



# DE157

## Well Completion & Integrity: *Life of a Well*

## Course Introduction:

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Participants in this course will learn how to manage well design, construction, surveillance, and the documentation of well integrity for a “life-of-well” philosophy. An emphasis will be placed on how industry standards and guidelines relate to barrier construction, monitoring, and management. The proper understanding of these concepts will equip each participant with the tools to safely and reliably construct and verify the integrity of a well.

Specific concepts that will be covered during this course will include barrier concepts such as geology, casing, cementing, and various equipment used in completion. Participants will also learn about corrosion and erosion effects on barriers, issues with loads, pressure, and temperature on barrier integrity, along with barrier inspection and verification.

This course will use case studies and projects throughout the week, along with a final presentation by small groups where participants will demonstrate the integrity concepts, methods, importance, and problems topics that were covered during the course.

## Course Objectives:

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

- ✓ Learn how to manage well design, construction, surveillance, and the documentation of well integrity for a “life-of-well” philosophy
- ✓ Learn about corrosion and erosion effects on barriers, issues with loads, pressure, and temperature on barrier integrity, along with barrier inspection and verification
- ✓ Learn about hazard analysis, emergency response, management of change, and contractor selection
- ✓ Learn about the well barrier element selection and how to choose a reliable WBE
- ✓ Learn the important concern with causes and management of annular pressure buildup, abandonment, and suspension
- ✓ Learn why well barrier verification is at the center of ensuring well integrity for the life of the well
- ✓ Learn about the different ways in which a well may become loaded and what challenges that would be placed on the barriers
- ✓ Learn about specific well barrier elements such as geology, fluid columns, tubulars, cement, completion string and downhole equipment, and wellheads
- ✓ Learn about the importance and difficulty of achieving well integrity throughout the life of a well

# Who Should Attend?

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This course is intended for Managers, engineers, specialists and operations supervisors who are responsible for ensuring the integrity of an organization's well assets are the intended audience for this course.

## Course Outline:

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### Day 1:

#### **WELL BARRIERS AND THEIR PRINCIPLES**

- Definition of a well barrier
- Well integrity
- Overview of industry standards and government regulations
- Principles, schematics, and element acceptance criteria

### Day 2:

#### **WELL INTEGRITY ELEMENTS AND ISSUES**

- Examples of well integrity issues
- Well barrier elements
- Well barrier issues

### Day 3:

#### **WELL BARRIER VERIFICATION**

- Subsea wellheads
- Well integrity issues (cont.)
- Well barrier verification testing
- Loads and load cases

### Day 4:

#### **WELL BARRIER ELEMENT SELECTION AND ISSUES IN INTERVENTION AND ABANDONMENT**

- How to choose a Well Barrier Element (WBE)
- WBE manufacturing QCP and testing
- Well barrier issues – intervention
- Annular pressure buildup
- Abandonment and suspension

### Day 5:

#### **WELL INTEGRITY MANAGEMENT SYSTEMS (WIMS) AND SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEMS (SEMS)**

- WIMS and SEMS
- Operational phase well integrity
- Hazard analysis, emergency response, and management of change
- Contractor selection
- Documentation, handover, and recordkeeping

## **Course Certificate:**

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**International Center for Training & Development (ICTD)** will award an internationally recognized certificate(s) for each delegate on completion of training.

## **Course Methodology:**

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**A variety of methodologies will be used during the course that includes:**

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

## **Course Fees:**

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**To be advised as per the course location.** This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

## Course Timings:

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### Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session

