



DESCRIPTION OF MAP UNITS

af ARTIFICIAL FILL (HOLOCENE)

Qar SAND AND GRAVEL (HOLOCENE AND (OR) PLEISTOCENE)—Alluvium deposited in arroyos, and on valley floors since the inception of the most recent cycle of arroyo cutting (circa 1850) (Bryan, 1954)

Ql SAND AND SILT (HOLOCENE AND (OR) PLEISTOCENE?)—Deposited as lake beds in natural and artificial lakes. During dry periods material is reworked by eolian processes

Qf SAND, SILT, AND GRAVEL (HOLOCENE AND (OR) PLEISTOCENE?)—Deposited on valley floors as alluvial fans. During dry periods material is reworked by eolian processes

Qal UNCONSOLIDATED SAND, SILT, AND GRAVEL (HOLOCENE AND (OR) PLEISTOCENE?)—Pale-yellowish-brown to grayish-orange weathering alluvium deposited in graded stream valleys on flood plains prior to the inception of the most recent cycle of arroyo cutting

Qc COLLUVIUM (HOLOCENE AND (OR) PLEISTOCENE?)—Combination of talus and slope-wash deposits becoming finer downslope and grading into unconsolidated sand, silt, and gravel (Qal); mapped only in areas of significant continuous cover of underlying material and as remnants on older dissected pediment surfaces

Qe TALUS DEPOSITS (HOLOCENE AND (OR) PLEISTOCENE?)

Qg EOLIAN SAND AND SILT (HOLOCENE AND (OR) PLEISTOCENE?)—Pale-yellow-brown to pale-orange deposits. Mapped where greater than 1 m thick and (or) where represents areally significant cover of underlying map units; locally contains reworked alluvial and residual soil material

Qoa SAND, SILT, AND GRAVEL (HOLOCENE AND (OR) PLEISTOCENE?)—Pale-yellow-brown to gray and pale-reddish-brown weathering remnants of dissected alluvial fans(?) and older alluvial surfaces(?); located topographically above alluvial deposits (Qar, Qal)

Qg SAND AND GRAVEL (HOLOCENE TO (OR) PLEISTOCENE?)—Brown to reddish-brown deposits containing some dark-red and gray quartzite pebbles as much as 8 mm in diameter. Found on drainage divides and as caps on mesas topographically above alluvial deposits (Qar, Qal)

Kmf ALLISON MEMBER OF THE MENEFFEE FORMATION (UPPER CRETACEOUS)—A variable interbedded sequence of predominantly yellowish gray and dusky yellow to grayish-olive weathering shale and minor siltstone; lenticular very pale orange to pale-yellowish-brown very fine to medium grained moderately well to poorly sorted crossbedded calcareous sandstone; and a few lenticular subbituminous coal beds less than 35 cm thick. Upper portion of the unit has been removed by erosion. Lower contact is gradational and interfingers with the Cleary Coal Member of the Meneffee Formation. The Allison Member contains few coal beds and none are 35 cm or more thick. Using Sears (1925, p. 16) division of coal-bearing units which is based on the presence or absence of valuable coal, the Cleary Coal Member of the Meneffee Formation, named by Beaumont and others (1956, p. 2157), is distinguished from the Allison Member by the presence of coal beds more than 35 cm thick. The contact between the Cleary and Allison Members is indefinite and commonly changes stratigraphic position with change in the character of the coal beds; it is, however, significant in separating a potentially economic coal-bearing unit from a relatively barren one. Incomplete thickness estimated at 275 m

Kmg CLEARY COAL MEMBER OF THE MENEFFEE FORMATION AND GIBSON COAL MEMBER OF THE CREVASSE CANYON FORMATION (UPPER CRETACEOUS)—A variable interbedded sequence of predominantly yellowish gray to medium-bluish-gray (weathering light to silvery gray) shale and siltstone; lenticular very fine to medium-grained very pale orange and moderate-orange-pink sandstone; minor dark-gray carbonaceous shale and lenticular subbituminous coal beds (most less than 35 cm thick but some as much as 75 cm thick); and thin iron-rich concretionary beds. Some coal beds have been burned at the outcrop and form clinker beds or zones. Lithologically identical rock units are mapped together in the absence of the Point Lookout Sandstone. This combination of units is based on similar lithology, and stratigraphic continuity representing essentially continuous deposition. This follows the precedent set by Sears and others (1941, p. 114) and O'Sullivan and others (1972, p. 45) for delineation of geologic contacts, and member names are in accord with the revised nomenclature of the Mesaverde Group as outlined by Beaumont and others (1956, p. 2157). Thickness of the combined unit is estimated at 100 m

CONTACT—Dashed where approximately located

FAULT—Dashed where approximately located; x, intrusion by sandstone dike

STRIKE AND DIP OF BEDS

STRIKE OF VERTICAL JOINTS

EARTH DAM OR DIKE

COAL BED—Thickness measured in centimeters

MONOCLINAL FOLD—Showing upper and lower fold axes. Arrows indicate direction of dip. Dashed where inferred

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PRELIMINARY GEOLOGIC MAP OF THE TWIN LAKES QUADRANGLE, MCKINLEY COUNTY, NEW MEXICO

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1980