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## Improving the beneficiation process of scheelite ores using X-ray tomography

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Scheelite drill cores have been the topic of a previous study demonstrating the capabilities of 3D X-ray tomography for grade analysis [1] providing additional information such as particle size analysis as shown in Figure 1. Processing of scheelite to produce high grade tungsten concentrates involves either flotation or heavy medium separation processes. In both cases a high grade concentrate and low grade discard is produced. Non-destructive high resolution 3D X-ray tomography was used to quantify percentage recovery/loss, grain morphology, grain size distribution and scheelite liberation in a single operation. This successful study suggests that the method can potentially be applied to other deposits such as base metal, gold and heavy mineral ores provided the contrast between gangue and the target mineral density is favourable.

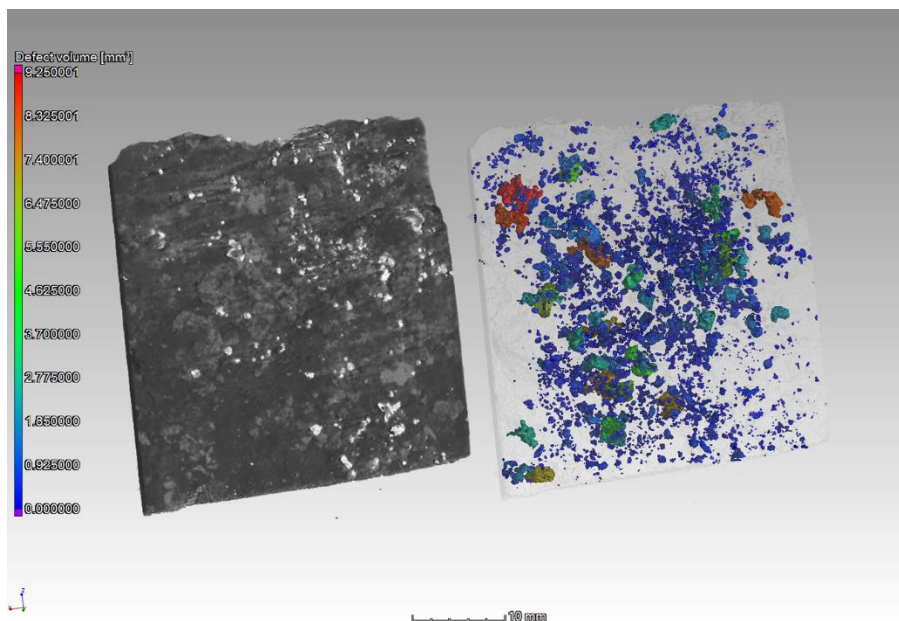


Figure 1: In situ scheelite particle size analysis in 3D, image taken from [1]

[1] Le Roux, Stephan G., Anton Du Plessis, and Abraham Rozendaal. "The quantitative analysis of tungsten ore using X-ray microCT: Case study." *Computers & Geosciences* 85 (2015): 75-80.

