CASE STUDY

SOLMAX

ASIA'S LONGEST DEWATERING GEOTUBE®, KALIMANTAN REGION, INDONESIA

Revolutionizing slurry management

Industry: Mining
Application: Waste management
Location: Indonesia
Product: **GEOTUBE®**

Overview

The increasing demand for large-scale **GEOTUBE®** dewatering units capable of handling vast quantities of mine waste sediments and slurries has driven geosynthetics to strive for innovation and engineering excellence. Mine owners and plant operators require more efficient and productive solutions, tailored to their specific site and operational needs.

Challenge

The mine site faced the challenge of dewatering high volumes of slurry from sediment ponds that had reached their maximum capacity. Limited land space prevented the construction of additional ponds, and operational water demand necessitated the circulation of sediment-free water back into the process. The proposed solution had to efficiently dewater exceptionally large volumes of slurry within a limited time frame, while also being cost-effective and functional in an extremely remote location.

Solution

Drawing on their extensive experience in remote mine sites worldwide, Solmax's dewatering engineers quickly realized that standard sized **GEOTUBE®** units were insufficient for this project. The only viable option was to manufacture **GEOTUBE®** units of at least 100 m (328 ft) in length to meet the dewatering targets and fit within the constrained laydown pad size.

The design of the units allowed for efficient pumping of the required volumes and immediate circulation of discharged water back into the process. Calculations showed that using these large tubes significantly reduced operational costs compared to employing a larger number of smaller **GEOTUBE®** units.

This record-breaking operation paves the way for the delivery of supersized GEOTUBE® units capable of dewatering extremely large volumes of mine and industrial slurries in the future.

For this project, a **GEOTUBE®** unit with a circumference of 36.6 m (120 feet) and a length of 101 m (331 ft) was chosen. Six units were needed to process the 160,000 m^3 (209,470 yd^3) of slurry pumped at a rate of 550 m^3 (720 yd^3) per hour, 24 hours a day, resulting in 20,000 m^3 (26,156 yd^3) of dry cake.

The manufacturing of such large **GEOTUBE®** units presented another challenge, which was overcome through innovative fabric production and tube assembly techniques that no other company can match. The **GEOTUBE®** units were also packaged and transported to the site in a manner that facilitated easy handling and deployment by unskilled labor. This record-breaking operation paves the way for the delivery of supersized **GEOTUBE®** units capable of dewatering extremely large volumes of mine and industrial slurries in the future.

Result

This project holds the distinction of being Asia's longest **GEOTUBE®** dewatering project. It has generated valuable knowledge about the economics of large-scale **GEOTUBE®** dewatering, applicable to other high-volume mines and industrial slurry dewatering challenges.