

de Graaff, S.J., Kaskes, P., Déhais, T., Goderis, S., Debaille, V., Ross, C.H., Gulick, S.P.S., Feignon, J.-G., Ferrière, L., Koeberl, C., Smit, J., Mattielli, N., and Claeys, P., 2021, New insights into the formation and emplacement of impact melt rocks within the Chicxulub impact structure, following the 2016 IODP-ICDP Expedition 364: GSA Bulletin, <https://doi.org/10.1130/B35795.1>.

## Supplemental Material

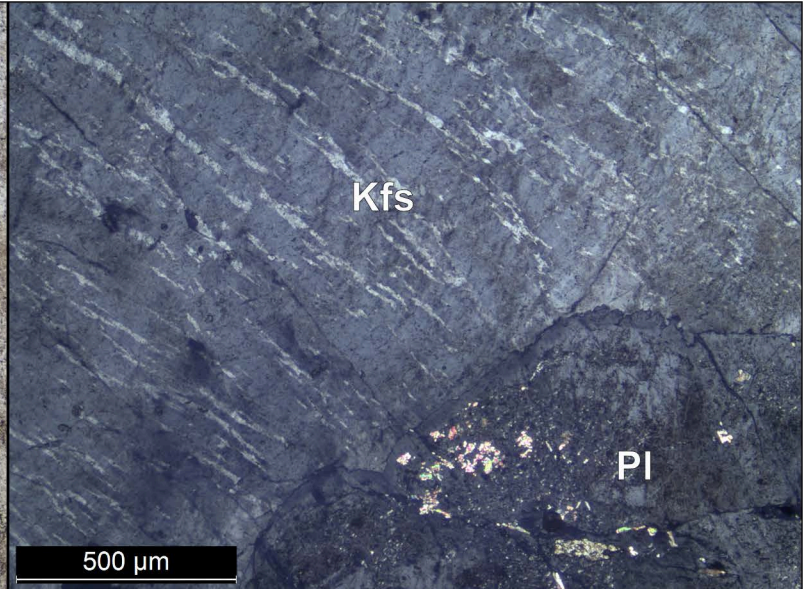
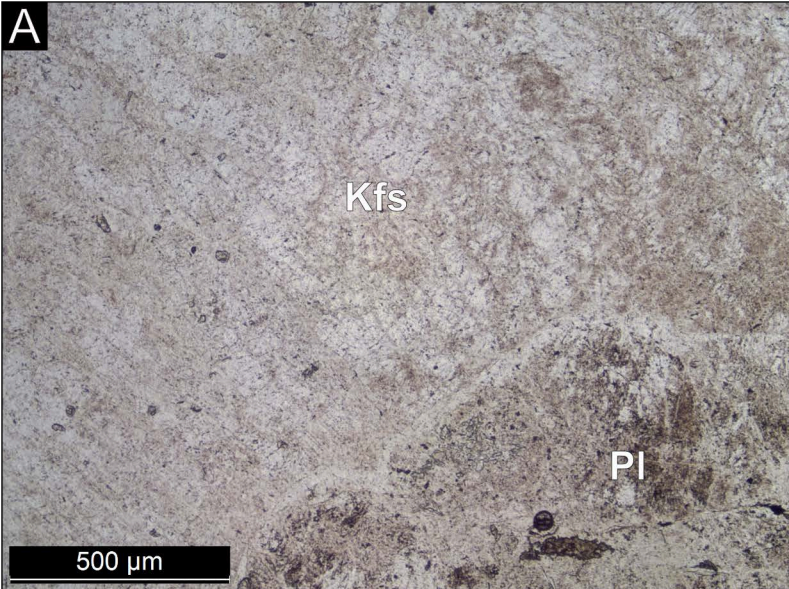
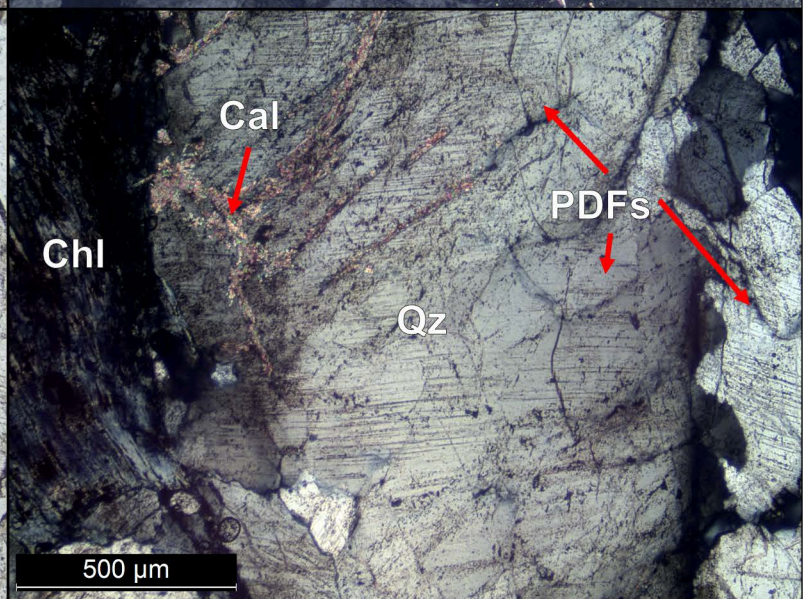
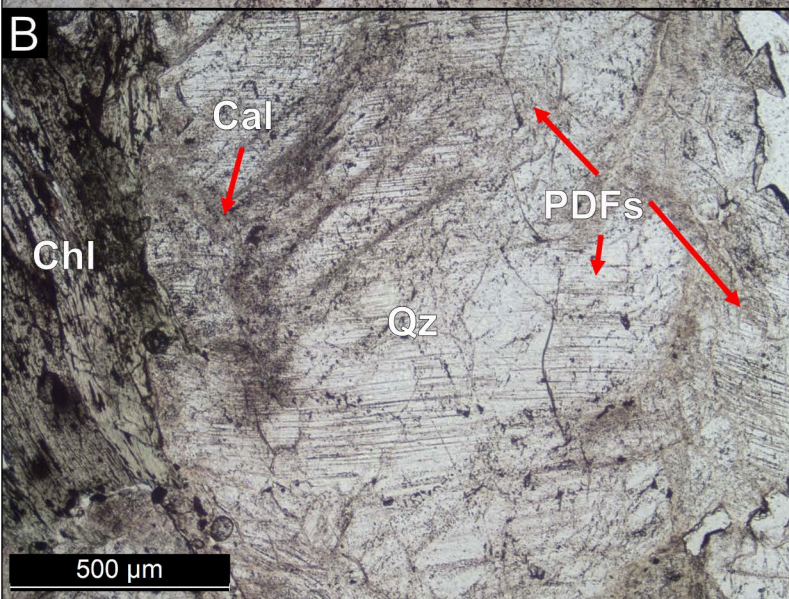
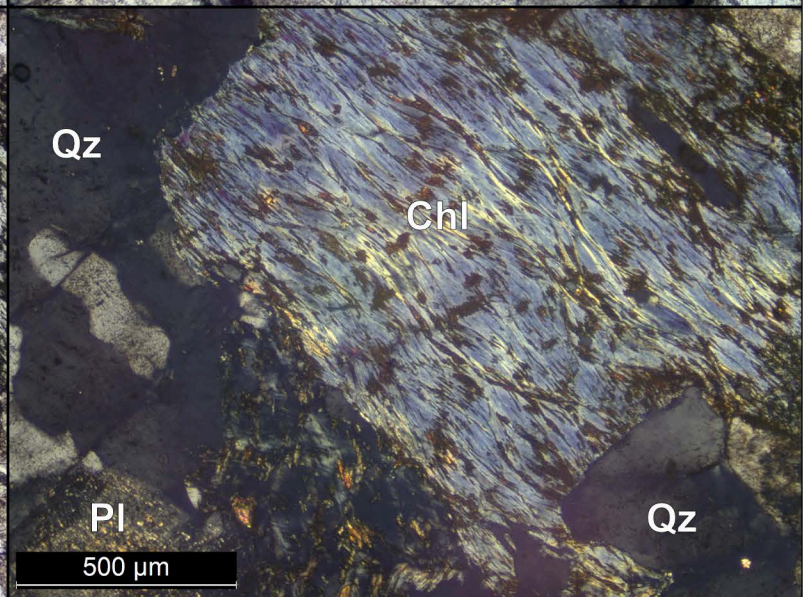
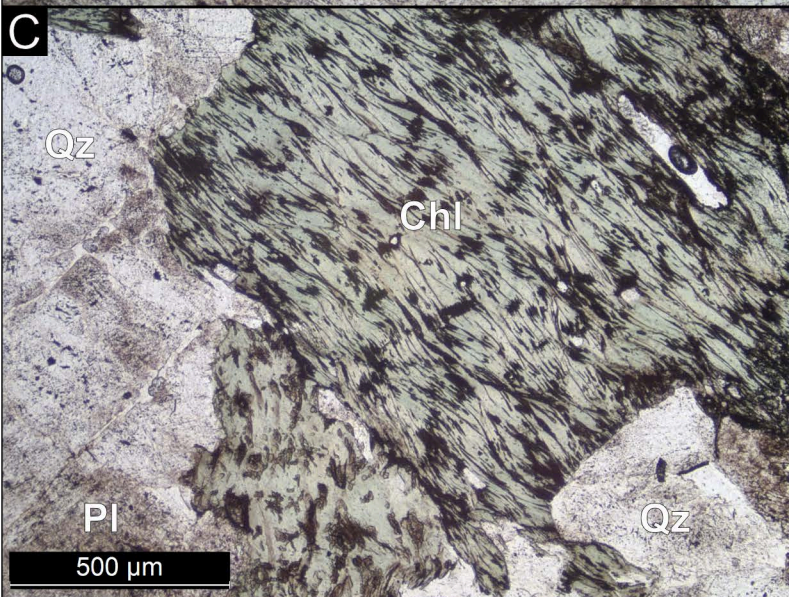
### Appendix 1.

**Figure S1.** Representative thin sections of granitoid pre-impact lithologies in plane-polarized light (left) and under cross-polarized light (right). (A) Granitoid showing K-feldspar and plagioclase; (B) Granitoid showing chloritization of a phyllosilicate and quartz with pervasive planar deformation features (PDFs) and fractures infilled with calcite; (C) Granitoid showing chloritization of a phyllosilicate and saussuritization of plagioclase. Cal—calcite; Chl—chlorite; Kfs—K-feldspar; PDF—planar deformation feature; Pl—plagioclase; Qz—quartz. Mineral abbreviations from Whitney and Evans (2010).

**Figure S2.** Representative thin sections of porphyritic and equigranular dolerite pre-impact lithologies in plane-polarized light (left) and under cross-polarized light (right). (A) Porphyritic dolerite showing altered euhedral plagioclase in an equigranular matrix of pyroxene and plagioclase (B) Porphyritic dolerite showing the granular euhedral phenocrysts, potentially representing altered olivine (hence the “Ol?” notation); (C) Equigranular dolerite showing pyroxene and subhedral plagioclase. Pl—plagioclase; Px—pyroxene; Ol—olivine; Mineral abbreviations from Whitney and Evans (2010).

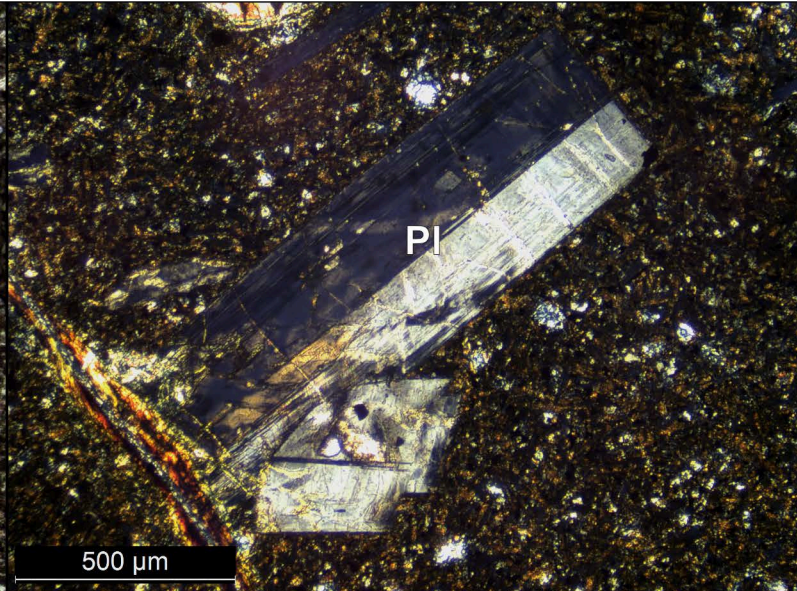
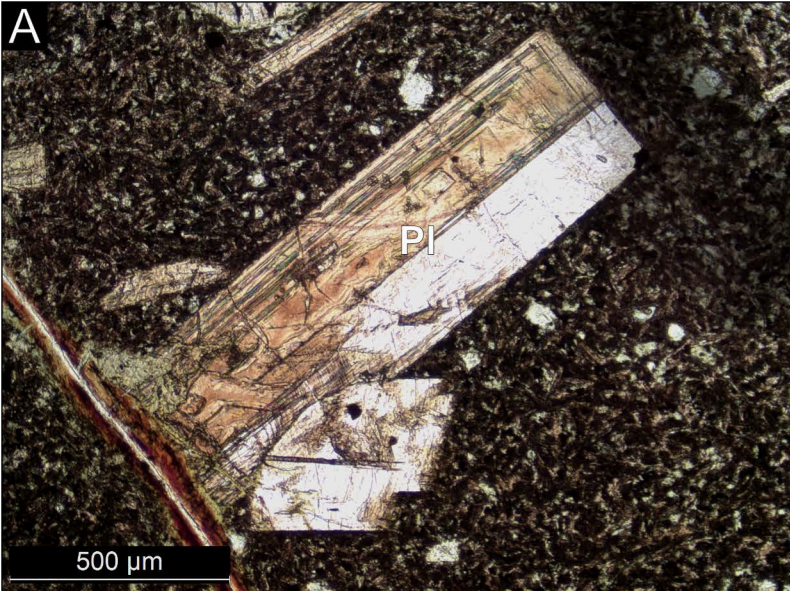
**Figure S3.** Representative thin sections of felsite and dacite pre-impact lithologies in plane-polarized light (left) and under cross-polarized light (right). (A) Felsite dominated by the altered calcite. Feldspars are mostly prevalent as small microlites in the matrix. Quartz grains are visible. (B) Felsite dominated by more euhedral plagioclase laths, chlorite enclosing pyroxene is shown at the top. (C) Dacite showing plagioclase phenocrysts. Quartz crystals with shock microstructures are visible throughout. Bt—biotite; Cal—calcite; Chl—Chlorite; Kfs—K-feldspar; Pl—plagioclase; Px—pyroxene; Qz—quartz. Mineral abbreviations from Whitney and Evans (2010).



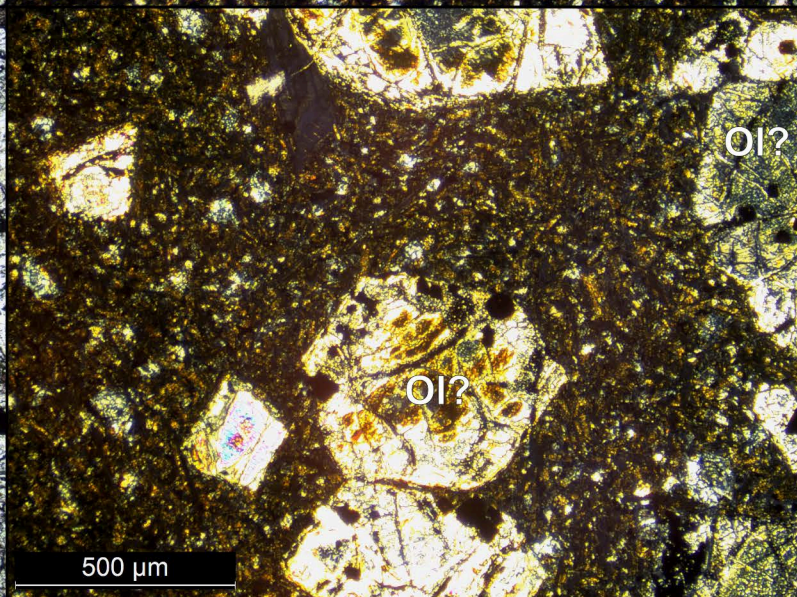
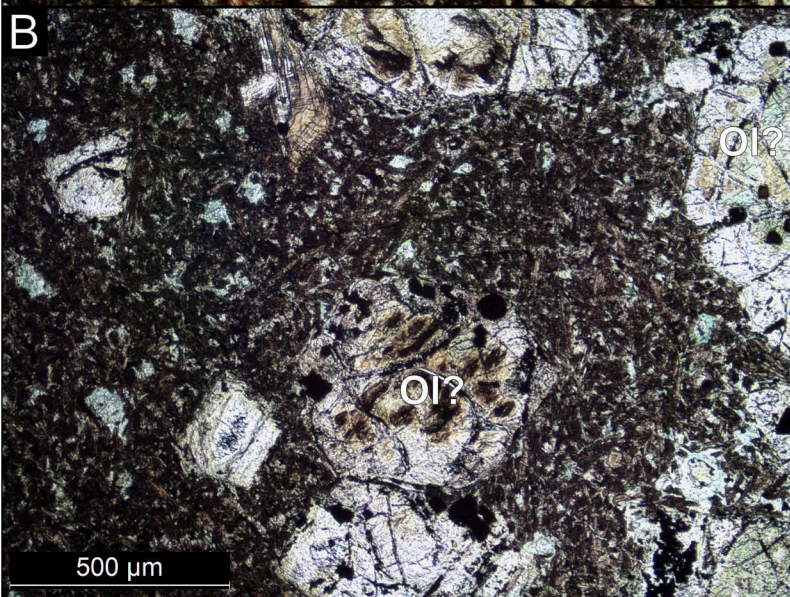
**A****B****C**



A



B



C

