



# SIKA AT WORK

## PONGKOR

JAVA GOLD

BUILDING TRUST



# PONGKOR MINE

## PROJECT DESCRIPTION

The Pt Antam Pongkor gold-silver deposit is located in Bogor, West Java, Indonesia around 80km southwest of Jakarta. Mineralization at Pongkor was triggered by young, neogene volcanism that is still active in the area today. The deposit was discovered in the 1980's during a systematic stream sediment sampling campaign and mining activities started in 1994 by PT Antam.pbk, a publicly listed company on the Indonesian stock exchange. Pongkor is a high grade, epithermal mine with grades of around 12 g/t gold and 140g/t silver. Ore reserves are standing at around 8 million tons.

The Pongkor Mine consists of three primary mineralized veins: Ciguha, Kubang Cicau and Ciurug that are wide enough to utilize conventional and partly mechanized cut and fill stopping methods with hydraulic jumbo drill and load haul dump. For the primary support installation fiber reinforced shotcrete is applied. The gold ore at Pongkor goes through various processes which include crushing, milling, cyanidation, carbon leaching and stripping, electro winning to melting and casting to produce doré. Tailings are partly used for the backfill system in combination with cement

## UNDERGROUND DEVELOPMENT WITH SIKA

The Pongkor operation requires an effective shotcrete solution for its underground support in order to deal with partly challenging ground conditions in the various underground production headings. Sika provides this technology to Pongkor

with a fully integrated shotcrete solutions and a strong support organization. Pongkor is a long standing partner of Sika and together, the shotcrete set-up as well as the concrete production at the small batch plant on surface have been refined and cost optimized over time. Sika performs frequent shotcrete trainings as well as Nozzlemen certification schemes at the mines site to maintain the quality of the shotcrete application and increase overall efficiencies. A reliable supply of Sika Sigunit® shotcrete accelerators, SikaFiber® macro-synthetic fibers, SikaTard® hydration control stabilisers and Sika superplasticisers are part of the concrete and shotcrete production at Pongkor among other products for the operation. Sika's solutions are critical to keep the mining operation going on a daily basis in order to secure underground development and the required ore tonnage on a daily basis. In order to maintain hydrological control underground, SikaFix® injection resins are used frequently.

## PROJECT REQUIREMENTS

- Rapid early strength development
- High final strength
- High energy absorption of the shotcrete liner according to ASTM 1550-05
- Good quality of the produced shotcrete with limited production capabilities (mixing in trucks)
- Open time >4h



### SIKA SOLUTION

For the underground support of the development headings, drifts and stopes, Sika Sigunit® and SikaFiber® with the combination of Sika admixtures and additives are used to provide high early strength for fast re-entry times. SikaTard®-930 is used to achieve the required open time of the concrete in order to enable transportation to the production headings. Good energy absorption for the shotcrete is achieved due to the high quality SikaFiber® T48, polypropylene fibre. Sika® ViscoCrete® is used to improve the overall quality and cohesion of the produced shotcrete and reduces rebound during the spray application. The SikaFix® range comprises fast foaming, two component PU injection resins that are used to block water ingresses immediately in order to regain hydrological control of the production fronts and affected areas underground .

### SELECTION OF SIKA PRODUCTS

- Sika® ViscoCrete® SC 405 S Superplastcizer
- SikaTard®-930 Hydration stabilizer
- Sigunit® L535 AF Alkali-free, high performance shotcrete accelerator
- Sika Fiberforce PP48 Macrosynthetic fiber
- SikaFix® 2C Injection resins

### PROJECT PARTICIPANTS

Owner: Pt Antam pbk  
Sika Organization: Sika Indonesia



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# PONGKOR MINE



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- 1 Front: Shotcrete rig and underground agitator truck in front of Pongkor portal
- 2 Shotcrete application underground at Pongkor
- 3 SikaFix injections underground to control water ingress
- 4 On site concrete batch plant at Pongkor
- 5 Observing shotcrete application
- 6 Entering the Pongkor portal

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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