

**MAP EXPLANATION**

— 80 — LINE SHOWING THICKNESS OF THE MAHOGANY ZONE IN FEET—  
Dashed where approximately located

— M — OUTCROP OF MAHOGANY OIL-SHALE BED

**CONTROL POINTS**

● Thickness from histograms of Fischer assays of oil-shale sequence in core hole

○ Thickness from sonic log of exploratory well

⊙ Thickness from density log of exploratory well

A — B LOCATION OF CROSS SECTION

To convert feet to metres, multiply feet by 0.3048.  
To convert microseconds per foot to microseconds per metre, divide microseconds per foot by 0.3048.

**DISCUSSION**

The principal oil-shale deposits of the Uinta Basin are in the Mahogany zone (Mahogany ledge on outcrop) of the Parachute Creek Member of the Green River Formation. In places, the zone contains more than 100 feet (30 m) of oil shale that will yield an average of 25 gallons of shale oil per ton (104 litres per metric ton). The richest bed in the Mahogany zone is called the Mahogany oil-shale bed and the sequences of lean oil shale or marlstone that occur immediately above and below the zone are called "A" groove and "B" groove, respectively. (See cross section.)

Much of the eastern and western parts of the Uinta Basin are underlain by the Mahogany zone, but the area of maximum richness has not been determined with certainty owing to the scarcity of core hole information. Core holes drilled to evaluate the Mahogany zone in Utah are concentrated in the south-central and easternmost parts of the Uinta Basin and there are no core holes penetrating the zone in the area believed to contain the richest oil-shale sequence in the basin. The accuracy of some earlier maps showing the distribution of richer oil shale in the Uinta Basin (Cashion, 1967, p. 31; Cashion, 1968) is questionable as they are based, in great part, on assays of cuttings and some of the cuttings were contaminated and (or) incorrectly sampled.

The Mahogany zone and the lean zones bounding it can be easily identified on some types of geophysical well logs. A rich oil-shale bed has a slower sonic velocity and a lower density than a lean oil-shale bed. Density and sonic log profiles from exploratory wells can be correlated with histograms of Fischer assays of core from the Mahogany zone (Cashion and Donnell, 1972) and used as isopach control points in areas where there has been no core drilling. The isopach map in this report is based on measurements obtained from 68 sonic logs, 9 density logs and 20 histograms. The cross section shows the positions of the boundaries used in measuring thickness.

**REFERENCES**

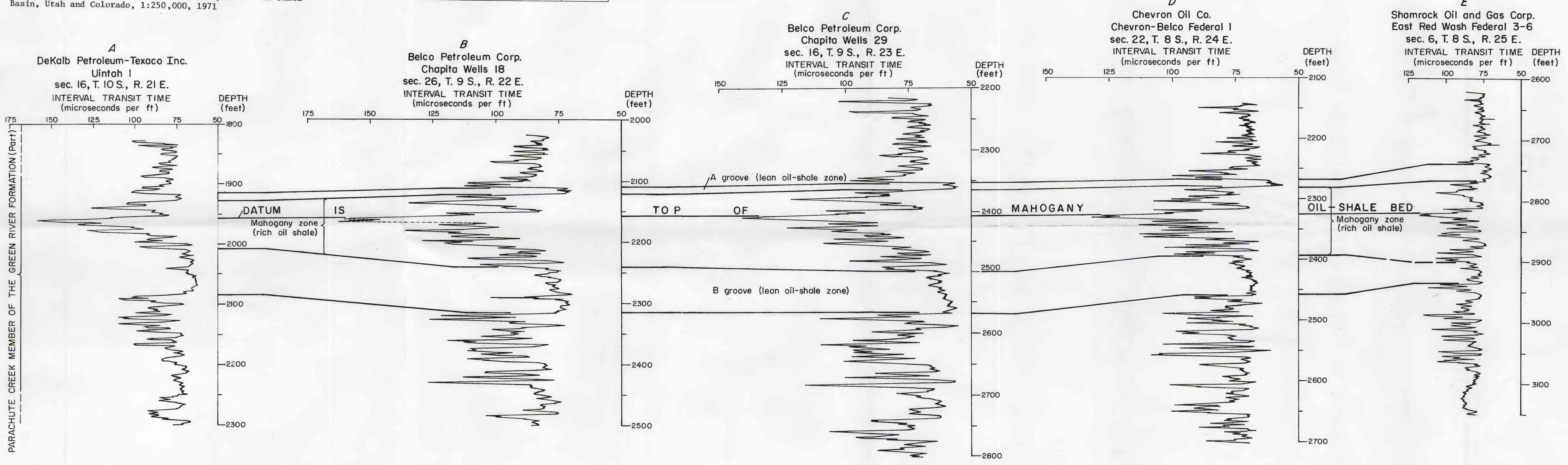
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Isopach lines drawn in 1975



ISOPACH MAP AND CROSS SECTION OF THE MAHOGANY ZONE OF THE GREEN RIVER FORMATION DERIVED PRINCIPALLY FROM GEOPHYSICAL WELL LOGS, EASTERN UINTA BASIN, UTAH AND COLORADO

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