

### Petrophysical Analysis

TERRASCIENCES provides one of the most advanced, yet easy to use, packages for the display and analysis of petrophysical data available today. You have the capability to perform anything from a simple quick-look analysis of a single well, to a detailed petrophysical field study of several thousand wells.

#### Data Preparation and Quality Control

Data can be loaded from industry standard data sources, including LIS, DLIS, LAS, ASCII, and OpenSpirit™ enabled data stores. A library of curve utilities and functions are at your disposal to QC your data. These include graphical displays to allow interactive curve splicing, curve editing, baseline shifting, normalizing and much more.

#### Borehole and Environmental Corrections

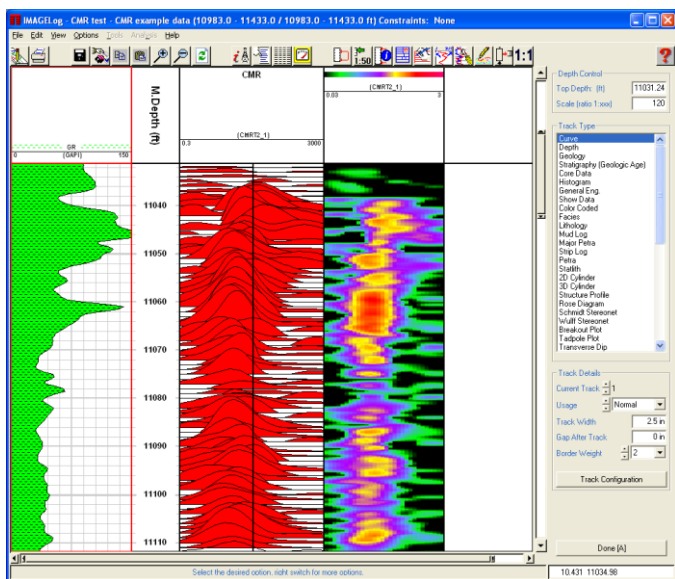
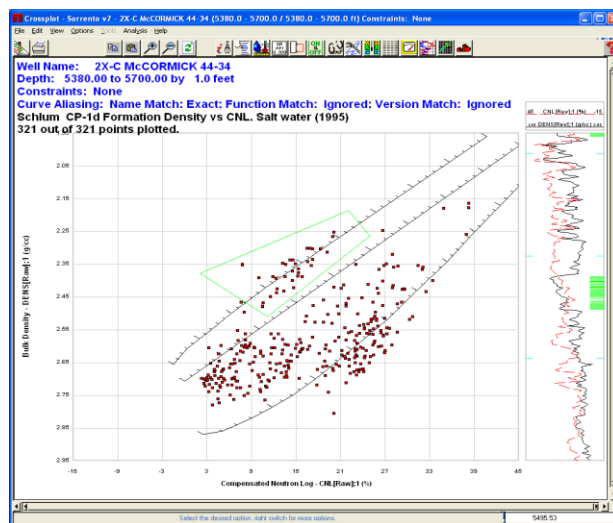
Corrections for the major logging companies are available. This includes Schlumberger, Atlas, Halliburton, Welex, Gearhart, Digital Logging, and Reeves/BPB.

#### Zonal Analysis

You may define zones over which petrophysical parameters vary. You can also define logging run parameters that change by depth. Intervals of analysis may be defined independently of either the petrophysical or logging parameter zones. More sophisticated users can tie these zone boundaries to surfaces in the map files of a TerraStation project to increase field wide analysis capabilities.

#### Multi well processing

A highly flexible command language is provided for performing multi well processing. Using our well collection capability, the command files can be run on any number of wells over any number of depth intervals. These well collections can be built, saved, and restored. In addition many of the display capabilities provide multi well display capability. Additionally, well collections can be used for crossplot, histogram, ternary, and bar graph displays.



#### Calculations

A full suite of deterministic analysis options is available. In addition there is a probabilistic package and a statistical analysis package. Users may also define their own equations, algorithms and simple programs to provide the ultimate in flexibility. See the product specification information on the other side of this flier for more information.

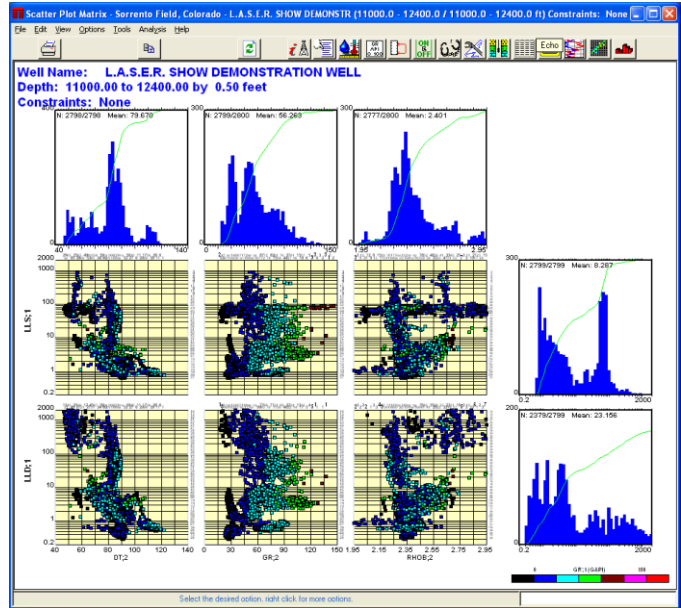
#### Support and Training

TERRASCIENCES provides immediate telephone and email support by trained earth science professionals. A regularly updated web site, electronic newsletter, and training courses are also available. All product upgrades are included in the maintenance and support fee.

# Product Specifications



- ☑ Data loading from all common formats including LIS, DLIS, LAS, LBS, and other ASCII files.
- ☑ Unlimited depth intervals, up to 10,000 wells per project.
- ☑ Borehole corrections – all major logging companies. Invasion corrections – tornado charts.
- ☑ Curve editing, shifting, base line shifting, splicing.
- ☑ Curve normalizing, curve filters, curve merging, curve rescaling, and many more.
- ☑ Histograms, bar graphs and ternary diagrams.
- ☑ Crossplots – General, Z-plot, LDT, SP-Rwa, Pickett, Hingle, Pressure-Depth, Thomas-Steiber, scatterplot matrix.
- ☑ Composite log design and display.
- ☑ Quick-look and detailed petrophysical analysis.
- ☑ Probabilistic petrophysical modeling.
- ☑ Statistical mineralogy modeling.
- ☑ Shaly sand and complex lithology petrophysical models.
- ☑ Petrophysical parameters are fully zoneable.
- ☑ Multi well – multi zone analysis capabilities.
- ☑ CMR and NMR processing and display of T2 data.
- ☑ Comprehensive suite of deterministic petrophysical options.
- ☑ Full netpay module, including multi-well, multi zone detailed reporting, sensitivity analysis, and probabilistic options.
- ☑ Vshale computations including:  
Linear, Tertiary, Older rocks, Clavier, Steiber, resistivity, neutron, neutron/density, and more.
- ☑ Porosity computations including:  
Linear, Porter, Hunt-Raymer, Wyllie Time Average, neutron/sonic, neutron/density, and more.
- ☑ Water saturation computations including:  
Archie, Laminar shale, Dispersed shale, Total shale, Simandoux, Dual water, Waxman-Smits, Juhasz, Nigerian, Indonesian, Hanai-Bruggeman, and more.
- ☑ Permeability algorithms including Linear, Timur, Tixier, Coates, and others.
- ☑ Leverett-J Sw and Free Water Level analysis.
- ☑ Pulsed neutron and EPT computations.
- ☑ Rw from SP, Rw from salinity, Rwa, wet resistivity, Hodges-Lehmann indicators.
- ☑ Powerful statistical analysis options including Fourier analysis, multiple linear regression, cluster analysis, transition probability.
- ☑ User definable equations and algorithms. No extra software such as compilers, DLLs, etc. are required.
- ☑ Full suite of directional survey computations to generate TVD, TVT, and TST.
- ☑ Load and display engineering and completion data – RFT, sidewall cores, perforations, and much more.
- ☑ Load, display and utilize core analysis results at true depth locations.
- ☑ Temperature gradient analysis including Horner plots.



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