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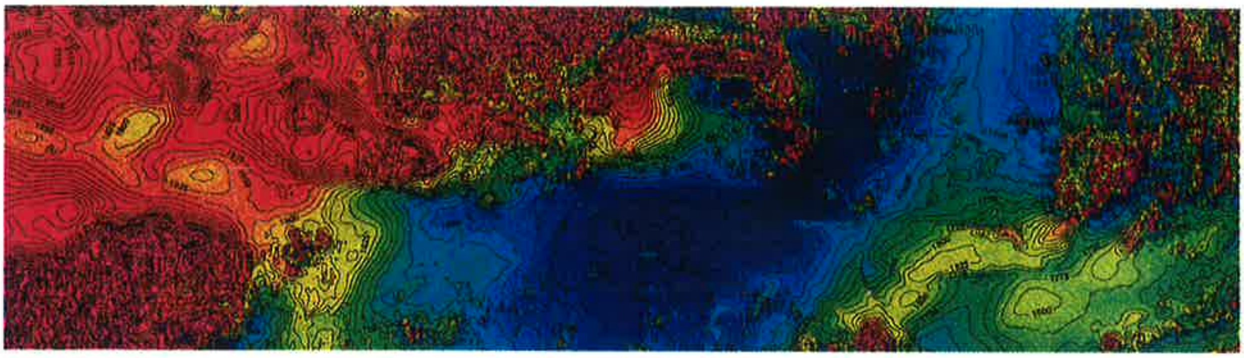

Processing & Analysis of Aeromagnetic Survey Data over part of the Amadeus Basin Northern Territory, Australia

Palm Valley; OL-3

Pilot Study - Phase I

REPORT ONSHORE

Prepared for

MAGELLAN PETROLEUM AUSTRALIA

Adelaide, June 2002

Archimedes Consulting Pty Ltd

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Northern Territory, Australia, Palm Valley; OL-3

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EXECUTIVE SUMMARY

The special processing, analysis and interpretation of the magnetic data over part of the Palm Valley oil fields in the Amadeus Basin, by Archimedes Consulting Pty Ltd, has provided information which suggests that numerous structures within the sedimentary sequences of the Pacoota Formation can be detected from the magnetic data. This project, which is considered a pilot study, has proven that the application of new methods and techniques to the interpretation of high-resolution aeromagnetic data can value-add to Magellan's exploration/development program in the Palm Valley fields.

This study was conducted using two merged, 400m-spaced aeromagnetic surveys. The analysis focused on the delineation of structure patterns within the main target horizon, the Pacoota Sandstone within the Palm Valley oil fields in the vicinity of the PV-2 well, at depths of 1900m to 2400m. The analysis and interpretation of the magnetic data also helped to delineate larger fault structures dislocating the sediments of the Amadeus Basin and presumably the underlying Mesoproterozoic basement, in the Palm Valley area.

axis & anly ?

The analysis of grid data was carried out by the application of specially designed anomaly separation filters derived from the energy spectrum. Even if the magnetic data set is not of the highest quality and resolution, this analysis brought some light to the distribution and character of magnetic anomalies arising from magnetic sources above located between the 'Top of Pacoota P1 plus 170m' and the 'Top of Pacoota P1 minus 500m', as well as the underlying sediments and the Proterozoic basement. -SS or +SS ?

below

The automatic curve matching (ACM) method was applied to profile data. Since Magellan requested a test to be run in the vicinity of the PV-2 well on the available magnetic data to check detailed structural features, the located magnetic data was especially gridded with a 50m by 50m grid cell size and two sets (EW_{50m} and NS_{50m}) of profiles were extracted from a TMI_{50x50} grid. These sets of profile data were analysed using the ACM method.

All sets of profile data were specially filtered. The high and low frequency components were removed to delineate structure patterns within the targeted Pacoota Formation. The high frequency component and the long wavelength anomaly were removed using multi-phase filters to detect magnetic sources present in the target sandstone.

The ACM method allowed the detection of a very large number of magnetic sources within the targeted sedimentary section of the Amadeus Basin and subsequently the detection of structure patterns within this crustal depth band. Results obtained from ACM were plotted in magnetic source maps (MSM), for different ACM-Models used in the analysis, as crustal depth bands between depths of 170m above the Top of Pacoota P1 seismic horizon to 500m beneath this horizon.

In the analysed area, the relationship of the magnetic source maps to the geology can be easily seen. The dominant trends of magnetic lineaments correspond to the orientation of the major basin faults. Numerous, small magnetic features were also detected. These magnetic features form a pattern of conjugated east-west and north-south trending sets. These magnetic lineaments reflect the characteristic structural grain of the region. However, there are also several deep-seated magnetic lineaments trending towards the northwest and northeast directions. In general, in the Amadeus Basin the northeast orientation corresponds to transfer faults dislocating (shifting and rotating) sediments forming anticline structures.

The large amount of information obtained from this study suggests that the application of the ACM method to a higher-resolution aeromagnetic data set, such as a 100m, or 50m or even 25m flight line spaced survey will permit the mapping of the distribution of short extent magnetic features, and subsequently detect the 3-dimensional distribution of fracture patterns within the reservoir sandstone.

This pilot study demonstrated that aeromagnetic survey data, if analysed and interpreted properly, could help to detect major crustal structural zones, delineate sets of major faults and patterns of small fault-associated structures within the basin's sediments and the underlying basement.

THE MAGNETIC DATA

The pilot project area is covered partially by the Amadeus West Aeromagnetic Survey and partially by the Napperby/Hermannsburg Aeromagnetic Survey.

The Amadeus West Aeromagnetic Survey was flown for the Northern Territory Geological Survey by the geophysical contractor, Australian Geophysical Surveys in 1999, at an altitude of 60m. Data was collected along 400m spaced traverses oriented 180°N with the controlling tie lines, being 4km apart, flown in an east-west direction.

The Napperby/Hermannsburg Aeromagnetic Survey was flown for the Northern Territory Geological Survey by the geophysical contractor, Kevron in 1997, at an altitude of 60m. Data was collected along 400m spaced traverses oriented 180°N with the controlling tie lines, being 4km apart, flown in an east-west direction.

These two magnetic data sets have been merged together (Figure 2a) and analysed using the energy spectrum-related anomaly separation filters. Further processing was applied to the merged TMI data to compute the Reduced-to-Pole, Vertical Gradient (RTP) and Second Vertical Derivative (RTP) (Figures 2b, 2c & 2d respectively). In addition, an image of the Digital Terrain Model is included (Figure 2e).

The magnetic field inclination for the project area equals –56.2° and the declination equals 4.8167°.

METHODOLOGY

Two principal methods are used in the process of analysis and interpretation of the magnetic field data:

(i) **Energy Spectral Analysis** (ESA) applied to **grid data**

(ii) **Automatic Curve Matching** (ACM) applied to the **profile data extracted from grid,** in east-west, north-south, northwest and northeast directions

- **The principles of spectral analysis**

Energy spectral analysis provides a technique for quantitative studies of large and complex aeromagnetic data sets. The energy spectrum of magnetic data provides the characteristics of the data structure and combined information on the anomalies' parameters such as the frequencies and wavelengths involved, together with the directions and trends of the magnetisation.

The principles of the method are based on the fundamental work done by Bhattacharyya (1966). This method was further developed and tested by Spector (1968) and Spector and Grant (1970). Over the years many other scientists have contributed to the development of this method. The logarithm of the radial average of the energy spectrum (the square of the Fourier amplitude spectrum) is plotted versus the radial frequency. The slopes of linear segments of the spectrum correspond to separate depth ensembles and provide parameters used for the design of numerous filters. The slope of each segment provides information about the depth to the top of an ensemble of magnetic bodies. The higher frequency end of the spectrum is dominated by the anomalies derived from shallow magnetic bodies and magnetic noise; at the low frequency end the main contributors to the energy spectrum are deep-seated magnetic bodies.

- **Automatic Curve Matching**

The automatic curve matching method (ACM) was applied to profile data extracted from the TMI grid. The method works by identifying a magnetic anomaly on a profile and comparing the observed anomaly with one that is computed for a theoretical prism, varying the parameters and accepting the model which provides the best fit (Shi, 1993).

Analysis of magnetic anomalies along a profile has the advantage of a higher resolution of detected structures than can be obtained using the energy spectrum. One very special advantage of the method is its ability to provide good estimates of depth from data with a high noise level; in this project the 'noise' is the signal that comes from the near surface geology.

This method was applied to the profile data extracted from a grid, in east-west, north-south, northwest and northeast directions As the magnetic nature of the rocks varies greatly, so the magnetic data set was filtered and was analysed using several different initial models. The aim was to analyse, in several separate attempts using TMI data, as many single anomalies as possible of the specified range of wavelengths.

ANOMALY SEPARATION FILTERS

3.1 Introduction

To obtain a broad regional picture and an understanding of the anomaly distribution, the gridded Total Magnetic Intensity data (TMI) was analysed using energy spectral analysis (ESA) and related filtering techniques.

The energy spectrum was computed over the pilot study area (Figure 3). The spectrum computed shows a number of linear segments, indicating the position of major magnetic boundaries within the sediments and the underlying basement. However only three slopes indicating depths of 220m, 760m and 1920m have been considered and filters were designed to separate magnetic anomalies arising from these depths. The depth values are also shown in a ‘cartoon’ (Figure 4) which explains the relationship between the spectrum-breaks, the residual, the low-pass filter and the ‘depth slice’ maps.

3.2 Energy spectrum-based filters

Based on the energy spectrum for the analysed area a set of filters has been designed. The characteristics of the energy spectral distribution indicate several 'frequency cut-offs'.

As is common practice, the description of the filtered magnetic data will be referred to in non-geophysical nomenclature, but in more understandable geological terms for explorers (instead of frequency bands we will use 'depth slicing', etc.).

3.2.1 Low-pass filters

Low-pass filters have been used to separate the long wavelength component from the high-frequency component and near-surface noise, and subsequently to separate the anomalies caused by superimposed sources from different depths. The vertical gradients of the low-pass filter maps were computed.

Three sets of the low-pass filtered magnetic field, representing the magnetic signature of causative bodies seated deeper than 220m, 760m and 1920m (Figures 6.1a, 6.1b & 6.1c, respectively), were computed. The images of the vertical gradients of the long wavelength anomalies rising from the respective layers of the crust are presented in Figures 6.1a-1, 6.1b-1 & 6.1c-1, respectively.

3.2.2 Residual fields

Residual magnetic anomalies were also computed for each frequency cut-off. The residual field is computed from the RTP field by separation of the long wavelength anomalies. In a simplified geological/magnetic model of the earth crust, the residual fields represent the magnetic signal arising from the magnetic sources distributed from surface to the spectrum-implied depth (Figures 3 & 4).

The images of the residual magnetic anomaly field from the following slices of the crust: 0m-220m, 0m-910m and 0m-1920m are included in Figures 6.2a, 6.2b & 6.2c, respectively.

The vertical gradients of the corresponding residual field were also computed (Figures 6.2a-1, 6.2b-1 & 6.2c-1, respectively).

3.2.3 'Depth slice' maps

A number of 'depth slice' maps were constructed for two depth intervals based on the characteristics of the energy spectral frequency distribution. As the spectrum of the analysed area indicates magnetic discontinuities at depths of 220m, 760m and 1920m therefore, accordingly two frequency bands have been computed to show magnetic anomalies arising from magnetic sources present within two narrow slices of the sediments. The vertical gradients of these slices are also included.

The following two frequency bands referred to as 'depth slice' maps were computed for the study area:

- the images of the magnetic anomaly field and vertical gradient arising from a slice of the crust at depths of 220m to 760m (Figures 6.3a & 6.3a-1).,
- the images of the magnetic anomaly field and vertical gradient arising from a slice of the crust at depths of 760m to 1920m (Figures 6.3b & 6.3b-1).

ANALYSIS OF MAGNETIC DATA ALONG PROFILES

During the next stage of this pilot study the automatic curve matching method (ACM) was applied to profile data extracted from the TMI grid. This method was applied to obtain higher resolution results that allowed the more precise location of structures within the Pacoota Formation.

To obtain the most satisfactory results the profile data were processed before the ACM method was applied. Several filtering techniques were applied to remove the noise component (such as well casing) and to remove anomalies arising from near-surface sources. ACM was applied to EW and NS profile data.

The results for the best of the models were selected based on statistical analysis. The combined results from the analysis of all profile data using a similarity coefficient of 5,000 for TMI have been statistically analysed. Histograms of the depth-frequency distribution have been calculated to see changes of magnetic response from different depths.

5 Discussions and Recommendations

1610 – 4050

In this report the ACM results have been presented in the form of magnetic source maps (MSM). The MSM show the position and depth of each model, simulating the real source, as colour dots (colour indicates depth, whereas the position of each dot marks the centre of an anomaly and centre of the causative body).

The MSM showing the curve matching results presented in this report are plotted in a 1:100,000 scale (Figure 7). The MSM were plotted as a crustal 'depth-band' (CDB), which was constructed based on the seismic horizon reference depth 'Top of Pacoota P1' adding 170m and subtracting 500m. A first-pass interpretation of the ACM results for that crustal depth band is presented in Figure 8.

The results show the spatial distribution of magnetic anomalies and structures referred to as magnetic features, or magnetic lineaments. It appears that the magnetic lineaments detected within the Pacoota Formation follow the structural grain of the region. There are numerous east-west trending magnetic features delineated in the area south of the PV-2 well (Figures 7 & 8, dark blue). There is a much lower intensity of these structures north of the PV-2 well than south of it. The thick magnetic lineaments, shown in grey on Figures 7 & 8, are from the analysis of filtered images (see Chapter 3) and represent major crustal breaks at the depth level indicated by the spectrum (Figures 3 & 4). The results of interpretation of ACM have been superimposed on the major magnetic lineaments to indicate where the sets of small features detected from ACM have been offset or have changed azimuth.

There are deep-seated magnetic lineaments trending towards the northwest and northeast directions. In general, in the Amadeus Basin the northeast orientation corresponds to transfer faults dislocating sediments forming anticline structures

This test study provides information that indicates that if the Palm Valley area is covered by a dense high-resolution aeromagnetic dataset, e.g. flight lines 50m or even 25m apart, the structural patterns of the Pacoota Formation could be imaged in 3-dimensions.

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Pilot Study Area: 50 x 50m grid; Depth, 220m to 760m

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Pilot Study Area: 50 x 50m grid; Depth, 220m to 760m

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Pilot Study Area: 50 x 50m grid; Depth, 760 to 1920m

AMADEUS BASIN: Palm Valley; 'TMI' Image

50x50m grid: AMG zone53

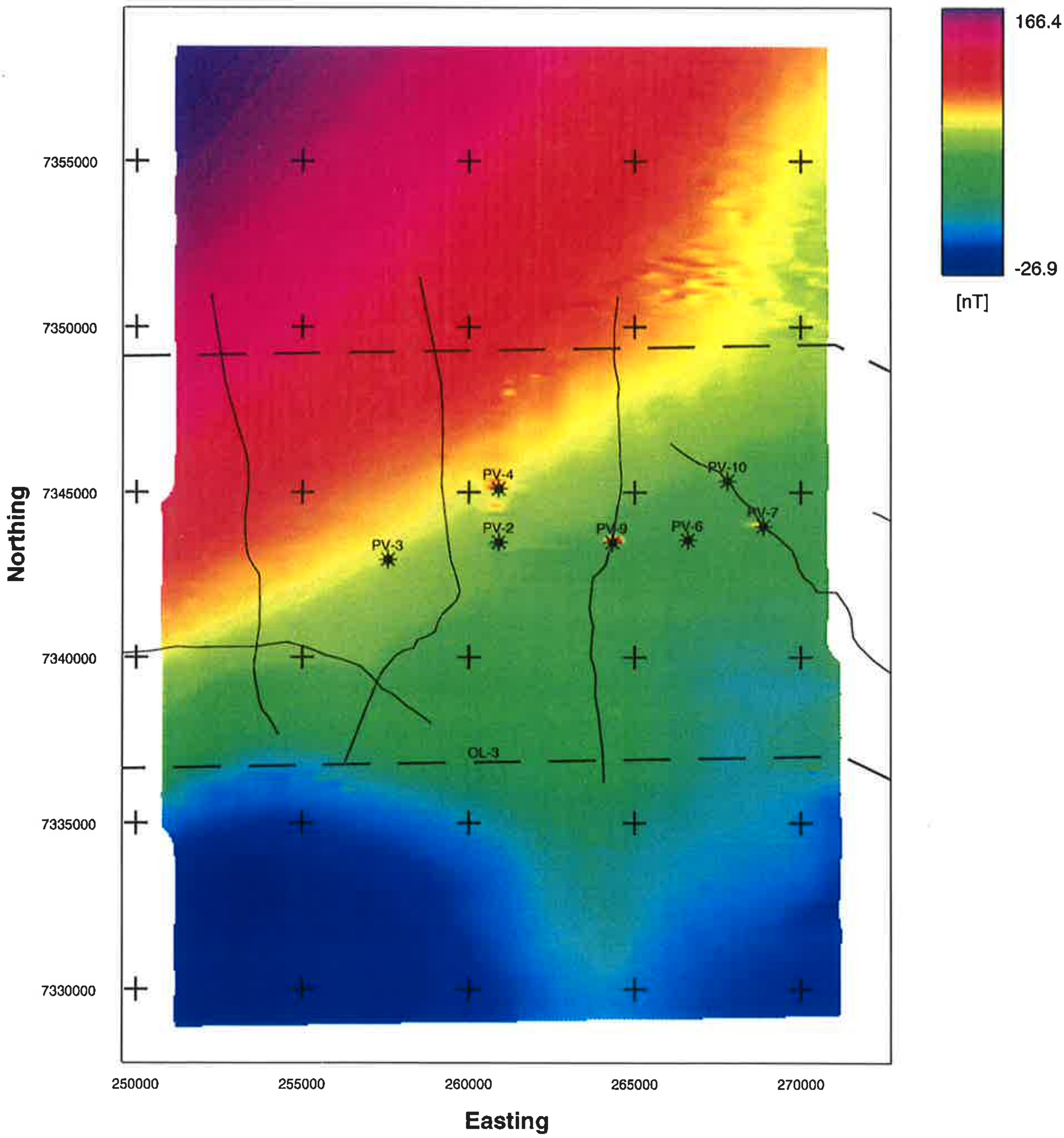

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Figure 2a:

Scale, 1:200,000

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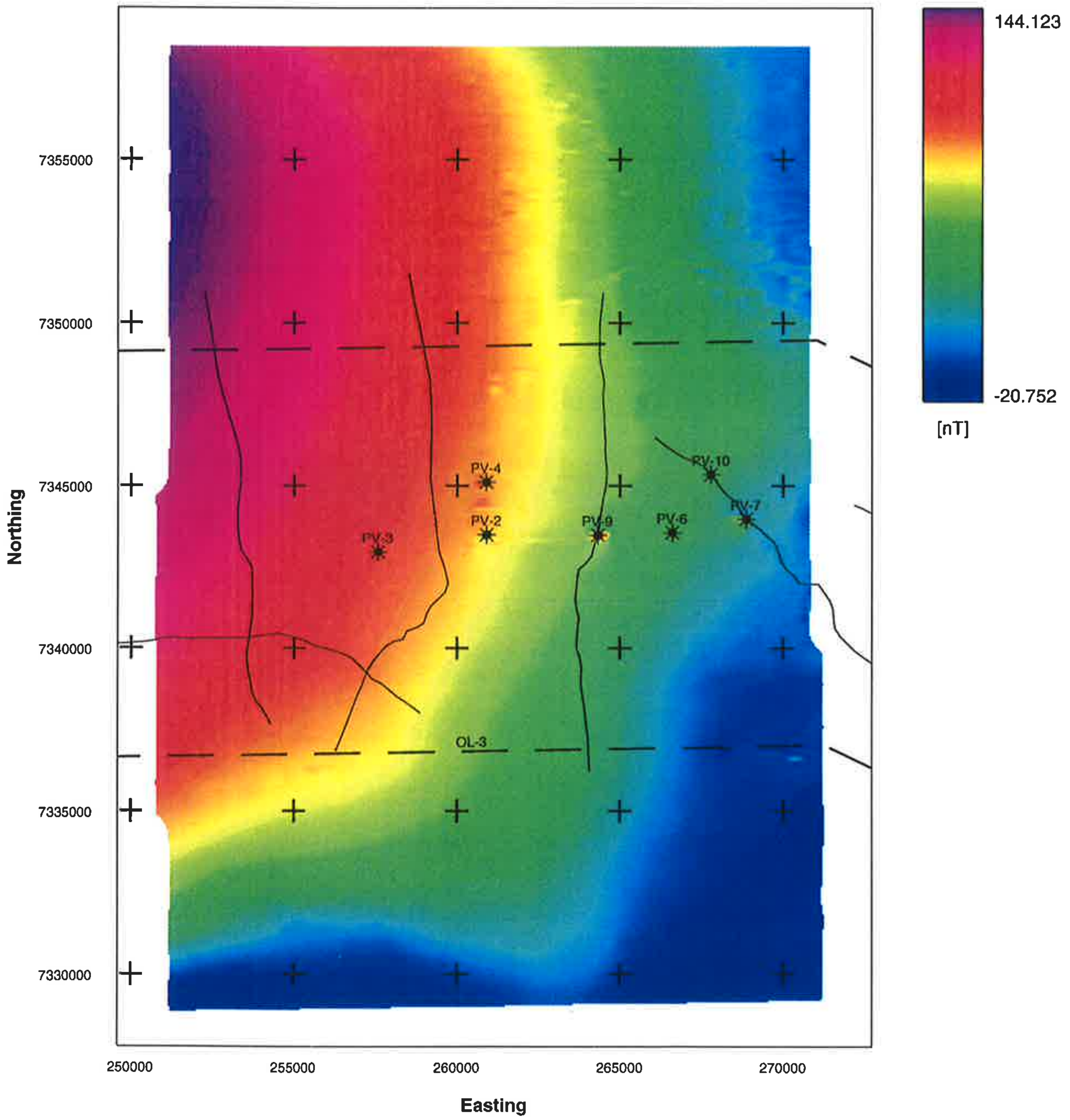
AMADEUS BASIN: Palm Valley; 'Reduced to Pole'

Pilot Study Area: 50 x 50m grid



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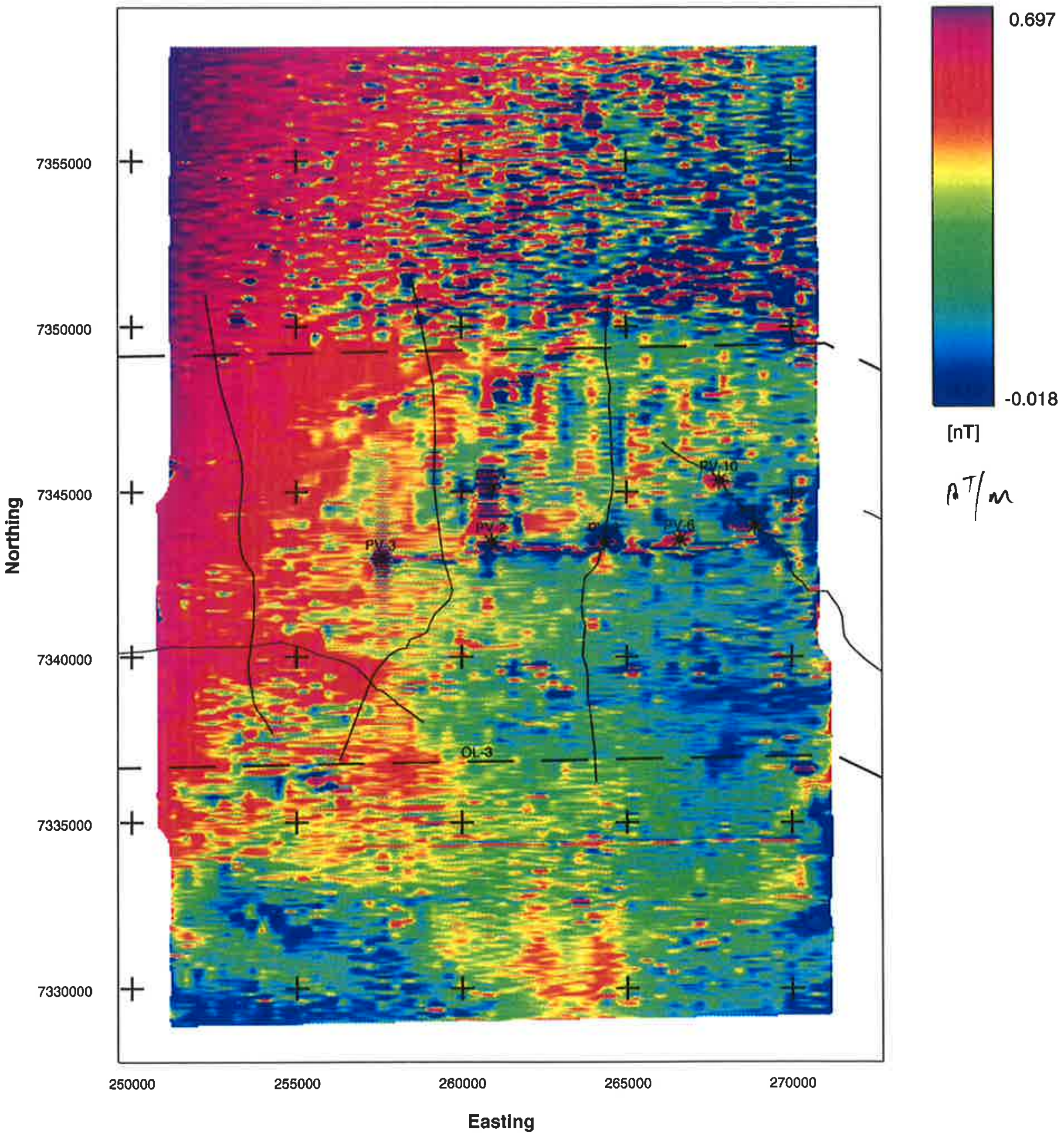
AMADEUS BASIN: Palm Valley; 'Vertical Gradient of RTP'

Pilot Study Area: 50 x 50m grid



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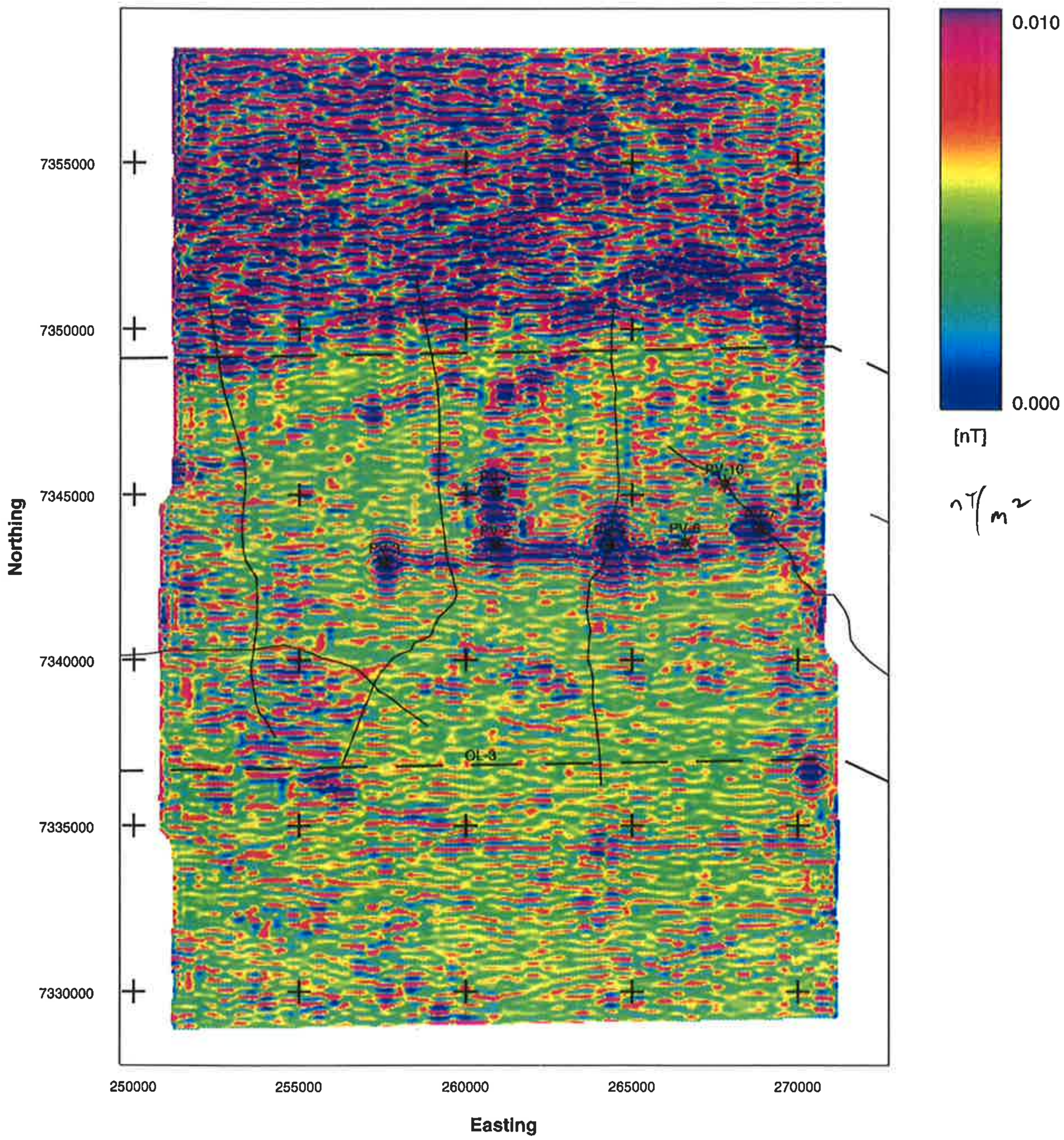
AMADEUS BASIN: Palm Valley; '2nd Vertical Derivative of RTP

Pilot Study Area: 50 x 50m grid



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AMADEUS BASIN: Palm Valley; 'DTM' Image

Scale, 1 : 200000

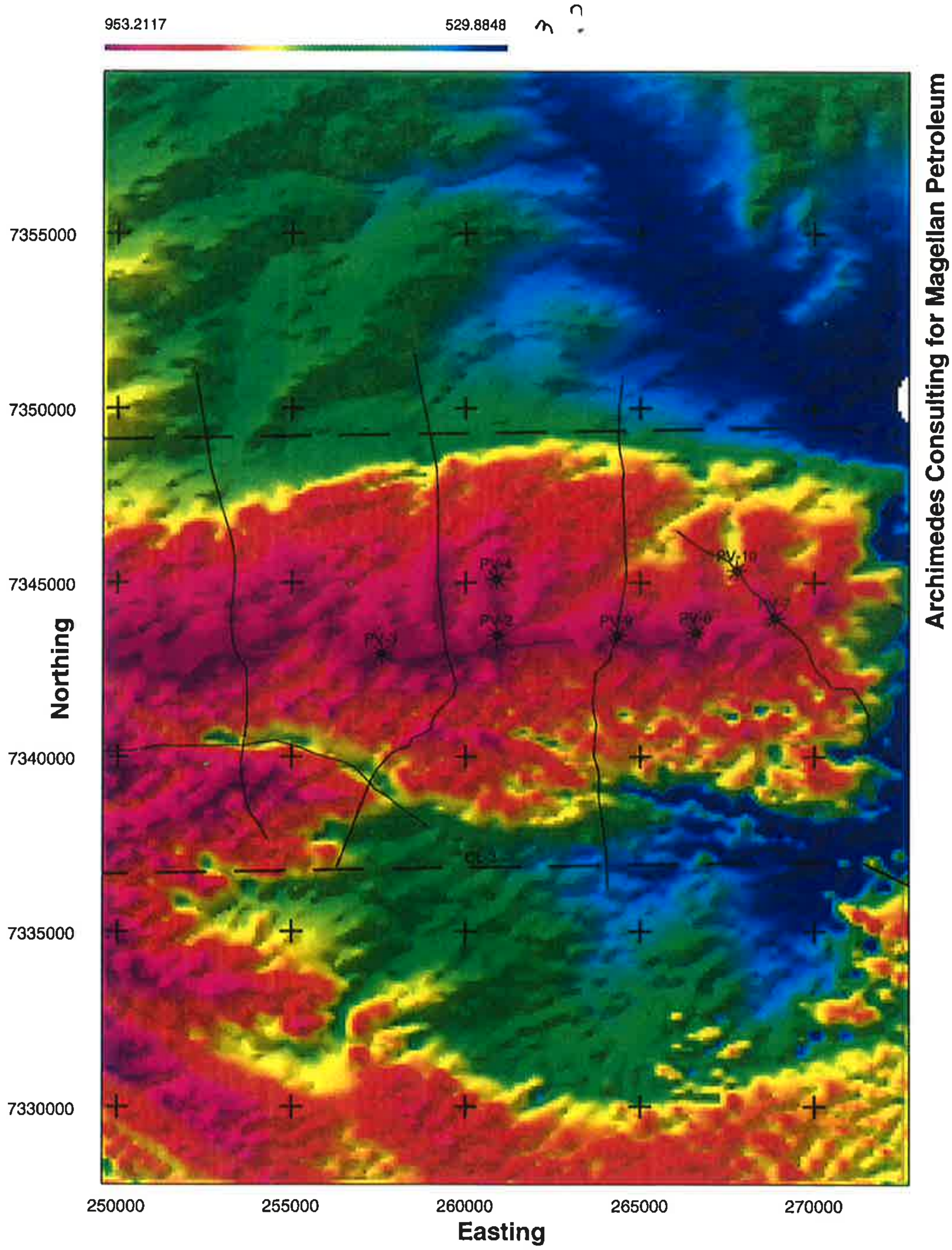


Figure 2e. Illuminated Digital Terrain Model (az315˚, el15˚)

Wells, Seismic lines and Permit boundaries shown

Logarithmic Radial Energy Spectra, Palm Valley Pilot Study

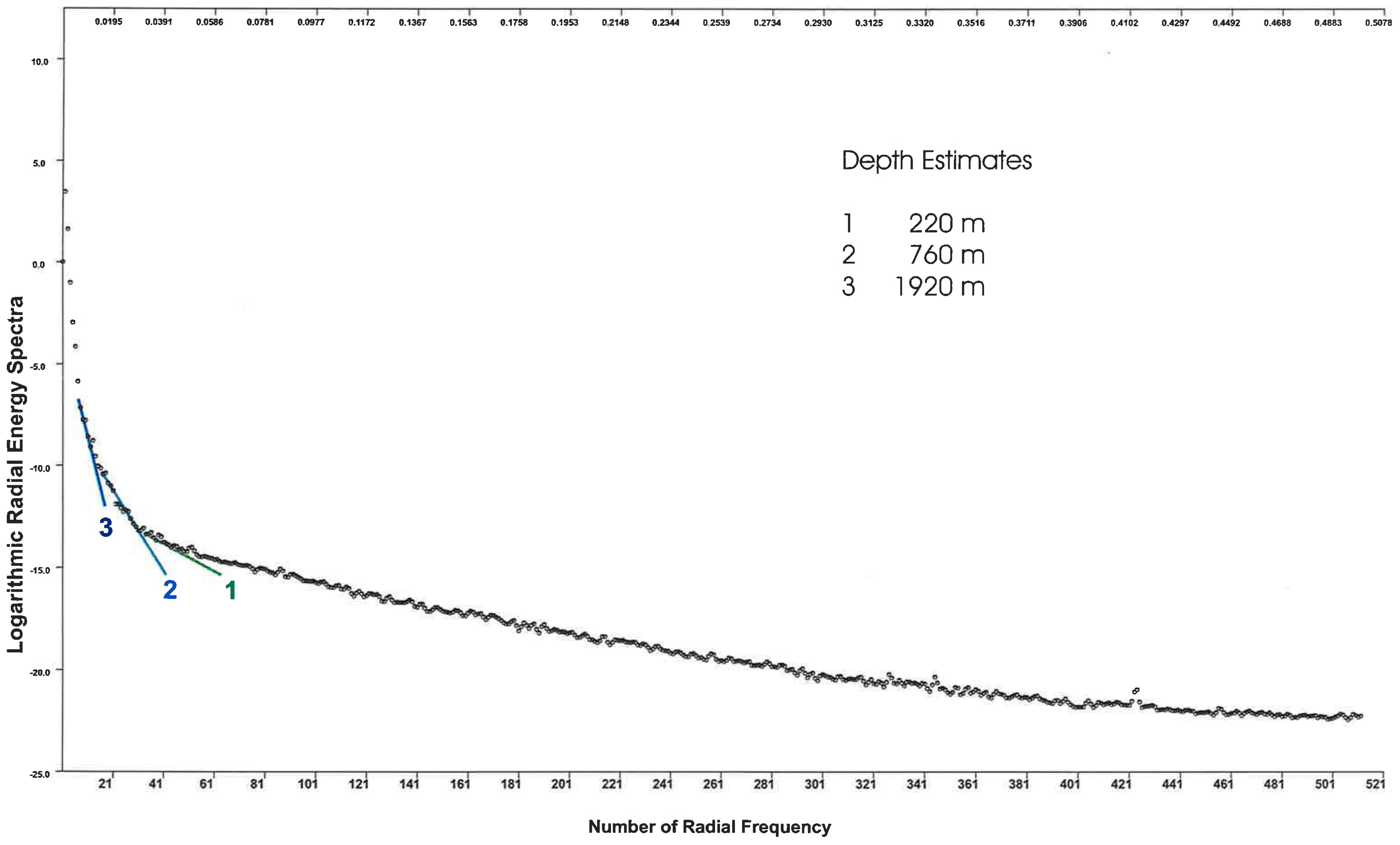
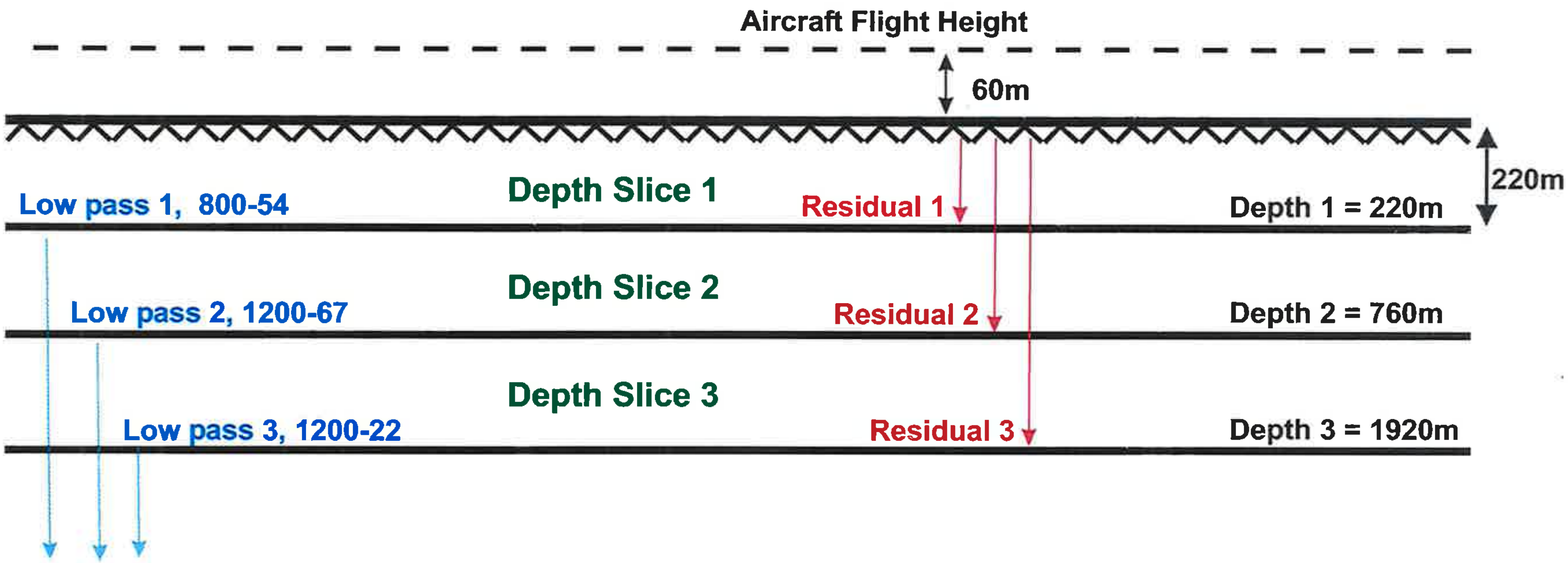


Figure 3. Amadeus Basin, Palm Valley- Depth Slice Schematic



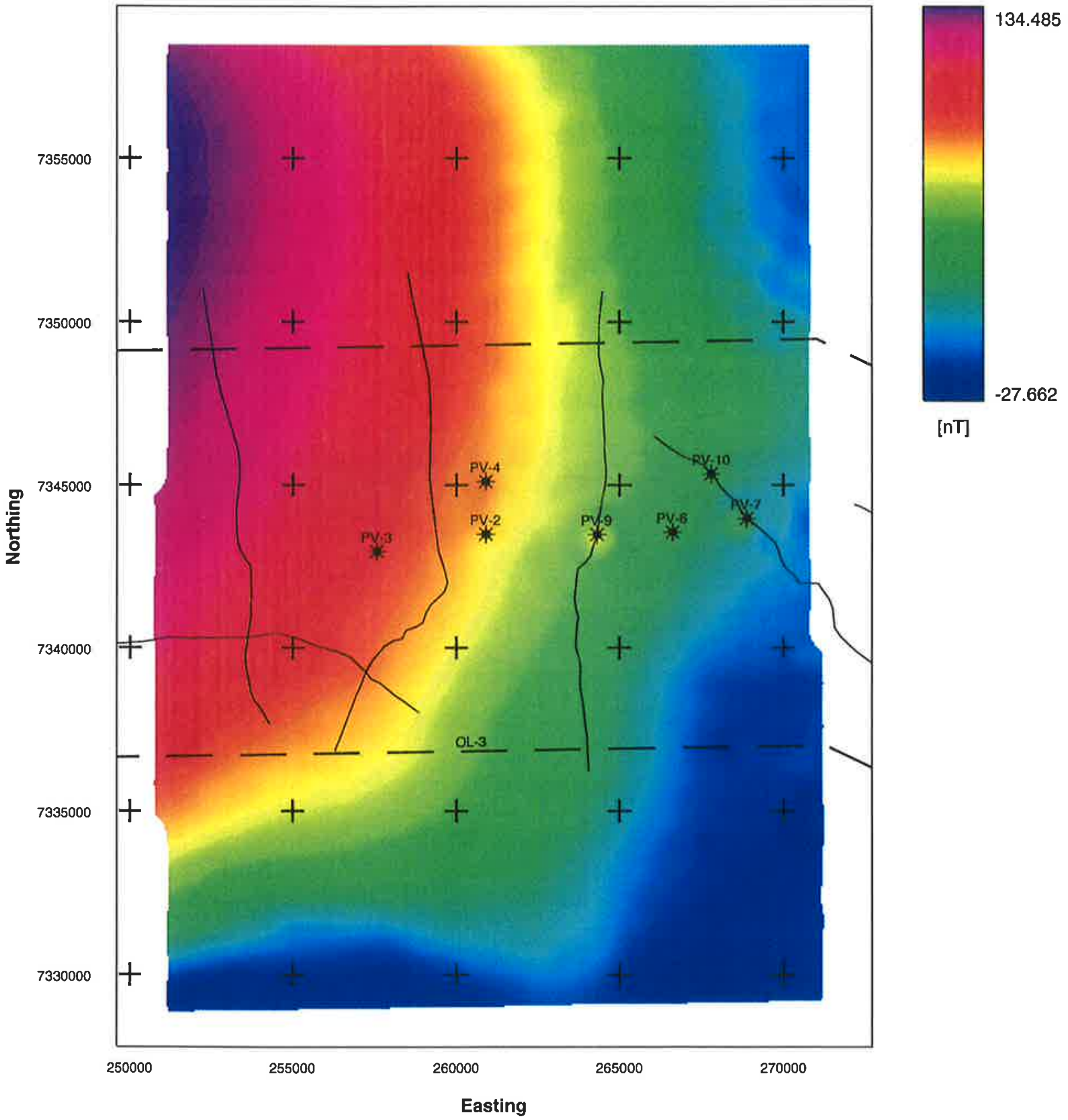
$$\text{Residual}_n + \text{Low pass}_n = \text{RTP}$$

Figure 4. Amadeus Basin, Palm Valley, Depth Slice Schematic

RTP ?

AMADEUS BASIN, Palm Valley: 'Lowpass Filter 1'

Pilot Study Area: 50 x 50m grid; Depth > 220m



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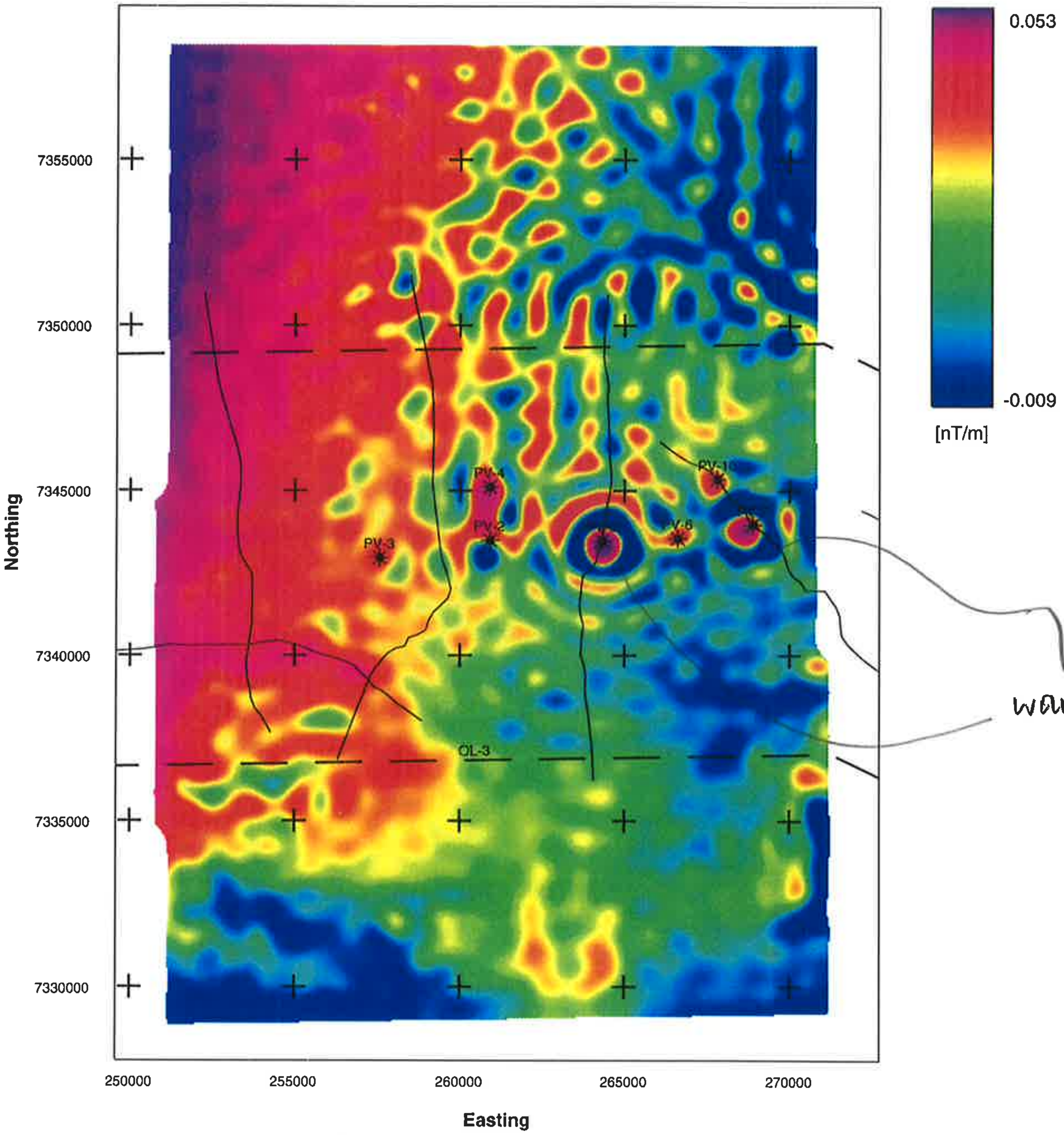
RTP ?

VERTICAL GRADIENT

AMADEUS BASIN, Palm Valley: 'Lowpass Filter 1 [VG]'

Pilot Study Area: 50 x 50m grid; Depth > 220m



WELL CASINGS

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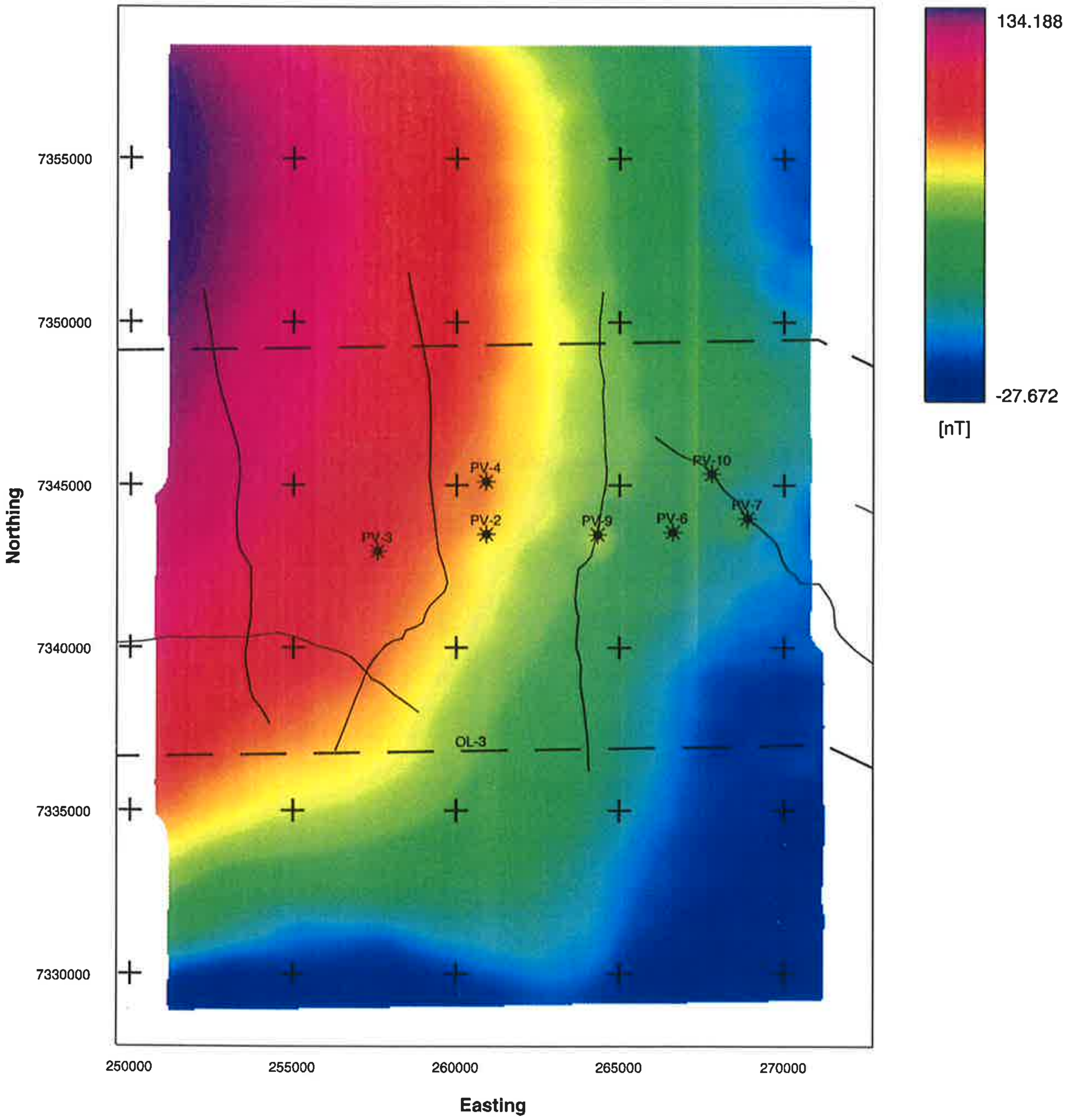
AMADEUS BASIN, Palm Valley: 'Lowpass Filter 2'

Pilot Study Area: 50 x 50m grid; Depth > 760m



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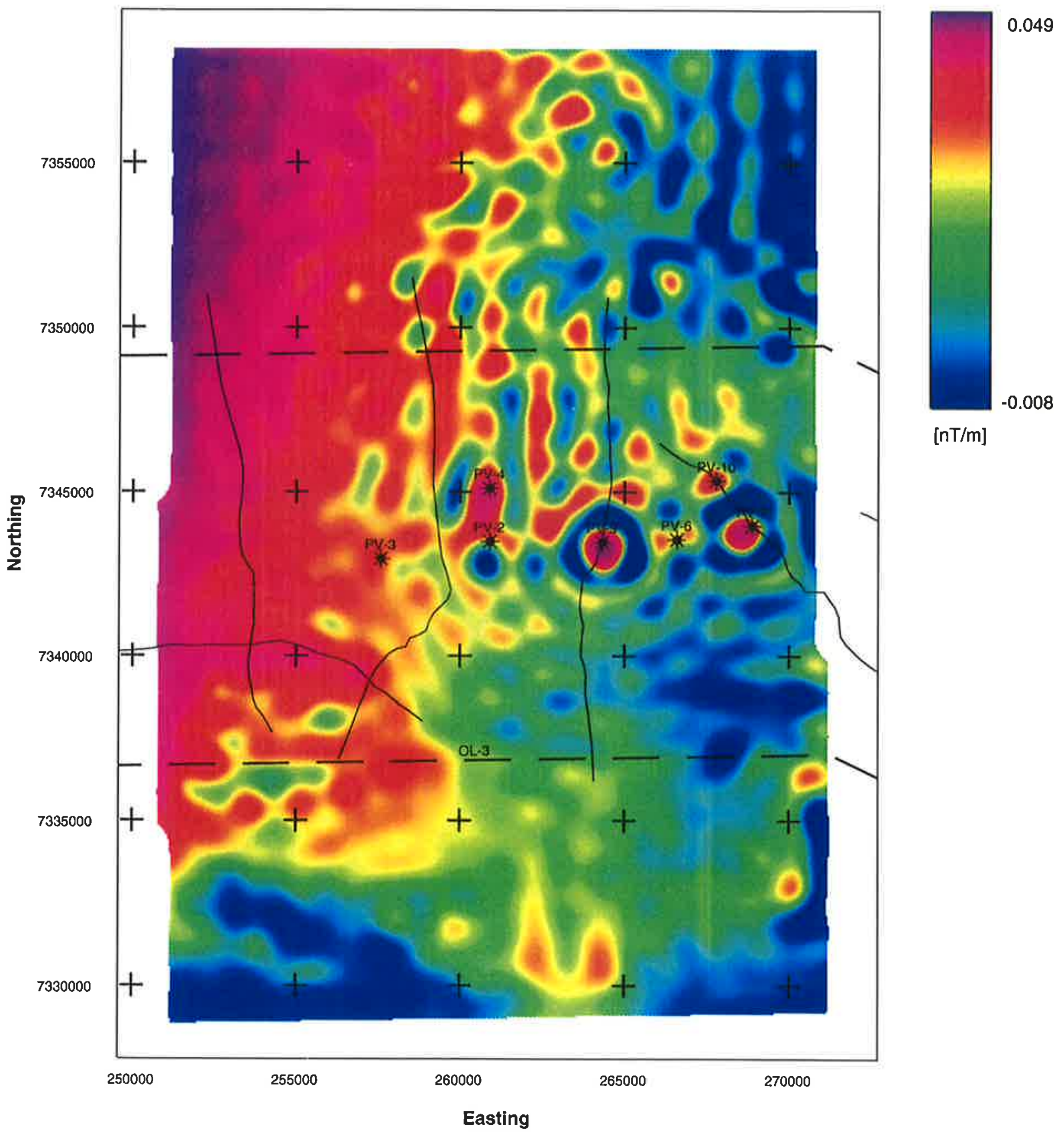
AMADEUS BASIN, Palm Valley: 'Lowpass Filter 2 [VG]'

Pilot Study Area: 50 x 50m grid; Depth > 760m



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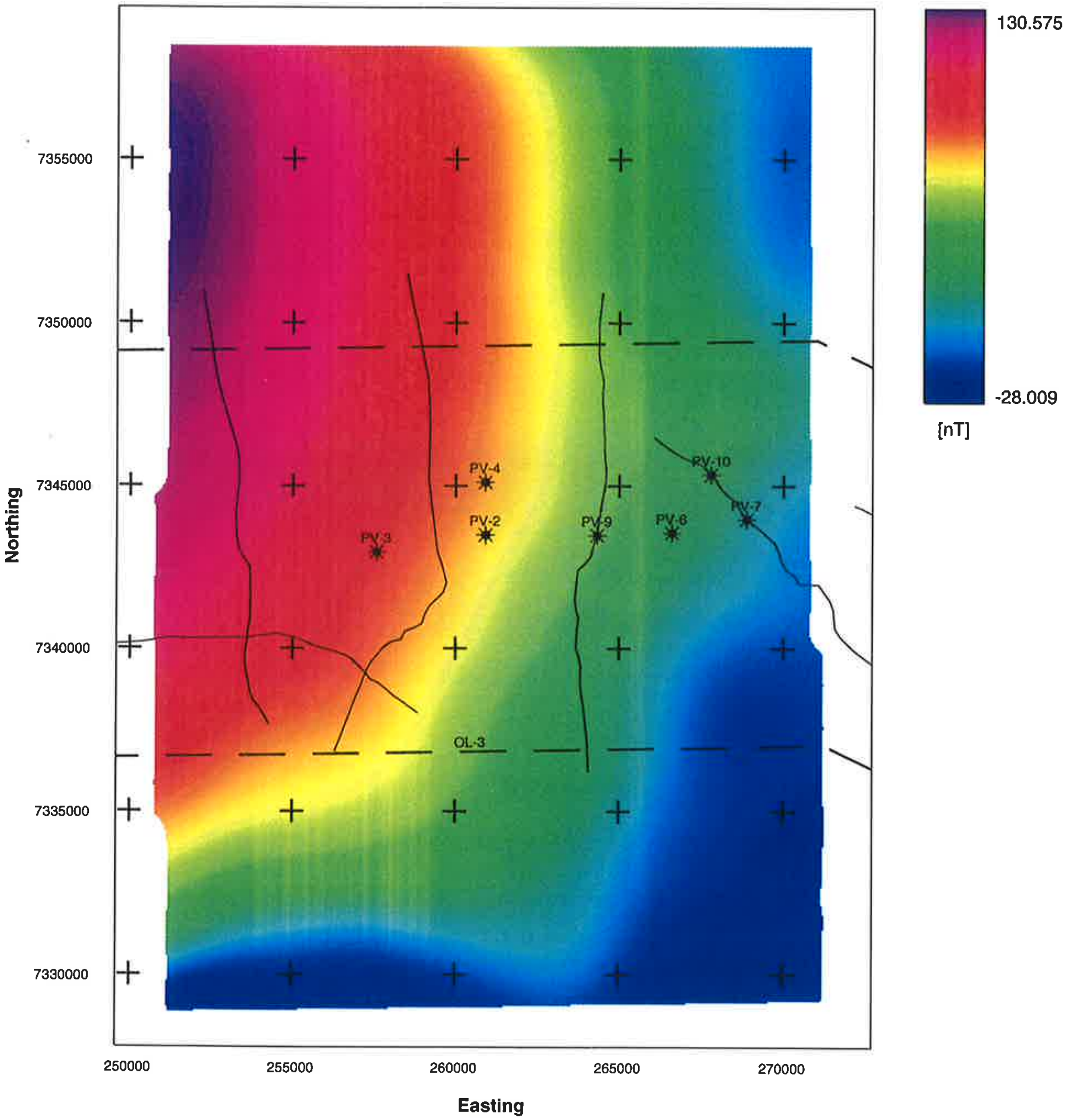
AMADEUS BASIN, Palm Valley: 'Lowpass Filter 3'

Pilot Study Area: 50 x 50m grid; Depth > 1920m



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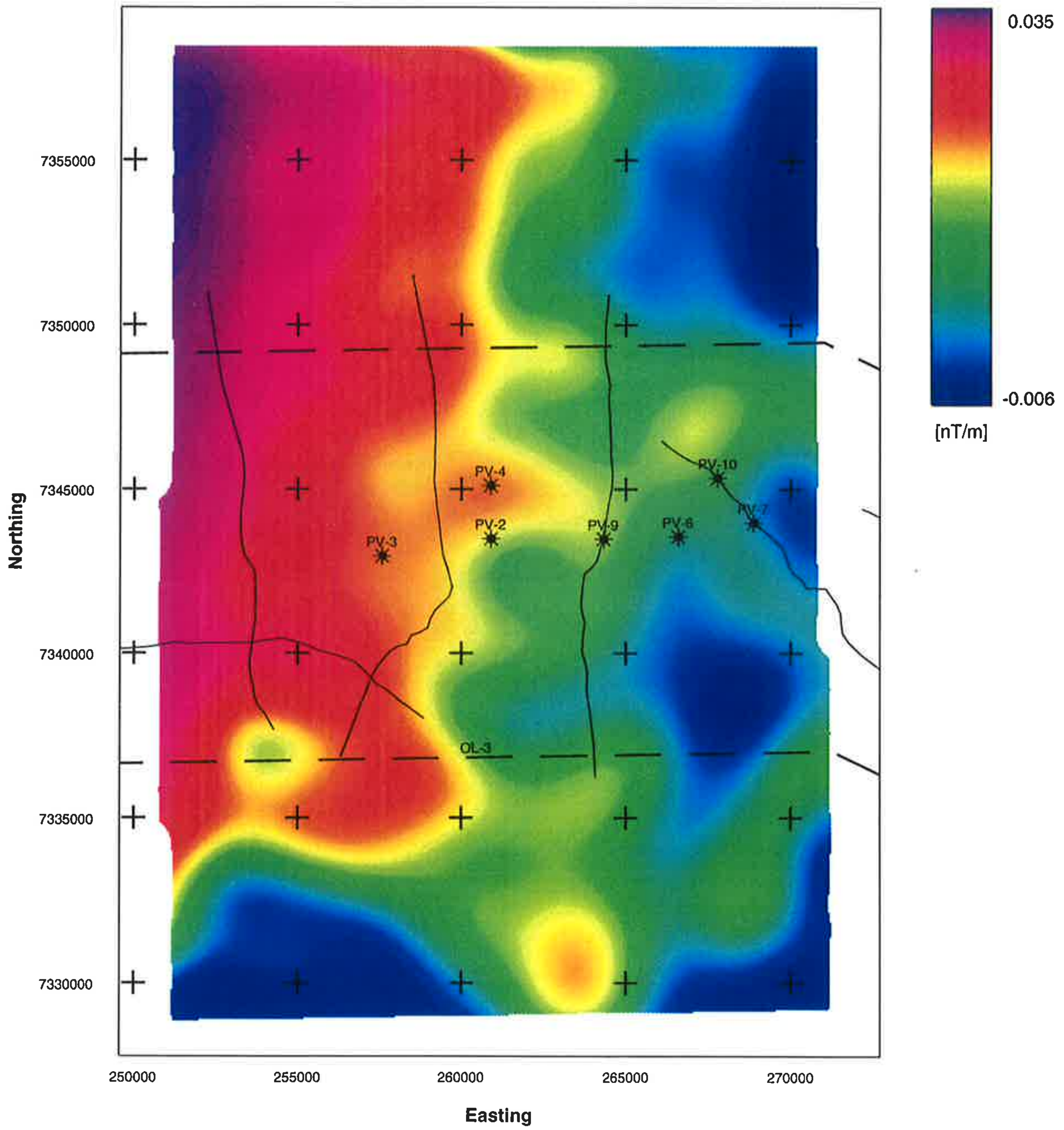
AMADEUS BASIN, Palm Valley: 'Lowpass Filter 3 [VG]'

Pilot Study Area: 50 x 50m grid; Depth > 1920m



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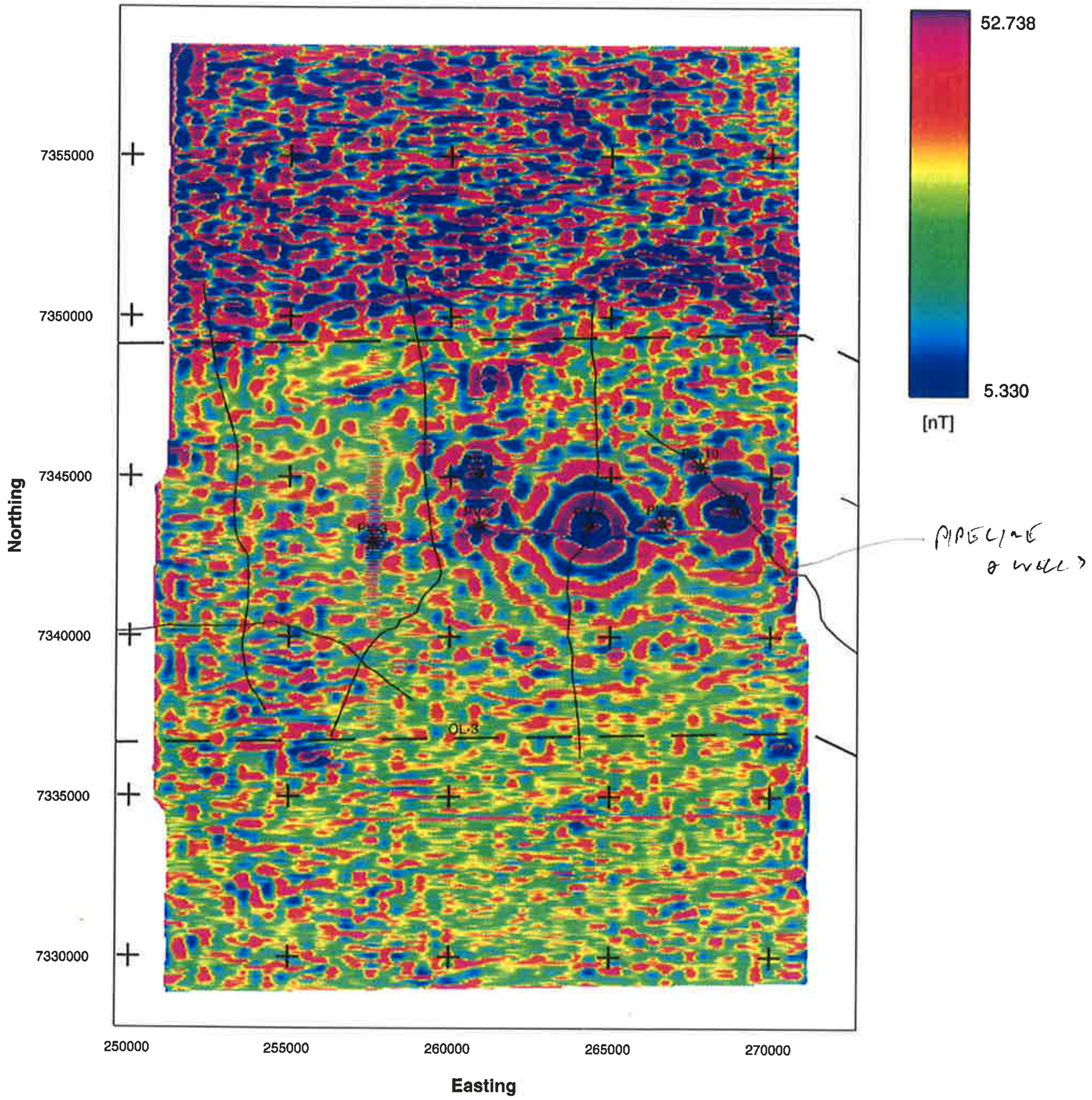
AMADEUS BASIN, Palm Valley: 'Residual 1'

Pilot Study Area: 50 x 50m grid; Depth < 220m



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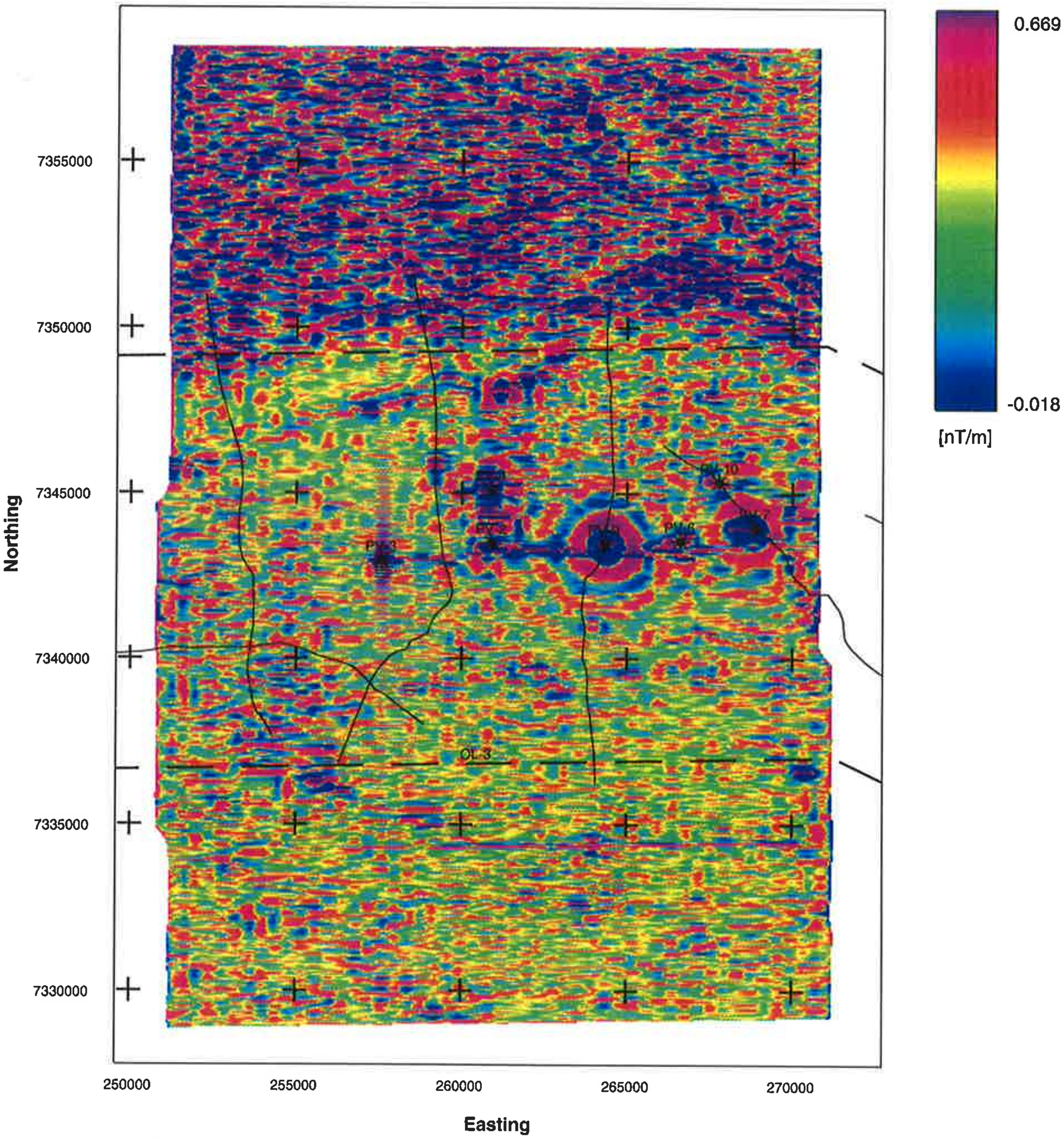
AMADEUS BASIN, Palm Valley: 'Residual 1 [VG]'

Pilot Study Area: 50 x 50m grid; Depth < 220m



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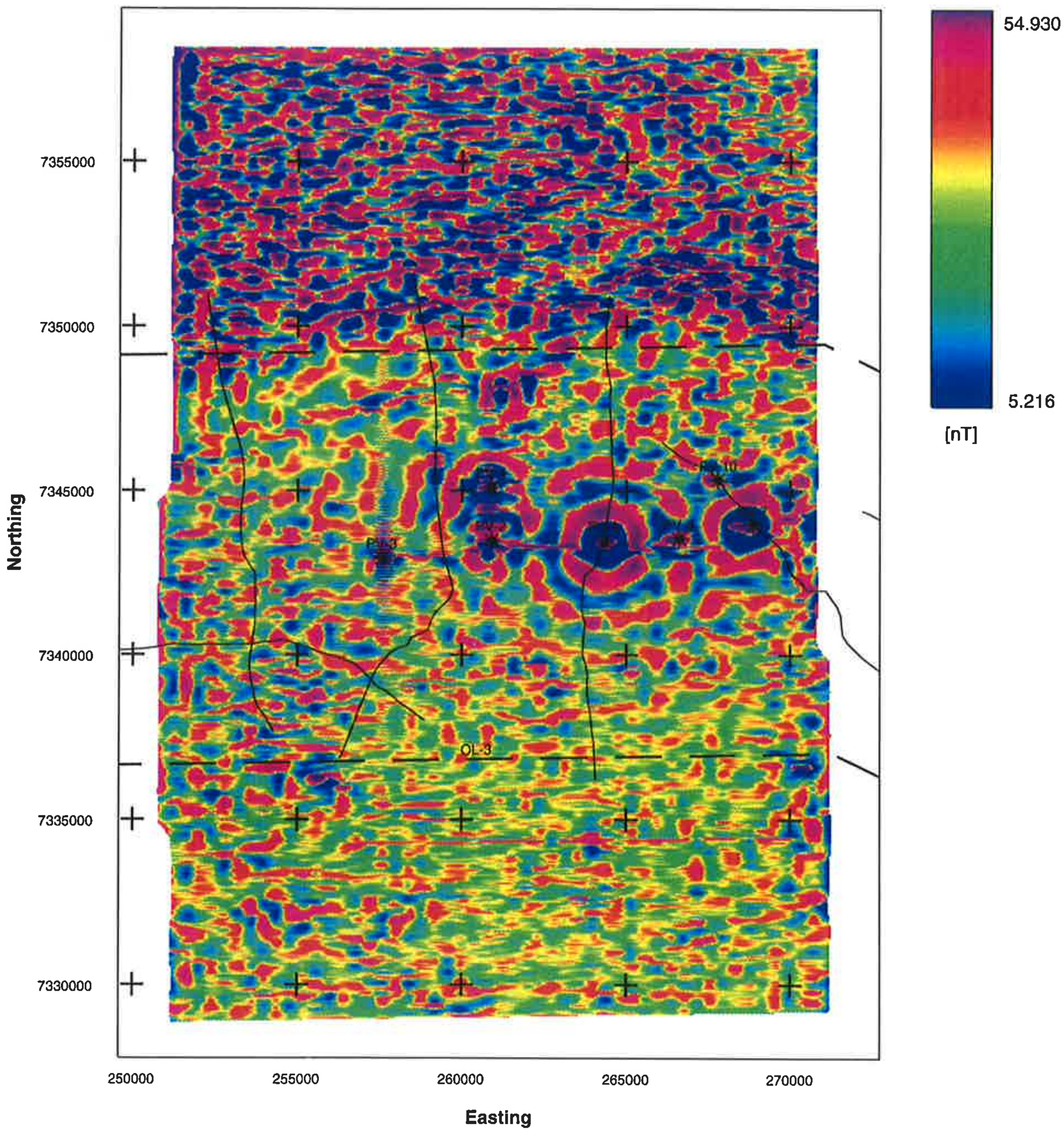
AMADEUS BASIN, Palm Valley: 'Residual 2'

Pilot Study Area: 50 x 50m grid; Depth < 760m



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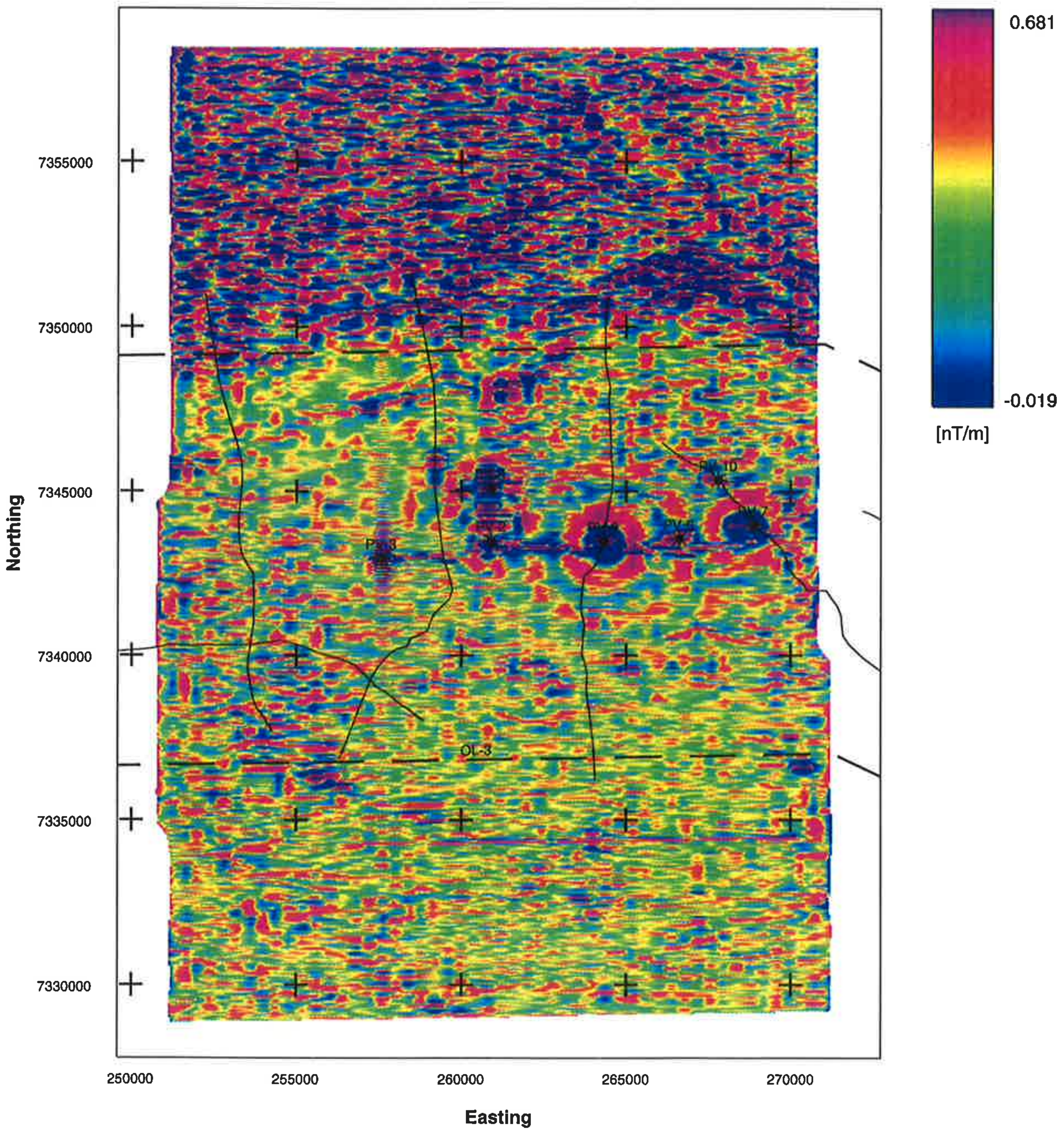
AMADEUS BASIN, Palm Valley: 'Residual 2 [VG]'

Pilot Study Area: 50 x 50m grid; Depth < 760m



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AMADEUS BASIN, Palm Valley: 'Residual 3'

Pilot Study Area: 50 x 50m grid; Depth < 1920m

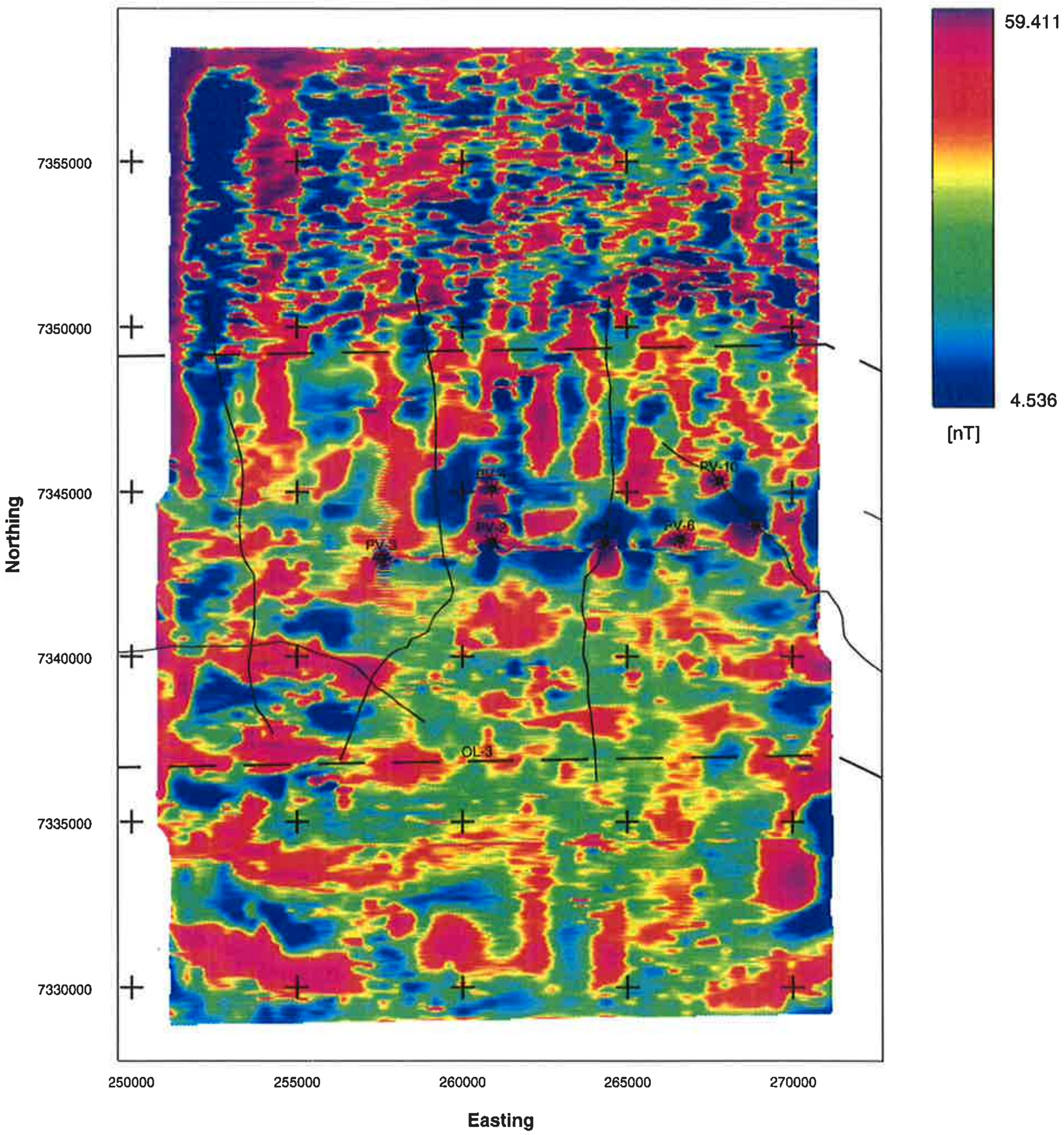

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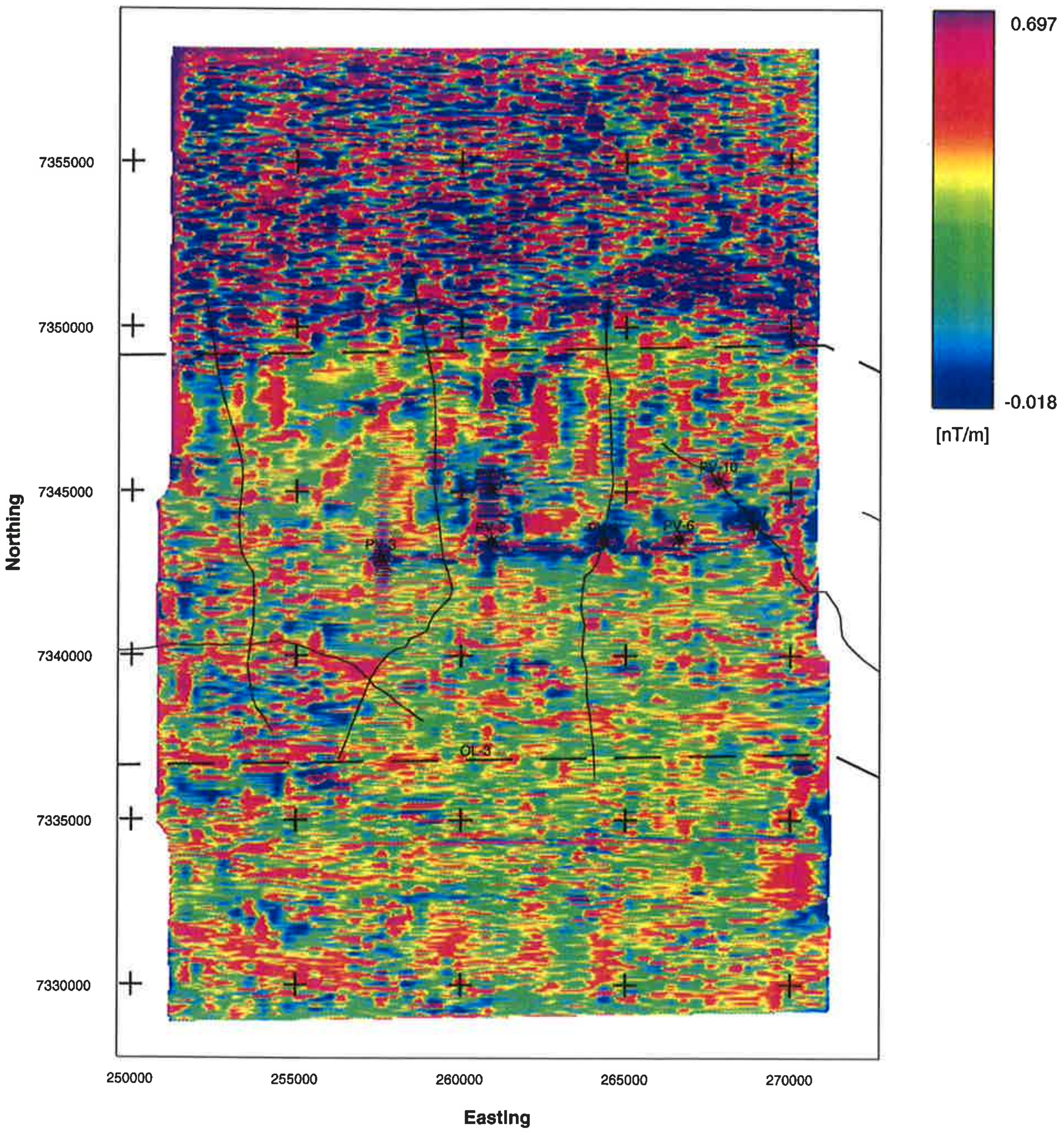
Figure: 6.2c
Scale 1 : 200000
May 2002

AMADEUS BASIN, Palm Valley: 'Residual 3 [VG]'

Pilot Study Area: 50 x 50m grid; Depth < 1920m



Dr. I Kivior

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for Magellan Petroleum
Figure: 6.2c-1
Scale 1 : 200000
May 2002

AMADEUS BASIN, Palm Valley: 'Depth Slice 2'

Pilot Study Area: 50 x 50m grid; Depth, 220m to 760m

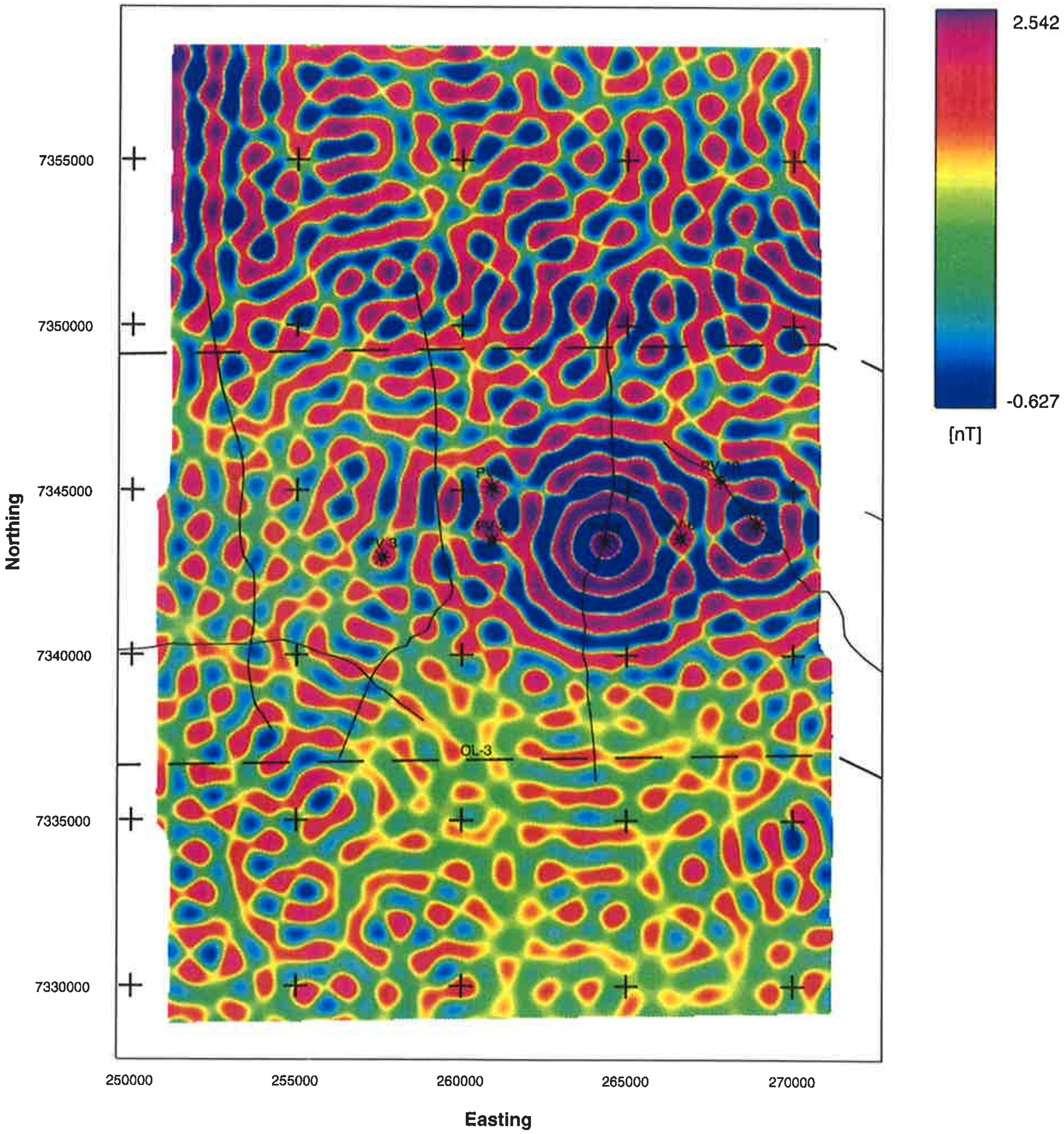

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Figure: 6.3a
Scale 1 : 200000
March 2002

AMADEUS BASIN, Palm Valley: 'Depth Slice 2 [VG]'

Pilot Study Area: 50 x 50m grid; Depth, 220m to 760m

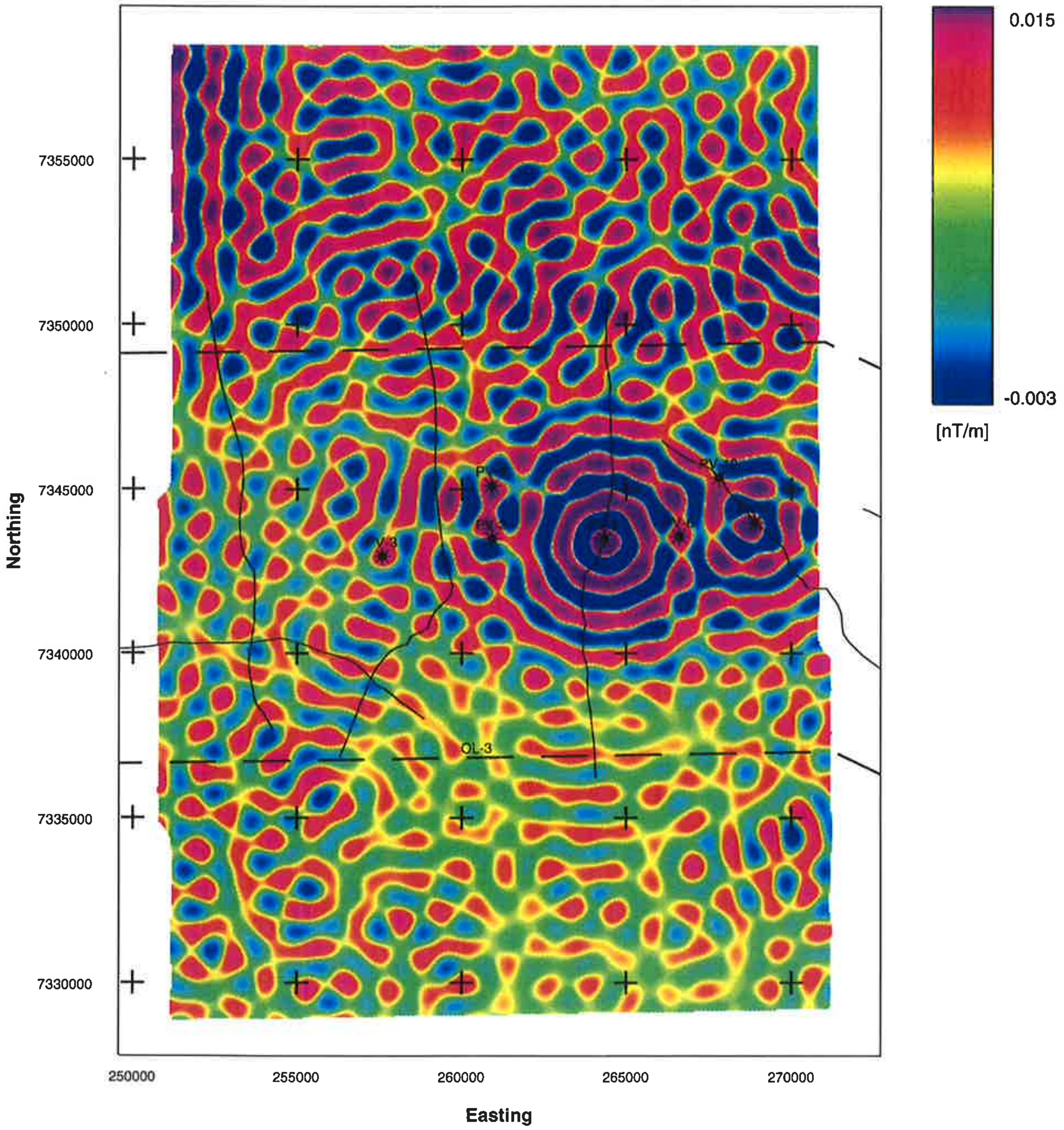

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Figure: 6.3a-1
Scale 1 : 200000
May 2002

AMADEUS BASIN, Palm Valley: 'Depth Slice 3'

Pilot Study Area: 50 x 50m grid; Depth, 760 to 1920m

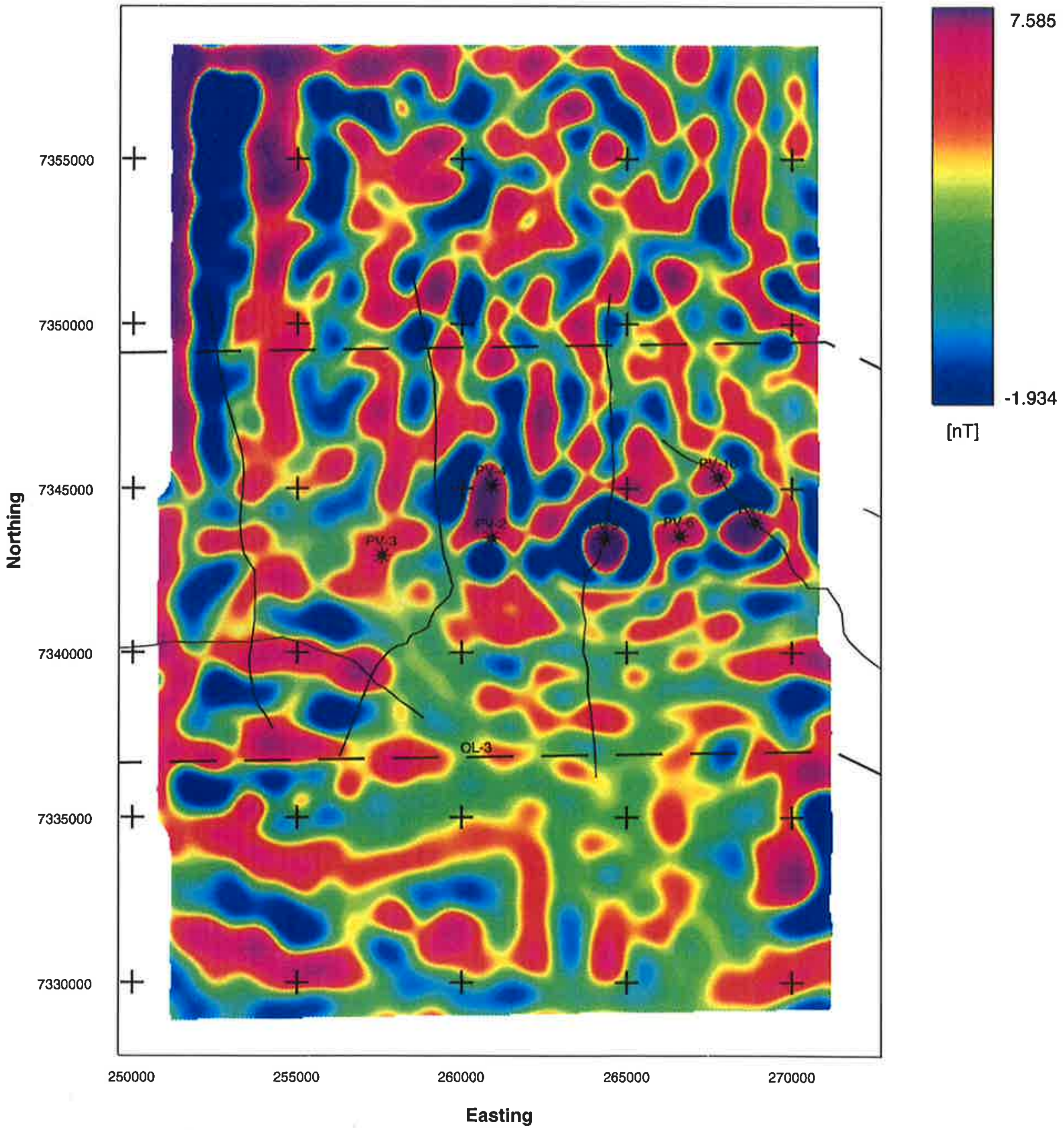

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Figure: 6.3b
Scale 1 : 200000
March 2002

AMADEUS BASIN, Palm Valley: 'Depth Slice 3 [VG]'

Pilot Study Area: 50 x 50m grid; Depth, 760 to 1920m

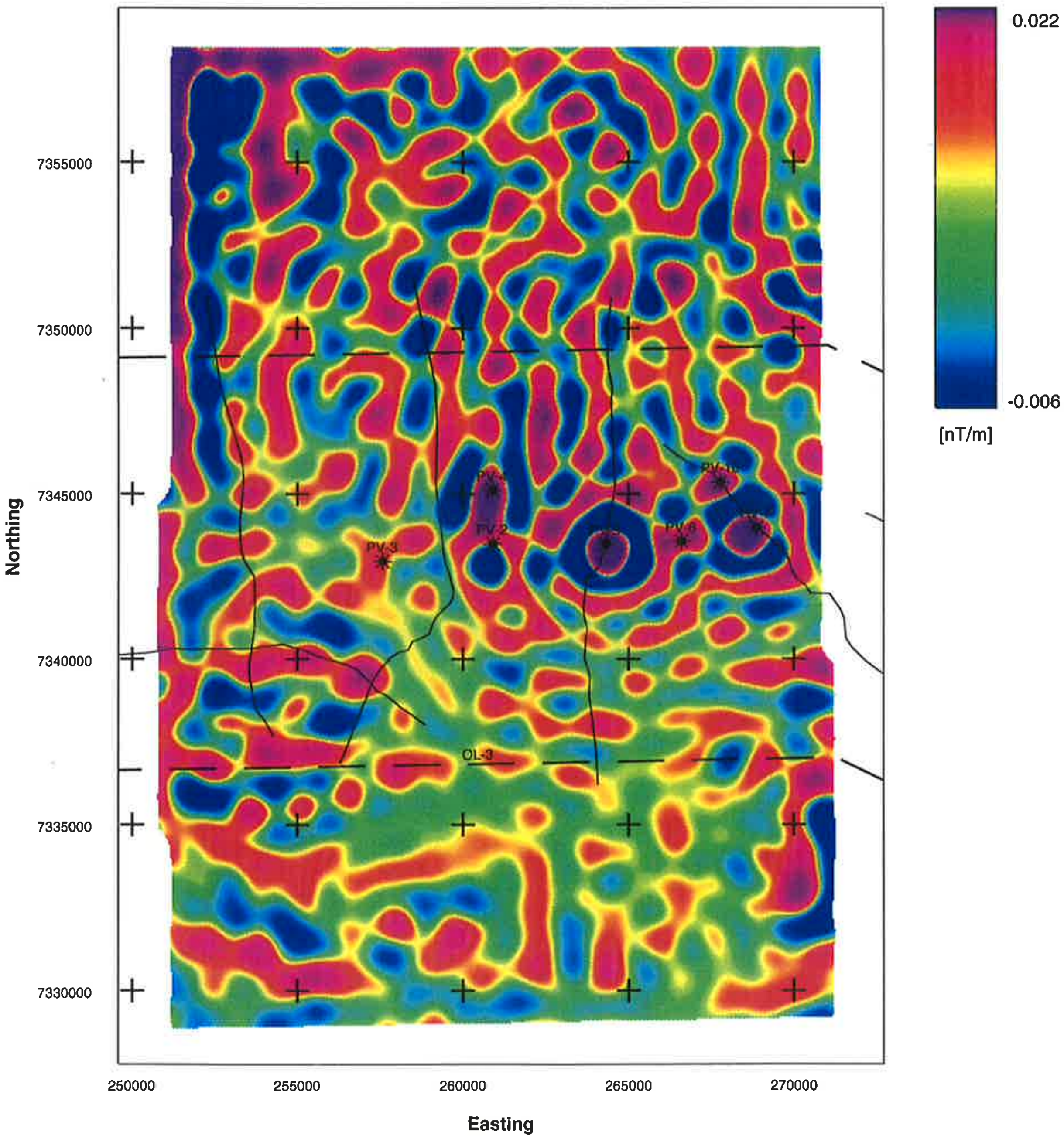

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Figure: 6.3b-1
Scale 1 : 200000
May 2002

PALM VALLEY: NS TMI; Top Pacoota sst, -170m to +500m. dk7

670 m

Interpreted Magnetic Structures from ESA & ACM

Scale, 1 : 100000

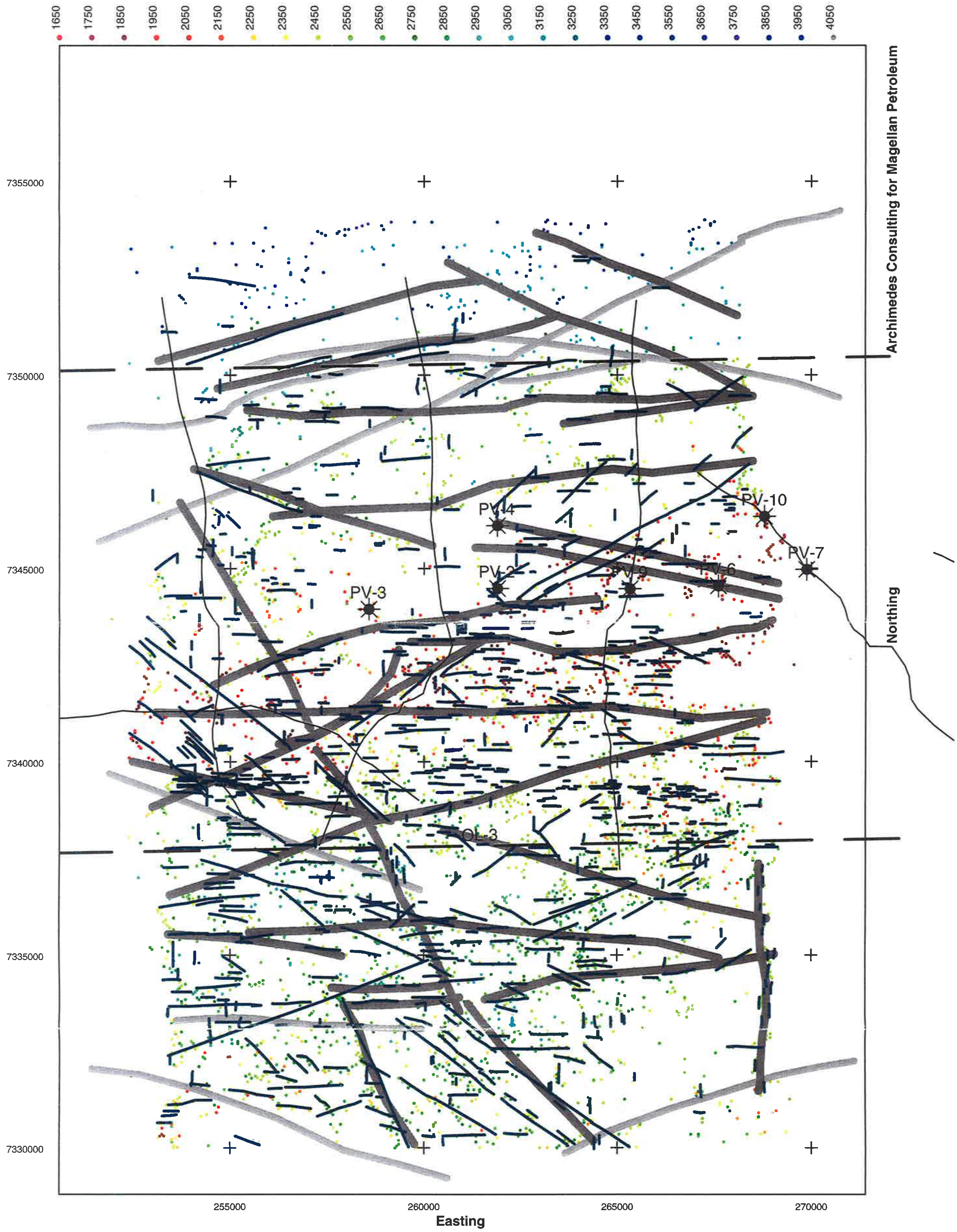

Figure 7. Depth to magnetic sources from ACM method. Top Pacoota sst, -170m to +500m.
Interpreted Magnetic Structures [blue]; Regional features [grey], seismic lines & permit boundaries [black]

PALM VALLEY: Top Pacoota sst, -170m to +500m. Interpreted Magnetic Structures from ESA & ACM

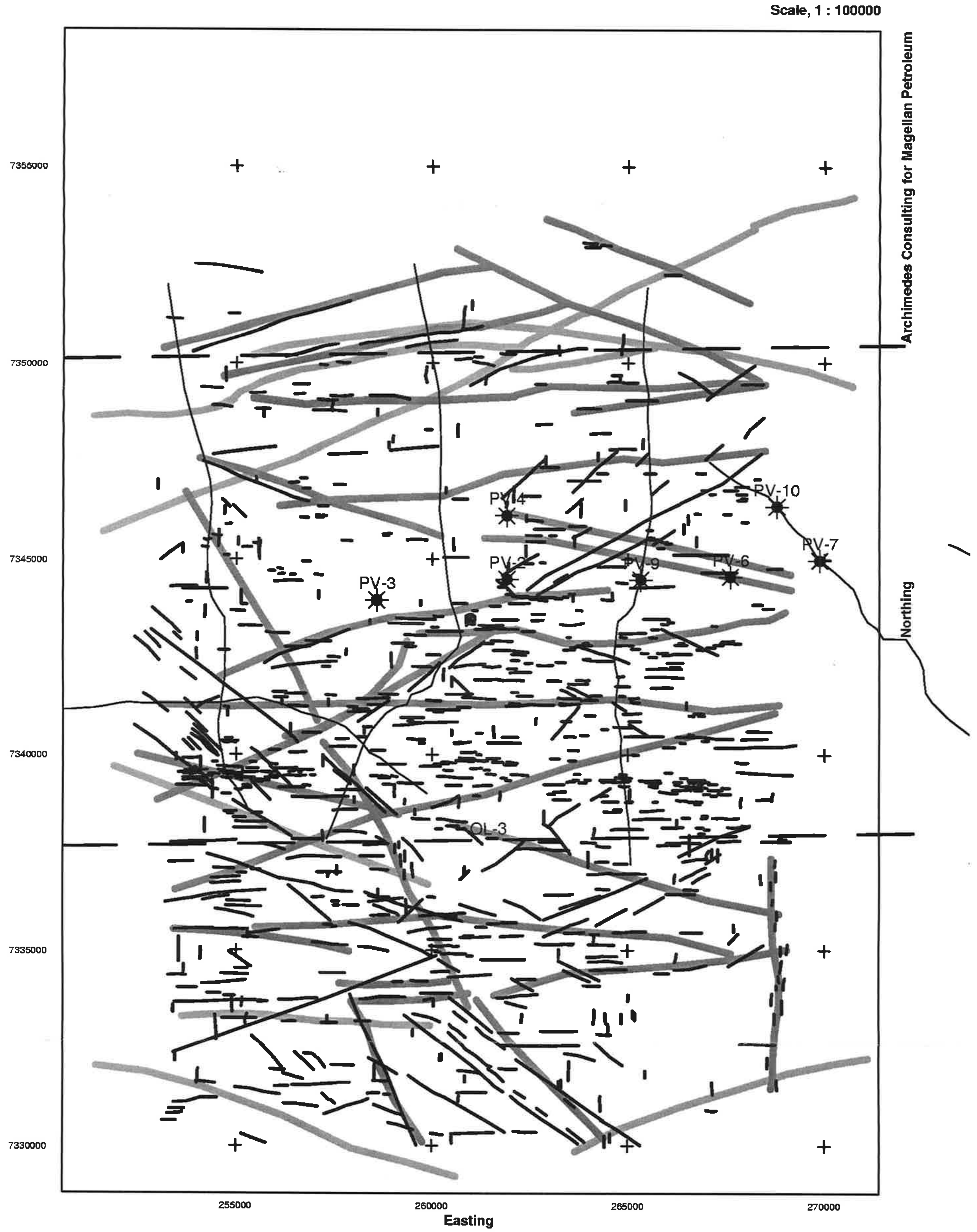

Figure 8. Depth to magnetic sources from ACM method. Top Pacoota sst, -170m to +500m.
Interpreted Magnetic Structures [blue]; Regional features [grey], seismic lines & permit boundaries [black]

MAGELLAN

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1 August 2002

Our ref: 2468MDBrms

Mushtak
Greg Ambrose
any response required?

Mr R Martin
Director of Energy
Department of Business, Industry
and Resource Development
GPO Box 3000
DARWIN NT 0801

Dear Sir

Re: Aeromagnetic Pilot Study over Palm Valley

The Palm Valley Joint Venture approved a pilot study in May this year to process and analyse high-resolution aeromagnetic data over Palm Valley. The work was carried out in June and the report entitled "Processing and Analysis of Aeromagnetic Survey Data over part of the Amadeus Basin Northern Territory, Australia, Palm Valley; OL-3", is attached for your attention.

The objective of the pilot study was to evaluate the potential of using high-resolution aeromagnetic data in further evaluating the structure and fracturing at Palm Valley. The study was carried out by Archimedes Consulting using two proprietary processing techniques, Energy Spectral Analysis (ESA) and Automatic Curve Matching (ACM). The latter technique has the advantage of higher resolution of detected structures and good estimates of the depth to magnetic sources.

The results, which are displayed as a magnetic source map, have been interpreted as a series of magnetic lineaments in the reservoir which follow the structural grain of the field and several larger regional/basement related features. What is interesting is the presence of a line of east-west orientated magnetic lineaments along the crest and generally in the hinge region, south of Palm Valley-2. Although these data fit with the current geological model of the field, the resolution of the primary data set (400m line spacing) is insufficient to adequately define fracture domains within the reservoir.

At a Technical Committee meeting held on 23 July 2002, the Palm Valley Joint Venture decided not to pursue this line of technical investigation at this time because it would not affect the decision on locating the next well at Palm Valley.

Should you have any questions regarding this pilot study, please do not hesitate to call.

Regards

Martin Berry.

Martin D Berry
Senior Geologist

Attachments

James Groombridge

30/08/2002 10:45

To: ikivior@archimedes-consulting.com.au
cc:
Subject: Pilot Study - Aeromagnetic Survey Data - Palm Valley

Dear Irena

I am employed by the NT Dept of Business, Industry and Resource Development as a petroeum inspector and petroleum engineer/geoscientist in the Energy Division.

Martin Berry of Magellan has given me the OK to contact you directly about your very interesting pilot study - providing I don't incur any additional costs. I would be grateful if you could answer the questions below.

I request your patience.

1. I see the 'dots' - magnetic sources - on Figure 7 have depths over the range 1650-4050 ('colour indicates depth' p.20), while the slice of interest is 760-1920m. How do these relate?
2. What assumption is made about residual magnetisation for each 'dot'?
3. How does the -170m to +500m (difference 670m) relate to 760-1920m (difference 1160m) ?
4. What is 'ESA' on Figures 7 and 8?
5. How could the intensity of each dot be conveyed - for instance by mass of magnetite?
6. Are the blue linear features created by joining up the dots? If not how are they created?
7. How are the grey regional features derived?
8. Are all depths 'depths below flight path'? If not then I would have a lot more questions.
9. Is all the data from Figure 6.1a through to Figure 6.3b-1 'reduced to pole'?
10. Should the scales for Figure 2c be nT/m and for Figure 2d be nT/m^2?

I apologise for these detailed questions and my limited knowledge of the subject that they may show to you - but the objective is to improve my knowledge in this area.

Regards

James Groombridge

Irena Kivior
<ikivior@archimedes-consulting.com.au>
Sent by: ikivior@archimedes.adelaide.edu.au

02/09/02 08:55 PM

To: James Groombridge <James.Groombridge@nt.gov.au>
cc: Martin Berry <mdberry@magpet.com.au>
Subject: [Fwd: Palm Valley Pilot Study]

Dear James,
Thank you for your e-mail. In respect of your questions:

1) A Dot is showing the position of the centre of a magnetic anomaly (centre of the magnetic body) analysed. Colour indicates depth to the magnetic source detected using the ACM method (improved Naudy Technique). For each analysed anomaly (along a profile) has been computed; depth to magnetic body, width of the body (eg dyke model), angle of dip and magnetic susceptibility, as well as a statistical indication of the goodness of fit. Figure 7 shows the magnetic bodies detected above and below the 'Top of Pacoota P1 ' horizon which is derived from seismic. The seismic horizon has depths of over 2 km at the southern extremity, has its shallowest point around the wells and plunges to greater depths in the north of the study area. The crustal depth band that we constructed has a similar geometry which explains the depth range of 1650-4050m. The blue lineaments are interpretations of magnetic bodies detected within the crustal depth band. The grey coloured lineaments are an interpretation of lowpass filtered, residual (analogous to highpass) and 'depth slice' (frequency band) images produced from spectrum-based filters. The spectrum indicates magnetic interfaces at 760m and 1920m which are above and below the 'Top of Pacoota P1 ' horizon intersected at the wells. So Figure 7 and 8 are showing results from two different methods; interpretation from filtered data (grey; between 760 & 1920m) and from ACM output (blue; between 1650 & 4050m), with the greatest correlation occurring in the vicinity of the wells.

2) Please find forwarded some correspondence betwen Magellan and Archimedes, which explains
the specification of our client of the Crustal Depth Band to be analysed:

- upper limit will be the ' Top of Pacoota P1 ' plus 170m
- bottom limit will be the ' Top of Pacoota P1' minus 510m (later changed to 500m)

If you have any other questions I would be pleased to help you.

Regards,
Irena.

--

Dr Irena Kivior
Archimedes Consulting

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Tel (Mobile): +61 0412 490904
PO Box 423
Fax: +61 8 8234 2637
Glenside, SA, 5065
Email
ikivior@archimedes-consulting.com.au
Australia

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etc. will be ploted on the maps for your convenience.

I hope you will be well soon.
Regards,
Ierna.

Martin Berry wrote:

> Irena,I am not in the office at the moment, but have attached what I believe is the data you require, with the exception of the pipeline location data. I will try and get the pipeline location information sent to you from the office. As for the top lower Stairway data, it should be almost identical to the top Pacoota P1 data minus an average of 170 meters, as the stratigraphy is more or less layer cake throughout the sequence. I hope this is what you need, if it is not or you require more please let me know.I spoke to your office today and was told that we should expect some results by Monday. Looking forward to seeing them.Regards,Martin.
>
> > -----Original Message-----
> > **From:** Irena Kivior [mailto:ikivior@archimedes-consulting.com.au]
> > **Sent:** Thursday, 30 May 2002 1:05 PM
> > **To:** Martin Berry
> > **Subject:** Re: Palm Valley Pilot Study
> >
> > Dear Martin,
> > we are currently in the final stages of preparing the results from the Palm Valley Pilot Study. Could you send us digital well locations, permit boundaries, seismic shot point data and pipeline locations so that we can plot these on our maps (Petrosys ASCII format, perhaps)? We also would like to request a digital copy of the Pacoota Sandstone structure that you emailed to us. Could you supply that to us as an ASCII xyz grid such as can be exported from software packages like Petrosys?
> >
> > Regards,
> > Irena Kivior

--

Dr Irena Kivior
Archimedes Consulting

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