

# CEMENTING OPERATIONS



**DRPT353**  
**Drilling,**  
**Reservoir &**  
**Petroleum**  
**Training**

**COURSE TITLE****CEMENTING OPERATIONS****COURSE DATE/VENUE**

10-14 October 2022

London, UK

**COURSE REFERENCE**

DRPT353

**COURSE DURATION**

05 Days

**DISCIPLINE**

Drilling, Reservoir & Petroleum Training

**COURSE INTRODUCTION**

A successful cement job is one of the most important factors for the productive life of any well. Some of the challenges that oil and service companies face today include U-tubing, high ECD, loss of circulation and excessive pump pressure, temperature prediction, etc. These concerns can be best analyzed using computer models, which allow engineers to see the effects of different design parameters prior to any job being performed. Using these models, potential problems can be identified and cementing designs can be tuned before pumping begins.

This course covers the engineering basics involved in cementing operations.

**COURSE OBJECTIVE**

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

- Selection of casing sizes and setting depths to achieve well objectives

- Determination of casing loads for design purposes
- To design casing properties to meet burst, collapse and tensile strength requirements
- To conduct casing running operations safely and successfully
- Specification of cement slurry properties and volumes to meet well objectives
- Determination of best procedures for attaining successful primary cementing
- To conduct stage jobs, squeeze jobs, and set cement plugs, liner cementing and stage cementing jobs

### **COURSE AUDIENCE**

The course is designed for Drilling Engineers, Drilling Supervisors, Cement Engineers, Well Integrity Engineers, Petroleum Engineers, Reservoir Engineers, Petro-physicists

### **COURSE CONTENT**

#### **Day 1**

Introduction to Cementing Operations

- API cement classification
- Basic cement chemistry and manufacturing
- Primary cementing

#### **Day 2**

Cement Technology

- Cementing goals
- Understanding cementing design
- Lab tests
- Cement lab tour and lab demonstrations

Basic cementing goals and mud removal methods will be covered. Cement design software will be explained and used to illustrate key design objectives. A lab visit

will give participants an understanding of how tests are performed and will show how these test results are related to cement slurry design.

### Day 3

#### Equipment and Job Performance

- Cementing equipment overview
- Gel strength and gas migration
- Cement placement calculations
- Plug cementing
- Squeeze cementing theory
- Lost circulation

Today participants will learn about cementing equipment, job performance, and important cement properties related to gas migration. Practical sessions will be used to ensure participants are familiar with cement job placement topics. Squeeze cementing theory will be discussed as a foundation for remedial cementing.

### Day 4

#### Cement Job Evaluation

- Cement bond logs
- Cement evaluation log interpretation
- Cement bond log workshop
- Plug and squeeze cementing calculations
- New technologies in cementing (demonstrations)
- Rig site cement job practical

On the last day, participants will gain an understanding of the cement bond, cement evaluation log limitations, and log uses. Working with several examples participants will learn how to interpret different logs and make conclusions as to the effectiveness of cement jobs. Applying the theories learned the prior day, participants will gain confidence in calculating plug and squeeze cement jobs.

Participants will also learn about the application for cement technology through demonstrations of new and special application technology.

## **Day 5**

### Specialized and New Technology Cement Systems

- New technology cement systems
- Introduction to deepwater cementing
- Round-table and course close

The final day will review new technology cement systems such as light-weight slurries, lost circulation solutions, self-healing cements, flexible cement, and ultra-HT cementing. The final classroom presentation will introduce the participants to deepwater cementing and the associated challenges. The course will conclude with a round-table and feedback session before closure.

Course summary and Evaluation

### **COURSE CERTIFICATE**

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

### **COURSE FEES**

\$6,150 per Delegate. This rate includes participant's manual, Hand-Outs, buffet 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

