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Well Test Analysis and Interpretation

TRAIN

Course Overview:
Well testing is a crucial technique used to evaluate reservoir properties, assess well productivity, and optimize production strategies
This comprehensive 5-day professional training course will equip engineers and geoscientists with the essential knowledge and skills to effectively analyze and interpret well test data to make informed subsurface decisions

Course Objectives:
By the end of this course, participants will be able to:
1
Understand the fundamental principles of well testing and its significance in reservoir characterization and well performance evaluation
2
Identify and apply various well testing techniques, including drawdown, buildup, and pressure transient tests
3
Analyze well test data to extract key reservoir parameters, such as permeability, skin factor, and wellbore storage
4
Interpret well test results to assess well productivity, identify potential production problems, and optimize well management strategies
5
Utilize well test analysis to validate reservoir models and improve subsurface understanding

Course Agenda:

Day 1: Introduction to Well Testing
• Delve into the history, principles, and objectives of well testing in subsurface evaluation
• Explore the different types of well tests and their applications in various reservoir scenarios
• Discuss the importance of well test planning, preparation, and execution
• Understand the factors affecting well test data quality and interpretation

Day 2: Well Test Data Acquisition and Processing
• Learn about various well test data acquisition systems, including pressure transducers, flow rate meters, and sampling devices
• Explore data processing techniques to ensure data integrity, eliminate noise, and prepare data for analysis
• Discuss the importance of data quality control and error analysis in well test interpretation
• Apply data processing tools to handle real-world well test data

Day 3: Pressure Transient Analysis Fundamentals
• Understand the mathematical principles governing fluid flow in porous media and pressure transient behavior
• Delve into the concept of wellbore storage and its impact on well test data
• Explore various analytical and numerical well test models for different reservoir conditions and test types
• Apply type curve analysis to interpret well test data and extract reservoir parameters

Day 4: Advanced Well Test Analysis Techniques
• Discuss the application of well test analysis in fractured reservoirs, multiphase flow scenarios, and unconventional resources
• Explore the use of advanced well test analysis techniques, such as deconvolution, multirate testing, and transient interpretation of production data
• Analyze the impact of wellbore conditions, such as skin factor and wellbore geometry, on well test results
• Apply advanced well test analysis tools to interpret complex well test data

Day 5: Integration of Well Test Analysis with Reservoir Modeling and Subsurface Evaluation

• Integrate well test results with reservoir modeling and seismic data to enhance subsurface understanding
• Utilize well test analysis to validate reservoir models, refine reservoir property estimates, and improve production forecasts
• Discuss the role of well test analysis in reservoir management decisions, such as well placement, production optimization, and field development planning
• Explore the future trends and advancements in well test analysis, reservoir modeling, and subsurface data integration

Who Should Attend:
• Reservoir engineers and geoscientists involved in well testing, reservoir characterization, and subsurface evaluation
• Production engineers responsible for well performance optimization, field development planning, and production strategies
• Project managers and decision-makers overseeing well testing operations and subsurface evaluation projects
• Students and professionals interested in pursuing a career in reservoir engineering, well testing, and subsurface analysis

Course Benefits:
• Develop a comprehensive understanding of well testing principles, data acquisition, analysis techniques, and interpretation methods
• Gain hands-on experience in applying well test analysis software to interpret real-world well test data
• Enhance your ability to extract key reservoir parameters, assess well productivity, and optimize well management strategies
• Effectively utilize well test analysis to validate reservoir models, improve subsurface understanding, and inform reservoir development decisions
• Stay updated on the latest advancements in well test analysis, reservoir modeling, and subsurface data integration