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AIL's Two-Flange Tunnel Liner Plate rehabilitates Australian mine safety tunnel without disrupting active utility lines

An escape tunnel at the Tropicana Gold Mine in Western Australia had exceeded its load-bearing capacity by 15%, posing an imminent risk of collapse.



The tunnel's location below a stockpile made access and reinforcement difficult. Plus, the need to keep the utility lines operational throughout the project added more complexity to any rehab procedure.

Project at a glance:

Project Name: Tropicana Tunnel Strengthening Works

Location: Tropicana Gold Mine, Western Australia

Owner: AngloGold Ashanti Australia

Contractor: AARO Group

Sector: Mining

Application: Tunnel Rehabilitation

Product: Two-Flange Tunnel Liner Plate

Dimensions: Diameter 2.3 m, Length 10 m

Installation Time: Three months



PROJECT PROFILE

Lightweight, strong and efficient

The project partners chose AIL's Two-Flange Tunnel Liner Plate System for its superior load-bearing capacity and its ability to effectively stabilize the weakened tunnel. The modular nature of our system allowed for a phased, segmental installation, ensuring that service line operations remained uninterrupted. Overall, the lightweight design facilitated faster installation, reducing labour costs and project downtime compared to traditional concrete methods. It was a pleasure to have the skilled AARO Group team as the contractor on this project. Great work, everyone!

Solution exceeded the original design requirements

This solution exceeded the original design requirements, reinforcing confidence in the engineering approach. By utilizing AIL's Two-Flange Tunnel Liner Plate instead of traditional concrete repairs, the project minimized material waste and labour-intensive processes. The modular design allowed for an efficient installation with minimal environmental disruption. Additionally, the reinforced structure extends the tunnel's lifespan, reducing the need for frequent maintenance and reconstruction.

The restored tunnel now provides safe, reliable access without disruption to mining operations. The owner acknowledged the project's success in resolving a critical safety concern efficiently.

AIL remains committed to delivering cost-effective, resilient solutions for tunnels and culverts worldwide.

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