PUBLISHED PAPER

COMPARATIVE SPIRALS TESTING - MINE SITE CASE STUDY

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ABSTRACT

A project was initiated in a central Queensland mine to confirm if any of the current suite of spiral equipment products on the market could deliver performance improvements over the existing installed spirals circuit. The plant in the Bowen Basin region was constructed with a spirals circuit to treat the middlings size fraction which has worked 'moderately well' over the years. Currently, the plant is being presented with significantly more challenging feed types with higher feed ashes due to a combination of increased interburden / dilution material, as well as the inherent washability characteristics not being as favourable as the usual Goonyella Middle seam material. The spiral circuit is a key bottleneck and source of inefficiency in the current plant while processing the current and new range of feed types.

The testing program included an assessment of the existing Downer EDi – Mineral Technologies (MT) LD4 units, and a comparison with three pilot scale units, being the MT LD7, MT LD7RC and the Multotec MX7. A range of feed conditions were presented to these units, including high and low feed ash material, as well as varied solids (t/h/start) and volume (m^3/h/start) loadings.

This paper describes a brief overview of the literature highlighting operational aspects, efficiencies and limitations, and most importantly, details the outcomes of the comparative testing of the different spiral equipment types.

Reference:
Meyers, A., Perrin, M., & Bennetts, Z. (2010). Comparative Spirals Testing - Mine Site Case Study. In B. &. Atkinson (Ed.), *Proceedings of the Thirteenth Australian Coal Preparation Conference* (pp. 210 - 223). Mackay, Queensland: ACPS.