

E-160

COURSE OBJECTIVES

To acquire the basic concepts and the methodology of well log interpretation for subsurface or reservoir studies

On completion of the course participants will be able to:

- describe the well site operations for logging and pressure measurements,
- list the tool principles, limitations and applications,
- carry out a qualitative and semi-quantitative log interpretation: identification of reservoirs and fluid contacts, determination of lithology, porosity, fluid types, saturation.

COURSE CONTENT

BASIC INTERPRETATION CONCEPTS

1 day

Definition of main reservoir petrophysical and fluid parameters (lithology, porosity, resistivity, saturation)

Environment of measurement (borehole, invasion profile)

Fundamental equations for log interpretation in clean formations

REVIEW OF LOG MEASUREMENTS AND APPLICATIONS

1.5 days

Well-site setup and log record operation

The log: header, calibrations, parameters, repeat section, main log (case study n° 1)

Logging tool principle and limitation, log correction and quality control

Caliper, Gamma Ray and GR spectrometry, Spontaneous Potential

Resistivity and Microresistivity measurements (Induction, Laterolog)

Porosity measurements: nuclear (neutron, density) and acoustic logging

LOG INTERPRETATION

2 days

Qualitative and semi-quantitative interpretation :

- Identification of geological formations and reservoirs (case study No 2)
- Identification of fluid contacts (Overlay technique)
- Determination of R_w , (SP, Ratio, R_{wa}), formation resistivity (R_t , R_{xo})
- Determination of lithology, porosity, water and hydrocarbon saturation

Cross-plot techniques with density, neutron, sonic and other logs (Pe, K, Th, etc)

Shale and gas effects on logs

Case of oil based mud

PRESSURE MEASUREMENTS AND APPLICATIONS

0.25 day

Pressure measurements: operation and applications

Determination of fluid contacts, fluid gradients and fluid densities

NMR, DIPMETER AND BOREHOLE IMAGING TECHNIQUES

0.25 day

Nuclear Magnetic Resonance: principle and applications

Dipmeter and Borehole imaging tools: principle and applications

▲ Who should attend?

Geoscientists involved in log acquisition or log interpretation but also non-specialists seeking general information on the subject.

▲ Duration

5 days

▲ Dates & Location

June 08-12, 2009

Rueil-Malmaison (Paris)

French session: F-160

▲ Registration

Fees: € 1,950

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▲ Course Coordinator

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May be organized for a single company.