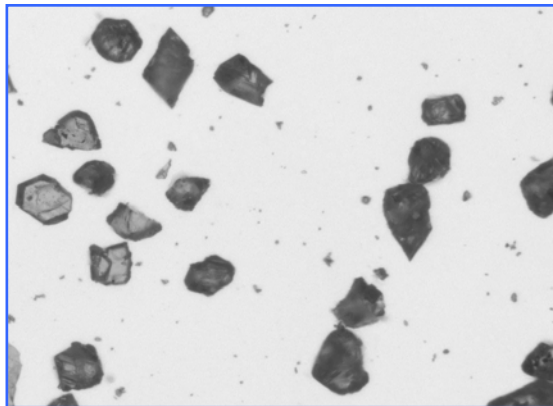


# CLEMEX

Image Analysis Report

# 682 A

## Angularity Analysis

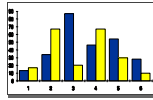


Prepared by  
Clemex Technologies Inc.

# CLEMEX

Image Analysis Report

## Results

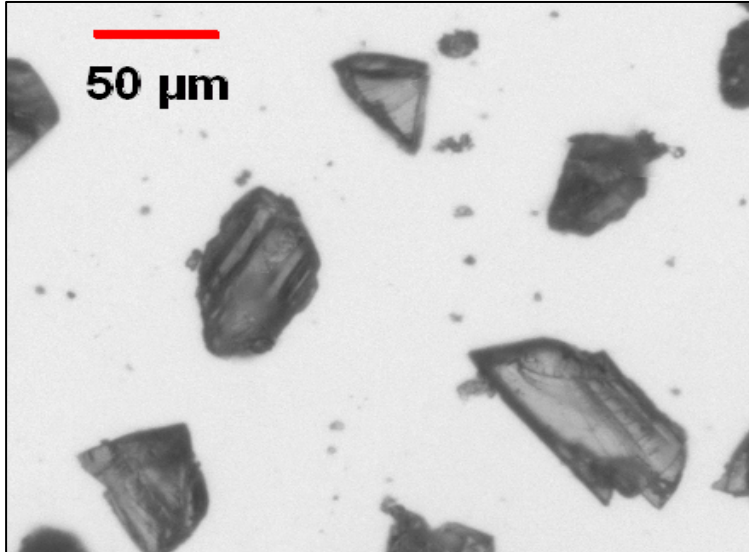


# Angularity Analysis

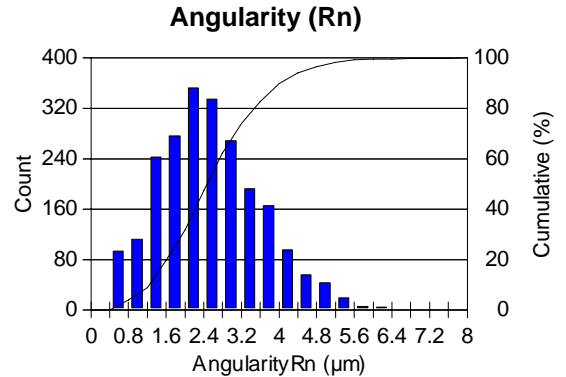
**Date:** 2006-Sep-08, 3:21:54 PM -04'00' ...  
**Company:** Clemex Technologies Inc.  
**Department:** Laboratory  
**User Name:** Myriam Savard (signed on 2006-A...  
**Sample ID:** MBG 300

**Magnification:** 100x  
**Calibration:** 0.6804  $\mu\text{m}/\text{pixel}$   
**Units:** microns  
**# Fields:** 36  
**Count:** 2271

Figure 1: Part of a typical field of view.

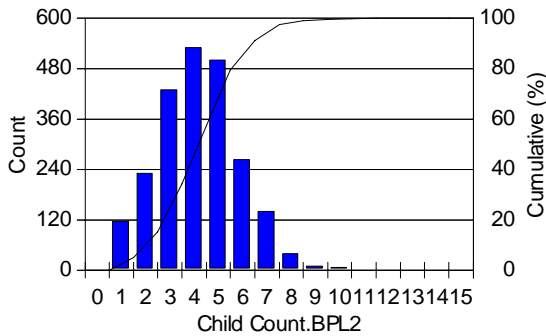


**Comments:**



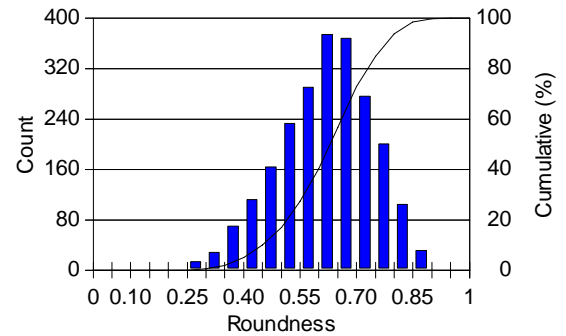
**Min:** 0.49      **D10:** 1.24  
**Max:** 7.82      **D50:** 2.46  
**Mean:** 2.57      **Std Dev.:** 1.10

**Quantity of Sides per Feature**



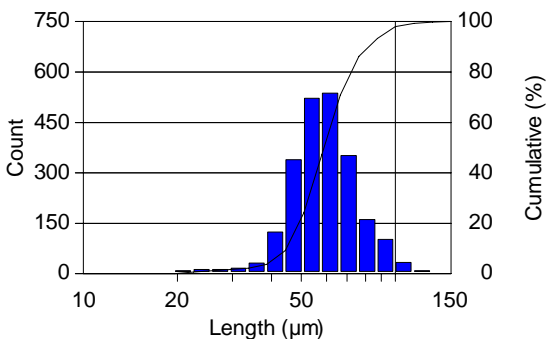
**Min:** 1.00      **D10:** 1.48  
**Max:** 11.00      **D50:** 3.68  
**Mean:** 4.21      **Std Dev.:** 1.67

**Roundness**



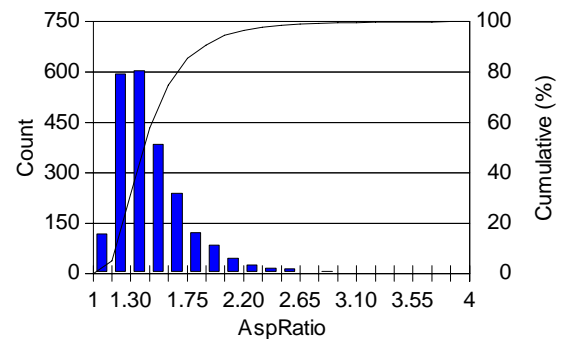
**Min:** 0.24      **D10:** 0.45  
**Max:** 0.91      **D50:** 0.63  
**Mean:** 0.62      **Std Dev.:** 0.12

**Length**



**Min:** 18.29      **D10:** 44.80  
**Max:** 147.39      **D50:** 58.88  
**Mean:** 60.94      **Std Dev.:** 15.38

**Aspect Ratio**



**Min:** 1.05      **D10:** 1.18  
**Max:** 3.82      **D50:** 1.40  
**Mean:** 1.48      **Std Dev.:** 0.31

# Extreme Angularity Values

Figure 1: A particle having the mean angularity value is circled in red.

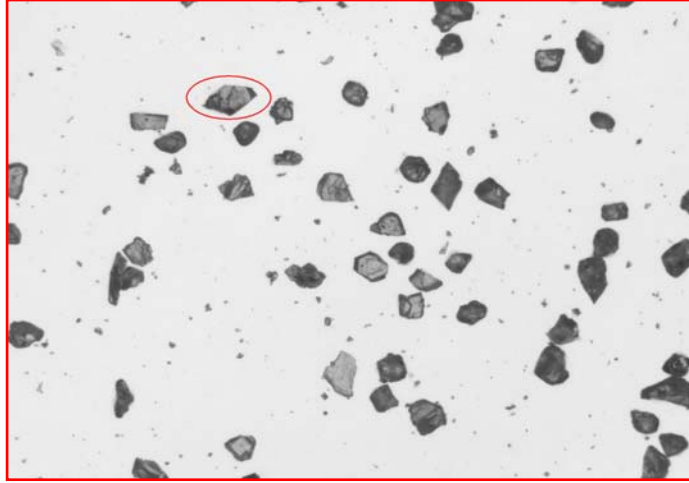


Figure 2: Particle with the lowest angularity value is circled in red.

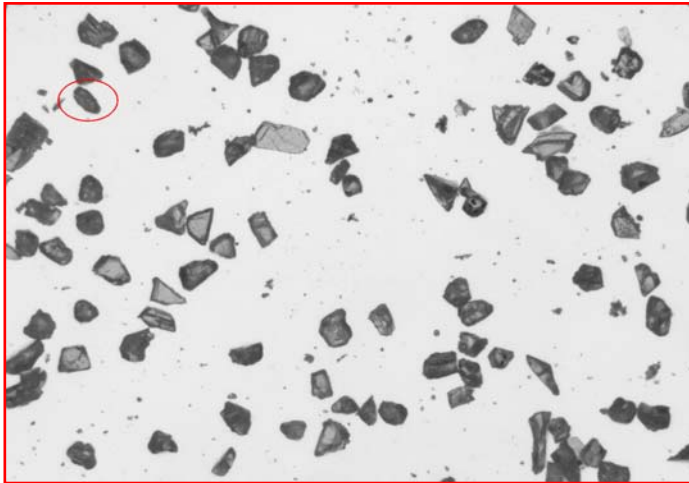
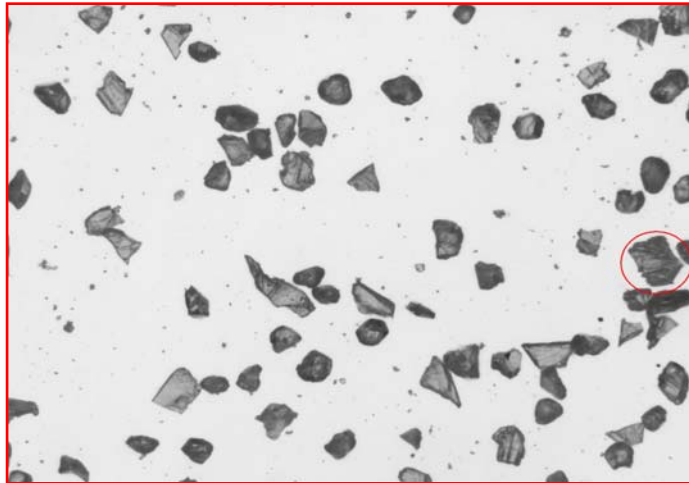


Figure 2: Particle with the highest angularity value is circled in red.

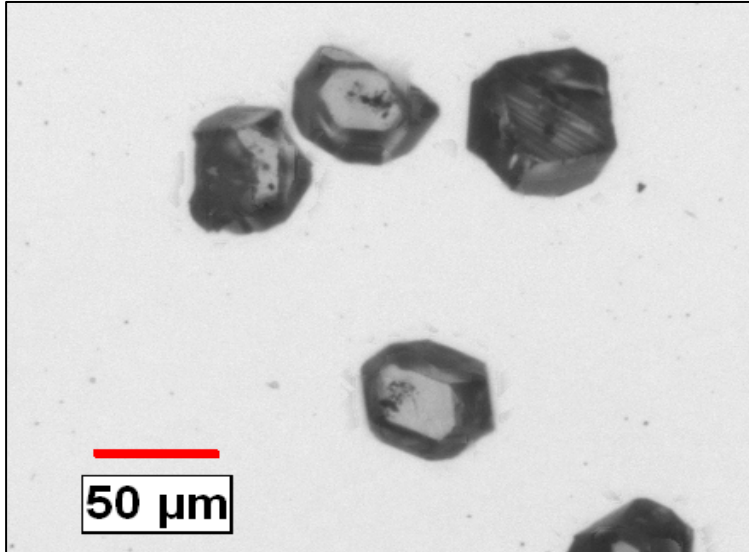


# Angularity Analysis

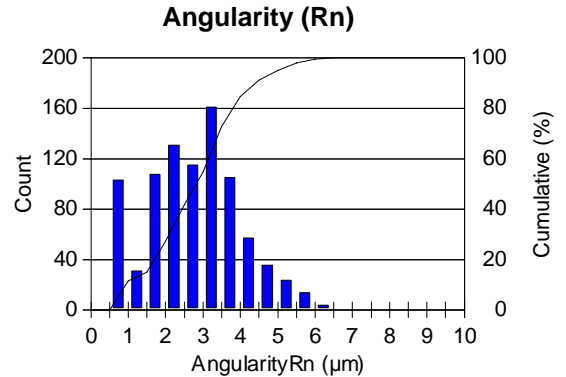
**Date:** 2006-Sep-07, 11:24:43 AM -04'00 ...  
**Company:** Clemex Technologies Inc.  
**Department:** Laboratory  
**User Name:** Myriam Savard ...  
**Sample ID:** MBG 660

**Magnification:** 100X  
**Calibration:** 0.6804  $\mu\text{m}/\text{pixel}$   
**Units:** microns  
**# Fields:** 36  
**Count:** 889

**Figure 1: Part of a typical field of view.**

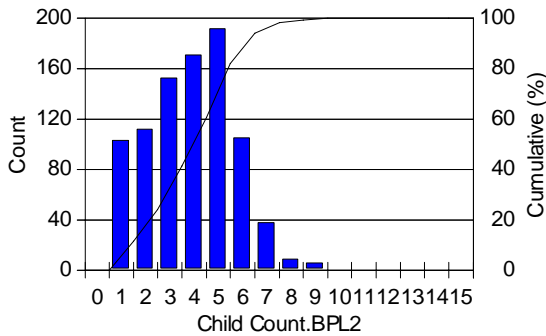


**Comments:**



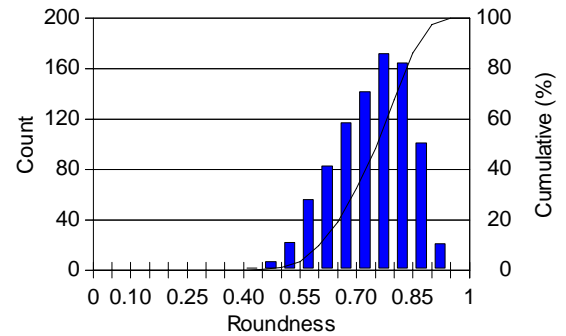
**Min:** 0.70      **D10:** 0.90  
**Max:** 6.31      **D50:** 2.81  
**Mean:** 2.80      **Std Dev.:** 1.22

**Quantity of Sides per Feature**



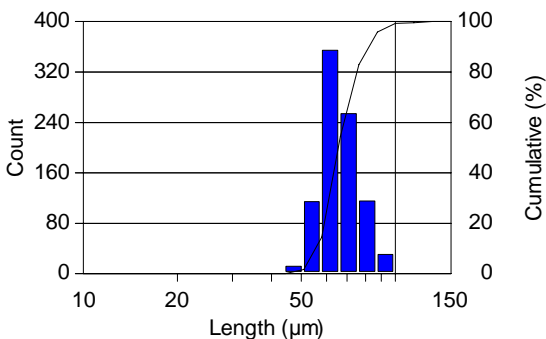
**Min:** 1.00      **D10:** 1.00  
**Max:** 9.00      **D50:** 3.45  
**Mean:** 3.88      **Std Dev.:** 1.76

**Roundness**



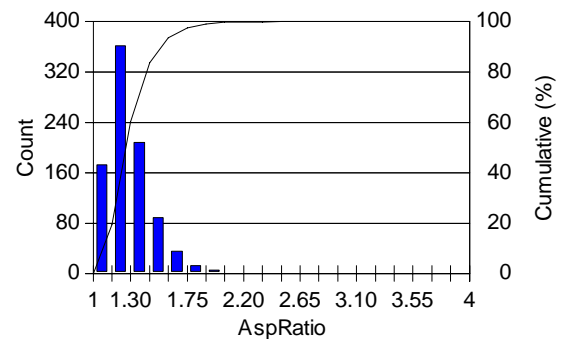
**Min:** 0.39      **D10:** 0.60  
**Max:** 0.94      **D50:** 0.75  
**Mean:** 0.74      **Std Dev.:** 0.10

**Length**



**Min:** 37.93      **D10:** 56.97  
**Max:** 128.60      **D50:** 65.64  
**Mean:** 67.30      **Std Dev.:** 9.97

**Aspect Ratio**



**Min:** 1.04      **D10:** 1.12  
**Max:** 2.37      **D50:** 1.25  
**Mean:** 1.30      **Std Dev.:** 0.18

# Extreme Angularity Values

Figure 1: A particle having the mean angularity value is circled in red.

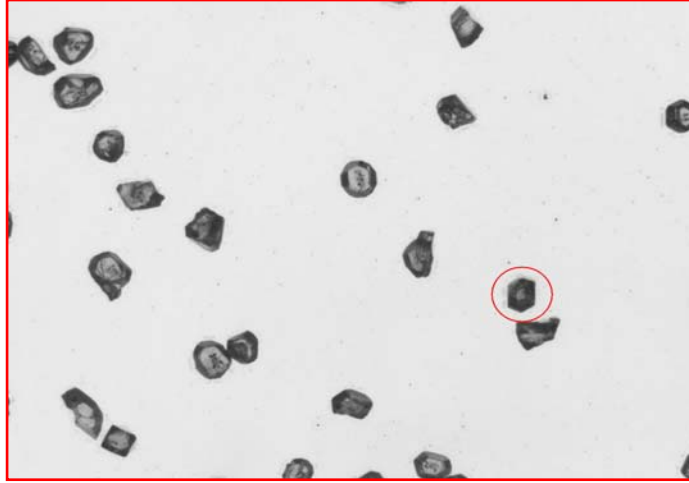


Figure 2: Particle with the lowest angularity value is circled in red.

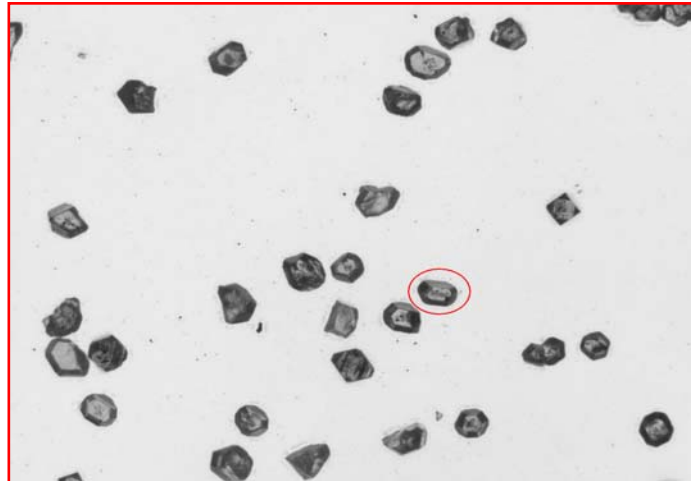
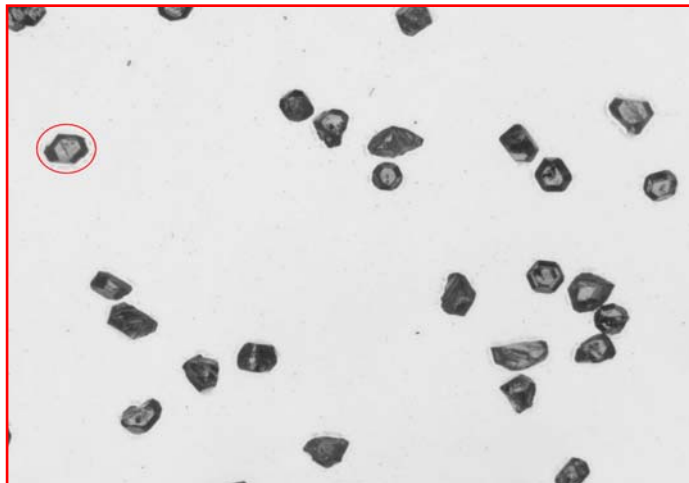


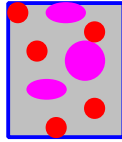
Figure 2: Particle with the highest angularity value is circled in red.



# CLEMEX

Image Analysis Report

## Image Analysis Steps



# Image Analysis Steps

Figure 1: Original image at 100x.

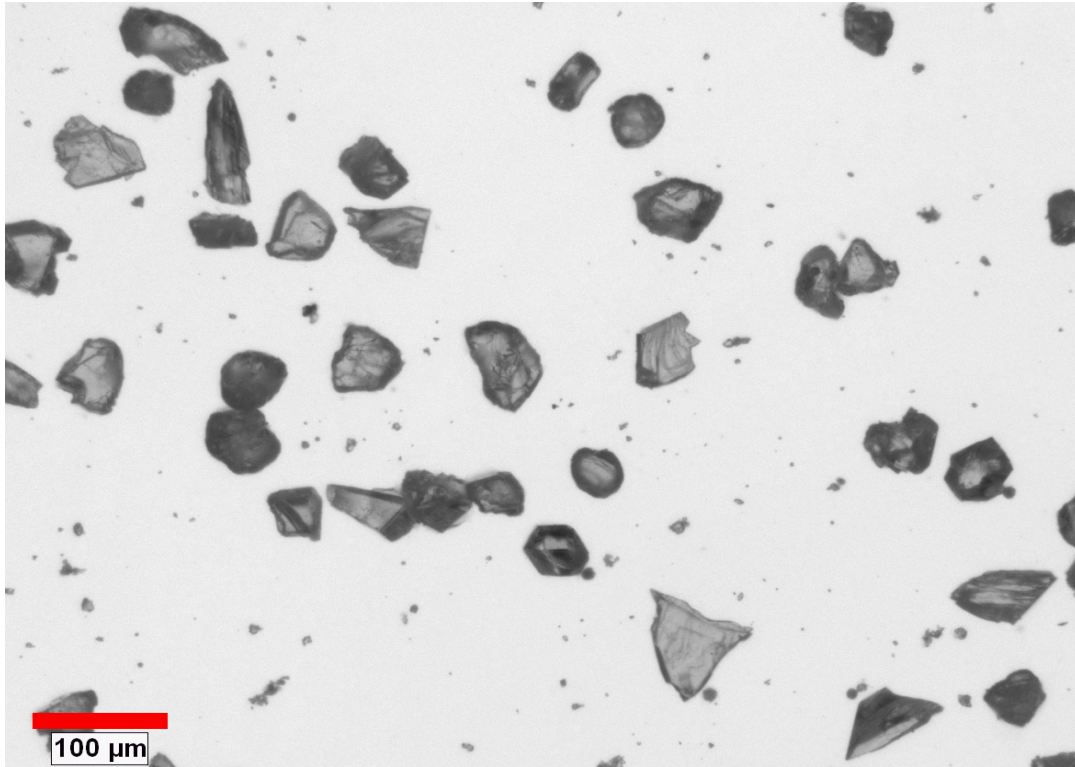
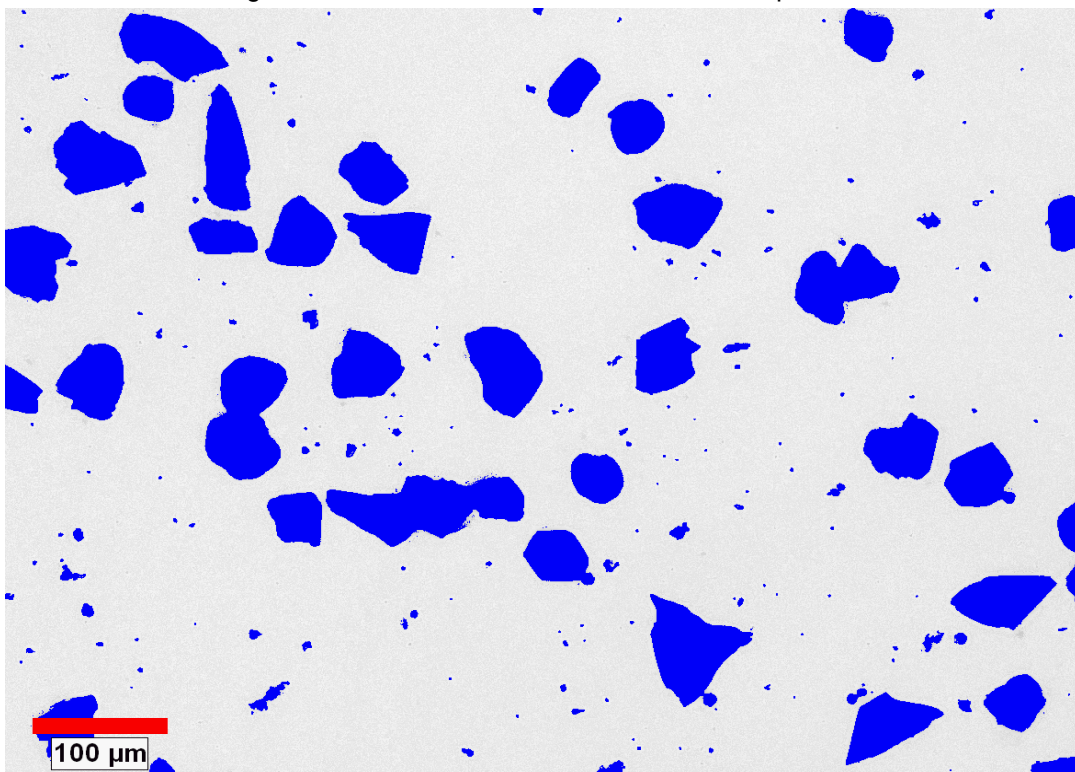


Figure 2: Particles as binarized into the blue bitplane.



# Image Analysis Steps

Figure 3: Labelling view of separated particles. Small artifacts were eliminated.

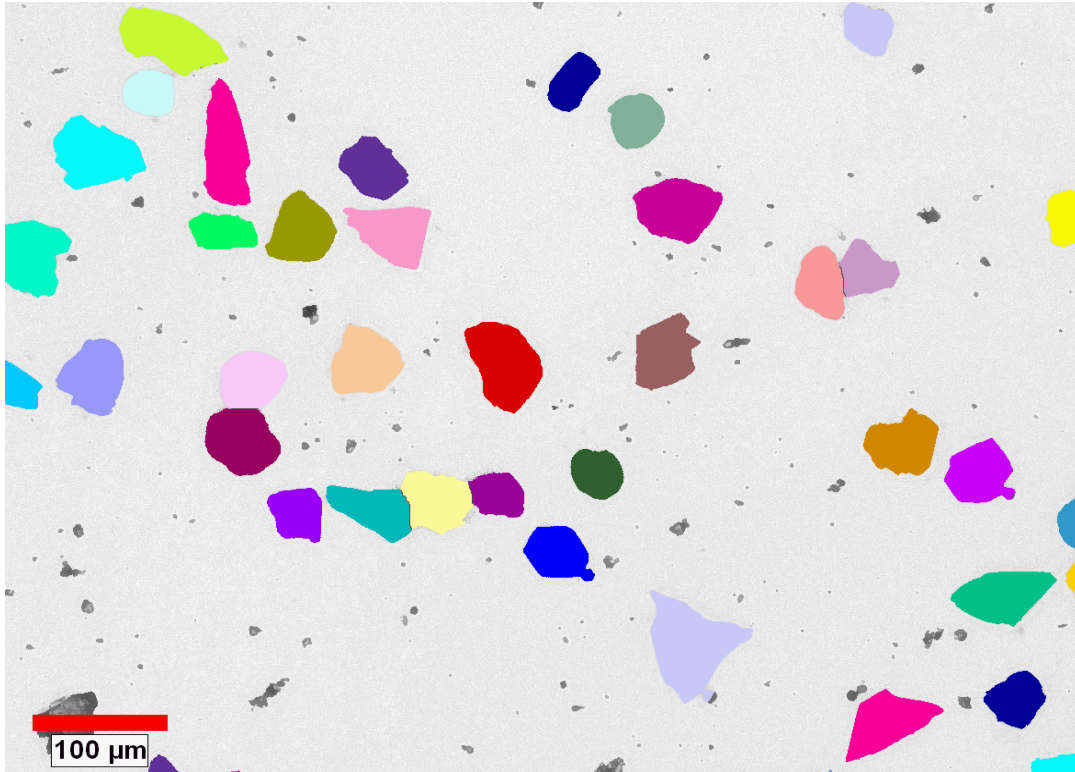
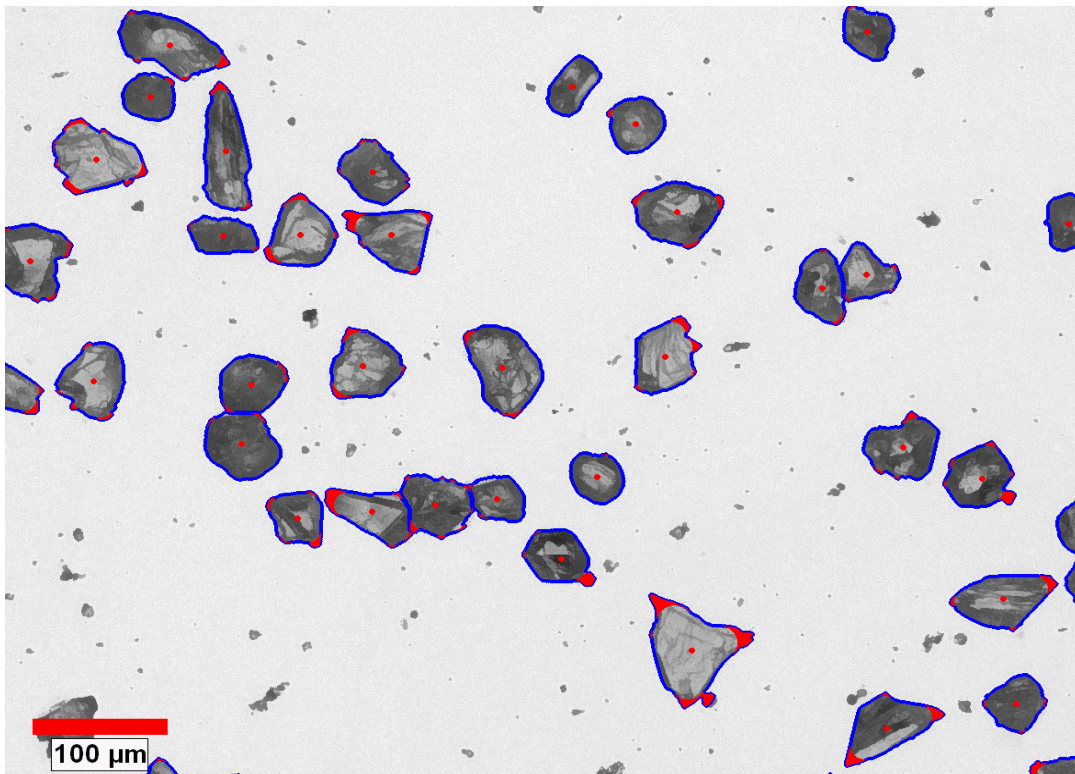


Figure 4: Outline view of particles as measured. Small artifacts were eliminated.



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The Image Analylis People