Daly River, Northern Territory Airborne Magnetic and Radiometric Geophysical Survey

Acquisition and Processing Report

for

Territory Uranium Co Ltd

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L. Stenning

Authorised for release by : ……..

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Survey flown: June - July 2009

by

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FAS JOB # 2053

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1.1 Introduction

Between the 22nd of June 2009 and the 2nd of July 2009, Fugro Airborne Surveys Pty. Ltd. (FAS) undertook an airborne magnetic and radiometric survey for Territory Uranium Co Ltd, over the Daly River area, in the Northern Territory. The survey consisted of two areas, flown in 8 flights. Total coverage of the survey area amounted to 4030.3 line kilometres. The survey was flown using an Aerocommander Shrike 500-S aircraft, registration VH-KAV owned and operated by FAS. This report summarises the procedures and equipment used by FAS in the acquisition, verification and processing of the airborne geophysical data.

1.2 Survey Base

The survey was based out of Batchelor, Northern Territory. The survey aircraft was operated from the Batchelor airfield with the aircraft fuel available on site. A temporary office was set up at the Rum Jungle Motor Inn, Batchelor, where all survey operations were run and the post-flight data verification was performed.

1.3 Survey Personnel

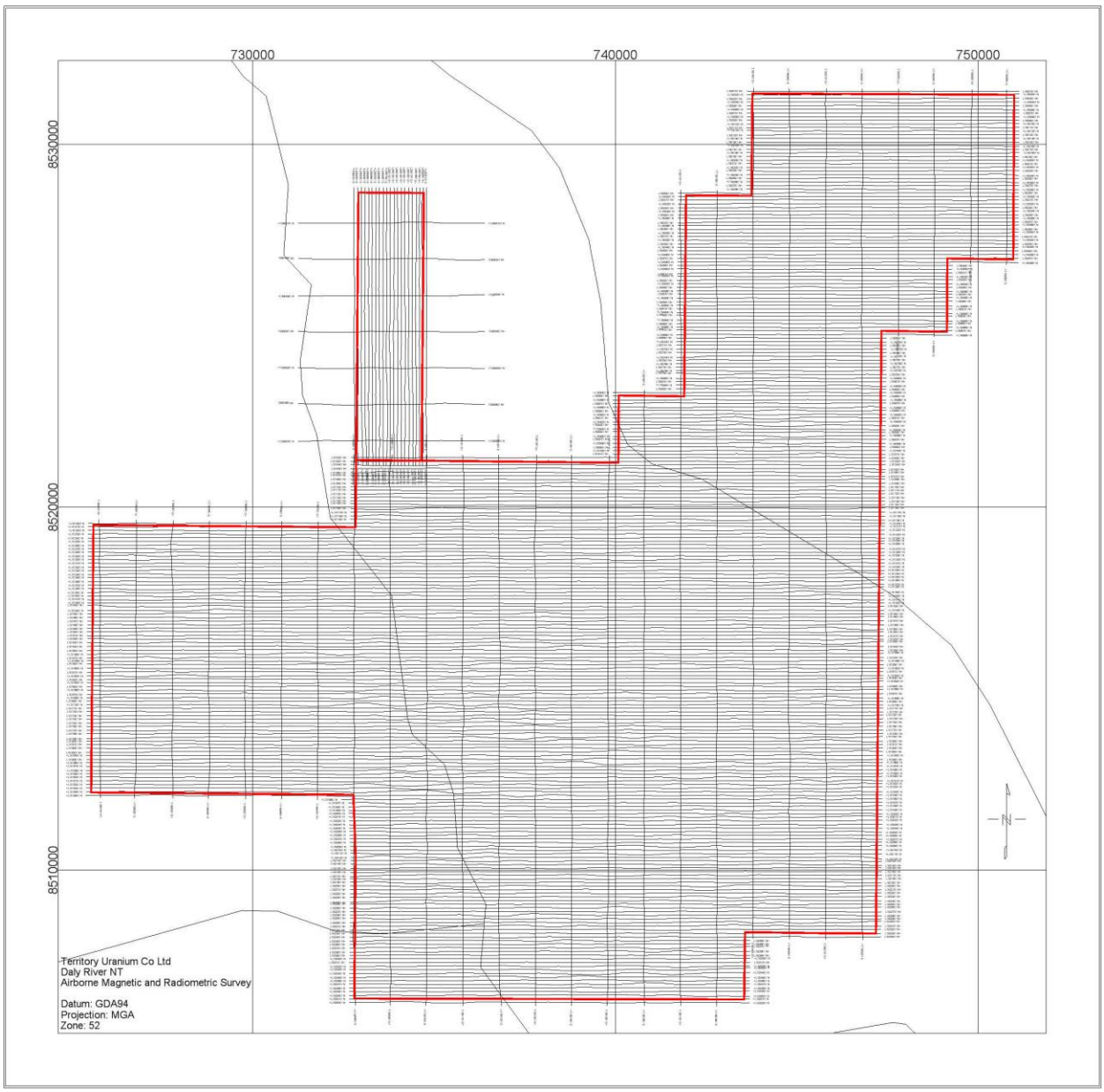
The following personnel were involved in this project:

Project Supervision - Acquisition	Bart Anderson
- Processing	Adam Shales
On-site Crew Leader	Mike Poole
Pilot/s	Til Ribarich, Tim Masefield
System Operator/s	Mike Poole
Data Processing	Sheryl Launer

1.4 Survey Equipment

Survey Platform	-	Aerocommander Shrike 500-S VH-KAV
Data Acquisition System	-	FAS digital acquisition system
Total Field Magnetometer	-	Geometrix G-822A Caesium vapour
Vector Magnetometer	-	Billingsley TFM100-1E 3-axis
Magnetometer Compensator	-	Fugro FASDAS Mag Decoupler Unit Aeromagnetic Digital
Gamma-ray Spectrometer	-	Exploranium GR820 256 Channels
Gamma-ray Detector	-	8 NaI(Tl) crystals; 33.56 L down
Navigation System GPS	-	Fugro Omnistar in VBS (Virtual Base Station) mode, Novatel OEM4 GPS receiver
Base Station Magnetometers	-	2 x Scintrex Envi Mag
Altimeter	-	Sperry Stars RT-220 radio altimeter
Barometer	-	Paroscientific Digibaro altimeter
Thermometer	-	Vaisala HMY 133 temperature and humidity sensor

1.5 Area Map



DALY RIVER, NT
GDA94 MGA52

1.6 General Disclaimer

It is Fugro Airborne Survey's understanding that the data and report provided to the client is to be used for the purpose agreed between the parties. That purpose was a significant factor in determining the scope and level of the Services being offered to the Client. Should the purpose for which the data and report is used change, the data and report may no longer be valid or appropriate and any further use of, or reliance upon, the data and report in those circumstances by the Client without Fugro Airborne Survey's review and advice shall be at the Client's own or sole risk.

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2. SURVEY SPECIFICATIONS AND PARAMETERS

2.1 Area Co-ordinates

The survey area was located within MGA Zone 52, Central Meridian = 129
(Note - Co-ordinates in GDA94/MGA Zone 52)

Area 1

Easting	Northing
732771	8512083
725550	8512146
725610	8519526
732835	8519461
732850	8521315
740074	8521241
740092	8523086
741897	8523070
741947	8528603
743753	8528587
743771	8531414
750991	8531371
750963	8526832
749151	8526858
749138	8524848
747332	8524865
747179	8508264
745374	8508281
743568	8508298
743552	8506453
732805	8506468
732841	8510386

Area 2

Easting	Northing
732915	8528682
734721	8528667
734657	8521289
732850	8521315

2.2 Survey Area Parameters

Job Number	-	2053
Survey Company	-	Fugro Airborne Surveys Pty Ltd
Date Flown	-	22nd June 2009 – 2nd July 2009
Client	-	Territory Uranium Co Ltd
Project Name	-	Daly River, NT
Area Names	-	1 and 2
Nominal Terrain Clearance	-	40 m
Traverse Line Spacing	-	100 m
Traverse Line Direction	-	(area 1) 090 – 270 deg, (area 2) 000 – 180 deg
Traverse Lines	-	1000101 – 1025201, 2000101 – 2002101
Tie Line Spacing	-	1000 m
Tie Line Direction	-	(area 1) 000 – 180 deg, (area 2) 090 – 270 deg
Tie Lines	-	1900101 – 1902601, 2900101 – 2900701
Line Kilometres	-	Area 1 = 3833.3 km Area 2 = 197 km
Total Line Kilometres	-	4030.3 km

2.3 Data Sample Intervals

Nominal data sample intervals.

Magnetometer	-	7 m (@10 Hz)
Radar Altimeter	-	7 m (@10 Hz)
Thermometer	-	70 m (@1 Hz)
Barometer	-	70 m (@1 Hz)
GPS	-	70 m (@1 Hz)
Spectrometer	-	70 m (@1 Hz)
Magnetic Base Station (ENVI Mag)	-	5 s

2.4 Survey Tolerances

As specified in the contract the following tolerances were used:

Traverse line deviation	-	+/- 50% of nominated line spacing over 1 km or more
Tie line deviation	-	+/- 50% of nominated tie line spacing over 1 km or more
Terrain clearance deviation	-	+/-10 m of nominal terrain clearance over 1 km or more, except where such lines breach air regulations, or in the opinion of the pilot, put aircraft and crew at risk.
Total magnetometer system noise	-	More than 0.1 nT continuously for more than 1 km
Magnetic diurnal variation	-	More than 10 nT in 10 minutes non-linear either on flight lines or tie lines.

3. AIRCRAFT EQUIPMENT AND SPECIFICATIONS

3.1 Aircraft

Manufacturer	-	Aerocommander
Model	-	Shrike 500S
Registration	-	VH-KAV
Ownership	-	Fugro Airborne Surveys Pty Ltd

3.2 Navigation System

The GPS receiver was integrated as part of the acquisition system. Navigation displays were generated by the acquisition system software that displayed to the pilot a graphical representation of the line being flown. A pre-defined flight plan, with area boundaries and the start and end of the line co-ordinates, was loaded into memory and used for real-time navigation information. Position co-ordinates and other relevant GPS information were output and recorded by the acquisition computer.

3.3 Aircraft Magnetometers

The survey was flown using a Geometrix G-822A ultra-high sensitivity Caesium vapour magnetometer sensor with the sensor mounted in the tail stinger of the aircraft. The sensor provides a Larmor signal that is processed by high precision counters embedded within the FASDAS to provide an operating range of 20,000 to 100,000 nT.

Specifications

Nominal Sensitivity:	-	0.001 nT
Still Air RMS Noise:	-	0.05 nT
Digital Recording Resolution:	-	0.001 nT
Magnetic Gradient Tolerance	-	>20,000 nT/m

3.4 Automatic Compensator

The magnetometer data, together with data from the 3-axis fluxgate, was integrated in the acquisition system to produce real time compensation for the effects of the aircraft's motion, i.e. from changes in attitude and heading. The compensation coefficients were calculated from compensation flights carried out before the survey commenced. The compensated output data, with a resolution and sensitivity of 0.001 nT at a sampling rate of 10 times per second, were recorded digitally.

3.5 Gamma Ray Spectrometer System

The radiometric acquisition system consisted of a 256 channel gamma-ray spectrometer and detector system with the following specifications:

Manufacturer:	Exploranium Inc.	
Model:	GR-820	
Number of channels:	256	
Crystal Volume:	33.56 L downward looking (thermally insulated)	
Sampling interval:	1 s	
Windows (keV):	Potassium:	1370 to 1570
	Uranium:	1660 to 1860
	Thorium:	2410 to 2810
	Total Count:	410 to 2810
	Cosmic:	4000 to >6000

Data checking in the survey system was carried out by the use of resolution procedures using known radiometric sources. To verify the system, real time display of individual crystal resolutions and system resolutions, real time display peak channel tracking information, real time display of the energy spectrum showing counts, cosmic level and system livetime were available. The survey system displayed to the operator any errors encountered in the spectrometer system.

3.6 Radar Altimeter

A Sperry Stars RT-220 radio altimeter system was used to measure ground clearance. The radio altimeter indicator provides an absolute altitude display from 0 - 750 metres (0 - 2,500 feet) with a sensitivity of 4 mV/ft. Radar altimeter data were digitally recorded every 0.1 seconds.

Specifications

Range:	-	0 - 2500 ft
Accuracy:	-	1%
Resolution:	-	4 mV/ft

3.7 Barometric Altimeter

The output of the Paroscientific pressure transducer was used for calculating the barometric altitude of the aircraft. The atmospheric pressure was taken from a probe and fed to the transducer. The transducer uses a precise quartz crystal resonator whose frequency of oscillation varies with pressure induced stress. The temperature of the pressure sensor was also recorded. In conjunction with the area QNH pressure and ambient temperature, the barometric altitude was calculated.

Specifications

Range:	-	sea level to 10,000 ft
Accuracy:	-	5 ft
Resolution:	-	1 mV/ft

3.8 Flight Data Recording

All data recorded by the data acquisition system were stored in a digital format on the removable media drive located in the DAS. This data were then transferred to the field office computers for post-flight quality control examination.

3.9 Flight Following

An integral part of the Safety Management System provides for the installation of a Flight Following System that transmits a position via satellite at pre determined intervals. The Fugro OmniTRACK system is fitted to the aircraft and position information is transmitted every 4 minutes to the Omnistar Network control centre. This information can be monitored by accessing the Fugro web page where the updated flight path is displayed. The aircraft is also fitted with an emergency switch and activation of this by the pilot or crew will notify the Omnistar Network control centre immediately. They in turn will contact FAS personnel as per the Emergency Response Plan

4. GROUND DATA ACQUISITION EQUIPMENT AND SPECIFICATIONS

4.1 Magnetic Base Station

Two Scintrex Envi Mag magnetometers were used to measure the daily variations of the Earth's magnetic field. The base stations were established in an area of low gradient, away from cultural influences. The base stations were run continuously throughout the survey flying period with a sampling interval of 5 seconds at a sensitivity of 0.01 nT. The base station data were closely examined after each day's production flying to determine if any data had been acquired during periods of out-of-specification diurnal variation. The base stations were located at Bachelor Airfield approximately 100 m apart.

4.2 GPS Base Station

A GPS base logging station was set up at the Rum Jungle Motor Inn, Bachelor. The GPS antenna was attached to the third pole from the northern end of the swimming pool fence.

The GPS base system was comprised of a GPS receiver, a logging computer, an antenna and a power supply. Data was logged and displayed in real time on the logging computer screen. The logged base data was processed with the airborne GPS data to calculate the differentially post-processed position of the aircraft.

The GPS base station position was calculated by logging data continuously at the base position over a period of approximately 28 hours. These data were then statistically averaged to obtain the position of the base station.

The calculated GPS base position was (in WGS84):

13° 02' 29.66214" S, 131° 01' 25.76217" E, 156.237 m.

5. EQUIPMENT CALIBRATIONS AND DATA ACQUISITION CHECKS

5.1 Survey Calibrations

A series of calibrations were performed as follows:

5.1.1 Dynamic Magnetometer Compensation

Carrying a magnetometer through a varying field in a non-uniform orientation produces manoeuvre noise. To compensate for this manoeuvre noise a standard compensation test flight called a "comp box" was flown. The compensation file produced also removed the majority of the heading error. Aircraft compensation tests were flown on the 4 survey line headings and also at +/- 7½ and 15^{o} to the line headings (to accommodate for cross wind flying conditions). The data for each heading consists of a series of aircraft manoeuvres with large angular excursions: specifically pitches, rolls and yaws. This was done to artificially create the worst possible attitudes and rates of attitudinal change likely to be encountered while on line and compensate for any magnetic noise created by the aircraft's motion within the earth's magnetic field. The data was processed to obtain the real-time compensation terms. These coefficients were applied in real-time or later during post-processing if required. Note that this form of compensation will only remove those noise effects modelled in the manoeuvre test flight. Random motions of the stinger with respect to the aircraft airframe generally establish the noise floor for this type of installation. Details of the comp boxes flown for this survey are shown in the table below.

Flown	Flights covered
28/6/2009	All Flights

***Table 1**: Magnetometer Compensation Details*

5.1.2 Parallax

Parallax error is caused by the physical difference in distance between the various sensors, the electronic delay and software timing in the acquisition system. Hence all variables are subjected to a displacement from the GPS co-ordinates. If these variables are processed without a position offset a parallax error will usually occur. The most suitable way to treat this problem is to use the 1 second radiometric data as a base with a zero correction. This will prevent interpolation of important variables (a filtering process). The co-ordinates were moved by linear interpolation and other data variables were displaced onto the radiometric data, without change.

Data	Parallax
Radiometrics	0 second
GPS	0.6 second
Magnetics	0.6 second
Radar Altitude	0.5 second
Pressure	0 second
Temperature	0.3 second

***Table 2**: Parallax Values*

5.1.3 Pad Calibrations

A series of tests were taken using a set of radiometric pads of known concentrations of Potassium, Uranium and Thorium. Each crystal pack was tested individually, with data accumulated for 15 minutes. The pad calibration data were processed to determine the radiometric stripping coefficients for each crystal pack. Where aircraft had more that one crystal pack installed, the average of the stripping coefficients were used in final data processing.

5.1.4 Background and Cosmic Calibration Stacks

High-level stacks were flown over the ocean away form the effects of any land based radon. Data were collected for ten minutes at altitudes starting at 1000 feet above sea level and incrementing to 10000 feet above sea level. The high-level stack data were processed to determine the cosmic and aircraft background coefficients.

5.1.5 Height Attenuation Calibrations

Low-level stacks were flown over the Carnamah Dynamic Test Range, Western Australia. Data were collected at altitudes of 130 feet above sea level (asl), 200 ft asl, 260 ft asl, 330 ft asl, 400 ft asl and 650 ft asl. The neighbouring salt lake was flown at the same altitudes, and the data were used as a radon test. A ground survey was carried out on the same day using a calibrated gamma-ray spectrometer.

The airborne and ground data were processed to determine radioelement sensitivity and height attenuation coefficients.

5.1.6 Daily Calibrations

A set of calibrations were performed each survey day as follows:
Magnetic base station time check
Spectrometer resolution test
Spectrometer button test
Low level test line

5.1.6.1 Magnetic Base Station Time Check

Prior to each day's survey all magnetic base stations were time checked and synchronised with the time on the aircraft survey system GPS receiver.

5.1.6.2 Spectrometer Resolution Test

Once the spectrometer had stabilised a Thorium source resolution check was carried out by placing the source in a cradle specially designed to ensure precisely repeatable locations.

5.1.6.3 Spectrometer Button Test

Thorium sample checks were performed on the spectrometer before and after each day's survey acquisition. Each sample was placed in a predetermined location and data recorded for 180 sec. Relative count rates above background were within +/- 5% of the average sample checks for the duration of the survey.

5.1.6.4 Low Level Test line

To monitor the effects of soil moisture and radon and to verify the system was functioning correctly a low level test line was flown at survey altitude prior to and after each day's production. The collected data were checked by the operator to ensure the Thorium for the low level test line was within +/- 10% of the initial average. The location of the low level test line was just south of the Adelaide River, running parallel and 300m to the west of the railway line.

A 731756E 8532687N
B 735117E 8527581N
(Coordinates in GDA94 MGA52)

6. DATA VERIFICATION AND FIELD PROCESSING

All data verification was conducted at the field office in Bachelor for the duration of the survey. At the conclusion of each days survey all magnetic, radiometric, altimeter, flight path and diurnal data were downloaded onto the field office computer for preliminary verification. All raw aircraft data were backed up at the end of each day's survey. One copy was sent to the FAS office in Perth, the other copy remaining at the field office.

6.1 Magnetic Diurnal Data

Diurnal data recorded from the primary base station was downloaded onto the field office computer. The data was checked for spikes and erroneous readings. If invalid diurnal data occurred whilst survey data was being acquired the affected section was re-flown. The diurnal data was also checked to see that the change in diurnal readings during the course of the survey did not exceed the specified tolerances. When this occurred the affected part of the survey line was re-flown. The diurnal data was merged with the aircraft data and used in the verification of the magnetic data. Diurnal data recorded on the secondary base station was also downloaded onto the field office computer.

6.2 Height Data

Radar altimeter, barometric altimeter and GPS height data from the aircraft was transferred onto the field office computer.

6.2.1 Radar Altimeter Data

The radar altimeter data was verified to check that a reasonably constant height above the terrain was flown, readings during the course of the survey did not exceed the specified tolerances and for equipment reliability.

6.2.2 GPS Height Data

The aircraft's height above the WGS84 ellipsoid each second was determined by differentially post-processing the synchronised GPS data from the aircraft and GPS base station data. The GPS height of the aircraft was verified to check for data masking and for equipment reliability.

6.2.3 Barometric Altimeter Data

As a backup to the aircraft's GPS height, barometric height was also recorded. The barometric height of the aircraft was verified to check for equipment reliability. The barometric data were also used in the processing of the radiometric data.

6.2.4 Topographical Data

After verification parallax corrections were applied, the radar altitude was subtracted from the GPS height to give the elevation of the terrain above the WGS84 ellipsoid. It was not considered necessary to make any further corrections as this data was for verification purposes only.

6.2.5 Gridding and Inspection

The topographical data was gridded and grid image enhancements were computed and displayed on screen. These were inspected for inconsistencies and errors.

6.3 Flight Path Data

The flight path data from the aircraft and the GPS base station were transferred onto the field office computer. The aircraft's precise location each second was determined by differentially post-processing the synchronised GPS data from the aircraft and GPS base station data. The flight path was recovered and plotted daily to ensure it was within specification. Any data not within specification was re-flown. The flight path data was then merged with the rest of the aircraft and diurnal data. Both the aircraft and GPS base station recorded the data in the WGS84 datum.

6.4 Magnetic Data

The real-time compensated and uncompensated magnetic data from the aircraft recorded every 0.1 second were transferred onto the field office computer. The raw magnetic data was checked to identify noise and spikes. If the noise exceeded the specified tolerances the part of the line affected was re-flown. After the magnetic data were merged with the digital flight path the following sequence of operations were carried out to allow inspection and verification of the data:

6.4.1 Diurnal Correction

The synchronised digital diurnal data collected by the base station was first subtracted from the corresponding airborne magnetic readings to calculate a difference. The resultant difference was then subtracted from the base value to produce diurnally corrected magnetic data.

6.4.2 Parallax Correction

The diurnally corrected magnetic data was corrected for system parallax using the calculated value.

6.4.3 Preliminary Gridding and Inspection

The magnetic data were gridded and grid image enhancements were computed and displayed on screen. These were inspected for inconsistencies and errors.

6.5 Spectrometer Data

Spectrometer data from the aircraft were transferred onto the field office computer. The data was verified to check that readings during the course of the survey did not exceed the specified tolerances and for equipment reliability.

6.5.1 Parallax Correction

The raw window data were corrected for system parallax using the calculated value.

6.5.2 Preliminary Gridding and Inspection

The spectrometer data were gridded and grid image enhancements were computed and displayed on screen. These were inspected for inconsistencies and errors.

7. FINAL DATA PROCESSING

7.1 Aircraft Location

The aircraft's location each second was determined by differentially post-processing the synchronised GPS data recorded on both the aircraft and GPS base station. This data is recorded in the WGS84 datum.

7.2 Magnetic Data Processing

The processing procedures applied to the magnetic data are summarised below:

a) Apply any spike corrections to the compensated magnetic variables.
b) Interpolate undefined magnetic values.
c) Co-ordinate the data with post-processed GPS data.
d) Filter diurnal values and subtract them from individual compensated magnetic readings.

Area	Base Value
Area 1	46300 nT 46500 nT 46530 nT 46550 nT
Area 2	46500 nT

***Table 3**: Diurnal Base Values*

e) Apply parallax correction.
f) Correct for regional effects of the earth's magnetic field by calculating the IGRF value at each fiducial using IGRF model 2005 and secular variation model. A base value was added back.

Area	IGRF Model	Base Value
Area 1 & 2	28/6/2009	46867 nT

***Table 4**: IGRF Base Values*

g) Height correction using Taylor Drape to 40m AGL applied.
h) Using the tie lines (flown at 90 degrees to the traverse lines) a set of miss-tie values were determined. These miss-tie values reflected the differences in the magnetic value between the tie lines and traverse lines over the same geographical point. Using a least squares fit algorithm, which also takes into account the statistical variation inherent in DGPS positioning, a series of corrections were applied to the traverse line data. These allowed the data to be levelled to the same base value.
i) Following this, a FAS proprietary microlevelling process was applied in order to more subtly level the data.

7.2.1 Gridding

The final levelled magnetic data were gridded using a bi-directional spline algorithm. The data was gridded with a cell size of 25 m. Grid data from area 1 and area 2 were then merged.

7.3 Radiometric Data Processing

The radiometric data was processed using the standard IAEA window processing technique as summarised below.

a) Co-ordinate the data with post-processed GPS data.
b) Apply spike corrections to the radar altimeter, temperature and pressure values.
c) Apply parallax corrections to altimeter, temperature and pressure values.
d) Apply NASVD filtering to the 256 channel radiometric data.
e) Apply Energy Recalibration to the NASVD filtered 256 channel radiometric data.
f) Correct for dead time.
g) Calculate the equivalent terrain clearance at STP (standard temperature and pressure).
h) Remove aircraft background.
i) Remove cosmic background.
j) Window the 256 channel data using the IAEA standard energy windows.

k) Remove radon background.
l) Apply stripping ratios.
m) Apply height corrections.
n) Tie line levelling was applied to the total count and uranium data. Using the tie lines (flown at 90 degrees to the traverse lines) a set of miss-tie values were determined. These miss-tie values reflected the differences in the value between the tie lines and traverse lines over the same geographical point. Using a least squares fit algorithm, which also takes into account the statistical variation inherent in DGPS positioning, a series of corrections were applied to the traverse line data. These allowed the data to be levelled to the same base value.
o) Following this, a Fugro proprietary micro-levelling process was applied in order to more subtly level the data. Micro-levelling was applied to area 1 data only.

7.3.1 NASVD Filtering

The radiometrics were produced with NASVD smoothing. Using the NASVD technique, the raw spectra were first smoothed using 5 principal components for area 1 and 4 principal components for area 2. Eigenvectors and statistics on the NASVD processing results were used for analysis.

7.3.2 Energy Recalibration

The spectral drift was checked by monitoring the position of the Potassium, Uranium and Thorium peaks on average spectra along flight lines. The peak positions were determined by using a Gaussian fitting method. Energy recalibration was applied to the spectra using a linear regression (LSQ fit) to determine the slope and intercept.

7.3.3 Dead Time

Gamma-ray spectrometers require a finite time to process each pulse from the detectors. While one pulse is being processed, any other pulse that arrives will be rejected. Consequently the 'live time' of a spectrometer is reduced by the time taken to process all pulses reaching the spectrometer. The spectra are normalised to counts per second by dividing by the live time.

7.3.4 STP Altitude

The radar altimeter data was converted to effective height at standard temperature and pressure using the expression:

STPAlt = RAlt * (P/1013) * (273 / (T+273))
where:

RAlt = the observed radar altitude in m
T = the measured air temperature in deg C
P = the barometric pressure in hPa

7.3.5 Cosmic and Aircraft Background Removal

The 256 channel aircraft and cosmic spectra for the aircraft were calculated from the high-level test data with the aircraft and cosmic backgrounds derived using least squares fitting applied on a channel by channel basis.

The aircraft background was removed by subtracting the computed aircraft background spectra from the dead time corrected spectra. The 256 channel cosmic background spectrum that is removed is calculated by multiplying the 256 channel cosmic factor values by the cosmic counts recorded. The effect of cosmic radiation is removed from the spectra by subtracting the resultant cosmic spectrum.

Window	Aircraft Background	Cosmic Stripping Ratio
Total Count	30.0	0.9200
Potassium	6.1	0.0530
Uranium	1.3	0.0425
Thorium	0.8	0.0520

***Table 5**: Aircraft Background and Cosmic Stripping Ratios*

7.3.6 Window Definitions

The 256 channel data were summed into the standard IAEA windows.

Window	Peak Energy (keV)	Energy Window (keV)			GR-820 Channel Window		
Total Count	-	410	-	2810	34	-	234
Potassium	1460	1370	-	1570	115	-	131
Uranium	1765	1660	-	1860	139	-	155
Thorium	2614	2410	-	2810	201	-	234
Cosmic	-	4000	-	6000		-	

***Table 6**: IAEA Window Definitions*

7.3.7 Radon Correction

Radon corrections were applied using the spectral ratio method.

Stripping	Value
Total Count	13.153
Potassium	0.782
Thorium	0.061
Radon	1.875
Ground	0.625

***Table 7**: Radon Stripping Values*

7.3.8 Spectral Stripping

Spectral stripping was applied to the Potassium, Uranium and Thorium windows. The stripping coefficients were corrected for STP altitude.

Stripping	Value	STP adjustment (/m)
Alpha	0.2611	0.00049
Beta	0.3980	0.00065
Gamma	0.7863	0.00069
A	0.0684	0
B	0.0011	0
G	-0.0171	0

***Table 8**: Spectral Stripping Ratios*

7.3.9 Height Correction

The background corrected and stripped window data were corrected for variations in the density altitude of the detector.

Window	Attenuation coefficient (m^{-1})
Total Count	-0.0069
Potassium	-0.0093
Uranium	-0.0083
Thorium	-0.0069

***Table 9**: STP Altitude Coefficients*

7.3.10 Gridding

The final radiometric data were gridded using a minimum curvature algorithm. The data was gridded with a cell size of 25 m. Grid data from area 1 and area 2 were then merged.

7.4 Digital Terrain Model

The processing procedures applied to the terrain data are summarised below:

a) Apply any spike corrections to the raw radar altimeter data.
b) Interpolate undefined values.
c) Co-ordinate the data with post-processed GPS data.
d) Apply parallax corrections.
e) Subtract the aircraft's height above ground from the aircraft's height above the WGS84 ellipsoid and correct for radar altimeter/GPS sensor separation.
f) Derive surface topography values with respect to mean sea level (referenced to the geoid) by correcting the WGS84 ellipsoid values with geoid-ellipsoid separation values.
g) Using the tie lines (flown at 90 degrees to the traverse lines) a set of miss-tie values were determined. These miss-tie values reflected the differences in the value between the tie lines and the traverse lines over the same geographical point. Using a least squares fit algorithm, which also takes into account the statistical variation inherent in DGPS positioning, a series of corrections were applied to the traverse line data. These allowed the data to be levelled to the same base value.
h) Following this, a FAS proprietary micro-levelling process was applied in order to more subtly level the data.

7.4.1 Gridding

The final levelled digital terrain data were gridded using a bi-directional spline algorithm. The data was gridded with a cell size of 25 m. Grid data from area 1 and area 2 were then merged.

The accuracy of the elevation calculation is directly dependent on the accuracy of the two input parameters, radar altitude and GPS altitude. The radar altitude value may be erroneous in areas of heavy tree cover, where the altimeter reflects the distance to the tree canopy rather than the ground. The GPS altitude value is primarily dependent on the number of available satellites. Although post-processing of GPS data will yield X and Y accuracies in the order of 1-2 metres, the accuracy of the altitude value is usually much less, sometimes in the ±5 metre range. Further inaccuracies may be introduced during the interpolation and gridding process.

Because of the inherent inaccuracies of this method, no guarantee is made or implied that the information displayed is a true representation of the height above sea level. Although this product may be of some use as a general reference, THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.

APPENDIX I – Weekly Operations Report

System: FASDAS
Aircraft: VH-KAV

15384.1 Hrs - Progressive M/R Hrs at the start of job, prior to mobilisation

Total Job kms: 4026.000 Kms

15504.1 Hrs - The hours the Periodic Inspection is actally due at start of the job

Plan Kms Remain: 3257.138 Kms
% Complete: 19.097 %

Job Number: 2053
Contract Number: QM5987
Job Name: Daly River
Area Names: Daly River
Client: Territory Uranium

Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
22-June-2009	1	TM	MP			11:04:00	13:04:00	2.0						1.00	TF	Comp-box, FOM, test flight, from Jandacot.
Julian Day 173																
Monday																
									118.0	2.0						
Date 23-Jun																
Julian Day 174																
Tuesday																
									118.0	2.0						
Date 24-Jun	2		MP											1.00	TF	Checking mag systems on ground at Jandacot
Julian Day 175															TF	ground cals in heavy rain
Wednesday															Comment	Pre-job meeting - 13:30 hrs at Oz Park.
									118.0	2.0						
Date 25-Jun																
Julian Day 176																
Thursday																
									118.0	2.0						
Date 26-Jun		TR	TM			9:00:00	16:30:00	7.5						1.00	MO	Mobilisation - KAV flew Perth to Kununurrah
Julian Day 177															Comment	M Poole flew to Darwin, drove to Batchelor
Friday																
									110.5	9.5						
Date 27-Jun		TR	TM			9:00:00	10:24:00	1.4						0.40	MO	Mobilisation - KAV flew Kununurrah to Batchelor.
Julian Day 178														0.20	SETUP	Set up base GPS, office, aircraft, refuelling, etc.
	3	TM	MP			14:29:00	16:06:00	1.6						0.40	TF	Attempted comp-box, recce flight completed.
Saturday																
									107.5	12.5						
Date 28-Jun	4	TM	MP			8:18:00	9:32:00	1.2						0.30	TF	Comp-box, FOM, and flat 8 sided box.
Julian Day 179	5	TR		768.862		11:00:00	16:55:00	5.9						0.70	P	
Sunday																
									100.3	19.7	768.862					
Totals This Week: ►				**768.862**		Week Hours:►		**19.7**	▲: A/C Hrs to Next Service					**5.00**		

System: FASDAS
Aircraft: VH-KAV

Total Job kms: 4026.000 Kms

Plan Kms Remain: 0.000 Kms
% Complete: 100.000 %

15384.1 Hrs - Progressive M/R Hrs at the start of job, prior to mobilisation

15504.1 Hrs - The hours the Periodic Inspection is actally due at start of the job

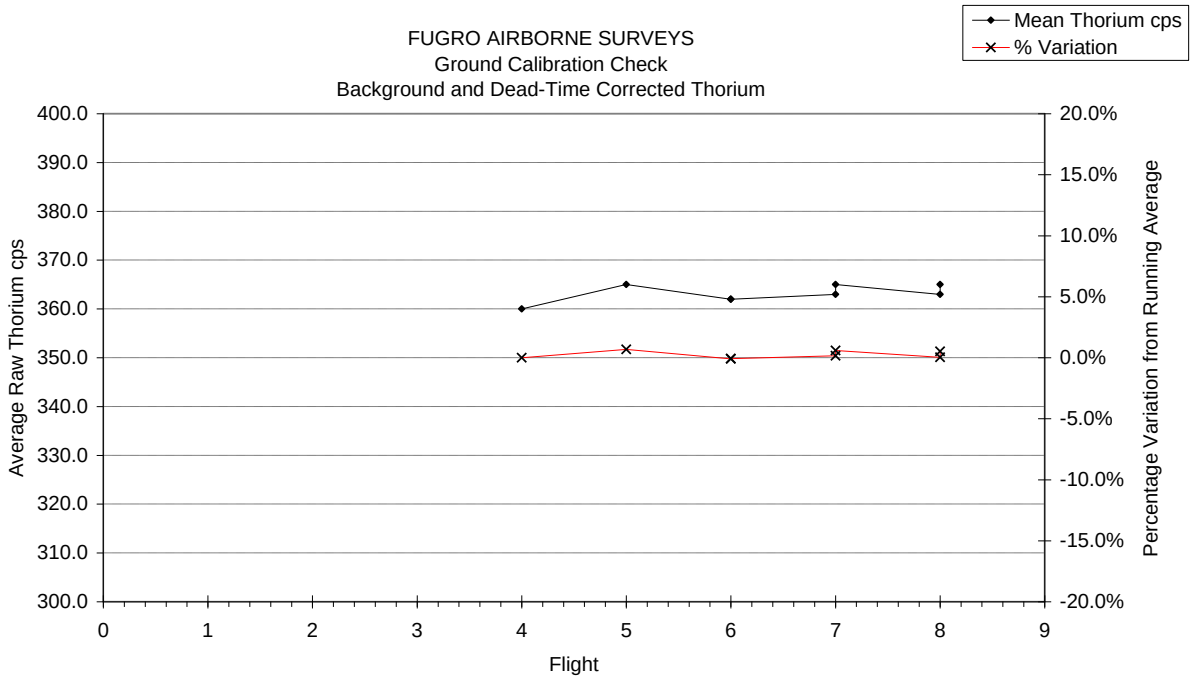
Job Number: 2053
Contract Number: QM5987
Job Name: Daly River
Area Names: Daly River
Client: Territory Uranium

Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
29-June-2009														1.00	E	Basemags not working, trying to fix
Julian Day 180															Comment	processing not working, trying to fix
Monday																
									100.3	19.7	768.862					
Date 30-Jun		TM				9:16:00	9:31:00	0.3					0.50	0.40	W	Fog at strip until 0900 hrs
Julian Day 181	6	TM		968.559		10:51:00	16:35:00	5.7						0.50	P	fog over area until 1045 hrs, hence late start.
														0.10	W	Unusable time because of late start.
Tuesday																
									94.4	25.7	1737.421					
Date 1-Jul	7	TR		771.787		7:14:00	12:20:00	5.1						0.50	P	
Julian Day 182	7	TM		828.251		13:24:00	18:25:00	5.0						0.50	P	
Wednesday																
									84.2	35.8	3337.459					
Date 2-Jul	8	TM				9:06:00	9:19:00	0.2						0.10	E	Loose cable on mag 1 - plane returned to
Julian Day 183	8	TM		625.752		9:37:00	14:49:00	5.2						0.80	P	
	8	TR		62.789		15:35:00	16:37:00	1.0						0.10	P	
Thursday																
									77.8	42.2	4026.000					
Date 3-Jul														0.10	Comment	Refuel before mobilisation.
Julian Day 184														0.40	Comment	Waiting for refly confirmation.
														0.50	MO	Expected mobilisation.
Friday																
									77.8	42.2	4026.000					
Date 4-Jul																
Julian Day 185																
Saturday																
									77.8	42.2	4026.000					
Date 5-Jul																
Julian Day 186																
Sunday																
									77.8	42.2	4026.000					
Totals This Week: ►				**3257.138**		Week Hours:►		**22.6**	▲: A/C Hrs to Next Service				**0.50**	**5.00**		

APPENDIX II – Button Calibration Data

AIRCRAFT VH-KAV

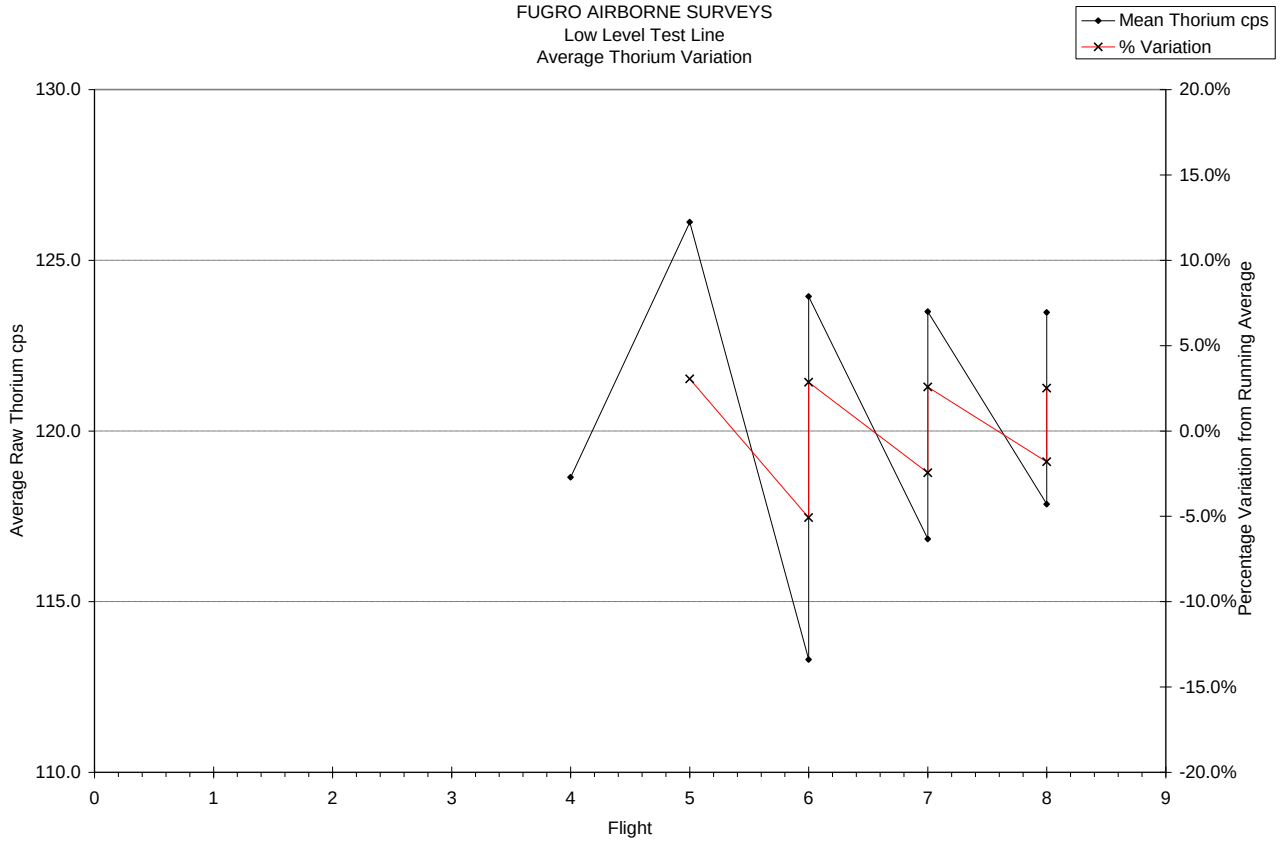
Flt#	Th in 501/601	Th in 502/602	Th Counts Actual	Th Counts Used	Running Average	Allowed Minimum	Allowed Maximum	% Change
4	144.0	504.0	360.0	360.0	360.0	324.0	396.0	0.0%
5	142.0	507.0	365.0	365.0	362.5	326.3	398.8	0.7%
6	144.0	506.0	362.0	362.0	362.3	326.1	398.6	-0.1%
6	148.0	510.0	362.0	362.0	362.3	326.0	398.5	-0.1%
7	147.0	510.0	363.0	363.0	362.4	326.2	398.6	0.2%
7	154.0	519.0	365.0	365.0	362.8	326.6	399.1	0.6%
8	154.0	517.0	363.0	363.0	362.9	326.6	399.1	0.0%
8	135.0	500.0	365.0	365.0	363.1	326.8	399.4	0.5%



APPENDIX III – Low Level Test Line Data

AIRCRAFT VH-KAV

Flt No	Mean TC (cps)	Mean K (cps)	Mean U (cps)	Mean Th (cps)	Mean Th DTC	Running Average	% Change	Min	Max
4	2993.28	296.71	87.23	118.65	137.93	118.65		106.8	130.5
5	3138.68	311.18	92.86	126.11	147.58	122.38	3.05%	110.1	134.6
6	2935.67	291.37	85.60	113.30	131.36	119.35	-5.07%	107.4	131.3
6	3166.15	311.42	98.99	123.94	145.08	120.50	2.86%	108.4	132.5
7	3253.60	305.43	110.33	116.83	137.72	119.77	-2.45%	107.8	131.7
7	3154.08	310.59	96.61	123.49	144.36	120.39	2.58%	108.3	132.4
8	3171.33	305.30	103.59	117.86	138.20	120.03	-1.81%	108.0	132.0
8	3142.41	309.78	94.99	123.47	144.33	120.46	2.50%	108.4	132.5



APPENDIX IV – Final Located Data Formats

Headers for final data files

AREA 1

Description File for 0.1 sec Magnetics and Digital Terrain Data

```
COMM JOB NUMBER:                                                    2053
COMM AREA NUMBER:                                                      1
COMM SURVEY COMPANY:                                 Fugro Airborne Surveys
COMM CLIENT:                                        Territory Uranium Co Ltd
COMM SURVEY TYPE:                                   Magnetic and Radiometric
COMM AREA NAME:                                                Daly River
COMM STATE:                                                            NT
COMM COUNTRY:                                                   Australia
COMM SURVEY FLOWN:                                      June to July 2009
COMM LOCATED DATA CREATED:                                    August 2009
COMM
COMM DATUM:                                                         GDA94
COMM PROJECTION:                                                      MGA
COMM ZONE:                                                             52
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                         100 m
COMM TRAVERSE LINE DIRECTION:                                 090 - 270 deg
COMM TIE LINE SPACING:                                             1000 m
COMM TIE LINE DIRECTION:                                      000 - 180 deg
COMM NOMINAL TERRAIN CLEARANCE:                                     40 m
COMM FINAL LINE KILOMETRES (in the 10 Hz dataset):                3833.3 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                                 1000101 - 1025201
COMM TIE LINE NUMBERS:                                      1900101 - 1902601
COMM
COMM AREA BOUNDARY
COMM
COMM    732771    8512083
COMM    725550    8512146
COMM    725610    8519526
COMM    732835    8519461
COMM    732850    8521315
COMM    740074    8521241
COMM    740092    8523086
COMM    741897    8523070
COMM    741947    8528603
COMM    743753    8528587
COMM    743771    8531414
COMM    750991    8531371
COMM    750963    8526832
COMM    749151    8526858
COMM    749138    8524848
COMM    747332    8524865
COMM    747179    8508264
COMM    745374    8508281
COMM    743568    8508298
COMM    743552    8506453
COMM    732805    8506468
COMM    732841    8510386
COMM
COMM SURVEY EQUIPMENT
```

```
COMM
COMM AIRCRAFT:                                VH-KAV Aerocommander Shrike 500S
COMM
COMM MAGNETOMETER:                                      Geometrics G-822A CV
COMM INSTALLATION:                                                  Stinger
COMM RESOLUTION:                                                 0.001 nT
COMM RECORDING INTERVAL:                                            0.1 s
COMM
COMM RADAR ALTIMETER:                                          Sperry RT220
COMM RECORDING INTERVAL:                                            0.1 s
COMM
COMM NAVIGATION:                                 real-time differential GPS
COMM RECORDING INTERVAL:                                            1.0 s
COMM
COMM ACQUISITION SYSTEM:                                         Fugro DAS
COMM
COMM BASE MAGNETOMETER:                                             Envimag
COMM RECORDING INTERVAL:                                              5 s
COMM
COMM DATA PROCESSING
COMM
COMM CO-ORDINATES
COMM PARALLAX CORRECTION APPLIED                                    0.6 s
COMM
COMM MAGNETIC DATA
COMM DIURNAL CORRECTION APPLIED    base value 46300, 46500, 46530, 46550 nT
COMM PARALLAX CORRECTION APPLIED                                    0.6 s
COMM IGRF CORRECTION APPLIED                          base value 46867 nT
COMM IGRF MODEL 2005 extrapolated to                          2009/06/28
COMM HEIGHT CORRECTED USING Taylor Drape TO                     40 m AGL
COMM DATA HAVE BEEN TIE LINE LEVELLED
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM RADAR ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                    0.5 s
COMM
COMM GPS ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                    0.6 s
COMM
COMM DIGITAL TERRAIN DATA
COMM DTM CALCULATED [DTM = GPS ALTITUDE - (RADAR ALT + SENSOR SEPARATION)]
COMM DATA CORRECTED TO AUSTRALIAN HEIGHT DATUM
COMM DATA HAVE BEEN TIE LINE LEVELLED
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey’s understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
```

```
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level. Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM ------------------------------------------------------------------------
COMM
COMM LINE DATA FORMAT
COMM A space is left between fixed fields so that a field of, for example,
COMM A8 should only ever have a maximum of 7 characters in it, even when it
COMM is a null, thus:
COMM
COMM FIELD                      UNITS           NULL              FORMAT
COMM Line Number                                -99999            I7
COMM Flight Number                              -99               I4
COMM Date (yyyymmdd)                            -9999999          I9
COMM Fiducial Number             s              -9999.9           F8.1
COMM Time (local)                s              -9999.9           F8.1
COMM Easting                     m              -99999.99         F10.2
COMM Northing                    m              -999999.99        F11.2
COMM Longitude                   deg            -999.9999999      F13.7
COMM Latitude                    deg            -99.9999999       F12.7
COMM GPS Altitude                m              -999.99           F8.2
COMM Radar Altitude              m              -999.99           F8.2
COMM Compensated TMI             nT             -99999.999        F11.3
COMM Diurnal                     nT             -9999.99          F9.2
COMM Final TMI                   nT             -99999.999        F11.3
COMM Digital Terrain Model       m              -999.99           F8.2
```

Description File for 1.0 sec Windowed Radiometrics Data

```
COMM JOB NUMBER:                                                  2053
COMM AREA NUMBER:                                                    1
COMM SURVEY COMPANY:                          Fugro Airborne Surveys
COMM CLIENT:                                Territory Uranium Co Ltd
COMM SURVEY TYPE:                           Magnetic and Radiometric
COMM AREA NAME:                                          Daly River
COMM STATE:                                                      NT
COMM COUNTRY:                                             Australia
COMM SURVEY FLOWN:                                 June to July 2009
COMM LOCATED DATA CREATED:                               August 2009
COMM
COMM DATUM:                                                   GDA94
COMM PROJECTION:                                                MGA
COMM ZONE:                                                       52
```

```
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                          100 m
COMM TRAVERSE LINE DIRECTION:                                 090 - 270 deg
COMM TIE LINE SPACING:                                              1000 m
COMM TIE LINE DIRECTION:                                      000 - 180 deg
COMM NOMINAL TERRAIN CLEARANCE:                                      40 m
COMM FINAL LINE KILOMETRES (in the 1 Hz dataset):                 3814.5 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                                 1000101 - 1025201
COMM TIE LINE NUMBERS:                                      1900101 - 1902601
COMM
COMM AREA BOUNDARY
COMM
COMM    732771    8512083
COMM    725550    8512146
COMM    725610    8519526
COMM    732835    8519461
COMM    732850    8521315
COMM    740074    8521241
COMM    740092    8523086
COMM    741897    8523070
COMM    741947    8528603
COMM    743753    8528587
COMM    743771    8531414
COMM    750991    8531371
COMM    750963    8526832
COMM    749151    8526858
COMM    749138    8524848
COMM    747332    8524865
COMM    747179    8508264
COMM    745374    8508281
COMM    743568    8508298
COMM    743552    8506453
COMM    732805    8506468
COMM    732841    8510386
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                          VH-KAV Aerocommander Shrike 500S
COMM
COMM SPECTROMETER:                        256 Channel Exploranium GR820
COMM CRYSTAL VOLUME:                                            33.56 L
COMM RECORDING INTERVAL:                                            1 s
COMM
COMM RADAR ALTIMETER:                                        Sperry RT220
COMM RECORDING INTERVAL:                                          0.1 s
COMM
COMM NAVIGATION:                          real-time differential GPS
COMM RECORDING INTERVAL:                                          1.0 s
COMM
COMM ACQUISITION SYSTEM:                                      Fugro DAS
COMM
COMM DATA PROCESSING
COMM
COMM CO-ORDINATES
COMM PARALLAX CORRECTION APPLIED                                  0.6 s
COMM
COMM RADAR ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                  0.5 s
COMM
```

```
COMM GPS ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                    0.6 s
COMM
COMM RADIOMETRIC DATA
COMM NASVD FILTERING APPLIED TO 256 CHANNEL DATA
COMM DATA WAS ENERGY RECALIBRATED
COMM WINDOW DATA EXTRACTED USING IAEA STANDARD WINDOWS
COMM PARALLAX CORRECTION APPLIED                                    1.0 s
COMM COSMIC, AIRCRAFT AND RADON BACKGROUNDS REMOVED
COMM STRIPPING CORRECTIONS APPLIED
COMM HEIGHT CORRECTED TO                                         40 m AGL
COMM DATA HAVE BEEN TIE LINE LEVELLED
COMM DATA HAVE BEEN MICROLEVELLED
COMM AIRCRAFT BACKGROUND COEFFICIENTS
COMM TOTAL COUNT                                                    30.0
COMM POTASSIUM                                                       6.1
COMM URANIUM                                                         1.3
COMM THORIUM                                                         0.8
COMM COSMIC COEFFICIENTS
COMM TOTAL COUNT                                                  0.9200
COMM POTASSIUM                                                    0.0530
COMM URANIUM                                                      0.0425
COMM THORIUM                                                      0.0520
COMM STRIPPING COEFFICIENTS
COMM ALPHA                                                        0.2611
COMM BETA                                                         0.3980
COMM GAMMA                                                        0.7863
COMM a                                                            0.0684
COMM b                                                            0.0011
COMM c                                                           -0.0171
COMM STRIPPING HEIGHT ATTENUATION COEFFICIENTS
COMM ALPHA                                                       0.00049
COMM BETA                                                        0.00065
COMM GAMMA                                                       0.00069
COMM RADON STRIPPING COEFFICIENTS
COMM TOTAL COUNT                                                  13.153
COMM POTASSIUM                                                     0.782
COMM THORIUM                                                       0.061
COMM SPECTRAL RATIOS
COMM RADON (C1)                                                    1.875
COMM GROUND (C2)                                                   0.625
COMM ALTITUDE COEFFICIENTS
COMM TOTAL COUNT                                                 -0.0069
COMM POTASSIUM                                                   -0.0093
COMM URANIUM                                                     -0.0083
COMM THORIUM                                                     -0.0069
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
```

COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM ----------
COMM
COMM LINE DATA FORMAT
COMM A space is left between fixed fields so that a field of, for example,
COMM A8 should only ever have a maximum of 7 characters in it, even when it
COMM is a null, thus:
COMM

COMM FIELD	UNITS	NULL	FORMAT
COMM Line Number		-99999	I7
COMM Flight Number		-99	I4
COMM Date (yyyymmdd)		-9999999	I9
COMM Fiducial Number	s	-9999.9	F8.1
COMM Time (local)	s	-9999.9	F8.1
COMM Easting	m	-99999.99	F10.2
COMM Northing	m	-999999.99	F11.2
COMM Longitude	deg	-999.9999999	F13.7
COMM Latitude	deg	-99.9999999	F12.7
COMM GPS Altitude	m	-999.99	F8.2
COMM Radar Altitude	m	-999.99	F8.2
COMM Uncorrected Total Count	cps	-9999.9	F8.1
COMM Uncorrected Potassium	cps	-999.9	F7.1
COMM Uncorrected Uranium	cps	-999.9	F7.1
COMM Uncorrected Thorium	cps	-999.9	F7.1
COMM Raw Cosmic	cps	-99	I4
COMM Final Total Count	cps	-9999.999	F10.3
COMM Final Potassium	cps	-999.999	F9.3
COMM Final Uranium	cps	-999.999	F9.3
COMM Final Thorium	cps	-999.999	F9.3

Description File for 1.0 sec Raw 256 Channel Radiometrics Data

COMM JOB NUMBER: 2053
COMM AREA NUMBER: 1
COMM SURVEY COMPANY: Fugro Airborne Surveys
COMM CLIENT: Territory Uranium Co Ltd
COMM SURVEY TYPE: Magnetic and Radiometric
COMM AREA NAME: Daly River
COMM STATE: NT
COMM COUNTRY: Australia
COMM SURVEY FLOWN: June to July 2009
COMM LOCATED DATA CREATED: August 2009
COMM
COMM DATUM: GDA94
COMM PROJECTION: MGA
COMM ZONE: 52
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING: 100 m
COMM TRAVERSE LINE DIRECTION: 090 - 270 deg
COMM TIE LINE SPACING: 1000 m
COMM TIE LINE DIRECTION: 000 - 180 deg
COMM NOMINAL TERRAIN CLEARANCE: 40 m
COMM FINAL LINE KILOMETRES (in the 1 Hz dataset): 3814.5 km

```
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                          1000101 - 1025201
COMM TIE LINE NUMBERS:                               1900101 - 1902601
COMM
COMM AREA BOUNDARY
COMM
COMM    732771    8512083
COMM    725550    8512146
COMM    725610    8519526
COMM    732835    8519461
COMM    732850    8521315
COMM    740074    8521241
COMM    740092    8523086
COMM    741897    8523070
COMM    741947    8528603
COMM    743753    8528587
COMM    743771    8531414
COMM    750991    8531371
COMM    750963    8526832
COMM    749151    8526858
COMM    749138    8524848
COMM    747332    8524865
COMM    747179    8508264
COMM    745374    8508281
COMM    743568    8508298
COMM    743552    8506453
COMM    732805    8506468
COMM    732841    8510386
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                          VH-KAV Aerocommander Shrike 500S
COMM
COMM SPECTROMETER:                        256 Channel Exploranium GR820
COMM CRYSTAL VOLUME:                                          33.56 L
COMM RECORDING INTERVAL:                                         1 s
COMM
COMM RADAR ALTIMETER:                                     Sperry RT220
COMM RECORDING INTERVAL:                                       0.1 s
COMM
COMM NAVIGATION:                          real-time differential GPS
COMM RECORDING INTERVAL:                                       1.0 s
COMM
COMM ACQUISITION SYSTEM:                                    Fugro DAS
COMM
COMM DATA PROCESSING
COMM
COMM CO-ORDINATES
COMM PARALLAX CORRECTION APPLIED                               0.6 s
COMM
COMM RADAR ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                               0.5 s
COMM
COMM GPS ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                               0.6 s
COMM
COMM BAROMETRIC DATA
COMM PARALLAX CORRECTION APPLIED                                 0 s
COMM
COMM TEMPERATURE DATA
COMM PARALLAX CORRECTION APPLIED                               0.3 s
COMM
```

```
COMM RADIOMETRIC DATA
COMM NO PROCESSING APPLIED TO RAW 256 CHANNEL RADIOMETRIC DATA
COMM
COMM AIRCRAFT BACKGROUND COEFFICIENTS
COMM TOTAL COUNT                                                    30.0
COMM POTASSIUM                                                       6.1
COMM URANIUM                                                         1.3
COMM THORIUM                                                         0.8
COMM COSMIC COEFFICIENTS
COMM TOTAL COUNT                                                  0.9200
COMM POTASSIUM                                                    0.0530
COMM URANIUM                                                      0.0425
COMM THORIUM                                                      0.0520
COMM STRIPPING COEFFICIENTS
COMM ALPHA                                                        0.2611
COMM BETA                                                         0.3980
COMM GAMMA                                                        0.7863
COMM a                                                            0.0684
COMM b                                                            0.0011
COMM c                                                           -0.0171
COMM STRIPPING HEIGHT ATTENUATION COEFFICIENTS
COMM ALPHA                                                       0.00049
COMM BETA                                                        0.00065
COMM GAMMA                                                       0.00069
COMM RADON STRIPPING COEFFICIENTS
COMM TOTAL COUNT                                                  13.153
COMM POTASSIUM                                                     0.782
COMM THORIUM                                                       0.061
COMM SPECTRAL RATIOS
COMM RADON (C1)                                                    1.875
COMM GROUND (C2)                                                   0.625
COMM ALTITUDE COEFFICIENTS
COMM TOTAL COUNT                                                 -0.0069
COMM POTASSIUM                                                   -0.0093
COMM URANIUM                                                     -0.0083
COMM THORIUM                                                     -0.0069
COMM
COMM ----------------------------------------------------------------------
COMM DISCLAIMER
COMM ----------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM ----------------------------------------------------------------------
```

```
COMM
COMM LINE DATA FORMAT
COMM A space is left between fixed fields so that a field of, for example,
COMM A8 should only ever have a maximum of 7 characters in it, even when it
COMM is a null, thus:
COMM
COMM FIELD                          UNITS          NULL                FORMAT
COMM Line Number                                   -99999              I7
COMM Flight Number                                 -99                 I4
COMM Date (yyyymmdd)                               -9999999            I9
COMM Fiducial Number                s              -9999.9             F8.1
COMM Time (local)                   s              -9999.9             F8.1
COMM Easting                        m              -99999.99           F10.2
COMM Northing                       m              -999999.99          F11.2
COMM Longitude                      deg            -999.9999999        F13.7
COMM Latitude                       deg            -99.9999999         F12.7
COMM GPS Altitude                   m              -999.99             F8.2
COMM Radar Altitude                 m              -999.99             F8.2
COMM Raw Cosmic                     cps            -99                 I4
COMM Barometric Pressure            hPa            -999.99             F8.2
COMM Temperature                    deg C          -9.9                F5.1
COMM Livetime                       s              -9.999              F7.3
COMM Raw 256 Channel Radiometrics   counts         -999                256I5
```

AREA 2

Description File for 0.1 sec Magnetics and Digital Terrain Data

```
COMM JOB NUMBER:                                                        2053
COMM AREA NUMBER:                                                          2
COMM SURVEY COMPANY:                                  Fugro Airborne Surveys
COMM CLIENT:                                        Territory Uranium Co Ltd
COMM SURVEY TYPE:                                   Magnetic and Radiometric
COMM AREA NAME:                                                 Daly River
COMM STATE:                                                             NT
COMM COUNTRY:                                                     Australia
COMM SURVEY FLOWN:                                        June to July 2009
COMM LOCATED DATA CREATED:                                      August 2009
COMM
COMM DATUM:                                                          GDA94
COMM PROJECTION:                                                       MGA
COMM ZONE:                                                              52
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                           100 m
COMM TRAVERSE LINE DIRECTION:                                 000 - 180 deg
COMM TIE LINE SPACING:                                               1000 m
COMM TIE LINE DIRECTION:                                      090 - 270 deg
COMM NOMINAL TERRAIN CLEARANCE:                                       40 m
COMM FINAL LINE KILOMETRES (in the 10 Hz dataset):                 197.0 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                               2000101 - 2002101
COMM TIE LINE NUMBERS:                                    2900101 - 2900701
COMM
COMM AREA BOUNDARY
COMM
COMM   732915    8528682
COMM   734721    8528667
COMM   734657    8521289
COMM   732850    8521315
COMM
```

```
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                              VH-KAV Aerocommander Shrike 500S
COMM
COMM MAGNETOMETER:                                    Geometrics G-822A CV
COMM INSTALLATION:                                                 Stinger
COMM RESOLUTION:                                                0.001 nT
COMM RECORDING INTERVAL:                                           0.1 s
COMM
COMM RADAR ALTIMETER:                                          Sperry RT220
COMM RECORDING INTERVAL:                                           0.1 s
COMM
COMM NAVIGATION:                                real-time differential GPS
COMM RECORDING INTERVAL:                                           1.0 s
COMM
COMM ACQUISITION SYSTEM:                                        Fugro DAS
COMM
COMM BASE MAGNETOMETER:                                            Envimag
COMM RECORDING INTERVAL:                                               5 s
COMM
COMM DATA PROCESSING
COMM
COMM CO-ORDINATES
COMM PARALLAX CORRECTION APPLIED                                   0.6 s
COMM
COMM MAGNETIC DATA
COMM DIURNAL CORRECTION APPLIED                          base value 46500 nT
COMM PARALLAX CORRECTION APPLIED                                   0.6 s
COMM IGRF CORRECTION APPLIED                             base value 46867 nT
COMM IGRF MODEL 2005 extrapolated to                              2009/06/28
COMM HEIGHT CORRECTED USING Taylor Drape TO                        40 m AGL
COMM DATA HAVE BEEN TIE LINE LEVELLED
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM RADAR ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                   0.5 s
COMM
COMM GPS ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                   0.6 s
COMM
COMM DIGITAL TERRAIN DATA
COMM DTM CALCULATED [DTM = GPS ALTITUDE - (RADAR ALT + SENSOR SEPARATION)]
COMM DATA CORRECTED TO AUSTRALIAN HEIGHT DATUM
COMM DATA HAVE BEEN TIE LINE LEVELLED
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
```

```
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level. Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM ------------------------------------------------------------------------
COMM
COMM LINE DATA FORMAT
COMM A space is left between fixed fields so that a field of, for example,
COMM A8 should only ever have a maximum of 7 characters in it, even when it
COMM is a null, thus:
COMM
COMM FIELD                      UNITS           NULL                FORMAT
COMM Line Number                                -99999              I7
COMM Flight Number                              -99                 I4
COMM Date (yyyymmdd)                            -9999999            I9
COMM Fiducial Number             s              -9999.9             F8.1
COMM Time (local)                s              -9999.9             F8.1
COMM Easting                     m              -99999.99           F10.2
COMM Northing                    m              -999999.99          F11.2
COMM Longitude                   deg            -999.9999999        F13.7
COMM Latitude                    deg            -99.9999999         F12.7
COMM GPS Altitude                m              -999.99             F8.2
COMM Radar Altitude              m              -999.99             F8.2
COMM Compensated TMI             nT             -99999.999          F11.3
COMM Diurnal                     nT             -9999.99            F9.2
COMM Final TMI                   nT             -99999.999          F11.3
COMM Digital Terrain Model       m              -999.99             F8.2
```

Description File for 1.0 sec Windowed Radiometrics Data

```
COMM JOB NUMBER:                                                    2053
COMM AREA NUMBER:                                                      2
COMM SURVEY COMPANY:                                 Fugro Airborne Surveys
COMM CLIENT:                                      Territory Uranium Co Ltd
COMM SURVEY TYPE:                                 Magnetic and Radiometric
COMM AREA NAME:                                                Daly River
COMM STATE:                                                            NT
COMM COUNTRY:                                                    Australia
COMM SURVEY FLOWN:                                      June to July 2009
COMM LOCATED DATA CREATED:                                 August 2009
COMM
COMM DATUM:                                                         GDA94
COMM PROJECTION:                                                      MGA
```

```
COMM ZONE:                                                              52
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                          100 m
COMM TRAVERSE LINE DIRECTION:                                 000 - 180 deg
COMM TIE LINE SPACING:                                              1000 m
COMM TIE LINE DIRECTION:                                      090 - 270 deg
COMM NOMINAL TERRAIN CLEARANCE:                                      40 m
COMM FINAL LINE KILOMETRES (in the 1 Hz dataset):                 195.2 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                               2000101 - 2002101
COMM TIE LINE NUMBERS:                                    2900101 - 2900701
COMM
COMM AREA BOUNDARY
COMM
COMM   732915    8528682
COMM   734721    8528667
COMM   734657    8521289
COMM   732850    8521315
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                              VH-KAV Aerocommander Shrike 500S
COMM
COMM SPECTROMETER:                            256 Channel Exploranium GR820
COMM CRYSTAL VOLUME:                                              33.56 L
COMM RECORDING INTERVAL:                                            1 s
COMM
COMM RADAR ALTIMETER:                                          Sperry RT220
COMM RECORDING INTERVAL:                                          0.1 s
COMM
COMM NAVIGATION:                               real-time differential GPS
COMM RECORDING INTERVAL:                                          1.0 s
COMM
COMM ACQUISITION SYSTEM:                                       Fugro DAS
COMM
COMM DATA PROCESSING
COMM
COMM CO-ORDINATES
COMM PARALLAX CORRECTION APPLIED                                    0.6 s
COMM
COMM RADAR ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                    0.5 s
COMM
COMM GPS ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                    0.6 s
COMM
COMM RADIOMETRIC DATA
COMM NASVD FILTERING APPLIED TO 256 CHANNEL DATA
COMM DATA WAS ENERGY RECALIBRATED
COMM WINDOW DATA EXTRACTED USING IAEA STANDARD WINDOWS
COMM PARALLAX CORRECTION APPLIED                                    1.0 s
COMM COSMIC, AIRCRAFT AND RADON BACKGROUNDS REMOVED
COMM STRIPPING CORRECTIONS APPLIED
COMM HEIGHT CORRECTED TO                                         40 m AGL
COMM DATA HAVE BEEN TIE LINE LEVELLED
COMM AIRCRAFT BACKGROUND COEFFICIENTS
COMM TOTAL COUNT                                                     30.0
COMM POTASSIUM                                                        6.1
COMM URANIUM                                                          1.3
COMM THORIUM                                                          0.8
```

```
COMM COSMIC COEFFICIENTS
COMM TOTAL COUNT                                                    0.9200
COMM POTASSIUM                                                      0.0530
COMM URANIUM                                                        0.0425
COMM THORIUM                                                        0.0520
COMM STRIPPING COEFFICIENTS
COMM ALPHA                                                          0.2611
COMM BETA                                                           0.3980
COMM GAMMA                                                          0.7863
COMM a                                                              0.0684
COMM b                                                              0.0011
COMM c                                                             -0.0171
COMM STRIPPING HEIGHT ATTENUATION COEFFICIENTS
COMM ALPHA                                                         0.00049
COMM BETA                                                          0.00065
COMM GAMMA                                                         0.00069
COMM RADON STRIPPING COEFFICIENTS
COMM TOTAL COUNT                                                    13.153
COMM POTASSIUM                                                       0.782
COMM THORIUM                                                         0.061
COMM SPECTRAL RATIOS
COMM RADON (C1)                                                      1.875
COMM GROUND (C2)                                                     0.625
COMM ALTITUDE COEFFICIENTS
COMM TOTAL COUNT                                                   -0.0069
COMM POTASSIUM                                                     -0.0093
COMM URANIUM                                                       -0.0083
COMM THORIUM                                                       -0.0069
COMM
COMM ----------------------------------------------------------------------
COMM DISCLAIMER
COMM ----------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
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COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM ----------------------------------------------------------------------
COMM
COMM LINE DATA FORMAT
COMM A space is left between fixed fields so that a field of, for example,
COMM A8 should only ever have a maximum of 7 characters in it, even when it
COMM is a null, thus:
COMM
COMM FIELD                      UNITS           NULL                FORMAT
COMM Line Number                                -99999              I7
```

COMM Flight Number		-99	I4
COMM Date (yyyymmdd)		-9999999	I9
COMM Fiducial Number	s	-9999.9	F8.1
COMM Time (local)	s	-9999.9	F8.1
COMM Easting	m	-99999.99	F10.2
COMM Northing	m	-999999.99	F11.2
COMM Longitude	deg	-999.9999999	F13.7
COMM Latitude	deg	-99.9999999	F12.7
COMM GPS Altitude	m	-999.99	F8.2
COMM Radar Altitude	m	-999.99	F8.2
COMM Uncorrected Total Count	cps	-9999.9	F8.1
COMM Uncorrected Potassium	cps	-999.9	F7.1
COMM Uncorrected Uranium	cps	-999.9	F7.1
COMM Uncorrected Thorium	cps	-999.9	F7.1
COMM Raw Cosmic	cps	-99	I4
COMM Final Total Count	cps	-9999.999	F10.3
COMM Final Potassium	cps	-999.999	F9.3
COMM Final Uranium	cps	-999.999	F9.3
COMM Final Thorium	cps	-999.999	F9.3

Description File for 1.0 sec Raw 256 Channel Radiometrics Data

COMM JOB NUMBER: 2053
COMM AREA NUMBER: 2
COMM SURVEY COMPANY: Fugro Airborne Surveys
COMM CLIENT: Territory Uranium Co Ltd
COMM SURVEY TYPE: Magnetic and Radiometric
COMM AREA NAME: Daly River
COMM STATE: NT
COMM COUNTRY: Australia
COMM SURVEY FLOWN: June to July 2009
COMM LOCATED DATA CREATED: August 2009
COMM
COMM DATUM: GDA94
COMM PROJECTION: MGA
COMM ZONE: 52
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING: 100 m
COMM TRAVERSE LINE DIRECTION: 000 - 180 deg
COMM TIE LINE SPACING: 1000 m
COMM TIE LINE DIRECTION: 090 - 270 deg
COMM NOMINAL TERRAIN CLEARANCE: 40 m
COMM FINAL LINE KILOMETRES (in the 1 Hz dataset): 195.2 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS: 2000101 - 2002101
COMM TIE LINE NUMBERS: 2900101 - 2900701
COMM
COMM AREA BOUNDARY
COMM
COMM 732915 8528682
COMM 734721 8528667
COMM 734657 8521289
COMM 732850 8521315
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT: VH-KAV Aerocommander Shrike 500S
COMM
COMM SPECTROMETER: 256 Channel Exploranium GR820

```
COMM CRYSTAL VOLUME:                                              33.56 L
COMM RECORDING INTERVAL:                                             1 s
COMM
COMM RADAR ALTIMETER:                                        Sperry RT220
COMM RECORDING INTERVAL:                                           0.1 s
COMM
COMM NAVIGATION:                                 real-time differential GPS
COMM RECORDING INTERVAL:                                           1.0 s
COMM
COMM ACQUISITION SYSTEM:                                       Fugro DAS
COMM
COMM DATA PROCESSING
COMM
COMM CO-ORDINATES
COMM PARALLAX CORRECTION APPLIED                                   0.6 s
COMM
COMM RADAR ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                   0.5 s
COMM
COMM GPS ALTITUDE DATA
COMM PARALLAX CORRECTION APPLIED                                   0.6 s
COMM
COMM BAROMETRIC DATA
COMM PARALLAX CORRECTION APPLIED                                     0 s
COMM
COMM TEMPERATURE DATA
COMM PARALLAX CORRECTION APPLIED                                   0.3 s
COMM
COMM RADIOMETRIC DATA
COMM NO PROCESSING APPLIED TO RAW 256 CHANNEL RADIOMETRIC DATA
COMM
COMM AIRCRAFT BACKGROUND COEFFICIENTS
COMM TOTAL COUNT                                                    30.0
COMM POTASSIUM                                                       6.1
COMM URANIUM                                                         1.3
COMM THORIUM                                                         0.8
COMM COSMIC COEFFICIENTS
COMM TOTAL COUNT                                                  0.9200
COMM POTASSIUM                                                    0.0530
COMM URANIUM                                                      0.0425
COMM THORIUM                                                      0.0520
COMM STRIPPING COEFFICIENTS
COMM ALPHA                                                        0.2611
COMM BETA                                                         0.3980
COMM GAMMA                                                        0.7863
COMM a                                                            0.0684
COMM b                                                            0.0011
COMM c                                                           -0.0171
COMM STRIPPING HEIGHT ATTENUATION COEFFICIENTS
COMM ALPHA                                                       0.00049
COMM BETA                                                        0.00065
COMM GAMMA                                                       0.00069
COMM RADON STRIPPING COEFFICIENTS
COMM TOTAL COUNT                                                  13.153
COMM POTASSIUM                                                     0.782
COMM THORIUM                                                       0.061
COMM SPECTRAL RATIOS
COMM RADON (C1)                                                    1.875
COMM GROUND (C2)                                                   0.625
COMM ALTITUDE COEFFICIENTS
COMM TOTAL COUNT                                                 -0.0069
COMM POTASSIUM                                                   -0.0093
COMM URANIUM                                                     -0.0083
COMM THORIUM                                                     -0.0069
```

```
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
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COMM
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COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM ------------------------------------------------------------------------
COMM
COMM LINE DATA FORMAT
COMM A space is left between fixed fields so that a field of, for example,
COMM A8 should only ever have a maximum of 7 characters in it, even when it
COMM is a null, thus:
COMM
COMM FIELD                          UNITS          NULL               FORMAT
COMM Line Number                                   -99999             I7
COMM Flight Number                                 -99                I4
COMM Date (yyyymmdd)                               -9999999           I9
COMM Fiducial Number                s              -9999.9            F8.1
COMM Time (local)                   s              -9999.9            F8.1
COMM Easting                        m              -99999.99          F10.2
COMM Northing                       m              -999999.99         F11.2
COMM Longitude                      deg            -999.9999999       F13.7
COMM Latitude                       deg            -99.9999999        F12.7
COMM GPS Altitude                   m              -999.99            F8.2
COMM Radar Altitude                 m              -999.99            F8.2
COMM Raw Cosmic                     cps            -99                I4
COMM Barometric Pressure            hPa            -999.99            F8.2
COMM Temperature                    deg C          -9.9               F5.1
COMM Livetime                       s              -9.999             F7.3
COMM Raw 256 Channel Radiometrics   counts         -999               256I5
```

APPENDIX V – List Of All Supplied Data

Final Located Data

- 0.1 second magnetics and digital terrain data
- 1.0 second windowed radiometrics data
- 1.0 second raw 256 channel radiometric data

Final located data for each area is in ASCII format. Contents of each are shown in Appendix IV.

Raw Initial Products

Raw initial grids were produced in Geo-referenced TIFF format GDA94/MGA52

- Raw Total magnetic intensity (nT)
- Raw Total count (cps)
- Raw Potassium count (cps)
- Raw Uranium count (cps)
- Raw Thorium count (cps)

Preliminary Gridded Data

All gridded data were delivered as merged grids as well as by area.

Preliminary gridded data was produced in ERMapper format in GDA94/MGA52

- Total magnetic intensity (nT)
- Total count (cps)
- Potassium count (cps)
- Uranium count (cps)
- Thorium count (cps)
- Digital terrain model (m AHD)

Final Gridded Data

All gridded data were delivered as merged grids as well as by area.

Final gridded data was produced in ERMapper format in GDA94/MGA52

- Total magnetic intensity (nT)
- Gradient Enhanced TMI (nT)
- Total count (cps)
- Potassium count (cps)
- Uranium count (cps)
- Thorium count (cps)
- Digital terrain model (m AHD)

Additional Products
A logistics and processing report