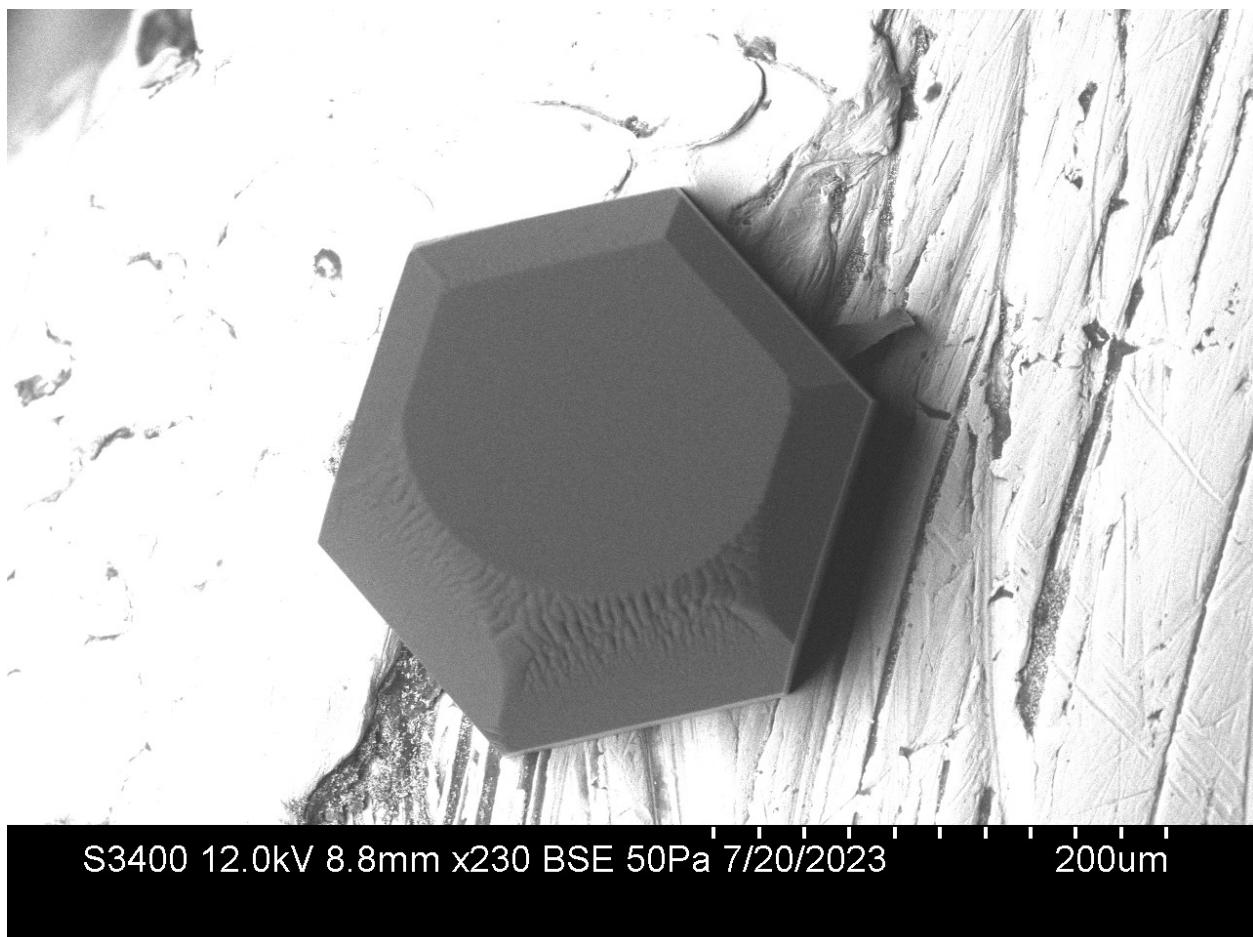


Cupping in basal facet investigation, 8/1/23

Tia's notes



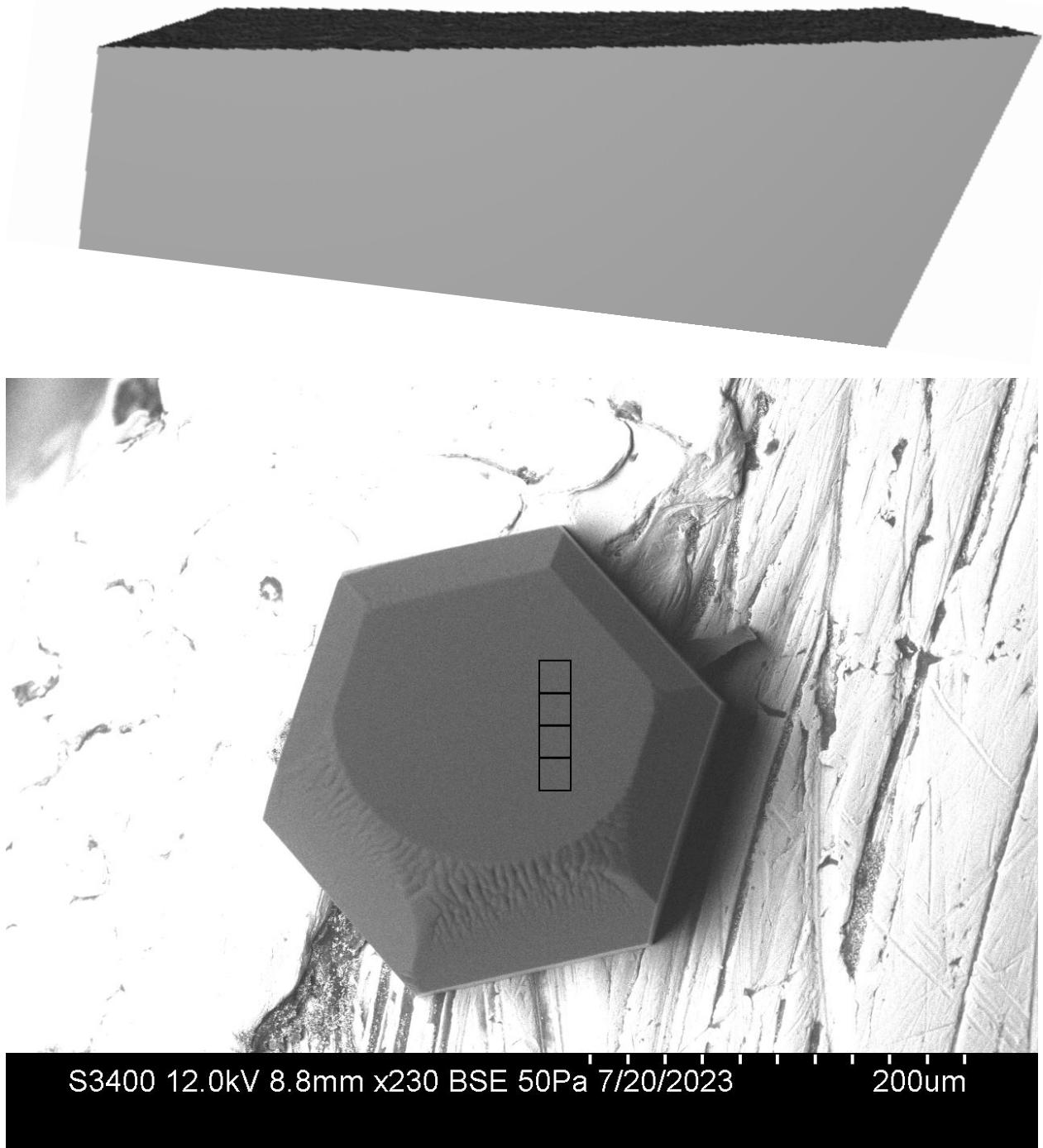
S3400 12.0kV 8.8mm x230 BSE 50Pa 7/20/2023

200um

We noticed that the basal surface of this crystal appears to have an inward cupping to it, curving down towards the center and upwards at the ends. The image above is of detector A, for case 3.0 found in GitHub/ice2021/crystals/2023-07-20/50pa/case3.

We characterized this surface in the folder case3.0 (calibration) under the same directory.

To get a sense for the extent of the cupping, we created an .stl file, which can be found in case3.0 (calibration) as Segments1_retrievedwskirt.stl. <https://www.viewstl.com/> is a good platform to view this on, and in the screenshot below you can see the slight curvature. This is created with segments defined by 40x40 pixel boxes on the surface as shown.



From the image text file, we found that the pixel size is 0.43 um, meaning 4 segments each 40 pixels in length is about 69 um, or 69000nm = l. Using the measure tool in Image J, after calibrating to the length of the segments (l) we measured that the depth down from straight

across (d) was about 430nm. This corresponds to a depth of about 1400 layers over 35μm, given that each layer is 0.3nm. This raises the need for further exploration, as the model is currently operates with a depth of many fewer layers, reaching steady state sooner.

