Advanced Sand Control Management and Technology

Course Price

£3250

Course Description

Practical approaches to Sand Control management and the nature of Sand Production and the reason for Sand control. Study in details conventional classic methods of sand control and modern methods more practical and effective to control sand and improved significantly well production such as Frac-Pack Technology and more importantly hands on calculation of different sand control techniques in both vertical and horizontal wells by running sensitivities to determine their skin values.

Course Objectives

- Determine Sand Production causes
- Determine the need for Sand Control in Oil and Gas Wells
- Selection of Sand Control Method according specific field and well conditions
- Preparation of the well for Sand Control
- Optimization of Perforation design for Sand Control
- Design a Perforation program to optimize Sand Control
- FracPack and Sand Control Technology
- Consolidation of the Formation Sand
- Sand Control technology and state of the art in Gas Wells
- Use of calculation sheets for both vertical and horizontal wells and the application of sensitivities in order to optimize the well performance under sand control conditions

Who Should Attend

Reservoir, Completion and Production Engineers, Production Supervisors, Chemical Engineers, Mechanical Engineers, Geologists, Field operations Technical personnel.

Course Content

SAND CONTROL SECTION

Sand Control Concepts

- Practical Approaches to Sand Control
- The Nature of Sand Production
- Determining Need for Sand Control
- Selection of Type of Control

Integral Management Sand Control Solution

- Management phases in Sand Control
- Mechanisms of Sand Production in Oil and Gas Wells
- Stability Envelop for Sand Control
- Prevention phase and decision based on technical information
- Field History Cases

Principles of Sand Control, Equipment and Lab and field tests

- Effects of Viscosity and water cut in Sand Control
- General Methods to control sand production
- Mechanical Systems to control production of sand
- Successful design conditions and factors
- Application Saucier’s theory in the design of sand control systems
- Use the results from the Sieve analysis to select Gravel, Slotted Liners and Screens

Production Optimization and Sand Control

Use of calculation sheets to design

- Frac-Packs and
- Gravel Packs in vertical and horizontal wells.

By defining the skin associated to each sand control method, an optimised design is attained and thus, a maximum productivity is achieved.

Gravel and Screen Selection

- Laboratory test and Equipment
- Slot and Gravel Design
- Selection of Slotted Liners, Screens and PrePacks
- Saucier’s Bridging Theory
- Design Examples and Calculations

FracPack and Sand Control Technology

- FracPack History
- Basics of Job Designs, well selection and basic treatment guideline
- Field History Cases

Consolidation of the Formation Sand

- Resins for Consolidation
- Methods for Resin Placement
- Resin Coated Gravel
- Thermosetting Gravel Packs

Key Performance Indicators (KPIs)

- Brine & Filtration
- Perforating
- Gravel Packing
- Screenless Frac Pac Completions

SAND CONTROL IN GAS WELLS

- Prediction of Sand Production in Gas Wells
- Effect of Water Production on Sand Production in Gas Wells

. Final Discussion and Conclusions

CPD Unit

Continuing Professional Development

35 HOURS CPD