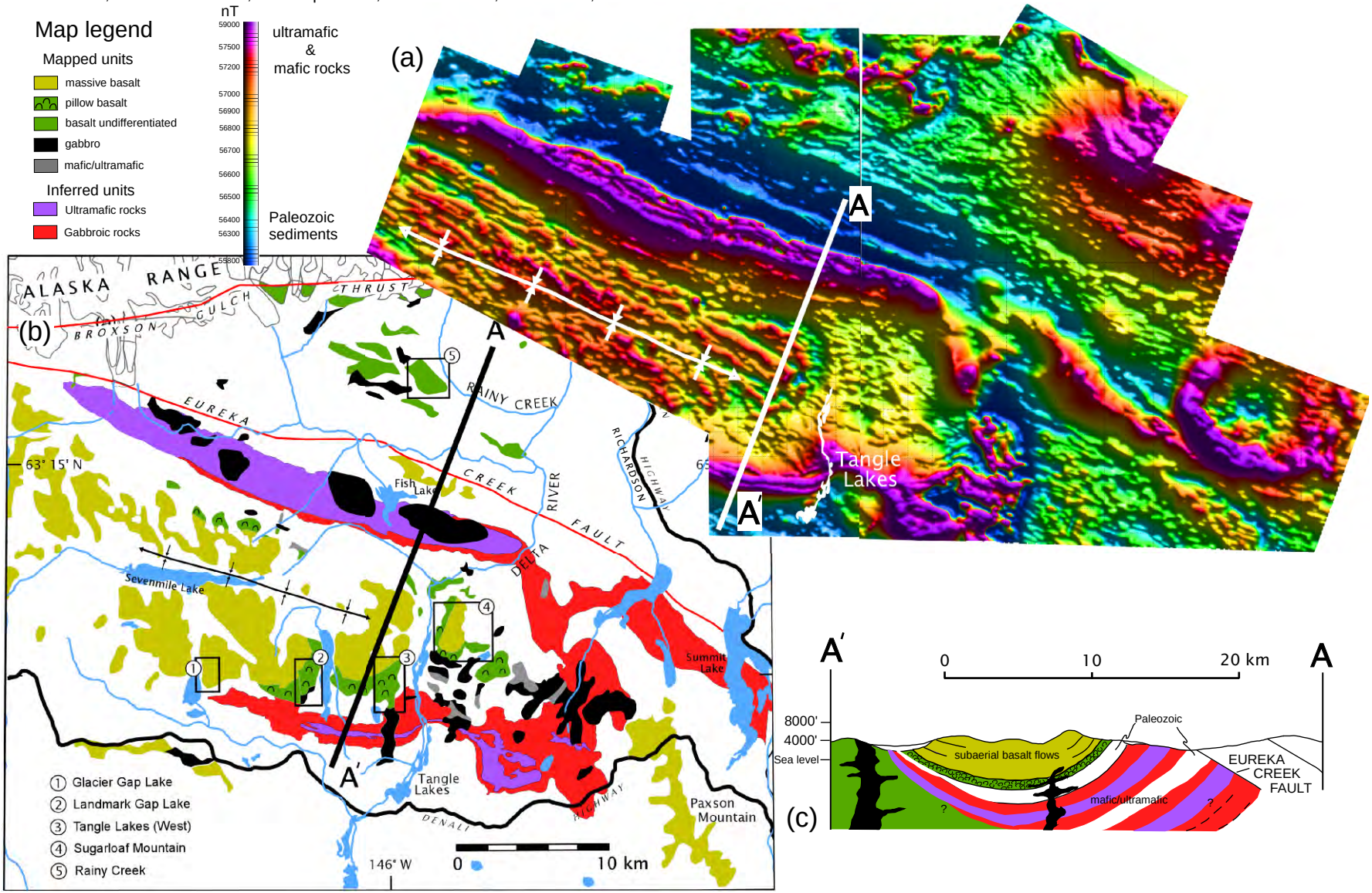
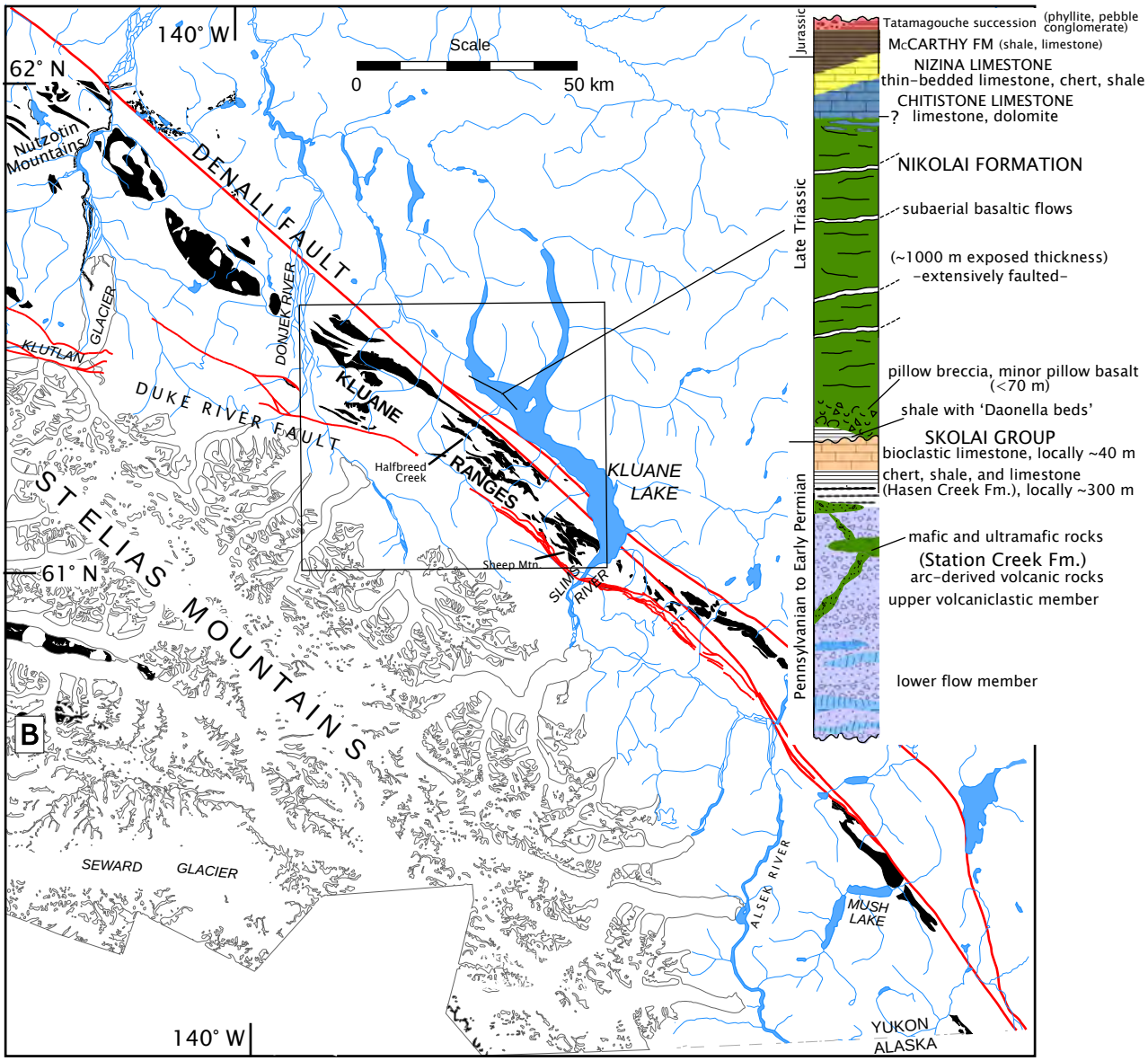
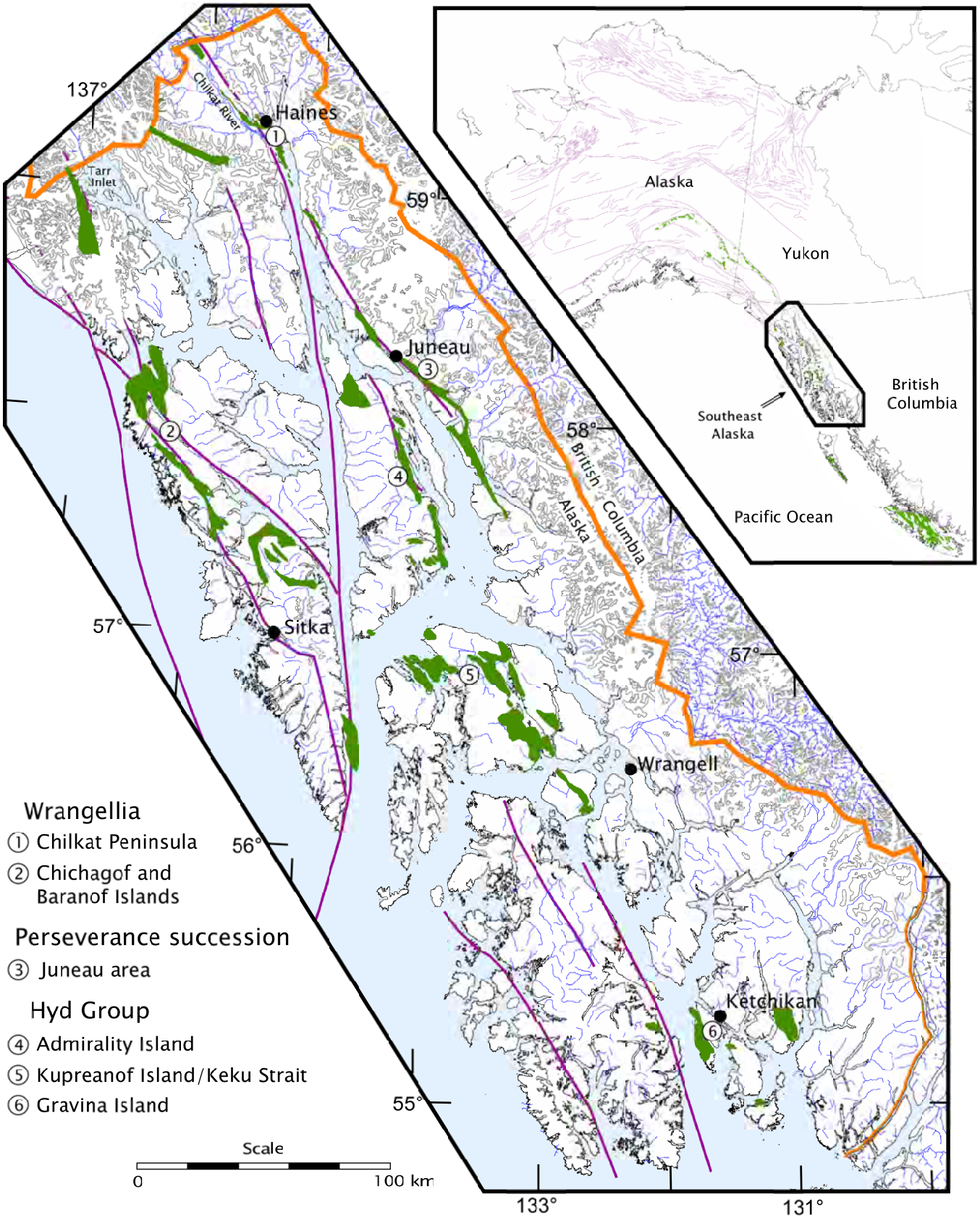


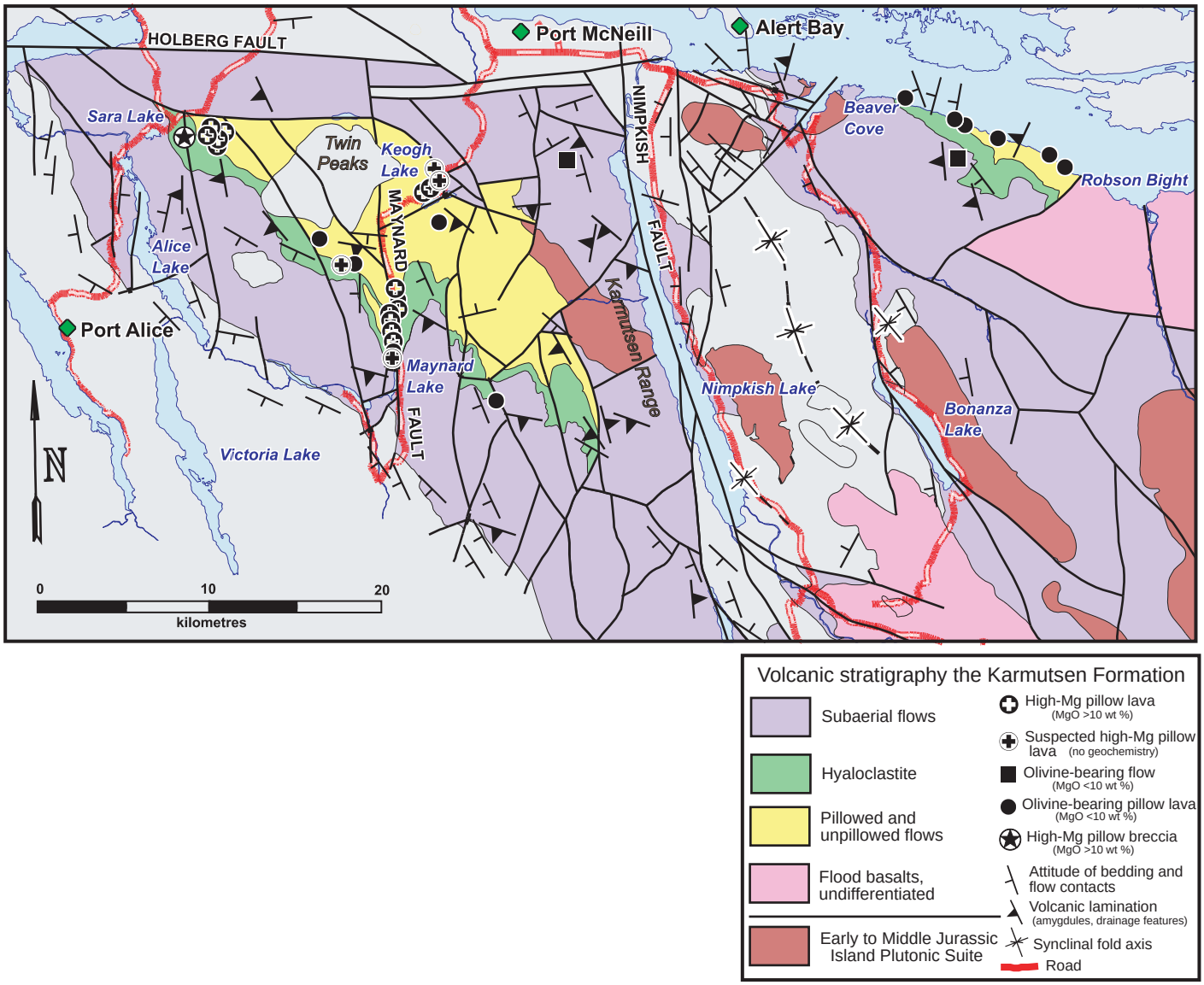
Supplementary map 1. Geology and magnetic map of the Amphitheater Mountains, Alaska (location shown in Figure 3). (a) Color shadow total magnetic field map of part of the Amphitheater Mountains. A summary of the magnetic survey is provided in Burns and Clautice (2003) and the full color shadow map is presented in Burns et al. (2003). Details of the data acquisition, interpretation, publications, and data formats are provided in Prichard (2003). The surveys (1995 and 2002) mapped the magnetic and conductive properties of the area to detect conductive mineralization. This was accomplished by using a DIGHEM(V) multi-coil, multi-frequency electromagnetic system, supplemented by a high sensitivity cesium magnetometer and GPS system (Burns and Clautice, 2003). The rocks with the highest magnetic susceptibility (Fe-rich magnetic minerals; mafic and ultramafic rocks) dampen the magnetic signal and produce highs and lows, measured in nanoTeslas (nT). The high nT values are purple and orange in color, indicating magnetic rocks, and the low values are blue and green. The purple and red areas are assumed to be coincident with mafic and ultramafic rocks, and the blue areas are inferred to be Paleozoic sediments. (b) Generalized geology of the Nikolai Formation and related plutonic rocks in the Amphitheater Mountains. Five main field areas are outlined with numbered boxes (denoted in map). Map derived Nokleberg et al. (1992) and digital compilation of Wilson et al. (1998). Inferred units from Burns et al. (2003). (c) Schematic cross-section of Amphitheater Mountains from A to A' (shown in panels a and b), adapted from Nokleberg et al. (1985).



Supplementary map 2. Map and stratigraphic column of the Nikolai Formation in southwest Yukon. (A) Simplified map of southwest Yukon showing the distribution of the Nikolai Formation (black; after Israel, 2004; Israel and Van Zeyl, 2004; Israel et al., 2005). Stratigraphic column for Kluane Ranges derived from Read and Monger (1976) Israel et al. (2006), Israel and Van Zeyl (2005), and fieldwork.



Supplementary map 3. Simplified map of southeast Alaska showing the distribution of Triassic basalts and sedimentary rocks. Some may be correlative with Wrangellia flood basalts while others are part of the Alexander Terrane. Orange line is Alaska-BC border. Purple lines are faults. See text for description of units. Map adapted from a map provided courtesy of Brew (written comm., 2007). Inset shows location of map in northwestern North America.



Supplementary map 4. Generalized geology of the Karmutsen Formation on northern Vancouver Island in the Port Alice-Robson Bight area. Map derived from Nixon et al. (2008). Sample locations and units shown in the legend. Stratigraphic column for this area is shown in Figure 5.

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