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# NEWLY DISCOVERED UPPER TRIASSIC AND LOWER CRETACEOUS STRATA IN THE NORTHERN KUSKOKWIM MOUNTAINS

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# Newly discovered Upper Triassic and Lower Cretaceous strata in the northern Kuskokwim Mountains

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A heretofore unreported section of Upper Triassic and Lower Cretaceous strata was discovered in the northern Kuskokwim Mountains by W. W. Patton, Jr., J. T. Dutro, Jr., and R. M. Chapman during 3 weeks of field mapping in the Medfra quadrangle. The Upper Triassic and Lower Cretaceous section is exposed in a narrow band around the eastern and northern perimeter of the Kuskokwim geosyncline. It overlies Paleozoic carbonate and clastic rocks of the Ruby geanticline and underlies mid- and Late Cretaceous clastic rocks of the Kuskokwim geosyncline. The Upper Triassic sequence is 100-150 m thick and composed of calcareous sandstone, limestone, conglomerate, and chert with abundant Monotis. The Lower Cretaceous sequence conformably overlies the Upper Triassic and consists of about 100 m of calcareous sandstone, grit, shale, and coquinoidal limestone with Buchia.

This newly discovered Mesozoic section appears to have important implications for the tectonic history of central Alaska. Lithologically it has strong affinities for coeval rocks in northern Alaska but contrasts sharply with the Permian to Lower Cretaceous island arc and oceanic volcanic assemblages which lie immediately to the north in the Yukon-Koyukuk province (Patton, 1973). The high content of carbonate and quartz detritus and the absence of volcanogenic debris suggest that the provenance of these strata was confined to the carbonate-quartzite-pelitic schist terrain of the Ruby geanticline.

It has been suggested that the Paleozoic and Precambrian(?) terrain of the Ruby geanticline represents a sliver of the Brooks Range-Seward

Peninsula continental crust which was rifted away at the end of the Paleozoic (Patton, 1970). From late Paleozoic to Early Cretaceous the wedge-shaped Yukon-Koyukuk province, situated between the Brooks Range-Seward Peninsula and the Ruby geanticline, was a marginal sea or mini-ocean basin. Following this model, the nonvolcanic Upper Triassic and Lower Cretaceous section in the northern Kuskokwim Mountains may be interpreted as a clastic wedge which was deposited along the trailing edge of the rifted fragment.

References cited

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