

# Debottlenecking of the Ridgeway Concentrator at Newcrest's Cadia Operation

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## ABSTRACT (USE 'HEADING 1' STYLE)

The Ridgeway Concentrator at Newcrest Cadia was commissioned in 2002 as an ABC circuit to treat the ore from the Ridgeway sublevel cave (SLC) at around 5.5MTPA. Consisting of a single pinion 32' AG mill with a single pinion 7MW ball mill, it was a much smaller plant than the adjacent Cadia Hill Concentrator. Subsequent expansion of the circuit saw the additional infrastructure added as the ore source transitioned to Ridgeway Deeps, a block cave below the original Ridgeway SLC. The key additions were a secondary crusher to reduce the SAG mill feed size and tertiary grinding for reduction in flotation feed size to maintain recovery.

The Cadia East mine, which consists of 2 large block caves, is now the sole ore supply at Cadia. The Cadia East ore has a higher Bond Work Index (BWi) and higher resistance to impact breakage (lower A\*b) than ore from the Ridgeway mine or Cadia Hill open cut. This ore became the feed source for the Ridgeway concentrator in March 2016. This paper details the recent debottlenecking improvements made to the plant to further increase grinding circuit throughput despite the harder ore, including installing new equipment to tertiary crush the SAG mill feed, optimisation of mill liner design, upgrades to grinding mill drive trains and numerous smaller optimisation activities.