



Supplementary material documenting the crystalline nature of the Franciscan chert (host rock to the Corona Heights fault). A. Photograph (plane polarized light) showing recrystallized diatoms (white arrows), quartz veins (black arrows), and Fe-oxide-rich stylolites (gray arrows). B. Cross-polarized light photograph of A. C. Bulk powder X-ray diffraction (XRD) spectra (using Mo X-ray source for reduced background) of two samples from the chert. Peaks corresponding to α -quartz are sharply defined (Q). There is no indication of amorphous phases, which would be expected to generate a broad hump in background around $2\theta \sim 30^\circ$ (note that the position of these peaks depends on the X-ray source). No post-processing (e.g. background subtraction) was applied to these spectra.