BLACKBIRD FOR TRAINING

Reservoir Quality Analysis of Sandstone & Carbonate Rock Types

Online

20 - 24 October 2025

UK Traininig

PARTNER

Reservoir Quality Analysis of Sandstone & Carbonate Rock Types

Code: OG28 From: 20 - 24 October 2025 City: Online Fees: 2400 Pound

Introduction

This Blackbird training course is aimed at giving oil industry geologists a detailed introduction to the study of sandstone and carbonate rock types in terms of reservoir quality. Reservoir quality analysis permits to identify the main depositional, provenance and diagenetic controls on the evolution of the poro-perm characteristics of sandstone and carbonate reservoirs e.g. evolution of porosity vs. burial depth, mineralogical content, and diagenetic environments. Examples from sandstone and carbonate oil/gas reservoirs i.e. current East & West Africa basins are also taken into consideration.

Course Objectives

- Understand what are the different types of sandstone hydrocarbon reservoirs and their main controls on reservoir quality.
- Understand what are the different types of carbonate reservoirs and their main controls on reservoir quality.
- Be able to differentiate depositional, provenance, and diagenetic markers of analysed sandstones and carbonates.
- Be able to integrate and interpret poro-perm data vs. stratigraphy and regional geology e.g. well correlations.
- Understand the main rock-based methodologies of analysis applied to reservoir quality studies.
- Be conversant with the concepts of Rock typing and petrophysical comparison of cuttings and core samples.

Course Outlines

Day 1: Introduction to Siliciclastic Reservoirs

- Siliciclastic rocks, sediment texture, detrital components.
- Sandstone classification, minerals, source areas, depositional markers.
- Sandstone composition, provenance, and tectonic settings.
- Grain size analysis and digital image analysis.
- Depositional environments, provenance, and reservoir quality.
- Definition of matrix and pseudo-matrix.
- Compaction and authigenic components.
- Diagenesis of siliciclastic rocks, diagenetic environments & sequences.
- Concepts of SEM, EDAX, and XRD analyses, chronology of diagenesis.
- Concepts of CL analysis on the distribution of quartz cement.

Day 2: Reservoir Quality Analysis of Sandstone Rock Types

- Reservoir quality definition and methods of work.

Head Office: +44 7480 775 526
Email: Sales@blackbird-training.com
Website: www.blackbird-training.com

- Cementation and reservoir quality.
- Porosity types in sandstones.
- Porosity-permeability analysis and interpretation, cuttings TS descriptions/analysis tied to wireline logs.
- Estimating subsurface reservoir quality from outcrop samples.
- Rock Typing, petrophysical assessment of cuttings, rock typing analysis of cuttings petro-types.
- Rock Typing classification schemes as from oil industry methodologies.
- Rock Typing and reservoir quality.
- Diagenetic controls on reservoir quality and porosity variation with depth & stratigraphy.

Day 3: Introduction to Carbonate Reservoirs

- Introduction of carbonate reservoirs.
- Components of limestones, carbonate depositional environments, and facies, calcite vs. aragonite seas in the geological record.
- Matrix and authigenic components, taxa vs. mineralogy, classification of limestones.
- Rates of carbonate production, microfossils, paleoenvironmental markers, carbonate platform facies, carbonates and sea level changes, regional carbonate petrography vs. stratigraphy.
- Carbonate diagenesis: Neomorphism, compaction, marine diagenesis, meteoric diagenesis, burial diagenesis.
- Diagenetic markers, carbonate diagenetic stages.
- Dolomite textures and stable isotope signatures.

Day 4: Reservoir Quality Analysis of Carbonate Rock-Types

- Carbonate diagenesis and reservoir quality, dolomite texture vs. petrophysics, dolomitization models, limestone vs. dolostone reservoir quality.
- Porosity in carbonate rocks, classification schemes, petrophysics by carbonate rock types, porosity preservation, visual estimation of porosity vs. point count porosity.
- Controls on reservoir quality, rock fabric, and wireline logs, porosity evolution vs. geological time.
- Carbonate reservoir models and reservoir quality, porosity vs. petro-facies.
- Rock typing concepts, petrophysical assessment of cuttings, rock typing classification schemes, Rock typing datasheets, rock typing and reservoir quality.
- Emphasis on single-well or multi-well studies, with regional reservoir quality correlations.

Day 5: Examples of Siliciclastic and Carbonate Reservoirs and Practical Work

- Cretaceous siliciclastic reservoirs from north, east, and west Africa.
- Italian carbonate reservoirs, Angolan Pre-Salt Pre-Aptian reservoirs, Kenyan carbonates, Indonesian carbonate reservoirs, New Zealand carbonate reservoirs, and Oman reservoirs.
- Practical session in polarizing microscopy on Texture, composition, diagenesis, porosity, and reservoir quality of siliciclastic and carbonate rock types.
- Visual estimation of sandstone and carbonate porosity. The porosity of core samples point count porosity and point count porosity vs. CA data.
- Differences in the controls on reservoir quality between sandstones and carbonates.
- SEM/EDX/XRD images and plots.
- References on petrography/petrophysics/reservoir quality for self-training sessions.

Head Office: +44 7480 775 526
Email: Sales@blackbird-training.com
Website: www.blackbird-training.com

Blackbird Training Cities

Europe

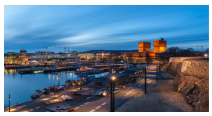

Malaga (Spain)


Sarajevo (Bosnia and Herzegovina)


Cascais (Portugal)


Glasgow (Scotland)


Edinburgh (UK)

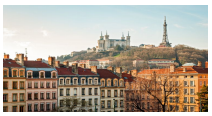

Oslo (Norway)


Annecy (France)


Bordeax (France)


Copenhagen (Denmark)


Birmingham (UK)


Lyon (France)


Moscow (Russia)


Stockholm (Sweden)


Podgorica (Montenegro)


Batumi (Georgia)


London (UK)


Istanbul (Turkey)


Amsterdam

(Netherlands)


Düsseldorf (Germany)

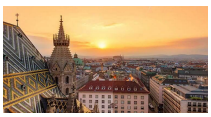

Paris (France)


Barcelona (Spain)


Munich (Germany)


Geneva (Switzerland)


Prague (Czech)


Vienna (Austria)


Rome (Italy)


Brussels (Belgium)


Madrid (Spain)


Berlin (Germany)


Lisbon (Portugal)


Zurich (Switzerland)


Manchester (UK)

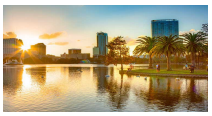

Milan (Italy)

Head Office: +44 7480 775 526
Email: Sales@blackbird-training.com
Website: www.blackbird-training.com

Blackbird Training Cities

USA & Canada


Los Angeles (USA)


Orlando, Florida (USA)

Online


Phoenix, Arizona (USA)


Houston, Texas (USA)


Boston, MA (USA)


Washington (USA)


Miami, Florida (USA)

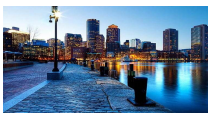

New York City (USA)


Seattle, Washington (USA)


Washington DC (USA)


In House


Jersey,New Jersey (USA)


Toronto (Canada)

Africa


Baku (Azerbaijan)
(Thailand)


Maldives (Maldives)


Doha (Qatar)


Manila (Philippines)


Bali (Indonesia)


Bangkok


Beijing (China)


Singapore (Singapore)


Sydney (Australia)


Tokyo (Japan)


Jeddah(KSA)


Riyadh(KSA)

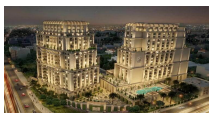

Dubai (UAE)


Kuala Lumpur (Malaysia)


Kuwait City (Kuwait)


Pulau Ujong (Singapore)


Jakarta (Indonesia)


Amman (Jordan)


Beirut (Lebanon)

Head Office: +44 7480 775 526
Email: Sales@blackbird-training.com
Website: www.blackbird-training.com

Blackbird Training Cities

Asia

Kigali (Rwanda)

Cape Town (South Africa)

Accra (Ghana)

Lagos (Nigeria)

Marrakesh (Morocco)

Nairobi (Kenya)

Zanzibar (Tanzania)

Tangier (Morocco)

Cairo (Egypt)

Sharm El-Sheikh (Egypt)

Casablanca (Morocco)

Tunis (Tunisia)

Head Office: +44 7480 775 526
Email: Sales@blackbird-training.com
Website: www.blackbird-training.com

Blackbird Training Clients

MANNAI Trading Company WLL, **Qatar**

Alumina Corporation **Guinea**

Booking.com **Netherlands**

Oxfam GB International Organization, **Yemen**

Capital Markets Authority, **Kuwait**

Waltersmith Petroman Oil Limited **Nigeria**

Qatar National Bank (QNB), **Qatar**

Qatar Foundation, **Qatar**

AFRICAN UNION ADVISORY BOARD ON CORRUPTION, **Tanzania**

KFAS **Kuwait**

Reserve Bank of Malawi, **Malawi**

Central Bank of Nigeria **Nigeria**

Ministry of Interior, **KSA**

Mabruk Oil Company **Libya**

Saudi Electricity Company, **KSA**

BADAN PENGELOLA KEUANGAN Haji, **Indonesia**

NATO **Italy**

ENI CORPORATE UNIVERSITY, **Italy**

Gulf Bank **Kuwait**

General Organization for Social Insurance **KSA**

Defence Space Administraion **Nigeria**

National Industries Group (Holding), **Kuwait**

Hamad Medical Corporation, **Qatar**

USAID **Pakistan**

STC Solutions, **KSA**

North Oil company,

EKO Electricity

Oman Broadband

UN.

Authority for

UK Trainnig **PARTNER**

Head Office: +44 7480 775 526
Email: Sales@blackbird-training.com
Website: www.blackbird-training.com

Blackbird Training Categories

Management & Admin

- Professional Skills
- Finance, Accounting, Budgeting
- Media & Public Relations
- Project Management
- Human Resources
- Audit & Quality Assurance
- Marketing, Sales, Customer Service
- Secretary & Admin
- Supply Chain & Logistics
- Management & Leadership
- Agile and Elevation

Technical Courses

- Hospital Management
- Public Sector
- Special Workshops
- Oil & Gas Engineering
- Telecom Engineering
- IT & IT Engineering
- Health & Safety
- Law and Contract Management
- Customs & Safety
- Aviation
- C-Suite Training

International House 185 Tower Bridge Road London SE1 2UF United Kingdom

+44 7401 1773 35
+44 7480 775526

Sales@blackbird-training.com

www.blackbird-training.com