



Case study

Underground mobile workshop pre-feasibility study

Client: Gold producer

Location: Victoria

Duration: June-August 2017

Context

Our client's planned mine expansion requires a major expansion of underground mine workings. With equipment service and repair activities currently conducted in surface workshops, relocating maintenance services underground would potentially create significant uplift in key mining equipment availability, particularly for equipment with no role in surface operations. However, the underground location introduces new challenges such as ensuring safe access and effective ventilation. Minset was engaged to deliver an independent study into the benefits and issues of maintaining mine equipment in an underground facility. Comparative to traditional mine engineering providers, the value of Minset's expertise in capital project study services was amplified by our core capability in mobile maintenance productivity. This meant pre-feasibility work drew on extensive insight into optimised work area solutions, factoring equipment performance and workgroup safety and productivity considerations into designs.

Approach

Minset's role involved determining basic concepts for workshop design and layout options, identifying the appropriate location within the mine, analysing and validating initial cost models, completing construction modelling including procurement and costs, and providing a business risk assessment. Key mine stakeholders were engaged as a priority to ensure all considerations were heavily grounded in an understanding of business needs and opportunities. Subject matter experts from Minset and within our client's organisation were also involved to leverage past experience and deepen the value of the analysis. This was supported by contracted design and engineering advice from Mincore. Weekly reviews and a formal mid-point update ensured continual alignment between pre-feasibility efforts and wider mine site objectives. This also allowed the team to redirect efforts faster through iterative review and toll-gate assessments. The resulting study provided three options in a detailed report comparing a 'do nothing' approach with the benefits and issues of two alternative workshop designs and locations.

Results

Physical

- ▶ Temporary workshop constructed to demonstrate benefits and aid in decision-making
- ▶ Follow-up study positioned to add greater insight and value through the 'pre-optimised' pre-feasibility work

Process

- ▶ Comprehensive data provided, improving management budgeting and capital planning
- ▶ Lean principles embedded in the design phase to facilitate higher productivity
- ▶ Client project management systems used, supporting the next stage of assessment

People

- ▶ Diverse stakeholders engaged including maintenance, operations, geotechnical, planning, management and consultants
- ▶ Succession embedded via deep engagement with site representatives responsible for taking the work forward
- ▶ Technical specialists engaged, providing a far deeper analysis of issues and opportunities

