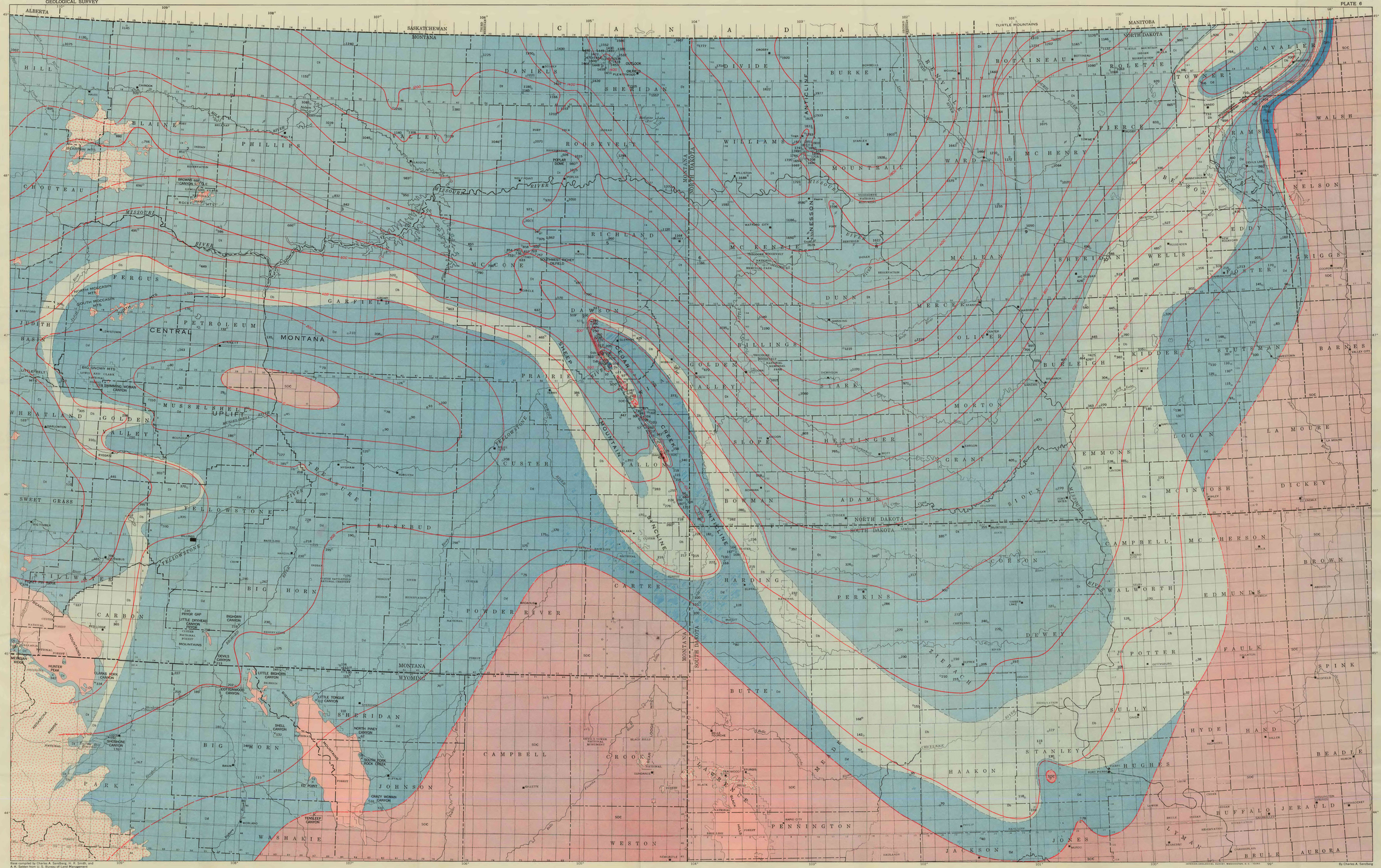

Base compiled by Charles A. Sandberg, H. R. Smith, and A. K. Selden from U. S. Bureau of Land Management township plats, U. S. Forest Service maps and U. S. Bureau of Indian Affairs maps

By Charles A. Sandberg

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1974

EXPLANATION

PRE-MISSISSIPPIAN AREAL GEOLOGY

SEDIMENTARY ROCKS

DEVONIAN

- Dt — Three Forks formation
- Db — Birdbear formation
- Dd — Duperow formation
- Ds — Souris River formation
- Dsb — Dawson Bay formation

CAMBRIAN, ORDOVICIAN, AND SILURIAN

- SOC — Cambrian, Ordovician, and Silurian sedimentary rocks

PRESENT SURFACE GEOLOGY

IGNEOUS AND METAMORPHIC ROCKS

TERTIARY

- Intrusive rocks — *Include small areas of metamorphic rocks in Little Rocky Mountains and northern Black Hills*
- Extrusive rocks — *Include small areas of intrusive rocks in Bearpaw Mountains*

PRECAMBRIAN

- Metamorphic rocks

Contact

Dashed where approximately located, dotted where concealed beneath extensive cover or where removed by erosion

Reverse fault

Dashed where approximately located; U, upthrown side; D, downthrown side

Erosional limit of Mississippian rocks

East of limit, Devonian formations directly overlain by Jurassic rocks

Thickness line

Isopachs showing thickness, in feet, of Devonian rocks. Long dashes in areas of poor control; short dashes or dots indicate reconstructed thickness in areas of metamorphic or intrusive rocks; isopach interval 100 feet.

Well shown in cross section on plate 7

Control well that bottomed in Devonian rocks

Control well that penetrated pre-Devonian rocks

Number indicates thickness, in feet, of Devonian rocks where present

Measured surface section

Number indicates thickness, in feet, of Devonian rocks where present

SOURCES OF DATA

Radioactivity and electrical logs released by commercial companies prior to Feb. 1, 1959; lithologic logs prepared by geologists of the U. S. Geological Survey; reports of the U. S. Geological Survey; and data furnished by oil companies

ISOPACH MAP OF DEVONIAN SYSTEM SHOWING DISTRIBUTION OF DEVONIAN FORMATIONS DIRECTLY UNDERLYING POST-DEVONIAN BEDS IN WILLISTON BASIN AND IN CENTRAL MONTANA AND NORTH-CENTRAL WYOMING

SCALE 1:760 320

10 0 10 20 30 40 50 MILES