 5015
Phone: (08 341 8220 Fax: (08 341 8040

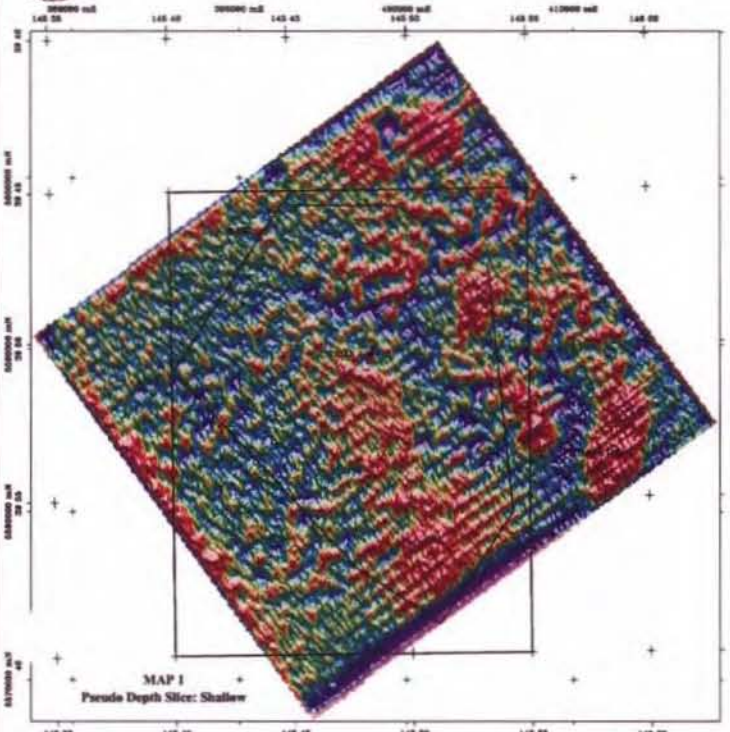
MAGNETIC DATA PROCESSING	Tie-line levelling, Tie smoothing and Micrometching were been applied. Inclination and declination computed continuously over whole area using IGRF model 1990 computed at year 1994. INCLINATION for map centre -70.4° DECLINATION for map centre 12.3° A low pass filter was applied to the TMI grid before generating further products. The Fast Fourier Transform technique has been used for all filter operations.
IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Maximum gradient of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 2 :	Second vertical derivative of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 3 :	Horizontal derivative (in North direction) of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 4 :	Horizontal derivative (in East direction) of total magnetic intensity with relief shading and highlights (in the direction of True North). The resulting data grids have then been subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading enhanced with Automatic Gain Control. The effect of the data stretch, colour assignment and relief shading is illustrated in the chromatic key for the TMI images.
GRIDDING PARAMETERS	ALGORITHM: Minutia spline TARGET SIZE: 50 = 50 metres
PROCESSING MANAGEMENT	Jing Ping Zhe

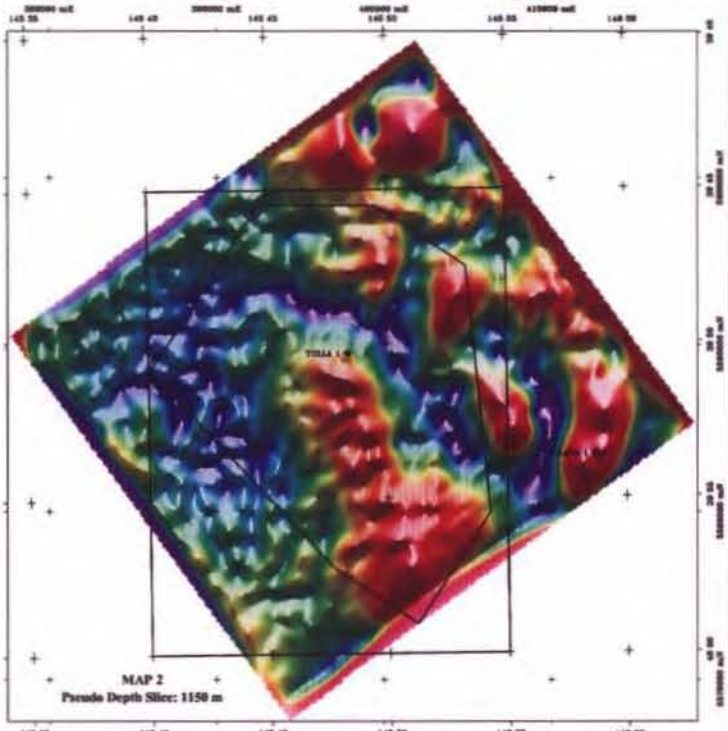
Fig. 4

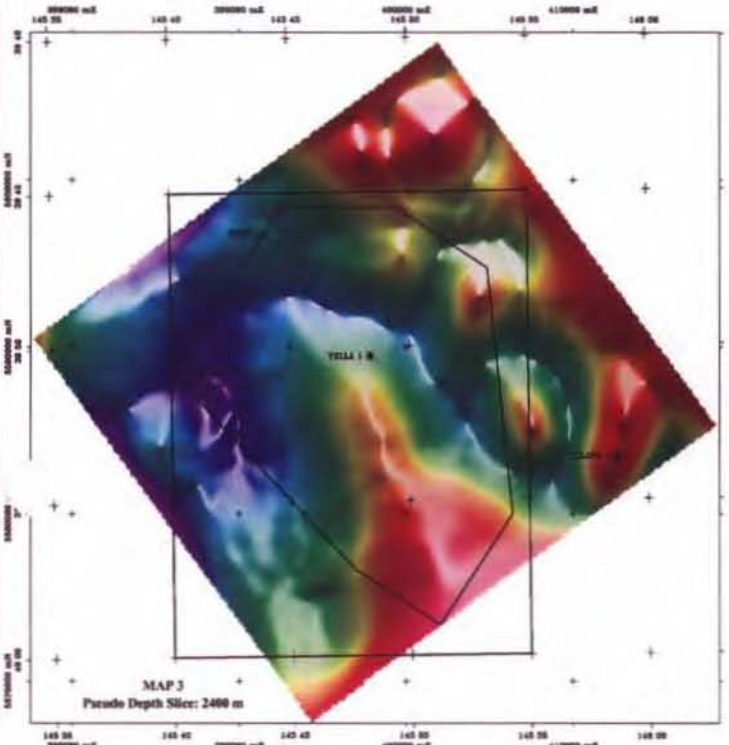
5 cm

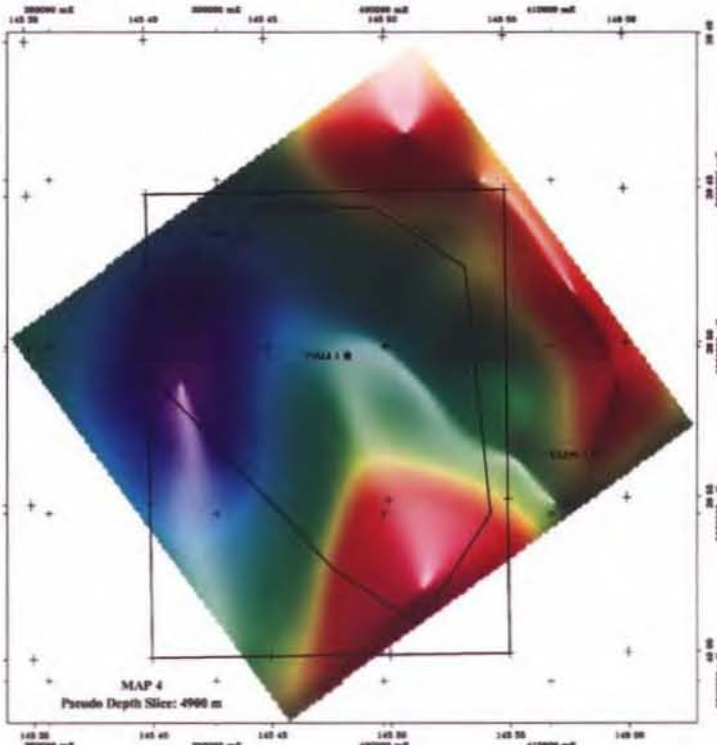
AREA T/RL1 - Bass Strait

SAGASCO Resources Ltd.









AEROMAGNETIC DATA
MAGNETIC IMAGE MONTAGE 3

Scale: 1:150 000

Universal Transverse Mercator Projection
Central Meridians: 147° East, AMG Zone 55
Grid Cell Size: 50 metres
Gratitudes: 5 minutes and 10 kilometres

DATA ACQUISITION CONTRACTOR
Tesla - 10
41 Kitchen Road, Applecross, WA
Ph (09) 3648444 Fax (09) 3648571

SURVEY FLOWN: June 1994 to July 1994
FLIGHT LINE SPACING: TRAVERSE LINES: 400 metres; TIE LINES: 3500 metres
FLIGHT LINE DIRECTION: TRAVERSE LINES: 054-234 deg; TIE LINES: 144-324 deg
SURVEY HEIGHT: MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION: Nicolet running east/ time GPS. Differentially Post Processed
AIRCRAFT: Cessna 210N VH-JBH
MAGNETOMETER: Sublitec CS2 Cesium Vapour; RESOLUTION: 0.001 nanoTeslas; SAMPLE INTERVAL: 0.1 secs; INSTALLATION: Tail Stinger
PASSIVE COMPENSATION: None envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION: Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT. HELISHIM VXE noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 1m along ground).
PROCESSING APPLIED: Corrections have been applied for:
- System parallax of -1 fid
- Diurnal field at base station 1
- IGRF model 1990 removed, base value 61320 nT at map centre
- Altitude compensation using post processed GPS height
- Heading error, 1.5 nT on Traverses, 0.0 nT on tie

SURVEY MANAGEMENT: Rex Pullen

DATA PROCESSING CONTRACTOR
Tesla - 10
Levelling and pseudo-depth slice processing by Tesla - 10
41 Kitchen Road, Applecross, WA
Ph (09) 3648444 Fax (09) 3648571

MAGNETIC DATA PROCESSING: Tie levelling and tilt/downlining have been applied. Reduction to the pole was performed on the TMI grid in the Fourier Domain.
INCLINATION for map centre -70.6°
DECLINATION for map centre 12.5°

PSEUDO DEPTH SLICE PROCESSING: The depth slices were obtained running GEOPAK software, acting on the reduction to the pole grid in the Fourier Domain. At each stage the input required by the program are two depths as determined by two straight line segments on the power spectrum plot, and the ratio of the power spectra of these two lines where they intersect the zero wave number axis.
The most elegant procedure required the removal of the deepest layer using the deepest and second deepest straight line segments. This procedure was repeated three times, with the output of the one stage forming the input of the next stage. This depth slice itself was the difference between any stage and the previous stage as outlined above, with the exception of the shallow stage.

TECHNICAL SUPERVISION
Doug C. Ribetti, SAGASCO, Manager of Exploration Operations
David H. Tucker, Precise Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES
SAGASCO, 1995. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. All images of Montage 3 are Pseudo Depth Slices with the respective depths as follows; shallow, 1150m, 2400m and 4900m.
All maps are with relief shading and highlights from true north.

COPYRIGHT
© SAGASCO RESOURCES PTY LTD, 1995.

IMAGE PROCESSING & MAPPING CONTRACTOR
PSI Research Pty. Ltd.
Image processing and mapping by PSI Research.
9 Elwell Street, Port Adelaide, S.A. 5015
Ph (08) 3418333 Fax (08) 3418347

IMAGE PROCESSING: The Image Processing applied to each map is described below:
MAP 1: Colour scaled shallow (300 - 500 mV) pseudo depth slice with relief shading and highlights.
MAP 2: Colour scaled 1150 m pseudo depth slice with relief shading and highlights.
MAP 3: Colour scaled 2400 m pseudo depth slice with relief shading and highlights.
MAP 4: Colour scaled 4900 m pseudo depth slice with relief shading and highlights.
The data grids have been resampled and then subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading and highlighting enhanced with Automatic Gain Control. On all maps the relief shading and highlights are from the direction of True North.

MANAGEMENT: Jing Ping Zhu, Mark Wagner

Fig. 5

Elongate anomalies with half-width 5-8 kilometres

In the total magnetic intensity data elongate anomalies with half-width 5-8 kilometres form the regional long wavelength background in this area and provide the dominant pattern. The strike of anomalies and gradients is approximately north-northwest-south-southeast (330-340 degrees).

Yolla 1 lies near the northern tip of the very prominent elongate total magnetic intensity high which strikes North-northwest-south-southeast from AMG 404000 mE, 5575000 mN to AMG 395000 mE, 5590000 mN and extends South-southeast out of the survey area: this is designated Anomaly M1, M2. Along strike to the north-northwest lies a prominent low centred at AMG 388000 mE, 5593000 mN and designated Anomaly P.

The amplitude of these anomalies, clearly seen in the contour maps (Enclosures 1 and 2) lies in the range 50-100nT and are identified and located as listed below.

M	404000 mE, 5575000 mN	to	95000 mE, 5590000 mN	100nT approximately
P	388000 mE, 5593000 mN			-50nT approximately

The western, northern and eastern parts of the survey area near is overlain by a long wavelength total magnetic intensity high anomalies which extend outside the survey area.

Anomalies of the kind described above are inferred to be responses from igneous-metamorphic basement to the basin. However, the lithologies of the source rocks for these regional anomalies are not known.

Circular-elliptical anomalies with half-width 1.5-3 kilometres

In the total magnetic intensity data circular-elliptical anomalies with half-width 1.5-3 kilometres occur scattered in the northern and eastern side of the survey and form the next most prominent pattern.

The amplitude of the most prominent of these anomalies, clearly seen in the contour maps Figures Tmi1 and Tmi2 lies in the range 5-45nT and are identified and located as listed below.

A	398200 mE	5603000mN	5nT
B	401800 mE	5603700mN	45nT
C	405300 mE	5594100mN	10nT
D	407700 mE	5585300mN	10nT
E	413400 mE	5586700mN	30nT

Several lower amplitude and thus more subtle anomalies of these kinds are seen more clearly in the first vertical derivative pixel map in Map 3 of Enclosure 7 (Figure 3) and in the contour map Enclosure 3.

'F	383800 mE	5584300mN	2-5nT
G	400000 mE	5595000mN	2.5nT
A'	399000 mE	5603000mN	-10nT (negative anomaly)

Anomalies of this kind are inferred to come from sources within the sedimentary section, including the Miocene intrusives and extrusives and deeper volcanics within the general depth range 1000-2500 metres and more commonly around 1100-1300 metres.

Anomalies H, I, J and K near the edges of the survey are not fully defined but may be similar circular/elliptical anomalies to those discussed above.

Narrow curvilinear and circular-elliptical anomalies with half-width 300-600 metres

In the total magnetic intensity data narrow curvilinear and circular-elliptical anomalies with half-width 300-600 metres are mapped with difficulty in the contours Enclosures 1 and 2 (Figures 3 and 4) and more easily in the pixel Maps 1 and 2 in Enclosure 7 (Figure 3). The amplitude of these anomalies lies in the range 0.2-0.5nT and is at the lower level of delectability of this survey.

Anomalies with these half-width can be caused by steeply dipping sources with depth to top in the range 150-300 metres below sensor. Speculative sources include fault infill at or close to the sea floor and/or palaeodunes containing magnetic heavy mineral sands at or close to the sea floor.

These subtle anomalies can be better portrayed in the various gradient presentations in Enclosures 7 and 8 (Figures 3 and 4) than in straight TMI or first vertical derivative - operators were applied to the gridded magnetic data. However it will be seen that the anomalies thus defined by various forms of filtering can be significantly spatially moved, and care must be exercised in selection of source position.

The operators with the most directional bias are the horizontal derivative applied to the grids from the north and the east directions (Map 3 and Map 4) in Enclosure 8 (Figure 4). The former operator shows a predominantly north-south striking pattern of narrow curvilinear anomalies with wavelength of 1000-1200 metres, with a weaker overprinted east-west striking pattern, most evident in the south of the area. Circular anomalies commonly occur at the intersection of the north-south and the East-west narrow curvilinears, the result of cumulative reinforcement. The latter shows a predominantly east-west striking pattern of narrow curvilinear anomalies with few circular anomalies.

The operators with least directional bias are the first vertical derivative (Map 3), the second vertical derivative (Map 2) in Enclosure 8 (Figure 4), and the Pseudo-depth-slices in Enclosure 9 (Figure 5). Of these the first vertical derivative and the second vertical derivative are probably the most reliable to correctly map the characteristics of the shallow sourced anomalies, and the Pseudo-depth-slice 1150 metres and 2400 metres.

Circular anomalies with half-width 400 metres and amplitude 2-6nT (Culture)

Total intensity anomalies are recorded over two of the three wells in the area and are seen in Enclosures 1 and 2 as follows:

Bass 1	circular/elliptical 2nT
Yolla 1	circular/elliptical 6nT
Tilana 1	no anomaly evident

These anomalies are attributed to the steel infrastructure of the well completions.

7.2 Physical Property Data

There was no known magnetic susceptibility and magnetic remanence data available for this area at the time of this report.

Experience in other basins (Cooper, Otway) indicates that typical magnetic susceptibility of most unmetamorphosed sediments is very low and it is likely that the situation in the Bass basin is similar. On land the soil and regolith have high magnetic susceptibility caused by development of maghemite and winnowing of heavy minerals but it is not known whether a similar situation prevails on the sea floor. Volcanics can have a wide range of magnetic susceptibility and can be remanently magnetised: mafic volcanics tend to be more magnetic than acid volcanics. Igneous-metamorphic basement has a huge range of properties from non magnetic to strongly magnetic.

A reasonable set of susceptibilities and remanent magnetisations were adopted or derived during modelling and are indicated in Table 1.

TABLE 1

MAGNETIC LITHOSTRATIGRAPHY ADOPTED

Interval	Magnetic Susceptibility SI x 10^{-5}	Remanence Amps/Metre	Comments
Seafloor sediments in oxidation zones	150-500	Nil	Very speculative estimate based on Cooper Basin surface/regolith (Frears and Tucker, 1994). Nil information on seafloor
Sediments	10-50	Nil	Based on Cooper Basin (Tucker, 1994)
Miocene extrusives	1000	0.5	Based on seismic outlined models
Modelled intrusives & extrusives	1000-2800	Nil	Based on models fro anomalies A, B, C, D
Basement	900-1200	Nil	Based on Anomaly M

7.3 Pseudo-Depth-Slicing

The basis of Pseudo-depth slicing lies in the application of potential field frequency spectra to estimate depth to source bodies. The use of spectra is discussed in the literature and is commonly used by interpreters to gain a rather course regional summary of source depths. Various methods of filtering are used with varying degrees of success (Cowan and Cowan, 1993). All have serious limitations and the resultant filtered maps should be used with great caution.

In the present case the depth slicing was undertaken by Tesla-10 using Geopak software and is described in Appendix 3. The grids from this work have been displayed in Enclosure 9 and reduced in Figure 5.

Four Pseudo-depth slices were produced to optimise responses with wavelengths equivalent to sources at several depths. These depths are stated by Tesla-10 to be:

shallow 300-500 metres
1150 metres,
2400 metres, and,
4900 metres

We note that the half-width of some of the anomalies in each of these pseudo-depth-slices is approximately half that expected for anomalies from bodies at the stated depth (Table 2). Accordingly we urge caution in the use of these Pseudo-depth-slices, particularly with regard to the depths.

TABLE 2

COMPARISON OF DEPTHS IN PSEUDO-DEPTH-SLICES

Depth Stated by Tesla-10 (metres) Correspond	Depth Indicated by Pseudo-Depth Slice Half-Widths (metres)	Depth Indicated by Models of TMI and Judged to with the Depth Slice
Shallow 300-500	200-300	-
1150	400-600 (narrow curvilinears)	-
	750-1500 (circular/elliptical)	1100-1500
2400	1000-2500 (circular/elliptical)	1500-2000
4900	2500-3500	3250-4000

Pseudo-depth-slice 'Shallow' is characterised by a dominant striping in a NE-SW direction confined along alternate flight lines: these stripes appear to be a display of levelling problems. However, there is in addition a more subtle pattern of near east-west and north-south striking anomalies with half-width 400-600 metres. These east-west anomalies are evident in other presentations of the data in Enclosures 7 and 8 (Figures 3 and 4), and are interpreted as being caused by geological sources at shallow depth at or close beneath the sea floor (faults, heavy mineral sands in paleochannels, relict dunes). In addition there is leakage of the broader anomalies caused by the deeper sourced anomalies, A, B, C, D, E and M.

Pseudo-depth-slice 1150 metres is characterised by a well defined east-west striking suite of narrow curvilinear anomalies with half-with 800-1200 metres. These anomalies are a clearer picture of those seen in pseudo-depth-slice shallow and are seen in all of the short wavelength enhancing presentations. There are several well defined circular/elliptical anomalies with half-width 1500-2000 metres in the north and east of the survey area (Anomalies A, B, C, D, E and G). These anomalies are inferred to be sourced within the sedimentary section, and may be indicative of volcanics. In addition there is an emerging clarity in elongate long wavelength anomaly with half width 4000-8000 metres which strikes northwest-southeast and extends past Yolla No.1 (Anomaly M). This anomaly is inferred to lie within the igneous/metamorphic basement.

Pseudo-depth-slice 2400 metres is characterised by circular/elliptical anomalies with half-width 2000-3000 metres (A, B, C, D, E, and G) and the northwest-southeast striking alongate anomaly with half-width 4000-8000 metres which runs past Yolla No 1 (Anomaly M). Note that Anomaly M is resolved into two parts designated M1 and M2, one wider than the other and indicative of a structural break.

Pseudo-depth slice 4900 metres is characterised by the elongate northwest-southeast anomaly with half-width 5000-9000 metres and a prominent low centred some 10 kilometres west of Yolla. The long wavelength character of these anomalies are indicative of the deepest magnetic sources in the area. Note that the circular/elliptical anomalies B, C, D and G have been suppressed while Anomalies A, E and M are still clearly defined.

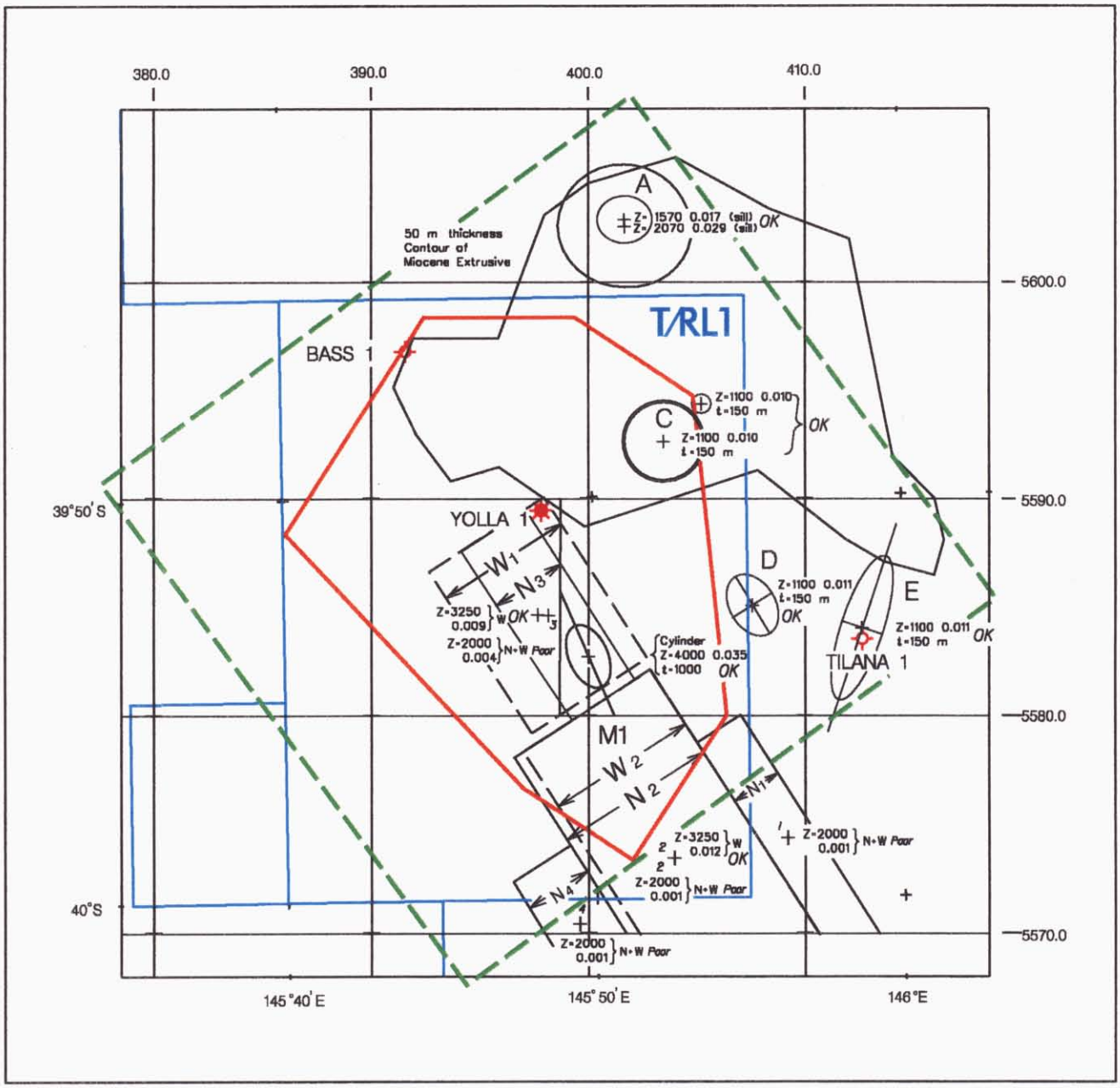
7.4 Computer Modelling of Magnetic Anomalies

The modelling package 'Potent' licensed to Preview Resources Pty Ltd by PC Potentials Pty Ltd of PO box 167, Kippax, ACT 2615 was used to model the aeromagnetic data. 'Potent' uses 2-D, 2½-D and 3-D body shapes and adopted magnetic susceptibilities which can be readily modified in a forward modelling mode to obtain a visual fit to total magnetic intensity data and in an inversion mode to fit mathematical criteria. The software allows use of the induced magnetic field combined with magnetic susceptibility to calculate responses, or use of remanent magnetisation in any chosen direction, or if required both influences acting together.

Theoretical responses were calculated to simulate the 120 metre observation altitude used by the airborne survey.

Graphical results of the modelling are presented in Appendix 5 and Figures 8 and 9 and Enclosure 5. A summary tabulation of critical parameters is shown in Table 3.

SAGASCO Resources



Outline of Aeromagnetic Survey
Outline of Yolla 3d Seismic Survey
Permit Outlines
Z Depth below sea level in metres
0.010 Magnetic susceptibility
t Thickness of body (depth extent)

N

METRES
0 5000 10000 15000

5 cm

BASS BASIN TASMANIA

T/RL1 Aeromagnetic Survey

Yolla Field

Computer Models Depth Summary Location Map

12918.0395 Fig. 6

TABLE 3

SUMMARY OF MAGNETIC MODEL DEPTH AND OTHER PARAMETERS

Number	Description Quality	Mag Properties	Reman	Model
		Susc SI	Amps/m	fit
A	150 metre thick cylinder at 1100 metres	0.026		Poor fit
A	1000 metre thick cylinder at 1100 metres	0.0062		Poor fit
A	Multiple sills at 1570m and 2070m	0.017 0.029		OK fit
C	150 metre thick cylinder at 1100 metres	0.010		OK fit
C	1000 metre thick cylinder at 1100 metres	0.0023		OK fit
D	150 metre thick cylinder at 1100 metres	0.011		OK fit
D	1000 metre thick cylinder at 1100 metres	0.0024		OK fit
E	150 metre thick cylinder at 1100 metres	0.011		OK fit
E	1000 metre thick cylinder at 1100 metres	0.0025		OK fit
M, W1, W2	1000 metre thick cylinder at 4000 metres	0.035		OK fit
M, N1, N2, N3, N4	Narrow and wide rectangular prisms 2000m	0.01-0.04		Poor fit
M	Wide rectangular prisms at 3250 metres	0.008-0.012		OK fit
G & C	Composite rectangular plates at 1030m	0.018-0.035		Nil fits
	Miocene Extrusives at 1350 metres - Susceptibility model	0.01		Nil fits
	Miocene Extrusives at 1350 metres - Remanence model		0.5	Poor fit -negative anomaly only

Four classifications were used to grade the quality of the comparative fit of the model response to the observed anomaly data. Note that this is a judgement of the mathematical qualities of the model. It is not a judgment of the geological qualities of the model.

Grading of Profile Fit	Estimated Error Range for Model	Comments
Excellent	+/- 10%	Exact at all critical points
OK	+/- 20%	Exact at 60% of critical points
Poor	+/- 40%	Inexact fit at all critical points, but general forms of profiles are similar
Nil	Not relevant	No similarity at all

Anomalies A, C, D and E were modelled with a constrained depth of 1100 metres to top and 150 metres thickness of elliptical plates (?volcanics) provided by SAGASCO. Use of various diameters and susceptibilities provided OK fits of modelled and observed data for Anomalies C, D and E.

Anomaly A did not respond favourably to the 1100 metre modelling, but did respond to modelling as two discs at depths of 1570 and 2070 metres (similar model to Sparlin and Lewis, 1994, p1098).

Anomaly M was modelled as a variety of deep rectangular prisms and is estimated to be sourced at 3250-4000 metres depth.

7.5 Computer Modelling of the Miocene Volcanics

Miocene extrusive volcanics were mapped by SAGASCO with 2D seismic in the north of, and extending outside T/RL1. These extrusives occur as several cones with interjoining floes above a base level of approximately 1350 metres below sea level. Individual cones reach 220 metres and minimum floe thickness of 50 metres prevails over an area approximately 20 kilometres east-west by at least 15 kilometres north-south (Figure 7).

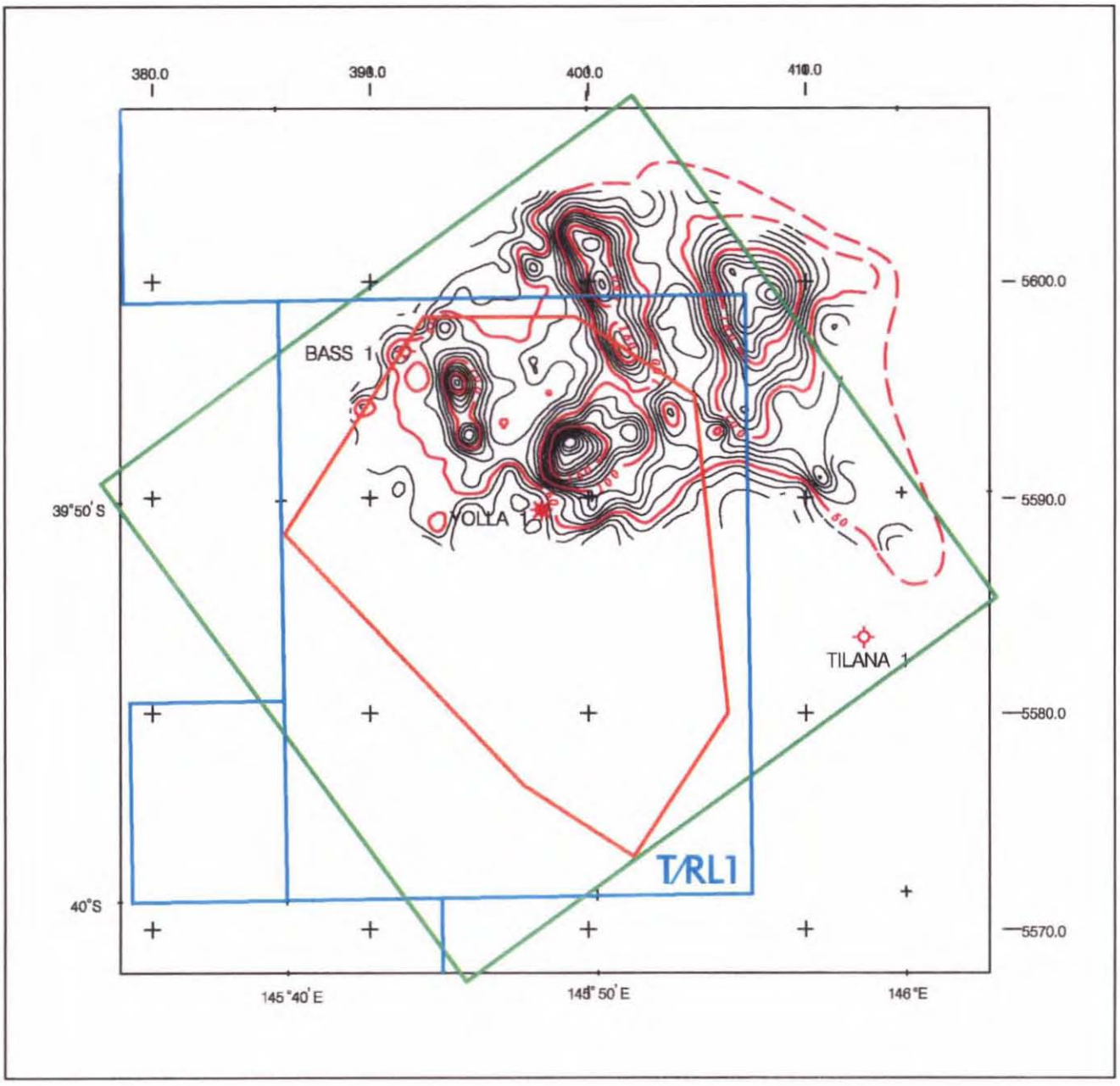
The volcanics were tested by computer modelling to determine whether they might be significant contributors to the magnetic field. To approximate the morphology of the volcanics a simplified geological model was produced using a stack of layers each 50 metres thick with boundaries defined as follows:

- The base layer was a polygon which outlined the volcanics at the 50 metre thickness contour.
- The subsequent higher layers were simple rectangles, and cylinders, approximating the 100, 150, 200 metre contours.

The geological model was tested with three simple magnetic property assumptions. These were as follows:

A single magnetic susceptibility was adopted for the volcanic pile.
A single reverse remanent magnetisation was adopted for the volcanic pile.
A hybrid susceptibility and remanence model with extra hypothesised magnetic bodies.

SAGASCO Resources



Outline of Aeromagnetic Survey
Outline of Yolla 3d Seismic Survey
Permit Outlines

N

METRES
0 5000 10000 15000

5 cm

BASS BASIN TASMANIA

T/RL1 Aeromagnetic Survey

Yolla Field
2D Seismic Mapping
Volcanics Time Thickness

12808.0295 Fig. 7

Single magnetic susceptibility

A model was produced for the volcanic pile assuming a single magnetic susceptibility acted uniformly over the volcanic pile (Figure 8).

In the absence of any measured magnetic properties in this area, a reasonable magnetic susceptibility value of 0.05SI was adopted for the volcanics.

The susceptibility model indicates a total lack of similarity of the calculated response and the observed data at any of the mapped cones (compare Figures 7 and 8).

Single remanence model

A model was produced for the volcanic pile assuming that a single remanence acted uniformly over the volcanic pile.

A reverse magnetisation model was tried because the aeromagnetic survey indicates a prevailing negative anomaly in approximate association with the two cones 3 kilometres to the north-northeast and 6 kilometres to the northwest of Yolla 1 (part of Anomalies P and Q). In the absence of any measured magnetic properties a remanence was adopted for the volcanics which comprised a value of 2.5 Amps per metre for remanent intensity in a direction opposite to the earth's present field direction.

The remanence model indicates a negative anomaly and thus some similarity for the two cones but a general lack of fit elsewhere (compare Figures 7 and 9).

Hybrid susceptibility and remanence model

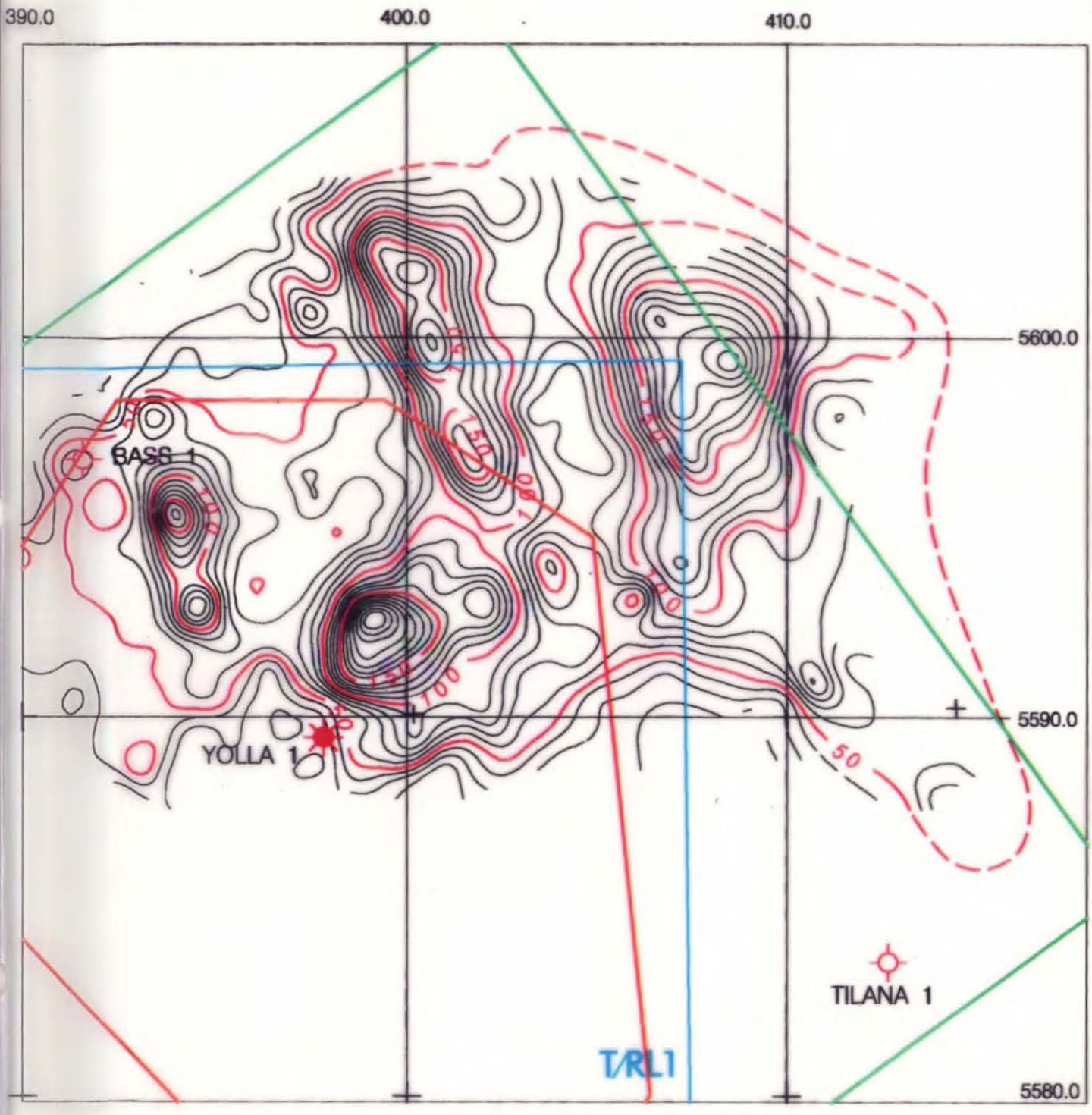
A hybrid model was attempted which combines the effects of susceptibility and remanence and adds an extra body to account for Anomaly A in the north. This provides a better fit to the observed data for Anomaly A but is very poor elsewhere (see Appendix 5 Anomaly A).

It is concluded that the morphology of the volcanics as mapped by seismic methods has only a very limited direct association with the magnetic field anomalies. The volcanics appear to have properties which vary from place to place and which combine the effects of susceptibility and remanent magnetisation. It is likely that parts of the floes are more or less magnetic with net magnetic highs or lows not necessarily associated with a particular cone.

7.6 Structural Skeletons

Aeromagnetic anomalies can give information on the depth, shape, attitude, extent and properties of magnetic bodies. A structural skeleton can be constructed which uses these derivable attributes and for example traces the edges of large bodies (faults and contacts), the axis of narrow bodies (steeply dipping magnetic beds or fault traces), the centre and edges of small circular bodies, the pattern breaks which indicate pattern changes and structural offsets. To this end various operators can be effective in enhancing various aspects of the magnetic data, from both shallow and deep seated sources.

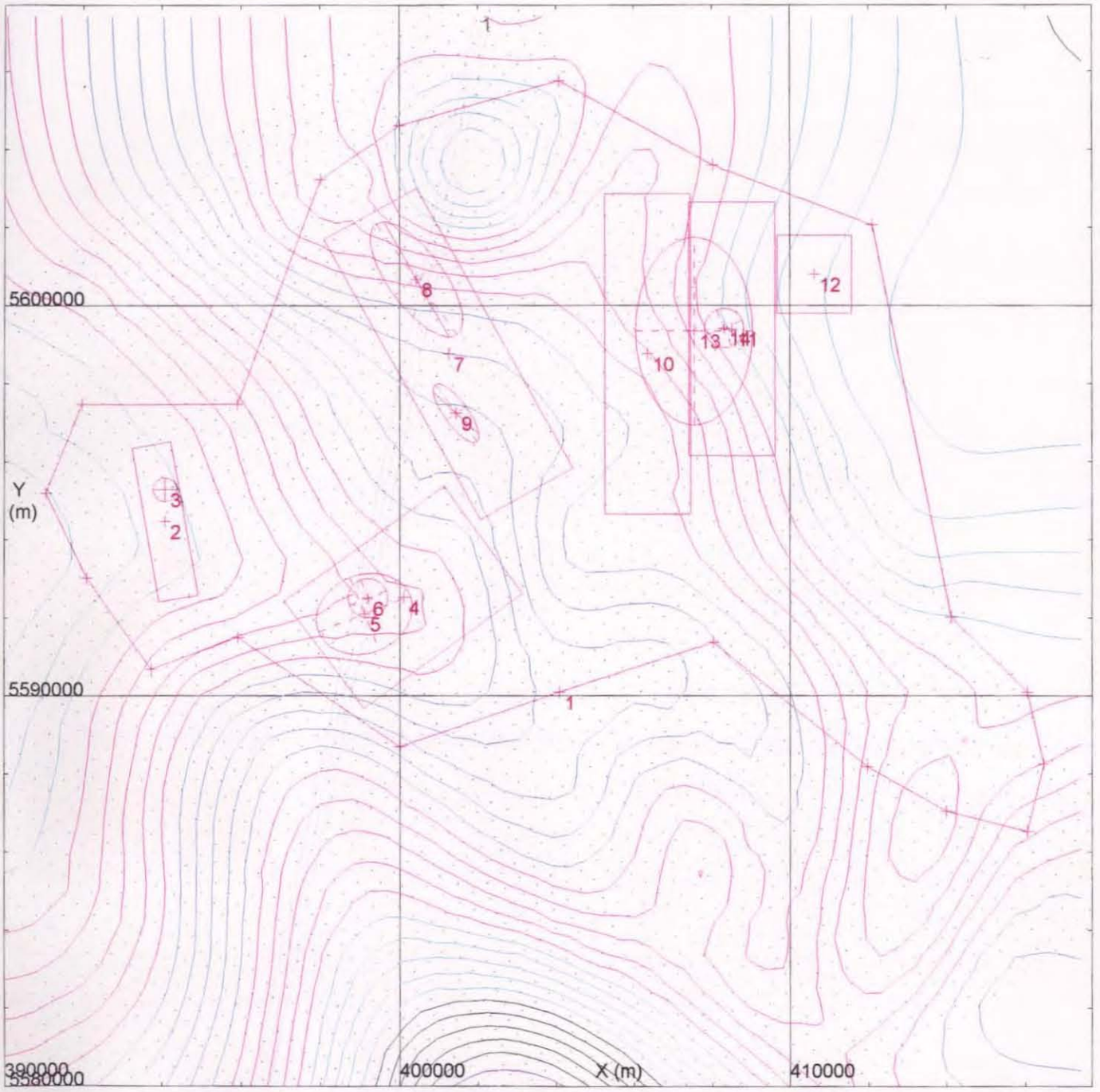
503026



2D Seismic Mapping
Volcanics Time Thickness

5 cm

SAGASCO Resources



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aamsesbm.mod Susceptibility model for Miocene volcanics
Contours of:	Observed field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 12:28 16/01/1995 for Preview Resources Pty. Limited

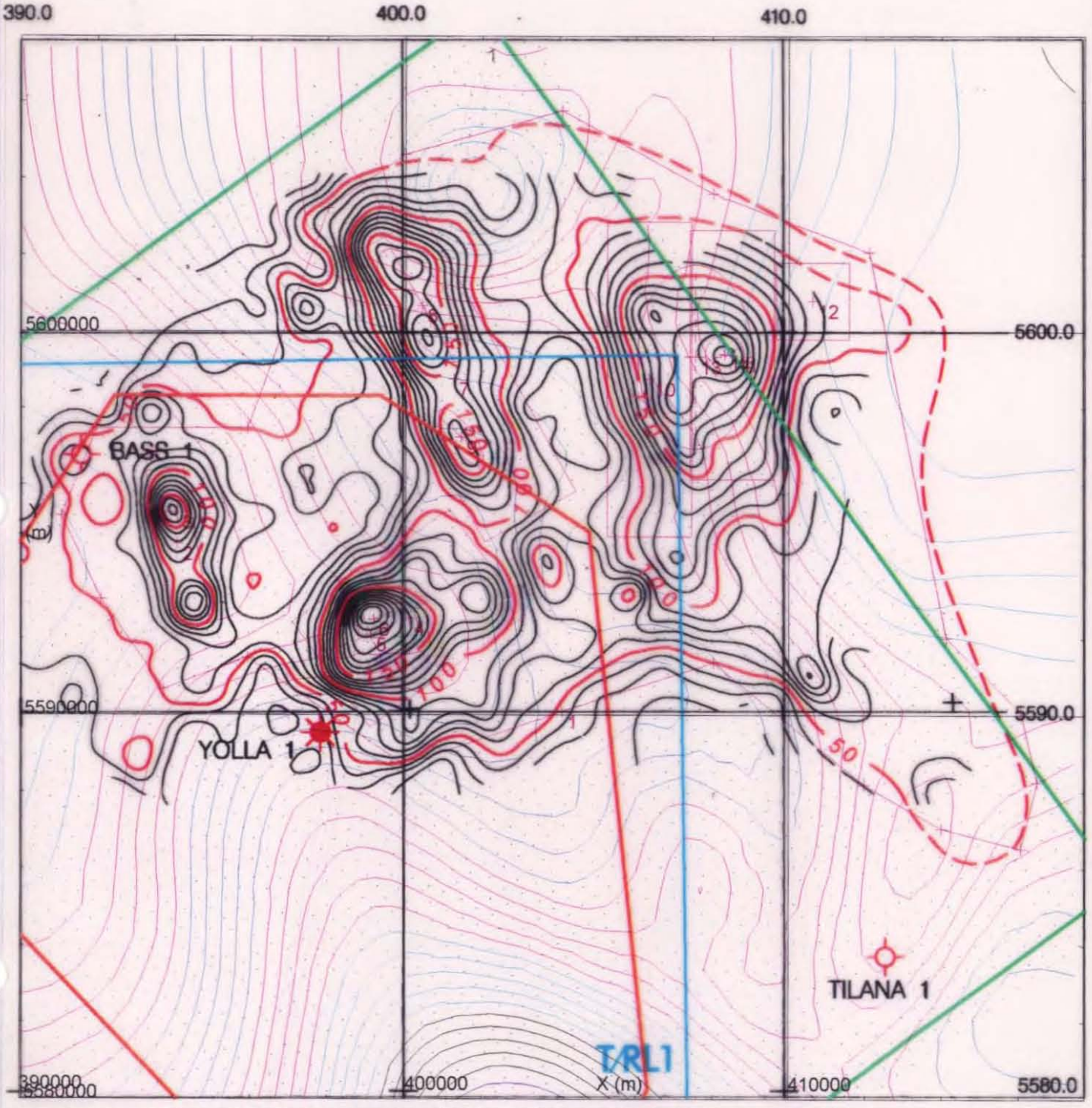
BASS BASIN
TRIA AEROMAGNETIC SURVEY 1994

MIOCENE EXTRUSIVES AT 1350 METRES –
SUSCEPTIBILITY MODEL. NIL FITS.

5 cm

No. 12795.0295 Fig. 8

SAGASCO Resources



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aamsesbm.mod Susceptibility model for Miocene volcanics
Contours of:	Observed field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 12:28 16/01/1995 for Preview Resources Pty. Limited

0 5000 10000
METRES

2D Seismic Mapping
Volcanics Time Thickness

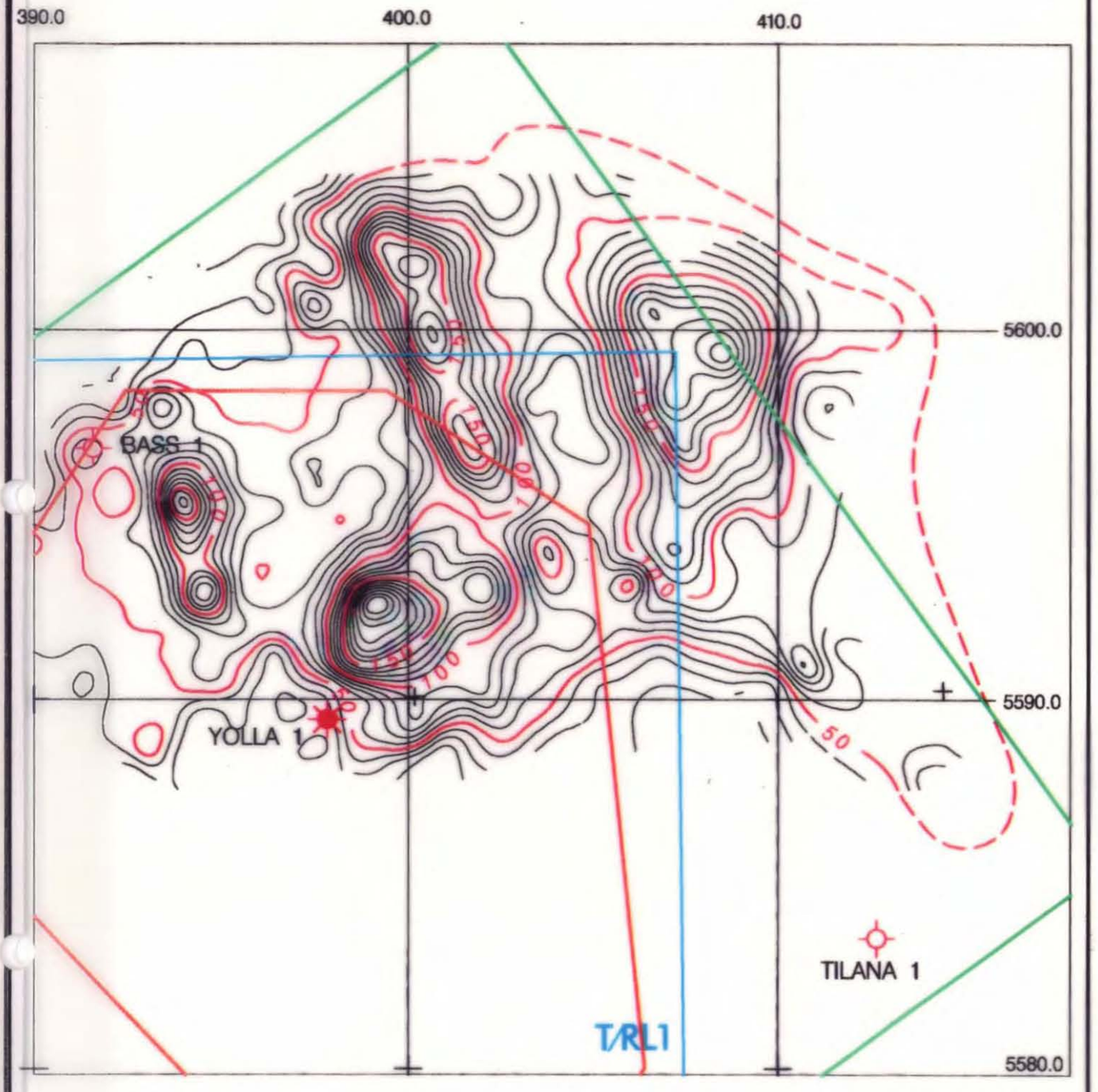
BASS BASIN
TRL/1 AEROMAGNETIC SURVEY 1994

MIOCENE EXTRUSIVES AT 1350 METRES –
SUSCEPTIBILITY MODEL. NIL FITS.

5 cm

No. 12795.0295 Fig. 8

503028

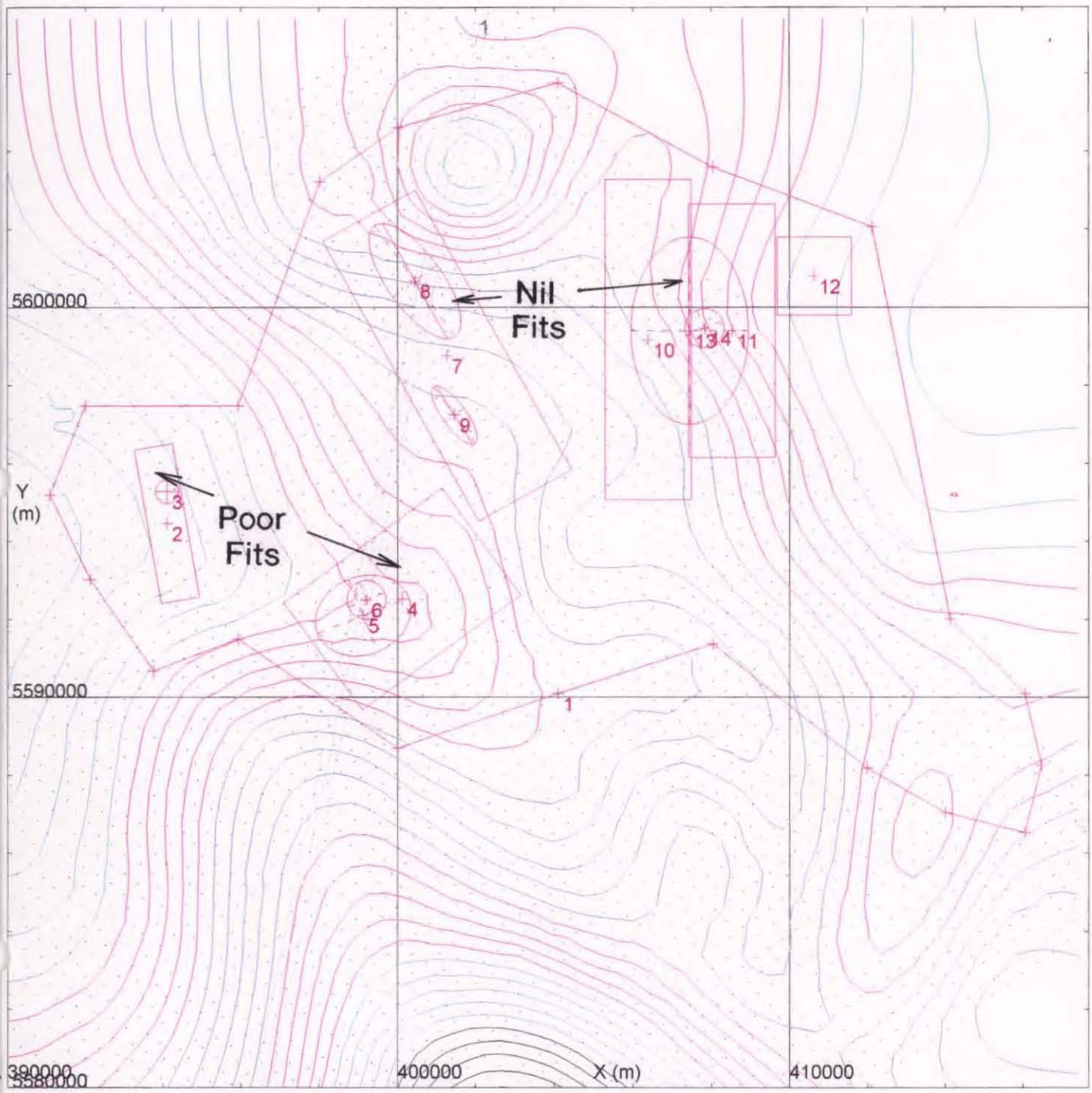


0 5000 10000
METRES

2D Seismic Mapping
Volcanics Time Thickness

5 cm

SAGASCO Resources



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aaksesbm.mod Remanent model of Miocene volcanics
Contours of:	Observed field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 15:13 16/01/1995 for Preview Resources Pty. Limited

BASS BASIN
TRL/1 AEROMAGNETIC SURVEY 1994

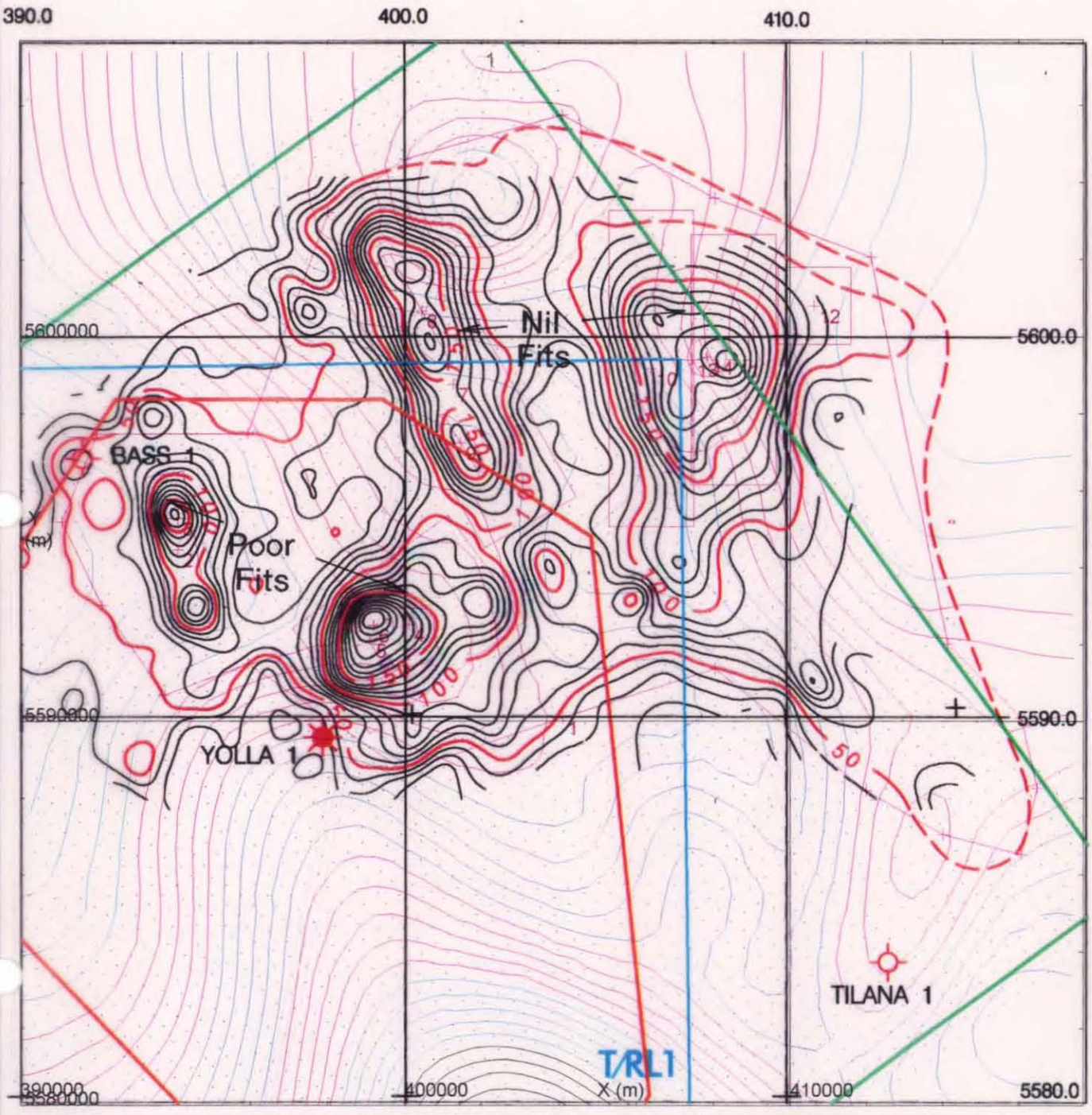
MIOCENE EXTRUSIVES AT 1350 METRES –
REMANENCE MODEL.
POOR FIT TO NEGATIVE ANOMALY ONLY.

5 cm

No. 12796.0295 Fig. 9

503029
~~503028~~

SAGASCO Resources



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aaksesbm.mod Remanent model of Miocene volcanics
Contours of:	Observed field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 15:13 16/01/1995 for Preview Resources Pty. Limited

0 5000 10000
METRES

2D Seismic Mapping
Volcanics Time Thickness

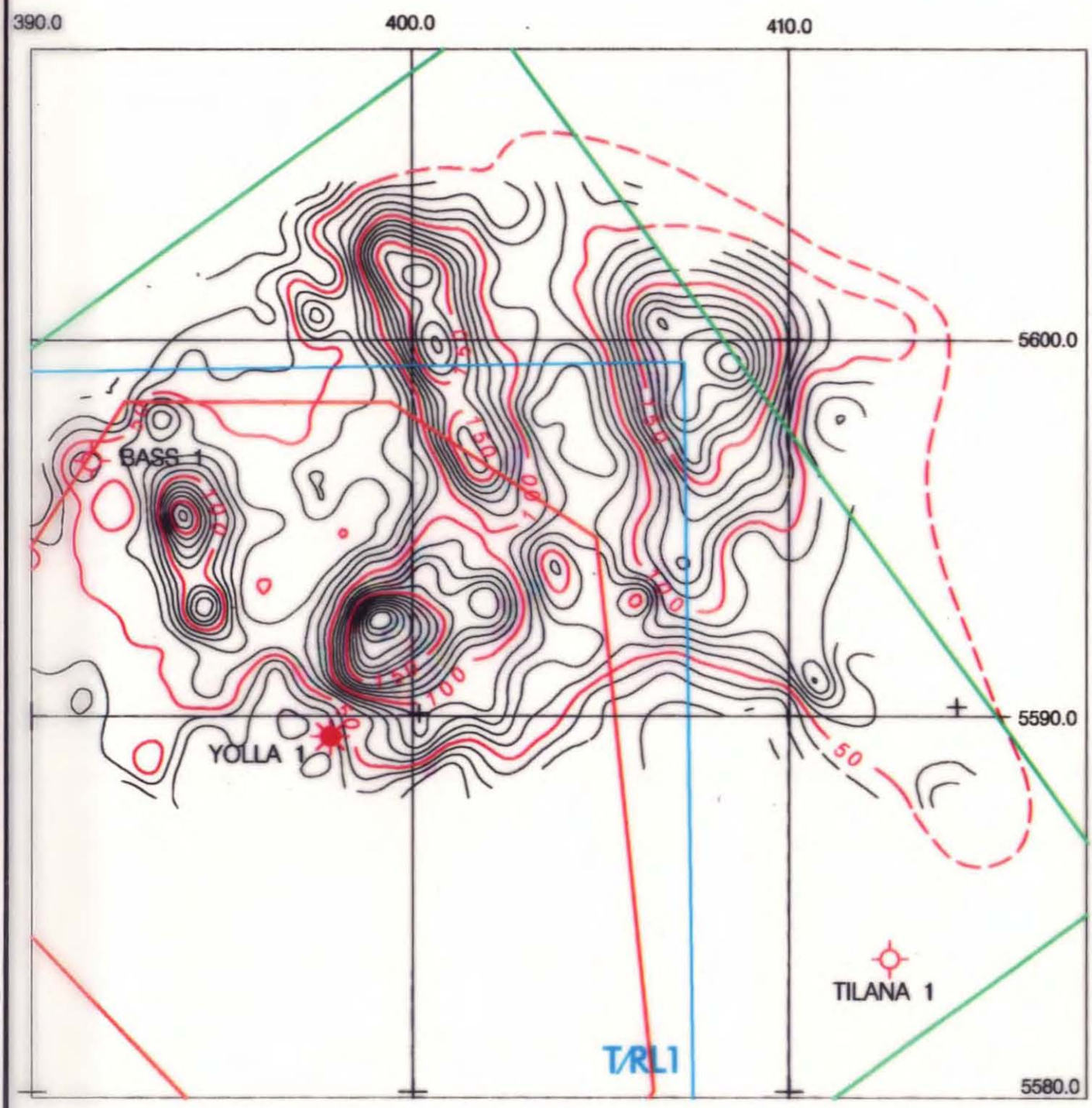
BASS BASIN
TRL/1 AEROMAGNETIC SURVEY 1994

MIOCENE EXTRUSIVES AT 1350 METRES –
REMANENCE MODEL.
POOR FIT TO NEGATIVE ANOMALY ONLY.

5 cm

No. 12796.0295 Fig. 9

S03030

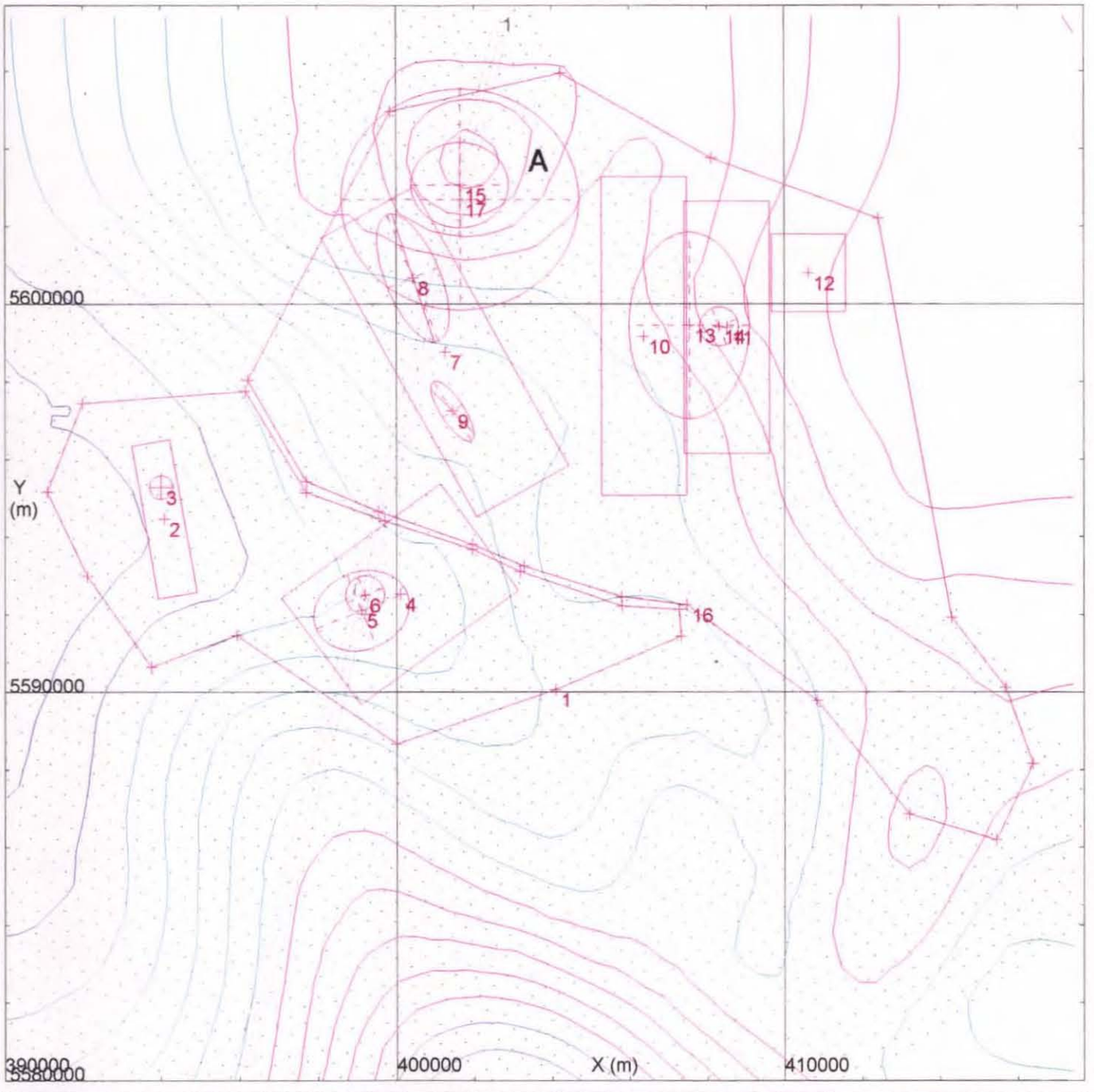


0 5000 10000
METRES

2D Seismic Mapping
Volcanics Time Thickness

5 cm

SAGASCO Resources



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aarsesbm.mod model of anomaly A
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 14:39 23/01/1995 for Preview Resources Pty. Limited

BASS BASIN
TRL/1 AEROMAGNETIC SURVEY 1994

ANOMALY A

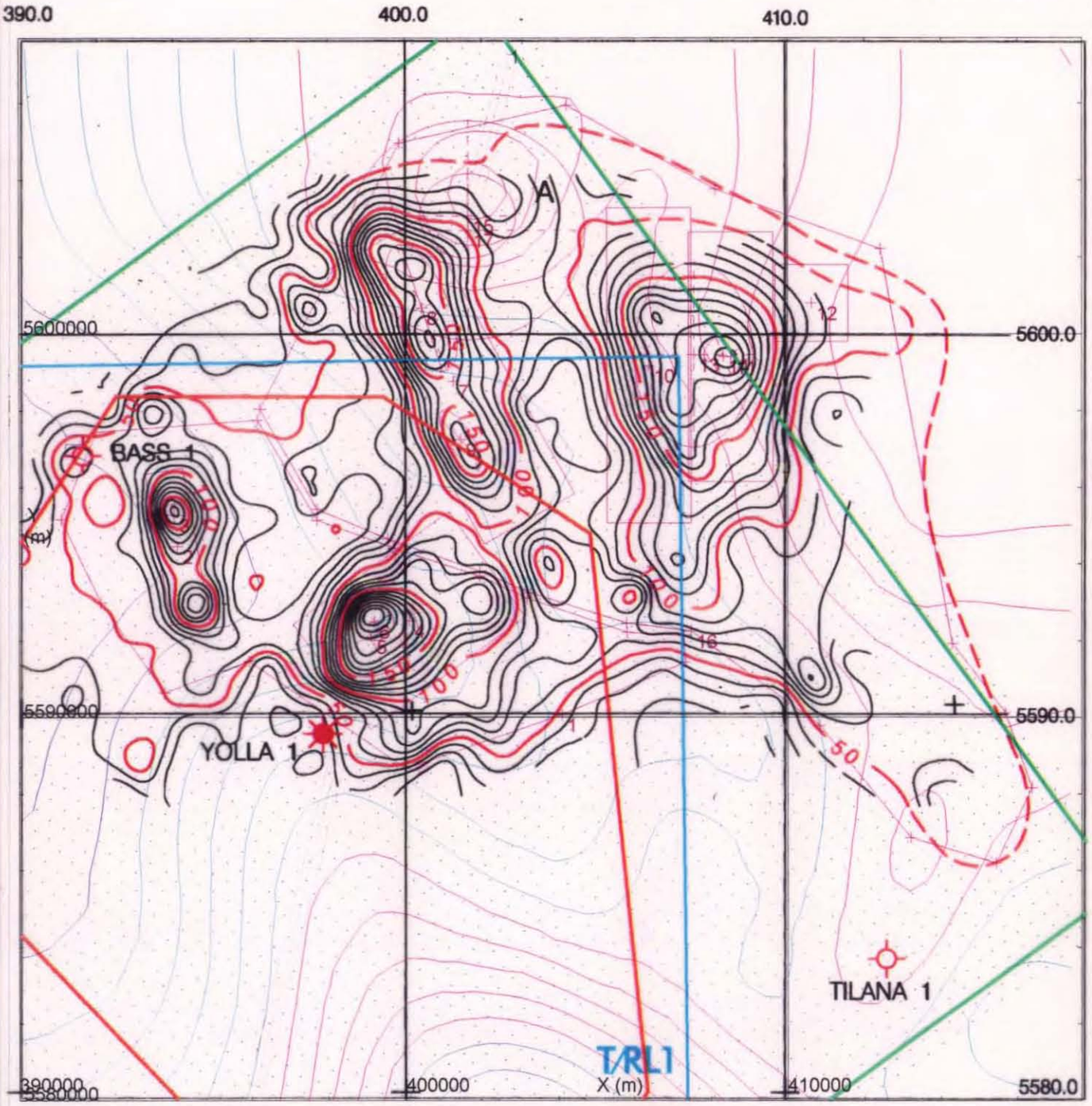
MULTIPLE SILLS AT 1570 METRES &

2070 METRES. OK FIT

5 cm

No. 12797.0295 Fig. 10

SAGASCO Resources



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aarsesbm.mod model of anomaly A
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 14:39 23/01/1995 for Preview Resources Pty. Limited

0 5000 10000
METRES

2D Seismic Mapping
Volcanics Time Thickness

BASS BASIN
TRL/1 AEROMAGNETIC SURVEY 1994

ANOMALY A

MULTIPLE SILLS AT 1570 METRES &

2070 METRES. OK FIT

5 cm

No. 12797.0295 Fig. 10

Structural skeletons are shown in Enclosures 5 and 6. These include:

- TMI and first vertical derivative - shallow and deep sources
- Second vertical derivative - shallow sources
- Analytic signal - shallow and deep sources
- Pseudo-depth-slice shallow - shallow sources
- Pseudo-depth-slice 1150 metres - intermediate to deep sources
- Pseudo-depth-slice 2400 metres - deep sources
- Pseudo-depth-slice 4500 metres - deep sources

After examination of the seven structural skeletons listed above it is considered that most reliance should be placed on three of these.

Second vertical derivative for tracing sea floor lineations (faults),
Pseudo-depth-slice 1150 metres, for tracing intrasedimentary structure (faults and intrusives),
Pseudo-depth-slice 4500 metres, for tracing igneous/metamorphic basement structure.

8 CONCLUSION

The sedimentary section is inferred to be non magnetic in this area, with the exception of likely magnetic sills or extrusives. There is no magnetic physical property available from drillhole material in this area and thus the identification of the source lithology for any anomaly can only be speculated.

Modelling and Pseudo-depth-slicing indicates that several circular/elliptical magnetic anomalies (C, D, E) are sourced in the depth range 1100 +/- 20% corresponding approximately to the depth of the Miocene extrusive volcanics mapped by SAGASCO with 2-D seismic. These models give the source a sill-type or extrusive type of shape.

Modelling indicates that at least one anomaly (A), in the far north of T/RL1 is sourced in the range 1570-2070 metres, probably indicative of multiple sills (or extrusives).

Two of the cones in the seismically mapped by SAGASCO in the Miocene Extrusives at 1350 meters, nearest Yolla No 1, appear to have a significant effect on the aeromagnetic data: here it is likely that remanent magnetisation applies with reverse direction to the present earth's field. It appears that the other cones have no obvious directly correlatable effect at all.

If indeed the Miocene Extrusives are magnetic unit then a possible explanation for their inconsistent behaviour is that they have a patchy response caused by successive floes being reversely magnetised, thus at some localities reinforcing their magnetic effect and at others destroying it.

Modelling and Pseudo-depth-slicing indicates that the elongate anomaly M has a source depth of approximately 3250-4000 metres, and is inferred to be sourced in the Igneous/metamorphic basement.

It appears significant for petroleum exploration in this area that both Tilana 1 and Yolla 1 lie on or close to magnetic anomalies, in the case of Yolla 1 on the edge of a magnetic basement block, and in the case of Tilana 1 directly over an interpreted sill (or extrusive) body. It is concluded that the magnetic data may provide significant deep structural control.

9 RECOMMENDATIONS

In view of a link between predicted magnetic bodies and structure in this area it would be important for SAGASCO to consider the petroleum prospectivity over the other magnetic bodies in this area (especially Anomalies C, D and G).

Physical property measurements of magnetic susceptibility are required in order to constrain the possible influence of the various volcanics. Making these measurements may be difficult if cuttings are the only material available.

Further modelling of the Miocene volcanics is warranted in order to test the hypothesis that they are variably magnetic from place to place and then to produce a pattern for extrapolation to seismic to outline pullup -pushdown.

New surveys in this area will almost certainly suffer from the twin problems of diurnal/coastal effects and swell noise experienced by the present survey of T/RL1. Accordingly it would be wise to consider flying higher to minimise the swell noise, say 150 metres above sea level or higher, and using significantly more tie lines, say 1000 metre spacing rather than the 2000 metre ties used here to give more flexibility in tie line levelling. The penalty for flying higher is that sea floor information is attenuated while the penalty for closer tie lines is increased cost.

This small survey should be integrated into the regional magnetic data in this area and interpreted as a composite. This will have the benefit of extending gross magnetic structures into T/RL1 and projecting subtle structure out of T/RL1 into the surrounding area.

10 **REFERENCES**

Brown, B.R., 1976. Bass Basin - Some Aspects of the Petroleum Geology In Leslie, R.B., Evans, G.J. and Knight, G.L. (Eds) Petroleum - Monograph No.7. In Economic Geology of Australia and Papua New Guinea p 67-82 Australasia Institute of Mining and Metallurgy.

Cowan D.R., and Cowan, S., 1993 Separation Filtering Applied to Aeromagnetic Data. Exploration Geophysics 24, p429-436.

Davidson, J.K., 1980. Rotational Displacements in Southeastern Australia and their Influence on Hydrocarbon Occurrence - Orthodoxy and Creativity on the Frontiers of Earth Sciences: Tectonophysics, V.63, p 139-153.

Etheridge, M.A., Bronson, J.C., and Stuart-Smith, P.G. (1985) Extensional Basin - Forming Structures in Bass Strait and their Importance for Hydrocarbon Exploration. APEA Journal 1985 p 344-361.

Falvey, D.A., and Middleton, M.F., 1981. Passive Continental Margins: Evidence for a Pre-break-up Deep Crustal Metamorphics Subsidence Mechanism. *Oceanologic Acta,* SP, 103-114.

Frears, R.A., and Tucker, D.H., 1994. Cooper Basin Aeromagnetic/Radiometric Test Survey. Mines and Energy South Australia. Report Book 94/35.

Frears, R.A., and Tucker, D.H., (in Prep). Otway Basin Aeromagnetic/Radiometric Test Survey. Mines and Energy South Australia. Report Book (in prep).

Lowry, D.C. and Longley, I.M., 1991. A New Model for the Mid-Cretaceous Structural History of the Northern Gippsland Basin. APEA Journal p 143-153.

Qin Shuang, 1994. An analytic signal approach to the interpretation of total field magnetic anomalies. Geophysical Prospecting 42, 665-675.

Sparlin, M.A., and Lewis, R.D., 1994. Interpretation of the magnetic anomaly over the Omaha Oilfield, Gallatin County, Illinois. Geophysics 59, p1092-1099.

Tucker, D.H., 1994. Computer modelling of magnetic data from the Cooper Basin South Australia - South Australian Exploration Initiative. Department of Mines and Energy, South Australia. Report Book 94/36.

APPENDIX 1

SAGASCO Resources Limited - Bass Basin

PROPOSAL - T/RL1 High Resolution Aeromagnetic Survey

Objective

1 To support the interpretation of Yolla 3D seismic survey by identifying and mapping intra sedimentary volcanic units. At least 3 different volcanic suites are recognised from seismic data and wells.

	2 way Time	Depth
Miocene Extrusives	1000-1300ms	1125-1495m
EVCM Intrusive Sills (Miocene age)	1600-2500ms	1960-3690m
Deep Volcanic Extrusive	2200-2500ms	3058-3690m

2 To determine if variations in the type of Miocene volcanics can be mapped. Depth conversion of seismic data beneath the Miocene extrusive volcanics is affected by apparent strong velocity variations within these volcanics. Both velocity pushdown and pull up are observed beneath these volcanics.

3 To aid mapping of deep structural controls. The seismic data below 2000ms becomes very low in resolution and is difficult to interpret. The aeromagnetic data may assist in providing additional support for postulated structural controls.

Preliminary Investigation

1 Use Consultant to assist in preparing specifications for survey.

2 Issue tenders to at least 3 aeromagnetic data acquisition contractors.

3 Concurrently collect data from sidewall cores and cores in representative Bass Basin wells to measure magnetic properties of full sedimentary section (eg King, Flinders, Pelican 5, Yolla).

4 Conduct magnetic modelling of seismic sections across the Yolla field.

Proposed Survey

Full coverage of the Yolla structural feature with a bearing of 53° which is selected based on features visible on AMOCO shipboard Aeromagnetic data required in 1984. Area 28km x 28km (784 sq km). This should provide sufficient aperture away from the Yolla structure to enable mapping of deeper structural controls (4-6km). It is also proposed in incorporate the AMOCO data to assist interpretation of the deeper data. The attached map shows the permit with the Yolla 3D seismic survey location and structural elements.

Specifications - to be determined in detail

Flying Height	120m
Line Spacing	400m
Noise Envelope	.1nT
Flying Direction	Bearing 53°
Tie Line Spacing	2km
Processing Requirements	
	- Reduction to the pole
	- Depth slicing

Timing

Conduct flying in June-July Period to enable processing to be completed in time to be integrated into Yolla 3D seismic interpretation (anticipated need early September 1994). A time plan is attached.

Cost Estimates

	Line Spacing 400m
Line Km	2700
Mobilisation	$ 20000
Acquisition and processing $16/km	$ 43000
Weather standby	$ 4000
Consultants	$ 20000
Sampling/SAGASCO Costs	$ 10000
Total	$ 97000

DCR 13 May 1994

APPENDIX 2

SCHEDULE

Item 1 **Services**

The Services shall, without limitation, include the provision of the Personnel and Equipment for performance of the following Scope of Work (refer to the Agreement for definitions);

1 SCOPE OF WORK

1 General

Comprising approximately 2730 line kilometres of high resolution aeromagnetic data acquisition and processing in T/RL1, a petroleum licence lying within the waters of Bass Strait.

Final survey boundary coordinates will be supplied by SAGASCO to the Contractor not less than ten days before the commencement of Services and represent the area of coverage referred to as the Block. The boundaries will not vary significantly from that indicated on the attached map.

The data that the Contractor will obtain and record in the Block shall consist of:

(i) Aeromagnetic data (Total Magnetic Intensity)
(ii) Altitude data (height above sea level)
(iii) Positioning data unambiguously associated with the other data.
(iv) Evaluation and quality control data.

The Contractor will specify the standards proposed for calibrating and checking of the above data systems. All operations and processes will be conducted to the standards of best industry practice.

The processing that the Contractor will undertake for the data obtained in the Block shall consist of two Stages, the first (Stage 1) is to be completed as a matter of urgency and within eight weeks of the Commencement Date, and the second (Stage 2) should be completed within four weeks of Stage One.

Stage 1 comprises processing of the acquired aeromagnetic data as follows:

(i) Flight path recovery at one second intervals,
(ii) Aeromagnetic data compensation for aircraft manoeuvre effects, correction for diurnal variation, IGRF, tie line levelling and Microlevelling,
(iii) Removal of culture effects (if any), reduction to pole, optimal depth slicing,
(iv) Generate Located data, ER Mapper Grids, various contour maps and pixel maps.

Stage One Deliverables will include:

(i) Flight path map
(ii) Raw and levelled located data on Exatape (to include both tie line levelled and microlevelled (versions)
(iii) ER Mapper grids on Exatape of Total Magnetic Intensity (TMI), Tie line Levelled, TMI microlevelled, First Vertical Derivative (FVD), Reduced to Pole (RTP), and depth slices
(iv) Colour contour maps of TMI, and depth slices
(v) Pixel maps of all grids

Stage Two Deliverables:

(i) Logistic and processing report
(ii) Field notes and observers reports
(iii) A composite digital tape of all raw and digital acquisition data fully carried through processing and integrated with processed data
(iv) Final Survey Report.

Number of copies of Deliverables:

(i) A single copy is required

2 Airborne Data Acquisition Parameters

2.1 Summary

Sensor height:	120m (+/- 15m) above sea level
*Line spacing:	400m (+/- 50m)
*Noise envelope:	0.05nT point to point
Noise Direction:	Within 25% in all directions
*Swell noise envelope:	0.8nT Maximum for wavelengths less than 360m
Compensation:	Real time or Post Processing
Sample rate:	0.1 sec for magnetic data; 1.0 sec for position
Flight line direction:	053 degrees - 233 degrees true
Tie line spacing:	2000m
Tie line direction:	143 degrees - 323 degrees true
Aircraft speed:	216-288 km/hr
Broken lines:	No broken lines. Reflies will replace entire lines

* Note that the sensor height and noise envelopes may be modified in the field by consultation between SAGASCO Representative and Contractor depending on weather and sea conditions in the area.

2.2 2D Positioning

Real time Differential GPS system
Lines and tie lines will be unbroken over their entire length
Position accuracy +/- 10 metres absolute and 0.5m relative

* Note that if real time UHF differential link cannot be maintained due to the limits of propogation then the survey will be flown without a radio link and the GPS data post processed.

2.3 Magnetic Base Stations

Purpose:	Storm warning and diurnal removal
Resolution:	+/- 0.1nT
Noise Envelope:	0.5nT peak to peak
Recording:	Time and magnetic value dumped daily onto magnetic tape. A telemetered/radio link to a central base is preferred for better monitoring.
Sampling rate:	6 seconds or less.
Clocks:	On local time and synchronised with aircraft clocks.
Number of bases:	Mandatory for at least 2 operating at all times during survey operations.
Locations:	1 at the airport (for storm warning); 1 or more within 100km of the ends of all lines in the Block.
Backup:	It is recommended that at the base station location, duplicated base station magnetometers are installed to avoid possible need for reflies due to system failure which would invoke refly condition.
Carry through:	Data from both stations will be provided fully registered in the Field Located Data tape, and also in the Working Located Data tape.

2.4 Magnetic Storms:

(1) Magnetic storms will halt operations.

(2) Survey flying will not commence sooner that one hour after the last nonlinear behaviour of 10nT in 10 minutes has been observed on the ground at the airport or in the Block.

(3) While flying, a sequence of 3 or more 10nT in 10 minute nonlinear events in two hours will constitute a storm and require halting acquisition operations for the rest of the day.

(4) During flight the reflight condition for diurnal variation will be that whole lines will be reflown where the diurnal gradient exceeds 5nT in 5 minutes (non-linear) within that line, and a continuous five minutes of data either side of that event will be reflown. This is to ensure that a transient event has passed right across the Area.

2.5 Flight Plan and Line Numbering System

(1) The Contractor will provide a flight plan for the surveys to be undertaken. This flight plan will require approval by SAGASCO.

(2) Flight lines will extend over the SAGASCO nominated boundaries by 800-1000 metres as follows:

800 metres or two flight lines for the side-on approach, 1000 metres for the end-on approach,

(3) Tie lines will extend 200 metres past the last flight lines. A tie line will be flown 800m outside the Northwest and Southeast boundaries.

(4) Each flight line and tie line will have a unique number.

(5) The centre flight line and centre tie line will be flown in both directions to provide duplicate data for quality control. The repeat line and tie line will be given separate line numbers which incorporates the first line number. The repeat line and tie line will not be used for data reduction, and will be provided as a separate file.

(6) A line numbering system will be discussed with SAGASCO.

2.6 Reflight Conditions

Reflights will be required under the following conditions:

(1) Diurnal variation rate within a flight line or tie line exceeds 5nT in 5 minutes, as a non linear effect.

(2) Flight line separation exceeds 500m or path diverges from planned path by more than 50 metres for 5 km or more.

(3) Position precision is lost for more than 500 metres.

(4) Where altitude envelope (100-140m) is exceeded continuously for 2 km on any line except where such altitude would breach air traffic regulations, or in the opinion of the pilot, put the aircraft and crew at risk.

(5) If noise envelope for raw uncompensated magnetometer signal continuously exceeds 0.2nT point to point for more than 1km.

(6) If noise envelope for compensated magnetometer signal continuously exceed 0.05nT point to point for more than 1km.

(7) It is essential that each line is quite unbroken over its entire length. Accordingly the diurnal and positioning will be reviewed with SAGASCO on an individual line by line basis.

(8) If reflies are required then the refly will be in the same direction as the data being replaced.

3 Aeromagnetic Processing Requirements

3.1 Levelling of Magnetic Data

Levelling will be carried out to high quality image processing standards. Results will be submitted to SAGASCO for approval.

Levelling will be carried out such as to minimise the destruction of all wavelengths from DC to 2Hz.

Levelling will be carried out such as to minimise the addition of any wavelengths from DC to 2Hz.

Two versions of levelled located data are required. One will be optimally tie line levelled, and the other will be optimally microlevelled.

Diurnal removal will be trialled with each of the base stations to achieve optimum results before levelling is applied.

Grids made from the processed total magnetic intensity product, the Working Located Data, shall be suitably free from blemishes when subjected to stringent image processing enhancements, including first vertical derivative, second vertical derivative, and various sun angles applied thereon. Evaluation grids for these tests should use a cell size of 135 metres.

3.2 Timing of Delivery of Data to SAGASCO from Processing Phase

SAGASCO requires that from Stage 1 the "Working Located Tapes", "Working Grids", "Working Map Set" and other relevant products to be delivered to SAGASCO within 8 weeks of the Commencement Date.

3.3 Preparation of Tapes of Working Located Data and Grid Deliverables

The Contractor will provide SAGASCO with a single copy of the Working Located Data and Working Grids on genuine Exatape.

Working Located Data File comprises:

(1) 0.1 second final magnetics with all raw variables carried through such as to allow full reprocessing (SAEI format),

Working Grid Files comprise 135 metre grids (ER Mapper format),

(2) Final tie line levelled residuals of Total Magnetic Intensity (TLTMI),

(3) Final microlevelled magnetics (residuals of Total Magnetic Intensity (TMI),

(4) First vertical gradient of TMI calculated from the grid,

(5) Second vertical gradient of TMI calculated from the grid,

(6) Reduced to pole TMI (RTPTMI),

(7) Pseudo-Depth slices - at least 3 optimised between surface and igneous metamorphic basement. These will be made on RTPTMI.

3.4 Preparation of Working Map Set

To accompany each digital data delivery there will be various high quality map Deliverables required. These maps and image processed Deliverables will be prepared to the satisfaction of SAGASCO which will advise on matters including contour intervals, filters, grid sizes, colour stretches, annotation and others as required. A single proof copy of each map will be required and this may be produced on a HP650C or similar plotter. SAGASCO requires delivery of the plot files which were used to generate these maps. The format to be used is HPGL or HPGL/2. The medium for delivery will be 5 Gb Exabyte Tape.

Approximately one day will be spent by SAGASCO Representative at the Contractor's processing facility.

Details of processing to maps will be finalised when the data have been processed. Maps will be produced which portray the data to best effect. Title Blocks will be discussed and agreed with SAGASCO. Final maps will be approved by SAGASCO.

3.4.1 Conventional Black and White Maps on 1:50 000 Format

Conventional Black and White Maps on 1:50 000 sheet format will be required to high cartographic standards on film suitable for dyeline copying as indicated below.

1. Flight Path Map,
2. TMI contours with binary dropouts,
3. TMI First vertical gradient contours (calculated on the grid),
4. Stacked profiles of total magnetic intensity

Stacked profiles of band pass filtered Total Magnetic Intensity (TMI) at 1:50,000 scale, and 0.1 nT/cm.

5. greater than 1Hz.
6. greater than 2Hz.

3.4.2 Image Processed Pixel Maps at 1:50 000 Format

Image Processed Pixel Maps at 1:50 000 scale will be required on A1 format as listed below. Specific choices will be made when the data has been processed and viewed at the Contractor's office.

7. TMI with relief shading from 045 degrees (colour),
8. TMI with relief shading from 315 degrees and highlights (colour),
9. TMI First vertical Gradient calculated from the grid (1VG) (colour).

Depth sliced processed magnetics to include each of the following at 1:50,000 scale.

10. Optimised 50 - 200m depth.
11. Optimised 1,000 - 2,000m depth.
12. Optimised 3,000m + depth, or, as is indicated appropriate by the data.

3.4.3 Optional Deliverables

Up to ten (10) Optional Deliverables may be required including the following:

1:25,000 scale

(i) Stacked profiles of total magnetic intensity.
(ii) Contours of total magnetic intensity (colour).
(iii) Contours of reduced to pole total magnetic intensity (colour),
(iv) Flight path.
(v) Depth sliced stacked profiles.
(vi) Other options

Please provide a costing for these Optional Deliverables separately.

4 Quality Control and General Requirements

Unless indicated otherwise in this Agreement each item of Equipment used to carry out the Services shall perform in accordance with its manufacturers specifications.

4.1 Quality Control Methods

Quality control methods will be applied, and presentations of results of those methods will be routinely produced by the Contractor to demonstrate that the Scope of Work is being performed in accordance with best industry practice.

It is SAGASCO's intention that these methods will put the responsibility on the Contractor to demonstrate the fidelity, and stability of the data through objective assessment, and not place the burden on SAGASCO to detect disguised problems. The results of the various quality control tests will be provided to SAGASCO by facsimile, by courier or by hand during operations and consolidated at the end of the operations.

The following Quality Control tests will be provided in the field:

(1) Flight Path

The flight path will be differentially corrected in the field. The corrected flight path together with the planned lines can be displayed on computer screen. Out of specification lines can be identified and reflown as required.

(2) Altitude

The aircraft altitude together with tolerance indicator lines is displayed on computer screen on a line by line basis.

(3) Magnetic Data

The magnetic data is scanned for out of specification lines. Individual lines can be displayed and the vertical scale expanded to an appropriate scale for noise identification.

Various high pass filters can be applied to the data for further quality control testing.

(4) Diurnal Monitor

The diurnal data is displayed on computer screen and out of specification areas noted for refly.

(5) Real Time Position Line

The data is scanned and a report produced indicating the age of the differential correction received at the aircraft.

Quality control tests and products provided to SAGASCO at the completion date will include at least the following or agreed equivalent:

(1) Flight Path and Altitude Map: plotted at 1:50 000 scale with indicator bars marked across the flight line where the altitude envelope is outside of specifications. Fiducial marks will also be made at approximately 5 kilometre intervals.

GPS Alt (a) broken
GPS Alt (b) complete
Fiducial Alt (c) ok 9/8/94
" (d)

(2) Flight Path and Line Specification Map: plotted at 1:50 000 scale showing a different symbol or colour where flight lines are out of specifications for separation and designated flight path.

ok 9/8/94

(3) Stacked Profile Compensated Magnetic Noise Map - 1VG: plotted at 1:50 000 scale showing magnetometer noise envelope as displayed by using 1VG calculated by Paine's (1986) method on 19 data points, and plotted profiles using a vertical scale of 0.1nT/m/cm.

ok 9/8/94

(4) Stacked Profile Compensated Magnetic Noise Map - Polynomial Difference: at 1:50 000 scale showing magnetometer noise envelope as displayed by using a fifteen point least square fit polynomial of degree 7, and plotted profiles using a vertical scale of 0.1nt/cm.

(5) Diurnal Monitor Plots: TMI and time derivative of diurnal plotted as a multiplot showing all base stations, plotted one base station above the other. Vertical scales of 10nT/cm will be used for the TMI and 2nT/minute/cm for the gradient, with a horizontal scale of 10 minutes = 0.5cm. The duration and line number of each flightline and tie line will be shown on the plots.

(6) Raw Navigation Precision and Gap Map, in the form of a Speed Check from station to station in units of metres/second of the raw data plotted as a histogram on one side of a base line consisting of final flight path: gaps in the raw data are to be flagged by a circle: Scale 1:50 000.

(7) High Pass Stacked Profile Magnetic Maps, for Field Located Data Tape. High pass filters to exhibit (a) greater tha 1.0 Hz data, and (b) greater than 2.0 Hz data, will be passed through the data, and the results plotted at 1:50 000 scale, amplitude 0.1nT/cm. Filter weights to be decided.

In addition to the quality control tests listed above, other tests may be devised by the Contractor in consultation with SAGASCO in the interests of achieving a superior product from these surveys.

5 Instrument Testing

Before commencement of survey operations and during survey operations the Contractor will undertake the necessary tests to ensure:

(1) Computation of optimal compensation parameters. A compensation bos is flown prior to the survey. The AADC calculates and stores the optimal compensation parameters. Once a satisfactory improvement ratio and standard deviation of compensated magnetometer is attained, this is held for the duration of teh survey. These parameters are recorded on the flight log.

(2) Estimation of Parallax correction. The estimation of parallax correction is undertaken before departure from Perth. A preparatory test flight for this was undertaken on 18 June 1994.

(3) Proof of zero to 2Hz bandwidth for raw and compensated magnetic data. The zero to 2Hz bandwidth response has been tested in Perth with a function generator rig. Results indicate that data within this bandwidth will be detected and recorded with either the "no filter" or "min fir" settings. Th elatter setting will avoid aliasing of high frequency noise.

(4) Reliable operation of the Real Time Differential GPS. The age of the update link is displayed on the Operators screen and check undertaken immediately after takeoff.

Hardcopy evidence will be required for (1), (2) and (3) before commencement of the survey.

6 System Requirements

6.1 RDGPS

The Contractor shall supply, maintain and operate a real time differential corrected GPS system (RDGPS).

The Contractor shall use the positioning system in accordance with good airborne survey principles and shall ensure that no ambiguities will occur in the position of the aircraft, stations or other features to be surveyed.

6.2 Magnetometer and Compensator

The Contractor shall supply, maintain and operate a state of the art airborne magnetometer system which among other things uses Cs or He magnetometer sensors, records DC to 2Hz Total Magnetic Intensity data, and uses RMS or PICODAS compensators (suitable for real time and/or post processing).

6.3 Diurnal Base Stations

The Contractor will provide and operate the necessary diurnal magnetometer base stations. The locations are to be discussed and agreed with SAGASCO (probably same location as GPS base stations). The co-ordinates of the reference stations, together with details of how they were obtained are to be supplied to SAGASCO prior to commencement of the survey.

6.4 Digital Recording in Flight

At least the following will be recorded on magnetic tape:

Satellite time (to 0.1 seconds), and/or,

Local time - (to 0.1 seconds), and/or,

Time after midnight - (to 0.1 seconds),

Fiducial incrementing by smallest data sample interval (Fiducial preferred is 0.1 seconds tied to one of these times).

Position in AMG metres in real time (WGS is acceptable) - (to 0.1m),

Satellite quality factors,

Radar altitude at one second intervals (to 0.3 metres),

Barometric altitude - (to 0.1 metres),

Raw magnetometer reading at 0.1 second intervals - (to 0.001nT),

Compensated magnetometer reading at 0.1 second intervals,

Raw inputs to compensator sufficient for full recalculation (XYZ Develcos),

Raw position data sufficient for full recalculation of position.

7 Operator Logs and Reports and Geophysical Records

7.1 Detailed Logs

Detailed logs shall be kept by aircraft operators and base station operators, which shall be submitted to SAGASCO at the end of the Services. These shall, where applicable contain the following information:

(1) All data on calibration, and equipment settings made for calibration purposes.

(2) All data on equipment settings for operational data.

(3) Occurrence of system malfunction, downtime and the reasons for it.

(4) Serial numbers of equipment in use and any adjustments made to the equipment.

(5) Time and fiducial counts on each line and tie line.

7.2 Geophysical Records

The following Geophysical Records shall be supplied by the Contractor:

7.2.1 Basic Field Data

All survey data and navigation data records including, but not limited to:

(i) Magnetic tapes with the aeromagnetic data recorded thereon
(ii) Magnetic tapes with the positioning data recorded thereon
(iii) Magnetic tapes with the diurnal magnetic data recorded thereon.

7.2.2 Operational Information

Observer logs to be fully annotated with regard to instrument settings shall reflect any equipment malfunctions, time and fiducial counts on line start and ending and any other relevant information.

7.3 Intermediate Operation Reports

7.3.1 Daily

A report giving production figures and quality of results will be supplied daily to SAGASCO's Representative.

7.3.2 Weekly

A written report summarising acquisition progress in terms of kilometres surveyed to be supplied weekly and to be delivered to SAGASCO made up to 2400 hours local on Sundays.

7.4 Final Operations Report

Not later than three months following commencement of the Services the Contractor will deliver to SAGASCO an operations report which will include comprehensive discussion of equipment used, system malfunctions, calibration and test results, and all pertinent relations between equipment. All digital tape format information etc. will be fully documented. Schematic diagrams, summary of weather conditions, and complete operational statistics will also be included.

7.5 Accident Reporting

The Contractor shall report to SAGASCO immediately any incidents resulting in any injury or death of any personnel involved in the performance of the Services and on or before the 5th day of each calendar month shall advise SAGASCO in writing the total man hours worked under this Agreement and details of any injuries sustained by personnel involved in the Services.

2 PERSONNEL

The Contractor shall provide the Personnel necessary to perform the Scope of Work. The Personnel shall have a knowledge of the Equipment and shall be qualified to operate and maintain the Equipment. The Personnel shall be in charge of the Equipment and shall be present during operations of the Equipment.

Personnel

John Russell	Chief Pilot
Tom Atkinson	Pilot/Operator/Programmer
Rod Pullin	Operations Manager
Dave Abbott	Data Processing Manager
Ed Reeves	Senior Geophysicist

3 EQUIPMENT DETAILS

The Contractor shall provide a detailed list of the Equipment and the Aircraft.

Item 2 **Survey Schedule**

Location	T/RL1
Aeromagnetic Survey	2750 line kilometres
Provisional Commencement Date	28 June 1994
Provisional Completion Date	
Stage 1	23 August 1994
Stage 2	20 September 1994

Item 3 **Fees**

1 **Mobilisation Charge** (Equipment and Personnel) $4,900.00

2 **Demobilisation Charge** (Equipment and Personnel) $4,750.00

3 **Survey**

Item	Services	Charge	Standby Rate
1	Aeromagnetic Survey Option 1	$14.70 per kilometre	$1,500.00 per day
2	Optional Deliverables (3.4.3)	$1.46 per kilometre	_____ per day

- The survey shall commence from the first acceptable reading on the first line of the survey and will conclude on the last acceptable reading on the last line of the survey. Time spent initially configuring the equipment and checking the calibration of the navigation system including baseline closings will be at the Contractor's cost.

- Following any interruption of the Services charges to SAGASCO will resume from the first acceptable reading on the first line to be acquired after the interruption.

- The Contractor will be paid, on the basis of Verified Line Length Data.

4 **Optional Deliverables at 1:25 000**

		2750 km	5460 km
1	stacked profiles of total magnetic intensity	$0.18/km	$0.11/km
2	contours of total magnetic intensity (colour)	$0.45/km	$0.28/km
3	contours reduced to pole total magnetic intensity (colour)	$0.45/km	$0.28/km
4	flight path	$0.18/km	$0.11/km
5	depth sliced stacked profiles	$0.20/km/slice	$0.13/km/slice
	TOTAL	$1.46/km	$0.91/km

5 **Standby Rate**

The Standby Rate of $1,500.00 per day will be paid for operational time lost according to the following sliding scale:

Acceptable kilometres acquired in 24 hour period	Standby paid (% of full daily standby charge)
0	100%
250km	50%
500km	0%

The standby will be prorated accordingly.

6 **Stand Down Rate** zero rate

Item 4 **Workcycle**

The Contractor shall provide Personnel to perform the Services in accordance with this Agreement.

Item 5 **Representatives**

SAGASCO Representative: Doug Roberts
Contractor's Representative: Rod Pullin

Item 6 **Tenderer's Base of Operations**

Wynyard, Tasmania

Item 7 **SAGASCO Supply Base - NOT APPLICABLE**

Item 8 **Participating Companies**

T/RL1

SAGASCO Resources Limited	53.8615%
Petroz NL	5.0%
Gas and Fuel Exploration NL	16.6915%
Galveston Mining Corp Pty Ltd	14.0%
Cultus Petroleum (Australia) NL	10.447%

APPENDIX 3

503055

TESLA AIRBORNE GEOSCIENCE

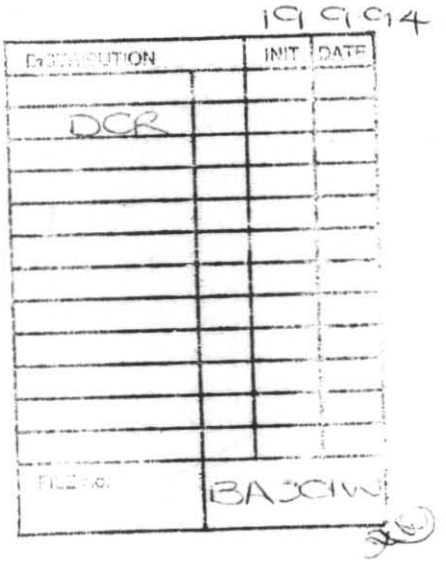
A.C.N. 009 183 082

SAGASCO RESOURCES LIMITED

Aeromagnetic Survey Over T/RL1 Bass Basin

OPERATION REPORT

By
Tesla Airborne Geoscience Pty Ltd



41 Kishorn Road, Applecross, Western Australia 6153
Telephone (09) 364 8444 Fax (09) 364 6575

An Airborne Magnetic Survey was undertaken by Tesla Airborne Geoscience Pty Ltd over T/RL1. The survey was carried out between 27th June to 1st July 1994.

The survey specifications were as follows:

Traverse Spacing	:	400 metres
Traverse Line Direction	:	54°/234°
Tie Line Spacing	:	2,000 metres
Tie Line Direction	:	144°/324°
Flying Height	:	120 metres
Sample Interval	:	0.1 seconds

The survey was carried out using the following equipment:

Aircraft	:	Cessna 210N VH-JBH
Magnetometer	:	Scintrex CS2 Cesium Vapour
Compensator	:	RMS A.A.D.C
Base Magnetometer	:	Geometrics G-856AX
Positioning System	:	Novatel 10 Channel G.P.S

Personnel:

John Russell	:	Pilot
Tom Atkinson	:	Pilot/Operator
Rod Pullin	:	Operations Manager

Monday 27th June 1994
Aircraft and ground crew arrive Wynyard, Tasmania. Base GPS site located with suitable antenna height for real time radio link connection. Base GPS position averaging started at 2.00pm.

Tuesday 28th June 1994
Radio aerial erected and base magnetometer positioned. Both base magnetometers were positioned at quiet locations at Wynyard Airport. The base GPS positions were averaged after collecting for 17 hours. The computed position was:

S 40° 56.825365'
E 145° 39.768566'
Height 105.978 metres

A compensation box was flown followed by traverse line number 34 over Yolla 1. This line was flown in both directions. The central tie line (909) was also flown in both directions. Production flying commenced on the traverse lines.

The real time radio link failed to work once the aircraft was beyond 80 kilometres from the base. It was decided to complete the survey without the link.

A second flight continued with traverse line production.

Dave Tucker arrived in the pm and reviewed the days flying at night.

Wednesday 29th June 1994

One base magnetometer was moved to a new location approximately five kilometres inland. This was done under Dave Tucker's instructions in order to monitor coastal effects on the diurnal.

A new compensation box was flown using eight headings. No improvement was noticed and surveying continued using the initial solution.

Two production flights were carried out.

Dave Tucker and Doug Roberts departed.

Thursday 30th June 1994

Faxed base magnetometer plots to Dave Tucker. This was to compare responses from the two locations. The inland station mirrored the coastal station with a 5% smaller amplitude.

All traverse flying was completed. Diurnal reflights were identified.

Friday 1st July 1994

All ties and six reflights were completed in the one flight. All data was checked and verified. The aircraft departed for Adelaide at 3.00pm.

Base equipment packed and ground crew departed Saturday morning.

TESLA-10

A.C.N. 009 039 918

SAGASCO RESOURCES LIMITED

Aeromagnetic Survey Over T/RL1 Bass Basin

PROCESSING REPORT

By

Tesla-10 Pty Ltd

41 Kishorn Road, Applecross, Western Australia 6153
Telephone (09) 364 8444 Fax (09) 364 6575

The aeromagnetic data acquired from T/RL1 was subjected to a series of corrections and levelling processes before a final data channel was achieved. This report outlines the steps that were taken in chronological order.

Magnetometer base station No. 1 (E 145° 41', S 041° 01') was employed for diurnal correction of data and storm detection. Base No. 1 was chosen over base No. 2 due to the noise levels encountered with the latter.

The diurnal readings were filtered using a five point median and (0.00 - 0.05) low pass filter.

The Novatel 10 Channel GPS station provided location data that was differentially post processed. The GPS base station was located at E 145° 39.768566', S 40° 56.825365', Height 105.978m.

Aircraft compensated magnetic data was located using the GPS channel before being diurnally corrected with diurnal base No. 1 (above). A base level of 61945nT was added back to the data to create a channel of diurnally corrected magnetics.

This channel then had the International Geomagnetic Reference Field (IGRF) removed (model 1990 extrapolated to 1994.5) employing the GPS altitude data to correct for aircraft altitude variations, and using a base level of 61300nT. Declination at the centre of survey was 12.7deg, inclination - 70.5deg. Data then had aircraft heading corrections applied; 1.5nT added for traverses (54°/234°) and 0.5nT removed for tie lines (144°/324°).

The next step involved preliminary levelling of the traverses, limiting the process to 1.0nT per iteration, over 100 iterations, with a maximum threshold of 50nT, a filter length of 75m and a regional polynomial of 11th order.

Tie line levelling was then applied, using a maximum wavelength of 2500m, a filter length of 75m, a 5.0nT limit per iteration over 100 iterations and an overall maximum threshold of 500nT (TLTMI).

Tie line levelled data was then subjected to micro-levelling (on the traverses), again with a maximum wavelength of 2500m, filter length of 75m and 1.0nT limit per iteration . A ninth order regional polynomial was incorporated. The output was then filtered using a 1.5Hz low pass co-sine roll-off filter (TMI).

This micro-levelled version of the data was linearly grided perpendicular to the traverses (ie - 36°) using a 135 x 135m mesh, grid origin 376000E, 5566000N (Zone 55).

Reduction to the pole and first and second derivatives were performed in the Fourier domain on a blanked version of the above grid to remove edge effects. RTP used an ambient reference field of 61345.6nT, declination 12.7°, inclination - 70.5°, at the centre of the map. A second RTP was carried out on a levelled grid with effects of the wells removed, for import into the depth slicing program.

A total of 2,868kms of data were processed.

The vertical derivatives were later processed on a randomly gridded dataset and filtered to remove features less than 900 m in wavelength to improve map and image appearance.

The depth slices were obtained running Geopak software, acting on RTP data (which gives somewhat different depths to TMI data).

At each stage, the input required by the program, which acts in the Fourier domain, are two depths as determined by two straight line segments on the power spectra plot, and the ratio of the power spectra of these 2 lines where they intersect the zero wave-number axis.

It was found that the most stable procedure was the removal of the deepest layer using the deepest and second deepest straight line segments.

This procedure was repeated 3 times, with the output of one stage forming the input of the next stage. The depth slice itself was the difference between any stage and the previous stage as outlined above, with the exception of the shallow slice.

The shallow slice itself could have been split into 2 slices, but it would be considered that the result would not have been sufficiently stable.

The software seems to work quite well, but some artefacts of the process have crept into the grids, more so with the shallow slices. The artefacts are principally in the form of edge effects, which could be substantially reduced by initially expanding the grid, and cutting each output stage back to the original grid size. However, this may introduce unreal spectral components which could possibly inhibit the software performance.
The shallow slice also still has a contribution from about 1,200m, which has not been fully removed. This is a consequence of the number of steps carried out.

Final products delivered were as follows:

Quality Control Maps (1:50,000)

*Combination flight path/altitude map with +/- 20m from 120m altitude being highlighted.

*Combination flight path/projected flight path.

*Stacked profiles of first vertical gradient calculated by Paines (1986) method, vertical scale 0.1nT/m/cm.

*Stacked profiles of TM1 noise envelope using 15 point least squares, polynomial order 7 and vertical scale 0.1nT/cm.

*Diurnal plot of Base 1 and Base 2 showing variations between each throughout the survey, vertical scale 10nT/cm, horizontal 20mins/cm.

*Stacked profiles of TMI showing data greater than 1.0Hz and 2.0Hz (2 maps), vertical scale 0.1nT/cm.

*Interval report providing speed checks of aircraft (printed output).

Final Plots (1:50,000) on Film

*Flight path map.
*TMI contours (0.2nT interval).
*Contours of first vertical derivative (0.0005nT/m).

*Stacked profiles of TMI (vertical 10nT/cm, base 61256nT).

*Stacked profiles of TMI greater than 1Hz (vertical 0.1nT).
*Stacked profiles of TMI greater than 2Hz.

Images (1:50,000) on Laminated Paper

TMI0 - TMI with relief shading from North
TMI90 - TMI with relief shading from East

1VGTMI	- First vertical gradient of TMI
RTPTMI	- Reduced to the pole TMI
Shallow	- Pseudo depth slice 300-500m with shading from North
Inter 1	- Pseudo depth slice 1,150m with shading from North
Inter 2	- Pseudo depth slice 2,400m with shading from North
Deep	- Pseudo depth slice 4,900m with shading from North

Grid Files ER Mapper Format

TLTMI	- Tie Line levelled TMI
TMI	- Microlevelled TMI
1VGTMI	- First vertical derivative of TMI
2VGTMI	- Second vertical derivative of TMI
RTPTMI	- Reduced to pole TMI
Shallow	- Pseudo depth slice of RTPTMI (300-500m)
Inter 1	- Pseudo depth slice of RTPTMI (1,150m)
Inter 2	- Pseudo depth slice of RTPTMI (2,400m)
Deep	- Pseudo depth slice of RTPTMI (4,900m)

Located Data
Ascii data of magnetics from raw through to fully reprocessed, plus aircraft altitude, time and GPS information (2 files).

Plot Files

HPGL files of all final maps and images produced.

All digital data was provided on EXATAPE in TAR format.

Michael Lees
PROCESSING GEOPHYSICIST
Tesla-10

APPENDIX 4

503064 Head 1.ldt

TESLA-10 LOCATED DATA TAPE FORMAT DESCRIPTION

JOB NO.	:	TA2127
COMPANY	:	SAGASCO RESOURCES LIMITED
SURVEY	:	AIRBORNE GEOPHYSICAL SURVEY (MAGNETICS)
AREA	:	T/RL1 BASS STRAIT AMG ZONE 55
ACQUISITION	:	TESLA AIRBORNE GEOSCIENCE
DATE	:	27 JUNE to 1 JULY 1994
PROCESSING	:	TESLA-10 PTY LTD
DATE	:	JULY/AUGUST 1994
DATA TYPE	:	ASCII
DENSITY	:	LOW DENSITY
RECORD SIZE	:	136
BLOCK SIZE	:	60

FIELD	CONTENTS	FORMAT	UNITS	DESCRIPTION
1 - 6	Line Number	(I6)		
7 - 13	Fiducial Number	(I7)		
15 - 23	Data Channel : easting	(F9.2)	m	AMG easting
25 - 34	Data Channel : northing	(F10.2)	m	AMG northing
36 - 44	Data Channel : rawmag	(F9.3)	nT	raw comp.mag
46 - 54	Data Channel : diurnal	(F9.3)	nT	diurnal
56 - 64	Data Channel : mag	(F9.3)	nT	diurnal corr
66 - 74	Data Channel : igrfmag	(F9.3)	nT	IGRF removed
76 - 84	Data Channel : headmag	(F9.3)	nT	heading corr
86 - 94	Data Channel : levmag	(F9.3)	nT	levelled mag
96 - 104	Data Channel : tltmi	(F9.3)	nT	tie line lev
106 - 114	Data Channel : levmag2	(F9.3)	nT	levelled tlt
116 - 124	Data Channel : tmi	(F9.3)	nT	microlevelle
126 - 134	Data Channel : tmi2	(F9.3)	nT	microlevelle

Survey covers traverse lines: 130010 - 180740
tie lines: 199010 - 309030

Survey is bounded by: 395111.6 E 5568325.1 N
378662.8 E 5590964.9 N
401488.7 E 5607548.8 N
417937.4 E 5584909.1 N

NOTE: Where any data item is unknown or undefined the entire output field for the item will be filled with nines in the appropriate format. (eg. format (F10.1) is 99999999.9, while format (I8) is 99999999)

SURVEY SPECIFICATIONS

Aircraft	Cessna 210N VH-JBH
Magnetometer	Scintrex Cesium Vapour Model CS2
Sensitivity	Resolution 0.001 nT
Recording Interval	0.10 seconds (7 metres)
Compensation	RMS Automatic Aeromagnetic Digital Compensator operating in real time
System Bandwidth	0-2 Hz

Flight Line Direction	054-234 deg
Flight Line Separation	400 metres
Tie Line Direction	144-324 deg
Tie line Separation	2000 metres
Terrain Clearance	120 metres(AMSL)
Navigation	Novatel running real time GPS Differentially Post Processed
Survey Flown	June 1994
Compensated Noise Envelope	less than 0.05nT point to point. less than 25% variation between each of 054-234 and 144-324 flying directions.

DIURNAL BASE STATION

Magnetometers		G856-AX
Recording Intervals		6 secs
Locations	No.1	E 145deg 41min S 041deg 01min
	No.2	E 145deg 38min S 041deg 05min (AMG)

GPS BASE STATION

Model	Novatel 10 channel
Location	S 40deg 56.825365min E 145deg 39.768566min
Height	105.978m (WGS 84)

PROCESSING DETAILS

Locations have been corrected for system parallax of -14m.
Diurnal corrections applied to base station 1; 5 pt median and 0.05 hi-cut cosine roll-off filters applied

IGRF model 1990 removed - base value 61300.0nT, at centre of map.
Declination 12.7deg, inclination -70.6deg .
Altitude compensation using post processed GPS height.

Heading corrections applied of 1.5nT on traverses and 0.5nT on tie-lines.

Level adjustments applied to the data using an enhancement tie-line levelling technique employing a 2500m wavelength, 75m filter and 5nT adjustment limit per iteration.

Microlevelling applied to tie-line levelled data using a 9th order regional polynomial, a 2500m wavelength and 75m filter.

Pseudo tie-line levelling applied to microlevelled data with a maximum difference allowable of 0.5nT.

FIELD OPERATIONS

Base	Burnie Airport, Tas.
Field Crew	John Russell, Pilot
	Tom Atkinson, Pilot/Ops
	Rod Pullin, Ops. Manager

PROCESSING PERSONNEL
==========

Ed Reeves
Michael Lees

SURVEY SUPERVISION
==========

Doug Roberts - SAGASCO RESOURCES LTD
David Tucker - PREVIEW RESOURCES PTY LTD

503067 Head2.ldt

TESLA-10 LOCATED DATA TAPE FORMAT DESCRIPTION

JOB NO. : TA2127
COMPANY : SAGASCO RESOURCES LIMITED
SURVEY : AIRBORNE GEOPHYSICAL SURVEY (MAGNETICS)
AREA : T/RL1 BASS STRAIT AMG ZONE 55
ACQUISITION : TESLA AIRBORNE GEOSCIENCE
DATE : 27 JUNE to 1 JULY 1994
PROCESSING : TESLA-10 PTY LTD
DATE : JULY/AUGUST 1994
DATA TYPE : ASCII
DENSITY : LOW DENSITY
RECORD SIZE : 136
BLOCK SIZE : 60

FIELD	CONTENTS	FORMAT	UNITS	DESCRIPTION
1 - 6	Line Number	(I6)		
7 - 13	Fiducial Number	(I7)		
15 - 23	Data Channel : easting	(F9.2)	m	AMG easting
25 - 34	Data Channel : northing	(F10.2)	m	AMG northing
36 - 42	Data Channel : radalt	(F7.3)	m	radar altitu
44 - 50	Data Channel : pgpsalt	(F7.3)	m	GPS post pro
52 - 53	Data Channel : flight	(I2)		flight numbe
55 - 57	Data Channel : day	(I3)		Julian day
59 - 61	Data Channel : gpsweek	(I3)		GPS week
63 - 70	Data Channel : time	(F8.1)	hms	time
72 - 79	Data Channel : gpstime	(F8.1)	hms	GPS time

Survey covers traverse lines: 130010 - 180740
tie lines: 199010 - 309030

Survey is bounded by: 395111.6 E 5568325.1 N
378662.8 E 5590964.9 N
401488.7 E 5607548.8 N
417937.4 E 5584909.1 N

NOTE: Where any data item is unknown or undefined the entire output field for the item will be filled with nines in the appropriate format. (eg. format (F10.1) is 99999999.9, while format (I8) is 99999999)

SURVEY SPECIFICATIONS

Aircraft	Cessna 210N VH-JBH
Magnetometer	Scintrex Cesium Vapour Model CS2
Sensitivity	Resolution 0.001 nT
Recording Interval	0.10 seconds (7 metres)
Compensation	RMS Automatic Aeromagnetic Digital Compensator operating in real time
System Bandwidth	0-2 Hz
Flight Line Direction	054-234 deg

Flight Line Separation	400 metres
Tie Line Direction	144-324 deg
Tie line Separation	2000 metres
Terrain Clearance	120 metres(AMSL)
Navigation	Novatel running real time GPS Differentially Post Processed
Survey Flown	June 1994
Compensated Noise Envelope	less than 0.05nT point to point. less than 25% variation between each of 054-234 and 144-324 flying directions.

DIURNAL BASE STATION

Magnetometers		G856-AX
Recording Intervals		6 secs
Locations	No.1	E 145deg 41min S 041deg 01min
	No.2	E 145deg 38min S 041deg 05min
		(AMG)

GPS BASE STATION

Model	Novatel 10 channel
Location	S 40deg 56.825365min E 145deg 39.768566min
Height	105.978m (WGS 84)

PROCESSING DETAILS

Locations have been corrected for system parallax of -14m.
Diurnal corrections applied to base station 1; 5 pt median and 0.05 hi-cut cosine roll-off filters applied

IGRF model 1990 removed - base value 61300.0nT, at centre of map.
Declination 12.7deg, inclination -70.6deg .
Altitude compensation using post processed GPS height.

Heading corrections applied of 1.5nT on traverses and 0.5nT on tie-lines.

Level adjustments applied to the data using an enhancement tie-line levelling technique employing a 2500m wavelength, 75m filter and 5nT adjustment limit per iteration.

Microlevelling applied to tie-line levelled data using a 9th order regional polynomial, a 2500m wavelength and 75m filter.

Pseudo tie-line levelling applied to microlevelled data with a maximum difference allowable of 0.5nT.

FIELD OPERATIONS

Base	Burnie Airport, Tas.
Field Crew	John Russell, Pilot

Tom Atkinson, Pilot/Ops
Rod Pullin, Ops. Manager

PROCESSING PERSONNEL
==========

Ed Reeves
Michael Lees

SURVEY SUPERVISION
==========

Doug Roberts - SAGASCO RESOURCES LTD
David Tucker - PREVIEW RESOURCES PTY LTD

APPENDIX 5

APPENDIX 5

MODELS FOR SELECTED MAGNETIC ANOMALIES

Model index map

Anomaly A 150 metre thick cylinder at 1100 metres	Poor fit
Anomaly A 1000 metre thick cylinder at 1100 metres	Poor fit
Anomaly A multiple sills at 1570m and 2070m	OK fit
Anomaly C 150 metre thick cylinder at 1100 metres	OK fit
Anomaly C 1000 metre thick cylinder at 1100 metres	OK fit
Anomaly D 150 metre thick cylinder at 1100 metres	OK fit
Anomaly D 1000 metre thick cylinder at 1100 metres	OK fit
Anomaly E 150 metre thick cylinder at 1100 metres	OK fit
Anomaly E 1000 metre thick cylinder at 1100 metres	OK fit
Anomaly M 1000 metre thick cylinder at 4000 metres	OK fit
Anomaly M, W1 and W2 rectangular prisms at 2000m	Poor fit
Anomaly M, N1, N2, N3 and N4 wide rectangular prisms at 3250 metres	OK fit
Anomaly G and C composite rectangular plates at 1030m	Nil fits
Miocene Extrusives at 1350 metres - Susceptibility model	Nil fits
Miocene Extrusives at 1350 metres - Remanence model	Poor fit - negative anomaly only

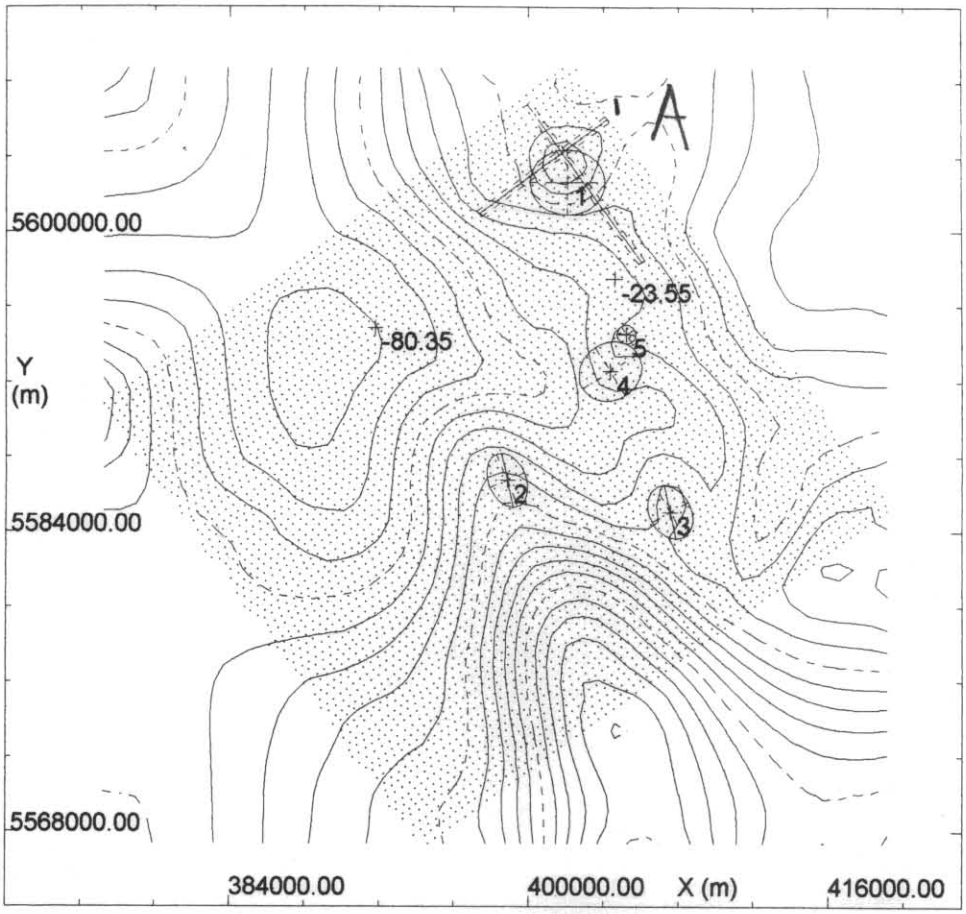
Four classifications were used to grade the quality of the comparative fit of the model response to the observed anomaly data. Note that this is a judgement of the mathematical qualities of the model. It is not a judgment of the geological qualities of the model.

Grading of Profile Fit	Estimated Error Range for Model	Comments
Excellent	+/- 10%	Exact at all critical points
OK	+/- 20%	Exact at 2/3 of 5 critical points
Poor	+/- 40%	Inexact fit at all critical points, but general forms of profiles are similar
Nil	not relevant	No similarity at all

503072

#1

3000 x 2500 x 150
Z = 1100
K = 0.026 SI

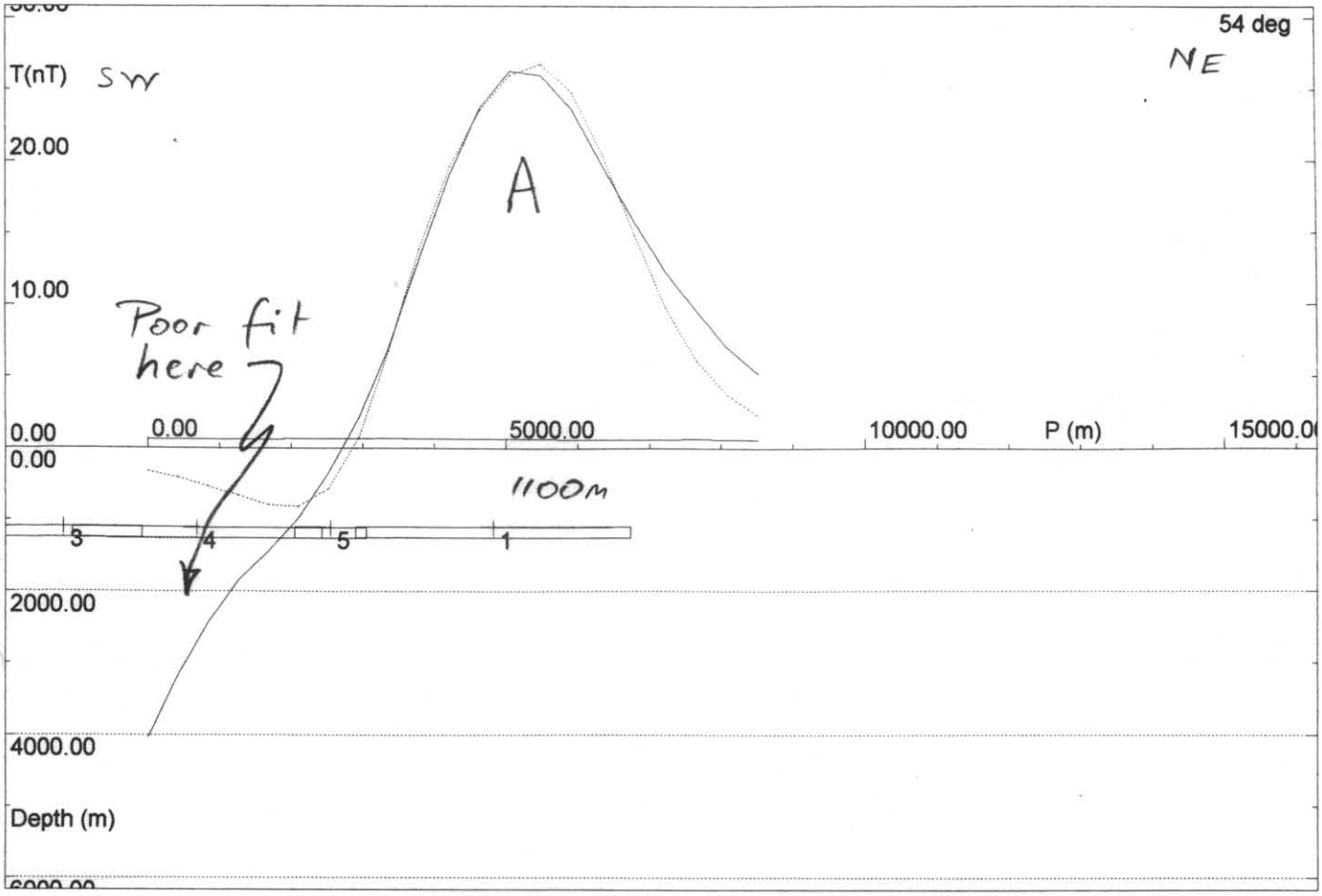


Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 6
Model:	TA2127AB.MOD
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 15:10 02/09/1994 for Preview Resources Pty. Limi

5 cm

A

Anomaly A 150 metre thick cylinder at 1100 metres. Poor fit.



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;	
Model:	TA2127AB.MOD
Calculation mode:	Total Magnetic Intensity
Observed:	——— Calculated: ·····
Residual:	····· Individual body: ·····
POTENT v3.04	Profile drawn at 14:23 02/09/1994 for Preview Resources Pty. Limited

5 cm

POTENT v3.04 Model Summary Report created at 15:37 02/09/1994 for Preview Resources Pty. Limited

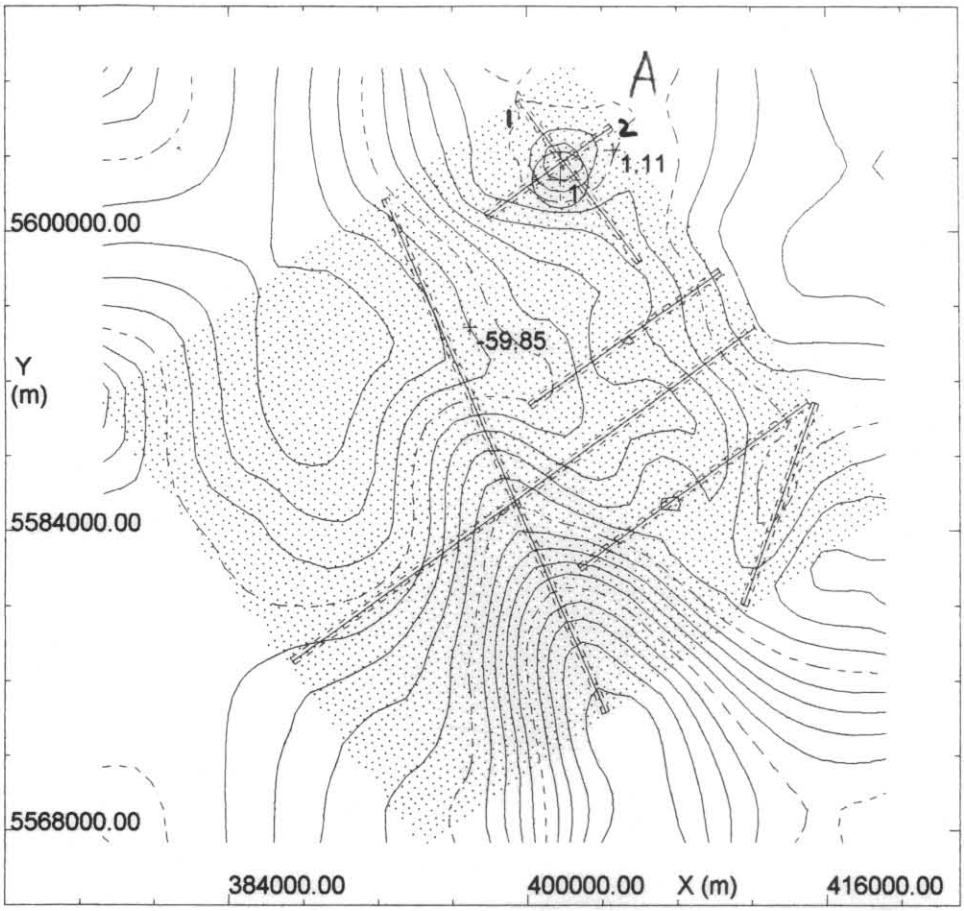
Inducing field - Intensity = 61300
Azimuth = 13
Inclination = -71

Body type abbreviations and the shape parameters have the following significance:
Cylndr -CYLINDER - A, B are axes lengths; C = thickness; D = slope

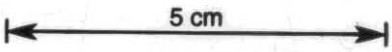
Model title: TA2127AB.MOD

No.	Type	X m	Y m	Depth m	Strike deg	Dip deg	Plunge deg	Susc. SI	A	B	C	D
A – 1	Cylndr	402066	5602663	1099	0			0.0260	4000	3500	150	90
3	Cylndr	407559	5585083	1095	150			0.0115	2200	3000	150	90
4	Cylndr	404348	5592592	1104	148			0.0105	3500	3000	150	90
5	Cylndr	405222	5594556	1104	148			0.0105	1000	1000	150	90

503075



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 6
Model:	
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 14:43 30/08/1994 for Preview Resources Pty. Limi

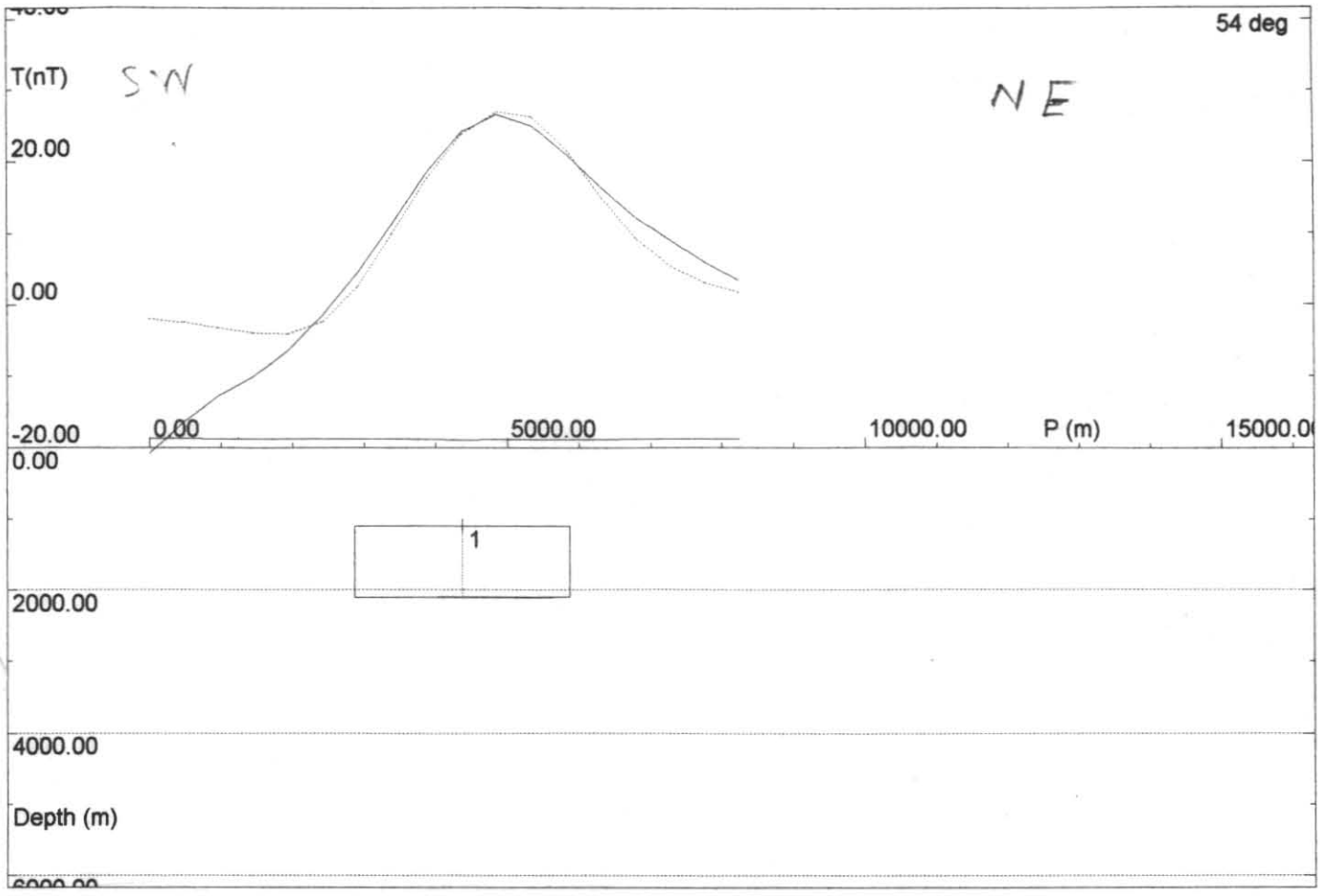


#1

3000 x 2000 x 1000
Z = 1100
K = 0.00625

Anomaly A 1000 metre thick cylinder at 1100 metres. Poor fit.

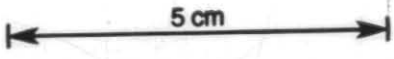
503076



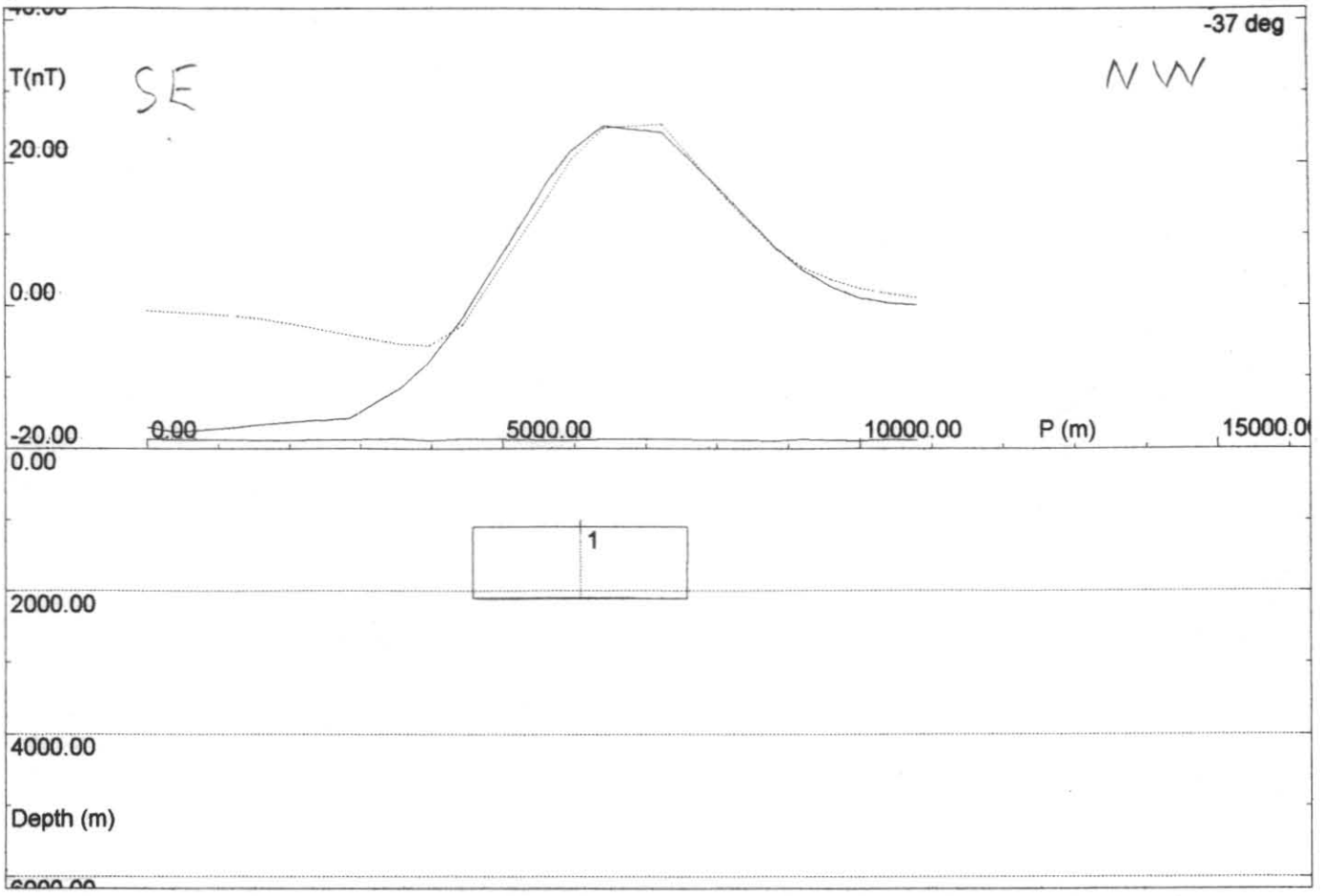
Observations: 130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #2;
Model:
Calculation mode: Total Magnetic Intensity

Observed: ———— Calculated: .....
Residual: ..... Individual body: .....

POTENT v3.04 Profile drawn at 14:50 30/08/1994 for Preview Resources Pty. Limited



503077



Observations: 130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;
Model:
Calculation mode: Total Magnetic Intensity

Observed: ———— Calculated: ·····
Residual: ····· Individual body: ·····

POTENT v3.04 Profile drawn at 14:46 30/08/1994 for Preview Resources Pty. Limited

5 cm

503078

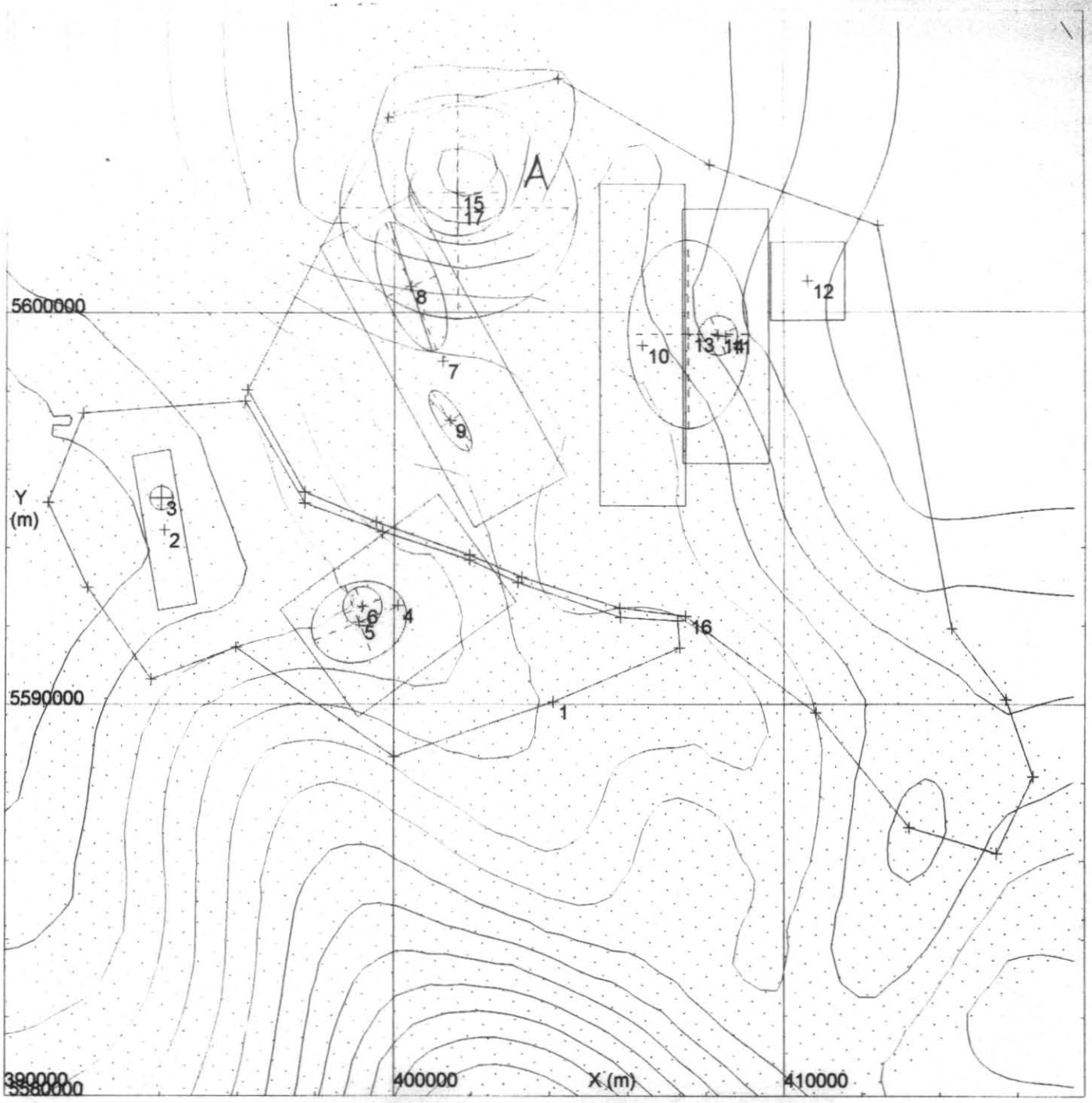
POTENT v3.04 Model Summary Report created at 14:52 30/08/1994 for Preview Resources Pty. Limited

Inducing field - Intensity = 61300
Azimuth = 13
Inclination = -71

Body type abbreviations and the shape parameters have the following significance:
Cylndr -CYLINDER - A, B are axes lengths; C = thickness; D = slope

Model title:

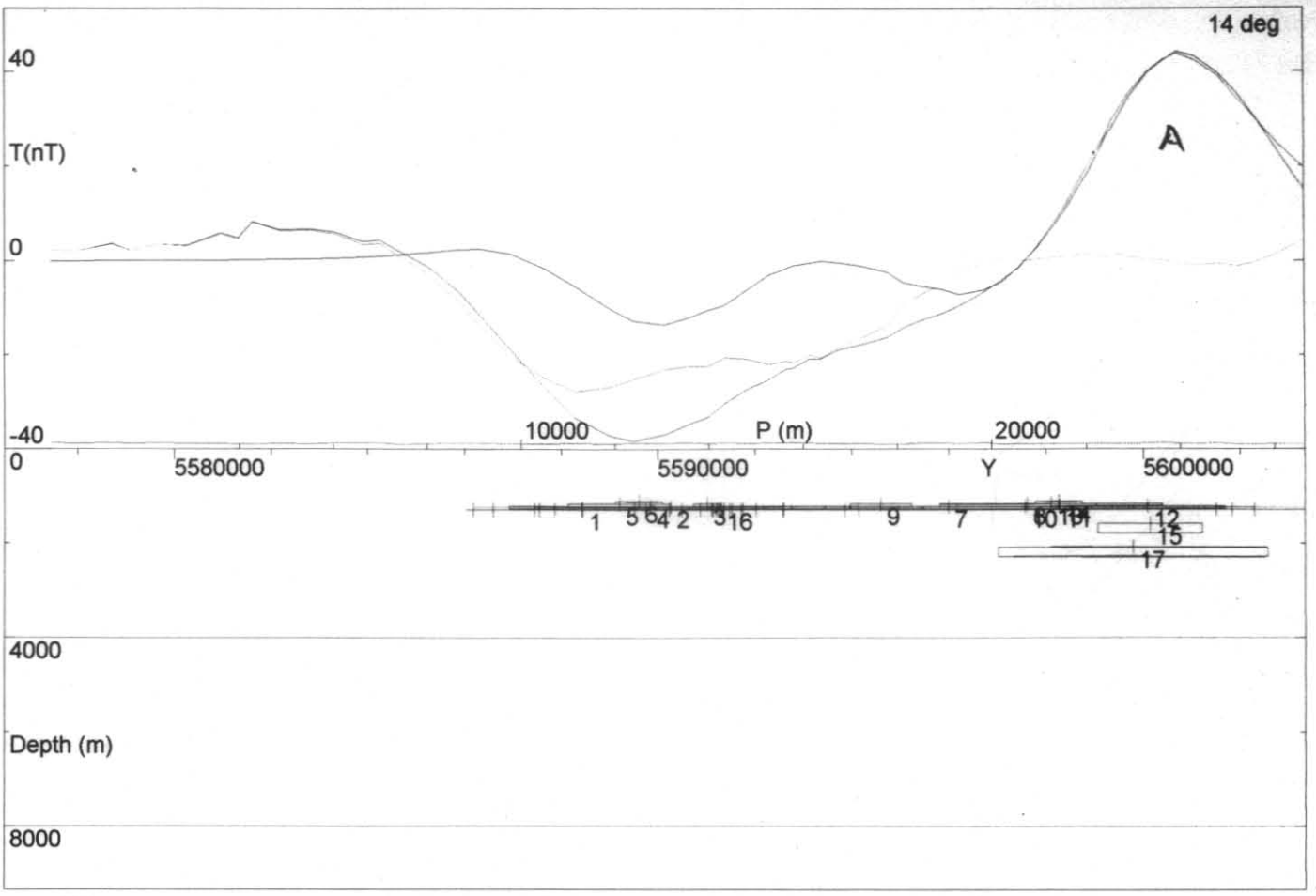
No.	Type	X m	Y m	Depth m	Strike deg	Dip deg	Plunge deg	Susc. SI	A	B	C	D
A — 1	Cylndr	401778	56027781	100	0			0.0062	3000	3000	1000	90



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aarsesbm.mod model of anomaly A
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 14:39 23/01/1995 for Preview Resources Pty. Limited

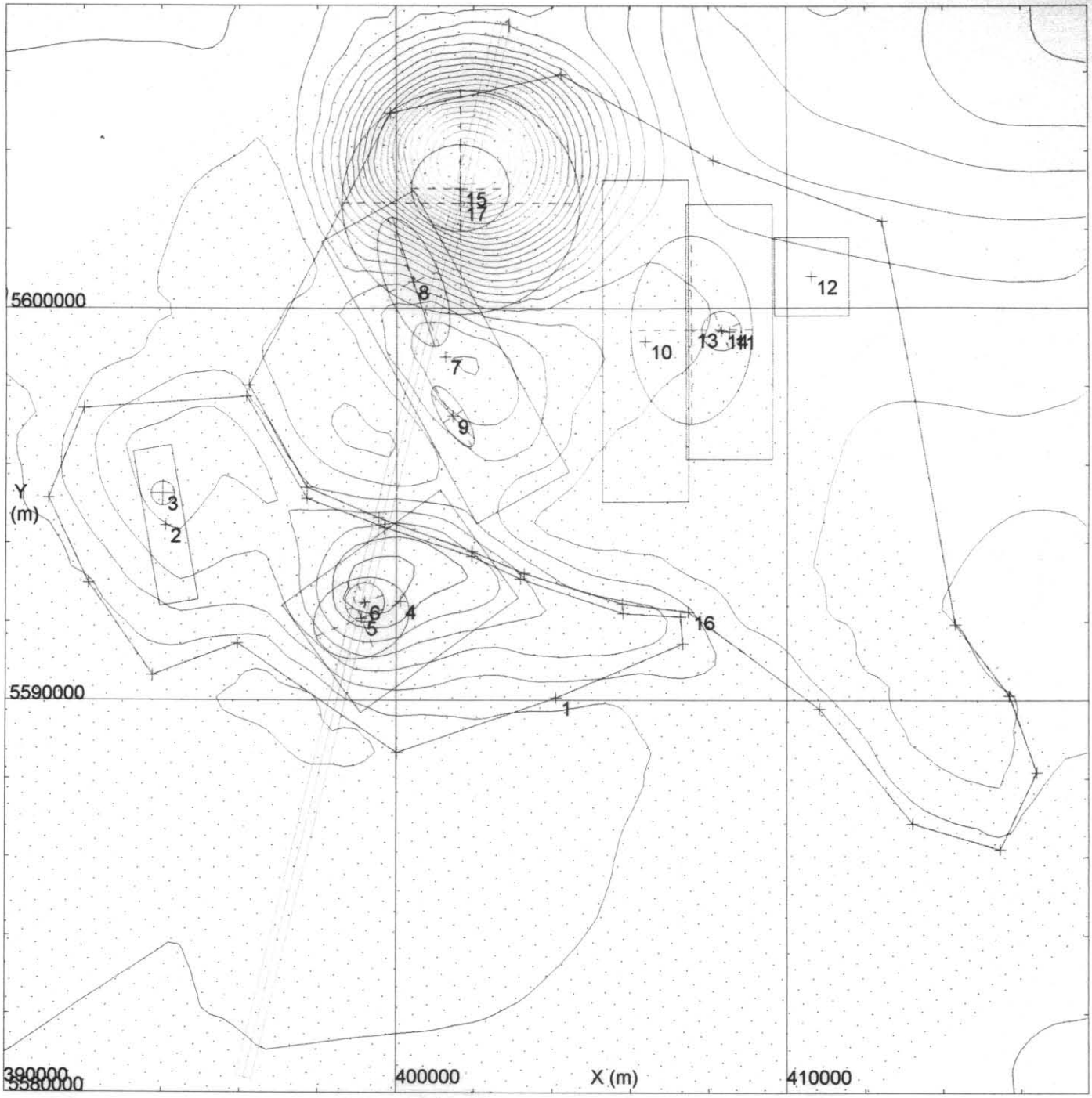
5 cm

Anomaly A multiple sills at 1570m and 2070m. OK fit.



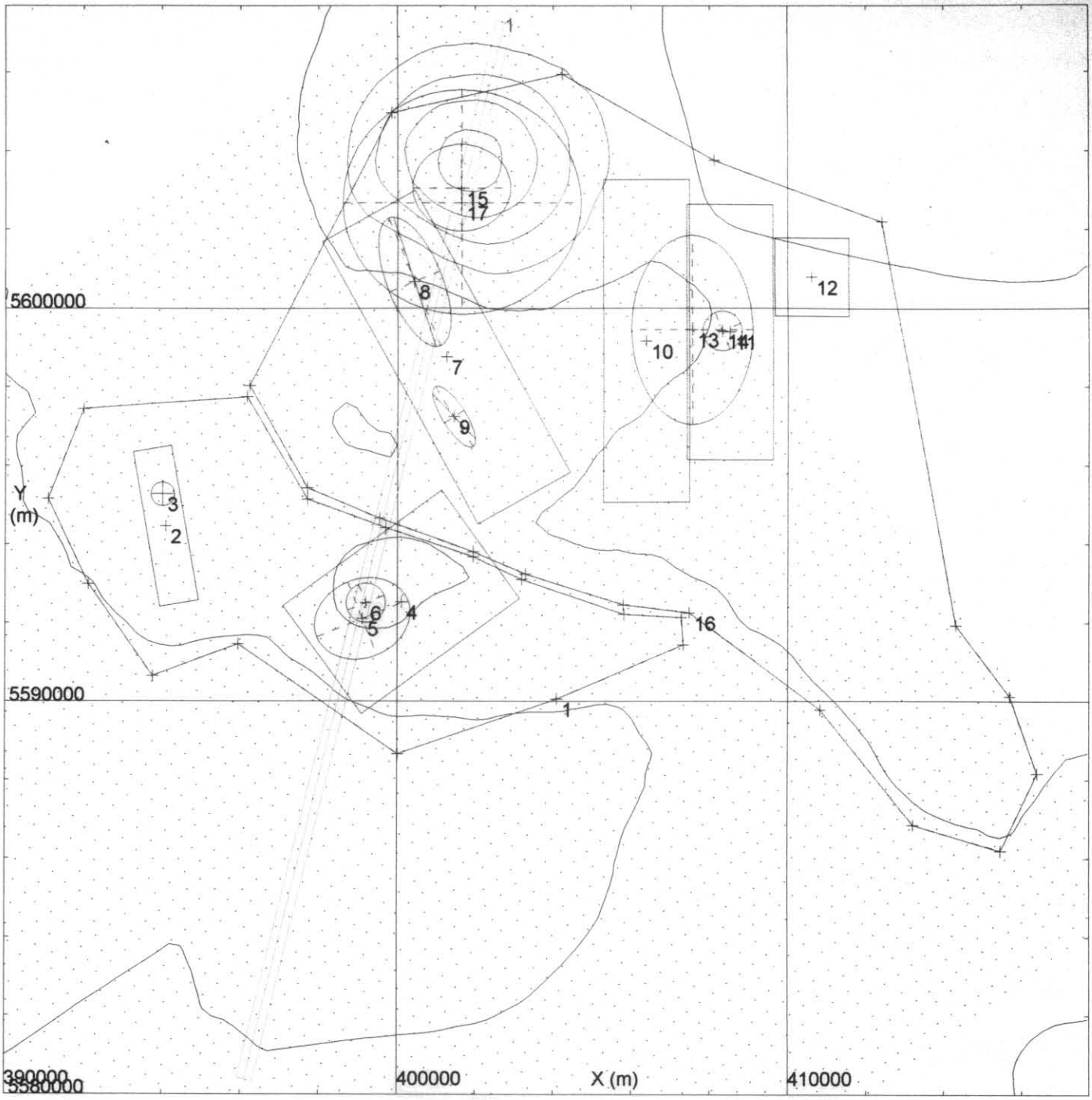
Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;	
Model:	aarsesbm.mod model of anomaly A
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 14:37 23/01/1995 for Preview Resources Pty. Limited

5 cm



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aarsesbm.mod model of anomaly A
Contours of:	Calculated field; Contour intervals: 2.0000, 10.0000 nT
POTENT v3.04	Plan drawn at 15:07 23/01/1995 for Preview Resources Pty. Limited

5 cm



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aarsesbm.mod model of anomaly A
Contours of:	Calculated field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 15:06 23/01/1995 for Preview Resources Pty. Limited

5 cm

POTENT v3.04 Model Summary Report created at 15:10 23/01/1995 for Preview Resources Pty. Limited

Inducing fi	Intensity =	61300
	Azimuth =	13
	Inclination	-71

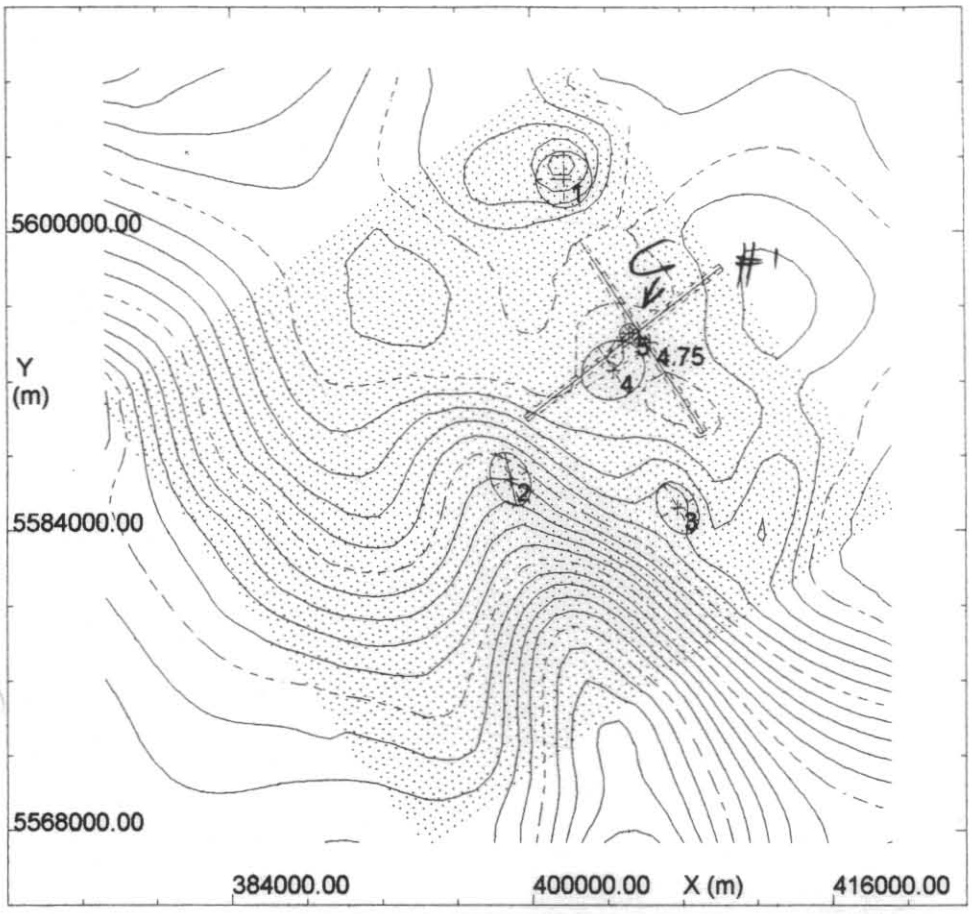
Body type abbreviations and the shape parameters have the following significance:

Cylndr -	CYLINDEF A, B are axes lengths; C = thickness; D = slope
Rect -	RECTANG A = width, B = length, C = height
Poly3 -	3-D POLY((A,C) pairs represent vertex coordinates relative to vertex #1, B = length

Model title: aarsesbm.mod model of anomaly A

No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	Rem f	Rem az	Rem inc	A	B	C	D
		m	m	m	deg	deg	deg	SI	Amp/m	deg	deg				
1	Poly3	404101	5590071	1250	0	90	-90	0.01	1	13	109	0	50	0	
2	Rect	394102.8	5594467	1200	-10	90	0	0.01	1	13	109	1000	4000	50	
3	Cylndr	394025.4	5595285	1150	0			0.01	1	13	109	600	600	50	90
4	Rect	400122	5592531	1200	54	90	0	0.01	1	13	109	3400	5000	50	
5	Cylndr	399125.3	5592106	1150	-22			0.01	1	13	109	2500	2000	50	90
6	Cylndr	399211.9	5592506	1100	-22			0.01	1	13	109	1000	1000	50	90
7	Rect	401267.9	5598769	1200	151	90	0	0.01	1	13	109	2700	8200	50	
8	Cylndr	400450.5	5600679	1150	158			0.01	1	13	109	1400	3500	50	90
9	Cylndr	401456.8	5597246	1150	147			0.01	1	13	109	600	1800	50	90
10	Rect	406386.7	5599177	1200	-180	90	0	0.01	0.5	13	109	2200	8200	50	
11	Rect	408525.2	5599406	1200	-180	90	0	0.01	0.5	13	109	2200	6500	50	
12	Rect	410626	5600806	1200	-180	90	0	0.01	0.5	13	109	1900	2000	50	
13	Cylndr	407554.2	5599453	1150	-180			0.01	0.5	13	109	3100	4800	50	90
14	Cylndr	408324.9	5599429	1100	-22			0.01	0.5	13	109	1000	1000	50	90
A 15	Cylndr	401654.7	5603068	1571.4	0			0.017229	0	0	0	2500	2200	200	90
16	Poly3	407489.2	5592259	1250	0	90	-90	0.01	0	0	0	0	50	0	
A 17	Cylndr	401663.6	5602698	2071.4	0			0.028716	0	0	0	6100	5700	200	90

503084



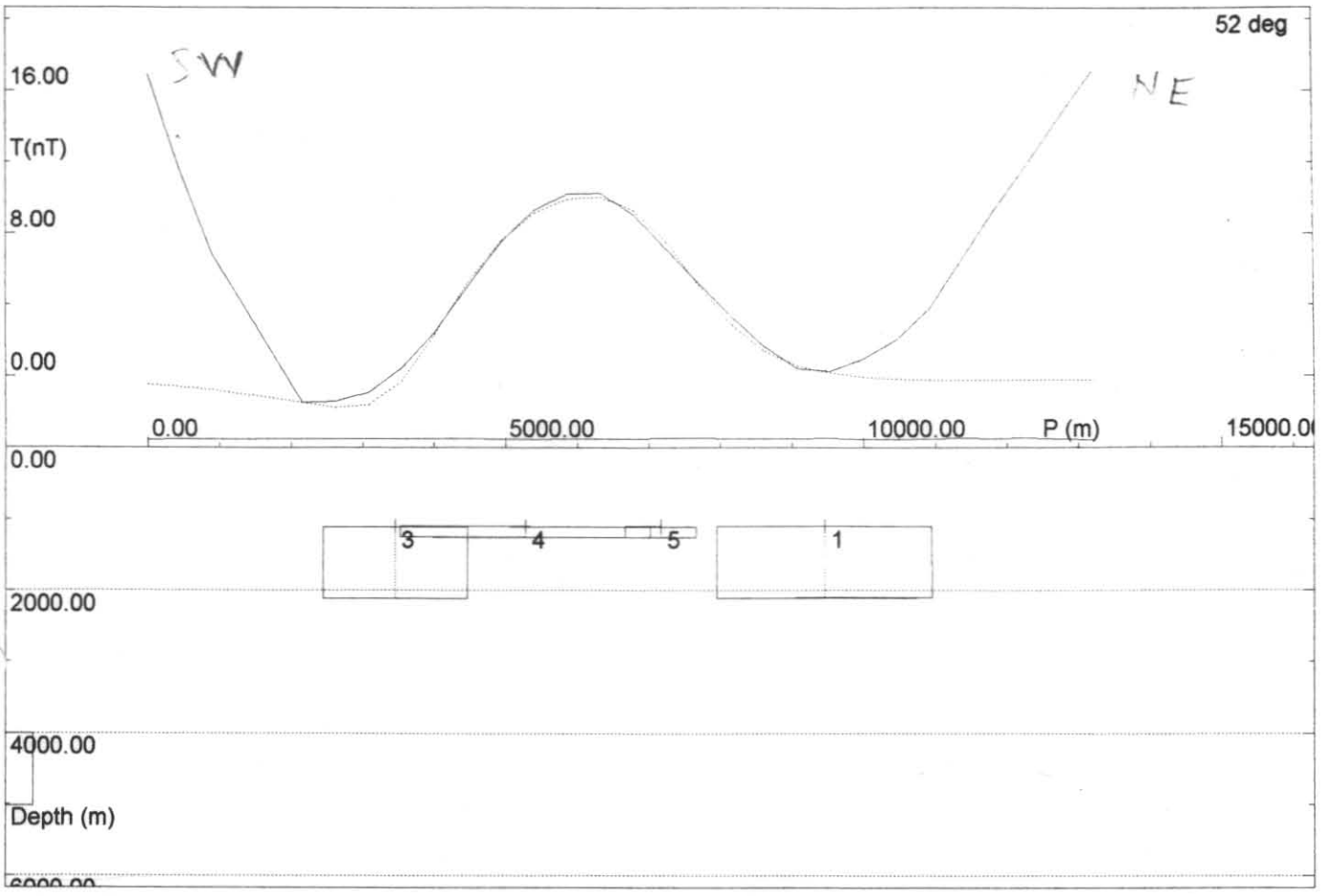
Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 6
Model:	TA2127DB.MOD
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 09:37 02/09/1994 for Preview Resources Pty. Limi

5 cm

#4 3500 x 3000 x 150 plus
#5 1000 x 1000 x 150
z = 1104
k = 0.0105 SI
A = 11nT
Combined.

Anomaly C 150 metre thick cylinder at 1100 metres. OK fit.

503085



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;	
Model:	TA2127DB.MOD
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 09:36 02/09/1994 for Preview Resources Pty. Limited

5 cm

POTENT v3.04 Model Summary Report created at 09:38 02/09/1994 for Preview Resources Pty. Limited

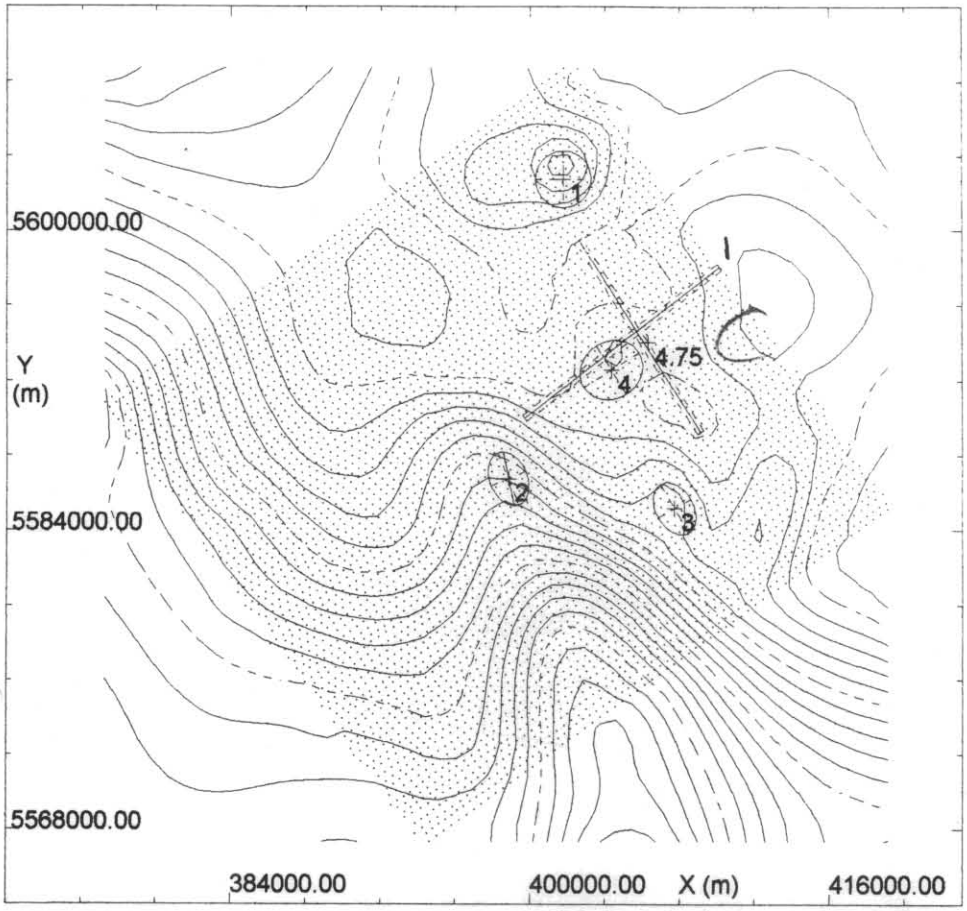
Inducing field - Intensity = 61300
Azimuth = 13
Inclination = -71

Body type abbreviations and the shape parameters have the following significance:
Cylndr -CYLINDER - A, B are axes lengths; C = thickness; D = slope

Model title: TA2127DB.MOD

No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	A	B	C	D
		m	m	m	deg	deg	deg	SI				
1	Cylndr	401778	5602778	1100	0			0.0062	3000	3000	1000	90
3	Cylndr	407742	5585208	1109	150			0.0024	2000	3000	1000	90
4	Cylndr	404348	5592592	1104	148			0.0105	3500	3000	150	90
5	Cylndr	405222	5594556	1104	148			0.0105	1000	1000	150	90

503087



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 6
Model:	TA2127DA.MOD
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 13:55 01/09/1994 for Preview Resources Pty. Limi

5 cm

#4

3500 × 3000 × 1000

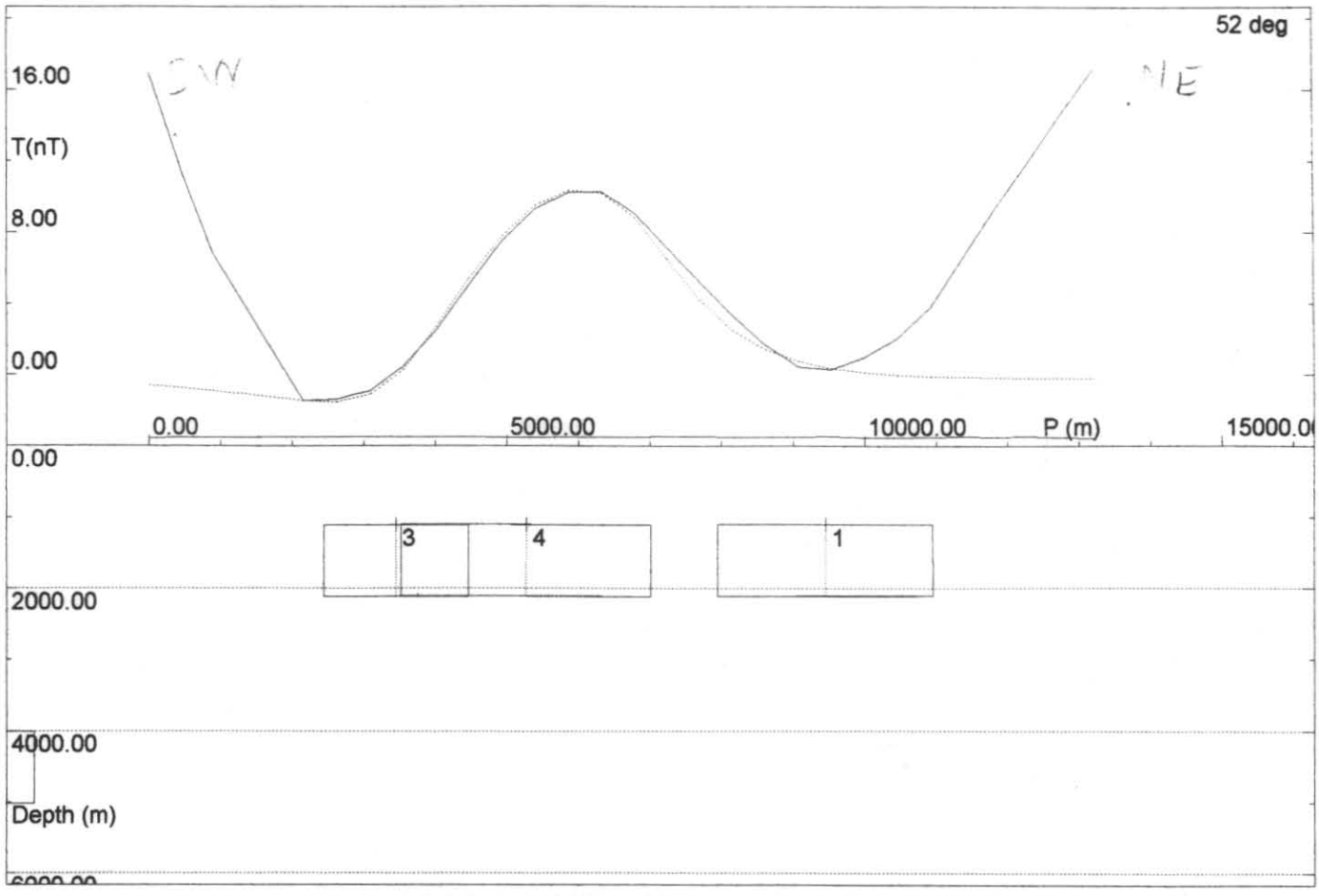
Z = 1104

K = 0.0023

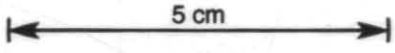
A = 11nT ~ Hx

Anomaly C 1000 metre thick cylinder at 1100 metres. OK fit.

503088



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;	
Model:	TA2127DA.MOD
Calculation mode:	Total Magnetic Intensity
Observed:	——— Calculated: ·····
Residual:	····· Individual body: ·····
POTENT v3.04	Profile drawn at 13:53 01/09/1994 for Preview Resources Pty. Limited



503089

POTENT v3.04 Model Summary Report created at 13:56 01/09/1994 for Preview Resources Pty. Limited

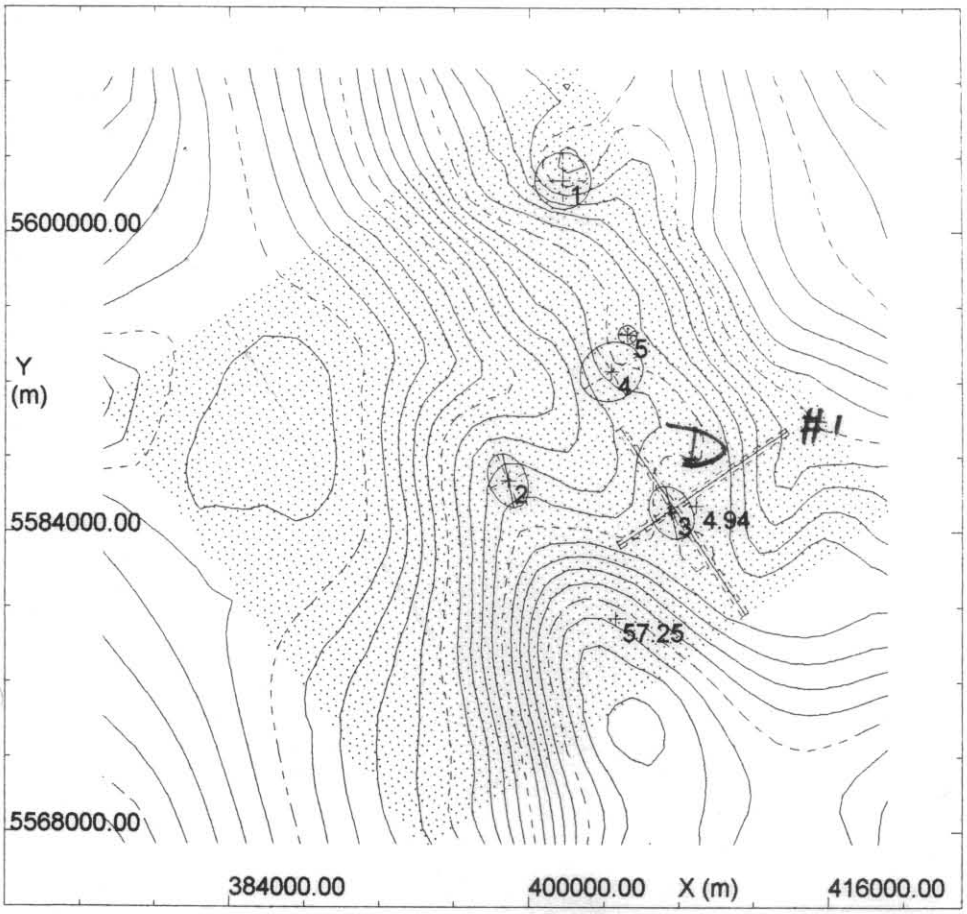
Inducing field - Intensity = 61300
Azimuth = 13
Inclination = -71

Body type abbreviations and the shape parameters have the following significance:
Cylndr -CYLINDER - A, B are axes lengths; C = thickness; D = slope

Model title: TA2127DA.MOD

No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	A	B	C	D
		m	m	m	deg	deg	deg	SI				
1	Cylndr	401778	5602778	1100	0			0.0062	3000	3000	1000	90
3	Cylndr	407742	5585208	1109	150			0.0024	2000	3000	1000	90
4	Cylndr	404348	5592592	1104	148			0.0023	3500	3000	1000	90

503090



#1

2000 x 3000 x 150

Z = 1095

K = 0.0115

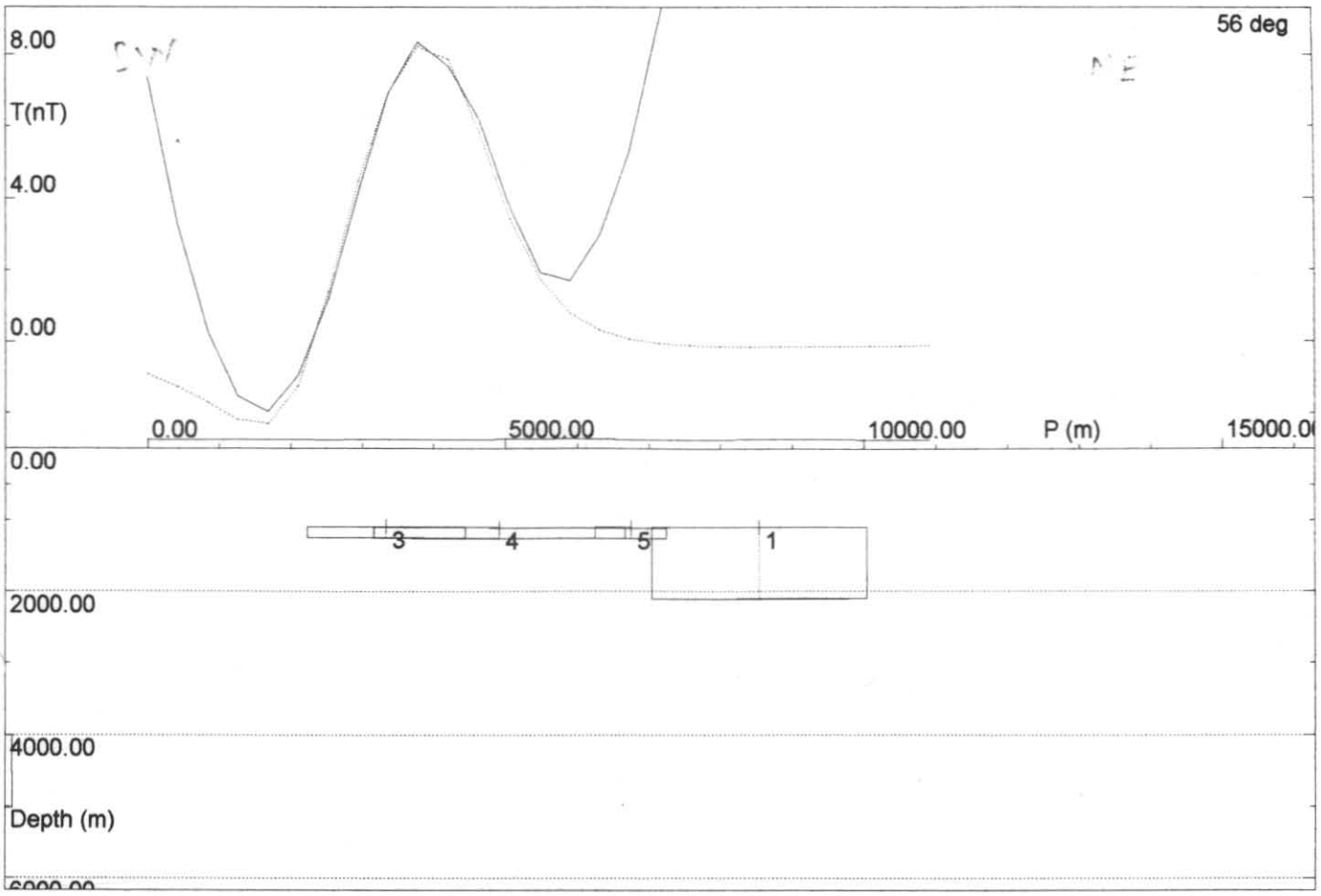
A = 10 nT

Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 6
Model:	TA2127CB.MOD
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 13:23 02/09/1994 for Preview Resources Pty. Limi

5 cm

Anomaly D 150 metre thick cylinder at 1100 metres. OK fit.

503091



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;	
Model:	TA2127CB.MOD
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 13:20 02/09/1994 for Preview Resources Pty. Limited

5 cm

503092

POTENT v3.04 Model Summary Report created at 13:24 02/09/1994 for Preview Resources Pty. Limited

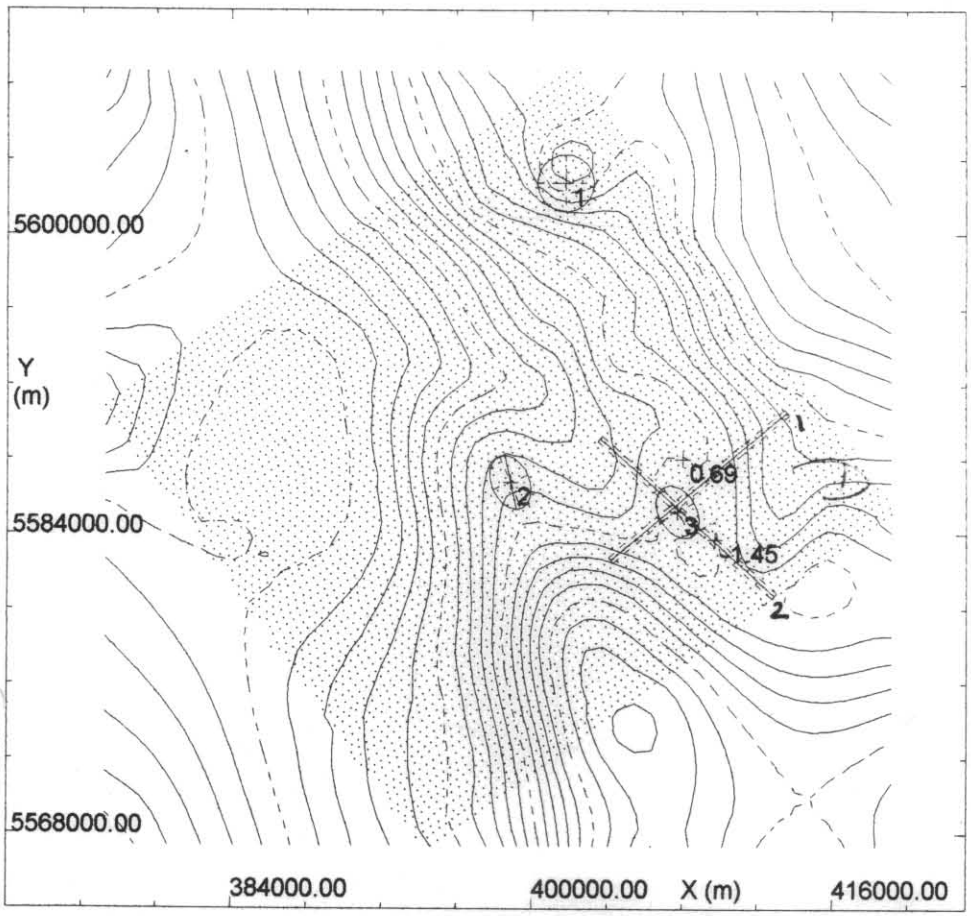
Inducing field - Intensity = 61300
Azimuth = 13
Inclination = -71

Body type abbreviations and the shape parameters have the following significance:
Cylndr -CYLINDER - A, B are axes lengths; C = thickness; D = slope

Model title: TA2127CB.MOD

No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	A	B	C	D
		m	m	m	deg	deg	deg	SI				
1	Cylndr	401778	5602778	1100	0			0.0062	3000	3000	1000	90
3	Cylndr	407559	5585083	1095	150			0.0115	2200	3000	150	90
4	Cylndr	404348	5592592	1104	148			0.0105	3500	3000	150	90
5	Cylndr	405222	5594556	1104	148			0.0105	1000	1000	150	90

503093



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 6
Model:	TA2127CA.MOD
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 13:15 01/09/1994 for Preview Resources Pty. Limi

5 cm

#3

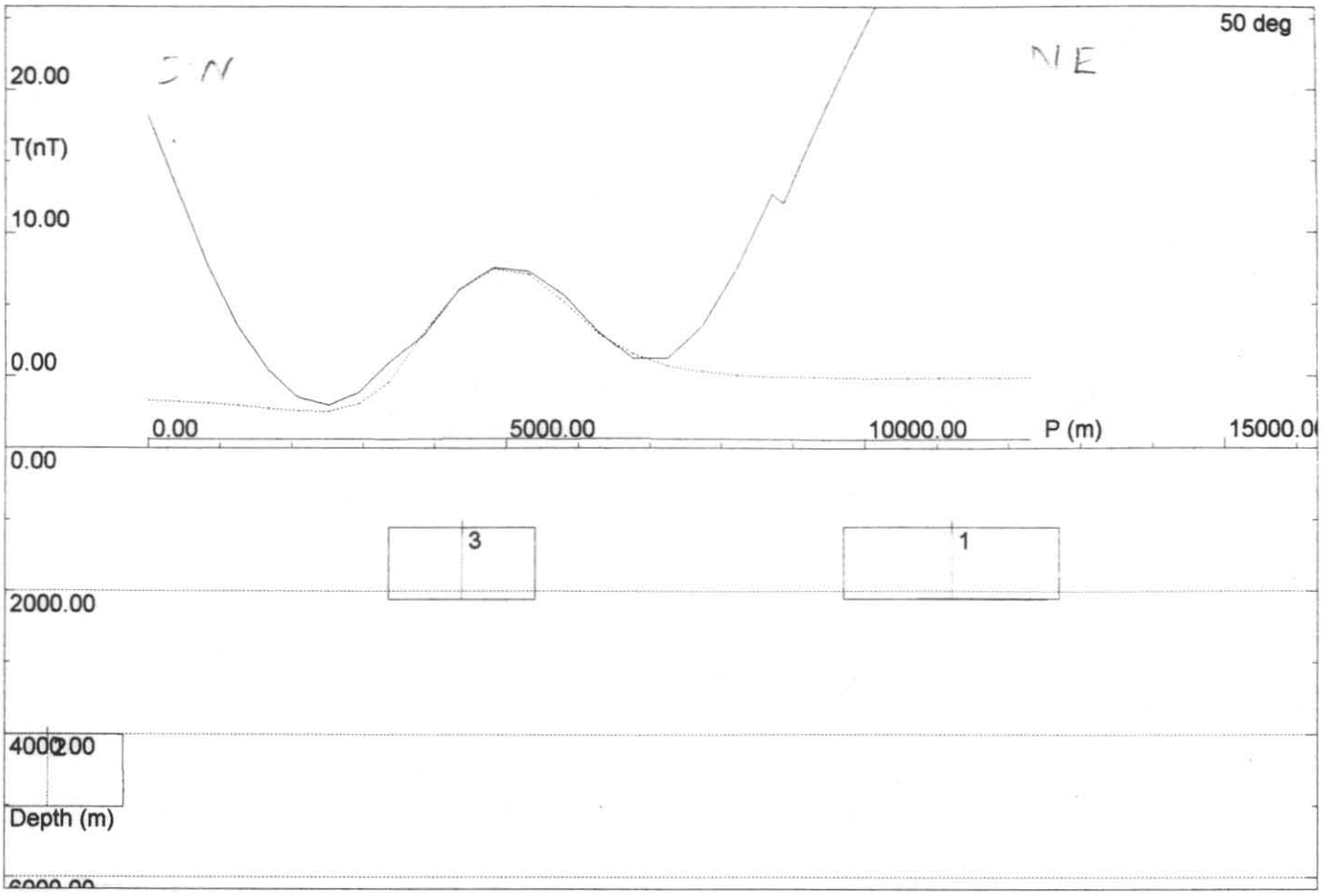
2000x3000x1000

Z = 1109

K = 0.0024

Anomaly D 1000 metre thick cylinder at 1100 metres. OK fit.

503094



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;	
Model:	TA2127CA.MOD
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 13:13 01/09/1994 for Preview Resources Pty. Limited

5 cm

503095

POTENT v3.04 Model Summary Report created at 13:17 01/09/1994 for Preview Resources Pty. Limited

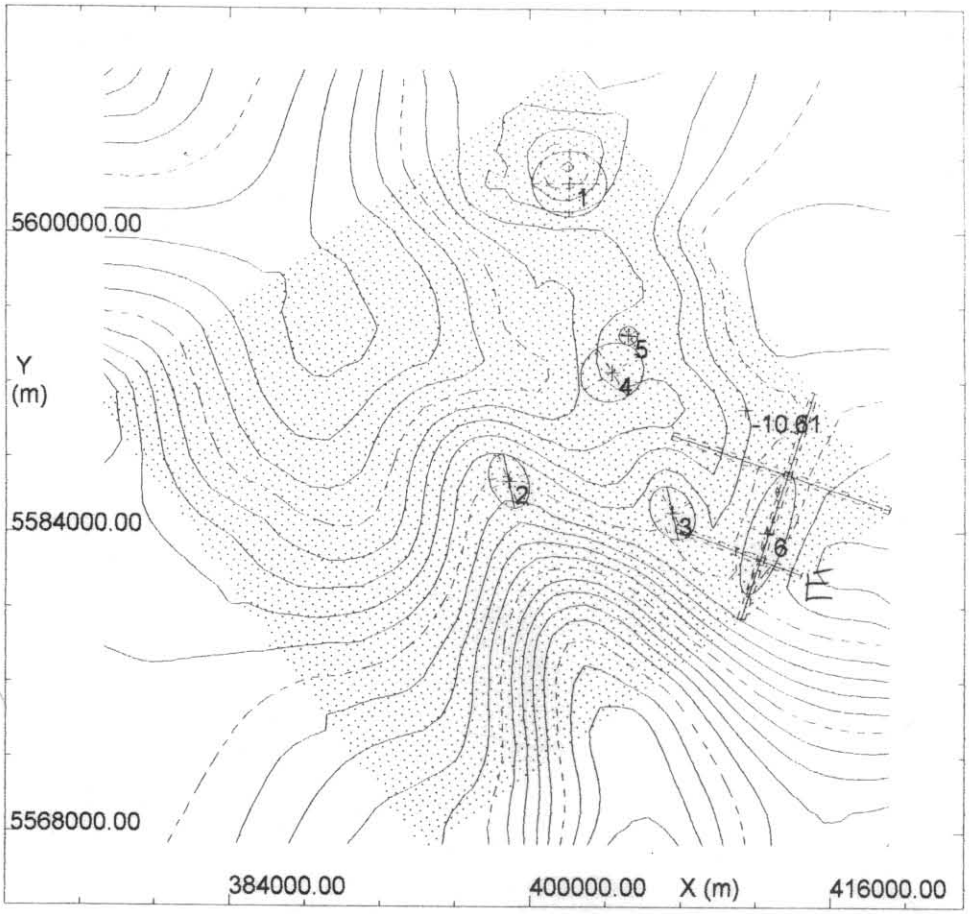
Inducing field - Intensity = 61300
Azimuth = 13
Inclination = -71

Body type abbreviations and the shape parameters have the following significance:
Cylndr -CYLINDER - A, B are axes lengths; C = thickness; D = slope

Model title: TA2127CA.MOD

No.	Type	X m	Y m	Depth m	Strike deg	Dip deg	Plunge deg	Susc. SI	A	B	C	D
1	Cylndr	401778	5602778	1100	0			0.0062	3000	3000	1000	90
2	Cylndr	398830	5586770	4016	-23			0.0350	2000	3000	1000	90
3	Cylndr	407742	5585208	1109	150			0.0024	2000	3000	1000	90

503096



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 6
Model:	TA2127EB.MOD
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 09:57 06/09/1994 for Preview Resources Pty. Limi

5 cm

#6

6800x2000x150

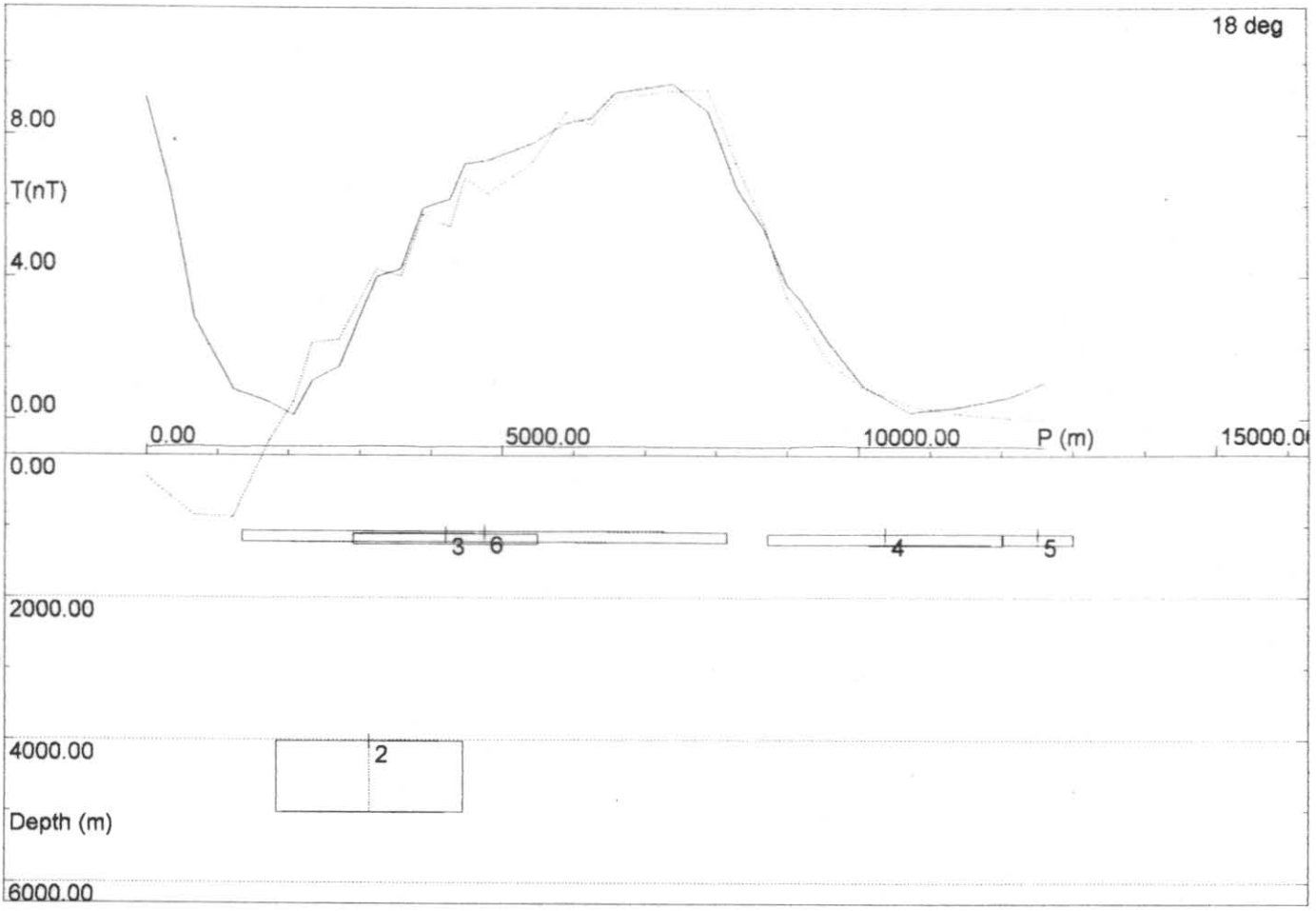
Z = 1068

k = 0.0112 SI

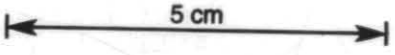
A = 7 nT

Anomaly E 150 metre thick cylinder at 1100 metres. OK fit.

503097



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;	
Model:	TA2127EB.MOD
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 09:55 06/09/1994 for Preview Resources Pty. Limited



POTENT v3.04 Model Summary Report created at 09:58 06/09/1994 for Preview Resources Pty. Limited

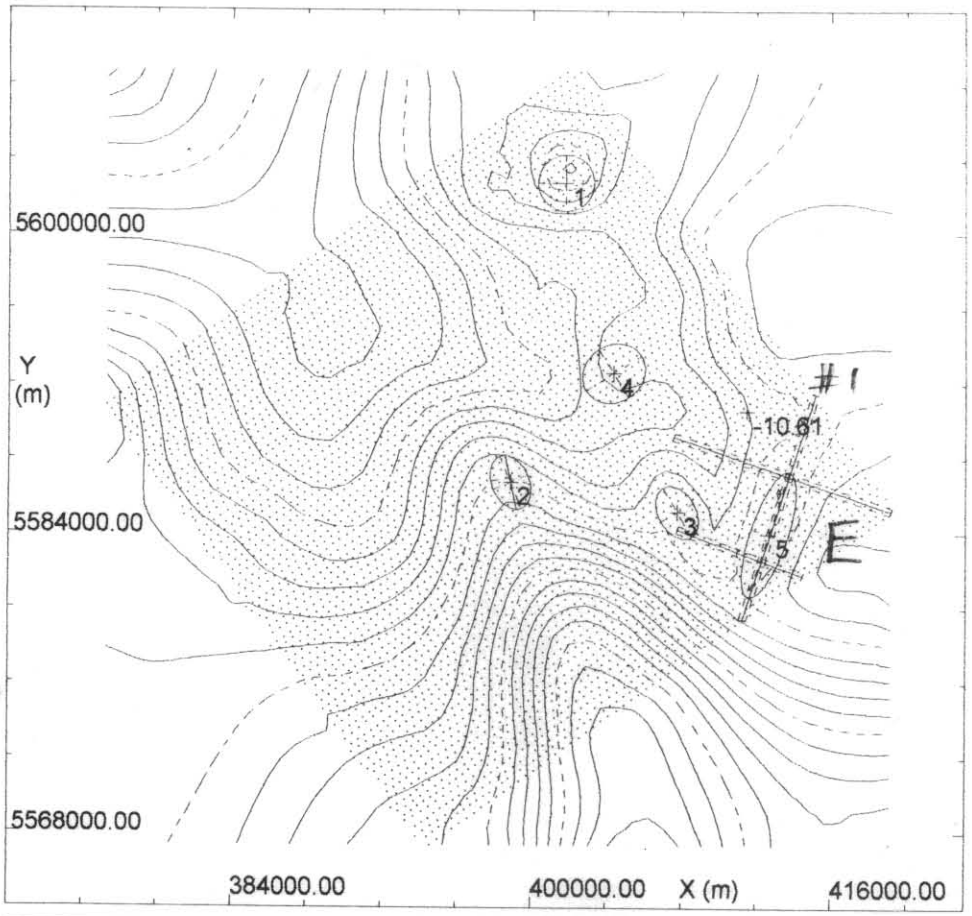
Inducing field - Intensity = 61300
Azimuth = 13
Inclination = -71

Body type abbreviations and the shape parameters have the following significance:
Cylndr -CYLINDER - A, B are axes lengths; C = thickness; D = slope

Model title: TA2127EB.MOD

No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	A	B	C	D
		m	m	m	deg	deg	deg	SI				
1	Cylndr	402066	56026631	099	0			0.0260	4000	3500	150	90
3	Cylndr	407559	55850831	095	150			0.0115	2200	3000	150	90
4	Cylndr	404348	55925921	104	148			0.0105	3500	3000	150	90
5	Cylndr	405222	55945561	104	148			0.0105	1000	1000	150	90
6	Cylndr	412646	55840211	068	109			0.0112	6800	2000	150	90

503099



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 6
Model:	TA2127EA.MOD
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 09:39 06/09/1994 for Preview Resources Pty. Limi

5 cm

#5

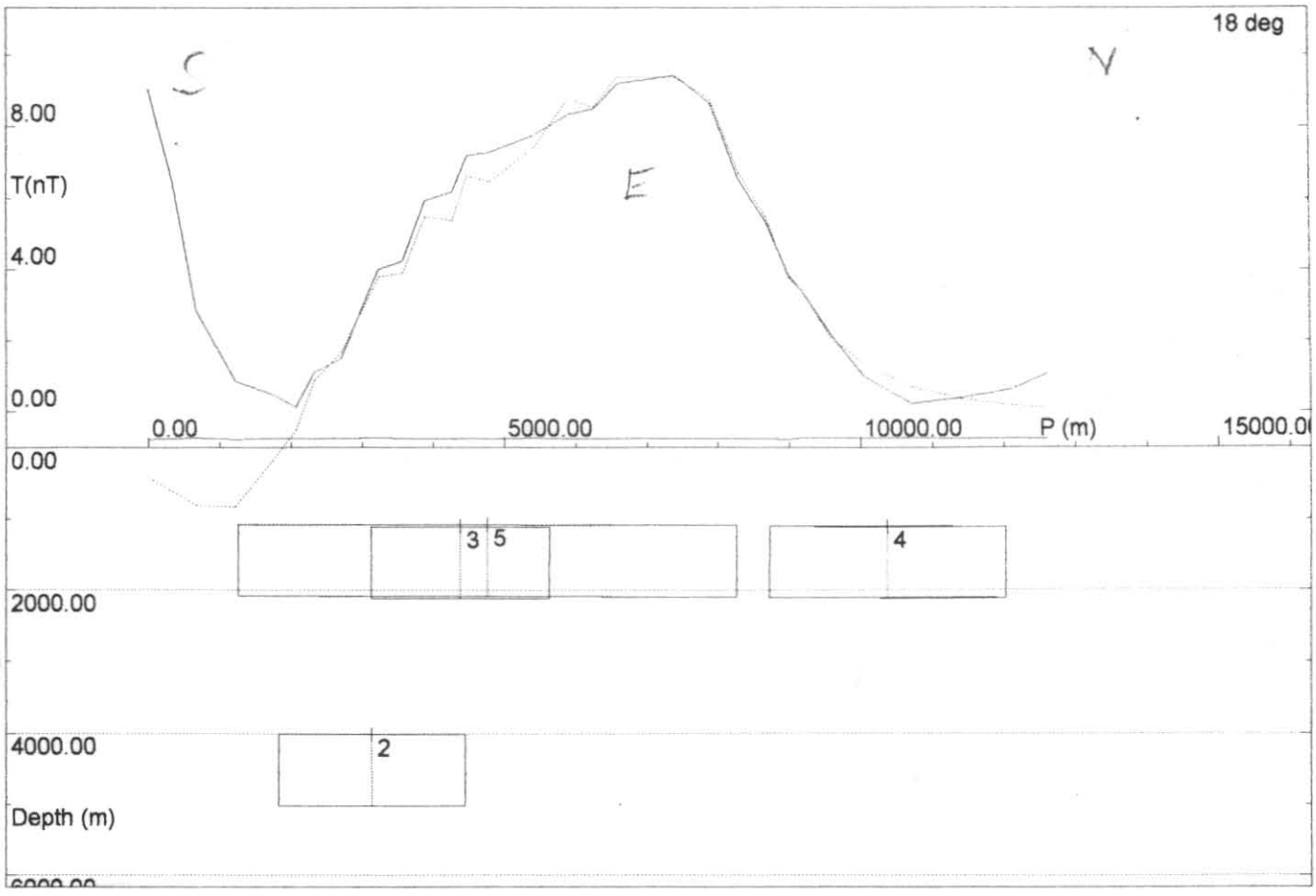
7000 x 2000 x 1000

Z = 1082

K = 0.0025

Anomaly E 1000 metre thick cylinder at 1100 metres. OK fit.

503100



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;	
Model:	TA2127EA.MOD
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 09:37 06/09/1994 for Preview Resources Pty. Limited

5 cm

503101

POTENT v3.04 Model Summary Report created at 09:41 06/09/1994 for Preview Resources Pty. Limited

Inducing field - Intensity = 61300
Azimuth = 13
Inclination = -71

Body type abbreviations and the shape parameters have the following significance:
Cylndr -CYLINDER - A, B are axes lengths; C = thickness; D = slope

Model title: TA2127EA.MOD

No.	Type	X m	Y m	Depth m	Strike deg	Dip deg	Plunge deg	Susc. SI	A	B	C	D
1	Cylndr	401778	5602778	1100	0			0.0062	3000	3000	1000	90
3	Cylndr	407742	5585208	1109	150			0.0028	2000	3000	1000	90
4	Cylndr	404348	5592592	1104	148			0.0023	3500	3000	1000	90
E — 5	Cylndr	412648	5584028	1082	108			0.0025	7000	2000	1000	90

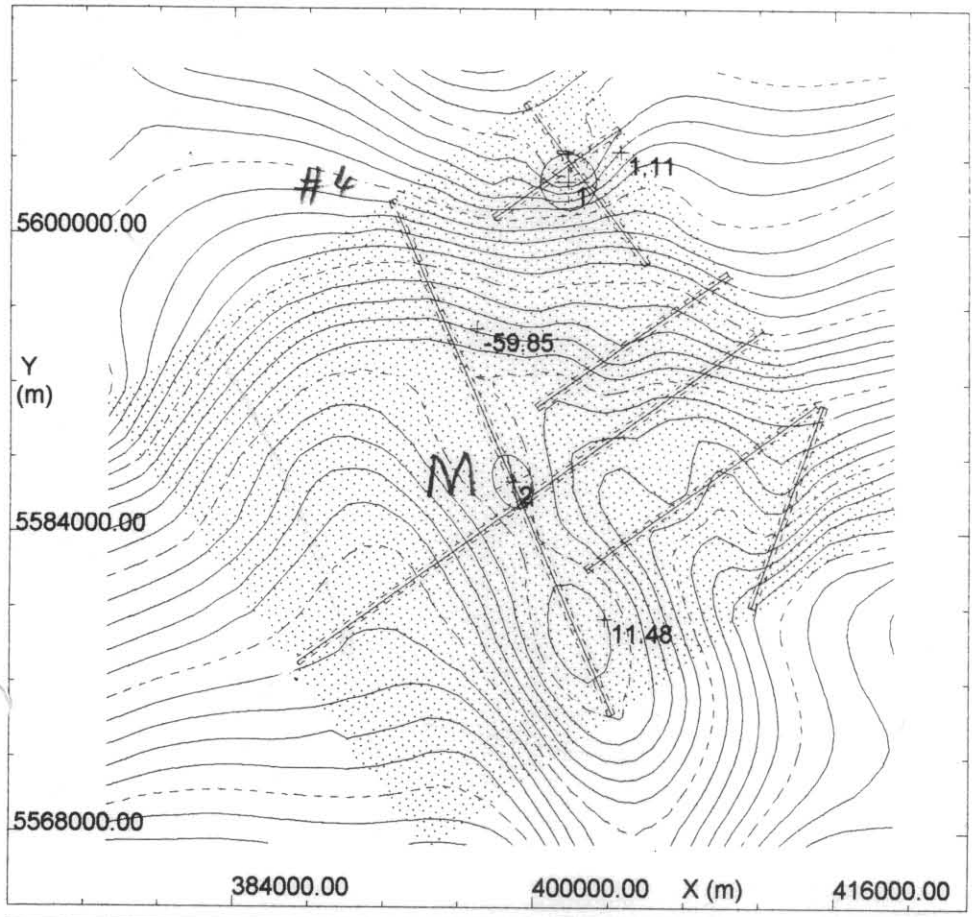
503102

#2

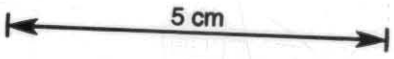
2000 x 2000 x 1000

Z = 4016

K = 0.0350 SI

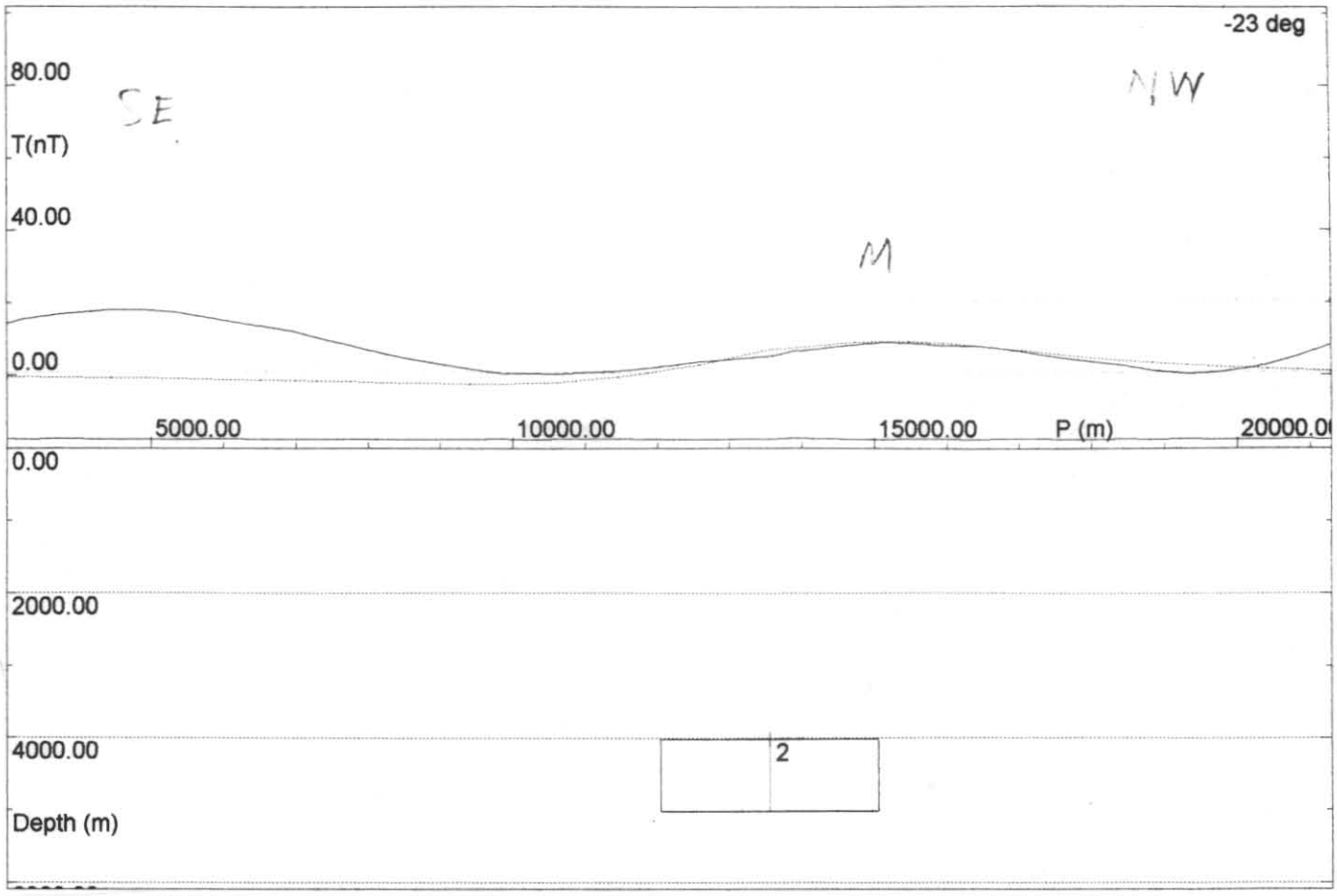


Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 6
Model:	TA2127BA.MOD
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 22:46 30/08/1994 for Preview Resources Pty. Limi

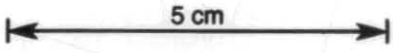


Anomaly M 1000 metre thick cylinder at 4000 metres. OK fit.

503103



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #4;	
Model:	TA2127BA.MOD
Calculation mode:	Total Magnetic Intensity
Observed:	——— Calculated: ·····
Residual:	····· Individual body: ·····
POTENT v3.04	Profile drawn at 22:44 30/08/1994 for Preview Resources Pty. Limited



503104

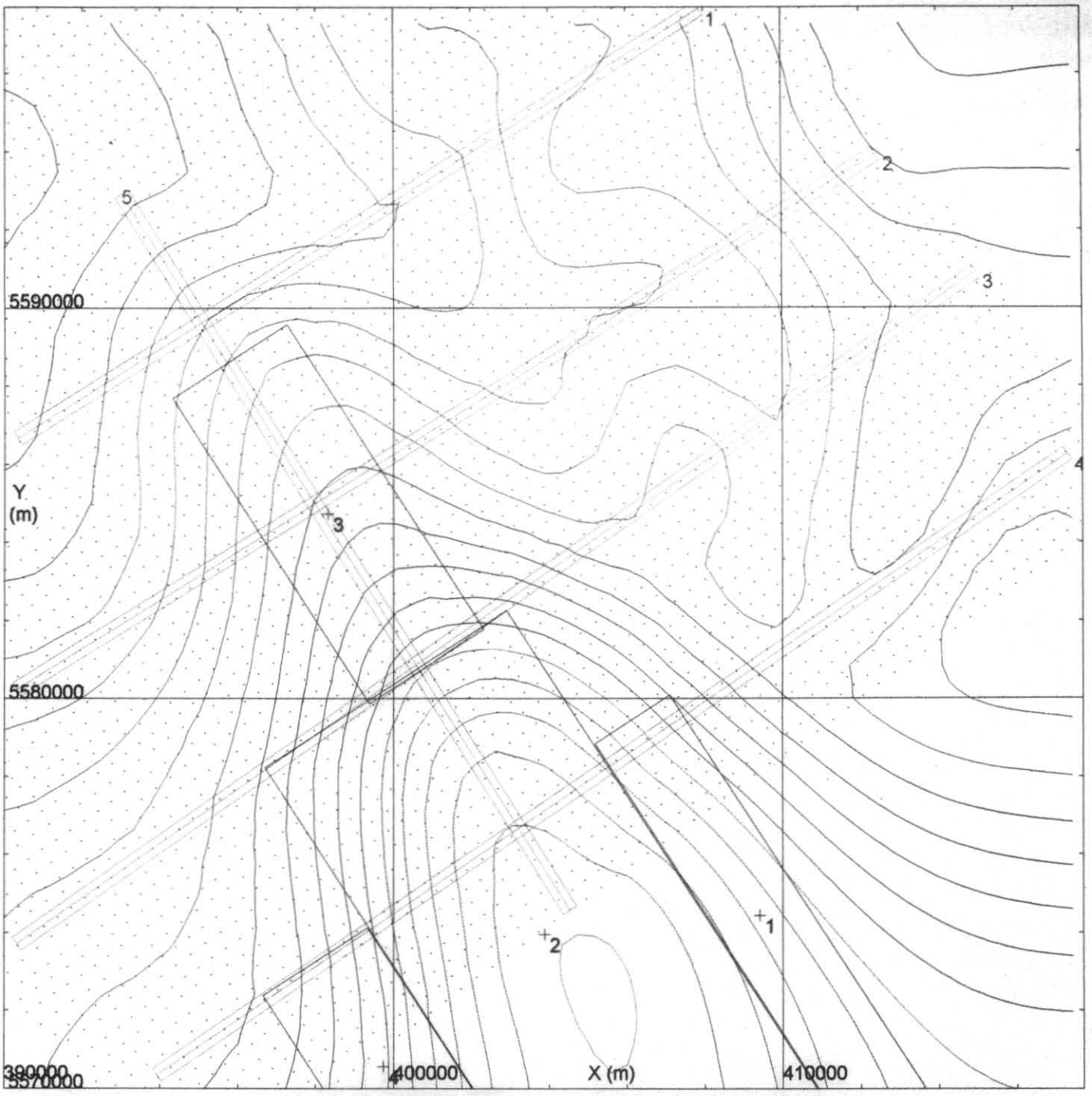
POTENT v3.04 Model Summary Report created at 22:49 30/08/1994 for Preview Resources Pty. Limited

Inducing field - Intensity = 61300
Azimuth = 13
Inclination = -71

Body type abbreviations and the shape parameters have the following significance:
Cylndr -CYLINDER - A, B are axes lengths; C = thickness; D = slope

Model title: TA2127BA.MOD

No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	A	B	C	D
		m	m	m	deg	deg	deg	SI				
1	Cylndr	401778	5602778	1100	0			0.0062	3000	3000	1000	90
2	Cylndr	398830	5586770	4016	-23			0.0350	2000	3000	1000	90

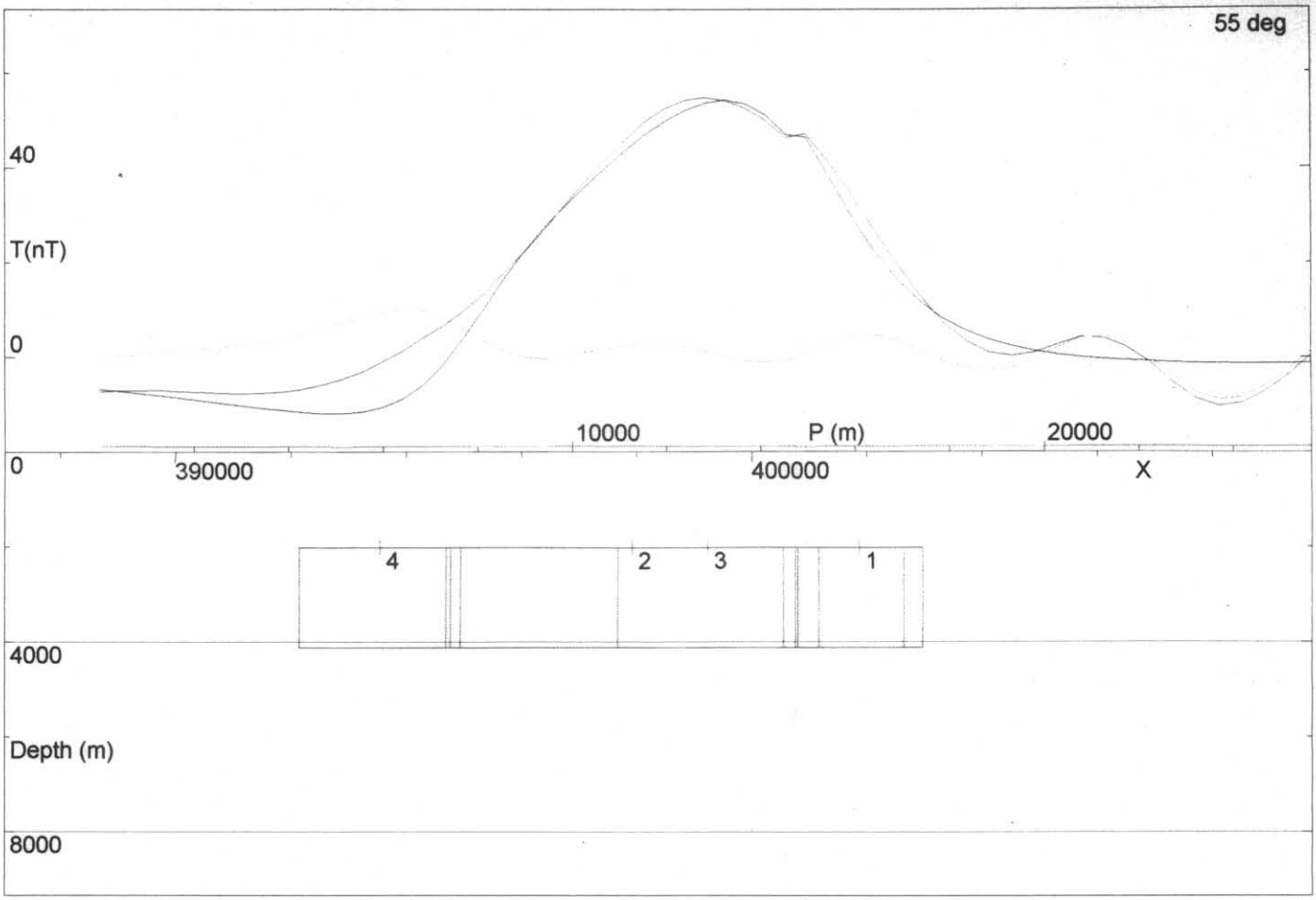


Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aavsesbm.mod Depth estimate for ANOMALY M
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 10:09 24/01/1995 for Preview Resources Pty. Limited

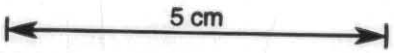
5 cm

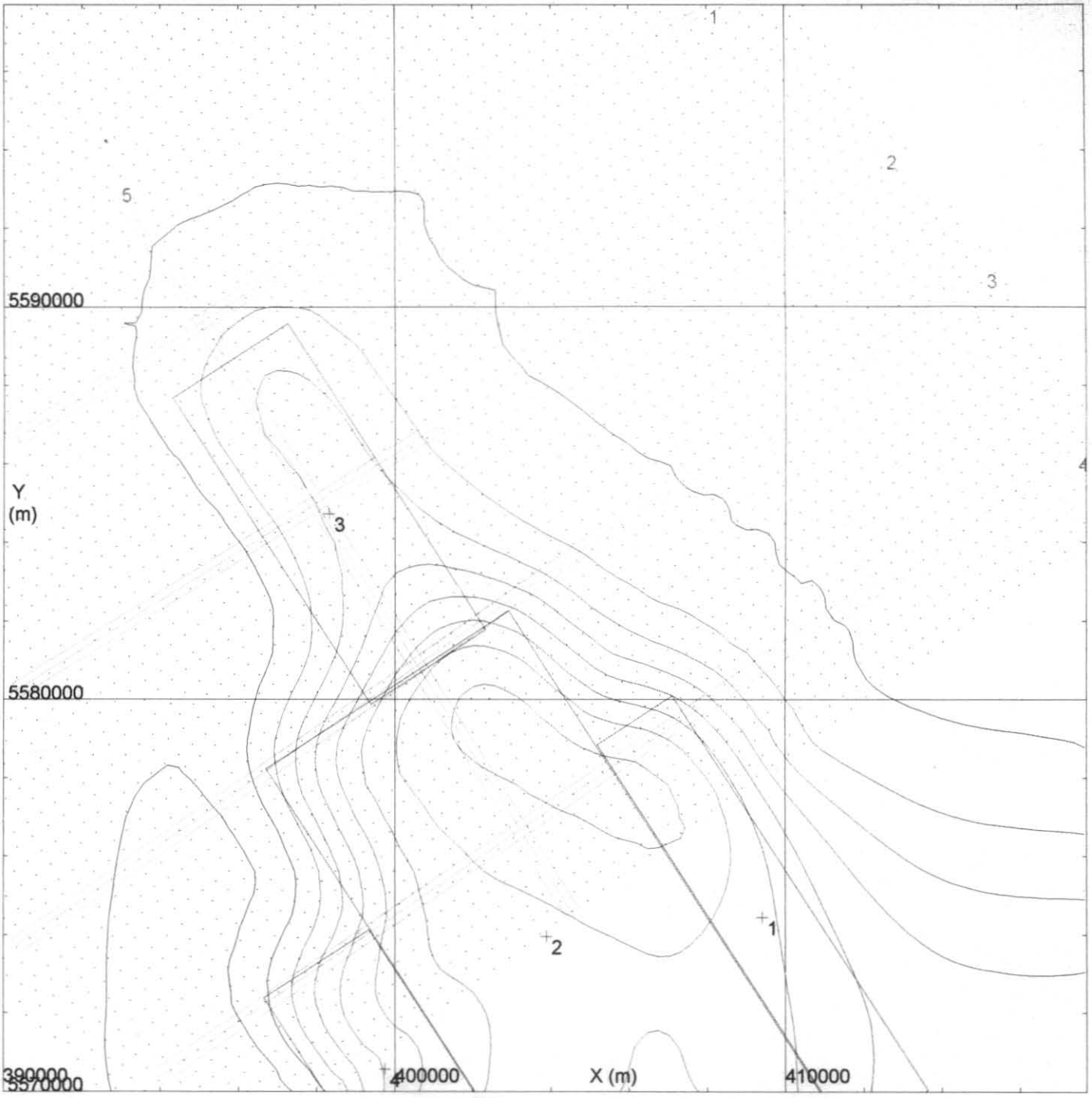
Anomaly M narrow and wide rectangular prisms at 2000 metres. Poor fit.

503106



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #3;	
Model:	aavsesbm.mod Depth estimate for ANOMALY M
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 10:19 24/01/1995 for Preview Resources Pty. Limited



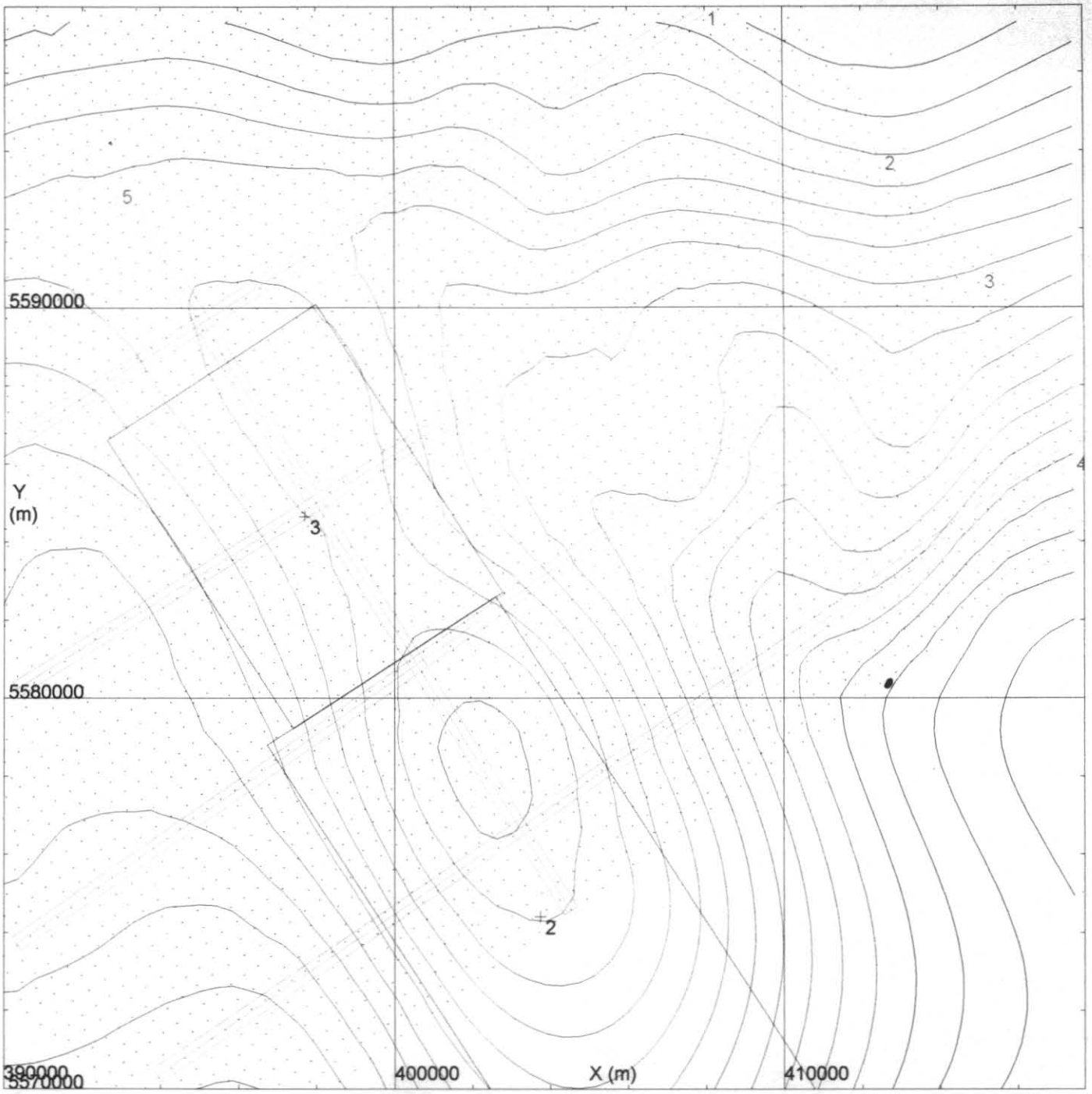


Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aavsesbm.mod Depth estimate for ANOMALY M
Contours of:	Calculated field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 10:13 24/01/1995 for Preview Resources Pty. Limited

5 cm

503108

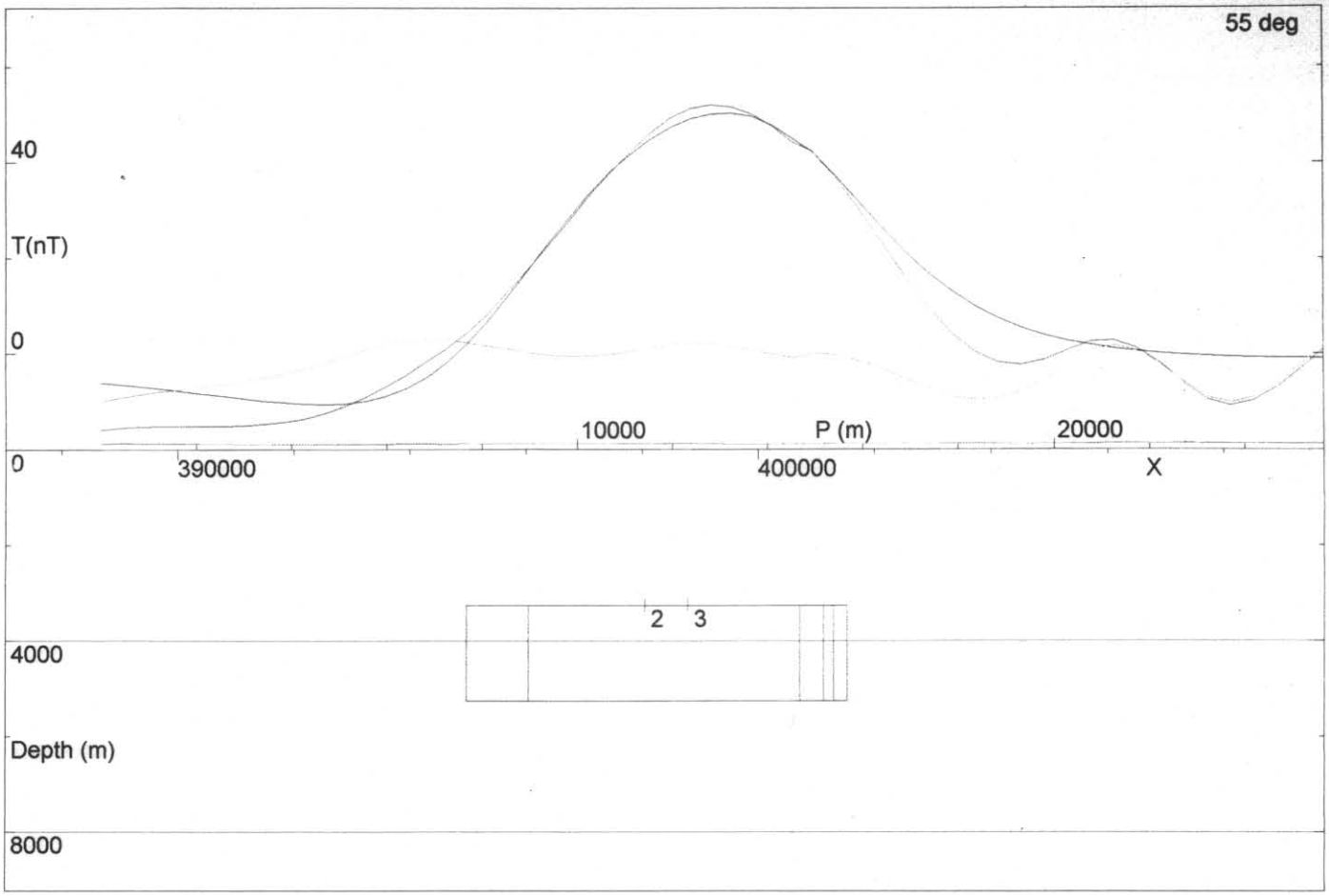
POTENT v3.04 Model Summary Report created at 10:37 24/01/1995 for Preview Resources Pty. Limited												
Inducing fi	Intensity =	61300										
	Azimuth =	13										
	Inclination	-71										
Body type abbreviations and the shape parameters have the following significance:												
Rect -	RECTANG	A = width, B = length, C = height										
Model title: aavsesbm.mod Depth estimate for ANOMALY M												
No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	A	B	C	D
		m	m	m	deg	deg	deg	SI				
1	Rect	409420.6	5574447	2007.8	-33	90	0	0.01	2300	12000	2100	
2	Rect	403903.9	5573961	2007.4	-33	90	0	0.01	7400	15000	2100	
3	Rect	398333.8	5584735	2007.8	-33	90	0	0.004	3500	9300	2100	
4	Rect	399749.3	5570577	2007.8	-33	90	0	0.01	3200	6400	2100	



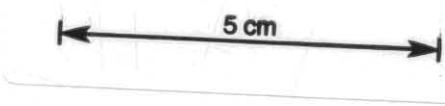
Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aazsesbm.mod Depth estimate for ANOMALY M regional removed
Contours of:	Observed field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 12:32 24/01/1995 for Preview Resources Pty. Limited

5 cm

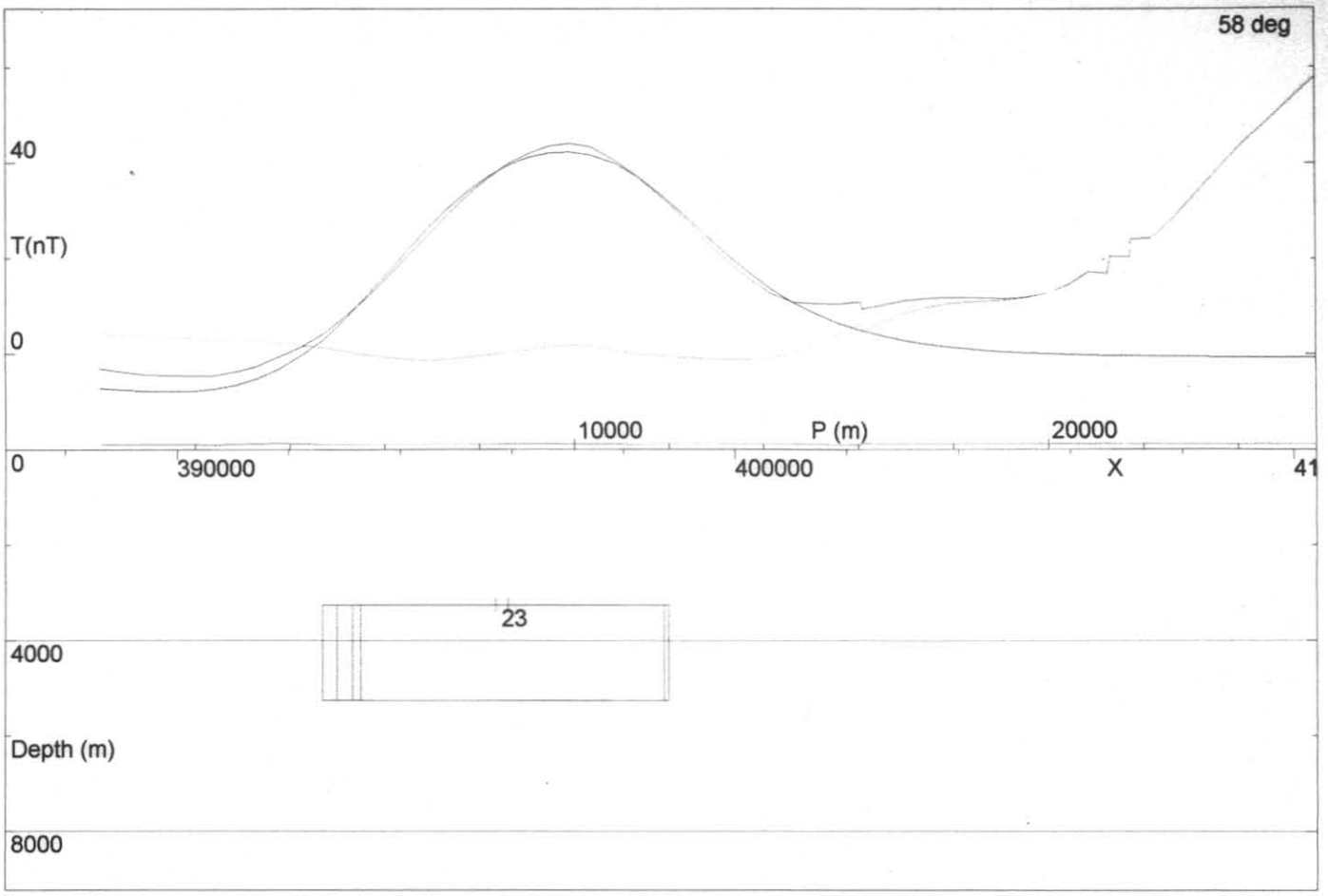
Anomaly M wide rectangular prisms at 3250 metres. OK fit.



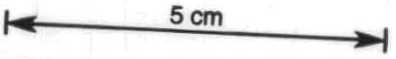
Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #3;	
Model:	aazsesbm.mod Depth estimate for ANOMALY M regional removed
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 12:36 24/01/1995 for Preview Resources Pty. Limited



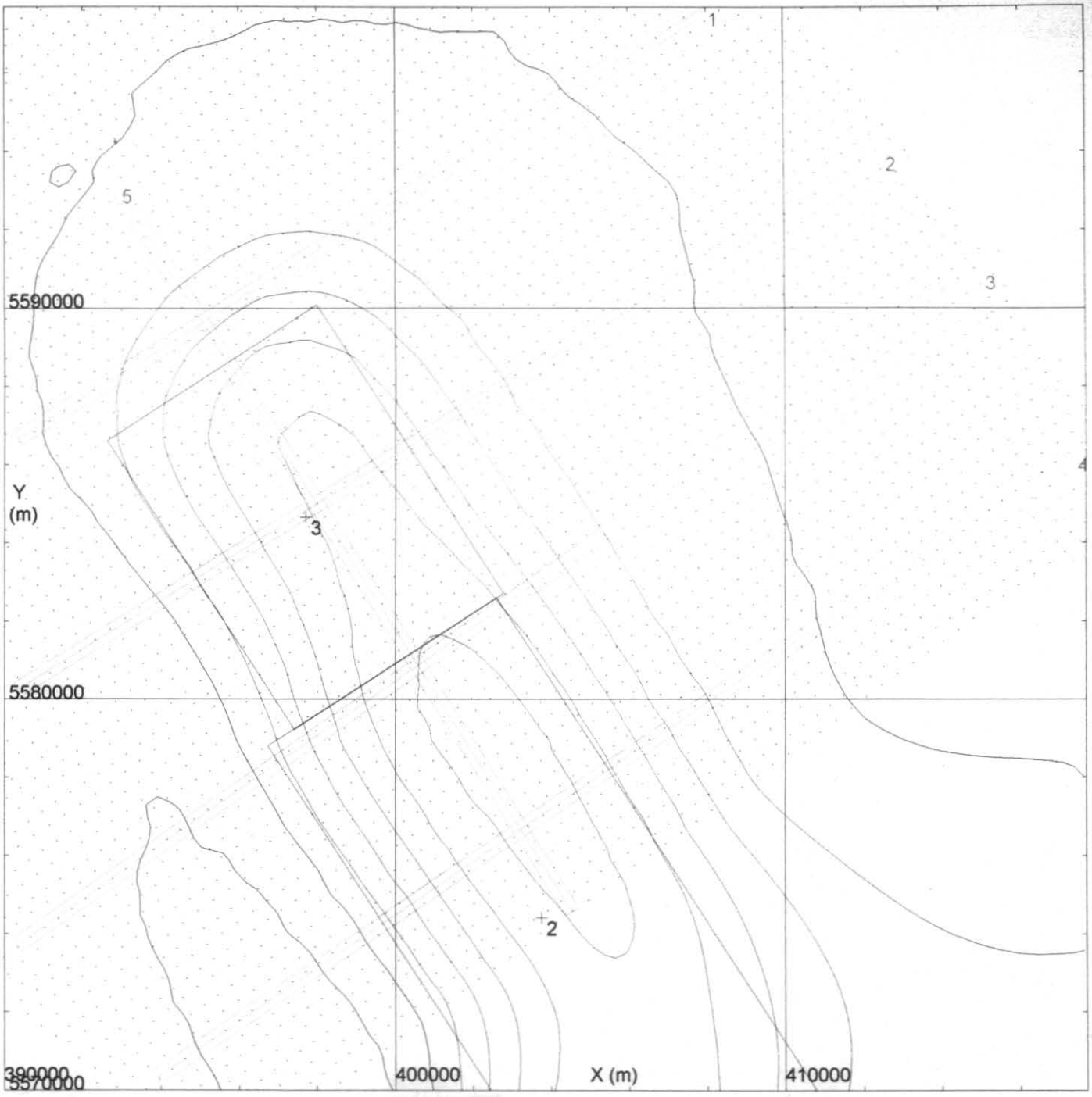
503111



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #2;	
Model:	aazsesbm.mod Depth estimate for ANOMALY M regional removed
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 12:34 24/01/1995 for Preview Resources Pty. Limited



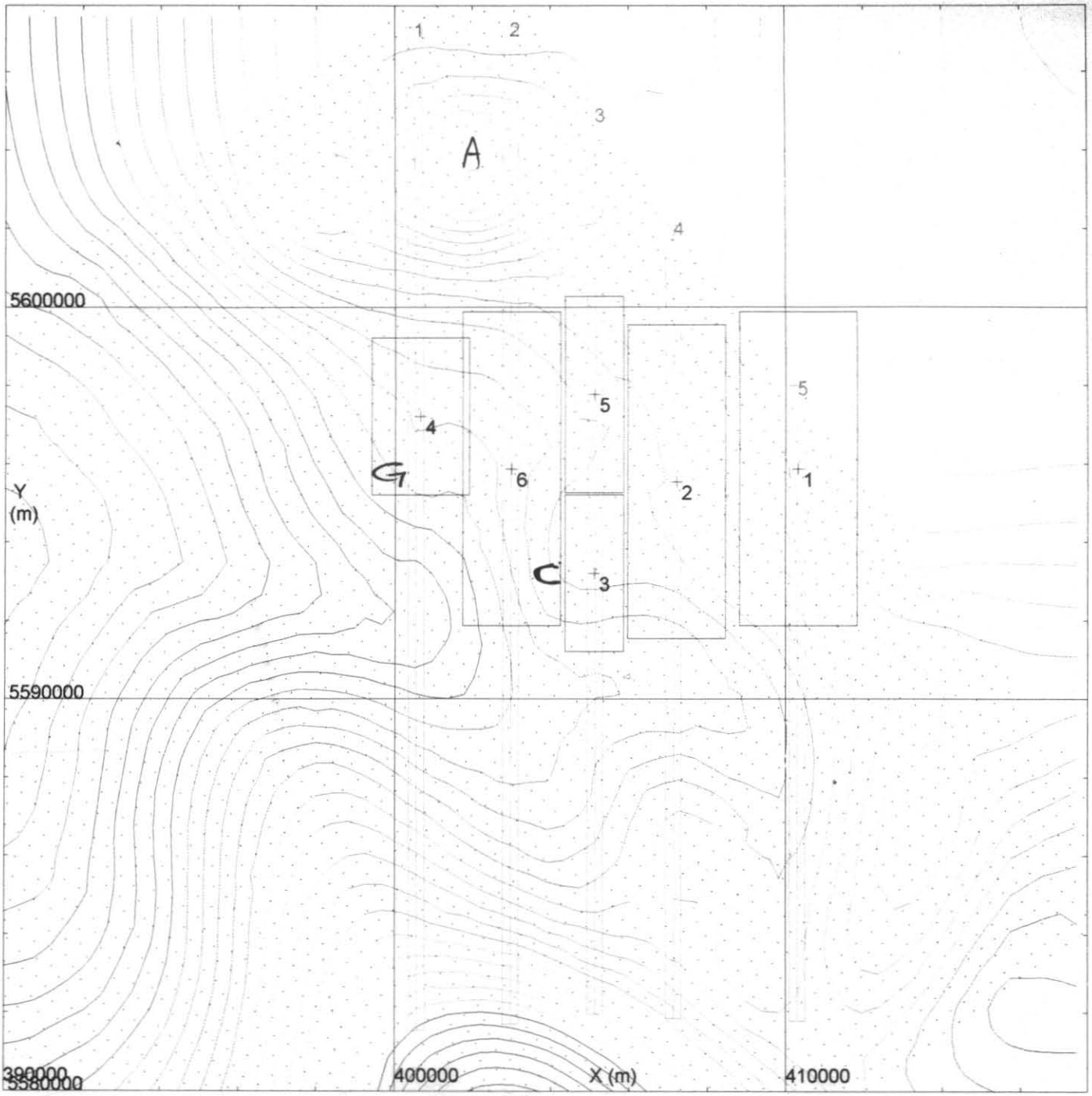
503112



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aazsesbm.mod Depth estimate for ANOMALY M regional removed
Contours of:	Calculated field; Contour intervals: 10.0000, 50.0000 nT
POTENT v3.04	Plan drawn at 12:40 24/01/1995 for Preview Resources Pty. Limited

5 cm

POTENT v3.04 Model Summary Report created at 12:37 24/01/1995 for Preview Resources Pty. Limited												
Inducing fi	Intensity =	61300										
	Azimuth =	13										
	Inclination	-71										
Body type abbreviations and the shape parameters have the following significance:												
Rect -		A = width, B = length, C = height										
Model title: aazsesbm.mod Depth estimate for ANOMALY M regional removed												
No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	A	B	C	D
		m	m	m	deg	deg	deg	SI				
2	Rect	403764.6	5574420	3249	-33	90	0	0.012036	7000	15000	2000	
3	Rect	397716.5	5584666	3249	-33	90	0	0.008867	6400	8800	2000	

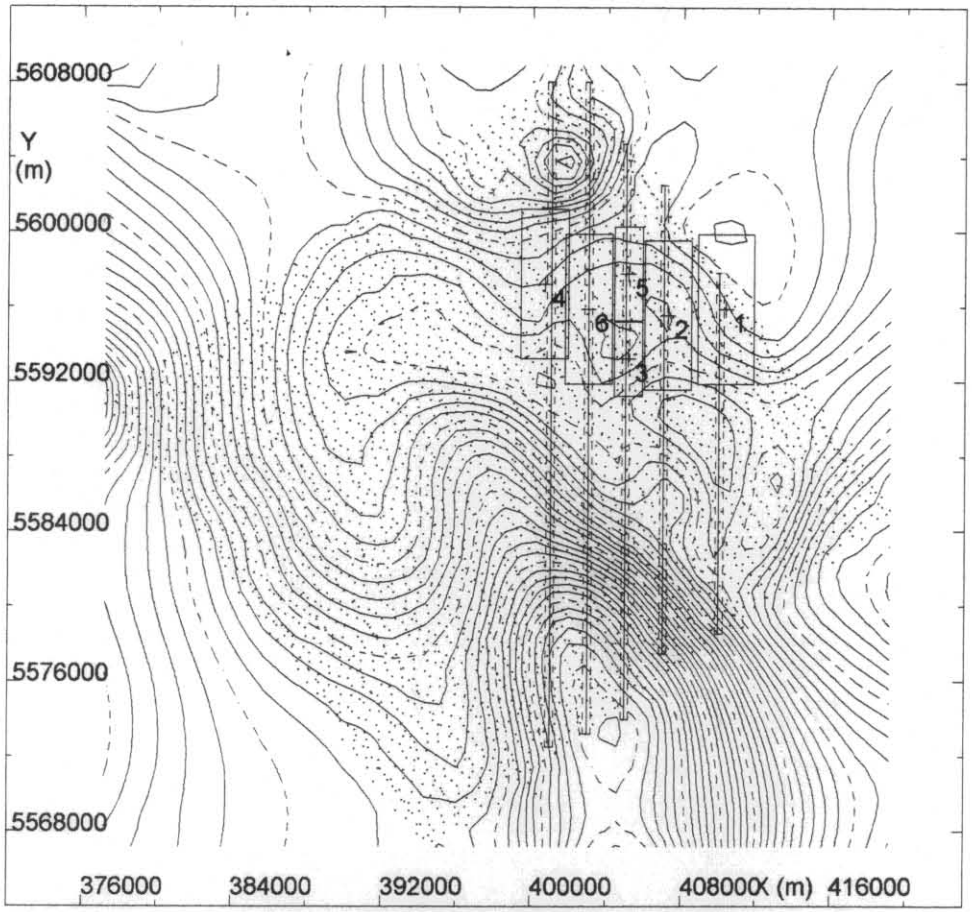


Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	FS13101A.MOD
Contours of:	Observed field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 11:23 17/01/1995 for Preview Resources Pty. Limited

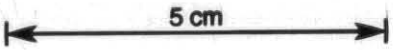
5 cm

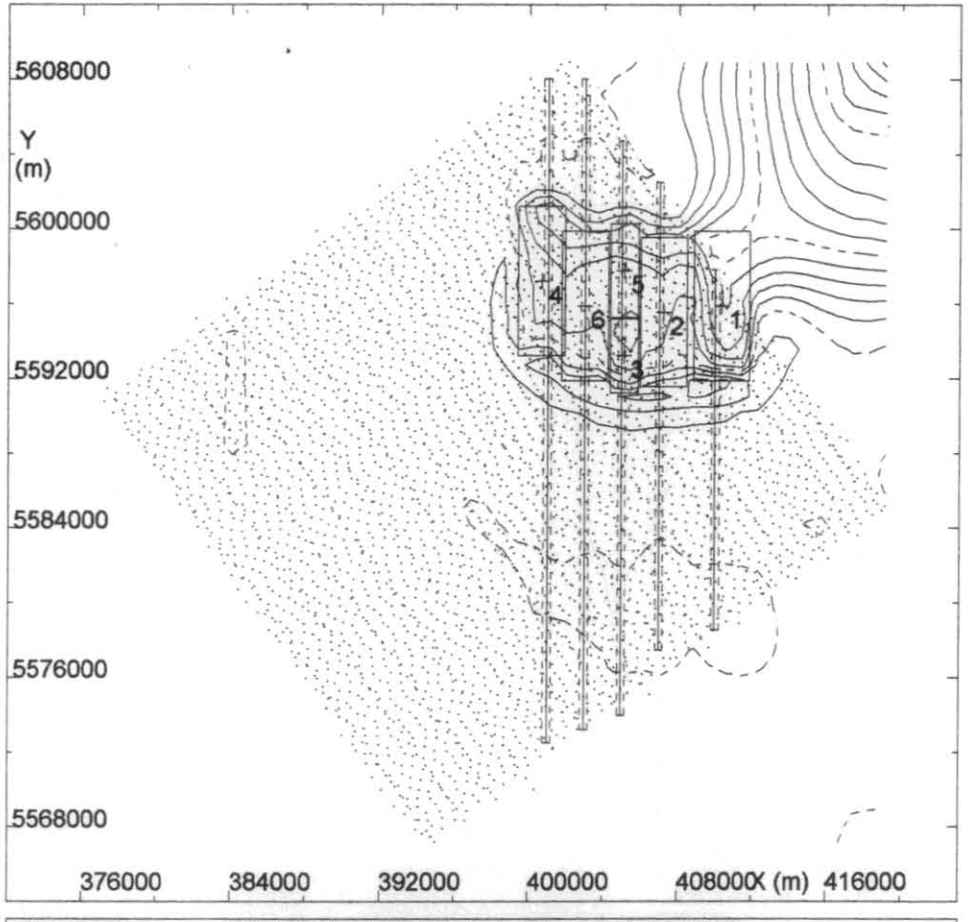
Anomaly G and C composite rectangular plates at 1030m. Nil fits.

503115



Observations:	402186.25 5608963.64 61266.312 61276.668
Model:	FAULT STEP MODEL FS13101A.MOD
Contours of:	Observed field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 10:40 13/10/1994 for Preview Resources Pty. Limi

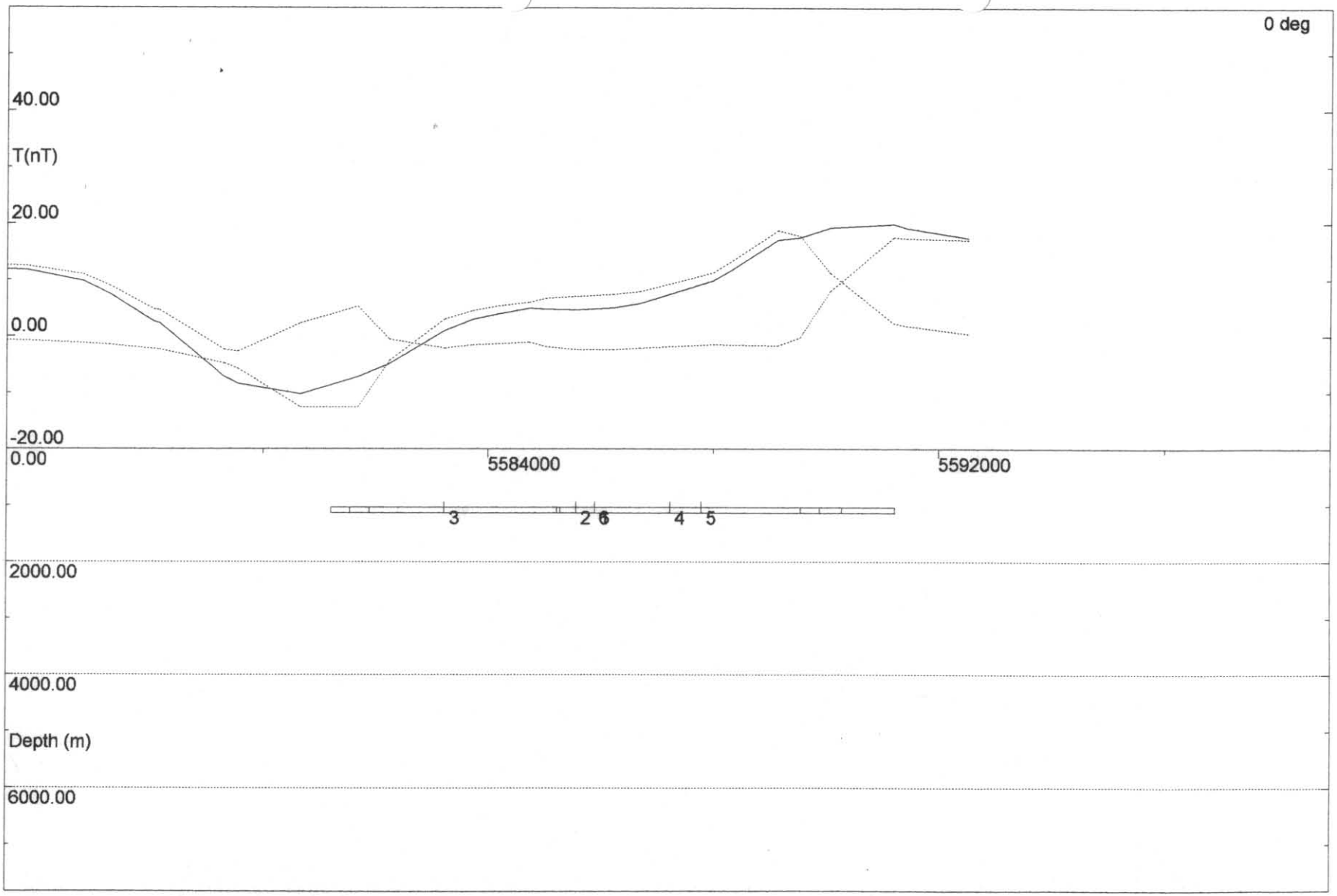




Observations:	402186.25 5608963.64 61266.312 61276.668
Model:	FAULT STEP MODEL FS13101A.MOD
Contours of:	Calculated field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 10:42 13/10/1994 for Preview Resources Pty. Limi

5 cm

503117

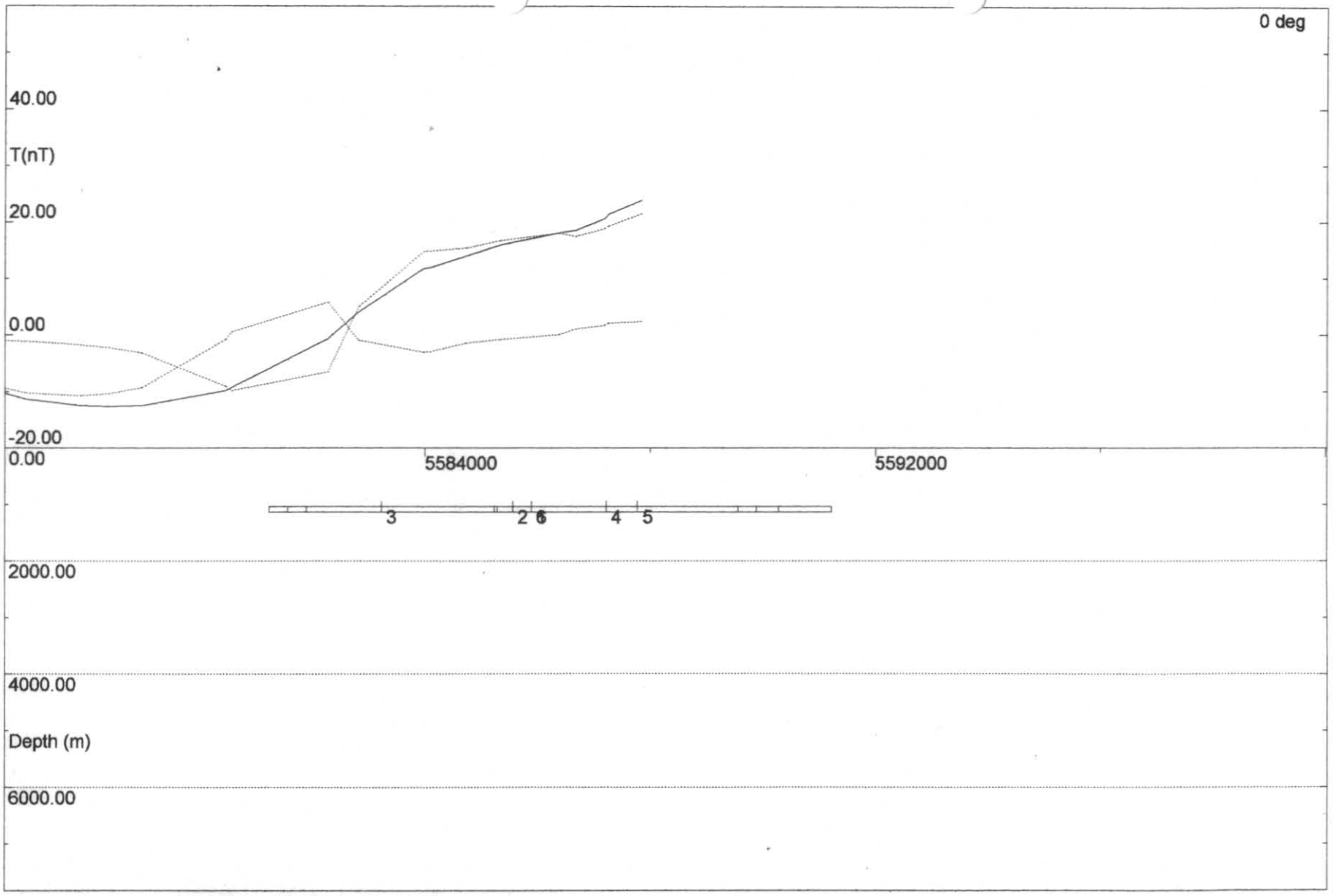


Observations: 402186.25 5608963.64 61266.312 61276.668
Profile #1; 407000E
Model: FAULT STEP MODEL FS13101A.MOD
Calculation mode: Total Magnetic Intensity

Observed: ———— Calculated: ·····
Residual: ····· Individual body: ·····

5 cm

POTENT v3.04 Profile drawn at 10:27 13/10/1994 for Preview Resources Pty. Limited

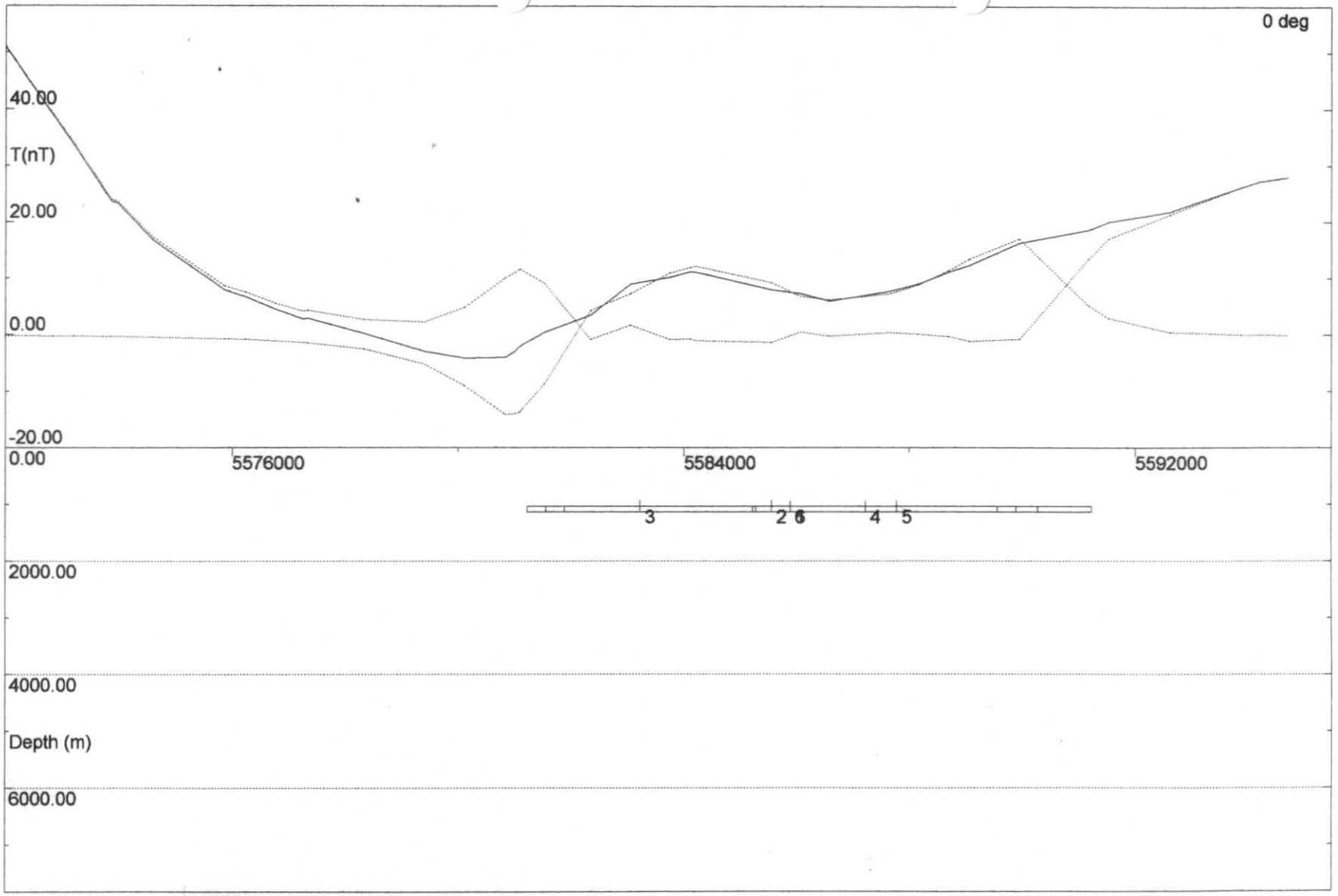


Observations: 402186.25 5608963.64 61266.312 61276.668
Profile #2; 410000E
Model: FAULT STEP MODEL FS13101A.MOD
Calculation mode: Total Magnetic Intensity

Observed: ———— Calculated: ----------
Residual: ---------- Individual body: ----------

5 cm

POTENT v3.04 Profile drawn at 10:30 13/10/1994 for Preview Resources Pty. Limited



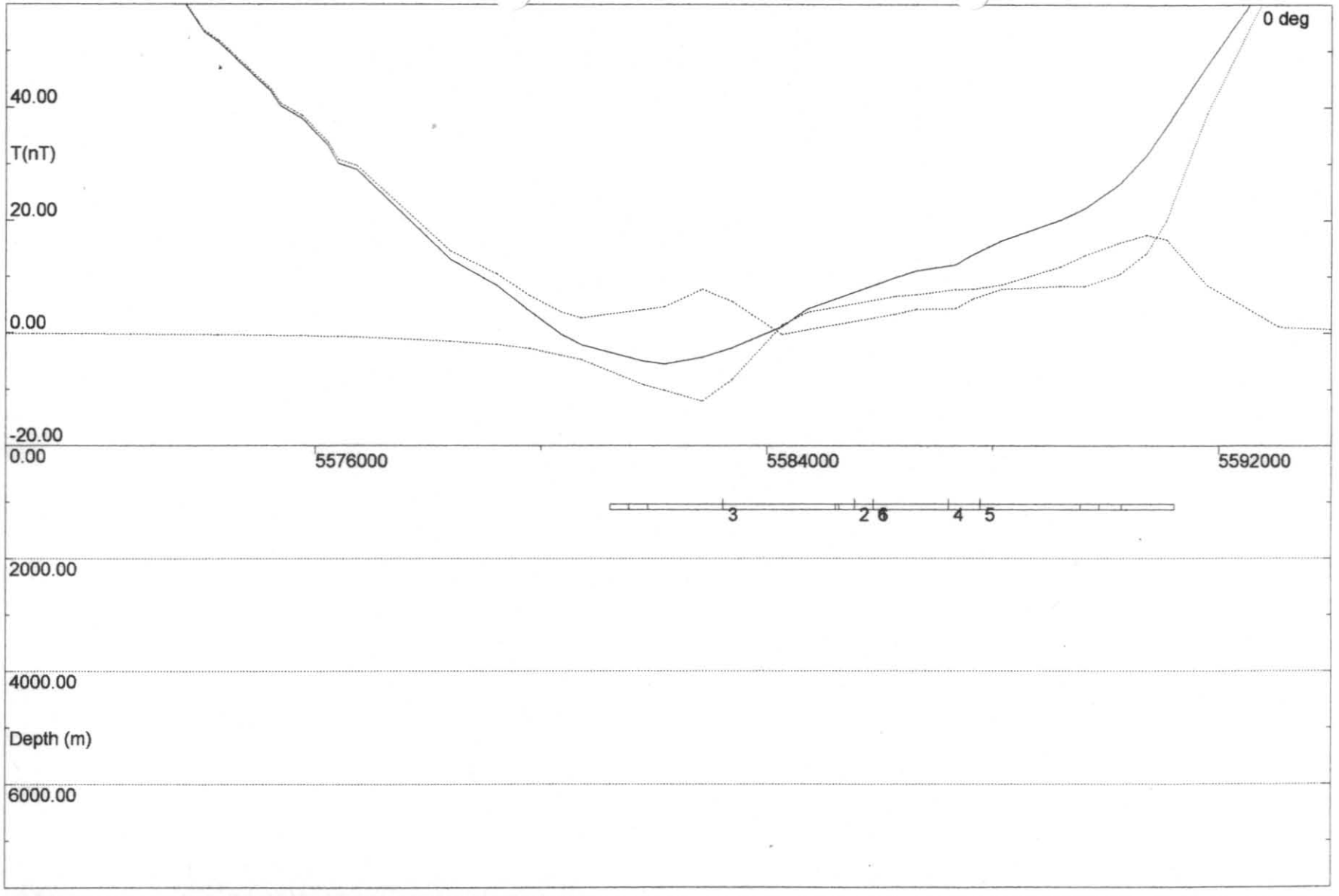
Observations: 402186.25 5608963.64 61266.312 61276.668
Profile #3; 405000E
Model: FAULT STEP MODEL FS13101A.MOD
Calculation mode: Total Magnetic Intensity

Observed: ———— Calculated: ----------
Residual: ---------- Individual body: ----------

5 cm

POTENT v3.04 Profile drawn at 10:31 13/10/1994 for Preview Resources Pty. Limited

503120



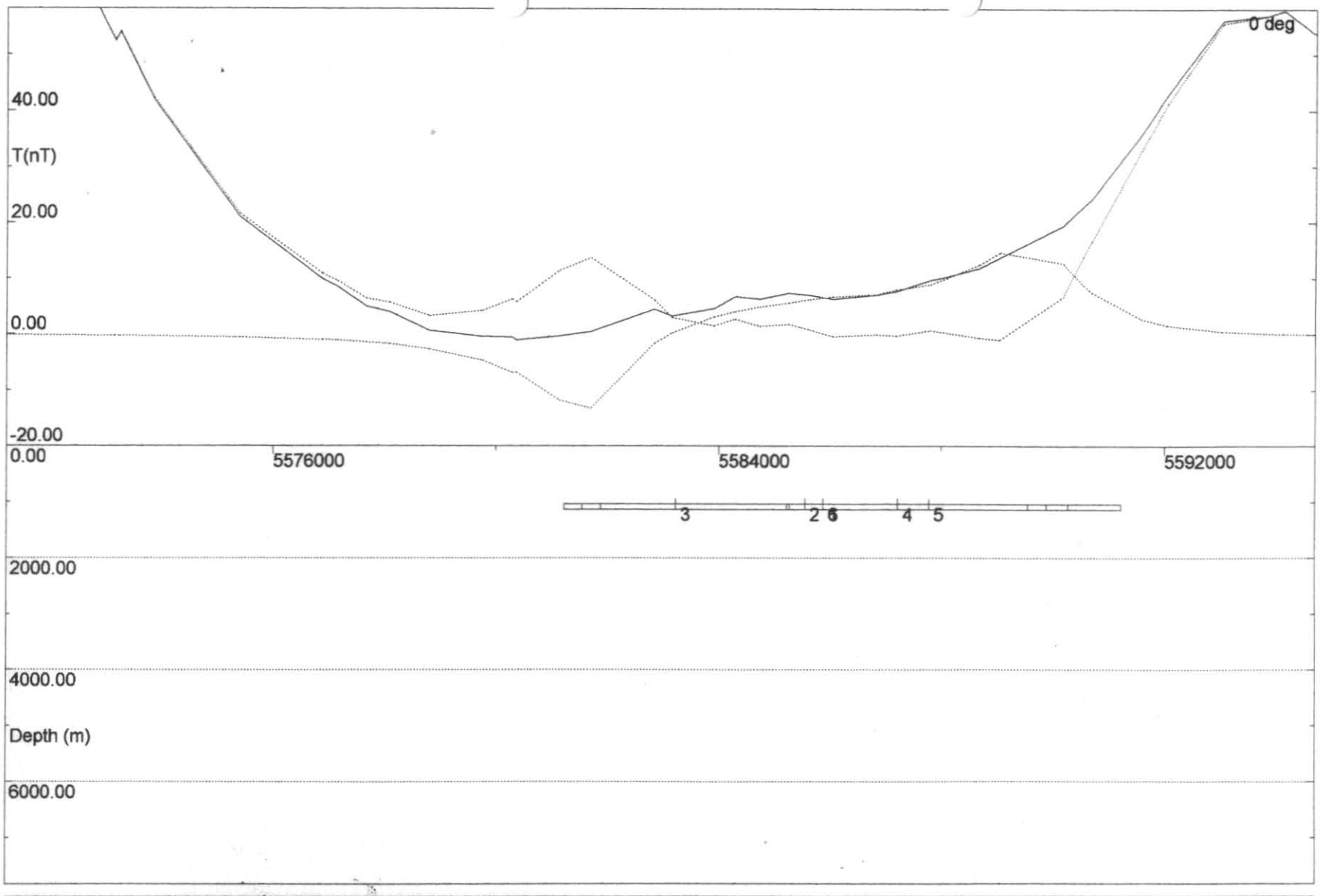
Observations: 402186.25 5608963.64 61266.312 61276.668
Profile #4; 401000E
Model: FAULT STEP MODEL FS13101A.MOD
Calculation mode: Total Magnetic Intensity

Observed: ———— Calculated: .....
Residual: ..... Individual body: .....

5 cm

POTENT v3.04 Profile drawn at 10:33 13/10/1994 for Preview Resources Pty. Limited

503121



Observations: 402186.25 5608963.64 61266.312 61276.668
Profile #5; 403000E
Model: FAULT STEP MODEL FS13101A.MOD
Calculation mode: Total Magnetic Intensity

Observed: ——————— Calculated: .....
Residual: ..... Individual body: .....

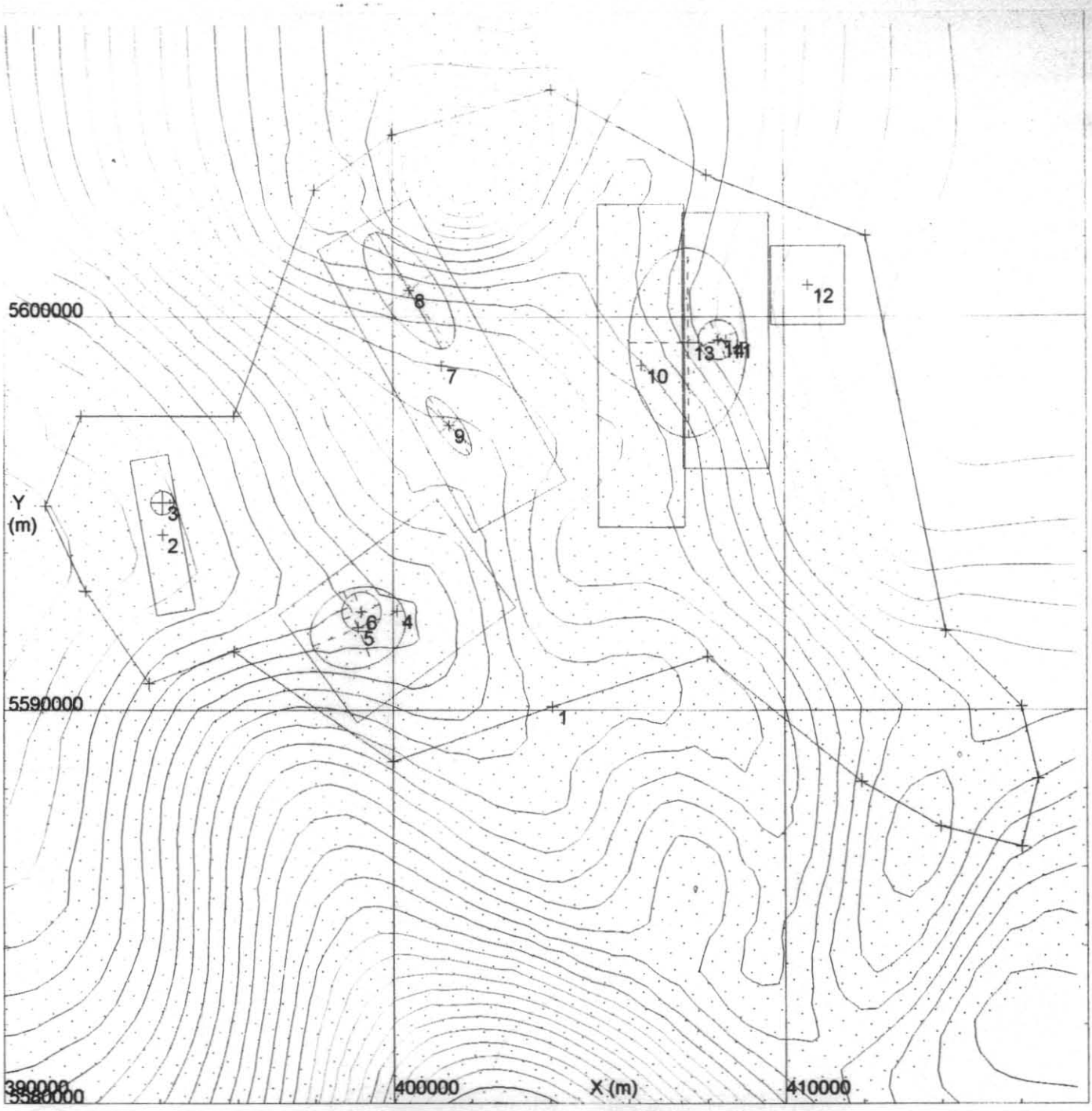
5 cm

POTENT v3.04 Profile drawn at 10:35 13/10/1994 for Preview Resources Pty. Limited

503122

POTENT v3.04 Model Summary Report created at 11:30 17/01/1995 for Preview Resources Pty. Limited

Inducing fi	Intensity =	61300										
	Azimuth =	13										
	Inclination	-71										
Body type abbreviations and the shape parameters have the following significance:												
Rect -		A = width, B = length, C = height										
Model title: FS13101A.MOD												
No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	A	B	C	D
		m	m	m	deg	deg	deg	SI				
1	Rect	410333	5595888	1031	0	90	0	0.035	3000	8000	100	
2	Rect	407222	5595555	1031	0	90	0	0.023	2500	8000	100	
3	Rect	405111	5593222	1031	0	90	0	0.032	1500	4000	100	
4	Rect	400666	5597222	1031	0	90	0	0.018	2500	4000	100	
5	Rect	405111	5597777	1031	0	90	0	0.02	1500	5000	100	
6	Rect	403000	5595888	1031	0	90	0	0.02	2500	8000	100	

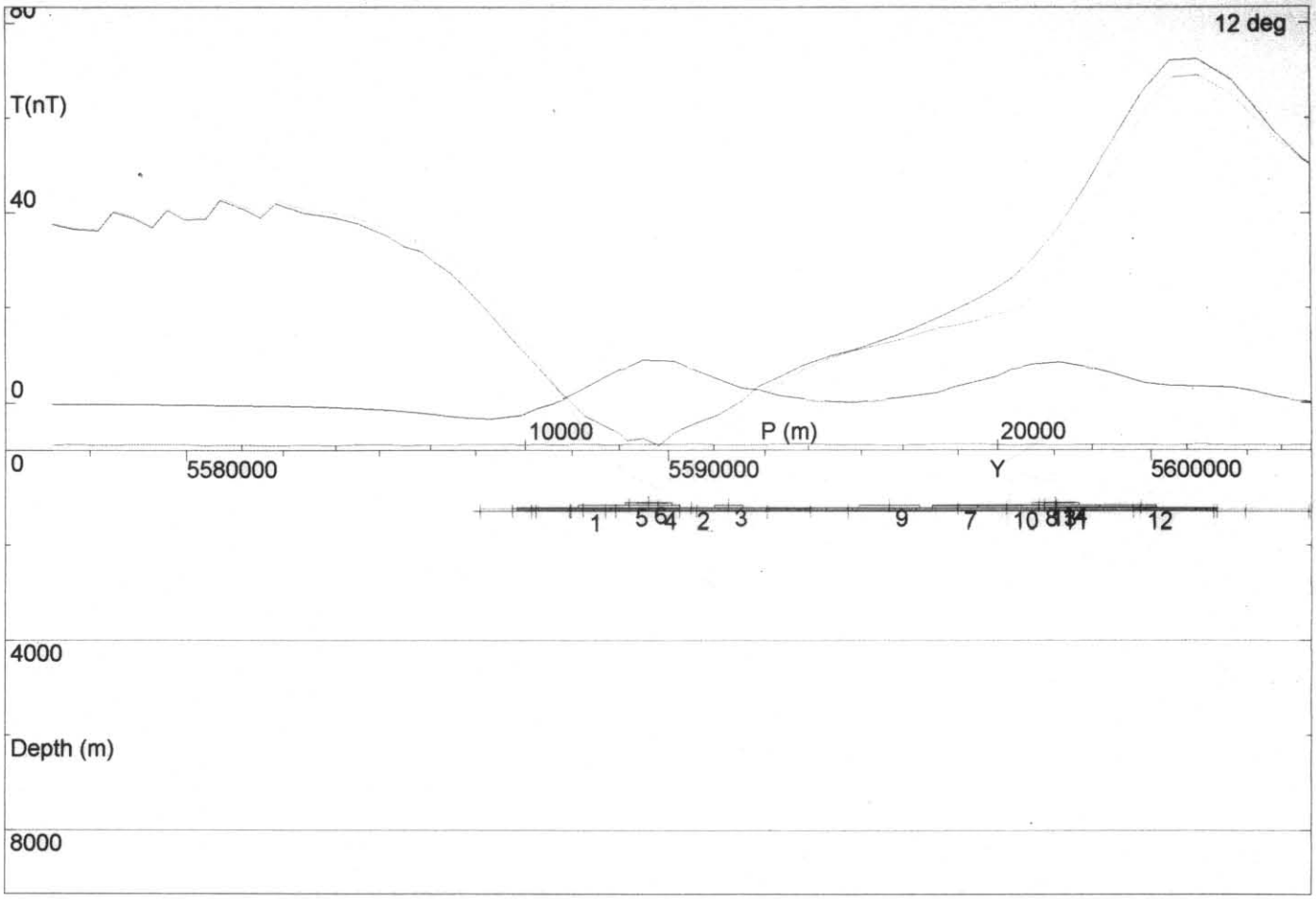


Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aamsesbm.mod Susceptibility model for Miocene volcanics
Contours of:	Observed field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 12:28 16/01/1995 for Preview Resources Pty. Limited

5 cm

Miocene Extrusives at 1350 metres - Susceptibility model. Nil fits.

503124



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Profile #1;	
Model:	aamsesbm.mod Susceptibility model for Miocene volcanics
Calculation mode:	Total Magnetic Intensity
Observed:	Calculated:
Residual:	Individual body:
POTENT v3.04	Profile drawn at 12:20 16/01/1995 for Preview Resources Pty. Limited

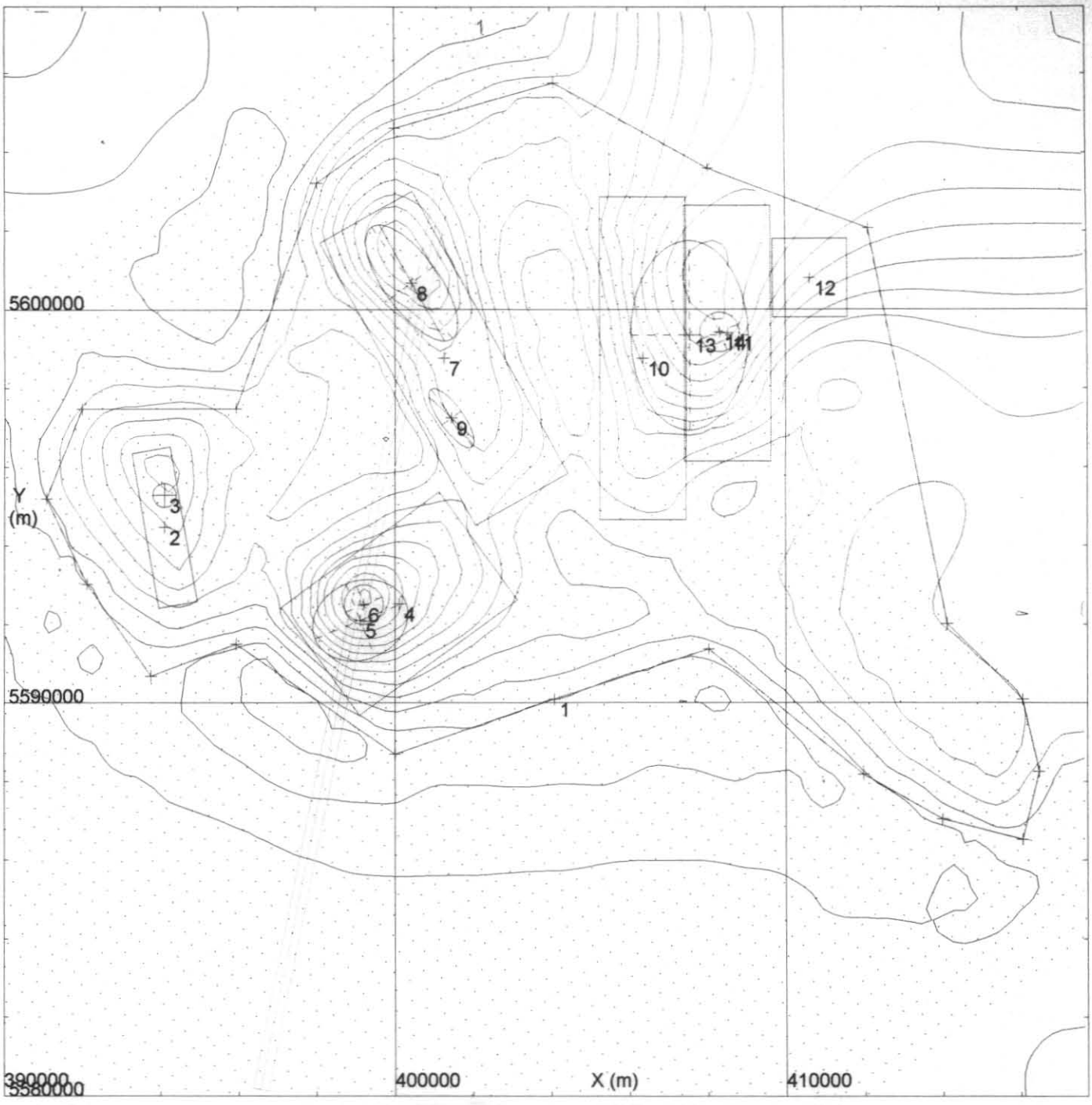
5 cm

503125

Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aamsesbm.mod Susceptibility model for Miocene volcanics
Contours of:	Calculated field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 11:46 16/01/1995 for Preview Resources Pty. Limited

5 cm

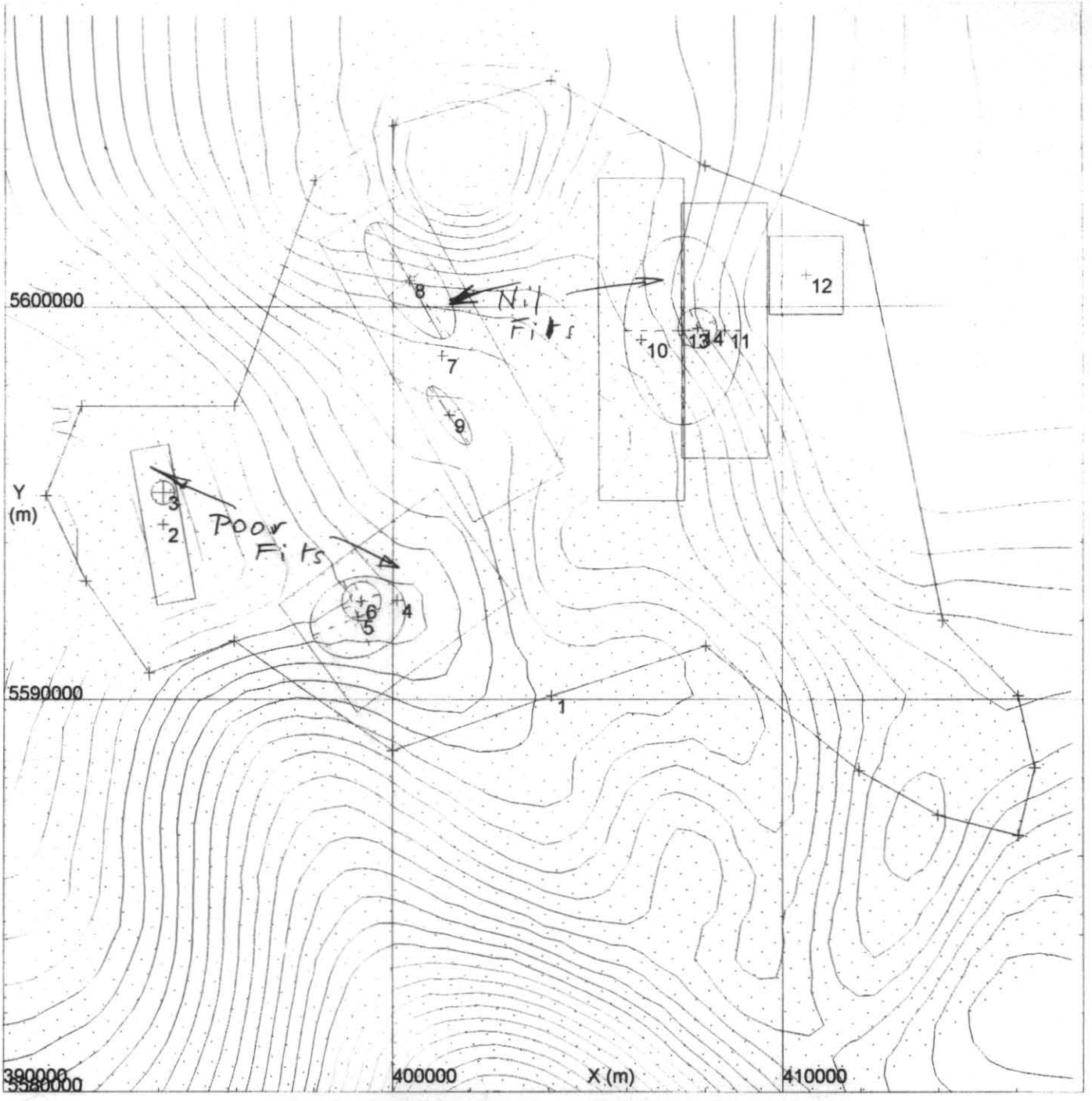
503126



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aamsesbm.mod Susceptibility model for Miocene volcanics
Contours of:	Calculated field; Contour intervals: 1.0000, 5.0000 nT
POTENT v3.04	Plan drawn at 10:56 16/01/1995 for Preview Resources Pty. Limited

5 cm

POTENT v3.04 Model Summary Report created at 12:22 16/01/1995 for Preview Resources Pty. Limited												
Inducing fi	Intensity =	61300										
	Azimuth =	13										
	Inclination	-71										
Body type abbreviations and the shape parameters have the following significance:												
Cylndr -		A, B are axes lengths; C = thickness; D = slope										
Rect -		A = width, B = length, C = height										
Poly3 -		(A,C) pairs represent vertex coordinates relative to vertex #1, B = length										
Model title: aamsesbm.mod Susceptibility model for Miocene volcanics												
No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	A	B	C	D
		m	m	m	deg	deg	deg	SI				
1	Poly3	404084.9	5590101	1250	0	90	-90	0.01	0	50	0	
2	Rect	394102.6	5594468	1200	-10	90	0	0.01	1000	4000	50	
3	Cylndr	394102.6	5595285	1150	0			0.01	600	600	50	90
4	Rect	400122	5592531	1200	54	90	0	0.01	3400	5000	50	
5	Cylndr	399125.1	5592106	1150	-22			0.01	2500	2000	50	90
6	Cylndr	399211.4	5592508	1100	-22			0.01	1000	1000	50	90
7	Rect	401267.9	5598769	1200	151	90	0	0.01	2700	8200	50	
8	Cylndr	400450.3	5600679	1150	144			0.01	1400	3500	50	90
9	Cylndr	401456.1	5597248	1150	144			0.01	600	1800	50	90
10	Rect	406360.7	5598769	1200	-180	90	0	0.01	2200	8200	50	
11	Rect	408525.2	5599406	1200	-180	90	0	0.01	2200	6500	50	
12	Rect	410626	5600806	1200	-180	90	0	0.01	1900	2000	50	
13	Cylndr	407554.1	5599348	1150	-180			0.01	3000	4800	50	90
14	Cylndr	408324	5599429	1100	-22			0.01	1000	1000	50	90



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aaksesbm.mod Remanent model of Miocene volcanics
Contours of:	Observed field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 15:13 16/01/1995 for Preview Resources Pty. Limited

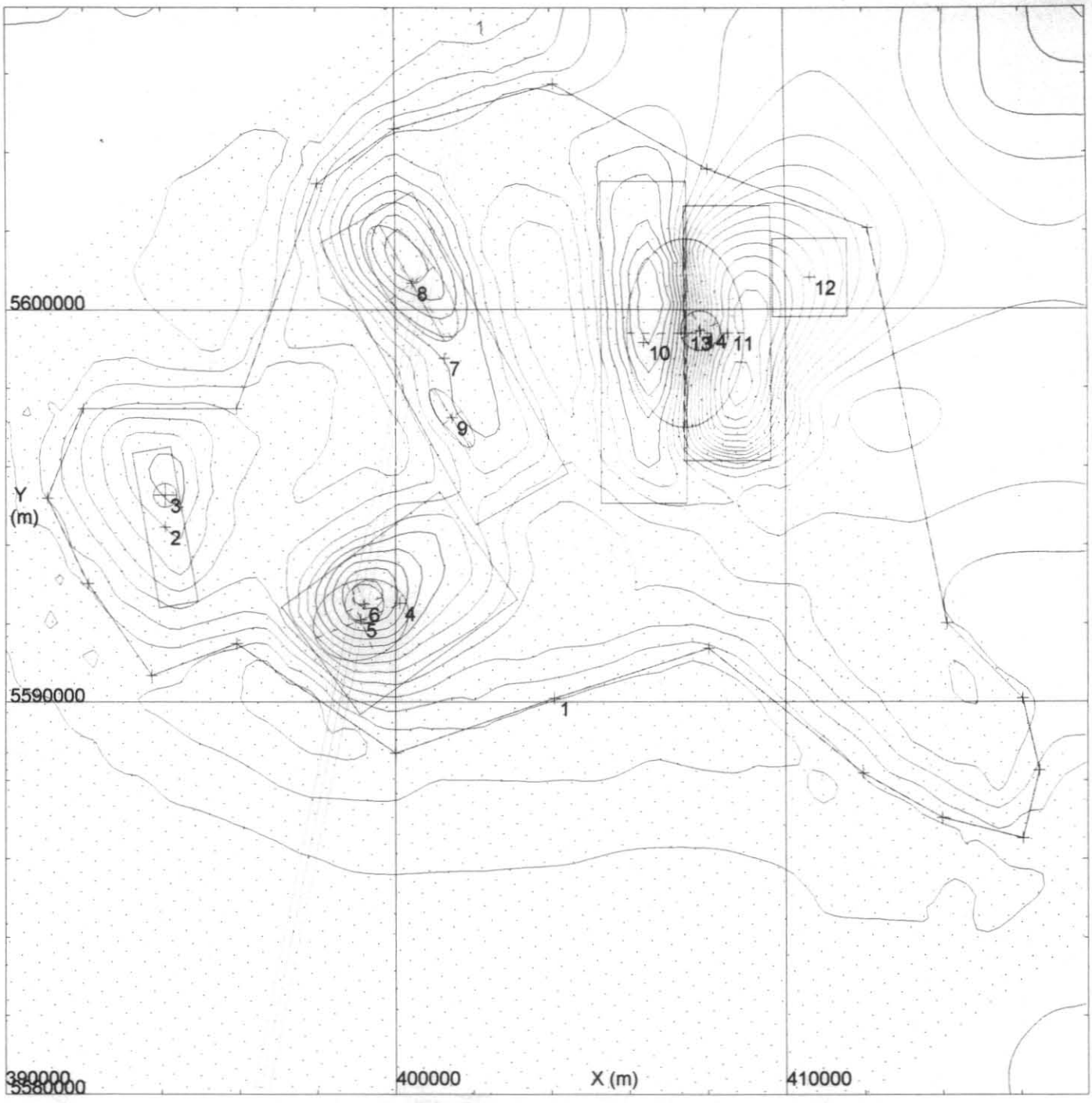
5 cm

Miocene Extrusives at 1350 metres - Remanence model. Poor fit to negative anomaly only.

503129

Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aaksesbm.mod Remanent model of Miocene volcanics
Contours of:	Calculated field; Contour intervals: 5.0000, 25.0000 nT
POTENT v3.04	Plan drawn at 15:49 16/01/1995 for Preview Resources Pty. Limited

5 cm



Observations:	130010 441540 402186.25 5608963.64 126.60 124.99 61221.387 61276.668
Model:	aaksesbm.mod Remanent model of Miocene volcanics
Contours of:	Calculated field; Contour intervals: 1.0000, 5.0000 nT
POTENT v3.04	Plan drawn at 15:46 16/01/1995 for Preview Resources Pty. Limited

5 cm

503131

POTENT v3.04 Model Summary Report created at 15:52 16/01/1995 for Preview Resources Pty. Limited

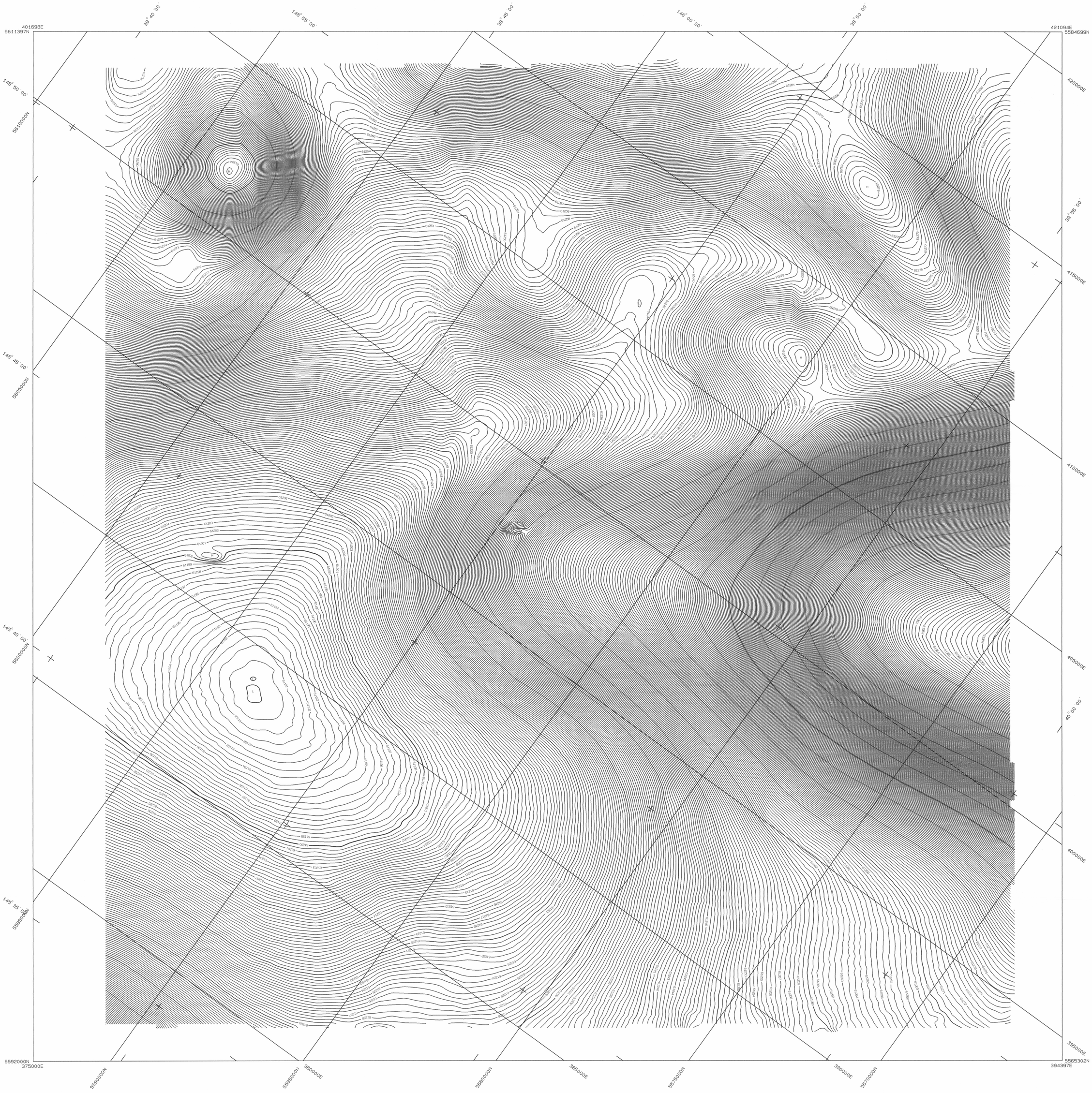
Inducing fi	Intensity =	61300
	Azimuth =	13
	Inclination	-71

Body type abbreviations and the shape parameters have the following significance:

Cylndr -	A, B are axes lengths; C = thickness; D = slope
Rect -	A = width, B = length, C = height
Poly3 -	(A,C) pairs represent vertex coordinates relative to vertex #1, B = length

Model title: aaksesbm.mod Remanent model of Miocene volcanics

No.	Type	X	Y	Depth	Strike	Dip	Plunge	Susc.	Rem f	Rem az	Rem inc	A	B	C	D	
		m	m	m	deg	deg	deg	SI	Amp/m	deg	deg					
1	Poly3	404084.9	5590101	1250	0	90	-90	0	0.5	13	109	0	50	0		
2	Rect	394102	5594467	1200	-10	90	0	0	0.5	13	109	1000	4000	50		Poor Fits
3	Cylndr	394102	5595285	1150	0			0	0.5	13	109	600	600	50	90	
4	Rect	400122	5592531	1200	54	90	0	0	0.5	13	109	3400	5000	50		Poor Fits
5	Cylndr	399125.1	5592106	1150	-22			0	0.5	13	109	2500	2000	50	90	
6	Cylndr	399211.4	5592507	1100	-22			0	0.5	13	109	1000	1000	50	90	
7	Rect	401267.9	5598769	1200	151	90	0	0	0.5	13	109	2700	8200	50		Nil Fits
8	Cylndr	400450.3	5600679	1150	144			0	0.5	13	109	1400	3500	50	90	
9	Cylndr	401456.1	5597247	1150	144			0	0.5	13	109	600	1800	50	90	
10	Rect	406386.7	5599177	1200	-180	90	0	0	0.5	13	109	2200	8200	50		
11	Rect	408525.2	5599406	1200	-180	90	0	0.05	0.5	13	109	2200	6500	50		
12	Rect	410626	5600806	1200	-180	90	0	0	0.5	13	109	1900	2000	50		
13	Cylndr	407443	5599406	1150	-180			0	0.5	13	109	3000	4800	50	90	
14	Cylndr	407824.9	5599470	1100	-22			0	0.5	13	109	1000	1000	50	90	



ACQUISITION BY:

TESLA AIRBORNE GEOSCIENCE

DIURNAL BASE STATION

Magnetometers		G856-AX
Recording Intervals		6 secs
Locations	No.1	E 145deg 41min S 041deg 01min
	No.2	E 145deg 38min S 041deg 05min (AMG)

GPS BASE STATION

Model	Novatel 10 channel
Location	S 40deg 56.825365min E 145deg 39.768566min
Height	105.978m (WGS 84)

AIRBORNE SURVEY EQUIPMENT

Aircraft	Cessna 210N VH-JBH
Magnetometer	Scintrex Cesium Vapour Model CS2
Sensitivity	Resolution 0.001 nT
Recording Interval	0.10 seconds (7 metres)
Compensation	AMS Automatic Aeromagnetic Digital Compensator operating in real time
System Bandwidth	0-2 Hz

AIRBORNE SURVEY SPECIFICATIONS

Flight Line Direction	054-234 deg
Flight Line Separation	400 metres
Tie Line Direction	144-324 deg
Tie line Separation	2000 metres
Terrain Clearance	120 metres (AMSL)
Navigation	Novatel running real time GPS Differentially Post Processed
Survey Flown	June 1994
Compensated Noise Envelope	less than 0.05nT point to point. less than 25% variation between each of 054-234 and 144-324 flying directions.

PROCESSING DETAILS

Locations have been corrected for system parallax of -14m.
Diurnal corrections applied to base station 1; 5 pt median and 0.05 hi-cut cosine roll-off filters applied

IGRF model 1990 removed - base value 61300.0nT, at centre of map.
Declination 12.7deg, inclination -70.6deg
Altitude compensation using post processed GPS height.

Heading corrections applied of 1.5nT on traverses and 0.5nT on tie-lines.

Level adjustments applied to the data using an enhancement tie-line levelling technique employing a 2500m wavelength, 75m filter and 5nT adjustment limit per iteration.

Microlevelling applied to tie-line levelled data using a 9th order regional polynomial, a 2500m wavelength and 75m filter.

Pseudo tie-line levelling applied to microlevelled data with a maximum difference allowable of 0.5nT.

Data has been filtered using a 0.15 hi-cut cosine roll-off filter before being gridded.

FIELD OPERATIONS

Base	Burnie Airport, Tas.
Field Crew	John Russell, Pilot Tom Atkinson, Pilot/Ops Rod Pullin, Ops. Manager

PROCESSING PERSONNEL

Ed Reeves
Michael Lees

LEGEND

Grid mesh size 135m x 135m

Contour interval 0.5 nanotesla

1000 nT
100 nT
10 nT
0.5 nT

SURVEY SUPERVISION

Doug Roberts - SAGASCO RESOURCES LTD
David Tucker - PREVIEW RESOURCES PTY LTD

5 cm

0 1 2 3 4 5km

Scale 1:50000

AUSTRALIAN MAP GRID ZONE 55

PROCESSING BY:

TESLA-10

JOB No. TA2127

SAGASCO Resources Ltd.

T/RL1 AEROMAGNETIC SURVEY

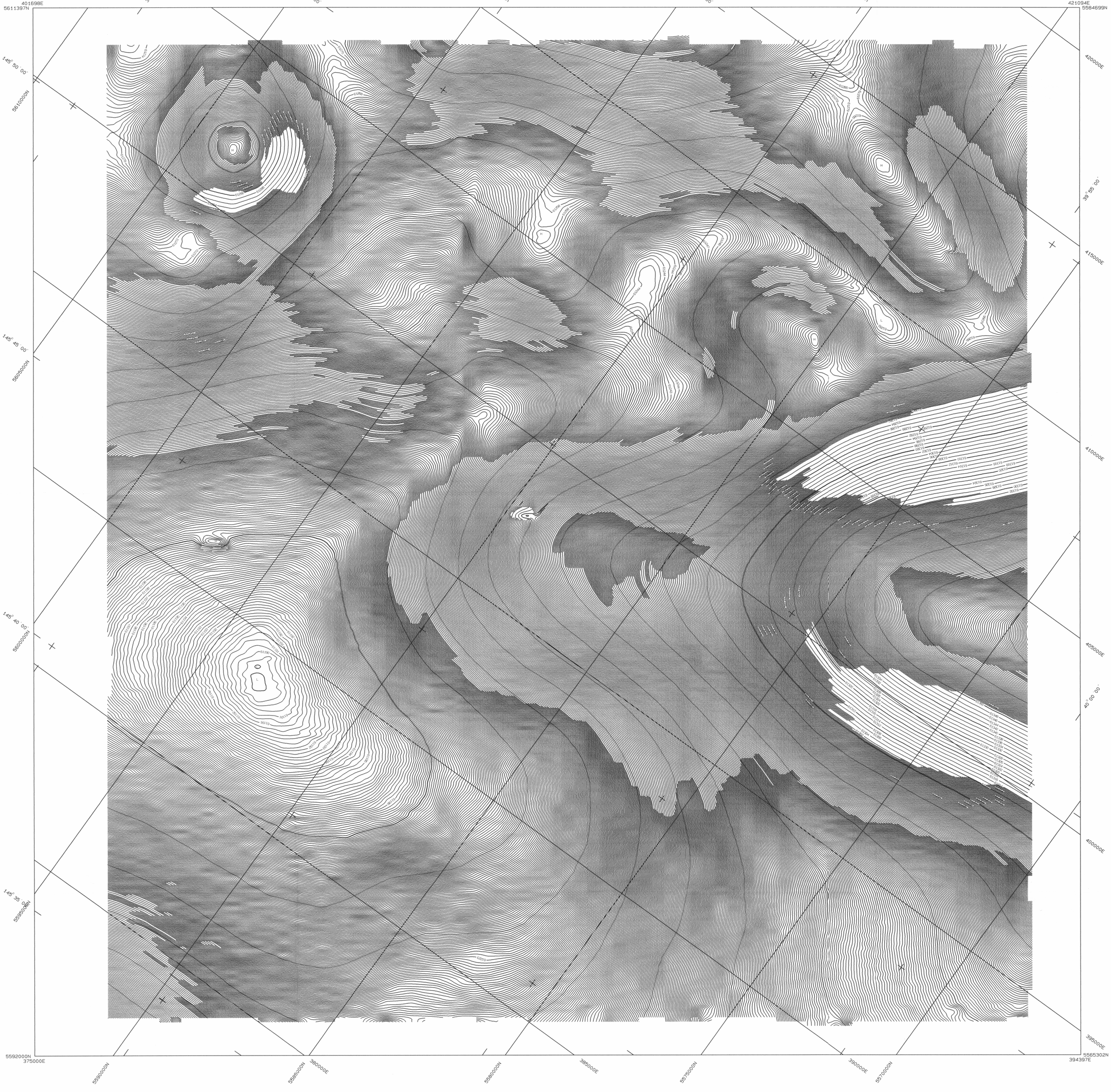
CONTOURS OF TOTAL MAGNETIC INTENSITY

503132

OR-0404

Drawn TESLA-10	Scale 1:50000
DATE: AUGUST 1994	Drawing No.: 10870

Encl. 1



ACQUISITION BY:

TESLA AIRBORNE GEOSCIENCE

DIURNAL BASE STATION

Magnetometers		GB56-AX
Recording Intervals		6 secs
Locations	No.1	E 145deg 41min S 041deg 01min
	No.2	E 145deg 38min S 041deg 05min (AMG)

GPS BASE STATION

Model	Novatel 10 channel
Location	S 40deg 56.825365min E 145deg 39.768566min
Height	105.978m (WGS 84)

AIRBORNE SURVEY EQUIPMENT

Aircraft	Cessna 210N VH-JBH
Magnetometer	Scintrex Cesium Vapour Model CS2
Sensitivity	Resolution 0.001 nT
Recording Interval	0.10 seconds (7 metres)
Compensation	AMS Automatic Aeromagnetic Digital Compensator operating in real time
System Bandwidth	0-2 Hz

AIRBORNE SURVEY SPECIFICATIONS

Flight Line Direction	054-234 deg
Flight Line Separation	400 metres
Tie Line Direction	144-324 deg
Tie line Separation	2000 metres
Terrain Clearance	120 metres (AMSL)
Navigation	Novatel running real time GPS Differentially Post Processed
Survey Flown	June 1994
Compensated Noise Envelope	less than 0.05nT point to point. less than 25% variation between each of 054-234 and 144-324 flying directions.

PROCESSING DETAILS

Locations have been corrected for system parallax of -14m.
Diurnal corrections applied to base station 1; 5 pt median and 0.05 hi-cut cosine roll-off filters applied

IGRF model 1990 removed - base value 61300.0nT, at centre of map.
Declination 12.7deg, inclination -70.6deg
Altitude compensation using post processed GPS height.

Heading corrections applied of 1.5nT on traverses and 0.5nT on tie-lines.

Level adjustments applied to the data using an enhancement tie-line levelling technique employing a 2500m wavelength, 75m filter and 5nT adjustment limit per iteration.

Microlevelling applied to tie-line levelled data using a 9th order regional polynomial, a 2500m wavelength and 75m filter.

Pseudo tie-line levelling applied to microlevelled data with a maximum difference allowable of 0.5nT.

Data has been filtered using a 0.15 hi-cut cosine roll-off filter before being gridded.

FIELD OPERATIONS

Base	Burnie Airport, Tas.
Field Crew	John Russell, Pilot Tom Atkinson, Pilot/Ops Rod Pullin, Ops. Manager

PROCESSING PERSONNEL

Ed Reeves
Michael Lees

LEGEND

Grid mesh size 135m x 135m

Contour interval 0.2 nanotesla

1000 nT
100 nT
10 nT
0.2 nT

SURVEY SUPERVISION

Doug Roberts - SAGASCO RESOURCES LTD
David Tucker - PREVIEW RESOURCES PTY LTD

5 cm

0 1 2 3 4 5km

Scale 1:50000

AUSTRALIAN MAP GRID ZONE 55

PROCESSING BY:

TESLA-10

JOB No. TA2127

SAGASCO Resources Ltd.

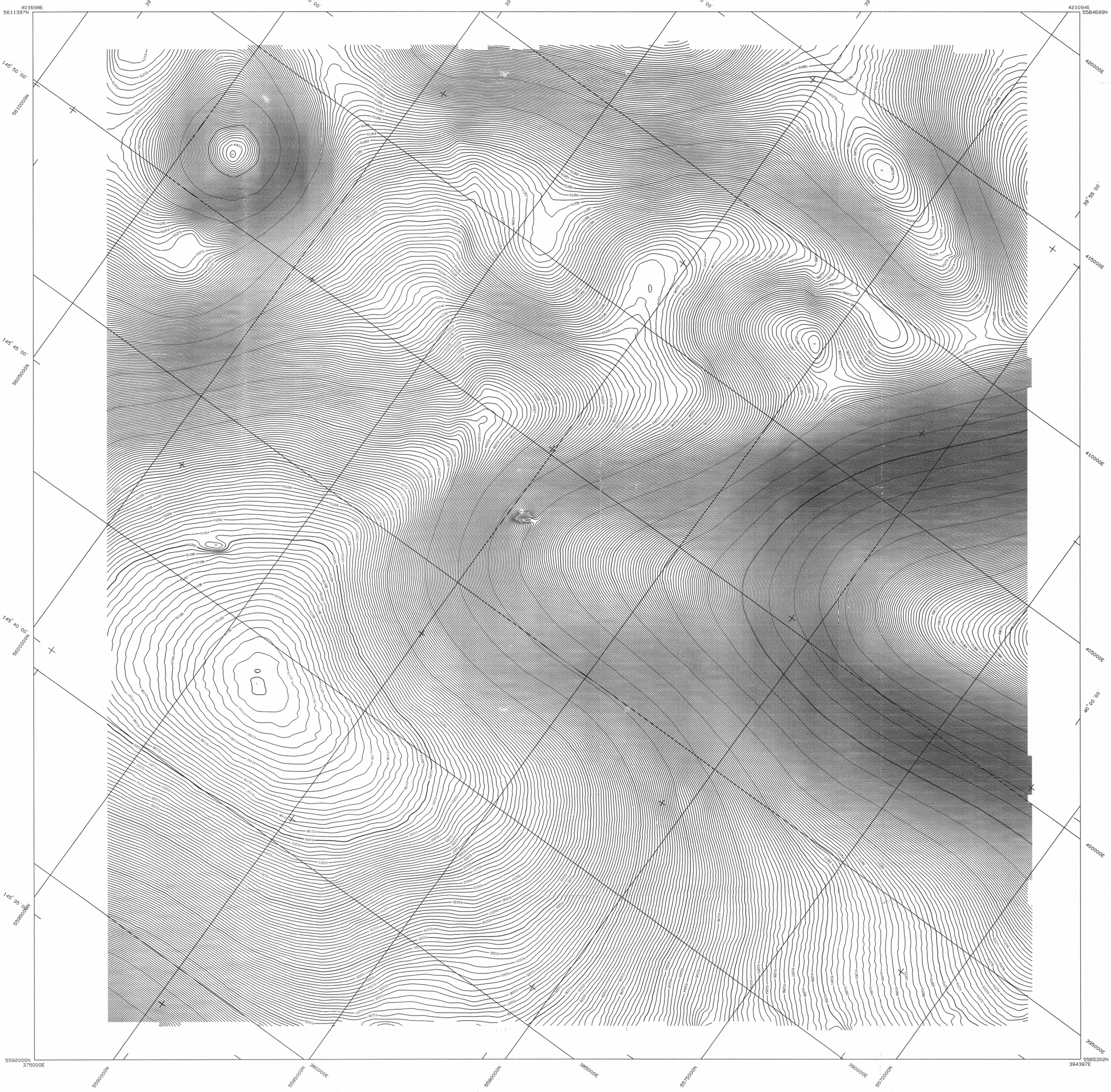
T/RL1 AEROMAGNETIC SURVEY

CONTOURS OF TOTAL MAGNETIC INTENSITY

503133

OR-0404

Drawn TESLA-10	Scale 1:50000
DATE: AUGUST 1994	Drawing No.: 10873 Encl. 2



ACQUISITION BY:

TESLA AIRBORNE GEOSCIENCE

DIURNAL BASE STATION

Magnetometers		GB56-AX
Recording Intervals		6 secs
Locations	No.1	E 145deg 41min S 041deg 01min
	No.2	E 145deg 38min S 041deg 05min (AMG)

GPS BASE STATION

Model	Novatel 10 channel
Location	S 40deg 56.825365min E 145deg 39.768566min
Height	105.978m (WGS 84)

AIRBORNE SURVEY EQUIPMENT

Aircraft	Cessna 210N VH-JBH
Magnetometer	Scintrex Cesium Vapour Model CS2
Sensitivity	Resolution 0.001 nT
Recording Interval	0.10 seconds (7 metres)
Compensation	RMS Automatic Aeromagnetic Digital Compensator operating in real time
System Bandwidth	0-2 Hz

AIRBORNE SURVEY SPECIFICATIONS

Flight Line Direction	054-234 deg
Flight Line Separation	400 metres
Tie Line Direction	144-324 deg
Tie line Separation	2000 metres
Terrain Clearance	120 metres (AMSL)
Navigation	Novatel running real time GPS Differentially Post Processed
Survey Flown	June 1994
Compensated Noise Envelope	less than 0.05nT point to point. less than 25% variation between each of 054-234 and 144-324 flying directions.

PROCESSING DETAILS

Locations have been corrected for system parallax of -14m.
Diurnal corrections applied to base station 1; 5 pt median and 0.05 hi-cut cosine roll-off filters applied

IGRF model 1990 removed - base value 61300.0nT, at centre of map.
Declination 12.7deg, inclination -70.6deg
Altitude compensation using post processed GPS height.

Heading corrections applied of 1.5nT on traverses and 0.5nT on tie-lines.

Level adjustments applied to the data using an enhancement tie-line levelling technique employing a 2500m wavelength, 75m filter and 5nT adjustment limit per iteration.

Microlevelling applied to tie-line levelled data using a 9th order regional polynomial, a 2500m wavelength and 75m filter.

Pseudo tie-line levelling applied to microlevelled data with a maximum difference allowable of 0.5nT.

Data has been filtered using a 0.15 hi-cut cosine roll-off filter before being gridded.

FIELD OPERATIONS

Base	Burnie Airport, Tas.
Field Crew	John Russell, Pilot Tom Atkinson, Pilot/Ops Rod Pullin, Ops. Manager

PROCESSING PERSONNEL

Ed Reeves
Michael Lees

LEGEND

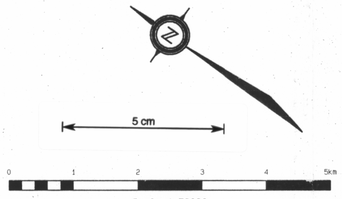
Grid mesh size 135m x 135m

Contour interval 0.5 nanotesla

1000 nT
100 nT
10 nT
0.5 nT

SURVEY SUPERVISION

Doug Roberts - SAGASCO RESOURCES LTD
David Tucker - PREVIEW RESOURCES PTY LTD



AUSTRALIAN MAP GRID ZONE 55

PROCESSING BY:

TESLA-10

JOB No. TA2127

SAGASCO Resources Ltd.

T/RL1 AEROMAGNETIC SURVEY

CONTOURS OF TOTAL MAGNETIC INTENSITY

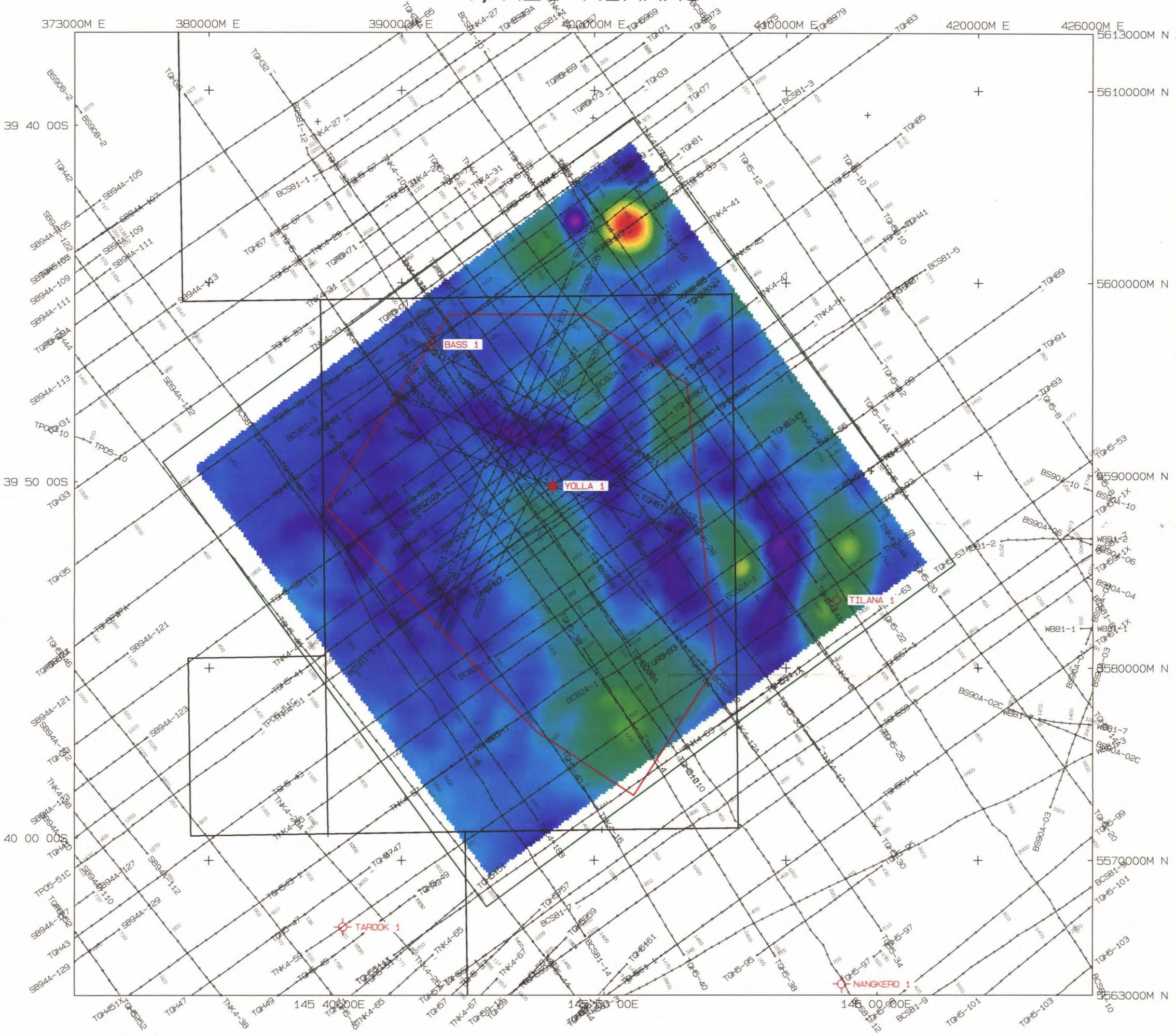
503134

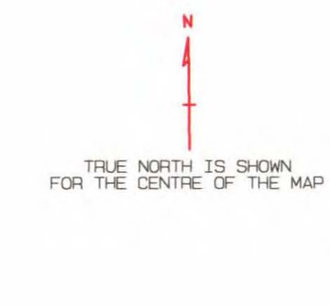
OR-0404

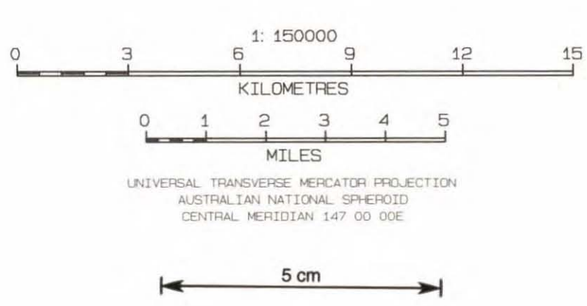
Drawn TESLA-10	Scale 1:50000
DATE: AUGUST 1994	Drawing No.: 10870

Encl. 3

T/RL1 AIRMAG







SAGASCO Resources Ltd

T/RL1 Aeromagnetic Survey
Depth Slice (1150m)

BASS BASIN TASMANIA

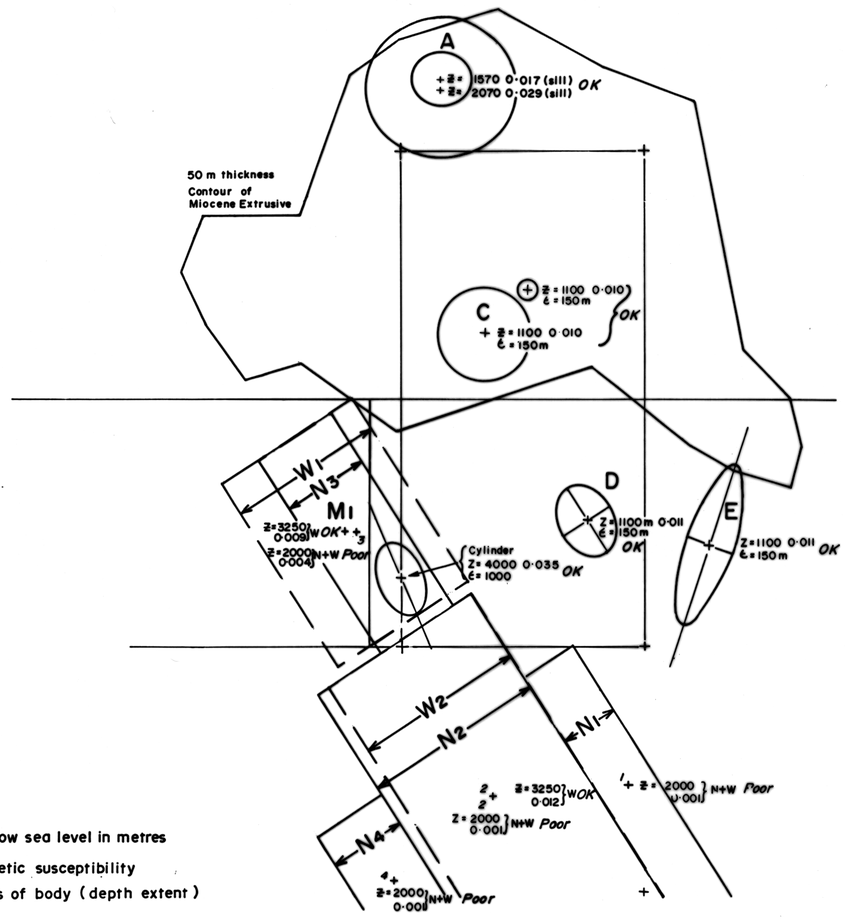
503135 OR-0404

Encl. 4

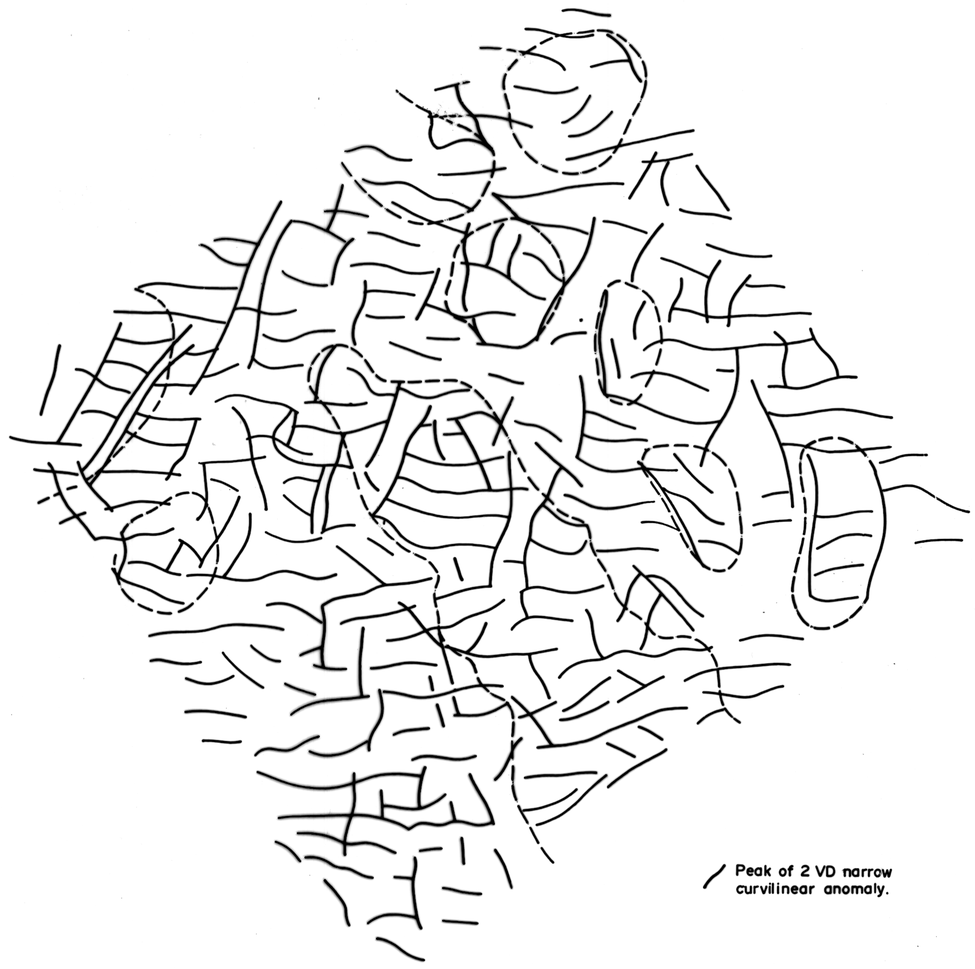
INTERPRETATION MONTAGE

TPR
OR-404

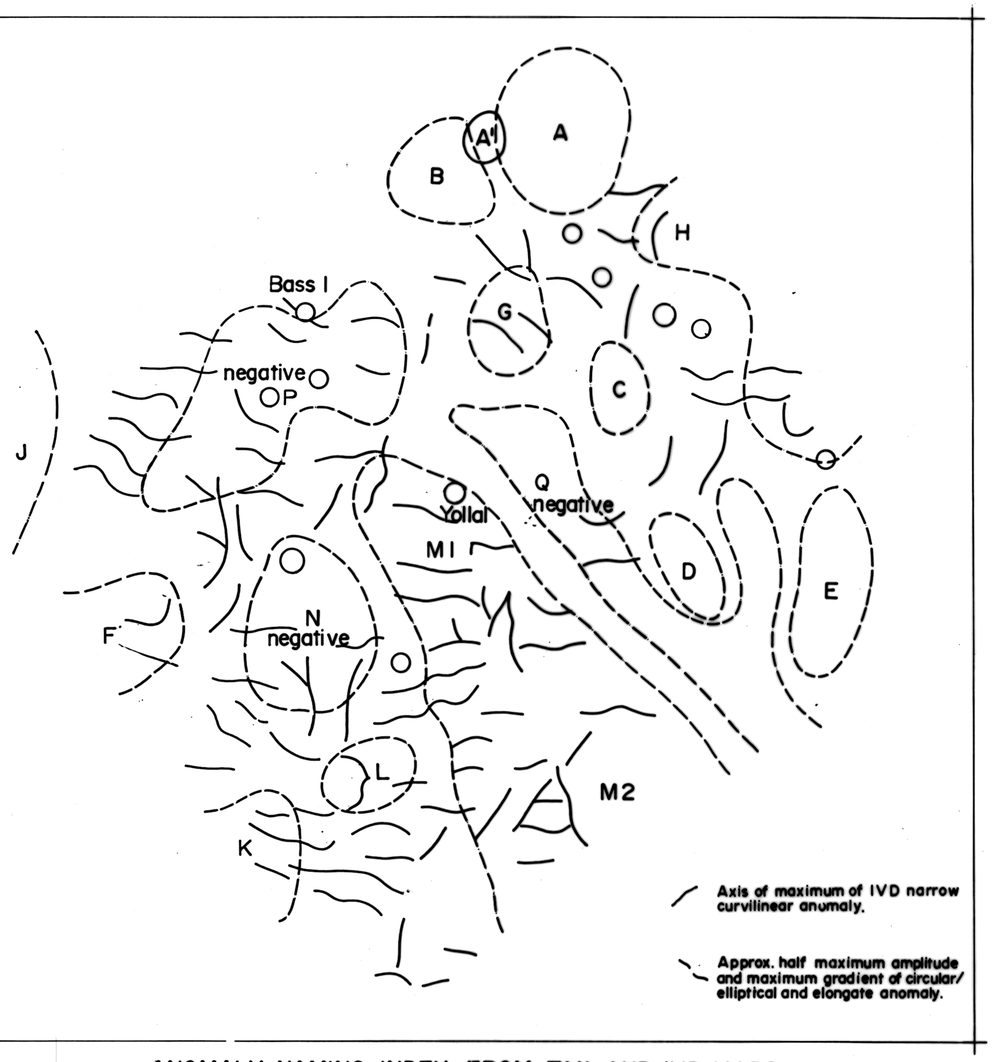
503136



DEPTH MODELS



STRUCTURAL SKELETON INTERPRETATION
FROM SECOND VERTICAL DERIVATIVE



ANOMALY NAMING INDEX FROM TMI AND IVD MAPS

STRUCTURAL SKELETON FROM ANALYTIC SIGNAL

5 cm

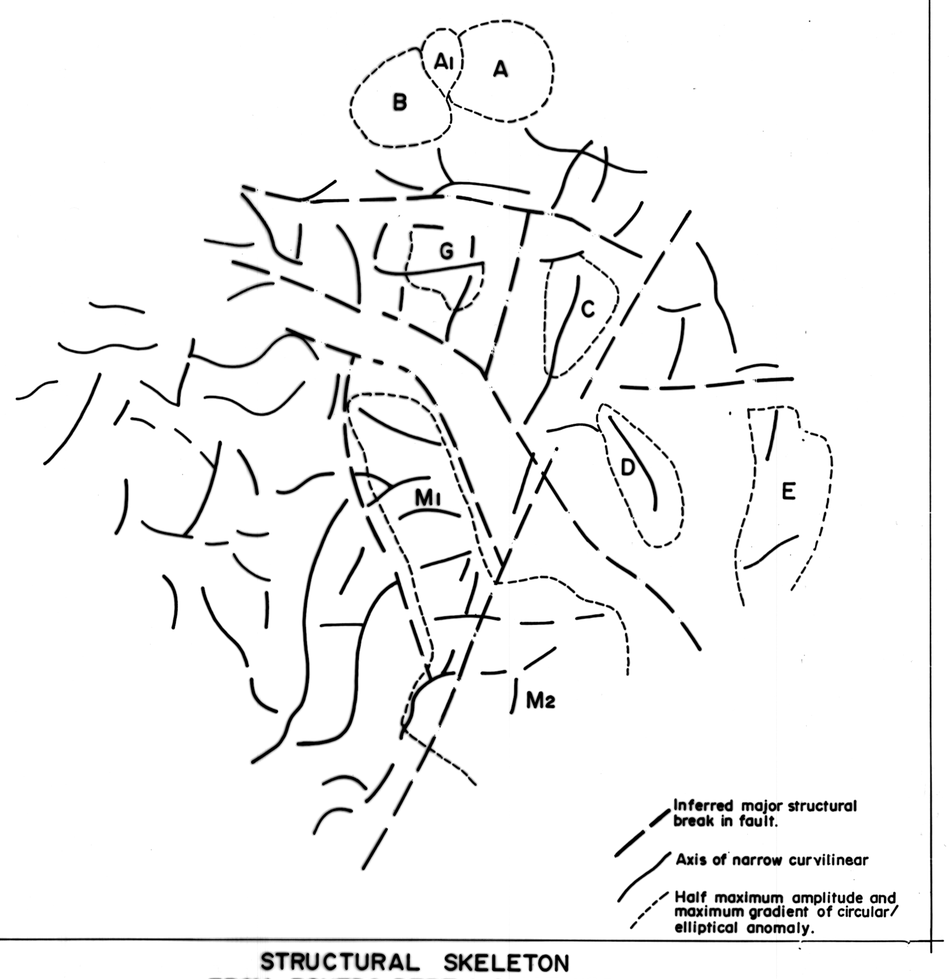
INTERPRETATION MONTAGE OF MODELS AND ANOMALIES

Enclosure 5

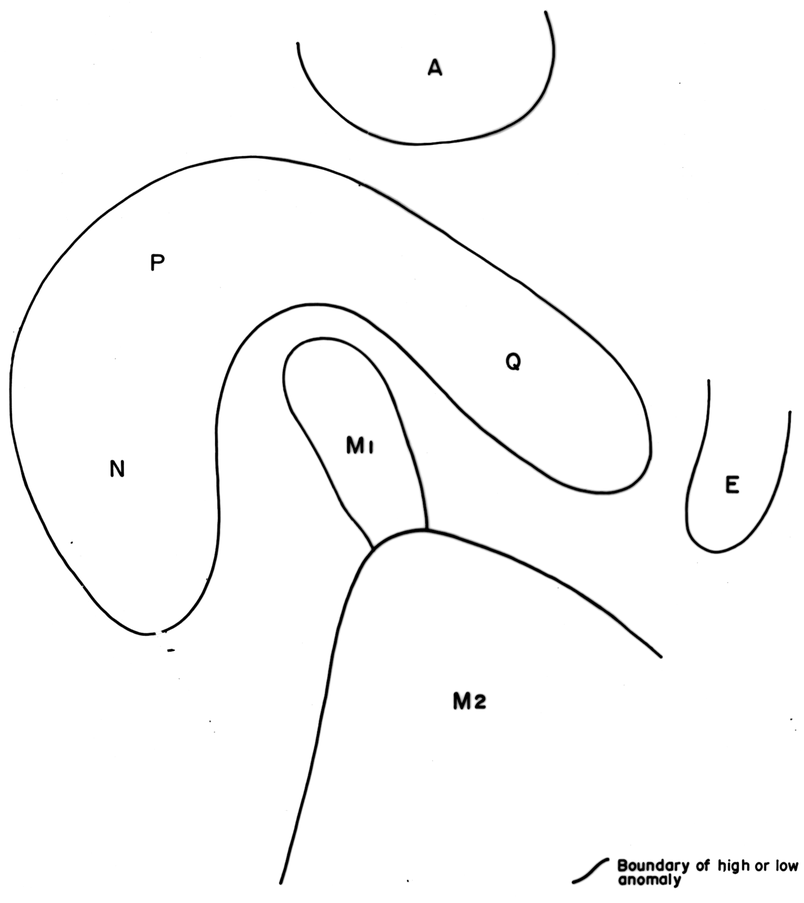
Structural Skeletons Montage

TPR OR-404

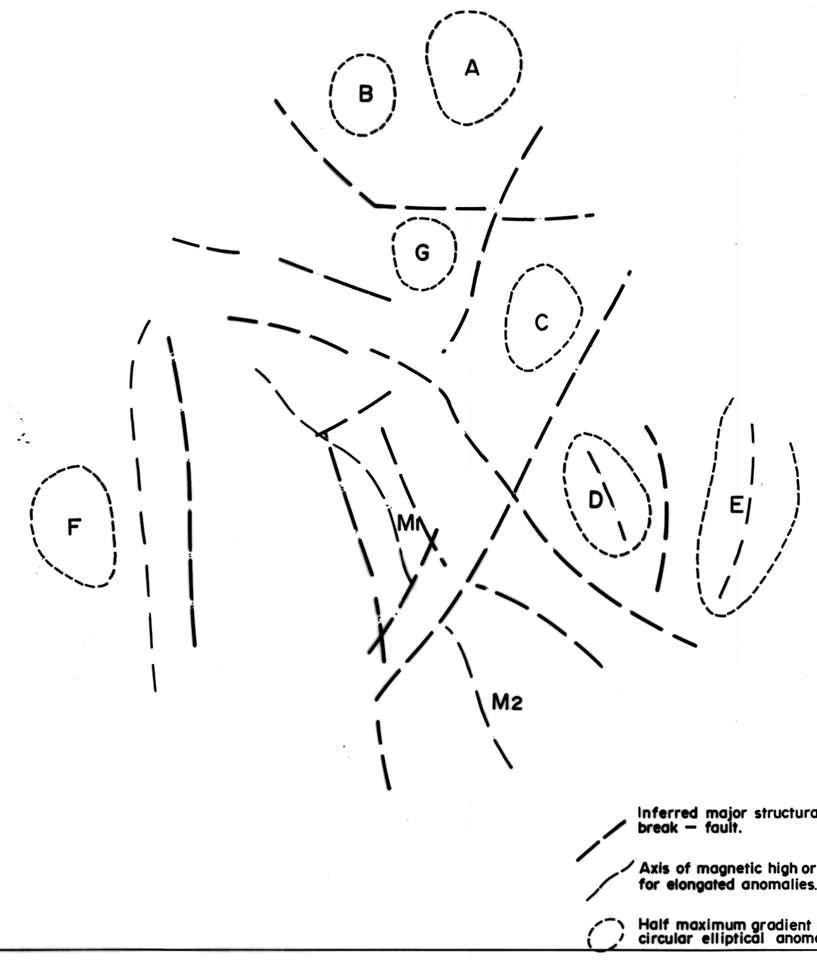
STRUCTURAL SKELETON INTERPRETATION
FROM PSUEDO DEPTH SLICE SHALLOW



STRUCTURAL SKELETON
FROM PSUEDO DEPTH SLICE 1150m



STRUCTURAL SKELETON
FROM PSUEDO DEPTH SLICE 4900m



STRUCTURAL SKELETON
FROM PSUEDO DEPTH SLICE 2400m

5 cm

STRUCTURAL SKELETONS MONTAGE FROM 4 PSUEDO DEPTH SLICES

Enclosure 6

MAGNETIC IMAGE

INTERPRETATION MONTAGE

TPR OR-404

TPR OR-404

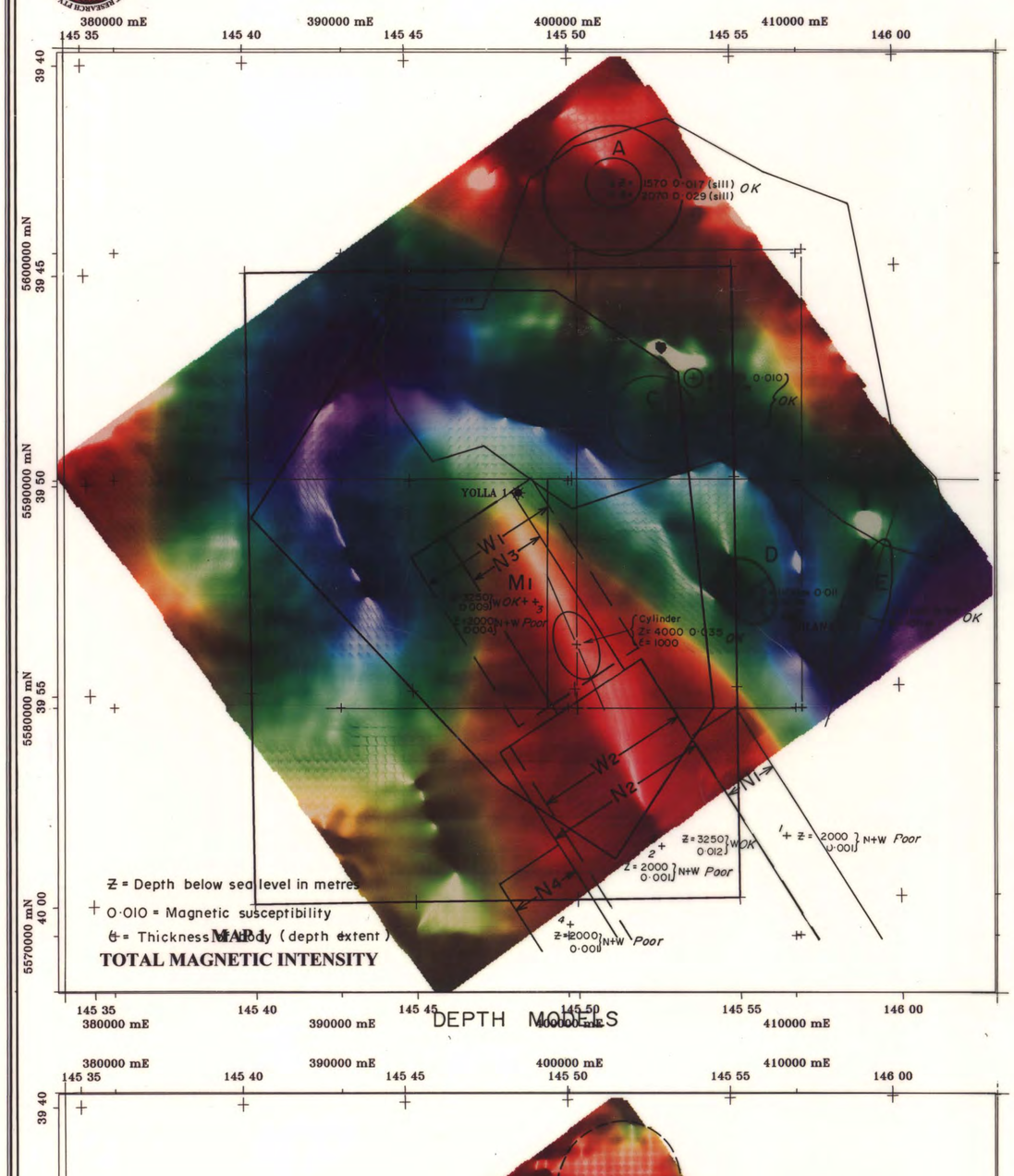
503138

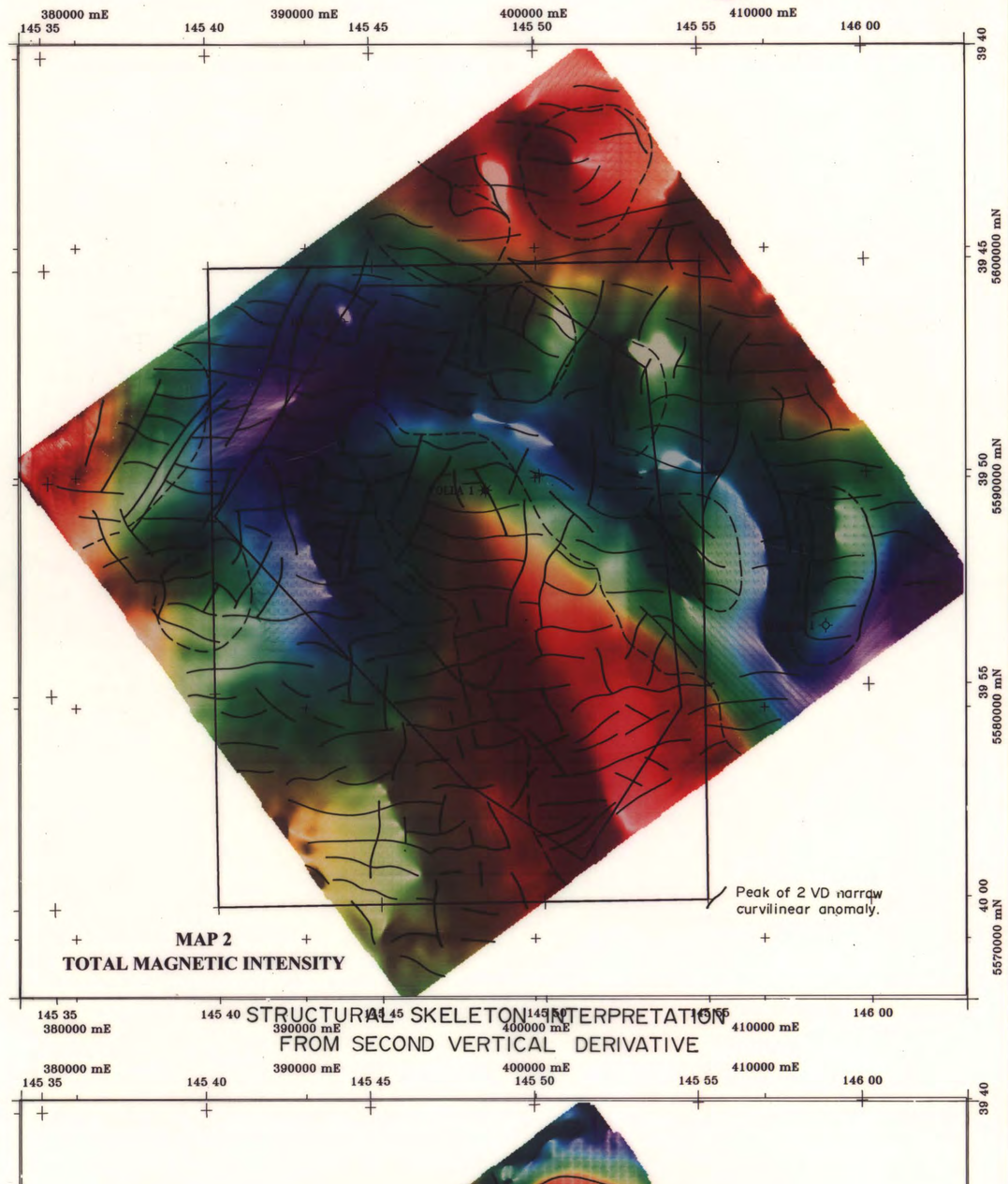
503136

AREA T/RL1 - Bass Strait

SAGASCO Resources Ltd.

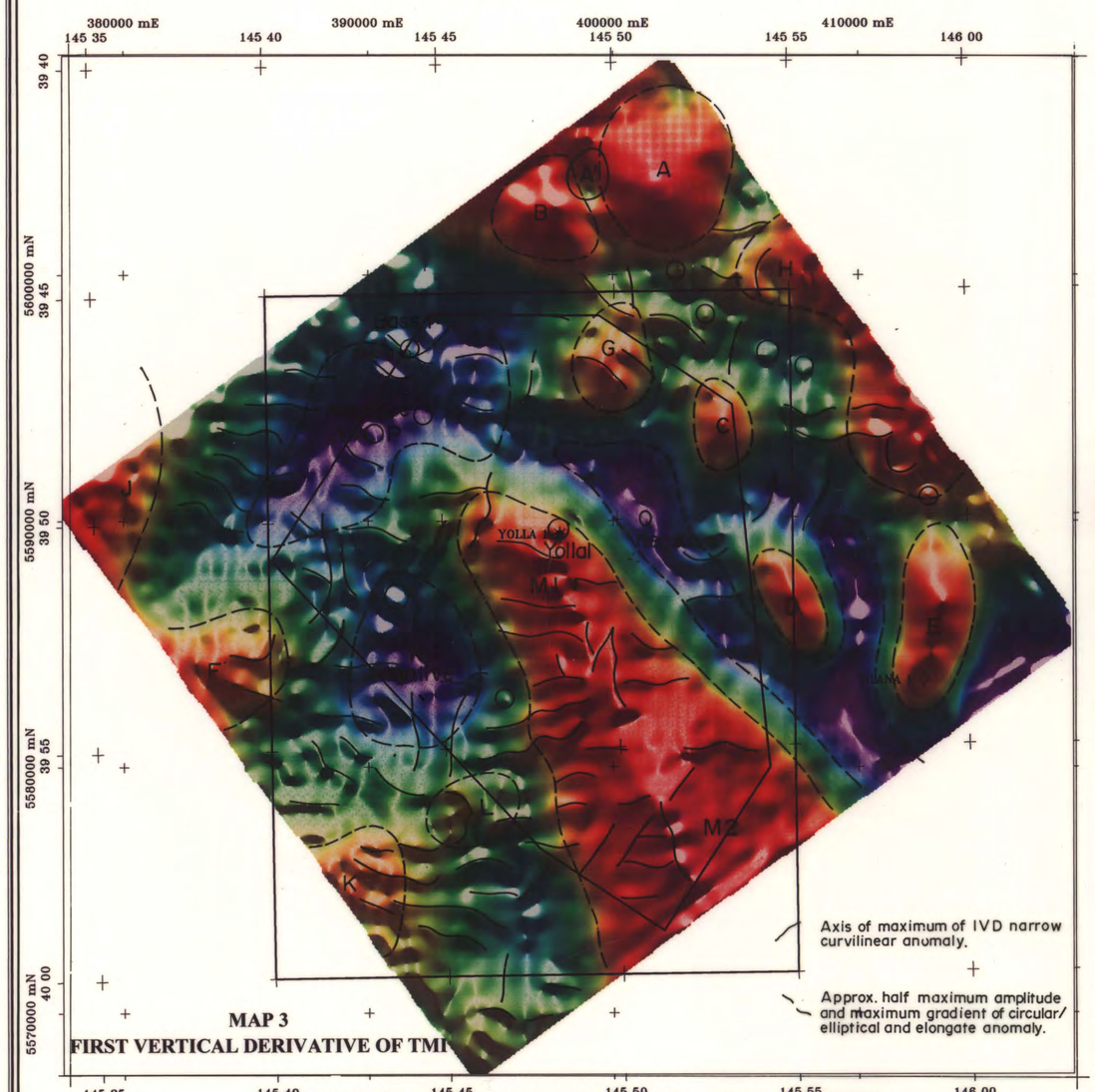
PITT RESEARCH PTY LTD

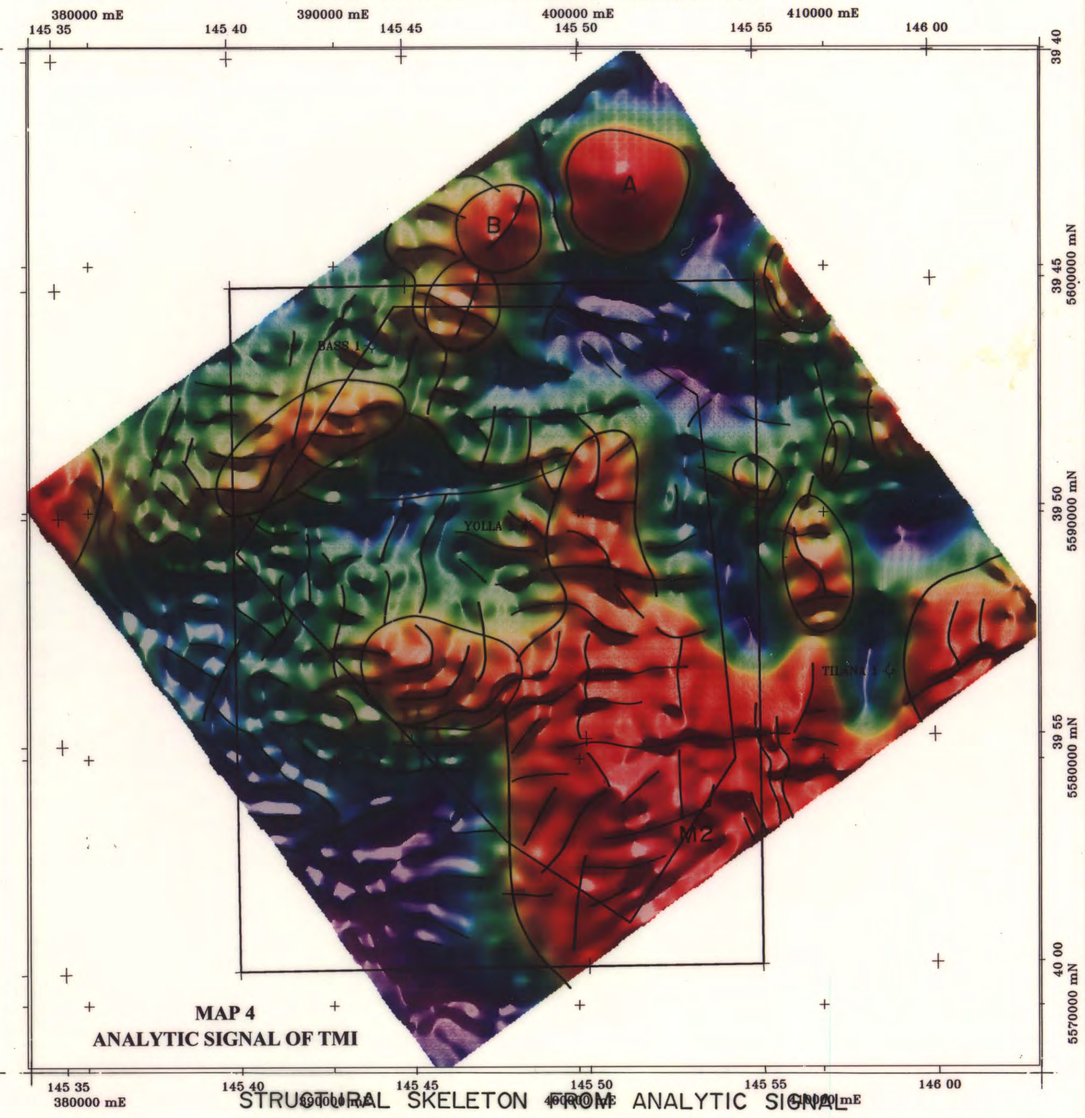




DEPTH MODELS

STRUCTURAL SKELETON INTERPRETATION FROM SECOND VERTICAL DERIVATIVE





ANOMALY NAMING INDEX FROM TMI AND IVD MAPS

STRUCTURAL SKELETON FROM ANALYTIC SIGNAL

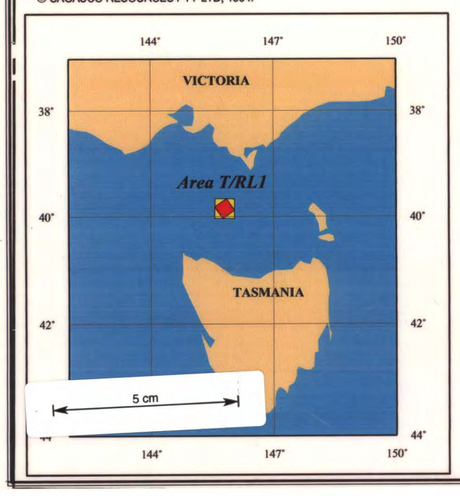
TECHNICAL SUPERVISION

Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1994. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. Total Magnetic Intensity (TMI) (in North direction), TMI (in East direction), First Vertical Derivative, and Analytic Signal Image map montage 1. Map 1, 3 and 4 with relief shading and highlights from true north, and map 2 from true east.

COPYRIGHT



True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.58°
Grid-magnetic angle	11.9°
True-magnetic angle	12.5°
Magnetic inclination	-70.6°

5 cm

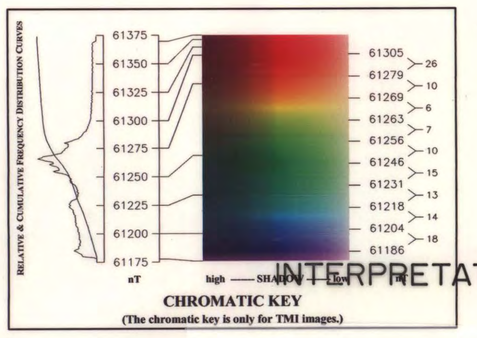
AEROMAGNETIC DATA

MAGNETIC IMAGE MONTAGE 1

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection
Central Meridian: 147° East, AMG Zone 55
Grid Cell Size: 50 metres
Graticules: 5 minutes and 10 kilometres



CHROMATIC KEY
(The chromatic key is only for TMI images.)

DATA ACQUISITION CONTRACTOR

Tesla - 10

41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatell running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JBH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTeslas SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NS,SN,EW,WE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: • System parallax of -14m • Diurnal field at base station 1 • IGRF model 1990 removed, base value 61300 nT at map centre • Altitude compensation using post processed GPS height • Heading error, 1.5 nT on traverses, 0.5 nT on ties
SURVEY MANAGEMENT	Rod Pudey

DATA PROCESSING CONTRACTOR

Pitt Research Pty Ltd

Final data processing, microlevelling and mapping by Pitt Research.
9 Divett Street, Port Adelaide, SA, 5015
Phone: 08 341 0025 Fax: 08 341 0047

MAGNETIC DATA PROCESSING	Tie-line levelling, Tie levelling and Microlevelling have been applied. Inclination and declination computed continuously over whole area using IGRF model 1990 computed at year 1991. INCLINATION for map centre -70.6° DECLINATION for map centre 12.5° A low pass filter was applied to the TMI grid before generating further products. The Fast Fourier Transform technique has been used for all filter operations.
IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Colour scaled total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 2 :	Colour scaled total magnetic intensity with relief shading and highlights (in the direction of True East).
MAP 3 :	First vertical derivative of total magnetic intensity has been computed directly from the levelled TMI grid data.
MAP 4 :	Analytic Signal image has been computed directly from the levelled total magnetic intensity grid data. [The Analytic Signal technique is a robust alternative to 'Reduction to the Pole' as it eliminates distortions of the field due to magnetic inclination.] The resulting data grids have then been subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading enhanced with Automatic Gain Control. The effect of the data stretch, colour assignment and relief shading is illustrated in the chromatic key for the TMI images.
GRIDDING PARAMETERS	ALGORITHM: bicubic spline MESH SIZE: 50 x 50 metres
PROCESSING MANAGEMENT	Jing Ping Zhe

INTERPRETATION MONTAGE OF MODELS AND ANOMALIES

Enclosure 5

ENCLOSURE 7

MAGNETIC IMAGE MONTAGE 1

TPR OR-404

STRUCTURAL SKELETONS MONTAGE

TPR OR-404

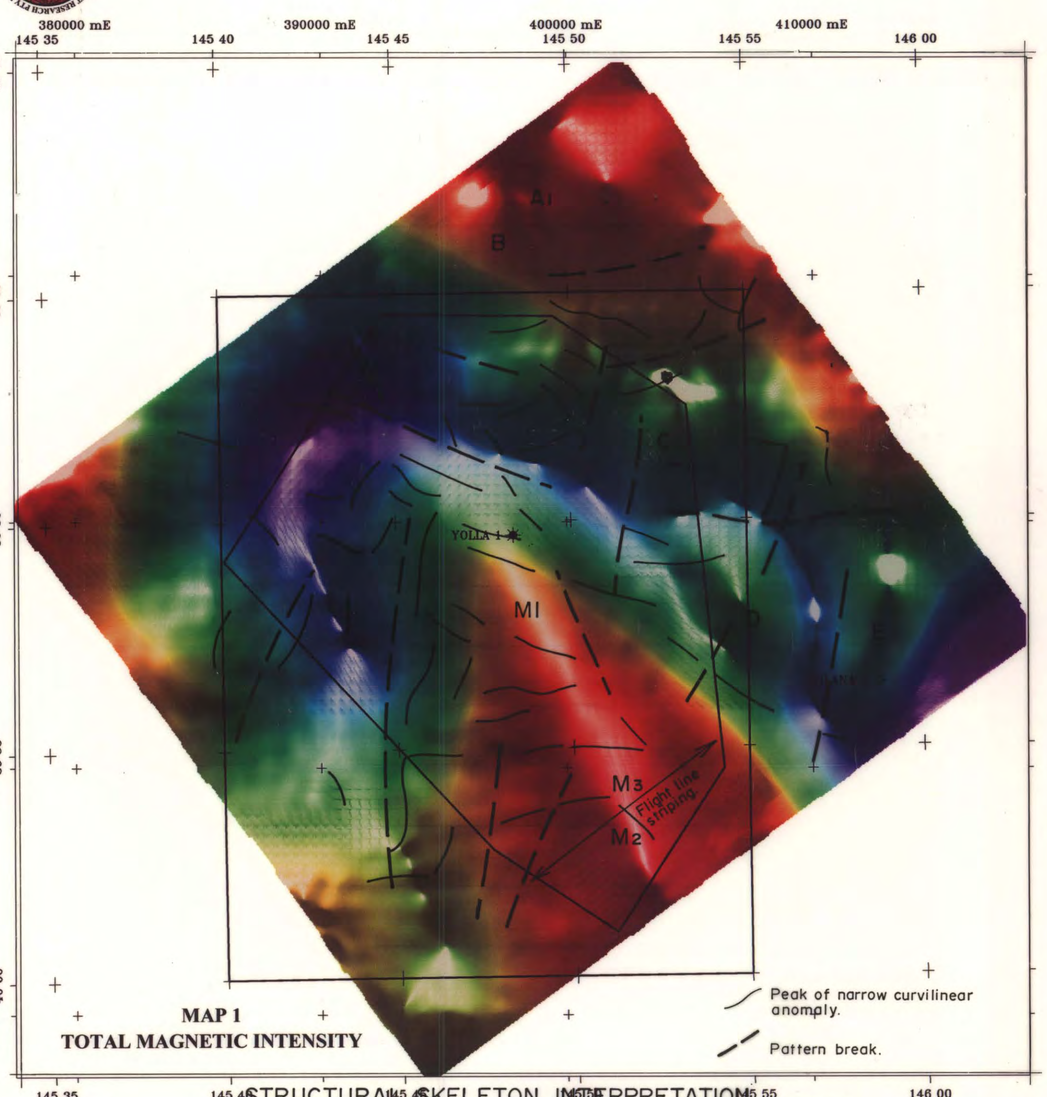
S03138

S03137

AREA T/RL1 - Bass Strait

SAGASCO Resources Ltd.

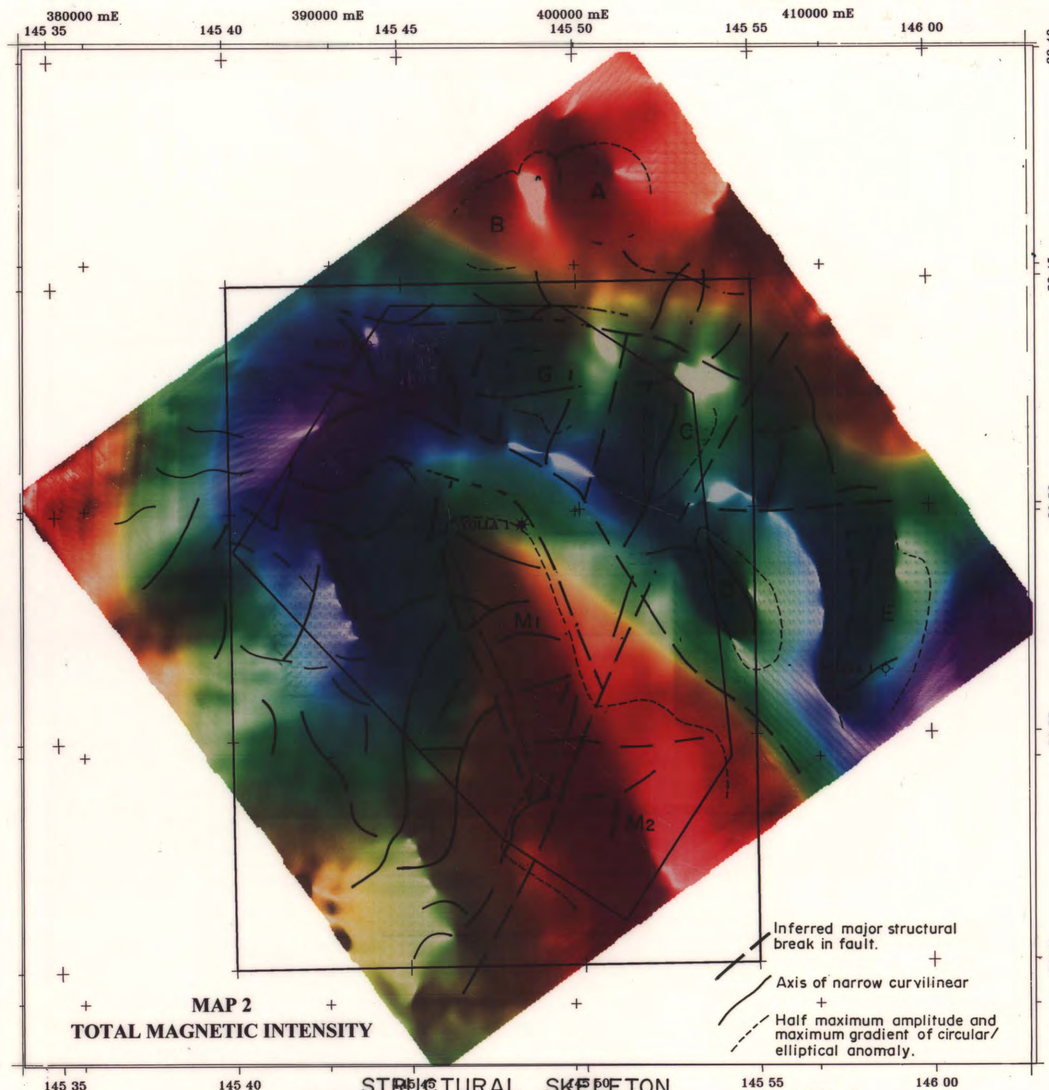
380000 mE 390000 mE 400000 mE 410000 mE
145 35 145 40 145 45 145 50 145 55 146 00
5600000 mN 5590000 mN 5580000 mN 5570000 mN
39 40 39 45 39 50 39 55 40 00



MAP 1
TOTAL MAGNETIC INTENSITY

Peak of narrow curvilinear anomaly.
Pattern break.

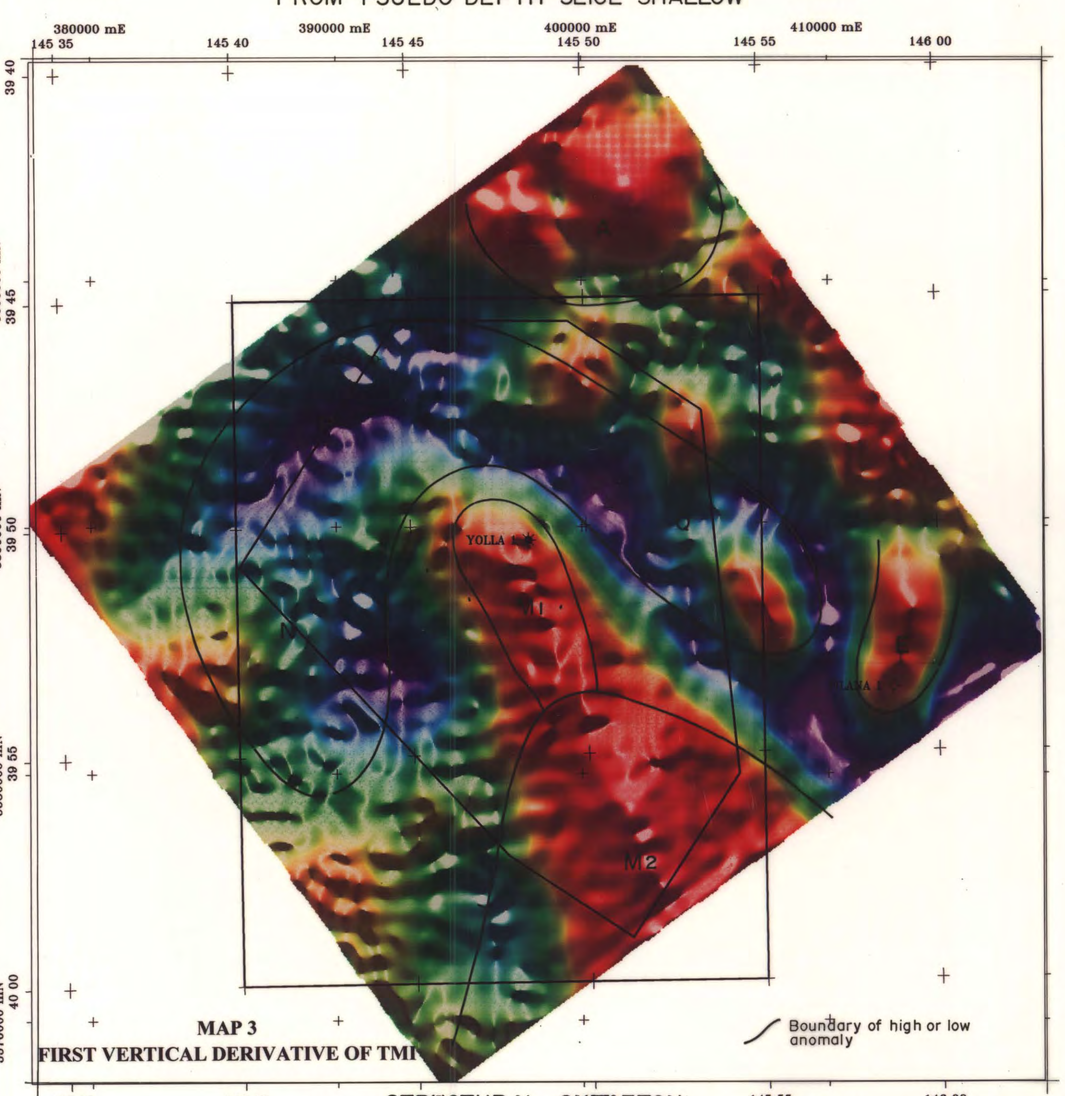
STRUCTURAL SKELETON INTERPRETATION FROM PSUEDO DEPTH SLICE SHALLOW



MAP 2
TOTAL MAGNETIC INTENSITY

Inferred major structural break in fault.
Axis of narrow curvilinear
Half maximum amplitude and maximum gradient of circular/ elliptical anomaly.

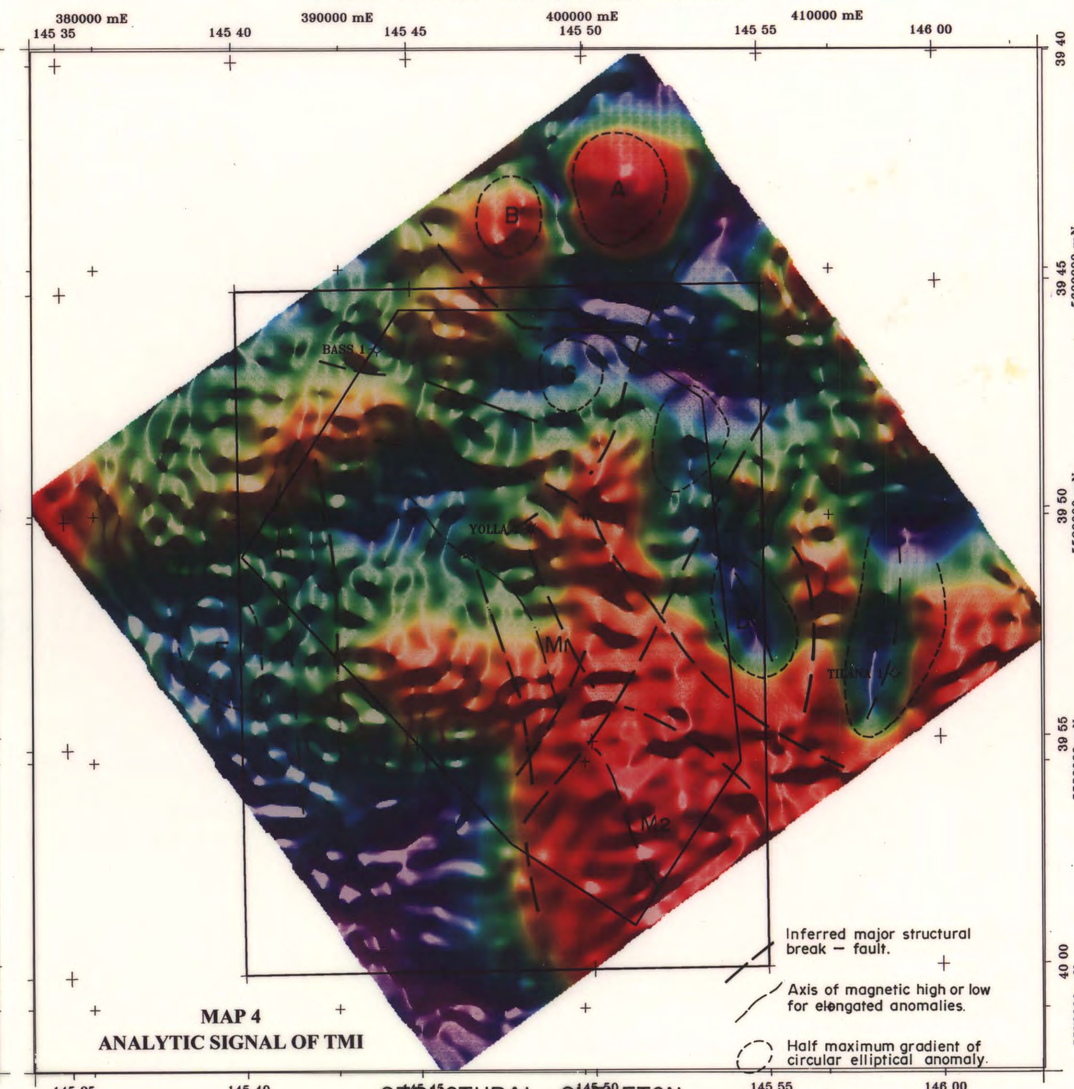
STRUCTURAL SKELETON FROM PSUEDO DEPTH SLICE 1150m



MAP 3
FIRST VERTICAL DERIVATIVE OF TMI

Boundary of high or low anomaly

STRUCTURAL SKELETON FROM PSUEDO DEPTH SLICE 4900m



MAP 4
ANALYTIC SIGNAL OF TMI

Inferred major structural break – fault.
Axis of magnetic high or low for elongated anomalies.
Half maximum gradient of circular elliptical anomaly.

STRUCTURAL SKELETON FROM PSUEDO DEPTH SLICE 2400m

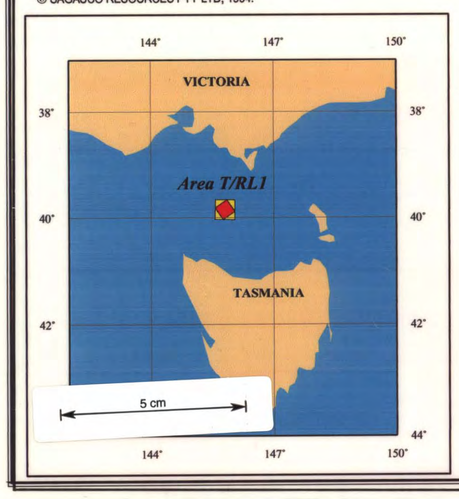
TECHNICAL SUPERVISION

Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1994. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. Total Magnetic Intensity (TMI) (in North direction), TMI (in East direction), First Vertical Derivative, and Analytic Signal Image map montage 1. Map 1, 3 and 4 with relief shading and highlights from true north, and map 2 from true east.

COPYRIGHT



True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.58°
Grid-magnetic angle	11.9°
True-magnetic angle	12.5°
Magnetic inclination	-70.6°

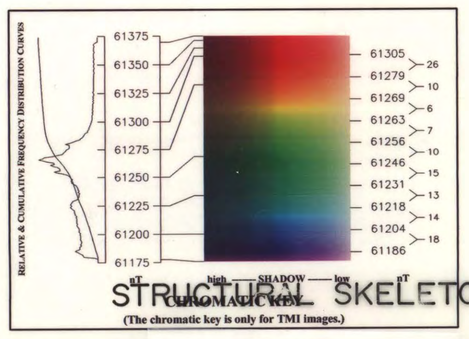
5 cm

AEROMAGNETIC DATA
MAGNETIC IMAGE MONTAGE 1

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection
Central Meridian: 147° East, AMG Zone 55
Grid Cell Size: 50 metres
Graticules: 5 minutes and 10 kilometres



(The chromatic key is only for TMI images.)

DATA ACQUISITION CONTRACTOR
Tesla - 10

41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatell running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JBH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTeslas SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NS,SN,EW,WE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: • System parallax of -14m • Diurnal field at base station 1 • IGRF model 1990 removed, base value 61300 nT at map centre • Altitude compensation using post processed GPS height • Heading error, 1.5 nT on traverses, 0.5 nT on ties
SURVEY MANAGEMENT	Rod Pullen

DATA PROCESSING CONTRACTOR
Pitt Research Pty Ltd

Final data processing, microlevelling and mapping by Pitt Research.
9 Divett Street, Port Adelaide, SA, 5015
Phone: 08 341 0025 Fax: 08 341 0047

MAGNETIC DATA PROCESSING	Tie-line levelling, Tie levelling and Microlevelling have been applied. Inclination and declination computed continuously over whole area using IGRF model 1990 computed at year 1991. INCLINATION for map centre -70.6° DECLINATION for map centre 12.5° A low pass filter was applied to the TMI grid before generating further products. The Fast Fourier Transform technique has been used for all filter operations.
IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Colour scaled total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 2 :	Colour scaled total magnetic intensity with relief shading and highlights (in the direction of True East).
MAP 3 :	First vertical derivative of total magnetic intensity has been computed directly from the levelled TMI grid data.
MAP 4 :	Analytic Signal image has been computed directly from the levelled total magnetic intensity grid data. [The Analytic Signal technique is a robust alternative to 'Reduction to the Pole' as it eliminates distortions of the field due to magnetic inclination.] The resulting data grids have then been subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading enhanced with Automatic Gain Control. The effect of the data stretch, colour assignment and relief shading is illustrated in the chromatic key for the TMI images.
GRIDDING PARAMETERS	ALGORITHM: bicubic spline MESH SIZE: 50 × 50 metres
PROCESSING MANAGEMENT	Jing Ping Zhe

STRUCTURAL SKELETONS MONTAGE FROM 4 PSUEDO DEPTH SLICES

Enclosure 6

ENCLOSURE 7

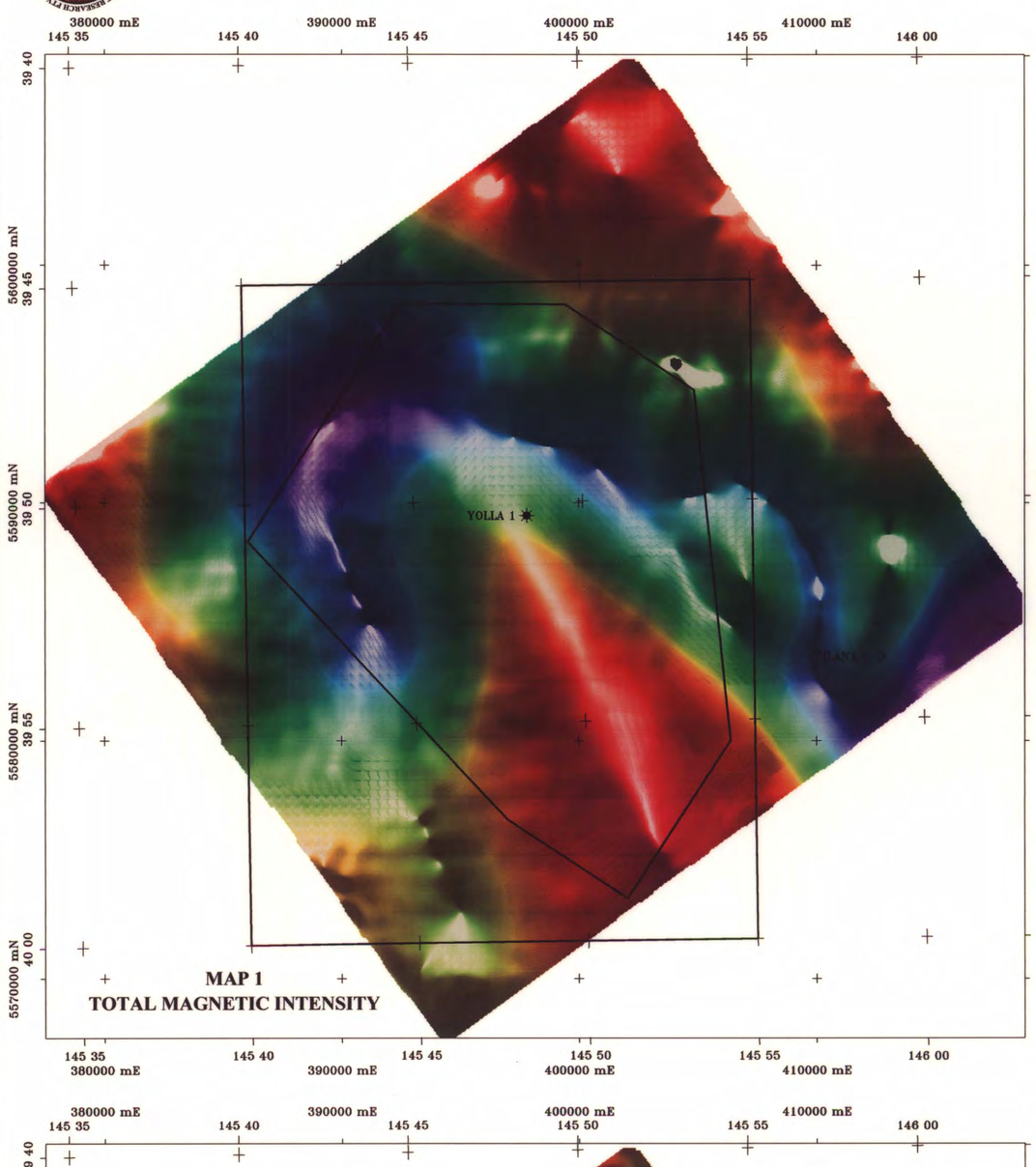
MAGNETIC IMAGE MONTAGE 1

TPR OR-404

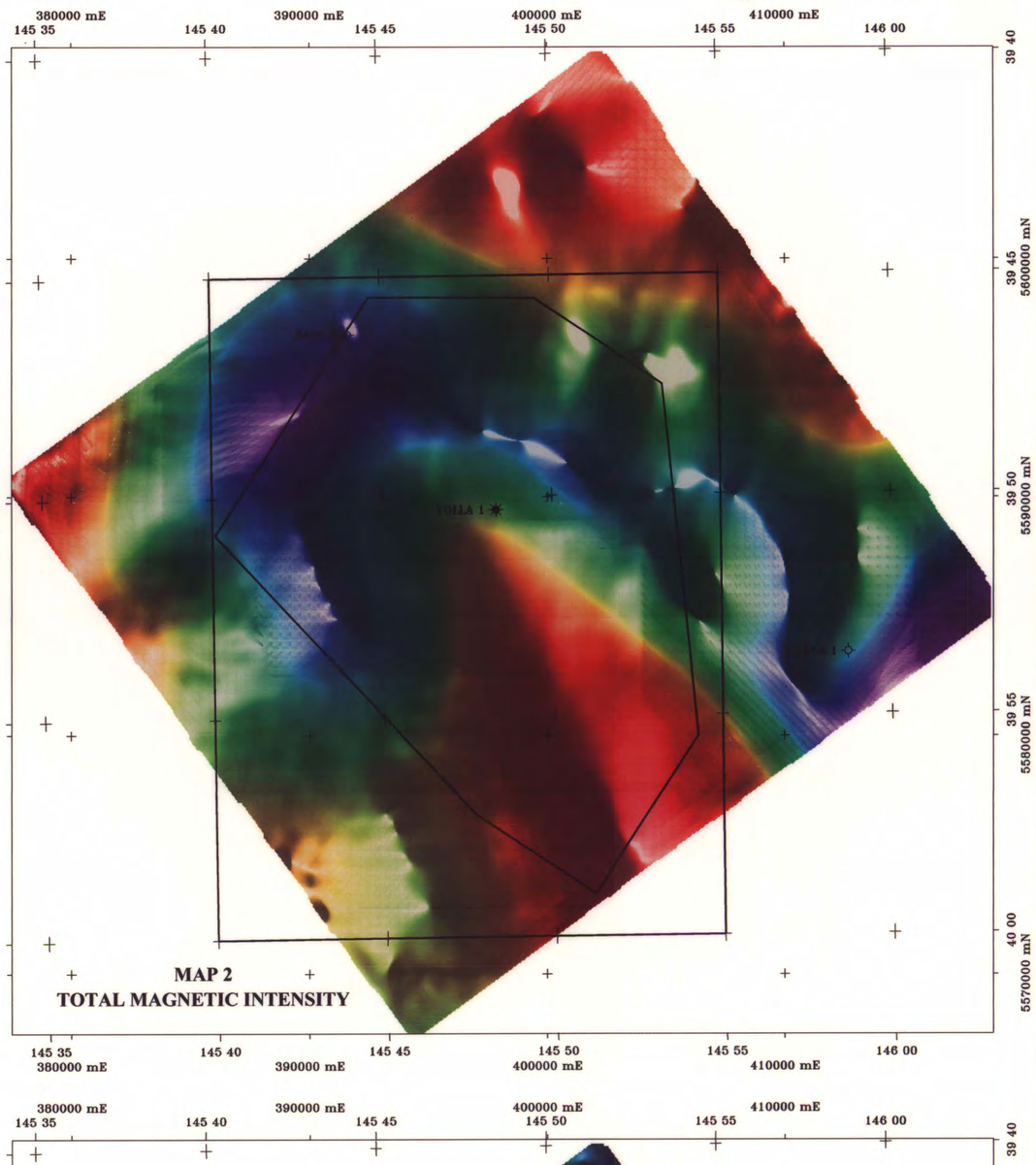
503138

AREA T/RL1 - Bass Strait

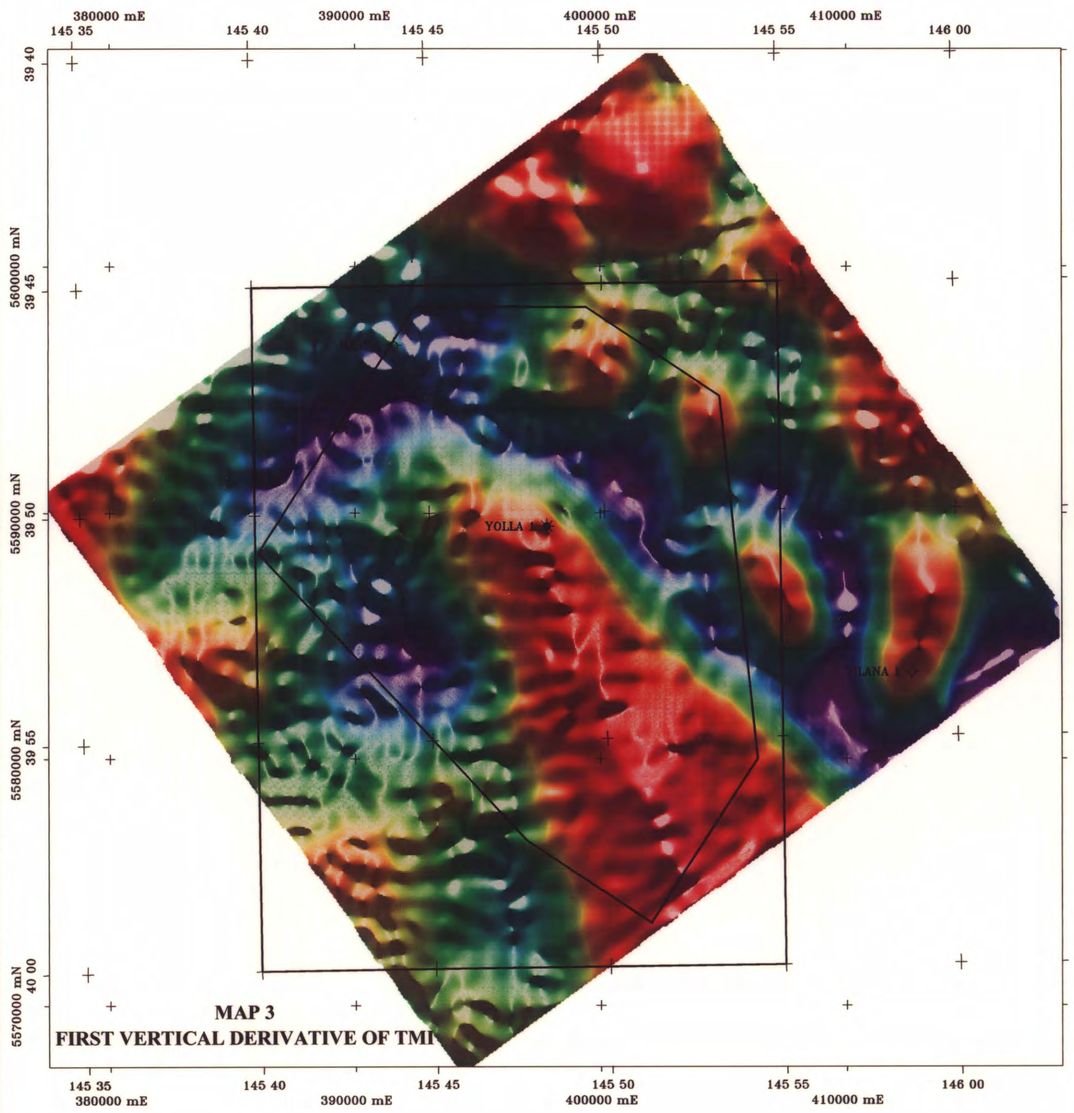
SAGASCO Resources Ltd.



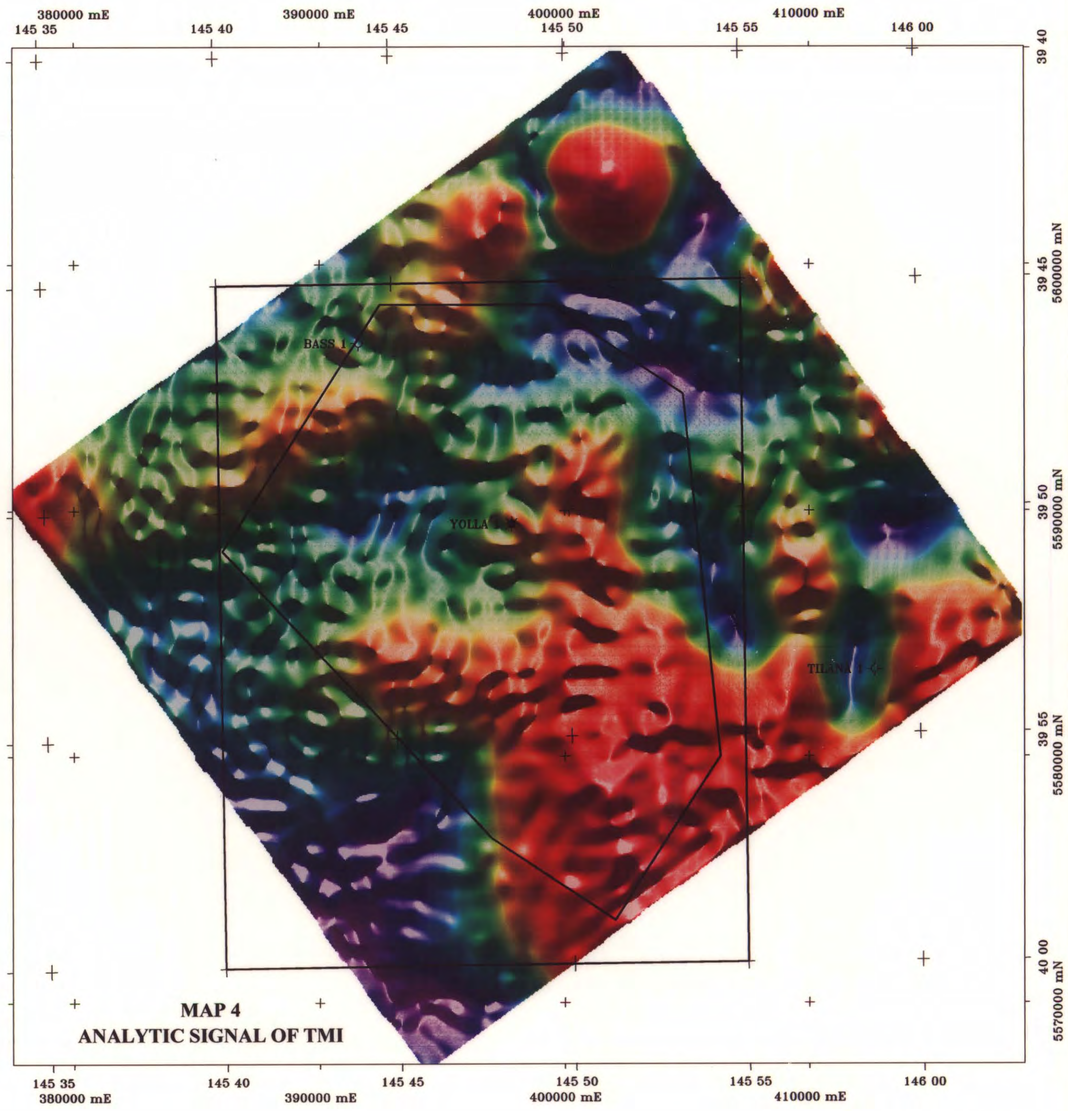
MAP 1
TOTAL MAGNETIC INTENSITY



MAP 2
TOTAL MAGNETIC INTENSITY



MAP 3
FIRST VERTICAL DERIVATIVE OF TMI



MAP 4
ANALYTIC SIGNAL OF TMI

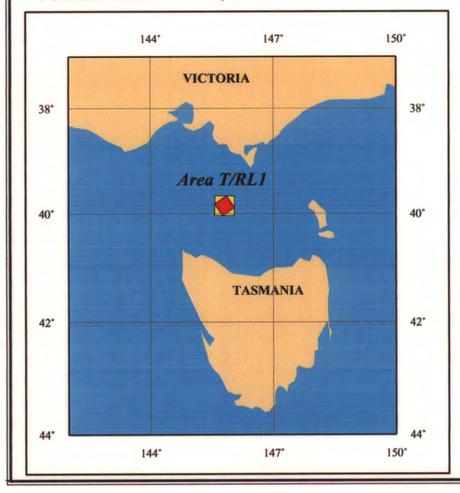
TECHNICAL SUPERVISION

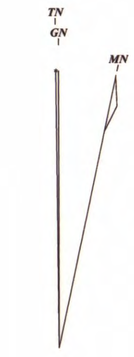
Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1994. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. Total Magnetic Intensity (TMI) (in North direction), TMI (in East direction), First Vertical Derivative, and Analytic Signal Image map montage 1. Map 1, 3 and 4 with relief shading and highlights from true north, and map 2 from true east.

COPYRIGHT





True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.58°
Grid-magnetic angle	11.9°
True-magnetic angle	12.5°
Magnetic inclination	-70.6°

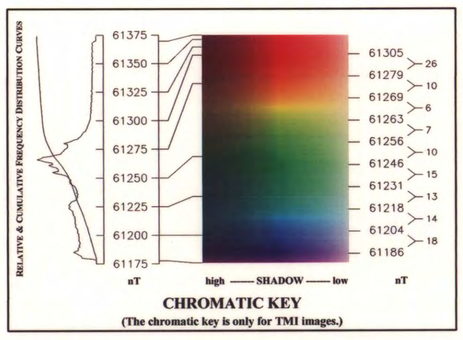
5 cm

AEROMAGNETIC DATA
MAGNETIC IMAGE MONTAGE 1

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection
Central Meridian: 147° East, AMG Zone 55
Grid Cell Size: 50 metres
Graticules: 5 minutes and 10 kilometres



CHROMATIC KEY
(The chromatic key is only for TMI images.)

DATA ACQUISITION CONTRACTOR
Tesla - 10

41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatell running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JBH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTeslas SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NS,SN,EW,WE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: • System parallax of -14m • Diurnal field at base station 1 • IGRF model 1990 removed, base value 61300 nT at map centre • Altitude compensation using post processed GPS height • Heading error, 1.5 nT on traverses, 0.5 nT on ties
SURVEY MANAGEMENT	Rod Pullen.

DATA PROCESSING CONTRACTOR
Pitt Research Pty Ltd

Final data processing, microlevelling and mapping by Pitt Research.
9 Divett Street, Port Adelaide, SA, 5015
Phone: 08 341 0025 Fax: 08 341 0047

MAGNETIC DATA PROCESSING	Tie-line levelling, Tie levelling and Microlevelling have been applied. Inclination and declination computed continuously over whole area using IGRF model 1990 computed at year 1991. INCLINATION for map centre -70.6° DECLINATION for map centre 12.5° A low pass filter was applied to the TMI grid before generating further products. The Fast Fourier Transform technique has been used for all filter operations.
IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Colour scaled total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 2 :	Colour scaled total magnetic intensity with relief shading and highlights (in the direction of True East).
MAP 3 :	First vertical derivative of total magnetic intensity has been computed directly from the levelled TMI grid data.
MAP 4 :	Analytic Signal image has been computed directly from the levelled total magnetic intensity grid data. [The Analytic Signal technique is a robust alternative to 'Reduction to the Pole' as it eliminates distortions of the field due to magnetic inclination.] The resulting data grids have then been subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading enhanced with Automatic Gain Control. The effect of the data stretch, colour assignment and relief shading is illustrated in the chromatic key for the TMI images.
GRIDDING PARAMETERS	ALGORITHM: bicubic spline MESH SIZE: 50 × 50 metres
PROCESSING MANAGEMENT	Jing Ping Zhe

ENCLOSURE 7

MAGNETIC IMAGE

TPR OR-404

503139

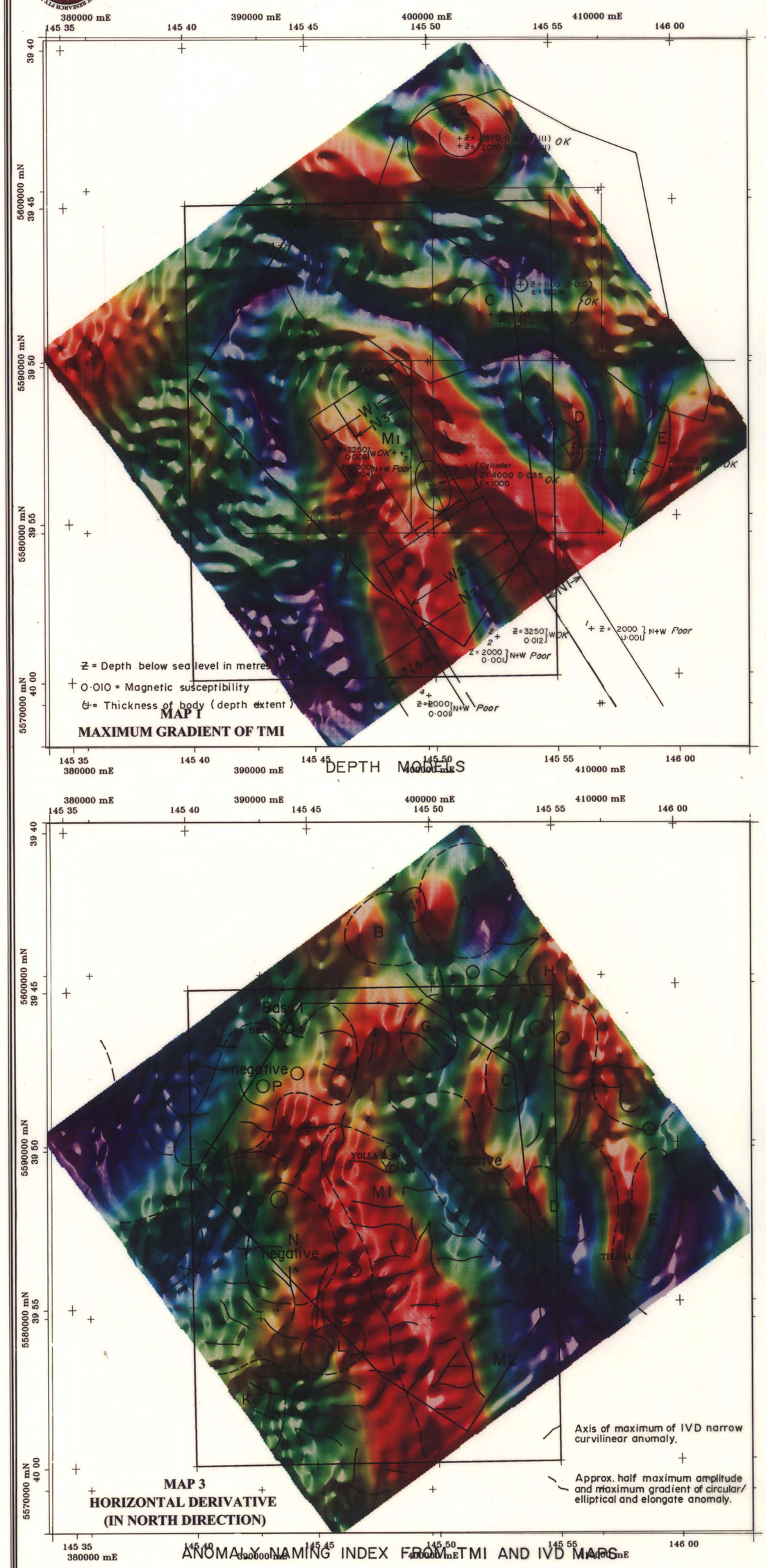
INTERPRETATION MONTAGE

TPR OR-404

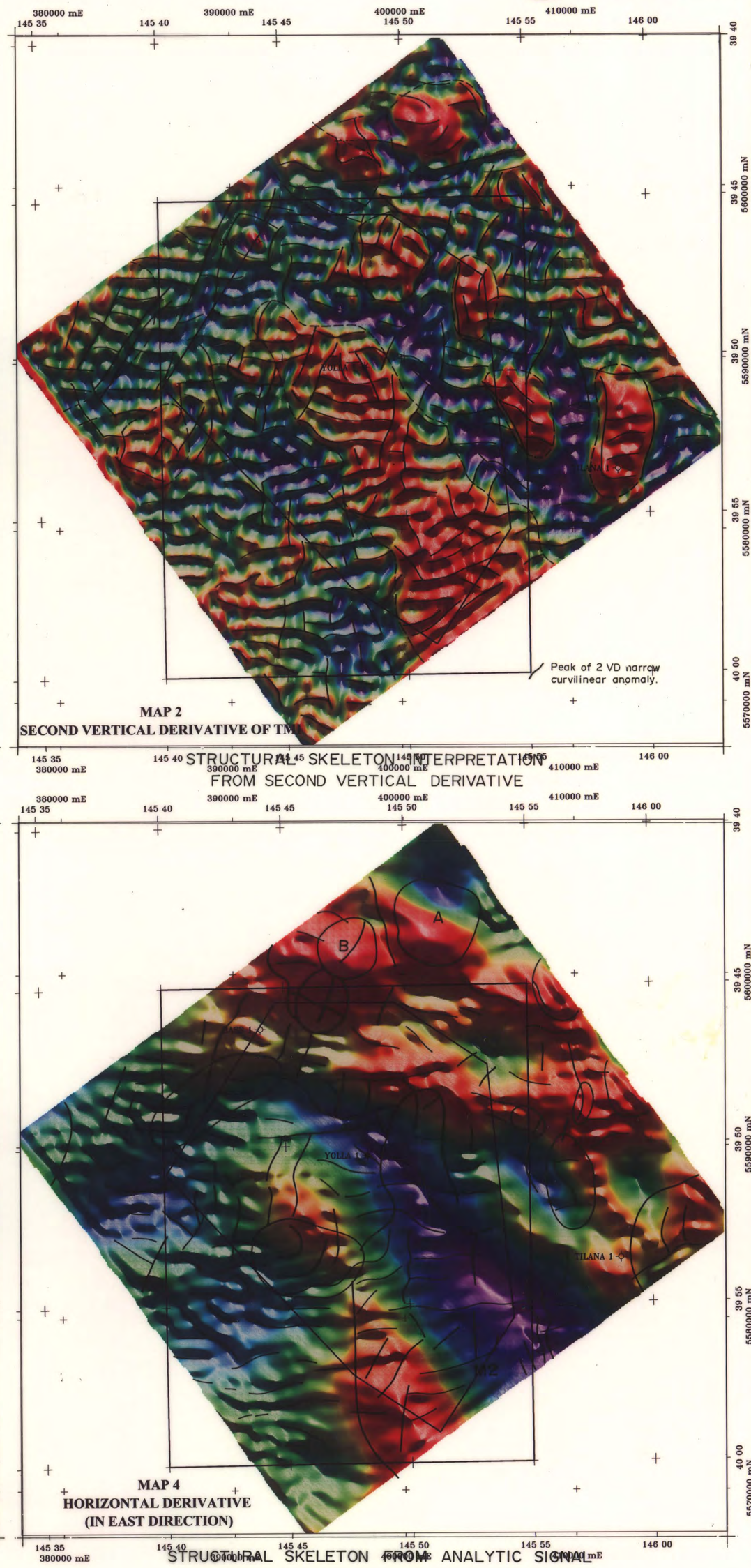
503136

AREA T/RL1 - Bass Strait

SAGASCO Resources Ltd.



MAP 1
MAXIMUM GRADIENT OF TMI



MAP 2
SECOND VERTICAL DERIVATIVE OF TMI

DEPTH MODELS

STRUCTURAL SKELETON INTERPRETATION FROM SECOND VERTICAL DERIVATIVE

MAP 3
HORIZONTAL DERIVATIVE
(IN NORTH DIRECTION)

MAP 4
HORIZONTAL DERIVATIVE
(IN EAST DIRECTION)

ANOMALY NAMING INDEX FROM TMI AND IVD MAPS

STRUCTURAL SKELETON FROM ANALYTIC SIGNAL

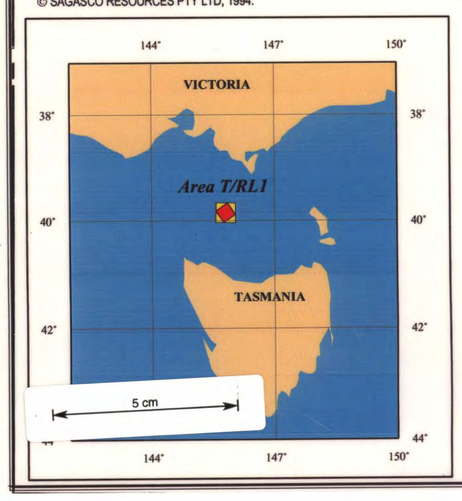
TECHNICAL SUPERVISION

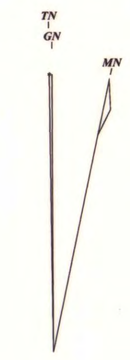
Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1994. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. Maximum Gradient of TMI, Second Vertical Derivative, Horizontal Derivative (in North direction), and Horizontal Derivative (in East direction) Image map montage 2. Each image with relief shading and highlights from true north.

COPYRIGHT





True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.58°
Grid-magnetic angle	11.9°
True-magnetic angle	12.5°
Magnetic inclination	-70.6°

AEROMAGNETIC DATA

MAGNETIC IMAGE MONTAGE 2

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection
Central Meridian: 147° East, AMG Zone 55
Grid Cell Size: 50 metres
Graticules: 5 minutes and 10 kilometres

5 cm

INTERPRETATION MONTAGE OF MODELS AND ANOMALIES

DATA ACQUISITION CONTRACTOR

Tesla - 10

41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatell running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JBH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTeslas SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NS,SN,EW,WE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: • System parallax of -14m • Diurnal field at base station 1 • IGRF model 1990 removed, base value 61300 nT at map centre • Altitude compensation using post processed GPS height • Heading error, 1.5 nT on traverses, 0.5 nT on ties
SURVEY MANAGEMENT	Rod Pettit

DATA PROCESSING CONTRACTOR

Pitt Research Pty Ltd

Final data processing, microlevelling and mapping by Pitt Research.
9 Divett Street, Port Adelaide, SA, 5015
Phone: 08 341 0025 Fax: 08 341 0047

MAGNETIC DATA PROCESSING	Tie-line levelling, Tie levelling and Microlevelling have been applied. Inclination and declination computed continuously over whole area using IGRF model 1990 computed at year 1991. INCLINATION for map centre -70.6° DECLINATION for map centre 12.5° A low pass filter was applied to the TMI grid before generating further products. The Fast Fourier Transform technique has been used for all filter operations.
IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Maximum gradient of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 2 :	Second vertical derivative of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 3 :	Horizontal derivative (in North direction) of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 4 :	Horizontal derivative (in East direction) of total magnetic intensity with relief shading and highlights (in the direction of True North). The resulting data grids have then been subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading enhanced with Automatic Gain Control. The effect of the data stretch, colour assignment and relief shading is illustrated in the chromatic key for the TMI images.
GRIDDING PARAMETERS	ALGORITHM: bicubic spline MESH SIZE: 50 × 50 metres
PROCESSING MANAGEMENT	Jing Ning Zhu

Enclosure 5

ENCLOSURE 8

MAGNETIC IMAGE MONTAGE 2

STRUCTURAL SKELETONS MONTAGE

TPR OR-404

TPR OR-404

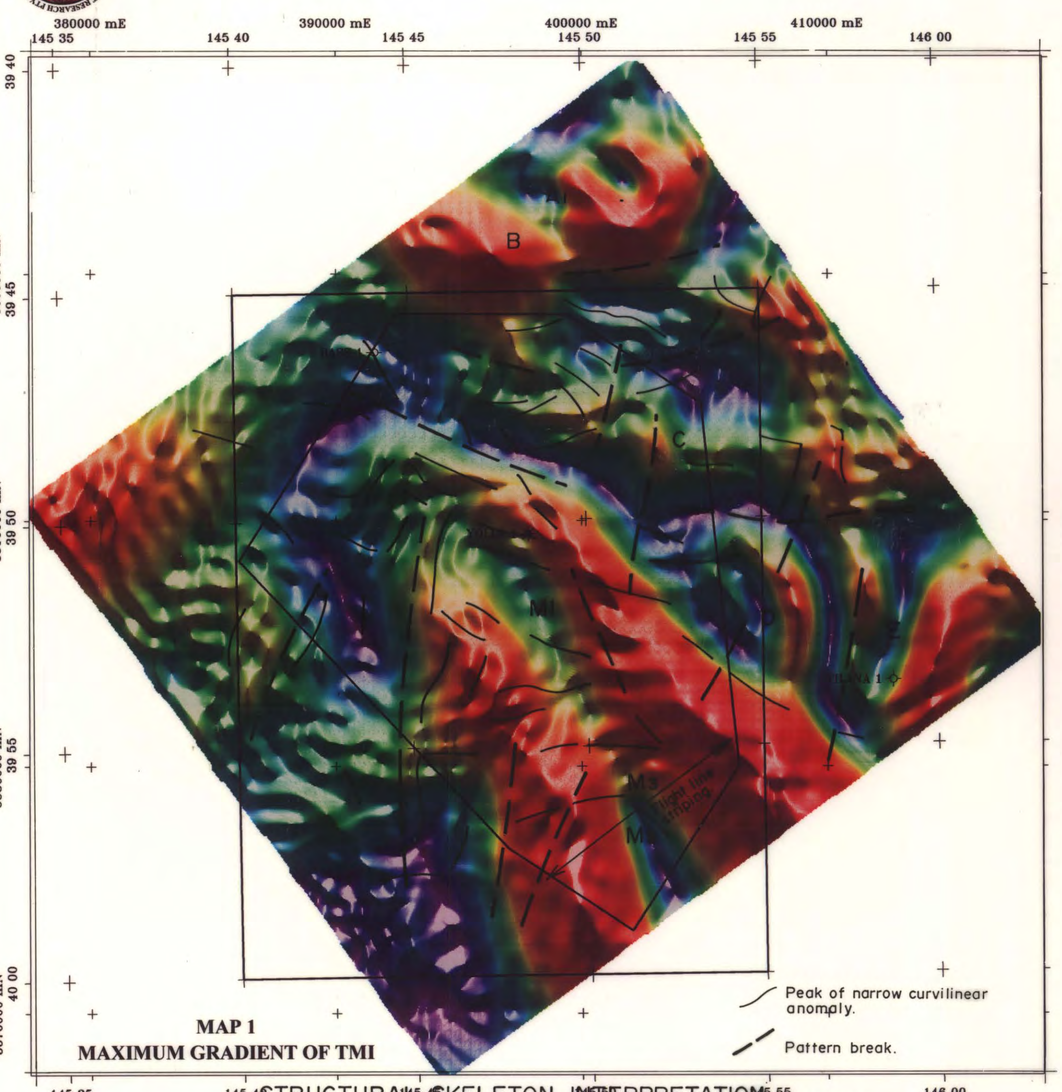
503139

503137

AREA T/RL1 - Bass Strait

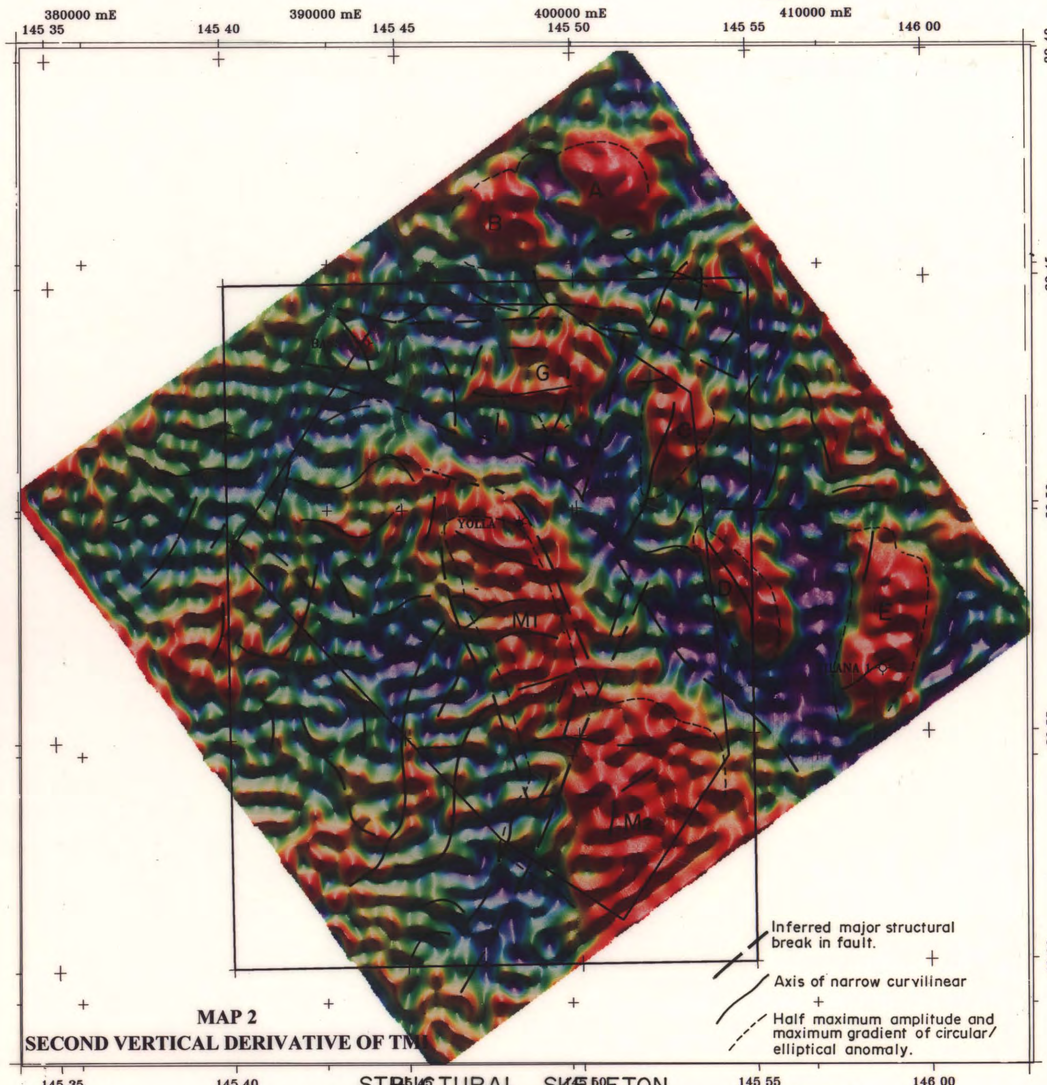
SAGASCO Resources Ltd.

380000 mE 390000 mE 400000 mE 410000 mE
145 35 145 40 145 45 145 50 145 55 146 00
39 40 39 45 39 50 39 55 40 00
5600000 mN 5590000 mN 5580000 mN 5570000 mN



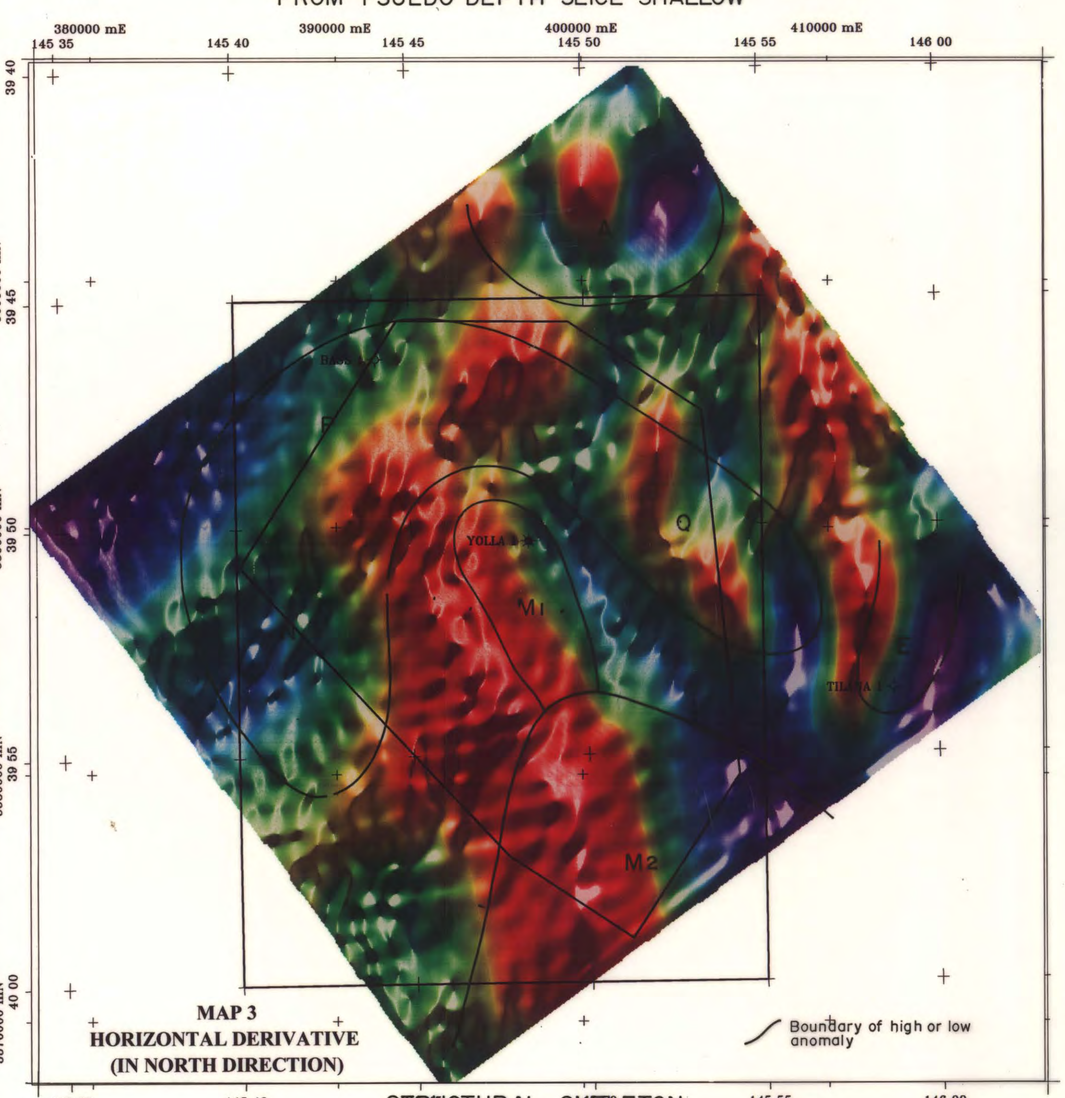
MAP 1
MAXIMUM GRADIENT OF TMI

STRUCTURAL SKELETON INTERPRETATION FROM PSUEDO DEPTH SLICE SHALLOW



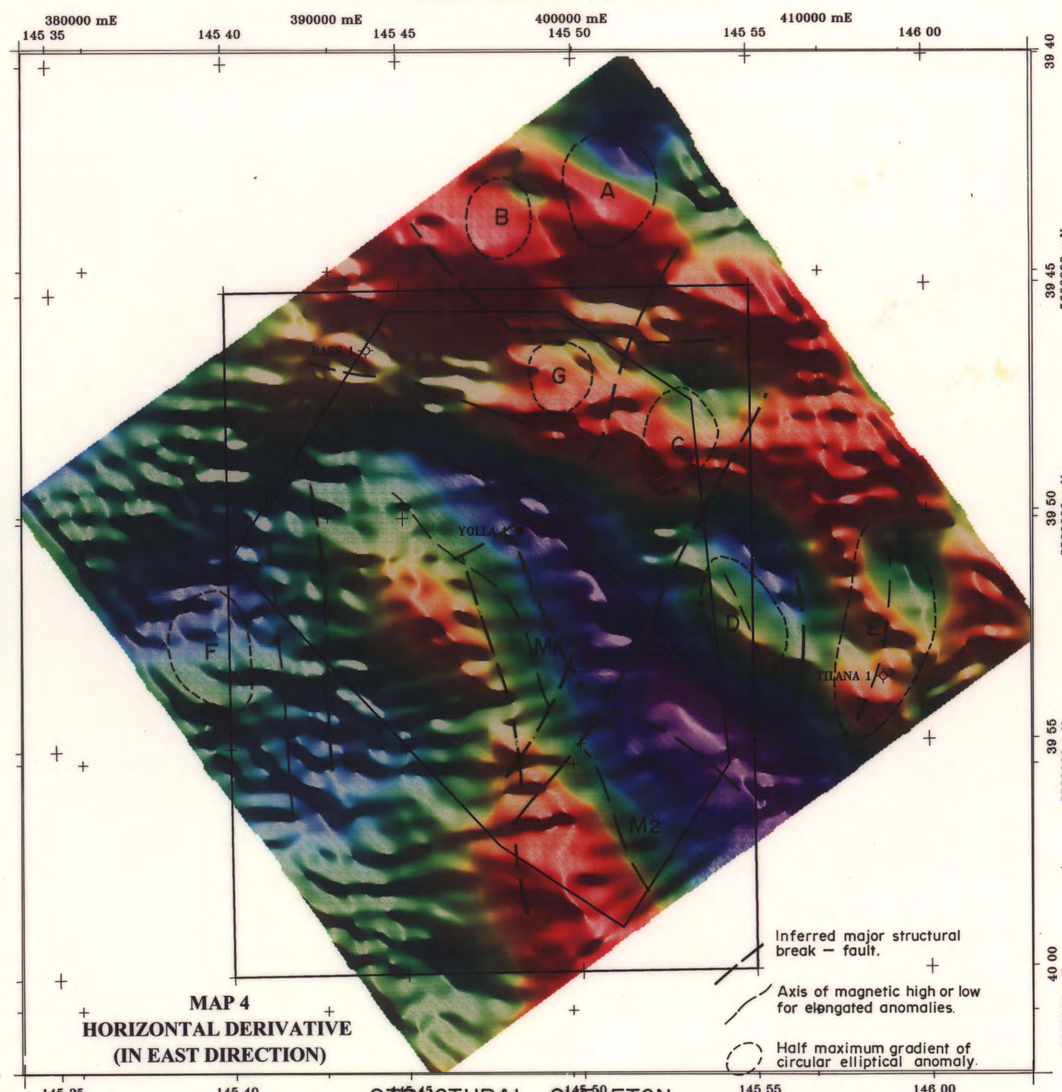
MAP 2
SECOND VERTICAL DERIVATIVE OF TMI

STRUCTURAL SKELETON FROM PSUEDO DEPTH SLICE 1150m



MAP 3
HORIZONTAL DERIVATIVE
(IN NORTH DIRECTION)

STRUCTURAL SKELETON FROM PSUEDO DEPTH SLICE 4900m



MAP 4
HORIZONTAL DERIVATIVE
(IN EAST DIRECTION)

STRUCTURAL SKELETON FROM PSUEDO DEPTH SLICE 2400m

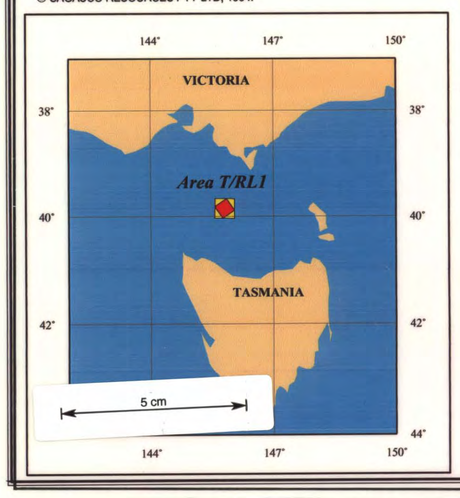
TECHNICAL SUPERVISION

Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1994. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. Maximum Gradient of TMI, Second Vertical Derivative, Horizontal Derivative (in North direction), and Horizontal Derivative (in East direction) Image map montage 2. Each image with relief shading and highlights from true north.

COPYRIGHT



True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.58°
Grid-magnetic angle	11.9°
True-magnetic angle	12.5°
Magnetic inclination	-70.6°

AEROMAGNETIC DATA

MAGNETIC IMAGE MONTAGE 2

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection
Central Meridian: 147° East, AMG Zone 55
Grid Cell Size: 50 metres
Graticules: 5 minutes and 10 kilometres

DATA ACQUISITION CONTRACTOR

Tesla - 10

41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatell running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JBH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTeslas SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NS,SN,EW,WE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: • System parallax of -14m • Diurnal field at base station 1 • IGRF model 1990 removed, base value 61300 nT at map centre • Altitude compensation using post processed GPS height • Heading error, 1.5 nT on traverses, 0.5 nT on ties
SURVEY MANAGEMENT	Rod Pullen.

DATA PROCESSING CONTRACTOR

Pitt Research Pty Ltd

Final data processing, microlevelling and mapping by Pitt Research.
9 Divett Street, Port Adelaide, SA, 5015
Phone: 08 341 0025 Fax: 08 341 0047

MAGNETIC DATA PROCESSING	Tie-line levelling, Tie levelling and Microlevelling have been applied. Inclination and declination computed continuously over whole area using IGRF model 1990 computed at year 1991. INCLINATION for map centre -70.6° DECLINATION for map centre 12.5° A low pass filter was applied to the TMI grid before generating further products. The Fast Fourier Transform technique has been used for all filter operations.
IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1:	Maximum gradient of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 2:	Second vertical derivative of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 3:	Horizontal derivative (in North direction) of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 4:	Horizontal derivative (in East direction) of total magnetic intensity with relief shading and highlights (in the direction of True North).
	The resulting data grids have then been subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading enhanced with Automatic Gain Control. The effect of the data stretch, colour assignment and relief shading is illustrated in the chromatic key for the TMI images.
GRIDDING PARAMETERS	ALGORITHM: bicubic spline MESH SIZE: 50 × 50 metres
PROCESSING MANAGEMENT	Jing Ping Zhe

STRUCTURAL SKELETONS MONTAGE FROM 4 PSUEDO DEPTH SLICES

Enclosure 6

ENCLOSURE 8

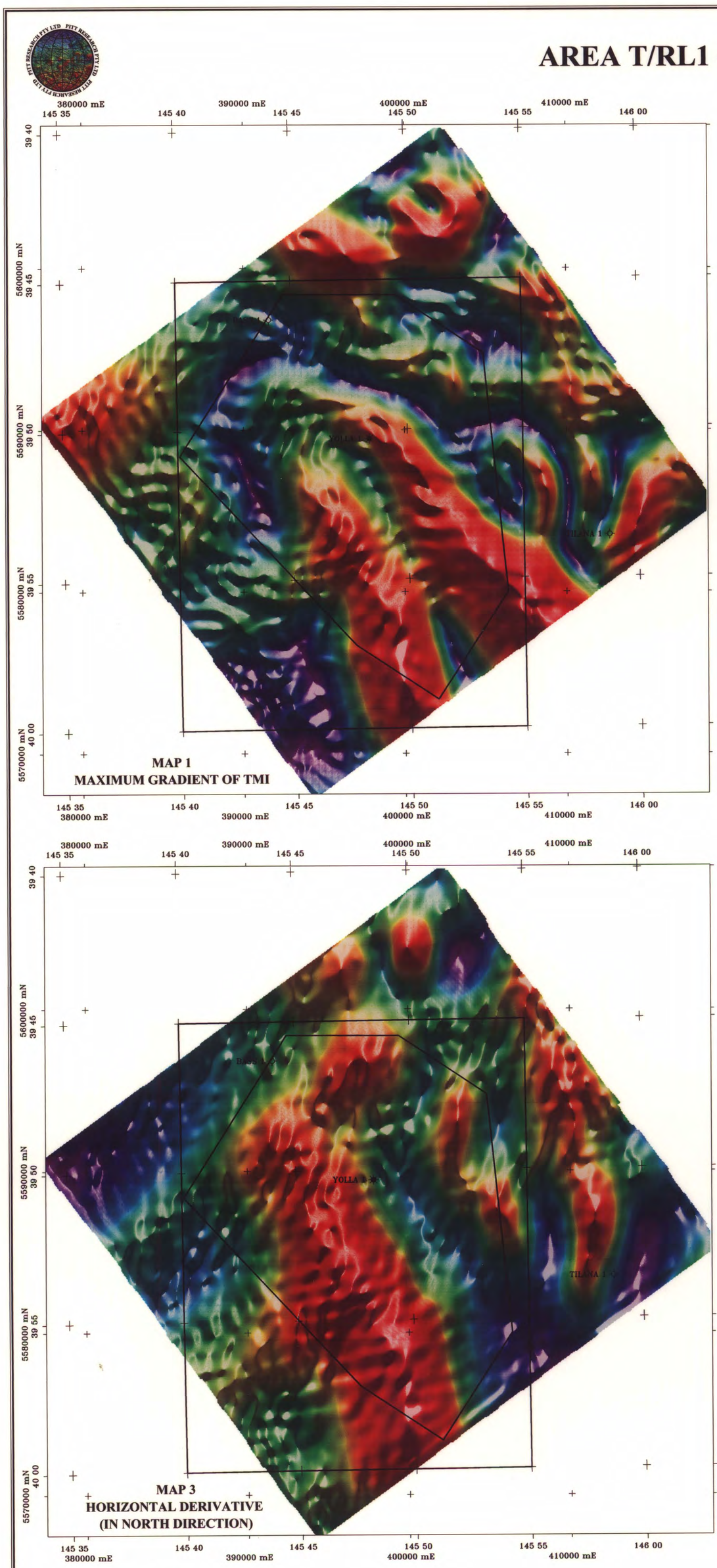
MAGNETIC IMAGE MONTAGE 2

TPR OR-404

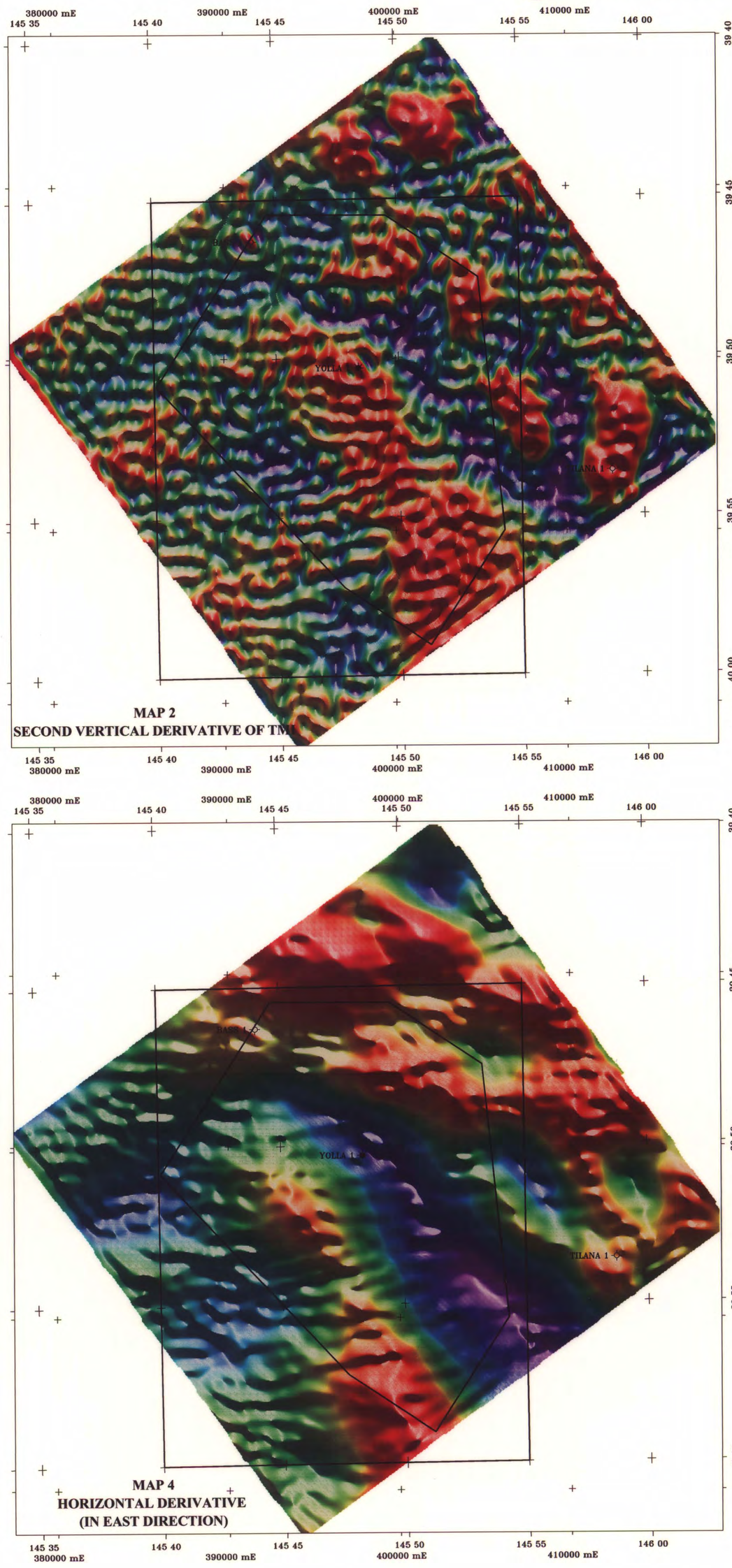
503139

AREA T/RL1 - Bass Strait

SAGASCO Resources Ltd.



MAP 1
MAXIMUM GRADIENT OF TMI



MAP 2
SECOND VERTICAL DERIVATIVE OF TMI

MAP 3
HORIZONTAL DERIVATIVE
(IN NORTH DIRECTION)

MAP 4
HORIZONTAL DERIVATIVE
(IN EAST DIRECTION)

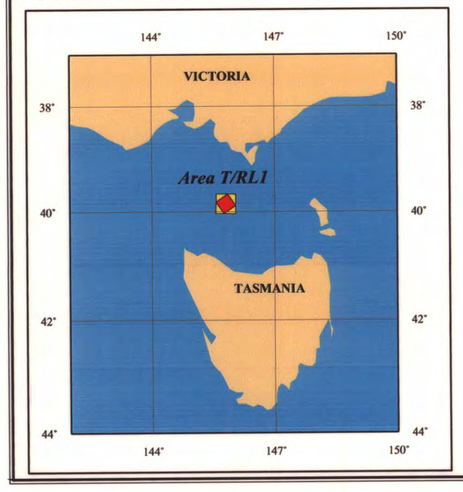
TECHNICAL SUPERVISION

Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1994. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. Maximum Gradient of TMI, Second Vertical Derivative, Horizontal Derivative (in North direction), and Horizontal Derivative (in East direction) Image map montage 2. Each image with relief shading and highlights from true north.

COPYRIGHT



True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.58°
Grid-magnetic angle	11.9°
True-magnetic angle	12.5°
Magnetic inclination	-70.6°

AEROMAGNETIC DATA

MAGNETIC IMAGE MONTAGE 2

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection

Central Meridian: 147° East, AMG Zone 55

Grid Cell Size: 50 metres

Graticules: 5 minutes and 10 kilometres

5 cm

DATA ACQUISITION CONTRACTOR

Tesla - 10

41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatell running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JBH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTeslas SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NS,SN,EW,WE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: • System parallax of -14m • Diurnal field at base station 1 • IGRF model 1990 removed, base value 61300 nT at map centre • Altitude compensation using post processed GPS height • Heading error, 1.5 nT on traverses, 0.5 nT on ties
SURVEY MANAGEMENT	Rod Pullen.

DATA PROCESSING CONTRACTOR

Pitt Research Pty Ltd

Final data processing, microlevelling and mapping by Pitt Research.
9 Divett Street, Port Adelaide, SA, 5015
Phone: 08 341 0025 Fax: 08 341 0047

MAGNETIC DATA PROCESSING	Tie-line levelling, Tie levelling and Microlevelling have been applied. Inclination and declination computed continuously over whole area using IGRF model 1990 computed at year 1991. INCLINATION for map centre -70.6° DECLINATION for map centre 12.5° A low pass filter was applied to the TMI grid before generating further products. The Fast Fourier Transform technique has been used for all filter operations.
IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Maximum gradient of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 2 :	Second vertical derivative of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 3 :	Horizontal derivative (in North direction) of total magnetic intensity with relief shading and highlights (in the direction of True North).
MAP 4 :	Horizontal derivative (in East direction) of total magnetic intensity with relief shading and highlights (in the direction of True North). The resulting data grids have then been subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading enhanced with Automatic Gain Control. The effect of the data stretch, colour assignment and relief shading is illustrated in the chromatic key for the TMI images.
GRIDDING PARAMETERS	ALGORITHM: bicubic spline MESH SIZE: 50 × 50 metres
PROCESSING MANAGEMENT	Jing Ping Zhe

ENCLOSURE 8

MAGNETIC IMAGE MONTAGE

INTERPRETATION MONTAGE

TPR OR-404

TPR OR-404

503140

503136

AREA T/RL1 - Bass Strait

SAGASCO Resources Ltd.

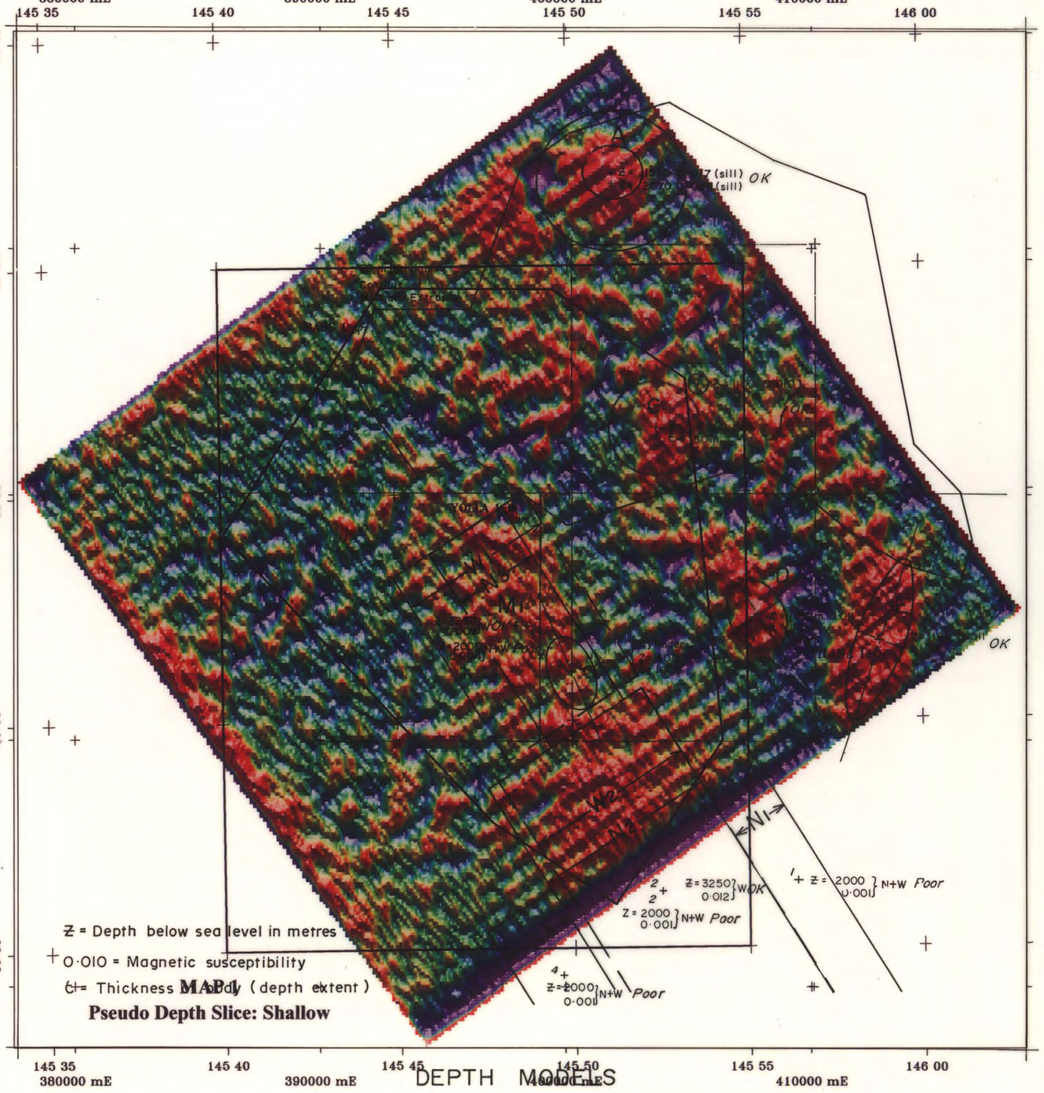
PITT RESEARCH PTY LTD

380000 mE 390000 mE 400000 mE 410000 mE

145 35 145 40 145 45 145 50 145 55 146 00

39 40 39 45 39 50 39 55 40 00

5600000 mN 5590000 mN 5580000 mN 5570000 mN

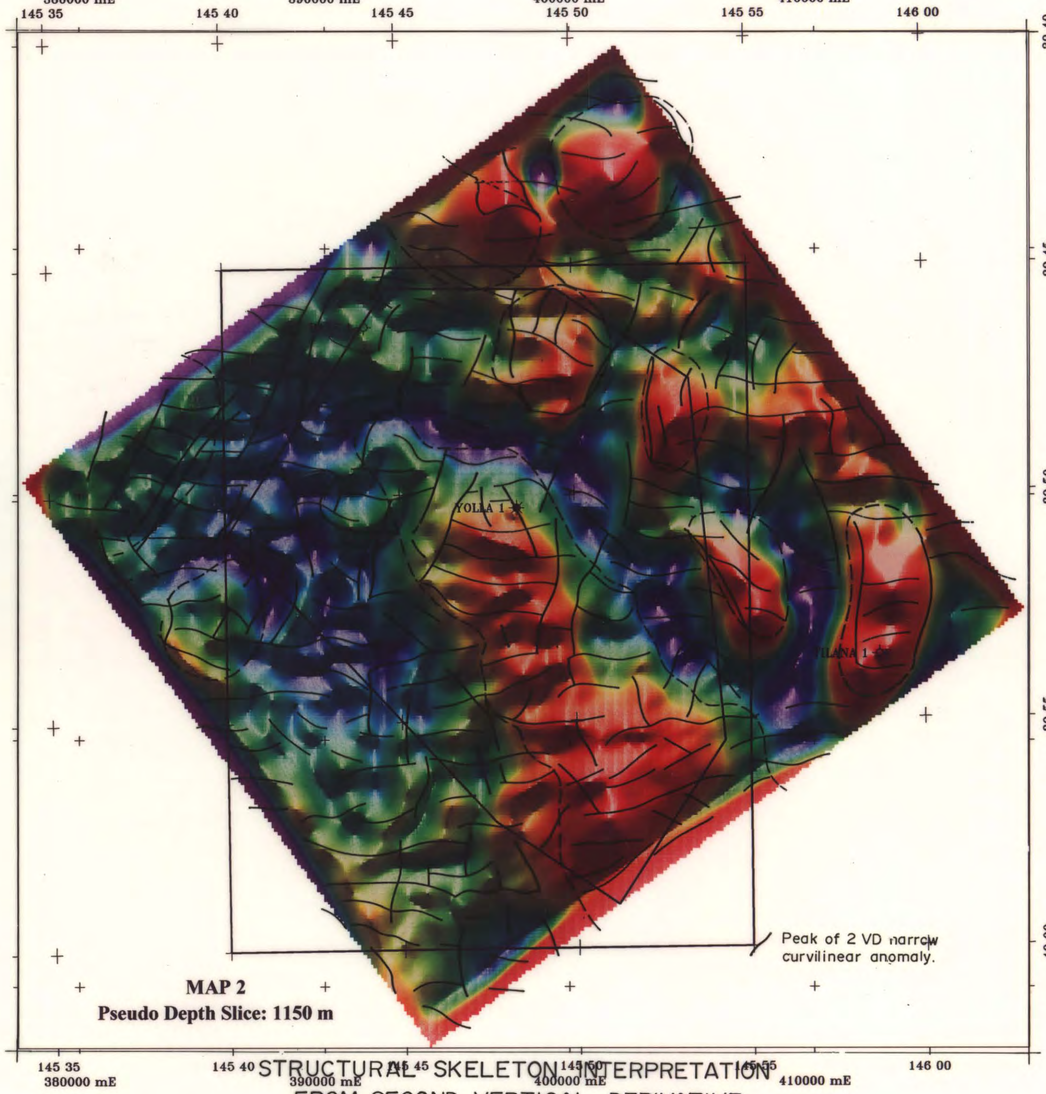


Z = Depth below sea level in metres

0·010 = Magnetic susceptibility

t = Thickness of body (depth extent)

MAP 1
Pseudo Depth Slice: Shallow

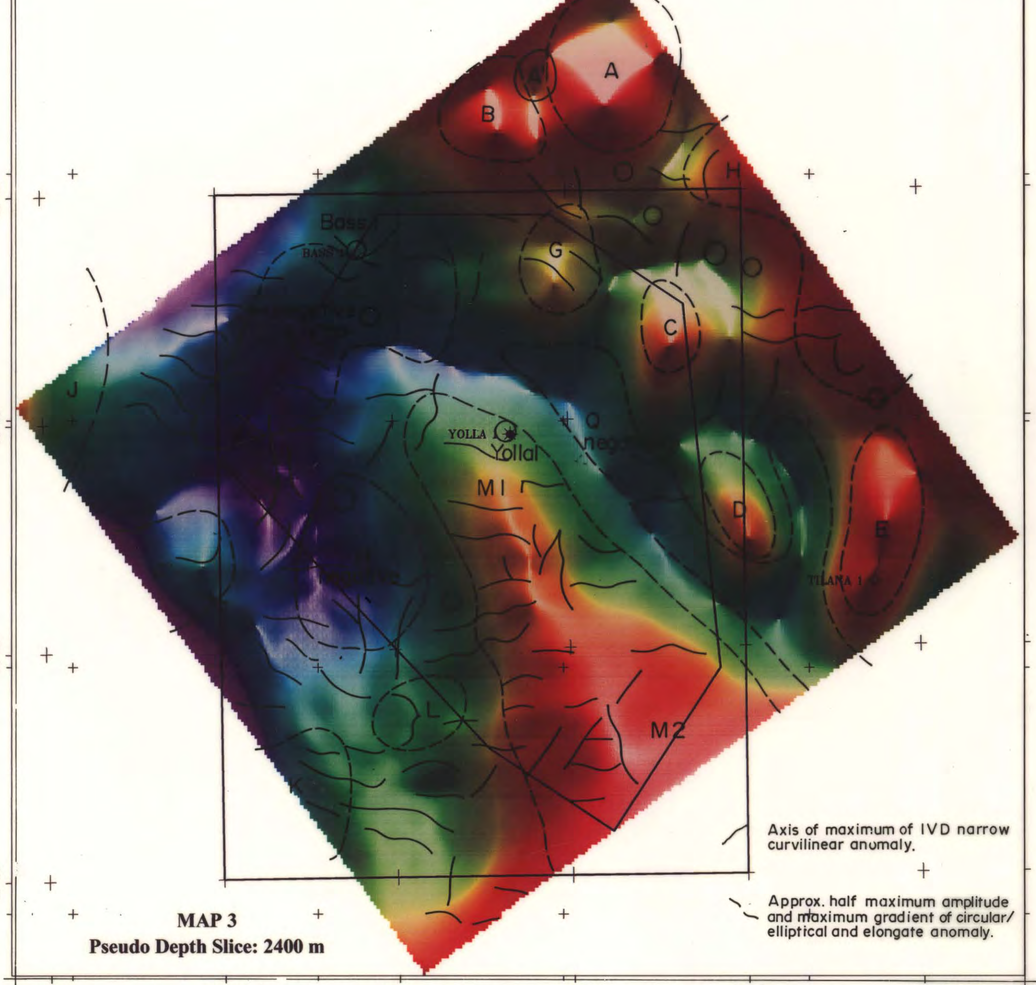


Peak of 2 VD narrow curvilinear anomaly.

MAP 2
Pseudo Depth Slice: 1150 m

DEPTH MODELS

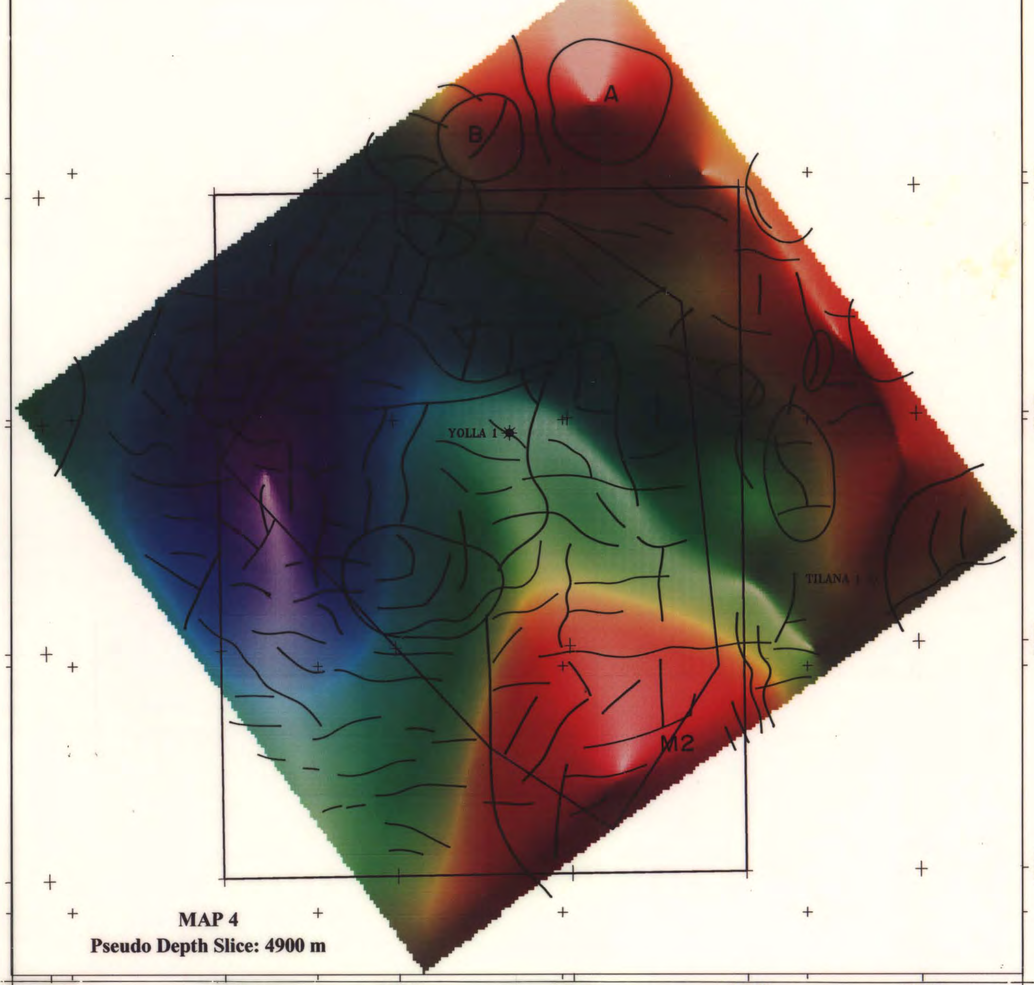
STRUCTURAL SKELETON INTERPRETATION FROM SECOND VERTICAL DERIVATIVE



Axis of maximum of IVD narrow curvilinear anomaly.

Approx. half maximum amplitude and maximum gradient of circular/ elliptical and elongate anomaly.

MAP 3
Pseudo Depth Slice: 2400 m



MAP 4
Pseudo Depth Slice: 4900 m

ANOMALY NAMING INDEX FROM TMI AND IVD MAPS

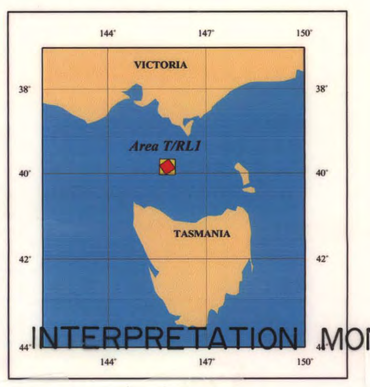
STRUCTURAL SKELETON FROM ANALYTIC SIGNAL

AEROMAGNETIC DATA
MAGNETIC IMAGE MONTAGE 3

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection
Central Meridian: 147° East, AMG Zone 55
Grid Cell Size: 50 metres
Graticules: 5 minutes and 10 kilometres



TN GN MN

True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.58°
Grid-magnetic angle	11.9°
True-magnetic angle	12.5°
Magnetic inclination	-70.6°

DATA ACQUISITION CONTRACTOR
Tesla - 10

41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatell running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JBH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTeslas SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NS,SN,EW,WE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: • System parallax of -14m • Diurnal field at base station 1 • IGRF model 1990 removed, base value 61300 nT at map centre • Altitude compensation using post processed GPS height • Heading error 1.5 nT on traverses, 0.5 nT on ties

5 cm

DATA PROCESSING CONTRACTOR
Tesla - 10

Levelling and pseudo depth slice processing by Tesla - 10.
41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

MAGNETIC DATA PROCESSING	Tie levelling and Microlevelling have been applied. Reduction to the pole was performed on the TMI grid in the Fourier Domain. INCLINATION for map centre -70.6° DECLINATION for map centre 12.5°
PSEUDO DEPTH SLICE PROCESSING	The depth slices were obtained running GEOPAK software, acting on the reduction to the pole grid in the Fourier Domain. At each stage the input required by the program are two depths as determined by two straight line segments on the power spectrum plot, and the ratio of the power spectra of these two lines where they intersect the zero wave number axis. The most stable procedure required the removal of the deepest layer using the deepest and second deepest straight line segments. This proceedure was repeated three times, with the output of the one stage forming the input of the next stage. The depth slice itself was the difference between any stage and the previous stage as outlined above, with the exception of the shallow stage.

TECHNICAL SUPERVISION

Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1995. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. All images of Montage 3 are Pseudo Depth Slices with the respective depths as follows; shallow, 1150m, 2400m and 4900m.
All maps are with relief shading and highlights from true north.

COPYRIGHT

IMAGE PROCESSING & MAPPING CONTRACTOR
Pitt Research Pty. Ltd.

Image processing and mapping by Pitt Research.
9 Divett Street, Port Adelaide, S.A. 5015
Ph (08) 3410025 Fax (08) 3410047

IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Colour scaled shallow (300 - 500 m) pseudo depth slice with relief shading and highlights.
MAP 2 :	Colour scaled 1150 m pseudo depth slice with relief shading and highlights.
MAP 3 :	Colour scaled 2400 m pseudo depth slice with relief shading and highlights.
MAP 4 :	Colour scaled 4900 m pseudo depth slice with relief shading and highlights.
	The data grids have been resampled and then subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading and highlighting enhanced with Automatic Gain Control. On all maps the relief shading and highlights are from the direction of True North.
MANAGEMENT	Ken Pitt, Mark Webster

INTERPRETATION MONTAGE OF MODELS AND ANOMALIES

5 cm

Enclosure 5

ENCLOSURE 9

MAGNETIC IMAGE MONTAGE 3

TPR OR-404

503140

STRUCTURAL SKELETONS MONTAGE

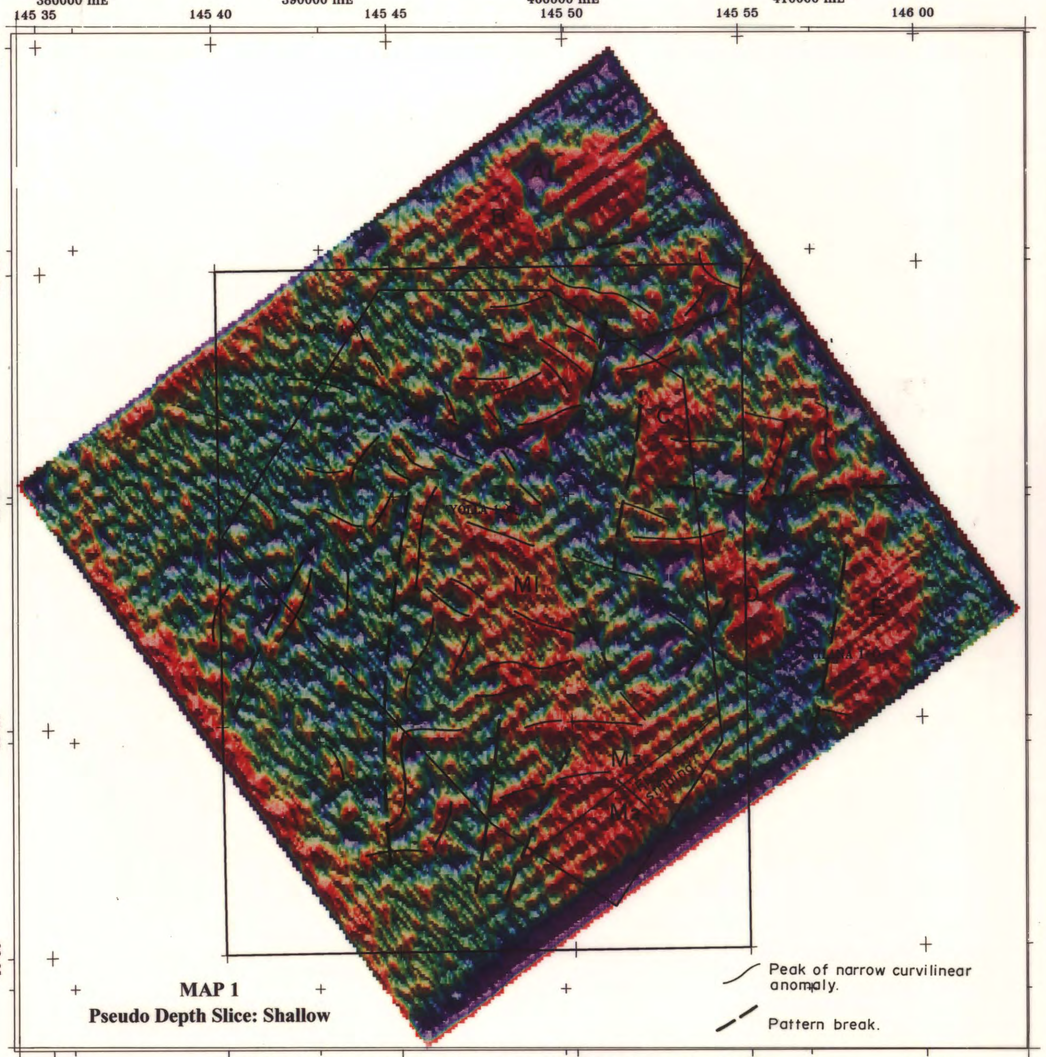
TPR OR-404

503137

AREA T/RL1 - Bass Strait

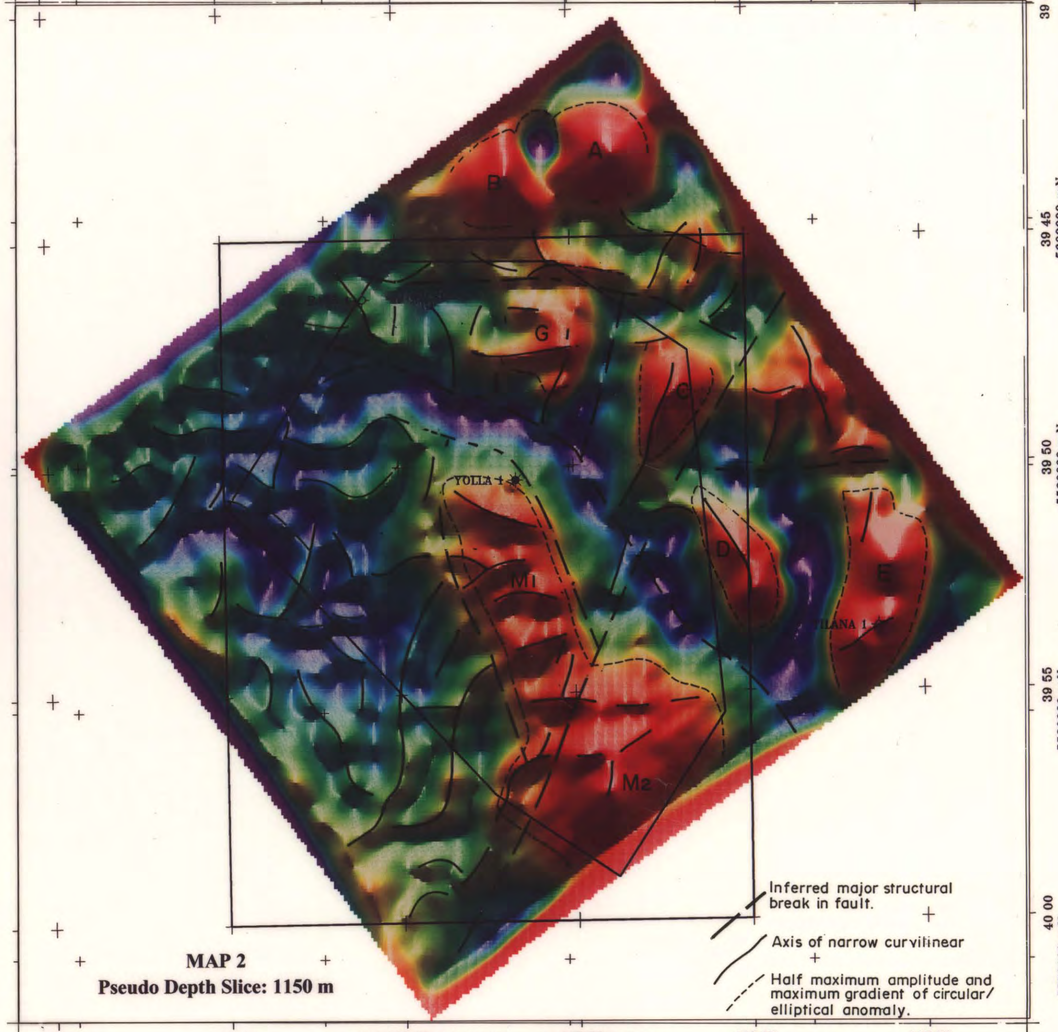
SAGASCO Resources Ltd.

380000 mE 390000 mE 400000 mE 410000 mE
145 35 145 40 145 45 145 50 145 55 146 00
39 40 / 5600000 mN / 39 45 / 5590000 mN / 39 50 / 5580000 mN / 39 55 / 5570000 mN / 40 00



MAP 1
Pseudo Depth Slice: Shallow

STRUCTURAL SKELETON INTERPRETATION FROM PSUEDO DEPTH SLICE SHALLOW

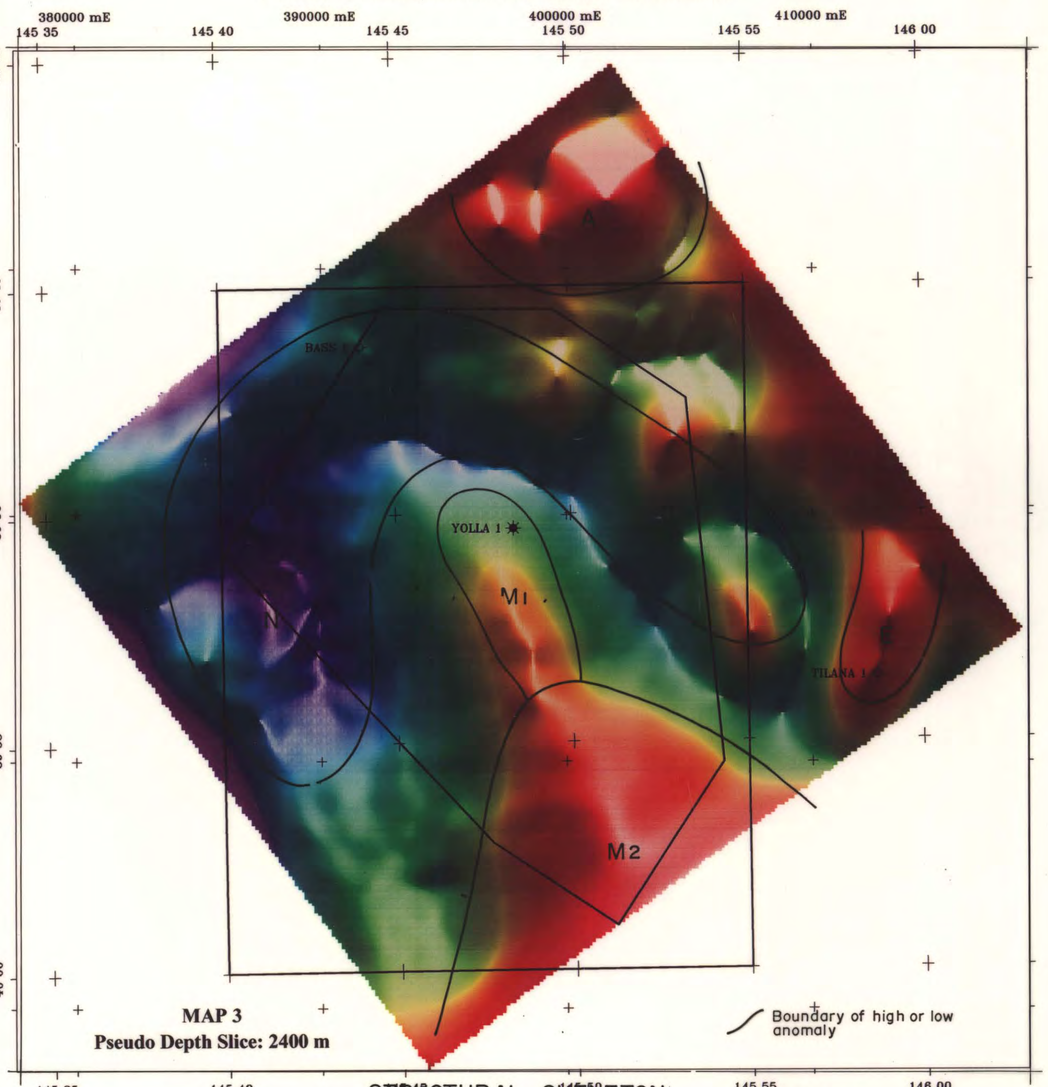


Peak of narrow curvilinear anomaly.
Pattern break.

MAP 2
Pseudo Depth Slice: 1150 m

STRUCTURAL SKELETON FROM PSUEDO DEPTH SLICE 1150m

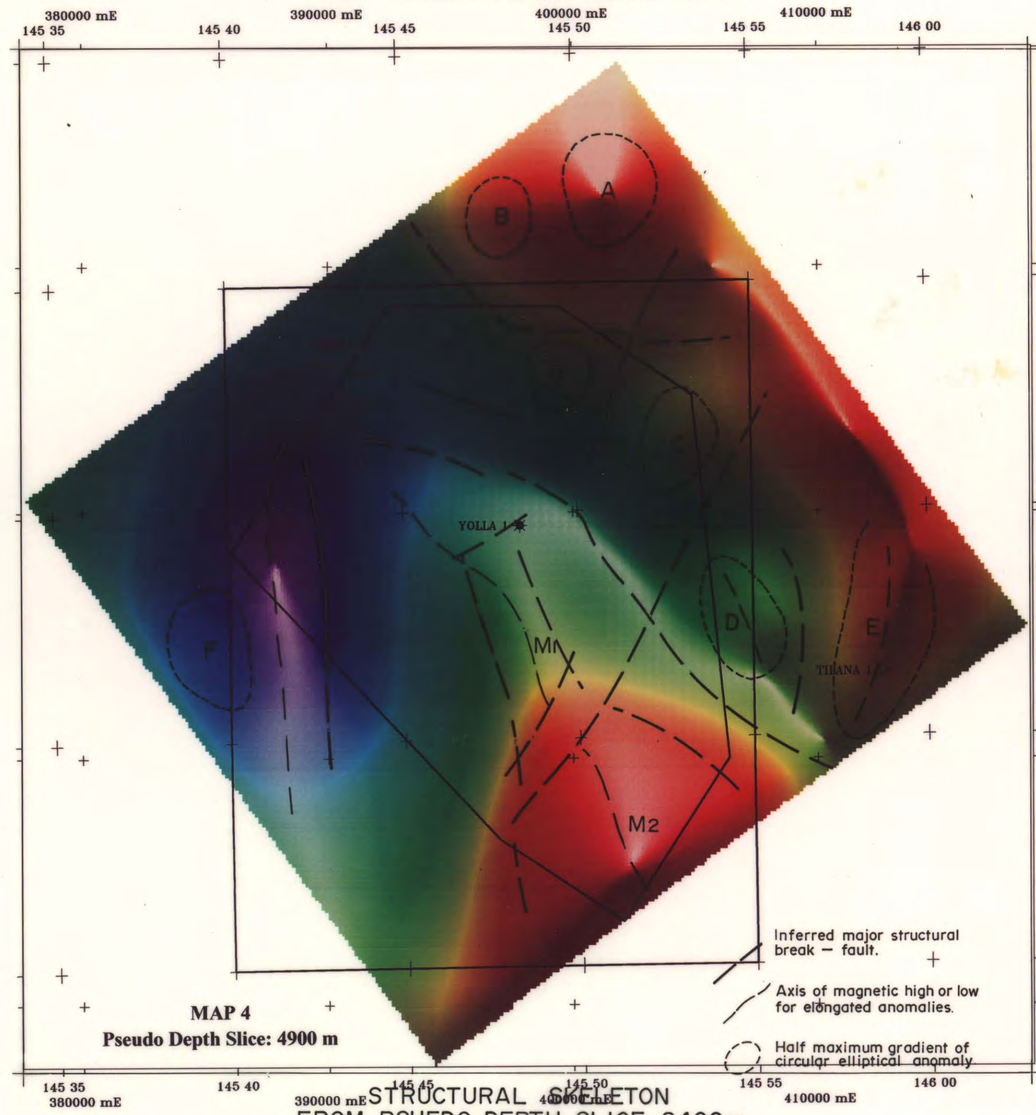
Inferred major structural break in fault.
Axis of narrow curvilinear
Half maximum amplitude and maximum gradient of circular/ elliptical anomaly.



MAP 3
Pseudo Depth Slice: 2400 m

STRUCTURAL SKELETON FROM PSUEDO DEPTH SLICE 4900m

Boundary of high or low anomaly



MAP 4
Pseudo Depth Slice: 4900 m

STRUCTURAL SKELETON FROM PSUEDO DEPTH SLICE 2400m

Inferred major structural break — fault.
Axis of magnetic high or low for elongated anomalies.
Half maximum gradient of circular elliptical anomaly

DATA ACQUISITION CONTRACTOR
Tesla - 10

41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatell running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JBH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTeslas SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NS,SN,EW,WE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: • System parallax of -14m • Diurnal field at base station 1 • IGRF model 1990 removed, base value 61300 nT at map centre • Altitude compensation using post processed GPS height • Heading error 1.5 nT on traverses, 0.5 nT on ties

5 cm

DATA PROCESSING CONTRACTOR
Tesla - 10

Levelling and pseudo depth slice processing by Tesla - 10.
41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

MAGNETIC DATA PROCESSING	Tie levelling and Microlevelling have been applied. Reduction to the pole was performed on the TMI grid in the Fourier Domain. INCLINATION for map centre -70.6° DECLINATION for map centre 12.5°
PSEUDO DEPTH SLICE PROCESSING	The depth slices were obtained running GEOPAK software, acting on the reduction to the pole grid in the Fourier Domain. At each stage the input required by the program are two depths as determined by two straight line segments on the power spectrum plot, and the ratio of the power spectra of these two lines where they intersect the zero wave number axis. The most stable procedure required the removal of the deepest layer using the deepest and second deepest straight line segments. This proceedure was repeated three times, with the output of the one stage forming the input of the next stage. The depth slice itself was the difference between any stage and the previous stage as outlined above, with the exception of the shallow stage.

TECHNICAL SUPERVISION

Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1995. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. All images of Montage 3 are Pseudo Depth Slices with the respective depths as follows; shallow, 1150m, 2400m and 4900m.
All maps are with relief shading and highlights from true north.

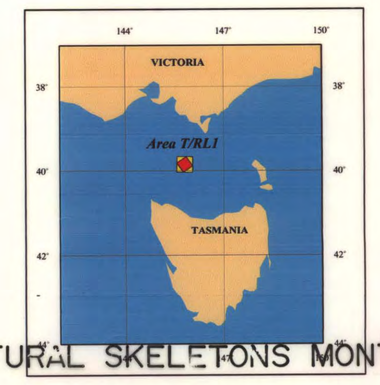
COPYRIGHT

AEROMAGNETIC DATA
MAGNETIC IMAGE MONTAGE 3

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection
Central Meridian: 147° East, AMG Zone 55
Grid Cell Size: 50 metres
Graticules: 5 minutes and 10 kilometres



True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.58°
Grid-magnetic angle	11.9°
True-magnetic angle	12.5°
Magnetic inclination	-70.6°

IMAGE PROCESSING & MAPPING CONTRACTOR
Pitt Research Pty. Ltd.

Image processing and mapping by Pitt Research.
9 Divett Street, Port Adelaide, S.A. 5015
Ph (08) 3410025 Fax (08) 3410047

IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Colour scaled shallow (300 - 500 m) pseudo depth slice with relief shading and highlights.
MAP 2 :	Colour scaled 1150 m pseudo depth slice with relief shading and highlights.
MAP 3 :	Colour scaled 2400 m pseudo depth slice with relief shading and highlights.
MAP 4 :	Colour scaled 4900 m pseudo depth slice with relief shading and highlights.
	The data grids have been resampled and then subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading and highlighting enhanced with Automatic Gain Control. On all maps the relief shading and highlights are from the direction of True North.
MANAGEMENT	Jing Ping Zhe, Mark Wegner

STRUCTURAL SKELETONS MONTAGE FROM 4 PSUEDO DEPTH SLICES

Enclosure 6
ENCLOSURE 9

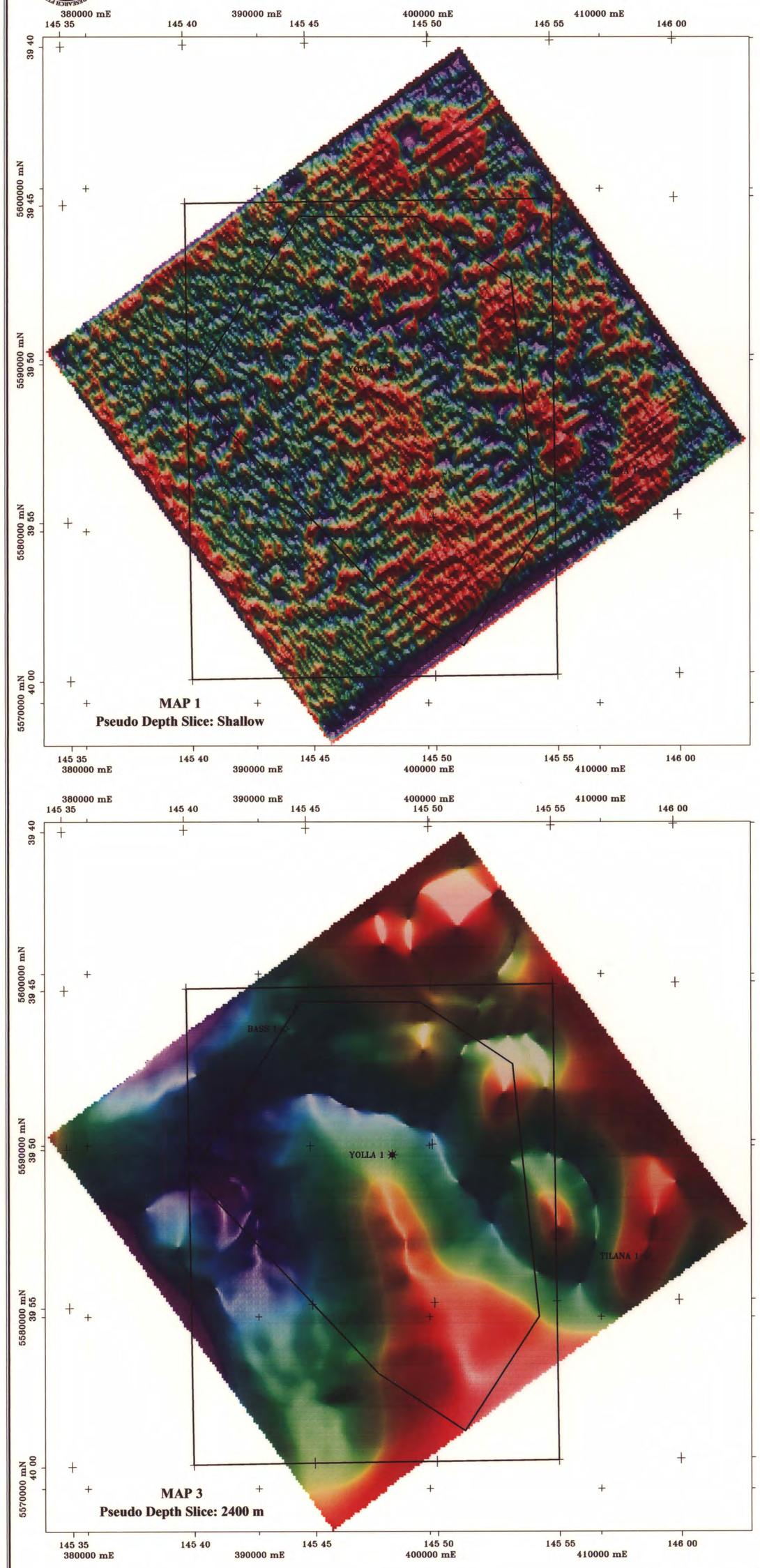
MAGNETIC IMAGE MONTAGE 3

TPR OR-404.

503140

AREA T/RL1 - Bass Strait

SAGASCO Resources Ltd.



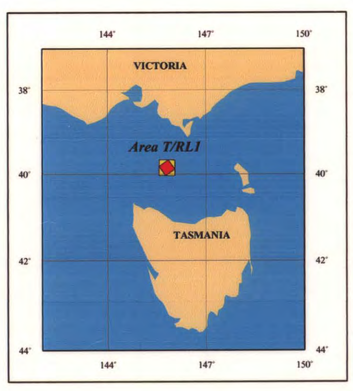
AEROMAGNETIC DATA

MAGNETIC IMAGE MONTAGE 3

Scale: 1:150 000

3000 0 3000 6000 9000 12000 15000 metres

Universal Transverse Mercator Projection
Central Meridian: 147° East, AMG Zone 55
Grid Cell Size: 50 metres
Graticules: 5 minutes and 10 kilometres



5 cm

True north, grid north and magnetic north are shown diagrammatically for the centre of Area T/RL1. Magnetic north is based on the 1990 model and moves by approx. 0.04° east per year.

Grid convergence	0.58°
Grid-magnetic angle	11.9°
True-magnetic angle	12.5°
Magnetic inclination	-70.6°

DATA ACQUISITION CONTRACTOR

Tesla - 10

41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

SURVEY FLOWN	June 1994 to July 1994
FLIGHT LINE SPACING	TRAVERSE LINES: 400 metres TIE LINES: 2000 metres
FLIGHT LINE DIRECTION	TRAVERSE LINES: 054-234 deg. TIE LINES: 144-324 deg.
SURVEY HEIGHT	MEAN SEA LEVEL CLEARANCE: 120 metres
NAVIGATION	Novatell running real time GPS. Differentially Post Processed.
AIRCRAFT	Cessna 210N VH-JBH
MAGNETOMETER	Scintrex CS2 Cesium Vapour RESOLUTION: 0.001 nanoTeslas SAMPLE INTERVAL: 0.1 secs INSTALLATION: Tail Stinger
PASSIVE COMPENSATION	None Noise envelope of raw magnetic data 0.2 nT
ACTIVE COMPENSATION	Real time compensation and post processing as necessary. Bandwidth DC to 2.0 Hz. Effective noise envelope mostly less than 0.05 nT NS,SN,EW,WE: noise envelope difference 25 percent maximum. Output sample interval 0.1 secs (approx. 7m along ground).
PROCESSING APPLIED	Corrections have been applied for: • System parallax of -14m • Diurnal field at base station 1 • IGRF model 1990 removed, base value 61300 nT at map centre • Altitude compensation using post processed GPS height • Heading error, 1.5 nT on traverses, 0.5 nT on ties
SURVEY MANAGEMENT	Rod Pullen.

DATA PROCESSING CONTRACTOR

Tesla - 10

Levelling and pseudo depth slice processing by Tesla - 10.
41 Kishorn Road, Applecross, WA.
Ph (09) 3648444 Fax (09) 3646575

MAGNETIC DATA PROCESSING	Tie levelling and Microlevelling have been applied. Reduction to the pole was performed on the TMI grid in the Fourier Domain. INCLINATION for map centre -70.6° DECLINATION for map centre 12.5°
PSEUDO DEPTH SLICE PROCESSING	The depth slices were obtained running GEOPAK software, acting on the reduction to the pole grid in the Fourier Domain. At each stage the input required by the program are two depths as determined by two straight line segments on the power spectrum plot, and the ratio of the power spectra of these two lines where they intersect the zero wave number axis. The most stable procedure required the removal of the deepest layer using the deepest and second deepest straight line segments. This proceedure was repeated three times, with the output of the one stage forming the input of the next stage. The depth slice itself was the difference between any stage and the previous stage as outlined above, with the exception of the shallow stage.

TECHNICAL SUPERVISION

Doug C. Roberts, SAGASCO, Manager of Exploration Operations
David H. Tucker, Preview Resources Pty Ltd

BIBLIOGRAPHIC REFERENCES

SAGASCO, 1995. Montage of Aeromagnetic pixel maps of Area T/RL1 Bass Strait. All images of Montage 3 are Pseudo Depth Slices with the respective depths as follows; shallow, 1150m, 2400m and 4900m.
All maps are with relief shading and highlights from true north.

COPYRIGHT

IMAGE PROCESSING & MAPPING CONTRACTOR

Pitt Research Pty. Ltd.

Image processing and mapping by Pitt Research.
9 Divett Street, Port Adelaide, S.A. 5015
Ph (08) 3410025 Fax (08) 3410047

IMAGE PROCESSING	The Image Processing applied to each map is described below:
MAP 1 :	Colour scaled shallow (300 - 500 m) pseudo depth slice with relief shading and highlights.
MAP 2 :	Colour scaled 1150 m pseudo depth slice with relief shading and highlights.
MAP 3 :	Colour scaled 2400 m pseudo depth slice with relief shading and highlights.
MAP 4 :	Colour scaled 4900 m pseudo depth slice with relief shading and highlights.
	The data grids have been resampled and then subjected to a rectilinear stretch. Colour values from red (highest positive) to purple (lowest negative) have been assigned and shading and highlighting enhanced with Automatic Gain Control. On all maps the relief shading and highlights are from the direction of True North.
MANAGEMENT	Jing Ping Zhe, Mark Wegner

ENCLOSURE 9