

ParaGrid™ - Case History



Retaining wall for a loading and access platform for heavy mining trucks Alto Chicama - Peru

Profile

ParaGrid grades used ParaGrid™ 200/15
Client: Constructora Graña y Montero S. A.
Design: Ing. Germán Vivar



The problem

Barrick Misquichilca Mining is a world leader in the exploration and extraction of Gold. With the project Lagunas del Norte (northern lakes) located in the Alto Chicama state of La Libertad in Peru they faced the challenge of constructing a 22.5 meters (75 feet) high retaining wall to create a loading and access platform for heavy mining trucks.

The combination of the wall height, the location in a high risk seismic region as well as the remote site of the mining operation required the use of a system that would combine resistance and flexibility whilst incorporating the ability to withstand the forces generated by the soil and the extremely heavy and dynamic loads imposed by the mining trucks.

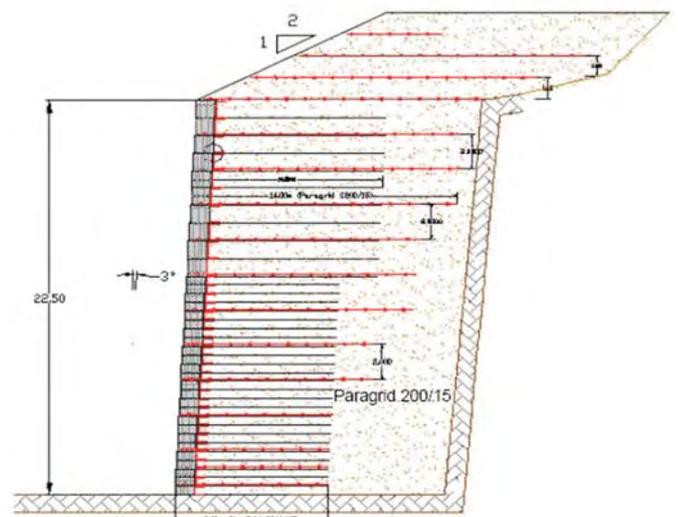
The company Graña y Montero, contractors for the project, contacted Maccaferri Peru for a solution.

The solution

Due to the requirements of the project, a flexible system of reinforced soil combining Terramesh and ParaGrid™ geogrid, was proposed.

The design was performed by Maccaferri Peru with the support of the Maccaferri office in Brazil and the final approval of Ing. Germán Vivar. The design calculations were performed using Maccaferri's own design program; MacSTARS 2000. The final solution required the use of Terramesh units with additional reinforcement of ParaGrid™ 200/15.

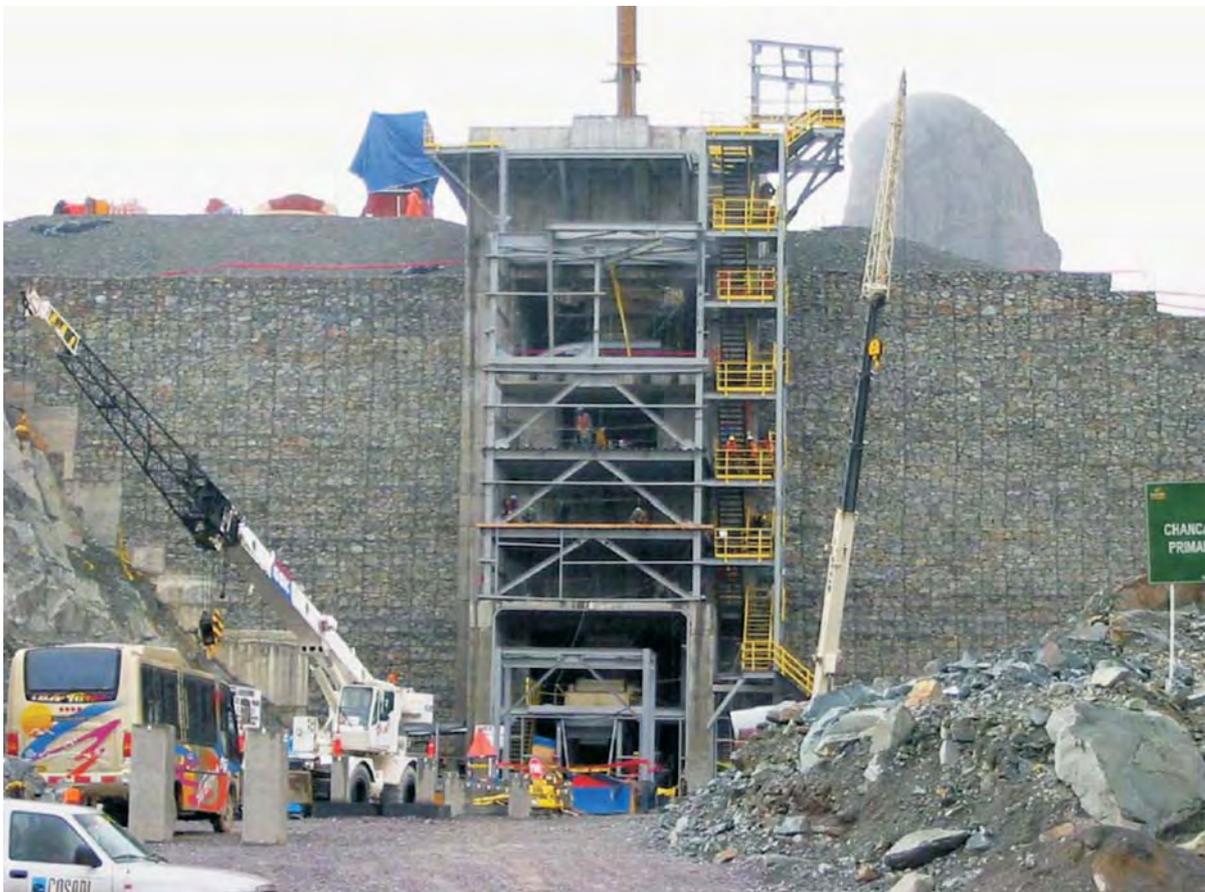
The foundation of the wall was built on healthy rock with adequate resistance. The structural fill used was waste material from the mining operation which was rigorously selected and compacted to a density of 95% modified Proctor. Quality control and quality assurance in situ was strictly enforced.





Benefits

The flexible characteristics of the Terramesh system combined with their PVC coating guarantees the protection of the structure during its life-time. ParaGrid™ 200/15 delivers a high tensile strength using high tenacity polyester fibres encased with specially engineered polyethylene sheathing. This sheathing protects the polyester from installation damage (in particular with coarse material) and in the long term from possible chemical degradation.



Linear Composites Inc. acknowledges Maccaferri Peru and to Nelson A. Berrospid who developed and wrote this case history.

Linear Composites Ltd
Vale Mills Oakworth Keighley
West Yorkshire BD22 0EB
UK
Tel: +44 (0)1535 643363
Fax: +44 (0)1535 643605
mail@linearcomposites.com

Linear Composites Inc.
7830 Laurelton Drive
Chattanooga TN 37421
USA
Tel: +(423) 987 6781
Fax: +(800) 313 4719
LComposites@aol.com