



## Sand Control Fundamentals

### MODULE

#### About the Skill Module

This skill module begins by discussing both the causes of sand production, and the effects that sand production can have on our oil and gas wells. The subsequent sections describe the methods and the equipment used to control sand production. All of the major types of sand control completions are discussed, along with their strengths, weaknesses and the conditions under which they can be applied. Many new technologies have been introduced in the last several years, such as FracPacking and Expandable Screens. This skill module will discuss several that have been successfully applied. We will also discuss many of the more common problems encountered, and how to avoid these problems.

#### Target Audience

Petroleum engineers, production operations staff, reservoir engineers, facilities staff, drilling and completion engineers, geologists, field supervisors and managers, field technicians, service company engineers and managers, and especially engineers starting a work assignment in production engineering and operations or other engineers seeking a well-rounded foundation in production engineering.

#### You Will Learn

Participants will learn how to:

- Outline the completion options for sand control
- Recognize completions with no direct downhole mechanical control devices
- Identify equipment installed downhole to control the sand
- Describe chemical methods to control sand production
- Describe many different types of screen designs used in sand control completions, with or without a gravel pack
- Describe the use of gravel packs in both open hole and cased hole completions
- Determine formation sand size distribution and why it is required to perform a successful gravel pack
- Describe the completion equipment required to place a tight gravel pack in a well
- Recognize the importance of using clean fluids to place the gravel
- Recognize the benefits of using horizontal wells to reduce sand production and improve well productivity
- Describe how to gravel pack horizontal wells using brines or gels
- Describe how alternate path technology can be used to ensure successful gravel packs when using gel carrier fluids
- Identify the common mistakes that reduce productivity in gravel packed wells

- Recognize how the use of fluid loss control materials can lead to positive skins for wells
- Outline how Darcy's law calculations are used to determine the effects of a positive skin
- Evaluate the use of expandable screens as a sandface completion method
- Describe the limitations of expandable screens
- Outline the benefits of fracpacking wells as a sand control completion method
- Describe how fracpacks improve well productivity, compared to most other completion methods
- Outline how to apply a fracpack completion
- Outline the benefits of screenless fracpacks
- Describe fracpacking horizontal wells

## Product Details

Categories: Upstream

Disciplines: Production and Completions Engineering

Levels: Foundation

Product Type: Individual Skill Module

Format: On-Demand

Duration: 7 hours (approx.)

**\$795.00**