

Basic Openhole Log Interpretation

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Syllabus/Agenda

Overview: The course assumes no logging knowledge and seeks to establish an understanding of basic petrophysical measurements and interpretation techniques which can be applied to routine tasks, and upon which more complex and advanced information and techniques can be built.

Day 1

8:00 to 9:45	Course logistics, Introduction
9:45 to 10:00	<i>Break</i>
10:00 to 12:00	Correlation/Lithology logs: SP, gamma ray, caliper, tension
12:00 to 1:00	<i>Lunch</i>
1:00 to 2:30	Porosity logs: sonic, density, neutron
2:30 to 2:45	<i>Break</i>
2:45 to 5:00	Porosity logs continued

Day 2

8:00 to 9:30	Porosity log combinations. Nuclear Magnetic Resonance logs
9:30 to 9:45	<i>Break</i>
9:45 to 11:45	Resistivity introduction
11:45 to 12:45	<i>Lunch</i>
12:45 to 2:00	Resistivity logs: induction, laterolog, microresistivity
2:00 to 2:15	<i>Break</i>
2:15 to 4:30	Water saturation determination via algorithmic and pattern recognition techniques
4:30 to 5:00	Course and topic summary

Topics for each of the log measurements follow the same sequence:

Interpretation goals

Physics of the measurement, including volume of investigation

Operational parameters: conditions under which the measurement is best made.

Measurement names: tool and curve names from different vendors.

Log example

Interpretation details: details of the interpretation goals

Secondary effects: well environment, formation properties, and assumptions which affect the measurement and its interpretation.

Environmental corrections

Quality control

An exercise related to the interpretation goals.

Equipment needed: calculator (with exponent functions), straight-edge, pencil or pen.

Time for hands-on examples, which the class can do individually or in small groups, is included in the above schedule.

The times shown are best estimates, based on previous presentations of the course. The times will vary to some extent, depending on the questions and comments of the class. Questions and comments based on the experience of class participants are welcome, and often provide insights to local conditions which would not otherwise be presented.

While formal break times are noted in the schedule, shorter breaks are often taken, as dictated by class needs.