

TRAINING TITLE

WELL INTEGRITY FLOW ASSURANCE

Training Duration

5 days

Training Venue and Dates

Ref NO. DE096	Well Integrity Flow Assurance	5	14-18 Apr. 2025	\$5,750	DUBAI, UAE
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In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

- \$5,750 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

Training Certificate

Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

The Well Integrity & Flow Assurance course is designed to provide professionals in the oil and gas industry with an in-depth understanding of the principles, techniques, and best practices to ensure the integrity of wells and the efficient transport of hydrocarbons. The course covers two key areas: Well Integrity, which focuses on maintaining a well's structural and functional safety, and Flow Assurance, which addresses the challenges of maintaining uninterrupted, efficient fluid flow through production systems.

TRAINING OBJECTIVES

By end of course participants will be able to understand

- **Understand Well Integrity:** Grasp the concept of well integrity, its importance, and the key factors that affect it.
- **Identify Well Integrity Failures:** Learn to identify the causes of well failures and implement preventive measures.
- **Learn Flow Assurance Challenges:** Understand the challenges associated with hydrocarbon transport, including the behavior of fluids in pipelines, hydrate formation, scaling, and corrosion.
- **Apply Flow Assurance Solutions:** Learn the technologies and methods used to prevent and mitigate flow assurance issues.

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- **Optimize Well Performance:** Learn how to monitor and optimize well performance, ensuring safe and efficient production.
- **Understand Regulatory Compliance:** Be aware of the regulatory standards and industry best practices related to well integrity and flow assurance.

WHO SHOULD ATTEND?

- Well engineers and drilling engineers
- Production engineers and operations managers
- Flow assurance specialists
- Reservoir engineers
- Maintenance engineers
- Safety officers and environmental specialists
- Consultants and contractors in the oil and gas sector

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

COURSE PROGRAM www.definetraining.com

Day 1: Introduction to Well Integrity

- **Overview of Well Integrity**
 - Definition and importance of well integrity
 - Key elements: casing, tubing, blowout preventers (BOP), and pressure control systems
- **Factors Affecting Well Integrity**
 - Geological conditions and their impact on wellbore stability
 - Material properties and failure modes (corrosion, erosion, fatigue)

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- **Well Integrity Failures and Consequences**
 - Causes of well integrity failures (e.g., mechanical, chemical, environmental)
 - Consequences of well failure on safety, production, and the environment
- **Industry Standards and Regulations**
 - Overview of industry standards (API, ISO, NACE, etc.)
 - Regulatory frameworks and compliance requirements

Day 2: Wellbore Design and Integrity Monitoring

- **Wellbore Construction**
 - Casing and cementing design principles
 - Blowout preventers (BOP) and their role in maintaining well integrity
- **Well Monitoring and Surveillance**
 - Methods of monitoring well integrity (pressure testing, logging, corrosion monitoring)
 - Detection and diagnosis of well integrity issues
- **Risk Assessment and Management**
 - Risk-based approach to managing well integrity
 - Failure mode and effect analysis (FMEA)

Day 3: Flow Assurance Fundamentals

- **Overview of Flow Assurance**
 - Definition and key challenges in flow assurance
 - Key components: pipelines, flowlines, risers, and subsea systems
- **Fluid Properties and Flow Behavior**
 - Understanding the properties of hydrocarbons, water, and additives
 - Flow behavior: laminar vs turbulent flow, pressure drops, and temperature effects
- **Challenges in Flow Assurance**
 - Hydrate formation and prevention
 - Wax deposition and management
 - Scaling, corrosion, and the impact of paraffin and asphaltenes
- **Flow Assurance Solutions and Technologies**
 - Chemical inhibitors (hydrocarbon inhibitors, anti-wax, anti-scaling)
 - Thermal insulation and heating systems
 - Pigging and mechanical cleaning techniques

Day 4: Advanced Flow Assurance Strategies

- **Hydrate Management**
 - Hydrate formation conditions and prevention techniques

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- Dehydration and chemical inhibitors for hydrate prevention
- Wax and Scale Control
 - Understanding wax deposition and methods for inhibition
 - Scale management techniques: inhibitors, solvent treatments, and mechanical removal
- Subsea Flow Assurance
 - Issues specific to subsea production systems
 - Monitoring, pigging, and flowline heating for subsea pipelines
- Flow Assurance Modeling and Simulation
 - Introduction to modeling tools and software for flow assurance prediction
 - Case studies of successful flow assurance strategies

Day 5: Well Integrity and Flow Assurance Integration

- Integrated Approach to Well Integrity and Flow Assurance
 - How well integrity impacts flow assurance and vice versa
 - Coordinating well operations to ensure both integrity and flow assurance
- Optimizing Well Performance
 - Techniques for optimizing production while maintaining integrity and preventing flow issues
 - Predictive maintenance and real-time monitoring for optimization
- Future Trends and Innovations
 - New technologies in well integrity monitoring and flow assurance
 - Emerging trends in subsea systems, deepwater operations, and digitalization

NOTE:

Pre- & Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

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