



2018 GEMG Environmental Management Workshop
 16-18 May 2018, Kalgoorlie WA
Paper Abstract Submission

Paper Title:	Balancing Act - A case study of current approaches to rehabilitation and monitoring at KCGM
Topic:	Mine site rehabilitation, monitoring, relinquishment, strategic management, closure criteria.
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Abstract:	<p>Since commencing operating as Kalgoorlie Consolidated Gold Mines in 1988, KCGM has completed rehabilitation on mined landforms using a variety methods. As was the standard and expectation at the time, early attempts at rehabilitation in the 1990s and early 2000s trended towards ecological restoration (return to pre-mining ecological function), rather than rehabilitation (development of a modified ecosystem). In addition to ecological success, landforms were also expected to be geomorphologically (erosionally) stable. Unfortunately, soils within the Goldfields have been eroded and leached over millennia to be deposited within large flat areas, resulting in the vast majority of the material collected for use in rehabilitation being dispersive, saline and highly erodible. In some instances, given the expectation for vegetation establishment, these materials were used without adequate consideration of erodibility, leading to excessive erosion on some landforms. This has highlighted the need to balance considerations of ecological performance and erosional stability when planning and implementing rehabilitation, based on material characterisation and management.</p> <p>Developing criteria and monitoring programs to measure success of rehabilitation on these landforms has proven challenging. Given that rehabilitated landforms are vastly different in terms of structure and geological age to natural landforms, the previously developed closure criteria and monitoring methods favour measurement and comparison of rehabilitation against natural analogue communities. Unfortunately, finding comparable analogues within the natural landscape is not possible for the engineered constructed mine landforms. As a potential solution, KCGM is investigating alternatives to analogues, such as using prior and recently rehabilitated areas as comparisons of what is floristically achievable in rehabilitation.</p>
About the Presenter/s:	<p>Jess has more than nine years' experience in the resources industry across operations in Western Australia and the Northern Territory. Her experience includes environmental management in open cut iron ore and gold operations, as well as construction support services to oil and gas projects. Jess has practical environmental management experience from seven years on-site as an environmental professional, including development and implementation of ISO 14001 compliant management systems. Jess currently specialises in:</p> <ul style="list-style-type: none"> • Closure and rehabilitation planning and cost provision. • Interpretation and implementation of environmental legislation. • Project approvals. • Environmental risk assessment, including closure and rehabilitation. • Environmental management systems and management plans. • Environmental monitoring and compliance reporting.

** Please keep abstract submissions brief, and 1-2 pages only.*