Sample imaging:
Selecting suitable domains for SIMS analysis
Example: Foraminiferal shells

- Imaging of uncoated samples by SEM in environmental mode using the backscattered electron detector (BSE) has shown to be a useful approach to locate growth bands and cavities that are filled by epoxy and/or organic material.
- Some of these features may not be clearly visible after coating. Only non-porous areas can be safely analyzed with high precision and accuracy.
- The Au-coat can be applied at the WiscSIMS laboratory.
Example: Preselection of suitable pit locations for SIMS analysis of a coral

Sample provided by Fred Andrus, University of Alabama
Example: Sample surface conditions for **speleothem** calcite

**Ideal conditions:**
Smooth surface condition

Good yield
Example: Sample surface conditions for speleothem calcite

**Questionable conditions:**
Mediocre surface smoothness, due to microporosity or cracks in sample.

Check ion yield of these ion microprobe spots relative to non-porous standard grain analyses to confirm viability.