



SIKA AT WORK

GOLDEN GROVE MINE, WESTERN AUSTRALIA

CONCRETE: Sikament®-NN, Sika Plastiment® 10, SikaTard®-930, Sigunit®-P10 AF,
SikaFiber® Force PP 65, Sika Formo®Eco, Sika®Agi Clean

BUILDING TRUST



GOLDEN GROVE MINE WESTERN AUSTRALIA

PROJECT DESCRIPTION

Golden Grove Mine of MMG Limited is a combined open pit and underground operation producing polymetallic ore including copper, zinc, lead and precious metals. The mining complex is located 450 km northeast of Perth and 250 kilometers east of Geraldton in Western Australia.

The ore is hosted within a Volcanogenic Massive Sulfide deposit (VMS) that represents an ancient, submarine volcanic vent system that led to the accumulation of the metals on and below the ancient sea-floor.

A substantial amount of the annual mill throughput of 1.7 Million tons is sourced from the 2 underground mines called Scuddles and Gossan Hill through mechanized sublevel open stoping with cemented hydraulic backfill. The Gossan Hill underground mine is served by an extensive ramp and drift system to access the ore. Ore from Scuddles is assessed by shaft and ramp. The produced concentrates are shipped from the port of Geraldton to smelting facilities in Asia and Europe.

PROJECT REQUIREMENTS

Sika provides shotcrete admixtures, equipment and macro synthetic fibers for the underground development of Golden Grove to the mining main contractor Redpath Mining which is a longstanding partner of Sika for several mining projects in different world regions. Due to the remoteness of the project and long logistic routes, Redpath was looking for a high quality, lean, cost-efficient and reliable supply of admixtures for the underground development of Golden Grove. Good early strength behavior of the shotcrete is key to allow short cycle times and to allow the bolting crews to enter the sprayed areas as soon as possible. Due to the dynamic stresses acting on the shotcrete liner, Redpath was looking for a macro-synthetic fiber to give the shotcrete yielding properties in order to scope with increased stresses in the deeper levels of the mine.



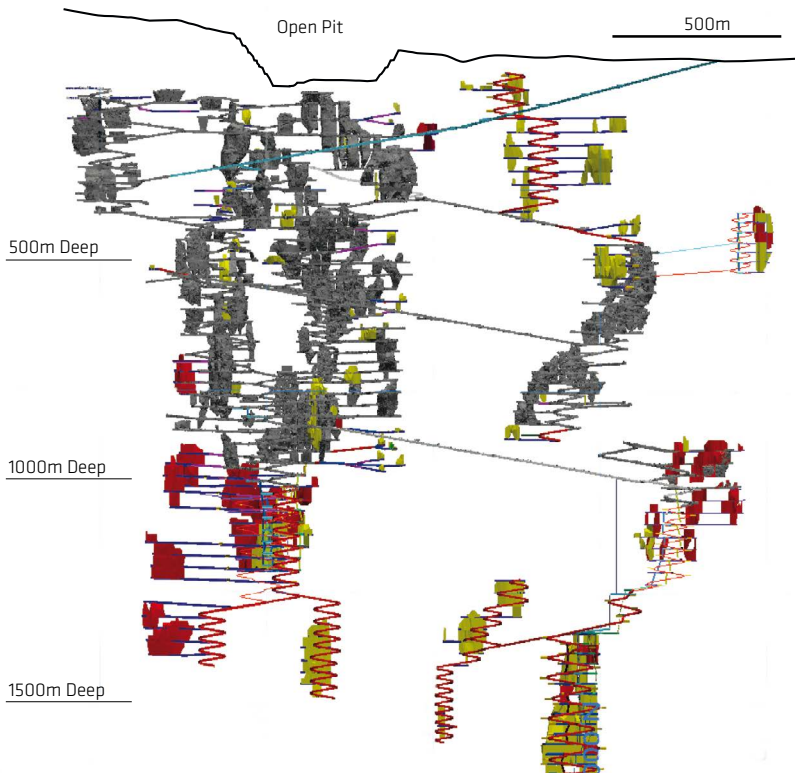
SIKA SOLUTION

Redpath decided to use the Sigunit® P10 AF shotcrete accelerator that is shipped in big bags in form of an instant powder that can be mixed with normal water. An automated, 2m³ mixer for the on-site production of the shotcrete accelerator allows them to mix the accelerator on demand. Due to the remoteness of the mining camp and the varying demand of shotcrete, the Sigunit® P10 AF has been the preferred choice due to the long shelf life of the product, cost performance and on site Sika support. By realizing on-demand production of the shotcrete on site, stability issues of previously used suspension type accelerators could be solved. The Sigunit® P10 therefore represents a very robust admixture solution for remote mining projects and is in use in many camps throughout the world. Long open times of the transported concrete to the point of use, was a key requirement for Golden Grove. Unexpected delays due to various reasons need to be taken care of when the concrete for shotcrete application is transported on the extensive ramp system of the mine. Redpath is realizing all the sprayed concrete by using the Sika polypropylene fiber SikaFiber® Force PP 65 at a moderate dosage that allows good energy absorption and dynamic loading of the primary shotcrete support.

SIKA PRODUCTS

- Sikament®-NN
- Sika Plastiment® 10
- SikaTard®-930
- Sigunit® P10 AF
- SikaFiber® Force PP 65
- Sika Formo® Eco
- Sika® Agi Clean

Long section of the Gossan Hill Underground mine at Golden Grove. Areas in red indicate the planned zinc stopes, the yellow ones the planned copper stopes. Source: MMG



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Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use.



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