

COURSE TIMETABLE

Day 1 Geomechanical Modelling

Rock Failure Mechanisms and Sand Production

- Review of the physical mechanisms leading to sand failure and sand production

In-situ and Wellbore Stresses

- Review of how in-situ stresses redistribute around wellbores, how they evolve over time, and how to determine from field data

Mechanical Properties and Rock Strength from Core and Log Data

- Description of the various methods available to determine rock strength for sand failure analysis

Class examples using Tataouine

Day 2 Wellbore Stability Analysis

Approaches to Sand Failure Modelling

- Review of commonly used sand failure prediction models

Sand Failure Models Calibration

- Review of sand failure model calibration

Passive Sand Management

Description of passive sand management strategies, which could be an alternative for active downhole sand control

Examples using Tataouine

Day 3 Sand Control Design

Sand Control Techniques

Sand Control Design

- Completion Types and Selection
- Sand Control in Horizontal Wells

Solids transport

Surface Sand Management

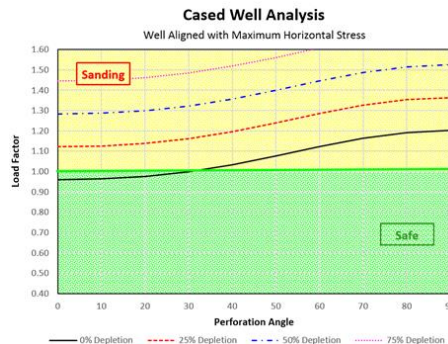
- Sand traps
- Sand catchers
- Sand filters
- Cyclonic desanders

Day 4 Case Studies

Practical Case Studies

- An opportunity to put into practice what has been learnt over the previous two days.
- Analyze and determine the sanding potential for a proposed deviated production well.

Geomechanics and Sand Management Course



DESCRIPTION

This course has been designed to develop Drilling, Petroleum, and Reservoir Engineers knowledge to a level where they have the skills to independently construct, quality check, and apply Geomechanical Modelling in practical situations. The course will improve students understanding of both the underlying principles used in identifying sand strength or applying sand control techniques, maximising drawdown constraints in completions with or without sand control.

Concepts will be explored & presented interactively. The course includes numerous real-life class examples that serve to reinforce and consolidate the theoretical framework covered.

WHAT IS UNIQUE?

- Practical Worked Examples
- Class Exercises
- Interactive Sessions
- Workshop

WHO SHOULD ATTEND?

- Reservoir Engineers
- Drilling Engineers
- Production Engineers
- Petroleum Engineers

DURATION

- 4 Days

COMPANY BACKGROUND

Sapella is an independent petroleum consulting company who focus on providing engineering and technical services to the global upstream oil and gas industry. Our services and software are utilized by our clients for the planning, development, commissioning and operational phases of their oil and gas projects. Our clientele includes companies ranging from the super majors and national oil companies, to independents, as well as service and equipment supply companies, where we provide niche skills to assist in all field development stages.

TATAOUINE SOFTWARE

Sapella has developed Tataouine, an integrated geomechanical and sanding model. This tool incorporates database capabilities that allow the management of both individual well, and full field data. With the capability of full data integration, calculations can be completed quickly for any well in the database. Best practices in geomechanics and data tiding are secondary benefits in such a setup.



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DALE CHENERY (Sapella Engineering Solutions)
Principal Production Technologist

Dale Chenery is a Director and Principal Production Technologist with Sapella Engineering Solutions. Dale graduated from the University of Alberta in 1981 with a Bachelor of Science in Petroleum Engineering. He joined Sapella as a partner in 2013 and has had a lead role in the development of the company. Over his career he has given more than 15 course modules in topics including the modelling of geomechanics & hydraulic fracturing treatments, integrated asset modelling and advanced artificial lift design and troubleshooting.

He has more than 34 years experience in production technology and reservoir engineering having worked for major and independent oil companies, service companies, and consulting firms in Canada, the United States, Europe, the Middle East, and SE Asia.

HEIKO MORGENROTH
Principal Production Technologist

Heiko Morgenroth is a Principal Production Technologist with Sapella Engineering Solutions. Heiko graduated from the Imperial University in 1992 with a Master of Petroleum Engineering and completed the Base Courses for Software Engineering in 2000 to 2002 in Milton Keynes. He has more than 23 years' experience in production and reservoir engineering with major oil companies and independent consulting firms in South East Asia, Continental Europe, the Middle East and the North Sea.

He has completed projects for Shell, BP, Lasmco, Unocal, Chevron Texaco, Talisman, Murphy and others. He has set up a consultancy as a young engineer with five colleagues that grew to renowned 120 man power consultancy. He has 15 years of petroleum software development and automation of oil industry workflows including programming of geomechanics packages, production and semi real time systems.