

Characterizing the Drilling Environment

MODULE

About the Skill Module

This skill module is the basis for drilling engineering and well planning. It provides an overview of geologic formations and key characteristics which the well planner must incorporate into their design considerations. Included is an overview of petroleum geology along with descriptions of both conventional and unconventional petroleum systems, structures and traps, formation fluids, and rock properties. The relationship between pore pressure and fracture gradient is explained and their application to well design considerations. Provided is a brief description of fluid selections and properties, casing and cementing operations, wellbore stability, and well control. Leak-off tests and/or formation integrity tests are discussed and how they are conducted. An overview of formation evaluation techniques is also addressed, including mudlogging, wireline LWD logging, coring, and testing with the data collected during each activity. An overview of types of drilling rigs and their most suitable application coupled with operational risks is also provided.

Target Audience

Petroleum and production engineers, completion engineers, geoscientists, managers, technical supervisors, service and support personnel, entry level drilling engineers, drilling operations personnel, drilling office support staff.

You Will Learn

- The basis of well planning and how geology and geologic characteristics affect the well plan
- How pore pressure and fracture pressure are critical in well planning and active drilling operations
- Where to source the expertise and information required to form the basis of the well plan
- How to utilize rock types and properties, formation fluid types and properties, and other geoscience information appropriately in well design and operational decisions including: fluid selection, casing points, cementing operations, well control procedures, and risk assessment
- The significance of the leak-off test and formation integrity test data and how to support operational decisions
- What formation evaluation methods are available and how to actively utilize them to support well planning and real time decision-making
- What type of drilling rig is best suited for a particular environment and critical concerns when operating in that particular environment

Product Details

Categories: Upstream

Disciplines: Well Construction/Drilling

Levels: Basic

Product Type: Individual Skill Module

Format: On-Demand

Duration: 4 hours (approx.)

\$395.00