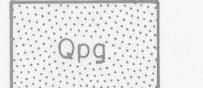


EXPLANATION

SEDIMENTARY ROCKS



Unconsolidated deposits of valley fill



Veneer of unconsolidated gravel and boulder debris on upland pediment surfaces



Veneer of unconsolidated gravel and sand on river and stream terrace surfaces

UNCONFORMITY



Nacimiento formation
Gray shale with some interbedded tan sandstone



Tan and yellowish-brown sandstone and conglomerate sandstone



The upper and lower members (Kku and Km) are composed principally of greenish-gray shale and are separated by the predominantly yellowish-green and gray Farmington sandstone member (kkt)



Gray, brown, and yellowish-brown and tan, crossbedded sandstone, and coal



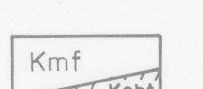
Tan crossbedded medium- to massive-bedded fine- to medium-grained sandstone



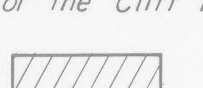
Medium-gray and tan shale and sandy shale, interbedded with thin, platy sandstone—especially in the upper and lower parts, and concretionary limestone



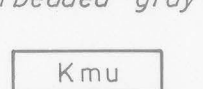
Tan and gray crossbedded, fine- to medium-grained sandstone and interbedded gray sandstone, locally contains tongues of the Menefee formation (Kmt)



Gray, brown, and greenish-gray shale, lenticular sandstone, and coal. Coal is essentially restricted to upper and lower parts of the unit, locally contains tongues of the Cliff House sandstone (Kcht)



Tan and brown sandstone with some interbedded gray shale



Consisting of an upper gray shale and sandy shale sequence (Kmu), and a lower gray shale sequence (Kml) separated by a predominantly tan sandstone unit—the Gallup sandstone of the Mesoverde group (Kq)

IGNEOUS ROCKS



Volcanic stocks and dikes

Geologic contact
Dashed where approximate or transitional, dotted where concealed

Fault
U-upthrown side, D-downthrown side
Dashed where approximately located

Strike and dip of beds
Long bar indicates direction of strike, short bar indicates direction of dip, figure indicates amount of dip in degrees

Outcrop of Fruiland coal bed

Fruiland coal section
Enclosed figure indicates total thickness of coal in feet and tenths of feet, outside figure indicates number of coal beds comprising the thickness at this locality

Menefee coal section
Enclosed figure indicates total thickness of coal in feet and tenths of feet, outside figure indicates number of coal beds comprising thickness at this locality. Bar is omitted at those localities where only one coal bed is indicated

Upper Cretaceous

Mesoverde group

QUATERNARY

TERTIARY

CRETACEOUS

TERTIARY

PRELIMINARY GEOLOGIC MAP OF THE KIRTLAND QUADRANGLE, SAN JUAN COUNTY, NEW MEXICO

by
E. C. Beaumont, and R. B. O'Sullivan

