

THERMAL OIL RECOVERY (EOR)

RSE036

COURSE OVERVIEW

It is well known that primary and secondary production schemes in fields containing heavy oil (< 20°API) generally result in recoverable reserves of 15% or less. Reserves additions via new discoveries have been declining steadily in the last decades, and the increase of recovery factors from mature oilfields in known basins will be critical to meeting growing market demand. Oilfields containing heavy (and extra heavy) oils or bitumen, since they have low recovery by conventional means, provide significant scope for increasing ultimate recovery using thermal means.

COURSE OBJECTIVES

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

- Understand the thermal effects on rock and fluid properties in the context of oil recovery.
- Identify and evaluate different types of thermal oil recovery (TOR) methods.
- Conduct screening and economic analysis for thermal enhanced oil recovery (EOR) projects.
- Apply analytical methods and input data into thermal simulators for reservoir modeling.
- Simulate steam injection and in-situ combustion processes for thermal EOR projects.
- Comprehend the principles and techniques of in-situ oil upgrading.
- Design thermal wells and address drilling challenges specific to thermal EOR.
- Plan and manage surface facilities for thermal EOR operations.
- Implement thermal EOR projects, considering operational and HSE aspects.
- Perform surveillance and monitoring of thermal EOR projects.
- Evaluate the effectiveness and feasibility of thermal EOR strategies.
- Apply acquired knowledge and skills to improve oil recovery in heavy oil and bitumen fields.

WHO SHOULD ATTEND

Petroleum engineers, reservoir engineers, production engineers, facilities engineers, managers, government officials, and others involved or interested in practical aspects of thermal enhanced oil recovery (EOR) technologies and strategies for improving oil recovery from oilfields containing heavy (and extra heavy) oil and bitumen.

COURSE DURATION

5 Working Days

COURSE OUTLINES

Day 1

- Pre course evaluation
- Thermal effects on rock
- Thermal effects on fluid properties
- Types of thermal oil recovery (TOR)

Day 2

- Thermal EOR (TEOR) screening
- Thermal EOR economics
- Steam TEOR – Analytical methods
- Data input into thermal simulators

Day 3

- Reservoir simulation of steam injection thermal projects
- Steam additives
- In-situ combustion TEOR
- Reservoir Simulation of In-Situ combustion

Day 4

- In-Situ oil upgrading
- Thermal well design
- Thermal well drilling
- Surface facilities for thermal EOR projects

Day 5

- Thermal EOR project implementation
- Thermal EOR operations/HSE
- Thermal EOR project management
- Surveillance
- Post course evaluation

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