See 4/7/01

MINERAL RESOURCES TASMANIA

Operations and Processing Report

North-West Tasmania
FIXED WING
Airborne Geophysical Survey
Contract / Tender MRT 01/2000

FLOWN AND PROCESSED BY KEVRON GEOPHYSICS FOR AND ON BEHALF OF MINERAL RESOURCES TASMANIA

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APPENDICES

INTRODUCTION

The conventional fixed wing airborne geophysical surveys, consisting of areas A, and E, were flown using an Aerocommander Shrike 500S aircraft, and the steeper terrain in areas B and D were flown using a specialised Cresco 750, turbine powered aircraft. All areas are on the Tasmania SK 55, 1:250,000 map-sheets. A total of 69,405 line kilometres of magnetic, radiometric and digital elevation data were acquired and processed.

The project was flown and processed by Kevron Geophysics Pty Ltd of 10 Compass Road, Jandakot Airport, Western Australia.

Various Bases of Operations, convenient to each area, were utilised over the flying period. Flying commenced on 11th December 2000 and completed on 18th February 2001.

Area	Aircraft Registration	Base of Operations	Start of Flying	Completion of Flying	Flight Nos.
Area A	VH-KAC	King Island	15/01/01	21/01/01	1 thru 8
Area B	VH-KPY	Wynyard	02/01/01	10/01/01	1 thru 48
Area D	VH-KPY	Strahan	11/12/00	17/02/01	1 thru 62
Area F	VH-KAC	Wynyard	28/12/01	13/01/01	1thru 18

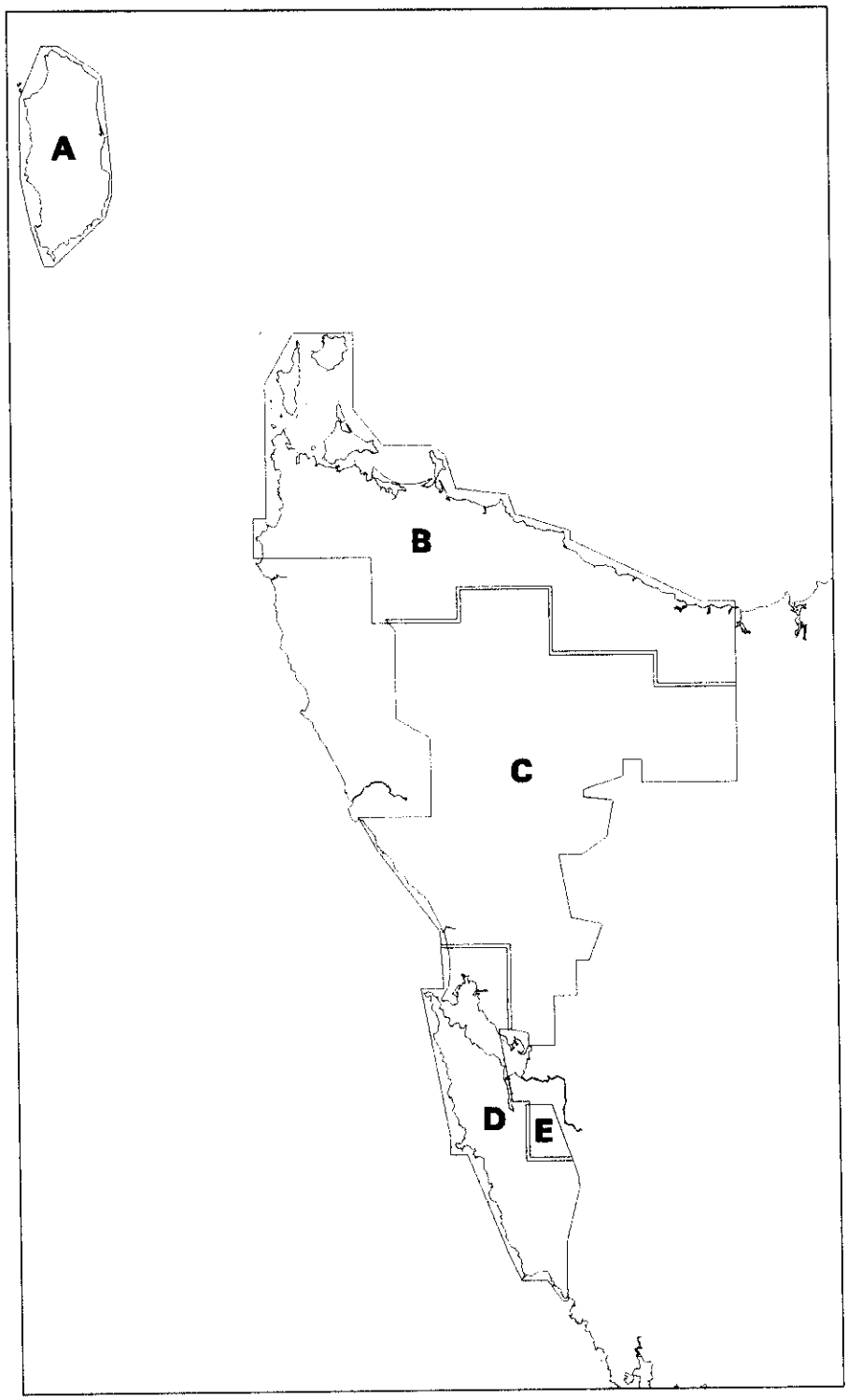
Kevron Aviation staff in Perth performed periodic maintenance on both aircraft, this included 100 hourly Scheduled Maintenance Inspections, in Melbourne and at the Bases of Operations during the acquisition phase.

The fixed wing traverse lines were flown at an inter-line spacing of 200 m, with a tie line spacing of 2000m. Traverse lines and tie lines were oriented 090° AMG and 000° AMG respectively. An average ground clearance of 80m was specified for both magnetic and radiometric sensors.

In field data verification and quality control was undertaken on a post flight basis on-site using a combination of Kevron proprietary software and ChrisDBF. QC products produced in the field included magnetometer 4th difference noise plots, flight path deviation plots of cross-track and elevation and radiometric summed spectra plots. Diurnal plots of the Cs vapour base station magnetometer were plotted and assessed to ensure contract compliance. Some reflights were necessary due to excessive magnetic variation. Back-ups of all field data were written to compact disk and an additional copy sent to Kevron's data processing centre in Perth where further QC products were produced and data processing undertaken.

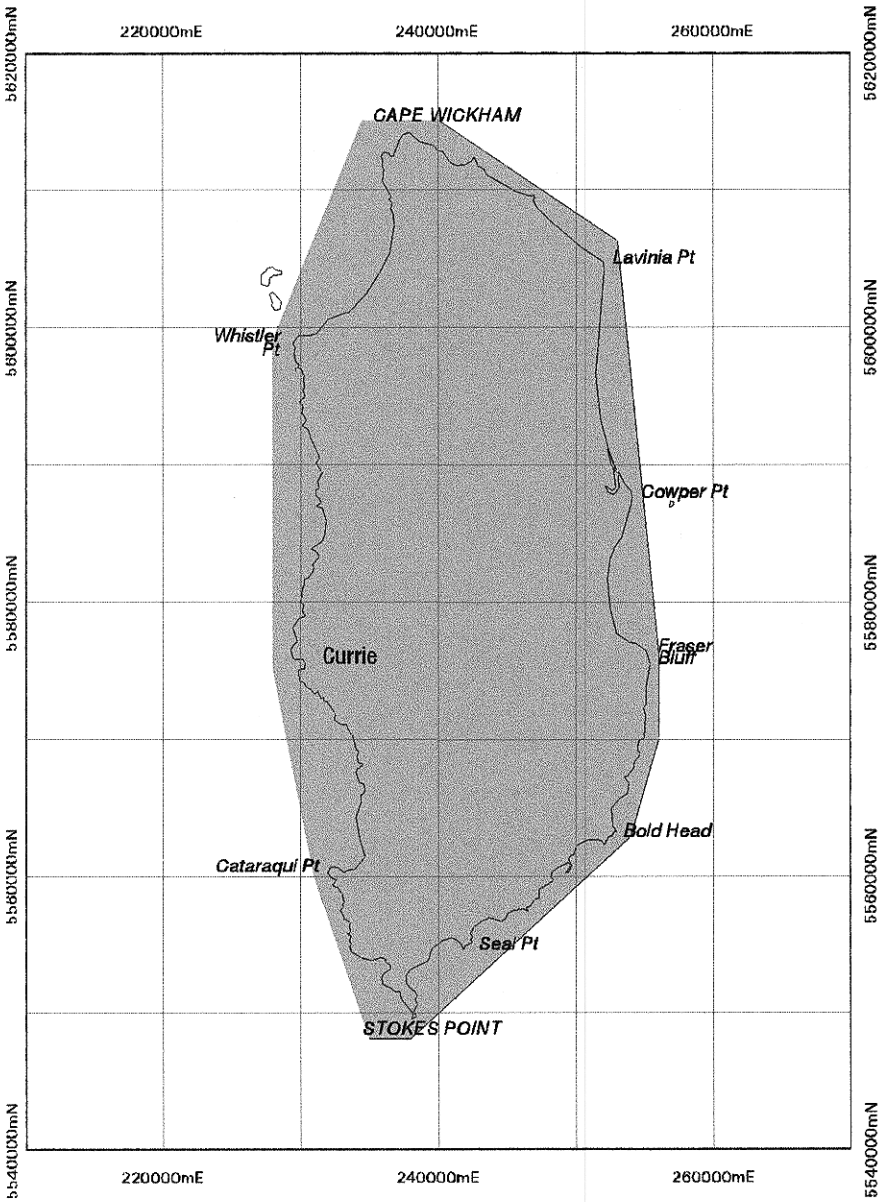
1. SURVEY AREAS AND PARAMETERS

1.1 SURVEY AREAS



Overview of Survey Areas

AREA A

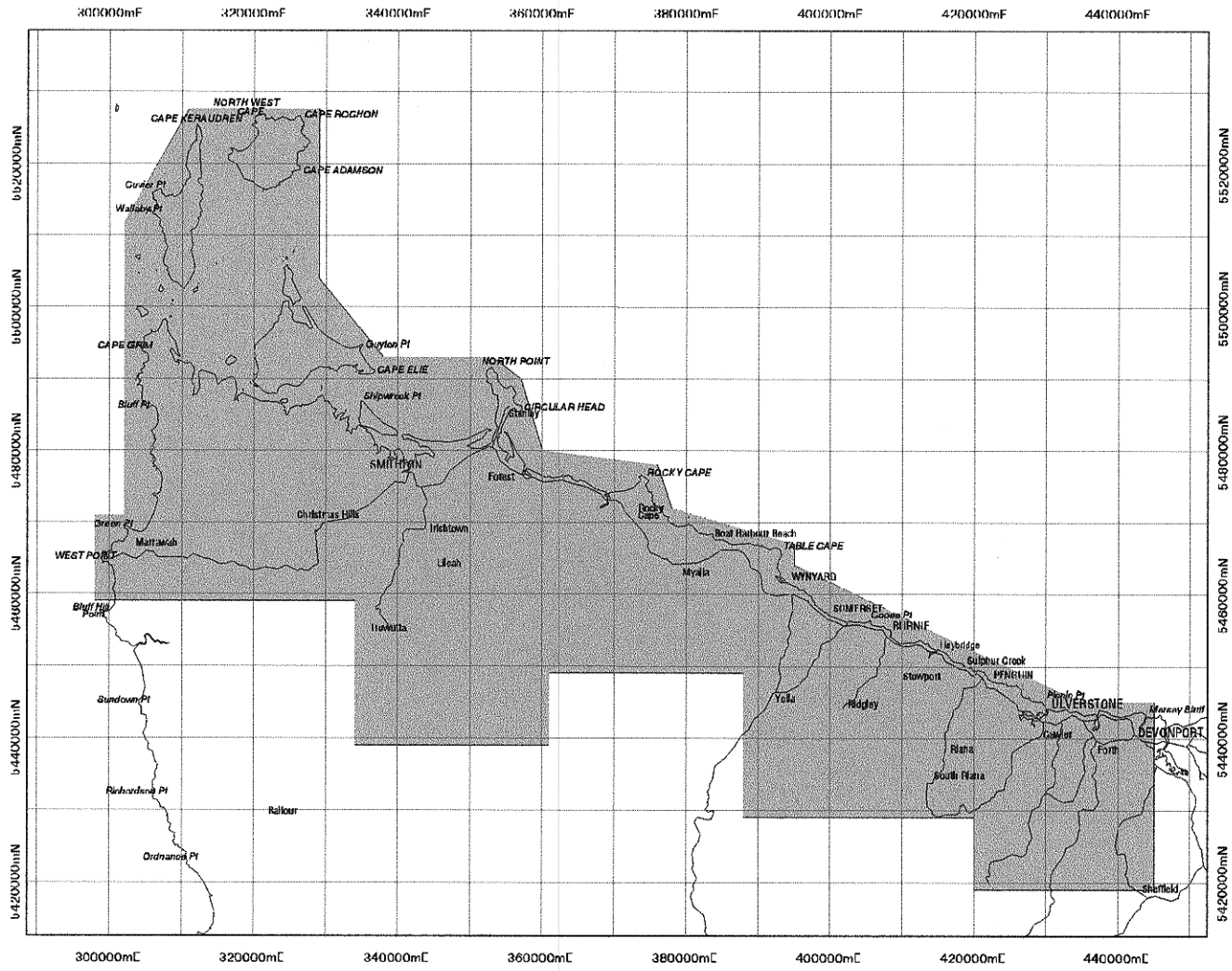


Area A – King Island, TMAMG55, Datum AGD66

mE	mN
234500.0	5615100.0
240000.0	5615100.0
253000.0	5606300.0
256000.0	5576100.0
256000.0	5570100.0
254000.0	5562900.0
238000.0	5548100.0
235000.0	5548100.0
231000.0	5560000.0
228000.0	5575100.0
228000.0	5599100.0
234500.0	5615100.0

5 cm

AREA B



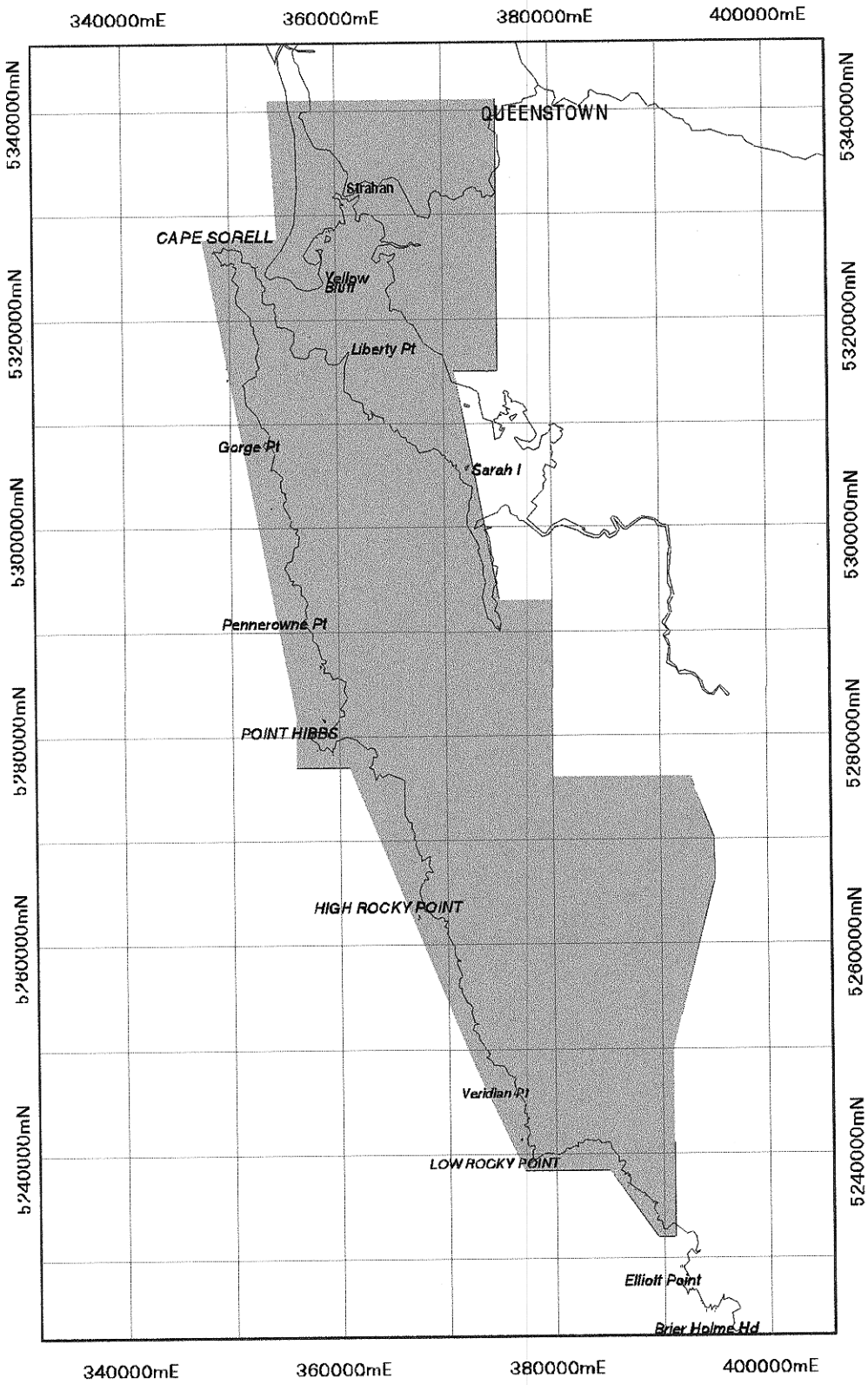
Area B – Northwest Tasmania TMAMG55, Datum AGD66

mE	mN
311000.0	5527600.0
329000.0	5527600.0
329000.0	5504000.0
338000.0	5493000.0
353000.0	5493000.0
357000.0	5490000.0
360000.0	5480000.0
376000.0	5478000.0
378000.0	5472000.0
395000.0	5467000.0
395000.0	5464000.0
435000.0	5445000.0
445000.0	5445000.0
445000.0	5419000.0
420000.0	5419000.0
420000.0	5429000.0

5 cm

388000.0	5429000.0
388000.0	5449000.0
361000.0	5449000.0
361000.0	5439000.0
334000.0	5439000.0
334000.0	5459000.0
298000.0	5459000.0
298000.0	5471000.0
302000.0	5471000.0
302000.0	5512000.0
311000.0	5527600.0

AREA D


340000mE
360000mE
380000mE
400000mE
5340000mN
5320000mN
5300000mN
5280000mN
5260000mN
5240000mN
QUEENSTOWN
Strahan
CAPE SORELL
Yellow Bluff
Liberty Pt
Gorge Pt
Sarah I
Pennerowne Pt
POINT HIBBS
HIGH ROCKY POINT
Veridian Pt
LOW ROCKY POINT
Elliott Point
Brier Holme Hd

5 cm

Area D – Southwestern Tasmania, TMAMG55, Datum AGD66

mE	mN
353729.0	5341000.0
375000.0	5341000.0
375000.0	5315000.0
371000.0	5315000.0
375000.0	5293000.0
380000.0	5293000.0
380000.0	5276000.0
392818.0	5276000.0
395000.0	5270000.0
395000.0	5266000.0
391000.0	5250000.0
391000.0	5232000.0
389500.0	5232000.0
385000.0	5238400.0
377000.0	5238400.0
372400.0	5248400.0
361000.0	5277000.0
356000.0	5277000.0
356000.0	5282000.0
347500.0	5327600.0
354500.0	5327600.0
353729.0	5341000.0

AREA F

Area F –Bass Strait (Offshore Wynyard), TMAMG55, Datum AGD66

```
357000.0  5483000.0
360000.0..5483000.0
400000.0..5471600.0
525000.0  5471600.0
525000.0..5465400.0
519000.0  5460000.0
489000.0..5460000.0
445000.0..5446000.0
445000.0..5443600.0
435000.0..5443600.0
393500.0..5462400.0
393500.0  5465400.0
357000.0  5477000.0
```

	Shortest line	Longest Line	No.	Distance	TOTAL
AREA A					
Traverses	3.5 Km	28.4 Km	337	7479.8 Km	
Tielines	6.8 Km	67.8 Km	15	764.4 Km	
TOTAL					**8244.2 Km**
Area B					
Traverses	19.0 Km	109.8 Km	598	30624.2 Km	
Tielines	13.0 Km	69.6 Km	74	3069.5 Km	
TOTAL					**33693.7 Km**
Area D					
Traverses	6.0 Km	32.1 Km	548	12463.0 Km	
Tielines	3.5 Km	87.4 Km	26	1251.3 Km	
TOTAL					**13714.2 Km**
Area F (Offshore Wynyard)					
Traverses	3.4 Km	152.7 Km	200	13242.5 Km	
Tielines	6.4 Km	28.4 Km	85	1314.8 Km	
Total					**14557.3 Km**
TOTAL (all areas)					**69,405 km**

2. LOGISTICS

2.1 OPERATIONS BASE AND SURVEY DATES

Devonport, Wynyard	Wynyard	**Wynyard Airport** 40°59.9'S 145°43.9'E
Strahan	Strahan	**Strahan Airport** 42°09.3'S 145°17.5'E
King Island	King Island	**King Island Airport** 39°52.6'S 143°52.7'E

Wynyard and Strahan provided all the facilities and accommodation required for the safe operation of an airborne geophysical survey in a designated remote area.
Wynyard airport (YWYY) has two sealed runways: runway 09/27 being 1650m in length and 05/23 being 1188m. Strahan has a single sealed runway (18/36) being 1220 m in length. AVGAS and JET A1 was available through pre-arrangements at both facilities.
King Island has three runways, the main runway being 10/28, which is a gravel runway sealed at the western touch down area only, and 1585m in length.

2.1.1 Survey Dates and Production Summary

Refer to ***APPENDIX 4*** for detailed production summary.

Mobilisation	11 December 2000
Production flying commenced (1st A/C)	12 December 2000
Production flying completed	17 February 2001
Demobilisation	18 February 2001
Total A/C days on job	100
Total number of flights	130
Total production days	59
Total days lost due to diurnal & weather	11.5
Total days lost due to aircraft maintenance	7.0
Total days lost due to other causes	22.5
Total kilometres flown	69,404.9
Average acquisition rate - km per flight	534 km
Average km - per production day	1176 km

2.2 SURVEY AIRCRAFT AND FIELD CREW

Aircraft Twin engined — Rockwell Aero Commander 500S 'Shrike':

Registration — VH-KAC

Field Crew

Pilots	Operators
I. Hussein	R. Rackham
A. Park	M. Gray

Crew Leader Ivan Hussein

Aircraft Turbine engined — PAC CRESCO 750.

Registration — VH-KPY

Field Crew

Pilots	Operators
J. Day	D. Little
P. Hillier	R. Doepel
R. Jamieson	M. Gray
M. Cote	R. Rackham
J. Sparkman	

Crew Leader Ross Rackham

3. SURVEY EQUIPMENT OPERATION AND QUALITY CONTROL

3.1 MAJOR EQUIPMENT SUMMARY

Aircraft Magnetometer	Geometrics G-822A Caesium vapour
Magnetic Compensator	RMS Instruments Automatic Aeromagnetic Digital Compensator (AADC)
Base station magnetometer	Geometrics G856 proton precession
Gamma-ray spectrometer	Geometrics GR820D, 256 channels
Gamma-ray detector	NaI (T1) crystals; 33.6L down; 50L (Cresco)
Altimeter	Sperry AA-210 radio altimeter
Barometer	Rosemount 1241m
Thermometer	Rosemount Model 22000 temperature sensor
Navigation system	Ashtech XII GPS receivers in real time differential mode
Flight Track Recording	VHS video tracking camera with wide-angle lens
Data acquisition system	RMS Instruments DAS-8 digital acquisition system, Cresco – Geo Instuments Model 2002
Analogue recorder	RMS Instruments GR3A 20-channel recorder Cresco - none

3.2 MAGNETOMETER AND COMPENSATOR

A Geometrics G-822A optically pumped caesium vapour magnetometer was used for the survey with the sensor mounted in a tail stinger on each aircraft. The magnetometer sensor was coupled to a RMS Instruments Automatic Aeromagnetic Digital Compensator (AADC) to produce real time compensation for the effects of the aircraft's motion, changes in attitude and heading. The AADC interference coefficients were calculated from compensation flights carried out before the survey commenced and after aircraft maintenance. The AADC output data, with a resolution and sensitivity of 0.001 nT at a sampling rate of ten (10) times per second, were recorded digitally and in analogue form. The noise envelope for compensated magnetometer readings was less than 0.1 nT

3.2 BASE STATION MAGNETOMETER

A caesium vapour base station magnetometer was used to measure the daily variations of the Earth's magnetic field. The base station was established in an area of low gradient, away from cultural influences. These data were displayed and recorded on a Libretto laptop computer. The base station was run continuously throughout the survey flying period with a sampling interval of 1 seconds and a sensitivity of 0.01 nT.
In addition to the caesium vapour base station, a Geometrics G856 proton precession magnetometer base station recording at 5 second intervals was established at the base airstrip, primarily as a storm monitor.
The base station data were closely examined after each days production flying to determine if any data had been acquired during periods of out-of-specification diurnal variation.

3.3 SPECTROMETER

A Geometrics GR-820D double buffered, 256-channel gamma ray spectrometer with automatic crystal gain and temperature control was used to record 256 channels of data in addition to the data from five pre-set spectral windows. Total downward crystal array volume was 33.6 litres. System sample time and live time were also recorded. The digital data and four channels of analogue data were recorded once per second.

The pre-set spectral window limits were:

	Spectrometer channel number		**Equivalent energy levels (keV)**	
Window	**Lower**	**Upper**	**Lower**	**Upper**
Total Count	34	254	402	3 005
K-40	116	132	1 373	1 562
Bi-141	141	157	1 668	1 858
Tl-208	204	237	2 414	2 804
Cosmic	255	255	3 017	6 000

The analogue data were corrected for dead time, normalised and stripped for Compton scattering.

3.4 ALTIMETERS

A Sperry AA-210 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.

A Rosemount 1241m barometer, with an output sensitivity of 0.666 mV/ft, was used to measure atmospheric pressure and barometric altitude of the aircraft.

Data from both altimeters were recorded on digital tape and on the analogue chart.

The radar altimeter system was checked prior to commencement of production flying. This involved flying the aircraft at 30 metre height intervals, up to a height of 300 metres over the base of operations airstrip using the aircraft's barometric altimeter as the height reference. Radar altimeter and GPS height data were recorded for each flight interval flown. A comparison of these data with the aircraft's barometric altimeter verified that the system was operating satisfactorily.

Altimeter data (radar and barometric) were digitally recorded every 0.1 seconds.

3.5 NAVIGATION AND FLIGHT PATH RECOVERY

Aircraft navigation was controlled by real-time differential GPS using an Ashtech XII "Ranger" receiver in the aircraft with pseudo range corrections obtained

through the commercial FUGRO system transmitting via the OPTUS B satellite. The horizontal position of the aircraft was fixed and recorded once per second. The on-board pilot guidance steering signal was updated once every half second.

The pseudo range information was recorded every 5 seconds at both the aircraft receiver and also at the base station receiver located at the Hotel accommodation The raw GPS data were recorded and could be differentially corrected post flight, if the Optus link were unavailable. This process was not required during this survey program and the real time link was maintained for the duration. Flight path quality was confirmed at Kevron's processing centre by maps, plotted from the real time data recorded on magnetic tape, highlighting any portions of lines which exceeded the specified horizontal and altitude tolerances.

3.6 FLIGHT TRACK RECORDING SYSTEM

The flight path of the aircraft was recorded with a National CCD colour video camera and a VHS video recorder. Line and fiducial numbers were recorded on the video image.

3.7 DATA ACQUISITION

A RMS Instruments DAS-8 Data Acquisition System was used to record all data in digital format onto a PC 6 Gigabyte hard disk drive in the Aerocommander aircraft. The Cresco aircraft utilised a Geo Instruments Model 2002 Acquisition System similarly with a 6 Gigabyte hard Drive. On the Aero Commander, analogue information was recorded on a RMS Instruments GR-33A printer-plotter. No chart recorder was fitted to the Cresco.

In general, the following parameters were recorded at the scales indicated; however, each analogue chart was stamped with the parameters and scales recorded:

Parameter	**Scale on Chart**
K 40	500 counts FSD
BI-214	500 counts FSD
TL-208	500 counts FSD
Total count	5000 counts FSD
Mag Fine	200 nT FSD
Mag Coarse	2000 nT FSD
Radar Altimeter	200 ft/cm
Barometric Altimeter	200 ft/cm

The analogue chart recorder and various digital displays were used by the Operator to monitor data quality during a flight.

3.8 GENERAL QUALITY CONTROL

Rigorous in-field quality control was undertaken on-site and various QC products were produced in the field using a combination of Kevron proprietary software, ChrisDBF software and AGSO software. QC plots were produced for each flight:

- Flight path maps displaying cross track and height deviations.
- Magnetic 4th and 8th difference noise plots
- Radiometric Summed spectra plots
- Diurnal plots

Lines selected at random from each flight were subjected to further QC checks. Profiles were generated for all variables recorded and inspected for data quality. Any lines found to be outside the specified tolerances were identified and reflown.

A running log of each flight was maintained recording details of all lines flown. Transcribed flight logs are included in ***APPENDIX 3***. Equipment tests and calibrations are described in Section 4 and tabulations of the calibration and test flight data are in ***APPENDIX 6.***

On arrival at Kevron's processing centre in Perth, the data is further inspected for quality and conformance to the specifications before commencing processing.

3.10 SAFETY MANAGEMENT

All aircraft operations, including pilot flying hours and aircraft maintenance, complied with the requirements of the Federal Civil Aviation Safety Authority (CASA) and the CASA-approved procedures set out in Kevron's Aircraft Operations Manual.

Search and Rescue times for vehicles in remote areas are a Company requirement.

4. CALIBRATIONS

4.1 MAGNETICS

Compensation coefficients for the AADC were established by flying a "compensation box" test (a series of pitch, roll and yaw manoeuvres in each of the four cardinal headings) before survey production commenced, and again after aircraft servicing where components were changed that may effect the magnetic field of the aircraft.

Compensation flights were flown in an area of low gradient 20 km close to Wynyard (approx 40°39' S and 145°53' E) at an altitude of 8,000 to 10,000 feet above mean sea level.

The AADC calculates basic statistics, which reflect the degree of merit of the compensation. These include the standard deviation of the recorded data without corrections applied, the standard deviation with the correction applied, the

improvement ratio (the ratio of the standard deviation of the recorded data without and with corrections applied) and the vector norm (the degree of difficulty in calculating the corrections. The table below shows statistics recorded from compensation flights with the aircraft in survey configuration, ie Air conditioner on, Transponder off, DME off, HF on, ADF on, #1 COM on, #2 NAV/Com on .

Test Date 26/12/00	**Aircraft**	**SDU**	**SDC**	**IR**	**VN**
Total Field 1	VH-KAC	0.4562	0.02162	21.0	9.3
Total Field 2		0.3801	0.09436	4.00	57.30
Total Field 3		0.5663	0.09979	5.70	70.10
Gradient 1		6.194	0.2368	26.20	57.80
Gradient 2		16.54	0.3597	46.00	73.00
Gradient3		11.75	0.4886	24.00	72.9
Test Date 12/12/00	**Aircraft**	**SDU**	**SDC**	**IR**	**VN**
Total Field 1	VH-KPY	0.2328	0.02069	11.25	10.3

SDU, SDC= Respectively, the standard deviation of uncompensated and compensated data;
IR (Improvement Ratio) = SDU/SDC;
VN = Vector Norm, measure of degree of difficulty in calculating coefficients.

4.2 RADIOMETRICS

4.2.1. Background Correction Plots and Equations

The following procedure was used to determine the aircraft background radiation. There were no changes to the system between the date of this test and the survey.

a) A stack of nine lines were flown over water, west of the Perth coast, at altitudes from 1 000 ft to 9 000 ft. with increments of 1 000 feet.

b) The counts in the Potassium, Uranium, Thorium, Total Count and Cosmic channels were corrected for dead time and scaled to counts per second for all lines.

c) A best-fit linear regression ($y = mx + b$) was calculated for each of the K, U, Th and T/C count rates plotted as the dependent variable on the y-axis against the cosmic count rate on the x-axis (*APPENDIX 7*).

d) The aircraft background is given by the y-intercept, b and the cosmic radiation correction by the slope, m. **(Appendix 7)**

4.2.2 Pre and Post Flight Checks

Hand sample checks, using thorium, uranium and caesium-137 samples, were carried out before and after flights. A statistical summary of the checks is presented in *APPENDIX 6*.

4.2.3 Test Line

A test line approximately 8 kilometres long was chosen at each Base of Operations. The start and end co-ordinates are as follows;

	Easting Z55	Northing Z55	Area
WYNYARD	Start 392000	Start 5455500	B & F
	End 383000	End 5461700	
STRAHAN	Start 354200	Start 5325800	D
	End 356600	End 5334300	
KING ISLAND	Start 238816	Start 5586843	A
	End 224961	End 5588748	

4.2.4 Compton Stripping Coefficients

The following Compton stripping coefficients, derived from calibrations over test pads in Perth were used to correct the count rates displayed on the analogue chart and in subsequent processing:

Stripping	VH KAC	VH KPY
ALPHA	0.270648	0.279689
BETA	0.455881	0.446457
GAMMA	0.855276	0.878964
A	0.094817	0.076869
B	0.012177	0.007528
G	0.021550	0.007072

4.2.5 *Spectrometer Countrate Sensitivities*

Broad source sensitivities for each of the radio-element windows were obtained from a flight line flown at a height of 80 m over the Carnamah Test Range and a corresponding line on the ground surveyed with a calibrated hand-held spectrometer supplied by Tesla Geoscience. The Carnamah Test Range is located approximately 10 kilometres east of Carnamah, 200 kilometres north of Perth, on the Carnamah-Belvoir Road. The Test Range follows the power line south for eight kilometres crossing undulating wheat crops and rocky scrub covered hills.

The aircraft acquisition system was not changed between the date of the calibration flight and the survey dates. The following Sensitivity values were obtained:

Sensitivities 80 m (Counts / Unit concentration)		
	VH-KAC	VH-KPY
Potassium	108.85	170.49
Uranium	7.75	5.31
Thorium	5.44	12.83
Total Count	26.34	35.51

4.3 PARALLAX

The parallax error was established immediately after completion of the survey by flying over a suitable anomaly in opposite directions. The parallax for each aircraft system was resolved to following:

Magnetics	VH-KAC	6 fiducials	(all flights)
Radiometrics	VH-KAC	5 fiducials	
Magnetics	VH-KPY	4 fiducials	(all flights)
Radiometrics	VH-KPY	3 fiducials	

5 DATA PROCESSING

5.1 DATA VERIFICATION AND EDITING

The field data were sent regularly to Kevron's processing centre in Perth for verification and editing with in-house software installed on Sun Sparc 20 workstations.

The data were loaded into a database and a statistical report generated for each variable on a line by line basis. The data were then edited for scrubbed or duplicate lines and checked for spikes, steps or high noise levels. Lines with any out-of-specification data were flagged for reflight.

5.2 FLIGHT PATH RECOVERY

The differentially corrected GPS data were converted to Universal Transverse Mercator coordinates using the Australian National Spheroid.

The survey area is in UTM Zone 55

Flight path maps were generated to verify the off-line tolerances and to make sure all necessary data had been loaded into the geophysical database.

5.3 MAGNETIC PROCESSING

After correcting the magnetic data for diurnal variations, the International Geomagnetic Reference Field (IGRF) was subtracted and the data were tie line levelled.

These processes are described more fully below.

5.3.1 Diurnal Correction

The diurnal data were edited to keep only those readings taken during flight time. The data were visually checked on the computer screen for spikes, noise and any apparent cultural magnetic events.

After editing, the data were low pass filtered using a twenty-term, spatial domain filter, which removed periods of less than thirty seconds. The data were again

checked visually for integrity after the filtering process.

The filtered data were synchronised with the airborne data, interpolated and subtracted from the airborne data, one sample at a time. After subtraction, the mean diurnal value was added back to the airborne data for each line to produce diurnally corrected data.

5.3.2 Subtraction of the IGRF

The International Geomagnetic Reference Field (IGRF) was removed from the diurnally-corrected data by fitting a second order polynomial surface to thirteen coefficients computed from the IGRF model and then subtracting the IGRF values on a sample by sample basis.

The IGRF 2000 model updated was used with the following values:

	Area A	***Area B***	***Area D***	***Area F***
Date	*2001.05*	*2001.07*	*2000.98*	*2001.02*
Declination	*12.0222*	*13.5330*	*13.9101*	*13.8938*
Inclination	*-71.0268*	*-71.6701*	*-73.0956*	*-71.3476*
Total Field	*61217.285*	*61487.449*	*62167.1640*	*61597.3203*

5.3.3 Tie Line Levelling

The diurnally corrected and IGRF-removed data were processed by a Kevron proprietary levelling program.

The program compares the magnetic differences at intersections of the flight lines and tie lines and calculates individual magnetic field biases for each flight line based on the tie line intersection. The miss-ties are minimised in a least-squares sense for all intersections. The biases are manually evaluated and selectively applied. Further reduction of the miss-ties can be removed by fitting a polynomial to produce levelled magnetic data.

The levelled data were then gridded on a 50 x 50 metre mesh using a minimum curvature algorithm based on Briggs (1974). The gridded data were displayed on an image processor to check data integrity and data levelling.

5.3.4 Micro Levelling

The data were microlevelled using Kevron in-house proprietary software. Kevron's micro-levelling process is line based rather than grid based. Pseudo lines are extracted perpendicular to the traverse line direction. These are low pass filtered and mis-tied to the traverse lines using the tie line levelling software.

The mis-tie values are bounded spatially by a series of polygons edited through ER Mapper.

5.4 RADIOMETRIC PROCESSING

5.4.1 System Deadtime and Energy Calibrations

Following correction for system deadtime, the 256 channel spectrometer data were energy calibrated using the following procedure:

For each line, the individual 256 channel data from each sample point were stacked to produce a single spectrum. The peak positions of the standard potassium and thorium windows were found by performing a gaussian fit to the spectral data for the energy range of each window after first removing the Compton continuum slope. If the measured peak positions were shifted by more than one channels for the thorium peak or 0.5 channels for the potassium peak, an energy recalibration was performed to obtain the correct spectral channel positions for the lower and upper bounds of each of the required windows. Using these corrected channel limits, new window counts were then extracted from the 256 channel data for each 1 second data sample on the line.

5.4.2 Noise Adjusted Singular Decomposition (NASVD)

The raw gamma-ray spectra were smoothed using the Noise Adjusted Singular Value Decomposition (NASVD – Hovgaard and Grasty, 1997) spectral smoothing technique. This technique is a spectral component analysis procedure for the removal of noise from gamma-ray spectra. The observed spectra were transformed into orthogonal spectral components in which lower order components represent the signal and higher order components represent noise. Noise was removed from the observed spectra by rejecting the noise components and reconstructing the spectra using the first eight eigenvectors.

Data has been tie-levelled and micro-levelled to remove minor residual errors.

5.4.3 Aircraft and Cosmic Background Removal

Aircraft and cosmic background were removed from the data using the normalised 256 channel cosmic spectrum for the aircraft, and the aircraft 256 channel background spectrum. Cosmic & Aircraft background removal

5.4.4 Airborne radon removal

Data were corrected for airborne radon using Minty (1996 – Alt Method B) two component spectral ratio method

Calibration constants for Method B derived directly from observed radon and ground spectra at a height of 80m STP. C_1 *and* C_2 are the ratios between the 0.609 MeV peak count rate and the conventional U window count rate for a radon spectrum and a composite K, U and Th ground spectrum respectively.

Calibration Constants for Method B	
C1	1.944
C2	0.500

5.4.5 Effective Altitude Calculations and Compton Scattering Corrections

At this point, the conventional radiometric windows are extracted from the 256 channel data and all further gamma-ray corrections are performed using three-window radiometric data processing.

Following reduction of the altitude data to effective altitude at standard temperature and pressure as described in Grasty and Minty (1995), Compton scattering stripping was carried out on the background corrected count rates in the potassium, uranium and thorium channel data using the coefficients.

5.4.6 Height Attenuation Corrections

A height attenuation factor was applied to reduce the data for each channel to a nominal datum of 80 m above ground level. The program used limits corrections to data at terrain clearances between 30m and 250m. Data recorded at terrain clearances outside these limits are corrected assuming they are at these limits.

The attenuation factors used are listed below and were determined from tests carried out over the Carnamah Test Range.

Height Attenuation Coefficients		
	VH-KAC	**VH-KPY**
Total Count	-0.006906	-0.006658
Potassium	-0.008726	-0.008973
Uranium	-0.007199	-0.004886
Thorium	-0.006774	-0.007302

5.4.7 Conversion - Ground Element Concentrations

The air-absorbed dose rate at ground level from natural sources of radiation was calculated from the total count rate following the procedure as described in Grasty and Minty (1995) using the equation

$$\mathbf{D} = \mathbf{N_{TC}} / \mathbf{F} \qquad \text{(Equation 4.18, page 42)}$$

where D = air absorbed dose rate in nanograys per hour;
N_{TC} = fully corrected total count rate; and
F = experimentally determined conversion factor.

The conversion factor, F, was determined using data flown over a line on the Carnamah Test Range

The average ground concentrations were calculated using the procedure described in section 5.4.6 above.

The average air-absorbed dose rate in nGh-1 for these lines given by

$$A = 13.1 * K + 5.43 * U + 2.69 * Th$$ (Equation 4.19, page 42)

where A = average air - absorbed dose rate; and
K = %K, U = ppm eU and Th = ppm eTh.

5.4.8 Levelling

The corrected and reduced radiometric data were tie line levelled and micro-levelled using the procedure described above for the magnetic data.

5.5 DIGITAL ELEVATION MODEL

A digital elevation model (DEM) was computed by subtracting the terrain clearance measured by the radar altimeter from the GPS measured aircraft altitude to obtain a nominal ground elevation. The nominal ground elevation data were tie-line levelled and micro-levelled using the same technique described for the levelling of the magnetic data.

Allowance was made for the constant 3.9 m elevation difference between the radar altimeter and the GPS antenna.

A set of geoid-ellipsoid separation values was obtained from AUSLIG, gridded and values interpolated for each point along the survey lines. The interpolated separation values were subtracted from the nominal ground elevation to produce the final located DEM.

The DEM data were tie line levelled and micro-levelled using the procedure described above for the magnetic and radiometric data.

5.5 DELIVERABLE ITEMS

Preliminary maps and images were produced for assessment of data quality Products delivered included the following

Area	Scale	Flight Path 1:100,000	TMI image	1VD image	TC image	K image	U image	Th image	RGB image	DTM image	Tot
A	1:100,000	1	1	1	1	1	1	1	1	1	9
B	1:250,000	2	1	1	1	1	1	1	1	1	10
D	1:100,000	2	2	2	2	2	2	2	2	2	18
F	1:100,000	2	2	2	-	-	-	-	-	-	6
Total Images		7	6	7	4	4	4	4	4	4	43

5.6 FINAL PRODUCTS

Final Data Area B

1 x Exa tape containing 0.1sec Mag & DEM Located and gridded data.
1 x Exa tape containing 256-channel spectrometer located data.
1 x CD containing 1sec Radiometric located and gridded data.

Final Data Area A

1 x CD containing 0.1sec Mag & DEM Located and gridded data.
1 x CD containing 256-channel spectrometer located data.
1 x CD containing 1sec Radiometric located and gridded data.

Final Data Area D

1 x CD containing 0.1sec Mag & DEM Located and gridded data.
1 x CD containing 256-channel spectrometer located data.
1 x CD containing 1sec Radiometric located and gridded data.

Final Data Area F

1 x CD containing 0.1sec Mag Located and gridded data.

REFERENCES

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R.L. Grasty and B.R.S Minty, 1995: A Guide To The Technical Specifications For a Airborne Gamma-Ray Survey. AGSO Record 1995/60.

Hovgaard, J., (1997). A new processing technique for airborne gamma-ray spectrometer data (Noise Adjusted Singular Value Decomposition). Danish Emergency Management Agency.

Hovgaard, J. and Grasty, R.L, (1997). Reducing noise in airborne gamma-ray data through spectral component analysis. Exploration 97, Ontario Geological Survey.

Minty, B.R.S., 1996. The analysis of multichannel airborne gamma-ray spectra. PhD Thesis, Australian National University.

APPENDIX 1

FLIGHT PATH PLOTS & FLIGHT LINE LISTINGS

APPENDIX 2

QUALITY CONTROL REPORTS

Date:	19/12/00	Client:			Job No: 1584	
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓	

1.0 Summary	**Flight 1 15**	**Flight 2 16**	**Flight 3**	**Total Today**	**Budget LKm (Hr) / Day**	**Var.**	**Comment** (Due WX etc)
1.1 Estimated Wind:	NW/15	NW/30					
1.2 Line Kilometres:	293	73		366			
1.3 Flying Hours	2.2	1.1		3.3			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		**Dump**	**Verify**	**Back-up**	**Comment:** (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		**Dump**	**View**	**Back-up**	**Comment:**
4.1	Caesium Vapour	✓	☐	☐	
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		**Verify OK**	**Line kms to be Reflown**	**Comment** (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		**Verify OK**	**Line kms to be Reflown**	**Comment** (Reflies / Scrubs)
6.1	4th Difference Noise Plots	✓		
6.2	Profiles	✓		

7.0 Radiometrics		**Verify OK**	**Line kms to be Reflown**	**Comment** (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		**Verify OK**	**Line kms to be Reflown**	**Comment** (Reflies / Scrubs)
8.1	BARO	✓		
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	N/A		

9.0 Other Procedural – Completed		**Yes**	**No**	**Dated**	**Comment:**
9.1	Safety Meeting & Minuted	☐	☐	/ /	
9.2	Prelim Logistics Report Filled In	☐	☐	/ /	
9.3	Kevron Aviation advised of A/C Hrs	☐	☐	/ /	
9.4	Field data mailed to Jandakot	☐	☐	/ /	

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
High Turbulence, some Drizzle in Area.

11.0 Other comments or issues that may be of concern
Mag Spikes on Lines 294,295,306.1 and 306.2
Some Rawmag 8th diff noise on lines 302, 303, 308.

Prepared By:	R.Doepel	Operator Name:	R.Doepel	Dated:	19/12/00

See Weather Words to find out what the weather terms mean.

IDT20100
BUREAU OF METEOROLOGY
TASMANIA AND ANTARCTICA REGIONAL OFFICE
HOBART

WARNING
COASTAL WIND WARNING
Issued at 3:55pm on Tuesday the 19th of December 2000

SYNOPTIC SITUATION:
A cold front is expected to pass close to the south coast overnight.

Renewal of Gale Warning
For southwestern Tasmanian coastal waters between South East Cape and Low Rocky Point

Northwesterly winds 25 to 35 knots. Winds locally 40 knots and gusting near 50
close to Maatsuyker Island.

and

Initial Strong Wind Warning
For far southern Tasmanian coastal waters between Tasman Island and South East Cape

Northwesterly winds 10 to 20 knots freshening to 20 to 30 knots in the far south
overnight.

Next routine issue at 10pm.

Note:
WIND SPEED refers to the average speed over a 10-minute period at a height of 10
metres above the surface. It is given in knots.
GUSTS may be up to 40 per cent stronger than the average speed.

---------- End of warning ----------

BROADCASTERS:

Date:	20/12/00	Client:			Job No: 1584	
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓	

1.0 Summary	Flight 1 17	Flight 2 18	Flight 3	Total Today	Budget LKm (Hr) / Day	Var.	Comment (Due WX etc)
1.1 Estimated Wind:	NW/15	NW/35					
1.2 Line Kilometres:	597	0		597			
1.3 Flying Hours	4.2	1.0		5.2			
1.4 Hours to 100hrly							

2.0 Standby

2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____

2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐

2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✓	☐	☐	Base Station failure at Midday.
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	4th Difference Noise Plots	✓		Some Rawmag 8th Diff noise on lines 316, 325
6.2	Profiles	✓		

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✓		
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	N/A		

9.0 Other Procedural – Completed		Yes	No	Dated	Comment:
9.1	Safety Meeting & Minuted	☐	☐	/ /	
9.2	Prelim Logistics Report Filled In	☐	☐	/ /	
9.3	Kevron Aviation advised of A/C Hrs	☐	☐	/ /	
9.4	Field data mailed to Jandakot	☐	☐	/ /	

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags

High Turbulence. Flight 18 Aborted.

11.0 Other comments or issues that may be of concern

Some Rawmag 8th Diff noise on lines 316, 325

Prepared By:	R.Doepel	Operator Name:	R.Doepel	Dated:	20/12/00

See Weather Words to find out what the weather terms mean.

IDT20100
BUREAU OF METEOROLOGY
TASMANIA AND ANTARCTICA REGIONAL OFFICE
HOBART

WARNING
COASTAL WIND WARNING
Issued at 5:13am on Wednesday the 20th of December 2000

SYNOPTIC SITUATION:
At 3AM, a cold front was passing south of Tasmania with a deep low still further
south. A ridge to move over Tasmania tonight.

Renewal of Gale Warning
For southwestern Tasmanian coastal waters between South East Cape and Low Rocky Point

West to northwesterly winds 25 to 35 knots, locally 40 knots near Maatsuyker Island with gusts near 50 knots. Winds moderating to 20 to 30 knots later this
morning and 15 to 25 knots during the afternoon.

and

Renewal of Strong Wind Warning
For southern Tasmanian coastal waters between Tasman Island and South East Cape

Westerly winds reaching 20 to 30 knots offshore this morning, easing to 15 to 25
knots this afternoon.

and

Initial Strong Wind Warning
For Banks Strait

West to northwesterly winds 15 to 25 knots, reaching 30 knots at times.

Next routine issue at 11am.

Note:
WIND SPEED refers to the average speed over a 10-minute period at a height of 10
metres above the surface. It is given in knots.
GUSTS may be up to 40 per cent stronger than the average speed.

---------- End of warning ----------

Date:	21/12/00	Client:			Job No: 1584
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 1 17	Flight 2 18	Flight 3	Total Today	Budget LKm (Hr) / Day	Var.	Comment (Due WX etc)
1.1 Estimated Wind:	NE/15	NW/25					
1.2 Line Kilometres:	480	663		1143			
1.3 Flying Hours	4.2	1.0		5.2			
1.4 Hours to 100hrly							

2.0 Standby

2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____

2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐

2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✓	☐	☐	Base Station OK.
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	4th Difference Noise Plots	✓		Some Rawmag 8th Diff noise on lines 343, 501, 546. Mag Collapse line354 Will re-fly.
6.2	Profiles	✓		

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		Total spectra anomolies line 523.
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✓		
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	N/A		

9.0 Other Procedural – Completed		Yes	No	Dated	Comment:
9.1	Safety Meeting & Minuted	☐	☐	/ /	
9.2	Prelim Logistics Report Filled In	☐	☐	/ /	
9.3	Kevron Aviation advised of A/C Hrs	☐	☐	/ /	
9.4	Field data mailed to Jandakot	☐	☐	/ /	

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags

Some Rawmag 8th Diff noise on lines 343, 501, 546. Mag Collapse line354 Will re-fly.

11.0 Other comments or issues that may be of concern

Total spectra anomolies line 523.

Prepared By:	R.Doepel	Operator Name:	R.Doepel	Dated:	21/12/00

Date: 29/12/00	Client:			Job No: 1584	
Aircraft: EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓	

1.0 Summary	**Flight 1 22**	**Flight 2**	**Flight 3**	**Total Today**	**Budget LKm (Hr) / Day**	**Var.**	**Comment** (Due WX etc)
1.1 Estimated Wind:	SSW/20						
1.2 Line Kilometres:	457			457			
1.3 Flying Hours	3.4			3.4			
1.4 Hours to 100hrly							

2.0 Standby

2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____

2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐

2.3 Comment:

3.0 Aircraft Data		**Dump**	**Verify**	**Back-up**	**Comment:** (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		**Dump**	**View**	**Back-up**	**Comment:**
4.1	Caesium Vapour	✓	☐	☐	Base Station OK.
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	✗	☐	☐	No Base GPS Recorded.

5.0 Flight Path Recovery		**Verify OK**	**Line kms to be Reflown**	**Comment** (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		**Verify OK**	**Line kms to be Reflown**	**Comment** (Reflies / Scrubs)
6.1	4th Difference Noise Plots	✓		Some Rawmag 8th Diff noise on line 391.
6.2	Profiles	✓		

7.0 Radiometrics		**Verify OK**	**Line kms to be Reflown**	**Comment** (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		**Verify OK**	**Line kms to be Reflown**	**Comment** (Reflies / Scrubs)
8.1	BARO	✗		Some Baro Dropouts Lines 9015,1388.
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	N/A		

9.0 Other Procedural – Completed		**Yes**	**No**	**Dated**	**Comment:**
9.1	Safety Meeting & Minuted	☐	☐	/ /	
9.2	Prelim Logistics Report Filled In	☐	☐	/ /	
9.3	Kevron Aviation advised of A/C Hrs	☐	☐	/ /	
9.4	Field data mailed to Jandakot	☐	☐	/ /	

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags

Some Rawmag 8th Diff noise on line 391.

Some Baro Dropouts Lines 9015,1388.

11.0 Other comments or issues that may be of concern

Prepared By:	R.Doepel	Operator Name:	R.Doepel	Dated:	29/12/00

Date:	31/12/00	Client:			Job No: 1584
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 1 26	Flight 2 27	Flight 3 28	Total Today	Budget LKm (Hr) / Day	Var.	Comment (Due WX etc)
1.1 Estimated Wind:	VRB/5	VRB/5	VRB/5				
1.2 Line Kilometres:	631	714	473	1818			
1.3 Flying Hours	4.2	4.2	3.5	11.9			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✗	☐	☐	Cs Base Failure at 13:00
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	4th Difference Noise Plots	✓		Some Rawmag 8th Diff noise on lines 492, 493, 506, 440, 441, 454, 455, 467, 468, 429.
6.2	Profiles	✓		Noise spike line 439

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		Spectra Dropout Lines 475, 498, 438, 447, 456, 428.

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✗		Intermittent Baro failure all flights.
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	N/A		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
Cs Base Failure From 14:00 to 19:00
Some Rawmag 8th Diff noise on line 369, 374, 9017, 9018, 402 and 409.
Spectra Dropout Line410.
Baro Failure on Flight 23. OK FLT 24/25.

11.0 Other comments or issues that may be of concern

Prepared By:	R.Doepel	Operator Name:	R.Doepel	Dated:	30/12/00

Date:	01/01/01	Client:			Job No: 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	**Flight 1** 29	**Flight 2** -	**Flight 3** -	**Total Today**	**Budget LKm (Hr) / Day**	**Var.**	**Comment** (Due WX etc)
1.1 Estimated Wind:	VRB/10						
1.2 Line Kilometres:	564			564			
1.3 Flying Hours	3.8			3.8			
1.4 Hours to 100hrly							

2.0 Standby

2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____

2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐

2.3 Comment:

3.0 Aircraft Data		**Dump**	**Verify**	**Back-up**	**Comment:** (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		**Dump**	**View**	**Back-up**	**Comment:**
4.1	Caesium Vapour	✗	☐	☐	Cs Base Failure
4.2	856 #1	✗	☐	☐	856 Failure.
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		**Verify OK**	**Line kms to be Reflown**	**Comment** (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		**Verify OK**	**Line kms to be Reflown**	**Comment** (Reflies / Scrubs)
6.1	4th Difference Noise Plots	✓		Some Rawmag 8th Diff noise on line 381, 382
6.2	Profiles	✓		

7.0 Radiometrics		**Verify OK**	**Line kms to be Reflown**	**Comment** (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		Spectra Corrupt on test line.

8.0 Altimeter		**Verify OK**	**Line kms to be Reflown**	**Comment** (Reflies / Scrubs)
8.1	BARO	✓		
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	N/A		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags

Cs Base Failure. 856 Failure. No Diurnal available.

Spectra Corrupt on test line.

11.0 Other comments or issues that may be of concern

Prepared By:	R.Doepel	Operator Name:	R.Doepel	Dated:	01/01/01

Date:	02/01/01	Client:	Dept of Infrastructure&Energy TAS	Job Number:	J 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 01	Flight 02	Total Today	Budget LKm / Day	Var.	Comment (Due WX etc)
1.1 Estimated Wind:	15\E	15\E				
1.2 Line Kilometres:	550.2	391.6	941.8			
1.3 Flying Hours	3.0	2.3	5.3			
1.4 Hours to 100hrly						

2.0 Standby

2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____

2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐

2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	☐	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✗	☐	☐	No Cs Base Available.
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	☐	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	8th Difference Noise Plots	✓		Some Rawmag 8th Diff Noise lines: 226, 227, 228.
6.2	Profiles	✓		

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✗		BARO Trace Rough
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	☐		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags

BARO Trace Rough

Some Rawmag 8th Diff Noise lines: 226, 227, 228.

11.0 Other comments or issues that may be of concern

No Cs Base Available.

Prepared By:		Operator Name:		Dated:	02/01/00

Date:	03/01/01	Client:	Dept of Infrastructure&Energy TAS	Job Number:	J 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 3	Flight 4	Flight 5	Total Today	Budget LKm / Day	Var.	Comment (Due WX etc)
1.1 Estimated Wind:	10\E	15\E	20/NW				
1.2 Line Kilometres:	612	823	576.8	2011.8			
1.3 Flying Hours	3.7	4.1	3.1	10.9			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	☐	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✓	☐	☐	
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	☐	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	8th Difference Noise Plots	✓		Some Rawmag 8th Diff Noise lines: 9046, 9047, 9054, 9055, 235, 240, 247 and 43.
6.2	Profiles	✓		

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✗		BARO Trace Rough
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	☐		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
BARO Trace Rough
Some Rawmag 8th Diff Noise lines: 9046, 9047, 9054, 9055, 235, 240, 247 and 43.

11.0 Other comments or issues that may be of concern
Some Linear Diurnal activity Line 251 For aprrox 3minutes.

Prepared By:	R.Doepel	Operator Name:	R.Doepel	Dated:	03/01/00

Date:	04/01/01	Client:	Dept of Infrastructure&Energy TAS	Job Number:	J 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 6	Flight 7		Total Today	Budget LKm / Day	Var.	Comment (Due WX etc)
1.1 Estimated Wind:	10\NE	15\NE					
1.2 Line Kilometres:	556.6	775		1331.6			
1.3 Flying Hours	3.5	4.0		7.5			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from to due to
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✗	☐	☐	Cs Base malfunction from 18:00 Onwards.
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	✗	☐	☐	GPS Alt Dropout Line 180.

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	8th Difference Noise Plots	✗		Mag Dropout Lines, 171, 167, 161.(RE-fly)
6.2	Profiles	✓		Some Rawmag 8th Diff Noise lines:166, 180, 252, 214, 215.

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✗		BARO Trace Rough
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	☐		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
BARO Trace Rough
Mag Dropout Lines, 171, 167, 161.(RE-fly)
GPS Alt Dropout Line 180.
Some Rawmag 8th Diff Noise lines:166, 180, 252, 214, 215.

11.0 Other comments or issues that may be of concern
Morning Flight aborted due WX
Some Linear Diurnal activity lines 213, 212 approx 3-5 minutes each line.

Prepared By:		Operator Name:		Dated:	04/01/00

Date:	05/01/01	Client:	Dept of Infrastructure&Energy TAS	Job Number:	J 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 8	Flight 9		Total Today	Budget LKm / Day	Var.	Comment (Due WX etc)
1.1 Estimated Wind:	15\W	20\W					
1.2 Line Kilometres:	813	720.5		1533.5			
1.3 Flying Hours	4.0	3.9		7.9			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✗	☐	☐	Cs Base malfunction from 07:00 to 09:00.
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	✗	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	8th Difference Noise Plots	✗		Some Rawmag 8th Diff Noise lines: 430, 442, 444, 474, 472, 462, 460.
6.2	Profiles	✓		

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✓		**BARO Trace OK**
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	☐		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
BARO Trace OK
Some Rawmag 8th Diff Noise lines: 430, 442, 444, 474, 472, 462, 460.

11.0 Other comments or issues that may be of concern
Morning Flight aborted due WX

Prepared By:		Operator Name:		Dated:	05/01/00

Date:	06/01/01	Client:	Dept of Infrastructure&Energy TAS	Job Number:	J 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 10	Flight 11	Flight 12	Total Today	Budget LKm / Day	Var.	Comment (Duc WX etc)
1.1 Estimated Wind:	15|NW	20\NW	15\NW				
1.2 Line Kilometres:	422.4	811.9	627.6	1861.9			
1.3 Flying Hours	3.5	4.1	3.6	11.2			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from to due to
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✓	☐	☐	
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	8th Difference Noise Plots	✗		Some Rawmag 8th Diff Noise lines: 410, 408, 395, 394.
6.2	Profiles	✓		Mag Spike Line 346.

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✗		Spectra Glitch Line 39.

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✓		BARO Rough FLT# 12
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	☐		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
BARO Rough FLT# 12
Some Rawmag 8th Diff Noise lines: 410, 408, 395, 394.
Mag Spike Line 346.
Spectra Glitch Line 39.

11.0 Other comments or issues that may be of concern
Some linear Diurnal activity beginning line 347 FLT#12.

Prepared By:		Operator Name:		Dated:	06/01/00

Date:	07/01/01	Client:	Dept of Infrastructure&Energy TAS	Job Number:	J 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 13	Flight 14		Total Today	Budget LKm / Day	Var.	Comment (Due WX etc)
1.1 Estimated Wind:	20\E	25\E					
1.2 Line Kilometres:	788	655		1443			
1.3 Flying Hours	4.0	4.4		8.4			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from to due to
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✓	☐	☐	
4.2	856 #1	✗	☐	☐	No 856 Available.
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	8th Difference Noise Plots	✗		Some Rawmag 8th Diff Noise lines: 388, 392, 482, 2, 15.
6.2	Profiles	✓		Mag Spike Line 344.

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✓		BARO Rough FLT# 14
8.2	GPS	✗		GPS Alt Dropout Lines 11, 12, 13, 14, 15, 17.
8.3	RADALT	✓		
8.4	LIDAR	☐		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
Some Rawmag 8th Diff Noise lines: 388, 392, 482, 2, 15.
Mag Spike Line 344.
BARO Rough FLT# 14
GPS Alt Dropout Lines 11, 12, 13, 14, 15, 17.

11.0 Other comments or issues that may be of concern

Prepared By:	R.Doepel.	Operator Name:	R.Doepel.	Dated:	07/01/00

Kevron Geophysics Pty Ltd – Daily Field QC Report

Date:	08/01/01	Client:	Dept of Infrastructure&Energy TAS	Job Number:	J 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 15	Flight 16	Flight 17	Total Today	Budget LKm / Day	Var.	Comment (Duc WX etc)
1.1 Estimated Wind:	20\NE	20\NE	15\NE				
1.2 Line Kilometres:	741	703	580	2024			
1.3 Flying Hours	4.2	3.6	3.3	11.1			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Cacsium Vapour	✓	☐	☐	
4.2	856 #1	✓	☐	☐	
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	8th Difference Noise Plots	✗		Some Rawmag 8th Diff Noise lines: 19, 490, 498, 499.
6.2	Profiles	✓		Mag Spike Line 378, 381

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✗		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✓		BARO Rough FLT# 15
8.2	GPS	✗		GPS Alt Dropout Lines 17, 21, 23, 25, 26, 27, 28, 29, 31, 33, 35.
8.3	RADALT	✓		
8.4	LIDAR	☐		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
Some Rawmag 8th Diff Noise lines: 19, 490, 498, 499.
Mag Spike Line 378, 381
BARO Rough FLT# 15
GPS Alt Dropout Lines 17, 21, 23, 25, 26, 27, 28, 29, 31, 33, 35.
Humid Rough.

11.0 Other comments or issues that may be of concern

Prepared By:	R.Doepel.	Operator Name:	R.Doepel.	Dated:	08/01/00

Date:	09/01/01	Client:	Dept of Infrastructure&Energy TAS	Job Number:	J 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 18	Flight 19		Total Today	Budget LKm / Day	Var.	Comment (Duc WX etc)
1.1 Estimated Wind:	20\NE	20\NE					
1.2 Line Kilometres:	779	627		1406			
1.3 Flying Hours	4.3	4.0		8.3			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from to due to
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✓	☐	☐	Some large spikes at11:00
4.2	856 #1	✗	☐	☐	No 856 Available.
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	8th Difference Noise Plots	✗		Some Rawmag 8th Diff Noise lines: 136, 137, 151, 158, 159, 341, 57.
6.2	Profiles	✓		

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✗		Corrupt Total Spectra FLT#18 Lines 60, 61
7.2	TC / K/ U/ Th Profiles	✓		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✓		Baro Rough FLT# 18,19
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	☐		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
Some Rawmag 8th Diff Noise lines: 136, 137, 151, 158, 159, 341, 57.
Baro Rough FLT# 18,19
Corrupt Total Spectra FLT#18 Lines 60, 61

11.0 Other comments or issues that may be of concern
Major Diurnal Activity lines 341, (38 re-fly), 39, 41, (49 re-fly), (57 re-fly). Will check Geo-Instruments Cs base to confirm.

Prepared By:	R.Doepel.	Operator Name:	R.Doepel.	Dated:	09/01/00

Date:	10/01/01	Client:	Dept of Infrastructure&Energy TAS	Job Number:	J 1585
Aircraft:	EXS ☐	KAV ☐	KAC ☐	WAM ☐	KPY ✓

1.0 Summary	Flight 20			Total Today	Budget LKm / Day	Var.	Comment (Due WX etc)
1.1 Estimated Wind:	15\vrb						
1.2 Line Kilometres:	428			428			
1.3 Flying Hours	2.7			2.7			
1.4 Hours to 100hrly							

2.0 Standby
2.1 Is Standby Chargeable No ☐ Yes ☐ if so, from _____ to _____ due to _____
2.2 If Standby is to be charged due weather then has Area Forecast been printed and placed in job file Yes ☐ or No ☐
2.3 Comment:

3.0 Aircraft Data		Dump	Verify	Back-up	Comment: (include backup media)
3.1	Down loaded & Checked	✓	☐	☐	

4.0 Base Station		Dump	View	Back-up	Comment:
4.1	Caesium Vapour	✓	☐	☐	Cs Base erratic from 09:00 to 10:00.
4.2	856 #1	✗	☐	☐	No 856 Available.
4.3	856 #2	☐	☐	☐	
4.4	GPS	✓	☐	☐	

5.0 Flight Path Recovery		Verify OK	Line kms to be Reflown	Comment (Gaps / GPS Lines Short / Jumps)
5.1	Recovery → Line Kilometres	✓		
5.2	Cross Track → Reflies	✓		
5.3	GPS Post Processed	☐		Geotracer ☐ or PNAV ☐

6.0 Magnetics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
6.1	8th Difference Noise Plots	✗		Some Rawmag 8th Diff Noise lines: 502, 597, 598.
6.2	Profiles	✓		

7.0 Radiometrics		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
7.1	256 Channel Spec Plot	✓		
7.2	TC / K/ U/ Th Profiles	✗		

8.0 Altimeter		Verify OK	Line kms to be Reflown	Comment (Reflies / Scrubs)
8.1	BARO	✓		**BARO OK**
8.2	GPS	✓		
8.3	RADALT	✓		
8.4	LIDAR	☐		

10.0 Equipment / Aircraft Condition – List any equipment failures or Snags
Some Rawmag 8th Diff Noise lines: 502, 597, 598.
BARO OK

11.0 Other comments or issues that may be of concern
No Afternoon Cals.
Cs Base erratic from 09:00 to 10:00. No flight conflict.

Prepared By:	R.Doepel.	Operator Name:	R.Doepel.	Dated:	010/01/00

APPENDIX 3

OPERATORS FLIGHT REPORTS

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

DATE: 28/12/00 Julian Day 363 JOB No. 1585 FLIGHT No. 001

Area TASMANIA
Aircraft KAC
Pilot JD
Operator MG
Airport LAUNCESTON
Time : Take Off 17.30 Land 6.40

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate 0.10 / 0.05 Seconds
Mag. F.S.D. Fine 2000 nT
Mag. F.S.D. Coarse 20000 nT
Mag. Gradiometer ± 5 nT
Raw 4Diff ± 50 nT
Survey Altitude 7000 metres
Radar/Baro Alt. 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate 1.0 Second
Crystal Vol litres 33.8 Down/4.2 Up
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
	~~01010~~	Compbox	N, W, S, E							
N	01010	0	639	18.21	18.22					Testbox
W	01020	640	1169	18.22	18.23					
S	01030	1170	1759	18.24	18.25					
E	01040	1760	2389	18.25	18.26					

Kilometres flown this Flight ..... Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp ..... Wind speed ..... Wind Dir. ..... Rain ..... Comment .....

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

Page ..... of .....

DATE: 31/12/00 Julian Day 366 JOB No. 1585 FLIGHT No. 010

Area Tas E
Aircraft KAC
Pilot DC
Operator RR
Airport Wynyard
Time : Take Off 12:10 Land 13:45

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2~~ Up
K^{40} 500 FSD
Bi^{214} 500 FSD
Tl^{208} 500 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
S	5001.0	0	1099							Test Box
E	5002.0	1100	2289							
N	5003.0	2290	3419							
W	5004.0	3420	4599							
W	5004.1	4600	6039							
										TT 1.7

Kilometres flown this Flight ..... Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp ..... Wind speed ..... Wind Dir. ..... Rain ..... Comment .....

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

Page 1 of 2

DATE: 31/12/00 Julian Day 366 JOB No. 1585 FLIGHT No. 001

Area E
Aircraft VH-KAC
Pilot JS
Operator MG
Airport WYNYARD
Time : Take Off 12.51 Land 18.26

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 120 metres
Radar/Baro Alt. 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
*S E	10010	0	589	15.04	15.05			3.4		* Scrub
E	10011	590	1329	15.07	15.09			3.4		Post B
W	10020	1330	1959	15.10	15.11			4.1		
E	10070	1960	3349	15:12	15.14			7.6		
W	10030	3350	4119	15.15	15.17			4.8		
E	10080	4120	5629	15.17	15.20			8.3		
W	10040	5630	6499	15.21	15.22			5.5		
E	10090	6500	8109	15.23	15.26			9.0		
P W	10050	8110	9089	15.27	15.29			6.2		
E	10100	9090	10819	15.30	15.33			9.7		
W	10060	10820	11889	15.34	15.36			6.9		
E	10110	11890	13659	15.36	15.39			10.4		
W	10120	13660	15269	15.41	15.44			11.1		
E	10170	15270	17689	15.45	15.49			14.6		
W	10130	17690	19429	15.50	15.53			11.8		
E	10180	19430	21959	15.53	15.57			15.3		
W	10140	21960	23769	15.58	16.02			12.5		
E	10190	23770	26419	16.02	16.07			16.0		
W	10150	26420	28309	16.08	16.11			13.2		
E	10200	28310	31029	16.12	16.16			16.7		
W	10160	31030	33019	16.17	16.21			13.9		
E	10210	33020	35889	16.21	16.26			17.4		
W	10220	35890	38469	16.27	16.32			18.1		
E	10270	38470	41949	16.32	16.38			21.6		
W	10230	41950	44639	16.39	16.44			18.8		
E	10280	44640	48199	16.44	16.49			22.3		← should be 10280
W	10240	48200	50929	clock	dead!			19.5		
E	10290	50930	54639	16.58	17.03			23.0		
W	10250	54640	57459	17.04	17.09			20.2		
E	10300	57460	61239	17.11	17.17			23.7		
W	10260	61240	64209	17.19	17.24			20.9		
E	10310	64210	68119	17.25	17.32			24.4		
W	10320	68120	71639	17.33	17.39			25.1		

Kilometres flown this Flight 585.5 Km. Reflys flown this Flight — Km. Total Kilometres Flown 585.5 Km.

Weather Conditions : Temp 21° Wind speed 5 Wind Dir. E Rain — Comment .....

Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

DATE: 31/12/00 Julian Day 366 JOB No. 1583 FLIGHT No. 001

Area AREA E
Aircraft VH-KAC
Pilot JS
Operator MG
Airport WYNYARD
Time : Take Off 14.51 Land 18.26

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 500 FSD
Bi^{214} 500 FSD
Tl^{208} 500 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	10370	71640	75729	17.41	17.47			26.1		check this
W	10330	75730	79399	17.49	17.54			25.9		
E	10380	79400	83519	17.56	18.03			26.1		Height lost due to forest + strong wind.
W	10340	83520	87159	18.04	18.10			25.8		
E	10390	87160	91299	18.11	18.18			26.2		H.11 AT 12km

Kilometres flown this Flight 595.5 Km. Reflys flown this Flight X Km. Total Kilometres Flown 595.5 Km.

Weather Conditions : Temp ~21° Wind speed 5 Wind Dir. E Rain X Comment .....

585.5 TOT 6.5 ON 5.2 OFF = 0.3 51

Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

DATE: 01/01/01 Julian Day 001 JOB No. 1585 FLIGHT No. 02

Area Block E
Aircraft VH-KAS
Pilot JS
Operator MG
Airport WYNYARD
Time : Take Off 7.02 Land 12.36

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
W	10021	01	689	7.13	7.14			4.1		} Reflys Post A
E	10101	690	2519	7.15	7.18			9.7		
S	90010	2520	3639	7.23	7.25			6.4		
N	90020	3640	4759	7.26	7.28			7.0		
S	90030	4760	6029	7.30	7.32			7.4		
*S N	90040	6030	60892	7.33	7.33			~~7.5~~		*Scrub
	90041	6090	72381	7.36	7.38			7.5		BOAT AT END OF LINE (BULK CARRIER)
S	90050	7240	8569	7.39	7.41			7.5		
N	90060	8570	9799	7.45	7.47			7.6		
S	90070	9800	11169	7.47	7.51			7.6		
N	90080	11170	12409	7.52	7.54			7.7		
~~S~~	~~90090~~	~~12~~						~~7.8~~		
E	10350	12410	16879	8.00	8.08			25.9		
W	10360	16880	20539	8.10	8.16			26.0		
E	10400	20540	24949	8.18	8.26			26.3	050	
W	10410	24950	28679	8.28	8.34			26.4		BIG HILL AT 13.0 KM
E	10420	28680	33049	8.36	8.43			26.4		
W	10430	33050	36779	8.45	8.51			26.5		
E	10440	36780	41169	8.53	9.00			26.6		
	10450	41170	44919	9.02	9.09			26.6		
E	10460	44920	49299	9.10	9.18			26.7		
W	10470	49300	53059	9.18	9.26			26.8		
E	10580	53060	76429	9.30	10.09			~~150.2~~		
W	10590	76430	96909	10.12	10.46			151.6		
E	10600	96910	119989	10.48	11.27			151.0		
W	10610	119990	140379	11.29	12.03			150.3	070	
E	10570	140380	144919	12.05	12.12			27.5	000	
W	10560	144920	148759	12.14	12.21			27.4		
E	10550	148960	153189	12.23	12.30			27.4		

Kilometres flown this Flight 1010.4 Km. Reflys flown this Flight 13.8 Km. Total Kilometres Flown 1595.9 Km.

Weather Conditions : Temp 18° Wind speed 10 Wind Dir. E Rain X Comment .....

1595.9

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Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

Page ..... of .....

DATE: 01../..01../..01.. Julian Day ...01..... JOB No. ....1585..... FLIGHT No. .....03.....

Area ...AREA E.....
Aircraft ...VH-KAC.....
Pilot .....DC.....
Operator .....RR.....
Airport ....WYNYARD.....
Time : Take Off 13:34 Land 19:13

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ....1..... 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine .....200..... nT
Mag. F.S.D. Coarse .....2000..... nT
Mag. Gradiometer ±....50.... nT
Raw 4Diff ±....5.... nT
Survey Altitude .....120..... metres
Radar/Baro Alt. ....1..... 200 Feet/Cm

SPECTROMETER

256 Channels

Sample Rate .....1..... 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} .....200..... FSD
Bi^{214} .....200..... FSD
Tl^{208} .....200..... FSD
Total Count .....5000..... FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
W	1048·0	Ø	3849	13:38						POST B
E	1062·0	3850	26119							
W	1063·0	26120	46429							
E	1067·0	46430	67569							
W	1064·0	67570	87949							
E	1066·0	87950	109339							
W	1068·0	109340	129289							
E	1065·0	129290	150279							
W	1069·0	150280	170029							
N	9009·0	170030	170969							ABORT
S	9009·1	170970	172519							
N	9010·0	172520	173899							rec as 9009·1
S	9011·0	173900	175259							
N	9012·0	175260	176519							
S	9013·0	176520	177849							
N	9014·0	177850	179189							TT 5·8
S	9015·0	179190	180459		1907					OL 5·5
										Fe 0·3
										Fuel 568

Kilometres flown this Flight 1262.8 Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 20..... Wind speed ...15.. Wind Dir. ENE Rain Nil Comment ..... 2858·7

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

7858.7 53

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DATE: 02/01/01 Julian Day 002 JOB No. 1585 FLIGHT No. 004

Area ~~WESTERN~~ AREA E
Aircraft KAC
Pilot DC
Operator RR
Airport Wynard
Time : Take Off 7:06 Land 12:18

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2~~ Up
K^{40} 500 FSD
Bi^{214} 500 FSD
Tl^{208} 500 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
W	~~1049.0~~	Ø	3869	7:11						Post A
E	~~1050.0~~	3870	24489							
W	1074.0	24490	43889							
E	1071.0	43890	64449							
W	1075.0	64450	83899							
E	1072.0	83900	104249							Avoid Bird Nea-EB
	1076.0	104250	123539							
E	1073.0	123540	143719							
W	1077.0	143720	162929							
E	1050.0	162930	166949		12:12					

OL 5.0
TT 5.2
Fc 0.2
Fuel

Kilometres flown this Flight 1193.9 Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 22 Wind speed 20 Wind Dir. ENE Rain ..... Comment 4052.6

14519.3

TOT - 5.5 ON: 5.3 OFF: 0.2 4052-6 54

Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

DATE: 02/01/01 Julian Day 002 JOB No. 1585 FLIGHT No. 005

Area AREA E
Aircraft KAC
Pilot [redacted] JS
Operator [redacted] MG
Airport Wynyard
Time : Take Off 13.10 Land 18.41

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 120 metres
Radar/Baro Alt. 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 500 200 FSD
Bi^{214} 500 200 FSD
Tl^{208} 500 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
W	10540	0	3809	1323	13 29			27.3		Post B
E	10780	3810	25859	1336	14.13			139.7		
W	10790	25860	44709	14.15	14.46			139.0		
E	10800	44710	65759	14.48	15.23			138.4		
W	10810	65780	84689	15.25	15.57			137.8		
E	10820	84690	105159	15.58	16.33			137.2		
W	10830	105160	123899	16.34	17.05			136.5		
E	10840	123900	143729	17.07	17.40			135.9		
W	10850	143730	162389	17.41	18.13			135.3		
* S W	10510	162390	162639	18.17	18.17			~~27.1~~		* scrub
W	10511	162640	166529	18.19	18.26			27.1		Hill at 21km
E	10520	166530	170669	18.28	18.35			27.1		Hill at 6km

Kilometres flown this Flight 1179.3 Km. Reflys flown this Flight 0 Km. Total Kilometres Flown 5233.9 Km.

Weather Conditions : Temp 24° Wind speed 5 Wind Dir. NE Rain X Comment .....

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

DATE: 03/01/01 Julian Day 003 JOB No. 1585 FLIGHT No. [redacted]

Area AREA E
Aircraft VH-KAC
Pilot JS
Operator MG
Airport WYNYARD
Time : Take Off 7.16 Land 12.15

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05 Seconds~~
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
~~W~~	~~10591~~	~~0~~	~~E~~					~~15.0~~		
~~E~~	~~90250~~	~~0~~						~~14.8~~		
N	90300	0	3029	7.31	7.36	Relocated as 90250		19.4		AADC R/H SENSOR SPIKING ON 4TH DIFF RED LIGHT ON AADC ON WITH LETTER D ON DISPLAY
S	90310	LANDED TO CHECK DATA 8.00								
	Take-off Compbox : 11.00, AADC replaced on ground. R/H + L/H Mag sensors turned OFF									
N	50010	0	799	11.37	11.38					TESTBOX
W	50020	800	1479	11.39	11.40					SLOT 7
S	50030	1480	2219	11.41	11.42					
E	50040	2220	2909	11.43	11.44					
S	50050	2910	4709	[redacted]	12.02			11.7		Testlines, for Parallax and also to check data line is actually tieline (90250) using table cape basalt ridge for a large mag anomaly
N	50060	4710	6449	12.03	12.06			11.7		
	LANDED AT 12.15									

Kilometres flown this Flight 0 Km. Reflys flown this Flight 0 Km. Total Kilometres Flown 5233.9 Km.

Weather Conditions : Temp 23° Wind speed 10 Wind Dir. NE Rain X Comment .....

5233.9

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Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

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DATE: 3/1/01 Julian Day 003 JOB No. 1585 FLIGHT No. 96

Area E
Aircraft KAC
Pilot DC
Operator RR
Airport LUCKNOW
Time : Take Off 13:43 Land 17:17

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ~~0.10~~ / 0.05 Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 120 metres
Radar/Baro Alt. 1 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2~~ Up
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
W	1053.0	0	4419	13:52						Post B
~~E~~	~~1087~~									
N	9016.0	4420								rec as 9017.0
S	9017.0	5850	5919							ABORT
S	9017.1	5920	7289							
N	9018.0	7290	8809							
S	9019.0	8810	10179							
N	9020.0	10180	12129							Turb in Lee of hill
S	9021.0	12130	14099							
N	9022.0	14100	16259							
S	9023.0	16260	18239							
N	9024.0	18240	20489							
S	9025.0	20490	22709							
N	9026.0	22710	25169							
S	9027.0	25170	27619							OL 3.1
N	9028.0	27620	30429							TT 3.6
S	9029.	30430	33099							FL 0.5
N	9030.0	33100	36459							Fuel 350
S	9031.0	36460	39499							
	9032.0	39500	42769							
S	9033.0	42770	45980							
N	9034.0	45980	49509							
S	9035.0	49510	52939							
N	9036.0	52940	56759							
S	9037.0	56760	60429							
N	9038.0	60430	64469							
S	9039.0	64770	68739							
N	9040.0	68380	72669							
S	9041.0	72670	76709		17:00					
~~N~~	~~9042.0~~	~~76740~~								
S	~~9042.1~~									

342.42

Kilometres flown this Flight 526.5 Km. Reflys flown this Flight — Km. Total Kilometres Flown 5760.4 Km.

Weather Conditions : Temp 25 Wind speed 30 Wind Dir. W Rain Nil Comment

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

DATE: 4/01/06 Julian Day 004 JOB No. 1585 FLIGHT No. 07

Area Area E
Aircraft KAC
Pilot DC
Operator RR
Airport Wynyard
Time : Take Off ~~9:01~~ Land 16:08

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ~~0.10~~ / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2010 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ~~200~~ Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ~~1.0~~ Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 500 FSD
Bi^{214} 500 FSD
Tl^{208} 500 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	1096·0	0	18999	11:51		TO 11:49				Bst A
W	1091·0	19000	37079							
E	1087·0	37080	55629							
W	1092·0	55630	73539							
E	1088·0	73540	91989							
W	1093·0	91990	109779							
E	1089·0	109780	128029							
W	1094·0	128030	145929		16:04					

TT 4·8
OL 4·2
Fe 0·6
Fuel 490

Kilometres flown this Flight 1059·3 Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 18 Wind speed 8 Wind Dir. E Rain Nil Comment 6819·7

TOT 6.3 OFF 0.3 ON 6.0

Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

6819.7 Page ..... of .....

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DATE: 5/1/01 Julian Day 005 JOB No. 1585 FLIGHT No. 08

Area AREA E
Aircraft KAC
Pilot NS
Operator MG
Airport Wynyard
Time : Take Off 7.10 Land 13.30

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±.50 nT
Raw 4Diff ±.5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 500 FSD
Bi^{214} 500 FSD
Tl^{208} 500 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	10900	0	19699	7.16	7.49			132.1		Post A
W	10950	19700	37459	7.50	8.20			130.6		small storm cell with associated lightning
E	10960	37460	45599	8.22	8.35			~~130.4~~	56.0	56km, line broken due to weather
S	90410	45600	49859	8.41	8.48			28.4		
N	90420	49860	53809	8.49	8.56			28.4		
S	90450	53810	58029	8.59	9.06			28.4		
N	90460	58030	61639	9.11	9.17			25.4		
S	90470	61640	65219	9.18	9.24			24.7		
N	90480	65220	68659	9.25	9.31			24.1		
E	10961	68660	76659	9.37	9.51			~~14.4~~	48.0	+10km overlap line broken at 104km
N	90660	76660	78629	9.54	9.57			12.6		
S	90650	78630	80569	10.00	10.03			13.3		
N	90640	80570	82719	10.05	10.08			13.9		
S	90630	82720	84839	10.09	10.13			14.6		
W	11360	84840	94669	10.16	10.32			71.1		
E	10370	94670	104779	10.34	10.51			70.1		
E	10962	104780	110079	10.54	11.04			24.4		+10km overlap
W	10970	110090	127609	11.05	11.34			130.2		
E	11380	127610	137569	11.40	11.57			69.0		
W	11390	137570	146809	11.58	12.13			67.9		
E	11400	146810	156279	12.15	12.31			66.9		
W	11410	156280	165259	12.32	12.48			65.8		
E	11420	165260	174449	12.48	13.04			64.7		
W	11430	174450	183089	13.06	13.20			63.7		

STORM OFF THE EASTERN AREA OF BLOCK FOR THE MORNINGS FLIGHT

Kilometres flown this Flight 1276.4 Km. Reflys flown this Flight 0 Km. Total Kilometres Flown 3096.1 Km.

Weather Conditions : Temp 22° Wind speed NW 5 Wind Dir. NW. Rain ✓ Comment .....

8096.1

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Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

Page ..... of .....

DATE: 5/1/01 Julian Day 005 JOB No. 1585 FLIGHT No. 09

Area E
Aircraft KAC
Pilot DC
Operator RR
Airport WYY
Time : Take Off 14:05 Land 18:00

GPS Navigation Differential Method
None — Real Time — ~~Post Flight~~

MAGNETOMETER

Sample Rate 1 — 0.10 / ~~0.05 Seconds~~
Mag. F.S.D. Fine 2000 nT
Mag. F.S.D. Coarse 20000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 120 metres
Radar/Baro Alt. 1 — 200 Feet/Cm

SPECTROMETER

256 Channels

Sample Rate 1 — 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 2000 FSD
Bi^{214} 2000 FSD
Tl^{208} 2000 FSD
Total Count 50000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	1098.0	Ø	17949	14:16						Post B
W	1102.0	17950	36039							
E	1099.0	36040	54039							
W	1103.0	54040	71669							
E	1100.0	71670	89379							
N	9085.0	89380	90519							
	9084.0	90520	91819							
N	9083.0	91820	93629							~~ATZ~~ = ATZ Lockup
S	9081.0	93630	95479							Rec as 9082.0
N	9082.1	95480	97399							
S	9080.0	97400	99199							+ Auto Alt upload enabled
W	1101.0	99200			17:55					on A+Z ??

TT 4.1
OL 3.6
Fe 0.5
Fuel 388

DAS 8 Time U/S

Kilometres flown this Flight 837.7 Km. Reflys flown this Flight — Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 20 Wind speed 8 Wind Dir. Var Rain Nil Comment 8933.8

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

8955-8

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DATE: 06/01/01 Julian Day 006 JOB No. 1585 FLIGHT No. 010

Area AREA E
Aircraft KAC
Pilot JS
Operator MC
Airport Wyndham
Time : Take Off 8.31 Land 11.58

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±.50 nT
Raw 4Diff ±.5 nT
Survey Altitude 120 metres
Radar/Baro Alt. 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 500 FSD
Bi^{214} 500 FSD
Tl^{208} 500 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	11040	0	19059	8.42	9.14			128.6		POST A
W	11050	19060	37179	9.16	9.46			128.4		
E	11060	37180	55299	9.48	10.18			128.0		
W	11070	55300	73599	10.20	10.50			127.5		
E	11080	73600	91459	10.52	11.22			126.9		
W	11090	91460	109869	11.24	11.55			126.2		

Kilometres flown this Flight 743.6 Km. Reflys flown this Flight 0 Km. Total Kilometres Flown 9699.4 Km.

Weather Conditions : Temp 22° Wind speed 5 Wind Dir. NE Rain X Comment .....

9699.4

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Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

Page ..... of .....

DATE: 6/1/01 Julian Day 006 JOB No. 1585 FLIGHT No. 011

Area E
Aircraft KAS
Pilot DC
Operator RR
Airport WYY
Time : Take Off 16:23 Land 18:32

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 2000 nT
Mag. F.S.D. Coarse 20000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2~~ Up
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	1110·0	Ø	17109	16:26						Post B
N	9079·0	17110	18929							
S	9078·0	18930	20769							
N	9077·0	20770	22629							
S	9076·0	22630	24449							
N	9075·0	24450	26279							
S	9074·0	26280	28199							
N	9073·0	28200	30069							
S	9072·0	30070	31909							
N	9071·0	31910	33720							
S	9070·0	33720	35539							rec as 9071·0
N	9069·0	35540	37319							
S	9068·0	37320	39169							
N	9067·0	39170	40979							
W	1111·0	40980	41099							ABORT
W	1111·1	41100	58049		18:30					Height Bust Due Town 113 Km from end
										TT 2·2 OL 2·0 Fe 0·2 Fuel 260
										DA88 Time U/S

Kilometres flown this Flight 406·6 Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 20 Wind speed 15 Wind Dir. NW Rain Nil Comment 10106·0

TOT 2.3

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Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

DATE: 10/01/01 Julian Day 010 JOB No. 1585 FLIGHT No. 012

Area: Area E
Aircraft: KAC
Pilot: J.S.
Operator: M.C.
Airport: Wynyard
Time : Take Off 13.45 Land 16.03

GPS Navigation Differential Method: ~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ± .50 nT
Raw 4Diff ± .05 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 500 FSD
Bi^{214} 500 FSD
Tl^{208} 500 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	11160	0	18159	13.50	14.21			121.6		
W	11120	18160	35259	14.22	14.51			124.2		
E	11130	35260	53639	14.53	14.24			123.6		
W	11140	53640	70429	1526	15.54			122.1		
~~E~~	~~11150~~									

Kilometres flown this Flight 491.4 Km. Reflys flown this Flight 0 Km. Total Kilometres Flown 10599 Km.

Weather Conditions : Temp 24° Wind speed 5 Wind Dir. NE Rain X Comment

10598.3 ON: 2hr OF: 0.2 63

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

Page ..... of .....

DATE: 10/01/01 Julian Day 010 JOB No. 1585 FLIGHT No. 013

Area E
Aircraft KAC
Pilot DC
Operator MG
Airport YWYY
Time : Take Off 17.24 Land 19.18.

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±.5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels

Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	11150	0	17169	17.27	17.56			122.2		
N	90620	17170	19379	18.06	18.11			15.2		
S	90610	19380	21659	18.11	18.15			15.8		
E	90600	21660	23999	18.16	18.20			16.5		
S	90590	24000	26419	18.21	18.25			17.1		
N	90580	26420	28979	18.26	18.30			17.7		
	90570	28980	31559	18.31	18.35			18.4		
W	11170 ~~11560~~	31560		18.~~49~~	19.16			120.9		

Kilometres flown this Flight 343.8 Km. Reflys flown this Flight 0 Km. Total Kilometres Flown 10 943.1 Km.

Weather Conditions : Temp 23° Wind speed 5 Wind Dir. E Rain X Comment .....

500 LTS 10942.1 TOT = 4.5 OFF = 0.2 ON = 4.64

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

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DATE: 11/01/02 Julian Day 011 JOB No. 1585 FLIGHT No. 014

Area E
Aircraft KAC
Pilot DC
Operator MG
Airport XWYY
Time : Take Off 7.16 Land 11.45

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	11180	0	17879	7.17	7.47			120.2		
W	11190	17880	29979	7.55	8.15			89.3		
E	11200	29980	42639	8.16	8.37			88.2		
W	11210	42640	54479	8.39	8.59			87.1		
E	11220	54480	66339	9.00	9.19			86.1		
W	11230	66340	78019	9.21	9.40			85.0		
	11240	78020	89519	9.41	10.01			83.9		
W	11250	89520	100769	10.02	10.21			82.9		
E	11260	100770	112029	10.22	10.41			81.8		
W	11270	112030	122989	10.42	11.01			80.7		
E	11280	122990	134119	11.02	11.21			79.7		
W	11290	134120	144899	11.22	11.40			78.6		

Kilometres flown this Flight 1043.5 Km. Reflys flown this Flight 0 Km. Total Kilometres Flown 11985.6 Km.

Weather Conditions : Temp 20 Wind speed 10 Wind Dir. E Rain X Comment .....

11985.6

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Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

DATE: 11/01/01 Julian Day 011 JOB No. 1585 FLIGHT No. 015

Area E
Aircraft KAC
Pilot JS
Operator RR
Airport YWYY
Time : Take Off 13:15 Land 19:05

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 2000 nT
Mag. F.S.D. Coarse 20000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 120 metres
Radar/Baro Alt. 1 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate 1 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	1130.0	Ø	11719	13:18						Post B
W	1135.0	11720	21589							
E	1131.0	21590	33129							~~Check H/D~~
W	1134.0	33130	43119							H/D Reset
E	1132.0	43120	54429							
W	1133.0	54430	64609							
E	1144.0	64610	73799							Speed + Height - Desert
W	1150.0	73800	81609							over Town
E	1145.0	81610	90669							
W	1151.0	90670	98369							
E	1146.0	98370	107069							Small Nav Dropout
W	1152.0	107070	114639							
E	1147.0	114640	123089							Small Nav Dropout.
W	1153.0	123090	130639							
E	1148.0	130640	138859							
W	1154.0	138860	146259							Small nav dropout
E	1149.0	146260	154199							
~~W~~	~~1155.0~~									
N	9056.0	154200	157199							
S	9055.1	157250	160029							TT 5.8
N	9054.0	160030	163219							OL 5.5
S	9053.0	163220	166209							Fe 0.3
N	9052.0	166210	169509							Fuel 519
S	9051.0	169510	172639		18:45					

Kilometres flown this Flight 1202.7 Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 21 Wind speed 12 Wind Dir. ~~WSW~~ Rain Nil Comment 13188.3

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

13188.3

DATE: 12/01/01 Julian Day 012 JOB No. 1585 FLIGHT No. 016

Area AREA E
Aircraft KAC
Pilot PTS
Operator RR
Airport Wynyard
Time : Take Off 09:34 Land 12:22

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 75 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 500 FSD
Bi^{214} 500 FSD
Tl^{208} 500 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	1155.0	Ø	7669	9:40						
W	1161.0	7670	13719							
E	1156.0	13720	21219							
W	1162.0	21220	27229							
E	1157.0	27230	34339							
W	1163.0	34340	40209							
E	1158.0	40210	47249							
W	1164.0	47250	52929							
E	1159.0	52930	59819							
W	1165.0	59820	65309							Spd
E	1160.0	65310	72089							
W	1166.0	72090	77469		12:13					

TT 2.8
OL 2.5
Fe 0.3

Kilometres flown this Flight 539.9 Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 20 Wind speed 15 Wind Dir. ~~W~~ E Rain N.I. Comment 13728.2

5207hrs T: 4.4 OFF: 0.7 ON: 3.7 13728.2 67

Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

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DATE: 12/01/01 Julian Day 012 JOB No. 1585 FLIGHT No. 17

Area AREA E
Aircraft KAC
Pilot OC
Operator MG
Airport Wyndham
Time : Take Off 13.02 Land 17.27

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine ~~200~~ nT
Mag. F.S.D. Coarse ~~2000~~ nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±.5 nT
Survey Altitude 120 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 500 FSD
Bi^{214} 500 FSD
Tl^{208} 500 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
	11670	0	5269	13.08	13.17			38.1		Post B
*R N	90501	5270	9049	13.30	13.36			22.8		Refly
*R S	90491	9050	11989	13.37	13.43			23.5		Refly
N	90440	11990	16099	13.46	13.53			28.4		
S	90421	16100	20179	13.54	14.01			28.4		
E	11680	20180	25409	14.08	14.17			37.0		
	11730	25410	29849	14.18	14.25			31.7		
E	11690	29850	34979	14.27	14.36			35.9		
W	11740	34980	39229	14.40	14.47			30.6		
E	11700	39230	44089	14.48	14.56			34.9		
W	11750	44090	48299	14.57	15.04			29.5		
E	11710	48300	52999	15.06	15.14			33.8		
W	11760	53100	56989	15.15	15.22			28.5		
E	11720	56990	61549	15.23	15.30			32.7		
W	11770	61550	65369	15.32	15.39			27.4		
E	11780	65370	69009	15.39	15.45			26.3		
W	11830	69010	72039	15.47	15.52			21.0		
E	11790	72040	75589	15.53	15.59			25.3		
W	11840	75590	78559	16.01	16.06			19.9		
	11800	78560	81929	16.07	16.12			24.2		
*S W	11850	81930	84399	16.13	16.18			~~18.9~~		*Scrub, NAV LOST
E	11851	84400	87049	16.19	16.23			18.9		
W	11810	87050	90369	16.24	16.30			23.1		
*S E	11860	90370	92019	16.31	16.34			~~17.8~~		* Scrub, NAV LOST
		TRANS	STOPPED	TO TO	LACK	OF	SUS			
*R W	10591	92020	94369	16.47	16.51			15.0		Refly, Hi at end of line
*R N	90042	94370	95519	16.53	16.55			7.5		Refly
*R E	10221	95520	98179	16.58	17.03			18.1		Refly
*S E	10651	98180	98579	17.06	17.08			~~X~~		* Scrub
*R E	10652	98580	100039	17.11	17.13			10.0		Refly

Kilometres flown this Flight 564.9 Km. Reflys flown this Flight 96.9 Km. Total Kilometres Flown 14293.1 Km.

Weather Conditions : Temp 20° Wind speed 15 Wind Dir. E Rain X Comment .....

14293.7 TOT: 3.4 ON: 2.4 OFF: 1.0 68

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

DATE: 13/1/01 Julian Day 013 JOB No. 1585 FLIGHT No. 18

Area E
Aircraft KAC
Pilot DC
Operator MC
Airport YWYY
Time : Take Off 7.03 Land 10.22

GPS Navigation Differential Method
None Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate 1 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±5.0 nT
Raw 4Diff ±.5 nT
Survey Altitude 120 metres
Radar/Baro Alt. 1 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ~~1~~ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	11820	0	3179	7.11	7.16			22.1		
*R W	11840	3180	6039	7.17	7.22			19.9		* Refly should have been flown as 11841.
E	11860	6040	8649	7.23	7.27			17.8		
W	11920	8650	10729	7.28	7.32			13.9		
E	11870	10730	13159	7.33	7.37			16.7		
W	11930	13160	15169	7.38	7.41			13.5		
E	11880	15170	17439	7.42	7.46			15.7		
W	11940	17440	19379	7.47	7.50			13.0		
E	11890	19380	21589	7.52	7.56			15.2		
W	11950	21590	23449	7.56	7.59			12.6		
E	11900	23450	25609	8.01	8.04			14.8		
W	11960	25610	27409	8.06	8.09			12.1		
E	11910	27410	29539	8.10	8.14			14.3		
W	11970	29540	31249	8.15	8.18			11.7		
E	11980	31250	32949	8.19	8.22			11.2		
W	11990	32950	34609	8.23	8.26			10.8		
E	12000	34610	36279	8.27	8.29			10.8		
*R E	11261	36280	40789	8.35	8.42			31.8		* Refly
*R N	90781	40790	42549	8.48	8.51			12.0		* Refly
*R S	90771	42550	44379	8.52	8.55			12.0		* Refly
*R N	90761	44380	46169	8.56	8.59			12.0		* Refly
*R W	10971	46170	52089	9.09	9.19			35.0		* Refly
*R E	11191	52090	64389	9.27	9.47			89.3		* Refly
*R N	90092	64390	65659	10.11	10.13			7.8		* Refly Hills at start.

Kilometres flown this Flight 226.2 Km. Reflys flown this Flight 219.8 Km. Total Kilometres Flown 14519.3 Km.

Weather Conditions : Temp 17° Wind speed 20 Wind Dir. NE Rain X Comment .....

TOT 6.1 OFF 0.5 Fuel: 680

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Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

DATE: 16/1/01 Julian Day 016 JOB No. 1585 FLIGHT No. 01

Area Block A
Aircraft KAC
Pilot AP
Operator MG
Airport YKII
Time : Take Off 7.41 Land 13.50

GPS Navigation Differential Method
None ___ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 80 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
-	01130	0	2229	7.15	7.19			-		Th Post A
-	01110	2230	4039	7.19	7.22			-		Bg
N	01010	0	1329	7.45	7.47				LVL	Testline Post B
E	10300	1330	3789	7.54	7.59			17.0		
*S W	10800	3790	4449	* Scrubbed				~~26.0~~		Dense Smoke !
	11000	4450	8159	8.08	8.14			26.4		
E	11050	8160	11859	8.16	8.23			26.5		
W	11010	11860	15529	8.23	8.29			26.4		
E	11060	15530	19239	8.30	8.36			26.5		
W	11020	19240	22949	8.37	8.43			26.4		
E	11070	22950	26729	8.44	8.50			26.5		
W	11030	26730	30449	8.51	8.57			26.5		
E	11080	30450	34239	8.58	9.05			26.6		* check this number
W	11040	24240	38019	9.06	9.12			26.5		
E	11090	38020	41839	9.13	9.19			26.6		
W	11140	41840	45599	9.20	9.26			26.7		
E	11100	45600	49469	9.27	9.33			26.6		
W	11150	49470	53239	9.35	9.41			26.7		
E	11110	53240	57049	9.42	9.48			26.6		
W	11160	57050	60859	9.49	9.55			26.7		
E	11120	60860	64659	9.56	10.02			26.6		
W	11170	64660	68439	10.03	10.09			26.7		
E	11130	68440	72249	10.10	10.16			26.7		
W	11180	72250	76039	10.17	10.23			26.8		
E	11700	76040	79899	10.29	10.35			27.8		
W	11750	79900	83769	10.36	10.42			27.9		
E	11710	83770	87769	10.43	10.49			27.8		
W	11760	87770	91709	10.50	10.57			27.9		
E	11720	91710	95689	10.57	11.04			27.8		
W	11770	95690	99609	11.05	11.11			27.9		
E	11730	99610	103569	11.12	11.19			27.9		
W	11780	103570	107529	11.19	11.26			27.9		

Kilometres flown this Flight 1236.9 Km. Reflys flown this Flight ___ Km. Total Kilometres Flown 1236.9 Km.

Weather Conditions : Temp 17° Wind speed 10 Wind Dir. SE Rain ___ Comment .....

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DATE: 16/1/01 Julian Day 016 JOB No. 1533 FLIGHT No. 01

Area Block A
Aircraft KAS
Pilot AP
Operator MG
Airport YKII
Time : Take Off 7.41 Land 13.50

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05 Seconds~~
Mag. F.S.D. Fine 2000 nT
Mag. F.S.D. Coarse 20000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 80 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 2000 FSD
Bi^{214} 2000 FSD
Tl^{208} 2000 FSD
Total Count 50000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	11740	107530	111459	11.26	11.33			27.9		
W	11690	111460	115399	11.34	11.40			27.8		
E	11650	115400	119299	11.41	11.47			27.7		
W	11680	119300	123229	11.48	11.55			27.8		
E	11640	123230	127119	11.56	12.02			27.7		
W	11670	127120	131019	12.03	12.09			27.7		
E	11630	131020	134929	12.10	12.16			27.7		
W	11660	134930	138879	12.17	12.24			27.7		
E	11620	138880	142789	12.24	12.31			27.6		
W	11610	142790	146659	12.31	12.38			27.6		
E	11190	146660	150419	12.40	12.46			26.8		
W	11240	150420	154299	12.47	12.53			26.9		
E	11200	154300	158149	12.54	13.00			26.8		
W	11250	158150	161969	13.07	13.08			26.9		
E	11210	161970	165809	13.10	13.16			26.8		
W	11260	165810	169749	13.17	13.23			26.9		
E	11220	169750	173549	13.25	13.31			26.8		
W	11230	173550	177449	13.32	13.39			26.9		

Kilometres flown this Flight 1236.9 Km. Reflys flown this Flight — Km. Total Kilometres Flown 1236.9 Km.

Weather Conditions : Temp 17° Wind speed 15 Wind Dir. S Rain — Comment

1236.9

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Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

Page ..... of .....

DATE: 16/1/01 Julian Day 016 JOB No. 1585 FLIGHT No. 02

Area BLOCK A
Aircraft KAS
Pilot MP LH
Operator BR
Airport YKII
Time : Take Off 14:30 Land 19:49

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 20000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 80 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
	~~TEST~~									
E	1099·0	0	3929	14:37						Post B
W	1093·0	3930	7889							
E	1098·0	7890	11769							
W	1092·0	11770	15569							
E	1097·0	15570	19499							
W	1091·0	19500	23279							
E	1096·0	23280	27249							
W	1090·0	27250	30999							
E	1095·0	31000	35019							
W	1089·0	35020	38739							
E	1094·0	38740	42739							
W	1088·0	42740	46419							
~~E~~	~~1082~~									
E	1127·0	46420	50629							Nav Loss East End
W	1132·0	50630	54489							
E	1128·0	54490	58489							
W	1133·0	58490	62369							Nav Gaps
E	1129·0	62370	66419							
W	1134·0	66420	70269							
E	1130·0	70270	74289							
W	1135·0	74290	78029							Loss Nav at end
E	1131·0	78030	82009							
W	1136·0	82010	85929							
E	1142·0	85930	89889							
W	1137·0	89890	93789							TT 4·3
E	1143·0	93790	97759							OL 4·0
W	1138·0	97760	101629							Fe 0·3
E	1144·0	101630	105499							Fuel 600
W	1139·0	105500	109429							
E	1145·0	109430	113319		18:35					
	0231	113320	115179							High Test
	0202	115180	116529							Low Test

Kilometres flown this Flight 776·2 Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 18 Wind speed 15 Wind Dir. SE Rain Nil Comment 2013·1

Job Km 8217·1

Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

DATE: 17.01.01 Julian Day 017 JOB No. 1585 FLIGHT No. 003

Area Area A
Aircraft KAC
Pilot JH
Operator RR
Airport Ising
Time : Take Off 07:37 Land 13:35

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 80 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
	0301	Ø	1859	7:14						Th Post A
	0330	1860	3699							BG
N	0301.1	Ø	1459	7:40						Low Test Post B
	0330.1	1460	3339							High Test
	1140.0	3340	7269	7:50						
W	1146.0	7270	11289							
E	1141.0	11290	15249							
W	1147.0	15250	19229							
E	1153.0	19230	23209							
W	1148.0	23210	27159							
E	1200.0	27160	31299							
W	1206.0	31300	35399							
E	1201.0	35400	39579							
W	1207.0	39580	43569							TT 6.0
E	1202.0	43570	47749							OL 5.7
W	1208.0	47750	51779							Fe 0.3
E	1203.0	51780	55929							
	1209.	55903	60009							Fuel
E	1204.0	60010	64139							
W	1210.0	64140	68199							
E	1205.0	68200	72279							
W	1211.0	72280	76359							
E	1217.0	76360	80469							
W	1212.0	80470	84539							
E	1218.0	84540	88609							
W	1213.0	88610	92609							
E	1219.0	92610	96629							
W	1214.0	96630	100649							
E	1220.0	100650	104679							
W	1215.0	104680	108719							
E	1221.0	108720	112699							

Kilometres flown this Flight 1221.8 Km. Reflys flown this Flight ✓ Km. Total Kilometres Flown 3234.9 Km.

Weather Conditions : Temp 17 Wind speed 15 Wind Dir SSE Rain N.I. Comment

Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

DATE: 17/01/01 Julian Day 017 JOB No. 1585 FLIGHT No. 003

Area Area A
Aircraft KAC
Pilot IH
Operator RR
Airport King Is
Time : Take Off ..... Land .....

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 80 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
W	1216.0	112700	116689							
~~E~~	~~1148~~									
E	1149.0	116690	120549							
W	1155.0	120550	124509							
E	1150.0	124510	128319							
W	1156.0	128320	132289							
E	132290		136209	1151.0						
W	1157.0	136210	140149							
E	1152.0	140150	144009							
W	1158.0	144101	147989							
E	1154.0	147990	151859							
W	1160.0	151860	155809							
E	1159.0	155810	159769							
W	1179.0	159770	163789							
E	1185.0	163820	167859							
W	1180.0	167860	171869							
E	1186.0	171870	175919					5.3	99	
W	1181.0	175920	179989		13:30	22.3		5.3	95	
						221.5		5.3	66	
						221.5				
						221.1	4.7		97	
						22.5	5.5		95	
						221.1	4.5		110	
						221.2	5.0		120	
						221.3	5.0		100	
						221.4	4.7			

Kilometres flown this Flight ..... Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp ..... Wind speed ..... Wind Dir. ..... Rain ..... Comment .....

T:4.2 DN:3.6 3234.9 74

Kevron Geophysics Pty Ltd 2 **OPERATORS FLIGHT REPORT** Page 1 of 1

DATE: 17/01/01 Julian Day 017 JOB No. 1585 FLIGHT No. 004

Area	Area A	**MAGNETOMETER**	**SPECTROMETER**
Aircraft	KAC	Sample Rate 0.10 / ~~0.05~~ Seconds	**256 Channels**
Pilot	AP	Mag. F.S.D. Fine 200 nT	Sample Rate ✓ 1.0 Second
Operator	MG	Mag. F.S.D. Coarse 2000 nT	Crystal Vol litres 33.8 Down/~~4.2~~ Up
Airport	King Is	Mag. Gradiometer ±50 nT	K^{40} 200 FSD
Time : Take Off 14.32 Land 18.45		Raw 4Diff ±5 nT	Bi^{214} 200 FSD
GPS Navigation Differential Method		Survey Altitude 80 metres	Tl^{208} 200 FSD
~~None~~ Real Time ~~Post Flight~~		Radar/Baro Alt. ✓ 200 Feet/Cm	Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	11820	0	4049	14.38	14.44			28.0		Post C
W	11870	4050	8119	14.45	14.52			28.1		Very gusty conditions
E	11830	8120	12129	14.53	14.59			28.0		
W	11880	12130	16199	15.00	15.07			28.1		
E	11840	16200	20219	15.07	15.14			28.1		
W	11890	20220	24199	15.14	15.21			28.2		
E	11940	24200	28219	15.22	15.28			28.3		
W	11900	28220	32259	15.29	15.36			28.2		
E	11950	32260	36219	15.37	15.43			28.3		400 ft at begin due to town.
W	11910	36220	40259	15.44	15.51			28.2		
E	11960	40260	44269	15.51	15.58			28.3		400ft due to town
W	11920	44270	48229	15.59	16.05			28.2		
~~E~~	~~11970~~	~~48230~~						~~28.3~~		LOSING SATELLITES AT 2 SHUTDOWN +
E	12500	0	3639	16.28	16.34	MOST CALS ATEND FOR 3 SEC		25.2		RESTARTED AT 16.25
W	12450	3640	7309	16.36	16.42	3-4 SEC CALS IN NAV		25.6		POST D
E	12510	7310	10999	16.43	16.50			25.1		
W	12460	11000	14719	16.50	16.56			25.6		
E	12520	14720	18319	16.57	17.03			25.0		
W	12470	18320	21989	17.04	17.10			25.5		
E	12530	21990	25619	17.11	17.17			24.9		
W	12480	25620	29259	17.17	17.24			25.4		
E	12540	29260	32849	17.24	17.30			24.8		
W	12490	32850	36469	17.31	17.37			25.3		
E	12550	36470	40079	17.38	17.44			24.7		
W	12440	40080	43779	17.45	17.51			25.7		
E	12400	43780	47539	17.51	17.58			26.1		
W	12430	47540	51219	17.58	18.04			25.8		CALS
E	12390	51220	55069	18.05	18.11			26.2		04170 Th
W	12420	55070	58789	18.12	18.19			25.9		04150 Bg
E	12380	58790	62499	18.19	18.25			26.3		
W	12410	62500	66219	18.25	18.32			26.0		
N	04310	66220	68049	18.33	18.36			—		H/L TEST
S	04020	68050	69619	18.40	18.43			—		L/L TEST

Kilometres flown this Flight 797.1 Km. Reflys flown this Flight ..... Km. Total Kilometres Flown 4032.0 Km.

Weather Conditions: Temp 19° Wind speed 20 Wind Dir. S Rain — Comment .....

T.5.8 OFF: 0.3 4032.0 75

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

DATE: 18/1/01 Julian Day 018 JOB No. 1585 FLIGHT No. 05

Area BLOCK A
Aircraft KAC
Pilot AP
Operator MG
Airport KY11
Time : Take Off 7.10 Land 12.56

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate L 0.10 / ~~0.05 Seconds~~
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 80 metres
Radar/Baro Alt. L 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ~ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
	05130	0	1809	6.54	6.58			-		Th Post A
	05110	1810	3629	6.58	7.01			-		Bg
N	05010	0	1329	7.13	7.16			-		LL Test Post B
S	05300	1330	3219	7.19	7.22					HL TEST
E	12230	3220	~~7179~~ 7189	7.25	7.31			27.5		
	12270	7180 +035	10989	7.32	7.38			27.3		
E	12230	10970 21	14989	7.39	7.46			27.5		
W	12280	14990	18729	7.46	7.53			27.3		
E	12240	18730	22769	7.53	8.00			27.4		
W	12290	22770	26569	8.01	8.07			27.2		
E	12250	26570	30599	8.08	8.14			27.4		
W	12300	30600	34409	8.15	8.21			27.1		
E	12260	34410	38429	8.22	8.29			27.4		
W	12310	38430	42249	8.29	8.36			27.0		
E	12360	42250	46089	8.36	8.43			26.5		
W	12320	46090	49889	8.44	8.50			26.9		
E	12370	49890	53779	8.51	8.57			26.4		
W	12330	53780	57549	8.58	9.04			26.8		
	12340	57550	61449	9.06	9.12			26.7		
W	12350	61450	65199	9.13	9.19			26.6		
E	12560	65200	68819	9.21	9.27			24.6		
W	12610	68820	72209	9.28	9.34			24.1		
E	12570	72210	75889	9.34	9.40			24.5		MAY BE BROKEN AT END (NAV)
W	12620	75890	79299	9.41	9.47			24.0		
E	12580	79300	83019	9.48	9.54			24.4		COMMS TOWER AT 15km
W	12630	83020	86399	9.55	10.00			23.9		TOWN OF GRASSY AT 5km, 400ft min Height
E	12590	86400	90119	10.01	10.07			24.3		
W	12640	90120	93539	10.08	10.13			23.8		TOWN AT 5KM, 400Ft MIN
E	12600	93540	97209	10.14	10.20			24.2		
W	12650	97210	100529	10.21	10.26			23.5		TOWN AT 5KM, 400FT MIN
E	12700	100530	103959	10.27	10.33			22.2		
W	12660	103960	107269	10.34	10.39			23.3		TOWN AT 5 km, 400 ft Min

Kilometres flown this Flight 1166.7 Km. Reflys flown this Flight — Km. Total Kilometres Flown 5198.7 Km.

Weather Conditions : Temp 19 Wind speed 5 Wind Dir. E Rain — Comment .....

40328

Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

DATE: 18/1/04 Julian Day 018 JOB No. 15555 FLIGHT No. 05

Area BLOCK A
Aircraft KAS
Pilot AP
Operator MG
Airport YKII
Time : Take Off 7.10 Land 12.56

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 2.20 nT
Mag. F.S.D. Coarse 2200 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 80 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 800 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	12710	107270	110819	10.40	10.46			22.0		
W	12670	110820	114089	10.46	10.52			23.0		
E	12720	114090	117419	10.53	10.58			21.7		
W	12680	117420	120659	10.59	11.04			22.7		
E	12730	120660	123909	11.05	11.10			21.5		
*S W	12690	123910	124069	11.11	11.11			~~22.5~~		scrubbed, speed in excess 160 kts
W	12691	124070	127329	11.13	11.18			22.5		
E	12740	127330	130549	11.19	11.25			21.2		should be 12740
W	12790	130550	133379	11.25	11.30			19.9		
E	12750	133380	136639	11.30	11.36			21.0		
W	12800	136640	139489	11.36	11.41			19.6		
E	12760	139490	142669	11.42	11.47			20.7		
W	12810	142670	145539	11.48	11.53			19.3		
E	12770	145540	148759	11.53	11.59			20.4		
W	12820	148760	151649	11.59	12.04			19.1		
E	12780	151650	154759	12.05	12.10			20.4		
W	12830	154760	157559	12.11	12.15			18.8		
E	11990	157540	161669	12.19	12.26			28.3		TOWN OF CURRIE AT START OF LINE, MIN 400 FT
W	11930	161670	165689	12.27	12.34			28.2		TOWN AT END OF LINE
E	11980	165690	169999	12.34	12.41			28.3		TOWN AT START OF LINE
W	11970	170000	173999	12.42	12.49			28.3		TOWN AT END OF LINE

Kilometres flown this Flight 1166.7 Km. Reflys flown this Flight — Km. Total Kilometres Flown 5198.7 Km.

Weather Conditions : Temp 19° Wind speed 22 Wind Dir. E Rain ..... Comment .....

5198.7

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Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

Page ..... of .....

DATE: 18/1/01 Julian Day 018 JOB No. 1585 FLIGHT No. 06

Area Block A
Aircraft KAC
Pilot IH
Operator RR
Airport YKII
Time : Take Off 13:33 Land 18:20

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±.50 nT
Raw 4Diff ±.5 nT
Survey Altitude 80 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2~~ Up
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
N	9001.0	Ø	3589	13:35						Post C
E	1065.0	3590	7639							rec as 9001.0
S	9014.0	7640	14589							rec as 9015.0
N	9015.0	14590	15699							
N	9013.0	15700	22189							
S	9012.0	22190	29449							
	9011.0	29450	36799							
S	9010.0	36800	44949							
N	9009.0	44950	53139							
S	9008.0	53140	62099							
N	9007.0	62100	71159							
S	9006.0	71160	80819							
N	9005.0	80820	90229							
S	9004.0	90230	99249							
N	9003.0	99250	106639							
S	9002.0	106640	112259							TT 4.8
E	1284.0	112260	115269							OL 4.5
W	1288.0	115270	117809							Fe 0~~7~~
E	1285.0	117810	120689							Fuel 700
W	1289.0	120690	123229							
E	1286.0	123230	126039							
W	1290.0	126040	128529							
E	1287.0	128530	131309							
W	1291.0	131310	133799		18:02					
	0631	133800	135649							High Test 3min
	0602	135650	137069							Low Test
	0615	Ø	1869							BIG Post D
	0617	1870	3739							TL

Kilometres flown this Flight 929.7 Km. Reflys flown this Flight — Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 20 Wind speed 18 Wind Dir. ESE Rain Nil Comment GTT: 9

Kevron Geophysics Pty Ltd — OPERATORS FLIGHT REPORT

DATE: 20/1/01 Julian Day 020 JOB No. 1585 FLIGHT No. 007

Area ARCA A
Aircraft KAC
Pilot IH
Operator RR
Airport King Ck
Time : Take Off 7:50 Land 13:45

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ✓ 0.10 / 0.05 Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± .5 nT
Survey Altitude 80 metres
Radar/Baro Alt. 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
	0703	Ø	1879	7:13						Th recaso 701.0
	0711	1880	3769							BG
	0701	Ø	1689							Low Test
	0730	1690	3569							High Test
E	1292.0	3570	6059	8:07						
W	1298.0	6060	8549							
E	1293.0	8550	10869							
W	1299.0	10870	13419							
E	1294.0	13420	16039							
W	1300.0	16040	18499							
E	1295.0	18500	20789							
W	1301.0	20790	23239							TT 5.9
E	1296.0	23240	25529							OL 5.5
W	1302.0	25530	28019							Fe 0.4
E	1297.0	28020	30199							Fuel
W	1303.0	30200	32569							
E	1309.0	32570	34299							
W	1304.0	34300	36619							
E	1310.0	36620	38329							
W	1305.0	38330	40599							
E	1311.0	40600	42269							
W	1306.0	42270	44469							
E	1312.0	44470	46039							
W	1307.0	46040	48199							
E	1313.0	48200	49739							
W	1208.0	49740	51859							
E	1314.0	51860	53389							
W	1320.0	53390	54969							
E	1315.0	54970	56479							
W	1321.0	56480	58039							
E	1316.0	58040	59529							

Kilometres flown this Flight 916.7 Km. Reflys flown this Flight — Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp 30 Wind speed 25 Wind Dir NW Rain Nil Comment 7044.6

DATE: 2.0/1/01 Julian Day 020 JOB No. 1585 FLIGHT No. 007

Area Area A
Aircraft KAC
Pilot IH
Operator RA
Airport Ising Is
Time : Take Off ..... Land .....

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ± 50 nT
Raw 4Diff ± 5 nT
Survey Altitude 80 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 2.0 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 8000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
W	1322.0	59530	61039							
E	1317.0	61040	62439							
W	1323.0	62440	63859							
E	1318.0	63860	65229							
W	1324.0	65230	66649							
E	1319.0	66650	68039							
W	1325.0	68040	69379							
E	1320.0	69380	70309							
W	1326.0	70310	71609							
E	1332.0	71610	72439							
W	1327.0	72440	73699							
E	1333.0	73700	74489							
W	1328.0	74490	75679							
E	1334.0	75680	76429							
W	1329.0	76430	77589							
E	1335.0	77590	78289							
W	1330.0	78290	79409							
E	1336.0	79410	80079							
W	1337.0	80080	80879							
E	1087.0	80880	84619							
W	1081.0	84620	88939							
E	1086.0	88940	92599							
W	1080.0	92600	96879							
E	1085.0	96880	100589							
W	1079.0	100590	104839							
E	1084.0	104840	108569							
W	1078.0	108570	112829							
E	1083.0	112830	116539							
W	1077.0	116540	120779							
E	1082.0	120780	124439							
W	1076.0	124440	128579							
E	1070.0	128580	132179							
W	1075.0	132180	136399							

Kilometres flown this Flight ..... Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp ..... Wind speed ..... Wind Dir. ..... Rain ..... Comment .....

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

 80

DATE: 20/1/01 Julian Day 020 JOB No. 1585 FLIGHT No. 007

Area Area A
Aircraft KAC
Pilot IH
Operator RR
Airport King K.
Time : Take Off ..... Land .....

GPS Navigation Differential Method
None Real Time Post Flight

MAGNETOMETER

Sample Rate ~~0.10~~ / ~~0.05~~ Seconds
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse ~~2000~~ nT
Mag. Gradiometer ±~~50~~ nT
Raw 4Diff ±~~5~~ nT
Survey Altitude 80 metres
Radar/Baro Alt. ~~1~~ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count ~~2000~~ FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
E	1069.0	136400	139919							
W	1074.0	139920	144219							
E	1068.0	144220	~~147729~~							
W	1073.0	147730	~~152009~~		13.34					

Kilometres flown this Flight ..... Km. Reflys flown this Flight ..... Km. Total Kilometres Flown ..... Km.

Weather Conditions : Temp ..... Wind speed ..... Wind Dir. ..... Rain ..... Comment .....

7044.6 81

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

DATE: 21/1/01 Julian Day 020 JOB No. 1585 FLIGHT No. 008 1009

Area: Area A	**MAGNETOMETER**	**SPECTROMETER**
Aircraft: KAC	Sample Rate ✓ 0.10 / ~~0.05~~ Seconds	256 Channels
Pilot: AP	Mag. F.S.D. Fine 200 nT	Sample Rate ✓ 1.0 Second
Operator: MG	Mag. F.S.D. Coarse 2000 nT	Crystal Vol litres 33.8 Down/~~4.2 Up~~
Airport: Kingk	Mag. Gradiometer ± 50 nT	K^{40} 200 FSD
Time : Take Off 7.26 Land [illegible]	Raw 4Diff ± .5 nT	Bi^{214} 200 FSD
GPS Navigation Differential Method	Survey Altitude 80 metres	Tl^{208} 200 FSD
None Real Time Post Flight	Radar/Baro Alt. ✓ 200 Feet/Cm	Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
-	08130	0	2609	7.08	7.12					Th Post A
-	08110	2610	4409	7.13	7.16					Bg
N	08010	0	1349	7.28	7.31					LL TEST Post B
*S E	10720	1350	3409	7.35	7.38	* Scrubbed	due to	smoke		Line broken at 10km
W	10470	3410	6609	7.42	7.47				22.6	
E	10420	6610	9689	7.48	7.53				21.5	Extensive bushfire
	10480	9690	12879	7.54	7.59				22.7	smoke in survey
*S E	10410	12880	14779	8.00	*Scrubbed at	8km (Smoke)			~~21.0~~	area, at ≈ 200ft.
*S W	10010	14780	14859	8.07	8.07	*Scrubbed				reducing visibility
W	10011	14860	15869	8.08	8.10				6.1	< 500m in areas
E	10020	15870	16929	8.11	8.13				6.4	Extremely hazardous
W	10070	16930	18219	8.14	8.16				8.3	conditions, only
E	10030	18220	19319	8.17	8.19				6.8	lines with clear
W	10080	19320	20649	8.20	8.22				8.7	visibility flown.
E	10040	20650	21809	8.23	8.25				7.2	
W	10090	21810	23249	8.25	8.28				9.1	
E	10050	23250	24439	8.28	8.30				7.6	
W	10100	24440	25919	8.31	8.34				9.4	Lighthouse at 3km
E	10060	25920	27129	8.34	8.36				7.9	Lighthouse at 3km
W	10110	27130	28649	8.37	8.40				9.8	↙
E	10160	28650	30439	8.40	8.43				11.7	
W	10120	30440	31969	8.43	8.47				10.2	
E	10170	31970	33809	8.47	8.50				12.1	
W	10130	33810	35419	8.51	8.54				10.6	Comms tower at 6km
E	10180	35420	37289	8.54	8.57				12.4	
W	10140	37290	38959	8.58	9.01				10.9	Comms tower at 6km
E	10190	38960	40879	9.02	9.05				12.8	
W	10150	40880	42629	9.06	9.09				11.3	
E	10200	42630	44579	9.09	9.13				13.2	
W	10250	44580	46849	9.13	9.17				15.1	
E	10210	46850	48889	9.18	9.21				13.6	
W	10260	48890	51129	9.22	9.26				15.4	
E	10220	51130	53189	9.26	9.30				13.9	

Kilometres flown this Flight 1172.5 Km. Reflys flown this Flight 38.9 Km. Total Kilometres Flown 8217.1 Km.

Weather Conditions : Temp 18° Wind speed 5 Wind Dir. SW Rain X Comment ....

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

7044.6

 82

DATE: 21/1/01 Julian Day 021 JOB No. 1585 FLIGHT No. 008/009

Area Block A
Aircraft KAC
Pilot AP
Operator MG
Airport YKII
Time : Take Off 7.26 Land 11.32

GPS Navigation Differential Method
None — Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05~~ Seconds
Mag. F.S.D. Fine 2000 nT
Mag. F.S.D. Coarse 20000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 80 metres
Radar/Baro Alt. 1 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 2000 FSD
Bi^{214} 2000 FSD
Tl^{208} 2000 FSD
Total Count 50000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
*S W	10270	53190	53359	9.31	9.31			X		* Line scrubbed, No Nav
W	10271	53360	55679	9.32	9.36			15.8		
E	10230	55680	57829	9.37	9.40			14.3		
W	10280	57830	60209	9.41	9.45			16.2		
E	10240	60210	62339	9.46	9.49			14.7		
W	10290	62340	64799	9.50	9.54			16.6		
	10310	64800	67329	9.55	9.59			17.3		
W	10350	67330	70089	10.00	10.05			18.8		
E	10320	70090	72689	10.05	10.10			17.7		
W	10360	72690	75519	10.11	10.15			19.2		
E	10330	75520	78129	10.16	10.20			18.1		
W	10370	78130	80969	10.21	10.26			19.6		
E	10340	80970	83649	10.27	10.31			18.5		
W	10380	83650	86519	10.32	10.37			20.0		
E	10430	86520	89719	10.37	10.43			21.8		
W	10390	89720	92669	10.43	10.48			20.3		
E	10440	92670	95859	10.49	10.54			22.2		
W	10400	95860	99009	10.55	11.00			20.7		
E	10450	99010	102209	11.01	11.06			22.4		
	10410	102210	105229	11.07	11.12			21.1		should be 10411
E	10460	105230	108479	11.12	11.18			22.5		
W	10490	108480	111799	11.19	11.24			22.8		
E	10540	111800	115129	11.25	11.30			23.4		
W	10500	115130	118419	11.31	11.36			22.9		
E	10550	118420	121759	11.37	11.42			23.5		
W	10510	121760	125059	11.43	11.48			23.0		
E	10560	125060	128389	11.49	11.54			23.6		
W	10520	128390	131699	11.55	12.00			23.1		
E	10570	131700	135049	12.01	12.07			23.7		
W	10530	135050	138389	12.07	12.13			23.2		
E	10580	138390	141809	12.14	12.19			23.8		
W	10640	141810	145249	12.20	12.26			24.4		
E	10590	145250	148649	12.26	12.32		1.9	23.9		

Kilometres flown this Flight 1172.5Km. Reflys flown this Flight 156.9 Km. Total Kilometres Flown 8217.1 Km.

Weather Conditions : Temp 18 Wind speed 5 Wind Dir. SW Rain X Comment .....

7044.6 T: 7.0 ON: 6.4 OFF: 0.6

Kevron Geophysics Pty Ltd

OPERATORS FLIGHT REPORT

 83

DATE: 21/1/01 Julian Day 021 JOB No. 1585 FLIGHT No. 08/09

Area Block A
Aircraft KAC
Pilot AP
Operator MG
Airport YKII
Time : Take Off 7.26 Land 14.32

GPS Navigation Differential Method
~~None~~ Real Time ~~Post Flight~~

MAGNETOMETER

Sample Rate ✓ 0.10 / ~~0.05 Seconds~~
Mag. F.S.D. Fine 200 nT
Mag. F.S.D. Coarse 2000 nT
Mag. Gradiometer ±50 nT
Raw 4Diff ±5 nT
Survey Altitude 80 metres
Radar/Baro Alt. ✓ 200 Feet/Cm

SPECTROMETER

256 Channels
Sample Rate ✓ 1.0 Second
Crystal Vol litres 33.8 Down/~~4.2 Up~~
K^{40} 200 FSD
Bi^{214} 200 FSD
Tl^{208} 200 FSD
Total Count 5000 FSD

Hdg	LINE	FIDUCIAL Start	FIDUCIAL End	TIME Start	TIME End	LINE LIMITS Start	LINE LIMITS End	Kms.	Video No.	COMMENTS
W	10660	148650	152109	12.33	12.38			24.6		
E	10600	152110	155499	12.39	12.45			24.0		
W	10670	155500	159029	12.46	12.51			24.7		
E	10610	159030	162389	12.52	12.58			24.1		
W	10710	162390	165909	12.59	13.05			25.1		
E	10620	165910	169289	13.06	13.11			24.2		
W	10720	169290	172929	13.12	13.18			25.2		should be 10721
E	10630	172930	176379	13.19	13.25			24.3		
*R W	11271	176380	180229	13.28	13.35			26.9		Refly
	LAND AT 13.44, FOR 200L FUEL, TAKEOFF 13.59 (4 lines remaining)									
*R E	11331	180230	184079	14.02	14.09			27.1		Refly
*R W	11351	184080	187939	14.10	14.17			27.1		Refly
E	12451	187940	191599	14.22	14.28			25.6		Refly
W	12502	191600	195189	14.29	14.35			25.2		Refly
[redacted]										[redacted]
	08170	0	1869	15.06	15.09			—		Th
	08150	1870	3629	15.09	15.12			—		Bg

FLT 09 recorded in same survey file as Flt 8

Kilometres flown this Flight 172.5 Km. Reflys flown this Flight 13.9 Km. Total Kilometres Flown 8217.1 Km.

Weather Conditions : Temp 18 Wind speed 5 Wind Dir. SW Rain X. Comment .....

12/12/00 STRAHAN D.

Kevron
Geophysics Pty. Ltd. A.C.N. 009 190 925

AS/NZS ISO 9002

Office & Hangar 10 Compass Road Tel: 61-8-9417 3188
Jandakot, Western Australia, 6164 Fax: 61-8-9417 3558

FLIGHT LOG FOR FLIGHT 01 **DOY 347 LocalTime 14:32:45** **Area 1** Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms
PRE.ALTB	6	F0100611	0	14:35:22	349816	5335153		
			36	14:35:40	348915	5335192	0.902	36
PRE.ALTB	6	F0100612	36	14:36:09	347383	5335465		
			236	14:37:49	342292	5337352	5.429	200
PRE.ALTB	6	F0100613	236	14:38:27	341554	5335735		
			406	14:39:52	341519	5329280	6.455	170
PRE.ALTB	6	F0100614	406	14:40:23	343680	5327849		
			561	14:41:40	351475	5326499	7.911	155
PRE.ALTB	6	F0100615	561	14:42:05	353124	5327619		
			696	14:43:12	356089	5332554	5.757	135
PRE.TEST	5	E0100511	696	14:48:29	354400	5325974		
			931	14:50:26	356608	5334215	8.532	467
PRE.TEST	5	E0100512	931	14:51:20	356582	5334190		
			966	14:51:37	356551	5332932	1.258	63
PRE.TEST	5	E0100513	966	14:53:54	356596	5334100		
			1196	14:55:49	354568	5326142	8.212	431
PRE.THOR	2	B0100211	0	16:38:30	358915	5331870		
			241	16:40:30	358914	5331870	0.001	241
PRE1.GND	1	A0100111	241	16:41:56	358914	5331870		
			481	16:43:56	358914	5331870	0.000	240
PRE.URNM	3	C0100311	481	16:44:50	358914	5331870		
			721	16:46:50	358914	5331870	0.000	240
PRE.TEST	5	E0100511	721	17:15:02	354534	5326088		
			956	17:16:59	356611	5334028	8.207	310
TRAVERSE	49	L0104911	956	17:20:36	354205	5331781		
			1571	17:25:43	375339	5331784	21.134	283

TRAVERSE	50	L0105011	1571	17:26:53	375268	5331591		
			2196	17:32:06	354144	5331581	21.124	292
TRAVERSE	51	L0105111	2196	17:33:03	354267	5331384		
			2801	17:38:05	375379	5331380	21.112	226
TRAVERSE	52	L0105211	2801	17:39:09	375271	5331183		
			3456	17:44:36	354085	5331180	21.186	291
TRAVERSE	53	L0105311	3456	17:45:27	354285	5330966		
			4066	17:50:32	375344	5330983	21.059	308
TRAVERSE	54	L0105411	4066	17:51:31	375260	5330776		
			4726	17:57:01	354171	5330785	21.089	280
TRAVERSE	50	L0105012	4726	17:58:00	354212	5331580		
			4886	17:59:20	359887	5331582	5.675	62
POST.TST	8	G0100812	4886	18:01:06	356631	5334120		
			5121	18:03:03	354577	5326153	8.228	349
PST1.GND	9	I0100911	5121	18:08:03	358914	5331871		
			5361	18:10:03	358914	5331870	0.001	240
POST.THM	10	J0101011	5361	18:11:59	358914	5331870		
			5601	18:13:59	358914	5331870	0.000	240

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FLIGHT LOG FOR FLIGHT 02 **DOY 348 LocalTime 05:23:35** **Area 1** Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms	
PRE.THOR	2	B0200211	0	05:34:01	358914	5331868			
			241	05:36:01	358914	5331868	0.000	241	
PRE1.GND	1	A0200111	241	05:36:56	358914	5331869			
			481	05:38:55	358914	5331868	0.001	240	
PRE.TEST	5	E0200512	0	07:13:38	354482	5325911			
			256	07:15:46	356636	5334341	8.701	323	
TRAVERSE	1	L0200111	256	07:19:15	353337	5341393			
			931	07:24:52	375650	5341387	22.313	332	
TRAVERSE	5	L0200511	931	07:30:49	375518	5340558			
			1606	07:36:26	353460	5340583	22.058	229	
TRAVERSE	2	L0200211	1606	07:38:14	353723	5341185			
			2261	07:43:41	375389	5341188	21.666	321	
TRAVERSE	6	L0200611	2261	07:45:56	375294	5340393			
			2931	07:51:31	353614	5340375	21.680	175	
TRAVERSE	3	L0200311	2931	07:53:20	353689	5340989			
			3591	07:58:50	375365	5340981	21.676	249	
TRAVERSE	7	L0200711	3591	08:00:33	375244	5340182			
			4261	08:06:08	353632	5340180	21.612	265	
TRAVERSE	4	L0200411	4261	08:07:33	353730	5340778			
			4916	08:13:01	375341	5340783	21.611	302	
TRAVERSE	13	L0201311	4916	08:14:42	375236	5338979			
			4951	08:14:59	374090	5338986	1.146	11	SCRUB
TRAVERSE	40	L0204011	4951	08:15:25	372534	5339440			
			4951	08:15:25	372534	5339440	0.000	3	SCRUB
TRAVERSE	80	L0208011	4951	08:19:44	370950	5325805			
			4986	08:20:02	370192	5325296	0.913	59	SCRUB
TRAVERSE	81	L0208111	4986	08:20:05	370032	5325149			
			4991	08:20:07	369954	5325073	0.109	12	SCRUB

TRAVERSE	82	L0208211	4991	08:20:11	369791	5324922		
			4991	08:20:11	369791	5324922	0.000	3 SCRUB
TRAVERSE	83	L0208311	4991	08:20:15	369632	5324762		
			5006	08:20:23	369415	5324376	0.443	33 SCRUB
TRAVERSE	80	L0208012	5006	08:23:42	375303	5325584		
			5886	08:31:02	347730	5325573	27.573	437
TRAVERSE	75	L0207511	5886	08:32:41	347667	5326577		
			6711	08:39:34	375368	5326585	27.701	480
TRAVERSE	81	L0208112	6711	08:40:19	375291	5325425		
			7596	08:47:42	347725	5325377	27.566	426
TRAVERSE	76	L0207611	7596	08:49:13	347719	5326395		
			8411	08:56:01	375484	5326383	27.765	438
TRAVERSE	82	L0208212	8411	08:56:42	375295	5325176		
			9286	09:04:00	347738	5325181	27.557	352
TRAVERSE	77	L0207711	9286	09:31:16	347693	5326213		
			10101	09:38:04	375398	5326169	27.705	466
TRAVERSE	83	L0208312	10101	09:38:46	375302	5325030		
			11011	09:46:21	347866	5324979	27.436	349
TRAVERSE	78	L0207811	11011	09:47:47	347791	5325986		
			11821	09:54:32	375462	5325996	27.671	327
TRAVERSE	84	L0208411	11821	09:55:15	375304	5324808		
			12726	10:02:48	347874	5324780	27.430	322
TRAVERSE	79	L0207911	12726	10:03:59	347811	5325792		
			13546	10:10:49	375361	5325783	27.550	320
TRAVERSE	90	L0209011	13546	10:11:46	375285	5323508		
			13581	10:12:04	374412	5323564	0.875	55 SCRUB
TRAVERSE	85	L0208511	13581	10:14:00	375282	5324574		
			14466	10:21:23	347884	5324579	27.398	241
TRAVERSE	59	L0205911	14466	10:24:31	354336	5329788		
			15091	10:29:44	375434	5329777	21.098	307
TRAVERSE	55	L0205511	15091	10:31:43	375253	5330582		
			15786	10:37:30	354127	5330582	21.126	295
TRAVERSE	60	L0206011	15786	10:39:07	354329	5329571		
			16411	10:44:19	375363	5329589	21.034	261
TRAVERSE	50	L0205013	16411	10:45:58	375257	5331587		
			17106	10:51:45	354099	5331589	21.158	335

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FLIGHT LOG FOR FLIGHT 03 **DOY 348 LocalTime 11:46:29** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 86	L0308611	0	12:42:38	347993	5324350		
		941	12:50:28	375133	5324455	27.140	746
TRAVERSE 140	L0314011	941	12:57:03	371603	5313578		
		1651	13:02:58	349977	5313564	21.626	251
TRAVERSE 135	L0313511	1651	13:07:04	349881	5314596		
		2326	13:12:41	371596	5314588	21.715	295
TRAVERSE 141	L0314111	2326	13:14:43	371627	5313348		
		3026	13:20:33	349920	5313380	21.707	394
TRAVERSE 136	L0313611	3026	13:23:31	349938	5314379		
		3686	13:29:01	371546	5314390	21.608	210
TRAVERSE 142	L0314211	3686	13:31:02	371690	5313182		
		4381	13:36:49	349956	5313174	21.734	207
TRAVERSE 137	L0313711	4381	13:39:17	349948	5314182		
		5046	13:44:49	371661	5314183	21.713	336
TRAVERSE 143	L0314311	5046	13:46:51	371700	5312981		
		5746	13:52:41	350084	5312972	21.616	272
TRAVERSE 138	L0313811	5746	13:54:58	349976	5313983		
		6406	14:00:28	371679	5313991	21.703	315
TRAVERSE 144	L0314411	6406	14:02:47	371730	5312772		
		7096	14:08:32	350031	5312766	21.699	259
TRAVERSE 139	L0313911	7096	14:10:38	350009	5313781		
		7751	14:16:05	371636	5313798	21.627	299
TRAVERSE 145	L0314511	7751	14:18:03	371765	5312600		
		8446	14:23:50	350146	5312578	21.619	246
TRAVERSE 150	L0315011	8446	14:26:03	350446	5311585		
		9096	14:31:28	372144	5311587	21.698	318

TRAVERSE	146	L0314611	9096	14:33:28	371844	5312365		
			9776	14:39:08	350208	5312381	21.636	251
TRAVERSE	151	L0315111	9776	14:40:19	350465	5311398		
			10416	14:45:39	372098	5311393	21.633	370
TRAVERSE	147	L0314711	10416	14:47:59	371876	5312173		
			11116	14:53:49	350186	5312181	21.690	282
TRAVERSE	152	L0315211	11116	14:55:07	350540	5311197		
			11761	15:00:30	372172	5311186	21.632	250
TRAVERSE	148	L0314811	11761	15:03:52	371903	5311972		
			12436	15:09:30	350283	5311974	21.620	320
TRAVERSE	153	L0315311	12436	15:11:25	350542	5311016		
			12481	15:11:48	351937	5310991	1.395	18 **Scrub**
TRAVERSE	153	L0315312	12481	15:15:08	350551	5310990		
			13141	15:20:38	372166	5310990	21.615	209
TRAVERSE	149	L0314911	13141	15:22:57	371906	5311780		
			13831	15:28:42	350271	5311782	21.635	250
TRAVERSE	154	L0315411	13831	15:30:11	350582	5310800		
			14476	15:35:34	372218	5310783	21.636	408
TRAVERSE	159	L0315911	14476	15:37:50	372293	5309793		
			15176	15:43:40	350613	5309775	21.680	301
TRAVERSE	155	L0315511	15176	15:45:39	350594	5310586		
			15831	15:51:07	372221	5310596	21.627	280
TRAVERSE	160	L0316011	15831	15:54:07	372316	5309585		
			16511	15:59:47	350681	5309582	21.635	291
TIE.LINE	2	T0300211	16511	16:03:37	350053	5314038		
			16916	16:07:00	350124	5328232	14.194	80

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FLIGHT LOG FOR FLIGHT 04 DOY 349 LocalTime 05:54:10 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B0400211	0	06:02:04	358914	5331869		
		241	06:04:04	358914	5331868	0.001	241
PRE1.GND 1	A0400111	241	06:04:52	358914	5331868		
		481	06:06:52	358914	5331869	0.001	240
PRE.TEST 5	E0400511	481	06:37:56	354540	5325991		
		751	06:40:11	356591	5334371	8.627	317
PRE.ALTB 6	F0400611	751	06:41:17	354497	5334672		
		996	06:43:19	350609	5328720	7.109	490
TIE.LINE 1	T0400111	996	06:47:37	348125	5328149		
		1106	06:48:32	348129	5324587	3.562	20
TRAVERSE 156	L0415611	1106	06:55:49	350650	5310388		
		1786	07:01:29	372355	5310378	21.705	264
TRAVERSE 157	L0415711	1786	07:03:17	372200	5310190		
		2476	07:09:02	350531	5310182	21.669	204
TRAVERSE 158	L0415811	2476	07:11:01	350715	5310001		
		3131	07:16:28	372325	5309990	21.610	257
TRAVERSE 161	L0416111	3131	07:17:51	372383	5309394		
		3806	07:23:28	350771	5309382	21.612	194
TRAVERSE 162	L0416211	3806	07:25:07	350909	5309187		
		4466	07:30:37	372574	5309192	21.665	294
TRAVERSE 163	L0416311	4466	07:32:16	372416	5308994		
		5136	07:37:51	350786	5308968	21.630	223
TRAVERSE 164	L0416411	5136	07:39:25	350994	5308785		
		5801	07:44:57	372655	5308797	21.661	251
TRAVERSE 165	L0416511	5801	07:46:51	372479	5308580		
		6456	07:52:18	350830	5308580	21.649	236

TRAVERSE	166	L0416611	6456	07:53:56	351017	5308352		
			7111	07:59:23	372687	5308398	21.670	274
TRAVERSE	167	L0416711	7111	08:01:27	372603	5308179		
			7786	08:07:04	350937	5308178	21.666	265
TIE.LINE	3	T0400311	7786	08:11:19	352093	5303284		
			8536	08:17:34	352107	5328335	25.051	155
TIE.LINE	4	T0400411	8536	08:18:23	353887	5329010		
			8561	08:18:35	354420	5328908	0.543	47 **Scrub**
TIE.LINE	5	T0400511	8561	08:20:47	355903	5325440		
			8586	08:20:59	356376	5326108	0.819	46 **Scrub**

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FLIGHT LOG FOR FLIGHT 05 DOY 349 LocalTime 09:03:25 Area 1 Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms
TRAVERSE	8	L0500811	0	09:43:43	353755	5339995		
			696	09:49:31	375339	5339985	21.584	329
TRAVERSE	9	L0500911	696	09:51:07	375300	5339815		
			1396	09:56:57	353648	5339780	21.652	287
TRAVERSE	10	L0501011	1396	09:58:33	353789	5339590		
			2091	10:04:20	375452	5339577	21.663	274
TRAVERSE	11	L0501111	2091	10:05:52	375260	5339370		
			2791	10:11:42	353587	5339385	21.673	285
TRAVERSE	12	L0501211	2791	10:30:31	353781	5339186		
			3481	10:36:16	375355	5339185	21.574	244
TRAVERSE	13	L0501312	3481	10:49:15	375292	5338990		
			4196	10:55:13	353721	5338977	21.571	243
TRAVERSE	14	L0501411	4196	10:56:38	353830	5338784		
			4876	11:02:18	375345	5338785	21.515	266
TRAVERSE	15	L0501511	4876	11:03:40	375295	5338580		
			5586	11:09:35	353741	5338578	21.554	259
TRAVERSE	16	L0501611	5586	11:10:38	353833	5338381		
			6266	11:16:18	375357	5338379	21.524	188
TRAVERSE	17	L0501711	6266	11:17:39	375292	5338172		
			6976	11:23:34	353774	5338174	21.518	195
TRAVERSE	18	L0501811	6976	11:24:44	353825	5337988		
			7651	11:30:22	375375	5337985	21.550	134
TRAVERSE	19	L0501911	7651	11:31:44	375285	5337771		
			8371	11:37:44	353743	5337775	21.542	225
TRAVERSE	20	L0502011	8371	11:39:04	353861	5337588		
			9041	11:44:39	375365	5337587	21.504	214

TRAVERSE	21	L0502111	9041	11:45:57	375274	5337380		
			9756	11:51:55	353778	5337393	21.496	271
TRAVERSE	22	L0502211	9756	11:53:00	353882	5337188		
			10431	11:58:38	375384	5337183	21.502	193
TRAVERSE	23	L0502311	10431	12:00:49	375280	5336983		
			11156	12:06:52	353778	5336981	21.502	268
TRAVERSE	24	L0502411	11156	12:07:52	353958	5336779		
			11831	12:13:30	375409	5336781	21.451	176
TRAVERSE	25	L0502511	11831	12:15:00	375265	5336575		
			12546	12:20:58	353844	5336586	21.421	194
TRAVERSE	26	L0502611	12546	12:22:17	353929	5336378		
			13221	12:27:55	375367	5336386	21.438	195
TRAVERSE	27	L0502711	13221	12:29:12	375293	5336182		
			13941	12:35:11	353849	5336183	21.444	319
TRAVERSE	28	L0502811	13941	12:36:34	353944	5335986		
			14611	12:42:09	375343	5335985	21.399	290
TRAVERSE	29	L0502911	14611	12:43:35	375272	5335777		
			15331	12:49:35	353904	5335779	21.368	358

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FLIGHT LOG FOR FLIGHT 06 DOY 349 LocalTime 15:31:46 Area 1 Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms
TRAVERSE	30	L0603011	0	15:47:43	353989	5335580		
			656	15:53:11	375362	5335580	21.373	298
TRAVERSE	31	L0603111	656	15:55:40	375249	5335386		
			1326	16:01:15	353816	5335374	21.433	307
TRAVERSE	32	L0603211	1326	16:02:36	354000	5335173		
			1986	16:08:06	375425	5335184	21.425	229
TRAVERSE	33	L0603311	1986	16:09:34	375271	5334987		
			2641	16:15:02	353957	5334978	21.314	249
TRAVERSE	34	L0603411	2641	16:16:35	354064	5334781		
			3301	16:22:05	375422	5334784	21.358	249
TRAVERSE	35	L0603511	3301	16:23:36	375299	5334591		
			3971	16:29:11	353963	5334579	21.336	290
TRAVERSE	36	L0603611	3971	16:30:44	354080	5334376		
			4616	16:36:07	375350	5334388	21.270	206
TRAVERSE	37	L0603711	4616	16:37:16	375261	5334184		
			5276	16:42:46	353952	5334176	21.309	291
TRAVERSE	38	L0603811	5276	16:44:20	354092	5333984		
			5916	16:49:40	375413	5333969	21.321	237
TRAVERSE	39	L0603911	5916	16:51:32	375256	5333783		
			6591	16:57:09	353944	5333782	21.312	253
TRAVERSE	40	L0604012	6591	16:58:41	354105	5333628		
			7226	17:03:59	375340	5333582	21.235	234
TRAVERSE	41	L0604111	7226	17:05:09	375280	5333383		
			7896	17:10:44	354031	5333381	21.249	295
TRAVERSE	42	L0604211	7896	17:13:26	354166	5333180		
			8541	17:18:48	375411	5333187	21.245	289

TRAVERSE	43	L0604311	8541	17:20:18	375304	5332970		
			9206	17:25:50	353963	5332972	21.341	253
TRAVERSE	44	L0604411	9206	17:27:25	354165	5332784		
			9861	17:32:52	375447	5332794	21.282	287
TRAVERSE	45	L0604511	9861	17:34:19	375307	5332586		
			10521	17:39:49	354093	5332580	21.214	338
TRAVERSE	46	L0604611	10521	17:41:12	354152	5332382		
			11151	17:46:27	375409	5332388	21.257	297
TRAVERSE	47	L0604711	11151	17:47:48	375294	5332179		
			11811	17:53:18	354104	5332185	21.190	330
TRAVERSE	48	L0604811	11811	17:54:43	354235	5331971		
			12456	18:00:05	375418	5331988	21.183	296
TRAVERSE	56	L0605611	12456	18:01:47	375267	5330385		
			13121	18:07:20	354177	5330379	21.090	271
TRAVERSE	57	L0605711	13121	18:12:31	354323	5330185		
			13766	18:17:54	375410	5330185	21.087	333
TRAVERSE	58	L0605811	13766	18:19:09	375299	5329976		
			14446	18:24:49	354234	5329978	21.065	237
TRAVERSE	61	L0606111	14446	18:26:45	354318	5329373		
			15106	18:32:15	375347	5329398	21.029	233
TRAVERSE	62	L0606211	15106	18:33:50	375297	5329188		
			15781	18:39:28	354272	5329181	21.025	351
TRAVERSE	63	L0606311	15781	18:41:10	354350	5328995		
			16426	18:46:33	375445	5328973	21.095	234
TRAVERSE	64	L0606411	16426	18:48:24	375241	5328782		
			17091	18:53:57	354201	5328774	21.040	298
POST.ALT	7	H0600711	17091	18:55:24	350219	5328647		
			17091	18:55:26	350219	5328647	0.000	1
POST.ALT	7	H0600712	17091	18:55:48	348888	5328274		
			17091	18:55:50	348888	5328274	0.000	1
POST.ALT	7	H0600713	17091	18:56:04	348332	5327505		
			17371	18:58:24	351120	5318249	9.667	561
POST.TST	8	G0600811	17371	19:00:32	354467	5326010		
			17641	19:02:47	356542	5334323	8.568	288
POST.THM	10	J0601011	17641	19:30:54	358914	5331870		
			17886	19:32:57	358914	5331870	0.000	246
PST1.GND	9	I0600911	17886	19:33:43	358914	5331870		
			18131	19:35:46	358914	5331870	0.000	246

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FLIGHT LOG FOR FLIGHT 07 **DOY 350 LocalTime 07:23:29** **Area 1** Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms	
PRE.TEST	5	E0700511	0	07:27:47	358914	5331870			
			6	07:27:50	358914	5331869	0.001	14	**Scrub**
PRE.TEST	5	E0700512	6	07:28:12	358914	5331869			
			16	07:28:17	358914	5331869	0.000	22	**Scrub**
PRE.TEST	5	E0700513	16	07:33:18	358912	5331868			
			26	07:33:23	358912	5331869	0.001	22	**Scrub**
PRE.THOR	2	B0700211	0	07:57:54	358914	5331868			
			241	07:59:54	358914	5331868	0.000	241	
PRE1.GND	1	A0700111	241	08:00:43	358914	5331868			
			246	08:00:45	358914	5331868	0.000	6	**Scrub**
PRE1.GND	1	A0700112	246	08:00:53	358914	5331868			
			256	08:00:58	358914	5331868	0.000	11	**Scrub**
PRE1.GND	1	A0700113	256	08:01:07	358914	5331868			
			496	08:03:07	358914	5331869	0.001	240	
PRE.TEST	5	E0700513	496	08:46:05	354512	5325965			
			781	08:48:27	356586	5334314	8.603	402	
PRE.ALTB	6	F0700612	781	08:51:22	353122	5333085			
			1141	08:54:22	348292	5322163	11.942	720	
TRAVERSE	168	L0716811	1141	08:59:11	351111	5307999			
			1796	09:04:38	372742	5307985	21.631	274	
TRAVERSE	169	L0716911	1796	09:06:47	372650	5307777			
			2461	09:12:19	351031	5307789	21.619	268	
TRAVERSE	170	L0717011	2461	09:12:53	349090	5308057			
			2466	09:12:55	348981	5308078	0.111	10	**Scrub**
TRAVERSE	171	L0717111	2466	09:14:22	347614	5307042			
			2476	09:14:27	347920	5307047	0.306	21	**Scrub**

TRAVERSE 172	L0717211	2476	09:15:17	351234	5307204		
		3146	09:20:52	372891	5307197	21.657	350
TRAVERSE 173	L0717311	3146	09:24:46	372777	5306977		
		3811	09:30:19	351221	5306967	21.556	296
TRAVERSE 174	L0717411	3811	09:31:52	351313	5306767		
		4471	09:37:22	373027	5306787	21.714	354
TRAVERSE 175	L0717511	4471	09:38:07	375486	5307674		
		4476	09:38:09	375597	5307713	0.118	21 **Scrub**
TRAVERSE 176	L0717611	4476	09:38:38	375478	5306678		
		4486	09:38:43	375198	5306679	0.280	21 **Scrub**
TRAVERSE 177	L0717711	4486	09:39:26	372836	5306349		
		4496	09:39:31	372846	5306030	0.319	19 **Scrub**
TRAVERSE 177	L0717712	4496	09:42:46	372967	5306190		
		5166	09:48:19	351372	5306174	21.595	378
TRAVERSE 178	L0717811	5166	09:50:20	351484	5305975		
		5846	09:56:00	373101	5305983	21.617	282
TRAVERSE 179	L0717911	5846	09:57:35	373014	5305785		
		6546	10:03:23	351341	5305782	21.673	265
TRAVERSE 180	L0718011	6546	10:05:03	351552	5305567		
		7206	10:10:33	373233	5305575	21.681	388
TRAVERSE 181	L0718111	7206	10:12:27	373074	5305336		
		7891	10:18:10	351518	5305377	21.556	367
TRAVERSE 182	L0718211	7891	10:19:48	351657	5305172		
		8541	10:25:13	373278	5305180	21.621	327
TRAVERSE 183	L0718311	8541	10:27:54	373147	5304989		
		9221	10:33:34	351593	5304989	21.554	329
TRAVERSE 184	L0718411	9221	10:35:27	351684	5304775		
		9886	10:41:00	373284	5304783	21.600	226
TRAVERSE 185	L0718511	9886	10:42:46	373236	5304588		
		10621	10:48:54	351657	5304579	21.579	248
TRAVERSE 186	L0718611	10621	10:50:17	351801	5304390		
		11286	10:55:50	373370	5304380	21.569	229
TRAVERSE 187	L0718711	11286	10:58:03	373309	5304165		
		11986	11:03:53	351722	5304180	21.587	348
TRAVERSE 188	L0718811	11986	11:05:22	351836	5303992		
		12641	11:10:50	373513	5303995	21.677	326
TRAVERSE 189	L0718911	12641	11:12:41	373388	5303792		
		13321	11:18:21	351765	5303773	21.623	325

TRAVERSE 190	L0719011	13321	11:20:18	351944	5303600	
		13981	11:25:48	373553	5303596	21.609 355
TRAVERSE 191	L0719111	13981	11:27:39	373470	5303389	
		14721	11:33:49	351883	5303387	21.587 301
TRAVERSE 192	L0719211	14721	11:35:15	352037	5303180	
		15376	11:40:43	373579	5303184	21.542 242
TRAVERSE 193	L0719311	15376	11:42:15	373553	5302999	
		16101	11:48:18	351964	5302987	21.589 271
TRAVERSE 194	L0719411	16101	11:49:56	352076	5302792	
		16751	11:55:20	373680	5302798	21.604 346
TRAVERSE 195	L0719511	16751	11:57:33	373590	5302582	
		17441	12:03:17	351968	5302577	21.622 357
TRAVERSE 196	L0719611	17441	12:05:09	352167	5302393	
		18081	12:10:27	373707	5302408	21.540 325
TRAVERSE 197	L0719711	18081	12:12:29	373670	5302182	
		18746	12:18:01	352036	5302168	21.634 350
TRAVERSE 198	L0719811	18746	12:19:27	352203	5301981	
		19401	12:24:54	373896	5301981	21.693 191
TRAVERSE 199	L0719911	19401	12:26:21	373746	5301778	
		20126	12:32:23	352165	5301786	21.581 306

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FLIGHT LOG FOR FLIGHT 08 **DOY 350 LocalTime 13:45:40** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 65	L0806511	0	14:07:50	354398	5328584		
		646	14:13:13	375389	5328585	20.991	259
TRAVERSE 66	L0806611	646	14:14:54	375275	5328393		
		1316	14:20:29	354312	5328384	20.963	260
TRAVERSE 67	L0806711	1316	14:21:54	354407	5328183		
		1946	14:27:09	375369	5328186	20.962	250
TRAVERSE 68	L0806811	1946	14:28:59	375252	5327990		
		2836	14:36:24	347412	5327985	27.840	289
TRAVERSE 69	L0806911	2836	14:37:48	347501	5327795		
		3681	14:44:51	375351	5327786	27.850	293
TRAVERSE 70	L0807011	3681	14:46:53	375301	5327578		
		4586	14:54:25	347343	5327580	27.958	295
TRAVERSE 71	L0807111	4586	14:55:34	347486	5327384		
		5431	15:02:36	375445	5327378	27.959	291
TRAVERSE 72	L0807211	5431	15:04:00	375309	5327178		
		6331	15:11:30	347394	5327181	27.915	310
TRAVERSE 73	L0807311	6331	15:12:48	347591	5326979		
		7166	15:19:46	375344	5326992	27.753	284
TRAVERSE 74	L0807411	7166	15:22:07	375278	5326776		
		8066	15:29:37	347504	5326779	27.774	269
TRAVERSE 87	L0808711	8066	15:31:55	348083	5324188		
		8896	15:38:50	375440	5324184	27.357	232
TRAVERSE 88	L0808811	8896	15:40:44	375266	5323916		
		9776	15:48:04	347948	5323983	27.318	231
TRAVERSE 89	L0808911	9776	15:49:16	348156	5323785		
		10616	15:56:16	375401	5323782	27.245	238
TRAVERSE 134	L0813411	10616	16:04:03	371415	5314780		
		11321	16:09:56	349747	5314784	21.668	150

TRAVERSE	133	L0813311	11321	16:12:21	349793	5314897		
			11346	16:12:33	350437	5315260	0.739	37 **Scrub**
TRAVERSE	133	L0813312	11346	16:16:15	348900	5314986		
			12231	16:23:37	376871	5315924	27.987	291
TRAVERSE	132	L0813211	12231	16:26:30	375709	5315153		
			13116	16:33:52	349018	5315184	26.691	201
TRAVERSE	131	L0813111	13116	16:38:05	349008	5315379		
			13926	16:44:50	375619	5315384	26.611	186
TRAVERSE	130	L0813011	13926	16:46:07	376198	5315759		
			13941	16:46:14	375810	5315882	0.407	31 **Scrub**
TRAVERSE	130	L0813012	13941	16:48:09	376344	5315595		
			14841	16:55:39	349418	5315588	26.926	278
TRAVERSE	129	L0812911	14841	16:57:12	348813	5315782		
			15641	17:03:52	375604	5315782	26.791	336
TRAVERSE	120	L0812011	15641	17:05:14	375272	5317581		
			16491	17:12:19	349136	5317578	26.136	278
TRAVERSE	121	L0812111	16491	17:13:36	349391	5317382		
			17266	17:20:04	375428	5317383	26.037	252
TRAVERSE	122	L0812211	17266	17:21:31	375286	5317174		
			18131	17:28:44	349250	5317188	26.036	291
TRAVERSE	123	L0812311	18131	17:30:02	349400	5316987		
			18926	17:36:40	375341	5316973	25.941	243
TRAVERSE	124	L0812411	18926	17:38:15	375248	5316767		
			19776	17:45:20	349376	5316783	25.872	321
POST.ALT	7	H0800711	19776	17:48:53	348077	5321492		
			19776	17:48:56	348077	5321492	0.000	1
POST.ALT	7	H0800712	19776	17:49:16	347626	5322609		
			20026	17:51:21	345532	5330482	8.147	502
POST.TST	8	G0800811	20026	17:54:36	354444	5325976		
			20291	17:56:49	356644	5334309	8.619	322
PST1.GND	9	I0800911	20291	18:23:21	358915	5331870		
			20536	18:25:24	358914	5331869	0.001	247
POST.THM	10	J0801011	20536	18:28:35	358914	5331869		
			20781	18:30:38	358914	5331869	0.000	247

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FLIGHT LOG FOR FLIGHT 09 **DOY 351 LocalTime 07:25:11** **Area 1** Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms
PRE.THOR	2	B0900211	0	07:44:33	358912	5331869		
			241	07:46:33	358912	5331869	0.000	241
PRE1.GND	1	A0900111	241	07:48:48	358912	5331869		
			481	07:50:48	358912	5331869	0.000	240
PRE.TEST	5	E0900511	481	08:09:12	356601	5334263		
			761	08:11:32	354167	5325760	8.845	351
PRE.ALTB	6	F0900612	761	08:13:33	349382	5321617		
			1121	08:16:33	350760	5320830	1.587	720
TRAVERSE	86	L0908612	1121	08:20:32	348041	5324379		
			1996	08:27:49	375371	5324379	27.330	308
TRAVERSE	90	L0909012	1996	08:28:44	375293	5323534		
			2866	08:35:59	348065	5323578	27.228	281
TRAVERSE	91	L0909111	2866	08:37:27	348233	5323384		
			3736	08:44:42	375435	5323385	27.202	232
TRAVERSE	92	L0909211	3736	08:46:30	375308	5323169		
			4576	08:53:30	348186	5323177	27.122	220
TRAVERSE	93	L0909311	4576	08:54:57	348282	5322988		
			5431	09:02:04	375414	5322988	27.132	189
TRAVERSE	94	L0909411	5431	09:03:48	375298	5322766		
			6261	09:10:43	348174	5322771	27.124	198
TRAVERSE	95	L0909511	6261	09:12:21	348355	5322585		
			7106	09:19:23	375408	5322593	27.053	172
TRAVERSE	96	L0909611	7106	09:21:03	375272	5322382		
			7936	09:27:58	348332	5322380	26.940	176
TRAVERSE	97	L0909711	7936	09:29:32	348452	5322191		
			8776	09:36:32	375402	5322188	26.950	146
TRAVERSE	98	L0909811	8776	09:37:45	375302	5321977		
			9606	09:44:40	348393	5321985	26.909	156

TRAVERSE 99	L0909911	9606	09:46:08	348538 5321792		
		10421	09:52:56	375441 5321777	26.903	97
TRAVERSE 100	L0910011	10421	09:54:47	375281 5321578		
		11261	10:01:47	348409 5321582	26.872	161
TRAVERSE 101	L0910111	11261	10:03:18	348586 5321399		
		12086	10:10:11	375395 5321388	26.809	192
TRAVERSE 102	L0910211	12086	10:11:29	375269 5321178		
		12911	10:18:22	348575 5321179	26.694	159
TRAVERSE 103	L0910311	12911	10:20:27	348683 5320984		
		13741	10:27:22	375434 5320982	26.751	138
TRAVERSE 104	L0910411	13741	10:28:34	375292 5320753		
		14566	10:35:27	348571 5320788	26.721	179
TRAVERSE 105	L0910511	14566	10:36:43	348727 5320593		
		15391	10:43:36	375385 5320580	26.658	204
TRAVERSE 106	L0910611	15391	10:45:36	375264 5320374		
		16231	10:52:36	348701 5320380	26.563	204
TRAVERSE 107	L0910711	16231	10:53:43	348808 5320190		
		17056	11:00:36	375374 5320202	26.566	172
TRAVERSE 108	L0910811	17056	11:01:48	375300 5319958		
		17906	11:08:53	348677 5319972	26.623	263
TRAVERSE 109	L0910911	17906	11:10:31	348932 5319785		
		18701	11:17:09	375391 5319782	26.459	177
TRAVERSE 110	L0911011	18701	11:18:15	375267 5319574		
		19531	11:25:11	349214 5319774	26.054	206
TRAVERSE 111	L0911111	19531	11:26:28	348981 5319388		
		20336	11:33:11	375443 5319393	26.462	177
TRAVERSE 112	L0911211	20336	11:34:25	375281 5319173		
		21186	11:41:29	348946 5319180	26.335	287
TRAVERSE 113	L0911311	21186	11:42:49	349095 5318978		
		21981	11:49:27	375353 5318981	26.258	167
TRAVERSE 114	L0911411	21981	11:50:38	375271 5318780		
		22816	11:57:36	349022 5318778	26.249	268
TRAVERSE 115	L0911511	22816	11:58:48	349146 5318587		
		23611	12:05:26	375442 5318580	26.296	205
TRAVERSE 116	L0911611	23611	12:06:57	375263 5318396		
		24456	12:13:59	349036 5318387	26.227	213

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FLIGHT LOG FOR FLIGHT 10 **DOY 351 LocalTime 13:18:34** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TIE.LINE 4	T1000412	0	13:38:15	354120	5342498			
		1561	13:51:15	354112	5292282	50.216	311	
TRAVERSE 200	L1020011	1561	13:54:16	351183	5297184			
		1581	13:54:26	351015	5297758	0.598	37	**Scrub**
TRAVERSE 201	L1020111	1581	13:55:50	351884	5301345			
		2266	14:01:32	374397	5301390	22.513	354	
TRAVERSE 202	L1020211	2266	14:03:35	374727	5301182			
		2291	14:03:47	373961	5301179	0.766	1	**Scrub**
TRAVERSE 203	L1020311	2291	14:03:51	373703	5301178			
		2316	14:04:03	372947	5301124	0.758	33	**Scrub**
TRAVERSE 204	L1020411	2316	14:04:09	372646	5301009			
		2336	14:04:19	372436	5300524	0.529	52	**Scrub**
TRAVERSE 205	L1020511	2336	14:04:21	372455	5300410			
		2341	14:04:23	372496	5300302	0.116	12	**Scrub**
TRAVERSE 202	L1020212	2341	14:06:32	373865	5301169			
		3011	14:12:07	352230	5301177	21.635	290	
TRAVERSE 203	L1020312	3011	14:14:32	352431	5300991			
		3666	14:19:59	374079	5300988	21.648	317	
TRAVERSE 204	L1020412	3666	14:21:47	373897	5300781			
		4336	14:27:22	352332	5300781	21.565	290	
TRAVERSE 205	L1020512	4336	14:29:12	352457	5300613			
		4986	14:34:37	374051	5300582	21.594	347	
TRAVERSE 206	L1020611	4986	14:36:21	373991	5300381			
		5646	14:41:51	352373	5300384	21.618	313	
TRAVERSE 207	L1020711	5646	14:43:33	352553	5300187			
		6306	14:49:03	374173	5300195	21.620	305	
TRAVERSE 208	L1020811	6306	14:50:42	374083	5299959			
		6956	14:56:07	352519	5299981	21.564	233	

TRAVERSE 209	L1020911	6956	14:57:24	352630 5299789		
		7626	15:02:59	374287 5299785	21.657	156
TRAVERSE 210	L1021011	7626	15:04:15	374154 5299597		
		8316	15:10:00	352595 5299581	21.559	191
TRAVERSE 211	L1021111	8316	15:11:14	352709 5299379		
		8966	15:16:39	374268 5299386	21.559	127
TRAVERSE 212	L1021211	8966	15:17:59	374242 5299187		
		9681	15:23:56	352630 5299178	21.612	180
TRAVERSE 213	L1021311	9681	15:25:24	352822 5298991		
		10336	15:30:51	374347 5298994	21.525	360
TRAVERSE 214	L1021411	10336	15:32:28	374292 5298795		
		10991	15:37:55	352719 5298773	21.573	248
TRAVERSE 215	L1021511	10991	15:40:25	352872 5298601		
		11641	15:45:50	374495 5298606	21.623	260
TRAVERSE 216	L1021611	11641	15:47:30	374327 5298354		
		12286	15:52:53	352810 5298377	21.517	231
TRAVERSE 217	L1021711	12286	15:54:21	352947 5298180		
		12941	15:59:48	374486 5298179	21.539	274
TRAVERSE 218	L1021811	12941	16:01:10	374479 5297673		
		12941	16:01:11	374479 5297673	0.000	2 **Scrub**
TRAVERSE 219	L1021911	12941	16:02:36	374452 5297789		
		13661	16:08:36	352834 5297779	21.618	275
TRAVERSE 220	L1022011	13661	16:10:07	353015 5297592		
		14306	16:15:30	374577 5297591	21.562	325
TRAVERSE 221	L1022111	14306	16:17:08	374515 5297373		
		14976	16:22:43	353011 5297369	21.504	304
TRAVERSE 222	L1022211	14976	16:24:12	353098 5297170		
		15631	16:29:40	374722 5297191	21.624	295
TRAVERSE 223	L1022311	15631	16:31:28	374588 5296988		
		16311	16:37:08	353029 5296976	21.559	290
TRAVERSE 224	L1022411	16311	16:38:25	353171 5296781		
		16976	16:43:58	374743 5296778	21.572	243
TRAVERSE 225	L1022511	16976	16:45:24	374667 5296582		
		17701	16:51:27	353126 5296586	21.541	266
TRAVERSE 226	L1022611	17701	16:52:44	353283 5296418		
		17746	16:53:07	354459 5296651	1.199	71 **Scrub**
TRAVERSE 226	L1022612	17746	16:55:05	353266 5296387		
		18401	17:00:33	374845 5296386	21.579	366

TRAVERSE 227	L1022711	18401	17:02:23	374733	5296184		
		19071	17:07:58	353136	5296170	21.597	335
TRAVERSE 228	L1022811	19071	17:09:27	353363	5295986		
		19746	17:15:05	374992	5295975	21.629	238
TRAVERSE 229	L1022911	19746	17:16:20	374825	5295782		
		20451	17:22:13	353284	5295778	21.541	266
TRAVERSE 230	L1023011	20451	17:23:36	353435	5295807		
		20481	17:23:51	354113	5295891	0.683	57 **Scrub**
TRAVERSE 230	L1023012	20481	17:25:25	353422	5295588		
		21146	17:30:58	375047	5295587	21.625	363
TRAVERSE 231	L1023111	21146	17:32:28	374923	5295365		
		21841	17:38:16	353351	5295373	21.572	363
POST.ALT 7	H1000711	21841	17:40:08	352550	5300316		
		22131	17:42:33	351888	5309655	9.362	581
POST.TST 8	G1000811	22131	17:46:40	354521	5325956		
		22401	17:48:56	356592	5334245	8.544	330
POST.THM 10	J1001011	0	18:20:37	358914	5331869		
		241	18:22:37	358914	5331870	0.001	242
PST1.GND 9	I1000911	241	18:23:25	358914	5331870		
		491	18:25:30	358914	5331870	0.000	251

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FLIGHT LOG FOR FLIGHT 11 DOY 352 LocalTime 05:46:59 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B1100211	0	06:10:43	358914	5331871		
		241	06:12:43	358914	5331871	0.000	241
PRE2.GND 4	D1100411	241	06:13:35	358914	5331870		
		481	06:15:35	358914	5331869	0.001	240
PRE.TEST 5	E1100512	481	06:35:01	354449	5325931		
		781	06:37:31	356612	5334315	8.659	366
PRE.ALTB 6	F1100611	781	06:39:03	355165	5338149		
		1121	06:41:53	352710	5347272	9.448	680
TIE.LINE 5	T1100512	1121	06:45:26	356112	5342038		
		3076	07:01:43	356109	5276533	65.505	393
TIE.LINE 6	T1100611	3076	07:03:26	358099	5276071		
		5121	07:20:28	358108	5341736	65.665	702
TIE.LINE 7	T1100711	5121	07:22:16	360006	5342207		
		7146	07:39:08	360115	5276561	65.646	835
TIE.LINE 9	T1100911	7146	07:42:49	364142	5267983		
		9476	08:02:14	364136	5342315	74.332	777
TIE.LINE 10	T1101011	9476	08:03:53	366039	5342102		
		11871	08:23:51	366126	5264065	78.037	1091
TRAVERSE 232	L1123211	11871	08:34:23	353485	5295196		
		12536	08:39:55	375070	5295184	21.585	281
TRAVERSE 233	L1123311	12536	08:41:37	374998	5294997		
		13211	08:47:15	353346	5294975	21.652	331
TRAVERSE 234	L1123411	13211	08:48:38	353558	5294784		
		13911	08:54:28	375197	5294784	21.639	268
TRAVERSE 235	L1123511	13911	08:55:44	375059	5294589		
		14581	09:01:19	353444	5294577	21.615	236
TRAVERSE 236	L1123611	14581	09:02:46	353662	5294379		
		15271	09:08:31	375184	5294390	21.522	216

TRAVERSE 237	L1123711	15271	09:09:52	375090	5294190		
		15941	09:15:27	353590	5294179	21.500	220
TRAVERSE 238	L1123811	15941	09:16:45	353716	5293986		
		16616	09:22:23	375230	5293995	21.514	373
TRAVERSE 239	L1123911	16616	09:24:04	375214	5293794		
		17276	09:29:34	353660	5293784	21.554	347
TRAVERSE 240	L1124011	17276	09:31:02	353788	5293598		
		17976	09:36:52	375315	5293577	21.527	377
TRAVERSE 241	L1124111	17976	09:36:54	375468	5293578		
		17996	09:37:03	376016	5293633	0.551	42 **Scrub**
TRAVERSE 242	L1124211	17996	09:37:44	377437	5293385		
		18056	09:38:14	375787	5293472	1.652	89 **Scrub**
TRAVERSE 241	L1124112	18056	09:42:49	380303	5293375		
		18866	09:49:34	353741	5293356	26.562	333
TRAVERSE 242	L1124212	18866	09:51:06	353894	5293166		
		19701	09:58:03	380455	5293174	26.561	296
TRAVERSE 243	L1124311	19701	09:59:29	380260	5292982		
		20536	10:06:26	353832	5292976	26.428	301
TRAVERSE 244	L1124411	20536	10:07:49	353935	5292784		
		21356	10:14:39	380450	5292776	26.515	403
TRAVERSE 245	L1124511	21356	10:16:21	380289	5292586		
		22191	10:23:18	353811	5292557	26.478	391

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FLIGHT LOG FOR FLIGHT 12 DOY 352 LocalTime 10:47:04 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 110	L1211012	0	11:26:23	355614	5319578			
		236	11:28:21	348102	5319593	7.512	36	**Patch**
TRAVERSE 117	L1211711	236	11:29:55	349236	5318177			
		1046	11:36:40	375344	5318185	26.108	162	
TRAVERSE 118	L1211811	1046	11:38:17	375257	5317984			
		1881	11:45:14	349120	5317986	26.137	199	
TRAVERSE 119	L1211911	1881	11:46:29	349263	5317775			
		2676	11:53:06	375376	5317782	26.113	137	
TRAVERSE 125	L1212511	2676	11:55:13	375298	5316593			
		3516	12:02:13	349420	5316579	25.878	242	
TIE.LINE 11	T1201111	3516	12:13:00	368108	5341542			
		5956	12:33:20	368117	5259085	82.457	934	
TRAVERSE 480	L1248011	5956	12:44:54	373612	5245592			
		6496	12:49:24	391369	5245584	17.757	114	
TRAVERSE 481	L1248111	6496	12:51:17	391290	5245370			
		7081	12:56:10	373659	5245390	17.631	160	
TRAVERSE 482	L1248211	7081	12:57:33	373810	5245189			
		7616	13:02:00	391438	5245182	17.628	135	
TRAVERSE 483	L1248311	7616	13:03:56	391256	5244985			
		8181	13:08:39	373826	5244986	17.430	179	
TRAVERSE 510	L1251011	8181	13:11:36	376404	5239588			
		8636	13:15:23	391402	5239583	14.998	97	
TRAVERSE 548	L1254811	8636	13:24:44	385390	5231973			
		8806	13:26:09	391471	5231988	6.081	0	
TRAVERSE 547	L1254711	8806	13:28:18	391298	5232175			
		9016	13:30:03	385202	5232175	6.096	7	
TRAVERSE 546	L1254611	9016	13:31:42	385383	5232385			
		9181	13:33:04	391359	5232389	5.976	0	

TRAVERSE	494	L1249411	9181	13:36:30	390935	5242782			
			9191	13:36:34	391223	5242895	0.309	65	**Scrub**
TRAVERSE	484	L1248411	9191	13:38:39	391265	5244778			
			9771	13:43:29	373875	5244784	17.390	123	
TRAVERSE	452	L1245211	9771	13:47:31	371214	5251192			
			10376	13:52:33	391668	5251173	20.454	225	
TRAVERSE	451	L1245111	10376	13:54:01	391648	5251374			
			11051	13:59:38	370995	5251379	20.653	312	
TIE.LINE	12	T1201211	11051	14:01:02	370154	5254241			
			13896	14:24:44	370118	5341654	87.413	1074	
TRAVERSE	126	L1212611	13896	14:33:16	375261	5316382			
			14761	14:40:29	349445	5316389	25.816	205	
TRAVERSE	127	L1212711	14761	14:42:04	349594	5316198			
			15541	14:48:34	375396	5316192	25.802	184	
TRAVERSE	128	L1212811	15541	14:50:36	375288	5315982			
			16381	14:57:36	349528	5315980	25.760	198	
TRAVERSE	170	L1217012	16381	15:00:57	351180	5307582			
			17026	15:06:19	372777	5307584	21.597	248	
TRAVERSE	171	L1217112	17026	15:08:25	372757	5307381			
			17741	15:14:23	351136	5307381	21.621	240	
POST.ALT	7	H1200711	17741	15:15:59	348740	5310204			
			18136	15:19:16	352294	5321621	11.957	791	
POST.TST	8	G1200811	18136	15:21:29	354484	5326006			
			18151	15:21:36	354812	5326366	0.487	20	
POST.TST	8	G1200812	18151	15:23:21	354387	5325898			
			18421	15:25:36	356654	5334385	8.785	335	
POST.THM	10	J1201010	0	16:03:27	358914	5331869			
			246	16:05:30	358914	5331869	0.000	248	
PST1.GND	9	I1200911	246	16:07:58	358914	5331869			
			496	16:10:03	358914	5331869	0.000	252	

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FLIGHT LOG FOR FLIGHT 13 DOY 353 LocalTime 06:36:33 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B1300211	0	06:40:44	358914	5331869		
		241	06:42:44	358914	5331869	0.000	241
PRE1.GND 1	A1300111	241	06:43:34	358914	5331869		
		481	06:45:34	358914	5331868	0.001	240
PRE.TEST 5	E1300512	481	07:14:32	355234	5343346		
		1041	07:19:12	354345	5325879	17.490	720
PRE.ALTB 6	F1300611	1041	07:21:34	353673	5318637		
		1406	07:24:36	351513	5308979	9.897	730
TRAVERSE 175	L1317512	1406	07:27:47	351348	5306533		
		2076	07:33:22	372952	5306583	21.604	262
TRAVERSE 176	L1317612	2076	07:34:55	372893	5306387		
		2766	07:40:40	351325	5306383	21.568	264
TRAVERSE 200	L1320012	2766	07:42:45	352318	5301581		
		3431	07:48:17	373944	5301586	21.626	233
TRAVERSE 218	L1321812	3431	07:50:12	374420	5297979		
		4121	07:55:57	352821	5297984	21.599	215
TRAVERSE 246	L1324611	4121	07:58:29	354037	5292379		
		4921	08:05:09	380418	5292373	26.381	263
TRAVERSE 247	L1324711	4921	08:06:26	380253	5292187		
		5771	08:13:31	353930	5292185	26.323	338
TRAVERSE 248	L1324811	5771	08:14:49	354078	5292001		
		6576	08:21:31	380390	5291972	26.312	256
TRAVERSE 249	L1324911	6576	08:22:44	380303	5291771		
		7431	08:29:51	353945	5291787	26.358	332
TRAVERSE 250	L1325011	7431	08:31:05	354204	5291589		
		8236	08:37:47	380458	5291576	26.254	312
TRAVERSE 251	L1325111	8236	08:38:59	380284	5291385		
		9091	08:46:06	354069	5291384	26.215	325

TRAVERSE 252	L1325211	9091	08:47:13	354237	5291205		
		9891	08:53:53	380405	5291179	26.168	262
TRAVERSE 253	L1325311	9891	08:54:53	380263	5291002		
		10741	09:01:58	354093	5290977	26.170	237
TRAVERSE 254	L1325411	10741	09:04:12	354340	5290781		
		11521	09:10:42	380449	5290780	26.109	210
TRAVERSE 255	L1325511	11521	09:11:39	380300	5290588		
		12371	09:18:44	354277	5290576	26.023	255
TRAVERSE 256	L1325611	12371	09:19:47	354365	5290387		
		13166	09:26:25	380455	5290377	26.090	194
TRAVERSE 257	L1325711	13166	09:27:26	380278	5290185		
		14021	09:34:34	354340	5290179	25.938	214
TRAVERSE 258	L1325811	14021	09:35:46	354463	5289989		
		14816	09:42:24	380358	5289970	25.895	205
TRAVERSE 259	L1325911	14816	09:43:32	380288	5289793		
		15656	09:50:32	354423	5289780	25.865	211
TRAVERSE 260	L1326011	15656	09:51:50	354569	5289577		
		16451	09:58:28	380428	5289594	25.859	215
TRAVERSE 261	L1326111	16451	09:59:34	380251	5289384		
		17301	10:06:39	354458	5289369	25.793	267
TRAVERSE 262	L1326211	17301	10:08:05	354601	5289208		
		17366	10:08:38	356811	5289181	2.210	41 **Scrub**
TRAVERSE 262	L1326212	17366	10:08:46	357379	5289335		
		17371	10:08:47	357477	5289457	0.156	14 **Scrub**
TRAVERSE 263	L1326311	17371	10:08:50	357533	5289601		
		17376	10:08:52	357545	5289724	0.124	13 **Scrub**
TRAVERSE 262	L1326213	17376	10:10:52	354640	5289187		
		18161	10:17:24	380369	5289180	25.729	259
TRAVERSE 263	L1326312	18161	10:18:23	380302	5288977		
		19036	10:25:40	354552	5288991	25.750	282
TRAVERSE 264	L1326411	19036	10:27:03	354652	5288789		
		19841	10:33:45	380407	5288785	25.755	298
TRAVERSE 265	L1326511	19841	10:34:43	380267	5288584		
		20711	10:41:58	354593	5288569	25.674	299
TRAVERSE 266	L1326611	20711	10:43:51	354735	5288384		
		21516	10:50:33	380416	5288382	25.681	263
TRAVERSE 267	L1326711	21516	10:51:34	380287	5288188		
		22361	10:58:36	354616	5288183	25.671	233

TRAVERSE 268	L1326811	22361	10:59:54	354824	5287988	
		23136	11:06:21	380366	5287982	25.542	272
TRAVERSE 269	L1326911	23136	11:07:23	380306	5287784	
		23971	11:14:20	354709	5287784	25.597	306

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FLIGHT LOG FOR FLIGHT 14 DOY 353 LocalTime 12:17:01 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 270	L1427011	0	12:46:10	354929	5287581		
		806	12:52:53	380411	5287579	25.482	325
TRAVERSE 271	L1427111	806	12:54:08	380256	5287388		
		1681	13:01:25	354856	5287385	25.400	386
TRAVERSE 272	L1427211	1681	13:02:34	354966	5287182		
		2471	13:09:09	380351	5287185	25.385	344
TRAVERSE 273	L1427311	2471	13:10:29	380259	5286985		
		3351	13:17:49	354931	5286989	25.328	333
TRAVERSE 274	L1427411	3351	13:19:05	355030	5286783		
		4141	13:25:40	380353	5286786	25.323	262
TRAVERSE 275	L1427511	4141	13:27:08	380286	5286579		
		5026	13:34:31	355023	5286577	25.263	312
TRAVERSE 276	L1427611	5026	13:35:58	355156	5286383		
		5806	13:42:28	380379	5286387	25.223	270
TRAVERSE 277	L1427711	5806	13:43:58	380305	5286186		
		6691	13:51:21	355086	5286187	25.219	291
TRAVERSE 278	L1427811	6691	13:52:41	355181	5285992		
		7476	13:59:13	380351	5285981	25.170	291
TRAVERSE 279	L1427911	7476	14:00:38	380297	5285785		
		8371	14:08:05	355159	5285782	25.138	341
TRAVERSE 280	L1428011	8371	14:09:29	355251	5285585		
		9141	14:15:54	380339	5285588	25.088	256
TRAVERSE 281	L1428111	9141	14:18:02	380278	5285385		
		10041	14:25:32	355173	5285379	25.105	248
TRAVERSE 282	L1428211	10041	14:26:52	355385	5285190		
		10816	14:33:20	380360	5285187	24.975	245
TRAVERSE 283	L1428311	10816	14:34:44	380279	5284989		
		11691	14:42:01	355292	5284981	24.987	301

TRAVERSE 284	L1428411	11691	14:43:30	355441	5284781		
		12461	14:49:55	380354	5284777	24.913	319
TRAVERSE 285	L1428511	12461	14:51:16	380284	5284569		
		13331	14:58:31	355308	5284575	24.976	249
TRAVERSE 286	L1428611	13331	14:59:58	355494	5284381		
		14096	15:06:20	380380	5284385	24.886	277
TRAVERSE 287	L1428711	14096	15:07:40	380267	5284179		
		14951	15:14:48	355475	5284185	24.792	393
TRAVERSE 288	L1428811	14951	15:16:04	355596	5283984		
		15706	15:22:22	380345	5283976	24.749	264
TRAVERSE 289	L1428911	15706	15:23:49	380296	5283774		
		16581	15:31:07	355492	5283778	24.804	402
TRAVERSE 290	L1429011	16581	15:32:23	355631	5283564		
		17346	15:38:46	380393	5283580	24.762	230
TRAVERSE 291	L1429111	17346	15:40:00	380291	5283382		
		18206	15:47:10	355607	5283379	24.684	317
TRAVERSE 292	L1429211	18206	15:48:35	355724	5283184	----------	**Scrub**
TRAVERSE 292	L1429211	0	15:58:14	359501	5283333		
		11	15:58:19	359618	5283582	0.275	24 **Scrub**
TRAVERSE 292	L1429212	11	16:00:45	355748	5283192		
		776	16:07:07	380420	5283184	24.672	263
TRAVERSE 293	L1429311	776	16:08:42	380274	5282997		
		1641	16:15:54	355595	5282983	24.679	327
POST.ALT 7	H1400711	1641	16:18:47	355248	5291642		
		2056	16:22:15	353610	5304235	12.699	833
POST.TST 8	G1400811	2056	16:28:04	354443	5325918		
		2346	16:30:29	356609	5334370	8.725	328
POST.THM 10	J1401010	0	17:14:11	358914	5331870		
		246	17:16:14	358915	5331871	0.001	248 **Scrub**
POST.THM 10	J1401010	246	17:17:30	358915	5331871		
		486	17:19:30	358915	5331871	0.000	240
PST1.GND 9	I1400911	486	17:23:35	358914	5331871		
		731	17:25:37	358914	5331870	0.001	247

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FLIGHT LOG FOR FLIGHT 15 **DOY 354 LocalTime 06:53:19** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B1500211	0	06:53:32	358914	5331869		
		241	06:55:32	358914	5331870	0.001	241
PRE.THOR 2	B1500212	241	06:56:18	358914	5331869		
		481	06:58:18	358914	5331869	0.000	240
PRE1.GND 1	A1500111	481	06:59:04	358914	5331869		
		721	07:01:04	358914	5331868	0.001	240
PRE.TEST 5	E1500511	721	07:18:42	356635	5334292		
		971	07:20:47	354557	5326137	8.416	311
PRE.ALTB 6	F1500611	971	07:25:36	347872	5308302		
		1336	07:28:38	350894	5296036	12.633	730
TRAVERSE 294	L1529411	1336	07:32:15	355807	5282777		
		2156	07:39:05	380373	5282783	24.566	242
TRAVERSE 295	L1529511	2156	07:40:30	380246	5282594		
		2936	07:47:00	355705	5282584	24.541	241
TRAVERSE 296	L1529611	2936	07:48:25	355888	5282385		
		3731	07:55:03	380358	5282386	24.470	254
TRAVERSE 297	L1529711	3731	07:56:20	380292	5282175		
		4536	08:03:02	355748	5282181	24.544	266
TRAVERSE 298	L1529811	4536	08:04:19	355975	5281995		
		5316	08:10:49	380347	5281993	24.372	218
TRAVERSE 299	L1529911	5316	08:12:29	380260	5281782		
		6141	08:19:21	355782	5281785	24.478	265
TRAVERSE 300	L1530011	6141	08:20:34	355974	5281591		
		6931	08:27:09	380351	5281588	24.377	270
TRAVERSE 301	L1530111	6931	08:28:32	380277	5281385		
		7756	08:35:24	355811	5281382	24.466	258
TRAVERSE 302	L1530211	7756	08:36:54	355960	5281191		
		8531	08:43:21	380338	5281189	24.378	215

TRAVERSE 303	L1530311	8531	08:44:54	380249	5280985		
		9346	08:51:41	355872	5280985	24.377	282
TRAVERSE 304	L1530411	9346	08:52:48	355939	5280794		
		10121	08:59:15	380378	5280788	24.439	296
TRAVERSE 305	L1530511	10121	09:02:05	380294	5280587		
		10956	09:09:02	355826	5280585	24.468	346
TRAVERSE 371	L1537111	10956	09:14:28	364786	5267391		
		11296	09:17:18	375757	5267377	10.971	131 **Scrub**
TRAVERSE 372	L1537211	11296	09:17:20	375908	5267390		
		11306	09:17:25	376165	5267460	0.266	22 **Scrub**

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FLIGHT LOG FOR FLIGHT 16 **DOY 354 LocalTime 14:35:07** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 306	L1630611	0	15:00:31	355957	5280381		
		721	15:06:32	380373	5280383	24.416	353
TRAVERSE 307	L1630711	721	15:08:16	380239	5280178		
		1496	15:14:44	355881	5280174	24.358	478
TRAVERSE 306	L1630612	1496	15:16:27	355937	5280403		
		1961	15:20:19	371511	5280399	15.574	243 **Patch**
TRAVERSE 308	L1630811	1961	15:24:06	380285	5279984		
		2746	15:30:38	355885	5279965	24.400	342
POST.ALT 7	H1600711	2746	15:32:50	355943	5286191		
		3116	15:35:55	356456	5297775	11.595	741
POST.TST 8	G1600811	3116	15:43:22	354371	5325848		
		3396	15:45:42	356581	5334432	8.864	318
POST.THM 10	J1601010	0	16:22:38	358914	5331869		
		241	16:24:38	358914	5331869	0.000	241
PST1.GND 9	I1600911	0	16:38:06	358914	5331869		
		241	16:40:06	358915	5331869	0.001	241

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FLIGHT LOG FOR FLIGHT 17 **DOY 355 LocalTime 06:39:16** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B1700211	0	06:39:27	358914	5331869		
		241	06:41:27	358912	5331869	0.002	241
PRE1.GND 1	A1700111	241	06:42:50	358912	5331868		
		481	06:44:50	358912	5331868	0.000	240
PRE.TEST 5	E1700511	481	07:00:27	356588	5334324		
		751	07:02:42	354395	5325905	8.700	326
PRE.ALTB 6	F1700611	751	07:05:32	352132	5317124		
		1116	07:08:34	352479	5305939	11.190	730
TRAVERSE 309	L1730911	1116	07:15:48	355926	5279780		
		1876	07:22:08	380352	5279768	24.426	287
TRAVERSE 310	L1731011	1876	07:23:25	380271	5279583		
		2731	07:30:33	355778	5279572	24.493	370
TRAVERSE 311	L1731111	2731	07:32:15	355964	5279388		
		3486	07:38:33	380351	5279400	24.387	269
TRAVERSE 312	L1731211	3486	07:39:46	380268	5279185		
		4291	07:46:29	355876	5279182	24.392	291
TRAVERSE 313	L1731311	4291	07:47:29	355948	5278998		
		5041	07:53:44	380351	5278975	24.403	251
TRAVERSE 314	L1731411	5041	07:54:50	380296	5278794		
		5861	08:01:40	355789	5278772	24.507	218
TRAVERSE 315	L1731511	5861	08:02:56	355981	5278582		
		6596	08:09:04	380353	5278586	24.372	172
TRAVERSE 316	L1731611	6596	08:10:09	380296	5278399		
		7416	08:16:59	355779	5278377	24.517	233
TRAVERSE 317	L1731711	7416	08:18:07	355947	5278210		
		8181	08:24:30	380370	5278169	24.423	246
TRAVERSE 318	L1731811	8181	08:25:45	380294	5277986		
		9001	08:32:35	355877	5277984	24.417	227

TRAVERSE 319	L1731911	9001	08:33:45	355959	5277795		
		9766	08:40:08	380349	5277778	24.390	228
TRAVERSE 320	L1732011	9766	08:41:22	380301	5277566		
		10596	08:48:17	355772	5277578	24.529	252
TRAVERSE 321	L1732111	10596	08:49:27	355953	5277399		
		11366	08:55:52	380391	5277392	24.438	241
TRAVERSE 322	L1732211	11366	08:56:51	380260	5277173		
		12206	09:03:51	355876	5277179	24.384	293
TRAVERSE 323	L1732311	12206	09:04:51	355936	5276983		
		12946	09:11:01	380367	5276992	24.431	239
TRAVERSE 324	L1732411	12946	09:12:09	380263	5276778		
		13606	09:17:39	360854	5276787	19.409	245
TRAVERSE 325	L1732511	13606	09:18:50	361110	5276604		
		14191	09:23:43	380462	5276569	19.352	219
TRAVERSE 326	L1732611	14191	09:23:47	380747	5276574		
		14201	09:23:51	381007	5276676	0.279	22 **Scrub**
TRAVERSE 327	L1732711	14201	09:24:16	381540	5276409		
		14221	09:24:26	381061	5276238	0.509	37 **Scrub**
TRAVERSE 328	L1732811	14221	09:24:28	380939	5276204		
		14231	09:24:32	380689	5276237	0.252	24 **Scrub**
TRAVERSE 326	L1732612	14231	09:28:34	381695	5276370		
		14916	09:34:16	361091	5276385	20.604	294 **Incomplete**
TRAVERSE 327	L1732712	14916	09:35:39	361292	5276212		
		15886	09:43:44	393265	5276168	31.973	341
TRAVERSE 328	L1732812	15886	09:45:26	393250	5275985		
		16991	09:54:39	361257	5275979	31.993	495
TRAVERSE 329	L1732911	16991	09:55:57	361411	5275798		
		17986	10:04:14	393398	5275789	31.987	416
TRAVERSE 330	L1733011	17986	10:05:46	393388	5275577		
		19046	10:14:36	361435	5275581	31.953	429
TRAVERSE 331	L1733111	19046	10:16:14	361564	5275382		
		20031	10:24:26	393529	5275381	31.965	383
TRAVERSE 326	L1732613	20031	10:29:47	393183	5276379		
		20666	10:35:04	374284	5276368	18.899	290 **Patch**
TRAVERSE 151	L1715112	20666	10:44:30	371988	5311401		
		21376	10:50:25	350358	5311382	21.630	81

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FLIGHT LOG FOR FLIGHT 18 DOY 355 LocalTime 12:18:40 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 332	L1833211	0	12:31:12	361669	5275199			
		951	12:39:07	393597	5275166	31.928	637	**Scrub**
TRAVERSE 333	L1833311	951	12:42:21	389439	5274768			
		981	12:42:36	388724	5275270	0.874	55	**Scrub**
POST.THM 10	J1801010	0	16:52:21	358914	5331871			
		241	16:54:22	358914	5331871	0.000	241	
PST1.GND 9	I1800911	241	16:57:15	358914	5331870			
		481	16:59:15	358914	5331870	0.000	240	

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FLIGHT LOG FOR FLIGHT 19 DOY 356 LocalTime 06:41:26 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B1900211	0	07:26:12	358914	5331870		
		241	07:28:12	358914	5331870	0.000	241
PRE1.GND 1	A1900111	241	07:32:01	358912	5331870		
		481	07:34:01	358914	5331870	0.002	240
PRE.TEST 5	E1900512	481	07:42:18	354254	5325843		
		766	07:44:40	356589	5334372	8.843	318
PRE.ALTB 6	F1900611	766	07:47:54	363782	5338837		
		1141	07:51:01	361174	5345256	6.929	750
TIE.LINE 8	T1900811	1141	07:54:47	362101	5341579		
		3386	08:13:29	362114	5274189	67.390	676
TRAVERSE 546	L1954612	3386	08:32:34	385344	5232382		
		3591	08:34:16	391417	5232384	6.073	0
TRAVERSE 545	L1954511	3591	08:35:34	391250	5232583		
		3771	08:37:04	385263	5232580	5.987	0
TRAVERSE 544	L1954411	3771	08:38:27	385371	5232791		
		3976	08:40:08	391435	5232787	6.064	1
TRAVERSE 543	L1954311	3976	08:41:19	391304	5232970		
		4161	08:42:51	385229	5232981	6.075	3
TRAVERSE 542	L1954211	4161	08:44:20	385344	5233180		
		4371	08:46:05	391343	5233178	5.999	5
TRAVERSE 541	L1954111	4371	08:47:19	391274	5233383		
		4556	08:48:51	385284	5233381	5.990	39
TRAVERSE 540	L1954011	4556	08:50:10	385370	5233588		
		4761	08:51:52	391422	5233581	6.052	19
TRAVERSE 539	L1953911	4761	08:53:00	391295	5233779		
		4946	08:54:32	385259	5233776	6.036	12
TRAVERSE 538	L1953811	4946	08:55:52	385381	5233993		
		5146	08:57:32	391357	5233982	5.976	0

TRAVERSE 537	L1953711	5146	08:58:42	391262	5234174		
		5331	09:00:14	385293	5234177	5.969	18
TRAVERSE 536	L1953611	5331	09:01:35	385345	5234396		
		5531	09:03:15	391362	5234383	6.017	4
TRAVERSE 535	L1953511	5531	09:04:21	391241	5234578		
		5711	09:05:51	385304	5234585	5.937	20
TRAVERSE 534	L1953411	5711	09:07:06	385348	5234783		
		5911	09:08:46	391366	5234777	6.018	11
TRAVERSE 522	L1952211	5911	09:09:59	391248	5237185		
		6091	09:11:29	385273	5237178	5.975	27
TRAVERSE 521	L1952111	6091	09:12:55	385362	5237393		
		6296	09:14:37	391406	5237381	6.044	23
TRAVERSE 520	L1952011	6296	09:15:48	391277	5237563		
		6476	09:17:18	385293	5237575	5.984	19
TRAVERSE 519	L1951911	6476	09:18:35	385352	5237789		
		6686	09:20:20	391441	5237773	6.089	33
TRAVERSE 518	L1951811	6686	09:22:54	391240	5237976		
		6871	09:24:27	385144	5237983	6.096	59
TRAVERSE 517	L1951711	6871	09:24:29	384983	5237980		
		6886	09:24:34	384546	5237920	0.441	26 **Scrub**
TRAVERSE 516	L1951611	6886	09:27:56	376840	5238393		
		7361	09:31:53	391458	5238380	14.618	45
TRAVERSE 515	L1951511	7361	09:33:11	391249	5238587		
		7811	09:36:56	376603	5238578	14.646	27
TRAVERSE 514	L1951411	7811	09:38:16	376792	5238802		
		8286	09:42:14	391343	5238774	14.551	31
TRAVERSE 513	L1951311	8286	09:43:33	391283	5238968		
		8736	09:47:18	376569	5238979	14.714	53
TRAVERSE 501	L1950111	8736	09:48:53	375570	5241389		
		9246	09:53:08	391404	5241390	15.834	79
TRAVERSE 512	L1951211	9246	09:54:30	391274	5239172		
		9691	09:58:12	376428	5239179	14.846	79
TRAVERSE 500	L1950011	9691	09:59:55	375495	5241597		
		10201	10:04:10	391367	5241576	15.872	113
TRAVERSE 511	L1951111	10201	10:05:25	391292	5239347		
		10646	10:09:07	376338	5239389	14.954	82
TRAVERSE 499	L1949911	10646	10:10:42	375395	5241805		
		11156	10:14:57	391409	5241770	16.014	103

TRAVERSE 509	L1950911	0	10:17:38	391273	5239764		
		451	10:21:23	376241	5239789	15.032	69
TRAVERSE 533	L1953311	451	10:26:51	385402	5234981		
		646	10:28:28	391417	5234981	6.015	8
TRAVERSE 527	L1952711	646	10:29:27	391259	5236168		
		826	10:30:57	385293	5236179	5.966	21
TRAVERSE 532	L1953211	826	10:31:53	385395	5235235		
		846	10:32:03	385858	5235495	0.531	34 **Scrub**
TRAVERSE 526	L1952611	846	10:32:05	385902	5235644		
		846	10:32:05	385902	5235644	0.000	3 **Scrub**
TRAVERSE 532	L1953212	846	10:34:31	386145	5235235		
		861	10:34:36	386409	5235563	0.421	35 **Scrub**
TRAVERSE 526	L1952612	861	10:34:47	386151	5236185		
		876	10:34:54	385720	5236335	0.456	82 **Scrub**
TRAVERSE 526	L1952613	876	10:37:03	385394	5236394		
		1071	10:38:40	391454	5236380	6.060	22
TRAVERSE 532	L1953213	1071	10:40:43	391275	5235169		
		1261	10:42:18	385204	5235177	6.071	7
TRAVERSE 523	L1952311	1261	10:43:54	385353	5236981		
		1456	10:45:32	391352	5236977	5.999	20
TRAVERSE 524	L1952411	1456	10:47:01	391282	5236770		
		1641	10:48:33	385226	5236779	6.056	37
TRAVERSE 525	L1952511	1641	10:49:58	385392	5236590		
		1841	10:51:38	391408	5236592	6.016	18
TRAVERSE 528	L1952811	1841	10:53:00	391274	5235971		
		2026	10:54:32	385265	5235979	6.009	13
TRAVERSE 529	L1952911	2026	10:55:50	385353	5235794		
		2221	10:57:28	391342	5235785	5.989	10
TRAVERSE 530	L1953011	2221	10:58:48	391297	5235568		
		2406	11:00:20	385232	5235576	6.065	14
TRAVERSE 531	L1953111	2406	11:01:38	385386	5235380		
		2601	11:03:15	391422	5235391	6.036	2
TRAVERSE 517	L1951712	2601	11:05:15	391276	5238179		
		3011	11:08:40	378090	5237930	13.188	221 **Scrub**
TRAVERSE 517	L1951713	3011	11:10:34	376844	5238184		
		3486	11:14:31	391415	5238174	14.571	78
TRAVERSE 478	L1947811	3486	11:19:49	391246	5245970		
		4026	11:24:19	373382	5245976	17.864	132

TIE.LINE	13	T1901311	4026	11:27:35	372116	5249200		
			5906	11:43:15	372111	5310177	60.977	703

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FLIGHT LOG FOR FLIGHT 20 **DOY 356 LocalTime 12:22:14** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 333	L2033312	0	12:36:38	358915	5331869			
		276	12:38:56	358895	5331893	0.031	276	**Scrub**
TRAVERSE 334	L2033411	276	12:56:23	361826	5274779			
		1316	13:05:03	393756	5274789	31.930	341	
TRAVERSE 335	L2033511	1316	13:06:05	393774	5274588			
		2286	13:14:10	361815	5274585	31.959	370	
TRAVERSE 336	L2033611	2286	13:15:44	362006	5274368			
		3311	13:24:16	393936	5274376	31.930	337	
TRAVERSE 337	L2033711	3311	13:25:03	393881	5274255			
		4281	13:33:08	361911	5274185	31.970	361	
TRAVERSE 338	L2033811	4281	13:34:27	362135	5273979			
		5326	13:43:09	394043	5273993	31.908	385	
TRAVERSE 339	L2033911	5326	13:44:11	394046	5273787			
		6296	13:52:16	362120	5273781	31.926	360	
TRAVERSE 340	L2034011	6296	13:53:52	362328	5273582			
		7356	14:02:42	394257	5273586	31.929	380	
TRAVERSE 341	L2034111	7356	14:03:53	394181	5273385			
		8316	14:11:53	362252	5273386	31.929	382	
TRAVERSE 342	L2034211	8316	14:13:33	362463	5273290			
		8371	14:14:00	363996	5273176	1.537	101	**Scrub**
TRAVERSE 342	L2034212	8371	14:17:22	362453	5273169			
		9396	14:25:54	394367	5273185	31.914	522	
TRAVERSE 343	L2034311	9396	14:27:02	394321	5273004			
		10356	14:35:02	362397	5272984	31.924	366	
TRAVERSE 344	L2034411	10356	14:37:20	362642	5272785			
		11396	14:46:00	394479	5272800	31.837	443	
TRAVERSE 345	L2034511	11396	14:47:21	394460	5272565			
		12356	14:55:21	362577	5272579	31.883	344	

TRAVERSE	346	L2034611	12356	14:56:42	362795	5272380		
			13411	15:05:29	394672	5272390	31.877	415
TRAVERSE	347	L2034711	13411	15:06:50	394595	5272182		
			14386	15:14:57	362732	5272180	31.863	465
TRAVERSE	348	L2034811	14386	15:16:38	362936	5271985		
			15446	15:25:28	394785	5271990	31.849	464
TRAVERSE	349	L2034911	15446	15:26:50	394782	5271790		
			16391	15:34:42	362881	5271783	31.901	356
TRAVERSE	350	L2035011	16391	15:35:49	363080	5271578		
			17441	15:44:34	394929	5271583	31.849	572
TRAVERSE	351	L2035111	17441	15:45:48	394923	5271380		
			18406	15:53:51	363110	5271396	31.813	568
TRAVERSE	352	L2035211	18406	15:56:25	363250	5271175		
			19476	16:05:20	395131	5271181	31.881	547
TRAVERSE	353	L2035311	19476	16:06:37	395035	5270975		
			20456	16:14:47	363252	5270978	31.783	471
TRAVERSE	354	L2035411	20456	16:16:27	363405	5270781		
			21886	16:28:22	388439	5277563	25.936	1342 **Patch Req**
POST.THM	10	J2001010	0	18:36:32	358914	5331870		
			241	18:38:32	358914	5331869	0.001	242
PST1.GND	9	I2000911	241	18:39:44	358914	5331869		
			481	18:41:44	358914	5331869	0.000	240

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FLIGHT LOG FOR FLIGHT 22 **DOY 364 LocalTime 14:59:43** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
PRE.THOR 2	B2200211	0	15:06:28	358914	5331870			
		241	15:08:28	358914	5331870	0.000	241	
PRE1.GND 1	A2200111	241	15:09:51	358914	5331870			
		481	15:11:51	358914	5331870	0.000	240	
PRE.TEST 5	E2200511	481	15:42:08	354388	5325909			
		756	15:44:25	356591	5334401	8.773	339	
PRE.ALTB 6	F2200611	756	15:48:00	360781	5330779			
		1121	15:51:02	367908	5323450	10.223	730	
TIE.LINE 14	T2201411	1121	15:52:40	371885	5319203			
		1171	15:53:05	371858	5317865	1.338	97	**Scrub**
TIE.LINE 14	T2201412	1171	15:54:03	372245	5318179			
		1186	15:54:10	372282	5317840	0.341	21	**Scrub**
TIE.LINE 14	T2201413	1186	15:55:04	372143	5315295			
		1211	15:55:16	372131	5314717	0.578	27	**Scrub**
TIE.LINE 15	T2201511	1211	16:00:01	374108	5299044			
		3136	16:16:03	374118	5244626	54.418	621	
TRAVERSE 354	L2235412	3136	16:24:42	363235	5270779			
		4136	16:33:02	395419	5270769	32.184	623	
TRAVERSE 387	L2238711	4136	16:37:04	395040	5264184			
		5116	16:45:14	365762	5264185	29.278	413	
TRAVERSE 388	L2238811	5116	16:46:25	365935	5264005			
		6031	16:54:03	395043	5263986	29.108	406	
TRAVERSE 389	L2238911	6031	16:55:26	394938	5263775			
		7026	17:03:44	365900	5263777	29.038	463	
TRAVERSE 390	L2239011	7026	17:06:50	366074	5263561			
		7951	17:14:33	395060	5263584	28.986	371	
TRAVERSE 391	L2239111	7951	17:15:52	394828	5263386			
		8936	17:24:05	366101	5263379	28.727	398	

TRAVERSE	392	L2239211	8936	17:25:31	366275	5263189		
			9846	17:33:06	394870	5263186	28.595	383
TRAVERSE	393	L2239311	9846	17:34:26	394733	5262983		
			10841	17:42:44	366179	5262975	28.554	416
TRAVERSE	394	L2239411	10841	17:44:07	366396	5262782		
			11741	17:51:37	394777	5262784	28.381	319
TRAVERSE	395	L2239511	11741	17:52:55	394603	5262584		
			12721	18:01:05	366420	5262580	28.183	357
TRAVERSE	396	L2239611	12721	18:02:09	366559	5262384		
			13611	18:09:34	394664	5262377	28.105	306
TRAVERSE	397	L2239711	13611	18:10:42	394508	5262176		
			14571	18:18:42	366528	5262176	27.980	352
TRAVERSE	398	L2239811	14571	18:19:39	366747	5261990		
			15456	18:27:02	394636	5261982	27.889	387
TRAVERSE	399	L2239911	15456	18:28:32	394413	5261779		
			16416	18:36:32	366742	5261776	27.671	265
POST.ALT	7	H2200711	16416	18:39:31	365199	5271954		
			16781	18:42:34	361317	5284920	13.535	730
POST.TST	8	G2200811	0	18:57:35	354260	5327987		
			6	18:57:38	354190	5327885	0.124	14 **Scrub**
POST.TST	8	G2200812	6	18:58:47	354345	5325890		
			276	19:01:02	356592	5334309	8.714	346
PST1.GND	9	I2200911	276	19:37:06	358912	5331871		
			516	19:39:06	358912	5331871	0.000	240
POST.THM	10	J2201011	516	19:40:01	358912	5331871		
			756	19:42:01	358912	5331871	0.000	240

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FLIGHT LOG FOR FLIGHT 23 DOY 365 LocalTime 06:30:34 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
PRE.THOR 2	B2300211	0	06:37:23	358912	5331869			
		241	06:39:23	358912	5331869	0.000	241	
PRE1.GND 1	A2300111	241	06:40:09	358912	5331869			
		481	06:42:09	358912	5331869	0.000	240	
PRE.TEST 5	E2300511	0	06:59:09	356675	5334284			
		296	07:01:37	354293	5325826	8.787	354	
PRE.ALTB 6	F2300611	296	07:04:58	353804	5317127			
		666	07:08:03	354938	5306098	11.087	740	
TRAVERSE 355	L2335511	666	07:18:53	363310	5270575			
		1776	07:28:08	395469	5270577	32.159	588	
TRAVERSE 356	L2335611	1776	07:29:41	395496	5270381			
		1846	07:30:16	393992	5270532	1.512	93	**Scrub**
TRAVERSE 356	L2335612	1846	07:32:37	395490	5270383			
		2921	07:41:34	363317	5270382	32.173	538	
TRAVERSE 357	L2335711	2921	07:43:02	363464	5270181			
		4026	07:52:14	395655	5270181	32.191	607	
TRAVERSE 358	L2335811	4026	07:53:54	395467	5269990			
		4061	07:54:12	394658	5269985	0.809	36	**Scrub**
TRAVERSE 358	L2335812	4061	07:54:21	394252	5270240			
		4071	07:54:26	394209	5270509	0.272	24	**Scrub**
TRAVERSE 358	L2335813	4071	07:56:23	395502	5269991			
		5141	08:05:18	363462	5269971	32.040	612	
TRAVERSE 359	L2335911	5141	08:06:52	363617	5269780			
		6236	08:16:00	395553	5269769	31.936	593	
TRAVERSE 360	L2336011	6236	08:17:49	395494	5269588			
		7276	08:26:29	363539	5269578	31.955	556	
TRAVERSE 361	L2336111	7276	08:28:12	363794	5269390			
		8361	08:37:14	395650	5269376	31.856	526	

TRAVERSE 362	L2336211	8361	08:38:36	395450	5269186		
		9411	08:47:21	363773	5269178	31.677	440
TRAVERSE 363	L2336311	9411	08:48:40	363914	5268985		
		10471	08:57:30	395539	5268976	31.625	458
TRAVERSE 364	L2336411	10471	08:58:38	395490	5268778		
		11506	09:07:16	363827	5268784	31.663	401
TRAVERSE 365	L2336511	11506	09:08:39	364094	5268583		
		12551	09:17:21	395579	5268582	31.485	436
TRAVERSE 366	L2336611	12551	09:18:36	395499	5268427		
		13581	09:27:11	364050	5268383	31.449	429
TRAVERSE 367	L2336711	13581	09:29:44	364282	5268177		
		14606	09:38:17	395547	5268187	31.265	375
TRAVERSE 368	L2336811	14606	09:39:20	395477	5267980		
		15611	09:47:43	364262	5267983	31.215	339
TRAVERSE 369	L2336911	15611	09:48:51	364400	5267786		
		16676	09:57:44	395640	5267780	31.240	405
TRAVERSE 370	L2337011	16676	09:58:45	395502	5267583		
		17686	10:07:10	364436	5267565	31.066	331
TRAVERSE 371	L2337112	17686	10:09:22	364598	5267386		
		18696	10:17:47	395562	5267381	30.964	390
TRAVERSE 372	L2337212	18696	10:18:49	395483	5267177		
		19691	10:27:07	364567	5267181	30.916	403
TRAVERSE 373	L2337311	19691	10:28:12	364726	5266980		
		20701	10:36:37	395539	5266987	30.813	441
TRAVERSE 374	L2337411	20701	10:37:49	395495	5266765		
		21696	10:46:07	364641	5266778	30.854	378

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FLIGHT LOG FOR FLIGHT 24 **DOY 365 LocalTime 14:51:26** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 400	L2440011	0	15:19:34	366908	5261594		
		931	15:27:19	394512	5261583	27.604	306
TRAVERSE 401	L2440111	931	15:28:37	394320	5261381		
		1811	15:35:57	366885	5261379	27.435	269
TRAVERSE 402	L2440211	1811	15:36:59	367064	5261182		
		2731	15:44:39	394398	5261182	27.334	316
TRAVERSE 403	L2440311	2731	15:45:54	394235	5260982		
		3621	15:53:19	366946	5260976	27.289	255
TRAVERSE 404	L2440411	3621	15:54:16	367198	5260797		
		4521	16:01:46	394263	5260780	27.065	220
TRAVERSE 405	L2440511	4521	16:03:01	394134	5260582		
		5386	16:10:13	367111	5260577	27.023	197
TRAVERSE 406	L2440611	5386	16:11:23	367392	5260389		
		6276	16:18:48	394250	5260386	26.858	255
TRAVERSE 407	L2440711	6276	16:20:02	394038	5260187		
		7156	16:27:22	367263	5260174	26.775	256
TRAVERSE 408	L2440811	7156	16:28:24	367499	5259985		
		8036	16:35:44	394056	5259979	26.557	296
TRAVERSE 409	L2440911	8036	16:36:52	393951	5259785		
		8906	16:44:07	367533	5259781	26.418	216
TRAVERSE 410	L2441011	8906	16:45:20	367700	5259593		
		9776	16:52:35	394041	5259583	26.341	305
TRAVERSE 411	L2441111	9776	16:53:42	393814	5259387		
		10651	17:01:00	367652	5259374	26.162	236
TRAVERSE 412	L2441211	10651	17:02:17	367855	5259198		
		11511	17:09:27	393881	5259186	26.026	262
TRAVERSE 413	L2441311	11511	17:10:32	393725	5258988		
		12381	17:17:47	367765	5258975	25.960	271

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FLIGHT LOG FOR FLIGHT 25 **DOY 365 LocalTime 18:17:45** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TIE.LINE 16	T2501611	0	19:09:18	374115	5342566			
		881	19:16:38	374116	5314112	28.454	494	
TIE.LINE 17	T2501711	881	19:22:02	376116	5293574			
		2461	19:35:11	376118	5240239	53.335	575	
TRAVERSE 485	L2548511	2461	19:39:21	373900	5244582			
		2976	19:43:38	391569	5244595	17.669	177	
TRAVERSE 486	L2548611	2976	19:45:15	391477	5244363			
		3486	19:49:29	373909	5244381	17.568	210	
TRAVERSE 487	L2548711	3486	19:50:42	374076	5244186			
		3996	19:54:56	391542	5244193	17.466	245	
TRAVERSE 488	L2548811	3996	19:56:25	391504	5243993			
		4506	20:00:40	374101	5243972	17.403	190	
TRAVERSE 489	L2548911	0	20:06:41	374259	5243800			
		526	20:11:04	391537	5243802	17.278	179	
TIE.LINE 18	T2501811	526	20:18:05	378112	5238204			
		2176	20:31:50	378105	5293639	55.435	824	
TIE.LINE 19	T2501911	2176	20:33:57	380109	5293988			
		2181	20:33:59	380112	5293856	0.132	6	**Scrub**
TIE.LINE 19	T2501912	2181	20:35:56	380111	5293559			
		3871	20:50:01	380126	5238122	55.437	659	
TIE.LINE 20	T2502011	3871	20:51:15	382077	5238250			
		4986	21:00:32	382103	5276658	38.408	486	
POST.ALT 7	H2500711	4986	21:02:16	378936	5283126			
		5371	21:05:28	371712	5296615	15.302	770	
POST.TST 8	G2500811	5371	21:12:16	354567	5326076			
		5381	21:12:21	354744	5326286	0.275	14	
POST.TST 8	G2500812	5381	21:13:19	354549	5325999			
		5396	21:13:26	354809	5326391	0.470	47	

POST.TST	8	G2500813	5396	21:13:44	355500	5327379	
			5396	21:13:44	355500	5327379	0.000 3
POST.TST	8	G2500814	5396	21:15:53	354489	5325909	
			5656	21:18:03	356627	5334319	8.678 452
PST1.GND	9	I2500911	5656	21:22:26	358914	5331869	
			5896	21:24:26	358914	5331868	0.001 240
POST.THM	10	J2501011	5896	21:30:18	358914	5331869	
			6136	21:32:18	358914	5331870	0.001 240

POST.ALT	7	H2400711	12381	17:21:18	365702	5271738		
			12776	17:24:36	361297	5285645	14.588	790
POST.TST	8	G2400811	12776	17:34:09	354374	5325843		
			13036	17:36:19	356599	5334295	8.740	367
PST1.GND	9	I2400911	13036	18:11:12	358915	5331869		
			13276	18:13:12	358915	5331869	0.000	240
POST.THM	10	J2401011	13276	18:15:17	358915	5331869		
			13516	18:17:17	358914	5331869	0.001	240

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FLIGHT LOG FOR FLIGHT 26 **DOY 366 LocalTime 06:07:32** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B2600211	0	06:13:28	358914	5331869		
		241	06:15:28	358914	5331869	0.000	241
PRE1.GND 1	A2600112	241	06:17:08	358912	5331869		
		481	06:19:08	358914	5331869	0.002	240
PRE.TEST 5	E2600511	481	06:36:28	356696	5334972		
		771	06:38:53	354367	5325892	9.374	373
PRE.ALTB 6	F2600612	771	06:41:07	356670	5326667		
		1136	06:44:09	363267	5336629	11.948	725
TIE.LINE 14	T2601414	1136	06:48:16	372110	5342404		
		1986	06:55:21	372102	5314223	28.181	384
TIE.LINE 21	T2602111	1986	07:04:53	384124	5276522		
		3126	07:14:23	384103	5238156	38.366	388
TIE.LINE 22	T2602211	3126	07:17:53	386118	5231848		
		4481	07:29:10	386118	5276613	44.765	524
TIE.LINE 23	T2602311	4481	07:30:39	388104	5276504		
		5806	07:41:41	388110	5231735	44.769	546
TIE.LINE 24	T2602411	5806	07:43:35	390119	5231813		
		7201	07:55:12	390106	5276671	44.858	651
TRAVERSE 477	L2647711	7201	08:05:54	391457	5246166		
		7751	08:10:29	373089	5246180	18.368	209
TRAVERSE 479	L2647911	7751	08:11:38	373341	5245796		
		8306	08:16:15	391612	5245776	18.271	199
TRAVERSE 490	L2649011	8306	08:18:11	391502	5243579		
		8816	08:22:26	374282	5243583	17.220	146
TRAVERSE 491	L2649111	8816	08:23:30	374479	5243389		
		9321	08:27:42	391636	5243385	17.157	163
TRAVERSE 492	L2649211	9321	08:29:09	391469	5243174		
		9821	08:33:19	374430	5243185	17.039	147

TRAVERSE 493	L2649311	9821	08:34:31	374611	5242998		
		10321	08:38:41	391553	5242996	16.942	172
TRAVERSE 494	L2649412	10321	08:40:13	391465	5242767		
		10826	08:44:25	374548	5242786	16.917	261
TRAVERSE 495	L2649511	10826	08:46:13	374806	5242577		
		11341	08:50:30	391556	5242580	16.750	165
TRAVERSE 496	L2649611	11341	08:52:18	391468	5242383		
		11856	08:56:35	374749	5242380	16.719	159
TRAVERSE 497	L2649711	11856	08:57:57	375035	5242192		
		12356	09:02:07	391558	5242174	16.523	183
TRAVERSE 498	L2649811	12356	09:04:42	391503	5241965		
		12866	09:08:57	375018	5241978	16.485	223
TRAVERSE 502	L2650211	12866	09:09:57	375448	5241184		
		13351	09:13:59	391588	5241174	16.140	214
TRAVERSE 503	L2650311	13351	09:15:22	391497	5240967		
		13836	09:19:24	375395	5240983	16.102	221
TRAVERSE 504	L2650411	13836	09:20:45	375689	5240792		
		14321	09:24:47	391627	5240784	15.938	204
TRAVERSE 505	L2650511	14321	09:26:07	391456	5240567		
		14811	09:30:12	375558	5240579	15.898	247
TRAVERSE 506	L2650611	14811	09:31:30	375868	5240384		
		15286	09:35:27	391552	5240385	15.684	192
TRAVERSE 507	L2650711	15286	09:36:38	391477	5240180		
		15771	09:40:40	375818	5240183	15.659	209
TRAVERSE 508	L2650811	15771	09:41:50	376013	5239992		
		16246	09:45:48	391550	5240004	15.537	135
TRAVERSE 476	L2647611	16246	09:49:24	391461	5246379		
		16816	09:54:09	373005	5246380	18.456	267
TRAVERSE 475	L2647511	16816	09:55:44	372980	5246578		
		17376	10:00:24	391653	5246589	18.673	183
TRAVERSE 474	L2647411	17376	10:01:33	391503	5246788		
		17961	10:06:25	372807	5246780	18.696	163
TRAVERSE 473	L2647311	17961	10:07:31	372827	5247053		
		18011	10:07:56	374627	5247017	1.800	56 **Scrub**
TRAVERSE 473	L2647312	18011	10:10:11	372830	5247017		
		18566	10:14:48	391542	5246985	18.712	254
TRAVERSE 472	L2647211	18566	10:15:55	391482	5247168		
		19136	10:20:40	372590	5247180	18.892	251

TRAVERSE 471	L2647111	19136	10:21:43	372621	5247410		
		19701	10:26:26	391549	5247391	18.928	280
TRAVERSE 470	L2647011	19701	10:27:24	391456	5247539		
		20296	10:32:21	372357	5247581	19.099	213
TRAVERSE 469	L2646911	20296	10:32:40	371520	5248202		
		20311	10:32:47	371551	5248636	0.435	33 **Scrub**

31/12/00 SHAHAN D.

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FLIGHT LOG FOR FLIGHT 27 **DOY 366 LocalTime 11:34:41** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 469	L2746912	0	12:03:43	372426	5247776		
		576	12:08:31	391541	5247784	19.115	188
TRAVERSE 468	L2746811	576	12:09:37	391448	5247994		
		1186	12:14:42	372146	5247984	19.302	226
TRAVERSE 467	L2746711	1186	12:15:49	372256	5248166		
		1766	12:20:39	391638	5248177	19.382	149
TRAVERSE 466	L2746611	1766	12:21:48	391451	5248379		
		2396	12:27:03	372014	5248381	19.437	194
TRAVERSE 465	L2746511	2396	12:28:08	372054	5248580		
		2991	12:33:06	391630	5248594	19.576	212
TRAVERSE 464	L2746411	2991	12:34:20	391487	5248786		
		3621	12:39:36	371914	5248783	19.573	192
TRAVERSE 463	L2746311	3621	12:40:39	371884	5248979		
		4216	12:45:37	391563	5248986	19.679	224
TRAVERSE 462	L2746211	4216	12:46:45	391458	5249178		
		4826	12:51:51	371759	5249176	19.699	162
TRAVERSE 461	L2746111	4826	12:53:00	371756	5249378		
		5411	12:57:53	391540	5249370	19.784	148
TRAVERSE 460	L2746011	5411	12:58:58	391496	5249581		
		6041	13:04:13	371574	5249581	19.922	172
TRAVERSE 459	L2745911	6041	13:05:12	371592	5249789		
		6631	13:10:07	391621	5249770	20.029	150
TRAVERSE 458	L2745811	6631	13:11:09	391460	5249984		
		7266	13:16:27	371433	5249979	20.027	258
TRAVERSE 457	L2745711	7266	13:17:29	371417	5250174		
		7861	13:22:27	391603	5250183	20.186	194
TRAVERSE 456	L2745611	7861	13:23:39	391588	5250377		
		8506	13:29:02	371287	5250379	20.301	188

TRAVERSE 455	L2745511	8506 13:30:07	371249 5250591			
		9116 13:35:11	391714 5250581	20.465	145	
TRAVERSE 454	L2745411	9116 13:36:28	391668 5250780			
		9771 13:41:56	371054 5250779	20.614	195	
TRAVERSE 453	L2745311	9771 13:43:44	371112 5250976			
		10406 13:49:00	391900 5250979	20.788	173	
TRAVERSE 450	L2745011	10406 13:50:19	391889 5251583			
		11066 13:55:48	370687 5251583	21.202	237	
TRAVERSE 449	L2744911	11066 13:56:56	370799 5251764			
		11691 14:02:08	392074 5251769	21.275	173	
TRAVERSE 448	L2744811	11691 14:03:09	391976 5251984			
		12361 14:08:44	370645 5251979	21.331	178	
TRAVERSE 447	L2744711	12361 14:09:43	370657 5252171			
		13006 14:15:05	392183 5252171	21.526	133	
TRAVERSE 446	L2744611	13006 14:16:06	392065 5252376			
		13681 14:21:43	370418 5252383	21.647	212	
TRAVERSE 445	L2744511	13681 14:22:38	370515 5252576			
		14326 14:28:00	392217 5252583	21.702	120	
TRAVERSE 444	L2744411	14326 14:29:16	392173 5252778			
		15006 14:34:55	370280 5252778	21.893	183	
TRAVERSE 443	L2744311	15006 14:35:44	370311 5252977			
		15646 14:41:04	392342 5252969	22.031	144	
TRAVERSE 442	L2744211	15646 14:42:05	392291 5253190			
		16346 14:47:55	370145 5253181	22.146	221	
TRAVERSE 441	L2744111	16346 14:48:54	370190 5253385			
		17011 14:54:26	392431 5253371	22.241	302	
TRAVERSE 440	L2744011	17011 14:55:28	392345 5253591			
		17731 15:01:28	369961 5253575	22.384	283	
TRAVERSE 439	L2743911	17731 15:02:19	370025 5253757			
		18416 15:08:01	392600 5253789	22.575	279	
TRAVERSE 438	L2743811	18416 15:09:03	392477 5253976			
		19146 15:15:08	369841 5253977	22.636	286	
TRAVERSE 437	L2743711	19146 15:15:59	369831 5254181			
		19836 15:21:44	392669 5254184	22.838	227	
TRAVERSE 436	L2743611	19836 15:22:52	392573 5254387			
		20601 15:29:14	369609 5254381	22.964	328	
TRAVERSE 435	L2743511	20601 15:30:06	369670 5254579			
		21306 15:35:58	392744 5254590	23.074	243	

31/12/00 STRAHAN D.

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FLIGHT LOG FOR FLIGHT 28 DOY 366 LocalTime 16:28:04 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 326	L2832614	0	16:54:11	361011	5276392		
		1021	17:02:41	393548	5276392	32.537	547
TRAVERSE 332	L2833212	1021	17:05:06	393705	5275193		
		2051	17:13:41	361387	5275178	32.318	582
TRAVERSE 433	L2843311	2051	17:20:43	369511	5254984		
		2776	17:26:46	392789	5254979	23.278	347
TRAVERSE 432	L2843211	2776	17:28:17	392767	5255185		
		3486	17:34:12	369354	5255177	23.413	293
TRAVERSE 431	L2843111	3486	17:35:30	369390	5255361		
		4196	17:41:25	392902	5255370	23.512	355
TRAVERSE 430	L2843011	4196	17:43:04	392848	5255582		
		4916	17:49:04	369165	5255576	23.683	351
TRAVERSE 429	L2842911	4916	17:50:23	369195	5255786		
		5656	17:56:33	393018	5255781	23.823	354
TRAVERSE 428	L2842811	5656	17:58:40	392948	5255980		
		6396	18:04:50	368964	5255974	23.984	341
TRAVERSE 427	L2842711	6396	18:06:12	369072	5256185		
		7126	18:12:17	393197	5256183	24.125	399
TRAVERSE 426	L2842611	7126	18:13:42	393054	5256385		
		7866	18:19:52	368878	5256378	24.176	328
TRAVERSE 425	L2842511	7866	18:20:56	368903	5256596		
		8616	18:27:11	393259	5256588	24.356	343
TRAVERSE 424	L2842411	8616	18:29:36	393154	5256772		
		9351	18:35:44	368724	5256783	24.430	382
TRAVERSE 423	L2842311	9351	18:36:49	368760	5257000		
		10106	18:43:06	393367	5256976	24.607	502
TRAVERSE 422	L2842211	10106	18:44:23	393249	5257172		
		10861	18:50:40	368578	5257165	24.671	445

TRAVERSE	421	L2842111	10861	18:51:54	368593	5257384		
			11621	18:58:14	393405	5257371	24.812	504
TIE.LINE	25	T2802511	11621	19:06:28	392123	5276521		
			12326	19:12:21	392110	5253723	22.798	351
TIE.LINE	26	T2802611	12326	19:15:04	394105	5261851		
			12661	19:17:52	394109	5273369	11.518	239
TRAVERSE	375	L2837511	12661	19:22:51	395501	5266535		
			13576	19:30:29	364812	5266583	30.689	473
TRAVERSE	376	L2837611	13576	19:31:44	365005	5266398		
			14531	19:39:42	395569	5266399	30.564	538
POST.ALT	7	H2800711	14531	19:42:00	392526	5270495		
			15151	19:47:09	379566	5289894	23.330	1240
POST.TST	8	G2800811	15151	19:56:28	354484	5325953		
			15411	19:58:38	356610	5334299	8.613	391
PST1.GND	9	I2800912	0	20:23:08	358915	5331868		
			251	20:25:13	358915	5331868	0.000	253
POST.THM	10	J2801012	251	20:26:55	358915	5331868		
			491	20:28:54	358915	5331868	0.000	240

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FLIGHT LOG FOR FLIGHT 29 DOY 1 LocalTime 14:00:50 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
PRE.THOR 2	B2900211	0	14:04:05	358915	5331869			
		241	14:06:05	358915	5331869	0.000	241	
PRE1.GND 1	A2900111	241	14:08:01	358915	5331869			
		481	14:10:01	358915	5331869	0.000	240	
POST.TST 8	G2900811	481	14:22:29	356631	5334132			
		741	14:24:39	354602	5326160	8.226	339	
PRE.ALTB 6	F2900611	741	14:26:20	352814	5329175			
		1106	14:29:22	352923	5338432	9.258	730	
TRAVERSE 69	L2906917	1106	14:35:09	347175	5327773			
		1991	14:42:31	376284	5327804	29.109	567	**Re-Fly**
TRAVERSE 306	L2930613	1991	14:55:35	380459	5280369			
		2741	15:01:50	355637	5280374	24.822	420	
TRAVERSE 420	L2942011	2741	15:09:29	368479	5257578			
		3471	15:15:34	393453	5257594	24.974	354	
TRAVERSE 419	L2941911	3471	15:16:55	393396	5257778			
		4216	15:23:08	368329	5257773	25.067	329	
TRAVERSE 418	L2941811	4216	15:24:17	368322	5258009			
		4966	15:30:32	393555	5257990	25.233	288	
TRAVERSE 417	L2941711	4966	15:31:43	393548	5258173			
		5731	15:38:05	368084	5258168	25.464	263	
TRAVERSE 416	L2941611	5731	15:40:08	368146	5258391			
		6491	15:46:28	393712	5258389	25.566	395	
TRAVERSE 415	L2941511	6491	15:47:36	393617	5258573			
		7261	15:54:01	367949	5258558	25.668	484	
TRAVERSE 414	L2941411	7261	15:55:41	367976	5258793			
		8041	16:02:11	393795	5258791	25.819	290	
TRAVERSE 386	L2938611	8041	16:05:49	395067	5264389			
		8921	16:13:09	365708	5264373	29.359	428	

TRAVERSE	385	L2938511	8921	16:14:26	365710	5264597		
			9811	16:21:51	395314	5264584	29.604	384
TRAVERSE	384	L2938411	9811	16:25:09	395179	5264775		
			10716	16:32:41	365493	5264776	29.686	393
TRAVERSE	383	L2938311	10716	16:34:05	365540	5265001		
			11626	16:41:40	395311	5264991	29.771	351
TRAVERSE	382	L2938211	11626	16:43:20	395284	5265171		
			12521	16:50:47	365328	5265155	29.956	341
TRAVERSE	381	L2938111	12521	16:52:08	365347	5265410		
			13431	16:59:43	395503	5265395	30.156	374
TRAVERSE	380	L2938011	13431	17:01:33	395366	5265575		
			14346	17:09:10	365118	5265557	30.248	385
TRAVERSE	379	L2937911	14346	17:10:42	365193	5265795		
			15261	17:18:20	395536	5265809	30.343	411
TRAVERSE	378	L2937811	15261	17:19:46	395460	5265986		
			15271	17:19:51	395183	5265984	0.277	17 **Scrub**
TRAVERSE	377	L2937711	15271	17:19:53	395031	5265990		
			15281	17:19:56	394758	5265997	0.273	22 **Scrub**
TRAVERSE	378	L2937812	15281	17:21:59	395491	5265975		
			16191	17:29:34	364948	5265963	30.543	332
TRAVERSE	377	L2937712	16191	17:30:54	365084	5266189		
			17131	17:38:44	395656	5266190	30.572	427
TRAVERSE	333	L2933313	17131	17:42:03	393781	5274982		
			18126	17:50:20	361455	5274973	32.326	569
POST.ALT	7	H2900711	18126	17:51:45	359417	5279163		
			18516	17:55:00	357805	5292040	12.978	750
POST.TST	8	G2900812	18516	17:55:08	357711	5292574		
			18521	17:55:09	357688	5292673	0.102	12 **Scrub**
POST.TST	8	G2900813	18521	18:03:21	354495	5325962		
			18756	18:05:18	356621	5334081	8.393	343
PST1.GND	9	I2900911	18756	18:37:08	358915	5331871		
			19001	18:39:10	358915	5331871	0.000	246
POST.THM	10	J2901011	19001	18:41:13	358915	5331871		
			19246	18:43:15	358915	5331872	0.001	246

02/01/01 Area B

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D002, Flight 001, Job1585 Burnie

FLIGHT LOG FOR FLIGHT 01 DOY 2 LocalTime 12:49:55 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.TEST 5	E0100511	0	13:07:39	391760	5455460		
		336	13:10:27	383162	5461460	10.485	567
PRE.ALTB 6	F0100611	336	13:12:41	379010	5466860		
		696	13:15:41	373116	5474219	9.428	720
TRAVERSE 220	L0122011	696	13:20:20	359420	5484185		
		2406	13:34:35	301581	5484175	57.839	344
TRAVERSE 221	L0122111	2406	13:36:15	301673	5483995		
		4211	13:51:17	359591	5483989	57.918	139
TRAVERSE 222	L0122211	4211	13:52:52	359531	5483761		
		5926	14:07:09	301546	5483778	57.985	137
TRAVERSE 223	L0122311	5926	14:08:28	301647	5483589		
		7701	14:23:15	359710	5483583	58.063	214
TRAVERSE 224	L0122411	7701	14:26:35	359632	5483373		
		9421	14:40:55	301504	5483376	58.128	211
TRAVERSE 225	L0122511	9421	14:45:23	301652	5483185		
		11176	15:00:00	359814	5483178	58.162	187
TRAVERSE 226	L0122611	11176	15:01:35	359751	5482979		
		12881	15:15:48	301580	5482982	58.171	292
TRAVERSE 321	L0132111	12881	15:21:59	297641	5464014		
		15856	15:46:47	396527	5463979	98.886	1256

TOTAL KMS = 505.2

02/01/01 AREA B.

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D002, Flight 002, Job1585 Burnie

FLIGHT LOG FOR FLIGHT 02 DOY 2 LocalTime 16:14:58 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 322	L0232211	0	16:37:25	397531	5463775		
		1	16:37:26	397531	5463775	0.000	2
***SCRUB							
TRAVERSE 323	L0232311	1	16:37:36	396824	5463787		
		6	16:37:39	396697	5463793	0.127	7
***SCRUB							
TRAVERSE 322	L0232212	6	16:40:27	396858	5463873		
		3046	17:05:47	297514	5463780	99.344	1069
TRAVERSE 227	L0222711	3046	17:11:59	301656	5482782		
		4921	17:27:37	360028	5482781	58.372	95
TRAVERSE 228	L0222811	4921	17:28:51	359913	5482589		
		6651	17:43:17	301563	5482583	58.350	138
TRAVERSE 229	L0222911	6651	17:44:36	301659	5482361		
		8501	18:00:01	360106	5482388	58.447	38
TRAVERSE 230	L0223011	8501	18:01:08	359994	5482199		
		10246	18:15:41	301452	5482180	58.542	73
TRAVERSE 231	L0223111	10246	18:17:04	301627	5481977		
		12056	18:32:09	360210	5481990	58.583	99
POST.ALT 7	H0200711	12056	18:36:00	373562	5475395		
		12421	18:39:03	386687	5469685	14.313	730
TRAVERSE 322	L0232213	12421	18:43:11	396824	5463792		
		12736	18:45:48	386602	5463786	10.222	126
TRAVERSE 323	L0232312	12736	18:45:51	386342	5463777		
		12771	18:46:09	385362	5463821	0.981	65

POST.TST	8	G0200811	12771	18:46:22	384536	5463896		
			12786	18:46:29	384104	5463944	0.435	33
***SCRUB								
POST.TST	8	G0200812	12786	18:49:14	381791	5459723		
			12821	18:49:31	380802	5460324	1.157	71
***SCRUB								
POST.TST	8	G0200813	12821	18:51:23	383204	5461418		
			13006	18:52:55	387778	5457928	5.753	220
POST.THM	10	J0201011	13006	19:02:52	392920	5461160		
			13011	19:02:54	392920	5461160	0.000	10
PST1.GND	9	I0200912	13011	19:06:54	392920	5461160		
			13011	19:06:54	392920	5461160	0.000	1
***SCRUB								
PST1.GND	9	I0200913	13011	19:07:02	392920	5461160		
			13016	19:07:04	392920	5461160	0.000	10
***SCRUB								
PST1.GND	9	I0200914	13016	19:07:22	392920	5461160		
			13256	19:09:22	392920	5461160	0.000	480
POST.THM	10	J0201014	13256	19:11:00	392920	5461160		
			13496	19:13:00	392920	5461160	0.000	480

TOTAL KMS = 391.6

Notes: Line 322 Xtrack bust patched.

03/12/04 Area B -

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FLIGHT LOG FOR FLIGHT 03 DOY 3 LocalTime 06:04:31 Area 1 Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms
PRE.THOR	2	B0300211	0	06:06:08	392920	5461158		
			241	06:08:08	392920	5461158	0.000	482
PRE1.GND	1	A0300111	241	06:09:55	392920	5461159		
			481	06:11:55	392920	5461159	0.000	480
PRE.TEST	5	E0300511	481	06:35:31	390571	5455835		
			776	06:37:58	383105	5461513	9.380	407
PRE.ALTB	6	F0300611	776	06:39:46	380707	5465682		
			1136	06:42:46	378666	5476948	11.449	721
TRAVERSE	250	L0325011	1136	06:47:23	376637	5478173		
			2811	07:01:21	322169	5478180	54.468	576
TRAVERSE	249	L0324911	2811	07:07:57	347979	5478387		
			3761	07:15:52	380348	5478391	32.369	157
TIE.LINE	47	T0304711	3761	07:19:45	390107	5469128		
			5036	07:30:22	390124	5428579	40.549	638
TIE.LINE	46	T0304611	5036	07:32:05	388124	5428735		
			6291	07:42:32	388108	5469832	41.097	573
TIE.LINE	48	T0304811	6291	07:44:44	392100	5468557		
			7546	07:55:11	392129	5428554	40.003	709
TIE.LINE	49	T0304911	7546	07:56:53	394067	5428760		
			8746	08:06:53	394100	5468082	39.322	648
TIE.LINE	50	T0305011	8746	08:09:21	396110	5464189		
			9856	08:18:36	396106	5428633	35.556	533
TIE.LINE	51	T0305111	9856	08:20:10	398092	5428732		
			10886	08:28:45	398116	5463303	34.571	489
TIE.LINE	52	T0305211	10886	08:30:15	400118	5462291		
			11936	08:39:00	400119	5428557	33.734	531
TIE.LINE	53	T0305311	11936	08:40:25	402100	5428698		
			12916	08:48:35	402104	5461383	32.685	418

TIE.LINE	54	T0305411	12916	08:50:07	404150	5460350		
			13931	08:58:35	404112	5428563	31.787	515
TIE.LINE	55	T0305511	13931	08:59:54	406085	5428706		
			14861	09:07:39	406104	5459550	30.844	546
TIE.LINE	56	T0305611	14861	09:09:13	408114	5458449		
			15796	09:17:01	408131	5428563	29.886	518
TIE.LINE	57	T0305711	15796	09:18:23	410007	5428701		
			16661	09:25:36	410093	5457580	28.879	467
TIE.LINE	58	T0305811	16661	09:26:57	412128	5456577		
			17571	09:34:33	412119	5428639	27.938	447
TIE.LINE	59	T0305911	17571	09:35:37	414241	5428706		
			18381	09:42:22	414107	5455761	27.055	411
TIE.LINE	60	T0306011	18381	09:43:33	416149	5454659		
			19191	09:50:18	416134	5428530	26.129	433
TIE.LINE	61	T0306111	19191	09:51:42	418122	5428709		
			19956	09:58:05	418117	5453808	25.099	471

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Kevron Geophysics Pty. Ltd. A.C.N. 009 190 925

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FLIGHT LOG FOR FLIGHT 04 DOY 3 LocalTime 10:43:32 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 323	L0432313	0	10:55:04	397243	5463586			
		1591	11:08:19	347438	5463578	49.805	590	
TRAVERSE 324	L0432411	1591	11:08:22	347164	5463588			
		1611	11:08:32	346526	5463671	0.643	25	**Scrub**
TRAVERSE 232	L0423211	1611	11:14:57	360132	5481778			
		3426	11:30:05	301490	5481774	58.642	138	
TRAVERSE 233	L0423311	3426	11:31:11	301624	5481581			
		5156	11:45:35	360297	5481584	58.673	143	
TRAVERSE 234	L0423411	5156	11:47:08	360263	5481401			
		6946	12:02:02	301552	5481374	58.711	157	
TRAVERSE 235	L0423511	6946	12:03:37	301680	5481180			
		8661	12:17:55	360404	5481196	58.724	80	
TRAVERSE 236	L0423611	8661	12:19:40	360378	5480971			
		10446	12:34:32	301527	5480983	58.851	87	
TRAVERSE 237	L0423711	10446	12:35:40	301632	5480789			
		12171	12:50:02	360635	5480782	59.003	97	
TRAVERSE 238	L0423811	12171	12:51:29	360508	5480603			
		13961	13:06:24	301557	5480581	58.951	149	
TRAVERSE 239	L0423911	13961	13:07:31	301655	5480370			
		15691	13:21:56	360767	5480389	59.112	202	
TRAVERSE 240	L0424011	15691	13:21:58	360944	5480387			
		15706	13:22:06	361462	5480434	0.520	22	**Scrub**
TRAVERSE 241	L0424111	15706	13:22:58	362974	5480182			
		15766	13:23:28	361258	5480003	1.725	67	**Scrub**
TRAVERSE 240	L0424012	15766	13:26:03	362177	5480179			
		17621	13:41:30	301553	5480178	60.624	233	
TRAVERSE 241	L0424112	17621	13:42:46	301656	5479991			
		19456	13:58:03	363957	5479988	62.301	210	

TRAVERSE 242	L0424211	19456	13:58:06	364166	5479987		
		19486	13:58:21	365204	5480014	1.038	32 **Scrub**
TRAVERSE 242	L0424212	19486	13:59:35	365377	5479780		
		21446	14:15:55	301495	5479784	63.882	217
TRAVERSE 243	L0424311	21446	14:17:00	301626	5479583		
		23366	14:33:00	367523	5479583	65.897	269
TRAVERSE 324	L0432412	0	14:42:00	347399	5463384		
		1471	14:54:16	398160	5463371	50.761	475

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FLIGHT LOG FOR FLIGHT 05 DOY 3 LocalTime 15:14:08 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 251	L0525111	0	15:33:44	376685	5477976			
		2306	15:52:57	301587	5477981	75.098	495	
TRAVERSE 249	L0524912	2306	15:55:05	301637	5478407			
		3531	16:05:18	342715	5478389	41.078	302	
TRAVERSE 250	L0525012	3531	16:05:31	343568	5478389			
		3541	16:05:36	343844	5478432	0.279	22	**Scrub**
TRAVERSE 250	L0525013	3541	16:06:17	344269	5478189			
		4846	16:17:10	301474	5478180	42.795	349	
TRAVERSE 248	L0524811	4846	16:18:45	301663	5478596			
		6946	16:36:15	375064	5478586	73.401	670	
TRAVERSE 247	L0524711	6946	16:38:57	373372	5478780			
		9081	16:56:45	301557	5478777	71.815	585	
TRAVERSE 246	L0524611	9081	16:58:34	301632	5478998			
		11101	17:15:25	371844	5478976	70.212	588	
TRAVERSE 245	L0524511	11101	17:18:32	370175	5479187			
		13161	17:35:43	301568	5479169	68.607	390	
TRAVERSE 244	L0524411	13161	17:36:58	301681	5479388			
		15091	17:53:02	368756	5479375	67.075	341	
TIE.LINE 45	T0504511	15091	18:00:19	386153	5470287			
		15741	18:05:43	386111	5448634	21.653	221	
TIE.LINE 44	T0504411	15741	18:08:11	384120	5448739			
		16401	18:13:41	384094	5470954	22.215	399	
TIE.LINE 43	T0504311	16401	18:14:48	382056	5471482			
		17076	18:20:25	382113	5448649	22.833	375	
POST.TST 8	G0500811	0	18:24:21	383177	5461445			
		156	18:25:39	387673	5458007	5.660	181	
POST.THM 10	J0501011	156	18:38:00	392924	5461159			
		161	18:38:02	392924	5461159	0.000	10	

POST.THM	10	J0501011	161	18:38:29	392923	5461160		
			166	18:38:31	392923	5461160	0.000	10
POST.THM	10	J0501011	166	18:39:23	392923	5461160		
			166	18:39:23	392923	5461160	0.000	1
POST.THM	10	J0501011	166	18:39:42	392923	5461160		
			166	18:39:42	392923	5461160	0.000	1
POST.THM	10	J0501011	166	18:39:48	392923	5461160		
			406	18:41:48	392924	5461160	0.001	481
PST1.GND	9	I0500911	406	18:43:35	392924	5461159		
			646	18:45:35	392924	5461160	0.001	480

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FLIGHT LOG FOR FLIGHT 06 DOY 4 LocalTime 06:16:27 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
PRE.THOR 2	B0600211	0	06:16:42	392924	5461161			
		241	06:18:42	392923	5461161	0.001	482	
PRE1.GND 1	A0600111	241	06:20:25	392923	5461162			
		481	06:22:25	392923	5461162	0.000	480	
PRE.TEST 5	E0600511	481	06:47:56	383177	5461443			
		661	06:49:26	387699	5457987	5.691	235	
TIE.LINE 62	T0606211	661	06:58:52	420113	5452751			
		801	07:00:02	420116	5448319	4.432	41	**Scrub**
TRAVERSE 252	L0625211	0	12:15:27	376737	5477779			
		2211	12:33:52	301508	5477770	75.229	679	
TRAVERSE 160	L0616011	2211	12:45:37	301662	5496184			
		3361	12:55:12	336398	5496195	34.736	40	
TRAVERSE 161	L0616111	3361	12:56:53	336467	5495955			
		4396	13:05:30	301542	5495971	34.925	198	
TRAVERSE 162	L0616211	4396	13:09:41	301666	5495789			
		5501	13:18:53	336760	5495776	35.094	125	
TRAVERSE 163	L0616311	5501	13:20:17	336779	5495542			
		6551	13:29:02	301528	5495572	35.251	126	
TRAVERSE 164	L0616411	6551	13:31:25	301654	5495365			
		7696	13:40:57	337077	5495390	35.423	146	
TRAVERSE 165	L0616511	7696	13:42:38	337070	5495169			
		8766	13:51:33	301462	5495181	35.608	194	
TRAVERSE 166	L0616611	8766	13:54:43	301642	5494994			
		9916	14:04:18	337352	5494980	35.710	213	
TRAVERSE 167	L0616711	9916	14:06:07	337399	5494773			
		10976	14:14:57	301524	5494776	35.875	178	
TRAVERSE 168	L0616811	10976	14:16:53	301670	5494572			
		12156	14:26:43	337771	5494588	36.101	174	

TRAVERSE 169	L0616911	12156	14:28:19	337722	5494554		
		12166	14:28:24	337413	5494512	0.312	18 **Scrub**
TRAVERSE 169	L0616912	12166	14:31:42	337739	5494320		
		12176	14:31:47	337413	5494321	0.326	11 **Scrub**
TRAVERSE 169	L0616913	12176	14:34:46	337784	5494246		
		12181	14:34:49	337690	5494281	0.100	9 **Scrub**
TRAVERSE 169	L0616914	12181	14:38:28	337760	5494368		
		13241	14:47:18	301570	5494366	36.190	179
TRAVERSE 170	L0617011	13241	14:49:05	301681	5494193		
		14411	14:58:50	338026	5494196	36.345	240
TRAVERSE 171	L0617111	14411	15:01:33	338112	5493981		
		15491	15:10:33	301580	5493975	36.532	270
TRAVERSE 180	L0618011	15491	15:14:12	301657	5492188		
		17171	15:28:12	355312	5492180	53.655	128

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FLIGHT LOG FOR FLIGHT 07 DOY 4 LocalTime 15:35:37 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 320	L0732011	0	16:21:28	396023	5464199			
		3016	16:46:36	297510	5464184	98.513	1110	
TRAVERSE 219	L0721911	3016	16:47:01	296949	5463217			
		3021	16:47:04	297055	5463160	0.120	6	**Scrub**
TRAVERSE 219	L0721912	3021	16:54:22	301634	5484384			
		4851	17:09:36	359560	5484379	57.926	91	
TRAVERSE 218	L0721811	4851	17:10:51	359295	5484577			
		6531	17:24:50	301469	5484575	57.826	96	
TRAVERSE 217	L0721711	6531	17:26:19	301650	5484776			
		8361	17:41:33	359377	5484784	57.727	60	
TRAVERSE 216	L0721611	8361	17:42:44	359196	5484989			
		10046	17:56:46	301486	5484974	57.710	116	
TRAVERSE 215	L0721511	10046	17:58:14	301664	5485183			
		11861	18:13:22	359227	5485181	57.563	67	
TRAVERSE 214	L0721411	11861	18:14:23	359072	5485397			
		13541	18:28:23	301498	5485380	57.574	128	
TRAVERSE 213	L0721311	13541	18:29:51	301652	5485584			
		15376	18:45:08	359173	5485585	57.521	69	
TRAVERSE 212	L0721211	15376	18:46:25	358970	5485800			
		17051	19:00:23	301553	5485777	57.417	227	
TRAVERSE 211	L0721111	17051	19:01:44	301666	5485977			
		18916	19:17:16	358989	5485980	57.323	202	
TRAVERSE 210	L0721011	18916	19:18:24	358840	5486173			
		20581	19:32:17	301561	5486187	57.279	229	
TRAVERSE 325	L0732511	20581	19:37:50	297651	5463187			
		23766	20:04:22	398200	5463179	100.549	751	
POST.ALT 7	H0700711	23766	20:06:30	392707	5462633			
		24136	20:09:35	380997	5465777	12.125	740	

POST.TST	8	G0700811	24136	20:12:06	383078	5461518		
			24486	20:15:01	391946	5455488	10.724	479
PST1.GND	9	I0700911	24486	20:25:09	392923	5461159		
			24726	20:27:09	392923	5461159	0.000	480
POST.THM	10	J0701011	24726	20:32:05	392923	5461160		
			24966	20:34:05	392923	5461159	0.001	480

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FLIGHT LOG FOR FLIGHT 08 DOY 5 LocalTime 06:47:03 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B0800211	0	06:47:14	392923	5461159		
		241	06:49:14	392923	5461159	0.000	482
PRE1.GND 1	A0800111	241	06:58:51	392923	5461159		
		481	07:00:51	392923	5461159	0.000	480
PRE.TEST 5	E0800511	481	07:18:09	388420	5458025		
		501	07:18:19	388318	5457474	0.560	37
PRE.TEST 5	E0800512	501	07:20:28	391803	5455545		
		536	07:20:45	390872	5455766	0.957	39
PRE.TEST 5	E0800513	536	07:22:28	391449	5455621		
		871	07:25:15	383348	5461319	9.904	474
PRE.ALTB 6	F0800611	871	07:26:45	381484	5465138		
		1231	07:29:45	377425	5475282	10.926	720
TIE.LINE 42	T0804211	1231	07:34:33	380103	5472080		
		1961	07:40:38	380107	5448584	23.496	333
TRAVERSE 426	L0842611	1961	07:45:26	387633	5445986		
		3306	07:56:39	434376	5445988	46.743	663
TRAVERSE 428	L0842811	3306	07:59:23	434705	5445780		
		4721	08:11:10	387561	5445785	47.144	672
TRAVERSE 430	L0843011	4721	08:14:42	387639	5445588		
		6441	08:29:02	445730	5445591	58.091	719
TRAVERSE 432	L0843211	6441	08:30:32	445532	5445396		
		8156	08:44:49	387509	5445381	58.023	684
TRAVERSE 434	L0843411	8156	08:46:11	387639	5445198		
		9876	09:00:31	445712	5445171	58.073	647
TRAVERSE 436	L0843611	9876	09:02:03	445572	5444977		
		11591	09:16:21	387563	5444982	58.009	731
TRAVERSE 438	L0843811	11591	09:17:27	387632	5444795		
		13266	09:31:24	445768	5444785	58.136	701

TRAVERSE 440	L0844011	13266	09:33:10	445540	5444576		
		14986	09:47:30	387511	5444585	58.029	752
TRAVERSE 442	L0844211	14986	09:48:34	387677	5444391		
		16681	10:02:42	445715	5444380	58.038	815
TRAVERSE 444	L0844411	16681	10:04:17	445564	5444158		
		18456	10:19:05	387514	5444189	58.050	960
TRAVERSE 446	L0844611	18456	10:19:54	387639	5444003		
		20146	10:33:59	445744	5443981	58.105	875
TRAVERSE 448	L0844811	20146	10:35:07	445604	5443771		
		21891	10:49:40	387532	5443788	58.072	875
TRAVERSE 450	L0845011	21891	10:50:45	387682	5443589		
		23646	11:05:23	445646	5443578	57.964	964
TRAVERSE 452	L0845211	23646	11:06:28	445569	5443378		
		25341	11:20:36	387558	5443383	58.011	1013

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FLIGHT LOG FOR FLIGHT 09 DOY 5 LocalTime 11:38:24 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TIE.LINE 41	T0904111	0	12:18:31	378120	5472617			
		396	12:21:48	378231	5459658	12.959	181	**Scrub**
TIE.LINE 41	T0904112	0	13:38:15	378114	5472654			
		736	13:44:23	378110	5448430	24.224	252	
TRAVERSE 454	L0945411	736	13:47:15	387649	5443185			
		2551	14:02:22	445652	5443181	58.003	940	
TRAVERSE 456	L0945611	2551	14:03:56	445561	5442982			
		4336	14:18:48	387516	5442977	58.045	1031	
TRAVERSE 458	L0945811	4336	14:20:33	387638	5442793			
		6161	14:35:45	445679	5442779	58.041	1030	
TRAVERSE 460	L0946011	6161	14:37:24	445573	5442585			
		7976	14:52:32	387559	5442580	58.014	1105	
TRAVERSE 462	L0946211	7976	14:54:10	387657	5442392			
		9831	15:09:37	445667	5442380	58.010	957	
TRAVERSE 464	L0946411	9831	15:10:59	445579	5442180			
		11651	15:26:09	387578	5442186	58.001	1035	
TRAVERSE 466	L0946611	11651	15:28:38	387661	5441987			
		13481	15:43:53	445703	5441983	58.042	758	
TRAVERSE 468	L0946811	13481	15:45:39	445563	5441790			
		15261	16:00:29	387585	5441786	57.978	891	
TRAVERSE 470	L0947011	15261	16:01:50	387676	5441587			
		17101	16:17:10	445769	5441584	58.093	802	
TRAVERSE 472	L0947211	17101	16:18:46	445565	5441386			
		18901	16:33:46	387577	5441383	57.988	870	
TRAVERSE 474	L0947411	18901	16:34:51	387648	5441178			
		20721	16:50:01	445715	5441184	58.067	682	
TRAVERSE 476	L0947611	20721	16:51:32	445534	5440989			
		22481	17:06:12	387508	5440981	58.026	996	

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FLIGHT LOG FOR FLIGHT 10 DOY 6 LocalTime 17:49:57 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
PRE.THOR 2	B1000211	0	18:24:49	392923	5461158			
		241	18:26:50	392923	5461159	0.001	482	**Scrub**
PRE1.GND 1	A1000111	241	18:27:49	392923	5461159			
		481	18:29:49	392923	5461160	0.001	480	**Scrub**
PRE.THOR 2	B1000212	0	06:19:40	392920	5461159			
		241	06:21:40	392921	5461158	0.001	482	
PRE1.GND 1	A1000111	241	06:22:23	392921	5461158			
		481	06:24:23	392921	5461159	0.001	480	
PRE.TEST 5	E1000511	481	06:43:38	391880	5455530			
		811	06:46:23	383019	5461573	10.725	459	
PRE.ALTB 6	F1000611	811	06:48:29	382184	5466187			
		1181	06:51:34	393341	5468114	11.322	740	
TRAVERSE 319	L1031911	1181	06:55:50	395560	5464385			
		3256	07:13:07	327054	5464383	68.506	999	
TIE.LINE 35	T1003511	3256	07:33:23	366113	5479923			
		4211	07:41:20	366127	5448543	31.380	401	
TIE.LINE 36	T1003611	4211	07:46:10	368106	5448770			
		5146	07:53:57	368107	5479823	31.053	363	
TIE.LINE 37	T1003711	5146	07:56:19	370145	5479388			
		6121	08:04:26	370113	5448595	30.793	472	
TIE.LINE 38	T1003811	6121	08:06:23	372102	5448704			
		7036	08:14:00	372107	5479237	30.533	442	
TIE.LINE 39	T1003911	7036	08:16:07	374118	5478867			
		7991	08:24:05	374101	5448629	30.238	426	
TIE.LINE 40	T1004011	7991	08:25:30	376106	5448718			
		8896	08:33:02	376107	5478835	30.117	435	
TIE.LINE 62	T1006212	8896	08:50:16	420102	5452754			
		9431	08:54:44	420174	5436260	16.494	408	

TIE.LINE	74	T1007411	9431	08:54:54	420510	5435847		
			9441	08:54:59	420756	5435832	0.246	22 **Scrub**
TIE.LINE	74	T1007412	9441	09:01:45	444088	5445620		
			10296	09:08:53	444109	5418629	26.991	700
TIE.LINE	73	T1007311	10296	09:11:05	442151	5417901		
			10296	09:11:06	442151	5417901	0.000	3 **Scrub**
TIE.LINE	73	T1007312	10296	09:11:22	442139	5419053		
			10301	09:11:25	442128	5419181	0.128	7 **Scrub**
TIE.LINE	73	T1007313	10301	09:17:00	442102	5418701		
			11116	09:23:48	442110	5445774	27.073	416
TIE.LINE	72	T1007211	11116	09:25:12	440048	5445643		
			11961	09:32:15	440111	5418647	26.996	393
TIE.LINE	71	T1007111	11961	09:33:34	438209	5418709		
			12761	09:40:14	438099	5445779	27.070	566
TRAVERSE	418	L1041811	12761	09:45:14	432652	5446778		
			14201	09:57:14	387476	5446792	45.176	673

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FLIGHT LOG FOR FLIGHT 11 DOY 6 LocalTime 10:55:51 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 424	L1142411	0	11:05:36	387667	5446205		
		1351	11:16:51	433981	5446183	46.314	627
TRAVERSE 422	L1142211	1351	11:18:32	433494	5446383		
		2761	11:30:16	387484	5446375	46.010	632
TRAVERSE 420	L1142011	2761	11:31:32	387635	5446599		
		4106	11:42:44	433178	5446586	45.543	719
TRAVERSE 416	L1141611	4106	11:46:17	432240	5446978		
		5471	11:57:39	387585	5446980	44.655	867
TRAVERSE 414	L1141411	5471	11:59:08	387648	5447187		
		6746	12:09:45	431908	5447182	44.260	929
TRAVERSE 412	L1141211	6746	12:11:13	431393	5447388		
		8066	12:22:13	387571	5447376	43.822	761
TRAVERSE 410	L1141011	8066	12:24:06	387630	5447591		
		9286	12:34:16	431135	5447579	43.505	833
TRAVERSE 408	L1140811	9286	12:36:08	430536	5447777		
		10586	12:46:58	387536	5447787	43.000	805
TRAVERSE 406	L1140611	10586	12:48:41	387671	5447983		
		11806	12:58:51	430263	5447995	42.592	695
TRAVERSE 404	L1140411	11806	13:00:16	429696	5448191		
		13111	13:11:09	387584	5448188	42.112	678
TRAVERSE 402	L1140211	13111	13:12:20	387680	5448390		
		14356	13:22:42	429360	5448389	41.680	660
TRAVERSE 400	L1140011	14356	13:24:17	428871	5448588		
		15646	13:35:02	387577	5448588	41.294	676
TRAVERSE 398	L1139811	15646	13:36:23	387662	5448795		
		16826	13:46:13	428483	5448810	40.821	722
TRAVERSE 396	L1139611	16826	13:49:43	427803	5448985		
		19636	14:13:08	333571	5448982	94.232	1388

TRAVERSE 395	L1139511	19636	14:14:31	333668	5449199		
		22366	14:37:16	427723	5449192	94.055	1380
TRAVERSE 478	L1147811	22366	14:42:39	445556	5440807		
		24096	14:57:02	387556	5440779	58.000	924

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FLIGHT LOG FOR FLIGHT 12 DOY 6 LocalTime 15:38:13 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 480	L1248011	0	15:51:50	387638	5440600			
		1756	16:06:28	445664	5440581	58.026	875	
TRAVERSE 394	L1239411	1756	16:14:35	427162	5449413			
		4681	16:38:57	333551	5449380	93.611	1220	
TRAVERSE 393	L1239311	4681	16:40:19	333680	5449589			
		7481	17:03:39	426802	5449586	93.122	965	
TRAVERSE 347	L1234711	7481	17:10:20	407377	5458784			
		10826	17:38:13	297584	5458782	109.793	940	
TIE.LINE 1	T1200111	10826	17:40:24	298108	5458760			
		11201	17:43:31	298118	5471837	13.077	15	
TIE.LINE 2	T1200211	11201	17:45:16	300110	5471660			
		11611	17:48:41	300103	5458631	13.029	8	
TIE.LINE 7	T1200711	11611	17:51:51	310140	5458694			
		13611	18:08:31	310121	5526703	68.009	126	
TIE.LINE 8	T1200811	13611	18:10:20	312118	5528243			
		15751	18:28:10	312108	5458642	69.601	192	
TRAVERSE 346	L1234611	15751	18:28:53	309911	5457459			
		15756	18:28:55	309770	5457445	0.142	12	**Scrub**
TRAVERSE 346	L1234612	15756	18:35:51	297672	5458984			
		19031	19:03:09	407072	5458982	109.400	923	
POST.ALT 7	H1200711	19031	19:05:28	402092	5461790			
		19031	19:05:29	402092	5461790	0.000	1	
POST.ALT 7	H1200712	19031	19:05:36	401616	5461957			
		19036	19:05:39	401495	5462001	0.129	10	
POST.ALT 7	H1200713	19036	19:05:49	400820	5462253			
		19421	19:09:02	387806	5465431	13.396	770	
POST.TST 8	G1200811	19421	19:11:27	383122	5461483			
		19726	19:14:00	390692	5455702	9.525	406	

POST.THM	10	J1201011	19726	19:29:14	392921	5461159		
			19966	19:31:14	392921	5461159	0.000	480
PST1.GND	9	I1200911	19966	19:31:42	392921	5461160		
			20206	19:33:42	392921	5461160	0.000	480

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FLIGHT LOG FOR FLIGHT 13 **DOY** **7** **LocalTime** **09:06:02** **Area** **1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B1300211	0	09:07:31	392923	5461159		
		241	09:09:31	392923	5461159	0.000	482
PRE1.GND 1	A1300111	241	09:12:01	392923	5461159		
		481	09:14:01	392923	5461159	0.000	480
POST.TST 8	G1300811	481	09:35:44	388379	5457478		
		696	09:37:31	383149	5461481	6.586	238
PRE.ALTB 6	F1300611	696	09:39:19	387463	5462933		
		1056	09:42:19	400870	5461405	13.494	720
TRAVERSE 392	L1339211	1056	09:50:34	426286	5449782		
		3886	10:14:09	333546	5449779	92.740	1018
TRAVERSE 391	L1339111	3886	10:15:42	333639	5449982		
		6641	10:38:39	425988	5449986	92.349	1035
TRAVERSE 390	L1339011	6641	10:40:12	425446	5450195		
		9481	11:03:52	333530	5450178	91.916	938
TRAVERSE 389	L1338911	9481	11:05:04	333678	5450380		
		12216	11:27:51	425172	5450382	91.494	844
TRAVERSE 388	L1338811	12216	11:29:18	424628	5450582		
		15026	11:52:43	333578	5450584	91.050	971
TRAVERSE 387	L1338711	15026	11:53:50	333623	5450781		
		17741	12:16:28	424280	5450773	90.657	904
TRAVERSE 386	L1338611	17741	12:17:49	423761	5450987		
		20526	12:41:02	333540	5450985	90.221	953
TRAVERSE 385	L1338511	20526	12:42:05	333645	5451180		
		23256	13:04:50	423943	5451178	90.298	948
TRAVERSE 482	L1348211	23256	13:11:37	445560	5440390		
		25006	13:26:12	387557	5440387	58.003	863

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FLIGHT LOG FOR FLIGHT 14 **DOY** **7** **LocalTime** **13:45:03** **Area** **1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 345	L1434511	0	14:17:46	405846	5459180		
		3281	14:45:07	297496	5459161	108.350	1293
TIE.LINE 3	T1400311	3281	14:48:52	302094	5458700		
		4976	15:02:59	302115	5516274	57.574	127
TRAVERSE 1	L1400111	0	15:13:16	310686	5527979		
		551	15:17:51	329761	5527982	19.075	52
TRAVERSE 2	L1400211	551	15:20:02	329571	5527778		
		1161	15:25:06	310413	5527774	19.158	47
TRAVERSE 3	L1400311	1161	15:26:58	310430	5527588		
		1736	15:31:45	329709	5527591	19.279	12
TRAVERSE 4	L1400411	1736	15:34:36	329604	5527351		
		2346	15:39:40	310209	5527371	19.395	41
TRAVERSE 5	L1400511	2346	15:42:20	310208	5527191		
		2941	15:47:17	329677	5527200	19.469	28
TRAVERSE 6	L1400611	2941	15:49:59	329561	5526998		
		3546	15:55:01	309993	5526972	19.568	71
TRAVERSE 7	L1400711	3546	15:56:55	309979	5526789		
		4131	16:01:47	329716	5526788	19.737	99
TRAVERSE 8	L1400811	4131	16:04:18	329571	5526585		
		4741	16:09:22	309679	5526570	19.892	51
TRAVERSE 9	L1400911	4741	16:11:10	309745	5526413		
		5331	16:16:04	329689	5526402	19.944	100
TRAVERSE 10	L1401011	5331	16:17:33	329554	5526153		
		5956	16:22:45	309436	5526167	20.118	150
TRAVERSE 11	L1401111	5956	16:24:48	309539	5525978		
		6541	16:29:40	329645	5525983	20.106	93
TRAVERSE 12	L1401211	6541	16:32:31	329575	5525772		
		7151	16:37:35	309316	5525773	20.259	141

TRAVERSE	13	L1401311	7151	16:39:41	309241	5525586			
			7741	16:44:36	329667	5525600	20.426	30	
TRAVERSE	14	L1401411	7741	16:45:55	329568	5525386			
			8361	16:51:04	308972	5525372	20.596	91	
TRAVERSE	15	L1401511	8361	16:53:15	309060	5525069			
			8971	16:58:20	329698	5525194	20.638	167	
TRAVERSE	16	L1401611	8971	17:01:17	329603	5524992			
			9611	17:06:37	308789	5524982	20.814	136	
TRAVERSE	17	L1401711	9611	17:08:01	308818	5524719			
			9661	17:08:26	310371	5524785	1.554	52	**Scrub**
TRAVERSE	17	L1401712	9661	17:11:20	308827	5524833			
			10291	17:16:35	329726	5524778	20.899	137	
TRAVERSE	18	L1401811	10291	17:18:35	329593	5524581			
			10971	17:24:15	308605	5524591	20.988	111	
TIE.LINE	4	T1400411	10971	17:28:41	304140	5516109			
			11706	17:34:48	303845	5494969	21.142	293	
TRAVERSE	344	L1434411	11706	17:46:05	297680	5459392			
			14951	18:13:07	405761	5459391	108.081	1461	
TRAVERSE	345	L1434512	14951	18:13:11	406032	5459391			
			14956	18:13:13	406163	5459394	0.131	12	**Scrub**
POST.ALT	7	H1400711	14956	18:15:23	402029	5459659			
			15326	18:18:28	395632	5449496	12.009	740	
POST.TST	8	G1400811	15326	18:27:48	383205	5461422			
			15501	18:29:15	387693	5457991	5.649	217	
POST.THM	10	J1401011	0	18:59:27	392923	5461160			
			241	19:01:27	392923	5461160	0.000	483	
PST1.GND	9	I1400912	241	19:03:08	392923	5461160			
			481	19:05:08	392923	5461159	0.001	480	

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FLIGHT LOG FOR FLIGHT 15 DOY 8 LocalTime 06:08:10 Area 1 Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms
PRE.THOR	2	B1500211	0	06:11:52	392923	5461158		
			241	06:13:52	392923	5461159	0.001	482
PRE1.GND	1	A1500111	241	06:16:41	392923	5461159		
			481	06:18:41	392923	5461159	0.000	480
PRE.ALTB	6	F1500611	481	06:38:29	391189	5465368		
			846	06:41:31	387103	5461126	5.890	730
PRE.TEST	5	E1500512	846	06:44:12	390735	5455706		
			1156	06:46:47	383013	5461561	9.691	400
TRAVERSE	343	L1534311	1156	06:55:09	405695	5459594		
			4416	07:22:19	297496	5459578	108.199	937
TIE.LINE	4	T1500412	4416	07:25:46	304105	5458691		
			6151	07:40:13	304108	5516182	57.491	177
TRAVERSE	19	L1501911	6151	07:43:04	308568	5524402		
			6851	07:48:54	329723	5524383	21.155	28
TRAVERSE	20	L1502011	6851	07:50:08	329570	5524205		
			7456	07:55:10	308286	5524184	21.284	51
TRAVERSE	21	L1502111	7456	07:56:49	308320	5523988		
			8156	08:02:39	329722	5523974	21.402	40
TRAVERSE	22	L1502211	8156	08:04:07	329535	5523802		
			8776	08:09:17	308029	5523782	21.506	66
TRAVERSE	23	L1502311	8776	08:11:01	308098	5523580		
			9486	08:16:56	329678	5523574	21.580	74
TRAVERSE	24	L1502411	9486	08:18:08	329568	5523384		
			10116	08:23:23	307819	5523384	21.749	30
TRAVERSE	25	L1502511	10116	08:25:16	307895	5523183		
			10836	08:31:16	329754	5523189	21.859	49
TRAVERSE	26	L1502611	10836	08:32:30	329533	5522985		
			11466	08:37:45	307672	5522983	21.861	41

TRAVERSE	27	L1502711	11466	08:39:18	307665	5522779		
			12186	08:45:18	329753	5522779	22.088	56
TRAVERSE	28	L1502811	12186	08:46:26	329567	5522576		
			12816	08:51:41	307386	5522582	22.181	61
TRAVERSE	29	L1502911	12816	08:53:00	307442	5522379		
			13541	08:59:03	329720	5522389	22.278	57
TRAVERSE	30	L1503011	13541	09:00:09	329551	5522187		
			14181	09:05:29	307163	5522182	22.388	48
TRAVERSE	31	L1503111	14181	09:06:41	307206	5521989		
			14906	09:12:44	329664	5521985	22.458	75
TRAVERSE	32	L1503211	14906	09:13:51	329530	5521791		
			15551	09:19:14	306941	5521777	22.589	57
TRAVERSE	33	L1503311	15551	09:20:23	306933	5521582		
			16306	09:26:41	329698	5521584	22.765	80
TRAVERSE	34	L1503411	16306	09:27:45	329561	5521390		
			16961	09:33:13	306762	5521381	22.799	57
TRAVERSE	35	L1503511	16961	09:34:29	306737	5521189		
			17716	09:40:47	329642	5521192	22.905	85
TRAVERSE	36	L1503611	17716	09:41:47	329575	5520980		
			18381	09:47:20	306417	5520983	23.158	97
TIE.LINE	9	T1500911	18381	09:51:30	314104	5528234		
			20441	10:08:40	314122	5458639	69.595	202
TRAVERSE	342	L1534211	20441	10:13:53	297652	5459777		
			23711	10:41:08	405440	5459776	107.788	816

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FLIGHT LOG FOR FLIGHT 16 DOY 8 LocalTime 11:13:44 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 384	L1638411	0	11:32:43	422942	5451388		
		2811	11:56:08	333583	5451392	89.359	1446
TRAVERSE 383	L1638311	2811	11:58:48	333625	5451594		
		5656	12:22:31	422711	5451585	89.086	1411
TRAVERSE 382	L1638211	5656	12:24:27	422080	5451771		
		8351	12:46:54	333485	5451795	88.595	1410
TRAVERSE 381	L1638111	8351	12:50:12	333665	5451997		
		11101	13:13:07	421768	5451995	88.103	1332
TRAVERSE 380	L1638011	11101	13:15:26	421236	5452183		
		13736	13:37:24	333557	5452173	87.679	1305
TRAVERSE 379	L1637911	13736	13:39:52	333664	5452395		
		16491	14:02:50	420986	5452392	87.322	1455
TRAVERSE 378	L1637811	16491	14:04:51	420434	5452589		
		19126	14:26:49	333588	5452571	86.846	1307
TRAVERSE 377	L1637711	19126	14:29:13	333643	5452819		
		21841	14:51:51	420170	5452796	86.527	1415

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FLIGHT LOG FOR FLIGHT 17 DOY 8 LocalTime 15:34:26 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 484	L1748411	0	15:46:07	387651	5440192			
		1791	16:01:03	445700	5440188	58.049	970	
TRAVERSE 486	L1748611	1791	16:02:19	446243	5439797			
		1796	16:02:22	446115	5439821	0.130	11	**Scrub**
TRAVERSE 486	L1748612	1796	16:05:19	445578	5439982			
		3621	16:20:32	387569	5439994	58.009	899	
TRAVERSE 488	L1748811	3621	16:21:25	387641	5439791			
		5396	16:36:13	445653	5439790	58.012	780	
TRAVERSE 490	L1749011	5396	16:37:31	445551	5439581			
		7201	16:52:34	387552	5439585	57.999	890	
TRAVERSE 492	L1749211	7201	16:53:39	387637	5439393			
		8971	17:08:24	445665	5439387	58.028	820	
TRAVERSE 494	L1749411	8971	17:09:41	445602	5439178			
		10821	17:25:05	387483	5439182	58.119	887	
TRAVERSE 496	L1749611	10821	17:26:18	387674	5438996			
		12571	17:40:52	445722	5438990	58.048	801	
TRAVERSE 498	L1749811	12571	17:42:15	445563	5438798			
		14366	17:57:12	387567	5438786	57.996	831	
TRAVERSE 499	L1749911	14366	17:58:34	387667	5438596			
		16136	18:13:19	445662	5438585	57.995	772	
TRAVERSE 500	L1750011	16136	18:14:40	445590	5438388			
		17946	18:29:45	387513	5438382	58.077	864	
POST.ALT 7	H1700711	17946	18:30:18	385730	5438885			
		17951	18:30:20	385687	5438962	0.088	10	
POST.ALT 7	H1700712	17951	18:31:30	385919	5442172			
		18321	18:34:35	385247	5454601	12.447	740	
POST.TST 8	G1700811	18321	18:37:51	383068	5461516			
		18616	18:40:19	390597	5455772	9.470	370	

POST.THM	10	J1701011	18616	19:00:14	392923	5461158		
			18856	19:02:14	392923	5461158	0.000	480
PST1.GND	9	I1700911	18856	19:02:45	392923	5461158		
			19096	19:04:45	392923	5461158	0.000	480

9/1/01 B.

Kevron Geophysics Pty. Ltd. A.C.N. 009 190 925

AS/NZS ISO 9002

Office & Hangar 10 Compass Road **Tel: 61-8-9417 3188**
Jandakot, Western Australia, 6164 **Fax: 61-8-9417 3558**

FLIGHT LOG FOR FLIGHT 18 DOY 9 LocalTime 06:18:19 Area 1 Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms
PRE.THOR	2	B1800211	0	06:18:38	392921	5461158		
			241	06:20:38	392921	5461158	0.000	482
PRE1.GND	1	A1800111	241	06:22:43	392921	5461157		
			481	06:24:43	392921	5461158	0.001	480
PRE.TEST	5	E1800512	481	06:56:22	390651	5455750		
			781	06:58:52	383029	5461572	9.591	399
PRE.ALTB	6	F1800611	781	07:00:56	387542	5462667		
			1141	07:03:56	399439	5462191	11.907	720
TRAVERSE	341	L1834111	1141	07:07:52	404844	5459996		
			4336	07:34:29	297495	5459988	107.349	917
TIE.LINE	5	T1800511	4336	07:38:04	306103	5458691		
			6226	07:53:49	306114	5519687	60.996	182
TRAVERSE	37	L1803711	6226	07:56:31	306492	5520783		
			6976	08:02:46	329659	5520785	23.167	47
TRAVERSE	38	L1803811	6976	08:04:14	329537	5520584		
			7641	08:09:46	306188	5520583	23.349	35
TRAVERSE	39	L1803911	7641	08:11:17	306236	5520384		
			8401	08:17:37	329680	5520387	23.444	68
TRAVERSE	40	L1804011	8401	08:18:52	329580	5520196		
			9071	08:24:27	305973	5520190	23.607	57
TRAVERSE	41	L1804111	9071	08:25:55	306020	5519981		
			9841	08:32:20	329760	5519982	23.740	93
TRAVERSE	42	L1804211	9841	08:33:31	329574	5519796		
			10531	08:39:16	305827	5519781	23.747	146
TRAVERSE	43	L1804311	10531	08:40:44	305773	5519580		
			11311	08:47:14	329750	5519585	23.977	92
TRAVERSE	44	L1804411	11311	08:48:21	329602	5519384		
			12006	08:54:08	305547	5519391	24.055	69

TRAVERSE	45	L1804511	12006	08:55:28	305576	5519191		
			12796	09:02:03	329647	5519180	24.071	94
TRAVERSE	46	L1804611	12796	09:03:04	329602	5518986		
			13501	09:08:57	305385	5518997	24.217	34
TRAVERSE	47	L1804711	13501	09:08:59	305210	5518997		
			13501	09:08:59	305210	5518997	0.000	3 **Scrub**
TRAVERSE	48	L1804811	13501	09:09:58	305195	5518575		
			14291	09:16:33	329655	5518581	24.460	82
TRAVERSE	49	L1804911	14291	09:17:39	329554	5518395		
			14996	09:23:31	305030	5518387	24.524	70
TRAVERSE	59	L1805911	14996	09:25:06	303962	5516388		
			15836	09:32:06	329761	5516383	25.799	19
TRAVERSE	50	L1805011	15836	09:33:21	329556	5518206		
			16546	09:39:16	304812	5518183	24.744	59
TRAVERSE	58	L1805811	16546	09:40:50	304084	5516580		
			17371	09:47:42	329692	5516585	25.608	39
TRAVERSE	57	L1805711	17371	09:48:50	329543	5516784		
			18096	09:54:52	304120	5516780	25.423	71
TRAVERSE	60	L1806011	18096	09:57:12	303813	5516183		
			18926	10:04:07	329658	5516186	25.845	16
TRAVERSE	61	L1806111	18926	10:05:29	329541	5515989		
			19666	10:11:39	303584	5515979	25.957	36
TIE.LINE	6	T1800611	19666	10:15:31	308107	5523040		
			21586	10:31:31	308116	5458633	64.407	176
TRAVERSE	340	L1834011	21586	10:36:14	297653	5460192		
			25036	11:04:59	404543	5460174	106.890	998

9/1/01 B.

Kevron Geophysics Pty. Ltd. A.C.N. 009 190 925

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Jandakot, Western Australia, 6164 **Fax: 61-8-9417 3558**

FLIGHT LOG FOR FLIGHT 19 DOY 9 LocalTime 11:46:16 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 253	L1925311	0	11:58:28	376826	5477514			
		31	11:58:43	375858	5477794	1.008	23	**Scrub**
TRAVERSE 253	L1925312	31	12:01:53	376820	5477571			
		2216	12:20:05	301475	5477571	75.345	631	
TRAVERSE 159	L1915911	2216	12:27:59	301636	5496387			
		3296	12:36:59	336213	5496385	34.577	103	
TRAVERSE 158	L1915811	3296	12:39:50	335983	5496585			
		4301	12:48:12	301463	5496573	34.520	139	
TRAVERSE 157	L1915711	4301	12:50:00	301622	5496788			
		5336	12:58:38	335880	5496786	34.258	54	
TRAVERSE 156	L1915611	5336	13:01:22	335627	5496968			
		6321	13:09:34	301529	5496951	34.098	111	
TRAVERSE 155	L1915511	6321	13:11:15	301624	5497186			
		7366	13:19:57	335625	5497176	34.001	117	
TRAVERSE 154	L1915411	7366	13:22:20	335291	5497357			
		8356	13:30:35	301520	5497387	33.771	123	
TRAVERSE 153	L1915311	8356	13:33:53	301642	5497569			
		9396	13:42:33	335309	5497585	33.667	50	
TRAVERSE 152	L1915211	9396	13:44:54	334999	5497766			
		10356	13:52:54	301585	5497770	33.414	49	
TRAVERSE 151	L1915111	10356	13:55:47	301627	5497982			
		11391	14:04:24	334938	5497978	33.311	116	
TRAVERSE 150	L1915011	11391	14:07:20	334626	5498199			
		12341	14:15:15	301580	5498189	33.046	110	
TRAVERSE 131	L1913111	12341	14:20:02	301645	5501991			
		13276	14:27:50	331712	5501990	30.067	47	
TRAVERSE 132	L1913211	13276	14:30:30	331696	5501769			
		14141	14:37:43	301482	5501776	30.214	133	

TRAVERSE	133	L1913311	14141	14:39:25	301627	5501581		
			15091	14:47:20	332033	5501591	30.406	117
TRAVERSE	134	L1913411	15091	14:49:35	332028	5501366		
			15966	14:56:52	301456	5501370	30.572	133
TRAVERSE	135	L1913511	15966	14:59:49	301660	5501181		
			16906	15:07:39	332349	5501207	30.689	49
TRAVERSE	136	L1913611	16906	15:09:22	332366	5500963		
			17791	15:16:45	301560	5500990	30.806	129
TRAVERSE	137	L1913711	17791	15:18:48	301622	5500772		
			18741	15:26:43	332611	5500773	30.989	91
POST.ALT	7	H1900711	18741	15:29:09	339206	5496219		
			18741	15:29:10	339206	5496219	0.000	1
POST.ALT	7	H1900712	18741	15:29:28	340121	5495528		
			19106	15:32:31	350118	5486960	13.166	730
POST.TST	8	G1900811	19106	15:42:35	383070	5461515		
			19456	15:45:30	392093	5455462	10.865	465
POST.THM	10	J1901011	19456	16:11:00	392921	5461158		
			19696	16:13:00	392921	5461157	0.001	480
PST1.GND	9	I1900911	19696	16:13:26	392921	5461158		
			19936	16:15:26	392921	5461158	0.000	480

10/1/01 B.

Kevron Geophysics Pty. Ltd. A.C.N. 009 190 925

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FLIGHT LOG FOR FLIGHT 20 DOY 10 LocalTime 13:29:00 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B2000211	0	13:31:40	392921	5461157		
		241	13:33:40	392923	5461157	0.002	482
PRE1.GND 1	A2000111	241	13:34:20	392923	5461157		
		481	13:36:20	392923	5461157	0.000	480
PRE.TEST 5	E2000511	481	13:58:37	391685	5455568		
		806	14:01:19	383103	5461505	10.435	453
PRE.ALTB 6	F2000611	806	14:02:42	383580	5459653		
		806	14:02:42	383580	5459653	0.000	1
PRE.ALTB 6	F2000612	806	14:02:51	383870	5459386		
		806	14:02:51	383870	5459386	0.000	1
PRE.ALTB 6	F2000613	806	14:02:59	384127	5459152		
		1186	14:06:09	393619	5449874	13.273	760
TRAVERSE 501	L2050111	1186	14:11:46	387670	5438183		
		3001	14:26:53	445759	5438174	58.089	930
TRAVERSE 598	L2059811	3001	14:32:19	445580	5418782		
		3801	14:38:59	419445	5418787	26.135	484
TRAVERSE 597	L2059711	3801	14:40:58	419654	5419003		
		4601	14:47:38	445660	5418974	26.006	428
TRAVERSE 596	L2059611	4601	14:49:03	445580	5419166		
		5386	14:55:35	419555	5419173	26.025	410
TRAVERSE 595	L2059511	5386	14:56:50	419645	5419381		
		6161	15:03:17	445758	5419387	26.113	369
TRAVERSE 594	L2059411	6161	15:04:20	445567	5419594		
		6926	15:10:42	419586	5419586	25.981	420
TRAVERSE 593	L2059311	6926	15:11:32	419633	5419789		
		7716	15:18:07	445652	5419778	26.019	437
TRAVERSE 592	L2059211	7716	15:19:16	445590	5419984		
		8496	15:25:46	419535	5419976	26.055	410

Flight 021 Day 023

FLIGHT LOG FOR FLIGHT 21 DOY 23 LocalTime 14:13:36 Area 1 Datum = W

Line		File	Fid	Time	East	North	Len	Alarms
PRE.THOR	2	B2100211	0	14:13:56	392941	5461154		
			241	14:15:56	392940	5461154	0.001	482
PRE1.GND	1	A2100111	241	14:16:41	392941	5461154		
			481	14:18:41	392941	5461154	0.000	480
PRE.TEST	5	E2100511	481	14:45:53	391960	5455503		
			526	14:46:15	393239	5455190	1.317	86
PRE.TEST	5	E2100512	526	14:53:07	383169	5461445		
			701	14:54:34	387652	5458021	5.641	278
TRAVERSE	586	L2158611	701	15:09:08	419673	5421192		
			1491	15:15:43	445713	5421189	26.040	583
TRAVERSE	585	L2158511	1491	15:17:14	445542	5421389		
			2361	15:24:29	419533	5421379	26.009	595
TRAVERSE	584	L2158411	2361	15:26:16	419643	5421585		
			3161	15:32:56	445661	5421581	26.018	622
TRAVERSE	583	L2158311	3161	15:34:31	445588	5421785		
			4036	15:41:48	419523	5421782	26.065	617
TRAVERSE	582	L2158211	4036	15:43:28	419679	5422023		
			4051	15:43:35	420132	5422067	0.455	12
TRAVERSE	582	L2158212	4051	15:45:44	419667	5421991		
			4876	15:52:36	445684	5421985	26.017	594
TRAVERSE	581	L2158111	4876	15:54:14	445580	5422191		
			5766	16:01:39	419514	5422183	26.066	542
TRAVERSE	580	L2158011	5766	16:03:37	419634	5422390		
			6581	16:10:24	445639	5422385	26.005	524
TRAVERSE	579	L2157911	6581	16:12:50	445572	5422579		
			7456	16:20:08	419571	5422584	26.001	578
TRAVERSE	578	L2157811	7456	16:21:46	419672	5422786		
			8276	16:28:36	445696	5422778	26.024	524
TRAVERSE	577	L2157711	8276	16:30:28	445546	5422975		
			9146	16:37:43	419570	5422974	25.976	532
TRAVERSE	576	L2157611	9146	16:39:20	419675	5423190		
			9971	16:46:13	445714	5423182	26.039	544

TRAVERSE	575	L2157511	9971	16:48:12	445540	5423382		
			10831	16:55:22	419524	5423377	26.016	581
TRAVERSE	574	L2157411	10831	16:56:49	419630	5423584		
			11656	17:03:42	445684	5423586	26.054	514
TRAVERSE	573	L2157311	11656	17:05:22	445561	5423777		
			12531	17:12:40	419486	5423769	26.075	541
TRAVERSE	572	L2157211	12531	17:14:01	419643	5423983		
			13381	17:21:06	445663	5423979	26.020	446
TRAVERSE	571	L2157111	13381	17:22:46	445569	5424182		
			14261	17:30:06	419472	5424177	26.097	432
TRAVERSE	570	L2157011	14261	17:31:33	419621	5424389		
			15121	17:38:43	445646	5424383	26.025	416
TRAVERSE	569	L2156911	15121	17:40:13	445603	5424583		
			16006	17:47:36	419582	5424574	26.021	464
TRAVERSE	568	L2156811	16006	17:49:16	419667	5424780		
			16871	17:56:29	445654	5424779	25.987	493
TRAVERSE	567	L2156711	16871	17:58:06	445587	5424982		
			17756	18:05:29	419581	5424978	26.006	471
TRAVERSE	566	L2156611	17756	18:06:58	419650	5425189		
			18616	18:14:08	445667	5425191	26.017	550
TRAVERSE	565	L2156511	18616	18:15:36	445602	5425387		
			19486	18:22:51	419523	5425387	26.079	485
TRAVERSE	564	L2156411	19486	18:24:07	419634	5425587		
			20351	18:31:20	445652	5425595	26.018	500
TRAVERSE	563	L2156311	20351	18:32:34	445570	5425784		
			21226	18:39:52	419546	5425778	26.024	538
POST.ALT	7	H2100711	21226	18:41:56	415312	5430534		
			21586	18:44:56	409769	5438945	10.073	720
POST.TST	8	G2100811	21586	18:52:19	390935	5455512		
			21806	18:54:09	385935	5459342	6.298	331
PST1.GND	9	I2100911	21806	19:03:32	392946	5461155		
			22046	19:05:31	392946	5461155	0.000	480
POST.THM	10	J2101011	22046	19:07:00	392946	5461155		
			22286	19:09:00	392946	5461155	0.000	480

Total Km's = 625.15

24/1/01

Kevron Geophysics Pty. Ltd. A.C.N. 009 190 925

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FLIGHT LOG FOR FLIGHT 22 DOY 24 LocalTime 06:07:49 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B2200211	0	06:08:11	392946	5461154		
		241	06:10:11	392946	5461155	0.001	482
PRE1.GND 1	A2200111	241	06:11:07	392946	5461154		
		481	06:13:07	392946	5461155	0.001	480
PRE.TEST 5	E2200511	481	06:35:13	385715	5459503		
		691	06:36:58	390497	5455860	6.012	323
PRE.ALTB 6	F2200611	691	06:42:40	400864	5442258		
		1056	06:45:42	409072	5432650	12.637	730
TRAVERSE 562	L2256211	1056	06:49:40	419629	5425988		
		1936	06:57:00	445748	5425980	26.119	613
TRAVERSE 556	L2255611	1936	06:58:18	445555	5427184		
		2776	07:05:18	419578	5427189	25.977	586
TRAVERSE 561	L2256111	2776	07:06:32	419640	5426195		
		3666	07:13:57	445706	5426176	26.066	591
TRAVERSE 555	L2255511	3666	07:15:29	445561	5427377		
		4516	07:22:34	419458	5427385	26.103	533
TRAVERSE 560	L2256011	4516	07:23:46	419629	5426392		
		5406	07:31:11	445678	5426385	26.049	514
TRAVERSE 554	L2255411	0	07:33:13	445542	5427582		
		856	07:40:21	419471	5427583	26.071	500
TRAVERSE 559	L2255911	856	07:41:32	419656	5426584		
		1731	07:48:50	445661	5426583	26.005	537
TRAVERSE 553	L2255311	1731	07:50:17	445575	5427771		
		2586	07:57:25	419564	5427781	26.011	515
TRAVERSE 558	L2255811	2586	07:58:44	419655	5426795		
		3471	08:06:07	445702	5426786	26.047	459
TRAVERSE 552	L2255211	3471	08:07:44	445552	5427979		
		4321	08:14:49	419545	5427979	26.007	506

TRAVERSE 557	L2255711	4321	08:16:25	419646	5426992		
		5211	08:23:50	445711	5426982	26.065	526
TRAVERSE 551	L2255111	5211	08:25:17	445584	5428181		
		6066	08:32:25	419546	5428175	26.038	494
TRAVERSE 545	L2254511	0	08:33:55	415602	5429603		
		36	08:34:13	416632	5429468	1.039	110 **Scrub**
TRAVERSE 550	L2255011	36	08:36:30	419639	5428394		
		921	08:43:53	445714	5428384	26.075	524
TRAVERSE 549	L2254911	921	08:45:16	445551	5428578		
		1761	08:52:16	419518	5428590	26.033	501
TRAVERSE 548	L2254811	1761	08:52:18	419344	5428587		
		1781	08:52:28	418739	5428526	0.608	43 **Scrub**
TRAVERSE 548	L2254812	1781	09:01:57	445579	5428782		
		3636	09:17:24	387503	5428778	58.076	1012
TRAVERSE 542	L2254211	3636	09:19:00	387673	5429985		
		5561	09:35:02	445718	5429984	58.045	910
TRAVERSE 547	L2254711	5561	09:36:08	445555	5429003		
		5606	09:36:30	444071	5428987	1.484	35 **Scrub**
POST.ALT 7	H2200711	0	09:39:36	434017	5432937		
		361	09:42:36	424231	5436564	10.437	723
PST1.GND 9	I2200911	361	10:04:38	392944	5461155		
		601	10:06:38	392944	5461155	0.000	480
POST.THM 10	J2201011	601	10:09:22	392944	5461155		
		841	10:11:22	392944	5461155	0.000	480

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Kevron Geophysics Pty. Ltd. A.C.N. 009 190 925

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AS/NZS ISO 900

FLIGHT LOG FOR FLIGHT 23 **DOY 24 LocalTime** 15:22:27 Area 1 Datum = W

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 318	L2331811	0	15:54:35	395547	5464579		
		2916	16:18:53	297577	5464571	97.970	1042
TRAVERSE 497	L2349711	2916	16:41:29	333664	5438779		
		3781	16:48:42	361672	5438781	28.008	295
TRAVERSE 495	L2349511	3781	16:51:31	361602	5438975		
		4636	16:58:38	333484	5438984	28.118	310
TRAVERSE 493	L2349311	4636	16:59:47	333655	5439154		
		5506	17:07:02	361741	5439178	28.086	286
TRAVERSE 491	L2349111	5506	17:08:10	361587	5439400		
		6351	17:15:12	333496	5439384	28.091	290
TRAVERSE 489	L2348911	6351	17:16:23	333625	5439587		
		7226	17:23:40	361700	5439584	28.075	277
TRAVERSE 487	L2348711	7226	17:24:58	361591	5439790		
		8076	17:32:03	333557	5439784	28.034	287
TRAVERSE 485	L2348511	8076	17:33:17	333654	5439987		
		8951	17:40:35	361652	5439985	27.998	344
TRAVERSE 483	L2348311	8951	17:41:41	361572	5440180		
		9811	17:48:51	333470	5440182	28.102	304
TRAVERSE 481	L2348111	9811	17:49:54	333647	5440374		
		10676	17:57:07	361689	5440382	28.042	294
TRAVERSE 479	L2347911	10676	17:58:21	361600	5440589		
		11531	18:05:29	333564	5440579	28.036	325
TRAVERSE 477	L2347711	11531	18:06:25	333677	5440782		
		12416	18:13:48	361690	5440787	28.013	335
TRAVERSE 475	L2347511	12416	18:15:00	361575	5440984		
		13281	18:22:13	333472	5440982	28.103	337

TRAVERSE	473	L2347311	13281	18:23:04	333667	5441211	
			14166	18:30:27	361714	5441178	28.047 389
TRAVERSE	471	L2347111	14166	18:31:37	361577	5441391	
			15026	18:38:47	333559	5441378	28.018 367
TRAVERSE	469	L2346911	15026	18:40:22	333646	5441581	
			15911	18:47:45	361658	5441583	28.012 348
PST1.GND	9	I2300911	15911	19:05:03	392944	5461154	
			16151	19:07:03	392944	5461154	0.000 480
POST.THM	10	J2301011	16151	19:09:37	392944	5461155	
			16391	19:11:37	392944	5461154	0.001 480

Total Km's = 518.75

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FLIGHT LOG FOR FLIGHT 24 DOY 25 LocalTime 06:13:10 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
PRE.THOR 2	B2400211	0	06:52:12	392944	5461154			
		241	06:54:12	392944	5461154	0.000	482	
PRE1.GND 1	A2400111	241	06:55:33	392944	5461154			
		481	06:57:33	392944	5461154	0.000	480	
TRAVERSE 547	L2454712	481	07:27:16	387635	5428980			
		2256	07:42:03	445653	5428995	58.018	965	**Scrub**
TRAVERSE 537	L2453711	2256	07:43:20	445597	5430981			
		4021	07:58:02	387468	5430989	58.129	856	**Scrub**
TRAVERSE 522	L2452211	4021	07:59:46	387671	5433984			
		5806	08:14:39	445662	5433995	57.991	854	
TRAVERSE 521	L2452111	5806	08:16:07	445601	5434177			
		7581	08:30:55	387513	5434182	58.088	878	
TRAVERSE 520	L2452011	7581	08:32:12	387661	5434396			
		9346	08:46:55	445714	5434383	58.053	842	
TRAVERSE 519	L2451911	9346	08:48:24	445568	5434583			
		11081	09:02:52	387505	5434582	58.063	848	

Total Km: 232.2

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FLIGHT LOG FOR FLIGHT 25 **DOY 25 LocalTime 13:06:03** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 546	L2554611	0	13:41:57	387670	5429188			
		1851	13:57:22	445747	5429183	58.077	928	
TRAVERSE 545	L2554512	1851	13:58:51	445586	5429382			
		3736	14:14:33	387536	5429379	58.050	941	
TRAVERSE 538	L2553811	3736	14:19:12	387658	5430785			
		4806	14:28:06	421820	5430508	34.163	565	**Scrub**
TRAVERSE 543	L2554311	4806	14:28:17	422100	5430000			
		4826	14:28:26	422109	5429475	0.525	29	

Total Km: 116

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FLIGHT LOG FOR FLIGHT 26 **DOY 27 LocalTime 09:38:37** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B2600211	0	09:39:58	392932	5461163		
		241	09:41:58	392932	5461163	0.000	482
PRE1.GND 1	A2600111	241	09:42:37	392931	5461163		
		481	09:44:37	392931	5461164	0.001	480
PRE.TEST 5	E2600511	481	10:08:48	382763	5461766		
		791	10:11:23	390465	5455864	9.703	390
PRE.ALTB 6	F2600611	791	10:13:08	392402	5451277		
		1151	10:16:08	391488	5441443	9.876	720
TRAVERSE 544	L2654411	1151	10:20:34	387673	5429588		
		2881	10:34:59	445683	5429592	58.010	739
TRAVERSE 541	L2654111	2881	10:36:51	445604	5430189		
		4751	10:52:26	387578	5430180	58.026	749
TRAVERSE 540	L2654011	4751	10:53:45	387673	5430388		
		6486	11:08:12	445771	5430387	58.098	720
TRAVERSE 539	L2653911	6486	11:09:30	445582	5430588		
		8351	11:25:02	387549	5430586	58.033	685
TRAVERSE 536	L2653611	8351	11:26:04	387681	5431174		
		10066	11:40:22	445665	5431188	57.984	661
TRAVERSE 535	L2653511	10066	11:41:49	445579	5431385		
		11901	11:57:06	387583	5431385	57.996	756
TRAVERSE 534	L2653411	11901	11:58:01	387652	5431619		
		13631	12:12:26	445658	5431580	58.006	745
TRAVERSE 533	L2653311	13631	12:14:05	445595	5431781		
		15491	12:29:35	387558	5431785	58.037	783
TRAVERSE 532	L2653211	15491	12:31:03	387686	5431990		
		17186	12:45:11	445734	5431990	58.048	743
TRAVERSE 531	L2653111	17186	12:46:49	445547	5432186		
		19016	13:02:04	387497	5432168	58.050	686

TRAVERSE	530	L2653011	19016	13:03:34	387626	5432382		
			20721	13:17:47	445700	5432376	58.074	743
TRAVERSE	529	L2652911	20721	13:19:08	445555	5432593		
			22571	13:34:33	387535	5432597	58.020	821
TRAVERSE	528	L2652811	22571	13:36:53	387652	5432786		
			22576	13:36:56	387787	5432783	0.135	1 **Scrub**
POST.TST	8	G2600811	22576	13:42:55	390775	5455644		
			22881	13:45:28	383654	5461092	8.966	394
PST1.GND	9	I2600911	22881	13:52:38	392944	5461155		
			23121	13:54:38	392944	5461154	0.001	480
POST.THM	10	J2601011	23121	13:55:28	392944	5461154		
			23361	13:57:28	392944	5461155	0.001	480

Km 696.3

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FLIGHT LOG FOR FLIGHT 27 **DOY 27 LocalTime 15:29:08** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
TRAVERSE 376	L2737611	0	16:09:53	419596	5452984			
		2801	16:33:13	338586	5452983	81.010	1425	
TRAVERSE 375	L2737511	2801	16:35:20	337108	5453187			
		5271	16:55:55	419644	5453185	82.536	1177	
TRAVERSE 374	L2737411	5271	16:57:48	418743	5453382			
		6896	17:11:20	373966	5453403	44.777	876	**Part Line**
POST.TST 8	G2700811	6896	17:14:58	382893	5461697			
		7206	17:17:33	390872	5455683	9.992	376	
PST1.GND 9	I2700912	7206	17:26:09	392935	5461164			
		7446	17:28:09	392935	5461164	0.000	480	
POST.THM 10	J2701012	7446	17:30:08	392935	5461164			
		7686	17:32:08	392935	5461163	0.001	480	

Km: 208.3

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FLIGHT LOG FOR FLIGHT 28 DOY 28 LocalTime 06:11:34 Area 1 Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms	
PRE.THOR	2	B2800211	0	06:17:37	392935	5461162			
			241	06:19:37	392935	5461162	0.000	482	
PRE1.GND	1	A2800111	241	06:20:42	392935	5461162			
			481	06:22:42	392935	5461162	0.000	480	
PRE.TEST	5	E2800511	481	06:40:41	382947	5461626			
			801	06:43:21	390631	5455791	9.648	464	
TRAVERSE	374	L2837412	801	06:46:39	387449	5453386			
			2641	07:01:59	333355	5453387	54.094	794	
TRAVERSE	375	L2837512	2641	07:03:27	333235	5453206			
			3041	07:06:47	346288	5453191	13.053	195	**Fill In**
TRAVERSE	376	L2837612	3041	07:08:12	347253	5452981			
			3506	07:12:04	333287	5452974	13.966	186	**Fill In**
TIE.LINE	10	T2801011	3506	07:18:22	316109	5458711			
			5666	07:36:22	316104	5528385	69.674	351	
TIE.LINE	11	T2801111	5666	07:38:07	318120	5528271			
			7951	07:57:09	318111	5458547	69.724	272	
TIE.LINE	12	T2801211	7951	07:58:39	320084	5458730			
			10116	08:16:41	320114	5528392	69.662	286	
TIE.LINE	13	T2801311	10116	08:18:21	322119	5528240			
			12371	08:37:08	322108	5458615	69.625	179	
TIE.LINE	14	T2801411	12371	08:38:49	324115	5458743			
			14526	08:56:47	324108	5528310	69.567	233	
TIE.LINE	15	T2801511	14526	08:58:31	326117	5528209			
			16771	09:17:13	326111	5458577	69.632	209	
TIE.LINE	16	T2801611	16771	09:18:36	328110	5458726			
			18926	09:36:34	328113	5528356	69.630	198	
TIE.LINE	17	T2801711	18926	09:43:56	330114	5503420			
			20371	09:55:59	330104	5458652	44.768	234	

TRAVERSE	373	L2837311	20371	09:59:27	333670	5453592	
			22926	10:20:45	418504	5453583	84.834 1174
PRE.ALTB	6	F2800611	22926	10:23:59	413577	5455644	
			23301	10:27:07	404913	5459286	9.398 750

Total Km: 698

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FLIGHT LOG FOR FLIGHT 29 **DOY 28 LocalTime 10:59:57** **Area 1** Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms	
TIE.LINE	63	T2906311	0	11:41:02	422004	5453231			
			6	11:41:05	422004	5453039	0.192	13	**Scrub**
TIE.LINE	70	T2907011	6	11:46:02	436121	5445652			
			846	11:53:02	436115	5418589	27.063	506	
TIE.LINE	69	T2906911	846	11:54:25	434107	5418721			
			1711	12:01:37	434112	5446244	27.523	552	
POST.TST	8	G2900811	1711	12:12:56	402878	5457974			
			1876	12:14:18	398978	5461724	5.410	331	**Radalt Test**

Total Km: 54.5

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FLIGHT LOG FOR FLIGHT 30 **DOY 28 LocalTime 13:23:22** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TIE.LINE 68	T3006811	0	13:42:52	432111	5447090		
		906	13:50:25	432112	5418565	28.525	382
TIE.LINE 67	T3006711	906	13:51:37	430080	5418706		
		1816	13:59:12	430110	5448127	29.421	482
TIE.LINE 66	T3006611	1816	14:01:11	428108	5448956		
		2801	14:09:23	428116	5418543	30.413	475
TIE.LINE 65	T3006511	2801	14:10:50	426116	5418752		
		3756	14:18:47	426114	5450019	31.267	310
TIE.LINE 64	T3006411	3756	14:20:47	424117	5450850		
		4806	14:29:32	424115	5418631	32.219	472
TIE.LINE 63	T3006312	4806	14:30:55	422109	5418723		
		5826	14:39:25	422119	5451912	33.189	600
TIE.LINE 62	T3006213	5826	14:41:10	420116	5452772		
		6961	14:50:37	420119	5418604	34.168	716
TRAVERSE 527	L3052711	6961	15:02:17	387622	5432991		
		8711	15:16:52	445762	5432984	58.140	741
TRAVERSE 526	L3052611	8711	15:18:25	445559	5433185		
		10566	15:33:53	387586	5433179	57.973	820
TRAVERSE 525	L3052511	10566	15:35:17	387669	5433382		
		12301	15:49:44	445696	5433391	58.027	778
TRAVERSE 524	L3052411	12301	15:51:17	445549	5433591		
		14156	16:06:45	387474	5433584	58.075	838
TRAVERSE 523	L3052311	14156	16:08:00	387656	5433779		
		15916	16:22:40	445748	5433786	58.092	753
TRAVERSE 518	L3051811	15916	16:24:36	445545	5434782		
		17731	16:39:44	387581	5434786	57.964	771
TRAVERSE 517	L3051711	17731	16:41:12	387669	5434980		
		19491	16:55:52	445662	5434996	57.993	649

TRAVERSE	516	L3051611	19491	16:57:07	445591	5435196	
			21396	17:13:00	387565	5435188	58.026	862
POST.ALT	7	H3000711	21396	17:13:51	386249	5437033	
			21641	17:15:54	389245	5445614	9.089	490
POST.TST	8	G3000811	21641	17:18:21	390603	5455778	
			21926	17:20:44	383676	5461072	8.718	380
PST1.GND	9	I3000911	21926	17:28:49	392932	5461163	
			22166	17:30:49	392931	5461163	0.001	480
POST.THM	10	J3001011	22166	17:32:35	392932	5461163	
			22406	17:34:35	392932	5461162	0.001	480

Total Km: 683.5

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FLIGHT LOG FOR FLIGHT 31 **DOY 29 LocalTime 06:08:42** **Area 1** Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms
PRE.THOR	2	B3100211	0	06:08:56	392932	5461163		
			241	06:10:56	392932	5461163	0.000	482
PRE1.GND	1	A3100111	241	06:12:51	392932	5461163		
			481	06:14:51	392932	5461163	0.000	480
PRE.TEST	5	E3100511	481	06:52:28	390533	5455842		
			761	06:54:48	383623	5461109	8.688	366
PRE.ALTB	6	F3100611	761	06:56:46	388268	5463040		
			1026	06:58:58	397866	5463763	9.625	530
TRAVERSE	372	L3137211	1026	07:05:15	417884	5453785		
			3691	07:27:27	333541	5453780	84.343	1179
TIE.LINE	18	T3101811	3691	07:30:14	332117	5458719		
			4961	07:40:49	332116	5501042	42.323	313
TIE.LINE	19	T3101911	4961	07:42:10	334113	5498504		
			6746	07:57:02	334107	5438584	59.920	449
TIE.LINE	20	T3102011	6746	07:58:38	336110	5438755		
			8481	08:13:05	336113	5496187	57.432	312
TIE.LINE	21	T3102111	8481	08:14:24	338108	5493642		
			10136	08:28:11	338113	5438576	55.066	243
TIE.LINE	22	T3102211	10136	08:29:50	340111	5438692		
			11796	08:43:40	340111	5493734	55.042	280
TIE.LINE	23	T3102311	11796	08:45:20	342109	5493658		
			13451	08:59:07	342113	5438644	55.014	515
TIE.LINE	24	T3102411	13451	09:00:32	344105	5438738		
			15106	09:14:20	344111	5493788	55.050	335
TIE.LINE	25	T3102511	15106	09:15:39	346111	5493636		
			16771	09:29:32	346114	5438563	55.073	328
TIE.LINE	26	T3102611	16771	09:30:54	348105	5438698		
			18441	09:44:49	348106	5493721	55.023	380

TIE.LINE	27	T3102711	18441	09:45:58	350111	5493649		
			20096	09:59:46	350105	5438537	55.112	324
TIE.LINE	28	T3102811	20096	10:01:04	352103	5438706		
			21741	10:14:47	352108	5493739	55.033	369
TIE.LINE	29	T3102911	21741	10:15:54	354105	5492868		
			23366	10:29:27	354114	5438641	54.227	437
TRAVERSE	348	L3134811	23366	10:37:50	333686	5458576		
			25556	10:56:06	407849	5458585	74.163	657

TOTAL KM'S = 812.82

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FLIGHT LOG FOR FLIGHT 32 DOY 29 LocalTime 10:57:46 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 559	L3255912	0	11:45:35	419666	5426583		
		776	11:52:02	445706	5426574	26.040	471
TRAVERSE 552	L3255212	776	11:53:48	445608	5427983		
		1686	12:01:22	419521	5427988	26.087	482
TRAVERSE 551	L3255112	1686	12:03:19	419644	5428189		
		2461	12:09:46	445687	5428183	26.043	438
TRAVERSE 549	L3254912	2461	12:11:53	445574	5428583	**Scrub System Failure**	
TRAVERSE 549	L3254912	0	12:41:47	445582	5428580		
		946	12:49:40	419471	5428587	26.111	523
TRAVERSE 547	L3254713	946	12:53:23	414144	5429219		
		961	12:53:30	413785	5429086	0.383	32 **Scrub**
TRAVERSE 547	L3254714	961	12:57:18	407556	5428993		
		2131	13:07:03	446237	5428980	38.681	806
TRAVERSE 548	L3254813	2131	13:09:08	445604	5428792		
		4166	13:26:06	387567	5428783	58.037	1012

Total Km: 201 (Re-Flies,Diurnal)

30/1/04 B'

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FLIGHT LOG FOR FLIGHT 33 DOY 30 LocalTime 10:56:44 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B3300211	0	11:14:43	392944	5461156		
		241	11:16:43	392944	5461156	0.000	482
PRE1.GND 1	A3300112	241	11:17:40	392944	5461157		
		481	11:19:40	392944	5461156	0.001	480
PRE.TEST 5	E3300511	481	11:39:15	390526	5455847		
		761	11:41:35	383530	5461190	8.803	342
PRE.ALTB 6	F3300611	761	11:44:00	378602	5467447		
		1126	11:47:02	370163	5476750	12.560	730
TRAVERSE 249	L3324913	1126	11:54:00	376596	5478392		
		3476	12:13:35	301571	5478387	75.025	422
TRAVERSE 209	L3320911	3476	12:16:14	301640	5486379		
		5156	12:30:14	358840	5486386	57.200	263
TRAVERSE 208	L3320811	5156	12:31:46	358737	5486587		
		6916	12:46:26	301470	5486579	57.267	239
TRAVERSE 207	L3320711	6916	12:47:53	301662	5486785		
		8601	13:01:56	358852	5486787	57.190	253
TRAVERSE 206	L3320611	8601	13:03:21	358607	5486989		
		10356	13:17:59	301532	5486975	57.075	176
TRAVERSE 205	L3320511	10356	13:19:30	301667	5487174		
		12036	13:33:30	358617	5487177	56.950	155
TRAVERSE 204	L3320411	12036	13:34:41	358470	5487379		
		13791	13:49:19	301522	5487381	56.948	120
TRAVERSE 203	L3320311	13791	13:50:38	301644	5487580		
		15496	14:04:51	358533	5487585	56.889	136
TRAVERSE 202	L3320211	15496	14:06:10	358353	5487793		
		17236	14:20:40	301515	5487778	56.838	100
TRAVERSE 201	L3320111	17236	14:21:50	301648	5487987		
		18916	14:35:51	358379	5487987	56.731	160

TRAVERSE 200	L3320011	18916	14:36:59	358232	5488188		
		20666	14:51:34	301513	5488181	56.719	137
TRAVERSE 199	L3319911	20666	14:52:46	301628	5488382		
		22336	15:06:41	358304	5488385	56.676	99
TRAVERSE 198	L3319811	22336	15:07:50	358098	5488582		
		24061	15:22:13	301464	5488576	56.634	101
TRAVERSE 197	L3319711	24061	15:23:33	301690	5488782		
		25716	15:37:20	358206	5488771	56.516	84

Total Km: 814.6

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FLIGHT LOG FOR FLIGHT 34 DOY 30 LocalTime 16:14:24 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 196	L3419611	0	16:32:25	357972	5488980		
		1911	16:48:20	301520	5488980	56.452	65
TRAVERSE 195	L3419511	1911	16:49:56	301631	5489183		
		3621	17:04:11	358128	5489186	56.497	133
TRAVERSE 194	L3419411	3621	17:05:44	357885	5489380		
		5536	17:21:41	301517	5489389	56.368	44
TRAVERSE 193	L3419311	5536	17:23:04	301672	5489588		
		7231	17:37:11	357883	5489586	56.211	103
TRAVERSE 192	L3419211	7231	17:39:02	357771	5489782		
		9111	17:54:42	301524	5489779	56.247	36
TRAVERSE 191	L3419111	9111	17:56:09	301658	5489993		
		10816	18:10:21	357843	5489986	56.185	82
TRAVERSE 188	L3418811	10816	18:11:32	357333	5490580		
		12686	18:27:07	301468	5490578	55.865	72
TRAVERSE 190	L3419011	12686	18:28:11	301639	5490200		
		14406	18:42:31	357710	5490184	56.071	89
POST.ALT 7	H3400711	14406	18:45:00	364269	5485283		
		14411	18:45:02	364350	5485211	0.108	10
POST.ALT 7	H3400712	14411	18:45:45	366192	5483504		
		14781	18:48:50	373549	5474661	11.503	740
POST.TST 8	G3400811	14781	18:53:28	383095	5461508		
		15121	18:56:18	390576	5455801	9.409	453
PST1.GND 9	I3400911	15121	19:04:45	392944	5461155		
		15361	19:06:45	392944	5461157	0.002	480
POST.THM 10	J3401011	15361	19:07:38	392944	5461157		
		15601	19:09:38	392944	5461157	0.000	480

Total Km: 450

FLIGHT LOG FOR FLIGHT 35 **DOY** 31 LocalTime 06:12:22 Area 1 Datum = W

Line		File	Fid	Time	East	North	Len	Alarms
PRE.THOR	2	B3500211	0	06:13:36	392944	5461155		
			241	06:15:36	392943	5461155	0.001	482
PRE1.GND	1	A3500111	241	06:16:24	392944	5461154		
			481	06:18:23	392944	5461154	0.000	480
PRE.TEST	5	E3500511	481	07:02:36	382911	5461646		
			811	07:05:21	390388	5455927	9.413	413
PRE.ALTB	6	F3500611	811	07:08:30	399242	5456681		
			1051	07:10:30	405937	5456820	6.696	480
TRAVERSE	371	L3537111	1051	07:15:32	417448	5453977		
			3616	07:36:54	333582	5453988	83.866	1188
TIE.LINE	26	T3502612	3616	07:45:09	348108	5438722		
			5311	07:59:16	348114	5493740	55.018	545
TIE.LINE	30	T3503011	5311	08:02:44	356117	5491371		
			7091	08:17:34	356111	5438642	52.729	759
TIE.LINE	31	T3503111	7091	08:18:54	358111	5438728		
			8616	08:31:36	358109	5487438	48.710	515
TIE.LINE	32	T3503211	8616	08:34:36	360106	5480668		
			10076	08:46:46	360114	5438644	42.024	543
TIE.LINE	33	T3503311	10076	08:50:29	362112	5448707		
			11061	08:58:41	362112	5480466	31.759	387
TRAVERSE	189	L3518911	11061	09:03:13	357591	5490377		
			12751	09:17:18	301522	5490384	56.069	61
TRAVERSE	187	L3518711	12751	09:18:31	301672	5490782		
			14606	09:33:59	357131	5490784	55.459	59
TRAVERSE	186	L3518611	14606	09:36:06	356755	5490984		
			16256	09:49:51	301523	5490984	55.232	109
TRAVERSE	185	L3518511	16256	09:51:11	301679	5491181		
			18081	10:06:24	356585	5491182	54.906	88
TIE.LINE	34	T3503411	18081	10:10:28	364116	5480148		
			19096	10:18:55	364102	5448647	**31.501**	354

TRAVERSE	**467**	**L3546711**	**19096**	**10:21:18**	**359402**	**5441987**	
			19111	**10:21:25**	**359723**	**5441747**	**0.401**	**24**
SCRUB								
TRAVERSE	**467**	**L3546712**	**19111**	**10:23:53**	**358763**	**5441996**	
			19126	**10:24:00**	**359085**	**5441777**	**0.389**	**25**
SCRUB								
TRAVERSE	467	L3546713	19126	10:27:28	361569	5441781		
			19971	10:34:30	333540	5441780	28.029	390
TRAVERSE	370	L3537011	19971	10:38:41	333672	5454186		
			22766	11:01:59	417130	5454190	83.458	1191

TOTAL Km's = 679.55

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FLIGHT LOG FOR FLIGHT 36 **DOY 31 LocalTime 11:19:49** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 543	L3654312	0	12:06:42	387629	5429783		
		1796	12:21:40	445659	5429782	58.030	707
TRAVERSE 538	L3653812	1796	12:23:03	445548	5430773		
		3611	12:38:10	387519	5430783	58.029	754
TRAVERSE 528	L3652812	3611	12:39:27	387631	5432785		
		5446	12:54:44	445740	5432786	58.109	756
TRAVERSE 515	L3651511	5446	12:55:53	445588	5435394		
		7251	13:10:55	387563	5435382	58.025	846
TRAVERSE 514	L3651411	7251	13:12:20	387672	5435590		
		9091	13:27:40	445653	5435587	57.981	897
TRAVERSE 513	L3651311	9091	13:28:55	445569	5435782		
		10906	13:44:02	387565	5435787	58.004	944
TRAVERSE 512	L3651211	10906	13:45:20	387625	5435987		
		12711	14:00:22	445775	5435986	58.150	858
TRAVERSE 511	L3651111	12711	14:01:47	445556	5436188		
		14501	14:16:42	387494	5436189	58.062	879
TRAVERSE 510	L3651011	14501	14:18:12	387674	5436384		
		16281	14:33:02	445648	5436390	57.974	807
TRAVERSE 509	L3650911	16281	14:34:15	445599	5436590		
		18076	14:49:12	387501	5436589	58.098	872
TRAVERSE 508	L3650811	18076	14:50:27	387643	5436778		
		19866	15:05:22	445682	5436782	58.039	835
TRAVERSE 507	L3650711	19866	15:06:50	445575	5436983		
		21626	15:21:30	387582	5436992	57.993	881

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FLIGHT LOG FOR FLIGHT 37 **DOY 31 LocalTime 15:41:34** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 506	L3750611	0	16:27:45	387628	5437182		
		1776	16:42:33	445658	5437181	58.030	878
TRAVERSE 505	L3750511	1776	16:43:47	445602	5437385		
		3591	16:58:54	387510	5437382	58.092	947
TRAVERSE 504	L3750411	3591	17:00:09	387676	5437589		
		5371	17:14:59	445725	5437582	58.049	897
TRAVERSE 503	L3750311	5371	17:16:16	445565	5437790		
		7146	17:31:03	387526	5437788	58.039	812
POST.ALT 7	H3700711	7146	17:35:29	385270	5445344		
		7151	17:35:31	385306	5445441	0.103	10
POST.ALT 7	H3700712	7151	17:35:40	385479	5445872		
		7516	17:38:43	388887	5452423	7.384	731
POST.TST 8	G3700811	7516	17:40:17	391528	5455066		
		7861	17:43:09	382994	5461590	10.742	470
PST1.GND 9	I3700911	7861	17:54:24	392944	5461152		
		8101	17:56:24	392944	5461152	0.000	480
POST.THM 10	J3701011	8101	17:57:43	392944	5461152		
		8341	17:59:43	392944	5461152	0.000	480

Total Km: 232

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FLIGHT LOG FOR FLIGHT 38 **DOY 32 LocalTime 08:25:25** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
PRE.THOR 2	B3800211	0	08:30:31	392943	5461153			
		241	08:32:31	392943	5461153	0.000	482	
PRE1.GND 1	A3800111	241	08:33:33	392944	5461154			
		481	08:35:33	392944	5461154	0.000	480	
PRE.TEST 5	E3800511	481	09:01:20	390972	5455562			
		786	09:03:52	383024	5461571	9.964		
PRE.ALTB 6	F3800611	786	09:05:54	376101	5458211			
		1161	09:09:02	363239	5449253	15.674	751	
TRAVERSE 465	L3846511	1161	09:12:39	361553	5441990			
		1941	09:19:09	333580	5441982	27.973	391	**Scrub**
TRAVERSE 130	L3813011	1941	09:42:26	331356	5502189			
		2256	09:45:04	320391	5502171	10.965	18	**Scrub**

Flight Scrubbed Due to Weather.

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FLIGHT LOG FOR FLIGHT 39 **DOY 33 LocalTime 06:38:26** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms	
PRE.THOR 2	B3900211	0	06:42:36	392932	5461162			
		241	06:44:36	392932	5461162	0.000	482	
PRE1.GND 1	A3900111	241	06:45:26	392932	5461162			
		481	06:47:25	392932	5461162	0.000	480	
PRE.TEST 5	E3900511	481	07:13:54	390616	5455773			
		756	07:16:11	383411	5461265	9.059	498	
TRAVERSE 369	L3936911	756	07:28:42	416636	5454397			
		816	07:29:11	414616	5454378	2.020	10	**Scrub**
TRAVERSE 369	L3936912	816	07:31:49	416647	5454378			
		3331	07:52:46	333511	5454382	83.136	1187	
TRAVERSE 465	L3946512	3331	07:57:12	333635	5441981			
		4271	08:05:01	361712	5441983	28.077	432	
TRAVERSE 463	L3946311	4271	08:07:01	361553	5442173			
		5101	08:13:55	333491	5442176	28.062	334	
TRAVERSE 461	L3946111	5101	08:15:55	333683	5442384			
		6021	08:23:35	361735	5442377	28.052	429	
TRAVERSE 459	L3945911	6021	08:25:20	361562	5442592			
		6846	08:32:12	333519	5442586	28.043	402	
TRAVERSE 457	L3945711	6846	08:33:45	333676	5442773			
		7776	08:41:30	361683	5442781	28.007	450	
TRAVERSE 455	L3945511	7776	08:42:40	361538	5442988			
		8601	08:49:32	333504	5442987	28.034	323	
TRAVERSE 453	L3945311	8601	08:50:58	333636	5443182			
		9526	08:58:40	361766	5443200	28.130	329	
TRAVERSE 451	L3945111	9526	08:59:41	361554	5443367			
		9576	09:00:06	359861	5443382	1.693	51	**Scrub**
TRAVERSE 451	L3945112	0	09:13:18	361563	5443399			
		831	09:20:13	333577	5443384	27.986	286	

TRAVERSE 449	L3944911	831	09:21:24	333675	5443585		
		1746	09:29:01	361756	5443572	28.081	352
TRAVERSE 447	L3944711	1746	09:30:16	361539	5443780		
		2596	09:37:21	333482	5443781	28.057	310
TRAVERSE 445	L3944511	2596	09:38:10	333627	5443975		
		3501	09:45:42	361727	5443983	28.100	328
TRAVERSE 443	L3944311	3501	09:46:47	361574	5444186		
		4351	09:53:52	333475	5444185	28.099	293
TRAVERSE 441	L3944111	4351	09:54:49	333639	5444370		
		5281	10:02:34	361662	5444379	28.023	431
TRAVERSE 439	L3943911	5281	10:03:36	361576	5444583		
		6116	10:10:33	333540	5444583	28.036	273
TRAVERSE 437	L3943711	6116	10:11:27	333659	5444783		
		7021	10:18:59	361694	5444786	28.035	418
TRAVERSE 435	L3943511	7021	10:20:08	361587	5444979		
		7881	10:27:18	333556	5444989	28.031	345
TRAVERSE 433	L3943311	7881	10:28:22	333654	5445176		
		8766	10:35:44	361752	5445194	28.098	294
TRAVERSE 431	L3943111	8766	10:36:50	361559	5445386		
		9621	10:43:57	333518	5445396	28.041	381
TRAVERSE 425	L3942511	9621	10:45:33	333617	5445972		
		10531	10:53:08	361738	5445975	28.121	366
TRAVERSE 419	L3941911	10531	10:54:17	361577	5446582		
		11381	11:01:22	333462	5446592	28.115	341
TRAVERSE 429	L3942911	11381	11:03:34	333647	5445586		
		12291	11:11:09	361676	5445583	28.029	413

Total Km: 829.5

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FLIGHT LOG FOR FLIGHT 40 DOY 33 LocalTime 12:04:34 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 184	L4018411	0	12:24:51	356234	5491369		
		1621	12:38:21	301559	5491380	54.675	219
TRAVERSE 183	L4018311	1621	12:43:30	301667	5491588		
		2841	12:53:40	340843	5491390	39.177	201
TRAVERSE 183	L4018312	2841	12:57:56	333054	5491562		
		3601	13:04:16	356055	5491579	23.001	3
TRAVERSE 182	L4018211	3601	13:06:38	355679	5491782		
		5211	13:20:03	301532	5491783	54.147	108
TRAVERSE 181	L4018111	5211	13:22:08	301664	5491988		
		6891	13:36:08	355616	5491986	53.952	111
TRAVERSE 179	L4017911	6891	13:38:16	354918	5492375		
		8481	13:51:31	301585	5492381	53.333	121
TRAVERSE 178	L4017811	8481	13:53:59	301642	5492594		
		10126	14:07:41	354792	5492585	53.150	88
TRAVERSE 177	L4017711	10126	14:09:35	354364	5492783		
		11691	14:22:37	301498	5492781	52.866	63
TRAVERSE 176	L4017611	11691	14:24:29	301639	5492977		
		13281	14:37:44	354218	5492983	52.579	157
TRAVERSE 175	L4017511	13281	14:40:02	353816	5493174		
		14826	14:52:54	301541	5493177	52.275	76
TRAVERSE 174	L4017411	14826	14:54:55	301653	5493390		
		16406	15:08:05	353909	5493389	52.256	87
TRAVERSE 173	L4017311	16406	15:10:25	353810	5493539		
		17941	15:23:13	301588	5493574	52.222	182
TRAVERSE 172	L4017211	17941	15:25:44	301669	5493796		
		19046	15:34:57	338412	5493791	36.743	173
POST.ALT 7	H4000711	19046	15:37:15	345863	5489446		
		19046	15:37:16	345863	5489446	0.000	1

POST.ALT	7	H4000712	19046	15:37:29	346749	5488687		
			19416	15:40:34	360308	5479751	16.239	737
POST.TST	8	G4000811	19416	15:46:30	383117	5461487		
			19751	15:49:18	391960	5455491	10.684	440
PST1.GND	9	I4000911	0	16:05:02	392944	5461156		
			241	16:07:02	392944	5461157	0.001	482
POST.THM	10	J4001011	241	16:08:00	392944	5461156		
			481	16:09:59	392944	5461157	0.001	480

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FLIGHT LOG FOR FLIGHT 41 DOY 34 LocalTime 06:18:43 Area 1 Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms	
PRE.THOR	2	B4100211	0	06:18:54	392944	5461154			
			241	06:20:55	392944	5461154	0.000	482	
PRE1.GND	1	A4100111	241	06:26:41	392944	5461154			
			481	06:28:41	392944	5461154	0.000	480	
PRE.TEST	5	E4100511	481	07:21:30	382994	5461572			
			781	07:23:59	390407	5455913	9.326	370	
PRE.ALTB	6	F4100611	781	07:26:15	397343	5454375			
			1031	07:28:20	406254	5453600	8.945	500	
TRAVERSE	368	L4136811	1031	07:33:49	416201	5454586			
			3536	07:54:41	333454	5454583	82.747	1310	
TRAVERSE	51	L4105111	3536	08:13:29	330552	5518040			
			3541	08:13:31	330407	5518022	0.146	1	**Scrub**
TRAVERSE	51	L4105112	3541	08:17:12	329591	5517971			
			3881	08:20:02	318447	5517981	11.144	114	
TRAVERSE	51	L4105113	3881	08:26:16	329562	5517983			
			4221	08:29:06	318462	5517983	11.100	123	
TRAVERSE	51	L4105114	4221	08:34:47	304891	5517992			
			4966	08:41:00	329659	5517987	24.768	133	
TRAVERSE	52	L4105211	4966	08:43:16	329564	5517787			
			5721	08:49:34	304676	5517775	24.888	149	
TRAVERSE	53	L4105311	5721	08:52:21	304675	5517587			
			6466	08:58:33	329643	5517582	24.968	148	
TRAVERSE	54	L4105411	6466	09:00:51	329565	5517373			
			7226	09:07:11	304354	5517370	25.211	150	
TRAVERSE	55	L4105511	7226	09:09:36	304450	5517202			
			7981	09:15:53	329692	5517186	25.242	138	
TRAVERSE	56	L4105611	7981	09:18:04	329575	5516966			
			8251	09:20:19	320669	5516982	8.906	76	**Scrub**

TRAVERSE	56	L4105612	8251	09:26:39	329567	5516976		
			9001	09:32:54	304213	5516978	25.354	114
TRAVERSE	62	L4106211	9001	09:35:33	303600	5515784		
			9766	09:41:55	329678	5515783	26.078	127

Total Km: 259

34/02/01

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FLIGHT LOG FOR FLIGHT 42 DOY 34 LocalTime 14:43:58 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 427	L4242711	0	15:34:21	361549	5445809		
		856	15:41:29	333537	5445787	28.012	387
TRAVERSE 423	L4242311	856	15:42:28	333673	5446141		
		1701	15:49:30	361728	5446169	28.055	381
TRAVERSE 421	L4242111	1701	15:51:11	361550	5446393		
		2566	15:58:24	333569	5446392	27.981	419
TRAVERSE 417	L4241711	2566	15:59:36	333660	5446786		
		3421	16:06:44	361663	5446784	28.003	351
TRAVERSE 415	L4241511	3421	16:09:33	361543	5446996		
		4281	16:16:43	333578	5447002	27.965	377
TRAVERSE 413	L4241311	4281	16:17:56	333672	5447162		
		5131	16:25:01	361652	5447185	27.980	376
TRAVERSE 411	L4241111	5131	16:26:25	361548	5447389		
		6006	16:33:42	333580	5447384	27.968	376
TRAVERSE 409	L4240911	6006	16:34:54	333666	5447584		
		6871	16:42:06	361688	5447583	28.022	397
TRAVERSE 407	L4240711	6871	16:46:31	361595	5447791		
		7761	16:53:56	333512	5447777	28.083	394
TRAVERSE 405	L4240511	7761	16:55:09	333623	5447983		
		8606	17:02:11	361702	5447991	28.079	369
TRAVERSE 403	L4240311	8606	17:03:52	361582	5448187		
		9496	17:11:17	333532	5448184	28.050	397
TRAVERSE 401	L4240111	9496	17:12:17	333627	5448383		
		10346	17:19:22	361643	5448387	28.016	380
TRAVERSE 399	L4239911	10346	17:20:25	361574	5448584		
		11216	17:27:40	333575	5448577	27.999	376
TRAVERSE 397	L4239711	11216	17:30:10	333642	5448789		
		14141	17:54:33	428090	5448773	94.448	1082

TRAVERSE	367	L4236711	14141	17:58:24	415795	5454779	
			16641	18:19:14	333526	5454778	82.269	892
TRAVERSE	366	L4236611	16641	18:20:05	333634	5454980	
			19146	18:40:58	415558	5454977	81.924	933
TRAVERSE	365	L4236511	19146	18:42:11	414952	5455181	
			21581	19:02:29	333503	5455183	81.449	934
TRAVERSE	364	L4236411	21581	19:03:22	333635	5455386	
			24046	19:23:55	414597	5455379	80.962	1002
TRAVERSE	363	L4236311	24046	19:25:14	414125	5455575	
			25146	19:34:24	378473	5455589	35.652	513
POST.ALT	7	H4200711	25146	19:35:59	375769	5458074	
			25511	19:39:02	378444	5464872	7.305	730
POST.TST	8	G4200811	25511	19:41:18	383108	5461497	
			25841	19:44:02	390706	5455699	9.558	418
PST1.GND	9	I4200911	25841	19:49:23	392944	5461154	
			26081	19:51:23	392944	5461154	0.000	480
POST.THM	10	J4201011	26081	19:54:14	392943	5461154	
			26321	19:56:14	392944	5461154	0.001	480

Total Km: 821

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FLIGHT LOG FOR FLIGHT 43 **DOY 35 LocalTime 06:16:22** **Area 1** Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B4300211	0	06:19:33	392944	5461153		
		241	06:21:33	392944	5461153	0.000	482
PRE1.GND 1	A4300111	241	06:22:36	392944	5461154		
		251	06:22:41	392944	5461154	0.000	22
PRE1.GND 1	A4300112	251	06:22:52	392944	5461154		
		491	06:24:52	392944	5461153	0.001	480
PRE.TEST 5	E4300511	491	06:46:07	390924	5455529		
		831	06:48:57	382727	5461798	10.319	425
PRE.ALTB 6	F4300611	831	06:52:01	380229	5468561		
		1201	06:55:06	392154	5465881	12.222	740
TRAVERSE 297	L4329711	1201	07:00:51	390818	5468784		
		4221	07:26:01	297521	5468778	93.297	1263
TRAVERSE 324	L4332413	4221	07:28:39	297635	5463392		
		5906	07:42:42	354148	5463382	56.513	682
TRAVERSE 323	L4332314	5906	07:44:24	355737	5463589		
		7826	08:00:24	296524	5463620	59.213	564
TRAVERSE 254	L4325411	7826	08:04:03	301681	5477386		
		10051	08:22:35	377100	5477386	75.419	484
TRAVERSE 255	L4325511	10051	08:25:03	376985	5477189		
		12411	08:44:43	301479	5477177	75.506	389
TRAVERSE 256	L4325611	12411	08:46:10	301650	5476988		
		14671	09:05:00	377157	5476991	75.507	368
TRAVERSE 257	L4325711	14671	09:06:28	377108	5476788		
		17016	09:26:00	301509	5476783	75.599	327
TRAVERSE 258	L4325811	17016	09:27:04	301681	5476598		
		19231	09:45:32	377335	5476590	75.654	372
TRAVERSE 259	L4325911	19231	09:50:31	377245	5476384		
		21586	10:10:09	301492	5476384	75.753	415

TRAVERSE 319	L4331912	21586	10:14:25	297623	5464389		
		24521	10:38:53	395686	5464383	98.063	948

Total Km:760.5

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FLIGHT LOG FOR FLIGHT 44 DOY 35 LocalTime 11:07:30 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 149	L4414912	0	11:50:15	334493	5498378		
		991	11:58:30	301487	5498384	33.006	72
TRAVERSE 148	L4414811	991	12:00:50	301654	5498571		
		1951	12:08:50	334402	5498582	32.748	124
TRAVERSE 147	L4414711	1951	12:10:46	334143	5498776		
		2976	12:19:18	301481	5498767	32.662	65
TRAVERSE 146	L4414611	2976	12:19:57	299491	5497817		
		2986	12:20:01	299311	5497638	0.254	20
TRAVERSE 145	L4414511	2986	12:21:56	301664	5499175		
		3981	12:30:13	335779	5499162	34.115	208
TRAVERSE 146	L4414612	3981	12:32:35	333975	5498990		
		4981	12:40:55	301522	5498969	32.453	66
TRAVERSE 144	L4414411	4981	12:45:20	301657	5499393		
		5921	12:53:10	333753	5499383	32.096	86
TRAVERSE 143	L4414311	5921	12:55:23	333524	5499562		
		6926	13:03:45	301531	5499569	31.993	116
TRAVERSE 142	L4414211	6926	13:06:09	301679	5499775		
		7846	13:13:49	333410	5499790	31.731	57
TRAVERSE 141	L4414111	7846	13:16:14	333177	5499980		
		8861	13:24:41	301563	5499977	31.614	116
TRAVERSE 140	L4414011	8861	13:27:02	301664	5500171		
		9786	13:34:44	333101	5500177	31.437	168
TRAVERSE 139	L4413911	9786	13:36:48	332871	5500372		
		10741	13:44:45	301561	5500364	31.310	71
TRAVERSE 138	L4413811	10741	13:48:35	301621	5500591		
		11656	13:56:12	332751	5500590	31.130	56
TRAVERSE 130	L4413012	11656	13:57:55	331369	5502162		
		12581	14:05:37	301528	5502171	29.841	67

TRAVERSE 129	L4412911	12581	14:07:25	301681 5502392		
		13451	14:14:40	331391 5502391	29.710	30
TRAVERSE 128	L4412811	13451	14:17:36	331035 5502580		
		14356	14:25:08	301567 5502579	29.468	22
TRAVERSE 127	L4412711	14356	14:27:05	301663 5502790		
		15211	14:34:12	331076 5502788	29.413	35
TRAVERSE 126	L4412611	15211	14:36:00	330727 5502985		
		16111	14:43:30	301538 5502967	29.189	39
TRAVERSE 125	L4412511	16111	14:45:33	301648 5503187		
		16956	14:52:35	330630 5503179	28.982	23
TRAVERSE 124	L4412411	16956	14:54:19	330392 5503379		
		17836	15:01:39	301497 5503381	28.895	35
TRAVERSE 123	L4412311	17836	15:03:46	301687 5503588		
		18656	15:10:36	330376 5503592	28.689	38
TRAVERSE 122	L4412211	18656	15:12:55	330049 5503779		
		19526	15:20:10	301491 5503770	28.558	90
TRAVERSE 121	L4412111	19526	15:22:02	301642 5503994		
		20346	15:28:52	330022 5503990	28.380	70

Total Km: 677.6

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Jandakot, Western Australia, 6164 **Fax: 61-8-9417 3558**

FLIGHT LOG FOR FLIGHT 45 DOY 35 LocalTime 16:19:30 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 63	L4506311	0	16:50:21	329560	5515585		
		826	16:57:14	303366	5515578	26.194	52
TRAVERSE 64	L4506411	826	16:58:27	303357	5515391		
		1606	17:04:57	329771	5515384	26.414	66
TRAVERSE 65	L4506511	1606	17:06:17	329608	5515181		
		2441	17:13:14	303082	5515181	26.526	15
TRAVERSE 66	L4506611	2441	17:14:37	303157	5514986		
		3226	17:21:09	329650	5514984	26.493	11
TRAVERSE 67	L4506711	3226	17:22:23	329570	5514789		
		4056	17:29:18	302969	5514780	26.601	13
TRAVERSE 68	L4506811	4056	17:30:14	302938	5514598		
		4846	17:36:49	329661	5514581	26.723	10
TRAVERSE 69	L4506911	4846	17:38:07	329600	5514389		
		5676	17:45:02	302691	5514382	26.909	2
TRAVERSE 70	L4507011	5676	17:45:56	302706	5514186		
		6466	17:52:29	329749	5514180	27.043	4
TRAVERSE 71	L4507111	6466	17:53:43	329603	5513989		
		7311	18:00:45	302469	5513980	27.134	14
TRAVERSE 72	L4507211	7311	18:01:38	302456	5513793		
		8096	18:08:10	329662	5513783	27.206	28
TRAVERSE 73	L4507311	8096	18:09:25	329597	5513591		
		8946	18:16:30	302155	5513583	27.442	4
TRAVERSE 74	L4507411	8946	18:17:33	302237	5513392		
		9746	18:24:13	329655	5513391	27.418	11
TRAVERSE 75	L4507511	9746	18:25:31	329565	5513192		
		10596	18:32:36	301944	5513183	27.621	18
TRAVERSE 76	L4507611	10596	18:33:37	301968	5512989		
		11421	18:40:30	329650	5512987	27.682	44

TRAVERSE	77	L4507711	11421	18:41:42	329556	5512777		
			12266	18:48:45	301797	5512775	27.759	23
TRAVERSE	78	L4507811	12266	18:49:48	301761	5512589		
			13086	18:56:38	329759	5512587	27.998	50
TRAVERSE	79	L4507911	13086	18:57:51	329598	5512380		
			13946	19:04:59	301521	5512380	28.077	49
TRAVERSE	80	L4508011	13946	19:06:06	301627	5512188		
			14771	19:12:59	329750	5512188	28.123	14
TRAVERSE	81	L4508111	14771	19:14:19	329593	5511984		
			15626	19:21:27	301483	5511984	28.110	13
TRAVERSE	82	L4508211	15626	19:22:28	301642	5511784		
			16446	19:29:18	329740	5511784	28.098	16
POST.ALT	7	H4500711	16446	19:32:58	341043	5503857		
			16451	19:33:01	341043	5503857	0.000	7
POST.ALT	7	H4500712	16451	19:33:13	342076	5503141		
			16886	19:36:51	355644	5492471	17.261	870
POST.TST	8	G4500811	16886	19:45:55	383126	5461474		
			17191	19:48:28	390881	5455563	9.751	443
PST1.GND	9	I4500911	17191	19:55:51	392946	5461154		
			17436	19:57:54	392944	5461153	0.002	491

Total Km: 545.5

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FLIGHT LOG FOR FLIGHT 46 DOY 36 LocalTime 06:12:48 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
PRE.THOR 2	B4600211	0	06:14:03	392944	5461152		
		241	06:16:03	392944	5461153	0.001	482
PRE1.GND 1	A4600111	241	06:19:49	392944	5461153		
		481	06:21:49	392944	5461153	0.000	480
PRE.TEST 5	E4600511	0	07:01:22	392004	5455506		
		346	07:04:15	382793	5461746	11.126	484
PRE.ALTB 6	F4600611	346	07:06:42	376206	5469059		
		626	07:09:02	367641	5476667	11.456	560
TRAVERSE 120	L4612011	626	07:19:30	329721	5504185		
		1471	07:26:32	301499	5504187	28.222	60
TRAVERSE 119	L4611911	1471	07:28:26	301620	5504394		
		2296	07:35:18	329683	5504380	28.063	31
TRAVERSE 118	L4611811	2296	07:37:01	329556	5504570		
		3126	07:43:56	301587	5504579	27.969	27
TRAVERSE 117	L4611711	3126	07:45:34	301627	5504791		
		3961	07:52:31	329675	5504794	28.048	61
TRAVERSE 116	L4611611	3961	07:54:39	329557	5504973		
		4791	08:01:34	301550	5504973	28.007	77
TRAVERSE 115	L4611511	4791	08:03:18	301630	5505190		
		5616	08:10:10	329641	5505192	28.011	59
TRAVERSE 114	L4611411	5616	08:11:52	329593	5505381		
		6436	08:18:42	301567	5505373	28.026	115
TRAVERSE 113	L4611311	6436	08:20:54	301634	5505588		
		7251	08:27:41	329736	5505599	28.102	135
TRAVERSE 112	L4611211	7251	08:29:40	329568	5505779		
		8076	08:36:32	301576	5505772	27.992	66
TRAVERSE 111	L4611111	8076	08:38:17	301676	5505982		
		8906	08:45:12	329656	5505977	27.980	117

TRAVERSE 110	L4611011	8906	08:47:46	329576	5506191		
		9736	08:54:41	301533	5506192	28.043	86
TRAVERSE 109	L4610911	9736	08:56:04	301652	5506392		
		10561	09:02:56	329660	5506397	28.008	97
TRAVERSE 108	L4610811	10561	09:04:50	329566	5506573		
		11391	09:11:45	301579	5506577	27.987	209
TRAVERSE 107	L4610711	11391	09:13:36	301637	5506797		
		12221	09:20:31	329682	5506802	28.045	83
TRAVERSE 106	L4610611	12221	09:22:11	329538	5506986		
		13056	09:29:08	301461	5506975	28.077	100
TRAVERSE 105	L4610511	13056	09:31:14	301633	5507182		
		13891	09:38:12	329688	5507173	28.055	81
TRAVERSE 104	L4610411	13891	09:40:17	329552	5507371		
		14726	09:47:15	301557	5507384	27.995	118
TRAVERSE 103	L4610311	14726	09:49:04	301652	5507592		
		15551	09:55:57	329656	5507594	28.004	71
TRAVERSE 102	L4610211	15551	09:57:34	329595	5507866		
		15576	09:57:47	328767	5507881	0.828	46 **Scrub**
TRAVERSE 102	L4610212	15576	09:59:58	329595	5507792		
		16416	10:06:58	301572	5507750	28.023	88
TRAVERSE 101	L4610111	16416	10:07:38	299433	5506598		
		16426	10:07:43	299217	5506441	0.267	20 **Scrub**
TRAVERSE 100	L4610011	16426	10:09:35	301628	5508186		
		17251	10:16:28	329725	5508189	28.097	106
TRAVERSE 99	L4609911	17251	10:18:30	329577	5508379		
		18076	10:25:23	301461	5508368	28.116	146
TRAVERSE 98	L4609811	18076	10:26:55	301633	5508588		
		18906	10:33:50	329698	5508599	28.065	33

Total Km: 617

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Kevron Geophysics Pty. Ltd. A.C.N. 009 190 925

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Jandakot, Western Australia, 6164

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FLIGHT LOG FOR FLIGHT 47 DOY 36 LocalTime 11:24:47 Area 1 Datum = WGS84

Line	File	Fid	Time	East	North	Len	Alarms
TRAVERSE 363	L4736312	0	11:37:28	389938	5455589		
		1711	11:51:43	333508	5455587	56.430	670
TRAVERSE 362	L4736211	1711	11:53:19	333663	5455781		
		4211	12:14:09	413837	5455781	80.174	1036
TRAVERSE 361	L4736111	4211	12:15:32	413250	5455981		
		6666	12:35:59	333550	5455981	79.700	1028
TRAVERSE 360	L4736011	6666	12:37:04	333650	5456187		
		9176	12:57:59	412919	5456162	79.269	1018
TRAVERSE 359	L4735911	9176	12:59:55	412413	5456388		
		11596	13:20:05	333581	5456385	78.832	1033
TRAVERSE 358	L4735811	11596	13:21:01	333645	5456581		
		14091	13:41:48	412106	5456590	78.461	918
TRAVERSE 357	L4735711	14091	13:43:55	411547	5456788		
		16471	14:03:45	333521	5456792	78.026	974
TRAVERSE 356	L4735611	16471	14:04:55	333623	5456990		
		18881	14:25:00	411315	5456986	77.692	801
TRAVERSE 355	L4735511	18881	14:26:43	410731	5457181		
		21226	14:46:16	333475	5457184	77.256	713
TRAVERSE 354	L4735411	21226	14:47:36	333637	5457396		
		23691	15:08:09	410439	5457386	76.802	798
TRAVERSE 353	L4735311	23691	15:09:47	409911	5457582		
		26041	15:29:22	333521	5457582	76.390	759
TRAVERSE 352	L4735211	26041	15:30:19	333635	5457777		
		28531	15:51:04	409619	5457784	75.984	797
POST.ALT 7	H4700711	28531	15:53:28	403993	5456627		
		28896	15:56:31	395499	5454262	8.817	730
POST.TST 8	G4700811	28896	15:58:11	391531	5455078		
		29256	16:01:11	383126	5461497	10.576	465

PST1.GND	9	I4700911	29256	16:07:55	392946	5461156		
			29496	16:09:55	392946	5461156	0.000	480
POST.THM	10	J4701011	29496	16:10:58	392946	5461156		
			29736	16:12:58	392944	5461154	0.003	480

Total Km: 915

Kevron
Geophysics Pty. Ltd. A.C.N. 009 190 925

AS/NZS ISO 9002

Office & Hangar 10 Compass Road
Jandakot, Western Australia, 6164
Tel: 61-8-9417 3188
Fax: 61-8-9417 3558

FLIGHT LOG FOR FLIGHT 48 DOY 37 LocalTime 07:23:52 Area 1 Datum = WGS84

Line		File	Fid	Time	East	North	Len	Alarms
PRE.THOR	2	B4800211	0	07:24:32	392944	5461154		
			241	07:26:32	392944	5461155	0.001	482
PRE1.GND	1	A4800111	241	07:27:47	392944	5461155		
			481	07:29:46	392944	5461155	0.000	480
PRE.TEST	5	E4800511	481	07:53:28	391911	5455526		
			811	07:56:13	383032	5461568	10.740	464
PRE.ALTB	6	F4800611	811	07:58:28	378156	5468660		
			1121	08:01:03	372960	5478862	11.449	620
TRAVERSE	101	L4810112	1121	08:12:12	329593	5507974		
			1941	08:19:02	301571	5507972	28.022	154
TRAVERSE	260	L4826011	1941	08:27:46	301625	5476198		
			2251	08:30:21	311052	5476182	9.427	81

Total Km: 28

APPENDIX 4

WEEKLY PRODUCTION SUMMARIES

Kevron Geophysics Pty Ltd

WEEKLY PRODUCTION SUMMARY

JOB NO: 1585 AIRCRAFT: KPY WEEK ENDING: 17/12/00

DAY	DATE	FLT #	KMS FLOWN	SCRUB	REFLYS	COMMENTS	
MON	11/12/00					Ferry from Wagga	
TUE	12/12/00	001	126			Comp Box, Manoeuvre check.	
WED	13/12/00	002	540			Training Flight for M.Cote	
		003	539			Training Flight for R.Jamison	
THU	14/12/00	004	245			Training Flight for M.Cote	
		005	473			Training Flight for J.Sparkman	
		006	468			856 Running	
FRI	15/12/00	007	605			Production OK	
		008	626			Production OK	
SAT	16/12/00	009	748			Production OK	
		010	698			Production OK	
SUN	17/12/00	011	675			Production OK	
		012	557			Production OK	
Kilometres flown this week			6300			Total kilometres flown to date	6300
Previous total km flown			-			Remaining kilometres this survey	7414.2

Total Strahan D: 13714.2Km

Kevron Geophysics Pty Ltd

WEEKLY PRODUCTION SUMMARY

JOB NO: 1585 AIRCRAFT: KPY WEEK ENDING: 24/12/00

DAY	DATE	FLT #	KMS FLOWN	SCRUB	REFLYS	COMMENTS
MON	18/12/00	013	709			Production OK
		014	601			Production OK
TUE	19/12/00	015	293			Production OK
		016	73			Short Flight Due To Turbulence
WED	20/12/00	017	597			Production OK
		018	0			Flight Aborted Due to Weather
THU	21/12/00	019	480			Production OK
		020	663			Production OK
		-				No Flight Due To Weather
FRI	22/12/00	-				No Flight Due To Weather
		-				No Flight Due To Weather
SAT	23/12/00	-				No Flight Due To Weather
		-				No Flight Due To Weather
SUN	24/12/00	-				No Flight Due To Weather
		-				No Flight Due To Weather
Kilometres flown this week			3416			Total kilometres flown to date: 9716
Previous total km flown			6300			Remaining kilometres this survey: 3998.2

Total Strahan D: 13714.2Km

Kevron Geophysics Pty Ltd

WEEKLY PRODUCTION SUMMARY

JOB NO: 1585 AIRCRAFT: KPY WEEK ENDING: 31/12/00

DAY	DATE	FLT #	KMS FLOWN	SCRUB	REFLYS	COMMENTS
MON	25/12/00	-	-			No Flight Due to Weather.
		-	-			
TUE	26/12/00	-	-			No Flight Due to Weather.
		-	-			
WED	27/12/00	21	-			Heading Check done.
		-	-			KPY at 100 Hourly.
THU	28/12/00	-	-			KPY at 100 Hourly.
		-				KPY at 100 Hourly.
FRI	29/12/00	-				KPY at 100 Hourly.
		22	457		32	Production OK.
SAT	30/12/00	23	630			Production OK.
		24	374			Production OK.
		25	318			Production OK.
SUN	31/12/00	26	631			Production OK.
		27	714			Production OK.
		28	473			Production OK.
Kilometres flown this week			3565			Total kilometres flown to date: 13281
Previous total km flown			9716			Remaining kilometres this survey: 433

Total Strahan D: 13714.2Km

JOB NO: 1585 **AIRCRAFT: KPY** **WEEK ENDING: 07/01/01**

DAY	DATE	FLT #	KMS FLOWN	SCRUB	REFLYS	COMMENTS	
MON	01/01/01	029	564			Finish Strahan.	
TUE	02/01/01	01	550.2			First Flight Burnie B	
		02	390.6			Production OK	
WED	03/01/01	03	612.0			Production OK	
		04	823			Production OK	
		05	576.8			Production OK	
THU	04/01/01	06	556.6			Production OK, Morning Flight aborted due Wx.	
		07	775			Production OK	
FRI	05/01/01	08	813			Production OK	
		09	720.5			Production OK	
SAT	06/01/01	10	422.4			Production OK. Short Flight due to Fog over Area.	
		11	811.9			Production OK	
		12	627.6			Production OK	
SUN	07/01/01	13	788			Production OK	
		14	655			Production OK	
Kilometres flown this week			9122.6			Total kilometres flown to date	9122.6
Previous total km flown						Remaining kilometres this survey	

JOB NO: 1585 **AIRCRAFT: KPY** **WEEK ENDING: 14/01/01**

DAY	DATE	FLT #	KMS FLOWN	SCRUB	REFLYS	COMMENTS	
MON	08/01/01	015	741			Production OK	
		016	703			Production OK	
		017	580			Production OK	
TUE	09/01/01	018	779			Production OK	
		019	627			Production OK	
WED	10/01/01	020	428			Production OK	
		-	-			KPY To Melbourne for 100 Hrly.	
THU	11/01/01	-	-				
		-	-				
FRI	12/01/01						
SAT	13/01/01						
SUN	14/01/01						
Kilometres flown this week						Total kilometres flown to date	9122.6
Previous total km flown						Remaining kilometres this survey	

Kevron Geophysics Pty Ltd

DEPT OF INFRASTRUCTURE ENERGY & RESOURCES
WYNYARD BLOCK B **WEEKLY PRODUCTION SUMMARY**

JOB NO: 1585 AIRCRAFT KPY WEEK ENDING 21/01/01

DAY	DATE	FLT #	KMS FLOWN	SCRUB	REFLYS	COMMENTS	
MON	15/01/01	-	-			Kpy at 100 hourly.	
		-	-				
TUE	16/01/01	-	-			Kpy at 100 hourly.	
		-	-				
WED	17/01/01	-	-			Kpy at 100 hourly.	
		-	-				
THU	18/01/01	-	-			Kpy at 100 hourly.	
		-	-				
FRI	19/01/01	-	-			Kpy at 100 hourly.	
		-	-				
SAT	20/01/01	-	-			Kpy at 100 hourly.	
		-	-				
SUN	21/01/01	-	-			Kpy at 100 hourly.	
		-	-				
Kilometres flown this week			0.0			Total kilometres flown to date	12980.6
Previous total km flown			12980.6				

Burnie B Total: 33693.7 Km

KEVRON GEOPHYSICS PTY LTD: Production Summary

Job No: **1585**

Company Name: **MINERAL RESOURES TASMANIA**

Project Name: **West TAS, Strahan/Wynyard & King Isl**

Date Awarded: **8/12/00** Demobilisation Date:

Total Estimated Value: **$0** Budgeted Line Kms: **69,404.9**

Mobilisation Date: **11/12/00** Budgeted Flying Hours: **0**

Company Address: **DEPARTMENT OF INFRASTRUCTURE, EN & RESOURCES 30 GORDONS HILL ROAD ROSNY PARK TAS 7018 PH: (03) 6233 8333 FAX: (03) 6233 833Z8 CONTACT NAME: BOB RICHARDSON DIRECT PHONE: 03 6233 8333**

Date Completed:

Aircraft	On Line Hours	Other Flying Hours	Total Flying Hours	Total Line Kms	Total Reflown Km	Total Kms Flown	Total Fuel	Start Date	Last Date	Last Flt No	Tot. Standby Time	Total Lost Days
KAC	121.9	47.9	169.8	24,039.2	461.6	24,500.8	17079	25/12/00	23/01/01	18	1.5	15
KPY	251.9	60.4	312.3	46,268.8	544.0	46,812.8	54416	11/12/00	18/02/01	62	10	14.5
Total:	**373.8**	**108.3**	**482.1**	**70,307.9**	**1,005.6**	**71,313.6**	**71495**	**11/12/00**	**18/02/01**	**80**	**11.5**	**29.5**

Average Production Rate Kms/On Line Hours	188.1	**Average Daily Production (production days only)**	1,779.9	**Litres per Hour**	148.3
Average Production Rate (Kms/Total Hours)	145.8	**OFFLINE Hours as % of Total Hours**	22.5%	**Total Days On Job**	69.0
Average Daily Production over survey perio	1,019.0	**Reflight as % of Km Flown**	1.4%	**Total Production Days**	39.5

Selected Aircraft Production by Job for Geophysics Aircraft

Job No 1585

Company Name Mineral Resoures Tasmania

Aircraft kac

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
25/12/00	0.00	8.70	8.70	0.0	0.0	0.0	Ferry	Ferry Tanami to Melb
26/12/00	0.00	0.00	0.00	0.0	0.0	0.0	Pilot Rest Day	Pilot Rest Day
27/12/00	0.00	0.00	0.00	0.0	0.0	0.0	Pilot Rest Day	Pilot Rest Day
28/12/00	0.00	1.00	1.00	0.0	0.0	0.0	Aircraft Maintenance	Comp box
28/12/00	0.00	1.30	1.30	0.0	0.0	0.0	Ferry	Ferry Melb - Wynyard (RR Op
29/12/00	0.00	2.00	2.00	0.0	0.0	0.0	Aircraft Maintenance	Manoevre Checks
29/12/00	0.00	3.20	3.20	0.0	0.0	0.0	Aircraft Maintenance	Comp box
30/12/00	1.30	0.20	1.50	0.0	0.0	0.0	Aircraft Maintenance	???
31/12/00	0.00	1.70	1.70	0.0	0.0	0.0	Aircraft Maintenance	Comp box
31/12/00	3.30	0.30	3.60	585.0	0.0	585.0	Survey	?
1/01/01	5.30	0.30	5.60	997.0	13.0	1,010.0	Survey	ok?
1/01/01	5.50	0.30	5.80	1,262.8	0.0	1,262.8	Survey	9 travs, 7 lines ok
2/01/01	5.00	0.20	5.20	1,193.9	0.0	1,193.9	Survey	10 Travs ok
2/01/01	5.30	0.30	5.60	1,179.3	0.0	1,179.3	Survey	ok?

AREA E

Job No 1585

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
3/01/01	1.60	0.20	1.80	0.0	0.0	0.0	Survey	AADC/Mag Problem
3/01/01	3.10	0.50	3.60	526.5	0.0	526.5	Survey	Short flight due wind
4/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Pilot Rest Day	Pilot Rest Day
4/01/01	4.20	0.60	4.80	1,059.3	0.0	1,059.3	Survey	Ok
5/01/01	3.60	0.50	4.10	837.7	0.0	837.7	Survey	Short flight due fog cloud
5/01/01	5.90	0.50	6.40	1,276.0	0.0	1,276.0	Survey	Thunderstorms
6/01/01	2.00	0.20	2.20	406.6	0.0	406.6	Survey	Short flight due accum hours.
6/01/01	3.10	0.40	3.50	74.3	0.0	74.3	Survey	
7/01/01	0.00	1.20	1.20	0.0	0.0	0.0	Ferry	Ferry to Hobart for 100 hourly
8/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Aircraft Maintenance	In Hobart for 100 hourly servic
9/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Aircraft Maintenance	In Hobart for 100 Hourly
10/01/01	1.80	0.20	2.00	343.8	0.0	343.8	Survey	OK
10/01/01	2.10	0.20	2.30	491.4	0.0	491.4	Survey	Survey + Ferry Hobart to Wyn
11/01/01	4.30	0.20	4.50	1,043.5	0.0	1,043.5	Survey	No Problems
11/01/01	5.50	0.30	5.80	1,202.7	0.0	1,202.7	Survey	OK
12/01/01	2.50	0.30	2.80	539.9	0.0	539.9	Survey	Late Start Low Cloud/Visibilit
12/01/01	3.70	0.70	4.40	564.9	96.9	661.8	Survey	Short flight due Bad Sat Cover
13/01/01	0.00	1.10	1.10	0.0	0.0	0.0	Ferry	Ferry Wynyard - Melbourne

AREA E

Job No 1585

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
13/01/01	2.40	1.00	3.40	226.2	219.8	446.0	Survey	OK
14/01/01	0.00	1.30	1.30	0.0	0.0	0.0	Ferry	Ferry melbourne to Wynyard
15/01/01	0.00	1.00	1.00	0.0	0.0	0.0	Survey	Wynyard - King Island
15/01/01	0.00	1.60	1.60	0.0	0.0	0.0	Survey	King Island - Wyn - KI
16/01/01	4.00	0.30	4.30	776.2	0.0	776.2	Survey	KI
16/01/01	4.00	0.30	4.30	776.2	0.0	776.2	Survey	Ok, 29 Travs
16/01/01	5.60	0.50	6.10	1,236.9	0.0	1,236.9	Survey	Very GustyTurb, King Island
16/01/01	5.60	0.50	6.10	1,235.1	0.0	1,235.1	Survey	KI
17/01/01	3.60	0.60	4.20	797.1	0.0	797.1	Survey	KI
17/01/01	5.70	0.30	6.00	1,221.8	0.0	1,221.8	Survey	KI
18/01/01	4.50	0.30	4.80	929.2	0.0	929.2	Survey	OK
18/01/01	5.50	0.30	5.80	1,166.7	0.0	1,166.7	Survey	KI - Short lines
19/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	No flights Bad Weather
20/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	No Pm flight - due weather
20/01/01	5.50	0.40	5.90	916.7	0.0	916.7	Survey	KI
21/01/01	6.40	0.60	7.00	1,172.5	131.9	1,304.4	Survey	Smoke reduced vis
22/01/01	0.00	1.00	1.00	0.0	0.0	0.0	Ferry	Ferry King Island - Moorabbin
23/01/01	0.00	4.90	4.90	0.0	0.0	0.0	Ferry	Ferry Moorabbin -

AREA E

AREA A.

Job No 1585

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
23/01/01	0.00	6.40	6.40	0.0	0.0	0.0	Ferry	Forrest - Jandakot (Jamie also
Su	121.90	47.90	169.80	24,039.2	461.6	24,500.8		

Aircraft kpy

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
11/12/00	0.00	3.70	3.70	0.0	0.0	0.0	Ferry	Ferry Wagga - Lil - Melb - Str
12/12/00	0.00	2.40	2.40	0.0	0.0	0.0	Ferry	Fuel run Strahan - Hobart - Str
12/12/00	1.00	0.00	1.00	126.0	0.0	126.0	Survey	Testline
13/12/00	3.40	0.30	3.70	540.0	0.0	540.0	Survey	Survey Endorsements
13/12/00	3.70	0.30	4.00	539.0	0.0	539.0	Survey	endorsements
14/12/00	1.60	0.50	2.10	256.0	0.0	256.0	Survey	Includes cuircuts
14/12/00	2.70	0.50	3.20	473.0	0.0	473.0	Survey	
14/12/00	3.70	0.20	3.90	468.0	0.0	468.0	Survey	
15/12/00	3.50	0.50	4.00	605.0	0.0	605.0	Survey	
15/12/00	3.70	0.20	3.90	626.0	0.0	626.0	Survey	Return Early fuel tanks
16/12/00	4.00	0.20	4.20	748.0	0.0	748.0	Survey	ok
16/12/00	4.00	0.30	4.30	698.0	0.0	698.0	Survey	ok
17/12/00	3.30	0.80	4.10	557.0	0.0	557.0	Survey	2 ties Turb
17/12/00	4.00	0.20	4.20	645.0	0.0	645.0	Survey	
18/12/00	3.70	0.50	4.20	601.0	0.0	601.0	Survey	ok

AREA D

Job No 1585

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
18/12/00	3.90	0.40	4.30	709.0	0.0	709.0	Survey	ok
19/12/00	0.60	0.50	1.10	73.0	15.0	88.0	Survey	ok, short due turb
19/12/00	1.70	0.50	2.20	293.0	0.0	293.0	Survey	ok, short due unlimited fuel
20/12/00	0.00	1.00	1.00	0.0	0.0	0.0	Survey	Flight aborted due weather
20/12/00	3.50	0.70	4.20	597.0	21.0	618.0	Survey	Production OK. Strong wind
21/12/00	3.60	0.50	4.10	663.0	0.0	663.0	Survey	Return early due fuel tank
21/12/00	3.70	0.50	4.20	480.0	20.0	500.0	Survey	OK
22/12/00	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	No flight Gale force winds
23/12/00	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	No flights Gale force winds
24/12/00	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	No flights Gale force winds &
25/12/00	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	No flights Gale Force Winds
26/12/00	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	No flights Gale Force Winds
27/12/00	0.00	0.80	0.80	0.0	0.0	0.0	Survey	Heading Check
27/12/00	0.00	0.80	0.80	0.0	0.0	0.0	Ferry	Strahan to Hobart for 100 hour
28/12/00	0.00	0.00	0.00	0.0	0.0	0.0	Aircraft Maintenance	100 Hourly Helicopter Resour
29/12/00	0.00	1.20	1.20	0.0	0.0	0.0	Ferry	Test flight Hobart - Strahan
29/12/00	2.80	0.60	3.40	457.0	0.0	457.0	Survey	ok?
30/12/00	1.90	0.40	2.30	318.0	0.0	318.0	Survey	

AREA D

Job No 1585

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
30/12/00	2.00	0.60	2.60	374.0	0.0	374.0	Survey	ok?
30/12/00	3.60	0.60	4.20	630.0	0.0	630.0	Survey	ok?
31/12/00	2.70	0.80	3.50	473.0	30.0	503.0	Survey	ok?
31/12/00	3.70	0.60	4.30	714.0	0.0	714.0	Survey	ok?
31/12/00	3.70	0.60	4.30	631.0	0.0	631.0	Survey	ok?
1/01/01	3.30	0.50	3.80	564.0	29.0	593.0	Survey	Drum Fuel
2/01/01	0.00	0.90	0.90	0.0	0.0	0.0	Ferry	Ferry Strahan - Wynyard
2/01/01	2.00	1.00	3.00	550.2	0.0	550.2	Survey	OK
2/01/01	2.20	0.10	2.30	391.6	0.0	391.6	Survey	ok
2/01/01	3.90	0.30	4.20	674.0	0.0	674.0	Survey	Strong Easterly, Turb, RAD A
3/01/01	2.80	0.30	3.10	576.8	0.0	576.8	Survey	ok
3/01/01	3.30	0.50	3.80	612.0	0.0	612.0	Survey	ok
3/01/01	4.00	0.10	4.10	773.0	0.0	773.0	Survey	ok
4/01/01	3.20	0.30	3.50	556.0	0.0	556.0	Survey	Ok
4/01/01	3.70	0.30	4.00	775.0	0.0	775.0	Survey	ok
5/01/01	3.50	0.40	3.90	720.5	0.0	720.5	Survey	ok-Low Cloud
5/01/01	3.80	0.30	4.10	775.0	0.0	775.0	Survey	ok
6/01/01	2.60	0.90	3.50	422.4	0.0	422.4	Survey	Low Cloud

AREA D

AREA B

Job No 1585

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
6/01/01	3.20	0.40	3.60	627.6	0.0	627.6	Survey	ok
6/01/01	3.70	0.40	4.10	811.9	0.0	811.9	Survey	ok
7/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Survey	Late Start due to Fog
7/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Survey	Details to follow
8/01/01	2.60	0.50	3.10	580.3	0.0	580.3	Survey	ok
8/01/01	3.30	0.30	3.60	703.0	0.0	703.0	Survey	OK
8/01/01	3.70	0.30	4.00	741.0	0.0	741.0	Survey	High winds Easterly
9/01/01	3.50	0.50	4.00	627.7	0.0	627.7	Survey	Ok, High Winds Easterly
9/01/01	4.00	0.30	4.30	780.0	0.0	780.0	Survey	High winds Easterly
10/01/01	2.50	1.40	3.90	0.0	0.0	0.0	Survey	Survey + Ferry for 100 hourly
11/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Aircraft Maintenance	100 Hourly
12/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Aircraft Maintenance	100 Hourly
13/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Aircraft Maintenance	100 Hourly, probs in Melb
14/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Aircraft Maintenance	Awaiting part In Melb until 22
23/01/01	3.90	0.20	4.10	625.1	0.0	625.1	Survey	OK
24/01/01	2.80	0.60	3.40	480.7	0.0	480.7	Survey	OK, short flight due Diurnal &
24/01/01	2.80	1.40	4.20	480.7	0.0	480.7	Survey	Short flight due diurnal & wea
24/01/01	2.90	0.20	3.10	518.8	0.0	518.8	Survey	Return early due rain

AREA B

AREA C

Job No 1585

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
25/01/01	0.50	2.40	2.90	116.0	0.0	116.0	Survey	Weather R/S
25/01/01	1.70	0.30	2.00	232.0	0.0	232.0	Survey	Short flight due fog
26/01/01	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	No flight due weather
26/01/01	0.00	0.30	0.30	0.0	0.0	0.0	Ferry	Devonport - Wynyard Ferry
27/01/01	1.10	0.30	1.40	208.0	0.0	208.0	Survey	Short flight due weather /cold
27/01/01	3.30	0.40	3.70	696.0	0.0	696.0	Survey	Short flight due weather + fog,
28/01/01	0.40	0.40	0.80	54.5	0.0	54.5	Survey	Return due Radio Alt problem
28/01/01	3.50	0.40	3.90	683.5	0.0	683.5	Survey	OK
29/01/01	1.20	0.80	2.00	201.0	0.0	201.0	Survey	Power Supply u/s
29/01/01	3.80	0.40	4.20	814.6	75.0	889.6	Survey	OK
29/01/01	3.80	0.40	4.20	812.8	0.0	812.8	Survey	Ok, Tie Lines
30/01/01	2.40	1.50	3.90	450.0	0.0	450.0	Survey	+ Zeehan
31/01/01	1.50	0.40	1.90	232.0	0.0	232.0	Survey	OK
31/01/01	3.30	0.20	3.50	696.5	0.0	696.5	Survey	Hills Finished SE
31/01/01	3.90	0.40	4.30	679.5	0.0	679.5	Survey	OK
1/02/01	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	No flights Gale force Winds
1/02/01	0.00	1.10	1.10	0.0	0.0	0.0	Bad Weather	Wind - Standby
2/02/01	3.20	0.60	3.80	630.0	0.0	630.0	Survey	No 3rd flight due RAD ALT

AREA C

Job No 1585

Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
3/02/01	0.00	1.10	1.10	0.0	0.0	0.0	Ferry	Wynyard _ Launceston _Wyny
3/02/01	2.10	0.80	2.90	259.0	0.0	259.0	Survey	OK
3/02/01	4.00	0.40	4.40	821.0	95.0	916.0	Survey	OK
4/02/01	2.50	0.90	3.40	545.0	0.0	545.0	Survey	OK, Strong SW Winds
4/02/01	3.60	0.40	4.00	760.5	0.0	760.5	Survey	Turb
4/02/01	3.60	0.80	4.40	677.0	0.0	677.0	Survey	OK
5/02/01	3.50	1.00	4.50	618.0	0.0	618.0	Survey	OK
5/02/01	4.20	0.30	4.50	915.0	0.0	915.0	Survey	OK
6/02/01	0.30	0.80	1.10	28.0	0.0	28.0	Bad Weather	Bad Easterlys & Turb, no flig
7/02/01	0.00	1.50	1.50	0.0	0.0	0.0	Ferry	Ferry Wynyard to Melb for 10
8/02/01	0.00	0.00	0.00	0.0	0.0	0.0	Aircraft Maintenance	In melb for 100 hourly
9/02/01	0.00	0.00	0.00	0.0	0.0	0.0	Aircraft Maintenance	In melbourne for 100houlry
10/02/01	0.00	1.50	1.50	0.0	0.0	0.0	Ferry	Melb - Wynyard
11/02/01	2.90	0.80	3.70	552.0	0.0	552.0	Survey	OK
11/02/01	3.60	0.60	4.20	753.0	0.0	753.0	Survey	GPS sat probs - landed at Smit
12/02/01	2.10	0.40	2.50	456.0	0.0	456.0	Survey	OK, Flight short due weather
12/02/01	3.60	0.40	4.00	823.0	0.0	823.0	Survey	OK
13/02/01	0.00	0.50	0.50	0.0	0.0	0.0	Bad Weather	Bad Weather Rain, No pm flig

AREA C

Job No	1585							
Date	On Line Hrs	Oth Flying Hrs	Tot Flying Hrs	Line Kms	Reflys	Tot Kms Flown	Lost Time	Comments
14/02/01	0.00	0.00	0.00	0.0	0.0	0.0	Bad Weather	Gale force Winds & Rain, No
15/02/01	0.80	0.30	1.10	177.0	0.0	177.0	Survey	Gale Force winds - Low Produ
15/02/01	1.70	0.30	2.00	392.0	0.0	392.0	Survey	OK
15/02/01	3.60	0.30	3.90	790.0	0.0	790.0	Survey	OK
16/02/01	1.70	0.30	2.00	366.5	0.0	366.5	Survey	OK
16/02/01	3.20	0.30	3.50	700.0	0.0	700.0	Survey	OK
16/02/01	3.90	0.10	4.00	882.0	0.0	882.0	Survey	OK
17/02/01	2.90	0.00	2.90	0.0	259.0	259.0	Survey	OK, flight 62 completion of R
17/02/01	3.60	0.30	3.90	676.0	0.0	676.0	Survey	ok
17/02/01	4.00	0.40	4.40	910.0	0.0	910.0	Survey	OK
18/02/01	0.00	1.50	1.50	0.0	0.0	0.0	Ferry	Ferry Wynyard - Melbourne
Su	251.90	60.40	312.30	46,268.8	544.0	46,812.8		
Sum	373.80	108.30	482.10	70,307.9	1,005.6	71,313.5		
Grand Total	373.80	108.30	482.10	70,307.9	1,005.6	71,313.5		

AREA C

AREA F

APPENDIX 5

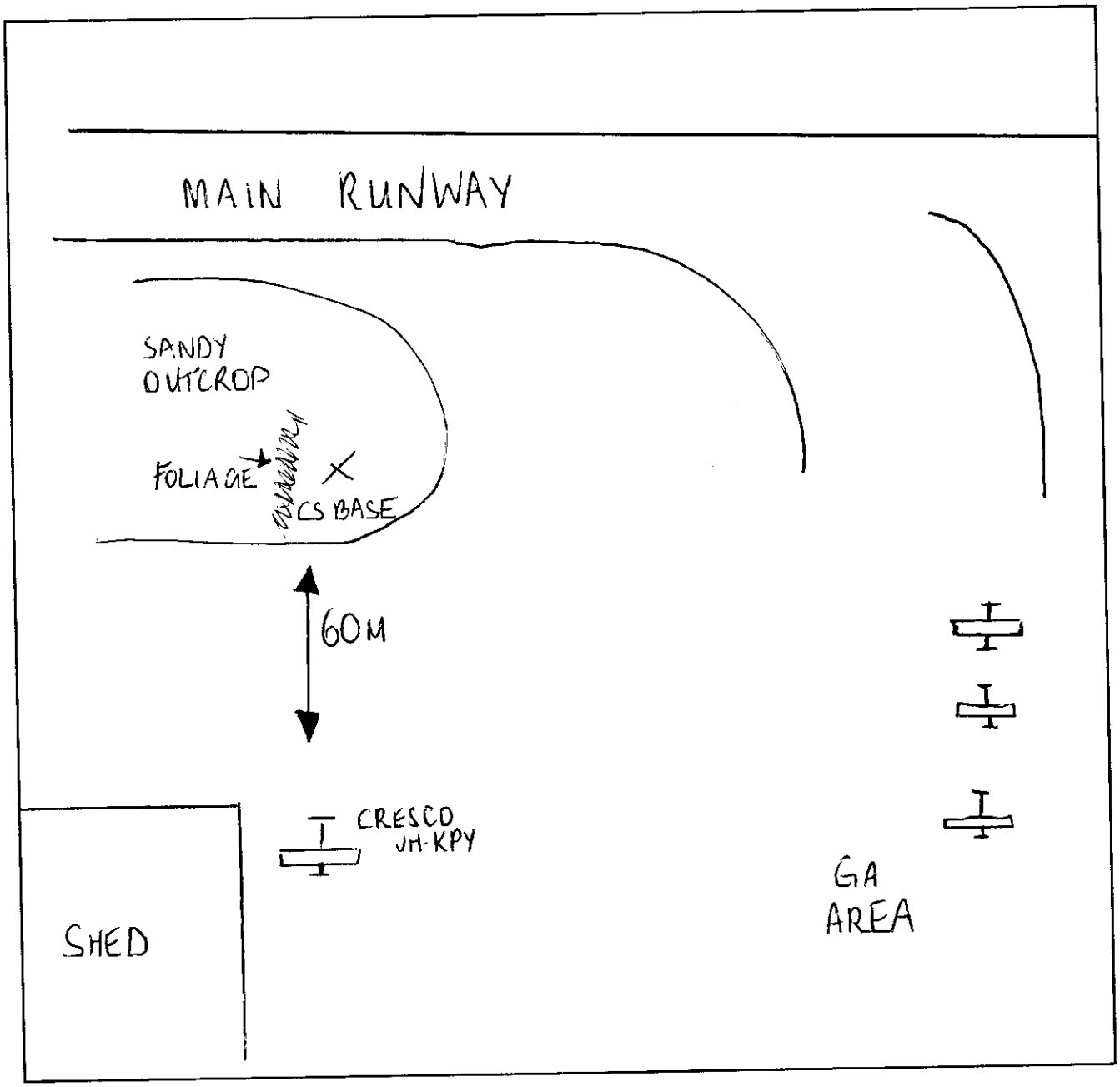
BASE STATION MAGNETOMETER (DIURNAL)

JOB NUMBER 1585 **DATE** _____

LOCATION STRAHAN AIRPORT, TAS

MEAN POSITION 42°09'3"S 145°17.5'E

WGS-84	AGD-84	UTM

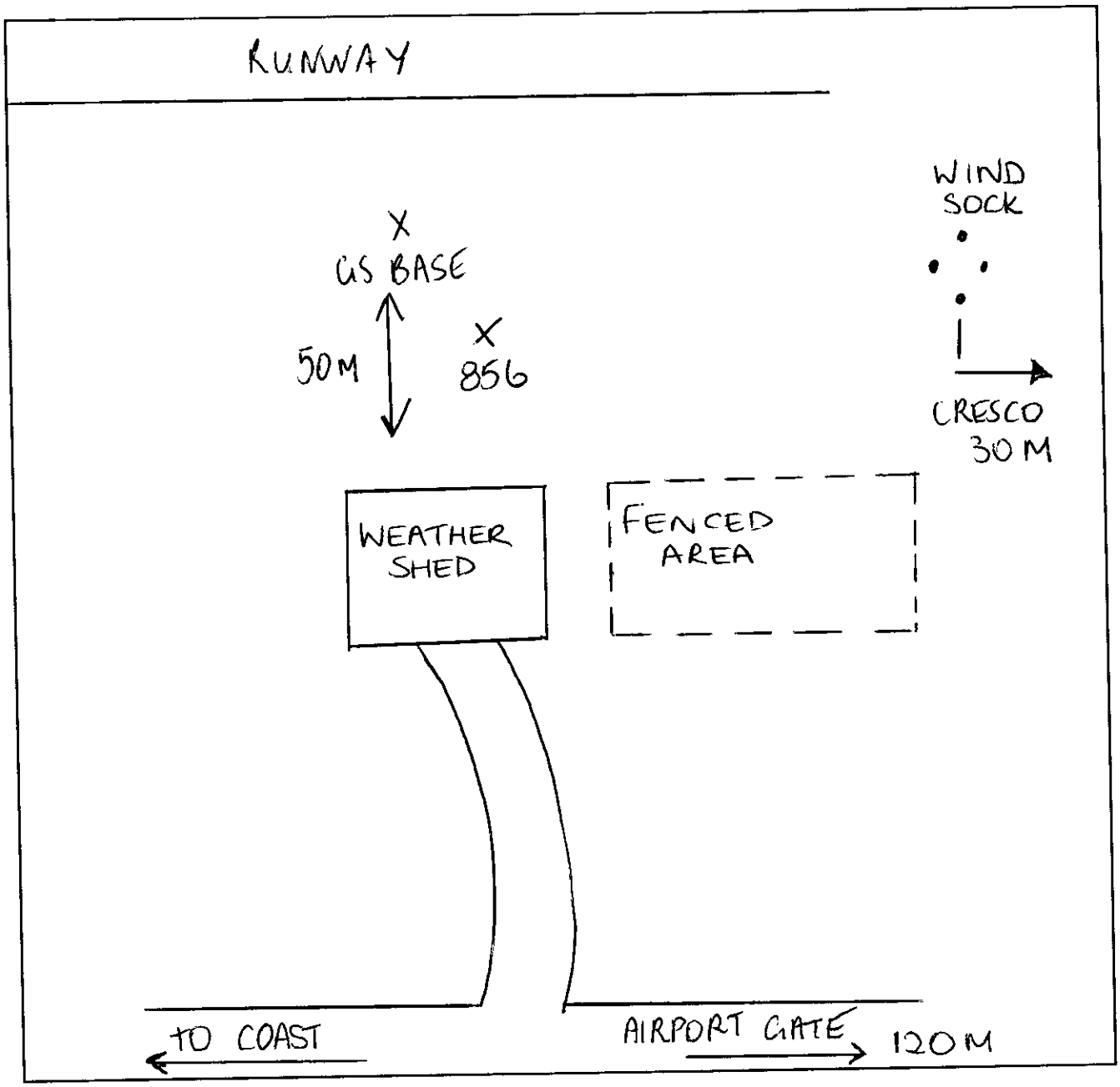


JOB NUMBER 1585 **DATE** _____

LOCATION STRAHAN AIRPORT (LOCATION 2), TAS

MEAN POSITION 42°09.3'S 145°17.5'E

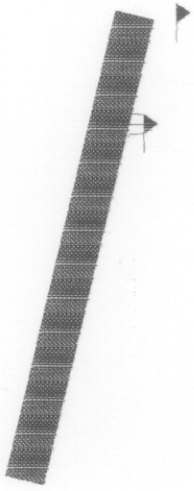
WGS-84	AGD-84	UTM



N

Elevation: 66
Variation : 12.8e

Strahan
2 nm
058 degrees



STRAHAN

Runways:

18/36 1220 metres
(Gravel)
Lighting-
Electric
Portable

Navaids:
NDB 257
Navaid Ident - SRN
Morse code -
. . . .-. -.

Frequencies:
FIS - 124.1
MBZ - 124.2 (CTAF)
PAL - 122.8

Details:

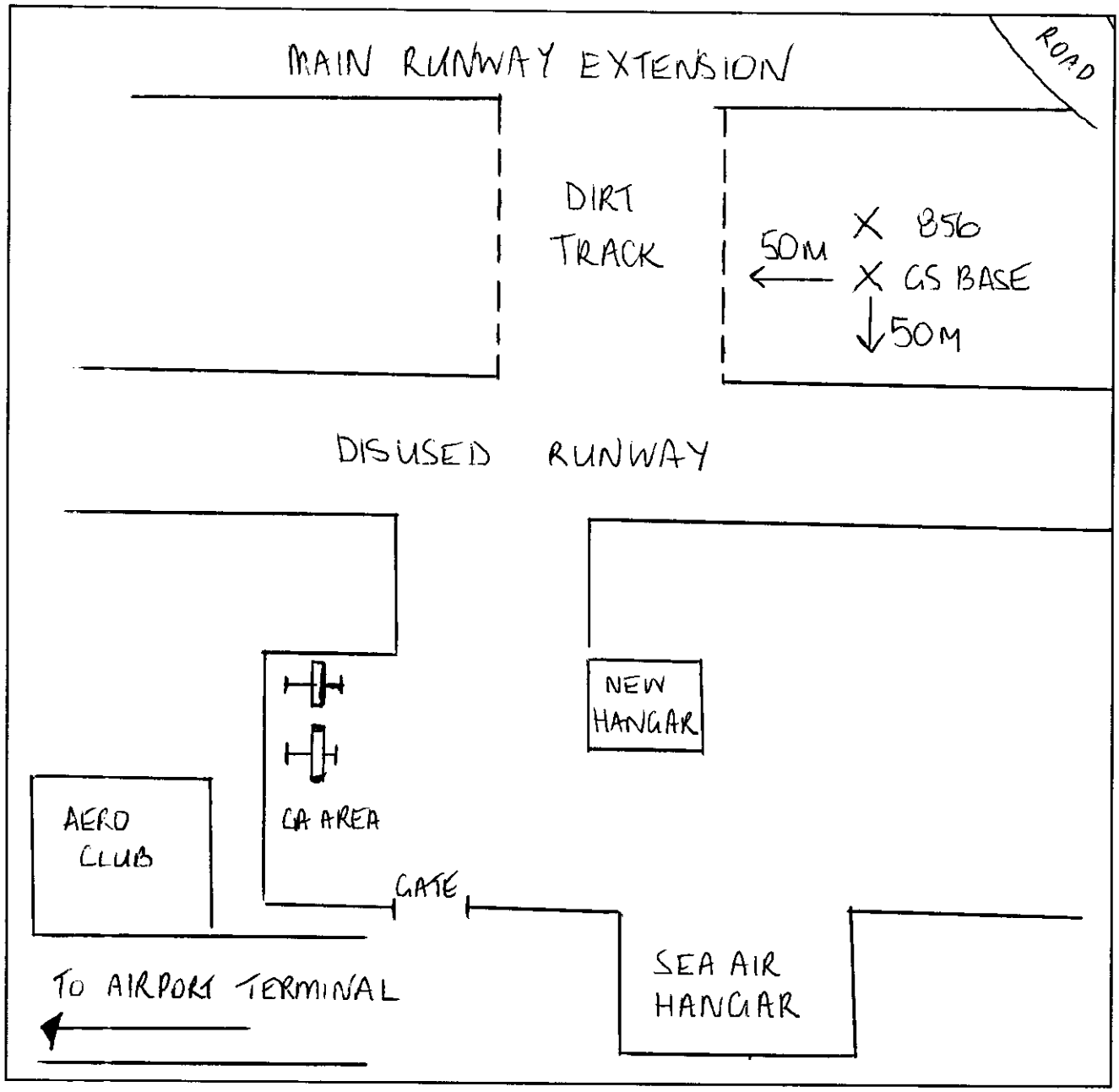
Name:	STRAHAN, TAS
State/country:	Tasmania
Abbreviation:	YSRN
Latitude/longitude:	S42 09.45 E145 17.38
Status:	Licensed
Owner details:	STRAHAN MUNICIPAL COUNCIL, PO BOX 20, STRAHAN 7468 TEL:004 717261 FAX:717213
Fuel availability:	AVGAS
Comments:	RH CIRCUITS REQ WHEN OPR ON RWY18. CAUTION:UNSEALED AREAS MAY BE SLIPPERY WHEN WET. LIGHTING/ACCOM:004 717224
ARFOR area:	70
Landing permission:	Not required
Landing fees:	MIN $15
AVFAX code:	7009

JOB NUMBER 1585 **DATE** _____

LOCATION BURNIE / WYNYARD AIRPORT

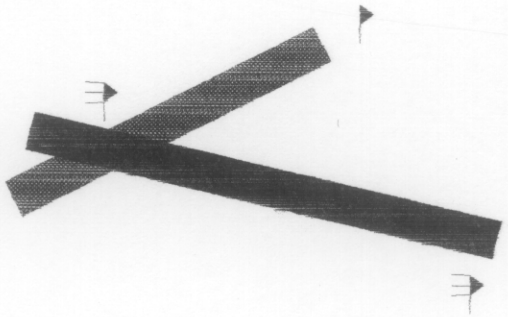
MEAN POSITION 40°59.9'S 145°43.9'E

WGS-84	AGD-84	UTM



N

Elevation: 62
Variation : 12.7e



WYNYARD

Runways:

09/27 1650 metres
(Bitumen)
Lighting-
Electric

05/23 1188 metres
(Gravel)
Lighting-
Portable

Approach aids:
AT-VASIS RWY09/27

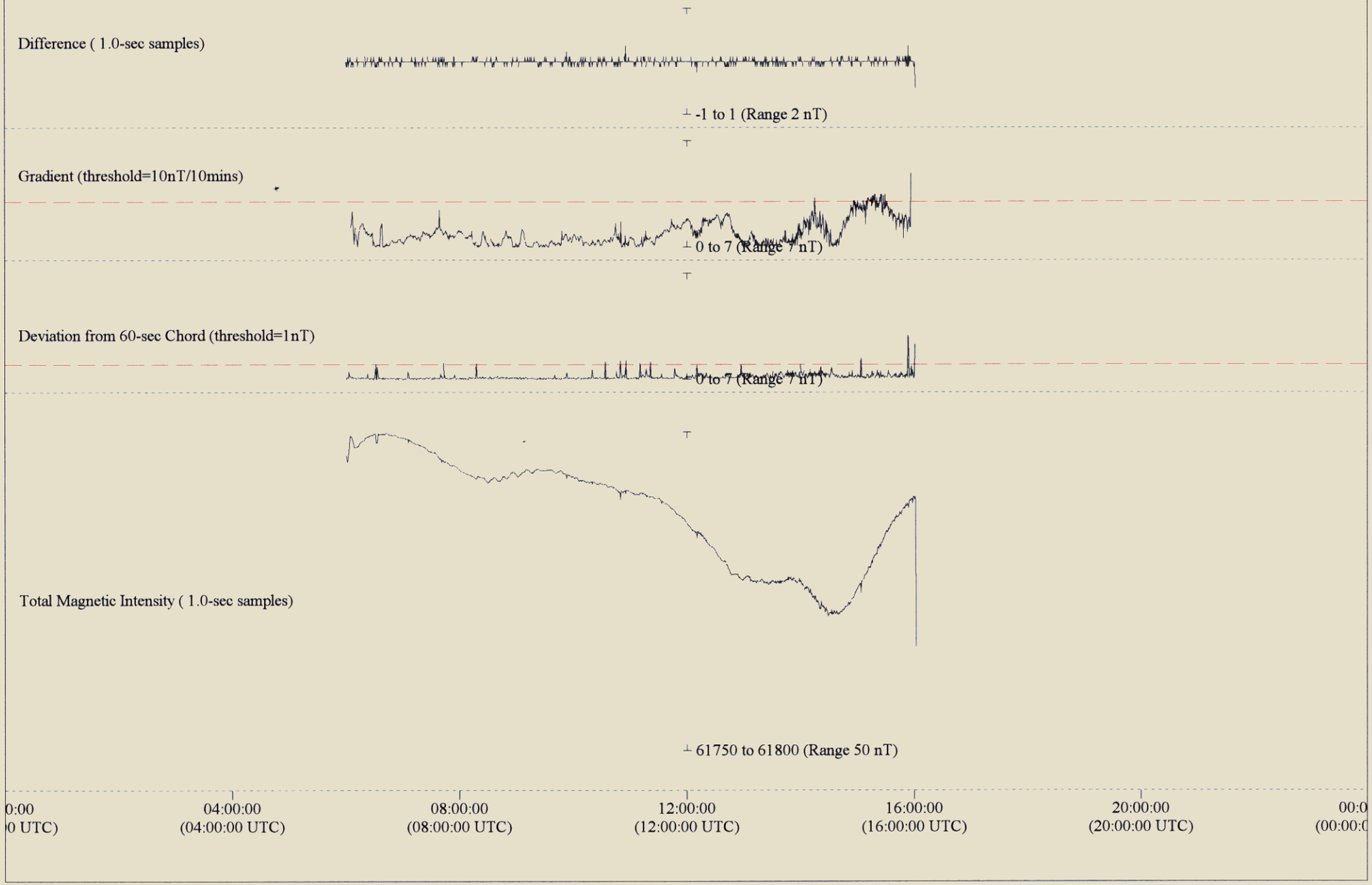
Navaids:
NDB 302
VOR 115.8
Navaid Ident - WYY
Morse code -
.-- -.-- -.--

Frequencies:
FIS - 122.6
MBZ - 126.9
PAL - 119.6

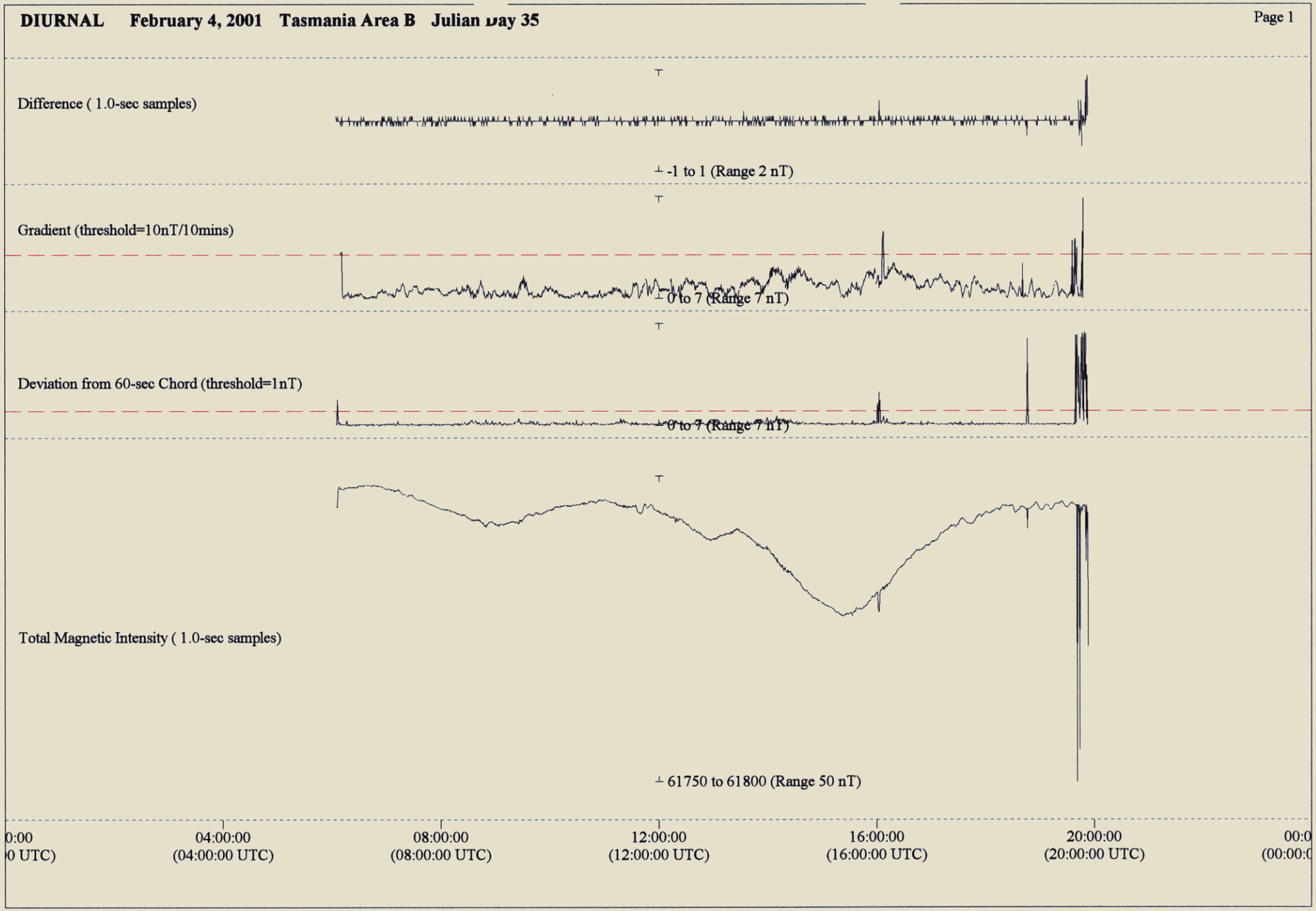
Details:

Name:	WYNYARD, TAS
State/country:	Tasmania
Abbreviation:	YWYY
Latitude/longitude:	S41 00.01 E145 43.80
Status:	Licensed
Owner details:	BURNIE PORT AUTHORITY, PO BOX 216, BURNIE 7320 TEL:004 313444 F:314690
Fuel availability:	*MOBIL 018 144116 AH: 004 421596*
Comments:	RH CCTS ON RWY 23 & 27.LIT MAST 607FT (SPOT HT)340DEG M 2NM FROM ARP. R'WAY LINE CROSSES NE END RWY 05/23.
ARFOR area:	70
AVFAX code:	7010

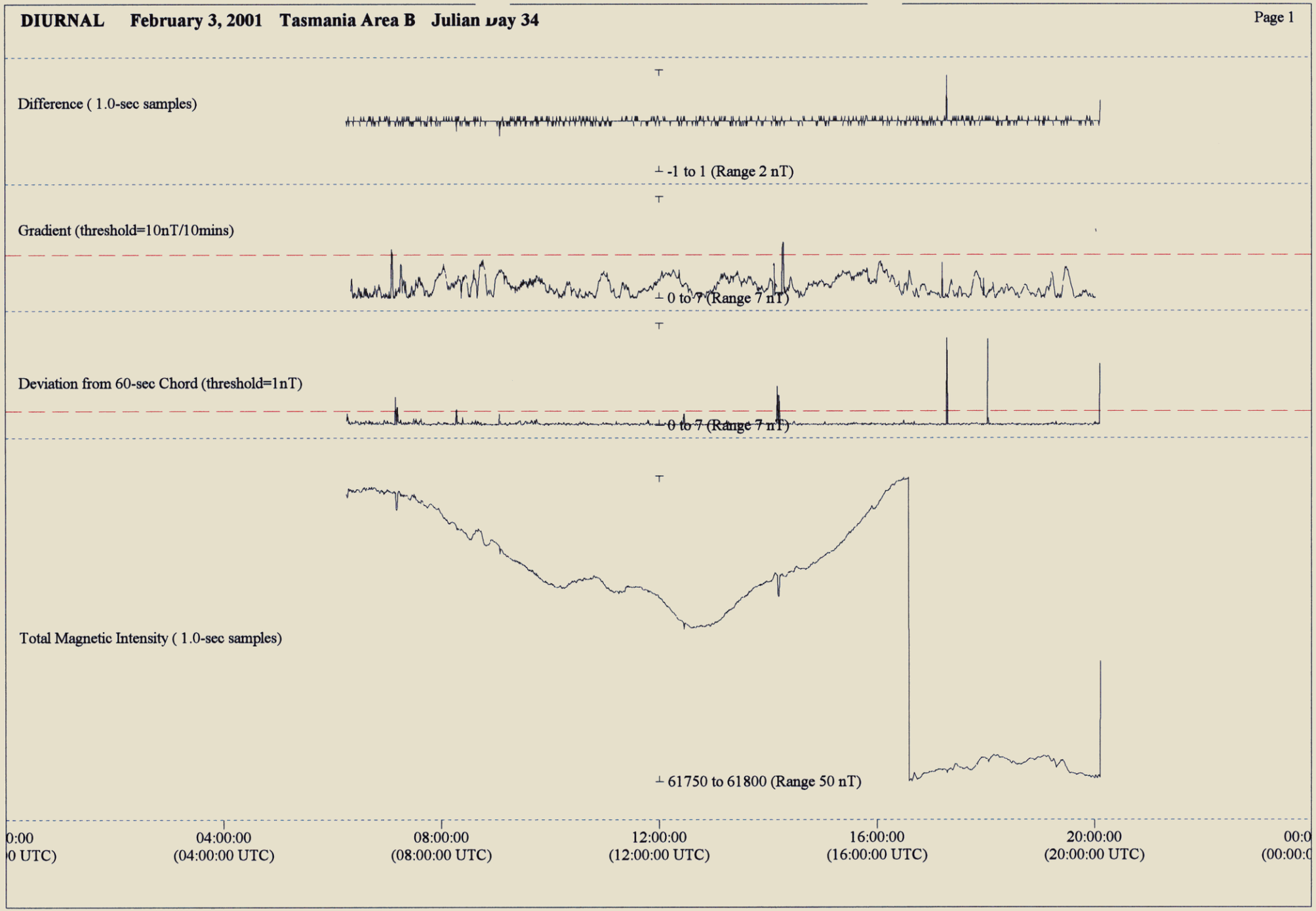
DIURNAL February 5, 2001 nia Area B Julian Day 36 Page 1



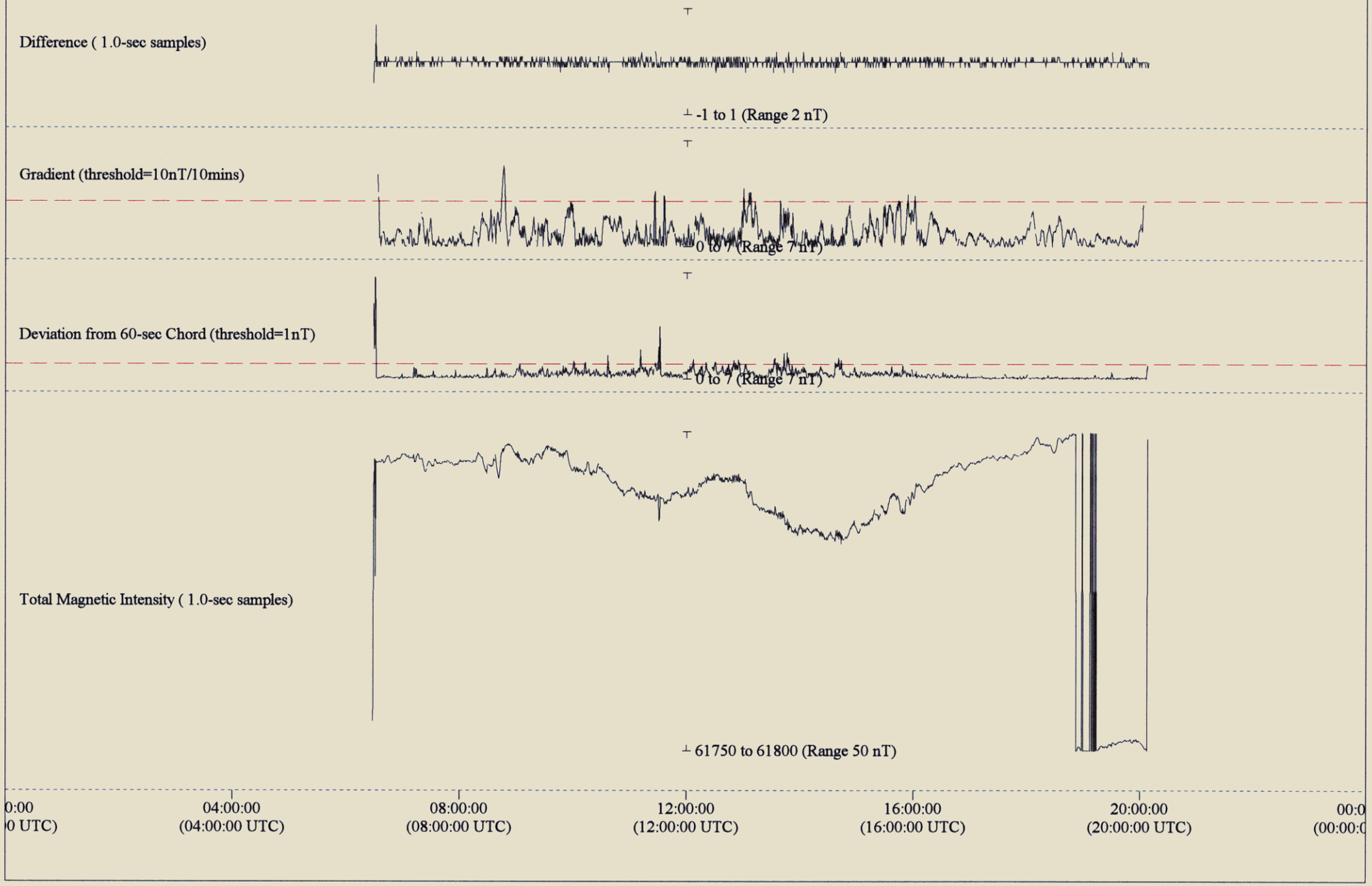
DIURNAL February 4, 2001 Tasmania Area B Julian Day 35 Page 1



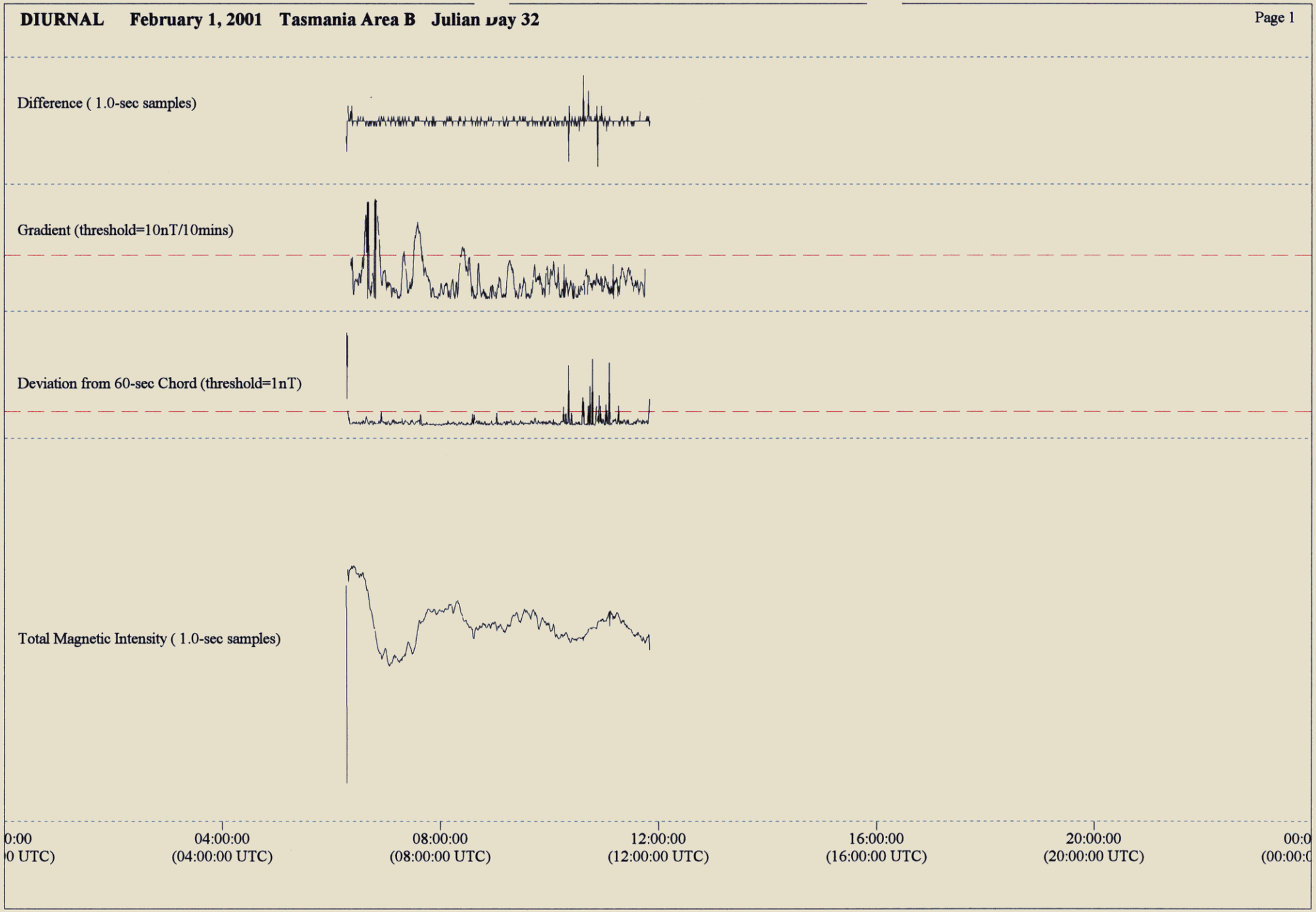
DIURNAL February 3, 2001 Tasmania Area B Julian Day 34 Page 1



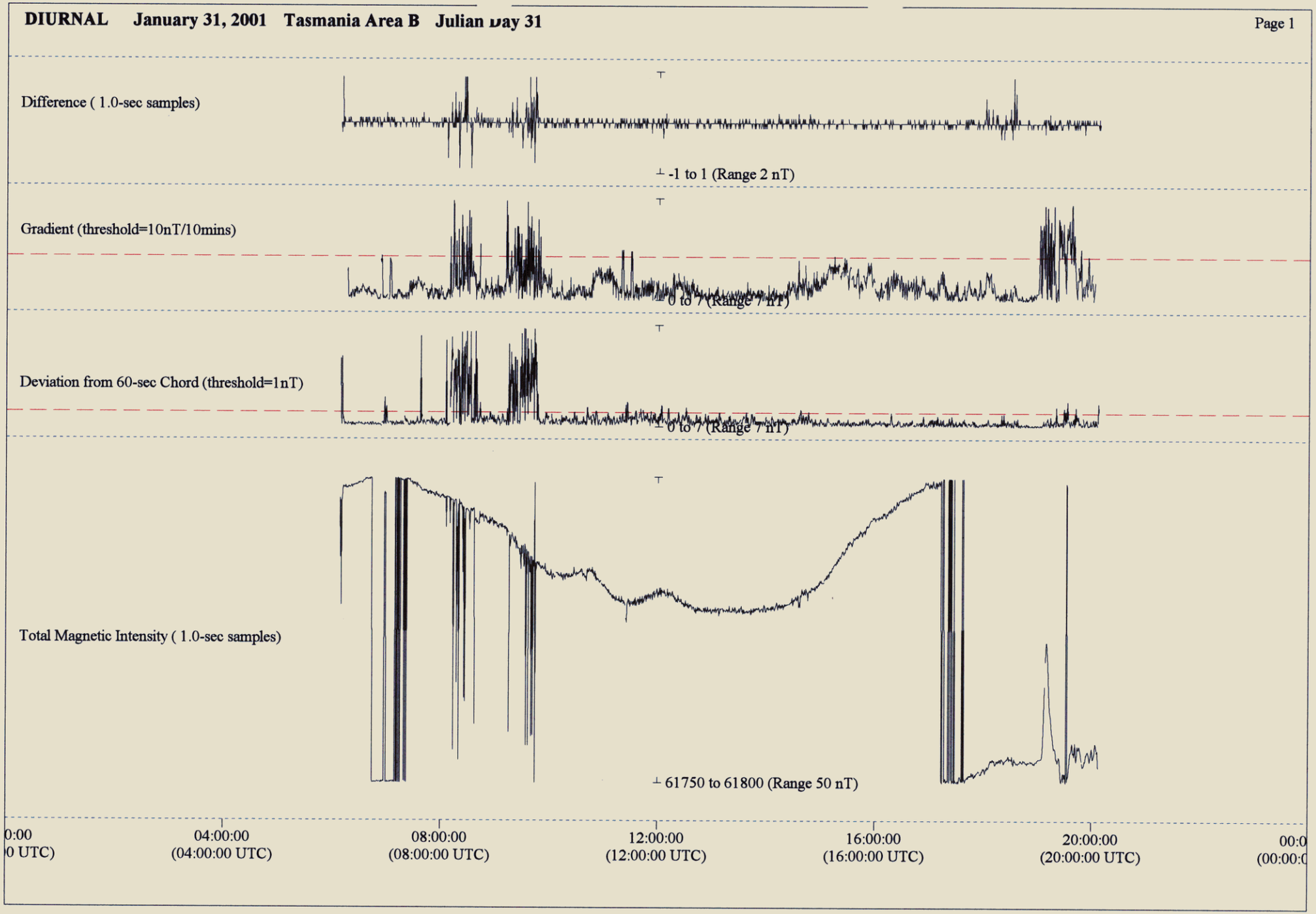
DIURNAL February 2, 2001 Tasmania Area B Julian Day 33 Page 1



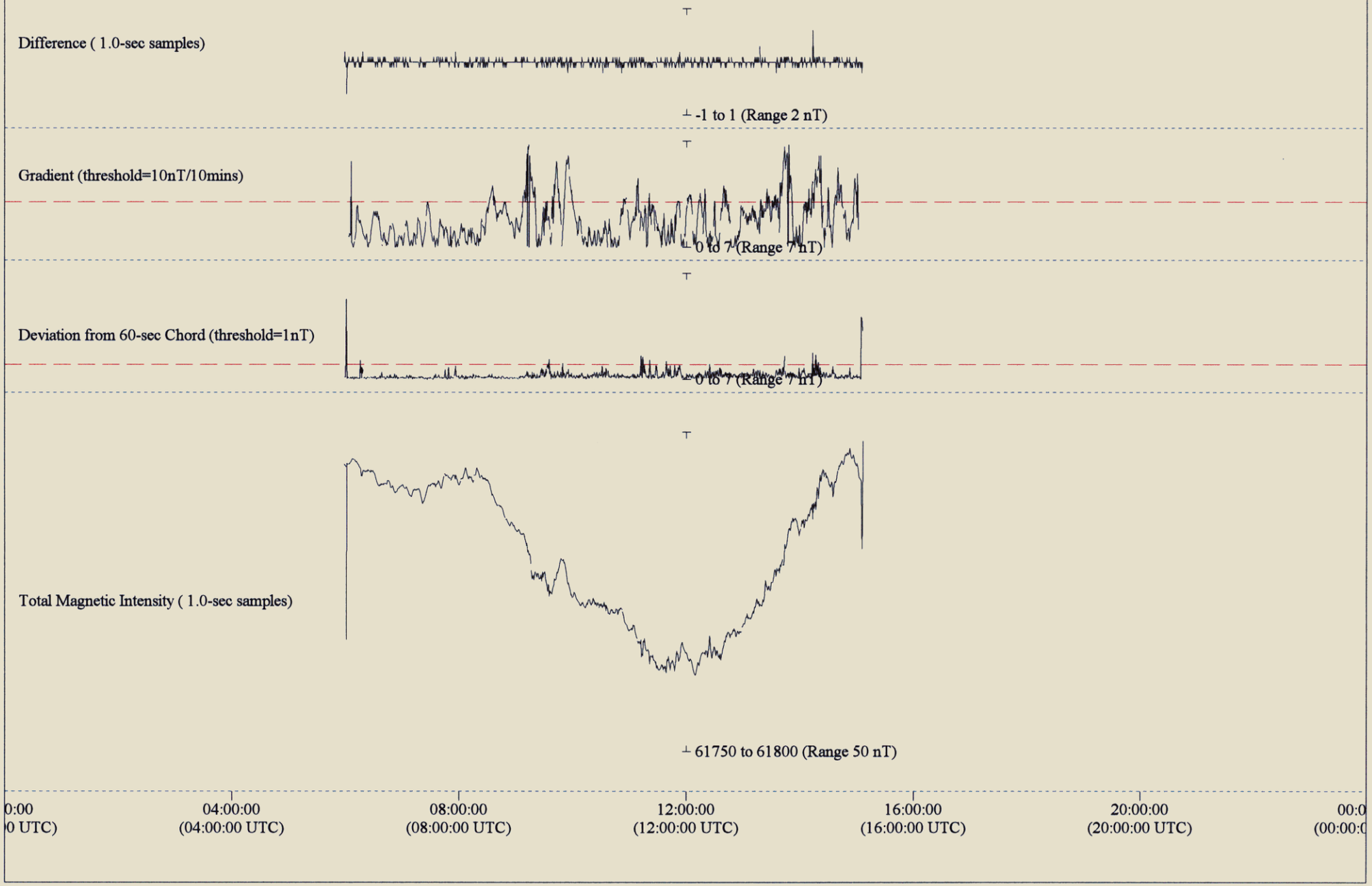
DIURNAL February 1, 2001 Tasmania Area B Julian Day 32 Page 1



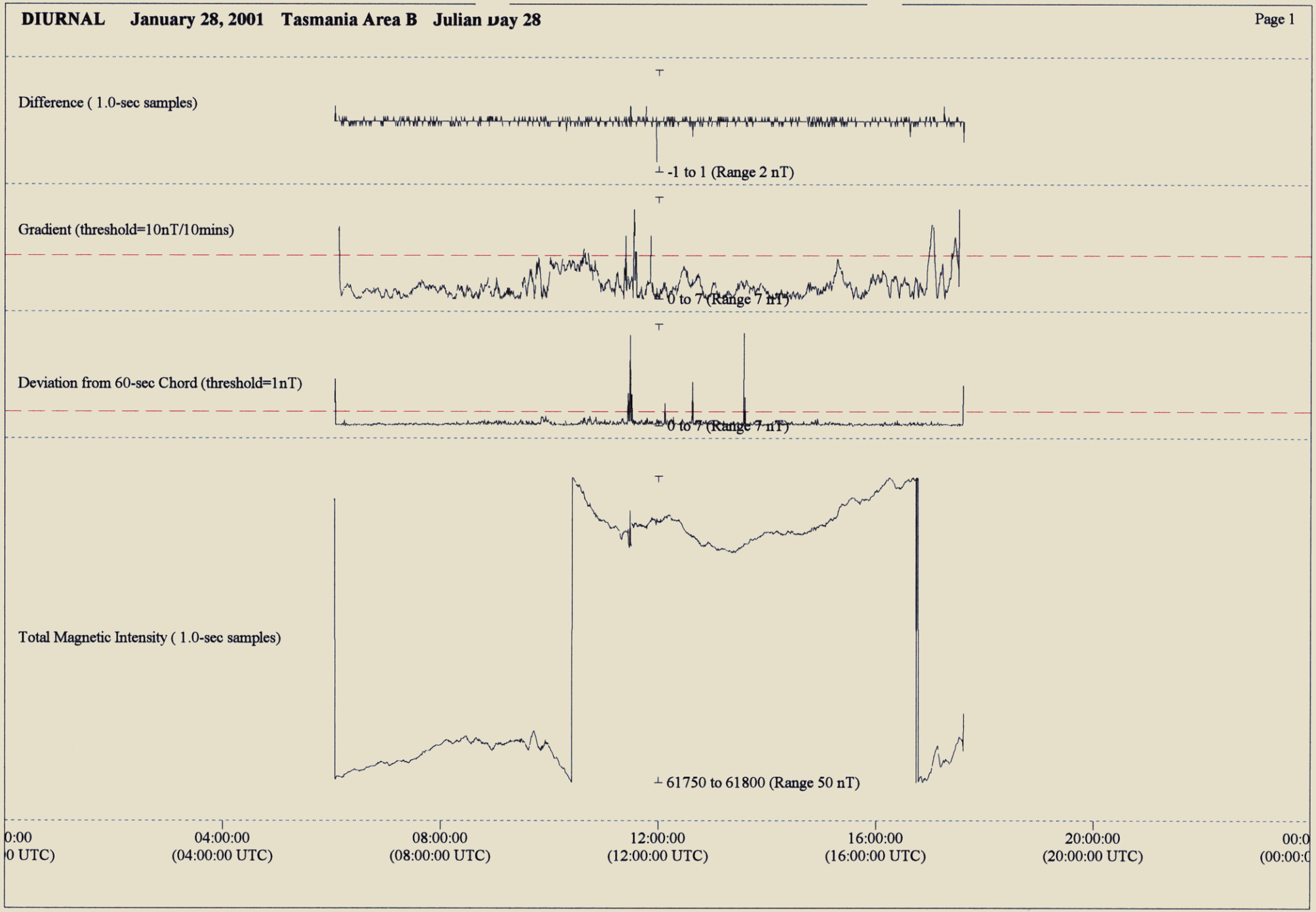
DIURNAL **January 31, 2001** **Tasmania Area B** **Julian Day 31** Page 1



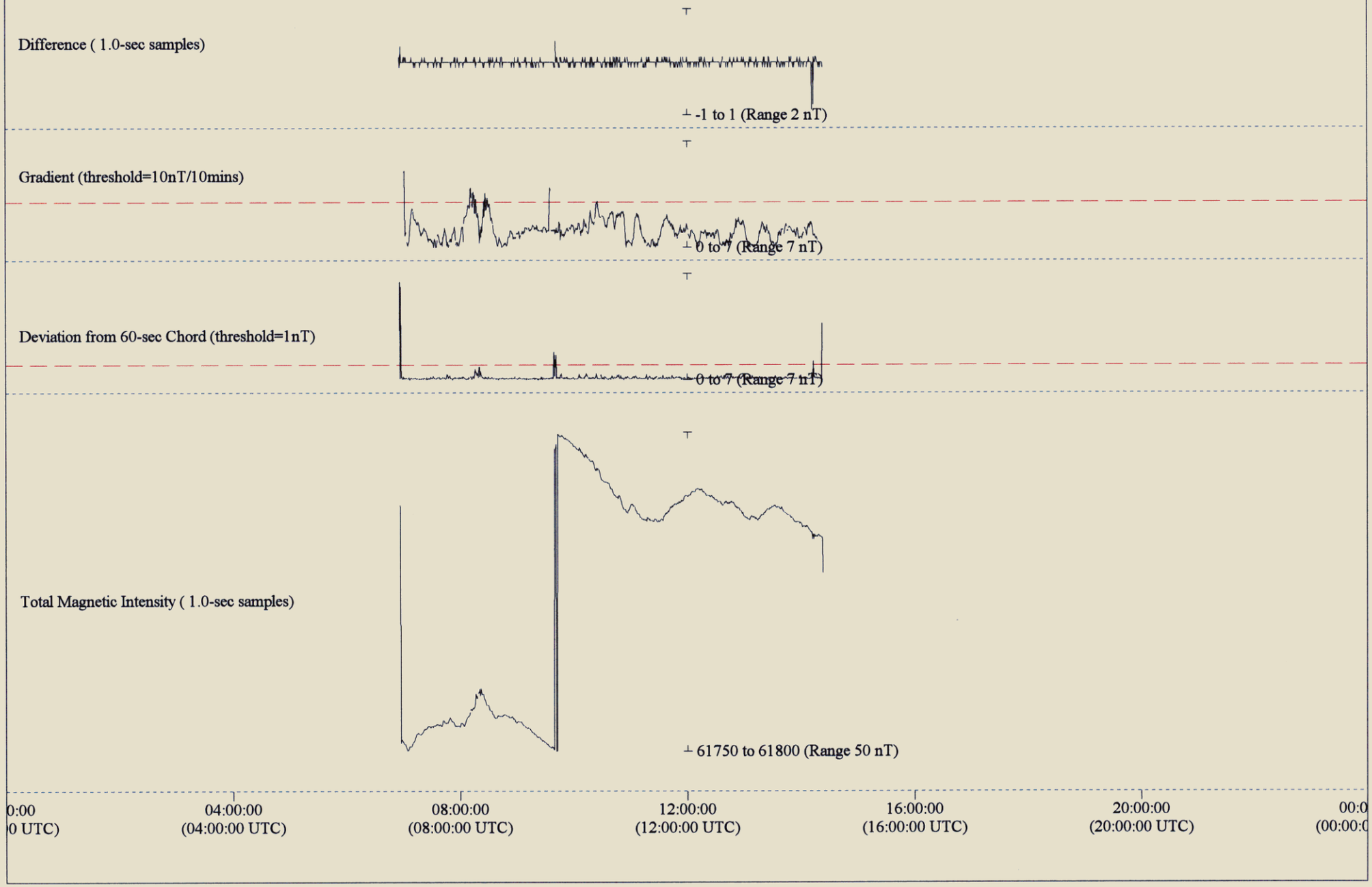
DIURNAL January 29, 2001 Tasmania Area B Julian Day 29 Page 1



DIURNAL January 28, 2001 Tasmania Area B Julian Day 28 Page 1



DIURNAL January 27, 2001 Tasmania Area B Julian Day 27



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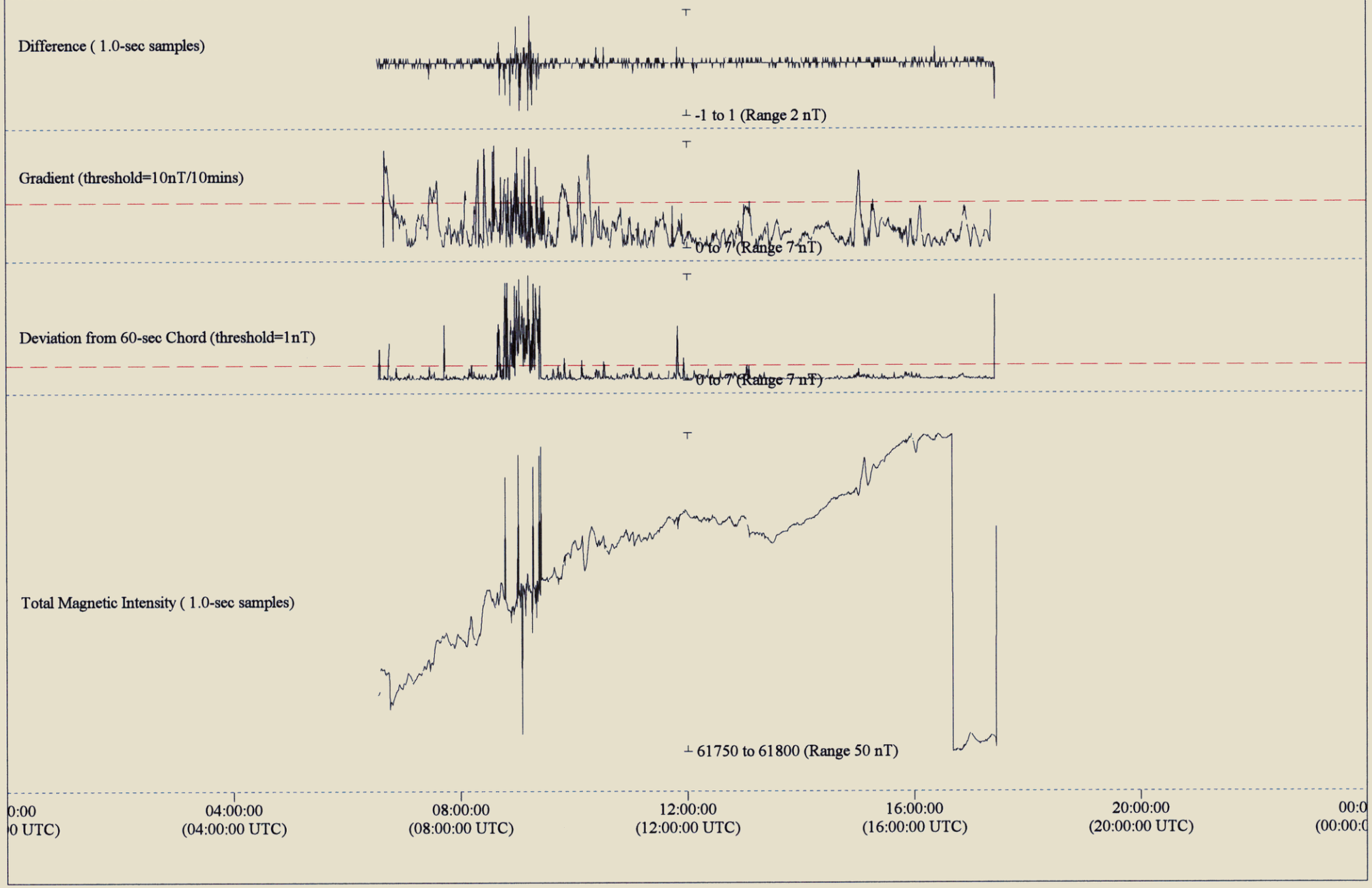
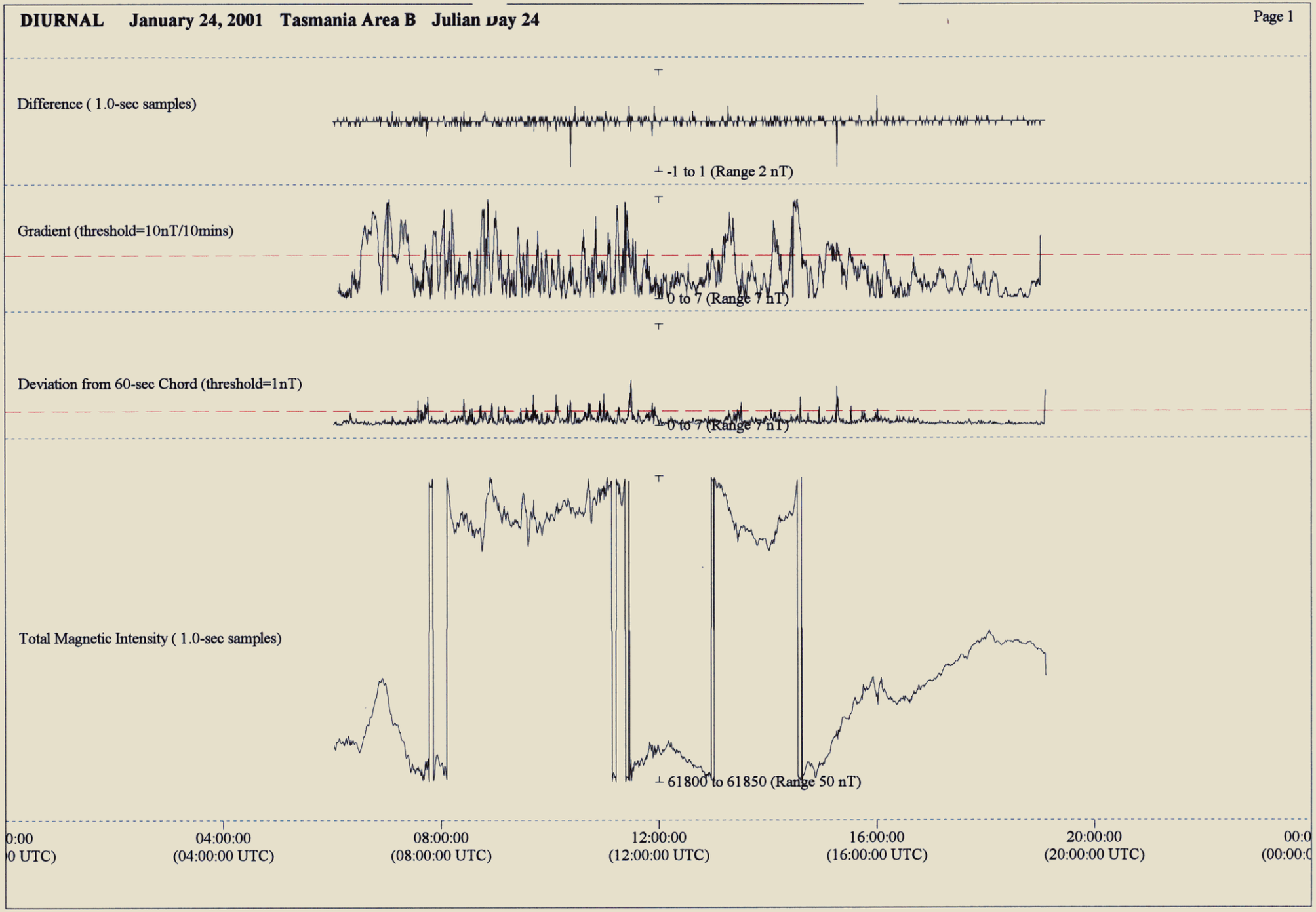
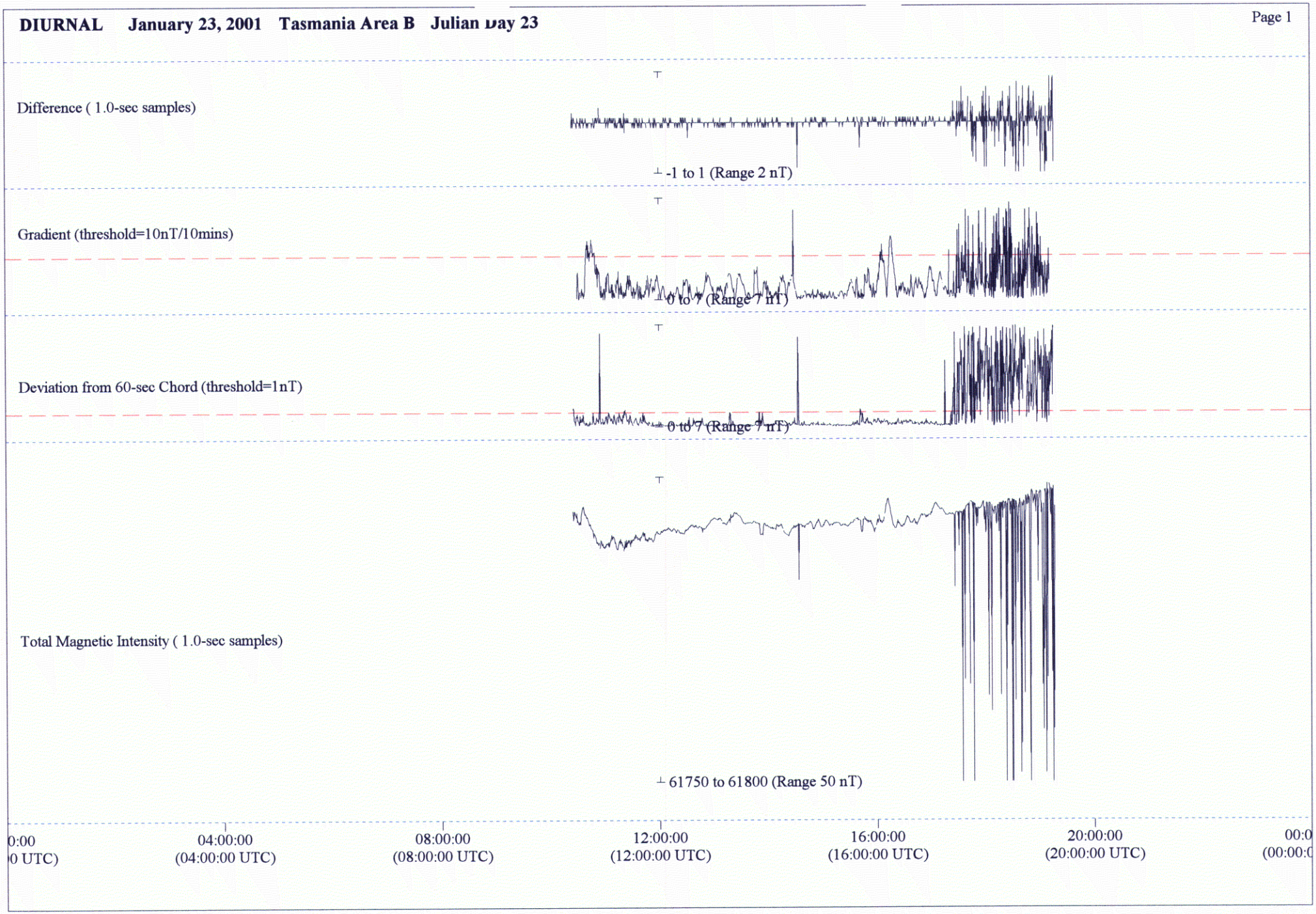


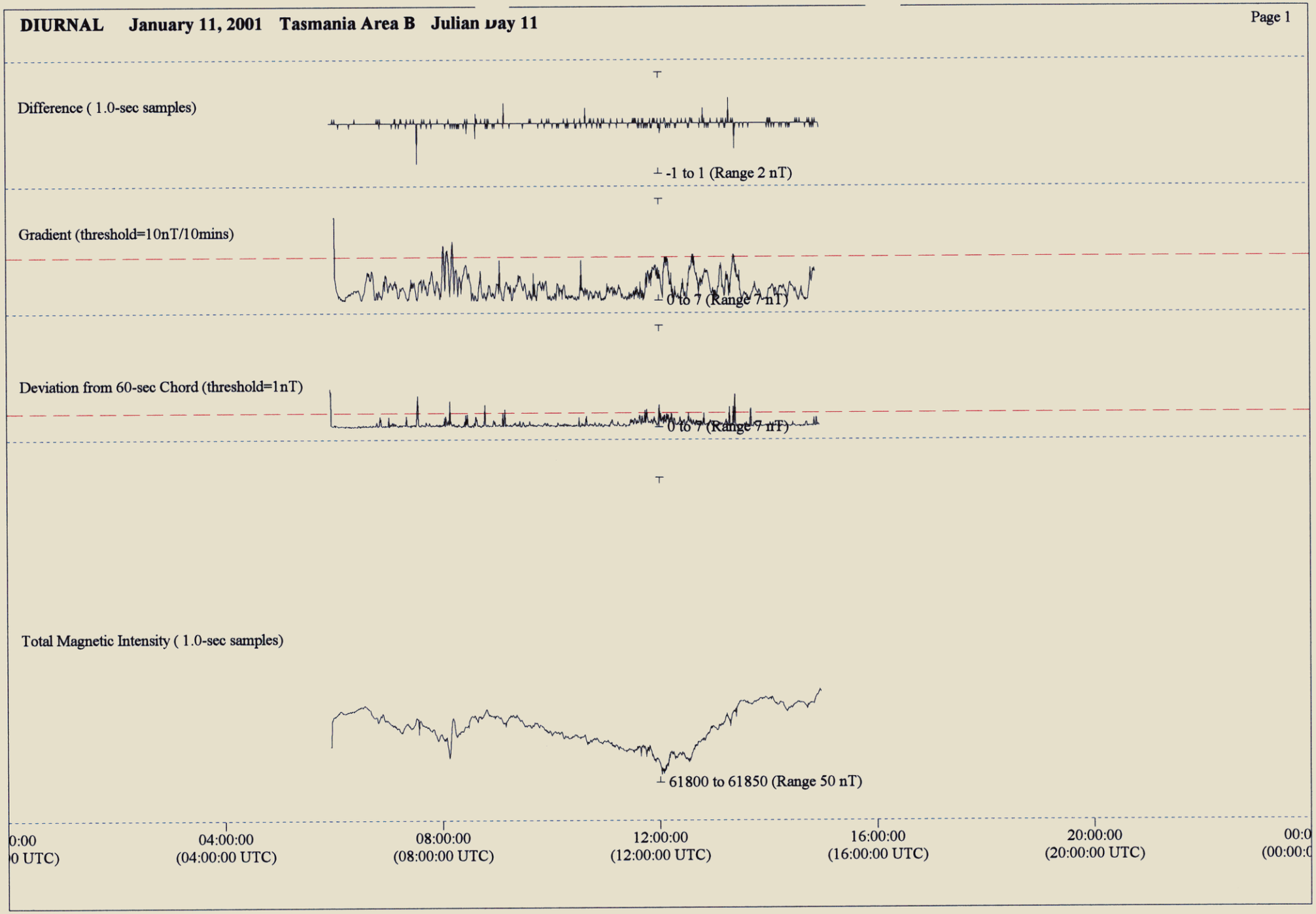
DIURNAL January 24, 2001 Tasmania Area B Julian Day 24 Page 1



DIURNAL January 23, 2001 Tasmania Area B Julian Day 23



DIURNAL January 11, 2001 Tasmania Area B Julian Day 11



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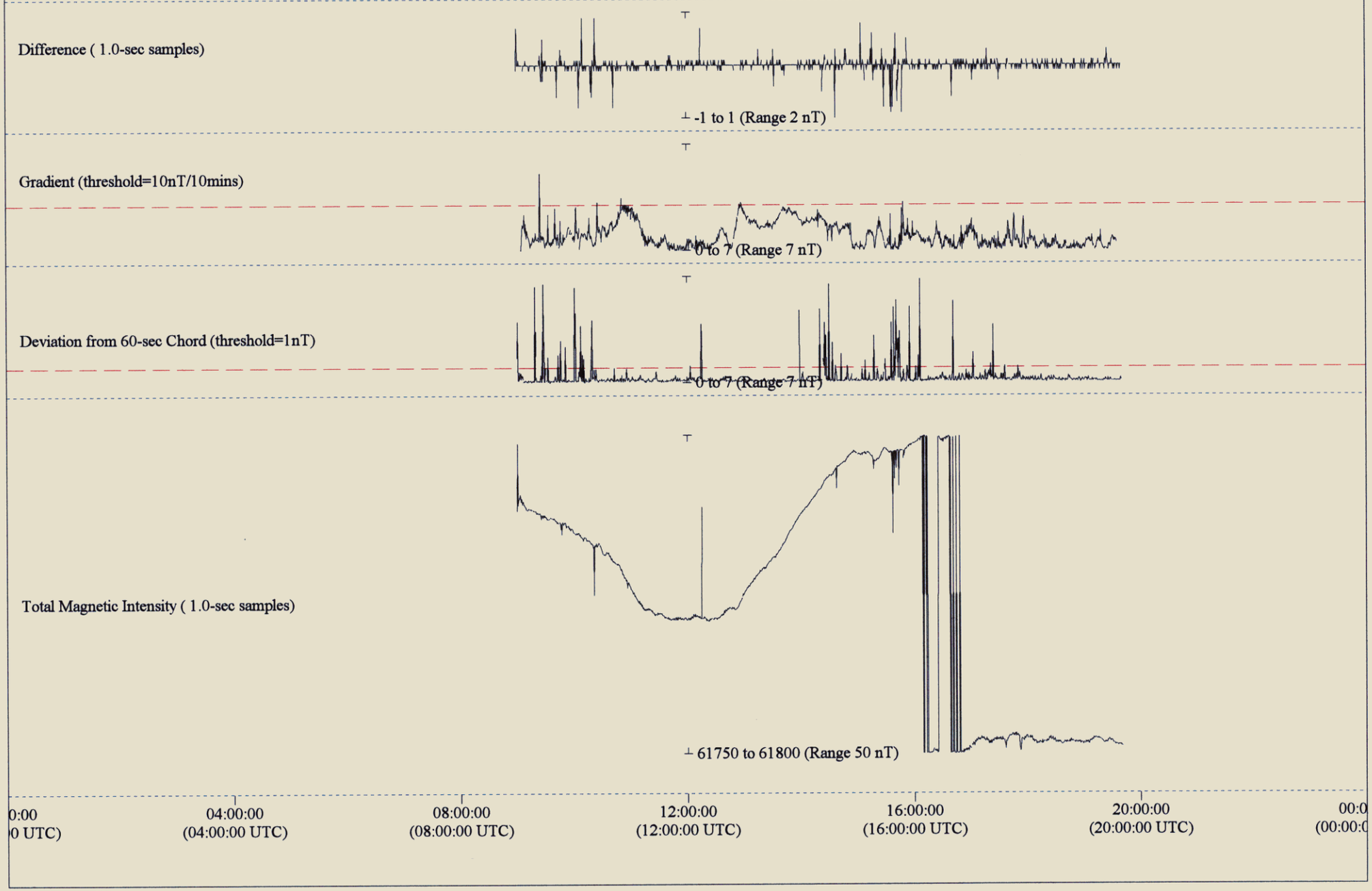
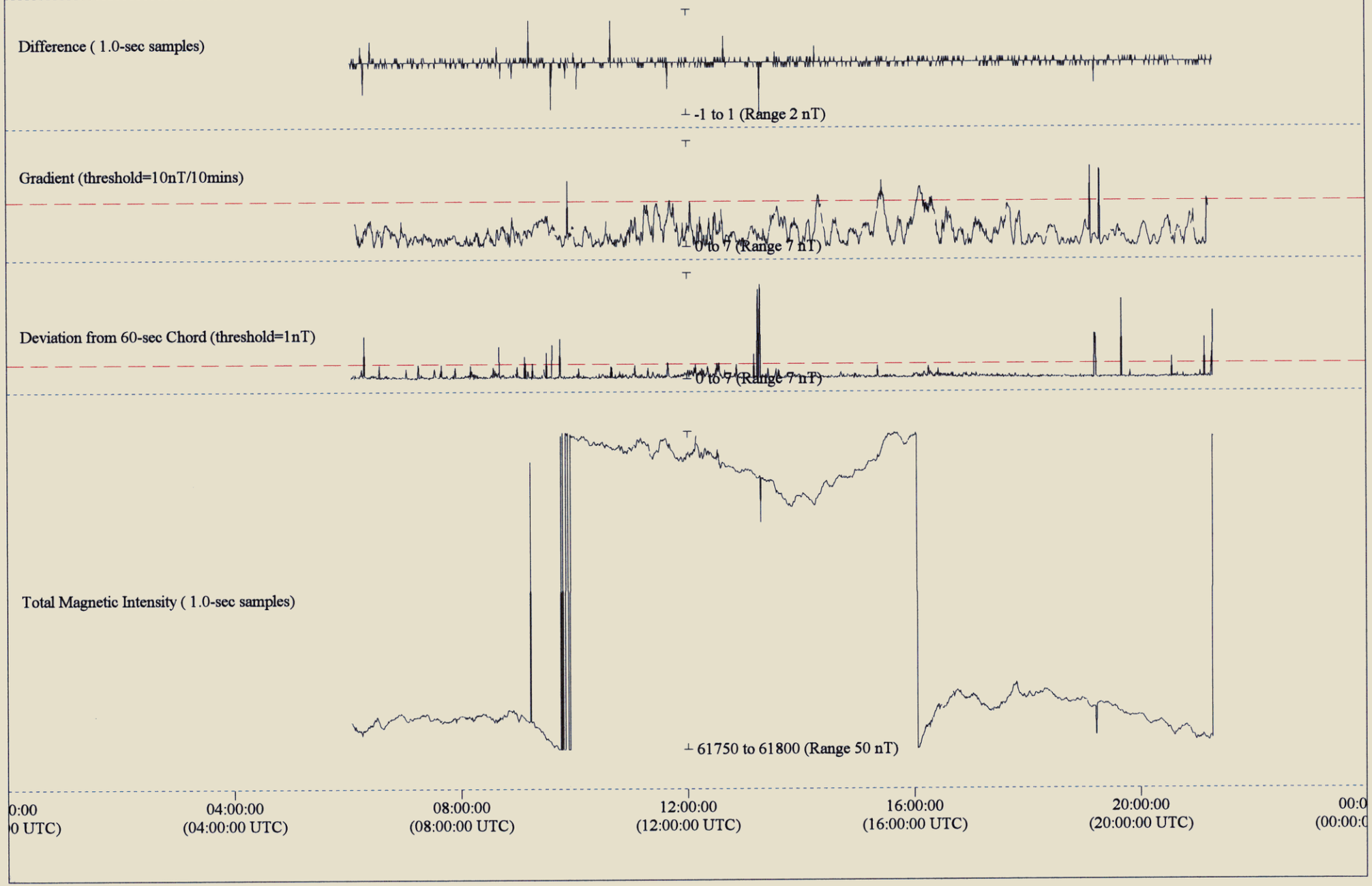
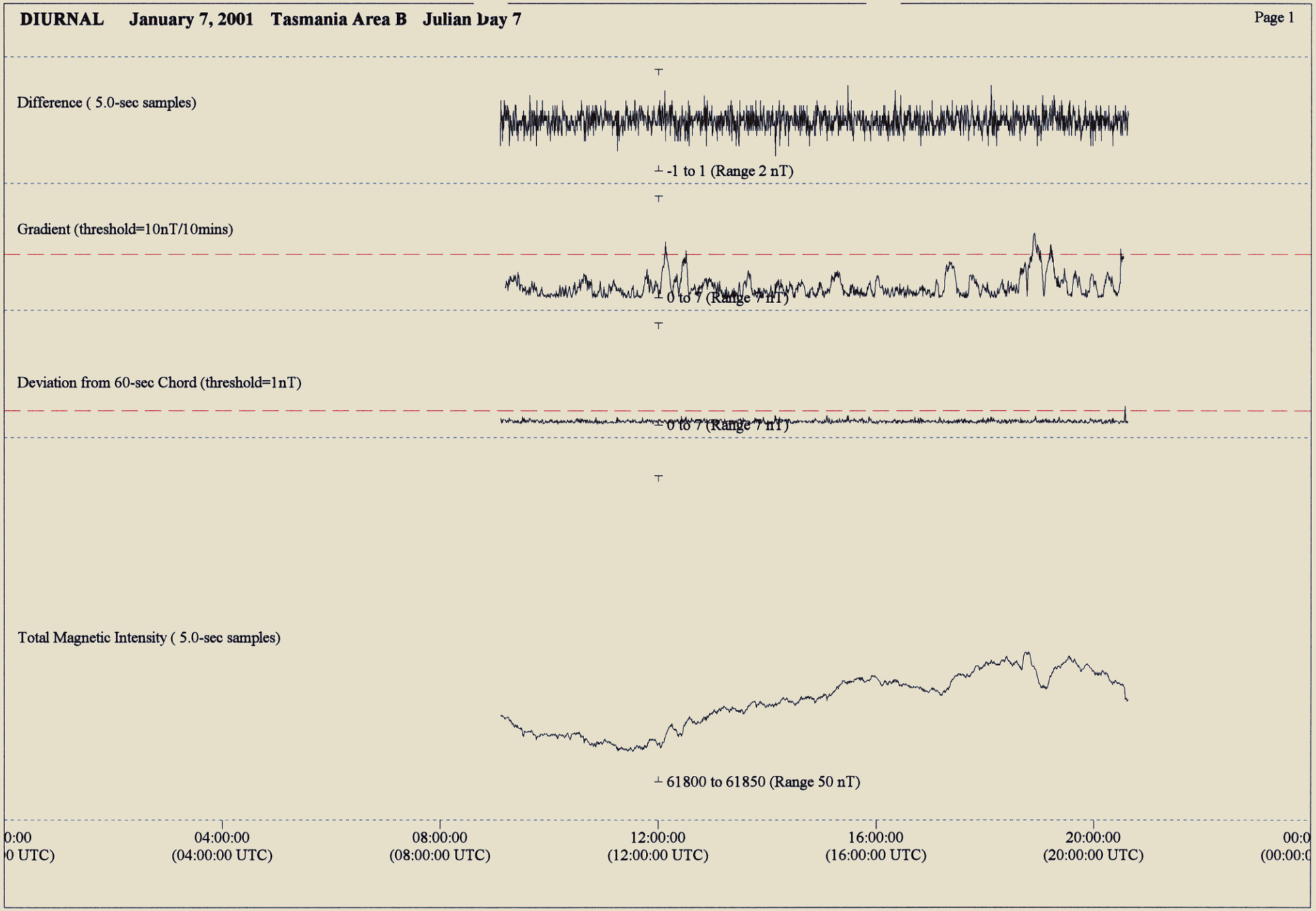


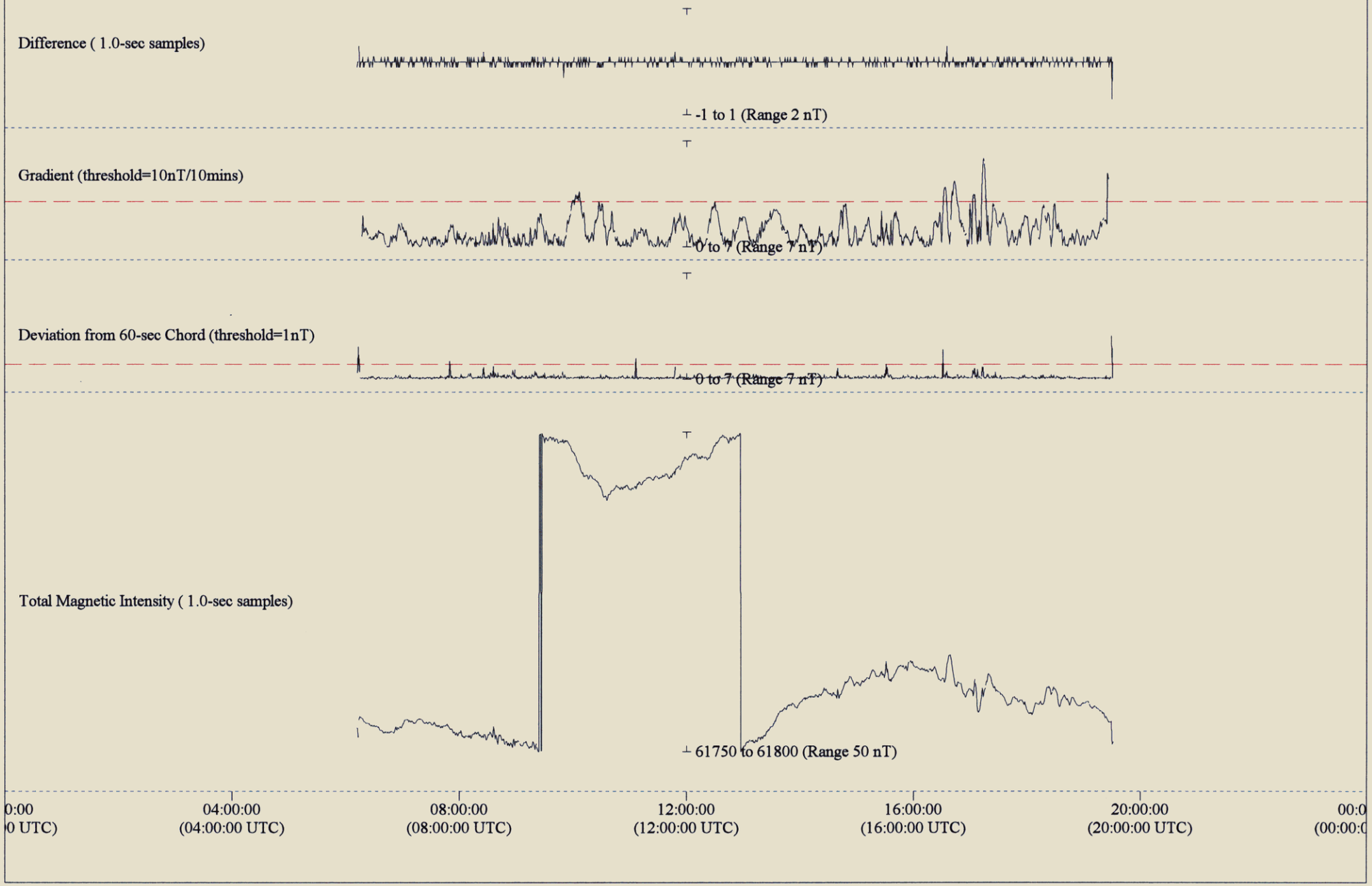
DIURNAL January 8, 2001 Tasmania Area B Julian Day 8



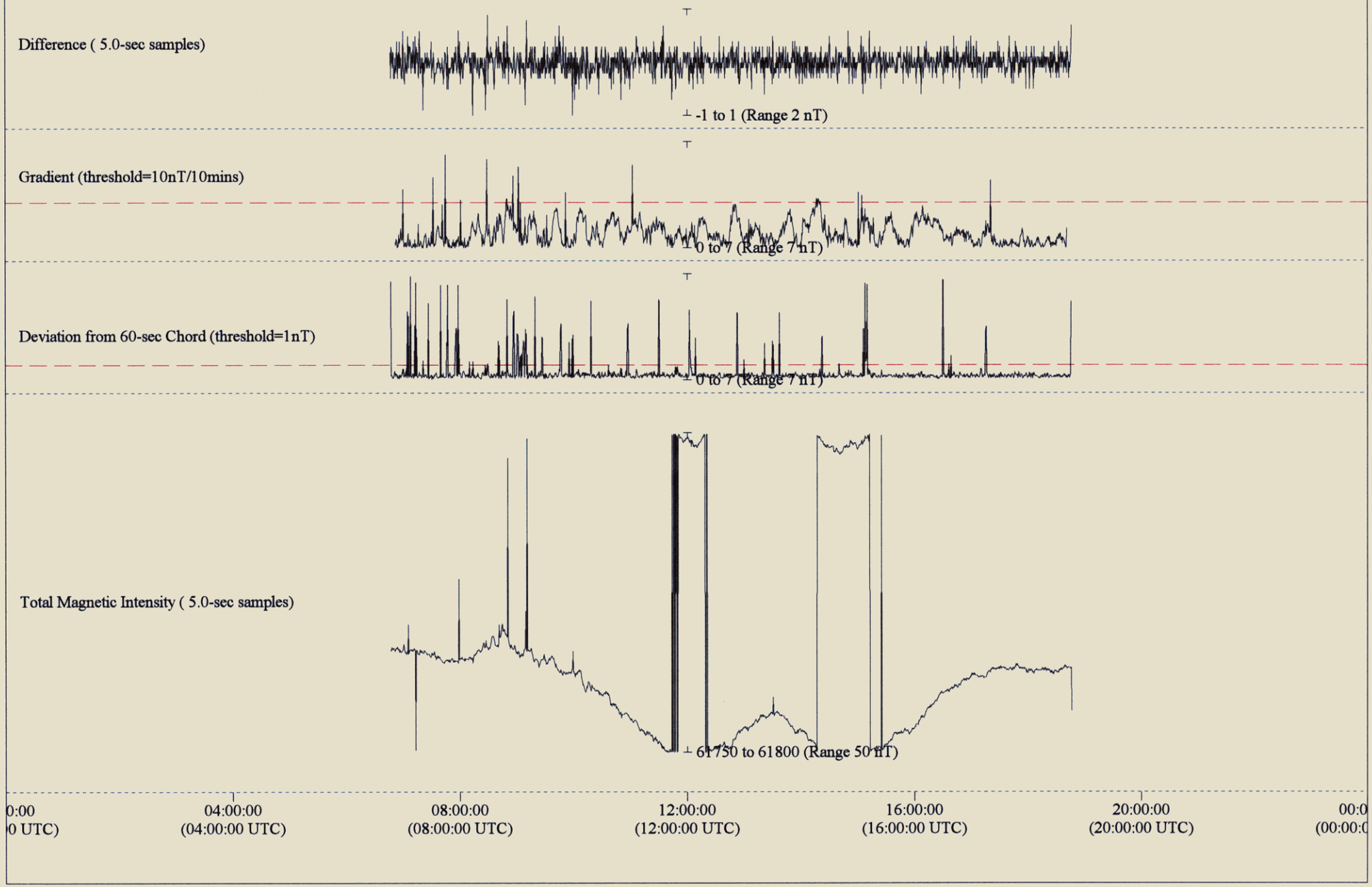
DIURNAL January 7, 2001 Tasmania Area B Julian Day 7 Page 1



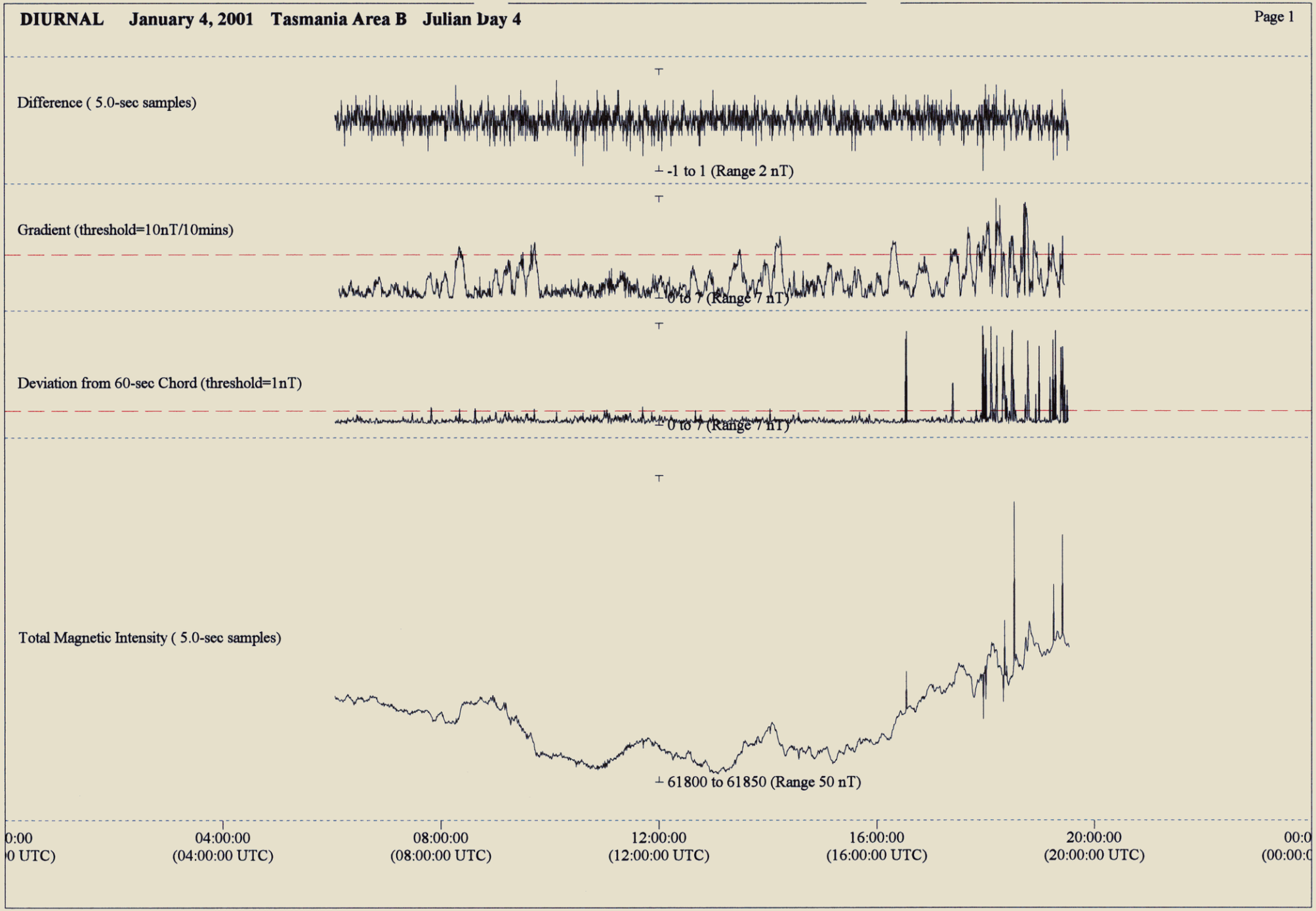
DIURNAL January 6, 2001 Tasmania Area B Julian Day 6 Page 1



DIURNAL January 5, 2001 Tasmania Area B Julian Day 5



DIURNAL January 4, 2001 Tasmania Area B Julian Day 4 Page 1



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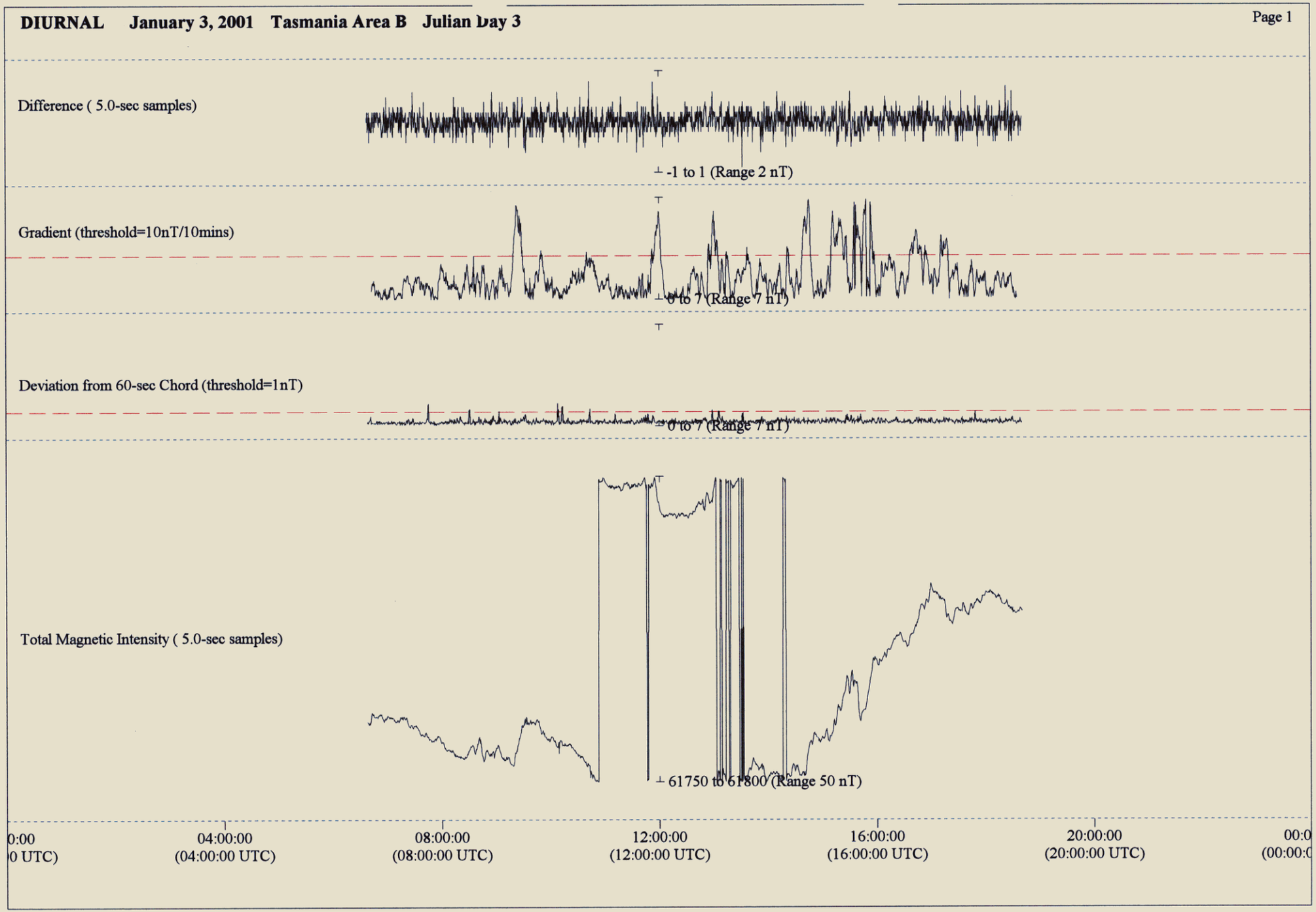
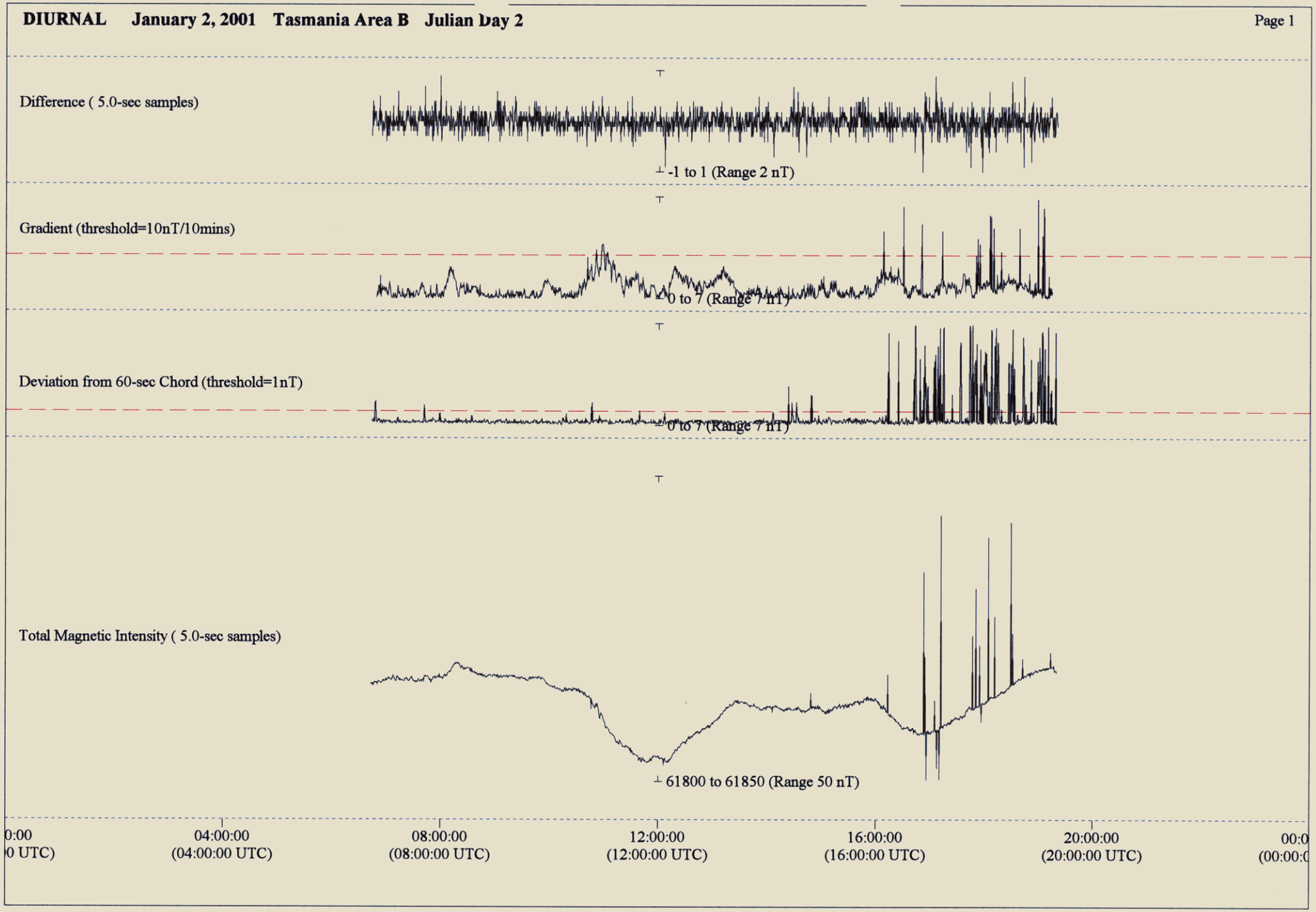
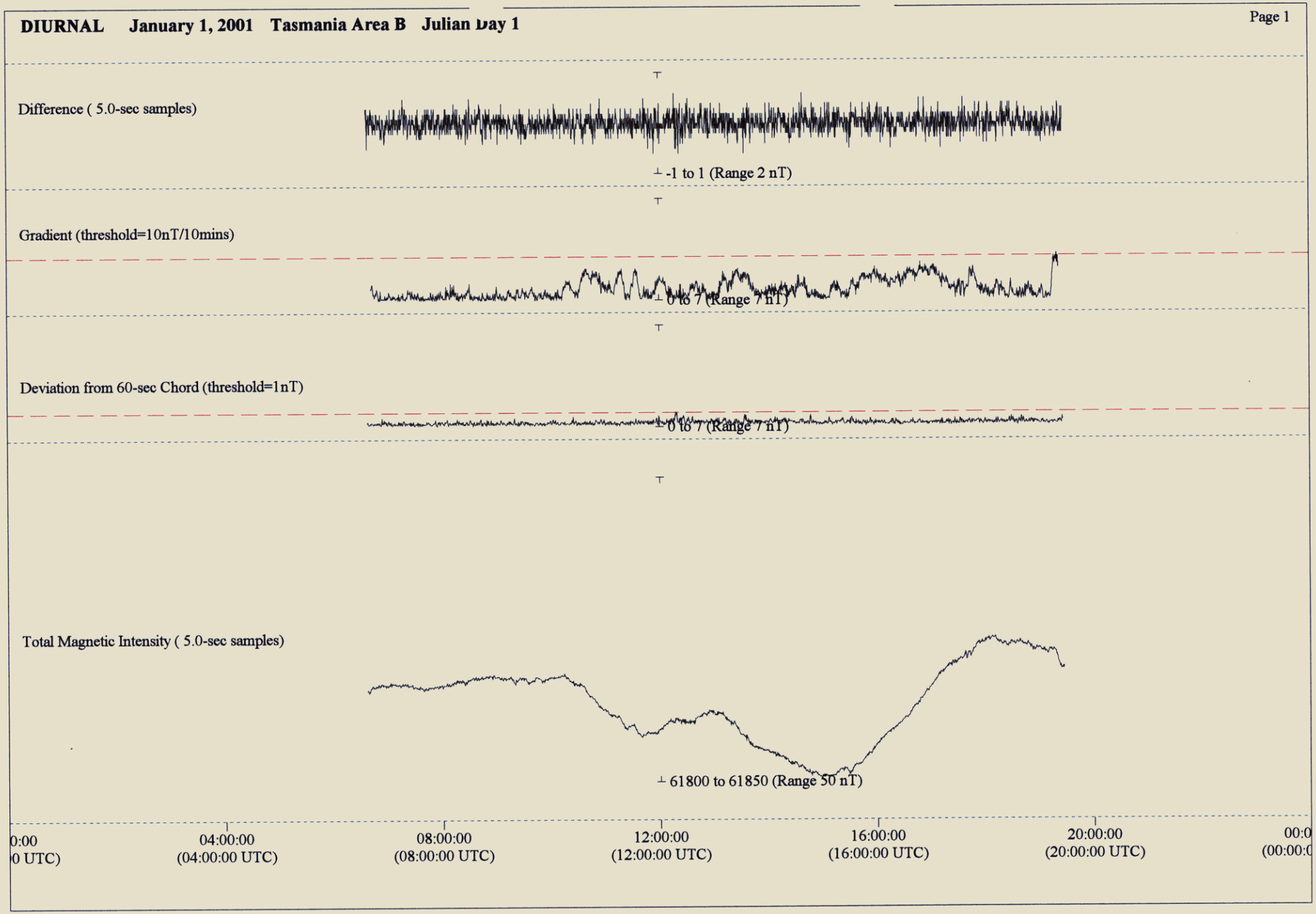


DIURNAL January 2, 2001 Tasmania Area B Julian Day 2 Page 1



DIURNAL **January 1, 2001** **Tasmania Area B** **Julian Day 1**

Page 1



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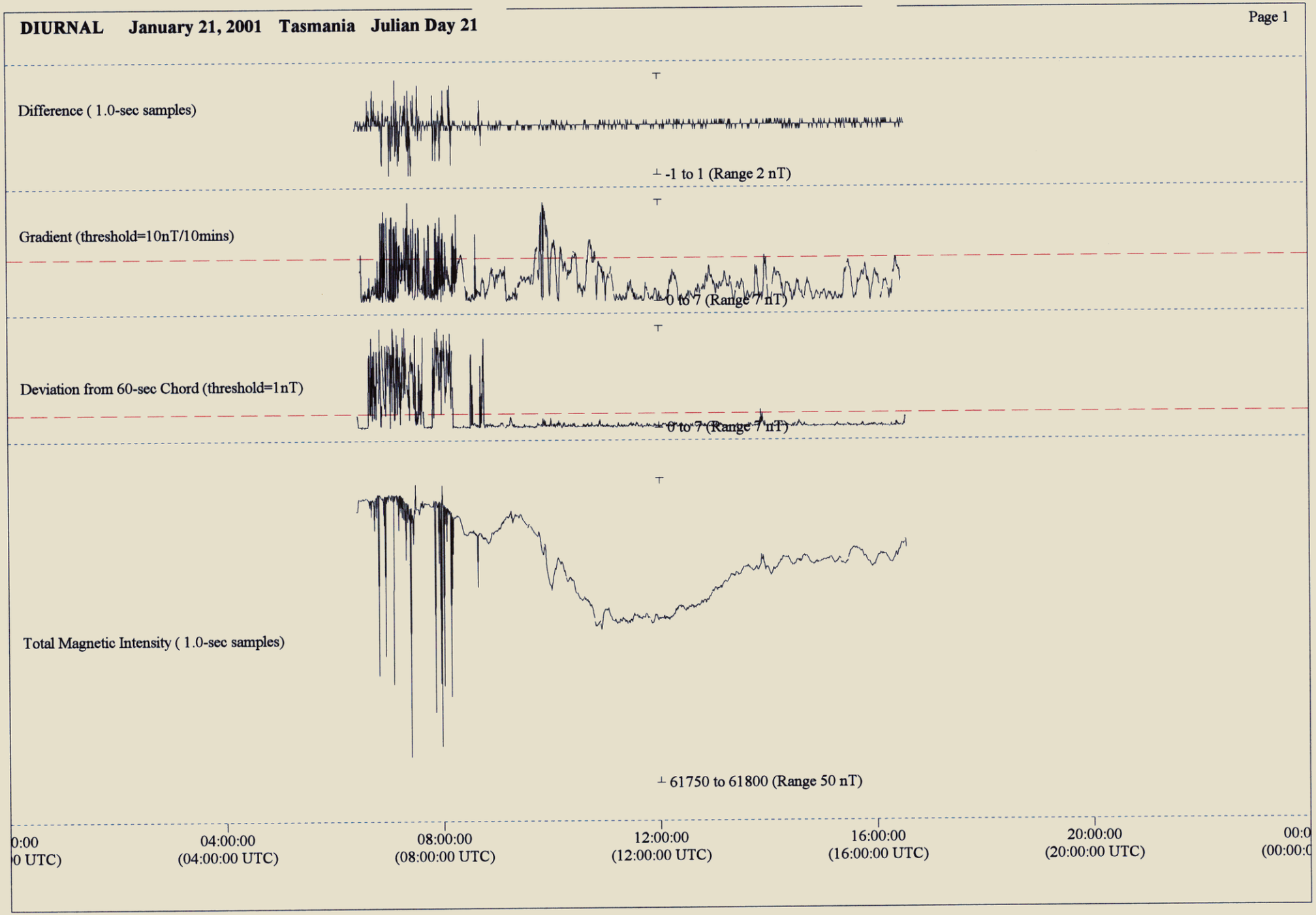
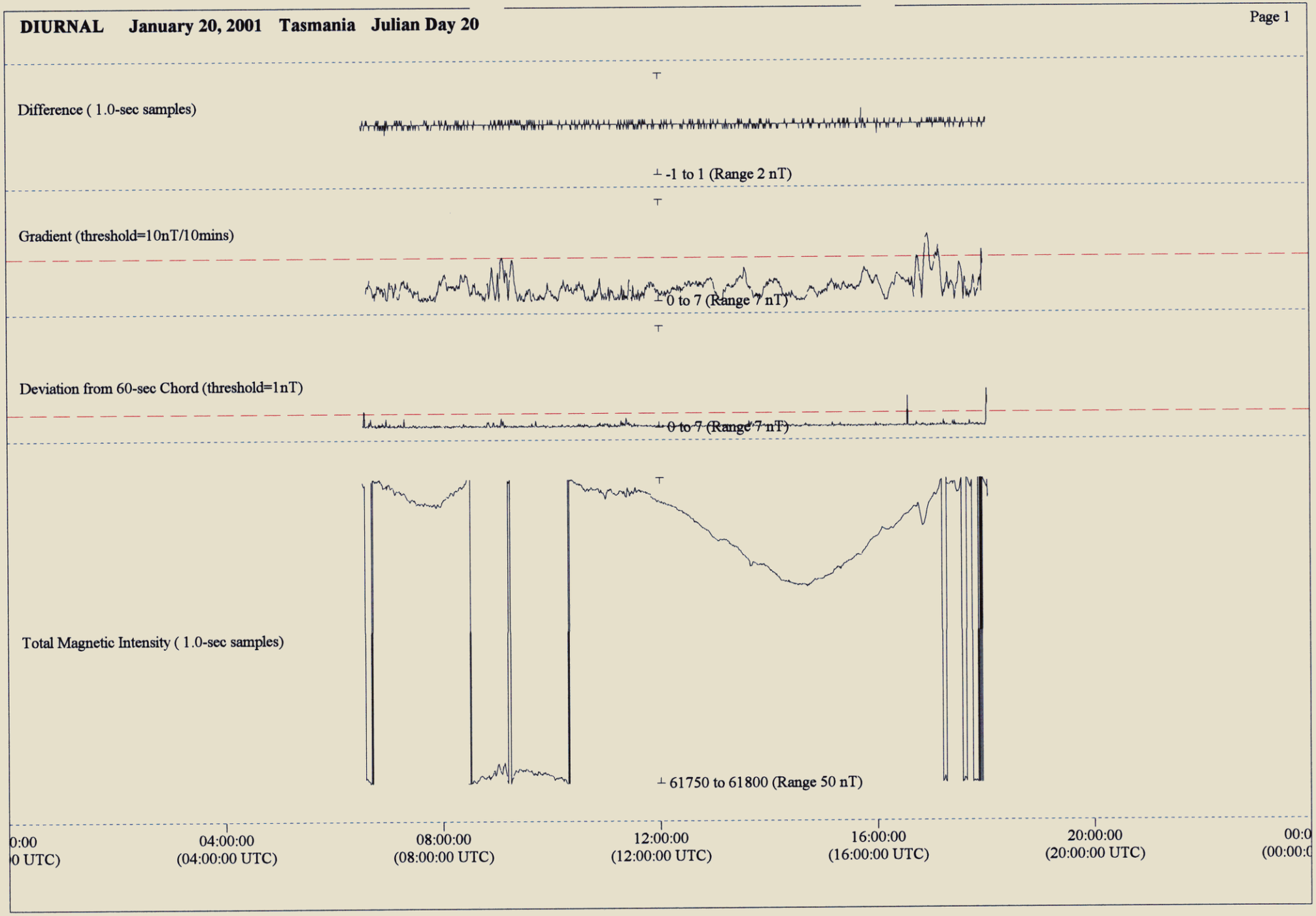
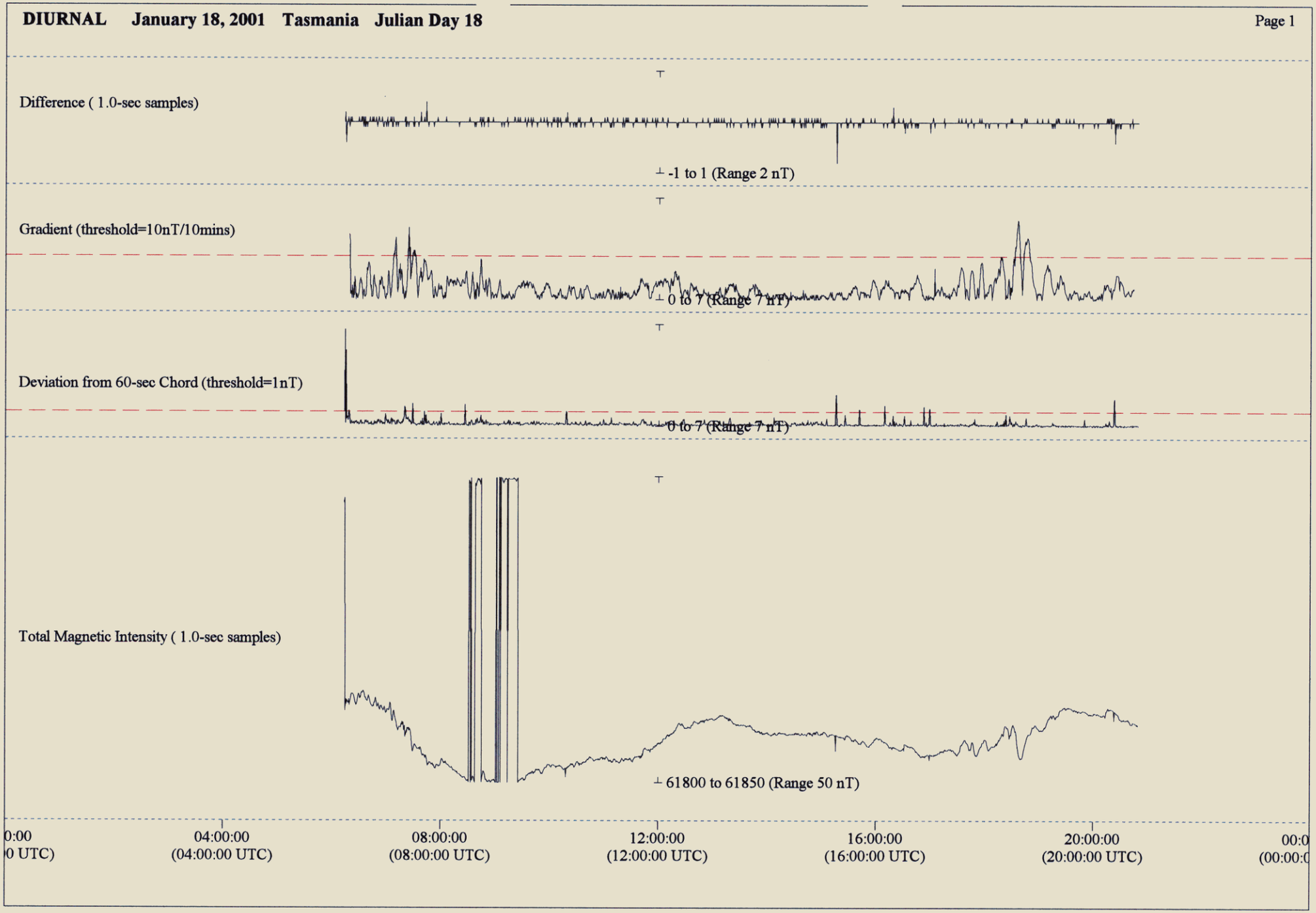


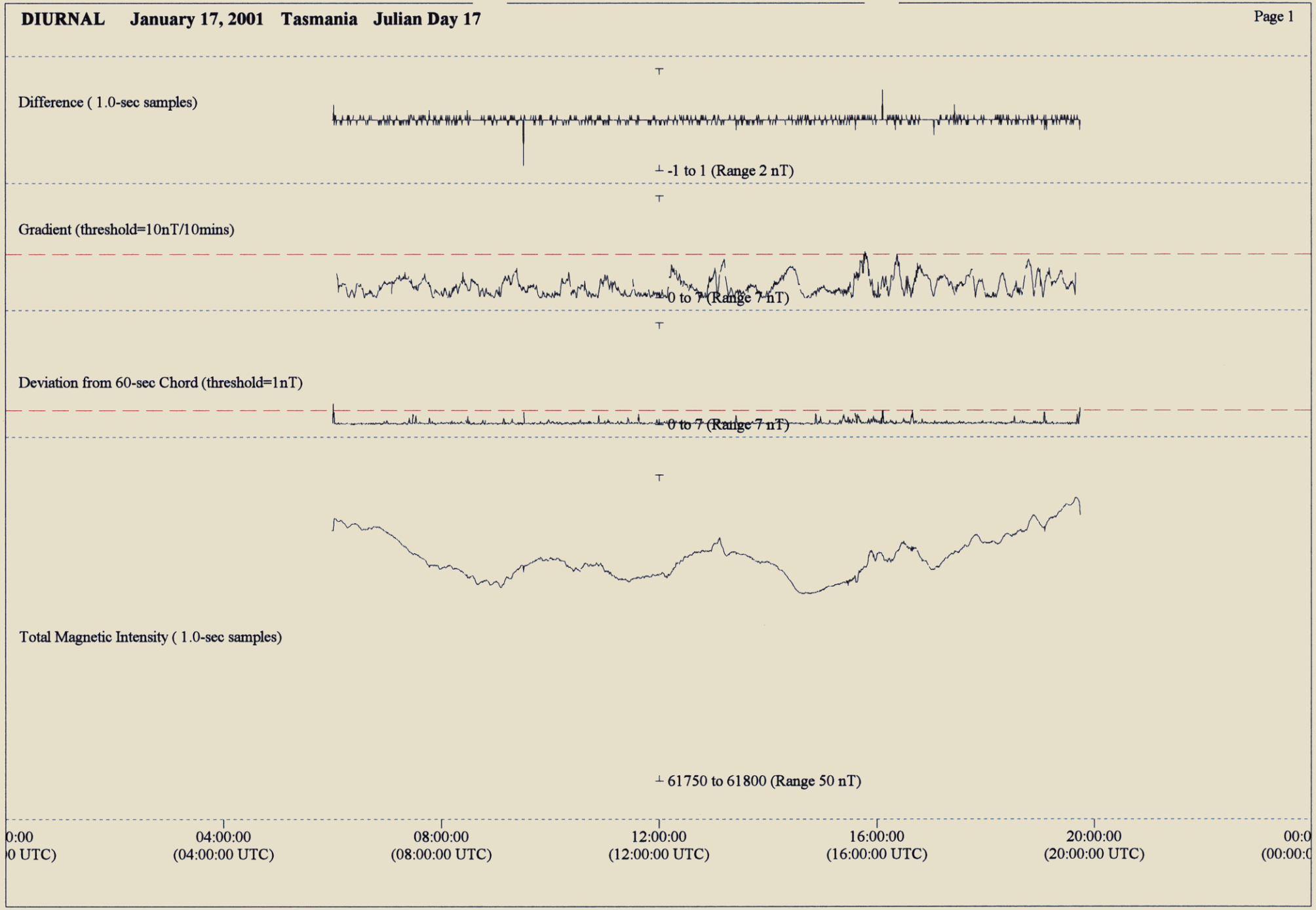
DIURNAL January 20, 2001 Tasmania Julian Day 20



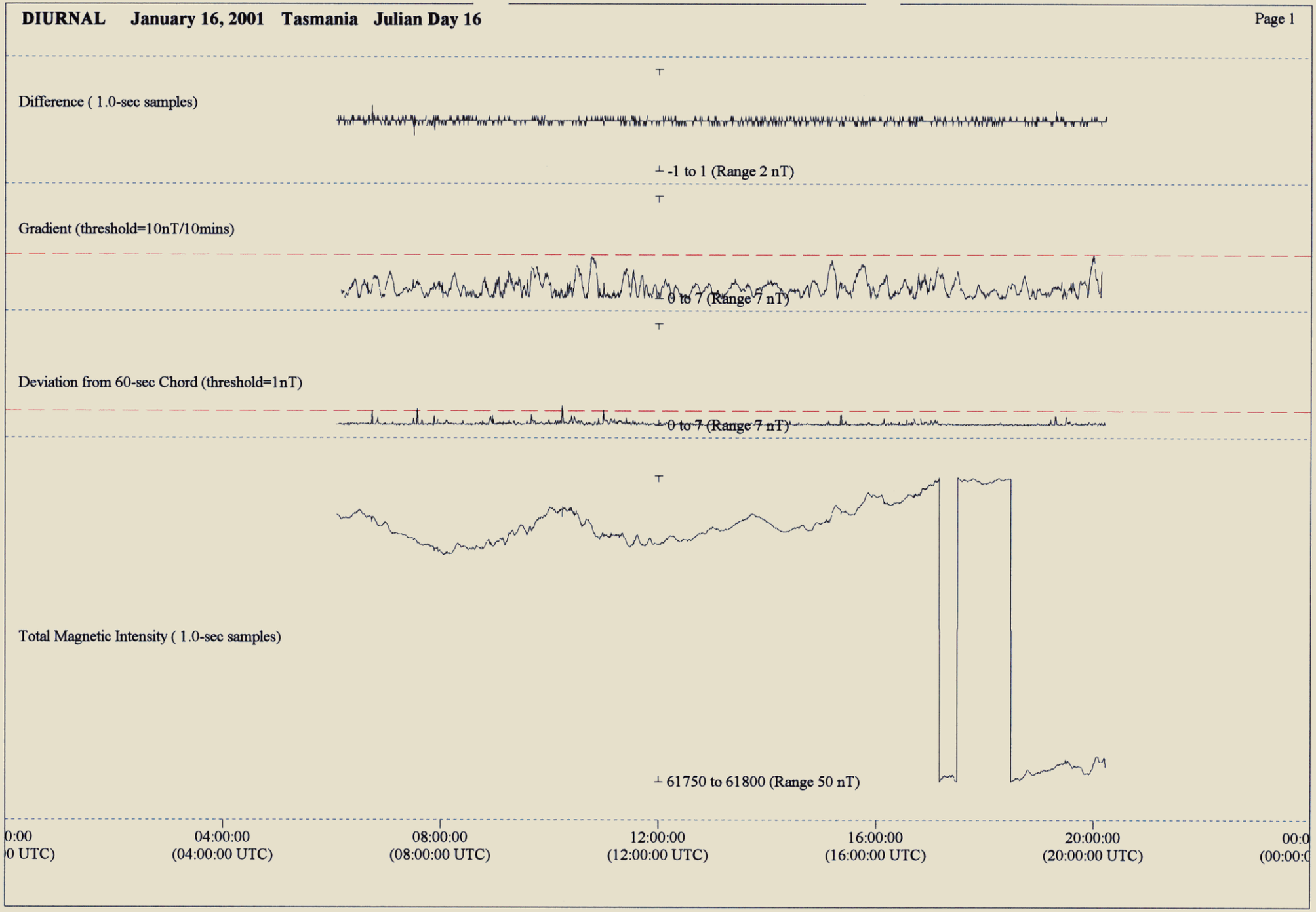
DIURNAL January 18, 2001 Tasmania Julian Day 18 Page 1



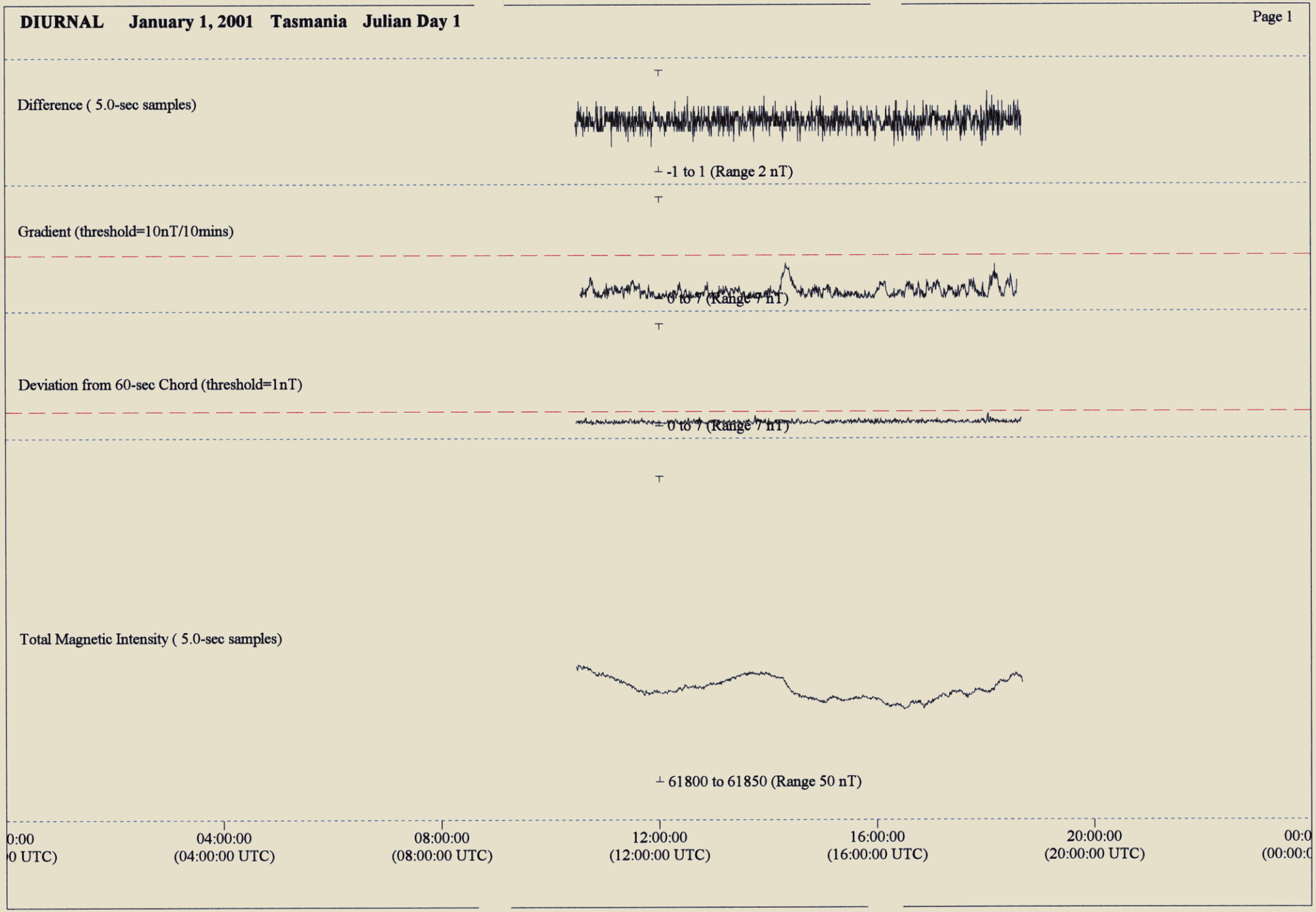
DIURNAL January 17, 2001 Tasmania Julian Day 17 Page 1



DIURNAL January 16, 2001 Tasmania Julian Day 16 Page 1



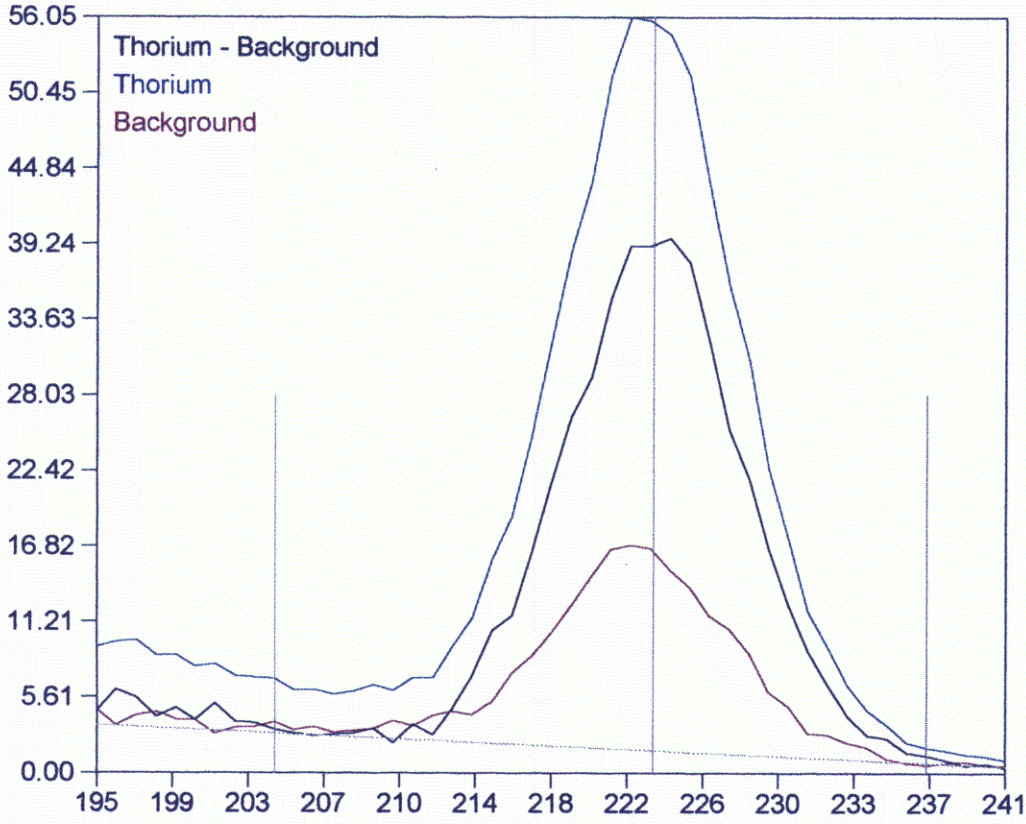
DIURNAL January 1, 2001 Tasmania Julian Day 1



APPENDIX 6

RADIOMETRIC CALIBRATIONS – PRE AND POST FLIGHT

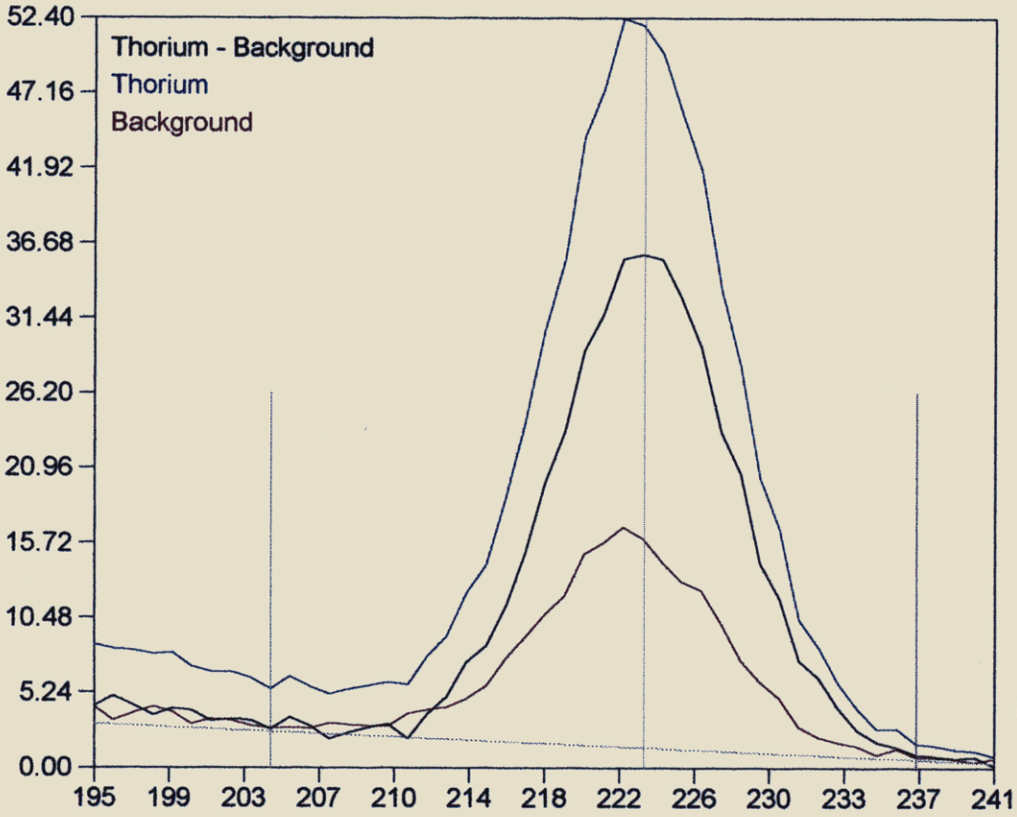
CALIBRATION CHECK FLIGHT 20



Background Line
60091
Thorium Line
60100

Peak Chn	222.13
Readings	116
PHR	4.70%
Normalize	481.97
Raw	714.26
Background	232.29
Fhtm/Fhhm	1.86

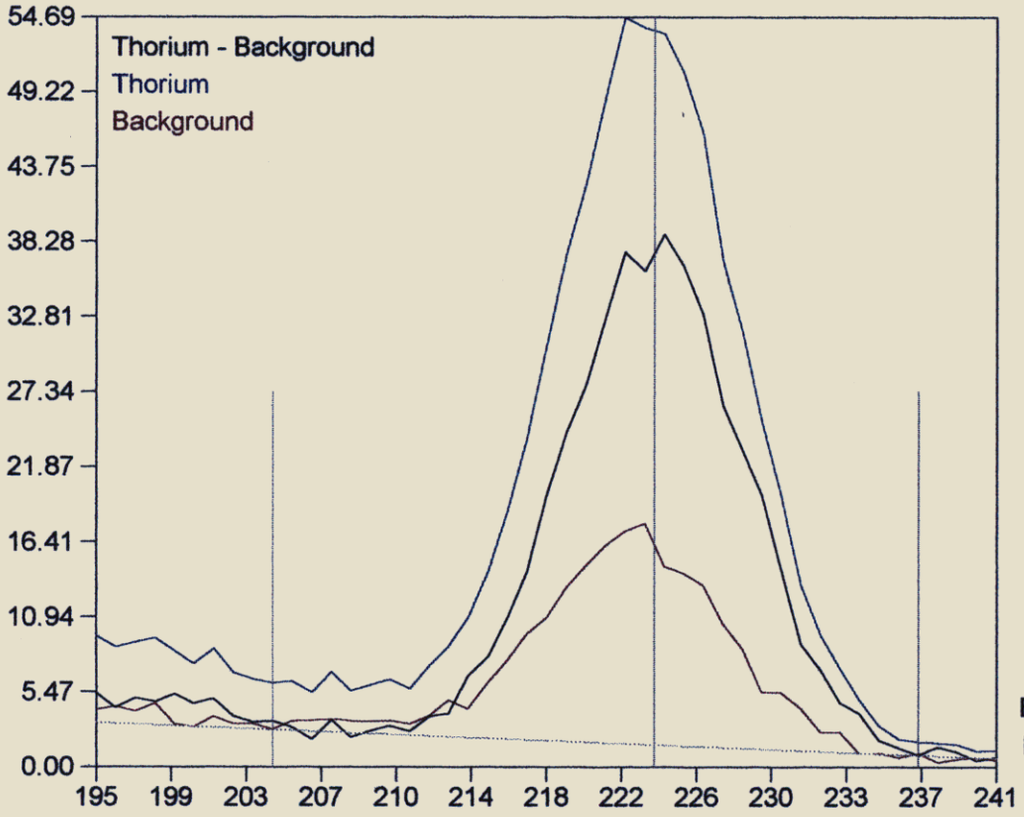
CALIBRATION CHECK FLIGHT 19



Background Line
60011
Thorium Line
60021

Peak Chn	222.08
Readings	116
PHR	4.72%
Normalize	440.64
Raw	665.99
Background	225.35
Fhtm/Fhhm	1.90

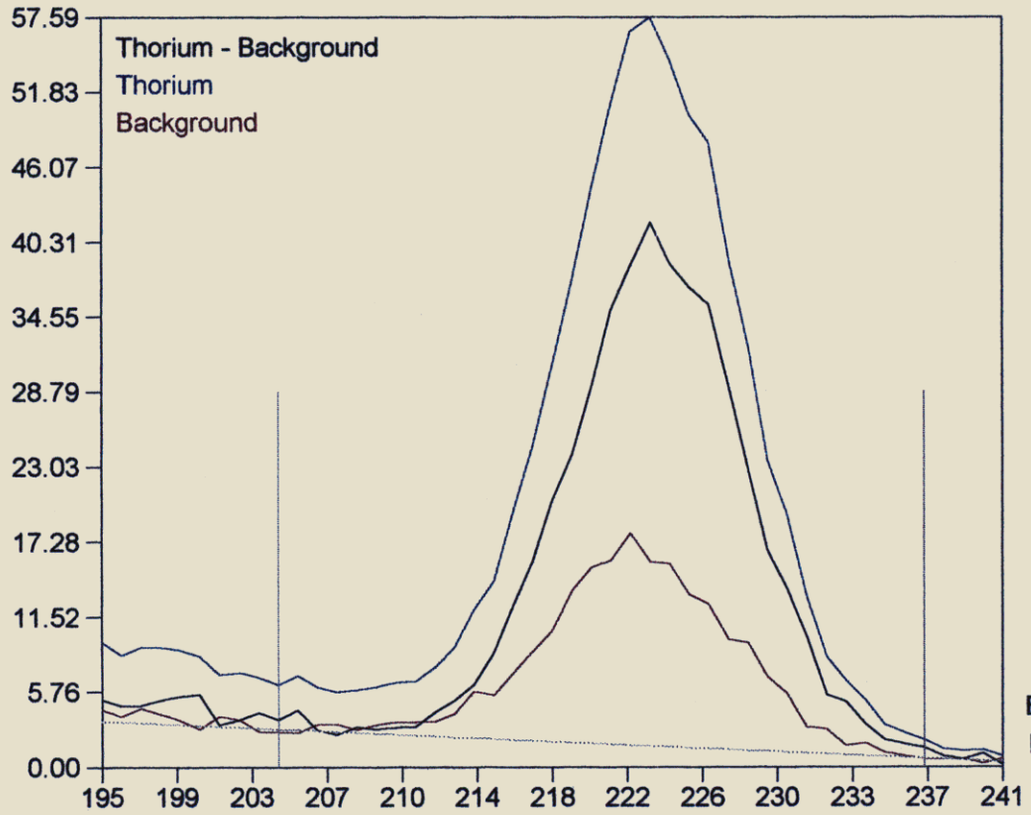
CALIBRATION CHECK FLIGHT 18



Background Line
60091
Thorium Line
60100

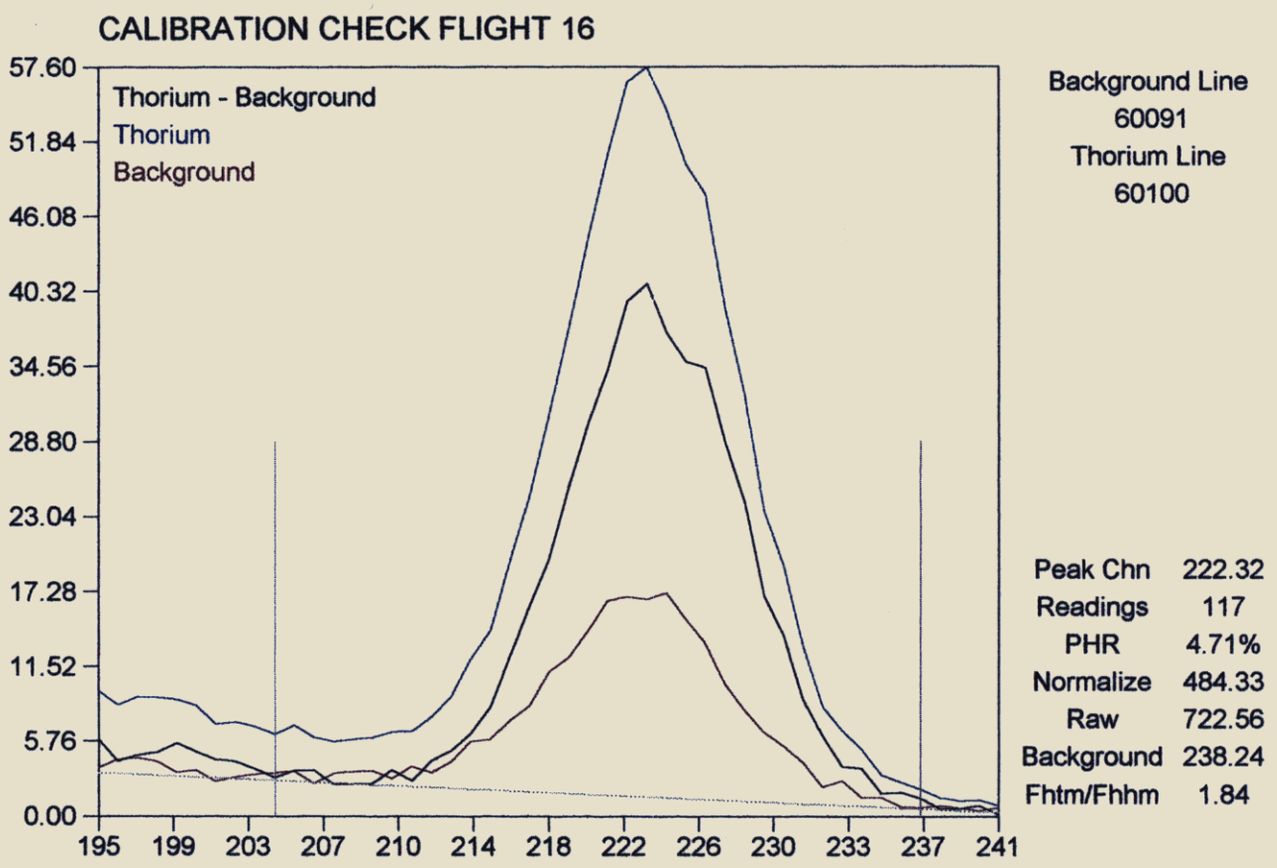
Peak Chn	222.49
Readings	116
PHR	4.91%
Normalize	468.83
Raw	706.30
Background	237.46
Fhtm/Fhhm	1.79

CALIBRATION CHECK FLIGHT 17

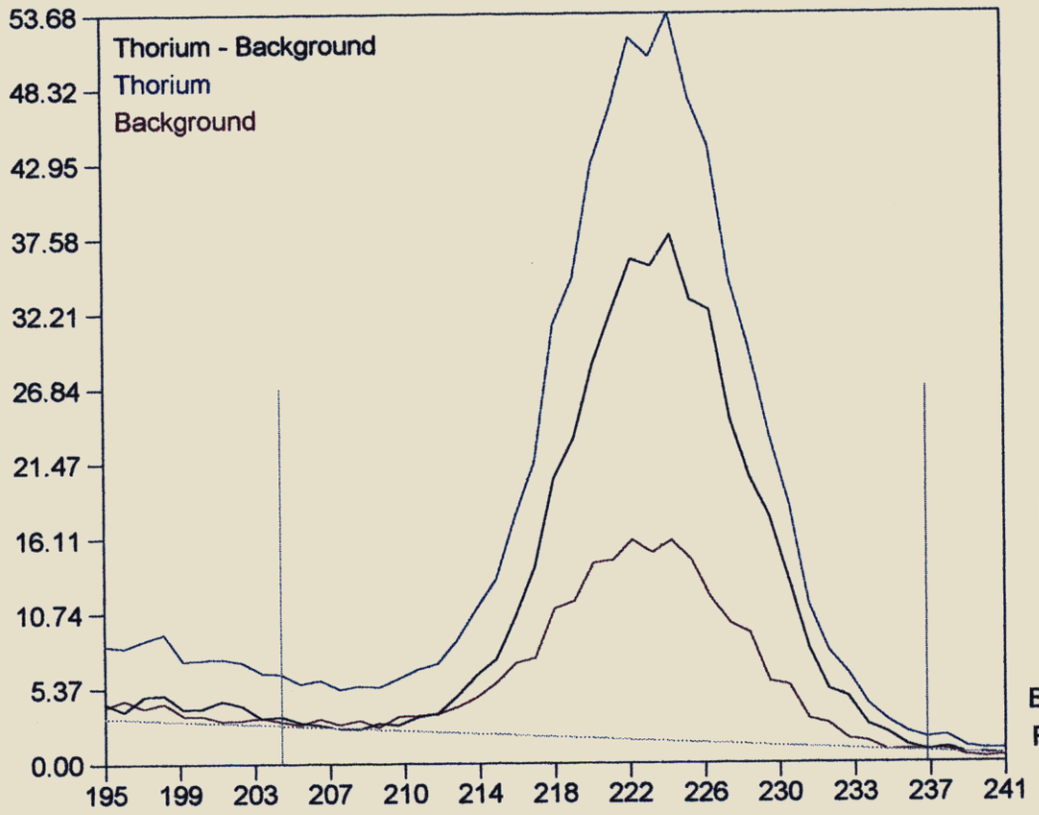


Background Line
60011
Thorium Line
60100

Peak Chn	222.32
Readings	116
PHR	4.58%
Normalize	489.65
Raw	723.36
Background	233.71
Fhtm/Fhhm	1.89

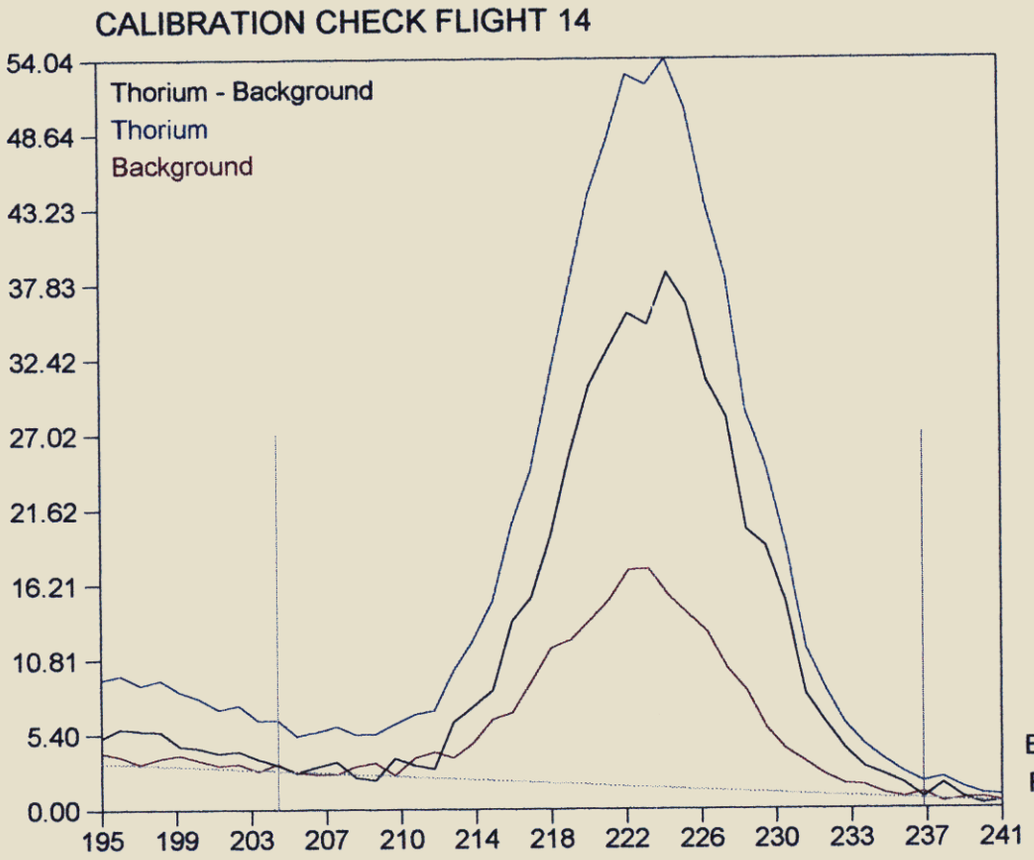

CALIBRATION CHECK FLIGHT 16
Thorium - Background
Thorium
Background
57.60
51.84
46.08
40.32
34.56
28.80
23.04
17.28
11.52
5.76
0.00
195
199
203
207
210
214
218
222
226
230
233
237
241
Background Line
60091
Thorium Line
60100
Peak Chn 222.32
Readings 117
PHR 4.71%
Normalize 484.33
Raw 722.56
Background 238.24
Fhtm/Fhhm 1.84

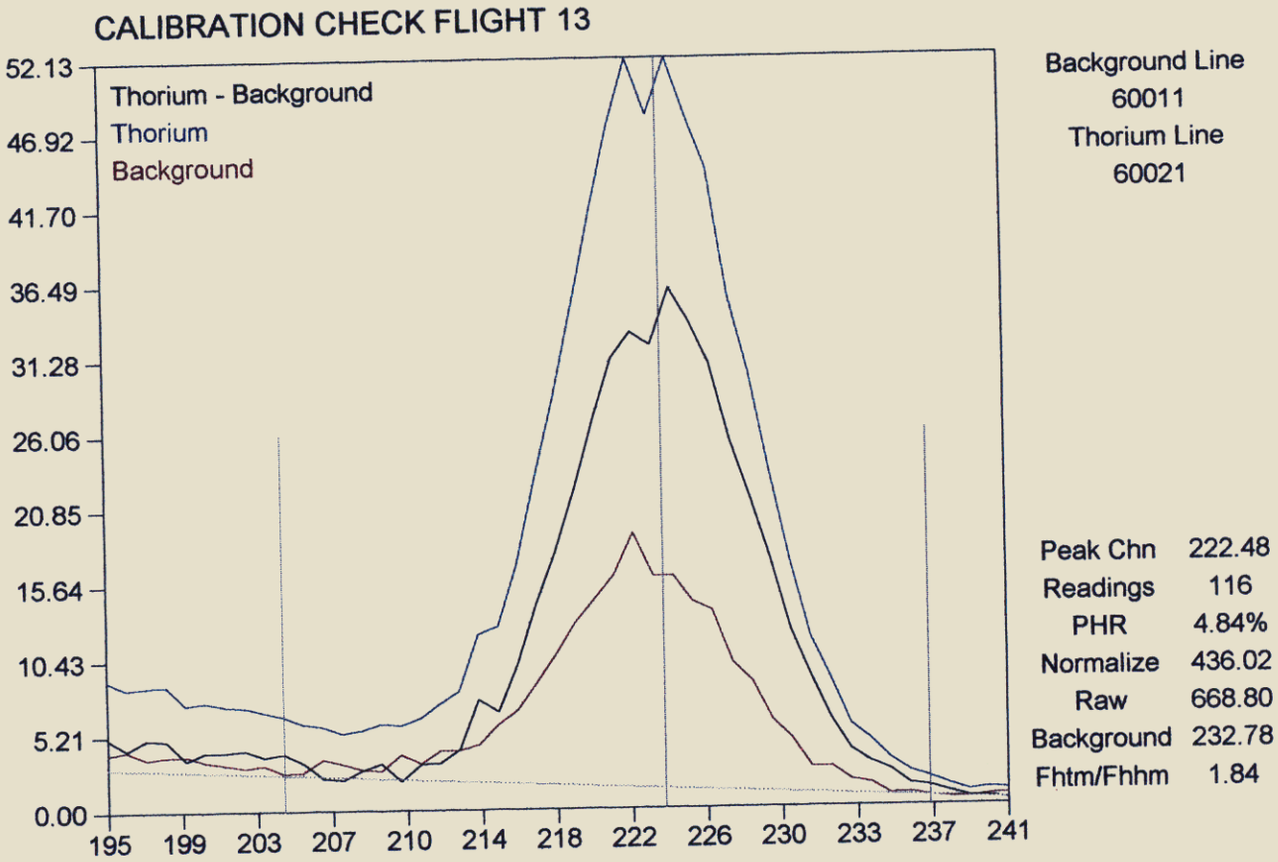
CALIBRATION CHECK FLIGHT 15

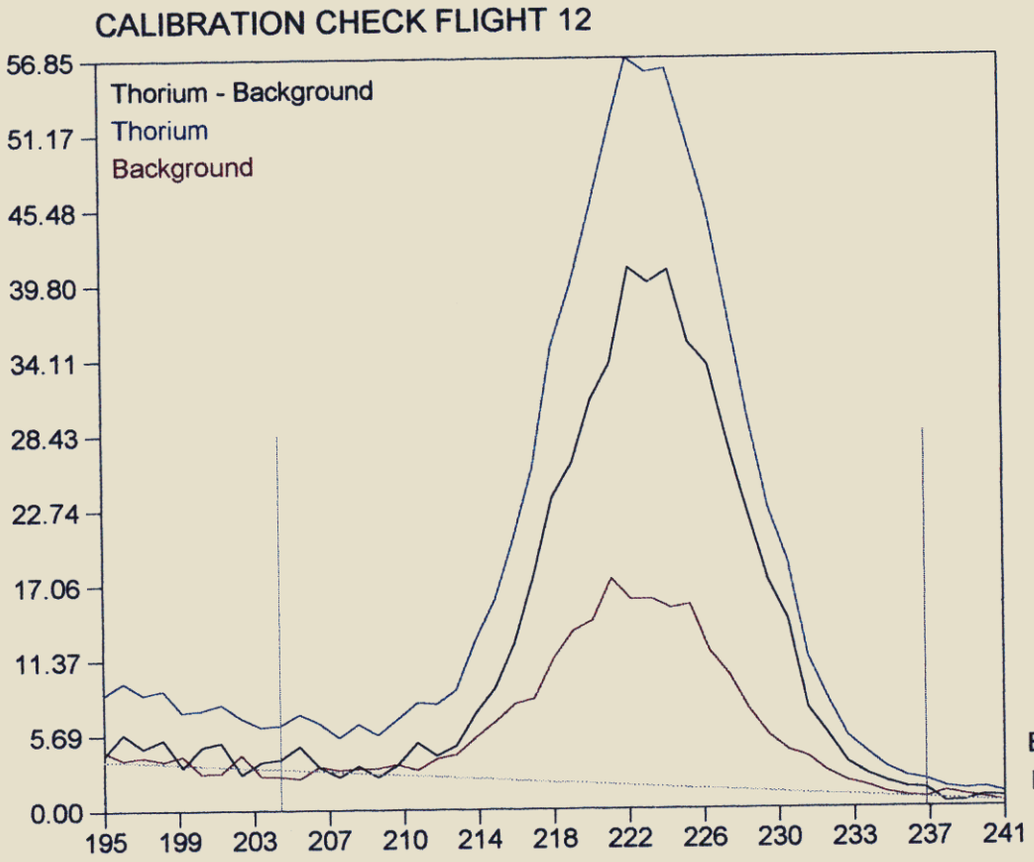


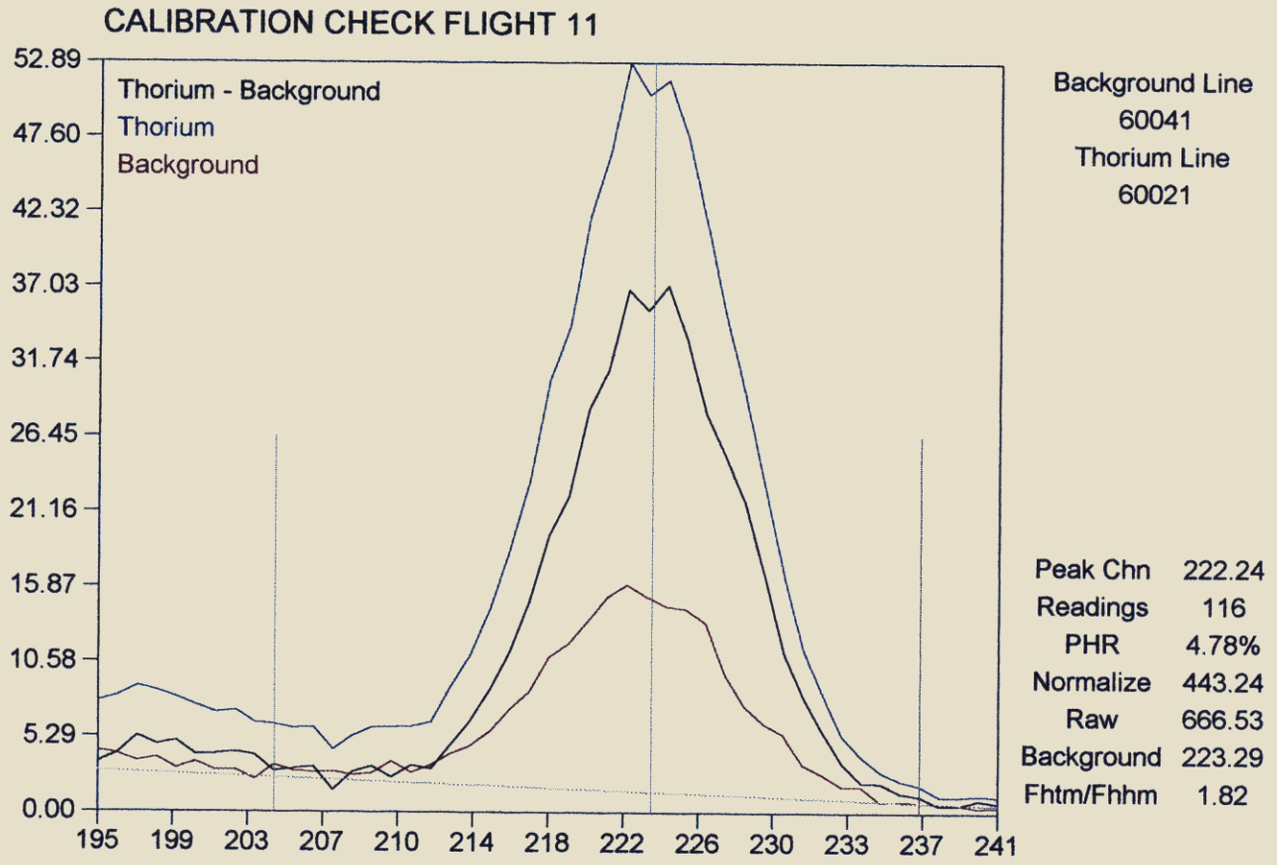
Background Line
60011
Thorium Line
60022

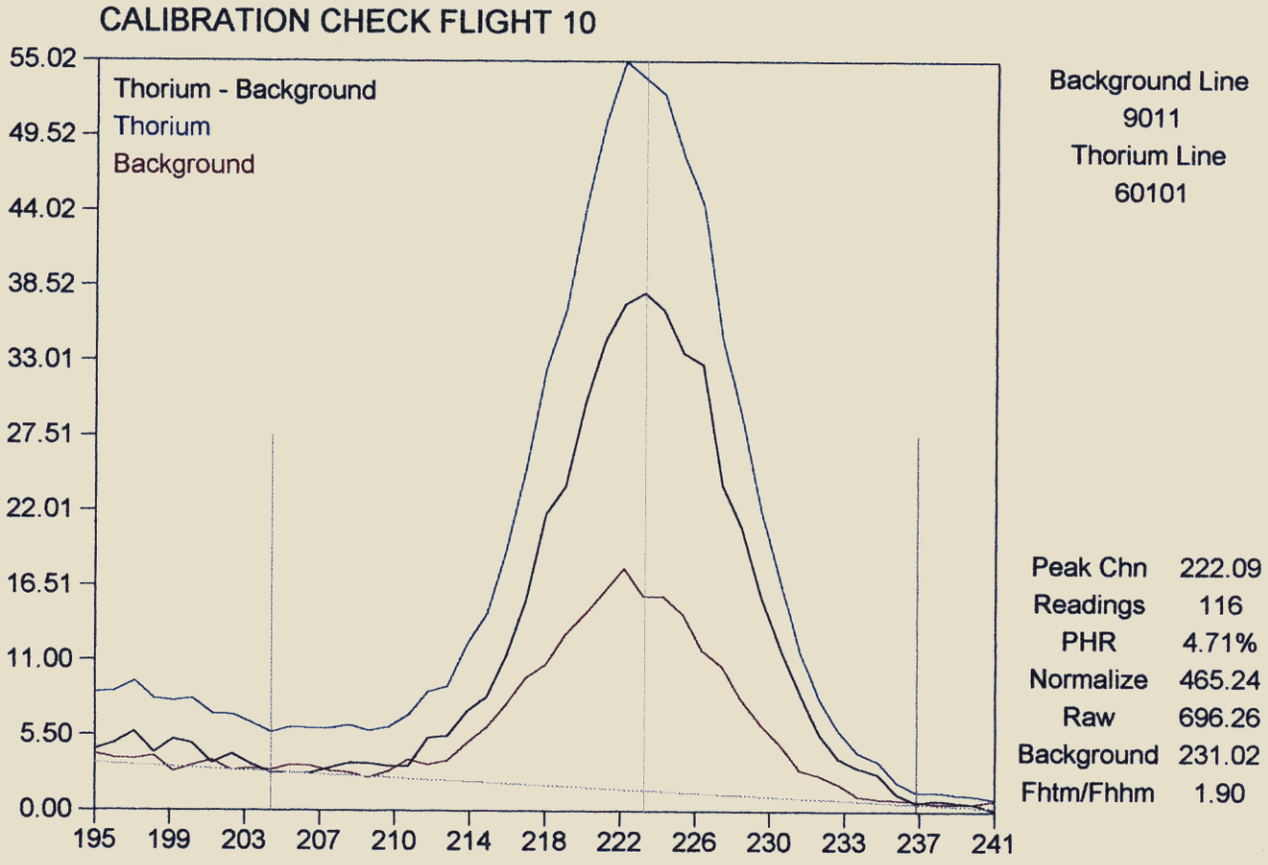
Peak Chn	222.33
Readings	116
PHR	4.79%
Normalize	449.51
Raw	673.12
Background	223.61
Fhtm/Fhhm	1.82

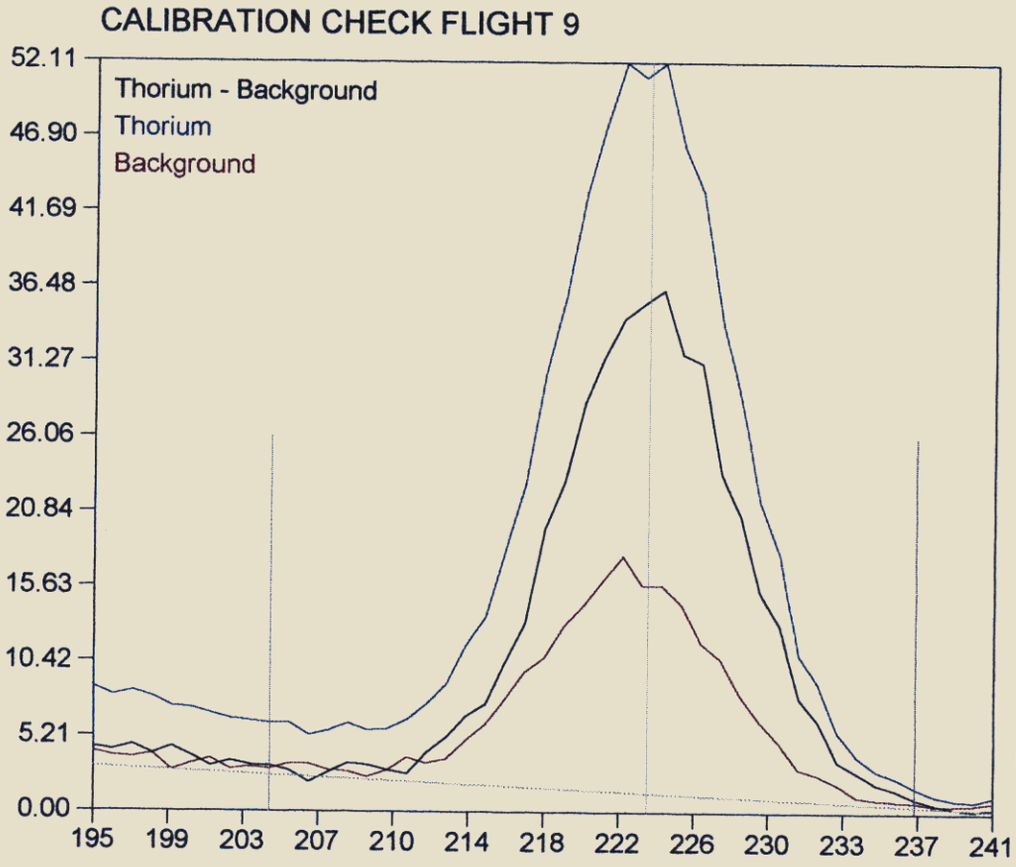

CALIBRATION CHECK FLIGHT 14
Thorium - Background
Thorium
Background
54.04
48.64
43.23
37.83
32.42
27.02
21.62
16.21
10.81
5.40
0.00
195
199
203
207
210
214
218
222
226
230
233
237
241
Background Line
60091
Thorium Line
60100
Peak Chn 222.32
Readings 116
PHR 4.88%
Normalize 472.23
Raw 701.02
Background 228.79
Fhtm/Fhhm 1.84

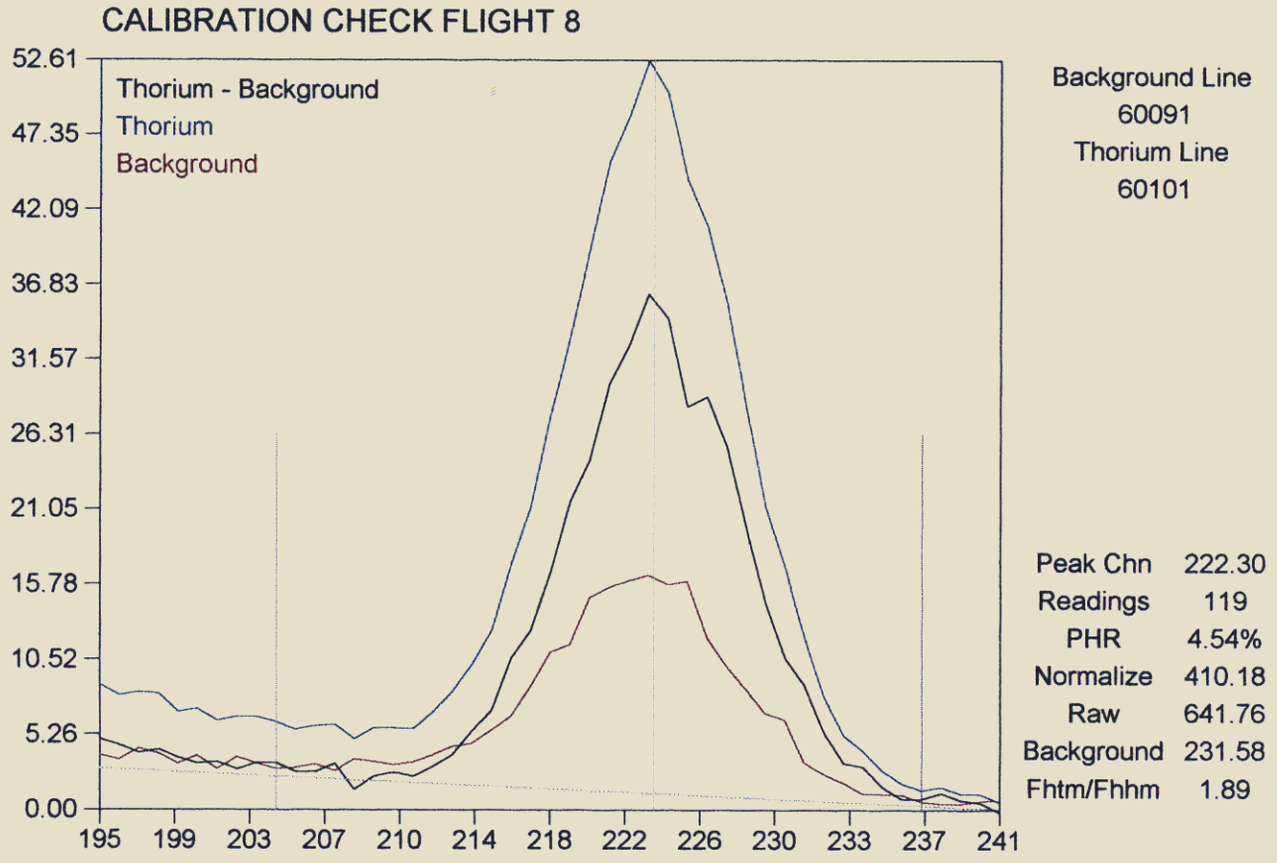

CALIBRATION CHECK FLIGHT 13
Thorium - Background
Thorium
Background
52.13
46.92
41.70
36.49
31.28
26.06
20.85
15.64
10.43
5.21
0.00
195
199
203
207
210
214
218
222
226
230
233
237
241
Background Line
60011
Thorium Line
60021
Peak Chn 222.48
Readings 116
PHR 4.84%
Normalize 436.02
Raw 668.80
Background 232.78
Fhtm/Fhhm 1.84


CALIBRATION CHECK FLIGHT 12
Thorium - Background
Thorium
Background
56.85
51.17
45.48
39.80
34.11
28.43
22.74
17.06
11.37
5.69
0.00
195
199
203
207
210
214
218
222
226
230
233
237
241
Background Line
60091
Thorium Line
60100
Peak Chn 222.12
Readings 119
PHR 4.79%
Normalize 495.04
Raw 726.75
Background 231.71
Fhtm/Fhhm 1.77

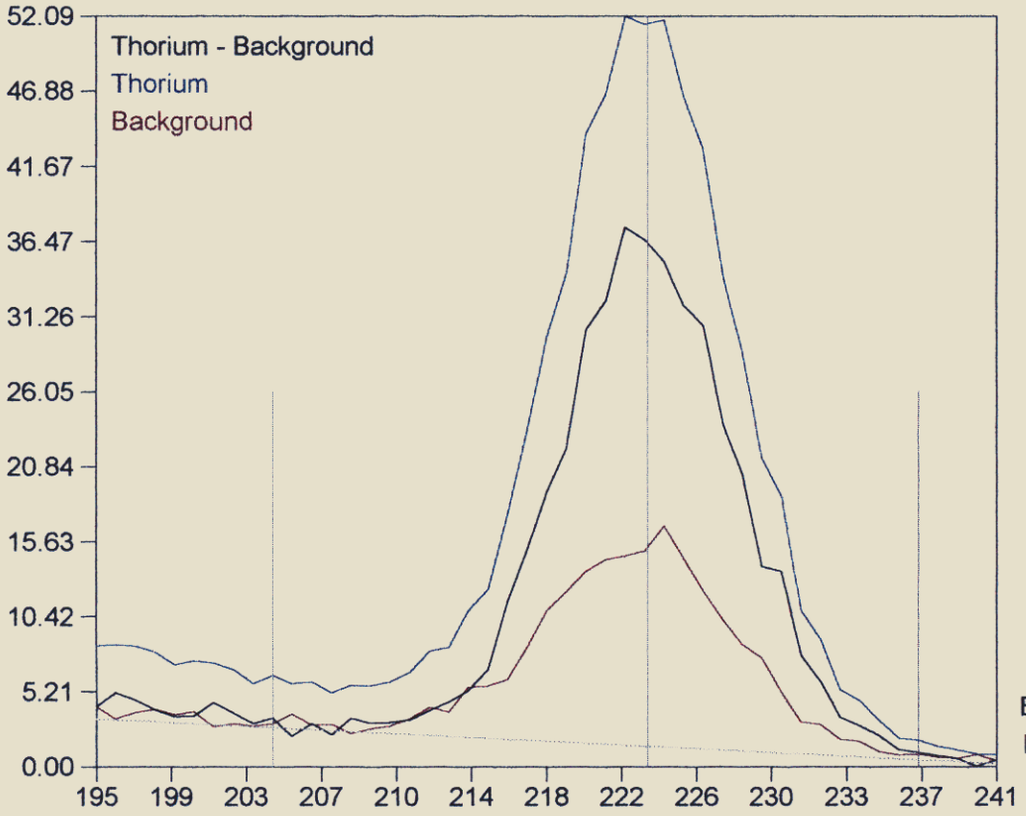

CALIBRATION CHECK FLIGHT 11
Thorium - Background
Thorium
Background
52.89
47.60
42.32
37.03
31.74
26.45
21.16
15.87
10.58
5.29
0.00
195
199
203
207
210
214
218
222
226
230
233
237
241
Background Line
60041
Thorium Line
60021
Peak Chn 222.24
Readings 116
PHR 4.78%
Normalize 443.24
Raw 666.53
Background 223.29
Fhtm/Fhhm 1.82


CALIBRATION CHECK FLIGHT 10
Thorium - Background
Thorium
Background
55.02
49.52
44.02
38.52
33.01
27.51
22.01
16.51
11.00
5.50
0.00
195
199
203
207
210
214
218
222
226
230
233
237
241
Background Line
9011
Thorium Line
60101
Peak Chn 222.09
Readings 116
PHR 4.71%
Normalize 465.24
Raw 696.26
Background 231.02
Fhtm/Fhhm 1.90


CALIBRATION CHECK FLIGHT 9
Thorium - Background
Thorium
Background
52.11
46.90
41.69
36.48
31.27
26.06
20.84
15.63
10.42
5.21
0.00
195
199
203
207
210
214
218
222
226
230
233
237
241
Background Line
60011
Thorium Line
60021
Peak Chn 222.30
Readings 116
PHR 4.75%
Normalize 439.38
Raw 670.39
Background 231.02
Fhtm/Fhhm 1.88

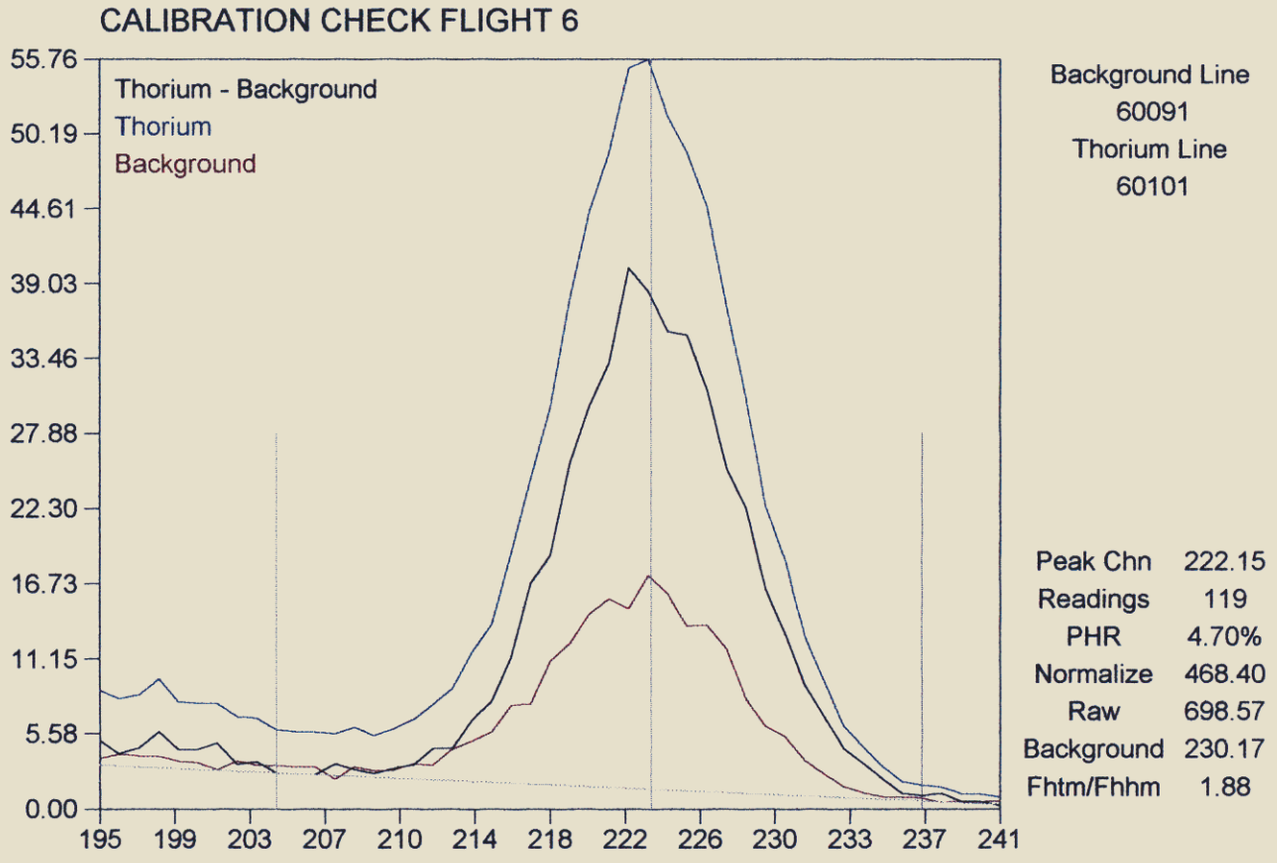

CALIBRATION CHECK FLIGHT 8
52.61
47.35
42.09
36.83
31.57
26.31
21.05
15.78
10.52
5.26
0.00
195
199
203
207
210
214
218
222
226
230
233
237
241
Thorium - Background
Thorium
Background
Background Line
60091
Thorium Line
60101
Peak Chn 222.30
Readings 119
PHR 4.54%
Normalize 410.18
Raw 641.76
Background 231.58
Fhtm/Fhhm 1.89

CALIBRATION CHECK FLIGHT 7

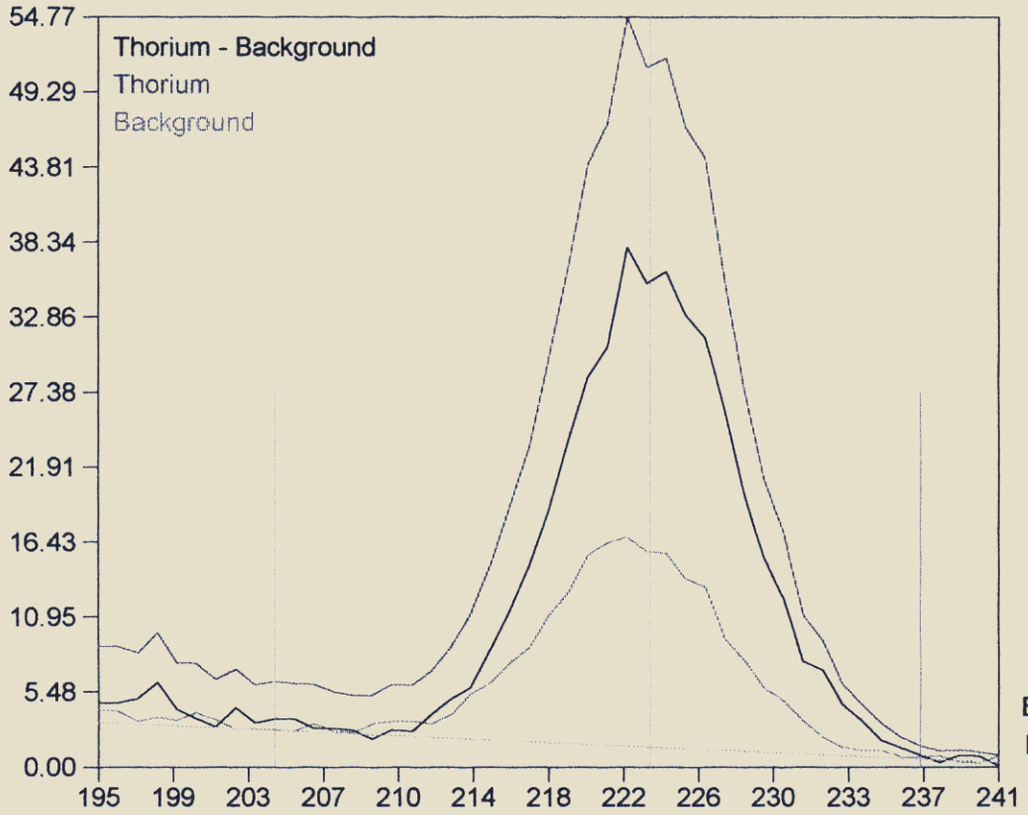


Background Line
60013
Thorium Line
60021

Peak Chn	222.13
Readings	116
PHR	4.57%
Normalize	441.89
Raw	666.59
Background	224.70
Fhtm/Fhhm	1.85


CALIBRATION CHECK FLIGHT 6
Thorium - Background
Thorium
Background
55.76
50.19
44.61
39.03
33.46
27.88
22.30
16.73
11.15
5.58
0.00
195
199
203
207
210
214
218
222
226
230
233
237
241
Background Line
60091
Thorium Line
60101
Peak Chn 222.15
Readings 119
PHR 4.70%
Normalize 468.40
Raw 698.57
Background 230.17
Fhtm/Fhhm 1.88

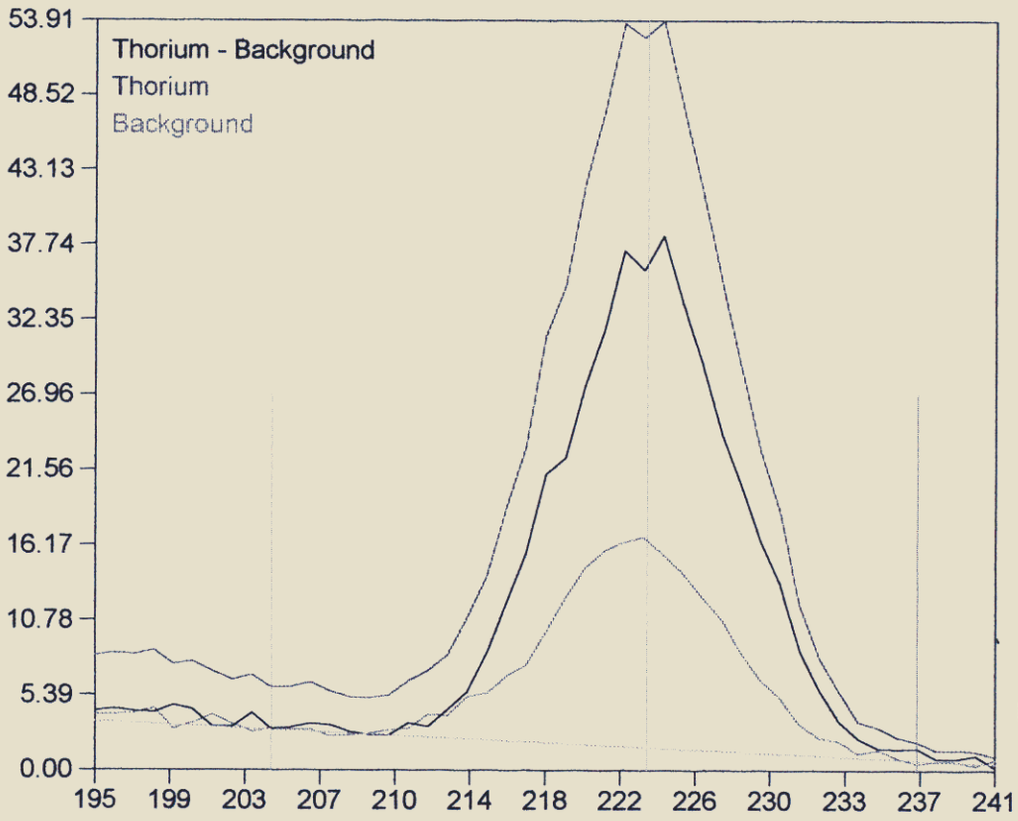
CALIBRATION CHECK FLIGHT 4



Background Line
60011
Thorium Line
60021

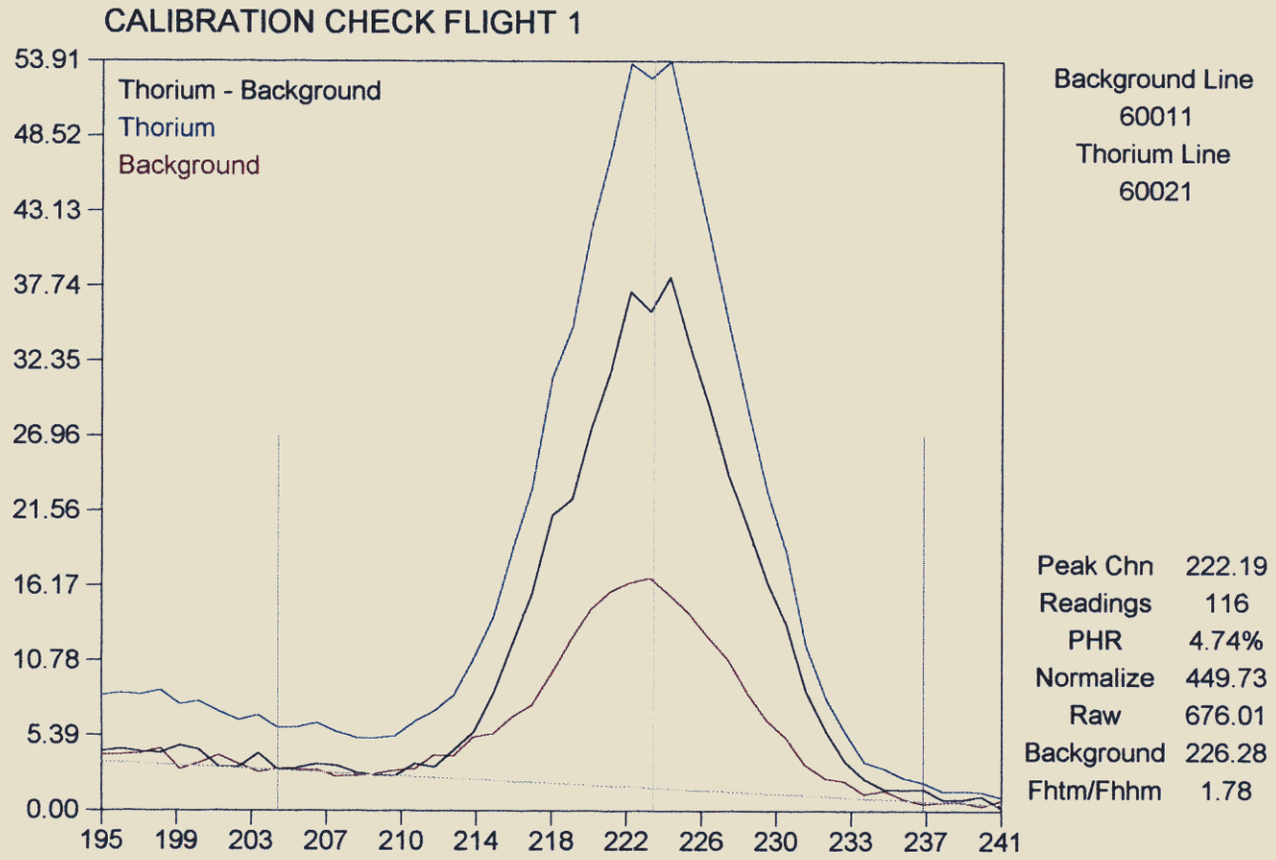
Peak Chn	222.20
Readings	116
PHR	4.66%
Normalize	448.18
Raw	676.03
Background	227.85
Fhtm/Fhhm	1.92

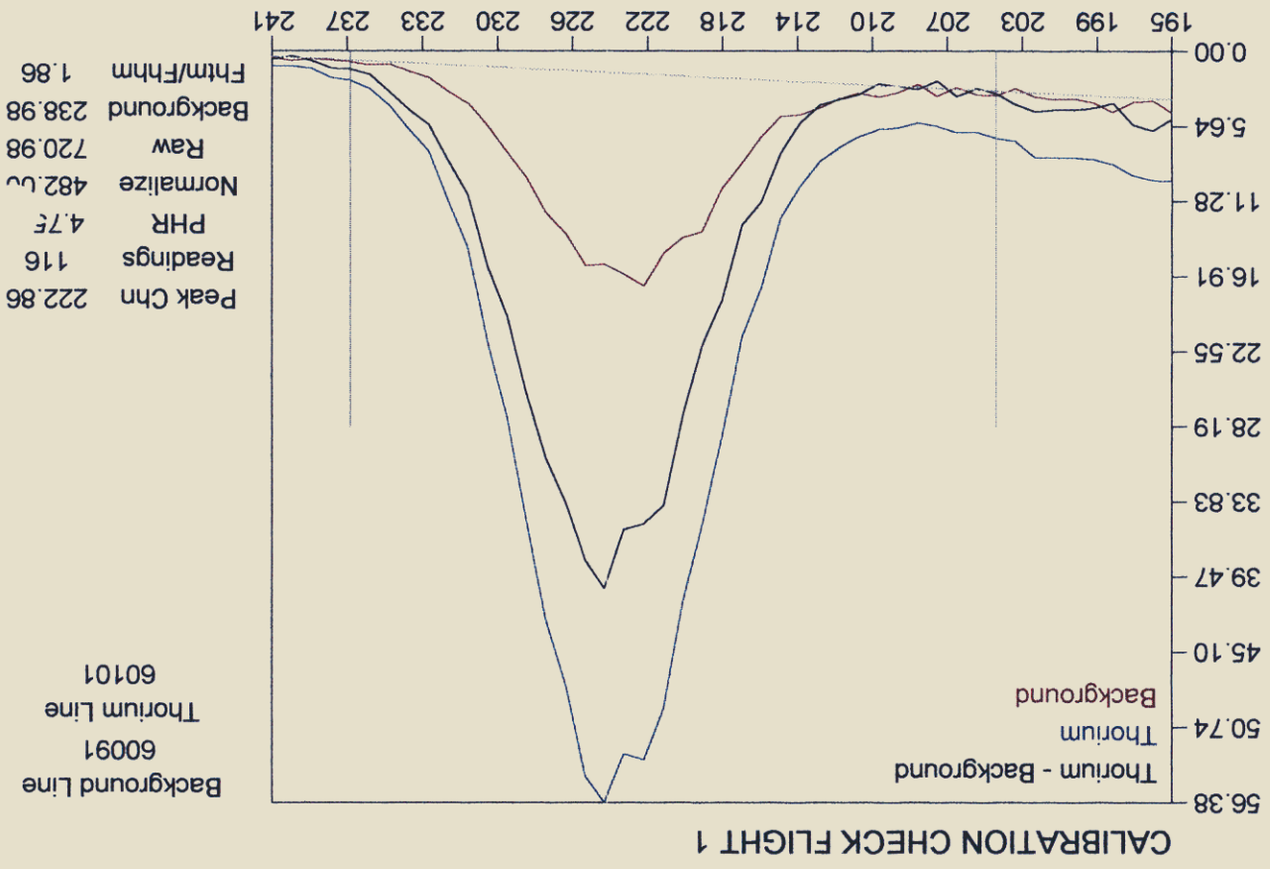
CALIBRATION CHECK FLIGHT 2



Background Line
60012
Thorium Line
60022

Peak Chn	222.19
Readings	116
PHR	4.74%
Normalize	449.73
Raw	676.01
Background	226.28
Fhtm/Fhhm	1.78


CALIBRATION CHECK FLIGHT 1
Thorium - Background
Thorium
Background
53.91
48.52
43.13
37.74
32.35
26.96
21.56
16.17
10.78
5.39
0.00
195 199 203 207 210 214 218 222 226 230 233 237 241
Background Line
60011
Thorium Line
60021
Peak Chn 222.19
Readings 116
PHR 4.74%
Normalize 449.73
Raw 676.01
Background 226.28
Fhtm/Fhhm 1.78


CALIBRATION CHECK FLIGHT 1
Thorium - Background
Thorium
Background
56.38
50.74
45.10
39.47
33.83
28.19
22.55
16.91
11.28
5.64
0.00
241 237 233 230 226 222 218 214 210 207 203 199 195
Background Line
60091
Thorium Line
60101
Peak Chn 222.86
Readings 116
PHR 4.7ε
Normalize 482.Uu
Raw 720.98
Background 238.98
Fhtm/Fhhm 1.86

250·5 2·00

Kevron Geophysics Pty Ltd

SPECTROMETER CALIBRATIONS - KPY

Job No.	J1585	**Date**	01-01-01
Area	Shannon D.	**Julian Day**	001
Flight No.	29	**OAT am/pm**	

Pre-Calibration

Crystal	Channel	%RES	Gain
1	221.2	4.6	132
2	221.1	4.8	131
3	221.0	4.9	126
4	220.9	4.9	142
5	221.1	5.5	134
6	221.2	5.2	113
7	221.2	5.4	118
8	221.1	5.5	122
Total System	221.6	4.7	

Post - Calibration

Crystal	Channel	%RES	Gain
1	221.3	4.7	139
2	220.8	4.9	138
3	221.3	4.9	134
4	220.7	4.7	147
5	220.9	5.7	137
6	220.5	5.0	117
7	220.9	5.1	122
8	220.8	5.6	125
Total System	220.9	4.7	

	Line Number	TC	K	U	TH	
Pre Gnd B/G 1	1948 1926.5	265 276.9	65 67.3	71 65.5	113 117.2	
Pre Thorium	5252 5247.8	408 371.7	98 108.0	332 358.5	129 114.9	
Pre Uranium						
Pre Gnd B/G 2						
Pre Test Line						
Pre Hi Level						
Post Test Line						
Post Hi Level						
Post Gnd B/G 1	1945 1952.5	276 274.1	50 47.9	68 66.9	135 118.5	
Post Thorium	5247 5336.9	343 373.0	125 111.4	341 359.7	124 120.7	
Post Uranium						
Post Gnd B/G 2						

REMARKS _____

Operator Name _____ **Signature** _____

Kevron Geophysics Pty Ltd

SPECTROMETER CALIBRATIONS - KPY

Job No. J1588 **Date** _____

Area SNOWY **Julian Day** _____

Flight No. 26 **OAT am/pm** _____

Pre-Calibration

Crystal	Channel	%RES	Gain
1	220.6	4.6	122
2	221.0	4.7	122
3	220.4	4.9	118
4	221.5	4.8	135
5	220.8	5.5	128
6	220.5	5.1	1067
7	221.1	5.1	110
8	220.5	5.7	111
Total System	221.2	4.7	

Post - Calibration

Crystal	Channel	%RES	Gain
1	221.4	4.6	133
2	221.3	4.8	131
3	221.2	4.9	127
4	220.7	4.9	141
5	220.9	5.6	133
6	220.9	5.3	110
7	221.0	5.3	115
8	220.9	5.6	115
Total System	221.0	4.7	

	Line Number	TC	K	U	TH	Cos
Pre Gnd B/G 1		1750 1932	264 269.9	49 47.7	66 67.6	120 103.9
Pre Thorium		5377 5296.6	376 378.1	114 107.9	362 359.8	135 117.6
Pre Uranium						
Pre Gnd B/G 2						
Pre Test Line						
Pre Hi Level						
Post Test Line						
Post Hi Level						
Post Gnd B/G 1		1961 1973.5	294 281.4	48 47.4	65 66.6	109 116.9
Post Thorium		5352 5329.5	353 376.9	103 107.1	409 362.4	115 114.6
Post Uranium						
Post Gnd B/G 2						

REMARKS _____

Operator Name _____ **Signature** _____

Kevron Geophysics Pty Ltd

SPECTROMETER CALIBRATIONS

Job No. 31595 Area STRAHAN D Aircraft ICPY

Date 30-12-00 Julian Day 365

Calibration Line Numbering Convention (FF=Flight number)		
Sample	AM Cals	PM Cals
Cs	FF10.0	FF14.0
B/G	FF11.0	FF15.0
U	FF12.0	FF16.0
Th	FF13.0	FF17.0

Allowable limits for job Average of 1st four calibrations ± 5%		
Sample	Max	Min
Th		

PRE-FLIGHT CALIBRATIONS

Flight No. 23

Menu 1 **Th** Stabilised **Th 221.0 ±0.5**			
Crystal	Channel	%Res	Gain
1	220.8	4.7	126
2	221.1	4.8	129
3	221.1	4.8	122
4	221.5	4.8	140
5	221.6	5.5	130
6	220.6	5.2	117
7	221.0	5.2	116
8	221.2	5.6	120
Total	221.1	4.6	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		**FWHM%**	

	ROI K	**ROI U**	**ROI Th**
B/G			
U			
TH			

Operator R.D

***REMOVE THORIUM SOURCE ***

POST-FLIGHT CALIBRATIONS

Flight No.

Menu 1 **Th** Stabilised **Th 221.0 ±0.5**			
Crystal	Channel	%Res	Gain
1	221.0	4.6	130
2	221.0	4.7	129
3	220.5	4.4	124
4	220.9	4.9	139
5	220.9	5.5	132
6	220.7	5.1	110
7	220.8	5.3	114
8	220.8	5.7	114
Total	220.9	4.7	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		**FWHM%**	

	ROI K	**ROI U**	**ROI Th**
B/G			
U			
TH			

Crystal Temperature	Pack 1	°C
	Pack 2	°C

Operator

Job No. 31585 Area STRAHAN D Aircraft KPY

Date 29-12-00 Julian Day 364

Calibration Line Numbering Convention (FF=Flight number)		
Sample	AM Cals	PM Cals
Cs	FF10.0	FF14.0
B/G	FF11.0	FF15.0
U	FF12.0	FF16.0
Th	FF13.0	FF17.0

Allowable limits for job Average of 1st four calibrations ± 5%		
Sample	Max	Min
Th		

PRE-FLIGHT CALIBRATIONS

Flight No. 22

Menu 1 **Th** Stabilised **Th 221.0 ±0.5**			
Crystal	Channel	%Res	Gain
1	221.0	4.5	130
2	220.5	4.8	133
3	220.6	4.8	126
4	220.8	4.8	145
5	221.4	5.6	131
6	221.3	5.2	118
7	221.5	5.3	121
8	221.2	5.5	128
Total	221.1	4.7	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		**FWHM%**	

	ROI K	**ROI U**	**ROI Th**
B/G			
U			
TH			

Operator R.D

***REMOVE THORIUM SOURCE ***

POST-FLIGHT CALIBRATIONS

Flight No. 22

Menu 1 **Th** Stabilised **Th 221.0 ±0.5**			
Crystal	Channel	%Res	Gain
1	221.1	4.6	131
2	220.9	4.8	132
3	221.1	4.8	127
4	220.9	4.8	143
5	220.6	5.5	131
6	220.6	5.1	115
7	221.5	5.2	119
8	221.0	5.7	121
Total	220.0	4.7	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		**FWHM%**	

	ROI K	**ROI U**	**ROI Th**
B/G			
U			
TH			

Crystal Temperature	Pack 1	°C
	Pack 2	°C

Operator R.D

Kevron Geophysics Pty Ltd

SPECTROMETER CALIBRATIONS

Job No. 1584 Area STRAHAN D Aircraft KPY

Date 21-12-00 Julian Day 356

Calibration Line Numbering Convention (FF=Flight number)		
Sample	AM Cals	PM Cals
Cs	FF10.0	FF14.0
B/G	FF11.0	FF15.0
U	FF12.0	FF16.0
Th	FF13.0	FF17.0

Allowable limits for job Average of 1st four calibrations ± 5%		
Sample	Max	Min
Th		

PRE-FLIGHT CALIBRATIONS Flight No. 19

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	220.7	4.6	128
2	221.0	4.8	129
3	220.5	4.9	123
4	221.0	4.8	139
5	221.0	5.7	129
6	220.9	5.1	110
7	220.6	5.4	114
8	221.6	5.4	118.
Total	221.0	4.7	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Operator R.D

***REMOVE THORIUM SOURCE ***

POST-FLIGHT CALIBRATIONS Flight No. 20

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.0	4.6	137
2	221.5	4.9	137
3	221.0	4.9	132
4	221.4	4.9	145
5	221.3	5.8	134
6	220.8	5.1	113
7	221.2	5.2	119
8	220.9	5.6	121
Total	221.2	4.7	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Crystal Temperature	Pack 1	°C
	Pack 2	°C

Operator R.D

Job No.	1584	Area	STRAHAN D	Aircraft	KPY
Date	20-11-00	Julian Day	355		

Calibration Line Numbering Convention (FF=Flight number)		
Sample	AM Cals	PM Cals
Cs	FF10.0	FF14.0
B/G	FF11.0	FF15.0
U	FF12.0	FF16.0
Th	FF13.0	FF17.0

Allowable limits for job Average of 1st four calibrations ± 5%		
Sample	Max	Min
Th		

PRE-FLIGHT CALIBRATIONS — Flight No. 17

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.4	4.6	131
2	220.7	4.9	131
3	221.3	4.7	126
4	221.1	4.8	140
5	221.1	5.5	130
6	220.5	5.1	111
7	220.6	5.3	116
8	220.9	5.6	121
Total	221.2	4.6	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Operator R.D

***REMOVE THORIUM SOURCE ***

POST-FLIGHT CALIBRATIONS — Flight No. 18

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.3	4.7	136
2	220.4	5.0	134
3	221.4	4.8	131
4	220.7	4.8	142
5	221.0	5.7	133
6	220.5	5.3	112
7	221.1	5.3	118
8	221.3	5.4	119.
Total	221.0	4.7	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Crystal Temperature	Pack 1	°C
	Pack 2	°C

Operator R.D

Job No. 1584 Area STRAHAND Aircraft KAY

Date 14-12-00 Julian Day 354

Calibration Line Numbering Convention (FF=Flight number)		
Sample	AM Cals	PM Cals
Cs	FF10.0	FF14.0
B/G	FF11.0	FF15.0
U	FF12.0	FF16.0
Th	FF13.0	FF17.0

Allowable limits for job Average of 1st four calibrations ± 5%		
Sample	Max	Min
Th		

PRE-FLIGHT CALIBRATIONS Flight No.

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.1	4.7	124
2	221.1	4.8	130
3	221.1	4.8	124
4	221.6	4.9	139
5	221.0	5.6	128
6	221.2	5.1	110
7	220.8	5.2	114
8	221.2	5.7	118.
Total	221.2	4.7	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Operator R.D

***REMOVE THORIUM SOURCE ***

POST-FLIGHT CALIBRATIONS Flight No.

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	220.8	4.7	134
2	220.9	4.9	133
3	221.3	4.9	129
4	220.9	4.8	141
5	221.0	5.5	131
6	221.0	5.1	112
7	220.9	5.2	117
8	221.1	5.5	119.
Total	221.1	4.7	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Crystal Temperature	Pack 1	°C
	Pack 2	°C

Operator R.D.

Job No. J1584 Area STRAHAN D Aircraft KDY

Date 18-12-00 Julian Day 353

Calibration Line Numbering Convention (FF=Flight number)		
Sample	AM Cals	PM Cals
Cs	FF10.0	FF14.0
B/G	FF11.0	FF15.0
U	FF12.0	FF16.0
Th	FF13.0	FF17.0

Allowable limits for job Average of 1st four calibrations ± 5%		
Sample	Max	Min
Th		

PRE-FLIGHT CALIBRATIONS — Flight No. 13

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.5	4.6	134
2	221.1	4.8	136
3	221.0	4.9	130
4	221.3	4.9	143
5	221.7	5.5	130
6	221.9	5.1	113
7	221.5	5.2	118
8	220.7	5.6	123
Total	220.8	4.6	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Operator R.D

***REMOVE THORIUM SOURCE ***

POST-FLIGHT CALIBRATIONS — Flight No. 14

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.0	4.6	137
2	221.4	4.9	137
3	221.4	4.9	132
4	221.0	4.9	143
5	220.7	5.6	131
6	221.1	5.1	112
7	220.8	5.3	117
8	221.4	5.6	119
Total	221.2	4.7	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Crystal Temperature	Pack 1	°C
	Pack 2	°C

Operator R.D

Kevron Geophysics Pty Ltd

SPECTROMETER CALIBRATIONS

Job No. J1584 Area STRAHAN D Aircraft KPY

Date 17-12-00 Julian Day 352

Calibration Line Numbering Convention (FF=Flight number)		
Sample	AM Cals	PM Cals
Cs	FF10.0	FF14.0
B/G	FF11.0	FF15.0
U	FF12.0	FF16.0
Th	FF13.0	FF17.0

Allowable limits for job Average of 1st four calibrations ± 5%		
Sample	Max	Min
Th		

PRE-FLIGHT CALIBRATIONS Flight No. 011

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.2	4.6	129
2	220.6	4.8	128
3	221.4	4.9	124
4	221.4	4.9	137
5	220.6	5.6	127
6	221.2	5.0	109
7	221.2	5.2	113
8	220.5	5.6	116
Total			
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Operator R.D

***REMOVE THORIUM SOURCE ***

POST-FLIGHT CALIBRATIONS Flight No. 012

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	220.6	4.7	139
2	220.5	4.8	138
3	220.6	4.9	134
4	221.0	4.9	145
5	220.6	5.5	133
6	221.2	5.2	114
7	220.7	5.3	119
8	221.0	5.6	121
Total		48.	
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Crystal Temperature	Pack 1	°C
	Pack 2	°C

Operator R.D

Job No. 1584 Area STRAHAN D Aircraft KPY

Date 16-12-00 Julian Day 351

Calibration Line Numbering Convention (FF=Flight number)		
Sample	AM Cals	PM Cals
Cs	FF10.0	FF14.0
B/G	FF11.0	FF15.0
U	FF12.0	FF16.0
Th	FF13.0	FF17.0

Allowable limits for job Average of 1st four calibrations ± 5%		
Sample	Max	Min
Th		

PRE-FLIGHT CALIBRATIONS Flight No. 009

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.1	4.6	127
2	220.9	4.9	126
3	221.2	4.8	122
4	221.5	4.8	134
5	220.5	5.4	127
6	220.9	5.1	107
7	221.2	5.3	111
8	221.0	5.7	113
Total			
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Operator R.D

***REMOVE THORIUM SOURCE ***

POST-FLIGHT CALIBRATIONS Flight No. 010

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.3	4.6	135
2	220.6	4.8	133
3	121.3	4.8	130
4	221.1	4.9	140
5	221.2	5.5	131
6	220.9	5.1	110
7	220.6	5.3	115
8	221.5	5.4	115
Total			
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Crystal Temperature	Pack 1	°C
	Pack 2	°C

Operator

Kevron Geophysics Pty Ltd

SPECTROMETER CALIBRATIONS

Job No. 1584 Area ~~[illegible]~~ STRAHAN D Aircraft KPY

Date 15-12 Julian Day 350

Calibration Line Numbering Convention (FF=Flight number)		
Sample	AM Cals	PM Cals
Cs	FF10.0	FF14.0
B/G	FF11.0	FF15.0
U	FF12.0	FF16.0
Th	FF13.0	FF17.0

Allowable limits for job Average of 1st four calibrations ± 5%		
Sample	Max	Min
Th		

PRE-FLIGHT CALIBRATIONS Flight No. 007

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.5	4.6	
2	221.2	5.0	
3	220.8	4.8	
4	221.0	4.8	
5	221.2	5.4	
6	221.4	5.1	
7	221.1	5.1	
8	221.0	5.7	
Total			
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Operator R.D.

***REMOVE THORIUM SOURCE ***

POST-FLIGHT CALIBRATIONS Flight No. 008

Menu 1 Th Stabilised Th 221.0 ±0.5			
Crystal	Channel	%Res	Gain
1	221.0	4.7	132
2	221.0	4.8	130
3	221.4	4.4	127
4	221.3	4.8	137
5	220.9	5.6	129
6	221.2	5.1	108
7	220.7	5.2	112
8	221.2	5.5	112
Total			
Up			

Menu 5: Ground Calibration - Full 120 seconds

Cs Peak		FWHM%	

	ROI K	ROI U	ROI Th
B/G			
U			
TH			

Crystal Temperature	Pack 1	°C
	Pack 2	°C

Operator R.D.

APPENDIX 7

AIRCRAFT / COSMIC BACKGROUNDS
Cosmic / Background Stack
Height Attenuation Plots

Normalised Cosmic Spectrum Data

1	0.000000
2	0.072044
3	0.100942
4	0.108162
5	0.110783
6	0.106234
7	0.101800
8	0.096286
9	0.089241
10	0.081883
11	0.075058
12	0.069384
13	0.063672
14	0.058498
15	0.054710
16	0.050043
17	0.045860
18	0.041547
19	0.038812
20	0.036471
21	0.034056
22	0.030761
23	0.028710
24	0.026863
25	0.025337
26	0.024121
27	0.022924
28	0.021145
29	0.020048
30	0.019448
31	0.018924
32	0.017958
33	0.017281
34	0.016759
35	0.016739
36	0.016493
37	0.016186
38	0.016000
39	0.017197
40	0.019244
41	0.021339
42	0.022503
43	0.021180
44	0.018026
45	0.014425
46	0.011929
47	0.010231
48	0.009469
49	0.009031
50	0.008266
51	0.007818
52	0.007511
53	0.007485
54	0.007179
55	0.006890
56	0.006798
57	0.006575

58	0.006562
59	0.006512
60	0.006384
61	0.006324
62	0.006020
63	0.005931
64	0.005617
65	0.005489
66	0.005259
67	0.005246
68	0.005346
69	0.005428
70	0.005109
71	0.004997
72	0.005127
73	0.004908
74	0.004579
75	0.004469
76	0.004456
77	0.004283
78	0.004091
79	0.004032
80	0.003992
81	0.004068
82	0.004021
83	0.004131
84	0.004189
85	0.004046
86	0.003899
87	0.003858
88	0.003849
89	0.003846
90	0.003734
91	0.003581
92	0.003598
93	0.003408
94	0.003200
95	0.003163
96	0.003261
97	0.003277
98	0.003239
99	0.003247
100	0.003191
101	0.003228
102	0.003039
103	0.002918
104	0.002904
105	0.002971
106	0.002956
107	0.002996
108	0.002890
109	0.002732
110	0.002864
111	0.002792
112	0.002726
113	0.002806
114	0.002819
115	0.002822
116	0.002802
117	0.002704
118	0.002551

119	0.002595
120	0.002518
121	0.002522
122	0.002556
123	0.002587
124	0.002424
125	0.002369
126	0.002430
127	0.002363
128	0.002349
129	0.002285
130	0.002276
131	0.002394
132	0.002419
133	0.002391
134	0.002196
135	0.002263
136	0.002290
137	0.002242
138	0.002076
139	0.001977
140	0.002130
141	0.002079
142	0.001956
143	0.001951
144	0.001951
145	0.002058
146	0.002067
147	0.002000
148	0.002033
149	0.002067
150	0.001963
151	0.001937
152	0.002007
153	0.001941
154	0.001855
155	0.001762
156	0.001772
157	0.001827
158	0.001831
159	0.001860
160	0.001837
161	0.001853
162	0.001773
163	0.001751
164	0.001796
165	0.001873
166	0.001812
167	0.001804
168	0.001742
169	0.001722
170	0.001722
171	0.001717
172	0.001645
173	0.001676
174	0.001686
175	0.001663
176	0.001634
177	0.001589
178	0.001625
179	0.001674

180	0.001683
181	0.001717
182	0.001705
183	0.001767
184	0.001809
185	0.001920
186	0.001862
187	0.001786
188	0.001848
189	0.001920
190	0.001926
191	0.001834
192	0.001796
193	0.001725
194	0.001583
195	0.001527
196	0.001559
197	0.001577
198	0.001531
199	0.001541
200	0.001468
201	0.001397
202	0.001359
203	0.001363
204	0.001356
205	0.001332
206	0.001286
207	0.001322
208	0.001402
209	0.001413
210	0.001446
211	0.001349
212	0.001318
213	0.001432
214	0.001392
215	0.001449
216	0.001321
217	0.001310
218	0.001261
219	0.001276
220	0.001218
221	0.001191
222	0.001232
223	0.001327
224	0.001380
225	0.001251
226	0.001191
227	0.001164
228	0.001134
229	0.001144
230	0.001076
231	0.001157
232	0.001199
233	0.001241
234	0.001276
235	0.001236
236	0.001152
237	0.001228
238	0.001216
239	0.001210
240	0.001165

241	0.001126
242	0.001128
243	0.001179
244	0.001170
245	0.001203
246	0.001168
247	0.001228
248	0.001190
249	0.001135
250	0.001175
251	0.001136
252	0.001094
253	0.001077
254	0.064096
255	0.001077
256	0.999774

Aircraft Spectrum Data

1	0.000000
2	2.393077
3	2.648283
4	4.084920
5	4.856965
6	4.859370
7	4.427417
8	3.999853
9	3.972872
10	4.018111
11	3.896531
12	3.699808
13	3.807282
14	3.654034
15	3.389925
16	3.355702
17	3.483917
18	3.678018
19	3.494681
20	3.039895
21	2.709594
22	2.593154
23	2.570946
24	2.480688
25	2.288261
26	2.069597
27	2.091060
28	2.305440
29	2.198447
30	1.776946
31	1.431163
32	1.258154
33	1.148967
34	1.009835
35	0.833858
36	0.791012
37	0.796603
38	0.748781
39	0.708019
40	0.642834
41	0.612138

42	0.515083
43	0.617931
44	0.713147
45	0.857768
46	0.894873
47	1.064787
48	1.184579
49	1.366081
50	1.596233
51	1.651194
52	1.555201
53	1.347942
54	1.171399
55	1.093650
56	0.954370
57	0.874241
58	0.716790
59	0.621762
60	0.576803
61	0.552168
62	0.592478
63	0.577711
64	0.616540
65	0.611926
66	0.595908
67	0.542825
68	0.481183
69	0.425570
70	0.406284
71	0.420943
72	0.369734
73	0.441004
74	0.513749
75	0.537829
76	0.537382
77	0.586018
78	0.604313
79	0.593291
80	0.570322
81	0.520349
82	0.477959
83	0.400487
84	0.357326
85	0.358845
86	0.320038
87	0.298430
88	0.283146
89	0.273450
90	0.285547
91	0.351832
92	0.371474
93	0.449302
94	0.492611
95	0.493805
96	0.432621
97	0.387403
98	0.340759
99	0.305147
100	0.294005
101	0.253096
102	0.258968

103	0.284258
104	0.282121
105	0.254995
106	0.233193
107	0.211556
108	0.224377
109	0.246883
110	0.183140
111	0.201076
112	0.215233
113	0.199942
114	0.196884
115	0.213076
116	0.244029
117	0.292095
118	0.358384
119	0.414058
120	0.497918
121	0.546951
122	0.568260
123	0.587444
124	0.606491
125	0.569672
126	0.464783
127	0.398248
128	0.310130
129	0.258980
130	0.201656
131	0.132625
132	0.109541
133	0.104802
134	0.132990
135	0.107369
136	0.088805
137	0.097907
138	0.129869
139	0.148929
140	0.104274
141	0.122979
142	0.155027
143	0.163114
144	0.172422
145	0.158020
146	0.177633
147	0.215935
148	0.213797
149	0.193499
150	0.183006
151	0.173299
152	0.123195
153	0.116920
154	0.105296
155	0.106391
156	0.094168
157	0.064141
158	0.037146
159	0.021372
160	0.013713
161	0.005236
162	0.011687
163	0.004832

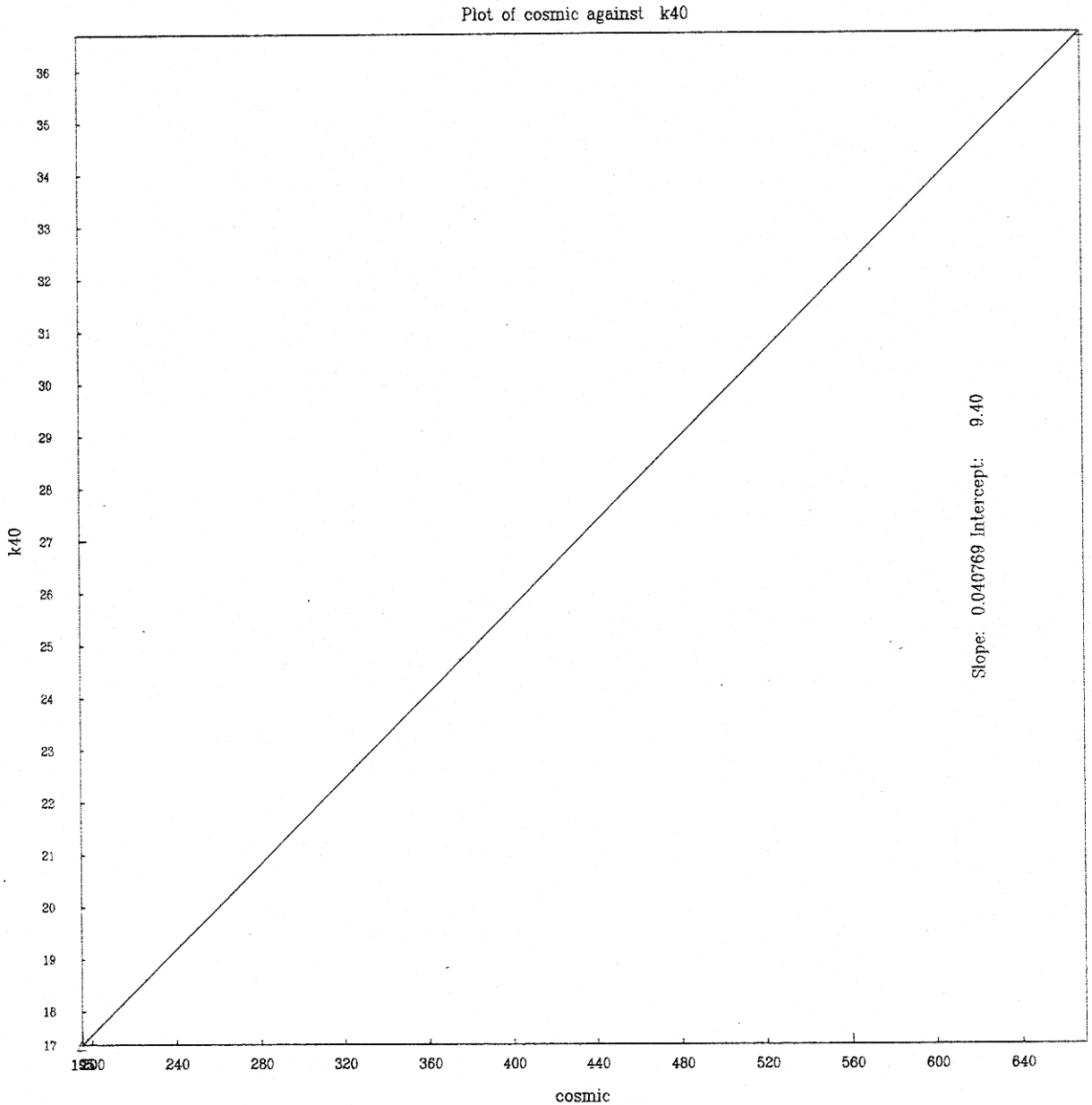
164	-0.010351
165	-0.039655
166	-0.035069
167	-0.027483
168	-0.020804
169	-0.019352
170	-0.016752
171	-0.016450
172	-0.003947
173	-0.016945
174	-0.021234
175	-0.013182
176	-0.002460
177	0.015881
178	0.008792
179	-0.004020
180	-0.002294
181	-0.000877
182	-0.001122
183	-0.003207
184	0.001865
185	-0.018136
186	0.008101
187	0.025207
188	0.000847
189	-0.028080
190	-0.055898
191	-0.047051
192	-0.047580
193	-0.035276
194	-0.011538
195	-0.004125
196	-0.029777
197	-0.046157
198	-0.051071
199	-0.056481
200	-0.044156
201	-0.026064
202	-0.013480
203	-0.016438
204	-0.018126
205	-0.015859
206	-0.009516
207	-0.015334
208	-0.031164
209	-0.037093
210	-0.051740
211	-0.022904
212	-0.008992
213	-0.031365
214	-0.018175
215	-0.022951
216	0.016481
217	0.023512
218	0.037306
219	0.038258
220	0.052848
221	0.068409
222	0.054008
223	0.021961
224	0.000354

225	0.023671
226	0.024319
227	0.024174
228	0.035897
229	0.024461
230	0.021977
231	-0.006574
232	-0.021325
233	-0.036393
234	-0.046895
235	-0.037050
236	-0.016381
237	-0.037719
238	-0.036025
239	-0.031488
240	-0.023065
241	-0.014810
242	-0.017293
243	-0.033810
244	-0.032403
245	-0.036597
246	-0.033402
247	-0.056376
248	-0.041208
249	-0.023140
250	-0.036750
251	-0.027849
252	-0.021150
253	-0.015229
254	-0.010236
255	-0.006859
256	0.045980

VH-KPY COSMIC BACKGROUND

FLOWN MAY 6 2000

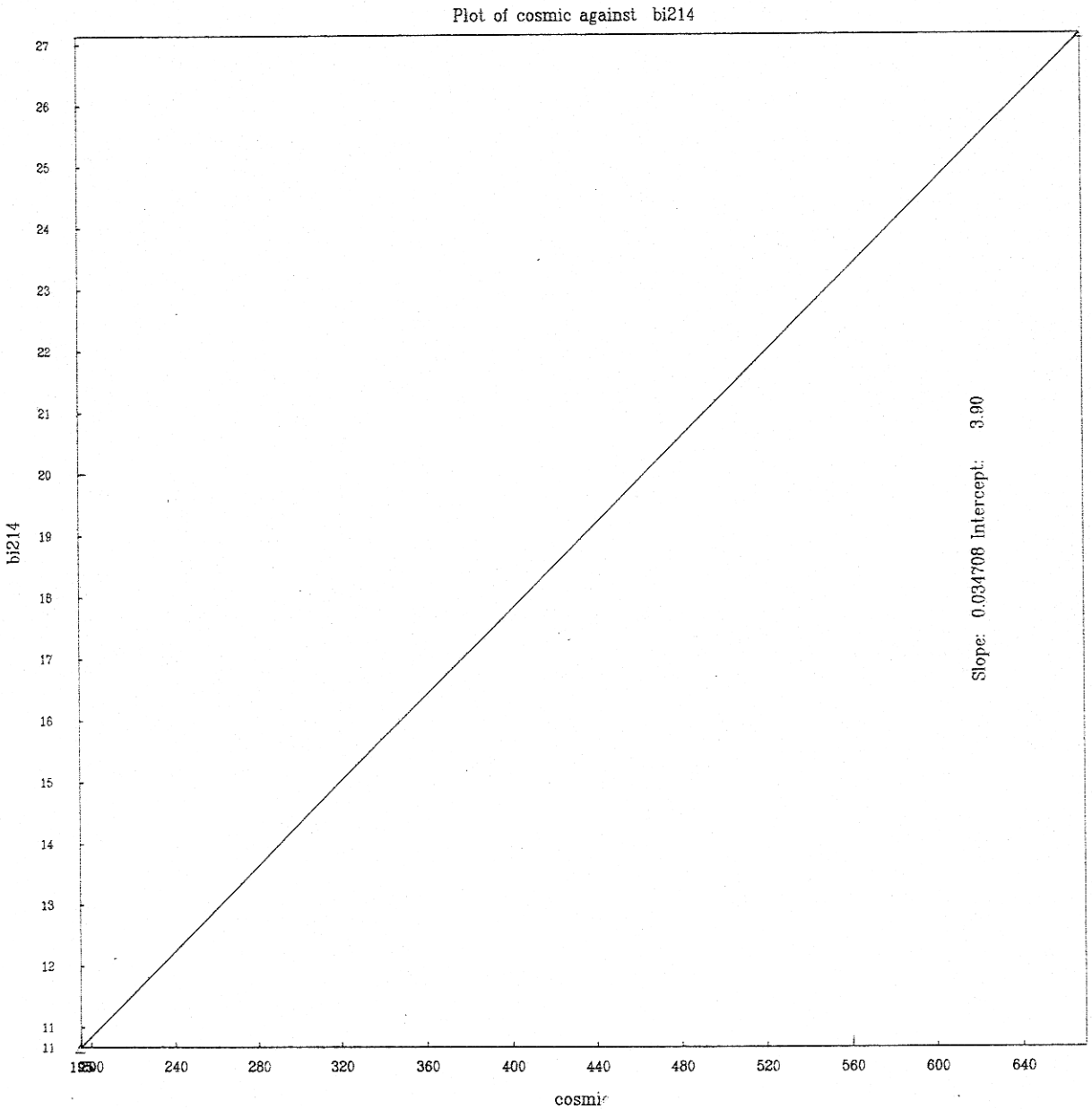
POTASSIUM



VH-KPY COSMIC BACKGROUND

FLOWN MAY 6 2000

URANIUM

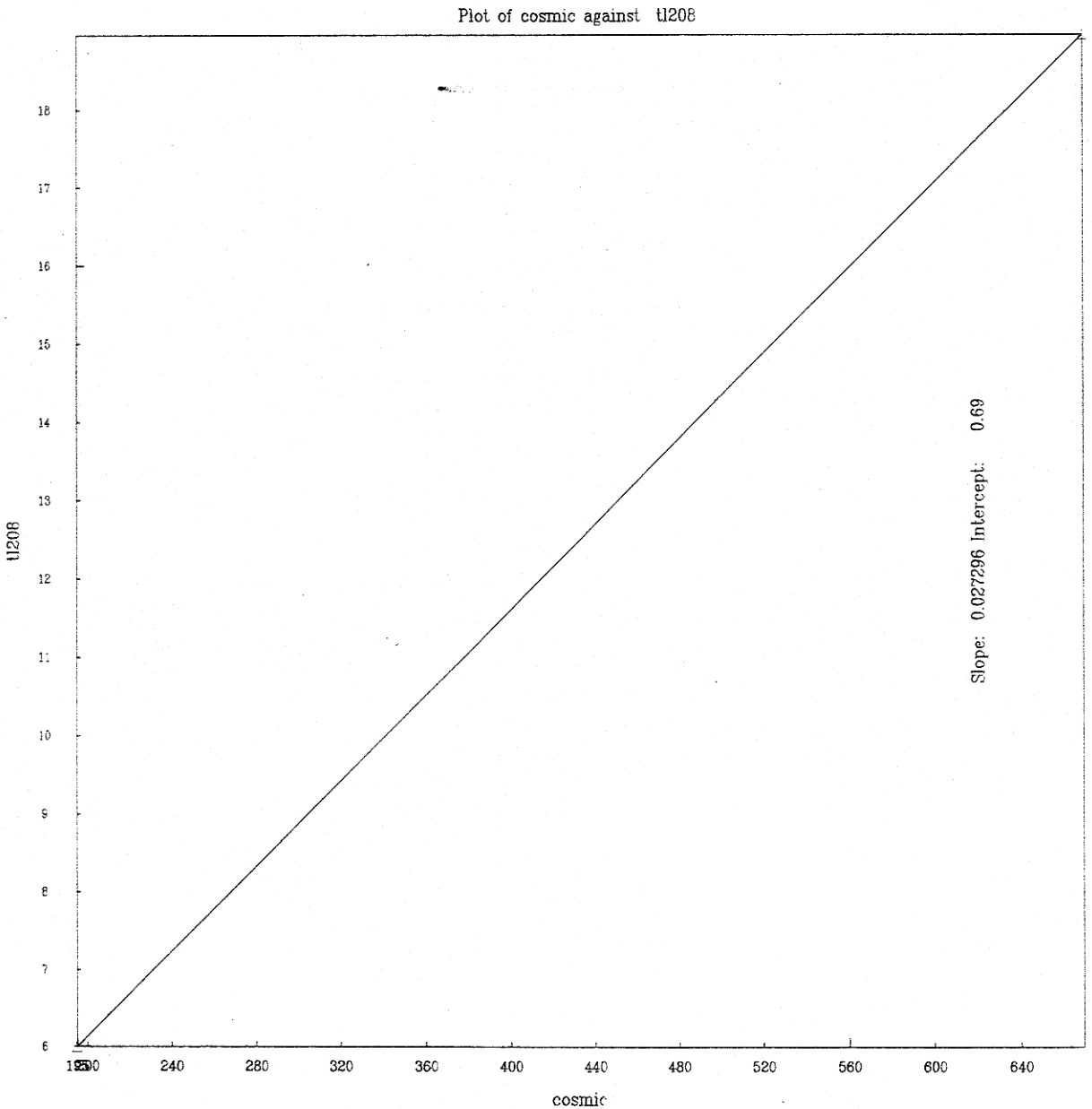


319

VH-KPY COSMIC BACKGROUND

FLOWN MAY 6 2000

THORIUM

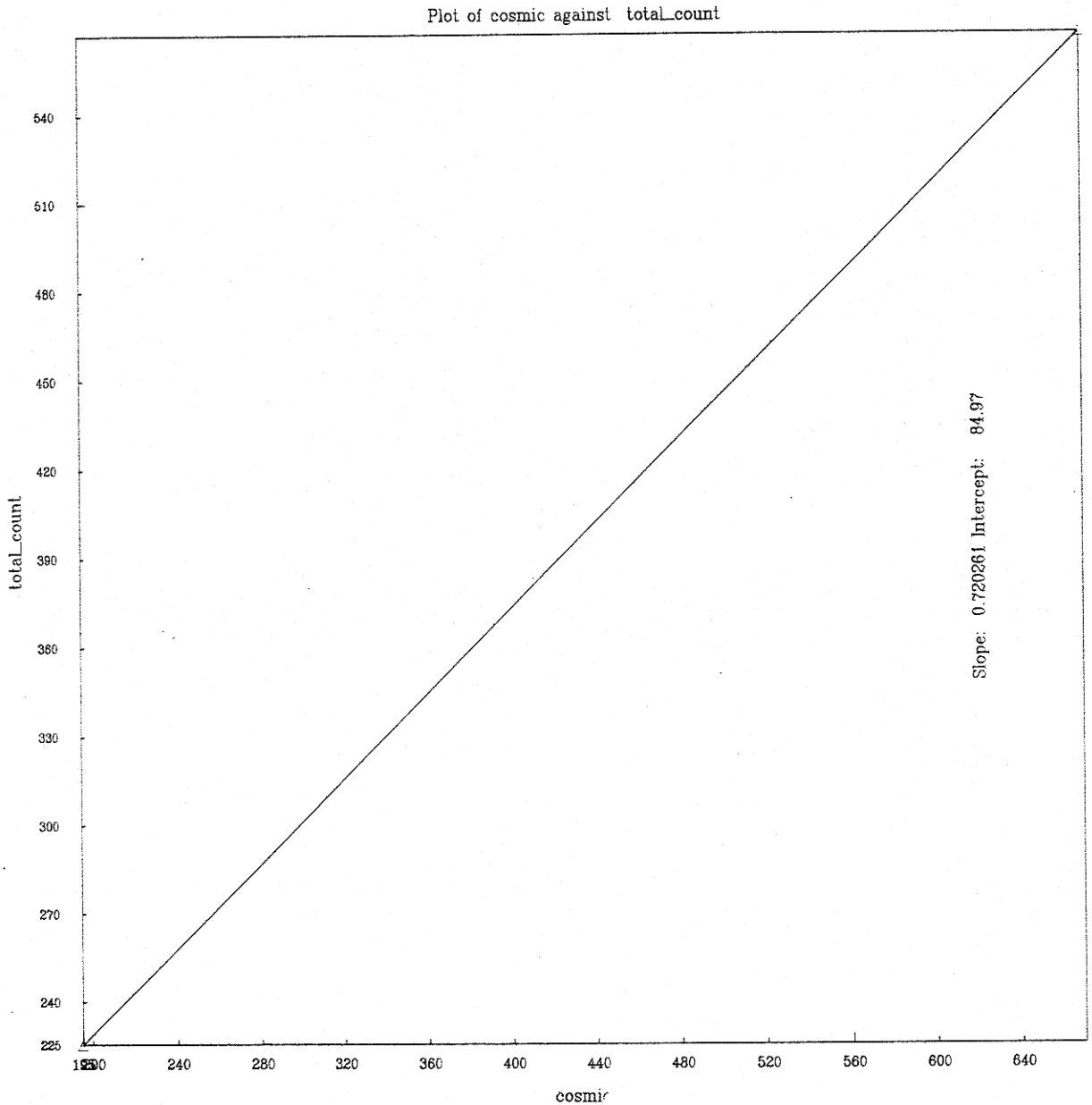


320

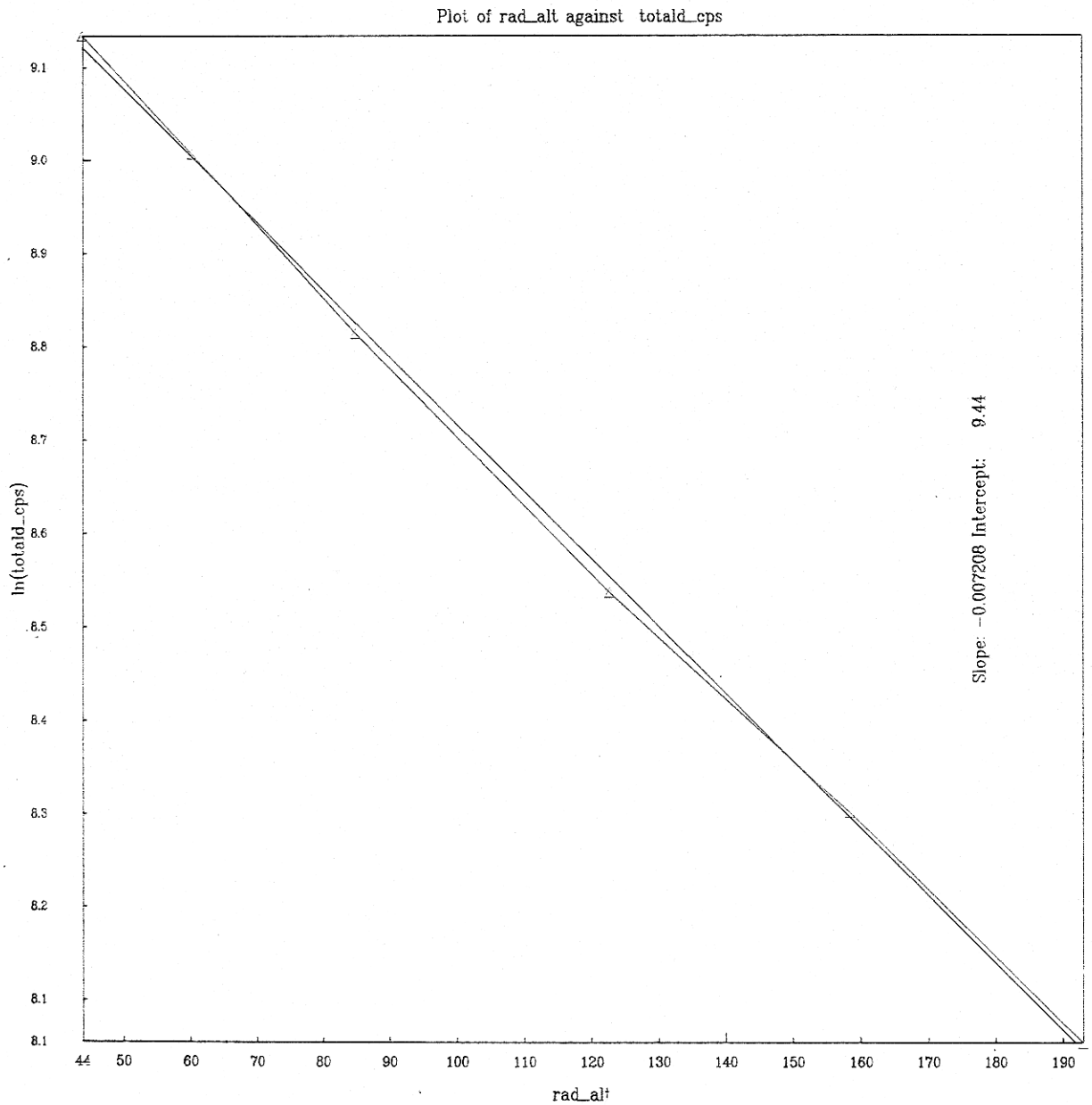
VH-KPY COSMIC BACKGROUND

FLOWN MAY 6 2000

TOTAL COUNT

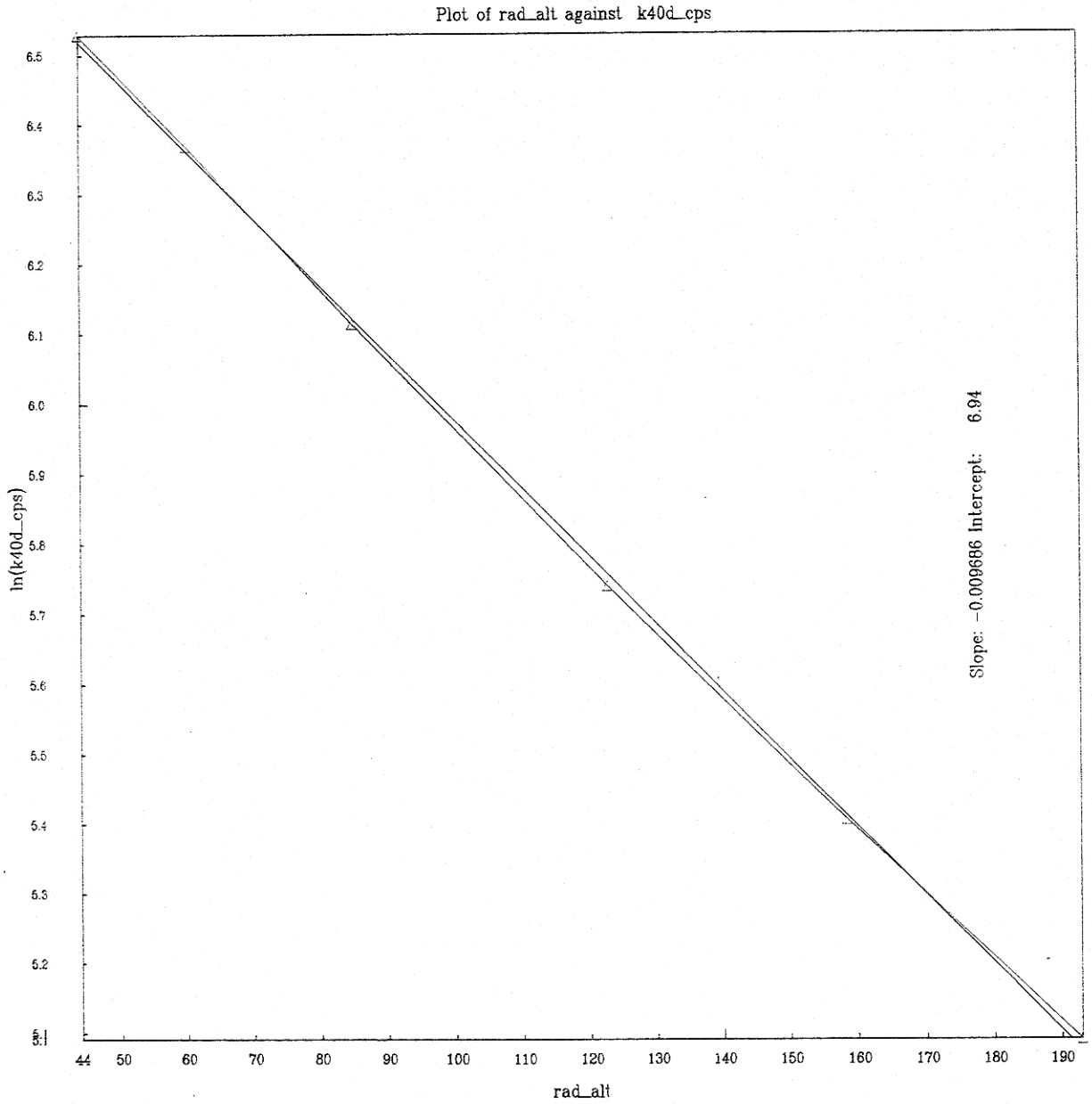


VH-KPY HEIGHT ATTENUATION
FLOWN NOV 23 2000
TOTAL COUNT

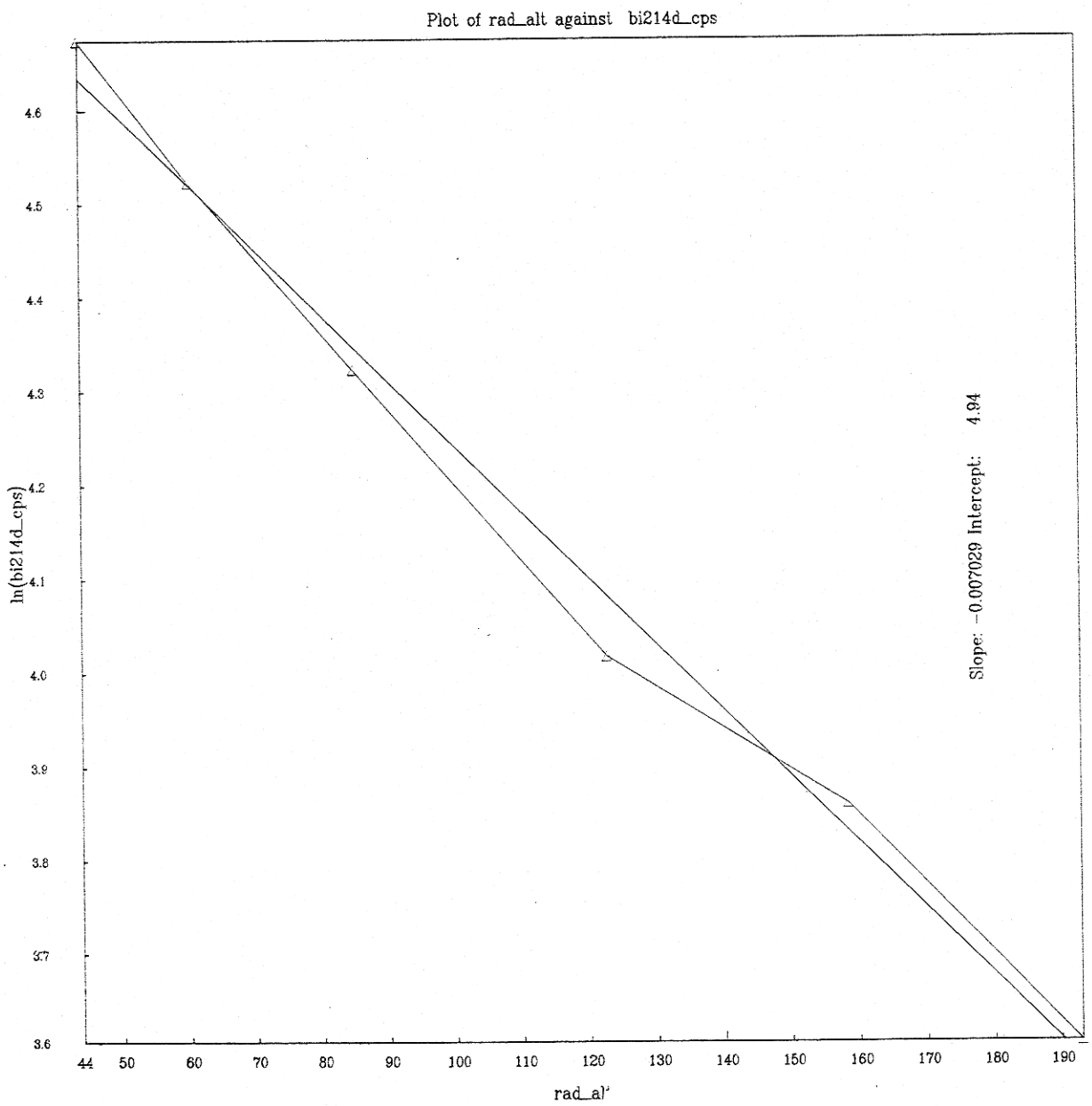


322

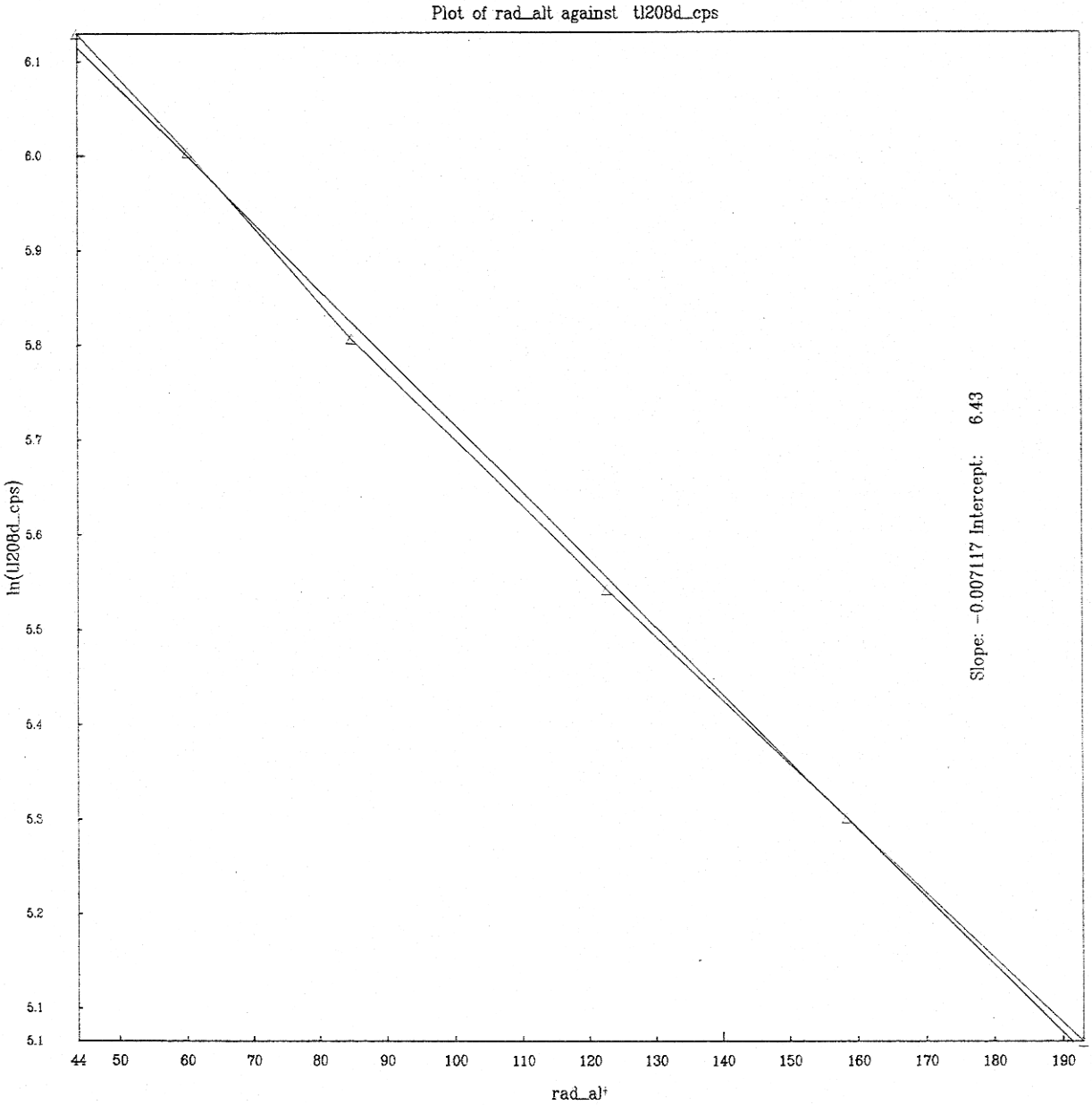
VH-KPY HEIGHT ATTENUATION
FLOWN NOV 23 2000
POTASSIUM



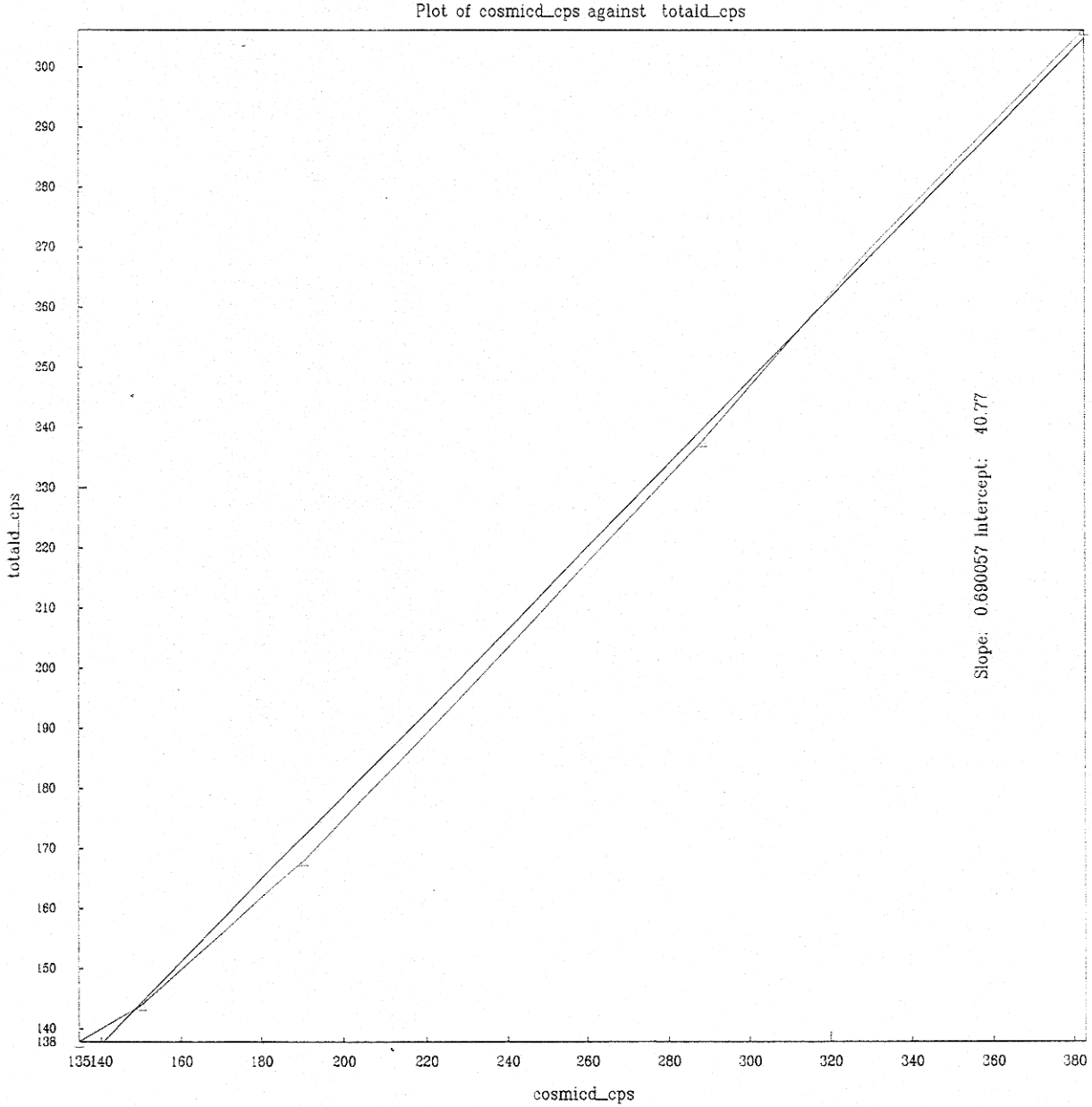
VH-KPY HEIGHT ATTENUATION
FLOWN NOV 23 2000
URANIUM



VH-KPY HEIGHT ATTENUATION
FLOWN NOV 23 2000
THORIUM



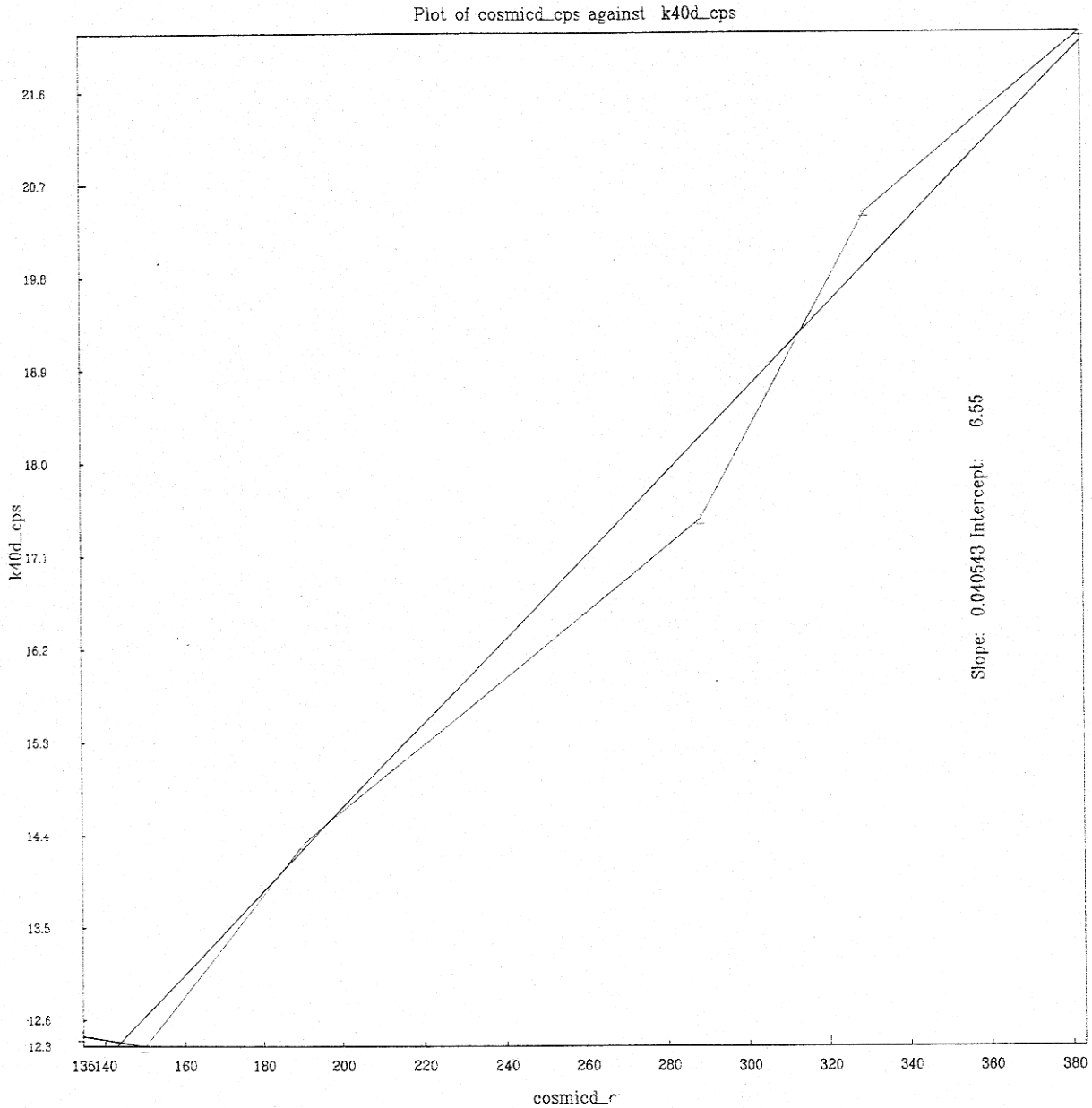
Offshore Perth 23/6/99
Aircraft VH-KAC
Background / Cosmic



BACKGROUND / COSMIC RE-PROCESSED 10/11/99 WITH EXTRA LINE ADDED (WHICH WAS ORIGINALLY NOT INCLUDED) aircft_params_gamsat FILE UPDATED

326

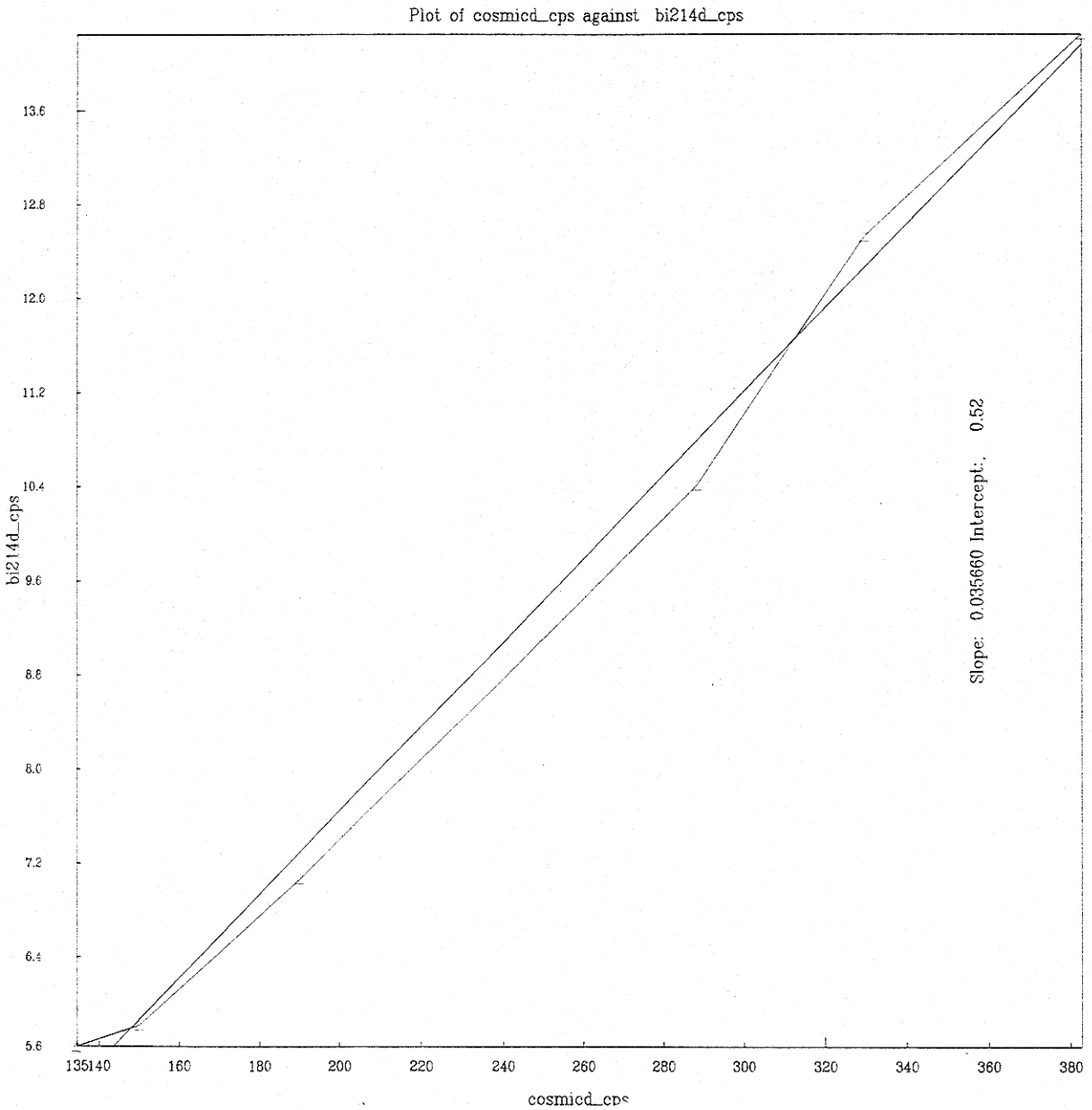
Offshore Perth 23/6/99
Aircraft VH-KAC
Background / Cosmic



Offshore Perth 23/6/99

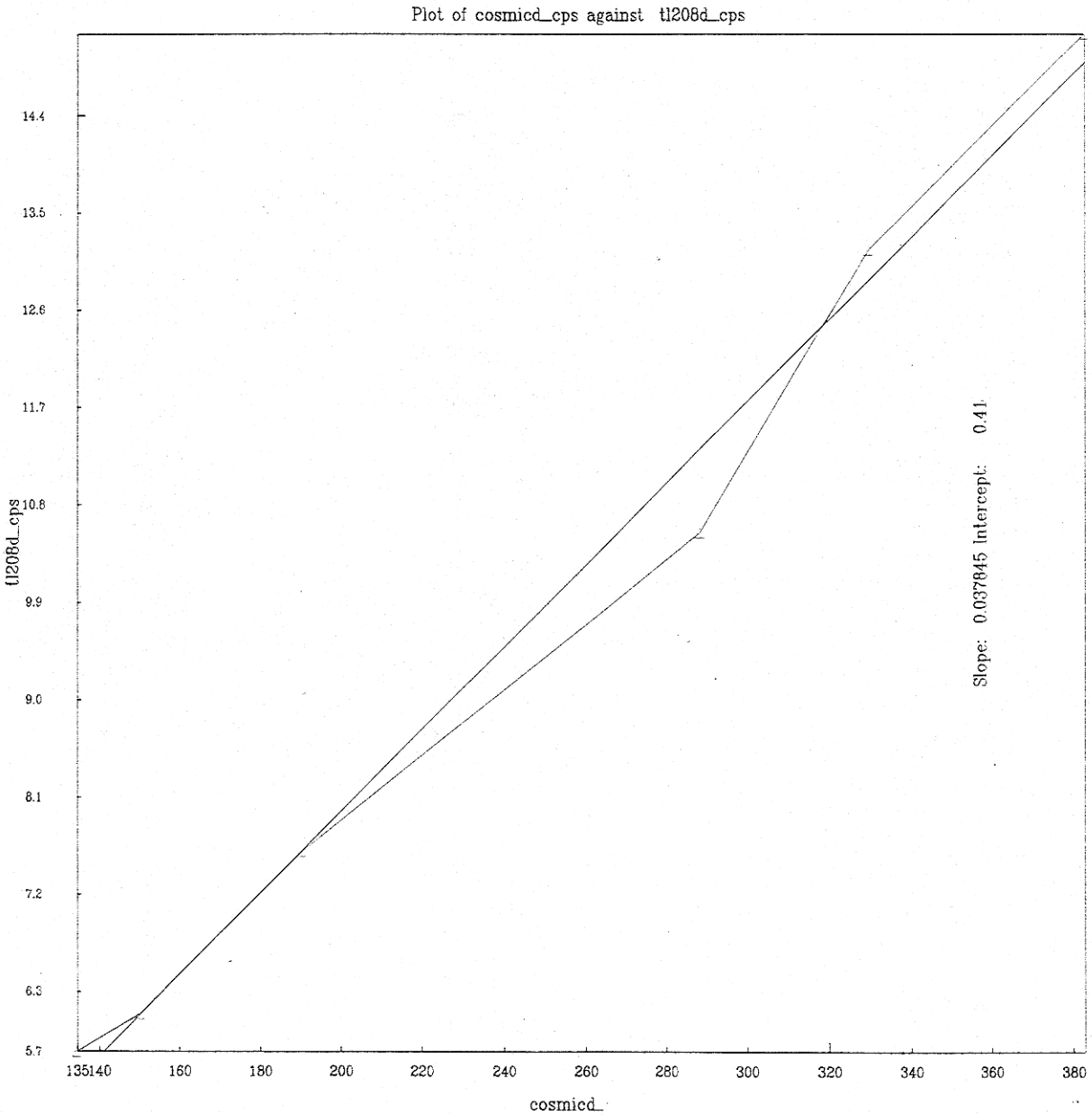
Aircraft VH-KAC

Background / Cosmic



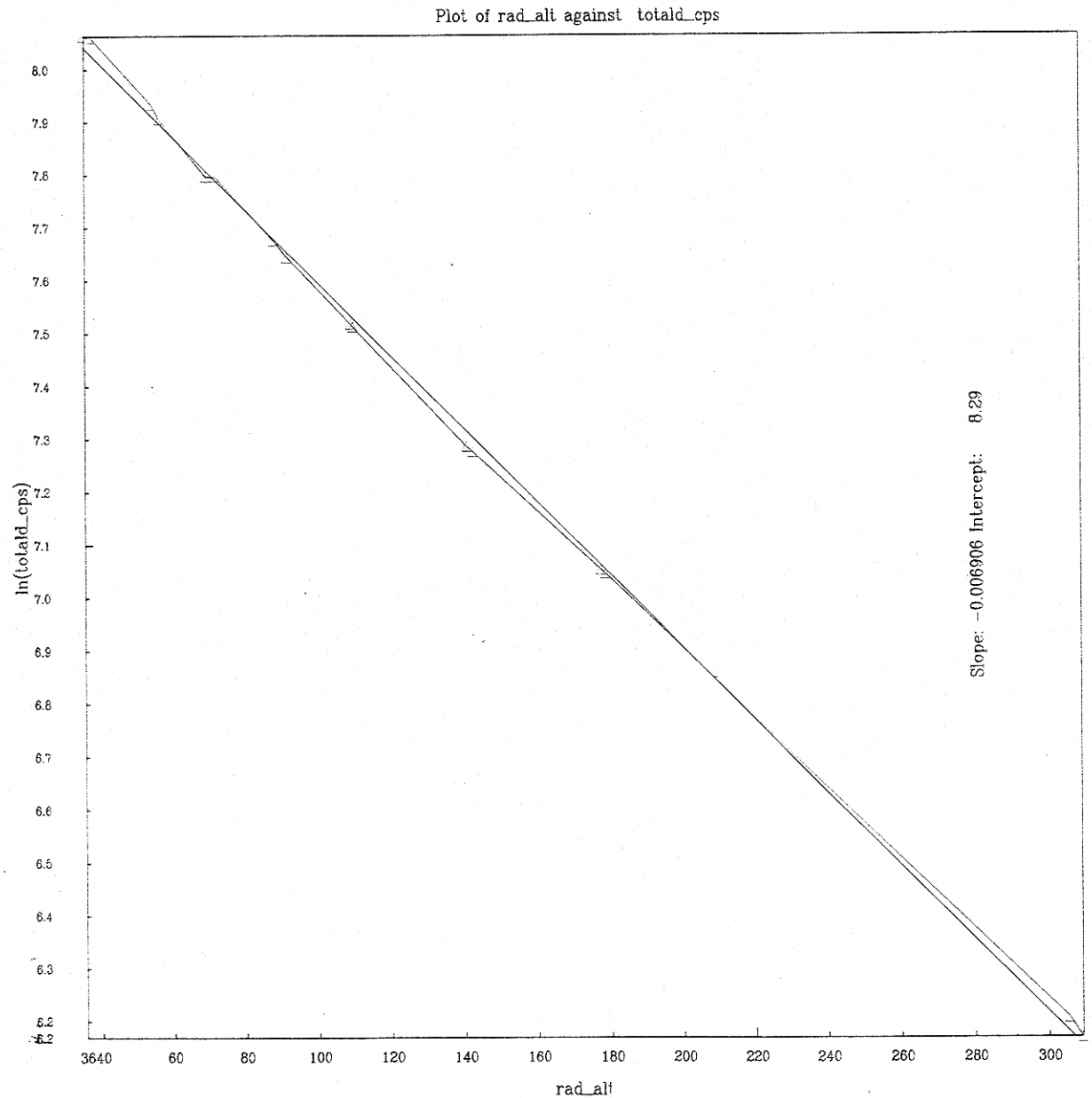
328

Offshore Perth 23/6/99
Aircraft VH-KAC
Background / Cosmic



329

Carnamah 23-6-1999
Aircraft VH-KAC
Height Attenuation



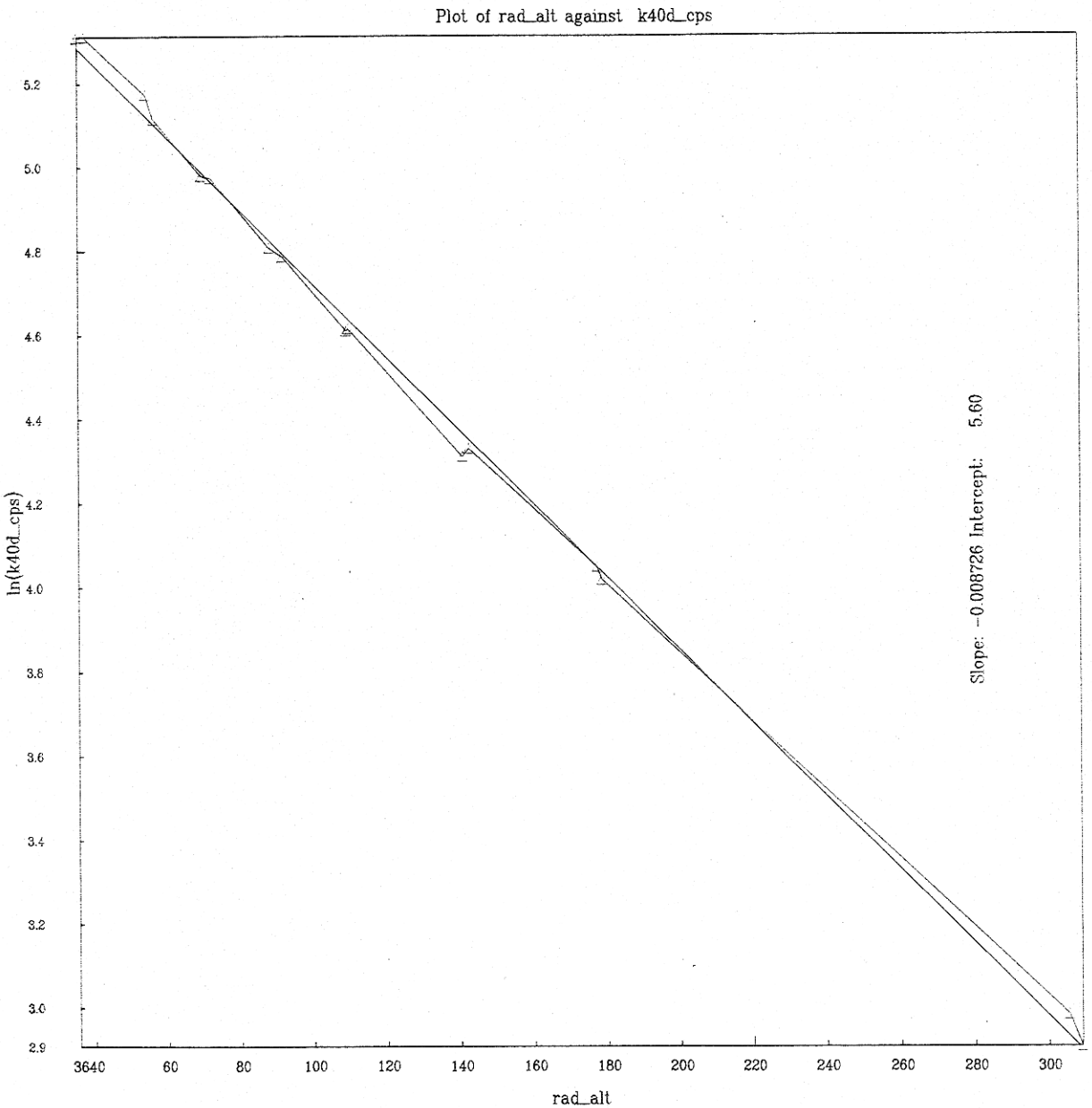
HEIGHT ATTENUATION RE-PROCESSED 10/11/99 - ORIGINAL HEIGHT ATTENUATION WAS PROCESSED WITH RAD ALT SPIKES IN TWO LINES

GamCorCalFile & arcft_params-gamray FILE UPDATED

Carnamah 23-6-1999

Aircraft VH-KAC

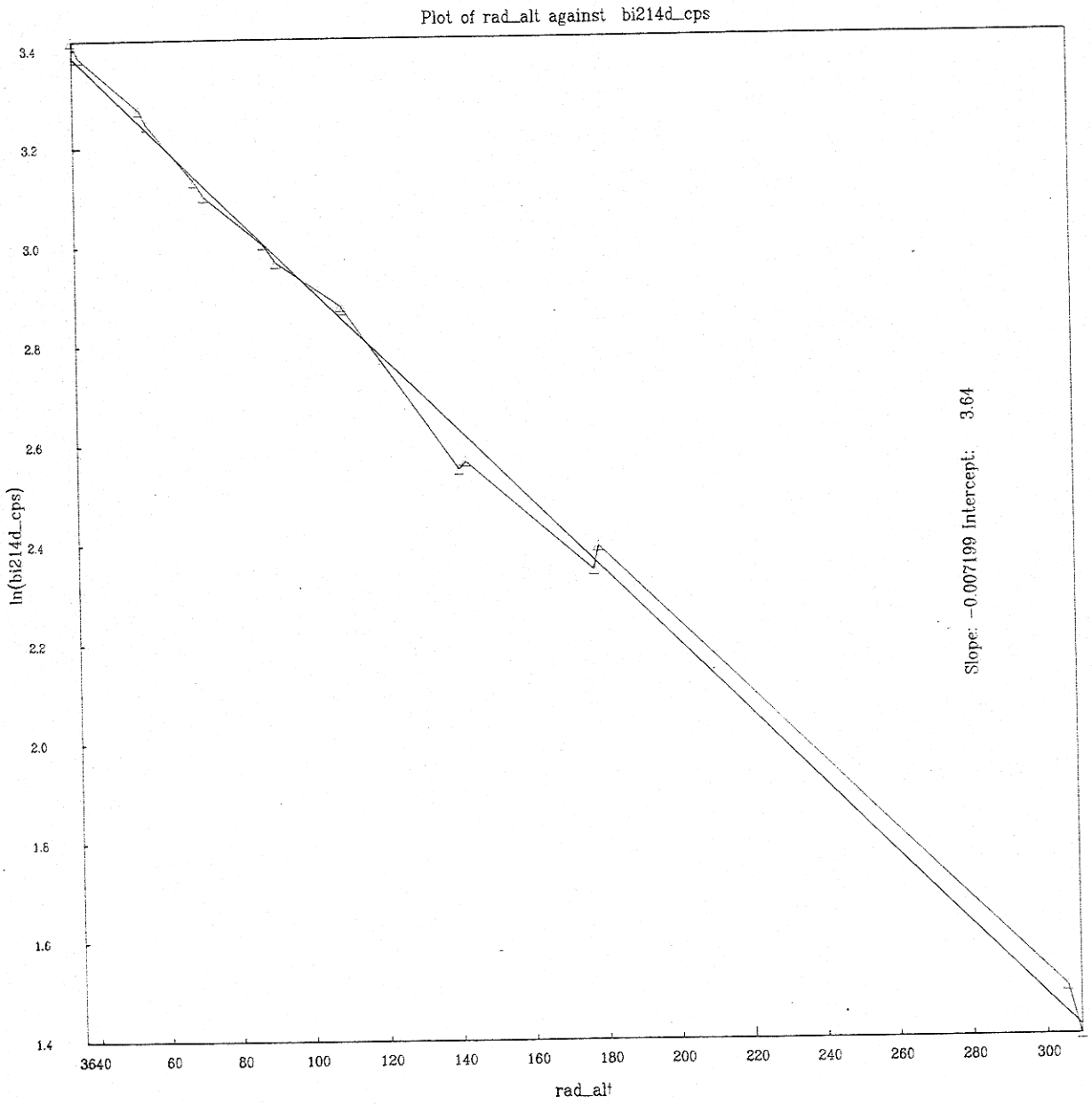
Height Attenuation



Carnamah 23-6-1999

Aircraft VH-KAC

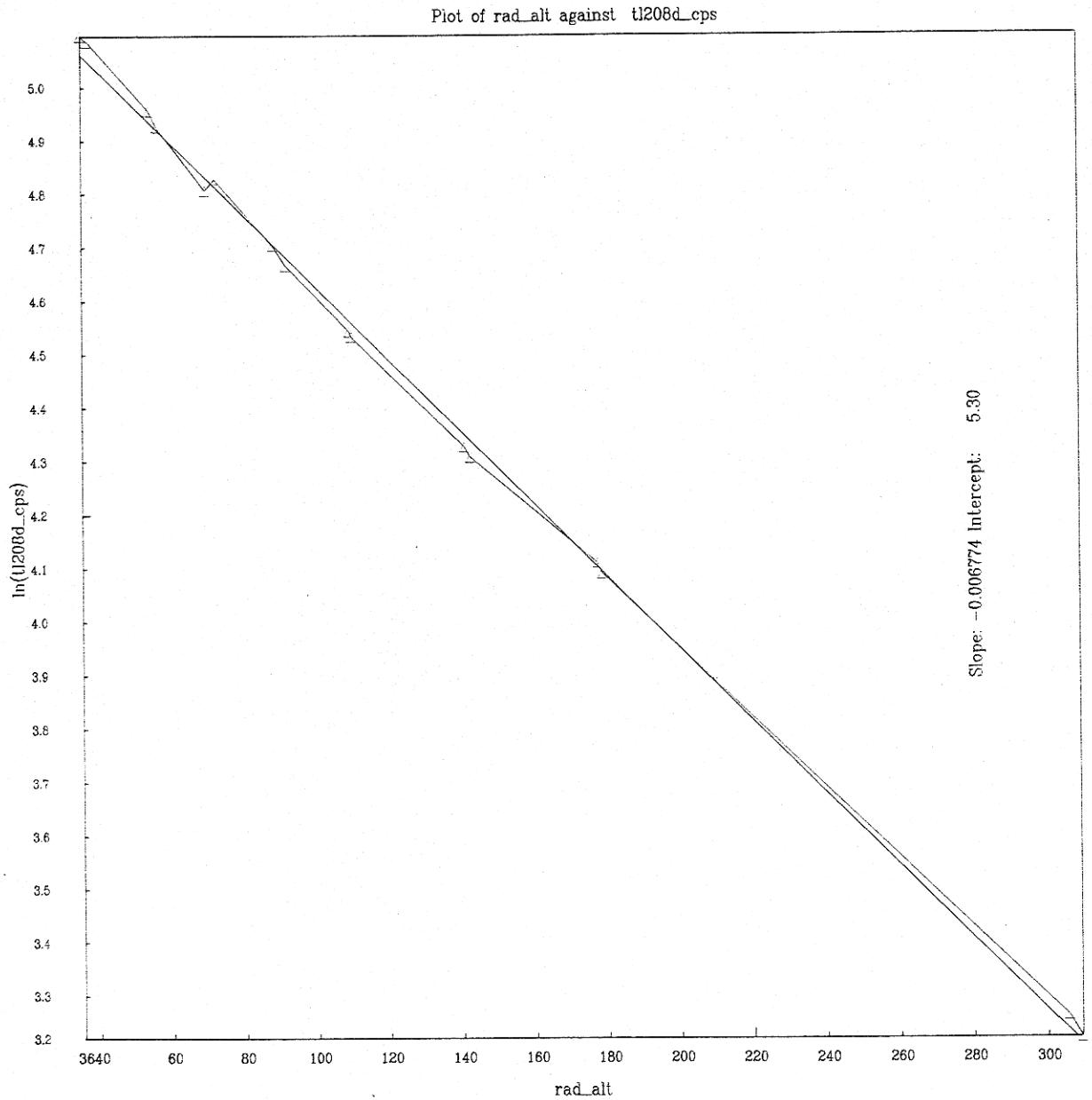
Height Attenuation



Carnamah 23-6-1999

Aircraft VH-KAC

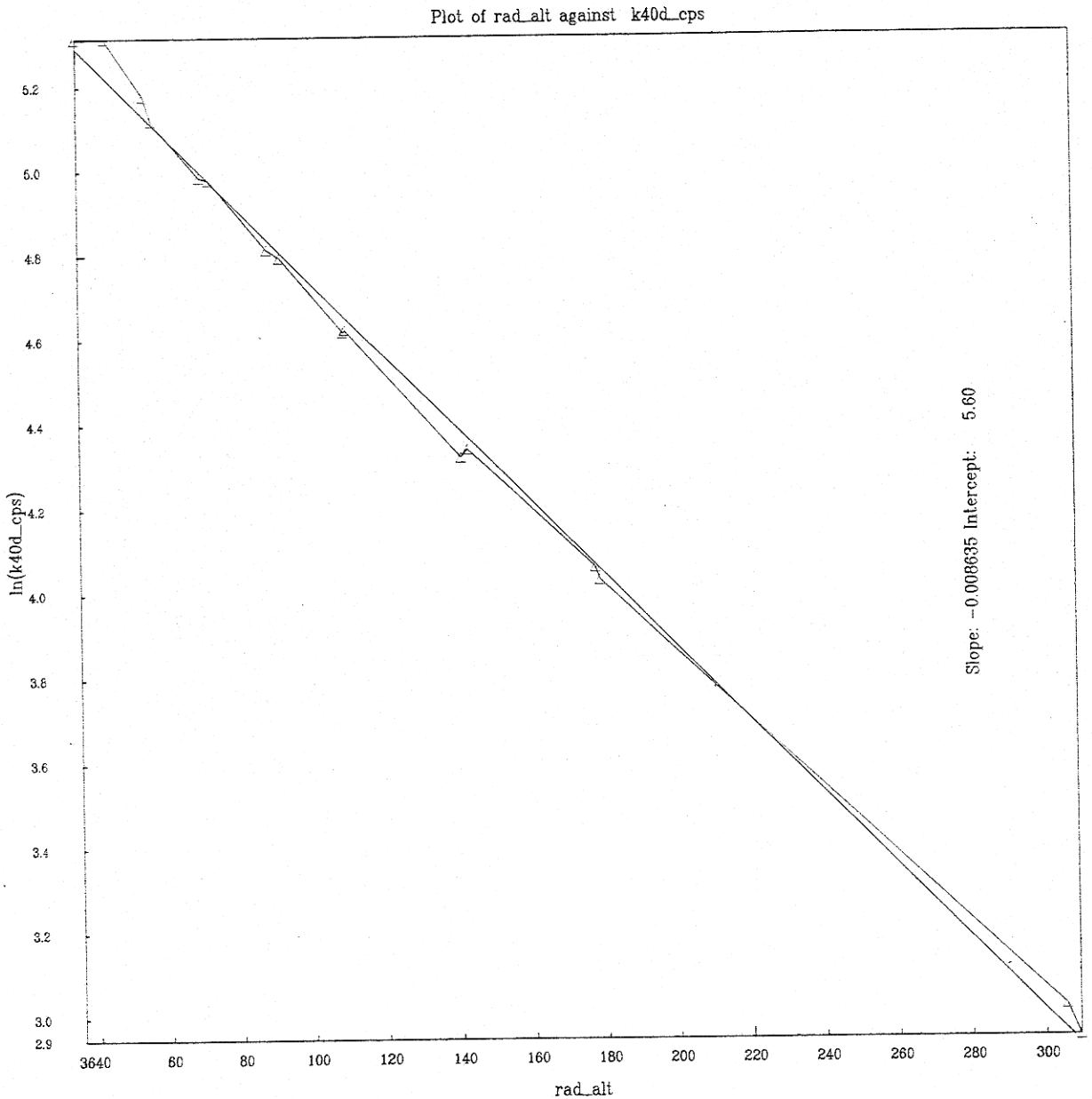
Height Atienuation



Carnamah 23-6-1999

Aircraft VH-KAC

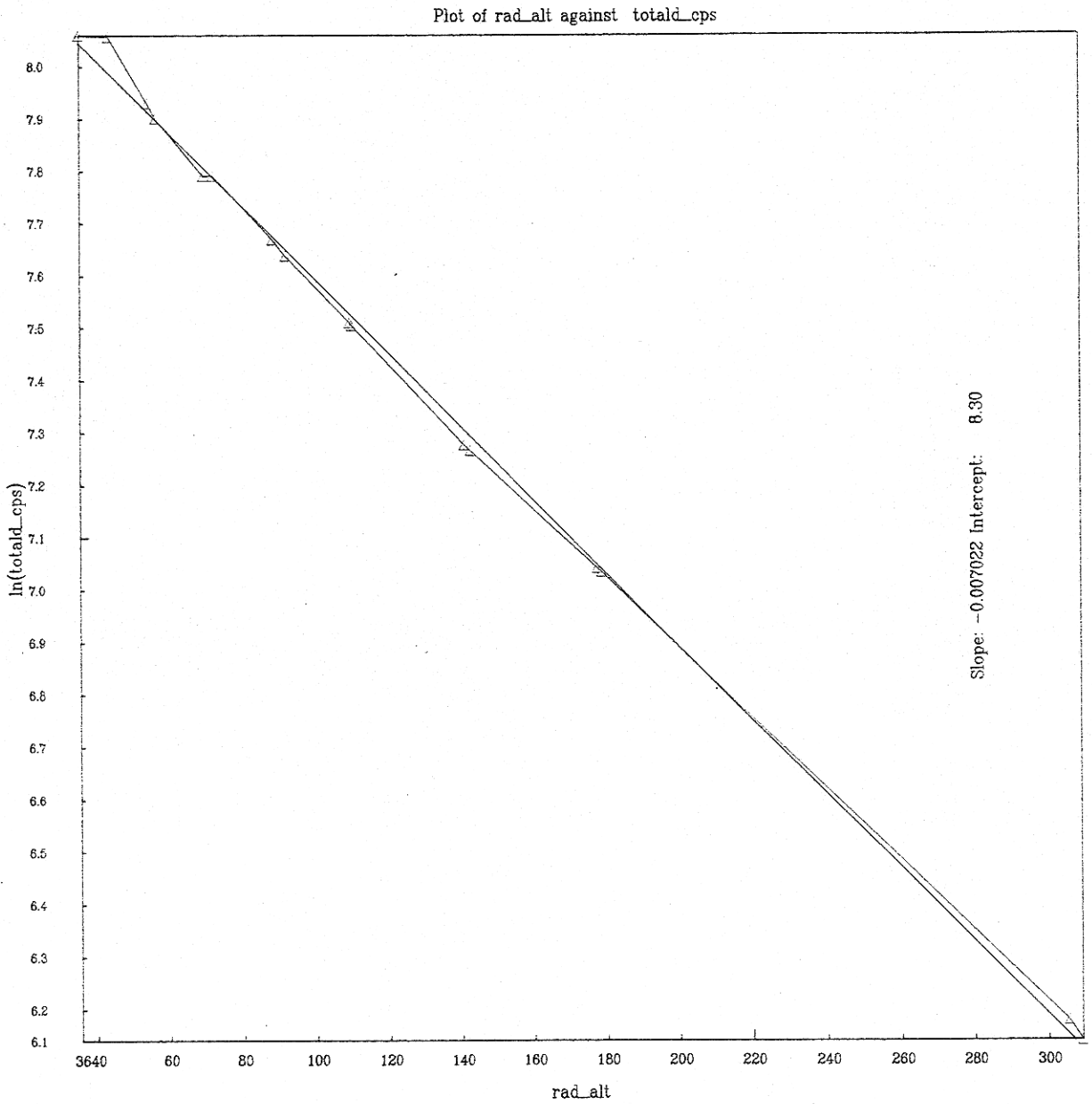
Height Attenuation



Carnamah 23-6-1999

Aircraft VH-KAC

Height Attenuation



APPENDIX 8

LOCATED & GRIDDED DATA FORMATS

AREA A MAGNETICS

```
COMM   Kevron Geophysics Pty. Ltd.
COMM   --------------------------
COMM
COMM  GRIDDED DATA:
COMM  -------------
COMM  Area  : WTRMP Area A
COMM  Company Flown by:   Kevron Geophysics Pty. Ltd.
COMM  Company Flown for:  Tasmanian DIER
COMM  Company Processed:  Kevron Geophysics Pty. Ltd.
COMM
COMM  AIRBORNE SURVEY EQUIPMENT:
COMM  --------------------------
COMM  Aircraft                        Rockwell Aerocommander 500S VH-KAC
COMM  Magnetometer                           Scintrex CS-2 Cesium Vapour
COMM  Magnetometer Resolution                                  0.001 nT
COMM  Magnetometer Compensation          RMS AADC operating in real time
COMM  Magnetometer Sample Interval       0.1 seconds (approx 7.0 metres)
COMM  Data Acquisition                                       RMS DAS-8
COMM  Data Recording                                         Hard Disk
COMM  Spectrometer                                    Exploranium GR820
COMM  Crystal Size                                 33.6lt downward array
COMM  Spectrometer Sample Interval        1.0 Seconds (approx 70 metres)
COMM  GPS Navigation System                      Ashtech XII GPS Receiver
COMM
COMM  AIRBORNE SURVEY SPECIFICATIONS:
COMM  -------------------------------
COMM  Flight Line Direction           :              090 - 270 degrees
COMM  Flight Line Separation          :                   200 metres
COMM  Tie Line Direction              :              000 - 180 degrees
COMM  Tie Line Separation             :                   2000 metres
COMM  Terrain Clearance               :                80 metres (MTC)
COMM
COMM  Survey flown                    :                   January 2001
COMM  Kevron Geophysics job number    :                         1585
COMM
COMM
COMM
COMM  Data are in UTM Grid Zone  55
COMM
COMM
COMM  GPS navigation data differentially corrected real time
COMM  using Fugro Omnistar.
COMM
COMM  Boundary Co-ords
COMM
COMM  234500,5615100
COMM  240000,5615100
COMM  253000,5606300
COMM  256000,5576100
COMM  256000,5570100
COMM  254000,5562900
COMM  238000,5548100
COMM  235000,5548100
COMM  231000,5560000
COMM  228000,5575100
COMM  228000,5599100
```

```
COMM  234500,5615100
COMM
COMM  MAGNETIC CORRECTIONS:
COMM  --------------------
COMM  Diurnal variations removed.
COMM  IGRF (2000) updated to 2001.05 removed.
COMM
COMM    ELEVATION DATA:
COMM    ---------------
COMM    Elevation was calculated by subtraction of the radar altimetre from the
gps height.
COMM    Tie line and micro levelling has been performed.
COMM    AUSGEOID 98 nval geoid elipsoid separation values subtracted to achieve
AHD.
COMM
COMM
COMM  LOCATED DATA FOR MAGNETICS IN ASCII FORMAT - 0.1 second
COMM  ------------------------------------------------------------------------
COMM
COMM  Logical Record Length: 261 bytes
COMM        Number fields: 25
COMM                                Name: field width format-C SUSstring
COMM                            LineName [  1]    12  %12.12s '-'
COMM                            LineDate [  2]     8    %8.8s '-'
COMM                             fiducial [  3]    11   %10.0f '   -9999999'
COMM                        flight number [  4]     5    %4.0f ' -999'
COMM                         time hh dddd [  5]    10    %9.5f ' -9999999.'
COMM                        agd66 easting [  6]    11   %10.2f ' -9999999.0'
COMM                       agd66 northing [  7]    11   %10.2f ' -9999999.0'
COMM                    gda mga55 easting [  8]    11  %10.21f ' -9999999.0'
COMM                   gda mga55 northing [  9]    11  %10.21f ' -9999999.0'
COMM                           agd66 long [ 10]    13  %12.71f ' -9999999.000'
COMM                            agd66 lat [ 11]    13  %12.71f ' -9999999.000'
COMM                           wgs84 long [ 12]    13  %12.71f ' -9999999.000'
COMM                            wgs84 lat [ 13]    13  %12.71f ' -9999999.000'
COMM                              raw_mag [ 14]    11   %10.3f ' -9999999.0'
COMM                             comp_mag [ 15]    11   %10.3f ' -9999999.0'
COMM                  mag dnl igrf gammas [ 16]    11   %10.3f ' -9999999.0'
COMM                            mag level [ 17]    11   %10.3f ' -9999999.0'
COMM                         diurnal gammas [ 18]    11   %10.3f ' -9999999.0'
COMM                            igrf gammas [ 19]    11   %10.3f ' -9999999.0'
COMM                                    1vd [ 20]    12   %11.7f ' -9999999.00'
COMM                                agc 1vd [ 21]    12   %11.7f ' -9999999.00'
COMM                                rad alt [ 22]     7    %6.1f ' -99999'
COMM                               baro alt [ 23]     7    %6.1f ' -99999'
COMM                             wgs84 height [ 24]     7    %6.1f ' -99999'
COMM                                elevation [ 25]     7    %6.1f ' -99999'
COMMDATA RANGE:
COMM-----------
COMM
COMMTraverse Lines 10011 - 13370
COMMTie Lines 90010 - 90150
COMM(complete survey area)
COMM
```

AREA A SPECTROMETER

```
COMM   Kevron Geophysics Pty. Ltd.
COMM   --------------------------
COMM
COMM  GRIDDED DATA:
COMM  -------------
COMM  Area  : WTRMP Area A
COMM  Company Flown by:   Kevron Geophysics Pty. Ltd.
COMM  Company Flown for:  Tasmanian DIER
COMM  Company Processed:  Kevron Geophysics Pty. Ltd.
COMM
COMM  AIRBORNE SURVEY EQUIPMENT:
COMM  --------------------------
COMM  Aircraft                          Rockwell Aerocommander 500S VH-KAC
COMM  Magnetometer                             Scintrex CS-2 Cesium Vapour
COMM  Magnetometer Resolution                                  0.001 nT
COMM  Magnetometer Compensation          RMS AADC operating in real time
COMM  Magnetometer Sample Interval       0.1 seconds (approx 7.0 metres)
COMM  Data Acquisition                                        RMS DAS-8
COMM  Data Recording                                          Hard Disk
COMM  Spectrometer                                   Exploranium GR820
COMM  Crystal Size                                 33.6lt downward array
COMM  Spectrometer Sample Interval       1.0 Seconds (approx 70 metres)
COMM  GPS Navigation System                    Ashtech XII GPS Receiver
COMM
COMM  AIRBORNE SURVEY SPECIFICATIONS:
COMM  -------------------------------
COMM  Flight Line Direction          :              090 - 270 degrees
COMM  Flight Line Separation         :                   200 metres
COMM  Tie Line Direction             :              000 - 180 degrees
COMM  Tie Line Separation            :                  2000 metres
COMM  Terrain Clearance              :                80 metres (MTC)
COMM
COMM  Survey flown                   :                 January 2001
COMM  Kevron Geophysics job number   :                        1585
COMM
COMM
COMM
COMM  Data are in UTM Grid Zone  55
COMM
COMM
COMM  GPS navigation data differentially corrected real time
COMM  using Fugro Omnistar.
COMM
COMM  Boundary Co-ords
COMM
COMM  234500,5615100
COMM  240000,5615100
COMM  253000,5606300
COMM  256000,5576100
COMM  256000,5570100
COMM  254000,5562900
COMM  238000,5548100
COMM  235000,5548100
COMM  231000,5560000
COMM  228000,5575100
COMM  228000,5599100
COMM  234500,5615100
COMM
```

```
COMM  MAGNETIC CORRECTIONS:
COMM  --------------------
COMM  Diurnal variations removed.
COMM  IGRF (2000) updated to 2001.05 removed.
COMM
COMM     ELEVATION DATA:
COMM     ---------------
COMM     Elevation was calculated by subtraction of the radar altimetre from the
gps height.
COMM     Tie line and micro levelling has been performed.
COMM     AUSGEOID 98 nval geoid elipsoid separation values subtracted to achieve
AHD.
COMM
COMM
COMMRADIOMETRIC CORRECTIONS AND COEFFICIENTS:
COMM----------------------------------------
COMMData has been corrected for aircraft and cosmic backgrounds.
COMMHeight corrected to a constant datum of 80 metres,
COMMminimum height of 30 and a maximium of 300 metres.
COMMData has also been corrected for radon using Minty's (1996 -Alt Method B)
COMMand corrected for channel interaction.
COMM
COMMRAW CHANNELS REFERED TO IN DFN FILE HAVE BEEN DEAD TIME CORRECTED AND ENERGY
CALIBRATED
COMM
COMMRAW_TOTAL_COUNT      =      DEAD TIME CORRECTED TOTAL COUNT
COMMRAW_POTASSIUM        =      DEAD TIME CORRECTED POTASSIUM
COMMRAW_URANIUM    =     DEAD TIME CORRECTED URANIUM
COMMRAW_THORIUM    =     DEAD TIME CORRECTED THORIUM
COMM
COMM
COMM
COMMAIRCRAFT CALIBRATION COEFFICIENTS:
COMM
COMM
COMM                    Tot.Count     Potassium    Uranium      Thorium
COMMArcft Bkg             38.32         5.31         1.15         0.52
COMMCosmic Bkg             0.785        0.04366      0.03613      0.0441
COMMHeight Attn           -0.006906    -0.008726    -0.007199    -0.006774
COMM
COMMSTRIPPING RATIOS:
COMM----------------
COMM         ALPHA        0.270648
COMM         BETA         0.455881
COMM         GAMMA        0.855276
COMM         A            0.094817
COMM         B            0.012177
COMM         G            0.021550
COMM
COMM
COMM
COMMSENSITIVITIES 80 metres (counts / unit concentration):
COMM-----------------------------------------------------
COMM
COMM         Potassium   108.85
COMM         Uranium              7.75
COMM         Thorium              5.44
COMM         Total Count  26.34
COMM-------------------------------------------------------------------------
COMM
COMM
```

```
COMM  LOCATED DATA FOR RADIOMETRICS IN ASCII FORMAT - 1.0 second
COMM  ------------------------------------------------------------------
COMM
COMM  Logical Record Length: 335 bytes
COMM        Number fields: 31
COMM                                 Name: field width format-C SUSstring
COMM                             LineName [  1]    12  %12.12s '-'
COMM                             LineDate [  2]     8    %8.8s '-'
COMM                              fiducial [  3]    11   %10.0f '   -9999999'
COMM                         flight number [  4]     5    %4.0f ' -999'
COMM                          time hh dddd [  5]    10    %9.5f ' -9999999.'
COMM                         agd66 easting [  6]    11   %10.2f ' -9999999.0'
COMM                        agd66 northing [  7]    11   %10.2f ' -9999999.0'
COMM                    gda mga55 easting [  8]    11  %10.21f ' -9999999.0'
COMM                   gda mga55 northing [  9]    11  %10.21f ' -9999999.0'
COMM                           agd66 long [ 10]    13  %12.71f ' -9999999.000'
COMM                            agd66 lat [ 11]    13  %12.71f ' -9999999.000'
COMM                           wgs84 long [ 12]    13  %12.71f ' -9999999.000'
COMM                            wgs84 lat [ 13]    13  %12.71f ' -9999999.000'
COMM                              magnetics [ 14]    11   %10.3f ' -9999999.0'
COMM           deadtime corrected cosmic [ 15]    13   %12.3f ' -9999999.000'
COMM         deadtime corrected potassium [ 16]    13   %12.3f ' -9999999.000'
COMM           deadtime corrected uranium [ 17]    13   %12.3f ' -9999999.000'
COMM           deadtime corrected thorium [ 18]    13   %12.3f ' -9999999.000'
COMM       deadtime corrected total count [ 19]    13   %12.3f ' -9999999.000'
COMM              final potassium percent [ 20]    13   %12.3f ' -9999999.000'
COMM                    final uranium ppm [ 21]    13   %12.3f ' -9999999.000'
COMM                    final thorium ppm [ 22]    13   %12.3f ' -9999999.000'
COMM                 final total count nGh [ 23]    13   %12.3f ' -9999999.000'
COMM                           air_pressure [ 24]     8    %7.2f ' -999999'
COMM                           temp degrees [ 25]     8    %7.2f ' -999999'
COMM                                  humid [ 26]     8    %7.2f ' -999999'
COMM                             stp height [ 27]     8    %7.2f ' -999999'
COMM                                rad alt [ 28]     8    %7.2f ' -999999'
COMM                               baro alt [ 29]     8    %7.2f ' -999999'
COMM                             gps height [ 30]     8    %7.2f ' -999999'
COMM                              elevation [ 31]     8    %7.2f ' -999999'
COMM
COMM
COMM
COMM
COMMDATA RANGE:
COMM-----------
COMM
COMMTraverse Lines 10011 - 13370
COMMTie Lines 90010 - 90150
COMM(complete survey area)
```

AREA B MAGNETICS

```
COMM    Kevron Geophysics Pty. Ltd.
COMM    --------------------------
COMM
COMM  GRIDDED DATA:
COMM  -------------
COMM  Area  : WTRMP Area B
COMM  Company Flown by:    Kevron Geophysics Pty. Ltd.
COMM  Company Flown for:   Tasmanian DIER
COMM  Company Processed:   Kevron Geophysics Pty. Ltd.
COMM
COMM  AIRBORNE SURVEY EQUIPMENT:
COMM  --------------------------
COMM  Aircraft                                  Cresco 750 VH-KPY
COMM  Magnetometer Tail                  Geometrics G822A Cesium Vapour
COMM  Magnetometer Resolution                          0.001 nT
COMM  Magnetometer Compensation      RMS AADCII operating in real time
COMM  Magnetometer Sample Interval                     0.1 second
COMM  Data Acquisition                    Geo Instruments Model 2000
COMM  Data Recording                                PCMIA Hard Drive
COMM  Spectrometer                                  Geometrics GR-820
COMM  Crystal Size                            33.6lt downward array
COMM  Spectrometer Sample Interval                     1.0 Second
COMM  Flight Path Record                     VHS Colour Video System
COMM  GPS Navigation System                Novatel 3151R GPS Receiver
COMM
COMM  AIRBORNE SURVEY SPECIFICATIONS:
COMM  -------------------------------
COMM  Flight Line Direction          :          090 - 270 degrees
COMM  Flight Line Separation         :                200 metres
COMM  Tie Line Direction             :          000 - 180 degrees
COMM  Tie Line Separation            :               2000 metres
COMM  Terrain Clearance              :         80 metres (MTC)
COMM
COMM  Survey flown                   :              Januray 2001
COMM  Kevron Geophysics job number   :                      1585
COMM
COMM
COMM
COMM  Data are in UTM Grid Zone  55
COMM
COMM
COMM  GPS navigation data differentially corrected real time
COMM  using Fugro Omnistar.
COMM
COMM  Boundary Co-ords
COMM
COMM  311000,5527600
COMM  329000,5527600
COMM  329000,5504000
COMM  338000,5493000
COMM  353000,5493000
COMM  357000,5490000
COMM  360000,5480000
COMM  376000,5478000
COMM  378000,5472000
COMM  395000,5467000
COMM  395000,5464000
COMM  435000,5445000
```

```
COMM  445000,5445000
COMM  445000,5419000
COMM  420000,5419000
COMM  420000,5429000
COMM  388000,5429000
COMM  388000,5449000
COMM  361000,5449000
COMM  361000,5439000
COMM  334000,5439000
COMM  334000,5459000
COMM  298000,5459000
COMM  298000,5471000
COMM  302000,5471000
COMM  302000,5512000
COMM  311000,5527600
COMM
COMM
COMM  MAGNETIC CORRECTIONS:
COMM  --------------------
COMM  Diurnal variations removed.
COMM  IGRF (2000) updated to 2001.07 removed.
COMM
COMM    ELEVATION DATA:
COMM    ---------------
COMM    Elevation was calculated by subtraction of the radar altimetre from the
gps height.
COMM    Tie line and micro levelling has been performed.
COMM    AUSGEOID 98 nval geoid elipsoid separation values subtracted to achieve
AHD.
COMM
COMM  LOCATED DATA FOR MAGNETICS IN ASCII FORMAT - 0.1 second
COMM  ------------------------------------------------------------------------
COMM
COMM  Logical Record Length: 261 bytes
COMM        Number fields: 25
COMM                                Name: field width format-C SUSstring
COMM                            LineName [  1]    12  %12.12s '-'
COMM                            LineDate [  2]     8    %8.8s '-'
COMM                            fiducial [  3]    11   %10.0f '   -9999999'
COMM                       flight number [  4]     5    %4.0f ' -999'
COMM                        time hh dddd [  5]    10    %9.5f ' -9999999.'
COMM                       agd66 easting [  6]    11   %10.2f ' -9999999.0'
COMM                      agd66 northing [  7]    11   %10.2f ' -9999999.0'
COMM                   gda mga55 easting [  8]    11  %10.2lf ' -9999999.0'
COMM                  gda mga55 northing [  9]    11  %10.2lf ' -9999999.0'
COMM                           agd66 long [ 10]    13  %12.7lf ' -9999999.000'
COMM                            agd66 lat [ 11]    13  %12.7lf ' -9999999.000'
COMM                           wgs84 long [ 12]    13  %12.7lf ' -9999999.000'
COMM                            wgs84 lat [ 13]    13  %12.7lf ' -9999999.000'
COMM                              raw_mag [ 14]    11   %10.3f ' -9999999.0'
COMM                             comp_mag [ 15]    11   %10.3f ' -9999999.0'
COMM                 mag dnl igrf gammas [ 16]    11   %10.3f ' -9999999.0'
COMM                           mag level [ 17]    11   %10.3f ' -9999999.0'
COMM                       diurnal gammas [ 18]    11   %10.3f ' -9999999.0'
COMM                          igrf gammas [ 19]    11   %10.3f ' -9999999.0'
COMM                                  1vd [ 20]    12   %11.7f ' -9999999.00'
COMM                              agc 1vd [ 21]    12   %11.7f ' -9999999.00'
COMM                              rad alt [ 22]     7    %6.1f ' -99999'
COMM                             baro alt [ 23]     7    %6.1f ' -99999'
COMM                           wgs84 height [ 24]     7    %6.1f ' -99999'
COMM                              elevation [ 25]     7    %6.1f ' -99999'
```

```
COMM
COMM
COMM
COMMDATA RANGE:
COMM-----------
COMM
COMMTraverse Lines 10011 - 15981
COMMTie Lines 910011 - 910742
COMM(complete survey area)
COMM
```

AREA B RADIOMETRICS

```
COMM   Kevron Geophysics Pty. Ltd.
COMM   --------------------------
COMM
COMM  GRIDDED DATA:
COMM  -------------
COMM  Area  : WTRMP Area B
COMM  Company Flown by:   Kevron Geophysics Pty. Ltd.
COMM  Company Flown for:  Tasmanian DIER
COMM  Company Processed:  Kevron Geophysics Pty. Ltd.
COMM
COMM  AIRBORNE SURVEY EQUIPMENT:
COMM  --------------------------
COMM  Aircraft                                  Cresco 750 VH-KPY
COMM  Magnetometer Tail                 Geometrics G822A Cesium Vapour
COMM  Magnetometer Resolution                          0.001 nT
COMM  Magnetometer Compensation      RMS AADCII operating in real time
COMM  Magnetometer Sample Interval                     0.1 second
COMM  Data Acquisition                    Geo Instruments Model 2000
COMM  Data Recording                               PCMIA Hard Drive
COMM  Spectrometer                                 Geometrics GR-820
COMM  Crystal Size                             33.6lt downward array
COMM  Spectrometer Sample Interval                     1.0 Second
COMM  Flight Path Record                     VHS Colour Video System
COMM  GPS Navigation System                Novatel 3151R GPS Receiver
COMM
COMM  AIRBORNE SURVEY SPECIFICATIONS:
COMM  -------------------------------
COMM  Flight Line Direction          :          090 - 270 degrees
COMM  Flight Line Separation         :                200 metres
COMM  Tie Line Direction             :          000 - 180 degrees
COMM  Tie Line Separation            :               2000 metres
COMM  Terrain Clearance              :            80 metres (MTC)
COMM
COMM  Survey flown                   :                Januray 2001
COMM  Kevron Geophysics job number   :                        1585
COMM
COMM
COMM
COMM  Data are in UTM Grid Zone  55
COMM
COMM
COMM  GPS navigation data differentially corrected real time
COMM  using Fugro Omnistar.
COMM
COMM  Boundary Co-ords
COMM
COMM  311000,5527600
```

```
COMM  329000,5527600
COMM  329000,5504000
COMM  338000,5493000
COMM  353000,5493000
COMM  357000,5490000
COMM  360000,5480000
COMM  376000,5478000
COMM  378000,5472000
COMM  395000,5467000
COMM  395000,5464000
COMM  435000,5445000
COMM  445000,5445000
COMM  445000,5419000
COMM  420000,5419000
COMM  420000,5429000
COMM  388000,5429000
COMM  388000,5449000
COMM  361000,5449000
COMM  361000,5439000
COMM  334000,5439000
COMM  334000,5459000
COMM  298000,5459000
COMM  298000,5471000
COMM  302000,5471000
COMM  302000,5512000
COMM  311000,5527600
COMM
COMM
COMM  MAGNETIC CORRECTIONS:
COMM  --------------------
COMM  Diurnal variations removed.
COMM  IGRF (2000) updated to 2001.07 removed.
COMM
COMM    ELEVATION DATA:
COMM    ---------------
COMM    Elevation was calculated by subtraction of the radar altimetre from the
gps height.
COMM    Tie line and micro levelling has been performed.
COMM    AUSGEOID 98 nval geoid elipsoid separation values subtracted to achieve
AHD.
COMM
COMM
COMMRADIOMETRIC CORRECTIONS AND COEFFICIENTS:
COMM----------------------------------------
COMMData has been corrected for aircraft and cosmic backgrounds.
COMMHeight corrected to a constant datum of 80 metres,
COMMminimum height of 30 and a maximium of 300 metres.
COMMData has also been corrected for radon using Minty's (1996 -Alt Method B)
COMMand corrected for channel interaction.
COMM
COMMRAW CHANNELS REFERED TO IN DFN FILE HAVE BEEN DEAD TIME CORRECTED AND ENERGY
CALIBRATED
COMM
COMMRAW_TOTAL_COUNT      =     DEAD TIME CORRECTED TOTAL COUNT
COMMRAW_POTASSIUM        =     DEAD TIME CORRECTED POTASSIUM
COMMRAW_URANIUM    =     DEAD TIME CORRECTED URANIUM
COMMRAW_THORIUM    =     DEAD TIME CORRECTED THORIUM
COMM
COMM
COMM
COMMAIRCRAFT CALIBRATION COEFFICIENTS:
```

```
COMM
COMM
COMM                      Tot.Count     Potassium    Uranium      Thorium
COMMArcft Bkg               26.53         4.460        0.06         0.28
COMMCosmic Bkg               0.753        0.04301     0.03662      0.02813
COMMHeight Attn           -0.006658    -0.008973    -0.004886    -0.007302
COMM
COMMSTRIPPING RATIOS:
COMM---------------
COMM          ALPHA        0.279689
COMM          BETA         0.446457
COMM          GAMMA        0.878964
COMM          A            0.076869
COMM          B            0.007528
COMM          G            0.007072
COMM
COMM
COMM
COMMSENSITIVITIES 80 metres (counts / unit concentration):
COMM-----------------------------------------------------
COMM
COMM          Potassium    170.49
COMM          Uranium            5.31
COMM          Thorium           12.83
COMM          Total Count  35.51
COMM-------------------------------------------------------------------------
COMM
COMM
COMM  LOCATED DATA FOR RADIOMETRICS IN ASCII FORMAT - 1.0 second
COMM  ---------------------------------------------------------------------
COMM
COMM  Logical Record Length: 335 bytes
COMM        Number fields: 31
COMM                                 Name: field width format-C SUSstring
COMM                             LineName [  1]    12  %12.12s '-'
COMM                             LineDate [  2]     8    %8.8s '-'
COMM                              fiducial [  3]    11   %10.0f '   -9999999'
COMM                         flight number [  4]     5    %4.0f ' -999'
COMM                          time hh dddd [  5]    10    %9.5f ' -9999999.'
COMM                         agd66 easting [  6]    11   %10.2f ' -9999999.0'
COMM                        agd66 northing [  7]    11   %10.2f ' -9999999.0'
COMM                    gda mga55 easting [  8]    11  %10.21f ' -9999999.0'
COMM                   gda mga55 northing [  9]    11  %10.21f ' -9999999.0'
COMM                           agd66 long [ 10]    13  %12.71f ' -9999999.000'
COMM                            agd66 lat [ 11]    13  %12.71f ' -9999999.000'
COMM                           wgs84 long [ 12]    13  %12.71f ' -9999999.000'
COMM                            wgs84 lat [ 13]    13  %12.71f ' -9999999.000'
COMM                              magnetics [ 14]    11   %10.3f ' -9999999.0'
COMM              deadtime corrected cosmic [ 15]    13   %12.3f ' -9999999.000'
COMM           deadtime corrected potassium [ 16]    13   %12.3f ' -9999999.000'
COMM             deadtime corrected uranium [ 17]    13   %12.3f ' -9999999.000'
COMM             deadtime corrected thorium [ 18]    13   %12.3f ' -9999999.000'
COMM         deadtime corrected total count [ 19]    13   %12.3f ' -9999999.000'
COMM                final potassium percent [ 20]    13   %12.3f ' -9999999.000'
COMM                      final uranium ppm [ 21]    13   %12.3f ' -9999999.000'
COMM                      final thorium ppm [ 22]    13   %12.3f ' -9999999.000'
COMM                  final total count nGh [ 23]    13   %12.3f ' -9999999.000'
COMM                           air_pressure [ 24]     8    %7.2f ' -999999'
COMM                           temp degrees [ 25]     8    %7.2f ' -999999'
COMM                                  humid [ 26]     8    %7.2f ' -999999'
COMM                             stp height [ 27]     8    %7.2f ' -999999'
```

```
COMM                                  rad alt [ 28]      8     %7.2f ' -999999'
COMM                                 baro alt [ 29]      8     %7.2f ' -999999'
COMM                               gps height [ 30]      8     %7.2f ' -999999'
COMM                                elevation [ 31]      8     %7.2f ' -999999'
COMM
COMM
COMM
COMMDATA RANGE:
COMM----------
COMM
COMMTraverse Lines 10011 - 15981
COMMTie Lines 910011 - 910742
COMM(complete survey area)
COMM
```

AREA D MAGNETICS

```
COMM   Kevron Geophysics Pty. Ltd.
COMM   ---------------------------
COMM
COMM  GRIDDED DATA:
COMM  -------------
COMM  Area  : WTRMP Area D
COMM  Company Flown by:   Kevron Geophysics Pty. Ltd.
COMM  Company Flown for:  Tasmanian DIER
COMM  Company Processed:  Kevron Geophysics Pty. Ltd.
COMM
COMM  AIRBORNE SURVEY EQUIPMENT:
COMM  --------------------------
COMM  Aircraft                                        Cresco 750 VH-KPY
COMM  Magnetometer Tail                  Geometrics G822A Cesium Vapour
COMM  Magnetometer Resolution                              0.001 nT
COMM  Magnetometer Compensation       RMS AADCII operating in real time
COMM  Magnetometer Sample Interval                        0.1 second
COMM  Data Acquisition                     Geo Instruments Model 2000
COMM  Data Recording                                PCMIA Hard Drive
COMM  Spectrometer                                  Geometrics GR-820
COMM  Crystal Size                             33.6lt downward array
COMM  Spectrometer Sample Interval                        1.0 Second
COMM  Flight Path Record                    VHS Colour Video System
COMM  GPS Navigation System                 Novatel 3151R GPS Receiver
COMM
COMM  AIRBORNE SURVEY SPECIFICATIONS:
COMM  -------------------------------
COMM  Flight Line Direction           :           090 - 270 degrees
COMM  Flight Line Separation          :                200 metres
COMM  Tie Line Direction              :           000 - 180 degrees
COMM  Tie Line Separation             :                2000 metres
COMM  Terrain Clearance               :             80 metres (MTC)
COMM
COMM  Survey flown                    :               December 2000
COMM  Kevron Geophysics job number    :                       1585
COMM
COMM
COMM
COMM  Data are in UTM Grid Zone  55
COMM
```

```
COMM
COMM  GPS navigation data differentially corrected real time
COMM  using Fugro Omnistar.
COMM
COMM  Boundary Co-ords
COMM
COMM  353842,5341182
COMM  375113,5341182
COMM  375113,5315182
COMM  371113,5315182
COMM  375113,5293182
COMM  380113,5293182
COMM  380113,5276182
COMM  392931,5276182
COMM  395113,5270182
COMM  395113,5266182
COMM  391113,5250182
COMM  391113,5232182
COMM  389613,5232182
COMM  385113,5238582
COMM  377113,5238582
COMM  372513,5248582
COMM  361113,5277182
COMM  356113,5277182
COMM  356113,5282182
COMM  347613,5327782
COMM  354613,5327782
COMM  353842,5341182
COMM
COMM  MAGNETIC CORRECTIONS:
COMM  --------------------
COMM  Diurnal variations removed.
COMM  IGRF (2000) updated to 2000.98 removed.
COMM
COMM    ELEVATION DATA:
COMM    ---------------
COMM    Elevation was calculated by subtraction of the radar altimetre from the
gps height.
COMM    Tie line and micro levelling has been performed.
COMM    AUSGEOID 98 nval geoid elipsoid separation values subtracted to achieve
AHD.
COMM
COMM
COMM  LOCATED DATA FOR MAGNETICS IN ASCII FORMAT - 0.1 second
COMM  ------------------------------------------------------------------------
COMM
COMM  Logical Record Length: 261 bytes
COMM        Number fields: 25
COMM                                Name: field width format-C SUSstring
COMM                            LineName [  1]    12  %12.12s '-'
COMM                            LineDate [  2]     8    %8.8s '-'
COMM                             fiducial [  3]    11   %10.0f '   -9999999'
COMM                         flight number [  4]     5    %4.0f ' -999'
COMM                          time hh dddd [  5]    10    %9.5f ' -9999999.'
COMM                         agd66 easting [  6]    11   %10.2f ' -9999999.0'
COMM                        agd66 northing [  7]    11   %10.2f ' -9999999.0'
COMM                    gda mga55 easting [  8]    11  %10.21f ' -9999999.0'
COMM                   gda mga55 northing [  9]    11  %10.21f ' -9999999.0'
COMM                          agd66 long [ 10]    13  %12.71f ' -9999999.000'
COMM                           agd66 lat [ 11]    13  %12.71f ' -9999999.000'
COMM                          wgs84 long [ 12]    13  %12.71f ' -9999999.000'
```

```
COMM                          wgs84 lat [ 13]     13  %12.7lf ' -9999999.000'
COMM                            raw_mag [ 14]     11   %10.3f ' -9999999.0'
COMM                           comp_mag [ 15]     11   %10.3f ' -9999999.0'
COMM                 mag dnl igrf gammas [ 16]     11   %10.3f ' -9999999.0'
COMM                           mag level [ 17]     11   %10.3f ' -9999999.0'
COMM                        diurnal gammas [ 18]     11   %10.3f ' -9999999.0'
COMM                           igrf gammas [ 19]     11   %10.3f ' -9999999.0'
COMM                                  1vd [ 20]     12   %11.7f ' -9999999.00'
COMM                              agc 1vd [ 21]     12   %11.7f ' -9999999.00'
COMM                              rad alt [ 22]      7    %6.1f ' -99999'
COMM                             baro alt [ 23]      7    %6.1f ' -99999'
COMM                          wgs84 height [ 24]      7    %6.1f ' -99999'
COMM                             elevation [ 25]      7    %6.1f ' -99999'
COMM
COMM
COMM
COMMDATA RANGE:
COMM-----------
COMM
COMMTraverse Lines 10011 - 15481
COMMTie Lines 910013 - 910261
COMM(complete survey area)
```

AREA D RADIOMETRICS

```
COMM   Kevron Geophysics Pty. Ltd.
COMM   ---------------------------
COMM
COMM  GRIDDED DATA:
COMM  -------------
COMM  Area  : WTRMP Area D
COMM  Company Flown by:   Kevron Geophysics Pty. Ltd.
COMM  Company Flown for:  Tasmanian DIER
COMM  Company Processed:  Kevron Geophysics Pty. Ltd.
COMM
COMM  AIRBORNE SURVEY EQUIPMENT:
COMM  --------------------------
COMM  Aircraft                                        Cresco 750 VH-KPY
COMM  Magnetometer Tail                  Geometrics G822A Cesium Vapour
COMM  Magnetometer Resolution                                0.001 nT
COMM  Magnetometer Compensation      RMS AADCII operating in real time
COMM  Magnetometer Sample Interval                         0.1 second
COMM  Data Acquisition                    Geo Instruments Model 2000
COMM  Data Recording                                  PCMIA Hard Drive
COMM  Spectrometer                                  Geometrics GR-820
COMM  Crystal Size                             33.6lt downward array
COMM  Spectrometer Sample Interval                          1.0 Second
COMM  Flight Path Record                       VHS Colour Video System
COMM  GPS Navigation System                  Novatel 3151R GPS Receiver
COMM
COMM  AIRBORNE SURVEY SPECIFICATIONS:
COMM  -------------------------------
COMM  Flight Line Direction          :          090 - 270 degrees
COMM  Flight Line Separation         :                200 metres
COMM  Tie Line Direction             :          000 - 180 degrees
COMM  Tie Line Separation            :                2000 metres
COMM  Terrain Clearance              :            80 metres (MTC)
```

```
COMM
COMM  Survey flown                        :                  December 2000
COMM  Kevron Geophysics job number        :                          1585
COMM
COMM
COMM
COMM  Data are in UTM Grid Zone  55
COMM
COMM
COMM  GPS navigation data differentially corrected real time
COMM  using Fugro Omnistar.
COMM
COMM  Boundary Co-ords
COMM
COMM  353842,5341182
COMM  375113,5341182
COMM  375113,5315182
COMM  371113,5315182
COMM  375113,5293182
COMM  380113,5293182
COMM  380113,5276182
COMM  392931,5276182
COMM  395113,5270182
COMM  395113,5266182
COMM  391113,5250182
COMM  391113,5232182
COMM  389613,5232182
COMM  385113,5238582
COMM  377113,5238582
COMM  372513,5248582
COMM  361113,5277182
COMM  356113,5277182
COMM  356113,5282182
COMM  347613,5327782
COMM  354613,5327782
COMM  353842,5341182
COMM
COMM  MAGNETIC CORRECTIONS:
COMM  --------------------
COMM  Diurnal variations removed.
COMM  IGRF (2000) updated to 2000.98 removed.
COMM
COMM    ELEVATION DATA:
COMM    ---------------
COMM    Elevation was calculated by subtraction of the radar altimetre from the
gps height.
COMM    Tie line and micro levelling has been performed.
COMM    AUSGEOID 98 nval geoid elipsoid separation values subtracted to achieve
AHD.
COMM
COMM
COMMRADIOMETRIC CORRECTIONS AND COEFFICIENTS:
COMM----------------------------------------
COMMData has been corrected for aircraft and cosmic backgrounds.
COMMHeight corrected to a constant datum of 80 metres,
COMMminimum height of 30 and a maximium of 300 metres.
COMMData has also been corrected for radon using Minty's (1996 -Alt Method B)
COMMand corrected for channel interaction.
COMM
COMMRAW CHANNELS REFERED TO IN DFN FILE HAVE BEEN DEAD TIME CORRECTED AND ENERGY
CALIBRATED
```

```
COMM
COMMRAW_TOTAL_COUNT      =     DEAD TIME CORRECTED TOTAL COUNT
COMMRAW_POTASSIUM        =     DEAD TIME CORRECTED POTASSIUM
COMMRAW_URANIUM    =     DEAD TIME CORRECTED URANIUM
COMMRAW_THORIUM    =     DEAD TIME CORRECTED THORIUM
COMM
COMM
COMM
COMMAIRCRAFT CALIBRATION COEFFICIENTS:
COMM
COMM
COMM                    Tot.Count    Potassium   Uranium     Thorium
COMMArcft Bkg             26.53        4.460       0.06        0.28
COMMCosmic Bkg             0.753       0.04301    0.03662     0.02813
COMMHeight Attn         -0.006658   -0.008973   -0.004886   -0.007302
COMM
COMMSTRIPPING RATIOS:
COMM----------------
COMM         ALPHA       0.279689
COMM         BETA        0.446457
COMM         GAMMA       0.878964
COMM         A           0.076869
COMM         B           0.007528
COMM         G           0.007072
COMM
COMM
COMM
COMMSENSITIVITIES 80 metres (counts / unit concentration):
COMM-------------------------------------------------------
COMM
COMM         Potassium   170.49
COMM         Uranium              5.31
COMM         Thorium             12.83
COMM         Total Count  35.51
COMM-------------------------------------------------------------------------
COMM
COMM
COMM
COMM  LOCATED DATA FOR RADIOMETRICS IN ASCII FORMAT - 1.0 second
COMM  -----------------------------------------------------------------------
COMM
COMM  Logical Record Length: 335 bytes
COMM        Number fields: 31
COMM                                Name: field width format-C SUSstring
COMM                            LineName [  1]    12  %12.12s '-'
COMM                            LineDate [  2]     8    %8.8s '-'
COMM                             fiducial [  3]    11   %10.0f '   -9999999'
COMM                        flight number [  4]     5    %4.0f ' -999'
COMM                         time hh dddd [  5]    10    %9.5f ' -9999999.'
COMM                        agd66 easting [  6]    11   %10.2f ' -9999999.0'
COMM                       agd66 northing [  7]    11   %10.2f ' -9999999.0'
COMM                    gda mga55 easting [  8]    11  %10.21f ' -9999999.0'
COMM                   gda mga55 northing [  9]    11  %10.21f ' -9999999.0'
COMM                           agd66 long [ 10]    13  %12.71f ' -9999999.000'
COMM                            agd66 lat [ 11]    13  %12.71f ' -9999999.000'
COMM                           wgs84 long [ 12]    13  %12.71f ' -9999999.000'
COMM                            wgs84 lat [ 13]    13  %12.71f ' -9999999.000'
COMM                              magnetics [ 14]    11   %10.3f ' -9999999.0'
COMM              deadtime corrected cosmic [ 15]    13   %12.3f ' -9999999.000'
COMM           deadtime corrected potassium [ 16]    13   %12.3f ' -9999999.000'
COMM             deadtime corrected uranium [ 17]    13   %12.3f ' -9999999.000'
```

```
COMM          deadtime corrected thorium [ 18]     13    %12.3f ' -9999999.000'
COMM       deadtime corrected total count [ 19]     13    %12.3f ' -9999999.000'
COMM              final potassium percent [ 20]     13    %12.3f ' -9999999.000'
COMM                    final uranium ppm [ 21]     13    %12.3f ' -9999999.000'
COMM                    final thorium ppm [ 22]     13    %12.3f ' -9999999.000'
COMM                final total count nGh [ 23]     13    %12.3f ' -9999999.000'
COMM                          air_pressure [ 24]      8     %7.2f ' -999999'
COMM                          temp degrees [ 25]      8     %7.2f ' -999999'
COMM                                 humid [ 26]      8     %7.2f ' -999999'
COMM                            stp height [ 27]      8     %7.2f ' -999999'
COMM                               rad alt [ 28]      8     %7.2f ' -999999'
COMM                             baro alt [ 29]       8     %7.2f ' -999999'
COMM                            gps height [ 30]      8     %7.2f ' -999999'
COMM                             elevation [ 31]      8     %7.2f ' -999999'
COMM
COMM
COMM
COMM
COMMDATA RANGE:
COMM-----------
COMM
COMMTraverse Lines 10011 - 15481
COMMTie Lines 910013 - 910261
COMM(complete survey area)
```

AREA F MAGNETICS

```
COMM   Kevron Geophysics Pty. Ltd.
COMM   ---------------------------
COMM
COMM  GRIDDED DATA:
COMM  -------------
COMM  Area  : WTRMP Area F
COMM  Company Flown by:   Kevron Geophysics Pty. Ltd.
COMM  Company Flown for:  Tasmanian DIER
COMM  Company Processed:  Kevron Geophysics Pty. Ltd.
COMM
COMM  AIRBORNE SURVEY EQUIPMENT:
COMM  --------------------------
COMM  Aircraft                          Rockwell Aerocommander 500S VH-KAC
COMM  Magnetometer                            Scintrex CS-2 Cesium Vapour
COMM  Magnetometer Resolution                                  0.001 nT
COMM  Magnetometer Compensation          RMS AADC operating in real time
COMM  Magnetometer Sample Interval       0.1 seconds (approx 7.0 metres)
COMM  Data Acquisition                                       RMS DAS-8
COMM  Data Recording                                         Hard Disk
COMM  Spectrometer                                    Exploranium GR820
COMM  Crystal Size                                 33.6lt downward array
COMM  Spectrometer Sample Interval        1.0 Seconds (approx 70 metres)
COMM  GPS Navigation System                      Ashtech XII GPS Receiver
COMM
COMM  AIRBORNE SURVEY SPECIFICATIONS:
COMM  -------------------------------
COMM  Flight Line Direction           :              090 - 270 degrees
COMM  Flight Line Separation          :                    200 metres
COMM  Tie Line Direction              :              000 - 180 degrees
COMM  Tie Line Separation             :                   2000 metres
```

```
COMM  Terrain Clearance                 :              120 metres (MTC)
COMM
COMM  Survey flown                      :                  January 2001
COMM  Kevron Geophysics job number      :                         1585
COMM
COMM
COMM
COMM  Data are in UTM Grid Zone  55
COMM
COMM
COMM  GPS navigation data differentially corrected real time
COMM  using Fugro Omnistar.
COMM
COMM  Boundary Co-ords
COMM
COMM  357000,5483000
COMM  360000,5483000
COMM  400000,5471600
COMM  525000,5471600
COMM  525000,5465400
COMM  519000,5460000
COMM  489000,5460000
COMM  445000,5446000
COMM  445000,5443600
COMM  435000,5443600
COMM  393500,5462400
COMM  393500,5465400
COMM  357000,5477000
COMM
COMM  MAGNETIC CORRECTIONS:
COMM  --------------------
COMM  Diurnal variations removed.
COMM  IGRF (2000) updated to 2001.02 removed.
COMM
COMM
COMM
COMM  LOCATED DATA FOR MAGNETICS IN ASCII FORMAT - 0.1 second
COMM  ------------------------------------------------------------------------
COMM
COMM  Logical Record Length: 254 bytes
COMM        Number fields: 24
COMM                                Name: field width format-C SUSstring
COMM                            LineName [  1]    12  %12.12s '-'
COMM                            LineDate [  2]     8    %8.8s '-'
COMM                             fiducial [  3]    11   %10.0f '   -9999999'
COMM                       flight number [  4]     5    %4.0f ' -999'
COMM                        time hh dddd [  5]    10    %9.5f ' -9999999.'
COMM                       agd66 easting [  6]    11   %10.2f ' -9999999.0'
COMM                      agd66 northing [  7]    11   %10.2f ' -9999999.0'
COMM                    gda mga55 easting [  8]    11  %10.2lf ' -9999999.0'
COMM                   gda mga55 northing [  9]    11  %10.2lf ' -9999999.0'
COMM                         agd66 long [ 10]    13  %12.7lf ' -9999999.000'
COMM                          agd66 lat [ 11]    13  %12.7lf ' -9999999.000'
COMM                         wgs84 long [ 12]    13  %12.7lf ' -9999999.000'
COMM                          wgs84 lat [ 13]    13  %12.7lf ' -9999999.000'
COMM                            raw_mag [ 14]    11   %10.3f ' -9999999.0'
COMM                           comp_mag [ 15]    11   %10.3f ' -9999999.0'
COMM                 mag dnl igrf gammas [ 16]    11   %10.3f ' -9999999.0'
COMM                           mag level [ 17]    11   %10.3f ' -9999999.0'
COMM                       diurnal gammas [ 18]    11   %10.3f ' -9999999.0'
COMM                          igrf gammas [ 19]    11   %10.3f ' -9999999.0'
```

```
COMM                                    1vd [ 20]     12    %11.7f ' -9999999.00'
COMM                                agc 1vd [ 21]     12    %11.7f ' -9999999.00'
COMM                                rad alt [ 22]      7     %6.1f ' -99999'
COMM                               baro alt [ 23]      7     %6.1f ' -99999'
COMM                           wgs84 height [ 24]      7     %6.1f ' -99999'
COMMDATA RANGE:
COMM-----------
COMM
COMMTraverse Lines 10011 - 12000
COMMTie Lines 90010 - 90850
COMM(complete survey area)
COMM
```

APPENDIX 9

EQUIPMENT TECHNICAL SPECIFICATIONS

TECHNICAL EQUIPMENT

1.2 Details of the specifications and performance of the following major items of technical equipment are included in this Document:

- Geometrics Caesium Vapour Magnetometer G-822A
- RMS AADCII
- Geometrics G-856 Proton Precession Magnetometer (Base Station)
- Exploranium Gamma-Ray Spectrometer GR-820
- Ashtech XII Ranger Receiver
- DAS8 Data Acquisition System
- RMS GR33A Graphic Recorder
- Rosemount 1214M Mini Barometric Altitude Transducer
- Rosemount 22000 Series Outside Air Temperature (OAT) Sensor
- Sperry AA200 Series Radio Altimeter System

SPERRY AA-200 SERIES RADIO ALTIMETER SYSTEM

DESCRIPTION AND OPERATION

1.1 Physical Description

The AA-200 Series Radio Altimeter System consists of a number of components which may be formed into separate radio altimeter systems providing various levels of capability and differences in displays. The components are shown in Figure 1-1. The AA-200 Series is broken down into the AA-210, AA-215, AA-220, AA-230 and AA-235 system classifications. Table 1-1 lists the different configurations (or combinations of components) which are available within the family. The configuration selected depends on the application and the user's requirements, as determined by (1) the NOTES column of Table 1-1, (2) the leading particulars of the receiver/transmitters and indicators, listed in tables 1-2 and 1-3, and (3) interface information given in paragraph 1.2.

NOTES: 1. Each configuration is comprised of two antennas of the same type, one receiver/transmitter and one indicator. If desired, however, dual indicators may be used.

2. Installation Kit IK-200 consists of r-f cabling, r-f connectors, mating connectors for the receiver/ transmitter and indicators, and an indicator mounting clamp. It is available in five options. The various installation kit options also provide the appropriate electrically conductive sealing gaskets for the particular antenna types.

1.2 AA-200-to-Aircraft Interface

The standard AA-220 Series antenna is the AT-220, a rectangular shaped unit. The AT-221 and AT-222 are ARINC round antennas for use in installations where an STC or the engineering data from earlier installation of ARINC systems permit lower installation and certification costs. The AT-221 differs from the AT-222 only in that the former has a flat face, while the latter has a curved face for fuselage contour in pressurised aircraft.

The AT-223 and AT-225 are round antennas with a curved face which permits mounting where aircraft structural limitations preclude the use of one of the other antennas.

The auxiliary output in either the RT-220 or RT-221 Receiver/Transmitter is used to drive rising runway bars in Sperry HZ-444, HZ-6B and HZ-6F Attitude Director Indicators. The output will also drive the Collins FD-108 and FD-109, as well as Bendix FD-60 and FGS-70 systems. The auxiliary output covers the first 500 feet of ARINC 552 characteristics in the RT-220 and the full ARINC 552 characteristics in the RT-221.

The RA-220 Indicator has a servo driven display, while the RA-210, -215, -230, and -235 all have meter movement pointers. The RA-230 and -235, designed for helicopter use, have an expanded scale 0 to 200 feet and maximum range of 1500 feet. The five indicators are completely interchangeable, both physically and electrically.

The RT-200 or RT-221 Receiver/Transmitter provides a trip switch output for altitudes of 50, 250, 400 (RT-221 only), and 1200 feet, and the RA-XXX Indicators provide a decision height (DH) bus output at the selected DH altitude. The outputs are grounded at and below the desired altitudes and may be used to drive an audible warning device to alert the pilot when the aircraft reaches these altitudes. Refer to paragraph 2.6A for details.

1.3 Functional Operation

The AA-200 Series Radio Altimeter System is a high resolution, short pulse radio altitude system designed for automatic continuous operation over wide variations of terrain, target reflectivity, weather and aircraft attitude. The radio altimeter indicator provides an absolute altitude display from 0 to 2500 feet (0 to 1500 feet for the RA-230 and RA-235 indicators), a red warning flag, an integral TEST button for confidence testing, a knob for selecting a decision height (DH), and a DH warning annunciator. Preset altitude trips within the receiver/transmitter are provided for control of other aircraft systems.

The AA-200 is turned on prior to takeoff and may be left on for the duration of the flight. At altitudes within the usable range of the indicator, proper system operation is indicated by the absolute altitude indicator needle being in view. Once the aircraft has flown above the usable range of the indicator, the needle hides behind the mask and the OFF flag remains out of view. If a failure occurs at any time, the OFF flag appears and obscures the scale in the area of 0 to 100 feet altitude. Momentary signal loss within the usable range of the indicator will cause the needle to disappear from view temporarily.

The AA-200 may be used inflight to monitor absolute altitude at any altitude up to the maximum range of the indicator, or the pilot may select a warn altitude with the DH SET control and be alerted automatically whenever the aircraft reaches the altitude. The AA-220 may also be used for displaying ground separation and climb condition during night or instrument takeoffs, as well as indicating ground clearance during approaches.

NOTE: Refer to supplements to the Aircraft Operating Manual for operational characteristics of custom installations.

Pressing the TEST button on the radio altimeter indicator for confidence testing causes the indicator to read approximately 100 feet altitude, and the OFF flag to appear. If the aircraft altitude is less than the preselected DH, the DH annunciator will light.

NOTE: Provisions may be made for defeating this TEST feature when

an autopilot or flight director is being operated in order that these systems will not respond to the simulated DH. Refer to paragraph 2.6 for details.

TABLE 1-1
AA-200 SERIES RADIO ALTIMETER
SYSTEMS CONFIGURATION

Systems Designation	Receiver/Transmitter Type/Part No.	Indicator Type/Part No.
AA-210	RT-220, 4004437-901 (1,4) or RT-221, 4004437-902 (1,5)	RA-210, 4004444-901 (2,7)
AA-215	RT-220, 4004437-901 (1,4) or RT-221, 4004437-902 (1,5)	RA-215, 4014267-901 (2,7) or RA-215, 4014267-903 (2,6)
AA-220	RT-220, 4004437-901 (1,4) or RT-221, 4004437-902 (1,5)	RA-220, 4007339-901 (2,7) or RA-220, 4007339-902 (2,6)
AA-230	RT-220, 4004437-901 (1,4) or RT-220, 4004437-903 (3,4)	RA-230, 4004444-902 (3,7)
AA-235	RT-220, 4004437-901 (1,4) or RT-220, 4004437-903 (3,4)	RA-235, 4014267-902 (3,7)

Numbers in parentheses ( ) refer to notes at bottom of table 1-1.

NOTES:

1. Primary usage: Fixed or rotary wing aircraft
2. Primary usage: Fixed wing aircraft
3. Primary usage: Rotary winged aircraft
4. ARINC auxiliary output (limited range 0 to 500 ft). Three preset altitude trips (50, 250, 1200 ft)
5. ARINC auxiliary output (full range 0 to 2500 ft), Four preset altitude trips (50, 250, 400, 1200 ft)
6. Indicator supplied with gray finished bezel
7. Indicator supplied with black finished bezel

TABLE 1-1.1
ANTENNA CONFIGURATIONS

Designation	Usage
AT-220	Standard rectangular antenna
AT-221	Optional ARINC round flat antenna
AT-222	Optional ARINC round curved antenna
AT-223	Optional truncated round curved antenna used on Cessna Citation aircraft
AT-225	Optional truncated round curved antenna used on Gates Learjet aircraft

TABLE 1-2
RT-220 AND RT-221 LEADING PARTICULARS

Overall max. Dimensions	7.52in. deep, 10.96 in. wide 4.16 in. high
Weight	7.0 lb. max.
Power Requirements	22-31 VDC, 1.5 amps max.
Environmental Conditions	
Temperature	-54°C to +55°C continuous operation -62°C to +71°C storage
Humidity	In excess of 95%
Altitude	Zero to 45,000 ft.
Shock	6G-11 millisec all axis operational; 15G-11 millisec. all axis crash safety
Vibration (Rigid Mounting)	Constant excursion of 0.030 in. from 10 to 55 Hz, max. acceleration of 5G; constant acceleration of 5G from 55 to 500 Hz.
Transmitter Characteristics	
Modulation Type	Short Pulse
RF Frequency	4.3 GHz
Peak Power Output	70 watts nominal
Receiver Characteristics	
Type	Single conversion superhetrodyne
IF Frequency	60 MHz
Aircraft Attitude	
Pitch	±20°
Roll	±30°

TABLE 1-2
RT-220 AND RT 221 LEADING PARTICULARS (cont)

Self Test	Self contained "push-to-test" pilot confidence check at all altitudes
Integrity Monitor	Establishes operational status above normal operating altitudes
Operational Altitude	0-2500 ft
Data Outputs/Accuracy	
Precision Output	DC analog voltage (0 - 2500 ft) Gradient: -4.0 millivolts/foot, 0 alt = 0 volt Accuracy: 0 - 100 ft, ±3 ft 100 - 500 ft, ±3% 500 - 2500 ft, ±4%
Auxiliary Output	RT-220 DC analog voltage (0 - 500 ft) Gradient: Per ARINC characteristic 552, 0 alt = +400 millivolts Accuracy: 0 - 100 ft, ±4ft 100 - 500 ft, ±4% RT-221 DC analog voltage (0 - 2500 ft) Gradient: Per ARINC characteristic 552 0 alt - +400 millivolts Accuracy: 0 - 100 ft, ±4 ft 100 - 500 ft, ±4% 500 - 2500 ft, ±5%
Altitude Trips	60ma current sink provided at and below trip points indicated below: Trip Point — Accuracy 50 ft — ±4 ft 250 ft — ±10 ft 400 ft — ±16 ft (RT-221 only) 1200 ft — ±60 ft
Output Memory	3 seconds (RT-220, -903 only)
Certification	TSO C87, Environmental Categories AAAAAX

TABLE 1-3

RA-210, RA-215, RA-220, RA-230 and RA-235 LEADING PARTICULARS

Form Factor	3 in. ATI, clamp mounted, 4 in. long (RA-220, -215, -235 are 4.5 in. long)
Weight	RA-210/230: 1.2 lb RA-215/235: 1.7 lb RA-220: 2.50 lb max.
Environmental Conditions	
Temperature	-15°C to +55°C continuous operation -50°C to +71°C storage
Humidity	In excess of 95%
Altitude	15,000 ft
Shock	6G - 11 millisec all axis operational; 15G - 11 millisec all axis crash safety
Vibration	Constant excursion of 0.010 in from 10 to 55 Hz, max. acceleration of 1.5g; and constant acceleration 0.25G from 55 to 500 Hz
Lighting Requirements	RA-210, -215, -230, -235: 28V at 100ma max., or 5V at 250 ma max. RA-220: 5V at 300 ma max.
Displayed Altitude Accuracy (when driven by RT-220/221)	RA-210 0 - 500 ft: ±5% or 10 ft, whichever is greater 500 - 2500 ft: ±10% RA-215, RA-220 0 - 100 ft: ±5 ft 100 - 500ft: ±5% 500 - 2500ft: ±7% RA-230 0 - 200 ft: ±5% or 6 ft whichever is greater 200 - 1500 ft: ±10% RA-235 0 - 100 ft: ±5 ft 100 - 500 ft: ±5% 500 - 1500 ft: ±7%

TABLE 1-3
RA-210, RA-215, RA-220, RA-230, RA-235 LEADING PARTICULARS (cont)

Decision Height	RA-210, -230: 100, 200, 500 ft switch selectable RA-215, RA-220: 0 - 2500 ft continuous RA-235: 0 - 1500 ft continuous
Certification	RA-220, RA-215, RA-235: TSO-C-87 Environmental Categories DCAAAX

AUTOMATIC AEROMAGNETIC DIGITAL COMPENSATOR

The AADCII is based on many years of research and development on automatic aeromagnetic compensation by the National Aeronautical Establishment (NAE), a division of the National Research Council of Canada. Following the transfer of technology, RMS Instruments continued with the development resulting in an instrument which is extremely reliable, capable of accepting the Larmor frequencies of up to four high sensitivity magnetometers and based on a sophisticated compensation algorithm which is extremely robust.

THE SYSTEM

The AADCII is a multiprocessor system that consists of a Front End Interface, Counter and Processor which is a Single Board Computer (SBC) for each Larmor frequency input. The magnetometer signal is oversampled, counted, processed and passed to the main Microcomputer.

The fluxgate reference magnetometer is digitized by a 16 bit A,D converter and then processed by a SBC similar to the Larmor signal.

The Frequency Counter uses a 100 MHz crystal oscillator time base. When more magnetometer sensors are added to the system, the counters use the same 100 MHz crystal oscillator time base eliminating drift and maintaining synchronization.

The main microcomputer contains the compensation and system operating soft-ware. Following the processing, the compensated and uncompensated data are available immediately for display and recording.

The AADCII is self-calibrating, making it very simple to operate. Following an initial calibration flight of only a few minutes, the AADCII is immediately providing compensated data. A calibration is only repeated when the magnetic configuration of the aircraft is altered.

CALIBRATION

The self-calibrating AADCII uses a 3-axis fluxgate magnetometer to monitor the aircraft's position and motion with respect to the ambient magnetic field while flying a set of standard manoeuvres of rolls, pitches and yaws in the cardinal headings. During the calibration mode of approximately 6-8 minutes, the positional data together with the magnetometer sensor(s) readings are utilized by a sophisticated model to arrive at a solution of approximately 30 terms.

SOLUTION

The solution is a comprehensive mathematical model accurately describing the magnetic interference of the moving aircraft. It is available immediately upon termination of the calibration manoeuvres for actual compensation use or for comparison with other solutions that had been obtained earlier and were stored in memory.

COMPENSATION OR OPERATING MODE

The AADCII automatically enters this mode at power-up and measured values of the total field and gradient (if more than one sensor installed) are corrected for the aircraft interference using the last solution selected. Compensated and un-compensated values of the high sensitivity magnetometers along with the 3-axis vector magnetometer readings are available for display on the front panel, the RS232 serial output port, as well as for the RMS Instruments' GR33A graphic recorder.

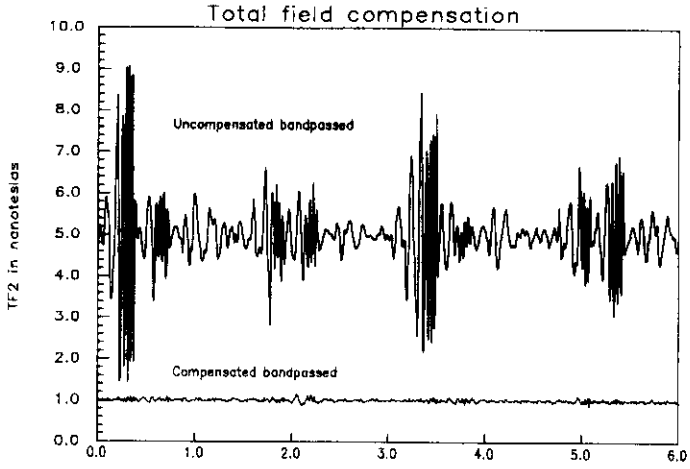
OUTPUT DATA

The AADCII can output the data at up to 10 times per second (user selectable) with a bandwidth of 0.9 or 1.8Hz. The output also contains a fiducial number, a clock value and the 4th difference for each magnetometer. The output is user definable with respect to data, serial parameters and data type
(ASCII or binary).

PERFORMANCE INDICATION

Displays provide statistical data to indicate the quality of the calibration enabling the operator to evaluate the system performance. The "Improvement Ratio (IR) or effectiveness of the compensation is the ratio of the standard deviations of the signals before and after compensation. These values, in nanoteslas, are shown in the display. Typically, IR values in excess of 10 - 20 are routinely achieved in large and magnetically complex aircraft.

Actual data from a Convair 580 aircraft using the AADCII and the DGR33A data acquisition and recording system.



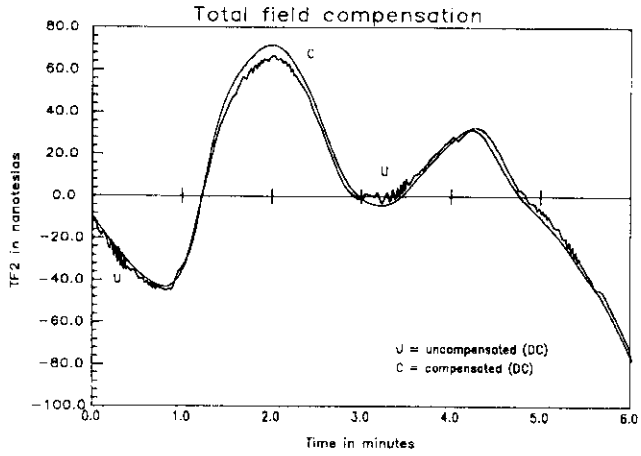
Time in minutes

TOP: The uncompensated data is the entire compensation flight (6-8 minutes). The aircraft interference is clearly visible on the four headings.
Below it, Is shown the compensated data. Both plots have been offset for clarity.

The performance indicators are:

Uncompensated	~	=	0.754 nT	IR	=	24
Compensated	~	=	0.0315 nT	Mean Value	=	57119.73 nT

BOTTOM: Profile of the same data with the arithmetic mean subtracted



ROSEMOUNT 1241M MINI BAROMETRIC ALTITUDE TRANSDUCER

Introduction

Rosemount Model 1241M Mini Barometric Altitude Transducer is designed to provide a high level DC output signal proportional to barometric altitude for low altitude aircraft. Precision air data measurement is provided at a reasonable cost while keeping size and weight to a practical minimum. The transducer is a solid state flight proved design which operates over an altitude range from 1000 to 15000 feet.

The Rosemount quartz absolute pressure sensor is used in the transducer and provides infinite resolution, superior repeatability, and negligible hysteresis. These three parameters determine the inherent relative accuracy of the transducer and therefore, establish the sensitivity and responsiveness of the basic altitude reporting system. The excellent relative accuracy of the Model 1241M transducer ensures the maintainability of level flight when altitude hold is initiated, and that the system will return precisely to a previously established altitude after the completion of a programmed manoeuvre.

Rosemount transducers use established reliability parts to ensure a dependable operating life.

Design Specifications

- Altitude ranges — Model 1241M provides a high level of DC output signal proportional to the following barometric altitude ranges
  - 1241M1 -1000 to 10,000 feet
  - 1241M3 -1000 to 15,000 feet
- Output voltage — The Model 1241M altitude transducer is available in either a -10 VDC to +10 VDC output or a 0 to 10 VDC output over the desired altitude range
- Overpressure range — The transducer will withstand static pressure (Ps) of 150% of full scale operating pressure without damage or performance degradation.

Performance Specifications

When discussing transducer performance, an analysis of relative and operating accuracy's provides a clear representation of the performance expected of the transducer. A transducer's basic characteristics include nonlinearly, hysteresis, repeatability and resolution. A root-sum-squared value of these characteristics is called the static accuracy of the transducer.

- Relative accuracy — Relative accuracy characterises an aircraft's ability to maintain or return to a given altitude following a flight variation due to a pilot command or influence of an outside disturbance. The accuracy includes resolution, repeatability and hysteresis errors.
- Operating accuracy — Operating accuracy is the combination of static accuracy plus calibration tolerances and error due to ambient temperature variations over the calibrated temperature range. The temperature effects are reduced by Rosemount's uniquely designed temperature compensation circuits which minimise temperature related shifts in transducer outputs.
- Time constant — The output signal reaches 63% of its final value within 30 milliseconds after application of a step pressure change.
- Warm-up time — The transducer is operation at turn-on (within specification within 6 seconds). A five minute warm-up time allows for equipment stabilization and is recommended prior to commencement of quality accuracy testing.
- Power supply effect — The output signal change, for a change in the ±15 VDC power supply voltage, does not exceed ±0.015% of full scale output per 1% change in the ±15 VDC power supply voltage.

- Acceleration and vibration sensitivity — Acceleration and vibration sensitivity of the altitude output signal in the most sensitive axis does not exceed ±9 feed/g at sea level and ±15 feet/g at 10,000 feet (equivalent to ±0.03% of 16 psia full scale pressure per g)

Electrical Specifications

- Input power — The transducer operates form a ±15 VDC ±10% supply at a nominal input current of 0.025 amperes.
- Output current capability — The output signal will supply current to load impedance's of 10,000 ohms or higher.
- Output impedance — Less than 10 ohms
- Output signal noise — The altitude signal noise is typically 10 millivolts peak-to-peak. The maximum noise signal is 20mV peak-to-peak and is limited to the upper portion of the altitude range.
- Input-output isolation — The 15 VDC power return and the output signal return are internally connected. It is recommended that the 15 VDC return be externally connected to case ground during testing and in actual service to reduce output signal noise to a minimum.
- Insulation resistance — Insulation resistance between all signal and power leads tied together and case ground shall be 100 megohms minimum at 50 VDC.

Environmental Specifications

- Operating temperature range — The transducer is calibrated to meet the performance specifications while operating over the ambient temperature range of -55° to +71°C.
- Vibration — 10 g's, 5 to 2000 Hz
- Humidity — Up to 95% relative humidity
- Shock — The transducer shall withstand a 15 g, 11 millisecond half sine shock pulse while operating.

Mechanical Specifications

- Finish — The transducer's aluminium enclosure is black anodized per MIL-A-8625. The mounting plate is coated with a chemical film per MIL-C-5541, Class 3
- Weight — Transducer weight is 6.0 ounces maximum
- Pin designations
  - 1 — VDC power
  - 2 — ; return
  - 3 — VDC power
  - 4 — used
  - 5 — tude signal
  - 6 — used
  - 7 — ıal return
  - 8 — used
  - 9 — e ground
- Mounting — Mounting of the transducer may be accomplished by use of the four mounting holes.
- Nameplate information — Each transducer shall be marked with the following minimum information: model number, serial number, altitude range, output signal, input power, pin destinations.

GEOMETRICS G-856 PROTON PRECESSION MAGNETOMETER

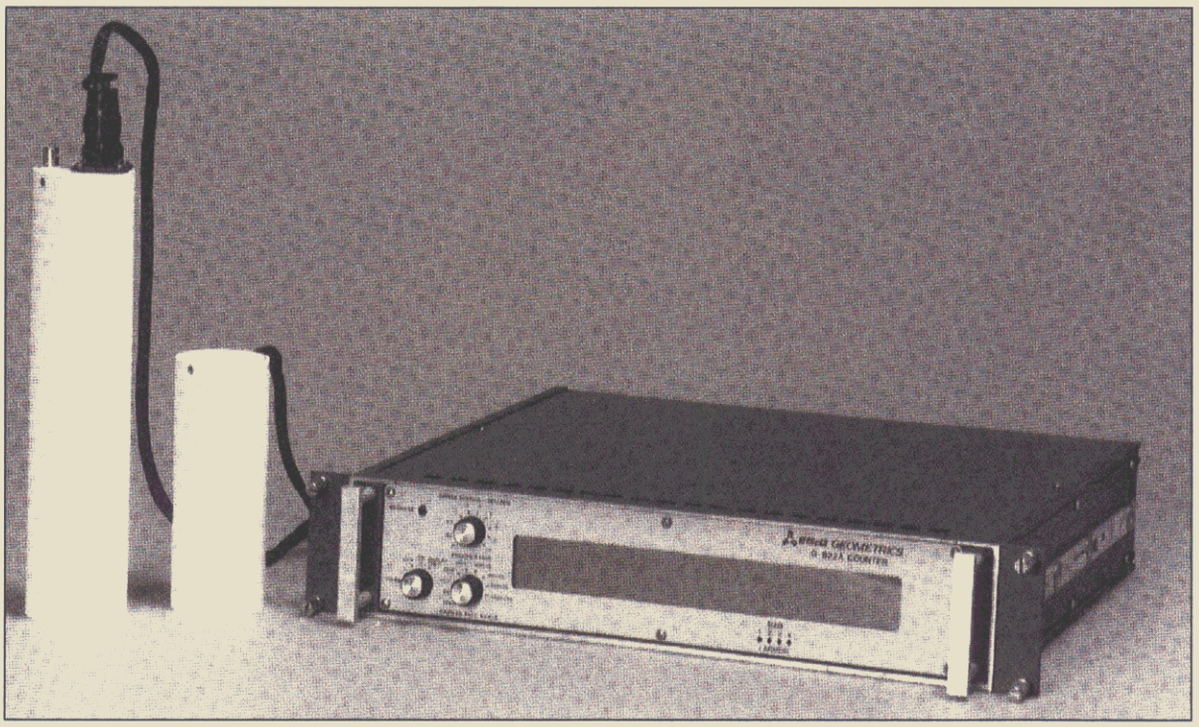
A Geometrics G-856 proton precession magnetometer is used to measure diurnal variation of the magnetic field. The base station is positioned away from man-made influences and run continuously throughout the survey flying period with a sampling interval of 5 seconds and a sensitivity of 0.1 nT.

Data are downloaded on to the field processing PC and checked for periods where the variation is unacceptable in terms of the survey specifications. Data acquired during such times are replaced by undertaking the appropriate reflights.

SPECIFICATIONS G-822A MAGNETOMETER

Operating Principle:	Self oscillating split-beam Cesium Vapor (non radioactive)
Operating Range:	20,000 to 100,000 nT(g)
Operating Zones:	The earth's field should beat an angle greater than 10 degrees from the sensors equator and greater than 10 degrees away from the sensor' long axis. Automatic hemisphere switching
Heading Error:	±0.25nT
Absolute Accuracy:	≤ 0.5 Nt (g) envelope
Output:	One cycle of Larmor frequency =3.498 nT (g), 2 V P- P coupled through the sensor power input
Mechanical:	Sensor 2375 dia 625 long, 12 oz or 339 g (any orientation in 7 stinger) Sensor *Electronics* 25 dia 11 long; 22 oz (623 g) Cables Sensor to electronics: 82 or 136 longselect (.14m or 2.8 m) with quick disconnect Qn electronic end Longer lengths available consult factory *Sensor Electronics to Counter: Up* to 220 ft (70 m)
Operating Temperature:	-30 degrees to + 122 degrees F (35C to+50C)
Storage Temperature:	-48degrees F + to +158 degrees F (45Cto+70C)
Altitude:	Up to 30,000 ft (900m)
Water Tight:	Sealed for up to 2 ft (0.9 m) depth
Power:	-4 to 32 VOC 0.75 amp at turn-on and 0.5 amp thereafter
Accessories:	
Standard:	1. Power/Larmor coaxial cable (electronics to counter) lengthsto be specified spare 0 rings, operations manual and carrying case
Optional:	1. Signal/Power Splitter interface (required when sensor/electronics operates without a G 8-22A Counter) 2. Mounting kit for Sensor and driver electronics into an aircraft stinger

GEOMETRIC CESIUM MAGNETOMETER MODEL G-822A



- Highest Sensitivity - 0.0005 nT/√HzRMS

- Superior Resolution of the Cesium Larmor Signal with Earth's Field Tracking Rates Exceeding Thousands of nT (y) over 0.01 Second Periods

- Airborne, Marine and Vehicle Applications

- Gradiometer Arrays Offering Simultaneous operation of up to Four Separate Sensors

The G-822A is designed for all mobile and base station applications where the unique combination of high sensitivity and very rapid sampling and recording of the earth's magnetic field are required for geologic structural analysis, the detection and delineation of target bodies, or magnetic storm activity. The system consists of a cesium sensor with its associated cables and driver electronic package, and a separate high resolution counter. These components may be supplied as a complete package, or separately for integration by the client. The G-822A operates on 24-32 VDC power, uses the non-radioactive form of cesium metal (CS133) and is compatible with all standard digital and analog recording devices.

SPECIFICATIONS G-822A LARMOR COUNTER

Operating Range:	20000 to 100000 nT(g)
Internal System Noise:	Less than 2 pT (standard deviation in the band width 0-1 Hz)
Resolution:	1 pT
Accuracy of Compensation:	0.035 nT standard deviation for the entire aircraft flight envelope in the bandwidth 0-1 Hz typical
Sample Intervals:	0.01, 0.02, 0.05, 0.1, 02, O.5, 1, 2, 5, 10 seconds or by external cycle command (> + 1 V and 1 ms pulse into 6.8 k. Data Is sampled within 1 ms after low to high transition)
Outputs:	*Analog Port* Up to 12 analog channels (3 per sensor: coarse, fine and 4th or 8th difference) 0 to 10 V range updated at 25 Hz rate) *Serial Port* RS 232 selectable from 150 to 19.6k Baud , software and/or hardware handshake protocol ASCII or BCD format selectable *Parallel Port 4* and 8 bit wide byte serial or byte broadside modes *Visual Display* Alphanumeric display of earth's field directly In nT(g) for each sensor installed. *Message Display* Up to 46 display codes corresponding to switch positions, system functions and trouble shooting aids
Mechanical:	19" rack mount, 17" deep, 19lb (48 cm X 43 cdm, 8kg)
Environmental:	-35° C to + 50° C, Humidity 95% non condensing
Power:	21 to 36 VDC, 110 W (Single magnetometer) 155 W (Four magnetometer)
Accessories:	Standard: Cables/connectors operations manual and slide rails.

DAS8 DATA ACQUISITION SYSTEM

Description

The DAS8 is a multiprocessor based data acquisition and recording system which is capable of receiving data from a variety of sources and recording all or selected portions of this data on various media. A movable keyboard/display is included for operating, programming and monitoring the instrument. The DAS8 is designed to operate in moderately harsh environments, making it ideally suited for airborne and mobile applications. The modular approach allows the flexibility of selecting a cost effective system for an immediate specific data acquisition requirement, yet provides for future alteration and expansion as requirements change and grow.

Basic DAS8 Data Acquisition System

RMS4183A Microcomputer module
RMS4185A 32 channel analog input module (plus 6 event inputs)
RMS4526 SCSI Interface module
RMS4137 Digital interface module (20 digit BCD)
RMS4186 Keyboard/Display

RMS4183A Microcomputer Module

The RMS4183A Microcomputer Module (MCM) is a high performance, multi processor controlled module which contains in EPROM, the built-in system software. The data system is in a multi-processor configuration with the MCM in a supervisory role controlling data transfer functions and timing between the keyboard, other interface modules, and the chart recorder. The nonvolatile memory for the storing of a program is also located on this module, as well as the CMOS real-time calendar clock with battery backup. The MCM also has an interface controlled by a separate processor to communicate directly with the GR33A Chart Recorder. Menus are provided for the configuring of the recorder where the user has the choice of fully or partially controlling the recorder.

RMS4185A Analog Input Module

(Up to 96 channels)
Each microprocessor based Analog Input Module provides 32 different analog inputs, plus 6 TTL.CMOS compatible event inputs, and one pulse input. The analog inputs are digitised to 16 bit resolution over the range of ±10V. The data is available in 2's complement form (2 bytes/channel) or can be converted to ASCII (7 bytes/channel) by programming in one of the built-in routines. Menus are provided for the application of built-in digital filters, the assignment of signals to the Chart Recorder, polarity inversion, etc.

Analog inputs	32 differential (balanced) 1 megohm each input to common 1.4 megohm differential.
Maximum safe input volumes	±20 volts continuous, 75 volts pulsed at 1 msec
Input voltage range	±10 volts
Sensitivity	300 μV
Resolution	16 bits
Accuracy/Linearity	0.07%/0.007% of full scale
Full scale drift	±15 ppm/°C
Crosstalk rejection ratio	DC -89 dB typical, 100 KHz -65 dB maximum
Common mode rejection	DC -60 Hz 1K balanced Rs -89 dB typical, 1K unbalanced Rs -60 dB
Sampling rate	Programmable by scan rate
Event inputs	6 event marker inputs plus remote chart On/Off. CMOS/TTL compatible, Vmax. = 30V, Rin = 10K ohm, minimum pulse width = 10 msec.

RMS4526 SCSI Interface Module

The SCSI (small computer system interface) provides for the recording of data collected by the DAS8 to be recorded on hard disks, optical disks and tape recorders that are readily available. This module is totally compatible with the RMS instruments' HDS60 Hard Disk and Tape Streamer Drive, and the RHD40 Removable Disk Cartridge recording systems. The data format on these hard drives is MS-DOS compatible making it ideal for those processing data in the PC environment.

Maximum number of drives	2 (1 random access drive - hard disk & 1 sequential device - tape)
Record length	Variable to 4 Kbytes maximum
Buffering	15 x 4 Kbytes
Maximum throughput to recording device.	16 Kbytes/sec

RMS4137 Digital Interface Module

Each digital interface module provides 20 parallel BCD digit inputs or 80 general purpose lines. The data system provides BCD to ASCII conversions as well as access to the raw data.

- Configurable as 20 BCD or hexadecimal digits, 10 ASCII characters, or 80 general purpose digital lines.
- Data can be externally strobed, or an internal strobe can be programmed from a scan.
- 4 programmable output pulses.
- Traces for the GR33A chart recorder can be defined directly from the input data.

RMS4186 Remote Control Keyboard/Display

The movable keyboard/display is an intelligent unit containing its own micro-processor, communicating via a serial link to the Microcomputer Module in the DGR33A console. The backlit LCD display provides 2 lines of 80 characters each for system monitoring and programming with the menu driven items. The keyboard/display is also equipped with a rotary encoded wheel to facilitate cursor positioning, and for scrolling vertically or horizontally through messages which are greater in size than the LCD display window. During programming, the wheel is also used for scrolling through lists of items for selection.

- Qwerty type keyboard with numeric keypad
- Flywheel cursor positioning and parameter modification
- 5 function keys
- Size 5.25 x 1.75 x 16.0 inches (133 x 44.5 x 406 mm)
- Weight 3 pounds (1.36 kgs)

RMS4272A Smart Serial Interface Module

The microprocessor based Serial Interface Module is a 4-channel synchronous/asynchronous full duplex RS232/RS422 interface with high speed capabilities used to transmit or receive serial data streams.

- Baud rates programmable for each channel; RS232C, 300 - 19.2 Kb; High speed to 61.5 Kb
- Parity/stop bits programmable for each channel
- Programmable preamble for keying received data fields
- Define up to 6 masks for extracting data
- Programmable transmit data list
- Traces may be defined from serial data and assigned to channels on the GR33A chart recorder

ASHTECH XII "RANGER" RECEIVER

Aircraft navigation is controlled by real-time differential GPS using Ashtech XII "Ranger" receivers in the aircraft with pseudo range corrections obtained through the commercial *FUGRO* system transmitting via the *OPTUS B* satellite. The horizontal position of the aircraft is fixed and recorded once per second. The on-board pilot guidance steering signal is updated once every half second.

Pseudo range information is also recorded every 1 second at both the aircraft receiver and at a base station receiver situated at the crew operations base. The raw GPS data are differentially corrected post flight using Ashtech PNAV software.

The PNAV software uses the L1 carrier and C/A code observables to achieve 3 dimensional positional accuracies of better than 1 metre over baselines of less than 100 kilometres.

The data is processed both forward and backwards. For each direction, the best C/A code position is taken as a starting point, with subsequent Kalman filter action allowing rapid convergence of the integer ambiguities.

Weighted least-squares adjustment, using the intermediate results from the two "dimensional" passes, is used to derive the final position for each epoch.

In order to facilitate rapid recovery from cycle-slips and "losses of lock", the Kalman filter parameters are optimised for aircraft motion.

GR33A GRAPHIC RECORDER

RMS4450 Waveform and Transient Digitizer

This feature provides up to 512K bytes of memory (256K standard) for the capturing of transient and high frequency data. The digitizer functions in conjunction with the RM54185A Analog Input Module.

Features

- Variable sampling rate up to 31kHz (32 microsec.)
- Effective chart speed extended to approximately 8000 mm/sec.
- 1, 2, 4 or 8 channels can be digitized.
- Memory can be segmented into 1,2, 4 or 8 sections allowing successive events to be stored and later plotted simultaneously.
- Simultaneous plotting during capture mode
- Variable pre-trigger and post-trigger lengths
- Data in memory can be plotted in a preview or compressed mode.
- Selected memory areas can be plotted to a max. of 125 microsec./mm.
- Chart annotation indicating the trigger point as well as a time graticule
- Total or partial transmission of the memory via the R5232 serial port

Specifications

Resolution and accuracy: 12 bits
Input Range: + 1OV

Triggering: - External Event,
External Computer Command,
- Variable Set Point

No. of Channels	Sampling Rate	Freq. Response	Effective Chart Speed	Digitizing Time
1	31.25 KHz	3125 Hz	7937 mm/sec	8.4 sec
2	6.41 KHz	641 Hz	1628 mm/sec	20.4 sec
4	2.55 KHz	255 Hz	648 mm/sec	25.7 sec
8	1.31 KHz	131 Hz	332 mm/sec	25.1 sec

GR33A RECORDER SPECIFICATIONS

MODELS

GR33A-1 23-32 VDC
GR33A-2 110 or 220 VAC + 20%, 47-440 Hz
GR33A-3 12 VDC

STANDARD ACCESSORIES	Users Guide, all mating connectors, and two rolls RMS2030 recording paper

RECORD

Size	12.4in. (315mm) record on 12.625inc. (321 mm) paper
Signal Traces:	Up to 32 user defined with no excursion restrictions. Alphanumeric and Graphics capability
Resolution	100 x 200 dots/in. (≈ 4 x 8 dots/mm)
Recording Method	Thermal array technology consisting of 1240 individual 0.008in. (0.2mm) printing elements on 0.01in. (0.254 mm) centres

PAPER TRANSPORT

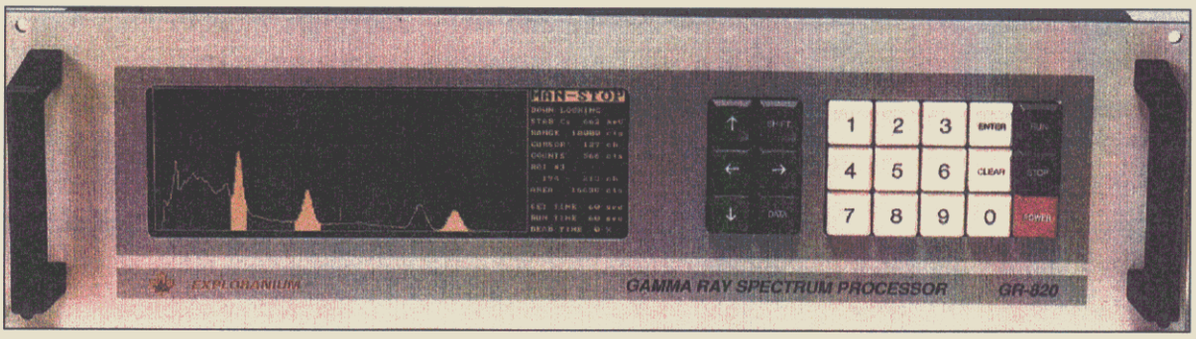
Paper Viewing Area	3.3in. (84 mm) using internal take-up spool, 5.3in. (134.6mm) using RMS3307 Writing Platen
Drive Mechanism	Roller type, driven by crystal controlled stepper motor with an internal take-up spool
Paper Speed	800 speeds (programmable in./sec or mm/sec.) up to 0.230 in./sec. In 0.001 in./sec. Increments are 8.00 mm/sec. in 0.01 mm/sec. increments. Paper speed may also be determined by a host computer, external variable frequency or by any analog channel of the optional RMS4185A Analog Input Module.
Paper Advance	Paper may be advanced at 1 in./sec. (25.4 mm/sec.)without printing.
Paper Level	4 segment LED bargraph paper level indicator using solid state level sensor
SERIAL DIGITAL INTERFACE	Two RS-232C ports, one of which is configurable for 20 mA. Current loop, 8 data bits with programmable parity, RTS (request to send) and CTS (clear to send) handshake lines
Data Rate	Programmable, 300 to 9600 baud
Connector	Two DE-9P (9pin) located on the rear panel
PARALLEL DIGITAL INTERFACE	8 input lines, 8 output lines, active low or high input strobe, active low output strobe, active low and high Busy outputs, all TTL compatible
Connector	DB-25P (25 pin) located on the rear panel
BURN-IN-TESTING	12 hours at 0°C to 50°C

INSTALLATION

Size	Rack mountable, 19.0 x 5.25in. (482.6 x 133.4mm). Overall depth 19.3in. (490mm), extending 17.5in. (455mm) behind mounting surface

Weight	24.5lbs. (11.2kg) excluding options
POWER REQUIREMENT	Less than 100 watts typical
ENVIRONMENT	
Operating Temperature	0°C to +50°C
Storage Temperature	-40°C to +60°C
Extreme Operating Temperature	-20°C to +55°C
Humidity	5% - 95% non-condensing
Altitude	to 50,000 feet (15,228m) (GR33A-1)
MTBT	8900 hours Per MIL-HDBK-217C Environment: Airborne transport inhabited Ambient Temperature: +35°C, Temp. rise 5°C
EMI	Per MIL-STD-461A
VIBRATION	10 cycles of 6 hours cycles, each cycle consists of 4 hours at +40°C with 10 minutes of vibration at 1g. 60 Hz every hour and one hour cold cycle to 0°C

EXPLORANIUM MULTICHANNEL GAMMA-RAY SPECTROMETER MODEL GR-820



EXPLORANIUM GR 820 GAMMA-RAY SPECTROMETER

Detector Controller

- Maximum number of crystals 16. Software selectable between up and down channels.
- Each crystal has individual pole-zero cancellation. Semi-Gaussian shaping and an advanced base-line restorer.
- Continuous, individual-crystal, spectrum analysis ensures optimum system stabilisation and resolution, achieved by the use of a sophisticated Gaussian curve fitting algorithm for centroid analysis of the selected stabilisation peak.
- High energy cosmic pulse rejection.
- Accurate pile-up rejection for simultaneous pulses allows qualitative gamma-ray spectrum analysis almost independent of system count rate. Special circuitry analyses for pulse pile-up and permits only detector signals from single events to be analysed. Simultaneous events in adjacent crystals are summed to reduce the Compton effect.
- Residual pulse pile-up at 100,000 counts/sec. - less than 2%.

Analog to Digital Converter (ADC)

• Type	Wilkinson ram - 50MHz
• Linearity	Integral: less than 0.2% Differential: less than 1%
• Average system dead time	Less than 5 microseconds/pulse
• Live time channel	Actual system live time output with digital data allowing post correction of system dead-time to an accuracy of .1%
• Number of channels	256 for down detector 256 for up detector 512 channel option
• Maximum number of counts/ channel	65,535 (16 bit)
• Lower threshold	Software selectable from - channel 2 - 50 in 1 channel steps
• Upper threshold	3 MeV
• ADC offset	Software selectable
• Cosmic channel	All pulses above 3 MeV are summed and recorded in the Cosmic channel as a direct measure of cosmic ray activity.
• Maximum input countrate	100,000 counts/sec.

System Outputs

- Visual Display - Front panel 640 x 200. Electroluminescent high contrast graphics display allows full spectrum display, system set-up and various parameter monitoring functions. In the Spectrum display mode, ROI selection and cursor in Channel Number or keV.
- Automatic Channel Number to energy level conversion compensates for the non-linearity of the sodium iodide detector light output.
- Keyboard - Front panel 21 button keyboard for easy operator control.
- Fully menu driven system operation.
- Digital outputs
  - RS-232C pot - 1200 to 19200 BAUD - full handshaking- IEEE-488 interface - talk or talk/listen mode. Selectable address as unit 1 to 15.
  - 8 bit parallel - "Geometric GR-800" compatible- 8 bit parallel - Centronics or Intel 8255 compatible.
- Digital data outputs formats- Header with serial number, real time clock, detector configuration, sample time, live time, cosmic channel, resolution (FWHM), CHECKSUM and 8 ROI's (Window data)
  - Header + 256 channels down spectrum data
  - Header + 256 down and 256 up spectrum data.
- Remote control of sampling on any of the digital ports (RS-232/IEEE-488 or Parallel)
- Analog outputs
  - 4 channels of ROI data selectable from the keyboard
  - 0 - 10V output (10 bit resolution)
  - Scaling set from the keyboard
  - Output data may be in raw or stripped counts using internally stored constants.

Miscellaneous

• Regions of Interest (ROI)	– 8, selectable by keyboard with upper and lower limits individually set over the entire spectrum. – First 4 ROI available for digital and analog output – Second 4 ROI available only for digital output
• System Resolution	Detector resolution is automatically computed for each crystal (and summed crystals) during peak analysis and displayed for operator monitoring when required. A user adjustable maximum level automatically alarms if exceeded.
• System Test	At power on a full system test of all peripherals is performed including; Lithium back-up battery; system RAM memory; display handshaking; system configuration (options installed); detectors selected checked via ADC analysis; peripheral handshaking response etc
• Configuration Menu	Allows selection of number of detectors in use, confidence levels for gain analysis, selectable output configuration for analog and digital data and various special display/monitoring functions.
• Maintenance	Full set of special menus allows user to test and calibrate many system functions.
• Remote Maintenance	Optional unit permits connection of the GR-820 directly from its remote location to Exploranium's service department computer via telephone link to allow factory engineers to analyse system problems and advise on correct solutions (Future).
• Mechanical	19" (W) x 5.25" (H) x 15" (D), weight, 18 lbs
• Power	28V - 1 amps

Detectors

- Specially designed hi-impact polystyrene cases using low background material formulated for minimum signal attenuation.
- Full thermal and internal shock protection allows units to be directly mounted to vehicle floor.
- Very low noise high voltage power supply in each pack.
- Preamplifier with special signal processing for signal optimisation.
- Power to detectors only 28V - all other voltages are generated internally.

- GPX - 1024

  Crystals - 4 each 4" x 4" x 16"
  Total volume - 1024 cu ins - 16.7 L
  Dimensions - 27.85" x 19.5" x 7.2"
  -70.7 x 49.5 x 18.3 cms
  Pack weight - 175 lbs, 80 kgs
  Ship weight - 230 lbs, 105 kgs
  Power - 28V 0.5A - 3 pin connector
  Signal - 4 individual BNC outputs

- GPX-1024/26

  Crystals - 5 each 4" x 4" x 16"
  Volume - Down - 1024 cu ins - 16.7 L
  - Up - 256 cu ins - 4.2 L
  Dimensions - 27.85 x 19.5 x 11.25 ins
  - 70.7 x 49.5 x 28.6 cms
  Pack weight - 214 lbs - 97 kgs
  Ship weight - 284 lbs - 129 kgs
  Power - 28V 0.5A - 3 pin connector
  Signal - 5 individual BNC outputs

OmniSTAR Reference Guide

Omnistar Demodulator Systems

OmniSTAR refers to Starfix applications of the OPTUS satellite to communicate RTCM corrections for use with GPS systems.

The Omnistar systems are configured and tested using the Perth base station and generally the only configuration setting to be made by the user is to select their nearest Remote Site (Reference Station) and possibly change the Data Rate from 9600 to be compatible with the GPS unit. The user should provide:

(1) a reliable DC power supply
(2) installation of the antenna and
(3) connection to their GPS unit

Advice will be provided for any queries or uncertainties with the instructions of the reference guide.

1. Antenna Systems

The Omnistar demodulator receives data from the transponder on the OPTUS satellite via its antenna. The frequency of the transmission is around 1.5 Ghz. The satellite is positioned over the equator, North East of Australia and casts a footprint over the entire continent and it's territorial waters. Ideally the antenna should have a clear view of the sky in the direction of the satellite. It is possible to test the Omnistar indoors with the antenna next to a window and with a clear view of the sky in the direction of the satellite. The elevation of the satellite varies from around 30 degrees on the West coast to 65 on the North east coast of Australia and the azimuth from 70 degrees in the West to 15 in the East. Refer to the contour map of Elevation and Azimuth.

Omnistar systems are supplied with either:
(1) a whip antenna and LNA box
(2) a plate antenna which has the LNA built in

The LNA is an amplifier which is powered from the demodulator through the RF connector. The LNA will be damaged if it is connected the wrong way round and power is applied to its RF input. The plate antenna is small and in most cases physically more convenient than the whip antenna but probably has a lower reception in fringe areas of the satellite footprint. The *whip antenna* must be kept vertical and has an adjustment on its tip which should be made while observing the Power value during reception, to maximise the gain for locations of different latitude. The *plate antenna* is kept flat but the gain may be improved at low latitudes by tilting it slightly towards the satellite.

The antenna system is connected to the demodulator RF socket y a coaxial cable. The mark II demodulators have a female N type bulkhead connector. The RF signal strength is maintained by keeping the RF cable runs as short as possible and ensuring that all connectors are secure

and protected from dirt and moisture with tape. As the RF cable carries both power and RF signal, a damaged cable may lead to a power short in the demodulator.

Some LNA boxes have been fitted with a filter between the antenna port and the LNA. This causes a small loss in signal gain but blocks interference from radiation sources such as radar or microwaves which can cause the OmniStar to lose reception.

2. Applying power

Although the OmniStar can operate from a range of DC volts it is most convenient to use a 12 volt battery supply. The power cable is marked "Brown to positive 12 volts"and the blue wire connects to negative. At 12 volts the current drain is about 1 Amp which includes the power drawn by the LNA. The power cable is terminated with a 3 pin military style power connector in which pin-C is positive, B is negative and pin-A is not connected. For a vehicle installation the cigarette lighter socket can be used. Most vehicles have a positive centre pin but polarity should be checked with a meter. For backpack or shoulderbag configurations, sealed lead acid batteries are a convenient power source. A 7 Amp-Hour battery will provide several hours use and will require a low current (less than 1 Amp) charge for several hours.

Most handheld GPS units will require external power for extended use, once the data port is enabled.

The OmniStar unit gets warm while operating, so it should not be mounted on a vehicle dash where it may cook in hot weather.

The terminals of portable batteries must be covered to prevent a short and cause a power surge. The OmniStar has an internal fuse but it is not readily accessible and if it is blown it would be safer to exchange the unit than remove the covers and risk further damage. A few units damaged by power surges have lost their configuration and required the settings to be re-installed.

3. Checking the reception

The OmniStar demodulator is configured to tune to the OPTUS signal by setting the nominal IF frequency in the Channel Selection menu to 73993000 Hz. A few other settings are set for OPTUS reception : Symbol Rate = 2438, in the Channel Selection menu and Down Converter = 3, in the Maintenance menu.

These settings are made :
(1) via a computer connected to the Command port
(2) by the front panel buttons

The 4 outer buttons are for selecting a menu and fields within each menu titled : Current Readings, User Settings, About Maintenance, Remote Sites and Channel Selection. The centre button must be pressed to confirm an input.

The first stage in operating the OmniStar system is to get a reception of the OPTUS signal. The next stage is to output compatible data to the GPS. Once the antenna is installed and positioned correctly and the demodulator has been configured, reception should occur within a few minutes of a cold start.

The indicators of reception to observe on the front panel are :
(1) sectors of the 8 segment bargraph darken
(2) the status sequence goes from "SCAN"through "SYNC"to "RECV
(3) "the Service ID = x2873 in the Current Readings menu

To observe the Power value in the Current Readings menu, upon power on, press the bottom button then the right button. This gives an indication of the signal strength. From a cold start, Power = -212 dB and the absolute value decreases steadily to around –35 dB when receiving. A Power value which remains around –60 dB is indicative of a reception failure and checks should be done on the antenna and demodulator. Next try from a different location for a better reception.

While the OmniStar unit is receiving data from the satellite, it is possible to send configuration commands and messages from the Network Control Centre in Perth. This feature is useful if the demodulator is not configured correctly but still receives. The user should advise the NCC of the serial number to selectively command the unit and by phone after the transmission to confirm the transfer.

The frequency set in the Channel Selection menu is a starting point for the Omnistar to scan the frequency band for the OPTUS signal. The actual frequency as displayed in the Current Readings menu may vary by hundereds of Hz as there will be a drift in the electronics as the unit warms up and ages. If the observed frequency is entered into the Channel Selection menu to the nearest 1000 Hz (ending in zero's) the unit may lock on faster next time it is switched on.

4. Checking the data output

Data is transmitted from the 9 pin Data port on pin 2 with pin 5 as ground. The data standard is RTCM 104 Version 2. Data will only output if a remote site has been selected. For OmniStar users RTCM has been configured in the User Settings menu. The other options of RAW or WADS have been removed as the GPS would not interpret them. If more than one Remote Site is selected the GPS may not interpret the RTCM message.

Press the following buttons to select only one *Remote Site* :
1. At the prompt "Toggle all Sites Off"press the centre button
2. Use the right button to page through the Remote Sites until the desired one appears; press the top button to toggle it ON
3. Press the centre button to enter the selection
4. Use the left button page back then exit from the menu

The *Data Rate or Baud Rate* can be selected in the User Settings menu. The parity is set at 8,n,1 (8 data bits, no parity, one stop bit). No data will be output if the Expiry date has lapsed. Upon request this can be extended and the process can be done by sending a message from the Network Control Centre while the OmniStar is receiving.

Most GPS units indicate when corrections are being received but often the indicator is cryptic and has a delay of as much as 30 seconds on some models. The data cable supplied has a male 9 pin connector on both ends but should be connected the correct way round, as labelled. Pin 2 at the OmniStar end is wired to pin 3 at the GPS end while pin 5 is wired to pin 5 at each end.

Generally when the Service ID = x2873 in the Current Readings menu the RTCM data is being extracted from the signal. The OmniStar Data port can be tested. The best tool is a notebook PC connected to the data port and running a program which displays the RTCM message. The connecting cable should have a 9 pin male connector for the OmniStar and a 9 pin female for the PC coms port. Pins 2, 3 and 5 should be connected straight through. At Fugro, a test program called RTCMCOM1.EXE may be used to display the RTCM message, however, the raw RTCM string can be displayed using many available communications programs such as PCPLUS or TELIX etc.

The burst of *RTCM data* which occur approximately every 2 seconds can be indicated by several means. A set of test lights flash when the data passes. Another indicator is the flicker of the needle of an analogue voltmeter set on the 10v range connected between the pins in the correct direction.

5. Contacts

The Perth Network Control Centre is attended 24 hours a day, every day. The direct phone number is (09)9321-0284 and fax (09)9321-0285, otherwise Fugro Starfix's reception on (09)9322-5295.

6. Dimensions

Omnistar Demodulator :
width = 145mm
length = 265mm
height = 45mm
Power consumption is about 1 Amp at 12 volts
The gross weight of the packaged demodulator is less than 3 kg

The *Plate Antenna Model A-1559 95/D55CS:*
diameter = 115mm
thickness = 15mm
RF connector : N type female bulkhead

The *Whip Antenna Model 9259-820*
height = 945mm
attached cable = 480mm with RF connector
TNC type male
mounting bolt 5/16 USA thread

LNA box Mark II
length = 260mm
height = 40mm
width = 50mm
RF input connector : TNC female bulkhead
RF output connector : N type female bulkhead

The basic OmniStar system comprises :
(1) the demodulator (2) antenna (3) RF cable (4) power cable (5) data cable

Accessories can be supplied or souced for antenna mounts, batteries, chargers, special cable runs, backpacks, data tester etc.

Present Remote Sites, Reference Stations :

1-Perth 2-Karratha 3-Darwin 4-Townsville 5-Brisbane 6-Melbourne 7-Adelaide 8-Kalgoorlie 9-New Plymouth 18- Bathurst

ROSEMOUNT 22000 SERIES OUTSIDE AIR TEMPERATURE (OAT) SENSOR

INTRODUCTION

Rosemount has been at the forefront of temperature sensing technology for over two decades. The Rosemount Total Temperature is renowned for accuracy, speed of response and robustness. The Model 22000 Series Shielded Outside Air Temperature Sensors have been designed in that same tradition for aircraft operating in the lower speed range. This series of sensors is particularly suitable for light aircraft, helicopters and commuter aircraft which operate at speeds up to Mn 0.6.
To measure accurate outside air temperature it is necessary to employ a housing which prevents the direct impingement of contaminants upon the detector.

At the rear of the body, the air intake allows air to flow in a reverse direction internally within the sensor, exhausting through the side vent holes.

In operation, the air flows over the outside of the aerofoil shaped body generating a low pressure in the area of the side vent holes.

This configuration yields the following benefits:

1. The change in direction of flow at the rear of the sensor causes centrifugal separation of airborne contaminants.

2. The shielded detector prevents inaccurate sensing due to evaporative effect of accreted free water. Although the housing is not de-iced, its profile has been designed to minimise ice accretion.

3. The shielded detector continues to operate in conditions below $0^{\circ}C$ because it is not exposed to ice build up.

4. The housing protects the detector from impact damage and acts as a shield to reduce errors from direct and reflected solar radiation.

AEROTHERMAL PERFORMANCE

Temperature Range:
-62° to $+85^{\circ}C$.

Pressure Range:
Sea Level to 50,000ft (15,250m).

Self Heating
The error due to self heating shall not exceed $0.04^{\circ}C/mW$ in a airstream of 100 knots at sea level.

Response Time
The time taken for the sensor to register 63% change of a step change in an airstream flowing at 100 knots sea level shall be less than 15 seconds.

Recovery Correction (η)
The recovery correction has been measured up to Mn 0.6
Note: $= T_t - T_t/T_t$.

Environmental
The sensors have been tested to the requirements of:

Humidity
MIL. STD. 810C. Method 507.1.Proc.1.

Salt Fog
MIL. STD. 810C. Method 509.1.Proc.1.

Sand and Dust
MIL. STD. 810C. Method 510.1.Proc.1.

Vibration
MIL. STD. 810C. Method.514.2.Proc.1.

Acceleration
7G. in all three mutually perpendicular planes.

Solar Radiation
MIL. STD. 810C. Method 515.1.Proc.II

Contamination
Unaffected by aviation fuels, oils, general cleaning and de-icing agents.

Mould Growth
Manufactured from non-nutrient materials.

ELECTRICAL SPECIFICATION

Insulation Resistance
The insulation resistance measured between the screen of the cable and all conductor connected together shall be greater than 10 megohms at 100v.

MECHANICAL SPECIFICATION

Aerodynamic Housing
Moulded Thermoplastic Victrex PEEK (Polyetheretherketone) or PES (Polyethersulphane).

Base Plate
Anodised Aluminium.

Marking
Each sensor will be marked as follows:

Rosemount Engineering Company Limited
Model.....
Serial No.....

PRODUCTION AND QUALITY ASSURANCE

Production Tests

Each unit produced will be inspected for conformance with the specification drawing and for good workmanship. Each unit will be calibrated at ice and steam points and will conform to the temperature/resistance relationship. In addition, tests will be conducted to ensure insulation resistance measured between the screen of the cable and all conductors connected together shall be greater than 10 megohms at 100 V.d.c.