

# SeisImager/2D

## Refraction Data Analysis Software



Seismic refraction surveying is a tried-and-true method for subsurface investigation. Applications include mapping depth to bedrock and bedrock topography, estimating rippability, assessing rock quality, mapping depth to groundwater, and landslide and fault studies.

SeisImager/2D is Windows-based software for modeling, processing, and interpretation of refraction data. Start with the modeling functions to construct a geologic cross-section of your site and simulate a survey to help determine the best geometry. Change the model so you can see what targets are detectable.

Identify first breaks quickly using the accurate automatic picker, with manual override as needed. Clean up noisy data with comprehensive filtering and view all your prior picks simultaneously for shot-to-shot coherence.

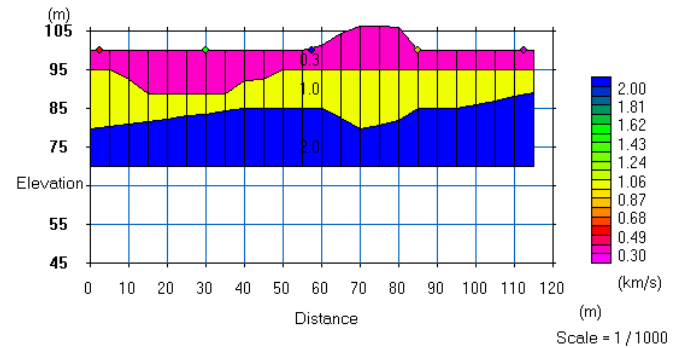
QC your data before analysis to ensure that your answer will be the most accurate. Display differences between travel time curves to distinguish layering and refractor topography. Automatically resolve reciprocal time conflicts that cause inaccuracies in depth estimation.

Choose from two methods of analysis to best suit the geologic conditions. Take a quick look with a 2 or 3-layer time-term analysis. If you expect lateral velocity variations or gradual vertical variations, use the optimized tomographic analysis that runs quickly and accurately.

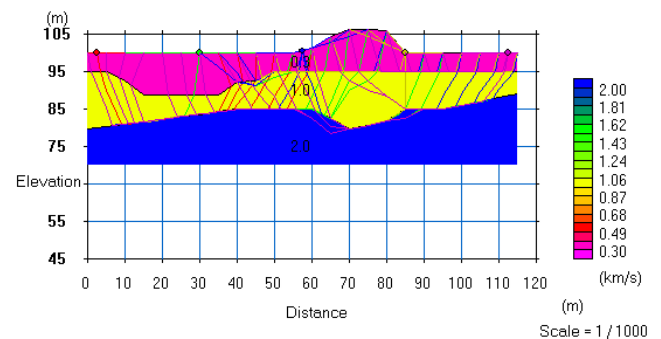
A field version of SeisImager/2D comes free with all Geometrics Windows-based seismographs. Full packages are available for purchase and rent. Contact Geometrics for prices and to find out more about how SeisImager/2D can work for you.

### Features & Benefits

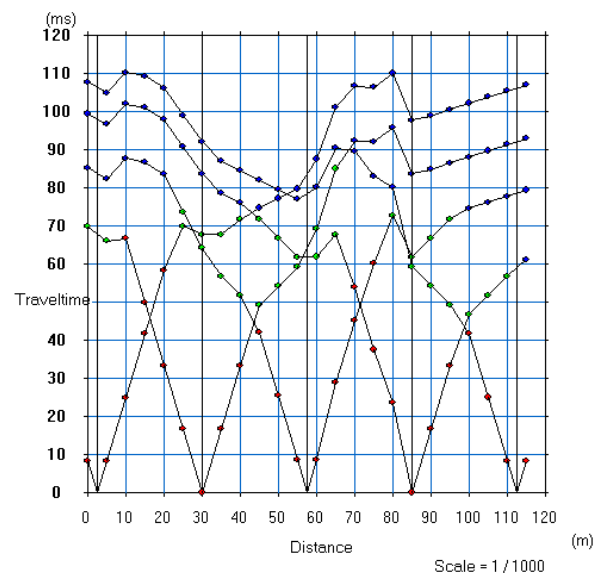
- Includes comprehensive modeling and ray tracing.
- Allows first breaks to be picked automatically or by hand.
- Includes interactive quality control tools to optimize results.
- Performs analysis by two methods: time-term least squares and tomographic inversion.
- No fees for support, maintenance, or upgrades.



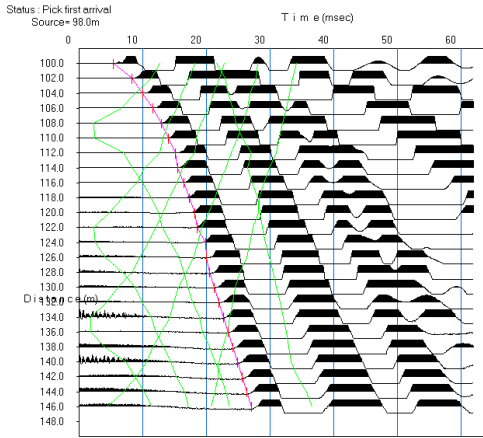
Create a model of your site. Add topography and vary the velocities for a realistic representation.



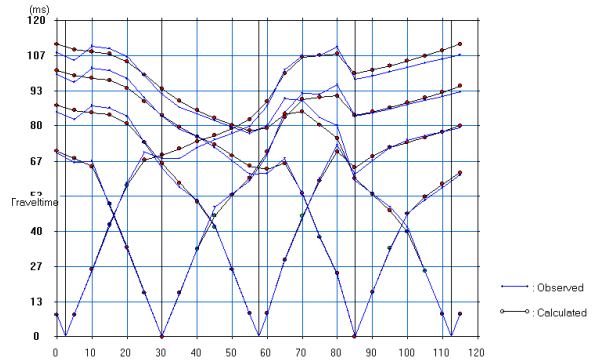
Set-up shots and receivers and perform a simulated survey. Adjust shot and receiver spacing to optimize coverage and minimize field time.



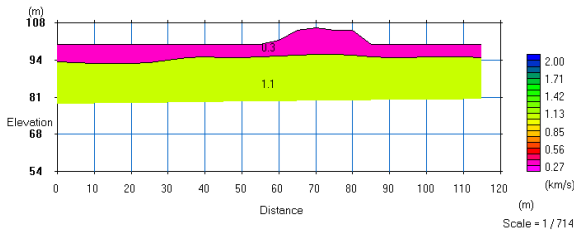
Generate travel time curves for your model. Make changes and compare differences in the travel time curves to help identify subtle features.



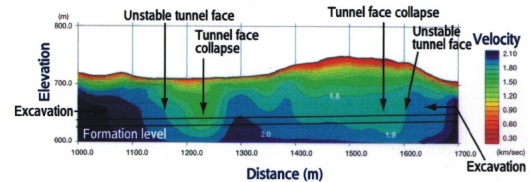
Go to the field and collect your data. Pick breaks quickly and accurately with the automated picker and adjust them manually with an interactive cursor. View travel times from other shots simultaneously for best coherence.



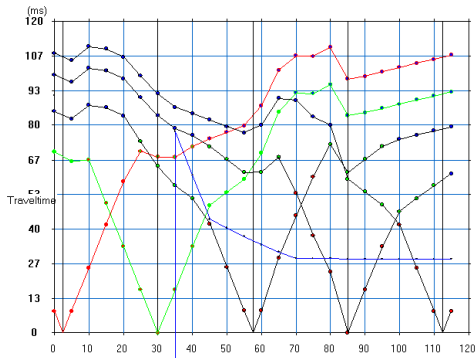
Ray-trace your final answer and compare with your original data to look for discrepancies.



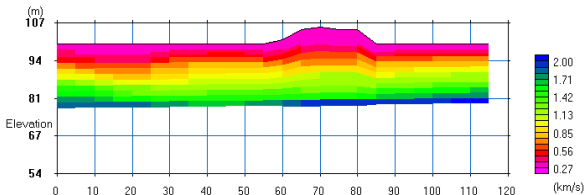
Take a quick look at a two-layer time-term analysis of your data.



Annotate your final cross section using standard Windows graphics programs.



Check the integrity of your data with a suite of quality control tools for automatically differencing curves and resolving reciprocal time conflicts.



Invert your data with sophisticated tomography, proven effective at resolving horizontally varying velocities.

## SeisImager/2D Software Packages for Windows

**Demonstration version:** May be launched 15 times; same allowances as Lite version, no printing capability.

**Lite version:** Included with purchase of Geometrics Windows-based seismographs; allows up to 16K samples per trace, 64 traces per shot, 51 traces per interpretation, and 12 shots per interpretation.

**Standard version:** Allows up to 16K samples per trace, 128 traces per shot, 360 traces per interpretation, and 65 shots per interpretation.

**Pro version:** Allows virtually unlimited input up to 2M samples per trace, 48K traces per shot, 48K traces per interpretation, and 48K shots per interpretation.

*Note: The number of shots per spread and spreads per interpretation are dependent on the actual trace number used.*

**Rental (Standard or Pro) version:** Runs for 40, 75, or 250 hours.

Specifications subject to change without notice. SeisImager2D\_v3 (0620DU)



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