

**DESCRIPTION OF MAP UNITS**

Qal ALLUVIUM (HOLOCENE)—Unconsolidated silt, sand, and gravel

Tua UNIT A—Light yellow-brown very fine to fine-grained sandstone, and some gray marlstone. This unit weathers to yellow-brown and gray slopes. About 50 feet (15.2 m) of the unit is exposed in the extreme northwestern corner of the quadrangle

Tgp PARACHUTE CREEK MEMBER—Light-gray marlstone of variable resistance; dark-gray to dark-brown weathering oil shale; some blue-weathering oil shale, commonly ledge-forming; yellow-brown weathering, slope-forming siltstone; numerous thin beds of yellow-brown weathering tuff. Most strata are thin bedded to laminar. The Mahogany zone (Mahogany ledge on outcrop), a sequence of rich oil shale 70-85 feet (21.3-25.9 m) thick, occurs about 500 feet (152.4 m) below the top of the unit. The member is about 580 feet (176.8 m) thick; the upper portion includes all strata formerly assigned to the Evacuation Creek Member (Cashion and Donnell, 1974)

hb Yellow-brown weathering tuffaceous unit—Interbedded marlstone and thin tuffaceous beds; marlstone commonly contains variable amounts of carbonate which has replaced saline minerals. Unit is about 50 feet (15.2 m) thick, and the top is about 270 feet (82.3 m) above the Mahogany bed; often forms prominent ledges and resistant caps. It seems to be stratigraphically equivalent to the Horse Bench Sandstone Bed as mapped by Cashion (1967, p. 17, pl. 1) and the "m" sequence of Cashion (1974)

m Mahogany oil-shale bed—The richest unit in the Mahogany zone is located about 25 feet (7.6 m) below the top of the Mahogany zone; approximately 10 feet (3 m) thick. Commonly forms a prominent ledge; commonly weathers blue-gray

Tgd DOUGLAS CREEK MEMBER—Gray and brown fine-grained sandstone and siltstone; gray and yellow-brown algal and oolitic limestone; minor green siltstone. Lower portion may contain some fluvial sediments and may be equivalent to Renegade Tongue of Wasatch Formation (Cashion, 1967, p. 6); sandstone and limestone often bituminous (Peterson, 1975). Contains a few thin beds of oil shale

Tw WASATCH FORMATION (EOCENE)—Shown on cross section only—Variegated gray and red claystone and marlstone, and gray sandstone and siltstone (Cashion, 1967, p. 5-6). Dashed contact indicates intertonguing with the Green River Formation

CONTACT—Quaternary alluvium (Qal) contacts approximately located

STRUCTURE CONTOURS—Drawn on top of Mahogany oil-shale bed. Dashed where bed is eroded. Contour interval is 100 feet (30.5 m). Datum is mean sea level

CORE HOLE—Drilled to evaluate oil-shale beds or bituminous sandstone. Oil shale assay results reported by Stanfield and others (1964); bituminous sandstones described by Peterson (1975). Number keyed to list of core holes and exploratory wells

DRY HOLE—Oil and gas test. Number keyed to list of core holes and exploratory wells

**ECONOMIC GEOLOGY**

Oil shale, bituminous sandstone and limestone are found in the quadrangle; exploratory wells have been drilled for oil and gas, but neither have been produced. Coreholes drilled by the Utah Geological and Mineralogical Survey in cooperation with the U.S. Bureau of Mines to examine oil-impregnated sandstones in the Douglas Creek Member have been described by Peterson (1975). Oil shale occurs in the Parachute Creek Member of the Green River Formation. The Mahogany zone which lies near the bottom of the member contains the richest beds of oil shale. In core hole no. 2, two sequences of rich oil shale, separated by about 20 feet (6.1 m) of less-rich material have been identified in the Mahogany zone. The upper sequence is 10.3 feet (3.1 m) thick and yields 25.1 gallons per ton (104.7 L/tonne); the lower sequence is 31.5 feet (9.6 m) thick and yields 31.1 gallons per ton (129.8 L/tonne). The situation is similar in core hole no. 4, where an upper sequence 9.8 feet (3 m) thick and a lower sequence 39.8 feet (12.1 m) thick each yield 25.3 gallons per ton (105.6 L/tonne).

**REFERENCES**

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 543, 48 p.

1974, Geologic map of the Southam Canyon quadrangle, Uintah 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.

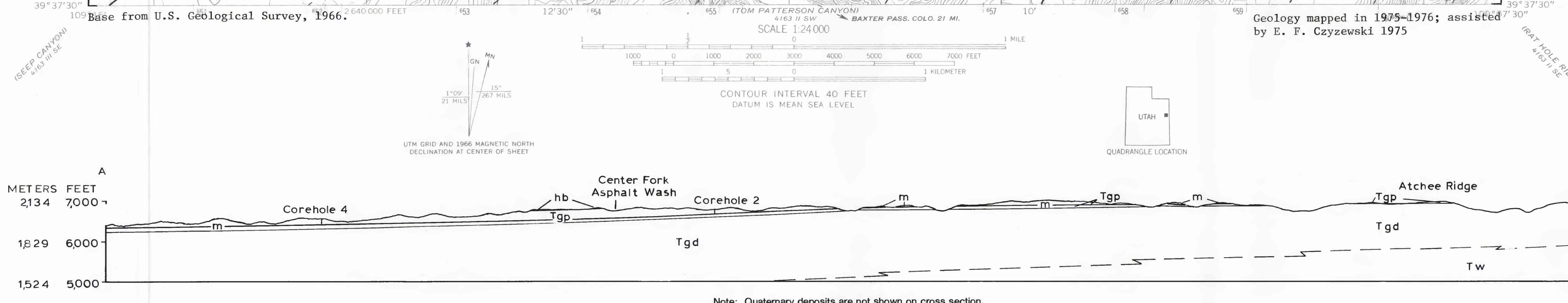
List of core holes and exploratory wells drilled in Burnt Timber quadrangle, Uintah County, Utah

[Leaders (—) indicate no data. Data supplied for number 3, by Cassandra Sever and John Ward Smith, U.S. Energy Research and Devel. Adm./Laramie Energy Research Center (ERDA/LERC). Written commun., November 1976]

Number	Drilling Company or Agency	Hole name and Number	Total depth	
			feet	meters
1	Utah Geol. and Mineralog. Survey/U.S. Bur. Mines—	PR-4	195	59.4
2	National Farmers Union Exploration Co.—	Corehole 6	178	54.3
3	ERDA/LERC—	SUB 10	232	70.7
4	Brewer and others—	Corehole 9-1	—	—
5	C. F. Raymond—	Govt. 1	8,840	2,694.4
6	Continental Oil Co.—	Oil Springs 3	4,172	1,271.6

**PRELIMINARY GEOLOGIC MAP OF THE BURNT TIMBER CANYON QUADRANGLE, UTAH COUNTY, UTAH**

By  
C. William Keighin  
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Note: Quaternary deposits are not shown on cross section.