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COURSE BROCHURE

Clastic and Carbonate Rock Typing Training Course

10 – 14 October 2027
Abu Dhabi

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Registered in the United Kingdom and Saudi Arabia

Clastic and Carbonate Rock Typing Training Course

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Clastic and Carbonate Rock Typing is a 1-week training course for geologists and petrophysicists who group reservoir rock into flow-meaningful classes and who leave with a rock type and reservoir quality comparison table for their own field. With fewer appraisal wells, a scheme linking pore geometry to flow decides how well volumes and rates are forecast. Jupiter Prime Training delivers this course on clastic and carbonate rock typing.

Why Clastic and Carbonate Rock Typing Matters Now

Three groups lean on rock typing today. Reservoir modellers need classes carrying consistent porosity, permeability and capillary behaviour into simulation grids. Asset owners want infill and injection decisions built on rock that behaves as predicted, not on averaged properties. Tighter laboratory and logging budgets mean each core plug and log run must earn its place. A weak scheme spreads error into saturation, recovery and well placement. The course rests on core description, pore throat measurement and log calibration rather than any proprietary scheme.

Who Gains Most from Clastic and Carbonate Rock Typing

- Geoscientists responsible for core description, thin section review and sample selection
- Petrophysicists who calibrate log porosity, permeability and saturation to core measurements
- Development geologists who build facies and property models for field planning
- Specialists who commission and quality-check routine and special core analysis
- Reservoir engineers who assign flow units and saturation functions to simulation cells

Subsurface asset teams gain most when geologists and petrophysicists from one field attend together and agree one scheme.

Clastic and Carbonate Rock Typing Capabilities

Participants read pore systems in two rock families and turn them into classes a model can carry.

- Compare intergranular, moldic, vuggy and fracture pore systems — choice of rock typing basis per reservoir
- Assess grain size, sorting, cementation and dissolution controls on permeability — core sampling priorities
- Apply pore throat radius and capillary pressure data to define classes — saturation height assignment
- Build log-based rock type prediction from cored wells — uncored well interpretation
- Test rock type boundaries against production and pressure behaviour — modeller and engineer sign-off
- Communicate reservoir quality contrasts between sandstone and carbonate intervals — development planning discussions

Key Clastic and Carbonate Rock Typing Terms

- Rock type — reservoir rock sharing similar pore geometry, porosity-permeability trend and capillary behaviour.
- Pore throat radius — the size of the narrowest openings linking pores, which largely controls permeability.
- Flow unit — a mappable rock volume whose flow behaviour differs from neighbouring volumes.
- Moldic porosity — pore space left where grains or fossils have dissolved, common in carbonates.
- Reservoir quality index — a value from permeability and porosity summarising how readily rock transmits fluid.
- Electrofacies — a log response pattern used to predict rock type where no core exists.

Clastic and Carbonate Rock Typing Day by Day

Day 1: Pore Systems in Two Rock Families

- Intergranular Pore Networks in Sandstones — Baseline for Clastic Classes
- Carbonate Pore Classes From Interparticle to Vuggy — Choosing Carbonate Classification Basis
- Fracture and Matrix Pore Contributions — Dual Porosity Treatment Choices
- Thin Section and Scanning Images of Pores — Visual Evidence for Class Limits
- Rock Typing Objectives for Modelling — Agreeing What Classes Must Predict

Day 2: Controls on Porosity and Permeability

- Grain Size, Sorting and Clay Content — Clastic Permeability Ranking
- Compaction and Quartz Cement Effects — Depth Trends in Sandstone Quality
- Dolomitisation and Dissolution Effects — Carbonate Quality Enhancement Patterns
- Calcite Cementation and Pore Occlusion — Identifying Tight Barriers and Baffles
- Porosity-Permeability Cross Plots by Facies — Separating Overlapping Rock Populations

Day 3: Rock Typing From Core Measurements

- Routine Core Analysis Data Screening — Plug Selection and Outlier Rejection
- Mercury Injection Capillary Pressure Curves — Pore Throat Distribution Classes
- Reservoir Quality Index and Normalised Porosity — Flow Zone Grouping Decisions
- Saturation Height Functions per Class — Initial Water Distribution in Models
- Relative Permeability Assignment by Class — Displacement Behaviour in Simulation

Day 4: Carrying Rock Types Into Logs and Wells

- Core-to-Log Depth Matching — Reliable Training Data for Prediction
- Electrofacies Clustering From Log Suites — Rock Type Prediction in Uncored Wells
- Nuclear Magnetic Resonance Pore Size Logs — Continuous Pore Geometry Estimates
- Image Log Texture for Vugs and Fractures — Carbonate Heterogeneity Detection
- Prediction Uncertainty and Blind Well Tests — Confidence in Uncored Classes

Day 5: Practising the Rock Type and Reservoir Quality Comparison Table

- Pore System Review of a Sandstone and a Carbonate Interval — Selecting Class Basis
- Core Data Grouping Into Candidate Classes — Testing Class Boundaries
- Log Prediction of Classes Across Field Wells — Checking Field-Wide Consistency
- Production and Pressure Reconciliation of Classes — Engineer Agreement on Units
- Rock Type and Reservoir Quality Comparison Table — Sharing Classes With Modellers

Applying Clastic and Carbonate Rock Typing After the Course

- Regroup one field's routine core data by pore throat class against current model zones.
- Run an electrofacies prediction on two uncored wells, tested on a blind cored well.

Clastic and Carbonate Rock Typing Questions FAQ

What is clastic and carbonate rock typing and why does it matter now?

Clastic and carbonate rock typing groups reservoir rock into classes with similar pore geometry and flow behaviour. It matters now because fewer wells and tighter budgets put more weight on models, and those models are only as sound as their classes.

Which roles gain most from clastic and carbonate rock typing?

Geologists and petrophysicists gain most from clastic and carbonate rock typing. Core analysts, development geologists and reservoir engineers also benefit.

How does clastic and carbonate rock typing differ from a course on diagenesis or depositional facies?

Clastic and carbonate rock typing focuses on classifying rock by flow behaviour across both rock families. A diagenesis or facies course explains how rock formed; this one turns that evidence into usable classes.

What do you bring back from clastic and carbonate rock typing?

You bring back a comparison of rock types and reservoir quality for a sandstone and a carbonate interval. It sets out each class, its pore system, property range and log signature.

Clastic and Carbonate Rock Typing: The Way Forward

The rock type and reservoir quality comparison table first informs which classes enter the next static model update. Geologists, petrophysicists and reservoir engineers use it to align zonation, saturation functions and well targets. After the first history match, revisit carbonate class boundaries, where vugs and fractures often defy core plug results.