

PALESTRA

Two and Three-Dimensional Slope Stability Analysis of Tailings Dams

(Análise bi e tridimensional de estabilidade de barragens de rejeito)

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Hora: 11:00 às 12:30
Local: Auditório do Centro de Aulas D (último andar)
Campos Colemar Natal e Silva, Setor Universitário, Goiânia-GO

Informações: Será conferido certificado de participação
Inscrições gratuitas no local
A palestra será ministrada em língua inglesa

Realização:



Apoio:



ABSTRACT

Modern mining operations manage many structures specifically designed for storing materials with high engineering and environmental standards. In most of South America among the Andes regions, mining operations deal with a rugged, mountainous and many time aggressive terrain. For this reason, when designing tailings management facilities (TMF), problems such as slope stability and locating a suitable site for disposing the mine tailings are encountered. Current state of practice of slope stability analysis involves the use of the limit equilibrium (LE) method in two-dimensional (2D) sections selected to represent the most critical conditions. Rotational failures are often used for TMF. However, the selection of both representative and critical sections is commonly difficult due to the aggressive terrain and complicated layouts, so the tendency is to be conservative. 2D analyses are conservative because the resistance along the out-of-plane faces of the slide mass is neglected. Neglecting the end effects can severely affect the factor of safety (FS), particularly in narrow slopes with slope angle higher than 20 degrees. Differences are less pronounced but still important in slopes that fail in rotational failure mode. This presentation will focus on advanced topics related to 3D slope stability analysis areas, such as the conceptual design of 3D numerical models and the subsequent solution / analysis. Several applications of 3D analysis for real-world problems will be presented, focusing on considerations for the modeling of earth dams used for TMFs.

MINI-CV

Murray Fredlund is the founder of SoilVision Systems Ltd. and has spent much of his time over the past 19 years guiding the development of geotechnical software development at SoilVision Systems Ltd. Recent software projects supervised include the release of SVOFFICE V5 and the new SVSlope® 2D / 3D limit equilibrium slope stability software package. Murray has been involved in a number of numerical modeling projects involving heap leach flow, heap leach stability, waste rock water balance and stability, tailings water balance, and tailings consolidation. More recently, Murray was involved in the estimation of consolidation behavior of the oil-sand tailings in Alberta, Canada as well as open-pit slope stability projects around the world. The software products of SoilVision Systems Ltd. are used in over 55 countries by consultants, universities, government agencies and multinational corporations.

Realização:



Apoio:

