

Training - Well Logging and Qualitative Log Interpretation



LOGF-EN-P



Face-to-face only



5 days

This course provides an overview of main logging tools and proposes an insight into fundamental well log interpretation for reservoir identification and characterization

Level

Knowledge

Public

Geoscientists and other E&P technicians and engineers, interested in wireline log acquisition and well-log interpretation

Objectives

Attendees will be able to implement the following skills:

- Acquire the concepts of log interpretation (Archie formula, invasion)
- Review mud logging, coring and wireline logging techniques
- Perform a quick-look interpretation to characterize reservoirs: fluid contacts, lithology, porosity, saturation

Pedagogical & technical resources

Interactive presentations and exercises to build a lithology and fluid column

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsible

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

BASIC INTERPRETATION CONCEPTS & WIRELINE LOG RECORDING

1 day

Foundational concepts. Reservoir petrophysics (lithology, porosity, resistivity, saturation) and fluid properties. Environment of measurement (borehole, invasion profile) and related parameters. Fundamental equations (Archie formula) for log interpretation in clean formations. Mud logging, measurements during drilling, coring and wireline logging techniques. Applications. Well logs examples.

REVIEW OF LOG MEASUREMENTS & APPLICATIONS

1.25 days

Wireline logging operations and wireline logs.

Logging-While-Drilling techniques and LWD logs.

Well logs: header, calibration, parameters, repeat section, main log.

Wireline logging tools: principle and applications, limitations, calibration, environmental corrections and quality control:

- Caliper, gamma ray and GR spectrometry, Spontaneous Potential.
- Resistivity (induction, laterolog) and micro-resistivity measurements.
- Porosity and lithology measurements: nuclear (litho-density, neutron) and acoustic logging (sonic).

“QUICK-LOOK” INTERPRETATION

2.5 days

Qualitative well-log interpretation:

- Log responses in most common geological formations.
- Identification of reservoirs and fluid contacts (overlay technique: water- and oil-based mud cases).
- Hydrocarbon effect on density and neutron logs.
- Determination of water resistivity R_w (SP, Ratio, R_{wa}), formation resistivity (R_t , R_{xo}) and flushed zone diameter.
- Determination of lithology, porosity, water and hydrocarbon types and saturations.
- Cross-plot techniques with density, neutron, sonic and other logs (P_e , K , Th , etc.).
- Shale effects on logs: introduction to shaly and complex lithology formations.

PRESSURE MEASUREMENTS & FLUID SAMPLING

0.25 day

Pressure measurements and fluid sampling: operation and applications.

Pressure analysis: determination of fluid contacts, fluid gradient and fluid density.

NMR, DIPMETER & BOREHOLE IMAGING TECHNIQUES

0.25 day

NMR log (Nuclear Magnetic Resonance): principle and applications.

Dipmeter and borehole imaging tools: principle and applications.

Sessions

Rueil-Malmaison - From 09/21/2026 to 09/25/2026

3650 €/HT

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.

Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com