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Airborne Geophysical Survey

Survey Report

GEOSCIENCE AUSTRALIA

Warrina (Area 2B), SA

Airborne Magnetic, Radiometric and Digital Elevation Survey

Contract Number: 002298

Project Number: P1281

Prepared by

MAGSPEC Airborne Surveys Pty Ltd

Reference Number: 1050

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1. GENERAL PROJECT INFORMATION

Project Details		
Project Number	1281	
Contract Number	2298	
Client	Geoscience Australia	
Survey Area Name	Warrina (R2b)	
Survey Size (line kms delivered)	135,889.90 kms	
Survey Type	Airborne Magnetics, Radiometrics, Digital Elevation	
Aircraft		
Aircraft Location	Coober Pedy airstrip	
	Willian Creek airstrip	
Aircraft Make/Model	Cessna 210	
Aircraft Registration	VH-MDG	
Personnel		
Field Operations Base	Oasis Tourist Park, Coober Pedy	
	William Creek Hotel, William Creek	
Field Crew	Name	Position
	Patchett K.	Pilot
	Stummer N.	Pilot
	Wright D.	Pilot
	Twine A.	Pilot
	Simpson G.	Pilot
	Bennett W.	Operator
	Fairbairn-Campbell W.	Operator
Project Management / QC	Spencer P.	Operations Manager
Final Data Processing	Johnston C.	Data Processing Manager
Reporting	Lees M.	Sales Manager
Technical Support	McMullen P.	Consultant Technician

1.1 Survey Acquisition Summary

Following a project debrief, the field crew commenced mobilisation to Whyalla on 6th February 2017; to conduct a series of test lines and calibrations on 8th and 9th February 2017. The raw and processed data were assessed and approved by the Client and the field crew then mobilised to the initial base of operations for the Warrina survey at Coober Pedy, South Australia.

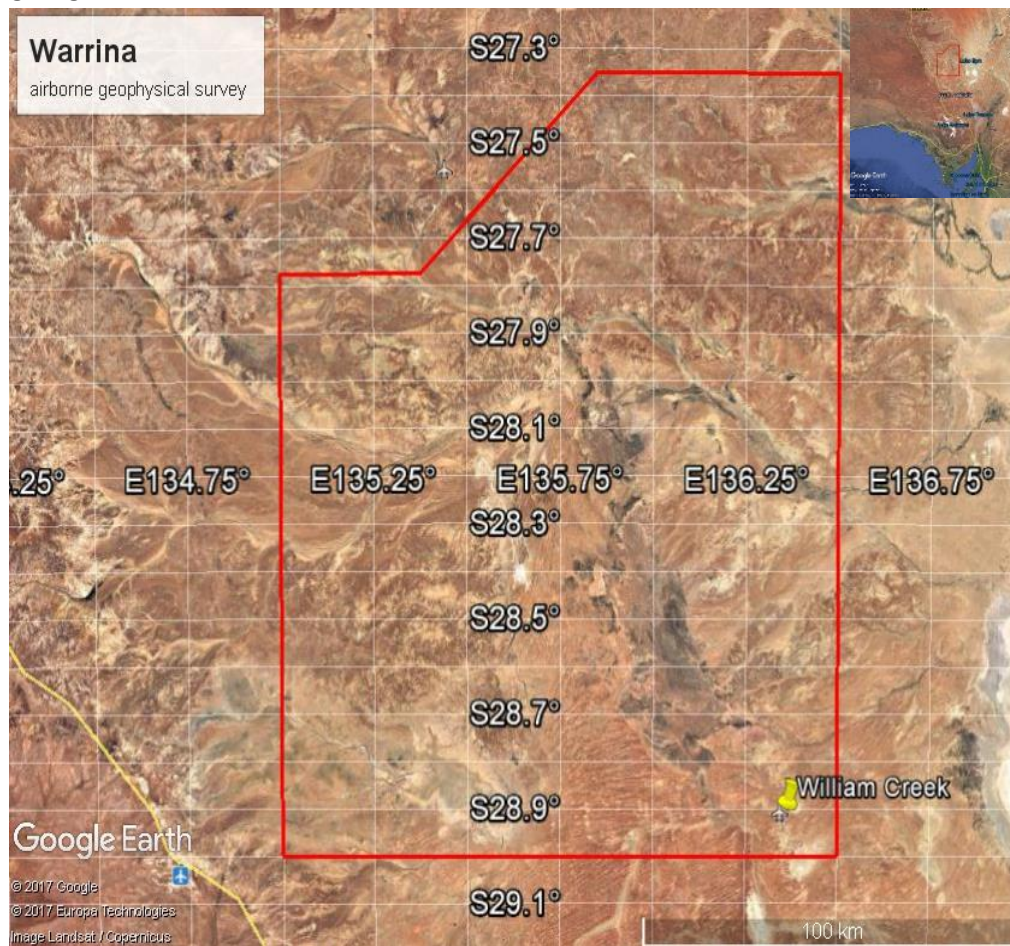
A safety meeting was completed by the crew, base stations were set up and a reconnaissance flight carried out before a compensation flight was performed. A radiometric test line was established.

After the compensation flight was verified and the base stations checked the first production flight was flown on 11th February 2017.

Production initially commenced at the northern portion of the block, working southwards. On 1st March 2017, the crew relocated to William Creek briefly, for more efficient production, returning to Coober Pedy on 18th March. Scheduled 100-hourly maintenance was conducted at William Creek airport. The final production flight was on 25th May 2017. Conditions at the beginning of the survey were generally favourable, although very hot at times. A period of wet weather in April caused some downtime, as well as some periods of active diurnal activity.

1.2 Survey Area

The Warrina survey area is located northeast of Coober Pedy, South Australia, as indicated in the following diagram: -



Warrina (Area 2b)

1.3 Survey Area Coordinates and Flight Specifications

GDA94 Coordinates

Longitude	Latitude
135.000	-27.775
135.375	-27.775
135.850	-27.350
136.500	-27.350
136.500	-29.000
135.000	-29.000

Area Name	Traverse Line spacing (m)	Traverse Line Direction	Tie Line Spacing (m)	Tie Line Direction	Sensor Height (m)	Line Kilometres
Warrina (2b)	200	East-West	2,000	North-South	60	135,889.90

1.4 Whyalla Test Lines

Prior to commencement of the Warrina survey, the aircraft flew a set of 7x test lines approximately 30 kms south of Whyalla, on 9th February 2017. The location and coordinates of these lines are shown below:



Whyalla Test Lines

Line No.	Longitude West	Latitude	Longitude East	Latitude
100070	136.746093	-33.330604	137.551397	-33.330604
100060	136.746129	-33.332407	137.551449	-33.332407
100050	136.746165	-33.334209	137.551502	-33.334209
100040	136.746201	-33.336012	137.551554	-33.336012
100030	136.746237	-33.337815	137.551607	-33.337815
100010	136.746273	-33.339617	137.551659	-33.339617
100010	136.746309	-33.34142	137.551712	-33.34142

Area Name	Traverse Line spacing (m)	Traverse Line Direction	Tie Line Spacing (m)	Tie Line Direction	Sensor Height (m)	Line Kilometres
Whyalla Test Lines	200	East-West	N/A	N/A	60	526.11

The raw and processed data were forwarded to the Client for assessment and approval prior to mobilisation to the Warrina survey area.

2. SURVEY EQUIPMENT

2.1 Aircraft

The aircraft used for the survey was a Cessna 210, specially modified for geophysical survey with a tail boom and various other survey configuration modifications.

Registration - VH-MDG



Survey Aircraft

2.2 Data Acquisition System

High speed digital data acquisition system.

- Sample rates up to 20 Hz
- Integrated Novatel OEM GPS receiver providing positional information that is used to tag incoming data streams in addition to providing pilot navigation guidance
- High precision Caesium vapour magnetometer
- Visual real time on-screen system monitoring / error messages to limit re-flights due to equipment failure

2.3 Magnetometer

The survey was flown with a single tail-mounted sensor (stinger housing).

- | | | |
|------------------------|---|----------------------------------|
| • Model / Type | - | G-822 Cesium vapour magnetometer |
| • Resolution | - | 0.001 nT resolution |
| • Sensitivity | - | 0.01 nT sensitivity |
| • Sample Rate | - | 20 Hz |
| • Compensation | - | 3-axis fluxgate magnetometer |
| • Magnetometer Counter | - | Kroum KMAG4 |

2.4 Gamma-ray Spectrometer

An RSI RS-500 gamma-ray spectrometer was used, incorporating 2x RSX-4 detector packs.

- Total Crystal Volume - 32 L (downward looking)
- Channels - 1024 (256 recorded)
- Sample Rate - 1 Hz
- Multi-peak automatic gain stabilisation

2.5 Altimeters / Ancillaries

A Bendix/King KRA 405 radar altimeter was used.

- Resolution - 0.3 m
- Sample Rate - 20 Hz
- Range - 0-760 m

A Renishaw ILM-500-R laser altimeter was used.

- Resolution - 0.1 m
- Sample Rate - up to 20 Hz
- Range - 0-500 m

Barometric pressure sensor: -

- Accuracy - RSS $\pm 0.25\%$ FS (at constant temp)
- Range - 600-1100 hPa

2.6 Magnetic Base Stations

Scintrex Envimag & Geometrics G-856 proton precession base station magnetometers.

- Resolution - 0.1 nT
- Accuracy - 0.5 nT
- Sample Rate - 0.2 – 0.5 Hz

3. NAVIGATION AND FLIGHT PATH RECOVERY

Integrated Novatel OEM615 GPS receiver:

- L1/L2 + GLONASS Dual Frequency
- 120-channel

Navigation information is supplied to the pilot via an LCD steering indicator. All data were synchronised to a one pulse per second triggered by the GPS time.

4. CALIBRATIONS AND CHECKS

4.1 Magnetometer

A compensation box was flown prior to survey. The compensation consisted of a series of pitch, roll and yaw manoeuvres in reciprocal survey headings at high altitude. The measured output from the 3-axis fluxgate magnetometer was recorded and used to resolve a compensation solution. This solution was applied when post-compensating all survey magnetometer data to remove manoeuvre effects and heading error. Post-flight compensation is performed using 18 terms. Refer to Appendix 2 – Calibrations.

4.2 Altimeters

Prior to commencement of survey production, the radar and laser altimeters were checked for linearity by way of a height stack over flat terrain. Refer to Appendix 2 – Calibrations.

4.3 Spectrometer

4.3.1 Prior to survey

The Gamma-Ray spectrometer was calibrated for channel interaction (stripping ratios). A cosmic – background stack was performed to determine cosmic and background radiation ratios. The Carnamah radiometric test range was flown to calculate conversion factors from counts per second to concentrations. Refer to Appendix 2 – Calibrations.

4.3.2 During survey

The system sensitivity and resolution was monitored pre- and post-flight using a thorium source ensuring stability of the spectrometer. The results were tabulated daily and closely monitored. A suitable test line was selected close to the survey area. This test line was flown at survey height each day. The data from the test line was assessed to ensure system stability and compared on daily basis to the test lines flown prior. Refer to Appendix 2 – Calibrations.

5. QUALITY CONTROL

5.1 During Flight

During survey, the pilot is notified of any deviation in system health by prompts overlaid onto the navigation screen. Should errors occur, the flight is aborted and survey does not recommence until system errors are resolved.

The diurnal base stations were monitored by the ground crew.

5.2 Post Flight

Upon completion of each flight all survey data were transferred from the acquisition system to the infield data processing computer. Using customised techniques, the data were checked for any errors and compliance with specifications.

All profiles were visually checked. The flight path was plotted with colour-coded indicators of any out of specification height or cross-track. The data were gridded and visually inspected for errors and compared for continuity with previous flights.

The summed 256-channel spectra were plotted and inspected. The test line and pre- and post-flight ground calibration data were tabulated and reviewed.

6. DATA PROCESSING

6.1 Magnetism

The following steps were performed during the magnetism processing:

- Review or application of compensation
- Parallax correction
- Diurnal filtering and subtraction
- IGRF correction using the updated current IGRF model
- Tie line levelling
- Micro levelling

Compensation of the magnetometer data was applied using the recorded XYZ fluxgate data using Geometrics MagComp Airborne compensation software. A suitable compensation flight (comp box) was processed to obtain the optimum compensation solution which was then applied to all survey data.

The base station magnetometer data were reviewed, de-spiked if necessary and filtered with an 11-point non-linear filter. These data were then subtracted from the measured aircraft data using time that was synchronised to both the acquisition system and the base mag unit.

The IGRF correction was applied using the updated IGRF 2015 model adjusted for height of the aircraft. This correction was calculated and applied at each point.

Tie line levelling was applied by way of a least squares minimisation procedure using a polynomial fit of order 0 over the cross over errors calculated between the traverse and tie line intersections. A fit to ties process was selectively applied and constrained by several parameters such as cross over height differences and maximum and minimum allowable corrections.

Using MAGSPEC Airborne Surveys' proprietary micro levelling techniques, some selective micro levelling was carefully applied and the resulting channel was then considered final.

At all stages of processing the data were stringently checked against and compared to the previous processing stage to ensure the integrity of the data were protected and no detail was removed or altered.

6.2 Radiometrics

Radiometric processing consisted of the following steps:

- 256-channel spectral noise reduction in the form of NASVD
- Dead time, cosmic and background radiation corrections
- Energy recalibration
- Channel interaction correction (stripping) and extraction of ROIs

- Height corrections using STP altitude to the nominal survey height
- Radon removal using the Spectral Ratio method
- Levelling if required

Gamma-ray Spectrometric Data Processing

The raw spectra were first smoothed using the Noise Adjusted Singular Value Decomposition (NASVD) method, (Hovgaard and Grasty, 1997).

For the NASVD process twenty (20) principal components were generated. These components were visually inspected and the final number of components for reconstructing the spectra were determined. Eight (8) components were used to reconstruct the spectra, following consultation with the Client.

For all spectrometers, spectral drift was checked, by monitoring the potassium and thorium channel positions from average spectra along flight lines. The procedure for determining peak positions was the same as used during calibration. If the thorium peak is found to move more than 1 channel or the potassium peak by more than 0.5 channel, energy calibration is performed to determine the count rates in the standard windows.

Both the aircraft 256-channel background spectra and the scaled 256-channel cosmic spectra were subtracted from the 256-channel data. Refer to Appendix 2 – Calibrations.

Deadtime corrections were applied to each spectrum channel or window.

Radon background removal was performed using the Minty Spectral Ratio method (1992).

In areas of significant topographic variation, the altimeter data were first lightly filtered to smooth sudden jumps that can arise when flying over steep terrain (which cause problems when height-correcting the data). These data were then converted to effective height (h_e) at standard temperature and pressure (STP).

The background-corrected count rates in the 3 windows were stripped to give the counts in the potassium, uranium and thorium windows that originate solely from the potassium, uranium and thorium decay series. The window stripping ratios α , β , γ , a and g were estimated from measurements over calibration pads, where:

α - is the thorium into uranium stripping ratio, (equal to the ratio of counts detected in the uranium window to those detected in the thorium window from a pure thorium source);

β - is the thorium into potassium stripping ratio for a pure thorium source;

γ - is the uranium into potassium stripping ratio for a pure uranium source;

α - is the reversed stripping ratio, uranium into thorium, (equal to the ratio of counts detected in the thorium window to those detected in the uranium window from a pure source of uranium);

g - is the reverse stripping ratio, potassium into uranium for a pure potassium source.

The 3 principal stripping ratios (α , β and γ) increase with altitude above the ground as shown in the Table 1.1.

Table 1.1. Stripping ratio increase with Aircraft altitude at STP.

Stripping Ratio	Increase per metre
α	0.00049
β	0.00065
γ	0.00069

Each of the 3 main stripping ratios were adjusted for altitude before stripping was carried out. If 5 stripping ratios are used, then the stripped count rates in the potassium, uranium and thorium channels (N_K , N_U , N_{Th}) are given by:

$$N_K = \frac{[n_{Th}(\alpha\gamma - \beta) + n_U(a\beta - \gamma) + n_K(1 - a\alpha)]}{A}, \quad (A5)$$

$$N_U = \frac{[n_{Th}(g\beta - \alpha) + n_U - n_K g]}{A}, \quad (A6)$$

$$N_{Th} = \frac{[n_{Th}(1 - g\gamma) - n_U a + n_K a g]}{A}, \quad (A7)$$

where

$$A = 1 - g\gamma - a(\alpha - g\beta). \quad (A8)$$

The background-corrected and stripped count rates were corrected for variations in the altitude of the detector using the equation:

$$N_{corr} = N_{obs} e^{-\mu(h_0 - h)}, \quad (A9)$$

where: -

- N_{corr} = the count rate normalized to the nominal Survey altitude, h_0 ;
- N_{obs} = the background corrected, stripped count rate at STP height h ;
- μ = the attenuation coefficient for that window.

Where the STP height above ground level exceeds 300 m, a value of $h = 300$ is used in equation A9.

The resulting potassium, uranium, thorium and total count (cps) were converted to concentrations using the coefficients derived from the Carnamah radiometric test line. Refer to Appendix 2 – Calibrations.

Where required, tie line levelling is applied to the Total Count and Uranium channels to remove any effects caused by residual radon background. A least-squares/median filter procedure applied over the calculated cross over errors at each intersection of the flight and tie lines generated a correction value. A new tie-line levelled channel is then output by application of this correction value to the original channel.

Where required, using MAGSPEC Airborne Surveys' proprietary micro levelling techniques, some selective micro levelling is carefully applied and the resulting channel is then considered final.

At all stages of processing the data were stringently checked against and compared to the previous processing stage to ensure the integrity of the data was protected and no detail was removed or altered.

6.3 Digital Elevation Model

DEM processing consisted of the following steps:

- Inspection of height channels
- Parallax correction of radar and laser altimeters
- Subtraction of radar and laser altimeters from GPS height
- Tie line and micro levelling

The GPS, radar and laser heights were visually inspected for errors and any spikes were carefully corrected.

The altimeter data were then subtracted from the GPS height to create the Digital Elevation channels (laser and radar).

Tie line levelling was applied by way of a least squares minimisation procedure using a polynomial fit of order 0 over the cross over errors calculated between the traverse and tie line intersections. Using MAGSPEC Airborne Surveys' proprietary micro levelling techniques, some selective micro levelling was carefully applied and the resulting channel was then considered final. At all stages of processing the data were stringently checked against and compared to the previous processing stage to ensure the integrity of the data was protected and no detail was removed or altered.

APPENDIX 1 FIELD OPERATIONS AND PROJECT MANAGEMENT

Operational Bases

The aircraft and crew were based in Coober Pedy and William Creek in South Australia. Production of the survey started on the 11th February 2017 and ended on the 25th May 2017. Field crew were regularly rotated as required.

Base Station Magnetometers

The base station magnetometers were positioned near the Coober Pedy airstrip as shown below: -



Coober Pedy Airstrip

Base station 1 (Envimag) location co-ordinates (GDA94): 134° 43' 15.8450" E, 29° 02' 8.0974" S

Base station 2 (G856) location co-ordinates (GDA94): 134° 43' 16.4128" E, 29° 02' 8.2779" S

Base station 1 was used for all diurnal corrections.

APPENDIX 2 CALIBRATIONS

Radiometrics

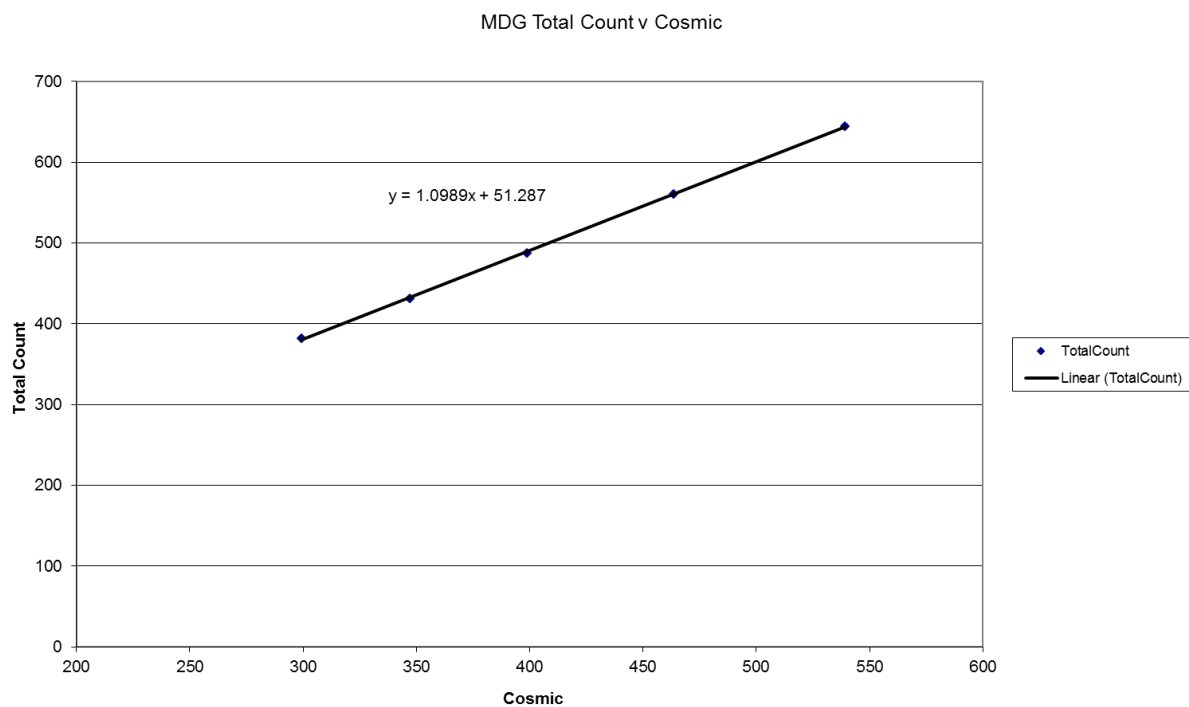
Stripping Ratios

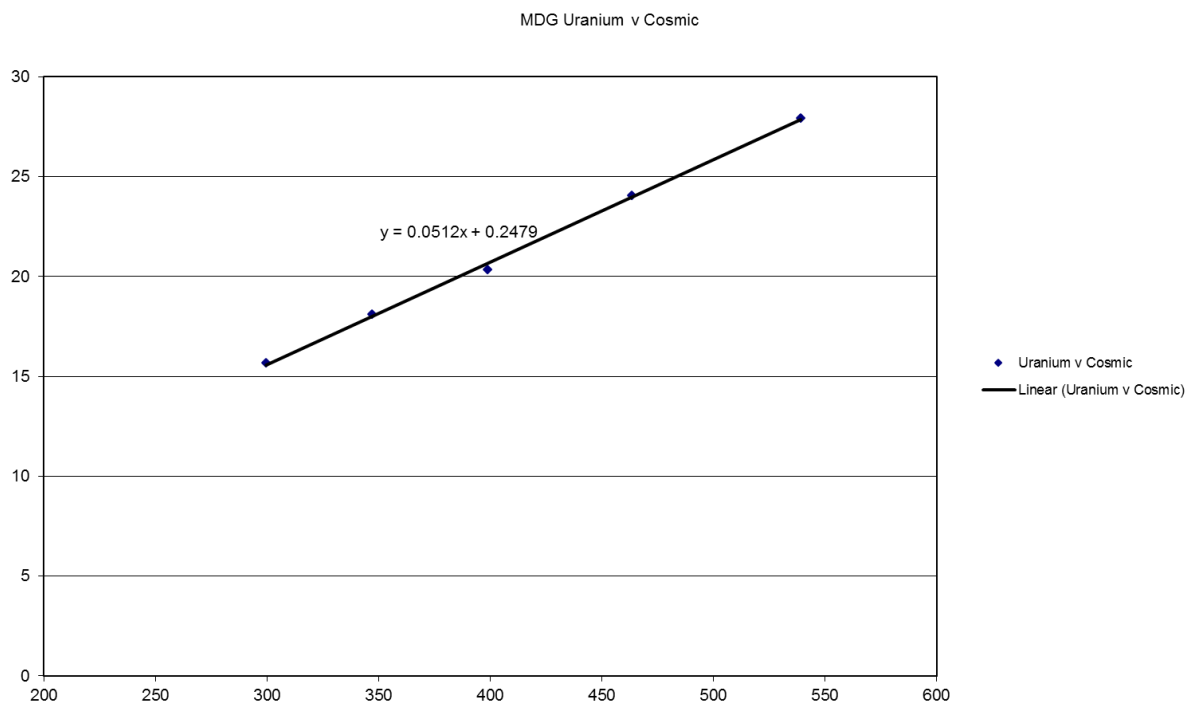
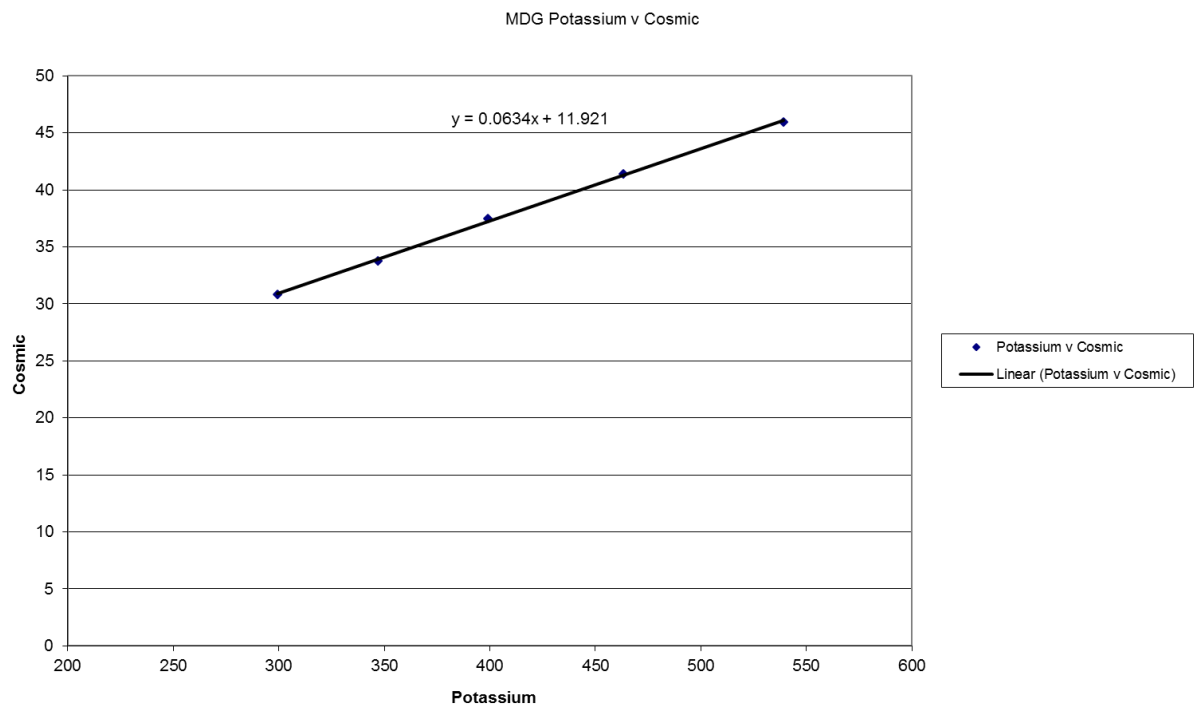
On 1st February 2017, the aircraft's radiometric system was calibrated over background, potassium, uranium and thorium test pads at Jandakot airport in Perth, using standard calibration procedures. The resulting stripping coefficients are tabled below: -

Stripping Constant	Coefficient
Alpha	0.2845
Beta	0.4517
Gamma	0.7986
a	0.0470
b	0.0011
g	-.0209

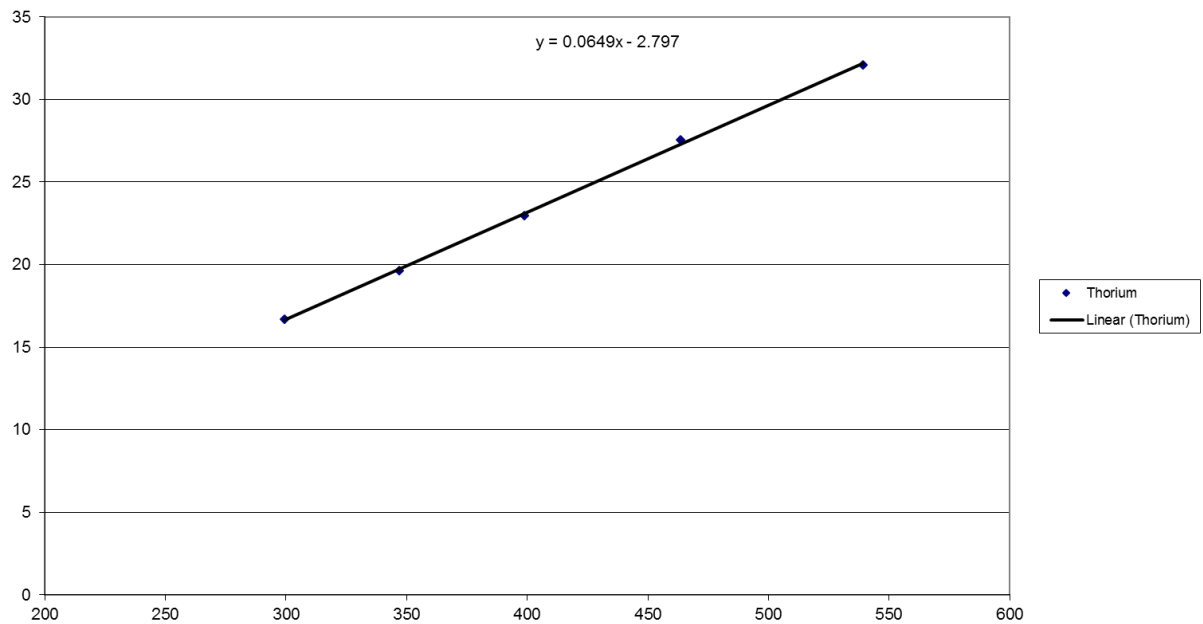
Aircraft Cosmic Background Test Flight

On 1st February 2017, the aircraft was flown offshore Western Australia at high altitude to derive the following plots: -





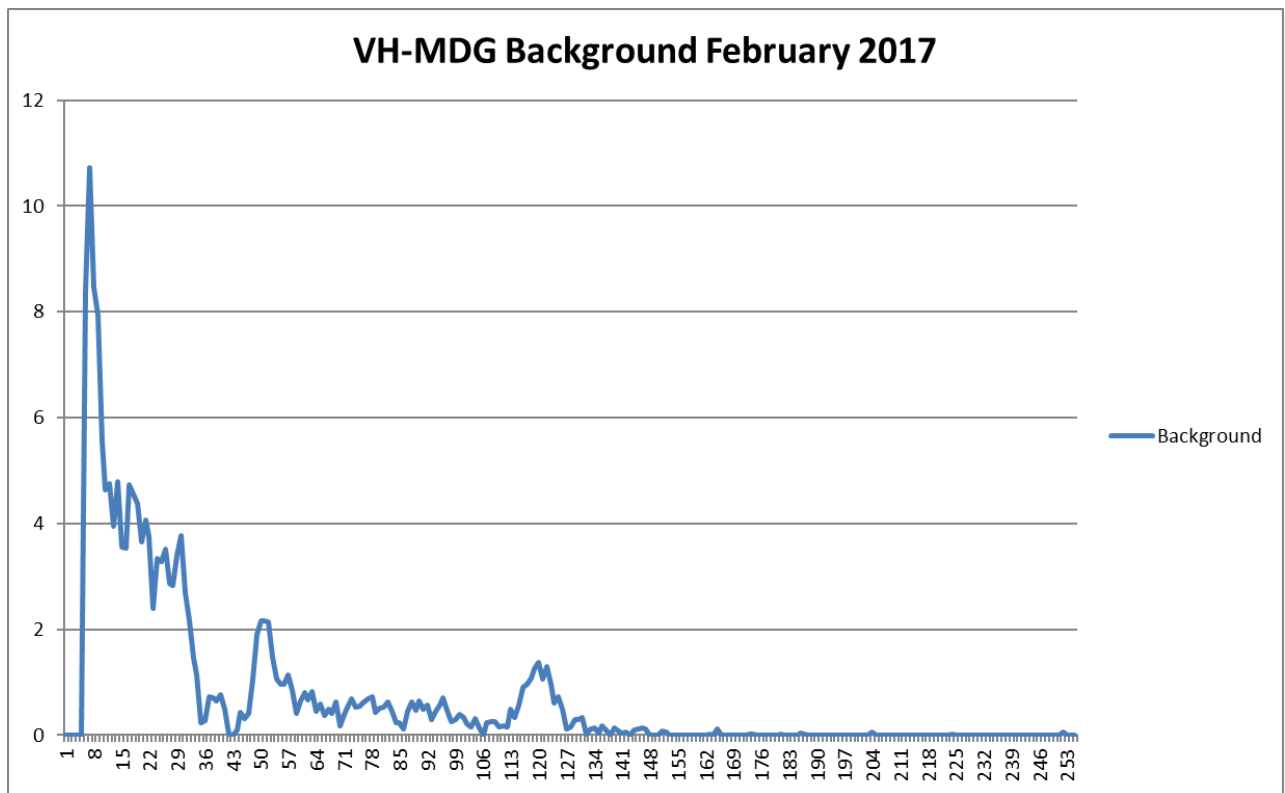
MDG Thorium v Cosmic



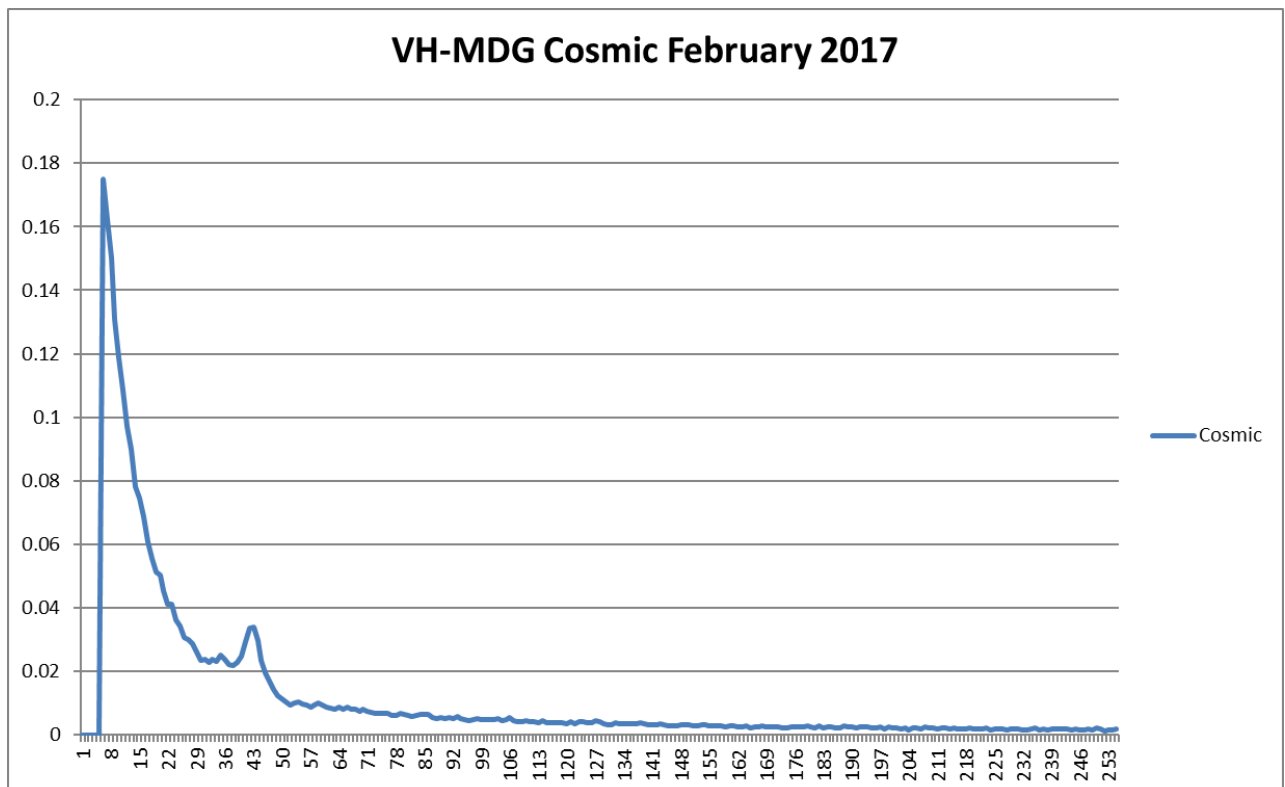
Aircraft Background Cosmic Coefficients

Parameter	Total Count	Potassium	Uranium	Thorium
Aircraft Background	51.287	11.921	0.2479	0.0000
Cosmic	1.0989	0.0634	0.0512	0.0649

Aircraft Background Spectra



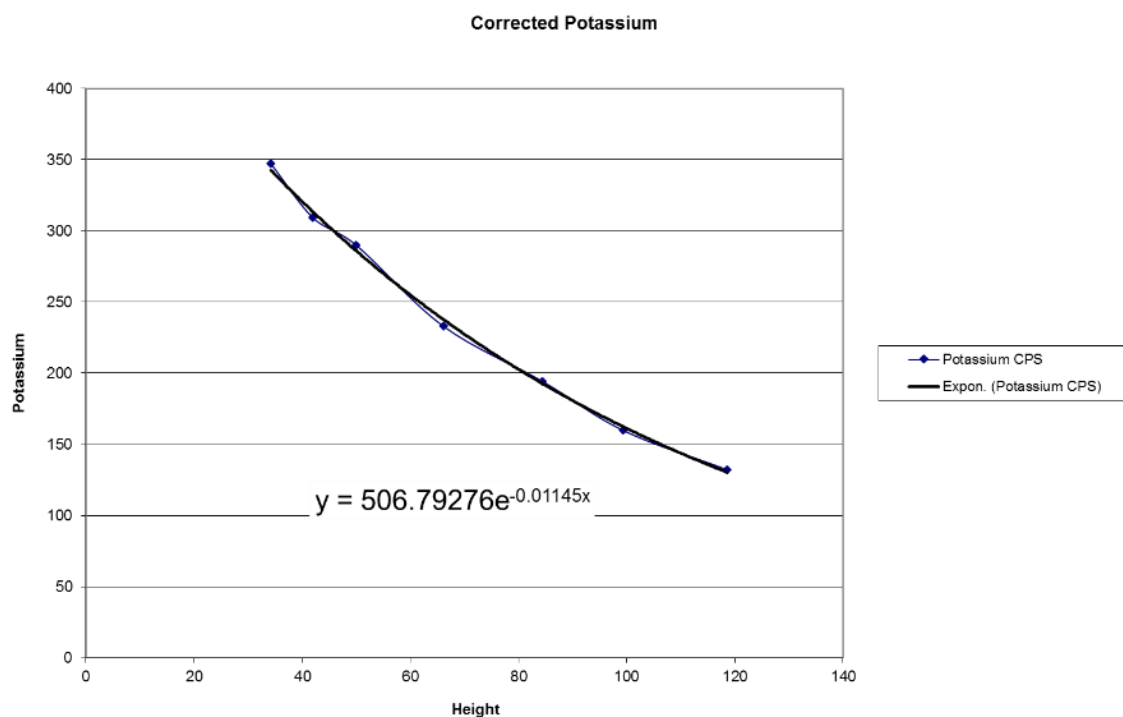
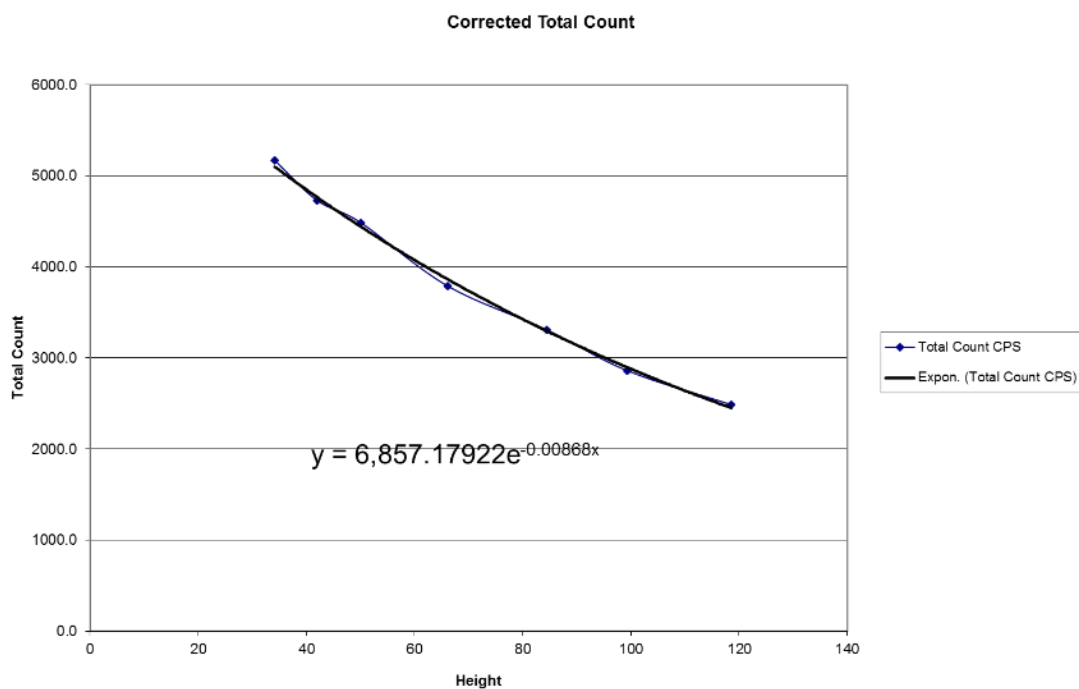
Cosmic Spectra

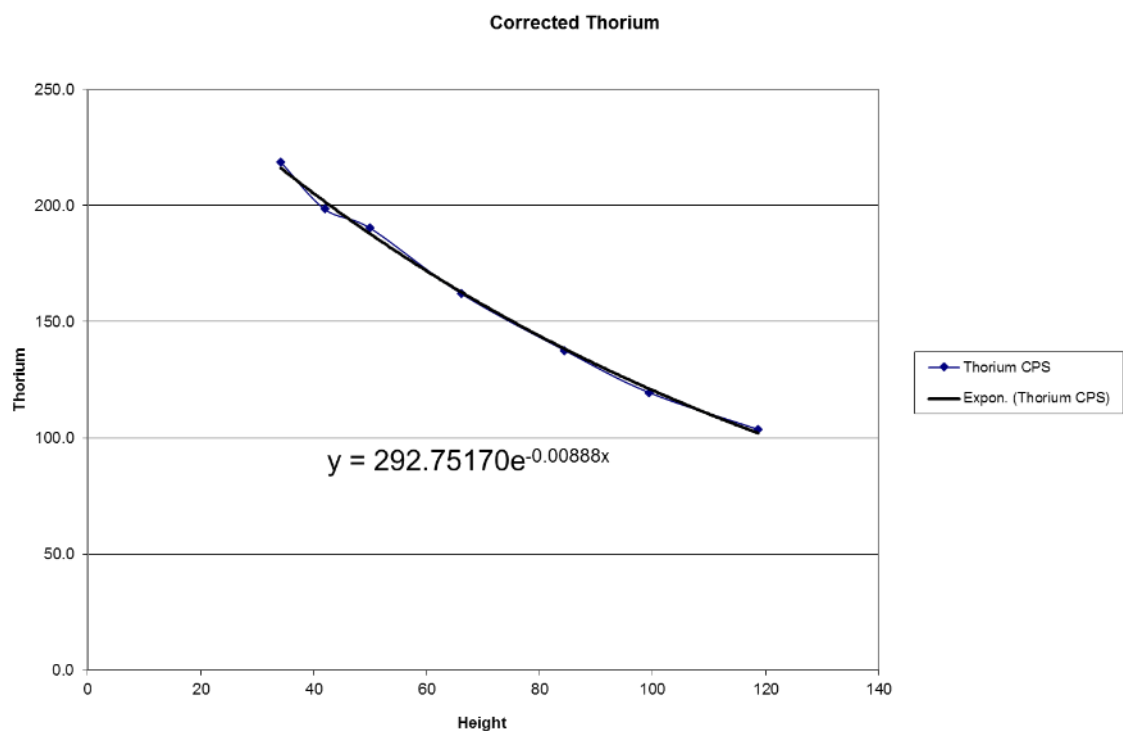
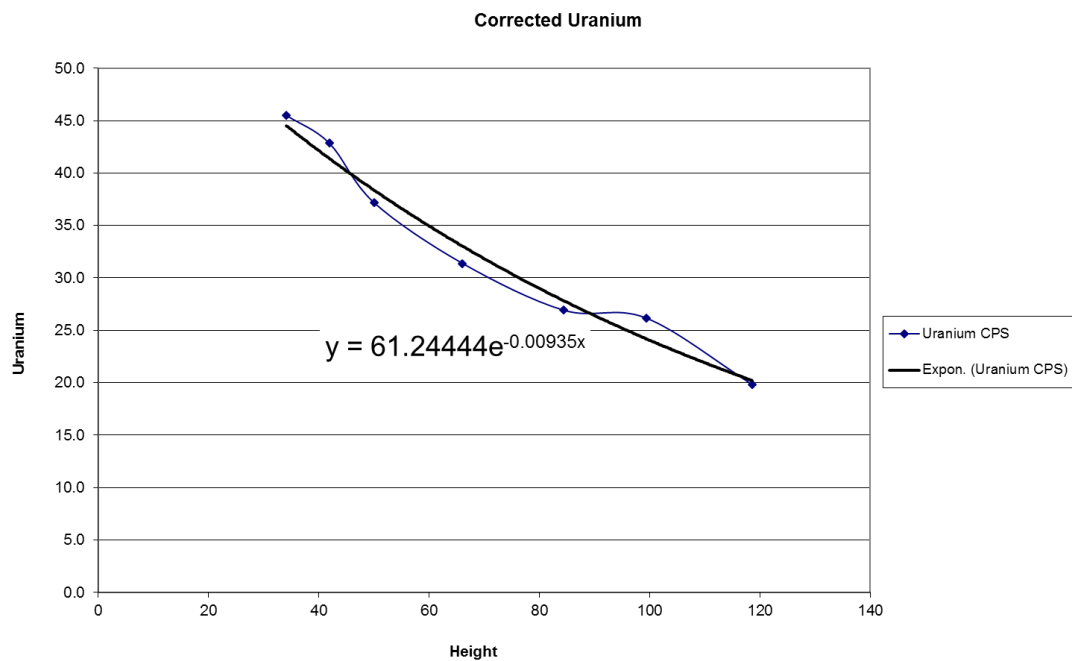


Carnamah Radiometric Test Range

The Carnamah Test Range, north of Perth, was flown by the aircraft on 2nd February 2017.

Aircraft Test Range Flight Plots





The following theoretical height attenuation coefficients are used, based on testing and IAEA values:

Parameter	Total Count	Potassium	Uranium	Thorium
Height Attenuation	-0.0074	-0.0094	-0.0084	-0.0074

Test Range Ground Station Readings

The radiometric concentrations were measured along the Carnamah Test Range, using a hand-held spectrometer, yielding the following results at each station:

Station	K (%)	U (ppm)	Th (ppm)
4	4.44	6.32	46.48
7	3.37	3.08	17.26
10	3.14	2.56	25.50
14	2.64	2.05	26.09
17	2.94	2.54	29.83
20	2.93	3.61	29.60
23	2.93	3.41	41.98
26	3.28	3.41	21.67
28	3.15	2.91	22.85
31	3.44	3.20	24.22
34	3.04	2.18	20.02
37	1.96	2.96	24.33
40	2.34	2.85	20.80
43	3.75	3.42	34.89
46	2.64	2.55	22.71
49	2.42	3.08	24.24
52	2.15	6.98	55.04
55	1.68	4.96	50.48
58	1.70	1.99	15.83
61	1.69	3.48	40.89
64	1.93	2.69	39.40
67	1.35	5.27	31.30
70	1.59	2.86	25.89
73	1.79	1.90	18.26
76	1.44	1.75	20.81
Average	2.55	3.28	29.21

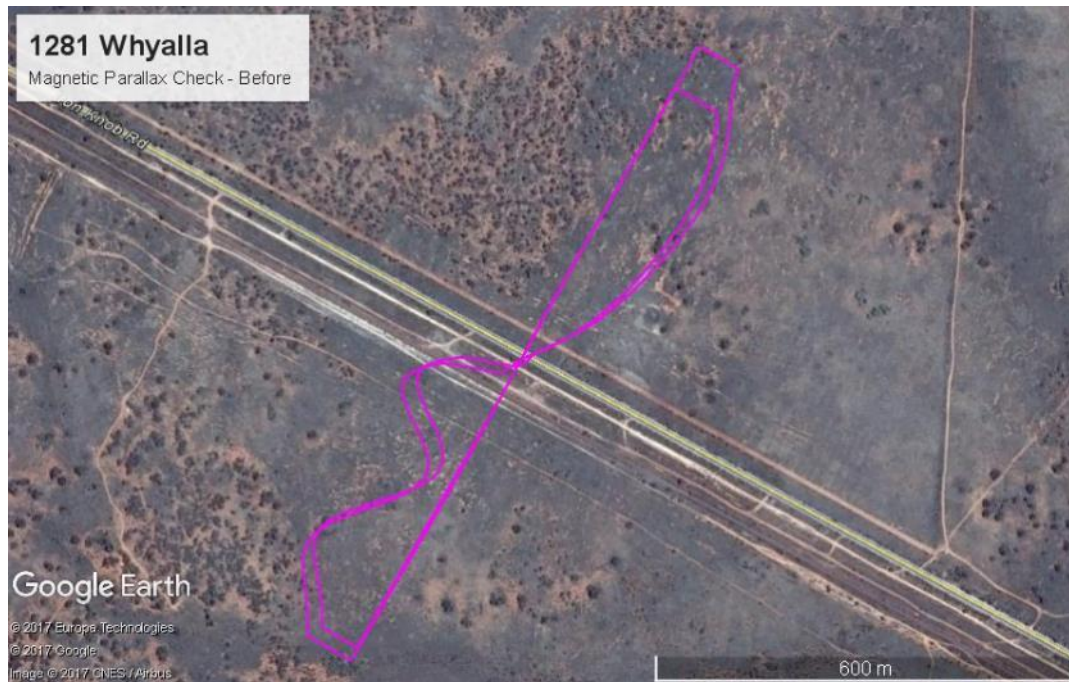
Aircraft Sensitivity Coefficients

Nominal Ht	K cps	K Sens	U cps	U Sens	Th cps	Th Sens	Total cps	Total Sens	Range concentrations		
40	337.8	132.5	45.5	13.9	218.8	7.5	5166.9	39.8			
50	299.5	117.5	42.8	13.0	198.5	6.8	4728.6	36.4	k%	2.55	
60	281.6	110.4	37.2	11.3	190.3	6.5	4485.7	34.6	U ppm	3.28	
80	224.7	88.1	31.4	9.6	162.1	5.5	3789.3	29.2	Th ppm	29.21	
100	189.6	74.4	26.9	8.2	137.7	4.7	3308.8	25.5	A	129.79	
120	152.6	59.8	26.2	8.0	119.5	4.1	2858.2	22.0			
140	127.1	49.8	19.8	6.0	103.6	3.5	2484.9	19.1			
200	74	29.0	11.8	3.6	67.7	2.3	1612.9	12.4			
300	29.7	11.6	6.2	1.9	33.5	1.1	817.1	6.3			

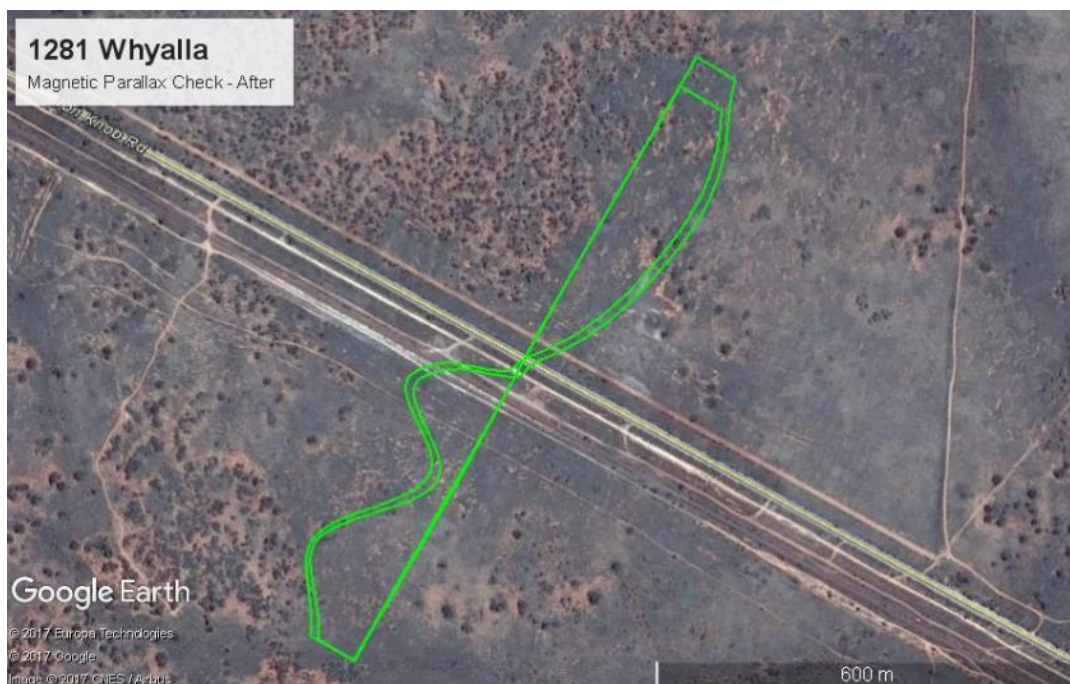
Magnetics

Magnetometer Parallax

On 9th February 2017, a magnetometer parallax test was conducted near Whyalla, by flying the same line in opposite directions. Magnetic profiles of the test are shown below, with the parallax correction determined to be -2.7 fiducials: -



Magnetic profiles before parallax application

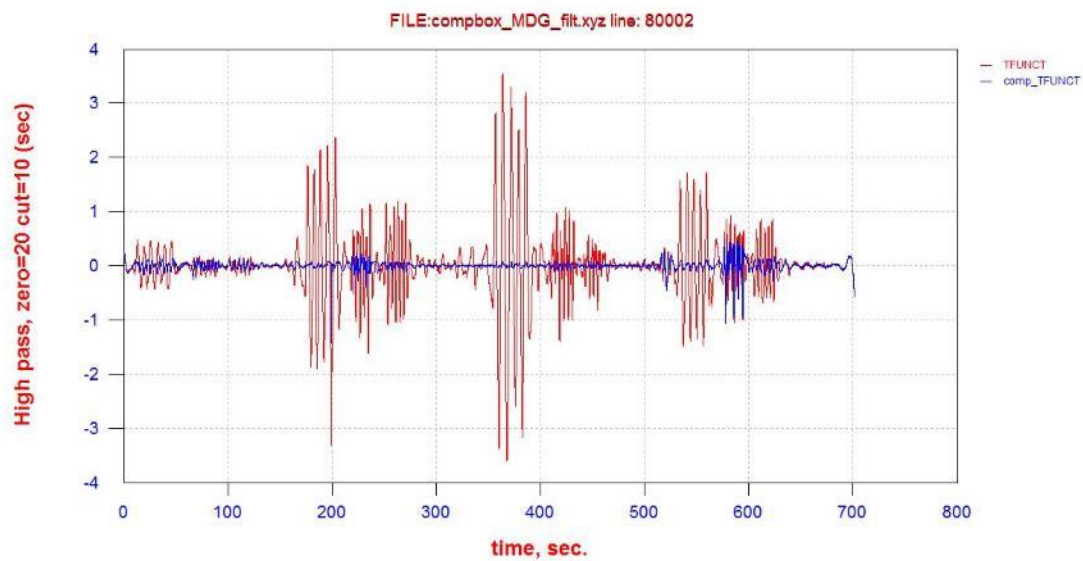
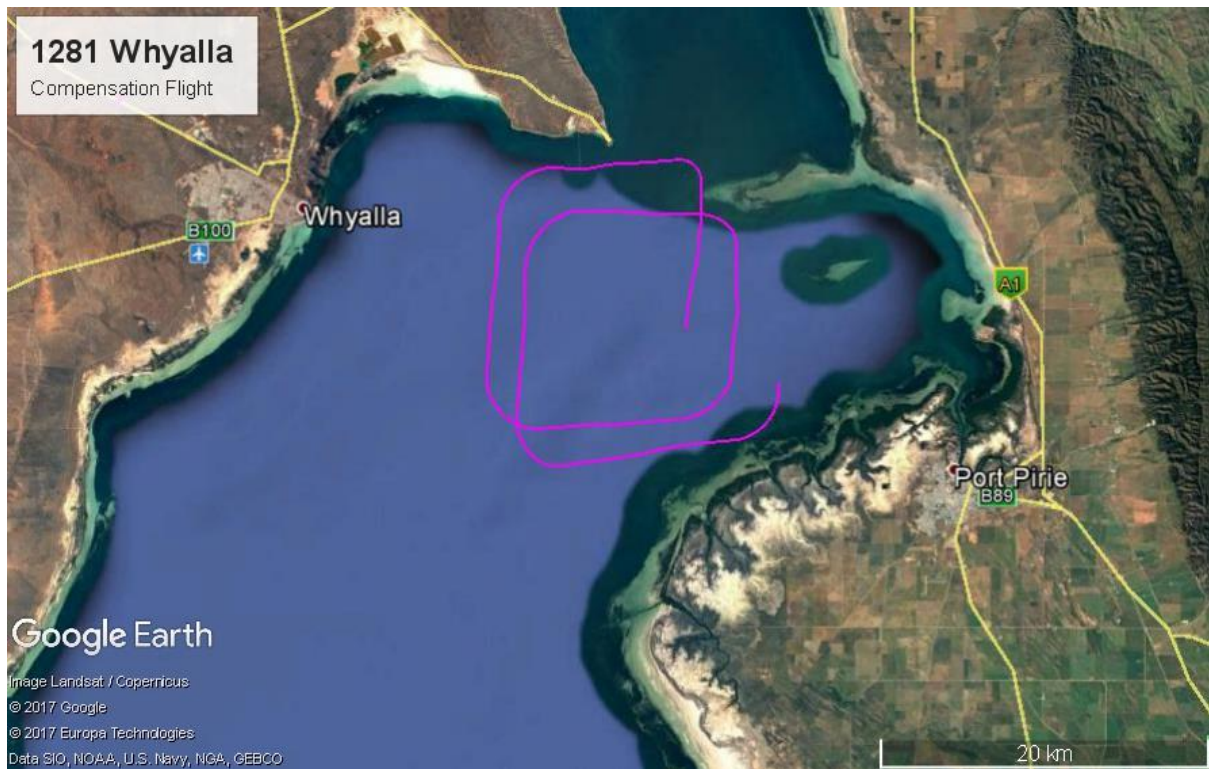


Magnetic profiles after parallax application

Magnetometer Compensation

Whyalla

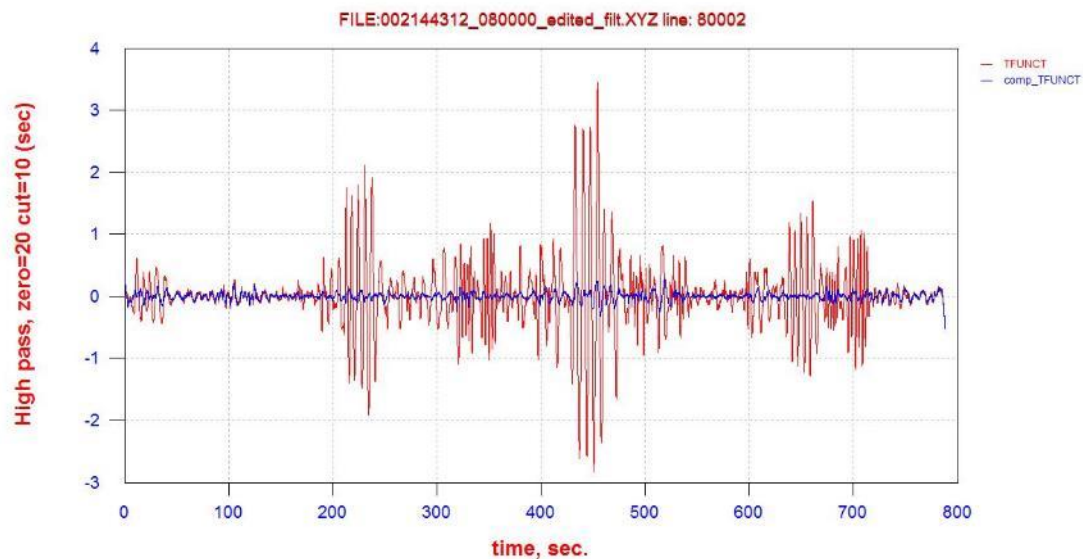
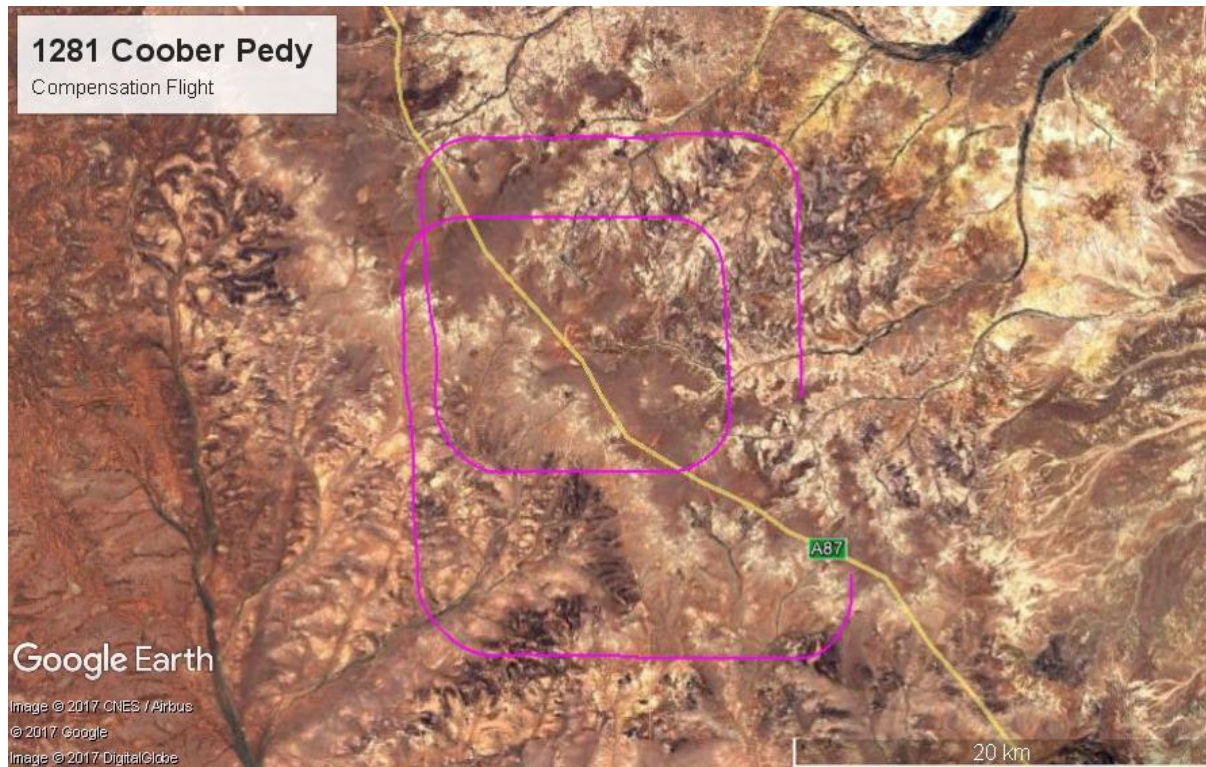
On 9th February 2017, a magnetometer compensation flight was conducted near Whyalla, South Australia. The results of the compensation box are shown below:



Sensor Channel	Line number	original RMS	compensated RMS	IR
TFUNCT	8002	0.625	0.090	6.965

Coober Pedy

A magnetometer compensation flight was conducted near the base of operations at Coober Pedy on 11th February 2017.

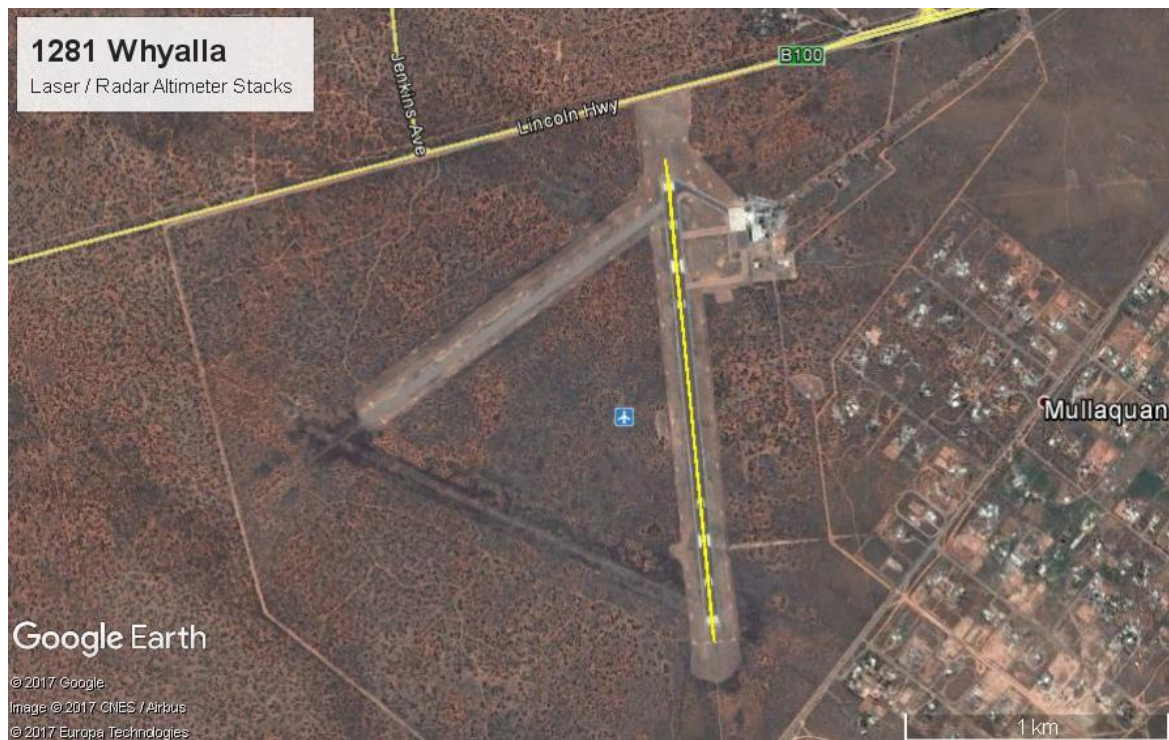


Improvement Ratio

Sensor Channel	Line number	original RMS	compensated RMS	IR
TFUNCT	80002	0.527	0.062	8.506

Altimeters

On 9th February 2017, height stacks were performed over the airstrip at Whyalla, South Australia to check and calibrate the radar and laser altimeters. The GPS height of the airstrip. 8.84m, was removed from the GPS height. Physical offsets between the GPS, radar altimeter and laser altimeter sensors were taken into account.



	Altimeter offsets (m)
GPS to airstrip	1.97
Laser to airstrip	1.72
GPS to Laser	0.25
GPS to Radar	1.25

Altimeter Stacks

Flying Height (m)	Adjusted GPS (m)	Adjusted Laser (m)	GPS - Laser Difference (m)	Adjusted Radar (m)	GPS-Radar Difference (m)
Airstrip (0)	0.00	0.00	0.00	0.00	0.00
30	36.51	36.19	0.32	33.06	3.46
60	64.41	64.65	-0.23	61.93	2.48
80	83.39	83.54	-0.15	80.94	2.45
100	102.37	102.87	-0.50	100.61	1.76
150	151.39	151.68	-0.29	149.87	1.52
300	296.00	295.28	0.72	299.60	-3.60

Daily Calibrations

Ground Calibrations

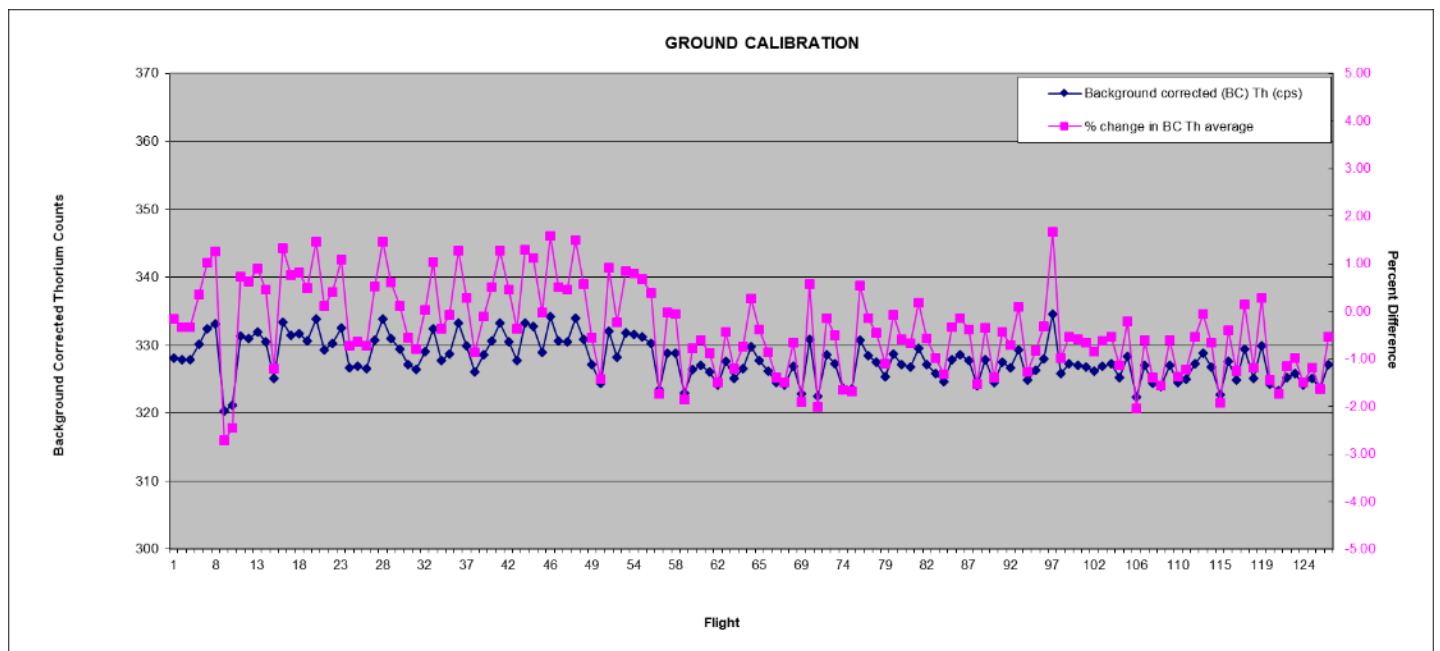
During the survey, pre- and post- flight ground calibration checks were undertaken, to confirm the health of the radiometric system: -

Date	Flight #	Thorium Peak Ch #	Th Peak Resolution	Raw Th Count (cps)	Background Count (cps)	Background corrected (BC) Th (cps)	BC running average Th (cps)	% change in BC Th average
11/02/17	1	217.33	4.70	420.66	92.59	328.07	328.19	-0.16
13/02/17	5	217.38	4.69	421.55	93.65	327.90	328.85	-0.34
13/02/17	6	217.51	4.69	424.44	96.52	327.92	328.69	-0.33
14/02/17	7	217.30	4.66	425.38	95.21	330.17	328.90	0.35
14/02/17	7	217.45	4.81	427.55	95.16	332.39	329.34	1.02
15/02/17	8	217.31	4.67	425.78	92.57	333.21	329.77	1.26
15/02/17	9	217.48	4.80	416.17	95.85	320.32	328.83	-2.71
16/02/17	10	217.42	4.72	415.35	94.22	321.13	328.13	-2.45
16/02/17	11	217.46	4.78	425.51	94.11	331.40	328.40	0.73
17/02/17	12	217.38	4.70	423.54	92.49	331.05	328.60	0.62
17/02/17	13	217.38	4.74	429.13	97.15	331.98	328.84	0.90
18/02/17	14	217.31	4.60	425.65	95.16	330.49	328.95	0.45
18/02/17	15	217.47	4.69	423.73	98.62	325.10	328.71	-1.20
21/02/17	16	217.40	4.69	425.32	91.88	333.44	328.99	1.33
21/02/17	17	217.57	4.76	423.13	91.62	331.51	329.13	0.76
22/02/17	18	217.31	4.65	424.28	92.60	331.68	329.27	0.81
22/02/17	19	217.55	4.69	422.21	91.59	330.62	329.33	0.49
23/02/17	20	217.44	4.74	424.09	90.20	333.89	329.55	1.47
23/02/17	21	217.47	4.79	422.77	93.41	329.36	329.54	0.11
24/02/17	22	217.45	4.73	423.66	93.32	330.34	329.58	0.41
24/02/17	23	217.52	4.69	424.90	92.32	332.59	329.70	1.08
25/02/17	24	217.50	4.75	420.73	94.08	326.65	329.58	-0.72
25/02/17	25	217.56	4.71	420.84	93.92	326.92	329.48	-0.64
26/02/17	26	217.34	4.83	418.49	91.88	326.61	329.37	-0.73
26/02/17	27	217.50	4.72	424.92	94.16	330.76	329.42	0.53
27/02/17	28	217.46	4.73	426.10	92.20	333.90	329.44	1.47
27/02/17	29	217.44	4.75	423.08	92.07	331.01	329.49	0.61
28/02/17	30	217.41	4.75	421.70	92.30	329.40	329.49	0.12
28/02/17	31	217.40	4.82	419.57	92.37	327.19	329.41	-0.55
02/03/17	32	217.30	4.65	419.45	93.04	326.41	329.32	-0.79
02/03/17	32	217.42	4.79	424.03	94.97	329.06	329.32	0.02
03/03/17	33	217.26	4.71	425.93	93.48	332.46	329.41	1.04
03/03/17	34	217.46	4.76	420.97	93.19	327.78	329.36	-0.37
04/03/17	35	217.37	4.69	423.33	94.60	328.73	329.34	-0.08

04/03/17	36	217.47	4.83	425.35	92.08	333.28	329.45	1.28
05/03/17	37	217.37	4.81	422.18	92.24	329.94	329.46	0.29
05/03/17	38	217.41	4.78	420.04	93.90	326.15	329.38	-0.87
06/03/17	39	217.38	4.73	421.61	92.97	328.64	329.36	-0.11
06/03/17	40	217.43	4.79	425.77	95.12	330.65	329.39	0.50
07/03/17	41	217.33	4.72	426.66	93.42	333.24	329.48	1.27
07/03/17	42	217.46	4.69	428.81	98.31	330.49	329.50	0.45
08/03/17	43	217.32	4.75	422.42	94.64	327.78	329.46	-0.37
08/03/17	44	217.49	4.73	428.50	95.18	333.32	329.55	1.30
13/03/17	45	217.34	4.65	425.70	92.95	332.74	329.69	1.12
13/03/17	45	217.47	4.69	424.51	95.60	328.91	329.68	-0.03
14/03/17	46	217.37	4.63	430.01	95.72	334.29	329.77	1.58
14/03/17	46	217.44	4.72	424.68	94.03	330.66	329.79	0.50
15/03/17	47	217.42	4.78	426.20	95.72	330.48	329.80	0.45
15/03/17	47	217.41	4.68	431.24	97.22	334.02	329.88	1.50
16/03/17	48	217.38	4.82	428.11	97.21	330.90	329.90	0.58
16/03/17	49	217.48	4.78	422.53	95.34	327.19	329.85	-0.55
17/03/17	50	217.35	4.69	420.00	95.63	324.37	329.75	-1.43
17/03/17	51	217.49	4.68	429.32	97.30	332.02	329.79	0.91
18/03/17	52	217.41	4.73	423.98	95.75	328.24	329.77	-0.23
18/03/17	53	217.49	4.82	426.43	94.61	331.82	329.80	0.85
19/03/17	54	217.47	4.72	425.14	93.52	331.62	329.83	0.79
19/03/17	55	217.46	4.78	424.93	93.71	331.22	329.85	0.67
20/03/17	56	217.48	4.75	423.81	93.55	330.26	329.86	0.38
20/03/17	57	217.32	4.77	417.34	93.94	323.40	329.76	-1.73
21/03/17	58	217.33	4.65	421.74	92.84	328.90	329.74	-0.03
21/03/17	58	217.33	4.69	424.35	95.50	328.84	329.73	-0.05
24/03/17	59	217.42	4.62	415.83	92.83	323.00	329.63	-1.86
24/03/17	59	217.55	4.78	419.79	93.35	326.45	329.58	-0.78
25/03/17	60	217.42	4.74	417.35	90.31	327.04	329.54	-0.60
25/03/17	61	217.37	4.80	418.19	92.07	326.12	329.49	-0.88
26/03/17	62	217.47	4.83	415.62	91.46	324.16	329.42	-1.49
26/03/17	62	217.43	4.82	420.92	93.33	327.59	329.39	-0.43
28/03/17	63	217.39	4.67	416.35	91.26	325.09	329.33	-1.20
28/03/17	63	217.50	4.73	421.01	94.44	326.57	329.29	-0.74
29/03/17	64	217.35	4.62	421.42	91.56	329.86	329.30	0.26
29/03/17	65	217.47	4.73	423.72	96.01	327.71	329.28	-0.39
09/04/17	66	217.32	4.61	417.65	91.49	326.16	329.24	-0.87
09/04/17	66	217.56	4.72	418.63	94.14	324.49	329.18	-1.39
10/04/17	67	217.37	4.60	415.07	90.93	324.14	329.11	-1.50
10/04/17	68	217.49	4.70	421.26	94.38	326.87	329.08	-0.65
11/04/17	69	217.27	4.63	414.95	92.08	322.87	329.01	-1.90
11/04/17	70	217.50	4.62	422.39	91.51	330.88	329.03	0.57

12/04/17	71	217.32	4.54	414.37	91.84	322.53	328.95	-2.01
12/04/17	72	217.41	4.62	422.28	93.72	328.55	328.95	-0.14
13/04/17	73	217.29	4.76	419.05	91.72	327.33	328.93	-0.51
13/04/17	74	217.47	4.73	415.48	91.81	323.67	328.86	-1.65
14/04/17	75	217.40	4.69	415.33	91.75	323.58	328.80	-1.68
14/04/17	76	217.49	4.71	423.20	92.43	330.77	328.83	0.54
15/04/17	77	217.41	4.76	420.35	91.82	328.53	328.82	-0.14
15/04/17	78	217.45	4.68	419.76	92.26	327.50	328.81	-0.46
16/04/17	79	217.40	4.68	416.64	91.22	325.42	328.77	-1.10
16/04/17	79	217.48	4.63	418.84	90.12	328.72	328.77	-0.08
27/04/17	80	217.33	4.61	414.07	86.95	327.11	328.75	-0.58
27/04/17	80	217.43	4.73	413.58	86.76	326.82	328.74	-0.67
28/04/17	81	217.41	4.53	416.75	87.17	329.58	328.74	0.18
28/04/17	82	217.53	4.74	419.86	92.73	327.13	328.72	-0.57
29/04/17	83	217.26	4.69	415.88	90.08	325.80	328.69	-0.98
29/04/17	84	217.37	4.69	415.12	90.42	324.71	328.65	-1.32
30/04/17	85	217.34	4.66	414.92	87.01	327.91	328.64	-0.33
30/04/17	86	217.49	4.68	419.15	90.60	328.55	328.64	-0.14
01/05/17	87	217.41	4.68	416.19	88.46	327.73	328.63	-0.39
01/05/17	88	217.48	4.70	417.55	93.51	324.04	328.59	-1.53
02/05/17	89	217.30	4.64	416.99	89.13	327.86	328.58	-0.35
02/05/17	90	217.45	4.70	421.70	97.22	324.49	328.54	-1.39
03/05/17	91	217.29	4.57	418.86	91.29	327.56	328.53	-0.44
03/05/17	92	217.36	4.68	420.20	93.53	326.67	328.51	-0.71
05/05/17	93	217.15	4.57	418.37	89.03	329.34	328.52	0.10
05/05/17	94	217.39	4.61	416.37	91.50	324.87	328.49	-1.27
06/05/17	95	217.25	4.64	416.21	89.90	326.32	328.47	-0.82
06/05/17	96	217.51	4.74	419.33	91.38	327.95	328.46	-0.32
07/05/17	97	217.36	4.57	423.15	88.56	334.58	328.52	1.67
07/05/17	98	217.56	4.77	420.55	94.73	325.82	328.49	-0.98
08/05/17	99	217.27	4.67	416.88	89.61	327.27	328.48	-0.53
08/05/17	100	217.39	4.61	419.79	92.71	327.08	328.47	-0.59
09/05/17	101	217.35	4.62	418.08	91.21	326.86	328.46	-0.65
09/05/17	102	217.52	4.68	419.62	93.40	326.22	328.44	-0.85
10/05/17	103	217.31	4.65	415.92	88.99	326.94	328.42	-0.63
10/05/17	104	217.48	4.58	419.27	92.04	327.24	328.41	-0.54
11/05/17	105	217.38	4.79	415.89	90.60	325.29	328.39	-1.14
11/05/17	106	217.45	4.67	419.98	91.67	328.31	328.39	-0.21
12/05/17	106	217.33	4.59	415.88	93.45	322.43	328.34	-2.04
12/05/17	107	217.44	4.68	420.13	93.12	327.02	328.33	-0.61
13/05/17	108	217.39	4.60	415.81	91.33	324.47	328.30	-1.40
13/05/17	109	217.42	4.70	416.75	92.81	323.94	328.26	-1.56
14/05/17	109	217.41	4.76	418.60	91.60	327.01	328.25	-0.61

14/05/17	110	217.42	4.66	417.40	92.88	324.52	328.22	-1.38
15/05/17	111	217.47	4.74	416.62	91.58	325.04	328.19	-1.22
15/05/17	111	217.35	4.68	420.29	93.01	327.28	328.19	-0.53
18/05/17	112	217.34	4.67	418.37	89.58	328.80	328.19	-0.06
18/05/17	114	217.47	4.67	418.10	91.26	326.84	328.18	-0.66
19/05/17	115	217.32	4.74	415.44	92.65	322.79	328.14	-1.92
19/05/17	115	217.63	4.57	419.33	91.65	327.68	328.14	-0.40
20/05/17	116	217.31	4.68	416.07	91.18	324.90	328.11	-1.26
20/05/17	117	217.49	4.75	419.04	89.56	329.48	328.12	0.15
21/05/17	118	217.31	4.63	417.87	92.72	325.15	328.10	-1.18
21/05/17	119	217.45	4.65	422.76	92.81	329.95	328.11	0.29
22/05/17	120	217.41	4.72	417.86	93.54	324.31	328.09	-1.45
22/05/17	121	217.48	4.65	417.11	93.72	323.39	328.05	-1.74
23/05/17	122	217.41	4.76	415.32	90.10	325.22	328.03	-1.16
23/05/17	123	217.53	4.67	419.05	93.23	325.82	328.02	-0.98
24/05/17	124	217.36	4.62	415.40	91.25	324.15	327.99	-1.50
24/05/17	125	217.46	4.62	416.60	92.25	325.15	327.97	-1.18
25/05/17	126	217.25	4.72	415.18	91.49	323.69	327.94	-1.64
25/05/17	127	217.45	4.67	418.20	90.98	327.22	327.93	-0.54



Low Level Test Line

A suitable radiometric low-level test line was established near each base of operation, as shown in the images below. The pre- and post-survey data were collected to monitor the effects of soil moisture: -



Coober Pedy low-level test line (Start: 471972E 6778153N; End: 482067E 6778794N – MGA Zone 53)



William Creek low-level test line (Start: 626227E 6800818N; End: 630230E 6791393N – MGA Zone 53)

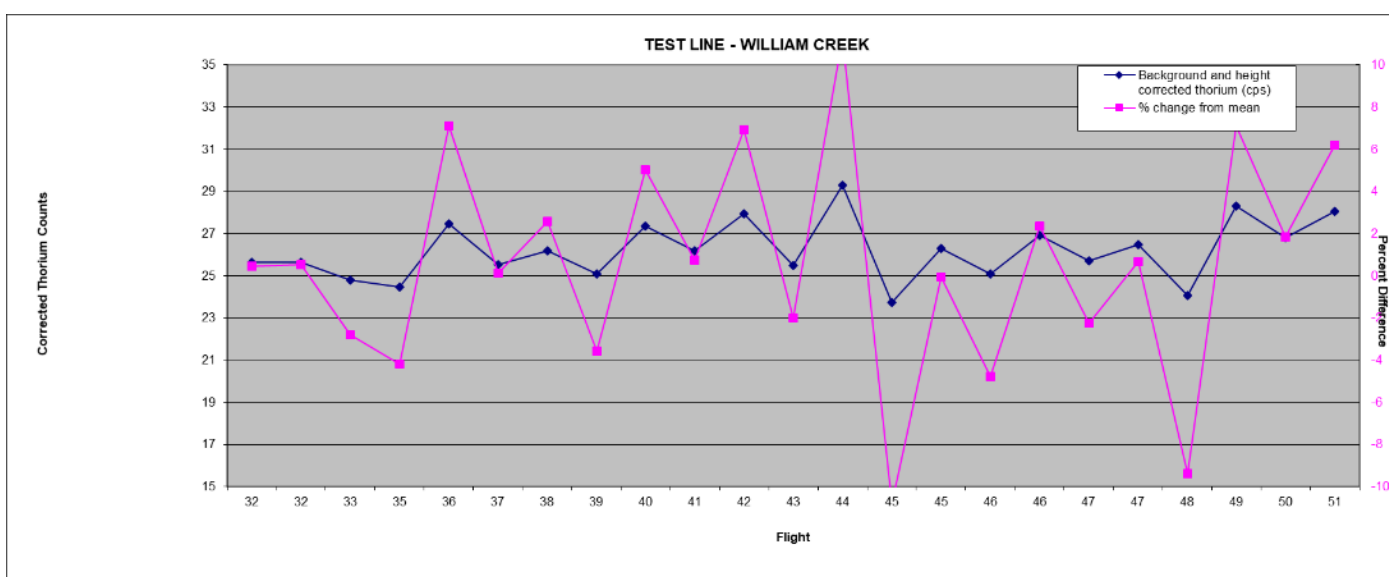
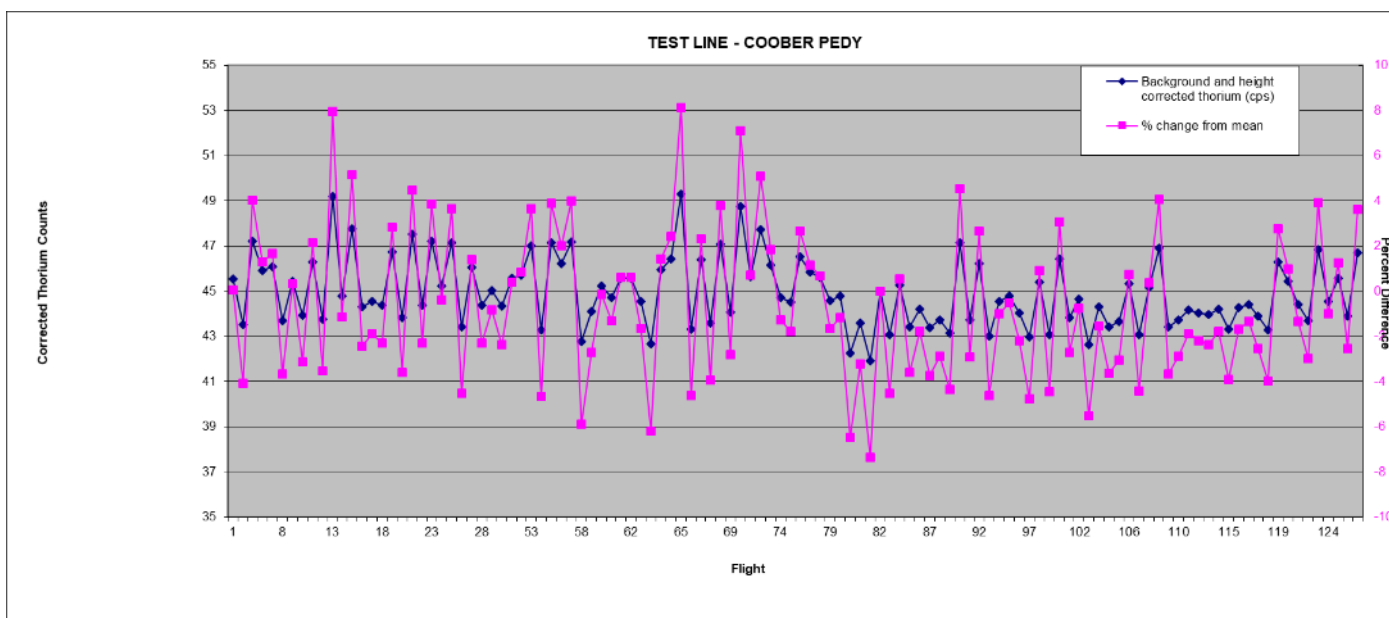
Low Level Test Lines (Coober Pedy / [William Creek](#))

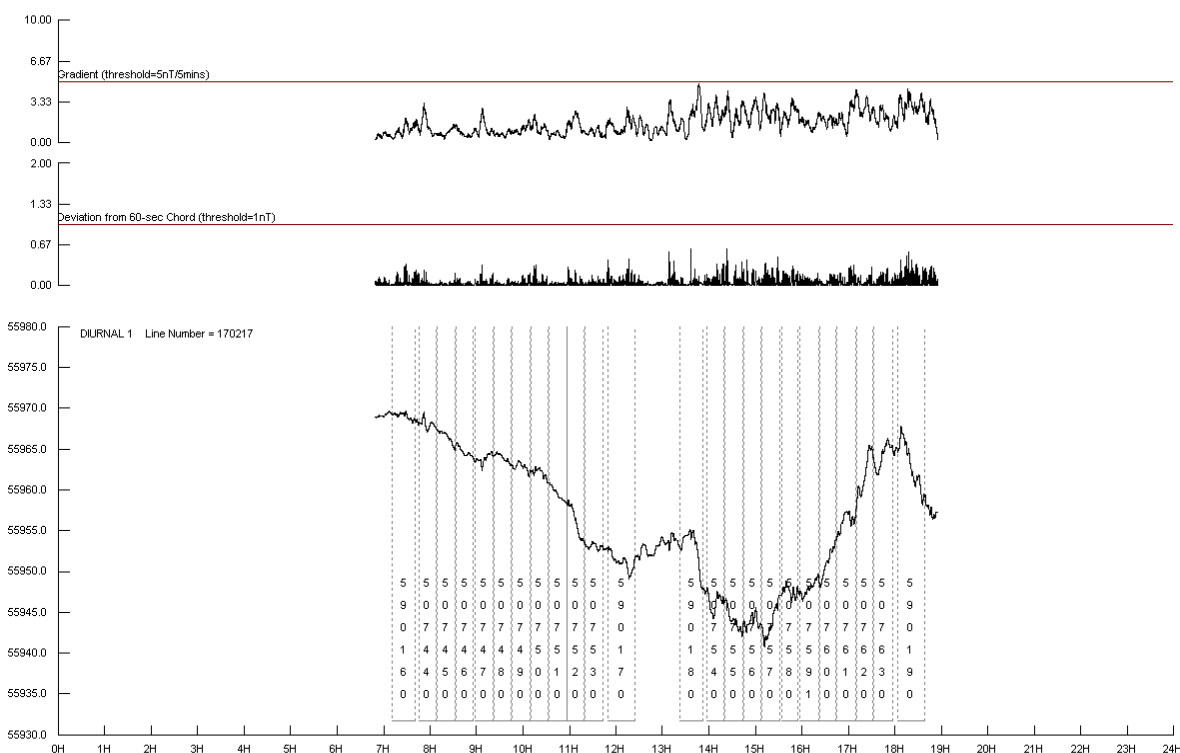
Date	Flight #	Background and height corrected thorium (cps)	% change from mean
11/02/17	1	45.54	0.05
13/02/17	5	43.53	-4.07
13/02/17	6	47.20	4.03
14/02/17	7	45.90	1.30
14/02/17	7	46.07	1.66
15/02/17	8	43.70	-3.67
15/02/17	9	45.45	0.32
16/02/17	10	43.93	-3.12
16/02/17	11	46.30	2.15
17/02/17	12	43.75	-3.54
17/02/17	13	49.21	7.95
18/02/17	14	44.79	-1.15
18/02/17	15	47.76	5.14
21/02/17	16	44.32	-2.44
21/02/17	17	44.55	-1.90
22/02/17	18	44.38	-2.30
22/02/17	19	46.72	2.83
23/02/17	20	43.83	-3.59
23/02/17	21	47.53	4.48
24/02/17	22	44.38	-2.30
24/02/17	23	47.22	3.85
25/02/17	24	45.22	-0.40
25/02/17	25	47.13	3.66
26/02/17	26	43.43	-4.53
26/02/17	27	46.04	1.39
27/02/17	28	44.38	-2.30
27/02/17	29	45.02	-0.84
28/02/17	30	44.35	-2.36
28/02/17	31	45.58	0.40
02/03/17	32	25.62	0.46
02/03/17	32	25.64	0.54
03/03/17	33	24.80	-2.82
04/03/17	35	24.47	-4.20
04/03/17	36	27.45	7.11
05/03/17	37	25.53	0.12
05/03/17	38	26.17	2.57
06/03/17	39	25.10	-3.57
06/03/17	40	27.37	5.02
07/03/17	41	26.19	0.73

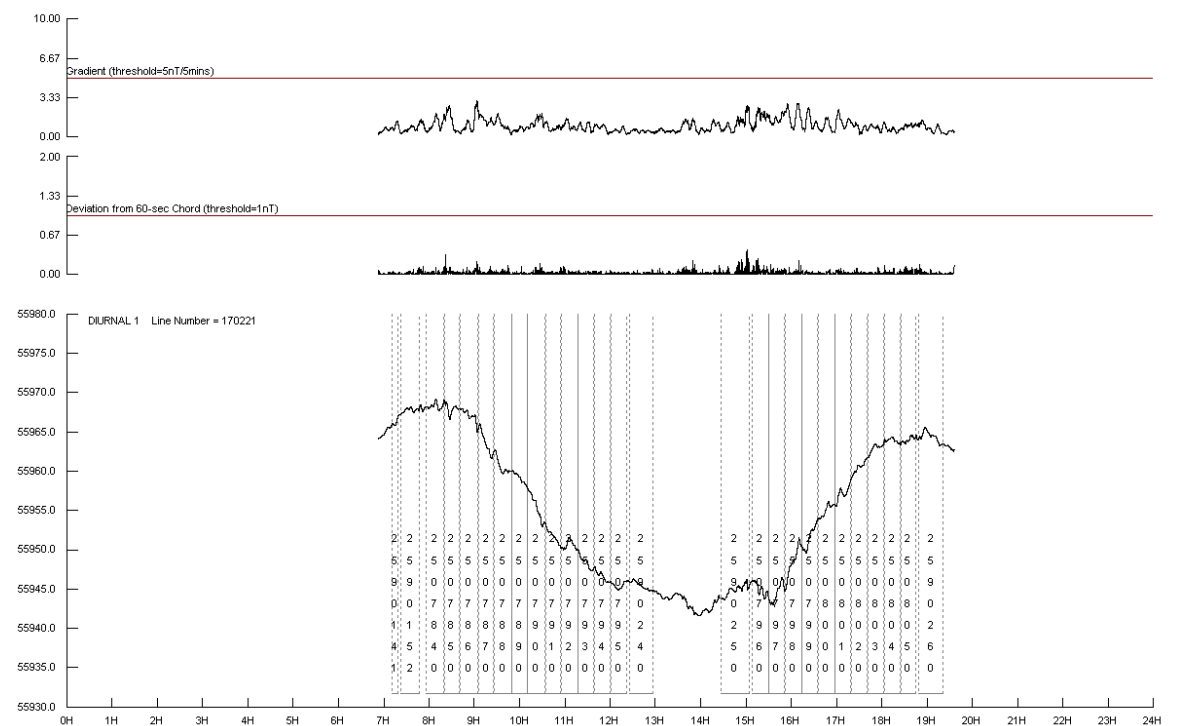
07/03/17	42	27.93	6.93
08/03/17	43	25.49	-1.99
08/03/17	44	29.30	11.27
13/03/17	45	23.73	-10.82
13/03/17	45	26.28	-0.06
14/03/17	46	25.10	-4.76
14/03/17	46	26.93	2.34
15/03/17	47	25.72	-2.27
15/03/17	47	26.48	0.68
16/03/17	48	24.05	-9.37
16/03/17	49	28.32	7.12
17/03/17	50	26.79	1.84
17/03/17	51	28.04	6.19
18/03/17	52	45.69	0.85
18/03/17	53	47.02	3.66
19/03/17	54	43.28	-4.67
19/03/17	55	47.13	3.89
20/03/17	56	46.23	2.02
20/03/17	57	47.19	4.00
21/03/17	58	42.78	-5.88
24/03/17	59	44.10	-2.72
24/03/17	59	45.24	-0.14
25/03/17	60	44.72	-1.30
25/03/17	61	45.58	0.62
26/03/17	62	45.58	0.62
26/03/17	62	44.56	-1.65
28/03/17	63	42.65	-6.21
28/03/17	63	45.96	1.43
29/03/17	64	46.42	2.42
29/03/17	65	49.30	8.11
09/04/17	66	43.30	-4.63
09/04/17	66	46.38	2.32
10/04/17	67	43.57	-3.96
10/04/17	68	47.09	3.79
11/04/17	69	44.07	-2.80
11/04/17	70	48.76	7.10
12/04/17	71	45.63	0.72
12/04/17	72	47.73	5.08
13/04/17	73	46.14	1.82
13/04/17	74	44.72	-1.29
14/04/17	75	44.50	-1.80
14/04/17	76	46.54	2.67
15/04/17	77	45.83	1.15

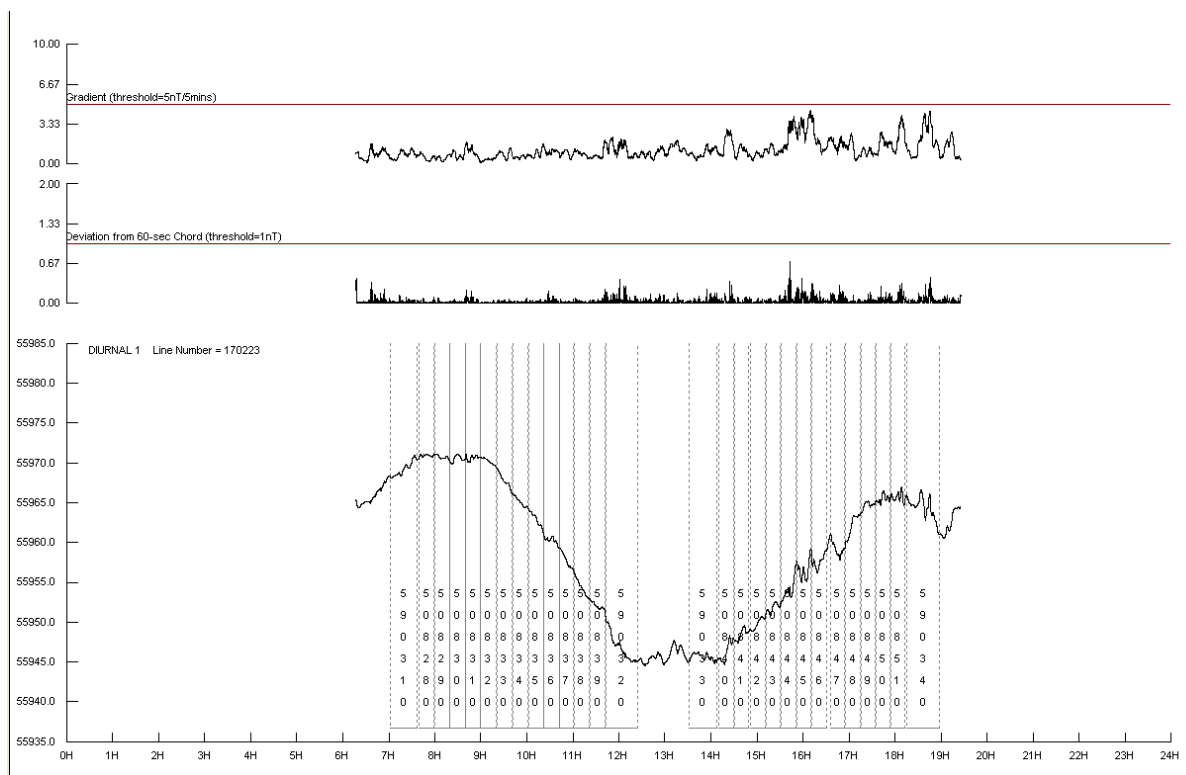
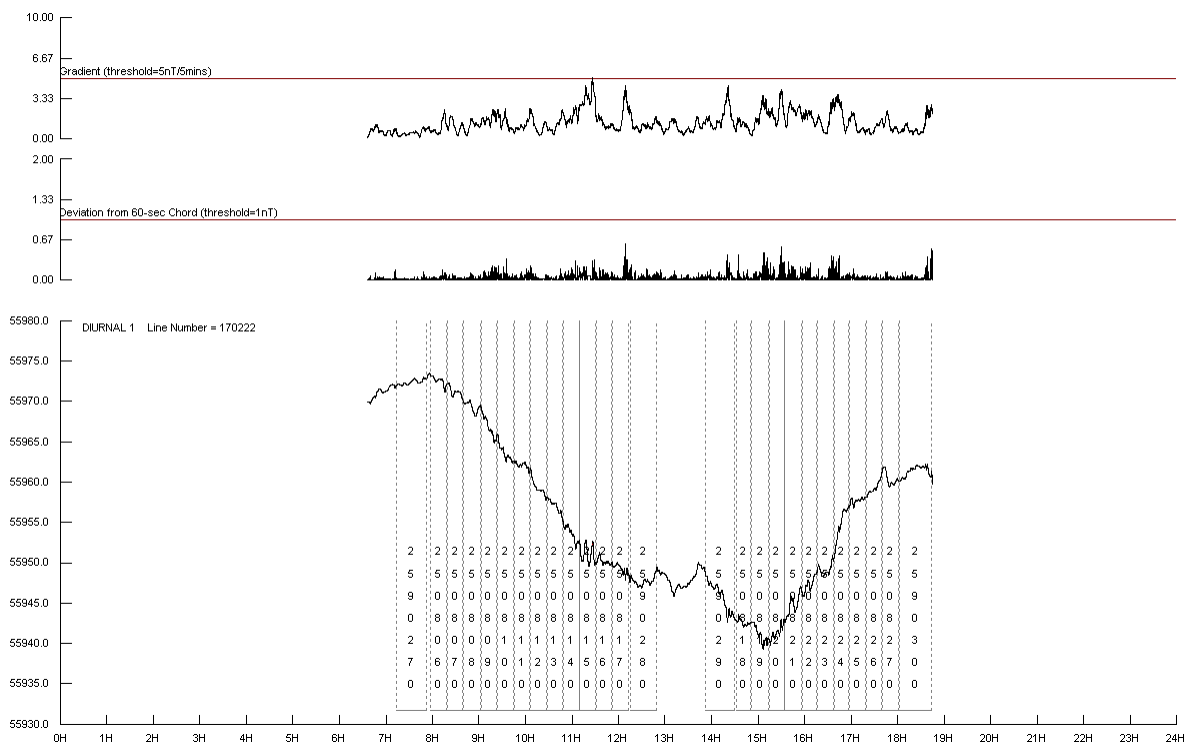
15/04/17	78	45.61	0.68
16/04/17	79	44.57	-1.64
16/04/17	79	44.78	-1.16
27/04/17	80	42.27	-6.46
27/04/17	80	43.59	-3.23
28/04/17	81	41.92	-7.35
28/04/17	82	45.00	0.00
29/04/17	83	43.06	-4.51
29/04/17	84	45.25	0.55
30/04/17	85	43.43	-3.61
30/04/17	86	44.21	-1.80
01/05/17	87	43.38	-3.74
01/05/17	88	43.74	-2.88
02/05/17	89	43.13	-4.34
02/05/17	90	47.13	4.53
03/05/17	91	43.72	-2.93
03/05/17	92	46.22	2.64
05/05/17	93	43.01	-4.63
05/05/17	94	44.56	-1.00
06/05/17	95	44.77	-0.51
06/05/17	96	44.03	-2.21
07/05/17	97	42.96	-4.76
07/05/17	98	45.41	0.91
08/05/17	99	43.08	-4.47
08/05/17	100	46.41	3.05
09/05/17	101	43.82	-2.70
09/05/17	102	44.66	-0.76
10/05/17	103	42.64	-5.52
10/05/17	104	44.31	-1.55
11/05/17	105	43.43	-3.62
11/05/17	106	43.67	-3.04
12/05/17	106	45.33	0.74
12/05/17	107	43.09	-4.42
13/05/17	108	45.17	0.38
13/05/17	109	46.90	4.06
14/05/17	109	43.41	-3.66
14/05/17	110	43.74	-2.88
15/05/17	111	44.16	-1.90
15/05/17	111	44.03	-2.21
18/05/17	112	43.96	-2.37
18/05/17	114	44.21	-1.79
19/05/17	115	43.31	-3.91
19/05/17	115	44.26	-1.68

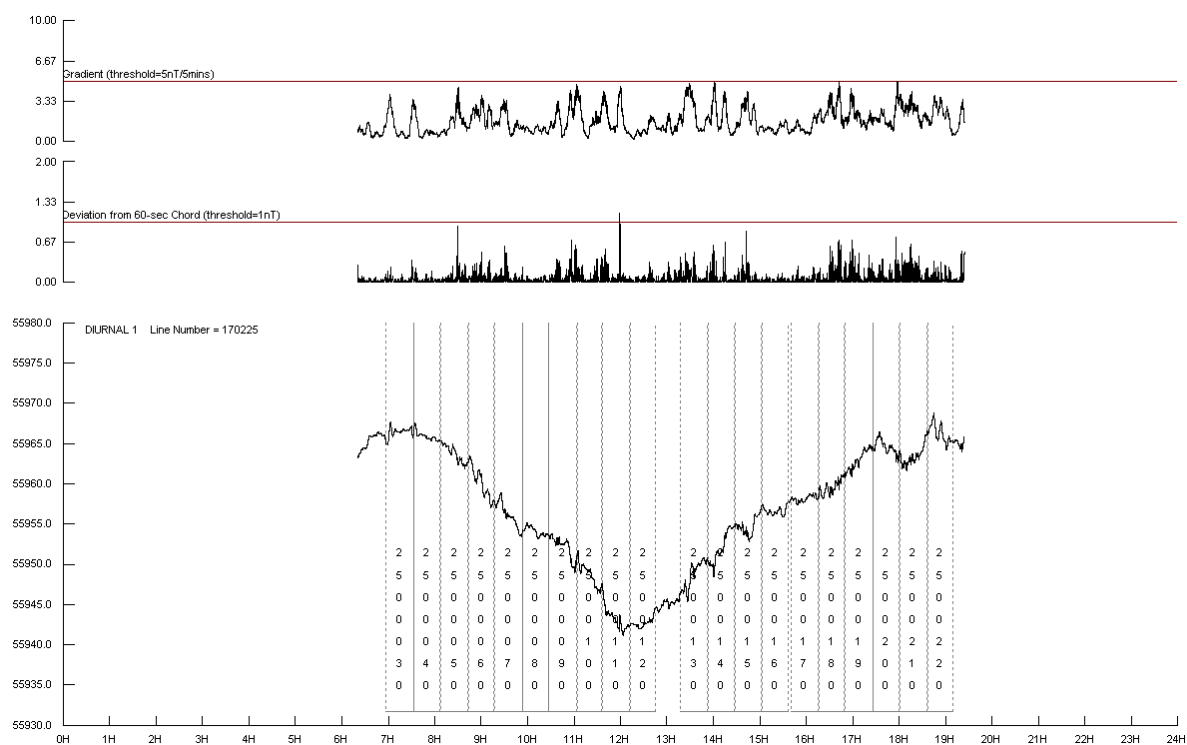
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21/05/17	118	43.28	-3.97
21/05/17	119	46.28	2.77
22/05/17	120	45.45	0.99
22/05/17	121	44.40	-1.34
23/05/17	122	43.69	-2.99
23/05/17	123	46.84	3.93
24/05/17	124	44.56	-0.99
24/05/17	125	45.57	1.25
25/05/17	126	43.88	-2.55
25/05/17	127	46.69	3.62

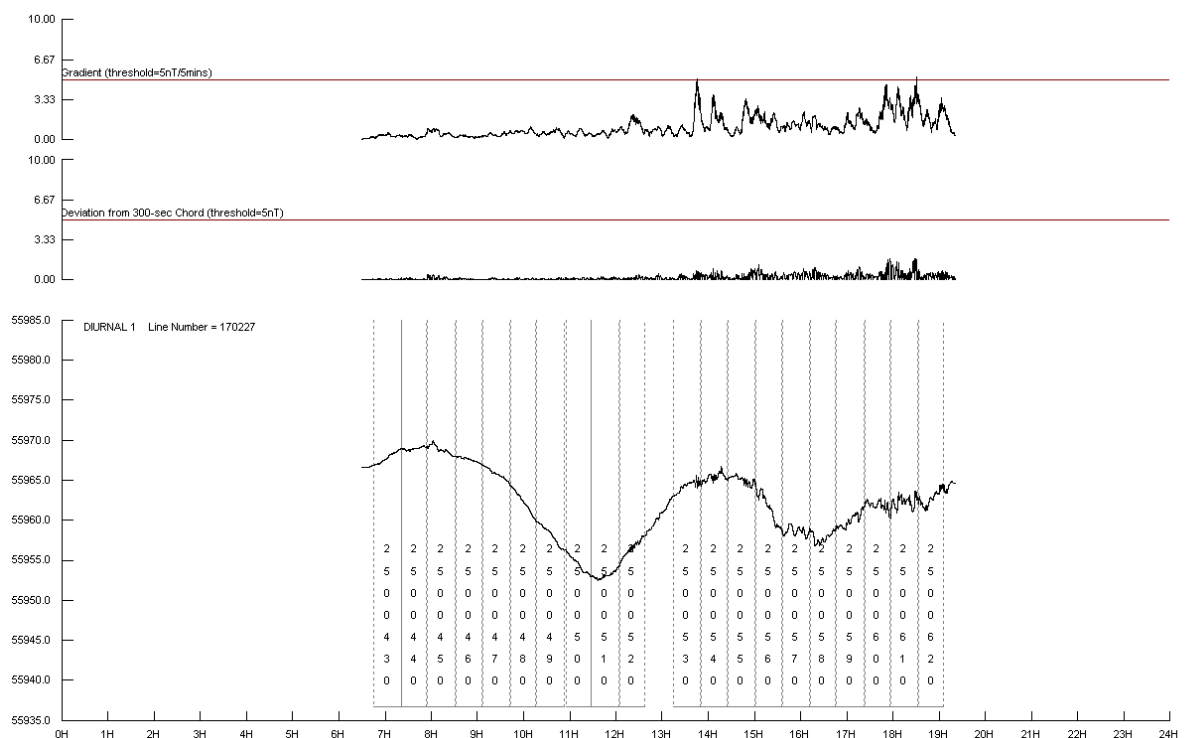
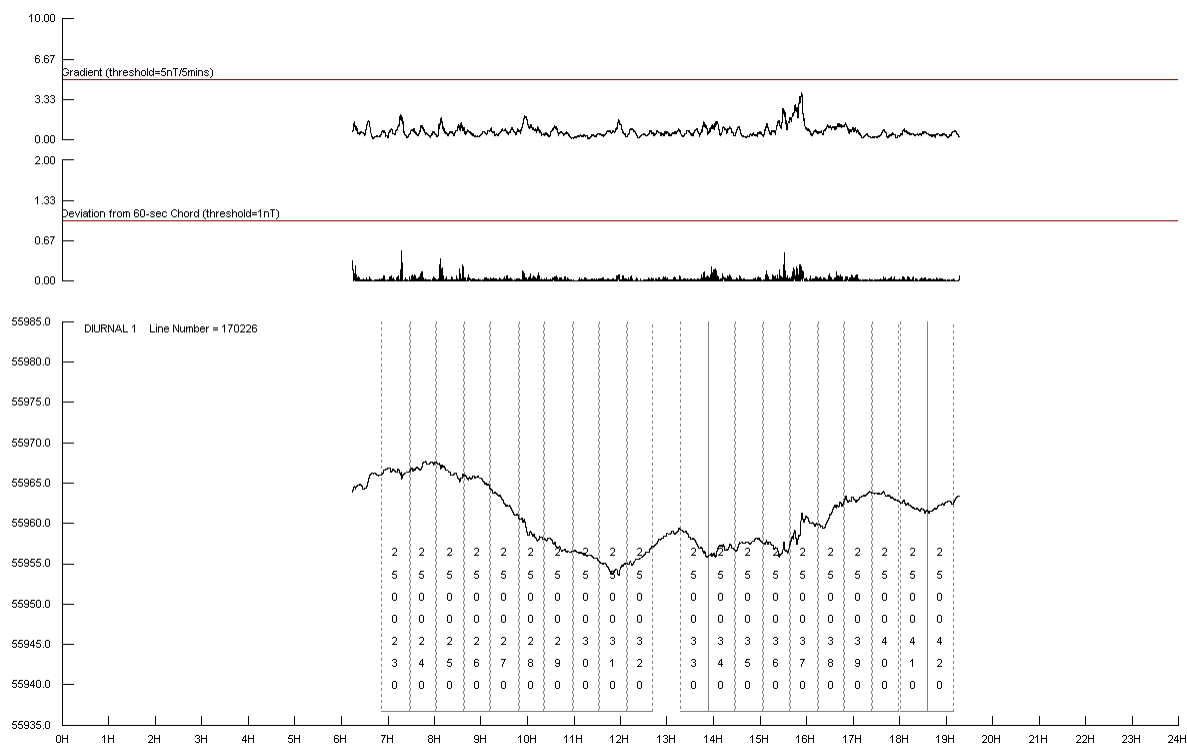


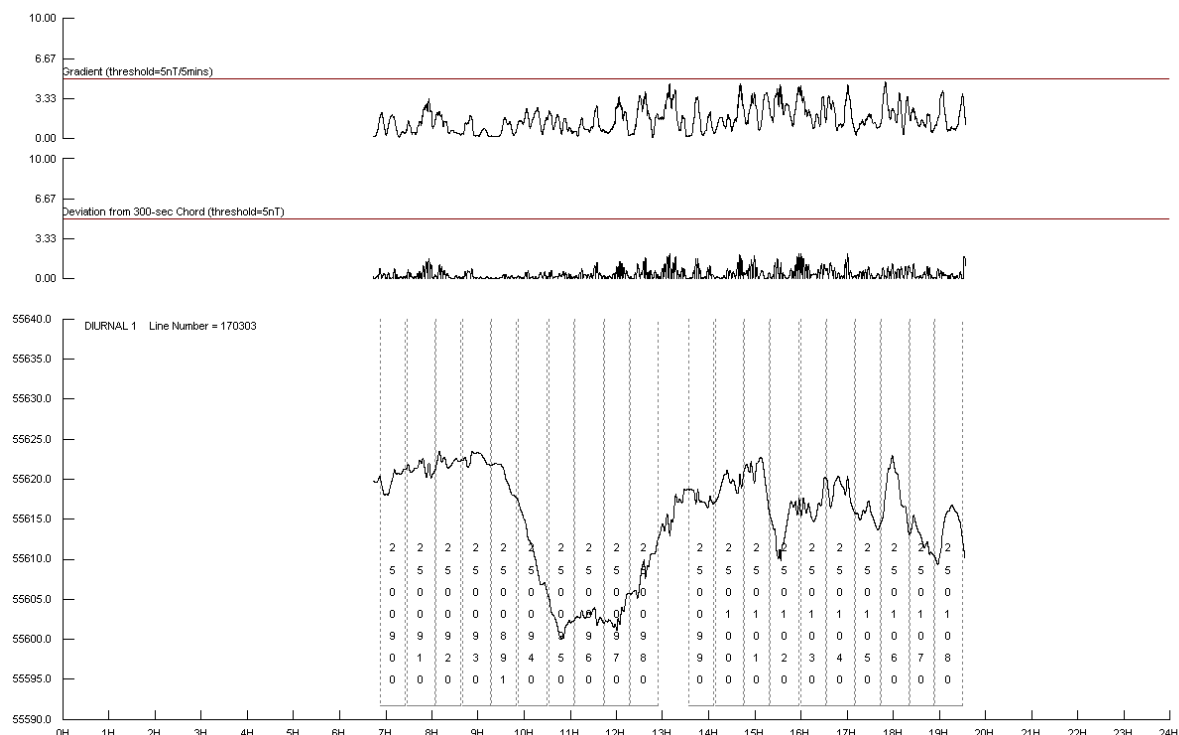
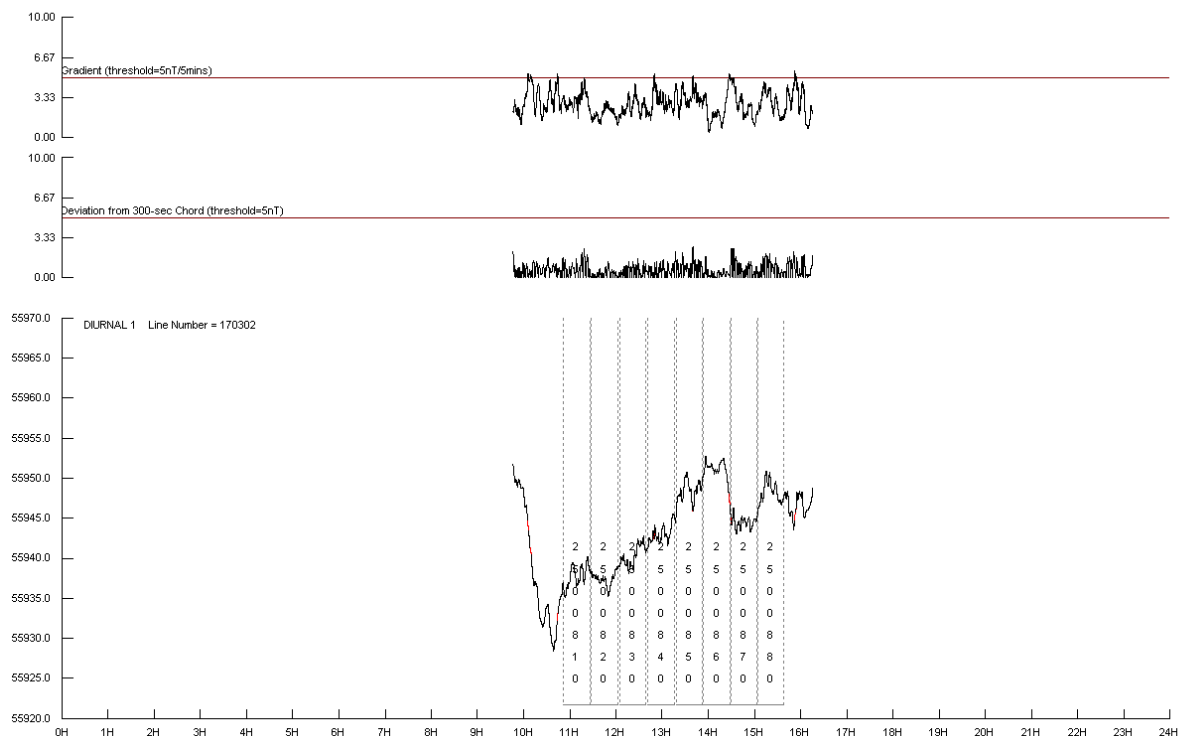


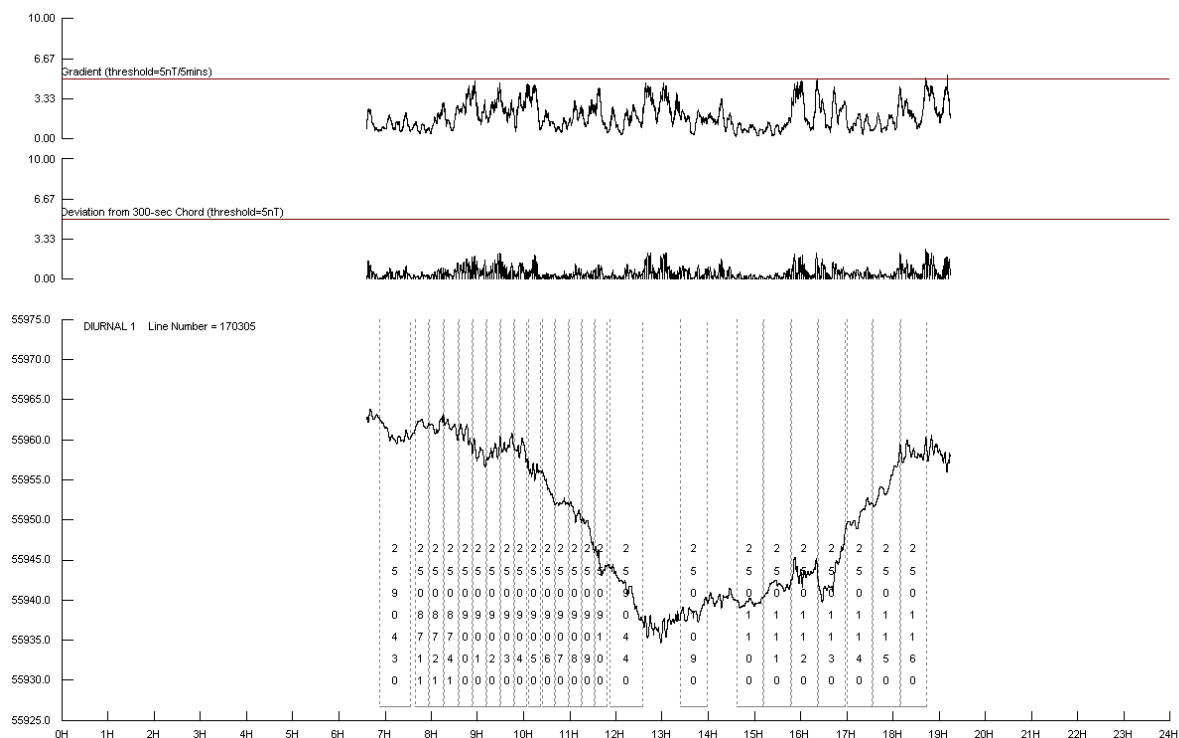
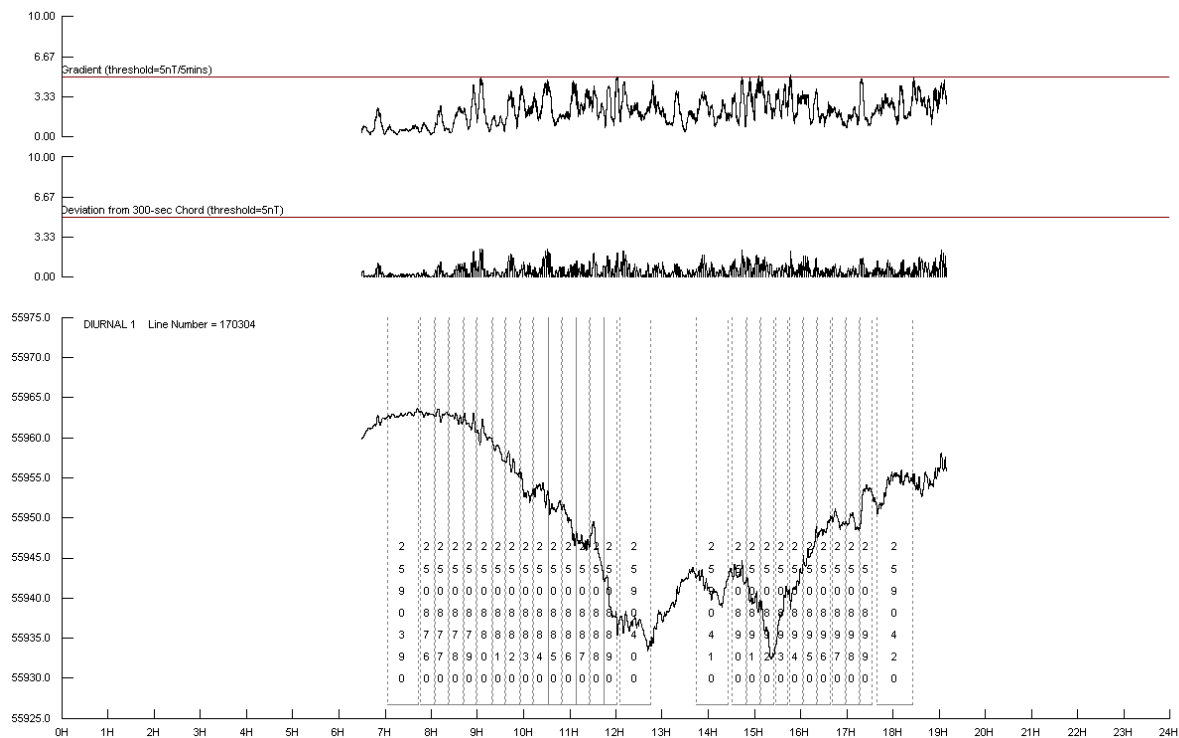


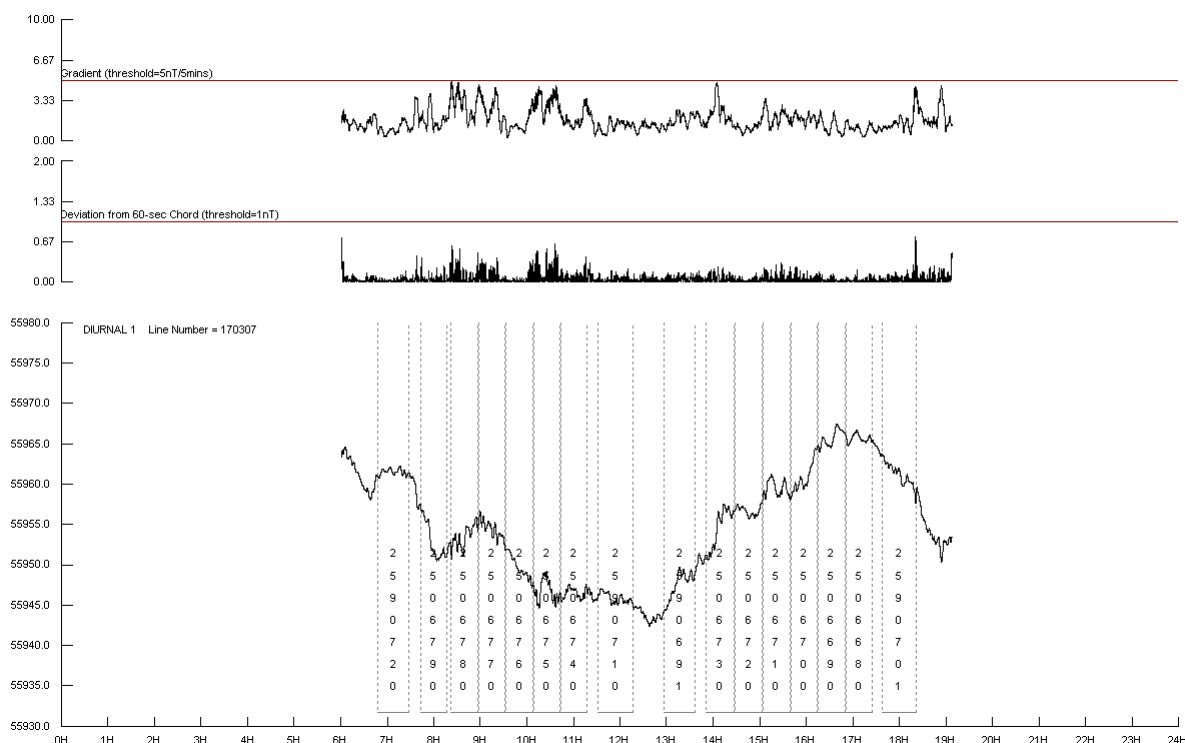
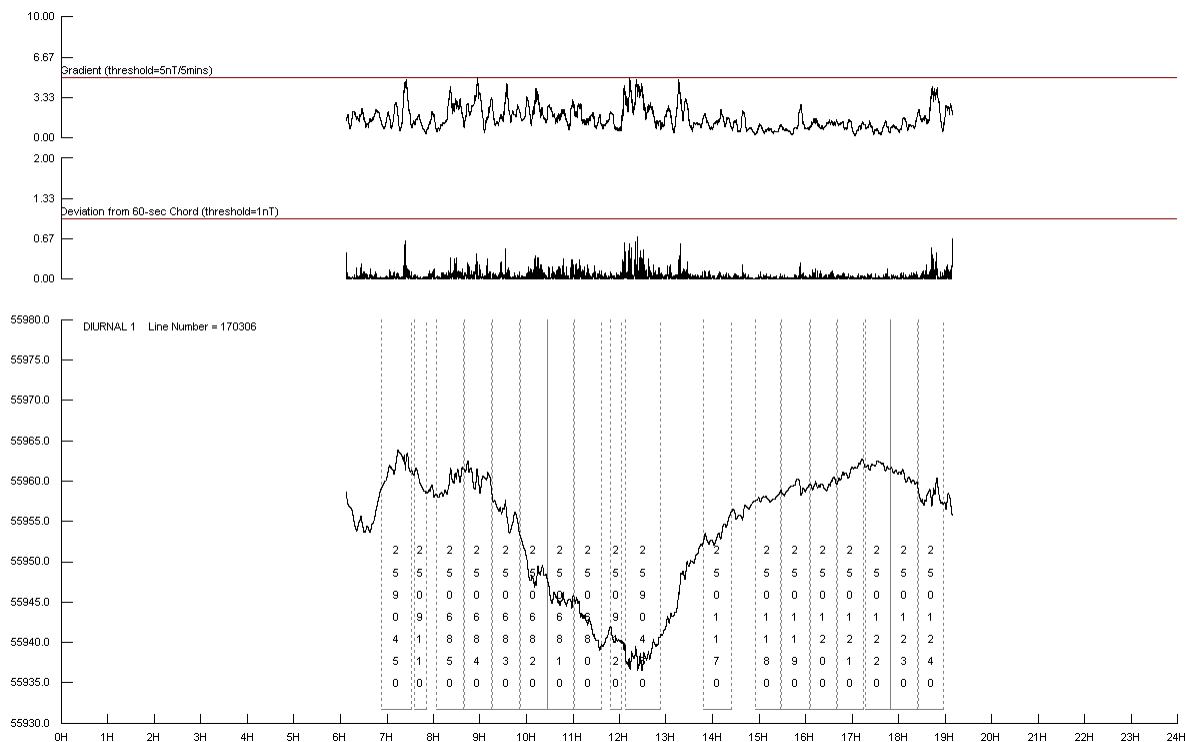


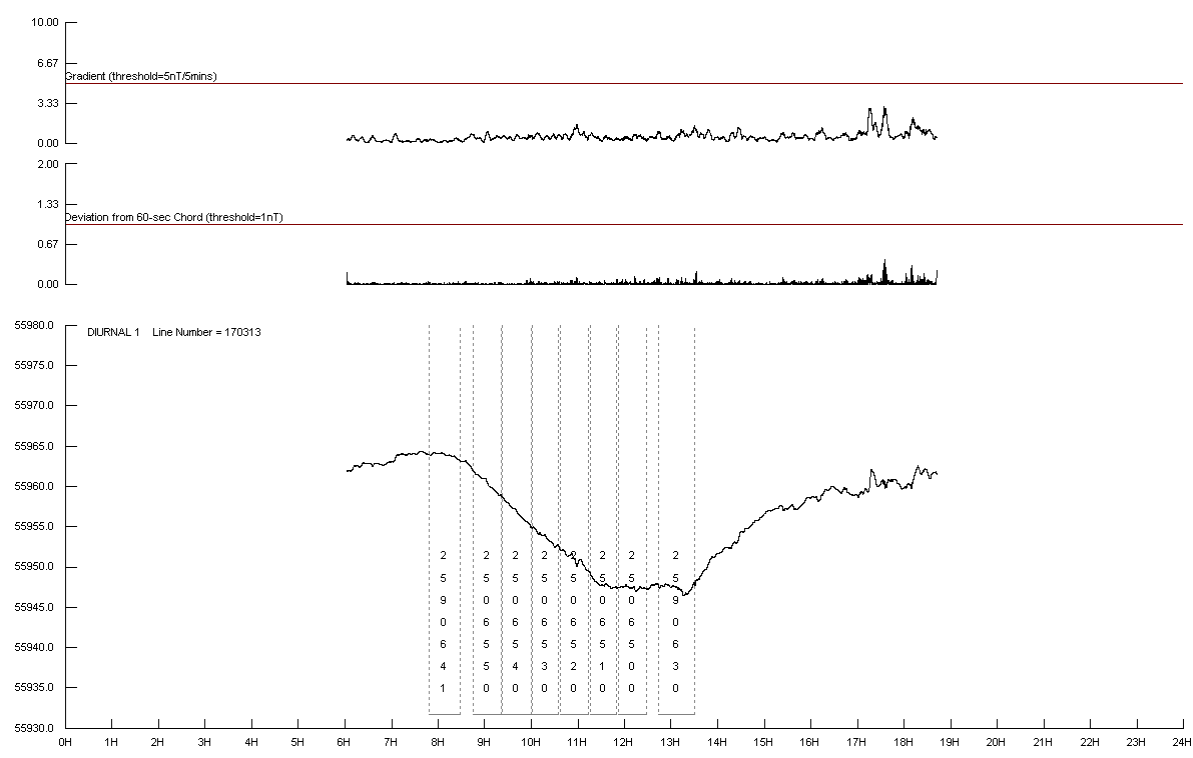


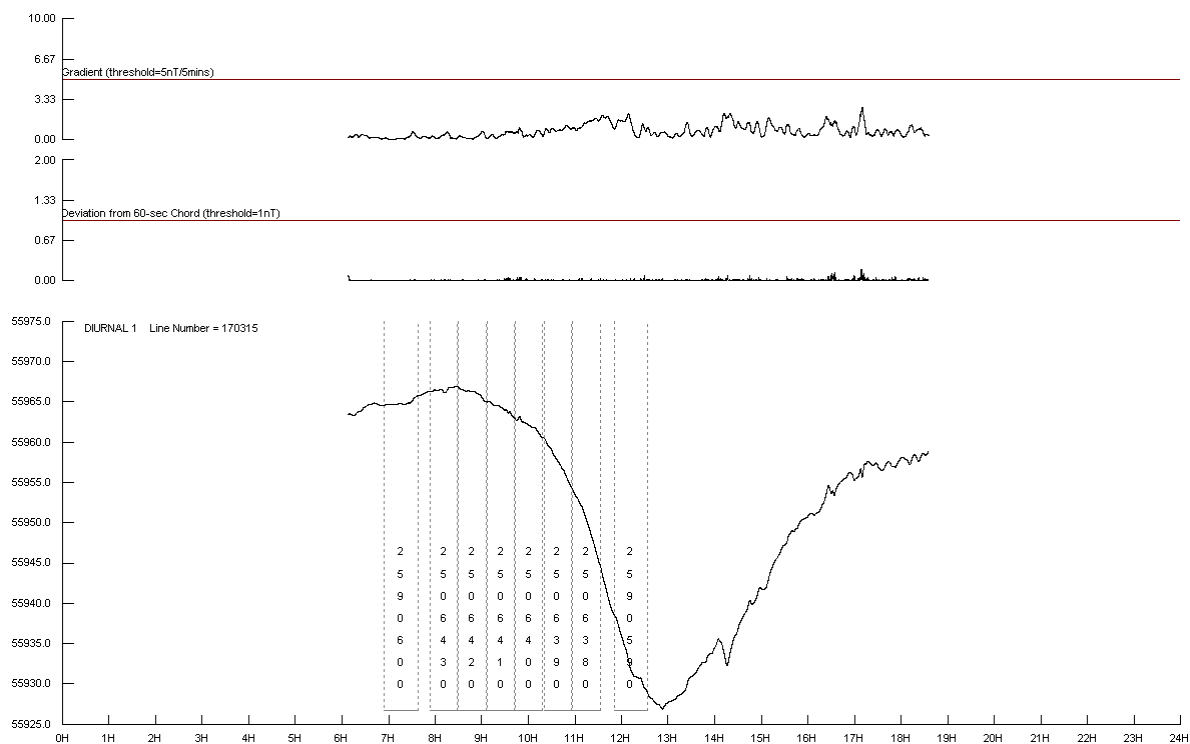
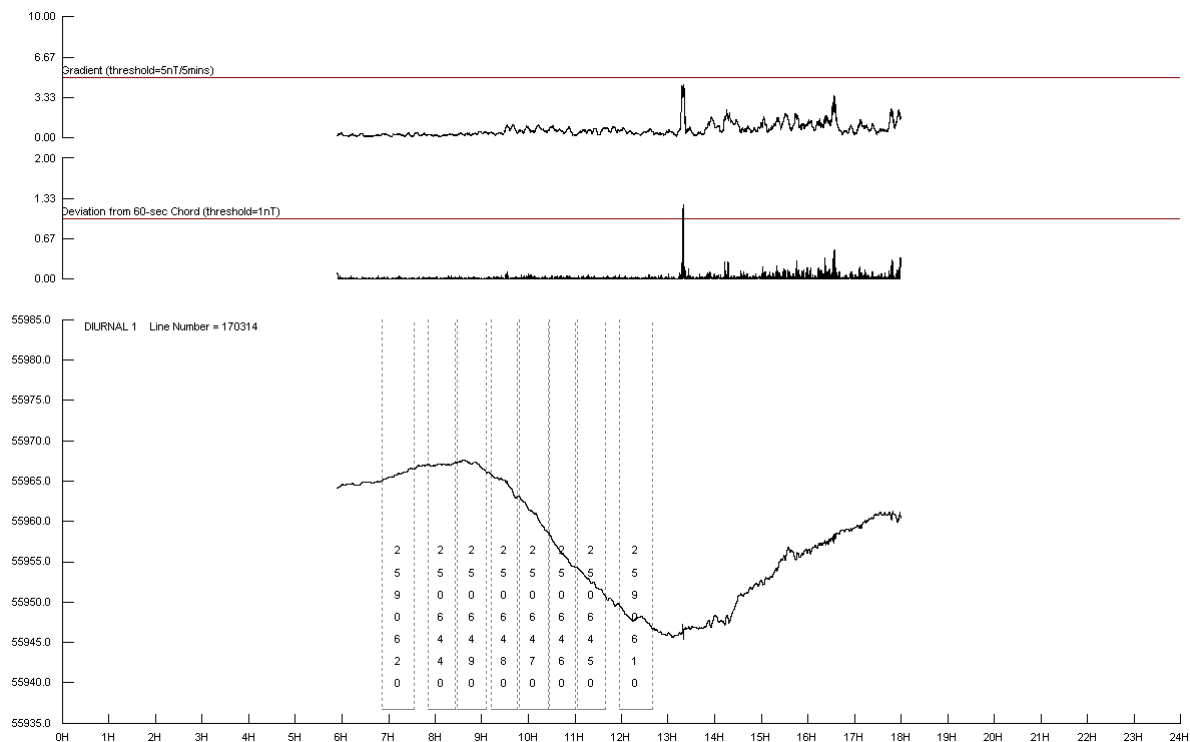


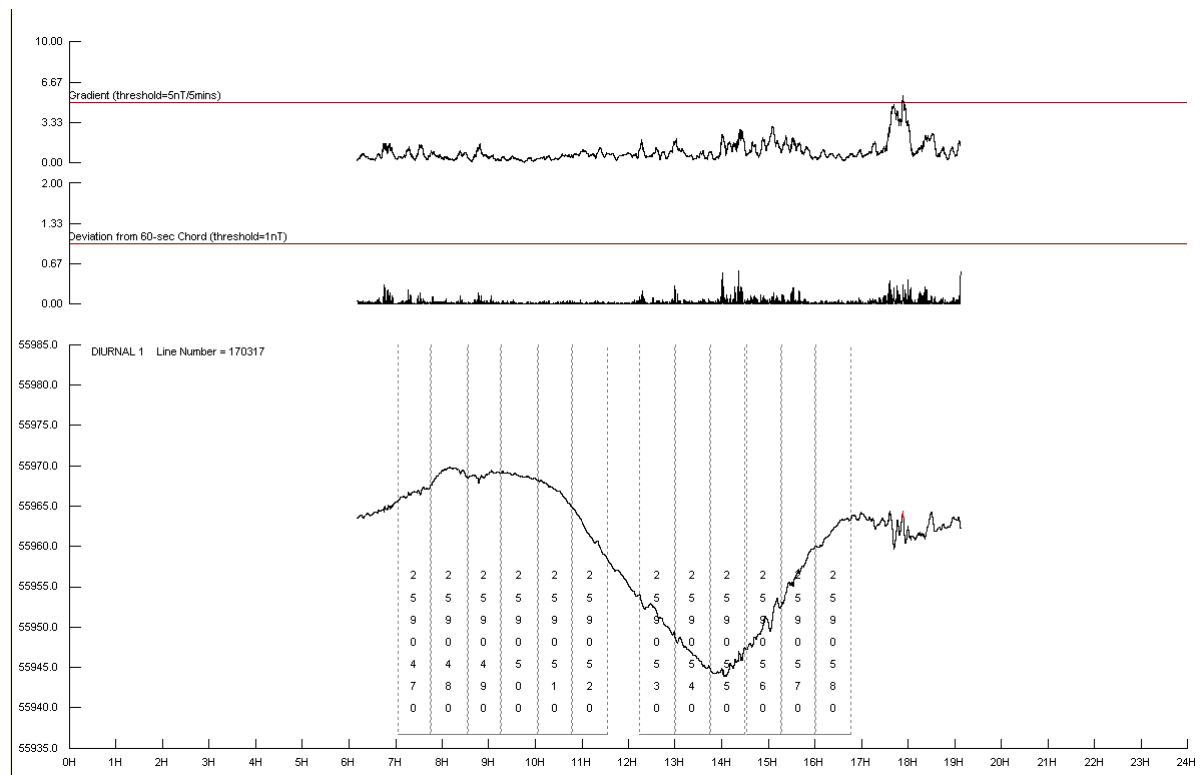
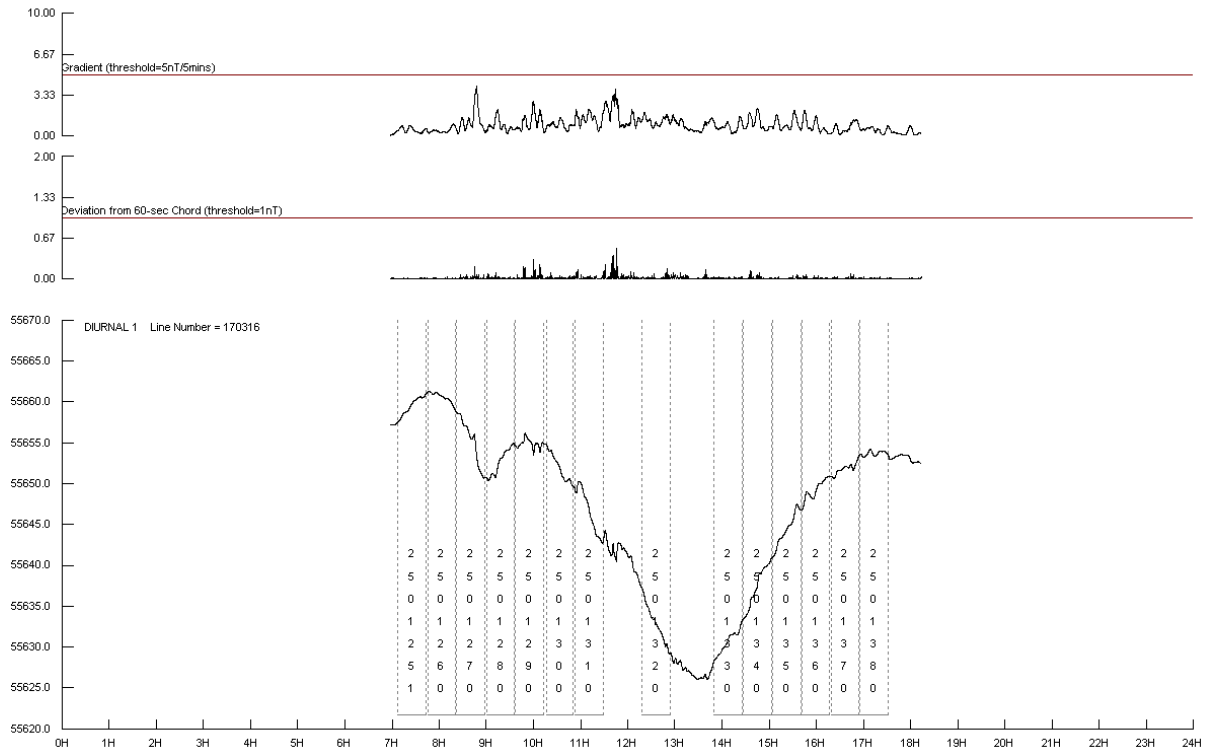


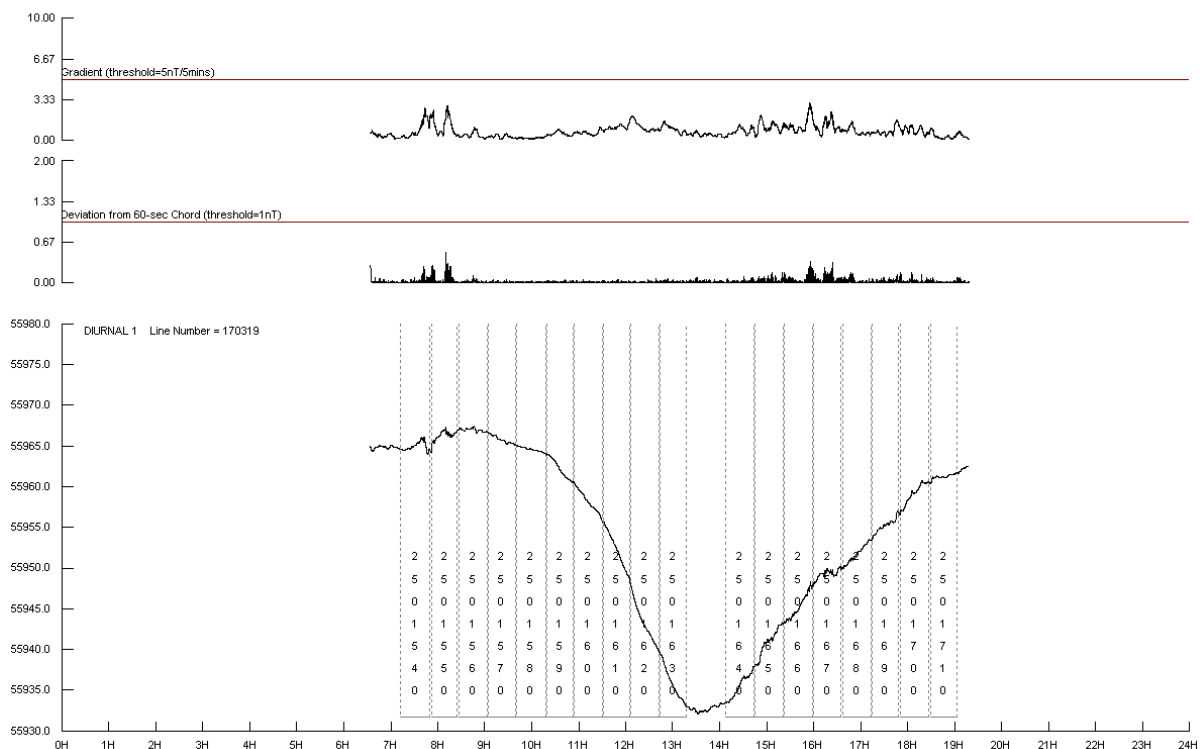
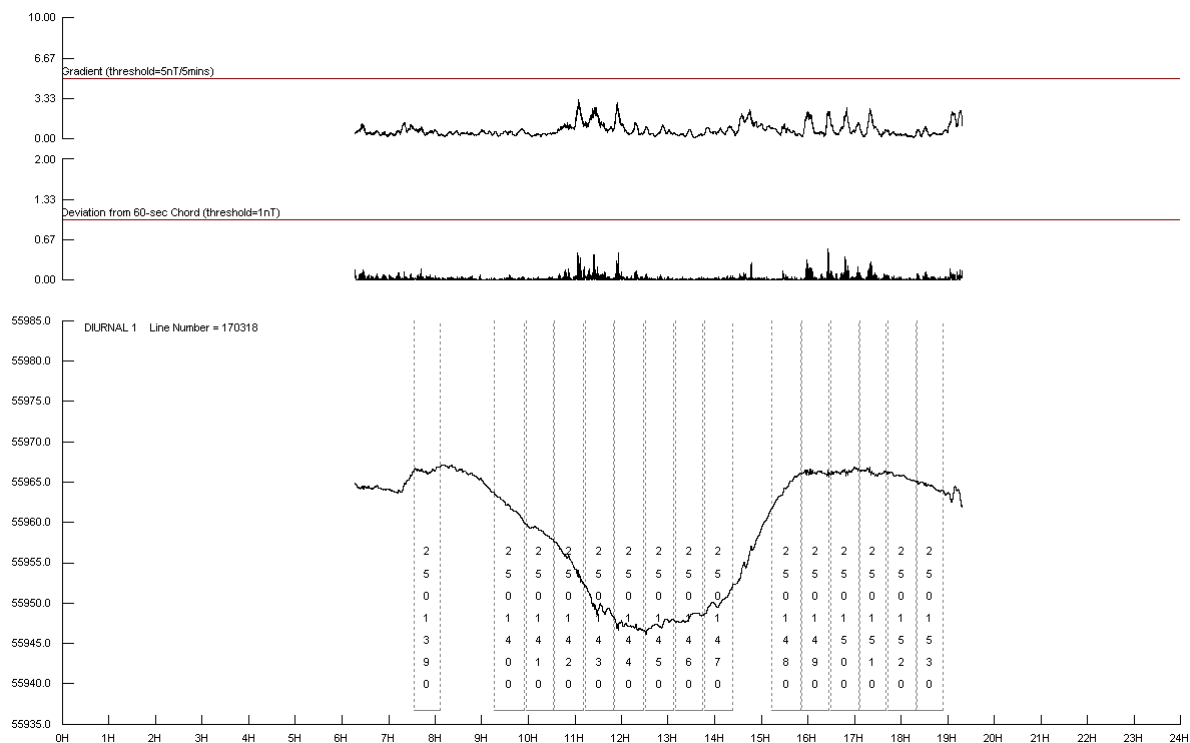


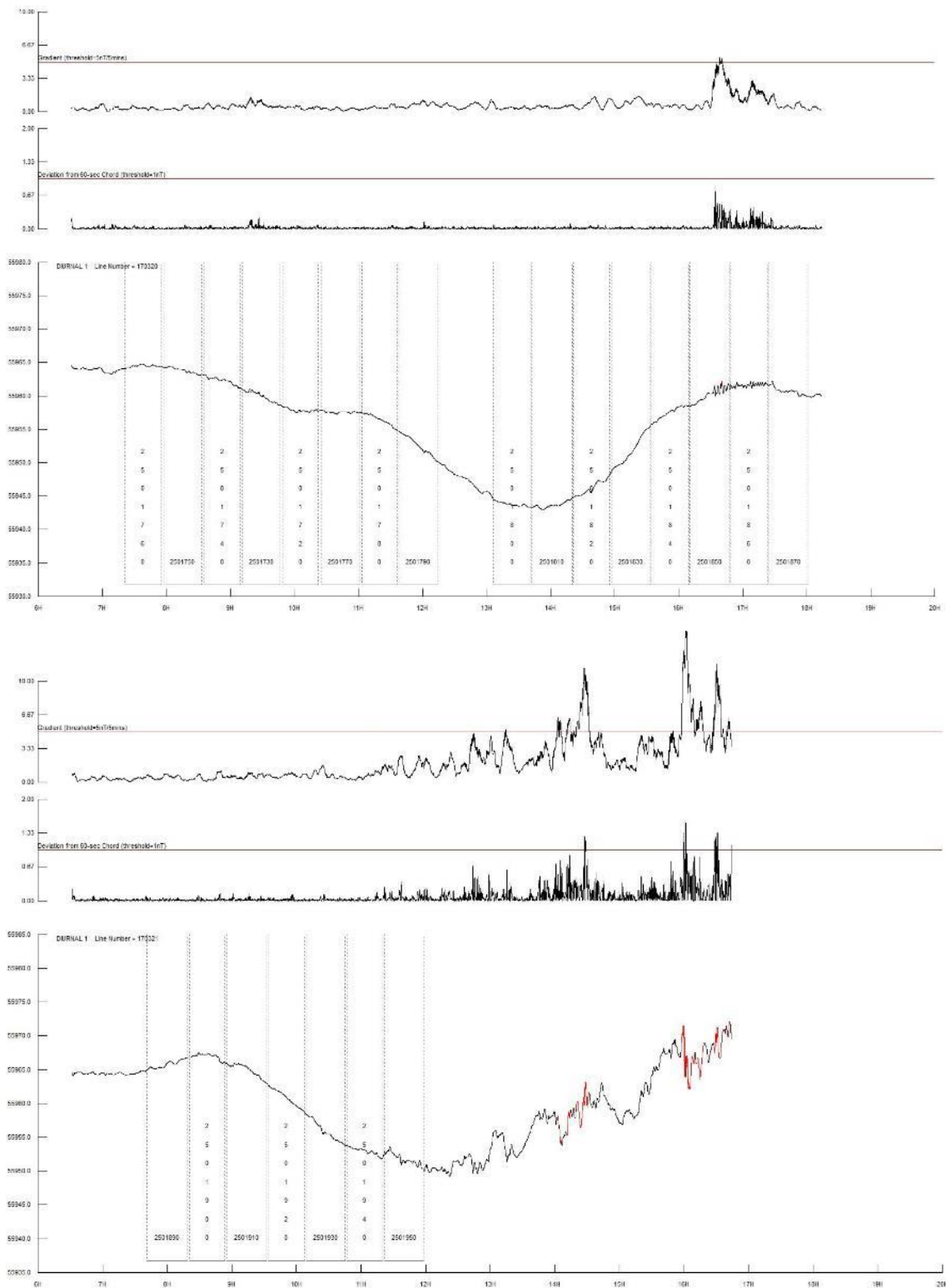


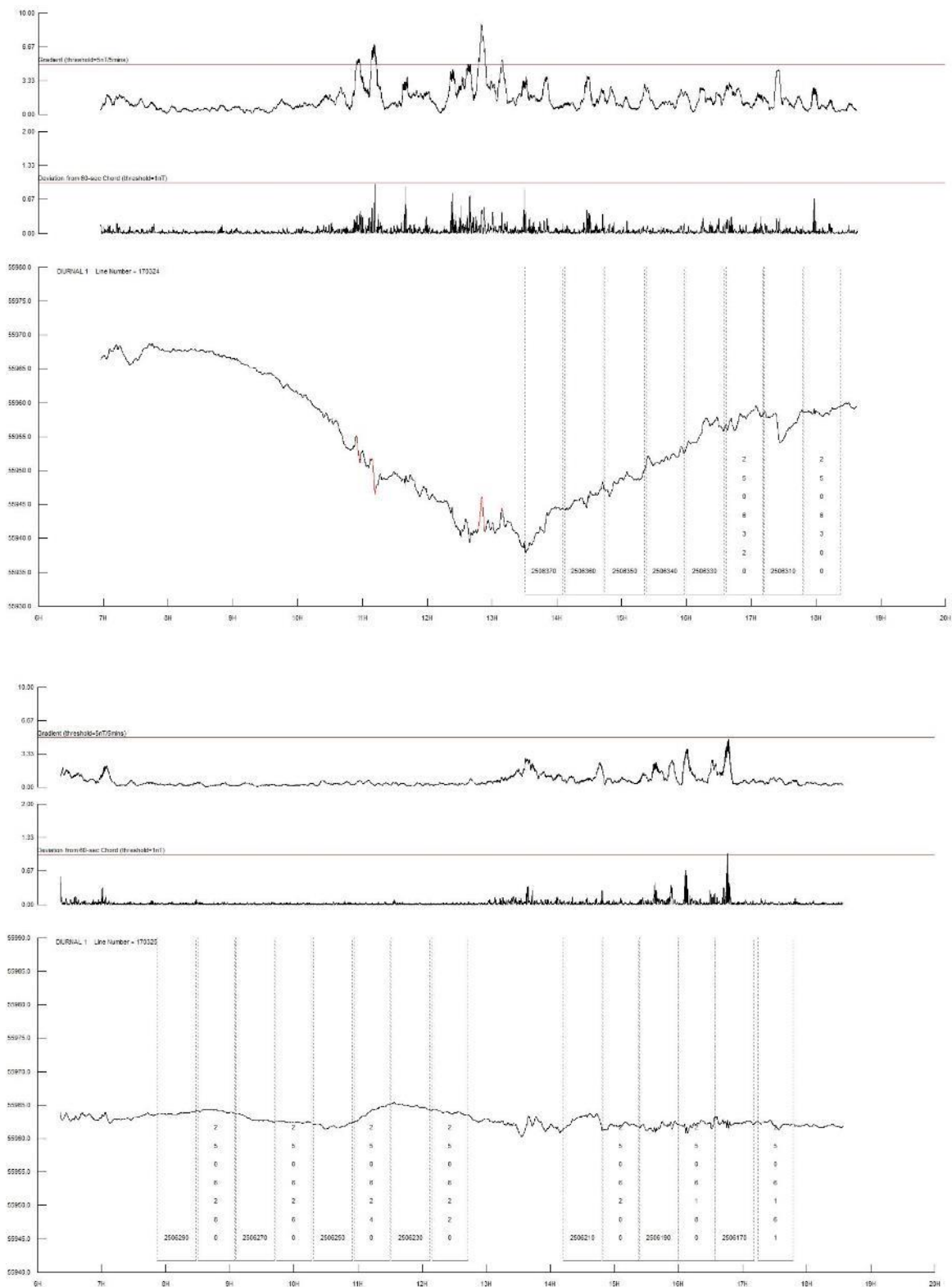


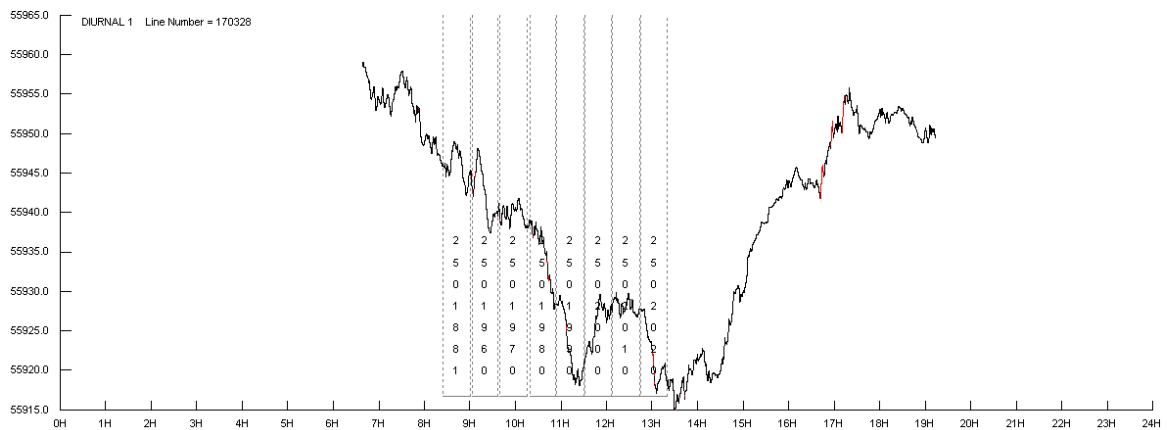
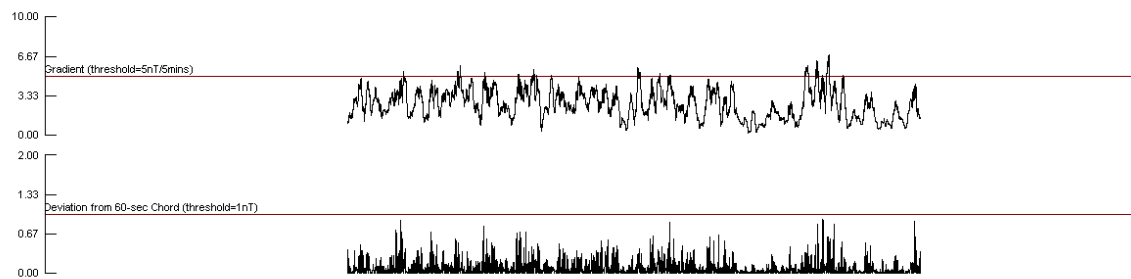
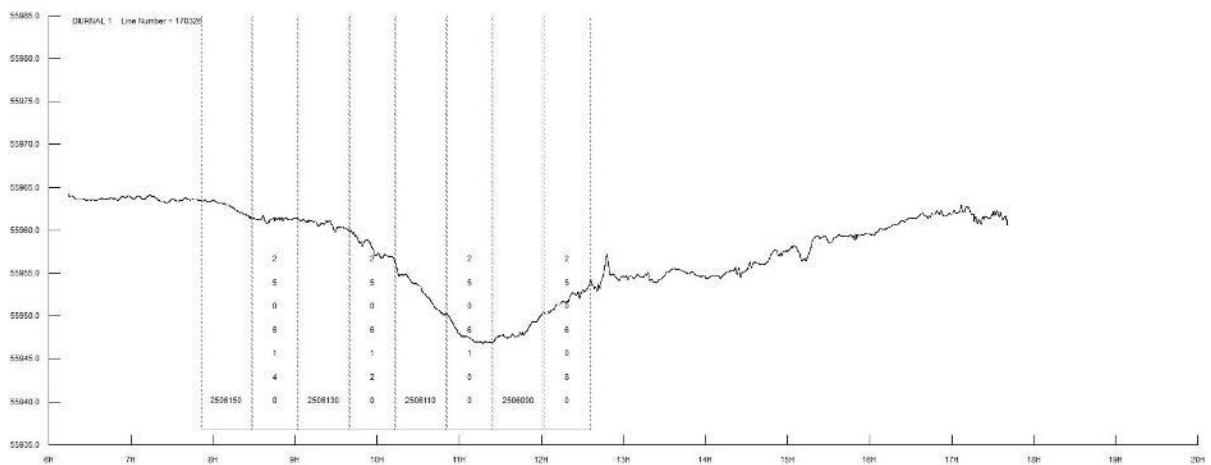
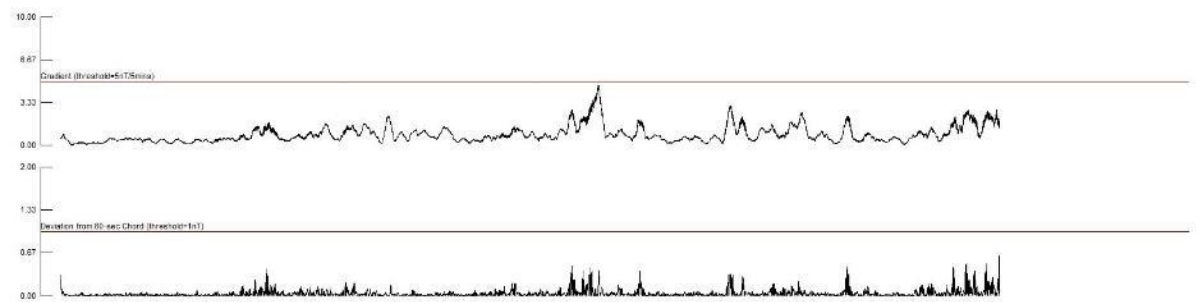


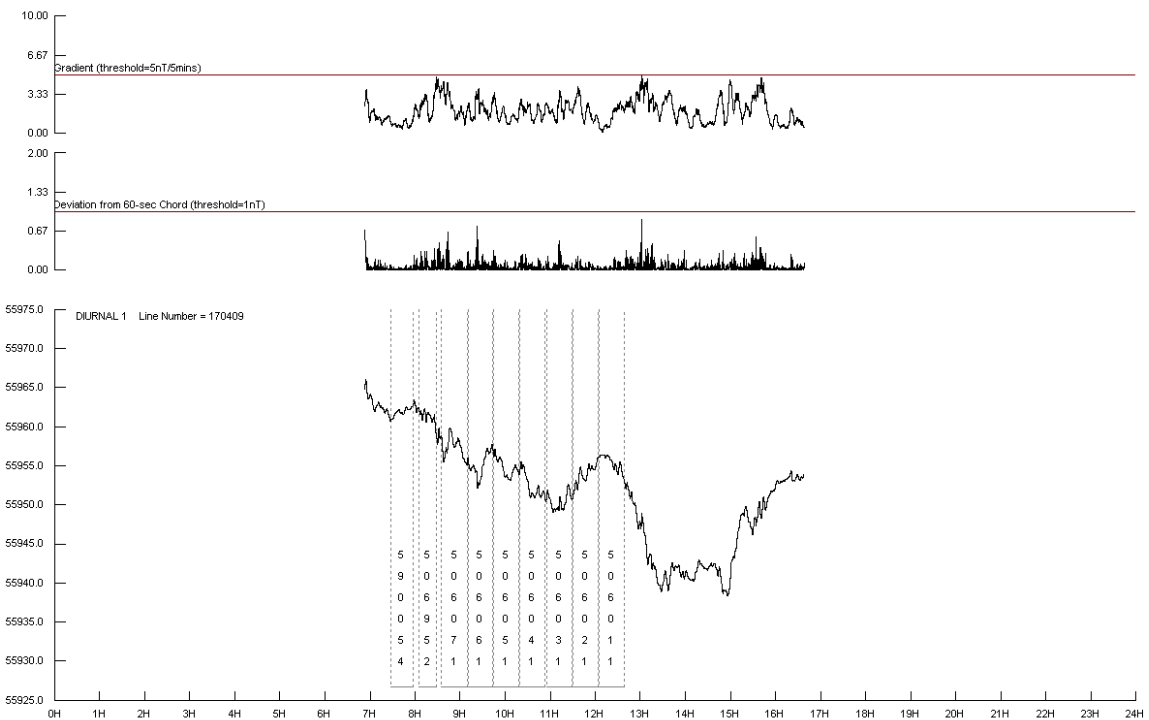


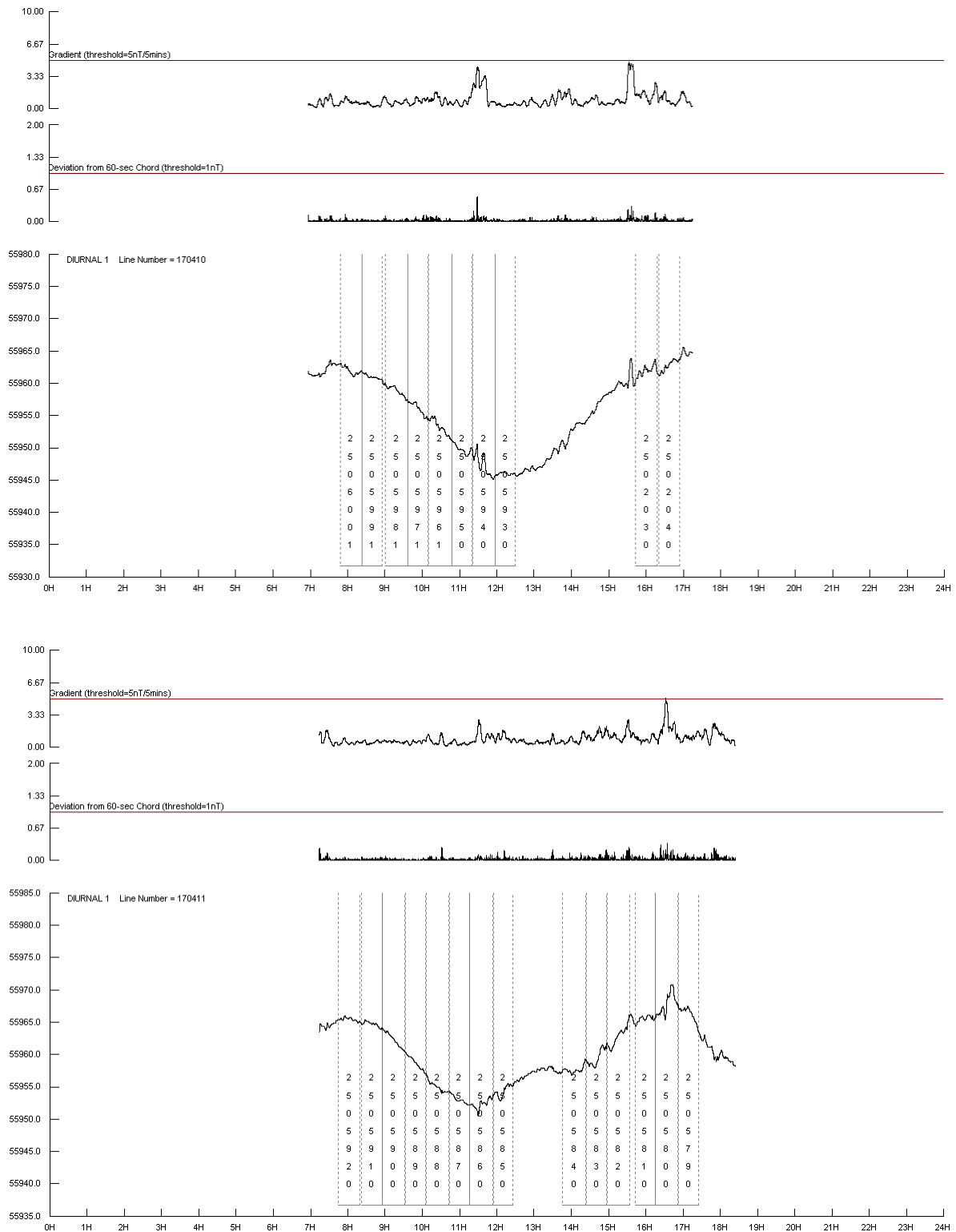


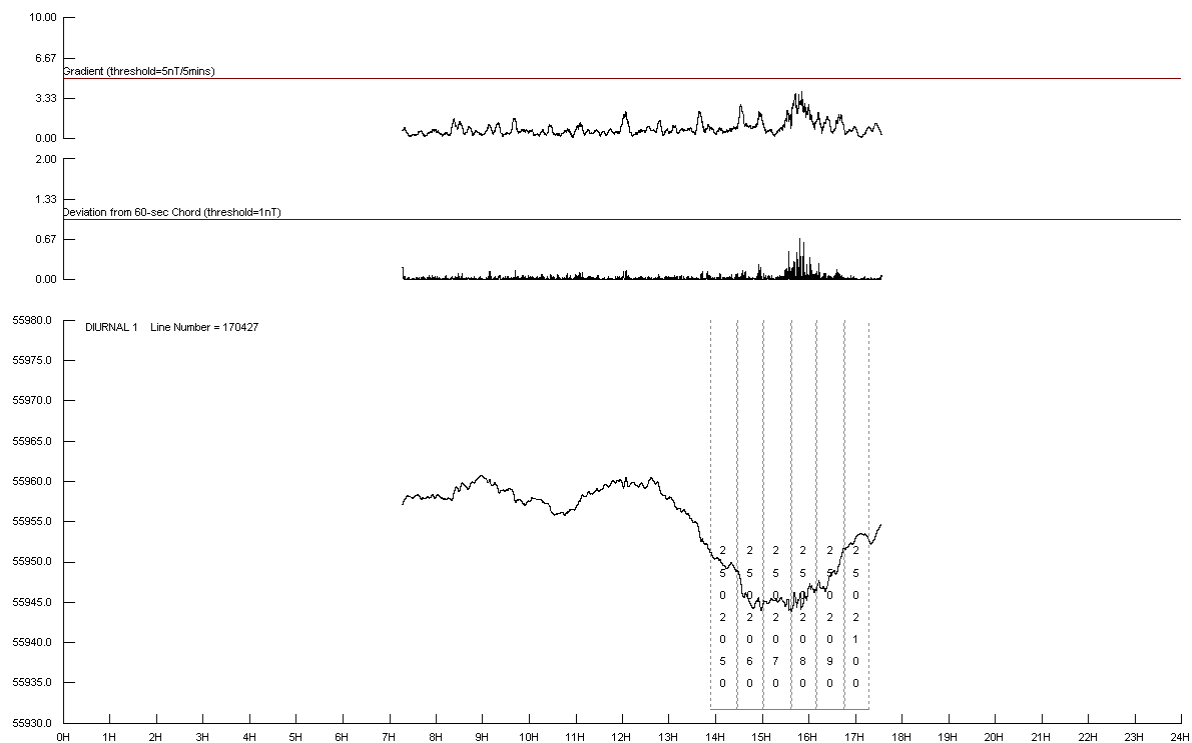
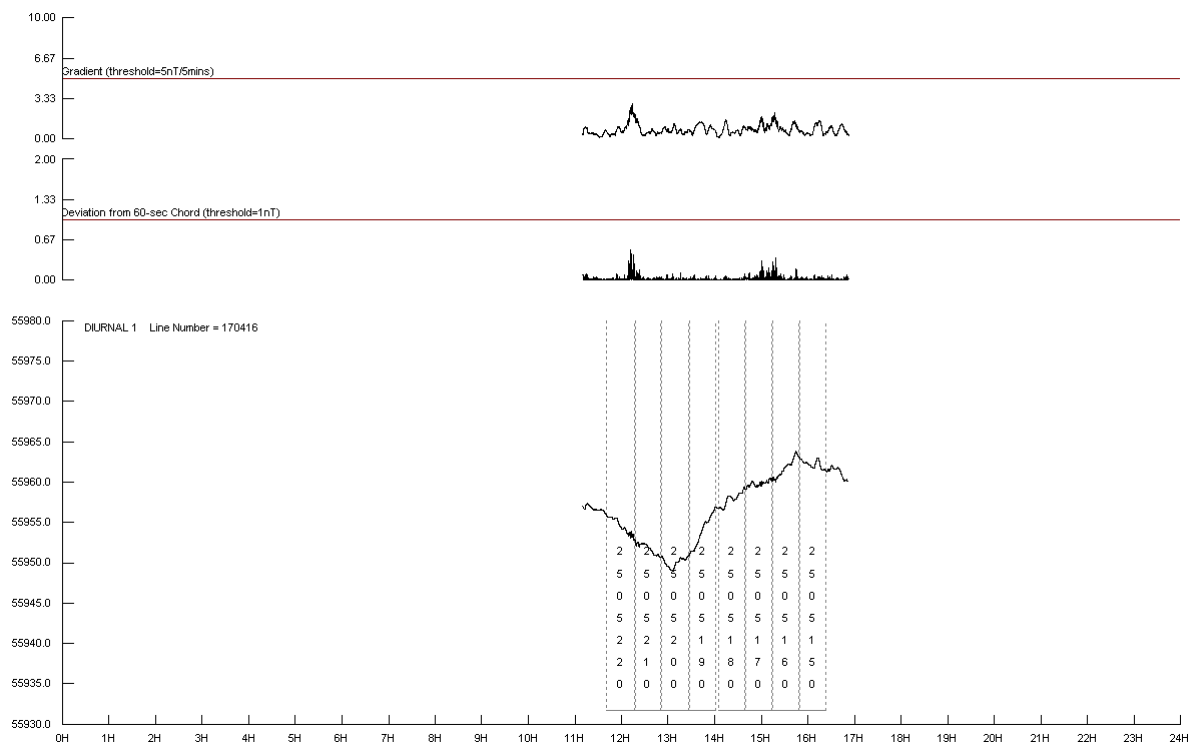


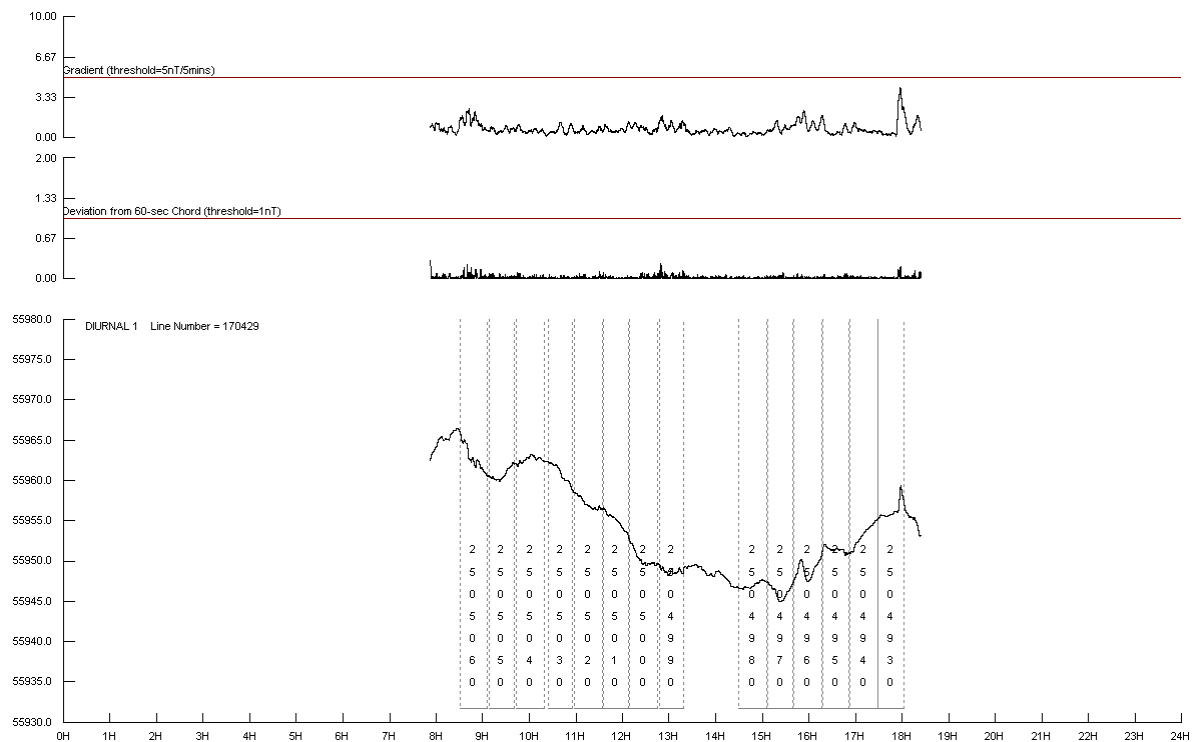
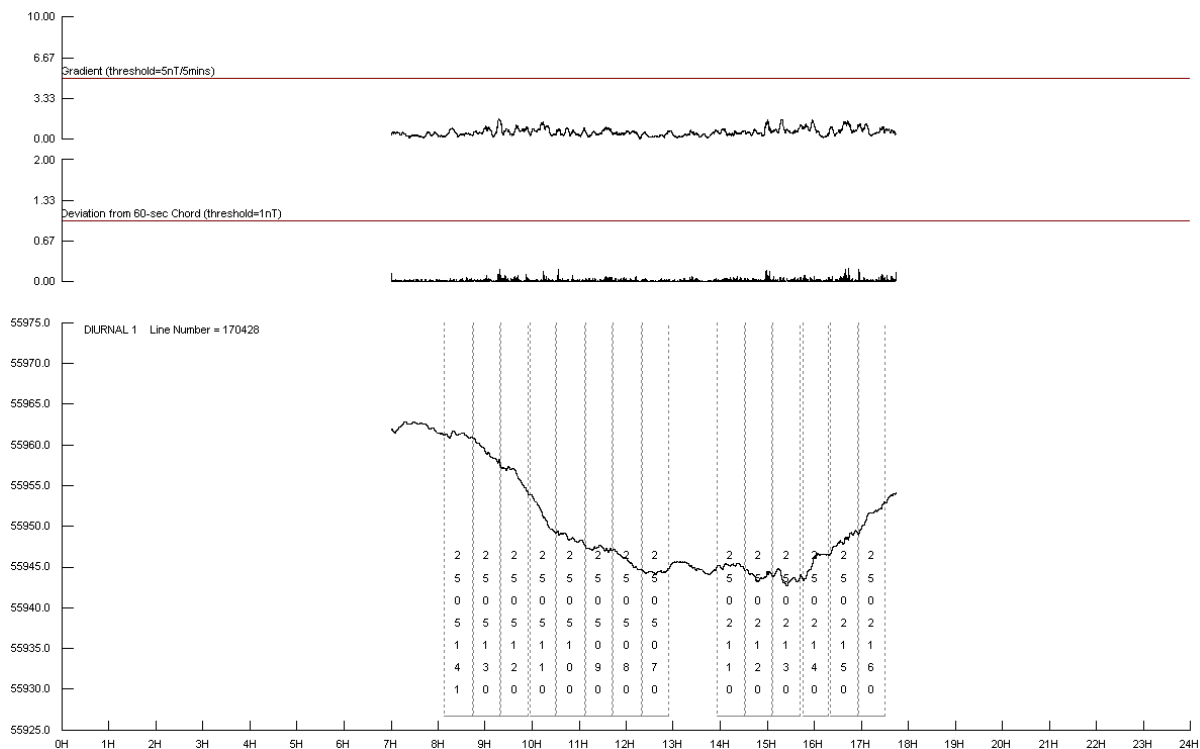


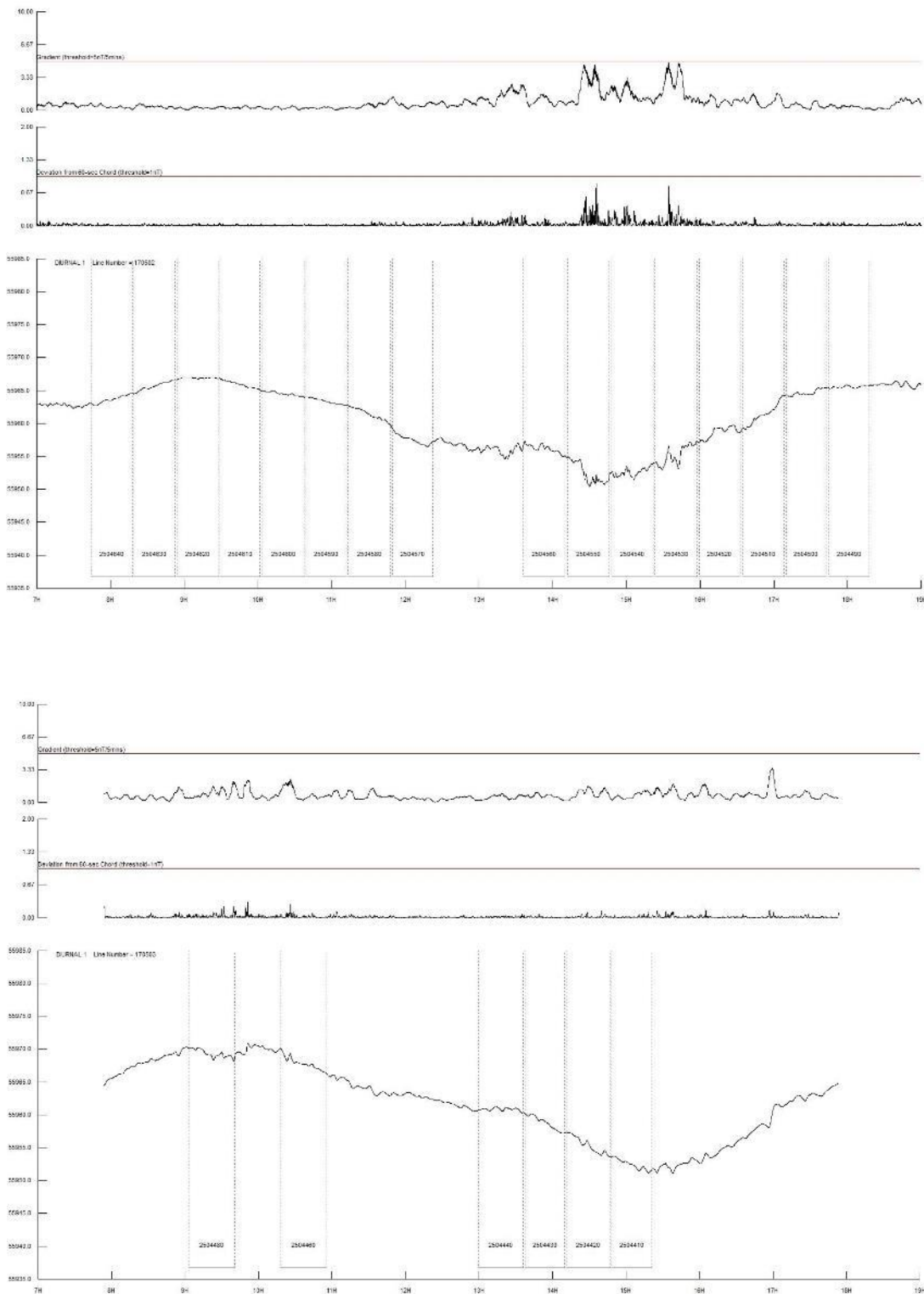


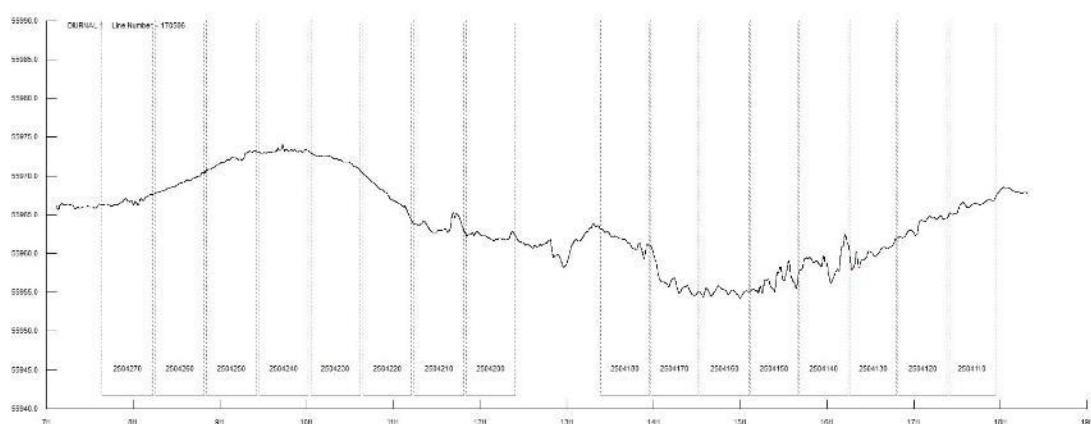
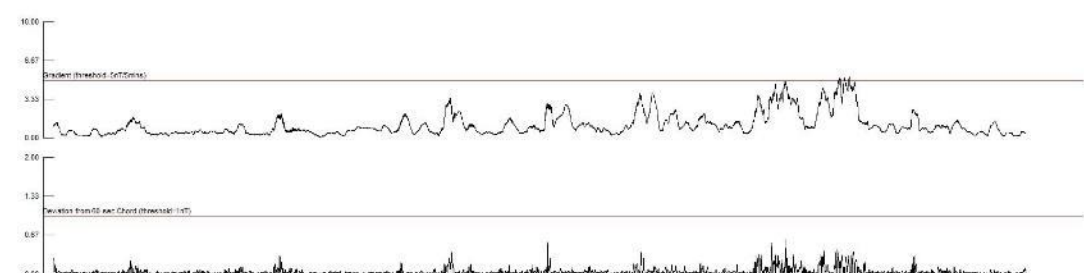
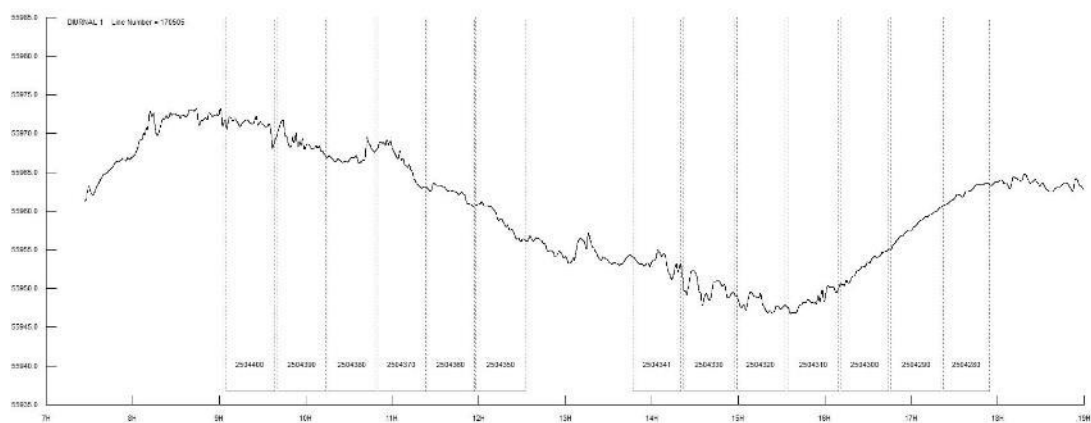
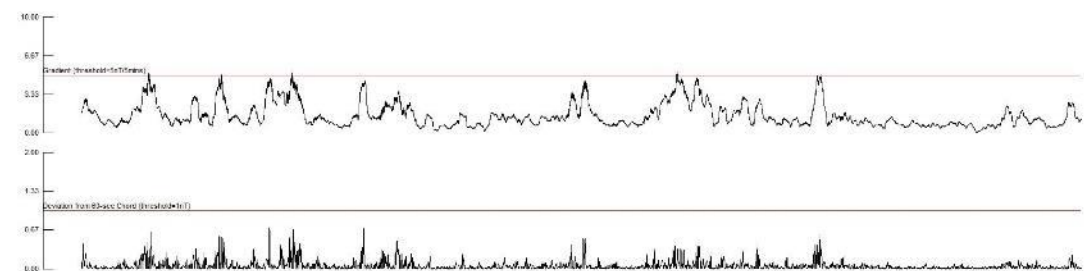


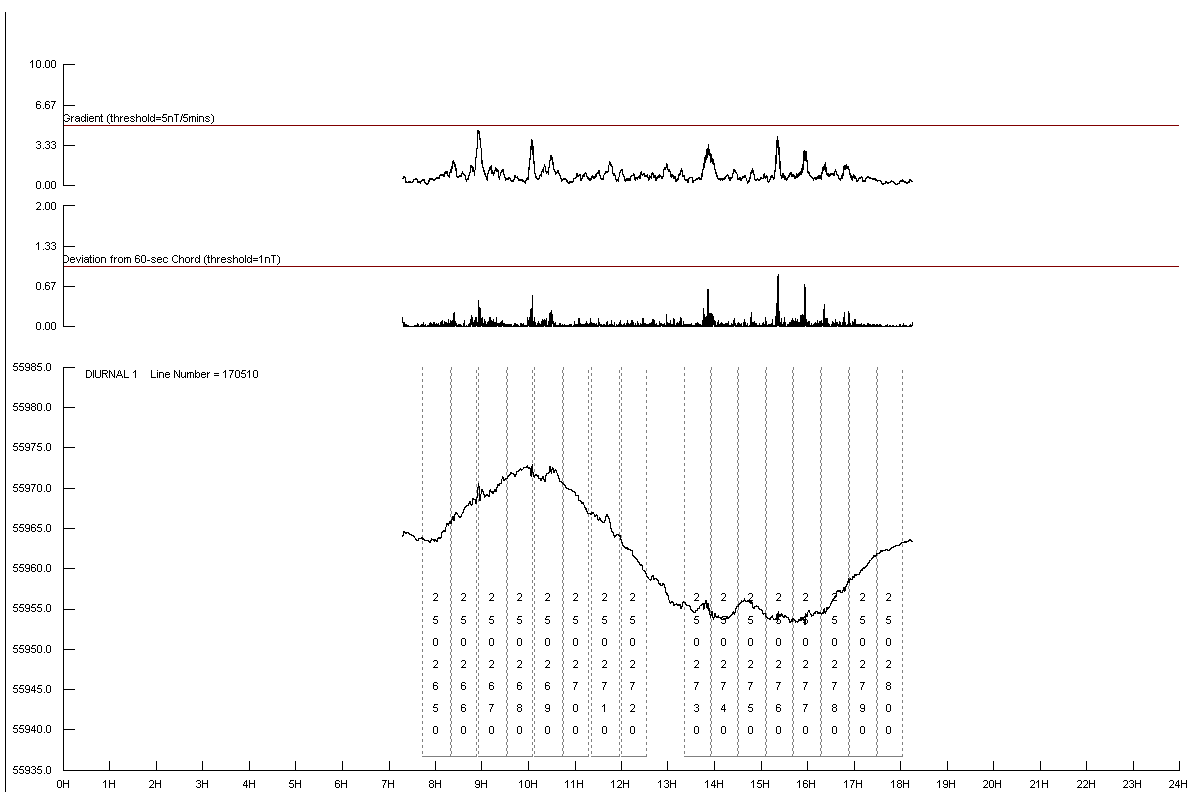
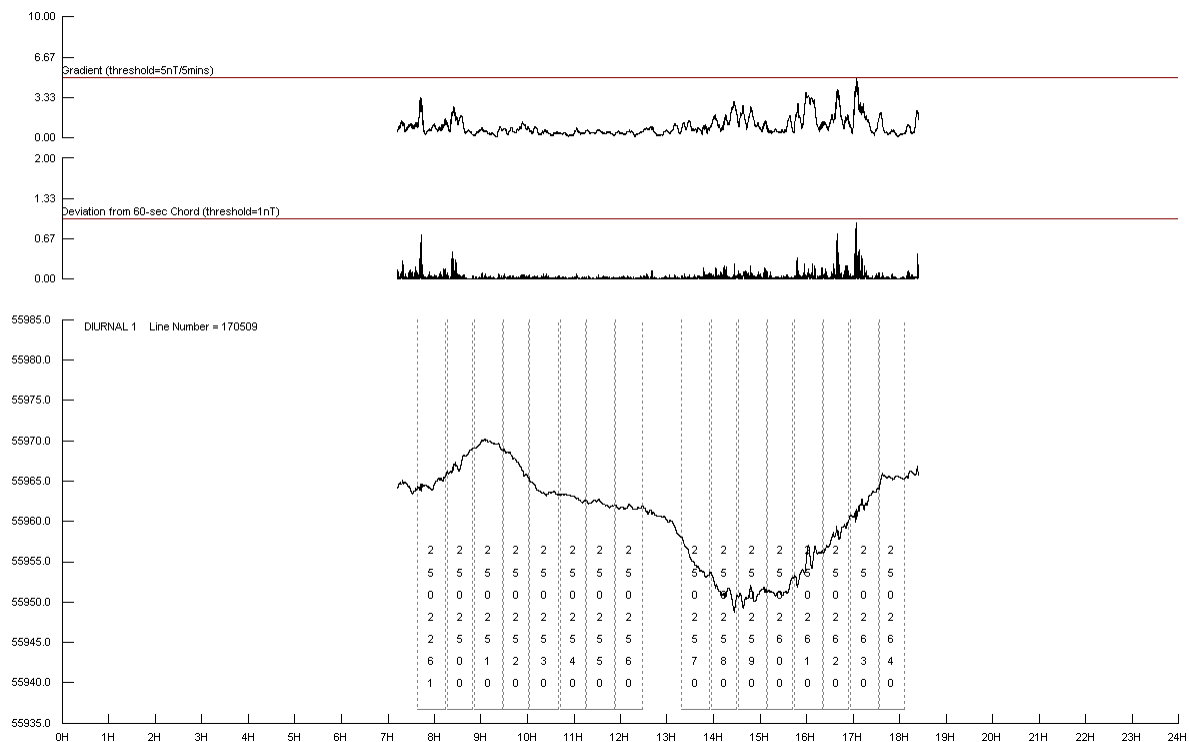


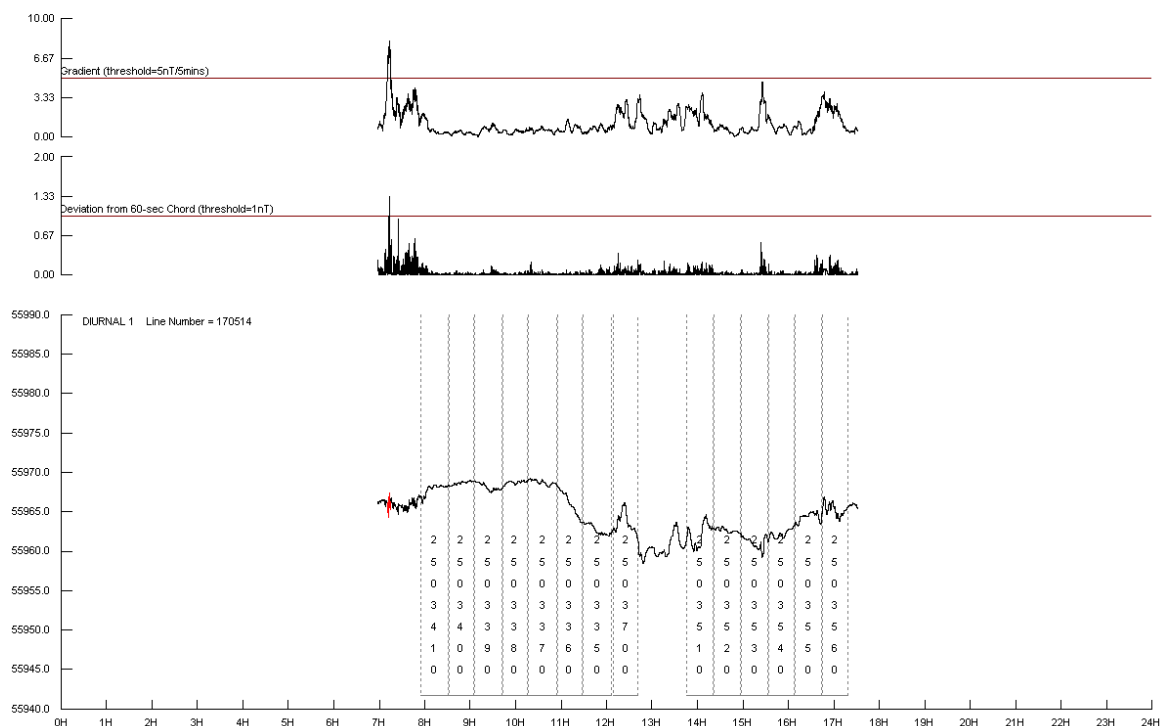
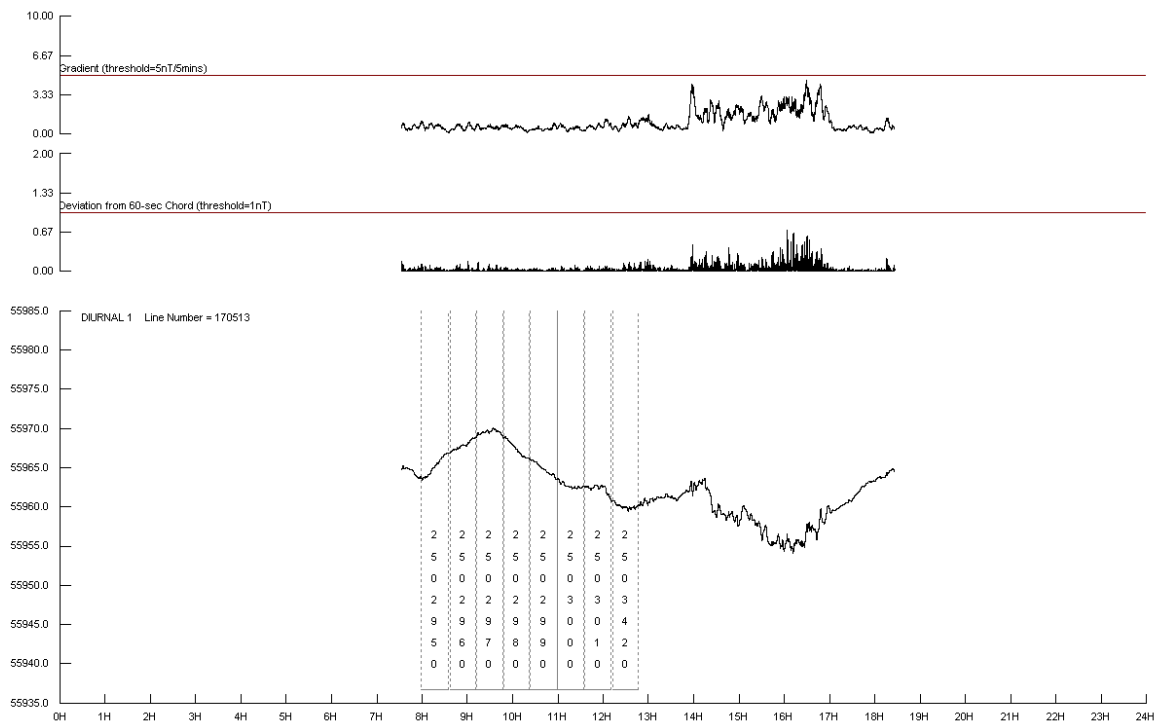


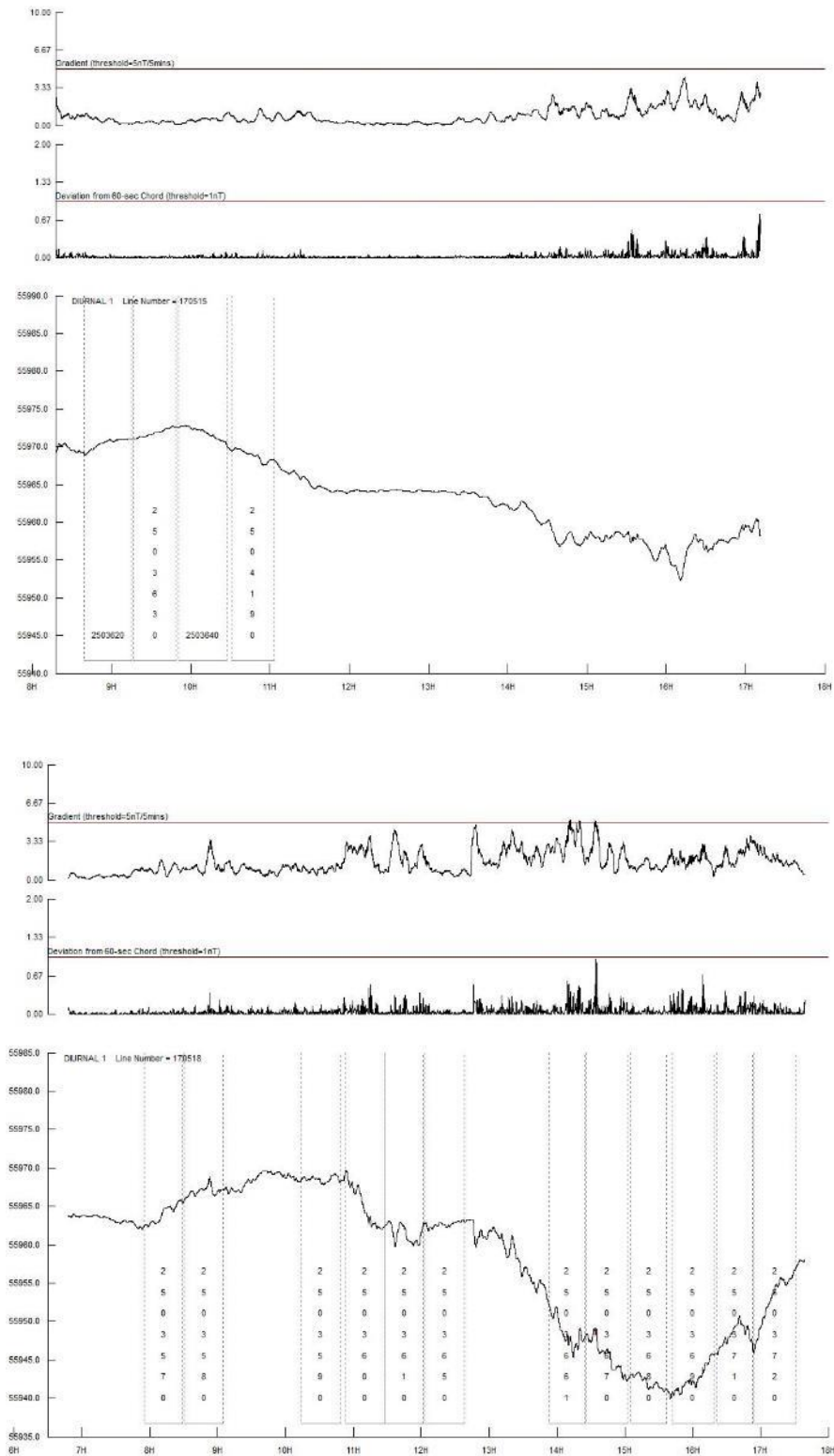


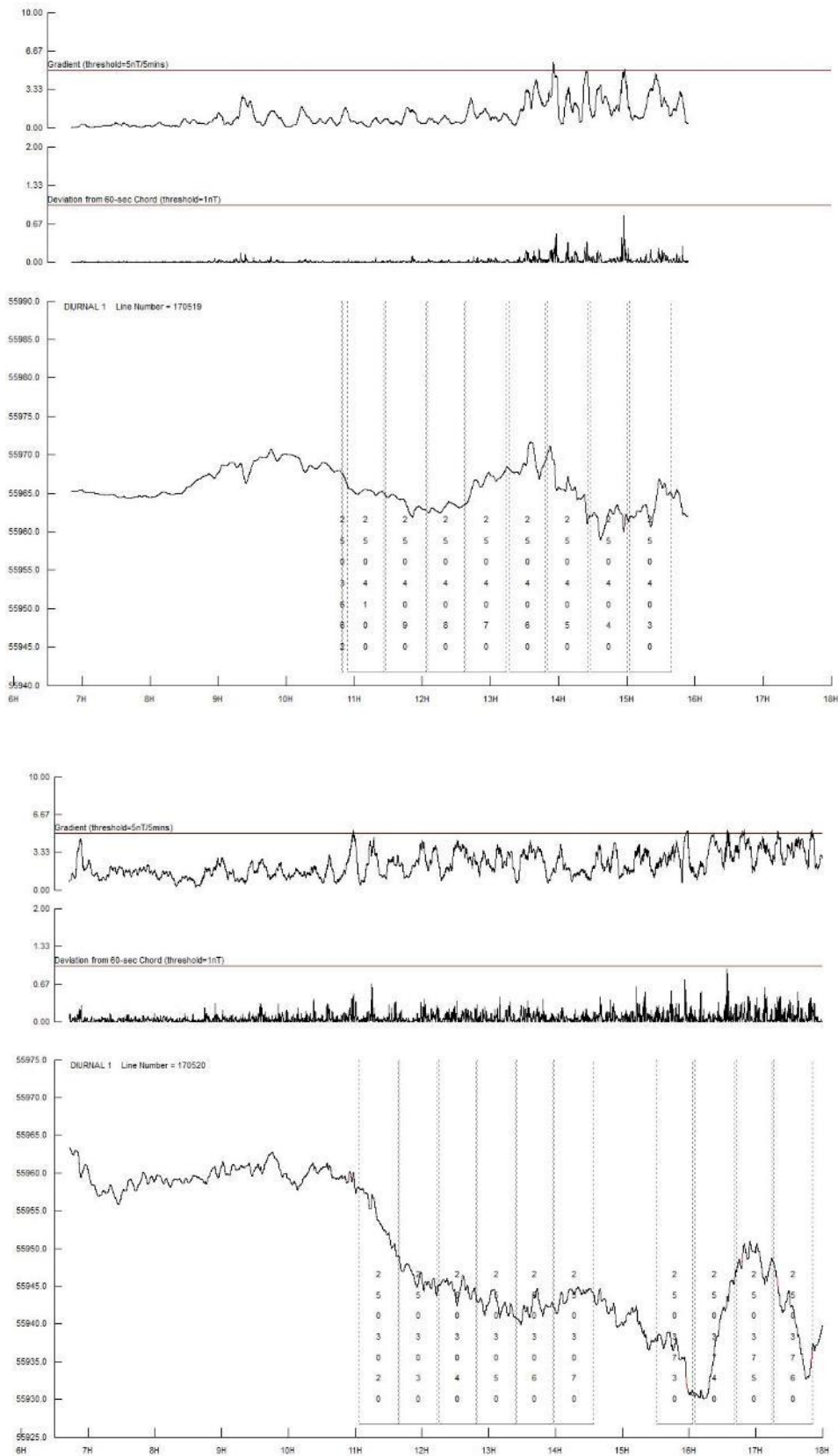


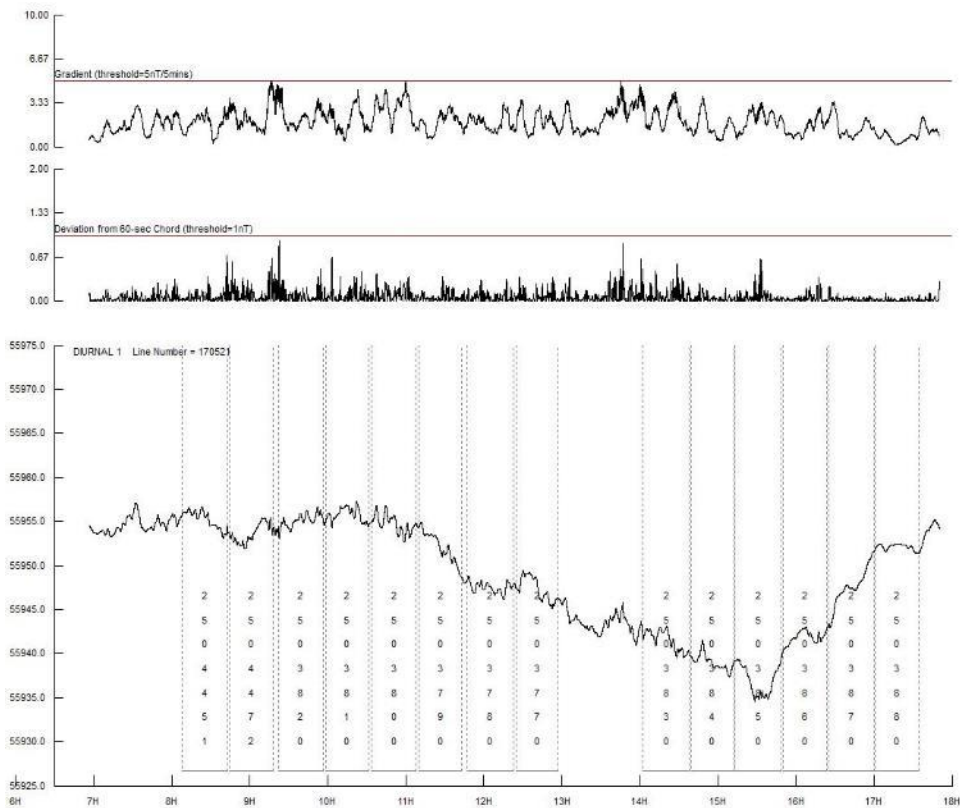


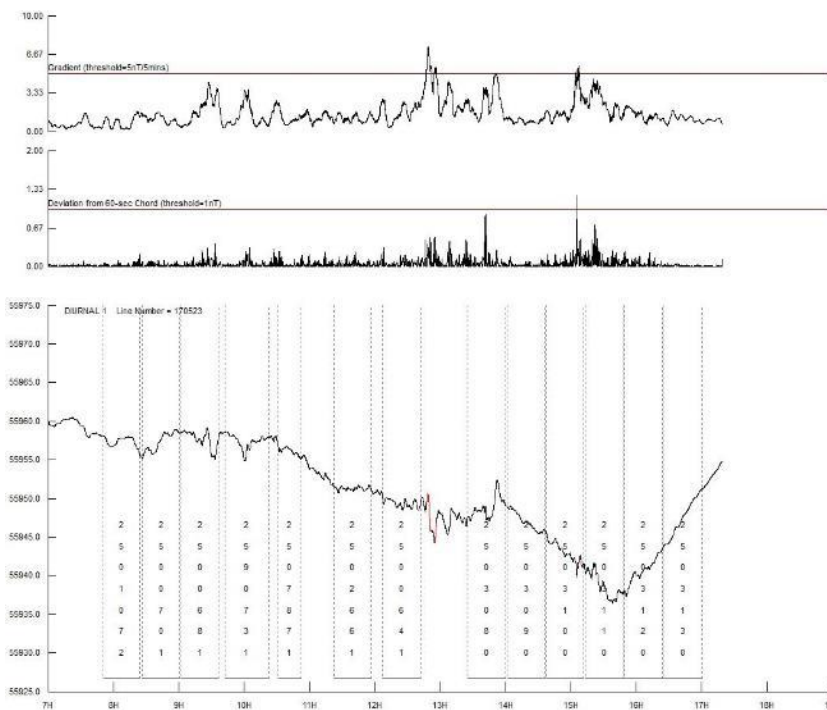
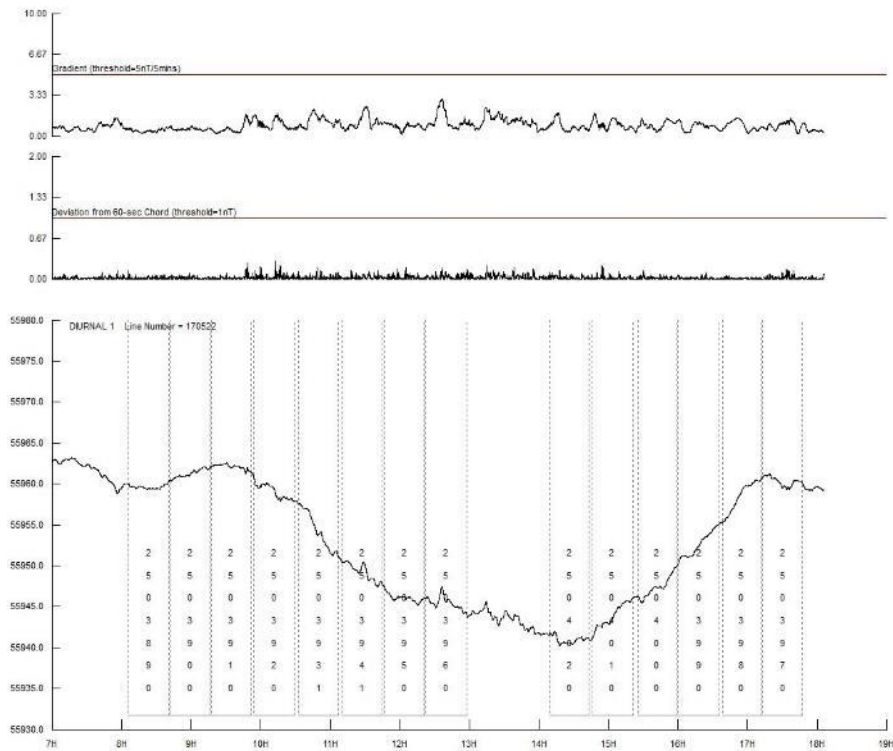


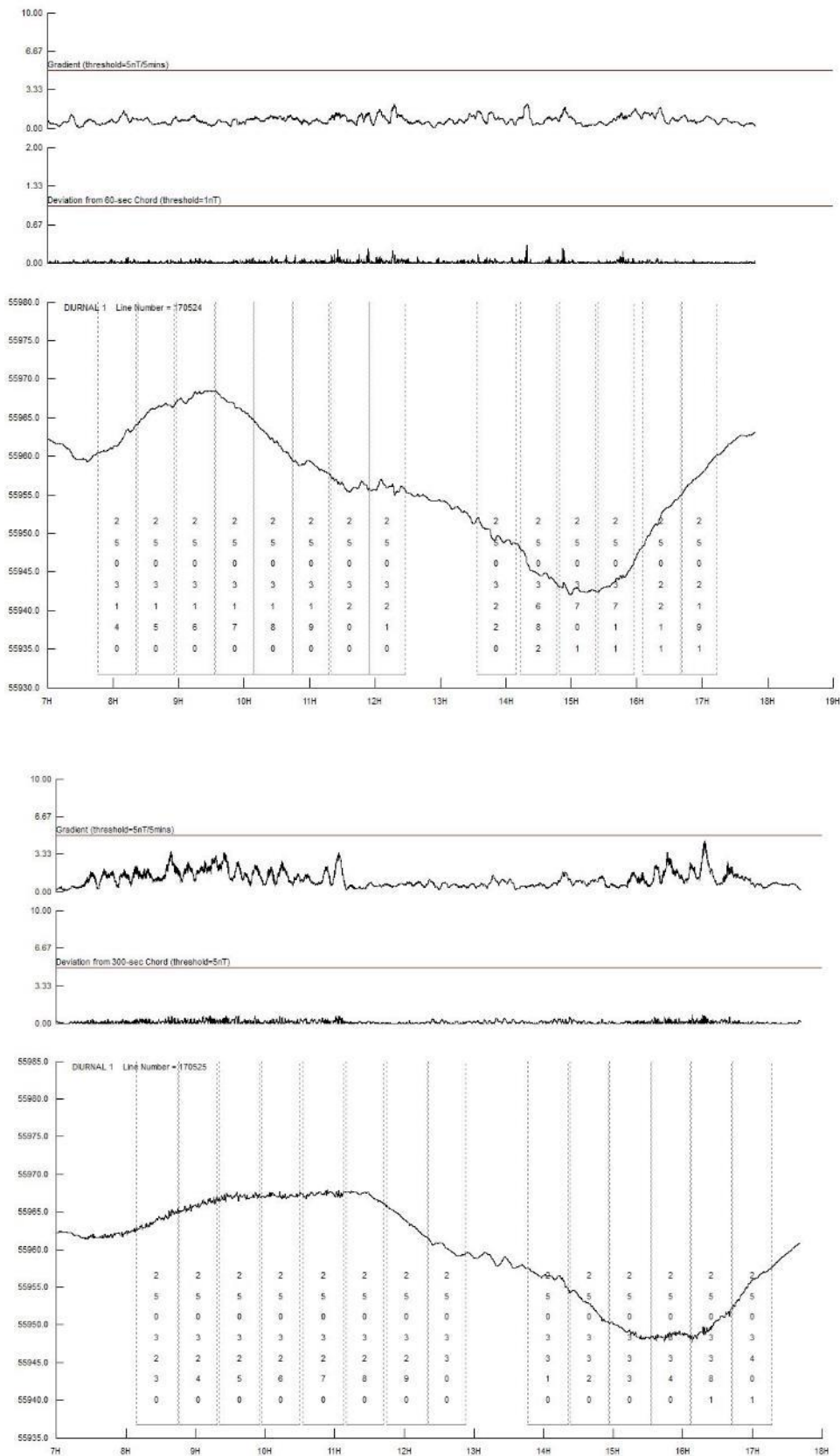












APPENDIX 4 PROCESSING PARAMETERS AND DELIVERABLES

Magnetics

Average Diurnal 55,956 nT

IGRF Correction Parameters

Year: 2017.25
Zone: 53
Hemisphere: South
Latitude: -28.2500680 °
Longitude: 135.7994495 °
Total Field: 55,744.62nT
Declination: 5.7589 °
Inclination: -60.4487 °

Radiometrics

Radiometric Correction Parameters

Height Attenuation Coefficients

Total Count: -0.0074
Potassium: -0.0094
Uranium: -0.0084
Thorium: -0.0074

Aircraft Background Coefficients

Total Count: 51.287
Potassium: 11.921
Uranium: 0.2479
Thorium: 0.000

Cosmic Correction Coefficients

Total Count: 1.0989
Potassium: 0.0634
Uranium: 0.0518
Thorium: 0.0649

Radiometric Stripping Coefficients

Alpha: 0.2845
Beta: 0.4517
Gamma: 0.7986
a: 0.0470

Radiometric Concentration Coefficients

Total Count:	34.6
Potassium:	110.4
Uranium:	11.3
Thorium:	6.5

Located and Gridded Data

ASCII Located data were supplied in ASEG-GDF format. Gridded data were supplied in ERMMapper format.

ASCII Located Data File Formats and Channels

Magnetics

survey:I4:NULL=999
 flight:I4:NULL=999
 LINE:I10:NULL=99999
 FID:I10:NULL=9999999
 dateCode:I9:NULL=99999999:UNIT=YYYYMMDD
 Bearing:I4:NULL=999:UNIT=deg
 longitude_gda94:F13.7:NULL=9999.999999:UNIT=deg
 latitude_gda94:F13.7:NULL=9999.999999:UNIT=deg
 easting_gda94:F12.2:NULL=99999999.99:UNIT=m
 northing_gda94:F12.2:NULL=99999999.99:UNIT=m
 gps_height:F7.1:NULL=9999.9:UNIT=m
 Zone:I3:NULL=99
 radar_alt:F8.2:NULL=9999.99:UNIT=m
 laser_alt:F8.2:NULL=9999.99:UNIT=m
 dem_laser:F8.2:NULL=9999.99:UNIT=m
 dem_radar:F8.2:NULL=9999.99:UNIT=m
 magnetics_final_tielevelled:F10.3:NULL=99999.999:UNIT=nT
 magnetics_final_microlevelled:F10.3:NULL=99999.999:UNIT=nT
 magnetics_final_microlevelled_1vd:F11.6:NULL=999.999999:UNIT=nT/m
 magnetic_diurnal:F10.3:NULL=99999.999:UNIT=nT
 magnetic_igrf:F10.3:NULL=99999.999:UNIT=nT

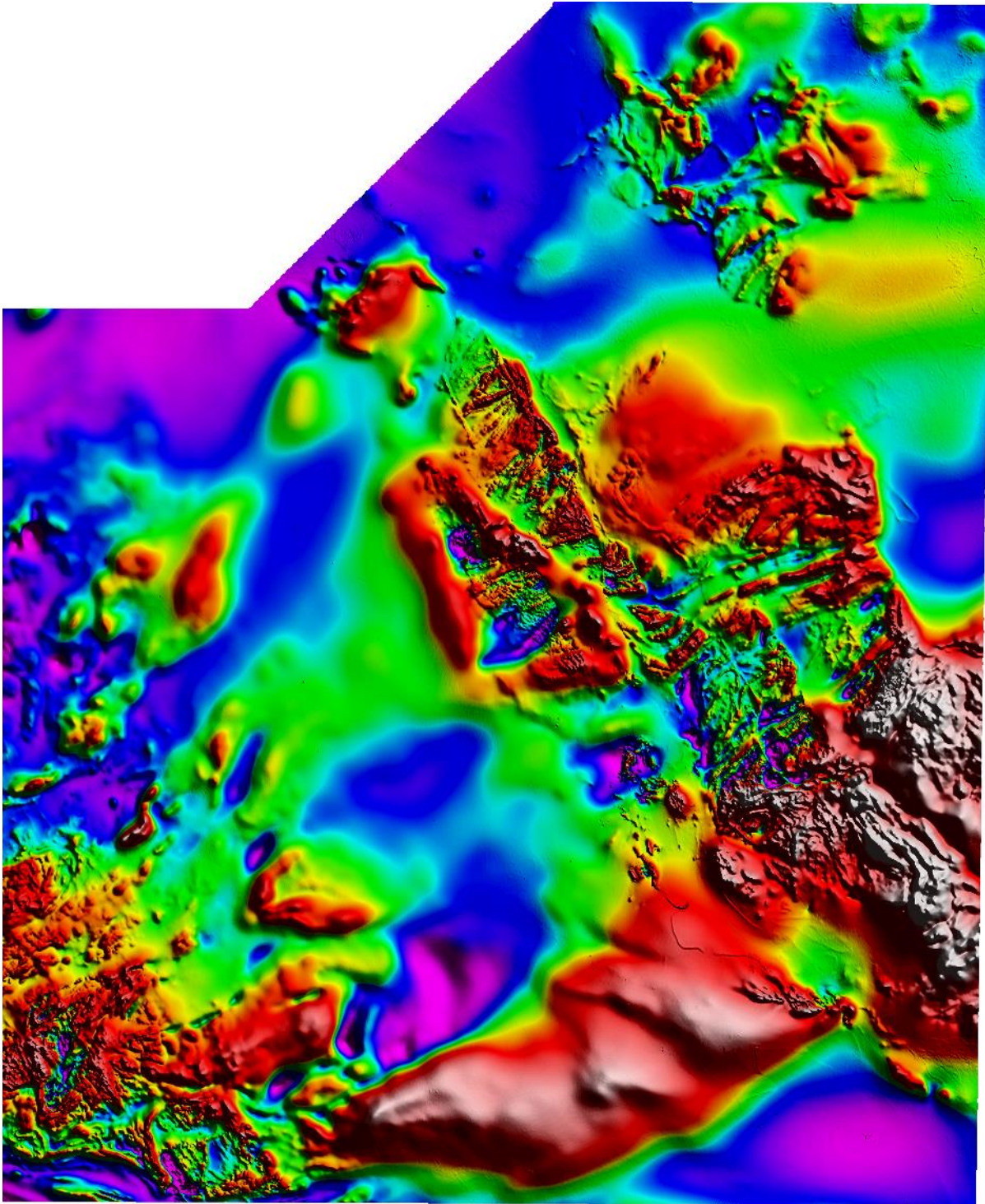
Radiometrics

survey:I4:NULL=999
 flight:I4:NULL=999
 LINE:I10:NULL=999999999
 FID:I10:NULL=9999999
 dateCode:I9:NULL=99999999:UNIT=YYYYMMDD
 bearing:I4:NULL=999:NAME=Bearing
 longitude_gda94:F13.7:NULL=9999.9999999:UNIT=deg
 latitude_gda94:F13.7:NULL=9999.9999999:UNIT=deg
 easting_gda94:F12.2:NULL=99999999.99:UNIT=m
 northing_gda94:F12.2:NULL=99999999.99:UNIT=m
 gps_height:F7.1:NULL=9999.9:UNIT=m
 radar_alt_raw_edited:F8.2:NULL=9999.99:UNIT=m
 laser_alt_raw_edited:F8.2:NULL=9999.99:UNIT=m
 dem_laser:F8.2:NULL=9999.99:UNIT=m
 dem_radar:F8.2:NULL=9999.99:UNIT=m
 Baro_pres:F9.2:NULL=99999.99:UNIT=mbar
 Temperature:F7.1:NULL=9999.9:UNIT=degrees C
 dose_no_nasvd:F10.3:NULL=99999.999:UNIT=nGy/hr
 k_percent_no_nasvd:F9.3:NULL=9999.999:UNIT=percent
 u_ppm_no_nasvd:F9.3:NULL=9999.999:UNIT=ppm
 th_ppm_no_nasvd:F9.3:NULL=9999.999:UNIT=ppm
 dose_nasvd:F10.3:NULL=99999.999:UNIT=nGy/hr
 k_percent_nasvd:F9.3:NULL=9999.999:UNIT=percent
 u_ppm_nasvd:F9.3:NULL=9999.999:UNIT=ppm
 th_ppm_nasvd:F9.3:NULL=9999.999:UNIT=ppm

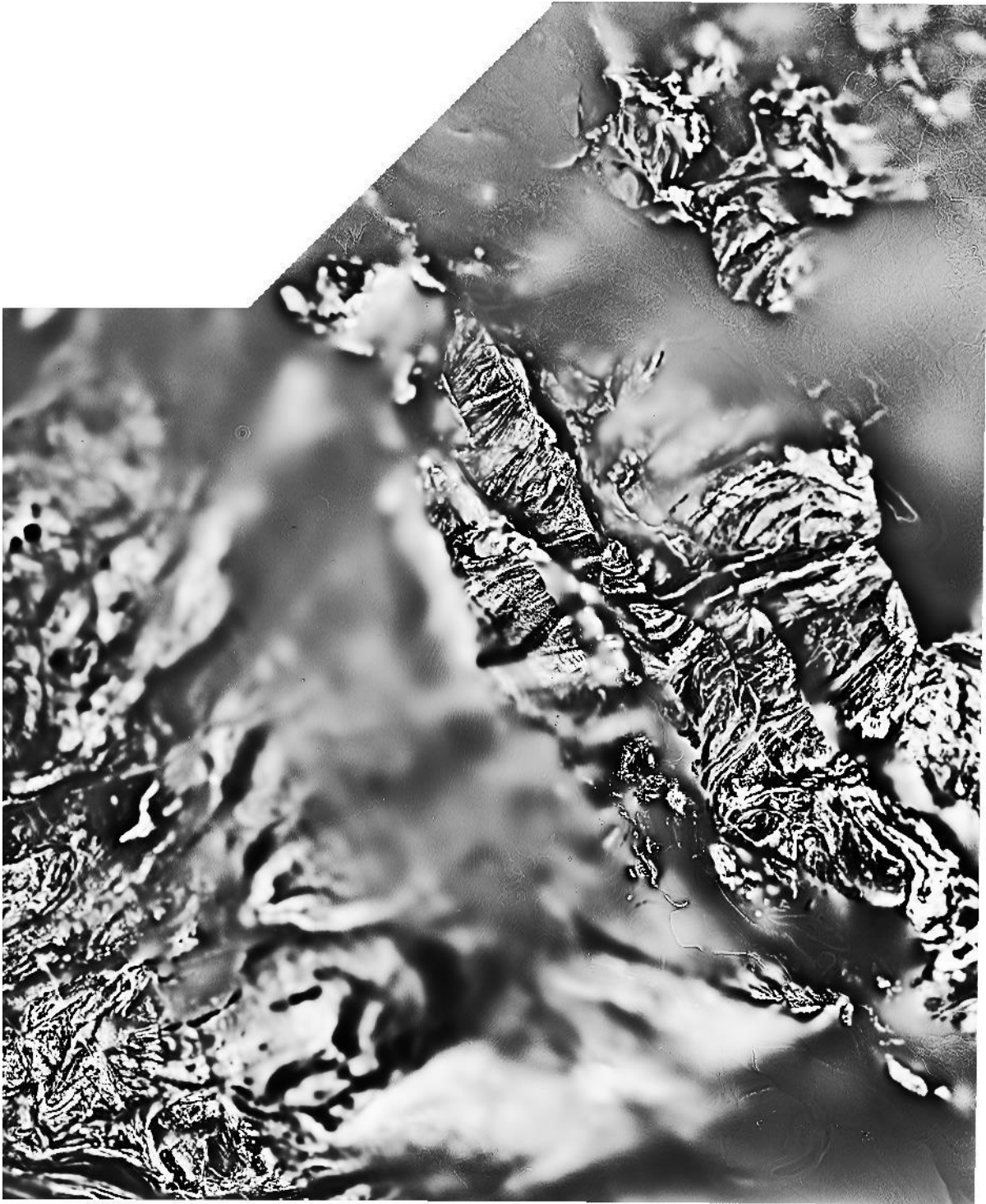
Elevation

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 flight:I4:NULL=999
 LINE:I10:NULL=999999999
 FID:I10:NULL=9999999
 dateCode:I9:NULL=99999999:UNIT=YYYYMMDD
 bearing:I4:NULL=999:UNIT=deg
 longitude_gda94:F13.7:NULL=9999.9999999:UNIT=deg
 latitude_gda94:F13.7:NULL=9999.9999999:UNIT=deg
 easting_gda94:F12.2:NULL=99999999.99:UNIT=m
 northing_gda94:F12.2:NULL=99999999.99:UNIT=m
 zone:I3:NULL=99
 radar_alt:F8.2:NULL=9999.99:UNIT=m
 laser_alt:F8.2:NULL=9999.99:UNIT=m
 Gps_height:F8.2:NULL=9999.99:UNIT=m
 Dem_laser:F8.2:NULL=9999.99:UNIT=m
 Dem_radar:F8.2:NULL=9999.99:UNIT=m

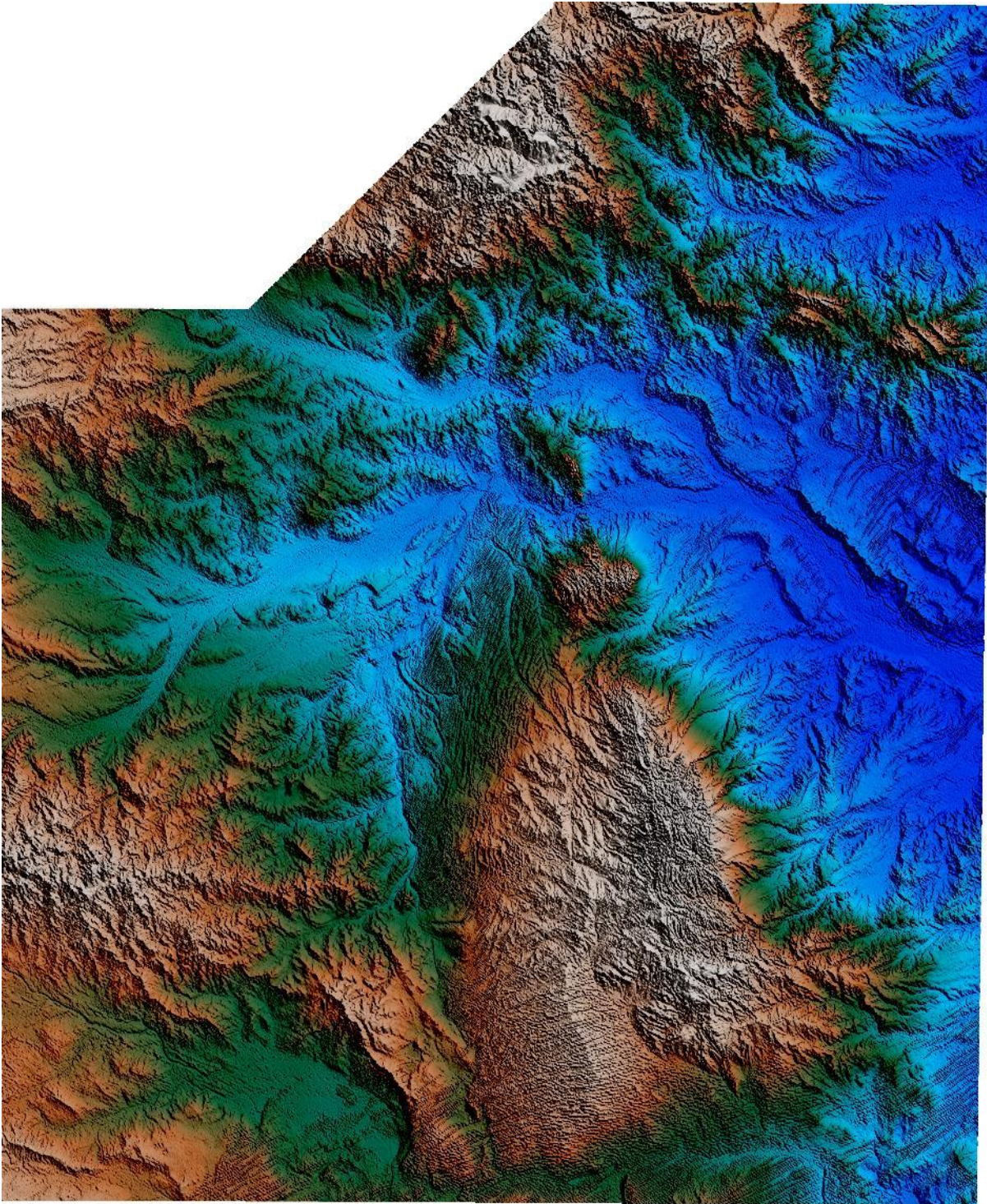
APPENDIX 5 VERIFICATION IMAGES



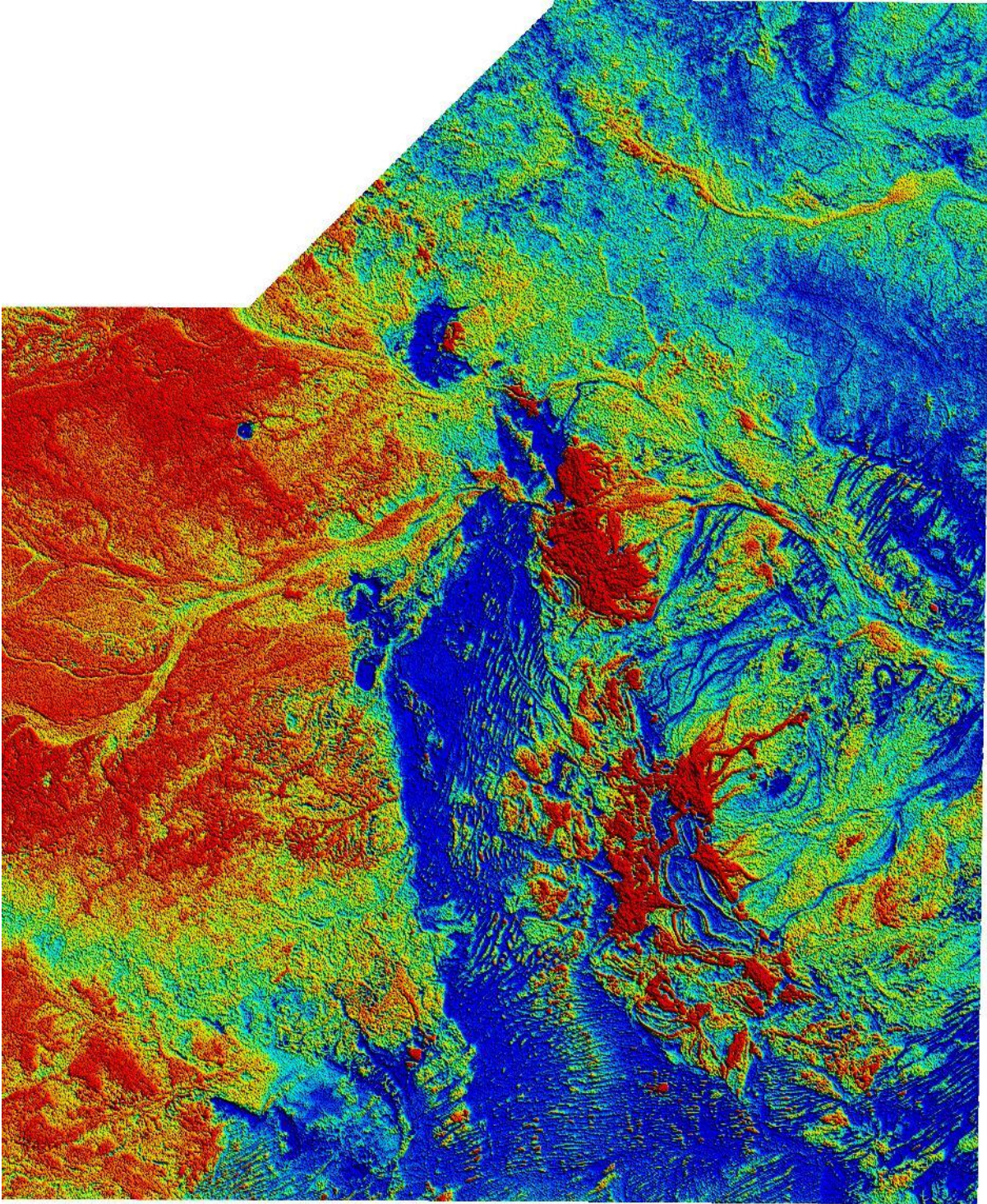
Colour Total Magnetic Intensity



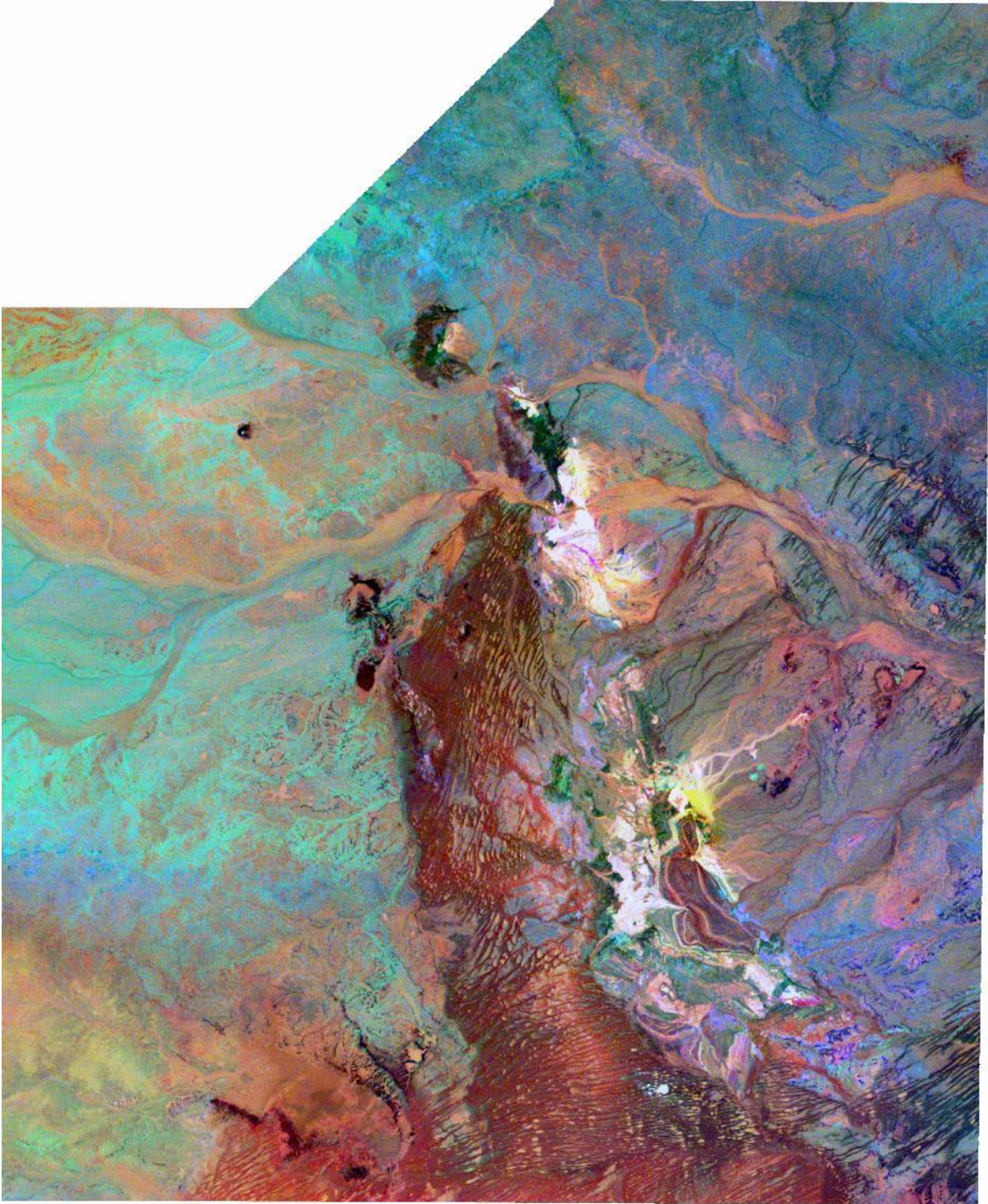
Grey Total Magnetic Intensity First Vertical Derivative



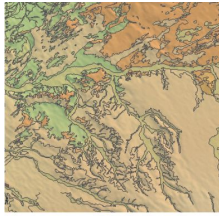
Colour Digital Elevation Model



Colour Total Count



Radiometric Ternary

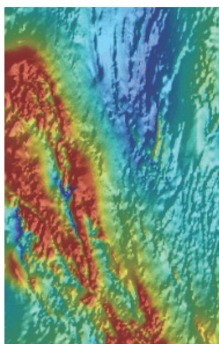


Department of State Development

Metadata: PACE Copper Gawler Craton
Airborne Survey Region 2B, P1281,
Warrina, 2017SA002



Date Printed: 17/10/2017



Government of South Australia
Department of State Development

Dataset

Title: PACE Copper Gawler Craton Airborne Survey Region 2B, P1281, Warrina, 2017SA002

Custodian: Department of the Premier and Cabinet

Jurisdiction: SA

Description

Abstract:

The Gawler Craton Airborne Survey will capture approximately 1,800,000 line kilometres of new geophysical data (magnetic, radiometric and digital elevation data) over an area of approximately 324,000 square kilometres. Magnetic data includes TMI, TMI reduced to pole and 1VD of RTP TMI; elevation data includes models derived from radar altimeter and laser altimeter subtracted from differential GPS heights; spectrometer data includes dose rate, uranium, thorium, potassium and ternary (RGB) radiometrics. Radiometric data have been processed using the Noise Adjusted Singular Value Decomposition (NASVD) method.

ANZLIC Search Terms:

GEOSCIENCES Geophysics BOUNDARIES Surveys

GEN Category: GAWLER PROVINCE

GEN Custodial Jurisdiction: South Australia

GEN Name: Warrina Map Sheet, Gawler Craton

Geographic Extent Polygon: -27.321, 136.551, -29.031, 134.967

North bounding latitude: -27.321

South bounding latitude: -29.031

East bounding longitude: 136.551

West bounding longitude: 134.967

Data Currency

Beginning Date: 01/02/2017

End Date: 16/10/2015

Dataset Status

Progress: Complete

Maintenance: As required

Version Number: 1

Access

Stored format: DIGITAL data are stored as an ERMapper grids.

Available format(s): DIGITAL

Access constraint(s): Data is not to be redistributed without approval from Authorisation Officer.

SARIG Layer(s): Gawler Craton Airborne Survey\Region 2B

Data Quality

Lineage: The data was originally collected by government, released as located data and processed into grid and image products.

Positional accuracy: Original data were located using GPS. GPS units are accurate to less than 10 metres.

Attribute accuracy: Not Known

Logical consistency: All data have been quality controlled by the Geological Survey of South Australia.

Completeness: This survey is complete

Contact Information

Contact organisation: Department of the Premier and Cabinet

Contact position: Customer Service Centre

Contact mail address: GPO box 320 Adelaide SA 5001

Contact telephone: 08 8463 3000

Contact email: Resources.CustomerServices@sa.gov.au

Metadata Dates

Add date: 2017-10-06

Change date: 2017-10-17

Responsible Party

Responsible party: Director, Geological Survey of South Australia

Responsible party function: Custodian/Steward

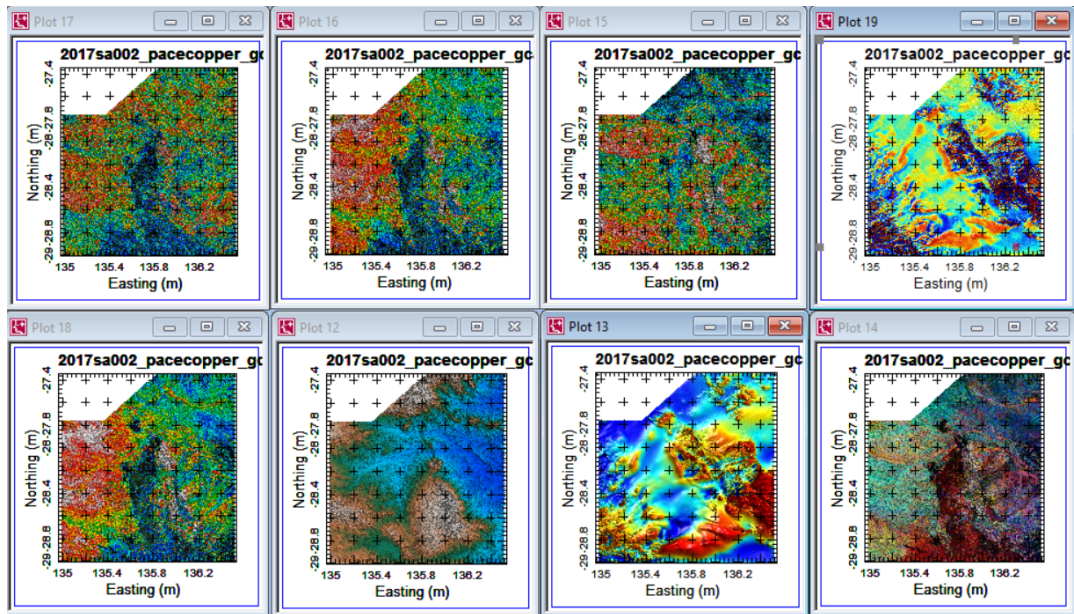
Description

Dataset classification: Principal version

Spatial representation type: Matrix

Dimension: Other

Sample Graphic(s)



GCAS Region 2B Grids

Usage

Purpose: This set of data is designed as an aid to geological exploration.

Use: Used to supply industry, government and the general public with geophysical information, primarily used for mineral exploration.

Usage limitations: Grid data has been gridded at one fifth of line spacing and interpretations should not be made at scales less than this.

Dataset Associations

Dependant datasets: Airborne Magnetic Surveys of South Australia.

Origin

Dataset size: 13.0 GB

Projection: Geographical

Datum: GDA94

Dataset Management

Authorised by: Director, Geological Survey of South Australia

Attributes
