

Are loess sites and foundations collapsible?

Currently, the research on the collapsibility of loess sites and foundations is mainly based on the traditional indoor collapsibility test (indoor test) and the in-situ immersion test (field test) (PRC MOHURD 2018).

Can geotechnical engineering models predict loess collapsibility?

The loess collapsibility data were provided from the Baoji to Lanzhou high-speed railway. The three ML algorithms are representative of geotechnical engineering modeling and are rarely explored for predicting loess collapsibility.

Can loess collapsibility be predicted faster and accurately?

To evaluate the collapsibility of loess faster and accurately, 300 loess collapsibility test data along the high-speed railway section from Baoji to Lanzhou were collected, and develop a direct prediction model for loess collapsibility parameters (see Fig. 1).

How do you know if a loess site is collapsible?

Currently, there are two types of tests used to determine the collapsibility of loess sites and foundations (PRC MOHURD, 2004). One test is the traditional indoor collapsibility test (indoor test), which is simple, efficient and inexpensive.

Does collapsibility affect loess engineering stability?

The compression curves of undisturbed loess have normalizable characteristics. A new method for calculating the loess collapsibility index is proposed. The calculated value of the new method is closer to the field-measured value. Collapsibility affects loess engineering stability.

What is a collapsible loess site under overburden pressure?

Therefore, based on the code (PRC MOHURD, 2004), test sites 1 and 2 are collapsible loess sites under overburden pressure, and their foundation collapsibility can be classified as grade IV (very severe) and II (moderate), respectively. Table 3. Formation period and physical property indexes of the soil layers in exploration well CS5-22. Table 4.

collapsible loess areas. Furthermore, it can be utilized for further investigations into the collapsibility impacts of LID measures in regions characterized by collapsible loess. Keywords ...

Collapsible and non-collapsible loess are discriminated in the Chinese context, a coefficient of collapsibility 0.015 indicating the latter condition. ... Characteristics of the Sanmen Formation ...

The similar material of collapsible loess is the basis and premise of the experimental study on the surface

movement and deformation law of coal seam mining in collapsible loess-covered areas.

More and more photovoltaic brackets (PVB) were built in collapsible loess areas with the wide application of solar energy, and the problem of damage of PVB due to the settlement of...

Collapse earth fissure is a common type of disaster in loess regions, where water infiltration is one of the primary factors that contributes to surface ruptures and uneven ...

The distribution of loess in China is particularly widespread, stretching from the eastern end of Qilian Mountains in Gansu Province in the west to the Taihang mountains at ...

pile foundations in collapsible loess regions. Introduction Loess is extensively distributed around the world. In northwest China, loess is widely distributed and has a large ...

The self-weight collapsibility coefficient (δ_{zs}) of loess is an important parameter for the quantitative evaluation of loess collapsibility and foundation collapsibility ...

collapsible loess areas, provide technical support for the construction of towering structure in collapsible loess areas. 1. Introduction Collapsible loess undergoes significant additional ...

The bearing and deformation characteristics of embankments with rigid-flexible long-short pile composite foundations (RLPCFs) in thick collapsible loess strata are not yet ...

Integrating the geological context of a collapsible loess area, the characteristics and main processes of the ground fissure development are constrained: (1) The width of the ...

foundation pits in collapsible loess areas requires effective and stable support to ensure the safety of construction projects and the normal service performance of existing projects [2,3,4]. In ...

The new method provides a simple and feasible means by which to correctly and quickly evaluate site collapsibility in loess engineering, which is beneficial for conducting loess ...

Sustainability 2023, 15, 8893 3 of 14 2.2. Synthetic Collapsible Loess The collapsibility of loess is closely related to its structural properties. In order to ensure the performance of model ...

The objectives of this study were to explore the collapsibility characteristics of Malan loess in Yan "an area of the Loess Plateau and to study the microstructure changes of ...

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