

[Detailed descriptions of the surficial deposits of the South Mamm Peak quadrangle are included in a report on the Quaternary geology of the Grand and Battlement Mesas, Colorado, by Yeend (1969)]  
(1 ft = 0.3048 m; 1 m = 3.280 ft)

Qass Alluvial and eolian sand and silt deposits (Holocene)--Yellowish-brown, fine sand and silt and minor gray clay; silt and sand are generally well sorted. Composed mostly of quartz derived from nearby sedimentary rocks. Mostly forms valley fill in tributaries of Plateau and Buzzard Creeks

Qes	<p>Earthflow and soil-creep deposits (Holocene)-</p> <p>-Poorly sorted boulder, cobble, and pebble gravel in a matrix of greenish-gray sandy silt. Contains some basalt boulders derived from older till, landslide and colluvial deposits, and angular fragments of sandstone, siltstone, and claystone derived from the Wasatch and Green River Formations. Mostly restricted to areas underlain by claystone units in the Wasatch Formation</p>
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Qs1 Slump blocks and solifluction deposits (Holocene and Pleistocene) - Basalt blocks and boulders and unconsolidated material moved downslope by gravity. Slump blocks form ridges of basalt rubble mantling much of Battlement Mesa. Unbroken blocks are as much as 1,000-2,000 ft long. Most deposits are of Pleistocene age but some movement continues to present time

Qgt Till--Abundant angular to subangular pebbles, cobbles, and boulders in a matrix of grayish-brown sand, silt, and clay. Ninety percent of the pebbles, cobbles, and boulders are basalt. A few basalt boulders and cobbles are striated, but many are soled and faceted. Large basalt fragments in the till show little weathering. Mostly forms till plain along Buzzard and Plateau Creeks

Qoa Alluvial fan-gravel deposits--Pebble, cobble, and boulder gravel; nearly equal amounts of basalt and sedimentary rock fragments derived from local sandstone, claystone, and marlstone. Matrix is greenish-gray, silty sand. Maximum thickness about 220 ft

Tb Basalt (Miocene)--Erosional remnant of basalt flow that caps Grand and Battlement Mesas. Occurs on summit of South Mamm Peak

Tu      Winta Formation (Eocene)--Light-brown and gray, very fine grained to medium-grained sandstone and light-gray marlstone and siltstone; red claystone in upper part of unit on Bald Mountain; contains fossilized pelecypods, gastropods, ostracodes, and fragments of fossil vertebrates. Maximum thickness of exposed rocks about 1,000 ft.

Mahogany oil-shale bed--Outcrop of  
 richest oil-shale bed is base of  
 Parachute Creek Member except near west  
 edge of quadrangle where it is as much as  
 80 ft above the base. Thickness 2-4 ft

**Tw**      **Shire Member of Wasatch Formation (Eocene)--**  
          Variegated purple, lavender, red, and  
          gray shale and claystone; some lenticular  
          beds of fine- to coarse-grained  
          sandstone; and some thin limestone  
          beds. Exposed thickness about 1,000 ft;  
          however, based on drill-hole and outcrop  
          information, the Shire Member may exceed  
          3,500 ft in thickness (Johnson and  
          others, 1979). Mostly covered by  
          Quaternary units

 Gas well-Number keyed to table 1

4 Dry hole--Oil and gas test well. Number keyed to table 1

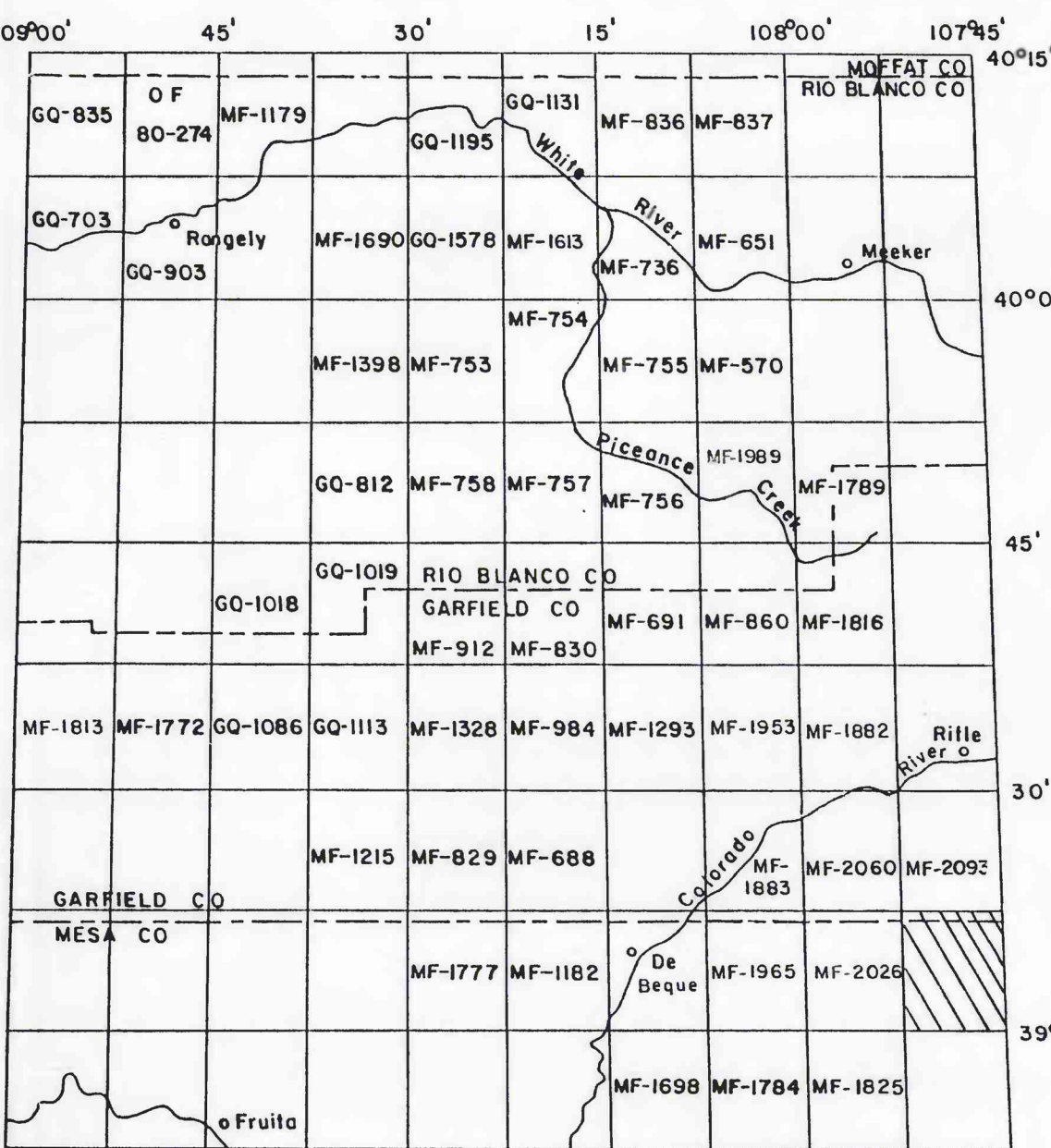
Structure contour--Drawn on top of Wasatch Formation; dashed where removed by erosion. Contour interval 100 ft

Johnson, R.C., Granica, M.P., and Dessenberger, N.C., 1979, Cross section C-C of Upper Cretaceous and Lower Tertiary rocks, southern Piceance Creek basin, Colorado: U.S. Geological Survey Miscellaneous Field Studies Map MF-1130-C.

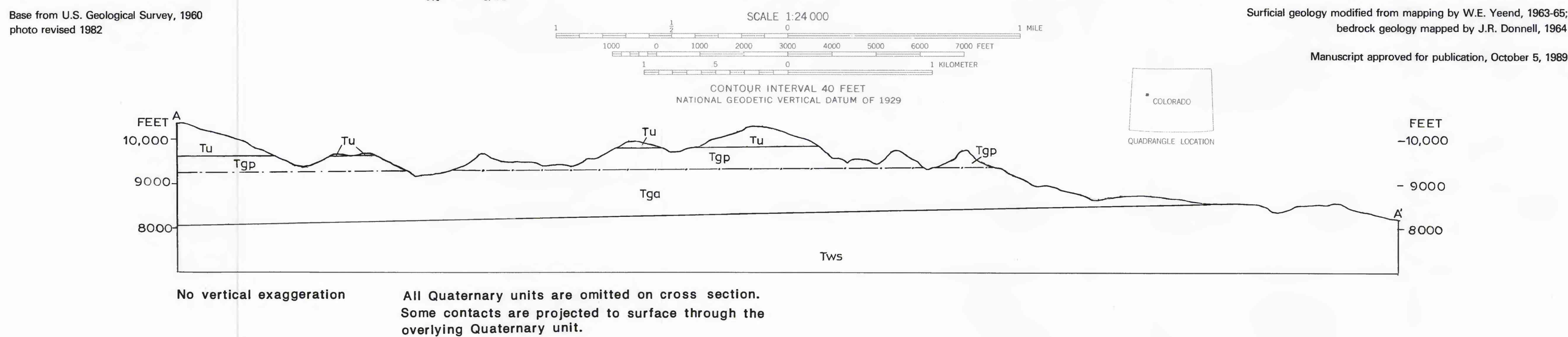
Yeend, W.E., 1969, Quaternary geology of the Grand and Battlement Mesas area, Colorado: U.S. Geological Survey Professional Paper 617, 50 p.

[All drill holes are oil and gas exploration wells]

Drill-hole no. (on map)	Section	Company and name	Total depth
			Feet
		T. 8 S., R. 94 W.	
1	25	Mobil Oil Co., 1-25 Brush Creek	7,329
		T. 9 S., R. 93 W.	
2	15	Union Oil Co., 1 Van Den Heuvel	7,210
3	20	Union Oil Co., 1 Gunderson	8,195
		T. 9 S., R. 94 W.	
4	11	Terra Resources, Inc., 1-11 Brush Creek McDaniel	8,570
5	26	Kensil Oil and Gas Inc., 26-32 Starnier	7,816



INDEX MAP SHOWING LOCATION OF THIS QUADRANGLE (PATTERNED) AND OTHER PUBLISHED U.S. GEOLOGICAL SURVEY 7½-MINUTE GEOLOGIC MAPS IN THE PICEANCE CREEK BASIN AREA, NORTHWESTERN COLORADO. PUBLISHED USGS MAPS INCLUDE GEOLOGIC QUADRANGLE MAPS (GQ), MISCELLANEOUS FIELD STUDIES MAPS (MF), AND OPEN-FILE REPORTS (OF).



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