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**Cordilleran Section - 116th Annual Meeting - 2020**

Paper No. 9-7

Presentation Time: 9:00 AM-6:00 PM

**DETTRITAL ZIRCON FROM THE SCHIST OF NUNATAK FIORD NEAR YAKUTAT,  
ALASKA INDICATE ALLIANCE TO THE CHUGACH-PRINCE WILLIAM TERRANE**

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The Schist of Nunatak Fiord (SNF) is comprised of complexly deformed turbidites metamorphosed to greenschist and amphibolite facies intruded by Eocene granitic plutons. Together, these rocks make up the Boundary Block, a tectonic sliver that is approximately 10 km wide and 120 km long between the Boundary and Fairweather Faults. Previous research correlates the SNF to either the adjacent Yakutat Group to the west or the Chugach Metamorphic Complex (CMC) to the east. Five metasandstone samples were collected near Harlequin Lake and detrital zircons ( $n=1990$ ) were U/Pb dated at the University of Arizona. Three samples from the SNF yield maximum depositional ages (MDAs) ranging from 49 Ma to 55 Ma and have grain-age distributions with Cretaceous peaks at 61-74 Ma and 85-88 Ma, and prominent Jurassic peaks at 151-184 Ma. Precambrian grains in these three samples are not abundant (2-5%) with peaks at  $\sim$ 1480 Ma and  $\sim$ 1710 Ma. One sample collected from the CMC contains an MDA of 55 Ma and peaks at 76, 89, and 157 Ma. A Yakutat Group sample collected near the Boundary fault (HL19-19) has an MDA of 65 Ma, and contains 167 total Precambrian grains (31%), with peaks at 1385 and 1715 Ma. The provenance of the CMC sample and the three SNF samples appear to be similar. Both the SNF and CMC have slightly younger age populations to other dated SNF samples from Russell Fiord located 45 km to the northeast. The grain-age distribution of the SNF samples is similar to those of the Paleocene-Eocene Orca Group (CPW) with MDAs of 55-62 Ma. These results suggest that SNF and the CMC blocks are allied and derived from a similar source terrain. These data indicate that the SNF is younger than the Yakutat Group, and similar in age and provenance to the CMC (CPW) and Orca Group of the Chugach-Prince William terrane.

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Tuesday, 12 May 2020: 9:00 AM-6:00 PM

Fountain Ballroom (The Westin Pasadena)

Geological Society of America *Abstracts with Programs*. Vol. 52, No. 4  
doi: 10.1130/abs/2020CD-347244

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