WELL INTEGRITY MANAGEMENT FOR THE WELL LIFE CYCLE

DRPT155

TRAINIT ACADEMY

COURSE TITLE

WELL INTEGRITY MANAGEMENT FOR THE WELL LIFE CYCLE

COURSE DATE/ VENUE

22nd - 26th Sep 2025

Amsterdam, Netherlands

COURSE REFERENCE

DRPT155

COURSE DURATION

05 Days

DISCIPLINE

Drilling, Reservoir & Petroleum Training

COURSE INTRODUCTION

In today's oil and gas industry, maintaining **well integrity** throughout the **entire well life cycle** — from design and drilling through production, intervention, and eventual abandonment — is essential for ensuring **safe, sustainable, and profitable operations**. A single integrity failure can lead to major environmental incidents, financial losses, and reputational damage.

The **"Well Integrity Management for the Well Life Cycle"** course is designed to provide participants with a **comprehensive understanding** of how to establish, maintain, monitor, and restore well integrity at every stage of a well's life. The course will cover key international standards and best practices (such as **API RP 90**, **ISO 16530**, and **NORSOK D-010**), and will dive into real-world challenges and solutions drawn from global operations.

COURSE OBJECTIVE

Upon successful completion of this course, the delegates will be able to:

- **Understand the key principles and components of well integrity management.**
- **Apply barrier philosophy throughout design, construction, production, intervention, and abandonment phases.**
- **Identify and mitigate risks related to annulus pressure, corrosion, mechanical failure, and well control incidents.**

 Develop and operate a Well Integrity Management System (WIMS) aligned with global standards.
 Analyze field cases and propose remediation or risk-reduction measures.

COURSE AUDIENCE

 Well Integrity Engineers and Coordinators — managing integrity programs and monitoring barrier performance.
 Drilling Engineers and Supervisors — involved in designing and constructing wells with integrity considerations from the start.
 Completion and Workover Engineers — responsible for installing and maintaining critical wellbore barriers.
 Production and Operations Engineers — overseeing well operations and ensuring safe production practices.
 Well Intervention Engineers and Supervisors — planning and executing interventions while preserving well integrity.

COURSE CONTENT

Day 1: Fundamentals of Well Integrity

- **Introduction to Well Integrity: Definitions, Concepts, and Importance**
- **The Well Life Cycle: Design, Construction, Operation, Intervention, Abandonment**
- **Key Standards and Guidelines (API RP 90, ISO 16530, NORSOK D-010)**
- **Barriers and Barrier Envelopes**
- **Well Integrity Elements: Casing, Cement, Tubing, Wellhead, Annuli**
- **Overview of Risk, Consequences, and Regulatory Compliance**

Day 2: Well Design and Construction Phase Integrity

- **Integrity Considerations in Well Planning**
  - **Casing Design and Load Cases**
  - **Cementing Best Practices**
- **Primary and Secondary Barrier Philosophy**

- Tubulars, Packers, and Wellhead Equipment Integrity
- Verification, Testing, and Acceptance Criteria
- Well Integrity Documentation and Reporting Systems

Day 3: Operational Phase Integrity Management

- Integrity Monitoring During Production
  - Pressure Monitoring, Annulus Management
  - Leak Detection and Surveillance
- Integrity Testing: Pressure Tests, Logging Tools, Leak-Off Tests
- Annular Pressure Buildup (APB) and Sustained Casing Pressure (SCP)
- Corrosion and Erosion Mechanisms
- Integrity Challenges in Artificial Lift and Injection Wells

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Day 4: Well Integrity in Intervention & Workover

- Well Entry Risk Assessment and Barrier Validation
- Temporary Barrier Installation (Plugs, Packers, Well Control)
- Common Integrity Failures During Workovers
  - Tubing Leaks, Scale, Sand Production
- Remedial Solutions: Squeeze Cementing, Patches, Recompletion Options

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Day 5: Integrity in Late-Life & Abandonment Phases

- Integrity Considerations in Aging Wells
  - Time-Based Degradation, Casing Collapse, Zonal Isolation Loss
- Well Abandonment Regulations and Permanent Barrier Requirements
- Well Integrity Management System (WIMS)
  - Integrity Status Tracking, Risk Ranking, and KPIs
- Digital Tools and Future Trends in Well Integrity (AI, Sensors, Real-Time Data)

COURSE CERTIFICATE

TRAINIT ACADEMY will award an internationally recognized certificate(s) for each delegate on completion of training.

COURSE FEES

£5,750 per Delegate. This rate includes participant's manual, Hand-Outs, lunch, coffee/tea on arrival, morning & afternoon of each day.

COURSE METHODOLOGY

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved. 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.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions