



N625: Heavy-Oil Recovery Processes 2: Thermal (*CSS, SAGD*), *Solvents, and Innovations*

Instructor(s): Patrick Collins

1 Day

Competence Level:
Awareness



Classroom Course

Summary

This stand-alone, one-day course provides technical professionals with an overview of current upstream heavy-oil production technologies and introduces new upstream production technologies that have been developed in the last several years.

This course focuses on:

- Steam Injection: Cyclic Steam Stimulation (CSS), Steam-Assisted Gravity Drainage (SAGD)
- Solvent Injection
- ElectroMagnetics
- Fireflooding / Air Injection / In Situ Combustion / Toe-to-Heel Air Injection (THAI)
- Hybrid and Sequenced Methods

Technology screening guidelines will be outlined and informative assessments of the various approaches will be provided.

Part I is a separate course that address other recovery processes: Cold Production and CHOPS, plus some aspects of flooding.

Learning Outcomes

Participants will learn to

1. Examine specific recovery processes requiring heat or solvent:
 - a. steam-injection recovery processes such as CSS and SAGD
 - b. solvent-injection recovery processes
 - c. In Situ Combustion
 - d. electromagnetics
2. Provide a broad overview of heavy-oil recovery processes, for context and comparison
3. Review the properties of heavy oil and its current status in the world
4. Examine the various drive mechanisms required for heavy-oil recovery
5. Describe the geomechanics associated with injection processes
6. Provide relevant supplemental information

Duration and Training Method

One classroom day providing 0.8 CEU (Continuing Education Credits) or 8 PDH (Professional Development Hours)

Who Should Attend

Anyone involved in heavy oil and bitumen recovery would find this course educational and instructional, but it is of particular interest to:

- reservoir engineers, geologists, geophysicists
- site personnel, engineering managers, facilities engineers
- environmentalists, regulators



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Prerequisites and Linking Courses

Heavy-Oil Recovery Processes I: Cold Production, CHOPS, and Flooding

Course Content

Course Agenda

1. Introduction - Outline
2. Our World and Heavy Oil
3. Geomechanics Basics
4. Overview of Processes
5. Steam Flooding
6. Steam-Assisted Gravity Drainage (SAGD)
7. Cyclic Steam Stimulation (CSS)
8. Solvents
9. In Situ Combustion (ISC)
10. Pressure Pulsing
11. ElectroMagnetics (EM)