

LOGISTICS REPORT
 AIRBORNE GEOPHYSICAL SURVEY
 NORTH EAST TASMANIA
 FOR
 CONGA OIL PTY. LTD.
 BY
 AUSTIREX INTERNATIONAL LIMITED

TCR 69-3065 V1/7

MINES	
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Refer to	
20.12.89	
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* DATA TAPES
HELD IN RECORDS

89 3065

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1. SURVEY DETAILS

1.1 Area

1.1.1 North East Tasmania

Location Longitude 146 degrees 15 minutes to 147 degrees 50 minutes east, latitude 41 degrees 0 minutes to 42 degrees 55 minutes south, within the Launceston and Oatlands 1:250,000 map sheets. AMG coordinates 440 000mE to 570 000mE and 5 250 000mN to 5 450 000mN.

Flight line direction	090 - 270 degrees
Flight line spacing	5 kilometres
Tie line direction	180 - 360 degrees
Tie line spacing	25 kilometres
Flight elevation	1600 metres ASL
Line distance	5,705 kilometres

1.2 Navigation

Navigation was visual from Tasmanian Department of Lands topographic mapping.

The map assemblage were 1:100,000 scale. Horizontal AMG control were obtained from the series of maps.

1.3 Flight Path Recovery

Flight path recovery was carried out using visual image recognition from tracking films on a duplicate set of maps provided for navigation.

The average distance between recovered points was no greater than 5 kilometres along traverse lines and tie lines where sufficient image detail was present.

2. LOGISTICS AND OPERATIONAL STATISTICS

2.1 Operating Base

The operating base was Launceston.

2.2 Survey Field Crew

Pilot	N.Fuller
Navigator	P.Mosman
Data Technician	H.Tuckett
System Technician Manager	N.Atwell

2.3 Aircraft

Survey aircraft Aerocommander 500S
 Registration VR-MEH

2.4 Flight Summary

Production flights 7
 Survey start 12 February 1989
 Survey finish 21 February 1989
 Standby 3 days
 Duration 10 days

2.5 Climatic Conditions

Strong winds and turbulent weather was recorded during the period 12,14,15/2/89 and precluded any normal survey flying.

2.6 Geo-magnetic Conditions

The diurnal field was recorded as stable during this period.

3. INSTRUMENT SPECIFICATIONS3.1 Airborne Magnetometer

Type Scintrex, V2321 alkali vapour
 Resolution 0.01 nanoTeslas
 Operating range 17,000 - 95,000 nanoTeslas
 Mounting Tail stinger
 Sampling rate 0.3 seconds

3.2 Ground Magnetometer

Type Geometrics G-856A
 Resolution 0.1 nanoTeslas
 Sampling rate 30 seconds
 Recorder Hewlett Packard 85B computer
 Location Sited at the airfield

3.3 Altimeters

Type Radar Sperry AA100
 Range 0 - 610 metres
 Sampling rate 0.9 seconds

Type Barometric Penny and Giles
 Pressure sensor Millibars
 Sampling rate 0.9 seconds

3.4 Tracking Camera

Type Scientific, Vinten MkII
 Format 16mm, single frame
 Lens 5.9mm

3.5 Acquisition System

3.5.1 Digital recording on magnetic tape

Flight number
 Line number
 Fiducial number
 Time
 Magnetic intensity
 Barometric pressure
 Altitude

3.5.2 Analogue recording

Channel 1	Magnetic intensity	0 - 100 nanoTeslas
Channel 2	Magnetic intensity	0 - 1000 nanoTeslas
Channel 3	Altitude	0 - 1000 feet

4. SYSTEM CALIBRATIONS AND CHECKS

4.1 System Calibration

Magnetometer compensation differences:

	Heading	Roll	Pitch
North	+0.1	0.1	
South	-0.7	0.2	
East	-0.2		0.2
West	+0.9		0.1

System parallax calibration:

Magnetometer 2 fiducials

4.2 Data Acquisition Checks

The checks performed on the data acquisition system involved a read after write check on the tape.

5. GEOPHYSICAL DATA

5.1 Processing

The field tapes (DC-300's) are decoded and transcribed to 9 track tapes. All lines voided in the field are removed. The data is then automatically edited to remove any major spikes. Any errors not detected in the automatic edit are manually corrected.

On receipt of flight path recovery the photos with control are digitized and transformed to grid coordinates. The flight path is then plotted and checked for any errors which are then corrected.

Diurnal values are read off cassettes and edited to remove high frequency noise. Profiles of diurnal are plotted and any errors remaining are corrected. The diurnal is then interpolated to produce a diurnal value for every fiducial and removed from the magnetic data along with the IGRF value. The diurnal base was 61750 nT. The data is corrected for system parallex and a new set of coordinates are computed. Tie line levelling is then applied, if necessary, to remove any linear variations between traverse lines. The data is then gridded and contoured.

5.2 Line Numbering Series

Pre calibration	5010 - 5040
Post calibration	6010 - 6040
Pre low level test line	5080
Pre high level test line	5090
Post low level test line	6080
Post high level test line	6090
Traverse lines	1101 - 1141
Tie lines	1701 - 1706
Heading checks	8010 - 8050
Equipment tests	9000 - 9999

5.3 Processed Data

5.3.1 Flight Path Maps

1:250,000 scale

Plotted with Geographic and AMG coordinates.

5.3.2 Contour Maps

1:250,000

Total magnetic intensity
10 nT contour interval, 1000 x1000 metre grid cell

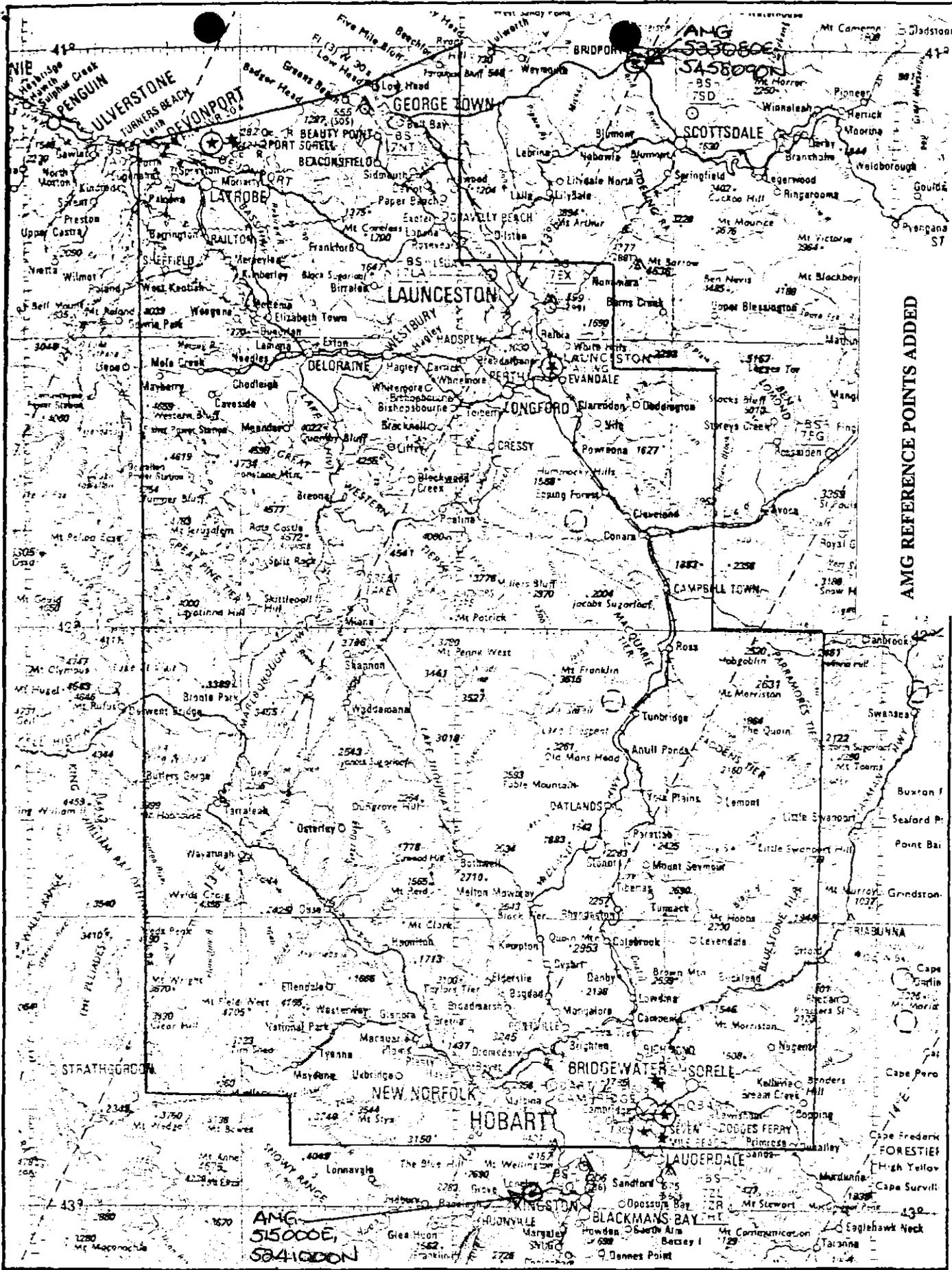
5.3.3 Stacked Profiles

1:250,000 Total magnetic intensity

5.3.4 Data Tapes

Located raw and corrected geophysical data in ASCII format, 1600 bpi.

6. SURVEY AREA LOCALITY PLAN



AMG REFERENCE POINTS ADDED

**AUSTIREX
INTERNATIONAL LTD.**
JOB No. 2083

LOCALITY
AREA
PLAN SHOWS

Tasmania
NE Tasmania
Survey Boundary



DATE 2/89

545009