



Creating enduring value

SGME VALUES

Honest



Trust



Innovation



Safety



PROJECT CASE STUDY: Detailed Contamination Assessment and Conceptual Remediation Strategies for a Legacy Mine

SGM Environmental Pty Limited (SGME) did a contamination and rehabilitation works assessment for a derelict oil shale mine.

Site description: The 18 hectare legacy mine operated between 1938 and 1952. The legacy mine was partially rehabilitated in 2003 and additional rehabilitation was done in 2015. The legacy mine features underground workings for the extraction of shale, processed shale stockpiles (the ash stockpiles), tank farm, storage drums and a refinery.

The problem: The New South Wales (NSW) Government is responsible for the legacy mine and acknowledges that it is economically impractical or impossible to achieve complete rehabilitation.

The NSW Government requested advice (the assessment) as to whether past rehabilitation has been successful, and if further remediation is required.

What SGME did: SGME did a desktop and field investigation of the legacy mine with the objective of identifying sources, pathways and receptors of potential contamination. The investigation qualitatively confirmed asbestos concentrations are least threatening to human health. It also assessed past rehabilitation of ash stockpiles to determine if it had been successful. Finally, risk-based options for rehabilitation were developed including an order-of-magnitude cost estimate ($\pm 50\%$).

The investigation identified long-term risks including elevated hydrocarbons, asbestos, contaminated water and erosion. Recommendations were made on rehabilitation actions necessary to reduce the risk of environmental harm including signage, fencing and repair works. SGME had to balance financial constraints and eliminate risks to public health, safety and the environment. SGME prepared a review of environmental factors to support a future application to do further remediation at the legacy mine.

