

# Permedia™ Pore Pressure Software

## Petroleum Systems Software

### KEY FEATURES

*Integrate pressure data in a single screen*

*Calculate pore pressure from wireline*

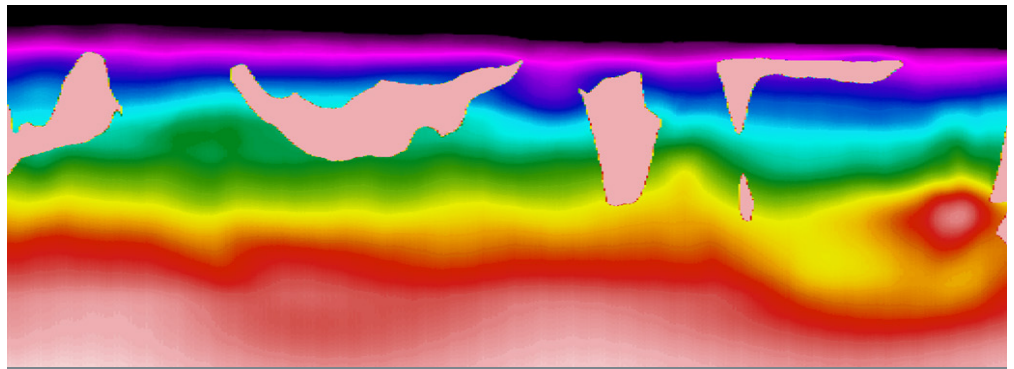
*Extend calculations using scripts*

*Co-render and analyze data from multiple packages and across all length scales*

*Works with your existing data and applications*

### OVERVIEW

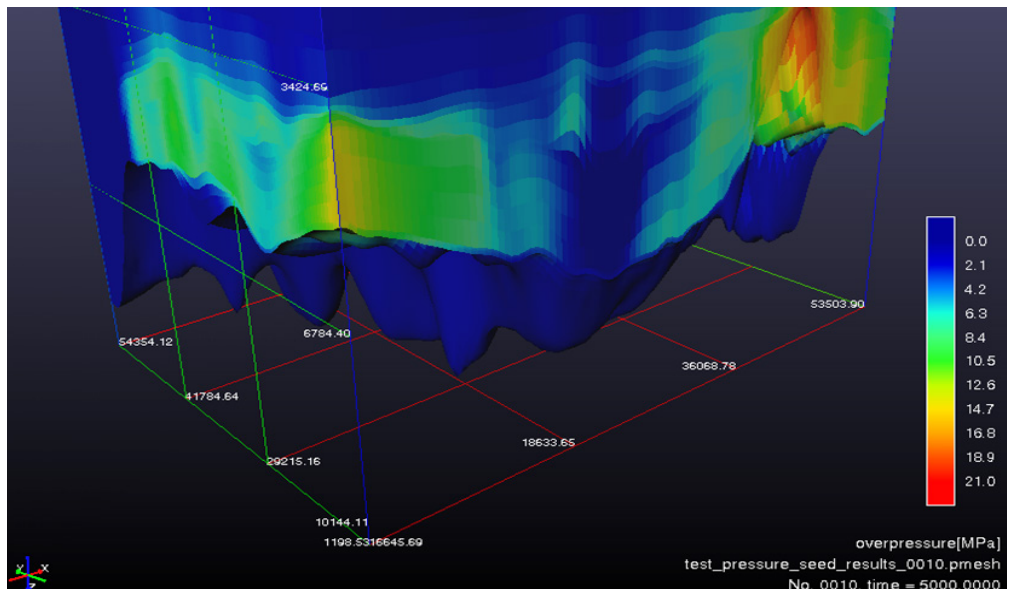
Understanding basin scale paleo-pressure evolution and current formation pore pressure can bring significant advantages to prospect evaluation and pre-drill analysis. Permedia™ Pore Pressure software provides a flexible set of tools for conducting pore pressure studies, which can aid in understanding basin scale paleo-pressure evolution. The software models the influences of pressures on trap integrity and sealing capacity, reservoir quality and maturation, and migration efficiency in the petroleum system.



*Calculate pore pressure from 3D seismic velocity data*

### BENEFITS

Permedia Pore Pressure software provides an integrated solution that helps exploration and production companies to rank basins, better assess exploration risks, predict reservoir potential, and improve well planning and drilling operations.



*Evaluate high-resolution flow and connectivity with Pressure and Tracers*

## FEATURES

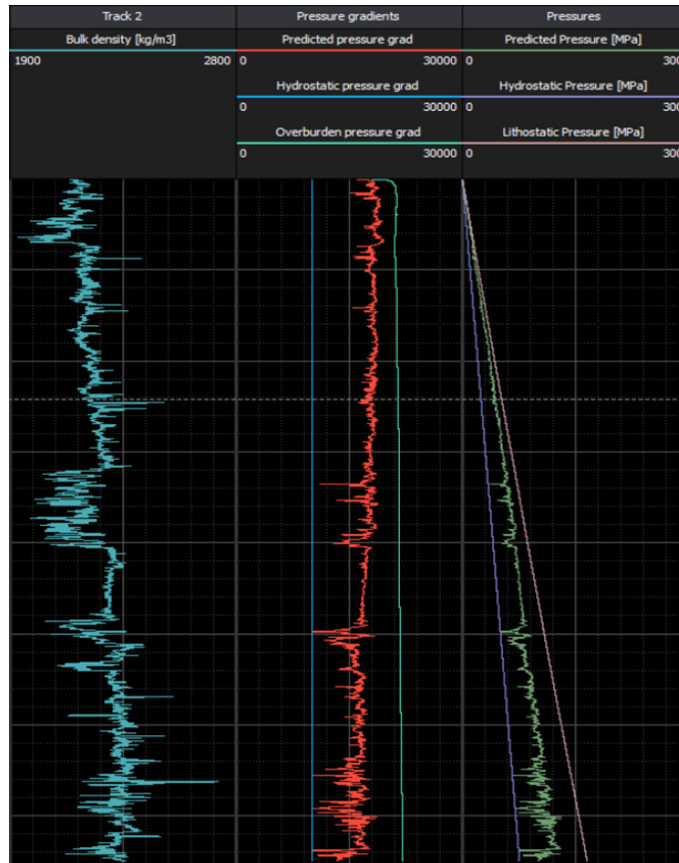
Permedia Pore Pressure software includes a suite of tools to enhance understanding of risk from pressure, including Well Viewer for 1D pressure calculations (1D forward model temperature and pressure from wireline), Pressure and Tracers for pressure seeding studies, and Pore Pressure Integration for deriving pore pressure from 3D data.

### *Integrate pressure data from any source*

Using Pore Pressure Integration, calculate pore pressure from 3D seismic velocity data, integrate pore pressure data from multiple sources, or perform both operations in the same volume concurrently – all in a single screen. Pressure modelers can implement their own calculators using equations or scripts. Calculation results can be viewed interactively in the 2D or 3D viewers, and Pore Pressure Integration supports multiple cores or CPUs.

### *Evaluate connectivity*

Use Pressure and Tracers to generate a pressure and velocity field from any volume (structured or unstructured mesh) with sources and sinks (typically injector and production wells). Dope fluids with any number of numerical tracers to track the movement of the fluids. Typical applications include evaluating dynamic connectivity of geostatistically-generated reservoir models, identifying pressure compartmentalization, pre-screening reservoir models prior to full production simulation and for many ground-water flow applications.



*Calculate pore pressure from wireline data*

### ***Calculate pore pressure from wireline***

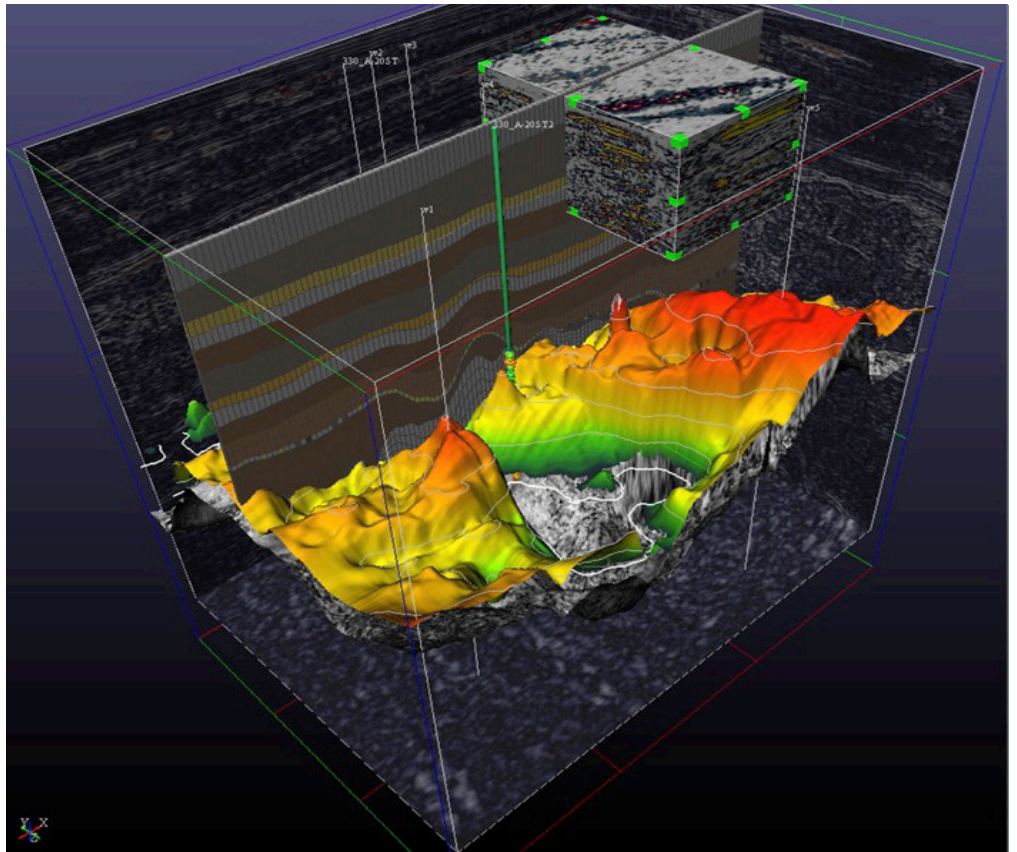
Well Viewer enables integration of many types of basin and reservoir data in a framework for conducting well-based calculations. Well Viewer can take any well data as a starting point, augment it with data derived from curves, tables, volumes, and meshes, then use the combined dataset as input to pressure calculators in user-defined scripts. Scripts can be created to output pressure predictions using any number of techniques, such as simple Eaton Ratio methods to more sophisticated effective-stress-based techniques. These pressure predictions can then be compared against pressures predicted by pressure seeding or seismic velocity-based workflows.

### ***Visualize very large volumes***

The software includes Large Data Model (LDM) volume rendering extensions for interactive visualization of very large volume data sets, even on low-end hardware. LDM works by storing volumes in a hierarchical “bricked” format, which allows data to be loaded as required by the scene, rather than loading the entire volume into memory. LDM volumes can be created from any volume format, including SEGY, VoxelGeo®, GOCAD®, EarthVision®, SEP, JavaSEIS formats, and more.

### **SEE YOUR DATA IN CONTEXT**

Permedia Pore Pressure software includes a complete set of analysis and visualization tools, including a full OpenGL-accelerated 3D visualization environment, a suite of mapping analysis tools, as well as powerful reporting tools for querying and analyzing data. Co-render and analyze data from multiple packages to get a whole new perspective on the complex plumbing of petroleum systems.



*Co-render dozens of file types in 3D Viewer*

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## DATA SUPPORT

Use Permedia software seamlessly with your existing tools. Now compatible with Landmark's OpenWorks® database, the software reads files created by virtually every major package, including Temis, PetroMod, Eclipse, Irap™, and GOCAD applications, as well as industry-standard seismic, map, and well files:

- Add faults using data derived from Badley's TrapTester, or GOCAD surfaces
- Geostatistical data - reads GSLib volumes
- Seismic surveys - supports SEGY data from a variety of sources, and reads VoxelGeo volumes
- Cultural data - co-render cultural data from Landmark's Z-Map Plus™, GOCAD, Irap, and Temis applications
- Well data - reads all industry-standard well formats (Irap ASCII well file, GOCAD wells, LAS well file), supports well markers and zones, and writes to GOCAD well format
- Mapping - reads all industry-standard mapping formats (Beicip, Z-MAP 2D Regular Grids, Generic 2D Regular Grid, Irap Grids, Grass 2D Raster Map, CPS-3 2D Regular Grid), and writes to Z-Map Plus, Beicip and Irap formats
- Native GOCAD support - provides native support for most standard GOCAD objects

## System and Software

### OPERATING SYSTEMS

*Red Hat® Enterprise Linux® 4/5, 64 bit*

*Windows® XP/Vista/7, 64 bit*

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“You have accomplished in 15 minutes what takes us four days to do.”

FEEDBACK FROM TECHNICAL EVALUATION, MAJOR NOC

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