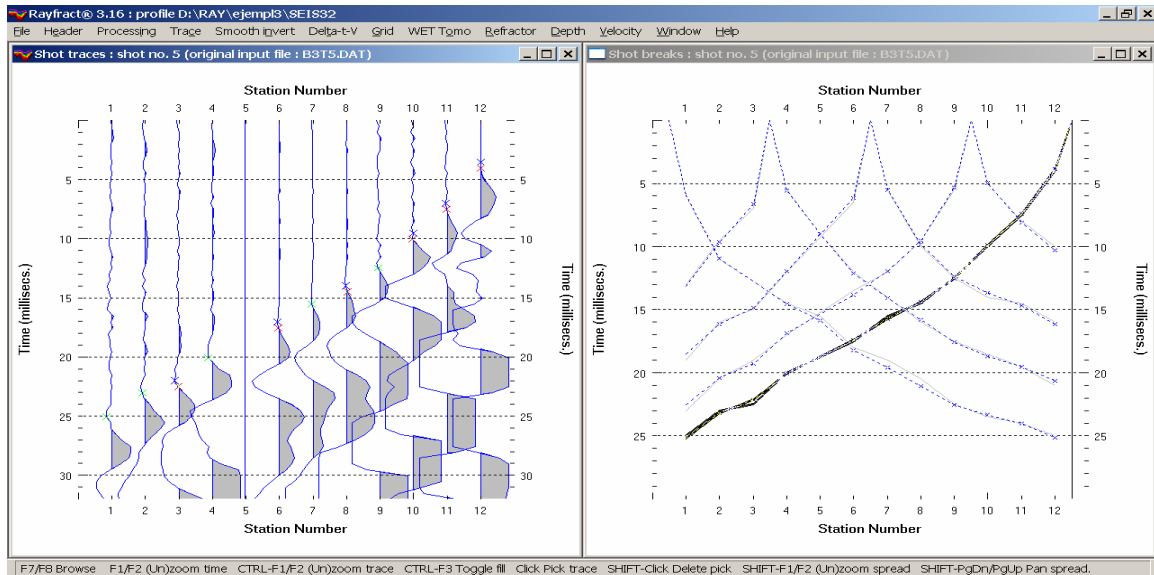
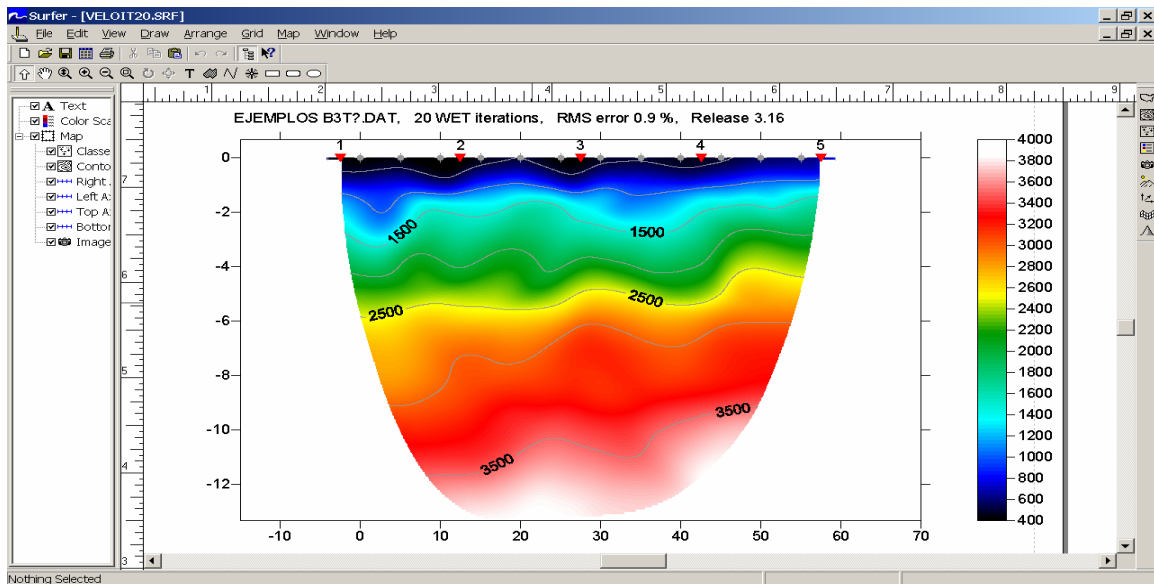


## **Interpreting 5 PASI SEG-2 shots into 12 channels, B3T1.DAT to B3T5.DAT with Rayfract® 3.16 :**

Download the SEG-2 .DAT files from <http://rayfract.com/tutorials/EJEMPL3.zip> . Create new profile EJEMPL3 as described in <http://rayfract.com/SAGEEP09.pdf> . Specify *Station spacing* of 5 m in *Header|Profile*. Copy the 5 PASI SEG-2 .DAT into directory \RAY32\EJEMPL3\INPUT, with Windows Explorer. Next, select *File|Import Data...* and specify *Import data type* SEG-2. Click *button Select* and select one of these 5 .DAT files in \RAY32\EJEMPL3\INPUT. Click on *button Import shots*. Specify *Shot pos.* 0.5, 3.5, 6.5, 9.5 and 12.5 for shots 1 to 5. Click on *button Read* to import each of these shots into the profile database. Skip slide “Update geometry and first breaks”. Pick first breaks in *Trace|Shot gather display*, as shown in above SAGEEP09.pdf and below :

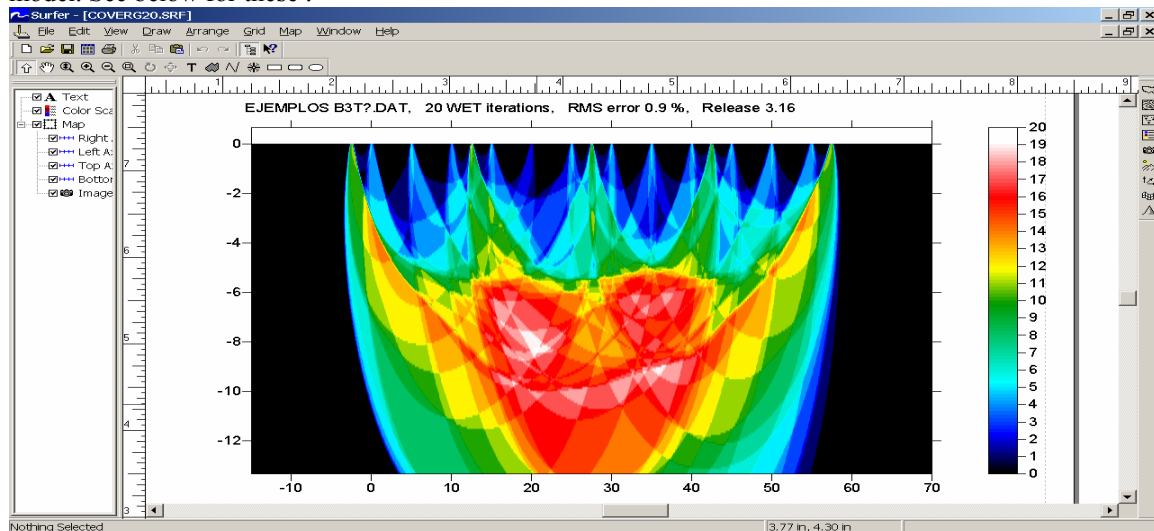


Now select *Smooth invert|WET with 1D gradient initial model* and confirm prompts to obtain below output:

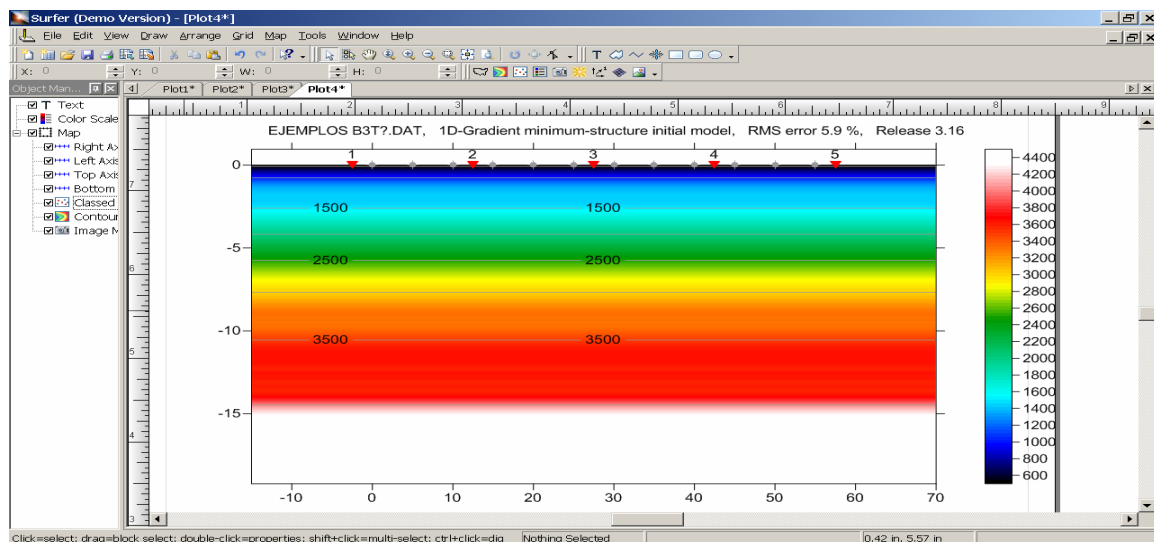


The down-dipping (towards left end of section) of the basement agrees with above travelttime curves, shown in *Refractor|Shot breaks display*. Click on Surfer icon at bottom of display and press CTRL+TAB

key combination, to cycle through WET tomogram, WET wavepath coverage plot and 1D gradient initial model. See below for these :



WET wavepath coverage plot. Coverage of subsurface with wavepaths, unit is paths per pixel.



1D gradient initial model. This assumes a minimum of initial subsurface structure and still gives a good match between synthetic and picked traveltimes.

We recommend **stacking multiple hammer blows at the same shot point with your seismograph hardware**. Such stacking will suppress ambient noise and make it easier to identify and pick first breaks. Since no stacking was employed when recording above shots, we were forced to pick first breaks up to half a cycle too late/too far down the trace, to pick traces consistently across all channels and shots.

We thank ANALYSIS Y GESTION DEL SUBSUELO, S.L., Madrid / Spain for making available this data set.

. Please note that we recommend deploying **at least 24 channels, for recording of shots and reliable interpretation with our software**. With just 12 channels as for above data set, Smooth inversion results may vary quite a lot depending on parameter settings.