



AssetCare Counts#11

January 2012

► Reinforced Concrete Distress and Remediation

ALS Industrial Division has developed the capability to investigate concrete structures and analyse for the full range of factors that have a negative impact on the construction material. This requires the utilisation of the latest technology and a thorough understanding of the mechanisms of failure. The full analysis of available remedial options with associated costing may be compiled to allow managers and asset owners the means to make informed and appropriate decisions regarding the long term serviceability of their infrastructure.



Overall view of wharf structure



Spalling concrete wharf structure

Recent work was undertaken in a paper mill chemical plant where it was assessed that the continued serviceability of the reinforced concrete infrastructure was severely curtailed.

Appropriate concrete diagnostics were performed by ALS and included electropotential and resistivity mapping, steel reinforcing surveys, chemical analysis and chloride depth profiling of the concrete. It was concluded that there was high contamination of the concrete matrix by the chloride ion, a corrosively aggressive agent commonly found to be problematic in various structures.



Rope access to remediation site of a stack

It was recommended that the remedial option of Chloride Extraction be considered. It was necessary to fully understand the nature and severity of this influence as well as the process demands of the plant prior to embarking on this option. The plant was fundamental to the operation of the mill and could not be moved or interfered with. The longer term service life of the reinforced concrete infrastructure was reinstated with no downtime to the production process. This offered the client a valued benefit of maintaining the longevity of the plant with no disruption.

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