ID #124

Basics of Petrophysics

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jh

Specialist Trainer

Luis Escandon

Petrophysicists Specialist, graduated as Petroleum Engineer at the Central University of Venezuela.

Luis has over 34 years experience as Senior Petrophysics specialist working in Exploration and Production for PDVSA in all the basins of Venezuela, and in several of Colombia and Mexico basins, extensive experience in University teaching, and technical instructor.
He is an Expert user of Techlog, Discovery, Petrel, ArcGIS, and Cristal-Ball. Luis lectures in association with MineaOil Ltd..

Description

This course is oriented to the dissemination of Basic Foundations of Petrophysics, for beginner professionals in G&G processes.

The program pursues theoretical-practical orientation covering the Conceptualization of Petrophysical Properties (CPP), the typification and petrophysical characterization of rock (Mineralogy and Clays). Storage capacity (absolute and effective porosities). Fluid distribution (sand and volumetric distribution of Gas-Water and Petroleum). Preferential fluid mobility (absolute and relative permeability systems). Estimation of properties using “Well Logs” and Laboratory Analysis (LA-AL). Well Log, Cores, rock samples and fluids Analysis. Formations Evaluation methods for Classics, Carbonates and Shales..

Objectives

- Analyze the basic petrophysical properties of the subsurface and the relationships between them,
- Evaluate rock-fluid reservoir systems
- Analyze the most commonly used techniques for measuring using Well Logs and Core Analysis.
- Discuss exploratory opportunities.
- Learn how to perform basic analysis of bare pit records to identify prospective intervals
- Establish their relevant petrophysical characteristics, as well as identify producing intervals and their relative input through piped hole registers.

Audience

The course is aimed at professionals in training, geosciences or related sciences.

- Geologists and Geophysics
- Field and Production Engineers
- Drilling Engineers
- Development Engineers
- Oil and Gas Field Operations Managers and Supervisors
- This training can be conducted internally based on workshop sessions for groups of delegates interested in understanding basic reservoir engineering; can be adapted to the specific needs of the company.

This training can be delivered in house, based on workshop sessions for groups of delegates with interest in understanding the principles of Geostatistical Geocellular Reservoir modelling; it can be tailored to specific company needs.

This may also be of interest

Petrophysics Characterization of Hydrocarbon Reservoirs

Seismic Applications

Geostatistical Reservoir Modelling with Petrel

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Content

Day 1
Petrophysical Properties and Records Basics

- Scope and Impact of Petrophysics in Reservoirs Characterization
- Effects of Lithology in Well Logs
- Mineralogy, Storage Capacity, Fluid Distribution and Flow Capacity
- Resource Volume and Reserves Estimations using Well Logs and Petrophysics
- Acquisition techniques and risks in logging operations
- Environmental Effects and corrections in Rock Petrophysics Properties estimated from Well Logs Parameters
- Field Examples
- Exercises

Day 2
Principles of Measurement and Analysis of Open Hole Records

- Well log for determination of Lithologies and Mineralogy
- Well logs for Porosity Determination.
- Well Logs for Fluid Distribution Determination
- Well logs for Flow Capacity Determination
- Unconventional Well Logs (Images, Magnetic Resonance and Dielectric)
- Field Examples
- Exercises

Day 3
Measuring Petrophysical Properties in Laboratory

- Basic Properties Measurement in cores or wall samples
- Special Properties Measurement in cores or wall samples
- Analysis and Determination of Formation Waters Properties
- Calibration of estimated properties from Well Logs with Laboratory measurements.
- Field Examples
- Exercises

Day 4
Principles of Measurement and Analysis of logs in Cased Hole

- Cementation Well Logs
- Production Well Logs
- Field Examples
- Exercises

Day 5
Evaluation of Formations

- Classic Formations Evaluation
- Carbonate Formations Evaluation
- Shaly Formations Evaluations
- Field Examples
- Exercises
- Summary and conclusion

End of training

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