

Powder Analysis Image Analysis Report 418

Sample Description

Two pouches of Zinc Borate and 1 pouch of Borax were submitted for analysis.

Purpose of Analysis

Demonstrate that the Clemex Vision image analyzer can discriminate and measure the area, length, aspect ratio and shape of particles.

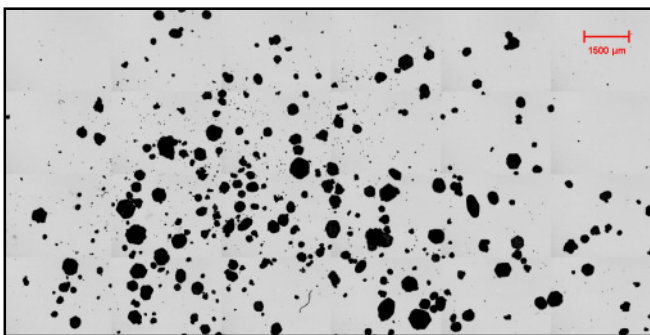


Figure 1: Mosaic reconstructed from 6x4 images at 25x (Borax).

Procedure

In this specific example, grains were too big to easily fit inside the field of view. A first run grabbed the images and reconstructed a mosaic. The second run was executed on 1 image (the mosaic) only. Particles were binarized and artifacts removed. Binarized particles were separated prior to measurement.

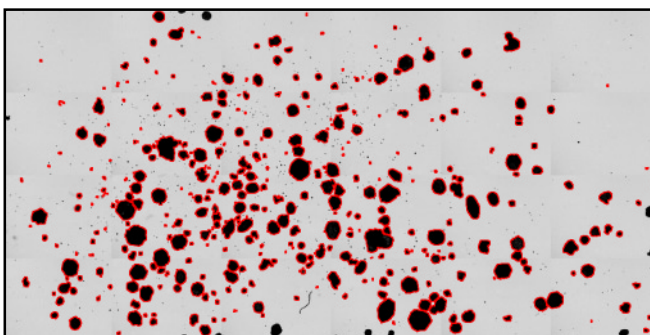


Figure 2: Outline view of binarized particles as measured.

Results Summary

Area, length, aspect ratio and shape measurements were performed. Results were cumulated for automated statistics and graph generation. Final results can be printed directly from Clemex Vision. Raw data are linked to their respective object and can be exported in Excel format.

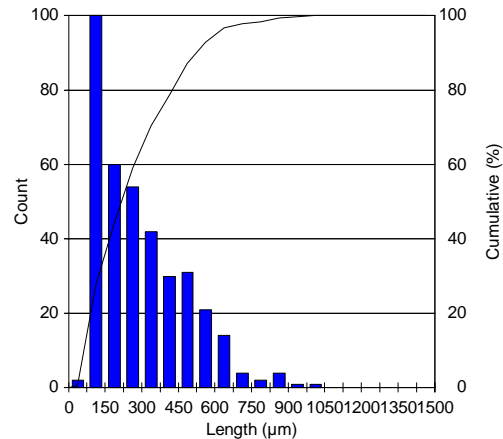


Figure 3: Length distribution of particles.

No major difficulties were encountered during this analysis. Using a magnification of 10x or 15x for the Borax sample could eliminate the need to use a mosaic. The Zinc Borate powder was mixed with Kerosene to help spread the particles on the slide.

Equipment

Image Analysis

System:	Clemex Vision PE
Camera:	Sony DXC-950P
Microscope:	Nikon Optiphot - 2
Magnification:	25 x (mosaic) and 200 x
Stage:	Motorized Marzhauser 40x40 mm
Stage Controller:	Clemex ST-2000