EXPLORATION LICENCE 8764 "MISTAKE BORE"
(Mount Peake, Barrow Creek 1:250 000 Sheets)

ANNUAL REPORT ON EXPLORATION
FOR THE YEAR ENDED
15th September 1995

Distribution:

NTDME (1)
bourne - (1)
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Prepared and Issued By:

C G Drown
Senior Geologist

September 1995
ARL Report No. Mistake Bore 1
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1. INTRODUCTION

EL 8764 “Mistake Bore” is located to the west of the Stuart Highway and straddles the Mount Peake and Barrow Creek 1:250 000 mapping sheets (Figure 1). The licence occurs on Stirling Station, (N.T. Por 655 Perpetual Pastoral Lease 1103).

Aberfoyle Resources is exploring the gold potential of EL 8764, with mineralisation of the type developed to the west in the Granites/Tanami inlier seen as having the potential to exist on the licence. The existing deposits within the Granites/Tanami are generally intimately associated with magnetic anomalies and as such our exploration is targetted towards the testing of magnetic features.

Work in the first year of tenure has included a search of past exploration over the licence area, the application for and subsequent issuing of an AAPA Authority Certificate detailing the location of sites of Aboriginal significance, procuring and imaging of existing geophysical datasets; and the flying of a 500m spaced airborne magnetic and radiometric survey over that part of the licence that occurs on the Mount Peake 1:250 000 sheet area.

2. TENURE

EL 8764 “Mistake Bore” (209 square kilometres) was granted on the 16th September 1994 to Aberfoyle Resources Limited for a period of six years.
An annual exploration expenditure commitment of $16,000 applied to EL 8764 for the first year of tenure.

3. WORK COMPLETED

3.1 Past Work Search

A search of NTDME records held in the Darwin office was conducted by Bichard Exploration Administration Services Pty Ltd on behalf of Aberfoyle Resources. This search has revealed the following history of company exploration in the general area of EL 8764.

- CRA held a licence in the area of EL 8764 in the late 1970’s/early 1980’s (NTDME reports 79/196; 81/22; 82/55; 82/327). They conducted exploration for base metals, gold and uranium and flew airborne magnetics and radiometrics. Ground work included surface geochemical (gravel and stream sediment) surveys. Anomalous gold was returned from a sample taken to the southwest of EL 8764, but was not followed up. Ground magnetics were conducted over airborne features and one of these anomalies located to the west of EL 8764, was diamond drilled to 36.5m. The hole intersected a garnet/magnetite rich scarn but no anomalous geochemistry was returned.

- Stockdale searched for diamonds in the area in the late 1980’s collecting surface geochemistry samples and screening them for kimberlitic indicators. None were discovered (NTDME report 89/625).
WMC held the area in the early 1990’s (NTDME report 94/184). They targeted Au and Cu in iron-rich rocks. They held discussions with NTDME geologists involved in DME mapping projects of the Barrow Creek and Mount Doreen sheets, produced regional stratigraphic correlations, undertook lineament studies and interpreted regional aeromagnetic and gravity datasets. On the ground they conducted a semi-regional gravity survey.

Published data relevant to EL 8764 includes:-

- 1:250,000 scale geological maps of the Mount Peake and Barrow Creek sheet areas.
- BMR 1958 flown 1 mile spaced airborne magnetics and radiometrics over the Mount Peake 1:250,000 sheet area, and a second airborne magnetics/radiometrics survey completed in 1976 over the Mount Peake sheet area.
- In 1981 the NTGS commissioned Austirex Pty Ltd to fly the Barrow Creek 1:250,000 sheet area at 500m spacing collecting airborne magnetic and radiometric data.
- The BMR completed a regional gravity survey of the area in the 1960’s.
- 1:25,000 scale airphotography flown by the Division of National Mapping in 1971.
- 1:24,000 scale airphotography flown over the southern part of the Mount Peake sheet by Tanganyika Holdings Limited in 1972.
- 1:25,000 scale colour airphotography flown in 1988 over that part of EL 8718 lying on the Barrow Creek 1:250,000 sheet area.
3.2 AAPA Site Clearance

Aberfoyle Resources applied to the Aboriginal Areas Protection Authority (AAPA) for an Authority Certificate covering the entire area of EL 8764. The application was made on the 13th October 1994 and the Certificate issued on the 28th March 1995.

One place of significance to Aboriginal peoples was identified on the area covered by EL 8764. A copy of the AAPA’s correspondence (including a copy of the Authority Certificate) is included in this report as Appendix 1.

3.3 Regional Geophysical Data Acquisition and Imaging

Aberfoyle Resources have acquired existing geophysical datasets relevant to EL 8764. These include BMR and NTDME flown airborne magnetics of the Barrow Creek and Mount Peake 1:250 000 sheet areas, and regional BMR gravity data.

These datasets have been gridded and imaged using ER Mapper software. Figure 2 is an image of the gravity data of the licence environs and Figure 3 shows Total Magnetic Intensity for the same area.

The gravity image (Figure 2) shows a north-south trending ridge transecting the area of EL 8764. The gravity low (blue colours) in the south-east of the image is a response to thick, unconsolidated Quaternary sediments of the Ti Tree Basin.
<table>
<thead>
<tr>
<th>REVISIONS</th>
<th>NORTHERN TERRITORY</th>
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<tbody>
<tr>
<td></td>
<td>NT Gold Project</td>
</tr>
<tr>
<td></td>
<td>EL8764 MISTAKE BORE</td>
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<tr>
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<td>BMR GRAVITY</td>
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Printed: IX-730
Treated: 
Checked: CGD

Location Code: SP53-5,6
Scale: 1:250000
Date: 28.09.95
Plate No.: MIS-2
The magnetic image (Figure 3) shows EL 8764 to contain a series of generally east-west to ESE-WNW trending low magnitude anomalies. Study of the Barrow Creek and Mount Peake 1:250 000 geological sheets shows the EL to be predominantly covered by Quaternary deposits although outliers of Adelaidian aged Central Mount Stuart Formation occur in places. These lithologies are unlikely to be the source of the magnetic anomalies. To the west of the EL minor granite occurs at the base of an Adelaidian capped hill. Similar granitic material under Quaternary cover may be sourcing the magnetic anomalies, or alternatively they may possibly be sourced by Lander Rock Beds. Aberfoyle Resources believes the gold potential of these magnetic anomalies worthy of investigation.

One of the most readily apparent aspects of the BMR flown Mount Peake sheet magnetics is the poor quality of the data. North-south striping and other artificial features (such as the ‘honeycomb’ pattern present) are apparent. These are due to poor data levelling and problems in the interpolation of coarse-spaced data points. We do not consider the quality of the Mount Peak magnetic survey to be sufficiently high to target geochemical programmes of exploration.

3.4 **Airborne Magnetics and Radiometrics Survey**

As the poor quality of existing magnetics data does not allow accurate targeting of surface or sub-surface (vacuum/RAB) geochemical exploration, it was considered necessary to gather higher quality data using modern geophysical equipment.
Geoterrrex were contracted to fly that part of EL 8764 that lies on the Mount Peake 1:250,000 sheet to gather magnetic and radiometric data on a 500m line spacing. This line spacing, together with the high sampling rate offered by modern equipment, is considered adequate for the accurate location of magnetic anomalies, and is equivalent to recent NTDME/AGSO flown airborne surveys to the east (Barrow Creek 1:250 000 sheet) and west (The Granites, Mount Solitaire, Highland Rocks, Mount Theo 1:250 000 sheets).

The survey was flown in late June 1995. Geophysical equipment specifications and information are presented in Appendix 2.

Copies of the Flight Path plans (Figure 5), Residual Magnetic Contours (Figure 6) and Residual Magnetic Profiles (Figure 7) are included in this report (Figure 4 shows the sheet layout for these plans).

Imaging of the Geoterrrex magnetic data has been completed and the survey patched into existing Mount Peake and Barrow Creek datasets to produce Figure 8. Definition of the magnetic features in the western half of EL 8764 is greatly improved.

Two images produced from the radiometrics data are also presented. Total Count appears as Figure 9 and ratioed U, Th, K (presented as a Red-Green-Blue composite) appears as Figure 10.
4. **EXPENDITURE**

Aberfoyle Resources expended a total of $8,477.82 on exploration of EL 8764 during the first year of tenure. A breakdown of expenditure appears on page 9.

Actual expenditure compares with a first year exploration commitment of $16,000. This was not met as no field work was conducted while awaiting the geophysical data. Next year's expenditure is expected to meet the budget.

5. **PROPOSED PROGRAMME AND BUDGET**

Our year two programme of exploration will include RAB drilling of magnetic features predominantly located in the western half of the licence area.

The south-eastern area of the licence is covered by thick (?) unconsolidated sediments of the Ti-Tree Basin and is not deserving of further work. A 1995 programme of RAB drilling on Aberfoyle's adjacent licence, EL 8716, conducted only 400m to the east of the north-eastern corner of EL 8764 intersected sequences of wet, unconsolidated Quaternary sediments with all holes being abandoned prior to reaching Proterozoic rocks or their weathered equivalents. As such some wide spaced RAB holes will be drilled in the eastern half of the licence to determine the thickness of Quaternary cover and indicate whether drilling will be able to successfully penetrate to the target lithologies.
Ground magnetics will be read on the RAB geochemical traverses.

Further processing and imaging of the Geoterrex flown geophysical data will also be carried out in the coming year.

A breakdown and approximate costing of this programme follows.

- RAB drilling and assaying: $17,000
- Ground magnetics surveying: 500
- Further processing of Geoterrex data: 500
- **Total**: $18,000
EXPLORATION LICENCE 8764 "MISTAKE BORE"
SUMMARY OF EXPENDITURE
FOR THE YEAR ENDED
15th September 1995

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<td>TENURE</td>
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<td>OTHER SERVICES</td>
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<td>ADMINISTRATION</td>
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<td>TOTAL COST</td>
<td>$8,477.82</td>
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</tbody>
</table>
APPENDIX 1

Copy of AAPA Correspondence and Authority Certificate
issued to Aberfoyle Resources Limited
covering EL 8764
ABORIGINAL AREAS PROTECTION AUTHORITY
AUTHORITY CERTIFICATE

Issued in accordance with Section 22 of the Aboriginal Sacred Sites Act

REFERENCE: D89/199; 89/2045; (Doc No. 12449)

APPLYING TO: Exploration Licences, 8716, 8717, and 8718.

PROPOSED WORK OR USE: Track clearing for access, surface geochemical soil sampling, RAB/vacuum drilling, surface geophysical surveys, and percussion/diamond drilling.

ISSUED TO: Aberfoyle Resources Limited
37 Fullarton Rd
KENT TOWN SA 5067

CONDITIONS:

1. It is the responsibility of the recipient of this Certificate to:
   (i) Include the conditions of this Certificate in any subsequent contract or tender document commissioning works described in this Certificate and,
   (ii) Otherwise inform agents and employees of the conditions of this Certificate and obligations under the Aboriginal Sacred Sites (N.T.) Act 1989

2. The proposed use or works covered by this Certificate must commence within 24 months of the date of issue.

3. The information on the map relates specifically to the area of the Certificate as marked and the fact that no sites/sites are shown in other areas should not be taken as a definitive indication of the existence or lack of existence of sites in these areas.

4. The map attached to the Certificate forms part of the Certificate. (The numbered areas shown on the map correspond with the numbered areas to avoid which are listed below.)

5. The following areas must be avoided in the course of work: [Where provided map co-ordinates are those from a G.P.S. Unit (checked against the site location on a map) and are not necessarily accurate to the metres indicated by the particular reading. Co-ordinates are not intended to delineate site boundaries but are provided as an aid in locating the areas to be avoided which are listed below. Maps referred to in the certificate are the latest editions of the 1:250,000 series (metric) maps, Mount Peake SF 53-5 and Barrow Creek SF 53-6.]

Anningie Station.

(i) Temporary waterhole on Ingallan Creek. The site is accessed by driving overland, (off the station track), 3.3 kilometres north from Limestone Bore. A 1,000 metre length of Ingallan Creek should be avoided in this area centering on the point 3.3 kilometres north of Limestone bore. No work should be carried out within 200 metres of the bed of Ingallan Creek. Co-ordinate reading (G.P.S.), (53) 282803(E) and 7625070(N).

(ii) The temporary waterhole on Ingallan Creek adjacent and to the east of Crows Nest Bore (approx. 200 metres) should not be disturbed. Five hundred metres of Ingallan Creek, centred on a point opposite Crows Nest Bore should be avoided. In this area no work should be undertaken closer than 100 metres to the bed of Ingallan Creek. Co-ordinate reading (G.P.S.), (53) 279026(13) and 7629426(N).
(iii) This site is marked on the Mount Peake topographic map (SF 53–5) as “Duck Hole” (Duck waterhole). This site is north of Crows Nest Bore on Ingallan Creek. Two and a half kilometres north of Crows Nest Bore the station track to Twelve Mile Bore is joined by a track which comes from the east. This track crosses the main bed on Ingallan Creek after one kilometre and crosses the creek, and after a further 400–500 metres comes to a long waterhole. No work should be carried out in the vicinity of this waterhole, for 1500 metres either side of the point where the track arrives at the waterhole. There should be no work within 100 metres of the banks of the waterhole. Co-ordinate reading (G.P.S.), (53) 277783(E) and 7631700(N).

(iv) This site is a soakage, (a small depression) surrounded by a number of native "bean" trees (Erythrina vespertilio) on the plain approximately 19 kilometres east of Twelve Mile Bore. The approximate coordinates of this site are, (53) 287200(E) and 76445(N). No work should be carried out within 100 metres of any E. vespertilio ("bean") trees at or in the vicinity of this location.

(v) This site is a short quartz ridge (approximately 250 metres long) which trends N.E.–S.W. in the mulga scrub approximately sixteen kilometres north east of Twelve Mile Bore. The approximate coordinates of this ridge are (53) 2883200(E) and 76527(N). No work should be carried out within 200 metres of any quartz outcrop at or in the vicinity of this location.

(vi) This site is an outcrop of reddish coloured rock approximately ten kilometres east of Windjoojo (Windjajong) Bore. This outcrop is a short distance south of the graded track which runs towards the east from Windjoojo Bore. There are several such outcrops in the vicinity and all such outcrops between 8.5 and 10.5 kilometres east of the bore should be avoided. Co-ordinate reading (G.P.S.), (53) 290344(E) and 7661583(N).

(vii) The area to be avoided is on the plain north east of Windjoojo Bore. No work should be carried out within an area one kilometre in radius centred on a point one kilometre due north east of Windjoojo Bore.

Stirling Station.

(i) This site is the prominent ridge eighteen kilometres north west of Mud Hut Well. The ridge is marked on the Mount Peake topographic map (SF 53–5) as height 538. The ridge is bisected by the Anningie–Stirling Station boundary fence. No work should be carried out upon this ridge.

(ii) This site is the large claypan/"swamp" (usually dry) in the vicinity of Mud Hut Bore. No earth disturbing works should be carried out upon this feature. Camping and soil sampling and other low impact activity may be conducted as desired.

(iii) This site is the area of hills approximately two kilometres north–north east of Mud Hut Bore. These hills are shown on the Mount Peake topographical map, SF 53–5. No work at all is to be carried out in this area upon any hills between one and three kilometres north–east from Mud Hut Bore. Co-ordinate reading (G.P.S.), (53) 326024(E) and 7617338(N).

(iv) This site is a group of hills nine and a half kilometres north–north east of Mud Hut Bore. The hills are indicated on the Mount Peake topographical map, SF 53–5, and are shown with the height 500. No work should be carried out on any hills at this location. Co-ordinate reading (G.P.S.), (53) 328568(E) and 7624112(N).

(v) Site is a small sandstone hill five kilometres east of the site 11 above, and twelve kilometres north east of Mud Hut Bore. The site is south of the low ridge marked on the Mount Peake topographic map SF 53–5 adjacent (south) to the track running between Browns Yards and Mount Peake Creek Bore. This ridge is approximately seven kilometres south east of Mount Peake Creek Bore. No work should be carried out within 200 metres of this hill. Co-ordinate reading (G.P.S.), (53) 332062(E) and 7623273(N).

(vi) Site centres on the junction of the Hanson River and Mount Peake Creek which is adjacent to Wollagalalong Bore. No work should be carried out within 200 metres of the Hanson River over an area 200 metres south and 200 metres north of this point.
(vii) Site is the hill three kilometres west of Wollagalong Bore. This hill is shown on the Mount Peake topographic map SF 53–5. No work should be carried out on this hill.

(viii) Site is a clear area in scrub two kilometres north–east of Browns Yard. No work should be carried out between the Hanson River (west of Browns Yard) and a point one kilometre to the north–east. Approximate co–ordinates are 342200(E) and 7618200(N).

(ix) Site is the ridge thirteen kilometres east of Browns Yard which is marked on the Barrow Creek topographic map SF 53–6, as height 548. No work should be undertaken on this feature.

(x) No work should be undertaken within 200 metres of the junction of the Hanson River and Nine Mile Creek.

(xi) No work should be carried out and above all no damage done to any mature trees, in the vicinity of Nine Mile Creek north of where the track from the Stuart Highway to Junction Well Crosses Nine Mile Creek. This restriction applies to an area north of the creek crossing for 500 metres. There should be no work carried out within 100 metres of Nine Mile Creek. Co–ordinate reading (G.P.S.), (53) 358001(E) and 7607475(N).

(xii) Site is a hill eight and a half kilometres north east of Junction Well, and approximately one kilometre west of the gas pipeline to Darwin. This area to be avoided is marked with the height 495 on the Barrow Creek topographic map SF 53–6. No work should be carried out upon this hill.

(xiii) No work should be carried out on or in the vicinity of Nine Mile Waterhole on Nine Mile Creek eight kilometres north east of Mount Stirling. On the Barrow Creek topographic map SF 53–6, Nine mile Waterhole is marked as two distinct waterholes. No work should be carried out within 200 metres of these two features.

(xiv) Site is a temporary waterhole on an unnamed creek seven kilometres north west of Five Mile Bore. The creek (but not the waterhole itself) is shown on the Barrow Creek topographic map SF 53–6. The approximate coordinates for the location of this site are 368450(E) and 7619000(N), SF 53–6. No work should be carried out within 100 metres of any creek at or near this location and no mature bloodwood trees (Eucalyptus opaca) damaged. Co–ordinate reading (G.P.S.), (53) 368469(E) and 7619035(N).

The COMMON SEAL of the
ABORIGINAL AREAS PROTECTION AUTHORITY
was hereto affixed on the day of 20th
1995

DAVID RITCHIE
Chief Executive Officer
APPENDIX 2

Geoterrex Airborne Magnetic and Radiometric Equipment Specification
PART B
Equipment specifications

5) Aircraft
Type/Manufacture: Rockwell Shrike Aerocommander 500S.
Survey Speed: 220 kilometres per hour
Type of fuel: AVGAS (Aviation Gasoline)

6) Airborne Magnetometer
Model: Scintrex or Geometrics Cesium vapour optical absorption magnetometer
sensor mounted in a Stinger.
Resolution: 0.001 nanoTesla
Sensitivity: 0.001 nanoTesla
Compensation: AADC
Sampling Rate: 0.1 second (nominally 7 metres)
Recording: Digital to tape and displayed on aircraft chart recorder.

7) Base Station Magnetometer
Sensor: Proton Precession magnetometer.
Recording: Internal memory (backed up daily)
Sensitivity: 0.1 nanoTesla
Sampling Rate: 5.0 seconds

The base station magnetometer will be run during flying hours to monitor the diurnal field. The sensor will be placed in a suitable position which minimises the effects of high magnetic gradients and man-made interference. The base station location will be documented in the survey logistics report. The data will be presented as profiles which will be annotated with date, flight number, vertical scale, time marks and the start and end of flight.

8) Gamma-Ray Spectrometer
Model: Exploranium GR 820 System (self-calibrating)
Crystal Volume: 33 litres (NaI crystals - Thallium activated)
Channels: 256 channel conversion
Sample Rate: 1.0 second (nominally 65 metres)

Windows:
- Total Count: 0.4 - 3.0 MeV
- Potassium (K40): 1.35 - 1.57 MeV
- Uranium (Bi214): 1.63 - 1.89 MeV
- Thorium (T1208): 2.42 - 2.82 MeV
- Cosmic: 3.00 - 6.00 MeV

Recording: The four defined windows and one cosmic channel will be displayed on the aircraft chart recorder. This data, spectrometer live time and all of the raw channels representing the gamma-ray spectrum above 0.4 MeV will be recorded on digital tape.
9) **Altimeters**

**Radio Altimeter:**
- **Type:** Sperry Stans AA200
- **Accuracy:** +/- 1.5%
- **Sampling Rate:** 1.0 second

**Barometric Altimeter:**
- **Type:** Rosemount 8404 F
- **Sensitivity:** 1 mv per foot
- **Range:** 0 - 20,000 feet
- **Sampling Rate:** 1.0 second

**Temperature**
- **Type:** Omega HX-12V temperature/relative humidity sensor mounted externally away from direct sunlight
- **Accuracy:**
  - Temperature 0.6°C
  - Relative humidity 2%

The aircraft radio altitude will be recorded on digital tape as well as displayed on the aircraft chart recorder. The recorded value will be the average of the altimeter output during the previous second so that the value used in terrain correction procedures is not a spot value. The current altimeter calibration tests will be presented in the Survey Logistics Report.

10) **Video Tracking System**

**Equipment:**
- Sony DXP 101P Camera with wide angle lens
- Panasonic AG6400 VCR
- Sony PVM 600ME Monitor

The video tape is synchronised with the geophysical record by a digital fiducial display which is recorded on the video tape and displayed on the bottom left of the video screen. Times are recorded from the digital information provided by the data acquisition system. Video is recorded in PAL format.

11) **Positioning / Navigation Equipment - Doppler/GPS**

**Doppler Equipment:**
- Singer Kearfott AN/ASN 128
- Sperry VG-14 Vertical Gyroscope
- Sperry C-12 Compass
- Pilot Steering Indicators.

**GPS Equipment:**
- Sercel NR 103 GPS Receiver and antennae
- Pilot Steering Indicators.

**Recording:**
- Digital to tape, once per second for both systems.

**GPS Base Station:**
- Sercel NR103 GPS Receiver and antennae
- Lap top data logger
12) Data Acquisition System

Model: Geoterra Pty Ltd GEODAS
Equipment: 486 PC Computer with 4Mb of memory
2 x 212 Mb disc drives, QIC 150Mb cartridge system

The GEODAS is a computer based software system using a 486DX /25 field PC. It runs multiple
DOS programs in a multi-tasking environment. The modular design of the GEODAS allows for
reconfiguring the system to record different types of surveys by adding, removing or changing task
modules.

The GEODAS is currently installed on a rugged, totally enclosed, moisture and dust proof system,
originally designed for military use. Currently it uses a 486DX CPU on a plug-in module card which
can be upgraded. Data is recorded on 220 Mb hard disks.

Aberfoyle MS Con
05 June 1985
Part B: Equipment specifications

13) Analogue Chart Recorder

Model: RMS GR33 Thermal Dot Matrix Printer
Chart Speed: Selectable
Chart Width: 12 inches (31 cm)
Recorded data:
- Total magnetic field (fine and coarse scales)
- Magnetic field fourth difference - noise monitor
- Radar altitude
- Barometric altitude
- Five channels of corrected radiometric data
- Fiducial

Scales: Selectable

14) Field Processing System

Hardware: Unix workstation
QIC 150Mb cartridge system
A1 multipen plotter
Printer

Software: GEOTEREX developed GMAPS software

15) Office Processing System

Hardware: UNIX workstation network and peripherals (SUN and DEC equipment)
- 5 multi density tape transports
- 1 5.0 Gb Exabyte tape drive
- 2 High speed printers
- 2 Calcomp AO Colour Electrostatic Plotters
- 2 AO multipen plotters
- Graphics terminals
- AO Digitiser tablet

Software: GEOTEREX developed GMAPS software
ER Mapper image processing software
PART C
Calibration procedures

16) Magnetometer System Calibrations

The following tests are conducted on a regular basis by GEOTEREX and the results of the most recent tests will be presented in the survey logistics report:

i) Manoeuvre Test to minimise aircraft manoeuvre noise.

ii) Parallax Test to determine magnetometer/camera parallax.

iii) Heading Test to monitor the variation in magnetometer response with variation in aircraft heading.

17) Spectrometer System Calibrations

The following tests will be conducted and results will be made available to THE COMPANY in the survey logistics report:

i) Pre and Post Flight Source Checks Thorium and uranium hand sample checks will be run on the gamma-ray spectrometer before and after each flight. Each hand sample will be computed by the acquisition system and the data will be recorded by the RMS printer. Samples will be positioned in the same place relative to the crystals every day and where possible the aircraft will be parked in the same position for each check. The spectrum of each hand sample and the background spectrum will be accumulated and plots of both the raw spectra and background corrected spectra will be recorded by the RMS printer.

ii) Background Determination Radiometric backgrounds to be subtracted from the spectrometer data will be determined from the cosmic channel according to equations established from prior high altitude testing.

iii) Height Attenuation Height attenuation coefficients have been previously determined for the system being used as installed in the aircraft.

iv) Resolution System resolution will be determined from a spectral plot before the commencement of the survey and at intervals of one week using a Ti-208 source.

A test line will be flown at survey altitude for 5 kilometres before and after each flight and the data will be recorded in analogue and digital mode. The test area will be a relatively flat area with a suitable feature to assist navigation. The area should have some radioactive relief along its length. The location of the test line will be marked on a large scale map of the area and included in the survey logistics report.

In-flight recording of temperature will be done by the operator at regular intervals during each flight. Significant weather conditions will also be recorded by the operator on the flight log.

No survey flying will be commenced or resumed within 24 hours of heavy rain in the survey area unless the effects of the rain are monitored by reflying the test line or a flight line from a previous day’s survey and the total count recorded on the reflying line is within the required contract specifications.