

Executive summary

This report documents an investigation of the tailings corridor at the ERA Ranger mine undertaken by Sinclair Knight Merz on behalf of the Office of the Supervising Scientist. The purpose of the investigation was to review the adequacy of design, operating and maintenance aspects of the corridor. The key features of the report investigations and findings are as follows:

- The scope of the study was limited to the corridor itself and its associated runoff collection sump and sump contents discharge.
- The study methodology comprised an overview review and assessment by SKM based on current operations documentation and information obtained from investigations on site and discussions with ERA Ranger personnel.
- A summary description of the existing system design and operation is provided along with comment on the current suitability of the original design. The review concluded that, subject to recommendations in respect of widening of the corridor at the tailings dam end to take account of additional pipes added since the original design and checking of corridor impermeability, the original design and design intent was and continues to be appropriate.
- The review found that some maintenance procedures have not, in the latter years of operation, been as effective as those undertaken during earlier operation of the facility. A number of recommendations to generally improve and tighten maintenance planning and implementation procedures are therefore included in the report.
- A review of corridor maintenance roles and responsibilities is recommended to ensure optimal planning and implementation of maintenance requirements for the remaining facility life.
- The possibility of rocks falling from the adjacent waste rock stockpile is seen as a potential threat to the corridor piping and a review of this stockpile in this context is recommended.
- A review of corridor pipework has identified a number of recommendations in respect of ensuring joint integrity.
- A recent ultrasonic survey of corridor line pipe condition by a specialist contractor has not revealed any significant problems. The method used, however, has limitations in respect of tailings pipeline lining condition. Further review is required and recommended to establish whether more sophisticated condition assessment techniques are merited for the linings. The report investigations indicate that suitable technologies, whilst they may be expensive, are available should they be required.
- It is recommended that all redundant piping be identified and removed.

A full listing of recommendations arising out of the review is provided in section 6 (Discussion and recommendations) of this report.