

## Strontium Ferrite Characterization Image Analysis Report 242

### Sample Description

Free strontium ferrite powder on a slide.

### Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analyzer to obtain a size (length) distribution of the strontium ferrite particles.

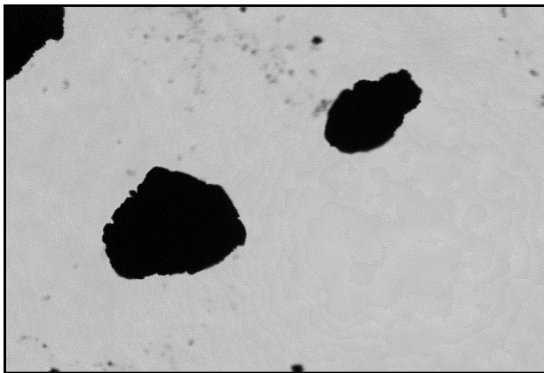


Figure 1: Original gray image.

### Procedure

Objects that were partially out of view were eliminated using a square grid (cyan) and an object transfer.

Area, length, width, diameter, sphericity, aspect ratio and roughness measurements were performed on the final bitplane.

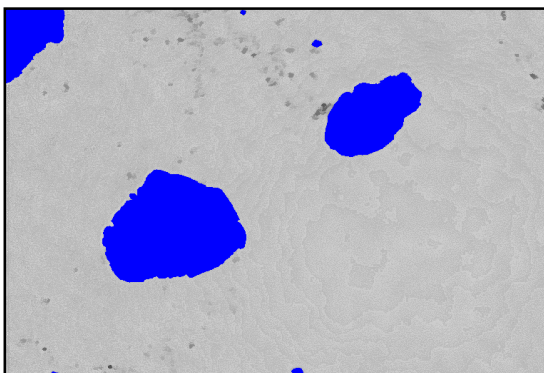


Figure 2: Binarization in blue bitplane of the original image by Gray Thresholding

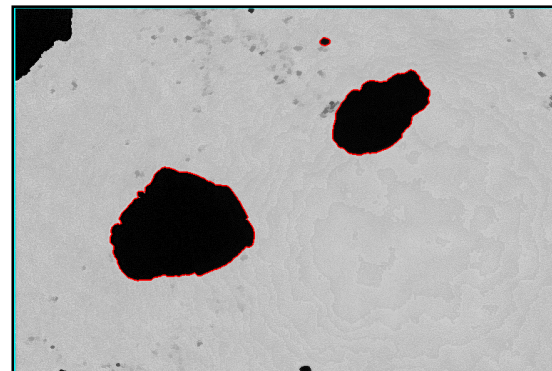


Figure 3: Outline of the final detected particles overlaid against the original image. Square grid used for eliminating partially visible objects can be seen in cyan.

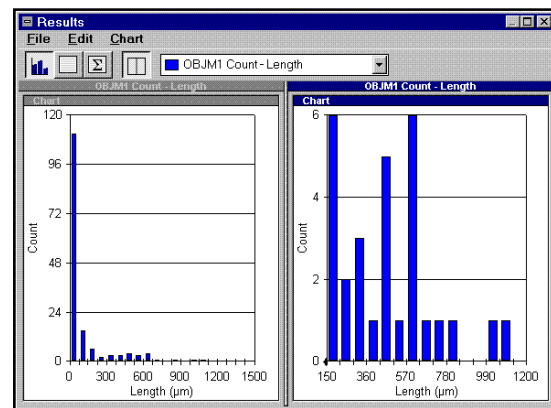


Figure 4: a) Results Window showing length distribution. b) Same as for a) but objects under 150 μm are not included.

### Results Summary

|               | Length μm |
|---------------|-----------|
| Minimum       | 2.3       |
| Maximum       | 1119.1    |
| Mean          | 117.5     |
| Std Deviation | 204.4     |

### Equipment

|                        |                      |
|------------------------|----------------------|
| Image Analysis System: | Clemex Vision PE     |
| Camera:                | Sony XC-75 CE        |
| Microscope:            | Nikon Optiphot 2     |
| Objective:             | Nikon 4x (Mag.: 40x) |