



CORRELATION OF MAP UNITS

Qal	} Holocene	} QUATERNARY
Tub		
Tua	} Eocene	} TERTIARY
-a-		
Tgp		
-hb-t-		
Tgp		
-m-		
Tgp		
Tgd		
Tw		

DESCRIPTION OF MAP UNITS

- Qal ALLOVIUM (HOLOCENE)--Unconsolidated silt, sand, and gravel
- UNITA FORMATION (EOCENE)
  - Unit B--Yellowish-gray massive very fine grained to medium-grained sandstone, and greenish-gray siltstone (Cashion, 1974). Upon weathering, the unit forms yellowish-brown cliffs and ledges and greenish-gray slopes. The base of the unit is placed at the base of a yellowish-orange weathering bench-forming tuffaceous bed 2-6 feet (0.6-1.8 m) thick. Lower 150 feet (45.7 m) is exposed in the north-west-central part of the quadrangle
  - Unit A--Gray to yellowish-gray very fine grained to fine-grained sandstone, yellowish-gray siltstone, and gray marlstone. Sandstone is medium to massively bedded. The unit weathers to brown to yellowish-brown and orange cliffs and ledges and gray slopes. The contact with the underlying Green River Formation is conformable although it is commonly grossly undulatory. The undulatory contact is due to foundering of the basal tuffaceous sand into the underlying fine-grained sediments. Unit A is approximately 630 feet (192 m) thick
  - a- Tuffaceous bed--Massive, weathers to yellow-brown platy fragments; about 5 feet (1.5 m) thick; occurs about 180 feet (54.9 m) below top of unit A; tends to form benches and resistant caps. Upper contact is shown on map but not on cross section
- GREEN RIVER FORMATION (EOCENE)
  - Parachute Creek Member--Light-gray to yellowish-brown weathering marlstone of variable resistance; dark-gray to bluish-gray and dark-brown oil shale; some oil shale forms resistant ledges; some yellowish-brown weathering, slope-forming siltstone; numerous thin beds of yellowish-brown weathering tuff. Most strata are thin bedded to laminar; oil shales are generally wavy. A sequence of rich oil shale, the Mahogany zone (Mahogany ledge on outcrop), about 75 feet (22.9 m) thick occurs approximately 470 feet (143.3 m) below the top of the unit. The upper part of the unit includes all the strata formerly assigned to the Evacuation Creek Member of the Green River Formation (Cashion and Donnell, 1974). The unit is about 480-580 feet (146.3-176.8 m) thick; much of the variation is due to the undulatory contact with the overlying Uinta Formation
  - hb-t- Yellowish-brown weathering tuffaceous unit--Interbedded marlstone and thin tuffaceous beds; much marlstone contains variable amounts of carbonate which has replaced saline minerals. Unit is as much as 50 feet (15.2 m) thick; the top ranges from 350 feet (106.7 m) in the northeastern portion of the quadrangle to 270 feet (82.3 m) in the central and western portion of the quadrangle above the Mahogany oil-shale bed. The "a" sequence (Cashion, 1974) seems stratigraphically equivalent to the Horse Bench Sandstone Bed of the Green River Formation (Cashion, 1967, p. 17). Base is shown on map and section
  - m- Mahogany oil-shale bed--The richest unit in the Mahogany zone; approximately 10 feet (3 m) thick; lies about 28 feet (8.5 m) below the top of the Mahogany zone; commonly forms a prominent ledge; commonly weathers blue gray
  - Tgd Douglas Creek Member--Gray and brown fine-grained sandstone and siltstone; yellowish-brown and gray algal and oolitic limestone; sandstone and limestone in upper part are commonly bituminous; a few thin beds of oil shale
  - Tw WASATCH FORMATION (EOCENE)--Variegated gray and red claystone and siltstone, and gray sandstone (Cashion, 1967, p. 5-6). Inter-tongues with the Green River Formation. Shown on cross section only

Cashion, W. B., 1967, Geology and fuel resources of the Green River Formation, southeastern Uinta Basin, Utah and Colorado: U.S. Geol. Survey Prof. Paper 548, 48 p.

1974, Geologic map of the South Canyon Quadrangle, Uinta County, Utah: U.S. Geol. Survey Misc. Field Studies Map MF-579.

Cashion, W. B., and Donnell, J. R., 1974, Revision of nomenclature of the upper part of the Green River Formation, Piceance Creek Basin, Colorado and eastern Uinta Basin, Utah: U.S. Geol. Survey Bull. 1394-G, 9 p.

Peterson, P. R., 1975, Lithologic logs and correlation of coreholes, P. R. Spring and Hill Creek oil-impregnated sandstone deposits, Uintah County, Utah: Utah Geol. and Mineralog. Survey Rept. Inv. 100, 30 p.

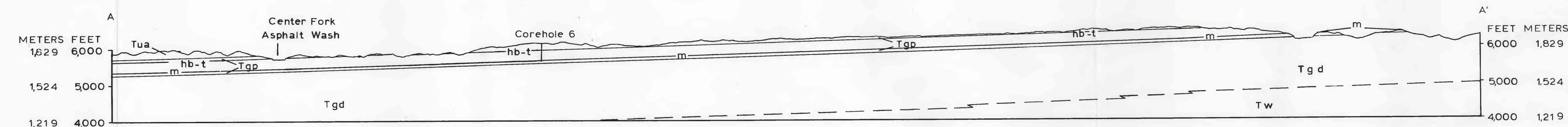
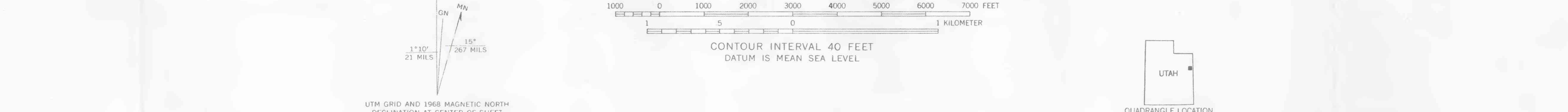
Stanfield, K. E., Smith, J. W., and Trudell, L. G., 1964, Oil yields of sections of Green River oil shale in Utah, 1952-1962: U.S. Bur. Mines Rept. Inv. 6420, 217 p.

U.S. Energy Research and Development Administration, 1976, Laramie Energy Research Center, Laramie, Wyo., Illustration No. SBR-4799 P, 15 p.

List of core holes and exploratory wells drilled in Rainbow quadrangle, Uintah County, Utah  
(Queried where unknown)

Number	Drilling Company or Agency	Hole name and number	Total depth feet	Total depth meters
1	Skyline Oil Co.	Watson 2	456	139
2	General Petroleum Corp.	18-29	361	110
3	D. J. Stone	Oil Springs 6	3,378	1,029.6
4	National Farmers Union	Corehole 5	270	82.3
5	D. J. Stone	Oil Springs 4	3,322	1,012.6
6	U.S. Geol. Survey	Corehole CHU-1	498	151.8
7	Alamo Corp.	Oil Springs 2	5,734	1,747.7
8	Do.	Oil Springs 3	3,228	983.9
9	Utah Geol. and Mineralog. Survey/U.S. Bur. Mines.	PR-3D	416	126.8
10	Do.	PR-3C	317	96.6
11	Do.	PR-3B	158	48.2
12	Do.	PR-3A	95	29
13	Continental Oil Co.	Oil Springs 4	3,498	1,066.2
14	Alamo Corp.	Oil Springs 5	4,869	1,484.1
15	Continental Oil Co.	Oil Springs 2A	4,170	1,271
16	Ski Hi Oil Co.	Oil Springs 1	5,270	1,606.3
17	Continental Oil Co.	Do.	4,350	1,325.9
18	Skyline Oil Co.	Government 2	?	?
19	D. J. Stone	State 1	3,303	1,006.8
20	General Petroleum Corp.	42-29	62	18.9

Base from U.S. Geological Survey, 1968  
Geology mapped in 1975-76; assisted by E. F. Czynowski and M. J. Pine, 1975



NOTE: Quaternary deposits not shown on cross section