

**CORRELATION OF MAP UNITS**

Qal	Holocene	QUATERNARY
Ope	Pleistocene	
Tucb	Oligocene(?) and Eocene	TERTIARY
Tua		
Tgp		
Tgd		
Tw		

**DESCRIPTION OF MAP UNITS**

Qal ALLUVIUM (HOLOCENE)--Unconsolidated silt, sand, and gravel of stream-bed, flood-plain, and fan deposits. Includes some slope-wash deposits where margins of flood plains are indefinite.

Ope PEDIMENT DEPOSITS (PLEISTOCENE)--Predominantly sand, although some gravel-, cobble-, and boulder-size material veneers pediment surfaces. Also includes numerous small dune fields composed of sand from pediment deposits.

Tucb DUCHESNE RIVER FORMATION (OLIGOCENE AND EOCENE) Brennan Basin Member of Andersen and Picard (1972)--Medium-red, orange, and gray sandstone and mudstone. Weathers to slopes and minor ledges. Lowermost 200 ft. (61 m) exposed in quadrangle.

Tua UNIT C AND UNIT B, UNDIFFERENTIATED--Approximate equivalents of Units C and Unit B of Osborn (1929). Principally gray and brown very fine to medium-grained sandstone and siltstone and yellowish gray and greenish gray claystone and mudstone. Beds in uppermost 200 ft. (61 m) are mostly yellowish gray and greenish gray mudstone and claystone, middle part contains some thin conglomeratic beds, and lower part contains a few tuff beds. Beds in uppermost 200 ft. (61 m) weather to badlands; remainder weathers to yellowish-gray and greenish-gray slopes with some yellowish-brown and brown ledges. Basal contact is at the base of a yellowish-orange weathering tuffaceous siltstone about 6 ft. (2 m) thick that caps prominent benches and buttes; this contact is approximately the same as the contact for the base of Unit B as shown by Osborn (1929, fig. 63 and pl. 9A). Major gilsonite veins outcrop in this part of the Uinta Formation. Characteristics and widths of gilsonite veins are described by Gaston (1967, p. 30-36). Thickness about 1,100 ft. (335 m).

Tgp Base of a gray and brown fine- to coarse-grained sandstone bed containing lenses of conglomerate--weathers to dark-yellowish-brown ledge. This bed is the Amynodon sandstone of Riggs (1912, p. 22 and pl. 5). Photograph published by Riggs (1912, pl. 5) was taken in sec. 24, T. 8 S., R. 24 E. The top of the Amynodon sandstone of Riggs is also the top of Unit B of Osborn (1929), but the sandstone was not used as a unit boundary on this map due to its limited extent. Thickness about 15 ft. (4.5 m) in sec. 34, T. 8 S., R. 24 E.

Tgd Unit A--Approximate equivalent of Unit A of Osborn (1929). Yellowish-gray and yellowish-orange very fine to medium-grained sandstone and siltstone. Weathers to yellowish-orange and yellowish-brown cliffs and steep slopes. Uppermost 400 ft. (122 m) exposed in quadrangle.

Tw Tuffaceous siltstone--Massive yellowish-orange weathering occurs about 100 ft. (30 m) below top of unit A and weathers to prominent bench; about 6 ft. (2 m) thick.

CONTACT--Dashed where approximately located. Boundaries of all units of Quaternary age are approximately located.

GILSONITE VEIN--Dashed where covered by Quaternary deposits. Identified by name on map.

STRUCTURE CONTOURS--Drawn on top of Mahogany oil-shale bed. Datum is mean sea level.

OIL AND GAS WELLS--Map numbers keyed to list of exploratory wells.

8 • Oil Well  
11 \* Gas Well  
3 ◊ Dry Hole

PHOTOGRAPH LOCATION--Photograph taken by Riggs (1912) of Amynodon Sandstone.

Note: An open-file report by Cashion (1983) describes outcropping beds of the Duchesne Formation in the Bonanza quadrangle and outcropping beds of the Green River Formation just south of the quadrangle. The Bonanza quadrangle lies within the vertical 1"x2" quadrangle mapped by Rowley and others (1985).

REFERENCES CITED

Andersen, D. W., and Picard, M. D., 1972, Stratigraphy of the Duchesne River Formation (Eocene-Oligocene?) Northern Uinta Basin, Northeastern Utah: Utah Geological and Mineral Survey Bulletin 97, 29 p.

Cashion, W. R., 1983, Geology and fuel resources of the Green River Formation, southeastern Uinta Basin, Utah and Colorado: U.S. Geological Survey Professional Paper 548, 48 p.

1983, Descriptions of four stratigraphic sections of parts of the Green River and Uinta Formations in the eastern Uinta Basin, Uintah County, Utah, and Rio Blanco County, Colorado: U.S. Geological Survey Open-File Report 83-17, 44 p.

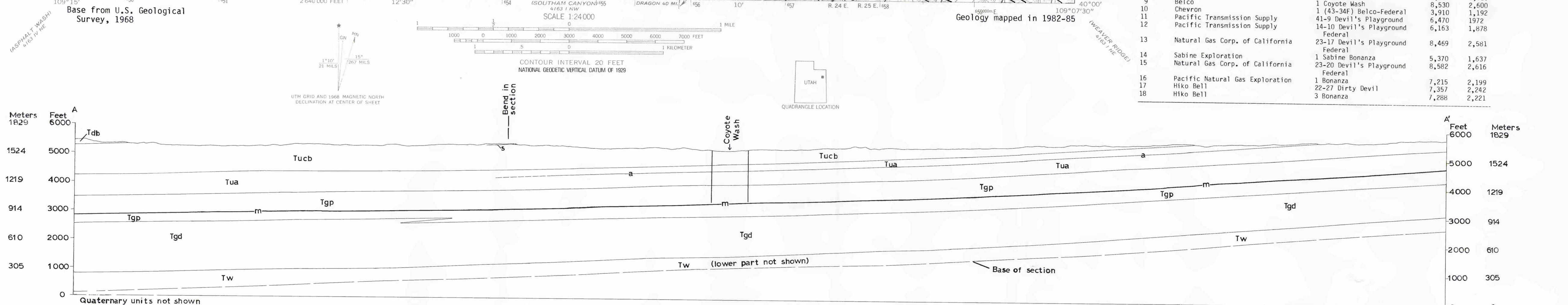
Osborn, H. F., 1929, The Titanotheres of Ancient Wyoming, Dakota, and Nebraska: U.S. Geological Survey Monograph 55, v. 7, 701 p.

Riggs, E. S., 1912, New or little known Titanotheres from the lower Uintah formations: Field Museum of Natural History Pub. 159, Geological series, v. 11, no. 2, p. 17-41.

Rowley, P. D., Hansen, W. R., Tweto, D., and Carrara, P. E., 1985, Geologic map of the Vernal 1"x2" quadrangle, Colorado, Utah, and Wyoming: U.S. Geological Survey Miscellaneous Investigations Series Map I-1526, scale 1:250,000.

List of exploratory wells drilled in Bonanza quadrangle, Uintah County, Utah

Map No.	Company	Hole no. and name	Total depth	Feet	Meters
1	Primary Fuels	1-14 PFI-Federal	4,371	1,332	
2	Diamond Shamrock	12-13 Federal	4,369	1,335	
3	Primary Fuels	1-13 PFI	4,370	1,332	
4	Shamrock	2-13 East Red Wash-Federal	4,283	1,305	
5	Chevron	1 (22-20F) Barrel Springs Federal	4,676	1,425	
6	Chevron	1 (23-22F) Chevron-Belco Federal	4,220	1,286	
7	Carter	1 Federal	7,772	2,369	
8	Husky	1 Raging Bull	4,323	1,318	
9	Welco	1 Coyote Wash	8,530	2,600	
10	Chevron	1 (43-34F) Belco-Federal	3,910	1,192	
11	Pacific Transmission Supply	41-9 Devil's Playground	6,470	1,972	
12	Pacific Transmission Supply	14-10 Devil's Playground Federal	6,163	1,878	
13	Natural Gas Corp. of California	23-17 Devil's Playground Federal	8,469	2,581	
14	Sabine Exploration	1 Sabine Bonanza Federal	5,370	1,637	
15	Natural Gas Corp. of California	23-20 Devil's Playground Federal	8,582	2,616	
16	Pacific Natural Gas Exploration	1 Bonanza Federal	7,215	2,199	
17	Hiko Bell	22-27 Dirty Devil	7,357	2,242	
18	Hiko Bell	3 Bonanza	7,288	2,221	



**GEOLOGIC MAP OF THE BONANZA QUADRANGLE, UTAH COUNTY, UTAH**  
By  
W. B. Cashion  
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