

TESTWORK PROGRAMS THAT DELIVER MULTIPLE DATA SETS OF COMMINUTION PARAMETERS FOR USE IN MINE PLANNING AND PROJECT ENGINEERING

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ABSTRACT

Mining projects are applying the age-old notion of “check your work” against comminution circuit design, mill power requirement estimates and mill throughput estimates. The best way to test the results of one comminution modelling system is to replicate the calculation in a different modelling system. Unfortunately, the most common comminution modelling systems require largely incompatible test programs to provide input parameters.

This paper presents some example protocols for sample collection and preparation from drillcore that simultaneously returns comminution datasets suitable for a Bond Work Index based method (DJB Consultants), an $A \times b$ dataset (JK SimMet), and a set of SPI results (Minnovex). By carefully collecting data for all three methods, high quality geometallurgical datasets can be created for three commonly used comminution models. The results of the three models may then be compared during a Feasibility Study.

A preferred method can then be selected for a Project Engineering Analysis and Mill Throughput Studies using comminution model results as input to a Mine Model and Mine Production Plan based on ore lithology and alteration types.