

REFERENCES

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SURFICIAL DEPOSITS (QUATERNARY AND UPPER TERTIARY)

Qar Alluvium (Holocene)—Sand, silt, and clay with some interbedded gravel.

Qae Alluvial unit E (upper Pleistocene)—Sand, silt, and clay as valley fill upstream from Grand Falls; gravel, sand, silt, and clay forming terraces downstream from Black Falls. Valley fill resulted from damming of the Little Colorado River at Grand Falls by the Merriam lava flow of Merriam age.

Qad Alluvial unit D (upper Pleistocene)—Gravel, sand, silt, and clay.

Qac Alluvial unit C (upper to middle Pleistocene)—Gravel, sand, silt, and clay. Deposition of this unit began before the eruption of the adjacent flows of Tappan age.

Qay Younger alluvium (upper to middle Pleistocene)—Alluvial units D, C, and parts of E, undifferentiated.

Qab Alluvial unit B (middle to lower Pleistocene)—Gravel, sand, silt, and clay. Forms terraces and pediments. Older than the Tappan flow of Tappan age at Cameron.

Qaa Alluvial unit A (middle to lower Pleistocene)—Gravel, sand, silt, and clay. Forms terraces and pediments. Older than the Tappan flow (Tappan age) but younger than the Black Point flow of Woodhouse age.

Qao Older alluvium (middle to lower Pleistocene)—Alluvial units A and B, undifferentiated.

Qta Alluvium (lower Pleistocene to upper Pliocene)—Gravel, sand, silt, and clay. Deposition of this unit began before the lava at Black Point flowed into the Little Colorado River valley.

Ta Alluvium (upper Pliocene)—Sand, silt, and clay on Marcon Mesa; gravel, sand, and silt in abandoned channels elsewhere.

Qe Eolian deposits (Holocene to upper Pleistocene)—Sand, well-sorted. Forms extensive sand sheets ranging in thickness from several to more than 40 ft (13 m). Derived primarily from the modern floodplain of the Little Colorado River or older alluvial deposits.

Qp Playa deposits (Holocene to middle Pleistocene)—Silt and clay.

Ql Landslide debris (Quaternary).

VOLCANIC ROCKS (QUATERNARY AND UPPER TERTIARY)

Qbm Basalt (Pleistocene) of Merriam age (<100,000 years, Moore and others, 1976).

Qby Basalt (Pleistocene) of pre-Merriam age. Includes flows of Tappan age (0.2-0.7 m.y., Moore and others, 1976).

Qbo Basalt (Pleistocene) of Woodhouse age (0.8-3.0 m.y., Moore and others, 1976).

Qc Basaltic cinder and ash blanket (Pleistocene).

Tby Basalt (Pliocene).

BIDAHUCHI FORMATION (Pliocene and Miocene)

Tbv Volcanic member—Nonchiquite lava flows.

Tl Nonchiquite dike or neck.

Tt Tuff.

Tbl Lower member of sand, silt, clay.

ROCK POINT MEMBER OF WINGATE SANDSTONE (UPPER TRIASSIC)

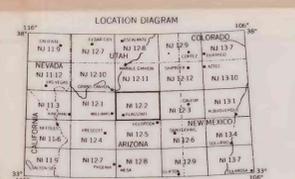
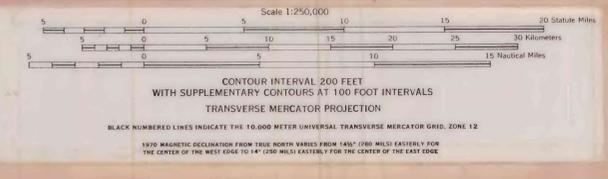
Twr TRIASSIC—Reddish-brown siltstone and sandstone.

CHINLE FORMATION (UPPER TRIASSIC)

Tco Owl Rock Member—Mottled light-gray and grayish-pink interbedded limestone and calcareous siltstone.

Tcp Petrified Forest Member—Claystone, siltstone, and minor sandstone, variegated.

Base from U.S. Geological Survey, 1970



PRELIMINARY GEOLOGIC MAP OF THE LITTLE COLORADO RIVER VALLEY BETWEEN CAMERON AND WINSLOW, ARIZONA

By
Richard Hereford
1979

Geology mapped in 1978-79