Zonge Engineering and Research Organization (Australia) Pty Ltd

Mt. Owen
CSAMT and PDIP Surveys

Logistics Summary

April 2011

for

Bondi Mining

Compiled by:

S.Mann

Report No: 918

Date : May 2011

Zonge Engineering & Research Organization (Australia) Pty Ltd

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1. SUMMARY

During March and April 2011, Zonge Engineering and Research Organization (Zonge) mobilised a four-person geophysical field crew to Mt. Owen in Tasmania to conduct a Controlled Source Audio-Frequency Magneto Telluric (CSAMT) and Pole-Dipole Induced Polarisation (PDIP) surveys for Bondi Mining.

The survey commenced on the 20th March 2011 and was completed on the 22nd April 2011. In this time CSAMT data were collected along 1 line at 100m station spacing. In total, 1.3 line kilometres of scalar CSAMT data were recorded. PDIP data were collected along 5 lines using 100m and 200m receiver dipoles and 100m station spacing resulting in 678 data points read over 9.5 line kilometres.

Survey planning and interpretation of data was performed by John Coggon of Mines Geophysical Services.

Data quality and repeatability were monitored throughout the course of the survey which ensured that the best possible data were acquired given local conditions and time constraints.

2. INSTRUMENTATION

A Zonge multipurpose GDP-32^{II} receiver was used to take all of the data for this project. CSAMT H-field data was recorded using a Saarloos magnetic field antenna.

The raw data from each day was downloaded to a laptop computer before being sent to Zonge's Adelaide office. Final processing, plotting and modelling were completed in Zonge Engineering's Adelaide office.

Brass stakes were used as receiver and transmitter electrodes used in acquiring electric field data for both PDIP and CSAMT. Standard practice is to use porous ceramic pots for receiver electrodes however as much of the survey lines ran over exposed rock these were not deemed suitable. Receiver arrays were connected using multicore custom designed cables.

Transmitted fields were generated with a Zonge GGT-30 geophysical transmitter which was powered by a ZMG-30 generator system.

Signal frequency and synchronisation were controlled by an XMT-32 controller which was synchronised to the GDP-32ii receiver daily. Transmitter arrays were constructed using 2.5mm^2 insulated copper wires.

3. SURVEY PARAMETERS

CSAMT:

Each CSAMT receiver array consisted of up to seven 100m E-field (Ex) dipoles and one central H-field (Hy) measurement which were recorded simultaneously to provide scalar TM mode coverage of each line. Line orientation was 035°T, line specifications shown in detail in Table 2.

Harmonic CSAMT data were recorded over the frequency range 4 to 1024 Hertz for which the 1^{st}, 3^{rd}, 5^{th}, 7^{th} and 9^{th} harmonics of the fundamental were also recorded. Fundamental frequency CSAMT data were acquired over the frequency range 2048 to 8192 Hertz. Reading frequencies are integer powers of 2 so that fundamental frequencies were 2, 4, 8....8192 Hertz.

CSAMT transmitter dipole was 1722 metres in length and oriented approximately parallel to the receiver line. The transmitter dipole was approximately 8.4 kilometres from the receiver line. The location of transmitter dipole is shown below in Table 1. Transmitter current was generally just above 3.5 Amps for the lower frequencies (below 256Hz) with current reducing to 2 Amps at higher frequencies. Transmitter electrodes were foil lined pits as these were located in an area west of Queenstown where soil cover was sufficient for their construction.

Line and station numbers correspond to a local grid setup to reflect distance along line in metres from a starting station of 1000, start and end points of the line are shown below in table 2. Station numbers and corresponding UTM easting, northing and topographic elevation (NASA SRTM data) is contained within the .stn files for each line accompanying the digital data with this report. All UTM coordinates presented in stn files and tables below are in GDA94 Zone 55.

PDIP:

PDIP data were collected in a “roll-along” configuration with up to 12 channels of data acquired simultaneous for each transmitter setup. Channels 1-8 were collected using 100m receiver dipoles, channels 9-12 were collected using 200m receiver dipoles. Station intervals along line were 100m. Transmitter electrodes were stakes as the lack of soil within the survey area prevented the construction of pits.

PDIP data were taken in Time-Domain IP mode at 0.125 Hz frequency. Receiver and transmitter controller were synchronised daily each morning.

Table 1 Mt. Owen Transmitter Location

Transmitter Site	Tx Centre (mE)	Tx Centre (mN)	Orientation (°T)	Length (m)
TX1	378206	5342983	035	1722

Table 2 Summary of Mt. Owen Data Acquired for Job 918

Line Number (MGA94)	Survey Type Conducted	Rx Dipole Size	Start Station (MGA94)	End Station (MGA94)	Line Orientation (°T)	Length	Data Points
(53)38100N	Pole-Dipole	100m, 200m	(38)5600 mE	(38)7100 mE	090	1.5km	90
(53)39000N	Pole-Dipole	100m, 200m	(38)4100 mE	(38)6200 mE	090	2.1km	153
(53)39300N	Pole-Dipole	100m, 200m	(38)4100 mE	(38)6200 mE	090	2.1km	164
(53)39600N	Pole-Dipole	100m, 200m	(38)4100 mE	(38)6200 mE	090	2.1km	164
Q	Pole-Dipole	100m, 200m	385330 mE 5338780 mN (Loc-1000)	386303 mE 5340174 mN (Loc-2700)	035	1.7km	107
Q	CSAMT	100m	(53)39026 (38)5502 (Loc-1300)	(53)40092 (38)6246(Loc-2600)	035	1.3km	14
Total CSAMT Soundings:						**14**	
Total CSAMT Line Kilometres:						**1.3**	
Total PDIP Data Points:						**678**	
Total PDIP Line Kilometres:						**9.5**	

* line length taken from maximum extent of receiver electrodes for CSAMT and transmitter electrodes for PDIP

4. PRODUCTION SUMMARY AND ISSUES

No major delays occurred during the survey. Production in general was slow due to rough terrain.

One injury incident occurred during completion of the survey. One person has cut his thumb when stripping wire. One other incident was recorded which related to a fall which did not result in personal injury however resulted in minor equipment damage. Copies of both incident reports may be found in Appendix II and on the accompanying disc.

Detailed information on daily production may be found on the accompanying disc under *"Production Reports"*. Additional information about safety issues may be found on the same disc under *"Safety_Documentation"*.

Appendix I provides a Summary of the Production of Job 918.

5. DATA PROCESSING

CSAMT

The quality of each block of raw data was examined using Zonge CSAVGW software before being averaged to create a single record or sounding for each receiving station. Blocks or channels that were considered of poor quality were skipped before averaging each station's data. Where harmonic data was recorded over the frequency range 32-1024 hz the 1st, 3rd and 5th harmonic data were used, the higher harmonics were not considered reliable enough for interpretation. All raw data taken during this survey are included on the accompanying disc so that this data may be edited and re-averaged if necessary.

CSAMT data acquired on the final day of surveying was not considered reliable enough for interpretation due to the extremely high SP and noisy nature of this data. Nearby work involving electrical equipment on telecommunications infrastructure near the line on this last day of production was considered the likely cause of this poor data. The CSAMT model presented below only contains data acquired on the previous day.

Averaged data were then inspected using Zonge ASTATIC software where further editing of averaged phase and Cagniard resistivity soundings was performed. Unreliable or inconsistent data were edited out before a final average (.avg) file was created. Static correction was performed on each line at 4096 Hertz, static corrected data is contained within the same avg file as non static corrected data.

Final average files were then input into Zonge SCS2D AMT inversion modelling software. A 2D inversion was run on far-field data only which was interpreted to be over the range 768-8192hz. Results of inversion modelling for the single line Q line are presented in Appendix IV.

Topographic information used in modelling and contained within line position files (*line#.stn)* has been extracted from NASA's SRTM data set and should be considered roughly representative of actual topography. As this topographic data is interpolated from data with 90 metre lateral resolution and ±8 metre vertical accuracy this should not be considered a highly accurate representation of topographic features.

PDIP

Time domain PDIP data were edited to remove poor or noisy decays before being averaged to produce apparent resistivity and Newmont Chargeability measurements for each data point. Newmont Chargeability is defined as:

$$M = \frac{1.87 * T}{1024 * Vp} * \int_{t=0.45}^{t=1.1} Vs$$

Where T is the cycle period of 8 seconds and the integral of the secondary (Vs) or off time voltage is from 0.45 to 1.1 seconds. An approximation of this time period with respect to window times includes windows 4, 5, 6 and 7.

Manual editing were performed on observed data to remove data points that appeared badly affected by recorded culture or other undesirable effects. As the GDP-32ii receiver does not allow the recording of multiple dipole sizes the data was corrected in processing to provide an accurate record of electrode position and apparent resistivity. Corrected data can be found in line#.dat files which were used for modelling.

NASA SRTM topography data were applied before 2D inversion modelling of resistivity and IP data using Zonge's TS2DIP software. Default smoothness constraints were used in modelling.

6. EXPLANATION OF FILES

Digital data is provided on CD along with paper plots of the data. Data from each surveyed line are placed in the following directory structure on the accompanying CD: `Processed_Data\line#`. File formats are explained below:

***.AVG**	files created by Zonge's averaging program containing averaged data
***.KML**	Google Earth files showing line electrode positions
***.MTD,*.MTM**	Observed, calculated and inversion model result files created by SCS2D
***.PDF**	Adobe Acrobat Portable Document File containing plot files and report
***.PNG**	Plot files containing modelled, observed and calculated cagniard and phase data
***.RAW**	the edited raw data downloaded from the GDP-32ii
***.STN**	UTM station files in GDA94 z54
***.IPM**	survey configuration, inversion control and model data from TS2DIP
***.IPD**	observed and calculated data as output from TS2DIP
***.MDE**	files containing processing and survey information

All plot files are provided in PNG and PDF formats.

APPENDIX I

Job 918 Summary

Zonge Engineering & Research Organization (Aust) Pty Ltd

JOB HOURS SUMMARY

Job No.: 918
Client: Bondi Mining
Project Name: Mt Owen
Summary Sheet: 1 of 1 - Part 1

Date: 20th March, 2011
By: Peter Facci

	PRODUCTION HOURS			MISC HOURS				Zonge	
DATE	4 man	2 man	1 man	Mobe	Travel	Standby	Weather	Zonge	COMMENTS
Sun-20/3/11				14.5					Collect vehicles - Mobilisation from Adelaide to Pt Melbourne Ferry Terminal - Board Ferry - Overnight to Devonport
Mon-21/3/11				11.25				2	Disembark from Ferry - Mobe to Burnie - Shop for food supplies - repairs to brakes - continue mobilisation to Queenstown and unpack equipment
Tue-22/3/11	10							3	Toolbox Meeting - JSA discussions - field inductions for Bondi fieldy - Drive to Grid - Setup Transmitter Line - Dig remote electrodes
Wed-23/3/11	13								Setup first lines on Western half all day - very slow progress due to extreme terrain
Thu-24/3/11							10		Weather Day
Fri-25/3/11	6							6	Setup Receiver and Transmitter - Equipment failure - (controller) - continue setup of wire on first line - Complete line setup
Sat-26/3/11	8							4	Start setup on 2nd Line - waiting for replacement controller - Read 1st station data
Sun-27/3/11	11								Continue to read data on first line 39600N - Note: 4 steel pipes containing high voltage power - run perpendicular to line between Eastings 5200 + 5100 - Remote Electrode - 55 G 0383508E 5340522N
Mon-28/3/11	12							1	Finished Data collection on Line 39600N - Packup Line + Setup Line 39300N
Tue-29/3/11	12.5								Finished Data collection on Line 39600N - Packup Line + Setup Line 39300N
Wed-30/3/11	7.5						2.5		Setup to acquire data on 39300N - Rain + ice - retreated down mountain - recon access to Western end of Southern most lines and lakeside lines - Remainder of day weather
Thu-31/3/11	9.5						0.5	2.5	Start to read Data on 39300N - Rained out - proceed down mountain
Fri-1/4/11							10		Weather Day
Sat-2/4/11	10.5					1		1	Continue to read Line 39300N - (1) hour doing Police report on stolen diesel and 6 jerry cans
Sun-3/4/11	9							2	Continue to read Line 39300N - Two more readings to finish line - some GDP problems
Mon-4/4/11									
Tue-5/4/11									
Wed-6/4/11									
Thu-7/4/11									
Fri-8/4/11									
Sat-9/4/11									
Sun-10/4/11									
Mon-11/4/11									
Tue-12/4/11									
Wed-13/4/11									
Thu-14/4/11									
Fri-15/4/11									
Sat-16/4/11									
Sun-17/4/11									
Mon-18/4/11									

	TOTAL HOURS							
TOTALS	4 man	2 man	1 man	Mobe	Travel	Standby	Weather	Zonge
Sub Totals	109	0	0	25.75	0	1	23	21.5
Totals	109	0	0	25.75	0	1	23	21.5
Rate p/hr	**345**	**344.2**	**304.2**	**172.5**	**172.5**	**172.5**	**172.5**	0
Billable Total	**$37,605.00**	**$0.00**	**$0.00**	**$4,441.88**	**$0.00**	**$172.50**	**$3,967.50**	21.5

Zonge Engineering & Research Organization (Aust) Pty Ltd

JOB HOURS SUMMARY

Job No.: 918
Client: Bondi Mining
Project Name: Mt Owen
Summary Sheet: 1 of 1 - Part 2

Date: 4th April, 2011
By: Peter Facci

DATE	PRODUCTION HOURS			MISC HOURS				Zonge	COMMENTS
	4 man	2 man	1 man	Mobe	Travel	Standby	Weather	Zonge	
Mon-4/4/11	12.5							1	Finished reading last 2 stations on Line 39300N - Start setup on Line 39000N
Tue-5/4/11	11.5							1	Finished setup on Line 39000N - Commence reading Line
Wed-6/4/11	11.5							2	Finished reading Line 39000N and commence to remove array - Toolbox Meeting
Thu-7/4/11	11							1	Packup wire from Line 39000N and start to setup Line "Q"
Fri-8/4/11	11.5							1	Start to setup Line "6" - Very steep - slow going along line
Sat-9/4/11	8.5						1.5	1	Finished setting up on Line 6 - start setup on Line "Q" - Remainder of day - Weather
Sun-10/4/11						10			RDO / Weather Day due to roads closed for Targa Tasmania
Mon-11/4/11	11							1	Started to read Line 38100N
Tue-12/4/11	9						1	1	Finished reading Line 38100N - packed up receiver array and started to move to Line "Q" - rain
Wed-13/4/11	11							1	Setup most of Line "Q" extensive heavy bush on the Northern 900m slowed us down
Thu-14/4/11	10.5							1	Finished setting up on Line "Q" and start reading Line
Fri-15/4/11	11							1	Finished reading Line "Q" + started to packup Line
Sat-16/4/11	9						1		Finished packing up Line "Q" - Recon to find suitable location to South for a CSAMT electrode set
Sun-17/4/11	5					5			Re-con to find access to the Western end of Line "7"
Mon-18/4/11	8.5					1.5			Setup electrodes for the CSAMT survey Line "Q"
Tue-19/4/11	12.5							1	Setup Receiver spread on Line "Q" + acquire CSAMT Data
Wed-20/4/11	11								Finished Line "Q" - Packed gear for De-mobe
Thu-21/4/11				6					Packed trucks - De-mobe from Queenstown to Burnie - Load vehicles onto Ferry - Overnight in Wynyard
Fri-22/4/11				14					Fly to Melbourne - Taxi to Docks - collect trucks - De-mobe from Pt Melbourne to Adelaide
Sat-23/4/11									
Sun-24/4/11									
Mon-25/4/11									
Tue-26/4/11									
Wed-27/4/11									
Thu-28/4/11									
Fri-29/4/11									
Sat-30/4/11									
Sun-1/5/11									
Mon-2/5/11									
Tue-3/5/11									

TOTALS	TOTAL HOURS							
	4 man	2 man	1 man	Mobe	Travel	Standby	Weather	Zonge
Sub Totals	165	0	0	20	0	16.5	3.5	13
Totals	165	0	0	20	0	16.5	3.5	13
Rate p/hr	**345**	**344.2**	**304.2**	**172.5**	**172.5**	**172.5**	**172.5**	0
Billable Total	**$56,925.00**	**$0.00**	**$0.00**	**$3,450.00**	**$0.00**	**$2,846.25**	**$603.75**	13

APPENDIX II

Incident Reports

Zonge Engineering & Research Organisation (Australia) Pty Ltd

INCIDENT / HAZARD REPORT

Name:Jim Cridland	Date filled in: 06/04/2011
Position: Bondi field assistant	Date of Incident: 05/04/2011
Please describe the Hazard or Incident: Slipped on a rock and fell onto ground, cracked the base of portable hand held radio on a rock	
Location of incident / hazard: Mt Owen	
What was being done at the time? Traversing rough terrain down line	
What is/went wrong? slippery ground whilst walking in rain	
How can this be prevented in the future? Use more care when walking	
Who else was present? no one	
Describe any injury: nil	
Time Off ☐ Y ☒ N	
Signed by:	Print Name: peter facci
Position: crew chief	*(To be signed off by involved employee or their Supervisor)*

Form No.01 (Version 1)

Zonge Engineering & Research Organisation (Australia) Pty Ltd

INCIDENT / HAZARD REPORT

Name:	Date filled in:
Position:	Date of Incident:
Please describe the Hazard or Incident:	
Location of incident / hazard:	
What was being done at the time?	
What is/went wrong?	
How can this be prevented in the future?	
Who else was present?	
Describe any injury:	
Time Off ☐ Y ☐ N	
Signed by:	Print Name:
Position:	*(To be signed off by involved employee or their Supervisor)*

Form No.01 (Version 1)

Zonge Engineering & Research Organisation (Australia) Pty Ltd

INCIDENT / HAZARD REPORT

Name:	Date filled in:
Position:	Date of Incident:
Please describe the Hazard or Incident:	
Location of incident / hazard:	
What was being done at the time?	
What is/went wrong?	
How can this be prevented in the future?	
Who else was present?	
Describe any injury:	
Time Off ☐ Y ☐ N	
Signed by:	Print Name:
Position:	*(To be signed off by involved employee or their Supervisor)*

Form No.01 (Version 1)

Zonge Engineering & Research Organisation (Australia) Pty Ltd

INCIDENT / HAZARD REPORT

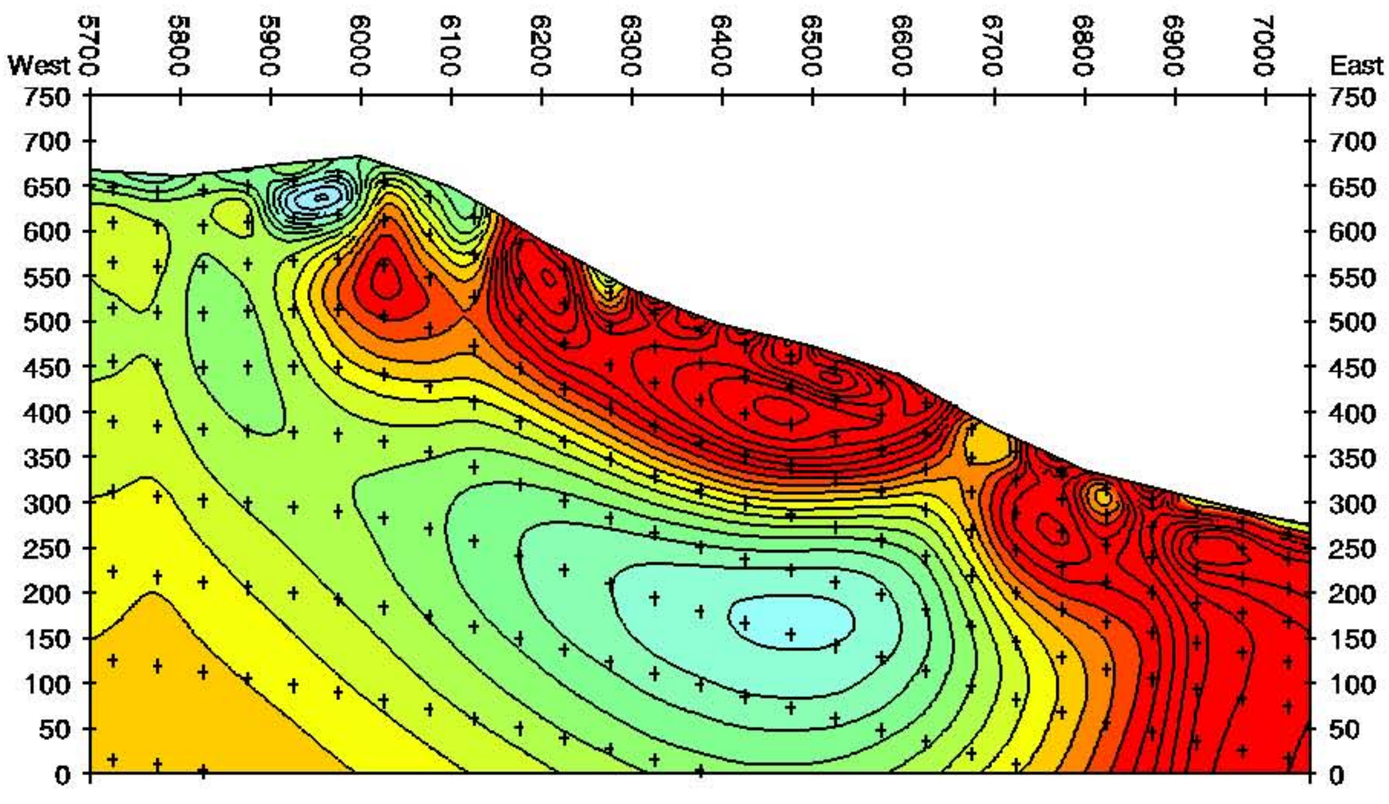
Name:Bryan Kingwell	Date filled in: 25/3/2011
Position: Field Assisstant	Date of Incident: 25/3/2011
Please describe the Hazard or Incident: Stripping wire with my knife and slipped and cut my thumb.	
Location of incident / hazard: Line 1 Mount Owen	
What was being done at the time? Stripping wire	
What is/went wrong? The wire slipped out of my hand and i cut my thumb instead	
How can this be prevented in the future? Using wire strippers instead of knife	
Who else was present? no one	
Describe any injury: A small cut in my thumb	
Time Off ☐ Y ☒ N	
Signed by:	Print Name: peter facci
Position: crew chief	*(To be signed off by involved employee or their Supervisor)*

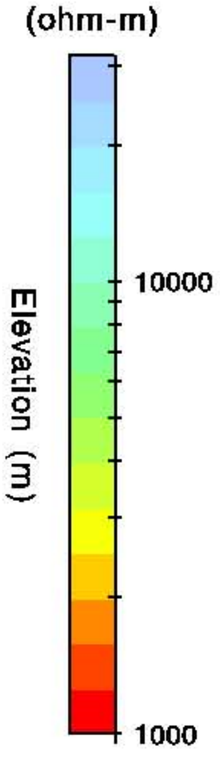
Form No.01 (Version 1)

APPENDIX III

Pole-Dipole observed and inversion model resistivity and chargeability data

Resistivity Inversion Model

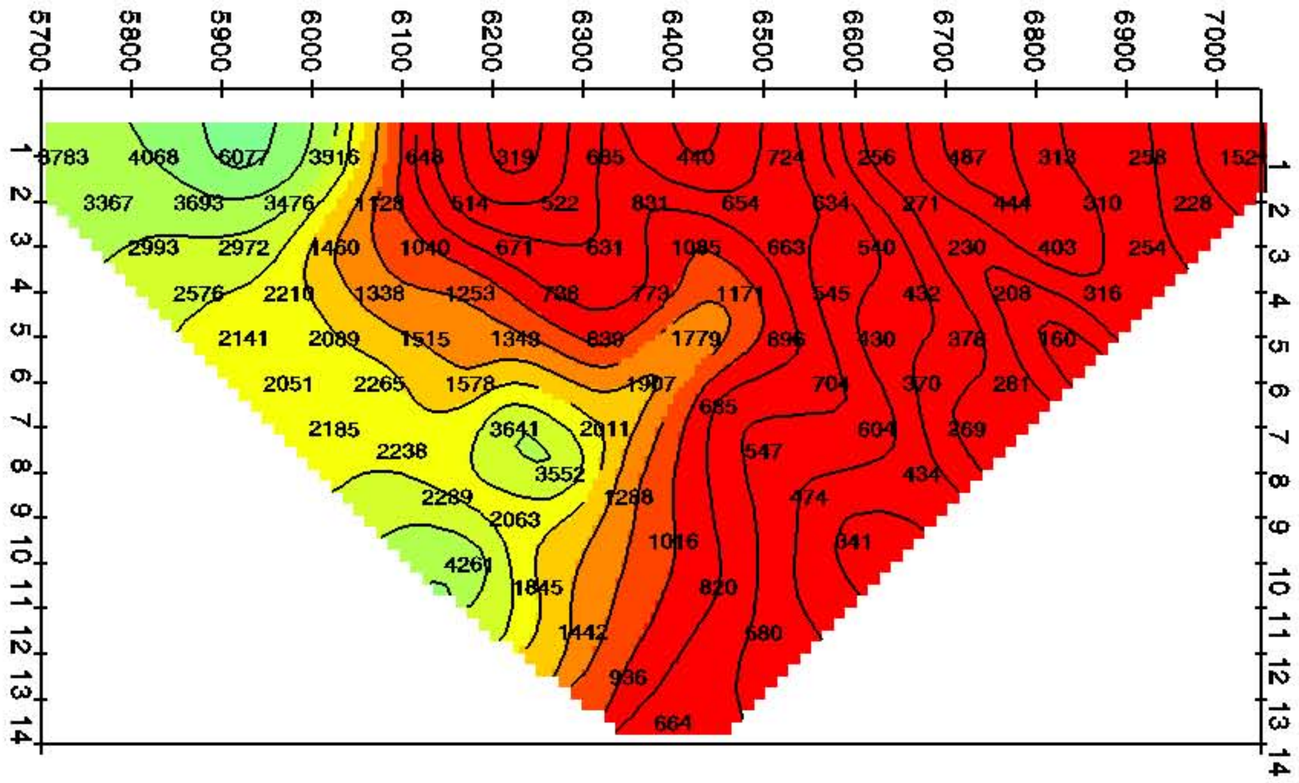


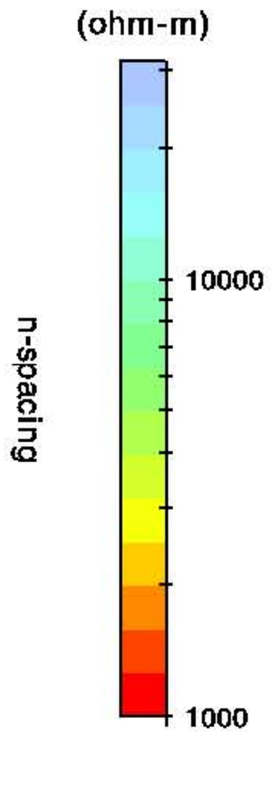


Mt Owen

Line 5338100N

Resistivity Observed Data





Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

Inversion control parameters:
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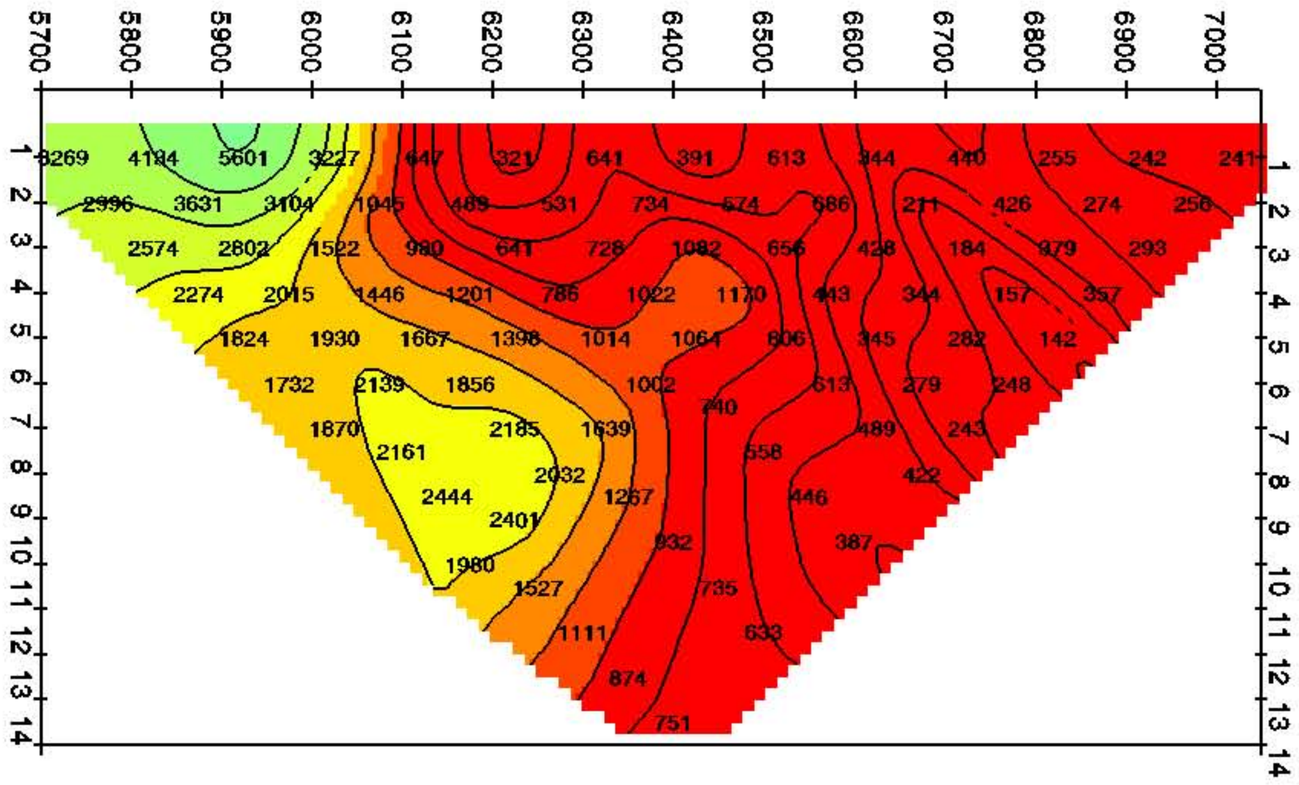
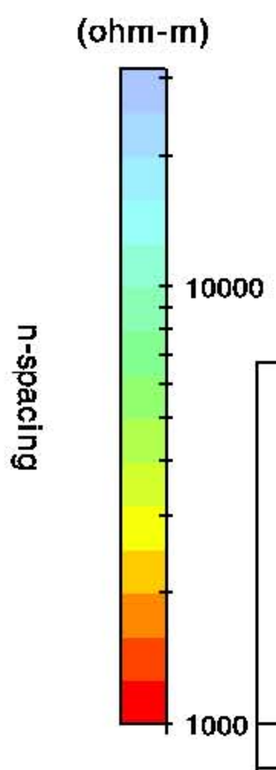
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

Resistivity Calculated Data



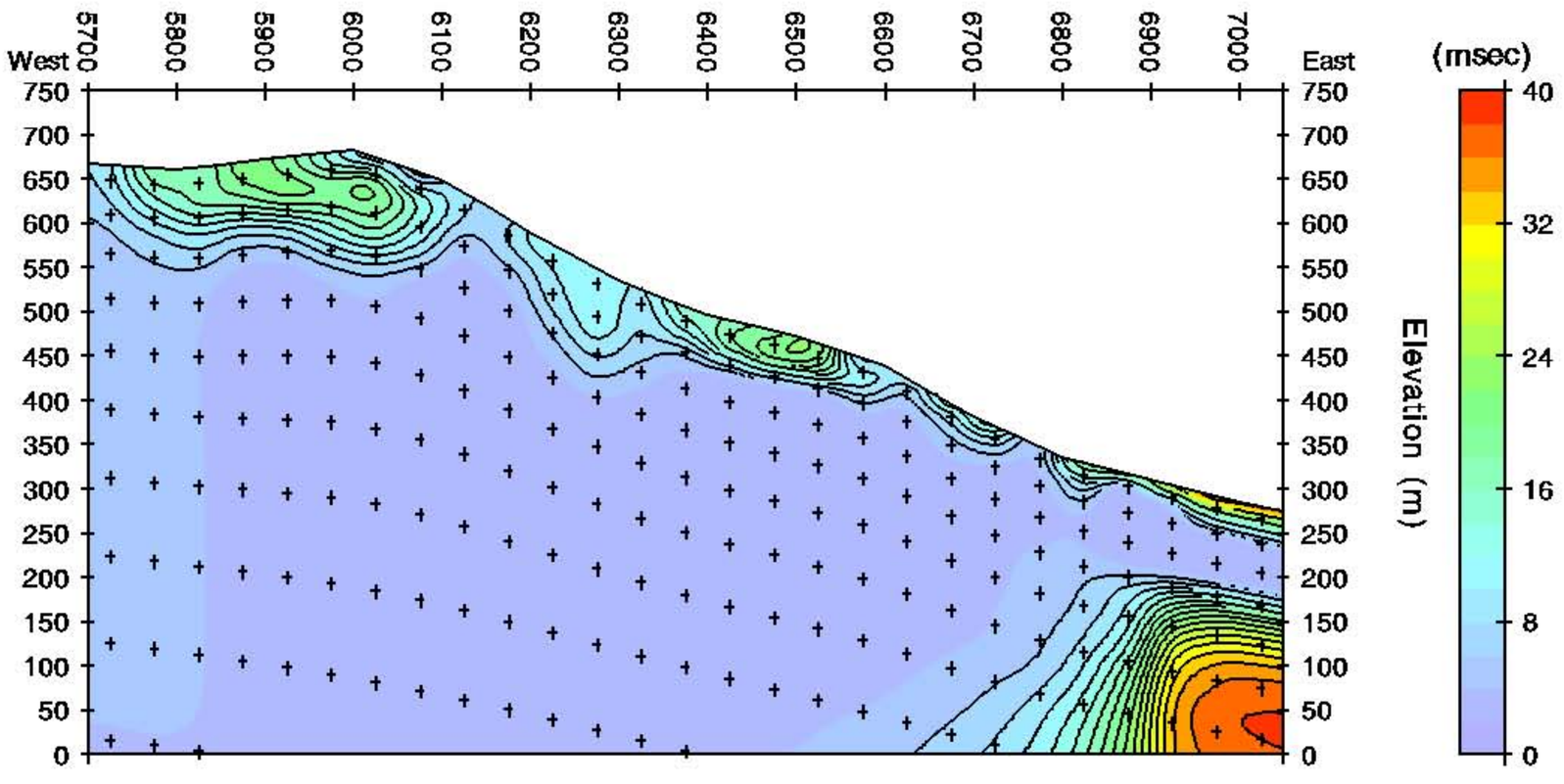


600 m

Bondi
Mt Owen
Line 5338100N
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	19/04/11	1:10000	Job 918
REF: 5338100N.s2d				

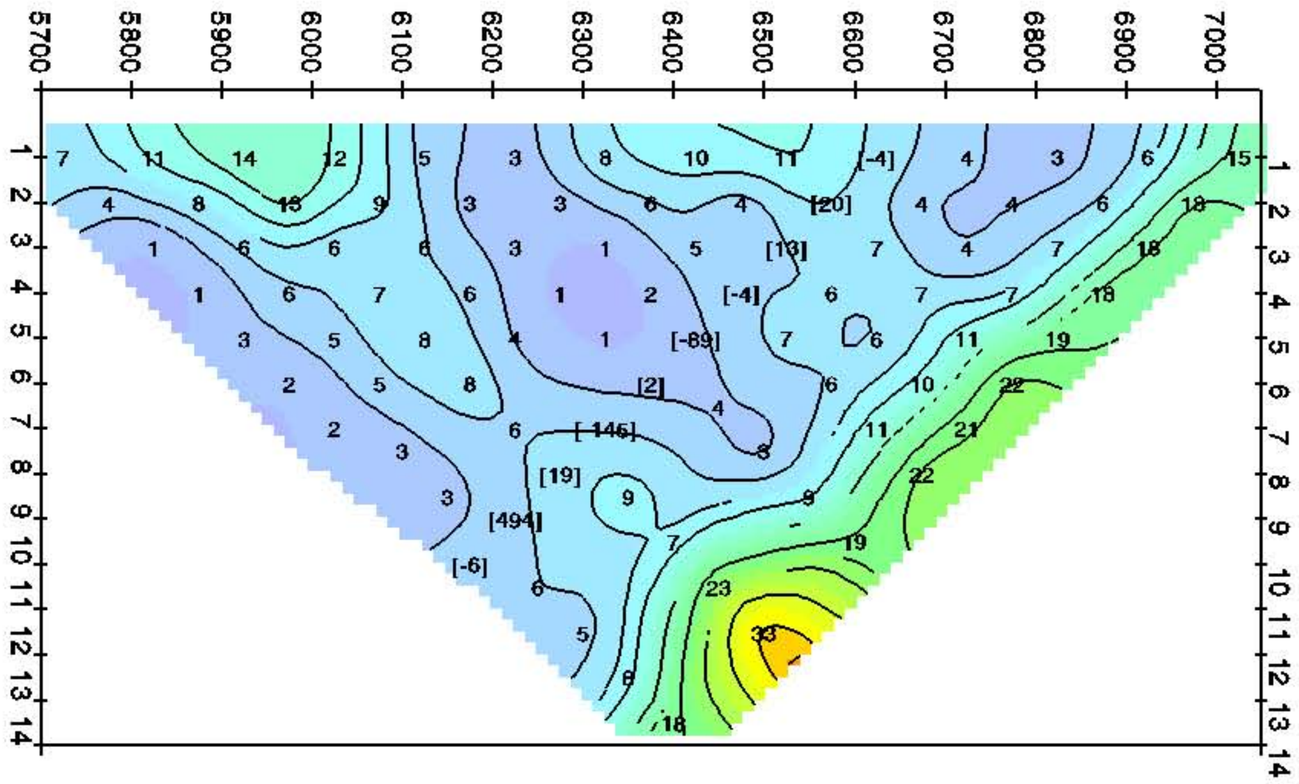
IP Inversion Model

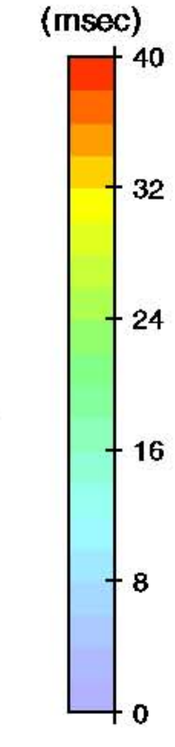


Mt Owen

Line 5338100N

IP Observed Data





Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

Inversion control parameters:
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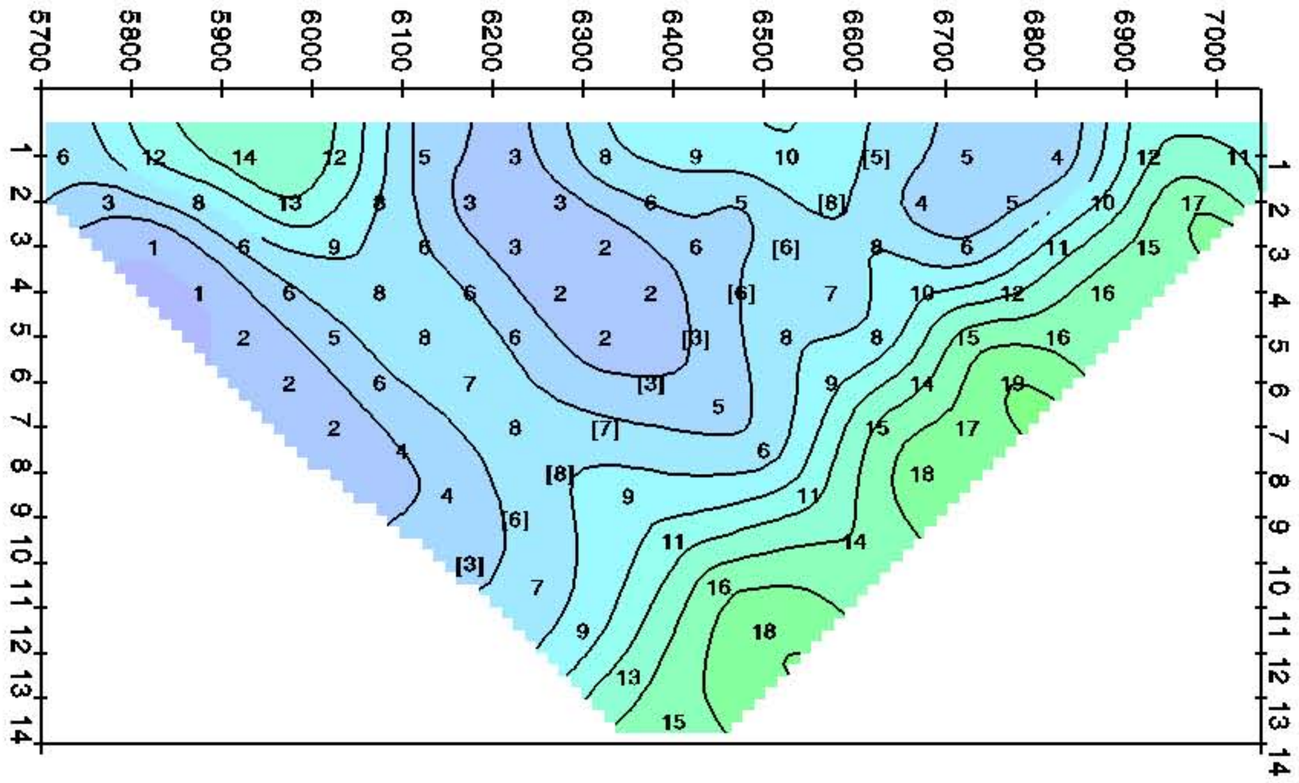
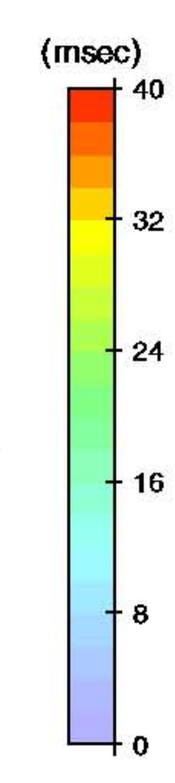
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

IP Calculated Data



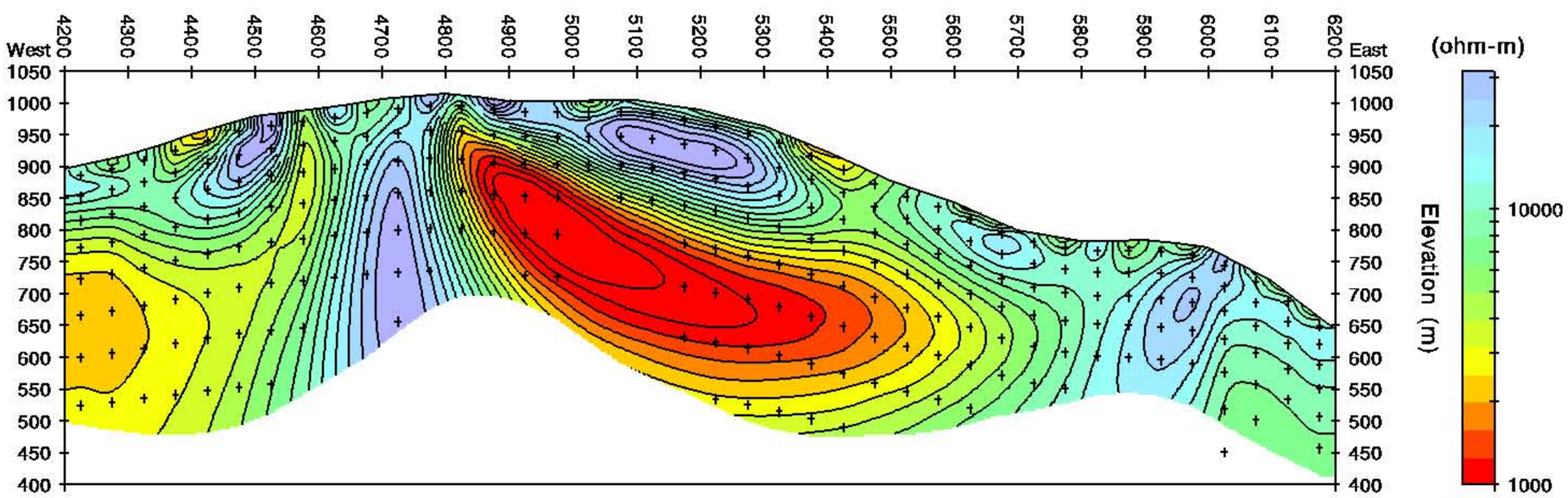


600 m

Bondi
Mt Owen
Line 5338100N
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	19/04/11	1:10000	Job 918
REF: 5338100N.s2d				

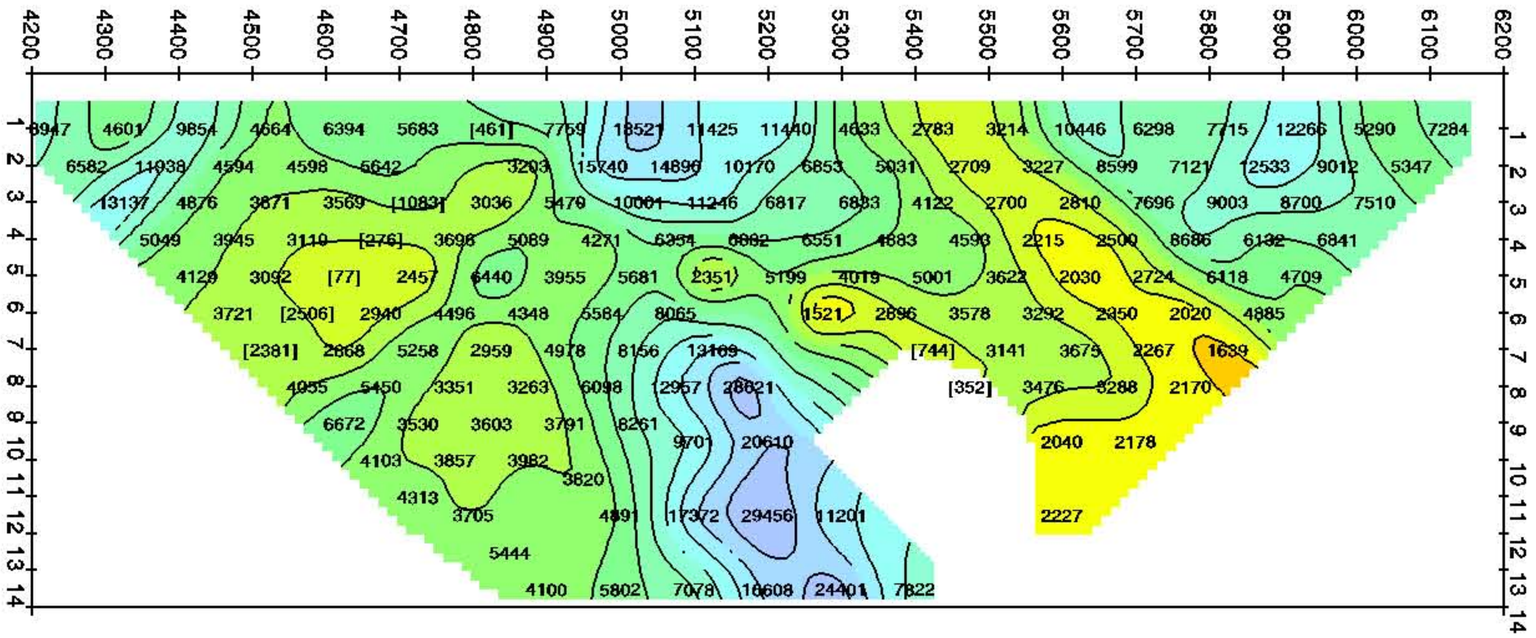
Resistivity Inversion Model

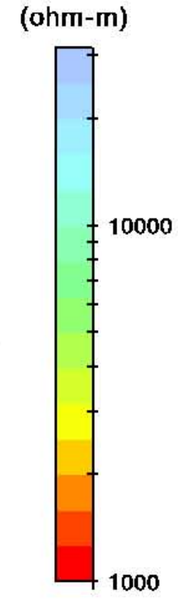


Mt Owen

Line 5339000N

Resistivity Observed Data

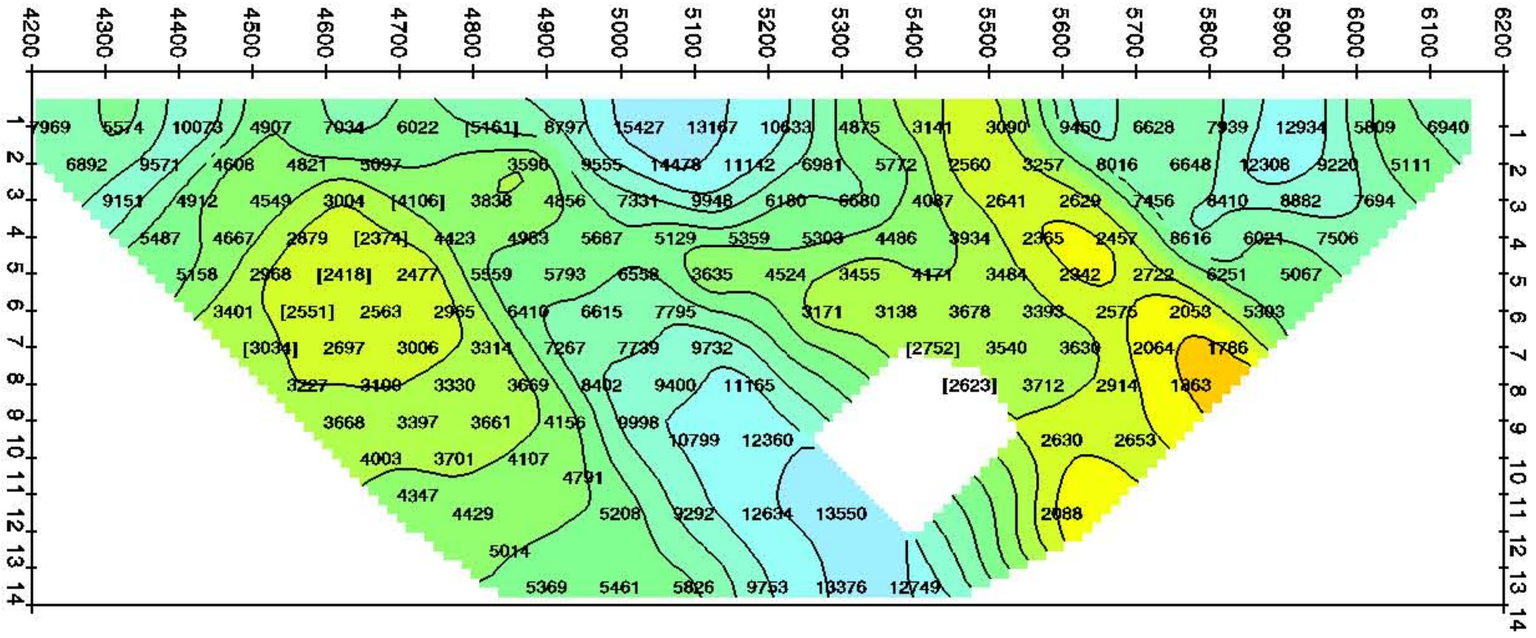


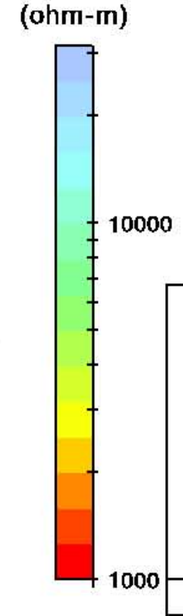


Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

Inversion control parameters:
ResSmth=1, dpW=0.5, dxW=1, dzW=1
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

Resistivity Calculated Data





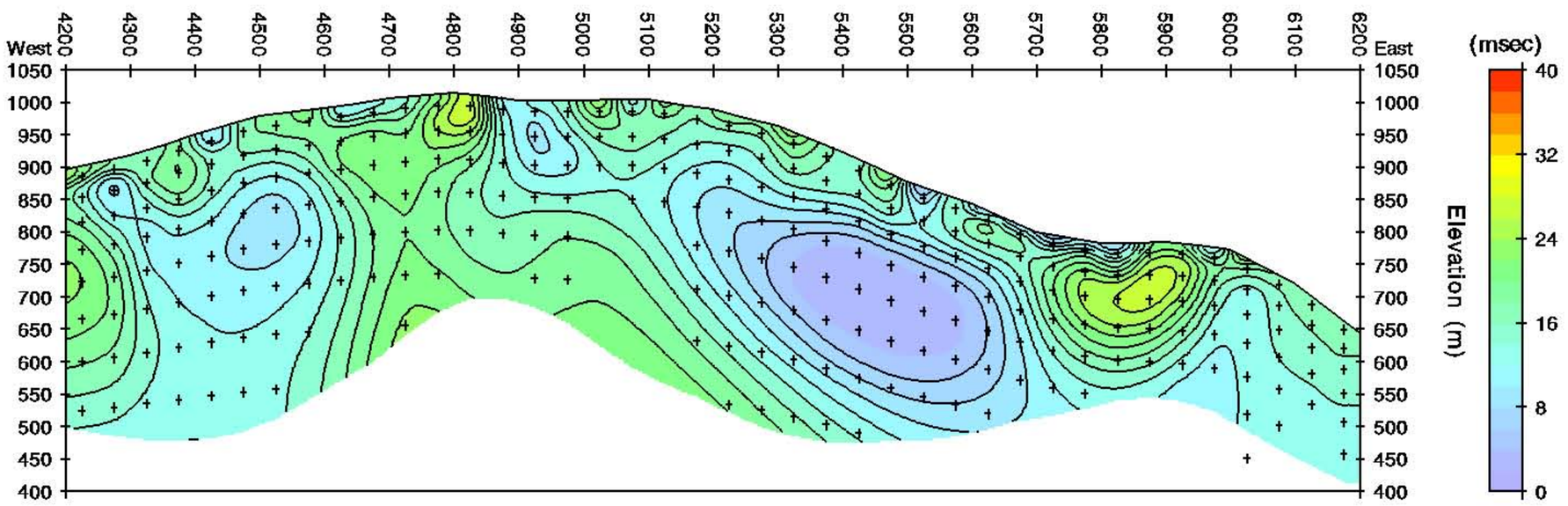
600 m

Bondi
Mt Owen
Line 5339000N
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

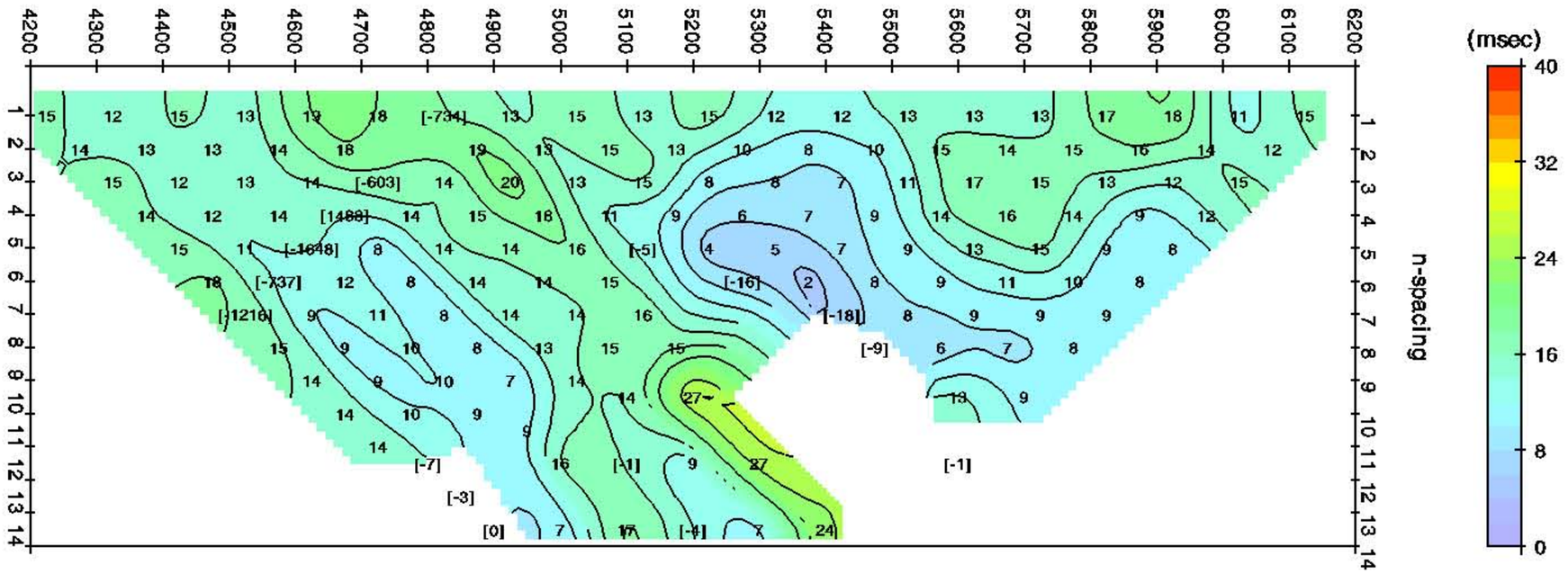
AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	11/04/11	1:10000	Job 918

REF: 5339000N.s2d

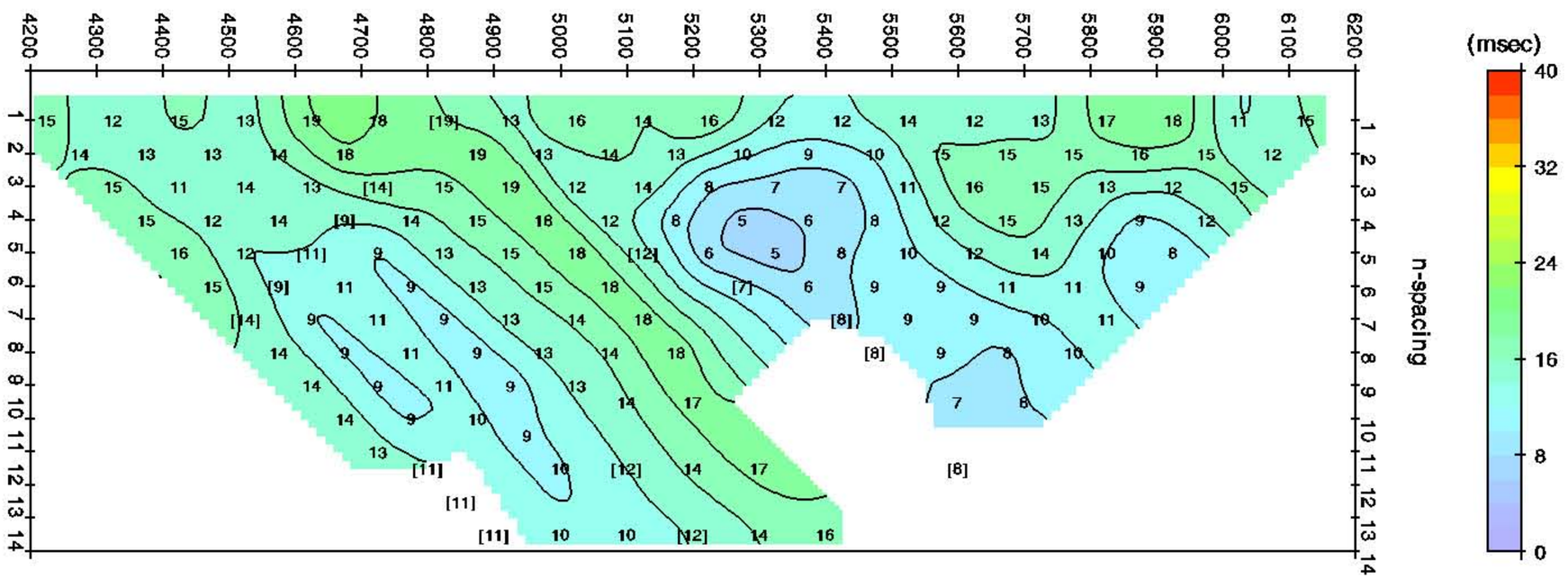
IP Inversion Model



IP Observed Data



IP Calculated Data



Mt Owen
Line 5339000N

Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

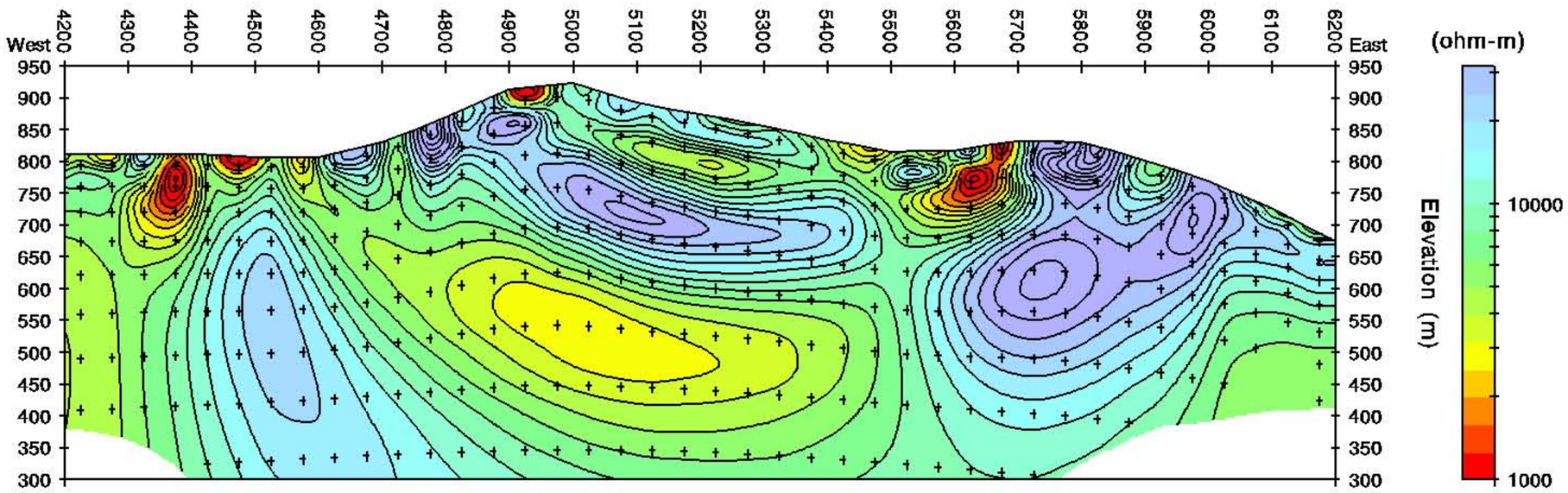
Inversion control parameters:
ResSmth=1, dpW=0.5, dxW=1, dzW=1
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

600 m

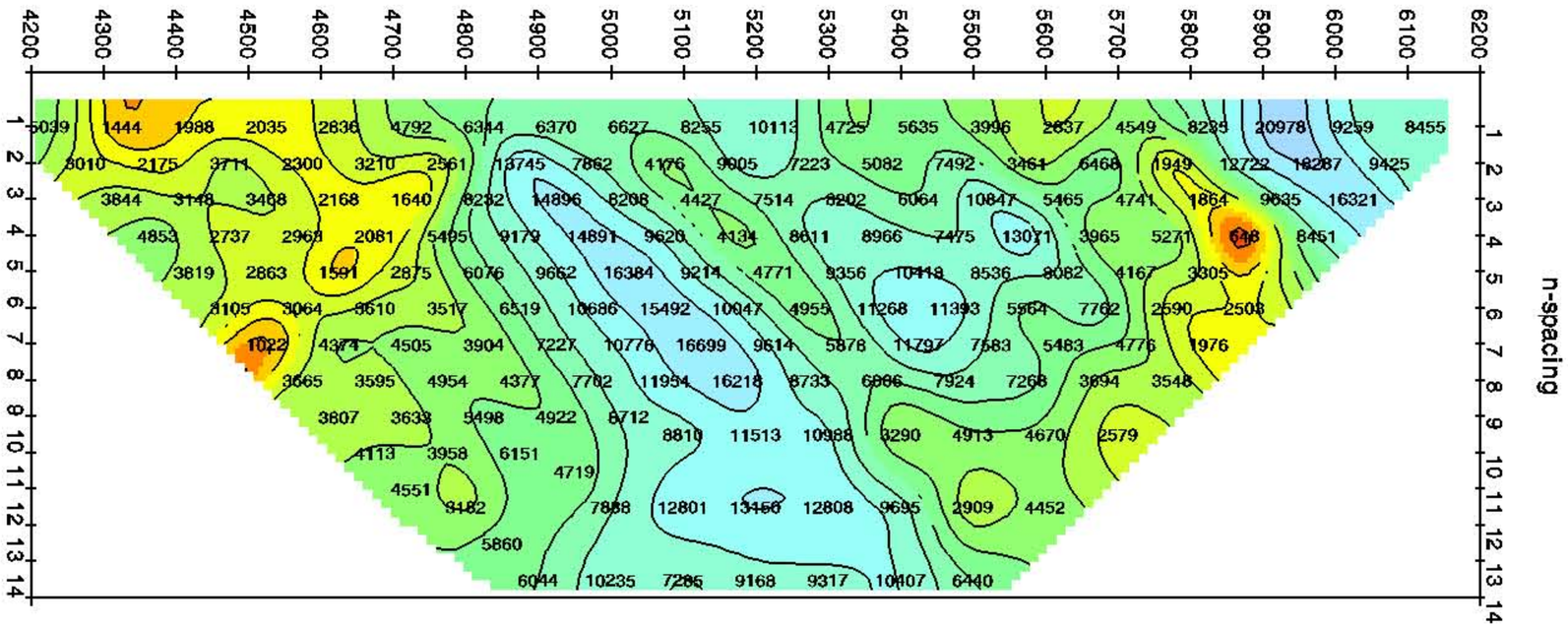
Bondi
Mt Owen
Line 5339000N
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	11/04/11	1:10000	Job 918
REF: 5339000N.s2d				

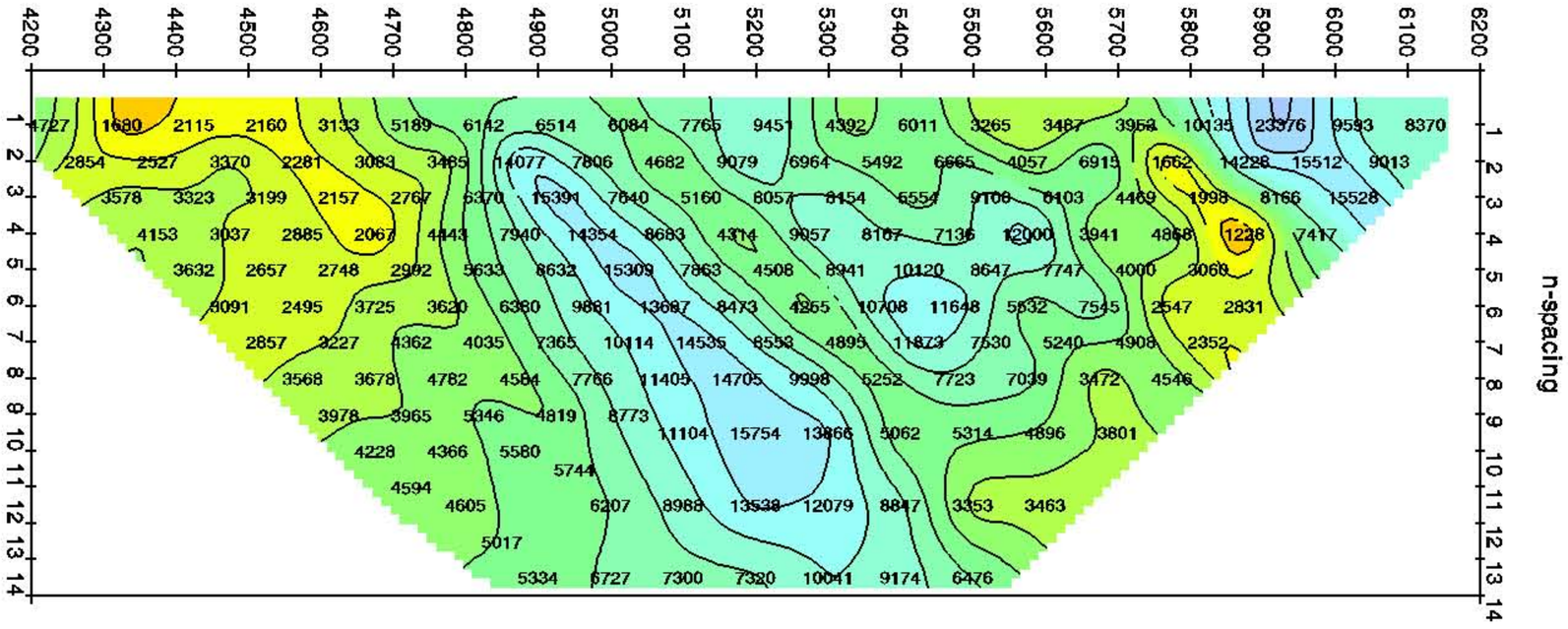
Resistivity Inversion Model



Resistivity Observed Data



Resistivity Calculated Data



Mt Owen
Line 5339300N

Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

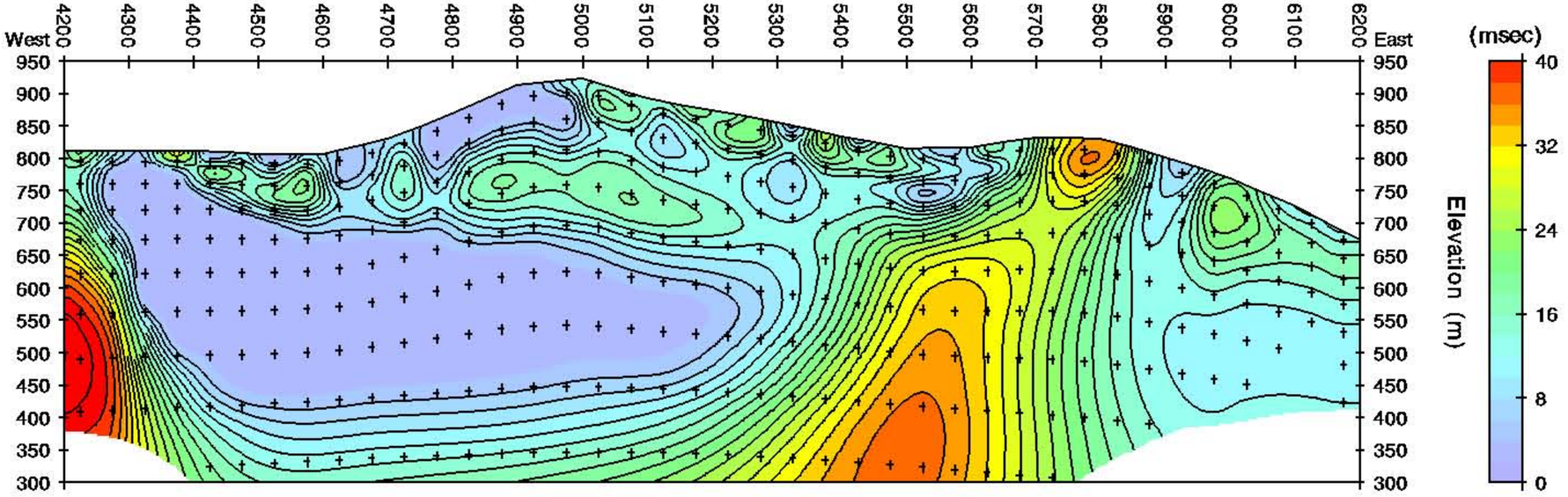
Inversion control parameters:
ResSmth=1, dpW=0.5, dxW=0.5, dzW=0.5
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

600 m

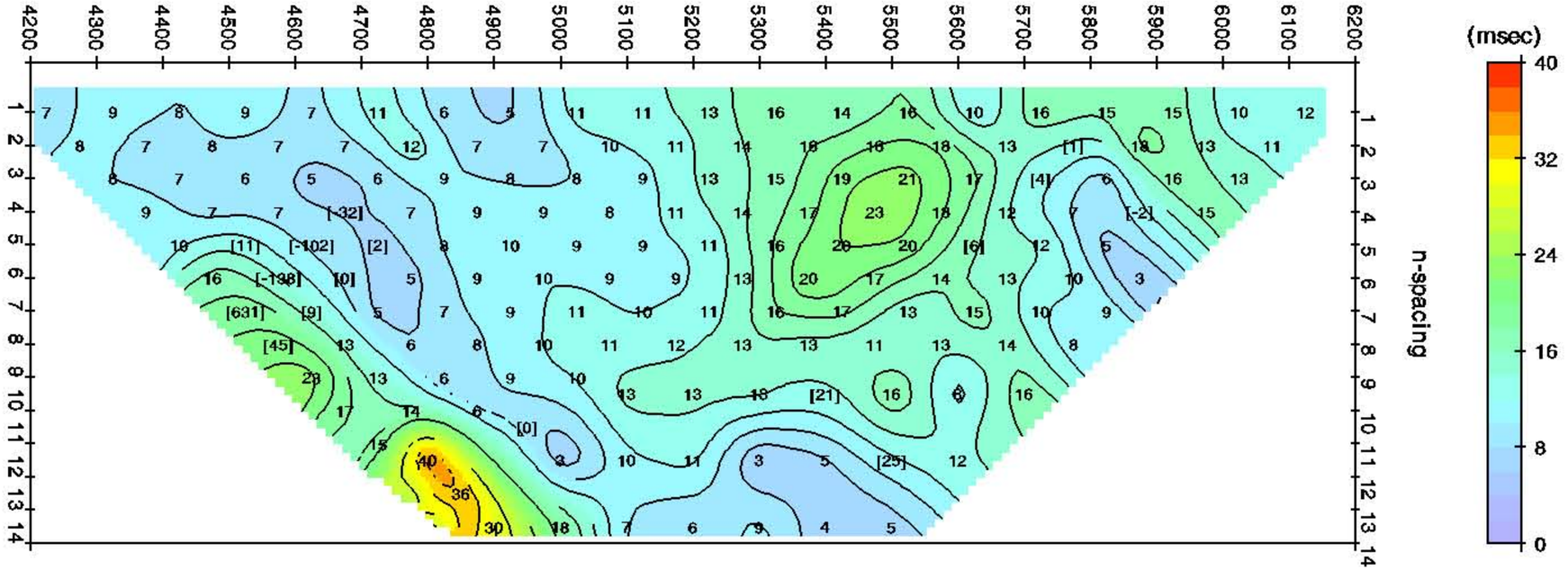
Bondi
Mt Owen
Line 5339300N
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	4/04/11	1:10000	Job 918
REF: 5339300N.s2d				

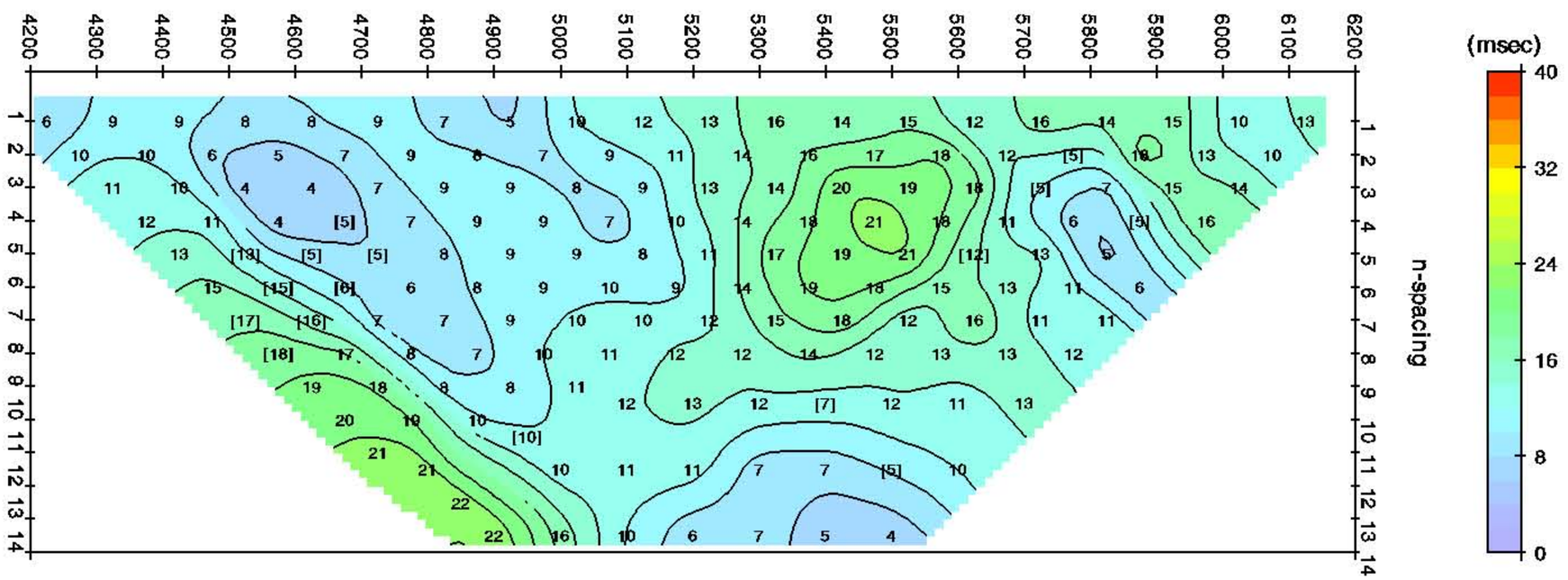
IP Inversion Model



IP Observed Data



IP Calculated Data



Mt Owen
Line 5339300N

Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

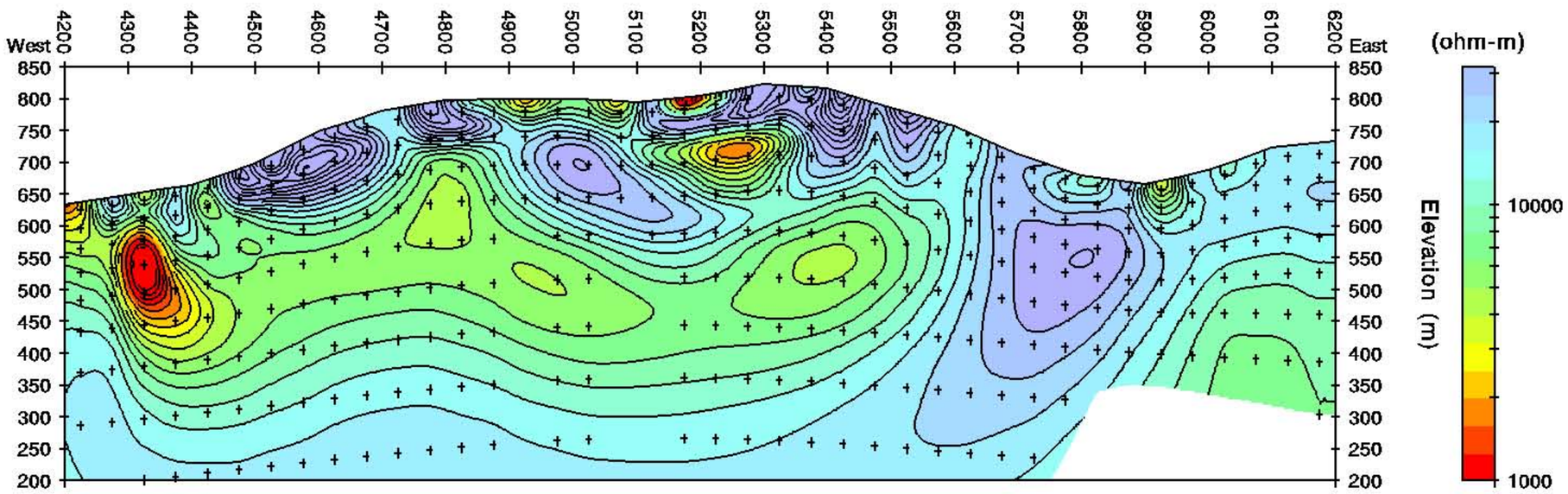
Inversion control parameters:
ResSmth=1, dpW=0.5, dxW=0.5, dzW=0.5
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

600 m

Bondi
Mt Owen
Line 5339300N
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	4/04/11	1:10000	Job 918
REF: 5339300N.s2d				

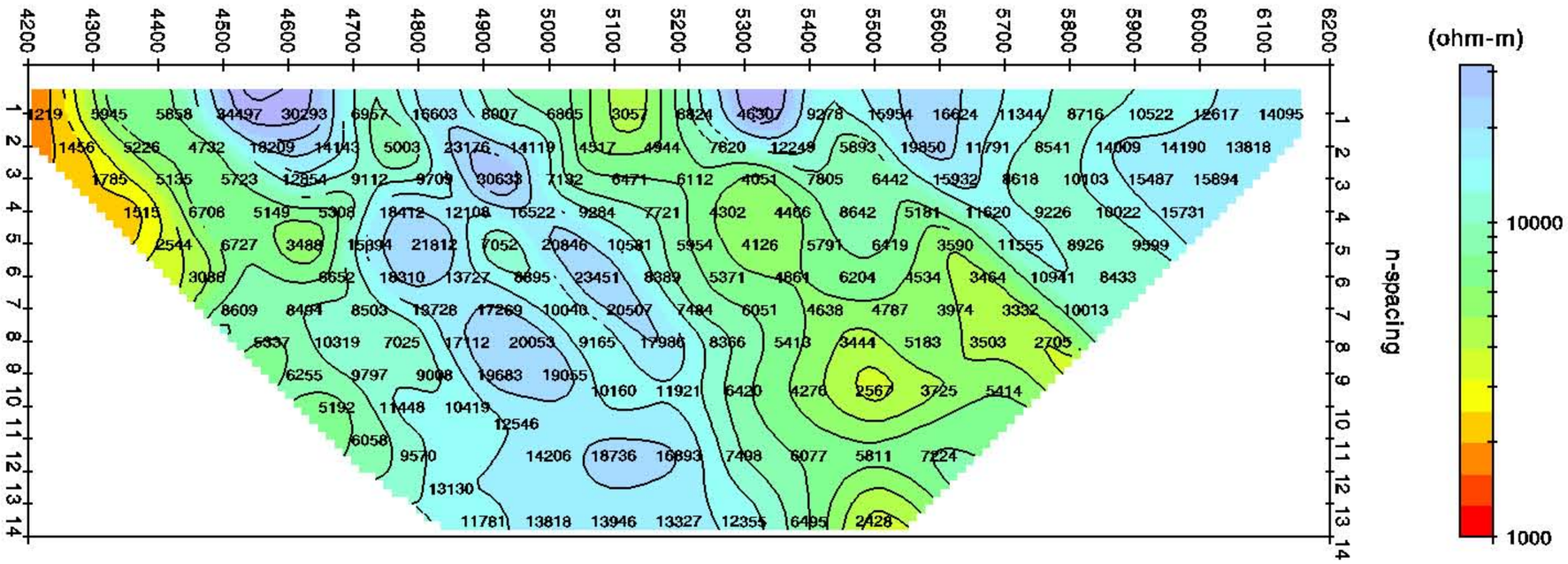
Resistivity Inversion Model



Mt Owen

Line 5339600N

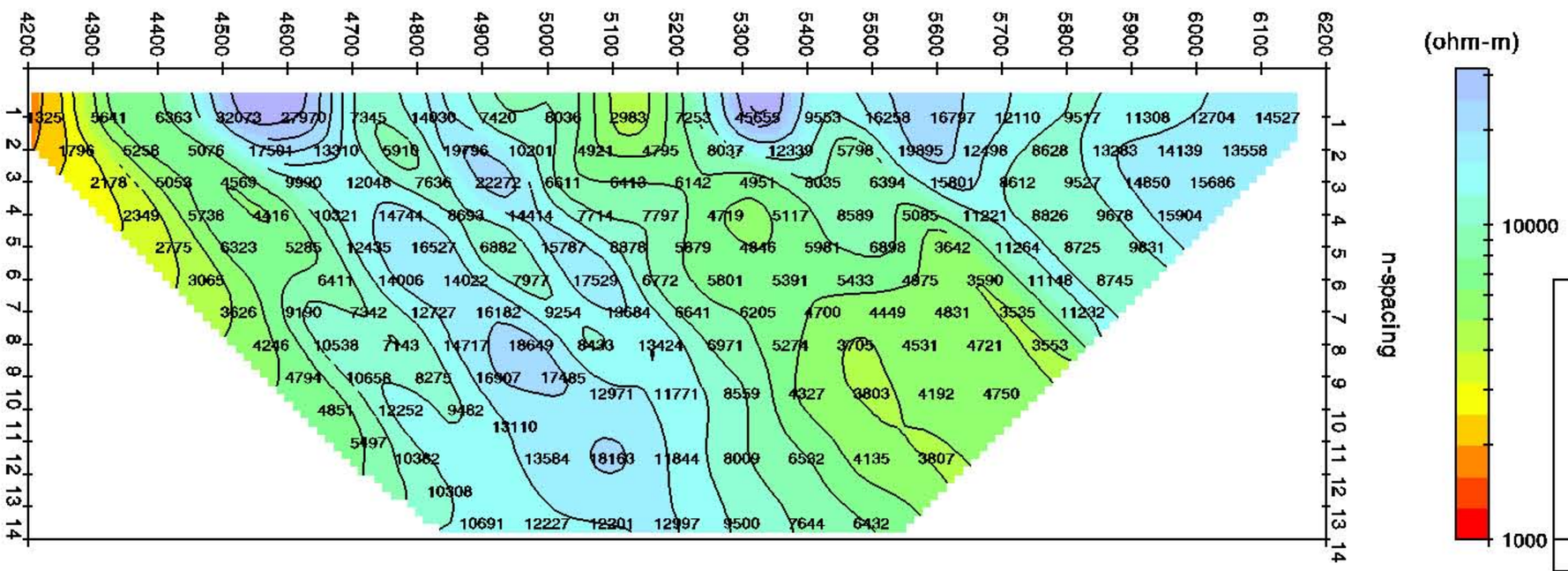
Resistivity Observed Data



Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

Inversion control parameters:
ResSmth=1, dpW=0.5, dxW=0.5, dzW=0.5
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

Resistivity Calculated Data

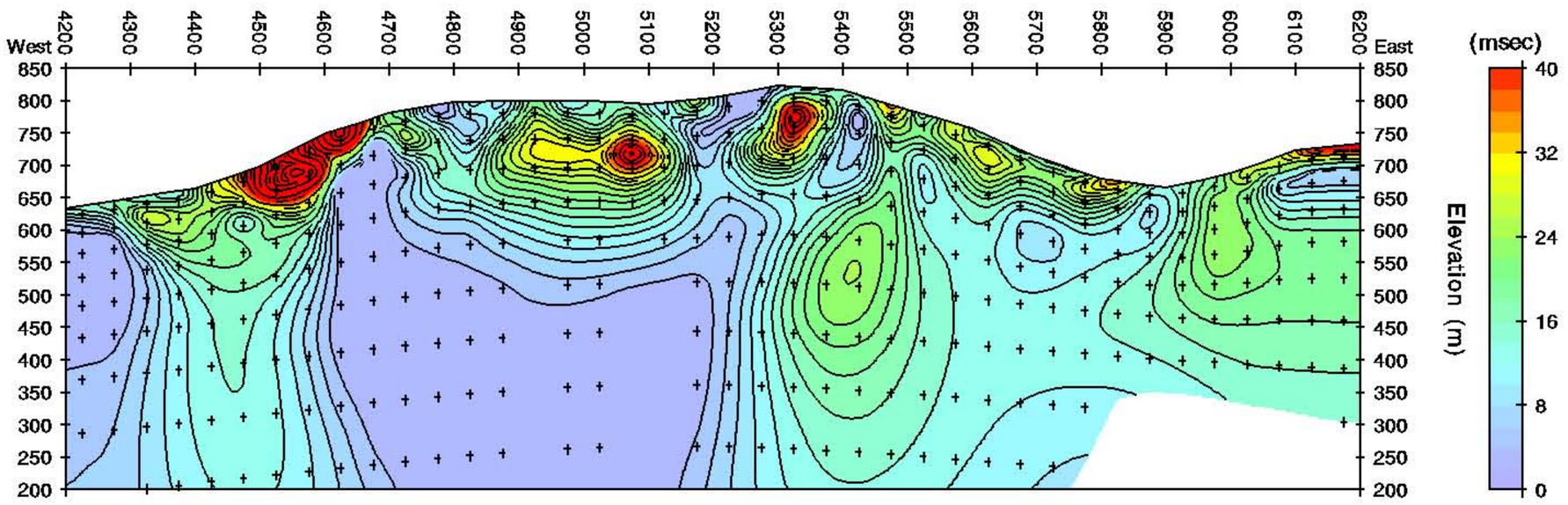


600 m

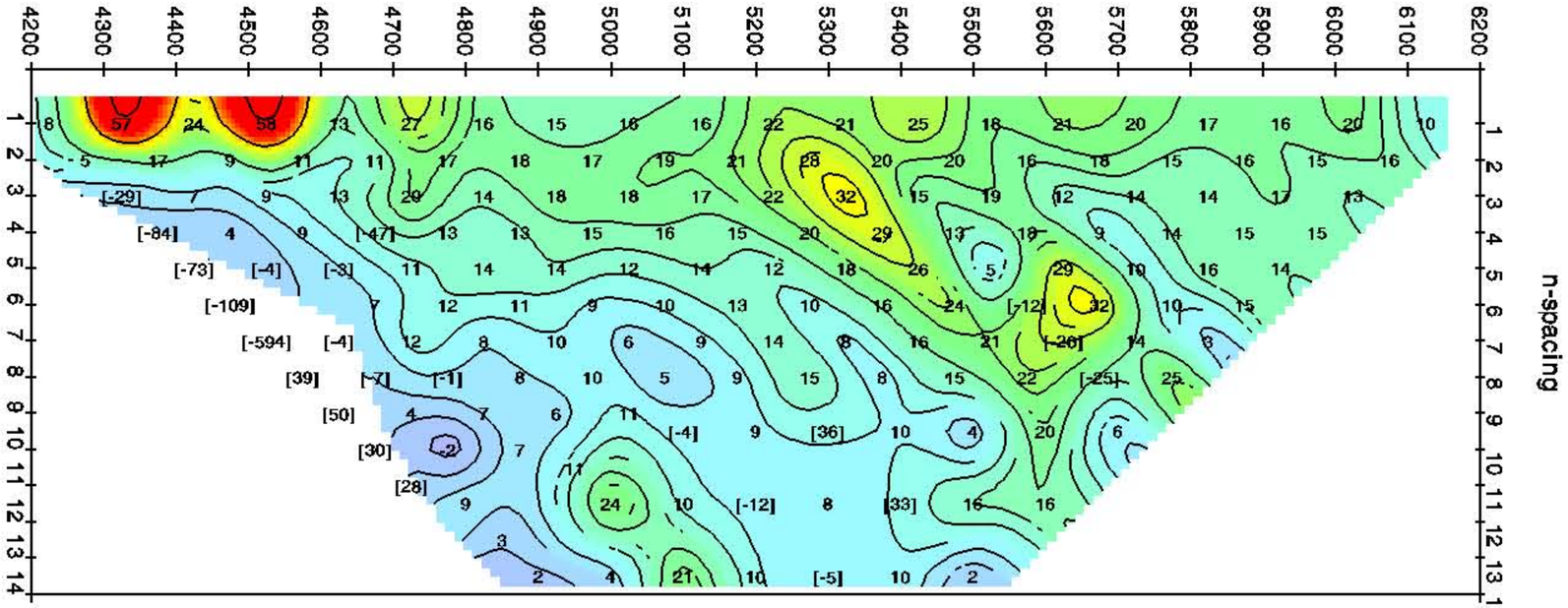
Bondi
Mt Owen
Line 5339600N
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	30/03/11	1:10000	Job 918
REF: 5339600N.s2d				

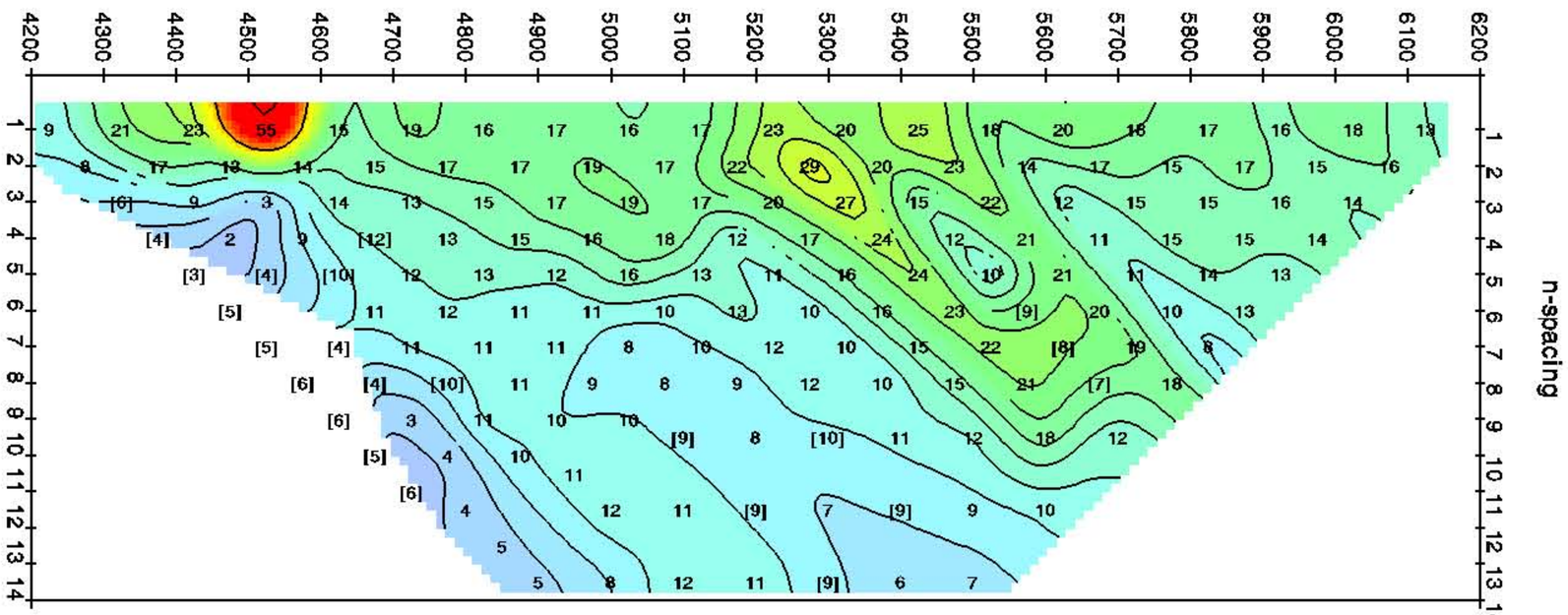
IP Inversion Model



IP Observed Data



IP Calculated Data



Mt Owen
Line 5339600N

Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

Inversion control parameters:
ResSmth=1, dpW=0.5, dxW=0.5, dzW=0.5
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

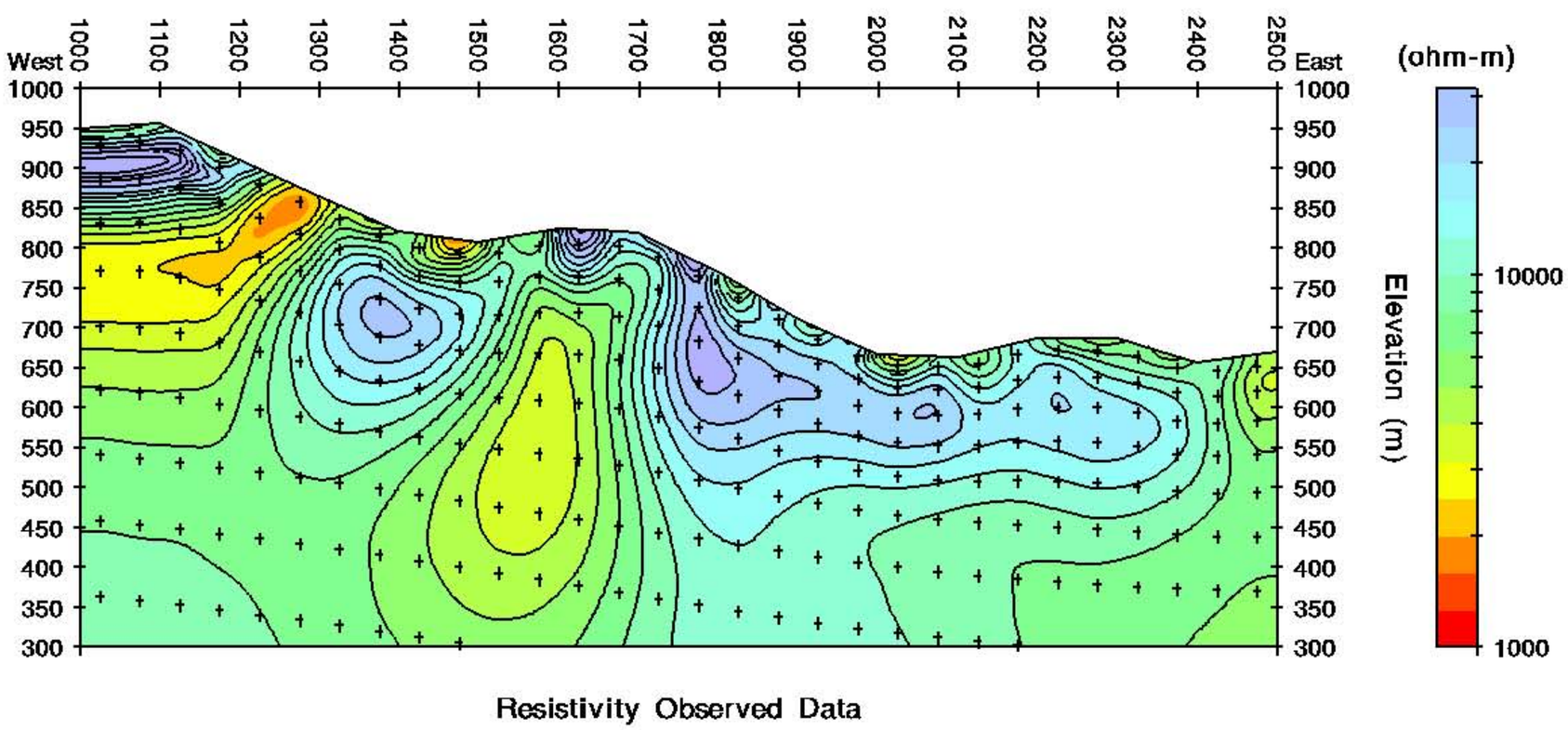
600 m

Bondi
Mt Owen
Line 5339600N
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

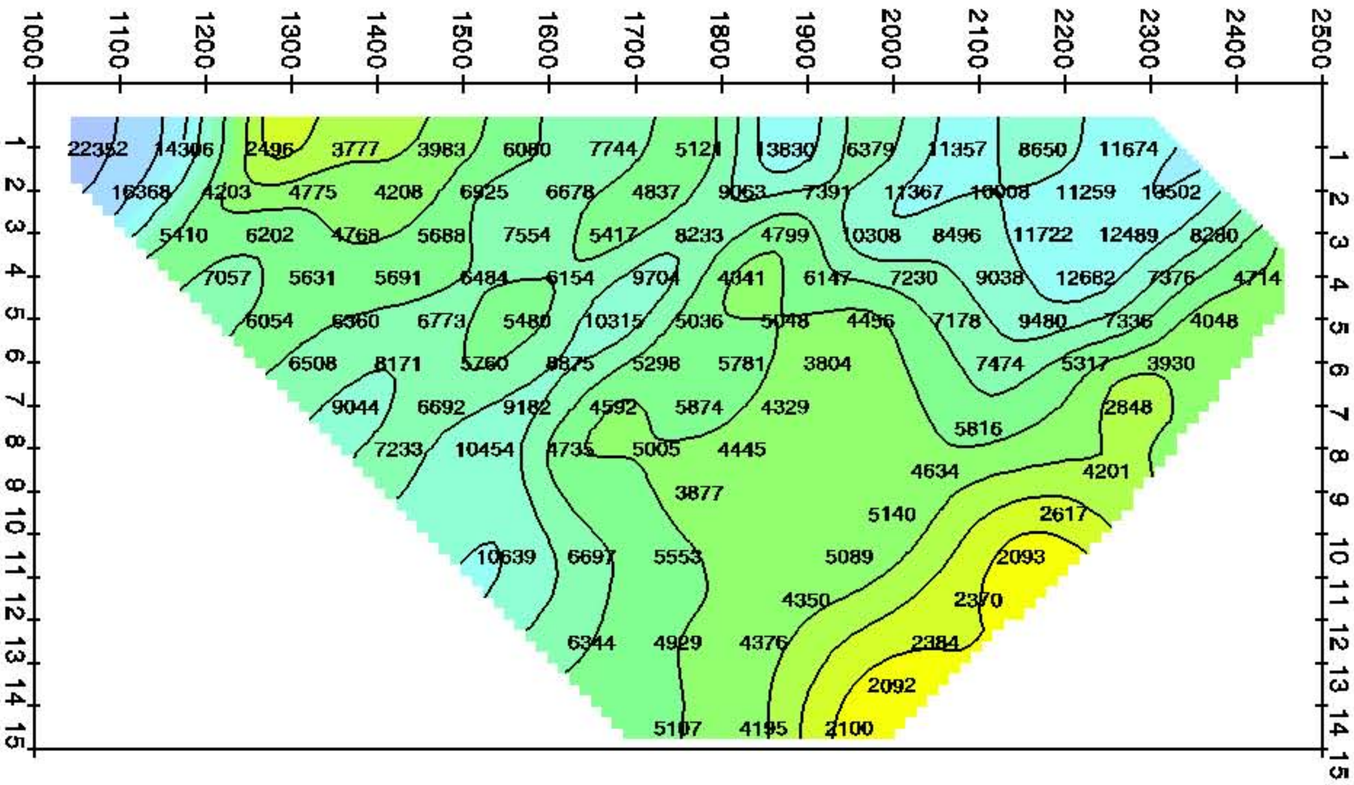
AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	30/03/11	1:10000	Job 918

REF: 5339600N.s2d

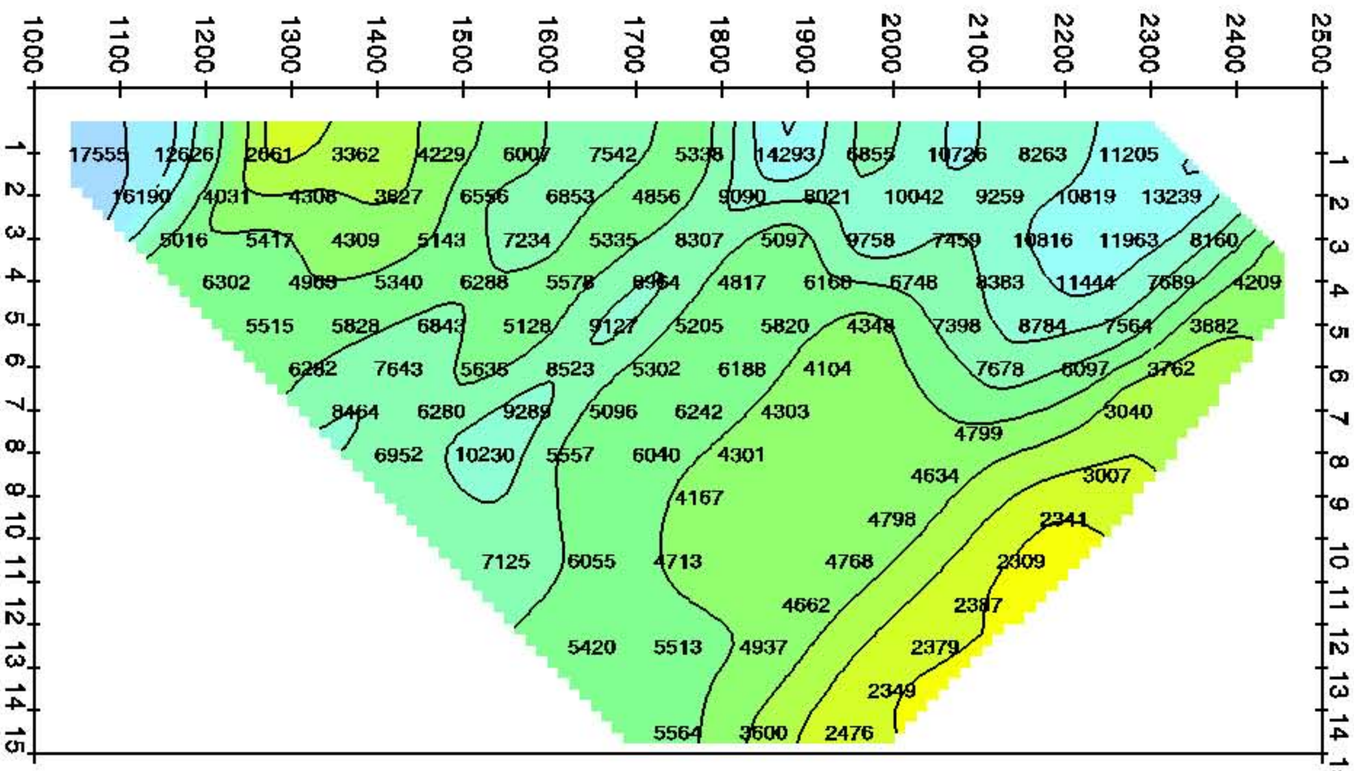
Resistivity Inversion Model



Resistivity Observed Data



Resistivity Calculated Data



Mt Owen

Line Q

Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

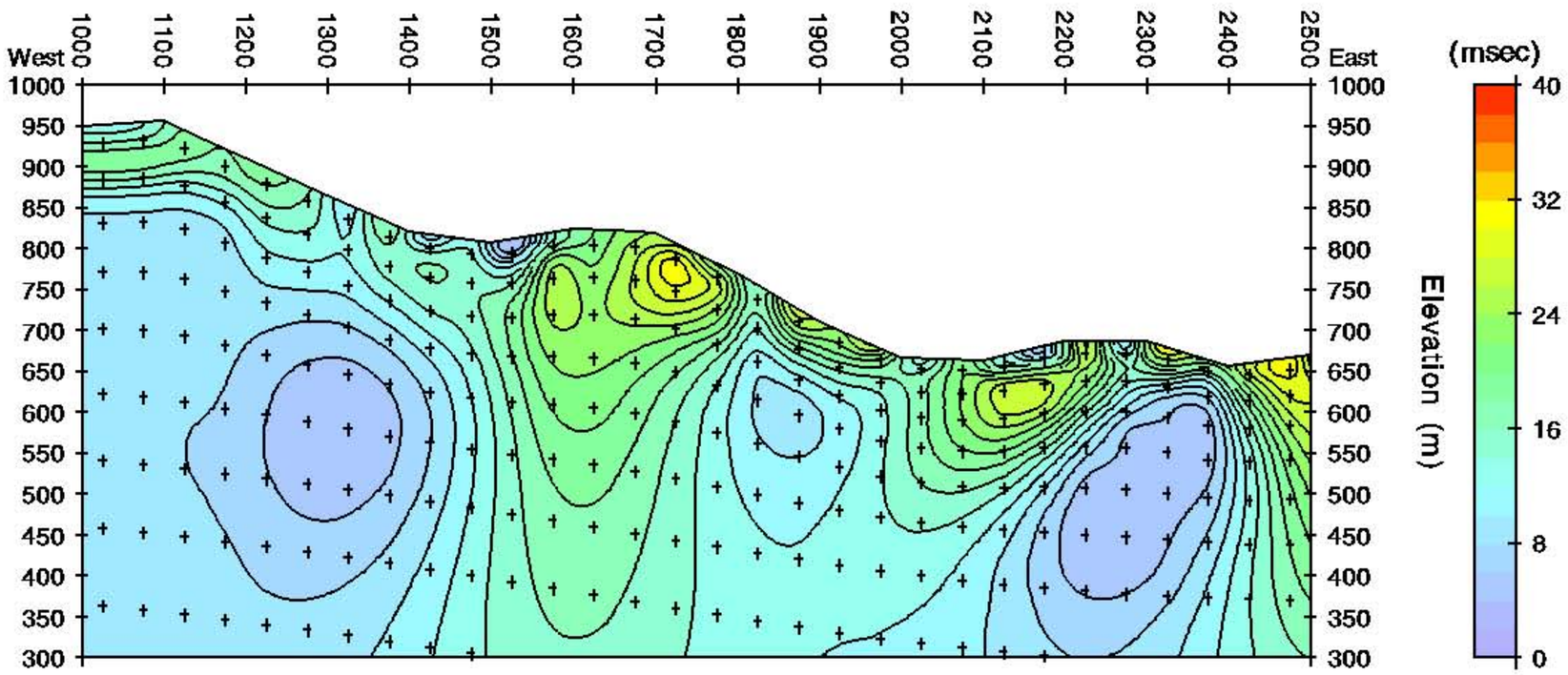
Inversion control parameters:
ResSmth=1, dpW=0.5, dxW=1, dzW=1
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

600 m

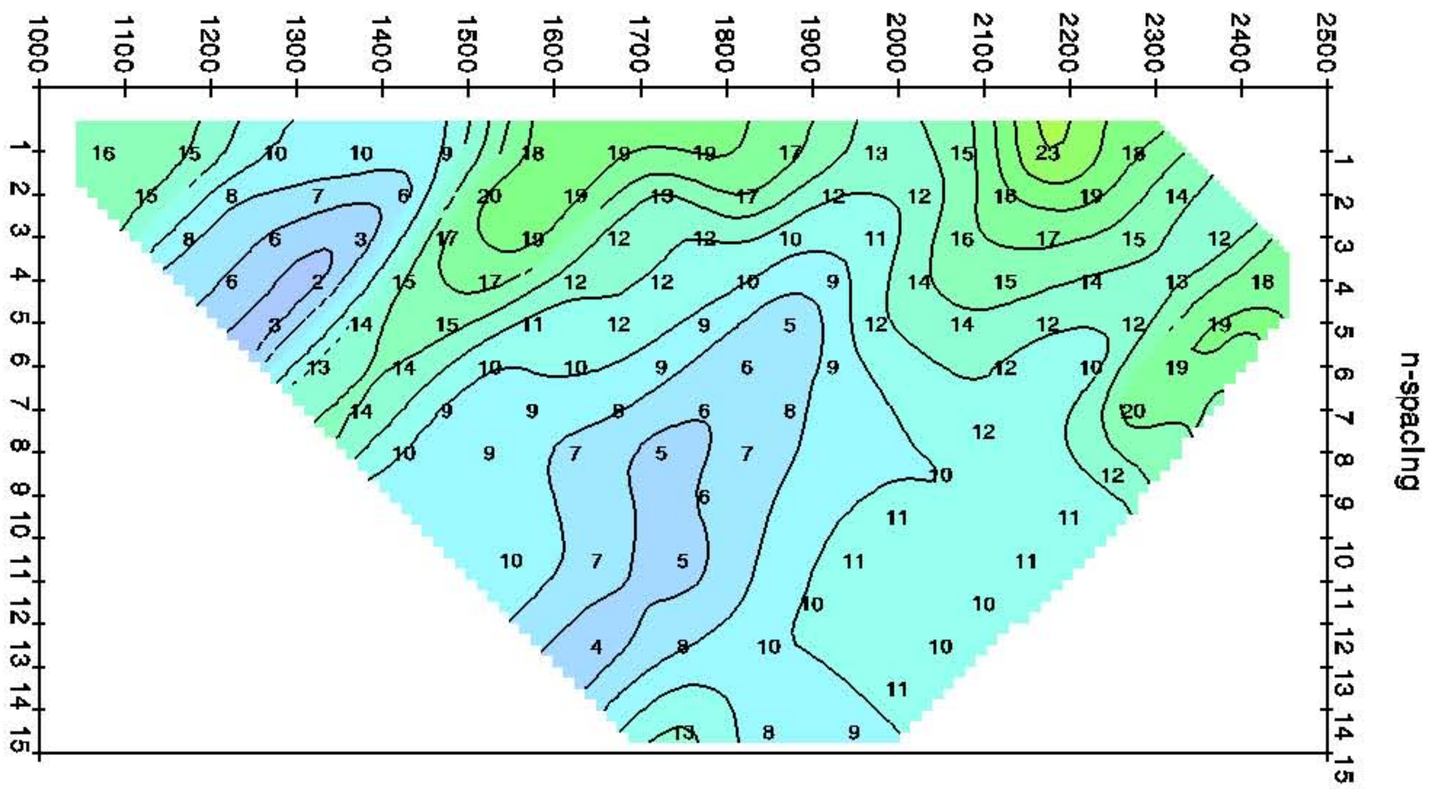
Bondi
Mt Owen
Line Q
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	19/04/11	1:10000	Job 918
REF: Q.s2d				

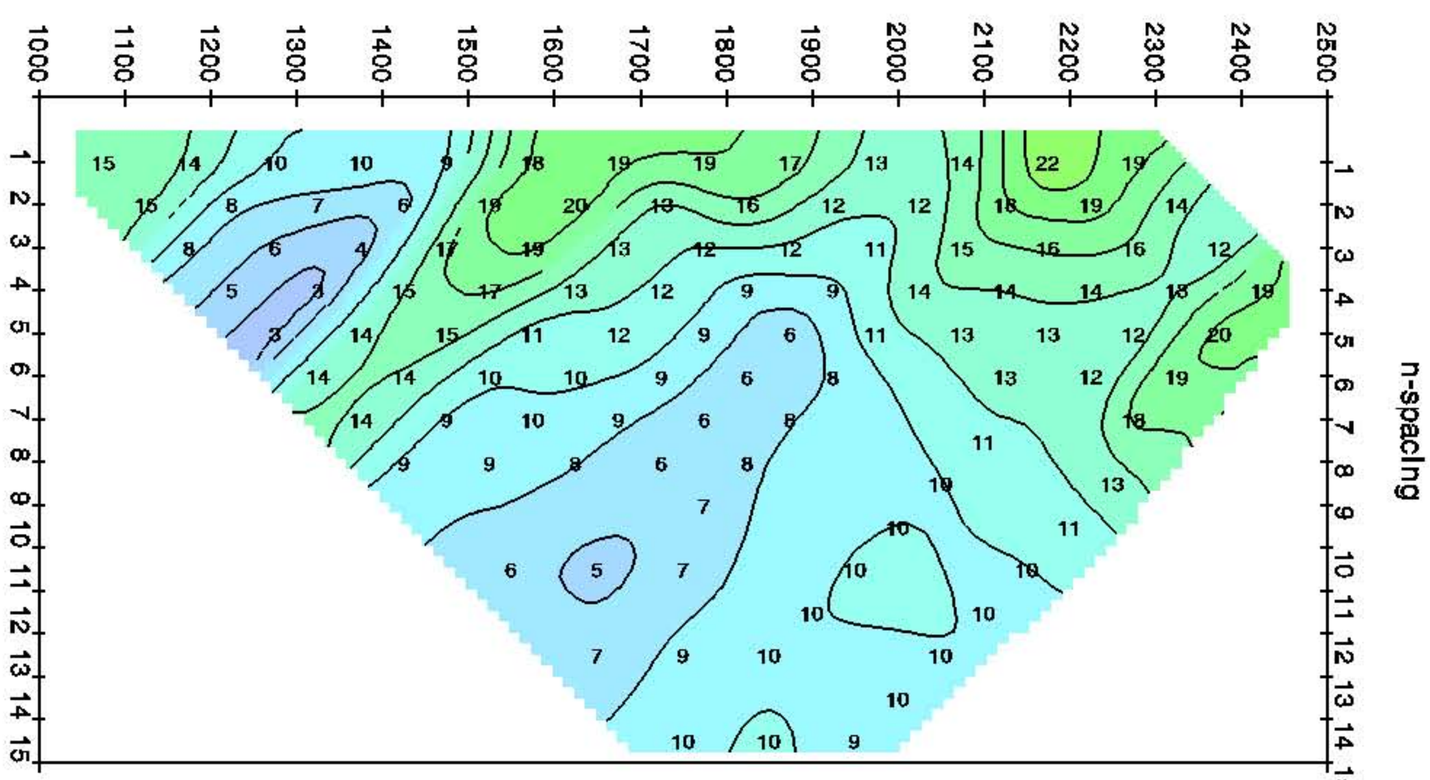
IP Inversion Model



IP Observed Data



IP Calculated Data



Mt Owen

Line Q

Survey Parameters:
100 m Pole-Dipole data
0.125 hertz repetition rate

Inversion control parameters:
ResSmth=1, dpW=0.5, dxW=1, dzW=1
IPSmth=0.1, dpW=0.5, dxW=1, dzW=1
TS2DIP v4.60e

600 m

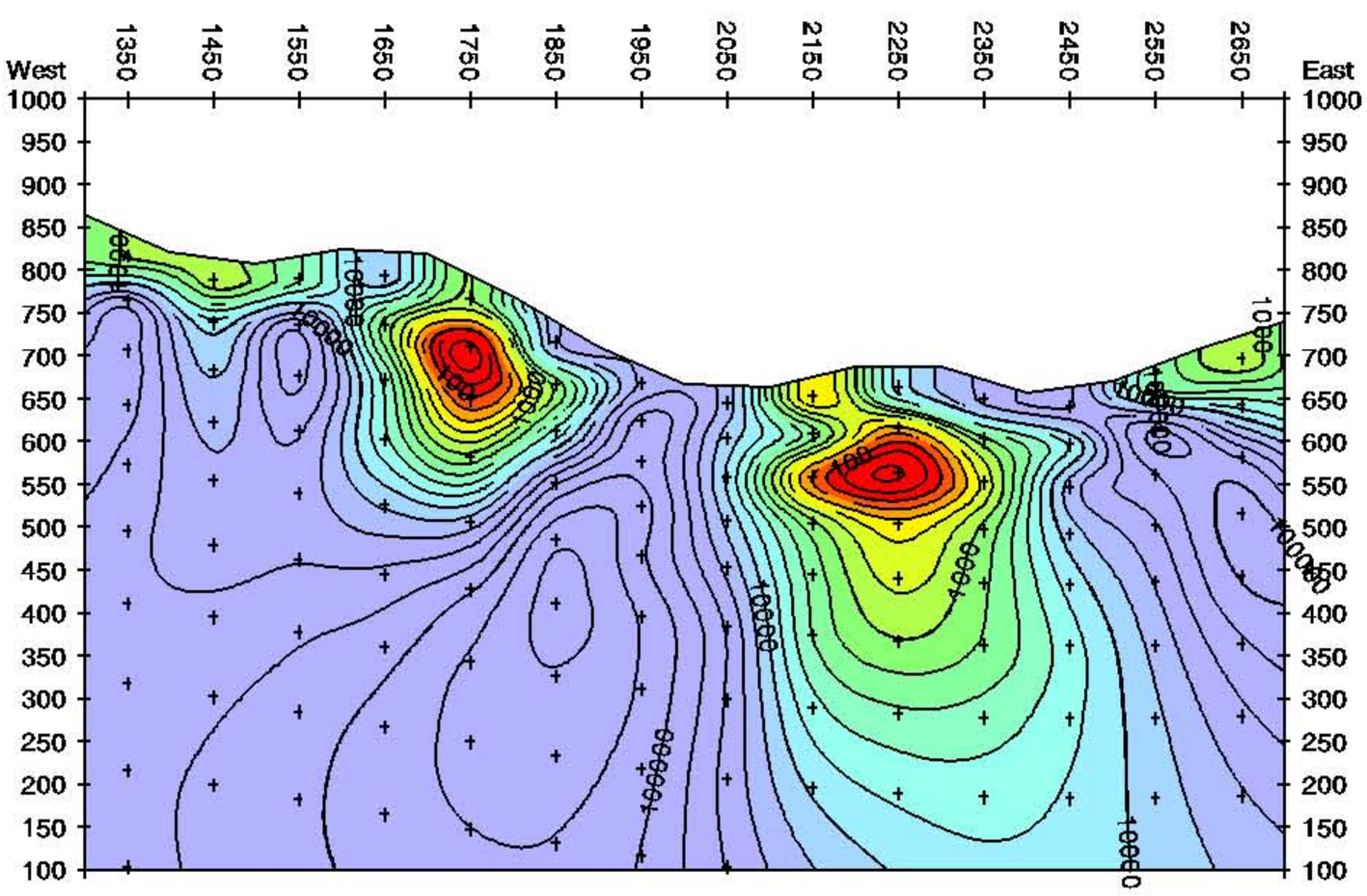
Bondi
Mt Owen
Line Q
2D Smooth-Model Inversion
Pole-Dipole Resistivity/IP Data

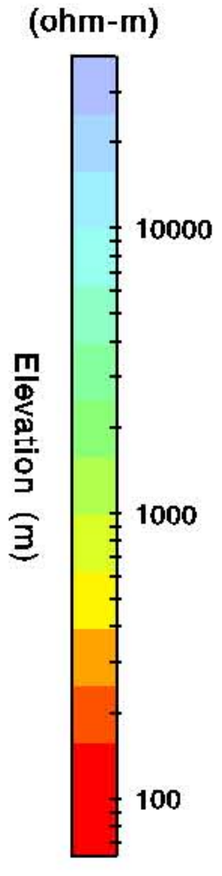
AUTHOR	DRAWN	DATE	SCALE	REPOR
Zonge	Zonge	19/04/11	1:10000	Job 918
REF: Q.s2d				

APPENDIX III

2D Resistivity Inversion Model of CSAMT data

Model Resistivity Inversion Model

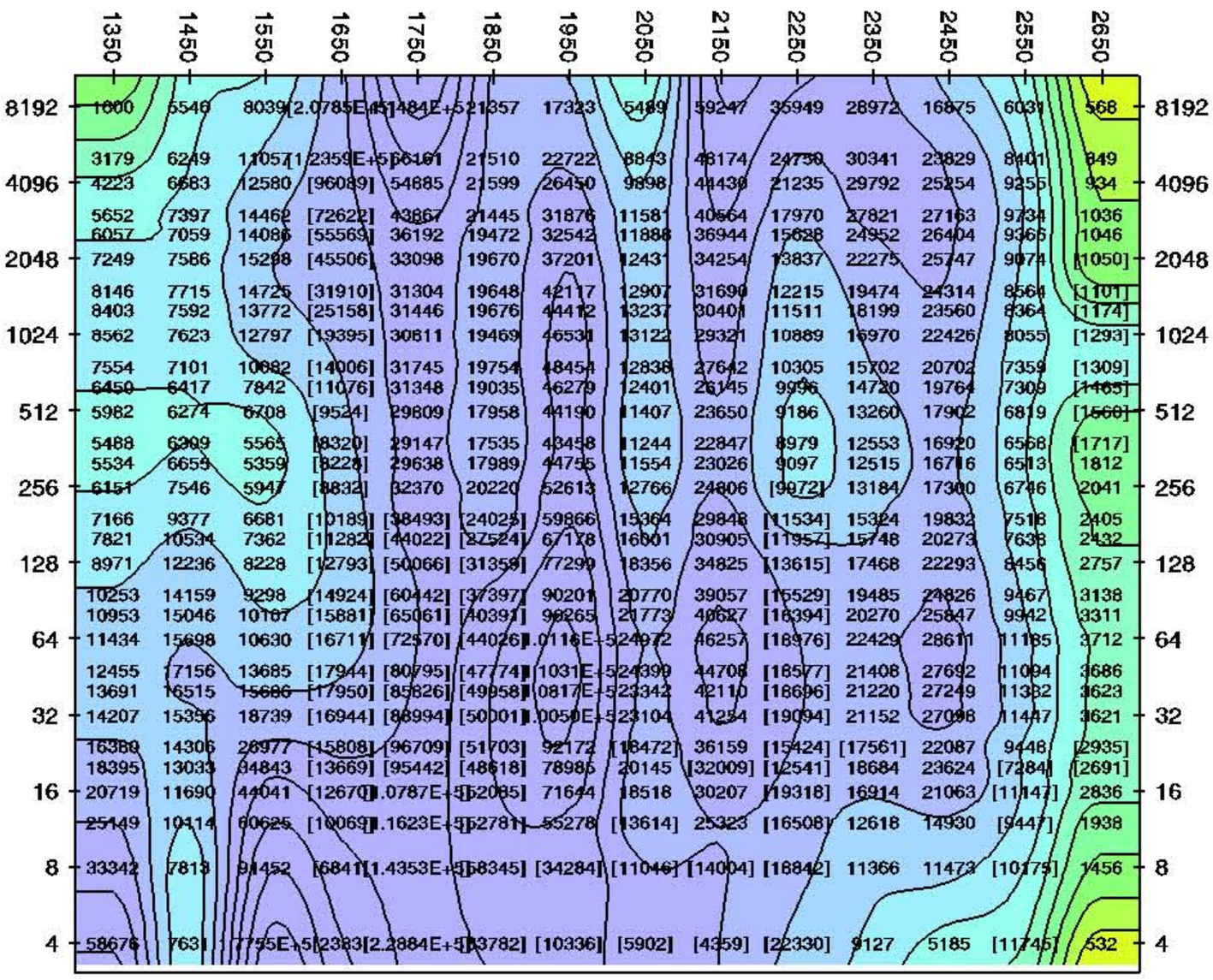


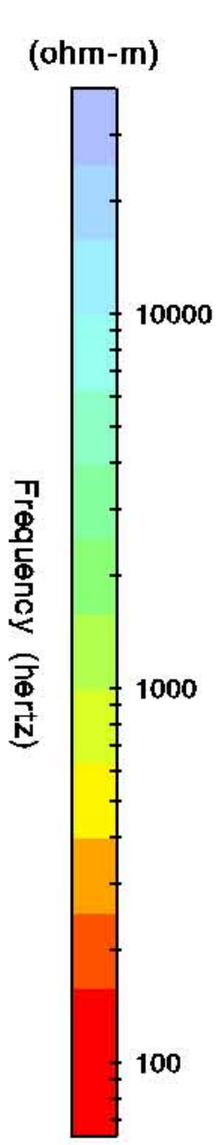


Mt Owen

Line Q

TM App. Res. Observed Data

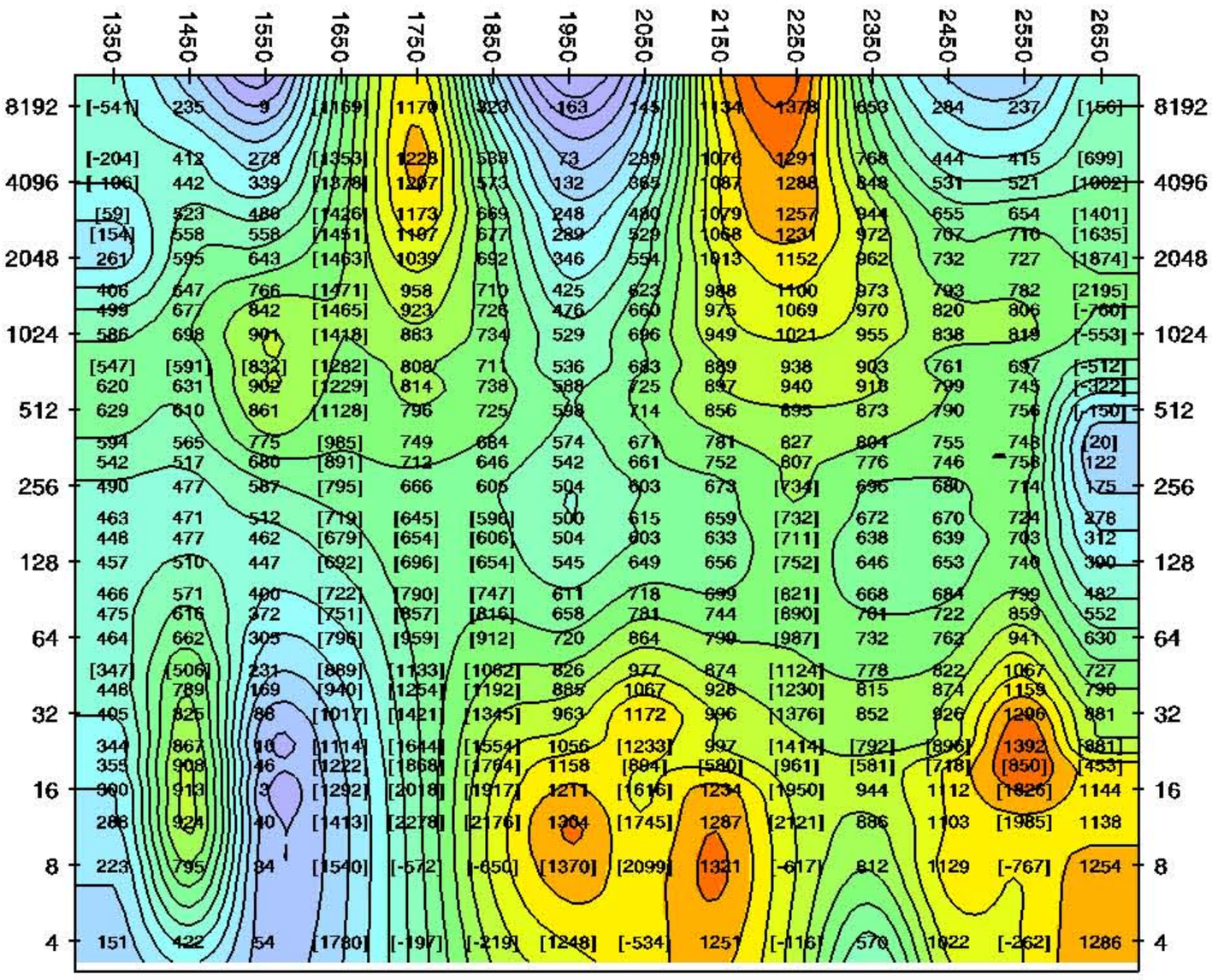


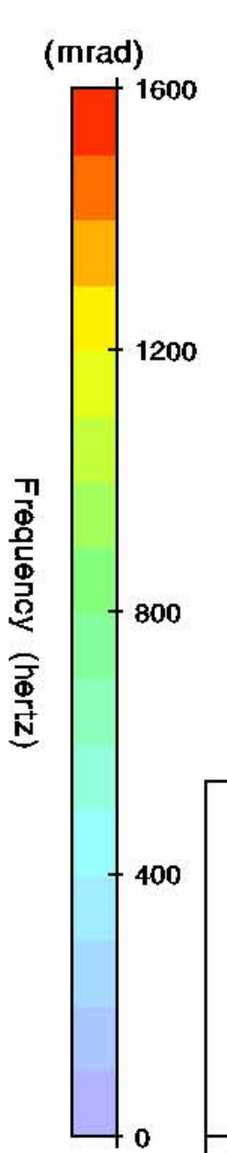


Survey Parameters:
Bipole Source Scalar AMT data
Tx length = 1722 m, azimuth = 35
Tx center easting=378206, northing=5342983

Rx dipole length = 100 m
Inversion control parameters:
ResSmth=0.5, dpW=0.1, dxW=1, dzW=1
White contours show Sensitivity

TM Phase(Z) Observed Data





600 m

Bondi
Mt Owen
Line Q
2D Smooth-Model Inversion
Scalar CSAMT/NSAMT Data

AUTHOR	DRAWN	DATE	SCALE	REPORT
Zonge	Zonge	21/04/11	1:10000	Job 918
SCS2D v3.20y: Q-CSAMT-2D.mtm				