Introduction to clay colloid chemistry - for clay technologists, geologists, and soil scientists.

Interscience Publishers - Existing Methods for Swelling Tests

Experimental Insights on the Characteristics of Rock Slaking with Particular Reference to the Sedimentary Argillaceous Rocks
Observaciones Experimentales sobre las Características del Desleimiento de Roca con Referencia Particular a Rocas Sedimentarias Argilíticas

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Abstract
A great variety of foundation and slope stability problems worldwide have been contributed to the presence of argillaceous rocks. The main difficulty with argillaceous rocks is generally attributed to their properties that possess tendency to physically deteriorate within relatively short time frames after being exposed to the atmosphere and moistened, which commonly has known as slaking properties. In this study, the differences slaking characteristics of sedimentary argillaceous rocks have been determined by conducting a series of static slaking test. The results indicated that the shale was characterized by a low to medium slaking behavior having a mean I_{s1} of 7.5%, on the opposite condition to the claystone that was characterized by a high slaking behavior with a mean I_{s1} of 41%. It was evidence that the main mineralogical factors controlled in the rock slaking were expandable clay mineral smectite and non-clay mineral pyrite. Moreover, there is a quite importance of calcite soluble minerals in the slaking behavior of argillaceous rocks, in particular in an acid condition.

Resumen
Una gran variedad de problemas de cimentación y de estabilidad de taludes por todo el mundo se han atribuido a la presencia de rocas argilíticas. La dificultad principal con las rocas argilíticas se debe generalmente a su tendencia a deteriorarse físicamente dentro de plazos de tiempo relativamente cortos, una vez hayan sido expuestas a la atmósfera y hayan sido humedecidas, fenómeno que se conoce comúnmente como desleimiento. En este estudio, las diferentes características del desleimiento de rocas argilíticas sedimentarias han sido determinadas conduciendo una serie de ensayos estáticos de desleimiento. Los resultados indican que la pizarra se caracteriza por un comportamiento de desleimiento que varía de un nivel bajo a medio, con un índice de desleimiento (I_{s1}) promedio de 7.5%. Las arcillolitas, con condiciones opuestas, se caracterizan por un comportamiento de desleimiento alto con un I_{s1} promedio de 41%. Fue evidente que los factores mineralógicos principales que controlaron el desleimiento de la roca eran la presencia de esmectita, mineral arcilloso expansible, y de pirita, mineral no arcilloso. Por otra parte, se nota una importante influencia de la calcita, mineral soluble, sobre el comportamiento del desleimiento de rocas argilíticas, particularmente en condiciones ácidas.

1 INTRODUCTION

Due to the brittle nature and sensitivity to water of many argillaceous rocks, a great variety of problems connecting with slaking rocks and attendant structural damages have been faced throughout the globe over recent years. For instance, an investigation conducted by Matsui and Shimada (1994) shows that an instability problem was raised concerning to slaking and swelling properties of Ikeshima shale resulting the excessive roadway closure during mining operation, and they further used such parameters to be included as considering factors in the analysis of support system method. The study by

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Description: -
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Entraînement (Sports)
Muscles.
Colloids.
Clay.introduction to clay colloid chemistry - for clay technologists, geologists, and soil scientists.
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Notes: Includes bibliographies.
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Tags: #Existing #Methods #for #Swelling #Tests

Existing Methods for Swelling Tests

Reprint edition, Krieger Publishing Company. Pore-water chemistry, bulk and clay mineralogy, cation exchange capacity and specific surface area were determined.

Handbook of Clay Science, Volume 5

If the clay is mixed with a solution containing other cations, these can swap places with the cations in the layer around the clay particles, which gives clays a high capacity for. This paper present geochemical, mineralogical and geotechnical data from the quick clay at Dragvoll. The plastic limit of kaolinite clay ranges from about 36% to 40% and its liquid limit ranges from about 58% to 72%.

Clays and Colloids

Through erosion and weathering, quartz crystals are slowly broken up over millions of years.

Australian Centre for Geomechanics

It is a highly sensitive clay, prone to , and has been involved in several deadly. C36 Clay minerals : a physico-chemical explanation of their occurrence Velde QE 389.

Clays and Colloids

Horizons are defined in most cases by obvious physical features, chiefly colour and texture.

Handbook of Clay Science, Volume 5

Worryingly, when macro- and micro-components are found in non-hazardous concentrations, fewer efforts are put into the environmental management of the tailings, though technogenic sediments offer prospects for reuse and valorization beyond their traditional disposal. These organoclays were provided for this research by Southern Clay Products of Gonzales, Texas. Soil science is the study of soil as a natural resource of the Earth including soil formation, classification and mapping, physical chemical, biological, fertility properties of the soil.

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