

LIST OF MAP UNITS

The complete description of map units and references are in Colorado Geological Survey Open-File Report 96-1

SURFICIAL DEPOSITS

HUMAN-MADE DEPOSITS

af Artificial fill (latest Holocene)

ALLUVIAL DEPOSITS

Qa Stream-channel, flood-plain, and low terrace deposits (Holocene and late Pleistocene)  
Qaw Sheetwash deposits (Holocene and late Pleistocene)  
Qty Younger terrace alluvium (late Pleistocene)  
Qtm Intermediate terrace alluvium (late Pleistocene)  
Qto Older terrace alluvium (middle Pleistocene)  
Qtr Oldest terrace alluvium (middle Pleistocene)  
QTg High-level gravel (early Pleistocene or late Tertiary)

ALLUVIAL AND COLLUVIAL DEPOSITS

Qlsr Recent landslide deposits (latest Holocene)  
Qc Colluvium (Holocene and late Pleistocene)  
Qt Talus (Holocene and late Pleistocene)  
Qbf Boulder-field deposits (Holocene and Pleistocene)  
Qls Landslide deposits (Holocene and Pleistocene)  
Qco Older colluvium (Pleistocene)  
Qlsd Older landslide deposits (Pleistocene and late Tertiary?)

COLLUVIAL DEPOSITS

Qdly Younger debris-flow deposits (Holocene)  
Qac Alluvium and colluvium, undivided (Holocene)  
Qdfr Intermediate debris-flow deposits (Holocene and late Pleistocene)  
Qadw Older alluvium and colluvium, undivided (Pleistocene)  
Qdfo Old debris-flow deposits (Pleistocene)  
QTbg High-level basaltic gravel (early Pleistocene or late Tertiary)

EOLIAN DEPOSITS

Qlo Loess (late and middle? Pleistocene)

UNDIFFERENTIATED DEPOSITS

Q Undifferentiated surficial deposits—Shown on cross section only

BEDROCK

Tb Basalt (Miocene)  
Ts Interflow sedimentary deposits (Miocene)  
Tw Wasatch Formation (Eocene and Paleocene)  
MESAVERDE GROUP (Upper Cretaceous)  
Kmvu Upper Williams Fork Formation  
Kmvb Bowie Shale Member of Lower Williams Fork Formation  
Kmvr Rollins Sandstone Member of Lower Williams Fork Formation  
Kmt Mancos Tongue of Iles Formation  
Kmvz Cozette Sandstone Member of Iles Formation  
Kmu Upper Part of Mancos Shale (Upper Cretaceous)  
Kml Lower Part of Mancos Shale (Upper Cretaceous)  
Km Mancos Shale, undivided, shown only on cross section (Upper Cretaceous)  
Kd Dakota Sandstone (Lower Cretaceous)  
Jm Morrison Formation (Upper Jurassic)  
Je Entrada Sandstone (Upper Jurassic)  
Tps Chinle and State Bridge Formation, undivided (Triassic and Permian)  
PPm Maroon Formation (Permian and Pennsylvanian)  
Pe Eagle Valley Formation (Middle Pennsylvanian)  
Pee Eagle Valley Evaporite (Middle Pennsylvanian)

Contact—Dashed where approximately located  
Fault—Long dashes where approximately located; short dashes where inferred; queried where uncertain; dotted where concealed; ball on down-thrown side; includes faults related to flowage of evaporite deposits  
Anticline—Showing axial trace; dashed where approximately located; dotted where concealed  
Anticline—Showing approximate axial trace of an anticline with late Pleistocene and Holocene movement probably due to evaporite diapirism. Not shown where it coincides with axis of Cattle Creek Anticline.  
Syncline—Showing axial trace; dashed where approximately located; dotted where concealed  
Syncline—Showing approximate trace of synclinal sag related to flowage of evaporite deposits  
Monocline—Showing approximate trace of vertical plane placed about equidistant from antinodal and synclinal fold axes; arrow indicates direction of dip; dashed where approximately located; dotted where concealed  
Lower axis of monocline and margin of evaporite collapse area—Dashed where approximately located; dotted where concealed; showing shorter arrow on steeper beds; tick marks on side of line that has collapsed (see Kirkham and others, 2002, in Geological Society of America Special Paper 366 for description of collapse area)  
Strike and dip of bedding—Angle of dip shown in degrees; most attitudes in basalt and terrace deposits were measured on top of the flow or terrace surface  
Inclined bedding—Showing approximate attitude of surface on terraces and basalt flows as determined from stereoscopic models set on a Kern PG-2 plotter; dip between 0 and 30°  
Vertical bedding  
Overturned bedding  
Inclined bedding—Top of beds known from local features  
Coal adit  
Gravel pit  
Prospect pit  
Locality of rock sample—Radiometrically dated using the <sup>40</sup>Ar/<sup>39</sup>Ar method  
Alignment of cross section  
Oil or gas exploration test hole—Plugged and abandoned; operator, well name and total depth shown  
Sackung-like feature (ridge-top trench caused by rock creep)  
Sinkhole—Created by hydrocompaction or settlement of low density surficial deposits, by piping of surficial deposits into dissolution caverns within underlying Eagle Valley Evaporite, or by subsidence over underground coal mines; includes dissolution caverns in outcrops of Eagle Valley Evaporite  
Fractional unit—Indicates a thin veneer of the deposit in the numerator overlies the deposit shown in the denominator

Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1960. Field checked 1961.

Polyconic projection: 1927 North American Datum

10,000 foot grid based on Colorado coordinate system, central zone

1000-meter Universal Transverse Mercator grid ticks, zone 13, shown in blue

Fine red dashed lines indicate selected fence lines

Where omitted, land lines have not been established

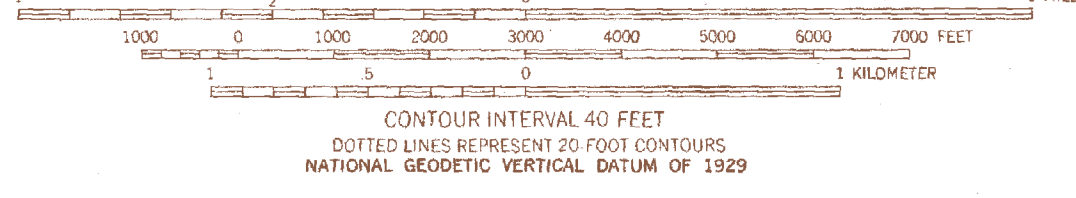
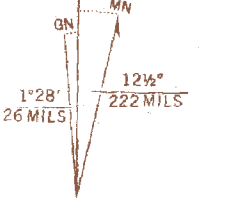
To place on the predicted North American Datum 1983

move the projection lines 5 meters north and

53 meters east as shown by dashed corner ticks

There may be private inholdings within the boundaries

of the National or State reservations shown on this map



1	2	3
4	5	6
7	8	9

ADJOINING 7 1/2' QUADRANGLES

1 Storm King Mountain  
2 Glenwood Springs  
3 Shoshone  
4 Center Mountain  
5 Carbonate  
6 Quaker Mine  
7 Stony Ridge  
8 Mount Sopris

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GEOLOGIC MAP OF THE CATTLE CREEK QUADRANGLE, GARFIELD COUNTY, COLORADO

(A slightly modified color digital update of Colorado Geological Survey Open-File Report 96-1)

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