

Magnetic Stratigraphy of the Middle Miocene Round Mountain Silt and Sharktooth Hill Bone Bed, Kern County, California

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The Round Mountain Silt, northeast of Bakersfield, California, is famous for its large collection of marine vertebrates from the Sharktooth Hill Bonebed and fossil mollusks. Its age is poorly constrained, although it is thought to be middle Miocene. Magnetic samples were taken from two sections spanning 180 ft of the Round Mountain Siltstone: one at Ernst Ranch, and the other along Poso Creek. The samples were demagnetized with both alternating field and thermal demagnetization, and produced stable remanence that passed a reversal test. Most of the Round Mountain Siltstone is reversed in polarity, except for the very base of the section and a short normal magnetozone in the upper third. Based on a Sr isotope age of 15.9 Ma for the base of section, the best correlation is with Chrons 5Bn1r to C5Cn1, or 15.0 to 16.2 Ma. The entire middle part of the section, including the Sharktooth Hill Bonebed, correlates with Chron C5Br (15.2 to 16.0 Ma). This confirms the middle Miocene (Barstovian) age of the unit, as has been suspected from the few terrestrial mammals recovered.