Alice Springs, Northern Territory
TEMPEST
Geophysical Survey

Acquisition and Processing Report

for

NuPower Resources Limited

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Authorised for release by : ……..

……..

Survey flown: August – October 2008

by

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FAS JOB # 1984

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1. SURVEY OPERATIONS AND LOGISTICS

1.1 Introduction

Between the 1st of August 2008 and the 1st of October 2008, Fugro Airborne Surveys Pty. Ltd. (FAS) undertook an airborne TEMPEST electromagnetic and magnetic survey for NuPower Resources Limited, over the Alice Springs Project area in the Northern Territory. The survey consisted of eight areas known as Alice Springs 1-4 and 6-9. Total coverage of the survey area amounted to 10,570.58 line kilometres flown in 48 flights. The survey was flown using a Shorts Skyvan SC-3-200 aircraft, registration VH-WGT owned and operated by FAS. This report summarises the procedures and equipment used by FAS in the acquisition, verification and processing of the airborne geophysical data.

1.2 Survey Base

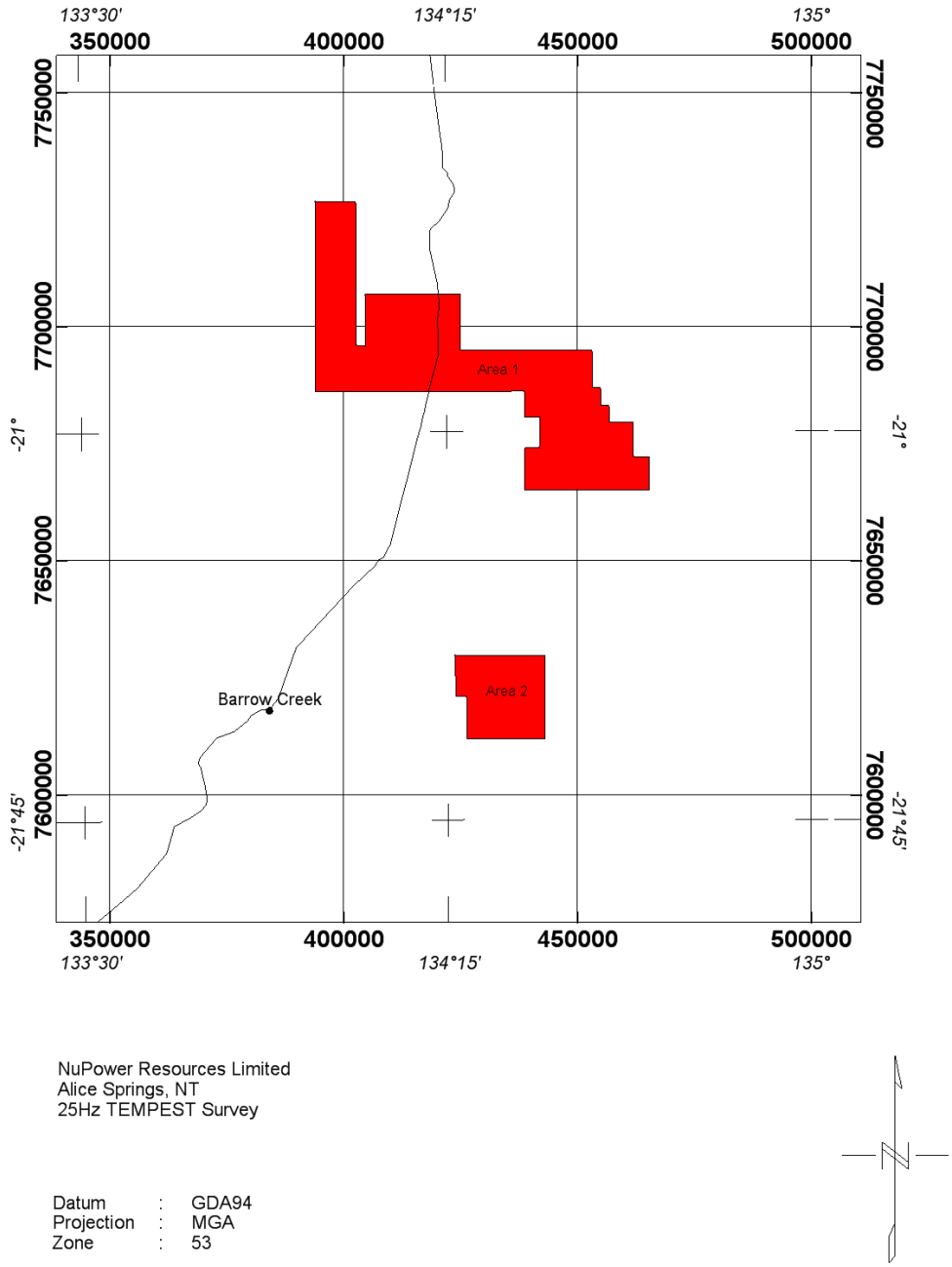
The survey was based out of Tennant Creek and Alice Springs, Northern Territory. The survey aircraft was operated from Tennant Creek and Alice Springs Airports with the aircraft fuel available on site. Temporary offices were set up at the Bluestone Moter Inn, Tennant Creek and the Elkira Best Western Motel, Alice Springs, where all survey operations were run and the post-flight data verification was performed.

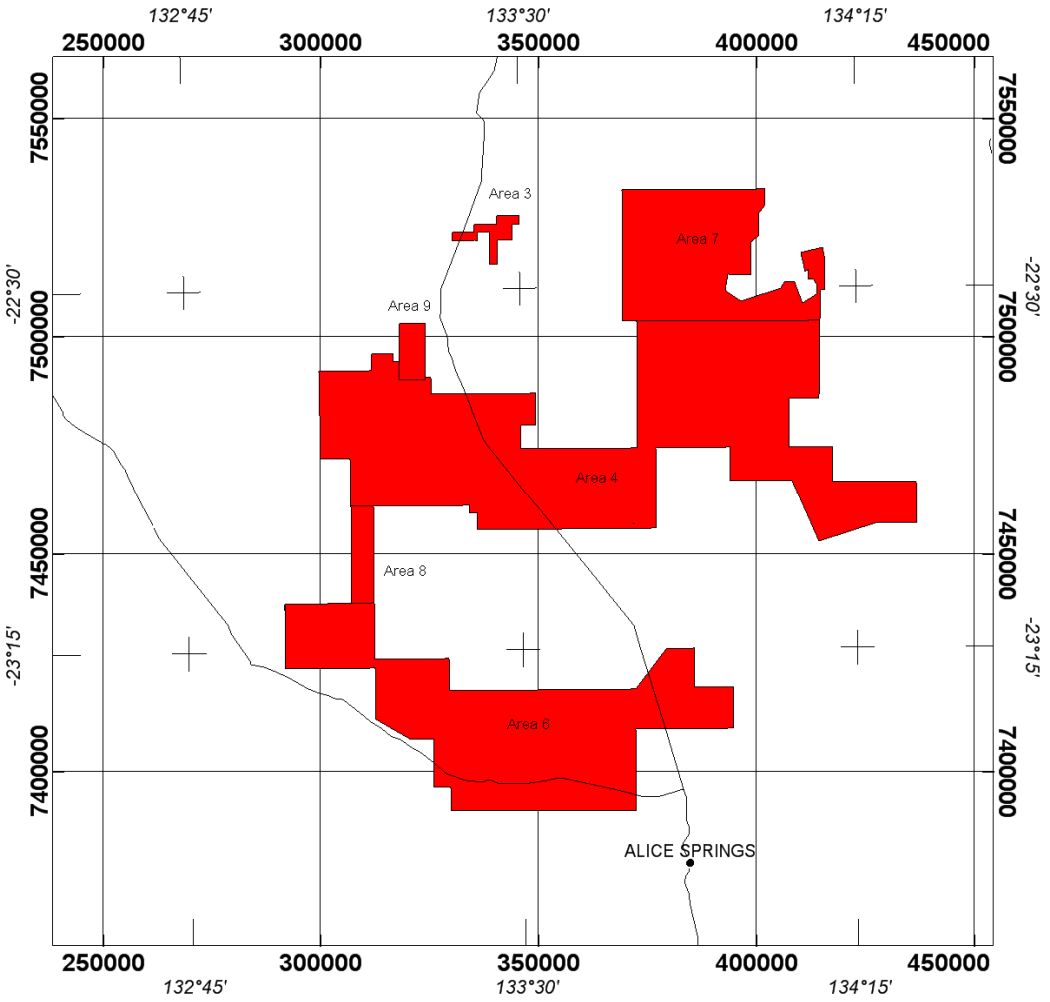
1.3 Survey Personnel

The following personnel were involved in this project:

Project Supervision - Acquisition	Bart Anderson
- Processing	Adam Shales
On-site Crew Leader	Luke Kelly, Michael Githinji, Steven Rawlings
Pilot/s	Luke Gallin, Mick Young, Troy Wilhelmi, Til Ribarich, Scott Kendall
System Operator/s	Luke Kelly, Michael Githinji, Steven Rawlings
Aircraft Engineer	Scott Kendell
Field Data Processing	Silvia Hofmann, Fanoula Ziouzia
Office Data Processing	Shane Mulè, Silvia Hofmann, Fanoula Ziouzia, Glenn Gooch

1.4 Area Map


133°30'
134°15'
135°
350000
400000
450000
500000
7750000
7700000
7650000
7600000
-21°
-21°45'
Area 1
Area 2
Barrow Creek
NuPower Resources Limited
Alice Springs, NT
25Hz TEMPEST Survey
Datum : GDA94
Projection : MGA
Zone : 53



NuPower Resources Limited
Alice Springs, NT
25Hz TEMPEST Survey

Datum : GDA94
Projection : MGA
Zone : 53

1.5 General Disclaimer

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

The Services were performed by Fugro Airborne Survey exclusively for the purposes of the Client. Should the data and report be made available in whole or part to any third party, and such party relies thereon, that party does so wholly at its own and sole risk and Fugro Airborne Survey disclaims any liability to such party.

Where the Services have involved Fugro Airborne Survey's use of any information provided by the Client or third parties, upon which Fugro Airborne Survey was reasonably entitled to rely, then the Services are limited by the accuracy of such information. Fugro Airborne Survey is not liable for any inaccuracies (including any incompleteness) in the said information, save as otherwise provided in the terms of the contract between the Client and Fugro Airborne Survey.

2. SURVEY SPECIFICATIONS AND PARAMETERS

2.1 Area Co-ordinates

The survey area was located within MGA Zone 53S, Central Meridian = 135
(Note - Co-ordinates in WGS84/MGA Zone 53)

Area 1

Easting	Northing
403096.00	7727248.00
403213.00	7696490.00
404197.00	7696460.00
404131.00	7707418.00
425481.00	7707345.00
425481.00	7695507.00
453543.00	7695577.00
453643.00	7687503.00
455320.00	7687446.00
455494.00	7683786.00
457135.00	7683786.00
457251.00	7680057.00
462399.00	7680115.00
462414.00	7672773.00
465798.00	7672656.00
465798.00	7664500.00
438212.00	7664417.00
438286.00	7674649.00
441413.00	7674706.00
441500.00	7680211.00
438309.00	7680154.00
438193.00	7685820.00
393673.00	7685752.00
393340.00	7727272.00

Area 2

Easting	Northing
443569.00	7611409.00
426010.00	7611410.00
425894.00	7620464.00
423567.00	7620521.00
423281.00	7630295.00
443663.00	7630175.00

Area 3

Easting	Northing
338301.00	7523396.00
336424.00	7523366.00
336458.00	7521522.00
335332.00	7521537.00
329582.00	7521474.00
329759.00	7524286.00
334747.00	7524286.00
334747.00	7526153.00
339895.00	7526153.00
339953.00	7528136.00
345984.00	7528136.00
346158.00	7525421.00
344379.00	7525302.00
344379.00	7521736.00
341049.00	7521561.00
340991.00	7516068.00
338243.00	7515979.00

Area 4

Easting	Northing
309863.41	7496599.61
317759.77	7496729.06
318277.57	7494916.78
322161.02	7495046.23
322161.02	7491551.11
325915.03	7491551.11
325656.14	7487926.55
349604.13	7487926.55
349733.57	7479641.84
345979.57	7479512.40
345979.57	7474981.69
371998.73	7474981.69
371998.73	7504884.32
414846.22	7504754.87
415105.12	7485596.48
407985.44	7485467.03
407985.44	7474852.25
417952.98	7475111.14
417952.98	7467473.68
437240.83	7467085.33
436852.48	7456988.34
426496.59	7456729.44
418859.12	7452716.54
410833.31	7452587.09
410833.31	7454140.47
413163.39	7454399.37
407726.55	7466696.98
393098.85	7466567.54
393228.30	7473946.11
377435.57	7473816.66
377306.13	7455693.85
334717.54	7455564.41
334717.54	7458930.07
333552.50	7458800.62
333552.50	7460354.00
305850.50	7460483.45
305850.50	7471616.03
299119.17	7471486.58
298989.73	7492845.60
310769.55	7492845.60
310640.10	7494528.43
309604.51	7494269.54
309604.51	7496987.96

Area 6

Easting	Northing
312732.00	7439273.00
312927.00	7426272.00
329997.00	7426462.00
330070.00	7419070.00
371977.00	7419506.00
379117.00	7428759.00
386317.00	7428840.00
386279.00	7419982.00
395314.00	7419941.00
395345.00	7409501.00
372762.00	7409328.00
373019.00	7390664.00
329490.00	7390591.00
329353.00	7395983.00
325591.00	7395926.00
325532.00	7407010.00
320549.00	7406931.00
312203.00	7411693.00
312055.00	7423422.00
291565.00	7423182.00
291346.00	7438885.00

Area 7

Easting	Northing
402352.00	7529596.00
401015.00	7528294.00
401015.00	7523154.00
399258.00	7521466.00
399293.00	7513660.00
393802.00	7513870.00
393268.00	7510748.00
396412.00	7508632.00
405294.00	7511504.00
406132.00	7512998.00
409225.00	7512998.00
410769.00	7508498.00
413269.00	7509950.00
413410.00	7511643.00
412881.00	7512699.00
411325.00	7513010.00
411414.00	7514426.00
410940.00	7513974.00
409527.00	7519625.00
415558.00	7521173.00
416291.00	7517676.00
416180.00	7510351.00
415172.00	7510315.00
414934.00	7503197.00
368857.00	7503099.00
368555.00	7534200.00
402552.00	7534412.00

Area 8

Easting	Northing
305000.00	7435000.00
314000.00	7435000.00
314000.00	7464000.00
305000.00	7464000.00

Area 9

Easting	Northing
324470.00	7503470.00
324470.00	7489530.00
317530.00	7489530.00
317530.00	7503470.00

2.2 Survey Area Parameters

Job Number	-	1984
Survey Company	-	Fugro Airborne Surveys Pty Ltd
Date Flown	-	1st August 2008 – 1st Octiober 2008
Client	-	NuPower resources Limited
EM System	-	25 Hz TEMPEST
Navigation	-	Real-time differential GPS
Datum	-	GDA94
Projection	-	MGA 53
Project Name	-	Alice Springs, Northern Territory
Area Names	-	1-4 and 6-9
Nominal Terrain Clearance	-	120 m

Area	Traverse Line Spacing	Traverse Line DIrection	Traverse Line Numbers	Tie Line Spacing	Tie Line Direction	Tie Line Numbers
1	1000 m	000 – 180°	10010 – 10720	10000 m	090 – 270°	17010 – 17060
2	1000 m	090 – 270°	20010 – 20190	10000 m	000 – 180°	27010 – 27020
3	1000 m	090 – 270°	30010 – 30120	N/A		
4	1000 m	090 – 270°	40010 – 40410 50010 - 50520	10000 m	000 – 180°	47010 – 47070 57010 – 57070
6	1000 m	090 – 270°	60010 – 60580	10000 m	000 – 180°	67010 – 67100
7	1000 m	000 – 180°	70010 – 70470	10000 m	090 – 270°	77010 – 77030
8	1000 m	000 – 180°	80010 - 80060	10000 m	090 – 270°	87010 - 87020
9	290 m	120 – 300°	90010 - 90030	N/A		

Line Kilometres	-	Area 1 = 1817.80 km Area 2 = 398.69 km Area 3 = 122.05 km Area 4 = 4213.86 km Area 6 = 2481.56 km Area 7 = 1346.39 km Area 8 = 154.92 km Area 9 = 35.31 km
Total Line Kilometres	-	10,570.58 km

2.3 Job Safety Plan

A Job Safety Plan was prepared and implemented in accordance with the Fugro Airborne Surveys Occupational Safety & Health Management System.

3. AIRCRAFT EQUIPMENT AND SPECIFICATIONS

3.1 Aircraft

Manufacturer	-	Shorts Skyvan
Model	-	SC-3-200
Registration	-	VH-WGT
Ownership	-	Fugro Airborne Surveys Pty Ltd

3.2 TEMPEST System Specifications

Specifications of the TEMPEST Airborne EM System (Lane et al., 2000) are:

- Base frequency - 25 Hz
- Transmitter area - 186 m^2
- Transmitter turns - 1
- Waveform - Square
- Duty cycle - 50%
- Transmitter pulse width - 10 ms
- Transmitter off-time - 10 ms
- Peak current - 300 A
- Peak moment - 55800 Am^2
- Average moment - 27900 Am^2
- Sample rate - 75 kHz on X and Z
- Sample interval - 13 microseconds
- Samples per half-cycle - 1500
- System bandwidth - 25 Hz to 37.5 kHz
- Flying height - 120 m (subject to safety considerations)
- EM sensor - Towed bird with 3 component dB/dt coils
- Tx-Rx horizontal separation - 115 m (nominal) area 4 and 9 117 m
- Tx-Rx vertical separation - 40 m (nominal) area 4 and 9 37 m
- Stacked data output interval - 200 ms (~12 m)
- Number of output windows - 15
- Window centre times - 13 μs to 16.2 ms
- Magnetometer - Stinger-mounted cesium vapour
- Magnetometer compensation - Fully digital
- Magnetometer output interval - 200 ms (~12 m)
- Magnetometer resolution - 0.001 nT
- Typical noise level - 1.0 nT
- GPS cycle rate - 1 second

3.2.1 EM Receiver and Logging Computer

The EM receiver computer is a Picodas PDAS-1000 data acquisition system. The EM receiver computer executes a proprietary program for system control, timing, data acquisition and recording. Control, triggering and timing is provided to the TEMPEST transmitter and DSP signal processing boards by the timing card, which ensures that all waveform generation and sampling is accomplished with high accuracy. The timing card is synchronised to GPS through the use of the PPS output from the system GPS card. Synchronisation is also provided to the magnetometer processor card for the purpose of accurate magnetic sampling with respect to the EM transmitter waveform.

The EM receiver computer displays information on the main screen during system calibrations and survey line acquisition to enable the airborne operator to assess the data quality and performance of the system.

3.2.2 TEMPEST Transmitter

The transmitted waveform is a square wave of alternating polarity, which is triggered directly from the EM receiver computer. The nominal transmitter base frequency was 25 Hz with a pulse width of 10ms (50 % duty cycle). Loop current waveform monitoring is provided by a current transformer located directly in the loop current path to allow for full logging of the waveform shape and amplitude, which is sampled by the EM receiver.

3.2.3 TEMPEST 3-Axis Towed Bird Assembly

The TEMPEST 3-axis towed bird assembly provides accurate low noise sampling of the X (horizontal in line), Y (horizontal transverse) and Z (vertical) components of the electromagnetic field. The receiver coils measure the time rate of change of the magnetic field (dB/dt). Signals from each axis are transferred to the aircraft through a tow cable specifically designed for its electrical and mechanical properties.

3.3 PDAS 1000 Survey Computer

The SURVEY computer is a PICODAS PDAS 1000 data acquisition system. The SURVEY computer executes a proprietary program for acquisition and recording of location, magnetic and ancillary data. Data are presented both numerically and graphically in real time on the VGA LCD display, which provides an on-line display capability. The operator may alter the sensitivity of the displays on-line to assist in quality control. Selected EM data are transferred from the EM receiver computer to the SURVEY computer for QC display.

3.3.1 Cesium Vapour Magnetometer Sensor

A cesium vapour magnetometer sensor is utilised on the aircraft and consists of the sensor head and cable, and the sensor electronics. The sensor head is housed at the end of a composite material tail stinger.

3.3.2 Magnetometer Processor Board

A Picodas magnetometer processor board is used for de-coupling and processing the Larmor frequency output of the magnetometer sensor. The processor board interfaces with the PDAS 1000 survey computer, which initiates data sampling and transfer for precise sample intervals and also with the EM receiver computer to ensure that the magnetic samples remain synchronised with the EM system.

3.3.3 Fluxgate Magnetometer

A tail stinger mounted Bartington MAG-03MC three-axis fluxgate magnetometer is used to provide information on the attitude of the aircraft. This information is used for compensation of the measured magnetic total field.

3.3.4 GPS Receiver

A Novatel GPScard 951R is utilised for airborne positioning and navigation. Satellite range data are recorded for generating post processed differential solutions.

3.3.5 Differential GPS Demodulator

The OMNISTAR differential GPS service provides real time differential corrections.

3.4 Navigation System

A Picodas PNAV 2001 Navigation Computer is used for real-time navigation. The PNAV computer loads a pre-programmed flight plan from disk which contains boundary co-ordinates, line start and end co-ordinates, local co-ordinate system parameters, line spacing, and cross track definitions. The WGS-84 latitude and longitude positional data received from the Novatel GPScard contained in the SURVEY computer is transformed to the local co-ordinate system for calculation of the cross track and distance to go values. This information, along with ground heading and ground speed, is displayed to the pilot numerically and graphically on a two line LCD display, and on an analog HSI indicator. It is also presented on a LCD screen in conjunction with a pictorial representation of the survey area, survey lines, and ongoing flight path.

The PNAV is interlocked to the SURVEY computer for auto selection and verification of the line to be flown. The GPS information passed to the PNAV 2001 navigation computer is corrected using the received real time differential data, enabling the aircraft to fly as close to the intended track as possible.

3.5 Altimeter System

3.5.1 Radar Altimeter

Model:	Sperry Stars RT-220 radio altimeter system
Sample interval:	0.2 second
Accuracy:	+/- 1.5 % of indicated altitude.

The Sperry radio altimeter is a high quality instrument whose output is factory calibrated. It is fitted with a test function which checks the calibration of a terrain clearance of 100 feet, and altitudes which are multiples of 100 feet. The aircraft radio altitude is recorded onto digital tape as well as displayed on the aircraft chart recorder. The recorded value is the average of the altimeters output during the previous second.

3.5.2 Barometric Altimeter

Output of a Digiquartz 215A-101pressure transducer is used for calculating the barometric altitude of the aircraft. The atmospheric pressure is taken from a gimbal-mounted probe projecting 0.5 metres from the wing tip of the aircraft and fed to the transducer mounted in the aircraft wingtip.

3.6 Video Tracking System

The video tape recorded by a PAL VHS colour video system is synchronised with the geophysical record by a digital fiducial display, which is recorded along with GPS latitude and longitude information and survey line number.

3.7 Data Recorded by the Airborne Acquisition Equipment

Raw EM data including fiducial, local time, X, Y, Z axis sensor response, current monitor and bird auxiliary sensor output are recorded on the EM receiver computer as "**G**" EM files.

The Survey computer records all other survey data including aeromagnetic and GPS data using as "**S**" Survey files, and "**R**" Rover files containing GPS raw range data for post processing.

4. GROUND DATA ACQUISITION EQUIPMENT AND SPECIFICATIONS

4.1 Magnetic Base Station

A CF1 and a Scintrex ENVI magnetometer were used to measure the daily variations of the Earth's magnetic field. The base stations were established in an area of low gradient, away from cultural influences. The base stations were run continuously throughout the survey flying period with a sampling interval of 1 and 2 seconds respectively, at a sensitivity of 0.01 nT. The base station data were closely examined after each day's production flying to determine if any data had been acquired during periods of out-of-specification diurnal variation. The base stations were located approximately 100 m apart at Tennant Creek and Alice Springs Airport for the duration of the survey.

4.2 GPS Base Station

A GPS base logging station was set up at the survey airport base locations. The sensor was contained in the CF1 located on the grass beside the runway.

The GPS base system was comprised of a Novatel GPS PC card mounted in a portable IBM computer. The computer is connected to a mains UPS backup, with a reserve capacity of approximately 100 minutes, to ensure continuous data logging in the event of mains power interruptions.

The GPS base station position was calculated by logging data continuously at the base position over a period of approximately 24 hours. These data were then statistically averaged to obtain the position of the base station using GrafNav software.

Tennant Creek:
The calculated GPS base position was (in WGS84):

Lat: 19° 38' 25.18520" S
Long: 134° 11' 15.02305" E
Height: 402.82 m. (WGS84 Ellipsoidal Height)

Alice Springs:
The calculated GPS base position was (in WGS84):

Lat: 23° 47' 55.91877" S
Long: 133° 53' 06.58506" E
Height: 557.0 m. (WGS84 Ellipsoidal Height)

5. EM AND OTHER CALIBRATIONS AND MONITORING

At the beginning and end of each individual survey flight, the EM system is checked for background noise levels and performance. All of these checks are conducted at a nominal terrain clearance of 600 m (2000 ft) to eliminate ground response.

These checks include:-

5.1 Pre-Flight Barometer Calibration: Line C1511

A recording of the barometer output at a known elevation is carried out before take-off to assist with calibration and determination of drift during the flight. The barometer is used as a back-up to the GPS for aircraft altitude.

5.2 Pre-Flight Zero: Line C9001

This manoeuvre is performed once the aircraft is established en route to the survey area. Background EM levels are recorded and assessed by the airborne operator to determine if:-

a. the system noise level is acceptable,
b. the response had not varied significantly from previous flights, and
c. the sferic level is acceptable.

These data are recorded for approximately 90 seconds.

5.3 Pre-Flight Swoops: Line C9002

This manoeuvre is conducted immediately after the pre sortie zero. During this manoeuvre the relative position of the towed sensor is deliberately made to vary relative to the aircraft. The EM data are monitored by the airborne operator to confirm correct operation of the system during the manoeuvre.

5.4 Post-Flight Zero: Line C9003

This calibration is performed immediately following the completion of the survey sorties. Background EM levels are recorded to characterise any changes occurred in the system over the duration of the flight. These data are recorded for approximately 90 seconds.

5.5 Post-Flight Barometer Calibration: Line C1611

A recording of the barometer output is repeated following landing at the end of the flight to assist with calibration and determination of drift during the flight.

5.6 Additive EM Measurements: Lines C9004, C9005, and C9007

A recording of the background signal through the X, Y and Z receiver coil inputs is carried out before and/or after acquisition of data for survey lines on each flight. These measurements may be made with the transmitter on (C9004, C9005) or with the transmitter off (C9007). The signal from the receiver coils is removed from the signal pathway by disconnecting the power to the bird at the winch inside the aircraft.

5.7 Dynamic Magnetometer Compensation

To limit aircraft manoeuvre effects on the magnetic data that can be of the same spatial wavelength as the signals from geological sources, compensation calibration lines are flown in a low magnetic gradient area close to the survey. This involves flying a series of tests on the survey line heading and approximately 15 degrees either side to accommodate small heading variations whilst flying survey lines. The data for each heading consists of a series of aircraft manoeuvres, including pitches, rolls and yaws. This is done to artificially create the most extreme possible attitude the aircraft may encounter whilst on

survey. Data from these lines are used to derive compensation coefficients for removing magnetic noise induced by the aircraft's attitude in the naturally occurring magnetic field.

Compensation data were acquired on the dates below.

Flown	Flights covered
1/8/2008	1 – 39
24/9/2008	40 - 48

5.8 Parallax Checks

Due to the relative positions of the EM towed bird and the magnetometer instruments on the aircraft and to processing / recording time lags, raw readings from each vary in position. To correct for this and to align selected anomaly features on lines flown in opposite directions, magnetics, EM data and the altimeters are 'parallaxed' with respect to the position information. System parallax is checked occasionally or following any major changes in the aircraft system which are likely to affect the parallax values.

Variable	Parallax Value
Magnetics	0.4 s
GPS	0 s
Radar Altimeter	0.6 s
EM - X	0.2 s
EM - Z	1.4 s

5.9 Radar Altimeter Calibration

The radar altimeter is checked for accuracy and linearity every 12 months or when any change in a key system component requires this procedure to be carried out. This calibration allows the radar altimeter data to be compared and assessed with other height data (GPS and barometric) to confirm the accuracy of the radar altimeter over it's operating range.

Absolute radar and barometric altimeter calibration was carried out over water at Mandurah, Western Australia and was successful in calibrating the radar altimeter to information provided by the GPS and barometer instrument. Calibration factors were as expected. The calibration procedure also provides parallax information required for positional correction of the radar and GPS altimeters.

5.10 Heading Error Checks

Historically, heading error checks have been part of the aeromagnetic data acquisition procedure but they are no longer used. Fugro Airborne Surveys now calculates these effects using the aircraft magnetic compensation system and specially developed software. The precision to which these effects are now calculated and corrected for is far in excess of the manual methods used in the past.

6. DATA PROCESSING

6.1 Field Data Processing

6.1.1 Quality Control Specifications

6.1.1.1 Navigation Tolerance

The re-flight specifications applied for the duration of the survey were:

Electronic Navigation - absence of electronic navigation data (e.g. GPS base station fails).

Flight Path - where the flightpath deviates from the flightplan by more than 50% of the nominal line spacing for more than 5 kilometres or where lines cross. The line spacing measurements to be used in determining such reflights will be made from the field flight path recovery

Altitude - terrain clearance continuously exceeds the nominal terrain clearance by plus or minus 30 m over a distance of 5 km or more unless to do so would, in the sole opinion of the pilot, jeopardise the safety of the aircraft or the crew or the equipment or would be in contravention of the Civil Aviation Safety Authority regulation such as those pertaining to built up areas.

6.1.1.2 Magnetics Noise And Diurnal Tolerance

The re-flight specifications applied for the duration of the survey were:

Magnetic Diurnal - where the magnetometer base station data exceeds a 10 nT change in 10 minutes.

6.1.1.3 Electromagnetic Data

The quality control checks on the electromagnetic data were:

Noise - where RMS noise in the last channel of the EM data exceeds 0.1 fT over 3 km for B-field (assessed in a resistive region) or where FAS believes an important anomaly is rendered un-interpretable.

Sferics – where sferic activity renders a potential anomaly un-interpretable.

6.1.2 In-Field Data Processing

Following acquisition, multiple copies of the EM data are made onto DVDs or CDs. The EM, location, magnetic and ancillary data are then processed at the field base to the point that the quality of the data from each flight can be fully assessed. Copies of the raw and processed data are then transferred to Perth for final data processing. A more comprehensive statement of EM data processing is given in section 6.2.3.

6.2 Final Data Processing

6.2.1 Magnetics

Magnetic data were compensated for aircraft manoeuvre noise using coefficients derived from the appropriate compensation flight. Base station data is edited so that all significant spikes, level shifts and null data are eliminated.

A diurnal base value was then added.

Area	Base Value
1	50580 nT
2-4, 6-9	53288 nT

A lag was applied to synchronise the magnetic data with the navigation data.

The International Geomagnetic Reference Field (IGRF) 2005 model (updated for secular variation) was removed from the levelled total field magnetics. An IGRF base value was then added to the data.

Area	Base Value	Updated Model
1	51385 nT	2008.7
2	51810 nT	2008.6
3	52457 nT	2008.6
4	52754 nT	2008.6
6	52988 nT	2008.6
7	52411 nT	2008.6
8	52960 nT	2008.6
9	52600 nT	2008.6

Where appropriate the magnetic data was tie line levelled. A FAS proprietary microlevelling process was then applied in order to more subtly level the data.

6.2.2 Derived Topography

Aircraft navigation whilst in survey mode is via real time differential GPS, obtained by combining broadcast differential corrections with on-board GPS measurements. Terrain clearance is measured with a radar altimeter.

The ground elevation, relative to the WGS84 spheroid used by GPS receiver units, is obtained by subtracting the terrain clearance from the aircraft altitude, noting the vertical separation between the GPS antenna and the radar altimeter, and applying suitable parallax corrections between the two measurements.

Where appropriate the digital elevation data was tie line levelled. A FAS proprietary microlevelling process was then applied in order to more subtly level the data.

An N-Value is subtracted to correct the final data to the Australian Height Datum (AHD).

The digital elevation model derived from this survey can be expected to have an absolute accuracy of +/- several metres in areas of low to moderate topographic relief. Sources of error include uncertainty in the location of the GPS base station, variations in the radar altimeter characteristics over ground of varying surface texture, and the finite footprint of the radar altimeter.

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

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

6.2.3 Electromagnetic Data Processing

Details of the pre-processing applied to TEMPEST data can be found in Lane et al. (2000).

6.2.3.1 Standard EM Processing

Calibration
High altitude calibration data are used to characterise the system response in the absence of any ground response.

Cleaning and Stacking
Routines to suppress sferic noise, powerline noise, VLF noise, coil motion noise (collectively termed "cleaning") and to stack the data are applied to the survey line data. Output from the stacking filter is drawn at 0.2 second intervals. The stacked data are saved to file as an internal data management practice.

Deconvolution and Binning
The survey height stacked data are deconvolved using the high altitude reference waveform. The effect of currents in the transmitter loop and airframe ("primary") are then removed, leaving a "pure" ground response. The deconvolved ground response data are then transformed to B-field response for a perfect 100% duty cycle square wave. Finally, the evenly spaced samples are binned into a number of windows.

Table of TEMPEST window information for 25Hz base frequency

Window #	Start sample	End sample	No of samples	start time (s)	End time (s)	centre time (s)	centre time (ms)
1	1	2	2	0.000007	0.000020	0.000013	0.013
2	3	4	2	0.000033	0.000047	0.000040	0.040
3	5	6	2	0.000060	0.000073	0.000067	0.067
4	7	10	4	0.000087	0.000127	0.000107	0.107
5	11	16	6	0.000140	0.000207	0.000173	0.173
6	17	26	10	0.000220	0.000340	0.000280	0.280
7	27	42	16	0.000353	0.000553	0.000453	0.453
8	43	66	24	0.000567	0.000873	0.000720	0.720
9	67	102	36	0.000887	0.001353	0.001120	1.120
10	103	158	56	0.001367	0.002100	0.001733	1.733
11	159	246	88	0.002113	0.003273	0.002693	2.693
12	247	384	138	0.003287	0.005113	0.004200	4.200
13	385	600	216	0.005127	0.007993	0.006560	6.560
14	601	930	330	0.008007	0.012393	0.010200	10.200
15	931	1500	570	0.012407	0.019993	0.016200	16.200

The data are reviewed after windowing. Any decisions involving re-flights due to AEM factors are made at this point.

Raw and Final EM Data
The "raw" or "uncorrected" EM amplitudes reflect, not only the variations in ground conductivity, but the variations in geometry of the various parts of the EM measurements (i.e. transmitter loop pitch, transmitter loop roll, transmitter loop terrain clearance, transmitter loop to receiver coil horizontal longitudinal separation, transmitter loop to receiver coil horizontal transverse separation, and transmitter loop to receiver coil vertical separation) during the survey. For example, the largest influence on the early time EM amplitude is the terrain clearance of the transmitter loop. The larger the terrain clearance, the smaller the amplitude. Later window times (larger window number) show diminished variations due to terrain clearance.

"Final" or "geometry-corrected" located data are produced for optimum presentation of the EM amplitude data in image format (e.g. window amplitude images, principal component analysis images derived from the window amplitudes (Green,1998b)). Between "raw" and "final" states, the ground response data undergo an approximate correction to produce data from a nominated standard geometry. A dipole-image method (Green, 1998a) is used to adjust the data to the response that would be expected at a standard terrain clearance (120m), standard transmitter loop pitch and roll (zero degrees), and a standard transmitter loop to receiver coil geometry (115m behind and 40m below the aircraft). These variables have been set to their respective standard values in the "final" located data (whereas the "raw" located data file contains the variable field data). Zero parallax is applied to transmitter loop pitch, roll, terrain clearance, X component EM and Z component EM data prior to geometry correction. Over extremely conductive ground (e.g. > 100 S conductance), the estimates for transmitter loop to receiver coil separation determined from the primary field coupling factors may be in error at the metre scale due to uncertainty in the estimation of the primary field. This will influence the accuracy of very early time window amplitude information in the "geometry-corrected" located data. Receiver coil pitch has a significant effect on early time Z component response and late time X component response (Green and Lin, 1996). Receiver coil roll impacts early time Z component response.

Levelling
Limited range micro-levelling may be applied to the final window amplitudes for presentation purposes, principally for multi-flight surveys or when isolated re-flight lines are present.

6.2.3.2 Factors and Corrections

Geometric Factor
The geometric factor gives the ratio of the strength of the primary field coupling between the transmitter loop and the receiver coil at each observation relative to the coupling observed at high altitude during acquisition of reference waveform data. Variations in this factor indicate a change in the attitude and/or relative separation of the transmitter loop and the receiver coil.

Transmitter-Receiver Geometry
Transmitter to receiver geometry values for each observation are derived from the high altitude reference waveforms and knowledge of the system characteristics. These data are available in the located data (see section 6.2.6.1 for "standardised" values)

GPS Antenna, Laser Altimeter and Transmitter Loop Offset Corrections
The transmitter loop was mounted 0.1m above the GPS antenna on the aircraft. The GPS antenna is 3.3m above the belly of the aircraft. The laser altimeter sensor is mounted in the belly of the aircraft. Therefore a total of 3.05m (-0.25m + 3.3m) was added to the laser altimeter data to determine the transmitter loop height above the ground.

Transmitter Loop Pitch and Roll Correction
Measured vertical gyro aircraft pitch and roll attitude measurements are converted to transmitter loop pitch and roll by adding 0.45 degrees for pitch and 0.6 degrees for roll. Nose up is positive for pitch, and left wing up is positive for roll.

6.2.3.3 Primary Sources of EM Noise

A number of "monitor" values are calculated during processing to assist with interpretation. They generally represent quantities that have been removed as far as is practical from the data, but may still be present in trace amounts. These are more significant for interpretation of discrete conductors than for general mapping applications.

Sferic Monitor
Sferics are the electromagnetic signals associated with lightning activity. These signals travel large distances around the Earth. Background levels of sferics are recorded at all times from lightning activity in tropical areas of the world (eg tropical parts of Asia, South America and Africa). Additional higher amplitude signals are produced by "local" lightning activity (ie at distances of kilometres to hundreds of kilometres).

The sferic monitor is the sum of the absolute differences brought about by the sferic filter operations, summed over 0.2 second intervals, normalised by the receiver effective area. It is given in units of uV/sq.m/0.2s. Many sferics have a characteristic form that is well illustrated by figure 2 in Garner and Thiel (2000). The high frequency, initial part of a sferic event can be detected and filtered more easily than the later, low frequency portion. The sferic monitor indicates where at least the high frequency portion of a sferic has been successfully removed, but it is quite possible that lower frequency elements of the sferic event may have eluded detection, passing through to the window amplitude data. Thus, discrete anomalies coincident with sferic activity as indicated by the sferic monitor should be down-weighted relative to features clear of any sign of sferic activity.

Low Frequency Monitor
The Low Frequency Monitor (LFM) makes use of amplitudes at frequencies below the base frequency which are present in the streamed data to estimate the amplitude of coil motion (Earth magnetic field) noise at the base frequency in log10(pV/sqrt(Hz)/sq.m). The coil motion noise below the base frequency is rejected through the use of tapered stacking, but the coil motion noise at the base frequency itself is not easily removed. A sharp spike in the LFM can be an indicator of a coil motion event (eg the bird passing through extremely turbulent air). Note that the LFM will also respond to sferic events with an appreciable low frequency (sub-base frequency) component. This situation can be inferred when both the LFM and sferic monitors show a discrete kick.

Powerline Monitor
The powerline monitor gives the amplitude of the received signal at the powerline frequency (50 or 60 Hz) in log10(pV/sqrt(Hz)/sq.m). Careful selection of the base frequency (such that the powerline frequency is an even harmonic of the base frequency) and tapered stacking combine to strongly attenuate powerline signals. When passing directly over a powerline, the rapid lateral variations in the strength and direction of the magnetic fields associated with the powerline can result in imperfect cancellation of the powerline response during stacking. Some powerline-related interference can manifest itself in a form that is similar to the response of a discrete conductor. The exact form of the monitor profile over a powerline depends on the line direction, powerline direction, powerline current, and receiver component, but the monitor will show a general increase in amplitude approaching the powerline.

Grids (or images) of the powerline monitor reveal the location of the transmission lines. Note that the X component (horizontal receiver coil axis parallel with the flight line direction) does not register any response from powerlines parallel to the flight line direction since the magnetic fields associated with powerlines only vary in a direction perpendicular to the powerline. Note also that the Z component (vertical receiver coil axis) shows a narrow low directly over the powerline where the magnetic fields are purely horizontal.

Very Low Frequency Monitors
Wide area VLF communication signals in the 15 to 25 kHz frequency band are monitored by the TEMPEST system. In the Australian region, signals at 18.2 kHz, 19.8 kHz, 21.4 kHz and 22.2 kHz are monitored as the amplitude of the received signal at these frequencies in log10(pV/sqrt(Hz)/sq.m). The strongest signal comes from North West Cape (19.8 kHz). The signal at 18.2 kHz is often observed to pulse in a regular sequence. These strong narrow band signals have some impact on the high frequency response of the system, but they are strongly attenuated by selection of the base frequency and tapered stacking. The VLF transmissions are strongest in amplitude, in the horizontal direction at right angles to the direction to the VLF transmitter. This directional dependence enables the VLF monitors to be used to indicate the receiver coil attitude.

6.2.3.4 Other Sources of EM Noise

Man-made periodic discharges
If an image of the Z component sferic monitor shows the presence of spatially coherent events, then pulsed cultural interference would be strongly suspected. Since sferic signals are much stronger in the horizontal plane than in the vertical plane, few sferics of significant amplitude are recorded in Z component data. In contrast, evidence of cultural interference is generally swamped by true sferics in X component sferic monitor images.

Electric fences are the most common source of pulsed cultural interference. Periodic discharges (eg every second or so) into a large wire loop (fence) produce very large spikes in raw data. These are attenuated to a large degree by the sferic filter, but a residual artefact can still be present in the processed data.

Coil motion / Earth field noise
A change in coupling between the receiver coil and the ambient magnetic field will induce a voltage in the receiver coil. This noise is referred to as coil motion or Earth field noise. Receiver coils in the towed bird are suspended in a fashion that attempts to keep this noise below the noise floor at frequencies equal to and above the base frequency of the system. Severe turbulence, however, can result in 'coil knock events' that introduce noise into the processed data.

Grounded metal objects
Grounded extensive metal objects such as pipelines and rail lines can qualify as conductors and may produce a response that is visible in processed data. Grounded metal objects produce a response similar to shallow, highly conductive, steeply dipping conductors. These objects can sometimes be identified from good quality topographic maps, from aerial photographs, by viewing the tracking video, from their unusual spatial distribution (ie often a series of linear segments) and in some circumstances from their effect on the powerline monitor. A powerline running close to a long metal object will induce a 50 Hz response in the object.

6.2.4 Conductivity Depth Images (CDI)

CDI conductivity sections for TEMPEST data were calculated using EMFlow and then modified to reflect the finite depth of investigation using an in-house routine, *Sigtime*.

The *Sigtime* routine removes many of the spurious conductive features that appear at depth as a result of fitting long time constant exponential decays to very small amplitude features in the late times. For each observation, the time when the response falls below a signal threshold amplitude is determined. This time is transformed into a diffusion depth with reference to the conductivity values determined for that observation. Anomalous conductivity values below this depth are replaced by background values or set to undefined, reflecting the uncertainty in their origin. The settings and options applied are indicated in the appropriate header files for *Sigtime* output. This procedure is different to that which would be obtained by filtering conductivity values using either a constant time or constant depth across the entire line.

The "final" data for each area were input into version 5.10 of EMFlow to calculate Conductivity Depth Images (CDI). Conductivity values were calculated at each point then run through *Sigtime.* This processing was completed for the Z component data.

EMFlow was developed within the CRC-AMET through AMIRA research projects (Macnae et al, 1998, Macnae and Zonghou, 1998, Stolz and Macnae, 1998). The software has been commercialised by Encom Technology Pty Ltd. Examples of TEMPEST conductivity data can be seen in Lane et al. (2000), Lane et al. (1999), and Lane and Pracillio (2000).

Conductivity values were calculated to a depth of 500 m below surface at each point, using a depth increment of 5 m and a conductivity range of 0.1-200 mS/m (Area 1, 2 ,6 ,7 and 8), 0.5-500 mS/m (Area 3 and 4) 0.01-10 mS/m (Area 9).

6.2.5 System Specifications for Modelling TEMPEST Data

Differences between the specifications for the acquisition system, and those of the virtual system for which processed results are given, must be kept in mind when forward modelling, transforming or inverting TEMPEST data.

Acquisition is carried out with a 50% duty cycle square transmitter current waveform and dB/dt sensors.

During processing, TEMPEST EM data are transformed to the response that would be obtained with a B-field sensor for a 100% duty cycle square waveform at the base frequency, involving a 1A change in current (from -0.5A to +0.5A to -0.5A) in a 1sq.m transmitter. Data are given in units of femtotesla (fT = 10^{-15} Tesla). It is this configuration, rather than the actual acquisition configuration, which must be specified when modelling TEMPEST data.

Window timing information is given above (see section 6.2.3).

6.2.5.1 Standard Height and Geometry

The "final" EM data have been standardised through an approximate transformation to a standard transmitter loop terrain clearance, transmitter loop pitch and roll of zero degrees, and a fixed transmitter loop to receiver coil geometry (roughly equal to the average "raw" geometry values). Transmitter loop pitch, transmitter loop roll and transmitter loop terrain clearance values for each observation have been modified to reflect the standard values. Hence, the "final" (fixed) geometry values should be used if modelling with the final X- and Z-component amplitude data - the following table summarises the values used to correct the transmitter height/pitch/roll/geometry to.

Table of values used to standardise transmitter loop height, pitch, roll and geometry

Variable	Standardised value
Transmitter loop pitch	0 degrees
Transmitter loop roll	0 degrees
Transmitter loop terrain clearance	120 metres
Transmitter loop – to – receiver coil geometry	115 m behind and 40 m below the aircraft

6.2.5.2 Parallax

The located data files utilise the following parallax values :-
- magnetics = 0.4 fiducials (2 observations from the zero parallax position),
- radar altimeter = 0.6 fiducials (3 observations from the zero parallax position),
- EM X-component = 0.2 fiducials (1 observation from the zero parallax position),
- EM Z-component = 1.4 fiducials (7 observations from the zero parallax position),

These EM parallax values are optimised for aligning the EM response amplitudes for horizontal or broad steeply dipping conductors, which account for the majority of responses in regolith-dominated terrains such as this.

For optimum gridded display of the response for discrete vertical or narrow conductors, the following EM parallax values are appropriate :-
- EM X-component = 1.8 fiducials (9 observations from the zero parallax position, or 8 observations from the "horizontal" parallax position),
- EM Z-component = 0.6 fiducials (3 observations from the zero parallax position, or -4 observations from the "horizontal" parallax position).

(NB Positive parallax values are defined in this case as shifting the indicated quantity back along line to smaller fiducial values. Location information remains in the zero parallax state.)

6.2.6 Delivered Products

Appendix IV contains a complete list of all data supplied digitally.

Final gridded and digital products as described below were delivered.

Digital ascii located data and Oasis Geosoft GDB format was produced, containing the raw and final, X and Z EM data as well as magnetics and digital elevation. The header files can be found in Appendix III.

Stacked CDI sections and CDI-multiplots (of Z component) were produced and delivered as digital png files.

Gridded data was delivered in ERMapper format GDA94 MGA53, and included TMI, 1VDTMI, DEM, EM Time Constant for X and Z Components and 15 EM amplitude windows for X and Z component.

A flight path map was also delivered in hardcopy as a digital png file.

Acquisition and processing report in hardcopy and digital format.

7. REFERENCES

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APPENDIX I – Weekly Acquisition Reports

V20070717 System: Tempest
Aircraft: VH-WGT

Total Job kms: 10532.000 Kms

9061.3 Hrs - Progressive M/R Hrs at the start of job, prior to mobilisation

9096.0 Hrs - The hours the Periodic Inspection is actally due at start of the job

Job Number: 1984
Contract Number: CT5468
Job Name: Alice Springs
Area Names: Alice Springs
Client: Nupower Resources Limited

Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
28-July-2008														0.00		
Julian Day 210														0.00		
														0.00		
Monday														0.00		
									34.7					0.00		
Date 29-Jul														0.00		
Julian Day 211														0.00		
														0.00		
Tuesday														0.00		
									34.7					0.00		
Date 30-Jul														0.00		
Julian Day 212														0.00		
														0.00		
Wednesday														0.00		
									34.7					0.00		
Date 31-Jul		LK/SH												0.50	MO	Mobilise car and trailer to Alice Springs
Julian Day 213		AR/SK				9:00:00	15:41:00	6.7						0.50	F	Ferried plane from Whyalla to Alice Springs, 8.7 hrs
														0.00	Comment	Fanoula arrived in Alice Springs 4:15pm
Thursday														0.00		
									28.0	6.7				0.00		
Date 1-Aug													1.00	1.00	SETUP	Setup base mags, recieved keys for airport, parked
Julian Day 214														0.00		
														0.00		
Friday														0.00		
									28.0	6.7				0.00		
Date 2-Aug													1.00	1.00	W	Strong Winds flight suspended
Julian Day 215														0.00		
														0.00		
Saturday														0.00		
									28.0	6.7				0.00		
Date 3-Aug	1	AR/FZ	MG	16		9:30:00	12:30:00	3.0						1.00	P	comp box and Recce & lines 4001,4002,Mild
Julian Day 216														0.00		
														0.00		
Sunday														0.00		
									25.0	9.7	16.000			0.00		
Totals This Week: ►				**16.000**		Week Hours:►		**9.7**	▲: A/C Hrs to Next Service				**2.00**	**4.00**		

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Job Number: 1984
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Job Name: Alice Springs
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Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
04-August-2008													1.00	1.00	W	No flight strong winds of more than 25 knots
Julian Day 217														0.00	Comment	LG arrives at Alice springs
														0.00		
Monday														0.00		
									25.0	9.7	16.000			0.00		
Date 5-Aug	2	AR/LG	MG			7:45:00	9:20:00	1.6					1.00	1.00	W	Flight aborted due strong winds around the survey
Julian Day 218														0.00	Comment	LK and SK leave alice springs for field break
														0.00		
Tuesday														0.00		
									23.4	11.3	16.000			0.00		
Date 6-Aug	3	AR/LG	MG	152.2	50.6	8:05:00	11:00:00	2.9						1.00	P & S	line 4010 scrubbed due to coil knocks
Julian Day 219														0.00		
														0.00		
Wednesday														0.00		
									20.5	14.2	168.200	50.600		0.00		
Date 7-Aug	4	AR/FZ	MG	303.5		7:20:00	10:40:00	3.3						1.00	P	all lines ok
Julian Day 220														0.00	Comment	TW arrives at Alice Springs
														0.00		
Thursday														0.00		
									17.2	17.5	471.700	50.600		0.00		
Date 8-Aug	5	AR / TW	MG	289.8		7:35:00	10:40:00	3.1						1.00	P	all lines ok, no second flight due strong winds
Julian Day 221														0.00		
														0.00		
Friday														0.00		
									14.1	20.6	761.500	50.600		0.00		
Date 9-Aug	6	AR / TW	MG	203		7:55:00	10:30:00	2.6						1.00	P	all lines ok, No Video for the flight
Julian Day 222														0.00	E	Video camera stopped working during flight
														0.00		
Saturday														0.00		
									11.5	23.2	964.500	50.600		0.00		
Date 10-Aug														1.00	PDO	No flight due strong winds the whole day
Julian Day 223														0.00		
														0.00		
Sunday														0.00		
									11.5	23.2	964.500	50.600		0.00		
		Totals This Week: ►		**948.500**	**50.600**	Week Hours:►		**13.5**	▲: A/C Hrs to Next Service				**2.00**	**7.00**		

V20070717 System: Tempest
Aircraft: VH-WGT

Total Job kms: 10532.000 Kms

9061.3 Hrs - Progressive M/R Hrs at the start of job, prior to mobilisation

9096.0 Hrs - The hours the Periodic Inspection is actally due at start of the job

Job Number: 1984
Contract Number: CT5468
Job Name: Alice Springs
Area Names: Alice Springs
Client: Nupower Resources Limited

Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
11-August-2008													1.00	1.00	W	No flight due stronng winds and dust strorms
Julian Day 224														0.00		
														0.00		
Monday														0.00		
									11.5	23.2	964.500	50.600		0.00		
Date 12-Aug	7	AR / TW	MG	220.1		7:30:00	10:15:00	2.7						0.50	P	all lines ok, good condition during this flight
Julian Day 225	8	AR / TW	MG	237.1		13:05:00	16:30:00	3.4						0.50	P	All tie lines done except line 4701
														0.00		
Tuesday														0.00		
									5.4	29.3	1421.700	50.600		0.00		
Date 13-Aug	9	AR / TW	MG	163.4		7:36:00	10:15:00	2.6						0.30	P	short flight done due to strong winds
Julian Day 226														0.70	MA	100 hourly mainteinance done
														0.00		
Wednesday														0.00		
									2.8	31.9	1585.100	50.600		0.00		
Date 14-Aug	10	AR / TW	MG	185.7	142.1	14:35:00	17:45:00	3.2						1.00	P & S	Two lines scrubbed due turbulance
Julian Day 227														0.00	Comment	Very strong winds in the morning
														0.00		
Thursday														0.00		
									99.7	35.1	1770.800	192.700		0.00		
Date 15-Aug	11	AR / TW	MG	327.9		7:20:00	10:30:00	3.2						1.00	R/P	lines 7029 and 7034 reflown from previous flight
Julian Day 228														0.00	Comment	MY arrives at alice springs to replace AR
														0.00		
Friday														0.00		
									96.5	38.3	2098.700	192.700		0.00		
Date 16-Aug													1.00	1.00	W	strong winds gusting to around 30 knots the whole
Julian Day 229														0.00	Comment	AR leaves alice springs for perth (field break)
														0.00	Comment	due to weather condions day used as a PDO
Saturday														0.00		
									96.5	38.3	2098.700	192.700		0.00		
Date 17-Aug	12	TW/MY	MG	125.9	36	7:25:00	10:25:00	3.0						1.00	P	Only three lines flown from area 4
Julian Day 230														0.00	Comment	Area 4 completed tried doing area 5 but flight
														0.00		
Sunday														0.00		
									93.5	41.3	2224.600	228.700		0.00		
	Totals This Week: ►			**1260.100**	**178.100**	Week Hours:►		**18.1**	▲: A/C Hrs to Next Service				**2.00**	**7.00**		

V20070717 System: Tempest
Aircraft: VH-WGT

Total Job kms: 10532.000 Kms

9061.3 Hrs - Progressive M/R Hrs at the start of job, prior to mobilisation

9096.0 Hrs - The hours the Periodic Inspection is actally due at start of the job

Job Number: 1984
Contract Number: CT5468
Job Name: Alice Springs
Area Names: Alice Springs
Client: Nupower Resources Limited

Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
18-August-2008	13	TW/MY	MG	257.7	42.9	6:50:00	10:10:00	3.3						1.00	P & S	very windy weather predicted
Julian Day 231														0.00		
														0.00		
Monday														0.00		
									90.2	44.6	2482.300	271.600		0.00		
Date 19-Aug	14	TW/MY	MG	214.5	85.8	6:40:00	9:55:00	3.2						1.00	P & S	Two lines scrubbed due coil knocks
Julian Day 232														0.00		
														0.00		
Tuesday														0.00		
									87.0	47.8	2696.800	357.400		0.00		
Date 20-Aug	15	TW/MY	MG	300.1		6:50:00	9:57:00	3.1						1.00	P	all lines flown ok
Julian Day 233														0.00		
														0.00		
Wednesday														0.00		
									83.9	50.9	2996.900	357.400		0.00		
Date 21-Aug	16	TW/LG	MG	373.3		6:45:00	10:09:00	3.4						1.00	P	Ten lines flown and data quality excellent
Julian Day 234														0.00	Comment	KPY came to alice springs for 100 service
														0.00		
Thursday														0.00		
									80.5	54.3	3370.200	357.400		0.00		
Date 22-Aug														1.00	PDO	very window day no flight day used as a PDO
Julian Day 235														0.00		
														0.00		
Friday														0.00		
									80.5	54.3	3370.200	357.400		0.00		
Date 23-Aug	17	TW/DH	MG			6:50:00	8:12:00	1.4						1.00	W	Flight aborted due strong turbulance within survey
Julian Day 236														0.00		
														0.00		
Saturday														0.00		
									79.1	55.7	3370.200	357.400		0.00		
Date 24-Aug	18	TW/MY	MG	218.5	45.8	6:42:00	9:45:00	3.0						1.00	P & S	Too much turbulance towards the last few lines
Julian Day 237														0.00	Comment	SH arrives at alice springs to replace FZ
														0.00		
Sunday														0.00		
									76.1	58.7	3588.700	403.200		0.00		
Totals This Week: ►				**1364.100**	**174.500**	Week Hours:►		**17.4**	▲: A/C Hrs to Next Service					**7.00**		

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Job Number: 1984
Contract Number: CT5468
Job Name: Alice Springs
Area Names: Alice Springs
Client: Nupower Resources Limited

Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
25-August-2008	19	TW/MY	MG	318.3		6:42:00	9:56:00	3.2						1.00	P	nice weather all lines ok
Julian Day 238														0.00		
														0.00		
Monday														0.00		
									72.9	61.9	3907.000	403.200		0.00		
Date 26-Aug	20	TW/MY	MG	248.6		6:44:00	9:55:00	3.2						1.00	p	All tie lines done except one and data quality good
Julian Day 239														0.00		
														0.00		
Tuesday														0.00		
									69.7	65.1	4155.600	403.200		0.00		
Date 27-Aug	21	TW/MY	MG	282.1		6:35:00	9:40:00	3.1						1.00	P	Block 5 completed and moved to Block 7 , all data
Julian Day 240														0.00		
														0.00		
Wednesday														0.00		
									66.6	68.2	4437.700	403.200		0.00		
Date 28-Aug	22	TW/MY	MG	93.4	93.4	6:47:00	9:11:00	2.4						1.00	P & S	Six lines flown three scrubbed due higher sferics
Julian Day 241														0.00		
														0.00		
Thursday														0.00		
									64.2	70.6	4531.100	496.600		0.00		
Date 29-Aug	23	TW/MY	MG	374.1		6:40:00	9:55:00	3.2						1.00	P	all lines flown ok and data quality good
Julian Day 242														0.00		
														0.00		
Friday														0.00		
									61.0	73.8	4905.200	496.600		0.00		
Date 30-Aug														1.00	PDO	pilots day off
Julian Day 243														0.00		
														0.00		
Saturday														0.00		
									61.0	73.8	4905.200	496.600		0.00		
Date 31-Aug													0.50	0.50	W	Flight delayed due showers in the morning
Julian Day 244	24	TW/MY	MG	249.7		15:36:00	18:44:00	3.1						0.50	P	Afternoon flight done all lines flown ok
														0.00	Comment	SR arrives at alice springs from field break
Sunday														0.00		
									57.9	76.9	5154.900	496.600		0.00		
Totals This Week: ►				**1566.200**	**93.400**	Week Hours:►		**18.2**	▲: A/C Hrs to Next Service				**0.50**	**7.00**		

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Job Number: 1984
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Job Name: Alice Springs
Area Names: Alice Springs
Client: Nupower Resources Limited

Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
01-September-2008	25	TW/MY	MG / SR	169.3		6:40:00	9:36:00	2.9						1.00	P	Lines flown ok though had a problem with the ctl
Julian Day 245														0.00	Comment	Block 7 not to be flown until further notice
														0.00		
Monday														0.00		
									55.0	79.8	5324.200	496.600		0.00		
Date 2-Sep	26	TW/MY	MG / SR	155		6:41:00	9:48:00	3.1						1.00	P	all tie lines completed area 7 and area 3
Julian Day 246														0.00		
														0.00		
Tuesday														0.00		
									51.9	82.9	5479.200	496.600		0.00		
Date 3-Sep													0.50	0.50	W	bad weather in the morning
Julian Day 247	27	TW/MY	MG / SR	229.2		14:50:00	18:01:00	3.2						0.50	P	Area 8 completed and started area 6
														0.00		
Wednesday														0.00		
									48.7	86.1	5708.400	496.600		0.00		
Date 4-Sep	28	TW/MY	SR	204.1	21.4	6:36:00	9:48:00	3.2						1.00	P & S	Tie lines flown due windy conditions in area 6
Julian Day 248														0.00		
														0.00		
Thursday														0.00		
									45.5	89.3	5912.500	518.000		0.00		
Date 5-Sep	29	TW/MY	SR	297.1	38.5	6:34:00	9:51:00	3.3						1.00	P & S	Continued flying Area 6. One line scrubbed
Julian Day 249														0.00		
														0.00		
Friday														0.00		
									42.2	92.6	6209.600	556.500		0.00	Comment	MG goes on his field break SR takes over
Date 6-Sep														1.00	PDO	Pilot's Day Off.
Julian Day 250														0.00		
														0.00		
Saturday														0.00		
									42.2	92.6	6209.600	556.500		0.00		
Date 7-Sep	30	TW/MY	SR	283.5		6:49:00	10:03:00	3.2						1.00	P	Continued flying Area 6.
Julian Day 251														0.00		
														0.00		
Sunday														0.00		
									39.0	95.8	6493.100	556.500		0.00	Comment	LG left Alice Springs.
	Totals This Week: ►			**1338.200**	**59.900**	Week Hours:►		**18.9**	▲: A/C Hrs to Next Service				**0.50**	**7.00**		

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Job Name: Alice Springs
Area Names: Alice Springs
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Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
08-September-2008	31	TW/MY	SR	248.9	166.3	6:35:00	9:50:00	3.2						1.00	P & S	Continued flying Area 6. Two lines scrubbed
Julian Day 252														0.00		
														0.00		
Monday														0.00		
									35.8	99.0	6742.000	722.800		0.00		
Date 9-Sep	32	TW	SR	398.5		6:35:00	9:47:00	3.2						0.50	P	
Julian Day 253	33	MY	SR	189.1		16:20:00	18:40:00	2.3						0.50	P	
														0.00		
Tuesday														0.00		
									30.3	104.5	7329.600	722.800		0.00		
Date 10-Sep	34	MY	SR	458.2		6:35:00	10:06:00	3.5						1.00	P	
Julian Day 254														0.00		
														0.00		
Wednesday														0.00		
									26.8	108.0	7787.800	722.800		0.00		
Date 11-Sep	35	TW	SR	287.8		6:44:00	10:12:00	3.5						1.00	P	
Julian Day 255														0.00		
														0.00		
Thursday														0.00		
									23.3	111.5	8075.600	722.800		0.00		
Date 12-Sep	36	MY	SR	220.3		6:40:00	10:30:00	3.8						1.00	P	
Julian Day 256														0.00		
														0.00		
Friday														0.00		
									19.5	115.3	8295.900	722.800		0.00		
Date 13-Sep	37	MY	SR	122.8		6:15:00	9:55:00	3.7						0.50	P	
Julian Day 257	38	MY	SR	133.3	20.1	15:20:00	19:20:00	4.0						0.50	P & S	One line scrubbed due to EM Computer overheating
														0.00		
Saturday														0.00		
									11.8	123.0	8552.000	742.900		0.00		
Date 14-Sep	39	MY	SR	139.4		6:35:00	10:25:00	3.8						1.00	P	
Julian Day 258														0.00		
														0.00		
Sunday														0.00		
									8.0	126.8	8691.400	742.900		0.00		
Totals This Week: ►				**2198.300**	**186.400**	Week Hours:►		**31.0**	▲: A/C Hrs to Next Service					**7.00**		

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Date	Flt	Pilot initials	On board Oper initials	Production inc. Reflights Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
22-September-2008														1.00	MO	SR & SH relocate to Tennant Creek
Julian Day 266														0.00	Comment	aircraft could not leave Alice Springs due to bad weather
														0.00		
Monday														0.00		
									8.0	126.8	8691.400	742.900		0.00		
Date 23-Sep		AR				11:45:00	13:40:00	1.9						0.50	MO	Aircraft relocates to Tennant Creek
Julian Day 267														0.50	SETUP	SR & SH setup base stations and office.
														0.00	Comment	move to Bluestone Motor Inn dur to better facilities
Tuesday														0.00	Comment	meeting with Airport Manager to organise access to
									6.1	128.7	8691.400	742.900		0.00		
Date 24-Sep	40	AR	SR			7:55:00	8:55:00	1.0						0.50	TF	comp box
Julian Day 268	41	AR	SR	51.2		15:10:00	17:45:00	2.6						0.50	P	
														0.00		
Wednesday														0.00		
									2.5	132.3	8742.600	742.900		0.00		
Date 25-Sep	42	AR	SR	290.5	41.5	6:45:00	10:20:00	3.6						0.50	P & S	one line scrubbed due to CK
Julian Day 269	43	AR	SR	179.1		14:25:00	17:20:00	2.9						0.50	P	
														0.00		
Thursday														0.00		
									-4.0	138.8	9212.200	784.400		0.00		
Date 26-Sep	44	AR	SR	302.4		6:45:00	9:52:00	3.1						1.00	P	
Julian Day 270														0.00	Comment	too hot for afternoon flight
														0.00	Comment	swapped vehicles. Now have FAS vehicle 1BOJ-243.
Friday														0.00		
									-7.1	141.9	9514.600	784.400		0.00		
Date 27-Sep	45	AR	SR	274.7		6:35:00	10:05:00	3.5						1.00	P	
Julian Day 271														0.00	Comment	too hot for afternoon flight
														0.00		
Saturday														0.00		
									-10.6	145.4	9789.300	784.400		0.00		
Date 28-Sep	46	AR	SR	407.6		6:40:00	10:20:00	3.7						1.00	P	
Julian Day 272														0.00	Comment	too hot for afternoon flight
														0.00		
Sunday														0.00		
									-14.3	149.1	10196.900	784.400		0.00		
Totals This Week: ►				**1505.500**	**41.500**	Week Hours:►		**22.3**	▲: A/C Hrs to Next Service					**7.00**		

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Date	Flt	Pilot initials	On board Oper initials	Production inc. Exc. Scrubs	FAS Scrub	Time Start	Time End	Engine Hours on M/R	Hours to Periodic Inspectio	Job Hrs to Date	Prod. to Date	FAS Scrubs to Date	Stdby Days	Activity Contribution	Activity	COMMENTS Weather, Data delivery Aircraft movement, etc
##########																
Julian Day 273																
Monday																
									-14.3	149.1	10196.900	784.400				
Date 30-Sep	47	AR	SR	176.8	65.3	7:10:00	10:25:00	3.3								3 lines scrubbed
Julian Day 274																Too hot for pm flight
Tuesday																
									-14.3	149.1	10196.900	784.400				
Date 1-Oct	48	AR	SR	158.3		6:30:00	8:55:00	2.4								job complete
Julian Day 275																
Wednesday																
									-14.3	149.1	10196.900	784.400				
Date 2-Oct		AR				10:25:00	12:55:00	2.5								Demobilisation
Julian Day 276																
Thursday																
									-14.3	149.1	10196.900	784.400				
Date 3-Oct																
Julian Day 277																
Friday																
									-14.3	149.1	10196.900	784.400				
Date 4-Oct																
Julian Day 278																
Saturday																
									-14.3	149.1	10196.900	784.400				
Date 5-Oct																
Julian Day 279																
Sunday																
									-14.3	149.1	10196.900	784.400				
Totals This Week: ►				**335.100**	**65.300**	Week Hours:►		**8.2**	▲: A/C Hrs to Next Service							

APPENDIX II – Flight Summary (Line Listing)

AREA 1

COMM Total number of lines : 78

COMM	Flt	Line	Start X	Start Y	End X	End Y	Kms
COMM	48	10012	394021	7685725	393695	7727268	41.54
COMM	42	10020	394694	7727276	395027	7685795	41.48
COMM	42	10030	396022	7685745	395691	7727256	41.51
COMM	42	10040	396688	7727259	397020	7685759	41.50
COMM	42	10050	398029	7685716	397689	7727259	41.54
COMM	42	10060	398690	7727255	399022	7685767	41.49
COMM	42	10070	400032	7685739	399688	7727226	41.49
COMM	42	10080	400694	7727297	401022	7685790	41.51
COMM	43	10090	402020	7685767	401692	7727222	41.46
COMM	43	10100	402692	7727269	403023	7685760	41.51
COMM	43	10110	404020	7685753	403951	7696478	10.73
COMM	43	10120	404850	7707454	405022	7685766	21.69
COMM	43	10130	406028	7685726	405858	7707413	21.69
COMM	43	10140	406854	7707403	407029	7685807	21.60
COMM	44	10150	408030	7685751	407852	7707397	21.65
COMM	44	10160	408849	7707417	409031	7685778	21.64
COMM	44	10170	410022	7685778	409851	7707394	21.62
COMM	44	10180	410846	7707416	411026	7685775	21.64
COMM	44	10190	412023	7685766	411852	7707366	21.60
COMM	44	10200	412844	7707377	413023	7685800	21.58
COMM	44	10210	414024	7685765	413849	7707341	21.58
COMM	44	10220	414849	7707410	415024	7685781	21.63
COMM	44	10230	416027	7685750	415848	7707354	21.60
COMM	44	10240	416841	7707380	417021	7685792	21.59
COMM	44	10250	418022	7685762	417847	7707325	21.56
COMM	44	10260	418848	7707389	419038	7685799	21.59
COMM	44	10270	420034	7685769	419845	7707344	21.58
COMM	44	10280	420855	7707374	421026	7685821	21.55
COMM	45	10290	422024	7685770	421855	7707346	21.58
COMM	45	10300	422861	7707399	423025	7685785	21.61
COMM	45	10310	424025	7685764	423851	7707322	21.56
COMM	45	10320	424846	7707397	425022	7685838	21.56
COMM	45	10330	426024	7685771	425941	7695494	9.72
COMM	45	10340	426949	7695559	427027	7685810	9.75
COMM	45	10350	428029	7685780	427943	7695508	9.73
COMM	45	10360	428950	7695558	429025	7685803	9.76
COMM	45	10370	430026	7685779	429944	7695493	9.71
COMM	45	10380	430942	7695520	431020	7685843	9.68
COMM	45	10390	432025	7685801	431946	7695487	9.69
COMM	45	10400	432946	7695524	433022	7685842	9.68
COMM	45	10410	434018	7685813	433953	7695506	9.69
COMM	45	10420	434949	7695562	435028	7685824	9.74
COMM	45	10430	436025	7685772	435944	7695518	9.75
COMM	45	10440	436947	7695571	437023	7685851	9.72
COMM	45	10450	438009	7685805	437951	7695526	9.72
COMM	45	10461	438945	7695565	439198	7664456	31.11
COMM	41	10470	440194	7664414	439945	7695553	31.14
COMM	47	10480	440947	7695552	441197	7664432	31.12
COMM	45	10490	442195	7664395	441946	7695526	31.13
COMM	46	10500	442948	7695555	443201	7664447	31.11
COMM	46	10510	444194	7664423	443944	7695518	31.10
COMM	46	10520	444944	7695558	445192	7664466	31.09
COMM	46	10530	446193	7664422	445947	7695555	31.13
COMM	46	10540	446951	7695579	447196	7664460	31.12

```
COMM    46   10550    448193   7664407    447948   7695531    31.12
COMM    46   10560    448951   7695584    449196   7664461    31.12
COMM    46   10570    450200   7664433    449948   7695578    31.15
COMM    46   10580    450949   7695605    451196   7664484    31.12
COMM    46   10590    452193   7664450    451946   7695532    31.08
COMM    46   10600    452941   7695612    453196   7664485    31.13
COMM    46   10610    454197   7664449    454009   7687480    23.03
COMM    46   10620    455011   7687502    455192   7664479    23.02
COMM    46   10630    456187   7664473    456036   7683756    19.28
COMM    47   10640    457043   7683778    457194   7664501    19.28
COMM    47   10650    458195   7664426    458066   7680050    15.62
COMM    48   10661    459073   7680130    459198   7664518    15.61
COMM    47   10670    460194   7664452    460068   7680041    15.59
COMM    47   10680    461076   7680114    461199   7664485    15.63
COMM    47   10690    462195   7664440    462065   7680081    15.64
COMM    47   10700    463136   7672752    463197   7664503     8.25
COMM    48   10711    464191   7664470    464129   7672707     8.24
COMM    47   10720    465127   7672715    465204   7664524     8.19
COMM    43   17010    403151   7720850    393398   7720770     9.75
COMM    43   17020    393453   7710769    403152   7710851     9.70
COMM    48   17030    425510   7701020    393576   7700770    31.93
COMM    48   17040    393619   7690776    453584   7691250    59.97
COMM    47   17050    457236   7681276    438295   7681124    18.94
COMM    47   17060    438262   7671118    465799   7671351    27.54
COMM
COMM  Total Kilometres :      1817.80
```

AREA 2

```
COMM  Total number of lines :   21
COMM
COMM   Flt    Line   Start X   Start Y     End X     End Y      Kms
COMM
COMM    39   20010    443655   7629704    423293   7629822    20.36
COMM    39   20020    423286   7628818    443646   7628698    20.36
COMM    39   20030    443653   7627698    423383   7627820    20.27
COMM    39   20040    423343   7626817    443620   7626698    20.28
COMM    39   20050    443665   7625689    423402   7625820    20.26
COMM    39   20060    423426   7624821    443632   7624696    20.21
COMM    38   20070    443643   7623698    423477   7623822    20.17
COMM    41   20081    423508   7622817    443621   7622701    20.11
COMM    38   20090    443663   7621699    423551   7621818    20.11
COMM    38   20100    423522   7620818    443625   7620698    20.10
COMM    38   20110    443643   7619700    425898   7619805    17.75
COMM    39   20120    425918   7618806    443617   7618700    17.70
COMM    38   20130    443595   7617727    425946   7617803    17.65
COMM    37   20140    425947   7616806    443601   7616705    17.65
COMM    37   20150    443632   7615703    425944   7615807    17.69
COMM    37   20160    425964   7614802    443576   7614696    17.61
COMM    37   20170    443599   7613698    426007   7613804    17.59
COMM    37   20180    425970   7612804    443568   7612705    17.60
COMM    37   20190    443621   7611703    426010   7611805    17.61
COMM    38   27010    428971   7611418    429080   7630225    18.81
COMM    38   27020    438581   7630204    438467   7611406    18.80
COMM
COMM  Total Kilometres :       398.69
```

AREA 3

```
COMM  Total number of lines :   12
COMM
COMM   Flt    Line   Start X   Start Y     End X     End Y      Kms
COMM
COMM    26   30010    346964   7527633    338781   7527630     8.18
```

```
COMM     26   30020    338986   7526638    347143   7526636     8.16
COMM     26   30030    346199   7525631    334760   7525633    11.44
COMM     26   30040    334720   7524638    344364   7524638     9.64
COMM     26   30050    344369   7523635    329743   7523636    14.63
COMM     26   30060    329652   7522638    344379   7522640    14.73
COMM     26   30070    344406   7521633    329623   7521633    14.78
COMM     26   30080    335639   7520633    343792   7520633     8.15
COMM     26   30090    343691   7519639    335494   7519634     8.20
COMM     26   30100    335641   7518631    343780   7518632     8.14
COMM     26   30110    343657   7517639    335656   7517638     8.00
COMM     26   30120    335620   7516640    343624   7516635     8.00
COMM
COMM  Total Kilometres :       122.05
```

AREA 4

```
COMM  Total number of lines :  107
COMM
COMM   Flt    Line   Start X   Start Y     End X     End Y      Kms
COMM
COMM     1   40010    318020   7495952    309613   7495910     8.41
COMM     1   40020    309584   7494908    319431   7494943     9.85
COMM     3   40030    322152   7493954    310716   7493908    11.44
COMM     3   40040    310728   7492911    322149   7492960    11.42
COMM     3   40050    322186   7491959    299033   7491861    23.15
COMM     3   40060    298961   7490865    325848   7490974    26.89
COMM     3   40070    325796   7489989    299019   7489850    26.78
COMM     3   40080    299005   7488860    325705   7488977    26.70
COMM     3   40090    328241   7487924    299059   7487861    29.18
COMM     4   40100    299008   7486852    349581   7487090    50.57
COMM     4   40110    349668   7486084    299038   7485851    50.63
COMM     4   40120    299003   7484856    349639   7485081    50.64
COMM     4   40130    349703   7484088    299051   7483849    50.65
COMM     4   40140    299020   7482862    349636   7483091    50.62
COMM     4   40150    349728   7482078    299057   7481871    50.67
COMM     5   40160    299045   7480856    349670   7481082    50.63
COMM     5   40170    349740   7480076    299077   7479857    50.66
COMM     5   40180    299053   7478860    345985   7479074    46.93
COMM     5   40190    345974   7478062    299111   7477861    46.86
COMM     5   40200    299080   7476861    345956   7477069    46.88
COMM     5   40210    345969   7476048    299086   7475863    46.88
COMM     6   40220    299062   7474861    345950   7475065    46.89
COMM     6   40230    374262   7474188    299121   7473858    75.14
COMM     6   40240    299103   7472861    377433   7473205    78.33
COMM     7   40250    377412   7472201    299137   7471859    78.28
COMM     7   40260    305856   7470888    377418   7471202    71.56
COMM     9   40270    377410   7470204    305847   7469888    71.56
COMM     7   40280    305859   7468891    377408   7469202    71.55
COMM    11   40290    377406   7468204    305853   7467890    71.55
COMM     8   40300    305812   7466888    377395   7467201    71.58
COMM    10   40310    377415   7466203    305869   7465888    71.55
COMM     9   40320    305843   7464892    377346   7465208    71.50
COMM    11   40330    377384   7464198    305874   7463893    71.51
COMM    11   40340    305823   7462891    377329   7463202    71.51
COMM    11   40350    377379   7462206    305882   7461889    71.50
COMM    10   40360    305820   7460890    377311   7461202    71.49
COMM    10   40370    377331   7460203    333595   7460010    43.74
COMM    11   40380    333539   7459009    377333   7459205    43.79
COMM    12   40390    377332   7458202    334719   7458015    42.61
COMM    12   40400    334675   7457017    377298   7457206    42.62
COMM    12   40410    377340   7456196    334736   7456014    42.60
COMM     9   47010    304250   7471573    304155   7492805    21.23
COMM     8   47020    314141   7496716    314299   7460472    36.24
COMM     8   47030    324302   7460349    324168   7491533    31.18
```

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COMM     8   47040    334180   7487915    334309   7458878    29.04
COMM     8   47050    344318   7455577    344180   7487896    32.32
COMM     8   47060    354246   7474971    354324   7455640    19.33
COMM     8   47070    364323   7455639    364236   7474937    19.30
COMM    13   50010    414888   7504365    372025   7504177    42.86
COMM    13   50020    371967   7503175    414873   7503361    42.91
COMM    13   50030    414929   7502363    372040   7502177    42.89
COMM    13   50040    372007   7501174    414863   7501358    42.86
COMM    14   50050    414946   7500357    371985   7500177    42.96
COMM    13   50060    371998   7499173    414922   7499365    42.92
COMM    21   50070    414939   7498367    372055   7498175    42.88
COMM    14   50080    372003   7497176    414920   7497363    42.92
COMM    15   50090    415003   7496368    372019   7496178    42.98
COMM    14   50100    371991   7495178    414959   7495358    42.97
COMM    14   50110    414977   7494362    372038   7494171    42.94
COMM    14   50120    371959   7493174    414974   7493362    43.02
COMM    15   50130    415017   7492362    372000   7492178    43.02
COMM    15   50140    371971   7491183    415024   7491362    43.05
COMM    15   50150    415051   7490359    372012   7490176    43.04
COMM    15   50160    371992   7489179    415051   7489361    43.06
COMM    15   50170    415063   7488369    372029   7488175    43.03
COMM    15   50180    371977   7487188    415043   7487363    43.07
COMM    16   50190    415140   7486363    372019   7486176    43.12
COMM    16   50200    372001   7485176    407967   7485334    35.97
COMM    16   50210    408021   7484332    372002   7484174    36.02
COMM    16   50220    371994   7483173    407989   7483331    36.00
COMM    16   50230    408034   7482333    372007   7482176    36.03
COMM    16   50240    371968   7481178    407989   7481331    36.02
COMM    16   50250    407999   7480332    372033   7480177    35.97
COMM    16   50260    371984   7479180    407975   7479330    35.99
COMM    16   50270    407972   7478332    372045   7478176    35.93
COMM    16   50280    371967   7477176    407982   7477333    36.02
COMM    18   50290    407989   7476338    372008   7476179    35.98
COMM    18   50300    371954   7475175    407982   7475324    36.03
COMM    19   50310    417946   7474373    374207   7474184    43.74
COMM    18   50320    393182   7473271    417954   7473374    24.77
COMM    18   50331    417959   7472369    393211   7472269    24.75
COMM    18   50340    393138   7471271    417912   7471370    24.77
COMM    18   50350    417940   7470369    393172   7470268    24.77
COMM    18   50360    393144   7469268    417929   7469373    24.79
COMM    18   50370    417994   7468378    393117   7468269    24.88
COMM    19   50380    393116   7467267    420232   7467389    27.12
COMM    19   50390    437233   7466459    407917   7466331    29.32
COMM    19   50400    408333   7465333    437151   7465458    28.82
COMM    19   50410    437164   7464458    408775   7464336    28.39
COMM    19   50420    409167   7463338    437097   7463458    27.93
COMM    19   50430    437102   7462459    409647   7462338    27.46
COMM    19   50440    410054   7461343    437000   7461459    26.95
COMM    19   50450    436974   7460457    410541   7460342    26.43
COMM    19   50460    410952   7459347    436945   7459457    25.99
COMM    19   50470    436898   7458459    411408   7458345    25.49
COMM    20   50480    411837   7457343    436839   7457462    25.00
COMM    20   50490    425874   7456402    412305   7456351    13.57
COMM    20   50500    412713   7455367    423961   7455400    11.25
COMM    20   50510    422078   7454394    412703   7454349     9.38
COMM    20   50520    410811   7453324    420125   7453382     9.31
COMM    21   57010    374318   7455693    374108   7504850    49.16
COMM    20   57020    384106   7504843    384243   7473869    30.97
COMM    20   57030    394275   7466546    394111   7504771    38.23
COMM    20   57040    404109   7504827    404271   7466692    38.14
COMM    20   57050    414324   7452644    414107   7504765    52.12
COMM    20   57060    424260   7467341    424328   7455605    11.74
COMM    20   57070    434317   7456878    434265   7467119    10.24
COMM
```

COMM Total Kilometres : 4213.86

AREA 6

COMM Total number of lines : 68
COMM

COMM	Flt	Line	Start X	Start Y	End X	End Y	Kms
COMM	27	60010	312757	7438385	291349	7438163	21.41
COMM	27	60020	291320	7437165	312755	7437382	21.44
COMM	35	60031	312774	7436384	291404	7436162	21.37
COMM	28	60040	291390	7435159	312760	7435385	21.37
COMM	28	60050	312837	7434379	291461	7434157	21.38
COMM	28	60060	291430	7433168	312825	7433382	21.40
COMM	28	60070	312875	7432380	291481	7432164	21.40
COMM	28	60080	291434	7431165	312850	7431382	21.42
COMM	28	60090	312896	7430385	291462	7430163	21.44
COMM	29	60100	291476	7429165	312850	7429384	21.38
COMM	29	60110	312907	7428382	291528	7428163	21.38
COMM	29	60120	291504	7427162	312919	7427384	21.42
COMM	29	60130	312966	7426383	291534	7426163	21.43
COMM	35	60140	291485	7425162	329996	7425560	38.51
COMM	29	60150	330001	7424560	291568	7424160	38.44
COMM	29	60160	312011	7423379	330008	7423564	18.00
COMM	29	60170	330021	7422561	312115	7422379	17.91
COMM	29	60180	312082	7421376	330013	7421563	17.93
COMM	29	60190	330063	7420562	312105	7420377	17.96
COMM	29	60200	312106	7419378	330066	7419562	17.96
COMM	30	60210	395364	7419241	312123	7418381	83.25
COMM	29	60220	312136	7417376	395311	7418241	83.18
COMM	35	60231	395327	7417239	312184	7416375	83.15
COMM	30	60240	312145	7415381	395312	7416244	83.17
COMM	32	60251	395345	7415239	312169	7414377	83.18
COMM	31	60260	312170	7413380	395283	7414237	83.12
COMM	31	60270	395371	7413244	312193	7412373	83.18
COMM	31	60280	312712	7411381	395305	7412241	82.60
COMM	32	60290	395387	7411241	314489	7410398	80.90
COMM	32	60300	316156	7409417	395352	7410239	79.20
COMM	32	60310	372814	7409004	317912	7408435	54.90
COMM	32	60320	319618	7407455	372785	7408006	53.17
COMM	33	60330	372804	7407003	325545	7406514	47.26
COMM	32	60340	325509	7405513	372773	7406007	47.27
COMM	33	60350	372860	7405002	325586	7404516	47.28
COMM	33	60360	325561	7403515	372810	7404001	47.25
COMM	34	60370	372843	7403009	325543	7402506	47.30
COMM	33	60380	325522	7401496	372829	7402000	47.31
COMM	34	60390	372878	7401002	325574	7400513	47.31
COMM	34	60400	325543	7399510	372862	7400012	47.32
COMM	34	60410	372944	7399001	325575	7398515	47.37
COMM	34	60420	325563	7397515	372929	7398009	47.37
COMM	34	60430	372966	7396985	325590	7396514	47.38
COMM	34	60440	329349	7395555	372954	7396009	43.61
COMM	34	60450	372991	7395002	329423	7394546	43.57
COMM	34	60460	329382	7393556	372971	7394006	43.59
COMM	36	60470	373026	7392998	329465	7392551	43.56
COMM	34	60480	329422	7391556	372956	7392002	43.54
COMM	35	60490	373015	7391003	333848	7390598	39.17
COMM	30	60500	378209	7428062	386745	7428148	8.54
COMM	30	60510	386303	7427146	377835	7427062	8.47
COMM	30	60520	377007	7426047	386293	7426148	9.29
COMM	30	60530	386347	7425161	376290	7425041	10.06
COMM	30	60540	375427	7424030	386279	7424146	10.85
COMM	30	60550	386338	7423160	374694	7423030	11.64
COMM	30	60560	373911	7422021	386290	7422146	12.38

COMM	30	60570	386290	7421144	373136	7421016	13.15
COMM	30	60580	372358	7419998	386249	7420145	13.89
COMM	27	67010	295758	7423202	295599	7438954	15.75
COMM	27	67020	305599	7439171	305759	7423364	15.81
COMM	28	67030	315900	7409584	315731	7426296	16.71
COMM	28	67041	325730	7426424	326050	7395965	30.46
COMM	28	67050	336103	7390553	335809	7419120	28.57
COMM	35	67060	345806	7419274	346106	7390653	28.62
COMM	35	67070	356109	7390593	355804	7419333	28.74
COMM	35	67080	365809	7419459	366110	7390657	28.80
COMM	35	67090	375912	7409345	375755	7424381	15.04
COMM	30	67100	385708	7428838	385912	7409424	19.42
COMM							
COMM	Total Kilometres :		2481.56				

AREA 7

COMM Total number of lines : 50

	Flt	Line	Start X	Start Y	End X	End Y	Kms
COMM	21	70010	369340	7503067	369054	7534206	31.14
COMM	21	70020	370055	7534225	370352	7503385	30.84
COMM	21	70030	371355	7503090	371053	7534169	31.08
COMM	21	70040	372053	7534234	372357	7503098	31.14
COMM	21	70050	373353	7503094	373057	7534197	31.10
COMM	21	70060	374054	7534273	374357	7503137	31.14
COMM	22	70070	375357	7503080	375057	7534242	31.16
COMM	25	70080	376053	7534285	376355	7503105	31.18
COMM	25	70090	377355	7503102	377057	7534226	31.13
COMM	22	70100	378053	7534277	378351	7503154	31.12
COMM	25	70110	379354	7503113	379055	7534245	31.13
COMM	22	70120	380030	7534277	380358	7503112	31.17
COMM	23	70130	381363	7503090	381052	7534263	31.17
COMM	23	70140	382053	7534321	382356	7503174	31.15
COMM	23	70150	383358	7503119	383057	7534274	31.16
COMM	23	70160	384053	7534335	384355	7503144	31.19
COMM	23	70170	385354	7503109	385055	7534295	31.19
COMM	23	70180	386051	7534320	386356	7503154	31.17
COMM	23	70190	387355	7503138	387054	7534299	31.16
COMM	23	70200	388056	7534330	388357	7503186	31.15
COMM	23	70210	389358	7503132	389055	7534294	31.16
COMM	23	70220	390054	7534372	390358	7503169	31.20
COMM	23	70230	391355	7503101	391056	7534340	31.24
COMM	23	70240	392053	7534347	392358	7503184	31.16
COMM	24	70250	393362	7503142	393057	7534303	31.16
COMM	24	70260	394038	7534374	394352	7503176	31.20
COMM	24	70271	395361	7503150	395058	7534343	31.19
COMM	24	70280	396053	7534365	396355	7503205	31.16
COMM	24	70290	397355	7503159	397052	7534341	31.18
COMM	24	70300	398054	7534375	398351	7503185	31.19
COMM	24	70310	399363	7503118	399053	7534340	31.22
COMM	36	70320	400054	7534440	400364	7503204	31.24
COMM	36	70331	401352	7503158	401058	7534399	31.24
COMM	36	70340	402038	7534422	402360	7503199	31.22
COMM	36	70350	403365	7503130	403279	7510835	7.71
COMM	36	70360	404280	7511191	404363	7503206	7.99
COMM	36	70370	405353	7503125	405274	7511483	8.36
COMM	36	70380	406263	7513042	406361	7503200	9.84
COMM	36	70390	407353	7503190	407260	7512981	9.79
COMM	36	70400	408250	7513018	408351	7503180	9.84
COMM	36	70410	409355	7503195	409254	7512887	9.69
COMM	36	70420	410189	7519814	410356	7503231	16.58
COMM	36	70430	411354	7503199	411183	7520038	16.84

```
COMM    37   70440    412189   7520299    412349   7503191    17.11
COMM    36   70450    413347   7503173    413185   7520545    17.37
COMM    25   70460    414186   7520854    414358   7503220    17.63
COMM    25   70470    415293   7510287    415185   7521082    10.80
COMM    26   77010    402405   7528884    368623   7528555    33.78
COMM    25   77020    368716   7518559    415984   7519017    47.27
COMM    21   77030    368812   7508561    415132   7509005    46.32
COMM
COMM  Total Kilometres :      1346.39
```

AREA 8

```
COMM  Total number of lines :    8
COMM
COMM   Flt    Line   Start X   Start Y     End X     End Y      Kms
COMM
COMM    27   80010    307217   7438138    306971   7461289    23.15
COMM    27   80020    307969   7461334    308219   7438190    23.15
COMM    27   80030    309219   7438151    308966   7461293    23.14
COMM    27   80040    309967   7461361    310218   7438173    23.19
COMM    27   80050    311219   7438175    310973   7461317    23.14
COMM    27   80060    311970   7461335    312217   7438207    23.13
COMM    27   87010    313546   7455391    305510   7455305     8.04
COMM    27   87020    305614   7445610    313591   7445697     7.98
COMM
COMM  Total Kilometres :       154.92
```

AREA 9

```
COMM  Total number of lines :    3
COMM
COMM   Flt    Line   Start X   Start Y     End X     End Y      Kms
COMM
COMM     7   90010    324485   7493211    317541   7503380    12.31
COMM     7   90020    317808   7503486    324453   7493729    11.80
COMM     7   90030    324480   7494202    318172   7503450    11.19
COMM
COMM  Total Kilometres :        35.31
```

APPENDIX III – Located Data Formats

Headers for final data files

AREA 1

```
COMM JOB NUMBER:                                                    1984
COMM AREA NUMBER:                                                      1
COMM SURVEY COMPANY:                                 Fugro Airborne Surveys
COMM CLIENT:                                       NuPower Resources Limited
COMM SURVEY TYPE:                                      25Hz TEMPEST Survey
COMM AREA NAME:                                              Alice Springs
COMM STATE:                                                           NT
COMM COUNTRY:                                                  Australia
COMM SURVEY FLOWN:                                          August, 2008
COMM LOCATED DATA CREATED:                                      Dec 2008
COMM
COMM DATUM:                                                         GDA94
COMM PROJECTION:                                                      MGA
COMM ZONE:                                                             53
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                         1000 m
COMM TRAVERSE LINE DIRECTION:                                  000-180 deg
COMM TIE LINE SPACING:                                             10000 m
COMM TIE LINE DIRECTION:                                       090-270 deg
COMM NOMINAL TERRAIN CLEARANCE:                                      120 m
COMM FINAL LINE KILOMETRES:                                    1817.80 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                                  10010 - 10720
COMM TIE LINE NUMBERS:                                       17010 - 17060
COMM
COMM AREA BOUNDARY (WGS84, UTM53)
COMM
COMM   403096.00  7727248.00
COMM   403213.00  7696490.00
COMM   404197.00  7696460.00
COMM   404131.00  7707418.00
COMM   425481.00  7707345.00
COMM   425481.00  7695507.00
COMM   453543.00  7695577.00
COMM   453643.00  7687503.00
COMM   455320.00  7687446.00
COMM   455494.00  7683786.00
COMM   457135.00  7683786.00
COMM   457251.00  7680057.00
COMM   462399.00  7680115.00
COMM   462414.00  7672773.00
COMM   465798.00  7672656.00
COMM   465798.00  7664500.00
COMM   438212.00  7664417.00
COMM   438286.00  7674649.00
COMM   441413.00  7674706.00
COMM   441500.00  7680211.00
COMM   438309.00  7680154.00
COMM   438193.00  7685820.00
COMM   393673.00  7685752.00
COMM   393340.00  7727272.00
COMM
```

```
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                                    Shorts Skyvan VH-WGT, WGT
COMM
COMM MAGNETOMETER:                              Scintrex Cs-2 Cesium Vapour
COMM INSTALLATION:                                          stinger mount
COMM RESOLUTION:                                                0.001 nT
COMM RECORDING INTERVAL:                                            5 s
COMM
COMM ELECTROMAGNETIC SYSTEM:                                  25Hz TEMPEST
COMM INSTALLATION:                Transmitter loop mounted on the aircraft
COMM                                        Receiver coils in a towed bird
COMM COIL ORIENTATION:                                              X,Z
COMM RECORDING INTERVAL:                                          0.2 s
COMM SYSTEM GEOMETRY:
COMM RECEIVER DISTANCE BEHIND THE TRANSMITTER:                    -115 m
COMM RECEIVER DISTANCE BELOW THE TRANSMITTER:                      -40 m
COMM
COMM RADAR ALTIMETER:                                       Sperry RT-220
COMM RECORDING INTERVAL:                                          0.2 s
COMM
COMM NAVIGATION:                                 real-time differential GPS
COMM RECORDING INTERVAL:                                          1.0 s
COMM
COMM ACQUISITION SYSTEM:                                       PDAS-1000
COMM
COMM DATA PROCESSING
COMM
COMM MAGNETIC DATA
COMM DIURNAL BASE VALUE APPLIED                                  50580 nT
COMM PARALLAX CORRECTION APPLIED                                     2 s
COMM IGRF BASE VALUE APPLIED                                     51385 nT
COMM IGRF MODEL 2005 EXTRAPOLATED TO                               2008.7
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ELECTROMAGNETIC DATA
COMM SYSTEM PARALLAX REMOVED, AS FOLLOWS
COMM X-COMPONENT EM DATA                                          0.2 s
COMM Y-COMPONENT EM DATA                    <not relevant for TEMPEST>
COMM Z-COMPONENT EM DATA                                          1.4 s
COMM DATA CORRECTED FOR TRANSMITTER HEIGHT, PITCH AND ROLL
COMM DATA CORRECTED FOR TRANSMITTER-RECEIVER GEOMETRY VARIATIONS
COMM DATA HAVE BEEN MICROLEVELLED
COMM CONDUCTIVITY DEPTH INVERSION CALCULATED                  EMFlow V5.10
COMM CONDUCTIVITIES CALCULATED USING corrected EM DATA
COMM
COMM DIGITAL TERRAIN DATA
COMM PARALLAX CORRECTION APPLIED TO RADAR ALIMETER DATA           0.6 s
COMM PARALLAX CORRECTION APPLIED TO GPS ALIMETER DATA             0.0 s
COMM DTM CALCULATED [DTM = GPS ALTITUDE - RADAR ALTITUDE]
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
```

COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level. Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM --
COMM
COMM ELECTROMAGNETIC SYSTEM
COMM
COMM TEMPEST IS A TIME-DOMAIN SQUARE-WAVE SYSTEM,
COMM TRANSMITTING AT A BASE FREQUENCY OF 25Hz,
COMM WITH 2 ORTHOGONAL-AXIS RECEIVER COILS IN A TOWED BIRD.
COMM FINAL EM OUTPUT IS RECORDED 5 TIMES PER SECOND.
COMM THE TIMES (IN MILLISECONDS) FOR THE 15 WINDOWS ARE:
COMM

COMM WINDOW	START	END	CENTRE
COMM 1	0.007	0.020	0.013
COMM 2	0.033	0.047	0.040
COMM 3	0.060	0.073	0.067
COMM 4	0.087	0.127	0.107
COMM 5	0.140	0.207	0.173
COMM 6	0.220	0.340	0.280
COMM 7	0.353	0.553	0.453
COMM 8	0.567	0.873	0.720
COMM 9	0.887	1.353	1.120
COMM 10	1.367	2.100	1.733
COMM 11	2.113	3.273	2.693
COMM 12	3.287	5.113	4.200
COMM 13	5.127	7.993	6.560
COMM 14	8.007	12.393	10.200
COMM 15	12.407	19.993	16.200

COMM
COMM PULSE WIDTH: 10 ms
COMM
COMM TEMPEST EM data are transformed to the response that would be
COMM obtained with a B-field sensor for a 100% duty cycle square
COMM waveform at the base frequency, involving a 1A change in
COMM current (from -0.5A to +0.5A to -0.5A) in a 1sq.m transmitter.
COMM It is this configuration, rather than the actual acquisition

COMM configuration, which must be specified when modelling TEMPEST data.
COMM
COMM
COMM
COMM LOCATED DATA FORMAT
COMM
COMM Output field format : DOS - Flat ascii
COMM Number of fields   : 198
COMM

COMM Field	Channel	Description	Units	Undefined	Format
COMM 1	LINE	Line		-9999999	i6
COMM 2	FLIGHT	Flight		-9999999	i4
COMM 3	FID	Fiducial	(s)	-9999999	f8.1
COMM 4	LATITUDE	Latitude GDA94	(deg)	-9999999	f13.6
COMM 5	LONGITUDE	Longitude GDA94	(deg)	-9999999	f13.6
COMM 6	EASTING	Easting MGA53	(m)	-9999999	f11.2
COMM 7	NORTHING	Northing MGA53	(m)	-9999999	f12.2
COMM 8	TxHeight	GPS height	(m)	-9999999	f8.2
COMM 9	Baro	Barometric Altitude	(m)	-9999999	f8.2
COMM 10	TxRalt_raw	Raw Radar Altimeter	(m)	-9999999	f8.2
COMM 11	TxRalt_final	Final Radar Altimeter	(m)	-9999999	f8.2
COMM 12	DTM	DTM	(m)	-9999999	f8.2
COMM 13	MAG	Compensated TMI	(nT)	-9999999	f10.3
COMM 14	MAG_1VD	Levelled TMI 1VD	(nT/m)	-9999999	f12.5
COMM 15	Pitch_Raw	Raw Tx loop pitch	(deg)	-9999999	f10.5
COMM 16	Roll_Raw	Raw Tx loop roll	(deg)	-9999999	f10.5
COMM 17	HSep_Raw	Raw Tx-Rx horizontal separation	(m)	-9999999	f8.2
COMM 18	VSep_Raw	Raw Tx-Rx vertical separation	(m)	-9999999	f8.2
COMM 19	Pitch_Final	Final Tx loop pitch	(deg)	-9999999	f10.5
COMM 20	Roll_Final	Final Tx loop roll	(deg)	-9999999	f10.5
COMM 21	HSep_Final	Final Tx-Rx horizontal separation	(m)	-9999999	f8.2
COMM 22	VSep_Final	Final Tx-Rx vertical separation	(m)	-9999999	f8.2
COMM 23	EMX_Raw[1]	Raw EMX01 Window	(fT)	-9999999	f12.6
COMM 24	EMX_Raw[2]	Raw EMX02 Window	(fT)	-9999999	f12.6
COMM 25	EMX_Raw[3]	Raw EMX03 Window	(fT)	-9999999	f12.6
COMM 26	EMX_Raw[4]	Raw EMX04 Window	(fT)	-9999999	f12.6
COMM 27	EMX_Raw[5]	Raw EMX05 Window	(fT)	-9999999	f12.6
COMM 28	EMX_Raw[6]	Raw EMX06 Window	(fT)	-9999999	f12.6
COMM 29	EMX_Raw[7]	Raw EMX07 Window	(fT)	-9999999	f12.6
COMM 30	EMX_Raw[8]	Raw EMX08 Window	(fT)	-9999999	f12.6
COMM 31	EMX_Raw[9]	Raw EMX09 Window	(fT)	-9999999	f12.6
COMM 32	EMX_Raw[10]	Raw EMX10 Window	(fT)	-9999999	f12.6
COMM 33	EMX_Raw[11]	Raw EMX11 Window	(fT)	-9999999	f12.6
COMM 34	EMX_Raw[12]	Raw EMX12 Window	(fT)	-9999999	f12.6
COMM 35	EMX_Raw[13]	Raw EMX13 Window	(fT)	-9999999	f12.6
COMM 36	EMX_Raw[14]	Raw EMX14 Window	(fT)	-9999999	f12.6
COMM 37	EMX_Raw[15]	Raw EMX15 Window	(fT)	-9999999	f12.6
COMM 38	EMX_Final[1]	Final EMX01 Window	(fT)	-9999999	f12.6
COMM 39	EMX_Final[2]	Final EMX02 Window	(fT)	-9999999	f12.6
COMM 40	EMX_Final[3]	Final EMX03 Window	(fT)	-9999999	f12.6
COMM 41	EMX_Final[4]	Final EMX04 Window	(fT)	-9999999	f12.6
COMM 42	EMX_Final[5]	Final EMX05 Window	(fT)	-9999999	f12.6
COMM 43	EMX_Final[6]	Final EMX06 Window	(fT)	-9999999	f12.6
COMM 44	EMX_Final[7]	Final EMX07 Window	(fT)	-9999999	f12.6
COMM 45	EMX_Final[8]	Final EMX08 Window	(fT)	-9999999	f12.6
COMM 46	EMX_Final[9]	Final EMX09 Window	(fT)	-9999999	f12.6
COMM 47	EMX_Final[10]	Final EMX10 Window	(fT)	-9999999	f12.6
COMM 48	EMX_Final[11]	Final EMX11 Window	(fT)	-9999999	f12.6
COMM 49	EMX_Final[12]	Final EMX12 Window	(fT)	-9999999	f12.6
COMM 50	EMX_Final[13]	Final EMX13 Window	(fT)	-9999999	f12.6
COMM 51	EMX_Final[14]	Final EMX14 Window	(fT)	-9999999	f12.6
COMM 52	EMX_Final[15]	Final EMX15 Window	(fT)	-9999999	f12.6
COMM 53	X_Sferics	X_Sferics		-9999999	f10.3
COMM 54	X_Lowfreq	X_Lowfreq		-9999999	f10.3
COMM 55	X_Powerline	X_Powerline		-9999999	f10.3
COMM 56	X_VLF1	X_18.2kHz		-9999999	f10.3
COMM 57	X_VLF2	X_19.8kHz		-9999999	f10.3
COMM 58	X_VLF3	X_21.4kHz		-9999999	f10.3

COMM	59	X_VLF4	X_22.2kHz			-9999999	f10.3
COMM	60	X_Geofact	X_Geometric factor			-9999999	f10.3
COMM	61	EMZ_Raw[1]	Raw EMZ01 Window		(fT)	-9999999	f12.6
COMM	62	EMZ_Raw[2]	Raw EMZ02 Window		(fT)	-9999999	f12.6
COMM	63	EMZ_Raw[3]	Raw EMZ03 Window		(fT)	-9999999	f12.6
COMM	64	EMZ_Raw[4]	Raw EMZ04 Window		(fT)	-9999999	f12.6
COMM	65	EMZ_Raw[5]	Raw EMZ05 Window		(fT)	-9999999	f12.6
COMM	66	EMZ_Raw[6]	Raw EMZ06 Window		(fT)	-9999999	f12.6
COMM	67	EMZ_Raw[7]	Raw EMZ07 Window		(fT)	-9999999	f12.6
COMM	68	EMZ_Raw[8]	Raw EMZ08 Window		(fT)	-9999999	f12.6
COMM	69	EMZ_Raw[9]	Raw EMZ09 Window		(fT)	-9999999	f12.6
COMM	70	EMZ_Raw[10]	Raw EMZ10 Window		(fT)	-9999999	f12.6
COMM	71	EMZ_Raw[11]	Raw EMZ11 Window		(fT)	-9999999	f12.6
COMM	72	EMZ_Raw[12]	Raw EMZ12 Window		(fT)	-9999999	f12.6
COMM	73	EMZ_Raw[13]	Raw EMZ13 Window		(fT)	-9999999	f12.6
COMM	74	EMZ_Raw[14]	Raw EMZ14 Window		(fT)	-9999999	f12.6
COMM	75	EMZ_Raw[15]	Raw EMZ15 Window		(fT)	-9999999	f12.6
COMM	76	EMZ_Final[1]	Final EMZ01 Window		(fT)	-9999999	f12.6
COMM	77	EMZ_Final[2]	Final EMZ02 Window		(fT)	-9999999	f12.6
COMM	78	EMZ_Final[3]	Final EMZ03 Window		(fT)	-9999999	f12.6
COMM	79	EMZ_Final[4]	Final EMZ04 Window		(fT)	-9999999	f12.6
COMM	80	EMZ_Final[5]	Final EMZ05 Window		(fT)	-9999999	f12.6
COMM	81	EMZ_Final[6]	Final EMZ06 Window		(fT)	-9999999	f12.6
COMM	82	EMZ_Final[7]	Final EMZ07 Window		(fT)	-9999999	f12.6
COMM	83	EMZ_Final[8]	Final EMZ08 Window		(fT)	-9999999	f12.6
COMM	84	EMZ_Final[9]	Final EMZ09 Window		(fT)	-9999999	f12.6
COMM	85	EMZ_Final[10]	Final EMZ10 Window		(fT)	-9999999	f12.6
COMM	86	EMZ_Final[11]	Final EMZ11 Window		(fT)	-9999999	f12.6
COMM	87	EMZ_Final[12]	Final EMZ12 Window		(fT)	-9999999	f12.6
COMM	88	EMZ_Final[13]	Final EMZ13 Window		(fT)	-9999999	f12.6
COMM	89	EMZ_Final[14]	Final EMZ14 Window		(fT)	-9999999	f12.6
COMM	90	EMZ_Final[15]	Final EMZ15 Window		(fT)	-9999999	f12.6
COMM	91	Z_Sferics	Z_Sferics			-9999999	f10.3
COMM	92	Z_Lowfreq	Z_Lowfreq			-9999999	f10.3
COMM	93	Z_Powerline	Z_Powerline			-9999999	f10.3
COMM	94	Z_VLF1	Z_18.2kHz			-9999999	f10.3
COMM	95	Z_VLF2	Z_19.8kHz			-9999999	f10.3
COMM	96	Z_VLF3	Z_21.4kHz			-9999999	f10.3
COMM	97	Z_VLF4	Z_22.2kHz			-9999999	f10.3
COMM	98	Z_Geofact	Z_Geometric factor			-9999999	f10.3
COMM	99	CNDZ[1]	Conductivity_Z001	0- 5 m	(mS/m)	-9999999	f10.3
COMM	100	CNDZ[2]	Conductivity_Z002	5- 10 m	(mS/m)	-9999999	f10.3
COMM	101	CNDZ[3]	Conductivity_Z003	10- 15 m	(mS/m)	-9999999	f10.3
COMM	102	CNDZ[4]	Conductivity_Z004	15- 20 m	(mS/m)	-9999999	f10.3
COMM	103	CNDZ[5]	Conductivity_Z005	20- 25 m	(mS/m)	-9999999	f10.3
COMM	104	CNDZ[6]	Conductivity_Z006	25- 30 m	(mS/m)	-9999999	f10.3
COMM	105	CNDZ[7]	Conductivity_Z007	30- 35 m	(mS/m)	-9999999	f10.3
COMM	106	CNDZ[8]	Conductivity_Z008	35- 40 m	(mS/m)	-9999999	f10.3
COMM	107	CNDZ[9]	Conductivity_Z009	40- 45 m	(mS/m)	-9999999	f10.3
COMM	108	CNDZ[10]	Conductivity_Z010	45- 50 m	(mS/m)	-9999999	f10.3
COMM	109	CNDZ[11]	Conductivity_Z011	50- 55 m	(mS/m)	-9999999	f10.3
COMM	110	CNDZ[12]	Conductivity_Z012	55- 60 m	(mS/m)	-9999999	f10.3
COMM	111	CNDZ[13]	Conductivity_Z013	60- 65 m	(mS/m)	-9999999	f10.3
COMM	112	CNDZ[14]	Conductivity_Z014	65- 70 m	(mS/m)	-9999999	f10.3
COMM	113	CNDZ[15]	Conductivity_Z015	70- 75 m	(mS/m)	-9999999	f10.3
COMM	114	CNDZ[16]	Conductivity_Z016	75- 80 m	(mS/m)	-9999999	f10.3
COMM	115	CNDZ[17]	Conductivity_Z017	80- 85 m	(mS/m)	-9999999	f10.3
COMM	116	CNDZ[18]	Conductivity_Z018	85- 90 m	(mS/m)	-9999999	f10.3
COMM	117	CNDZ[19]	Conductivity_Z019	90- 95 m	(mS/m)	-9999999	f10.3
COMM	118	CNDZ[20]	Conductivity_Z020	95-100 m	(mS/m)	-9999999	f10.3
COMM	119	CNDZ[21]	Conductivity_Z021	100-105 m	(mS/m)	-9999999	f10.3
COMM	120	CNDZ[22]	Conductivity_Z022	105-110 m	(mS/m)	-9999999	f10.3
COMM	121	CNDZ[23]	Conductivity_Z023	110-115 m	(mS/m)	-9999999	f10.3
COMM	122	CNDZ[24]	Conductivity_Z024	115-120 m	(mS/m)	-9999999	f10.3
COMM	123	CNDZ[25]	Conductivity_Z025	120-125 m	(mS/m)	-9999999	f10.3
COMM	124	CNDZ[26]	Conductivity_Z026	125-130 m	(mS/m)	-9999999	f10.3
COMM	125	CNDZ[27]	Conductivity_Z027	130-135 m	(mS/m)	-9999999	f10.3
COMM	126	CNDZ[28]	Conductivity_Z028	135-140 m	(mS/m)	-9999999	f10.3
COMM	127	CNDZ[29]	Conductivity_Z029	140-145 m	(mS/m)	-9999999	f10.3
COMM	128	CNDZ[30]	Conductivity_Z030	145-150 m	(mS/m)	-9999999	f10.3
COMM	129	CNDZ[31]	Conductivity_Z031	150-155 m	(mS/m)	-9999999	f10.3

```
COMM   130  CNDZ[32]        Conductivity_Z032     155-160 m   (mS/m)  -9999999  f10.3
COMM   131  CNDZ[33]        Conductivity_Z033     160-165 m   (mS/m)  -9999999  f10.3
COMM   132  CNDZ[34]        Conductivity_Z034     165-170 m   (mS/m)  -9999999  f10.3
COMM   133  CNDZ[35]        Conductivity_Z035     170-175 m   (mS/m)  -9999999  f10.3
COMM   134  CNDZ[36]        Conductivity_Z036     175-180 m   (mS/m)  -9999999  f10.3
COMM   135  CNDZ[37]        Conductivity_Z037     180-185 m   (mS/m)  -9999999  f10.3
COMM   136  CNDZ[38]        Conductivity_Z038     185-190 m   (mS/m)  -9999999  f10.3
COMM   137  CNDZ[39]        Conductivity_Z039     190-195 m   (mS/m)  -9999999  f10.3
COMM   138  CNDZ[40]        Conductivity_Z040     195-200 m   (mS/m)  -9999999  f10.3
COMM   139  CNDZ[41]        Conductivity_Z041     200-205 m   (mS/m)  -9999999  f10.3
COMM   140  CNDZ[42]        Conductivity_Z042     205-210 m   (mS/m)  -9999999  f10.3
COMM   141  CNDZ[43]        Conductivity_Z043     210-215 m   (mS/m)  -9999999  f10.3
COMM   142  CNDZ[44]        Conductivity_Z044     215-220 m   (mS/m)  -9999999  f10.3
COMM   143  CNDZ[45]        Conductivity_Z045     220-225 m   (mS/m)  -9999999  f10.3
COMM   144  CNDZ[46]        Conductivity_Z046     225-230 m   (mS/m)  -9999999  f10.3
COMM   145  CNDZ[47]        Conductivity_Z047     230-235 m   (mS/m)  -9999999  f10.3
COMM   146  CNDZ[48]        Conductivity_Z048     235-240 m   (mS/m)  -9999999  f10.3
COMM   147  CNDZ[49]        Conductivity_Z049     240-245 m   (mS/m)  -9999999  f10.3
COMM   148  CNDZ[50]        Conductivity_Z050     245-250 m   (mS/m)  -9999999  f10.3
COMM   149  CNDZ[51]        Conductivity_Z051     250-255 m   (mS/m)  -9999999  f10.3
COMM   150  CNDZ[52]        Conductivity_Z052     255-260 m   (mS/m)  -9999999  f10.3
COMM   151  CNDZ[53]        Conductivity_Z053     260-265 m   (mS/m)  -9999999  f10.3
COMM   152  CNDZ[54]        Conductivity_Z054     265-270 m   (mS/m)  -9999999  f10.3
COMM   153  CNDZ[55]        Conductivity_Z055     270-275 m   (mS/m)  -9999999  f10.3
COMM   154  CNDZ[56]        Conductivity_Z056     275-280 m   (mS/m)  -9999999  f10.3
COMM   155  CNDZ[57]        Conductivity_Z057     280-285 m   (mS/m)  -9999999  f10.3
COMM   156  CNDZ[58]        Conductivity_Z058     285-290 m   (mS/m)  -9999999  f10.3
COMM   157  CNDZ[59]        Conductivity_Z059     290-295 m   (mS/m)  -9999999  f10.3
COMM   158  CNDZ[60]        Conductivity_Z060     295-300 m   (mS/m)  -9999999  f10.3
COMM   159  CNDZ[61]        Conductivity_Z061     300-305 m   (mS/m)  -9999999  f10.3
COMM   160  CNDZ[62]        Conductivity_Z062     305-310 m   (mS/m)  -9999999  f10.3
COMM   161  CNDZ[63]        Conductivity_Z063     310-315 m   (mS/m)  -9999999  f10.3
COMM   162  CNDZ[64]        Conductivity_Z064     315-320 m   (mS/m)  -9999999  f10.3
COMM   163  CNDZ[65]        Conductivity_Z065     320-325 m   (mS/m)  -9999999  f10.3
COMM   164  CNDZ[66]        Conductivity_Z066     325-330 m   (mS/m)  -9999999  f10.3
COMM   165  CNDZ[67]        Conductivity_Z067     330-335 m   (mS/m)  -9999999  f10.3
COMM   166  CNDZ[68]        Conductivity_Z068     335-340 m   (mS/m)  -9999999  f10.3
COMM   167  CNDZ[69]        Conductivity_Z069     340-345 m   (mS/m)  -9999999  f10.3
COMM   168  CNDZ[70]        Conductivity_Z070     345-350 m   (mS/m)  -9999999  f10.3
COMM   169  CNDZ[71]        Conductivity_Z071     350-355 m   (mS/m)  -9999999  f10.3
COMM   170  CNDZ[72]        Conductivity_Z072     355-360 m   (mS/m)  -9999999  f10.3
COMM   171  CNDZ[73]        Conductivity_Z073     360-365 m   (mS/m)  -9999999  f10.3
COMM   172  CNDZ[74]        Conductivity_Z074     365-370 m   (mS/m)  -9999999  f10.3
COMM   173  CNDZ[75]        Conductivity_Z075     370-375 m   (mS/m)  -9999999  f10.3
COMM   174  CNDZ[76]        Conductivity_Z076     375-380 m   (mS/m)  -9999999  f10.3
COMM   175  CNDZ[77]        Conductivity_Z077     380-385 m   (mS/m)  -9999999  f10.3
COMM   176  CNDZ[78]        Conductivity_Z078     385-390 m   (mS/m)  -9999999  f10.3
COMM   177  CNDZ[79]        Conductivity_Z079     390-395 m   (mS/m)  -9999999  f10.3
COMM   178  CNDZ[80]        Conductivity_Z080     395-400 m   (mS/m)  -9999999  f10.3
COMM   179  CNDZ[81]        Conductivity_Z081     400-405 m   (mS/m)  -9999999  f10.3
COMM   180  CNDZ[82]        Conductivity_Z082     405-410 m   (mS/m)  -9999999  f10.3
COMM   181  CNDZ[83]        Conductivity_Z083     410-415 m   (mS/m)  -9999999  f10.3
COMM   182  CNDZ[84]        Conductivity_Z084     415-420 m   (mS/m)  -9999999  f10.3
COMM   183  CNDZ[85]        Conductivity_Z085     420-425 m   (mS/m)  -9999999  f10.3
COMM   184  CNDZ[86]        Conductivity_Z086     425-430 m   (mS/m)  -9999999  f10.3
COMM   185  CNDZ[87]        Conductivity_Z087     430-435 m   (mS/m)  -9999999  f10.3
COMM   186  CNDZ[88]        Conductivity_Z088     435-440 m   (mS/m)  -9999999  f10.3
COMM   187  CNDZ[89]        Conductivity_Z089     440-445 m   (mS/m)  -9999999  f10.3
COMM   188  CNDZ[90]        Conductivity_Z090     445-450 m   (mS/m)  -9999999  f10.3
COMM   189  CNDZ[91]        Conductivity_Z091     450-455 m   (mS/m)  -9999999  f10.3
COMM   190  CNDZ[92]        Conductivity_Z092     455-460 m   (mS/m)  -9999999  f10.3
COMM   191  CNDZ[93]        Conductivity_Z093     460-465 m   (mS/m)  -9999999  f10.3
COMM   192  CNDZ[94]        Conductivity_Z094     465-470 m   (mS/m)  -9999999  f10.3
COMM   193  CNDZ[95]        Conductivity_Z095     470-475 m   (mS/m)  -9999999  f10.3
COMM   194  CNDZ[96]        Conductivity_Z096     475-480 m   (mS/m)  -9999999  f10.3
COMM   195  CNDZ[97]        Conductivity_Z097     480-485 m   (mS/m)  -9999999  f10.3
COMM   196  CNDZ[98]        Conductivity_Z098     485-490 m   (mS/m)  -9999999  f10.3
COMM   197  CNDZ[99]        Conductivity_Z099     490-495 m   (mS/m)  -9999999  f10.3
COMM   198  CNDZ[100]       Conductivity_Z100     495-500 m   (mS/m)  -9999999  f10.3
COMM
COMM  Total number of lines :   78
```

COMM	Flt	Line	Start X	Start Y	End X	End Y	Kms
COMM	48	10012	394021	7685725	393695	7727268	41.54
COMM	42	10020	394694	7727276	395027	7685795	41.48
COMM	42	10030	396022	7685745	395691	7727256	41.51
COMM	42	10040	396688	7727259	397020	7685759	41.50
COMM	42	10050	398029	7685716	397689	7727259	41.54
COMM	42	10060	398690	7727255	399022	7685767	41.49
COMM	42	10070	400032	7685739	399688	7727226	41.49
COMM	42	10080	400694	7727297	401022	7685790	41.51
COMM	43	10090	402020	7685767	401692	7727222	41.46
COMM	43	10100	402692	7727269	403023	7685760	41.51
COMM	43	10110	404020	7685753	403951	7696478	10.73
COMM	43	10120	404850	7707454	405022	7685766	21.69
COMM	43	10130	406028	7685726	405858	7707413	21.69
COMM	43	10140	406854	7707403	407029	7685807	21.60
COMM	44	10150	408030	7685751	407852	7707397	21.65
COMM	44	10160	408849	7707417	409031	7685778	21.64
COMM	44	10170	410022	7685778	409851	7707394	21.62
COMM	44	10180	410846	7707416	411026	7685775	21.64
COMM	44	10190	412023	7685766	411852	7707366	21.60
COMM	44	10200	412844	7707377	413023	7685800	21.58
COMM	44	10210	414024	7685765	413849	7707341	21.58
COMM	44	10220	414849	7707410	415024	7685781	21.63
COMM	44	10230	416027	7685750	415848	7707354	21.60
COMM	44	10240	416841	7707380	417021	7685792	21.59
COMM	44	10250	418022	7685762	417847	7707325	21.56
COMM	44	10260	418848	7707389	419038	7685799	21.59
COMM	44	10270	420034	7685769	419845	7707344	21.58
COMM	44	10280	420855	7707374	421026	7685821	21.55
COMM	45	10290	422024	7685770	421855	7707346	21.58
COMM	45	10300	422861	7707399	423025	7685785	21.61
COMM	45	10310	424025	7685764	423851	7707322	21.56
COMM	45	10320	424846	7707397	425022	7685838	21.56
COMM	45	10330	426024	7685771	425941	7695494	9.72
COMM	45	10340	426949	7695559	427027	7685810	9.75
COMM	45	10350	428029	7685780	427943	7695508	9.73
COMM	45	10360	428950	7695558	429025	7685803	9.76
COMM	45	10370	430026	7685779	429944	7695493	9.71
COMM	45	10380	430942	7695520	431020	7685843	9.68
COMM	45	10390	432025	7685801	431946	7695487	9.69
COMM	45	10400	432946	7695524	433022	7685842	9.68
COMM	45	10410	434018	7685813	433953	7695506	9.69
COMM	45	10420	434949	7695562	435028	7685824	9.74
COMM	45	10430	436025	7685772	435944	7695518	9.75
COMM	45	10440	436947	7695571	437023	7685851	9.72
COMM	45	10450	438009	7685805	437951	7695526	9.72
COMM	45	10461	438945	7695565	439198	7664456	31.11
COMM	41	10470	440194	7664414	439945	7695553	31.14
COMM	47	10480	440947	7695552	441197	7664432	31.12
COMM	45	10490	442195	7664395	441946	7695526	31.13
COMM	46	10500	442948	7695555	443201	7664447	31.11
COMM	46	10510	444194	7664423	443944	7695518	31.10
COMM	46	10520	444944	7695558	445192	7664466	31.09
COMM	46	10530	446193	7664422	445947	7695555	31.13
COMM	46	10540	446951	7695579	447196	7664460	31.12
COMM	46	10550	448193	7664407	447948	7695531	31.12
COMM	46	10560	448951	7695584	449196	7664461	31.12
COMM	46	10570	450200	7664433	449948	7695578	31.15
COMM	46	10580	450949	7695605	451196	7664484	31.12
COMM	46	10590	452193	7664450	451946	7695532	31.08
COMM	46	10600	452941	7695612	453196	7664485	31.13
COMM	46	10610	454197	7664449	454009	7687480	23.03

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COMM    46   10620    455011   7687502    455192   7664479    23.02
COMM    46   10630    456187   7664473    456036   7683756    19.28
COMM    47   10640    457043   7683778    457194   7664501    19.28
COMM    47   10650    458195   7664426    458066   7680050    15.62
COMM    48   10661    459073   7680130    459198   7664518    15.61
COMM    47   10670    460194   7664452    460068   7680041    15.59
COMM    47   10680    461076   7680114    461199   7664485    15.63
COMM    47   10690    462195   7664440    462065   7680081    15.64
COMM    47   10700    463136   7672752    463197   7664503     8.25
COMM    48   10711    464191   7664470    464129   7672707     8.24
COMM    47   10720    465127   7672715    465204   7664524     8.19
COMM    43   17010    403151   7720850    393398   7720770     9.75
COMM    43   17020    393453   7710769    403152   7710851     9.70
COMM    48   17030    425510   7701020    393576   7700770    31.93
COMM    48   17040    393619   7690776    453584   7691250    59.97
COMM    47   17050    457236   7681276    438295   7681124    18.94
COMM    47   17060    438262   7671118    465799   7671351    27.54
COMM
COMM  Total Kilometres :      1817.80
```

AREA 2

```
COMM JOB NUMBER:                                                    1984
COMM AREA NUMBER:                                                      2
COMM SURVEY COMPANY:                                 Fugro Airborne Surveys
COMM CLIENT:                                       NuPower Resources Limited
COMM SURVEY TYPE:                                        25Hz TEMPEST Survey
COMM AREA NAME:                                             Alice Springs
COMM STATE:                                                            NT
COMM COUNTRY:                                                     Australia
COMM SURVEY FLOWN:                                           August, 2008
COMM LOCATED DATA CREATED:                                       Dec 2008
COMM
COMM DATUM:                                                         GDA94
COMM PROJECTION:                                                      MGA
COMM ZONE:                                                             53
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                         1000 m
COMM TRAVERSE LINE DIRECTION:                                    090-270 deg
COMM TIE LINE SPACING:                                              10000 m
COMM TIE LINE DIRECTION:                                         000-180 deg
COMM NOMINAL TERRAIN CLEARANCE:                                      120 m
COMM FINAL LINE KILOMETRES:                                       398.69 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                                      20010 - 20190
COMM TIE LINE NUMBERS:                                           27010 - 27020
COMM
COMM AREA BOUNDARY (WGS84, UTM53)
COMM
COMM   443569.00  7611409.00
COMM   426010.00  7611410.00
COMM   425894.00  7620464.00
COMM   423567.00  7620521.00
COMM   423281.00  7630295.00
COMM   443663.00  7630175.00
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                                   Shorts Skyvan VH-WGT, WGT
COMM
```

```
COMM MAGNETOMETER:                                  Scintrex Cs-2 Cesium Vapour
COMM INSTALLATION:                                                stinger mount
COMM RESOLUTION:                                                       0.001 nT
COMM RECORDING INTERVAL:                                                   5 s
COMM
COMM ELECTROMAGNETIC SYSTEM:                                        25Hz TEMPEST
COMM INSTALLATION:                 Transmitter loop mounted on the aircraft
COMM                                        Receiver coils in a towed bird
COMM COIL ORIENTATION:                                                     X,Z
COMM RECORDING INTERVAL:                                                 0.2 s
COMM SYSTEM GEOMETRY:
COMM RECEIVER DISTANCE BEHIND THE TRANSMITTER:                          -115 m
COMM RECEIVER DISTANCE BELOW THE TRANSMITTER:                            -40 m
COMM
COMM RADAR ALTIMETER:                                             Sperry RT-220
COMM RECORDING INTERVAL:                                                 0.2 s
COMM
COMM NAVIGATION:                                   real-time differential GPS
COMM RECORDING INTERVAL:                                                 1.0 s
COMM
COMM ACQUISITION SYSTEM:                                              PDAS-1000
COMM
COMM DATA PROCESSING
COMM
COMM MAGNETIC DATA
COMM DIURNAL BASE VALUE APPLIED                                        53288 nT
COMM PARALLAX CORRECTION APPLIED                                           2 s
COMM IGRF BASE VALUE APPLIED                                           51810 nT
COMM IGRF MODEL 2005 EXTRAPOLATED TO                                     2008.6
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ELECTROMAGNETIC DATA
COMM SYSTEM PARALLAX REMOVED, AS FOLLOWS
COMM X-COMPONENT EM DATA                                                 0.2 s
COMM Y-COMPONENT EM DATA                       <not relevant for TEMPEST>
COMM Z-COMPONENT EM DATA                                                 1.4 s
COMM DATA CORRECTED FOR TRANSMITTER HEIGHT, PITCH AND ROLL
COMM DATA CORRECTED FOR TRANSMITTER-RECEIVER GEOMETRY VARIATIONS
COMM DATA HAVE BEEN MICROLEVELLED
COMM CONDUCTIVITY DEPTH INVERSION CALCULATED                        EMFlow V5.10
COMM CONDUCTIVITIES CALCULATED USING corrected EM DATA
COMM
COMM DIGITAL TERRAIN DATA
COMM PARALLAX CORRECTION APPLIED TO RADAR ALIMETER DATA                  0.6 s
COMM PARALLAX CORRECTION APPLIED TO GPS ALIMETER DATA                    0.0 s
COMM DTM CALCULATED [DTM = GPS ALTITUDE - RADAR ALTITUDE]
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
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COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level. Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM ----------
COMM
COMM ELECTROMAGNETIC SYSTEM
COMM
COMM TEMPEST IS A TIME-DOMAIN SQUARE-WAVE SYSTEM,
COMM TRANSMITTING AT A BASE FREQUENCY OF 25Hz,
COMM WITH 2 ORTHOGONAL-AXIS RECEIVER COILS IN A TOWED BIRD.
COMM FINAL EM OUTPUT IS RECORDED 5 TIMES PER SECOND.
COMM THE TIMES (IN MILLISECONDS) FOR THE 15 WINDOWS ARE:
COMM

COMM WINDOW	START	END	CENTRE
COMM 1	0.007	0.020	0.013
COMM 2	0.033	0.047	0.040
COMM 3	0.060	0.073	0.067
COMM 4	0.087	0.127	0.107
COMM 5	0.140	0.207	0.173
COMM 6	0.220	0.340	0.280
COMM 7	0.353	0.553	0.453
COMM 8	0.567	0.873	0.720
COMM 9	0.887	1.353	1.120
COMM 10	1.367	2.100	1.733
COMM 11	2.113	3.273	2.693
COMM 12	3.287	5.113	4.200
COMM 13	5.127	7.993	6.560
COMM 14	8.007	12.393	10.200
COMM 15	12.407	19.993	16.200

COMM
COMM PULSE WIDTH: 10 ms
COMM
COMM TEMPEST EM data are transformed to the response that would be
COMM obtained with a B-field sensor for a 100% duty cycle square
COMM waveform at the base frequency, involving a 1A change in
COMM current (from -0.5A to +0.5A to -0.5A) in a 1sq.m transmitter.
COMM It is this configuration, rather than the actual acquisition
COMM configuration, which must be specified when modelling TEMPEST data.
COMM
COMM
COMM

```
COMM LOCATED DATA FORMAT
COMM
COMM  Output field format : DOS  - Flat ascii
COMM  Number of fields    : 198
COMM
COMM Field  Channel         Description                        Units  Undefined Format
COMM -----  -------         -----------                        -----  --------- ------
COMM
COMM     1  LINE            Line                                       -9999999  i6
COMM     2  FLIGHT          Flight                                     -9999999  i4
COMM     3  FID             Fiducial                             (s)   -9999999  f8.1
COMM     4  LATITUDE        Latitude  GDA94                    (deg)   -9999999  f13.6
COMM     5  LONGITUDE       Longitude GDA94                    (deg)   -9999999  f13.6
COMM     6  EASTING         Easting   MGA53                     (m)   -9999999  f11.2
COMM     7  NORTHING        Northing  MGA53                     (m)   -9999999  f12.2
COMM     8  TxHeight        GPS height                          (m)   -9999999  f8.2
COMM     9  Baro            Barometric Altitude                 (m)   -9999999  f8.2
COMM    10  TxRalt_raw      Raw Radar Altimeter                 (m)   -9999999  f8.2
COMM    11  TxRalt_final    Final Radar Altimeter               (m)   -9999999  f8.2
COMM    12  DTM             DTM                                 (m)   -9999999  f8.2
COMM    13  MAG             Compensated TMI                    (nT)   -9999999  f10.3
COMM    14  MAG_1VD         Levelled TMI 1VD                 (nT/m)   -9999999  f12.5
COMM    15  Pitch_Raw       Raw Tx loop pitch                 (deg)   -9999999  f10.5
COMM    16  Roll_Raw        Raw Tx loop roll                  (deg)   -9999999  f10.5
COMM    17  HSep_Raw        Raw Tx-Rx horizontal separation     (m)   -9999999  f8.2
COMM    18  VSep_Raw        Raw Tx-Rx vertical separation       (m)   -9999999  f8.2
COMM    19  Pitch_Final     Final Tx loop pitch               (deg)   -9999999  f10.5
COMM    20  Roll_Final      Final Tx loop roll                (deg)   -9999999  f10.5
COMM    21  HSep_Final      Final Tx-Rx horizontal separation   (m)   -9999999  f8.2
COMM    22  VSep_Final      Final Tx-Rx vertical separation     (m)   -9999999  f8.2
COMM    23  EMX_Raw[1]      Raw EMX01 Window                   (fT)   -9999999  f12.6
COMM    24  EMX_Raw[2]      Raw EMX02 Window                   (fT)   -9999999  f12.6
COMM    25  EMX_Raw[3]      Raw EMX03 Window                   (fT)   -9999999  f12.6
COMM    26  EMX_Raw[4]      Raw EMX04 Window                   (fT)   -9999999  f12.6
COMM    27  EMX_Raw[5]      Raw EMX05 Window                   (fT)   -9999999  f12.6
COMM    28  EMX_Raw[6]      Raw EMX06 Window                   (fT)   -9999999  f12.6
COMM    29  EMX_Raw[7]      Raw EMX07 Window                   (fT)   -9999999  f12.6
COMM    30  EMX_Raw[8]      Raw EMX08 Window                   (fT)   -9999999  f12.6
COMM    31  EMX_Raw[9]      Raw EMX09 Window                   (fT)   -9999999  f12.6
COMM    32  EMX_Raw[10]     Raw EMX10 Window                   (fT)   -9999999  f12.6
COMM    33  EMX_Raw[11]     Raw EMX11 Window                   (fT)   -9999999  f12.6
COMM    34  EMX_Raw[12]     Raw EMX12 Window                   (fT)   -9999999  f12.6
COMM    35  EMX_Raw[13]     Raw EMX13 Window                   (fT)   -9999999  f12.6
COMM    36  EMX_Raw[14]     Raw EMX14 Window                   (fT)   -9999999  f12.6
COMM    37  EMX_Raw[15]     Raw EMX15 Window                   (fT)   -9999999  f12.6
COMM    38  EMX_Final[1]    Final EMX01 Window                 (fT)   -9999999  f12.6
COMM    39  EMX_Final[2]    Final EMX02 Window                 (fT)   -9999999  f12.6
COMM    40  EMX_Final[3]    Final EMX03 Window                 (fT)   -9999999  f12.6
COMM    41  EMX_Final[4]    Final EMX04 Window                 (fT)   -9999999  f12.6
COMM    42  EMX_Final[5]    Final EMX05 Window                 (fT)   -9999999  f12.6
COMM    43  EMX_Final[6]    Final EMX06 Window                 (fT)   -9999999  f12.6
COMM    44  EMX_Final[7]    Final EMX07 Window                 (fT)   -9999999  f12.6
COMM    45  EMX_Final[8]    Final EMX08 Window                 (fT)   -9999999  f12.6
COMM    46  EMX_Final[9]    Final EMX09 Window                 (fT)   -9999999  f12.6
COMM    47  EMX_Final[10]   Final EMX10 Window                 (fT)   -9999999  f12.6
COMM    48  EMX_Final[11]   Final EMX11 Window                 (fT)   -9999999  f12.6
COMM    49  EMX_Final[12]   Final EMX12 Window                 (fT)   -9999999  f12.6
COMM    50  EMX_Final[13]   Final EMX13 Window                 (fT)   -9999999  f12.6
COMM    51  EMX_Final[14]   Final EMX14 Window                 (fT)   -9999999  f12.6
COMM    52  EMX_Final[15]   Final EMX15 Window                 (fT)   -9999999  f12.6
COMM    53  X_Sferics       X_Sferics                                  -9999999  f10.3
COMM    54  X_Lowfreq       X_Lowfreq                                  -9999999  f10.3
COMM    55  X_Powerline     X_Powerline                                -9999999  f10.3
COMM    56  X_VLF1          X_18.2kHz                                  -9999999  f10.3
COMM    57  X_VLF2          X_19.8kHz                                  -9999999  f10.3
COMM    58  X_VLF3          X_21.4kHz                                  -9999999  f10.3
COMM    59  X_VLF4          X_22.2kHz                                  -9999999  f10.3
COMM    60  X_Geofact       X_Geometric factor                         -9999999  f10.3
COMM    61  EMZ_Raw[1]      Raw EMZ01 Window                   (fT)   -9999999  f12.6
COMM    62  EMZ_Raw[2]      Raw EMZ02 Window                   (fT)   -9999999  f12.6
```

COMM	63	EMZ_Raw[3]	Raw EMZ03 Window		(fT)	-9999999	f12.6
COMM	64	EMZ_Raw[4]	Raw EMZ04 Window		(fT)	-9999999	f12.6
COMM	65	EMZ_Raw[5]	Raw EMZ05 Window		(fT)	-9999999	f12.6
COMM	66	EMZ_Raw[6]	Raw EMZ06 Window		(fT)	-9999999	f12.6
COMM	67	EMZ_Raw[7]	Raw EMZ07 Window		(fT)	-9999999	f12.6
COMM	68	EMZ_Raw[8]	Raw EMZ08 Window		(fT)	-9999999	f12.6
COMM	69	EMZ_Raw[9]	Raw EMZ09 Window		(fT)	-9999999	f12.6
COMM	70	EMZ_Raw[10]	Raw EMZ10 Window		(fT)	-9999999	f12.6
COMM	71	EMZ_Raw[11]	Raw EMZ11 Window		(fT)	-9999999	f12.6
COMM	72	EMZ_Raw[12]	Raw EMZ12 Window		(fT)	-9999999	f12.6
COMM	73	EMZ_Raw[13]	Raw EMZ13 Window		(fT)	-9999999	f12.6
COMM	74	EMZ_Raw[14]	Raw EMZ14 Window		(fT)	-9999999	f12.6
COMM	75	EMZ_Raw[15]	Raw EMZ15 Window		(fT)	-9999999	f12.6
COMM	76	EMZ_Final[1]	Final EMZ01 Window		(fT)	-9999999	f12.6
COMM	77	EMZ_Final[2]	Final EMZ02 Window		(fT)	-9999999	f12.6
COMM	78	EMZ_Final[3]	Final EMZ03 Window		(fT)	-9999999	f12.6
COMM	79	EMZ_Final[4]	Final EMZ04 Window		(fT)	-9999999	f12.6
COMM	80	EMZ_Final[5]	Final EMZ05 Window		(fT)	-9999999	f12.6
COMM	81	EMZ_Final[6]	Final EMZ06 Window		(fT)	-9999999	f12.6
COMM	82	EMZ_Final[7]	Final EMZ07 Window		(fT)	-9999999	f12.6
COMM	83	EMZ_Final[8]	Final EMZ08 Window		(fT)	-9999999	f12.6
COMM	84	EMZ_Final[9]	Final EMZ09 Window		(fT)	-9999999	f12.6
COMM	85	EMZ_Final[10]	Final EMZ10 Window		(fT)	-9999999	f12.6
COMM	86	EMZ_Final[11]	Final EMZ11 Window		(fT)	-9999999	f12.6
COMM	87	EMZ_Final[12]	Final EMZ12 Window		(fT)	-9999999	f12.6
COMM	88	EMZ_Final[13]	Final EMZ13 Window		(fT)	-9999999	f12.6
COMM	89	EMZ_Final[14]	Final EMZ14 Window		(fT)	-9999999	f12.6
COMM	90	EMZ_Final[15]	Final EMZ15 Window		(fT)	-9999999	f12.6
COMM	91	Z_Sferics	Z_Sferics			-9999999	f10.3
COMM	92	Z_Lowfreq	Z_Lowfreq			-9999999	f10.3
COMM	93	Z_Powerline	Z_Powerline			-9999999	f10.3
COMM	94	Z_VLF1	Z_18.2kHz			-9999999	f10.3
COMM	95	Z_VLF2	Z_19.8kHz			-9999999	f10.3
COMM	96	Z_VLF3	Z_21.4kHz			-9999999	f10.3
COMM	97	Z_VLF4	Z_22.2kHz			-9999999	f10.3
COMM	98	Z_Geofact	Z_Geometric factor			-9999999	f10.3
COMM	99	CNDZ[1]	Conductivity_Z001	0- 5 m	(mS/m)	-9999999	f10.3
COMM	100	CNDZ[2]	Conductivity_Z002	5- 10 m	(mS/m)	-9999999	f10.3
COMM	101	CNDZ[3]	Conductivity_Z003	10- 15 m	(mS/m)	-9999999	f10.3
COMM	102	CNDZ[4]	Conductivity_Z004	15- 20 m	(mS/m)	-9999999	f10.3
COMM	103	CNDZ[5]	Conductivity_Z005	20- 25 m	(mS/m)	-9999999	f10.3
COMM	104	CNDZ[6]	Conductivity_Z006	25- 30 m	(mS/m)	-9999999	f10.3
COMM	105	CNDZ[7]	Conductivity_Z007	30- 35 m	(mS/m)	-9999999	f10.3
COMM	106	CNDZ[8]	Conductivity_Z008	35- 40 m	(mS/m)	-9999999	f10.3
COMM	107	CNDZ[9]	Conductivity_Z009	40- 45 m	(mS/m)	-9999999	f10.3
COMM	108	CNDZ[10]	Conductivity_Z010	45- 50 m	(mS/m)	-9999999	f10.3
COMM	109	CNDZ[11]	Conductivity_Z011	50- 55 m	(mS/m)	-9999999	f10.3
COMM	110	CNDZ[12]	Conductivity_Z012	55- 60 m	(mS/m)	-9999999	f10.3
COMM	111	CNDZ[13]	Conductivity_Z013	60- 65 m	(mS/m)	-9999999	f10.3
COMM	112	CNDZ[14]	Conductivity_Z014	65- 70 m	(mS/m)	-9999999	f10.3
COMM	113	CNDZ[15]	Conductivity_Z015	70- 75 m	(mS/m)	-9999999	f10.3
COMM	114	CNDZ[16]	Conductivity_Z016	75- 80 m	(mS/m)	-9999999	f10.3
COMM	115	CNDZ[17]	Conductivity_Z017	80- 85 m	(mS/m)	-9999999	f10.3
COMM	116	CNDZ[18]	Conductivity_Z018	85- 90 m	(mS/m)	-9999999	f10.3
COMM	117	CNDZ[19]	Conductivity_Z019	90- 95 m	(mS/m)	-9999999	f10.3
COMM	118	CNDZ[20]	Conductivity_Z020	95-100 m	(mS/m)	-9999999	f10.3
COMM	119	CNDZ[21]	Conductivity_Z021	100-105 m	(mS/m)	-9999999	f10.3
COMM	120	CNDZ[22]	Conductivity_Z022	105-110 m	(mS/m)	-9999999	f10.3
COMM	121	CNDZ[23]	Conductivity_Z023	110-115 m	(mS/m)	-9999999	f10.3
COMM	122	CNDZ[24]	Conductivity_Z024	115-120 m	(mS/m)	-9999999	f10.3
COMM	123	CNDZ[25]	Conductivity_Z025	120-125 m	(mS/m)	-9999999	f10.3
COMM	124	CNDZ[26]	Conductivity_Z026	125-130 m	(mS/m)	-9999999	f10.3
COMM	125	CNDZ[27]	Conductivity_Z027	130-135 m	(mS/m)	-9999999	f10.3
COMM	126	CNDZ[28]	Conductivity_Z028	135-140 m	(mS/m)	-9999999	f10.3
COMM	127	CNDZ[29]	Conductivity_Z029	140-145 m	(mS/m)	-9999999	f10.3
COMM	128	CNDZ[30]	Conductivity_Z030	145-150 m	(mS/m)	-9999999	f10.3
COMM	129	CNDZ[31]	Conductivity_Z031	150-155 m	(mS/m)	-9999999	f10.3
COMM	130	CNDZ[32]	Conductivity_Z032	155-160 m	(mS/m)	-9999999	f10.3
COMM	131	CNDZ[33]	Conductivity_Z033	160-165 m	(mS/m)	-9999999	f10.3
COMM	132	CNDZ[34]	Conductivity_Z034	165-170 m	(mS/m)	-9999999	f10.3
COMM	133	CNDZ[35]	Conductivity_Z035	170-175 m	(mS/m)	-9999999	f10.3

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COMM   134  CNDZ[36]        Conductivity_Z036     175-180 m   (mS/m)  -9999999  f10.3
COMM   135  CNDZ[37]        Conductivity_Z037     180-185 m   (mS/m)  -9999999  f10.3
COMM   136  CNDZ[38]        Conductivity_Z038     185-190 m   (mS/m)  -9999999  f10.3
COMM   137  CNDZ[39]        Conductivity_Z039     190-195 m   (mS/m)  -9999999  f10.3
COMM   138  CNDZ[40]        Conductivity_Z040     195-200 m   (mS/m)  -9999999  f10.3
COMM   139  CNDZ[41]        Conductivity_Z041     200-205 m   (mS/m)  -9999999  f10.3
COMM   140  CNDZ[42]        Conductivity_Z042     205-210 m   (mS/m)  -9999999  f10.3
COMM   141  CNDZ[43]        Conductivity_Z043     210-215 m   (mS/m)  -9999999  f10.3
COMM   142  CNDZ[44]        Conductivity_Z044     215-220 m   (mS/m)  -9999999  f10.3
COMM   143  CNDZ[45]        Conductivity_Z045     220-225 m   (mS/m)  -9999999  f10.3
COMM   144  CNDZ[46]        Conductivity_Z046     225-230 m   (mS/m)  -9999999  f10.3
COMM   145  CNDZ[47]        Conductivity_Z047     230-235 m   (mS/m)  -9999999  f10.3
COMM   146  CNDZ[48]        Conductivity_Z048     235-240 m   (mS/m)  -9999999  f10.3
COMM   147  CNDZ[49]        Conductivity_Z049     240-245 m   (mS/m)  -9999999  f10.3
COMM   148  CNDZ[50]        Conductivity_Z050     245-250 m   (mS/m)  -9999999  f10.3
COMM   149  CNDZ[51]        Conductivity_Z051     250-255 m   (mS/m)  -9999999  f10.3
COMM   150  CNDZ[52]        Conductivity_Z052     255-260 m   (mS/m)  -9999999  f10.3
COMM   151  CNDZ[53]        Conductivity_Z053     260-265 m   (mS/m)  -9999999  f10.3
COMM   152  CNDZ[54]        Conductivity_Z054     265-270 m   (mS/m)  -9999999  f10.3
COMM   153  CNDZ[55]        Conductivity_Z055     270-275 m   (mS/m)  -9999999  f10.3
COMM   154  CNDZ[56]        Conductivity_Z056     275-280 m   (mS/m)  -9999999  f10.3
COMM   155  CNDZ[57]        Conductivity_Z057     280-285 m   (mS/m)  -9999999  f10.3
COMM   156  CNDZ[58]        Conductivity_Z058     285-290 m   (mS/m)  -9999999  f10.3
COMM   157  CNDZ[59]        Conductivity_Z059     290-295 m   (mS/m)  -9999999  f10.3
COMM   158  CNDZ[60]        Conductivity_Z060     295-300 m   (mS/m)  -9999999  f10.3
COMM   159  CNDZ[61]        Conductivity_Z061     300-305 m   (mS/m)  -9999999  f10.3
COMM   160  CNDZ[62]        Conductivity_Z062     305-310 m   (mS/m)  -9999999  f10.3
COMM   161  CNDZ[63]        Conductivity_Z063     310-315 m   (mS/m)  -9999999  f10.3
COMM   162  CNDZ[64]        Conductivity_Z064     315-320 m   (mS/m)  -9999999  f10.3
COMM   163  CNDZ[65]        Conductivity_Z065     320-325 m   (mS/m)  -9999999  f10.3
COMM   164  CNDZ[66]        Conductivity_Z066     325-330 m   (mS/m)  -9999999  f10.3
COMM   165  CNDZ[67]        Conductivity_Z067     330-335 m   (mS/m)  -9999999  f10.3
COMM   166  CNDZ[68]        Conductivity_Z068     335-340 m   (mS/m)  -9999999  f10.3
COMM   167  CNDZ[69]        Conductivity_Z069     340-345 m   (mS/m)  -9999999  f10.3
COMM   168  CNDZ[70]        Conductivity_Z070     345-350 m   (mS/m)  -9999999  f10.3
COMM   169  CNDZ[71]        Conductivity_Z071     350-355 m   (mS/m)  -9999999  f10.3
COMM   170  CNDZ[72]        Conductivity_Z072     355-360 m   (mS/m)  -9999999  f10.3
COMM   171  CNDZ[73]        Conductivity_Z073     360-365 m   (mS/m)  -9999999  f10.3
COMM   172  CNDZ[74]        Conductivity_Z074     365-370 m   (mS/m)  -9999999  f10.3
COMM   173  CNDZ[75]        Conductivity_Z075     370-375 m   (mS/m)  -9999999  f10.3
COMM   174  CNDZ[76]        Conductivity_Z076     375-380 m   (mS/m)  -9999999  f10.3
COMM   175  CNDZ[77]        Conductivity_Z077     380-385 m   (mS/m)  -9999999  f10.3
COMM   176  CNDZ[78]        Conductivity_Z078     385-390 m   (mS/m)  -9999999  f10.3
COMM   177  CNDZ[79]        Conductivity_Z079     390-395 m   (mS/m)  -9999999  f10.3
COMM   178  CNDZ[80]        Conductivity_Z080     395-400 m   (mS/m)  -9999999  f10.3
COMM   179  CNDZ[81]        Conductivity_Z081     400-405 m   (mS/m)  -9999999  f10.3
COMM   180  CNDZ[82]        Conductivity_Z082     405-410 m   (mS/m)  -9999999  f10.3
COMM   181  CNDZ[83]        Conductivity_Z083     410-415 m   (mS/m)  -9999999  f10.3
COMM   182  CNDZ[84]        Conductivity_Z084     415-420 m   (mS/m)  -9999999  f10.3
COMM   183  CNDZ[85]        Conductivity_Z085     420-425 m   (mS/m)  -9999999  f10.3
COMM   184  CNDZ[86]        Conductivity_Z086     425-430 m   (mS/m)  -9999999  f10.3
COMM   185  CNDZ[87]        Conductivity_Z087     430-435 m   (mS/m)  -9999999  f10.3
COMM   186  CNDZ[88]        Conductivity_Z088     435-440 m   (mS/m)  -9999999  f10.3
COMM   187  CNDZ[89]        Conductivity_Z089     440-445 m   (mS/m)  -9999999  f10.3
COMM   188  CNDZ[90]        Conductivity_Z090     445-450 m   (mS/m)  -9999999  f10.3
COMM   189  CNDZ[91]        Conductivity_Z091     450-455 m   (mS/m)  -9999999  f10.3
COMM   190  CNDZ[92]        Conductivity_Z092     455-460 m   (mS/m)  -9999999  f10.3
COMM   191  CNDZ[93]        Conductivity_Z093     460-465 m   (mS/m)  -9999999  f10.3
COMM   192  CNDZ[94]        Conductivity_Z094     465-470 m   (mS/m)  -9999999  f10.3
COMM   193  CNDZ[95]        Conductivity_Z095     470-475 m   (mS/m)  -9999999  f10.3
COMM   194  CNDZ[96]        Conductivity_Z096     475-480 m   (mS/m)  -9999999  f10.3
COMM   195  CNDZ[97]        Conductivity_Z097     480-485 m   (mS/m)  -9999999  f10.3
COMM   196  CNDZ[98]        Conductivity_Z098     485-490 m   (mS/m)  -9999999  f10.3
COMM   197  CNDZ[99]        Conductivity_Z099     490-495 m   (mS/m)  -9999999  f10.3
COMM   198  CNDZ[100]       Conductivity_Z100     495-500 m   (mS/m)  -9999999  f10.3
COMM
COMM  Total number of lines :   21
COMM
COMM   Flt    Line   Start X   Start Y     End X     End Y      Kms
COMM
```

```
COMM     39   20010    443655   7629704    423293   7629822    20.36
COMM     39   20020    423286   7628818    443646   7628698    20.36
COMM     39   20030    443653   7627698    423383   7627820    20.27
COMM     39   20040    423343   7626817    443620   7626698    20.28
COMM     39   20050    443665   7625689    423402   7625820    20.26
COMM     39   20060    423426   7624821    443632   7624696    20.21
COMM     38   20070    443643   7623698    423477   7623822    20.17
COMM     41   20081    423508   7622817    443621   7622701    20.11
COMM     38   20090    443663   7621699    423551   7621818    20.11
COMM     38   20100    423522   7620818    443625   7620698    20.10
COMM     38   20110    443643   7619700    425898   7619805    17.75
COMM     39   20120    425918   7618806    443617   7618700    17.70
COMM     38   20130    443595   7617727    425946   7617803    17.65
COMM     37   20140    425947   7616806    443601   7616705    17.65
COMM     37   20150    443632   7615703    425944   7615807    17.69
COMM     37   20160    425964   7614802    443576   7614696    17.61
COMM     37   20170    443599   7613698    426007   7613804    17.59
COMM     37   20180    425970   7612804    443568   7612705    17.60
COMM     37   20190    443621   7611703    426010   7611805    17.61
COMM     38   27010    428971   7611418    429080   7630225    18.81
COMM     38   27020    438581   7630204    438467   7611406    18.80
COMM
COMM  Total Kilometres :       398.69
```

AREA 3

```
COMM JOB NUMBER:                                                    1984
COMM AREA NUMBER:                                                      3
COMM SURVEY COMPANY:                                Fugro Airborne Surveys
COMM CLIENT:                                      NuPower Resources Limited
COMM SURVEY TYPE:                                       25Hz TEMPEST Survey
COMM AREA NAME:                                               Alice Springs
COMM STATE:                                                           NT
COMM COUNTRY:                                                    Australia
COMM SURVEY FLOWN:                                            August, 2008
COMM LOCATED DATA CREATED:                                        Dec 2008
COMM
COMM DATUM:                                                         GDA94
COMM PROJECTION:                                                      MGA
COMM ZONE:                                                             53
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                        1000 m
COMM TRAVERSE LINE DIRECTION:                                   090-270 deg
COMM NOMINAL TERRAIN CLEARANCE:                                    120 m
COMM FINAL LINE KILOMETRES:                                      122.05 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                                     30010 - 30120
COMM
COMM AREA BOUNDARY (WGS84, UTM53)
COMM
COMM      338301.00  7523396.00
COMM      336424.00  7523366.00
COMM      336458.00  7521522.00
COMM      335332.00  7521537.00
COMM      329582.00  7521474.00
COMM      329759.00  7524286.00
COMM      334747.00  7524286.00
COMM      334747.00  7526153.00
COMM      339895.00  7526153.00
COMM      339953.00  7528136.00
```

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COMM      345984.00  7528136.00
COMM      346158.00  7525421.00
COMM      344379.00  7525302.00
COMM      344379.00  7521736.00
COMM      341049.00  7521561.00
COMM      340991.00  7516068.00
COMM      338243.00  7515979.00
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                                    Shorts Skyvan VH-WGT, WGT
COMM
COMM MAGNETOMETER:                              Scintrex Cs-2 Cesium Vapour
COMM INSTALLATION:                                            stinger mount
COMM RESOLUTION:                                                  0.001 nT
COMM RECORDING INTERVAL:                                             5 s
COMM
COMM ELECTROMAGNETIC SYSTEM:                                      25Hz TEMPEST
COMM INSTALLATION:                Transmitter loop mounted on the aircraft
COMM                                        Receiver coils in a towed bird
COMM COIL ORIENTATION:                                               X,Z
COMM RECORDING INTERVAL:                                           0.2 s
COMM SYSTEM GEOMETRY:
COMM RECEIVER DISTANCE BEHIND THE TRANSMITTER:                     -115 m
COMM RECEIVER DISTANCE BELOW THE TRANSMITTER:                       -40 m
COMM
COMM RADAR ALTIMETER:                                         Sperry RT-220
COMM RECORDING INTERVAL:                                           0.2 s
COMM
COMM NAVIGATION:                                 real-time differential GPS
COMM RECORDING INTERVAL:                                           1.0 s
COMM
COMM ACQUISITION SYSTEM:                                        PDAS-1000
COMM
COMM DATA PROCESSING
COMM
COMM MAGNETIC DATA
COMM DIURNAL BASE VALUE APPLIED                                  53288 nT
COMM PARALLAX CORRECTION APPLIED                                     2 s
COMM IGRF BASE VALUE APPLIED                                     52457 nT
COMM IGRF MODEL 2005 EXTRAPOLATED TO                               2008.6
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ELECTROMAGNETIC DATA
COMM SYSTEM PARALLAX REMOVED, AS FOLLOWS
COMM X-COMPONENT EM DATA                                           0.2 s
COMM Y-COMPONENT EM DATA                    <not relevant for TEMPEST>
COMM Z-COMPONENT EM DATA                                           1.4 s
COMM DATA CORRECTED FOR TRANSMITTER HEIGHT, PITCH AND ROLL
COMM DATA CORRECTED FOR TRANSMITTER-RECEIVER GEOMETRY VARIATIONS
COMM DATA HAVE BEEN MICROLEVELLED
COMM CONDUCTIVITY DEPTH INVERSION CALCULATED                    EMFlow V5.10
COMM CONDUCTIVITIES CALCULATED USING corrected EM DATA
COMM
COMM DIGITAL TERRAIN DATA
COMM PARALLAX CORRECTION APPLIED TO RADAR ALIMETER DATA            0.6 s
COMM PARALLAX CORRECTION APPLIED TO GPS ALIMETER DATA              0.0 s
COMM DTM CALCULATED [DTM = GPS ALTITUDE - RADAR ALTITUDE]
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
```

COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level. Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM ----------
COMM
COMM ELECTROMAGNETIC SYSTEM
COMM
COMM TEMPEST IS A TIME-DOMAIN SQUARE-WAVE SYSTEM,
COMM TRANSMITTING AT A BASE FREQUENCY OF 25Hz,
COMM WITH 2 ORTHOGONAL-AXIS RECEIVER COILS IN A TOWED BIRD.
COMM FINAL EM OUTPUT IS RECORDED 5 TIMES PER SECOND.
COMM THE TIMES (IN MILLISECONDS) FOR THE 15 WINDOWS ARE:
COMM

COMM WINDOW	START	END	CENTRE
COMM 1	0.007	0.020	0.013
COMM 2	0.033	0.047	0.040
COMM 3	0.060	0.073	0.067
COMM 4	0.087	0.127	0.107
COMM 5	0.140	0.207	0.173
COMM 6	0.220	0.340	0.280
COMM 7	0.353	0.553	0.453
COMM 8	0.567	0.873	0.720
COMM 9	0.887	1.353	1.120
COMM 10	1.367	2.100	1.733
COMM 11	2.113	3.273	2.693
COMM 12	3.287	5.113	4.200
COMM 13	5.127	7.993	6.560
COMM 14	8.007	12.393	10.200
COMM 15	12.407	19.993	16.200

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COMM
COMM PULSE WIDTH: 10 ms
COMM
COMM TEMPEST EM data are transformed to the response that would be
COMM obtained with a B-field sensor for a 100% duty cycle square
COMM waveform at the base frequency, involving a 1A change in
COMM current (from -0.5A to +0.5A to -0.5A) in a 1sq.m transmitter.
COMM It is this configuration, rather than the actual acquisition
COMM configuration, which must be specified when modelling TEMPEST data.
COMM
COMM
COMM
COMM LOCATED DATA FORMAT
COMM
COMM  Output field format : DOS  - Flat ascii
COMM  Number of fields    : 198
COMM
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Field	Channel	Description	Units	Undefined	Format
1	LINE	Line		-9999999	i6
2	FLIGHT	Flight		-9999999	i4
3	FID	Fiducial	(s)	-9999999	f8.1
4	LATITUDE	Latitude GDA94	(deg)	-9999999	f13.6
5	LONGITUDE	Longitude GDA94	(deg)	-9999999	f13.6
6	EASTING	Easting MGA53	(m)	-9999999	f11.2
7	NORTHING	Northing MGA53	(m)	-9999999	f12.2
8	TxHeight	GPS height	(m)	-9999999	f8.2
9	Baro	Barometric Altitude	(m)	-9999999	f8.2
10	TxRalt_raw	Raw Radar Altimeter	(m)	-9999999	f8.2
11	TxRalt_final	Final Radar Altimeter	(m)	-9999999	f8.2
12	DTM	DTM	(m)	-9999999	f8.2
13	MAG	Compensated TMI	(nT)	-9999999	f10.3
14	MAG_1VD	Levelled TMI 1VD	(nT/m)	-9999999	f12.5
15	Pitch_Raw	Raw Tx loop pitch	(deg)	-9999999	f10.5
16	Roll_Raw	Raw Tx loop roll	(deg)	-9999999	f10.5
17	HSep_Raw	Raw Tx-Rx horizontal separation	(m)	-9999999	f8.2
18	VSep_Raw	Raw Tx-Rx vertical separation	(m)	-9999999	f8.2
19	Pitch_Final	Final Tx loop pitch	(deg)	-9999999	f10.5
20	Roll_Final	Final Tx loop roll	(deg)	-9999999	f10.5
21	HSep_Final	Final Tx-Rx horizontal separation	(m)	-9999999	f8.2
22	VSep_Final	Final Tx-Rx vertical separation	(m)	-9999999	f8.2
23	EMX_Raw[1]	Raw EMX01 Window	(fT)	-9999999	f12.6
24	EMX_Raw[2]	Raw EMX02 Window	(fT)	-9999999	f12.6
25	EMX_Raw[3]	Raw EMX03 Window	(fT)	-9999999	f12.6
26	EMX_Raw[4]	Raw EMX04 Window	(fT)	-9999999	f12.6
27	EMX_Raw[5]	Raw EMX05 Window	(fT)	-9999999	f12.6
28	EMX_Raw[6]	Raw EMX06 Window	(fT)	-9999999	f12.6
29	EMX_Raw[7]	Raw EMX07 Window	(fT)	-9999999	f12.6
30	EMX_Raw[8]	Raw EMX08 Window	(fT)	-9999999	f12.6
31	EMX_Raw[9]	Raw EMX09 Window	(fT)	-9999999	f12.6
32	EMX_Raw[10]	Raw EMX10 Window	(fT)	-9999999	f12.6
33	EMX_Raw[11]	Raw EMX11 Window	(fT)	-9999999	f12.6
34	EMX_Raw[12]	Raw EMX12 Window	(fT)	-9999999	f12.6
35	EMX_Raw[13]	Raw EMX13 Window	(fT)	-9999999	f12.6
36	EMX_Raw[14]	Raw EMX14 Window	(fT)	-9999999	f12.6
37	EMX_Raw[15]	Raw EMX15 Window	(fT)	-9999999	f12.6
38	EMX_Final[1]	Final EMX01 Window	(fT)	-9999999	f12.6
39	EMX_Final[2]	Final EMX02 Window	(fT)	-9999999	f12.6
40	EMX_Final[3]	Final EMX03 Window	(fT)	-9999999	f12.6
41	EMX_Final[4]	Final EMX04 Window	(fT)	-9999999	f12.6
42	EMX_Final[5]	Final EMX05 Window	(fT)	-9999999	f12.6
43	EMX_Final[6]	Final EMX06 Window	(fT)	-9999999	f12.6
44	EMX_Final[7]	Final EMX07 Window	(fT)	-9999999	f12.6
45	EMX_Final[8]	Final EMX08 Window	(fT)	-9999999	f12.6
46	EMX_Final[9]	Final EMX09 Window	(fT)	-9999999	f12.6
47	EMX_Final[10]	Final EMX10 Window	(fT)	-9999999	f12.6
48	EMX_Final[11]	Final EMX11 Window	(fT)	-9999999	f12.6
49	EMX_Final[12]	Final EMX12 Window	(fT)	-9999999	f12.6

COMM	50	EMX_Final[13]	Final EMX13 Window		(fT)	-9999999	f12.6
COMM	51	EMX_Final[14]	Final EMX14 Window		(fT)	-9999999	f12.6
COMM	52	EMX_Final[15]	Final EMX15 Window		(fT)	-9999999	f12.6
COMM	53	X_Sferics	X_Sferics			-9999999	f10.3
COMM	54	X_Lowfreq	X_Lowfreq			-9999999	f10.3
COMM	55	X_Powerline	X_Powerline			-9999999	f10.3
COMM	56	X_VLF1	X_18.2kHz			-9999999	f10.3
COMM	57	X_VLF2	X_19.8kHz			-9999999	f10.3
COMM	58	X_VLF3	X_21.4kHz			-9999999	f10.3
COMM	59	X_VLF4	X_22.2kHz			-9999999	f10.3
COMM	60	X_Geofact	X_Geometric factor			-9999999	f10.3
COMM	61	EMZ_Raw[1]	Raw EMZ01 Window		(fT)	-9999999	f12.6
COMM	62	EMZ_Raw[2]	Raw EMZ02 Window		(fT)	-9999999	f12.6
COMM	63	EMZ_Raw[3]	Raw EMZ03 Window		(fT)	-9999999	f12.6
COMM	64	EMZ_Raw[4]	Raw EMZ04 Window		(fT)	-9999999	f12.6
COMM	65	EMZ_Raw[5]	Raw EMZ05 Window		(fT)	-9999999	f12.6
COMM	66	EMZ_Raw[6]	Raw EMZ06 Window		(fT)	-9999999	f12.6
COMM	67	EMZ_Raw[7]	Raw EMZ07 Window		(fT)	-9999999	f12.6
COMM	68	EMZ_Raw[8]	Raw EMZ08 Window		(fT)	-9999999	f12.6
COMM	69	EMZ_Raw[9]	Raw EMZ09 Window		(fT)	-9999999	f12.6
COMM	70	EMZ_Raw[10]	Raw EMZ10 Window		(fT)	-9999999	f12.6
COMM	71	EMZ_Raw[11]	Raw EMZ11 Window		(fT)	-9999999	f12.6
COMM	72	EMZ_Raw[12]	Raw EMZ12 Window		(fT)	-9999999	f12.6
COMM	73	EMZ_Raw[13]	Raw EMZ13 Window		(fT)	-9999999	f12.6
COMM	74	EMZ_Raw[14]	Raw EMZ14 Window		(fT)	-9999999	f12.6
COMM	75	EMZ_Raw[15]	Raw EMZ15 Window		(fT)	-9999999	f12.6
COMM	76	EMZ_Final[1]	Final EMZ01 Window		(fT)	-9999999	f12.6
COMM	77	EMZ_Final[2]	Final EMZ02 Window		(fT)	-9999999	f12.6
COMM	78	EMZ_Final[3]	Final EMZ03 Window		(fT)	-9999999	f12.6
COMM	79	EMZ_Final[4]	Final EMZ04 Window		(fT)	-9999999	f12.6
COMM	80	EMZ_Final[5]	Final EMZ05 Window		(fT)	-9999999	f12.6
COMM	81	EMZ_Final[6]	Final EMZ06 Window		(fT)	-9999999	f12.6
COMM	82	EMZ_Final[7]	Final EMZ07 Window		(fT)	-9999999	f12.6
COMM	83	EMZ_Final[8]	Final EMZ08 Window		(fT)	-9999999	f12.6
COMM	84	EMZ_Final[9]	Final EMZ09 Window		(fT)	-9999999	f12.6
COMM	85	EMZ_Final[10]	Final EMZ10 Window		(fT)	-9999999	f12.6
COMM	86	EMZ_Final[11]	Final EMZ11 Window		(fT)	-9999999	f12.6
COMM	87	EMZ_Final[12]	Final EMZ12 Window		(fT)	-9999999	f12.6
COMM	88	EMZ_Final[13]	Final EMZ13 Window		(fT)	-9999999	f12.6
COMM	89	EMZ_Final[14]	Final EMZ14 Window		(fT)	-9999999	f12.6
COMM	90	EMZ_Final[15]	Final EMZ15 Window		(fT)	-9999999	f12.6
COMM	91	Z_Sferics	Z_Sferics			-9999999	f10.3
COMM	92	Z_Lowfreq	Z_Lowfreq			-9999999	f10.3
COMM	93	Z_Powerline	Z_Powerline			-9999999	f10.3
COMM	94	Z_VLF1	Z_18.2kHz			-9999999	f10.3
COMM	95	Z_VLF2	Z_19.8kHz			-9999999	f10.3
COMM	96	Z_VLF3	Z_21.4kHz			-9999999	f10.3
COMM	97	Z_VLF4	Z_22.2kHz			-9999999	f10.3
COMM	98	Z_Geofact	Z_Geometric factor			-9999999	f10.3
COMM	99	CNDZ[1]	Conductivity_Z001	0- 5 m	(mS/m)	-9999999	f10.3
COMM	100	CNDZ[2]	Conductivity_Z002	5- 10 m	(mS/m)	-9999999	f10.3
COMM	101	CNDZ[3]	Conductivity_Z003	10- 15 m	(mS/m)	-9999999	f10.3
COMM	102	CNDZ[4]	Conductivity_Z004	15- 20 m	(mS/m)	-9999999	f10.3
COMM	103	CNDZ[5]	Conductivity_Z005	20- 25 m	(mS/m)	-9999999	f10.3
COMM	104	CNDZ[6]	Conductivity_Z006	25- 30 m	(mS/m)	-9999999	f10.3
COMM	105	CNDZ[7]	Conductivity_Z007	30- 35 m	(mS/m)	-9999999	f10.3
COMM	106	CNDZ[8]	Conductivity_Z008	35- 40 m	(mS/m)	-9999999	f10.3
COMM	107	CNDZ[9]	Conductivity_Z009	40- 45 m	(mS/m)	-9999999	f10.3
COMM	108	CNDZ[10]	Conductivity_Z010	45- 50 m	(mS/m)	-9999999	f10.3
COMM	109	CNDZ[11]	Conductivity_Z011	50- 55 m	(mS/m)	-9999999	f10.3
COMM	110	CNDZ[12]	Conductivity_Z012	55- 60 m	(mS/m)	-9999999	f10.3
COMM	111	CNDZ[13]	Conductivity_Z013	60- 65 m	(mS/m)	-9999999	f10.3
COMM	112	CNDZ[14]	Conductivity_Z014	65- 70 m	(mS/m)	-9999999	f10.3
COMM	113	CNDZ[15]	Conductivity_Z015	70- 75 m	(mS/m)	-9999999	f10.3
COMM	114	CNDZ[16]	Conductivity_Z016	75- 80 m	(mS/m)	-9999999	f10.3
COMM	115	CNDZ[17]	Conductivity_Z017	80- 85 m	(mS/m)	-9999999	f10.3
COMM	116	CNDZ[18]	Conductivity_Z018	85- 90 m	(mS/m)	-9999999	f10.3
COMM	117	CNDZ[19]	Conductivity_Z019	90- 95 m	(mS/m)	-9999999	f10.3
COMM	118	CNDZ[20]	Conductivity_Z020	95-100 m	(mS/m)	-9999999	f10.3
COMM	119	CNDZ[21]	Conductivity_Z021	100-105 m	(mS/m)	-9999999	f10.3
COMM	120	CNDZ[22]	Conductivity_Z022	105-110 m	(mS/m)	-9999999	f10.3

COMM	121	CNDZ[23]	Conductivity_Z023	110-115 m	(mS/m)	-9999999	f10.3
COMM	122	CNDZ[24]	Conductivity_Z024	115-120 m	(mS/m)	-9999999	f10.3
COMM	123	CNDZ[25]	Conductivity_Z025	120-125 m	(mS/m)	-9999999	f10.3
COMM	124	CNDZ[26]	Conductivity_Z026	125-130 m	(mS/m)	-9999999	f10.3
COMM	125	CNDZ[27]	Conductivity_Z027	130-135 m	(mS/m)	-9999999	f10.3
COMM	126	CNDZ[28]	Conductivity_Z028	135-140 m	(mS/m)	-9999999	f10.3
COMM	127	CNDZ[29]	Conductivity_Z029	140-145 m	(mS/m)	-9999999	f10.3
COMM	128	CNDZ[30]	Conductivity_Z030	145-150 m	(mS/m)	-9999999	f10.3
COMM	129	CNDZ[31]	Conductivity_Z031	150-155 m	(mS/m)	-9999999	f10.3
COMM	130	CNDZ[32]	Conductivity_Z032	155-160 m	(mS/m)	-9999999	f10.3
COMM	131	CNDZ[33]	Conductivity_Z033	160-165 m	(mS/m)	-9999999	f10.3
COMM	132	CNDZ[34]	Conductivity_Z034	165-170 m	(mS/m)	-9999999	f10.3
COMM	133	CNDZ[35]	Conductivity_Z035	170-175 m	(mS/m)	-9999999	f10.3
COMM	134	CNDZ[36]	Conductivity_Z036	175-180 m	(mS/m)	-9999999	f10.3
COMM	135	CNDZ[37]	Conductivity_Z037	180-185 m	(mS/m)	-9999999	f10.3
COMM	136	CNDZ[38]	Conductivity_Z038	185-190 m	(mS/m)	-9999999	f10.3
COMM	137	CNDZ[39]	Conductivity_Z039	190-195 m	(mS/m)	-9999999	f10.3
COMM	138	CNDZ[40]	Conductivity_Z040	195-200 m	(mS/m)	-9999999	f10.3
COMM	139	CNDZ[41]	Conductivity_Z041	200-205 m	(mS/m)	-9999999	f10.3
COMM	140	CNDZ[42]	Conductivity_Z042	205-210 m	(mS/m)	-9999999	f10.3
COMM	141	CNDZ[43]	Conductivity_Z043	210-215 m	(mS/m)	-9999999	f10.3
COMM	142	CNDZ[44]	Conductivity_Z044	215-220 m	(mS/m)	-9999999	f10.3
COMM	143	CNDZ[45]	Conductivity_Z045	220-225 m	(mS/m)	-9999999	f10.3
COMM	144	CNDZ[46]	Conductivity_Z046	225-230 m	(mS/m)	-9999999	f10.3
COMM	145	CNDZ[47]	Conductivity_Z047	230-235 m	(mS/m)	-9999999	f10.3
COMM	146	CNDZ[48]	Conductivity_Z048	235-240 m	(mS/m)	-9999999	f10.3
COMM	147	CNDZ[49]	Conductivity_Z049	240-245 m	(mS/m)	-9999999	f10.3
COMM	148	CNDZ[50]	Conductivity_Z050	245-250 m	(mS/m)	-9999999	f10.3
COMM	149	CNDZ[51]	Conductivity_Z051	250-255 m	(mS/m)	-9999999	f10.3
COMM	150	CNDZ[52]	Conductivity_Z052	255-260 m	(mS/m)	-9999999	f10.3
COMM	151	CNDZ[53]	Conductivity_Z053	260-265 m	(mS/m)	-9999999	f10.3
COMM	152	CNDZ[54]	Conductivity_Z054	265-270 m	(mS/m)	-9999999	f10.3
COMM	153	CNDZ[55]	Conductivity_Z055	270-275 m	(mS/m)	-9999999	f10.3
COMM	154	CNDZ[56]	Conductivity_Z056	275-280 m	(mS/m)	-9999999	f10.3
COMM	155	CNDZ[57]	Conductivity_Z057	280-285 m	(mS/m)	-9999999	f10.3
COMM	156	CNDZ[58]	Conductivity_Z058	285-290 m	(mS/m)	-9999999	f10.3
COMM	157	CNDZ[59]	Conductivity_Z059	290-295 m	(mS/m)	-9999999	f10.3
COMM	158	CNDZ[60]	Conductivity_Z060	295-300 m	(mS/m)	-9999999	f10.3
COMM	159	CNDZ[61]	Conductivity_Z061	300-305 m	(mS/m)	-9999999	f10.3
COMM	160	CNDZ[62]	Conductivity_Z062	305-310 m	(mS/m)	-9999999	f10.3
COMM	161	CNDZ[63]	Conductivity_Z063	310-315 m	(mS/m)	-9999999	f10.3
COMM	162	CNDZ[64]	Conductivity_Z064	315-320 m	(mS/m)	-9999999	f10.3
COMM	163	CNDZ[65]	Conductivity_Z065	320-325 m	(mS/m)	-9999999	f10.3
COMM	164	CNDZ[66]	Conductivity_Z066	325-330 m	(mS/m)	-9999999	f10.3
COMM	165	CNDZ[67]	Conductivity_Z067	330-335 m	(mS/m)	-9999999	f10.3
COMM	166	CNDZ[68]	Conductivity_Z068	335-340 m	(mS/m)	-9999999	f10.3
COMM	167	CNDZ[69]	Conductivity_Z069	340-345 m	(mS/m)	-9999999	f10.3
COMM	168	CNDZ[70]	Conductivity_Z070	345-350 m	(mS/m)	-9999999	f10.3
COMM	169	CNDZ[71]	Conductivity_Z071	350-355 m	(mS/m)	-9999999	f10.3
COMM	170	CNDZ[72]	Conductivity_Z072	355-360 m	(mS/m)	-9999999	f10.3
COMM	171	CNDZ[73]	Conductivity_Z073	360-365 m	(mS/m)	-9999999	f10.3
COMM	172	CNDZ[74]	Conductivity_Z074	365-370 m	(mS/m)	-9999999	f10.3
COMM	173	CNDZ[75]	Conductivity_Z075	370-375 m	(mS/m)	-9999999	f10.3
COMM	174	CNDZ[76]	Conductivity_Z076	375-380 m	(mS/m)	-9999999	f10.3
COMM	175	CNDZ[77]	Conductivity_Z077	380-385 m	(mS/m)	-9999999	f10.3
COMM	176	CNDZ[78]	Conductivity_Z078	385-390 m	(mS/m)	-9999999	f10.3
COMM	177	CNDZ[79]	Conductivity_Z079	390-395 m	(mS/m)	-9999999	f10.3
COMM	178	CNDZ[80]	Conductivity_Z080	395-400 m	(mS/m)	-9999999	f10.3
COMM	179	CNDZ[81]	Conductivity_Z081	400-405 m	(mS/m)	-9999999	f10.3
COMM	180	CNDZ[82]	Conductivity_Z082	405-410 m	(mS/m)	-9999999	f10.3
COMM	181	CNDZ[83]	Conductivity_Z083	410-415 m	(mS/m)	-9999999	f10.3
COMM	182	CNDZ[84]	Conductivity_Z084	415-420 m	(mS/m)	-9999999	f10.3
COMM	183	CNDZ[85]	Conductivity_Z085	420-425 m	(mS/m)	-9999999	f10.3
COMM	184	CNDZ[86]	Conductivity_Z086	425-430 m	(mS/m)	-9999999	f10.3
COMM	185	CNDZ[87]	Conductivity_Z087	430-435 m	(mS/m)	-9999999	f10.3
COMM	186	CNDZ[88]	Conductivity_Z088	435-440 m	(mS/m)	-9999999	f10.3
COMM	187	CNDZ[89]	Conductivity_Z089	440-445 m	(mS/m)	-9999999	f10.3
COMM	188	CNDZ[90]	Conductivity_Z090	445-450 m	(mS/m)	-9999999	f10.3
COMM	189	CNDZ[91]	Conductivity_Z091	450-455 m	(mS/m)	-9999999	f10.3
COMM	190	CNDZ[92]	Conductivity_Z092	455-460 m	(mS/m)	-9999999	f10.3
COMM	191	CNDZ[93]	Conductivity_Z093	460-465 m	(mS/m)	-9999999	f10.3

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COMM   192  CNDZ[94]        Conductivity_Z094     465-470 m   (mS/m)  -9999999  f10.3
COMM   193  CNDZ[95]        Conductivity_Z095     470-475 m   (mS/m)  -9999999  f10.3
COMM   194  CNDZ[96]        Conductivity_Z096     475-480 m   (mS/m)  -9999999  f10.3
COMM   195  CNDZ[97]        Conductivity_Z097     480-485 m   (mS/m)  -9999999  f10.3
COMM   196  CNDZ[98]        Conductivity_Z098     485-490 m   (mS/m)  -9999999  f10.3
COMM   197  CNDZ[99]        Conductivity_Z099     490-495 m   (mS/m)  -9999999  f10.3
COMM   198  CNDZ[100]       Conductivity_Z100     495-500 m   (mS/m)  -9999999  f10.3
COMM
COMM  Total number of lines :   12
COMM
COMM   Flt    Line   Start X   Start Y     End X     End Y      Kms
COMM
COMM    26   30010    346964   7527633    338781   7527630     8.18
COMM    26   30020    338986   7526638    347143   7526636     8.16
COMM    26   30030    346199   7525631    334760   7525633    11.44
COMM    26   30040    334720   7524638    344364   7524638     9.64
COMM    26   30050    344369   7523635    329743   7523636    14.63
COMM    26   30060    329652   7522638    344379   7522640    14.73
COMM    26   30070    344406   7521633    329623   7521633    14.78
COMM    26   30080    335639   7520633    343792   7520633     8.15
COMM    26   30090    343691   7519639    335494   7519634     8.20
COMM    26   30100    335641   7518631    343780   7518632     8.14
COMM    26   30110    343657   7517639    335656   7517638     8.00
COMM    26   30120    335620   7516640    343624   7516635     8.00
COMM
COMM  Total Kilometres :       122.05
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AREA 4

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COMM JOB NUMBER:                                                    1984
COMM AREA NUMBER:                                                      4
COMM SURVEY COMPANY:                                 Fugro Airborne Surveys
COMM CLIENT:                                       NuPower Resources Limited
COMM SURVEY TYPE:                                        25Hz TEMPEST Survey
COMM AREA NAME:                                               Alice Springs
COMM STATE:                                                           NT
COMM COUNTRY:                                                    Australia
COMM SURVEY FLOWN:                                           August, 2008
COMM LOCATED DATA CREATED:                                       Dec 2008
COMM
COMM DATUM:                                                         GDA94
COMM PROJECTION:                                                      MGA
COMM ZONE:                                                             53
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                         1000 m
COMM TRAVERSE LINE DIRECTION:                                    090-270 deg
COMM TIE LINE SPACING:                                             10000 m
COMM TIE LINE DIRECTION:                                         000-180 deg
COMM NOMINAL TERRAIN CLEARANCE:                                      120 m
COMM FINAL LINE KILOMETRES:                                     4213.86 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                                    40010 - 40410
COMM                                                           50010 - 50520
COMM TIE LINE NUMBERS:                                         47010 - 47070
COMM                                                           57010 - 57070
COMM
COMM AREA BOUNDARY (WGS84, UTM53)
COMM
COMM              309863.41              7496599.61
COMM              317759.77              7496729.06
```

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COMM              318277.57              7494916.78
COMM              322161.02              7495046.23
COMM              322161.02              7491551.11
COMM              325915.03              7491551.11
COMM              325656.14              7487926.55
COMM              349604.13              7487926.55
COMM              349733.57              7479641.84
COMM              345979.57              7479512.40
COMM              345979.57              7474981.69
COMM              371998.73              7474981.69
COMM              371998.73              7504884.32
COMM              414846.22              7504754.87
COMM              415105.12              7485596.48
COMM              407985.44              7485467.03
COMM              407985.44              7474852.25
COMM              417952.98              7475111.14
COMM              417952.98              7467473.68
COMM              437240.83              7467085.33
COMM              436852.48              7456988.34
COMM              426496.59              7456729.44
COMM              418859.12              7452716.54
COMM              410833.31              7452587.09
COMM              410833.31              7454140.47
COMM              413163.39              7454399.37
COMM              407726.55              7466696.98
COMM              393098.85              7466567.54
COMM              393228.30              7473946.11
COMM              377435.57              7473816.66
COMM              377306.13              7455693.85
COMM              334717.54              7455564.41
COMM              334717.54              7458930.07
COMM              333552.50              7458800.62
COMM              333552.50              7460354.00
COMM              305850.50              7460483.45
COMM              305850.50              7471616.03
COMM              299119.17              7471486.58
COMM              298989.73              7492845.60
COMM              310769.55              7492845.60
COMM              310640.10              7494528.43
COMM              309604.51              7494269.54
COMM              309604.51              7496987.96
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                                        Shorts Skyvan VH-WGT
COMM
COMM MAGNETOMETER:                              Scintrex Cs-2 Cesium Vapour
COMM INSTALLATION:                                          stinger mount
COMM RESOLUTION:                                             0.001 nT
COMM RECORDING INTERVAL:                                        0.2 s
COMM
COMM ELECTROMAGNETIC SYSTEM:                                 25Hz TEMPEST
COMM INSTALLATION:                 Transmitter loop mounted on the aircraft
COMM                                    Receiver coils in a towed bird
COMM COIL ORIENTATION:                                             X,Z
COMM RECORDING INTERVAL:                                        0.2 s
COMM SYSTEM GEOMETRY:
COMM RECEIVER DISTANCE BEHIND THE TRANSMITTER:                  -117 m
COMM RECEIVER DISTANCE BELOW THE TRANSMITTER:                    -37 m
COMM
COMM RADAR ALTIMETER:                                       Sperry RT-220
COMM RECORDING INTERVAL:                                        0.2 s
COMM
COMM NAVIGATION:                             Real-time differential GPS
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COMM RECORDING INTERVAL:                                              1.0 s
COMM
COMM ACQUISITION SYSTEM:                                          PDAS-1000
COMM
COMM DATA PROCESSING
COMM
COMM MAGNETIC DATA
COMM DIURNAL BASE VALUE APPLIED                                     53288 nT
COMM PARALLAX CORRECTION APPLIED                                      0.4 s
COMM IGRF BASE VALUE APPLIED                                        52754 nT
COMM IGRF MODEL 2005 EXTRAPOLATED TO                                 2008.6
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ELECTROMAGNETIC DATA
COMM SYSTEM PARALLAX REMOVED, AS FOLLOWS
COMM X-COMPONENT EM DATA                                              0.2 s
COMM Y-COMPONENT EM DATA                    <not relevant for TEMPEST>
COMM Z-COMPONENT EM DATA                                              1.4 s
COMM DATA CORRECTED FOR TRANSMITTER HEIGHT, PITCH AND ROLL
COMM DATA CORRECTED FOR TRANSMITTER-RECEIVER GEOMETRY VARIATIONS
COMM DATA HAVE BEEN MICROLEVELLED
COMM CONDUCTIVITY DEPTH INVERSION CALCULATED                   EMFlow V5.10
COMM CONDUCTIVITIES CALCULATED USING corrected EM DATA
COMM
COMM DIGITAL TERRAIN DATA
COMM PARALLAX CORRECTION APPLIED TO RADAR ALIMETER DATA               0.6 s
COMM PARALLAX CORRECTION APPLIED TO GPS ALIMETER DATA                 0.0 s
COMM DTM CALCULATED [DTM = GPS ALTITUDE - RADAR ALTITUDE]
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
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COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level.  Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM ---------------------------------------------------------------------
COMM
COMM ELECTROMAGNETIC SYSTEM
COMM
COMM TEMPEST IS A TIME-DOMAIN SQUARE-WAVE SYSTEM,
COMM TRANSMITTING AT A BASE FREQUENCY OF 25Hz,
COMM WITH 2 ORTHOGONAL-AXIS RECEIVER COILS IN A TOWED BIRD.
COMM FINAL EM OUTPUT IS RECORDED 5 TIMES PER SECOND.
COMM THE TIMES (IN MILLISECONDS) FOR THE 15 WINDOWS ARE:
COMM
COMM WINDOW      START       END      CENTRE
COMM    1        0.007      0.020      0.013
COMM    2        0.033      0.047      0.040
COMM    3        0.060      0.073      0.067
COMM    4        0.087      0.127      0.107
COMM    5        0.140      0.207      0.173
COMM    6        0.220      0.340      0.280
COMM    7        0.353      0.553      0.453
COMM    8        0.567      0.873      0.720
COMM    9        0.887      1.353      1.120
COMM   10        1.367      2.100      1.733
COMM   11        2.113      3.273      2.693
COMM   12        3.287      5.113      4.200
COMM   13        5.127      7.993      6.560
COMM   14        8.007     12.393     10.200
COMM   15       12.407     19.993     16.200
COMM
COMM PULSE WIDTH: 10 ms
COMM
COMM TEMPEST EM data are transformed to the response that would be
COMM obtained with a B-field sensor for a 100% duty cycle square
COMM waveform at the base frequency, involving a 1A change in
COMM current (from -0.5A to +0.5A to -0.5A) in a 1sq.m transmitter.
COMM It is this configuration, rather than the actual acquisition
COMM configuration, which must be specified when modelling TEMPEST data.
COMM
COMM
COMM
COMM LOCATED DATA FORMAT
COMM
COMM  Output field format : DOS  - Flat ascii
COMM  Number of fields    : 198
COMM
COMM Field  Channel         Description                      Units  Undefined Format
COMM -----  -------         -----------                      -----  --------- ------
COMM
COMM     1  LINE            Line                                     -9999999  i6
COMM     2  FLIGHT          Flight                                   -9999999  i4
COMM     3  FID             Fiducial                           (s)   -9999999  f8.1
COMM     4  LATITUDE        Latitude  GDA94                  (deg)   -9999999  f13.6
COMM     5  LONGITUDE       Longitude GDA94                  (deg)   -9999999  f13.6
COMM     6  EASTING         Easting   MGA53                    (m)   -9999999  f11.2
COMM     7  NORTHING        Northing  MGA53                    (m)   -9999999  f12.2
COMM     8  TxHeight        GPS height                         (m)   -9999999  f8.2
COMM     9  Baro            Barometric Altitude                (m)   -9999999  f8.2
COMM    10  TxRalt_raw      Raw Radar Altimeter                (m)   -9999999  f8.2
COMM    11  TxRalt_final    Final Radar Altimeter              (m)   -9999999  f8.2
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COMM	12	DTM	DTM	(m)	-9999999	f8.2
COMM	13	MAG	Compensated TMI	(nT)	-9999999	f10.3
COMM	14	MAG_1VD	Levelled TMI 1VD	(nT/m)	-9999999	f12.5
COMM	15	Pitch_Raw	Raw Tx loop pitch	(deg)	-9999999	f10.5
COMM	16	Roll_Raw	Raw Tx loop roll	(deg)	-9999999	f10.5
COMM	17	HSep_Raw	Raw Tx-Rx horizontal separation	(m)	-9999999	f8.2
COMM	18	VSep_Raw	Raw Tx-Rx vertical separation	(m)	-9999999	f8.2
COMM	19	Pitch_Final	Final Tx loop pitch	(deg)	-9999999	f10.5
COMM	20	Roll_Final	Final Tx loop roll	(deg)	-9999999	f10.5
COMM	21	HSep_Final	Final Tx-Rx horizontal separation	(m)	-9999999	f8.2
COMM	22	VSep_Final	Final Tx-Rx vertical separation	(m)	-9999999	f8.2
COMM	23	EMX_Raw[1]	Raw EMX01 Window	(fT)	-9999999	f12.6
COMM	24	EMX_Raw[2]	Raw EMX02 Window	(fT)	-9999999	f12.6
COMM	25	EMX_Raw[3]	Raw EMX03 Window	(fT)	-9999999	f12.6
COMM	26	EMX_Raw[4]	Raw EMX04 Window	(fT)	-9999999	f12.6
COMM	27	EMX_Raw[5]	Raw EMX05 Window	(fT)	-9999999	f12.6
COMM	28	EMX_Raw[6]	Raw EMX06 Window	(fT)	-9999999	f12.6
COMM	29	EMX_Raw[7]	Raw EMX07 Window	(fT)	-9999999	f12.6
COMM	30	EMX_Raw[8]	Raw EMX08 Window	(fT)	-9999999	f12.6
COMM	31	EMX_Raw[9]	Raw EMX09 Window	(fT)	-9999999	f12.6
COMM	32	EMX_Raw[10]	Raw EMX10 Window	(fT)	-9999999	f12.6
COMM	33	EMX_Raw[11]	Raw EMX11 Window	(fT)	-9999999	f12.6
COMM	34	EMX_Raw[12]	Raw EMX12 Window	(fT)	-9999999	f12.6
COMM	35	EMX_Raw[13]	Raw EMX13 Window	(fT)	-9999999	f12.6
COMM	36	EMX_Raw[14]	Raw EMX14 Window	(fT)	-9999999	f12.6
COMM	37	EMX_Raw[15]	Raw EMX15 Window	(fT)	-9999999	f12.6
COMM	38	EMX_Final[1]	Final EMX01 Window	(fT)	-9999999	f12.6
COMM	39	EMX_Final[2]	Final EMX02 Window	(fT)	-9999999	f12.6
COMM	40	EMX_Final[3]	Final EMX03 Window	(fT)	-9999999	f12.6
COMM	41	EMX_Final[4]	Final EMX04 Window	(fT)	-9999999	f12.6
COMM	42	EMX_Final[5]	Final EMX05 Window	(fT)	-9999999	f12.6
COMM	43	EMX_Final[6]	Final EMX06 Window	(fT)	-9999999	f12.6
COMM	44	EMX_Final[7]	Final EMX07 Window	(fT)	-9999999	f12.6
COMM	45	EMX_Final[8]	Final EMX08 Window	(fT)	-9999999	f12.6
COMM	46	EMX_Final[9]	Final EMX09 Window	(fT)	-9999999	f12.6
COMM	47	EMX_Final[10]	Final EMX10 Window	(fT)	-9999999	f12.6
COMM	48	EMX_Final[11]	Final EMX11 Window	(fT)	-9999999	f12.6
COMM	49	EMX_Final[12]	Final EMX12 Window	(fT)	-9999999	f12.6
COMM	50	EMX_Final[13]	Final EMX13 Window	(fT)	-9999999	f12.6
COMM	51	EMX_Final[14]	Final EMX14 Window	(fT)	-9999999	f12.6
COMM	52	EMX_Final[15]	Final EMX15 Window	(fT)	-9999999	f12.6
COMM	53	X_Sferics	X_Sferics		-9999999	f10.3
COMM	54	X_Lowfreq	X_Lowfreq		-9999999	f10.3
COMM	55	X_Powerline	X_Powerline		-9999999	f10.3
COMM	56	X_VLF1	X_18.2kHz		-9999999	f10.3
COMM	57	X_VLF2	X_19.8kHz		-9999999	f10.3
COMM	58	X_VLF3	X_21.4kHz		-9999999	f10.3
COMM	59	X_VLF4	X_22.2kHz		-9999999	f10.3
COMM	60	X_Geofact	X_Geometric factor		-9999999	f10.3
COMM	61	EMZ_Raw[1]	Raw EMZ01 Window	(fT)	-9999999	f12.6
COMM	62	EMZ_Raw[2]	Raw EMZ02 Window	(fT)	-9999999	f12.6
COMM	63	EMZ_Raw[3]	Raw EMZ03 Window	(fT)	-9999999	f12.6
COMM	64	EMZ_Raw[4]	Raw EMZ04 Window	(fT)	-9999999	f12.6
COMM	65	EMZ_Raw[5]	Raw EMZ05 Window	(fT)	-9999999	f12.6
COMM	66	EMZ_Raw[6]	Raw EMZ06 Window	(fT)	-9999999	f12.6
COMM	67	EMZ_Raw[7]	Raw EMZ07 Window	(fT)	-9999999	f12.6
COMM	68	EMZ_Raw[8]	Raw EMZ08 Window	(fT)	-9999999	f12.6
COMM	69	EMZ_Raw[9]	Raw EMZ09 Window	(fT)	-9999999	f12.6
COMM	70	EMZ_Raw[10]	Raw EMZ10 Window	(fT)	-9999999	f12.6
COMM	71	EMZ_Raw[11]	Raw EMZ11 Window	(fT)	-9999999	f12.6
COMM	72	EMZ_Raw[12]	Raw EMZ12 Window	(fT)	-9999999	f12.6
COMM	73	EMZ_Raw[13]	Raw EMZ13 Window	(fT)	-9999999	f12.6
COMM	74	EMZ_Raw[14]	Raw EMZ14 Window	(fT)	-9999999	f12.6
COMM	75	EMZ_Raw[15]	Raw EMZ15 Window	(fT)	-9999999	f12.6
COMM	76	EMZ_Final[1]	Final EMZ01 Window	(fT)	-9999999	f12.6
COMM	77	EMZ_Final[2]	Final EMZ02 Window	(fT)	-9999999	f12.6
COMM	78	EMZ_Final[3]	Final EMZ03 Window	(fT)	-9999999	f12.6
COMM	79	EMZ_Final[4]	Final EMZ04 Window	(fT)	-9999999	f12.6
COMM	80	EMZ_Final[5]	Final EMZ05 Window	(fT)	-9999999	f12.6
COMM	81	EMZ_Final[6]	Final EMZ06 Window	(fT)	-9999999	f12.6
COMM	82	EMZ_Final[7]	Final EMZ07 Window	(fT)	-9999999	f12.6

COMM	83	EMZ_Final[8]	Final EMZ08 Window		(fT)	-9999999	f12.6
COMM	84	EMZ_Final[9]	Final EMZ09 Window		(fT)	-9999999	f12.6
COMM	85	EMZ_Final[10]	Final EMZ10 Window		(fT)	-9999999	f12.6
COMM	86	EMZ_Final[11]	Final EMZ11 Window		(fT)	-9999999	f12.6
COMM	87	EMZ_Final[12]	Final EMZ12 Window		(fT)	-9999999	f12.6
COMM	88	EMZ_Final[13]	Final EMZ13 Window		(fT)	-9999999	f12.6
COMM	89	EMZ_Final[14]	Final EMZ14 Window		(fT)	-9999999	f12.6
COMM	90	EMZ_Final[15]	Final EMZ15 Window		(fT)	-9999999	f12.6
COMM	91	Z_Sferics	Z_Sferics			-9999999	f10.3
COMM	92	Z_Lowfreq	Z_Lowfreq			-9999999	f10.3
COMM	93	Z_Powerline	Z_Powerline			-9999999	f10.3
COMM	94	Z_VLF1	Z_18.2kHz			-9999999	f10.3
COMM	95	Z_VLF2	Z_19.8kHz			-9999999	f10.3
COMM	96	Z_VLF3	Z_21.4kHz			-9999999	f10.3
COMM	97	Z_VLF4	Z_22.2kHz			-9999999	f10.3
COMM	98	Z_Geofact	Z_Geometric factor			-9999999	f10.3
COMM	99	CNDZ[1]	Conductivity_Z001	0- 5 m	(mS/m)	-9999999	f10.3
COMM	100	CNDZ[2]	Conductivity_Z002	5- 10 m	(mS/m)	-9999999	f10.3
COMM	101	CNDZ[3]	Conductivity_Z003	10- 15 m	(mS/m)	-9999999	f10.3
COMM	102	CNDZ[4]	Conductivity_Z004	15- 20 m	(mS/m)	-9999999	f10.3
COMM	103	CNDZ[5]	Conductivity_Z005	20- 25 m	(mS/m)	-9999999	f10.3
COMM	104	CNDZ[6]	Conductivity_Z006	25- 30 m	(mS/m)	-9999999	f10.3
COMM	105	CNDZ[7]	Conductivity_Z007	30- 35 m	(mS/m)	-9999999	f10.3
COMM	106	CNDZ[8]	Conductivity_Z008	35- 40 m	(mS/m)	-9999999	f10.3
COMM	107	CNDZ[9]	Conductivity_Z009	40- 45 m	(mS/m)	-9999999	f10.3
COMM	108	CNDZ[10]	Conductivity_Z010	45- 50 m	(mS/m)	-9999999	f10.3
COMM	109	CNDZ[11]	Conductivity_Z011	50- 55 m	(mS/m)	-9999999	f10.3
COMM	110	CNDZ[12]	Conductivity_Z012	55- 60 m	(mS/m)	-9999999	f10.3
COMM	111	CNDZ[13]	Conductivity_Z013	60- 65 m	(mS/m)	-9999999	f10.3
COMM	112	CNDZ[14]	Conductivity_Z014	65- 70 m	(mS/m)	-9999999	f10.3
COMM	113	CNDZ[15]	Conductivity_Z015	70- 75 m	(mS/m)	-9999999	f10.3
COMM	114	CNDZ[16]	Conductivity_Z016	75- 80 m	(mS/m)	-9999999	f10.3
COMM	115	CNDZ[17]	Conductivity_Z017	80- 85 m	(mS/m)	-9999999	f10.3
COMM	116	CNDZ[18]	Conductivity_Z018	85- 90 m	(mS/m)	-9999999	f10.3
COMM	117	CNDZ[19]	Conductivity_Z019	90- 95 m	(mS/m)	-9999999	f10.3
COMM	118	CNDZ[20]	Conductivity_Z020	95-100 m	(mS/m)	-9999999	f10.3
COMM	119	CNDZ[21]	Conductivity_Z021	100-105 m	(mS/m)	-9999999	f10.3
COMM	120	CNDZ[22]	Conductivity_Z022	105-110 m	(mS/m)	-9999999	f10.3
COMM	121	CNDZ[23]	Conductivity_Z023	110-115 m	(mS/m)	-9999999	f10.3
COMM	122	CNDZ[24]	Conductivity_Z024	115-120 m	(mS/m)	-9999999	f10.3
COMM	123	CNDZ[25]	Conductivity_Z025	120-125 m	(mS/m)	-9999999	f10.3
COMM	124	CNDZ[26]	Conductivity_Z026	125-130 m	(mS/m)	-9999999	f10.3
COMM	125	CNDZ[27]	Conductivity_Z027	130-135 m	(mS/m)	-9999999	f10.3
COMM	126	CNDZ[28]	Conductivity_Z028	135-140 m	(mS/m)	-9999999	f10.3
COMM	127	CNDZ[29]	Conductivity_Z029	140-145 m	(mS/m)	-9999999	f10.3
COMM	128	CNDZ[30]	Conductivity_Z030	145-150 m	(mS/m)	-9999999	f10.3
COMM	129	CNDZ[31]	Conductivity_Z031	150-155 m	(mS/m)	-9999999	f10.3
COMM	130	CNDZ[32]	Conductivity_Z032	155-160 m	(mS/m)	-9999999	f10.3
COMM	131	CNDZ[33]	Conductivity_Z033	160-165 m	(mS/m)	-9999999	f10.3
COMM	132	CNDZ[34]	Conductivity_Z034	165-170 m	(mS/m)	-9999999	f10.3
COMM	133	CNDZ[35]	Conductivity_Z035	170-175 m	(mS/m)	-9999999	f10.3
COMM	134	CNDZ[36]	Conductivity_Z036	175-180 m	(mS/m)	-9999999	f10.3
COMM	135	CNDZ[37]	Conductivity_Z037	180-185 m	(mS/m)	-9999999	f10.3
COMM	136	CNDZ[38]	Conductivity_Z038	185-190 m	(mS/m)	-9999999	f10.3
COMM	137	CNDZ[39]	Conductivity_Z039	190-195 m	(mS/m)	-9999999	f10.3
COMM	138	CNDZ[40]	Conductivity_Z040	195-200 m	(mS/m)	-9999999	f10.3
COMM	139	CNDZ[41]	Conductivity_Z041	200-205 m	(mS/m)	-9999999	f10.3
COMM	140	CNDZ[42]	Conductivity_Z042	205-210 m	(mS/m)	-9999999	f10.3
COMM	141	CNDZ[43]	Conductivity_Z043	210-215 m	(mS/m)	-9999999	f10.3
COMM	142	CNDZ[44]	Conductivity_Z044	215-220 m	(mS/m)	-9999999	f10.3
COMM	143	CNDZ[45]	Conductivity_Z045	220-225 m	(mS/m)	-9999999	f10.3
COMM	144	CNDZ[46]	Conductivity_Z046	225-230 m	(mS/m)	-9999999	f10.3
COMM	145	CNDZ[47]	Conductivity_Z047	230-235 m	(mS/m)	-9999999	f10.3
COMM	146	CNDZ[48]	Conductivity_Z048	235-240 m	(mS/m)	-9999999	f10.3
COMM	147	CNDZ[49]	Conductivity_Z049	240-245 m	(mS/m)	-9999999	f10.3
COMM	148	CNDZ[50]	Conductivity_Z050	245-250 m	(mS/m)	-9999999	f10.3
COMM	149	CNDZ[51]	Conductivity_Z051	250-255 m	(mS/m)	-9999999	f10.3
COMM	150	CNDZ[52]	Conductivity_Z052	255-260 m	(mS/m)	-9999999	f10.3
COMM	151	CNDZ[53]	Conductivity_Z053	260-265 m	(mS/m)	-9999999	f10.3
COMM	152	CNDZ[54]	Conductivity_Z054	265-270 m	(mS/m)	-9999999	f10.3
COMM	153	CNDZ[55]	Conductivity_Z055	270-275 m	(mS/m)	-9999999	f10.3

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COMM   154  CNDZ[56]        Conductivity_Z056     275-280 m   (mS/m)  -9999999  f10.3
COMM   155  CNDZ[57]        Conductivity_Z057     280-285 m   (mS/m)  -9999999  f10.3
COMM   156  CNDZ[58]        Conductivity_Z058     285-290 m   (mS/m)  -9999999  f10.3
COMM   157  CNDZ[59]        Conductivity_Z059     290-295 m   (mS/m)  -9999999  f10.3
COMM   158  CNDZ[60]        Conductivity_Z060     295-300 m   (mS/m)  -9999999  f10.3
COMM   159  CNDZ[61]        Conductivity_Z061     300-305 m   (mS/m)  -9999999  f10.3
COMM   160  CNDZ[62]        Conductivity_Z062     305-310 m   (mS/m)  -9999999  f10.3
COMM   161  CNDZ[63]        Conductivity_Z063     310-315 m   (mS/m)  -9999999  f10.3
COMM   162  CNDZ[64]        Conductivity_Z064     315-320 m   (mS/m)  -9999999  f10.3
COMM   163  CNDZ[65]        Conductivity_Z065     320-325 m   (mS/m)  -9999999  f10.3
COMM   164  CNDZ[66]        Conductivity_Z066     325-330 m   (mS/m)  -9999999  f10.3
COMM   165  CNDZ[67]        Conductivity_Z067     330-335 m   (mS/m)  -9999999  f10.3
COMM   166  CNDZ[68]        Conductivity_Z068     335-340 m   (mS/m)  -9999999  f10.3
COMM   167  CNDZ[69]        Conductivity_Z069     340-345 m   (mS/m)  -9999999  f10.3
COMM   168  CNDZ[70]        Conductivity_Z070     345-350 m   (mS/m)  -9999999  f10.3
COMM   169  CNDZ[71]        Conductivity_Z071     350-355 m   (mS/m)  -9999999  f10.3
COMM   170  CNDZ[72]        Conductivity_Z072     355-360 m   (mS/m)  -9999999  f10.3
COMM   171  CNDZ[73]        Conductivity_Z073     360-365 m   (mS/m)  -9999999  f10.3
COMM   172  CNDZ[74]        Conductivity_Z074     365-370 m   (mS/m)  -9999999  f10.3
COMM   173  CNDZ[75]        Conductivity_Z075     370-375 m   (mS/m)  -9999999  f10.3
COMM   174  CNDZ[76]        Conductivity_Z076     375-380 m   (mS/m)  -9999999  f10.3
COMM   175  CNDZ[77]        Conductivity_Z077     380-385 m   (mS/m)  -9999999  f10.3
COMM   176  CNDZ[78]        Conductivity_Z078     385-390 m   (mS/m)  -9999999  f10.3
COMM   177  CNDZ[79]        Conductivity_Z079     390-395 m   (mS/m)  -9999999  f10.3
COMM   178  CNDZ[80]        Conductivity_Z080     395-400 m   (mS/m)  -9999999  f10.3
COMM   179  CNDZ[81]        Conductivity_Z081     400-405 m   (mS/m)  -9999999  f10.3
COMM   180  CNDZ[82]        Conductivity_Z082     405-410 m   (mS/m)  -9999999  f10.3
COMM   181  CNDZ[83]        Conductivity_Z083     410-415 m   (mS/m)  -9999999  f10.3
COMM   182  CNDZ[84]        Conductivity_Z084     415-420 m   (mS/m)  -9999999  f10.3
COMM   183  CNDZ[85]        Conductivity_Z085     420-425 m   (mS/m)  -9999999  f10.3
COMM   184  CNDZ[86]        Conductivity_Z086     425-430 m   (mS/m)  -9999999  f10.3
COMM   185  CNDZ[87]        Conductivity_Z087     430-435 m   (mS/m)  -9999999  f10.3
COMM   186  CNDZ[88]        Conductivity_Z088     435-440 m   (mS/m)  -9999999  f10.3
COMM   187  CNDZ[89]        Conductivity_Z089     440-445 m   (mS/m)  -9999999  f10.3
COMM   188  CNDZ[90]        Conductivity_Z090     445-450 m   (mS/m)  -9999999  f10.3
COMM   189  CNDZ[91]        Conductivity_Z091     450-455 m   (mS/m)  -9999999  f10.3
COMM   190  CNDZ[92]        Conductivity_Z092     455-460 m   (mS/m)  -9999999  f10.3
COMM   191  CNDZ[93]        Conductivity_Z093     460-465 m   (mS/m)  -9999999  f10.3
COMM   192  CNDZ[94]        Conductivity_Z094     465-470 m   (mS/m)  -9999999  f10.3
COMM   193  CNDZ[95]        Conductivity_Z095     470-475 m   (mS/m)  -9999999  f10.3
COMM   194  CNDZ[96]        Conductivity_Z096     475-480 m   (mS/m)  -9999999  f10.3
COMM   195  CNDZ[97]        Conductivity_Z097     480-485 m   (mS/m)  -9999999  f10.3
COMM   196  CNDZ[98]        Conductivity_Z098     485-490 m   (mS/m)  -9999999  f10.3
COMM   197  CNDZ[99]        Conductivity_Z099     490-495 m   (mS/m)  -9999999  f10.3
COMM   198  CNDZ[100]       Conductivity_Z100     495-500 m   (mS/m)  -9999999  f10.3
COMM
COMM  Total number of lines :  107
COMM
COMM    Flt     Line    Start X   Start Y     End X     End Y       Kms
COMM
COMM      1    40010     318020   7495952    309613   7495910      8.41
COMM      1    40020     309584   7494908    319431   7494943      9.85
COMM      3    40030     322152   7493954    310716   7493908     11.44
COMM      3    40040     310728   7492911    322149   7492960     11.42
COMM      3    40050     322186   7491959    299033   7491861     23.15
COMM      3    40060     298961   7490865    325848   7490974     26.89
COMM      3    40070     325796   7489989    299019   7489850     26.78
COMM      3    40080     299005   7488860    325705   7488977     26.70
COMM      3    40090     328241   7487924    299059   7487861     29.18
COMM      4    40100     299008   7486852    349581   7487090     50.57
COMM      4    40110     349668   7486084    299038   7485851     50.63
COMM      4    40120     299003   7484856    349639   7485081     50.64
COMM      4    40130     349703   7484088    299051   7483849     50.65
COMM      4    40140     299020   7482862    349636   7483091     50.62
COMM      4    40150     349728   7482078    299057   7481871     50.67
COMM      5    40160     299045   7480856    349670   7481082     50.63
COMM      5    40170     349740   7480076    299077   7479857     50.66
COMM      5    40180     299053   7478860    345985   7479074     46.93
```

COMM	5	40190	345974	7478062	299111	7477861	46.86
COMM	5	40200	299080	7476861	345956	7477069	46.88
COMM	5	40210	345969	7476048	299086	7475863	46.88
COMM	6	40220	299062	7474861	345950	7475065	46.89
COMM	6	40230	374262	7474188	299121	7473858	75.14
COMM	6	40240	299103	7472861	377433	7473205	78.33
COMM	7	40250	377412	7472201	299137	7471859	78.28
COMM	7	40260	305856	7470888	377418	7471202	71.56
COMM	9	40270	377410	7470204	305847	7469888	71.56
COMM	7	40280	305859	7468891	377408	7469202	71.55
COMM	11	40290	377406	7468204	305853	7467890	71.55
COMM	8	40300	305812	7466888	377395	7467201	71.58
COMM	10	40310	377415	7466203	305869	7465888	71.55
COMM	9	40320	305843	7464892	377346	7465208	71.50
COMM	11	40330	377384	7464198	305874	7463893	71.51
COMM	11	40340	305823	7462891	377329	7463202	71.51
COMM	11	40350	377379	7462206	305882	7461889	71.50
COMM	10	40360	305820	7460890	377311	7461202	71.49
COMM	10	40370	377331	7460203	333595	7460010	43.74
COMM	11	40380	333539	7459009	377333	7459205	43.79
COMM	12	40390	377332	7458202	334719	7458015	42.61
COMM	12	40400	334675	7457017	377298	7457206	42.62
COMM	12	40410	377340	7456196	334736	7456014	42.60
COMM	9	47010	304250	7471573	304155	7492805	21.23
COMM	8	47020	314141	7496716	314299	7460472	36.24
COMM	8	47030	324302	7460349	324168	7491533	31.18
COMM	8	47040	334180	7487915	334309	7458878	29.04
COMM	8	47050	344318	7455577	344180	7487896	32.32
COMM	8	47060	354246	7474971	354324	7455640	19.33
COMM	8	47070	364323	7455639	364236	7474937	19.30
COMM	13	50010	414888	7504365	372025	7504177	42.86
COMM	13	50020	371967	7503175	414873	7503361	42.91
COMM	13	50030	414929	7502363	372040	7502177	42.89
COMM	13	50040	372007	7501174	414863	7501358	42.86
COMM	14	50050	414946	7500357	371985	7500177	42.96
COMM	13	50060	371998	7499173	414922	7499365	42.92
COMM	21	50070	414939	7498367	372055	7498175	42.88
COMM	14	50080	372003	7497176	414920	7497363	42.92
COMM	15	50090	415003	7496368	372019	7496178	42.98
COMM	14	50100	371991	7495178	414959	7495358	42.97
COMM	14	50110	414977	7494362	372038	7494171	42.94
COMM	14	50120	371959	7493174	414974	7493362	43.02
COMM	15	50130	415017	7492362	372000	7492178	43.02
COMM	15	50140	371971	7491183	415024	7491362	43.05
COMM	15	50150	415051	7490359	372012	7490176	43.04
COMM	15	50160	371992	7489179	415051	7489361	43.06
COMM	15	50170	415063	7488369	372029	7488175	43.03
COMM	15	50180	371977	7487188	415043	7487363	43.07
COMM	16	50190	415140	7486363	372019	7486176	43.12
COMM	16	50200	372001	7485176	407967	7485334	35.97
COMM	16	50210	408021	7484332	372002	7484174	36.02
COMM	16	50220	371994	7483173	407989	7483331	36.00
COMM	16	50230	408034	7482333	372007	7482176	36.03
COMM	16	50240	371968	7481178	407989	7481331	36.02
COMM	16	50250	407999	7480332	372033	7480177	35.97
COMM	16	50260	371984	7479180	407975	7479330	35.99
COMM	16	50270	407972	7478332	372045	7478176	35.93
COMM	16	50280	371967	7477176	407982	7477333	36.02
COMM	18	50290	407989	7476338	372008	7476179	35.98
COMM	18	50300	371954	7475175	407982	7475324	36.03
COMM	19	50310	417946	7474373	374207	7474184	43.74
COMM	18	50320	393182	7473271	417954	7473374	24.77
COMM	18	50331	417959	7472369	393211	7472269	24.75
COMM	18	50340	393138	7471271	417912	7471370	24.77

COMM	18	50350	417940	7470369	393172	7470268	24.77
COMM	18	50360	393144	7469268	417929	7469373	24.79
COMM	18	50370	417994	7468378	393117	7468269	24.88
COMM	19	50380	393116	7467267	420232	7467389	27.12
COMM	19	50390	437233	7466459	407917	7466331	29.32
COMM	19	50400	408333	7465333	437151	7465458	28.82
COMM	19	50410	437164	7464458	408775	7464336	28.39
COMM	19	50420	409167	7463338	437097	7463458	27.93
COMM	19	50430	437102	7462459	409647	7462338	27.46
COMM	19	50440	410054	7461343	437000	7461459	26.95
COMM	19	50450	436974	7460457	410541	7460342	26.43
COMM	19	50460	410952	7459347	436945	7459457	25.99
COMM	19	50470	436898	7458459	411408	7458345	25.49
COMM	20	50480	411837	7457343	436839	7457462	25.00
COMM	20	50490	425874	7456402	412305	7456351	13.57
COMM	20	50500	412713	7455367	423961	7455400	11.25
COMM	20	50510	422078	7454394	412703	7454349	9.38
COMM	20	50520	410811	7453324	420125	7453382	9.31
COMM	21	57010	374318	7455693	374108	7504850	49.16
COMM	20	57020	384106	7504843	384243	7473869	30.97
COMM	20	57030	394275	7466546	394111	7504771	38.23
COMM	20	57040	404109	7504827	404271	7466692	38.14
COMM	20	57050	414324	7452644	414107	7504765	52.12
COMM	20	57060	424260	7467341	424328	7455605	11.74
COMM	20	57070	434317	7456878	434265	7467119	10.24

COMM

COMM Total Kilometres : 4213.86

AREA 6

COMM JOB NUMBER: 1984
COMM AREA NUMBER: 6
COMM SURVEY COMPANY: Fugro Airborne Surveys
COMM CLIENT: NuPower Resources Limited
COMM SURVEY TYPE: 25Hz TEMPEST Survey
COMM AREA NAME: Alice Springs
COMM STATE: NT
COMM COUNTRY: Australia
COMM SURVEY FLOWN: August, 2008
COMM LOCATED DATA CREATED: Dec 2008
COMM
COMM DATUM: GDA94
COMM PROJECTION: MGA
COMM ZONE: 53
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING: 1000 m
COMM TRAVERSE LINE DIRECTION: 090-270 deg
COMM TIE LINE SPACING: 10000 m
COMM TIE LINE DIRECTION: 000-180 deg
COMM NOMINAL TERRAIN CLEARANCE: 120 m
COMM FINAL LINE KILOMETRES: 2481.56 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS: 60010 - 60580
COMM TIE LINE NUMBERS: 67010 - 67100
COMM
COMM AREA BOUNDARY (WGS84, UTM53)
COMM
COMM 312732.00 7439273.00
COMM 312927.00 7426272.00
COMM 329997.00 7426462.00

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COMM   330070.00  7419070.00
COMM   371977.00  7419506.00
COMM   379117.00  7428759.00
COMM   386317.00  7428840.00
COMM   386279.00  7419982.00
COMM   395314.00  7419941.00
COMM   395345.00  7409501.00
COMM   372762.00  7409328.00
COMM   373019.00  7390664.00
COMM   329490.00  7390591.00
COMM   329353.00  7395983.00
COMM   325591.00  7395926.00
COMM   325532.00  7407010.00
COMM   320549.00  7406931.00
COMM   312203.00  7411693.00
COMM   312055.00  7423422.00
COMM   291565.00  7423182.00
COMM   291346.00  7438885.00
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                                    Skyvan SC-3-200, VH-WGT
COMM
COMM MAGNETOMETER:                             Scintrex Cs-2 Cesium Vapour
COMM INSTALLATION:                                          stinger mount
COMM RESOLUTION:                                              0.001 nT
COMM RECORDING INTERVAL:                                           5 s
COMM
COMM ELECTROMAGNETIC SYSTEM:                                  25Hz TEMPEST
COMM INSTALLATION:              Transmitter loop mounted on the aircraft
COMM                                 Receiver coils in a towed bird
COMM COIL ORIENTATION:                                              X,Z
COMM RECORDING INTERVAL:                                          0.2 s
COMM SYSTEM GEOMETRY:
COMM RECEIVER DISTANCE BEHIND THE TRANSMITTER:                     -115 m
COMM RECEIVER DISTANCE BELOW THE TRANSMITTER:                       -40 m
COMM
COMM RADAR ALTIMETER:                                       Sperry RT-220
COMM RECORDING INTERVAL:                                          0.2 s
COMM
COMM NAVIGATION:                             real-time differential GPS
COMM RECORDING INTERVAL:                                          1.0 s
COMM
COMM ACQUISITION SYSTEM:                                       PDAS-1000
COMM
COMM DATA PROCESSING
COMM
COMM MAGNETIC DATA
COMM DIURNAL BASE VALUE APPLIED                                 53288 nT
COMM PARALLAX CORRECTION APPLIED                                   0.4 s
COMM IGRF BASE VALUE APPLIED                                    52988 nT
COMM IGRF MODEL 2005 EXTRAPOLATED TO                              2008.6
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ELECTROMAGNETIC DATA
COMM SYSTEM PARALLAX REMOVED, AS FOLLOWS
COMM X-COMPONENT EM DATA                                          0.2 s
COMM Y-COMPONENT EM DATA                    <not relevant for TEMPEST>
COMM Z-COMPONENT EM DATA                                          1.4 s
COMM DATA CORRECTED FOR TRANSMITTER HEIGHT, PITCH AND ROLL
COMM DATA CORRECTED FOR TRANSMITTER-RECEIVER GEOMETRY VARIATIONS
COMM DATA HAVE BEEN MICROLEVELLED
COMM CONDUCTIVITY DEPTH INVERSION CALCULATED                  EMFlow V5.10
COMM CONDUCTIVITIES CALCULATED USING corrected EM DATA
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COMM
COMM DIGITAL TERRAIN DATA
COMM PARALLAX CORRECTION APPLIED TO RADAR ALIMETER DATA                0.6 s
COMM PARALLAX CORRECTION APPLIED TO GPS ALIMETER DATA                  0.0 s
COMM DTM CALCULATED [DTM = GPS ALTITUDE - RADAR ALTITUDE]
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ---------------------------------------------------------------------
COMM DISCLAIMER
COMM ---------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level.  Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM ---------------------------------------------------------------------
COMM
COMM ELECTROMAGNETIC SYSTEM
COMM
COMM TEMPEST IS A TIME-DOMAIN SQUARE-WAVE SYSTEM,
COMM TRANSMITTING AT A BASE FREQUENCY OF 25Hz,
COMM WITH 2 ORTHOGONAL-AXIS RECEIVER COILS IN A TOWED BIRD.
COMM FINAL EM OUTPUT IS RECORDED 5 TIMES PER SECOND.
COMM THE TIMES (IN MILLISECONDS) FOR THE 15 WINDOWS ARE:
COMM
COMM WINDOW      START       END      CENTRE
COMM    1        0.007      0.020      0.013
COMM    2        0.033      0.047      0.040
COMM    3        0.060      0.073      0.067
COMM    4        0.087      0.127      0.107
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COMM     5         0.140       0.207       0.173
COMM     6         0.220       0.340       0.280
COMM     7         0.353       0.553       0.453
COMM     8         0.567       0.873       0.720
COMM     9         0.887       1.353       1.120
COMM    10         1.367       2.100       1.733
COMM    11         2.113       3.273       2.693
COMM    12         3.287       5.113       4.200
COMM    13         5.127       7.993       6.560
COMM    14         8.007      12.393      10.200
COMM    15        12.407      19.993      16.200
COMM
COMM PULSE WIDTH: 10 ms
COMM
COMM TEMPEST EM data are transformed to the response that would be
COMM obtained with a B-field sensor for a 100% duty cycle square
COMM waveform at the base frequency, involving a 1A change in
COMM current (from -0.5A to +0.5A to -0.5A) in a 1sq.m transmitter.
COMM It is this configuration, rather than the actual acquisition
COMM configuration, which must be specified when modelling TEMPEST data.
COMM
COMM
COMM
COMM LOCATED DATA FORMAT
COMM
COMM  Output field format : DOS  - Flat ascii
COMM  Number of fields    : 198
COMM
COMM Field  Channel         Description                       Units  Undefined Format
COMM -----  -------         -----------                       -----  --------- ------
COMM
COMM     1  LINE            Line                                      -9999999  i6
COMM     2  FLIGHT          Flight                                    -9999999  i4
COMM     3  FID             Fiducial                            (s)   -9999999  f8.1
COMM     4  LATITUDE        Latitude  GDA94                   (deg)   -9999999  f13.6
COMM     5  LONGITUDE       Longitude GDA94                   (deg)   -9999999  f13.6
COMM     6  EASTING         Easting   MGA53                    (m)   -9999999  f11.2
COMM     7  NORTHING        Northing  MGA53                    (m)   -9999999  f12.2
COMM     8  TxHeight        GPS height                         (m)   -9999999  f8.2
COMM     9  Baro            Barometric Altitude                (m)   -9999999  f8.2
COMM    10  TxRalt_raw      Raw Radar Altimeter                (m)   -9999999  f8.2
COMM    11  TxRalt_final    Final Radar Altimeter              (m)   -9999999  f8.2
COMM    12  DTM             DTM                                (m)   -9999999  f8.2
COMM    13  MAG             Compensated TMI                   (nT)   -9999999  f10.3
COMM    14  MAG_1VD         Levelled TMI 1VD                (nT/m)   -9999999  f12.5
COMM    15  Pitch_Raw       Raw Tx loop pitch                 (deg)   -9999999  f10.5
COMM    16  Roll_Raw        Raw Tx loop roll                  (deg)   -9999999  f10.5
COMM    17  HSep_Raw        Raw Tx-Rx horizontal separation     (m)   -9999999  f8.2
COMM    18  VSep_Raw        Raw Tx-Rx vertical separation       (m)   -9999999  f8.2
COMM    19  Pitch_Final     Final Tx loop pitch               (deg)   -9999999  f10.5
COMM    20  Roll_Final      Final Tx loop roll                (deg)   -9999999  f10.5
COMM    21  HSep_Final      Final Tx-Rx horizontal separation   (m)   -9999999  f8.2
COMM    22  VSep_Final      Final Tx-Rx vertical separation     (m)   -9999999  f8.2
COMM    23  EMX_Raw[1]      Raw EMX01 Window                   (fT)   -9999999  f12.6
COMM    24  EMX_Raw[2]      Raw EMX02 Window                   (fT)   -9999999  f12.6
COMM    25  EMX_Raw[3]      Raw EMX03 Window                   (fT)   -9999999  f12.6
COMM    26  EMX_Raw[4]      Raw EMX04 Window                   (fT)   -9999999  f12.6
COMM    27  EMX_Raw[5]      Raw EMX05 Window                   (fT)   -9999999  f12.6
COMM    28  EMX_Raw[6]      Raw EMX06 Window                   (fT)   -9999999  f12.6
COMM    29  EMX_Raw[7]      Raw EMX07 Window                   (fT)   -9999999  f12.6
COMM    30  EMX_Raw[8]      Raw EMX08 Window                   (fT)   -9999999  f12.6
COMM    31  EMX_Raw[9]      Raw EMX09 Window                   (fT)   -9999999  f12.6
COMM    32  EMX_Raw[10]     Raw EMX10 Window                   (fT)   -9999999  f12.6
COMM    33  EMX_Raw[11]     Raw EMX11 Window                   (fT)   -9999999  f12.6
COMM    34  EMX_Raw[12]     Raw EMX12 Window                   (fT)   -9999999  f12.6
COMM    35  EMX_Raw[13]     Raw EMX13 Window                   (fT)   -9999999  f12.6
COMM    36  EMX_Raw[14]     Raw EMX14 Window                   (fT)   -9999999  f12.6
COMM    37  EMX_Raw[15]     Raw EMX15 Window                   (fT)   -9999999  f12.6
```

COMM	38	EMX_Final[1]	Final EMX01 Window		(fT)	-9999999	f12.6
COMM	39	EMX_Final[2]	Final EMX02 Window		(fT)	-9999999	f12.6
COMM	40	EMX_Final[3]	Final EMX03 Window		(fT)	-9999999	f12.6
COMM	41	EMX_Final[4]	Final EMX04 Window		(fT)	-9999999	f12.6
COMM	42	EMX_Final[5]	Final EMX05 Window		(fT)	-9999999	f12.6
COMM	43	EMX_Final[6]	Final EMX06 Window		(fT)	-9999999	f12.6
COMM	44	EMX_Final[7]	Final EMX07 Window		(fT)	-9999999	f12.6
COMM	45	EMX_Final[8]	Final EMX08 Window		(fT)	-9999999	f12.6
COMM	46	EMX_Final[9]	Final EMX09 Window		(fT)	-9999999	f12.6
COMM	47	EMX_Final[10]	Final EMX10 Window		(fT)	-9999999	f12.6
COMM	48	EMX_Final[11]	Final EMX11 Window		(fT)	-9999999	f12.6
COMM	49	EMX_Final[12]	Final EMX12 Window		(fT)	-9999999	f12.6
COMM	50	EMX_Final[13]	Final EMX13 Window		(fT)	-9999999	f12.6
COMM	51	EMX_Final[14]	Final EMX14 Window		(fT)	-9999999	f12.6
COMM	52	EMX_Final[15]	Final EMX15 Window		(fT)	-9999999	f12.6
COMM	53	X_Sferics	X_Sferics			-9999999	f10.3
COMM	54	X_Lowfreq	X_Lowfreq			-9999999	f10.3
COMM	55	X_Powerline	X_Powerline			-9999999	f10.3
COMM	56	X_VLF1	X_18.2kHz			-9999999	f10.3
COMM	57	X_VLF2	X_19.8kHz			-9999999	f10.3
COMM	58	X_VLF3	X_21.4kHz			-9999999	f10.3
COMM	59	X_VLF4	X_22.2kHz			-9999999	f10.3
COMM	60	X_Geofact	X_Geometric factor			-9999999	f10.3
COMM	61	EMZ_Raw[1]	Raw EMZ01 Window		(fT)	-9999999	f12.6
COMM	62	EMZ_Raw[2]	Raw EMZ02 Window		(fT)	-9999999	f12.6
COMM	63	EMZ_Raw[3]	Raw EMZ03 Window		(fT)	-9999999	f12.6
COMM	64	EMZ_Raw[4]	Raw EMZ04 Window		(fT)	-9999999	f12.6
COMM	65	EMZ_Raw[5]	Raw EMZ05 Window		(fT)	-9999999	f12.6
COMM	66	EMZ_Raw[6]	Raw EMZ06 Window		(fT)	-9999999	f12.6
COMM	67	EMZ_Raw[7]	Raw EMZ07 Window		(fT)	-9999999	f12.6
COMM	68	EMZ_Raw[8]	Raw EMZ08 Window		(fT)	-9999999	f12.6
COMM	69	EMZ_Raw[9]	Raw EMZ09 Window		(fT)	-9999999	f12.6
COMM	70	EMZ_Raw[10]	Raw EMZ10 Window		(fT)	-9999999	f12.6
COMM	71	EMZ_Raw[11]	Raw EMZ11 Window		(fT)	-9999999	f12.6
COMM	72	EMZ_Raw[12]	Raw EMZ12 Window		(fT)	-9999999	f12.6
COMM	73	EMZ_Raw[13]	Raw EMZ13 Window		(fT)	-9999999	f12.6
COMM	74	EMZ_Raw[14]	Raw EMZ14 Window		(fT)	-9999999	f12.6
COMM	75	EMZ_Raw[15]	Raw EMZ15 Window		(fT)	-9999999	f12.6
COMM	76	EMZ_Final[1]	Final EMZ01 Window		(fT)	-9999999	f12.6
COMM	77	EMZ_Final[2]	Final EMZ02 Window		(fT)	-9999999	f12.6
COMM	78	EMZ_Final[3]	Final EMZ03 Window		(fT)	-9999999	f12.6
COMM	79	EMZ_Final[4]	Final EMZ04 Window		(fT)	-9999999	f12.6
COMM	80	EMZ_Final[5]	Final EMZ05 Window		(fT)	-9999999	f12.6
COMM	81	EMZ_Final[6]	Final EMZ06 Window		(fT)	-9999999	f12.6
COMM	82	EMZ_Final[7]	Final EMZ07 Window		(fT)	-9999999	f12.6
COMM	83	EMZ_Final[8]	Final EMZ08 Window		(fT)	-9999999	f12.6
COMM	84	EMZ_Final[9]	Final EMZ09 Window		(fT)	-9999999	f12.6
COMM	85	EMZ_Final[10]	Final EMZ10 Window		(fT)	-9999999	f12.6
COMM	86	EMZ_Final[11]	Final EMZ11 Window		(fT)	-9999999	f12.6
COMM	87	EMZ_Final[12]	Final EMZ12 Window		(fT)	-9999999	f12.6
COMM	88	EMZ_Final[13]	Final EMZ13 Window		(fT)	-9999999	f12.6
COMM	89	EMZ_Final[14]	Final EMZ14 Window		(fT)	-9999999	f12.6
COMM	90	EMZ_Final[15]	Final EMZ15 Window		(fT)	-9999999	f12.6
COMM	91	Z_Sferics	Z_Sferics			-9999999	f10.3
COMM	92	Z_Lowfreq	Z_Lowfreq			-9999999	f10.3
COMM	93	Z_Powerline	Z_Powerline			-9999999	f10.3
COMM	94	Z_VLF1	Z_18.2kHz			-9999999	f10.3
COMM	95	Z_VLF2	Z_19.8kHz			-9999999	f10.3
COMM	96	Z_VLF3	Z_21.4kHz			-9999999	f10.3
COMM	97	Z_VLF4	Z_22.2kHz			-9999999	f10.3
COMM	98	Z_Geofact	Z_Geometric factor			-9999999	f10.3
COMM	99	CNDZ[1]	Conductivity_Z001	0- 5 m	(mS/m)	-9999999	f10.3
COMM	100	CNDZ[2]	Conductivity_Z002	5- 10 m	(mS/m)	-9999999	f10.3
COMM	101	CNDZ[3]	Conductivity_Z003	10- 15 m	(mS/m)	-9999999	f10.3
COMM	102	CNDZ[4]	Conductivity_Z004	15- 20 m	(mS/m)	-9999999	f10.3
COMM	103	CNDZ[5]	Conductivity_Z005	20- 25 m	(mS/m)	-9999999	f10.3
COMM	104	CNDZ[6]	Conductivity_Z006	25- 30 m	(mS/m)	-9999999	f10.3
COMM	105	CNDZ[7]	Conductivity_Z007	30- 35 m	(mS/m)	-9999999	f10.3
COMM	106	CNDZ[8]	Conductivity_Z008	35- 40 m	(mS/m)	-9999999	f10.3
COMM	107	CNDZ[9]	Conductivity_Z009	40- 45 m	(mS/m)	-9999999	f10.3
COMM	108	CNDZ[10]	Conductivity_Z010	45- 50 m	(mS/m)	-9999999	f10.3

COMM	109	CNDZ[11]	Conductivity_Z011	50- 55 m	(mS/m)	-9999999	f10.3
COMM	110	CNDZ[12]	Conductivity_Z012	55- 60 m	(mS/m)	-9999999	f10.3
COMM	111	CNDZ[13]	Conductivity_Z013	60- 65 m	(mS/m)	-9999999	f10.3
COMM	112	CNDZ[14]	Conductivity_Z014	65- 70 m	(mS/m)	-9999999	f10.3
COMM	113	CNDZ[15]	Conductivity_Z015	70- 75 m	(mS/m)	-9999999	f10.3
COMM	114	CNDZ[16]	Conductivity_Z016	75- 80 m	(mS/m)	-9999999	f10.3
COMM	115	CNDZ[17]	Conductivity_Z017	80- 85 m	(mS/m)	-9999999	f10.3
COMM	116	CNDZ[18]	Conductivity_Z018	85- 90 m	(mS/m)	-9999999	f10.3
COMM	117	CNDZ[19]	Conductivity_Z019	90- 95 m	(mS/m)	-9999999	f10.3
COMM	118	CNDZ[20]	Conductivity_Z020	95-100 m	(mS/m)	-9999999	f10.3
COMM	119	CNDZ[21]	Conductivity_Z021	100-105 m	(mS/m)	-9999999	f10.3
COMM	120	CNDZ[22]	Conductivity_Z022	105-110 m	(mS/m)	-9999999	f10.3
COMM	121	CNDZ[23]	Conductivity_Z023	110-115 m	(mS/m)	-9999999	f10.3
COMM	122	CNDZ[24]	Conductivity_Z024	115-120 m	(mS/m)	-9999999	f10.3
COMM	123	CNDZ[25]	Conductivity_Z025	120-125 m	(mS/m)	-9999999	f10.3
COMM	124	CNDZ[26]	Conductivity_Z026	125-130 m	(mS/m)	-9999999	f10.3
COMM	125	CNDZ[27]	Conductivity_Z027	130-135 m	(mS/m)	-9999999	f10.3
COMM	126	CNDZ[28]	Conductivity_Z028	135-140 m	(mS/m)	-9999999	f10.3
COMM	127	CNDZ[29]	Conductivity_Z029	140-145 m	(mS/m)	-9999999	f10.3
COMM	128	CNDZ[30]	Conductivity_Z030	145-150 m	(mS/m)	-9999999	f10.3
COMM	129	CNDZ[31]	Conductivity_Z031	150-155 m	(mS/m)	-9999999	f10.3
COMM	130	CNDZ[32]	Conductivity_Z032	155-160 m	(mS/m)	-9999999	f10.3
COMM	131	CNDZ[33]	Conductivity_Z033	160-165 m	(mS/m)	-9999999	f10.3
COMM	132	CNDZ[34]	Conductivity_Z034	165-170 m	(mS/m)	-9999999	f10.3
COMM	133	CNDZ[35]	Conductivity_Z035	170-175 m	(mS/m)	-9999999	f10.3
COMM	134	CNDZ[36]	Conductivity_Z036	175-180 m	(mS/m)	-9999999	f10.3
COMM	135	CNDZ[37]	Conductivity_Z037	180-185 m	(mS/m)	-9999999	f10.3
COMM	136	CNDZ[38]	Conductivity_Z038	185-190 m	(mS/m)	-9999999	f10.3
COMM	137	CNDZ[39]	Conductivity_Z039	190-195 m	(mS/m)	-9999999	f10.3
COMM	138	CNDZ[40]	Conductivity_Z040	195-200 m	(mS/m)	-9999999	f10.3
COMM	139	CNDZ[41]	Conductivity_Z041	200-205 m	(mS/m)	-9999999	f10.3
COMM	140	CNDZ[42]	Conductivity_Z042	205-210 m	(mS/m)	-9999999	f10.3
COMM	141	CNDZ[43]	Conductivity_Z043	210-215 m	(mS/m)	-9999999	f10.3
COMM	142	CNDZ[44]	Conductivity_Z044	215-220 m	(mS/m)	-9999999	f10.3
COMM	143	CNDZ[45]	Conductivity_Z045	220-225 m	(mS/m)	-9999999	f10.3
COMM	144	CNDZ[46]	Conductivity_Z046	225-230 m	(mS/m)	-9999999	f10.3
COMM	145	CNDZ[47]	Conductivity_Z047	230-235 m	(mS/m)	-9999999	f10.3
COMM	146	CNDZ[48]	Conductivity_Z048	235-240 m	(mS/m)	-9999999	f10.3
COMM	147	CNDZ[49]	Conductivity_Z049	240-245 m	(mS/m)	-9999999	f10.3
COMM	148	CNDZ[50]	Conductivity_Z050	245-250 m	(mS/m)	-9999999	f10.3
COMM	149	CNDZ[51]	Conductivity_Z051	250-255 m	(mS/m)	-9999999	f10.3
COMM	150	CNDZ[52]	Conductivity_Z052	255-260 m	(mS/m)	-9999999	f10.3
COMM	151	CNDZ[53]	Conductivity_Z053	260-265 m	(mS/m)	-9999999	f10.3
COMM	152	CNDZ[54]	Conductivity_Z054	265-270 m	(mS/m)	-9999999	f10.3
COMM	153	CNDZ[55]	Conductivity_Z055	270-275 m	(mS/m)	-9999999	f10.3
COMM	154	CNDZ[56]	Conductivity_Z056	275-280 m	(mS/m)	-9999999	f10.3
COMM	155	CNDZ[57]	Conductivity_Z057	280-285 m	(mS/m)	-9999999	f10.3
COMM	156	CNDZ[58]	Conductivity_Z058	285-290 m	(mS/m)	-9999999	f10.3
COMM	157	CNDZ[59]	Conductivity_Z059	290-295 m	(mS/m)	-9999999	f10.3
COMM	158	CNDZ[60]	Conductivity_Z060	295-300 m	(mS/m)	-9999999	f10.3
COMM	159	CNDZ[61]	Conductivity_Z061	300-305 m	(mS/m)	-9999999	f10.3
COMM	160	CNDZ[62]	Conductivity_Z062	305-310 m	(mS/m)	-9999999	f10.3
COMM	161	CNDZ[63]	Conductivity_Z063	310-315 m	(mS/m)	-9999999	f10.3
COMM	162	CNDZ[64]	Conductivity_Z064	315-320 m	(mS/m)	-9999999	f10.3
COMM	163	CNDZ[65]	Conductivity_Z065	320-325 m	(mS/m)	-9999999	f10.3
COMM	164	CNDZ[66]	Conductivity_Z066	325-330 m	(mS/m)	-9999999	f10.3
COMM	165	CNDZ[67]	Conductivity_Z067	330-335 m	(mS/m)	-9999999	f10.3
COMM	166	CNDZ[68]	Conductivity_Z068	335-340 m	(mS/m)	-9999999	f10.3
COMM	167	CNDZ[69]	Conductivity_Z069	340-345 m	(mS/m)	-9999999	f10.3
COMM	168	CNDZ[70]	Conductivity_Z070	345-350 m	(mS/m)	-9999999	f10.3
COMM	169	CNDZ[71]	Conductivity_Z071	350-355 m	(mS/m)	-9999999	f10.3
COMM	170	CNDZ[72]	Conductivity_Z072	355-360 m	(mS/m)	-9999999	f10.3
COMM	171	CNDZ[73]	Conductivity_Z073	360-365 m	(mS/m)	-9999999	f10.3
COMM	172	CNDZ[74]	Conductivity_Z074	365-370 m	(mS/m)	-9999999	f10.3
COMM	173	CNDZ[75]	Conductivity_Z075	370-375 m	(mS/m)	-9999999	f10.3
COMM	174	CNDZ[76]	Conductivity_Z076	375-380 m	(mS/m)	-9999999	f10.3
COMM	175	CNDZ[77]	Conductivity_Z077	380-385 m	(mS/m)	-9999999	f10.3
COMM	176	CNDZ[78]	Conductivity_Z078	385-390 m	(mS/m)	-9999999	f10.3
COMM	177	CNDZ[79]	Conductivity_Z079	390-395 m	(mS/m)	-9999999	f10.3
COMM	178	CNDZ[80]	Conductivity_Z080	395-400 m	(mS/m)	-9999999	f10.3
COMM	179	CNDZ[81]	Conductivity_Z081	400-405 m	(mS/m)	-9999999	f10.3

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COMM   180  CNDZ[82]        Conductivity_Z082     405-410 m   (mS/m)  -9999999  f10.3
COMM   181  CNDZ[83]        Conductivity_Z083     410-415 m   (mS/m)  -9999999  f10.3
COMM   182  CNDZ[84]        Conductivity_Z084     415-420 m   (mS/m)  -9999999  f10.3
COMM   183  CNDZ[85]        Conductivity_Z085     420-425 m   (mS/m)  -9999999  f10.3
COMM   184  CNDZ[86]        Conductivity_Z086     425-430 m   (mS/m)  -9999999  f10.3
COMM   185  CNDZ[87]        Conductivity_Z087     430-435 m   (mS/m)  -9999999  f10.3
COMM   186  CNDZ[88]        Conductivity_Z088     435-440 m   (mS/m)  -9999999  f10.3
COMM   187  CNDZ[89]        Conductivity_Z089     440-445 m   (mS/m)  -9999999  f10.3
COMM   188  CNDZ[90]        Conductivity_Z090     445-450 m   (mS/m)  -9999999  f10.3
COMM   189  CNDZ[91]        Conductivity_Z091     450-455 m   (mS/m)  -9999999  f10.3
COMM   190  CNDZ[92]        Conductivity_Z092     455-460 m   (mS/m)  -9999999  f10.3
COMM   191  CNDZ[93]        Conductivity_Z093     460-465 m   (mS/m)  -9999999  f10.3
COMM   192  CNDZ[94]        Conductivity_Z094     465-470 m   (mS/m)  -9999999  f10.3
COMM   193  CNDZ[95]        Conductivity_Z095     470-475 m   (mS/m)  -9999999  f10.3
COMM   194  CNDZ[96]        Conductivity_Z096     475-480 m   (mS/m)  -9999999  f10.3
COMM   195  CNDZ[97]        Conductivity_Z097     480-485 m   (mS/m)  -9999999  f10.3
COMM   196  CNDZ[98]        Conductivity_Z098     485-490 m   (mS/m)  -9999999  f10.3
COMM   197  CNDZ[99]        Conductivity_Z099     490-495 m   (mS/m)  -9999999  f10.3
COMM   198  CNDZ[100]       Conductivity_Z100     495-500 m   (mS/m)  -9999999  f10.3
COMM
COMM  Total number of lines :   68
COMM
COMM    Flt     Line    Start X   Start Y     End X     End Y      Kms
COMM
COMM     27    60010     312757   7438385    291349   7438163    21.41
COMM     27    60020     291320   7437165    312755   7437382    21.44
COMM     35    60031     312774   7436384    291404   7436162    21.37
COMM     28    60040     291390   7435159    312760   7435385    21.37
COMM     28    60050     312837   7434379    291461   7434157    21.38
COMM     28    60060     291430   7433168    312825   7433382    21.40
COMM     28    60070     312875   7432380    291481   7432164    21.40
COMM     28    60080     291434   7431165    312850   7431382    21.42
COMM     28    60090     312896   7430385    291462   7430163    21.44
COMM     29    60100     291476   7429165    312850   7429384    21.38
COMM     29    60110     312907   7428382    291528   7428163    21.38
COMM     29    60120     291504   7427162    312919   7427384    21.42
COMM     29    60130     312966   7426383    291534   7426163    21.43
COMM     35    60140     291485   7425162    329996   7425560    38.51
COMM     29    60150     330001   7424560    291568   7424160    38.44
COMM     29    60160     312011   7423379    330008   7423564    18.00
COMM     29    60170     330021   7422561    312115   7422379    17.91
COMM     29    60180     312082   7421376    330013   7421563    17.93
COMM     29    60190     330063   7420562    312105   7420377    17.96
COMM     29    60200     312106   7419378    330066   7419562    17.96
COMM     30    60210     395364   7419241    312123   7418381    83.25
COMM     29    60220     312136   7417376    395311   7418241    83.18
COMM     35    60231     395327   7417239    312184   7416375    83.15
COMM     30    60240     312145   7415381    395312   7416244    83.17
COMM     32    60251     395345   7415239    312169   7414377    83.18
COMM     31    60260     312170   7413380    395283   7414237    83.12
COMM     31    60270     395371   7413244    312193   7412373    83.18
COMM     31    60280     312712   7411381    395305   7412241    82.60
COMM     32    60290     395387   7411241    314489   7410398    80.90
COMM     32    60300     316156   7409417    395352   7410239    79.20
COMM     32    60310     372814   7409004    317912   7408435    54.90
COMM     32    60320     319618   7407455    372785   7408006    53.17
COMM     33    60330     372804   7407003    325545   7406514    47.26
COMM     32    60340     325509   7405513    372773   7406007    47.27
COMM     33    60350     372860   7405002    325586   7404516    47.28
COMM     33    60360     325561   7403515    372810   7404001    47.25
COMM     34    60370     372843   7403009    325543   7402506    47.30
COMM     33    60380     325522   7401496    372829   7402000    47.31
COMM     34    60390     372878   7401002    325574   7400513    47.31
COMM     34    60400     325543   7399510    372862   7400012    47.32
COMM     34    60410     372944   7399001    325575   7398515    47.37
COMM     34    60420     325563   7397515    372929   7398009    47.37
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COMM    34   60430    372966   7396985    325590   7396514    47.38
COMM    34   60440    329349   7395555    372954   7396009    43.61
COMM    34   60450    372991   7395002    329423   7394546    43.57
COMM    34   60460    329382   7393556    372971   7394006    43.59
COMM    36   60470    373026   7392998    329465   7392551    43.56
COMM    34   60480    329422   7391556    372956   7392002    43.54
COMM    35   60490    373015   7391003    333848   7390598    39.17
COMM    30   60500    378209   7428062    386745   7428148     8.54
COMM    30   60510    386303   7427146    377835   7427062     8.47
COMM    30   60520    377007   7426047    386293   7426148     9.29
COMM    30   60530    386347   7425161    376290   7425041    10.06
COMM    30   60540    375427   7424030    386279   7424146    10.85
COMM    30   60550    386338   7423160    374694   7423030    11.64
COMM    30   60560    373911   7422021    386290   7422146    12.38
COMM    30   60570    386290   7421144    373136   7421016    13.15
COMM    30   60580    372358   7419998    386249   7420145    13.89
COMM    27   67010    295758   7423202    295599   7438954    15.75
COMM    27   67020    305599   7439171    305759   7423364    15.81
COMM    28   67030    315900   7409584    315731   7426296    16.71
COMM    28   67041    325730   7426424    326050   7395965    30.46
COMM    28   67050    336103   7390553    335809   7419120    28.57
COMM    35   67060    345806   7419274    346106   7390653    28.62
COMM    35   67070    356109   7390593    355804   7419333    28.74
COMM    35   67080    365809   7419459    366110   7390657    28.80
COMM    35   67090    375912   7409345    375755   7424381    15.04
COMM    30   67100    385708   7428838    385912   7409424    19.42
COMM
COMM  Total Kilometres :      2481.56
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AREA 7

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COMM JOB NUMBER:                                                    1984
COMM AREA NUMBER:                                                      7
COMM SURVEY COMPANY:                                 Fugro Airborne Surveys
COMM CLIENT:                                       NuPower Resources Limited
COMM SURVEY TYPE:                                      25Hz TEMPEST Survey
COMM AREA NAME:                                              Alice Springs
COMM STATE:                                                           NT
COMM COUNTRY:                                                    Australia
COMM SURVEY FLOWN:                                           August, 2008
COMM LOCATED DATA CREATED:                                       Dec 2008
COMM
COMM DATUM:                                                         GDA94
COMM PROJECTION:                                                      MGA
COMM ZONE:                                                             53
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                         1000 m
COMM TRAVERSE LINE DIRECTION:                                  000-180 deg
COMM TIE LINE SPACING:                                           10000 m
COMM TIE LINE DIRECTION:                                       090-270 deg
COMM NOMINAL TERRAIN CLEARANCE:                                      120 m
COMM FINAL LINE KILOMETRES:                                   1346.39 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                                  70010 - 70470
COMM TIE LINE NUMBERS:                                       77010 - 77030
COMM
COMM AREA BOUNDARY (WGS84, UTM53)
COMM
COMM   402352.00  7529596.00
COMM   401015.00  7528294.00
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COMM   401015.00  7523154.00
COMM   399258.00  7521466.00
COMM   399293.00  7513660.00
COMM   393802.00  7513870.00
COMM   393268.00  7510748.00
COMM   396412.00  7508632.00
COMM   405294.00  7511504.00
COMM   406132.00  7512998.00
COMM   409225.00  7512998.00
COMM   410769.00  7508498.00
COMM   413269.00  7509950.00
COMM   413410.00  7511643.00
COMM   412881.00  7512699.00
COMM   411325.00  7513010.00
COMM   411414.00  7514426.00
COMM   410940.00  7513974.00
COMM   409527.00  7519625.00
COMM   415558.00  7521173.00
COMM   416291.00  7517676.00
COMM   416180.00  7510351.00
COMM   415172.00  7510315.00
COMM   414934.00  7503197.00
COMM   368857.00  7503099.00
COMM   368555.00  7534200.00
COMM   402552.00  7534412.00
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                                    Shorts Skyvan VH-WGT, WGT
COMM
COMM MAGNETOMETER:                              Scintrex Cs-2 Cesium Vapour
COMM INSTALLATION:                                          stinger mount
COMM RESOLUTION:                                              0.001 nT
COMM RECORDING INTERVAL:                                           5 s
COMM
COMM ELECTROMAGNETIC SYSTEM:                                  25Hz TEMPEST
COMM INSTALLATION:                Transmitter loop mounted on the aircraft
COMM                                        Receiver coils in a towed bird
COMM COIL ORIENTATION:                                               X,Z
COMM RECORDING INTERVAL:                                         0.2 s
COMM SYSTEM GEOMETRY:
COMM RECEIVER DISTANCE BEHIND THE TRANSMITTER:                    -115 m
COMM RECEIVER DISTANCE BELOW THE TRANSMITTER:                      -40 m
COMM
COMM RADAR ALTIMETER:                                       Sperry RT-220
COMM RECORDING INTERVAL:                                         0.2 s
COMM
COMM NAVIGATION:                             real-time differential GPS
COMM RECORDING INTERVAL:                                         1.0 s
COMM
COMM ACQUISITION SYSTEM:                                      PDAS-1000
COMM
COMM DATA PROCESSING
COMM
COMM MAGNETIC DATA
COMM DIURNAL BASE VALUE APPLIED                                53288 nT
COMM PARALLAX CORRECTION APPLIED                                    2 s
COMM IGRF BASE VALUE APPLIED                                   52411 nT
COMM IGRF MODEL 2005 EXTRAPOLATED TO                             2008.6
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ELECTROMAGNETIC DATA
COMM SYSTEM PARALLAX REMOVED, AS FOLLOWS
COMM X-COMPONENT EM DATA                                         0.2 s
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COMM Y-COMPONENT EM DATA                    <not relevant for TEMPEST>
COMM Z-COMPONENT EM DATA                                        1.4 s
COMM DATA CORRECTED FOR TRANSMITTER HEIGHT, PITCH AND ROLL
COMM DATA CORRECTED FOR TRANSMITTER-RECEIVER GEOMETRY VARIATIONS
COMM DATA HAVE BEEN MICROLEVELLED
COMM CONDUCTIVITY DEPTH INVERSION CALCULATED                EMFlow V5.10
COMM CONDUCTIVITIES CALCULATED USING corrected EM DATA
COMM
COMM DIGITAL TERRAIN DATA
COMM PARALLAX CORRECTION APPLIED TO RADAR ALIMETER DATA             0.6 s
COMM PARALLAX CORRECTION APPLIED TO GPS ALIMETER DATA               0.0 s
COMM DTM CALCULATED [DTM = GPS ALTITUDE - RADAR ALTITUDE]
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ---------------------------------------------------------------------
COMM DISCLAIMER
COMM ---------------------------------------------------------------------
COMM It is Fugro Airborne Survey's understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level.  Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM ---------------------------------------------------------------------
COMM
COMM ELECTROMAGNETIC SYSTEM
COMM
COMM TEMPEST IS A TIME-DOMAIN SQUARE-WAVE SYSTEM,
COMM TRANSMITTING AT A BASE FREQUENCY OF 25Hz,
COMM WITH 2 ORTHOGONAL-AXIS RECEIVER COILS IN A TOWED BIRD.
COMM FINAL EM OUTPUT IS RECORDED 5 TIMES PER SECOND.
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COMM THE TIMES (IN MILLISECONDS) FOR THE 15 WINDOWS ARE:
COMM
COMM WINDOW      START       END      CENTRE
COMM    1        0.007      0.020      0.013
COMM    2        0.033      0.047      0.040
COMM    3        0.060      0.073      0.067
COMM    4        0.087      0.127      0.107
COMM    5        0.140      0.207      0.173
COMM    6        0.220      0.340      0.280
COMM    7        0.353      0.553      0.453
COMM    8        0.567      0.873      0.720
COMM    9        0.887      1.353      1.120
COMM   10        1.367      2.100      1.733
COMM   11        2.113      3.273      2.693
COMM   12        3.287      5.113      4.200
COMM   13        5.127      7.993      6.560
COMM   14        8.007     12.393     10.200
COMM   15       12.407     19.993     16.200
COMM
COMM PULSE WIDTH: 10 ms
COMM
COMM TEMPEST EM data are transformed to the response that would be
COMM obtained with a B-field sensor for a 100% duty cycle square
COMM waveform at the base frequency, involving a 1A change in
COMM current (from -0.5A to +0.5A to -0.5A) in a 1sq.m transmitter.
COMM It is this configuration, rather than the actual acquisition
COMM configuration, which must be specified when modelling TEMPEST data.
COMM
COMM
COMM
COMM LOCATED DATA FORMAT
COMM
COMM  Output field format : DOS  - Flat ascii
COMM  Number of fields    : 198
COMM
COMM Field  Channel         Description                        Units  Undefined Format
COMM -----  -------         -----------                        -----  --------- ------
COMM
COMM     1  LINE            Line                                       -9999999  i6
COMM     2  FLIGHT          Flight                                     -9999999  i4
COMM     3  FID             Fiducial                             (s)   -9999999  f8.1
COMM     4  LATITUDE        Latitude  GDA94                    (deg)   -9999999  f13.6
COMM     5  LONGITUDE       Longitude GDA94                    (deg)   -9999999  f13.6
COMM     6  EASTING         Easting   MGA53                     (m)    -9999999  f11.2
COMM     7  NORTHING        Northing  MGA53                     (m)    -9999999  f12.2
COMM     8  TxHeight        GPS height                          (m)    -9999999  f8.2
COMM     9  Baro            Barometric Altitude                 (m)    -9999999  f8.2
COMM    10  TxRalt_raw      Raw Radar Altimeter                 (m)    -9999999  f8.2
COMM    11  TxRalt_final    Final Radar Altimeter               (m)    -9999999  f8.2
COMM    12  DTM             DTM                                 (m)    -9999999  f8.2
COMM    13  MAG             Compensated TMI                    (nT)    -9999999  f10.3
COMM    14  MAG_1VD         Levelled TMI 1VD                 (nT/m)    -9999999  f12.5
COMM    15  Pitch_Raw       Raw Tx loop pitch                 (deg)    -9999999  f10.5
COMM    16  Roll_Raw        Raw Tx loop roll                  (deg)    -9999999  f10.5
COMM    17  HSep_Raw        Raw Tx-Rx horizontal separation     (m)    -9999999  f8.2
COMM    18  VSep_Raw        Raw Tx-Rx vertical separation       (m)    -9999999  f8.2
COMM    19  Pitch_Final     Final Tx loop pitch               (deg)    -9999999  f10.5
COMM    20  Roll_Final      Final Tx loop roll                (deg)    -9999999  f10.5
COMM    21  HSep_Final      Final Tx-Rx horizontal separation   (m)    -9999999  f8.2
COMM    22  VSep_Final      Final Tx-Rx vertical separation     (m)    -9999999  f8.2
COMM    23  EMX_Raw[1]      Raw EMX01 Window                   (fT)    -9999999  f12.6
COMM    24  EMX_Raw[2]      Raw EMX02 Window                   (fT)    -9999999  f12.6
COMM    25  EMX_Raw[3]      Raw EMX03 Window                   (fT)    -9999999  f12.6
COMM    26  EMX_Raw[4]      Raw EMX04 Window                   (fT)    -9999999  f12.6
COMM    27  EMX_Raw[5]      Raw EMX05 Window                   (fT)    -9999999  f12.6
COMM    28  EMX_Raw[6]      Raw EMX06 Window                   (fT)    -9999999  f12.6
COMM    29  EMX_Raw[7]      Raw EMX07 Window                   (fT)    -9999999  f12.6
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COMM	30	EMX_Raw[8]	Raw EMX08 Window		(fT)	-9999999	f12.6
COMM	31	EMX_Raw[9]	Raw EMX09 Window		(fT)	-9999999	f12.6
COMM	32	EMX_Raw[10]	Raw EMX10 Window		(fT)	-9999999	f12.6
COMM	33	EMX_Raw[11]	Raw EMX11 Window		(fT)	-9999999	f12.6
COMM	34	EMX_Raw[12]	Raw EMX12 Window		(fT)	-9999999	f12.6
COMM	35	EMX_Raw[13]	Raw EMX13 Window		(fT)	-9999999	f12.6
COMM	36	EMX_Raw[14]	Raw EMX14 Window		(fT)	-9999999	f12.6
COMM	37	EMX_Raw[15]	Raw EMX15 Window		(fT)	-9999999	f12.6
COMM	38	EMX_Final[1]	Final EMX01 Window		(fT)	-9999999	f12.6
COMM	39	EMX_Final[2]	Final EMX02 Window		(fT)	-9999999	f12.6
COMM	40	EMX_Final[3]	Final EMX03 Window		(fT)	-9999999	f12.6
COMM	41	EMX_Final[4]	Final EMX04 Window		(fT)	-9999999	f12.6
COMM	42	EMX_Final[5]	Final EMX05 Window		(fT)	-9999999	f12.6
COMM	43	EMX_Final[6]	Final EMX06 Window		(fT)	-9999999	f12.6
COMM	44	EMX_Final[7]	Final EMX07 Window		(fT)	-9999999	f12.6
COMM	45	EMX_Final[8]	Final EMX08 Window		(fT)	-9999999	f12.6
COMM	46	EMX_Final[9]	Final EMX09 Window		(fT)	-9999999	f12.6
COMM	47	EMX_Final[10]	Final EMX10 Window		(fT)	-9999999	f12.6
COMM	48	EMX_Final[11]	Final EMX11 Window		(fT)	-9999999	f12.6
COMM	49	EMX_Final[12]	Final EMX12 Window		(fT)	-9999999	f12.6
COMM	50	EMX_Final[13]	Final EMX13 Window		(fT)	-9999999	f12.6
COMM	51	EMX_Final[14]	Final EMX14 Window		(fT)	-9999999	f12.6
COMM	52	EMX_Final[15]	Final EMX15 Window		(fT)	-9999999	f12.6
COMM	53	X_Sferics	X_Sferics			-9999999	f10.3
COMM	54	X_Lowfreq	X_Lowfreq			-9999999	f10.3
COMM	55	X_Powerline	X_Powerline			-9999999	f10.3
COMM	56	X_VLF1	X_18.2kHz			-9999999	f10.3
COMM	57	X_VLF2	X_19.8kHz			-9999999	f10.3
COMM	58	X_VLF3	X_21.4kHz			-9999999	f10.3
COMM	59	X_VLF4	X_22.2kHz			-9999999	f10.3
COMM	60	X_Geofact	X_Geometric factor			-9999999	f10.3
COMM	61	EMZ_Raw[1]	Raw EMZ01 Window		(fT)	-9999999	f12.6
COMM	62	EMZ_Raw[2]	Raw EMZ02 Window		(fT)	-9999999	f12.6
COMM	63	EMZ_Raw[3]	Raw EMZ03 Window		(fT)	-9999999	f12.6
COMM	64	EMZ_Raw[4]	Raw EMZ04 Window		(fT)	-9999999	f12.6
COMM	65	EMZ_Raw[5]	Raw EMZ05 Window		(fT)	-9999999	f12.6
COMM	66	EMZ_Raw[6]	Raw EMZ06 Window		(fT)	-9999999	f12.6
COMM	67	EMZ_Raw[7]	Raw EMZ07 Window		(fT)	-9999999	f12.6
COMM	68	EMZ_Raw[8]	Raw EMZ08 Window		(fT)	-9999999	f12.6
COMM	69	EMZ_Raw[9]	Raw EMZ09 Window		(fT)	-9999999	f12.6
COMM	70	EMZ_Raw[10]	Raw EMZ10 Window		(fT)	-9999999	f12.6
COMM	71	EMZ_Raw[11]	Raw EMZ11 Window		(fT)	-9999999	f12.6
COMM	72	EMZ_Raw[12]	Raw EMZ12 Window		(fT)	-9999999	f12.6
COMM	73	EMZ_Raw[13]	Raw EMZ13 Window		(fT)	-9999999	f12.6
COMM	74	EMZ_Raw[14]	Raw EMZ14 Window		(fT)	-9999999	f12.6
COMM	75	EMZ_Raw[15]	Raw EMZ15 Window		(fT)	-9999999	f12.6
COMM	76	EMZ_Final[1]	Final EMZ01 Window		(fT)	-9999999	f12.6
COMM	77	EMZ_Final[2]	Final EMZ02 Window		(fT)	-9999999	f12.6
COMM	78	EMZ_Final[3]	Final EMZ03 Window		(fT)	-9999999	f12.6
COMM	79	EMZ_Final[4]	Final EMZ04 Window		(fT)	-9999999	f12.6
COMM	80	EMZ_Final[5]	Final EMZ05 Window		(fT)	-9999999	f12.6
COMM	81	EMZ_Final[6]	Final EMZ06 Window		(fT)	-9999999	f12.6
COMM	82	EMZ_Final[7]	Final EMZ07 Window		(fT)	-9999999	f12.6
COMM	83	EMZ_Final[8]	Final EMZ08 Window		(fT)	-9999999	f12.6
COMM	84	EMZ_Final[9]	Final EMZ09 Window		(fT)	-9999999	f12.6
COMM	85	EMZ_Final[10]	Final EMZ10 Window		(fT)	-9999999	f12.6
COMM	86	EMZ_Final[11]	Final EMZ11 Window		(fT)	-9999999	f12.6
COMM	87	EMZ_Final[12]	Final EMZ12 Window		(fT)	-9999999	f12.6
COMM	88	EMZ_Final[13]	Final EMZ13 Window		(fT)	-9999999	f12.6
COMM	89	EMZ_Final[14]	Final EMZ14 Window		(fT)	-9999999	f12.6
COMM	90	EMZ_Final[15]	Final EMZ15 Window		(fT)	-9999999	f12.6
COMM	91	Z_Sferics	Z_Sferics			-9999999	f10.3
COMM	92	Z_Lowfreq	Z_Lowfreq			-9999999	f10.3
COMM	93	Z_Powerline	Z_Powerline			-9999999	f10.3
COMM	94	Z_VLF1	Z_18.2kHz			-9999999	f10.3
COMM	95	Z_VLF2	Z_19.8kHz			-9999999	f10.3
COMM	96	Z_VLF3	Z_21.4kHz			-9999999	f10.3
COMM	97	Z_VLF4	Z_22.2kHz			-9999999	f10.3
COMM	98	Z_Geofact	Z_Geometric factor			-9999999	f10.3
COMM	99	CNDZ[1]	Conductivity_Z001	0- 5 m	(mS/m)	-9999999	f10.3
COMM	100	CNDZ[2]	Conductivity_Z002	5- 10 m	(mS/m)	-9999999	f10.3

COMM	101	CNDZ[3]	Conductivity_Z003	10- 15 m	(mS/m)	-9999999	f10.3
COMM	102	CNDZ[4]	Conductivity_Z004	15- 20 m	(mS/m)	-9999999	f10.3
COMM	103	CNDZ[5]	Conductivity_Z005	20- 25 m	(mS/m)	-9999999	f10.3
COMM	104	CNDZ[6]	Conductivity_Z006	25- 30 m	(mS/m)	-9999999	f10.3
COMM	105	CNDZ[7]	Conductivity_Z007	30- 35 m	(mS/m)	-9999999	f10.3
COMM	106	CNDZ[8]	Conductivity_Z008	35- 40 m	(mS/m)	-9999999	f10.3
COMM	107	CNDZ[9]	Conductivity_Z009	40- 45 m	(mS/m)	-9999999	f10.3
COMM	108	CNDZ[10]	Conductivity_Z010	45- 50 m	(mS/m)	-9999999	f10.3
COMM	109	CNDZ[11]	Conductivity_Z011	50- 55 m	(mS/m)	-9999999	f10.3
COMM	110	CNDZ[12]	Conductivity_Z012	55- 60 m	(mS/m)	-9999999	f10.3
COMM	111	CNDZ[13]	Conductivity_Z013	60- 65 m	(mS/m)	-9999999	f10.3
COMM	112	CNDZ[14]	Conductivity_Z014	65- 70 m	(mS/m)	-9999999	f10.3
COMM	113	CNDZ[15]	Conductivity_Z015	70- 75 m	(mS/m)	-9999999	f10.3
COMM	114	CNDZ[16]	Conductivity_Z016	75- 80 m	(mS/m)	-9999999	f10.3
COMM	115	CNDZ[17]	Conductivity_Z017	80- 85 m	(mS/m)	-9999999	f10.3
COMM	116	CNDZ[18]	Conductivity_Z018	85- 90 m	(mS/m)	-9999999	f10.3
COMM	117	CNDZ[19]	Conductivity_Z019	90- 95 m	(mS/m)	-9999999	f10.3
COMM	118	CNDZ[20]	Conductivity_Z020	95-100 m	(mS/m)	-9999999	f10.3
COMM	119	CNDZ[21]	Conductivity_Z021	100-105 m	(mS/m)	-9999999	f10.3
COMM	120	CNDZ[22]	Conductivity_Z022	105-110 m	(mS/m)	-9999999	f10.3
COMM	121	CNDZ[23]	Conductivity_Z023	110-115 m	(mS/m)	-9999999	f10.3
COMM	122	CNDZ[24]	Conductivity_Z024	115-120 m	(mS/m)	-9999999	f10.3
COMM	123	CNDZ[25]	Conductivity_Z025	120-125 m	(mS/m)	-9999999	f10.3
COMM	124	CNDZ[26]	Conductivity_Z026	125-130 m	(mS/m)	-9999999	f10.3
COMM	125	CNDZ[27]	Conductivity_Z027	130-135 m	(mS/m)	-9999999	f10.3
COMM	126	CNDZ[28]	Conductivity_Z028	135-140 m	(mS/m)	-9999999	f10.3
COMM	127	CNDZ[29]	Conductivity_Z029	140-145 m	(mS/m)	-9999999	f10.3
COMM	128	CNDZ[30]	Conductivity_Z030	145-150 m	(mS/m)	-9999999	f10.3
COMM	129	CNDZ[31]	Conductivity_Z031	150-155 m	(mS/m)	-9999999	f10.3
COMM	130	CNDZ[32]	Conductivity_Z032	155-160 m	(mS/m)	-9999999	f10.3
COMM	131	CNDZ[33]	Conductivity_Z033	160-165 m	(mS/m)	-9999999	f10.3
COMM	132	CNDZ[34]	Conductivity_Z034	165-170 m	(mS/m)	-9999999	f10.3
COMM	133	CNDZ[35]	Conductivity_Z035	170-175 m	(mS/m)	-9999999	f10.3
COMM	134	CNDZ[36]	Conductivity_Z036	175-180 m	(mS/m)	-9999999	f10.3
COMM	135	CNDZ[37]	Conductivity_Z037	180-185 m	(mS/m)	-9999999	f10.3
COMM	136	CNDZ[38]	Conductivity_Z038	185-190 m	(mS/m)	-9999999	f10.3
COMM	137	CNDZ[39]	Conductivity_Z039	190-195 m	(mS/m)	-9999999	f10.3
COMM	138	CNDZ[40]	Conductivity_Z040	195-200 m	(mS/m)	-9999999	f10.3
COMM	139	CNDZ[41]	Conductivity_Z041	200-205 m	(mS/m)	-9999999	f10.3
COMM	140	CNDZ[42]	Conductivity_Z042	205-210 m	(mS/m)	-9999999	f10.3
COMM	141	CNDZ[43]	Conductivity_Z043	210-215 m	(mS/m)	-9999999	f10.3
COMM	142	CNDZ[44]	Conductivity_Z044	215-220 m	(mS/m)	-9999999	f10.3
COMM	143	CNDZ[45]	Conductivity_Z045	220-225 m	(mS/m)	-9999999	f10.3
COMM	144	CNDZ[46]	Conductivity_Z046	225-230 m	(mS/m)	-9999999	f10.3
COMM	145	CNDZ[47]	Conductivity_Z047	230-235 m	(mS/m)	-9999999	f10.3
COMM	146	CNDZ[48]	Conductivity_Z048	235-240 m	(mS/m)	-9999999	f10.3
COMM	147	CNDZ[49]	Conductivity_Z049	240-245 m	(mS/m)	-9999999	f10.3
COMM	148	CNDZ[50]	Conductivity_Z050	245-250 m	(mS/m)	-9999999	f10.3
COMM	149	CNDZ[51]	Conductivity_Z051	250-255 m	(mS/m)	-9999999	f10.3
COMM	150	CNDZ[52]	Conductivity_Z052	255-260 m	(mS/m)	-9999999	f10.3
COMM	151	CNDZ[53]	Conductivity_Z053	260-265 m	(mS/m)	-9999999	f10.3
COMM	152	CNDZ[54]	Conductivity_Z054	265-270 m	(mS/m)	-9999999	f10.3
COMM	153	CNDZ[55]	Conductivity_Z055	270-275 m	(mS/m)	-9999999	f10.3
COMM	154	CNDZ[56]	Conductivity_Z056	275-280 m	(mS/m)	-9999999	f10.3
COMM	155	CNDZ[57]	Conductivity_Z057	280-285 m	(mS/m)	-9999999	f10.3
COMM	156	CNDZ[58]	Conductivity_Z058	285-290 m	(mS/m)	-9999999	f10.3
COMM	157	CNDZ[59]	Conductivity_Z059	290-295 m	(mS/m)	-9999999	f10.3
COMM	158	CNDZ[60]	Conductivity_Z060	295-300 m	(mS/m)	-9999999	f10.3
COMM	159	CNDZ[61]	Conductivity_Z061	300-305 m	(mS/m)	-9999999	f10.3
COMM	160	CNDZ[62]	Conductivity_Z062	305-310 m	(mS/m)	-9999999	f10.3
COMM	161	CNDZ[63]	Conductivity_Z063	310-315 m	(mS/m)	-9999999	f10.3
COMM	162	CNDZ[64]	Conductivity_Z064	315-320 m	(mS/m)	-9999999	f10.3
COMM	163	CNDZ[65]	Conductivity_Z065	320-325 m	(mS/m)	-9999999	f10.3
COMM	164	CNDZ[66]	Conductivity_Z066	325-330 m	(mS/m)	-9999999	f10.3
COMM	165	CNDZ[67]	Conductivity_Z067	330-335 m	(mS/m)	-9999999	f10.3
COMM	166	CNDZ[68]	Conductivity_Z068	335-340 m	(mS/m)	-9999999	f10.3
COMM	167	CNDZ[69]	Conductivity_Z069	340-345 m	(mS/m)	-9999999	f10.3
COMM	168	CNDZ[70]	Conductivity_Z070	345-350 m	(mS/m)	-9999999	f10.3
COMM	169	CNDZ[71]	Conductivity_Z071	350-355 m	(mS/m)	-9999999	f10.3
COMM	170	CNDZ[72]	Conductivity_Z072	355-360 m	(mS/m)	-9999999	f10.3
COMM	171	CNDZ[73]	Conductivity_Z073	360-365 m	(mS/m)	-9999999	f10.3

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COMM   172  CNDZ[74]        Conductivity_Z074     365-370 m   (mS/m)  -9999999  f10.3
COMM   173  CNDZ[75]        Conductivity_Z075     370-375 m   (mS/m)  -9999999  f10.3
COMM   174  CNDZ[76]        Conductivity_Z076     375-380 m   (mS/m)  -9999999  f10.3
COMM   175  CNDZ[77]        Conductivity_Z077     380-385 m   (mS/m)  -9999999  f10.3
COMM   176  CNDZ[78]        Conductivity_Z078     385-390 m   (mS/m)  -9999999  f10.3
COMM   177  CNDZ[79]        Conductivity_Z079     390-395 m   (mS/m)  -9999999  f10.3
COMM   178  CNDZ[80]        Conductivity_Z080     395-400 m   (mS/m)  -9999999  f10.3
COMM   179  CNDZ[81]        Conductivity_Z081     400-405 m   (mS/m)  -9999999  f10.3
COMM   180  CNDZ[82]        Conductivity_Z082     405-410 m   (mS/m)  -9999999  f10.3
COMM   181  CNDZ[83]        Conductivity_Z083     410-415 m   (mS/m)  -9999999  f10.3
COMM   182  CNDZ[84]        Conductivity_Z084     415-420 m   (mS/m)  -9999999  f10.3
COMM   183  CNDZ[85]        Conductivity_Z085     420-425 m   (mS/m)  -9999999  f10.3
COMM   184  CNDZ[86]        Conductivity_Z086     425-430 m   (mS/m)  -9999999  f10.3
COMM   185  CNDZ[87]        Conductivity_Z087     430-435 m   (mS/m)  -9999999  f10.3
COMM   186  CNDZ[88]        Conductivity_Z088     435-440 m   (mS/m)  -9999999  f10.3
COMM   187  CNDZ[89]        Conductivity_Z089     440-445 m   (mS/m)  -9999999  f10.3
COMM   188  CNDZ[90]        Conductivity_Z090     445-450 m   (mS/m)  -9999999  f10.3
COMM   189  CNDZ[91]        Conductivity_Z091     450-455 m   (mS/m)  -9999999  f10.3
COMM   190  CNDZ[92]        Conductivity_Z092     455-460 m   (mS/m)  -9999999  f10.3
COMM   191  CNDZ[93]        Conductivity_Z093     460-465 m   (mS/m)  -9999999  f10.3
COMM   192  CNDZ[94]        Conductivity_Z094     465-470 m   (mS/m)  -9999999  f10.3
COMM   193  CNDZ[95]        Conductivity_Z095     470-475 m   (mS/m)  -9999999  f10.3
COMM   194  CNDZ[96]        Conductivity_Z096     475-480 m   (mS/m)  -9999999  f10.3
COMM   195  CNDZ[97]        Conductivity_Z097     480-485 m   (mS/m)  -9999999  f10.3
COMM   196  CNDZ[98]        Conductivity_Z098     485-490 m   (mS/m)  -9999999  f10.3
COMM   197  CNDZ[99]        Conductivity_Z099     490-495 m   (mS/m)  -9999999  f10.3
COMM   198  CNDZ[100]       Conductivity_Z100     495-500 m   (mS/m)  -9999999  f10.3
COMM
COMM  Total number of lines :   50
COMM
COMM    Flt     Line    Start X   Start Y     End X     End Y       Kms
COMM
COMM     21    70010     369340   7503067    369054   7534206    31.14
COMM     21    70020     370055   7534225    370352   7503385    30.84
COMM     21    70030     371355   7503090    371053   7534169    31.08
COMM     21    70040     372053   7534234    372357   7503098    31.14
COMM     21    70050     373353   7503094    373057   7534197    31.10
COMM     21    70060     374054   7534273    374357   7503137    31.14
COMM     22    70070     375357   7503080    375057   7534242    31.16
COMM     25    70080     376053   7534285    376355   7503105    31.18
COMM     25    70090     377355   7503102    377057   7534226    31.13
COMM     22    70100     378053   7534277    378351   7503154    31.12
COMM     25    70110     379354   7503113    379055   7534245    31.13
COMM     22    70120     380030   7534277    380358   7503112    31.17
COMM     23    70130     381363   7503090    381052   7534263    31.17
COMM     23    70140     382053   7534321    382356   7503174    31.15
COMM     23    70150     383358   7503119    383057   7534274    31.16
COMM     23    70160     384053   7534335    384355   7503144    31.19
COMM     23    70170     385354   7503109    385055   7534295    31.19
COMM     23    70180     386051   7534320    386356   7503154    31.17
COMM     23    70190     387355   7503138    387054   7534299    31.16
COMM     23    70200     388056   7534330    388357   7503186    31.15
COMM     23    70210     389358   7503132    389055   7534294    31.16
COMM     23    70220     390054   7534372    390358   7503169    31.20
COMM     23    70230     391355   7503101    391056   7534340    31.24
COMM     23    70240     392053   7534347    392358   7503184    31.16
COMM     24    70250     393362   7503142    393057   7534303    31.16
COMM     24    70260     394038   7534374    394352   7503176    31.20
COMM     24    70271     395361   7503150    395058   7534343    31.19
COMM     24    70280     396053   7534365    396355   7503205    31.16
COMM     24    70290     397355   7503159    397052   7534341    31.18
COMM     24    70300     398054   7534375    398351   7503185    31.19
COMM     24    70310     399363   7503118    399053   7534340    31.22
COMM     36    70320     400054   7534440    400364   7503204    31.24
COMM     36    70331     401352   7503158    401058   7534399    31.24
COMM     36    70340     402038   7534422    402360   7503199    31.22
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COMM    36   70350    403365   7503130    403279   7510835     7.71
COMM    36   70360    404280   7511191    404363   7503206     7.99
COMM    36   70370    405353   7503125    405274   7511483     8.36
COMM    36   70380    406263   7513042    406361   7503200     9.84
COMM    36   70390    407353   7503190    407260   7512981     9.79
COMM    36   70400    408250   7513018    408351   7503180     9.84
COMM    36   70410    409355   7503195    409254   7512887     9.69
COMM    36   70420    410189   7519814    410356   7503231    16.58
COMM    36   70430    411354   7503199    411183   7520038    16.84
COMM    37   70440    412189   7520299    412349   7503191    17.11
COMM    36   70450    413347   7503173    413185   7520545    17.37
COMM    25   70460    414186   7520854    414358   7503220    17.63
COMM    25   70470    415293   7510287    415185   7521082    10.80
COMM    26   77010    402405   7528884    368623   7528555    33.78
COMM    25   77020    368716   7518559    415984   7519017    47.27
COMM    21   77030    368812   7508561    415132   7509005    46.32
COMM
COMM  Total Kilometres :      1346.39
```

AREA 8

```
COMM JOB NUMBER:                                                    1984
COMM AREA NUMBER:                                                      8
COMM SURVEY COMPANY:                                Fugro Airborne Surveys
COMM CLIENT:                                      NuPower Resources Limited
COMM SURVEY TYPE:                                       25Hz TEMPEST Survey
COMM AREA NAME:                                               Alice Springs
COMM STATE:                                                           NT
COMM COUNTRY:                                                    Australia
COMM SURVEY FLOWN:                                            August, 2008
COMM LOCATED DATA CREATED:                                        Dec 2008
COMM
COMM DATUM:                                                         GDA94
COMM PROJECTION:                                                      MGA
COMM ZONE:                                                             53
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                         1000 m
COMM TRAVERSE LINE DIRECTION:                                   000-180 deg
COMM TIE LINE SPACING:                                              10000 m
COMM TIE LINE DIRECTION:                                        090-270 deg
COMM NOMINAL TERRAIN CLEARANCE:                                       120 m
COMM FINAL LINE KILOMETRES:                                       154.92 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                                     80010 - 80060
COMM TIE LINE NUMBERS:                                          87010 - 87020
COMM
COMM AREA BOUNDARY (WGS84, UTM53)
COMM
COMM     305000.00  7435000.00
COMM     314000.00  7435000.00
COMM     314000.00  7464000.00
COMM     305000.00  7464000.00
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                                    Shorts Skyvan VH-WGT, WGT
COMM
COMM MAGNETOMETER:                              Scintrex Cs-2 Cesium Vapour
COMM INSTALLATION:                                            stinger mount
COMM RESOLUTION:                                                  0.001 nT
```

```
COMM RECORDING INTERVAL:                                              5 s
COMM
COMM ELECTROMAGNETIC SYSTEM:                                  25Hz TEMPEST
COMM INSTALLATION:                 Transmitter loop mounted on the aircraft
COMM                                    Receiver coils in a towed bird
COMM COIL ORIENTATION:                                                X,Z
COMM RECORDING INTERVAL:                                            0.2 s
COMM SYSTEM GEOMETRY:
COMM RECEIVER DISTANCE BEHIND THE TRANSMITTER:                       -115 m
COMM RECEIVER DISTANCE BELOW THE TRANSMITTER:                         -40 m
COMM
COMM RADAR ALTIMETER:                                        Sperry RT-220
COMM RECORDING INTERVAL:                                            0.2 s
COMM
COMM NAVIGATION:                              real-time differential GPS
COMM RECORDING INTERVAL:                                            1.0 s
COMM
COMM ACQUISITION SYSTEM:                                        PDAS-1000
COMM
COMM DATA PROCESSING
COMM
COMM MAGNETIC DATA
COMM DIURNAL BASE VALUE APPLIED                                   53288 nT
COMM PARALLAX CORRECTION APPLIED                                      2 s
COMM IGRF BASE VALUE APPLIED                                      52960 nT
COMM IGRF MODEL 2005 EXTRAPOLATED TO                                2008.6
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ELECTROMAGNETIC DATA
COMM SYSTEM PARALLAX REMOVED, AS FOLLOWS
COMM X-COMPONENT EM DATA                                            0.2 s
COMM Y-COMPONENT EM DATA                    <not relevant for TEMPEST>
COMM Z-COMPONENT EM DATA                                            1.4 s
COMM DATA CORRECTED FOR TRANSMITTER HEIGHT, PITCH AND ROLL
COMM DATA CORRECTED FOR TRANSMITTER-RECEIVER GEOMETRY VARIATIONS
COMM DATA HAVE BEEN MICROLEVELLED
COMM CONDUCTIVITY DEPTH INVERSION CALCULATED                  EMFlow V5.10
COMM CONDUCTIVITIES CALCULATED USING corrected EM DATA
COMM
COMM DIGITAL TERRAIN DATA
COMM PARALLAX CORRECTION APPLIED TO RADAR ALIMETER DATA             0.6 s
COMM PARALLAX CORRECTION APPLIED TO GPS ALIMETER DATA               0.0 s
COMM DTM CALCULATED [DTM = GPS ALTITUDE - RADAR ALTITUDE]
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey’s understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
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COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level. Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM ----------
COMM
COMM ELECTROMAGNETIC SYSTEM
COMM
COMM TEMPEST IS A TIME-DOMAIN SQUARE-WAVE SYSTEM,
COMM TRANSMITTING AT A BASE FREQUENCY OF 25Hz,
COMM WITH 2 ORTHOGONAL-AXIS RECEIVER COILS IN A TOWED BIRD.
COMM FINAL EM OUTPUT IS RECORDED 5 TIMES PER SECOND.
COMM THE TIMES (IN MILLISECONDS) FOR THE 15 WINDOWS ARE:
COMM

COMM WINDOW	START	END	CENTRE
COMM 1	0.007	0.020	0.013
COMM 2	0.033	0.047	0.040
COMM 3	0.060	0.073	0.067
COMM 4	0.087	0.127	0.107
COMM 5	0.140	0.207	0.173
COMM 6	0.220	0.340	0.280
COMM 7	0.353	0.553	0.453
COMM 8	0.567	0.873	0.720
COMM 9	0.887	1.353	1.120
COMM 10	1.367	2.100	1.733
COMM 11	2.113	3.273	2.693
COMM 12	3.287	5.113	4.200
COMM 13	5.127	7.993	6.560
COMM 14	8.007	12.393	10.200
COMM 15	12.407	19.993	16.200

COMM
COMM PULSE WIDTH: 10 ms
COMM
COMM TEMPEST EM data are transformed to the response that would be
COMM obtained with a B-field sensor for a 100% duty cycle square
COMM waveform at the base frequency, involving a 1A change in
COMM current (from -0.5A to +0.5A to -0.5A) in a 1sq.m transmitter.
COMM It is this configuration, rather than the actual acquisition
COMM configuration, which must be specified when modelling TEMPEST data.
COMM
COMM
COMM
COMM LOCATED DATA FORMAT
COMM
COMM Output field format : DOS - Flat ascii

COMM Number of fields : 198
COMM

COMM Field	Channel	Description	Units	Undefined	Format
1	LINE	Line		-9999999	i6
2	FLIGHT	Flight		-9999999	i4
3	FID	Fiducial	(s)	-9999999	f8.1
4	LATITUDE	Latitude GDA94	(deg)	-9999999	f13.6
5	LONGITUDE	Longitude GDA94	(deg)	-9999999	f13.6
6	EASTING	Easting MGA53	(m)	-9999999	f11.2
7	NORTHING	Northing MGA53	(m)	-9999999	f12.2
8	TxHeight	GPS height	(m)	-9999999	f8.2
9	Baro	Barometric Altitude	(m)	-9999999	f8.2
10	TxRalt_raw	Raw Radar Altimeter	(m)	-9999999	f8.2
11	TxRalt_final	Final Radar Altimeter	(m)	-9999999	f8.2
12	DTM	DTM	(m)	-9999999	f8.2
13	MAG	Compensated TMI	(nT)	-9999999	f10.3
14	MAG_1VD	Levelled TMI 1VD	(nT/m)	-9999999	f12.5
15	Pitch_Raw	Raw Tx loop pitch	(deg)	-9999999	f10.5
16	Roll_Raw	Raw Tx loop roll	(deg)	-9999999	f10.5
17	HSep_Raw	Raw Tx-Rx horizontal separation	(m)	-9999999	f8.2
18	VSep_Raw	Raw Tx-Rx vertical separation	(m)	-9999999	f8.2
19	Pitch_Final	Final Tx loop pitch	(deg)	-9999999	f10.5
20	Roll_Final	Final Tx loop roll	(deg)	-9999999	f10.5
21	HSep_Final	Final Tx-Rx horizontal separation	(m)	-9999999	f8.2
22	VSep_Final	Final Tx-Rx vertical separation	(m)	-9999999	f8.2
23	EMX_Raw[1]	Raw EMX01 Window	(fT)	-9999999	f12.6
24	EMX_Raw[2]	Raw EMX02 Window	(fT)	-9999999	f12.6
25	EMX_Raw[3]	Raw EMX03 Window	(fT)	-9999999	f12.6
26	EMX_Raw[4]	Raw EMX04 Window	(fT)	-9999999	f12.6
27	EMX_Raw[5]	Raw EMX05 Window	(fT)	-9999999	f12.6
28	EMX_Raw[6]	Raw EMX06 Window	(fT)	-9999999	f12.6
29	EMX_Raw[7]	Raw EMX07 Window	(fT)	-9999999	f12.6
30	EMX_Raw[8]	Raw EMX08 Window	(fT)	-9999999	f12.6
31	EMX_Raw[9]	Raw EMX09 Window	(fT)	-9999999	f12.6
32	EMX_Raw[10]	Raw EMX10 Window	(fT)	-9999999	f12.6
33	EMX_Raw[11]	Raw EMX11 Window	(fT)	-9999999	f12.6
34	EMX_Raw[12]	Raw EMX12 Window	(fT)	-9999999	f12.6
35	EMX_Raw[13]	Raw EMX13 Window	(fT)	-9999999	f12.6
36	EMX_Raw[14]	Raw EMX14 Window	(fT)	-9999999	f12.6
37	EMX_Raw[15]	Raw EMX15 Window	(fT)	-9999999	f12.6
38	EMX_Final[1]	Final EMX01 Window	(fT)	-9999999	f12.6
39	EMX_Final[2]	Final EMX02 Window	(fT)	-9999999	f12.6
40	EMX_Final[3]	Final EMX03 Window	(fT)	-9999999	f12.6
41	EMX_Final[4]	Final EMX04 Window	(fT)	-9999999	f12.6
42	EMX_Final[5]	Final EMX05 Window	(fT)	-9999999	f12.6
43	EMX_Final[6]	Final EMX06 Window	(fT)	-9999999	f12.6
44	EMX_Final[7]	Final EMX07 Window	(fT)	-9999999	f12.6
45	EMX_Final[8]	Final EMX08 Window	(fT)	-9999999	f12.6
46	EMX_Final[9]	Final EMX09 Window	(fT)	-9999999	f12.6
47	EMX_Final[10]	Final EMX10 Window	(fT)	-9999999	f12.6
48	EMX_Final[11]	Final EMX11 Window	(fT)	-9999999	f12.6
49	EMX_Final[12]	Final EMX12 Window	(fT)	-9999999	f12.6
50	EMX_Final[13]	Final EMX13 Window	(fT)	-9999999	f12.6
51	EMX_Final[14]	Final EMX14 Window	(fT)	-9999999	f12.6
52	EMX_Final[15]	Final EMX15 Window	(fT)	-9999999	f12.6
53	X_Sferics	X_Sferics		-9999999	f10.3
54	X_Lowfreq	X_Lowfreq		-9999999	f10.3
55	X_Powerline	X_Powerline		-9999999	f10.3
56	X_VLF1	X_18.2kHz		-9999999	f10.3
57	X_VLF2	X_19.8kHz		-9999999	f10.3
58	X_VLF3	X_21.4kHz		-9999999	f10.3
59	X_VLF4	X_22.2kHz		-9999999	f10.3
60	X_Geofact	X_Geometric factor		-9999999	f10.3
61	EMZ_Raw[1]	Raw EMZ01 Window	(fT)	-9999999	f12.6
62	EMZ_Raw[2]	Raw EMZ02 Window	(fT)	-9999999	f12.6
63	EMZ_Raw[3]	Raw EMZ03 Window	(fT)	-9999999	f12.6
64	EMZ_Raw[4]	Raw EMZ04 Window	(fT)	-9999999	f12.6
65	EMZ_Raw[5]	Raw EMZ05 Window	(fT)	-9999999	f12.6
66	EMZ_Raw[6]	Raw EMZ06 Window	(fT)	-9999999	f12.6

COMM	67	EMZ_Raw[7]	Raw EMZ07 Window		(fT)	-9999999	f12.6
COMM	68	EMZ_Raw[8]	Raw EMZ08 Window		(fT)	-9999999	f12.6
COMM	69	EMZ_Raw[9]	Raw EMZ09 Window		(fT)	-9999999	f12.6
COMM	70	EMZ_Raw[10]	Raw EMZ10 Window		(fT)	-9999999	f12.6
COMM	71	EMZ_Raw[11]	Raw EMZ11 Window		(fT)	-9999999	f12.6
COMM	72	EMZ_Raw[12]	Raw EMZ12 Window		(fT)	-9999999	f12.6
COMM	73	EMZ_Raw[13]	Raw EMZ13 Window		(fT)	-9999999	f12.6
COMM	74	EMZ_Raw[14]	Raw EMZ14 Window		(fT)	-9999999	f12.6
COMM	75	EMZ_Raw[15]	Raw EMZ15 Window		(fT)	-9999999	f12.6
COMM	76	EMZ_Final[1]	Final EMZ01 Window		(fT)	-9999999	f12.6
COMM	77	EMZ_Final[2]	Final EMZ02 Window		(fT)	-9999999	f12.6
COMM	78	EMZ_Final[3]	Final EMZ03 Window		(fT)	-9999999	f12.6
COMM	79	EMZ_Final[4]	Final EMZ04 Window		(fT)	-9999999	f12.6
COMM	80	EMZ_Final[5]	Final EMZ05 Window		(fT)	-9999999	f12.6
COMM	81	EMZ_Final[6]	Final EMZ06 Window		(fT)	-9999999	f12.6
COMM	82	EMZ_Final[7]	Final EMZ07 Window		(fT)	-9999999	f12.6
COMM	83	EMZ_Final[8]	Final EMZ08 Window		(fT)	-9999999	f12.6
COMM	84	EMZ_Final[9]	Final EMZ09 Window		(fT)	-9999999	f12.6
COMM	85	EMZ_Final[10]	Final EMZ10 Window		(fT)	-9999999	f12.6
COMM	86	EMZ_Final[11]	Final EMZ11 Window		(fT)	-9999999	f12.6
COMM	87	EMZ_Final[12]	Final EMZ12 Window		(fT)	-9999999	f12.6
COMM	88	EMZ_Final[13]	Final EMZ13 Window		(fT)	-9999999	f12.6
COMM	89	EMZ_Final[14]	Final EMZ14 Window		(fT)	-9999999	f12.6
COMM	90	EMZ_Final[15]	Final EMZ15 Window		(fT)	-9999999	f12.6
COMM	91	Z_Sferics	Z_Sferics			-9999999	f10.3
COMM	92	Z_Lowfreq	Z_Lowfreq			-9999999	f10.3
COMM	93	Z_Powerline	Z_Powerline			-9999999	f10.3
COMM	94	Z_VLF1	Z_18.2kHz			-9999999	f10.3
COMM	95	Z_VLF2	Z_19.8kHz			-9999999	f10.3
COMM	96	Z_VLF3	Z_21.4kHz			-9999999	f10.3
COMM	97	Z_VLF4	Z_22.2kHz			-9999999	f10.3
COMM	98	Z_Geofact	Z_Geometric factor			-9999999	f10.3
COMM	99	CNDZ[1]	Conductivity_Z001	0- 5 m	(mS/m)	-9999999	f10.3
COMM	100	CNDZ[2]	Conductivity_Z002	5- 10 m	(mS/m)	-9999999	f10.3
COMM	101	CNDZ[3]	Conductivity_Z003	10- 15 m	(mS/m)	-9999999	f10.3
COMM	102	CNDZ[4]	Conductivity_Z004	15- 20 m	(mS/m)	-9999999	f10.3
COMM	103	CNDZ[5]	Conductivity_Z005	20- 25 m	(mS/m)	-9999999	f10.3
COMM	104	CNDZ[6]	Conductivity_Z006	25- 30 m	(mS/m)	-9999999	f10.3
COMM	105	CNDZ[7]	Conductivity_Z007	30- 35 m	(mS/m)	-9999999	f10.3
COMM	106	CNDZ[8]	Conductivity_Z008	35- 40 m	(mS/m)	-9999999	f10.3
COMM	107	CNDZ[9]	Conductivity_Z009	40- 45 m	(mS/m)	-9999999	f10.3
COMM	108	CNDZ[10]	Conductivity_Z010	45- 50 m	(mS/m)	-9999999	f10.3
COMM	109	CNDZ[11]	Conductivity_Z011	50- 55 m	(mS/m)	-9999999	f10.3
COMM	110	CNDZ[12]	Conductivity_Z012	55- 60 m	(mS/m)	-9999999	f10.3
COMM	111	CNDZ[13]	Conductivity_Z013	60- 65 m	(mS/m)	-9999999	f10.3
COMM	112	CNDZ[14]	Conductivity_Z014	65- 70 m	(mS/m)	-9999999	f10.3
COMM	113	CNDZ[15]	Conductivity_Z015	70- 75 m	(mS/m)	-9999999	f10.3
COMM	114	CNDZ[16]	Conductivity_Z016	75- 80 m	(mS/m)	-9999999	f10.3
COMM	115	CNDZ[17]	Conductivity_Z017	80- 85 m	(mS/m)	-9999999	f10.3
COMM	116	CNDZ[18]	Conductivity_Z018	85- 90 m	(mS/m)	-9999999	f10.3
COMM	117	CNDZ[19]	Conductivity_Z019	90- 95 m	(mS/m)	-9999999	f10.3
COMM	118	CNDZ[20]	Conductivity_Z020	95-100 m	(mS/m)	-9999999	f10.3
COMM	119	CNDZ[21]	Conductivity_Z021	100-105 m	(mS/m)	-9999999	f10.3
COMM	120	CNDZ[22]	Conductivity_Z022	105-110 m	(mS/m)	-9999999	f10.3
COMM	121	CNDZ[23]	Conductivity_Z023	110-115 m	(mS/m)	-9999999	f10.3
COMM	122	CNDZ[24]	Conductivity_Z024	115-120 m	(mS/m)	-9999999	f10.3
COMM	123	CNDZ[25]	Conductivity_Z025	120-125 m	(mS/m)	-9999999	f10.3
COMM	124	CNDZ[26]	Conductivity_Z026	125-130 m	(mS/m)	-9999999	f10.3
COMM	125	CNDZ[27]	Conductivity_Z027	130-135 m	(mS/m)	-9999999	f10.3
COMM	126	CNDZ[28]	Conductivity_Z028	135-140 m	(mS/m)	-9999999	f10.3
COMM	127	CNDZ[29]	Conductivity_Z029	140-145 m	(mS/m)	-9999999	f10.3
COMM	128	CNDZ[30]	Conductivity_Z030	145-150 m	(mS/m)	-9999999	f10.3
COMM	129	CNDZ[31]	Conductivity_Z031	150-155 m	(mS/m)	-9999999	f10.3
COMM	130	CNDZ[32]	Conductivity_Z032	155-160 m	(mS/m)	-9999999	f10.3
COMM	131	CNDZ[33]	Conductivity_Z033	160-165 m	(mS/m)	-9999999	f10.3
COMM	132	CNDZ[34]	Conductivity_Z034	165-170 m	(mS/m)	-9999999	f10.3
COMM	133	CNDZ[35]	Conductivity_Z035	170-175 m	(mS/m)	-9999999	f10.3
COMM	134	CNDZ[36]	Conductivity_Z036	175-180 m	(mS/m)	-9999999	f10.3
COMM	135	CNDZ[37]	Conductivity_Z037	180-185 m	(mS/m)	-9999999	f10.3
COMM	136	CNDZ[38]	Conductivity_Z038	185-190 m	(mS/m)	-9999999	f10.3
COMM	137	CNDZ[39]	Conductivity_Z039	190-195 m	(mS/m)	-9999999	f10.3

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COMM   138  CNDZ[40]        Conductivity_Z040     195-200 m   (mS/m)  -9999999  f10.3
COMM   139  CNDZ[41]        Conductivity_Z041     200-205 m   (mS/m)  -9999999  f10.3
COMM   140  CNDZ[42]        Conductivity_Z042     205-210 m   (mS/m)  -9999999  f10.3
COMM   141  CNDZ[43]        Conductivity_Z043     210-215 m   (mS/m)  -9999999  f10.3
COMM   142  CNDZ[44]        Conductivity_Z044     215-220 m   (mS/m)  -9999999  f10.3
COMM   143  CNDZ[45]        Conductivity_Z045     220-225 m   (mS/m)  -9999999  f10.3
COMM   144  CNDZ[46]        Conductivity_Z046     225-230 m   (mS/m)  -9999999  f10.3
COMM   145  CNDZ[47]        Conductivity_Z047     230-235 m   (mS/m)  -9999999  f10.3
COMM   146  CNDZ[48]        Conductivity_Z048     235-240 m   (mS/m)  -9999999  f10.3
COMM   147  CNDZ[49]        Conductivity_Z049     240-245 m   (mS/m)  -9999999  f10.3
COMM   148  CNDZ[50]        Conductivity_Z050     245-250 m   (mS/m)  -9999999  f10.3
COMM   149  CNDZ[51]        Conductivity_Z051     250-255 m   (mS/m)  -9999999  f10.3
COMM   150  CNDZ[52]        Conductivity_Z052     255-260 m   (mS/m)  -9999999  f10.3
COMM   151  CNDZ[53]        Conductivity_Z053     260-265 m   (mS/m)  -9999999  f10.3
COMM   152  CNDZ[54]        Conductivity_Z054     265-270 m   (mS/m)  -9999999  f10.3
COMM   153  CNDZ[55]        Conductivity_Z055     270-275 m   (mS/m)  -9999999  f10.3
COMM   154  CNDZ[56]        Conductivity_Z056     275-280 m   (mS/m)  -9999999  f10.3
COMM   155  CNDZ[57]        Conductivity_Z057     280-285 m   (mS/m)  -9999999  f10.3
COMM   156  CNDZ[58]        Conductivity_Z058     285-290 m   (mS/m)  -9999999  f10.3
COMM   157  CNDZ[59]        Conductivity_Z059     290-295 m   (mS/m)  -9999999  f10.3
COMM   158  CNDZ[60]        Conductivity_Z060     295-300 m   (mS/m)  -9999999  f10.3
COMM   159  CNDZ[61]        Conductivity_Z061     300-305 m   (mS/m)  -9999999  f10.3
COMM   160  CNDZ[62]        Conductivity_Z062     305-310 m   (mS/m)  -9999999  f10.3
COMM   161  CNDZ[63]        Conductivity_Z063     310-315 m   (mS/m)  -9999999  f10.3
COMM   162  CNDZ[64]        Conductivity_Z064     315-320 m   (mS/m)  -9999999  f10.3
COMM   163  CNDZ[65]        Conductivity_Z065     320-325 m   (mS/m)  -9999999  f10.3
COMM   164  CNDZ[66]        Conductivity_Z066     325-330 m   (mS/m)  -9999999  f10.3
COMM   165  CNDZ[67]        Conductivity_Z067     330-335 m   (mS/m)  -9999999  f10.3
COMM   166  CNDZ[68]        Conductivity_Z068     335-340 m   (mS/m)  -9999999  f10.3
COMM   167  CNDZ[69]        Conductivity_Z069     340-345 m   (mS/m)  -9999999  f10.3
COMM   168  CNDZ[70]        Conductivity_Z070     345-350 m   (mS/m)  -9999999  f10.3
COMM   169  CNDZ[71]        Conductivity_Z071     350-355 m   (mS/m)  -9999999  f10.3
COMM   170  CNDZ[72]        Conductivity_Z072     355-360 m   (mS/m)  -9999999  f10.3
COMM   171  CNDZ[73]        Conductivity_Z073     360-365 m   (mS/m)  -9999999  f10.3
COMM   172  CNDZ[74]        Conductivity_Z074     365-370 m   (mS/m)  -9999999  f10.3
COMM   173  CNDZ[75]        Conductivity_Z075     370-375 m   (mS/m)  -9999999  f10.3
COMM   174  CNDZ[76]        Conductivity_Z076     375-380 m   (mS/m)  -9999999  f10.3
COMM   175  CNDZ[77]        Conductivity_Z077     380-385 m   (mS/m)  -9999999  f10.3
COMM   176  CNDZ[78]        Conductivity_Z078     385-390 m   (mS/m)  -9999999  f10.3
COMM   177  CNDZ[79]        Conductivity_Z079     390-395 m   (mS/m)  -9999999  f10.3
COMM   178  CNDZ[80]        Conductivity_Z080     395-400 m   (mS/m)  -9999999  f10.3
COMM   179  CNDZ[81]        Conductivity_Z081     400-405 m   (mS/m)  -9999999  f10.3
COMM   180  CNDZ[82]        Conductivity_Z082     405-410 m   (mS/m)  -9999999  f10.3
COMM   181  CNDZ[83]        Conductivity_Z083     410-415 m   (mS/m)  -9999999  f10.3
COMM   182  CNDZ[84]        Conductivity_Z084     415-420 m   (mS/m)  -9999999  f10.3
COMM   183  CNDZ[85]        Conductivity_Z085     420-425 m   (mS/m)  -9999999  f10.3
COMM   184  CNDZ[86]        Conductivity_Z086     425-430 m   (mS/m)  -9999999  f10.3
COMM   185  CNDZ[87]        Conductivity_Z087     430-435 m   (mS/m)  -9999999  f10.3
COMM   186  CNDZ[88]        Conductivity_Z088     435-440 m   (mS/m)  -9999999  f10.3
COMM   187  CNDZ[89]        Conductivity_Z089     440-445 m   (mS/m)  -9999999  f10.3
COMM   188  CNDZ[90]        Conductivity_Z090     445-450 m   (mS/m)  -9999999  f10.3
COMM   189  CNDZ[91]        Conductivity_Z091     450-455 m   (mS/m)  -9999999  f10.3
COMM   190  CNDZ[92]        Conductivity_Z092     455-460 m   (mS/m)  -9999999  f10.3
COMM   191  CNDZ[93]        Conductivity_Z093     460-465 m   (mS/m)  -9999999  f10.3
COMM   192  CNDZ[94]        Conductivity_Z094     465-470 m   (mS/m)  -9999999  f10.3
COMM   193  CNDZ[95]        Conductivity_Z095     470-475 m   (mS/m)  -9999999  f10.3
COMM   194  CNDZ[96]        Conductivity_Z096     475-480 m   (mS/m)  -9999999  f10.3
COMM   195  CNDZ[97]        Conductivity_Z097     480-485 m   (mS/m)  -9999999  f10.3
COMM   196  CNDZ[98]        Conductivity_Z098     485-490 m   (mS/m)  -9999999  f10.3
COMM   197  CNDZ[99]        Conductivity_Z099     490-495 m   (mS/m)  -9999999  f10.3
COMM   198  CNDZ[100]       Conductivity_Z100     495-500 m   (mS/m)  -9999999  f10.3
COMM
COMM  Total number of lines :    8
COMM
COMM    Flt     Line    Start X   Start Y     End X     End Y      Kms
COMM
COMM     27    80010     307217   7438138    306971   7461289    23.15
COMM     27    80020     307969   7461334    308219   7438190    23.15
COMM     27    80030     309219   7438151    308966   7461293    23.14
COMM     27    80040     309967   7461361    310218   7438173    23.19
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COMM    27   80050    311219   7438175    310973   7461317    23.14
COMM    27   80060    311970   7461335    312217   7438207    23.13
COMM    27   87010    313546   7455391    305510   7455305     8.04
COMM    27   87020    305614   7445610    313591   7445697     7.98
COMM
COMM  Total Kilometres :       154.92
```

AREA 9

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COMM JOB NUMBER:                                                    1984
COMM AREA NUMBER:                                                      9
COMM SURVEY COMPANY:                                 Fugro Airborne Surveys
COMM CLIENT:                                       NuPower Resources Limited
COMM SURVEY TYPE:                                        25Hz TEMPEST Survey
COMM AREA NAME:                                             Alice Springs
COMM STATE:                                                            NT
COMM COUNTRY:                                                     Australia
COMM SURVEY FLOWN:                                           August, 2008
COMM LOCATED DATA CREATED:                                       Dec 2008
COMM
COMM DATUM:                                                         GDA94
COMM PROJECTION:                                                      MGA
COMM ZONE:                                                             53
COMM
COMM SURVEY SPECIFICATIONS
COMM
COMM TRAVERSE LINE SPACING:                                         290 m
COMM TRAVERSE LINE DIRECTION:                                 120-300 deg
COMM NOMINAL TERRAIN CLEARANCE:                                     120 m
COMM FINAL LINE KILOMETRES:                                      35.31 km
COMM
COMM LINE NUMBERING
COMM
COMM TRAVERSE LINE NUMBERS:                                  90010 - 90030
COMM
COMM AREA BOUNDARY (WGS84, UTM53)
COMM
COMM   324470.00  7503470.00
COMM   324470.00  7489530.00
COMM   317530.00  7489530.00
COMM   317530.00  7503470.00
COMM
COMM SURVEY EQUIPMENT
COMM
COMM AIRCRAFT:                                    Shorts Skyvan VH-WGT, WGT
COMM
COMM MAGNETOMETER:                              Scintrex Cs-2 Cesium Vapour
COMM INSTALLATION:                                           stinger mount
COMM RESOLUTION:                                                0.001 nT
COMM RECORDING INTERVAL:                                             5 s
COMM
COMM ELECTROMAGNETIC SYSTEM:                                     25Hz TEMPEST
COMM INSTALLATION:                Transmitter loop mounted on the aircraft
COMM                                        Receiver coils in a towed bird
COMM COIL ORIENTATION:                                                 X,Z
COMM RECORDING INTERVAL:                                             0.2 s
COMM SYSTEM GEOMETRY:
COMM RECEIVER DISTANCE BEHIND THE TRANSMITTER:                      -117 m
COMM RECEIVER DISTANCE BELOW THE TRANSMITTER:                        -36 m
COMM
COMM RADAR ALTIMETER:                                          Sperry RT-220
COMM RECORDING INTERVAL:                                             0.2 s
COMM
COMM NAVIGATION:                                 real-time differential GPS
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COMM RECORDING INTERVAL:                                              1.0 s
COMM
COMM ACQUISITION SYSTEM:                                          PDAS-1000
COMM
COMM DATA PROCESSING
COMM
COMM MAGNETIC DATA
COMM DIURNAL BASE VALUE APPLIED                                    53288 nT
COMM PARALLAX CORRECTION APPLIED                                       2 s
COMM IGRF BASE VALUE APPLIED                                       52600 nT
COMM IGRF MODEL 2005 EXTRAPOLATED TO                                2008.6
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ELECTROMAGNETIC DATA
COMM SYSTEM PARALLAX REMOVED, AS FOLLOWS
COMM X-COMPONENT EM DATA                                              0.2 s
COMM Y-COMPONENT EM DATA                    <not relevant for TEMPEST>
COMM Z-COMPONENT EM DATA                                              1.4 s
COMM DATA CORRECTED FOR TRANSMITTER HEIGHT, PITCH AND ROLL
COMM DATA CORRECTED FOR TRANSMITTER-RECEIVER GEOMETRY VARIATIONS
COMM DATA HAVE BEEN MICROLEVELLED
COMM CONDUCTIVITY DEPTH INVERSION CALCULATED                   EMFlow V5.10
COMM CONDUCTIVITIES CALCULATED USING corrected EM DATA
COMM
COMM DIGITAL TERRAIN DATA
COMM PARALLAX CORRECTION APPLIED TO RADAR ALIMETER DATA               0.6 s
COMM PARALLAX CORRECTION APPLIED TO GPS ALIMETER DATA                 0.0 s
COMM DTM CALCULATED [DTM = GPS ALTITUDE - RADAR ALTITUDE]
COMM DATA HAVE BEEN MICROLEVELLED
COMM
COMM ------------------------------------------------------------------------
COMM DISCLAIMER
COMM ------------------------------------------------------------------------
COMM It is Fugro Airborne Survey’s understanding that the data provided to
COMM the client is to be used for the purpose agreed between the parties.
COMM That purpose was a significant factor in determining the scope and
COMM level of the Services being offered to the Client. Should the purpose
COMM for which the data is used change, the data may no longer be valid or
COMM appropriate and any further use of, or reliance upon, the data in
COMM those circumstances by the Client without Fugro Airborne Survey's
COMM review and advice shall be at the Client's own or sole risk.
COMM
COMM The Services were performed by Fugro Airborne Survey exclusively for
COMM the purposes of the Client. Should the data be made available in whole
COMM or part to any third party, and such party relies thereon, that party
COMM does so wholly at its own and sole risk and Fugro Airborne Survey
COMM disclaims any liability to such party.
COMM
COMM Where the Services have involved Fugro Airborne Survey's use of any
COMM information provided by the Client or third parties, upon which
COMM Fugro Airborne Survey was reasonably entitled to rely, then the
COMM Services are limited by the accuracy of such information. Fugro
COMM Airborne Survey is not liable for any inaccuracies (including any
COMM incompleteness) in the said information, save as otherwise provided
COMM in the terms of the contract between the Client and Fugro Airborne
COMM Survey.
COMM
COMM With regard to DIGITAL TERRAIN DATA, the accuracy of the elevation
COMM calculation is directly dependent on the accuracy of the two input
COMM parameters, radar altitude and GPS altitude. The radar altitude value
COMM may be erroneous in areas of heavy tree cover, where the altimeter
COMM reflects the distance to the tree canopy rather than the ground. The
COMM GPS altitude value is primarily dependent on the number of available
COMM satellites. Although post-processing of GPS data will yield X and Y
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COMM accuracies in the order of 1-2 metres, the accuracy of the altitude
COMM value is usually much less, sometimes in the ±5 metre range. Further
COMM inaccuracies may be introduced during the interpolation and gridding
COMM process. Because of the inherent inaccuracies of this method, no
COMM guarantee is made or implied that the information displayed is a true
COMM representation of the height above sea level.  Although this product
COMM may be of some use as a general reference,
COMM THIS PRODUCT MUST NOT BE USED FOR NAVIGATION PURPOSES.
COMM ---------------------------------------------------------------------
COMM
COMM ELECTROMAGNETIC SYSTEM
COMM
COMM TEMPEST IS A TIME-DOMAIN SQUARE-WAVE SYSTEM,
COMM TRANSMITTING AT A BASE FREQUENCY OF 25Hz,
COMM WITH 2 ORTHOGONAL-AXIS RECEIVER COILS IN A TOWED BIRD.
COMM FINAL EM OUTPUT IS RECORDED 5 TIMES PER SECOND.
COMM THE TIMES (IN MILLISECONDS) FOR THE 15 WINDOWS ARE:
COMM
COMM WINDOW      START       END      CENTRE
COMM    1        0.007      0.020      0.013
COMM    2        0.033      0.047      0.040
COMM    3        0.060      0.073      0.067
COMM    4        0.087      0.127      0.107
COMM    5        0.140      0.207      0.173
COMM    6        0.220      0.340      0.280
COMM    7        0.353      0.553      0.453
COMM    8        0.567      0.873      0.720
COMM    9        0.887      1.353      1.120
COMM   10        1.367      2.100      1.733
COMM   11        2.113      3.273      2.693
COMM   12        3.287      5.113      4.200
COMM   13        5.127      7.993      6.560
COMM   14        8.007     12.393     10.200
COMM   15       12.407     19.993     16.200
COMM
COMM PULSE WIDTH: 10 ms
COMM
COMM TEMPEST EM data are transformed to the response that would be
COMM obtained with a B-field sensor for a 100% duty cycle square
COMM waveform at the base frequency, involving a 1A change in
COMM current (from -0.5A to +0.5A to -0.5A) in a 1sq.m transmitter.
COMM It is this configuration, rather than the actual acquisition
COMM configuration, which must be specified when modelling TEMPEST data.
COMM
COMM
COMM
COMM LOCATED DATA FORMAT
COMM
COMM  Output field format : DOS  - Flat ascii
COMM  Number of fields    : 198
COMM
COMM Field  Channel         Description                      Units  Undefined Format
COMM -----  -------         -----------                      -----  --------- ------
COMM
COMM     1  LINE            Line                                     -9999999  i6
COMM     2  FLIGHT          Flight                                   -9999999  i4
COMM     3  FID             Fiducial                           (s)   -9999999  f8.1
COMM     4  LATITUDE        Latitude  GDA94                  (deg)   -9999999  f13.6
COMM     5  LONGITUDE       Longitude GDA94                  (deg)   -9999999  f13.6
COMM     6  EASTING         Easting   MGA53                   (m)   -9999999  f11.2
COMM     7  NORTHING        Northing  MGA53                   (m)   -9999999  f12.2
COMM     8  TxHeight        GPS height                        (m)   -9999999  f8.2
COMM     9  Baro            Barometric Altitude               (m)   -9999999  f8.2
COMM    10  TxRalt_raw      Raw Radar Altimeter               (m)   -9999999  f8.2
COMM    11  TxRalt_final    Final Radar Altimeter             (m)   -9999999  f8.2
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COMM	12	DTM	DTM	(m)	-9999999	f8.2
COMM	13	MAG	Compensated TMI	(nT)	-9999999	f10.3
COMM	14	MAG_1VD	Levelled TMI 1VD	(nT/m)	-9999999	f12.5
COMM	15	Pitch_Raw	Raw Tx loop pitch	(deg)	-9999999	f10.5
COMM	16	Roll_Raw	Raw Tx loop roll	(deg)	-9999999	f10.5
COMM	17	HSep_Raw	Raw Tx-Rx horizontal separation	(m)	-9999999	f8.2
COMM	18	VSep_Raw	Raw Tx-Rx vertical separation	(m)	-9999999	f8.2
COMM	19	Pitch_Final	Final Tx loop pitch	(deg)	-9999999	f10.5
COMM	20	Roll_Final	Final Tx loop roll	(deg)	-9999999	f10.5
COMM	21	HSep_Final	Final Tx-Rx horizontal separation	(m)	-9999999	f8.2
COMM	22	VSep_Final	Final Tx-Rx vertical separation	(m)	-9999999	f8.2
COMM	23	EMX_Raw[1]	Raw EMX01 Window	(fT)	-9999999	f12.6
COMM	24	EMX_Raw[2]	Raw EMX02 Window	(fT)	-9999999	f12.6
COMM	25	EMX_Raw[3]	Raw EMX03 Window	(fT)	-9999999	f12.6
COMM	26	EMX_Raw[4]	Raw EMX04 Window	(fT)	-9999999	f12.6
COMM	27	EMX_Raw[5]	Raw EMX05 Window	(fT)	-9999999	f12.6
COMM	28	EMX_Raw[6]	Raw EMX06 Window	(fT)	-9999999	f12.6
COMM	29	EMX_Raw[7]	Raw EMX07 Window	(fT)	-9999999	f12.6
COMM	30	EMX_Raw[8]	Raw EMX08 Window	(fT)	-9999999	f12.6
COMM	31	EMX_Raw[9]	Raw EMX09 Window	(fT)	-9999999	f12.6
COMM	32	EMX_Raw[10]	Raw EMX10 Window	(fT)	-9999999	f12.6
COMM	33	EMX_Raw[11]	Raw EMX11 Window	(fT)	-9999999	f12.6
COMM	34	EMX_Raw[12]	Raw EMX12 Window	(fT)	-9999999	f12.6
COMM	35	EMX_Raw[13]	Raw EMX13 Window	(fT)	-9999999	f12.6
COMM	36	EMX_Raw[14]	Raw EMX14 Window	(fT)	-9999999	f12.6
COMM	37	EMX_Raw[15]	Raw EMX15 Window	(fT)	-9999999	f12.6
COMM	38	EMX_Final[1]	Final EMX01 Window	(fT)	-9999999	f12.6
COMM	39	EMX_Final[2]	Final EMX02 Window	(fT)	-9999999	f12.6
COMM	40	EMX_Final[3]	Final EMX03 Window	(fT)	-9999999	f12.6
COMM	41	EMX_Final[4]	Final EMX04 Window	(fT)	-9999999	f12.6
COMM	42	EMX_Final[5]	Final EMX05 Window	(fT)	-9999999	f12.6
COMM	43	EMX_Final[6]	Final EMX06 Window	(fT)	-9999999	f12.6
COMM	44	EMX_Final[7]	Final EMX07 Window	(fT)	-9999999	f12.6
COMM	45	EMX_Final[8]	Final EMX08 Window	(fT)	-9999999	f12.6
COMM	46	EMX_Final[9]	Final EMX09 Window	(fT)	-9999999	f12.6
COMM	47	EMX_Final[10]	Final EMX10 Window	(fT)	-9999999	f12.6
COMM	48	EMX_Final[11]	Final EMX11 Window	(fT)	-9999999	f12.6
COMM	49	EMX_Final[12]	Final EMX12 Window	(fT)	-9999999	f12.6
COMM	50	EMX_Final[13]	Final EMX13 Window	(fT)	-9999999	f12.6
COMM	51	EMX_Final[14]	Final EMX14 Window	(fT)	-9999999	f12.6
COMM	52	EMX_Final[15]	Final EMX15 Window	(fT)	-9999999	f12.6
COMM	53	X_Sferics	X_Sferics		-9999999	f10.3
COMM	54	X_Lowfreq	X_Lowfreq		-9999999	f10.3
COMM	55	X_Powerline	X_Powerline		-9999999	f10.3
COMM	56	X_VLF1	X_18.2kHz		-9999999	f10.3
COMM	57	X_VLF2	X_19.8kHz		-9999999	f10.3
COMM	58	X_VLF3	X_21.4kHz		-9999999	f10.3
COMM	59	X_VLF4	X_22.2kHz		-9999999	f10.3
COMM	60	X_Geofact	X_Geometric factor		-9999999	f10.3
COMM	61	EMZ_Raw[1]	Raw EMZ01 Window	(fT)	-9999999	f12.6
COMM	62	EMZ_Raw[2]	Raw EMZ02 Window	(fT)	-9999999	f12.6
COMM	63	EMZ_Raw[3]	Raw EMZ03 Window	(fT)	-9999999	f12.6
COMM	64	EMZ_Raw[4]	Raw EMZ04 Window	(fT)	-9999999	f12.6
COMM	65	EMZ_Raw[5]	Raw EMZ05 Window	(fT)	-9999999	f12.6
COMM	66	EMZ_Raw[6]	Raw EMZ06 Window	(fT)	-9999999	f12.6
COMM	67	EMZ_Raw[7]	Raw EMZ07 Window	(fT)	-9999999	f12.6
COMM	68	EMZ_Raw[8]	Raw EMZ08 Window	(fT)	-9999999	f12.6
COMM	69	EMZ_Raw[9]	Raw EMZ09 Window	(fT)	-9999999	f12.6
COMM	70	EMZ_Raw[10]	Raw EMZ10 Window	(fT)	-9999999	f12.6
COMM	71	EMZ_Raw[11]	Raw EMZ11 Window	(fT)	-9999999	f12.6
COMM	72	EMZ_Raw[12]	Raw EMZ12 Window	(fT)	-9999999	f12.6
COMM	73	EMZ_Raw[13]	Raw EMZ13 Window	(fT)	-9999999	f12.6
COMM	74	EMZ_Raw[14]	Raw EMZ14 Window	(fT)	-9999999	f12.6
COMM	75	EMZ_Raw[15]	Raw EMZ15 Window	(fT)	-9999999	f12.6
COMM	76	EMZ_Final[1]	Final EMZ01 Window	(fT)	-9999999	f12.6
COMM	77	EMZ_Final[2]	Final EMZ02 Window	(fT)	-9999999	f12.6
COMM	78	EMZ_Final[3]	Final EMZ03 Window	(fT)	-9999999	f12.6
COMM	79	EMZ_Final[4]	Final EMZ04 Window	(fT)	-9999999	f12.6
COMM	80	EMZ_Final[5]	Final EMZ05 Window	(fT)	-9999999	f12.6
COMM	81	EMZ_Final[6]	Final EMZ06 Window	(fT)	-9999999	f12.6
COMM	82	EMZ_Final[7]	Final EMZ07 Window	(fT)	-9999999	f12.6

COMM	83	EMZ_Final[8]	Final EMZ08 Window		(fT)	-9999999	f12.6
COMM	84	EMZ_Final[9]	Final EMZ09 Window		(fT)	-9999999	f12.6
COMM	85	EMZ_Final[10]	Final EMZ10 Window		(fT)	-9999999	f12.6
COMM	86	EMZ_Final[11]	Final EMZ11 Window		(fT)	-9999999	f12.6
COMM	87	EMZ_Final[12]	Final EMZ12 Window		(fT)	-9999999	f12.6
COMM	88	EMZ_Final[13]	Final EMZ13 Window		(fT)	-9999999	f12.6
COMM	89	EMZ_Final[14]	Final EMZ14 Window		(fT)	-9999999	f12.6
COMM	90	EMZ_Final[15]	Final EMZ15 Window		(fT)	-9999999	f12.6
COMM	91	Z_Sferics	Z_Sferics			-9999999	f10.3
COMM	92	Z_Lowfreq	Z_Lowfreq			-9999999	f10.3
COMM	93	Z_Powerline	Z_Powerline			-9999999	f10.3
COMM	94	Z_VLF1	Z_18.2kHz			-9999999	f10.3
COMM	95	Z_VLF2	Z_19.8kHz			-9999999	f10.3
COMM	96	Z_VLF3	Z_21.4kHz			-9999999	f10.3
COMM	97	Z_VLF4	Z_22.2kHz			-9999999	f10.3
COMM	98	Z_Geofact	Z_Geometric factor			-9999999	f10.3
COMM	99	CNDZ[1]	Conductivity_Z001	0- 5 m	(mS/m)	-9999999	f10.3
COMM	100	CNDZ[2]	Conductivity_Z002	5- 10 m	(mS/m)	-9999999	f10.3
COMM	101	CNDZ[3]	Conductivity_Z003	10- 15 m	(mS/m)	-9999999	f10.3
COMM	102	CNDZ[4]	Conductivity_Z004	15- 20 m	(mS/m)	-9999999	f10.3
COMM	103	CNDZ[5]	Conductivity_Z005	20- 25 m	(mS/m)	-9999999	f10.3
COMM	104	CNDZ[6]	Conductivity_Z006	25- 30 m	(mS/m)	-9999999	f10.3
COMM	105	CNDZ[7]	Conductivity_Z007	30- 35 m	(mS/m)	-9999999	f10.3
COMM	106	CNDZ[8]	Conductivity_Z008	35- 40 m	(mS/m)	-9999999	f10.3
COMM	107	CNDZ[9]	Conductivity_Z009	40- 45 m	(mS/m)	-9999999	f10.3
COMM	108	CNDZ[10]	Conductivity_Z010	45- 50 m	(mS/m)	-9999999	f10.3
COMM	109	CNDZ[11]	Conductivity_Z011	50- 55 m	(mS/m)	-9999999	f10.3
COMM	110	CNDZ[12]	Conductivity_Z012	55- 60 m	(mS/m)	-9999999	f10.3
COMM	111	CNDZ[13]	Conductivity_Z013	60- 65 m	(mS/m)	-9999999	f10.3
COMM	112	CNDZ[14]	Conductivity_Z014	65- 70 m	(mS/m)	-9999999	f10.3
COMM	113	CNDZ[15]	Conductivity_Z015	70- 75 m	(mS/m)	-9999999	f10.3
COMM	114	CNDZ[16]	Conductivity_Z016	75- 80 m	(mS/m)	-9999999	f10.3
COMM	115	CNDZ[17]	Conductivity_Z017	80- 85 m	(mS/m)	-9999999	f10.3
COMM	116	CNDZ[18]	Conductivity_Z018	85- 90 m	(mS/m)	-9999999	f10.3
COMM	117	CNDZ[19]	Conductivity_Z019	90- 95 m	(mS/m)	-9999999	f10.3
COMM	118	CNDZ[20]	Conductivity_Z020	95-100 m	(mS/m)	-9999999	f10.3
COMM	119	CNDZ[21]	Conductivity_Z021	100-105 m	(mS/m)	-9999999	f10.3
COMM	120	CNDZ[22]	Conductivity_Z022	105-110 m	(mS/m)	-9999999	f10.3
COMM	121	CNDZ[23]	Conductivity_Z023	110-115 m	(mS/m)	-9999999	f10.3
COMM	122	CNDZ[24]	Conductivity_Z024	115-120 m	(mS/m)	-9999999	f10.3
COMM	123	CNDZ[25]	Conductivity_Z025	120-125 m	(mS/m)	-9999999	f10.3
COMM	124	CNDZ[26]	Conductivity_Z026	125-130 m	(mS/m)	-9999999	f10.3
COMM	125	CNDZ[27]	Conductivity_Z027	130-135 m	(mS/m)	-9999999	f10.3
COMM	126	CNDZ[28]	Conductivity_Z028	135-140 m	(mS/m)	-9999999	f10.3
COMM	127	CNDZ[29]	Conductivity_Z029	140-145 m	(mS/m)	-9999999	f10.3
COMM	128	CNDZ[30]	Conductivity_Z030	145-150 m	(mS/m)	-9999999	f10.3
COMM	129	CNDZ[31]	Conductivity_Z031	150-155 m	(mS/m)	-9999999	f10.3
COMM	130	CNDZ[32]	Conductivity_Z032	155-160 m	(mS/m)	-9999999	f10.3
COMM	131	CNDZ[33]	Conductivity_Z033	160-165 m	(mS/m)	-9999999	f10.3
COMM	132	CNDZ[34]	Conductivity_Z034	165-170 m	(mS/m)	-9999999	f10.3
COMM	133	CNDZ[35]	Conductivity_Z035	170-175 m	(mS/m)	-9999999	f10.3
COMM	134	CNDZ[36]	Conductivity_Z036	175-180 m	(mS/m)	-9999999	f10.3
COMM	135	CNDZ[37]	Conductivity_Z037	180-185 m	(mS/m)	-9999999	f10.3
COMM	136	CNDZ[38]	Conductivity_Z038	185-190 m	(mS/m)	-9999999	f10.3
COMM	137	CNDZ[39]	Conductivity_Z039	190-195 m	(mS/m)	-9999999	f10.3
COMM	138	CNDZ[40]	Conductivity_Z040	195-200 m	(mS/m)	-9999999	f10.3
COMM	139	CNDZ[41]	Conductivity_Z041	200-205 m	(mS/m)	-9999999	f10.3
COMM	140	CNDZ[42]	Conductivity_Z042	205-210 m	(mS/m)	-9999999	f10.3
COMM	141	CNDZ[43]	Conductivity_Z043	210-215 m	(mS/m)	-9999999	f10.3
COMM	142	CNDZ[44]	Conductivity_Z044	215-220 m	(mS/m)	-9999999	f10.3
COMM	143	CNDZ[45]	Conductivity_Z045	220-225 m	(mS/m)	-9999999	f10.3
COMM	144	CNDZ[46]	Conductivity_Z046	225-230 m	(mS/m)	-9999999	f10.3
COMM	145	CNDZ[47]	Conductivity_Z047	230-235 m	(mS/m)	-9999999	f10.3
COMM	146	CNDZ[48]	Conductivity_Z048	235-240 m	(mS/m)	-9999999	f10.3
COMM	147	CNDZ[49]	Conductivity_Z049	240-245 m	(mS/m)	-9999999	f10.3
COMM	148	CNDZ[50]	Conductivity_Z050	245-250 m	(mS/m)	-9999999	f10.3
COMM	149	CNDZ[51]	Conductivity_Z051	250-255 m	(mS/m)	-9999999	f10.3
COMM	150	CNDZ[52]	Conductivity_Z052	255-260 m	(mS/m)	-9999999	f10.3
COMM	151	CNDZ[53]	Conductivity_Z053	260-265 m	(mS/m)	-9999999	f10.3
COMM	152	CNDZ[54]	Conductivity_Z054	265-270 m	(mS/m)	-9999999	f10.3
COMM	153	CNDZ[55]	Conductivity_Z055	270-275 m	(mS/m)	-9999999	f10.3

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COMM   154  CNDZ[56]        Conductivity_Z056     275-280 m   (mS/m)  -9999999  f10.3
COMM   155  CNDZ[57]        Conductivity_Z057     280-285 m   (mS/m)  -9999999  f10.3
COMM   156  CNDZ[58]        Conductivity_Z058     285-290 m   (mS/m)  -9999999  f10.3
COMM   157  CNDZ[59]        Conductivity_Z059     290-295 m   (mS/m)  -9999999  f10.3
COMM   158  CNDZ[60]        Conductivity_Z060     295-300 m   (mS/m)  -9999999  f10.3
COMM   159  CNDZ[61]        Conductivity_Z061     300-305 m   (mS/m)  -9999999  f10.3
COMM   160  CNDZ[62]        Conductivity_Z062     305-310 m   (mS/m)  -9999999  f10.3
COMM   161  CNDZ[63]        Conductivity_Z063     310-315 m   (mS/m)  -9999999  f10.3
COMM   162  CNDZ[64]        Conductivity_Z064     315-320 m   (mS/m)  -9999999  f10.3
COMM   163  CNDZ[65]        Conductivity_Z065     320-325 m   (mS/m)  -9999999  f10.3
COMM   164  CNDZ[66]        Conductivity_Z066     325-330 m   (mS/m)  -9999999  f10.3
COMM   165  CNDZ[67]        Conductivity_Z067     330-335 m   (mS/m)  -9999999  f10.3
COMM   166  CNDZ[68]        Conductivity_Z068     335-340 m   (mS/m)  -9999999  f10.3
COMM   167  CNDZ[69]        Conductivity_Z069     340-345 m   (mS/m)  -9999999  f10.3
COMM   168  CNDZ[70]        Conductivity_Z070     345-350 m   (mS/m)  -9999999  f10.3
COMM   169  CNDZ[71]        Conductivity_Z071     350-355 m   (mS/m)  -9999999  f10.3
COMM   170  CNDZ[72]        Conductivity_Z072     355-360 m   (mS/m)  -9999999  f10.3
COMM   171  CNDZ[73]        Conductivity_Z073     360-365 m   (mS/m)  -9999999  f10.3
COMM   172  CNDZ[74]        Conductivity_Z074     365-370 m   (mS/m)  -9999999  f10.3
COMM   173  CNDZ[75]        Conductivity_Z075     370-375 m   (mS/m)  -9999999  f10.3
COMM   174  CNDZ[76]        Conductivity_Z076     375-380 m   (mS/m)  -9999999  f10.3
COMM   175  CNDZ[77]        Conductivity_Z077     380-385 m   (mS/m)  -9999999  f10.3
COMM   176  CNDZ[78]        Conductivity_Z078     385-390 m   (mS/m)  -9999999  f10.3
COMM   177  CNDZ[79]        Conductivity_Z079     390-395 m   (mS/m)  -9999999  f10.3
COMM   178  CNDZ[80]        Conductivity_Z080     395-400 m   (mS/m)  -9999999  f10.3
COMM   179  CNDZ[81]        Conductivity_Z081     400-405 m   (mS/m)  -9999999  f10.3
COMM   180  CNDZ[82]        Conductivity_Z082     405-410 m   (mS/m)  -9999999  f10.3
COMM   181  CNDZ[83]        Conductivity_Z083     410-415 m   (mS/m)  -9999999  f10.3
COMM   182  CNDZ[84]        Conductivity_Z084     415-420 m   (mS/m)  -9999999  f10.3
COMM   183  CNDZ[85]        Conductivity_Z085     420-425 m   (mS/m)  -9999999  f10.3
COMM   184  CNDZ[86]        Conductivity_Z086     425-430 m   (mS/m)  -9999999  f10.3
COMM   185  CNDZ[87]        Conductivity_Z087     430-435 m   (mS/m)  -9999999  f10.3
COMM   186  CNDZ[88]        Conductivity_Z088     435-440 m   (mS/m)  -9999999  f10.3
COMM   187  CNDZ[89]        Conductivity_Z089     440-445 m   (mS/m)  -9999999  f10.3
COMM   188  CNDZ[90]        Conductivity_Z090     445-450 m   (mS/m)  -9999999  f10.3
COMM   189  CNDZ[91]        Conductivity_Z091     450-455 m   (mS/m)  -9999999  f10.3
COMM   190  CNDZ[92]        Conductivity_Z092     455-460 m   (mS/m)  -9999999  f10.3
COMM   191  CNDZ[93]        Conductivity_Z093     460-465 m   (mS/m)  -9999999  f10.3
COMM   192  CNDZ[94]        Conductivity_Z094     465-470 m   (mS/m)  -9999999  f10.3
COMM   193  CNDZ[95]        Conductivity_Z095     470-475 m   (mS/m)  -9999999  f10.3
COMM   194  CNDZ[96]        Conductivity_Z096     475-480 m   (mS/m)  -9999999  f10.3
COMM   195  CNDZ[97]        Conductivity_Z097     480-485 m   (mS/m)  -9999999  f10.3
COMM   196  CNDZ[98]        Conductivity_Z098     485-490 m   (mS/m)  -9999999  f10.3
COMM   197  CNDZ[99]        Conductivity_Z099     490-495 m   (mS/m)  -9999999  f10.3
COMM   198  CNDZ[100]       Conductivity_Z100     495-500 m   (mS/m)  -9999999  f10.3
COMM
COMM  Total number of lines :    3
COMM
COMM   Flt    Line   Start X   Start Y     End X     End Y      Kms
COMM
COMM     7   90010    324485   7493211    317541   7503380    12.31
COMM     7   90020    317808   7503486    324453   7493729    11.80
COMM     7   90030    324480   7494202    318172   7503450    11.19
COMM
COMM  Total Kilometres :        35.31
```

APPENDIX IV – List of all Supplied Data and Products

Preliminary Gridded Products (delivered in ERMapper format GDA94 MGA53)

- Total Magnetic Intensity
- First Vertical Derivative TMI
- Digital Elevation Model
- 15 channels of X-component
- 15 channels of Z-component
- EM Time Constant for X-component
- EM Time Constant for Z-component

Final Located Data

1984_[1-4,6-9].hdr **-** header file describing the contents of…
1984_[1-4,6-9].asc - flat ascii file containing located magnetic, EM and elevation data
1984_[1-4,6-9].gdb - Geosoft database file containing located magnetic, EM and elevation data

Final Gridded Products (delivered in ERMapper format GDA94 MGA53)

- Total Magnetic Intensity
- First Vertical Derivative TMI
- Digital Elevation Model
- 15 channels of X-component
- 15 channels of Z-component
- EM Time Constant for X-component
- EM Time Constant for Z-component

Final Digital Products

- Flight Path map
- Z-Component Conductivity Depth Image (CDI) Multiplots & Stacked sections

Final Acquisition and Processing Report

Delivered as hardcopy and digitally