

Fracture & Fault Modeling Workshop with FracaFlow™

4 days

FRACA-EN-P

Overview

LEVEL

Skilled

PURPOSE

This course provides participants with proficient skills for the modeling using a software dedicated to fractured reservoir characterization and modeling.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able to apply the workflow to characterize and model the fracture network in a reservoir model.

WAYS AND MEANS

Interactive presentations, practical exercises and hands-on activities using FracaFlow™.

Software used during workshops: with courtesy of Beicip-Franlab.

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 & DATA IMPORT (“NF” CASE STUDY)

0.5 d

Theoretical notions about fractured reservoirs.
Overview of OpenFlow™ platform.
Study creation, settings, 1D-2D-3D views.
Data import: reservoir grid, horizons, faults, wells and related data.

FRACTURED & FAULT CHARACTERIZATION (“NF” CASE STUDY)

0.5 d

Fracture analysis at wells: orientation, dispersion, sets creation.
Fracture density computation.
Fault analysis: length, spatial distribution, sets creation, attribute maps.

MODELING, CALIBRATION, EQUIVALENT PARAMETERS COMPUTATION (“NF” CASE STUDY)

1 d

Fracture and fault modeling/DFN generation:
Diffuse fractures and faults.
Quality control.
Equivalent parameters computation: full field analytical upscaling.
Calibration with KH data.
Dynamic simulations: flowmeter, well test simulation.

DATA IMPORT, DYNAMIC & GEOLOGICAL ANALYSES (“MEMBER” CASE STUDY)

1 d

Data import.

Dynamic analyses.

Mud loss, flowmeter, well test, production data.

Fracture analysis, fault analysis.

MODELING, EQUIVALENT PARAMETERS COMPUTATION ANALYSES (“MEMBER” CASE STUDY)

1 d

Fracture and fault modeling/DFN generation.

Diffuse fractures and sub-seismic faults.

Quality control.

Equivalent parameters computation for fracture network (Phi Block size, K_x , K_y , K_z).

Local analytical upscaling.

Full field analytical upscaling.