Introduction to Log Analysis

Duration

Three classroom days providing 2.4 CEU (Continuing Education Credits) or 24 PDH (Professional Development Hours)

Summary

This three-day course covers the fundamentals of log analysis for understanding openhole logs and teaches immediate practical skills in formation evaluation. Hydrocarbon evaluation, porosity and permeability estimation are covered, together with rock typing and pay assessment. Methods to integrate core data, drill cuttings reports, DST results, and production information with logs are described. Log quality control and normalization issues are also discussed. Participants are required to bring calculator or a laptop computer for all 3 course days - please be sure to fully charge laptop batteries prior to each day. Excel freeware log analysis software is provided.

Who Should Attend

The course best suits those beginning to acquaint themselves with logs or those who do not use logs all the time and need a refresher.

Course Outline

- Review of Logging Tool Fundamentals and Downhole Measurements
- Quick-Look Log Analysis Techniques
- Archie Log Analysis of Water Saturation and Extensions to Non-Archie Rocks
- Productivity Predictions of Water-Cut
- Permeability Estimation from Logs
- Pay Determination
- Rock Composition from Log Overlays and Crossplots
- Shaly Sandstone Analysis
- Simple and Complex Carbonate Analysis
- Integration of Core Data with Logs
- Case Studies and Exercises of Log Analysis which include Cuttings, Core, DST and Production Information
- Borehole Environment and Log Quality Checks
- Course Excel Freeware Demonstrations
Course Agenda

Day One

- Basics of Well Logging
- Fundamental Physics and Equations
- Logs: Bluelines and digits
- The SP log
- Basic log analysis techniques

Day Two

- BVWi and fluid production
- Permeability estimation from logs
- Resistivity logging
- Porosity logs
- Combination porosity logs

Day Three

- Gamma-ray log analysis
- Shaly sandstone analysis
- Gas shale log analysis
- Saturation – height profiles

Instructor
Larry Maple graduated in 1972 with a B.A. Geology degree and joined the petroleum industry as an exploration and development geologist in 1975 and has focused on petrophysics since 1978. He has held a variety of international E&P petrophysical and management positions while resident in Singapore, Oklahoma, and Texas. Over the course of these assignments, he has worked a wide variety of geological formation types, ranging from shaly sands and tight gas sands to carbonates and evaporites. Larry is currently an independent consultant/trainer.

Course Dates
Please visit the course details webpage for currently scheduled course dates.

Available for In-House Group Delivery
This course is available for In-House Training and the content can be customized to suit the needs of your organization. For more information or to request a proposal, please email inhouserequests@peice.com or call 713-482-3858 (USA), 403-284-1250 (Canada).