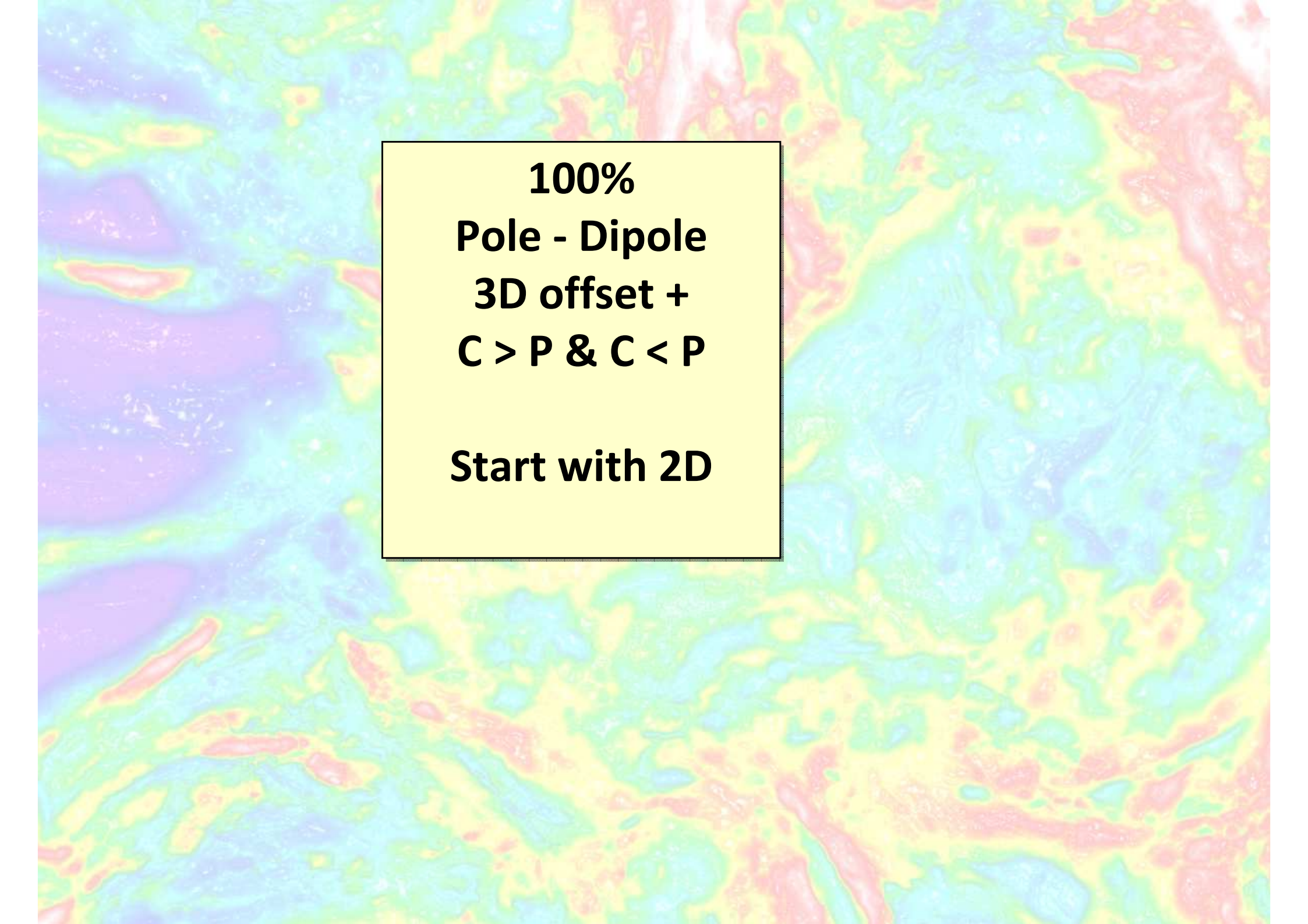


**Take a moment
to talk about
Survey Design**

Q Stations

**KNOW
YOUR DATA**



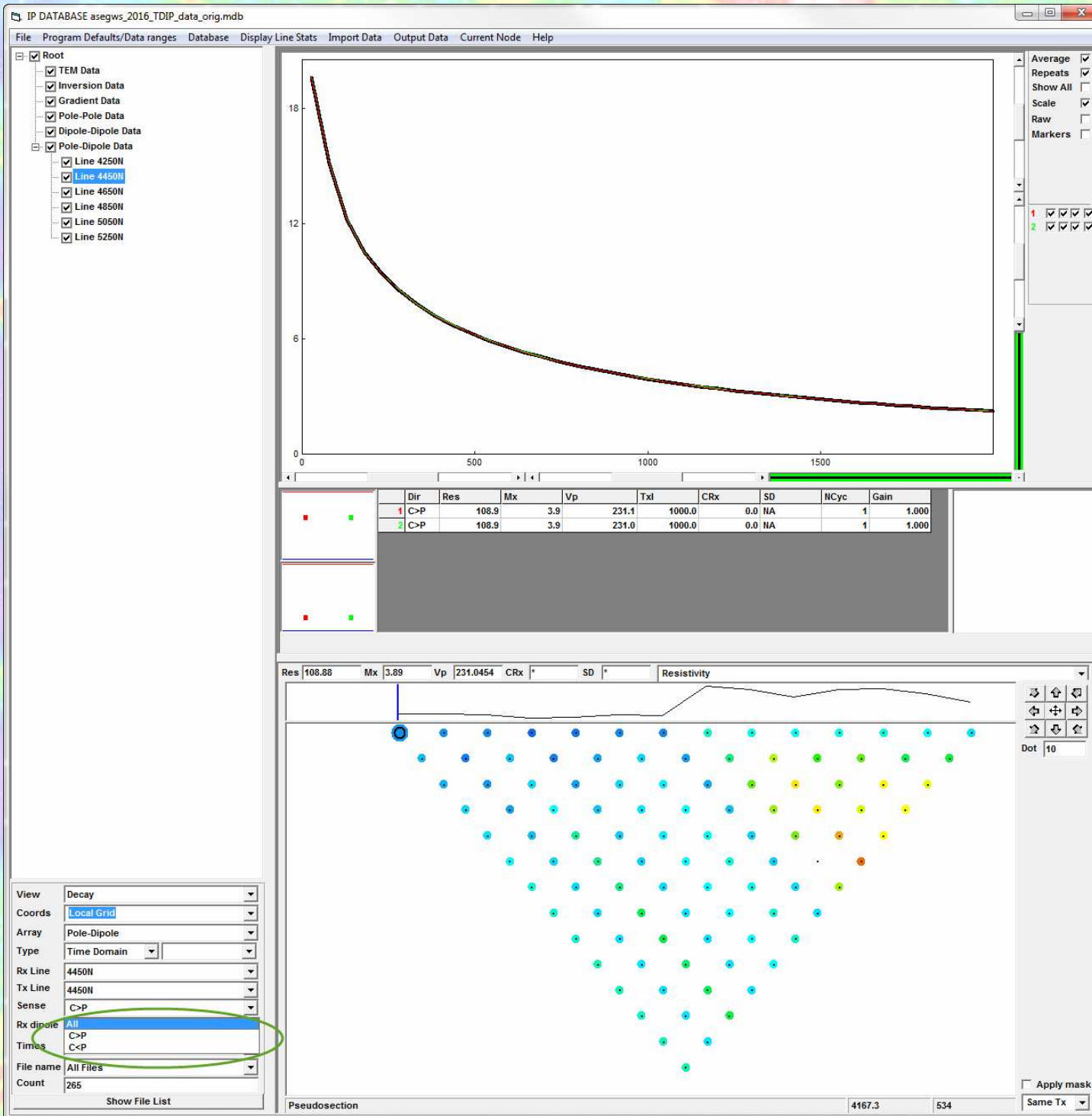
100%

Pole - Dipole

3D offset +

$C > P$ & $C < P$

Start with 2D



All Data

- Root
 - TEM Data
 - Inversion Data
 - Gradient Data
 - Pole-Pole Data
 - Dipole-Dipole Data
 - Pole-Dipole Data
 - Line 4250N
 - Line 4450N
 - Line 4650N
 - Line 4850N
 - Line 5050N
 - Line 5250N

Line : 4450N Plot Point : 4725.0 N : 25.0 Num repeats: 2

Time windows: Mimdas

Data File ASEGWS_TDIP_Data.dat

Use Data

Use Resistivity

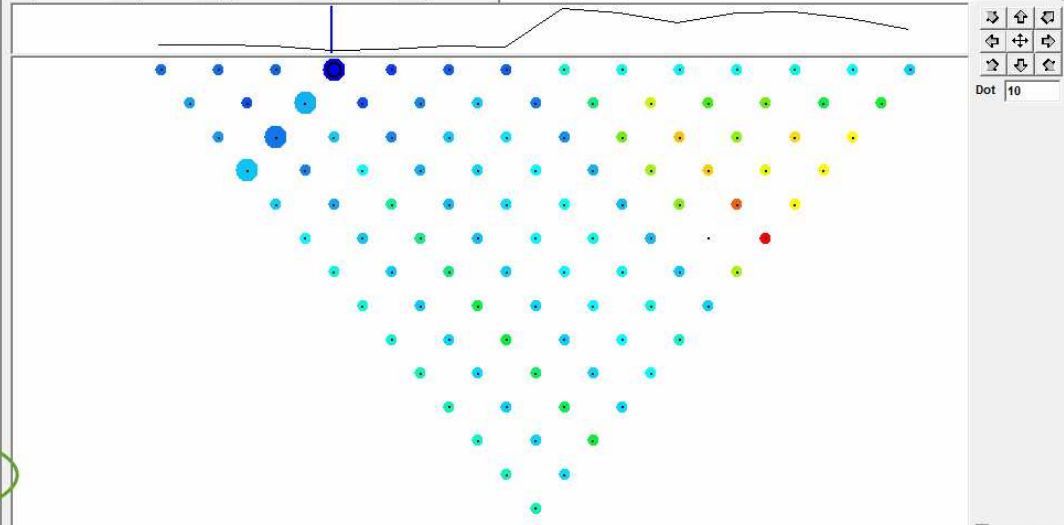
Use IP

Reading Date	19-Jul-2016	Reading Time	09:44:34
Detrend method	NA	Telluric method	NA
Tx Line	4450N	Rx Line	4450N
C1	4750.0	P1	4600.0
C2	4750.0	P2	4700.0
Tx I	1000.0	Component	
Vp	117.9939	SP	0.00
NCyc	1	StdDev	-9999.0000
Res Obs	55.60	Mx Obs	6.98
Res Model	0.00	Mx Model	0.00
Res Target Error	0.0050	Mx Target Error	-9999.0000
Res Error / Z	-55.60 / -1120.67	Mx Z error	-9999.00 / -9999.00

Edit coords Recalc Res Delete Repeat Scale all decays
Flip decay Recalc Mx Clear decay edits Clear all decay edits

C > P

Res 55.60 Mx 6.91 Vp 117.9873 CRx + SD + Resistivity



- View Data
- Coords Local Grid
- Array Pole-Dipole
- Type Time Domain
- Rx Line 4450N
- Tx Line 4450N
- Sense C>P
- Rx dipole All
- Times C<P
- File name All Files
- Count 265

Show File List

- Root
 - TEM Data
 - Inversion Data
 - Gradient Data
 - Pole-Pole Data
 - Dipole-Dipole Data
 - Pole-Dipole Data
 - Line 4250N
 - Line 4450N
 - Line 4650N
 - Line 4850N
 - Line 5050N
 - Line 5250N

Line : 4450N Plot Point : 4275.0 N : 25.0 Num repeats: 4
Time windows: Mimdas

Data File: ASEGWS_TDIP_Data.dat

<input checked="" type="checkbox"/> Use Data	<input checked="" type="checkbox"/> Use Resistivity	<input checked="" type="checkbox"/> Use IP
Reading Date: 19-Jul-2016	Reading Time: 09:44:34	
Detrend method: NA	Telluric method: NA	
Tx Line: 4450N	Rx Line: 4450N	
C1: 4250.0	P1: 4300.0	
C2: 4250.0	P2: 4400.0	100.0
Tx I: 1000.0	Component:	
Vp: -295.9420	SP: 0.00	
NCyc: 1	StdDev: -9999.0000	
Res Obs: 139.46	Mx Obs: 5.94	
Res Model: 0.00	Mx Model: 0.00	
Res Target Error: 0.0030	Mx Target Error: -9999.0000	
Res Error / Z: -139.46 / -46486.47	Mx Z error: -9999.00 / -9999.00	

Buttons: Edit coords, Recalc Res, Delete Repeat, Scale all decays, Flip decay, Recalc Mx, Clear decay edits, Clear all decay edits

C > P

View: Data

Coords: Local Grid

Array: Pole-Dipole

Type: Time Domain

Rx Line: 4450N

Tx Line: 4450N

Sense: C<P

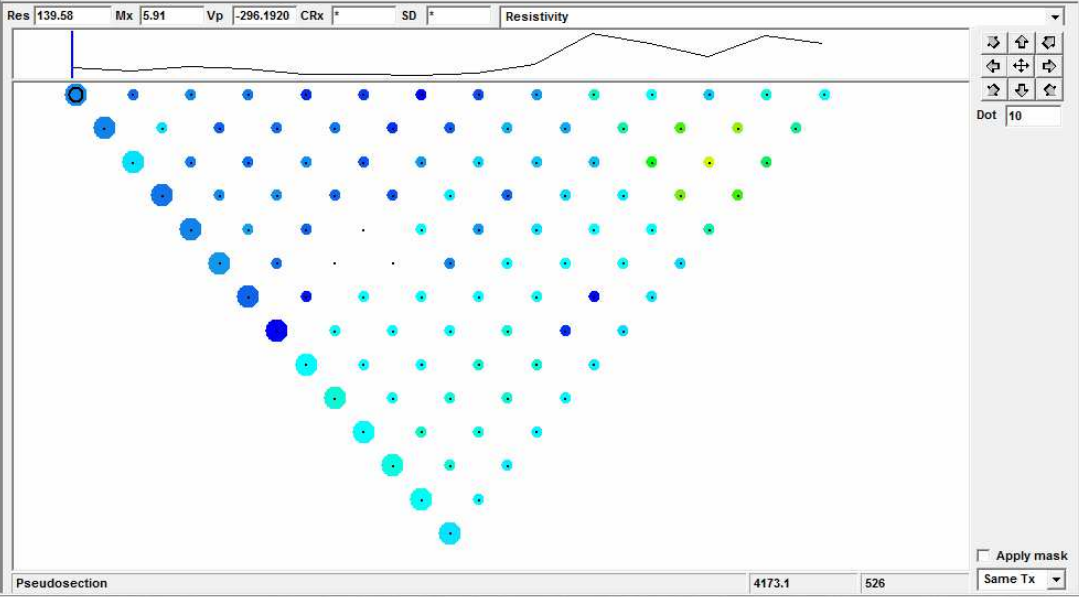
Rx dipole: All, C>P, C<P

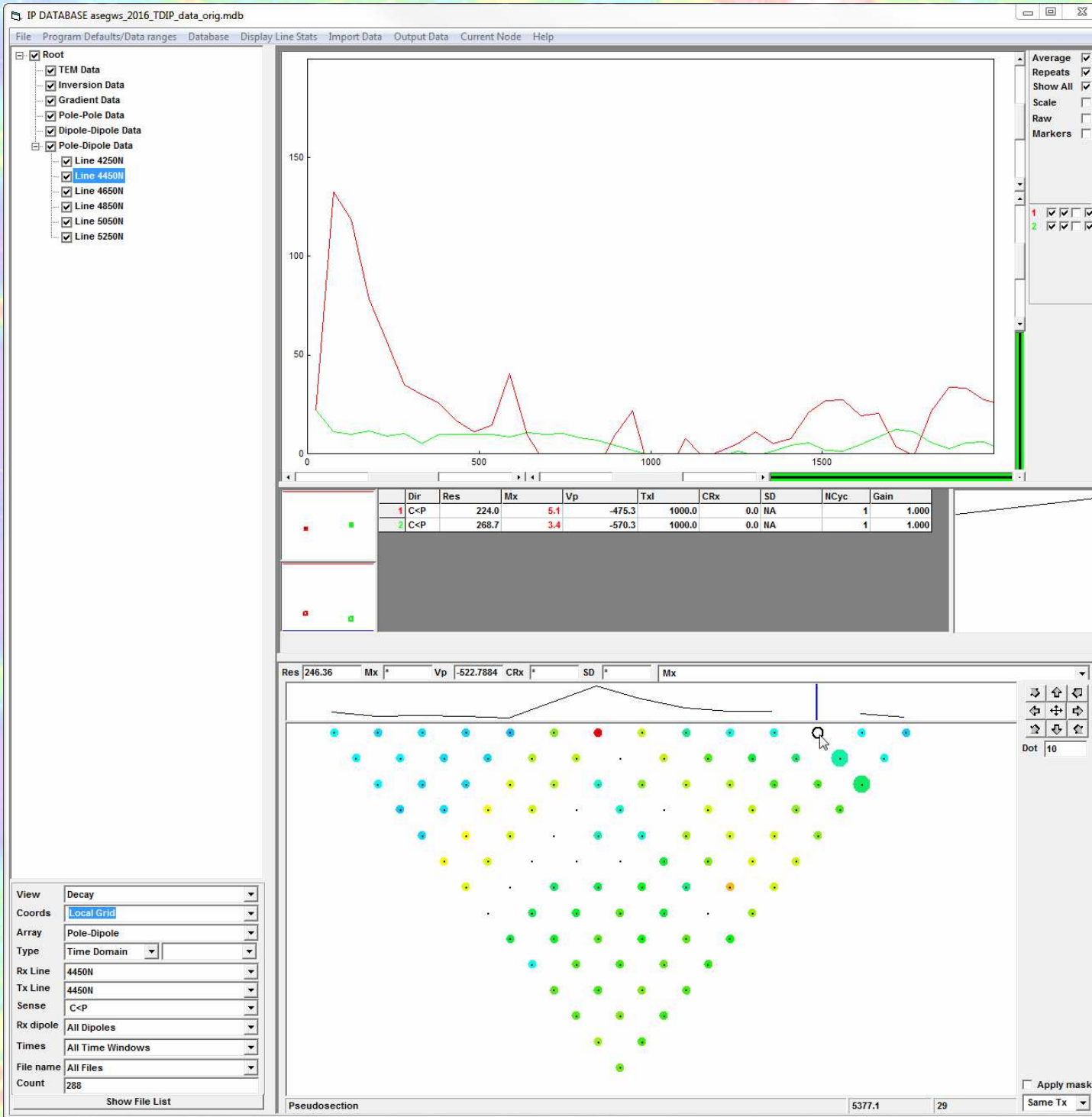
Times: C<P

File name: All Files

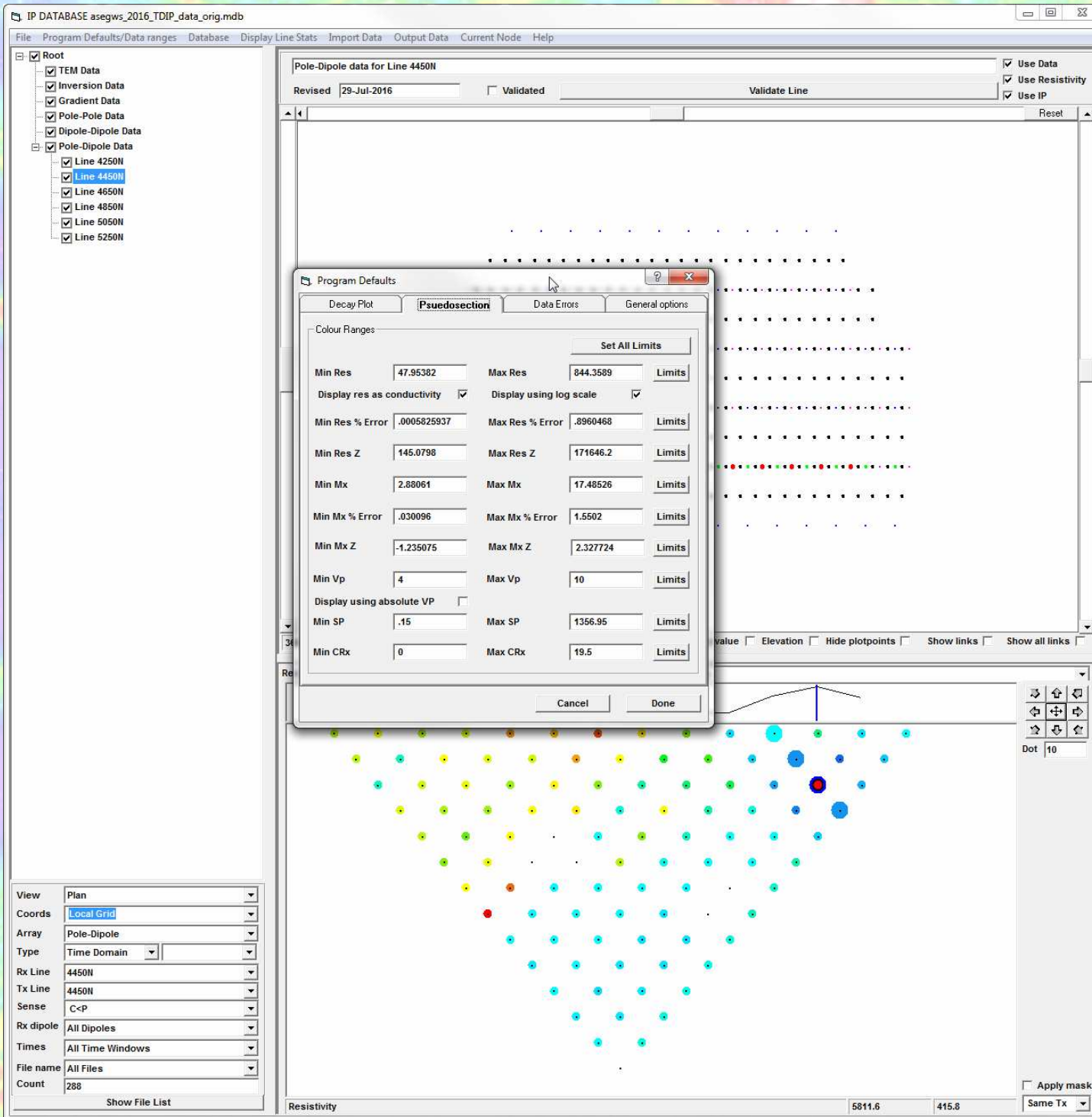
Count: 288

Show File List

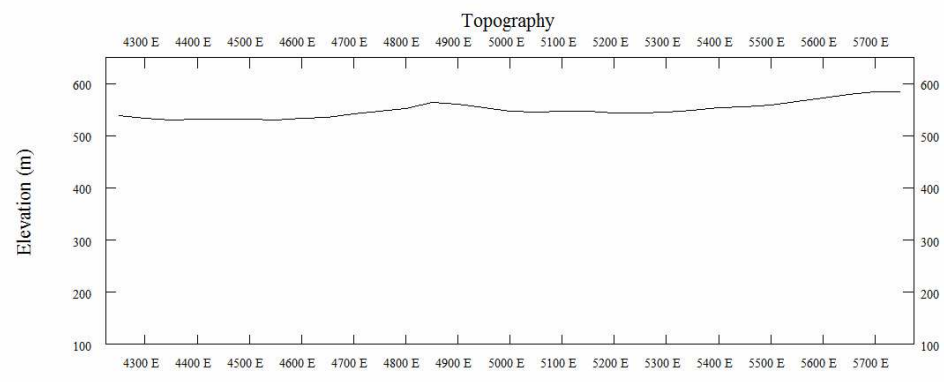
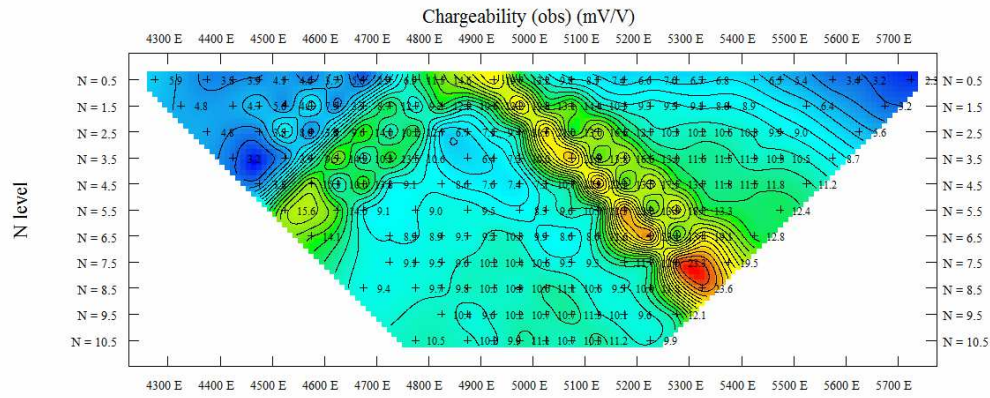
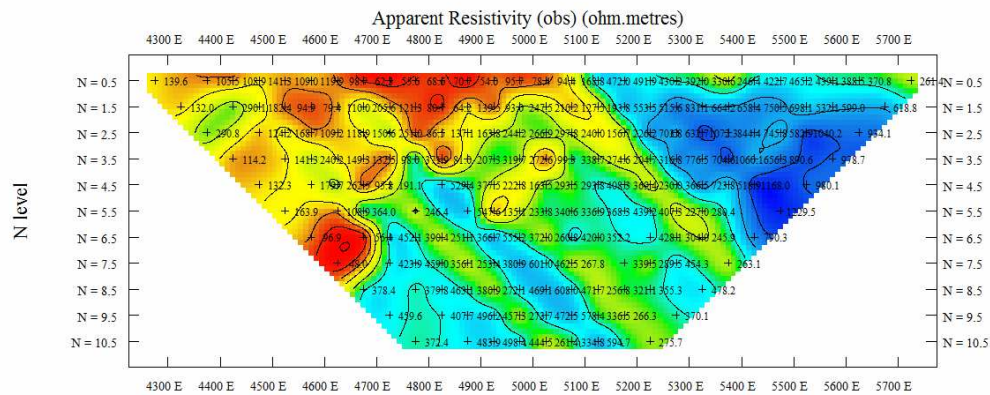




Poor Data



**Set data
Display
for
Line +
Project**



Defaults

General

IP Inversion and Display

Inversion Method

UBC

Zonge

ResZdiv

Exe Name: rs2dipw

Pseudosection Depth

N level

Edwards Depth

Depth Labels

Default

Resistivity Colour Table

Resistivity Histogram File

Resistivity Contour Table

Copy Observed Resistivity Histogram to Inverted Resistivity Inversion

Chargeability Colour Table

Chargeability Histogram File

Chargeability Contour Table

Plot Point Convention

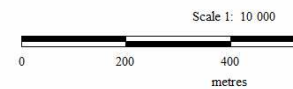
Geosoft

Geosoft

Zonge

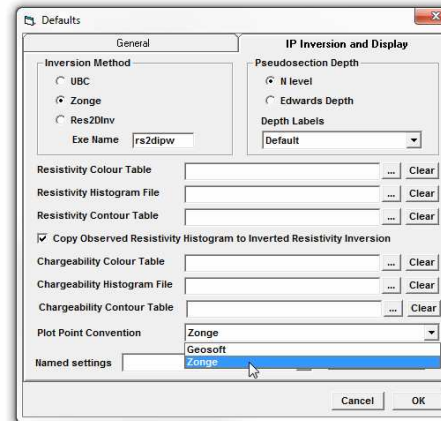
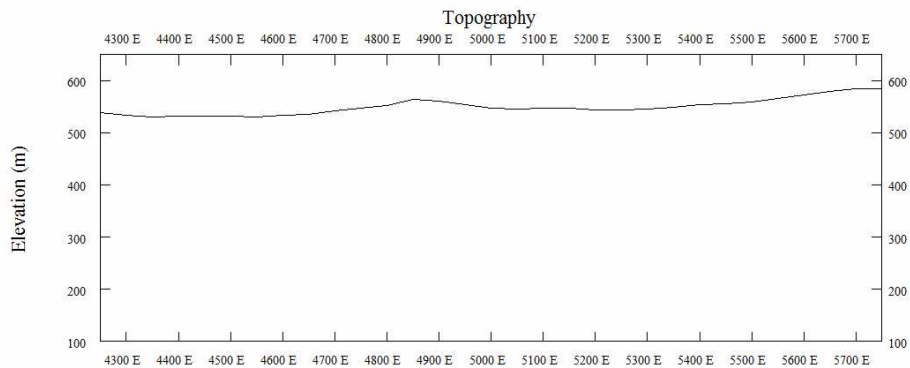
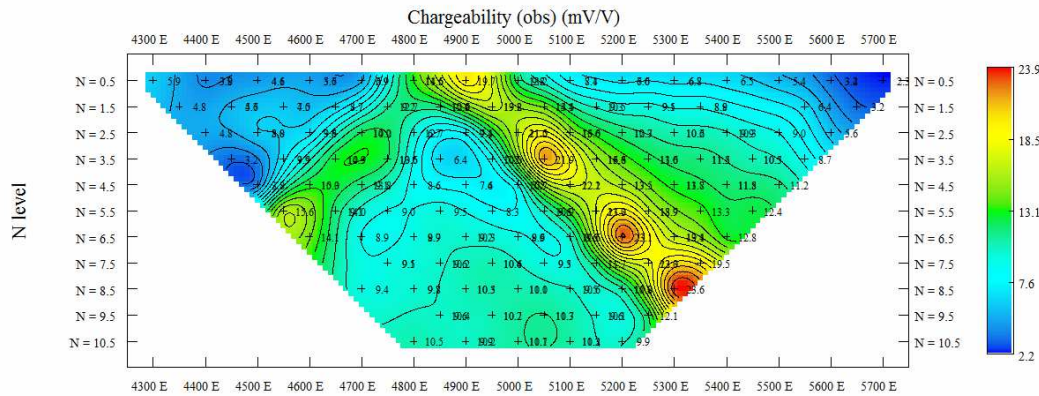
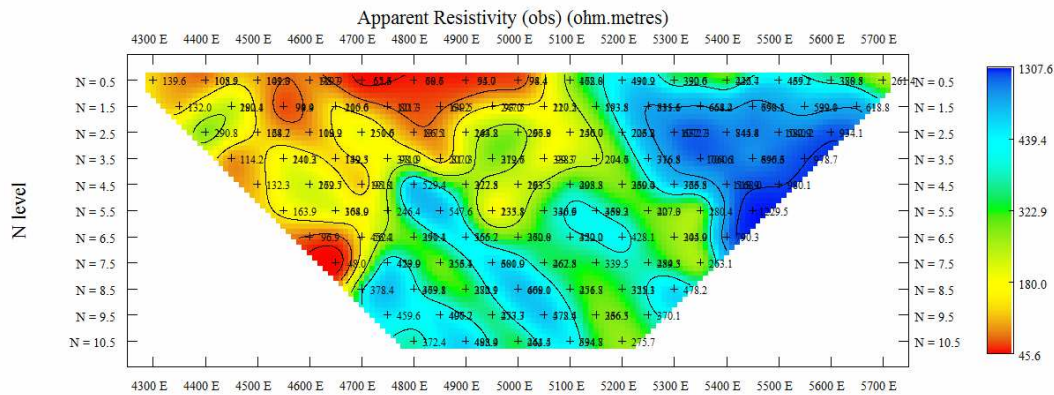
Named settings

Cancel OK



**Know
plotting
Con..
Geosoft**

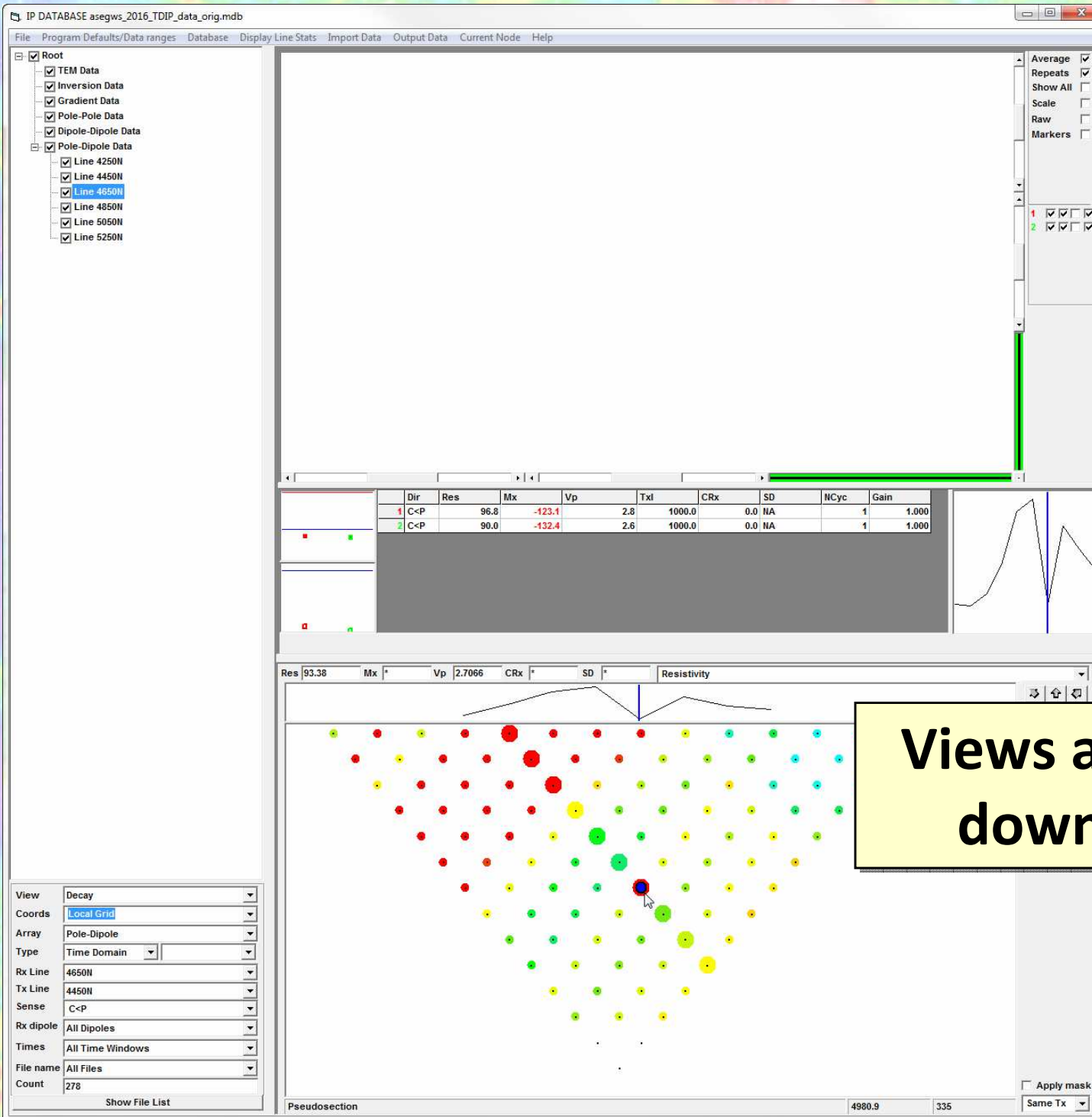
Montana GIS	
Line 4450N	
Author : DJM	Ref :
Drawn :	
Date : 29-Jul-2016	Report No :
Scale 1: 10 000	Plan No :



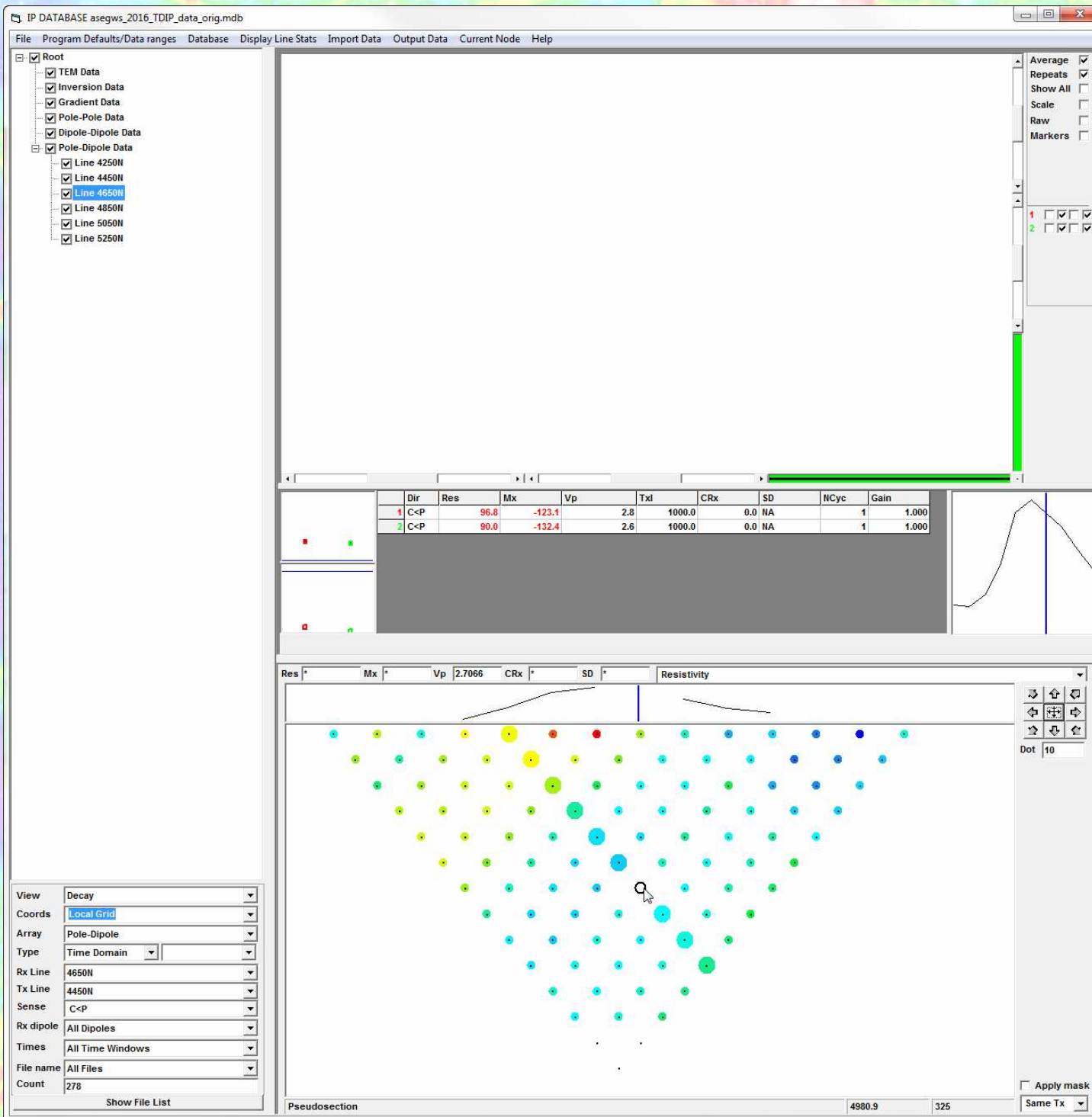
Scale 1: 10 000

One centre of Dipole to Pole
*** Problem with inversion**

Author : DJM	Ref :
Drawn :	
Date : 29-Jul-2016	Report No :
Scale 1: 10 000	Plan No :

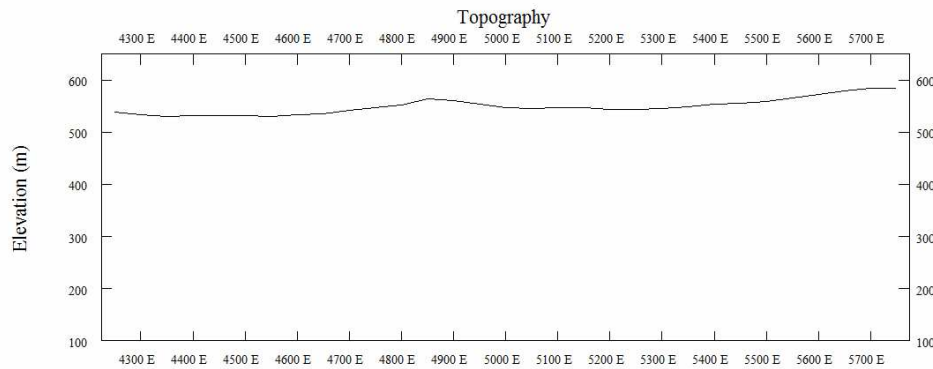
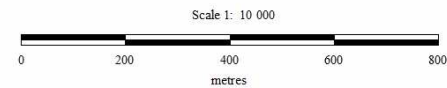
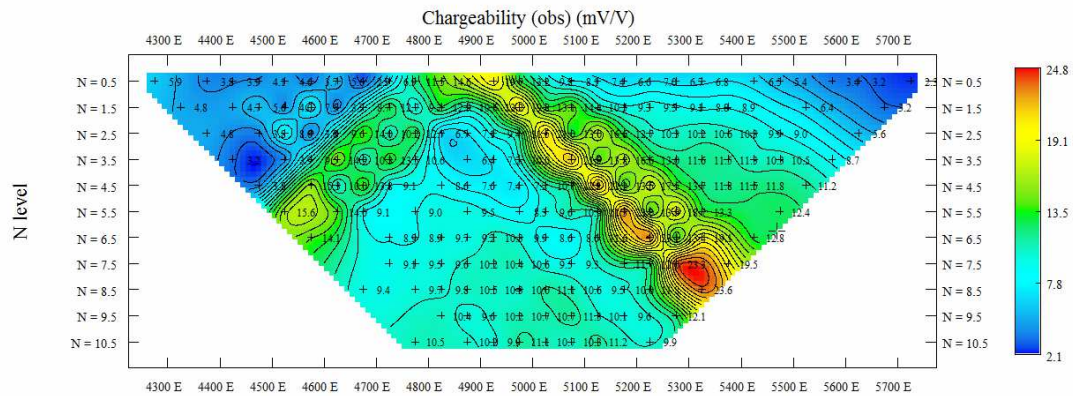
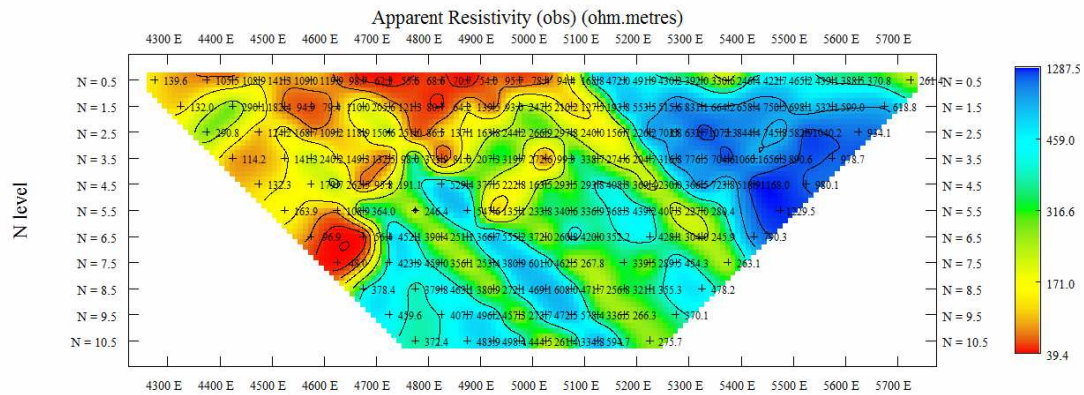


**Views across N Level to
down legs - Tx + Rx**

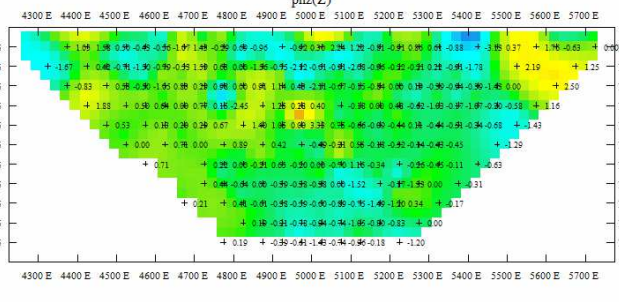
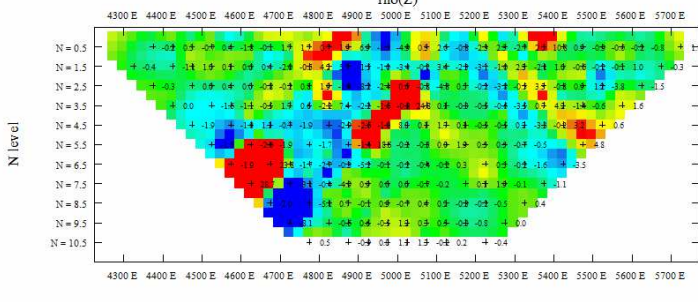
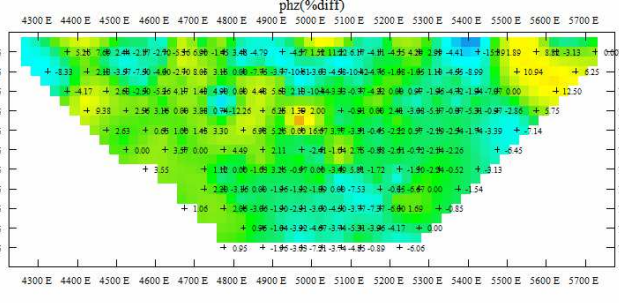
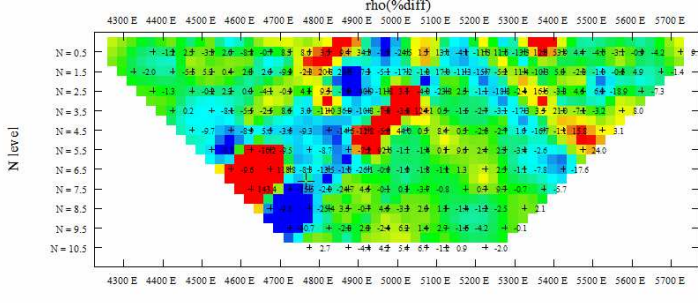
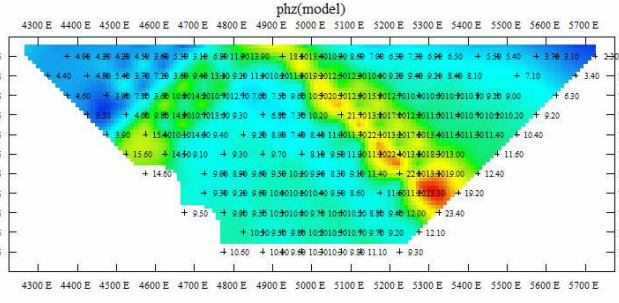
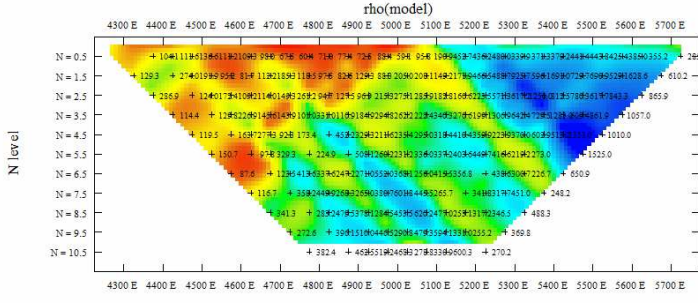
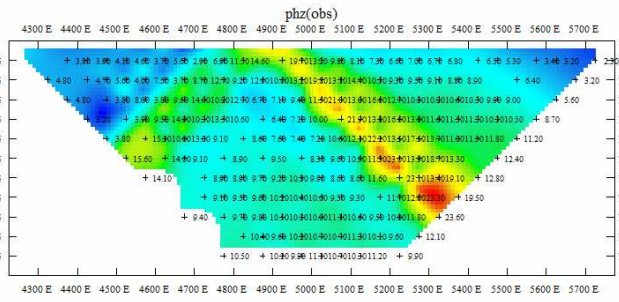
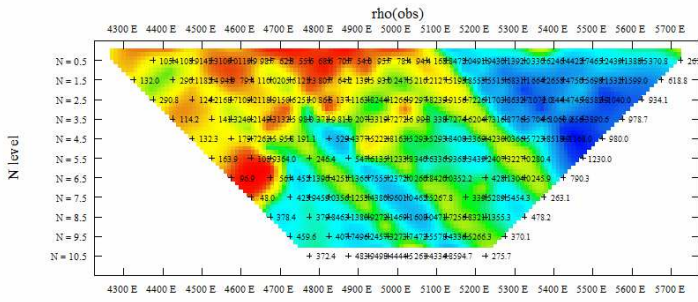


Adjusted colours due to bad data

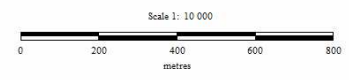
Poor Data



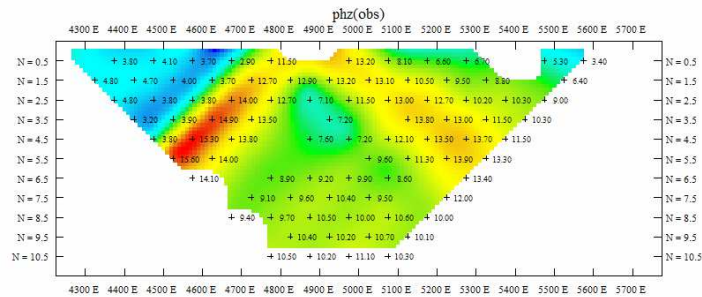
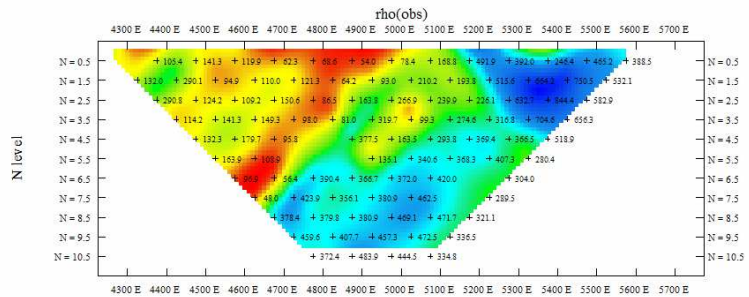
Montana GIS	
Line 4450N	
Author : DJM	Ref :
Drawn :	
Date : 29-Jul-2016	Report No :
Scale 1: 10 000	Plan No :



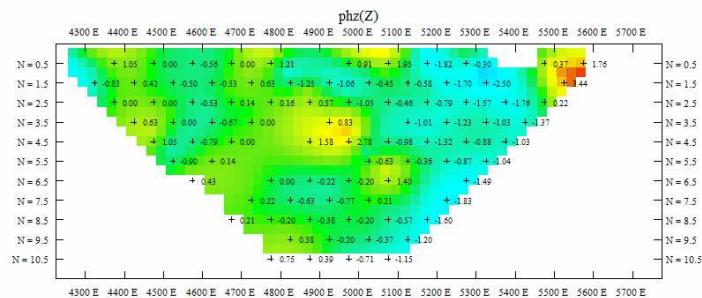
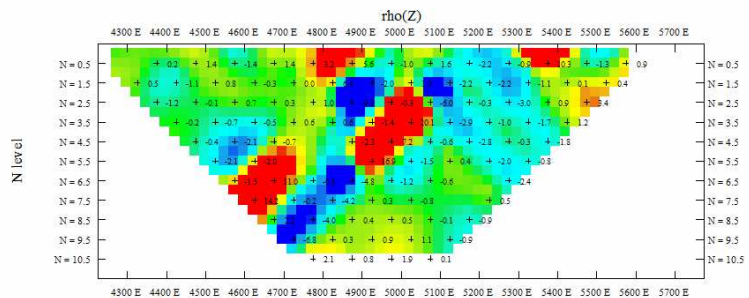
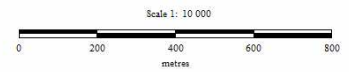
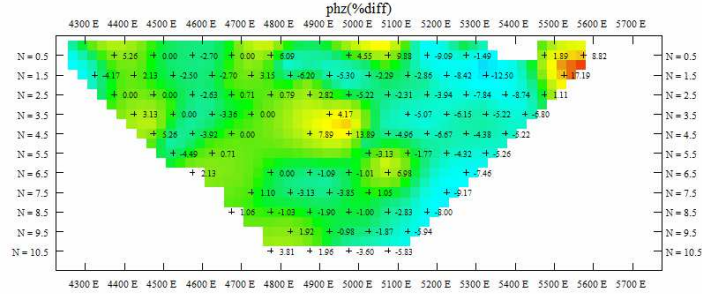
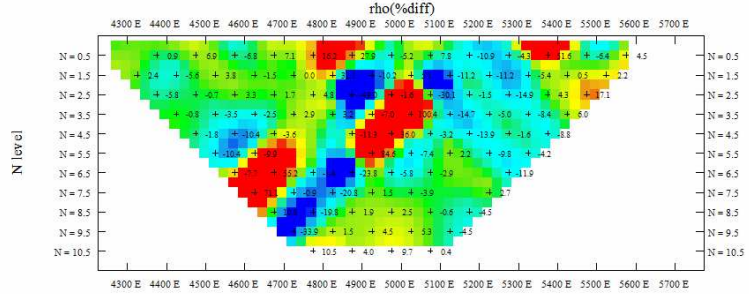
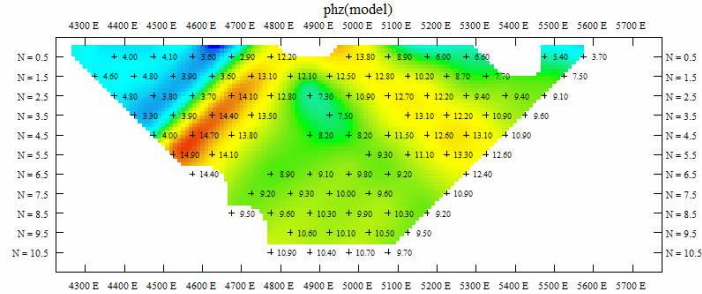
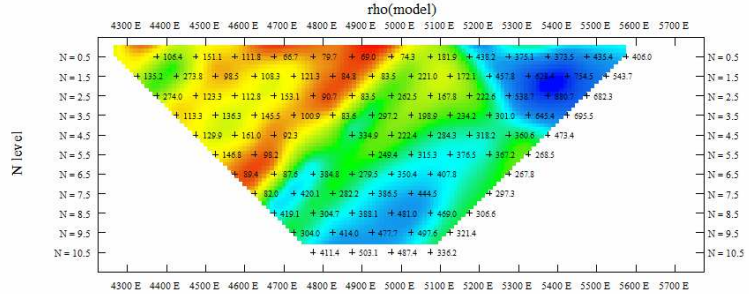
**Combined
Dipole made
4450N**



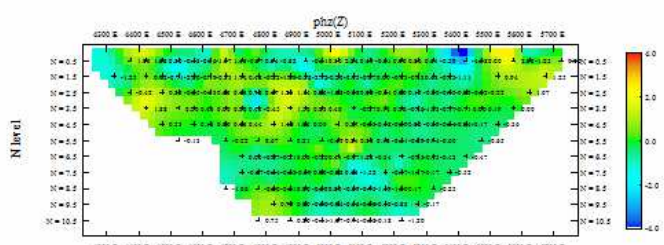
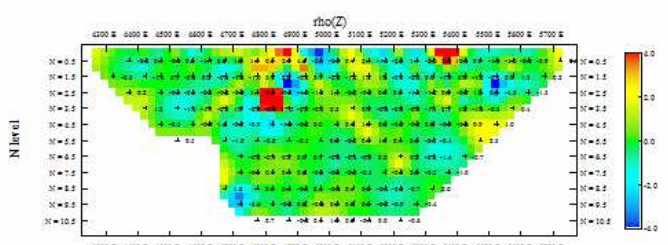
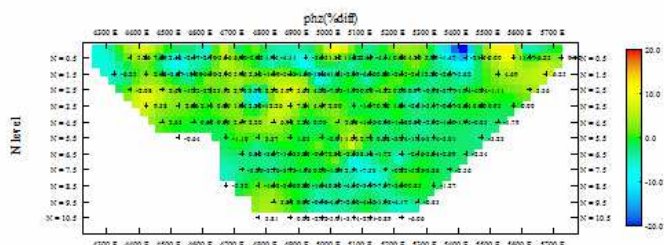
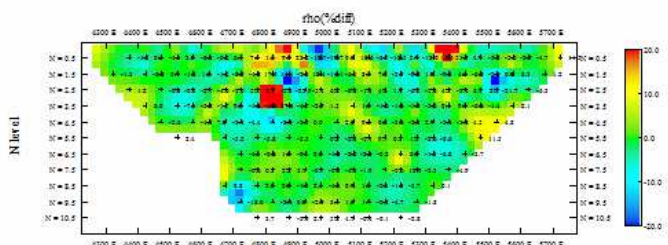
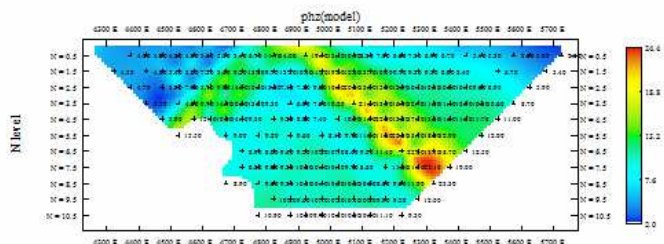
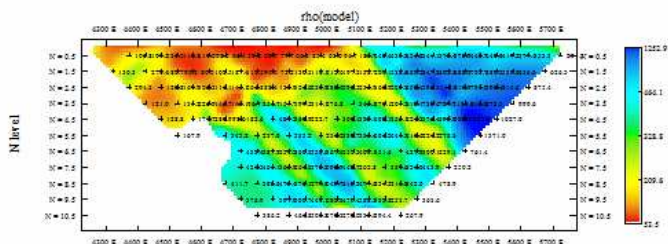
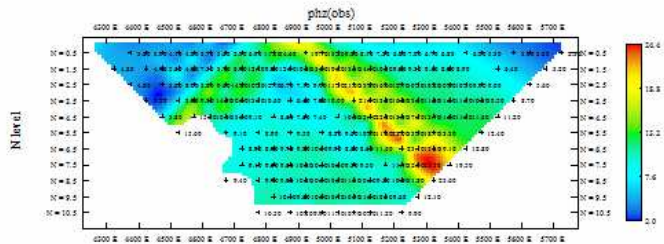
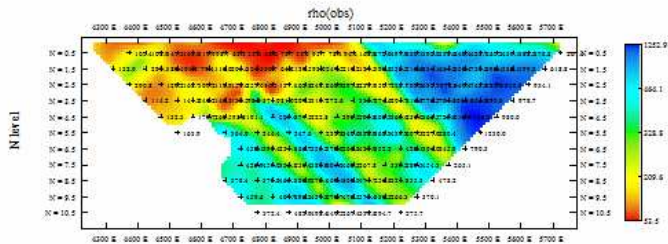
Montana GIS	
Line 4450N	
Author: DJM	Ref:
Drawn:	
Date: 29-Jul-2016	Report No:
Scale 1: 10 000	Plan No:



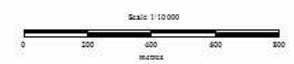
**C < P
is trouble**



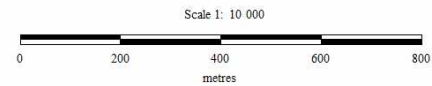
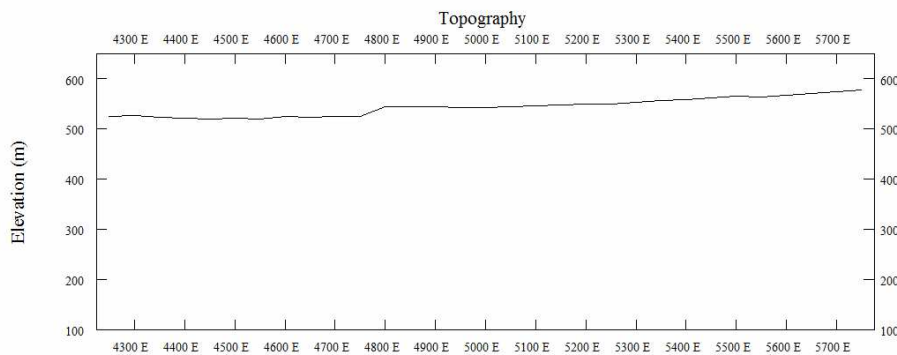
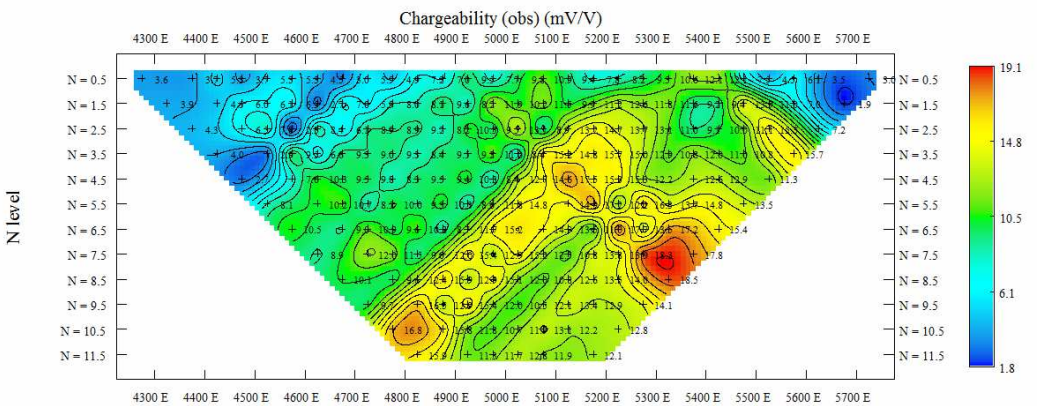
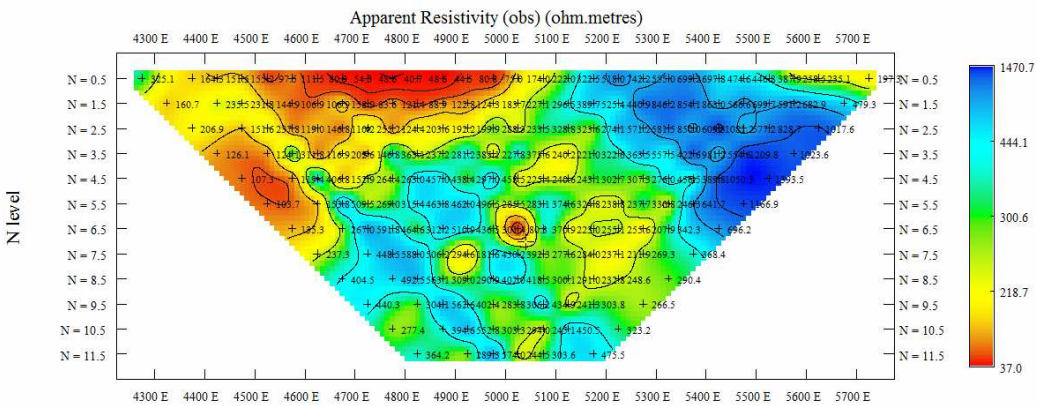
Montana GIS	
Line 4450N	
Author: DIM	Ref:
Drawn:	
Date: 29-Jul-2016	Report No.:
Scale 1: 10 000	Plan No.:



C > P still has other pt.



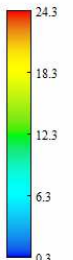
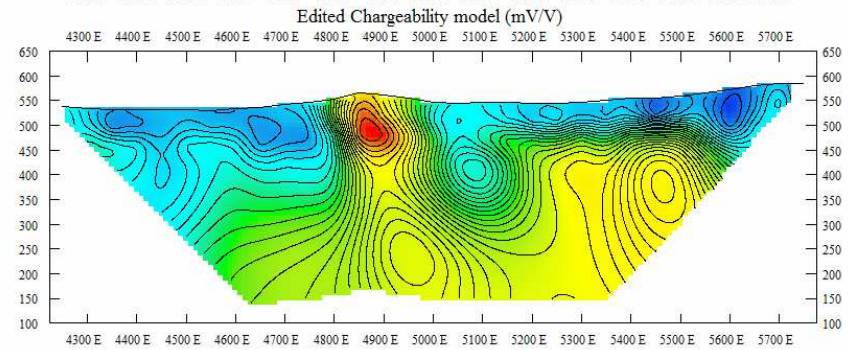
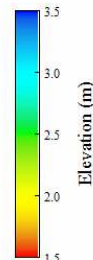
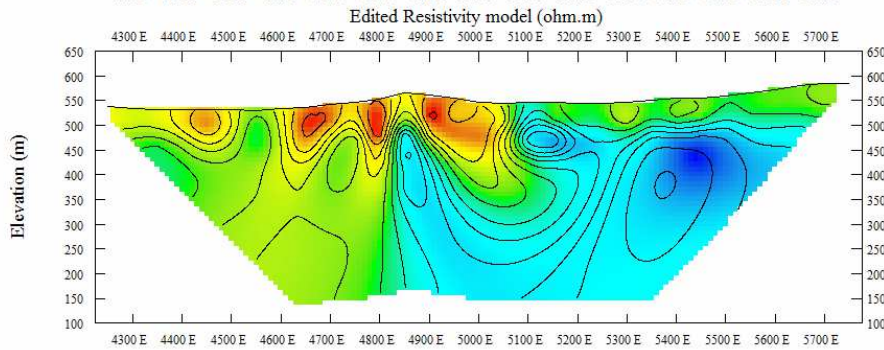
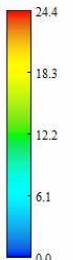
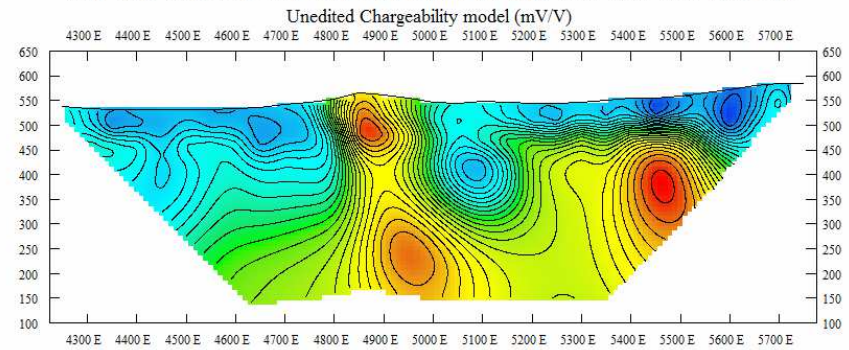
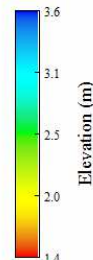
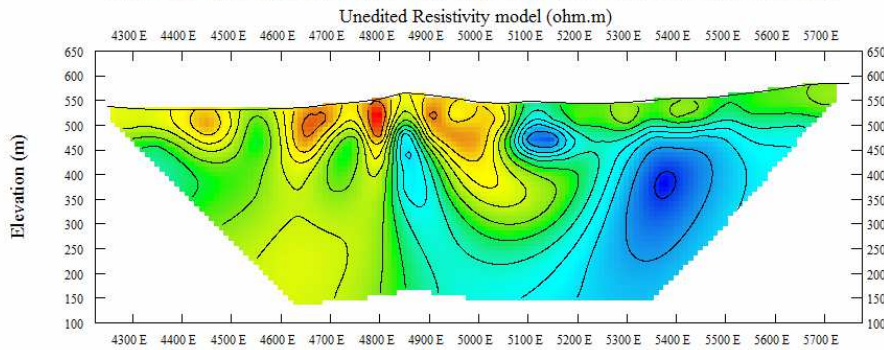
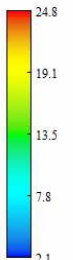
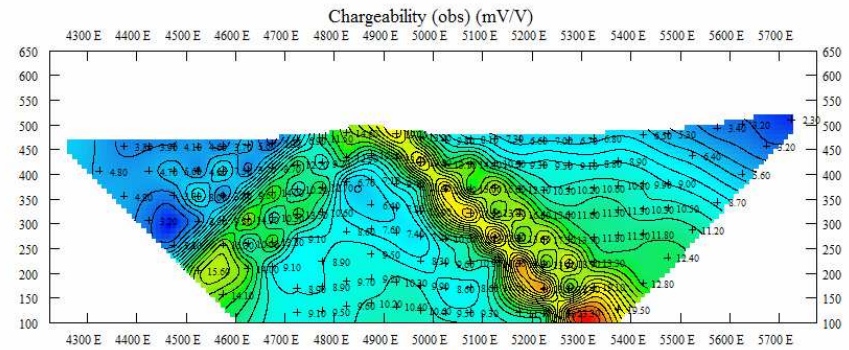
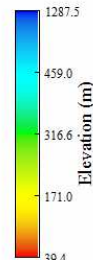
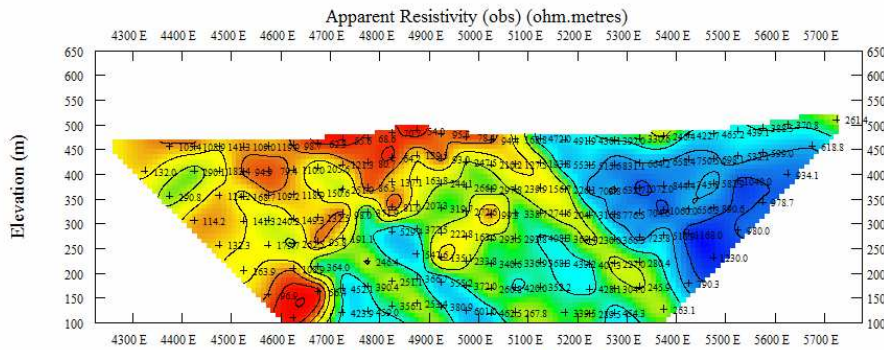
Montana GIS	
Line 4450N	
Author: DDM	Ref:
Drawn:	Report No:
Date: 8 Aug 2016	Plan No:
Scale: 1:10,000	



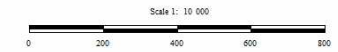
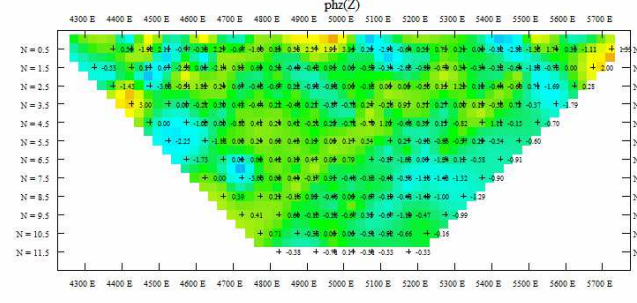
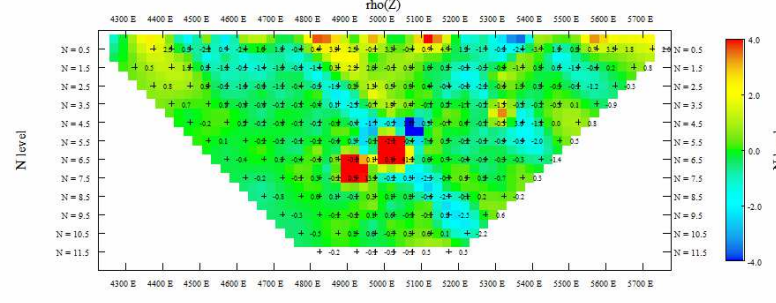
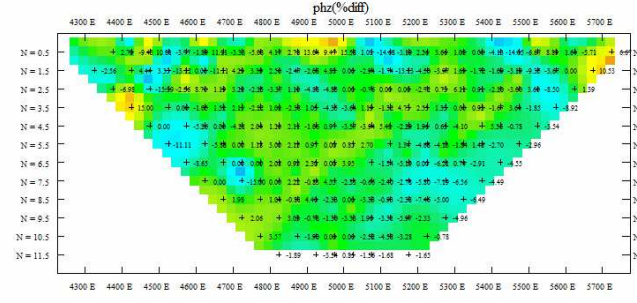
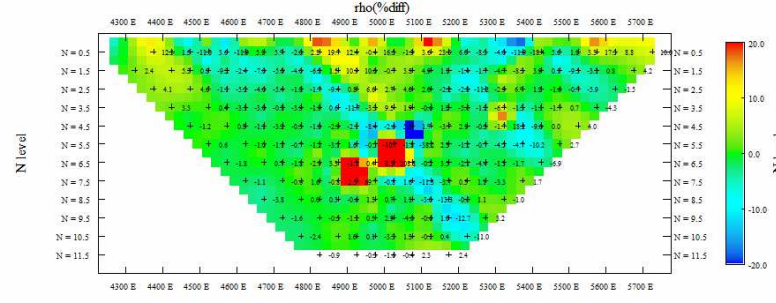
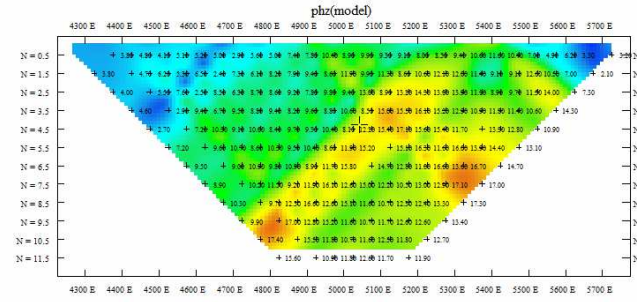
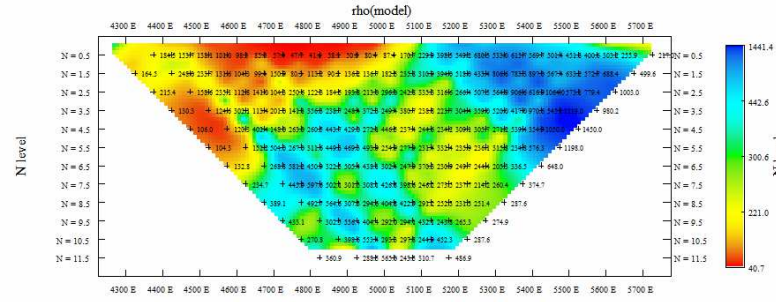
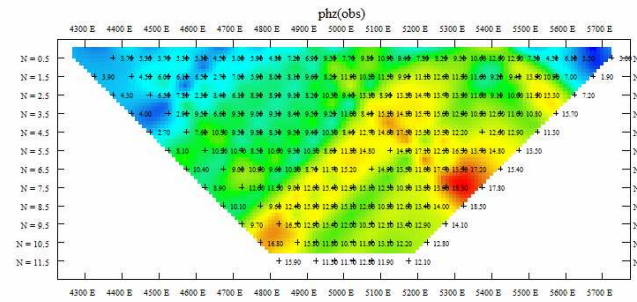
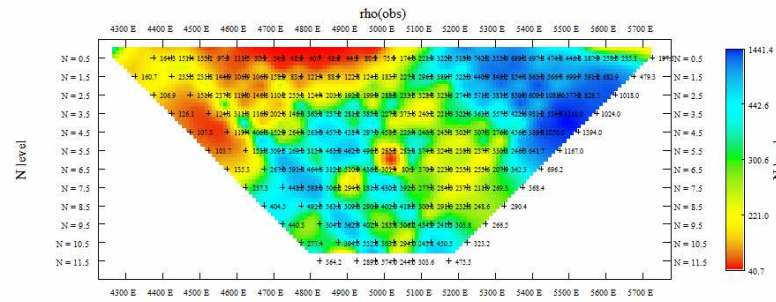
**Without
note
highlights
another pt.**

Montana GIS	
Line 4650N	
Author : DJM	Ref :
Drawn :	
Date : 29-Jul-2016	Report No :
Scale 1: 10 000	Plan No :

Comparison of Bad data



Not bad, Could edit point



Montana GIS	
Line 4650N	
Author: DIM	Ref:
Drawn:	Report No:
Date: 29-Jul-2016	Plan No:
Scale 1: 10 000	

Have a look to see how effecting models

WinDiso: D:\DATA\ASEG\VP2D\4650NedB\4650n_zone2\4650N_err.csf (56.5 cm x 45.0 cm)

Zonge IP Inversion for pole-dipole data

Parameters

IP Resistivity Inversion for 4650mz

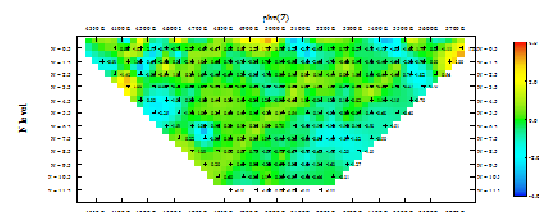
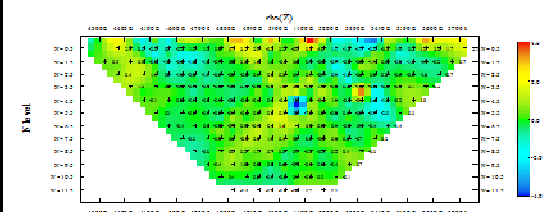
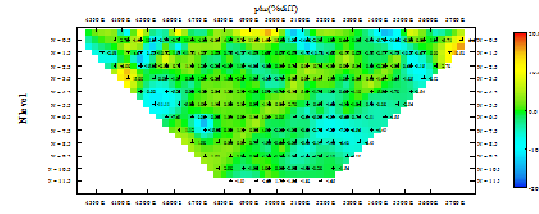
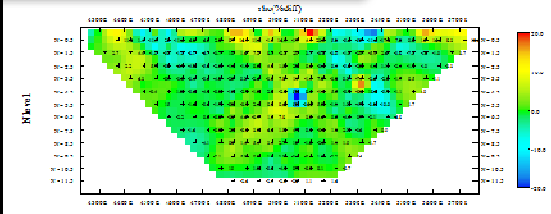
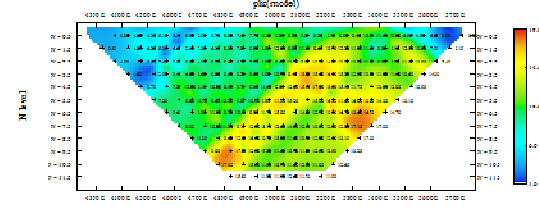
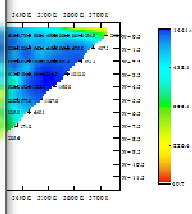
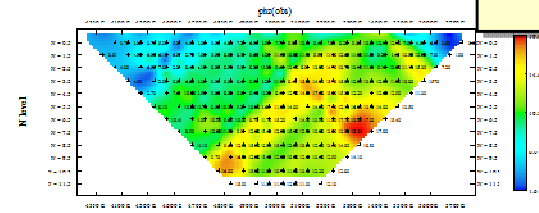
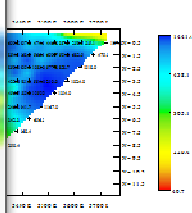
Status: RMS inversion residual change of 0.04% too small to continue inversion. View Progress

Points	Iterations	Data Misfit	Model Norm	Residual
203	9	249.69	93.33	0.61

Print Progress

Inversion Parameters | **Progress of Inversion** | Assess Results | Control Inversion | Edit Log

Display Information For: Resistivity Cancel OK

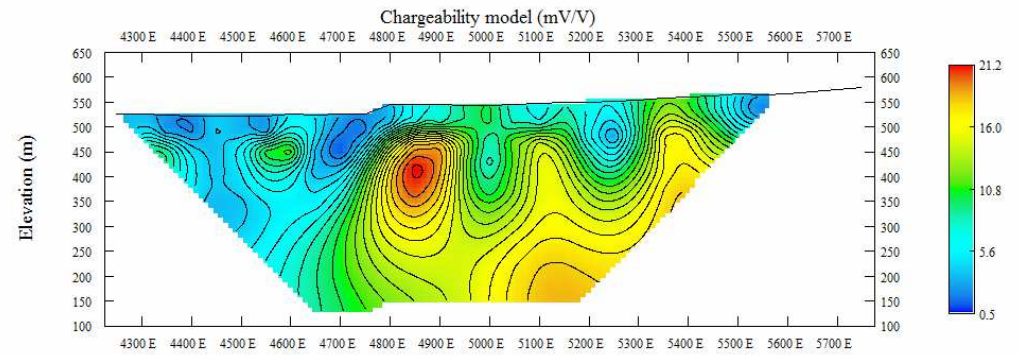
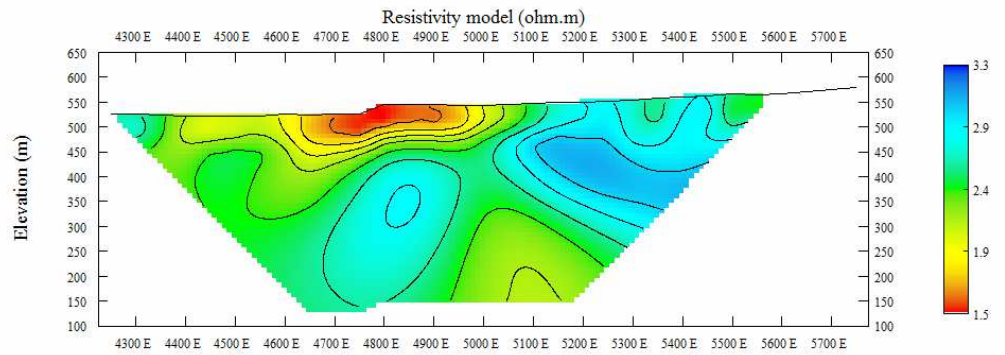
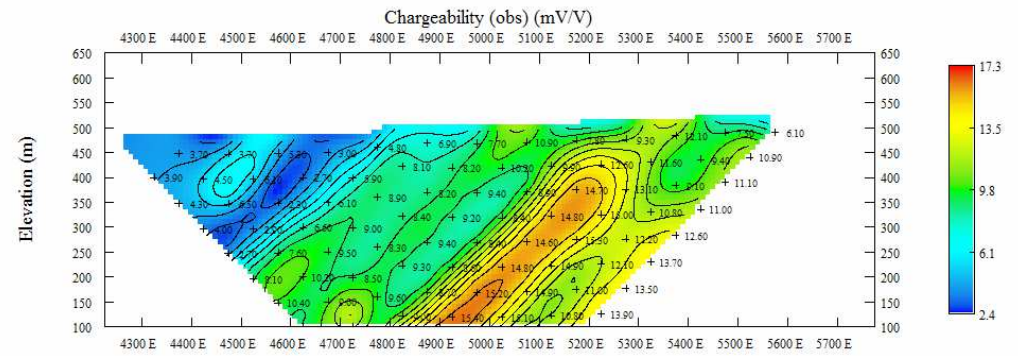
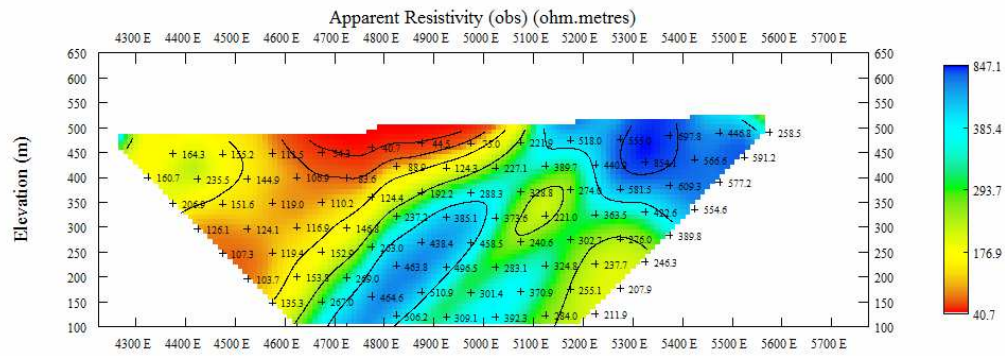


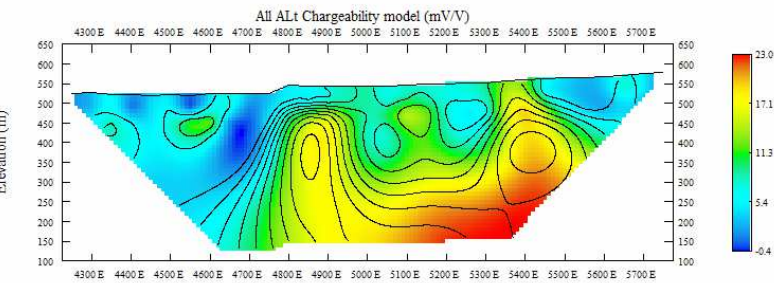
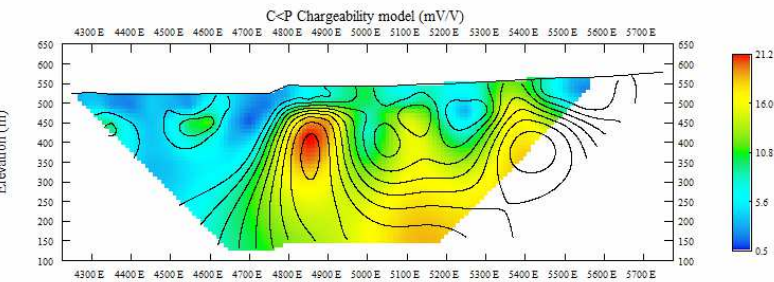
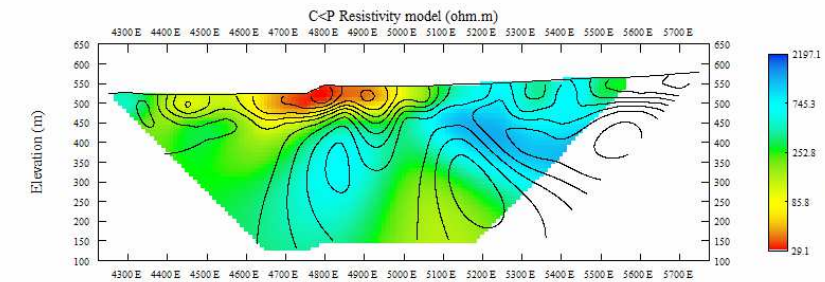
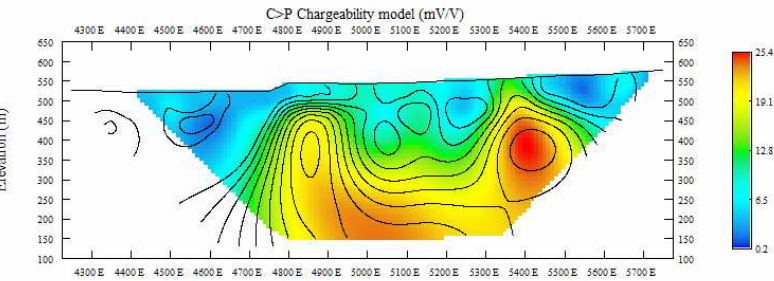
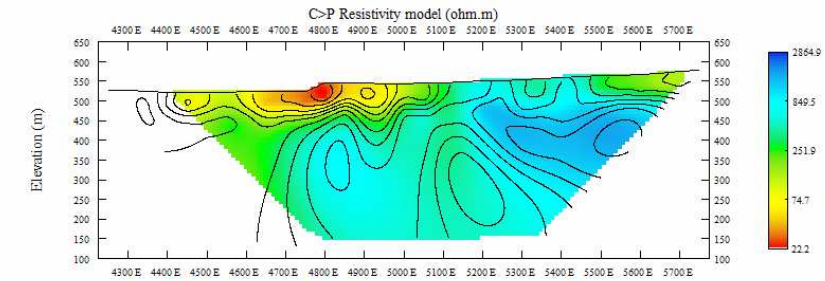
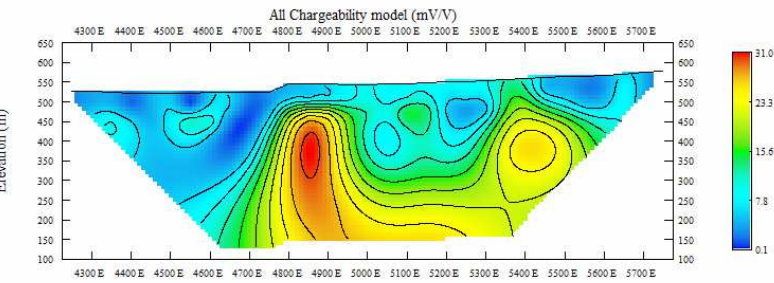
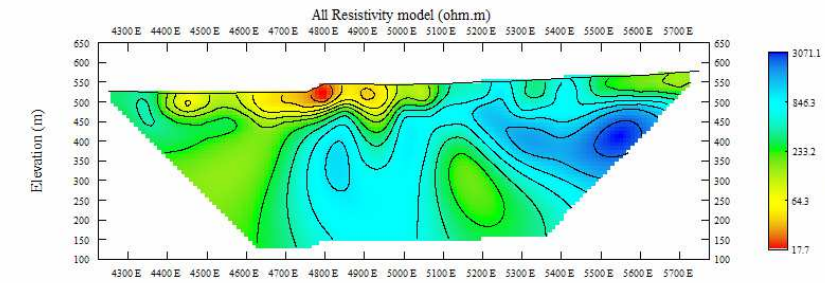
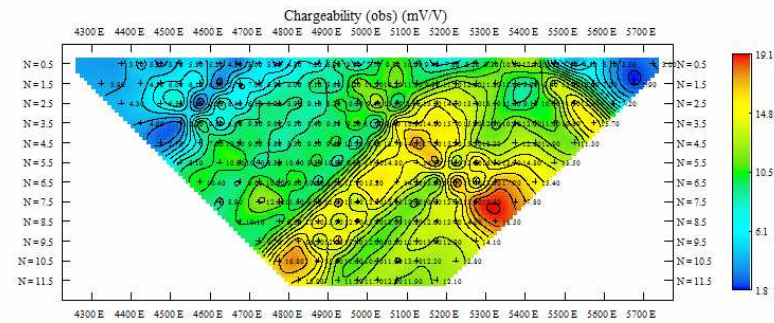
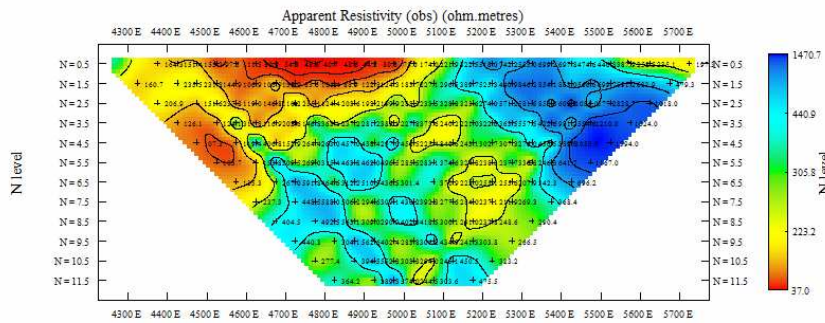
Scale 1: 10000

0 25 50 100 meters

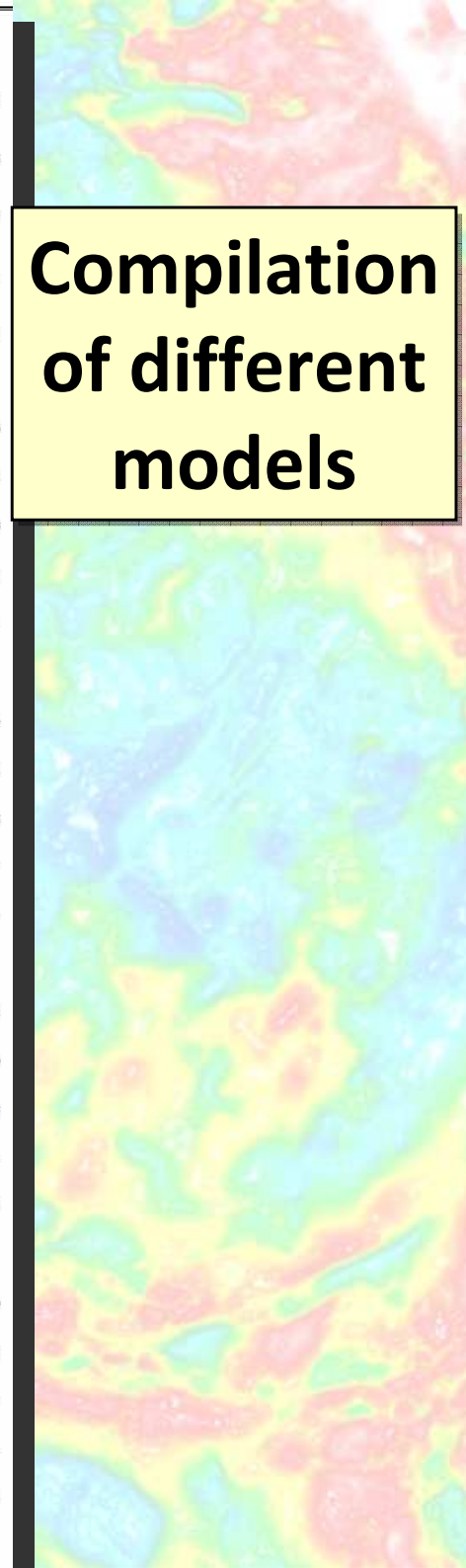
Montana GIS	
Line 4650N	
Author: SSI	Proj:
Date: 12-Aug-2016	Report To:
Scale: 1: 10 000	Plan No:

C < P

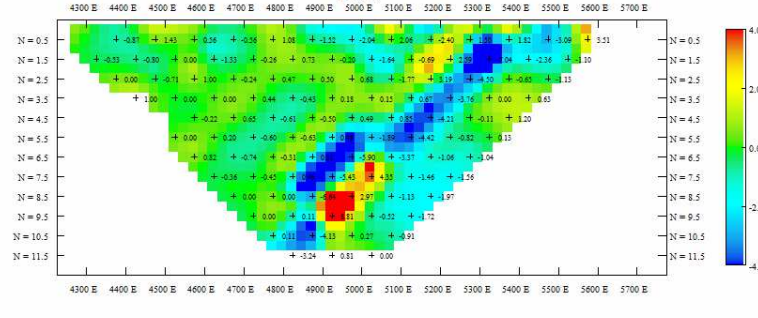
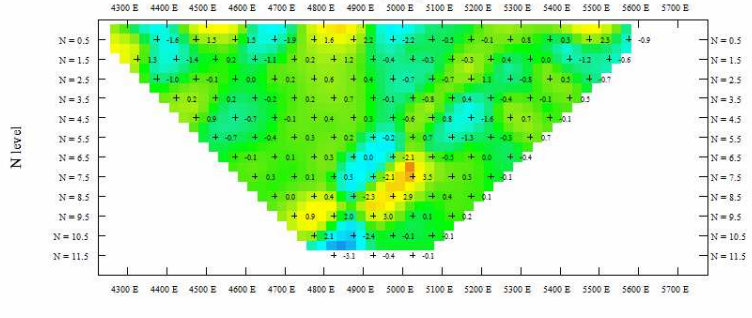
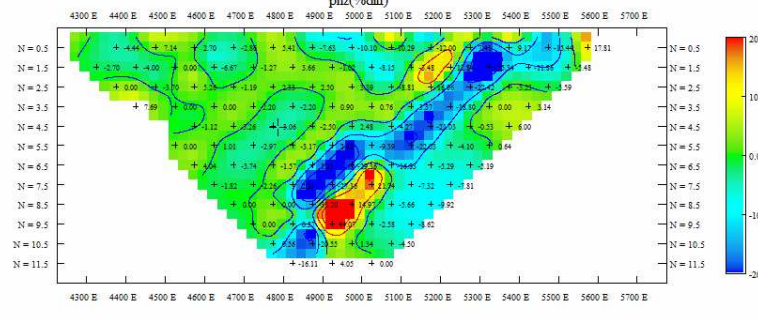
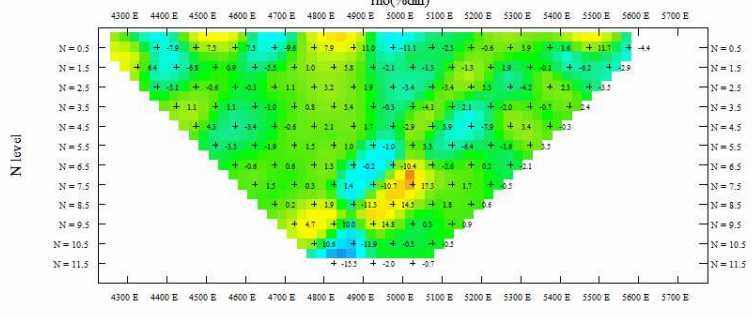
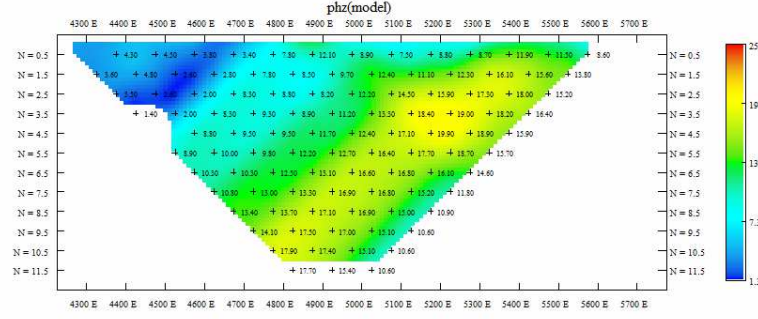
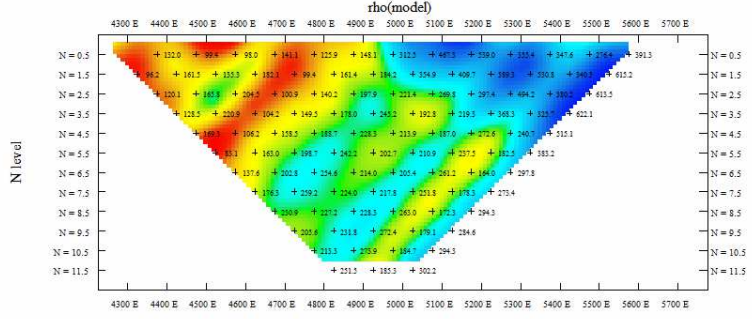
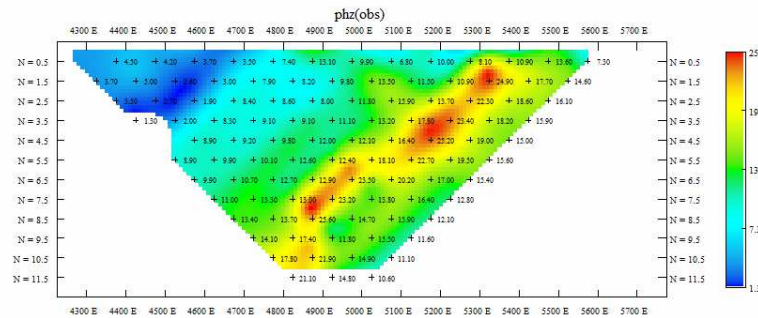
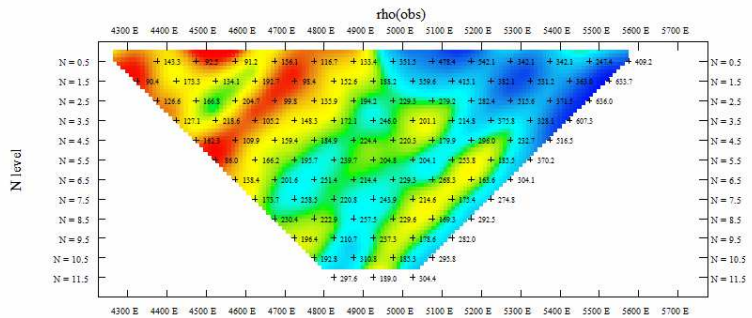




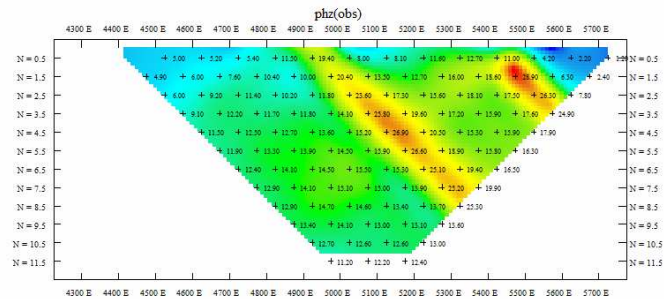
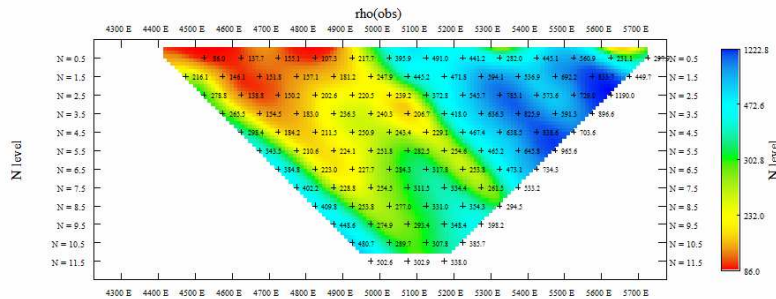
Compilation of different models



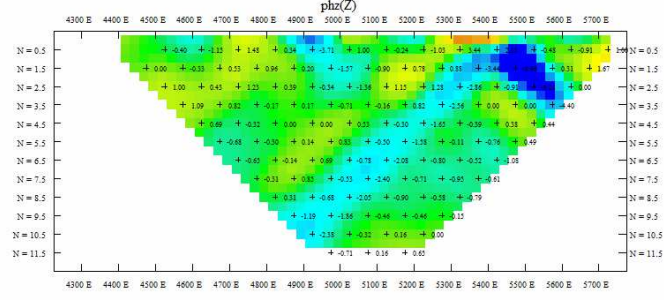
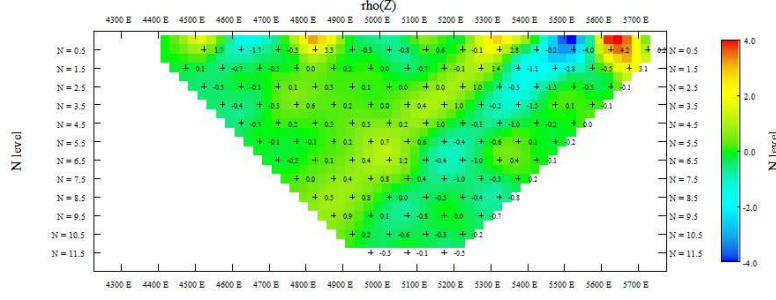
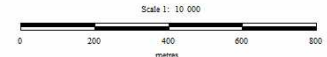
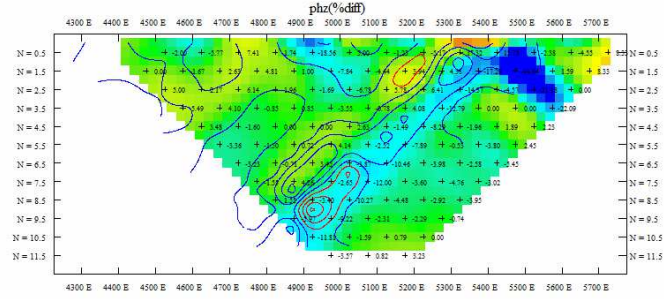
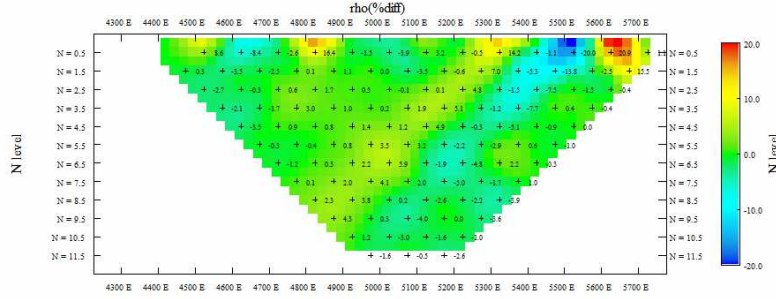
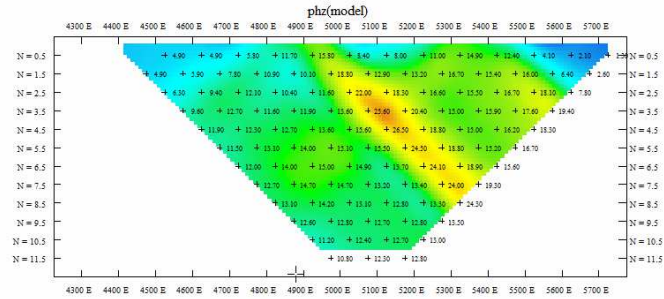
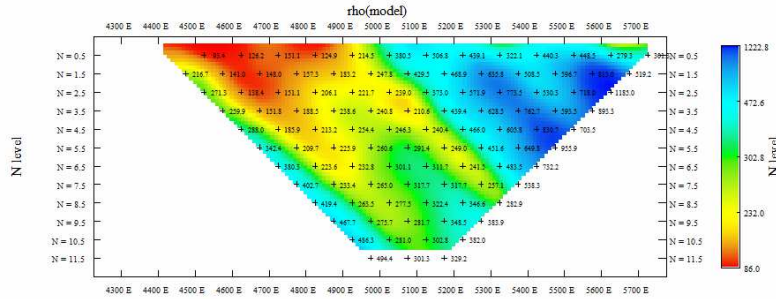
4850N
really bad
legs



Montana GIS	
Line 4850N	
Author :DJM	Ref:
Drawn :	Report No :
Date : 29-Jul-2016	Plan No :
Scale 1: 10 000	

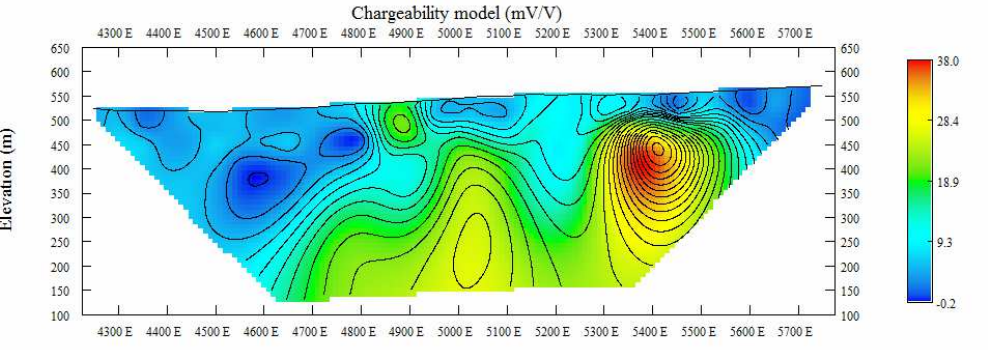
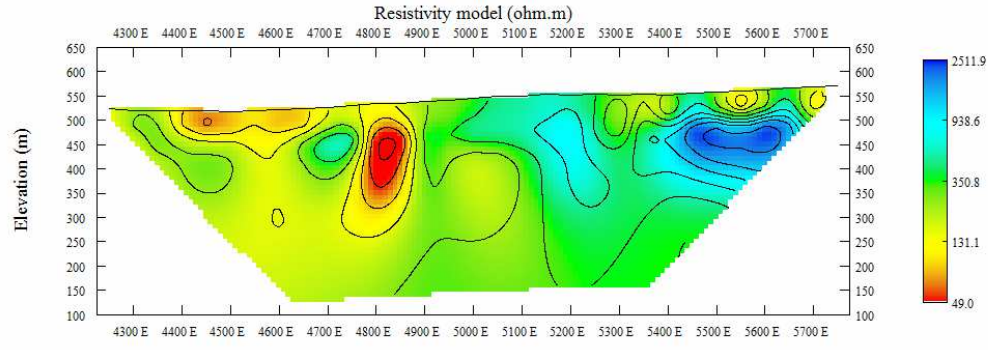
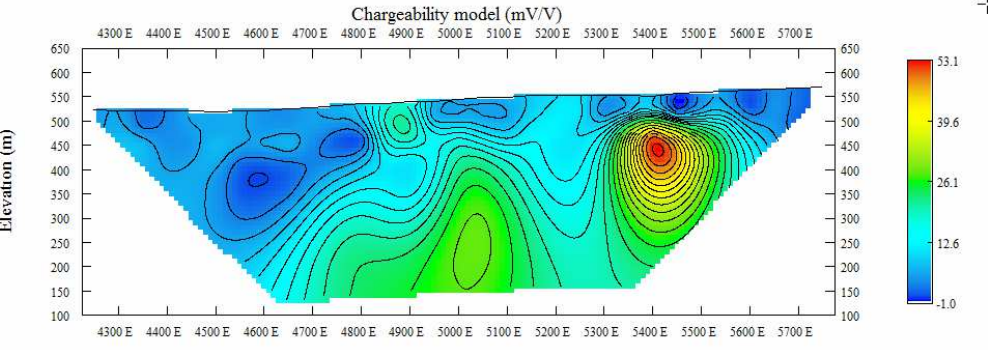
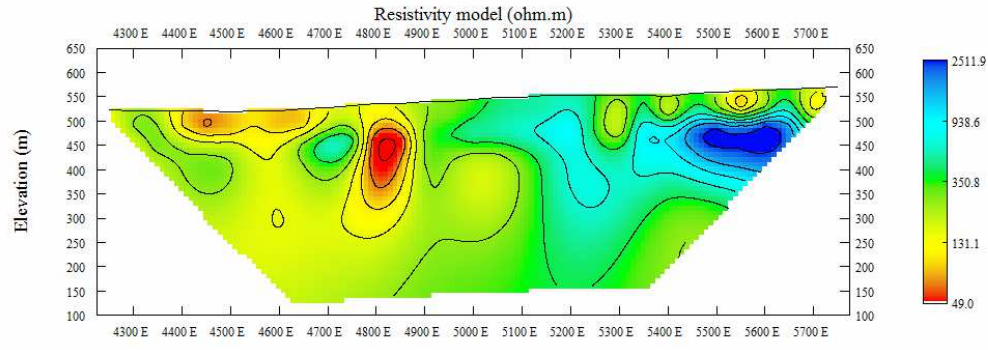
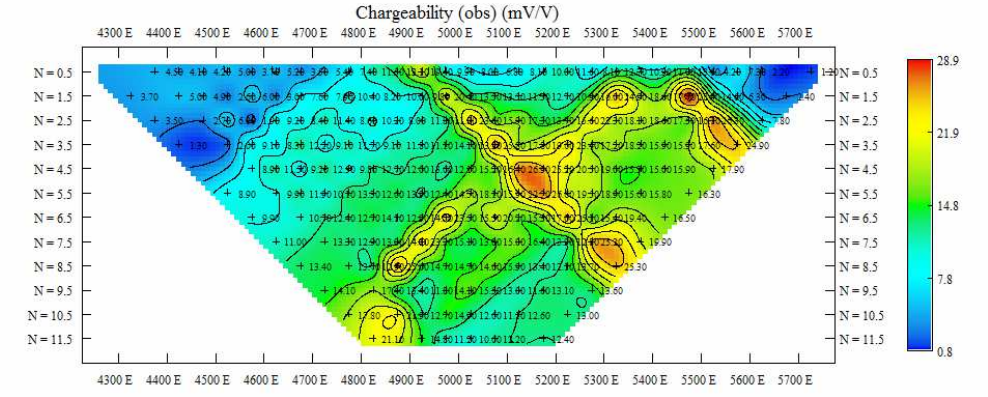
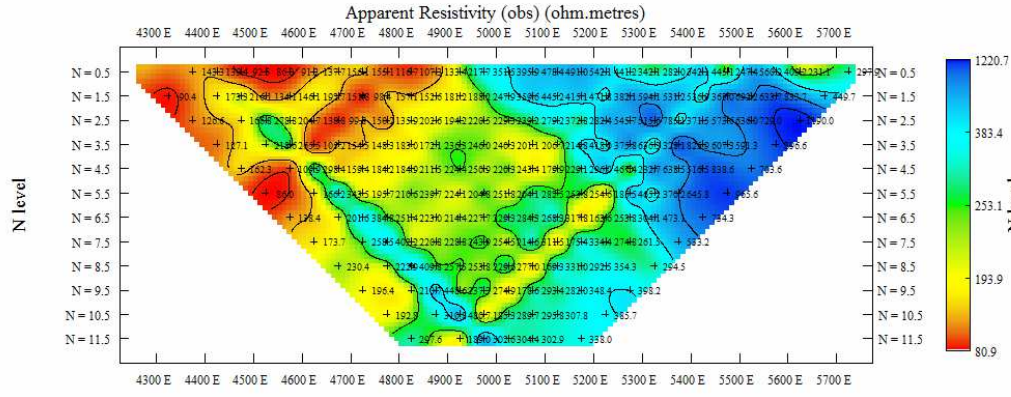


text



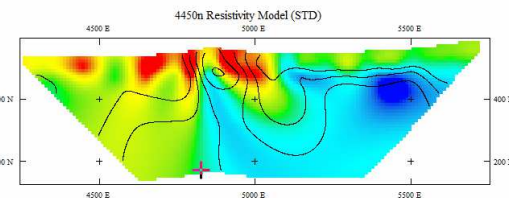
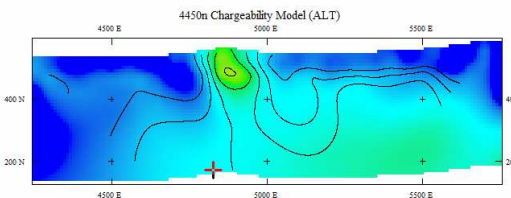
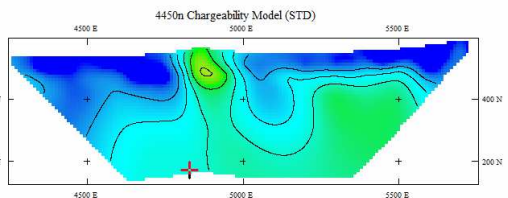
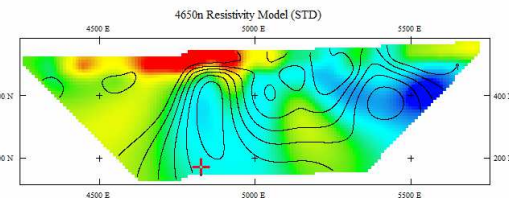
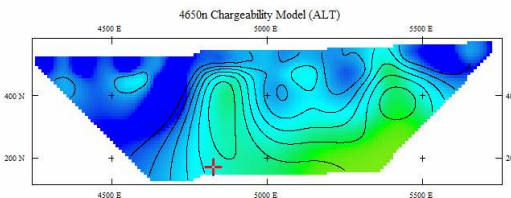
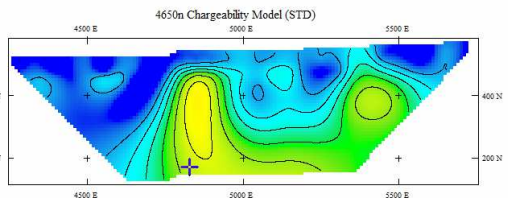
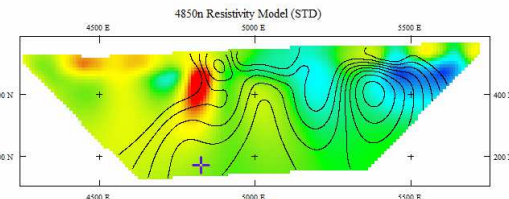
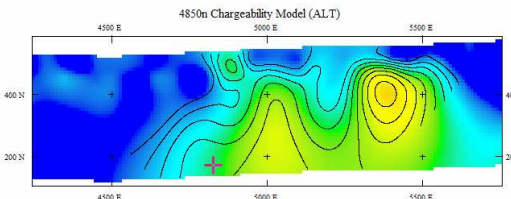
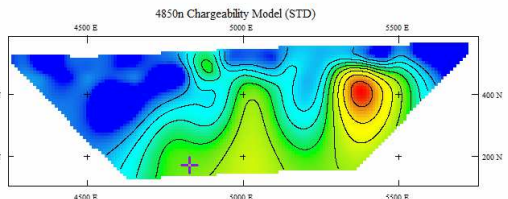
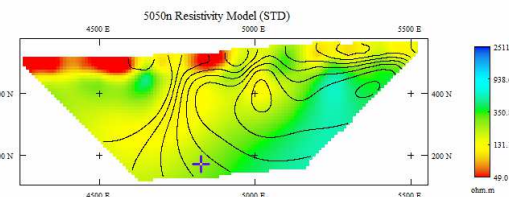
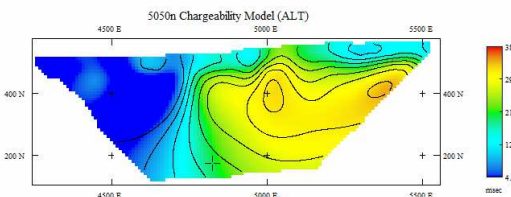
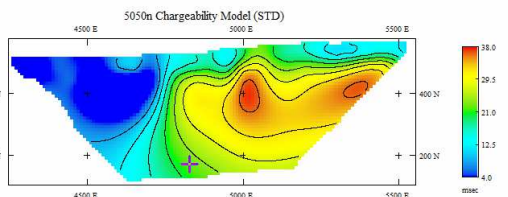
Montana GIS	
Line 4850N	
Author: DJM	Ref:
Drawn:	
Date: 29-Jul-2016	Report No:
Scale: 1:10,000	Plan No:

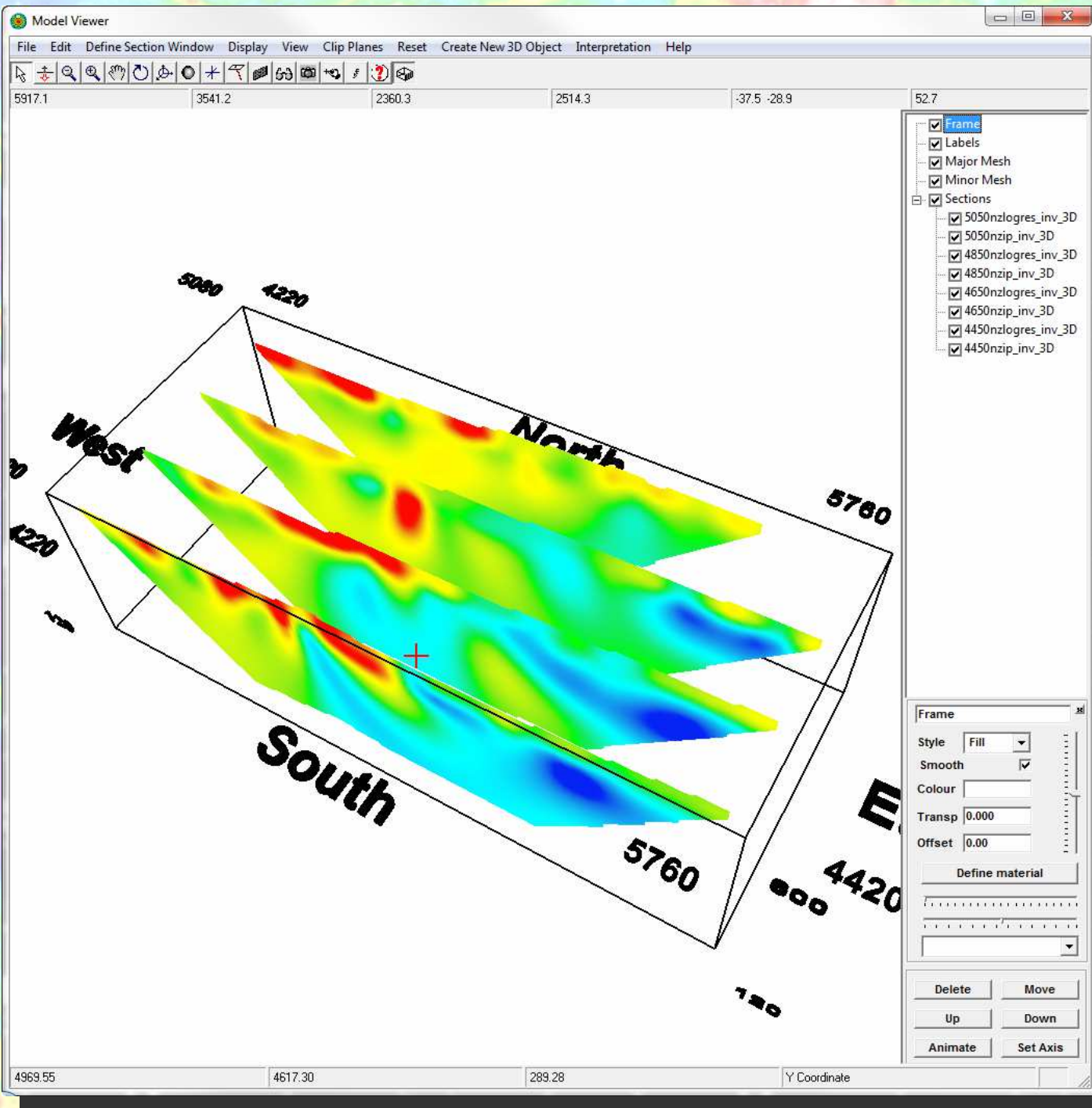
Comparison Unedited Vs Edited



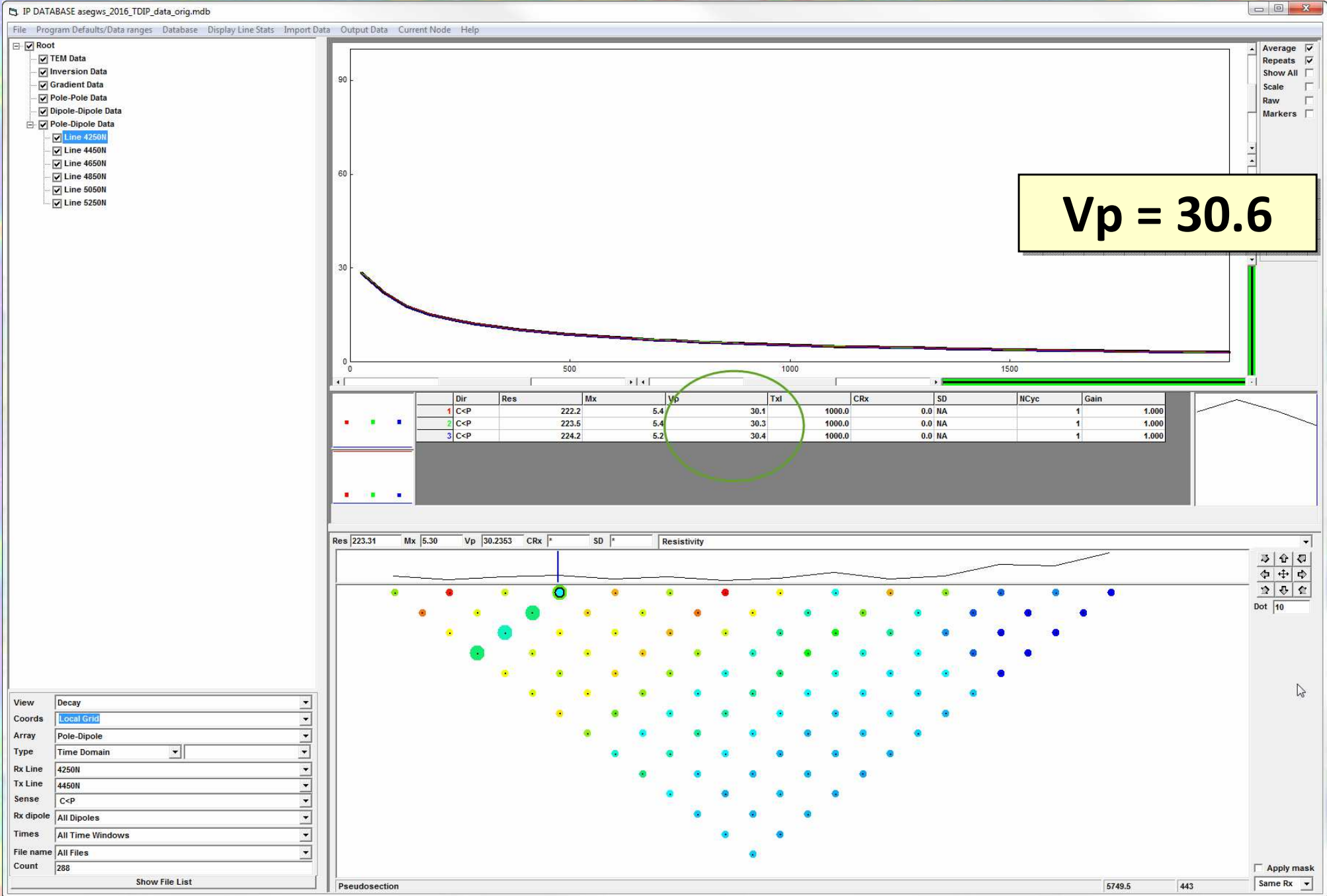
Model stack Std Vs Alt Resistivity

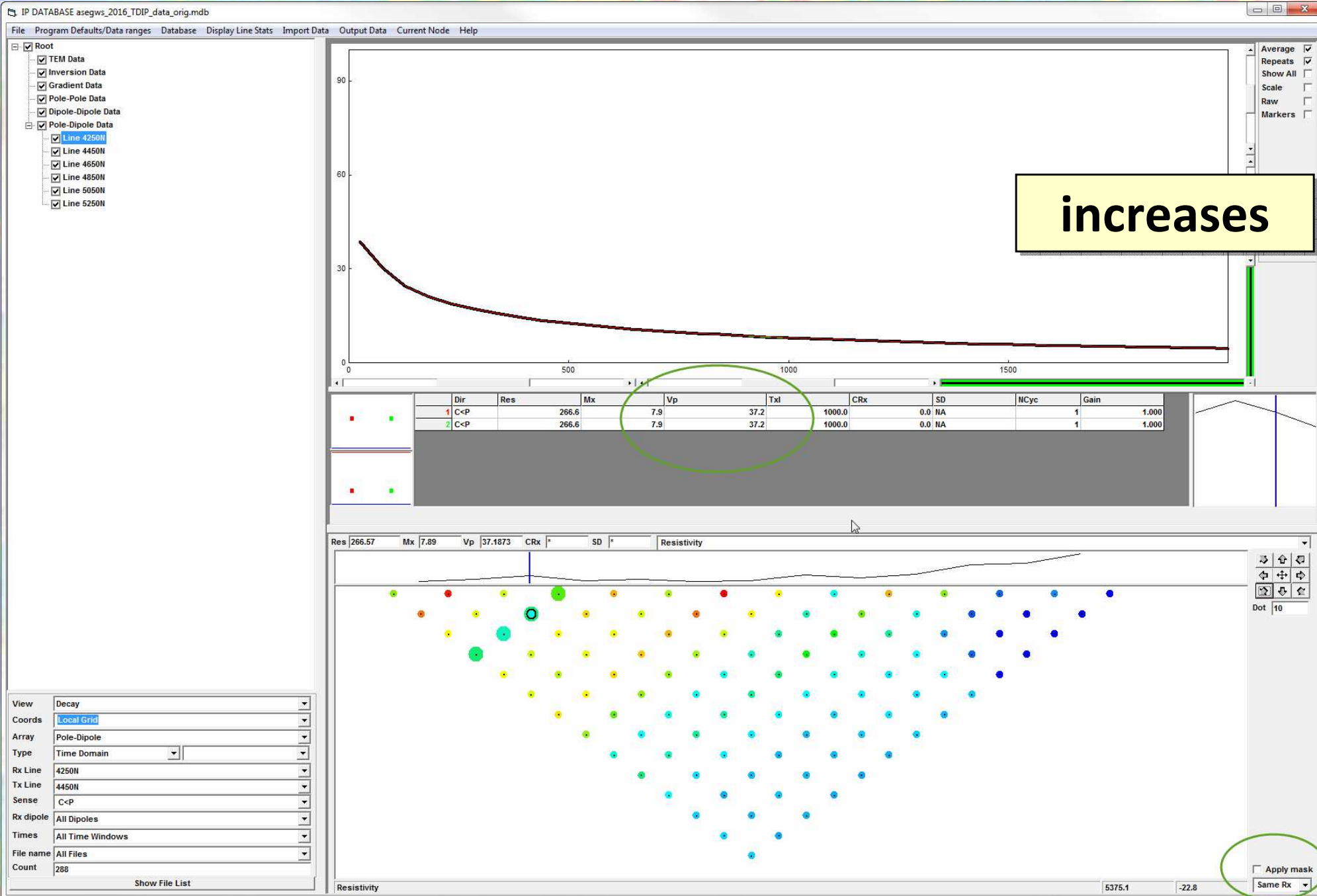
Model Stack

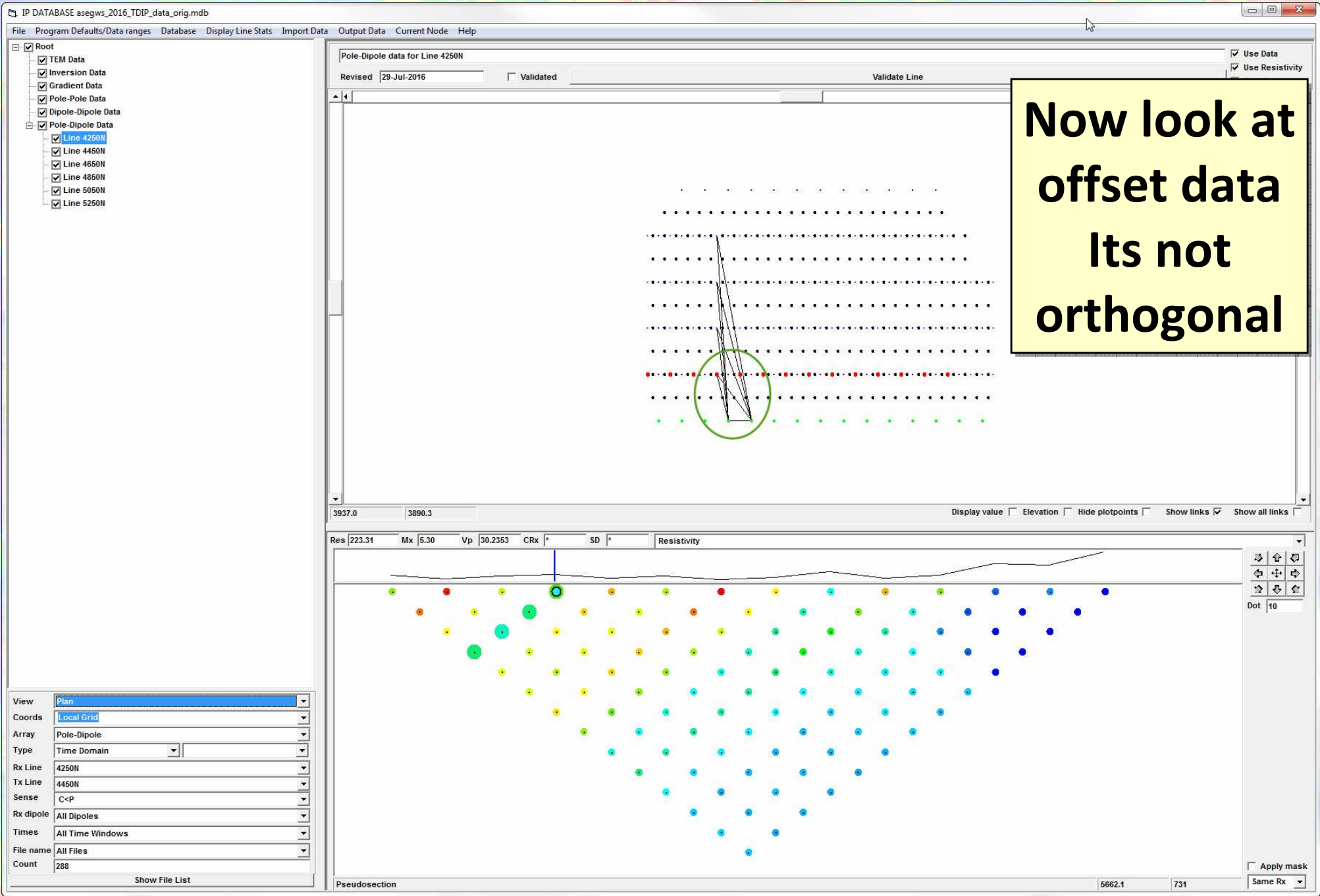


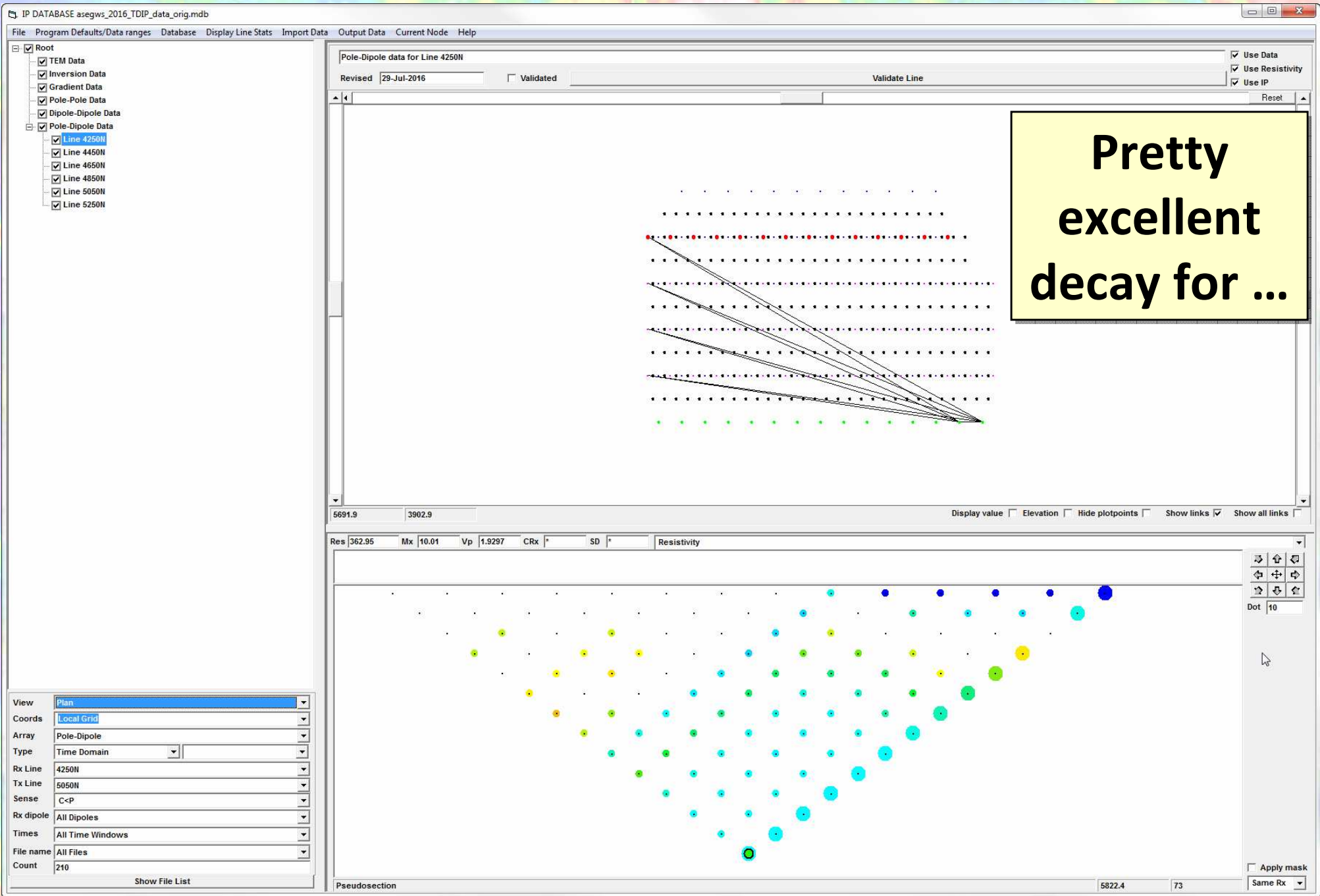


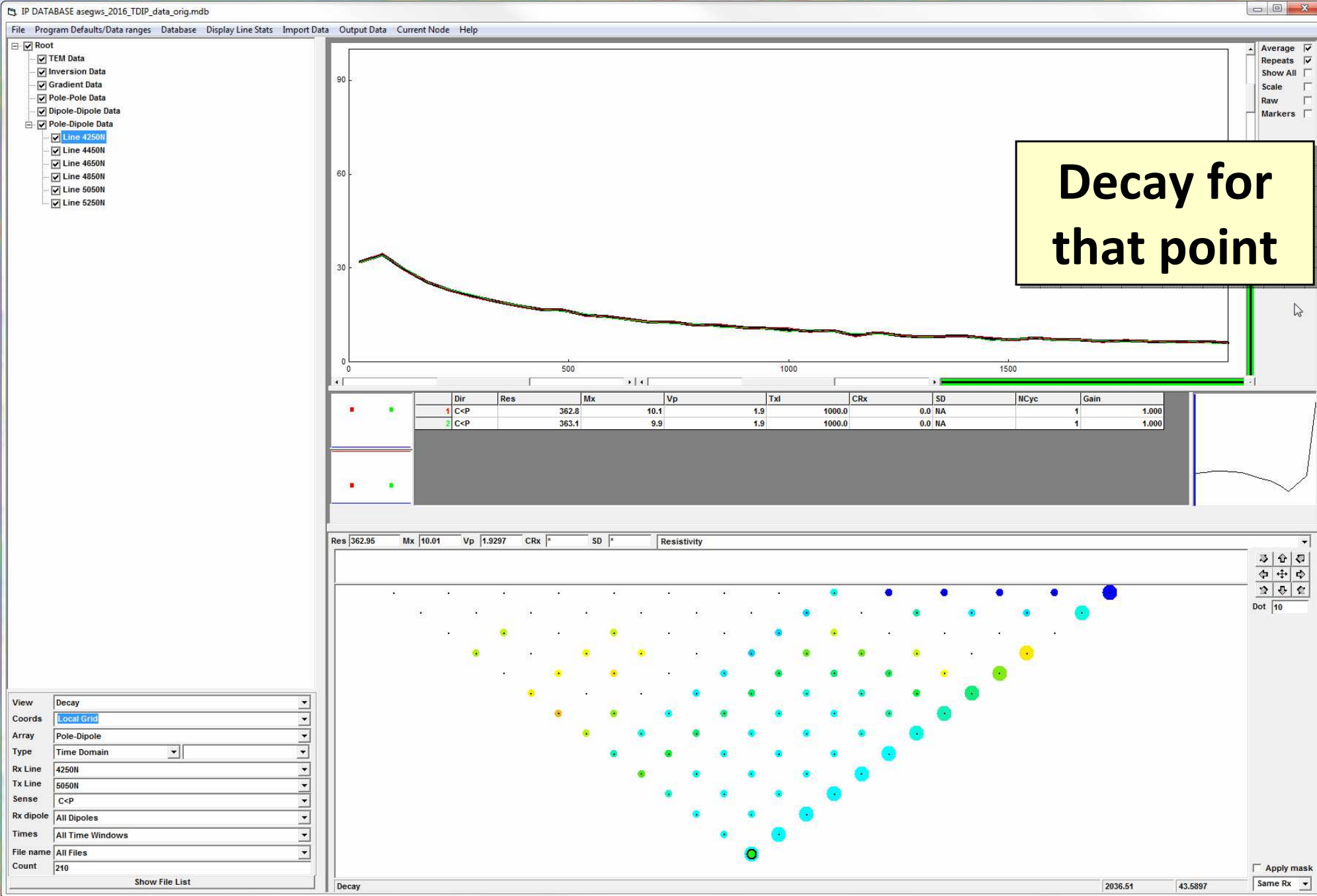
Look at sections in 3D Normally grid up in 3D (depthslices, iso-surfaces etc)

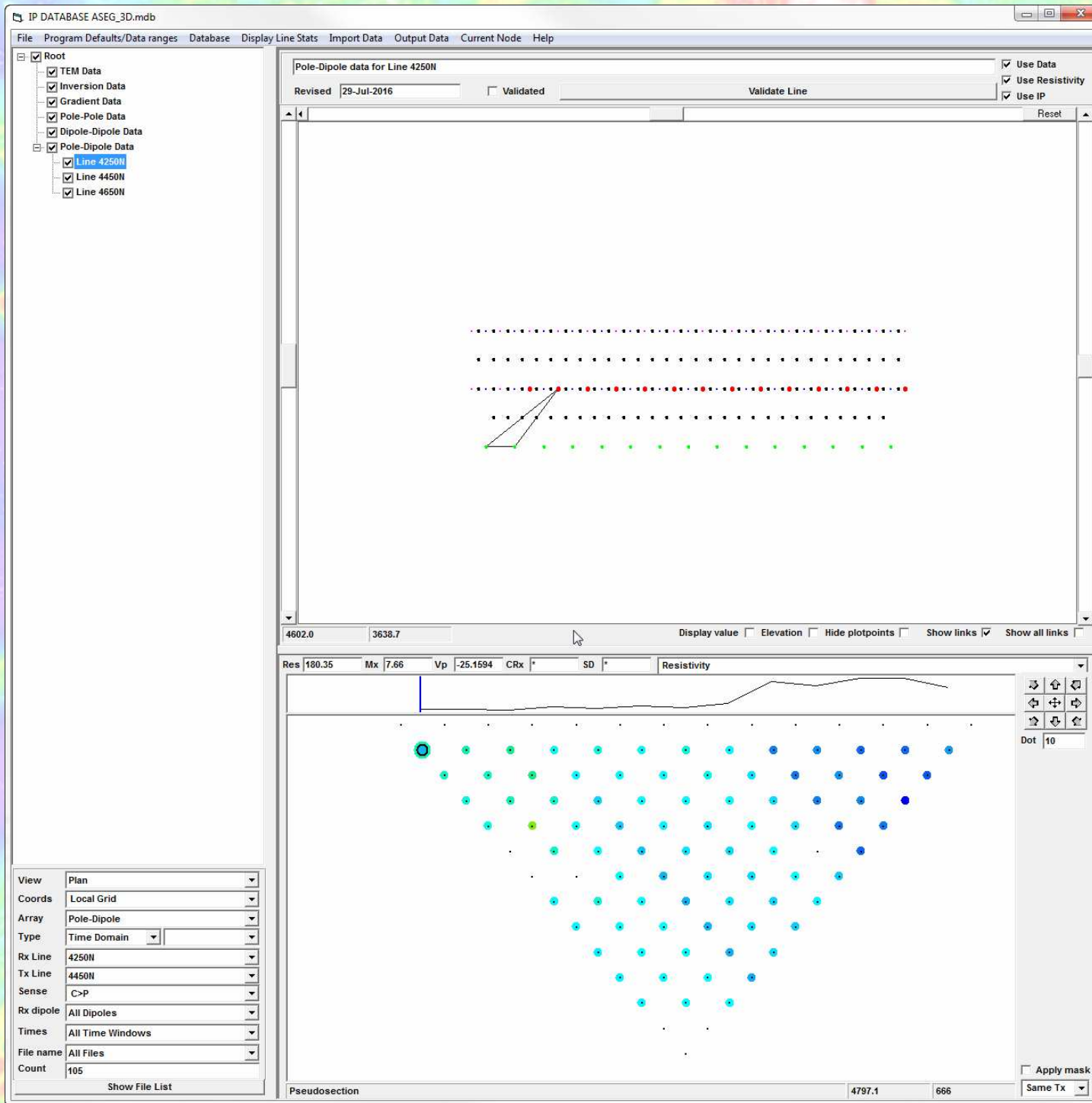




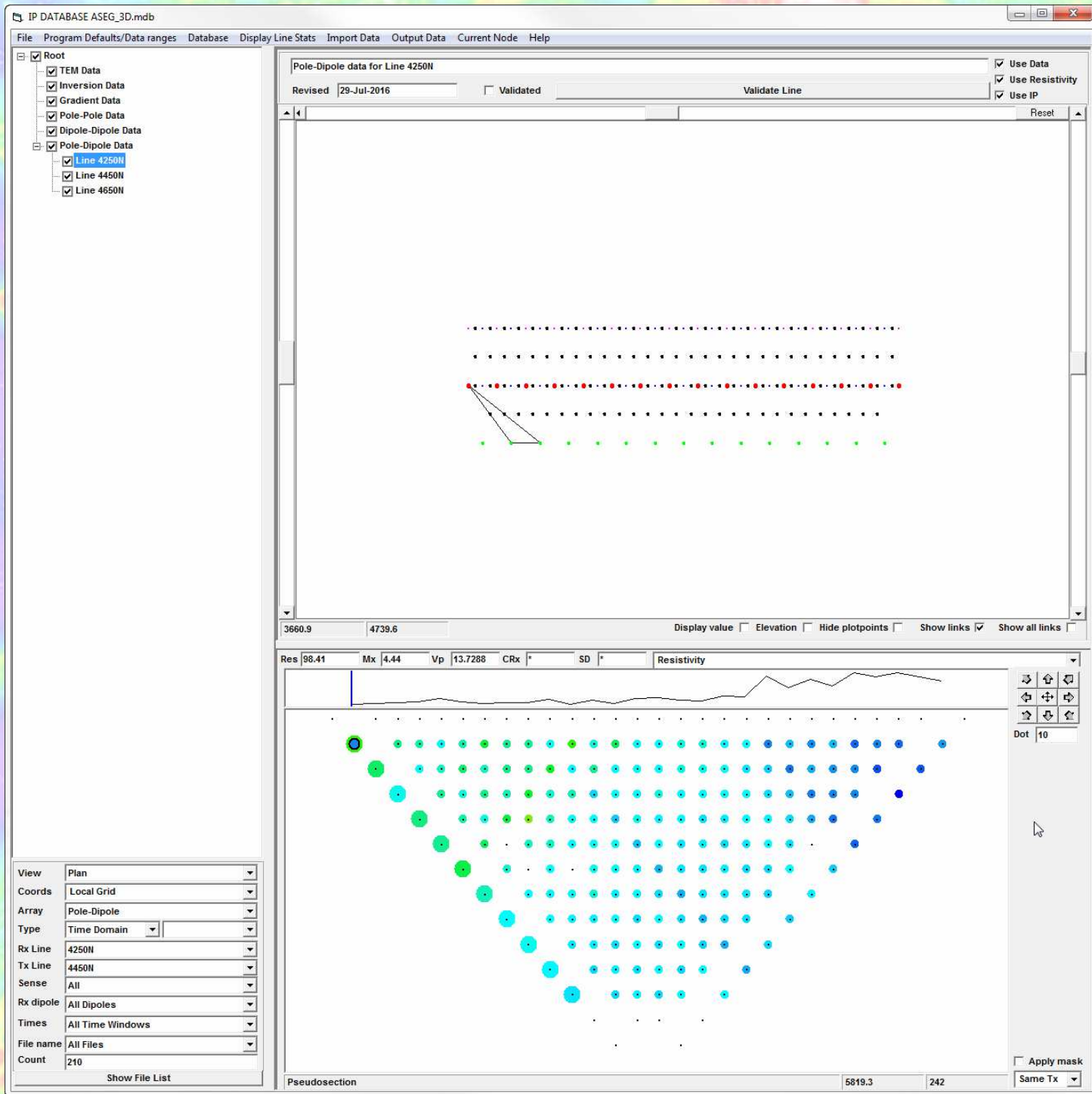




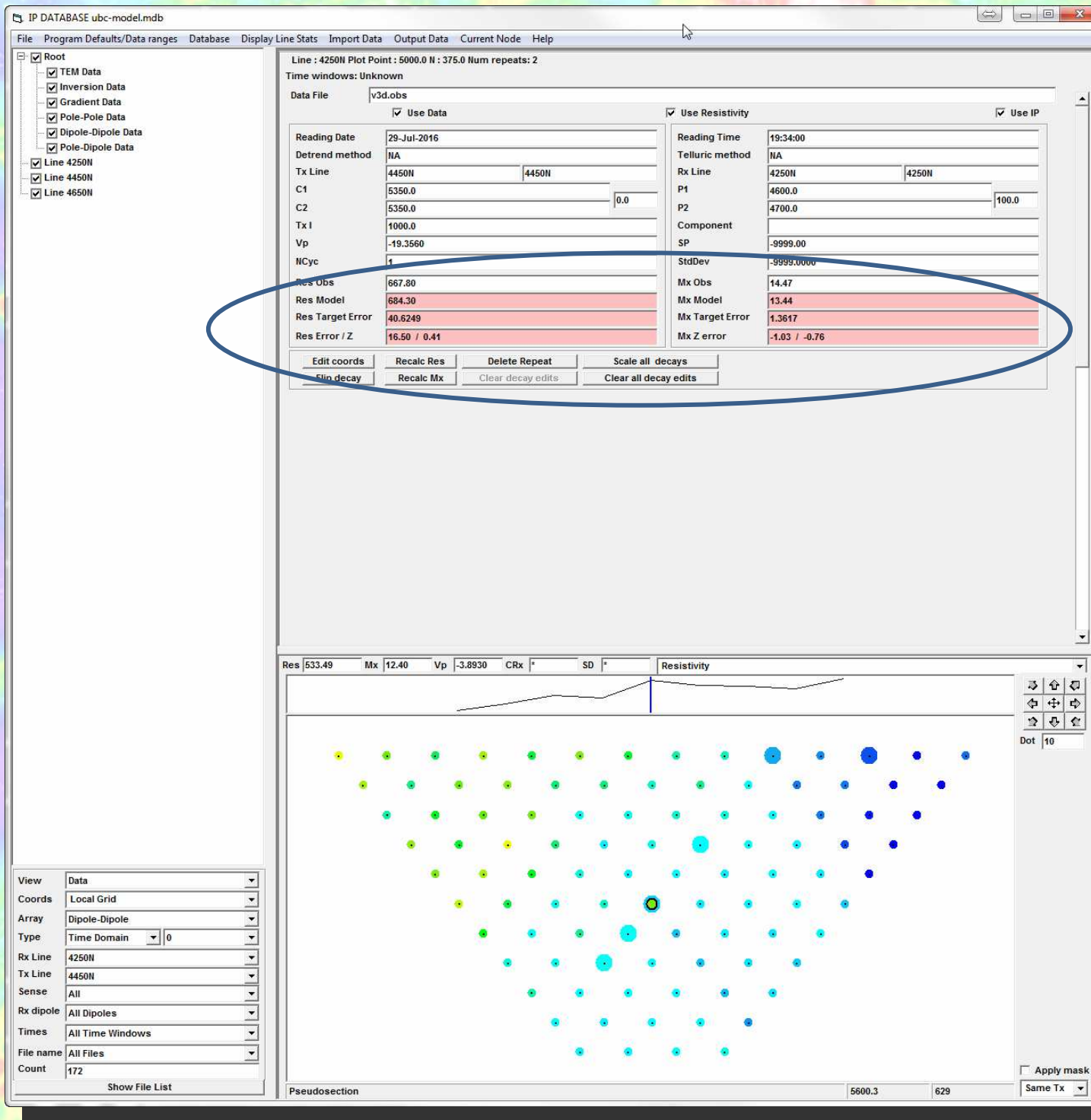




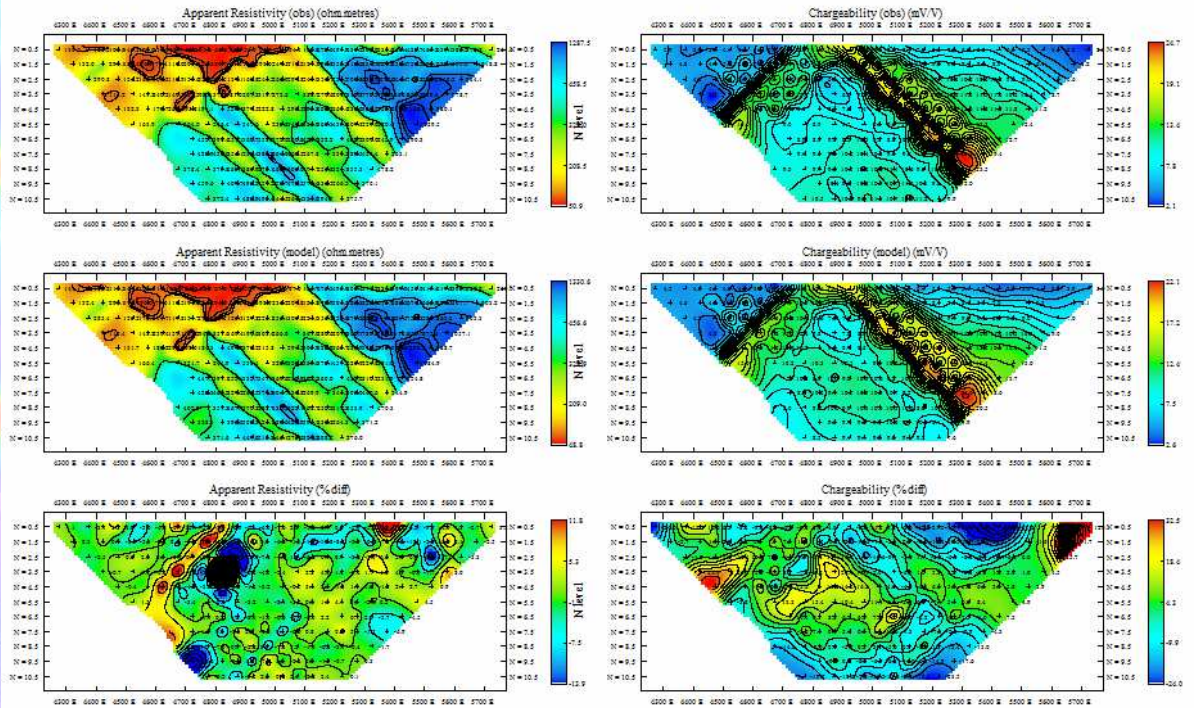
Same thing
As 2D work
through
both



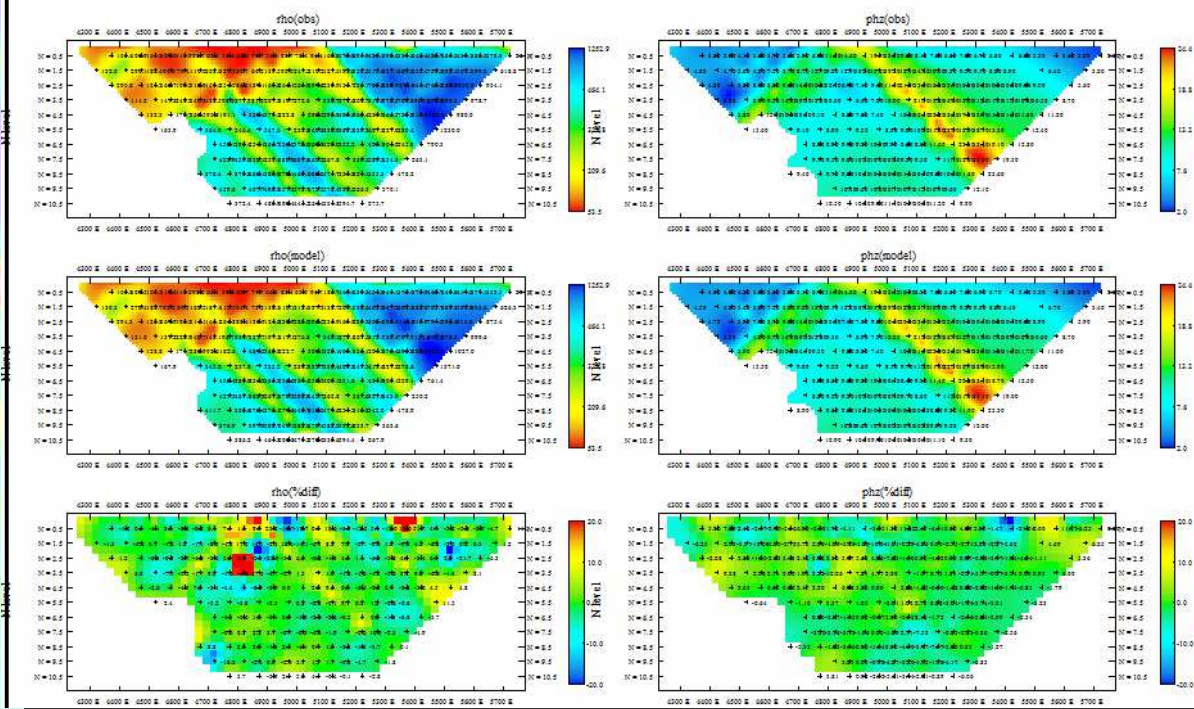
**Set models
out in
blocks if
really large
– a lot of
points in
this model
Do All, C>P
and C<P**

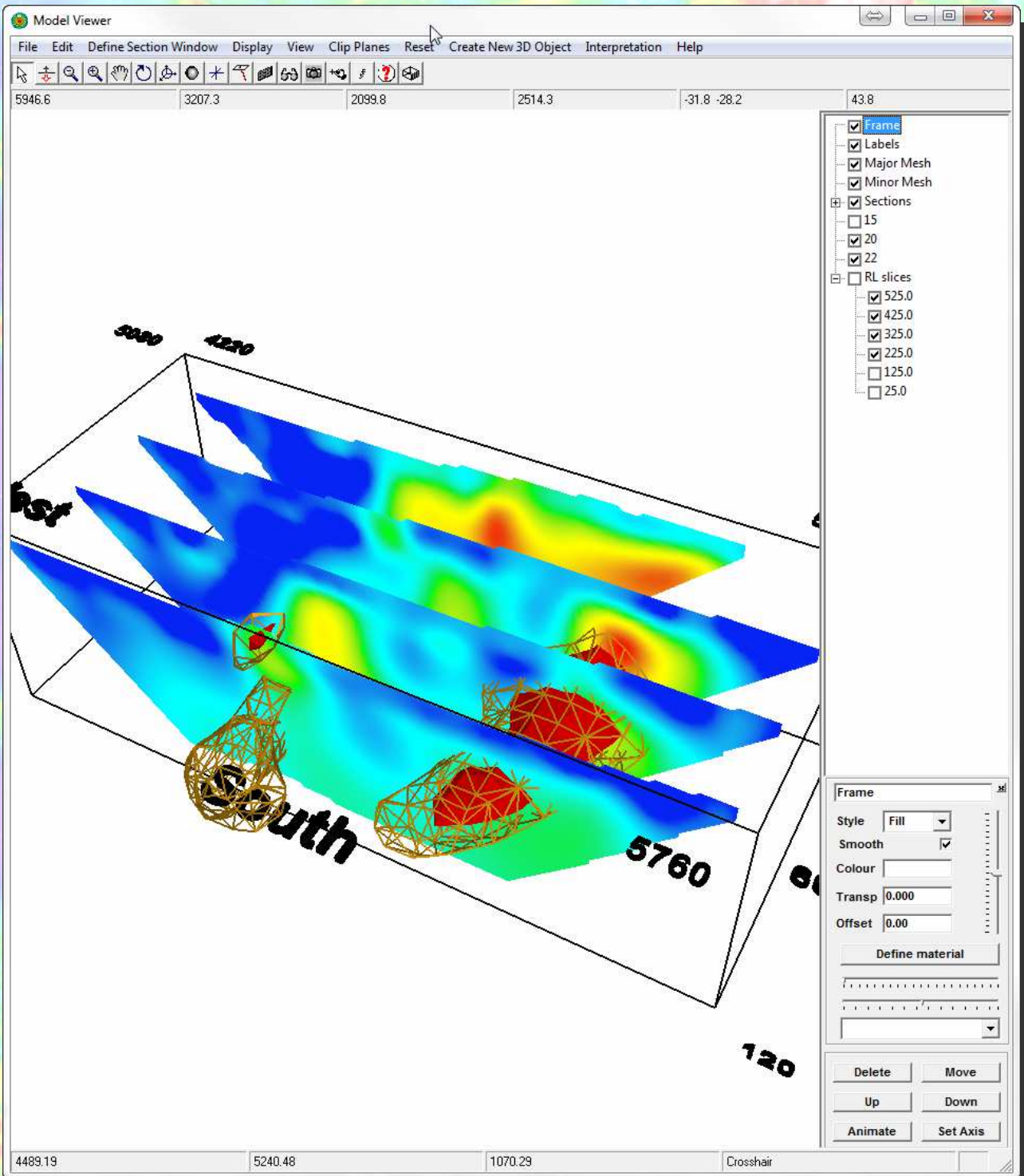


Once 3D model is completed
Bring Results back into database

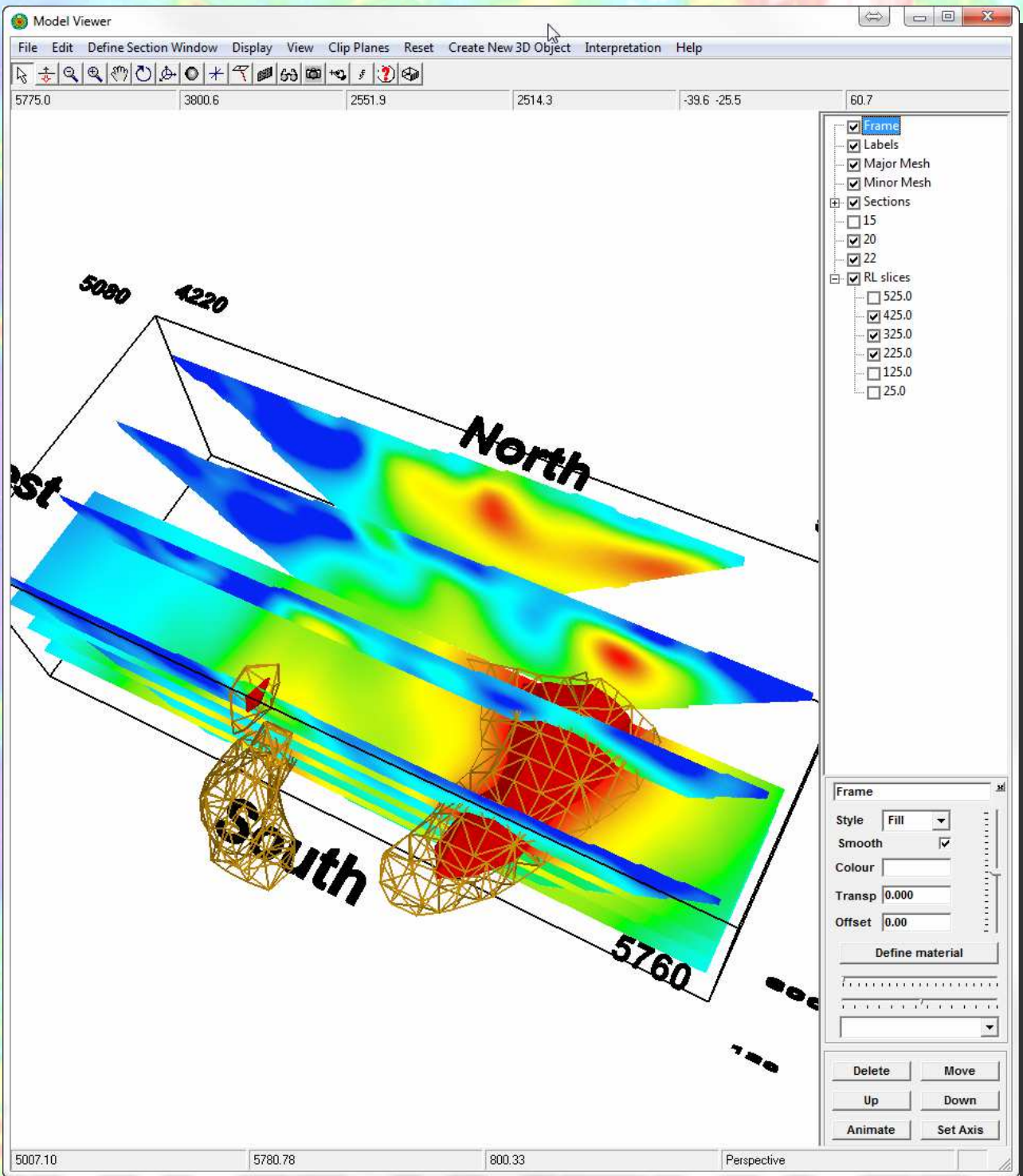


Do same error plots as in 2D models Spot that point!





**Build
3D
Model
Iso Surfaces**



**Build
Depth
Slices 3D 2D
etc.**

Summary:

Plan your survey – Lines, Station – local grid!

Know your data – config, processing & equipment

Just be methodical

Do error plots 2D & 3D –repeat your modelling – do in stages, do all alternatives.

Build multiply products; RL/Depth slices, cross/long sections, iso-surfaces, colour stretching, 3D, 2D etc.

Report and archive –

<https://aseg.org.au/news/examples-of-aseg-gdf-files>

Astrid Carlton

(NSW Department of Industry, Mineral Resources and Energy)



Alex Copeland RIP

**Geoscience Australia (GA) gravity image
version 2016 - release GA Booth ASEG2016**