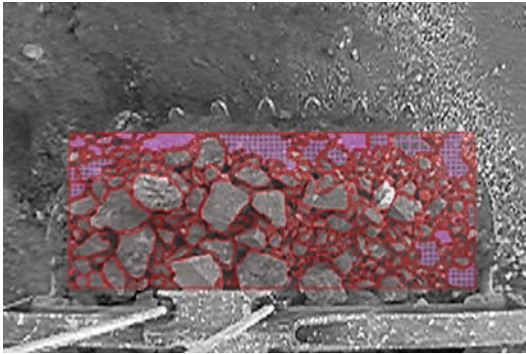


FragMetrics™

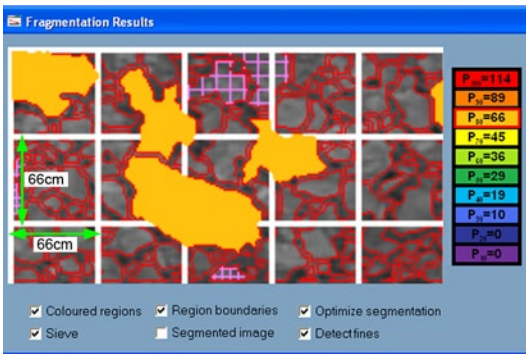
A Shovel Bucket-Based Automatic Rock Fragmentation Analysis System



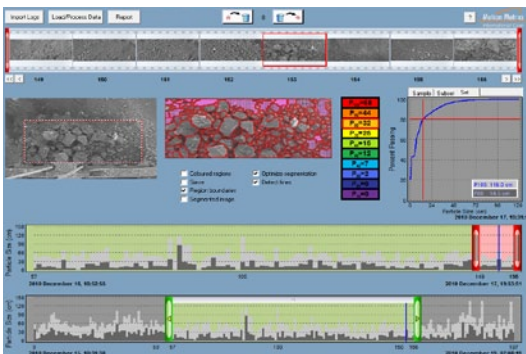
Bucket-based rock fragmentation analysis



Compatible with rope and hydraulic shovels



Simulated sieve and percentage passing



FM-Tablet user interface

OPTIMIZE BLASTING AND COMMINUTION

With rock fragmentation data, a process engineer can relate the sizes of the rocks fed into the crusher/grinder to the energy consumption, the life of the machines, and the cost of maintenance in order to determine the optimal rock size for each step in the process. The rock size statistics (e.g. P80 and P100), provided by FragMetrics™, can be used by the blast engineer to adjust the blast design in order to achieve the target rock sizes best suited for the mill process. In addition, the mine management can also balance the costs between blasting and comminution to determine the best economic practice.

UNIQUE ADVANTAGES OF BUCKET FRAGMENTATION

With FragMetrics™, the bucket fragmentation data can be captured before the rocks are broken down further from handling and processing. For example, shock from dumping into the haul truck, vibration during transportation, and passing the rocks through the grinder, would reduce the rock sizes.

When optimizing comminution, process engineers want to determine the best input feed size to specify. When reviewing the results of a recent blast, blast engineers want the rock sizes as a direct result of the blast. The bucket fragmentation data addresses both the requirements of the process and blasting engineers, as the bucket is the key transition point between blasting and comminution. By specifying the best input feed size as the optimal bucket fragmentation, the process engineers can communicate their needs clearly to the blast engineers.

SAFE AND EASY OPERATION

FragMetrics™ takes advantage of the unique camera position on the boom and an automatic image acquisition system called FM-Logger to eliminate the dangerous task of manually taking pictures in the pit. Images are taken during the shovel's digging cycle and stored in an embedded system in the cab for retrieval manually or remotely across the network.

Processing these images, FM-Tablet, the image analyzer, can provide the rock fragmentation collected over days or months. The results can also be exported in the form of a simple report or CSV files, which can be conveniently used in Microsoft Excel™ or other software.



FM-Logger

FM-Tablet

FragMetrics™ System

