

POTGIETERSRUS PLATINUM MINE
POTGIETERSRUS, LIMPOPO PROVINCE

GEOTECHNICAL / REINFORCED SOIL WALLS

Product: Terramesh™ System

Problem

During mining operations, additional ore was discovered in their existing ramp system.

In order to access this ore, it was decided to excavate the ore in bulk and backfill with waste material in order to recreate the ramp. It was important to maintain the pit design limits and therefore it would be necessary to design a near vertical wall on the original line of the ramp.

The maximum height of the proposed structure would be 15m with a total length of 150m.

Solution

A number of options were considered, namely a reinforced concrete wall, a Terramesh™ reinforced soil structure and a stabilised earth structure.

In evaluating the extreme loads (390 ton dump trucks) and severe blasting stresses that the wall would be exposed to, it was apparent that the Terramesh™ structure would be the most suitable option, both technically and economically.

Benefits

Due to its flexible nature, the Terramesh™ structure was able to withstand the enormous stresses induced from blasting carried out within 8m of the structure with minimal deformation.

Waste rock fill was sourced directly from the mine and local labour was employed to carry out the packing and lacing operation.

The Terramesh™ reinforced soil structure proved to be the most cost-effective solution, with the overall project being about 40% cheaper than the alternative solutions.



During construction

Date: Oct 2000



After construction

Date: Oct 2000

Client name:

ANGLO PLATINUM

Main contractor name:

ANGLO PLATINUM

Consultant:

SRK CONSULTING

Product used:

TERRAMESH™ SYSTEM

Construction info:

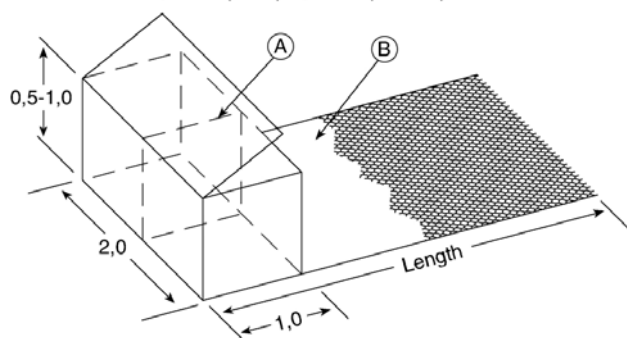
Construction date:	SEPTEMBER 2000
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Completion date:	OCTOBER 2000
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Terramesh™ System

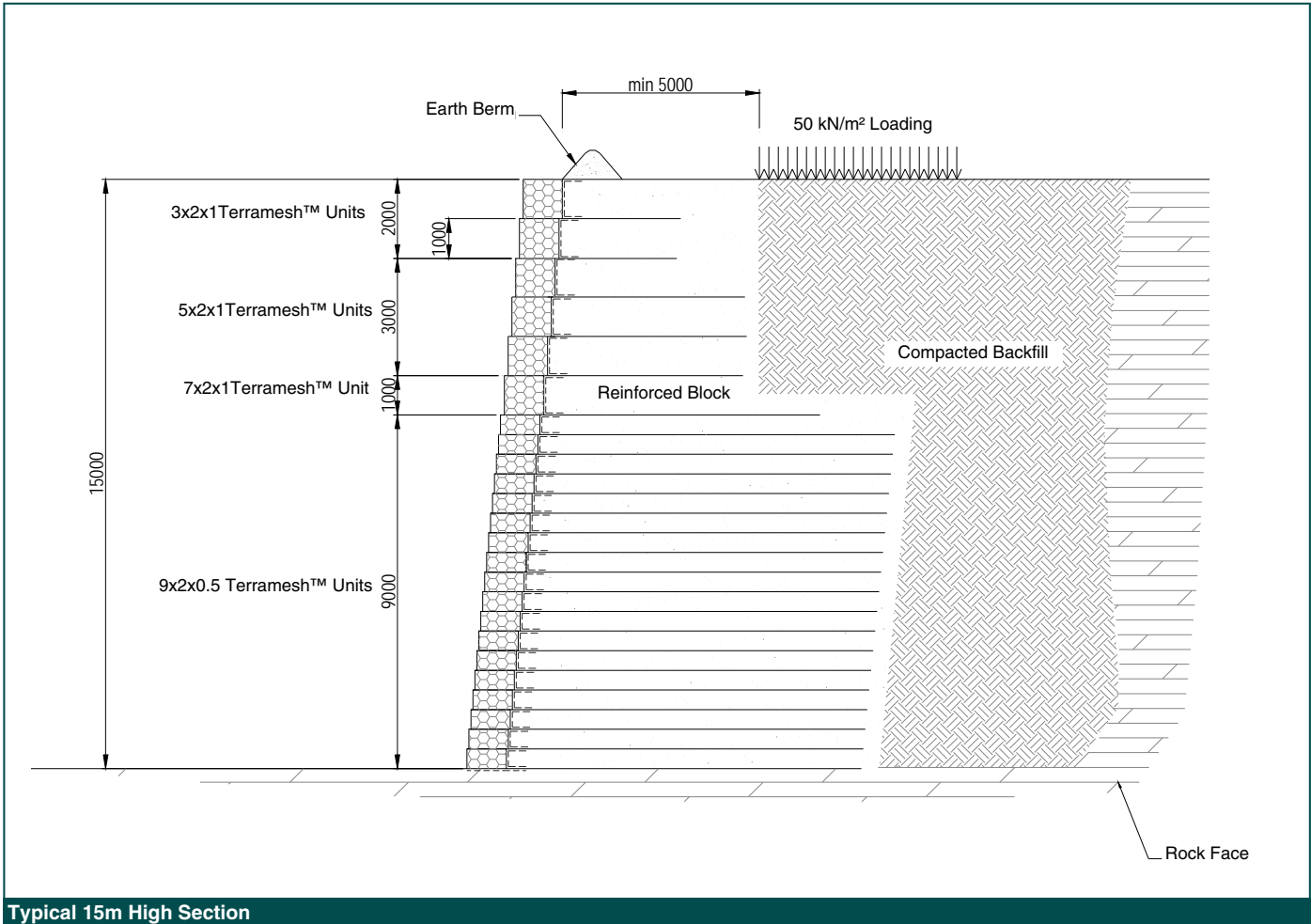
Mesh type 80 x 100

Wire diameter 2,7mm (core) 3,7mm (overall)



A = Double twist hexagonal mesh diaphragm.
B = Double twist hexagonal mesh reinforcement.

Typical Terramesh™ Unit



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