Prospect Risk and Geological Chance of Success Training Course

29 August – 9 September 2027
Johannesburg

AGILE LEADERS
Training Center

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Ref: 1262_193269 **Date:** 29 August – 9 September 2027 **Location:** Johannesburg **Fees:** 6400 Euro

Overview

Prospect Risk and Geological Chance of Success Training Course is a two-week advanced course for exploration geoscientists, subsurface leads, reservoir analysts, petroleum economists, assurance reviewers, and investment decision professionals who need a Prospect Risk and Geological Chance Decision File. The course separates geological chance, volumetric uncertainty, and commercial evaluation while connecting petroleum-system evidence, dependency, calibration, peer challenge, and drill decisions. Participants apply the methods to single-target and portfolio cases. Agile Leaders Training Center presents prospect risk as an evidence-based decision discipline.

Who Should Attend

- Teams responsible for generating and maturing exploration prospects
- Functions responsible for subsurface interpretation and petroleum-system evidence
- Teams responsible for probabilistic volumes and resource evaluation
- Functions responsible for exploration economics and investment screening
- Reviewers responsible for technical assurance and peer challenge
- Leaders responsible for drill decisions and exploration portfolios

The course assumes participants already interpret exploration evidence, estimate uncertainty, review prospects, or support investment decisions and leaves out introductory geology and software-specific administration.

Departments and Industries

The course supports departments and industries that evaluate subsurface opportunities and capital choices under uncertainty.

- Exploration, geoscience, reservoir, and subsurface functions
- Petroleum economics, planning, portfolio, and investment teams
- Technical assurance, risk governance, and decision-review functions
- Energy operators, joint ventures, and technical advisory organizations
- Financial and professional-services teams reviewing upstream opportunities

Learning Objectives

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

- Build a consistent geological success definition and risk-element model
- Analyze petroleum-system evidence and uncertainty separately
- Evaluate dependency, correlation, and multiple-target chance
- Calibrate prospect estimates against outcomes and analogs
- Compare prospects through documented assurance criteria
- Build a Prospect Risk and Geological Chance Decision File

Course Agenda

Day 1: Prospect Risk Foundations

- Prospect, Lead, and Play Maturity Classification Map
- Geological Success and Failure Definition Charter
- Risk, Uncertainty, and Commerciality Separation Matrix
- Prospect Evaluation Governance and Decision-Rights Model
- Prospect Risk Evidence and Assumption Register

Day 2: Petroleum-System Evidence

- Source, Maturation, and Charge Evidence Matrix
- Migration Pathway and Timing Assessment Map
- Reservoir Presence and Effectiveness Evidence Sheet
- Trap Geometry and Configuration Review Checklist
- Seal Capacity and Preservation Assessment Frame

Day 3: Geological Chance Structure

- Geological Chance Element Scoring Method
- Minimum Technical Success Threshold Statement
- Evidence Strength and Confidence Calibration Scale
- Risk-Factor Combination and Audit Calculation
- Geological Chance Rationale and Narrative Template

Day 4: Volumetric Uncertainty

- Chance-versus-Volume Boundary Test
- Low, Best, and High Input Range Table
- Probabilistic Volumetric Distribution Model
- Parameter Sensitivity and Tornado Analysis
- Unrisked and Chance-Weighted Resource Comparison

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Day 5: Dependency and Correlation

- Conditional Probability and Common-Cause Risk Map
- Risk-Element Dependency Review Matrix
- Multiple-Target Geological Chance Calculation
- Shared Charge, Reservoir, and Seal Dependency Model
- Correlation Assumption Challenge Log

Day 6: Calibration and Bias Control

- Pre-Drill Prediction and Outcome Calibration Table
- Analog Selection and Comparability Checklist
- Dry-Hole Failure-Mode Decision Tree
- Overconfidence and Anchoring Bias Review
- Calibration Curve and Forecast Performance Dashboard

Day 7: Commercial and Decision Boundaries

- Geological Chance and Commercial Chance Separation Map
- Chance of Discovery and Development Decision Frame
- Success-Case Economic Input Interface
- Decision Tree and Value-of-Information Model
- Drill, Defer, Acquire-Data, or Exit Option Record

Day 8: Prospect Sets and Portfolios

- Prospect Inventory and Consistent-Risking Table
- Portfolio Risk-Reward Comparison Matrix
- Dependent Prospect Aggregation Method
- Chance-Weighted Resource Portfolio View
- Prospect Ranking and Capital Constraint Canvas

Day 9: Peer Review and Assurance

- Independent Peer-Challenge Question Set
- Evidence Traceability and Version-Control Index
- Risk Estimate Reconciliation Protocol
- Technical Assurance Finding and Response Log
- Decision Readiness and Escalation Checklist

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Day 10: Prospect Risk Decision Practice

- Exercise: Petroleum-System Evidence Assessment
- Exercise: Geological Chance and Dependency Calculation
- Exercise: Volumetric Uncertainty and Calibration Review
- Exercise: Peer Challenge and Drill Decision
- Capstone Exercise: Prospect Risk and Geological Chance Decision File

Practical Exercises

The course uses suggested activities that connect subsurface evidence to transparent prospect and portfolio decisions.

- Suggested activity: score petroleum-system elements and document evidence gaps for a frontier prospect.
- Suggested activity: separate geological chance from probabilistic volumes for a multi-target opportunity.
- Suggested activity: calibrate prior forecasts against well outcomes and identify recurring bias.
- Suggested activity: conduct a peer challenge and prepare a drill decision record.

FAQs

Who should attend the Prospect Risk and Geological Chance of Success Training Course?

The course suits professionals responsible for exploration interpretation, prospect maturation, resource evaluation, economics, assurance, or drill decisions. It assumes experience with subsurface evidence, uncertainty estimates, prospect reviews, or investment analysis.

How does geological chance of success differ from volumetric uncertainty?

Geological chance estimates whether the defined minimum technical outcome will occur, while volumetric uncertainty describes the range of recoverable quantities if the geological outcome succeeds.

How does prospect risk assessment differ from exploration economics training?

Prospect risk assessment concentrates on geological evidence, chance elements, dependency, uncertainty, and calibration, while exploration economics training concentrates on costs, revenues, fiscal assumptions, commercial thresholds, and value measures.

Why does dependency matter in geological chance calculations?

Dependency matters because targets or risk elements may share charge, reservoir, seal, timing, data, or interpretation assumptions; treating them as independent can distort combined chance estimates.

What belongs in a Prospect Risk and Geological Chance Decision File?

The file contains success definitions, evidence matrices, risk scores, chance calculations, uncertainty ranges, dependency assumptions, calibration results, peer-review findings, economic interfaces, option records, and decision approvals.

Conclusion

The course integrates petroleum-system evidence, geological chance, volumetric uncertainty, dependency, calibration, commercial boundaries, portfolio comparison, peer review, and assurance. Participants take back a Prospect Risk and Geological Chance Decision File that records the evidence and reasoning behind exploration choices. The file makes estimates easier to challenge, compare, update, and govern before drilling.