

Grinding Circuit Evolution

Sherman M¹, Collins A²,

1. Technical Director, Fluor Australia Pty Ltd, Melbourne VIC 3004. Email:
mark.sherman@fluor.com

2. M&M Functional Manager Process Technology, Fluor Australia Pty Ltd, Perth WA 6000:
andre.collins@fluor.com

ABSTRACT

The ever changing demands of providing operating teams with grinding circuits that meet their needs has resulted in equipment suppliers offering a broader range of grinding equipment and researchers investigating more efficient methods of reducing the size of ore. This paper presents Fluor's learnings from grinding design and optimisation work carried out over the last decade, which includes the design and construction of the world's largest High Pressure Grinding Rolls (HPGR) based grinding circuits and the optimisation of Semi-Autogenous Grinding (SAG) mill liner and grate design at a number of sites. In addition, this paper also presents emerging opportunities for reducing grinding operating costs by combining established size reduction technologies, such as HPGR, ball milling and stirred milling, to generate a superior processing outcome for the operator.