

Surface Well Test Design and Execution Training Course

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Overview

Surface Well Test Design and Execution Training Course is a one-week intermediate course for well test, production, reservoir, offshore operations, field operations, and technical supervision functions who leave with a Surface Well Test Design and Execution Pack. Participants connect test objectives and business decisions to surface well testing equipment, process safety barriers, execution sequences, real-time data acquisition, and data quality controls. The course addresses production and injection well test campaigns in land, offshore, and deepwater settings. Agile Leaders Training Center presents surface well test design and execution.

Who Should Attend

- Well test functions responsible for job design, equipment interfaces, execution control, and post-job evidence
- Production engineering functions responsible for well performance, test objectives, and operating decisions
- Field operations functions responsible for rig-up, commissioning, monitoring, sampling, and safe shutdown
- Reservoir engineering functions responsible for specifying data needs and reviewing acquired evidence
- Offshore operations functions responsible for space, utilities, marine interfaces, and deepwater constraints
- Technical supervision functions responsible for assurance, team alignment, readiness, and performance review

The course assumes participants already use oilfield operating procedures, well data, equipment diagrams, or test reports at work, and it leaves out advanced pressure-transient interpretation, reservoir model matching, and vendor-specific equipment maintenance.

Departments and Industries

The course supports departments and industries that design, execute, assure, or use evidence from surface production and injection testing.

- Oil and gas exploration, appraisal, development, and production
- Well testing, production technology, and reservoir engineering
- Offshore platforms, drillships, floating production facilities, and land operations
- Oilfield services, equipment rental, and field data acquisition
- Underground gas storage and carbon-storage injection operations
- Technical assurance, process safety, and asset operations

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Learning Objectives

By the end of this course, participants will be able to:

- Build objective-led surface well test design bases
- Evaluate equipment, layout, utility, and operating envelopes
- Apply process safety barriers and readiness controls
- Use real-time data acquisition and quality checks
- Diagnose execution deviations and contingency triggers
- Prioritize verified handover evidence and first-line inferences

Course Agenda

Day 1: Define the Test Basis

- Business Decision and Well Test Objective Map
- Production and Injection Test Type Selection Matrix
- Expected Rate, Pressure, Temperature, and Fluid Basis Sheet
- Test Period, Stabilization, Sampling, and Shutdown Sequence
- Surface Well Test Design Basis Register

Day 2: Configure the Surface Package

- Flowhead, Surface Safety Valve, and Emergency Shutdown Architecture
- Choke Manifold and Sand Management Configuration Method
- Test Separator, Metering, Sampling, and Tank Interface Diagram
- Effluent Handling, Flare, Burner, and Disposal Decision Matrix
- Equipment Rating, Layout, Utilities, and Line-Sizing Review

Day 3: Assure Safety and Readiness

- API RP 54 Pressure and Function Test Readiness Checklist
- API RP 14C Surface Safety Analysis Table Interface
- Process Hazard, Isolation, Relief, and Emergency Response Review
- Rig-Up Inspection, Leak Test, Commissioning, and Handover Gate
- Team Responsibility, Communication, and Stop-Work Matrix

Day 4: Control Execution and Data Quality

- Real-Time Pressure, Temperature, Rate, and Level Monitoring Board
- Instrument Range, Calibration, Redundancy, and Time-Synchronization Check
- Deepwater Space, Motion, Logistics, and Remote-Operation Constraint Register
- Data Verification, Validation, Gap, and Anomaly Log
- Execution Deviation, Contingency Trigger, and Decision Protocol

Day 5: Practice Test Delivery

- Suggested Exercise: Convert Business Questions into Test Objectives
- Suggested Exercise: Configure Equipment and Surface Flow Paths
- Suggested Exercise: Challenge Safety Barriers and Readiness Evidence
- Suggested Exercise: Diagnose Data Quality and Execution Deviations
- Capstone Exercise: Complete the Surface Well Test Design and Execution Pack

Practical Exercises

The course uses suggested activities to integrate planning, equipment, safeguards, execution, measurement, and handover evidence.

- Suggested activity: convert reservoir and production questions into measurable objectives, acceptance criteria, and a controlled operating sequence.
- Suggested activity: build a surface package diagram linking flowhead, choke, separator, metering, sampling, tanks, effluent handling, and emergency shutdown.
- Suggested activity: review pressure tests, function tests, barriers, roles, contingencies, and readiness evidence before introducing well fluids.
- Suggested activity: reconcile real-time measurements, flag gaps and anomalies, record decisions, and prepare a verified post-job handover.

FAQs

Who suits surface well test design and execution training, and what does it assume?

Surface well test design and execution training suits well test, production, reservoir, field, offshore, assurance, and supervision functions. It assumes practical exposure to oilfield procedures, well data, equipment diagrams, operating interfaces, or test reports.

How does surface well test execution differ from advanced well test interpretation?

Surface well test execution controls objectives, equipment, safeguards, measurement, operating sequences, contingencies, and field evidence. Advanced interpretation uses conditioned pressure and rate histories to diagnose flow regimes, estimate reservoir parameters, and compare transient models.

What equipment forms a surface well testing package?

A surface well testing package commonly links a flowhead, safety valve, choke manifold, sand control, test separator, metering, sampling, tanks, pumps, effluent handling, flare or burner, instrumentation, data acquisition, and emergency shutdown interfaces selected for expected conditions.

How is surface well test data quality controlled during execution?

Surface well test data quality is controlled through suitable instrument ranges, calibration, redundant measurements, synchronized time records, stable operating periods, verified samples, anomaly logs, reconciliation checks, and traceable decisions when conditions depart from the design basis.

What changes for deepwater surface well test execution?

Deepwater surface well test execution adds space, motion, marine, logistics, remote-control, high-pressure, effluent-handling, emergency-response, and personnel-exposure constraints. These conditions require explicit interface ownership, readiness gates, contingency triggers, and reliable real-time monitoring.

Conclusion

Participants take back a Surface Well Test Design and Execution Pack containing objectives, design basis, equipment configuration, safeguards, measurement controls, sequence, contingencies, and handover evidence. The pack changes disconnected field documents into one traceable test-delivery path. It supports safer readiness decisions, more reliable measurements, and clearer technical review without replacing advanced transient interpretation.

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