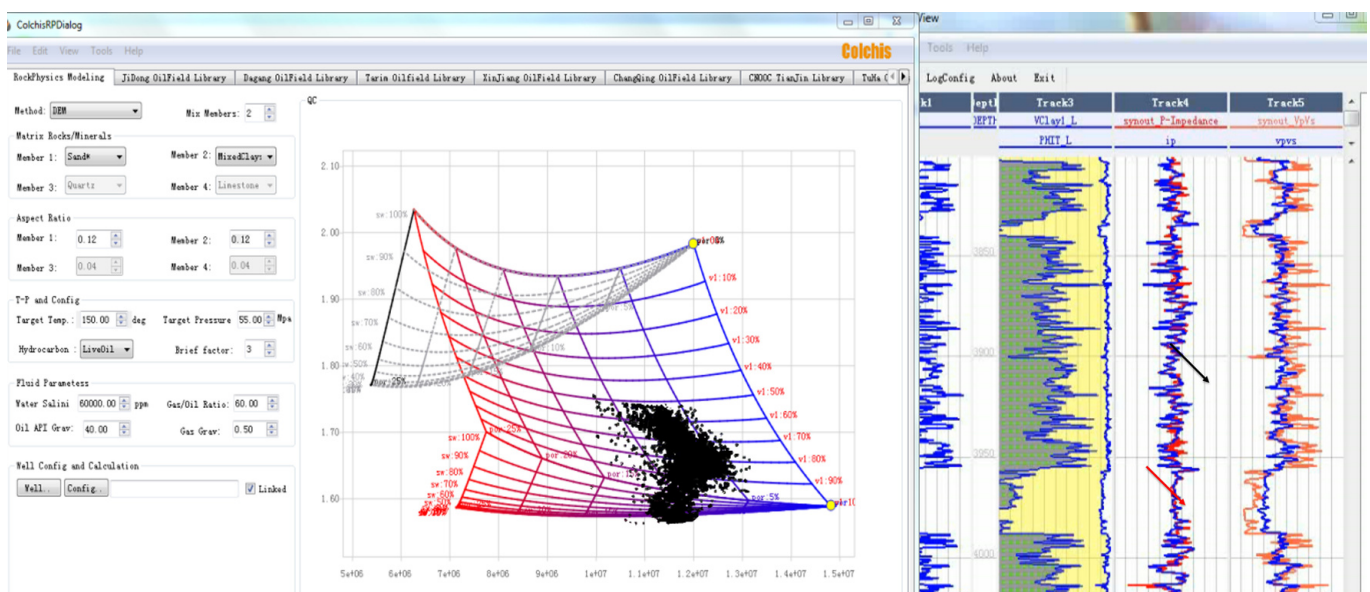


ColchisRP

Rock Physics Forward Modeling Software

Restore the true response of the formation, delve into the fundamental laws of rock physics, and select sensitive elastic factors optimally.



Rock physics modeling

Rock physics modeling is the process of reconstructing the logging geological response characteristics of rocks based on reservoir types, pore structures, fluid types, temperature, pressure, viscosity, and other features. The purpose is to establish the relationship between seismic reflection characteristics (elastic parameters) and geological parameters (rock type, physical properties, fluid) in order to restore the true elastic response of the formation, analyze sensitive prediction factors, and lay the foundation for seismic reservoir prediction and other applications.

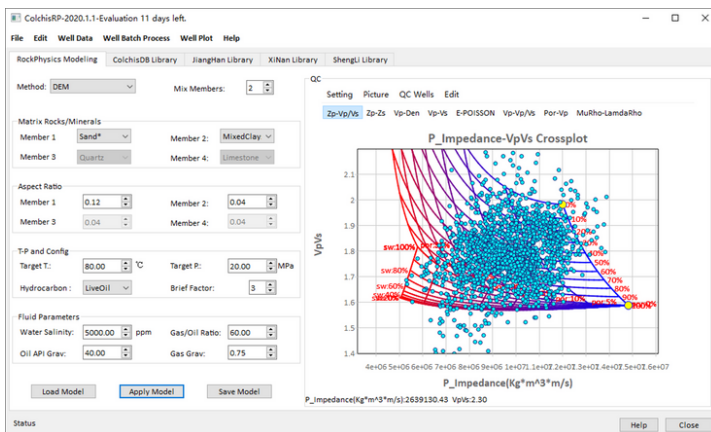
Pain points of the industry

- Generally, only two major minerals can be processed and synthesized.
- Only one type of pore that develops in pure minerals (sandstone or limestone) can be applied, and the microstructure of the pore is single (single alpha)
- Cannot consider anisotropy and fractures.
- Requires high skills from operators, complex operation, poor interactivity, and poor maintainability.
- The rock physics modeling method and results have not formed a knowledge base, making it difficult to quantitatively compare different regions and strata and challenging to maintain and apply in the later stages.

How can ColchisRP help ?

INTERACTIVE ROCK PHYSICS FORWARD MODELING

- Supports Xu-White, Differential Effective Medium (DEM), Self-Consistent, Hudson and Xu-Payne models.
- Rock physics forward modeling methods, mineral matrix, porosity, clay content, aspect ratio, fluid parameters, temperature, and pressure can all be interactively modified.
- It has multiple interactive functions, real-time monitoring of forward modeling match degree with well logs and crossplots, and supports batch processing of multiple wells.
- It supports various complex mineral rock physics modeling and is suitable for fast modeling of conventional reservoir layering systems. It provides distinctive solutions for carbonate rocks and unconventional formations.

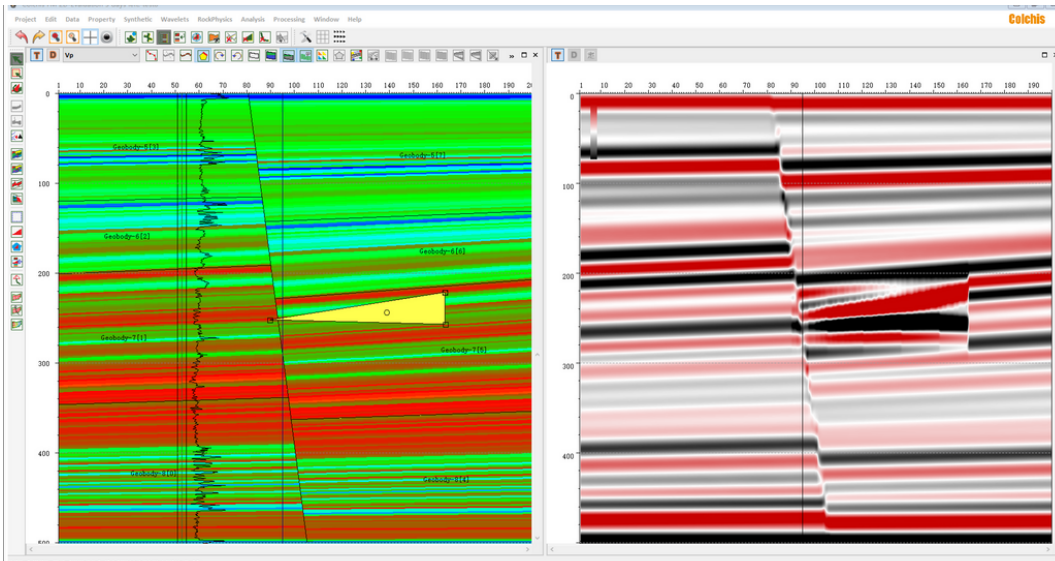


- Establishment and management of rock physics template libraries:

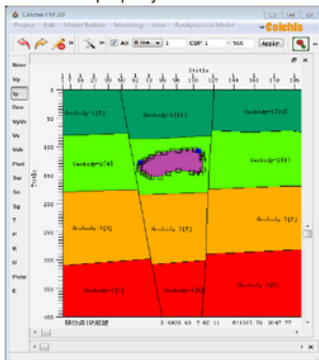
1. Allows loading and management of previous rock physics research results.

2. Typical rock physics libraries for major basins/oilfields nationwide have been completed.

PRECISE CALCULATION AND ASSIGNMENT OF RESERVOIR GEOPHYSICS PARAMETERS



- Assign values by formation, body, or similar property.



- Assign elastic properties

- Rigorous and scientific reservoir parameter grid assignment, utilizing strict stratigraphic principles for interpolation/extrapolation of various properties.

- Incorporates calibration using results from various rock and fluid standard measurement experiments conducted in leading international laboratories.

- Allows assignment of single-category properties such as $V_p/I_p/I_s$ or real-time assignment based on given rock type, porosity, and saturation utilizing rock physics.

- Assign values by mineral volume model

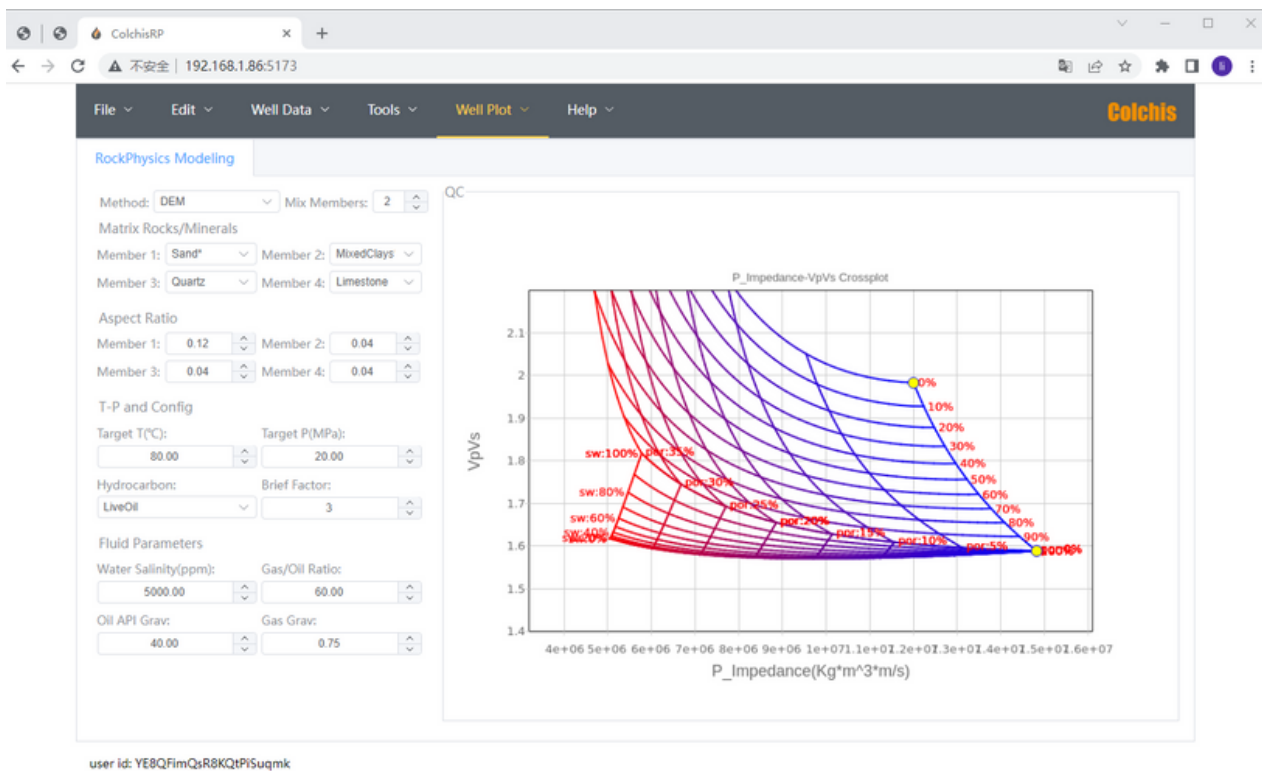
- Assign elastic modulus

- Enables property assignment based on formation and geological body attributes, while also providing flexible attribute calculators.

- Supports the setting of time-varying and spatially varying parameters for any volume, such as compaction laws, geothermal gradients, and pressure gradients.

What's more ?

ColchisRP Cloud



We now have a cloud system
launched for ColchisRP

Users can quickly load and process data, as well as display data interactively. The system utilizes various encryption and isolation technologies to ensure the security of data. It is easy to deploy, maintain, and expand, as well as integrate with the private clouds of other enterprises.