DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

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Base from U.S. Geological Survey, 1963

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This map is preliminary and has not been edited or reviewed for conformity with Geological Survey standards or nomenclature.

UTM GRID AND 1963 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Geology mapped in 1971-73

PRELIMINARY GEOLOGIC MAP OF THE PINEDALE QUADRANGLE, McKINLEY COUNTY, NEW MEXICO

By
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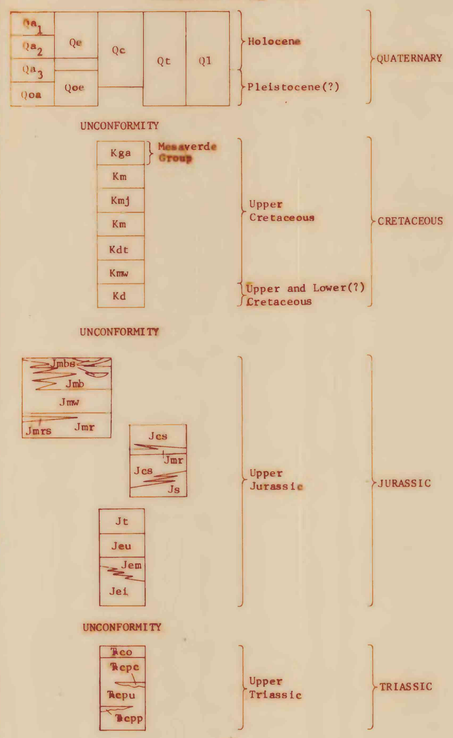
1974

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

ALLUVIUM

Qa_1 Upper Holocene--Mostly sand and gravel deposited in arroyos, fans, and valley floors since about 1850, the beginning of the latest cycle of arroyo cutting

Qa_2 Holocene--Light-yellowish-gray unconsolidated but stabilized silt, sand, and gravel of graded valley bottoms and flood plains, deposited prior to the latest cycle of arroyo cutting. Grades upslope into colluvium

Qa_3 Lower Holocene to Pleistocene(?)--Grayish-orange-pink semiconsolidated silt, sand, and gravel in terraces 5 to 20 feet (1.5-6.5 m) above the graded valley flood plains; also underlies intermediate pediment and fan surfaces, and the upper reaches of some stream valleys. Generally underlain by older alluvium (Qoa)

Qoa Pleistocene(?)--Mostly grayish-orange to yellowish-gray poorly to partly consolidated silt, sand, and gravel from dissected piedmont alluvial plains, fans, and pediments; generally more than 20 feet (6.5 m) above the level of modern valley flood plains. May include older eolian sand (Qoe)

EOLIAN SAND--Wind-blown sand and silt

Qe Younger (Holocene)--Light-colored, unconsolidated

Qoe Older (Pleistocene?)--Oxidized to a reddish-gray color, semiconsolidated

Qc COLLUVIUM (HOLOCENE AND/OR PLEISTOCENE?)--Fan talus and slope-wash deposits

Qt TALUS (HOLOCENE AND/OR PLEISTOCENE?)

Ql LANDSLIDE DEPOSITS AND SLUMP BLOCKS (HOLOCENE AND/OR PLEISTOCENE?)

GALLUP SANDSTONE (UPPER CRETACEOUS)

Kga Bed A

MANCOS SHALE (UPPER CRETACEOUS)

Km Main body

Kmj Juana Lopez Member--Limy sandstone and interbedded shale

Kmw Whitewater Arroyo Shale Tongue

DAKOTA SANDSTONE (UPPER AND LOWER? CRETACEOUS)

Kdt Twowells Sandstone Tongue

Kd Main body

MORRISON FORMATION (UPPER JURASSIC)

Jmb Brushy Basin Shale Member

Jmbs Sandstone lens

Jmw Westwater Canyon Sandstone Member--Intertongues with the Brushy Basin Member

Jmr Recapture Shale Member--Gradational into and interbedded with the underlying Cow Springs Sandstone (Jcs)

Jmrs Sandstone lens

Jcs COW SPRINGS SANDSTONE (UPPER JURASSIC)--Intertongues with the Recapture Member of the Morrison Formation (Jmr)

Js SUMMERVILLE FORMATION (UPPER JURASSIC)

Jt TODILTO LIMESTONE (UPPER JURASSIC)

ENTRADA SANDSTONE (UPPER JURASSIC)

Jeu Upper sandstone member--Mainly eolian

Jem Medial siltstone member

Jel Iyanbito Sandstone Member[1/]--Mostly eolian; intertongues with and underlies the medial siltstone member

CHINLE FORMATION (UPPER TRIASSIC)

Rco Owl Rock Member--Eroded out in middle part of quadrangle

Rcpu Petrified Forest Member--Upper part

Rcpc Sandstone lens--At mouth of Crazy Woman Canyon

Rcpp Sandstone lens--At Perea

Contact

Fault--Showing vertical dip and amount of displacement in feet where measured. Dashed where approximately located; dotted where concealed. U, upthrown side; D, downthrown side

Monoclinal flexures--Showing upper and lower fold lines. Arrows indicate direction of dip; amount of dip shown where measured. Longer arrows indicate flatter dip

Strike and dip of beds

Strike of vertical joints

Direction and amount of dip of crossbedding

Limestone quarry--Mined primarily for road metal

Landslide block

1/ Green, M. W., 1974, The Iyanbito Member (a new stratigraphic unit) of the Jurassic Entrada Sandstone, Gallup-Grants area, New Mexico: U.S. Geol. Survey Bull. 1395-D, 12 p.