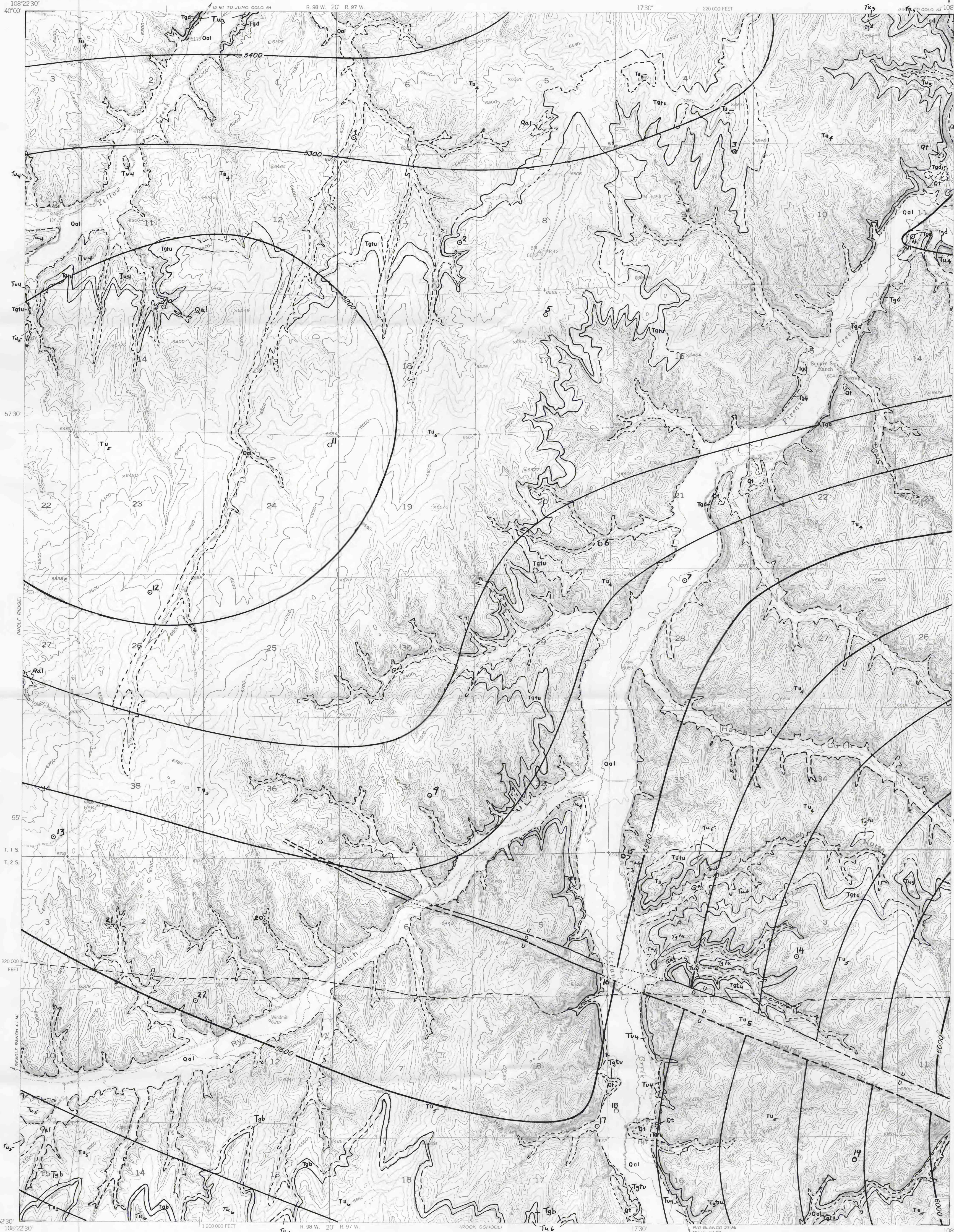


DEPARTMENT OF THE INTERIOR  
UNITED STATES GEOLOGICAL SURVEY



CORRELATION OF MAP UNITS			
Qal	Holocene	QUATERNARY	
Qt	Pleistocene		
Tu <sub>6</sub>			
Tgb			
Tu <sub>5</sub>	Eocene	TERTIARY	
Tgtu			
Tu <sub>4</sub>			
Tgd			
Tu <sub>3</sub>			

DESCRIPTION OF MAP UNITS

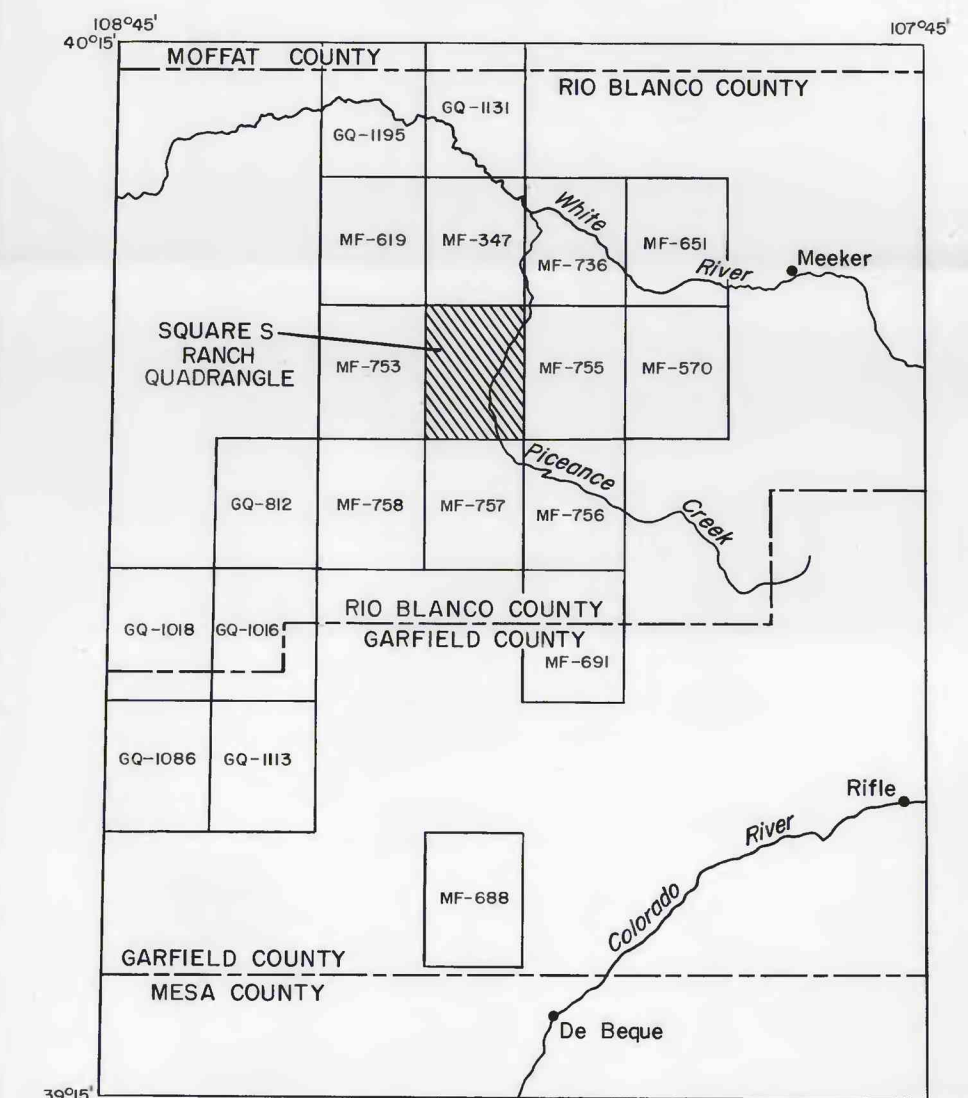
- Qal** ALLUVIUM (HOLOCENE)--Silt, sand, and gravel of flood plains and alluvial fans in the larger valleys. The flood-plain deposits are mostly gray, brown, and buff silt and sand. The alluvial fan deposits consist of angular boulders and pebbles of sandstone and marlstone mixed with silt and sand derived from nearby hilly terrain. Thickness 0-50 ft (0-15 m)
- Qt** TERRACE DEPOSITS (PLEISTOCENE)--Remnants of older stream deposits on terraces 20 to 160 ft (6-49 m) above present level of Piceance Creek. Deposits contain numerous smoothly rounded pebbles and boulders of chert, limestone, quartzite, arkose, and sandstone derived from Paleozoic and Mesozoic rocks east of Piceance Creek basin. Thickness 0-25 ft (0-8 m)
- Tu<sub>6</sub>** UINTA FORMATION (EOCENE)  
Unit 6--Gray and buff siltstone and sandstone. Generally forms smooth upland surface. Thickness 80 ft (24 m)
- Tu<sub>5</sub>** Unit 5--Dominantly brown- and buff-weathering sandstone with minor siltstone in the eastern part of the quadrangle. The sequence contains increasing proportions of gray and greenish-gray siltstone interbedded with ledge-forming sandstone in the western part of the quadrangle. Thickness 280-500 ft (85-153 m)
- Tu<sub>4</sub>** Unit 4--Dominantly buff and brown cliff-forming sandstone with minor siltstone and thin lenticular marlstone east of Piceance Creek. Maximum thickness 350 ft (107 m). The unit thins southwestward across the quadrangle and contains increasing proportions of silty marlstone and siltstone. In the northernmost part of the quadrangle the upper 40 ft (12 m) includes a thin-bedded sandstone, marlstone, porous limestone sequence that was mapped as the lower part of the Thirtseemile Creek Tongue of Green River Formation (Tgtl) in the adjoining Greasewood Gulch quadrangle (MF-755)
- Tu<sub>3</sub>** Unit 3--Buff- and brown-weathering sandstone. Thickness 0-240 ft (0-73 m)
- Tgb** GREEN RIVER FORMATION (EOCENE)  
Black Sulphur Tongue--Light gray- to white-weathering silty marlstone. The unit thins westward and presumably intertongues with siltstone of the Uinta Formation in the central western part of the quadrangle. Thickness 20 ft (6 m)

MISCELLANEOUS FIELD STUDIES  
MAP MF-754  
SQUARE S RANCH QUAD, COLORADO

Thirtseemile Creek Tongue, upper part--Light gray- to white-weathering marlstone. In the southern part of the quadrangle the unit contains 3-4 thin rich oil-shale beds. In the northern part of the quadrangle the marlstone contains a few thin porous ostracode-charophyte-bearing limestone beds. Thickness 20-100 ft (6-30 m)

Dry Fork Tongue--Light gray- and white-weathering silty marlstone. Thickness 30-80 ft (9-24 m)

- CONTACT--Dashed where approximate
- FAULT--Dashed where inferred; dotted where concealed. U, upthrown side; D, downthrown side
- STRUCTURE CONTOURS--Drawn on top of the Mahogany oil-shale zone of the Green River Formation. Contour interval 100 ft (30.5 m)
- DRILL HOLE--Number keyed to table. Some shallow water wells and windmill wells not keyed to table



LIST OF DRILL HOLES

No. on map	USGS core no.*	Location			Operator and name of well	Depth of hole	
		Sec.	T.	S. R. W.		feet	metres
1	C-6	6	1	97	Sinclair Oil Co. 1-1B Federal Strat-----	2,593	790.3
2		7	1	97	J. D. Henderson. 1 Henderson-Govt.-----	7,042	2,146.4
3		9	1	97	Shell Oil Co. 41X-9-----	3,000	914.4
4		11	1	97	Carter Oil Co. 1 Square-S Herring-----	3,050	929.6
5		17	1	97	Kaiser Aluminum & Chemical Corp. 17-1 Neilson-----	2,554	778.5
6		20	1	97	Kaiser Aluminum & Chemical Corp. 20-1 Neilson-----	2,084	635.2
7		28	1	97	General Petroleum Corp. 51-28 Yellow Creek-----	2,690	819.9
9	C-7	31	1	97	Pan-American Oil Co. 1 Saterdal-----	2,745	836.7
10		14	1	98	Wolf Ridge Minerals Corp. 14-1 Colorado-----	2,460	749.8
11		24	1	98	Wolf Ridge Minerals Corp. 24-1 Savage-----	2,770	844.3
12	C-8	26	1	98	Sinclair Oil Co. 1 Core Hole-----	3,385	1,031.7
13		34	1	98	Ohio Oil Co. 1 Unit-----	7,800	2,377.4
14		3	2	97	Mobil Oil Co. T36-3-G-----	6,002	1,829.4
15		4	2	97	Marathon Oil Co. 1 Square S-----	2,235	681.2
16	C-9	5	2	97	Pan-American Oil Co. 1 Miller-----	1,381	420.9
17	C-10	8	2	97	Pan-American Oil Co. 2 Miller-----	2,134	650.4
18	C-15	9	2	97	Humble Oil and Rfg. Co. Love Ranch-----	2,208	672.9
19		15	2	97	Mobil Oil Corp. T62-15-G-----	5,282	1,610.0
20	C-177	1	2	98	Shell Oil Co. 22-X-1-----	2,651	808.0
21	C-179	2	2	98	Shell Oil Co. 23-X-2-----	2,700	823.0
22	C-13	11	2	98	Sinclair Oil Co. 2 Skyline-----	2,549	776.9

\*U.S. Geological Survey computer storage and retrieval program for oil-shale data, corehole identification number.

PRELIMINARY GEOLOGIC MAP OF SQUARE S RANCH QUADRANGLE, RIO BLANCO COUNTY, COLORADO  
By  
D. C. Duncan  
1976