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COURSE BROCHURE

# Shale versus Conventional Completion Design Training Course

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Registered in the United Kingdom and Saudi Arabia

# Shale versus Conventional Completion Design Training Course

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Shale versus Conventional Completion Design is a 1-week training course for petroleum engineers moving from conventional reservoirs into unconventional plays, built around a completion design comparison that sets two candidate wells side by side. Operators now drill long horizontal laterals in tight rock, where a stimulation choice that suited a permeable sandstone can waste water, proppant and rig time. Jupiter Prime Training presents this shale versus conventional completion design course for engineers making that shift.

## Why Shale versus Conventional Completion Design Matters Now

Three forces shape completion choices today: longer laterals with more stages per well, tighter limits on fresh water and flowback disposal, and closer well spacing that turns one pad into a connected system. An operator that carries conventional habits into ultra-low permeability rock pays for idle clusters, frac hits on parent wells and poor recovery per lateral metre. A deliberate comparison places fluid and proppant where the rock rewards them. The course rests on fracture mechanics, stimulated rock volume concepts and well-proven field diagnostics rather than any single vendor method.

## Who Gains Most from Shale versus Conventional Completion Design

- Completion engineers who set stage layout and treatment schedules
- Reservoir engineers who forecast recovery and set lateral spacing
- Production engineers who manage flowback and early decline
- Drilling engineers who specify casing that frac pressure must not breach
- Water and logistics specialists who source, recycle and dispose of fluids

Asset teams preparing a first unconventional pad gain most when several specialists attend together.

## Shale versus Conventional Completion Design Capabilities

Participants learn to read the rock first and then pick stage count, perforation clusters and fluid systems that suit it.

- Assess rock brittleness, stress contrast and permeability — the choice between a single vertical frac and a multistage lateral
- Design plug and perf stages with limited-entry perforating — cluster efficiency across each lateral
- Weigh slickwater, hybrid and crosslinked gel fluids — proppant transport and conductivity targets
- Calculate water, proppant and pumping demand per pad — sourcing, recycling and disposal decisions
- Specify parent and child well sequencing — protection against frac hits and depletion effects

- Build a side-by-side design case — approval by the asset manager and partners

## Key Shale versus Conventional Completion Design Terms

- Plug and Perf — isolating each stage with a bridge plug, perforating clusters on wireline, then pumping.
- Cluster Spacing — the distance between perforation clusters in one stage.
- Limited-Entry Perforating — using few, small perforations so friction forces fluid evenly into every cluster of a stage.
- Stress Shadow — the added stress a growing fracture places on nearby rock.
- Frac Hit — pressure or fluid communication from a stimulated child well into a producing parent well.
- Stimulated Rock Volume — the part of the reservoir around a lateral whose permeability has been raised by the fracture network.

## Shale versus Conventional Completion Design Day by Day

### Day 1: Reservoir Contrasts and Completion Logic

- Permeability and Porosity Ranges — Why Tight Rock Needs Contact Area
- In-Situ Stress Profiles — Fracture Height Containment Between Layers
- Brittleness and Mineralogy Logs — Landing Zone Selection for Laterals
- Vertical Single-Stage Treatments — When Conventional Wells Still Pay
- Recovery Mechanisms by Rock Type — Matching Stimulation to Drainage

### Day 2: Multistage Horizontal Completion Methods

- Plug and Perf Sequences — Stage Count and Wireline Time
- Sliding Sleeve and Ball Drop Systems — Open Hole Versus Cemented Liners
- Limited-Entry Perforation Design — Even Fluid Split Across Clusters
- Cluster Spacing and Stress Shadow — Fracture Count per Stage
- Casing and Cement Integrity Checks — Pressure Rating for Frac Strings

### Day 3: Fluids, Proppant and Water

- Slickwater, Hybrid and Gel Systems — Proppant Transport Versus Friction
- Proppant Mesh Size and Loading — Conductivity in Narrow Fractures
- Pumping Rate and Horsepower Planning — Spread Size for Each Pad
- Produced Water Recycling Options — Sourcing Fresh Versus Treated Fluid
- Flowback and Disposal Handling — Surface Logistics and Environmental Exposure

### Day 4: Well Interference and Field Diagnostics

- Parent and Child Well Sequencing — Depletion Effects on New Stages
- Frac Hit Detection by Pressure Monitoring — Protecting Producing Wells
- Microseismic and Fibre Optic Diagnostics — Measured Fracture Geometry
- Tracer and Production Logging Results — Cluster Contribution by Stage
- Well Spacing and Stacking Trials — Pad Layout for Development

## Day 5: Practising the Completion Design Comparison

- Rock Property Screening Matrix — Applying Reservoir Contrasts to Candidates
- Stage and Cluster Layout Exercise — Applying Multistage Methods
- Fluid and Water Budget Worksheet — Applying Treatment Planning
- Interference Risk Register for the Pad — Applying Diagnostic Findings
- Completion Design Comparison — Shale Lateral Against Conventional Vertical Case

## Applying Shale versus Conventional Completion Design After the Course

- Check the next lateral's cluster layout against limited-entry and stress shadow criteria.
- Compare a recent pad's water budget with recycled fluid options.

## Shale versus Conventional Completion Design Questions FAQ

### What is shale versus conventional completion design and why does it matter now?

It is the practice of choosing stimulation methods to suit reservoir rock, from single vertical fracs to multistage laterals. It matters now because longer laterals, closer spacing and water limits make a poorly matched design costly in recovery and logistics.

### Which roles gain most from shale versus conventional completion design?

Completion, reservoir and production engineers gain most. You benefit most if you have worked conventional wells and now face tight rock, long laterals and pad development.

### How does shale versus conventional completion design differ from a fracture execution course?

It focuses on choosing the right design for the rock, not on running the pumping job. A course on field execution covers equipment, quality control and job supervision, whereas this one compares completion architectures, fluids and spacing before a well is fractured.

### What do you bring back from shale versus conventional completion design?

You bring back a side-by-side design case comparing a shale lateral with a conventional well. It sets out stage layout, fluids, water demand and interference risk.

## Shale versus Conventional Completion Design: The Way Forward

The completion design comparison gives an asset team one document that sets a shale lateral beside a conventional well. Its first use is the stage and spacing decision for the next pad, read by completion, reservoir and water specialists. After the first wells flow back, revisit the cluster and spacing assumptions against tracer and pressure results, and adjust the design for the following pad.