Late Cretaceous to Paleocene evolution of the Blanchard River assemblage, southwest Yukon; implications for Mesozoic accretionary processes in the northwestern Cordillera

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Bedrock mapping, petrography and U-Pb in-situ monazite and detrital zircon geochronology elucidates the geological evolution of the Blanchard River assemblage (BRA), southwest Yukon. BRA belongs to a series of Middle Jurassic to early-Late Cretaceous pull-apart basinal assemblages deposited between the Insular and Intermontane terranes. Detrital zircon ages suggest mid-Cretaceous deposition of BRA along the western Laurentian margin, sourced primarily from Yukon-Tanana terrane with minor input from outboard Insular terranes. Collapse of the BRA basin is recorded by 83-76 Ma deformation and associated amphibolite-facies metamorphism, interpreted as the timing of Insular terrane accretion onto the western Laurentian margin. A second phase of BRA metamorphism indicates ca. 70 Ma retrograde metamorphism associated with exhumation. Intrusion of the Ruby Range suite induced contact metamorphism from 63-61 Ma. During or after intrusion of early phases of the Ruby Range suite a second deformation event occurred, possibly correlative to deformation along the Tatshenshini shear zone.