



HARNESS THE POWER
OF KNOWLEDGE

**Cement Logging: Mastering
Techniques and Interpretation for
Evaluating Wellbore Integrity and
Zonal Isolation**

TRAIN



Course Overview:

Cement logging plays a crucial role in oil and gas production, providing critical information about the quality of cement placement and zonal isolation in wellbores

This comprehensive 5-day professional training course will provide a thorough understanding of cement logging principles, tools, techniques, and interpretation methods for evaluating wellbore integrity and ensuring effective zonal isolation

Course Objectives:

By the end of this course, participants will be able to:

1

Grasp the fundamental principles of cement logging and its significance in oil and gas production

2

Identify the different types of cement logging tools and their applications

3

Understand the physics and mechanics of cement logging measurements

4

Apply cement logging techniques to evaluate cement placement, identify potential cement flaws, and assess zonal isolation

5

Interpret cement log data, including acoustic logs, ultrasonic logs, and cement bond logs

6

Integrate cement logging findings with other wellbore data sources to make informed decisions about well integrity and zonal isolation

7

Utilize cement logging software tools to efficiently analyze and interpret cement logging data

Course Agenda:

Day 1: Introduction to Cement Logging and Wellbore Integrity

- Delve into the history and evolution of cement logging and its role in wellbore integrity evaluation
- Explore the regulatory framework and operational standards governing cement logging practices
- Discuss the economic importance of cement logging in preventing wellbore failures and ensuring safe production
- Analyze the factors influencing wellbore integrity and the impact of cement quality on zonal isolation

Day 2: Cement Logging Tools and Measurement Principles

- Identify the different types of cement logging tools, including acoustic logs, ultrasonic logs, and cement bond logs
- Understand the physics and mechanics of cement logging measurements, such as acoustic impedance, ultrasonic wave reflection, and cement bond indices
- Discuss the limitations and advantages of various cement logging tools
- Apply cement logging tools to evaluate cement placement, identify potential cement flaws, and assess zonal isolation

Day 3: Cement Log Interpretation Techniques and Data Analysis

- Interpret acoustic logs to assess cement quality, identify voids, and evaluate cement bonding to the formation
- Analyze ultrasonic logs to detect microannuli, evaluate cement compressive strength, and identify potential cement flaws
- Utilize cement bond logs to evaluate the integrity of the cement interface between the casing and the formation
- Integrate cement logging findings with other wellbore data sources, such as drilling logs and formation

evaluation data

Day 4: Case Studies and Advanced Cement Logging Applications

- Analyze real-world case studies of successful cement logging interpretation and problem diagnosis
- Discuss advanced cement logging applications, such as cement evaluation in complex environments, high-pressure/high-temperature (HP/HT) wells, and horizontal wells
- Explore emerging trends in cement logging technologies, such as real-time cement evaluation and data-driven decision-making

Day 5: Cement Logging Software Tools and Hands-on Interpretation

- Utilize cement logging software tools to efficiently analyze and interpret cement logging data
- Gain hands-on experience in interpreting cement logs and identifying potential cement flaws
- Network with other professionals from diverse backgrounds within the oil and gas industry to share knowledge and experiences in cement logging interpretation

Who Should Attend:

- Petroleum engineers, reservoir engineers, and production engineers involved in wellbore integrity evaluation and cement logging interpretation
- Field supervisors, wellsite engineers, and production operators responsible for overseeing cementing operations and well integrity monitoring
- Cement logging equipment manufacturers and service company personnel engaged in cement logging design, implementation, and interpretation technologies

Course Benefits:

- Develop a comprehensive understanding of cement logging principles, tools, techniques, and interpretation methods
 - Gain hands-on experience in cement log interpretation, identifying potential cement flaws, and assessing zonal isolation
 - Enhance your ability to evaluate wellbore integrity, make informed decisions about cement remedial actions, and ensure effective zonal isolation
 - Stay updated on the latest advancements in cement logging technologies and interpretation methodologies
- Network with other professionals from diverse backgrounds within the oil and gas industry to share knowledge and experiences in cement logging interpretation