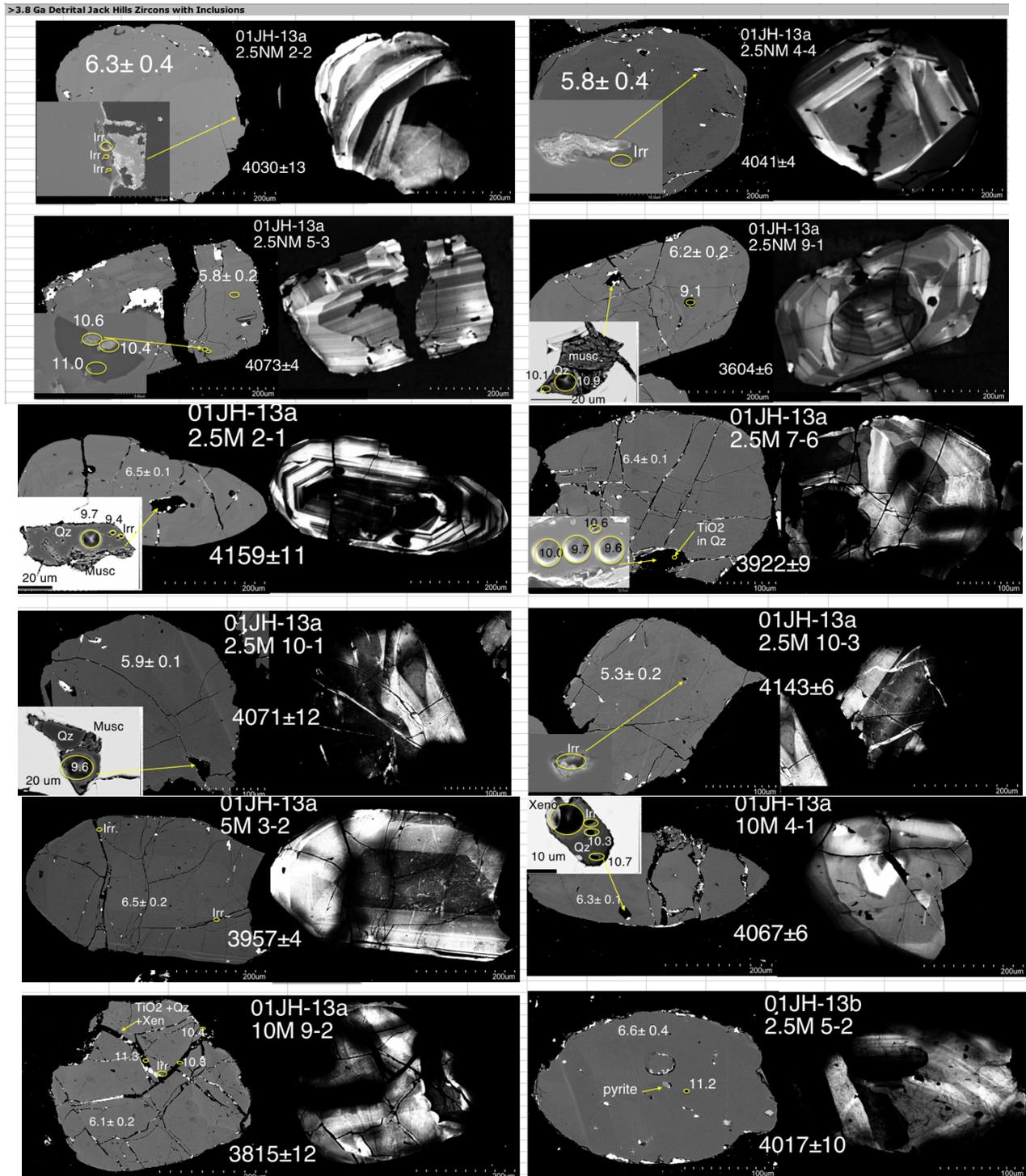
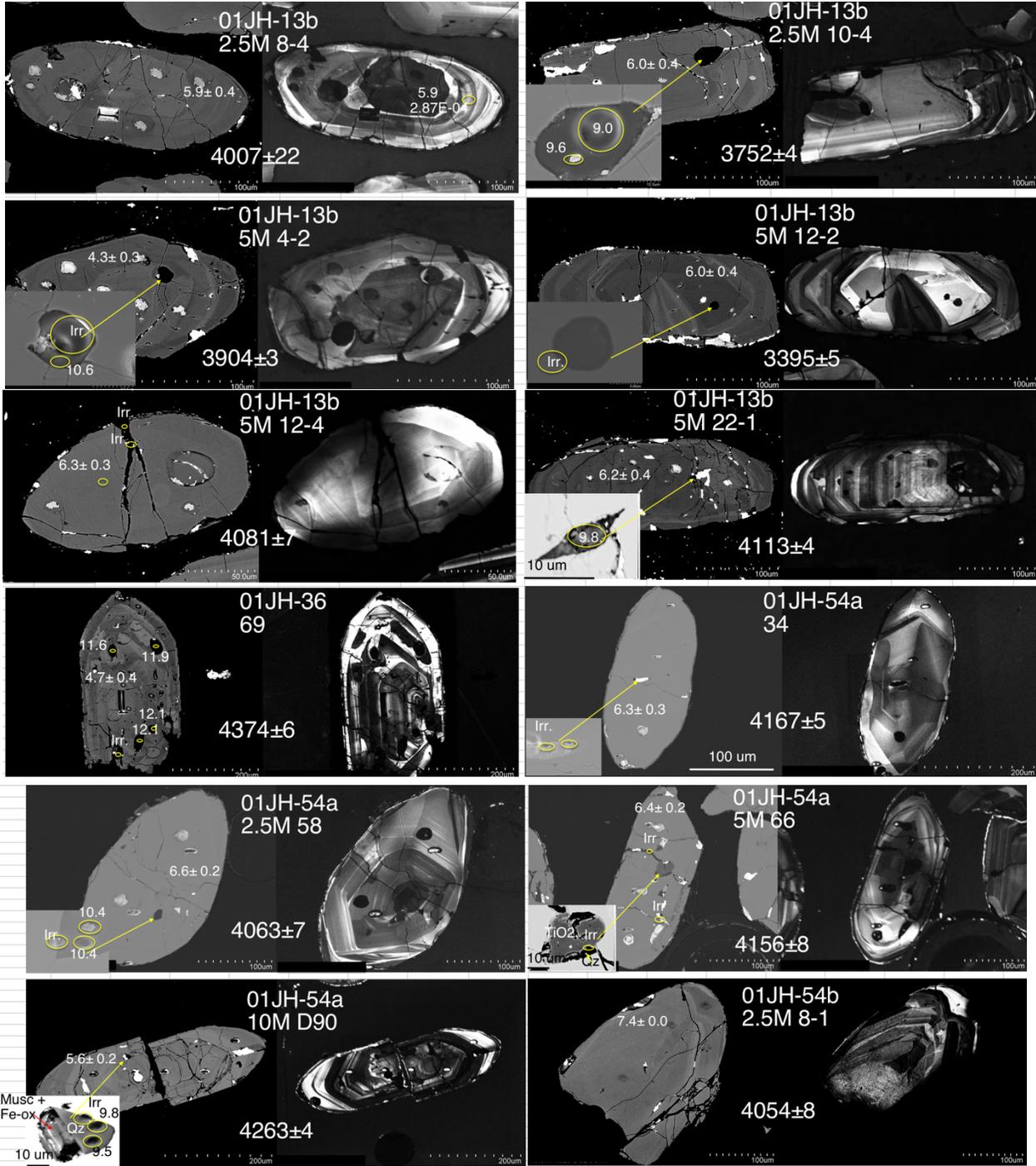
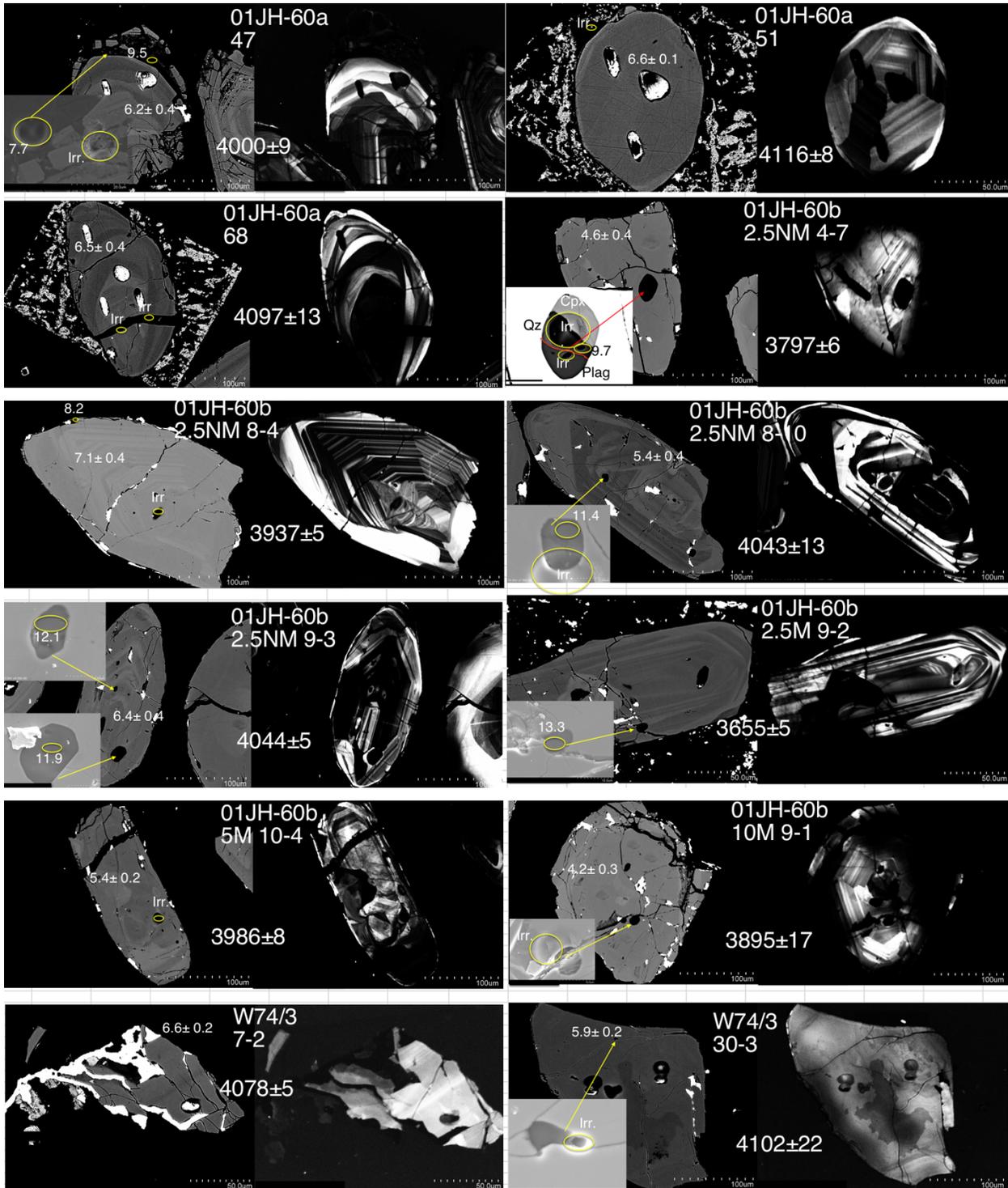
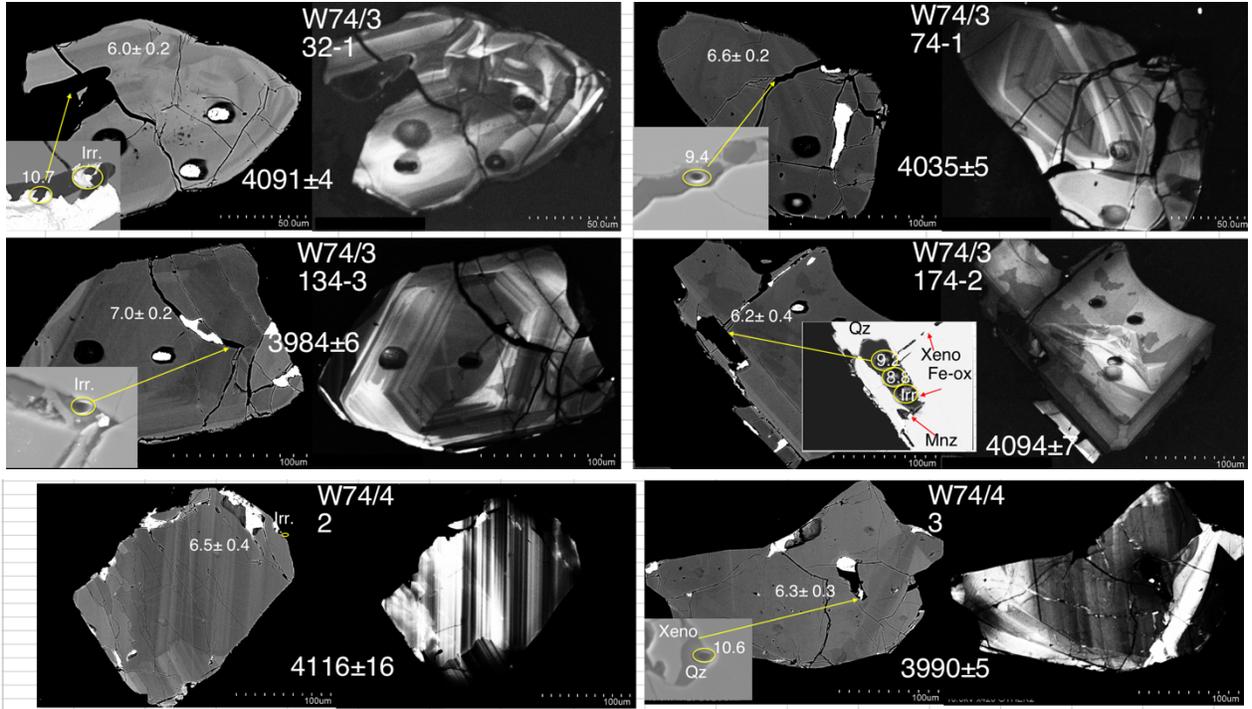


Appendix E. Zircon BSE/CL Images Showing Inclusions and SIMS Pit Locations (Irr= irregular); Annotated By Age (Ma), Magnetism (xxM), and $\delta^{18}\text{O}$ (‰).

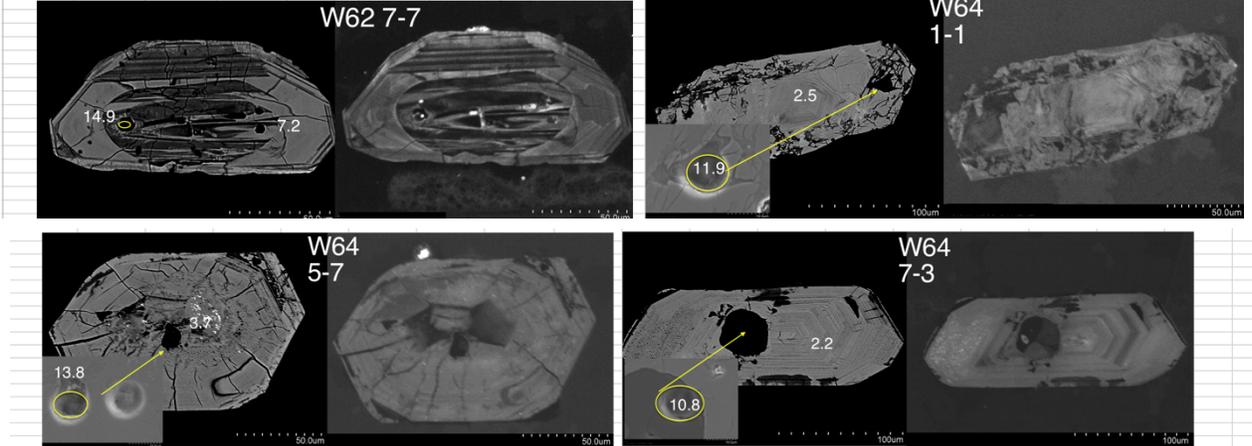




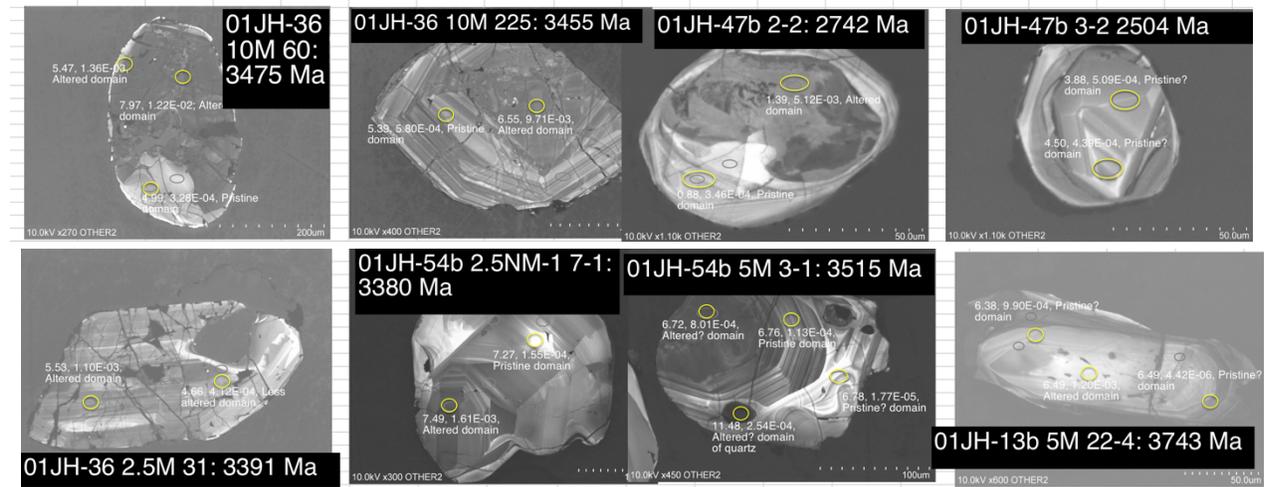




Jack Hills Granitoid Zircons



Selected Younger (<3.8 Ga) and Radiation Damaged Detrital Jack Hills Zircons



Zircons are all ~150-350 μm across. Pit diameter is either ~10 or ~3 μm , with relative size indicated by the size of the yellow circle indicating the pit location. Analyses of zircon are indicated on medium bright BSE, with 2SD indicating variability amongst spots on a single grain, while single to multiple pits are analyses of crack-filling, grain-boundary, and inclusion quartz. Bright, white material seen in BSE is remnant Au coat after re-polishing and initial removal. Size of pits is not accurately represented by the diameter of the yellow circles, and sometimes circles overlap, while actual pits do not. Numbers next to pits represent $\delta^{18}\text{O}$ values in ‰ relative to VSMOW. "Irr" represents any analysis spot that was determined to be irregular on the basis of overlapping phases, low ion yield, or missing the target.

Each pair of images is comprised of BSE on the left and CL on the right. Some image pairs for zircon grains also include an SE or BSE inset high magnification image of the analyzed quartz inclusion, produced under equivalent operating conditions as used for BSE imaging. Dates of grains provided are $^{207}\text{Pb}/^{206}\text{Pb}$ ages from Cavosie et al. (2004; unpd).