

LIST OF MAP UNITS

The complete description of map units and references are in the accompanying booklet

SURFICIAL DEPOSITS

HUMAN-MADE DEPOSITS

af Artificial fill and disturbed areas (latest Holocene)

ALLUVIAL DEPOSITS

Qa Alluvial deposits along tributary streams (Holocene)

Alluvial Deposits of the Gunnison River

Qag₁ Alluvium one of the Gunnison River (Holocene-late Pleistocene) –
Terrace riser separates a and b subunits

Qag₂ Alluvium two of the Gunnison River (late Pleistocene)

Qag₃ Alluvium three of the Gunnison River (late Pleistocene)

Qag₄ Alluvium four of the Gunnison River (late middle Pleistocene) –
Terrace riser separates a and b subunits

Qag₅ Alluvium five of the Gunnison River (late middle Pleistocene) –
Terrace risers separate a, b, and c subunits

Qag₆ Alluvium six of the Gunnison River (middle Pleistocene)

Qag₇ Alluvium seven of the Gunnison River (early middle Pleistocene)

Qag₈ Alluvium eight of the Gunnison River (early Pleistocene)

Qag₉ Alluvium nine of the Gunnison River (early Pleistocene) – Point location only

Alluvial Deposits of the Kannah River

Qak₁ Alluvium one of the Kannah Creek (Holocene) –
Terrace riser separates a and b subunits

Qak₂ Alluvium two of the Kannah Creek (late Pleistocene)

Qak₃ Alluvium three of the Kannah Creek (late Pleistocene) –
Terrace riser separates a and b subunits

Qak₄ Alluvium four of the Kannah Creek (late middle Pleistocene)

Qak₅ Alluvium five of the Kannah Creek (late middle Pleistocene)

Qak₆ Alluvium six of the Kannah Creek (middle Pleistocene)

Qak₇ Alluvium seven of the Kannah Creek (early middle Pleistocene)

Alluvial Deposits of East Creek

Qae Alluvium of East Creek (Holocene)

Qaeo Old alluvium of East Creek (late to late middle Pleistocene)

Mud-Flow Dominated Alluvial and Alluvial Fan Deposits

Qamf Alluvial mud-flow and mud-fan deposits (Holocene to late Pleistocene)

Qamfo Old alluvial mud-flow and mud-fan deposits (late Pleistocene)

Qgo Old gravel-rich alluvial, mud flow, and mud fan deposits (late Pleistocene)

Qf Alluvial fan deposits (Holocene)

Qfo Old alluvial fan deposits (late to middle Pleistocene)

ALLUVIAL/COLLUVIAL, AND MASS-WASTING DEPOSITS

Qc Colluvial deposits (Holocene)

Qco Old colluvial deposits (Pleistocene)

Qac Alluvial and colluvial deposits, undifferentiated (Holocene)

Qaco Old alluvial and colluvial deposits, undifferentiated (Pleistocene)

Qls Landslide deposits (Holocene to middle Pleistocene)

BEDROCK UNITS

Mancoes Shale (Upper Cretaceous)

Kms Smoky Hill and Fort Hays (Niobrara) Members, undivided

Kmj Montezuma Valley and Juana Lopez Members, undivided

Kmb Blue Hill Member

Kmg Fairport, Bridge Creek, and Graneros Members, undivided

Kd Dakota Sandstone (Upper and Lower? Cretaceous)

Kb Burro Canyon Formation (Lower Cretaceous)

Kdb Dakota Sandstone and Burro Canyon Formation — Undivided unit shown in cross section only

Morrison Formation (Upper Jurassic)

Jmb Brushy Basin Member

Jms Salt Wash Member

Jmt Tidwell Member

Jw Wanakah Formation (Middle Jurassic)

Entrada Sandstone (Middle Jurassic)

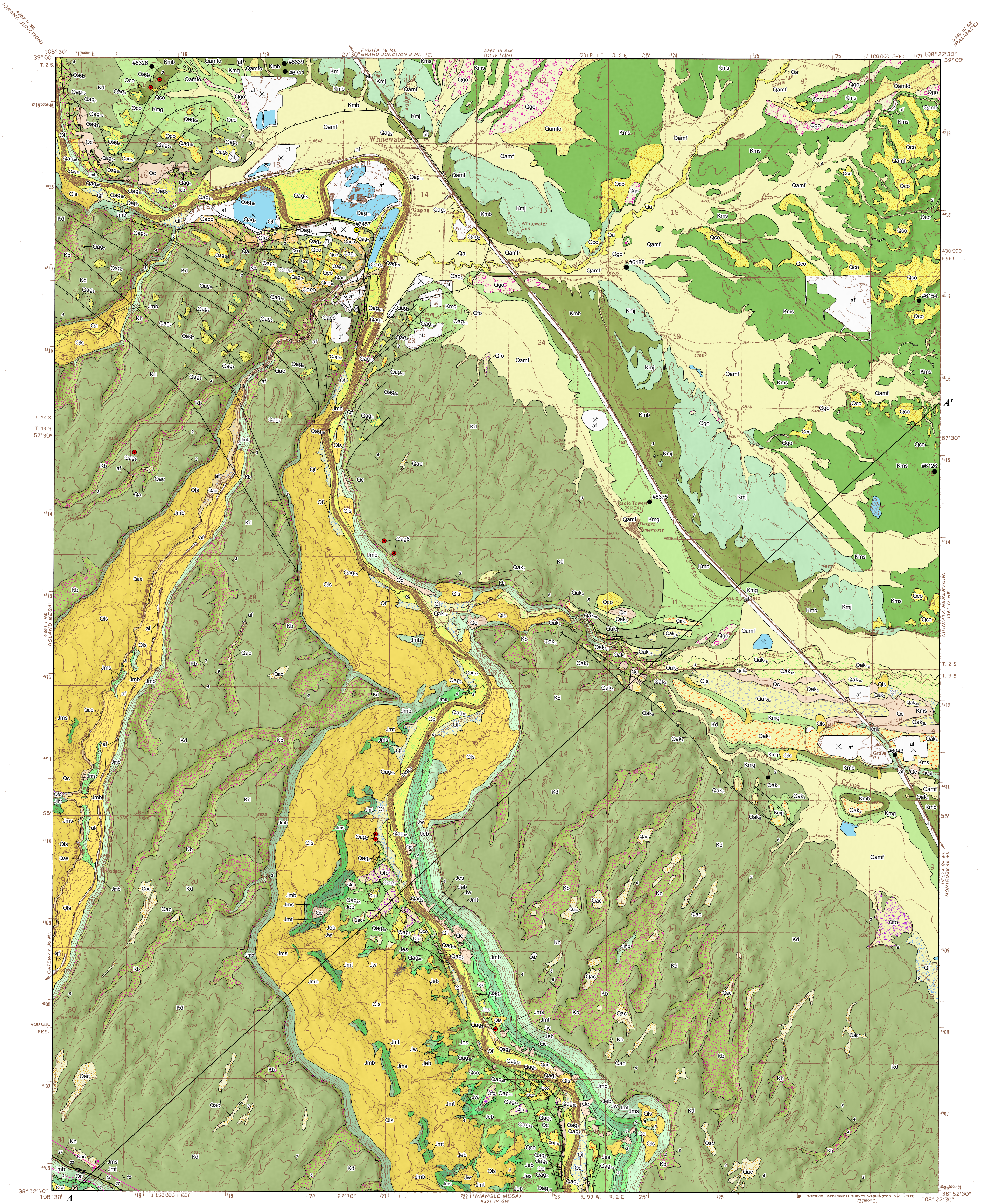
Jeb "Board Beds" (informal member)

Jes Slick Rock Member

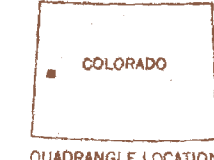
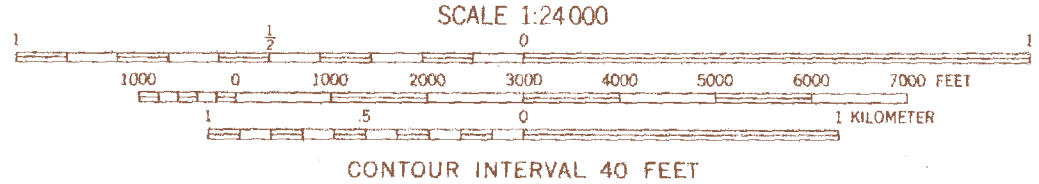
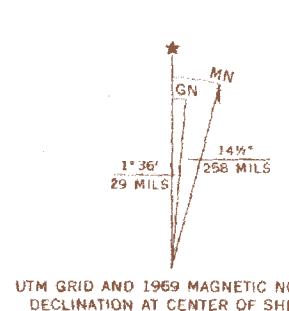
Jtr Undivided formations of the Lower Jurassic and Upper Triassic — Shown in cross section only.
Includes the Kayenta Formation, Wingate Sandstone, and Chinle Formation

Xu Undivided meta-igneous gneiss and migmatitic meta-sedimentary rocks (Proterozoic) —
Shown in cross section only.

- Contact
- Fault
- Terrace tread riser—Line denotes approximate lateral extent of terrace strath, hachure is in up-slope direction
- Monocline—Line denotes axis of synclinal bend of monocline, short arrow shows plunge direction of steeper dip
- Hinge line—dashed line marks approximate location of anticlinal hinge of Cactus Creek monocline
- Landslide scarp—Line denotes top of landslide scarp, hachure in slope direction
- Alignment of cross section
- Strike and dip of inclined bedding—
Showing direction and angle of dip
- Gunnison River terrace remnants too small for map scale—
Points are labeled with alluvial unit
- Optical Stimulated Luminescence age-dating locality—
See booklet for analysis results
- × Borrow pit
- Coal prospect
- Fossil location
- × Gravel quarry, abandoned
- × Gravel quarry, active
- * Mud cave
- ⊕ Sinkhole
- × Stone quarry, inactive



Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography by photogrammetric methods from aerial
photographs taken 1968. Field checked 1969
Polyconic projection. 1927 North American datum
10,000-foot grid based on Colorado coordinate system,
central zone
1,000-meter Universal Transverse Mercator grid ticks,
zone 12, shown in blue
Fine red dashed lines indicate selected fence lines



1	2	3
4	5	6
7	8	

ADJOINING 7.5 QUADRANGLES

1 Grand Junction
2 Cimarron
3 Palisade
4 Inland Mesa
5 Juniata Reservoir
6 Javelina Canyon
7 Triangle Mesa
8 Dominguez

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GEOLOGIC MAP OF THE WHITEWATER QUADRANGLE, MESA COUNTY, COLORADO

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