Training Course on Well Integrity Management for Mature Assets

Professional Development Training Course Outline

Category	Oil and Gas	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Well integrity management for mature assets is a critical component in ensuring the safety, efficiency, and longevity of oil and gas operations. As aging wells face increasing operational challenges, maintaining their structural and functional integrity becomes paramount to prevent environmental hazards, optimize production, and comply with stringent regulatory requirements. Training Course on Well Integrity Management for Mature Assets equips industry professionals with advanced knowledge and practical skills necessary to assess, monitor, and manage well integrity risks effectively in mature fields. Emphasizing cutting-edge technologies and proven best practices, the program fosters a proactive approach to lifecycle management and asset optimization. Designed for engineers, operators, and asset managers, this course addresses the complex challenges posed by aging wells, including corrosion, pressure management, and mechanical failures. Participants will gain insights into integrity assessment techniques, risk-based decision-making frameworks, and regulatory compliance strategies, enabling them to implement robust well integrity programs. The course also highlights the importance of integrating data analytics, real-time monitoring, and maintenance planning to extend asset life and maximize return on investment. By leveraging case studies from mature asset fields worldwide, attendees will be prepared to apply learned concepts directly in their operations for enhanced safety and performance.

Programme Curriculum

Training Course on Well Integrity Management for Mature Assets

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Course Objectives

1. Understand well integrity fundamentals and lifecycle challenges in mature assets.
2. Apply risk-based well integrity management (WBIM) principles effectively.
3. Identify and mitigate common integrity threats such as corrosion and casing failures.
4. Utilize advanced inspection and monitoring technologies for aging wells.
5. Implement preventive maintenance strategies tailored to mature assets.
6. Develop comprehensive well integrity assessment plans aligned with industry standards.
7. Analyze and interpret well integrity data using digital tools and analytics.
8. Enhance regulatory compliance and reporting for well integrity management.
9. Optimize asset management decisions through integrity risk evaluation.
10. Address well abandonment and remediation best practices.
11. Foster a safety culture emphasizing well integrity across operational teams.
12. Incorporate real-time monitoring systems for proactive risk detection.
13. Leverage case study learnings from mature asset fields for practical application.

Target Audiences

1. Petroleum Engineers
2. Well Integrity Specialists
3. Asset Integrity Managers
4. Field Operations Supervisors
5. Risk and Safety Engineers
6. Maintenance Planners
7. Regulatory Compliance Officers
8. Technical Consultants in Oil & Gas

Course Duration: 10 days

Course Modules

Module 1: Introduction to Well Integrity for Mature Assets

- Fundamentals of well integrity
- Aging well challenges overview
- Well lifecycle and degradation mechanisms
- Regulatory requirements and standards
- Importance of integrity management in mature assets
- **Case Study:** Integrity failures and lessons learned from a North Sea mature field

Module 2: Risk-Based Well Integrity Management (WBIM)

- Principles of risk-based inspection (RBI)
- Risk identification and classification

- Risk assessment techniques
- Prioritization of integrity activities
- Integration of WBIM in operational workflow
- **Case Study:** RBI implementation in a Gulf of Mexico mature asset

Module 3: Corrosion and Material Degradation

- Types of corrosion affecting wells
- Corrosion monitoring methods
- Material selection and protective coatings
- Corrosion mitigation techniques
- Impact on well integrity and production
- **Case Study:** Corrosion management success in Middle East mature assets

Module 4: Inspection and Monitoring Technologies

- Non-destructive testing (NDT) methods
- Downhole monitoring tools
- Use of sensors and IoT in well integrity
- Data acquisition and interpretation
- Advantages of real-time monitoring systems
- **Case Study:** Digital well integrity monitoring in a North American shale field

Module 5: Preventive Maintenance and Integrity Planning

- Developing maintenance schedules
- Predictive maintenance using data analytics
- Budgeting for well integrity activities
- Documentation and audit trails
- Team roles and responsibilities
- **Case Study:** Maintenance planning reducing downtime in mature assets

Module 6: Well Integrity Assessment and Diagnostics

- Well barrier elements and integrity criteria
- Diagnostic techniques and tools
- Pressure testing and leak detection
- Data analysis and decision-making frameworks
- Integrating integrity diagnostics into asset management
- **Case Study:** Diagnostics improving well safety in offshore mature fields

Module 7: Regulatory Compliance and Industry Standards

- Overview of global well integrity regulations
- Compliance strategies and best practices
- Documentation and reporting requirements
- Auditing and inspection readiness
- Role of regulators and operators
- **Case Study:** Regulatory compliance challenges in Southeast Asia mature assets

Module 8: Well Abandonment and Remediation

- Planning for well abandonment
- Environmental considerations and regulations
- Remediation techniques and materials
- Cost management and scheduling

- Post-abandonment monitoring
- **Case Study:** Successful abandonment projects in the North Sea

Module 9: Data Analytics and Digitalization in Well Integrity

- Big data applications in integrity management
- Digital twins and simulation models
- Predictive analytics for risk mitigation
- Cloud computing and cybersecurity
- Integration with operational systems
- **Case Study:** Data-driven well integrity improvements in offshore platforms

Module 10: Safety and Risk Management Culture

- Promoting safety culture in well integrity
- Incident investigation and lessons learned
- Risk communication and training
- Behavior-based safety approaches
- Emergency response planning
- **Case Study:** Safety transformation in mature asset operations

Module 11: Asset Management and Integrity Optimization

- Linking well integrity to asset management
- Performance indicators and metrics
- Cost-benefit analysis of integrity programs
- Lifecycle management strategies
- Continuous improvement processes
- **Case Study:** Asset integrity optimization in aging oilfields

Module 12: Real-Time Monitoring and Automation

- Automation in well integrity monitoring
- Sensors and telemetry systems
- Alert systems and dashboards
- Integration with SCADA and control systems
- Benefits of real-time intervention
- **Case Study:** Automated well integrity monitoring in deepwater fields

Module 13: Emerging Technologies and Future Trends

- Advances in inspection tools (e.g., robotics, drones)
- AI and machine learning applications
- Enhanced materials and coatings
- Sustainability in well integrity management
- Future regulatory and industry directions
- **Case Study:** Implementing AI-driven well integrity solutions in mature assets

Module 14: Stakeholder Engagement and Communication

- Internal and external stakeholder management
- Communication plans and reporting
- Handling community and environmental concerns
- Collaboration with regulatory bodies
- Transparency and accountability
- **Case Study:** Stakeholder engagement in controversial mature asset projects

Module 15: Course Review and Practical Workshop

- Recap of key concepts and tools
- Hands-on exercises and simulations
- Group discussions and problem-solving
- Development of a well integrity action plan
- Feedback and Q&A session
- **Case Study:** Comprehensive well integrity plan development for a mature asset

Training Methodology

- Interactive lectures with multimedia presentations
- Real-life case studies to bridge theory and practice
- Hands-on exercises and simulation workshops
- Group discussions and problem-solving activities
- Use of digital tools and software demonstrations
- Continuous assessment through quizzes and assignments

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
21 Sep 2026	02 Oct 2026	Online	$2,000
21 Sep 2026	02 Oct 2026	Physical	$3,000

Start Date	End Date	Location	Price
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0

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