

SCHMIDT BASALT QUARRY NIMMITABEL, NEW SOUTH WALES, AUSTRALIA

ENVIRONMENTAL/ GEOTECHNICAL ENGINEERING/ TERRAMESH® WALL
Product: Maccaferri Terramesh® System

Problem

The owners of the Schmidt Basalt Quarry in Nimmitabel on the NSW South Coast required a 9m high vertical structure to be constructed to allow for their CAT769C dump trucks to tip material directly into the hopper. The wall needed to be flexible enough to accommodate differential settlement at the base, be robust enough to withstand the impact from falling rocks and be able to utilize as much on-site material as possible to keep costs within the budget. The system adopted would also need to be quick to install to ensure the structure would be able to be completed within the required timeframe. Ease of construction was also of paramount importance to ensure that the Quarry could perform the installation themselves after receiving the necessary on-site training from Maccaferri staff.

Solution

After careful consideration, the Maccaferri Terramesh® system was selected as the wall of choice. The Terramesh® system is a Gabion faced unit with woven mesh reinforcement that extends into the backfill material to create a Mechanically Stabilised Earth (MSE) structure. The woven mesh is manufactured from mild steel that is Galvalume coated (95% Zinc 5%Aluminium Mischmetal Alloy) with an additional 0.5mm radial thickness PVC coating. The Maccaferri Terramesh® system has all the advantages of a Gabion wall system i.e. it is flexible, monolithic, permeable and durable. Maccaferri possess British Board of Agrément (BBA) certificates and HITEC reports (the USA equivalent) for the Terramesh® system which cover all the technical and practical aspects of the system. The preliminary stability analysis was conducted by Maccaferri using the MAC-STARS design software.

The 1m wide Gabion facing was packed with rock (100mm to 250mm) which was sourced at the Quarry which made this system the most cost effective option. According to the Quarry owners, the wall has performed above expectation since being constructed almost 13 years ago. "No damage has occurred to the mesh from rock impacts at all and the wall looks as good as it did the day it was completed", stated the Quarry Manager.

Client name:

G.S SHMIDT Pty Ltd

Main contractor name:

CLIENT CONSTRUCTED THE WALL

Consultant:

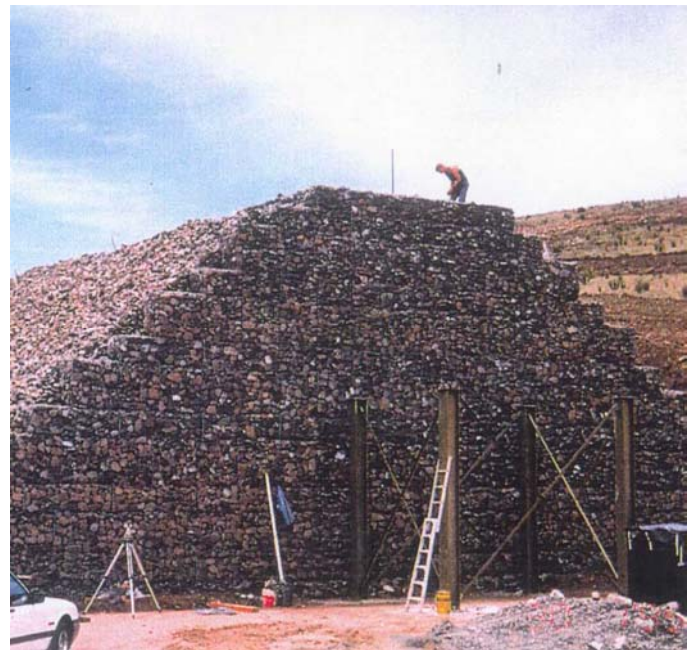
PETER MOOREHOUSE

Product used:

TERRAMESH, MACCAFERRI GEOTEXTILE

Construction date:

JANUARY 1995



During construction

Date: Jan 1995



During construction

Date: Jan 1995

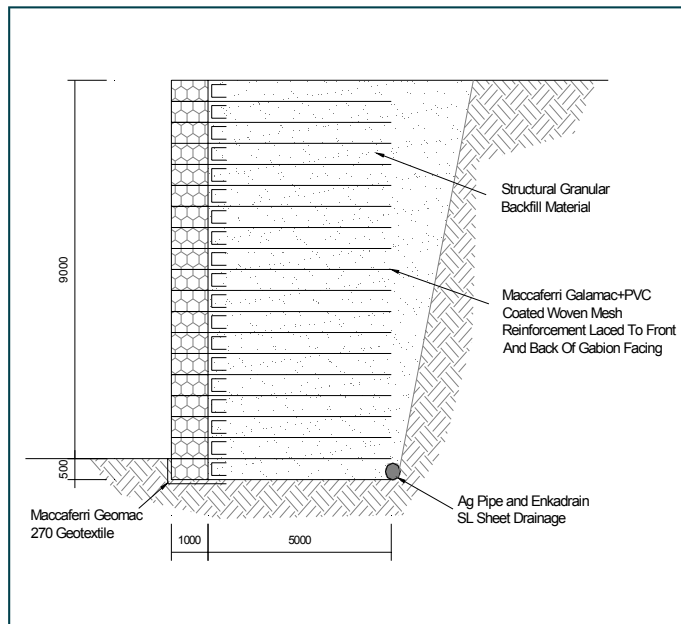
MACCAFERRI



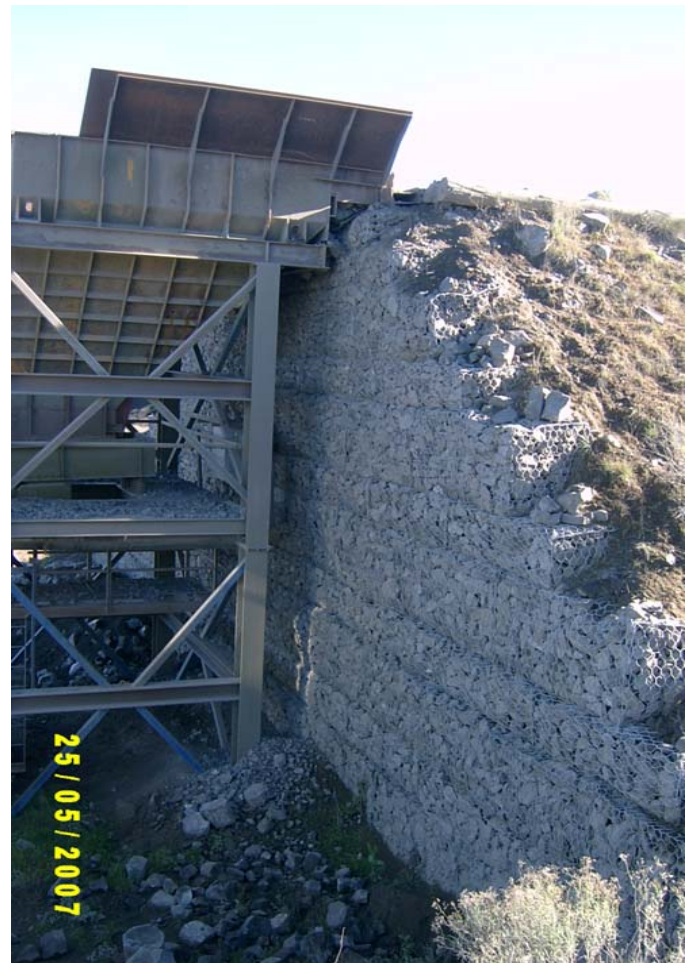
13 Years After Completion



Date: May 2007



Project section



13 Years After Completion

Date: May 2007

Maccaferri Pty Ltd

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