

PRODUCTION OPTIMIZATION & WELL TESTING

PRD055

COURSE DESCRIPTION

The course is designed to provide comprehensive information's to all aspects of the well performance analysis, production system component, artificial lifting systems and production optimization techniques including well testing design, execution and operations . The course will be conducted as lecturers and attendees will be actively encouraged to participate. The course content will be fully illustrated with actual data of well completion and operations' cases to aid understanding and help to overcome any difficult problems. Comprehensive course notes will be provided, which will form a valuable source of reference afterwards.

COURSE OBJECTIVES

By the end of this training course, participants will have:

- Full understanding of the production system component.
- Full understanding of the produced fluids properties.
- Full understanding of VLP and IPR.
- The ability to the required nodal analysis to improve well performance.
- Full understanding of well testing types and operations.
- The experience to deal with well's problem to improve well's performance.

WHO SHOULD ATTEND

- Production engineers
- Production supervisor and operators.
- Production operators
- Field maintenance supervisors and operators.
- Safety engineers
- Petroleum and reservoir engineers
- Production technologist
- Reservoir engineers

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Day One

- Introduction Into basic reservoir characteristics and production system
- Inflow performance and productivity index for oil wells and gas wells.
- Outflow performance
- Well completions applied to vertical, deviated and horizontal wells
- Reservoir Fluids: fluid properties: GOR, Bubble point Pressure (PVT data)
- Reservoir drive mechanisms and associated production problems
- Multiphase flow

2. Day Two

- Gas wells performance
- Oil wells performance
- Choke performance and wells' optimization
- Static flowing pressure temperature surveys' operation and analysis
- How to improve wells' performance
- Production Logging tools and application
- Cement and corrosion evaluation logs
- Perforation operations

3. Day Three

- Nodal analysis exercises
- Well modeling steps using multiphase simulators
- Tubing Selection, tips regarding well modeling and completion design with software's.
- Causes of formation damage
- Well stimulation techniques

4. Day Four

- Why do we need lifting?
- Selection of artificial lifting systems
- Gas lift technology
- Gas lift down hole equipment
- Unloading and gas lift wells' problems
- Electrical submersible pump
- ESP surface and down hole equipment

- ESP installation
- ESP troubleshooting
- Sucker rod systems
- Hydraulic pumping system

5. Day Five

- Types of well test and design
- Pressure transient theory, pressure drawdown and buildup analytical solution
- Well testing practical issues, wellbore storage, skin and radius of investigation.
- Deliverability, Gas Well Testing Methods, (Flow-after-flow, Isochronal, Modified Isochronal
- Well testing operations and surface equipment
- Liquid loading problems
- Case History
- Table discussion for production problems' solving

arctic