DRILLING PROBLEMS AND OPTIMIZATION TRAINING

TRAINIT ACADEMY

DRPT257
Drilling, Reservoir & Petroleum Training

COURSE TITLE

Drilling Problems and Optimization Training

COURSE DATE/VENUE

08 – 12 March, 2021

London, UK

COURSE REFERENCE

DRPT257

COURSE DURATION

05 Days

DISCIPLINE

Drilling, Reservoir & Petroleum Training

COURSE INTRODUCTION

Today's drilling personnel must have a working knowledge of all the required disciplines in order to effectively drill a well. This Drilling Problems and Optimization training seminar provides all the fundamentals necessary to drill a well whether it is a shallow well or a complex, high pressure well.

This training course is also designed for engineers and field personnel involved in the planning and implementation of drilling programs. This covers all aspects of drilling problems, emphasizing prevention and optimizing planning and implementation of all drilling parameters.

This training builds a firm foundation in the principles and practices of drilling and well planning, drilling fluid, drill string design, hydraulic optimization and drilling hole problems. Participants will learn the components of drilling string and how to use each in optimum ways, how to evaluate the WOB and select the proper size of drill collar. Participants will

also be able to apply the practical solution for analyzing the performance of drill string design for both vertical and direction holes.

COURSE OBJECTIVE

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

- Drill a well cost effectively and maximize penetration rate & evaluate stuck pipe problems and avoid potential problems by optimizing hole cleaning and ROP
- Design, drill string and BOP / wellheads & Design and implement bit and hydraulics programs BHA design for proper deviation, directional and horizontal drilling control & Recognize and evaluate well control problems by effectively using Mud Logging principles and techniques

COURSE AUDIENCE

This training seminar is suitable to a wide range of professionals but will greatly benefit:

- Drilling Engineers
- Well Site Supervisors
- Drilling Contractors
- Drilling Supervisors
- Trainee Drillers
- Rig Engineers

COURSE CONTENT

DAY 1

- Drilling Hole Problems and Solutions
- Hole Problems (stuck pipe, lost circulation)
- Impact of Hole Cleaning on Hole Problems
- Stuck Pipe Types
- Formation and Problems Related
- Preventive Measurements
- Fishing Tools and Impact on Stuck Pipe
- Lost Circulation and Types
- How to Solve the Problem?
- Exercise

DAY 2

- Preventing Wash out and Twist Off
- How do you analyze the true pressure loss of a Washout?
- Bit Selection and Hydraulics Application, including Nozzle Selection
- Bit Types
- Rolling Cutter Bits
- Polycrystalline Diamond Bits
- Standard Classification of Bits
- Breaking the Bits
- Optimising Drilling Performance
- Drill String Dynamic / Vibration
- Factors related to Bit Run Termination
- Bit Hydraulic
- BHA and Drill String Design
- Drill Strings design
- Functions of Drill Pipe, Drill Collars and BHA selection
- Grades of Drill Pipe and strength properties
- Basic Design Calculations
- Exercise

DAY 3

- Drilling Fluids Planning and Control
- Lifting capacity of Drilling Fluids, Pressure losses in the Circulating System and ECD
- Functions of the Drilling Fluids, Impact of Hydraulic on the Drilling Optimization
- Parameters affecting on the Drilling Penetrations
- Drilling Fluid Properties, Functions of Drilling Fluid
- Mud Properties and Problems related to Mud Properties
- Exercise

DAY 4

- Well Control operation
- Well Control Kill Sheet
- BOP Equipment functions
- Hydro-dynamic Pressure
- Equivalent Circulating Density

- Mud Weight Maintenance
- Kicks and Detection
- Causes of Kicks while Drilling
- Indication of Induced Kicks
- Best Kill Procedure for Kick Type
- Causes of Kicks while Tripping
- Diverter Guidelines while Tripping
- Underground Blowout
- Indication of Underground Blowout
- Exercise

DAY 5

Planning Including Mud Logging Requirements

- Shale instability
- Modern Mud Logging Unit
- Gas Analysis
- Cutting Evaluation
- Shale Bulk Density
- Problems Prevention
- Exercise

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