

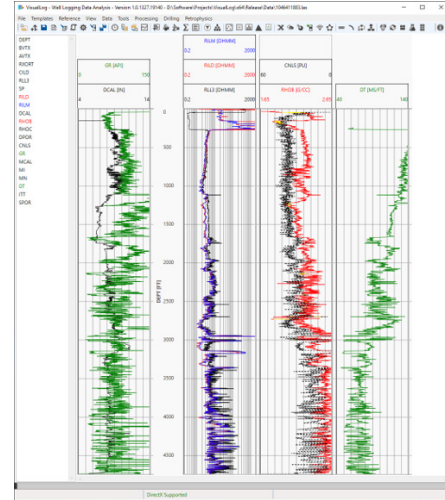
# VISUAL LOG

## PETROPHYSICAL AND IMAGELOG ANALYSIS

Visual Log is capable of managing the entire workload of data editing, analysis, management and presentation options in a single package. As a Windows-based application, Visual Log comes complete with all the data inputs and file formats to meet your needs. The application includes a Base program and 4 additional Modules.

The Base:

- Read LAS, CSV, DLIS, LIS files
- Save LAS, DLIS, CSV files
- Data merge
- Data slicing
- Depth- and time-based log plots
- WITS Level 0
- WITS-ML
- TVD calculation
- Depth unit conversion (MD to TVD and vice versa)
- Time-depth conversion for several customer binary data formats
- Metric and imperial depth scales for display and plotting
- Data manipulation



Basic Display

Azimuthal Fill	Data Edit
Math Functions	Visual Edit
Curve Statistics	Up and Down-sampling
Azimuthal Up-Sampling	Fill Gap (Hold Up, Hold Down, Interpolate)
Depth Shift (Constant, Linear, Cubic Spline)	Array Statistics
Filter (Nearest, Exponential, Gaussian, Median, Triangle, Boxcar, Smooth, Adaptive)	

- Common mode filters (Median, Mean, Kalman)
- Linear regression
- Segmented Linear Regression
- Cross plots
- Polar plots
- Ternary plots
- Column plot
- Scripting
- Log headers
- Visual tool diagram with sensor distances
- Printing

**AVAILABLE MODULES**

**1. Data Processing:**

- Gamma ray Corrections
- Density corrections
- Neutron corrections
- Resistivity corrections
- Spectral gamma ray processing and corrections
- Elemental processing (windows and spectral decomposition)
- Sonic porosity
- Density porosity
- Pseudo density (from neutron porosity and sonic/ultrasonic data)
- Mechanical properties from sonic data
- Borehole caliper from ultrasonic and density data
- TOC calculations from density, gamma ray, and uranium data
- Zone identification using parameter optimization
- Frequency analysis (sonic, vibration, rpm, etc.)
- Pulsed neutron processing
- Cement bond evaluation from sonic data
- Dogleg severity calculations
- Stick/slip calculations
- Custom corrections
- Calculators: water resistivity, mud slowness, material density

**2. Borehole Imaging:**

- Borehole image display (VDL and wiggle plotting)
- Image array editing (filter, fill-gap, up-sampling)
- Image rotation
- Dynamic normalization
- Dip picking and classification (reference to MTF, corrected MTF, HSTF)

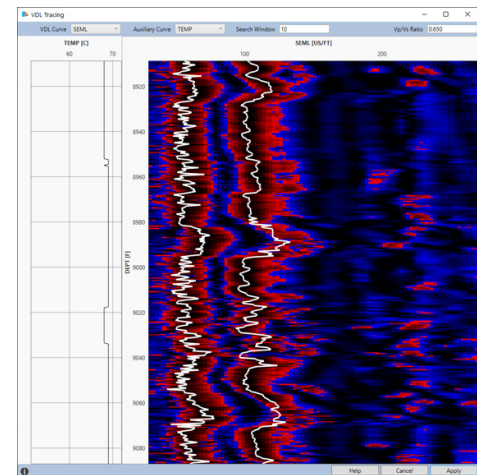
**3. Sonic and Ultrasonic Processing:**

Sonic Processing:

- Waveform editing (stacking, filter, fill-gap, up-sampling)
- Semblance processing
- VDL tracing
- STC, slowness-time-coherence plots
- SFC, slowness-frequency-coherence plots
- SEC, slowness-energy-coherence plots
- 2-D forward model



Curve Attributes



Sonic VDL Tracing

## AVAILABLE MODULES

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- Ultrasonic Processing:
  - Waveform editing (stacking, filter, fill-gap, up-sampling)
  - Ultrasonic waveform processing
  - Ultrasonic standoff/caliper from travel time
  - Ultrasonic eccentricity correction
  - 2-D forward model
- 4. Resistivity Modeling:**
- 0-D anisotropy modeling
  - 1-D layered bed forward modeling
  - 2-D forward modeling
  - 1-D inversion