

Secondly, the optimization model of rotary drilling rigs is established based on the division of the working conditions. The objective function of the optimization model is to ...

In the past several decades, machine learning has gained increasing interest in the oil and gas industry. This paper presents a comprehensive review of machine learning studies ...

These analyses were used to generate a focused optimization plan to monitor hole conditions at high drilling rates. This plan was incorporated into a recommended real-time ...

Automation has transformed process optimization across industries by enhancing efficiency, safety, and reliability while minimizing human ...

Using a production systems perspective, this paper presents a method to optimize onshore drilling rig fleet size and schedule considering reservoir management and operational objectives, ...

This book provides a comprehensive introduction of the processes of oil and gas well drilling, including engineering geological conditions, drilling rig and tools, drilling fluids, drilling ...

The optimization of drilling parameters is crucial for resolving the drilling problems in low-pressure and leaky formations using the annulus aerated dual gradient drilling technology. ...

The prediction of rate of penetration (ROP) as function of drilling variables paves the way to formulate the optimization problem as maximization of ROP, or minimization of total ...

Abstract. A major challenge during drilling is to identify sub-formation change, enabling near-real-time adjustment of the drilling parameters to enhance performance. An ...

By considering the entire workflow from the perspective of a production system, this paper presents a method to optimize drill rig fleet size and schedule that considers both reservoir ...

By considering the entire workflow from the perspective of a production system, this paper presents a method to optimize drill rig fleet size ...

Borehole trajectory optimization is a key issue in oil and gas drilling engineering. The traditional wellbore trajectory design method faces great ...

This book provides a comprehensive introduction of the processes of oil and gas well drilling, including



Optimization problems drill rig

engineering geological conditions, drilling rig and tools, ...

This course is intended to train drilling engineers in the benchmarking, identification, application and implementation of drilling optimization techniques from both offset/historical well data ...

The problems also vary according to the types of rig operations that are scheduled. Some studies consider drilling activities, while others focus on ...

A drilling rig 12 miles off shore is to be connected by a pipe to a refinery onshore, 20 miles down the coast from the rig. If underwater pipe costs \$40,000 per mile and land ...

In this chapter, we will delve into the applications of Artificial Intelligence (AI) in drilling and completion engineering within the oil and gas ...

Drilling optimization is defined as the selection of operating conditions that minimize costs in reaching the desired depth while ensuring personnel safety, environmental protection, ...

Four different optimization scenarios were explored to determine the optimal drilling parameters, surface rotary speed (RS) and weight on bit (WOB), to enhance the drilling ...

Multiple supervised and unsupervised artificial intelligence techniques have been adapted and applied for real-time drilling monitoring and optimization purposes. This chapter ...

Therefore, drilling engineers and operations teams are often motivated to reduce the well drilling duration and associated costs. Drilling optimization has an important role in improving drilling ...

Machine Learning algorithms facilitate this optimization of drilling parameters for enhancing drilling performance, by the development of an accurate ROP prediction and ...

The target of the aforementioned optimization problem is to minimize the total drilling time by replacing a long circular-arc with multiple short straight lines and circular arcs connected end ...

This document discusses drilling optimization by considering drilling problems and their solutions. It begins by describing different types of stuck pipe situations ...

Drilling efficient and economical directional well require best drilling practices and high techniques to optimize drilling operations.

Abstract: The optimal selection of drilling rigs is crucial for the rational arrangement of drilling rigs in multi operation teams, the improvement of moving operation management level, and the ...



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Efficient and safe drilling process under complex formation conditions has significant economic value for drilling engineering. Rate of penetration (ROP) and drill-string ...

To ensure drilling safety and improve drilling efficiency, a multi-objective optimization model is proposed to search the optimal tripping parameters with consideration of ...

To improve comprehensive drilling performance for cases with complex formation conditions, an real-time coordinated optimization strategy is developed for the drilling process, ...

The optimization design of drilling platform is a complex multi-objective nonlinear programming problem, involving the interaction of multiple factors such as drilling extension ...

Drilling optimization aims to optimize controllable variables during drilling operation such as weight on bit and bit rotation speed for obtaining ...

Aiming at the limitation of traditional drilling parameter optimization model in single objective optimization, this paper proposes a multi-objective optimization design model ...

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