

What is Synthetic?

Synthetic is Windows® based software that creates and displays synthetic seismograms from sonic logs through our *LESA* software. The program gives the user the ability to specify filters and phase rotation. You can use either AGC scaling or constant scaling.

Various filters are available for cleaning up your sonic logs, including free form editing and automatic despiking routines. Additional features include the ability to create synthetic logs deterministically from other logs. These include synthetic sonic from GR/density/neutron, and density from GR/sonic/neutron. These may be used to verify the validity of original sonic and density logs.

Synthetic allows you to import seismic traces from 2D or 3D SEG Y files and display them next to the generated synthetics. When creating a synthetic you will also be able to display other new items that have been created, including; time/depth curve from sonic integration, an interval velocity curve, an average velocity curve and the reflection coefficients. All of the curves can be displayed in time or depth.

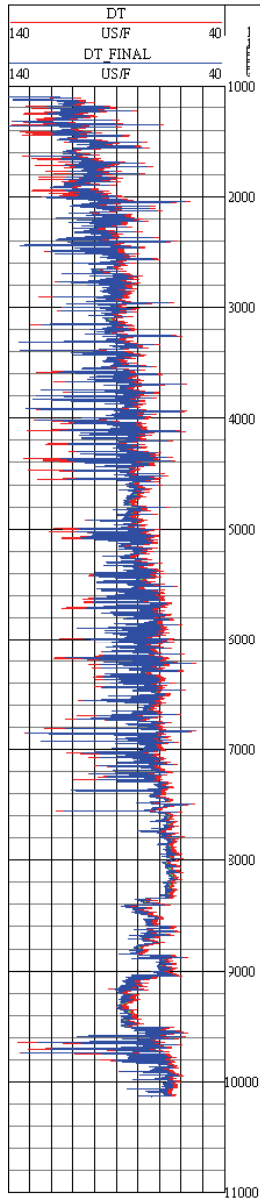
Synthetic also adds another dimension to *LESA*. By using *LESA* and *Synthetic* together you have a 1D seismic modeling system allowing the user to model the seismic response of petrophysical edits made to sonic and density logs. This editing feature will give you the ability to create a more accurate/reliable synthetic.

Users can now perform forward seismic modeling. Modify your logs to include any projected sonic log changes as a consequence of changing porosity, grain density and fluid saturations. You can then regenerate your synthetic to see the seismic response created by these modifications.

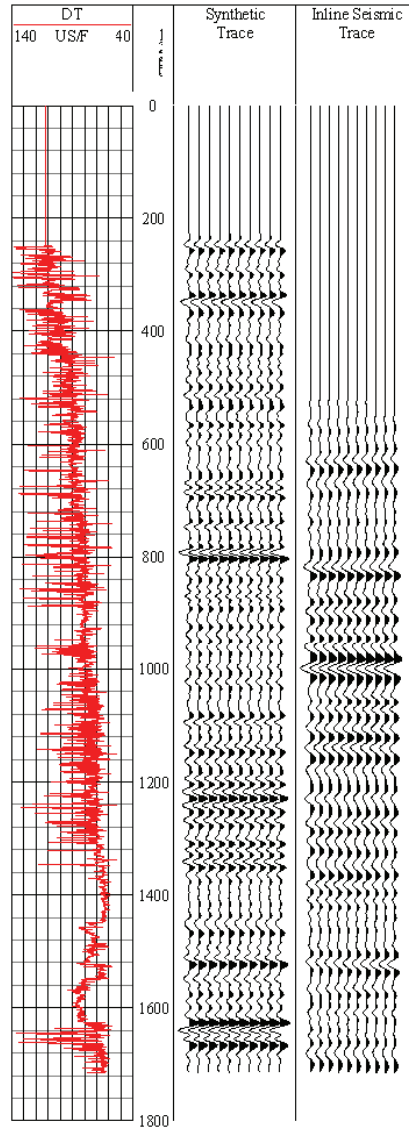
How to Order *Synthetic*

Synthetic is sold as an add-on to *LESA*. If you do not already own *LESA*, you will need to purchase it prior to being able to run *Synthetic*. Multiple copy discounts and network licenses are available – Please contact either Digital Formation your local reseller for details – Digital Formation may be reached at 888-747-5372 (US & Canada), or 303-770-4235.

Original and Edited
Sonic Curves

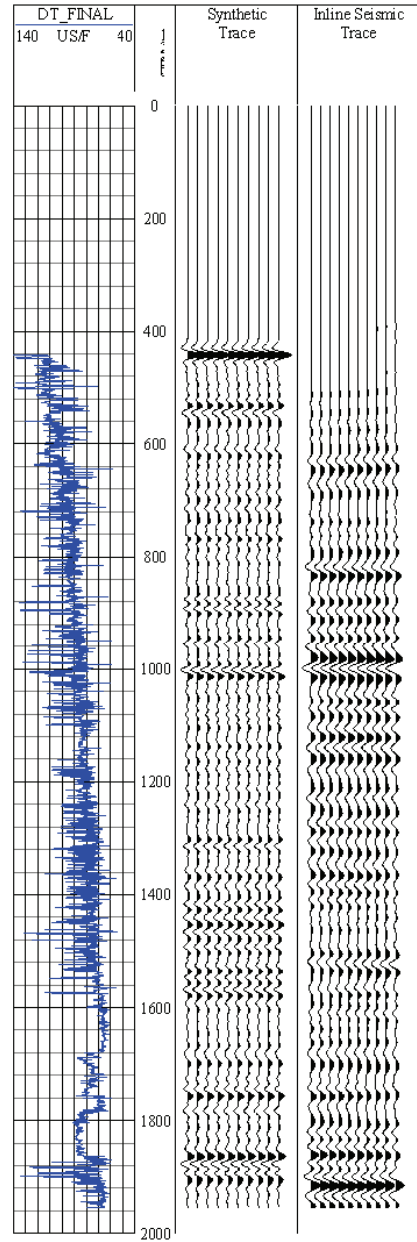


Synthetic Trace created with the
original sonic curve



The original sonic curve yields
a poor correlation with
inline seismic

Synthetic Trace created with the
edited sonic curve



A much better correlation is
obtained by editing the sonic log
prior to synthetic generation