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Aberfoyle Resources Limited

EXPLORATION DIVISION
ACN 004 664 108

EXPLORATION LICENCE 14/91

MOUNT TOR

TASMANIA

Progress Report for the Period

October 1993 to September 1994

VOLUME 1 OF 1

LOCATED DATA TAPE HELD

Located dig by. hold

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Internal Report No: Mount Tor 2

91-3645

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1. EL 14/91 Mount Tor Locality Plan

1.0 SUMMARY

Work on EL 14/91 during the current reporting period has focussed on an attempt to locate synvolcanic structures. Areas of prospective stratigraphy, such as correlates of the Rosebery host sequence at depth, adjacent to synvolcanic faults, are seen as conceptual targets for Volcanic Hosted Massive Sulphides.

Delineation of structures was attempted from interpretation of a close spaced aeromagnetic survey flown in March, 1994.

The principal target area generated by this survey is the Cattley North area where further mapping and geochemical sampling is planned.

2.0 INTRODUCTION

Exploration Licence 14/91, Mount Tor, covering 62 sq km is located 15km northeast of Hellyer mine, Figure 1. The licence was granted to Aberfoyle Resources Ltd. on 18th October, 1991.

The area is considered prospective for Volcanic Hosted Massive Sulphide (VHMS) mineralisation in outcropping felsic volcaniclastic sequences of the Southwell Subgroup and in possible Que-Hellyer Volcanic correlates that may underlie these rocks.

This report describes exploration completed on the Mount Tor licence for the period October, 1993 to September, 1994.

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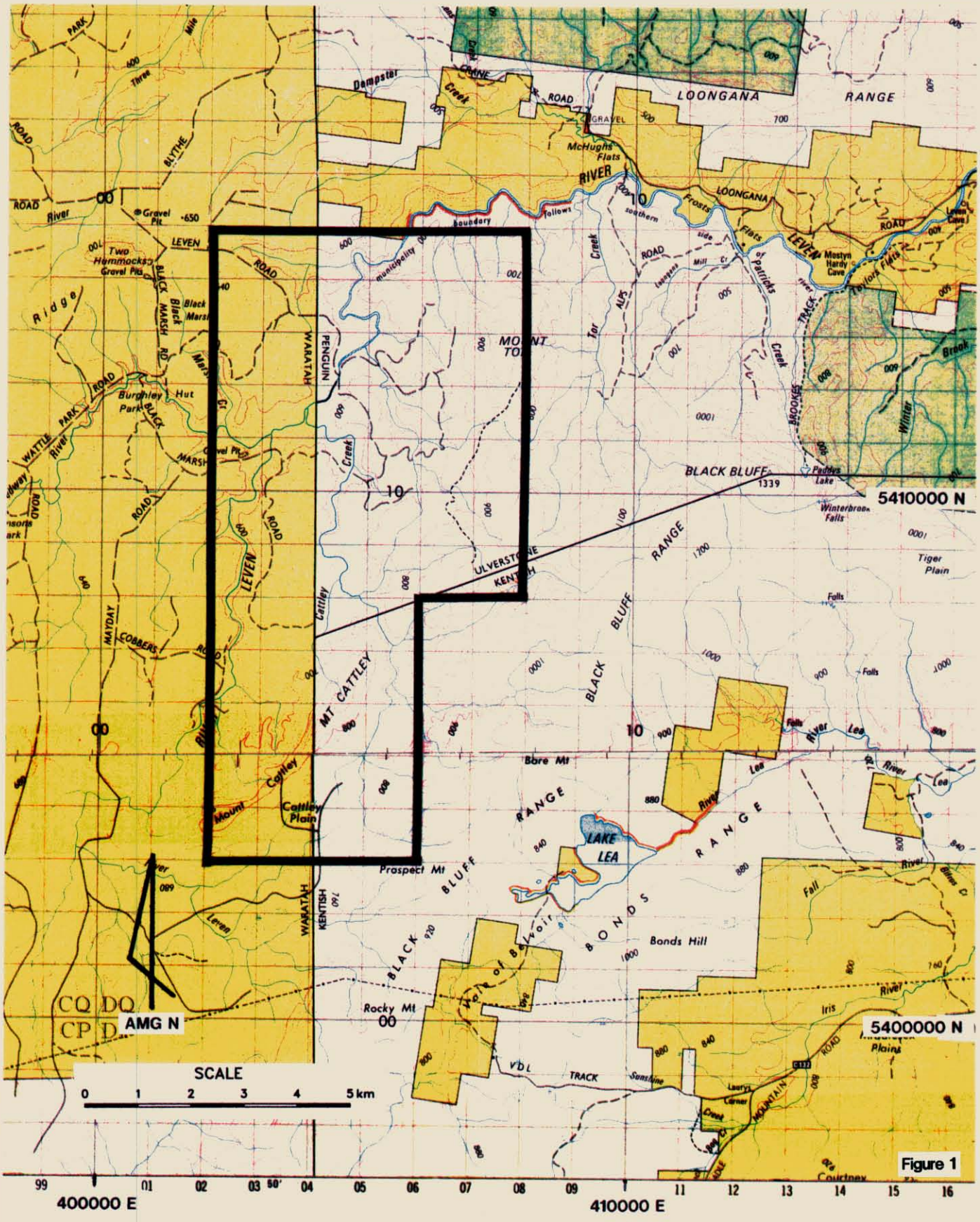

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EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

E.L. 14/91 MT.TOR

LOCALITY PLAN

Scale : 1 : 100000

Date : NOVEMBER 1993

Compiled : RdeB

Drawn :

Traced : RdeB

Checked : DBW

Plate No. : TOR2

151

3.0 RESEARCH

An Honours project on the volcanology of the Southwell Subgroup between Hellyer and Mount Tor will commence this summer. The project will be undertaken by G. Van Kerkvoort under the supervision of Dr J McPhie of the University of Tasmania.

An aim of this work will be to characterise the stratigraphy of the Southwell Subgroup on the Mount Tor licence and determine how these rocks may correlate with other Southwell Subgroup on the Mount Tor licence and determine how these rocks may correlate with other Southwell Subgroup rocks at Mackintosh and further south.

4.0 PREVIOUS EXPLORATION

Modern exploration has been conducted over the area covered by EL 14/91 as part of previous licences 10/74 (Geopeko), EL 36/79 (Billiton and CRA) and EL 39/83 (Billiton).

The most recent work by Billiton and CRA focussed on surface EM with sporadic coverage by soil geochemistry. Detailed mapping was carried out in areas of geophysical or geochemical interest.

The results of previous exploration are summarised in Wallace, 1993.

5.0 WORK COMPLETED

5.1 Introduction

As most Southwell Subgroup rocks on EL 14/91 have been surveyed with surface EM, future exploration must be directed toward deeper geologically based targets.

This requirement is similar to present exploration of the Que-Hellyer Volcanics on EL 106/87 and a similar strategy to that adopted there is proposed.

This involves:

1) Delineate the synvolcanic fault network within the licence. Such structures and in particular their intersections, are seen as potential foci for venting hydrothermal fluids and localisation of massive sulphide deposition.

and

2) Determine the distribution of facies as defined by McPhie and Allen (1992) in order to determine where the Mount Tor Sequence sits within the Southwell Subgroup and in particular where potential correlates of the Rosebery Host Sequence may occur.

5.2 Aeromagnetics

5.2.1. Introduction

Given the success of aeromagnetics in delineating structure at Mackintosh a close spaced survey was proposed over EL 14/91.

In March, 1994 a 600 line kilometre survey was flown by Geoterrex Pty Ltd. Flight line spacing was 100 metres with lines oriented at 110° AMG; as for the earlier survey over EL 106/87 with which it overlapped.

Flight lines and contours of magnetic intensity are shown on Plates TOR 20 and TOR 19 respectively. Survey data in digital format, on magnetic tape, is provided with this report.

5.2.2. Interpretation

Interpretation of the Mount Tor aeromagnetic survey was based on generation of ER Mapper algorithms and production of images at 1:25,000 and 1:10,000 scale. Detailed interpretation was carried out on 1:10,000 scale images. Several filters were used but most detail was extracted from real time shades at the three different sun angles used for interpretation of the Mackintosh survey (N, SW and SE).

Magnetic discontinuities and sources from each image were recorded on a single overlay to build up a geometric skeleton. This sketch is presented on Plate TOR 18.

5.2.3. Results

Most sources and breaks are shallow features reflected in the high frequency part of the data. Therefore, spatially persistent breaks that are inferred to reflect faults are shallow and probably Devonian or younger in age.

However, work at Mackintosh suggests that many nests of young shallow aeromagnetic breaks reflect structures that have been active during the Cambrian. This effect is inferred to be due to reactivation of basement structures during later compressional or extensional events e.g. during the Devonian or Tertiary.

A network of faults have been interpreted from the geometric skeleton and are presented on Plate TOR 17. Unfortunately at Mount Tor, strong geological control (i.e. drill hole information) is not available to distinguish true Cambrian structures as it is at Mackintosh.

Interest has focussed on the Cattley North area where a NNW (AMG) trending magnetic break suggests a structural control, localising the Ring Road mafic intrusive and carbonate alteration zone. Future work will focus on this area to assess its potential as a hangingwall plume, related to an underlying VHMS system, associated with a NW Cambrian transfer structure.

6.0 FUTURE PROGRAMME

In the coming year a mapping programme will focus on the Cattley North area. Mapping will have three aims:

1) Confirm the presence of Southwell Subgroup rocks and determine where prospective lower Southwell Subgroup stratigraphy is located.

2) Determine if a major structure separates the Black Marsh Syncline Animal Creek Greywacke correlate from Mount Tor Southwell Subgroup rocks i.e. does the postulated Henty Fault extension exist?

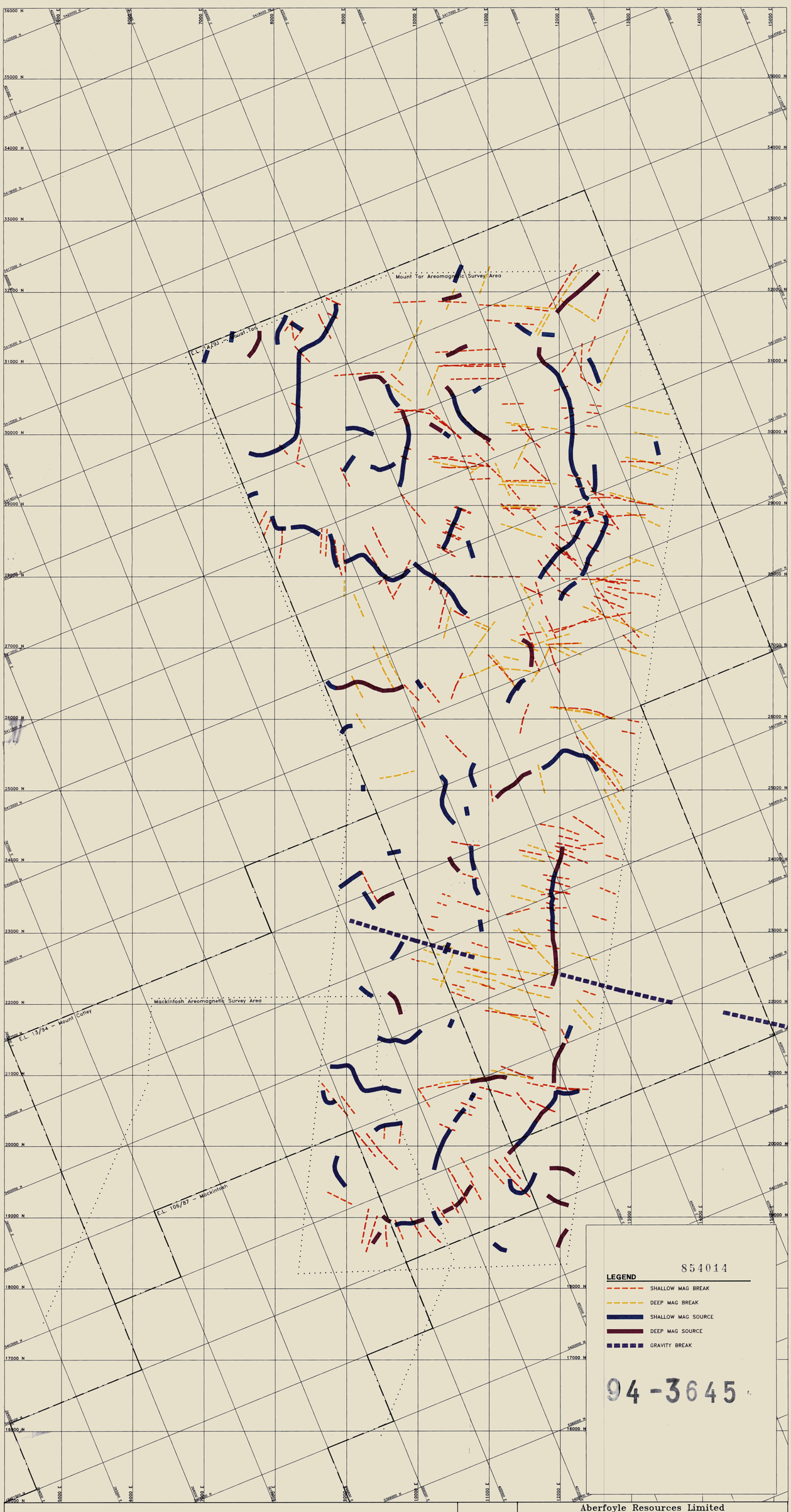
3) Examine the nature of the carbonate alteration zone mapped by the Geological Survey in the Cattley North area and determine its potential as a hangingwall alteration zone.

Completion of this work should lead to a drill proposal in the Cattley North area during mid 1995. The target is perceived to be prospective stratigraphy underlying carbonate alteration in a structurally favourable location.

7.0 REFERENCES

McPhie, J., Allen, R. L., 1992. Facies Architecture of Mineralised Submarine Volcanic Sequences: Cambrian Mount Read Volcanics, Western Tasmania.

Wallace, D. B., 1993. Annual Report 14/91. Mount Tor Tasmania. Progress Report for the Period October, 1992 to September, 1993.



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tor-alge.1094

MOUNT TOR E.L.14/91
AEROMAGNETIC INTERPRETATION
GEOMETRIC SKELETON

AMG NORTH

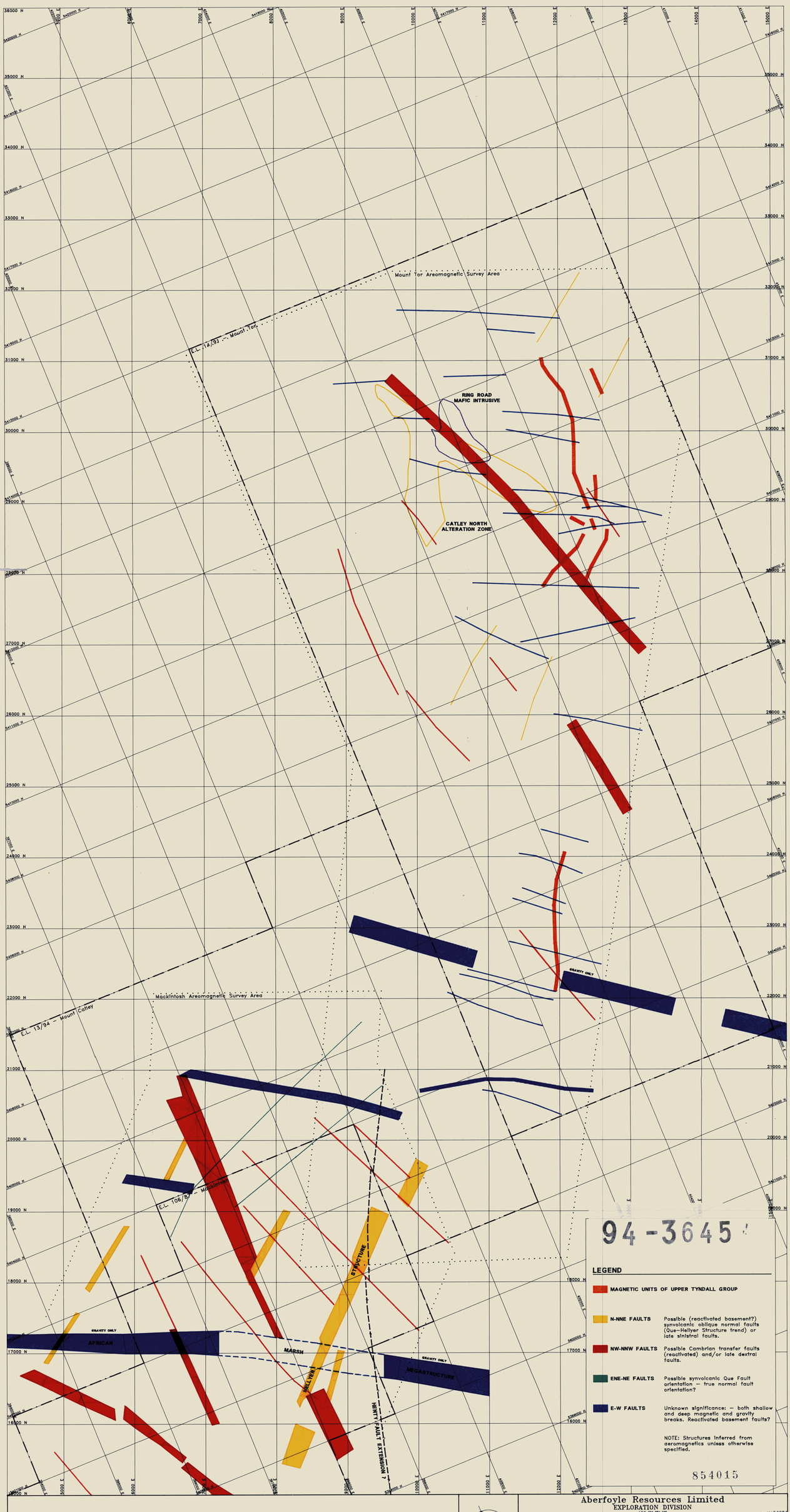
REVISIONS			
INT.	DATE	INT.	DATE

Location Code:

Scale: 1:25000

5 cm

Compiled:	SMR
Drawn:	NWR
Plotted:	-
Checked:	SMR
Plate No.	TOR 18



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MOUNT TOR E.L.14/91
INTERPRETED
STRUCTURAL FRAMEWORK

AMG NORTH

REVISIONS			
INIT.	DATE	INIT.	DATE

Location Code:

Scale: 1:25000

5 cm

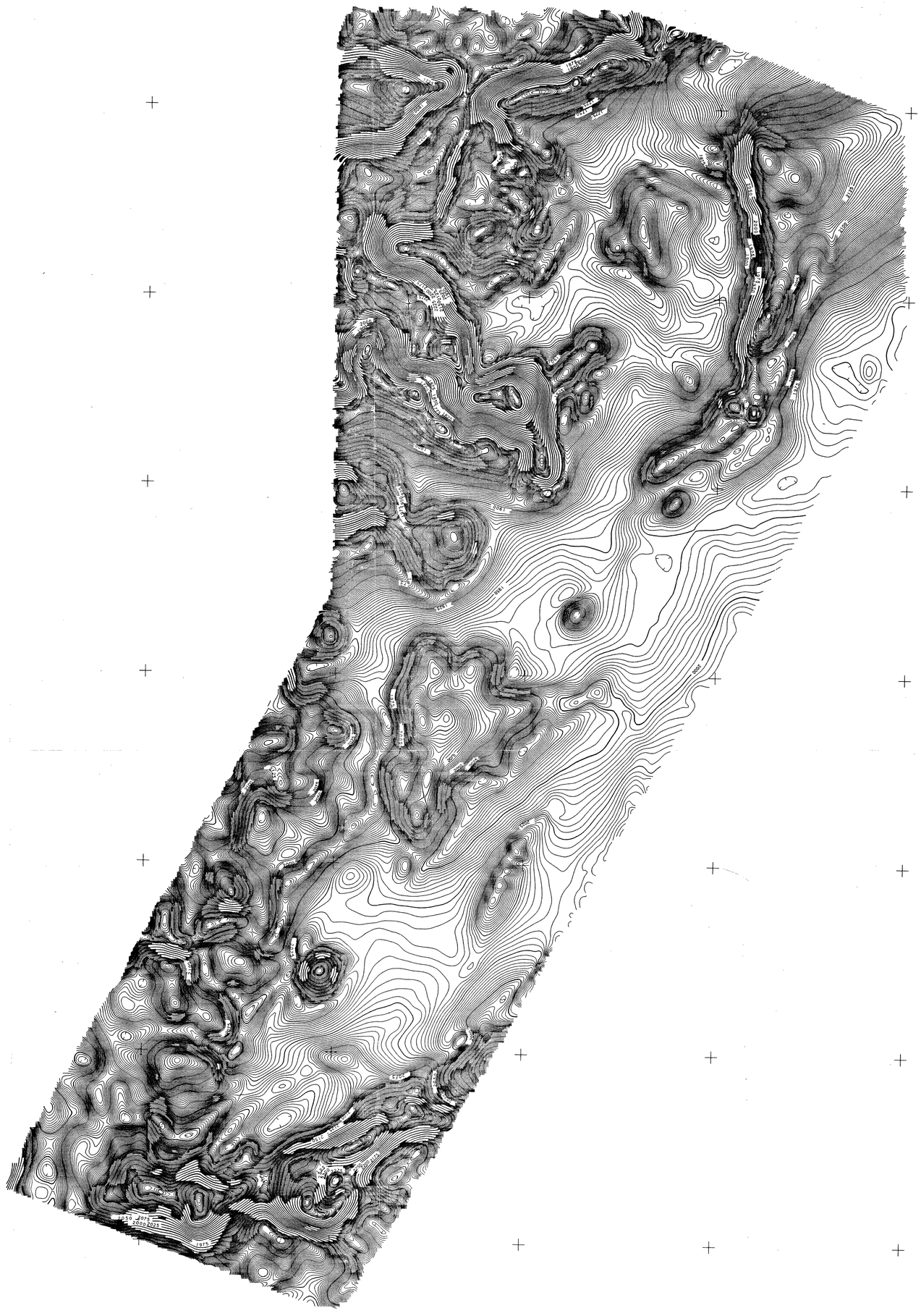
Compiled:	SMR
Drawn:	NWR
Plotted:	-
Checked:	SMR
Plate No:	TOR 17

master0224

396000E 398000E 400000E 402000E 404000E 406000E 408000E

41°25'00"S
41°27'30"S
41°30'00"S
41°32'30"S

5416000N
5414000N
5412000N
5410000N
5408000N
5406000N
5404000N
5402000N



145°45'00"E 145°47'30"E 145°50'00"E 145°52'30"E 145°55'00"E

AIRBORNE SURVEY SPECIFICATIONS

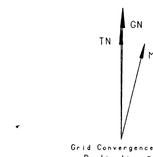
AIRCRAFT :	Aerospatiale AS350B Squirrel helicopter VH-HRX
MAGNETOMETER :	Cesium Vapour optical absorption Sensitivity : 0.05 nT
RECORDING INTERVAL :	0.1 sec (approx 4.5 m sampling) at mean ground speed of 160 km/hour
DATA RECORDING :	Geoterrex MADACS acquisition system Digital to magnetic tape
NOMINAL TERRAIN CLEARANCE :	Aircraft at 110m, detector in towed bird at 80m
NOMINAL LINE SPACING :	Traverse lines 100 m Tie lines 1.0 km
NOMINAL LINE DIRECTION :	110/290 degrees
FLIGHT PATH NAVIGATION :	Sercel NDS 100 Real Time UHF Differential GPS System
FLIGHT PATH RECORD :	XY Coordinates computed from WGS84 lat/long coordinates computed by SERCEL NDS100 Real Time Differential GPS System

ALTITUDE CORRECTED RESIDUAL MAGNETIC CONTOURS

Grid notation refers to Australian Map Grid Zone 55

Magnetics :	Diurnal removed, tie line levelled
IGRF :	1990 model (updated for secular variation to April 1994) removed, datum 2000 nT added
Altitude Correction :	Magnetics corrected to 120m detector height
Total Field :	62022 nT (at 41°27'30S, 145°52'30E)
Inclination :	72 degrees S
Declination :	13.1 degrees E
Grid mesh size :	20 x 20 metres
Grid filter :	None
Contour interval :	2.5, 25 and 250 nT

94-3645



854016

Grid Convergence = 0.77°
Declination = 13.10°

SCALE 1:20000

500 0 500 1000 m

5cm

JOB NO : 6-558
Surveyed by GEOTERREX PTY LTD : Apr 1994
Compiled by GEOTERREX PTY LTD, SYDNEY
Processed by GEOTERREX PTY LTD, SYDNEY

ABERFOYLE RESOURCES LIMITED

ALTITUDE CORRECTED RESIDUAL MAGNETIC CONTOURS MT TOR, TASMANIA

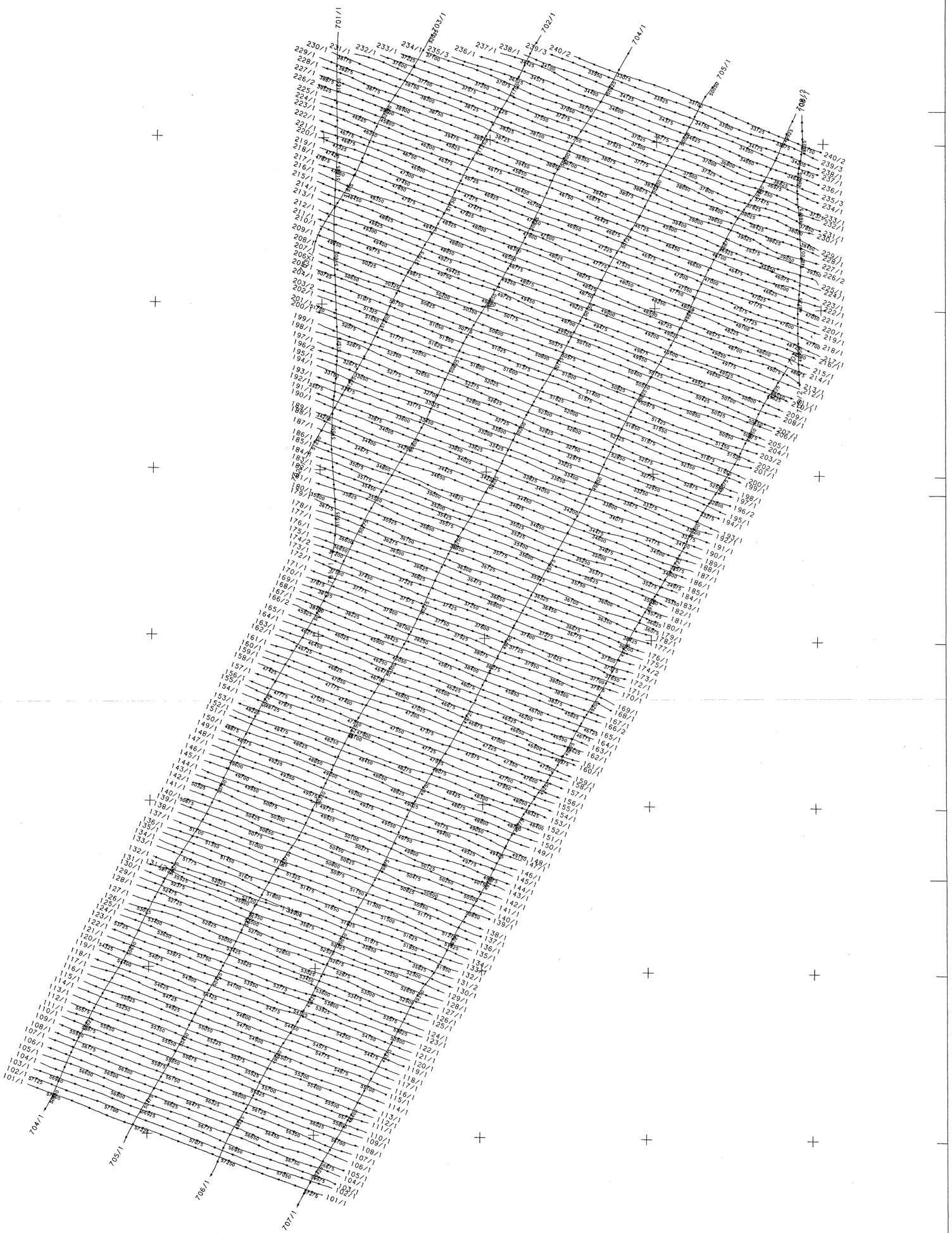
SHEET 1 OF 1 TOR 19

CREATED : RC	DRAWING NO :
CHECKED :	DATE : 2-SEP-1994

396000E 398000E 400000E 402000E 404000E 406000E 408000E

41°25'00"S
41°27'30"S
41°30'00"S
41°32'30"S

5416000N
5414000N
5412000N
5410000N
5408000N
5406000N
5404000N
5402000N



145°45'00"E 145°47'30"E 145°50'00"E 145°52'30"E 145°55'00"E

AIRBORNE SURVEY SPECIFICATIONS

AIRCRAFT :	Aerospatiale AS350B Squirrel helicopter VH-HRX
MAGNETOMETER :	Cesium Vapour optical absorption Sensitivity : 0.05 nT
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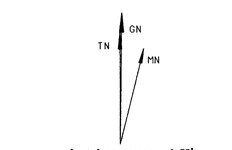
NOMINAL TERRAIN CLEARANCE :	Aircraft at 110m. detector in towed bird at 80m
NOMINAL LINE SPACING :	Traverse lines 100 m Tie lines 1.0 km
NOMINAL LINE DIRECTION :	110/290 degrees
FLIGHT PATH NAVIGATION :	Sercel NDS 100 Real Time UHF Differential GPS System
FLIGHT PATH RECORD :	XY Coordinates computed from WGS84 lat/long coordinates computed by SERCEL NDS100 Real Time Differential GPS System

FLIGHT PATH

Grid notation refers to Australian Map Grid Zone 55
Navigation fix 32768

94-3645



Grid Convergence = 0.77°
Declination = 13.10°

SCALE 1:20000

500 0 500 1000 m

5cm

JOB NO : 3-458
Surveyed by GEOTERREX PTY LTD : Apr 1994
Compiled by GEOTERREX PTY LTD. SYDNEY
Processed by GEOTERREX PTY LTD. SYDNEY

ABERFOYLE RESOURCES LIMITED

MT TOR
FLIGHT PATH 854017
BURNIE SK55-3
SHEET 1 OF 1 TOR 20

CREATED : RC	DRAWING NO :
CHECKED :	DATE : 2-NOV-1994