COX AND HAMON FIELD, DUVAL COUNTY, TEXAS[1]

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Located some eleven miles west of the settlement of Realitos in the southwest portion of the county, the Cox and Hamon Field is some 2200 feet wide in the East-West direction and 19,000 feet long in the North-South direction. It has been well defined and practically limited in all directions.

Searching for the known regional Daugherty sand strand line (Jackson Formation—about 100 feet below the top of the Textularia Hockleyensis Zone) where it should cross the normal regional eastward dip, geologists Charles A. Daubert and Walter H. Achning leased the Benavides land and negotiated with Edwin B. Cox and Jake L. Hamon for the drilling of No. 1 Juan Benavides, a 3300 foot test at the indicated location (see Fig. 3). Finding the Daugherty sand not present, the test was drilled to 3700 feet where Schlumberger electric log was run; the interesting electric log sand pattern of the subsequently called "B" sand was sidewall cored showing oil; casing was set and the well completed December 19, 1949, for 50 B.P.D. of 38° gravity oil on the pump through perforations from 3575 feet to 3577 feet. This newly found productive horizon was not known or recognized in the general area heretofore. No geophysical information was seen or used in making the original location and it can be said that electric logging and sidewall coring were definite factors in the discovery.

Oil accumulation here is occasioned by an elementary pinchout trap on a monoclinal structure (see O. Wilhelm, A.A.P.G., Vol. 29, pp. 1537-80).

Subsurface structure on the top of the producing sand, as well as on the top of the blanket O'Hern sand immediately above, is practically normal east-southeast dip, slightly steeper in the general trend here than up or down dip.

The "B" sand pinches out up dip and thickens down dip until it merges with the "Massive" Pettus sand directly below. The sand is medium-grained, lignitic, tight and shaly in streaks with a thickness from 2 feet to 12 feet, or an average of 8 feet.

Based on the development pattern of one well to twenty acres, the productive area is considered to be 620 acres. To January 1, 1961, the field has produced 1,693,122 barrels of 38° gravity oil, or a per acre average of some 2731 barrels. Production in 1960 totaled 67,540 barrels. The original bottom hole pressure in the discovery well was 1389 psi and the field is definitely one of water drive. At this time, 27 wells are being pumped and most of them make some water. There was no free gas cap present.

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[1] All operators in the field gave permission to publish this paper and sincere appreciation is acknowledged.

[2] Independent.

[3] Argo Oil Corporation.

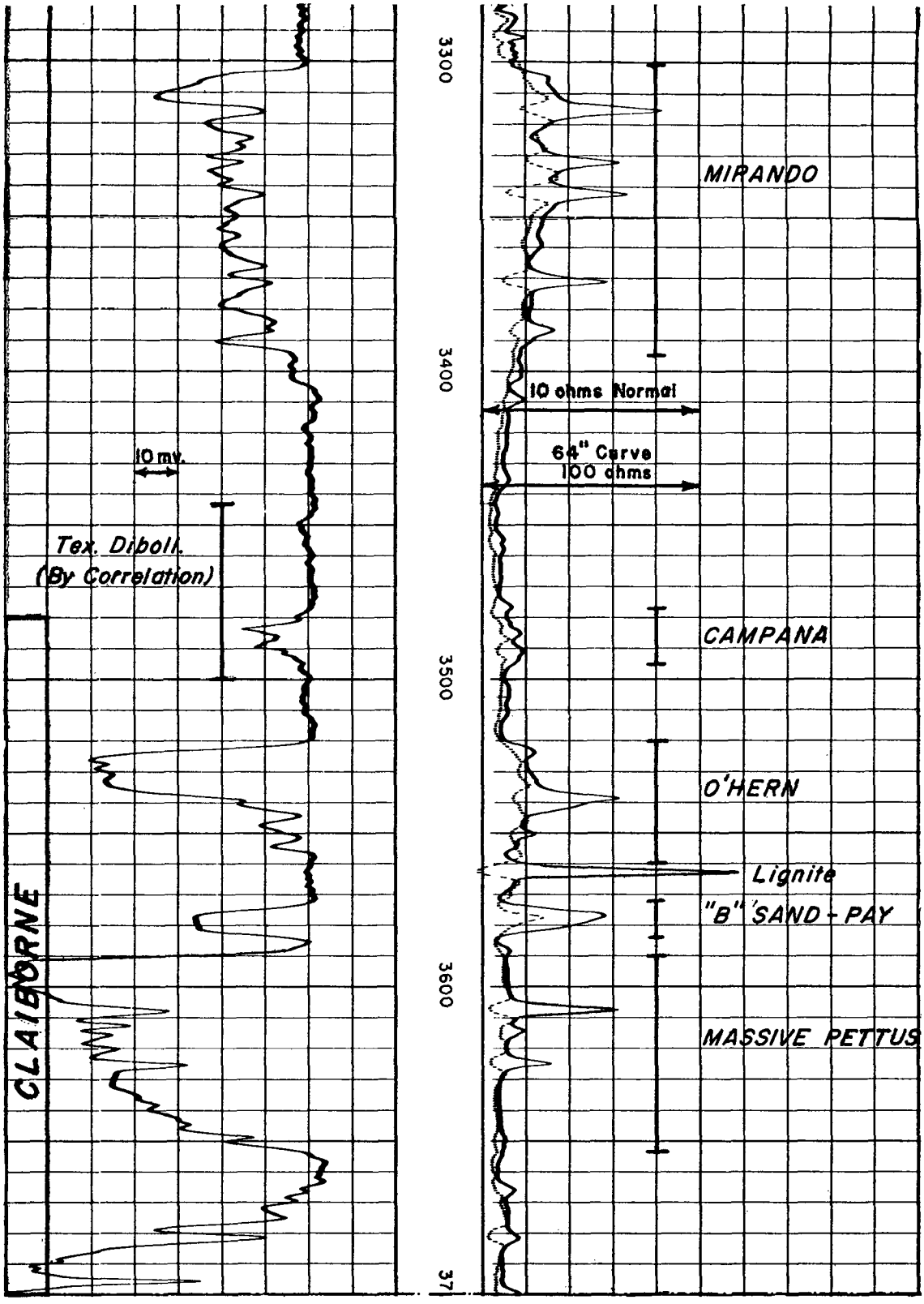

Figure 1. Type Log, Cox and Hamon Field, Duval County, Texas.

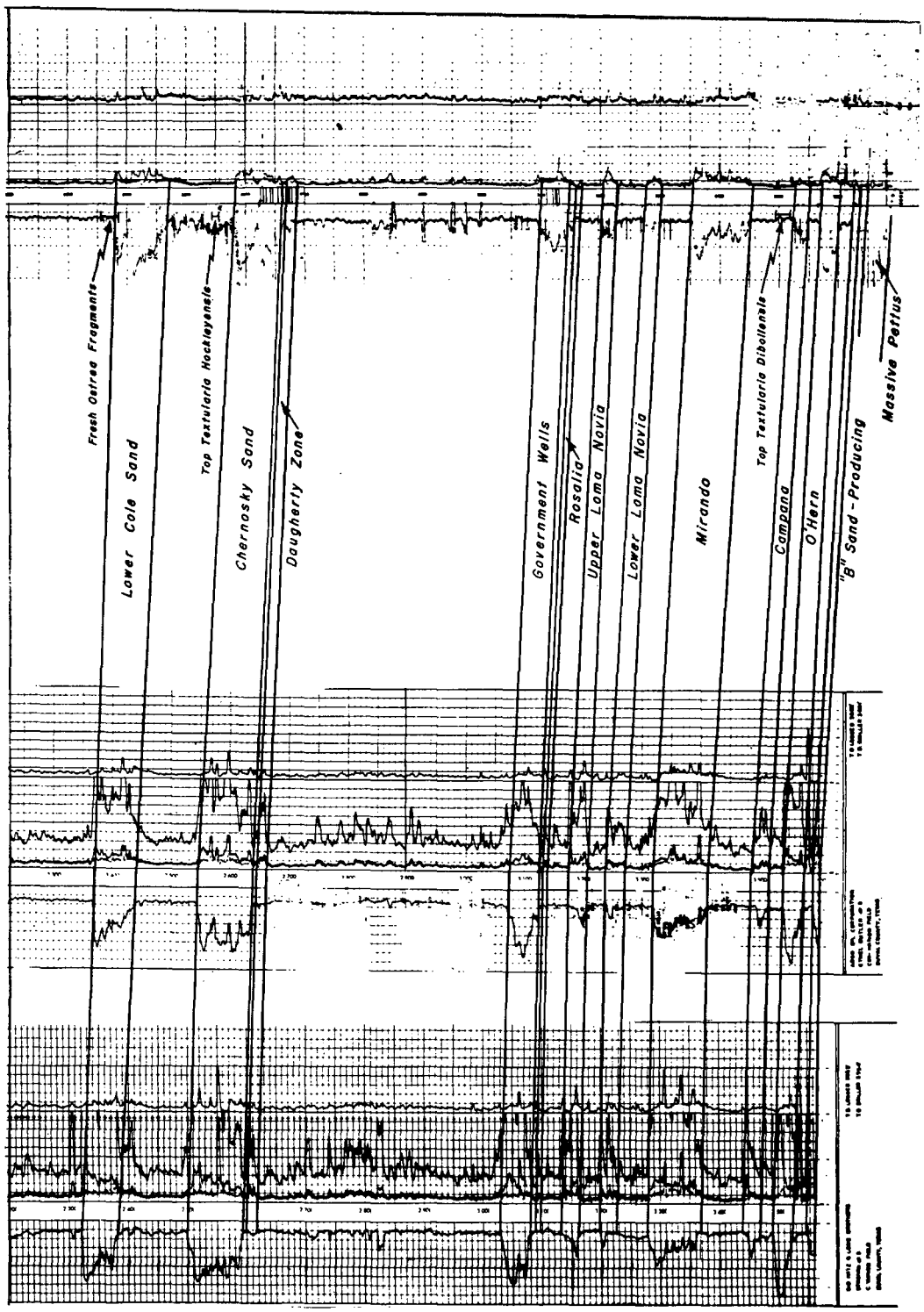

Figure 2. Stratigraphic Cross Section, Cox and Hamon Field, Duval County, Texas.

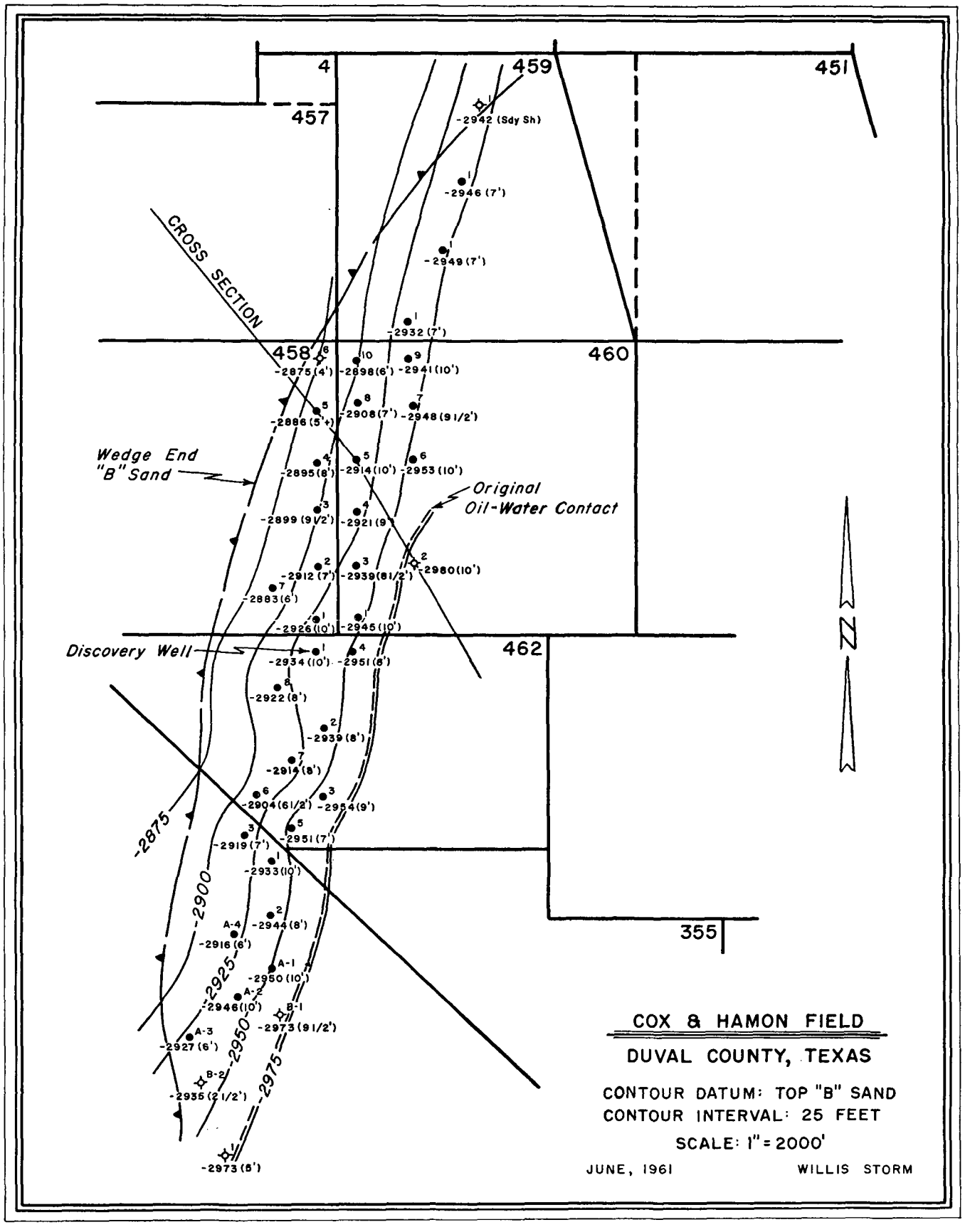

Figure 3. Subsurface Structure Map, Cox and Hamon Field, Duval County, Texas.