

Borehole Imaging Interpretation Workshop with WellCad™

5 days

BHI-EN-P

Overview

LEVEL

Skilled

PURPOSE

This course provides participants with an understanding of current borehole imaging tools and modern interpretation techniques.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able to:

- acquire the fundamental principles of Borehole Image Interpretation,
- apply the methodology to approach the Borehole Image Interpretation,
- perform BHI data quality control,
- identify the fractures present in the images, by differentiating them from sedimentary and artificial features,
- characterize the interpreted fractures in terms of their position, morphology, type, kinematics, orientation and dip angle, using WellCAD™.

WAYS AND MEANS

Interactive presentations, practical exercises and hands-on activities using software dedicated for BHI interpretation (WellCAD™).

Software used during workshops: with courtesy of ALT.

LEARNING ASSESSMENT

Knowledge assessment with multiple-choice questions.

PREREQUISITES

Degree in geology or reservoir engineering, or equivalent experience.

Basic knowledge of fractured reservoirs.

Agenda

INTRODUCTION TO BOREHOLE IMAGING LOG

0.5 d

Introduction to borehole imaging log.
Borehole image log acquisition technologies.

BOREHOLE IMAGE TOOLS & QUALITY CONTROL

1 d

Understanding dip data integrating well trajectory.
Fracture interpretation on borehole images.
BHI fracture interpretation.
Tools/resolution.
BHI quality control (QC).
Automatic and manual dip analysis.

BOREHOLE IMAGE INTERPRETATION SOFTWARE

1 d

Introduction to WellCAD™ software.

BHI fracture picking.

Data loading.

Fracture classification.

Fracture statistics.

BHI reporting.

BOREHOLE IMAGE INTERPRETATION: CASE STUDY

2.5 d

Introduction and data loading.

Structural dip and structural zonation.

Recognition of zone boundaries - Unconformities, faults.

Fracture/fault characterization from image log data.

Conductive/resistive vs. open/close fracture.

Borehole bias.

In-situ stress determination from borehole breakout and induced fractures.

Bedding recognition vs. faulted areas.

Bed thickness analysis.

SUMMARY, SYNTHESIS & WRAP-UP