

LIST OF MAP UNITS

The complete description of map units and references are included in the accompanying Authors' Notes booklet

SURFICIAL DEPOSITS

HUMAN-MADE DEPOSITS

- af Artificial fill (latest Holocene)
- dr Disturbed and reclaimed land (latest Holocene)

ALLUVIAL DEPOSITS

Alluvial Deposits of the Yampa River

- Qay₁ Alluvium one of the Yampa River (late Holocene to late Pleistocene)
- Qay₂ Alluvium two of the Yampa River (late Pleistocene)
- Qay₃ Alluvium three of the Yampa River (middle Pleistocene)
- Qay₄ Alluvium four of the Yampa River (middle Pleistocene)
- Qay₅ Alluvium five of the Yampa River (middle Pleistocene)
- Qay₆ Alluvium six of the Yampa River (early Pleistocene)

Alluvial Deposits of Tributary-Stream Areas

- Qa_{1a} Alluvium one(a) of tributary streams (late to middle Holocene)
- Qa_{1b} Alluvium one(b) of tributary streams (early Holocene to late Pleistocene)
- Qa₂ Alluvium two of tributary streams (late Pleistocene)
- Qac Alluvium and colluvium, undifferentiated (Holocene to late Pleistocene)

Older Gravel Deposits of Twentymile Park

- Og₃ Gravel three of Twentymile Park (middle Pleistocene)
- Og₄ Gravel four of Twentymile Park (middle Pleistocene)
- Og₅ Gravel five of Twentymile Park (middle Pleistocene)
- Og₆ Gravel six of Twentymile Park (early Pleistocene)
- Og₇ Gravel seven of Twentymile Park (early Pleistocene to late Pliocene)
- Surficial gravel lag deposits (Pleistocene)

ALLUVIAL FAN DEPOSITS

- Qf Alluvial fan deposits (late to middle Holocene)
- Qfo Older alluvial fan deposits (early Holocene to late Pleistocene)
- Qdf Debris flow deposits (Holocene)

MASS WASTING DEPOSITS

- Qls Landslide deposits (Holocene to early(?) Pleistocene)
- Qc Colluvial deposits (Holocene)
- Qt Talus deposits (Holocene)

BEDROCK UNITS

Tertiary Volcanic Rocks

- Tli Latite-trachite intrusive dike (Miocene?)

Lewis Shale (Upper Cretaceous)

- Kls Lewis Shale, lower part of main body

Williams Fork Formation of the Mesaverde Group (Upper Cretaceous)

- Kwu Williams Fork Formation, upper part
- Kwt Twentymile Sandstone Member
- Kst Tongue of Lewis Shale
- Kwl Williams Fork Formation, lower part

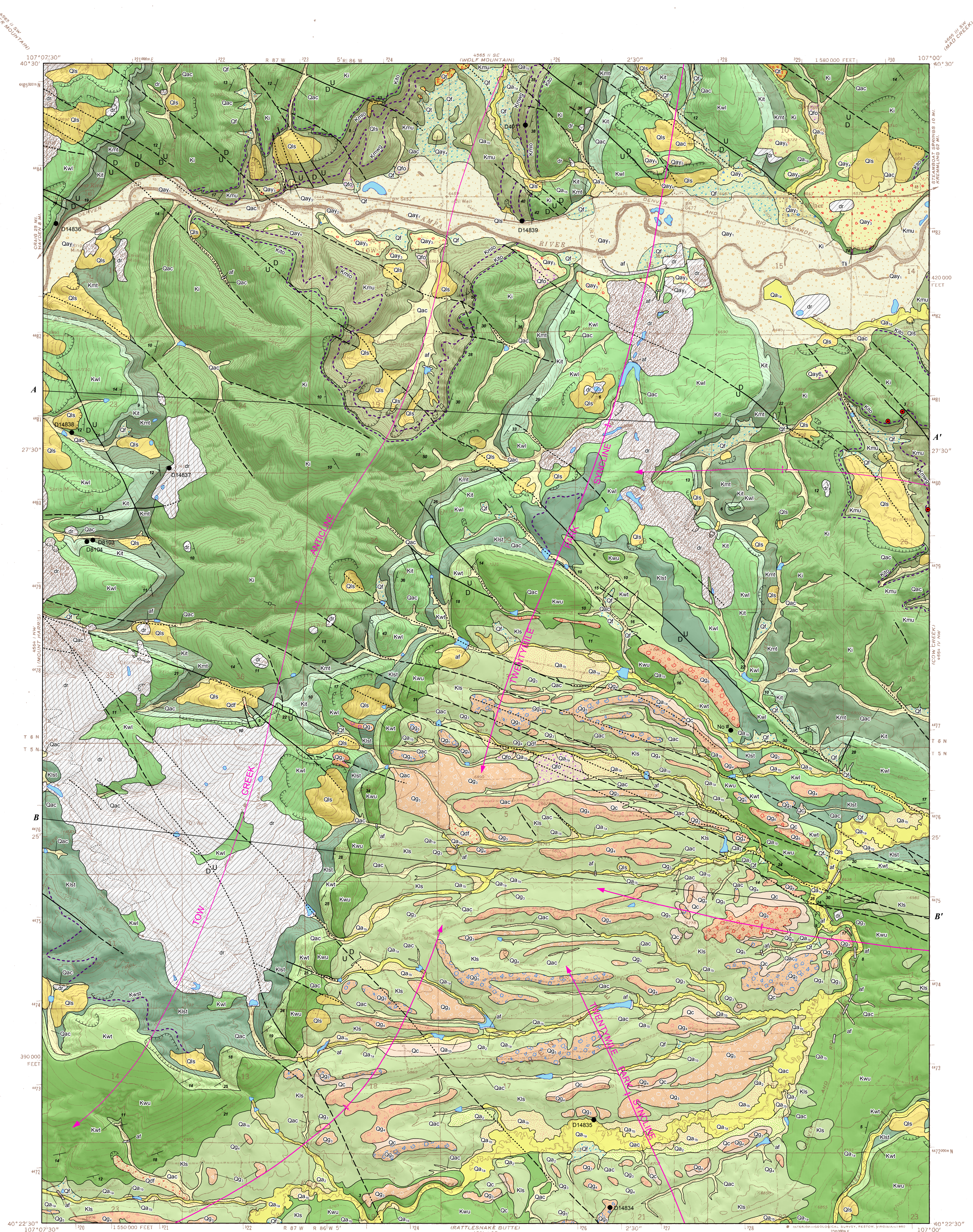
Iles Formation of the Mesaverde Group (Upper Cretaceous)

- Kit Trout Creek Sandstone Member
- Kmt Tongue of Mancos Shale
- Kl Iles Formation

Mancos Shale (Upper Cretaceous)

- Kmu Mancos Shale, upper part of main body
- Kmss Sharon Springs Member—Shown on cross section only
- Kmp Prairie Canyon Member—Shown on cross section only
- Kms Smoky Hill and Fort Hays (Niobrara) Members, undifferentiated—Shown on cross section only
- Kml Mancos Shale, lower part of main body—Shown on cross section only

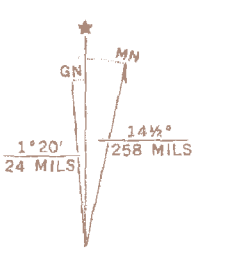
- Contact—Dashed where approximately located; dotted where concealed in strip-mined areas
- Fault—Dashed where inferred; dotted where concealed; upthrown (U) and downthrown (D) sides marked where evident
- Anticline—End arrow indicates direction of plunge
- Syncline—End arrow indicates direction of plunge
- Landslide scarp
- Sandstone body within or capping Mancos Shale—Includes Wise Gulch (Kmwg) and Loyd Sandstone (Kmls) Members of the Mancos Shale, Tow Creek Sandstone (Kito) Member of the Iles Formation, and Sub-Twentymile Sandstone (Kwst) Member in the Tongue of Lewis Shale
- Strike and dip of inclined bedding or contacts—Showing direction and angle of dip in degrees
- Strike of vertical joints—Showing direction; angle of dip is 90 degrees
- Fossil collection location—Includes USGS Mesozoic Locality Number
- Alignment of cross sections



Maped, edited, and published by the Geological Survey
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Topography by photogrammetric methods from aerial
photographs taken 1970. Field checked 1971.
Projection and 10,000-foot grid ticks: Colorado
coordinate system, north zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid ticks,
zone 13, shown in blue. 1927 North American datum.
Fine red dashed lines indicate selected fence lines.

To place on the predicted North American Datum 1983
move the projection lines 6 meters north and
52 meters east as shown by dashed corner ticks.
Map photosinspected 1973.
No major culture or drainage changes observed.



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1	2	3
4	5	6
7	8	

- 1 Hooker Mountain
- 2 Wolf Mountain
- 3 Mad Creek
- 4 Mount Harris
- 5 Cow Creek
- 6 Dunckley
- 7 Rattlesnake Butte
- 8 Oak Creek

MILNER QUADRANGLE GEOLOGIC MAP, ROUTT COUNTY, COLORADO

By David C. Noe, Alan J. Busacca, and Michael J. Zawaski
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