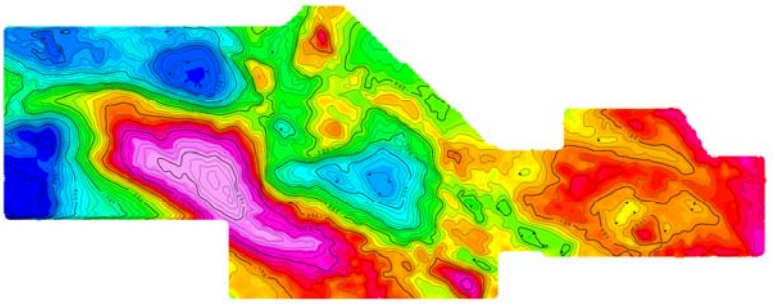
# GEOSCIENCE AUSTRALIA

## EAST ARUNTA GRAVITY SURVEY

## PROJECT 200680

**June – July 2006**

Report Number 06009
LR Mathews



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# 1. INTRODUCTION

A precision GPS-Gravity survey was carried out between 3rd June and 6th July 2006 on behalf of Geoscience Australia funded by the Northern Territory Geological Survey under GA project number 200680. A total of 5,229 gravity stations were surveyed over a large portion of the north-eastern Arunta Region in the Northern Territory.

Gravity data were acquired using Scintrex CG3M automated gravity meters. Position and level data were obtained using Ashtech Z12 geodetic grade GPS receivers operating in post-processed kinematic mode. Data were acquired using Daishsat helicopter-borne methods.

Gravity data were reduced using standard Geoscience Australia reductions on the ISOGAL84 gravity network. GPS data were reduced to MGA coordinates with levels expressed as metres above the Australian Height Datum.

## 2. SURVEY OVERVIEW

The gravity survey was centred on the Jervois mineral field within the north-eastern Arunta Region, approximately 250km north-east of Alice Springs, in the Northern Territory. The survey area extends from Harts Range to the Queensland border (Figure 1).

Access to and through the survey is via the Plenty Highway from Alice Springs. The western side of the survey had a good network of unsealed roads which were useful for refueling. The eastern side, however, had very poor access and extra fuel tanks were carried with the helicopter to allow for greater range.

The survey covered a typical desert landscape dominated by arid dunes, spinifex and various varieties of low lying salt-bush (Photo 1). Jervois Range to the north, and Harts Range to the west, provided a stark contrast to the relatively flat desert plains covering about eighty percent of the survey area. Approximately fifty percent of the survey area had some vegetation cover, leaving a lot of ground very barren and dusty. The dust caused several maintenance issues that kept both the helicopter crew and engineers busy, with many a late night worked to maintain steady production.

Gravity surveying was conducted on a 2km x 2km spaced square grid configuration. Several small areas were omitted from the survey due to heavy tree cover and/or rugged terrain where the helicopter was not able to land safely. Appendix A contains a plot of the final station locations.

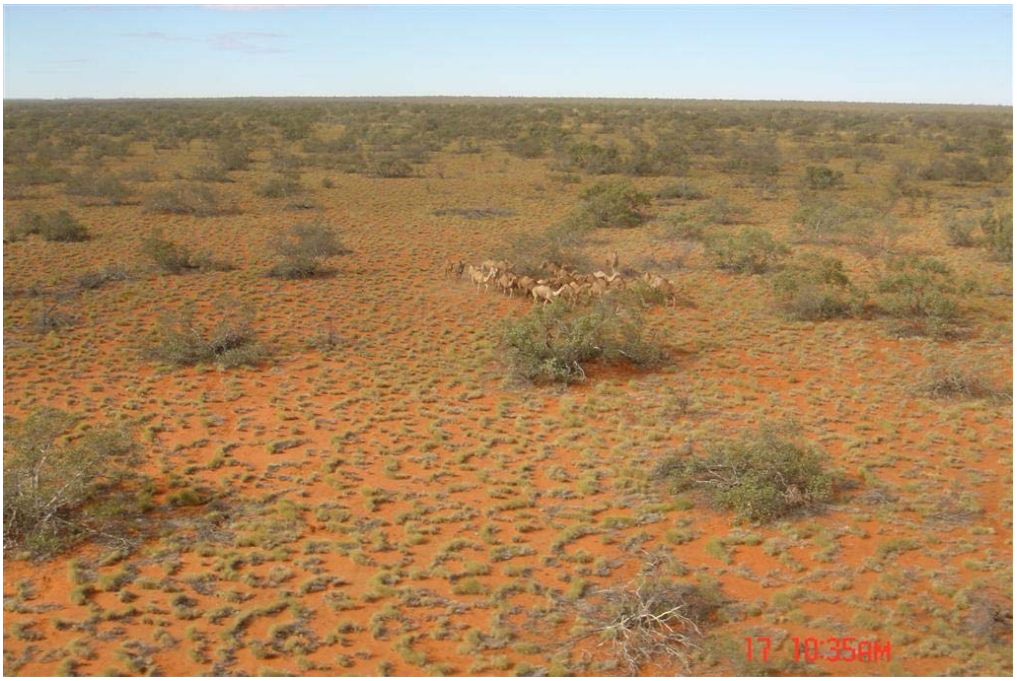



*Photo 1: Typical desert scene near Jervois station*

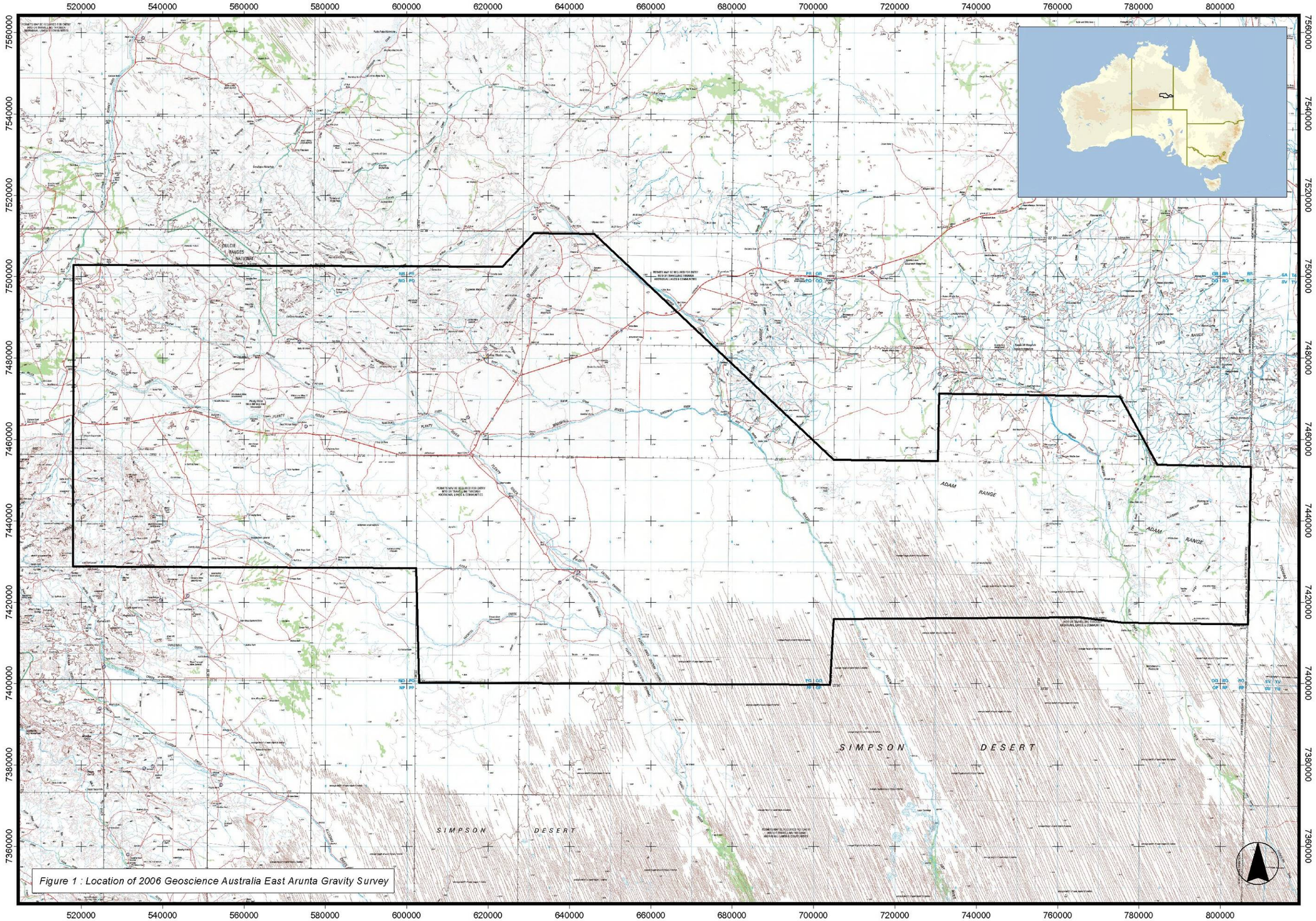



*Figure 1 : Location of 2006 Geoscience Australia East Arunta Gravity Survey*

# 3. PERSONNEL AND EQUIPMENT

## 3.1 Personnel

The supervisor in charge of the project was Allan Cowie. Allan was responsible for daily management of the job and for nightly data processing to ensure quality and integrity. Gravity and GPS measurements were carried out by:

Allan Cowie, Surveyor – helicopter operations
David Daish, Surveyor – helicopter operations
Leon McGarry, Surveyor – helicopter operations
Harley Jones, Surveyor – helicopter operations

Six helicopter pilots were used for the helicopter surveying:

Peter Muddle – Chief pilot
Steve Forgacs
Rick Keece
Scott Bowers
Steph DHolt
Peter Underhill

Final data reduction, terrain correction, inspection and reporting were performed by the company geophysicist, Leon Mathews.

*Photo 2: – Helicopters and support vehicles used on the project*

## 3.2 Survey equipment

The following survey equipment was utilised on the gravity survey:

- Three Scintrex CG-3M digital gravity meters:
  SN 9610346 C
  SN 9711410 S
  SN 9408275 G
- One Leica System 500 dual frequency GPS receiver
- Two Ashtech Z12 dual frequency GPS receivers
- Notebooks for data processing and backup
- Magellan FX324 GPS receivers for helicopter navigation
- Garmin Handheld GPS receivers for vehicle navigation
- Notebook computers for data processing and backup
- Various chargers, solar cells and batteries

## 3.3 Vehicles

Due to the type of terrain to be encountered, 4wd Landcruiser vehicles were used for the duration of the job. To maintain the high Daishsat safety record, vehicles were fitted with a range of safety equipment including:

- One 20l jerry can of water
- Dual fuel tanks
- Two spare tyres
- HF radio and satellite phone with car kit
- Self-recovery equipment including a hand winch, snatch straps and rope
- Tyre pliers to effect tyre repairs in the field
- Tools and spares to enable field repairs as necessary
- Survival kit with EPIRB emergency locator beacon

## 3.4 Helicopter

Ferry between the gravity stations was necessitated by a turbine powered Bell-47 Soloy helicopter – call sign VH-DTA (Photo 3) and a Bell Jetranger – call sign VH-AGL (Photo 4).

*Photo 3: – Daishsat Bell-47 Soloy Helicopter VH-DTA*

*Photo 4: – Daishsat Jetranger helicopter VH-AGL*

## 3.5 Camp

The helicopter crews camped at Jervois and Marqua stations for the duration of the survey.

## 3.6 Communications

All survey crews and support vehicles were equipped with hand-held Globalstar satellite phones as well as UHF and VHF transceivers. "Omnitrack" satellite based tracking was used on all vehicles (including helicopters) to enable asset monitoring via a web interface.

Scheduled communications were made by all crews to the communications centre at the base camps at prescribed intervals. Communication with the Perth and Murray Bridge offices was ongoing for the duration of the job.

# 4. GPS SURVEYING AND PROCESSING

## 4.1 Set out of the grid

This was done concurrently with the gravity data acquisition using navigation grade receivers operating in autonomous mode. Where possible, the readings were taken as close to the ideal coordinates as possible. Some stations were offset or omitted due to the nature of the terrain, e.g. hilly or thickly vegetated areas. As the receivers were operating in autonomous mode, set out accuracy was usually better than 10m.

Raw kinematic GPS data were logged by a dual-frequency Ashtech Z-12 receiver inside the helicopter cabin, with the GPS antenna mounted on the rear tail shaft boom. Static GPS data were logged at each of the base stations using Ashtech Z-12 and Leica System 500 receivers for later post-processing.

At the repeat stations, a fence dropper marked with the station number was used for identification. At each station, the station number, position and RL were recorded digitally by the crew.

## 4.2 Survey datum and control

The gravity surveying, and hence any gravity reductions, used the Australian Height Datum (AHD) as the reference datum. All new GPS/Gravity base stations were established using at least three days worth of static data and connections to ITRF stations using Geoscience Australia's online GPS processing system, AUSPOS. For more information on this system, please visit the Geoscience Australia website at http://www.ga.gov.au/geodesy/sgc/wwwgps/. Final deviations of better than 5mm were obtained for x, y and z, for all occupations. Appendix D contains the GPS base station information. The base stations were numbered in accordance with the GA format.

## 4.3 Processing of the position and level data

Depending on the receiver type, the raw GPS data were recorded onto either internal RAM or onto Compact Flash cards. The data were downloaded nightly onto laptop computer for post processing using Waypoint Grafnav v7.00.

Waypoint combines the processing components, GrafNav and GrafNet, in a complete package.

GrafNav processes data for one baseline (e.g. one base and one remote). GrafNav is normally used for kinematic data which it is extremely well suited for. It can also process single static baselines. Receiver types can be mixed and matched via the use of a common format. This component of Waypoint was used for processing the kinematic data acquired each day.

GrafNav and GrafNet share the same processing engine that has been under continuous development since its original inception by Waypoint in 1992. The core of this robust engine is its carrier phase kinematic (CPK) Kalman filter. Some of the major advantages of Waypoint's kernel are:

*Fast processing* - The GrafNav kernel is one of the fastest on the market. It will process ~0.8 epochs per MHz per second on a Pentium II.

*Robust Kalman filter* - From experience with processing GPS data from fast jets and NASA sounding rockets, the processing kernel has become extremely robust. Efforts have been made to account for all of the various data error possibilities given the different types of GPS receivers that GrafNav/GrafNet can handle.

*Reliable OTF* - Waypoint's on-the-fly (OTF) algorithm, called Kinematic Ambiguity Resolution (KAR), has had years of development and stresses reliability. Variations are implemented for both single and dual frequencies, and numerous options are available to control this powerful feature

*Accurate Static Processing* - Three modes of static processing are implemented in the processing kernel. Fixed static is the most accurate. A quick static solution is also available as an alternative, while the float and iono-free float solution is useful for long baselines.

*Dual Frequency* - Full dual frequency support comes with GrafNav/GrafNet. For ambiguity resolution, this entails wide/narrow lane solutions for KAR, fixed static and quick static. Ionospheric processing is very important with the peak of the ionosphere's cycle occurring in 2000. The GrafNav kernel implements two ionospheric processing modes including the iono-free and relative models. The relative model is especially useful for airborne applications where initialization is near the base station, and this method is much less susceptible to L2 phase cycle slips.

*Forward and Reverse* - Processing can be performed in both the forward and reverse directions. Both GrafNav and GrafNet also have the ability to combine these two solutions to obtain a globally optimum one.

*Velocity Determination* - Since the GrafNav kernel includes the L1 Doppler measurement in its Kalman filter, velocity determination is very accurate. In addition to this, a considerable about of code has been added specifically for the detection and removal of Doppler errors.

*Long Baseline* - Because precise ephemeris and dual frequency processing is supported, long baselines accuracies can be as good as 0.1 PPM.

For more information about Waypoint processing software, and in particular, Grafnav, please visit the Waypoint http://www.waypnt.com/grafnav_d.html.

Simple transformations to MGA and AHD were done using the GPS derived WGS84 positions.

MGA94 coordinates were obtained by simply projecting the GPS-derived WGS84 coordinates using a UTM projection with zone 53S. For all practicable purposes, the WGS84 geodetic coordinates are equivalent to GDA94 geodetic coordinates, so no transformation is necessary. For more information about GDA94 and MGA94, please visit http://www.ga.gov.au/geodesy/datums/gda.jsp.

AHD heights were calculated via Waypoint software using the latest geoid model for Australia, AUSGEOID98. Information about the geoid and the modeling process used to extract separations (N values) can be found at http://www.ga.gov.au/geodesy/ausgeoid/. To obtain AHD heights, the modeled N value is subtracted from the GPS derived WGS84 ellipsoidal height (Figure 2).

$$H_{AHD}=h_{WGS84}-N$$

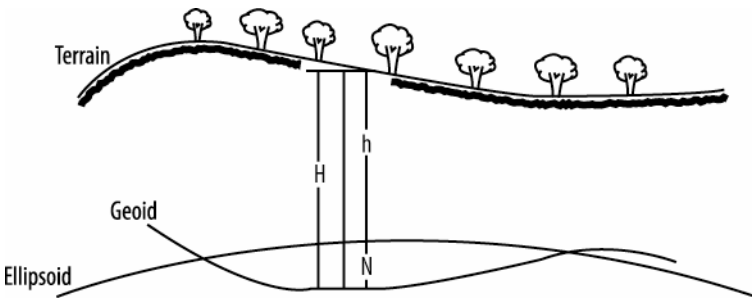



*Figure: 2: Geoid-Ellipsoid separation*

### 4.4 GPS Performance

Performance from the Ashtech and Leica receivers was exceptional considering the ruggedness of some of the survey area. There were no stations that required repeating due to GPS failure or poor coordinate quality.

# 5. GRAVITY SURVEYING AND PROCESSING

## 5.1 Gravity data acquisition

Gravity observations were made concurrently with the GPS measurements (Photo 5). Two observations were made for each station, with each observation consisting of a 20-second or greater stacking time. Multiple observations were made at each station so that any seismic or instrumental noise could be immediately detected. The tolerance between readings was set at 0.03 of a dial reading (0.3gu). Vertical and horizontal levels were restricted to 5 arc seconds at all times. At each station, the station number, time and two gravity readings (in dial units) were recorded in DAISHSAT carbon-copy gravity field books. The Scintrex meters also automatically record the station, time and readings digitally to allow for downloading to computer.

*Photo 5*: *Leon McGarry taking a gravity reading in the Jervois Range*

## 5.2 Gravity base stations

Gravity base stations were used for calculation of absolute gravity and drift determination. Details of the gravity bases utilised are contained in Appendix D. When in the field, a base station reading was taken in the morning before observing, and at evening after the last observation. When taking a base station reading, the observed

gravity values were stacked over 60 seconds and the readings repeated to 0.010 mGals (0.1gu) of a dial reading or less to ensure accuracy

Primary base stations were established at the two camp sites at Jervois and Marqua stations via ABABA ties to the AFGN station at Marqua station homestead (6491.9035). Table 1 below summarises the base stations established and the tie surveys conducted:

| Station | Location | AFGN Station | Dates Surveyed |
|---|---|---|---|
| 2006800080 | Jervois A/S | 6491.9035 | 24/06/2006 |
| | Daishsat Camp | Marqua AFGN | 03/07/2006 |
| | | | 06/07/2006 |
| 2006800075 | Marqua HS | 6491.9035 | 24/06/2006 |
| | | Marqua AFGN | 03/07/2006 |
| | | | 06/07/2006 |

*Table 1*: *Gravity base station establishment*

Expected accuracy of the tie control surveys would be better than 0.1gu.

## 5.4 Gravity data processing

Raw gravity data were processed on a daily basis to check for quality and integrity. This interim process produced a set of Bouguer Anomaly values which were contoured and imaged to provide a check for any anomalous readings that would need repeating. Geosoft GRAVRED software was used for the gravity reduction in the field. Upon conclusion of the job, the data were reprocessed using the contract specified GA formulae with Daishsat proprietary software. Other software used on this project includes Arcview, ChrisDBF, RasterTC, Waypoint and ERMapper. The formulae used for final processing are listed below.

**Instrument scale factor:** This correction was used to correct a gravity reading (in dial units) to a relative gravity unit value based on the meter calibration.

**Tidal correction:** This correction was used to correct for background variations due to changes in the relative position of the moon and sun. The Scintrex calculated ETC was removed and a new ETC calculated using Geosoft Formulae and the surveyed GPS latitude. The formulae used are contained in Appendix G.

**Instrument Drift:** Since gravity meters are mechanical, they are prone to drift (extension of the spring with heat, obeying Hooke's law). If two base readings are taken

one can assume that the drift between the two readings is linear and can therefore be calculated. The drift and tidal corrected value is referred to as the *observed gravity*.

**Normal Gravity:** The theoretical value of gravity was calculated using the 1967 variant of the International Gravity Formula and used to latitude correct the observed gravity.

$$Gn=9,780,318.456*(1+0.005\ 278\ 895*\sin^2\phi+0.000\ 023\ 462*\sin^4\phi)$$

where $\phi$ represents degrees of latitude;

**Free-Air Correction:** Since gravity varies inversely with the square of distance, it is necessary to correct for changes in elevation between stations to reduce field readings to a datum surface (in this case, AHD).

$$(3.08768 - 0.00440\ \sin^2\phi)*h - 0.000001442*h^2\ \mu ms^{-2}\ \text{per metre}$$

**Bouguer Correction:** This correction accounts for the attraction of material between the station and datum plane that is ignored in the free-air calculation. A value of 2.67 $tm^3$ was used in the correction.

$$0.4191*\rho\ \mu ms^{-2}\ \text{per metre}$$

where $\rho$ = density 2.67 $tm^3$

**Terrain Correction:** This correction accounts for the attraction of material above the assumed Bouguer slab and for the over-correction made by the Bouguer correction when in valleys. See Section 5.6 for a more in-depth discussion.

**Free Air Anomaly:** This is obtained by applying the free air correction (FAC) to the observed gravity reading.

$$FAA=G_{OBSG84}-Gn+FAC$$

**Bouguer Anomaly:** This is obtained when all the preceding reductions or corrections have been applied to the observed gravity reading.

$$BA267=G_{OBSG84}-Gn+FAC-BC$$

**Complete Bouguer Anomaly**: This is obtained by adding the terrain correction to the Bouguer Gravity Anomaly

$$COMPLETE\_BA267=G_{OBSG84}-Gn+FAC-BC+TC$$

## 5.4 Gravity meter calibration and scale factors

The gravity meters used on the project were calibrated pre and post survey at the Kensington Park - Norton Summit calibration range in Adelaide, South Australia. Appendix F contains the calibration data.

Table 2 shows the pre survey results. There was good agreement with the known value for the control values for each range, which indicated that the scale factors for each meter (Table 3) were valid.

| Gravity Meter | PRE SURVEY OBSG84 (gu) | POSTSURVEY OBSG84 (gu) |
|---|---|---|
| S 9711410 | 9796301.070 | 9796301.108 |
| C 9610346 | 9796301.305 | 9796301.070 |
| G 9408275 | 9796301.302 | 9796301.380 |

*Known Norton Summit OBSG84 value = 9796301.000 gu*

*Table 2: Results from pre and post calibration runs*

| Gravity Meter | Scale Factor |
|---|---|
| S 9711410 | 1.000000 |
| C 9610346 | 1.000000 |
| G 9408275 | 1.000000 |

*Table 3: Scale factors for each gravity meter*

## 5.5 Gravity meter drift calibration

While the survey was in progress, the Scintrex meters were cycled overnight as a check on instrument drift. Changes were made to the drift constant where appropriate.

## 5.6 Terrain Corrections

Terrain corrections were rigorously applied to the final data in an effort to minimize the effect of terrain encountered near areas of moderate to high relief. Digital elevation data supplied from the client were used with program RASTERTC to perform near zone to far zone corrections. The software utilised was coded by Geophysical Software and is ideally suited to this project. For more details regarding the method and a more in depth discussion of the algorithm used, please visit http://geopotential.com.

The terrain correction procedure corrects gravity measurements for the effect of terrain from a distance Rmin to a distance Rmax. Each gravity station is processed

independently, and therefore corrections calculated for a particular station do not depend upon possible location errors of other stations.

The correction procedure divides the circular area enclosed by Rmax into an inner zone and an outer zone; the radius separating the inner and outer zone is denoted Rmed. A surface is fit to the elevations between Rmin and Rmed; this surface is numerically integrated to calculate that portion of the terrain correction that is due to the terrain located in the interval Rmin <= R <= Rmed. The figure below illustrates the subdivision of areas used in the calculation.

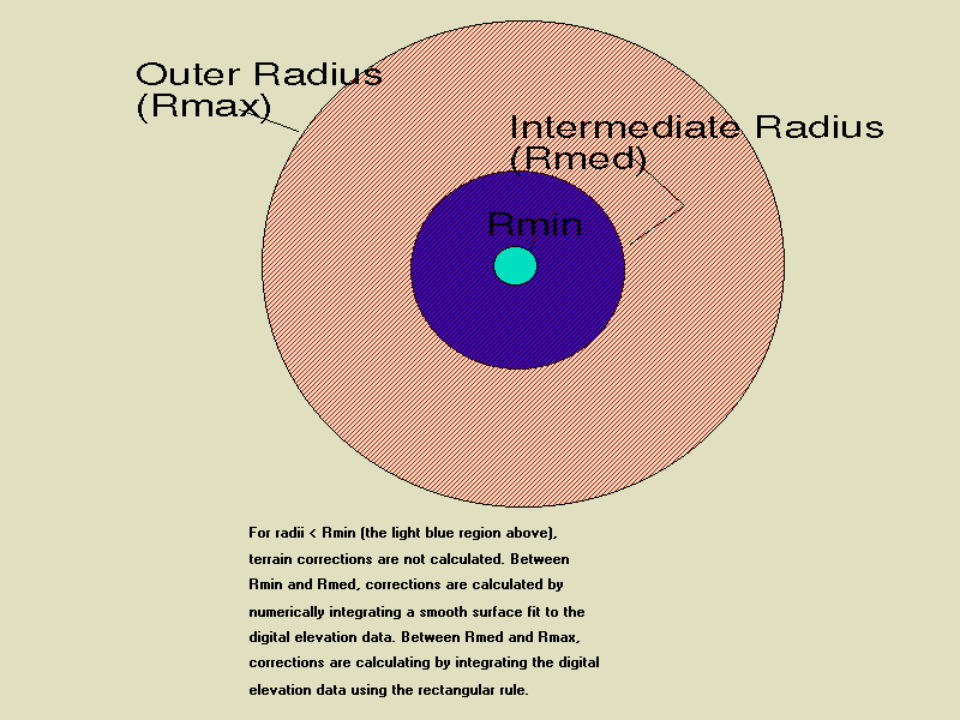



*Figure 3: Calculation areas used by RASTERTC*

The program uses triangulation and interpolation procedures to interpolate elevations between Rmin and Rmed. Between Rmed and Rmax, the terrain effect is calculated by assuming that each elevation sample represents the elevation of a rectangular compartment; a line element formula is used to calculate the effect of each such compartment. Terrain compartments lying between Rmed and Rmax that partially intersect the circular radius Rmed are treated in such a way that only the effect of that portion lying outside Rmed is added to the overall terrain effect. A similar procedure is applied to those compartments that partially intersect the outer radius Rmax.

Note that the numerical integration procedure used to calculate the effect of terrain lying between Rmin and Rmed essentially integrates the effect of a line element between the two radii. This integration is repeated every 8° to obtain the effect of all the terrain lying within the circular region. The radial portion of the integration is performed using an adaptive technique called QUAN8.

A terrain surface is used close to the station location because the elevations provided by the DTM are samples and do not actually represent mean elevations of rectangular

compartments. The use of a surface provides a terrain representation that should be much closer to reality than the use of compartments of constant mean elevation. At a certain distance from the station, the procedure of considering the elevation samples as representing the mean elevation of a rectangular compartment should yield numerical results than are not distinguishable from the results that would be obtained by actually using mean elevations of compartments whose size would necessarily be larger than 30 m on a side. In fact, the method used is equivalent to numerically integrating the terrain effect (at distances greater than Rmed) using a rectangular rule. Because the compartment size is relatively small, use of the rectangular rule should be rather accurate.

The elevation of the gravity station is not directly used during the computation of the effect of terrain effects. Instead, the elevation at the horizontal location of the gravity station is calculated from the multiquadric representation of the terrain surface, and this calculated elevation is used in the computation of the effect of terrain. The actual elevation of the gravity station is not used at all.

Numerically, the procedures used for the calculation of the terrain effect are extremely accurate, especially when compared to terrain corrections calculated using template methods. However, the corrections calculated are no better than the terrain data that are used to represent the terrain about each gravity station.

Various parameters were experimented with to obtain the optimum result for this particular survey. A brief discussion of the process and trials used to obtain the final result follows. All output files from the correction procedure have been included on the DATA CD to make follow-up interpretations easier. Note that all terrain corrections used a rock density of 2.67 $tm^3$.

*5.6.1 DEM Preparation*

Before attempting terrain corrections, an accurate DEM was sourced from an SRTM (Shuttle Radar Topography Mission) excerpt. The Shuttle Radar Topography Mission obtained elevation data on a near-global scale to generate the most complete high-resolution digital topographic database of Earth. SRTM consisted of a specially modified radar system that flew onboard the Space Shuttle Endeavour during an 11-day mission in February of 2000. For more information regarding the mission and the resultant elevation dataset, please visit http://www2.jpl.nasa.gov/srtm/

This data is provided at ~90m centres, but was re-gridded to a 25m cell size to enhance resolution. Terrain over the area varied from about 120m to 1000m above sea level, with some quite severe terrain proximal to the stations, especially throughout Harts Range.

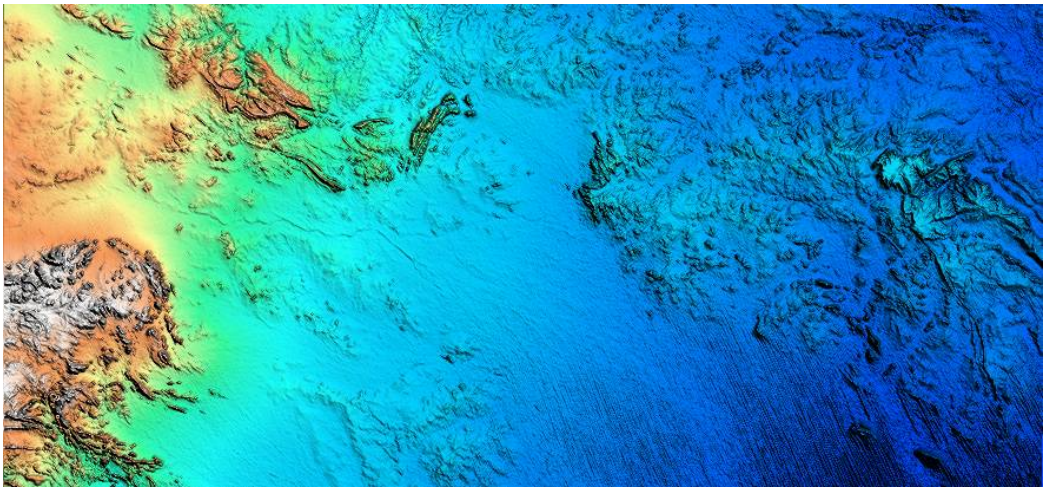


*Figure 4*: *Digital Elevation Model for Jervois and surrounds*

*5.6.2 RASTERTC Correction*

A terrain correction from 25m to 30000m from the gravity station was conducted using RASTERTC, with the following radius parameters:

Rmin = 25m
Rmed = 250m
Rmax = 30000m
Azimuthal Integration Angle = 6 degrees

Rmin was selected to correct for all terrain in the immediate vicinity of the station and coincided with the cell size of the SRTM grid. Rmax was specified to allow correction for the extreme terrain at large distances from the station (outer zone). Rmed of 250m was chosen so that the terrain would be "sampled" at an interval close to that of the grid cell size when using an integration angle of 6 degrees. During the radial integration, near the maximum radial portion of the integration (250m), the terrain surface is being sampled at approximately Rmed(sin(angle)), where "angle" is the azimuthal integration angle selected and R is the maximum radius chosen for the surface integration.

When calculating the RASTERTC correction, the station GPS elevations were not used. Instead, the elevation at the horizontal location of the gravity station was calculated from the multiquadric representation of the terrain surface, and this calculated elevation was used in the computation of the effect of terrain. The actual elevation of the gravity station is not used at all. The use of the actual elevation, rather than one consistent with the DTM terrain, effectively leads to gravity stations being located in deep holes or on very steep hills, whereas in fact such terrain features probably do not exist in the immediate vicinity of the gravity station.

*5.6.3 Accuracy of the corrections*

The terrain correction procedure produced highly accurate corrections for the most part. As with any terrain correction procedure, the accuracy of the final correction is dependant on the accuracy of the DEM used.

RASTERTC outputs a difference variable (GPS height – Interpolated DEM height) for each survey station and it is found that for most of the survey, these differences are less than 5m, which is insignificant when dealing with terrain corrections on a regional scale. The average difference is -3m, with a standard deviation of 1.52m. Figure 5 shows the distribution of these differences.

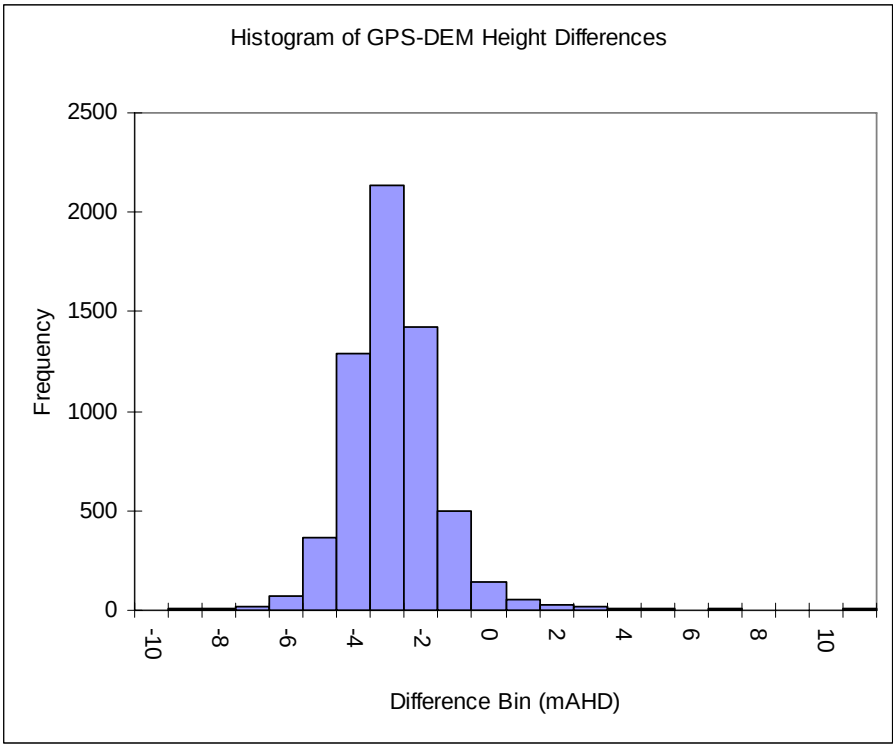



*Figure 5*: *Difference between interpolated DEM elevation and station GPS elevation*

Since the DEM has been confirmed as being accurate, one can rely on the corresponding terrain corrections as being also highly accurate. Indicators of quality are provided for both the innermost terrain correction and the outer terrain correction. On the listing and the output files, such indicators are listed under the column headings "QF-Inner" and "QF-Outer", respectively. If the TC calculation is OK, the quality factors should be 0 for both the inner- and the outer-zone portion of the calculation. Otherwise, the quality factors provide an indication of what might be wrong.

Additionally, a rough indicator of how well the terrain in the immediate vicinity of a gravity station is represented by the available elevation samples is obtained by examining the spatial distribution of the elevation samples. In the radial interval Rmin to

Rmed, RasterTC counts the number of samples falling within the 8 octants surrounding the station. If any of these octants are missing elevation samples, that fact is noted, and the tabulated quality factor simply notes how many of octants are missing samples (see Table 4).

The QF-Outer codes are simple to interpret. A result of 0 means that the outer-zone calculation proceeded successfully. If a portion of the outer-zone terrain is missing from the elevation grids supplied, the value of QF-Outer will reflect the per cent of terrain that was available (rounded to the nearest per cent). For example, if QF-Outer is 91, the implication is that 9% of the terrain in the outer zones was missing for some reason, and that the terrain correction calculated for that particular station is too small by some amount.

| QF-Inner | Meaning of Error Code |
|---|---|
| 0 | Inner-zone terrain calculation OK |
| 1 | No elevation samples occur in 1 octant surrounding the gravity station |
| 2 | No elevation samples occur in 2 octants surrounding the gravity station |
| 3 | No elevation samples occur in 3 octants surrounding the gravity station |
| 4 | No elevation samples occur in 4 octants surrounding the gravity station |
| 5 | No elevation samples occur in 5 octants surrounding the gravity station |
| 6 | No elevation samples occur in 6 octants surrounding the gravity station |
| 7 | No elevation samples occur in 7 octants surrounding the gravity station |
| 22 | Duplicate elevation nodes encountered while calculating terrain gradients |
| 23 | All elevation nodes collinear or triangulation structure corrupted |
| 24 | Invalid parameters passed to gradient calculation routine |
| 26 | Convergence not attained in calculation of terrain gradients |
| 48 | Internal logic error while attempting to delete duplicate nodes |
| 49 | Unable to allocate memory while deleting duplicate nodes |
| 96 | Internal error occurs while attempting to triangulate nodes near station |
| 99 | Less than 3 elevation samples are available near station |
| 101 | Duplicate nodes occur in elevation samples near station |
| -99 | Unable to allocate sufficient memory for inner-zone TC calculation |

*Table 4: QF-Inner Error Codes*

# 5. RESULTS

Raw and processed GPS and gravity data are contained on CDROM as Appendix H. Hardcopy plots of station location and coloured images are contained in Appendix A.

## 6.1 Stations Surveyed and Survey Progress

In total, 5,229 new stations were acquired during the survey. A brief production summary for the survey is show in Table 5 below. Note that the number of acquired stations also includes extra stations where aircraft refueling took place.

Generally, production with the two helicopters was excellent, with the helicopter crews reliably achieving over 300 stations per day. The hilly areas in the north and west of the survey slowed production down where it was often very difficult to locate a landing spot. In some instances where it was thought unsafe to land the helicopter, stations were omitted or moved from the programmed location. Prescribed helicopter maintenance was the only other major hindrance. There was no downtime due to geophysical/GPS equipment failure.

| **East Arunta Gravity Survey** | | |
|---|---|---|
| Gravity stations acquired (including repeats) | 5767 | stations |
| Gravity station repeats | 538 | 9.32% |
| New gravity stations acquired | 5229 | stations |
| Total accidents | 0 | accidents |
| Total hours lost from accidents | 0 | hours |

*Table 5*: *Gravity Production Summary*

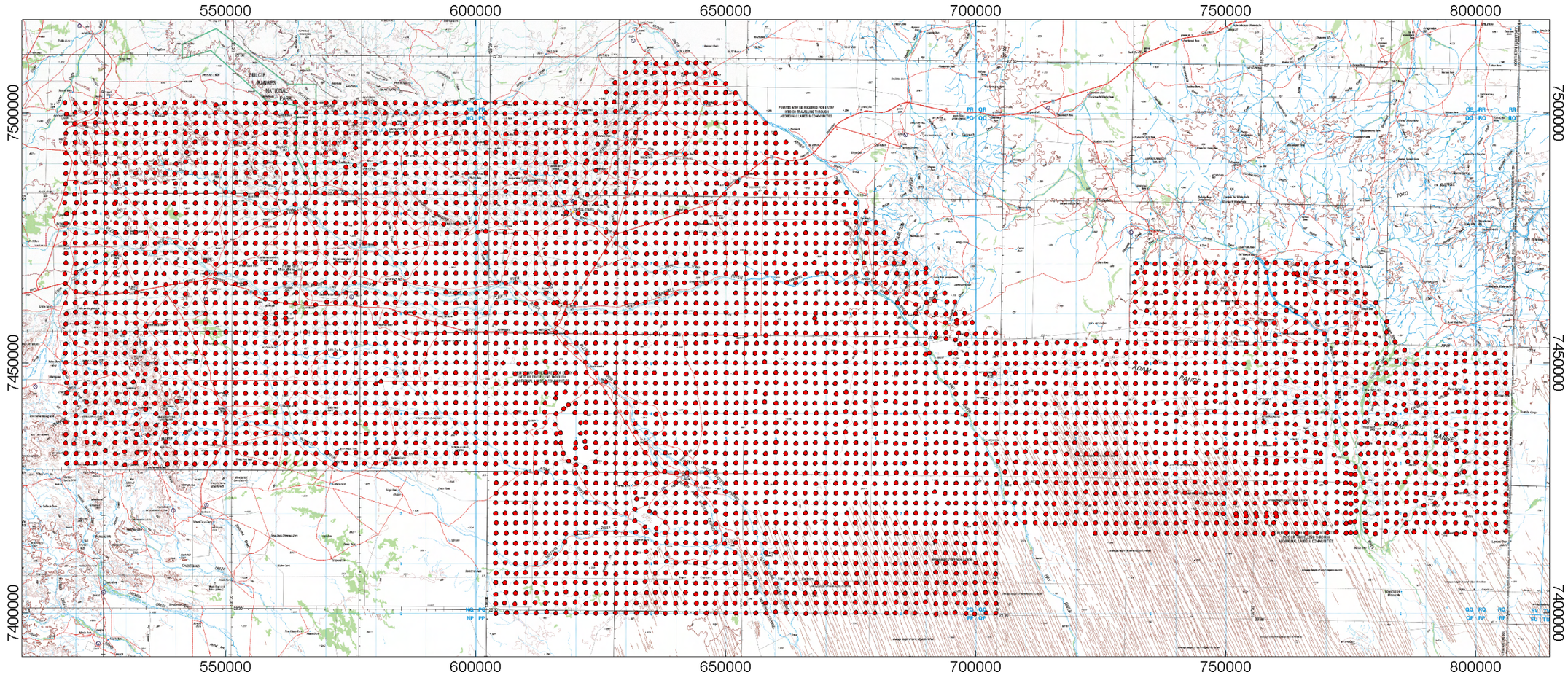
## 6.2 Data Repeatability

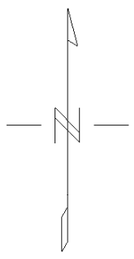
Analysis of the repeat data shows that measurement repeatability is excellent for both GPS and gravity observations. Appendix B contains histograms and summary statistics from the analysis, as well as a tabulation of the repeat data. Based on the repeat data, one can assume the following typical accuracies for the observables:

Z position observation : < 0.11 m
Gravity observation : < 0.45 gu (0.045 mGals)

## APPENDIX A

Plots of station location / Images



Scale 1:850000

10000 0 10000 20000 30000 40000 50000

metres

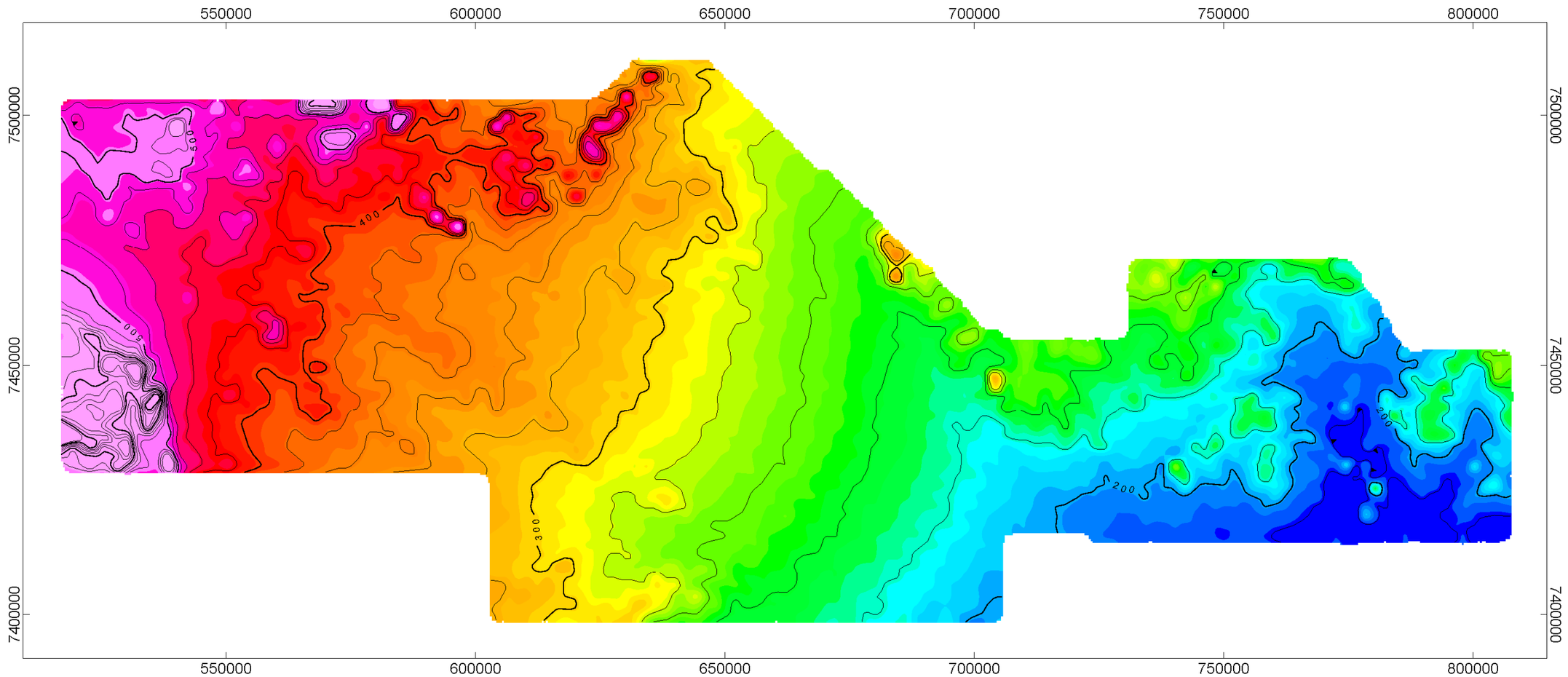
*GDA94 / UTM zone 53S*

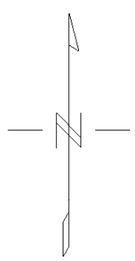
## GEOSCIENCE AUSTRALIA PROJECT 200680

**EAST ARUNTA GRAVITY SURVEY**
**Plot of Gravity Station Locations**
**Gravity stations at 2km x 2km**

survey by : Daishsat Geodetic Surveyors
June-July 2006 DSPROJECT 06009
www.daishsat.com

***drawn by : LR Mathews***



Scale 1:850000

10000 0 10000 20000 30000 40000 50000

metres

*GDA94 / UTM zone 53S*

**GPS Derived Elevation**
(mAHD)

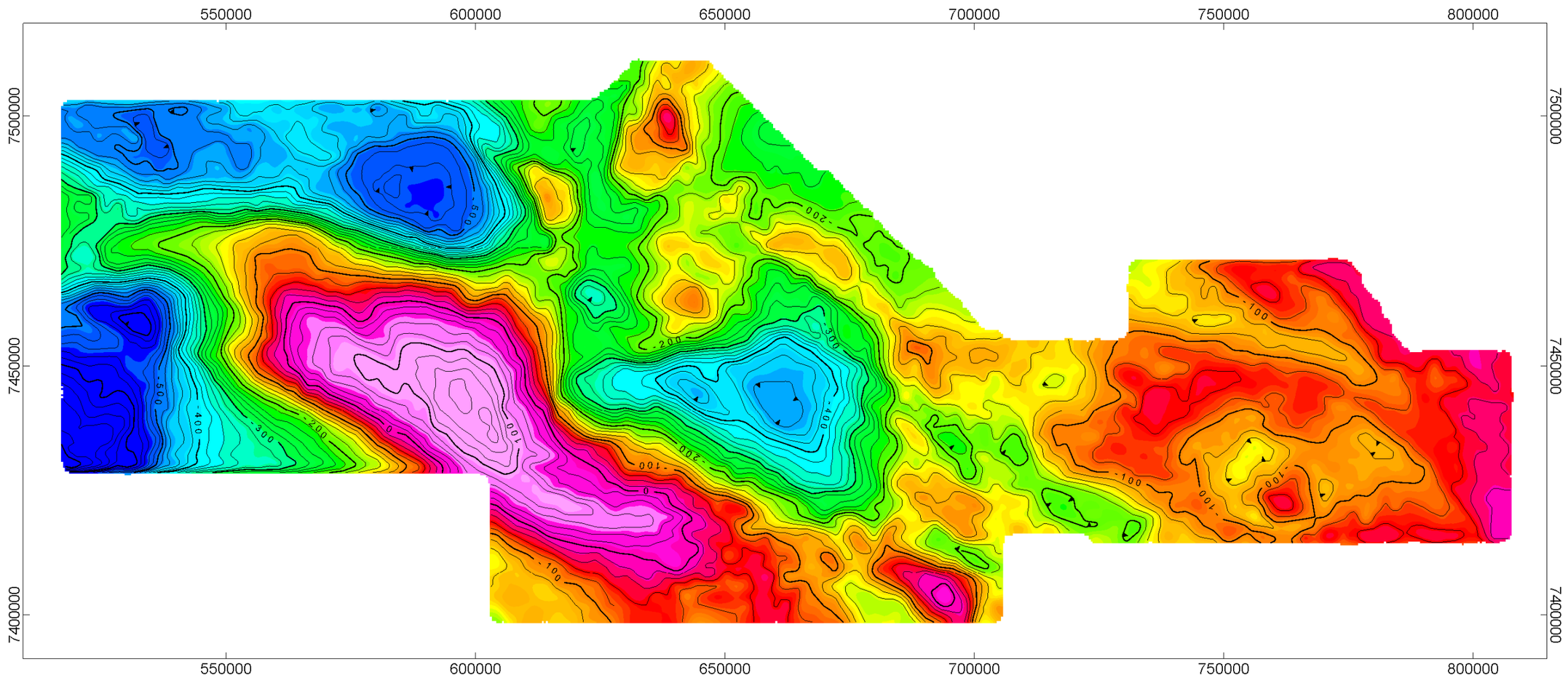
182.631 223.620 260.058 305.349 380.951 476.851

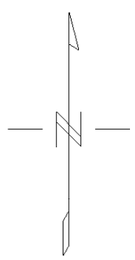
## GEOSCIENCE AUSTRALIA PROJECT 200680

**EAST ARUNTA GRAVITY SURVEY**
**Image of GPS Derived Elevation**
**Histogram Equalisation, Contour Interval 20m**

Grid cell size 400m, Search Radius 3250m
survey by : Daishsat Geodetic Surveyors
June-July 2006 DSPROJECT 06009
www.daishsat.com

***drawn by : LR Mathews***



Scale 1:850000

10000 0 10000 20000 30000 40000 50000

metres

*GDA94 / UTM zone 53S*

**Complete Bouguer Anomaly 2.67 tm^3**

(gu)

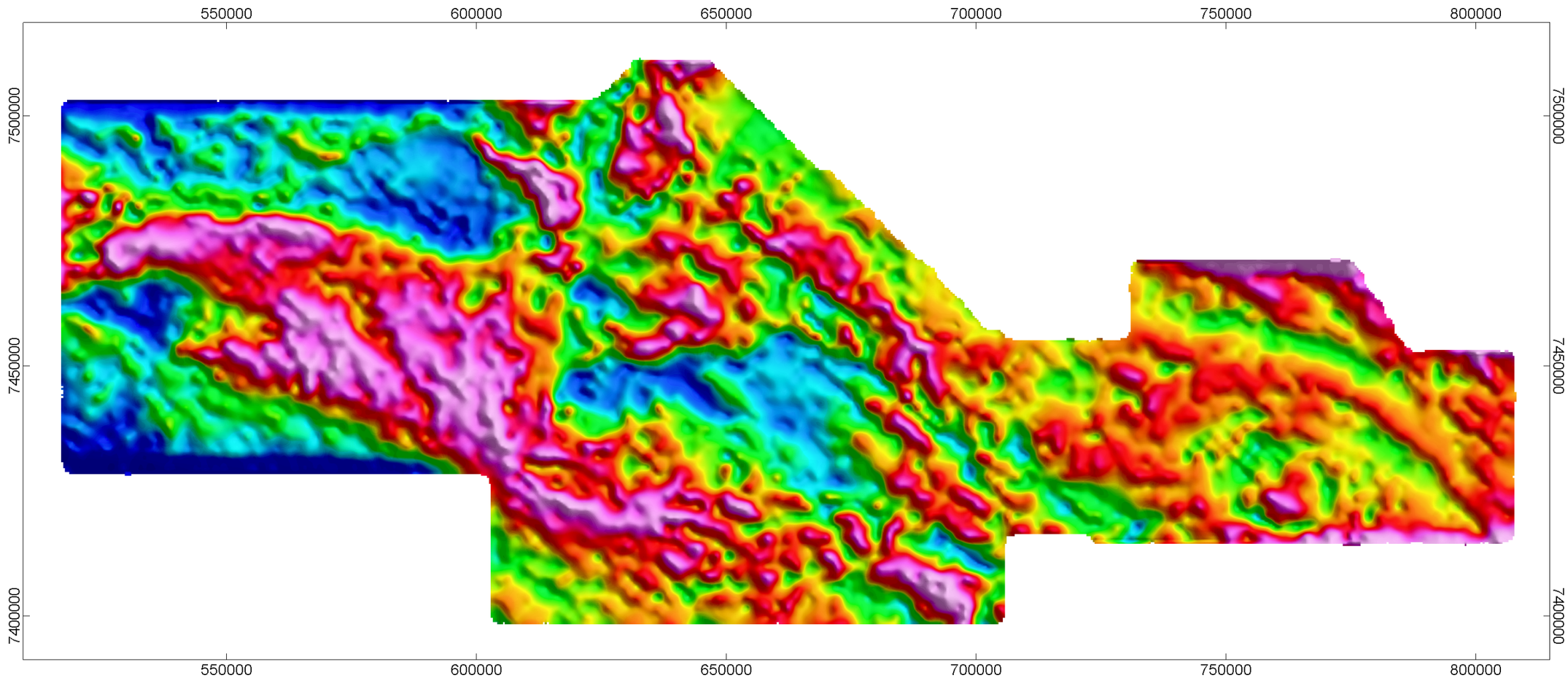
-550.127 -298.723 -175.760 -113.879 -55.075

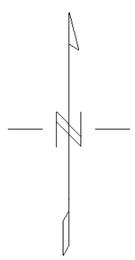
## GEOSCIENCE AUSTRALIA PROJECT 200680

**EAST ARUNTA GRAVITY SURVEY**
**Image of Complete Bouguer Anomaly 2.67 tm^3**
**Histogram Equalisation, Contour Interval 20gu**

Grid cell size 400m, Search Radius 3250m
survey by : Daishsat Geodetic Surveyors
June-July 2006 DSPROJECT 06009
www.daishsat.com

***drawn by : LR Mathews***



Scale 1:850000

10000 0 10000 20000 30000 40000 50000

metres

*GDA94 / UTM zone 53S*

**1VD of Complete Bouguer Anomaly 2.67 tm^3**

-0.079 -0.020 -0.008 -0.001 0.004 0.009 0.014 0.025

GEOSCIENCE AUSTRALIA PROJECT 200680

**EAST ARUNTA GRAVITY SURVEY**
**Image of 1VD of Complete Bouguer Anomaly 2.67 tm^3**
**Histogram Equalisation, NE Sunshading**

Grid cell size 400m, Search Radius 3250m
survey by : Daishsat Geodetic Surveyors
June-July 2006 DSPROJECT 06009
www.daishsat.com

***drawn by : LR Mathews***

## APPENDIX B

Repeat Listing and Analysis

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006801011 | -0.292 | 0.688 | -0.016 | 0.660 | 616031.047 | 7490130.680 | 06/06/2006 | 387.619 | 15:40:06 | 9787015.420 | SCINTREXCG3M_610346 |
| 2006801011 | 0.022 | -0.025 | -0.008 | -0.010 | 616031.361 | 7490129.967 | 06/06/2006 | 387.627 | 13:38:48 | 9787014.750 | SCINTREXCG3M_610346 |
| 2006801024 | 0.082 | 0.465 | -0.158 | 0.380 | 601934.946 | 7502014.286 | 06/06/2006 | 365.149 | 12:58:39 | 9786899.490 | SCINTREXCG3M_610346 |
| 2006801047 | -0.375 | -0.397 | -0.077 | 0.530 | 586069.558 | 7500085.759 | 07/06/2006 | 503.670 | 08:24:41 | 9786497.850 | SCINTREXCG3M_610346 |
| 2006801060 | 0.033 | 0.254 | 0.121 | 0.540 | 612012.180 | 7499872.187 | 07/06/2006 | 401.078 | 07:31:43 | 9786954.130 | SCINTREXCG3M_610346 |
| 2006801073 | -0.802 | -0.182 | -0.076 | -0.480 | 614037.922 | 7476090.638 | 08/06/2006 | 353.043 | 07:32:32 | 9787142.620 | SCINTREXCG3M_610346 |
| 2006801073 | 0.413 | 0.658 | 0.051 | 0.650 | 614039.137 | 7476091.478 | 13/06/2006 | 353.170 | 17:02:11 | 9787143.750 | SCINTREXCG3M_610346 |
| 2006801088 | -0.146 | -1.300 | 0.103 | 0.780 | 618111.770 | 7487903.979 | 06/06/2006 | 422.103 | 16:48:15 | 9787004.530 | SCINTREXCG3M_610346 |
| 2006801103 | 0.638 | -2.351 | 0.232 | -0.400 | 619817.808 | 7487998.714 | 09/06/2006 | 395.795 | 07:27:33 | 9787024.080 | SCINTREXCG3M_610346 |
| 2006801106 | -0.021 | -0.103 | 0.142 | -0.280 | 620183.461 | 7484038.640 | 09/06/2006 | 445.513 | 07:05:23 | 9786969.210 | SCINTREXCG3M_610346 |
| 2006801119 | -0.214 | 0.466 | -0.102 | 1.280 | 604053.213 | 7498007.494 | 07/06/2006 | 497.833 | 16:51:21 | 9786610.260 | SCINTREXCG3M_610346 |
| 2006801129 | 1.519 | 0.613 | 0.107 | 0.380 | 583751.624 | 7497880.698 | 07/06/2006 | 540.325 | 16:13:29 | 9786429.130 | SCINTREXCG3M_610346 |
| 2006801141 | -0.192 | 1.258 | 0.288 | -0.510 | 566066.620 | 7501942.068 | 07/06/2006 | 594.991 | 15:30:12 | 9786336.820 | SCINTREXCG3M_610346 |
| 2006801150 | -0.905 | 0.202 | -0.088 | 0.360 | 548060.757 | 7501636.946 | 07/06/2006 | 538.863 | 14:55:22 | 9786419.450 | SCINTREXCG3M_610346 |
| 2006801164 | -1.189 | 0.368 | 0.210 | 0.350 | 519960.544 | 7501918.986 | 07/06/2006 | 497.397 | 14:08:56 | 9786489.900 | SCINTREXCG3M_610346 |
| 2006801172 | -1.333 | -0.143 | 0.215 | -0.110 | 518034.854 | 7487944.415 | 07/06/2006 | 496.532 | 13:42:44 | 9786727.660 | SCINTREXCG3M_610346 |
| 2006801187 | 2.741 | -0.286 | 0.214 | -0.170 | 517950.162 | 7465925.156 | 08/06/2006 | 508.173 | 12:05:34 | 9786777.690 | SCINTREXCG3M_610346 |
| 2006801198 | 0.228 | 0.143 | 0.194 | -0.230 | 520003.279 | 7490002.068 | 08/06/2006 | 497.428 | 11:20:43 | 9786660.800 | SCINTREXCG3M_610346 |
| 2006801209 | 0.177 | 1.250 | 0.043 | -0.420 | 532056.405 | 7499992.694 | 08/06/2006 | 494.180 | 10:46:17 | 9786456.500 | SCINTREXCG3M_610346 |
| 2006801221 | -0.051 | 0.408 | -0.025 | -0.810 | 556033.657 | 7499965.906 | 08/06/2006 | 461.854 | 10:03:38 | 9786610.900 | SCINTREXCG3M_610346 |
| 2006801237 | -0.825 | -0.389 | -0.161 | -0.500 | 584180.898 | 7495976.254 | 08/06/2006 | 410.999 | 09:04:26 | 9786686.060 | SCINTREXCG3M_610346 |
| 2006801252 | 0.325 | 0.327 | 0.028 | -0.290 | 612022.404 | 7493955.740 | 08/06/2006 | 391.900 | 08:17:24 | 9786970.650 | SCINTREXCG3M_610346 |
| 2006801270 | -0.687 | 0.768 | 0.244 | 1.250 | 609940.028 | 7491973.699 | 12/06/2006 | 413.751 | 07:19:50 | 9786945.040 | SCINTREXCG3M_610346 |
| 2006801282 | -0.139 | -0.360 | 0.175 | 0.340 | 588027.983 | 7493964.840 | 08/06/2006 | 406.484 | 16:48:26 | 9786662.100 | SCINTREXCG3M_610346 |
| 2006801296 | 0.148 | -0.154 | 0.086 | 0.660 | 563966.746 | 7497933.052 | 08/06/2006 | 445.690 | 15:54:59 | 9786672.630 | SCINTREXCG3M_610346 |
| 2006801311 | -0.911 | -0.328 | 0.037 | 0.350 | 533988.748 | 7498048.544 | 08/06/2006 | 518.290 | 14:59:41 | 9786401.340 | SCINTREXCG3M_610346 |
| 2006801322 | -1.224 | 0.231 | -0.125 | 0.690 | 521999.508 | 7488007.921 | 08/06/2006 | 495.665 | 14:25:32 | 9786686.730 | SCINTREXCG3M_610346 |
| 2006801343 | -0.065 | 0.368 | -0.008 | -0.200 | 528065.839 | 7463999.562 | 12/06/2006 | 484.120 | 13:34:33 | 9786700.680 | SCINTREXCG3M_610346 |
| 2006801343 | 0.515 | 0.796 | 0.009 | 0.360 | 528066.419 | 7463999.990 | 13/06/2006 | 484.137 | 11:04:28 | 9786701.240 | SCINTREXCG3M_610346 |
| 2006801356 | -0.980 | -0.459 | -0.115 | 0.880 | 524006.391 | 7490186.394 | 12/06/2006 | 500.658 | 10:49:31 | 9786612.960 | SCINTREXCG3M_610346 |
| 2006801377 | -2.632 | 1.545 | -0.177 | 0.470 | 560016.002 | 7496030.265 | 12/06/2006 | 466.910 | 09:06:31 | 9786615.320 | SCINTREXCG3M_610346 |
| 2006801390 | -0.589 | -0.399 | 0.029 | 0.640 | 582119.889 | 7491947.128 | 12/06/2006 | 441.786 | 08:09:59 | 9786597.470 | SCINTREXCG3M_610346 |
| 2006801408 | 0.007 | 0.162 | -0.096 | 0.870 | 621935.490 | 7491894.300 | 09/06/2006 | 428.379 | 11:03:07 | 9786892.670 | SCINTREXCG3M_610346 |
| 2006801415 | 0.963 | -0.030 | -0.209 | 1.020 | 626062.104 | 7501969.144 | 09/06/2006 | 378.575 | 10:39:06 | 9786939.320 | SCINTREXCG3M_610346 |
| 2006801424 | -3.282 | 1.472 | -0.148 | 0.920 | 636022.477 | 7509878.861 | 09/06/2006 | 330.604 | 09:48:45 | 9787087.810 | SCINTREXCG3M_610346 |
| 2006801432 | -0.049 | 0.341 | -0.125 | -0.430 | 647985.104 | 7506081.832 | 11/06/2006 | 297.499 | 10:50:35 | 9787155.240 | SCINTREXCG3M_610346 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006801445 | 0.373 | 0.447 | -0.262 | 0.040 | 633883.799 | 7506091.934 | 09/06/2006 | 379.426 | 14:19:49 | 9786995.630 | SCINTREXCG3M_610346 |
| 2006801459 | 1.299 | -2.279 | -0.020 | 0.530 | 624105.981 | 7491876.862 | 09/06/2006 | 466.221 | 13:38:34 | 9786809.530 | SCINTREXCG3M_610346 |
| 2006801473 | -1.344 | 3.399 | 0.009 | -0.270 | 621876.118 | 7473937.120 | 16/06/2006 | 329.828 | 08:52:36 | 9787216.110 | SCINTREXCG3M_610346 |
| 2006801473 | 0.198 | -1.334 | -0.036 | -0.560 | 621877.660 | 7473932.387 | 09/06/2006 | 329.783 | 13:07:29 | 9787215.830 | SCINTREXCG3M_610346 |
| 2006801473 | 0.478 | -0.506 | 0.137 | -0.790 | 621877.940 | 7473933.215 | 11/06/2006 | 329.956 | 09:14:58 | 9787215.590 | SCINTREXCG3M_610346 |
| 2006801484 | 0.007 | 0.395 | -0.037 | -0.260 | 625959.577 | 7494066.868 | 11/06/2006 | 377.571 | 09:52:25 | 9786987.220 | SCINTREXCG3M_610346 |
| 2006801494 | -31.216 | -6.515 | 0.117 | -0.300 | 614589.397 | 7465805.288 | 20/06/2006 | 331.605 | 13:04:27 | 9787295.130 | SCINTREXCG3M_610346 |
| 2006801494 | -29.344 | 6.769 | 0.036 | 0.020 | 614591.269 | 7465818.572 | 06/07/2006 | 331.524 | 08:37:02 | 9787295.450 | SCINTREXCG3M_711410 |
| 2006801494 | -29.099 | 6.729 | -0.003 | -0.050 | 614591.514 | 7465818.532 | 05/07/2006 | 331.485 | 15:22:05 | 9787295.380 | SCINTREXCG3M_610346 |
| 2006801494 | -26.919 | -5.561 | 0.041 | -0.410 | 614593.694 | 7465806.242 | 20/06/2006 | 331.529 | 17:08:17 | 9787295.020 | SCINTREXCG3M_610346 |
| 2006801494 | -26.706 | 1.113 | 0.066 | -0.360 | 614593.907 | 7465812.916 | 05/07/2006 | 331.554 | 07:33:36 | 9787295.070 | SCINTREXCG3M_610346 |
| 2006801494 | -26.639 | 1.076 | 0.048 | 0.510 | 614593.974 | 7465812.879 | 04/07/2006 | 331.536 | 16:14:53 | 9787295.940 | SCINTREXCG3M_711410 |
| 2006801494 | -22.878 | -18.581 | 0.008 | -0.090 | 614597.735 | 7465793.222 | 20/06/2006 | 331.496 | 07:13:23 | 9787295.340 | SCINTREXCG3M_610346 |
| 2006801494 | -22.814 | -18.547 | 0.071 | -0.070 | 614597.799 | 7465793.256 | 19/06/2006 | 331.559 | 10:49:58 | 9787295.360 | SCINTREXCG3M_610346 |
| 2006801494 | -22.814 | -18.547 | 0.071 | -0.490 | 614597.799 | 7465793.256 | 19/06/2006 | 331.559 | 15:02:50 | 9787294.940 | SCINTREXCG3M_610346 |
| 2006801494 | -21.536 | 29.723 | 0.047 | 0.900 | 614599.077 | 7465841.526 | 17/06/2006 | 331.535 | 08:05:54 | 9787296.330 | SCINTREXCG3M_610346 |
| 2006801494 | -21.536 | 29.723 | 0.047 | -0.410 | 614599.077 | 7465841.526 | 17/06/2006 | 331.535 | 17:56:52 | 9787295.020 | SCINTREXCG3M_610346 |
| 2006801494 | -16.541 | 35.575 | 0.002 | 0.040 | 614604.072 | 7465847.378 | 29/06/2006 | 331.490 | 07:50:43 | 9787295.470 | SCINTREXCG3M_610346 |
| 2006801494 | -16.541 | 35.575 | 0.002 | 0.070 | 614604.072 | 7465847.378 | 29/06/2006 | 331.490 | 13:42:05 | 9787295.500 | SCINTREXCG3M_610346 |
| 2006801494 | -14.379 | 2.863 | -0.035 | -0.080 | 614606.234 | 7465814.666 | 19/06/2006 | 331.453 | 06:59:09 | 9787295.350 | SCINTREXCG3M_711410 |
| 2006801494 | -14.362 | 2.839 | -0.008 | -0.160 | 614606.251 | 7465814.642 | 18/06/2006 | 331.480 | 18:04:56 | 9787295.270 | SCINTREXCG3M_711410 |
| 2006801494 | -12.274 | -16.671 | -0.037 | -0.240 | 614608.339 | 7465795.132 | 01/07/2006 | 331.451 | 07:56:41 | 9787295.190 | SCINTREXCG3M_610346 |
| 2006801494 | -11.972 | -16.730 | -0.116 | 0.020 | 614608.641 | 7465795.073 | 30/06/2006 | 331.372 | 15:31:58 | 9787295.450 | SCINTREXCG3M_610346 |
| 2006801494 | -11.930 | 68.188 | 0.007 | 0.270 | 614608.683 | 7465879.991 | 03/06/2006 | 331.495 | 17:07:33 | 9787295.700 | SCINTREXCG3M_711410 |
| 2006801494 | -11.888 | 68.244 | 0.020 | 0.840 | 614608.725 | 7465880.047 | 04/07/2006 | 331.508 | 07:02:13 | 9787296.270 | SCINTREXCG3M_711410 |
| 2006801494 | -11.012 | -20.785 | -0.035 | 0.080 | 614609.601 | 7465791.018 | 16/06/2006 | 331.453 | 13:45:46 | 9787295.510 | SCINTREXCG3M_711410 |
| 2006801494 | -9.270 | -10.415 | -0.067 | 0.140 | 614611.343 | 7465801.388 | 01/07/2006 | 331.421 | 14:45:00 | 9787295.570 | SCINTREXCG3M_610346 |
| 2006801494 | -9.210 | -10.255 | 0.168 | -0.110 | 614611.403 | 7465801.548 | 02/07/1906 | 331.656 | 08:01:26 | 9787295.320 | SCINTREXCG3M_610346 |
| 2006801494 | -8.504 | -12.865 | 0.021 | 0.270 | 614612.109 | 7465798.938 | 02/07/2006 | 331.509 | 13:25:16 | 9787295.700 | SCINTREXCG3M_711410 |
| 2006801494 | -8.248 | -12.900 | -0.044 | 0.130 | 614612.365 | 7465798.903 | 18/06/2006 | 331.444 | 07:31:14 | 9787295.560 | SCINTREXCG3M_711410 |
| 2006801494 | -8.245 | -12.897 | -0.038 | -0.170 | 614612.368 | 7465798.906 | 17/06/2006 | 331.450 | 17:49:57 | 9787295.260 | SCINTREXCG3M_711410 |
| 2006801494 | -5.340 | -31.365 | 0.082 | -0.170 | 614615.273 | 7465780.438 | 16/06/2006 | 331.570 | 08:11:43 | 9787295.260 | SCINTREXCG3M_711410 |
| 2006801494 | -2.426 | 8.535 | -0.043 | 0.200 | 614618.187 | 7465820.338 | 16/06/2006 | 331.445 | 17:47:51 | 9787295.630 | SCINTREXCG3M_711410 |
| 2006801494 | -2.363 | 8.536 | -0.110 | 0.070 | 614618.250 | 7465820.339 | 17/06/2006 | 331.378 | 07:02:37 | 9787295.500 | SCINTREXCG3M_711410 |
| 2006801494 | -0.945 | -18.336 | -0.075 | -0.030 | 614619.668 | 7465793.467 | 11/06/2006 | 331.413 | 17:42:28 | 9787295.400 | SCINTREXCG3M_610346 |
| 2006801494 | -0.664 | -22.609 | -0.048 | -0.060 | 614619.949 | 7465789.194 | 12/06/2006 | 331.440 | 07:01:08 | 9787295.370 | SCINTREXCG3M_610346 |
| 2006801494 | 0.088 | -21.895 | -0.064 | 0.620 | 614620.701 | 7465789.908 | 14/06/2006 | 331.424 | 07:08:16 | 9787296.050 | SCINTREXCG3M_610346 |
| 2006801494 | 0.266 | -21.575 | -0.051 | -0.320 | 614620.879 | 7465790.228 | 15/06/2006 | 331.437 | 12:54:45 | 9787295.110 | SCINTREXCG3M_610346 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006801494 | 0.276 | -21.624 | 0.021 | -0.880 | 614620.889 | 7465790.179 | 15/06/2006 | 331.509 | 11:55:19 | 9787294.550 | SCINTREXCG3M_610346 |
| 2006801494 | 0.280 | -22.410 | -0.075 | 0.170 | 614620.893 | 7465789.393 | 13/06/2006 | 331.413 | 07:10:16 | 9787295.600 | SCINTREXCG3M_610346 |
| 2006801494 | 0.293 | -22.412 | -0.007 | 0.100 | 614620.906 | 7465789.391 | 12/06/2006 | 331.481 | 17:41:43 | 9787295.530 | SCINTREXCG3M_610346 |
| 2006801494 | 0.429 | -22.375 | 0.105 | 0.350 | 614621.042 | 7465789.428 | 14/06/2006 | 331.593 | 17:53:37 | 9787295.780 | SCINTREXCG3M_610346 |
| 2006801494 | 0.441 | -22.314 | -0.047 | 0.410 | 614621.054 | 7465789.489 | 15/06/2006 | 331.441 | 06:54:34 | 9787295.840 | SCINTREXCG3M_610346 |
| 2006801494 | 0.441 | -22.314 | -0.047 | -0.020 | 614621.054 | 7465789.489 | 15/06/2006 | 331.441 | 17:54:54 | 9787295.410 | SCINTREXCG3M_610346 |
| 2006801494 | 1.493 | -15.469 | 0.051 | -0.450 | 614622.106 | 7465796.334 | 17/06/2006 | 331.539 | 13:08:39 | 9787294.980 | SCINTREXCG3M_610346 |
| 2006801494 | 1.514 | -15.445 | 0.064 | 1.020 | 614622.127 | 7465796.358 | 17/06/2006 | 331.552 | 13:56:43 | 9787296.450 | SCINTREXCG3M_610346 |
| 2006801494 | 1.654 | 12.438 | -0.012 | 0.140 | 614622.267 | 7465824.241 | 20/06/2006 | 331.476 | 17:54:47 | 9787295.570 | SCINTREXCG3M_711410 |
| 2006801494 | 1.661 | 12.508 | 0.173 | -0.080 | 614622.274 | 7465824.311 | 21/06/2006 | 331.661 | 08:13:20 | 9787295.350 | SCINTREXCG3M_610346 |
| 2006801494 | 1.737 | -15.553 | 0.005 | -0.120 | 614622.350 | 7465796.250 | 16/06/2006 | 331.493 | 17:20:29 | 9787295.310 | SCINTREXCG3M_610346 |
| 2006801494 | 1.933 | -20.846 | -0.092 | 0.530 | 614622.546 | 7465790.957 | 22/06/2006 | 331.396 | 07:44:39 | 9787295.960 | SCINTREXCG3M_610346 |
| 2006801494 | 1.993 | -20.878 | -0.017 | 0.660 | 614622.606 | 7465790.925 | 21/06/2006 | 331.471 | 13:24:47 | 9787296.090 | SCINTREXCG3M_610346 |
| 2006801494 | 2.883 | 12.700 | 0.009 | -0.350 | 614623.496 | 7465824.503 | 16/06/2006 | 331.497 | 11:31:43 | 9787295.080 | SCINTREXCG3M_610346 |
| 2006801494 | 2.888 | 12.703 | 0.011 | -0.280 | 614623.501 | 7465824.506 | 16/06/2006 | 331.499 | 12:02:24 | 9787295.150 | SCINTREXCG3M_610346 |
| 2006801494 | 4.687 | -22.449 | -0.015 | -0.190 | 614625.300 | 7465789.354 | 02/07/2006 | 331.473 | 13:50:10 | 9787295.240 | SCINTREXCG3M_408275 |
| 2006801494 | 9.366 | 6.023 | 0.034 | -0.400 | 614629.979 | 7465817.826 | 16/06/2006 | 331.522 | 08:25:49 | 9787295.030 | SCINTREXCG3M_610346 |
| 2006801494 | 10.820 | -18.808 | -0.052 | -0.180 | 614631.433 | 7465792.995 | 23/06/2006 | 331.436 | 07:31:19 | 9787295.250 | SCINTREXCG3M_610346 |
| 2006801494 | 10.830 | -18.841 | -0.024 | 0.300 | 614631.443 | 7465792.962 | 22/06/2006 | 331.464 | 13:35:43 | 9787295.730 | SCINTREXCG3M_610346 |
| 2006801494 | 11.725 | 5.026 | -0.054 | 0.050 | 614632.338 | 7465816.829 | 20/06/2006 | 331.434 | 07:08:35 | 9787295.480 | SCINTREXCG3M_711410 |
| 2006801494 | 11.730 | 5.010 | -0.086 | 0.070 | 614632.343 | 7465816.813 | 19/06/2006 | 331.402 | 17:52:54 | 9787295.500 | SCINTREXCG3M_711410 |
| 2006801494 | 13.716 | 53.911 | 0.116 | 0.090 | 614634.329 | 7465865.714 | 03/06/2006 | 331.604 | 07:10:03 | 9787295.520 | SCINTREXCG3M_711410 |
| 2006801494 | 13.757 | 53.918 | 0.139 | -0.050 | 614634.370 | 7465865.721 | 02/07/2006 | 331.627 | 17:52:13 | 9787295.380 | SCINTREXCG3M_711410 |
| 2006801494 | 15.076 | 9.718 | -0.118 | 0.630 | 614635.689 | 7465821.521 | 20/06/2006 | 331.370 | 12:52:33 | 9787296.060 | SCINTREXCG3M_711410 |
| 2006801494 | 16.984 | 7.416 | -0.005 | -0.300 | 614637.597 | 7465819.219 | 23/06/2006 | 331.483 | 11:56:10 | 9787295.130 | SCINTREXCG3M_610346 |
| 2006801494 | 21.025 | 10.817 | -0.050 | -0.190 | 614641.638 | 7465822.620 | 30/06/2006 | 331.438 | 07:34:24 | 9787295.240 | SCINTREXCG3M_610346 |
| 2006801494 | 21.032 | 10.812 | -0.058 | -0.250 | 614641.645 | 7465822.615 | 29/06/2006 | 331.430 | 16:10:57 | 9787295.180 | SCINTREXCG3M_610346 |
| 2006801494 | 23.492 | 5.477 | -0.034 | 0.120 | 614644.105 | 7465817.280 | 04/07/2006 | 331.454 | 07:12:28 | 9787295.550 | SCINTREXCG3M_610346 |
| 2006801494 | 23.506 | 5.443 | -0.009 | -0.110 | 614644.119 | 7465817.246 | 03/07/2006 | 331.479 | 15:27:32 | 9787295.320 | SCINTREXCG3M_610346 |
| 2006801494 | 29.750 | 7.754 | -0.040 | -0.070 | 614650.363 | 7465819.557 | 04/07/2006 | 331.448 | 12:49:11 | 9787295.360 | SCINTREXCG3M_610346 |
| 2006801494 | 30.202 | 4.283 | 0.086 | -0.060 | 614650.815 | 7465816.086 | 06/07/2006 | 331.574 | 13:44:02 | 9787295.370 | SCINTREXCG3M_711410 |
| 2006801494 | 40.255 | 10.711 | -0.016 | 0.060 | 614660.868 | 7465822.514 | 02/07/1906 | 331.472 | 12:39:51 | 9787295.490 | SCINTREXCG3M_610346 |
| 2006801494 | 40.264 | 10.719 | 0.017 | 0.010 | 614660.877 | 7465822.522 | 03/07/2006 | 331.505 | 07:21:57 | 9787295.440 | SCINTREXCG3M_610346 |
| 2006801494 | 43.639 | 15.104 | -0.100 | -0.410 | 614664.252 | 7465826.907 | 06/07/2006 | 331.388 | 08:32:08 | 9787295.020 | SCINTREXCG3M_610346 |
| 2006801494 | 46.446 | 24.983 | 0.048 | -0.030 | 614667.059 | 7465836.786 | 06/07/2006 | 331.536 | 12:48:51 | 9787295.400 | SCINTREXCG3M_610346 |
| 2006801505 | 1.284 | 0.694 | -0.147 | 0.250 | 628029.150 | 7494021.425 | 11/06/2006 | 358.261 | 14:02:27 | 9787090.190 | SCINTREXCG3M_610346 |
| 2006801515 | -0.126 | 0.530 | 0.169 | 0.690 | 637979.032 | 7504007.891 | 11/06/2006 | 337.776 | 11:29:17 | 9787157.990 | SCINTREXCG3M_610346 |
| 2006801526 | -0.699 | 1.324 | 0.118 | -0.320 | 649998.541 | 7502002.608 | 11/06/2006 | 291.475 | 11:55:48 | 9787159.330 | SCINTREXCG3M_610346 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006801538 | -0.023 | 0.100 | 0.080 | 0.330 | 647981.129 | 7500022.089 | 11/06/2006 | 291.056 | 12:27:55 | 9787185.260 | SCINTREXCG3M_610346 |
| 2006801549 | 0.318 | 1.020 | -0.289 | -0.510 | 645924.976 | 7497983.698 | 11/06/2006 | 290.613 | 13:09:09 | 9787216.710 | SCINTREXCG3M_610346 |
| 2006801565 | -0.074 | 0.219 | -0.174 | -0.770 | 649996.124 | 7493981.863 | 11/06/2006 | 288.303 | 15:36:02 | 9787195.890 | SCINTREXCG3M_610346 |
| 2006801580 | 0.000 | 0.000 | 0.000 | 0.430 | 630134.406 | 7484093.190 | 11/06/2006 | 331.075 | 17:25:40 | 9787178.260 | SCINTREXCG3M_610346 |
| 2006801586 | -0.853 | 0.127 | -0.031 | 0.470 | 634119.265 | 7491936.643 | 11/06/2006 | 325.459 | 17:03:29 | 9787227.030 | SCINTREXCG3M_610346 |
| 2006801604 | -0.274 | 5.027 | 0.075 | 0.050 | 660094.247 | 7489987.601 | 16/06/2006 | 273.652 | 10:26:38 | 9787229.540 | SCINTREXCG3M_610346 |
| 2006801613 | 3.675 | 4.052 | 0.273 | 0.100 | 649914.757 | 7490057.754 | 16/06/2006 | 298.969 | 10:06:16 | 9787192.460 | SCINTREXCG3M_610346 |
| 2006801631 | 1.814 | -2.760 | -0.031 | 0.360 | 604001.920 | 7489925.852 | 12/06/2006 | 437.632 | 17:01:16 | 9786825.530 | SCINTREXCG3M_610346 |
| 2006801645 | -0.015 | 0.144 | 0.132 | 0.250 | 575839.741 | 7489542.196 | 12/06/2006 | 424.176 | 16:12:28 | 9786665.020 | SCINTREXCG3M_610346 |
| 2006801658 | 2.812 | -0.511 | 0.006 | -0.600 | 557947.191 | 7490118.337 | 12/06/2006 | 445.736 | 15:32:32 | 9786685.140 | SCINTREXCG3M_610346 |
| 2006801670 | -0.405 | -0.191 | 0.103 | -0.400 | 538133.066 | 7493902.628 | 12/06/2006 | 541.058 | 14:46:17 | 9786394.190 | SCINTREXCG3M_610346 |
| 2006801684 | -1.032 | 0.459 | 0.140 | -0.040 | 528044.582 | 7486118.092 | 12/06/2006 | 499.938 | 14:19:03 | 9786668.880 | SCINTREXCG3M_610346 |
| 2006801720 | 2.401 | 1.322 | 0.028 | 0.570 | 528100.013 | 7478034.670 | 13/06/2006 | 470.055 | 10:39:40 | 9786867.050 | SCINTREXCG3M_610346 |
| 2006801731 | -0.008 | 0.444 | -0.101 | -0.100 | 535964.363 | 7492044.299 | 13/06/2006 | 516.085 | 10:05:20 | 9786463.350 | SCINTREXCG3M_610346 |
| 2006801744 | -0.930 | -1.674 | 0.256 | 0.740 | 557985.428 | 7487873.914 | 13/06/2006 | 447.911 | 09:17:35 | 9786700.360 | SCINTREXCG3M_610346 |
| 2006801758 | -0.807 | 0.656 | -0.140 | -0.570 | 585929.185 | 7487942.222 | 13/06/2006 | 418.265 | 08:26:23 | 9786655.590 | SCINTREXCG3M_610346 |
| 2006801773 | -0.758 | -2.013 | 0.008 | -0.260 | 608103.308 | 7479983.604 | 13/06/2006 | 390.140 | 07:28:35 | 9786959.160 | SCINTREXCG3M_610346 |
| 2006801789 | 0.741 | -0.064 | 0.154 | 0.070 | 589798.977 | 7485901.525 | 13/06/2006 | 408.889 | 16:00:02 | 9786673.960 | SCINTREXCG3M_610346 |
| 2006801801 | -2.694 | -0.679 | -0.001 | 0.040 | 565967.535 | 7486002.550 | 13/06/2006 | 427.194 | 15:11:47 | 9786756.640 | SCINTREXCG3M_610346 |
| 2006801813 | 2.386 | 0.960 | -0.112 | -0.300 | 545986.171 | 7490048.710 | 13/06/2006 | 479.856 | 14:22:52 | 9786606.710 | SCINTREXCG3M_610346 |
| 2006801824 | 7.234 | -1.870 | -0.012 | -0.270 | 531954.118 | 7481939.363 | 13/06/2006 | 463.975 | 13:48:07 | 9786806.560 | SCINTREXCG3M_610346 |
| 2006801834 | -0.060 | 0.824 | 0.083 | -0.110 | 530019.844 | 7464185.453 | 13/06/2006 | 478.897 | 12:30:08 | 9786718.930 | SCINTREXCG3M_610346 |
| 2006801850 | -0.092 | -0.076 | -0.016 | 0.300 | 528106.114 | 7453957.159 | 14/06/2006 | 554.441 | 13:39:17 | 9786590.420 | SCINTREXCG3M_610346 |
| 2006801850 | -0.053 | 0.305 | 0.065 | -0.420 | 528106.153 | 7453957.540 | 14/06/2006 | 554.522 | 11:00:56 | 9786589.700 | SCINTREXCG3M_610346 |
| 2006801864 | -0.208 | -0.016 | -0.087 | -0.420 | 534042.926 | 7476017.255 | 14/06/2006 | 454.965 | 10:10:30 | 9786979.750 | SCINTREXCG3M_610346 |
| 2006801876 | -0.513 | 1.249 | -0.180 | -0.650 | 546065.448 | 7487984.932 | 14/06/2006 | 461.127 | 09:26:08 | 9786660.120 | SCINTREXCG3M_610346 |
| 2006801888 | 0.015 | 1.586 | -0.145 | -0.140 | 565986.524 | 7484020.684 | 14/06/2006 | 421.048 | 08:41:30 | 9786804.700 | SCINTREXCG3M_610346 |
| 2006801901 | 0.486 | 0.438 | -0.019 | -0.400 | 592008.262 | 7483934.017 | 14/06/2006 | 391.390 | 07:53:47 | 9786716.350 | SCINTREXCG3M_610346 |
| 2006801912 | -0.484 | -0.445 | 0.018 | -0.610 | 603964.981 | 7474012.729 | 15/06/2006 | 358.653 | 11:45:56 | 9787084.020 | SCINTREXCG3M_610346 |
| 2006801912 | -0.111 | 0.984 | -0.058 | -0.640 | 603965.354 | 7474014.158 | 14/06/2006 | 358.577 | 07:19:18 | 9787083.990 | SCINTREXCG3M_610346 |
| 2006801922 | -0.476 | 1.165 | 0.097 | -0.240 | 609897.475 | 7467992.595 | 16/06/2006 | 343.449 | 08:25:56 | 9787278.820 | SCINTREXCG3M_711410 |
| 2006801922 | -0.339 | -0.333 | -0.017 | 0.170 | 609897.612 | 7467991.097 | 15/06/2006 | 343.335 | 17:49:10 | 9787279.230 | SCINTREXCG3M_610346 |
| 2006801922 | -0.177 | 0.228 | -0.031 | -0.600 | 609897.774 | 7467991.658 | 15/06/2006 | 343.321 | 13:01:43 | 9787278.460 | SCINTREXCG3M_610346 |
| 2006801922 | 1.329 | -0.728 | -0.032 | -0.170 | 609899.280 | 7467990.702 | 17/06/2006 | 343.320 | 17:36:51 | 9787278.890 | SCINTREXCG3M_711410 |
| 2006801932 | -0.988 | -1.451 | 0.097 | 0.870 | 592080.769 | 7482136.219 | 14/06/2006 | 401.641 | 17:24:15 | 9786718.430 | SCINTREXCG3M_610346 |
| 2006801945 | -0.065 | -0.032 | 0.283 | 0.510 | 566012.447 | 7481964.734 | 14/06/2006 | 408.518 | 16:39:34 | 9786907.690 | SCINTREXCG3M_610346 |
| 2006801974 | -0.352 | 0.716 | 0.020 | -0.010 | 534160.922 | 7467941.317 | 14/06/2006 | 461.960 | 11:43:07 | 9786838.180 | SCINTREXCG3M_610346 |
| 2006801987 | -0.166 | 0.491 | -0.052 | -0.450 | 536050.467 | 7456099.183 | 14/06/2006 | 471.064 | 13:15:01 | 9786720.710 | SCINTREXCG3M_610346 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006801999 | -0.217 | 0.682 | -0.169 | 0.280 | 538080.796 | 7465684.688 | 14/06/2006 | 452.150 | 15:14:09 | 9786822.750 | SCINTREXCG3M_610346 |
| 2006802006 | 0.042 | 0.927 | 0.047 | 0.430 | 538095.088 | 7451955.129 | 14/06/2006 | 465.535 | 14:43:08 | 9786835.410 | SCINTREXCG3M_610346 |
| 2006802013 | 0.271 | -0.193 | -0.085 | 0.340 | 524034.905 | 7452141.900 | 14/06/2006 | 590.647 | 14:11:55 | 9786506.980 | SCINTREXCG3M_610346 |
| 2006802027 | -1.245 | -1.095 | 0.145 | 0.020 | 538078.206 | 7449859.671 | 17/06/2006 | 471.644 | 11:37:23 | 9786843.130 | SCINTREXCG3M_711410 |
| 2006802042 | 0.718 | -0.564 | 0.208 | 0.620 | 537973.159 | 7475991.143 | 15/06/2006 | 446.360 | 15:23:48 | 9787010.990 | SCINTREXCG3M_610346 |
| 2006802051 | 0.995 | -1.413 | 0.118 | 0.790 | 548103.112 | 7479974.721 | 15/06/2006 | 457.994 | 09:03:55 | 9786893.320 | SCINTREXCG3M_610346 |
| 2006802056 | -0.116 | -0.044 | -0.213 | -0.190 | 558077.806 | 7479937.362 | 15/06/2006 | 425.414 | 08:31:55 | 9787014.800 | SCINTREXCG3M_610346 |
| 2006802068 | 3.543 | 4.965 | -0.042 | -0.570 | 582036.095 | 7480006.647 | 15/06/2006 | 393.231 | 07:47:47 | 9786797.970 | SCINTREXCG3M_610346 |
| 2006802077 | 1.224 | 0.071 | 0.024 | 0.000 | 600018.679 | 7479910.171 | 15/06/2006 | 367.517 | 07:08:45 | 9786853.330 | SCINTREXCG3M_610346 |
| 2006802080 | -0.863 | -0.218 | 0.036 | 0.100 | 596360.671 | 7477948.674 | 15/06/2006 | 532.885 | 11:26:30 | 9786495.350 | SCINTREXCG3M_610346 |
| 2006802090 | -1.057 | 1.006 | 0.185 | -0.050 | 575995.749 | 7477999.794 | 15/06/2006 | 400.204 | 10:48:52 | 9786966.970 | SCINTREXCG3M_610346 |
| 2006802103 | -1.418 | 1.164 | -0.062 | -0.500 | 549935.127 | 7477955.437 | 15/06/2006 | 465.929 | 10:01:56 | 9786970.210 | SCINTREXCG3M_610346 |
| 2006802116 | -0.367 | 0.613 | 0.105 | -0.770 | 544182.035 | 7476038.171 | 15/06/2006 | 440.457 | 15:09:41 | 9787044.110 | SCINTREXCG3M_610346 |
| 2006802129 | -0.426 | 0.318 | 0.010 | -0.120 | 570133.055 | 7476002.813 | 15/06/2006 | 399.130 | 14:24:39 | 9787136.420 | SCINTREXCG3M_610346 |
| 2006802145 | 0.501 | 0.363 | -0.053 | 0.480 | 599960.696 | 7473860.490 | 15/06/2006 | 357.087 | 13:32:15 | 9787019.850 | SCINTREXCG3M_610346 |
| 2006802156 | 1.444 | 0.368 | 0.053 | 0.180 | 596006.039 | 7473902.720 | 15/06/2006 | 365.628 | 17:21:21 | 9786974.720 | SCINTREXCG3M_610346 |
| 2006802165 | -0.185 | -0.376 | 0.046 | 0.280 | 577888.328 | 7474027.240 | 15/06/2006 | 384.737 | 16:49:10 | 9787123.520 | SCINTREXCG3M_610346 |
| 2006802173 | 1.725 | 0.408 | 0.089 | 0.770 | 561975.610 | 7474013.757 | 15/06/2006 | 420.818 | 16:19:54 | 9787171.880 | SCINTREXCG3M_610346 |
| 2006802188 | 0.027 | 0.327 | 0.203 | 0.090 | 542122.393 | 7471883.077 | 16/06/2006 | 434.341 | 10:32:32 | 9787059.990 | SCINTREXCG3M_711410 |
| 2006802197 | -0.003 | 0.897 | -0.256 | 0.580 | 559972.810 | 7471995.773 | 16/06/2006 | 414.975 | 09:58:03 | 9787207.300 | SCINTREXCG3M_711410 |
| 2006802203 | -0.670 | 0.032 | 0.085 | 0.300 | 571983.016 | 7472000.135 | 16/06/2006 | 393.858 | 09:33:39 | 9787213.660 | SCINTREXCG3M_711410 |
| 2006802216 | 0.040 | 0.340 | -0.161 | -0.190 | 596018.930 | 7469961.072 | 16/06/2006 | 358.912 | 08:49:19 | 9787201.430 | SCINTREXCG3M_711410 |
| 2006802227 | 0.974 | -1.969 | -0.119 | -0.810 | 596033.535 | 7467993.777 | 16/06/2006 | 355.515 | 13:23:16 | 9787287.250 | SCINTREXCG3M_711410 |
| 2006802240 | -3.537 | 1.619 | 0.038 | 0.840 | 570058.868 | 7470093.018 | 16/06/2006 | 393.650 | 12:39:33 | 9787238.770 | SCINTREXCG3M_711410 |
| 2006802250 | -0.250 | 0.851 | 0.006 | 0.310 | 549994.974 | 7469965.640 | 16/06/2006 | 432.672 | 12:01:14 | 9787122.120 | SCINTREXCG3M_711410 |
| 2006802258 | -3.503 | 0.040 | -0.166 | -0.100 | 542057.250 | 7461841.086 | 16/06/2006 | 455.077 | 11:37:57 | 9786891.460 | SCINTREXCG3M_711410 |
| 2006802266 | -0.146 | 0.285 | 0.080 | 0.000 | 544050.848 | 7448047.007 | 17/06/2006 | 436.778 | 11:50:11 | 9787023.000 | SCINTREXCG3M_711410 |
| 2006802266 | -0.088 | -0.308 | -0.160 | -0.160 | 544050.906 | 7448046.414 | 18/06/2006 | 436.538 | 09:52:15 | 9787022.840 | SCINTREXCG3M_711410 |
| 2006802275 | -0.349 | -0.276 | 0.078 | -0.300 | 544022.911 | 7465989.038 | 16/06/2006 | 438.655 | 16:03:16 | 9786994.430 | SCINTREXCG3M_711410 |
| 2006802286 | -1.102 | 0.743 | 0.023 | -0.100 | 563996.488 | 7468017.034 | 16/06/2006 | 408.434 | 15:25:26 | 9787263.880 | SCINTREXCG3M_711410 |
| 2006802295 | 2.587 | 2.480 | -0.023 | -0.460 | 582017.132 | 7467988.403 | 16/06/2006 | 375.017 | 14:51:56 | 9787292.930 | SCINTREXCG3M_711410 |
| 2006802302 | -0.289 | -0.003 | 0.073 | -0.250 | 596031.624 | 7466038.275 | 17/06/2006 | 353.519 | 16:55:49 | 9787354.520 | SCINTREXCG3M_711410 |
| 2006802302 | 0.017 | -0.233 | 0.023 | 0.030 | 596031.930 | 7466038.045 | 16/06/2006 | 353.469 | 14:29:16 | 9787354.800 | SCINTREXCG3M_711410 |
| 2006802309 | -0.335 | 0.744 | 0.132 | 0.780 | 582013.415 | 7465859.274 | 16/06/2006 | 375.708 | 17:13:20 | 9787349.120 | SCINTREXCG3M_711410 |
| 2006802318 | 0.239 | -0.327 | 0.067 | -0.220 | 563986.193 | 7465960.586 | 16/06/2006 | 399.067 | 16:40:52 | 9787318.100 | SCINTREXCG3M_711410 |
| 2006802337 | 0.101 | 0.108 | -0.009 | -0.800 | 564139.766 | 7464062.468 | 17/06/2006 | 400.487 | 15:50:25 | 9787357.200 | SCINTREXCG3M_711410 |
| 2006802346 | -0.102 | 0.310 | -0.196 | -0.330 | 581933.874 | 7463932.798 | 17/06/2006 | 372.103 | 16:30:35 | 9787410.630 | SCINTREXCG3M_711410 |
| 2006802355 | -1.406 | -0.675 | 0.001 | -0.150 | 602070.530 | 7456077.937 | 20/06/2006 | 349.031 | 12:40:35 | 9787560.350 | SCINTREXCG3M_711410 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006802355 | -0.349 | 0.721 | 0.000 | -0.510 | 602071.587 | 7456079.333 | 29/06/2006 | 349.030 | 10:01:34 | 9787559.990 | SCINTREXCG3M_610346 |
| 2006802355 | 0.236 | -0.259 | 0.016 | -0.280 | 602072.172 | 7456078.353 | 19/06/2006 | 349.046 | 17:42:13 | 9787560.220 | SCINTREXCG3M_711410 |
| 2006802355 | 1.721 | -0.073 | 0.032 | -0.170 | 602073.657 | 7456078.539 | 20/06/2006 | 349.062 | 07:29:18 | 9787560.330 | SCINTREXCG3M_711410 |
| 2006802363 | -0.288 | -0.174 | 0.140 | -0.300 | 601984.617 | 7440023.872 | 19/06/2006 | 328.670 | 17:12:19 | 9787823.660 | SCINTREXCG3M_711410 |
| 2006802363 | -0.010 | 0.800 | -0.010 | -1.030 | 601984.895 | 7440024.846 | 29/06/2006 | 328.520 | 10:39:15 | 9787822.930 | SCINTREXCG3M_610346 |
| 2006802369 | 1.048 | -0.257 | 0.121 | -0.550 | 599958.689 | 7429995.897 | 19/06/2006 | 327.314 | 16:56:27 | 9787801.930 | SCINTREXCG3M_711410 |
| 2006802379 | -0.572 | 0.930 | 0.177 | -1.220 | 580016.983 | 7430002.602 | 19/06/2006 | 351.163 | 16:24:30 | 9787502.330 | SCINTREXCG3M_711410 |
| 2006802387 | 0.234 | 1.162 | 0.042 | -0.300 | 563980.673 | 7429969.281 | 19/06/2006 | 383.527 | 15:57:06 | 9787314.020 | SCINTREXCG3M_711410 |
| 2006802395 | 0.358 | 0.417 | 0.052 | -0.760 | 547871.286 | 7430074.457 | 19/06/2006 | 425.842 | 15:29:53 | 9787163.460 | SCINTREXCG3M_711410 |
| 2006802403 | 0.947 | 0.953 | 0.207 | 0.560 | 531993.492 | 7430073.369 | 19/06/2006 | 532.772 | 09:59:03 | 9786732.260 | SCINTREXCG3M_711410 |
| 2006802411 | -0.057 | 0.174 | 0.027 | -0.580 | 518065.222 | 7431974.332 | 18/06/2006 | 582.236 | 11:13:36 | 9786505.160 | SCINTREXCG3M_711410 |
| 2006802421 | -0.947 | 0.234 | -0.057 | 0.220 | 522113.122 | 7448005.340 | 18/06/2006 | 591.476 | 10:43:24 | 9786503.690 | SCINTREXCG3M_711410 |
| 2006802429 | 0.112 | 0.552 | 0.042 | -0.080 | 538001.711 | 7447950.269 | 18/06/2006 | 473.250 | 10:06:08 | 9786853.310 | SCINTREXCG3M_711410 |
| 2006802437 | 1.525 | 0.438 | -0.156 | -0.120 | 546011.919 | 7459891.253 | 17/06/2006 | 430.260 | 13:44:48 | 9787049.850 | SCINTREXCG3M_711410 |
| 2006802439 | -1.017 | 0.452 | -0.022 | -0.570 | 557947.558 | 7462804.487 | 17/06/2006 | 417.586 | 15:33:27 | 9787277.890 | SCINTREXCG3M_711410 |
| 2006802448 | -0.713 | 0.486 | 0.028 | 0.220 | 547990.389 | 7454006.442 | 17/06/2006 | 422.779 | 14:23:35 | 9787161.650 | SCINTREXCG3M_711410 |
| 2006802455 | -1.050 | -0.118 | 0.244 | -0.160 | 549888.961 | 7454144.164 | 17/06/2006 | 418.942 | 14:48:48 | 9787232.780 | SCINTREXCG3M_711410 |
| 2006802462 | -1.623 | 0.156 | -0.104 | 0.800 | 552028.041 | 7454119.554 | 17/06/2006 | 413.624 | 15:16:49 | 9787268.010 | SCINTREXCG3M_711410 |
| 2006802478 | 0.274 | 0.007 | 0.020 | 0.490 | 563915.450 | 7461907.031 | 18/06/2006 | 403.016 | 08:46:35 | 9787393.620 | SCINTREXCG3M_711410 |
| 2006802480 | -0.284 | -0.429 | 0.016 | 0.010 | 568000.598 | 7461690.212 | 18/06/2006 | 409.377 | 12:59:09 | 9787391.740 | SCINTREXCG3M_711410 |
| 2006802480 | -0.052 | 0.277 | 0.052 | -0.030 | 568000.830 | 7461690.918 | 19/06/2006 | 409.413 | 12:15:09 | 9787391.700 | SCINTREXCG3M_711410 |
| 2006802480 | 0.076 | 0.278 | 0.164 | 0.770 | 568000.958 | 7461690.919 | 18/06/2006 | 409.525 | 08:36:06 | 9787392.500 | SCINTREXCG3M_711410 |
| 2006802496 | 0.391 | 0.685 | 0.031 | 0.360 | 595991.251 | 7461977.047 | 18/06/2006 | 354.335 | 07:46:42 | 9787446.970 | SCINTREXCG3M_711410 |
| 2006802508 | -5.580 | -3.707 | -0.030 | 0.130 | 612046.728 | 7466012.206 | 06/07/2006 | 336.037 | 09:19:35 | 9787303.750 | SCINTREXCG3M_711410 |
| 2006802508 | 0.425 | 1.952 | 0.006 | -0.730 | 612052.733 | 7466017.865 | 29/06/2006 | 336.073 | 08:46:20 | 9787302.890 | SCINTREXCG3M_610346 |
| 2006802536 | -1.506 | 0.443 | -0.051 | -0.180 | 556010.730 | 7445923.143 | 18/06/2006 | 407.718 | 17:05:43 | 9787296.780 | SCINTREXCG3M_711410 |
| 2006802536 | -0.782 | 0.466 | 0.068 | 0.550 | 556011.454 | 7445923.166 | 18/06/2006 | 407.837 | 13:48:24 | 9787297.510 | SCINTREXCG3M_711410 |
| 2006802545 | 1.094 | -1.755 | -0.080 | -0.470 | 538024.507 | 7446000.034 | 18/06/2006 | 478.378 | 12:15:35 | 9786849.780 | SCINTREXCG3M_711410 |
| 2006802553 | -0.622 | 0.205 | 0.151 | -0.790 | 521900.659 | 7445857.965 | 18/06/2006 | 605.522 | 11:46:07 | 9786462.050 | SCINTREXCG3M_711410 |
| 2006802565 | -1.098 | -0.629 | 0.022 | -0.600 | 522028.875 | 7438107.312 | 18/06/2006 | 646.595 | 15:18:30 | 9786379.410 | SCINTREXCG3M_711410 |
| 2006802576 | 0.573 | -1.103 | -0.032 | 0.910 | 538177.898 | 7443869.744 | 18/06/2006 | 476.758 | 14:32:04 | 9786864.250 | SCINTREXCG3M_711410 |
| 2006802581 | 13.106 | 0.854 | -0.167 | -0.390 | 548039.703 | 7444004.035 | 18/06/2006 | 417.076 | 14:08:51 | 9787121.750 | SCINTREXCG3M_711410 |
| 2006802590 | 0.765 | -0.153 | 0.243 | -0.300 | 546148.359 | 7442017.031 | 18/06/2006 | 421.940 | 16:32:27 | 9787084.200 | SCINTREXCG3M_711410 |
| 2006802596 | 1.085 | -0.199 | 0.053 | 0.030 | 534011.778 | 7441959.300 | 18/06/2006 | 730.043 | 16:06:56 | 9786316.410 | SCINTREXCG3M_711410 |
| 2006802618 | 3.030 | 6.374 | 0.033 | -0.230 | 540062.389 | 7439940.849 | 19/06/2006 | 450.437 | 08:49:10 | 9786974.910 | SCINTREXCG3M_711410 |
| 2006802628 | 0.451 | 1.443 | 0.007 | 0.210 | 558138.469 | 7441887.800 | 19/06/2006 | 399.003 | 07:58:20 | 9787280.090 | SCINTREXCG3M_711410 |
| 2006802637 | -0.056 | 0.356 | -0.020 | -0.280 | 562163.402 | 7456003.427 | 19/06/2006 | 419.608 | 13:25:41 | 9787395.090 | SCINTREXCG3M_711410 |
| 2006802637 | -0.015 | -0.136 | 0.151 | 0.950 | 562163.443 | 7456002.935 | 19/06/2006 | 419.779 | 07:29:49 | 9787396.320 | SCINTREXCG3M_711410 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006802646 | -0.291 | 0.294 | -0.162 | 0.000 | 559902.098 | 7440094.061 | 19/06/2006 | 387.654 | 11:56:36 | 9787307.650 | SCINTREXCG3M_711410 |
| 2006802651 | 2.837 | -0.888 | -0.019 | -0.260 | 551991.787 | 7437993.068 | 19/06/2006 | 401.782 | 11:22:43 | 9787188.910 | SCINTREXCG3M_711410 |
| 2006802654 | 0.179 | 0.212 | 0.005 | -0.650 | 545852.966 | 7437972.505 | 19/06/2006 | 424.862 | 11:01:11 | 9787096.940 | SCINTREXCG3M_711410 |
| 2006802657 | -0.993 | -0.692 | -0.155 | -0.460 | 539981.536 | 7438054.474 | 19/06/2006 | 460.600 | 10:45:48 | 9786964.240 | SCINTREXCG3M_711410 |
| 2006802660 | 0.296 | -1.086 | 0.107 | -0.010 | 534126.440 | 7437806.558 | 19/06/2006 | 651.032 | 10:15:20 | 9786489.680 | SCINTREXCG3M_711410 |
| 2006802683 | 0.461 | 0.674 | -0.011 | -0.310 | 542015.317 | 7436111.760 | 19/06/2006 | 438.788 | 15:03:01 | 9787026.570 | SCINTREXCG3M_711410 |
| 2006802689 | -0.108 | 0.151 | -0.109 | -0.370 | 554131.009 | 7436121.585 | 19/06/2006 | 398.892 | 14:38:57 | 9787214.200 | SCINTREXCG3M_711410 |
| 2006802700 | 0.213 | 0.434 | 0.110 | -0.060 | 562303.198 | 7442025.027 | 19/06/2006 | 386.544 | 14:06:37 | 9787348.060 | SCINTREXCG3M_711410 |
| 2006802709 | -0.592 | 1.086 | 0.237 | 0.970 | 564050.205 | 7449999.764 | 20/06/2006 | 406.624 | 09:47:13 | 9787459.130 | SCINTREXCG3M_711410 |
| 2006802729 | 1.133 | -0.194 | 0.104 | 0.330 | 545999.290 | 7434019.614 | 19/06/2006 | 427.134 | 15:22:32 | 9787117.520 | SCINTREXCG3M_711410 |
| 2006802753 | -0.245 | -2.458 | -0.219 | 0.330 | 580070.374 | 7432094.377 | 20/06/2006 | 354.225 | 08:53:12 | 9787500.170 | SCINTREXCG3M_711410 |
| 2006802764 | -0.329 | 0.461 | -0.075 | 0.530 | 600000.199 | 7434061.246 | 20/06/2006 | 317.750 | 08:15:45 | 9787835.480 | SCINTREXCG3M_711410 |
| 2006802771 | -0.164 | -0.152 | -0.096 | -0.060 | 600000.260 | 7448104.929 | 20/06/2006 | 345.787 | 07:47:59 | 9787711.010 | SCINTREXCG3M_711410 |
| 2006802782 | 0.455 | 0.426 | 0.010 | -0.760 | 598017.267 | 7445993.537 | 20/06/2006 | 345.531 | 12:17:28 | 9787742.670 | SCINTREXCG3M_711410 |
| 2006802794 | -1.144 | 0.367 | 0.023 | -1.000 | 586077.638 | 7434199.572 | 20/06/2006 | 370.336 | 11:43:46 | 9787578.620 | SCINTREXCG3M_711410 |
| 2006802816 | -0.838 | -0.218 | -0.118 | -0.100 | 568000.604 | 7456060.177 | 20/06/2006 | 401.999 | 10:39:02 | 9787473.820 | SCINTREXCG3M_711410 |
| 2006802823 | -14.803 | 5.670 | -0.056 | -0.260 | 571992.334 | 7456056.635 | 20/06/2006 | 383.810 | 16:00:44 | 9787534.510 | SCINTREXCG3M_711410 |
| 2006802833 | 1.660 | -4.964 | -0.133 | -0.710 | 567770.015 | 7437928.135 | 20/06/2006 | 391.262 | 15:29:26 | 9787338.200 | SCINTREXCG3M_711410 |
| 2006802844 | -0.377 | 0.010 | -0.155 | 0.020 | 588096.694 | 7436072.697 | 20/06/2006 | 347.993 | 14:52:56 | 9787670.170 | SCINTREXCG3M_711410 |
| 2006802853 | 1.865 | 1.072 | -0.057 | 0.360 | 595970.667 | 7445999.668 | 20/06/2006 | 346.385 | 14:24:26 | 9787757.780 | SCINTREXCG3M_711410 |
| 2006802858 | 0.565 | -1.513 | -0.032 | 0.050 | 596093.328 | 7455996.479 | 20/06/2006 | 363.699 | 14:01:30 | 9787555.140 | SCINTREXCG3M_711410 |
| 2006802869 | 0.167 | 0.941 | 0.095 | 0.170 | 591864.441 | 7438077.236 | 20/06/2006 | 342.210 | 17:14:26 | 9787747.570 | SCINTREXCG3M_711410 |
| 2006802881 | 5.730 | 2.622 | 0.242 | -0.240 | 569882.389 | 7439965.617 | 20/06/2006 | 396.078 | 16:38:36 | 9787398.160 | SCINTREXCG3M_711410 |
| 2006802892 | 0.145 | 0.114 | 0.001 | 0.700 | 575977.530 | 7452049.246 | 21/06/2006 | 369.028 | 11:05:42 | 9787608.260 | SCINTREXCG3M_610346 |
| 2006802892 | 0.255 | -0.063 | -0.067 | -0.260 | 575977.640 | 7452049.069 | 21/06/2006 | 368.960 | 09:51:59 | 9787607.300 | SCINTREXCG3M_610346 |
| 2006802902 | -1.264 | -0.552 | -0.200 | -0.450 | 575801.780 | 7440077.770 | 21/06/2006 | 372.272 | 09:26:05 | 9787522.020 | SCINTREXCG3M_610346 |
| 2006802911 | -0.441 | 0.534 | -0.012 | 0.040 | 592061.187 | 7441993.757 | 21/06/2006 | 332.717 | 08:58:10 | 9787770.320 | SCINTREXCG3M_610346 |
| 2006802942 | -0.555 | -0.282 | 0.055 | 0.590 | 604006.955 | 7451886.976 | 29/06/2006 | 343.684 | 12:24:30 | 9787628.900 | SCINTREXCG3M_610346 |
| 2006802955 | -0.794 | 0.481 | -0.146 | -0.320 | 604094.920 | 7426065.578 | 29/06/2006 | 312.525 | 11:40:35 | 9787826.380 | SCINTREXCG3M_610346 |
| 2006802966 | -1.864 | 0.718 | 0.064 | 0.170 | 606052.549 | 7425943.449 | 29/06/2006 | 309.604 | 15:05:01 | 9787852.450 | SCINTREXCG3M_610346 |
| 2006802975 | -0.585 | 0.078 | 0.030 | 1.110 | 606066.792 | 7443993.311 | 29/06/2006 | 338.212 | 14:34:26 | 9787704.040 | SCINTREXCG3M_610346 |
| 2006802995 | 0.352 | -0.200 | -0.094 | -0.220 | 608148.289 | 7444022.856 | 29/06/2006 | 342.328 | 15:39:34 | 9787650.200 | SCINTREXCG3M_610346 |
| 2006803006 | 0.406 | 0.049 | 0.001 | -0.480 | 610057.489 | 7428090.480 | 30/06/2006 | 303.407 | 08:38:03 | 9787867.740 | SCINTREXCG3M_610346 |
| 2006803016 | 0.157 | -0.549 | 0.062 | -0.360 | 609958.061 | 7447908.155 | 30/06/2006 | 331.699 | 08:01:37 | 9787592.630 | SCINTREXCG3M_610346 |
| 2006803027 | 0.652 | -0.017 | -0.060 | 1.260 | 612012.350 | 7444108.028 | 30/06/2006 | 332.840 | 15:02:35 | 9787599.390 | SCINTREXCG3M_610346 |
| 2006803037 | 0.341 | 0.323 | 0.076 | 0.420 | 611988.324 | 7423986.627 | 30/06/2006 | 299.317 | 14:26:55 | 9787894.800 | SCINTREXCG3M_610346 |
| 2006803044 | 0.188 | 1.125 | 0.237 | -0.500 | 607972.113 | 7413991.717 | 30/06/2006 | 305.729 | 14:01:57 | 9787761.270 | SCINTREXCG3M_610346 |
| 2006803054 | -1.024 | 0.967 | -0.125 | 0.150 | 606281.680 | 7400107.903 | 30/06/2006 | 306.875 | 13:33:20 | 9787791.990 | SCINTREXCG3M_610346 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006803064 | -0.929 | 0.856 | -0.054 | -0.340 | 626022.864 | 7399962.713 | 30/06/2006 | 296.089 | 12:58:02 | 9787854.410 | SCINTREXCG3M_610346 |
| 2006803074 | -0.121 | 0.014 | -0.197 | -0.490 | 638057.496 | 7408055.213 | 30/06/2006 | 277.111 | 12:28:44 | 9787904.840 | SCINTREXCG3M_610346 |
| 2006803074 | 0.361 | 0.146 | 0.123 | 0.200 | 638057.978 | 7408055.345 | 03/07/2006 | 277.431 | 12:01:00 | 9787905.530 | SCINTREXCG3M_610346 |
| 2006803081 | -0.420 | 0.197 | -0.010 | 0.050 | 633885.433 | 7432108.611 | 04/07/2006 | 283.702 | 08:37:24 | 9787681.160 | SCINTREXCG3M_610346 |
| 2006803081 | -0.208 | 0.075 | -0.056 | 0.620 | 633885.645 | 7432108.489 | 04/07/2006 | 283.656 | 11:52:54 | 9787681.730 | SCINTREXCG3M_610346 |
| 2006803085 | 0.242 | 0.473 | -0.013 | 1.260 | 636069.186 | 7413996.811 | 01/07/2006 | 268.692 | 11:02:24 | 9787941.550 | SCINTREXCG3M_610346 |
| 2006803093 | 0.268 | 1.190 | 0.265 | 0.890 | 632106.159 | 7402049.093 | 01/07/2006 | 303.520 | 10:36:53 | 9787865.190 | SCINTREXCG3M_610346 |
| 2006803102 | 1.039 | 0.355 | 0.188 | 0.330 | 613909.018 | 7401987.197 | 01/07/2006 | 303.864 | 10:05:24 | 9787796.810 | SCINTREXCG3M_610346 |
| 2006803113 | 0.110 | 0.200 | 0.181 | -0.100 | 610204.104 | 7412172.524 | 01/07/2006 | 303.096 | 09:38:55 | 9787764.230 | SCINTREXCG3M_610346 |
| 2006803123 | -0.502 | 0.056 | -0.037 | 0.400 | 614158.086 | 7428166.860 | 01/07/2006 | 298.644 | 08:55:10 | 9787833.390 | SCINTREXCG3M_610346 |
| 2006803134 | -0.364 | 1.096 | 0.075 | -0.060 | 613933.689 | 7450290.466 | 01/07/2006 | 322.946 | 08:14:36 | 9787499.320 | SCINTREXCG3M_610346 |
| 2006803139 | -1.263 | -0.441 | 0.031 | 0.210 | 615964.071 | 7448007.564 | 02/07/1906 | 319.276 | 08:25:10 | 9787464.530 | SCINTREXCG3M_610346 |
| 2006803157 | 0.308 | 0.311 | -0.027 | 0.340 | 611984.515 | 7415961.543 | 01/07/2006 | 300.966 | 13:32:14 | 9787815.340 | SCINTREXCG3M_610346 |
| 2006803179 | -1.455 | -2.180 | -0.087 | 0.400 | 633891.831 | 7406328.620 | 01/07/2006 | 281.238 | 12:30:24 | 9787917.550 | SCINTREXCG3M_610346 |
| 2006803187 | -4.116 | 0.243 | 0.259 | 0.120 | 637802.528 | 7428310.368 | 03/07/2006 | 279.102 | 14:08:33 | 9787735.080 | SCINTREXCG3M_610346 |
| 2006803187 | -3.734 | 0.552 | 0.139 | -0.750 | 637802.910 | 7428310.677 | 03/07/2006 | 278.982 | 10:46:03 | 9787734.210 | SCINTREXCG3M_610346 |
| 2006803191 | 0.218 | 1.038 | 0.212 | 0.200 | 632086.299 | 7414039.788 | 02/07/1906 | 272.314 | 11:02:47 | 9787934.350 | SCINTREXCG3M_610346 |
| 2006803232 | -0.283 | 0.669 | 0.036 | -0.050 | 620161.338 | 7446000.398 | 03/07/2006 | 312.528 | 08:04:21 | 9787356.490 | SCINTREXCG3M_610346 |
| 2006803232 | 0.024 | -0.359 | -0.063 | 0.320 | 620161.645 | 7445999.370 | 02/07/1906 | 312.429 | 12:11:01 | 9787356.860 | SCINTREXCG3M_610346 |
| 2006803246 | 0.326 | -2.536 | 0.113 | 0.370 | 620017.070 | 7419964.507 | 02/07/1906 | 288.538 | 11:28:37 | 9787925.280 | SCINTREXCG3M_610346 |
| 2006803278 | 0.591 | -1.428 | 0.043 | -0.310 | 630008.043 | 7414048.181 | 03/07/2006 | 275.694 | 09:46:42 | 9787933.000 | SCINTREXCG3M_610346 |
| 2006803318 | -0.190 | 0.575 | 0.177 | 0.690 | 624003.702 | 7436080.306 | 03/07/2006 | 304.008 | 14:43:03 | 9787605.430 | SCINTREXCG3M_610346 |
| 2006803387 | -0.423 | 0.038 | 0.201 | 0.380 | 658117.834 | 7404066.016 | 04/07/2006 | 240.166 | 10:06:48 | 9787983.520 | SCINTREXCG3M_610346 |
| 2006803404 | 0.323 | 1.245 | 0.038 | -0.340 | 642056.166 | 7418054.643 | 04/07/2006 | 264.235 | 09:15:49 | 9787897.500 | SCINTREXCG3M_610346 |
| 2006803560 | -0.344 | 0.318 | 0.000 | -0.420 | 652130.622 | 7442059.328 | 06/07/2006 | 274.926 | 11:26:40 | 9787329.560 | SCINTREXCG3M_610346 |
| 2006805001 | -1.260 | 1.038 | -0.050 | -0.120 | 622042.412 | 7470010.569 | 16/06/2006 | 322.694 | 11:25:49 | 9787242.470 | SCINTREXCG3M_610346 |
| 2006805005 | 0.277 | 0.711 | 0.051 | -0.280 | 628050.347 | 7472038.789 | 16/06/2006 | 322.464 | 11:20:32 | 9787238.840 | SCINTREXCG3M_610346 |
| 2006805005 | 0.703 | 0.800 | -0.006 | 0.170 | 628050.773 | 7472038.878 | 16/06/2006 | 322.407 | 12:31:34 | 9787239.290 | SCINTREXCG3M_610346 |
| 2006805014 | -0.349 | 0.399 | -0.014 | -0.450 | 636066.443 | 7481977.950 | 16/06/2006 | 339.656 | 11:13:26 | 9787157.150 | SCINTREXCG3M_610346 |
| 2006805014 | 1.261 | 0.812 | -0.011 | 0.290 | 636068.053 | 7481978.363 | 16/06/2006 | 339.659 | 13:06:15 | 9787157.890 | SCINTREXCG3M_610346 |
| 2006805026 | -0.550 | 0.474 | -0.048 | -0.180 | 654148.632 | 7488024.060 | 16/06/2006 | 286.286 | 11:04:30 | 9787256.080 | SCINTREXCG3M_610346 |
| 2006805026 | 0.301 | 0.129 | -0.030 | 0.580 | 654149.483 | 7488023.715 | 16/06/2006 | 286.304 | 13:43:47 | 9787256.840 | SCINTREXCG3M_610346 |
| 2006805036 | 1.870 | 2.742 | -0.056 | 0.420 | 670052.015 | 7485876.495 | 16/06/2006 | 262.946 | 14:18:31 | 9787277.050 | SCINTREXCG3M_610346 |
| 2006805048 | -0.049 | 0.490 | 0.130 | 0.530 | 638159.947 | 7481984.535 | 16/06/2006 | 331.740 | 15:48:58 | 9787199.750 | SCINTREXCG3M_610346 |
| 2006805053 | 1.632 | -0.125 | 0.173 | 1.300 | 644077.701 | 7486061.666 | 16/06/2006 | 329.740 | 15:34:10 | 9787191.390 | SCINTREXCG3M_610346 |
| 2006805077 | -0.546 | -0.175 | -0.035 | -0.020 | 661859.757 | 7481943.257 | 17/06/2006 | 273.384 | 15:08:25 | 9787327.500 | SCINTREXCG3M_610346 |
| 2006805077 | -0.308 | 1.010 | 0.176 | -0.290 | 661859.995 | 7481944.442 | 17/06/2006 | 273.595 | 15:39:18 | 9787327.230 | SCINTREXCG3M_610346 |
| 2006805084 | 1.625 | 2.810 | -0.042 | 0.120 | 649798.345 | 7483858.820 | 17/06/2006 | 299.699 | 14:40:03 | 9787305.330 | SCINTREXCG3M_610346 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006805098 | -0.761 | 0.329 | 0.040 | -0.040 | 633926.993 | 7473814.063 | 17/06/2006 | 309.174 | 14:09:50 | 9787312.290 | SCINTREXCG3M_610346 |
| 2006805098 | 0.188 | -0.012 | 0.011 | 0.030 | 633927.942 | 7473813.722 | 17/06/2006 | 309.145 | 08:34:48 | 9787312.360 | SCINTREXCG3M_610346 |
| 2006805111 | -0.307 | -0.961 | 0.012 | 0.160 | 644093.274 | 7473982.700 | 17/06/2006 | 295.497 | 11:32:31 | 9787371.030 | SCINTREXCG3M_610346 |
| 2006805111 | 0.544 | 2.035 | 0.011 | -0.490 | 644094.125 | 7473985.696 | 19/06/2006 | 295.496 | 11:15:57 | 9787370.380 | SCINTREXCG3M_610346 |
| 2006805122 | -4.084 | -3.032 | -0.036 | 0.060 | 666119.658 | 7473996.734 | 17/06/2006 | 262.031 | 10:51:08 | 9787450.550 | SCINTREXCG3M_610346 |
| 2006805122 | 7.398 | 5.997 | 0.072 | -0.400 | 666131.140 | 7474005.763 | 19/06/2006 | 262.139 | 12:29:03 | 9787450.090 | SCINTREXCG3M_610346 |
| 2006805143 | -0.180 | -0.359 | 0.265 | -0.420 | 664045.541 | 7472204.450 | 19/06/2006 | 264.073 | 13:49:27 | 9787440.000 | SCINTREXCG3M_610346 |
| 2006805154 | -0.388 | 0.007 | 0.070 | -0.440 | 641883.075 | 7471854.800 | 17/06/2006 | 298.688 | 12:10:42 | 9787350.800 | SCINTREXCG3M_610346 |
| 2006805166 | 0.863 | -4.896 | 0.083 | -0.080 | 650051.215 | 7467911.566 | 19/06/2006 | 288.494 | 14:20:05 | 9787416.670 | SCINTREXCG3M_610346 |
| 2006805184 | -5.743 | -0.927 | -0.117 | -0.560 | 650014.501 | 7482170.300 | 17/06/2006 | 305.540 | 17:27:35 | 9787294.690 | SCINTREXCG3M_610346 |
| 2006805190 | -0.093 | 0.997 | 0.044 | 0.040 | 660077.871 | 7479958.528 | 17/06/2006 | 273.005 | 17:02:36 | 9787359.930 | SCINTREXCG3M_610346 |
| 2006805202 | 0.021 | 0.840 | 0.075 | -0.490 | 670115.812 | 7480020.585 | 17/06/2006 | 258.740 | 16:44:35 | 9787348.060 | SCINTREXCG3M_610346 |
| 2006805257 | -0.547 | -0.268 | -0.201 | 0.350 | 679960.179 | 7469919.306 | 02/07/2006 | 256.143 | 15:10:00 | 9787417.500 | SCINTREXCG3M_711410 |
| 2006805267 | -1.223 | 0.729 | -0.212 | 0.720 | 659770.291 | 7470003.699 | 02/07/2006 | 269.788 | 14:38:37 | 9787358.110 | SCINTREXCG3M_711410 |
| 2006805278 | -0.620 | -0.121 | 0.009 | 0.990 | 654028.790 | 7465926.710 | 02/07/2006 | 276.670 | 14:27:28 | 9787385.580 | SCINTREXCG3M_711410 |
| 2006805279 | -0.173 | 0.497 | -0.141 | 0.620 | 659966.905 | 7400249.502 | 20/06/2006 | 236.051 | 09:26:49 | 9788020.880 | SCINTREXCG3M_610346 |
| 2006805287 | 0.234 | 0.208 | 0.080 | -0.390 | 676032.221 | 7400124.688 | 20/06/2006 | 223.583 | 09:01:10 | 9787946.360 | SCINTREXCG3M_610346 |
| 2006805296 | -0.283 | 0.649 | 0.081 | 0.230 | 688114.833 | 7402042.178 | 20/06/2006 | 214.034 | 10:40:07 | 9788005.730 | SCINTREXCG3M_610346 |
| 2006805304 | -2.197 | -0.147 | 0.017 | -0.090 | 671991.851 | 7402061.689 | 20/06/2006 | 228.059 | 09:49:55 | 9787965.350 | SCINTREXCG3M_610346 |
| 2006805313 | 0.185 | 0.457 | -0.141 | 0.080 | 663727.404 | 7403981.432 | 20/06/2006 | 238.143 | 11:30:05 | 9787976.220 | SCINTREXCG3M_610346 |
| 2006805321 | 1.006 | 1.081 | 0.086 | 0.490 | 680157.175 | 7403898.963 | 20/06/2006 | 220.011 | 11:03:31 | 9787917.340 | SCINTREXCG3M_610346 |
| 2006805337 | -1.195 | 0.486 | 0.105 | 0.040 | 670044.673 | 7406119.483 | 20/06/2006 | 232.587 | 13:55:07 | 9787912.960 | SCINTREXCG3M_610346 |
| 2006805345 | -1.040 | -0.992 | -0.125 | -0.210 | 660043.578 | 7412176.427 | 22/06/2006 | 247.994 | 09:44:59 | 9787896.200 | SCINTREXCG3M_610346 |
| 2006805345 | -0.653 | -0.520 | 0.179 | 0.380 | 660043.965 | 7412176.899 | 04/07/2006 | 248.298 | 10:20:19 | 9787896.790 | SCINTREXCG3M_610346 |
| 2006805345 | 0.686 | 1.130 | -0.129 | -0.380 | 660045.304 | 7412178.549 | 20/06/2006 | 247.990 | 13:35:32 | 9787896.030 | SCINTREXCG3M_610346 |
| 2006805345 | 1.466 | 1.032 | -0.004 | 0.540 | 660046.084 | 7412178.451 | 20/06/2006 | 248.115 | 15:28:16 | 9787896.950 | SCINTREXCG3M_610346 |
| 2006805352 | 1.511 | 0.580 | 0.138 | 0.320 | 674057.141 | 7407932.886 | 20/06/2006 | 228.378 | 15:01:07 | 9787890.410 | SCINTREXCG3M_610346 |
| 2006805362 | -1.247 | 1.163 | 0.003 | 0.670 | 687954.604 | 7409975.603 | 28/06/2006 | 219.100 | 11:00:19 | 9787986.280 | SCINTREXCG3M_711410 |
| 2006805362 | 0.833 | -1.785 | -0.143 | -0.530 | 687956.684 | 7409972.655 | 22/06/2006 | 218.954 | 10:40:30 | 9787985.080 | SCINTREXCG3M_610346 |
| 2006805372 | -0.240 | -2.835 | -0.039 | -0.190 | 667915.009 | 7409955.045 | 22/06/2006 | 236.968 | 09:58:35 | 9787888.530 | SCINTREXCG3M_610346 |
| 2006805381 | -0.207 | 2.002 | -0.026 | -0.280 | 659914.875 | 7424216.465 | 22/06/2006 | 254.111 | 09:19:43 | 9787692.300 | SCINTREXCG3M_610346 |
| 2006805381 | 0.078 | -2.243 | -0.117 | -0.190 | 659915.160 | 7424212.220 | 05/07/2006 | 254.020 | 10:23:53 | 9787692.390 | SCINTREXCG3M_610346 |
| 2006805397 | -1.434 | 1.719 | 0.033 | -0.180 | 660104.630 | 7456021.054 | 04/07/2006 | 267.863 | 08:19:28 | 9787287.910 | SCINTREXCG3M_711410 |
| 2006805397 | 0.733 | -1.532 | -0.041 | -0.350 | 660106.798 | 7456017.802 | 22/06/2006 | 267.789 | 08:20:17 | 9787287.740 | SCINTREXCG3M_610346 |
| 2006805397 | 0.765 | -1.804 | -0.111 | 0.090 | 660106.829 | 7456017.530 | 22/06/2006 | 267.719 | 13:13:22 | 9787288.180 | SCINTREXCG3M_610346 |
| 2006805405 | 0.514 | 0.326 | 0.029 | -0.020 | 587825.837 | 7441967.650 | 21/06/2006 | 340.144 | 10:28:43 | 9787713.710 | SCINTREXCG3M_610346 |
| 2006805411 | -0.444 | 0.352 | -0.142 | -0.290 | 576108.706 | 7442086.912 | 21/06/2006 | 381.853 | 10:08:00 | 9787532.670 | SCINTREXCG3M_610346 |
| 2006805423 | -0.973 | -0.747 | -0.188 | 1.110 | 582070.364 | 7443967.416 | 21/06/2006 | 360.001 | 10:46:02 | 9787655.610 | SCINTREXCG3M_610346 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006805431 | -0.319 | 0.163 | -0.011 | 0.400 | 580037.390 | 7445871.585 | 21/06/2006 | 362.844 | 11:53:11 | 9787645.890 | SCINTREXCG3M_610346 |
| 2006805435 | -0.122 | 0.641 | 0.168 | -0.790 | 578009.520 | 7451900.735 | 21/06/2006 | 367.086 | 11:40:23 | 9787611.630 | SCINTREXCG3M_610346 |
| 2006805441 | 0.025 | -0.348 | 0.071 | -0.030 | 579910.790 | 7453860.402 | 21/06/2006 | 359.194 | 12:08:18 | 9787578.700 | SCINTREXCG3M_610346 |
| 2006805479 | 0.252 | 1.275 | 0.073 | 0.820 | 662015.360 | 7431923.639 | 22/06/2006 | 259.338 | 12:26:24 | 9787473.020 | SCINTREXCG3M_610346 |
| 2006805496 | -0.745 | 0.108 | -0.002 | 0.200 | 676049.186 | 7412025.198 | 22/06/2006 | 232.322 | 11:13:42 | 9787870.640 | SCINTREXCG3M_610346 |
| 2006805522 | -0.413 | 0.465 | -0.012 | -0.580 | 669962.570 | 7418087.688 | 23/06/2006 | 242.031 | 08:17:05 | 9787766.680 | SCINTREXCG3M_610346 |
| 2006805522 | -0.335 | 0.436 | 0.008 | 0.390 | 669962.648 | 7418087.659 | 23/06/2006 | 242.051 | 10:38:29 | 9787767.650 | SCINTREXCG3M_610346 |
| 2006805533 | 1.652 | -3.016 | 0.122 | 0.160 | 664047.970 | 7433929.110 | 03/06/2006 | 257.574 | 11:53:57 | 9787426.160 | SCINTREXCG3M_711410 |
| 2006805554 | -1.778 | 2.444 | -0.089 | 1.160 | 687980.847 | 7416060.671 | 28/06/2006 | 223.745 | 11:14:10 | 9787841.950 | SCINTREXCG3M_711410 |
| 2006805554 | 0.581 | -0.990 | -0.041 | -0.660 | 687983.206 | 7416057.237 | 23/06/2006 | 223.793 | 09:03:50 | 9787840.130 | SCINTREXCG3M_610346 |
| 2006805567 | -0.215 | 0.344 | 0.074 | -0.060 | 678012.773 | 7419989.635 | 23/06/2006 | 233.271 | 10:15:31 | 9787745.990 | SCINTREXCG3M_610346 |
| 2006805591 | 0.607 | 4.170 | -0.112 | 0.440 | 670041.518 | 7424028.100 | 03/06/2006 | 243.051 | 11:25:41 | 9787644.580 | SCINTREXCG3M_711410 |
| 2006805600 | -0.593 | -0.245 | -0.062 | -0.350 | 620002.105 | 7456058.709 | 02/07/2006 | 319.942 | 13:27:28 | 9787330.010 | SCINTREXCG3M_408275 |
| 2006805602 | 4.510 | 4.050 | -0.019 | 0.160 | 624016.215 | 7456035.020 | 03/07/2006 | 313.672 | 15:17:30 | 9787335.400 | SCINTREXCG3M_610346 |
| 2006805602 | 4.544 | 4.495 | 0.016 | -0.420 | 624016.249 | 7456035.465 | 04/07/2006 | 313.707 | 07:48:00 | 9787334.820 | SCINTREXCG3M_610346 |
| 2006805604 | -4.963 | 11.584 | 0.019 | 0.260 | 627987.521 | 7456001.160 | 04/07/2006 | 308.849 | 12:39:01 | 9787361.830 | SCINTREXCG3M_610346 |
| 2006805604 | 2.529 | -5.854 | -0.017 | -0.260 | 627995.013 | 7455983.722 | 02/07/2006 | 308.813 | 13:15:29 | 9787361.310 | SCINTREXCG3M_408275 |
| 2006805608 | -5.550 | 9.044 | -0.040 | 0.240 | 635987.108 | 7455913.532 | 06/07/2006 | 299.897 | 12:32:00 | 9787423.780 | SCINTREXCG3M_610346 |
| 2006805608 | -1.340 | -0.589 | 0.171 | -0.390 | 635991.318 | 7455903.899 | 06/07/2006 | 300.108 | 11:17:54 | 9787423.150 | SCINTREXCG3M_711410 |
| 2006805609 | 0.766 | -0.341 | -0.057 | -0.090 | 638003.272 | 7455871.741 | 02/07/2006 | 297.784 | 13:01:17 | 9787436.990 | SCINTREXCG3M_408275 |
| 2006805610 | -12.283 | 25.949 | 0.039 | 0.300 | 640013.578 | 7455871.782 | 06/07/2006 | 294.413 | 12:27:24 | 9787452.470 | SCINTREXCG3M_610346 |
| 2006805613 | 0.337 | 0.064 | -0.043 | 0.210 | 646042.638 | 7455756.569 | 02/07/2006 | 286.957 | 12:49:04 | 9787414.030 | SCINTREXCG3M_408275 |
| 2006805614 | -11.695 | 4.838 | 0.159 | 0.390 | 647999.900 | 7455733.920 | 05/07/2006 | 283.791 | 11:43:24 | 9787399.330 | SCINTREXCG3M_610346 |
| 2006805616 | -16.058 | 14.970 | 0.054 | 1.160 | 652017.215 | 7455684.015 | 03/06/2006 | 277.385 | 12:15:35 | 9787380.960 | SCINTREXCG3M_711410 |
| 2006805617 | -3.801 | 4.145 | 0.155 | 0.530 | 654039.782 | 7455642.922 | 04/07/2006 | 275.610 | 11:34:32 | 9787372.550 | SCINTREXCG3M_711410 |
| 2006805617 | 1.960 | -2.324 | -0.102 | -0.370 | 654045.543 | 7455636.453 | 02/07/2006 | 275.353 | 12:34:15 | 9787371.650 | SCINTREXCG3M_408275 |
| 2006807000 | -6.954 | 5.769 | 0.021 | 0.020 | 735863.441 | 7476525.233 | 21/06/2006 | 241.424 | 17:24:37 | 9787461.590 | SCINTREXCG3M_711410 |
| 2006807000 | -6.952 | 5.769 | 0.027 | 0.450 | 735863.443 | 7476525.233 | 22/06/2006 | 241.430 | 07:03:41 | 9787462.020 | SCINTREXCG3M_711410 |
| 2006807000 | -6.952 | 5.769 | -0.023 | -0.260 | 735863.443 | 7476525.233 | 22/06/2006 | 241.380 | 16:59:46 | 9787461.310 | SCINTREXCG3M_711410 |
| 2006807000 | -6.710 | 4.522 | -0.003 | 0.190 | 735863.685 | 7476523.986 | 25/06/2006 | 241.400 | 16:54:44 | 9787461.760 | SCINTREXCG3M_711410 |
| 2006807000 | -6.705 | 4.541 | 0.117 | -0.160 | 735863.690 | 7476524.005 | 26/06/2006 | 241.520 | 07:03:40 | 9787461.410 | SCINTREXCG3M_711410 |
| 2006807000 | -6.705 | 4.541 | 0.072 | 0.000 | 735863.690 | 7476524.005 | 26/06/2006 | 241.475 | 13:22:46 | 9787461.570 | SCINTREXCG3M_711410 |
| 2006807000 | -6.269 | 5.584 | 0.002 | -0.130 | 735864.126 | 7476525.048 | 23/06/2006 | 241.405 | 06:54:29 | 9787461.440 | SCINTREXCG3M_711410 |
| 2006807000 | -3.918 | 4.836 | -0.021 | -0.490 | 735866.477 | 7476524.300 | 23/06/2006 | 241.382 | 17:14:18 | 9787461.080 | SCINTREXCG3M_711410 |
| 2006807000 | -3.798 | 4.826 | -0.101 | 0.120 | 735866.597 | 7476524.290 | 24/06/2006 | 241.302 | 07:08:30 | 9787461.690 | SCINTREXCG3M_711410 |
| 2006807000 | -2.532 | -3.036 | 0.099 | 0.060 | 735867.863 | 7476516.428 | 24/06/2006 | 241.502 | 12:19:45 | 9787461.630 | SCINTREXCG3M_711410 |
| 2006807000 | -1.727 | 0.455 | 0.102 | -0.250 | 735868.668 | 7476519.919 | 28/06/2006 | 241.505 | 07:12:37 | 9787461.320 | SCINTREXCG3M_711410 |
| 2006807000 | -1.704 | 3.122 | -0.003 | -0.420 | 735868.691 | 7476522.586 | 24/06/2006 | 241.400 | 16:51:17 | 9787461.150 | SCINTREXCG3M_711410 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006807000 | -1.660 | 3.096 | -0.113 | 0.100 | 735868.735 | 7476522.560 | 25/06/2006 | 241.290 | 07:05:22 | 9787461.670 | SCINTREXCG3M_711410 |
| 2006807000 | -1.529 | 0.644 | 0.127 | 0.760 | 735868.866 | 7476520.108 | 25/06/2006 | 241.530 | 12:43:15 | 9787462.330 | SCINTREXCG3M_711410 |
| 2006807000 | -1.327 | 4.710 | -0.094 | -0.010 | 735869.068 | 7476524.174 | 26/06/2006 | 241.309 | 17:00:43 | 9787461.560 | SCINTREXCG3M_711410 |
| 2006807000 | -1.307 | 4.767 | -0.066 | -0.080 | 735869.088 | 7476524.231 | 27/06/2006 | 241.337 | 07:07:14 | 9787461.490 | SCINTREXCG3M_711410 |
| 2006807000 | -0.989 | 1.118 | -0.058 | 0.090 | 735869.406 | 7476520.582 | 27/06/2006 | 241.345 | 16:55:14 | 9787461.660 | SCINTREXCG3M_711410 |
| 2006807000 | -0.794 | -1.398 | 0.120 | 0.280 | 735869.601 | 7476518.066 | 27/06/2006 | 241.523 | 12:49:00 | 9787461.850 | SCINTREXCG3M_711410 |
| 2006807000 | -0.093 | -1.554 | 0.130 | -0.690 | 735870.302 | 7476517.910 | 26/06/2006 | 241.533 | 12:39:23 | 9787460.880 | SCINTREXCG3M_711410 |
| 2006807000 | 0.478 | 3.649 | -0.083 | 0.000 | 735870.873 | 7476523.113 | 02/07/2006 | 241.320 | 09:22:24 | 9787461.570 | SCINTREXCG3M_711410 |
| 2006807000 | 0.616 | 7.029 | -0.073 | 0.460 | 735871.011 | 7476526.493 | 30/06/2006 | 241.330 | 17:06:01 | 9787462.030 | SCINTREXCG3M_711410 |
| 2006807000 | 0.650 | 7.070 | -0.053 | -0.160 | 735871.045 | 7476526.534 | 01/07/2006 | 241.350 | 07:00:38 | 9787461.410 | SCINTREXCG3M_711410 |
| 2006807000 | 0.849 | 8.010 | 0.080 | 0.430 | 735871.244 | 7476527.474 | 01/07/2006 | 241.483 | 17:01:10 | 9787462.000 | SCINTREXCG3M_711410 |
| 2006807000 | 2.672 | 3.398 | -0.093 | -0.090 | 735873.067 | 7476522.862 | 30/06/2006 | 241.310 | 12:33:32 | 9787461.480 | SCINTREXCG3M_711410 |
| 2006807000 | 6.570 | 0.214 | 0.056 | 0.140 | 735876.965 | 7476519.678 | 01/07/2006 | 241.459 | 12:28:29 | 9787461.710 | SCINTREXCG3M_711410 |
| 2006807000 | 20.819 | -29.057 | -0.023 | -0.130 | 735891.214 | 7476490.407 | 30/06/2006 | 241.380 | 06:54:43 | 9787461.440 | SCINTREXCG3M_711410 |
| 2006807000 | 20.838 | -29.068 | -0.113 | 0.130 | 735891.233 | 7476490.396 | 29/06/2006 | 241.290 | 17:03:55 | 9787461.700 | SCINTREXCG3M_711410 |
| 2006807000 | 22.063 | -35.133 | -0.036 | 0.070 | 735892.458 | 7476484.331 | 29/06/2006 | 241.367 | 06:54:24 | 9787461.640 | SCINTREXCG3M_711410 |
| 2006807003 | -0.807 | -0.675 | -0.137 | -0.330 | 731740.594 | 7466184.924 | 21/06/2006 | 267.871 | 17:10:57 | 9787462.500 | SCINTREXCG3M_711410 |
| 2006807003 | 0.467 | 0.977 | -0.115 | -0.250 | 731741.868 | 7466186.576 | 29/06/2006 | 267.893 | 16:56:34 | 9787462.580 | SCINTREXCG3M_711410 |
| 2006807011 | 0.123 | 1.073 | 0.059 | -0.350 | 728213.162 | 7453843.724 | 21/06/2006 | 237.994 | 16:39:02 | 9787645.350 | SCINTREXCG3M_711410 |
| 2006807026 | -0.816 | 1.056 | -0.017 | -0.260 | 723753.045 | 7451937.312 | 29/06/2006 | 258.908 | 16:37:43 | 9787600.630 | SCINTREXCG3M_711410 |
| 2006807040 | -2.622 | 3.053 | -0.010 | 0.700 | 734165.274 | 7469951.967 | 01/07/2006 | 257.715 | 07:30:51 | 9787456.210 | SCINTREXCG3M_711410 |
| 2006807040 | 1.583 | -4.211 | 0.024 | -0.020 | 734169.479 | 7469944.703 | 30/06/2006 | 257.749 | 07:13:54 | 9787455.490 | SCINTREXCG3M_711410 |
| 2006807040 | 2.989 | -4.189 | 0.032 | -0.490 | 734170.885 | 7469944.725 | 01/07/2006 | 257.757 | 16:56:28 | 9787455.020 | SCINTREXCG3M_711410 |
| 2006807041 | -1.816 | 1.131 | 0.138 | -0.370 | 805956.202 | 7451951.636 | 22/06/2006 | 263.071 | 09:28:22 | 9787651.610 | SCINTREXCG3M_711410 |
| 2006807048 | -0.143 | 0.470 | 0.015 | -0.610 | 805943.444 | 7437895.319 | 22/06/2006 | 219.169 | 08:59:07 | 9787825.490 | SCINTREXCG3M_711410 |
| 2006807057 | 1.796 | -3.242 | 0.090 | -0.460 | 803708.464 | 7422047.977 | 22/06/2006 | 187.528 | 10:53:49 | 9788002.070 | SCINTREXCG3M_711410 |
| 2006807065 | 0.009 | 1.096 | 0.069 | 0.840 | 803827.491 | 7438108.613 | 22/06/2006 | 202.455 | 10:27:59 | 9787862.990 | SCINTREXCG3M_711410 |
| 2006807073 | -4.005 | 0.311 | -0.206 | -0.020 | 801936.718 | 7452099.360 | 22/06/2006 | 266.816 | 11:46:30 | 9787652.330 | SCINTREXCG3M_711410 |
| 2006807089 | -0.223 | 1.066 | 0.120 | -0.140 | 799865.368 | 7421881.900 | 22/06/2006 | 187.656 | 13:53:11 | 9787984.500 | SCINTREXCG3M_711410 |
| 2006807089 | -0.032 | -0.212 | -0.177 | -0.490 | 799865.559 | 7421880.622 | 24/06/2006 | 187.359 | 14:20:13 | 9787984.150 | SCINTREXCG3M_711410 |
| 2006807107 | -1.468 | -0.011 | 0.232 | -0.060 | 797781.342 | 7450423.328 | 22/06/2006 | 225.418 | 16:17:40 | 9787736.570 | SCINTREXCG3M_711410 |
| 2006807117 | -0.047 | 1.525 | 0.147 | -0.310 | 797663.511 | 7430371.951 | 22/06/2006 | 184.001 | 15:29:29 | 9787920.970 | SCINTREXCG3M_711410 |
| 2006807128 | -0.621 | -0.194 | -0.061 | -0.040 | 786155.060 | 7422285.106 | 24/06/2006 | 170.902 | 13:56:14 | 9787977.700 | SCINTREXCG3M_711410 |
| 2006807128 | 0.189 | 0.804 | -0.036 | 0.210 | 786155.870 | 7422286.104 | 22/06/2006 | 170.927 | 15:04:26 | 9787977.950 | SCINTREXCG3M_711410 |
| 2006807141 | -0.443 | 0.394 | 0.168 | 0.280 | 777593.886 | 7426066.510 | 23/06/2006 | 168.561 | 14:02:26 | 9787929.380 | SCINTREXCG3M_711410 |
| 2006807155 | 4.175 | 6.614 | -0.119 | -1.150 | 796158.806 | 7432502.417 | 23/06/2006 | 196.936 | 08:45:00 | 9787878.570 | SCINTREXCG3M_711410 |
| 2006807160 | 5.708 | 4.684 | -0.007 | 0.210 | 796077.858 | 7442170.889 | 23/06/2006 | 208.677 | 09:12:18 | 9787811.120 | SCINTREXCG3M_711410 |
| 2006807170 | 1.596 | -2.523 | 0.233 | 0.310 | 785750.693 | 7452594.343 | 23/06/2006 | 207.308 | 07:31:58 | 9787762.970 | SCINTREXCG3M_711410 |

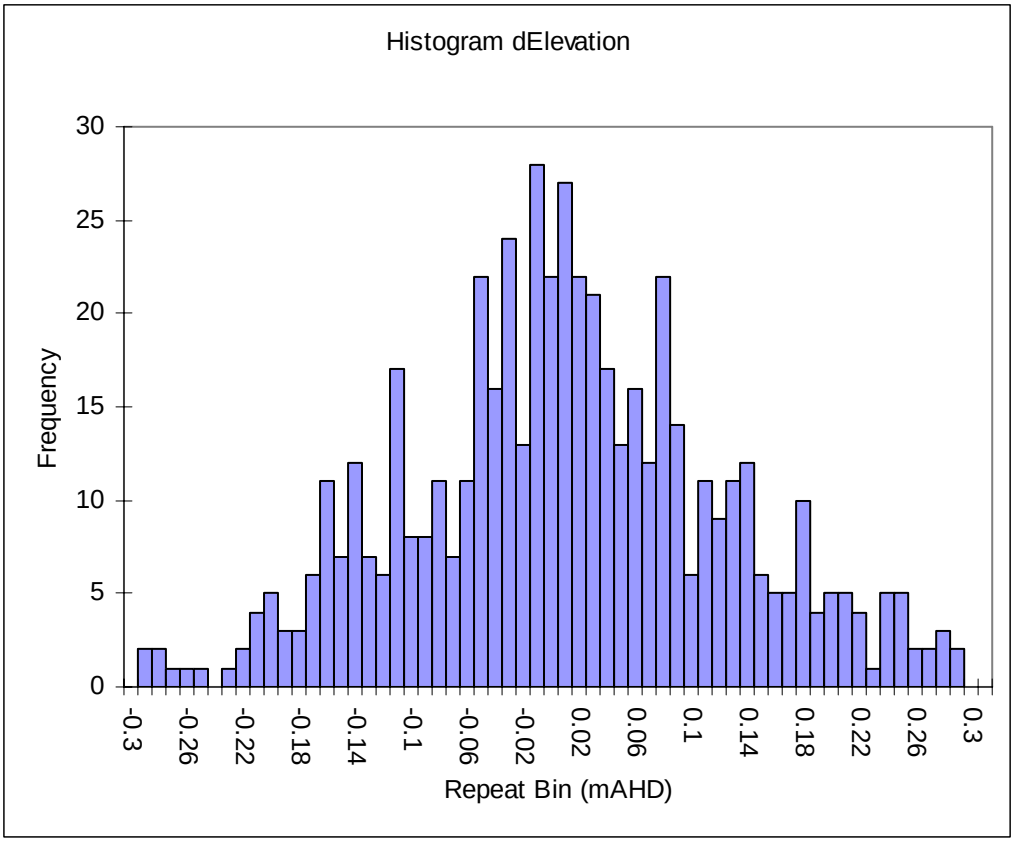
| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006807184 | 1.685 | 1.526 | -0.152 | -0.290 | 793951.216 | 7431871.769 | 23/06/2006 | 200.954 | 08:49:37 | 9787876.140 | SCINTREXCG3M_711410 |
| 2006807193 | -2.501 | 0.159 | 0.131 | 0.520 | 792023.312 | 7436254.958 | 23/06/2006 | 242.609 | 10:16:44 | 9787765.360 | SCINTREXCG3M_711410 |
| 2006807200 | 2.708 | 2.977 | -0.137 | -0.590 | 790050.331 | 7447984.972 | 23/06/2006 | 207.791 | 11:24:31 | 9787764.000 | SCINTREXCG3M_711410 |
| 2006807206 | -1.749 | -0.523 | -0.058 | -0.710 | 789869.950 | 7435896.578 | 23/06/2006 | 232.448 | 11:02:23 | 9787784.370 | SCINTREXCG3M_711410 |
| 2006807213 | 3.911 | -5.155 | 0.183 | -0.070 | 787930.264 | 7428203.848 | 23/06/2006 | 193.263 | 13:45:24 | 9787872.310 | SCINTREXCG3M_711410 |
| 2006807225 | -2.673 | 8.911 | -0.141 | -0.450 | 783940.375 | 7447969.731 | 23/06/2006 | 193.602 | 13:12:45 | 9787757.500 | SCINTREXCG3M_711410 |
| 2006807225 | 6.023 | -11.532 | -0.153 | 0.080 | 783949.071 | 7447949.288 | 23/06/2006 | 193.590 | 16:09:12 | 9787758.030 | SCINTREXCG3M_711410 |
| 2006807232 | -2.945 | -4.066 | -0.117 | -0.500 | 779983.246 | 7457975.722 | 23/06/2006 | 201.228 | 16:29:47 | 9787749.340 | SCINTREXCG3M_711410 |
| 2006807232 | 4.328 | 8.363 | 0.143 | 0.680 | 779990.519 | 7457988.151 | 24/06/2006 | 201.488 | 07:36:13 | 9787750.520 | SCINTREXCG3M_711410 |
| 2006807264 | -0.183 | -0.969 | -0.164 | 0.690 | 778323.513 | 7433997.368 | 24/06/2006 | 188.139 | 08:37:08 | 9787831.720 | SCINTREXCG3M_711410 |
| 2006807271 | -0.581 | 0.954 | -0.173 | -0.310 | 780195.786 | 7437781.731 | 23/06/2006 | 185.538 | 15:10:05 | 9787829.240 | SCINTREXCG3M_711410 |
| 2006807287 | -1.634 | -0.260 | 0.067 | 1.150 | 781972.620 | 7450022.486 | 24/06/2006 | 191.632 | 07:58:09 | 9787779.490 | SCINTREXCG3M_711410 |
| 2006807301 | -1.477 | -2.236 | -0.053 | -0.710 | 771988.758 | 7470201.528 | 24/06/2006 | 224.260 | 12:04:42 | 9787638.380 | SCINTREXCG3M_711410 |
| 2006807301 | 0.614 | 2.278 | 0.056 | 0.940 | 771990.849 | 7470206.042 | 25/06/2006 | 224.369 | 07:55:14 | 9787640.030 | SCINTREXCG3M_711410 |
| 2006807305 | 3.886 | 0.919 | -0.018 | -0.590 | 778047.536 | 7449817.155 | 24/06/2006 | 189.530 | 09:12:29 | 9787744.780 | SCINTREXCG3M_711410 |
| 2006807313 | 0.550 | 2.819 | -0.109 | 0.120 | 776020.692 | 7436182.055 | 24/06/2006 | 177.319 | 10:24:16 | 9787843.290 | SCINTREXCG3M_711410 |
| 2006807323 | -0.720 | -0.415 | -0.113 | -0.210 | 776122.043 | 7456062.030 | 24/06/2006 | 209.192 | 09:50:22 | 9787693.550 | SCINTREXCG3M_711410 |
| 2006807335 | -1.101 | -0.893 | 0.017 | -0.280 | 773962.495 | 7449815.311 | 24/06/2006 | 189.534 | 11:29:37 | 9787746.160 | SCINTREXCG3M_711410 |
| 2006807345 | -0.625 | 0.763 | 0.175 | 0.540 | 771644.398 | 7431611.521 | 25/06/2006 | 195.257 | 08:57:56 | 9787844.170 | SCINTREXCG3M_711410 |
| 2006807345 | 0.106 | -0.295 | 0.039 | -0.230 | 771645.129 | 7431610.463 | 24/06/2006 | 195.121 | 16:32:06 | 9787843.400 | SCINTREXCG3M_711410 |
| 2006807355 | 0.297 | -0.982 | -0.002 | 0.350 | 772011.489 | 7452071.250 | 25/06/2006 | 192.998 | 08:23:56 | 9787715.040 | SCINTREXCG3M_711410 |
| 2006807368 | -0.064 | 0.212 | -0.040 | -0.310 | 784194.883 | 7420096.534 | 24/06/2006 | 167.090 | 15:43:04 | 9788007.360 | SCINTREXCG3M_711410 |
| 2006807372 | 2.322 | 1.021 | 0.031 | -0.250 | 791835.489 | 7420097.765 | 24/06/2006 | 174.611 | 15:17:49 | 9787983.870 | SCINTREXCG3M_711410 |
| 2006807432 | -1.820 | -4.103 | 0.074 | -0.480 | 770134.025 | 7463836.275 | 25/06/2006 | 211.039 | 10:06:46 | 9787641.540 | SCINTREXCG3M_711410 |
| 2006807437 | -0.695 | 0.444 | 0.241 | -0.040 | 769953.789 | 7453729.914 | 25/06/2006 | 193.812 | 09:45:07 | 9787702.320 | SCINTREXCG3M_711410 |
| 2006807450 | -0.104 | 0.978 | -0.223 | -0.210 | 768058.916 | 7430166.595 | 25/06/2006 | 195.078 | 14:59:20 | 9787843.880 | SCINTREXCG3M_711410 |
| 2006807455 | -7.235 | 4.701 | -0.080 | -0.550 | 768014.717 | 7440094.148 | 25/06/2006 | 186.673 | 14:44:15 | 9787840.210 | SCINTREXCG3M_711410 |
| 2006807463 | -1.245 | 0.613 | -0.286 | 0.260 | 767978.269 | 7456153.828 | 25/06/2006 | 199.422 | 10:56:01 | 9787687.940 | SCINTREXCG3M_711410 |
| 2006807471 | 2.600 | 0.867 | -0.137 | -0.380 | 765867.076 | 7465631.704 | 25/06/2006 | 212.348 | 12:02:56 | 9787638.330 | SCINTREXCG3M_711410 |
| 2006807506 | -1.758 | -0.806 | -0.038 | -0.500 | 747514.695 | 7468023.299 | 25/06/2006 | 238.102 | 13:33:29 | 9787564.330 | SCINTREXCG3M_711410 |
| 2006807506 | 0.960 | -0.147 | 0.027 | -0.170 | 747517.413 | 7468023.958 | 27/06/2006 | 238.167 | 12:29:49 | 9787564.660 | SCINTREXCG3M_711410 |
| 2006807511 | -1.780 | -1.206 | 0.017 | -0.050 | 753970.563 | 7466128.741 | 02/07/2006 | 223.125 | 09:12:55 | 9787630.960 | SCINTREXCG3M_711410 |
| 2006807511 | 1.214 | 0.543 | -0.021 | 0.020 | 753973.557 | 7466130.490 | 25/06/2006 | 223.087 | 16:33:11 | 9787631.030 | SCINTREXCG3M_711410 |
| 2006807525 | -4.187 | -4.592 | -0.277 | -0.620 | 763985.843 | 7448074.759 | 25/06/2006 | 193.430 | 15:55:55 | 9787787.290 | SCINTREXCG3M_711410 |
| 2006807541 | -0.232 | -0.857 | 0.024 | -0.330 | 756255.913 | 7432065.272 | 01/07/2006 | 214.505 | 13:24:47 | 9787767.690 | SCINTREXCG3M_711410 |
| 2006807541 | 0.449 | 0.376 | 0.105 | 0.200 | 756256.594 | 7432066.505 | 26/06/2006 | 214.586 | 08:47:17 | 9787768.220 | SCINTREXCG3M_711410 |
| 2006807551 | 1.382 | -4.503 | 0.116 | -0.180 | 761756.741 | 7441667.874 | 26/06/2006 | 206.035 | 08:19:08 | 9787797.440 | SCINTREXCG3M_711410 |
| 2006807557 | -0.803 | -4.090 | -0.019 | 0.730 | 760089.495 | 7452086.772 | 26/06/2006 | 203.743 | 07:57:35 | 9787718.430 | SCINTREXCG3M_711410 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006807569 | -0.525 | -0.645 | -0.004 | -0.100 | 748027.494 | 7464100.346 | 26/06/2006 | 251.647 | 07:21:16 | 9787530.850 | SCINTREXCG3M_711410 |
| 2006807569 | 2.717 | 1.798 | -0.010 | 0.310 | 748030.736 | 7464102.789 | 02/07/2006 | 251.641 | 08:16:05 | 9787531.260 | SCINTREXCG3M_711410 |
| 2006807579 | -0.622 | 1.103 | -0.186 | -0.390 | 757894.599 | 7453903.525 | 26/06/2006 | 220.003 | 12:05:34 | 9787655.360 | SCINTREXCG3M_711410 |
| 2006807587 | -2.380 | -0.127 | 0.080 | -0.550 | 760170.064 | 7440057.626 | 26/06/2006 | 217.410 | 11:38:56 | 9787778.630 | SCINTREXCG3M_711410 |
| 2006807599 | -0.277 | 0.663 | -0.018 | -0.410 | 749965.180 | 7430006.428 | 26/06/2006 | 201.945 | 15:47:02 | 9787815.830 | SCINTREXCG3M_711410 |
| 2006807599 | 0.037 | -0.771 | -0.096 | 0.030 | 749965.494 | 7430004.994 | 26/06/2006 | 201.867 | 11:08:07 | 9787816.270 | SCINTREXCG3M_711410 |
| 2006807599 | 0.224 | -0.082 | 0.200 | 0.120 | 749965.681 | 7430005.683 | 27/06/2006 | 202.163 | 08:36:21 | 9787816.360 | SCINTREXCG3M_711410 |
| 2006807599 | 0.337 | 0.522 | 0.054 | 0.510 | 749965.794 | 7430006.287 | 27/06/2006 | 202.017 | 10:49:40 | 9787816.750 | SCINTREXCG3M_711410 |
| 2006807602 | -0.749 | -0.309 | -0.222 | -0.110 | 749514.138 | 7419850.065 | 26/06/2006 | 184.783 | 10:21:42 | 9787939.480 | SCINTREXCG3M_711410 |
| 2006807602 | -0.698 | -0.624 | 0.025 | 0.260 | 749514.189 | 7419849.750 | 01/07/2006 | 185.030 | 13:40:02 | 9787939.850 | SCINTREXCG3M_711410 |
| 2006807625 | 0.888 | -0.646 | -0.030 | 0.330 | 745887.810 | 7423966.071 | 27/06/2006 | 194.713 | 10:31:49 | 9787901.530 | SCINTREXCG3M_711410 |
| 2006807634 | -2.482 | -3.051 | -0.194 | -0.150 | 744046.158 | 7424070.342 | 27/06/2006 | 194.407 | 14:45:47 | 9787915.280 | SCINTREXCG3M_711410 |
| 2006807635 | -3.151 | -3.852 | 0.018 | 0.000 | 758093.380 | 7436291.403 | 26/06/2006 | 215.311 | 14:00:02 | 9787765.760 | SCINTREXCG3M_711410 |
| 2006807645 | -1.038 | 2.392 | 0.083 | -0.320 | 755940.673 | 7453824.297 | 26/06/2006 | 210.589 | 13:37:18 | 9787686.520 | SCINTREXCG3M_711410 |
| 2006807645 | 2.076 | -4.785 | -0.166 | 0.430 | 755943.787 | 7453817.120 | 26/06/2006 | 210.340 | 16:30:42 | 9787687.270 | SCINTREXCG3M_711410 |
| 2006807652 | -0.404 | 0.077 | 0.019 | 0.250 | 748089.364 | 7459968.335 | 27/06/2006 | 236.736 | 12:17:34 | 9787566.710 | SCINTREXCG3M_711410 |
| 2006807652 | -0.010 | 0.142 | -0.099 | 0.040 | 748089.758 | 7459968.400 | 26/06/2006 | 236.618 | 16:50:57 | 9787566.500 | SCINTREXCG3M_711410 |
| 2006807656 | -0.091 | 0.258 | -0.205 | 0.620 | 755866.104 | 7440100.627 | 26/06/2006 | 231.479 | 16:07:48 | 9787718.980 | SCINTREXCG3M_711410 |
| 2006807695 | -5.231 | 3.776 | 0.216 | 0.040 | 752084.454 | 7435776.226 | 27/06/2006 | 220.103 | 11:28:36 | 9787769.730 | SCINTREXCG3M_711410 |
| 2006807695 | 9.811 | -10.321 | -0.154 | 0.420 | 752099.496 | 7435762.129 | 27/06/2006 | 219.733 | 08:26:03 | 9787770.110 | SCINTREXCG3M_711410 |
| 2006807704 | -0.355 | 0.988 | 0.192 | -0.040 | 754092.479 | 7452252.295 | 27/06/2006 | 213.387 | 07:55:43 | 9787706.280 | SCINTREXCG3M_711410 |
| 2006807710 | -1.482 | -0.528 | -0.048 | 0.700 | 748141.670 | 7457978.960 | 27/06/2006 | 237.339 | 07:27:39 | 9787579.250 | SCINTREXCG3M_711410 |
| 2006807715 | 0.116 | 0.407 | 0.001 | 0.360 | 752088.328 | 7452048.088 | 27/06/2006 | 218.823 | 11:53:16 | 9787699.670 | SCINTREXCG3M_711410 |
| 2006807785 | -1.052 | -4.181 | 0.141 | -0.110 | 746056.428 | 7454023.342 | 27/06/2006 | 227.335 | 13:53:43 | 9787674.780 | SCINTREXCG3M_711410 |
| 2006807794 | -4.080 | -15.471 | -0.085 | -0.660 | 743868.799 | 7470013.914 | 30/06/2006 | 237.588 | 16:57:16 | 9787543.340 | SCINTREXCG3M_711410 |
| 2006807794 | 1.069 | 7.965 | 0.060 | 0.180 | 743873.948 | 7470037.350 | 27/06/2006 | 237.733 | 16:48:47 | 9787544.180 | SCINTREXCG3M_711410 |
| 2006807827 | -0.589 | 0.130 | 0.199 | -0.380 | 723932.242 | 7418032.360 | 28/06/2006 | 194.042 | 08:34:18 | 9787840.200 | SCINTREXCG3M_711410 |
| 2006807837 | -0.105 | 0.738 | 0.079 | -0.340 | 739818.432 | 7422009.981 | 28/06/2006 | 194.138 | 08:06:30 | 9787924.500 | SCINTREXCG3M_711410 |
| 2006807846 | -0.016 | 1.508 | 0.198 | -0.090 | 740119.966 | 7440059.802 | 28/06/2006 | 215.241 | 16:29:05 | 9787811.520 | SCINTREXCG3M_711410 |
| 2006807846 | 0.464 | -2.625 | -0.132 | -0.540 | 740120.446 | 7440055.669 | 28/06/2006 | 214.911 | 07:36:51 | 9787811.070 | SCINTREXCG3M_711410 |
| 2006807864 | -1.617 | 1.194 | -0.144 | 0.370 | 737806.840 | 7421953.843 | 28/06/2006 | 193.938 | 15:56:35 | 9787907.560 | SCINTREXCG3M_711410 |
| 2006807875 | 0.836 | -0.417 | -0.127 | -0.340 | 719860.800 | 7417972.009 | 28/06/2006 | 196.537 | 15:27:02 | 9787842.610 | SCINTREXCG3M_711410 |
| 2006807919 | 0.000 | 0.715 | -0.217 | -0.580 | 692047.348 | 7419897.622 | 28/06/2006 | 221.448 | 12:53:46 | 9787854.550 | SCINTREXCG3M_711410 |
| 2006807963 | -0.535 | -0.688 | 0.069 | -0.200 | 701921.343 | 7419949.426 | 28/06/2006 | 209.805 | 14:46:56 | 9787867.970 | SCINTREXCG3M_711410 |
| 2006807963 | -0.167 | 0.144 | -0.001 | 0.010 | 701921.711 | 7419950.258 | 29/06/2006 | 209.735 | 08:48:31 | 9787868.180 | SCINTREXCG3M_711410 |
| 2006807981 | -0.685 | -1.745 | 0.124 | 0.280 | 722049.431 | 7421956.323 | 29/06/2006 | 195.962 | 08:12:21 | 9787817.030 | SCINTREXCG3M_711410 |
| 2006807998 | -0.610 | -0.208 | -0.135 | -0.050 | 735588.110 | 7442117.380 | 30/06/2006 | 217.853 | 16:10:01 | 9787807.070 | SCINTREXCG3M_711410 |
| 2006807998 | -0.573 | 0.532 | 0.126 | 0.010 | 735588.147 | 7442118.120 | 29/06/2006 | 218.114 | 07:25:28 | 9787807.130 | SCINTREXCG3M_711410 |

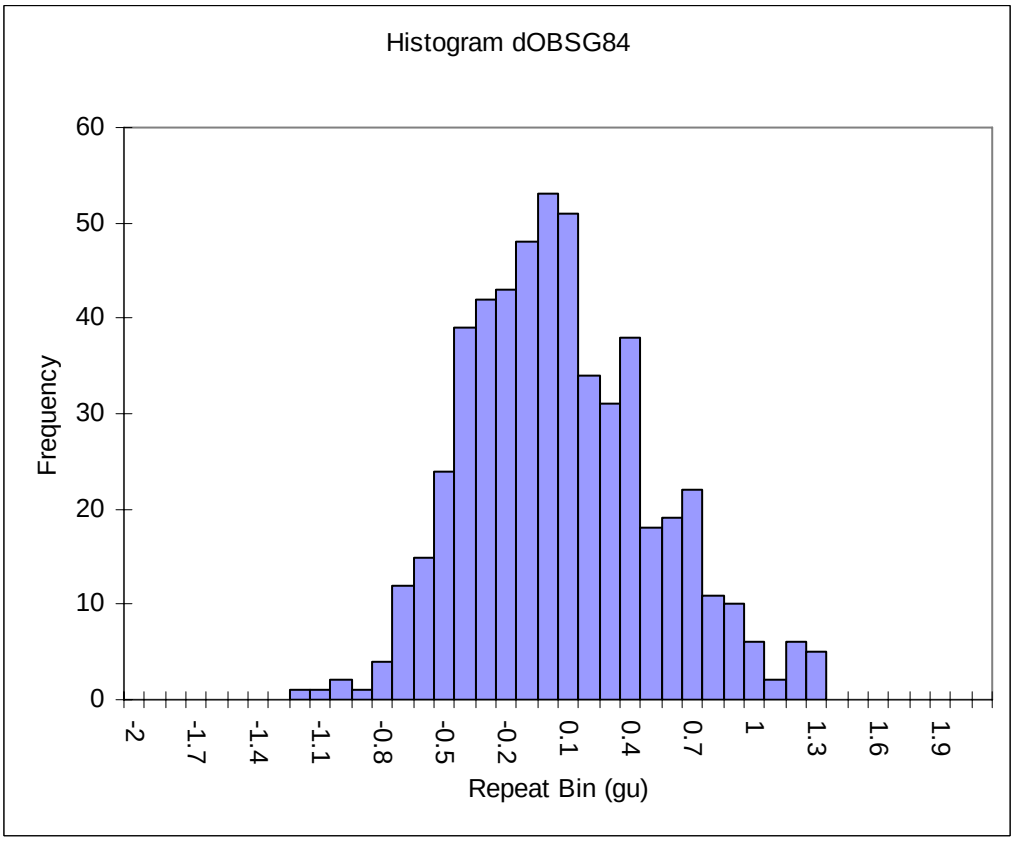
| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006808015 | -0.873 | 0.962 | 0.272 | 0.030 | 734238.510 | 7425916.104 | 29/06/2006 | 199.035 | 10:18:59 | 9787877.140 | SCINTREXCG3M_711410 |
| 2006808028 | -0.289 | -1.239 | 0.100 | 1.110 | 712134.510 | 7421969.743 | 29/06/2006 | 203.771 | 09:37:49 | 9787827.240 | SCINTREXCG3M_711410 |
| 2006808040 | 2.003 | 3.704 | 0.122 | -0.230 | 696082.390 | 7425998.033 | 29/06/2006 | 219.173 | 11:38:36 | 9787815.810 | SCINTREXCG3M_711410 |
| 2006808077 | 0.431 | -0.156 | -0.134 | -0.290 | 704048.500 | 7427713.166 | 29/06/2006 | 211.922 | 14:59:21 | 9787781.830 | SCINTREXCG3M_711410 |
| 2006808092 | -0.039 | 0.225 | -0.011 | 0.050 | 691997.870 | 7442070.272 | 29/06/2006 | 227.164 | 14:28:01 | 9787667.870 | SCINTREXCG3M_711410 |
| 2006808092 | 0.361 | -0.308 | -0.074 | -0.370 | 691998.270 | 7442069.739 | 03/06/2006 | 227.101 | 10:00:50 | 9787667.450 | SCINTREXCG3M_711410 |
| 2006808123 | -0.030 | -0.836 | -0.055 | 0.080 | 695861.825 | 7449956.233 | 29/06/2006 | 245.296 | 15:47:01 | 9787623.880 | SCINTREXCG3M_711410 |
| 2006808123 | 0.105 | -0.605 | 0.015 | 0.090 | 695861.960 | 7449956.464 | 03/06/2006 | 245.366 | 09:44:42 | 9787623.890 | SCINTREXCG3M_711410 |
| 2006808138 | 1.658 | 0.992 | 0.079 | 0.140 | 701913.765 | 7429880.291 | 29/06/2006 | 211.979 | 15:14:30 | 9787762.580 | SCINTREXCG3M_711410 |
| 2006808153 | -0.621 | 0.184 | -0.041 | -0.110 | 695998.588 | 7446103.185 | 03/06/2006 | 224.883 | 09:49:00 | 9787670.660 | SCINTREXCG3M_711410 |
| 2006808153 | 0.807 | -0.199 | -0.001 | -0.300 | 696000.016 | 7446102.802 | 30/06/2006 | 224.923 | 09:13:55 | 9787670.470 | SCINTREXCG3M_711410 |
| 2006808170 | 0.271 | -1.289 | 0.146 | -0.160 | 715741.740 | 7449947.845 | 30/06/2006 | 242.931 | 08:24:22 | 9787608.260 | SCINTREXCG3M_711410 |
| 2006808177 | 0.107 | -1.081 | -0.027 | 0.190 | 730098.285 | 7450003.077 | 30/06/2006 | 229.994 | 07:59:31 | 9787710.130 | SCINTREXCG3M_711410 |
| 2006808191 | -0.500 | -0.496 | 0.003 | -0.100 | 729962.785 | 7447923.592 | 30/06/2006 | 233.103 | 13:59:12 | 9787727.100 | SCINTREXCG3M_711410 |
| 2006808191 | -0.059 | 0.137 | 0.087 | 0.040 | 729963.226 | 7447924.225 | 30/06/2006 | 233.187 | 12:19:33 | 9787727.240 | SCINTREXCG3M_711410 |
| 2006808191 | 0.186 | 0.412 | 0.016 | 0.370 | 729963.471 | 7447924.500 | 01/07/2006 | 233.116 | 08:35:46 | 9787727.570 | SCINTREXCG3M_711410 |
| 2006808201 | 1.907 | -0.654 | -0.148 | 0.260 | 709804.683 | 7448070.151 | 30/06/2006 | 254.162 | 11:44:44 | 9787603.170 | SCINTREXCG3M_711410 |
| 2006808223 | -0.312 | 0.657 | 0.081 | 0.420 | 701962.089 | 7436018.432 | 30/06/2006 | 217.557 | 11:03:14 | 9787688.630 | SCINTREXCG3M_711410 |
| 2006808256 | -1.608 | 0.973 | -0.068 | 0.270 | 713682.405 | 7445988.489 | 30/06/2006 | 250.555 | 14:21:05 | 9787605.900 | SCINTREXCG3M_711410 |
| 2006808267 | 3.757 | 0.340 | 0.229 | 0.660 | 738018.741 | 7464305.152 | 01/07/2006 | 258.910 | 07:45:23 | 9787498.450 | SCINTREXCG3M_711410 |
| 2006808281 | -0.534 | 1.577 | -0.162 | 0.270 | 724137.788 | 7444038.704 | 01/07/2006 | 226.046 | 08:54:33 | 9787708.400 | SCINTREXCG3M_711410 |
| 2006808336 | -0.005 | 0.409 | 0.007 | 0.110 | 742006.342 | 7452025.420 | 01/07/2006 | 247.523 | 08:07:40 | 9787662.970 | SCINTREXCG3M_711410 |
| 2006808537 | -0.406 | 1.360 | 0.073 | -0.580 | 626163.647 | 7465864.064 | 06/07/2006 | 313.842 | 09:40:57 | 9787233.560 | SCINTREXCG3M_711410 |
| 2006808537 | 0.481 | -3.414 | -0.035 | 0.430 | 626164.534 | 7465859.290 | 03/06/2006 | 313.734 | 07:28:20 | 9787234.570 | SCINTREXCG3M_711410 |
| 2006808552 | 0.311 | 0.523 | 0.134 | 0.010 | 652063.810 | 7466061.477 | 02/07/2006 | 278.939 | 17:23:55 | 9787424.470 | SCINTREXCG3M_711410 |
| 2006808560 | -2.265 | -0.218 | -0.084 | -0.080 | 671980.180 | 7467840.862 | 02/07/2006 | 255.170 | 16:36:10 | 9787489.300 | SCINTREXCG3M_711410 |
| 2006808584 | 0.415 | 0.315 | 0.277 | -0.020 | 678141.224 | 7463985.777 | 03/06/2006 | 248.095 | 08:57:05 | 9787516.870 | SCINTREXCG3M_711410 |
| 2006808602 | 0.229 | 0.340 | 0.062 | 0.330 | 657916.387 | 7463995.173 | 03/06/2006 | 271.288 | 08:24:33 | 9787366.180 | SCINTREXCG3M_711410 |
| 2006808626 | 0.169 | 2.638 | 0.060 | -0.660 | 654118.957 | 7461938.508 | 03/06/2006 | 279.521 | 16:19:04 | 9787415.810 | SCINTREXCG3M_711410 |
| 2006808638 | 2.050 | -0.940 | -0.165 | -0.230 | 677869.981 | 7462071.723 | 03/06/2006 | 247.590 | 13:24:08 | 9787522.250 | SCINTREXCG3M_711410 |
| 2006808648 | 0.113 | 1.149 | -0.239 | 0.250 | 689959.520 | 7453936.111 | 03/06/2006 | 232.998 | 13:47:17 | 9787666.280 | SCINTREXCG3M_711410 |
| 2006808656 | 0.308 | -0.029 | -0.067 | -0.380 | 690047.161 | 7438022.886 | 03/06/2006 | 228.702 | 14:10:00 | 9787654.650 | SCINTREXCG3M_711410 |
| 2006808690 | -1.990 | -0.582 | -0.290 | -0.420 | 675808.653 | 7459990.754 | 03/06/2006 | 249.311 | 15:48:05 | 9787473.890 | SCINTREXCG3M_711410 |
| 2006808718 | -1.177 | -0.181 | 0.124 | 0.370 | 677944.581 | 7429893.243 | 04/07/2006 | 241.124 | 10:06:19 | 9787618.780 | SCINTREXCG3M_711410 |
| 2006808728 | -0.144 | 0.279 | 0.015 | 0.620 | 685961.356 | 7441880.868 | 04/07/2006 | 234.341 | 09:30:09 | 9787630.630 | SCINTREXCG3M_711410 |
| 2006808761 | 0.808 | 0.713 | 0.093 | 0.710 | 646029.357 | 7460090.496 | 04/07/2006 | 288.273 | 07:54:57 | 9787476.090 | SCINTREXCG3M_711410 |
| 2006808795 | -2.756 | -2.224 | -0.171 | -0.940 | 676026.495 | 7455963.274 | 04/07/2006 | 247.694 | 12:33:10 | 9787466.270 | SCINTREXCG3M_711410 |
| 2006808815 | -1.484 | -1.057 | -0.291 | -0.670 | 676047.613 | 7434102.884 | 04/07/2006 | 243.814 | 13:51:07 | 9787576.810 | SCINTREXCG3M_711410 |

| STATION | dEAST (m) | dNORTH (m) | dAHD (m) | dOSBG84 (gu) | MGA55EAST | MGA55NORTH | DATE | AHD | TIME | OBSG84 (gu) | METER_SN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006808846 | -1.897 | 0.246 | 0.007 | 0.180 | 681993.713 | 7448147.067 | 04/07/2006 | 239.556 | 13:26:50 | 9787584.170 | SCINTREXCG3M_711410 |
| 2006808873 | -0.416 | -0.523 | 0.047 | -0.040 | 675928.697 | 7442044.403 | 04/07/2006 | 246.192 | 14:27:49 | 9787458.170 | SCINTREXCG3M_711410 |
| 2006808904 | -0.699 | -0.481 | 0.176 | -0.410 | 671884.544 | 7445958.710 | 05/07/2006 | 251.896 | 12:19:40 | 9787358.800 | SCINTREXCG3M_610346 |
| 2006808914 | -0.078 | 1.061 | 0.083 | -0.610 | 652183.061 | 7454121.158 | 05/07/2006 | 278.186 | 11:48:19 | 9787348.610 | SCINTREXCG3M_610346 |
| 2006808939 | 0.559 | 0.040 | -0.172 | 0.820 | 647914.902 | 7428211.881 | 05/07/2006 | 270.374 | 14:02:18 | 9787649.630 | SCINTREXCG3M_610346 |
| 2006808949 | -0.643 | 0.313 | 0.025 | -0.170 | 647824.840 | 7408014.023 | 05/07/2006 | 260.017 | 09:48:07 | 9787930.390 | SCINTREXCG3M_610346 |
| 2006808970 | 4.298 | 3.543 | 0.134 | -0.240 | 657974.190 | 7422320.211 | 05/07/2006 | 255.110 | 13:17:33 | 9787739.970 | SCINTREXCG3M_610346 |
| 2006809024 | -0.734 | -2.202 | 0.054 | 0.150 | 649955.353 | 7417853.341 | 06/07/2006 | 258.221 | 10:19:44 | 9787869.010 | SCINTREXCG3M_610346 |

## Histogram dAHD




## Histogram dOBSG84



## Summary Statistics

| | *dAHD (mAHD)* | *dOBSG (gu)* |
|---|---|---|
| Mean | 0.006 | 0.015 |
| Standard Error | 0.005 | 0.019 |
| Median | 0.003 | -0.025 |
| Mode | 0.080 | 0.040 |
| Standard Deviation | 0.113 | 0.449 |
| Sample Variance | 0.013 | 0.202 |
| Kurtosis | -0.140 | -0.027 |
| Skewness | 0.042 | 0.380 |
| Range | 0.579 | 2.520 |
| Minimum | -0.291 | -1.220 |
| Maximum | 0.288 | 1.300 |
| Sum | 3.169 | 7.920 |
| Count | 538 | 538 |

## APPENDIX C

Survey Metadata/Specifications

SURVEY NAME EAST ARUNTA 200680
START DATE 03/06/06
END DATE 06/07/06
OPERATORS GEOSCIENCE AUSTRALIA
CONTRACTOR DAISHSAT JOB06009
PROCESSOR DAISHSAT/LR MATHEWS
SOFTWARE GEOSOFT/CHRISDBF/ERMAPPER/INHOUSE
VESSEL HELICOPTER, JETRANGER, BELL-47
GEODETIC DATUM GDA94
PROJECTION SUTM53/MGA53
HORIZONTAL ACCURACY 0.05M
LOCATION METHOD AUTONOMOUS GPS
GRAVITY STATION SPACING MIN 2000M
GRAVITY STATION SPACING MAX 2000M
NUMBER OF NEW STATIONS 5229
ELEVATION ACCURACY 0.11M
GRAVITY ACCURACY 0.45GU
TERRAIN CORRECTION RASTERTC
LAYOUT CELL CENTRE
EQUIPMENT 1*LEICA GPS500, 2*ASHTECH Z12, CG3 SN 9610346,711410,9408275
OBSERVERS DAVID DAISH, ALLAN COWIE, LEON MCGARRY, HARLEY JONES
BASE TIE MARQUA A/S 6491.9035
GPS TIE AUSPOS CONNECTIONS OVER MULTIPLE DAYS

## APPENDIX D

Base Station Information

# GPS Gravity Base 2006800080 Jervois A/S

## MGA94

| | |
|---|---|
| EASTING (m) | 614 674.015 |
| NORTHING (m) | 7 465 715.408 |
| ZONE (UTM) | 53 South |
| HEIGHT (AHD, m) | 331.406 |

## GDA94

| | |
|---|---|
| LATITUDE (DMS) | 23 54 45.4975 S |
| LONGITUDE (DMS) | 137 07 05.5358 E |
| GDAHT (m) | 358.897 |
| N (AUSGEOID98, m) | 27.491 |

## OBSERVED GRAVITY

9787295.740 gu ISOGAL84

## SURVEYED BY

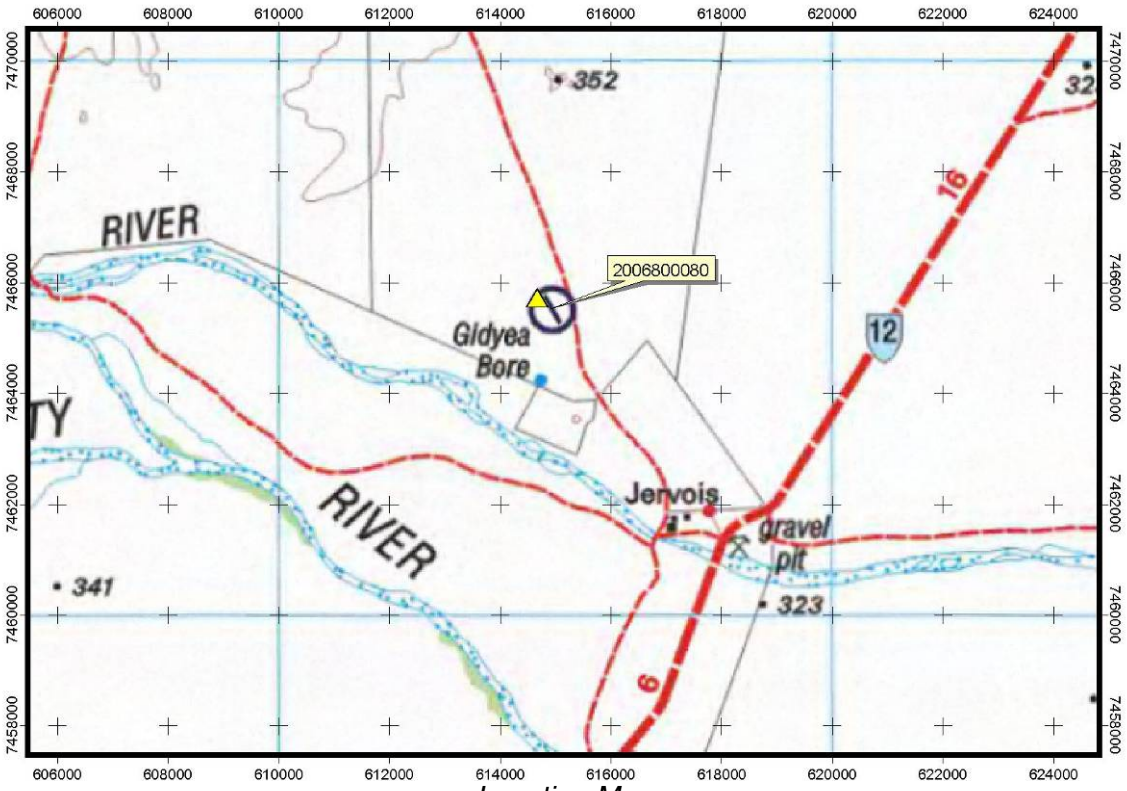
GPS - Daishsat using a multiple static sessions and the AUSPOS online GPS Processing system. Expected accuracy of station coordinates better than 0.005m.

Gravity – ABABA ties to the Marqua HS AFGN station 6491.9035 with two meters. Expected accuracy better than 0.1gu.

## MISCELLANEOUS DETAILS

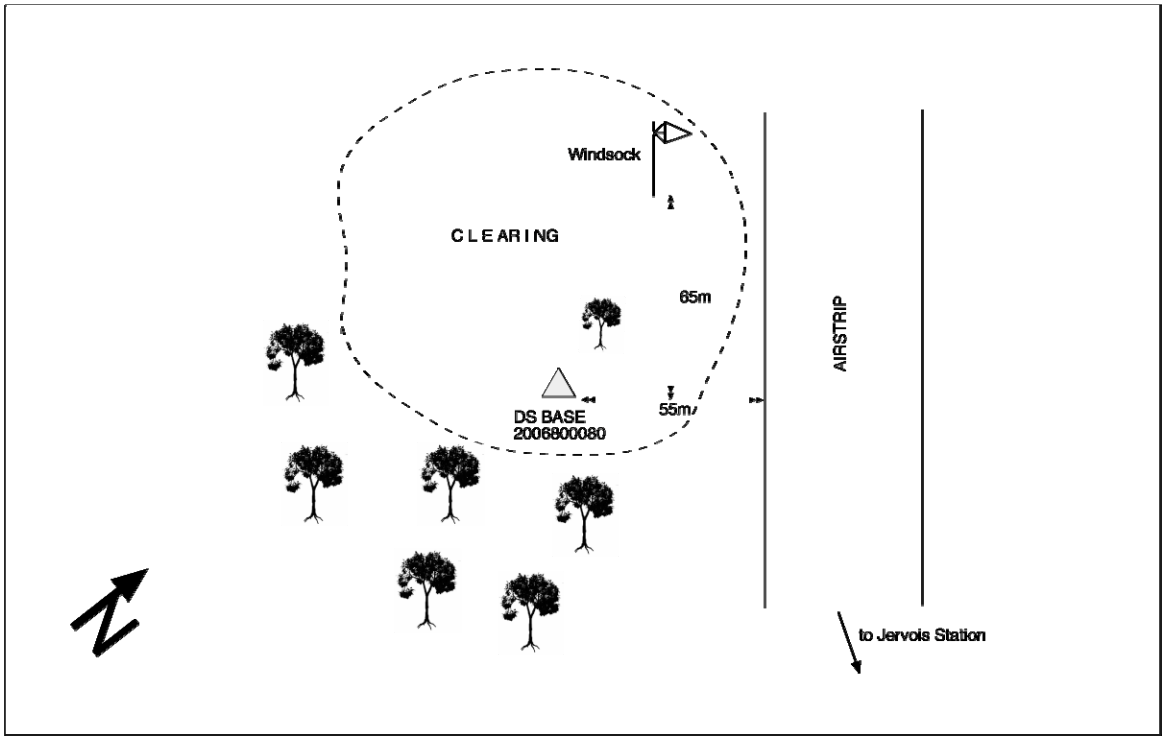
This station consists of a small star picket protruding 15cm out of the ground, and is witnessed by a 1.5m long star picket positioned 30cm to the right. A circular concrete slab marks the gravity base.

The station is located in a clearing approximately 55mm on the western side of the Jervois Station airstrip, approximately 200m from the Northern end of the strip. A windsock can be found approximately 65m north of the station. Access to the station is from the Plenty Highway using the road leading into Jervois station. Jervois station can be contacted on 08 89566307.




*Location Map*

*Base Station Photograph*




*Locality Sketch (not to scale)*

# GPS Gravity Base 2006800075 – Marqua HS

## MGA94

| | |
|---|---|
| EASTING (m) | 735 786.907 |
| NORTHING (m) | 7 476 584.967 |
| ZONE (UTM) | 53 South |
| HEIGHT (AHD, m) | 271.620 |

## GDA94

| | |
|---|---|
| LATITUDE (DMS) | 22 48 06.5881 S |
| LONGITUDE (DMS) | 137 17 49.2040 E |
| GDAHT (m) | 241.397 |
| N (AUSGEOID98, m) | 30.223 |

## OBSERVED GRAVITY

9787462720 gu ISOGAL84

## SURVEYED BY

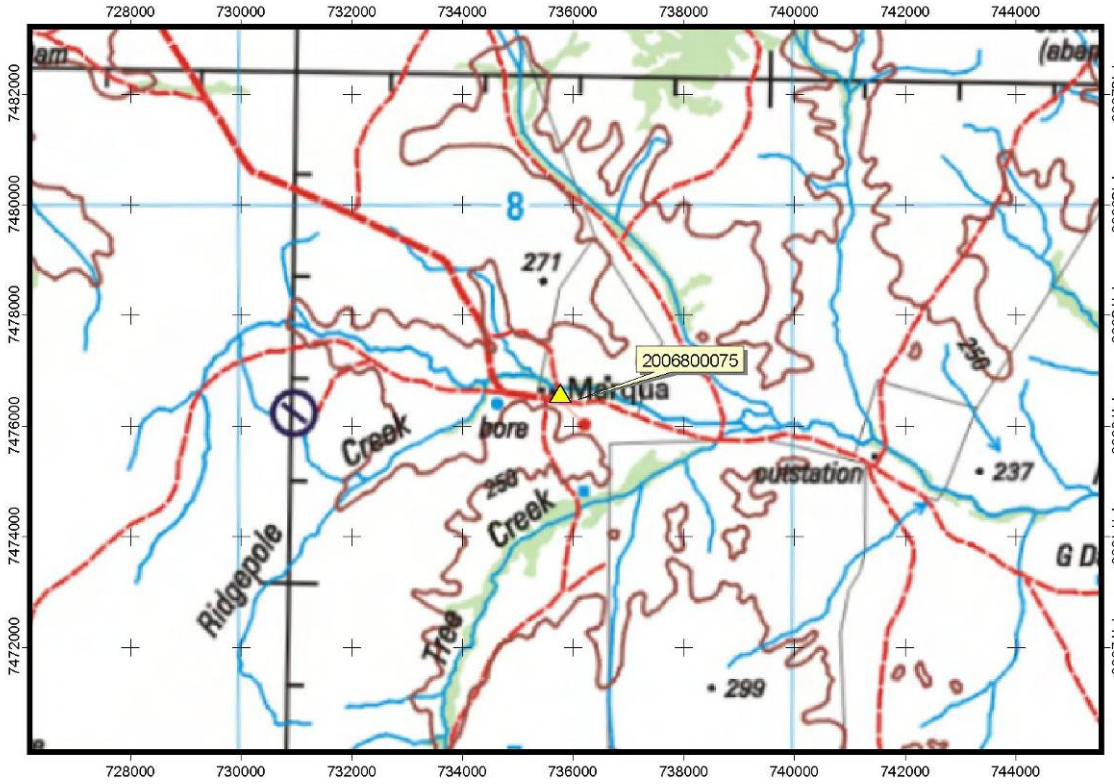
GPS - Daishsat using multiple static sessions and the AUSPOS online GPS Processing system. Expected accuracy of station coordinates better than 0.005m.

Gravity – ABABA ties to the Marqua HS AFGN station 6491.9035 with two meters. Expected accuracy better than 0.1gu.

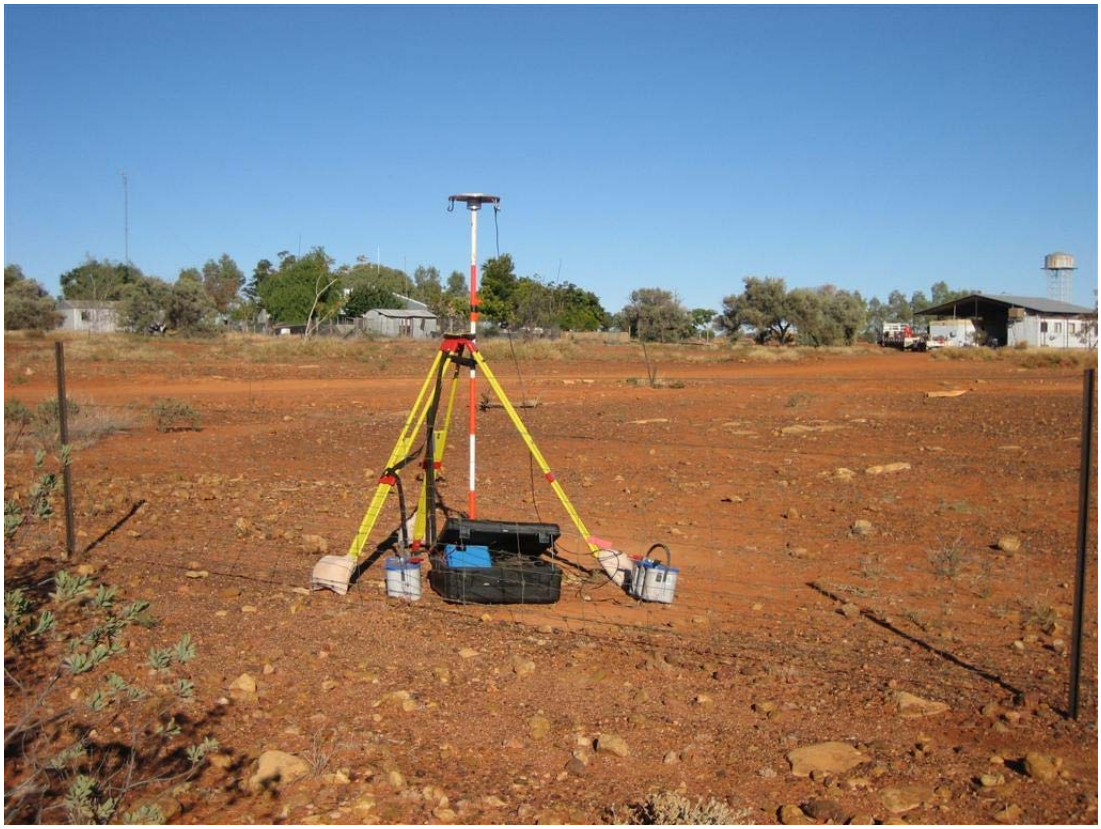
## MISCELLANEOUS DETAILS

This station consists of a small star picket protruding approximately 150mm above ground level, and is witnessed by a large star picket with a Daishsat Witness Plate attached ~ 0.3m to the right

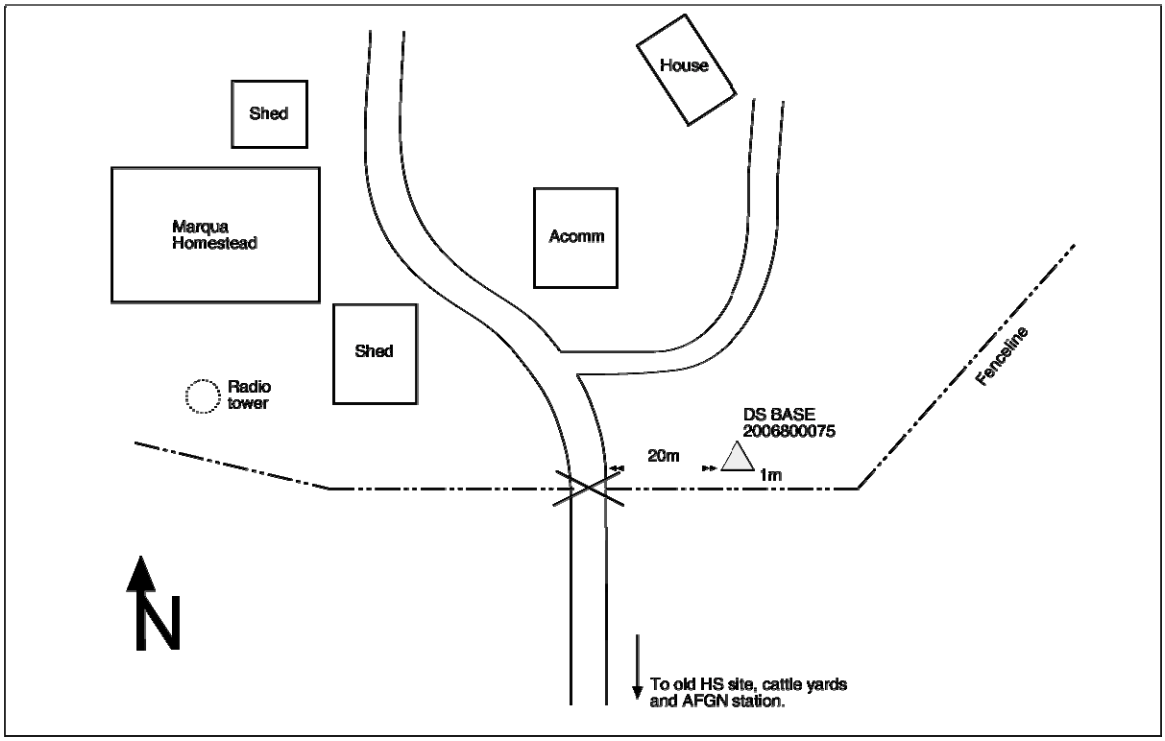
The base station is located on the eastern side of the Marqua homestead and buildings. To access the base, follow the track heading east past the homestead and buildings to the fence / gate (white gate) which bounds the homestead / buildings etc. The base station is approximately 20m on the left or northern side of the track, on the homestead side of the fence.




*Location Map*



*Base Station Photograph*




*Locality Sketch (not to scale)*

**APPENDIX E**

Data Formats

*Data formats*

- Raw field data supplied in .RAW Geosoft format. The files contain the dial reading in milliGals, as well as the GPS data in MGA53 coordinates, with heights expressed as AHD. Each file contains the acquisition date and meter serial number. Base station readings are flagged with a – sign.

```
Job:5003.   Line:0.      Oper:1.      CG3#:711410.
dt=2005/09/11 gm=-8.
     Stn            X            Y     Time      Rdng    In_Ht     Elev
      -6   404798.037  7607146.724 05:52:32  3332.571      0.0  289.343
       6   404798.029  7607146.729 05:53:48  3332.580      0.0  289.354
    1898   407399.364  7618259.266 06:07:03  3335.480      0.0  273.302
    1899   406618.296  7620572.161 06:10:34  3337.607      0.0  265.964
    1900   405869.422  7622980.587 06:13:46  3342.397      0.0  252.764
    1901   404753.576  7625445.519 06:17:59  3340.430      0.0  252.182
    1902   404037.137  7627787.674 06:21:23  3338.994      0.0  244.759
    1903   403264.682  7630097.029 06:24:37  3342.797      0.0  239.566
    1904   402404.225  7632395.356 06:27:41  3342.055      0.0  236.576
    1905   401444.797  7634845.331 06:30:59  3342.334      0.0  239.710
    1906   400852.661  7637336.346 06:34:07  3341.872      0.0  237.182
    1907   401079.321  7640020.126 06:37:53  3339.094      0.0  236.746
    1829   404597.207  7641368.797 06:42:10  3332.689      0.0  235.839
```

- Calibration data are presented as RAW files, as well as in a processed form in MS Excel format.

- GPS data supplied as RAW Ashtech Z12 carrier phase data in “b-files”.

- Terrain correction data are presented as RASTERTC output, in comma delimited format. Note, all data are output in **milliGals**. Data headings are self explanatory.

- Final data supplied in a format specified by GA. See overleaf.

/ Fields separated by a space
/ PROJECT 1-7 Length = 6 Decimal places = 0 Null Value = -99 Units = None Desc = GA Project Name I6
/ STATION 8-18 Length = 10 Decimal places = 0 Null Value = -99 Units = None Desc = GA Station Number I10
/ GDA94_LATITUDE_DD 19-31 Length = 12 Decimal places = 6 Null Value = -99 Units = Decimal Degrees Desc = Latitude GDA94 F12.6
/ GDA94_LONGITUDE_DD 32-44 Length = 12 Decimal places = 6 Null Value = -99 Units = Decimal Degrees Desc = Longitude GDA94 F12.6
/ MGA94_EAST_M 45-53 Length = 8 Decimal places = 1 Null Value = -99 Units = Metres Desc = Easting MGA94 F8.1
/ MGA94_NORTH_M 54-63 Length = 9 Decimal places = 1 Null Value = -99 Units = Metres Desc = Northing MGA94 F9.1
/ N_AUSGEOID98_M 64-72 Length = 8 Decimal places = 3 Null Value = -99 Units = Metres Desc = Geoid-Ellipsoid Separation using AUSGEOID98 F8.3
/ ELEVATION_GROUND_MAHD 73-81 Length = 8 Decimal places = 3 Null Value = -99 Units = Metres Desc = Station Elevation at Ground Level AHD F8.3
/ OBS84_GU 82-93 Length = 11 Decimal places = 3 Null Value = -99 Units = Gravity Units (micrometre/sec^2) Desc = Station Observed Gravity F11.3
/ HT_GRAVITY_METER_MAHD 94-102 Length = 8 Decimal places = 3 Null Value = -99 Units=Metres Desc = Station Height of Gravity Meter F8.3
/ INNER_TC_GU 103-109 Length = 6 Decimal places = 2 Null Value = -99 Units = Gravity Units (micrometre/sec^2) Desc = Inner Zone (<300m)) Terrain Correction F6.2
/ QF_INNER_TC 110-113 Length = 3 Decimal places = 0 Null Value = -99 Units = None Desc = Quality Factor of Inner Zone Terrain Correction I3
/ OUTER_TC_GU 114-120 Length = 6 Decimal places = 2 Null Value = -99 Units = Gravity Units (micrometre/sec^2) Desc = Outer Zone (300m-20000m) Terrain Correction F6.2
/ QF_OUTER_TC 121-124 Length = 3 Decimal places = 0 Null Value = -99 Units = None Desc = Quality Factor of Outer Zone Terrain Correction I3
/ TOTAL_TC_GU 125-131 Length = 6 Decimal places = 2 Null Value = -99 Units = Gravity Units (micrometre/sec^2) Desc = Total Terrain Correction Applied (Inner + Outer) F6.2
/ FAA_GU 132-141 Length = 9 Decimal places = 2 Null Value = -99 Units = Gravity Units (micrometre/sec^2) Desc = Free Air Anomaly F9.2
/ BA267_GU 142-151 Length = 9 Decimal places = 2 Null Value = -99 Units = Gravity Units (micrometre/sec^2) Desc = Simple Bouguer Anomaly for a density of 2.67 tm^-3 F9.2
/ COMPLETE_BA_GU 152-161 Length = 9 Decimal places = 2 Null Value = -99 Units = Gravity Units (micrometre/sec^2) Desc = Complete Bouguer Anomaly for a density of 2.67 tm^-3 F9.2
/ HORIZONTAL_DIFF_M 162-170 Length = 8 Decimal places = 2 Null Value = -99 Units = Metres Desc = Horizontal Offset from pre-planned station F8.2
/ GRAVITY_BASE_REF 171-181 Length = 10 Decimal places = 0 Null Value = -99 Units = None Desc = Gravity base station referenced to I10
/ GPS_BASE_REF 182-192 Length = 10 Decimal places = 0 Null Value = -99 Units = None Desc = GPS base station referenced to I10
/ TIME 193-201 Length = 8 Decimal places = 0 Null Value = -99 Units = None Desc = Time of gravity observation NA
/ DATE 202-210 Length = 8 Decimal places = 0 Null Value = -99 Units = None Desc = Date of gravity observation NA
/ MGAZONE 211-214 Length = 3 Decimal places = 0 Null Value = -99 Units = None Desc = MGA Zone Number I3
/ GMTYPEGMSN 215-245 Length = 30 Decimal places = 0 Null Value = -99 Units = None Desc = Gravity Meter Type A30
/ STATION_DESC 246-276 Length = 30 Decimal places = 0 Null Value = -99 Units = None Desc = Description of station

**APPENDIX F**

Calibration Data

# Calibration Data

**108 Kensington Garden Station, SA 2001.9108**
**208 Norton Summit Station, SA 6091.0208**

**CALIBRATION PRE-SURVEY**

**610346**

| Station | Date | Ht | Long | Lat | Time | Rdng | ETC | OBSG84 (mGals) | Closure (mGals) | Meter |
|---|---|---|---|---|---|---|---|---|---|---|
| -20 | 8/05/2006 | 111.62 | 138.6515 | -34.9216 | 19:34:06 | 6067.009 | 0.008 | 979698.526 | -0.042 | 610346 |
| 20 | 8/05/2006 | 111.62 | 138.6515 | -34.9216 | 19:36:44 | 6067.040 | 0.009 | 979698.561 | -0.042 | 610346 |
| 208 | 8/05/2006 | 455.38 | 138.7267 | -34.9250 | 19:54:33 | 5998.578 | 0.019 | 979630.127 | -0.042 | 610346 |
| 208 | 8/05/2006 | 455.38 | 138.7267 | -34.9250 | 19:57:09 | 5998.614 | 0.020 | 979630.167 | -0.042 | 610346 |
| -20 | 8/05/2006 | 111.62 | 138.6515 | -34.9216 | 20:15:05 | 6066.945 | 0.029 | 979698.526 | -0.042 | 610346 |
| -20 | 8/05/2006 | 111.62 | 138.6515 | -34.9216 | 20:15:05 | 6066.945 | 0.029 | 979698.526 | 0.041 | 610346 |
| 20 | 8/05/2006 | 111.62 | 138.6515 | -34.9216 | 20:17:46 | 6066.987 | 0.031 | 979698.567 | 0.041 | 610346 |
| 208 | 8/05/2006 | 455.38 | 138.7267 | -34.9250 | 20:37:37 | 5998.562 | 0.040 | 979630.134 | 0.041 | 610346 |
| 208 | 8/05/2006 | 455.38 | 138.7267 | -34.9250 | 20:40:21 | 5998.593 | 0.041 | 979630.163 | 0.041 | 610346 |
| 20 | 8/05/2006 | 111.62 | 138.6515 | -34.9216 | 20:59:09 | 6066.927 | 0.049 | 979698.488 | 0.041 | 610346 |
| -20 | 8/05/2006 | 111.62 | 138.6515 | -34.9216 | 21:01:32 | 6066.966 | 0.050 | 979698.526 | 0.041 | 610346 |
| | | | | | | **AVG OBSG gu** | | **9796301.305** | | |

**711410**

| Station | Date | Ht | Long | Lat | Time | Rdng | ETC | OBSG84 (mGals) | Closure (mGals) | Meter |
|---|---|---|---|---|---|---|---|---|---|---|
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:02:01 | 4350.282 | 0.048 | 979698.526 | -0.020 | 711410 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:02:11 | 4350.282 | 0.048 | 979698.526 | -0.020 | 711410 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:05:11 | 4350.282 | 0.047 | 979698.527 | -0.020 | 711410 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 11:30:26 | 4281.851 | 0.041 | 979630.098 | -0.020 | 711410 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 11:33:02 | 4281.852 | 0.040 | 979630.099 | -0.020 | 711410 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:59:23 | 4350.278 | 0.032 | 979698.526 | -0.020 | 711410 |
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:59:33 | 4350.278 | 0.032 | 979698.526 | -0.020 | 711410 |
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:59:33 | 4350.278 | 0.032 | 979698.526 | -0.010 | 711410 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 12:02:04 | 4350.277 | 0.031 | 979698.525 | -0.010 | 711410 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 12:26:38 | 4281.875 | 0.021 | 979630.117 | -0.010 | 711410 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 12:29:13 | 4281.872 | 0.020 | 979630.114 | -0.010 | 711410 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 12:55:26 | 4350.291 | 0.009 | 979698.526 | -0.010 | 711410 |
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 12:55:36 | 4350.291 | 0.009 | 979698.526 | -0.010 | 711410 |
| | | | | | | **AVG OBSG gu** | | **9796301.070** | | |

**408275**

| Station | Date | Ht | Long | Lat | Time | Rdng | ETC | OBSG84 (mGals) | Closure (mGals) | Meter |
|---|---|---|---|---|---|---|---|---|---|---|
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:02:11 | 4296.833 | 0.048 | 979698.526 | -0.008 | 408275 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:04:11 | 4296.833 | 0.047 | 979698.526 | -0.008 | 408275 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 11:30:31 | 4228.439 | 0.041 | 979630.129 | -0.008 | 408275 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 11:34:54 | 4228.44 | 0.040 | 979630.130 | -0.008 | 408275 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:59:53 | 4296.843 | 0.032 | 979698.528 | -0.008 | 408275 |
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:59:58 | 4296.841 | 0.032 | 979698.526 | -0.008 | 408275 |
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 11:59:58 | 4296.841 | 0.032 | 979698.526 | -0.005 | 408275 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 12:02:25 | 4296.839 | 0.031 | 979698.523 | -0.005 | 408275 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 12:26:47 | 4228.464 | 0.021 | 979630.141 | -0.005 | 408275 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 12:29:46 | 4228.455 | 0.020 | 979630.131 | -0.005 | 408275 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 12:55:19 | 4296.861 | 0.009 | 979698.529 | -0.005 | 408275 |
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 12:57:27 | 4296.859 | 0.008 | 979698.526 | -0.005 | 408275 |
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 12:57:27 | 4296.859 | 0.008 | 979698.526 | -0.011 | 408275 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 12:57:47 | 4296.857 | 0.008 | 979698.524 | -0.011 | 408275 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 13:33:17 | 4228.468 | -0.007 | 979630.125 | -0.011 | 408275 |
| 208 | 11/11/2005 | 100.009 | 138.7267 | -34.9250 | 13:35:52 | 4228.469 | -0.008 | 979630.125 | -0.011 | 408275 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 14:02:06 | 4296.874 | -0.019 | 979698.524 | -0.011 | 408275 |
| 108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 14:04:44 | 4296.88 | -0.020 | 979698.529 | -0.011 | 408275 |
| -108 | 11/11/2005 | 100.009 | 138.6515 | -34.9216 | 14:04:54 | 4296.877 | -0.020 | 979698.526 | -0.011 | 408275 |
| | | | | | | **AVG OBSG gu** | | **9796301.302** | | |

**CALIBRATION POST-SURVEY**

**610346**

| Station | Date | Ht | Long | Lat | Time | Rdng | ETC | OBSG84 (mGals) | Closure (mGals) | Meter |
|---|---|---|---|---|---|---|---|---|---|---|
| -20 | 13/07/2006 | 111.620 | 138.6515 | -34.92164 | 15:36:34 | 6099.507 | -0.024 | 979698.526 | -0.035 | 610346 |
| 20 | 13/07/2006 | 111.620 | 138.6515 | -34.92164 | 15:38:10 | 6099.514 | -0.025 | 979698.533 | -0.035 | 610346 |
| 208 | 13/07/2006 | 455.380 | 138.7267 | -34.925 | 16:11:12 | 6031.134 | -0.038 | 979630.162 | -0.035 | 610346 |
| 208 | 13/07/2006 | 455.380 | 138.7267 | -34.925 | 16:12:38 | 6031.124 | -0.039 | 979630.152 | -0.035 | 610346 |
| -20 | 13/07/2006 | 111.620 | 138.6515 | -34.92164 | 16:30:45 | 6099.494 | -0.047 | 979698.526 | -0.035 | 610346 |
| -20 | 13/07/2006 | 111.620 | 138.6515 | -34.92164 | 16:30:45 | 6099.494 | -0.047 | 979698.526 | -0.046 | 610346 |
| 20 | 13/07/2006 | 111.620 | 138.6515 | -34.92164 | 16:32:17 | 6099.494 | -0.047 | 979698.527 | -0.046 | 610346 |
| 208 | 13/07/2006 | 455.380 | 138.7267 | -34.925 | 16:51:14 | 6031.104 | -0.055 | 979630.152 | -0.046 | 610346 |
| 208 | 13/07/2006 | 455.380 | 138.7267 | -34.925 | 16:52:36 | 6031.091 | -0.056 | 979630.140 | -0.046 | 610346 |
| 20 | 13/07/2006 | 111.620 | 138.6515 | -34.92164 | 17:07:54 | 6099.476 | -0.062 | 979698.537 | -0.046 | 610346 |
| -20 | 13/07/2006 | 111.620 | 138.6515 | -34.92164 | 17:09:32 | 6099.464 | -0.063 | 979698.526 | -0.046 | 610346 |
| | | | | | | **AVG OBSG gu** | | **9796301.515** | | |

**711410**

| Station | Date | Ht | Long | Lat | Time | Rdng | ETC | OBSG84 (mGals) | Closure (mGals) | Meter |
|---|---|---|---|---|---|---|---|---|---|---|
| -108 | 17/07/2006 | 111.62 | 138.652 | -34.922 | 14:55:29 | 4606.394 | 0.021 | 979698.526 | -0.0047 | 711410 |
| 108 | 17/07/2006 | 111.62 | 138.652 | -34.922 | 14:56:49 | 4606.388 | 0.021 | 979698.521 | -0.0047 | 711410 |
| 208 | 17/07/2006 | 455.38 | 138.727 | -34.925 | 15:11:12 | 4537.981 | 0.029 | 979630.123 | -0.0047 | 711410 |
| 208 | 17/07/2006 | 455.38 | 138.727 | -34.925 | 15:12:36 | 4537.97 | 0.03 | 979630.113 | -0.0047 | 711410 |
| -108 | 17/07/2006 | 111.62 | 138.652 | -34.922 | 15:28:18 | 4606.373 | 0.037 | 979698.526 | -0.0047 | 711410 |
| -108 | 17/07/2006 | 111.62 | 138.652 | -34.922 | 15:28:18 | 4606.373 | 0.037 | 979698.526 | -0.0047 | 711410 |
| 108 | 17/07/2006 | 111.62 | 138.652 | -34.922 | 15:29:37 | 4606.362 | 0.038 | 979698.516 | -0.0047 | 711410 |
| 208 | 17/07/2006 | 455.38 | 138.727 | -34.925 | 15:45:38 | 4537.95 | 0.045 | 979630.113 | -0.0047 | 711410 |
| 208 | 17/07/2006 | 455.38 | 138.727 | -34.925 | 15:47:12 | 4537.93 | 0.045 | 979630.094 | -0.0047 | 711410 |
| 108 | 17/07/2006 | 111.62 | 138.652 | -34.922 | 16:03:21 | 4606.363 | 0.052 | 979698.535 | -0.0047 | 711410 |
| -108 | 17/07/2006 | 111.62 | 138.652 | -34.922 | 16:04:55 | 4606.353 | 0.052 | 979698.526 | -0.0047 | 711410 |
| | | | | | | **AVG OBSG gu** | | **9796301.108** | | |

**408275**

| Station | Date | Ht | Long | Lat | Time | Rdng | ETC | OBSG84 (mGals) | Closure (mGals) | Meter |
|---|---|---|---|---|---|---|---|---|---|---|
| -108 | 13/07/2006 | 111.6200 | 138.6520 | -34.9220 | 15:51:34 | 4327.076 | -0.030 | 979698.526 | -0.017 | 408275 |
| 108 | 13/07/2006 | 111.6200 | 138.6520 | -34.9220 | 15:52:59 | 4327.101 | -0.031 | 979698.551 | -0.017 | 408275 |
| 208 | 13/07/2006 | 455.3800 | 138.7270 | -34.9250 | 16:13:49 | 4258.681 | -0.039 | 979630.132 | -0.017 | 408275 |
| 208 | 13/07/2006 | 455.3800 | 138.7270 | -34.9250 | 16:15:14 | 4258.681 | -0.040 | 979630.132 | -0.017 | 408275 |
| -108 | 13/07/2006 | 111.6200 | 138.6520 | -34.9220 | 16:29:53 | 4327.075 | -0.046 | 979698.526 | -0.017 | 408275 |
| -108 | 13/07/2006 | 111.6200 | 138.6520 | -34.9220 | 16:29:53 | 4327.075 | -0.046 | 979698.526 | -0.026 | 408275 |
| 108 | 13/07/2006 | 111.6200 | 138.6520 | -34.9220 | 16:31:19 | 4327.070 | -0.047 | 979698.521 | -0.026 | 408275 |
| 208 | 13/07/2006 | 455.3800 | 138.7270 | -34.9250 | 16:50:01 | 4258.698 | -0.055 | 979630.151 | -0.026 | 408275 |
| 208 | 13/07/2006 | 455.3800 | 138.7270 | -34.9250 | 16:51:45 | 4258.684 | -0.056 | 979630.137 | -0.026 | 408275 |
| 108 | 13/07/2006 | 111.6200 | 138.6520 | -34.9220 | 17:16:34 | 4327.076 | -0.066 | 979698.532 | -0.026 | 408275 |
| -108 | 13/07/2006 | 111.6200 | 138.6520 | -34.9220 | 17:19:28 | 4327.070 | -0.067 | 979698.526 | -0.026 | 408275 |
| | | | | | | **AVG OBSG gu** | | **9796301.380** | | |

## APPENDIX G

Earth Tide Correction Formulae Listing

```
input dLat (latitude)
input dLon (longitude)
input dDate (date)
*Date broken down into year, month and date
input dTime (time)

array pClndr[12]={0,31,59,90,120,151,181,212,243,273,304,334}
lYr=year
lMo=month
lDa=day

ny=(lYr-1900)
days=(dTime/24.0+lDa-1+pClndr[lMo-1])
lLeap=(ny/4)
if(lLeap/2=ny and lMo<3)then lLeap=lLeap-1
lDay=(ny*365+lLeap+lDa+pClndr[lMo-1])
dcent = (ny*365.0+lLeap+days+0.5)/36525)
dhrs = (ny*365.0+lLeap+days+0.5)*24.0)
ds = (dcent*8399.709299+4.720023434+(dcent*dcent)*4.40696e-5)
dp=(dcent*71.01800936+5.835124713-(dcent*dcent)*1.80545e-4-dcent*2.1817e-
7*(dcent*dcent)
dh=(dcent*628.3319509+4.88162792+(dcent*dcent)*5.27962e-6)
doln=(4.523588564-dcent*33.757153303+(dcent*dcent)*3.6749e-5)
dps=(dcent*0.03000526416+4.908229461+(dcent*dcent)*7.902463e-6)
des=(0.01675104-dcent*4.18e-5-(dcent*dcent)*1.26e-7)
dsoln=(sin(doln))
dci=(0.91369-cos(doln)*0.03569)
dsi=(sqrt(1.0-(dci*dci))
dsn=(dsoln*0.08968/dsi)
dcn=(sqrt(1.0-(dsn*dsn))
dtit=(dsoln*0.39798/(dsi*cos(doln)*dcn+1.0dsoln*0.91739*dsn))
det=(atan(dtit)*2.0)
if (det<0.0)then det=det+6.2831852)

dolm1=(ds-doln+det+sin(ds-dp)*0.10979944)
dolm=(dolm1+sin((ds-dp)*2.0)*0.003767474+sin(ds-dh*2.0+dp)*0.0154002+sin((ds-
dh)*2.0)*0.00769395)
dha=((dTime*15.0-180)*0.0174532925199+dLon/57.295779513)
dchi=(dha+dh-atan(dsn/dcn))
dal=(dLat/57.295779513)
dct=(sin(dal)*dsi*sin(dolm)+cos(dal)*((dci+1.0)*cos(dolm-dchi)+(1.0-
dci)*cos(dolm+dchi))/2.0)
dda=(cos(ds-dp)*0.14325+2.60144+cos((ds-dp)*2.0)*0.0078644+cos(ds-
dh*2.0+dp)*0.0200918+cos((ds-dh)*2.0)*0.0146006)
dr=(6.378388/sqrt((1.0-((cos(dal)*cos(dal))*0.00676902+1.0)
r_1=(dda)
r_2=(dct)
r_3=(dr)
r_4=(dda)
r_5=(dda*dda)
r_6=(dct)
dgm=(dr80.49049*dda*(r_1*r_1)*((r_2*r_2)*3.0-1.0)+(r_3*r_3)*7.4e-
4*(r_5*r_5)*dct*((r_6*r_6)*5.0-3.0))
dols=(dh+des*2.0*sin(dh-dps))
dchis=(dha+dh)
dds=((des*cos(dh-dps)+1.0)*0.668881/(1.0-(des*des)))
dcf=(sin(dal)*0.39798*sin(dols)+cos(dal)*(cos(dols-
dchis)*0.95869+cos(dols+dchis)*0.0413))
dgs=(dr*13.2916*((dcf*dcf)*3.0-1.0)*dds*(dds*dds))

dTide = (dgm + dgs) * 0.00116
```