BLACKBIRD FOR TRAINING

Reservoir Quality Analysis of Sandstone & Carbonate Rock Types

3 – 7 January 2027
Dubai (UAE)

UK Traininig
PARTNER



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Reservoir Quality Analysis of Sandstone & Carbonate Rock Types

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Introduction

The Blackbird Reservoir Characterization Course offers a comprehensive exploration of sandstone and carbonate rock types, focusing on their reservoir quality. This specialized training equips participants with the knowledge and tools to analyze petrophysical properties and understand the importance of reservoir characterization in the oil and gas industry. By delving into integrated reservoir characterization, participants will learn to assess and interpret the poro-perm relationships of reservoir rocks, enabling them to make informed decisions about reservoir quality and geological modeling.

The course combines theory and practical sessions, using examples from significant siliciclastic and carbonate reservoirs in regions like East and West Africa. This hands-on approach ensures participants gain valuable insights into core sample analysis, sandstone qualities, and the diverse types of carbonate rocks.

Course Objectives

- Define and understand the meaning of reservoir characterization and its role in oil and gas exploration.
- Analyze petrophysical properties and their implications for reservoir quality.
- Differentiate between siliciclastic and carbonate reservoirs, including their depositional environments and diagenetic processes.
- Learn the methods of core sample analysis and integrate findings into geological modeling.
- Master the principles of rock typing and its applications in reservoir characterization.
- Gain insights into carbonate diagenesis and its impact on petrophysical properties and reservoir engineer tasks.
- Engage in practical applications, including SEM/EDX/XRD analysis, and explore key case studies from global oil reservoirs.



Course Outlines

Day 1: Introduction to Siliciclastic Reservoirs

- Definition and importance of reservoir characterization.
- Classification of siliciclastic rocks and their depositional markers.
- Analysis of sandstone qualities, including texture, grain size, and provenance.
- Diagenetic controls and their impact on reservoir quality.
- Overview of analytical tools like SEM, EDAX, and XRD.

Day 2: Reservoir Quality Analysis of Sandstone Rock Types

- Understanding poro-perm relationships in sandstones.
- Techniques for core sample analysis and data integration with wireline logs.
- The impact of cementation and diagenesis on sandstone reservoir quality.
- Application of rock typing and petrophysical properties evaluation.

Day 3: Introduction to Carbonate Reservoirs

- Overview of carbonate reservoirs, including depositional environments and mineralogy.
- Classification and characterization of carbonate rock types.
- Study of carbonate diagenesis, including dolomitization models and porosity evolution.
- Impact of environmental changes on carbonate reservoir quality.

Day 4: Reservoir Quality Analysis of Carbonate Rock Types

- Detailed analysis of carbonate poro-perm relationships and their variation over time.
- Methods for petrophysical assessment of carbonate rocks.
- Comparative study of limestone vs. dolostone reservoir quality.
- Case studies on regional reservoir characterization and geological modeling.

Day 5: Case Studies and Practical Work

- Examination of real-world siliciclastic and carbonate reservoirs in Africa, Asia, and beyond.
- Hands-on practice in polarizing microscopy and core sample analysis.
- Evaluation of reservoir quality through SEM/EDX/XRD imaging and data interpretation.
- Self-training techniques using referenced materials on petrophysics and reservoir quality.



Why Attend this Course: Wins & Losses!

- Gain expertise in the fundamentals of reservoir characterization and its applications.
- Develop a deep understanding of petrophysical properties and how they shape reservoir quality.
- Learn cutting-edge methods in core sample analysis, rock typing, and geological modeling.
- Enhance your knowledge of carbonate diagenesis and sandstone qualities, vital for effective exploration and production.
- Engage with real-world examples to bridge the gap between theory and practice.

Conclusion

This Reservoir Characterization Course provides an unparalleled opportunity to master the key principles of petrophysical analysis, reservoir engineering, and geological modeling. By the end of this program, participants will be equipped to tackle complex challenges in reservoir characterization, ensuring better resource management and exploration outcomes.

Whether you are a reservoir engineer, a geologist, or a petroleum professional, this course empowers you with the tools and insights to excel in the dynamic energy sector.

