No Assumptions, No Surprises

Lessons learned from the Carrapateena project – Using governance and risk to inform social and environmental performance

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**ABSTRACT**

OZ Minerals’ Carrapateena project is one of Australia’s newest ‘greenfield’ mining deposits. It will be a 4.25 Mtpa sub level cave underground operation, with an estimated mine life of 20 years.

Integrating successful approvals and social performance strategies enabled the project to move from a Pre-feasibility Study in 2016 to construction in 2018. It is on schedule for first concentrate production in Q4 2019. The integration of stakeholder values to inform project development influenced the social and environmental outcomes. A Native Title Mining agreement was developed in 12 months. Project primary approval was obtained 12 months from submission, with achievable licence conditions and one public comment.

Government approvals and stakeholder engagement focused around the Tailings Storage Facility (TSF) following recent, international dam failures. A significant investment was made into understanding the science around potential effects, impacts and risks. An Impact Assessment Framework that identified Sources, Pathways and Receptors was applied. A process of failure mode identification and layers of protection analysis was undertaken for robust design controls at each stage, while simultaneously transitioning between downstream and upstream discharge arrangements.

Carrapateena’s TSF comprises a cross-valley embankment and is located approximately 16 km upstream of Lake Torrens National Park. The TSF has a storage surface area of approximately 510 ha. Participatory selection of the TSF site and design layout was critical in managing project costs, environmental constraints, incorporating cultural heritage constraints and technical risks.

Leading-practice independent auditing and a governance framework was implemented in the construction, operational and closure phases for continuous assurance through public reporting of compliance with design criteria. Independent auditing provided confidence that the design will result in a geotechnically stable, non-polluting and safe landform during operations and post-mine completion.