



THE CHEMICAL ENGINEERING MAJOR

Steam Boilers (Operations, Repair & Maintenance) Enhanced Oil Recovery (EOR) Processes: Chemical, Thermal, and Miscible

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Introduction:

The goal of this course is to provide attendants with solid basics of different aspects, types, and application of the three main types of Enhanced oil Recovery (EOR) processes. The three types of oil recovered are identified to include primary, secondary, and enhanced oil recovery. After the reservoir is depleted after primary and secondary processes, enhanced oil recovery will be introduced targeting the residual oil saturation of this field. This course introduces different types of enhanced oil recovery processes including thermal, miscible, and chemical methods. Basics, applications, and screening criteria for each method will be presented. Pilot design will be covered. Many actual field examples will be presented and discussed plus theoretical aspects of these methods.

Who Should Attend?

- Reservoir engineers, production engineers, geologists and geoscientists who are interested in enhanced oil processes.

Methodology:

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Certificate:

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

Objectives:

By the end of this course, you will learn;

1. How to screen actual reservoir to select the suitable EOR method
2. Different types and sub-types of EOR processes
3. Design pilot test for actual selected apartment of a reservoir
4. Geological modeling and reservoir characterization
5. Required data for analysis chemical, thermal and miscible methods
6. New advancements and research outcomes of EOR methods

Contents:

- Introduction to enhanced oil recovery (EOR)
- Main rock and fluid properties for EOR
- Screening criteria of different EOR methods
- Displacement fundamentals; residual oil, mobility ratio, sweep efficiency.
- Thermal processes; cyclic and continuous steam injection, and in-situ combustion.
- Steam flow rate and quality measurements; prediction of steam flood performance;
- Classification of chemical EOR methods; polymer, surfactant-polymer, and alkaline-surfactant-polymer (ASP) processes.
- Polymer flooding and applications; Polymer types and pilot design.
- Classification of miscible methods and fundamentals
- Determination of minimum miscibility pressure (MMP)
- Carbon dioxide miscible and immiscible flooding processes
- Other EOR Processes; Microbial EOR (MEOR) and Electric EOR (EEOR) processes
- Screening criteria for actual field case
- Solved examples, field implementation and application