

**MSE WALL - BATU HIJAU NEWMONT
SEJORONG, NUSA TENGGARA BARAT, INDONESIA****Reinforced Soil Walls and Slope Reinforcement****Problem**

PT Newmont Nusa Tenggara is a mining company producing primarily copper. PT Newmont would like to built a concentrator to source the valuable ore from the excavated material. The concentrator, built at Sejorong, required a Mechanical Stabilized Earth (MSE) wall to be constructed as a center piece of the entire facility.

Limited and difficult site access, lack of level ground, hazard earthquake zone, lack of availability of local construction material, shortage of skilled labor, and 25 meter height of vertical wall to kept maximum usage of the area shall be taken into consideration on the MSE design.

Solution

In early 1997 PT Maccaferri Indonesia proposed Terramesh system to built a 30 m height of vertical MSE wall. Macstar software (Maccaferri inhouse software that use limit equilibrium method) was extensively used during the design process.

PT Fluor Daniel Indonesia were responsible for acting as the Owner Engineer for PT Newmont Nusa Tenggara. PT Maccaferri Indonesia worked closely with PT Golder Geotek Utama to evaluated the design to fine tune the structure. The final designed optimised the reinforcement spacing and tail length based on the material ready at site for backfill in the reinforced zone. Consideration need to be given to an earthquake load acceleration in order of 0.32g.

The structure was completed in less than 12 months. Over 3400 m² of wall face was built with the capacity of installation average 50 m²/day. The terramesh "tail" structure embedded almost 23 m into the soil embankment. Various maintenance tunnels placed in the middle of the wall which required more detailed design and installation.

Client: PT. NEWMONT NUSA TENGGARA

Designer / Consultant: PT. Fluor Daniel Indonesia & PT. Golder Utama

Contractor: PT. John Holland & PT. Thies Co.

Products used (Qty.)

- Terramesh N/A

Date of construction: 03/1997 - 02/1998



Concentrator Finished Structure

