

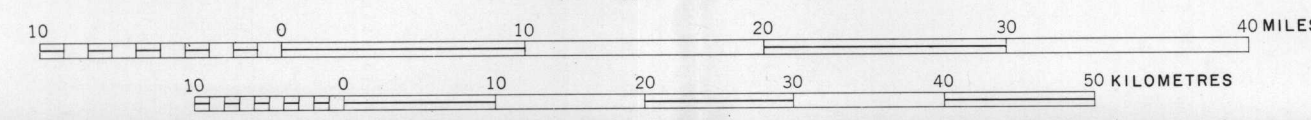


Notes

Only a few wells have been drilled to economic basement (rock below the lowest expected production horizon), and not enough control is available to provide a meaningful contour map of basement structure. The depth to basement available from wells has been plotted on this map, along with an extrapolated depth (shown as 11,600, for example) for a few wells that were drilled almost to basement. A seismic map of the basement horizon taken from the Toolik development contract report (Atlantic-Richfield Co., 1973) shows the basement configuration southwest of Prudhoe Bay. Projection of the dip apparent from the seismic map and the well points implies that economic basement is in excess of 22,000 feet near the axis of the Colville basin.

Rock in cores taken from the basement commonly has steep dips, suggesting the presence of a pronounced unconformity above. Graptolites and chitinozoans have been recovered from argillite in basement cores and are Silurian and Ordovician to Silurian in age (Carter and Laufeld, 1975). Radiometric ages of five samples of mica from the West Staines well range between 547 ± 22 m.y. and 584 ± 12 m.y. (Drummond, 1974).

Scale 1:500,000
1 inch equals approximately 8 miles



Base from Harrison Bay, Beechey Point, Flaxman Island, 1955,
Umiat, Sagavanirktok and Mount Michelson, 1956, 1:250,000
U.S. Geological Survey

MAP SHOWING DEPTH TO BASEMENT FROM DRILLING AND FROM SEISMIC EXPLORATION
EASTERN NORTH SLOPE PETROLEUM PROVINCE, ALASKA
COMPILED BY I.L. TAILLEUR, K.J. BIRD, AND S.E. ENGWICHT 1978

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