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COURSE BROCHURE

Reservoir Fluid and Rock Laboratory Data Review Training Course

21 – 25 February 2027
Muscat

Reservoir Fluid and Rock Laboratory Data Review Training Course

Ref: 2907_110829 **Date:** 21 – 25 February 2027 **Location:** Muscat **Fees:** 6500 GBP

Reservoir Fluid and Rock Laboratory Data Review is a 1-week training course for reservoir and petroleum engineers who receive laboratory reports on fluid samples and core plugs and must decide which numbers to trust, producing a reservoir fluid and rock data summary. Development decisions rest on a few laboratory studies, so one weak sample can travel into every later model. Jupiter Prime Training treats the subject as an engineering audit of evidence.

Why Reservoir Fluid and Rock Laboratory Data Review Matters Now

Three pressures shape the subject today. Appraisal budgets are tighter, so fewer bottomhole samples and fewer cored intervals must carry more decisions. Partners and reserves auditors now ask how each fluid and rock property was validated before it entered the simulation deck. Laboratory work is split across contractors with different report layouts, leaving the operator to reconcile every sheet. Assets that screen evidence early avoid rework; those that accept reports at face value misjudge saturation pressure or oil in place.

Who Gains Most from Reservoir Fluid and Rock Laboratory Data Review

- Engineers who commission fluid sampling campaigns and approve laboratory scopes of work
- Specialists who build reservoir models from pressure, volume and temperature reports
- Petrophysicists who calibrate log interpretation against routine core measurements
- Engineers who plan waterflood or gas injection schemes from special core results
- Staff who prepare reserves submissions and partner technical committee packages

Subsurface teams gain most when engineers and petrophysicists attend together.

Reservoir Fluid and Rock Laboratory Data Review Capabilities

The outcomes centre on judging laboratory evidence before it reaches a model, from sample opening pressure to plug cleaning history.

- Assess fluid sample representativeness from opening pressure, contamination and gas-oil ratio checks — sample acceptance
- Test laboratory fluid reports for internal consistency across flash, constant composition and differential steps — model input approval
- Weigh black oil, volatile oil and gas condensate behaviour against the chosen depletion study — study selection
- Specify routine core analysis checks for porosity, grain density and permeability plugs — petrophysical calibration
- Apply wettability and relative permeability screening rules to special core results — injection planning
- Build a validated property table — partner and reserves reviewers

Key Reservoir Fluid and Rock Laboratory Data Review Terms

- Saturation pressure — the pressure at which the first gas bubble or liquid drop forms in a reservoir fluid at reservoir temperature.
- Opening pressure — the pressure recorded when a sample bottle is first connected in the laboratory.
- Constant composition expansion — a laboratory test that lowers pressure on a fixed fluid mass to find saturation pressure.
- Klinkenberg correction — an adjustment that converts gas permeability measured on a plug into an equivalent liquid permeability.
- Amott index — a wettability measure comparing spontaneous and forced displacement of oil and water in a core plug.
- Plug preservation — the handling and sealing history that decides whether core properties stay representative.

Reservoir Fluid and Rock Laboratory Data Review Day by Day

Day 1: Fluid Types and Sampling Evidence

- Black Oil, Volatile Oil and Condensate Signatures — Choosing The Fluid Description
- Bottomhole Versus Separator Sampling Records — Judging Sample Origin And Conditions
- Opening Pressure And Bottle Integrity Logs — Accepting Or Rejecting A Cylinder
- Drilling Mud Filtrate Contamination Estimates — Correcting Composition Before Use
- Recombination Ratio Checks For Surface Samples — Matching Field Gas-Oil Ratio

Day 2: Reading Fluid Laboratory Reports

- Single Stage Flash And Composition Tables — Confirming Mass And Mole Balance
- Constant Composition Expansion Curves — Locating Saturation Pressure Reliably
- Differential Liberation Versus Separator Tests — Selecting Formation Volume Factors
- Constant Volume Depletion For Condensates — Forecasting Liquid Dropout Behaviour
- Viscosity And Density Measurements — Spotting Outliers Against Correlations

Day 3: Routine Core Measurements

- Core Handling And Preservation Records — Deciding Whether Plugs Stay Representative
- Helium Porosity And Grain Density Results — Calibrating Log Porosity
- Gas Permeability With Klinkenberg Correction — Converting To Liquid Permeability
- Overburden Stress Corrections — Adjusting Ambient Values To Reservoir Conditions
- Plug Selection Bias Screening — Checking Coverage Of Each Rock Type

Day 4: Special Core and Fluid-Rock Links

- Amott And Centrifuge Wettability Tests — Setting Expected Waterflood Behaviour
- Capillary Pressure Curves From Mercury And Plate Tests — Estimating Transition Zones
- Steady And Unsteady State Relative Permeability — Screening Endpoint Saturations
- Cleaning And Restoration Protocols — Judging Restored-State Validity
- Rock Type Grouping From Pore Throat Data — Assigning Properties To Model Regions

Day 5: Practising the Reservoir Fluid and Rock Data Summary

- Sample Acceptance Matrix For A Field Case — Ranking Usable Fluid Samples
- Fluid Report Consistency Audit — Releasing Properties For The Simulation Deck
- Core Property Reconciliation With Logs — Resolving Porosity And Permeability Gaps
- Laboratory Scope Of Work For Missing Data — Prioritising Further Tests
- Reservoir Fluid And Rock Data Summary — Presenting Validated Properties And Confidence

Applying Reservoir Fluid and Rock Laboratory Data Review After the Course

- Run the sample acceptance matrix on the latest fluid campaign and flag failing cylinders.
- Reconcile routine core porosity and permeability with log values for one field.

Reservoir Fluid and Rock Laboratory Data Review Questions FAQ

What is reservoir fluid and rock laboratory data review and why does it matter now?

It is the structured checking of fluid and core laboratory reports before their numbers enter reserves estimates and reservoir models. It matters now because fewer samples and cores must support larger decisions.

Which roles gain most from reservoir fluid and rock laboratory data review?

Reservoir engineers, petrophysicists and laboratory focal points gain most.

How does reservoir fluid and rock laboratory data review differ from a fluid modelling course?

It concentrates on accepting or rejecting measured data rather than building equation of state models or phase diagrams.

What do you bring back from reservoir fluid and rock laboratory data review?

You bring back a field-ready summary of validated fluid and rock properties with confidence notes. You also return with an acceptance checklist and a draft scope for further tests.

Reservoir Fluid and Rock Laboratory Data Review: The Way Forward

The reservoir fluid and rock data summary first informs which properties the simulation deck may use and which remain provisional. Reservoir engineers and petrophysicists share it as the reference for laboratory evidence. After its first use, revisit the acceptance limits against new samples and cores, because each campaign shows where thresholds were set too loosely.