China rock drill parameters

What is rock drillability evaluation?

Rock drillability evaluation is a basic task for oil,gas,and geothermal drilling engineering designthat includes bit design,bit selection,and drilling parameter optimization. Different tests and standards to evaluate rock drillability have been developed worldwide.

What are the drilling parameters in the database?

The drilling parameters in the database include drilling force (F),torque (T),rotational speed (N),and rate of penetration (V),from which the specific energy (SE) and the drillability index (Id) are calculated.

How to predict rock drillability?

Drilling is the dominant technology for The numerical computation provides a practical approach development HDR resources, accounting for to predict the rock drillability by analyzing the multiple approximately 35% to 60% of the overall engineering drilling parameters and constructing the correlation investment.

Can high temperature and pressure affect rock drillability?

However,its results do notreflect the significant effects of high temperature and pressure at the bottom hole on rock drillability and breaking; thus,the results cannot be used in drilling designs. Testing methods and classification standards for rock drillability require innovative developments.

Why is rock drillability important?

Rapid acquisition of rock mechanical parameters and accurate identification of rock drillability are important to guide the safe construction of different scale drilling engineering (wells and boreholes) and high-efficient excavation of rock engineering.

How does rock temperature affect ROP in HDR drilling?

The ROP increaseswith a growth in rock temperature,which is conductive to promote the bit penetration. The rock temperature,WOB,torque and penetration depth are strongly correlated with the ROP in HDR drilling process. The drillability of HDR is assessed into 4 levels according to the distribution of ROP.

Based on the cutting and fracture characteristics of the rock digital core drilling, the mechanical analysis of rock cutting provides the digital core drilling strength, and a quantitative relationship ...

Accurate assessment of mechanical properties and interface information in layered rock formations is crucial for informed decision-making in geotechnical engineering. In this ...

Accurate, rapid and effective analysis of rock drillability is very important for mining, civil and petroleum engineering. In this study, a method ...

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We plotted profiles of rock mechanics parameters of 30 wells and three dimensional (3D) drillability planes using the log data to reveal the complex formations distribution and their ...

It evaluates the structural characteristics and mechanical properties of rock mass by monitoring and analyzing drilling parameters, such as drilling speed, rotation speed, thrust, ...

This article proposes an analysis method for coupled axial-torsional drill-string vibration based on fuzzy comprehensive evaluation of rock strength, utilizing identified axial ...

Rapid acquisition of rock mechanical parameters and accurate identification of rock drillability are important to guide the safe construction of different scale drilling engineering ...

The validity of the method was verified, and it was found that the drilling parameters had a high responsiveness to the rock unconfined ...

Based on considering the stress state distribution and potential failure surface of the specimen during uniaxial compression, the drilling ...

INTRODUCTION Drilling parameters play a large role in helping drillers achieve superior drilling performance and long equipment life. They are basic recommendations that help guide a ...

SINODRILLS Threaded Drill Bit With the top quality of alloy steels imported from USA and the best carbides made in China, we produce all threaded button bits by hot press technology. ...

China Rock Drill Bits Directory provides list of Made in China Rock Drill Bits Products supplied by reliable China Rock Drill Bits Manufacturers, Traders and Companies.

A series of drilling tests were conducted on Gonghe granites under in-situ high temperature conditions. The effect of five key parameters, including bit weight, RPM, torque, penetration ...

We sell the whole drilling idea, not just the Top hammer button bits and DTH rock drilling tools, also Jinquan produce MF drill rods, shank adaptors etc.

This paper is the first case and examines the drilling process monitoring (DPM) method as a digital, accurate, cost-effective method to characterize oil shale reservoirs in the ...

Using the self-developed multi-functional digital drilling test system, the indoor digital drilling tests and uniaxial compression tests on complete samples with different strength grades are carried ...

We studied the drillability characteristics of three kinds of rock under wellbore pressure using this test

apparatus, under the action of a polycrystalline diamond composite ...

The internal friction angle of rock obtained based on the digital drilling technology is consistent with the value measured by the laboratory standard test. This method can ...

While-drilling identification technology is a crucial part of intelligent mining development. The results provide a scientific basis for real-time adjustment of support ...

By applying the criteria for interpreting data and sorting out the net drilling process, we eliminate the duration of the auxiliary operation, along with the corresponding chuck ...

Understanding the relations between drilling response parameters (drilling speed, axial thrust force and torque, etc.) and rock properties is useful to quickly acquire lithology ...

A database is established based on 281 sets of drilling parameters and rock mechanical parameters collected from four micro drilling experiments.

Thus, the drillability of rock masses has been measured using a variety of characteristics, such as the rock drillability feature indices, ...

Corresponding to the rock mechanics and anti-drilling characteristic parameters of the drilled formation, a database of high-efficiency drill bit models for drilling in the southern ...

A hydraulic rotary drilling rig, equipped with the DPM system, was used to conduct digital drilling tests at the tunnel face. The DPM data for the net drilling process and each sub ...

Abstract Measurement while drilling is an important part of the intelligent development of coal mines. The main purpose of this paper is to comprehensively analyze the ...

Fundamental rock-drilling studies are aimed at optimizing the drilling efficiency by identifying the optimal drilling conditions and rock drillability. In this study, a field-drilling test is ...

Download Citation | Relationship between rock drilling parameters and rock uniaxial compressive strength based on energy analysis | In order to overcome the problem of long ...

The research results can provide a theoretical basis for exploring deep-formation rock-breaking mechanisms and optimizing the engineering ...

During drilling operations, the mechanisms of drilling and rock fragmentation are predominantly facilitated by the application of thrust in the vertical direction by the drill rod, ...

Firstly, adequately analyse the correlation between drilling parameters and rock label, and select six drilling parameters as feature vectors for surrounding rock grade recognition. Then outlier ...

The torque Mb, feed force Fb and other parameters in the drilling process of these five rocks were tested through the newly developed MWD test system. The correlation ...

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