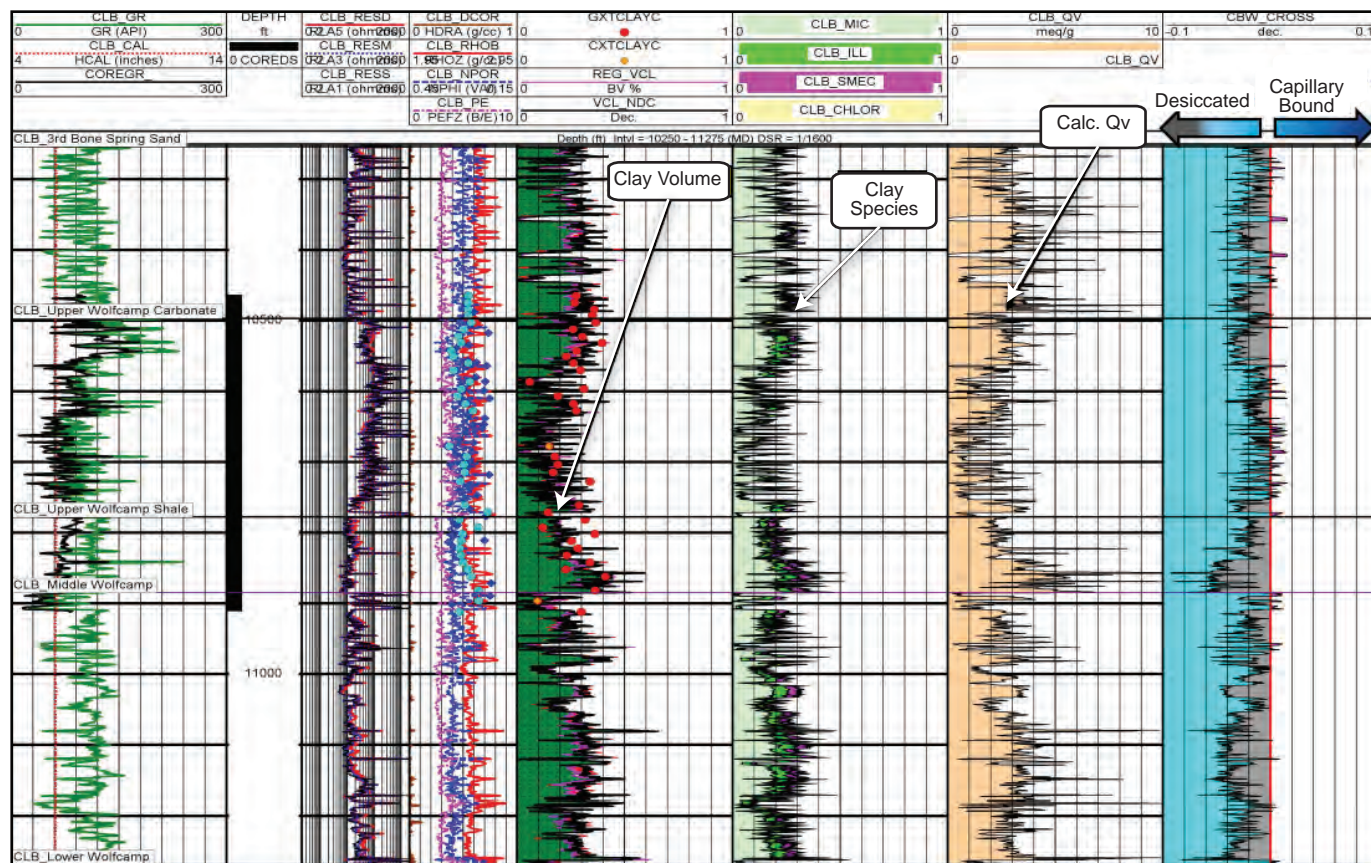
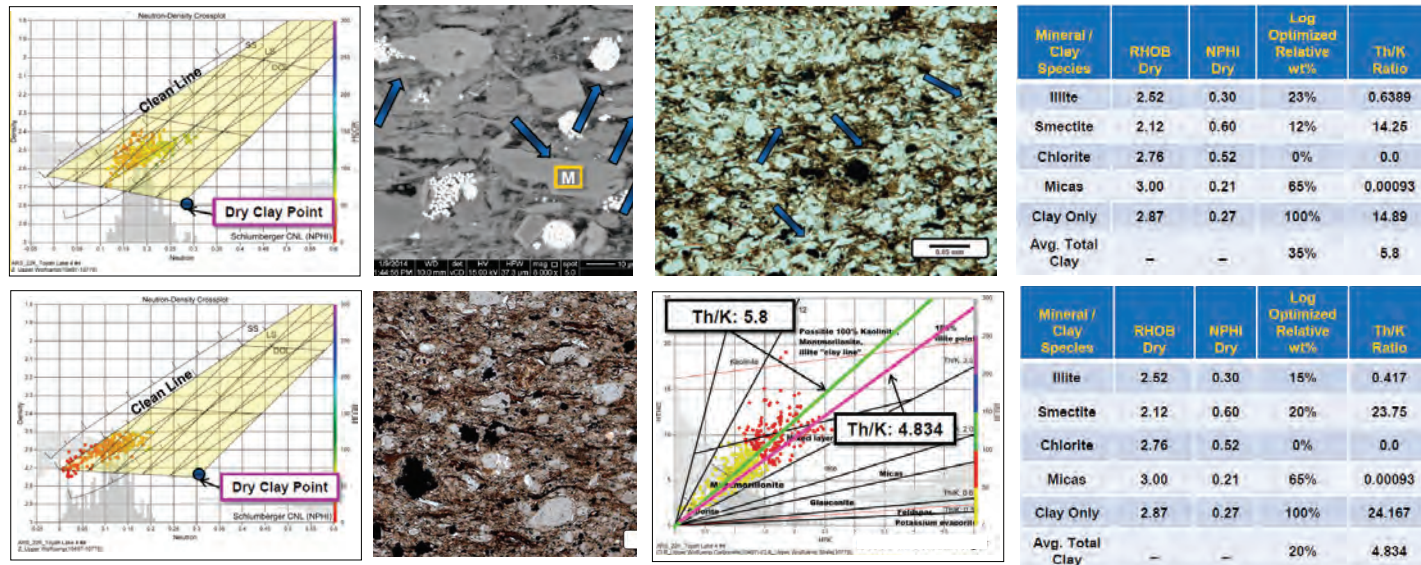


Log Based Clay-Bound Water Evaluation

- Calculate and Create Total Clay Model
- Separate and Evaluate Clay Species Through XRD & SEM Imaging
- Calculate CEC Based on Clay Species Determination
- Calculate Qv (Cation Exchange Capacity) Based on CEC, Modeled Corrected Grain Density, & Modeled Porosity
- Clay-Bound Water Calculation Based on Qv Value
- Compare Clay-Bound Water to Sw Model to Determine if Zone is Hydrated or Desiccated



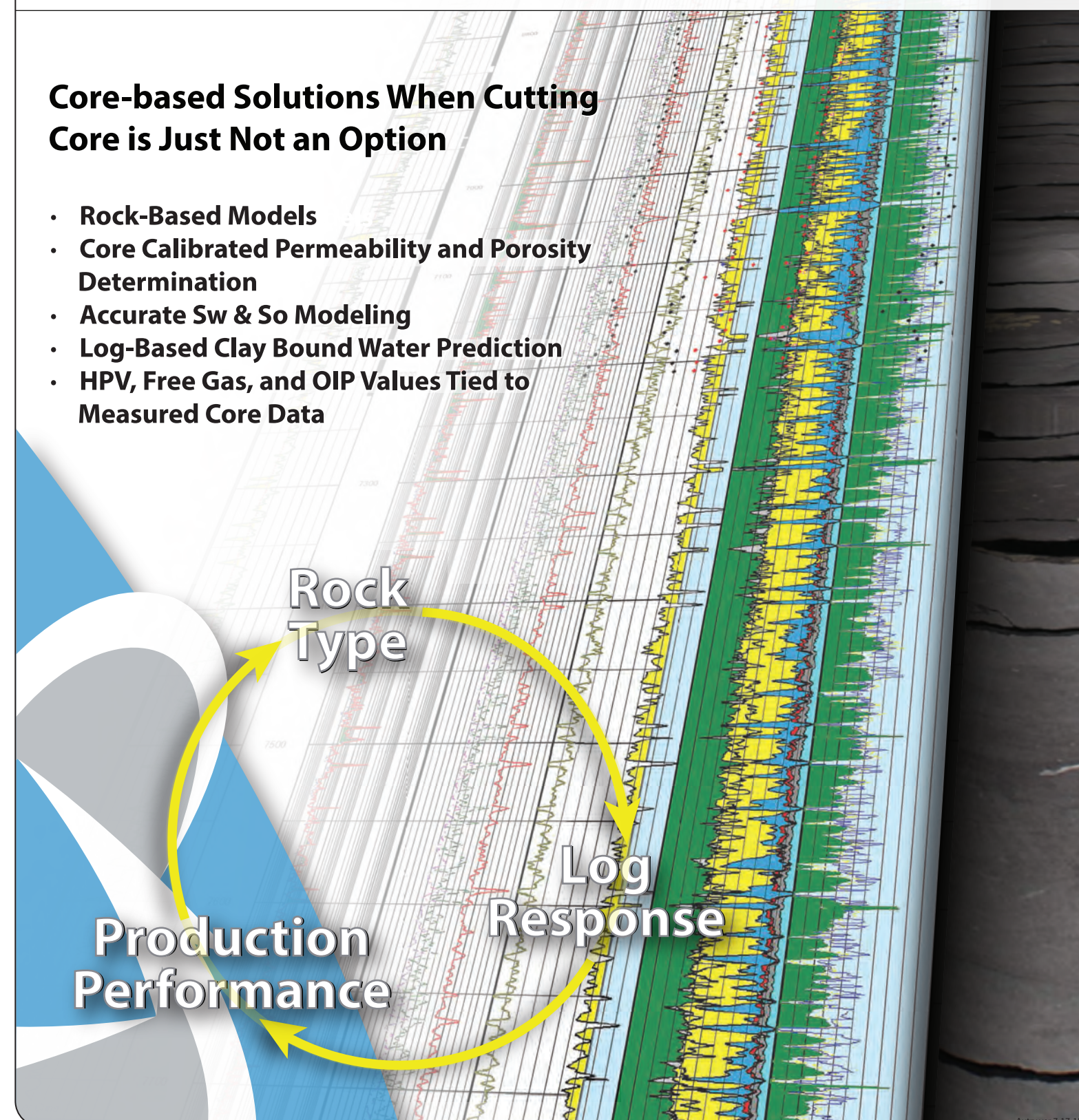
Integrated Reservoir Solutions

Your Company's Answer for Core-Based Petrophysical Regional Modeling



Core-based Solutions When Cutting Core is Just Not an Option

- Rock-Based Models
- Core Calibrated Permeability and Porosity Determination
- Accurate Sw & So Modeling
- Log-Based Clay Bound Water Prediction
- HPV, Free Gas, and OIP Values Tied to Measured Core Data



WHY CORE LAB?

- ▲ Our regional models are just that – *region specific*. We don't use generic algorithms or revolving computations.
- ▲ Models are based 100% on *Measured Core Analysis* – No black box.
- ▲ Our petrophysicists use every available piece of information to provide the highest quality answer and take your modeling far beyond a revolving algorithm solution.
- ▲ An experienced petrophysicist reviews each evaluation, so you're confident that no pay is missed. Hole condition problems and faulty log responses are uncovered and addressed.
- ▲ You benefit from direct contact with Core Lab petrophysicists and modeling techniques you can see.

Where is Your Petrophysical Evaluation Anchored?

The Rocks Are Our "Black Box"

Formation Specific Unconventional Reservoir Models:

- Midland Basin
- Delaware Basin
- Eagle Ford Shale
- Marcellus Shale
- Utica-Pt. Pleasant Shale
- Haynesville Shale
- Niobrara
- Williston Basin
- Cotton Valley
- Granite Wash
- Woodford Shale
- Barnett Shale
- New Albany
- Upper Devonian
- Travis Peak
- Montney Shale
- Duvernay Shale
- Wilrich Member



Core Lab is Your Expert in Unconventional Reservoirs

Modeling Tailored to Your Specific Needs

Whether You Have a Single Well or 1000 wells, Core Lab is Prepared to Provide You With the Highest Quality Petrophysical Interpretation.

- Full Scale Reservoir Modeling – Save time and money by applying the core data we already have to your exploration wells.
- Take basic regional modeling a step further by utilizing additional data such as drilling reports, mud logs, GC reports, bit reports, specialty logs, and more to refine the model and ensure that no indications – good or bad – are missed.
- Infill modeling of existing log suites – Our 100% core data-based regional models can be quickly applied to your logs to provide an accurate, detailed petrophysical evaluation.
- Reserves estimation – Increase resolution and accuracy by modeling all wells in a particular acreage position.
- Active prospecting – Model logs in prospective acreage to reduce risk, and ensure you get what you pay for.

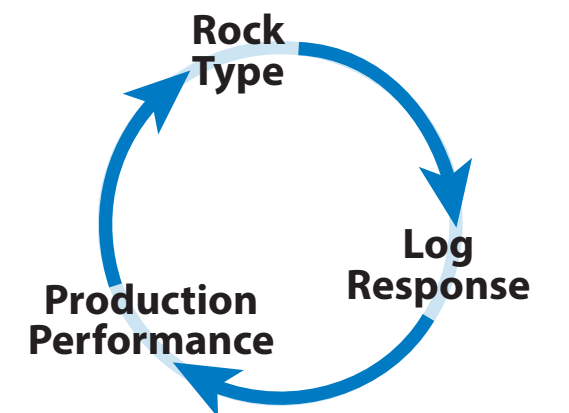
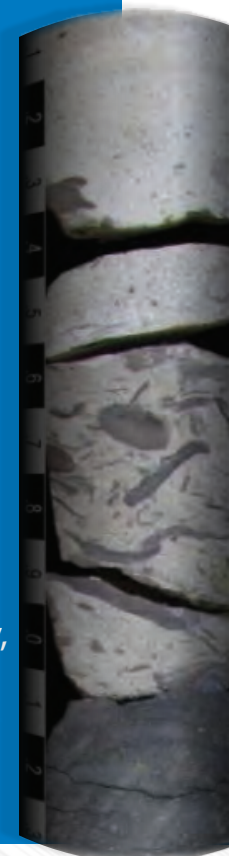
Core Calibrated Petrophysical Model

Collect Cuttings for Analysis:

- Measure XRD Mineralogy and Clay Species
- SEM Imaging
- Geochemical Analysis
- Calculation of Clay Bound Water and Formation Desiccation (Estimate Completion Load Return)
- Fluid Sensitivity Measurements

Cut Rotary Sidewall Cores:

- Measure Rock Properties to Further Refine Your Model
- Stimulation Measurements Such as Unpropped Fracture Conductivity, Proppant Embedment, and Geomechanical Testing
- Full Engineering and Completion Study for Your Wells



THE FAST TRACK...

For Your Evaluation Program

Have a Rock Solid Evaluation in Days Versus Months

Fully Characterize a Region Through Log Evaluation and Attribute Mapping

Calculate OIP and EUR Quickly and Accurately on a Per Section Basis