



Arabian Institute For Training

Techlog Formation Evaluation

INTRODUCTION

- This highly participative training course in Formation Evaluation with the use of one of the most advanced software from the oil and gas E&P company ensures that the delegates will achieve high level of skills and understanding needed to perform Formation evaluation-analysis of subsurface formation characteristics, such as lithology, porosity, permeability, and saturation by methods such as wireline well logging and core analysis with the help of the Techlog software.
- The delegates will learn how to use of base modules of Techlog as a leading wellbore-centric platform. Participants attending the Techlog Formation Evaluation training course will develop the following competencies:
 - Good grounding in the data model within the Techlog application
 - Apply deterministic calculations in Application Workflow Interface
 - Understand the integration of different data
 - Enhance the interpretation processes
 - Learn how to perform day-to-day tasks within the Techlog Suite
 - Get acquainted with advanced techniques for improving the analysis results

PROGRAMME OBJECTIVES

This Techlog Formation Evaluation training aims to enable participants to achieve the following objectives:

- Provide the insight into the Techlog software
- Understand the improvements in usability and productivity
- Prepare for the optimal formation evaluation with the use of Techlog
- Use the advanced techniques and add-ons to improve analysis results
- Learn about Techlog modules
- Prepare and create a Techlog project

TRAINING METHODOLOGY

- The Techlog Formation Evaluation training course will combine presentations with interactive practical exercises, supported by video materials, activities and case studies.
- The seminars will use the most up-to-date presentation and interactive methods of work with the group's modernization, focusing on problem identification in the thematic area, and group work of the participants on finding solutions, or ways to solve the identified problems through the discussion of practical examples and tasks.

PROGRAMME SUMMARY

- The Techlog Formation Evaluation training course covers essential skills required for successful use of Techlog Suite, improvement in core data analysis as well as applying all the key concepts in a multiwell dataset, from selecting key wells to summaries and saving all the results in an appropriate mode to be reused for future interpretations.

PROGRAM OUTLINE

Formation Evaluation

- Introduction
- Techniques used in Formation evaluation:
 - Mud logging
 - Wireline logging
 - Coring
 - Drill stem testing
 - MVD and LVD (Measurement-while-drilling) and (logging-while-drilling)

Techlog use in formation evaluation

- Introduction to Techlog Software
- Data import and analysis
- Gamma ray log
- Spontaneous Potential (SP) log
- Exercise: Calculate VSH and clay type

Techlog and Volumetric fraction of shale calculation

- Density measurement
 - Porosity calculation in Techlog
 - Neutron measurement and porosity analysis using Techlog
 - Density/Neutron combination to calculate VSH and Porosity using Techlog
 - Analysis of the results
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Resistivity Measurements and Porosity Calculation

- SP and GR data vs Porosity-Neutron
- Effective porosity
- Porosity calculation correction with hydrocarbon effects
- Resistivity measurement
- Definitions of R_t , R_o , R_{xo} and R_w

Water saturation

- Archie's Equation
- Methods to determine R_w
- Pay cut-offs
- Monte-Carlo analysis in oil and gas
- Putting it all together in Techlog



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