

Coring Operations and Routine Core Analysis Training Course

31 January – 4 February 2027
Cape town

AGILE LEADERS
Training Center

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Ref: 1956_244928 **Date:** 31 January – 4 February 2027 **Location:** Cape town **Fees:** 6000 Euro

Overview

Coring operations and routine core analysis is a one-week course for subsurface, drilling, wellsite, and laboratory professionals who leave with a Core Acquisition and RCAL Quality File. Participants connect coring objectives, recovery, preservation, sample preparation, rock-property measurement, uncertainty, quality control, and reporting through traceable field-to-laboratory evidence. The course resolves gaps between core acquisition decisions and dependable reservoir data. Agile Leaders Training Center presents coring operations and routine core analysis.

Who Should Attend

- Subsurface functions responsible for defining core-data requirements and using measurements in reservoir decisions
- Drilling and coring functions responsible for tool selection, recovery planning, and operational coordination
- Wellsite geology functions responsible for receiving, marking, preserving, and documenting recovered core
- Core laboratory functions responsible for sample preparation, measurement execution, and quality control
- Petrophysics functions responsible for comparing core measurements with interpreted reservoir properties
- Technical assurance functions responsible for data traceability, uncertainty review, and laboratory reporting

The course assumes participants already work with wells, reservoir samples, laboratory measurements, or subsurface data, and it leaves out detailed sedimentological logging, special core analysis, and broad wireline-log interpretation.

Departments and Industries

The course supports departments and industries that acquire, test, assure, or use reservoir rock evidence.

- Oil and gas exploration, appraisal, and field development
- Drilling, coring, mudlogging, and wellsite services
- Core analysis and geoscience laboratories
- Reservoir engineering, petrophysics, and geological modeling
- Energy research institutes and technical universities
- Quality assurance and testing services

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Learning Objectives

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

- Build a coring program from reservoir decisions and sample requirements
- Apply recovery, depth-control, preservation, and chain-of-custody methods
- Use representative plug selection and sample preparation controls
- Analyze porosity, permeability, grain density, and fluid saturation results
- Evaluate uncertainty, repeatability, bias, and laboratory QA/QC evidence
- Build a traceable routine core analysis report for reservoir decisions

Course Agenda

Day 1: Frame the Coring Program

- Reservoir Decision and Core-Data Requirement Matrix
- Whole Core, Sidewall Core, and Core Plug Selection Method
- Coring Interval and Sample Coverage Planning Sheet
- Core Barrel, Bit, and Coring Fluid Selection Checklist
- Core Recovery Risk and Contingency Register

Day 2: Recover, Preserve, and Control Depth

- Core Retrieval, Orientation, Marking, and Sectioning Workflow
- Wellsite Core Handling and Preservation Decision Tree
- Core Gamma and Core-to-Log Depth-Matching Method
- Sample Identity, Chain-of-Custody, and Storage Register
- Recovery Percentage, Loss Interval, and Disturbance Assessment Sheet

Day 3: Prepare Representative Samples

- Core Slabbing, Plugging, and Trim-End Preparation Plan
- Representative Plug Location and Heterogeneity Sampling Grid
- Solvent Cleaning and Fluid Removal Method Selection
- Controlled Drying and Sample Condition Verification Checklist
- Sample Dimensions, Bulk Volume, and Grain Volume Measurement Record

Day 4: Measure and Assure RCAL Data

- Helium Porosity and Grain Density Measurement Workflow
- Gas Permeability Measurement and Slip-Correction Method
- Fluid Saturation Extraction and Mass-Balance Calculation Sheet
- Calibration, Repeatability, Blank, and Reference-Sample QA/QC Chart
- Measurement Uncertainty, Bias, and Data-Acceptance Decision Matrix

Day 5: Practice Core-Data Decisions

- Suggested Exercise: Design a Coring Program from Reservoir Questions
- Suggested Exercise: Resolve Recovery, Preservation, and Depth-Control Failures
- Suggested Exercise: Review Porosity, Permeability, Density, and Saturation QA/QC
- Suggested Exercise: Reconcile Sample Selection, Uncertainty, and Reporting Evidence
- Capstone Exercise: Complete the Core Acquisition and RCAL Quality File

Practical Exercises

The course uses suggested activities to convert coring and laboratory evidence into traceable reservoir decisions.

- Suggested activity: define coring intervals, recovery controls, and handling requirements for an appraisal well.
- Suggested activity: select representative plugs and document cleaning, drying, and sample-condition decisions.
- Suggested activity: diagnose inconsistent porosity, permeability, density, and saturation results using QA/QC evidence.
- Suggested activity: present an RCAL report with accepted data, exclusions, uncertainty, and reservoir-use conditions.

FAQs

Who suits coring operations and routine core analysis training, and what does it assume?

Coring operations and routine core analysis training suits professionals who plan coring, handle recovered core, conduct RCAL measurements, assure laboratory data, or use core evidence in reservoir decisions. It assumes working familiarity with wells, rock samples, laboratory data, or subsurface evaluation.

How does routine core analysis differ from special core analysis training?

Routine core analysis centers on sample preparation, porosity, permeability, grain density, fluid saturation, and data quality. Special core analysis investigates behavior such as capillary pressure, wettability, relative permeability, and electrical properties under more specialized test conditions.

Why is representative sampling important in routine core analysis?

Representative sampling prevents convenient or intact-looking plugs from biasing reservoir conclusions. A defensible plan links plug locations to lithology, heterogeneity, recovery condition, required measurements, and the decisions the dataset must support.

How are routine core analysis results quality-controlled?

Routine core analysis results are quality-controlled through calibrated equipment, documented sample condition, blanks and reference samples, repeat measurements, acceptance limits, uncertainty estimates, and traceable treatment of excluded or corrected data.

How does core preservation affect porosity and saturation measurements?

Core preservation limits fluid loss, evaporation, contamination, oxidation, and mechanical damage before testing. Poor preservation can change measured saturation, disturb fragile pore structures, and weaken comparisons between laboratory measurements and in-situ reservoir conditions.

Conclusion

Participants take back a Core Acquisition and RCAL Quality File linking objectives, recovery controls, sample history, measurements, QA/QC, uncertainty, and reporting decisions. The file makes the field-to-laboratory evidence chain visible and reviewable. It helps subsurface and laboratory teams use routine core data with stated limits instead of treating every reported value as equally dependable.