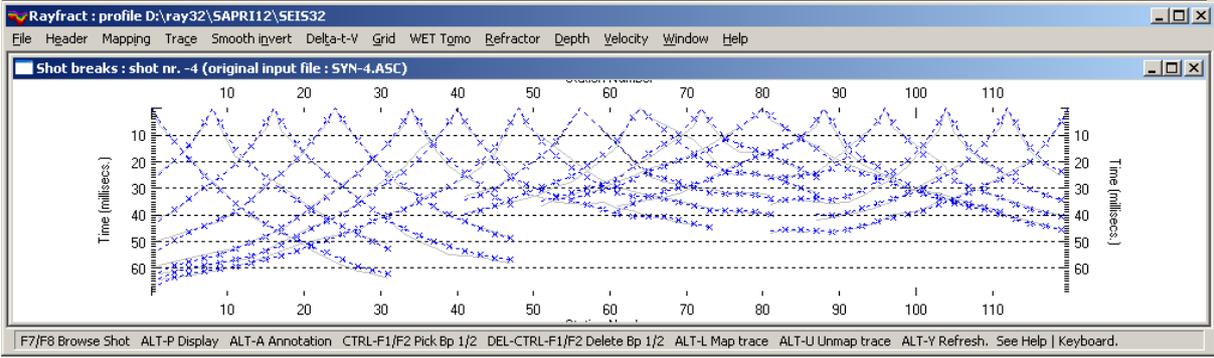
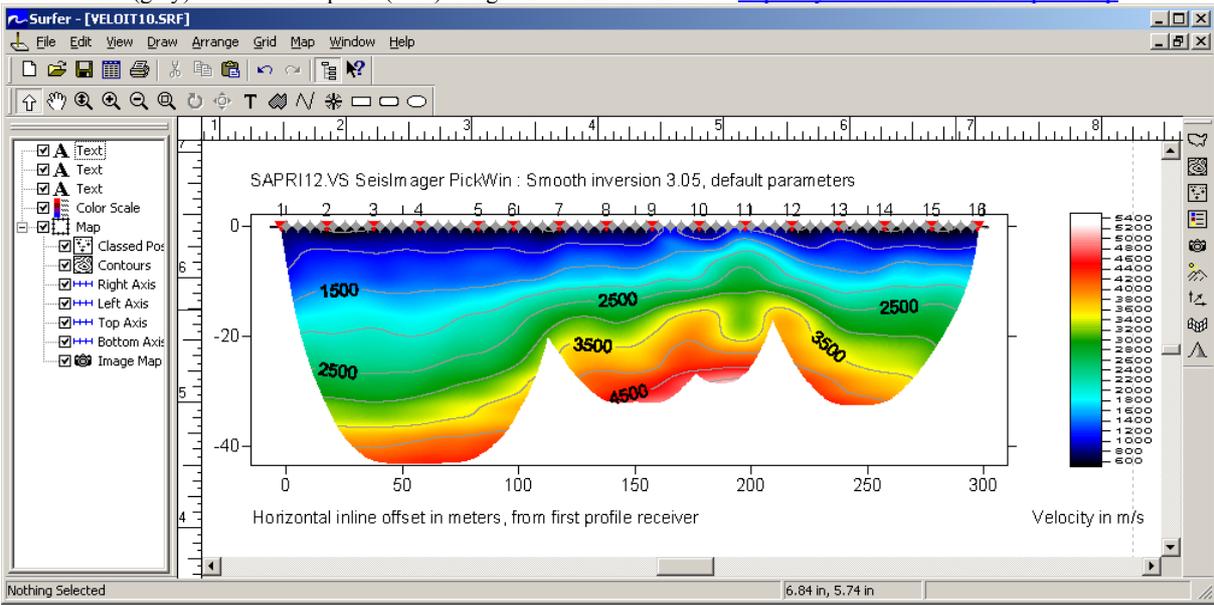


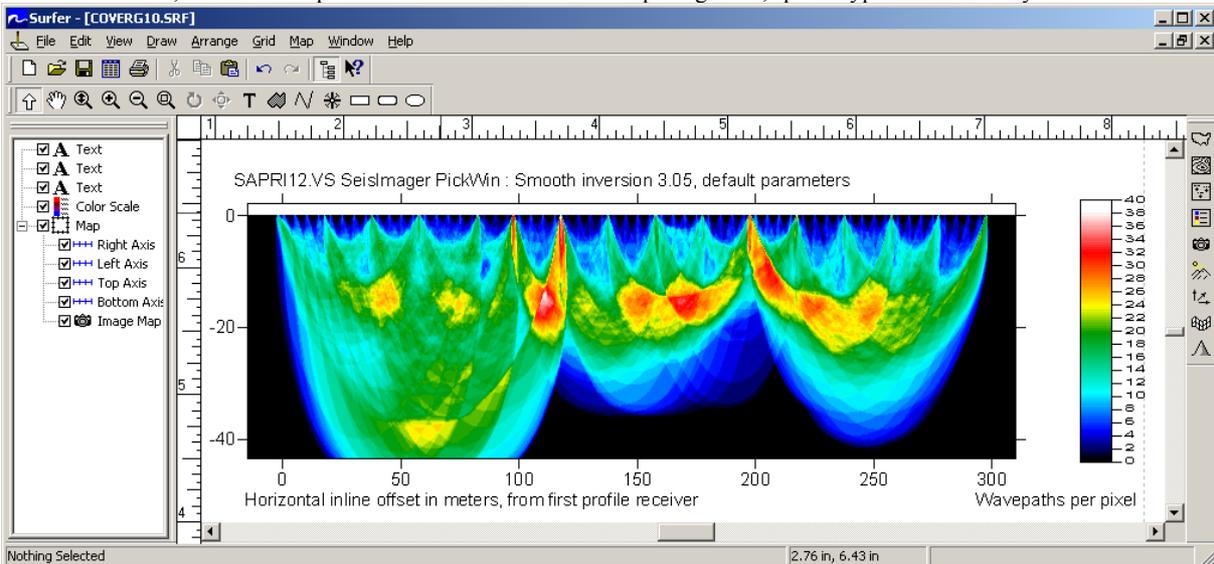
Smooth inversion Geofisica Misure s.n.c. SAPRI12.VS SeisImager™ PickWin file with Ravfract® 3.05, Jan 9th 2008 :



Picked times (grey) and modeled picks (blue). Original .VS file available at <http://rayfract.com/tutorials/sapri12.zip>.



Smooth inversion, default WET parameters. Station and receiver spacing 2.5m, spread type “32: 360 every 2nd”.



Coverage of subsurface with first break energy/wavepaths.

The U shaped depression in the elevated basement anticline (center) at horizontal offset 200 meters is probably an artifact caused by insufficient traveltimes and wavepath coverage (top, bottom). Receiver spreads should overlap by about 50%. See <http://rayfract.com/help/overlap.pdf>. We recommend adding elevations with Geometrics SeisImager™ PlotRefa program. Then regenerate the .VS file, and reimport into Rayfract® profile. The updated .VS file contains the original PickWin .VS file information, with appended offsets and elevations.

To process the data with our Smooth inversion method, please proceed as follows :

- Download the original first break data and geometry files from <http://rayfract.com/tutorials/sapri12.zip> .
- create a new profile database named SAPRI12, with a *Station spacing* of 5m. See our manual <http://rayfract.com/help/manual.pdf> chapter 1.1.
- copy SAPRI12.ZIP to \RAY32\SAPRI12\INPUT with Windows Explorer, and unzip it there.
- uncheck *File|Import Data Settings|Round shot station to nearest whole station number*, to round to half-station numbers e.g. 0.5, 1.0, 1.5 etc.
- import file SAPRI12.VS as shown in chapter 1.2, with *Import data type* “Geometrics PlotRefa .VS” and *Default spread type* „10: 360 channels“ . The import routine will detect the actual number of channels used for each shot.
- review first breaks, traveltimes curves and shot positions with *Refractor|Shot breaks*. See above manual chapter 1.3.
- select *Trace|Shot gather*.
- check *Display|Show dead traces* to display channels without first break picks.
- zoom time with F1, browse with F8 to shot no. 8 .
- check ***Smooth invert|Smooth inversion Settings|No shot position checking*** if shot positions don't exactly match traveltimes curve minima in *Refractor|Shot breaks* display to avoid error prompts. Use this option as a last resort only to avoid bad interpretations.
- alternatively pick station no. 30 for shot no. 8 with time of 13.4 msec. i.e. same time as station no. 27. Shot no. 8 is located at station no. 28.5. Move *pick cursor* up/down with *up/down arrow keys*, and pick with space bar. Note time displayed at bottom of window.
- invert the data with *Smooth invert|WET with 1D gradient initial model*. Proceed as lined out in chapter 1.4.
- if you don't pick station no. 30 for shot no. 8 as described above, you will obtain an **error message “Shot position of shot no. 8 is not at traveltimes curve minimum !”** , and *Smooth inversion* will be canceled.