

ENSHAM MINE FLOOD RECOVERY PROJECT MANAGEMENT



The Client



The Project

The Bowen Basin is the largest coal mining area in Australia. In 2008 after immense rainfall events, significant flooding was encountered. Many mines were badly affected with flooded pits and none more so than the Ensham Mine which straddles the Nogoa River. The river broke its banks and overwhelmed the mine pits on either side. It also overwhelmed the town of Emerald which supplied labour, plant and materials to the mine. The value of the coal remaining in the flooded pits and of future mining justified the recovery and the continuation of operations. The total scope of the project was unknown as much of the mine was submerged. The \$300M+ Recovery Project involved:

- Pumping out the pits. A massive amount of water was in the pits, equal to 30% of Sydney Harbour
- Management of the quality and salinity of the floodwater returned to the Nogoa
- Removing mud and silt from the pits
- Rebuilding 10km of levees to a higher level and specification
- Rebuilding mine access roads, drainage and other infrastructure
- Recovering and rebuilding a submerged 1,700t Marion 8050 Dragline



The Challenge

- Development and implementation of the Project Execution Plan, Schedule and Estimate.
- Implementation of Project Controls to deal with both Corporate and Insurance Company requirements
- Management of on-site and consultant engineering resources to implement recovery tasks including bulk pumping and discharge, levee design and approval, dragline recovery and re-build and mine haul road reconstruction
- Management of on-site pumping and construction workforce
- Procurement of parts and materials from Australia and overseas including airfreight of large dragline components from the USA

The Outcome

- Southern pits pumped out to allow for Dragline recovery and rebuild. The Dragline re-entered service within 11 months following an entire electrical replacement together with major mechanical overhauls. For its overhaul, the Dragline was walked to a flood immune rebuild pad under the power of one of the mine's other draglines.
- Mine production in one pit resumed within 12 months with all pits pumped out in 13 months and saline water stored for evaporation in a mined-out pit
- All ruined infrastructure replaced within 12 months
- New levees completed in place
- Mud removed from all pits within 15 months
- Total Project completed within 2.5% of the initial Project Execution Plan estimate



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