

# PRODUCTION FOLLOW-UP

## Review Production Reports & Take Necessary Corrective Actions

**PRD033**

### COURSE DESCRIPTION

This course covers advanced production and operating techniques. It thereby enables one to timely select the most beneficial technique and set realistic expectations on production and operating behavior changes and recovery improvement. The impacts of the selected method on personnel training, technology transfer, and facility modification are also covered. Many illustrative problems, worked in the class by teams, are helpful in gaining a better grasp of the subject matter.

### COURSE GOAL

To enhance the participants' knowledge, skills and abilities necessary to understand and apply techniques of production operations, reporting and control systems.

### COURSE OBJECTIVES

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

- Determine physical properties of Crude Oil, Natural Gas, and Formation Water.
- Understand how to measure the flow performance and efficiency.
- Understand basic principles of liquid lifting.
- Be familiar with gas, oil and water separation tools, and techniques.
- Apply process control methods.
- Understand the process of crude oil dehydration and desalting.
- Write, analyze, and interpret production and auditing reports.

### WHO SHOULD ATTEND

- Petroleum engineers.
- Supervisors.

### COURSE DURATION

5 Working Days

### COURSE OUTLINES

#### 1. Properties

- Introduction.
- Physical properties of crude oil.

- Physical properties of natural gas.
- Physical properties of formation water.

## **2. Wellhead, Choke & Flow-lines**

- Flow performance.
- Formation damage/skin.
- Flow efficiency.
- Chokes.
- Pressure drop in piping – Liquid.
- Pressure drop in piping – Gas.
- Pressure drop in piping – Two phase.
- Sand control.

## **3. Liquid Lifting**

- Introduction.
- Positive displacement pumps.
  - Reciprocating pumps.
  - Rotary pumps.
  - Pneumatic pumps.
- Basic principles.
- Artificial lift.
- Sucker rod pumping.
  - Introduction.
  - Sucker pump system components.
  - System design.
  - Production systems - ESP.
  - Production systems – Gas lift.

## **4. Gas, Oil and Water Separation**

- Separation tools.
- Separation techniques.
- Separators internal components.
- Classification of separators.
  - Classification by configuration.
  - Classification by operating pressure.
  - Classification by application.

- Sizing of separators.
- Process control.
  - Pressure control.
  - Temperature control.
  - Level controls
  - Valves.
  - High- and Low-liquid-level controls.
  - High- and Low-pressure controls.
  - High- and Low-temperature controls.
- Start-Up.
- Shut-Down.
- Maintenance.
- Potential problems.
- Troubleshooting.

## **5. Crude Oil Dehydration & Desalting**

- Oil treating methods.
- Reasons of dehydration.
- Crude oil dehydration.
- Crude oil desalting.
- Crude oil stabilization.

## **6. Production Reports**

- Recommended report writing.
- Analyzing production reports.
- Writing audit reports & crude quality report.
- Failure analysis report.

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