

Navigation on difficult samples: Mapping of sandstone

CAMECA

IMS 1280

Mount 10 (09IL-48,09IL-50) BSE

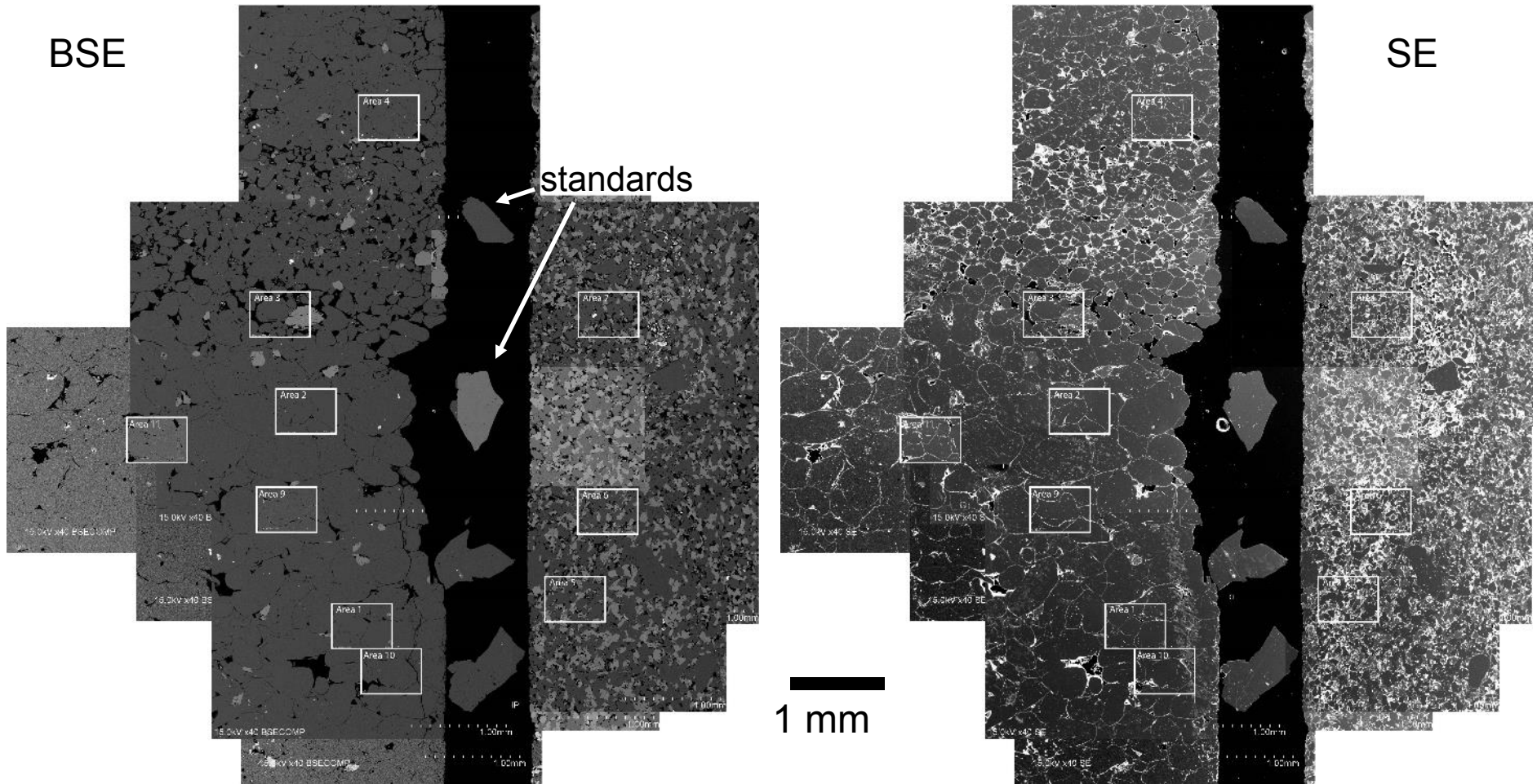
Mount 10 (09IL-48,09IL-50) SE

09IL-50 ← → 09IL-48
Sample names

09IL-50 09IL-48

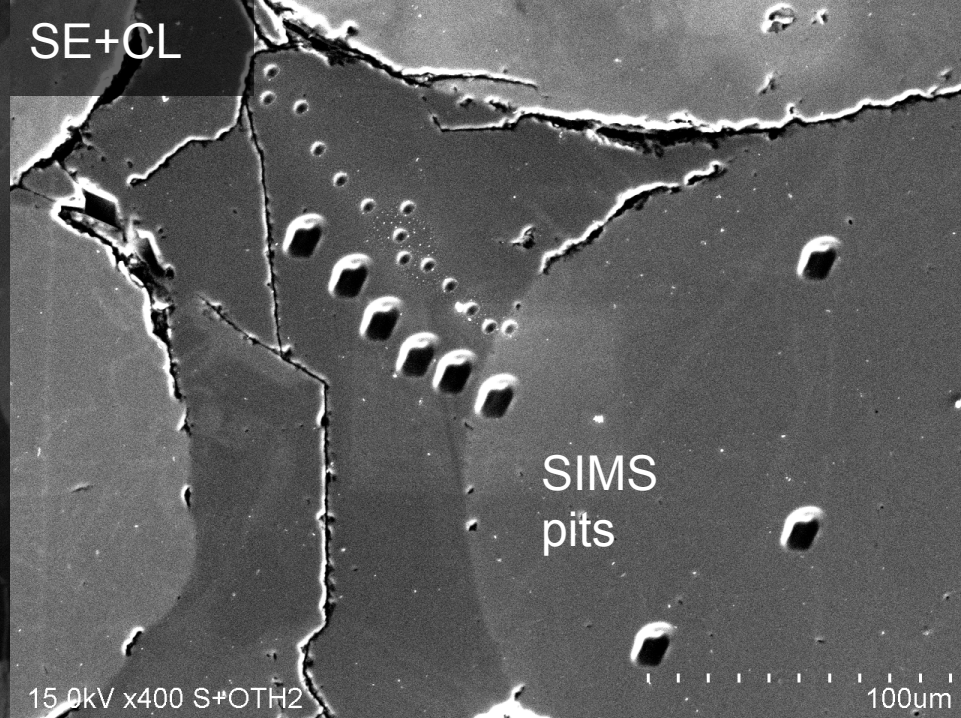
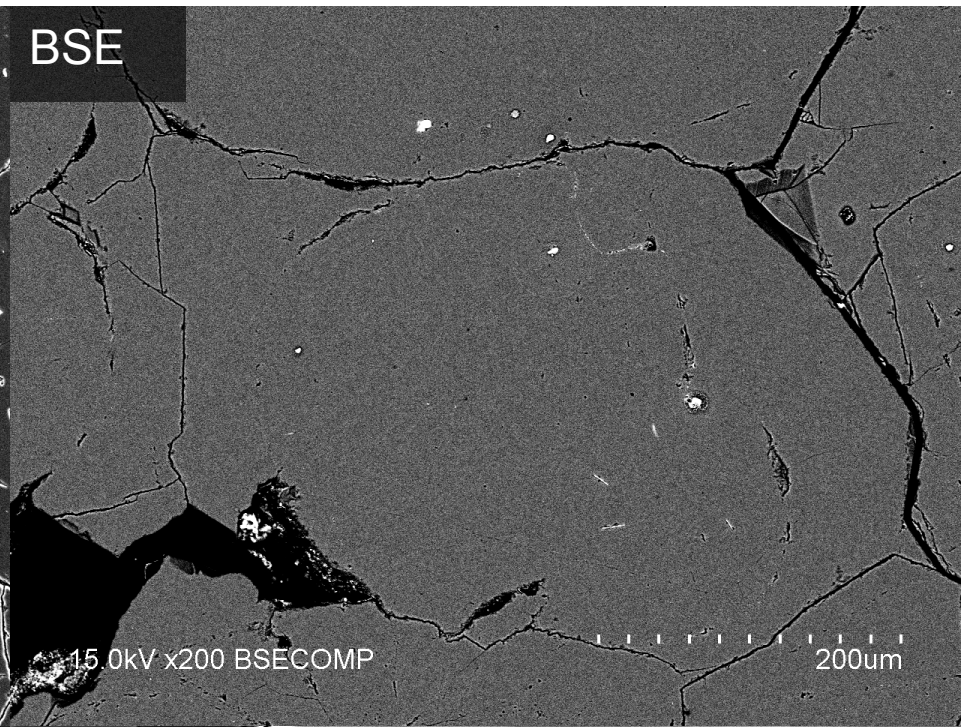
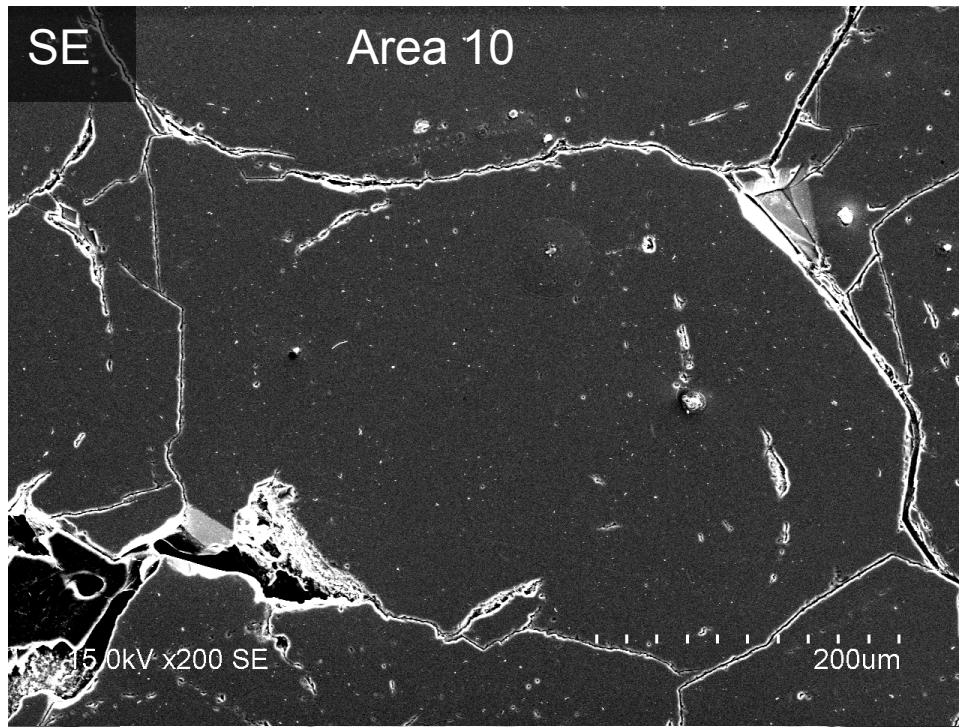
BSE

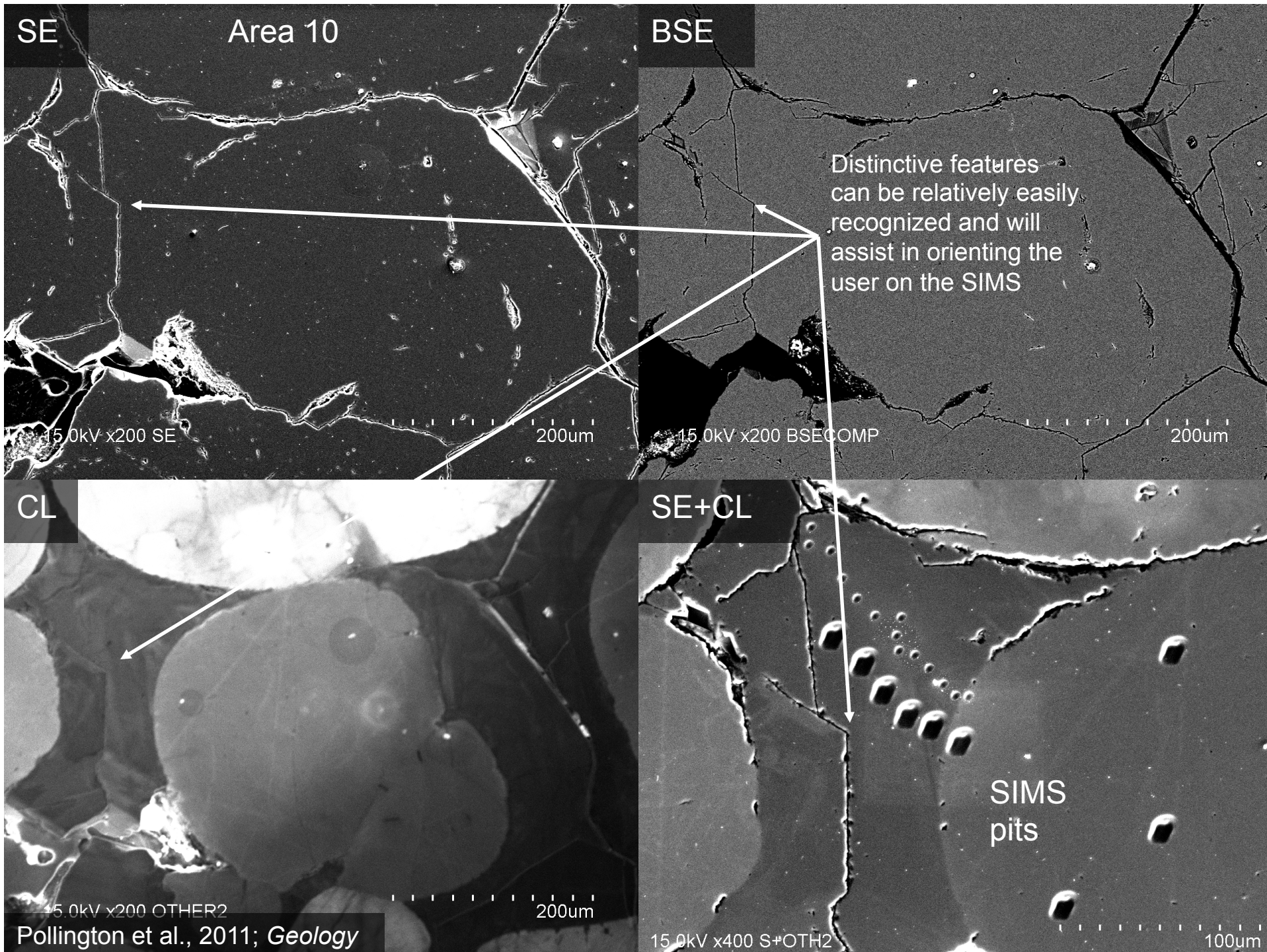
SE



Large scale maps of sandstones cast in epoxy with standards in center and areas of interest drawn on with white boxes
Grain boundaries can be followed from easily identifiable locations (standard) to areas of interest during SIMS preparation

- Cathodoluminescence images are necessary to distinguish detrital and diagenetic material
- Backscatter images are necessary to visually distinguish phases of interest (quartz, carbonate, feldspar, etc.)
- Secondary images are necessary to evaluate surface topography and determine appropriateness of sample preparation
- Optical microscope images are useful since they are similar to what is observed in the SIMS camera





- Having all three types of SEM images at a magnification similar to SIMS camera ($\sim 300 \mu\text{m}$ across) is highly recommended prior to any SIMS session
- If photographic maps of the sample at a wide scale are prepared, areas of interest that have previously been identified may be located within a few minutes
 - These maps must cover the area between an area of interest and an easily identifiable area (standard)
 - Distinctive grain boundaries are relatively easily to locate in each area of interest
- Multiple image types are recommended to distinguish all features of interest