

Formation Damage: Risks and Remedies

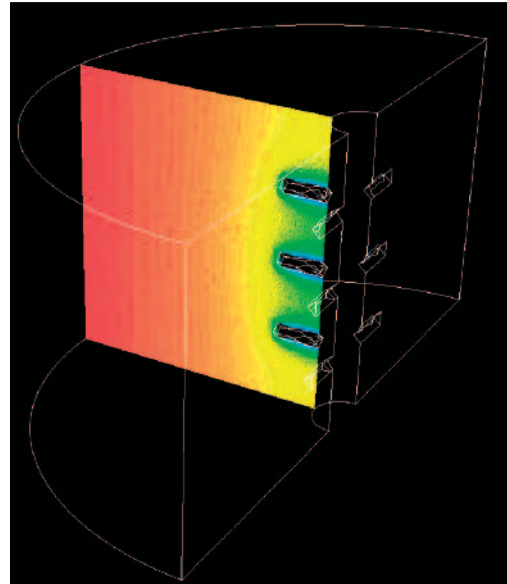
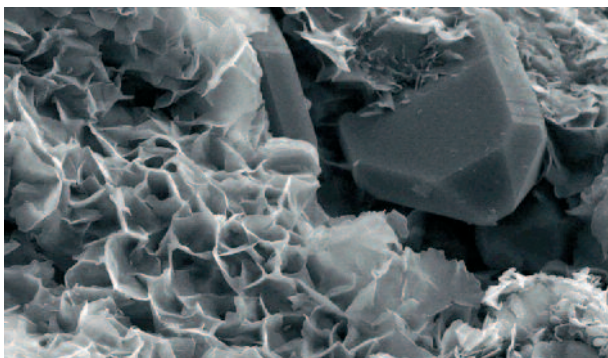
Aims

This course is intended for industry professionals who wish to develop or expand their knowledge of formation damage and how optimum productivity and injectivity can be assured. This independent course provides participants with a unique insight into formation damage through the practical integration of regional, core, well and drilling data. Theory and principles are reinforced by the extensive use of real field examples from throughout the world. The course aims to demystify the subject of formation damage and promote a formation damage awareness culture, encouraging participants to challenge convention and think about the implications of damage throughout a field or well life cycle – from drilling to abandonment.

Benefits

You will learn:

- 🕒 how to identify the geological controls on formation damage
- 🕒 how to evaluate well history to identify potential formation damage
- 🕒 how to design laboratory tests to measure and identify damage and stimulation
- 🕒 what the principal damage mechanisms are and how they can be avoided, minimised and removed
- 🕒 what different types of damage occur during drilling, completion, workover, stimulation and injection
- 🕒 what additional issues need to be considered when downhole sand control is employed



Who should attend?

Drillers, production engineers, completion engineers, production chemists, geoscientists, reservoir engineers and petrophysicists who wish to develop or expand their knowledge of formation damage and its impact on well productivity and injectivity.

Duration

- 🕒 2 days

Course Instructor

Michael Byrne has 20 years' industry experience chiefly working in the field of formation damage evaluation. He has written many key technical papers on the subject, is an active participant in relevant Society of Petroleum Engineers events and publications, and is a SPE Distinguished Lecturer. Michael spent many years with Corex in the UK before joining Senergy in 2007, where he is Principal Formation Damage Consultant. He has written several training courses and presented courses around the world for more than 15 years. He offers a unique insight into formation damage and its avoidance and remediation.

Course Description

Modules include:

Introduction to formation damage

- what is formation damage?
- when and where does it occur?
- why are we interested?
- financial implications

Reservoir rock and reservoir fluids

- geological techniques for mineral identification
- geological control of formation damage
- sandstone reservoirs
- clay minerals
- fines migration
- carbonates
- damage associated with reservoir fluids
- asphaltenes
- waxes and resins
- scale precipitation

Well operations and damage

- drilling and completions
- mud design and filter cake
- filtrate and retention
- swelling clays
- compatibility

Sand control

- sand failure and production
- selection of sand control
- particle size analysis
- sand retention testing
- sand control and near wellbore interface

Water injection

- filtration requirements
- compatibility
- fines
- produced water re-injection
- H₂S

Well intervention

- workovers
- scale inhibitor and other squeezes

Production related damage

- pressure-induced
- flow rates and water ingress

Understanding, avoiding and removing damage

- well tests and production data
- IPR and damage
- laboratory test design
- identifying damage mechanisms
- avoidance and remediation

Stimulation

- mechanical stimulation
- chemical stimulation
- damage during stimulation
- stimulation design

How to adopt a formation damage awareness culture

- recent advances in formation damage evaluation and remediation – what we know and what we don't know
- examples of integration of damage awareness into prospect appraisal and field development planning

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

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