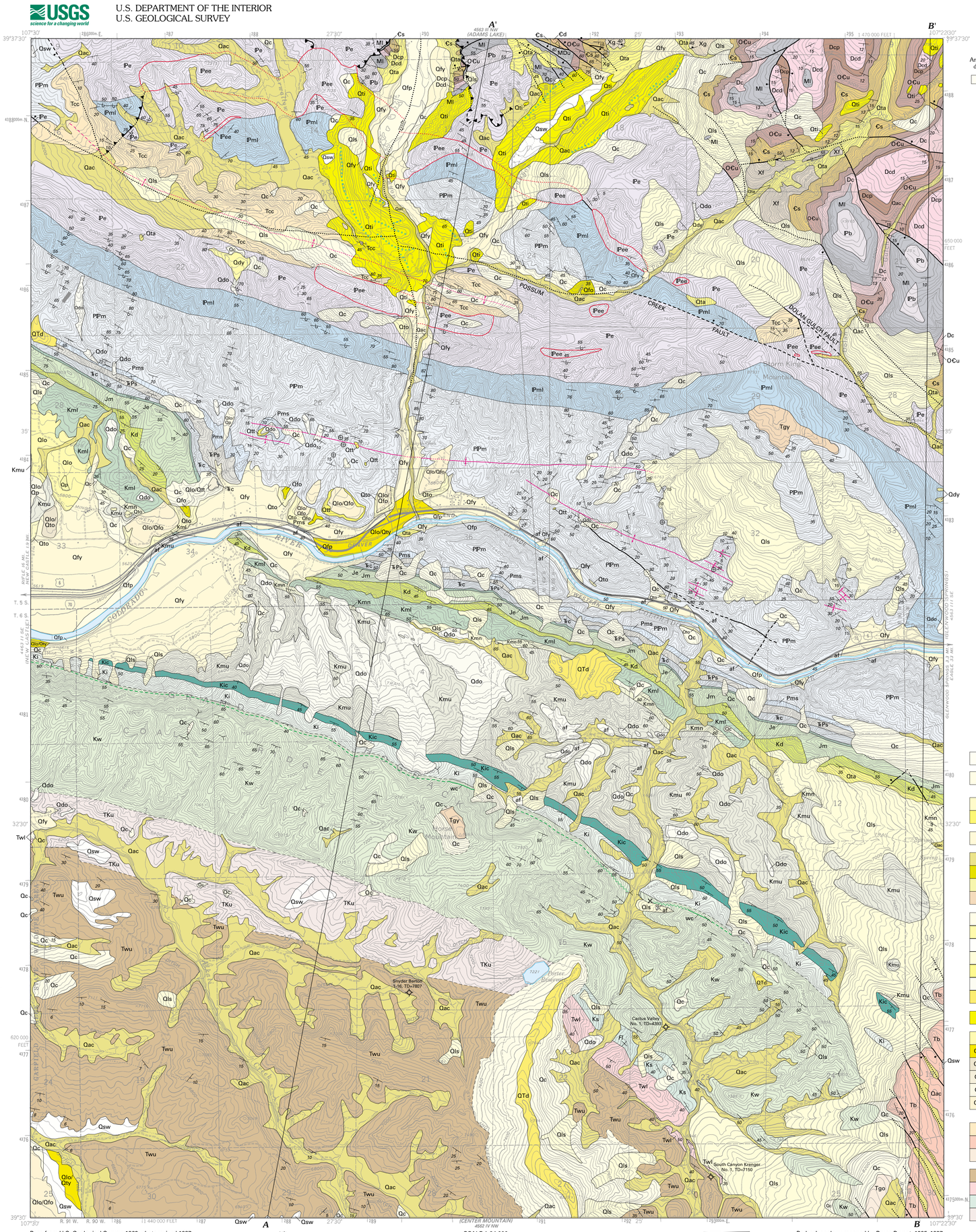
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

MISCELLANEOUS FIELD STUDIES MAP MF–2389
Version 1.0
Pamphlet accompanies map



Base from U.S. Geological Survey, 1962; photorevised 1987.
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 13.

TRUE NORTH
MAGNETIC NORTH
12½°
APPROXIMATE MEAN DECLINATION, 1987

SCALE 1:24 000
1 ½ 0 1 MILE
1 .5 0 1 KILOMETER

CONTOUR INTERVAL 40 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

COLORADO
QUADRANGLE LOCATION

Bedrock geology mapped by Bruce Bryant, 1995–1997.
Surficial geology mapped by Ralph R. Shroba, 1992–1993.
Digitized by Anne E. Harding, 1997–1998.
GIS data compilation by Kyle E. Murray, 2000–2002.
Editing and digital cartography by Alessandro J. Donatich, Central Publications Group.
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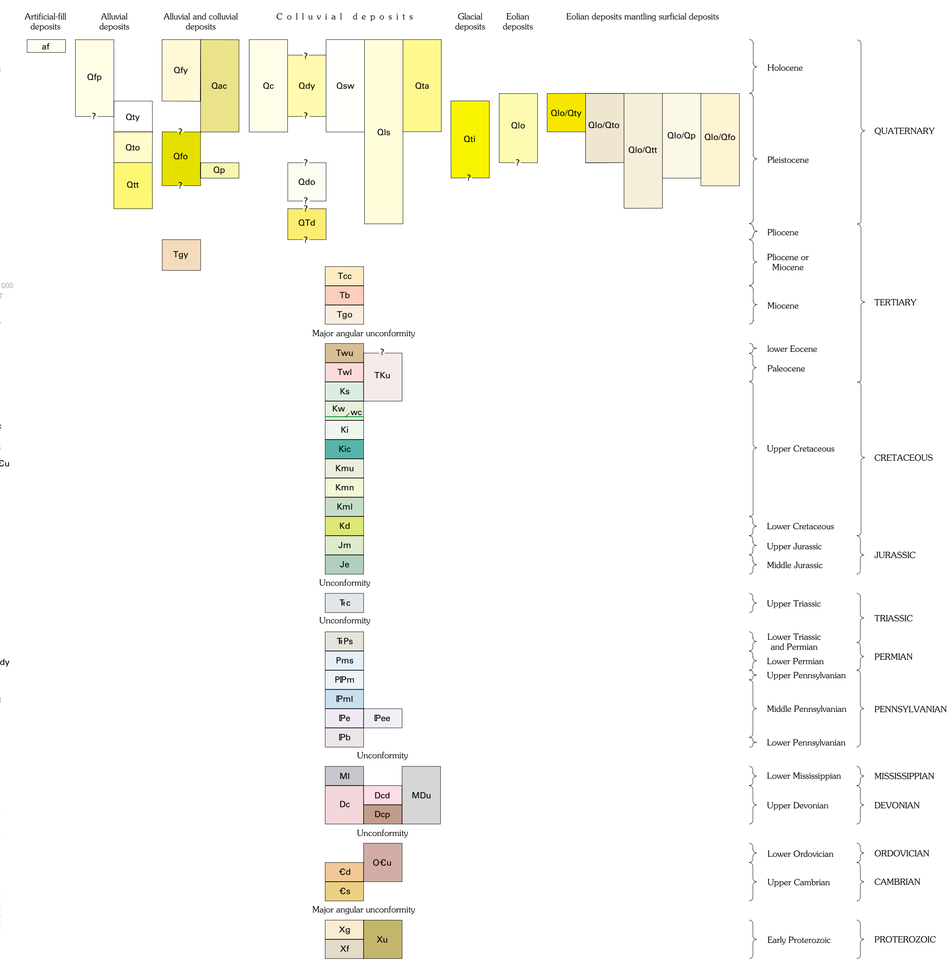
CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

SURFICIAL UNITS

af — **Artificial-fill deposits**
Artificial fill (latest Holocene)

Qfp — **Alluvial deposits**
Flood-plain and stream-channel deposits (Holocene and late Pleistocene?)

Qty — **Younger terrace alluvium (late Pleistocene)**—Not mapped separately

Qto — **Older terrace alluvium (late middle Pleistocene)**

Qtt — **Oldest terrace alluvium (middle and early Pleistocene)**

Qfy — **Alluvial and colluvial deposits**
Younger fan alluvium and debris-flow deposits (Holocene and latest Pleistocene)

Qac — **Alluvium and colluvium, undivided (Holocene and late Pleistocene)**

Qfo — **Older fan alluvium and debris-flow deposits (late? and middle? Pleistocene)**

Qp — **Pediment deposit (middle Pleistocene)**

Tgy — **Younger Neogene gravel (Pliocene or Miocene)**

Qc — **Colluvial deposits**
Colluvium, undivided (Holocene and late Pleistocene)

Qdy — **Younger debris-flow deposits (Holocene? and late? Pleistocene)**

Qsw — **Sheetwash deposits (Holocene and late Pleistocene)**

Qls — **Landslide deposits (Holocene and Pleistocene?)**

Qta — **Talus deposits (Holocene and late Pleistocene)**

Qdo — **Older debris-flow deposits (middle? and early? Pleistocene)**

QTd — **Oldest debris-flow deposits (early Pleistocene? or Pliocene?)**

Qti — **Glacial deposits**
Till (late and middle? Pleistocene)

Qlo — **Eolian deposits**
Loess (late and middle? Pleistocene)

Qlo/Qty — **Loess on younger terrace alluvium (Pleistocene)**

Qlo/Qto — **Loess on older terrace alluvium (Pleistocene)**

Qlo/Qtt — **Loess on oldest terrace alluvium (Pleistocene)**

Qlo/Qp — **Loess on pediment deposits (Pleistocene)**

Qlo/Qfo — **Loess on older fan alluvium and debris-flow deposits (Pleistocene)**

BEDROCK UNITS

Tcc — **Conglomerate of Canyon Creek (Pliocene or Miocene)**

Tb — **Basalt and trachybasalt (Miocene)**

Tgo — **Older gravel (Miocene)**

Twu — **Wasatch Formation (lower Eocene and Paleocene)**
Upper member (lower Eocene and Paleocene)

Twl — **Lower member (Paleocene)**

Ks — **Sandstone, siltstone, claystone, and conglomerate (Upper Cretaceous)**

TKu — **Undivided unit (Paleocene? to Upper Cretaceous)**

Kw — **Mesaverde Group (Upper Cretaceous)**
Williams Fork Formation

wc — **Wheeler coal bed**

Ki — **Iles Formation**
Main member

Kic — **Cozzette and Corcoran Sandstone Members**

Kmu — **Mancos Shale (Upper Cretaceous)**
Upper member

Kmn — **Niobrara Member**

Kml — **Lower member**

Kd — **Dakota Sandstone (Lower Cretaceous)**

Jm — **Morrison Formation (Upper Jurassic)**

Je — **Entrada Sandstone (Middle Jurassic)**

Ꞧc — **Chinle Formation (Upper Triassic)**

ꞦPs — **State Bridge Formation (Lower Triassic and Permian)**

Pms — **Maroon Formation (Lower Permian to Middle Pennsylvanian)**
Schoolhouse Member (Lower Permian)

IIPm — **Main body (Lower Permian to Middle Pennsylvanian)**

IPml — **Lower member (Middle Pennsylvanian)**

IPe — **Eagle Valley Formation (Middle Pennsylvanian)**

IPee — **Eagle Valley Evaporite (Middle Pennsylvanian)**

IPb — **Belden Formation (Middle and Lower Pennsylvanian)**

Ml — **Leadville Limestone (Lower Mississippian)**

Dc — **Chaffee Group, undivided (Upper Devonian)**
Dyer Dolomite

Dcd — **Parting Formation**

Dcp — **Leadville Limestone and Chaffee Group, undivided (Lower Mississippian and Upper Devonian)**

MDu — **Manitou Dolomite and Dotsero Formation, undivided (Lower Ordovician and Upper Cambrian)**

O€u — **Manitou Dolomite (Lower Ordovician)**

€d — **Dotsero Formation (Upper Cambrian)**

€s — **Sawatch Quartzite (Upper Cambrian)**

Xg — **Granodiorite gneiss (Early Proterozoic)**

Xf — **Felsic gneiss (Early Proterozoic)**

Xu — **Proterozoic rocks, undivided (Early Proterozoic)**—Shown only in cross sections

Contact—Dashed where approximately located

Wheeler coal bed—Dashed where approximately located

Actively burning or recently burned parts (clinker) of Wheeler coal zone

Intrusive contact, may be locally stratigraphic—Dotted where concealed

Normal fault—Dashed where approximately located; dotted where concealed. Bar and ball on downthrown side

Thrust fault—Dashed where approximately located; dotted where concealed. Teeth on upper plate

Strike-slip fault—Concealed

Anticline—Showing trace of axial plane. Dotted where concealed

Syncline—Showing trace of axial plane. Dashed where approximately located; dotted where concealed

Moraine crest—Crest of prominent lateral and terminal moraines in unit **Qti**

Inferred direction of evaporite movement—Shown in cross section *A–A'* only

Strike and dip of bedding

40 **Inclined**

Vertical

Horizontal

40 **Top of bed uncertain**

65 **Overturned**

46 **Strike and dip of inclined foliation**

Strike and dip of foliation where layering is parallel to foliation

55 **Inclined**

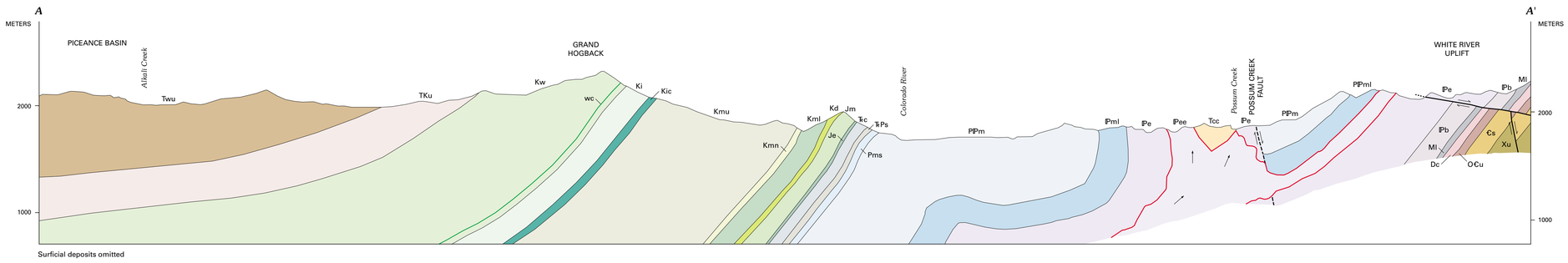
Vertical

Gas exploration well, drilled and abandoned—Name and total depth in feet

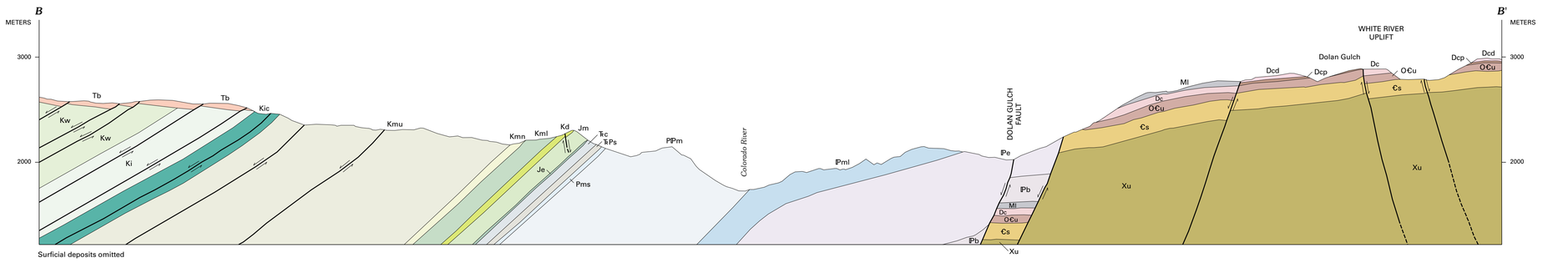
Adit

Prospect pit

Fi **Fossil locality**



Surficial deposits omitted



Surficial deposits omitted

GEOLOGIC MAP OF THE STORM KING MOUNTAIN QUADRANGLE, GARFIELD COUNTY, COLORADO

By
Bruce Bryant, Ralph R. Shroba, Anne E. Harding, and Kyle E. Murray
2002

Any use of trade names in this publication is for descriptive purposes only and does not imply endorsement by the U.S. Geological Survey

This map was produced on request, directly from digital files, on an electronic plotter

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