

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

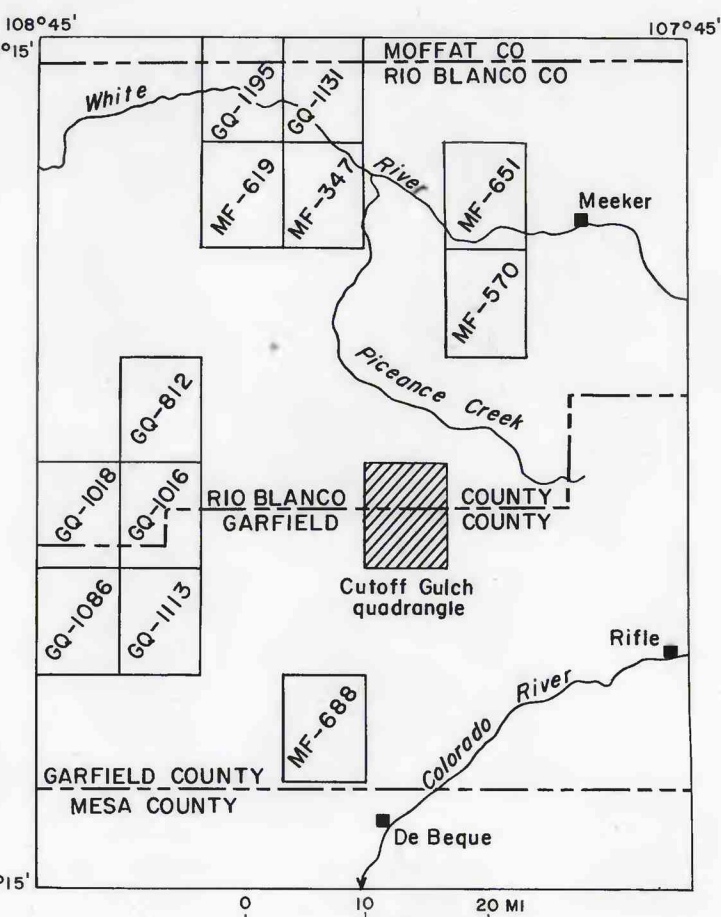
George W. Pipingas MISCELLANEOUS FIELD STUDIES
MAP MF-691
SHEET 1 OF 2

CORRELATION OF MAP UNITS		
Qal	Qt	QUATERNARY
Tud		
Tgb		
Tuc		
Tgs		
Tub		TERTIARY
Tgc		
Tua		
M	Tgp	
Tgl		
Tw		PALEOCENE

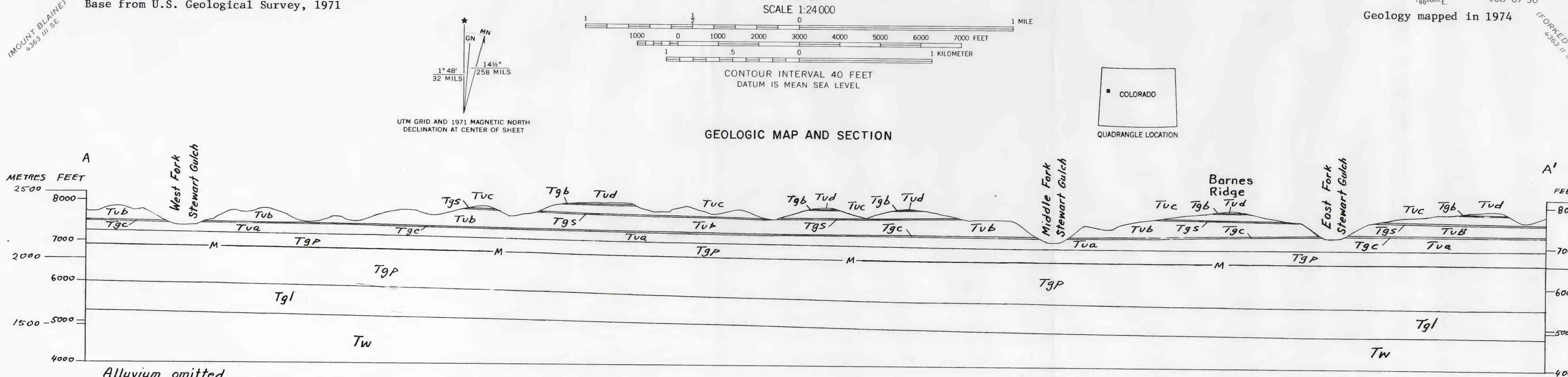
DESCRIPTION OF MAP UNITS

- Qal ALLUVIUM (HOLOCENE)—Unconsolidated locally derived material confined to stream valleys; also includes some slope wash deposits along base of steep valley walls, and alluvial fans at mouths of branch streams
- Qt TALUS DEPOSITS (HOLOCENE)
- UINIA FORMATION (EOCENE)—Mostly brown and gray sandstone and siltstone; also contains several beds of gray marlstone. Sandstone beds range from very fine grained to very coarse grained; some are clean quartzose; others contain abundant clay, rock grains, biotite, and other minerals. Sandstones also locally contain abundant carbonized plant fragments. Siltstone beds are variably marly and locally contain abundant carbon trash. Marlstone beds are variably silty
- Tud Unit D—Contains minor claystone, mudstone, and calcarenite. Resistant sandstone and siltstone beds form cliffs and benches. Maximum remaining thickness about 400 ft (120 m)
- Tuc Unit C—Dominantly siltstone near the southern margin of the quadrangle. Locally contains minor shale and claystone. Resistant sandstone and siltstone beds form cliffs and benches. Thickness ranges from about 350 ft (110 m) in southwestern part of quadrangle to about 80 ft (24 m) in southeastern part
- Tub Unit B—Some sandstone beds have channeling contacts with underlying rocks. Lenticular marlstone contains some lean oil shale near West Fork Falls. Resistant sandstone and siltstone beds form prominent steep cliffs especially in the northern and central parts of the quadrangle. Thickness ranges from about 400 ft (122 m) near the center of the quadrangle to about 80 ft (24 m) near West Fork Falls
- Tua Unit A—Mostly light-brown siltstone in southeastern part of quadrangle. Maximum thickness not known, but may be as much as 550 ft (170 m) thick along Middle Fork of Stewart Gulch at north edge of quadrangle. Maximum exposed thickness about 250 ft (76 m). Minimum thickness about 50 ft (15 m) near West Fork Falls
- GREEN RIVER FORMATION (EOCENE)
- Tgb Marlstone at Barnes Ridge—Marlstone, fresh surface light gray to light brown; weathers light gray. Laminar, even bedded to nonbedded. Mostly dolomitic, variably silty. Locally contains beds of marly siltstone, very fine grained sandstone, and thin beds of lean oil shale. Relatively nonresistant. Locally absent owing to erosion in part of sec. 2, T. 5 S., R. 97 W. Unit presumably merges southward with the main body of the Parachute Creek Member of the Green River Formation; it is regarded as a tongue of the Green River. Thickness ranges from about 50 ft (15 m) to about 5 ft (1.5 m)
- Tsg Marlstone at Stewart Gulch—Marlstone, fresh surface gray to brown; weathers light gray. Laminar, even bedded to nonbedded. Mostly dolomitic, variably silty. Contains much marly siltstone and some fine-grained sandstone. In northern part of quadrangle locally contains some greenish-gray silty dolomitic shale. Contains some thin beds of lean oil shale in southern part of quadrangle. Relatively nonresistant. Unit probably merges southward with the main body of the Parachute Creek Member; it is regarded as a tongue of the Green River. Thickness ranges from about 55 ft (17 m) to less than 5 ft (1.5 m); thinnest at north boundary of quadrangle
- Tgc Coughs Creek Tongue—Light-gray marlstone; also contains some siltstone and very fine grained sandstone. A persistent siltstone bed is present in middle part of unit in northern part of quadrangle. Locally contains thin beds of lean oil shale and some very thin layers of rich blue-gray-weathering oil shale. Relatively nonresistant. Identification of Coughs Creek Tongue in the drainage of West Fork Parachute Creek is questionable; it is tentatively so identified pending further mapping and stratigraphic studies to the east. Maximum thickness about 45 ft (14 m); minimum thickness locally less than 1 ft (0.30 m) at northern boundary of quadrangle on west side of Middle Fork of Stewart Gulch
- TGP Parachute Creek Member—Mostly gray-weathering marlstone containing several thick, rich oil-shale zones; also contains several very thin tuff beds and minor sandstone and siltstone. Resistant, forms steep cliffs in canyon below West Fork Falls. A marly siltstone bed about 35 ft (11 m) thick lies about 25 ft (8 m) below top of member in exposures near West Fork Falls; it is probably a tongue of Uinia Formation. Thickness ranges from about 1,200 ft (370 m) to about 1,600 ft (490 m); base not exposed
- M Top of Mahogany oil-shale zone—Exposed only in vicinity of West Fork Falls
- Tgl Lower part—Shown in section only. Comprises the Garden Gulch Member and an underlying thin basal sandstone unit. Garden Gulch Member, about 640 ft (200 m) thick, is mostly dark-brown to gray clay shale and some dolomitic shale and marlstone; minor siltstone and sandstone. Basal sandstone unit, about 50 ft (15 m) thick, is mostly sandstone and siltstone, with some interbedded shale; it may represent a basal tongue of the Anvil Points Member of the Green River Formation to the northeast or the Douglas Creek Member of the Green River Formation to the southwest
- Tw WASATCH FORMATION (EOCENE AND PALEOCENE)—Shown in section only. Mostly varicolored claystone and shale, brown and gray sandstone and siltstone, some carbonaceous shale and very thin coal beds, and sparse limestone

- CONTACT—Approximately located where obscured by soil cover or vegetation
- FAULT—Dotted where concealed. Bar and ball on downthrown side
- 7300—STRUCTURE CONTOURS—Drawn on top of Mahogany zone. Approximately located. Contour interval 100 ft (30.5 m)
- 5 DRILL HOLE—Approximately located



Index to recently published U.S. Geological Survey geologic maps in the Piceance Creek basin area



PRELIMINARY GEOLOGIC MAP OF THE CUTOFF GULCH QUADRANGLE, RIO BLANCO AND GARFIELD COUNTIES, COLORADO

By
W. J. Hall, Jr.
1975