



NOTE.—The contours on this map are an approximate reconstruction of the undisturbed potentiometric surface in the Tensleep Sandstone. The contours are based on pressure data collected over a period of about 40 years. Considerable subjective judgment was used in contouring the data points. In general two factors were weighed in considering each data point:

(1) The year in which the potential was measured. This is important because fluid withdrawals from the oil fields causes a decline in potential in nearby areas.

(2) The reliability of the data. In general the data were ranked according to reliability in the following order: fluid level in water wells, initial oil-field potential, altitude of water table in outcrop area, drill-stem test analyses.

- EXPLANATION—Continued**
- Data Used To Construct Potentiometric Contours:
- X Altitude of water table in outcrop of Tensleep Sandstone
 - F Initial oil field potential
 - P Drill-stem tests obtained from Petroleum Research Corporation
 - D Oil company drill-stem test analyzed by U.S. Geological Survey
 - C Oil company scout reports
 - W Fluid levels in water wells

The numbers near the well symbol (●), for example 4560, indicate the pressure data, and the other numbers, for example F-43, indicate the year (1943) the pressure data were measured.

- EXPLANATION**
- Outcrop of Tensleep Sandstone
 - ▨ Tensleep Sandstone and underlying Arnsden Formation mapped together
 - ▩ Tensleep Sandstone, underlying Arnsden Formation, and overlying Phosphoria Formation mapped together
 - Margin of area underlain by Eocene and later Tertiary rocks. Beds are generally horizontal and lie discordantly on older rocks.
 - Fault. Dashed where approximately located. U, upthrown side; D, downthrown side.
 - Thrust fault. Dashed where approximately located. T on upper plate.
 - Fault observed in surface rocks. Not known to affect Tensleep Sandstone. Hechures on downthrown side.
 - Oil pool in Tensleep Sandstone
 - Approximate direction and magnitude, in feet per mile, of probable inclination of oil-water contact at time of discovery of oil pool
 - Oil-water contact approximately level at time of discovery
 - 5000
 - Altitude of fluid potential in feet above mean sea level.
- EXPLANATION continued at upper right corner.

OUTCROP OF TENSLEEP SANDSTONE, LOCATION OF OIL POOLS, AND DIRECTION AND MAGNITUDE OF OIL-WATER CONTACT TAKEN FROM U.S. GEOLOGICAL SURVEY OIL AND GAS INVESTIGATIONS MAP ON 182, STRUCTURE CONTOUR MAP OF THE TENSLEEP SANDSTONE IN THE BIG HORN BASIN, WYOMING AND MONTANA, BY A. D. ZAPP.

POTENTIOMETRIC SURFACE OF THE TENSLEEP SANDSTONE IN THE BIG HORN BASIN, WEST-CENTRAL WYOMING

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