Subsurface Production Operations

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Who should attend?

This course is intended for production engineers, drilling engineers, process engineers, petroleum engineers and field operations engineers, superintendents, supervisors and foremen will highly benefit from this course. Technical and operations staff from other disciplines, who require a cross-training to or a basic understanding of the subsurface production operations will find this course very useful.

Methodology

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Certificate

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration

Objectives:

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on the inflow & outflow performance and the system analysis in subsurface production operations
- Carryout well completion operations and procedures and apply the different ISO and API standards as well as the various tubing selection, design and installation used to transport produced fluids to the surface or fluids to the formation
- Enumerate the perforating methods & designs that deals with explosive powders and gas expansion methods and identify the several types of formation damage along with the flow restrictions caused by reduction in permeability
- Recognize the matrix acidizing on a well candidate in a logical step by step process and then select and execute an appropriate chemical treatment for the oil/gas well
- Discuss the different hydraulic fracturing process of pumping a fluid into a wellbore at an injection rate
- Identify with several well production problems arising from adverse chemistry and occurring in the formation such as asphaltenes, waxes, toxic-materials and etc

- Apply the latest methodology on artificial lift selection to lower the producing bottomhole pressure (BHP) on the formation to obtain higher production from the well
- Describe artificial lift selection and the operation of gas lift installation

- Define what is an electrical submersible pump (ESP) and have an understanding of ESP system components and accessories, operation, ESP system selection and performance calculations, installation and handling and maintenance and trouble shooting
- Explain hydraulic pumping in oil wells including its operation, accessories & surface equipments
- Describe and follow guidelines for the design and operation of the various progressing cavity pumping (PCP) systems currently being used in various downhole applications worldwide
- Explain the different applications of plunger lift as well as the design considerations and plunger selection

Course Outline:

Geological considerations in production operations.

Reservoir fundamentals

- Inflow performance relationship
- Outflow performance relationship
- Well Completions
- Workover fluids

- Perforating
- Completion equipment: tubing(design), packers, flow control devices
- Production logging
- Squeeze cementing
- Workovers
- Formation damage
- Surfactants
- Paraffin and asphaltene
- Hydraulic fracturing
- Sand control
- Acidizing

- Corrosion control
- Scale deposition, removal, and prevention.
- Artificial list selection,
    - Gas Lift Systems
    - ESP systems
    - .Progressive cavity pump
    - Jet pump
    - Hydraulic piston pump
    - Sucker rod pump