clinal dip slightly modified by small normal faults. The sand body has a relatively flat base, is irregular in shape and loses porosity and permeability from the top downward. It appears to be a near-shore marine deposit. Permeabilities in the sand body are as great as 3,200 md, but more commonly range from 100 to 400 md. The average reservoir thickness is about 46 feet.

Development drilling continues, and to date has resulted in fifty producing wells and nine dry holes. The oil column is about 300 feet thick and recoverable oil will exceed twenty-five million barrels.

The field was discovered between two dry holes one and three-quarters miles apart. This points out the need for closely spaced wildcats to evaluate the productive potential of land in areas of rapid lateral stratigraphic changes. Exploration-wise, the field is significant because its study demonstrates stratigraphic principles which may be used in searching for new oil fields.

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Hebgen Lake, Montana, Earthquake of August 17, 1959.

The Hebgen Lake, Montana, earthquake of August 17, 1959, was marked by the reactivation of well established structural features which had been active many times in the past, and undoubtedly will be active many times in the future. At least four known normal faults were revived, of which two, the Red Canyon and Hebgen faults, are old established breaks which determined much of the topography of the area. Fundamentally, two large blocks of ground rotated on horizontal axes, with the north side of each block downdropped. One of the blocks contained Hebgen Lake and the tilting of this block caused the lake to be displaced northward. In consequence, the north shore was submerged even as the south shore emerged.

A seiche, set up in Hebgen Lake as a result of this displacement, crested Hebgen Dam four times, and oscillated for $11\frac{1}{2}$ hours. The concrete core of the dam was cracked, warped, tilted, and the earth fill of the dam settled unevenly.

At the time of the earthquake, or shortly thereafter, a mile-wide landslide occurred in Madison Canyon partly burying the Rock Creek campground with an attendant human loss of 9 dead, and 19 missing.

Many changes occurred in spring flow and rate of discharge of the various streams emptying into Hebgen Lake. Springs rising in volcanic rocks were heavily charged with sediment in colloidal suspension.

Minor effects accompanying the earthquake include movement of mudflows, the formation of sand boils, local compaction of unconsolidated materials, and churning of rocks along ridge tops.