

Final Operations Report

on the

***Overseas Energy Holdings Limited
Gravity Survey***

SEL 05 - 2005

December 2010 and February 2011



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**Dynamic Satellite Surveys Pty Ltd has a Quality Management System,
externally certified to AS/NZS ISO 9001:2008 standards by
SAI Global Pty Ltd (Lic# QEC10046).**

This project was undertaken for Overseas Energy Holdings Limited.

The sole purpose of the job was to observe gravity surrounding three (3) well sites within the SEL 05-2005 tenement and traverse a line of gravity observations along Belle Vue Road, Barton Road, West Tamar Highway, Pipers Rivers Road, Lilydale Road, Meander Valley Highway and the Midland Highway. The use of the data for any other purpose is not authorised.

All data contained in this report and on the attached DVD is deemed to be final and overrides any previous data received from DSS, unless otherwise stated.

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1

INTRODUCTION

The following report describes the **SEL 05-2005 Gravity Survey**, completed between December 2010 and February 2011, performed by **Dynamic Satellite Surveys Pty Ltd** (DSS) whilst contracted to **Overseas Energy Holdings Limited** (OEHL).

Three observation grids were set-up around well locations Westwood, Weymouth Road and Bass Highway. The dimensions of each grid were a two-kilometre radius from the well location, splitting observations into a 250m by 250m grid.

In addition to the well grids surveyed, Dynamic Satellite Surveys were required to observe gravity readings every 450 metres between points of interest along Belle Vue Road, Barton Road, West Tamar Highway, Pipers Rivers Road, Lilydale Road, Meander Valley Highway and the Midland Highway.

The survey operations were completed between 6th of December 2010 and 11th of February 2011.



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INSTRUMENTATION AND PERSONNEL

2.1 Personnel and Logistics

DSS personnel involved in the survey were as follows.

- | | |
|-------------------------|---|
| Mark Green | <ul style="list-style-type: none">- Bachelor of Geomatics (RMIT)- Project Manager- 5 years Seismic experience |
| Leigh Franks | <ul style="list-style-type: none">- Bachelor of Science - Topographic Science (University of Glasgow)- Surveyor/Gravity Operator- 21 years Seismic experience |
| Yuri Marinovich | <ul style="list-style-type: none">- Bachelor of Surveying (University of Otago)- Surveyor/Gravity Operator |
| Stewart Thompson | <ul style="list-style-type: none">- Bachelor of Surveying (University of Otago)- Surveyor/Gravity Operator |
| Tom Searl | <ul style="list-style-type: none">- Student Surveyor (USQ)- Surveyor/Gravity Operator |

Personnel and equipment logistics were supported by the DSS Yeppoon office. Survey operations were based from Launceston and Devonport, Tasmania.

2.2 Equipment

Equipment provided by DSS and used on this project:

	Description	Qty
Vehicles	Isuzu D-max Ute (DSS Vehicle - 556 RAC)	1
	Nissan X-Trail (Hire)	2
Communications	Apple iPhone	2
GPS receivers	NovAtel GPS receivers with VHF telemetry	3
Gravity Meter	LaCoste / Romberg Gravity Meter	2
Computers	Toshiba Laptop - Windows 7	2
	Viliv Field - Windows XP	2
Software	NAV05 field software - DSS	Ver 4.60
	NavMini - DSS	Ver 2.30
	MapInfo Professional	Ver 8.5
	GrafNet	Ver 8.20
	GravMaster	Ver 1.43
Printer	Canon iX4000	1
Miscellaneous	Digital Camera	1
	GPS batteries and Chargers	3
	Field and Office Consumables	1



3

SURVEY REFERENCE SYSTEMS

3.1 Geodetic Datum

This project was based on the Geocentric Datum of Australia 1994 (GDA94), which is based on the Geodetic Reference System 1980 (GRS80) model defined by the following parameters:

<i>Datum:</i>	GDA94 (Geocentric Datum of Australia 1994)
<i>Spheroid:</i>	GRS80
<i>Reference Frame:</i>	ITRF92 (International Terrestrial Reference Frame)
<i>Semi-Major Axis Length:</i>	6 378 137.0
<i>Inverse Flattening:</i>	298.257222101
<i>The Unit of Measure:</i>	International Metre

3.2 Map Projection

Final rectangular coordinates were based on the Map Grid of Australia 1994 (MGA94). Parameters for this projection are as follows:

<i>Projections:</i>	Universal Transverse Mercator (MGA Zone 55)
<i>Latitude of Origin:</i>	0°
<i>Central Meridian (CM):</i>	147° E
<i>Scale Factor at CM:</i>	0.9996
<i>False Easting:</i>	500 000
<i>False Northing:</i>	10 000 000
<i>The Unit of Measure:</i>	International Metre

3.3 Height Datum

All elevations obtained relative to GDA94 have been reduced to the Australian Height Datum (AHD) using the AUSGeoid98 Geoid - Spheroid separation model to determine the geoid-ellipsoid separation (N) for the particular area.

GPS observations are made on the GDA94 datum. The height associated with this datum is an ellipsoidal height (h). The Australian Height Datum (AHD), the height datum associated with MGA94, is an orthometric height, which is measured as the height above mean sea level, or the geoid (H).

The function that defines the relationship between the ellipsoid and orthometric heights is:

$$H = h - N$$

Or

$$\text{AHD} = \text{GDA94} - (\text{Geoid / Ellipsoid Separation})$$

The value for the geoid/spheroid separation is interpolated from a national model called AUSGeoid98.

AUSGeoid98 is the third in a series of national geoid models produced for Australia by the Australian Surveying and Land Information Group (AUSLIG). The geoid-ellipsoid data is prepared for the Australian region from:

- EGM96 Global Geopotential Model;
- 1996 Australian Gravity DataBase, from the Australian Geological Survey Organisation (AGSO);
- AUSLIG / AGSO GEODATA nine-second digital elevation model;
- Satellite altimeter - derived free air gravity anomalies offshore;
- Theories, techniques and software developed by Associate Professor Will Featherstone, Curtin University of Technology¹.

AUSGeoid98 N values were interpolated using the GrafNet Version 8.20 software, distributed by Waypoint Consulting Inc.

¹ Johnston, G.M., Featherstone, W.E. (1998) AUSGeoid98: A New Gravimetric Model for Australia



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CONTROL

4.1 Survey Control

Survey control was established by adopting state survey marks as follows:

Grid / Highway Line	Station	Easting	Northing	AHD
Westwood	SPM8249	503304.778	5402287.987	153.689
Weymouth Road	SPM9763	505892.063	5449781.332	94.604
Bass Highway	SPM9763	505892.063	5449781.332	94.604
Highway Line 1 and 6	SPM11162	528896.368	5377208.424	197.414
Highway Line 2	SPM10032	504846.603	5404004.554	142.933
Highway Line 3	SPM9763	505892.063	5449781.332	94.604
	SPM10642	511777.270	5420344.300	103.636
Highway Line 4	SPM9835	502930.644	5421395.815	23.798
	SPM9844	488686.944	5435105.166	61.848
Highway Line 5	SPM9226	524091.943	5383640.000	183.190

All station information is listed in **Appendix A - Survey and Gravity Control**.

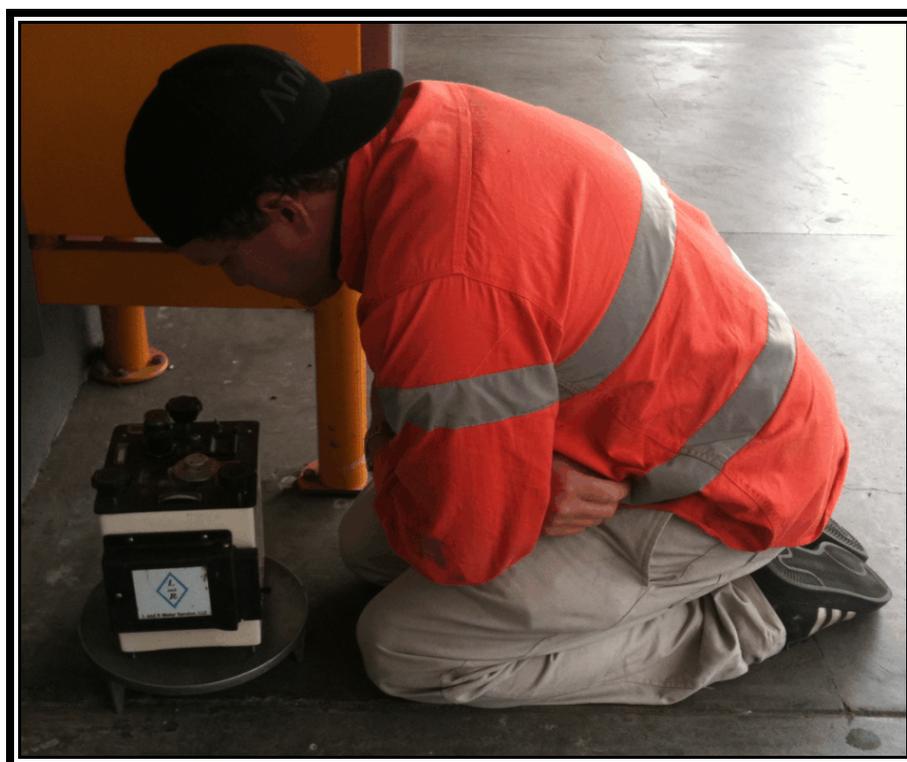
4.2 Gravity Control

Known **AFGN** gravity base stations with **AAGD07** values were used as the basis for control. Their base values were adopted as Datum origins for each prospect.

Gravity Control Stations used were:

Grid / Highway Lines	Station Description	Gravity Station
Westwood, Weymouth Road and all Highway Lines	Airport Terminal, Launceston	1968500271
Bass Highway	Airport Terminal, Devonport	1985911141

The total number of gravity points gathered throughout the entire gravity program resulted in **506** readings, with **68** check readings within the well sites and an additional **331** points and **31** checks along the highway lines. Additional base stations were installed at the Penny Royal Inn in Launceston and at the Devonport Oval in Devonport. See descriptions of the bases in **Appendix E - Gravity Control Diagrams**.



Mark observing gravity at Launceston Airport for establishing control



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MONUMENTATION

Monumentation on the OEHL job was minimal. In cases where gravity stations needed to be revisited, such as check shots, these were marked using spray paint at the location of the observation.

Where gravity base stations were installed, a Tag was stamped with DSS job number, client, contractor, type and identity code and glued to the pavement.



Base ID tag at Devonport Oval



6

METHOD OF SURVEY

6.1 Landholder Liaison

As there had only been contact between OEHL and the property owners of the well sites, it was necessary for Mark Green to conduct additional landholder liaison. For all three wells the initial approach was to make contact with the landholders on the proposed well sites. Information about surrounding neighbours and the best method to contact them was determined from these initial discussions.

A memorandum was formulated and a letter-drop for all affected properties explained the purpose of the gravity survey. Once landholders had been given a day to read through this information, Mark visited each one to find out whether entry approval was granted. There were only a few instances where access was not granted but, in these cases, it was possible to offset the required gravity points into neighbouring properties.

There were cases on Westwood and Weymouth Roads where state officials needed to be made aware of DSS' operations as the grids surveyed passed over State Forest and Crown Land.

Shane Bartel was useful in providing initial information of landholders on the proposed well sites and for providing a cadastral map of the areas. Shane also undertook organising land access along all highways and organising the work program on the behalf of OEHL.

6.2 GPS Surveying

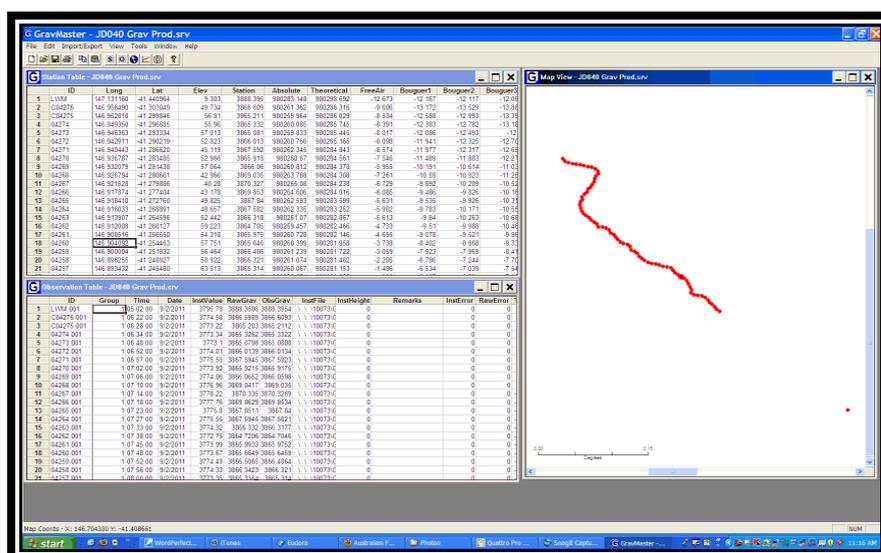
There are three modes of use in GPS surveying; static, kinematic and real-time kinematic. The survey was completed using DSS' OEMV-3 real-time kinematic (RTK) surveying technique. This method enabled both position and elevation coordinates to be acquired in real-time and on the appropriate datum.

NovAtel real-time kinematic methods can achieve accuracies of better than +/-0.05m in position and elevation, depending on base line length. The expected precision for locating pegged positions is better than 0.3 metres and is generally better than 0.2 metres.

Initialisation of the OEMV-3 rover GPS usually takes as little as one minute, although this is greatly dependant on satellite geometry, availability and base line length.

6.3 Gravity Surveying

Gravity surveying consisted of using a LaCoste and Romberg Model G gravity meter to observe gravity on a 250 by 250-metre grid within a two-kilometre radius for wells at Westwood, Weymouth Road and Bass Highway. Ten percent (10%) of field observations were checked every day and terrain corrections noted. All processing of gravity data was completed using GravMaster software.



GravMaster Software- you can see all tables related to observations, stations and a map of work completed on the day.

Establishing a base station is the first order of business on a gravity survey. As there were no easily accessible base stations within Launceston city itself, the survey crew observed control from the Launceston Airport. Control loops work as follows: if the known gravity station is known as 'A' and your new base station as 'B', the reading sequence is 'A, B, A, B, A'. It is ideal to keep drive-times down to an hour between stations to ensure that there are only small drift corrections. Completing the second loop is done as a check to ensure the quality of the observations.

To begin a gravity observation session, the observer takes an initial reading at the base station and then uses this same station to close to at the end of the day. Each base station has a known absolute gravity value which is used when processing the new data. Observers aim to record all points on the design set-out given but in some cases have to move points due to conditions of entry given by landholders. In many cases, land holders had Poppy fields growing on their land and under no circumstances were the observers to enter these areas.

It is best practice that 10% of gravity observations are checked. Both observations from previous days (external) and from the current day (internal) are observed as part of each gravity observation loop.

Terrain corrections for the job were broken up into five zones: A (0m-1m), B (1m-15m), C (15m-50m), D (50m-100m), and E (100m-200m). If there was a significant change in elevation from the station being observed, the first option would be to move the station up to twenty-five metres from the design point, to avoid the terrain change. If this was not an option, it would be up to the observer to make an assessment of the change in elevation and note this in the field notes. Terrain corrections beyond 200 metres were computed using a 30-second DEM file, within the GravMaster software.



Tom and Stu taking an observations on the Westwood Grid.

6.4 Survey Processing and Quality Control

All survey data was immediately recorded internally on the Viliv Computer and subsequently downloaded to the office computer each evening.

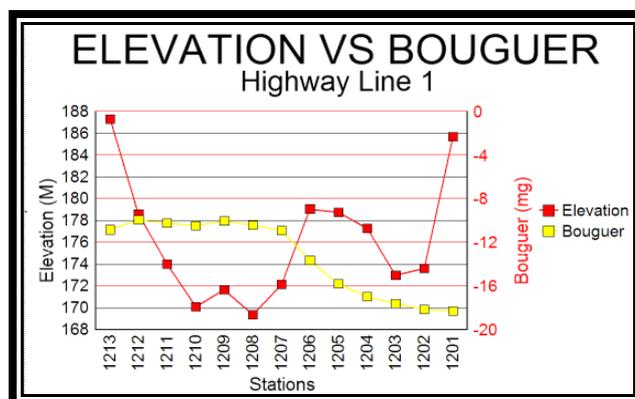
Quality of the satellite data was monitored by careful examination of the various on-screen quality control statistics produced by the NAV05 software. These checks on data integrity are in the form of standard deviation (or sigma) values for Easting, Northing and Height, and are generally better than 0.05 metres.

Any recording of positions where the standard deviation values exceeded 0.1 metres was highlighted to the surveyor at the time of recording. Following this, it was possible to re-initialise the GPS in order to obtain a more accurate solution. Any recorded position falling outside the required tolerances were flagged for further investigation and re-recording if necessary.

Numerous checks on pre-recorded marks were observed during each days survey in order to confirm the integrity of the GPS base receiver and the placed markers.

6.5 Gravity Processing and Quality Control

All observations, whether control or line observations, were processed using the GravMaster software. The software is capable of computing drift and tidal corrections, which are then applied to station observations. Station observations were processed using observation information and GPS data recorded on the station to compute free air and terrain correction to give values for absolute gravity and Bouguer values. In addition to this software, a spreadsheet was created to ensure specifications were met to Geoscience Australia's best practice standards. The spreadsheet was also used to create graphs as each station interval for Corrected Bouguer Anomalies vs Elevation to ensure there are no incorrect values being entered as gravity inputs.



Highway line 1 Elevation Vs Bouguer Graph

In the final spreadsheet the following data are shown under separate tabs:

Raw Data

All data compiled from Gravmaster related to all lines

Gravity Checks

All checks completed for the entire project with relevant differences computed

Sorted Data (area)

Gravmaster data for each area

Final Data (area)

Geoscience Australia Format Corrected Data for each area

Geoscience Australia Corrections applied to the Gravity Data were:

- Tidal corrections : Computed in GravMaster Software
- Instrument corrections : Drift correction applied in GravMaster Software
- Terrain correction : Estimated in field and computed in GravMaster GTOPO30
- Latitude corrections : Computed using GravMaster Software and DSS Software
- Bouguer corrections : Computed using GravMaster Software and DSS Software
- Free air corrections : Computed using GravMaster Software and DSS Software

To reduce the data, the following formulas were used:

$$NormalGravity(Gn) \mu ms^{-2} = 9780326.7715 * \frac{(1 + 0.001931851353 * \sin^2(\theta))}{\sqrt{1 - 0.006694380229 * \sin^2(\theta)}}$$

$$FreeAirCorrection(FAC) = -(3.08768 - 0.004398) * \sin^2 \phi * h + 7.2125 * 10^{-7} * h^2$$

$$BouguerCorrection = (0.4191 * h * 2.67)$$

Where **h** is the ellipsoidal height on each station.

Thematic maps were compiled to illustrate the grids and are shown in **Appendix C - Thematic Maps**.



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DATA PRESENTATION

All files were checked and finalised before the survey crew demobilised from the prospect.

All final survey data was in UTM grid coordinate format on the MGA94 projection on the GRS80 reference spheroid. All elevations were on the Australian Height Datum (AHD71).

Final data produced were:

- | | |
|--------------------------------|---|
| Gravity Data | <ul style="list-style-type: none">- raw Gravity data for each area- final ASCII data for each area- base station diagrams- check observations for each area- thematic elevation vs Corrected Bouguer maps |
| Photographs | <ul style="list-style-type: none">- photographs of gravity stations |
| Survey and Gravity Data | <ul style="list-style-type: none">- csv files of all point data (StnID, East, North, Elev) and reduced gravity observations |

All files are backed up on digital disks in the Yeppoon office for future reference. No hard copy data was provided.



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SAFETY

DSS personnel are aware of safety conditions concerning all exploration seismic surveys. The DSS “**Quality Policy Statement**” and “**Health, Safety and Environment Policy**” were adhered to at all times.

Each vehicle was fitted with an iPhone on Telstra Next G, UHF radio, shovel, first-aid kit, dry powder and water fire extinguishers, vehicle recovery equipment, rotating beacon and weekly vehicle maintenance check lists.

Staying in contact with one another whilst on the line, as well as completing journey management, ensured for a trouble-free survey.

DSS personnel spoke with Tim Franklin prior to commencing work on the Westwood Grid to ensure that there were no outstanding safety issues or other work-related issues that needed to be addressed.

The survey crew made sure that regular breaks were taken whilst working in the extreme heat. When there was excessive rain, the survey crew stopped work to ensure the gravity meter would not be damaged in anyway.

Extreme caution was taken when surveying on the country roads. Whilst working on highway lines, the survey crew ensured that no work was undertaken within six metres of traffic, that flashing beacons and hazard lights were turned on, and that all workers were wearing hi-visibility clothing. The driver of the vehicle acted as a spotter for traffic.



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OPERATIONAL ASPECTS

On the 6th of December 2010 Mark Green and Stewart Thompson arrived in Launceston to collect vehicles and speak briefly with Tim Franklin. Tim gave the survey crew a list of phone numbers for the landholders around the purposed well sites at Westwood, Weymouth Road and Bass Highway. Tim gave a quick overview of work that had happened previously with drilling but time was cut short as Tim had to leave the country the next day.

The survey crew met with Tom Searl the following morning who had arrived with the DSS vehicle from the mainland via the Spirit of Tasmania vessel. On Tom's arrival, the survey crew set-up gear for both the office and the field survey.

The crew then set out to establish control close to the accommodation which involved two gravity loops from Launceston Airport and back again. From here, the crew headed to the Westwood Grid as Tim Franklin had identified that only a few landholders were in this area.

Mark spent the initial days ensuring that survey and gravity crews were working safely, ensuring that they were getting appropriate checks, that proper care of the gravity meter was taken, and that they were working as efficiently as possible. Mark then used his time to liaise with the remaining landholders to obtain entry approvals. In most cases, landholders welcomed the surveyors entering their properties as DSS used a low impact survey technique of backpacking between observations.

Once the surveyors returned from the field they would close their gravity loop to control stations (always within twelve hours). The crew would then ensure all gear had been put back on charge and the vehicles were ready for the next day's work (filled petrol, water, tape, paint, etc.).

After the crew downloaded data from the Viliiv computer the data was processed to ensure that all observations were accurate. This would involve checking Tide and Drift corrections, then comparing the check shot's Bouguer Values and Absolute Values of Gravity. Terrain corrections would then be compensated before converting data into a readable spreadsheet displaying raw data, sorted data, check table and a final data spreadsheet (Geoscience Australia standard).

Data was retrieved from the MRT (Mineral Resources Tasmania) website to illustrate data, which had already been observed within the SEL 05-2005 lease boundary. Topographic maps illustrating changes in Bouguer values of 2.67 were given to the client to help them make decisions on which lines would be better to survey.

Topographic maps were also created from data obtained by DSS on each grid showing the variation between elevation and corrected Bouguer values. On highway lines, the same variation was shown using a graph as lines are in two dimensional format and not the three-dimensional grid format.

Once all final field operations had been processed and checked, the crew packed up all gear and headed back to the mainland on the 11th of February.



10

CONCLUSIONS AND RECOMMENDATIONS

DSS had over-estimated how much work was going to be completed within the time frame given. On arrival at the sites, it soon became apparent that we would only be able to achieve a maximum total of 20 - 30 observations per day. This was due to the terrain, i.e. crossing numerous fences between points meant that surveyors would have to backpack all observations.

The Westwood grid had numerous hills, heavily timbered areas filled with prickly weeds, and a flooded river to work around. The Weymouth Road site had a combination of open paddocks and state forests. The vineyards proved to be slow going as the surveyors had to make sure that they were walking up the right row to the point as there was no cutting between lines. The Bass Highway line was predominantly in open paddocks but again, had sections that went through townships. In these cases, the surveyors offset points to nearby roads.

Work was interrupted on two occasions for reasons outside of Dynamic Satellite Surveys' control. In the first instance, Overseas Energy Holdings Limited failed to obtain a work program with respect to the gravity survey. It was not until a landholder made an enquiry to Mineral Resources Tasmania that this was realised, thus the crew were put on standby for a number of days. The second instance arose when commencing work on the highway lines as local government were taking considerable time to grant access for the gravity survey. Again, the survey crew went on standby. Un-seasonal rain also resulted in numerous days where no survey was able to take place.

When working on the highway lines, the desired spacing was 450 meters but this was not always possible. Two major reasons for this included terrain corrections; when pulling up on the side of the road there would be escarpments that would alter the gravity observations, and there were sections with blind corners where the surveyors deemed it too unsafe to work. In both cases, the surveyors moved stations no more than 100m from the original desired location.

DSS used the resources available to complete the land liaison task quickly and effectively ensuring that locals were kept "in the loop" with the operations. Where special requests were made, the surveyors adhered to them the best they could. These requests included working around poppy fields on both Westwood and Bass Highway sites. The surveyors offset points to the nearest location to the design without entering the field. Mark made phone calls to landowners, when they were required, prior to entry.

The surveyors were, however, able to pick up survey production considerably once working on highway lines. Overall, Dynamic Satellite Surveys completed 506 well observations for an average of 20.32 observations per day, and 331 highway observations for an average of 64.90 observations per day.

It would be recommended in the future to have land access, work programs, and local and state government bodies aware of operations prior to sending out crews to ensure an efficient survey is undertaken, minimising the number of standby days.

Signed,

Dynamic Satellite Surveys Pty Ltd

Mark Green

Senior Surveyor

Checked and edited by,

Dynamic Satellite Surveys Pty Ltd

Denis Williams

Survey Manager



11

APPENDICES

Survey and Gravity Control

**Coordinates are Map Grid of Australia (MGA94) Zone 55
Elevations are AHD71 using AUSGeoid98 N Value Model**

Grid Control

Grid / Highway Line	Station	Easting	Northing	AHD
Westwood	SPM8249	503304.778	5402287.987	153.689
Weymouth Road	SPM9763	505892.063	5449781.332	94.604
Bass Highway	SPM9763	505892.063	5449781.332	94.604
Highway Line 1 and 6	SPM11162	528896.368	5377208.424	197.414
Highway Line 2	SPM10032	504846.603	5404004.554	142.933
Highway Line 3	SPM9763	505892.063	5449781.332	94.604
	SPM10642	511777.270	5420344.300	103.636
Highway Line 4	SPM9835	502930.644	5421395.815	23.798
	SPM9844	488686.944	5435105.166	61.848
Highway Line 5	SPM9226	524091.943	5383640.000	183.190

GPS Checks

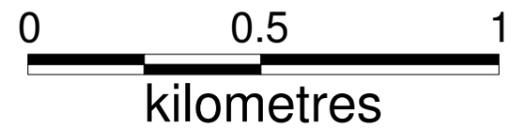
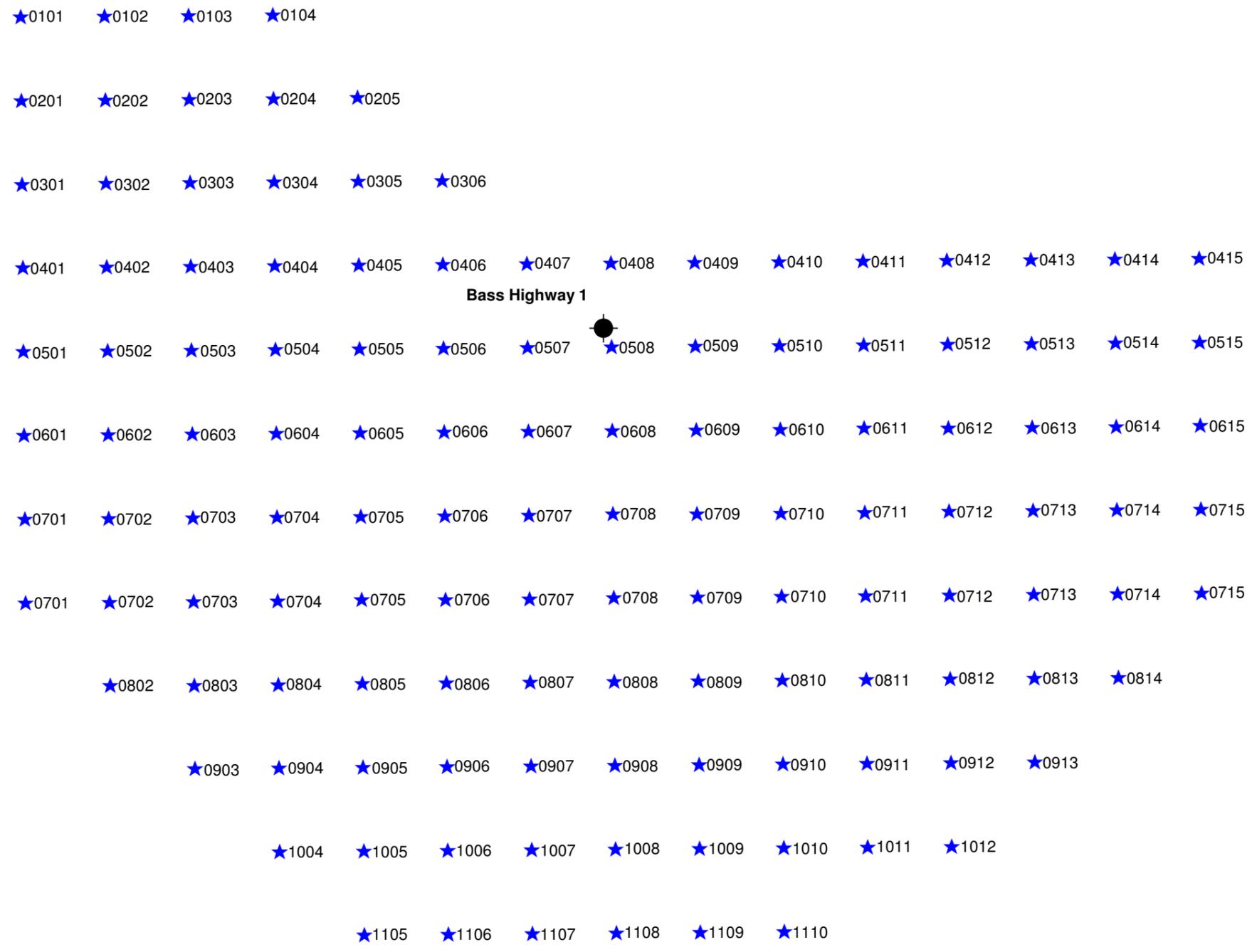
Name	Easting	Northing	Height	Comments
SPM8240	502459.105	5402933.853	142.368	GIVEN
	502459.058	5402933.955	142.312	RTK Survey
	-0.047	0.102	-0.056	Difference
SPM9766	506337.373	5450179.230	81.695	GIVEN
	506337.319	5450179.233	81.644	RTK Survey
	-0.054	0.003	-0.051	Difference
SPM10485	437521.985	5442885.119	12.082	GIVEN
	437521.782	5442885.169	12.027	RTK Survey
	-0.203	0.050	-0.055	Difference
SPM11163	529212.535	5376817.666	198.145	GIVEN
	529215.405	5376819.244	197.855	RTK Survey

Name	Easting	Northing	Height	Comments
	2.870	1.578	-0.290	Difference
SPM6267	530942.100	5374747.742	189.508	GIVEN
	530942.868	5374748.486	189.348	RTK Survey
	0.768	0.744	-0.160	Difference
SPM762	533700.699	5371707.503	207.287	GIVEN
	533700.497	5371706.668	207.428	RTK Survey
	-0.202	-0.835	0.141	Difference
SPM10031	505529.290	5404441.058	151.672	GIVEN
	505529.423	5404441.311	151.653	RTK Survey
	0.133	0.253	-0.019	Difference
SPM10028	505908.114	5405421.128	144.420	GIVEN
	505908.106	5405421.092	144.324	RTK Survey
	-0.008	-0.036	-0.096	Difference
SPM9766	506337.373	5450179.230	81.695	GIVEN
	506337.201	5450179.971	81.503	RTK Survey
	-0.172	0.741	-0.192	Difference
SPM10028	511702.942	5420160.277	105.849	GIVEN
	511702.814	5420160.350	105.842	RTK Survey
	-0.128	0.073	-0.007	Difference
SPM11021	505551.897	5418429.264	7.100	GIVEN
	505551.857	5418429.391	6.966	RTK Survey
	-0.040	0.127	-0.134	Difference

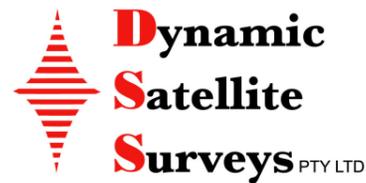
Gravity Bases Used

Station	Number	Adopted Value	Units	Datum
Launceston Airport	1968500271	980261.852	mGals	AAGD07
Devonport Airport	1985911141	980270.842	mGals	AAGD07

Project Maps



Legend	
	Well Site
	Gravity Observations

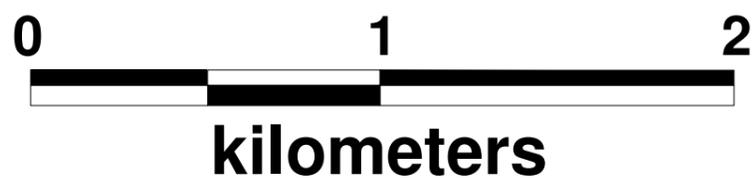


The purpose of this map is to represent the surveyed digital data in a pictorial manner only. The accuracy of the underlying topographic image in no way relates to the accuracy of the surveyed digital data. Features on the topographic map have not necessarily been surveyed by DSS. Any use of this map for reasons other than the purpose for which it was created is not authorised.

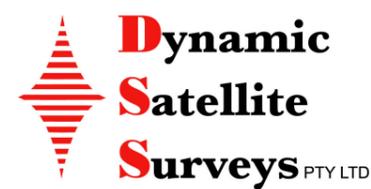
Dynamic Satellite Surveys : Phone 1800 060 407

Overseas Energy Holdings Limited	
Gravity Survey - Bass Highway #1	

Scale	1:15,000 (A3)
Drawn	D Williams
File	Bass Highway #1
Job #:	10073
Date	02-03-2011



Legend	
	Well Site
	Gravity Observations
	Survey Control



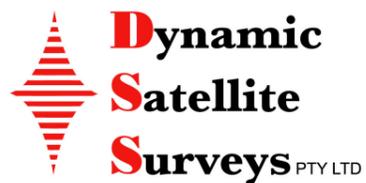
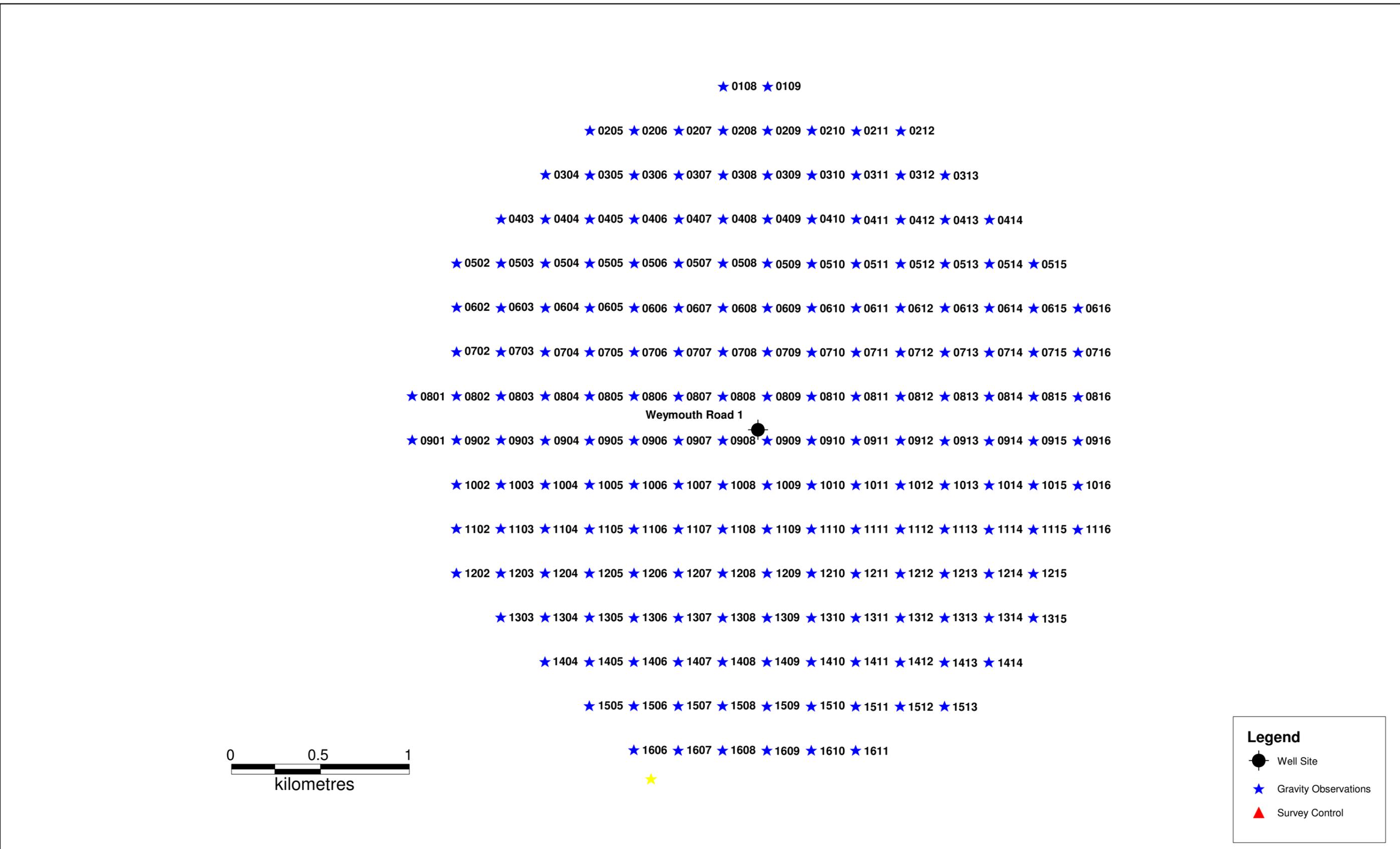
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Dynamic Satellite Surveys : Phone 1800 060 407

Overseas Energy Holdings Limited

Gravity Survey - Westwood #1

Scale	1:20,000 (A3)
Drawn	D Williams
File	Westwood #1
Job #:	10073
Date	02-03-2011



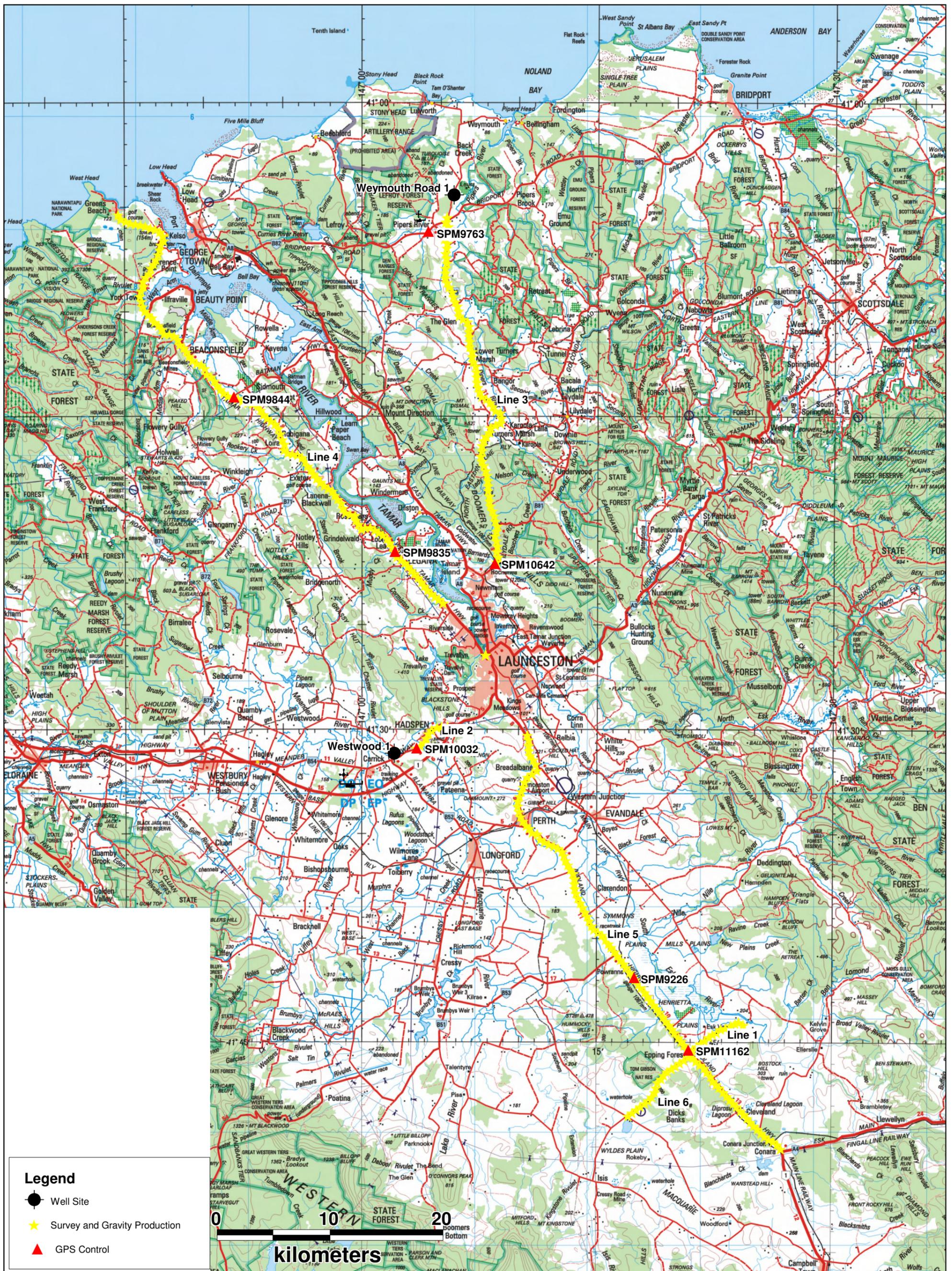
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Dynamic Satellite Surveys : Phone 1800 060 407

Overseas Energy Holdings Limited

Gravity Survey - Weymouth Road #1

Scale	1:20,000 (A3)
Drawn	D Williams
File	Weymouth Road #1
Job #:	10073
Date	02-03-2011



Legend

-  Well Site
-  Survey and Gravity Production
-  GPS Control



The purpose of this map is to represent the surveyed digital data in a pictorial manner only. The accuracy of the underlying topographic image in no way relates to the accuracy of the surveyed digital data. Features on the topographic map have not necessarily been surveyed by DSS. Any use of this map for reasons other than the purpose for which it was created is not authorised.

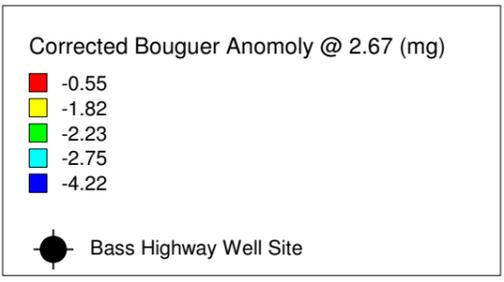
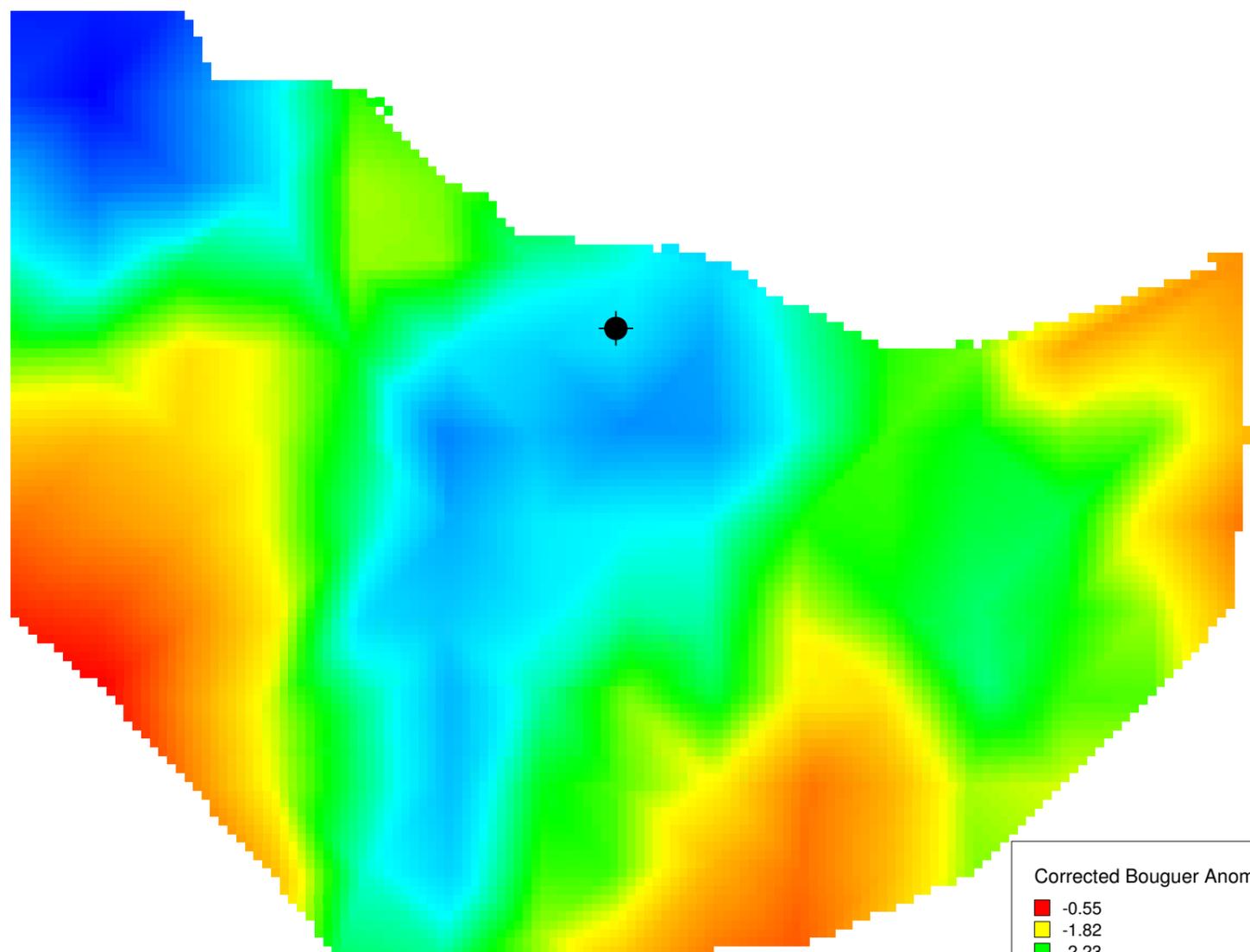
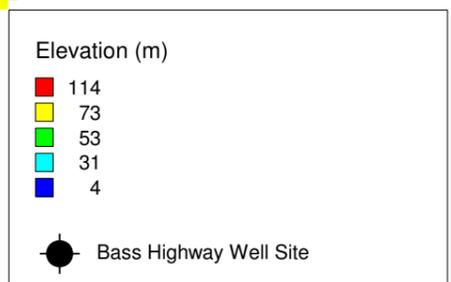
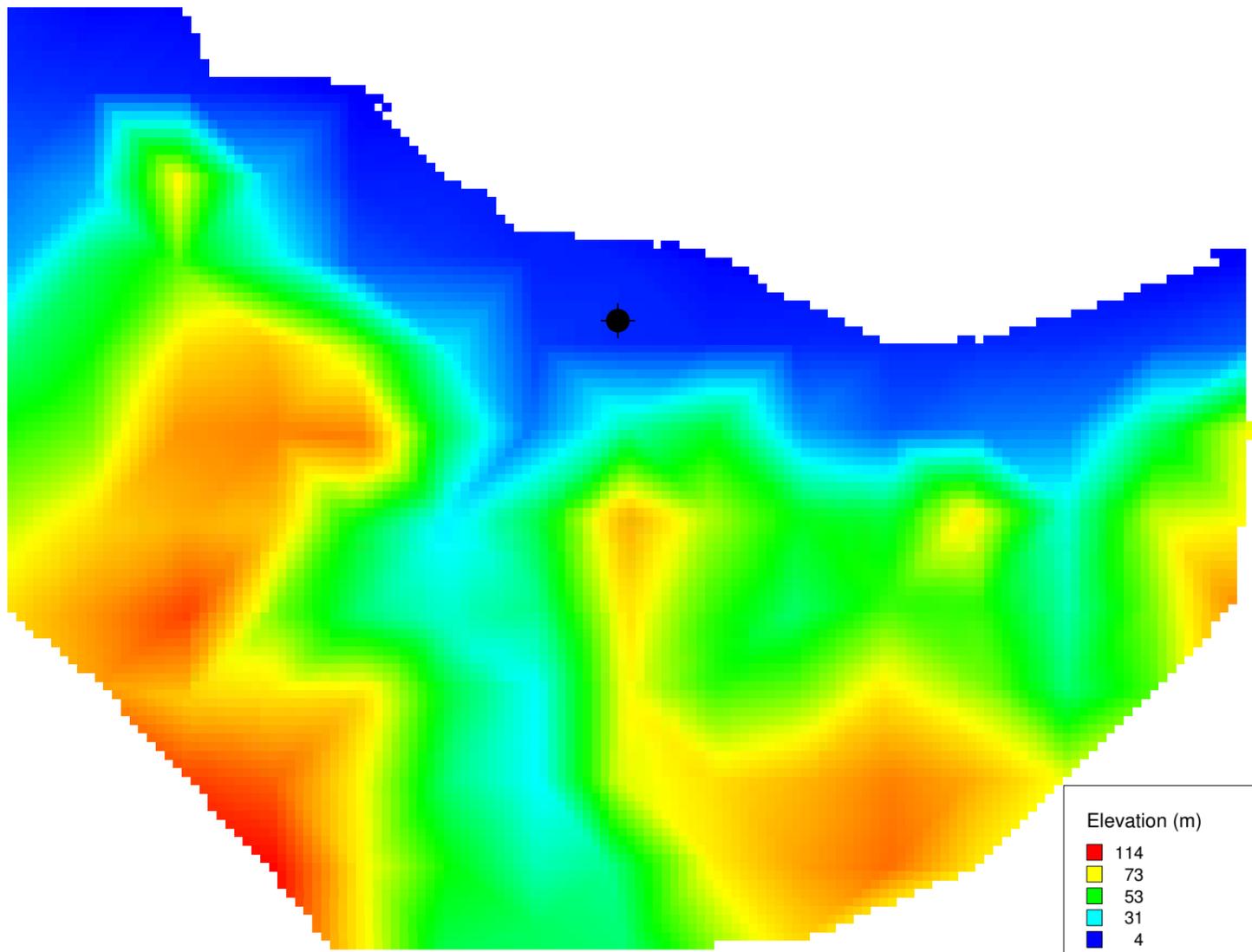
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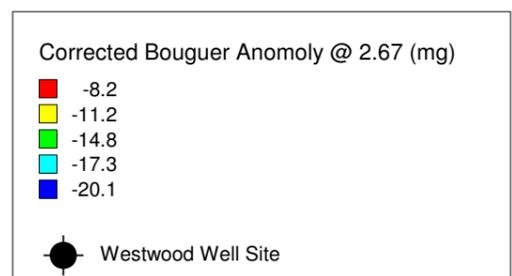
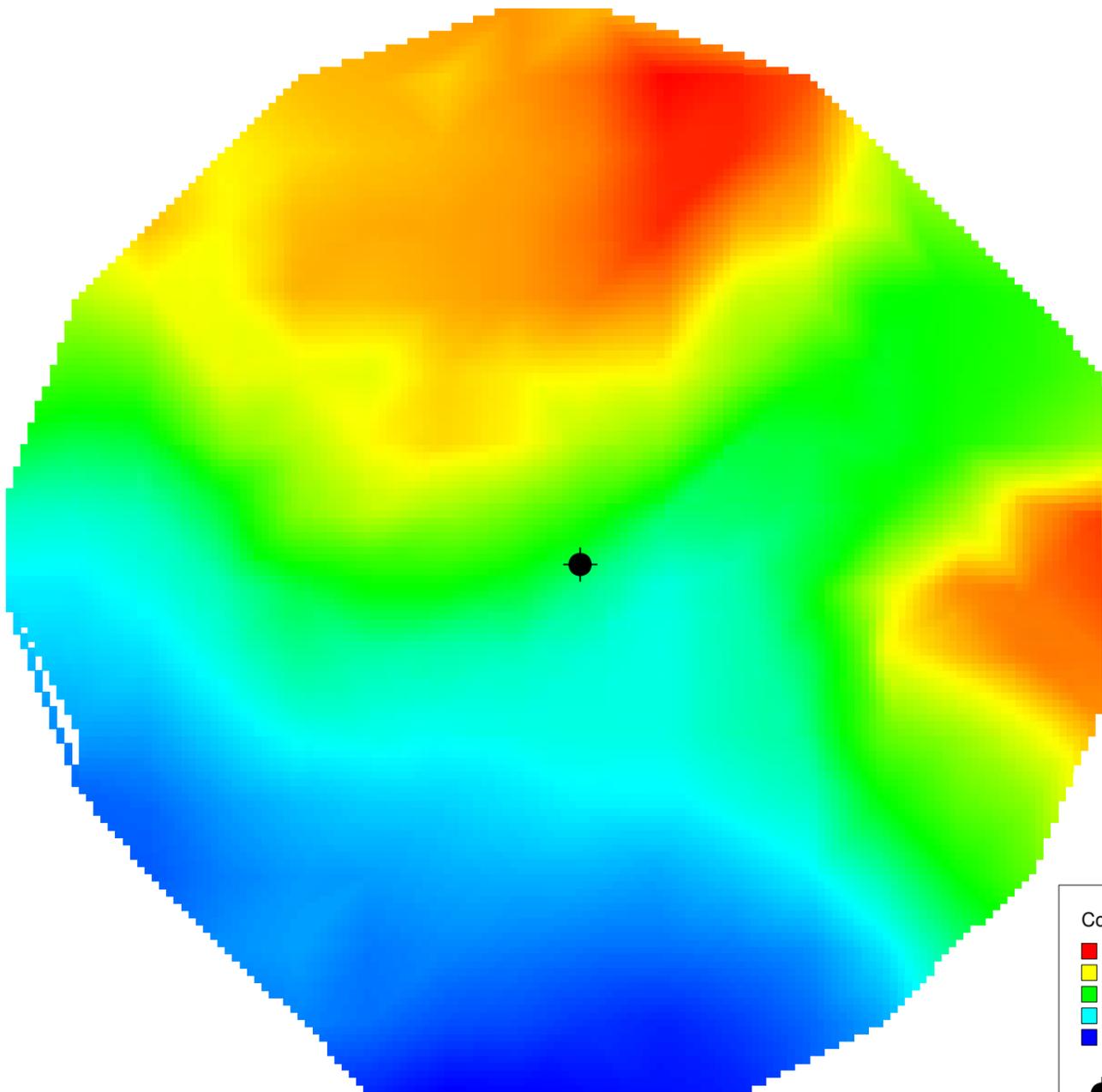
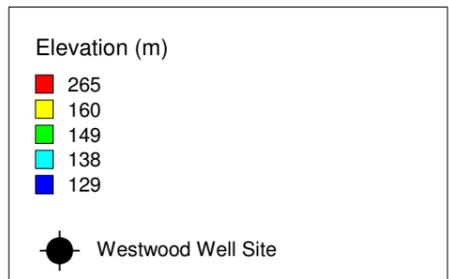
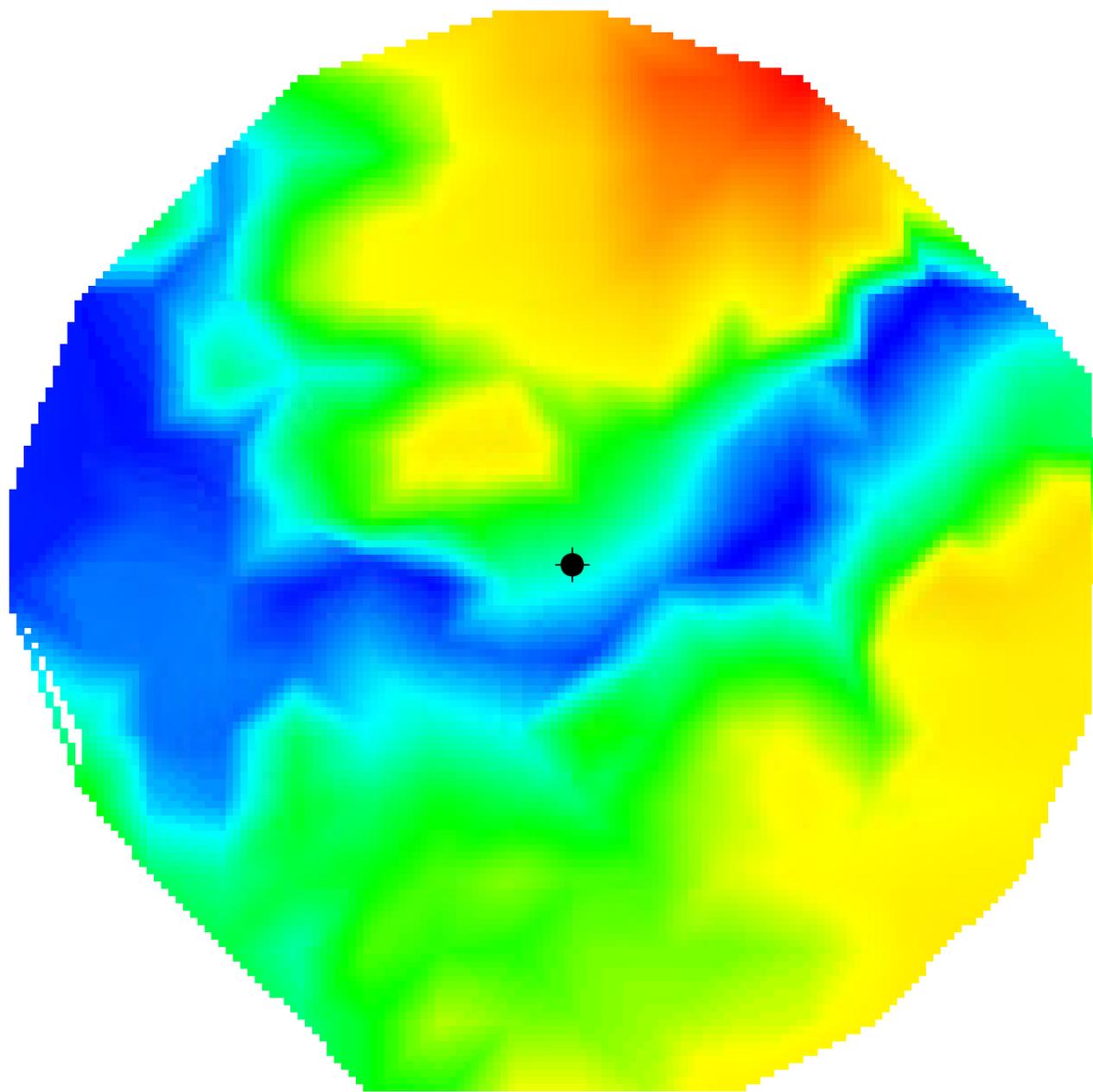
Overseas Energy Holdings Limited

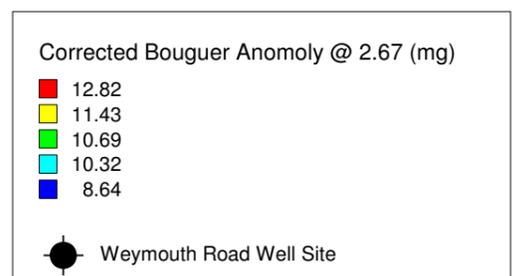
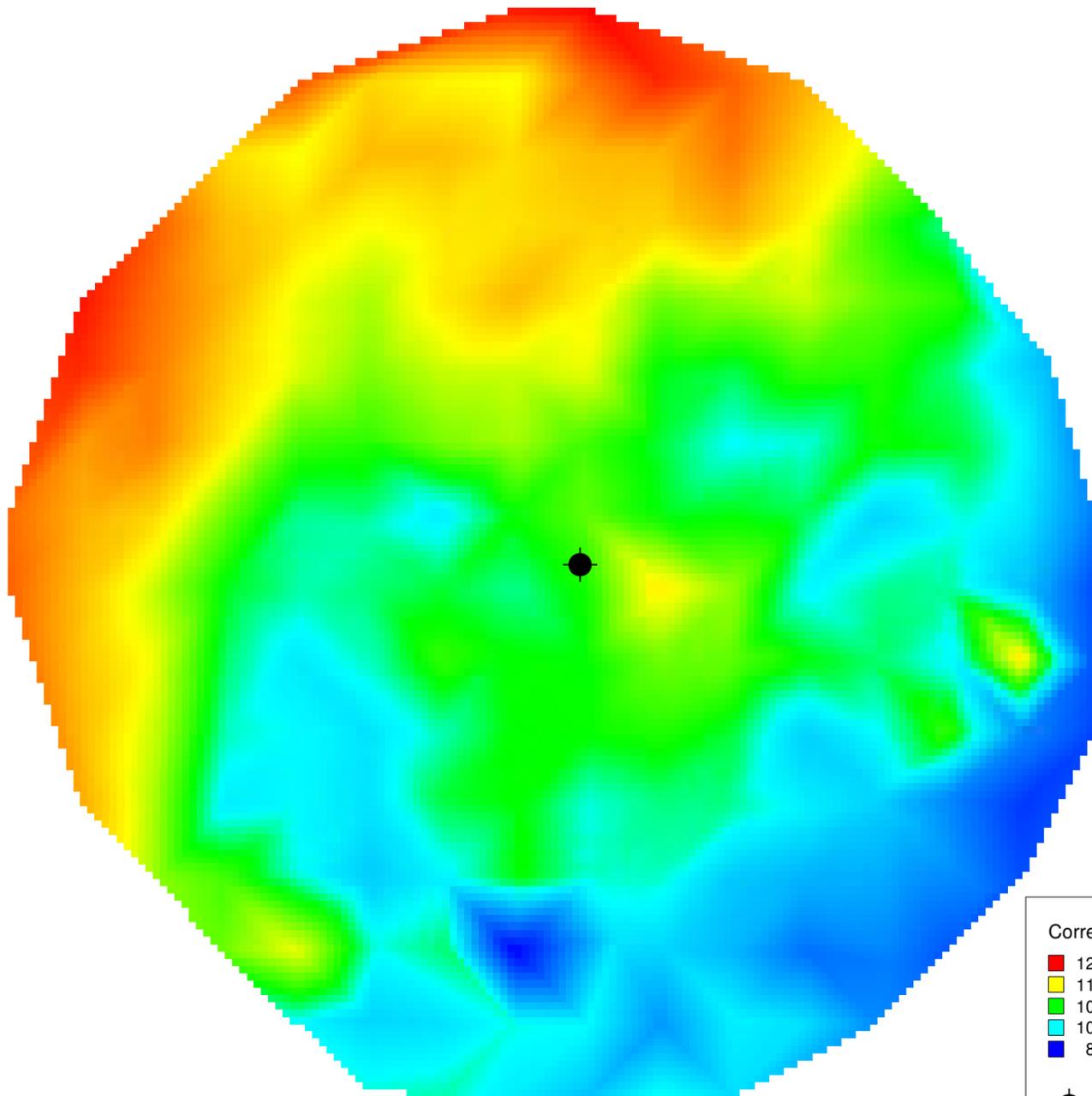
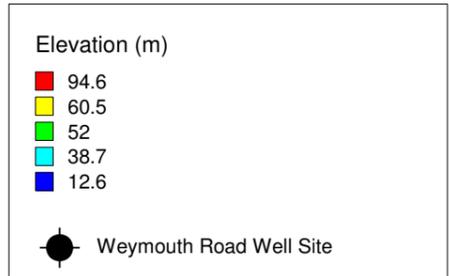
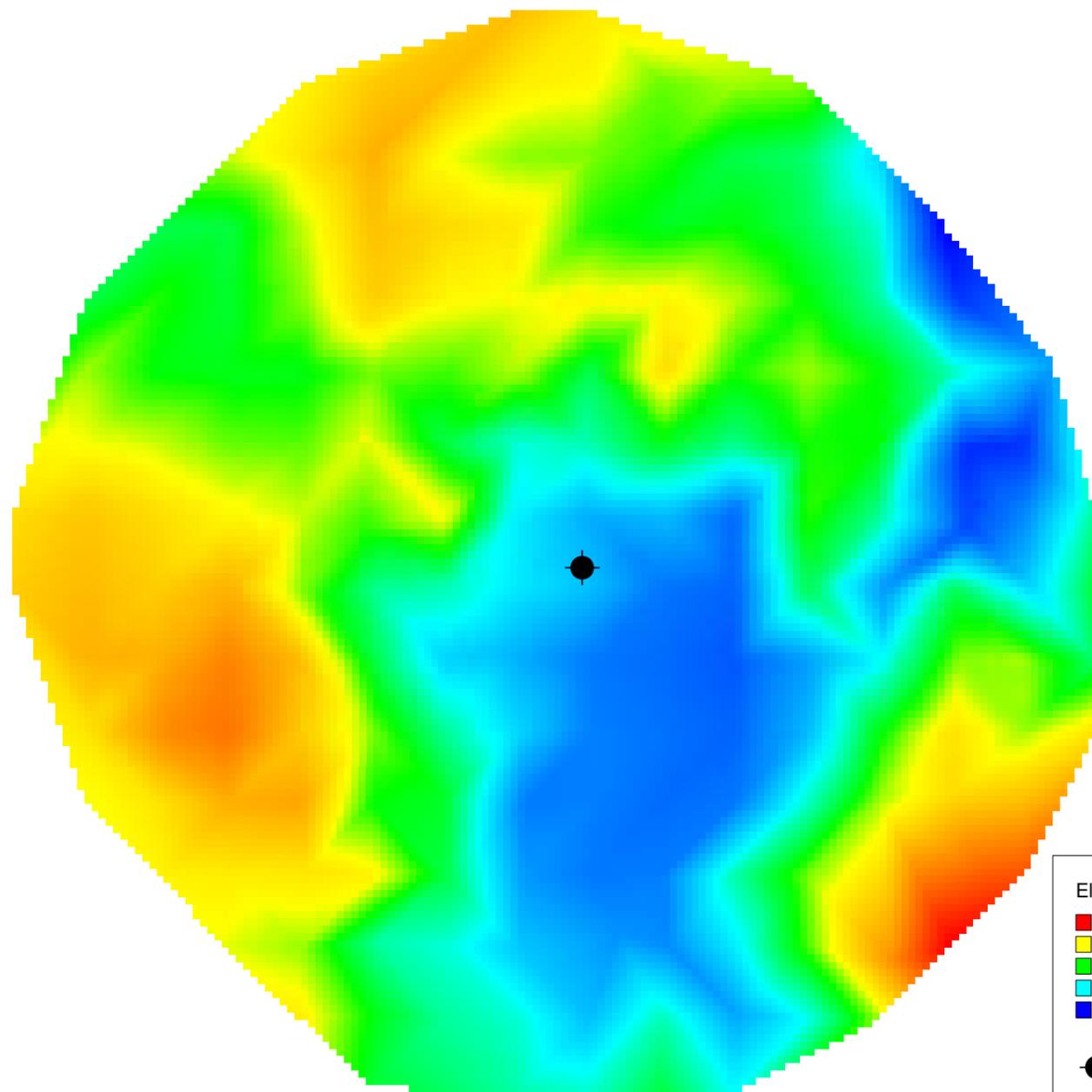
Gravity Survey - Highway Lines

Scale	1:300,000 (A3)
Drawn	D Williams
File	Highway Lines
Job#	10073
Date	02-03-2011

Thematic Maps



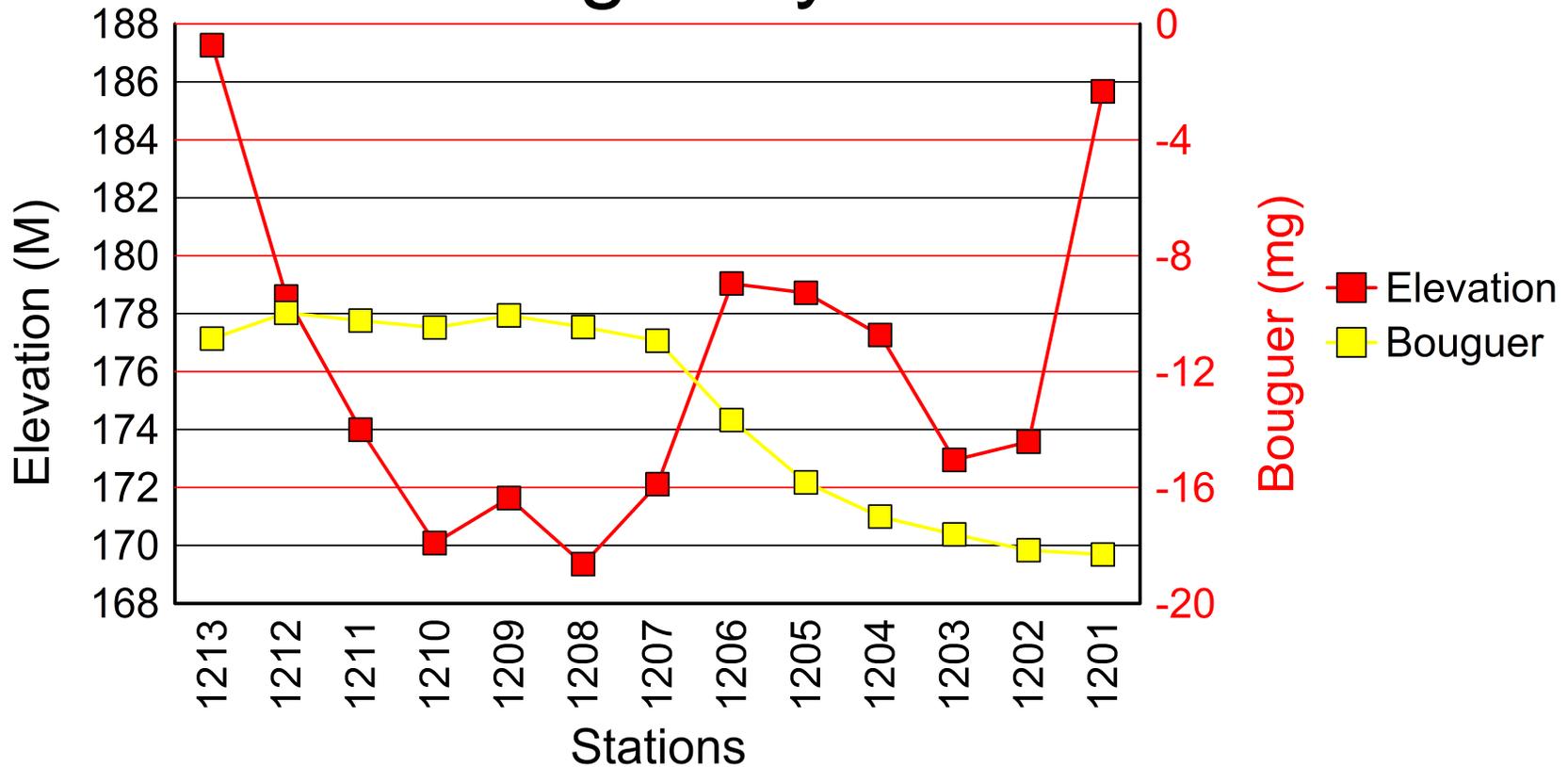




Highway Elevation vs CBA Graphs

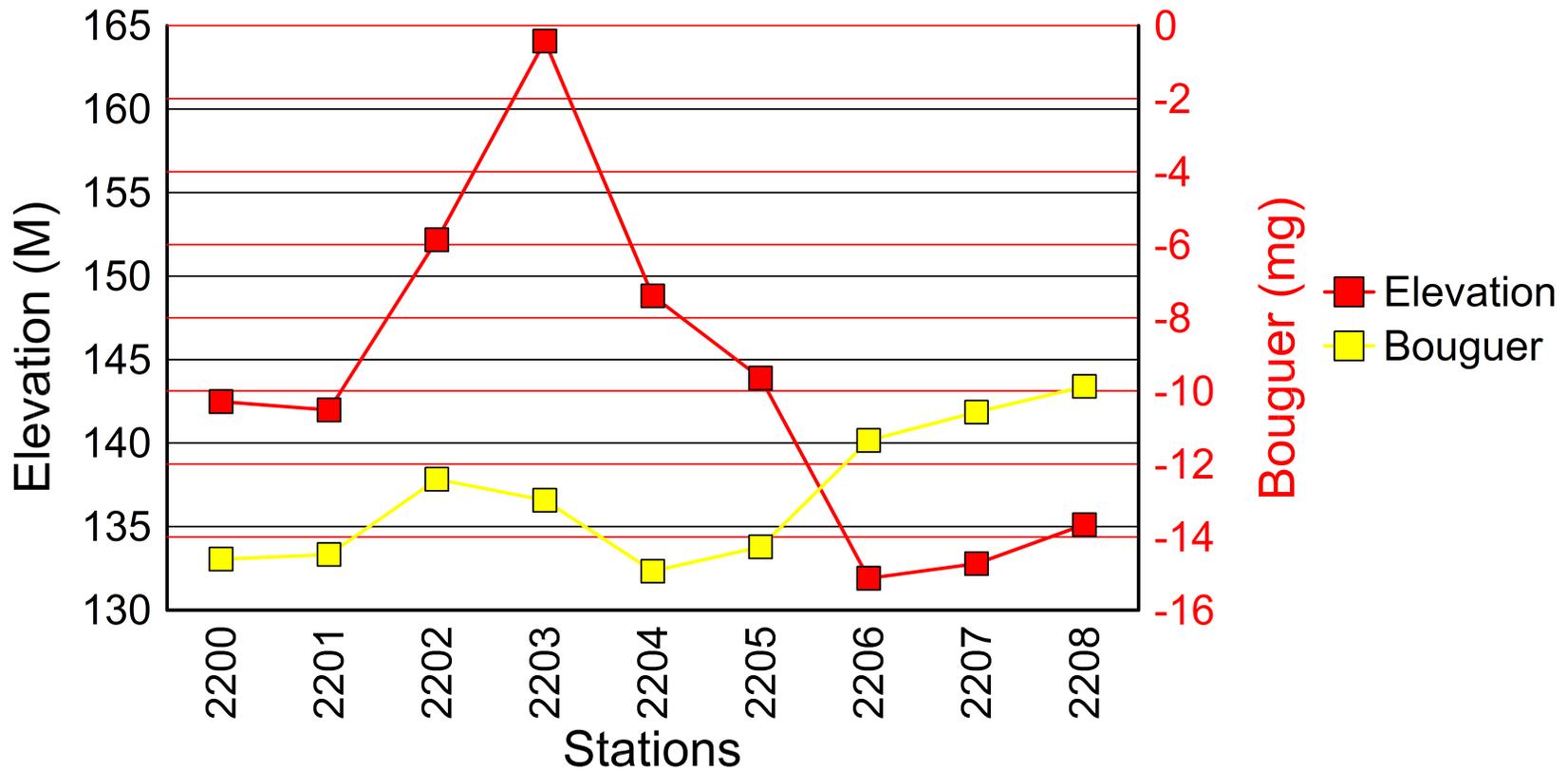
ELEVATION vs CBA 2.67

Highway Line 1



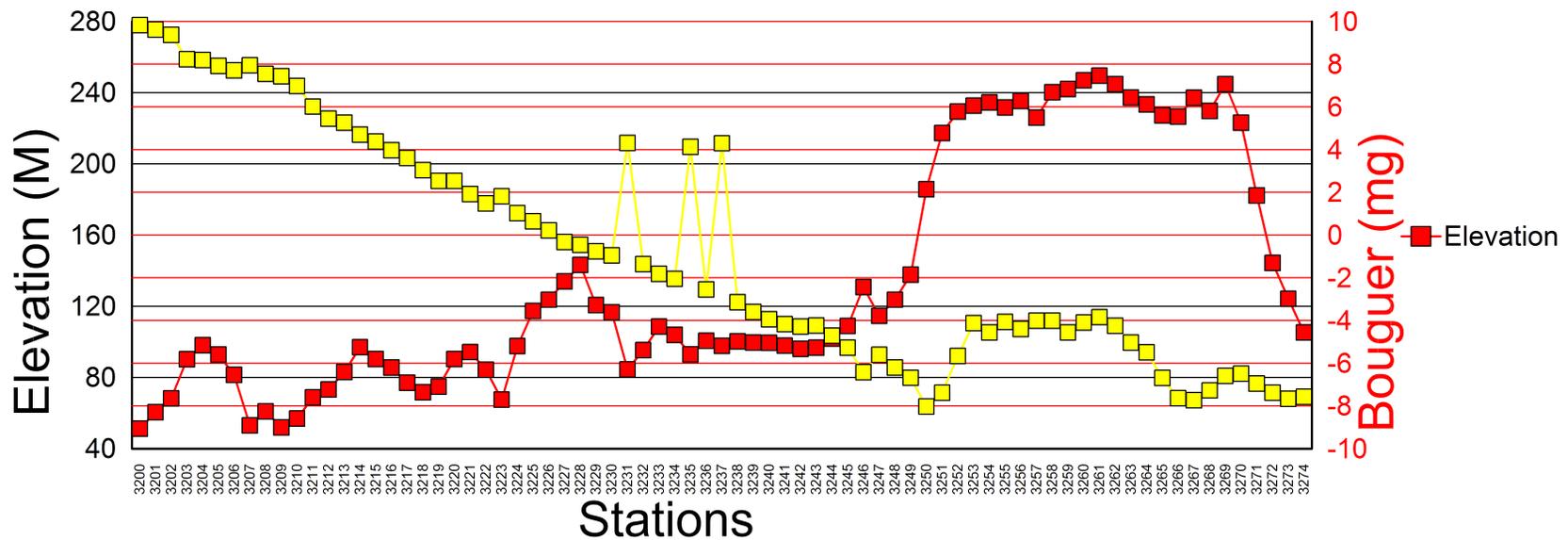
ELEVATION vs CBA 2.67

Highway Line 2



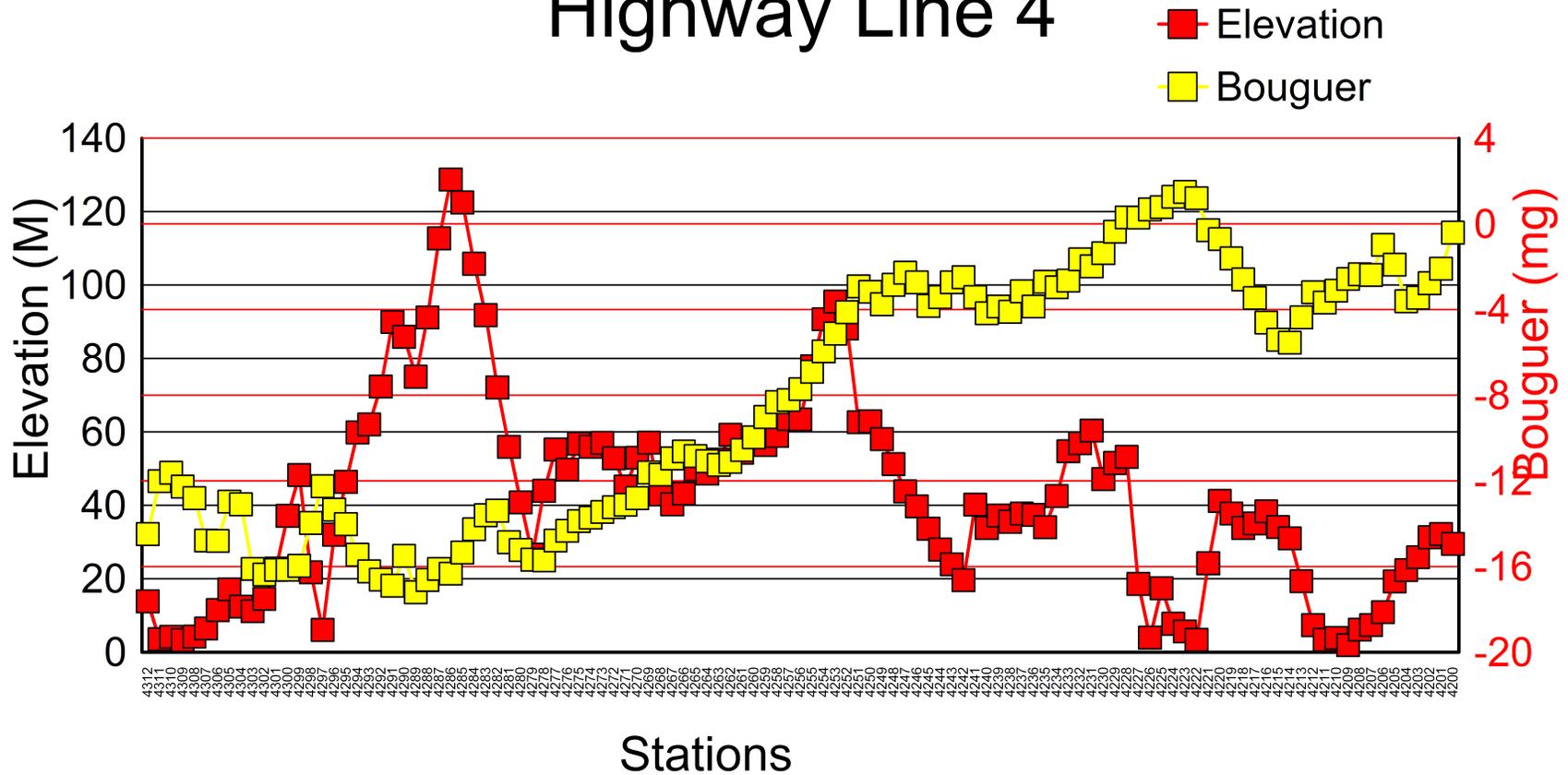
ELEVATION vs CBA 2.67

Highway Line 3



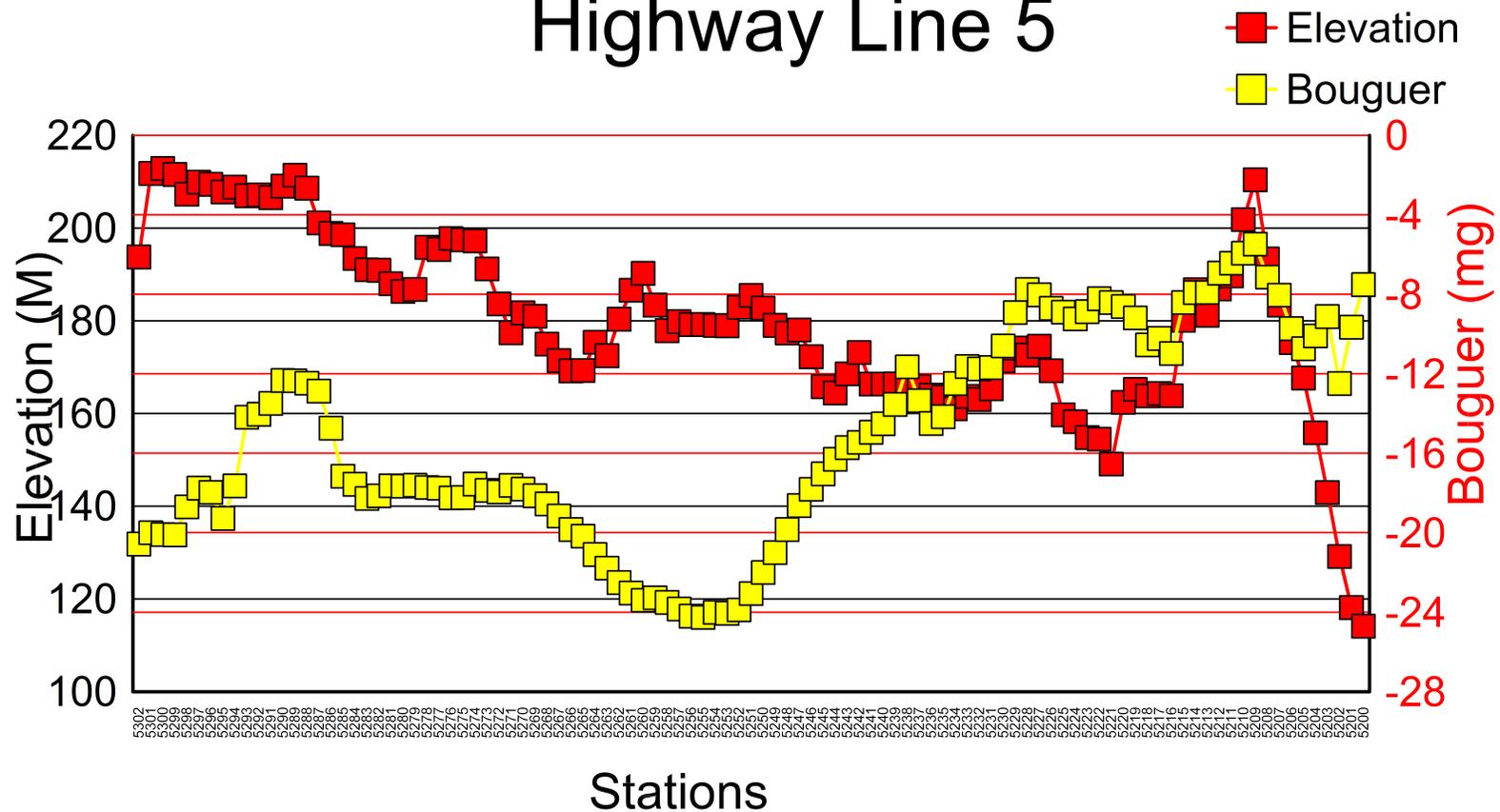
ELEVATION vs CBA 2.67

Highway Line 4



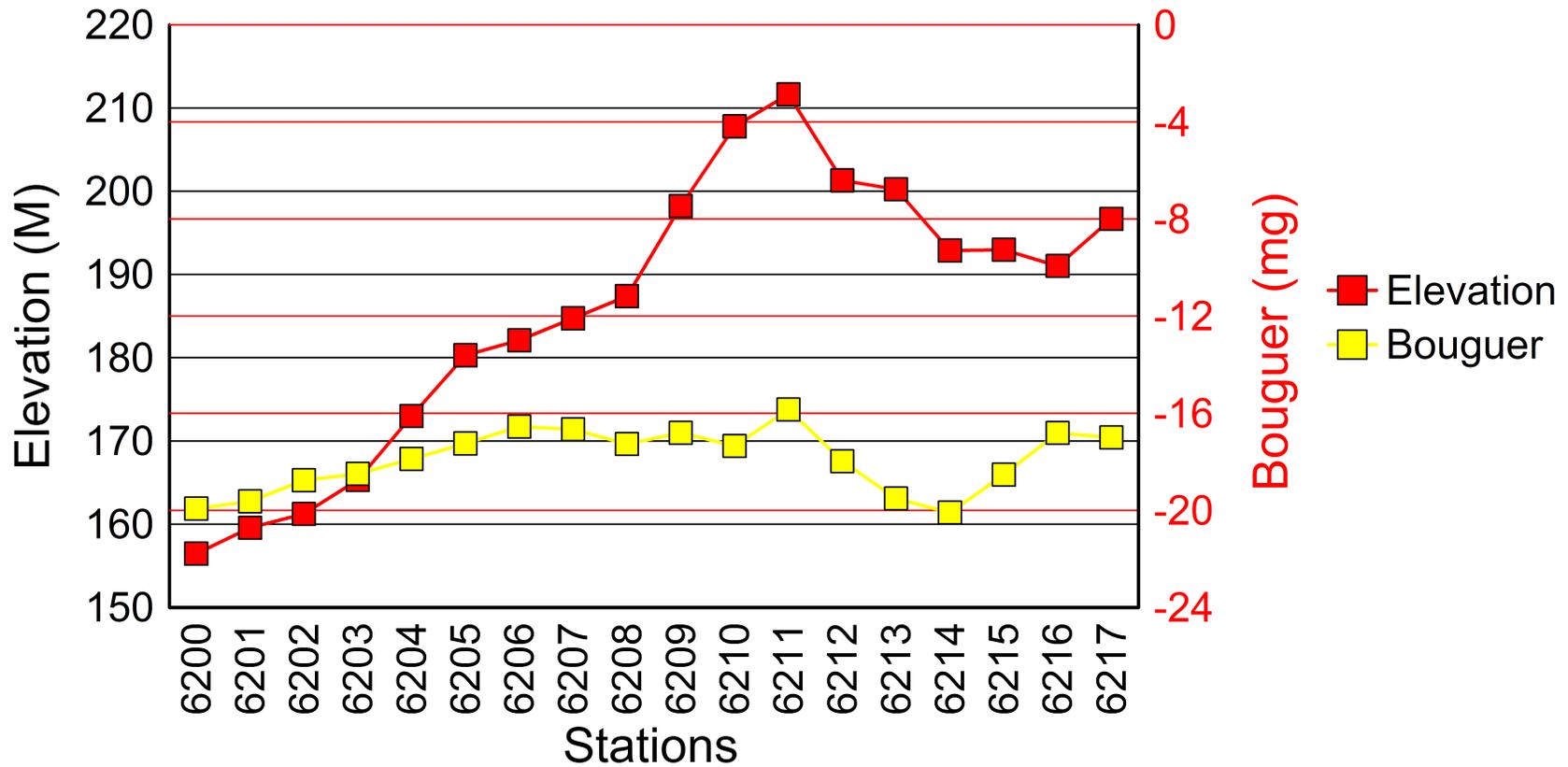
ELEVATION vs CBA 2.67

Highway Line 5



ELEVATION vs CBA 2.67

Highway Line 6



Gravity Control Diagrams

GRAVITY BASE DESCRIPTION

PROJECT / JOB # 10073 CLIENT OEHL DAY / DATE DEC 2010

STATION NAME: LWM TAGGED AS: 10073 OEHL DSS
GRAV BASE LWM

Date Installed: 07-12-2010 Installed By: Mark Green OBSERVED GRAVITY: 980283.148 mg

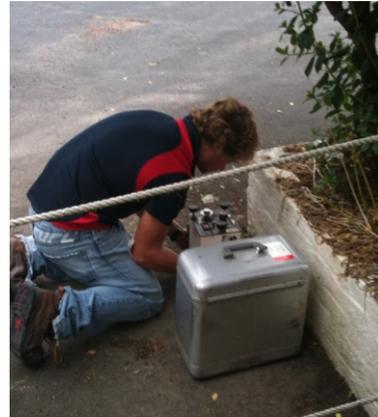
Grid Coordinates		Geographical Coordinates	
Easting: 510956.9		Latitude: -41°26' 27.5"	
Northing: 5412281.6		Longitude: 147°07' 52.2"	
Datum: MGA94	Zone: 55	Datum: GDA94	
AHD (H): 9.303m	Geoid Separation: (N): -0.61	Ellipsoid Ht (h): 8.693m	Geoid Model: AusGeoid98

Mark Description: Located in the car park of the Leisure Inn Penny Royal, in the eastern end of the car park there is a garden bed at the foot of the Windmill. The location of the gravity control station is at the base of the garden bed in the south east corner.

Photograph looking North at station.



Photograph looking South at station.



Photograph looking East at station.



Photograph looking West at station.



GRAVITY BASE DESCRIPTION

PROJECT / JOB # 10073 CLIENT OEHL DAY / DATE JAN 2011

STATION NAME: DO TAGGED AS: 10073 OEHL DSS
GRAV BASE DO

Date Installed: 26-01-2011 Installed By: Mark Green OBSERVED GRAVITY: 980271.986 mg

Grid Coordinates		Geographical Coordinates	
Easting: 446378.90		Latitude: -41° 10' 18.48"	
Northing: 5442464.00		Longitude: 146° 25' 35.04"	
Datum: MGA94	Zone: 55	Datum: GDA94	
AHD (H): 10.00m	Geoid Separation: (N): -1.160	Ellipsoid Ht (h): 8.840m	Geoid Model: AusGeoid98

Mark Description: **Located at the base of the ticket booth at the entrance of the Devonport Oval, base is located at the north east corner of the ticket booth.**

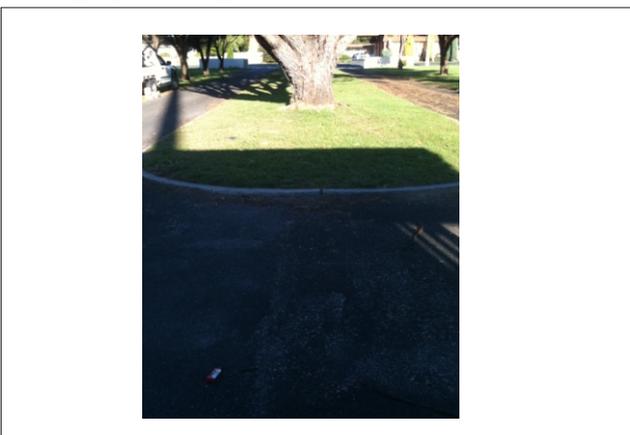
Photograph looking North at station.



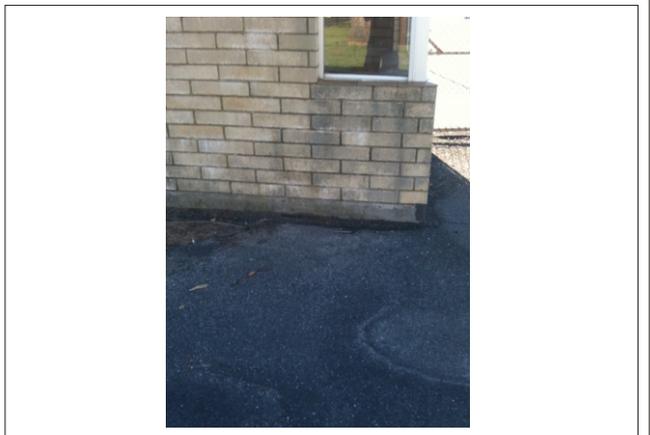
Photograph looking South at station.



Photograph looking East at station.



Photograph looking West at station.



Observations Summary

GRID SUMMARY

2010-11 OEHL Gravity Survey
Station Interval = 250m by 250m grid

Grid Name	Observations	Checks
Westwood	195	24
Weymouth Rd	188	28
Bass Highway	123	16
TOTAL	506	68

HIGHWAY SUMMARY

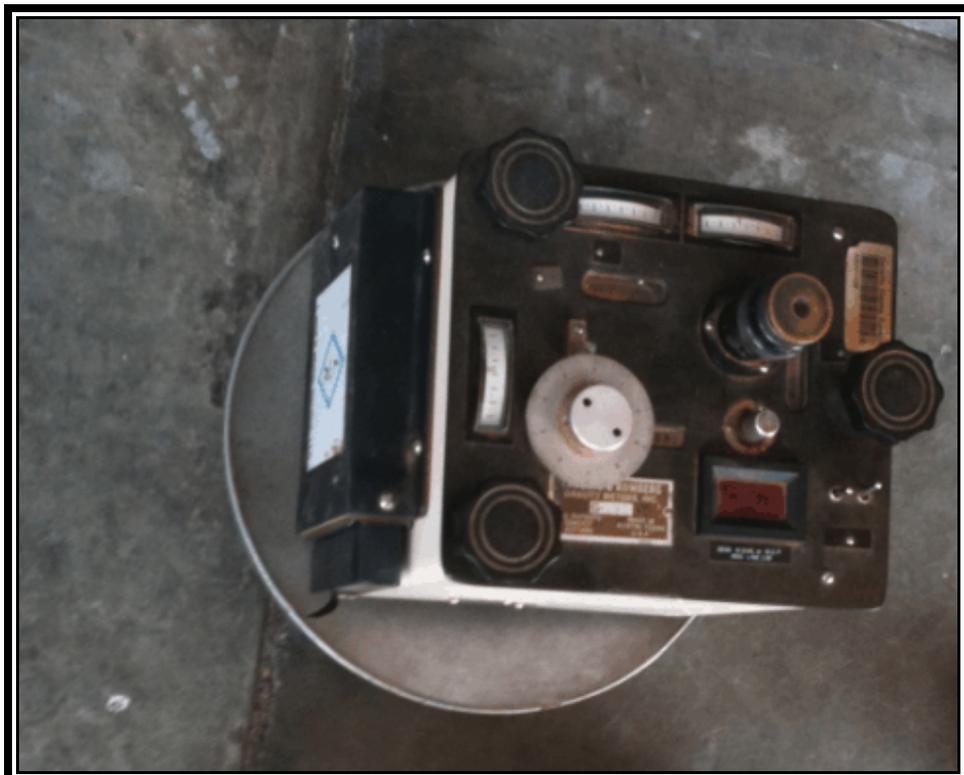
2010-11 OEHL Gravity Survey
Station Interval = 450m

Line Name	Observations	Checks
Line 1	13	2
Line 2	9	1
Line 3	75	8
Line 4	113	8
Line 5	103	10
Line 6	18	2
TOTAL	331	31

Photographs



Mark Green observing gravity for control loop at Launceston Airport



Gravity meter G-692



Example of section on highway lines where surveyors deemed it unsafe due to limited space to pull off road.



Example of where observation on highway line has been moved to reduce terrain correction.



Fence crossing through thick gauze country on Westwood prospect.



Leigh Franks and Yuri Marinovich observing at Westwood prospect.



Example of bushland on Weymouth Road prospect.



Majestic views on Bass Highway prospect