DAISHSAT
GEODETIC SURVEYORS

QUASAR RESOURCES
NT REGIONAL GRAVITY SURVEY
November - December 2008

Report Number 08051
A. McCarthy

CLIENT

QUASAR

CLIENT CONTACT

QUASAR Resources PTY LTD
Level 4, 25 Grenfell Street
Adelaide, South Australia, 5000

SURVEY CONTRACTOR

DAISHSAT PTY. LTD
P.O. Box 766
MURRAY BRIDGE S.A. 5253
Tel: (08) 8531 0349
Fax: (08) 8531 0684

CONTRACTOR CONTACT

Mr. David Daish
Mob: 0418 800 122
Email: david.daish@daishsat.com

CONFIDENTIAL
FOR QUASAR RESOURCES USE ONLY

TABLE OF CONTENTS

1. INTRODUCTION

A precision GPS-Gravity survey was carried out by Daishsat Geodetic Surveyors between 10th of November and the 6th of December 2008 on behalf of QUASAR Resources. A total of 4,618 stations were surveyed across two areas centered around Mt Ebenezer and Victory Downs Stations in the Northern Territory.

Gravity data was acquired using Scintrex CG-3, Scintrex CG-5 and LaCoste & Romberg Type-G gravity meters. Position and level data was obtained using Leica 1230GG geodetic grade GPS receivers collecting GPS and GLONASS positional information. All receivers were operating in post-processed kinematic mode. Data was acquired using a combination of Daishsat helicopter-borne and ATV-borne survey methods.

Gravity data was reduced using standard reductions on the ISOGAL84 gravity network. Post-processed GPS data was converted to MGA coordinates with levels expressed as metres above the Australian Height Datum (AHD).

2. SURVEY OVERVIEW

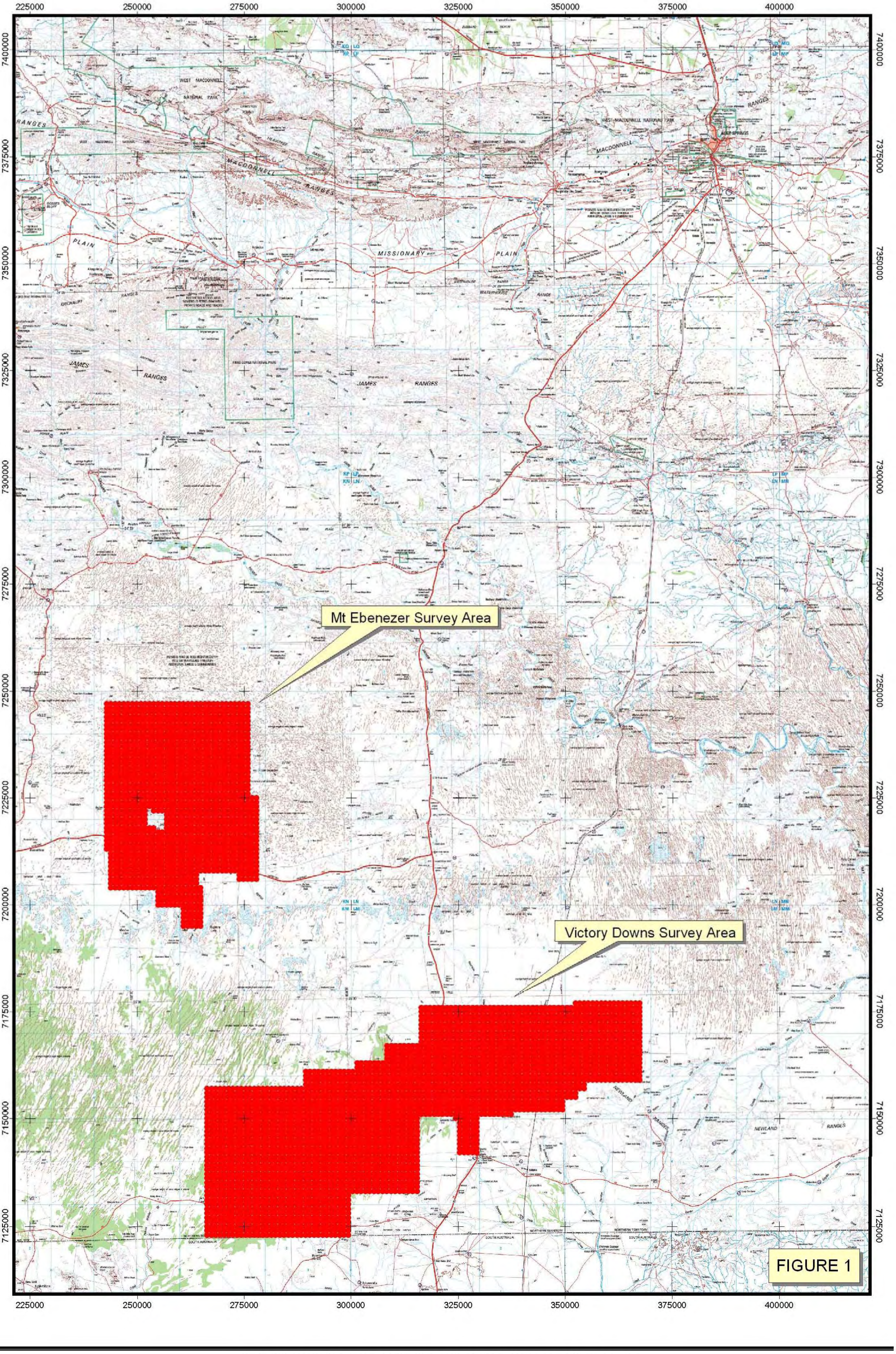
The Quasar regional gravity survey covered an area of approximately 4,750 km^2 in the south-central and southern border areas of the Northern Territory. The Victory Downs survey was centered around the service centre of Kulgera, approximately 300km south of Alice Springs on the Stuart Highway. The Mt Ebenezer survey was based around the Mt Ebenezer Roadhouse and Imanpa Aboriginal Community, approximately 80km along the Lasseter Highway, west of the Stuart Highway intersection.

The terrain and vegetation encountered across the survey area was quite varied ranging from vegetated dunes in the north to large areas of dense Mulga scrub in the south.

The location of the survey is shown in Figure 1. Appendix A contains a plot of the final station locations and Appendix C contains the specifications for the survey.

Photo 1: Typical terrain and vegetation in the survey area.

Photos 2- 3: Typical terrain and vegetation in the survey area.



225000
250000
275000
300000
325000
350000
375000
400000
7400000
7375000
7350000
7325000
7300000
7275000
7250000
7225000
7200000
7175000
7150000
7125000
Mt Ebenezer Survey Area
Victory Downs Survey Area
FIGURE 1

3. PERSONNEL AND EQUIPMENT

3.1 Personnel

The supervisor in charge of the project was Andrew McCarthy. Andrew 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:

Andrew McCarthy
Jon Nankaville
Mark Rosewall
Lucas Greig
Peter Rose
Matt Ingal

The Helicopter pilots used for the project were:

Peter O'Neill
Peter Macdonald

Final data reduction, inspection and reporting were performed by the company Geophysicist, Grant Coopes.

3.2 Survey equipment

The following survey equipment was utilised on the gravity survey:

- Scintrex CG-3 digital gravity meter (G meter)
- Scintrex CG-5 digital gravity meters (P, Q & F meters)
- LaCoste & Romberg Gravity Meter (L meter)
- Leica 1230 dual frequency GPS receivers
- Leica 1230GG dual frequency GPS receivers with GLONASS capability
- Notebook computers for data processing and backup
- Garmin 296 GPS receivers for helicopter navigation
- Garmin Handheld GPS receivers for vehicle navigation
- Various chargers, solar cells and batteries

3.3 Vehicles

Due to the type of terrain and remote locations, 4WD Landcruiser and 4WD Isuzu Trucks were utilized as support vehicles for the surveys. 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
- UHF radio and satellite phone with car kit
- Self-recovery equipment including winches, snatch straps chains etc.
- Tyre pliers to effect tyre repairs in the field
- Tools and spares to enable field repairs as necessary
- Survival kits with EPIRB emergency locator beacons
- Trans track satellite vehicle monitoring and reporting systems

3.4 Survey Vehicles

<u>Helicopter</u>

Due to the scale and accessibility of the stations within the survey areas the most efficient method of transport between stations is by helicopter. Daishsat utilizes Robinson R-44 Helicopters, a medium size utility helicopter with good maneuverability and proven reliability in harsh operating conditions typical of gravity survey operations.

Photo 4: Robinson R-44 Helicopter

Photo 5: Yamaha Rhinos at Mt Ebenezer

<u>Yamaha Rhino</u>

For the less remote areas of the survey grid Yamaha Rhino ATV's were used as an alternative to the helicopter due to their ability to operate in tighter and more densely vegetated areas. The Rhinos were utilized in areas where suitable landing areas for the helicopter were more difficult to locate safely and efficiently. Rhinos are a derivative of a Quad-bike designed with greater stability and user safety in mind while maintaining the tough, go almost anywhere ability of the 4X4 quad-bike

3.5 Accommodation

The crews were accommodated as close as practical to the survey areas with accommodation and meals provided by The Mt Ebenezer Road House and The Kulgera Roadhouse.

3.6 Communications

The survey crew and support vehicles were equipped with hand-held Iridium 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 the crew to the communications centre at the base camp at hourly intervals. Communication with the Perth and Murray Bridge offices was ongoing for the duration of the job.

Photo 6: R-44 Helicopter VH-HZH with Leica 1200 GPS Base in Foreground

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. As the receivers were operating in autonomous mode, set out accuracy was usually better than 10m.

Raw kinematic GPS data was logged by twin dual-frequency Leica 1230GG receivers inside the helicopter cabin, with the GPS antennas mounted on the tail boom. Static GPS data was logged at the base station using two Leica System 1230GG GPS receivers for later post-processing. The Leica 1230GG is a new generation GPS receiver making use of both the traditional US GPS satellite constellation and the newly available GLONASS satellite constellations for higher positional accuracy and reduced periods of poor satellite coverage.

Repeat stations were placed throughout the surveys to monitor any variations in positional accuracy. Repeats are placed with a washer tied with flagging and marked with the station number was used for future 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. New GPS/Gravity base stations were established at each of the three bases using 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.

Photo 7: Local wildlife encountered during the ground survey.

4.3 Processing of the position and level data

Raw GPS data was recorded onto the internal SD-cards in each of the GPS receivers. The data was downloaded nightly onto a laptop computer for post-processing using Waypoint's premier processing software package – Grafnav V7.80. 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).

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

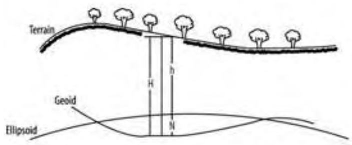


Figure: 2: Geoid-Ellipsoid separation

4.4 GPS Performance

Performance from the 1230GG receivers was excellent. There were no stations that required repeating due to GPS failure or poor coordinate quality.

Photo 8: Post process GPS base setup at Kulgera Airfield.

5. GRAVITY SURVEYING AND PROCESSING

5.1 Gravity data acquisition

Gravity observations were made concurrently with the GPS measurements. 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 0.05 of a dial reading (0.05 mGals). 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.

5.2 Gravity base stations

Gravity base stations were used for calculation of absolute gravity and drift determination. Details of the gravity bases are contained in Appendix D. When in the field, base station readings were taken in the morning before the first observation and at evening after the last observation. When taking a base station reading, the observed gravity values were stacked over 60 seconds to ensure accuracy. Observations were repeated until the readings repeated to 0.010 of a dial reading or less.

New base stations were established during the survey at Mt Ebenezer Roadhouse and at Kulgera Airstrip. The observed gravity value for each of these base stations was calculated by completing multiple B-A-B gravity loops to AFGN stations located at either Yulara Airport Terminal or the garage at De Rose Hill Station. The expected accuracy of the tie control surveys is better than 0.01 mGals.

5.3 Gravity data processing

Raw gravity data was 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. Other software used on this project includes Arcview, ChrisDBF, Waypoint and Oasis Montaj. 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 too complex to list here.

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 ϕ 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 ρ = density 2.67 tm^3

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.

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

5.4 Gravity meter calibration and scale factors

The gravity meters used had previously been calibrated over a number of calibration ranges in WA and SA. A derived scale factor from these calibrations is shown below:

Meter	Serial No.	Scale Factor
(A)	24921	0.999216
(G)	408275	1.000599
(Q)	40417	0.999795
(P)	40394	1.000614
(F)	40224	1.000283
(L)	G711	1.017640

6. RESULTS

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

6.1 Stations Surveyed and Survey Progress

In total 4,643 stations were acquired across the two survey areas consisting of 1,748 stations on the Mt Ebenezer grid and 2,894 stations on the Victory Downs grid. Of these stations at total of 356 were revisited to ensure data accuracy and quality.

A brief production summary for the survey is show in Table 1 below.

Generally, production was excellent with the helicopter crew averaging over 210 stations per day. Due to CASA regulations restricting duty hours for pilots, some time was lost from direct production although the crews used this downtime to conduct helicopter and equipment maintenance and review the acquired data. Unseasonably wet conditions posed greater problems for the Rhino crews with some time lost from production due to restricted access and localized flooding in low lying areas of the grids. Overall production rates were acceptable given the dense vegetation and wet conditions with an average daily rate of 44 stations per rhino.

There was no downtime due to geophysical or GPS equipment failure.

Nifty Regional Gravity Survey 2008		
Gravity stations acquired (including repeats)	**4,974**	stations
Gravity station repeats	**356**	7.2%
New gravity stations acquired	**4,618**	stations
Total accidents	**0**	accidents
Total hours lost from accidents	**0**	hours

Table 1: Gravity Production Summary

6.2 Data Repeatability

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

Mt Ebenezer

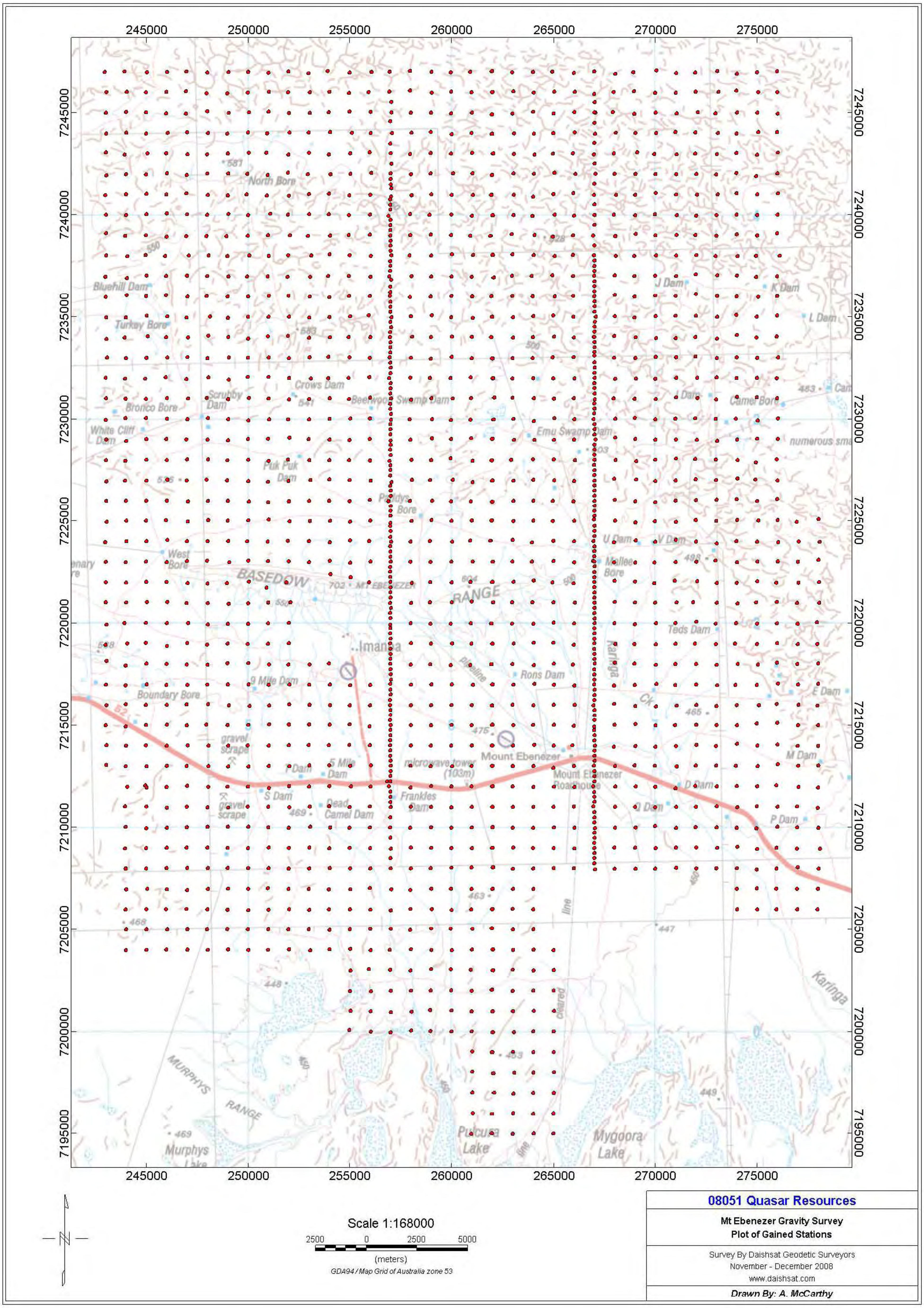
Z position observation: < 0.072 m
Gravity observation: < 0.021 mGals

Victory Downs

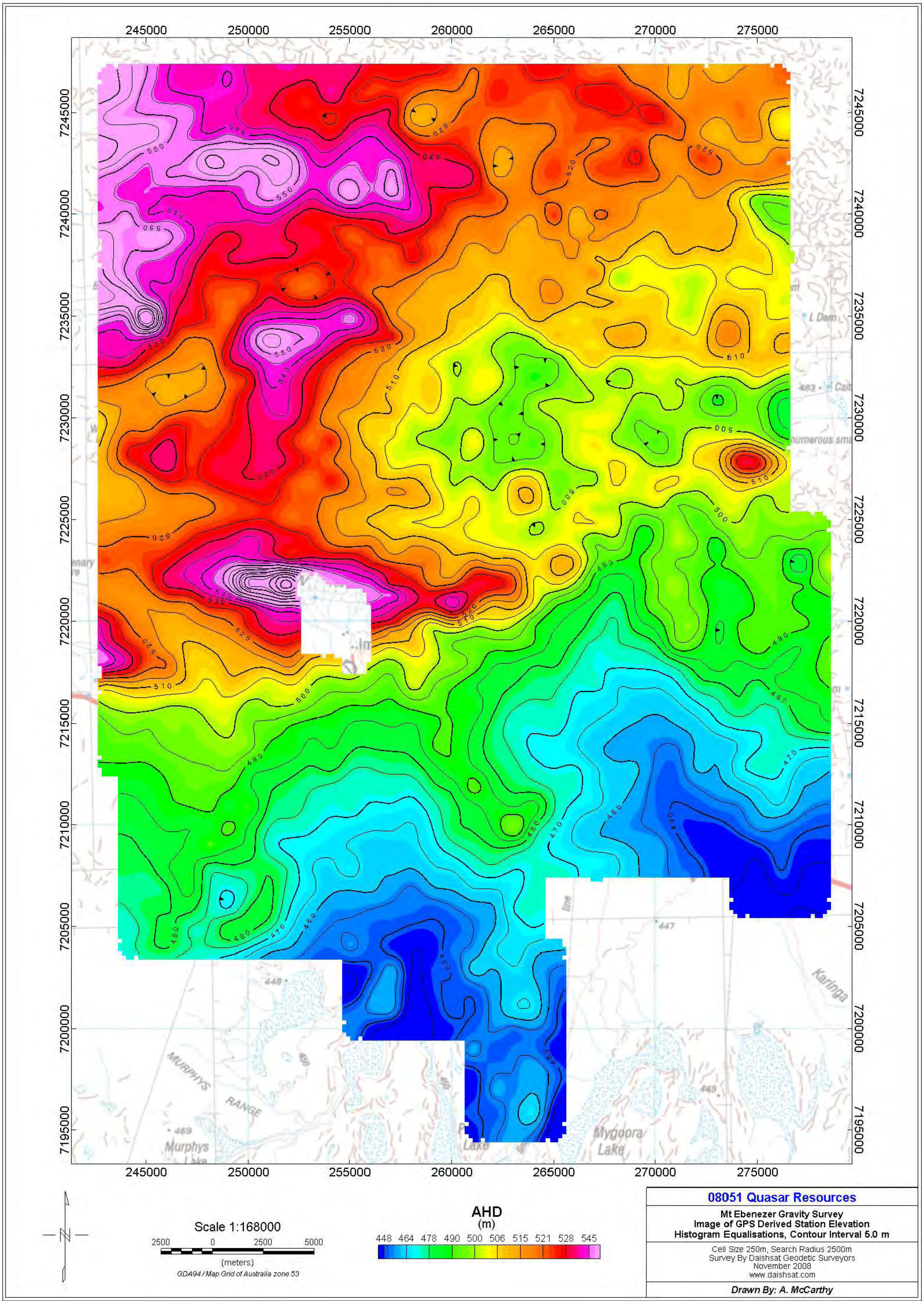
Z position observation: < 0.070 m
Gravity observation: < 0.019 mGals

APPENDIX A

Plots of station location / Images



08051 Quasar Resources
Mt Ebenezer Gravity Survey
Plot of Gained Stations
Survey By Daishsat Geodetic Surveyors
November - December 2008
www.daishsat.com
Drawn By: A. McCarthy
Scale 1:168000
GDA94 / Map Grid of Australia zone 53

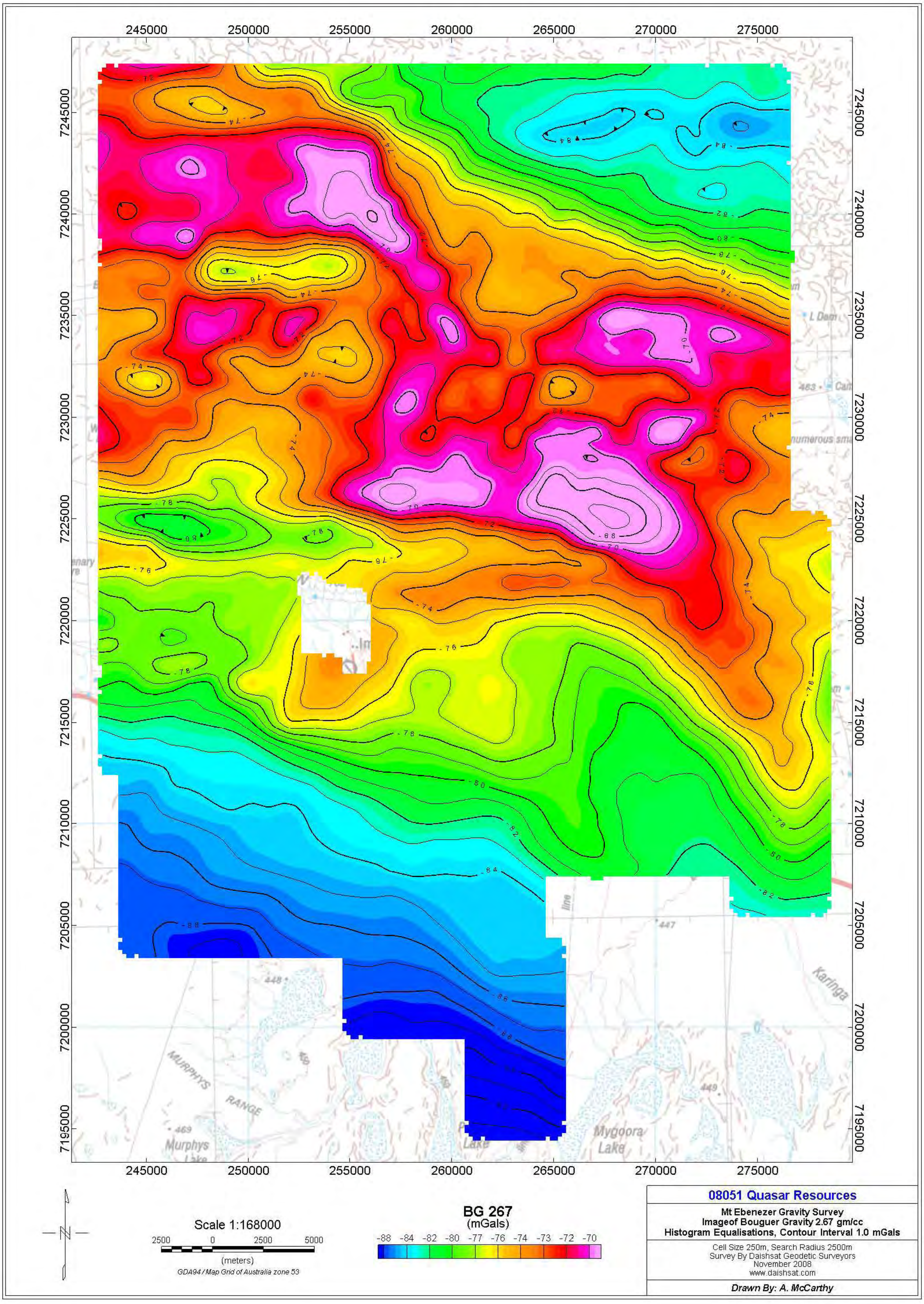


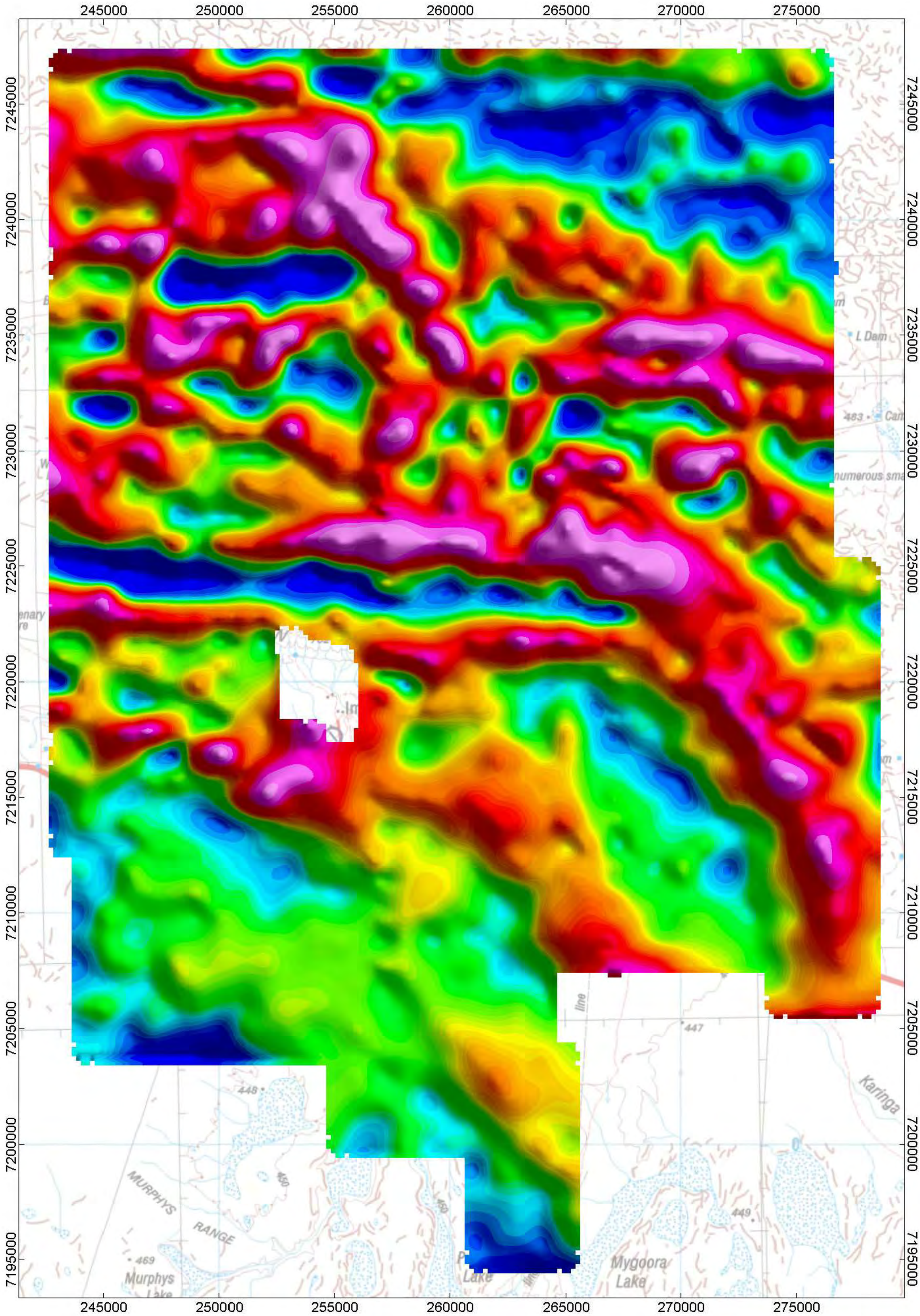
08051 Quasar Resources

Mt Ebenezer Gravity Survey
Image of GPS Derived Station Elevation
Histogram Equalisations, Contour Interval 5.0 m

Cell Size 250m, Search Radius 2500m
Survey By Daishsat Geodetic Surveyors
November 2008
www.daishsat.com

Drawn By: A. McCarthy


245000
250000
255000
260000
265000
270000
275000
7245000
7240000
7235000
7230000
7225000
7220000
7215000
7210000
7205000
7200000
7195000
MURPHYS RANGE
Murphys
Mygoora Lake
Karinga
Scale 1:168000
2500 0 2500 5000
(meters)
GDA94 / Map Grid of Australia zone 53
BG 267
(mGals)
-88 -84 -82 -80 -77 -76 -74 -73 -72 -70
08051 Quasar Resources
Mt Ebenezer Gravity Survey
Imageof Bouguer Gravity 2.67 gm/cc
Histogram Equalisations, Contour Interval 1.0 mGals
Cell Size 250m, Search Radius 2500m
Survey By Daishsat Geodetic Surveyors
November 2008
www.daishsat.com
Drawn By: A. McCarthy



Scale 1:168000

2500 0 2500 5000

(meters)

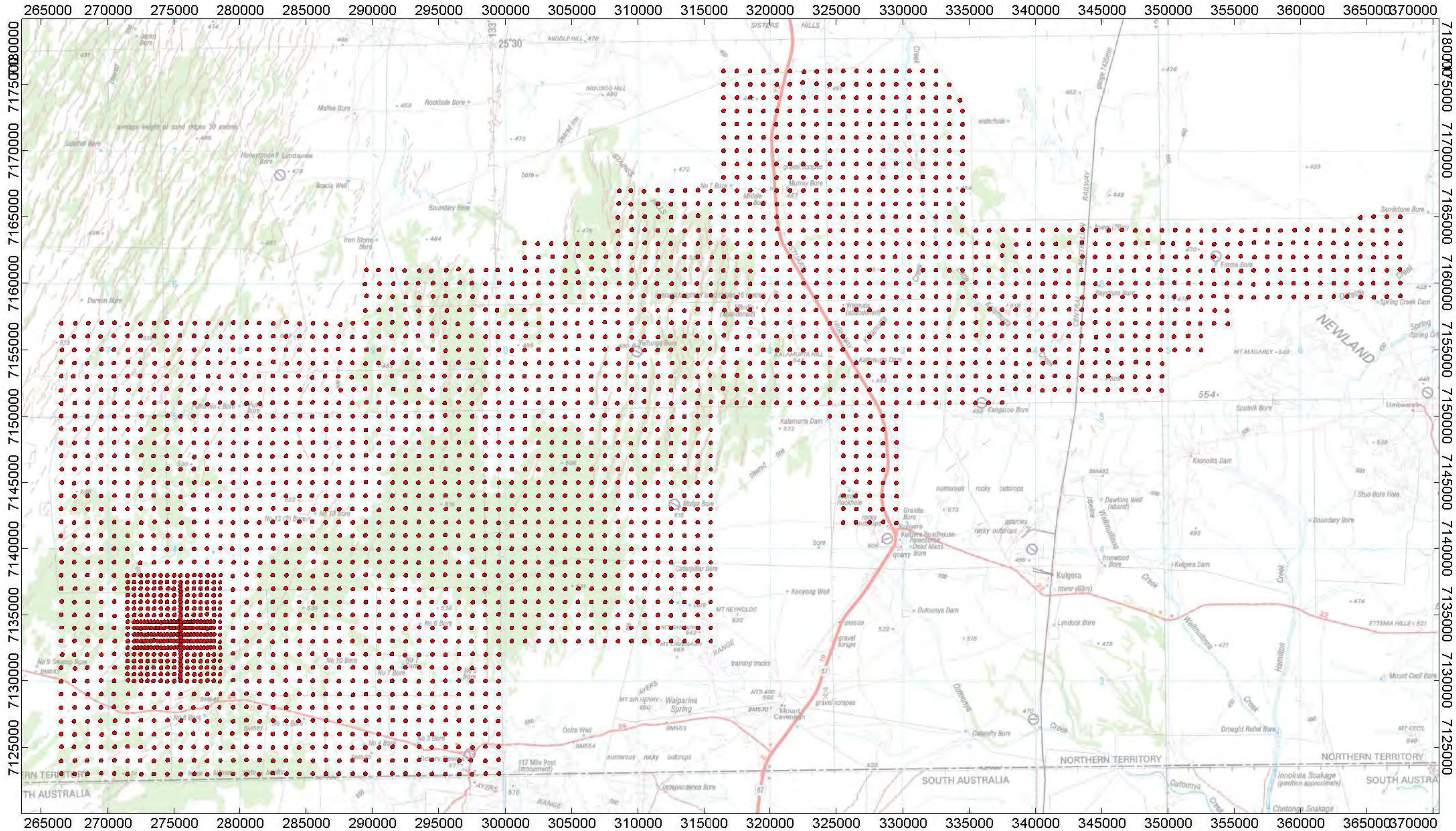
GDA94 / Map Grid of Australia zone 53

08051 Quasar Resources

Mt Ebenezer Gravity Survey
Image of 1VD of Bouguer Gravity
Histogram Equalisations, North East Sunshading

Cell Size 250m, Search Radius 2500m
Survey By Daishsat Geodetic Surveyors
November 2008
www.daishsat.com

Drawn By: A. McCarthy



Scale 1:297600

5000 0 5000 10000 15000

(meters)

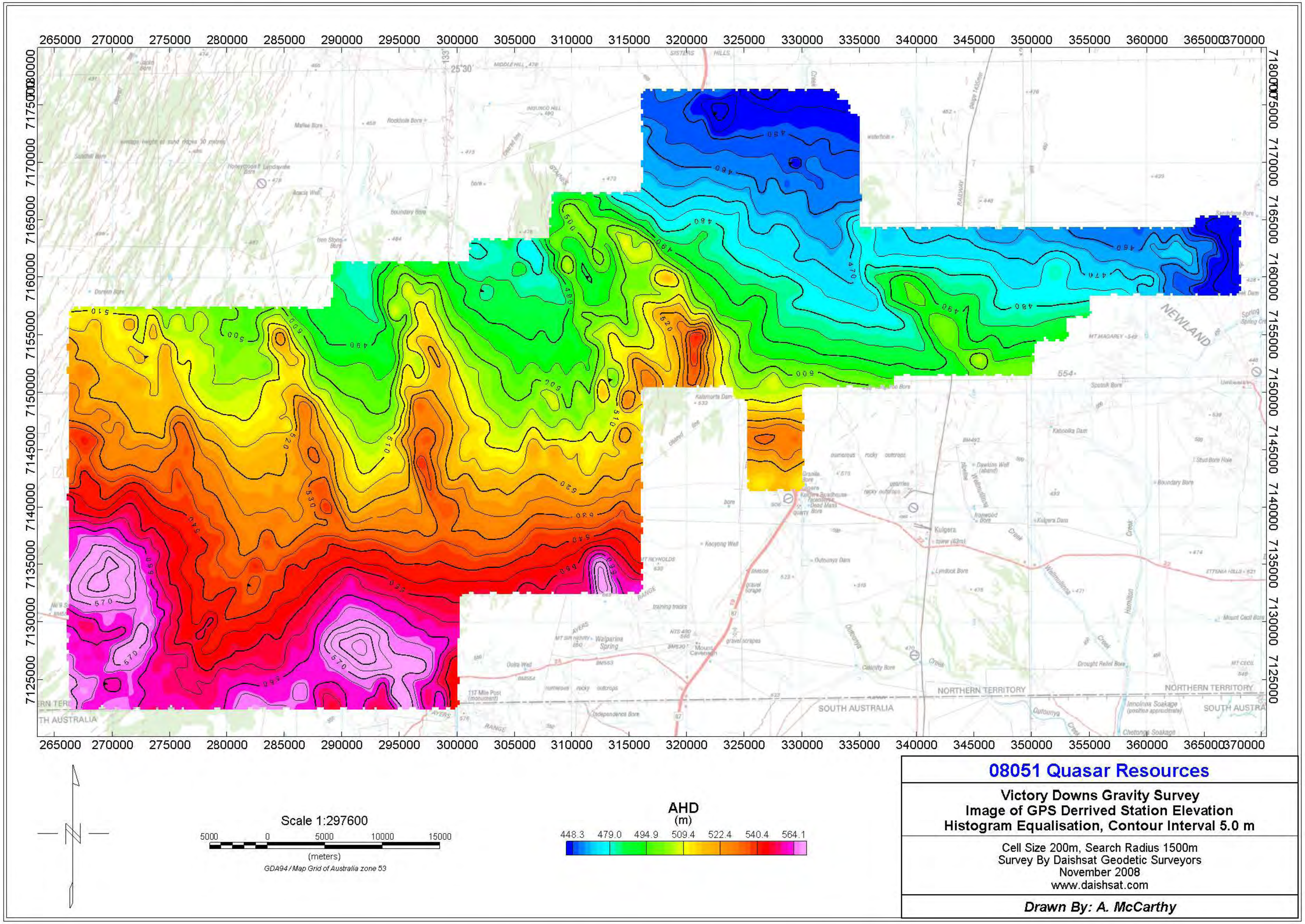
GDA94 / Map Grid of Australia zone 53

08051 Quasar Resources

Victory Downs Gravity Survey
Plot of Station Locations

Survey By Daishsat Geodetic Surveyors
November 2008
www.daishsat.com

Drawn By: A. McCarthy

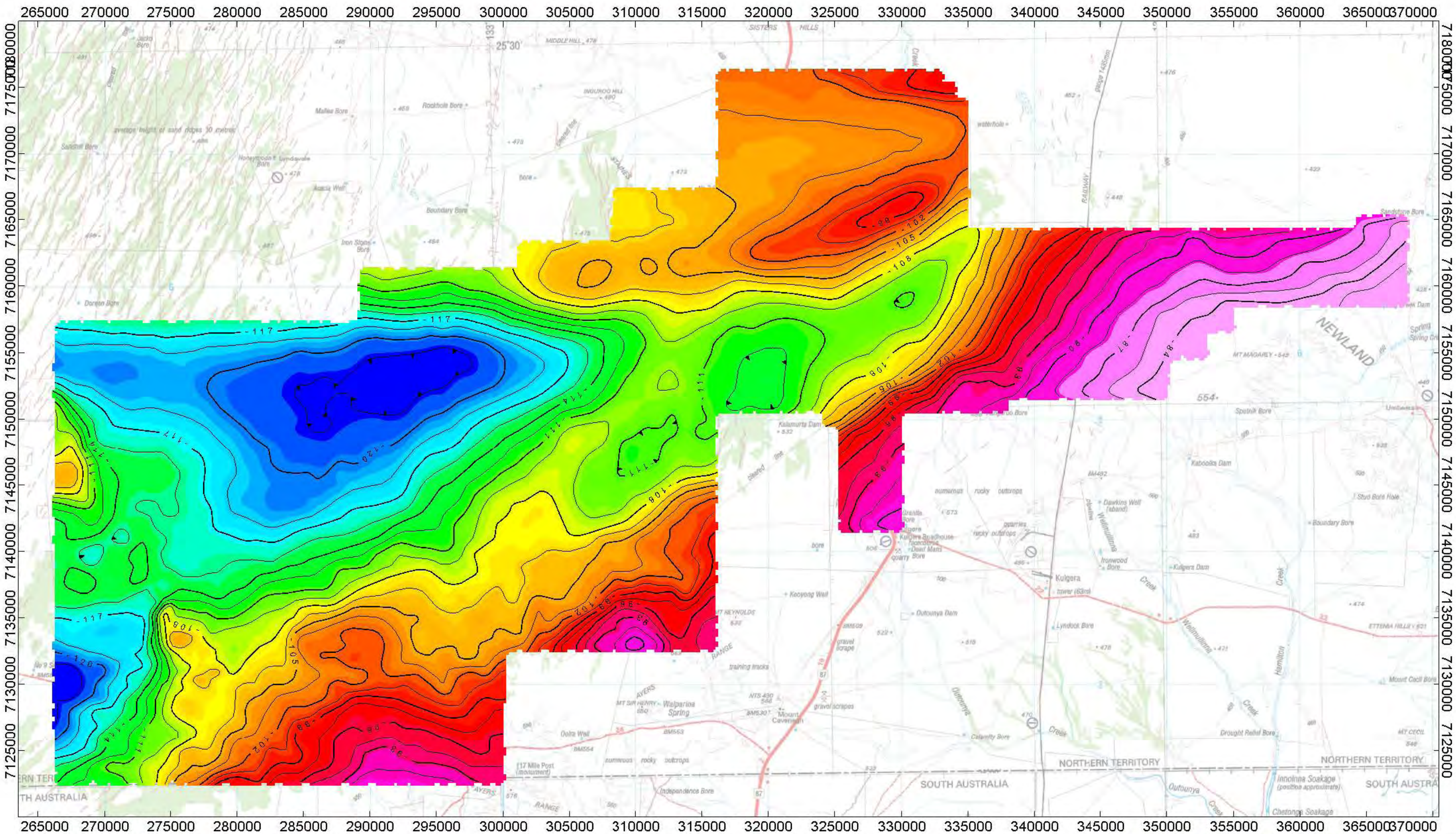


08051 Quasar Resources

Victory Downs Gravity Survey
Image of GPS Derrived Station Elevation
Histogram Equalisation, Contour Interval 5.0 m

Cell Size 200m, Search Radius 1500m
Survey By Daishsat Geodetic Surveyors
November 2008
www.daishsat.com

Drawn By: A. McCarthy



Scale 1:297600

5000 0 5000 10000 15000

(meters)

GDA94 / Map Grid of Australia zone 53

BG267
(mGals)

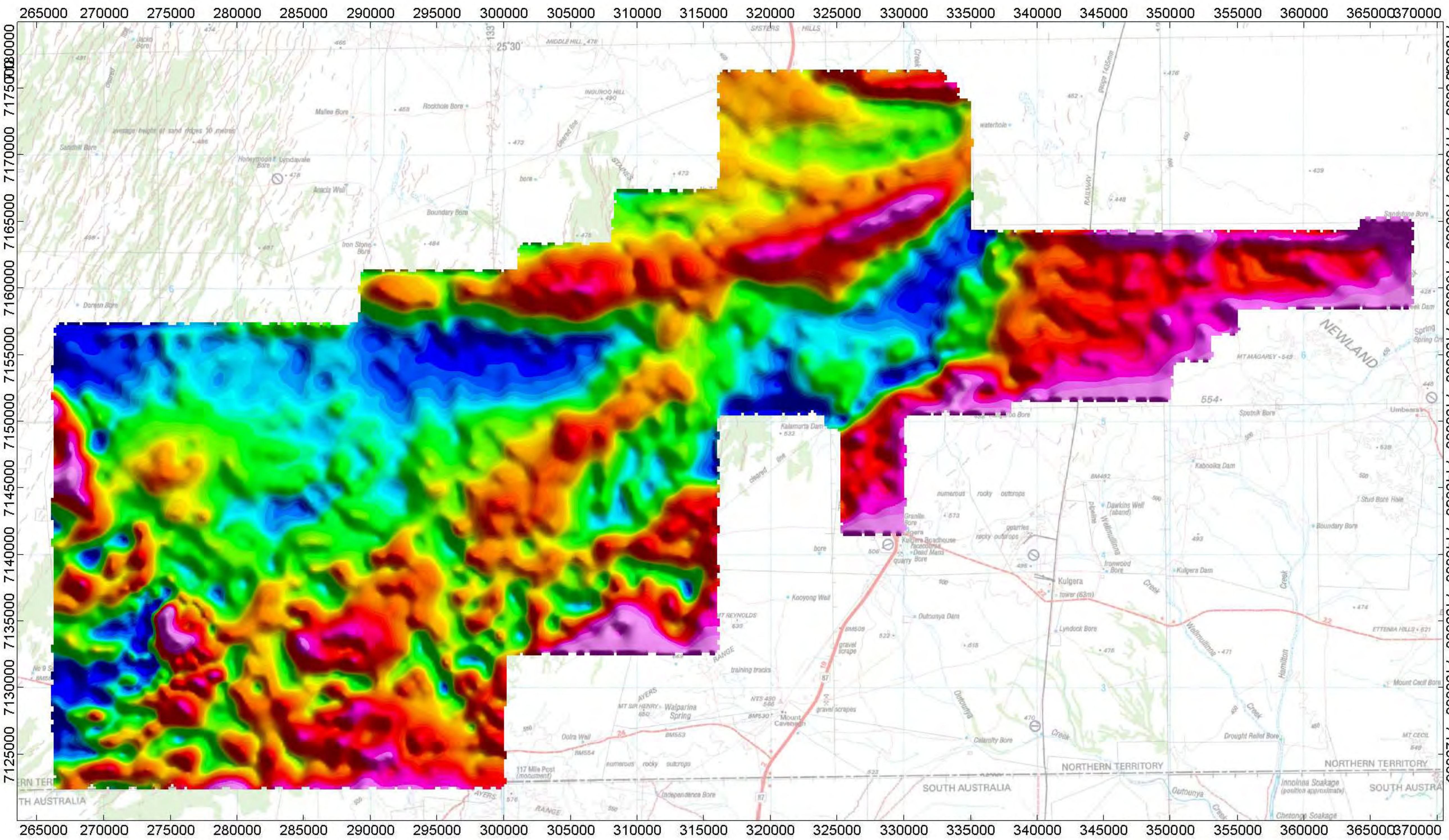
-121.2 -116.6 -111.4 -108.0 -104.4 -99.9 -90.8

08051 Quasar Resources

Victory Downs Gravity Survey
Image of Bouguer Gravity 2.67 gm/cc
Histogram Equalisation, Contour Interval 1.5 mGals

Cell Size 200m, Search Radius 1500m
Survey By Daishsat Geodetic Surveyors
November 2008
www.daishsat.com

Drawn By: A. McCarthy



Scale 1:297600

5000 0 5000 10000 15000

(meters)

GDA94 / Map Grid of Australia zone 53

08051 Quasar Resources

Victory Downs Gravity Survey
Image of 1VD of Bouguer Gravity
Histogram Equalisation, North East Sunshading

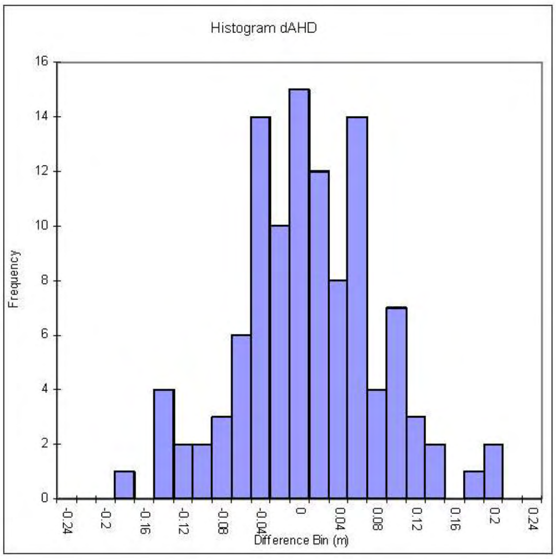
Cell Size 200m, Search Radius 1500m
Survey By Daishsat Geodetic Surveyors
November 2008
www.daishsat.com

Drawn By: A. McCarthy

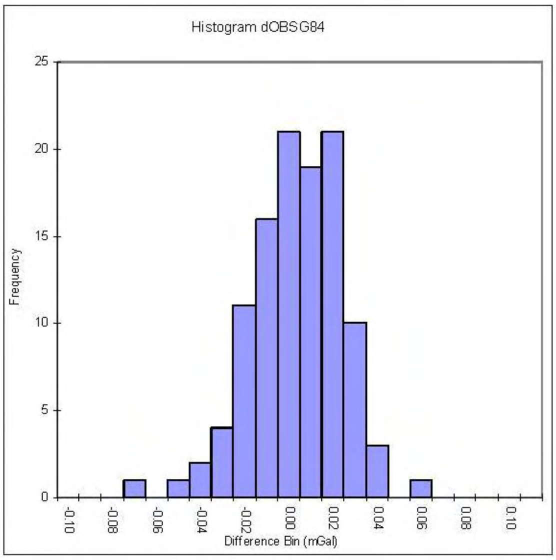
APPENDIX B
Repeat Tabulation and Analysis

Mt Ebenezer

Histogram dAHD



Histogram dOBSG84

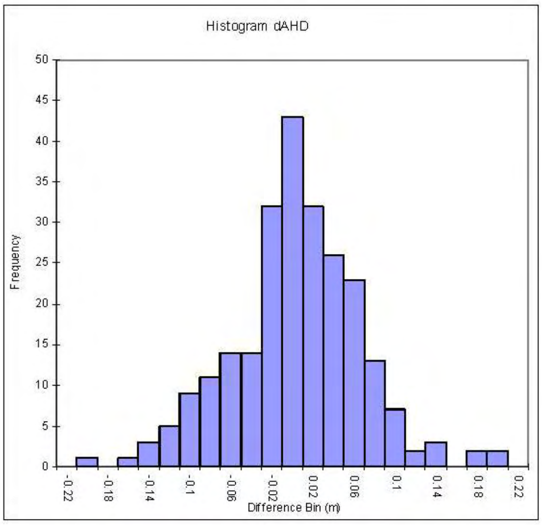


Summary Statistics

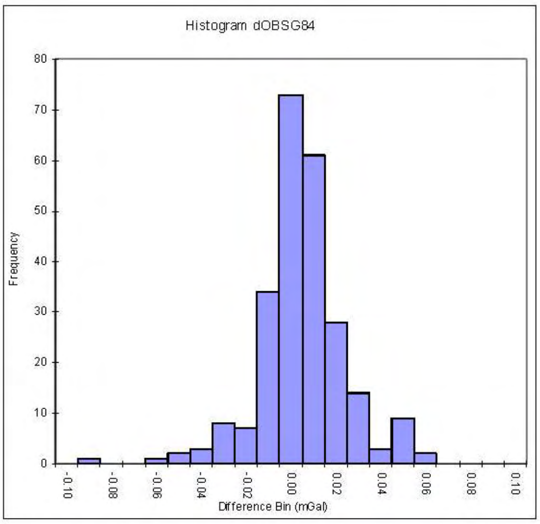
Summary Table	*dAHD*	*dOBSG*
Mean	0.001	-0.001
Standard Error	0.007	0.002
Median	-0.001	-0.001
Mode	0.028	0.004
Standard Deviation	0.072	0.020
Sample Variance	0.005	0.000
Kurtosis	0.327	0.681
Skewness	0.029	-0.446
Range	0.372	0.123
Minimum	-0.189	-0.071
Maximum	0.183	0.052
Sum	0.104	-0.152
Count	**110**	**110**

Victory Downs

Histogram dAHD



Histogram dOBSG84



Summary Statistics

Summary Table	*dAHD*	*dOBSG*
Mean	-0.002	0.000
Standard Error	0.004	0.001
Median	-0.007	0.000
Mode	-0.012	-0.009
Standard Deviation	0.070	0.019
Sample Variance	0.005	0.000
Kurtosis	2.640	2.854
Skewness	0.670	-0.336
Range	0.522	0.145
Minimum	-0.208	-0.091
Maximum	0.314	0.054
Sum	-0.514	0.003
Count	**246**	**246**

APPENDIX C
Survey Specifications

Quasar NT Regional Gravity Survey

Client	Quasar Resources
Survey Name	Mt Ebenezer
Operators	AM, JN, MR, LG, MI, PR - Pilots PM, PO
Techniques Employed	GPS, Gravity
Station Spacing	1000m
Line Spacing	1000m
Gravity Meter	Scintrex CG-3 (G-meter) CG-5 (P, Q & F-meters), LaCoste & Romberg type G (L-meter)
GPS	Leica 1230GG Base & Rovers
Number of Points Surveyed	1,848
Gravity Base	Daishsat Base 0349
Date of Survey	12th November to 2nd December 2008

Client	Quasar Resources
Survey Name	Victory Downs
Operators	AM, JN, MR, LG, MI, PR - Pilots PM, PO
Techniques Employed	GPS, Gravity
Station Spacing	1000m
Line Spacing	1000m
Gravity Meter	Scintrex CG-3 (G-meter) CG-5 (P, Q & F-meters), LaCoste & Romberg type G (L-meter)
GPS	Leica 1230GG Base & Rovers
Number of Points Surveyed	2,880
Gravity Base	Daishsat Base 0348
Date of Survey	18th November to 5th December 2008

APPENDIX D

Base Station Information

GPS Gravity Base 0348 Kulgera Airstrip			
MGA94		**GDA94**	
EASTING (m)	329216.458	LATITUDE (DMS)	25^0 50' 26.4172" S
NORTHING (m)	7140853.406	LONGITUDE (DMS)	133^0 17' 45.3814" E
ZONE (UTM)	53	Ellipsoidal HT (m)	516.620
HEIGHT (AHD, m)	510.866	N (AUSGEOID98, m)	5.754
OBSERVED GRAVITY		**SURVEYED BY**	
978823.476 mGals		GPS - Daishsat using a multiple static sessions and the AUSPOS online GPS Processing system. Expected accuracy of station coordinates better than 0.005m. Gravity – Daishsat using two SCINTREX digital Gravity Meters conducting B-A-B loops to the AFGN station located at Re Rose Hill Station. The expected accuracy of the Gravity ties better then 0.01 mGals.	

MISCELLANEOUS DETAILS

Daishsat base 348 is located in an open area adjacent to the windsock. The base consisting of an imbedded pin and witness star post is 25m to the north east of the main wind sock.

Access to the base is by vehicle through the gate leading onto the airport's apron. Access to the airport is available directly from the Stuart Highway opposite the Northern Exit from the Kulgera Roadhouse.

Base 348 and distinguishing features

GPS Gravity Base 0349 Mt Ebenezer Roadhouse

MGA94		GDA94	
EASTING (m)	265804.051	LATITUDE (DMS)	25° 10' 49.7080" S
NORTHING (m)	7213046.878	LONGITUDE (DMS)	132° 40' 34.1623" E
ZONE (UTM)	53	Ellipsoidal HT (m)	473.023
HEIGHT (AHD, m)	467.262	N (AUSGEOID98, m)	5.761

OBSERVED GRAVITY	SURVEYED BY
978795.9039 mGals	GPS - Daishsat using a multiple static sessions and the AUSPOS online GPS Processing system. Expected accuracy of station coordinates better than 0.005m. Gravity – Daishsat using two SCINTREX digital Gravity Meters conducting B-A-B loops to the AFGN station located at the Yulara Airport Terminal. The expected accuracy of the Gravity ties better then 0.01 mGals.

MISCELLANEOUS DETAILS

Daishsat base 349 is located at the rear of the Mt Ebenezer Roadhouse complex. The base is located on vacant land approximately 200m south of the Motel accommodation block

Access to the base is by vehicle between the Motel and Staff Quarters. The base is to the right of the access road adjacent the generator shed.

Base 349 and distinguishing features

APPENDIX E

Data CD

(Attached To Back Cover)