

## **Semi-Automated Fragmentation Assessment**

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### **ABSTRACT**

Fragmentation has a direct impact on mine costs and productivity. Computer programs have been developed to calculate fragmentation using data on the properties of the explosive, the characteristics of the rock, the rock mass and the blast pattern. While computer models can yield good data, conclusions must be verified. Fragmentation assessment, muckpile surveys or high speed film analysis of rock mass movement are some of the techniques that have been used to confirm blast results. Digitizing photos of the muckpile is now the most common method to assess fragmentation. But it has some drawbacks. Although automatic electronic imaging equipment speeds up the process, the results depend on the photographs. Shadows will distort results. High resolution, black-and-white prints are essential.

This paper outlines a new method using semi-automated, digitization and a rear projection tablet interfaced with AutoLISP programs. The setup is flexible and can deal with black-and-white or colour images, photographs or slides. This paper describes how to determine the distortion correction factors by digitizing the image of a one-meter grid on the rockpile surface. It then shows how the data can be used to calculate the actual distribution size.