BLACKBIRD FOR TRAINING

Subsurface Data Management and Governance for Brownfields

31 October – 4 November 2027
Dubai (UAE)



Subsurface Data Management and Governance for Brownfields

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Introduction

Brownfields, or mature fields, present unique challenges for oil and gas companies as they deal with declining production, aging infrastructure, and vast amounts of legacy subsurface data. Effective subsurface data management and governance have become critical to unlocking hidden potential, optimizing resources, and ensuring sustainable operations in such fields.

Without structured governance, organizations risk poor decision-making, data redundancy, increased operational costs, and missed opportunities for enhanced recovery. This course equips participants with the latest best practices, methodologies, and digital tools to transform subsurface data into a strategic asset that directly supports business objectives.

Course Objectives

- Understand the fundamentals of subsurface data management in brownfields.
- Apply governance principles to ensure accuracy, integrity, and reliability of data.
- Design integrated strategies for long-term data efficiency.
- Utilize modern tools for geological, geophysical, and engineering data integration.
- Build decision-making frameworks supported by high-quality data.
- Evaluate data risks and implement mitigation measures.
- Improve collaboration across multidisciplinary teams.
- Develop sustainable institutional knowledge management systems.

Course Outlines

Day 1: Fundamentals and Core Concepts

- Introduction to subsurface data management in brownfields.
- Characteristics and challenges of mature fields.
- Components of enterprise-level data management systems.
- Common gaps in traditional data handling.
- Data quality standards and their application.
- Practical exercise: assessing current data management frameworks.



Day 2: Principles of Data Governance

- Defining governance and its organizational role.
- Policies and procedures to ensure transparency.
- Global governance standards applied to subsurface data.
- Mechanisms for controlling and securing sensitive data.
- Tools for monitoring governance effectiveness.
- Group activity: developing a data governance policy.

Day 3: Data Integration Across Disciplines

- Challenges in integrating geological, geophysical, and engineering data.
- Techniques for improving the quality of integrated datasets.
- Strategies for minimizing inconsistencies between data sources.
- Role of digital analysis in subsurface integration.
- Hands-on simulation: multi-disciplinary data integration.
- Case study from mature field operations.

Day 4: Advanced Tools and Technologies

- Latest digital tools in subsurface data management.
- Applications of artificial intelligence and machine learning.
- Smart monitoring systems and predictive analytics.
- Transitioning from manual to automated systems.
- Workshop: practical use of advanced digital tools.
- Industry discussion: future challenges of digital transformation.

Day 5: Application and Sustainability

- Review of learned concepts and tools.
- Full simulation of subsurface data management in a brownfield.
- Performance gap analysis and solutions.
- Designing a long-term sustainable data strategy.
- Individual and group evaluation of outcomes.
- Closing session: sharing best practices and participant insights.



Why Attend This Course: Wins & Losses!

- Gain specialized knowledge in subsurface data governance.
- Practical application of governance principles in brownfields.
- Improved decision-making supported by reliable data.
- Reduce operational risks linked to poor data management.
- Strengthen collaboration between geoscientists and engineers.
- Leverage the latest digital and analytical technologies.
- Enhance organizational efficiency and economic returns.
- Build a long-term sustainability plan for data management.

Conclusion

Subsurface Data Management and Governance for Brownfields is no longer optional—it is a strategic necessity. Mature fields demand robust data systems to extend their productive life and maximize value. By applying structured governance and advanced technologies, organizations can transform subsurface data into a reliable asset for sustainable operations and enhanced recovery.

This course combines theory, hands-on exercises, and case studies to ensure participants gain both conceptual knowledge and practical tools. By the end of the program, participants will be equipped to implement governance frameworks that secure long-term value and operational excellence in brownfield management.

