Petrophysical Log Analysis Software
Powerful, multi-well, petrophysical analysis and mapping

LMKR GeoGraphix® PRIZM™ log analysis software is the ideal tool for performing full reservoir characterization on well datasets of all sizes and complexity, from basic individual wells to multi-well, multi-zone projects.

PRIZM contains highly customizable and interactive tools for editing data, normalizing curves, digitizing log curves, and creating flexible track displays. Its user-defined equations, comprised of more than 250 predefined standard log analysis equations, allow for quick, interactive log calculations.

PRIZM seamlessly interacts with the LMKR GeoGraphix mapping, cross-section, and zone analysis suite, as well as with other geological applications.

Benefits

Intuitive Language
PRIZM uses a simple and intuitive scripting language. With little effort, users create sophisticated, petrophysical models. These models can then be applied to individual wells for detailed analysis, or to thousands of wells to generate reservoir-to-regional scale formation characterizations. Utilizing log template displays and petrophysical interpretations, users then multi-dimensionally view the petrophysical models created in PRIZM, from single-well log templates to multi-well cross sections to 3D fence diagrams.

Scalable Functionality
PRIZM comprises over 250 predefined standard log analysis equations as well as several, predefined water saturation, lithology, and coal bed methane (CBM) models. The equations are grouped into easy-to-understand families of calculations that can be copied and edited into a script to solve most formation analysis challenges. For the more sophisticated user, PRIZM can be linked to external models created in Visual Basic, C, or C++ code; external models offer unlimited, analytical complexity as well as integration with PRIZM’s presentation, attribute extraction, and mapping utilities.

Seamless Petrophysical Analysis, Attribute Extraction, and Mapping
Users can extract attributes generated in the petrophysical models within formation zones of interest and/or filtered well-sets for direct map layer creation, statistical analysis, or export. PRIZM easily links to ZoneManager, GeoGraphix attribute analysis application, to support well-by-well/zone-by-zone parameters for petrophysical models or read/write parameters for Pickett Plot analysis.
Features

Multi-Well Interpretation
- Perform one-step, reservoir pay summations for common reservoir attributes such as gross, net, net/gross, porosity feet, and hydrocarbon-filled porosity with corrections for true, vertical, and stratigraphic thickness
- Generate virtually any statistic from curve-derived attributes over a zone or depth interval of interest with Curve Data Statistics
- Easily confirm results using data-distribution histograms, statistics, and cross plots
- Map directly in GeoGraphix, or save results to ZoneManager attributes
- Create proposed completion stages and perforation cluster intervals in PRIZM, then save as proposed completion records in the WellBase Completion table; the records seamlessly integrate with cross section data posting symbology

Petrophysical Interpretation
- Easily perform quick and interactive log calculations for standard interpretations and reconnaissance with user-defined equations
- Utilize pre-written interpretations for 3 and 4 mineral determinations and Archie, Dual-Water, Indonesian, and Modified Simandoux saturation models
- Link complex, external models written in C, C++ or Visual Basic to PRIZM
- Build and save personal equations with user-defined equations comprised of over 250 pre-defined standard log analysis equations
- Calculate Poisson’s Ratio, Young’s Modulus, and Brittleness using mechanical properties/UE Group
- Utilize standard Halliburton, Schlumberger, and Baker Atlas “chartbooks” for environmental corrections or digitize additional charts from scanned or down-loaded chart images

Curve Data Management
- Import standard LAS, LBS, ASCII, DLIS, and LIS/TIF data files
- Automatically merge and splice curves using the curve import tool with manual option to merge, splice, and specify splice depths
- Benefit from project-based mnemonic inventory, mnemonic
Manually or bulk normalize curves using the graphical curve normalization utility which includes single- and two-point normalization methods and cross plotting.

Utilize single or multi-well curve copy, renaming, deletion, rescaling, min/max clipping and filter soothing tools.

Digitize curves from depth-registered, raster images directly into the database.

View standard, core curve analysis attributes plus 15 new, user-defined core curves.

Combine multiple curve mnemonics for similar curve types in hierarchical order and based on a pre-determined preference.

Log Analysis and Display
- Control presentation templates to display curve and depth-registered images with virtually unlimited tracks, curves, colors, and pattern fills.
- Display ten different track types for linear, logarithmic, mineral percent, depth registered images, text, core description, lithology pattern fills, and descriptions.
- Easily add, position, and size tracks and cut, copy, and paste curves between tracks using the on-screen presentation editing feature.
- Automatically post DST, core, perforation, mechanicals, IP, casing, tubing, and zone information.
- Interactively pick and display formation and fault markers and user-defined attribute intervals.
- Experience on-screen editing of curves, interactive, simple or complex depth shifting, SP baseline shifting, and curve patch tools.

Cross Plot Analysis and Display
- Display data relationships over total well depths, user-specified depth range, or one or more zone(s).
- Create three-axis display with linear or logarithmic scale, user-controlled symbols, size and color, Z-axis color spectrum, and X and Y axis histograms.

Multi-Well Cross Plots
- Benefit from multi-level discrimination with user-drawn polygon capabilities.
- Fit curves using linear regression, reduced to major axis, and polynomial regression capabilities.

Interactively determine the Pickett plot of Formation Water Resistivity (Rw), Bound Water Resistivity (Rwb) and Cementation Exponent (m).
Customizable Reports

- Create user-defined well reports such as net pay, average porosity, water saturation, total porosity feet, or hydrocarbon-filled porosity
- Define curve choices, sample rates, depth interval, or zone selection using the provided tabular list
- Export to tab or comma delimited text files, or copy results to the Microsoft® Windows® clipboard

Requirements

**Hardware (MINIMUM)**
- 2.4GHz 64-bit Intel class or better
- 4GB RAM
- 1,024 x 768 graphics resolution
- CD-ROM drive
- 19-inch monitor

**Hardware (RECOMMENDED)**
- Quad 2.4 GHz 64-bit Intel class or better
- 16 GB RAM or greater
- NVIDIA GeForce or Quadro - 2GB video RAM
- DVD-RW drive
- Dual 21+ inch monitors

**Software**
- Microsoft® .NET 4.5
- Microsoft® DirectX 11

**Operating System(s)**
- Windows® 7 Professional x64
- Windows® 7 Enterprise x64
- Windows® 7 Ultimate x64