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Memorandum

DATE: **Friday, December 08, 2006** **SGC Report:** **1695**
FROM: **Russell Mortimer - SGC** **TO: John Karajas**

BLYTHE PROJECT - NATONE/CAMENA PROSPECTS
TENEMENTS EL6/2005, EL15/2006
GRAVITY SURVEYING 9/2006 - SUMMARISED INTERPRETATION

Introduction

A precision GPS gravity survey was completed at the Blythe Project area between the 31st August 2006 and 16th September 2006 by Daishsat Pty. Ltd. on behalf of Red River Resources Limited. The Blythe Project area is situated adjacent to Natone, ~10km SE of Burnie, Tasmania and surveying provided gravity coverage over the Natone and Camena prospects (EL6/2005, EL15/2006). All data was acquired with a Scintrex CG-5 V instrument combined with dual frequency, high precision Leica 1200 GPS systems. **Figure 1** provides a location plan for all gravity surveying completed at the Blythe Project.

Aims of the precision GPS gravity surveying:

- To delineate direct gravity anomalies that could be consistent with the presence of more dense targets of interest within surrounding less dense host rock.
- To assist geological mapping efforts within the prospect areas by identifying possible structures/offsets and defining stratigraphy, lithological boundaries.
- To provide complementary data to the aeromagnetic coverage over the region. The combination of these datasets and subsequent observations could assist ongoing exploration.

All digital gravity data was sent on by Daishsat in a timely manner every 1-2days for quality control checks and to allow for planning of any required infill gravity surveying over areas of potential interest whilst gravity crew was still working in the area.

Survey Details

Personnel

Client Communication:	John Karajas
Supervising Geophysicist:	Russell Mortimer
Contractor:	Daishsat Pty. Ltd.
Contractor Supervisors:	Leon Mathews / Frank Duffy
Field Operator:	Kyle Jarvie

Equipment

Gravity meter:	Scintrex CG-5 digital
Precision GPS:	2 x Leica 1200 systems (roving and base)
Navigation GPS:	Garmin Handheld
Communication:	Globalstar Satellite Phone

Survey Specifications

Station Spacing:	~100m, varied on access
Line Spacing:	~100-200m, varied on access
Coordinate System:	GDA94/MGA55
No Stations:	747 (includes 33 repeats)
Position Accuracy:	<0.03m
Gravity Accuracy:	<0.02 mGals

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

A more detailed account of the Blythe gravity survey logistics and parameters is provided in **Appendix 2** – Daishsat final survey report.

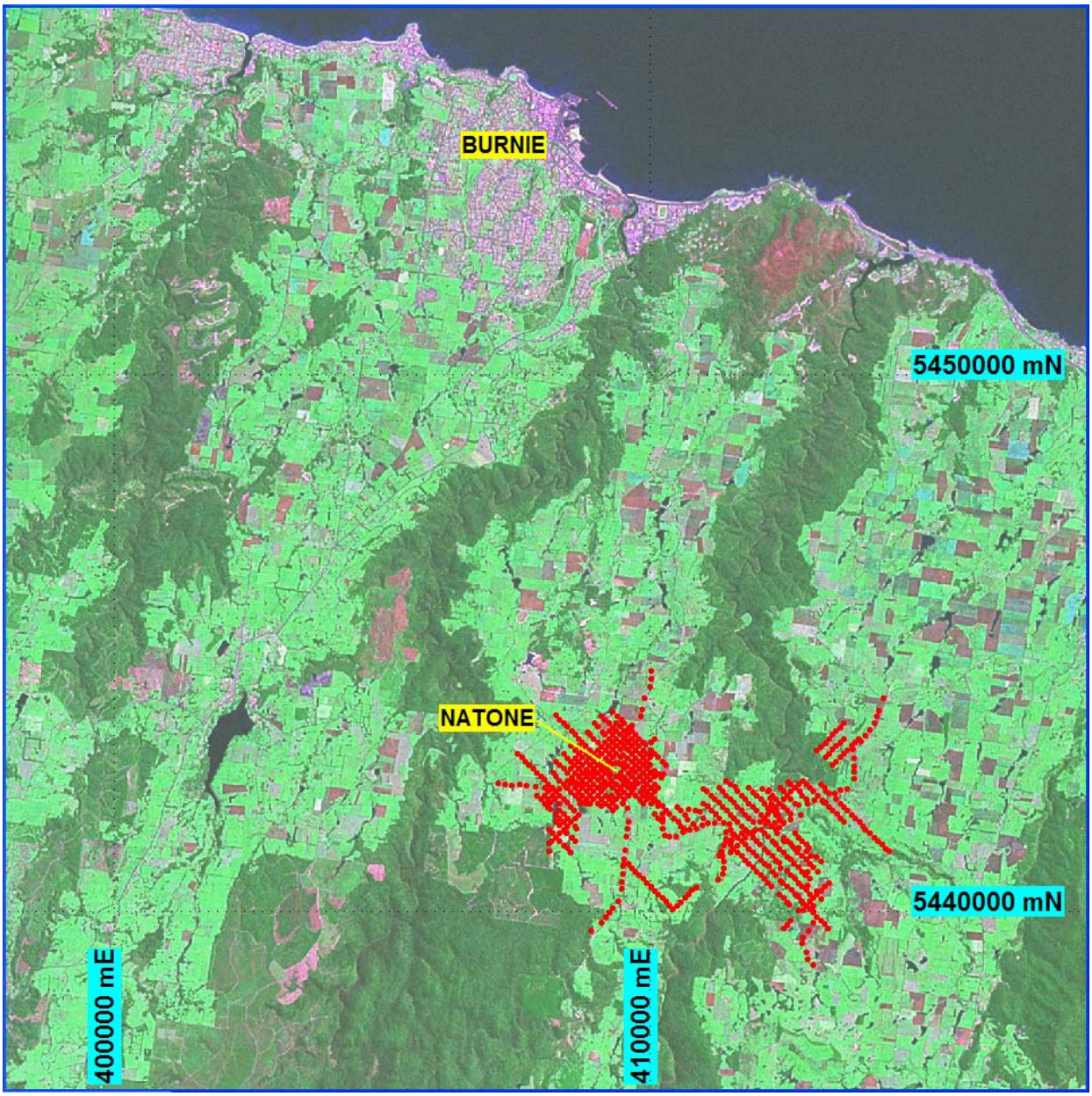

Figure 1 – Blythe Project – Gravity Survey Location Plan over Landsat

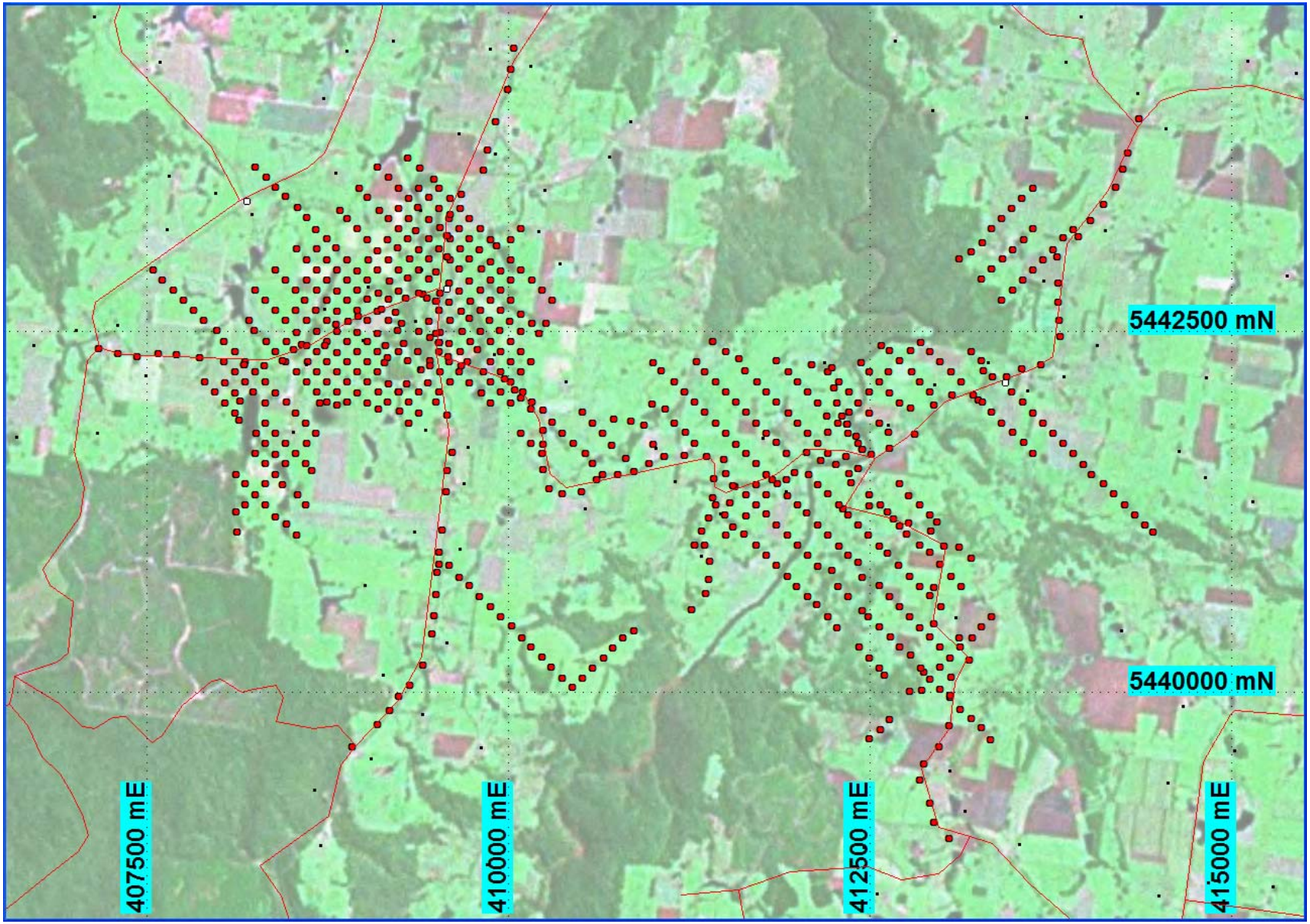

Figure 2 – Blythe Project – Gravity Survey Location Plan – Local view over Landsat

Data Acquisition and Procedures

All gravity surveying was run in tandem with GPS measurements and two gravity readings were acquired at each station (stacking time ~20s+) to confirm repeatability. All gravity data was recorded digitally by the Scintrex CG-5 system and downloaded to laptops at the end of each field day.

A single base station (0003) was utilised for calculation of absolute gravity and drift corrections. Full details of the brevity base station 0003 are provided below:

Gravity Base Station (0003) – Natone Primary School

GDA94/MGA55 coordinates:	409593.614mE, 5441791.253mN, 299.628 AHD (<0.1m accuracy)
Observed Gravity	980207.737 mGals
Base Station Tie:	Base 0003 tied to multiple AFGN bases with A-B-A loop, 3m
	AFGN base stations - 1964911141, 1985911141 (Devonport)

Overall **747** gravity stations were recorded during the survey. Of this total **714** stations were collected at the required stations and **33** stations were repeats. All readings were either acquired along tracks/roads using a 4WD vehicle or on foot for the remaining gravity lines orientated in a NW-SE manner.

Data Presentation and Processing

Field data is provided in ASCII format text files and Geosoft database format files suitable for relevant software packages (**Appendix 1**). These files are suitable for use with Geosoft or other gravity packages and for Mines Department reporting.

SGC gravity processing products include a variety of gridded gravity enhancements, contours and final station positions in Mapinfo, DXF and related formats (**Appendix 1**). A list of the gravity image enhancements is provided below:

Blythe_Gravity_BA_Image – Final Bouguer Anomaly Image
Blythe_Gravity_BAFVD_Image – Final Bouguer Anomaly First Vertical Derivative Image
Blythe_Gravity_BAHD_Image – Final Bouguer Anomaly Horizontal Derivative Image
Blythe_Gravity_BAResid_Image – Final Bouguer Anomaly Residual/Trend Removed Image
Blythe_Gravity_BATilt_Image – Final Bouguer Anomaly Tilt-Angle Image
Blythe_Gravity_TCBA_Image – Final Terrain Corrected Bouguer Anomaly Image
Blythe_Gravity_TCBAResid_Image – Final Terrain Corrected Bouguer Anomaly Residual/Trend Removed Image

All above gravity image enhancements have associated contours provided. Residual filtered images made use of a 1st order trend removal process in order to remove the apparent approx linear regional gravity trend across the survey area. Final gravity interpretation and target positions are provided in Mapinfo format (**Appendix 1**).

Data and Interpretation

All gravity surveying was completed during late August – early/mid September 2006. A number of local gravity anomalies (upto ~0.8 mGal, in residual gravity data) have been defined in the Natone and Camena prospect areas. These anomalies could signify the presence of more dense, potential target rock types within less dense host rock. Although not high order, the observed gravity anomalies that have been defined appear to be correlating well with the local iron oxide occurrences. Also on a broader scale there appears to be potentially deeper gravity anomalies and gravity high corridors or saddles, which may provide some guidance as to the centre of the target geological sequence. **Figure 3** below provides an image of the final gravity Bouguer Anomaly with residual filtering (trend removal) highlighting the above observations.

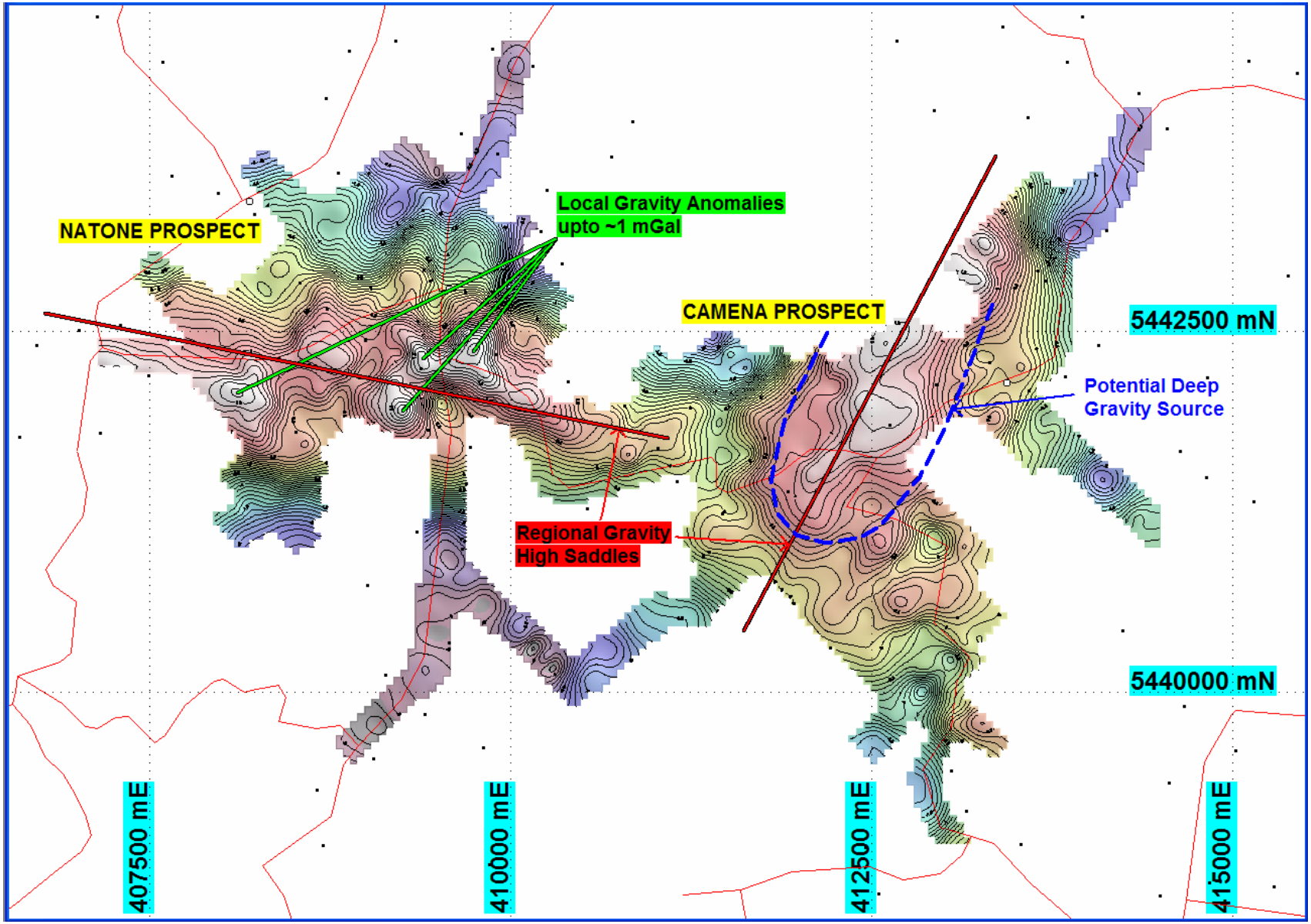

Figure 3 – Blythe Project – Residual Filtered Bouguer Gravity Image (Trend Removed) – Immediate Anomalies of Interest

Natone Prospect

Gravity survey coverage over much of the Natone prospect area has been completed to a ~100x100m pattern, given the presence of quite discrete or localized gravity anomalies. Overall six distinct, local gravity anomalies were defined within the Natone prospect area and all are situated along the ~WNW-ESE orientated "Natone gravity ridge" and adjacent to interpreted structure. Faulting/structure appears to be dominated by a WNW-ESE / NW-SE set and also a curvilinear set changing orientation from ~NNE-SSW in the north to ~NNW-SSE in the south. The broad "Natone gravity ridge" is clearly a regional trend and is evident on the gravity dataset for larger region. This feature will be discussed in more detail below.

NATG_1 Anomaly

Discrete gravity anomaly (<0.5 mGal) along the Natone gravity ridge that could be purely associated with an increase in local rock unit density (~0.1-0.2 g/cc contrast), perhaps just indicating the presence of a different lithological unit locally. A curvilinear structure with an orientation changing from ~NNE-SSW in the north to ~NNW-SSE in the south is present <250m due east of this local gravity anomaly. Local interpreted geology indicates the presence of monotonous basalt across this immediate location.

NATG_2 Anomaly

Discrete gravity anomaly (<0.5 mGal) along the Natone gravity ridge that could again be purely associated with an increase in local rock unit density (~0.1-0.2 g/cc contrast), perhaps just indicating the presence of a different lithological unit locally. Structure is present immediately west, NE and possibly SE of this gravity anomaly. Local interpreted geology indicates the presence of basalt and turbidites in this immediate location. This gravity anomaly is adjacent to a historic, coincident aeromagnetic and EM anomaly (**Figure 5**).

NATG_3 Anomaly

Local gravity anomaly (~0.5-0.75 mGal) along the Natone gravity ridge that could well relate to the presence of a discrete, more dense rock unit (~0.25-0.4 g/cc contrast). Structure is present immediately NE and possibly WNW of this gravity anomaly. Local interpreted geology indicates the presence of iron oxides, siltstones and sandstones in this immediate location. This gravity anomaly is adjacent to a historic, coincident aeromagnetic and EM anomaly (**Figure 5**). Interestingly the aeromagnetic anomaly is coincident with a gravity low and the EM anomaly also follows this corridor and interpreted faulting.

NATG_4 Anomaly

Another local gravity anomaly (~0.5 mGal) along the Natone gravity ridge that could well relate to the presence of a discrete, more dense rock unit (~0.2 g/cc contrast). Structure is present immediately east, west and SW of this gravity anomaly. Local interpreted geology indicates the presence of iron oxides and siltstones in this immediate location.

NATG_5 Anomaly

Discrete, local gravity anomaly (~0.8 mGal) along the Natone gravity ridge that could well relate to the presence of a discrete, more dense rock unit (~0.3-0.5 g/cc contrast). This local anomaly appears to be the most intense local gravity anomaly in the Natone prospect area. Structure is present immediately west and SW of this gravity anomaly. Local interpreted geology indicates the presence of iron oxides just west plus siltstones and sandstones in this immediate location.

NATG_6 Anomaly

Discrete gravity anomaly (~0.3 mGal) along the Natone gravity ridge that could again be purely associated with an increase in local rock unit density (~0.1-0.2 g/cc contrast), perhaps just indicating the presence of a different lithological unit locally. This anomaly appears to be directly along strike to the ESE from the **NATG_5** anomaly. Structure is present immediately SW of this gravity anomaly. Local interpreted geology indicates the presence of monotonous basalt across this immediate location.

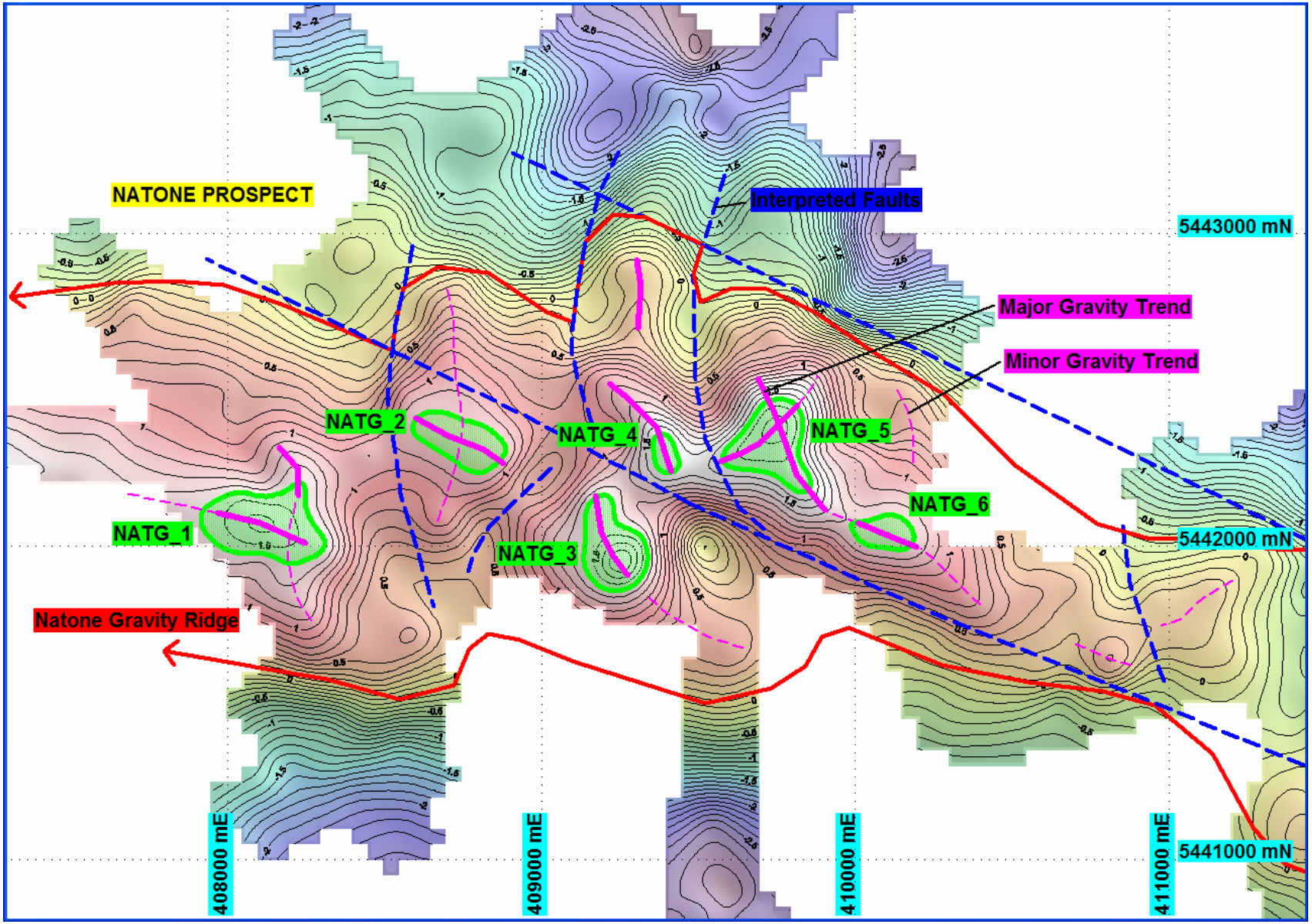

Figure 4 – Blythe Project – Residual Filtered Bouguer Gravity Image (Trend Removed) – Natone Prospect Anomalies / Interpretation

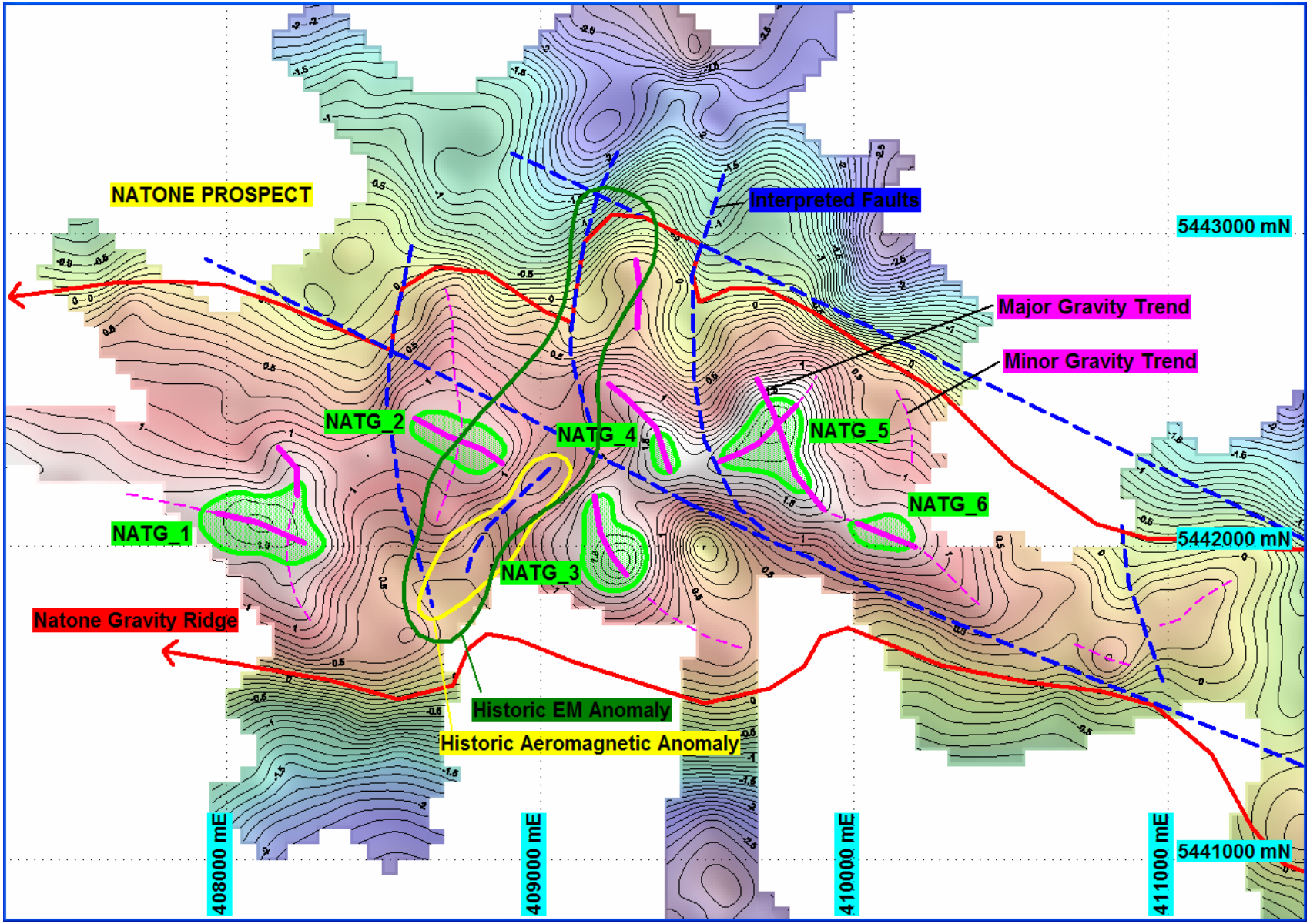

Figure 5 – Blythe Project – Residual Filtered Bouguer Gravity Image (Trend Removed) – Natone Prospect Anomalies / Interpretation, Historic Anoms

Natone Gravity Ridge

The Natone gravity ridge is defined as an elongate (>4km), broad gravity trend (~1-1.5km wide in NNE-SSW direction) and is orientated ESE-WNW (**Figure 3**). It appears that the immediate zones of interest at the Natone prospect area are within this gravity ridge (upto ~1 mGal intensity) and adjacent to curvilinear structure. Interestingly this gravity ridge appears to extend a considerable distance westward, according to regional gravity imagery (Figure 6) and possibly joins into the Camena gravity ridge further east. Overall this Natone gravity ridge may be indicating that this corridor is a focus for local geological activity and presence of alteration, copper and iron oxides.

No other significant gravity anomalies or trends of interest were observed in the gravity dataset about Natone.

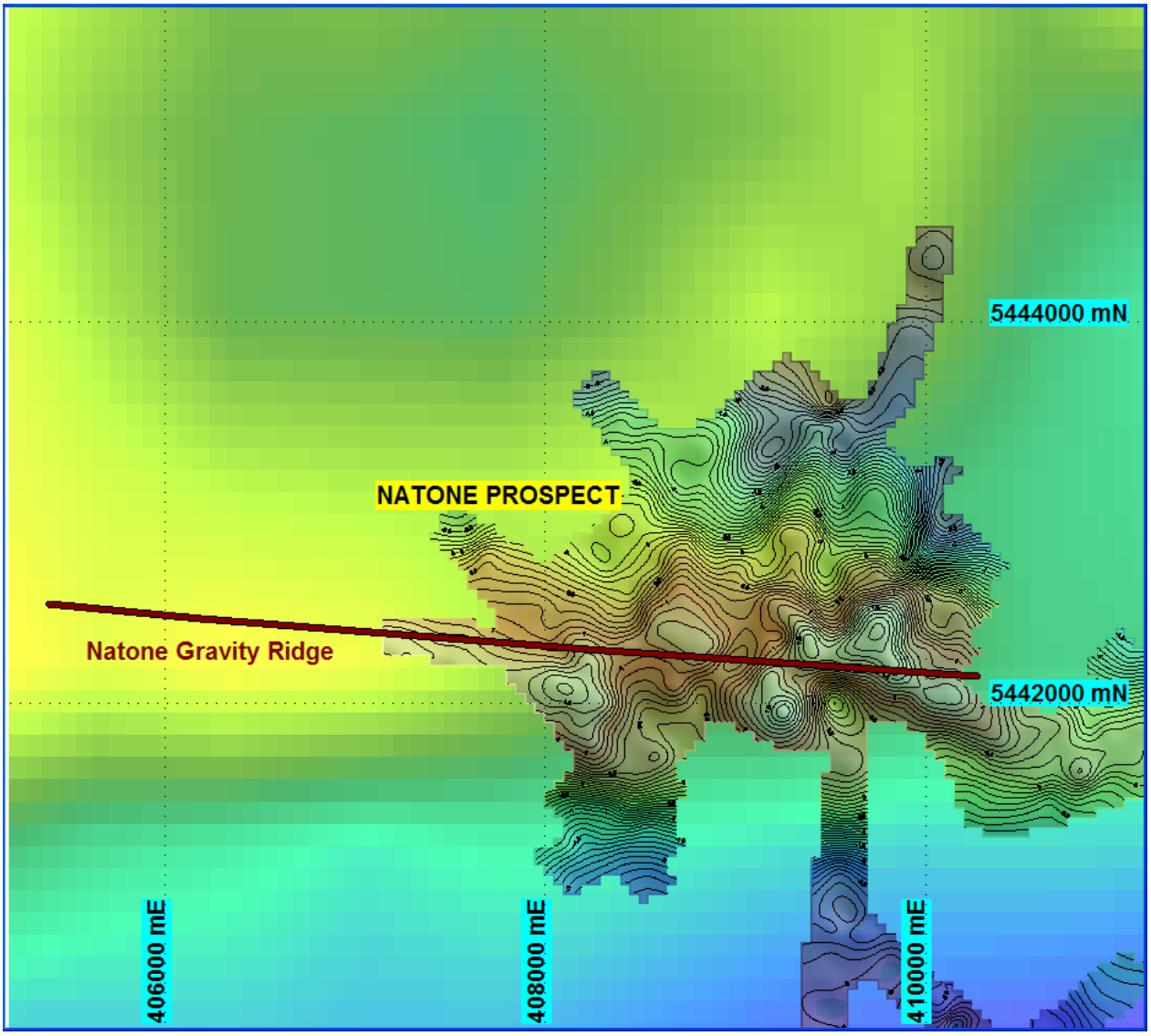

Figure 6 – Blythe Project – Natone Gravity Ridge – Detailed Gravity with Regional GA Gravity

Camena Prospect

Gravity survey coverage over the majority of the Camena prospect area has been completed to a ~100x200m pattern. One broad gravity anomaly or gravity ridge has been defined as an elongate (>2.5km), broad gravity trend (~1km wide in WNW-ESE direction) and is orientated NNE-SSW (**Figure 3**).

CAMG_1 Anomaly

Broad gravity anomaly (~0.75-1 mGal) centred within the Camena prospect area (**Figure 7**). The associated source could be consistent with the presence of a deep seated (>250m) rock unit of slightly increased density (~0.1-0.2 g/cc contrast). The SSW end of the Camena gravity anomaly coincides with a broad aeromagnetic anomaly, and similarly the magnetic source to this anomaly is likely to be deep seated well beyond 250m depth (**Figure 8**).

Overall this Camena gravity anomaly may be indicating that this corridor is a focus for local geological activity and presence of anomalous base metal occurrences.

No other significant gravity anomalies or trends of interest were observed in the gravity dataset about Camena.

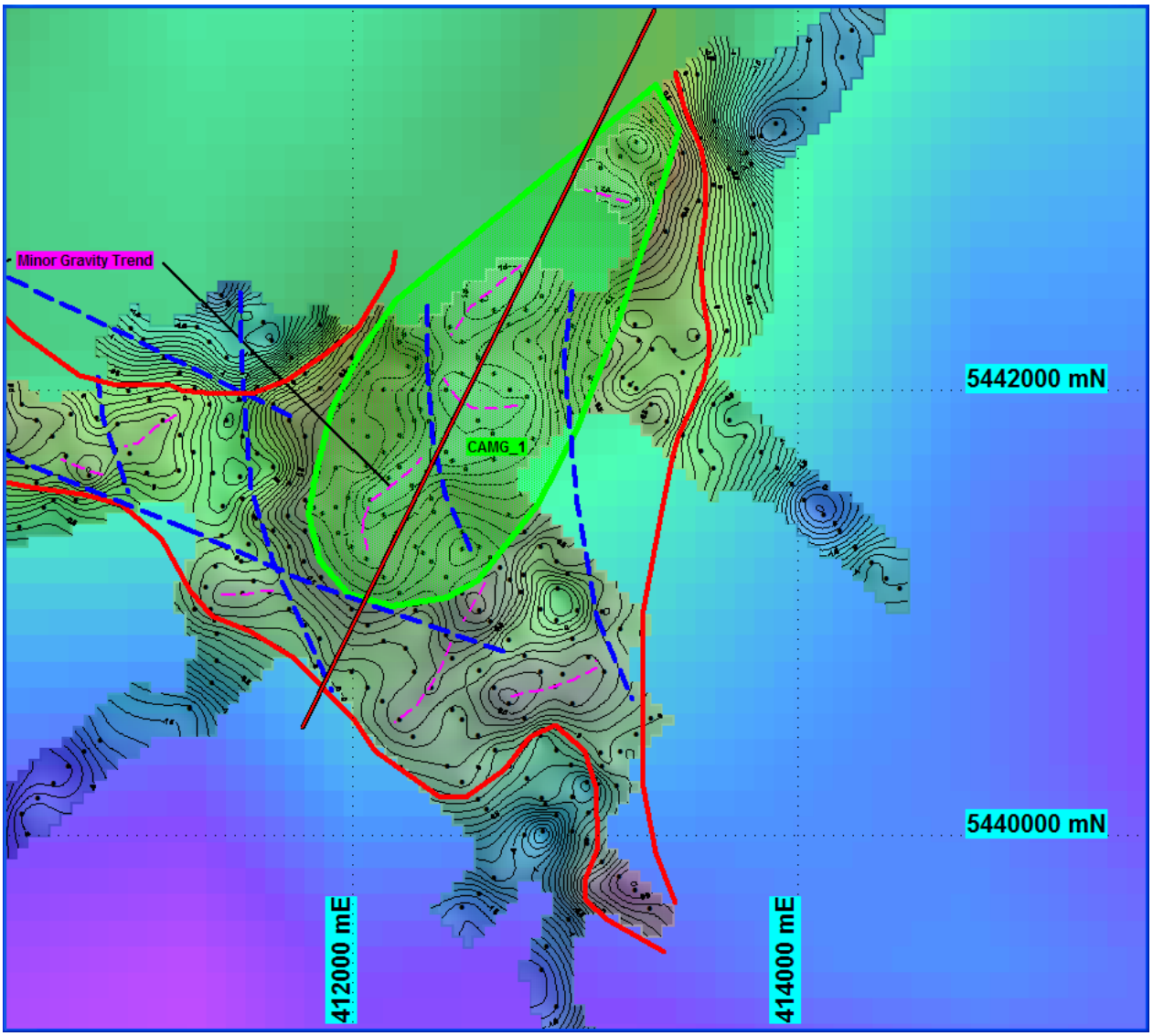

Figure 7 – Blythe Project – Camena Gravity Anomaly/Ridge

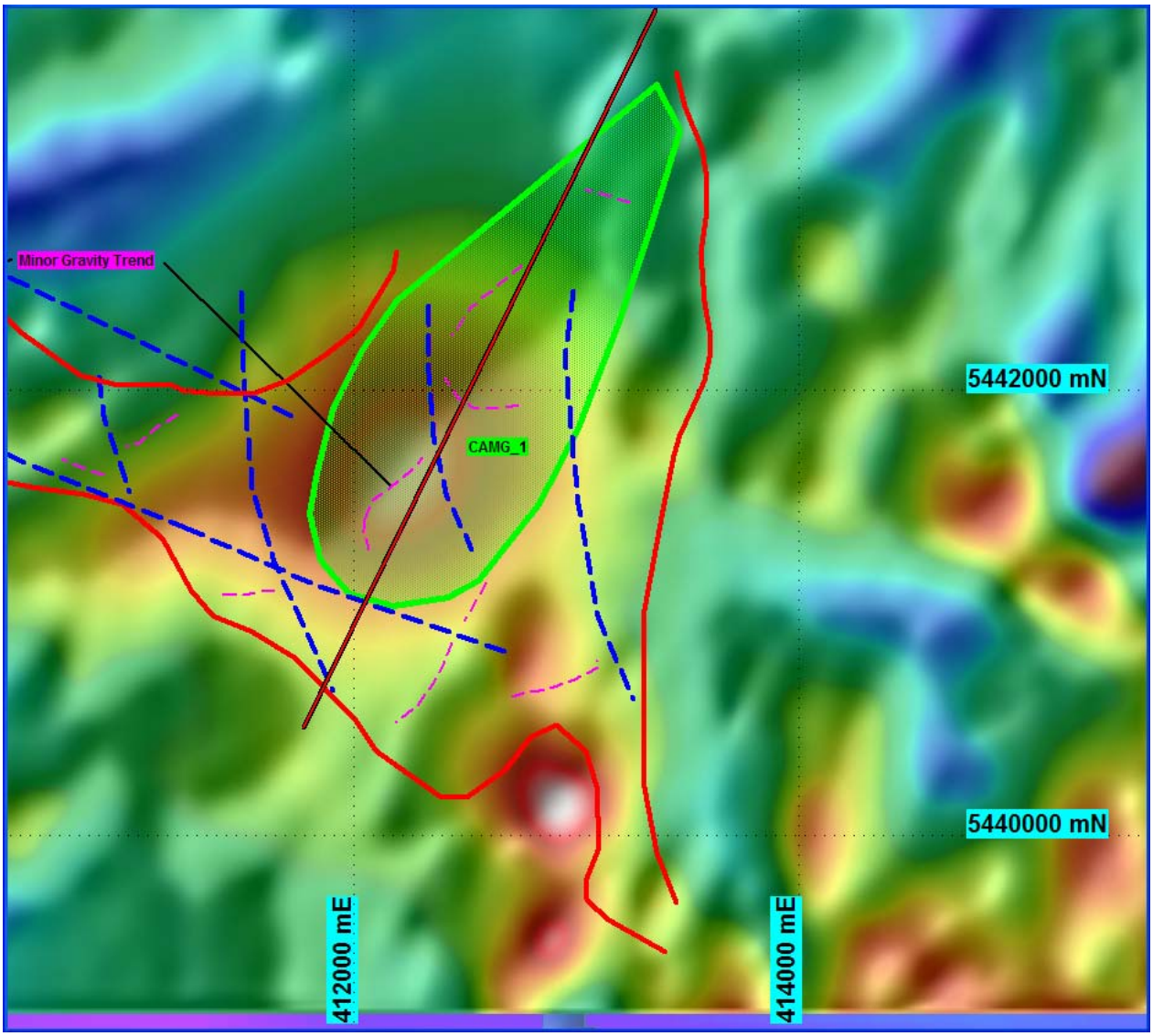

Figure 8 – Blythe Project – Camena Gravity Anomaly over RTP Aeromagnetics

Summary and Recommendations

- A precision GPS gravity survey was completed at the Blythe Project, adjacent to Natone between the 31st August 2006 and the 16th September 2006 by Daishsat Pty. Ltd. Overall 747 gravity stations (33 repeats) were recorded during the programme.
- A total of six distinct, local gravity anomalies (upto ~0.8 mGal) were defined within the Natone prospect area (**NATG_1**, **NATG_2**, **NATG_3**, **NATG_4**, **NATG_5** and **NATG_6**) and all are situated along the ~WNW-ESE orientated "Natone gravity ridge" and adjacent to interpreted structure. All these local anomalies could potentially indicate the presence of locally more dense rock types, which could potentially be of interest from an exploration point of view. These may warrant drill testing, particularly **NATG_3**, **NATG_4** and **NATG_5** if they are situated within prospective geological settings.
- The historic local EM and magnetic anomalies at Natone appear to be coincident with a zone of low gravity and appear to follow interpreted faulting.
- The Natone gravity ridge appears to be a regional gravity feature and may be a focus for local geological activity and presence of alteration, copper and iron oxides.

- The broad, Camena gravity anomaly (~0.75-1 mGal) is most likely related to the presence of a deep seated (>>250m), marginally more dense rock unit (~0.1-0.2 g/cc) and in the SSW end is coincident with a broad aeromagnetic anomaly, where again the source is deep seated, well beyond 250m depth. Overall this Camena gravity anomaly may be indicating that this corridor is a focus for local geological activity and presence of anomalous base metal occurrences, however the limited intensity of this gravity anomaly and potential source depth does not make this an attractive target for follow-up work currently.
- If additional tenements are acquired in the adjoining areas east and west then further gravity is recommended to build up the geological setting and potentially define new targets along the regional gravity corridors.
- If sulphidic targets could potentially be present in the Blythe Project then it would be recommended that a modern VTEM heliborne EM survey be completed across the region.

APPENDIX 1

FINAL DIGITAL DATASETS

All digital field data and final processed SGC data for the gravity surveying is provided below:

Final gravity field datasets in ASCII format and Geosoft database format
(to detach digital file, click right mouse on paper clip - save embedded file)

Final SGC processed gravity imagery, contours and station locations
(to detach digital file, click right mouse on paper clip - save embedded file)

Final summarised gravity interpretation in Mapinfo format
(to detach digital file, click right mouse on paper clip - save embedded file)

APPENDIX 2

DAISHSAT FINAL GRAVITY REPORT

Logistics and Summary

RED RIVER RESOURCES LTD

BLYTHE GRAVITY SURVEY

August – September 2006

Report Number 06023

MJ Jecks

CLIENT

Red River Resources Limited

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1. INTRODUCTION

A precision GPS-gravity survey was carried out from 31st August to the 16th September 2006 for Red River Resources. The survey was located over an area known as "Blythe", north of the town of Natone in North Western district of Tasmania. A total of 714 new stations were surveyed by vehicle and foot.

For the gravity survey, data were acquired using a Scintrex CG5 digital gravity meter. Position and level data were obtained using Leica System 1200 GPS units to produce precise post processed GPS locations. All data were acquired using Daishsat vehicle methods.

Gravity data was reduced using standard 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

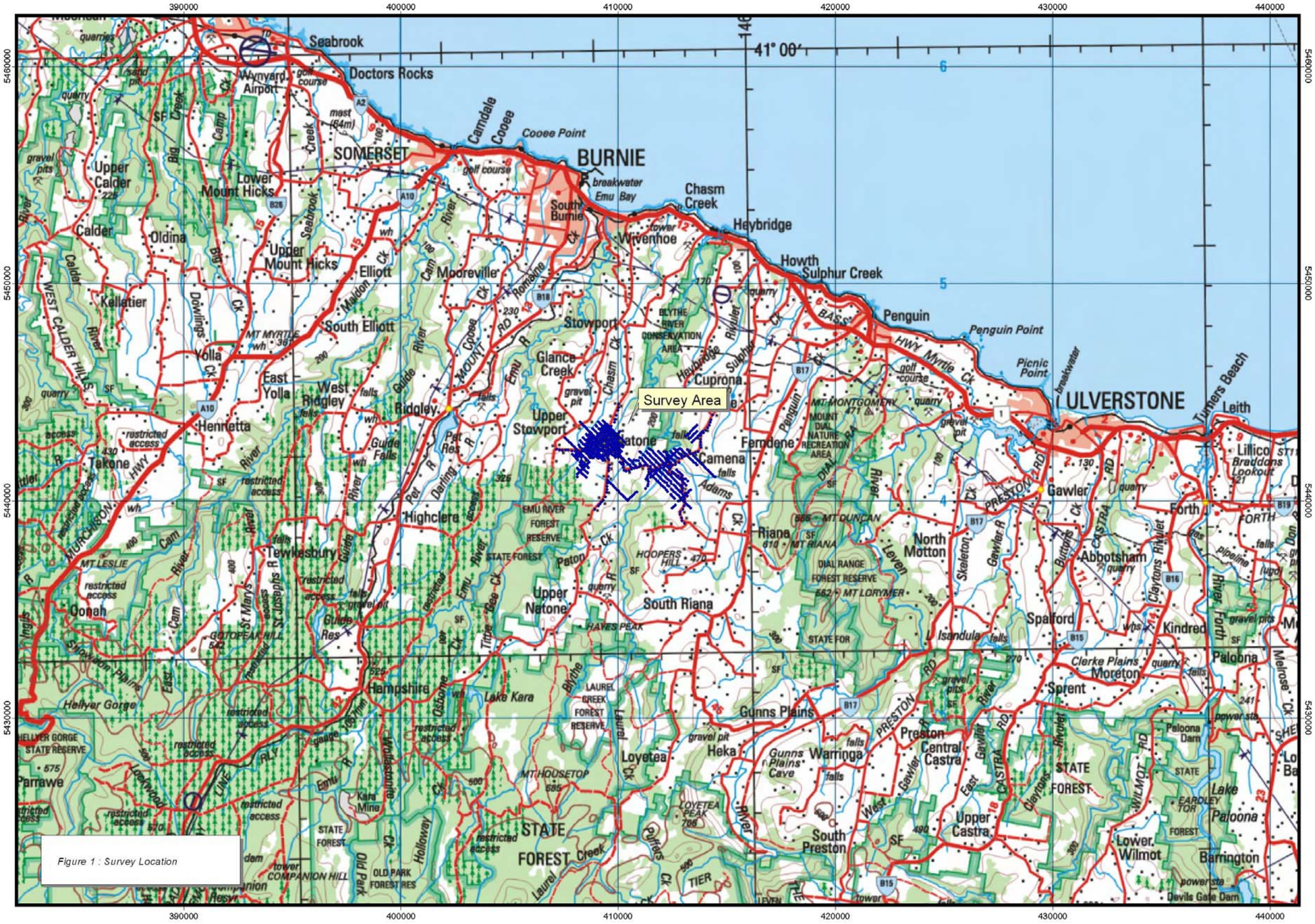
The area surveyed was centred on the town of Natone, Tasmania (see Figure1).

The survey consisted of two sections. The first section was completed by vehicle with gravity data collected along existing roads and tracks. The second section was completed on foot along traverses that were oriented NW-SE.

The walking gravity survey consisted initially of 100m spaced stations situated on 200m spaced lines. This was later infilled to produce 100m spaced stations situated on 100m spaced lines

The regional survey consisted of a coverage consisting of 100m station spacing along roads and tracks that ran through the area. Due to the nature of the winding roads through the area, this station spacing was varied in order for the crews to safely acquire the gravity data.

Specifications for each survey are contained in Appendix C, at the back of this report.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400000
410000
420000
430000
440000
5460000
5450000
5440000
5430000
41° 00′
Seabrook
Doctors Rocks
Wynyard Airport
SOMERSET
BURNIE
Cooee Point
Camdale
Cooee
Chasm Creek
Heybridge
Wivenhoe
Howth
Sulphur Creek
Penguin
Penguin Point
Picnic Point
ULVERSTONE
Leith
Turners Beach
Lillico
Upper Calder
Lower Mount Hicks
Upper Mount Hicks
Calder
Oldina
Kellatier
Elliott
South Elliott
Mooreville
South Burnie
Stowport
Glance
Cuprona
Ferndene
Camena
Upper Stowport
Natone
Ridgley
West Ridgley
East Yolla
Yolla
Henrietta
Takone
Highclere
Tewkesbury
Conah
Upper Natone
South Riana
Riana
North Motton
Gawler
Forth
Abbotsham
Spalford
Kindred
Paloona
Moreton
Sprent
Gunns Plains
Heka
Warringa
Preston
Central Castra
South Preston
Upper Castra
Lower Wilmot
Barrington
Lake Paloona
Hampshire
Lake Kara
Loyetea
Parrawe
Hellyer Gorge
STATE FOREST
EMU RIVER FOREST RESERVE
LAUREL CREEK FOREST RESERVE
BLYTHE RIVER CONSERVATION AREA
DIAL RANGE FOREST RESERVE
MOUNT DUAL NATURE RECREATION AREA
MT MONTGOMERY
MT DUNCAN
MT RIANA
MT LORYMER
MT HOUSETOP
LOYETEA PEAK
HOOPERS HILL
HAYES PEAK
GOTOPEAK HILL
MT LESLIE
COMPANION HILL
TIER
Devils Gate Dam
Paloona Dam
Figure 1 : Survey Location

3. PERSONNEL AND EQUIPMENT

3.1 Personnel

The supervisor in charge of the project was Mr. Frank Duffy. Frank 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:

Matt Ingall (Senior Observer)
Frank Duffy (Surveyor)
Kyle Jarvie (Operator)

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

3.2 Survey equipment

- One Scintrex CG-5 digital gravity meter SN 24921 (A)
- Two Leica System 1200 dual frequency GPS receivers (Rover and Base)
- Two PDL Pacific Crest Data Modem/Radios
- Garmin Handheld GPS receivers for navigation
- Two Compaq notebooks for data processing and backup
- Various chargers, solar cells and batteries

Photo 1: Leica Real-Time GPS Base

3.3 Vehicles

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

- One 20l jerry can of water
- Two spare tyres
- 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 Camp

The crew stayed at the Natone Fly Fishing Village for the duration of the survey.

3.5 Communications

The survey crews were equipped with a hand-held Globalstar satellite phone. Skeds were made to the Perth office at prescribed intervals.

4. GPS SURVEYING AND PROCESSING

4.1 Set out of the grid

This was done concurrently with the gravity data acquisition using Leica RTK GPS. 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 Leica system was operating in precise RTK mode, set out accuracy was better than 2cm. At the repeat stations, a washer tied to pink flagging, marked with the station number, was used for identification. At each station, the station number, position and RL were recorded digitally by the GPS crew.

The crew consisted of two operators. The first operator is required to carry the GPS unit and to navigate to the station location. Once at the required location the operator will record the position information digitally and then either mark the station or wait at the location for the second operator to arrive. The second operator is required to carry the gravity meter and take gravity measurements at each location. The second operator is effectively one step behind the first operator while surveying in normal terrain.

Photo 2: *A Typical Walking Crew Acquiring Gravity Data*

For the section of the survey completed by vehicle, the GPS unit was set up inside the vehicle with the GPS/Radio antennae mounted on the roof of the vehicle. Gravity readings were taken directly underneath the GPS antenna whilst the vehicle engine was

turned off and handbrake engaged. Readings were taken on level ground, usually just off to the side of the road.

Photo 3: *Gravity Data Acquisition utilizing vehicle*

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 three days worth of static data, and connections to ITRF stations using AUSLIG's online GPS processing system, AUSPOS. For more information on this system, please visit 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.

4.3 Processing of the position and level data

The real-time kinematic GPS data were recorded on 32Mb CF Cards which were downloaded onto computers daily. All data is processed in real time, so no further processing was required.

Simple transformations to MGA and AHD were done using the GPS derived WGS84 positions output from the RTK system. MGA coordinates were obtained by simply projecting the GPS-derived WGS84 coordinates using a UTM projection with zone 55S. 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 MGA please visit http://www.ga.gov.au/geodesy/datums/.

AHD heights were calculated within Leica Geo-Office and 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/index.jsp. To obtain AHD heights, the modeled N value is subtracted from the GPS derived WGS84 ellipsoidal height (Figure 2).

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

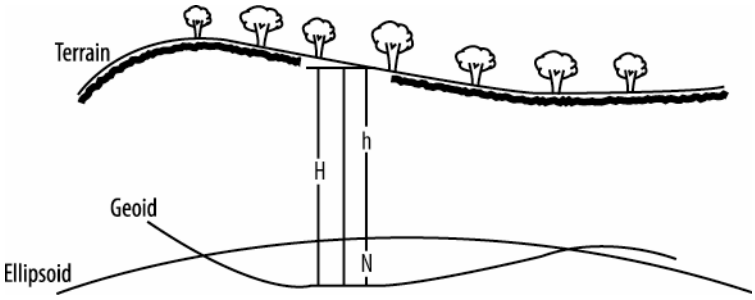


Figure 2: Geoid-Ellipsoid separation

4.4 GPS Performance

Performance from the Leica RTK system was excellent, with minimal downtime due to poor geometry and/or trees.

5. GRAVITY ACQUISITION AND PROCESSING

5.1 Gravity data acquisition

Gravity observations were made concurrently with the GPS measurements (Photo 4). 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. 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 CG5 also automatically records the station, time and readings digitally to allow for downloading to computer.

Photo 4 – Operator taking a gravity observation at Natone

5.2 Gravity base stations

A single gravity base station, 0003, was used for calculation of absolute gravity and drift determination. Details of the gravity base 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 to ensure accuracy. Two observations of 60

seconds were taken at each base reading. Observations were repeated until the readings repeated to 0.010 of a dial reading or less. The base station was tied to two AFGN gravity bases 1964911141 and 1985911141 located at Devonport. The tie consisted of an A-B-A loop incorporating both AFGN stations, and was carried out with three meters on a single day.

5.3 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 Gravity 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 standard AGSO formulae using Daishsat proprietary software. Other software used on this project includes Arcview, Geosoft, ChrisDBF, Waypoint and ERMAPPER. The formulae used are listed below:

Instrument scale factor: This correction was used to correct a gravity reading (in dial units) to a relative milliGal 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 formula is 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. Values of 2.67, 2.40 and 2.20 gm/cc(tm^{-3}) were used in the correction.

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

where ρ = density 2.67, 2.40 and 2.20 tm^{-3}

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

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

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

$$BG267, 240, 220 = G_{OBSG84} - Gn + FAC - BC$$

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. Derived scale factors from these calibrations are shown below:

CG5 24921A SF = 1.000000

5.5 Gravity meter drift calibration

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

6. RESULTS

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

6.1 Stations Surveyed and Survey Progress

In total, 714 new stations were acquired during the survey. A brief production summary for the survey area is shown in Table 1 below. Production varied depending mainly on weather conditions, however access to paddocks through fences also slowed the

progress of the crew. Typically the crew was able to obtain in excess of 50 stations per day when the fine weather prevailed.

Blythe 2006

Gravity stations acquired (including repeats)	747	stations
Gravity station repeats	33	4.6%
New gravity stations acquired	714	stations
Total accidents	0	accidents
Total hours lost from accidents	0	hours

Table 1 : *Gravity Production Summary*

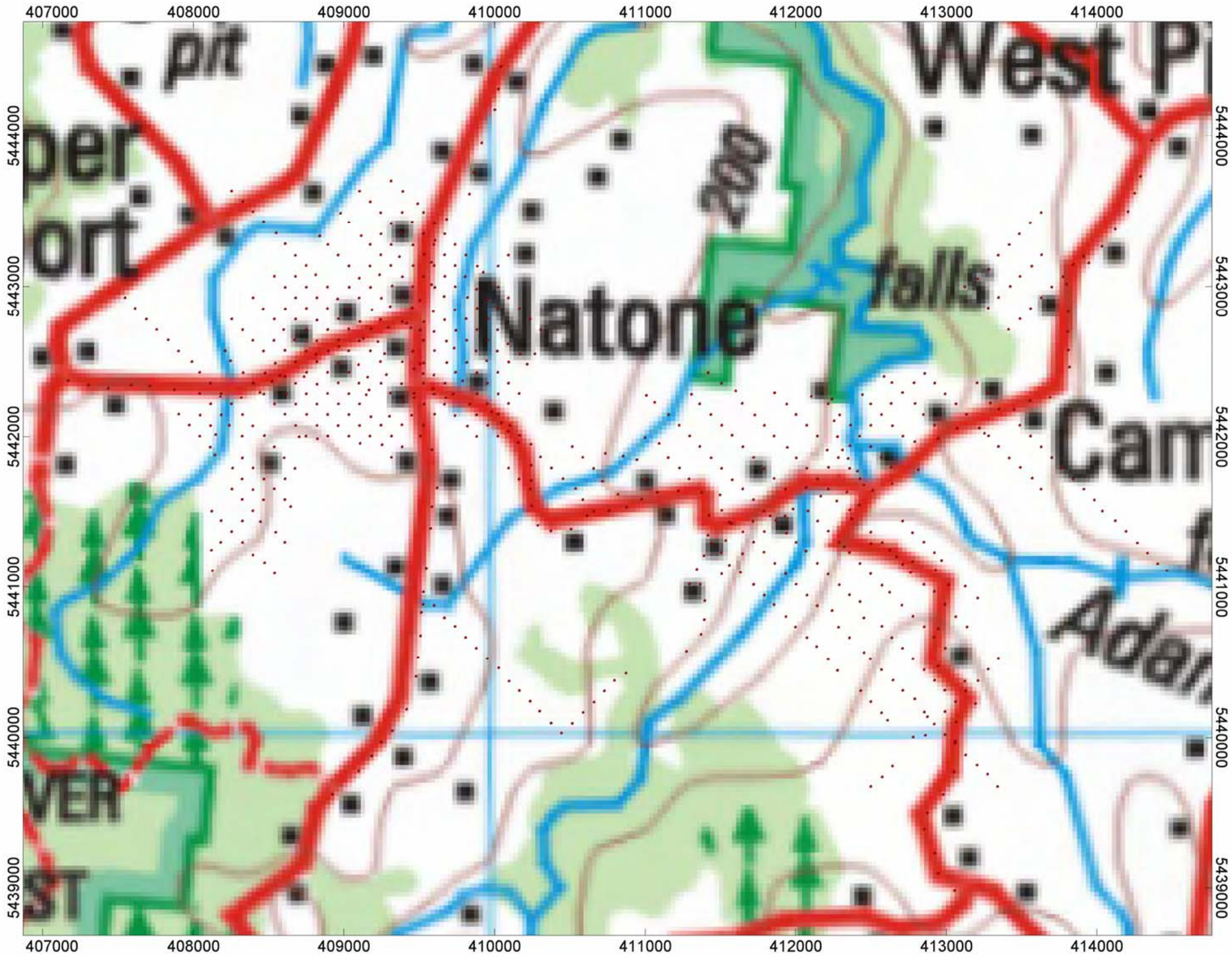
6.2 Data Repeatability

Analysis of the repeat data shows that measurement repeatability is excellent for both GPS and Gravity observations. An analysis for the survey is included in Appendix B. Based on the repeat data, one can assume the following typical accuracies for the observables:

Z position observation : < 0.030 m
Gravity observation : < 0.020 mGals

APPENDIX A

Plots of station location / Images



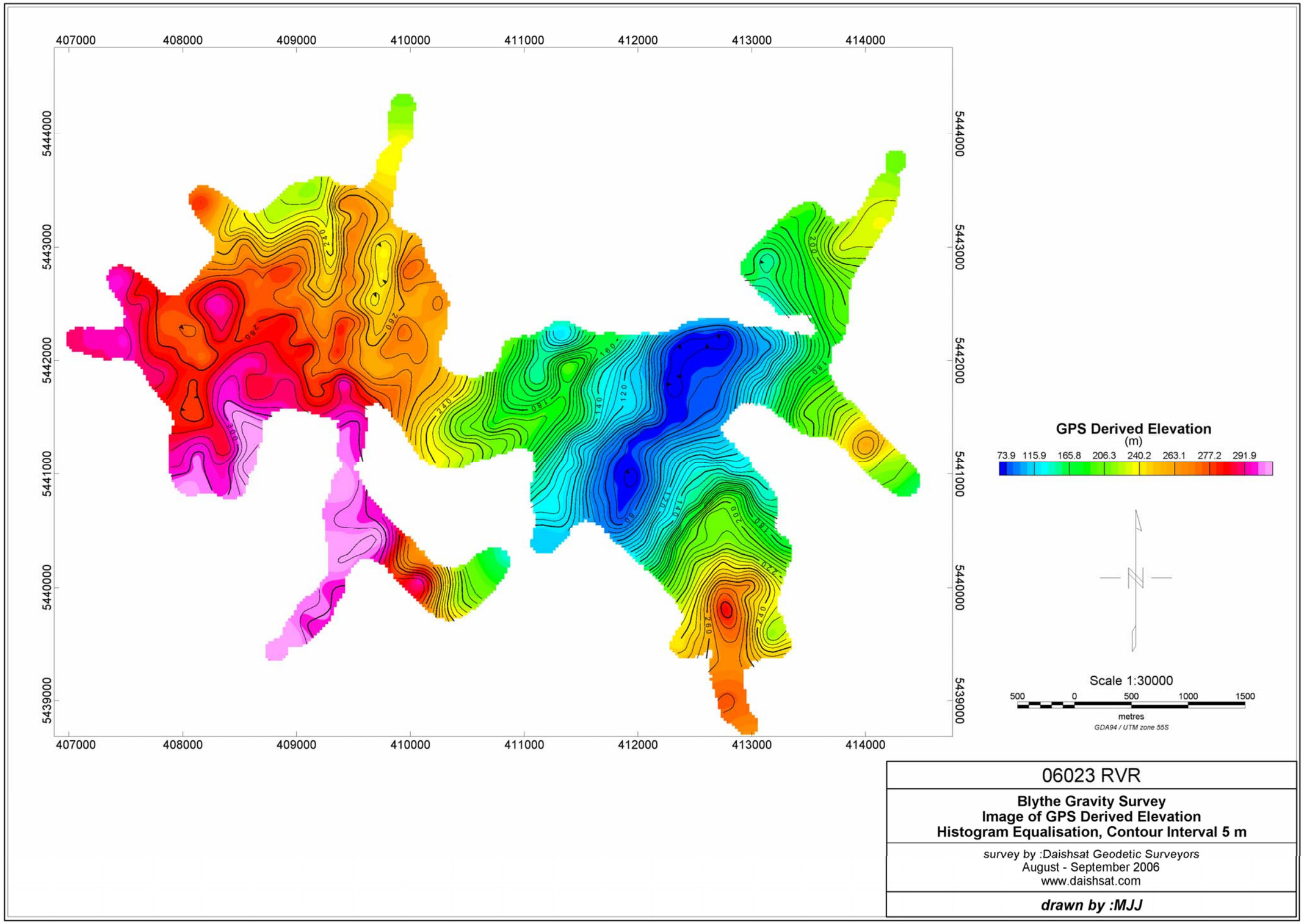
Scale 1:30000

500 0 500 1000 1500

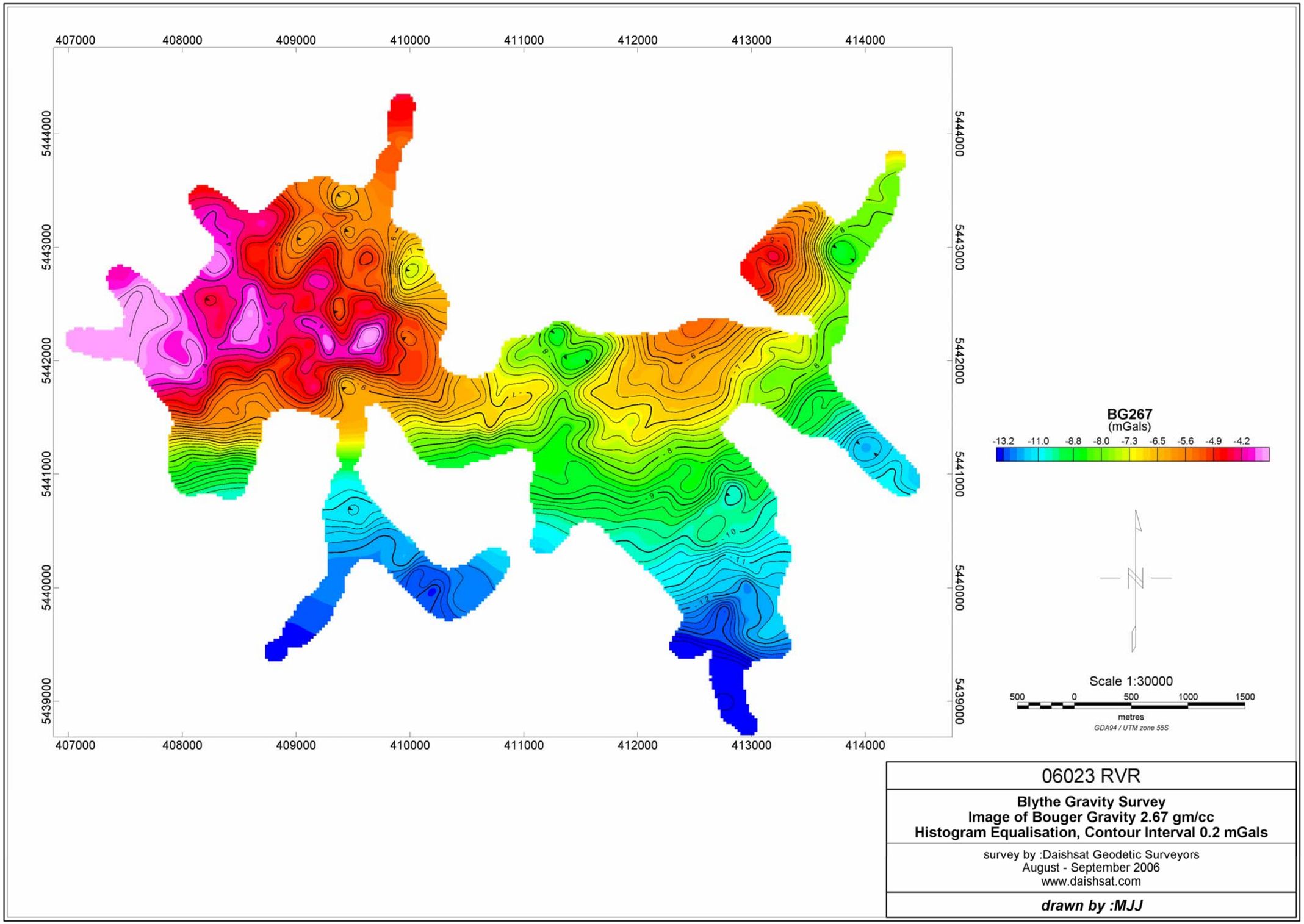
metres

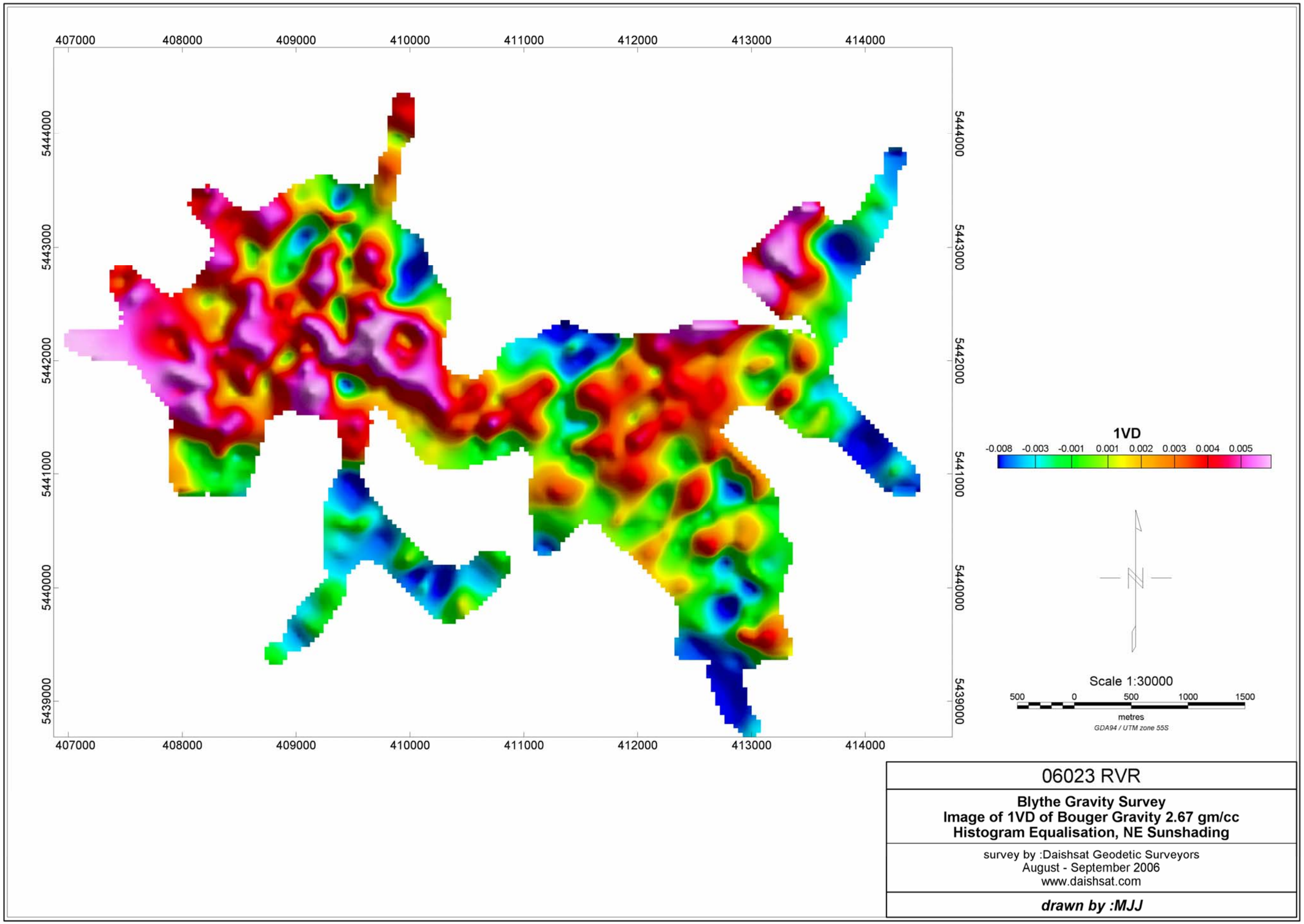
GDA94 / UTM zone 55S

06023 RVR
Blythe Gravity Survey **Plot of Station Locations**
survey by :Daishsat Geodetic Surveyors August - September 2006 www.daishsat.com
drawn by :MJJ



06023 RVR
Blythe Gravity Survey **Image of GPS Derived Elevation** **Histogram Equalisation, Contour Interval 5 m**
survey by :Daishsat Geodetic Surveyors August - September 2006 www.daishsat.com
drawn by :MJJ

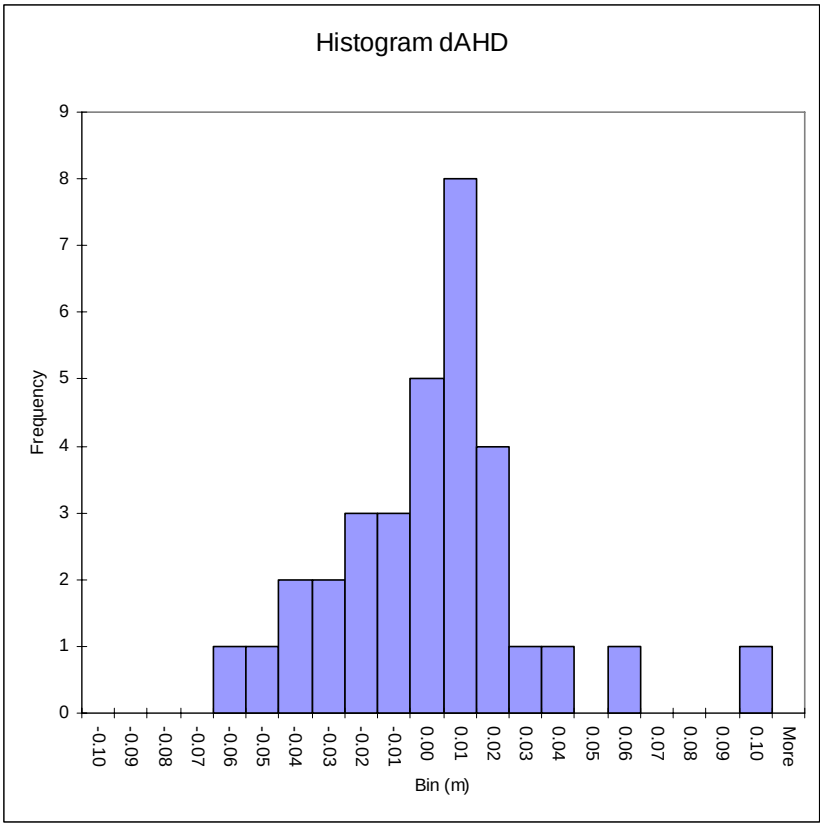

407000
408000
409000
410000
411000
412000
413000
414000
5444000
5443000
5442000
5441000
5440000
5439000
BG267
(mGals)
-13.2
-11.0
-8.8
-8.0
-7.3
-6.5
-5.6
-4.9
-4.2
Scale 1:30000
500
0
500
1000
1500
metres
GDA94 / UTM zone 55S
06023 RVR
Blythe Gravity Survey
Image of Bouger Gravity 2.67 gm/cc
Histogram Equalisation, Contour Interval 0.2 mGals
survey by :Daishsat Geodetic Surveyors
August - September 2006
www.daishsat.com
drawn by :MJJ


407000
408000
409000
410000
411000
412000
413000
414000
5444000
5443000
5442000
5441000
5440000
5439000
1VD
-0.008 -0.003 -0.001 0.001 0.002 0.003 0.004 0.005
Scale 1:30000
500 0 500 1000 1500
metres
GDA94 / UTM zone 55S
06023 RVR
Blythe Gravity Survey
Image of 1VD of Bouger Gravity 2.67 gm/cc
Histogram Equalisation, NE Sunshading
survey by :Daishsat Geodetic Surveyors
August - September 2006
www.daishsat.com
drawn by :MJJ

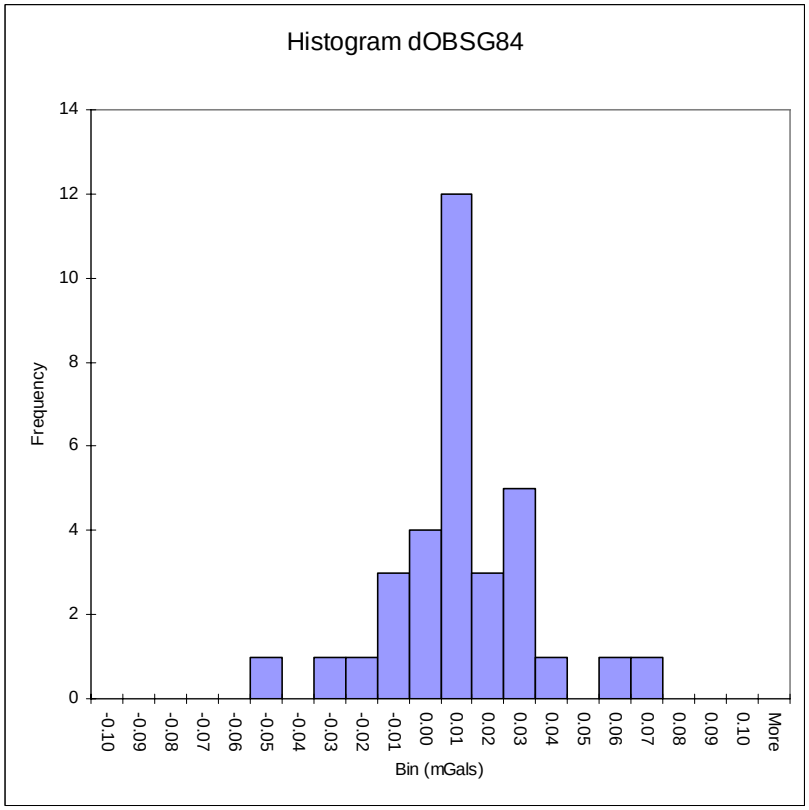
APPENDIX B

Repeat Tabulation and Analysis

Histogram dAHD



Histogram dOBSG84



Summary Statistics

	dAHD	*dOBSG*
Mean	-0.002	0.006
Standard Error	0.005	0.004
Median	0.000	0.006
Mode	0.018	0.007
Standard Deviation	0.031	0.022
Sample Variance	0.001	0.001
Kurtosis	2.610	1.364
Skewness	0.836	0.155
Range	0.164	0.115
Minimum	-0.064	-0.050
Maximum	0.100	0.065
Sum	-0.068	0.203
Count	33	33

APPENDIX C

Survey Specifications

06023 Blythe

Survey Name	Blythe
Operators	MI, FD, KJ
Techniques Employed	GPS, Gravity
Station Spacing	100m
Line Spacing	100m, 200m
Gravity Meter	Scintrex CG5
GPS	Leica 1200
Number of Points Surveyed	714
Gravity Base	0003

APPENDIX D

Base Station Information

Gravity Base 0003 – Natone Primary School

MGA94

EASTING	409593.614
NORTHING	5441791.253
ZONE	55
HEIGHT (AHD)	299.628

GDA94

LATITUDE	-41 10 12.649370 S
LONGITUDE	145 55 20.152542 E
HEIGHT	NA

OBSERVED GRAVITY

980207.737 mGals

SURVEYED BY

GPS- Daishsat, Position via single RTK shot from Daishsat GPS base 0004, expected accuracy better than 0.1m

Gravity - Base 0003 Tied to multiple AFGN bases, with an A-B-A loop using three meters.

MISCELLANEOUS DETAILS

The Base is located at front entrance of Natone Primary School, in front of commemorative plaque left of handrail.

Photo of Gravity Base 0003 with distinguishing features in background.

GPS Base 0004 – Natone Primary School

MGA94

EASTING	409505.020
NORTHING	5442003.966
ZONE	55
HEIGHT (AHD)	295.936

GDA94

LATITUDE	- 41 10 5.716997 S
LONGITUDE	145 55 16.464256 E
HEIGHT	294.790

OBSERVED GRAVITY

NA

SURVEYED BY

GPS- Daishsat, AUSPOS with multiple connections over two days. Expected accuracy better than 0.01m for x, y, z observations.

MISCELLANEOUS DETAILS

The GPS base was located within a paddock on a hill to the north of school. The GPS base was dismantled after the completion of the survey. No photo of this base is available

BIBLIOGRAPHIC INFORMATION

PROJECT NAME	Blythe Project
CLIENT	Red River Resources Limited
COUNTRY	Australia
PROVINCE / STATE	TAS
METHOD KEYWORDS	Gindalbie, Gladiator, TEM, GPX, Nickel, Kalgoorlie
COMMODITY	Iron,Copper,Gold
1:250,000 MAP SHEETS	Burnie, SK 55-03
1:100,000 MAP SHEETS	Hellyer, 8015