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ACE Geosynthetics

Case Study

Crusher Headwall and Loading Ramp Engineering Project in Mexican Mining Zone

◆ Background

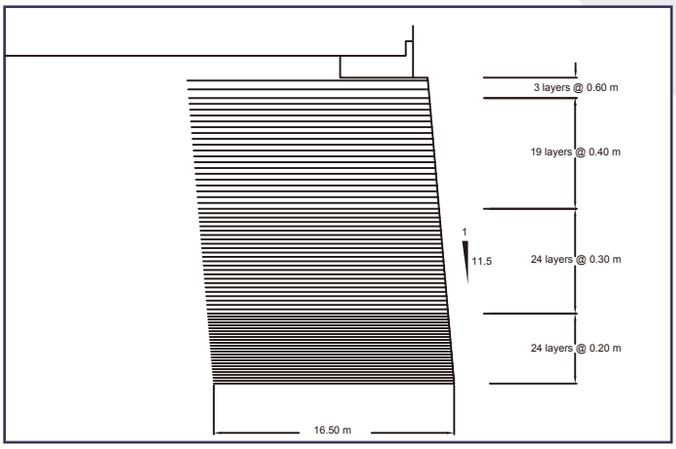
The Ocampo gold and silver mine is located in the Sierra Madre Occidental. Owned by Gammon Gold, the mine spreads over 12,000ha and is the largest operating gold-silver mine currently in the Chihuahua state. The property includes an open pit as well as an underground mine.

◆ The Problem/Task

In order to meet the mining needs, it is necessary to build a work platform, however few issues are found within this area: insufficient hinterland, because of the irregular landform, the difference of the height is up to 21m, and most important the work platform must withstand 240 Ton of traffic load. Based on the lack of cost and hinterland, while taking into account the upper load vibration causes the structural insecurity, etc., the conclusion to build an RC retaining wall is almost impossible.

◆ The Solution/Design & Construction

The project adopts a design using geogrid which tensile strength is 100kN/m to build a retaining wall of 21m high with a slope of about 85 degrees. Each layer has the average spacing of about 0.4m and the reinforcement embedment is 16.5m. Due to the area is barren land, and taking into account the problem of erosion, it is also included in the design to spray concrete in the surface in order to prevent loss of soil. The total length of the whole project is 98m. Comparing to the traditional concrete retaining wall, this type of construction significantly reduces the budge cost and hinterland needs, finally achieving both economic and practical purposes.



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