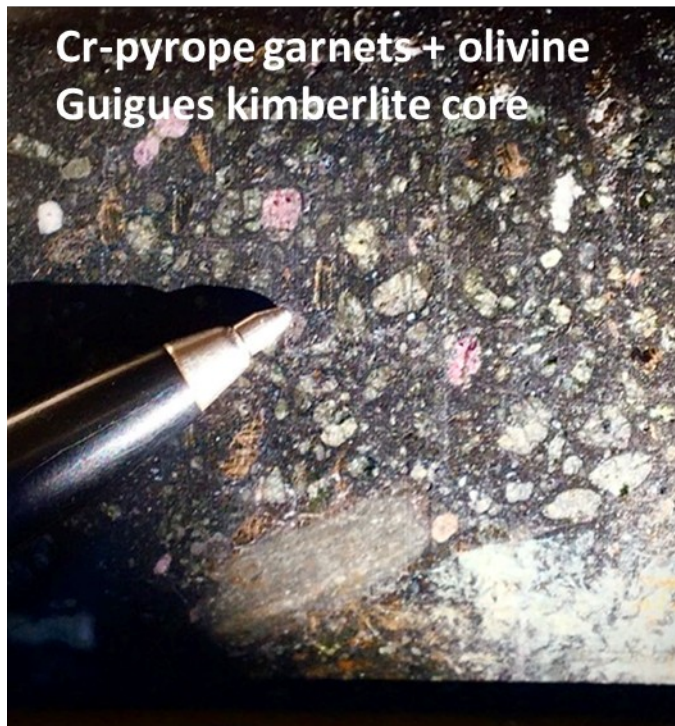


Guigues kimberlite description

The Guigues kimberlite core ranges from dark bluish gray to grayish black and black, displaying a pervasive inequigranular texture, featuring macrocryst-rich to macrocryst-poor zones, typically with gradational boundaries between zones. Macrocrysts are dominantly olivine, but with numerous garnets (featuring a broad spectrum of colors from purple to red to pinkish-rose, to orange), chrome diopsides, phlogopites (including rounded examples up to 8 cm long) and ilmenites. Olivine appears fresh in some macrocryst-rich zones and thoroughly serpentinized in others. Mantle and crustal xenoliths are abundant. Mantle xenoliths include Iherzolite, eclogite and probable wehrlite, including examples >10 cm in diameter. Carbonated eclogites containing up to 50% calcite as well as green diopside and orange garnet are notably common.



Groundmass is variably calcite-rich, as demonstrated by locally strong reaction to 10% HCl, and locally displays dispersed tiny black oxides suggestive of crystallization from the magma. Some magmaclasts are rimmed with groundmass magma, locally with sharp rounded surface contacts suggestive of formation within a 2 phase fluid (surface tension between immiscible fluids), and usually with tiny phenocrysts aligned tangentially to the outer rim and the inner core (usually a macrocryst). Such magmaclasts with sharply rimmed outer contacts appear to be relatively uncommon. The outer edges of most magmaclasts appear to grade into the groundmass. Crustal xenoliths are dominantly Paleozoic limestones, ranging from gray to white, sometimes including fossils (brachiopods, crinoids, corals and at least one apparent ammonite), and ranging from < 1 cm up to > 8 m in size.

