EXPLANATION

SURFICIAL DEPOSITS

Unconsolidated deposits of silt, sand, gravel, boulders, and rock detritus

Alluvium (Qal)
Soil, sand, and gravel of alluvial origin

Colluvium (Qls)
Heterogeneous rock detritus such as talus and landslide material

High level terrace and pediment gravels (Qtg)
Gravel and boulder deposits of alluvial origin on high surfaces

Pleistocene and Recent — QUATERNARY

TERTIARY(?) AND QUATERNARY

UNCONFORMITY

SEDIMENTARY ROCKS

Cliff House sandstone (Kch)
Massive cliff-forming pale to dark yellowish-orange crossbedded marine sandstone, 400± feet thick; intertongues toward base with Menefee formation and includes locally an upper tongue, a middle tongue (Barker Dome tongue), and a lower tongue

Menefee formation (Kmf)
Gray to grayish-orange lenticular crossbedded sandstone and gray to brownish-gray and black carbonaceous shale and coal beds, 340-800 feet thick; includes locally an upper coal member, a middle barren member, and a lower coal member; intertongues toward top with Cliff House sandstone, and toward base with massive sandstone member of the Point Lookout sandstone. Dashed line indicates base of upper coal member. Purple line indicates coal bed. Chevron indicates where coal is burned

Point Lookout sandstone (Kplt)
Cliff-forming pale to yellowish-orange, crossbedded marine sandstone; consists of an upper massive sandstone member (Kplm) 230-340 feet thick, and, at the base, an alternating sandstone and shale member (Kplt) 60-140 feet thick which intertongues with the upper massive sandstone member at the top and with the Mancos shale at the base

Upper Cretaceous — Mesaverde group

Mancos shale (Km)
Soft dark-gray to black marine shale containing thin lenses and concretions of sandy yellowish-orange limestone, 2,000± feet thick; intertongues at top with the sandstone and shale member of the Point Lookout sandstone

Dakota sandstone (Kd)
Gray to dark yellowish-orange crossbedded sandstone that contains shale lenses and beds of coal, 100± feet thick

CRETACEOUS

IGNEOUS ROCKS

Basic igneous rocks (Ti)
In dikes and plugs

TERTIARY

Contact
Dashed where gradational or indefinite

Fault
Dashed where approximately located, short dashes where inferred. D, downthrown side; U, upthrown side

Strike and dip of beds

Structure contours
Drawn on top of Point Lookout sandstone; dashed lines represent inferred altitude of top of Point Lookout sandstone in areas where younger rocks or older rocks are exposed. Contour interval 200 feet. Datum is sea level

Coal mine

Abandoned oil and gas well

Producing gas well

Location of measured stratigraphic or coal section, shown on pls.50 and 51

Bench mark

Ruin

Triangulation station

APPROXIMATE MEAN DECLINATION, 1959

Base compiled from Soil Conservation Service planimetric maps

Geology by A. A. Wanek, J. D. Hill, and J. N. Babcock

GEOLOGIC MAP OF THE MESA VERDE AREA, MONTEZUMA AND LA PLATA COUNTIES, COLORADO

Scale 1:63360

1 ½ 0 1 2 3 4 Miles

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—MR 7403