

Key Concepts in Clastic Reservoir Performance (G044)



Tutor(s)

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Overview

This course presents the concepts and terms used to describe the sedimentology, stratigraphy and structure of clastic units, and introduces the environments of deposition of clastic sediments. The awareness of these topics and their heterogeneities allows participants to understand their role in predicting reservoir performance in exploration projects, in development planning and in managing field performance.

This course presents a stand-alone overview of clastic reservoirs and would be beneficial for any subsurface team member. It also serves to provide the framework for the geologic concepts that are examined in Clastic Reservoirs Field Seminar: Stratigraphic and Structural Heterogeneities That Impact Exploration and Production Reservoir Performance (G012). Attending G044 will allow G012 participants to maximize the benefit of spending time in the field. For a more detailed approach to the subject in the classroom, consider the 5-day Introduction to Clastic Reservoirs: Stratigraphic and Structural Heterogeneities That Impact Performance (G047).

Duration and Logistics

Classroom version: A 1-day classroom course comprising a mix of lectures (75%) and hands-on exercises (25%). The manual will be provided in digital format and participants will be required to bring a laptop or tablet computer to follow the lectures and exercises.

Virtual version: Two 4-hour interactive online sessions presented over 2 days. A digital manual and exercise materials will be distributed to participants before the course. Some reading and an exercise are to be completed by participants off-line.

Level and Audience

Awareness. This is a refresher course for geoscientists and an overview of geologic basics for reservoir engineers, petrophysicists, managers and support staff.

Objectives

You will learn to:

1. Understand the basic terminology of sedimentology, stratigraphy and sequence stratigraphy.
2. Describe key characteristics of eolian, coastal plain, delta and deepwater reservoirs.
3. Understand how subsurface reservoirs can be divided into flow units that capture key reservoir flow characteristics.
4. Describe heterogeneities that can impact flow unit properties.
5. Understand how sequence stratigraphic concepts are applied in a practical and predictive way.

Course Content

Course Details

1. Basic tools used in subsurface interpretation
 - Sedimentology
 - Stratigraphy
 - Sequence stratigraphy
2. Introduction to clastic facies
 - Eolian
 - Coastal plain
 - Deltas
 - Turbidites
3. Structural Heterogeneities