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OF KNOWLEDGE

## Abnormal Pressures During Drilling

TRAIN



## Course Overview

This comprehensive 5-day professional training course will provide you with a thorough understanding of abnormal pressures during drilling, their implications for well control, and the strategies employed to manage these challenges effectively

Designed for drilling engineers, well control specialists, and petroleum geologists, this course will delve into the science behind abnormal pressures, their causes, and the practical measures taken to ensure safe and efficient drilling operations

## Course Objectives

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

- Comprehend the fundamental principles of pore pressure and its relationship to drilling operations
- Identify and classify various types of abnormal pressures, including overpressure, underpressure, and geopressure
- Understand the geological factors that contribute to the formation of abnormal pressures
- Analyze the impact of abnormal pressures on well control and drilling safety
- Apply practical techniques to predict, detect, and manage abnormal pressures during drilling

## Course Agenda

### Day 1: Introduction to Pore Pressure and Abnormal Pressures

- Overview of pore pressure and its role in drilling operations
- Understanding the concept of hydrostatic pressure and its limitations
- Classification of abnormal pressures and their geological implications
- Introduction to the factors influencing abnormal pressure formation

### Day 2: Causes and Mechanisms of Abnormal Pressures

- Delving into the geological mechanisms that lead to overpressure, underpressure, and geopressure
- Investigating the impact of compaction, diagenesis, and hydrocarbon generation on pore pressure distribution
- Analyzing the role of faults, salt domes, and other geological structures in abnormal pressure formation

### Day 3: Prediction and Detection of Abnormal Pressures

- Exploring various methods for predicting abnormal pressures based on geological and geophysical data
- Interpreting well logs, seismic data, and other geological information to identify potential abnormal pressure zones
- Utilizing pressure while drilling (PWD) tools and other real-time monitoring techniques to detect abnormal pressures during drilling

### Day 4: Impact of Abnormal Pressures on Well Control

- Assessing the challenges posed by abnormal pressures for well control
- Understanding the risks of kicks, blowouts, and other well control incidents in abnormal pressure environments
- Implementing well control strategies and procedures to manage abnormal pressures effectively

### Day 5: Practical Techniques for Managing Abnormal Pressures

- Exploring various drilling techniques and well designs specifically tailored for abnormal pressure environments
- Implementing mud chemistry and hydraulics control measures to manage abnormal pressures
- Analyzing case studies of abnormal pressure encounters and the lessons learned
- Discussing future trends and advancements in abnormal pressure management

## Who Should Attend

This course is designed for:

- Drilling engineers seeking to enhance their understanding and management of abnormal pressures
- Well control specialists responsible for ensuring safe and efficient drilling operations

- Petroleum geologists involved in well planning and evaluation in areas with potential abnormal pressures
- Individuals interested in gaining a comprehensive understanding of abnormal pressures and their implications for the drilling industry

#### Course Benefits

- Gain a thorough understanding of the science behind abnormal pressures and their geological causes
- Develop the ability to predict, detect, and manage abnormal pressures during drilling operations
- Enhance your knowledge of well control strategies and procedures in abnormal pressure environments
- Expand your expertise in drilling techniques and well designs tailored for abnormal pressure scenarios
- Stay updated on the latest advancements and trends in abnormal pressure management