Best Technology Solutions **BTS**

Modern Well Testing Technology

Training Program

Introduction:

The course emphasizes the practical application of well test theory to the solution of real well testing problems from design through interpretation for oil, gas and water injection wells. Participants will be introduced to a systematic approach to well test analysis and will apply it using modern well test analysis software. Numerous datasets with non-ideal behavior will be reviewed and analyzed to allow participants to gain experience with real world problems. Participants will be able to apply their newly acquired skills in their job assignments immediately upon course.

Who Should Attend?

Geologists, Geophysicists, Geomechanics Engineers, Drilling Engineers, Production Engineers, Completion Engineers, Reservoir Engineers, Petrophysicists, Petroleum Engineers, Exploration Supervisors and managers concerned with the Geomechanics challenges of field development and exploration, Log Analysts, Petroleum Engineers; Experienced Technicians, Technical Reservoir Engineers, Processing Engineers, Subsurface Geologists, Wellsite Geologists, Reservoir, and Operations Engineers and other staff involved in the acquisition, use of well-site geological data, and operations geology, Engineers and geoscientists who want to understand well testing principles and interpretation techniques to design, analyze, report, evaluate results or intelligently participate in the well testing process

Course Objectives:

By the end of this course, delegates will be able to:

- Design well tests and specify equipment requirements
- Set up and analyze well tests for oil and gas well using traditional and modern well testing analysis techniques
- Perform QC analysis of pressure data; identify and discard bad data
- Identify various wellbore and reservoir characteristics and choose the appropriate model for analysis

Course Outline:

- Introduction (reservoir performance, basic concepts, need for testing)
- Steady state, semi-steady state and transient well performance
- Drawdown testing
- Buildup testing
- Semilog analysis
- Diagnostics and derivative analysis
- Wellbore storage and type curve matching
- Linear discontinuities (sealing faults, stratigraphic pinchouts)
- Surface well test equipment description and operation
- Phase tester vs. separator
- Burner heads
- heat radiation
- Downhole and sub-sea well test equipment description and operation
- Well test planning
- Conducting a well test
- Fluid flow rate calculations
- Perforation design
- Sand production
- Deep water considerations
- Preparation of a complete testing program
- Rates required/expected
- Sizing of equipment and flow lines
- Suitability of rig equipment
- Sand, hydrates, wax, water etc.
- Safety on surface
- Pressure-testing ESD
- Function testing drills etc.
- Electric line testing
- Generic downhole equipment (MDT , RCI, RDT)
- Hazards

- Nitrogen handling
- H2S / CO2
- Hydrates
- Sand
- Selection and position of gauges; surface read out systems versus memory only tests
- Gas well tests
- Flow after flow test
- Isochronal test
- Modified isochronal test