

EXPLANATION

Pleistocene and Recent

Qal

Alluvium

Qt

Talus

Ql

Landslide deposits

Qb

Block rubble

Mostly porphyry blocks, heterogeneously mixed with finer material, lying on unevenly eroded surfaces. Forms hummocky topography.

Qs

Eolian sand and silt

Qtg

Stream terrace gravel

Qps

Pediment deposits

Composed predominantly of pebbles, cobbles, and boulders of igneous rocks lying on extensive erosion surfaces extending radially away from the mountain area.

UNCONFORMITY

TKmp

Quartz monzonite porphyry

Light gray, containing phenocrysts of quartz, andesine, and pseudomorphs of chlorite and biotite after hornblende. Orthoclase in groundmass. Occurs mainly as steep-sided laccoliths. Discordant masses are shown by fragmentary line pattern.

TKsp

Granodiorite porphyry

Light to medium-gray, contains phenocrysts of andesine and pseudomorphs of chlorite and biotite after hornblende. Orthoclase in groundmass. Occurs as laccoliths, dikes, and a stock. Large discordant masses are shown by fragmentary line pattern.

TKdp

Diorite porphyry

Medium gray, contains phenocrysts of hornblende and andesine. Forms laccoliths and dikes. Stock is shown by fragmentary line pattern.

TKap

Andesite porphyry

Medium greenish gray, fine grained. Contains phenocrysts of hornblende and calcic andesine. Forms a laccolith and minor dikes.

TKmg

Microgabbro porphyry

Medium gray to nearly black, contains augite, hornblende, and labradorite phenocrysts. Occurs as laccoliths.

TKsp

Spessartite lamprophyre

Dark greenish gray, contains phenocrysts of augite, hornblende, zeolite, and andesine. Occurs as sills.

Kpl

Point Lookout sandstone

Tan fine- to medium-grained thin- to medium-bedded sandstone interbedded with gray mudstone of Mancos shale. Where mapped the sandstone is silicified and epidotized; the interbedded mudstone is baked.

Ka

Kms

Ka

Mancos shale

Predominantly gray to black shaly mudstone. A medium- to coarse-grained glauconitic sandstone and sandy fossiliferous limestone, Kms, (3 to 50 feet thick), about 475 feet above base, is mapped separately, except in places in the mountains where the outcrop could not be traced. This unit may be equivalent in part to the "Juana Lopez sandstone member of the Mancos" of Rankin (1944). The total thickness of the Mancos shale is about 1,900 feet.

Kd

Dakota sandstone

Yellowish sandstone and conglomerate lenses with interbedded carbonaceous shale and impure coal. Average thickness is about 125 feet.

UNCONFORMITY

Kbc

Burro Canyon formation

Sandstone and conglomerate with interbedded green and red shale; ranges from 30 to 140 feet in thickness. Sediments of this formation intertongue with mudstone of the Brushy Basin member of the Morrison formation.

Jmb

Jmw

Jmr

Jms

Morrison formation

Brushy Basin member, Jmb, 150 to 250 feet thick, consists of varicolored bentonitic mudstone with a few conglomeratic sandstone lenses. Westwater Canyon member, Jmw, 200 feet thick, consists of pale yellow-brown fine- to medium-grained sandstone interbedded with green bentonitic mudstone. Recapture member, Jmr, 200 feet thick, consists predominantly of red mudstone with interbedded thin tan-gray to reddish-gray, fine to medium-grained sandstone. The Salt Wash member, Jms, absent in the only exposure of the Morrison in the central part of this quadrangle, is probably at depth in many parts of the quadrangle. The Salt Wash member is shown on cross section only; although the Salt Wash member contains uranium deposits in many parts of the Colorado Plateau, none are known in this area. Members intertongue and intergrade to such an extent that in many places the contacts are arbitrary.

Jjc

Junction Creek sandstone

Upper 50 feet exposed in this quadrangle; pink brown to light tan gray; fine to medium coarse grained, poorly sorted. Correlates with the Bluff sandstone of Utah and Arizona.

Js

Summerville formation

Flat- and thin-bedded brick-red argillaceous sandstone and siltstone, 120 to 130 feet thick. Shown on cross section only.

Je

Entrada sandstone

(Shown on cross section only)

Upper Cretaceous or Tertiary

Upper Cretaceous

Lower Cretaceous

Upper Jurassic

San Rafael group

QUATERNARY

CRETACEOUS OR TERTIARY

CRETACEOUS

JURASSIC

Glen Canyon group

Jn

Navajo sandstone

(Shown on cross section only)

Jk

Kayenta formation

(Shown on cross section only)

Tw

Wingate sandstone

(Shown on cross section only)

35 1 8

Contact, showing dip

(Dashed where approximately located; short dashes where indefinite or gradational; dotted where concealed. B and T indicate bottom and top of concordant igneous bodies)

? 80 0 U

High angle fault, showing dip

(Dashed where approximately located; dotted where concealed; queried where extension doubtful. U, upthrown side; D, downthrown side)

Thrust fault

(Saw-teeth on side of upper plate)

30

Strike and dip of beds

(Represents strike and dip as observed in the field, and does not necessarily reflect the attitude of the contour horizon)

75

Strike and dip of cleavage

30

Strike and dip of planar flow structure

12

Direction and amount of plunge of linear flow structure

Horizontal lineation of flow structure

? 5000

Structure contours

Drawn on base of Mancos shale. Long dashes where approximately located; short dashes indicate projection above surface; dots indicate contouring on a phantom horizon projected through a sill or laccolith; queried where control is poor. Many of the laccoliths in this quadrangle were intruded at or near the contact of the Dakota sandstone and Mancos shale; locally, portions of upper beds of the Dakota sandstone were domed upward by the intrusives; datum is projected through the laccoliths in order to define the underlying structure. Lack of stratigraphic markers within the area enclosed by the 7,000-foot contour precludes further interpretation at the contour horizon. Contour interval is 100 feet. Datum is mean sea level.

Prominent ridge or peak

Δ Cook

Δ T-1

5606

8956

Primary triangulation station, showing elevation

Roads, improved

Jeep and truck trails

Adit

Trails

Spring

Reservoir and dam

Note: Land grid dashed where approximately located.

LITERATURE CITED

Rankin, C. H., 1944, Stratigraphy of the Colorado group, Upper Cretaceous in northern New Mexico: N. Mex. School of Mines Bull. 20, 27 p.

JURASSIC AND JURASSIC(?)

TRIASSIC