The Liscomb gneisses and granites yield overlapping U-Pb (zircon, monazite) ages (377+2, 374+3 Ma, respectively). Moreover, geochemical data confirm that the metapelites and other quartzofeldspathic gneisses are suitable source rocks for the granites. The paucity of migmatitic features in the granulites suggests that the granites were derived from comparable gneisses at deeper crustal levels. Peak metamorphic pressures determined for the Liscomb gneisses and coeval granulite xenoliths in a lamprophyre dyke at Popes Harbour are in the order of 8–6 kbar, respectively, significantly higher than the pressure that has been reported for the crustal level at which the granites crystallized ($P \approx 3$ kbar). Coupled with the age determinations, this indicates that the Liscomb complex was decompressed through ≈20 km over a ≈3 Ma time frame. The available data suggest that these rocks were diapirically emplaced in an extensional setting related to pull-apart tectonics along the Minas Fault. Future work will focus on using mineralogical and microstructural features of the gneisses to reconstruct the decompressional history of the Liscomb complex.

Coeval granulites and granites in a metamorphic core complex: the Liscomb complex, Nova Scotia

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The Liscomb complex is dominated by massive to tectonically foliated, peraluminous granites, mafic intrusive rocks, and high-grade, Bt+Grt+Crd+Sil+Kfs+Pl+Qtz-bearing metapelites and other quartzofeldspathic gneisses, and Opx-bearing metabasites. It constitutes the only known outcrop exposures of the basement to the Cambrian–Ordovician Meguma Group.