

Geology, Drilling & Reservoirs Training Course

Drilling Optimization

From 02/10/2023 to 06/10/2023

Richmond Istanbul Taksim Hotel, Istanbul, Turkey

4250\$ (10% Special Discount for Major Customers & Groups)

Introduction

This course will train drilling engineers in the benchmarking, identification, application, and implementation of drilling optimization techniques. These techniques will cover both offset and historical well data, as well as real-time drilling data. The intention of this class will be to give participants in this course knowledge to apply well optimization techniques in well engineering, drilling fluid engineering and well construction engineering.

The Course Content

Day 1: Introduction to Drilling Optimization

Introduction

Offset Well Selection: relevant data, data organization, and stick plot

Simple probability and data distribution analysis

Class Exercise

- The course will begin with a review of what drilling optimization is and is not, by defining and understanding the well design process from the viewpoint of optimal, efficient operations. The second session will begin with a review of offset well data selection, statistically relevant data, organization, and presentation of offset wells. The class will discuss drilling risks which are manageable and highlight constraints involved in the well construction process. The day will conclude with trainees giving presentations on drilling optimization processes and techniques.

Day 2: Benchmarking with Key Performance Indicators

Risk analysis

Technical Limit Identification: techniques to quantum change limits

Key Performance Indicators (KPI)

Impact of wellbore stability

- The second drilling optimization session will start with the participants learning about the theory of risk,

the elements of risk, and the risk control methodologies typically used in the industry. The attendees will be provided with an overview of risk registers, HAZOP, decision trees, effective monetary values, cost-time analysis, RACI, and uncertainty assessment. The day will continue with the definition and identification of common industry KPI's, the use of KPI's in benchmarking wells, and techniques to positively change the identified technical limits. At the end of the day, the class will see an overview of how wellbore stability impact the drilling optimization process.

Day 3: Design to Execution

Well construction design to wellsite operations

Performance limitations

Stuck pipe refresher

- The third day of the course will begin with an overview of how an optimized well construction design is put into efficient operation at wellsite. Deliverables, drilling forecasts & modelling (drilling, hydraulics, T&D) will be covered by the instructor in order to highlight the requirements for 24hrs+ operational lookaheads. The participants will then investigate the controllable and non-controllable performance limitations inherent in all well plans. The day will finish with a session about examining the major contributors to non-productive time during rigsite operations.

Day 4: Measurements and Technology Enablers

Measurements and technology enablers

ROP monitoring and improvement techniques

Typical drilling plan

Optimization elements

Software tools

Task analysis and lessons learned

- This day will concentrate on the surface and downhole techniques, systems, and technologies, which can be utilized to monitor and measure drilling optimization. The instructor will provide participants with detailed explanations of the current technology enablers being used to aid the drilling optimization process, as well as review the common software packages used. The day will conclude with a class discussion on ROP monitoring, improvement, and implementation of MSE during operations.

Day 5: Drilling Optimization Workshop

Control and review process

Alternate optimization well plans

- The last day will start with a presentation and discussion of the control and review process in drilling optimization. Later that day, the participants will go back to the previous exercises and will work to provide an optimized well plan.



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