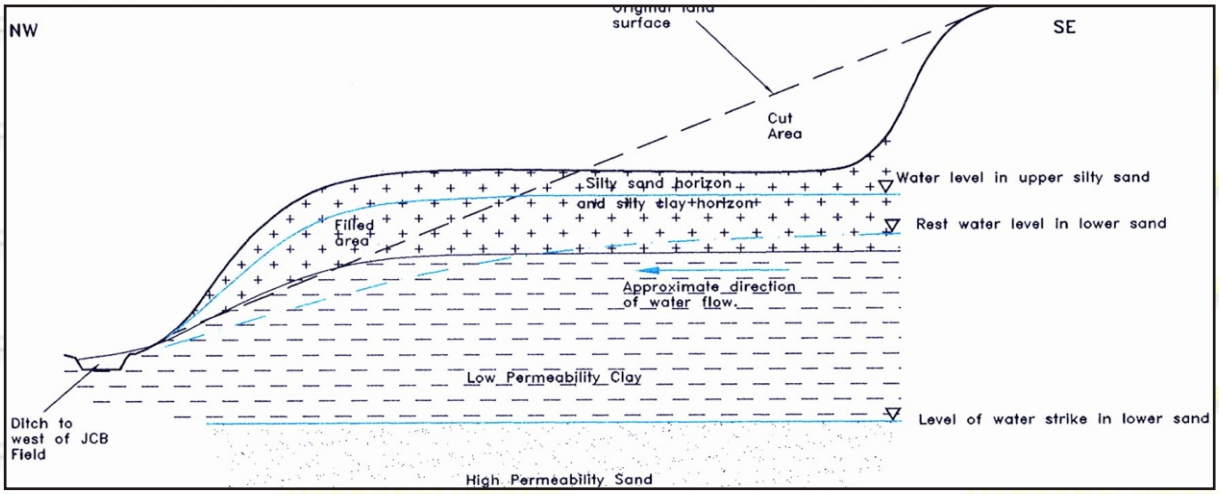
Contam 7

WARDLE METALS

Investigation & Restoration of an Aluminium Recycling Plant

An investigation of hydrogeological conditions at an aluminium recycling facility was undertaken as part of a major expansion of waste disposal facilities.



Aluminium scrap is reprocessed inside a reverbatory furnace; highly reactive waste slag is sprayed with water prior to deposition within a former clay pit to 'cure' by exposure. The waste remains reactive for many years, leaching ammonia and metals in solution.

The former brick pit had been excavated into clays overlying sand deposits. Both perched and semi-confined groundwater was impacted by ammonia, elevated EC, AL, Cu, and Fe, with an alkaline pH.

A geotechnical appraisal of the suitability of on-site clays for landfill development was undertaken. The restoration plan for the existing landfill comprised perimeter earthworks, capping and restoration. Groundwater contamination was addressed through a perimeter cut-off drain and ongoing monitoring.

An investigation of an adjacent field for development of a new above-ground landfill was undertaken. Detailed landfill development costs were prepared, including provision of a leachate pre-treatment plant to reduce high-strength leachate necessary before disposal to sewer.

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