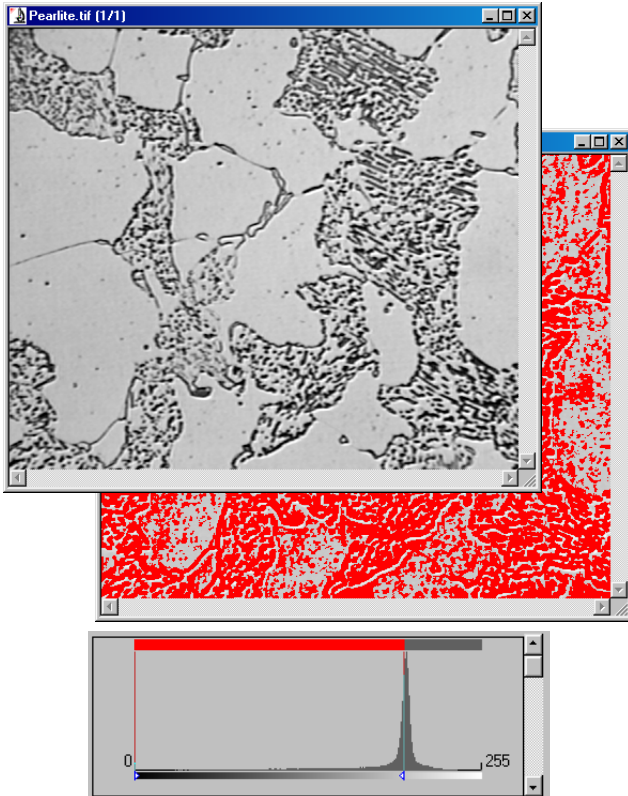


Percent Area – Metallurgical Sample



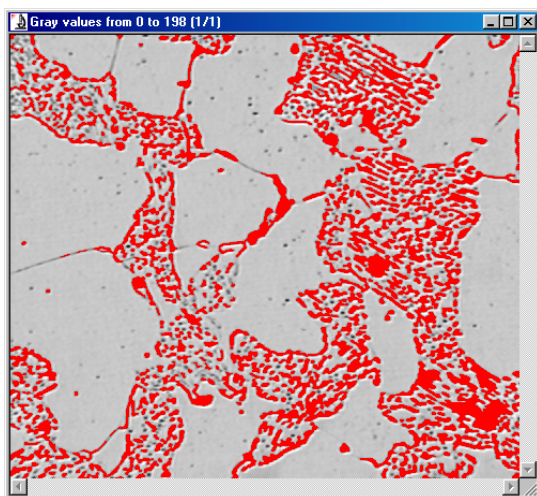
How can you measure the percent area of the irregular regions containing dark particles?

The major difficulties in analyzing this image are that the irregular regions do not have continuous margins and the spaces between the dark particles have similar or even greater intensity values than the large empty spaces.

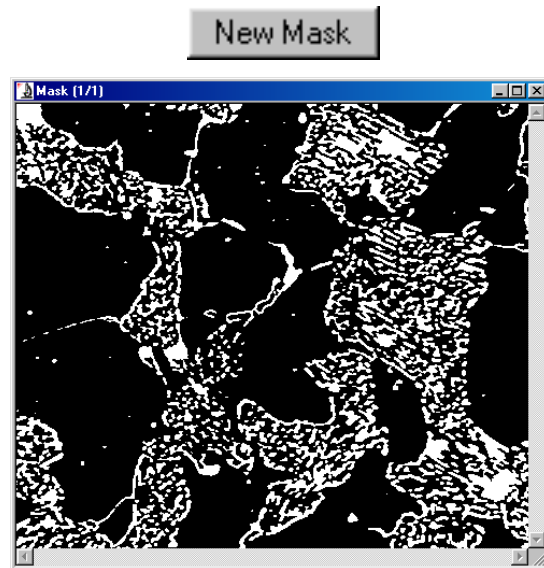
For demonstration, the threshold values for the objects (indicated by the red overlay) to be measured are set from 0 (black) to 198 (255 is white). With an image of this type it is not possible to segment objects based only on their intensity values. The light regions between the particles cannot be selected without including the empty spaces.

Solution:

1. Automatic Dark Object Count (Clean Borders set to None, Fill Holes selected)
2. Creation of Mask Image (Binary Image)
3. Morphological Closing Operation on Mask Image (5X5 Circle, 2 Passes)
4. Automatic Bright Object Count (Clean Borders set to None, Fill Holes selected)



Red overlay indicates selected objects



Mask image with objects shown in white

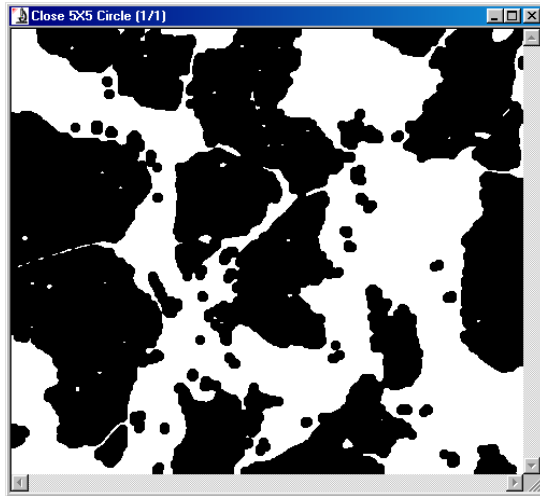
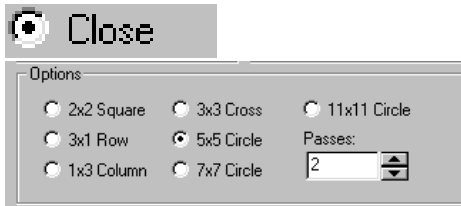
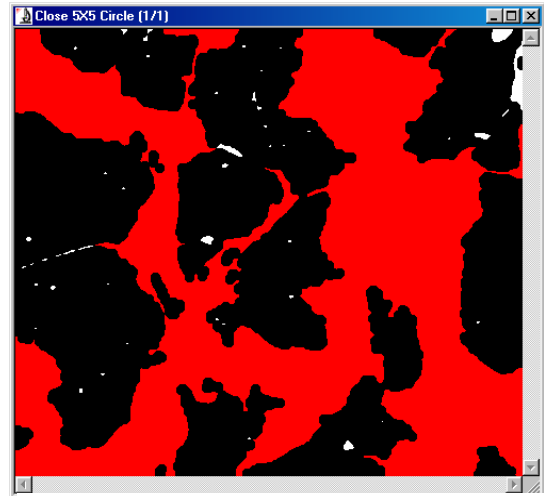
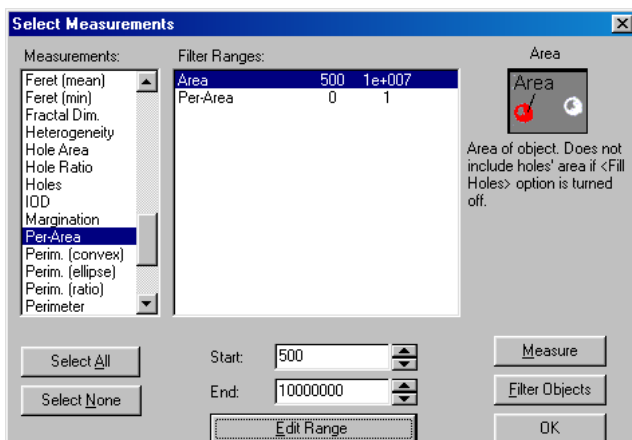


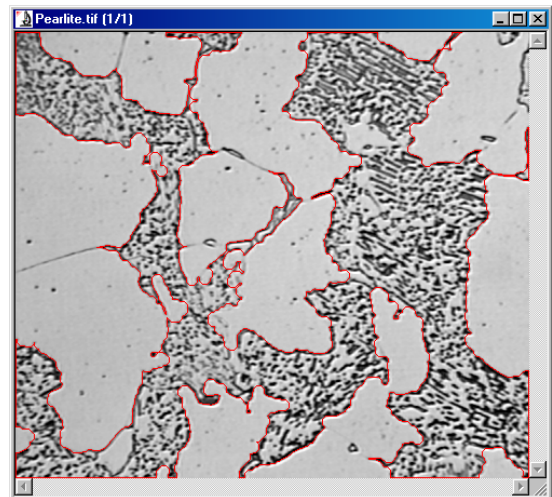
Image after Closing Operation



Measured regions are shown in red



Select Measurements: Area and Percent Area
 The Area Range was edited and the lower size limit was set at 500 pixels to exclude small areas between the regions containing the particles.



Original image with a red overlay outlining the measured regions

