

WELLBORE STABILITY & HOLE CLEANING

Start Date:	04/05/2026	End Date:	08/05/2026
Categories:	Oil & Gas	Venues:	Amsterdam
Formats:	In Person	Instructors:	

OVERVIEW

This technical course provides participants with essential knowledge on maintaining wellbore stability and achieving effective hole cleaning during drilling operations. It focuses on understanding the geological, mechanical, and operational factors that impact wellbore integrity, as well as techniques and best practices to ensure efficient cuttings transport and minimize drilling risks and non-productive time (NPT).

OBJECTIVES

By the end of this course, participants will be able to: - Understand the geomechanical principles affecting wellbore stability during drilling. - Identify causes of wellbore instability such as collapse, fracturing, and washouts. - Apply mud weight, drilling practices, and mechanical strategies to maintain stability. - Design and implement effective hole cleaning programs for various well trajectories. - Analyze and troubleshoot hole cleaning and wellbore stability problems to optimize drilling efficiency and safety.

COURSE OUTLINE

1- Fundamentals of Wellbore Stability: Geomechanics and Stress Analysis
2- Causes and Prevention of Wellbore Instability Events
3- Principles and Practices of Hole Cleaning in Vertical and Deviated Wells
4- Drilling Fluid Management and Mechanical Methods for Stability and Cleaning
5- Monitoring, Troubleshooting, and Optimizing Wellbore Stability and Hole Cleaning Operations

TARGET AUDIENCE

All Supervisory Levels, Drilling Engineers, Wellsite Supervisors, Mud Engineers, Directional Drillers, Drilling Superintendents, Geomechanics Specialists, and technical personnel involved in drilling operations and well integrity management.

METHODOLOGY

The course combines expert-led technical lectures, hands-on wellbore stability modeling exercises, drilling simulation workshops, real-world incident case studies, group troubleshooting activities, and risk assessment exercises to provide both theoretical knowledge and practical application.

CONCLUSION

Upon completion, participants will have the technical expertise to maintain wellbore stability, optimize hole cleaning efficiency, reduce drilling risks, minimize operational delays, and improve overall drilling performance and safety.

DAILY AGENDA

Day 1: Introduction to Wellbore Stability and Geomechanical Fundamentals

Explore basic concepts of rock mechanics, in-situ stresses, and how they influence wellbore behavior during drilling operations.

Day 2: Causes, Diagnosis, and Prevention of Wellbore Instability

Identify common instability issues (e.g., collapse, breakouts, washouts), their symptoms, and engineering solutions to prevent them.

Day 3: Fundamentals of Hole Cleaning in Vertical, Deviated, and Horizontal Wells

Understand the mechanics of cuttings transport, annular velocity requirements, and operational practices to improve hole cleaning.

Day 4: Drilling Fluids and Mechanical Practices for Stability and Cleaning

Learn how to engineer and manage drilling fluids, optimize circulation, and apply mechanical practices such as reaming and wiper trips.

Day 5: Monitoring, Troubleshooting, and Optimizing Drilling Performance

Implement best practices for real-time monitoring, analyze wellbore and hole cleaning data, and troubleshoot stability and cleaning challenges.

Page 2 of 3

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