

Managing Sand Production: Risks and Rewards

Aims

Sand management has been identified as one of the key issues in field development in over 70% of the world's oil and gas fields. Sand management is not just about selection of sand control systems - it is about maximising and maintaining production while managing sand at acceptable rates. Successful sand management can only be achieved with a fully integrated, multi-disciplinary team.

This interactive course promotes a holistic approach and explains current best practice in sand prediction and control. Combining case histories, demonstrations, videos and practical exercises, the course provides the necessary skills to assess the risks and implications of sand production and so develop strategies for sand management. As Senergy is independent, there are no corporate pressures to promote a particular sand management technology or solution.

Benefits

You will learn:

- about data requirements and methods used to predict when and where sand production will occur
- when to manage sand and when to exclude it
- how best to work in an integrated team
- about sand control equipment specification, selection, design, installation and operation
- why sand control fails and how to remediate

Who should attend?

Those involved in the development, implementation and monitoring of the field sand management strategy, namely:

- asset managers
- production engineers / technologists
- completion / well engineers
- geomechanics engineers
- reservoir engineers
- facilities engineers

The delegates should have a basic understanding of sand production issues and want to learn more about some of the misleading legacy guidelines, potential pitfalls, current best practices, and the rewards realised by successful sand management.



Duration

- 4 days

Course Instructors

The principal instructor is Adrian Slayter, Senergy's Principal Production Technologist in Perth, Australia. Adrian has 20 years' experience in well construction, production technology and sand management, gained with Shell International, Helix RDS and Senergy. He has presented on sand management issues at many international conferences and workshops.

The modules on sand production prediction are provided by Senergy's local geomechanics specialists. Together, the members of the training team have worked on over 100 sand management projects programmes for a range of reservoir types and clients.



Course Description

Modules include:

Introduction

- overview of sand production issues
- options for life of field sand management: active and passive sand control and surface sand management
- the sand management road map
- the sand management team and their responsibilities

Sand failure - overview

- physics of sand production failure mechanisms and post-failure stabilisation
- rock strength model: log and core data
- stress model: far field and borehole / perforation stresses

Sand failure - models

- empirical, analytical and numerical models: applications and limitations
- model calibration
- approaches to sand volume prediction
- effects of water production
- sand failure in water injectors

Surface sand management

- common problems
- equipment and systems
- solids transport and erosion
- sand monitoring and surveillance

Passive sand control

- choke management
- oriented and selective perforation
- cavity completions and well conditioning

Sand control: methods, equipment and systems

- slotted liners
- screens: standalone and expandable
- gravel packs: open hole and cased hole
- frac packs

Sand control: selection, design and installation

- considerations including: productivity, integrity, cost, functionality and logistics
- formation characterisation: petrology, particle size distribution (sieve and LPSA)
- drill in and completion fluid testing and selection
- gravel and screen sizing
- failure rates and longevity
- sand control completion skins
- installation tools and services
- sand control in water injectors
- sand face and completion cleanup best practice
- well operation and bean up best practice
- sand control plugging and screen erosion
- remedial sand control

Summary

- the “golden rules” of successful sand management

To book this course, please contact **Sarah McPhee** - Training Co-ordinator

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