



CASE STUDY >

ORBELO GOLD MINE STRUCTURE DESIGN ANALYSIS, REVIEW, MODIFICATION, SHOP FABRICATION DRAWINGS, AND INDEMNIFICATION

PROJECT OVERVIEW

The Gympie Gold Project is a unique brownfield project comprising extensive underground workings which give access to 500,000oz of JORC (2012) ore Resources and deep, continuous regional gold mineralization. The project hosts several near-mine prospects supported by prior exploration with the potential to support large-scale, low-impact gold developments. Development is target for a regional exploration strategy for the Gympie Gold Project and sees potential for a

SCOPE OF WORK

RSGx's scope of work included a comprehensive Engineering Review and Verification of steel & concrete structures. The main objective of this review was to ensure compliance with a range of Australian Standards such as AS 1657 (Design for Access and Mobility), AS 4100 (Steel Structures), AS 3600 (Concrete Structures), AS 1170.2 (Structural Design Actions- Wind Actions) and AS 1170.0 (Structural Design Actions- General Principles) for Indemnification of the structure by RPEQ to ensure that it is fit for purpose and can withstand the intended loads.

To achieve compliance with these standards, the following steps were undertaken:

- ◆ Conduct an initial review of the existing design to identify any non-compliances with the relevant standards.
- ◆ Propose and implement design modifications as required to bring the design into compliance with the standards.
- ◆ Finite Element Analysis (FEA) to determine the structural capacity of the steel structures under both static and dynamic loading.
- ◆ Software such as SpaceGass, Altair, SolidWorks, and Robot Structural Analysis was used for this analysis.
- ◆ Analysis of vibration due to machinery (pumps & screens) to ensure compliance with relevant standards and to avoid potential fatigue issues.

SOLUTION

RSGx provided a safe, solid, and sustainable solution for the Orbelo mine project. The goal was to deliver the project on time for the client, Orbelo, working in partnership with the designer, filblast-atomaer.

RSGx's team of experienced engineers and designers made sure that the solutions provided were safe for the workers, the public and met the industry standards. They also considered the potential hazards and risks associated with the construction and operation of the mine and provided solutions to mitigate these risks.

The solutions provided were also designed to be solid and durable to ensure that the structure would remain functional and safe over its intended lifespan. This included the use of materials that were suitable for the intended loads and environment and the use of appropriate construction methods.

Finally, RSGx also considered the environmental impact of the project and provided sustainable solutions that minimized this impact. This included the use of sustainable materials, efficient use of resources, and management of waste and water during the construction process.

ACHIEVEMENTS TO DATE

The Orbelo Mine project was a complex project that required a comprehensive solution to ensure compliance with a range of Australian Standards. RSGx's team of experienced engineers and designers were able to deliver a safe, solid, and sustainable solution that met the standards and expectations of the client Orbelo and designer filblast-atomaer. They were able to coordinate and deliver the solutions on time and budget, helped the project to proceed on schedule and meet the deadlines set for its completion. The team also considered the potential hazards and risks associated with the construction and operation of the mine and provided solutions to mitigate these risks. This made the project a great achievement for RSGx.

CLIENT

ORBELO MINE

SERVICES PROVIDED

DESIGN MODIFICATION AND INDEMNIFICATION FOR COMPLIANCE WITH AUSTRALIAN STANDARDS.

SCOPE

FINITE ELEMENT ANALYSIS & SHOP FABRICATION DRAWINGS

INDUSTRY

MINING

LOCATION

GYMPIE, QUEENSLAND



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