

# Latest Update in Geogiga Seismic Pro

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# Common Update

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- Clip the swing of trace wiggle to half of the spacing between traces
- Fix the bug with AGC for extreme small seismic data values
- Fix the abnormal exit if geometry is not correctly defined
- Better default axis labels for the color section display
- Reset the browse path when opening curves

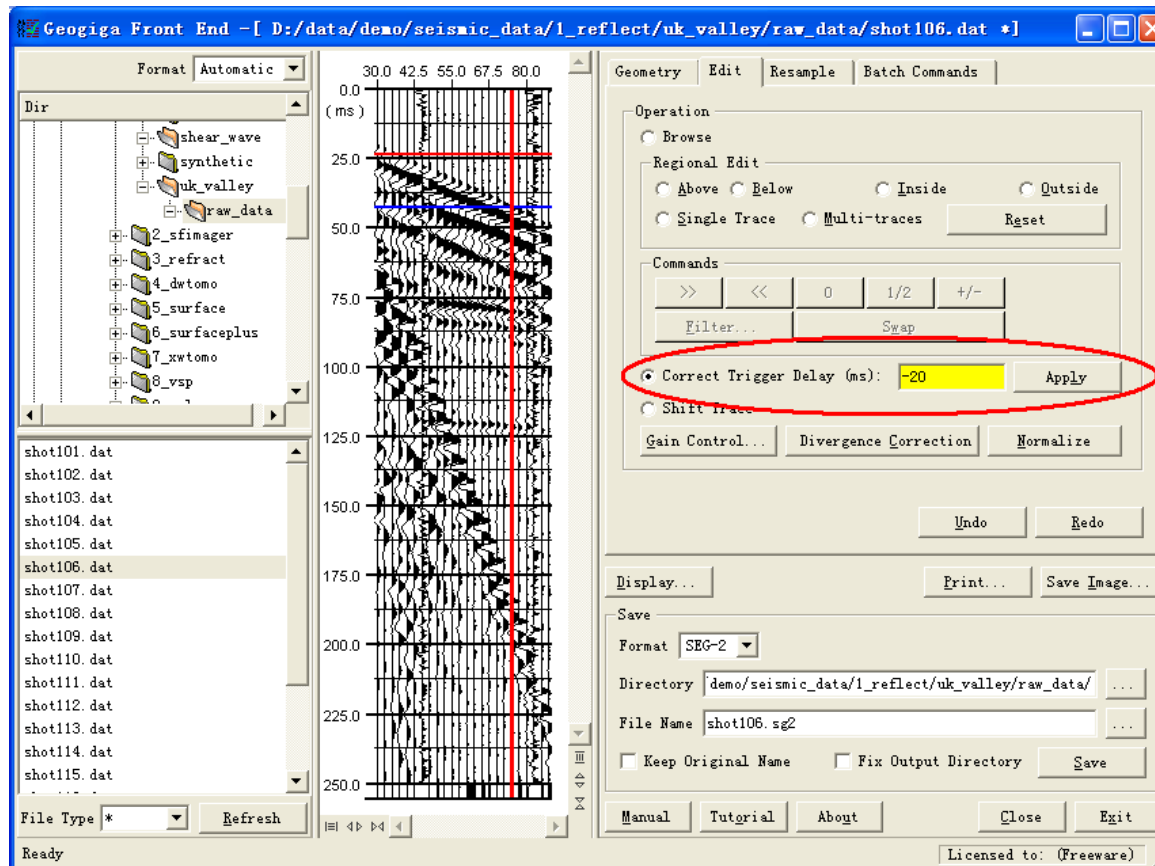
These updates apply to all the applications in Geogiga Seismic and Seismic Pro.

# Front End 2.6

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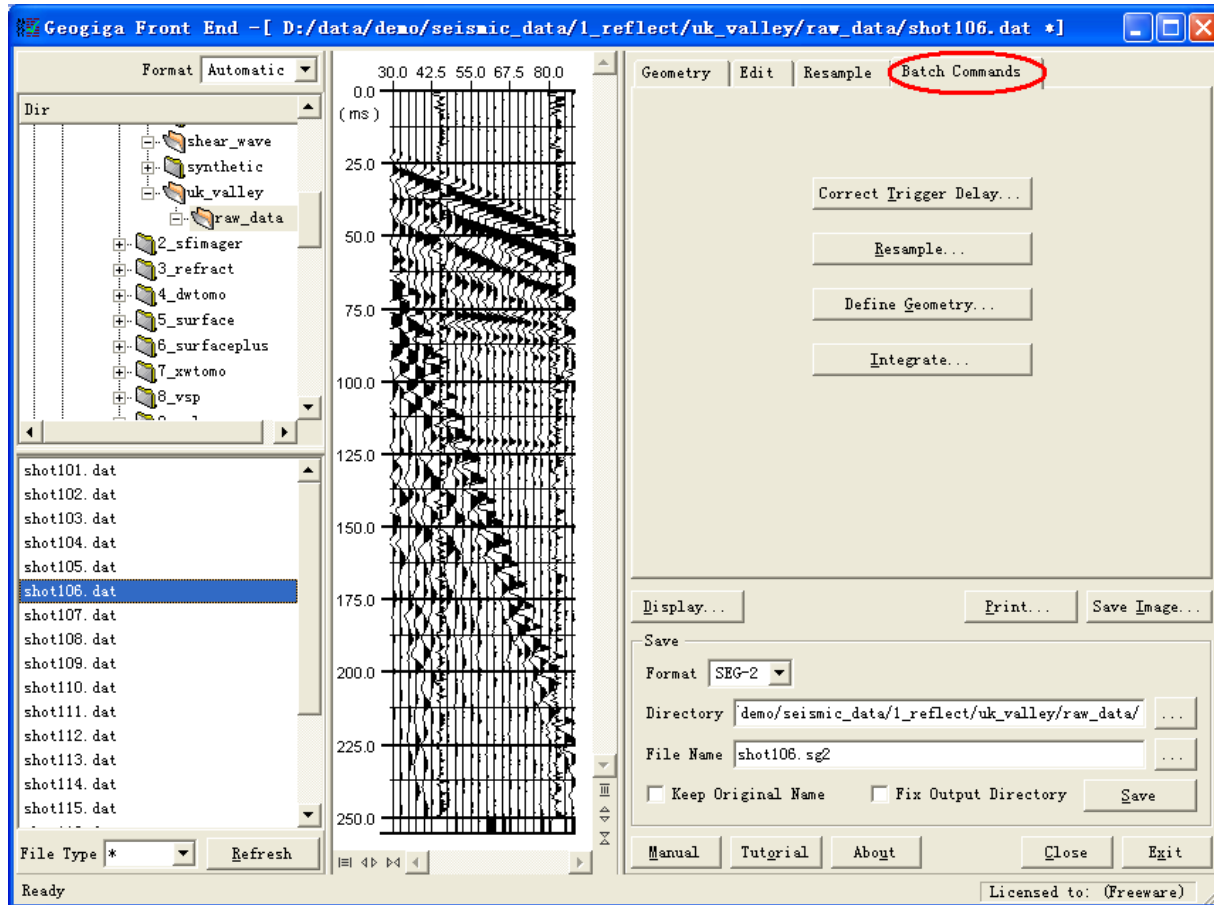
- Correct the trigger delay graphically or manually for a single record
- Trigger Delay correction for multiple records
- Add the Batch Commands tab panel, including Batch Resample, Batch Define Geometry, Integrate Files, and Batch Trigger Delay Correction

# Front End 2.6 – Correct Trigger Delay



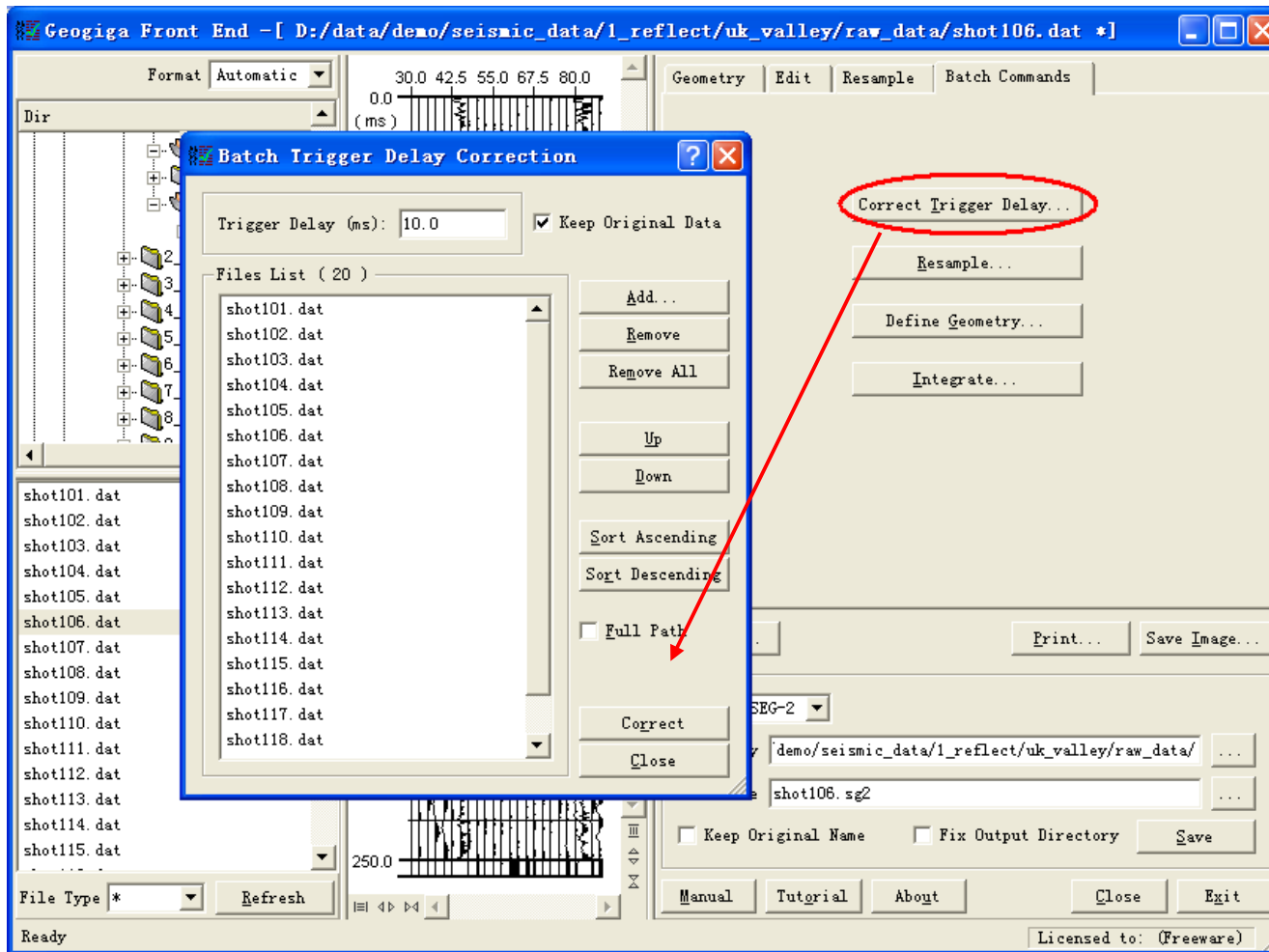
Input the trigger delay, then click the Apply button.  
“+”: post-trigger, “-”: pre-trigger

# Front End 2.6 – Batch Commands



All batch commands are included under the Batch Commands tab panel

# Front End 2.6 – Batch Correct Trigger Delay



# Reflector 5.5

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- Add a column for shot depth input when importing seismic data
- Simplify the procedure of field statics correction with Undo and Redo support
- Incorporate source depth correction into the field statics correction
- Add a coordinate tolerance with gather sorting
- Allow inverse CDP numbering

# Reflector 5.5 – Input Shot Depth

The screenshot displays the Geogiga Reflector software interface. The 'File' menu is open, with 'Import Seismic...' selected. The 'Geometry Assignment and Files Integration' dialog box is active, showing a table of files with columns for Shot #, Shot (x), Shot Depth, 1st Rcvr #, 1st Rcvr (x), and Rcvr (dx). The 'Shot Depth' column is highlighted in yellow, and a red arrow points from the 'Import Seismic...' menu option to this column.

	Files	Shot #	Shot (x)	Shot Depth	1st Rcvr #	1st Rcvr (x)	Rcvr (dx)
1	shot101.dat	100	0	0	0	17.5	2.5
2	shot102.dat	101	2.5	0	0	20	2.5
3	shot103.dat	102	5	0	0	22.5	2.5

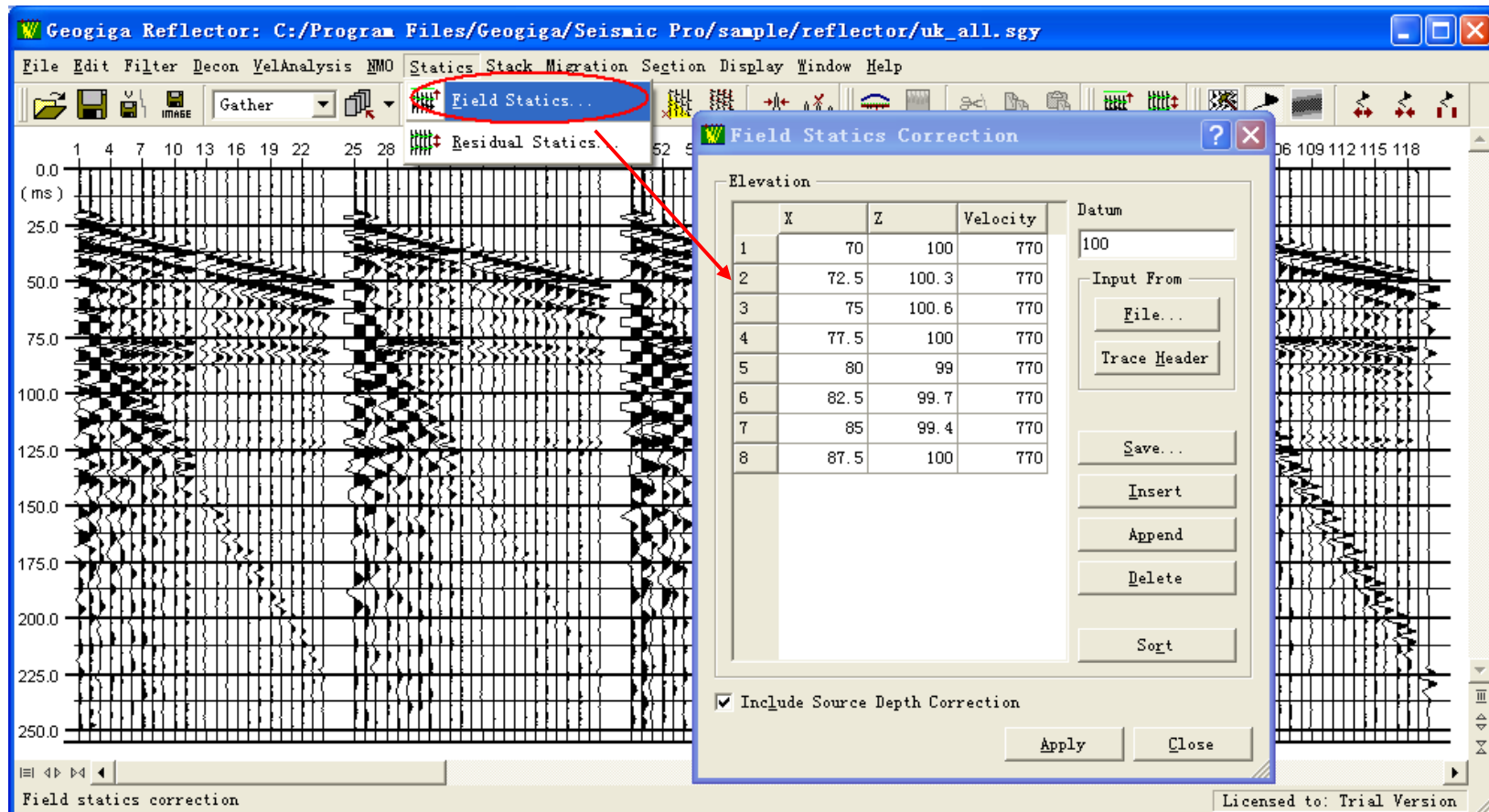
Output: C:/Program Files/Geogiga/Seismic Pro/sample/reflector/raw\_data/shot10\_all.sgy

Integrate Integrate and Load Close

Batch define geometry and integrate files Licensed to: Trial Version

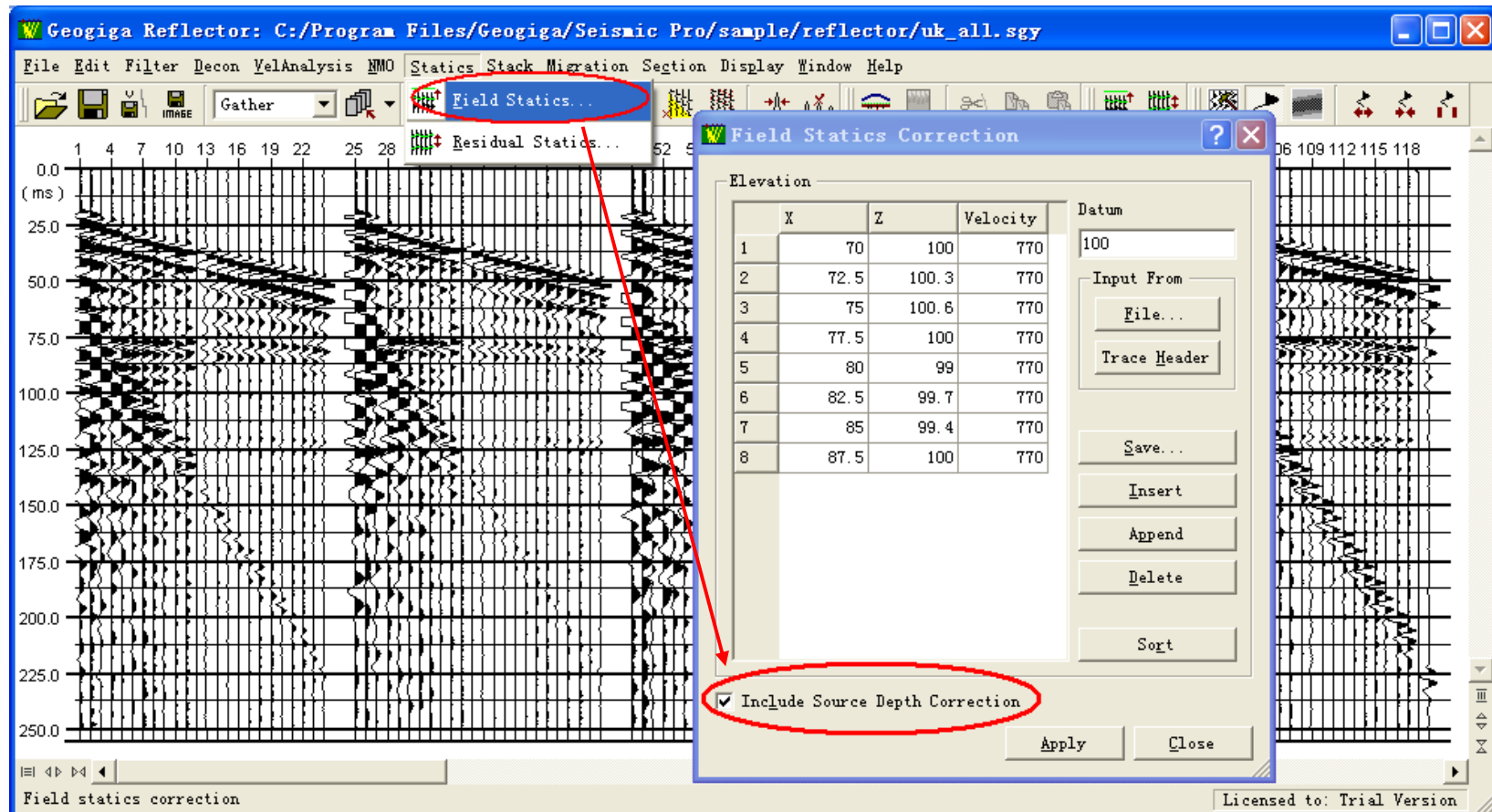
Input shot depth when importing seismic data

# Reflector 5.5 – Field Statics Correction



Simplify the field statics correction dialog box with Undo / Redo support

# Reflector 5.5 – Source Depth Correction



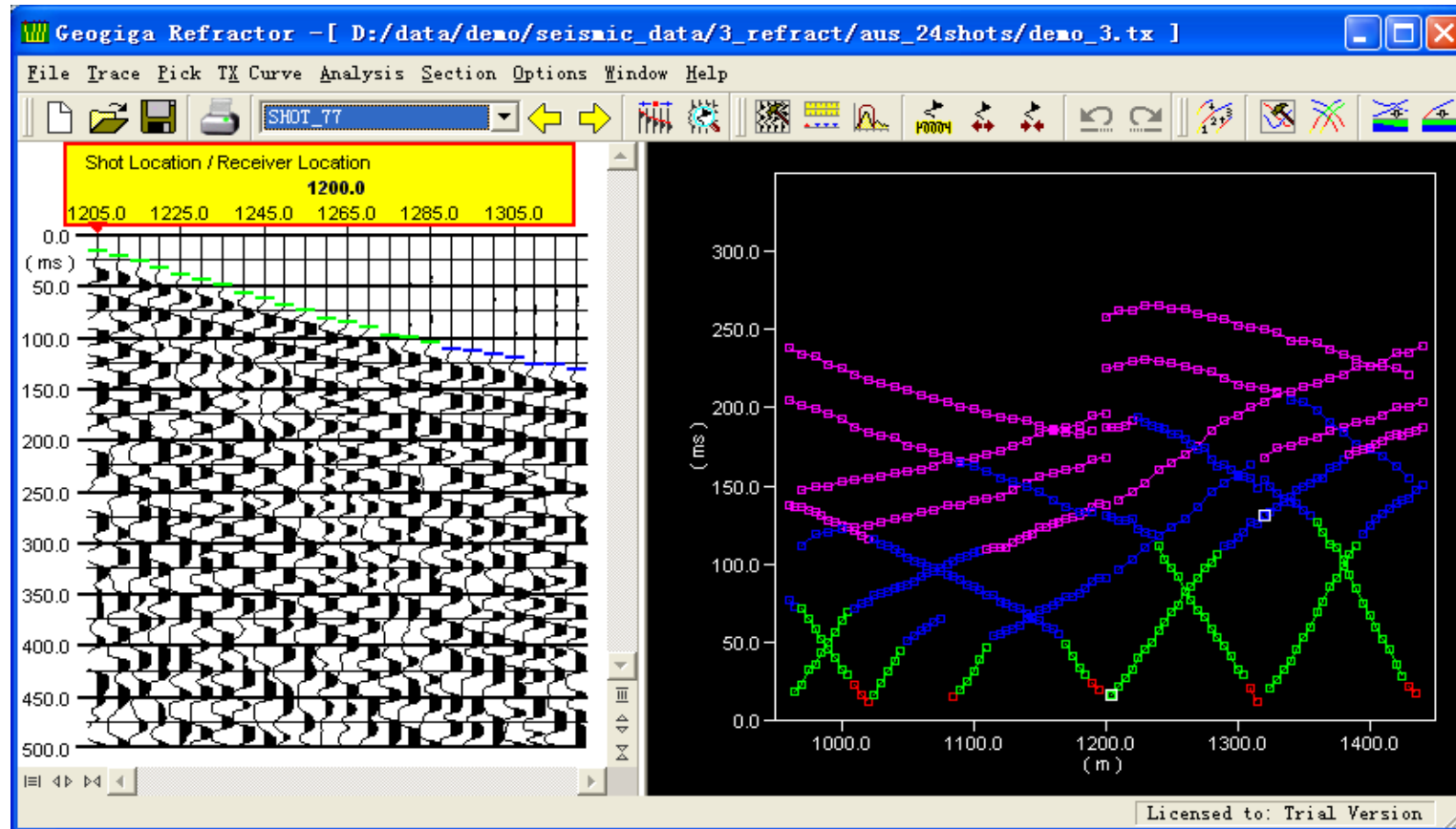
Incorporate the Source Depth Correction option into the Field Statics Correction

# Refractor 4.2

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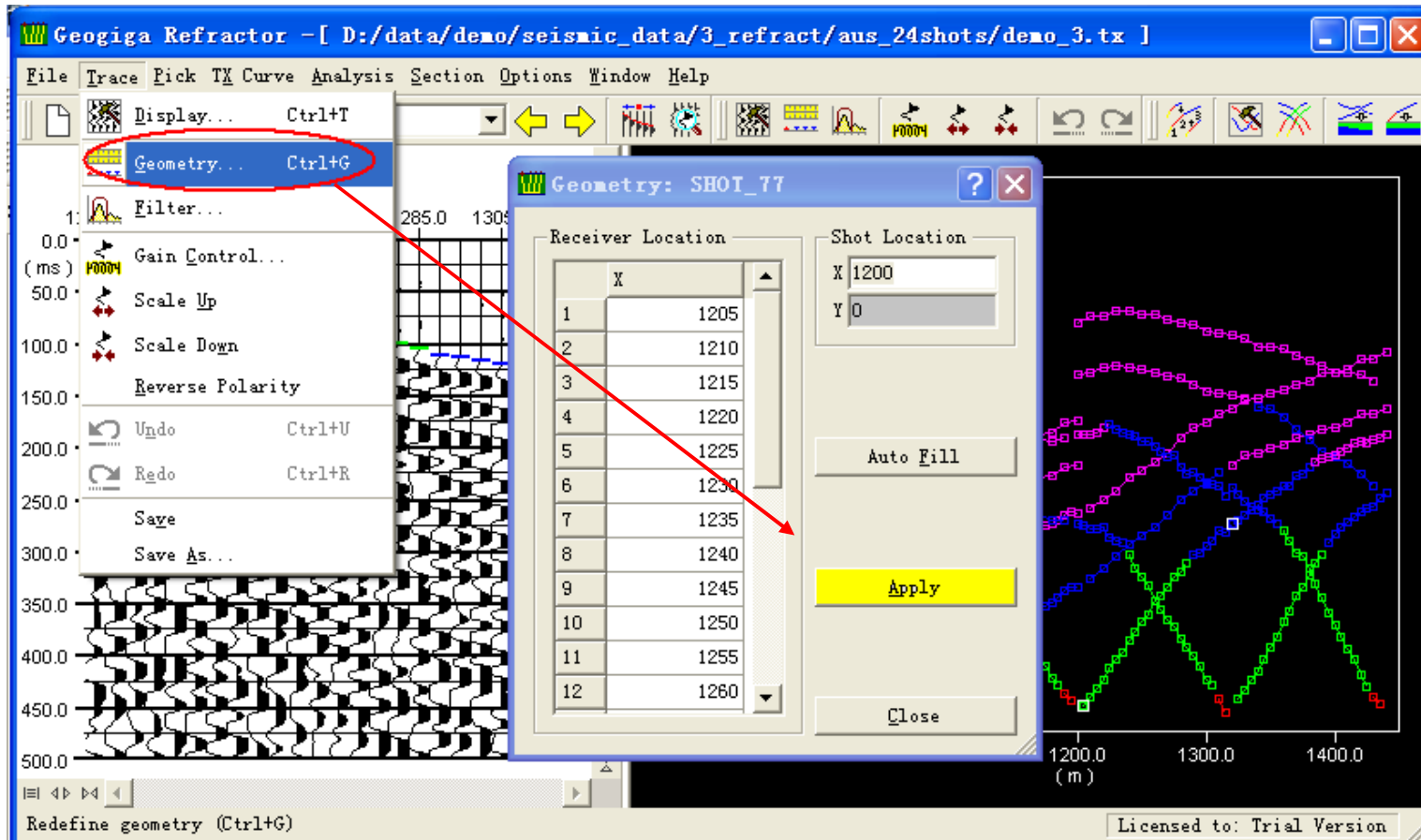
- Label receiver locations instead of trace numbers in the picking view
- Enable to modify geometry after loading seismic data
- Save seismic data in a different file
- Match seismic data and TT curves according to geometry rather than shot number
- Fix the bug when plotting the depth section with higher elevation

# Refractor 4.2 – Display Receiver Locations



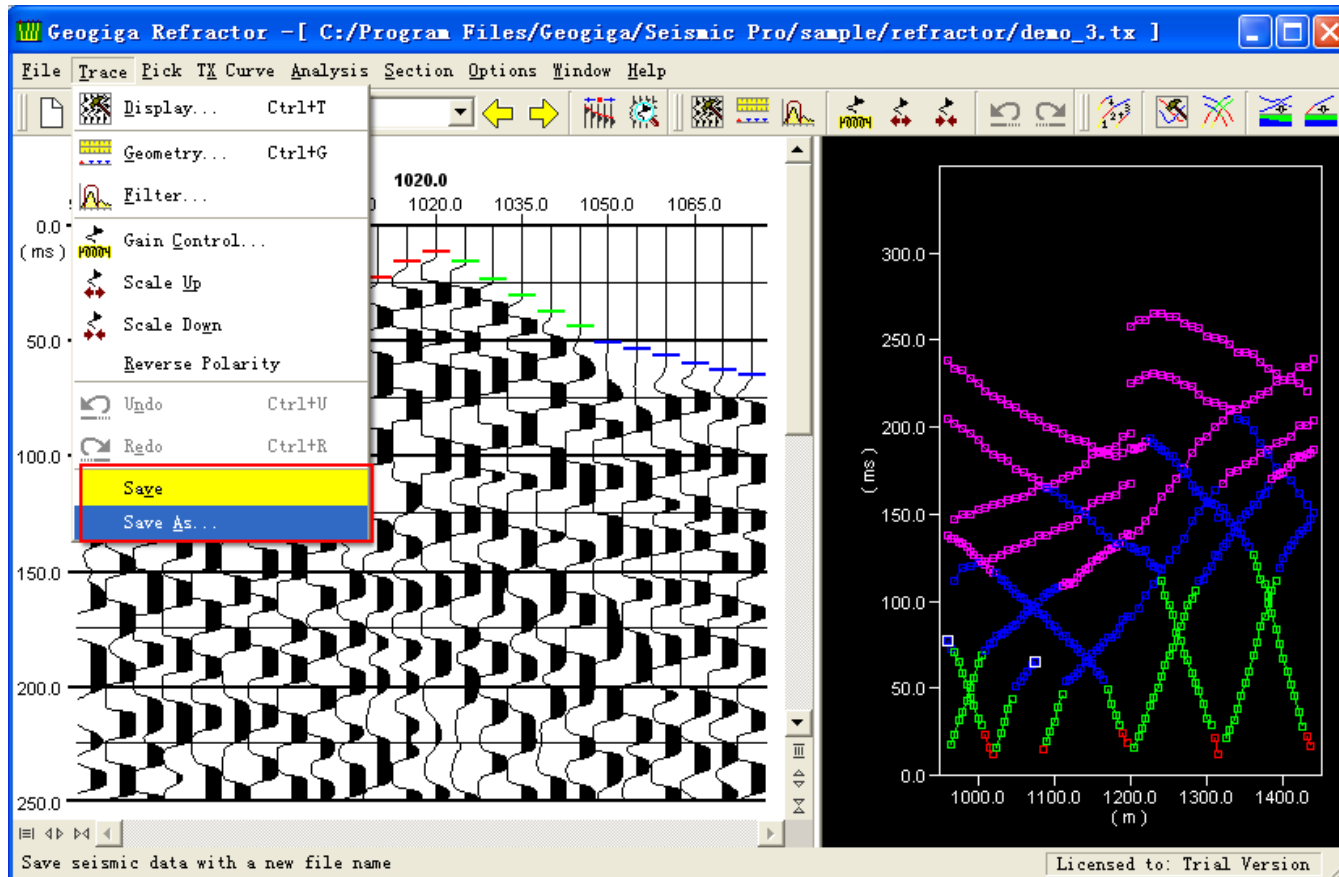
Display shot location and receiver locations in the picking view

# Refractor 4.2 – Modify Geometry



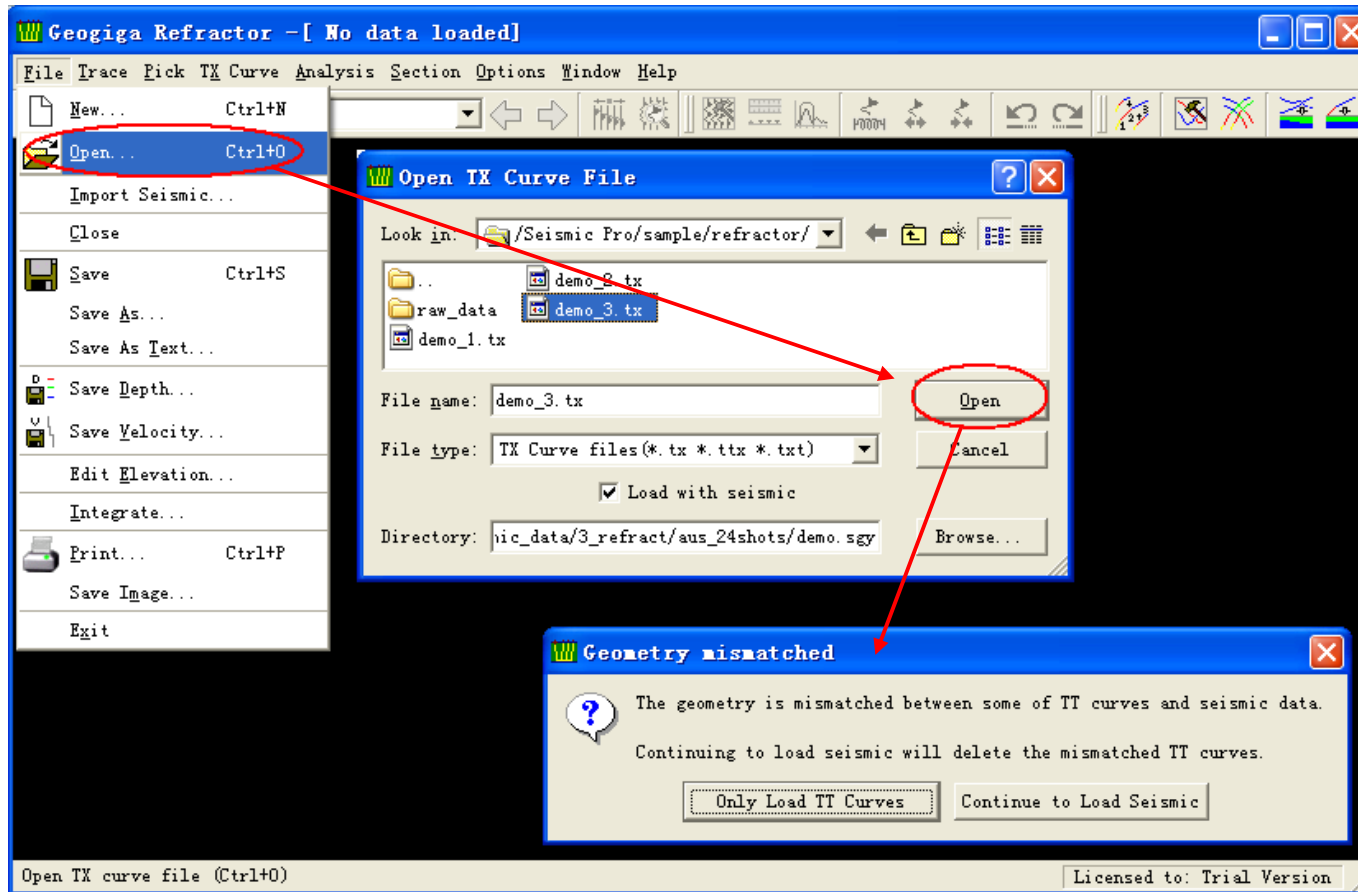
Enable to modify geometry after loading seismic data

# Refractor 4.2 – Save or Save As



After editing seismic data or modifying geometry, save seismic data

# Refractor 4.2 – Match Data and Curves



Match seismic data and TT curves based on geometry

# DW Tomo 2.0

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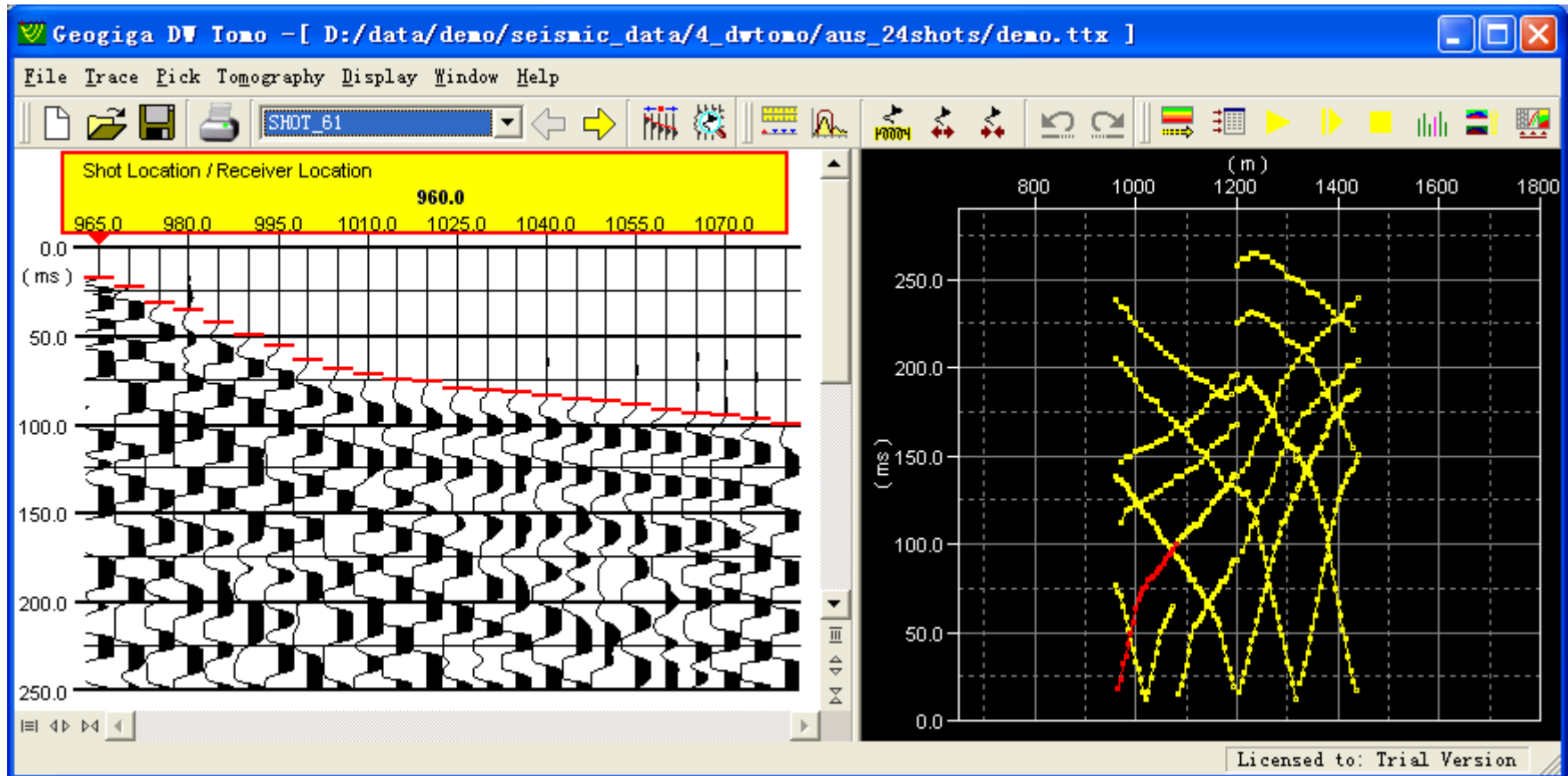
- Label receiver locations instead of trace numbers in the picking view
- Enable to modify geometry after loading seismic data
- Save or save as seismic data
- Match seismic data and TT curves according to geometry rather than shot number
- Add ability to build initial model

# DW Tomo 2.0 – Continued

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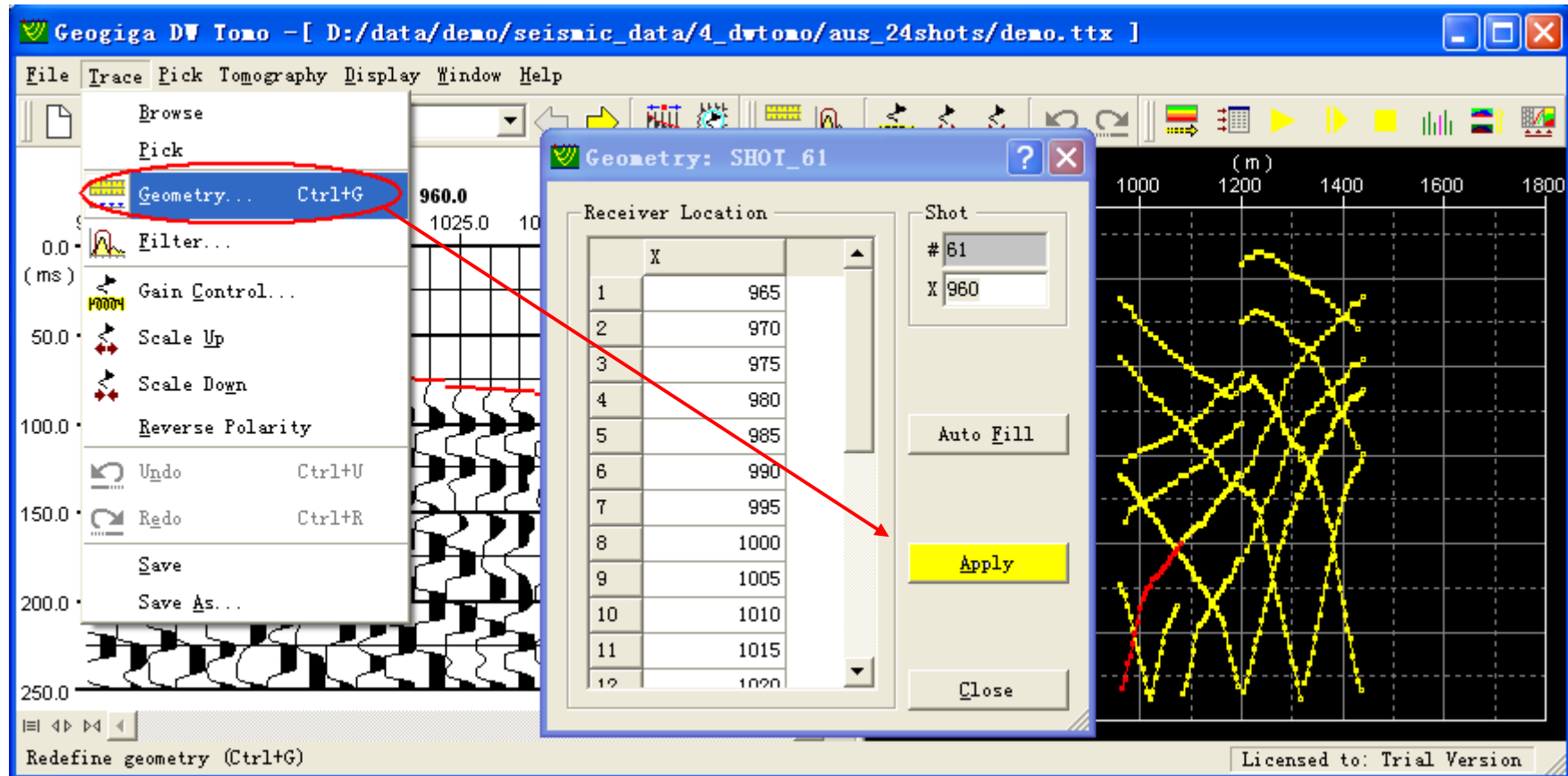
- Manually build the initial model
- Limit the velocity range for inversion
- Define picking error in milliseconds instead of number of samples
- Simplify the error analysis dialog box
- Keep the color bar consistent during iterations
- Improve the inversion algorithm
- Fix the bug when restarting tomo after review

# DW Tomo 2.0 – Display Receiver Locations



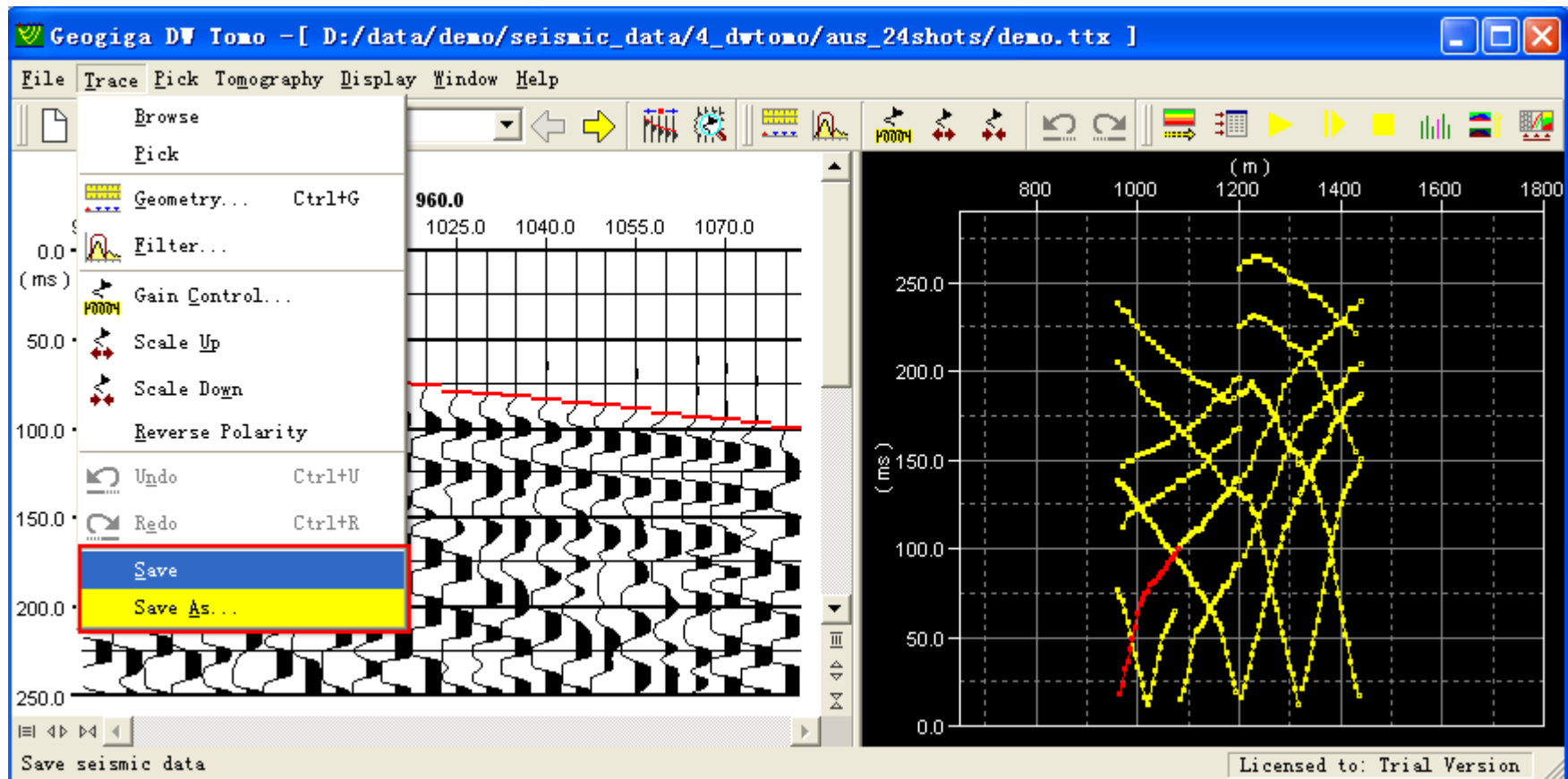
Display shot location and receiver locations in the picking view

# DW Tomo 2.0 – Modify Geometry



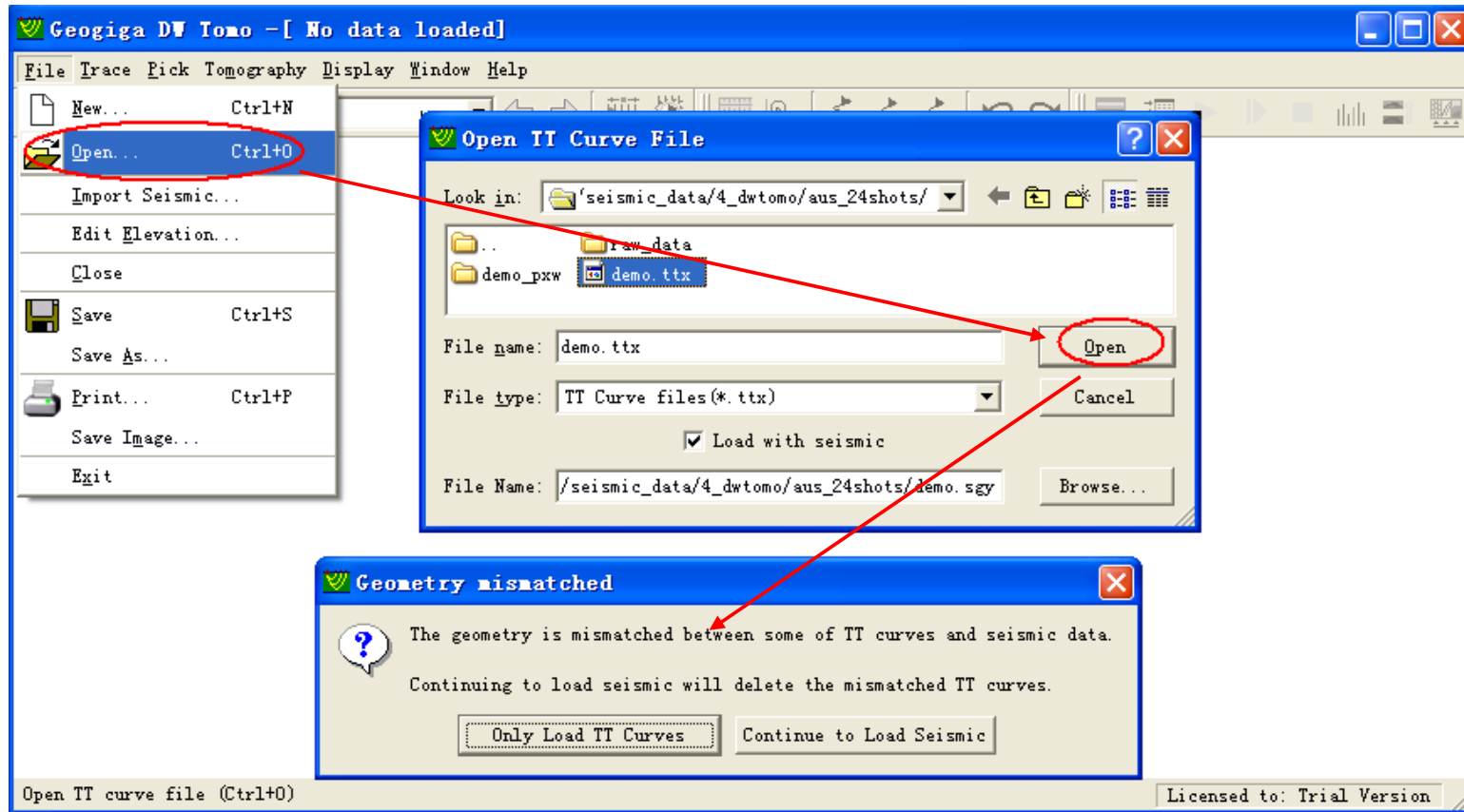
Enable to modify geometry after loading seismic data

# DW Tomo 2.0 – Save or Save as



After editing seismic data or modifying geometry, save seismic data

# DW Tomo 2.0 – Match Data and Curves



Match seismic data and TT curves based on geometry



# DW Tomo 2.0 – Build Initial Model Manually

The image displays two windows from the DW Tomo 2.0 software. The 'Initial Model Build' window on the left contains several input fields and checkboxes. The 'Manually Defined' section has a 'Define...' button circled in red. The 'Build Model' window on the right shows a cross-section plot with a legend and a table of layer properties.

**Initial Model Build Window:**

- Maximum Depth(m): 50
- Gradient Model
- Surface Velocity(m/s): 300
- Bottom Velocity(m/s): 4000
- From Geogiga Refractor
- Smooth ( Number of Grids )
- X: 3, Z: 3
- Load Model...
- Manually Defined
- Define...
- Apply, Close

**Build Model Window:**

Plot showing Velocity (km/s) vs. Depth (m). The plot shows a cross-section with three distinct layers: a top red layer, a middle green layer, and a bottom blue layer. The x-axis ranges from 720.00 to 1360.00, and the y-axis ranges from 0.00 to -40.00.

Legend (km/s):

- 3000.0 (Blue)
- 2000.0 (Green)
- 1500.0 (Red)

Geometry Table:

	X	Z
Start:	720.0	0.0
End:	1680.0	50.0
Step:	5.00	2.50
Size:	193	21

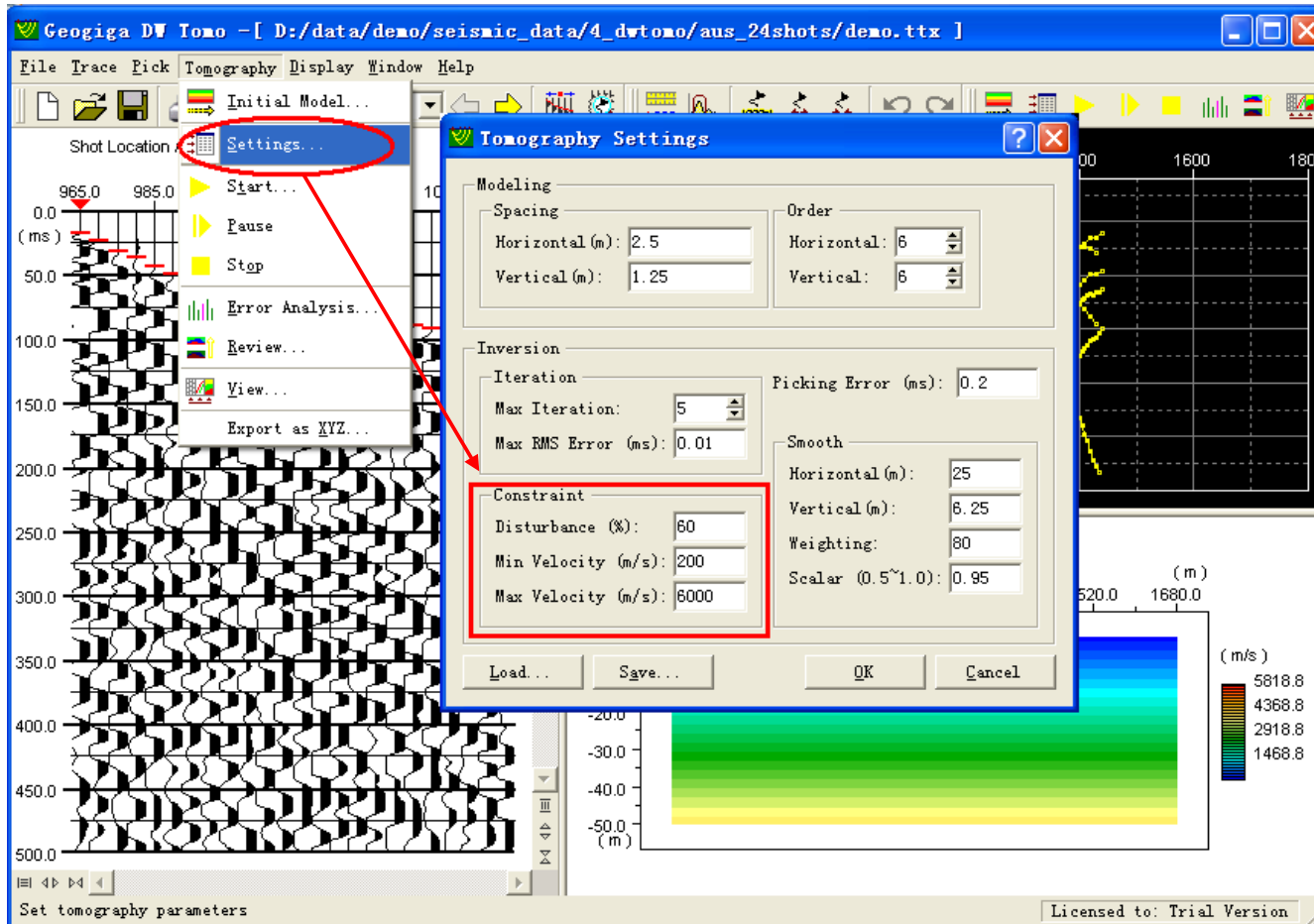
Layer Properties Table:

	Value	Color
1	1500.0	Red
2	2000.0	Green
3	3000.0	Blue

Buttons: Add, Remove, Sort, Refresh, Width, Paint, Zoom, Load..., Save..., Close, Update

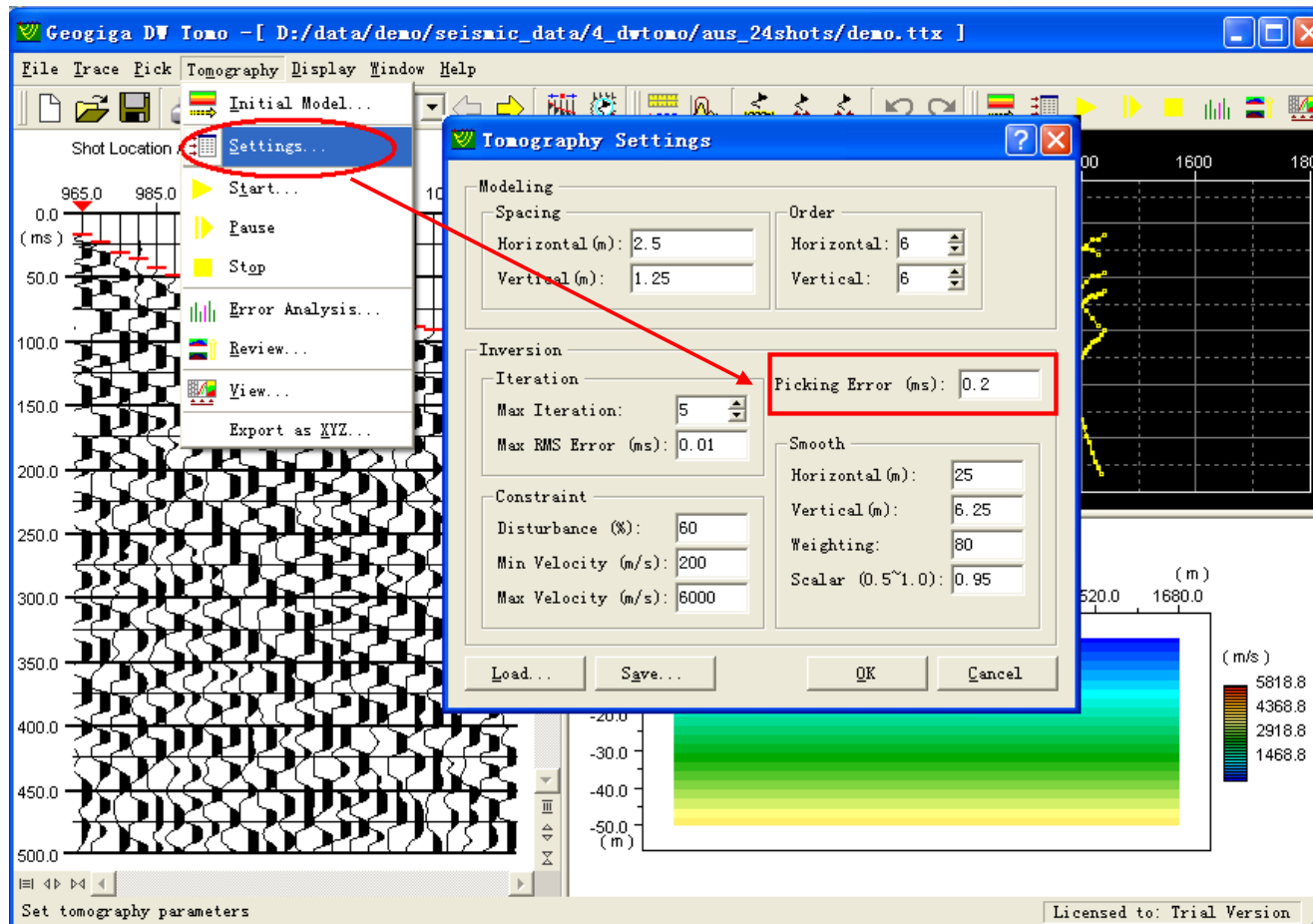
Manually build the initial model with freehand painting and undo/redo support

# DW Tomo 2.0 – Limit Inverse Velocity



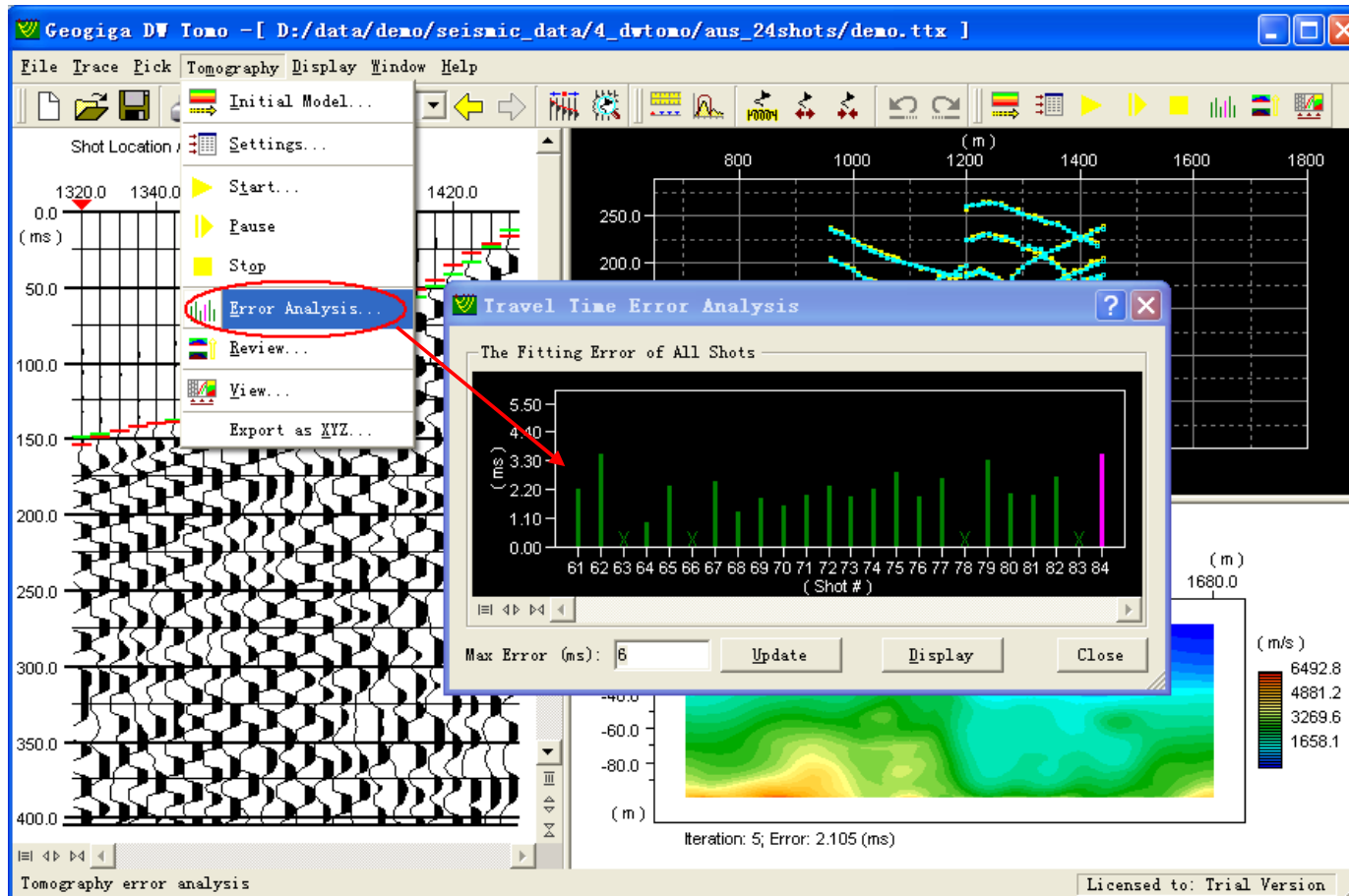
Allow to constrain the min and max velocity for inversion

# DW Tomo 2.0 – Picking Error



Specify the picking error in milliseconds instead of number of samples

# DW Tomo 2.0 – Error Analysis



Simplify the Error Analysis dialog box

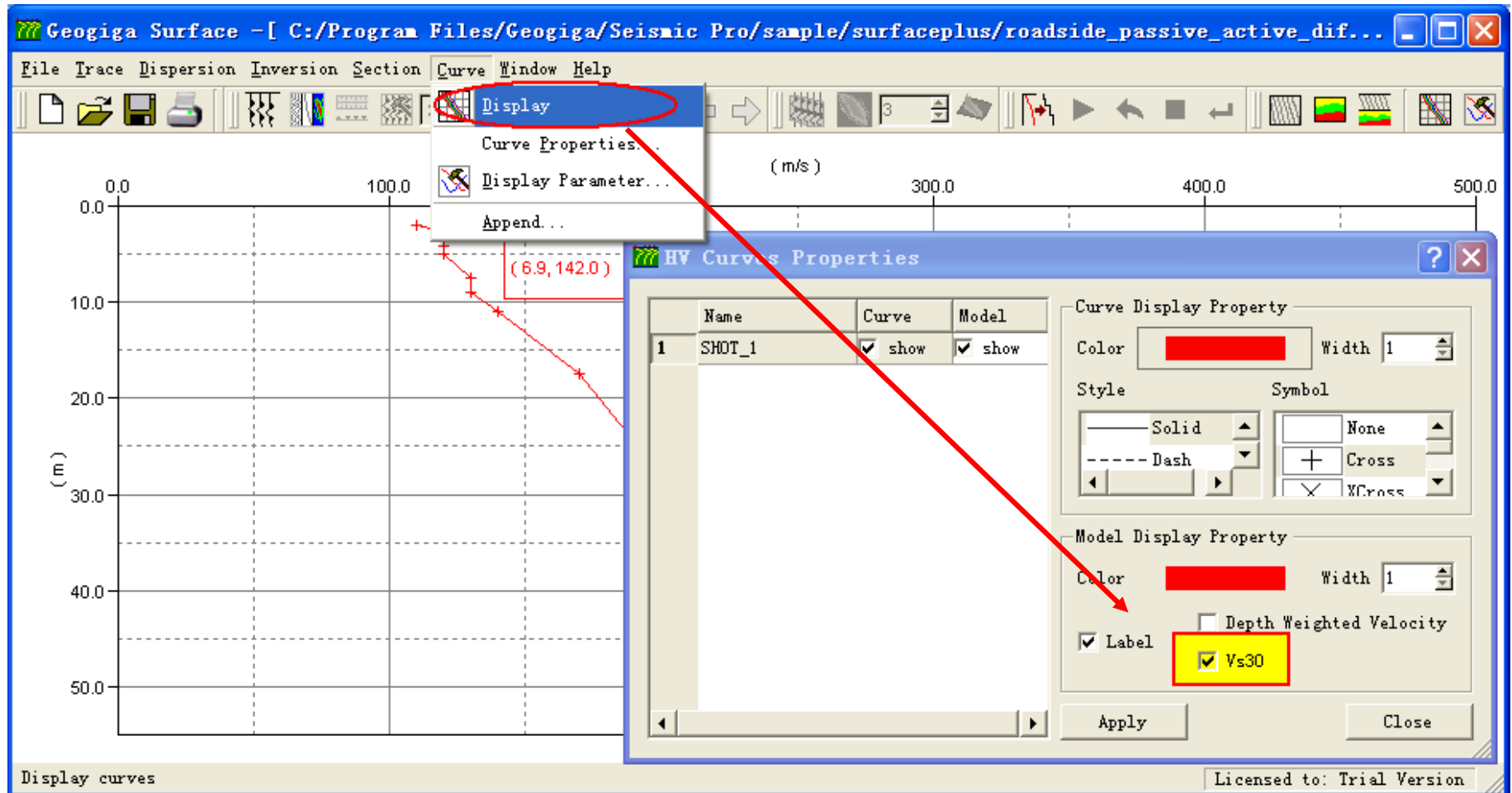
# Surface / Surface Plus 5.11

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- Calculate and display Vs30
- Add display control for geometry definition view
- Fix the bug introduced by depth converting factor when combining FV curves

# Surface / Surface Plus 5.11

## – Calculate and display Vs30



# Surface / Surface Plus 5.11

## – Customize Geometry Definition View

The screenshot displays the 'Geometry: array\_a\_vertical.sg2' window. The main area shows a plot of receiver locations on a grid. The X-axis represents years from 1984 to 2016, and the Y-axis represents years from 1986 to 2016. Ten receiver locations are marked with numbered circles (1-10) and connected by a green line. The 'Receiver Location' table on the right shows the following data:

	X	Y
1*	1988.00	2002.00
2	1992.00	2010.00
3	2000.00	2016.00
4	2008.00	2010.00
5	2012.00	2002.00
6	2012.00	1992.00
7	2004.00	1986.00
8	1996.00	1986.00
9	1988.00	1992.00
10	2000.00	1998.00

The 'View Settings' dialog is open, showing the 'Receivers' section with the following settings:

- Show Number
- Label Size: 8
- Indicator Size: 5

The 'Display>>' button in the dialog is highlighted with a red circle and a red arrow pointing to the 'View>>' button in the main window. The 'View>>' button is also highlighted with a red circle. The 'View Settings' dialog also includes a 'Close' button and 'Load >>' and 'Save >>' buttons.

# XW Tomo 2.0

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- Label receiver locations instead of trace numbers in the picking view
- Enable to modify geometry after loading seismic data
- Save or save as seismic data
- Match seismic data and TT curves according to geometry rather than shot number

# XW Tomo 2.0 – Continued

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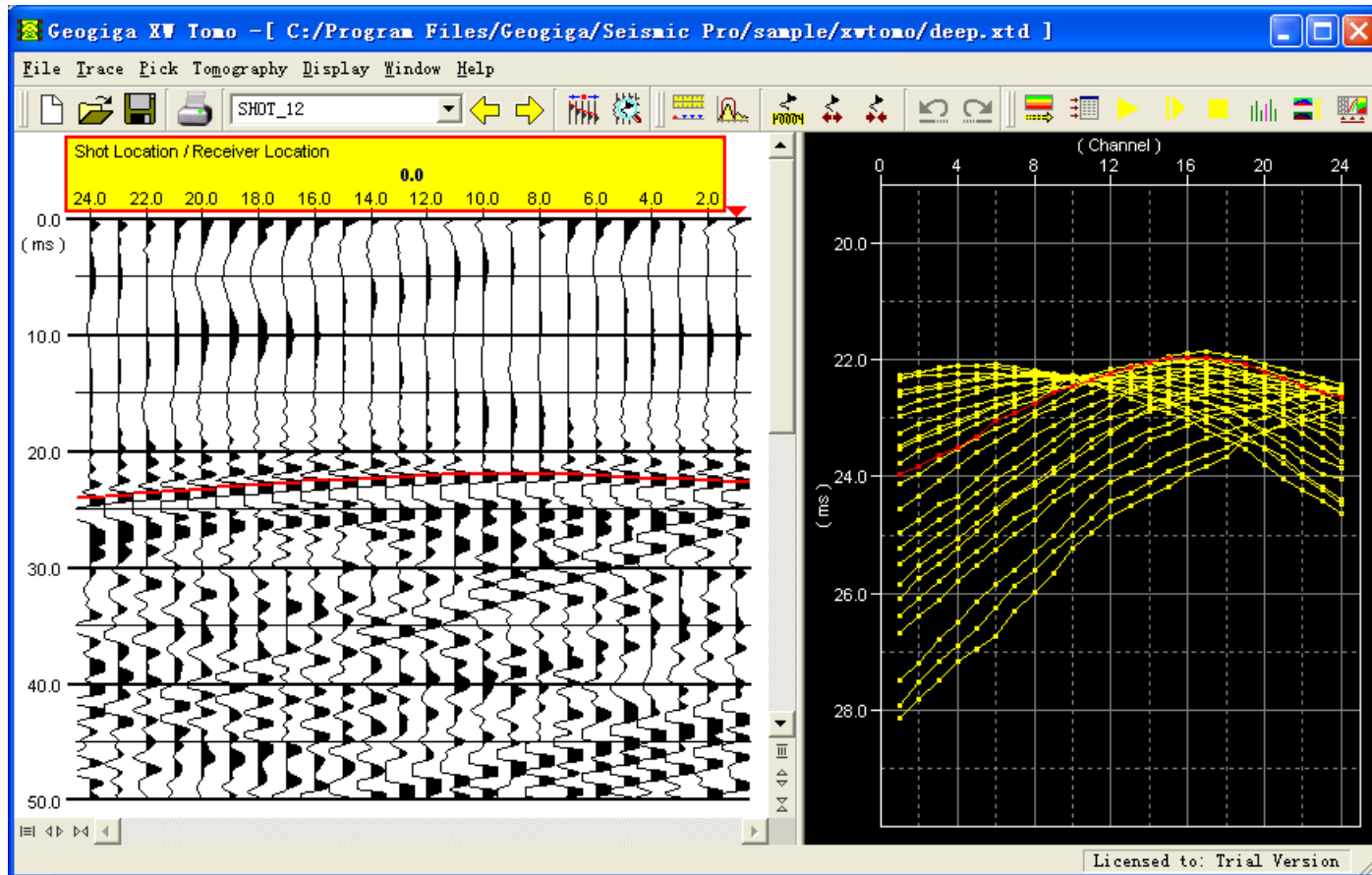
- Add ability to build initial model
- Manually build the initial model
- Limit the velocity range for inversion
- Define picking error in milliseconds instead of number of samples
- Simplify the error analysis dialog box

# XW Tomo 2.0 – Continued

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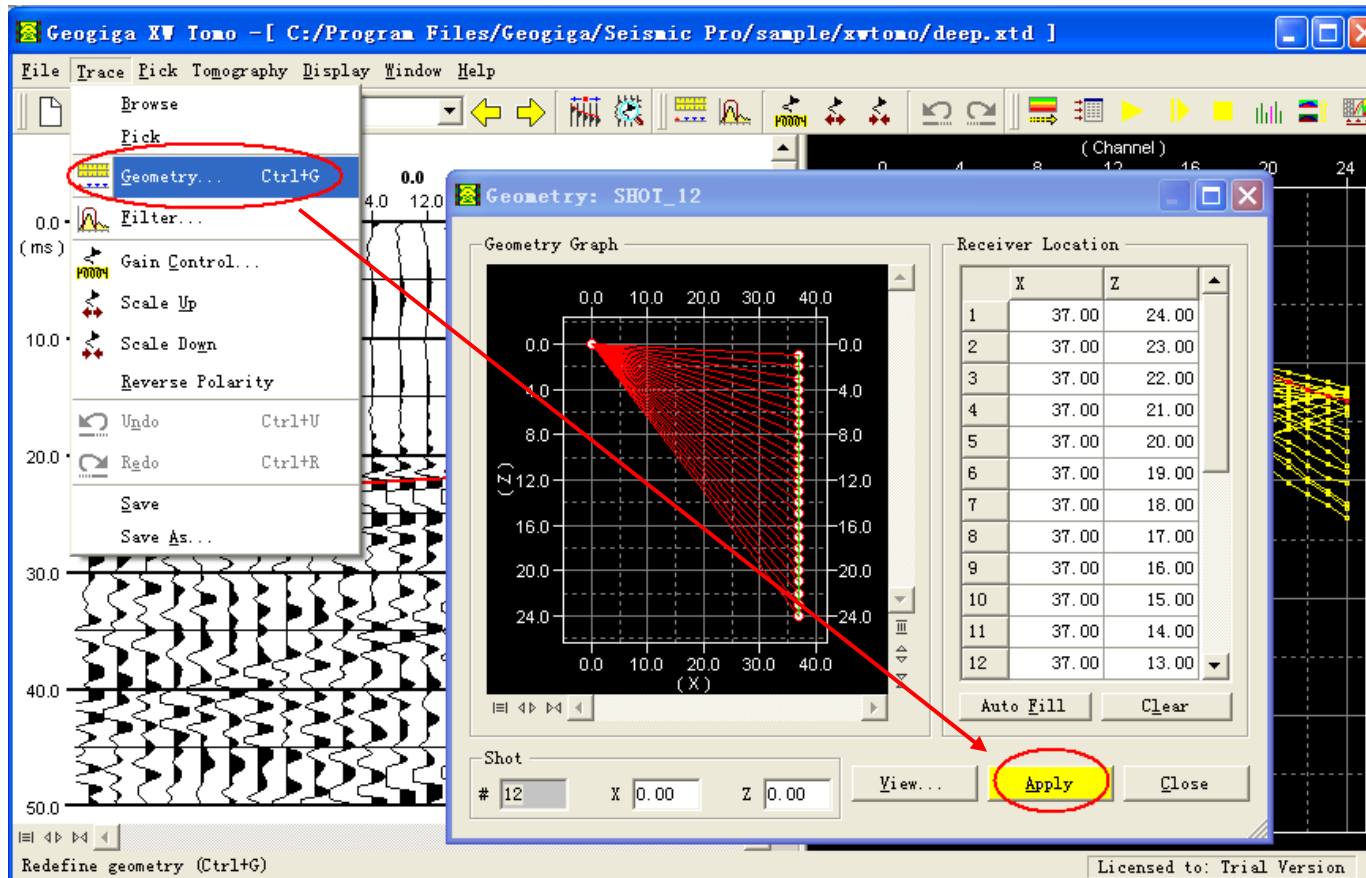
- Keep the color bar consistent during iterations
- Improve the inversion algorithm
- Fix the bug when restarting tomo after review
- Fix the abnormal exit when the geometry is not defined in seismic data

# XW Tomo 2.0– Display Receiver Locations



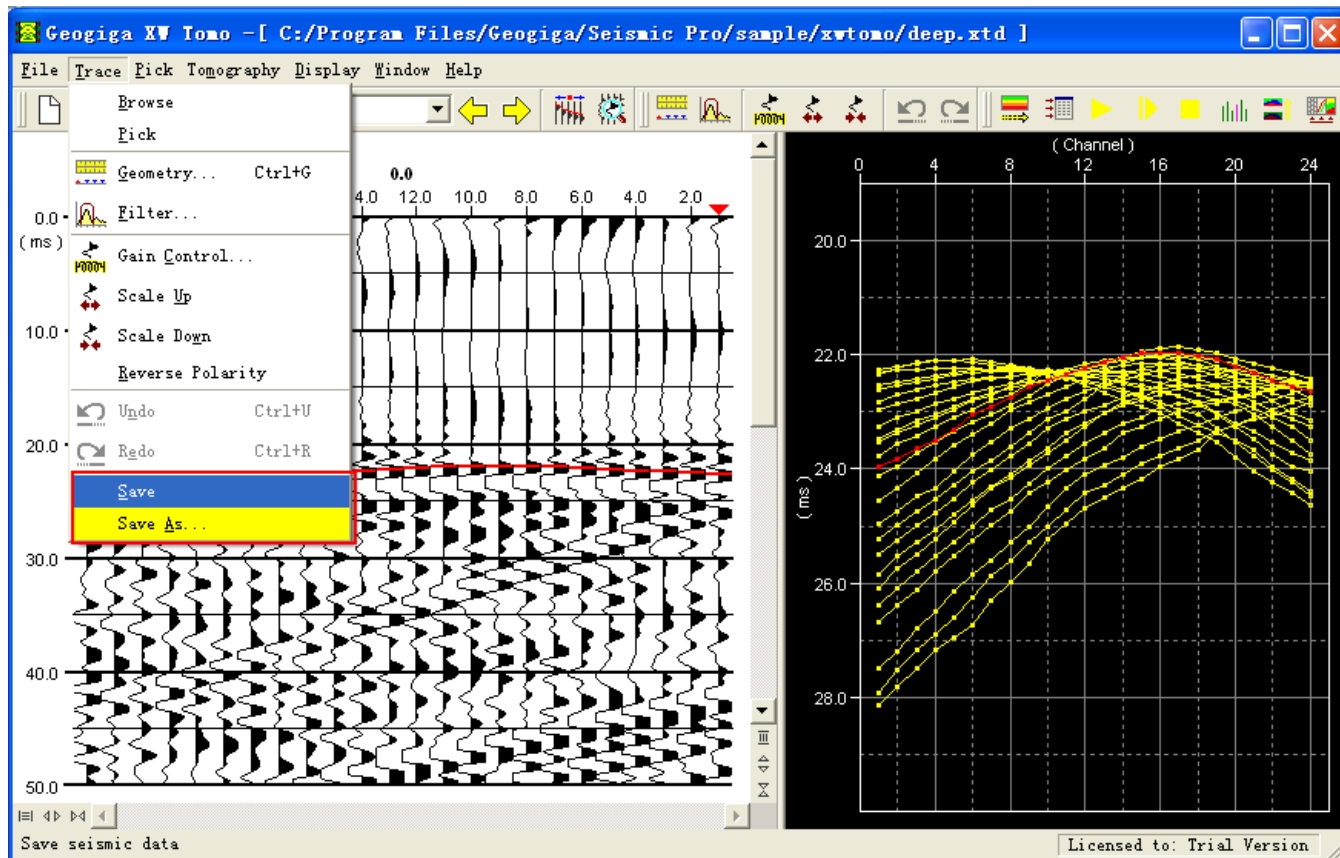
Display shot number and receiver locations in the picking view

# XW Tomo 2.0 – Modify Geometry



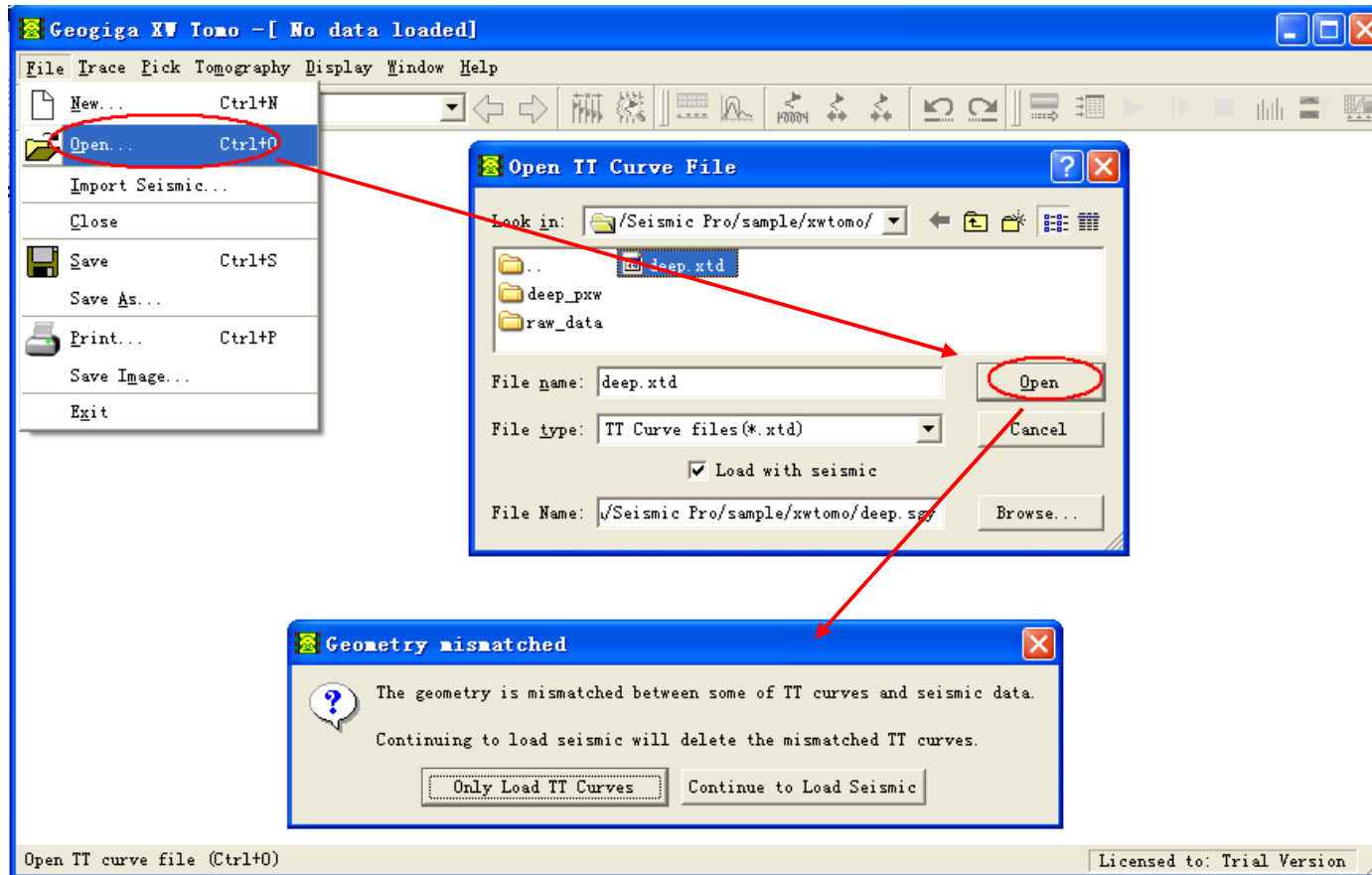
Enable to modify geometry after loading seismic data

# XW Tomo 2.0 – Save or Save As



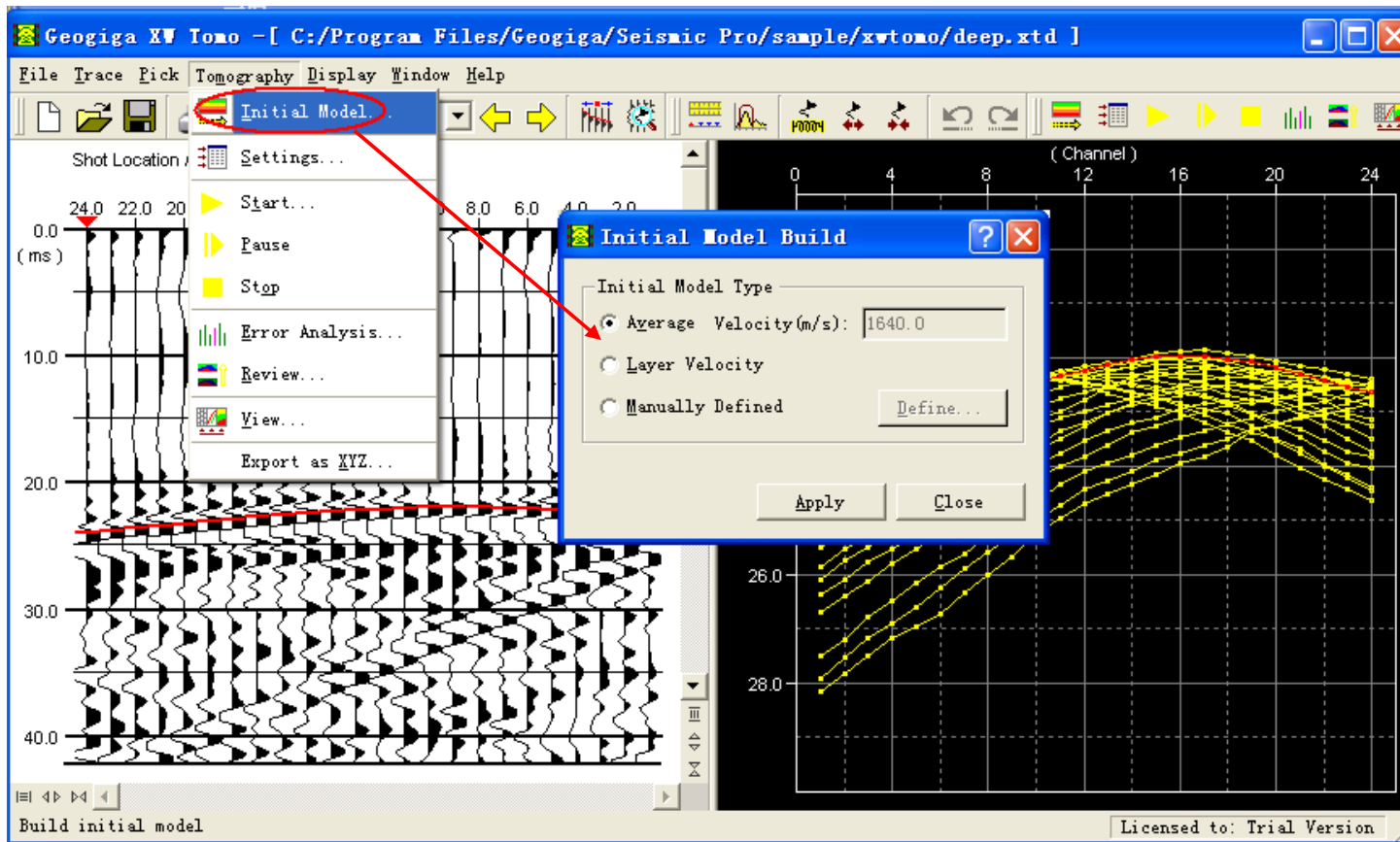
After editing seismic data or modifying geometry, save seismic data

# XW Tomo 2.0 – Match Data and Curves



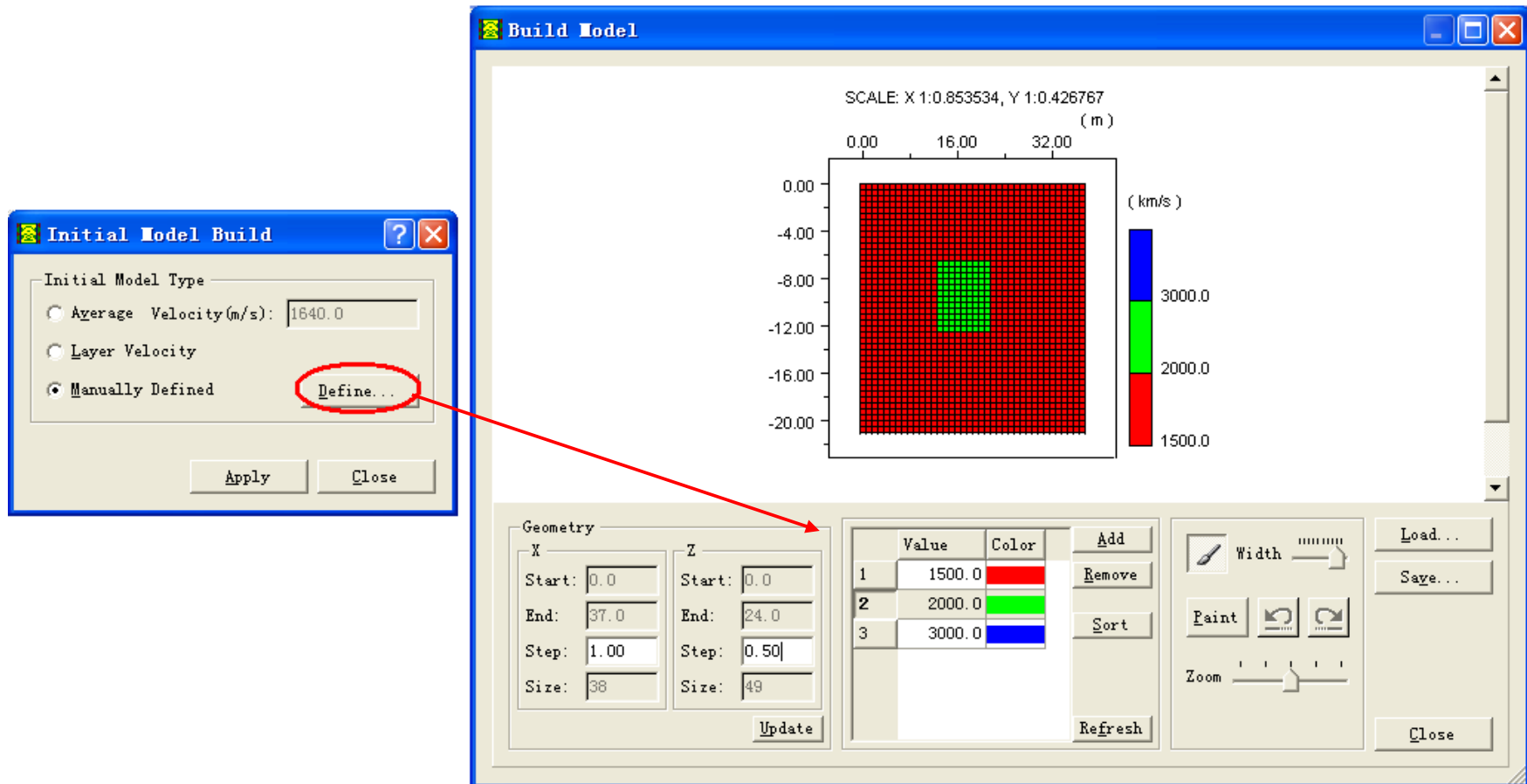
Automatically match seismic data and TT curves based on geometry

# XW Tomo 2.0 – Build the Initial Model



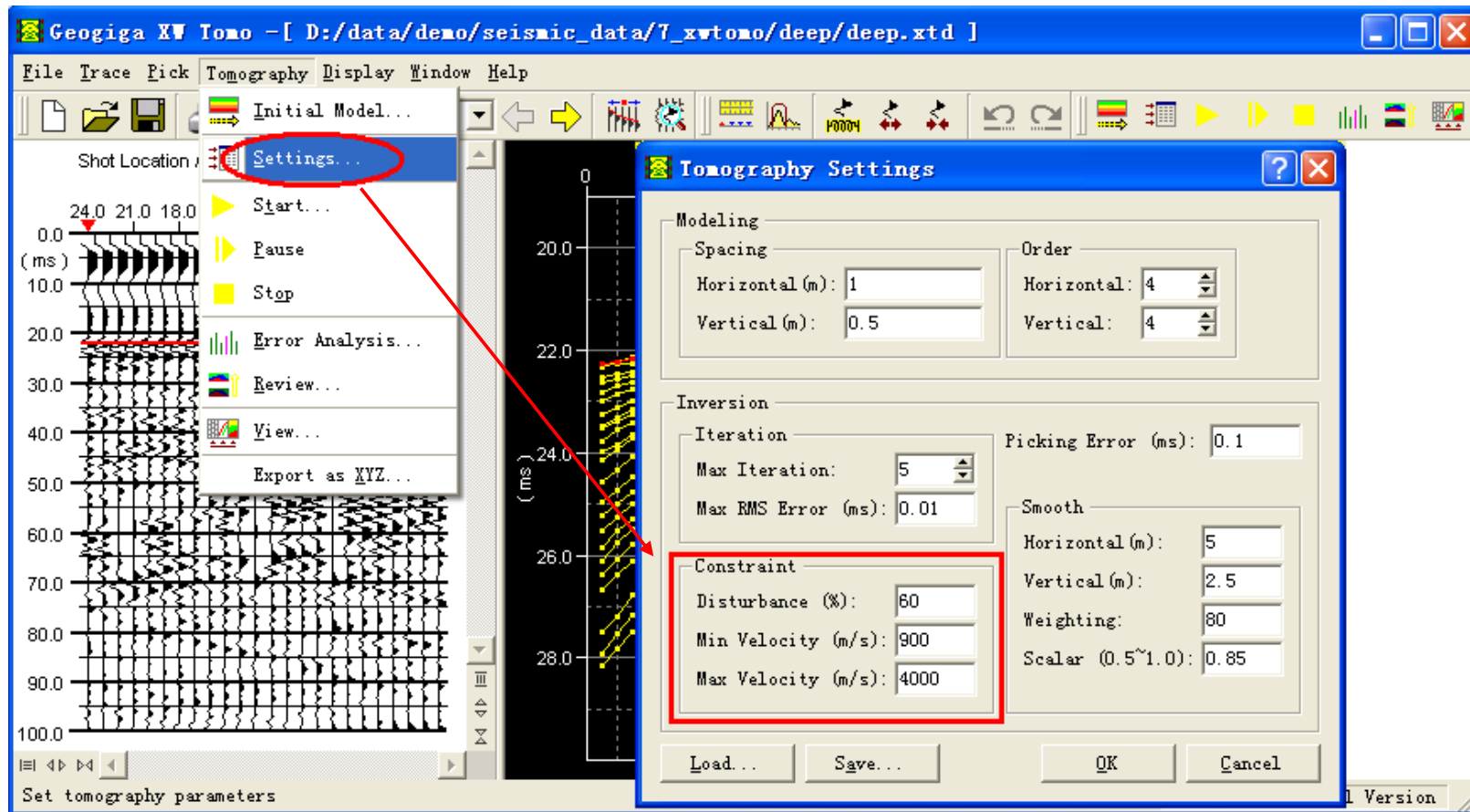
Build the initial model with three options; here, the layer velocity model is obtained from crosshole testing

# XW Tomo 2.0 – Build Initial Model Manually



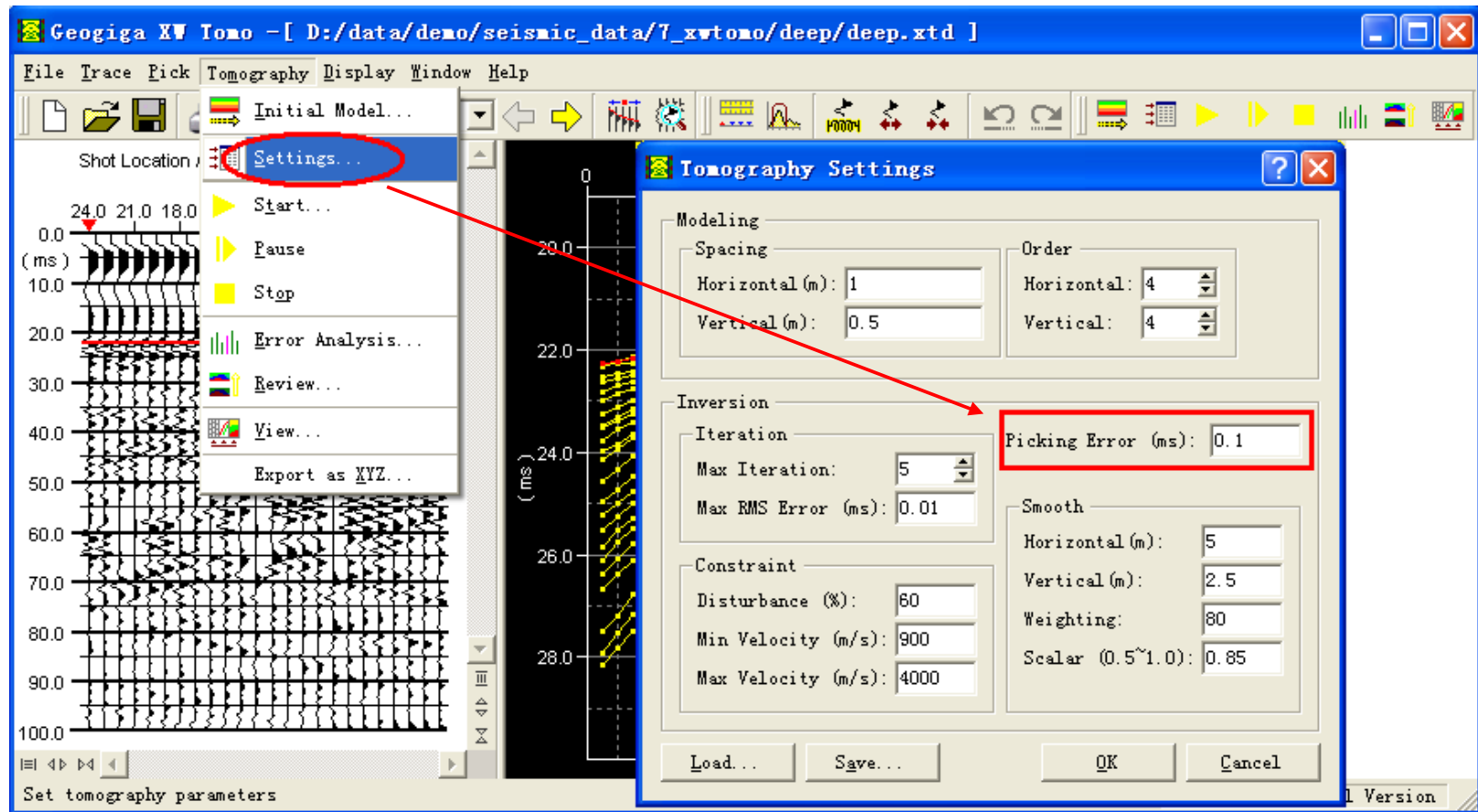
Manually build the initial model with freehand painting and undo/redo support

# XW Tomo 2.0 – Limit Inverse Velocity



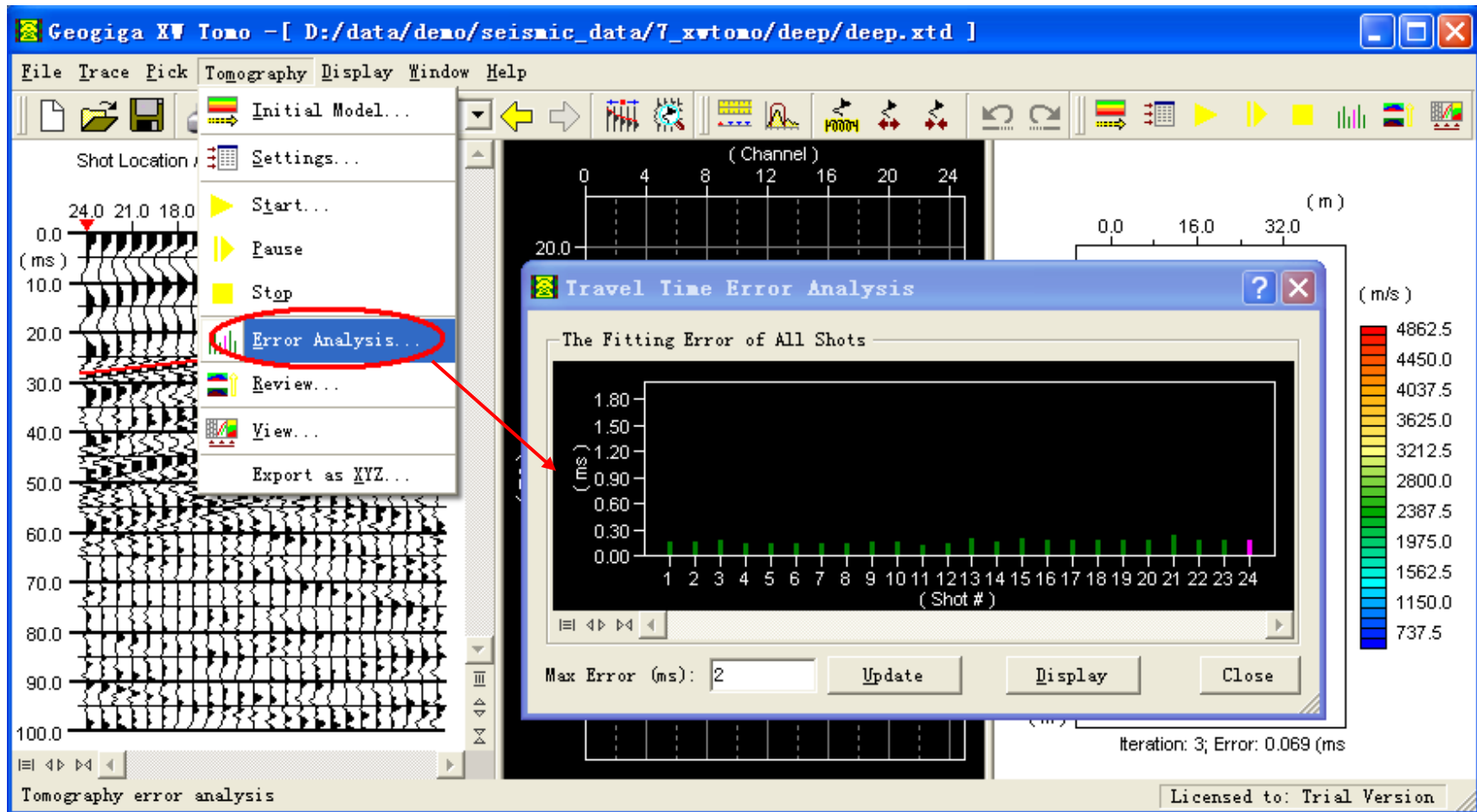
Allow to constrain the min and max velocity for inversion

# XW Tomo 2.0 – Picking Error



Specify the picking error in milliseconds instead of number of samples

# XW Tomo 2.0 – Error Analysis



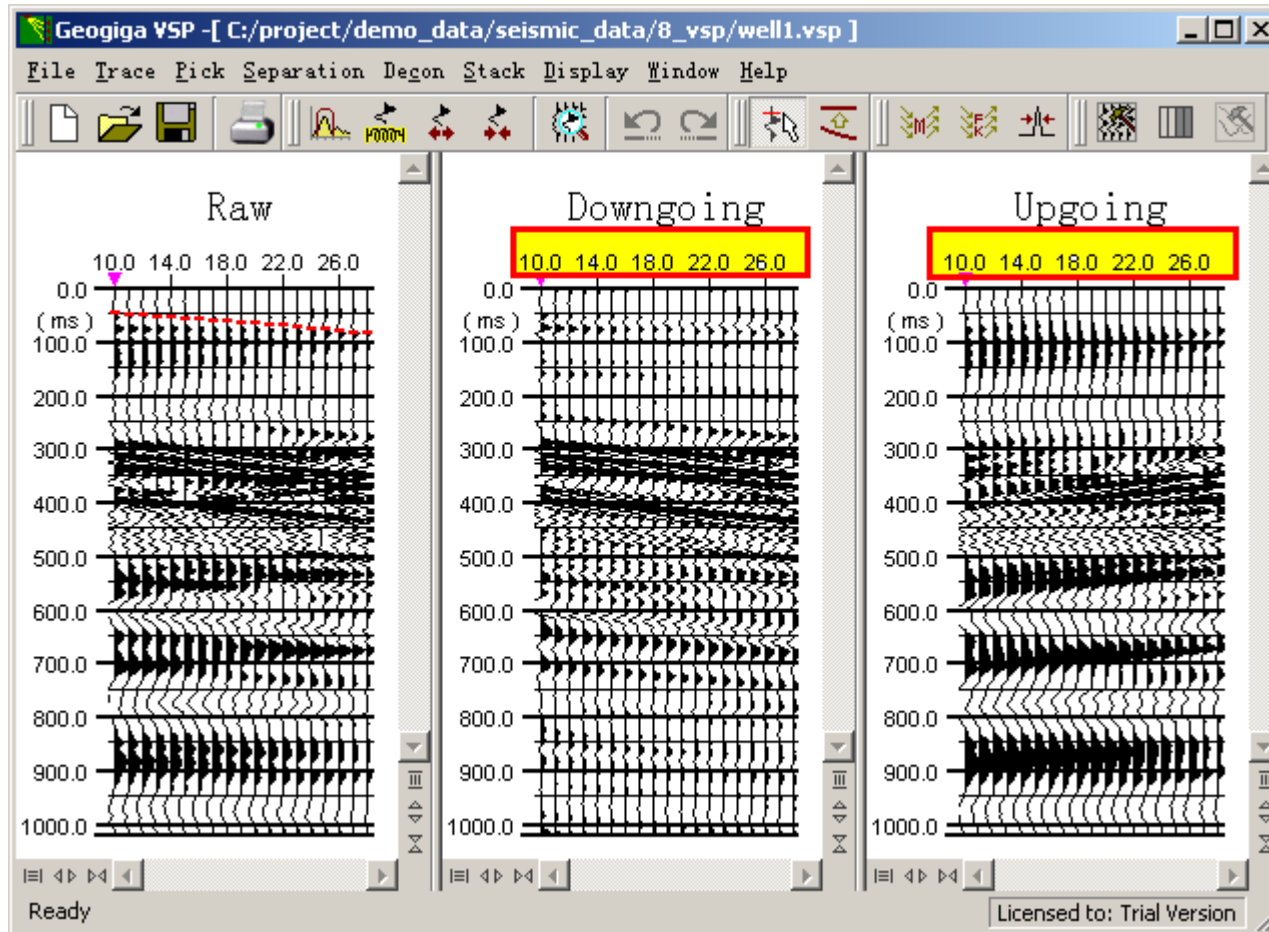
Simplify the Error Analysis dialog box

# VSP 1.1

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- Annotate the X axis as depth in the downgoing and upgoing view
- Fix the bug when dealing with inverse geometry
- Fix the view bug when only loading TT curves first, and then loading seismic data

# VSP 1.1 – X Annotations



Label the X axis with depth instead of trace number