Well Production Enhancement

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Introduction:

This course concentrates on solving performance optimization of the technologies that increase oil and gas, well inflow and outflow performance, well production optimization (NODAL) well prediction, including artificial lift, acid stimulation and hydraulic fracturing,

well intervention, work over, problems diagnosis, sand control and management, perforating technology, water production/injection and water control shut-off methods & productivity effects, flow assurance: paraffin's and asphaltene: diagrams, theory, problems and solutions, scale deposition: diagrams, control, and new technologies, emulsion problems and corrosion.

Objectives:

By the end of this BTS training course, participants will be able to:

- Study and discussion on reservoir types and productivity
- Analysis and study of well productivity impairment
- Study in details well inflow and outflow performance
- Work on total well optimization systems
- Review of production logging applications & techniques
- Discussion and practice of water production/control & productivity effects
- Discussion and practice of formation damage during drilling,
- Study Productivity and effect of matrix stimulation (acidizing)
- Study and discussion of productivity and the effect hydraulic fracturing technology

- Review and practice of candidate selection & stimulation
- Study and practice of productivity enhancement through artificial lift
- Electrical submersible pumps system (ESP)
- Progressive cavity pump artificial lift system
- Sucker rod pumping artificial lift system and other systems

- Review and practice productivity enhancement with through-tubing techniques
- Study and practice of sand production control design and productivity effects
- Study and practice of flow assurance: paraffins and asphaltene: diagrams, theory, problems and solutions, scale deposition: diagrams, control, and new technologies, emulsion problems and corrosion

Who should attend?

Production Engineers, Reservoir Engineers, Chemical Engineers, Mechanical Engineers and Technicians, Geologists, Field operations and Technical personnel, Instrumentation and Control Engineers, Process Control Engineers, Electrical Engineers, Consulting Engineers, Design Engineers, Maintenance Supervisors, Control System Application Engineers, Project Engineers, Plant Engineers, Instrumentation Technicians, Electronic Engineers and Technicians, Automation Engineers, Electronic Design Engineers, Electricians, Installation and Maintenance Technicians, Instrument and Process Control Technicians, Instrument Fitters, Maintenance Engineers, Operations Engineers, Process Technicians, Production Professionals, System Integrators.

Course Outline:

Total Optimization Well Production Enhancement

- Well performance & productivity description
- Reservoir types and performance
- Perforating technology and effect on well productivity
- Perforating design and effect on well production enhancement
- Well productivity due to impairment
- Analysis of well inflow & outflow performance
- Design, problems diagnosis and solving performance optimization
- Total well (NODAL) system analysis
- Exercises, problems and solutions

Water Control Shut-Off Perforation Design and Formation Damage Evaluation and Mitigation

- Production logging applications & techniques
- Sources and causes of productivity impairment
- Formation damage during drilling
- Completion and production phases

- Introduction to water production/injection control shut-off methods and conformance technologies & productivity effects
- Examples, problems and solutions

Well Intervention for Productivity Enhancement through Matrix Stimulation, Hydraulic Fracturing

- Well intervention for productivity enhancement
- Productivity and effect of matrix stimulation (acidizing)
- Productivity and the effect hydraulic fracturing technology
- Candidate selection & stimulation
- Candidate selection exercise

Productivity Enhancement with Workover, Sand Control, Design and Flow Assurance

- Well intervention for productivity enhancement
- Productivity enhancement with workovers
- Productivity enhancement with through-tubing techniques
- Sand production control design and productivity effects
- Flow assurance: paraffins and asphaltene: diagrams, theory, problems and solutions, scale deposition: diagrams, control, and new technologies, emulsion problems and corrosion
- Examples, problems and solutions

Well Production Enhancement by Using Artificial Lifts

- Productivity enhancement through artificial lift
- Electrical submersible pumps (ESP) system
- Progressive cavity pump artificial lift system
- Sucker rod pumping artificial lift system and other systems
- Presentation of the ESP and PCP systems
- Exercises, problems and solutions