

THE SEQUENCE-STRATIGRAPHIC SETTING OF THE TRIASSIC-JURASSIC BOUNDARY, NEW YORK CANYON, GABBS VALLEY RANGE, WESTERN NEVADA

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The Triassic–Jurassic boundary in the stratigraphic section at New York Canyon resides within a single tectonosequence generated by a short-lived tectonic disturbance, a major plate rearrangement involving the southern and western margins of Laurentia. The lower sequence boundary is overlain by the Gabbs Formation, whose base is early Rhaetian (*Amoenum* zone). The location of the upper sequence boundary at New York Canyon is ambiguous. Two surfaces in the overlying Ferguson Hill Member of the Sunrise Formation potentially may be the upper boundary; one lies near the base, and the other in the middle, of the Ferguson Hill Member. However, the same tectonosequence is observed at El Antimonio, Sonora, Mexico. The biostratigraphic age control on the upper surface of the tectonosequence at El Antimonio implies that the upper sequence boundary is late Hettangian (*Sunrisense* zone), therefore the upper surface at New York Canyon is the surface near the base of the Ferguson Hill Member. The stacking pattern of lower shoreface to intertidal facies associations within the sequence in New York Canyon are interpreted to indicate that the Triassic – Jurassic boundary lies within the highstand systems tract. The Triassic – Jurassic boundary tectonosequence of marine strata at New York Canyon is also manifest in non-marine strata of the Dinosaur Canyon and Whitmore Point members of the Moenave Formation on the Colorado Plateau in southern Utah where this sequence has been defined as the Dinosaur Canyon tectonosequence. The sequence boundaries of the Dinosaur Canyon tectonosequence are synonymous with the boundaries of the Apachean land vertebrate faunachron. Pollen from the upper part of the Dinosaur Canyon tectonosequence indicates an early to late Hettangian age. Magnetostratigraphy throughout strata included within the tectonosequence indicates normal polarity of the geomagnetic field. These observations indicate the Triassic–Jurassic boundary is located within the Dinosaur Canyon tectonosequence. Therefore, the stratigraphic section at New York Canyon can be correlated with sections containing the magnetostratigraphic, palynological, and vertebrate records of this time.