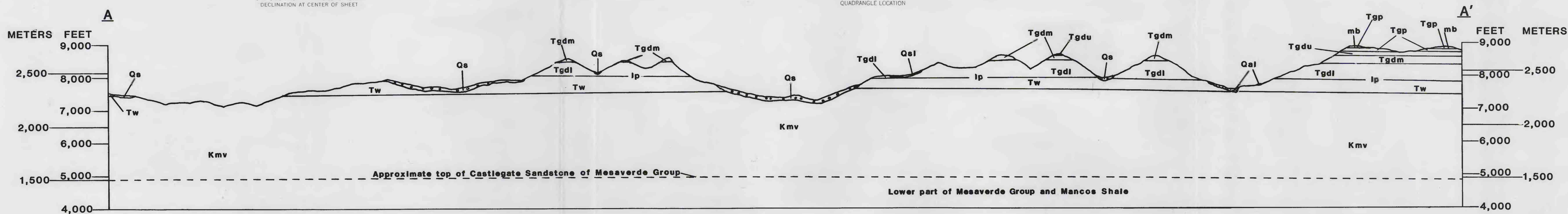




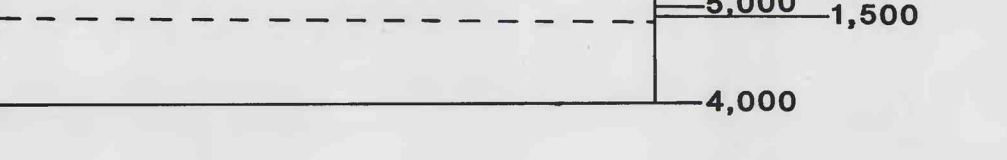
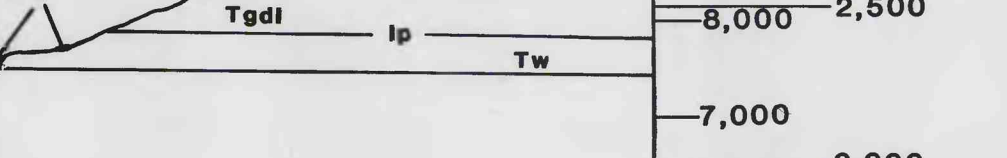
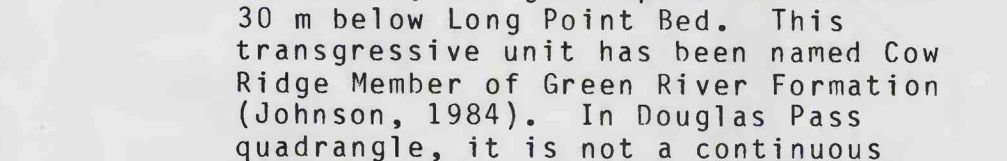
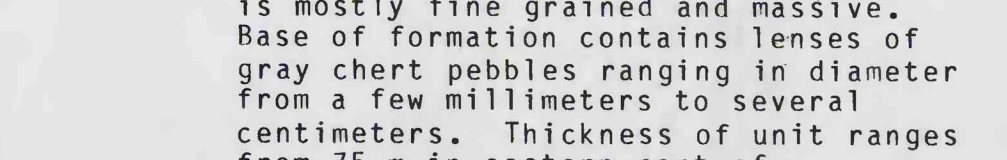
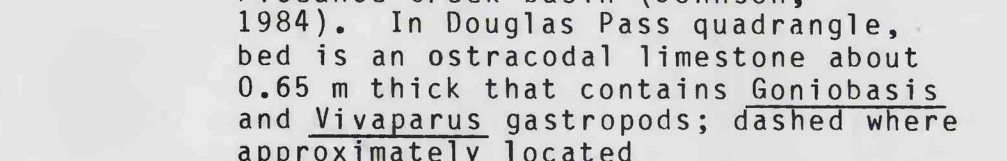
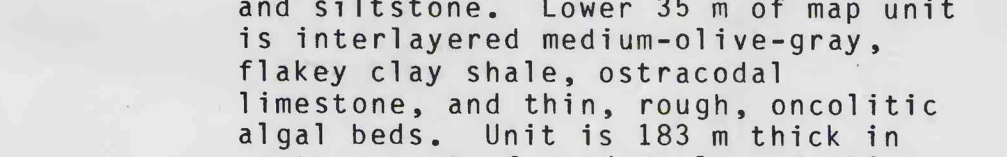
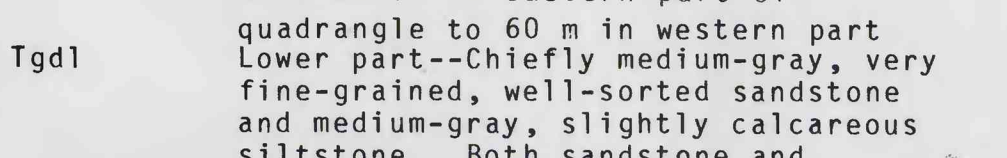
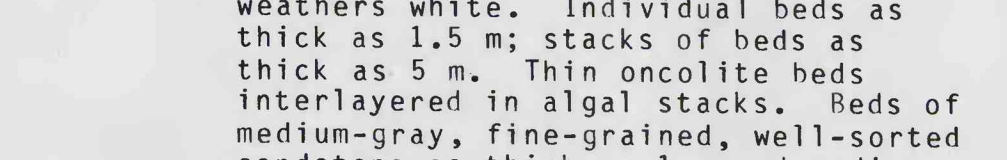
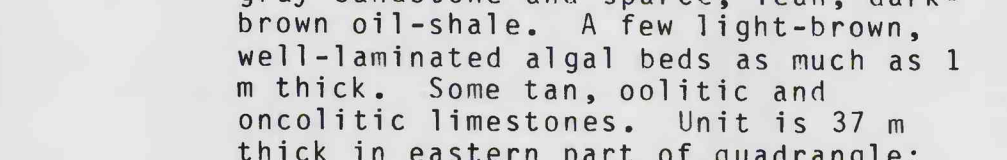
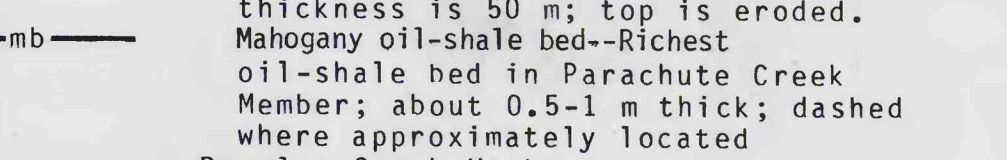
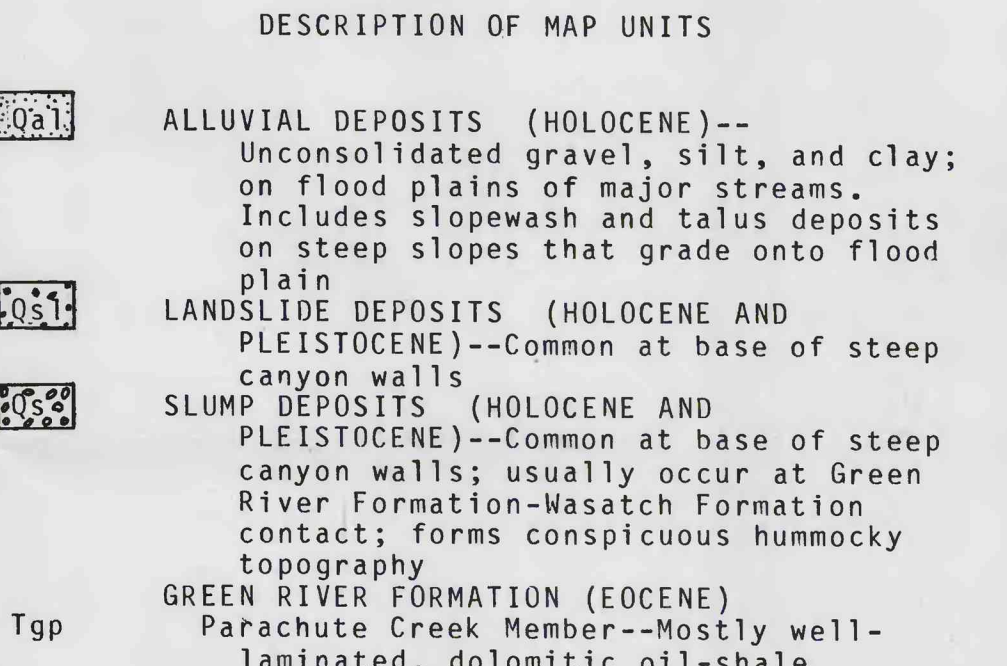
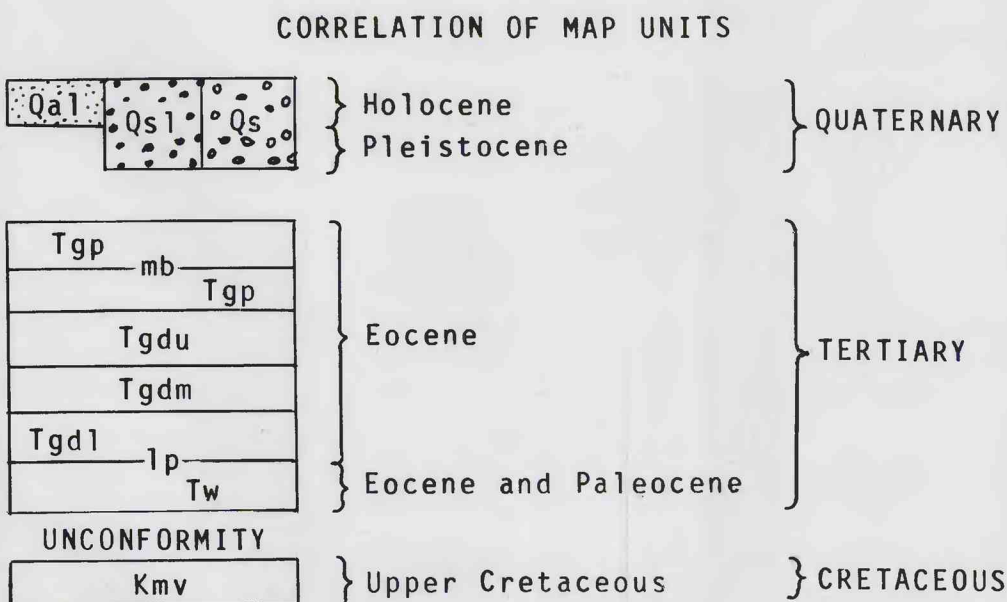
Base from U.S. Geological Survey, 1964

Geology mapped 1982-83



PRELIMINARY GEOLOGIC MAP OF THE DOUGLAS PASS QUADRANGLE, GARFIELD COUNTY, COLORADO

By
Vito F. Nuccio
1985



Kmv MESASVERDE GROUP (UPPER CRETACEOUS)--Upper part, mostly gray to white, fine-grained sandstone, interlayered with medium-gray, massive, silty shale. Weathers to dark-gray slopes on which are prominent gray or tan sandstone benches. Upper 10-100 m is white due to a breakdown of feldspar to kaolinite, which is a result of paleo-weathering that occurred during time interval represented by overlying unconformity (Johnson and May, 1980). In Douglas Pass quadrangle, only upper 305 m of Mesaverde is exposed. The Castlegate Sandstone and lower part of Mesaverde Group, and Mancos Shale are shown in subsurface on cross section A-A' beneath the upper part (Kmv). Castlegate Sandstone is light-gray, fine- to medium-grained sandstone. Lower part of Mesaverde is light-gray, fine-grained, massive sandstone and brownish-gray, sandy shale; some yellowish-gray, fine-grained sandstone at base. Mancos Shale is brownish- to dark-gray marine shale; interbedded with siltstone and very fine grained sandstone.

CONTACT--Dashed where approximately located
STRUCTURE CONTOURS--Datum is top of Long Point Bed. Contour interval 100 ft (30.5 m). In western part of quadrangle a 50-ft contour is used (8050) where structure flattens

DRILL HOLE--Number refers to list of wells in table of drill-hole data
FAULT--Dashed where concealed. U, upthrown side; D, downthrown side

ECONOMIC GEOLOGY
Oil and gas

Although it is not in a gas field, the Douglas Pass quadrangle is surrounded by several gas fields: the Douglas Creek and Foundation Creek fields to the north, the South Baxter Pass field to the west, South Canyon field to the south, and a small gas field to the east. As of February 1977, gas from the wells in the Douglas Creek field alone totaled 10,777,283 thousand cubic feet (Kellogg, 1977).

The Pennsylvanian and Permian Weber Sandstone, the Jurassic Entrada Sandstone, and the Cretaceous Dakota Sandstone, all deep formations, were targets of early drilling in the area. Better drilling techniques having been developed in the late 1950's, the unconventional Cretaceous Mancos Shale (or the horizon within the Mancos called the Mancos "B" by drillers) became a more desirable target, despite its low porosity, because of its relatively shallow depth.

Because of the unavailability of production records--several of the wells are new--status of drill holes in the Douglas Pass quadrangle was not divided into the categories "gas," "oil," or "abandoned." It should be noted, however, that very little oil is found in this area, and, if a well is active, gas is probably being produced.

Oil shale
Small amounts of rich oil shale occur in the northeastern corner of the quadrangle in the Mahogany bed of the Parachute Creek Member of the Green River Formation. The Mahogany bed is very thin here and is not considered economic.

REFERENCES CITED
Johnson, R. C., 1984, New names for units in the lower part of the Green River Formation, Piceance Creek basin, Colorado: U. S. Geological Survey Bulletin 1529-1, 19 p., 1 pl.

Johnson, R. C., and May, Fred, 1980, A study of the Cretaceous-Tertiary unconformity in the Piceance Creek basin, Colorado--The underlying Ohio Creek Formation (Upper Cretaceous) redefined as a member of the Hunter Canyon or Mesaverde Formation: U. S. Geological Survey Bulletin 1482-B, 27 p.

Kellogg, H. E., 1977, Geology and petroleum of the Mancos B Formation, Douglas Creek Arch area, Colorado and Utah, in Veal, H. K., ed., Exploration frontiers of the Central and Southern Rockies: Denver, Colo., Rocky Mountain Association of Geologists, p. 167-179.

List of drill holes in Douglas Pass quadrangle [Leaders (---) indicate data not available; T.S., township south; R.W., range west]						Total depth	
No. on Map	Location			Name		ft	
	sec.	T.S.	R.W.				m
1	19	5	101	E1 Paso Natural Gas Co.,-----		8,425	2,568
2	13	5	102	Beartooth Oil and Gas Co.,-----		6,492	1,979
3	16	5	102	Provident Resources, Inc.,-----		8,465	2,580
4	20	5	102	Tenneco Oil Co.,-----		2,500	762
5	21	5	102	Douglas Pass Unit USA 20-15,		6,694	2,040
				Tenneco Oil Co.,-----			
				Douglas Pass Unit USA 21-14,			
6	23	5	102	Provident Resources, Inc.,-----		5,550	1,692
7	23	5	102	E1 Paso Natural Gas Co.,-----		8,432	2,570
8	24	5	102	Twin Buttes #6,		8,904	2,714
9	24	5	102	Greenbrier Oil Co.,-----		7,312	2,229
10	24	5	102	Coseka Resources,-----		7,072	2,155
				Taiga Federal 2-E-24,			
				Coseka Resources,-----			
				1-A-24-55-102,			
11	27	5	102	Provident Resources, Inc.,-----		7,200	2,194
12	28	5	102	Young 11-27-5-102,		7,050	2,149
13	28	5	102	Provident Resources, Inc.,-----		6,750	2,057
14	29	5	102	Young #3-28-5-102,		6,693	2,040
15	29	5	102	Mendota et al.,-----		5,900	1,798
				#1 T. Kelley,			
				Tenneco Oil Co.,-----			
				Douglas Pass Unit Young 29-10,			
16	32	5	102	Tenneco Oil Co.,-----		---	---
17	32	5	102	Douglas Pass Unit Young 32-3,		6,942	2,116
18	33	5	102	Tenneco Oil Co.,-----		6,750	2,057
19	33	5	102	Douglas Pass Unit USA 33-5,		3,253	991
20	34	5	102	Tenneco Oil Co.,-----		7,545	2,300
				Govt. 2-33-5-102,			
				Provident Resources, Inc.,-----			
				Govt. 3-34-5-102,			
21	35	5	102	Tipperary Oil and Gas,-----		6,904	2,104
22	35	5	102	SA 1-35-C,		6,810	2,076
23	6	6	102	Greenbrier Oil Co.,-----		---	---
24	6	6	102	Beartooth Oil and Gas Co.,-----		---	---
25	10	6	102	Beartooth Oil and Gas Co.,-----		---	---
				6-16 Federal,			
				Palmer Oil and Gas Co.,-----		6,260	1,908
				Federal 6-2,			
				American Res. Management Corp.,--		---	---
				Calif Canyon 10-1,			
26	17	6	102	Tipperary Oil and Gas,-----		6,000	1,829
27	30	6	102	Calif Canyon Unit 2-17-G,		6,705	2,044
28	1	6	103	Devon Corp.,-----		---	---
29	2	6	103	Federal 1-30,		---	---
30	3	6	103	Beartooth Oil and Gas Co.,-----		---	---
				Federal 1-1,			
				Tenneco Oil Co.,-----		6,908	2,105
				Douglas Pass Unit USA #2-12,		---	---
				Tenneco Oil Co.,-----			
				Douglas Pass Unit USA #3-6,			
31	10	6	103	Belco Petroleum Corp.,-----		5,940	1,810
32	12	6	103	Atchee Unit 15-10 Federal,		7,178	2,188
33	15	6	103	Belco Petroleum Corp.,-----		8,685	2,647
34	24	6	103	Atchee #3-12 Federal,		6,836	2,084
				Shulze #1,			
				Belco Petroleum Corp.,-----			
				Atchee Unit #6-24 Federal,			