



Detrital Zircons from the Margaret Creek Formation, Corozal Basin, Northern Belize

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ABSTRACT

The Margaret Creek formation (Upper to Middle Triassic) is mainly a clastic red-bed unit, which is the lowermost among several Mesozoic formations comprising the Corozal basin of northern Belize. The Margaret Creek formation at the de facto 'type locality' near St. Margaret's Village is a fluvial sedimentary deposit, which consists of numerous fining-upward packages of clastic sediments that represent arkosic braided stream channel sands and intercalated more finely grained, silty and sandy clays that are coeval fluvial overbank deposits. Detrital zircons from the Margaret Creek formation were extracted from samples taken from outcropping layers of fluvial channel sandstones in St. Margaret's Village. Then, their age ranges were determined in an effort to better understand the provenance of these clastic sediments. Ages of detrital zircons from the Margaret Creek have a total range from approximately 300 to approximately 1600 Ma. There are three main peaks, one at about 414 Ma, another at about 1012 Ma, and the third at about 1483 Ma. The younger peak probably relates to weathering of local Maya Mountain plutonic and volcanic rocks, but the older peaks suggest older, probably North American sources, which may include Grenville basement rocks. The apparent, older detrital zircon contributions apparently relate to provenance from zircon-bearing Grenville rocks during a time before the Yucatán block separated from the southern margin of North America.

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