



Well Intervention and Completion

Course Duration : 5 Days

Date : 02-Sep-2024 to 06-Sep-2024

Location : Kuala Lumpur

Type of Participant : This training is designed for Well Engineers, Drilling Supervisors, Reservoir Engineers, Geologists, Production and Completion Engineers needing a practical understanding and an appreciation of well completion design and operation, well stimulation and intervention.

Summary:

This course is designed to provide participants with an up-to-date overview of the well completion and operations and workover technology.

This 5-day course is aimed at petroleum, production, and operation engineers who wish to gain an insight into some of the more advanced aspects of completion design. It will be run on a workshop-style basis where the attendees will have the opportunity to select from the subjects listed below.

The course presumes a general engineering or scientific background. It requires some basic knowledge of completion and production technology. It combines a review of the fundamental concepts of the subjects covered together with their practical application.

- The course uses a holistic, multi-disciplinary and integrated management approach to explain the concepts behind the process of well integrity management and its implementation throughout the lifecycle of the well.

Objective:

Upon completion of this course, participants will be able to:-



- Understand the key elements involved in a robust Well Integrity Management process.
- Understand the well performance inflow & outflow, coiled tubing, and downhole oil/water separation
- Perform the selection of Artificial Lift Techniques
- Familiarize in EOR and formation damage
- Deal with Acidising Matrix Acidising Treatments and conformance control
- Deal with optimization of hydraulic fracturing

Daily Program:

Day 1

Review An introduction to the course, its contents and the trainer, followed by an integrity threat brainstorming session and a review of major incidents

- Implications of Well Integrity Management

This module provides a series of past events connected to well integrity failure and an overview of the different well types, in addition to applicable standards and regulations and their history. Well failure records are also presented to demonstrate the importance of well integrity management.

- The types of wells discussed include:
 - Wells that produce oil
 - Wells that produce oil and natural gas
 - Wells that only produce natural gas
 - Shut-in, Suspended, Abandoned
 - Onshore & Offshore WAG,
 - Water injector, Gas injector
 - Appraisal wells, Development wells
- Well Performance
- Refresher
- Inflow & Outflow Performance
- Completions Inflow Performance
- Completions Inflow Performance
- Computerised Well Performance Prediction Computer Program



- Well Performance Sensitivities
- Perforating & Advanced Perforating
- Smart Wells: Applications and Case Histories
- Coiled Tubing Completion Strings
- Downhole Oil/Water Separation: Technology & Economic Modelling

Day 2

- Selection of Artificial Lift Techniques
- Rod Pump
- Basic equipment design
- Operating practices
- Electrical Submersible Pumps Basic equipment design
- Components
- Operating Practices
- New applications
- Hydraulic Pumps
- Basic equipment design
- Progressive Cavity Pumps
- Basic equipment design

Day 3

- EOR
- Introduction
- Application
- Design Objectives
- The Unloading Process
- Side Pocket Mandrels
- EOR Valve Mechanics
- Operational Problems
- New Technology
- Formation Damage
- Concept of Skin
- Sources of Skin



- The many Formation Damage Sources and the technique used to reduce its impact on well impairment
- Formation Damage during Workovers
- Prevention

Day 4

- Matrix Acidising Treatments
- Well stimulation Economics
- Well Candidate Selection
- Design of Matrix Stimulation treatment parameters
- Acid Formulations, Volumes, Rates, Additives, Treatment type, Diversion, etc.
- Matrix Stimulation Campaign Case Histories
- Stimulation of Carbonate Formations
- Acidising Special Well Types
- Coiled Tubing Jetting
- Coiled Tubing Stimulations
- Conformance Control
- Sources of "bad" water
- Matrix and Fracture shut-off treatments

Day 5

- Hydraulic Fracturing
- Candidate Selection Guidelines
- Fractured Well Inflow Performance
- The Propped Hydraulic Fracturing treatment
- Rock Mechanical Issues important to Hydraulic Fracturing
- Fracture Fluid & Proppant Selection
- Optimization of Hydraulic Fracture Dimensions
- Tip Screen out Fracturing
- Unstable Formations and Sand Control
- Types of Sand Production
- Fill Removal with Coiled Tubing
- Prediction of Sand Failure



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- Cost of Sand Control
- Sand Exclusion Techniques
- A detailed description of Gravel Packing Technology
- Chemical Sand Control
- Sand Control Installation using Coiled Tubing
- New Technology
- Coiled Tubing
- Technology
- Well Unloading and kick-off
- Drilling
- Cementing
- Electric Line Applications