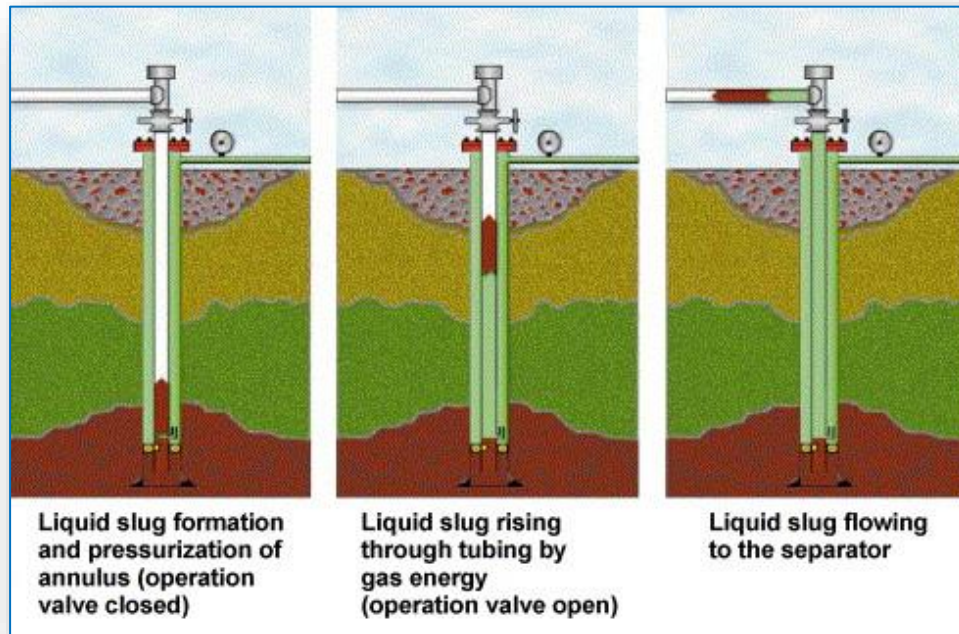




PCE204

Gas Lift Well and System Modeling

Course Introduction:

The course is designed to incorporate all issues related to the objective of this course and to give the participants a sound advanced understanding of gas lift modeling aspects. The course is by no means an exhaustive treatment of gas lift well design and analysis but it is designed to provide an integrated view of gas lift gas allocation optimization and the implication at maximizing field-wide production.

Gas lift is one of the most widely used artificial lift techniques. Participants will investigate the impact of tubing sizing, gas lift valve selection, gas lift mandrel spacing, gas lift valve design, casing pressure, surface choke size, gas volume, etc., on well design and operation. Participants practice mandrel spacing design and gas lift valve design, surveillance, and optimization at the well and field level using actual field data including the use of software programs. After attending this course, participants will be able to identify, diagnose, analyze, and solve gas lift problems. Up to date computer programs will be used/demonstrated during the course. The class includes pictures and videos of most important equipment components while being applied, to further participant understanding. With increased prices, more emphasis is placed on techniques to maximize production. New developments at various stages of development and application are also covered.

Course Objectives:

Upon successful completion of this course, the delegates will be able to:

- ✓ Select the appropriate gas lift systems and equipment
- ✓ Design continuous-flow gas lift systems
- ✓ Analyze operating gas lift systems
- ✓ Increase production from your wells using gas lift technology and optimization
- ✓ Improve the economics of gas lift operation
- ✓ Will be able to identify, diagnose, analyze, and solve gas lift problems

Who Should Attend?

This course is intended for all production engineers and operations staff responsible for designing gas lift installations and/ or performing surveillance and optimization on wells using gas lift; appropriate for staff at all levels of gas lift expertise and has been given with good results to both production engineers new to gas lift as well as industry gas lift consultants.

Course Outline:

Day 1:

Introduction

- Well System Behavior
- Well Inflow & Vertical Flow Relationships
- Gas Lift Fundamentals

Day 2:

Gas Lift Wells & Systems Modeling

- Single Well Optimization using Nodal Analysis
- Optimization Methods
- Optimization Single Well Model
- Optimization Two-Well Interaction
- Integrated Gas Lift modeling Criteria
- Integrated Network model Optimization

Day 3:

- Gas lift concepts and data
- Inflow/Outflow
- Equilibrium curves
- Gas lift equipment and valve mechanics
- Valve selection and calibration
- Unloading
- Mandrel spacing and step-by-step, complete gas lift design for a well

Day 4:

- Temperature effects on valves
- Orifice sizing techniques
- Lift gas rates for best economics
- Causes and solutions of instability
- Gas lift surveillance and measurement
- Analysis of flowing pressure gradient surveys

Day 5:

- Analysis of GL surface charts and measurements
- Gas allocation and field optimization
- Use of computer programs for gas lift design, troubleshooting, and optimization
- Network Models / Gas Lift Allocation Optimization (Cases Studies)

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Fees:

To be advised as per course location. This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee/Tea
08:20 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)

10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Coffee/Tea/Snacks)
13:30 - 15:00	Last Session

