

FENCE DIAGRAM SHOWING LITHOLOGIC FACIES OF THE SADLEROCHIT FORMATION,
NORTHEASTERN ALASKA

BY
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A fence diagram of the Sadlerochit Formation, the major reservoir rock in the Prudhoe Bay oil field, is presented for about 20,000 square miles of northeastern Alaska. Thirty reference points were used in constructing the diagram, 27 are outcrop sections measured in detail between 1969 and 1972, and 4 are well logs of oil wells drilled in recent years. Well logs used include Atlantic Richfield Prudhoe Bay No. 1, Pan American Kavik No. 1, Home Oil - Atlantic Richfield Nora Federal No. 1, and Home Oil Bush Federal No. 1. The sections extend from Prudhoe Bay to International Boundary Monument No. 5 eastward along the north front of the Brooks Range, and the southern line of the diagram extends from Flood Creek eastward to Joe Creek, near the Alaska-Canada boundary. The Sadlerochit Formation is divided into the Echooka and Ivishak Members, and these members are further subdivided into lithologic units. A complete description of the new units, which will be given formational status, will be the subject of a Professional Paper of the U.S. Geological Survey (in press) that will be entitled "Post-Carboniferous stratigraphy, northeastern Alaska" by R. L. Detterman, H. N. Reiser, W. P. Brosgé, and J. T. Dutro, Jr.

Lower Triassic	Ivishak Member	Upper siltstone
		Cuesta-forming unit
Permian	Echooka Member	Lower siltstone and shale
		Quartzitic sandstone and siltstone
		Limestone and chert

Sadlerochit Formation

EXPLANATION

- Conglomerate
- Silty sandstone
- Limestone
- Contact
- Unconformity, disconformity, and diastems
- Gradational contact
- Section missing through erosion
- Covered
- Conglomeratic sandstone
- Siltstone
- Lime mud
- Chert
- Limestone concretions
- Siliceous sandstone
- Silty shale
- Sandstone
- Calcareous siltstone
- Siliceous siltstone
- Silty shale

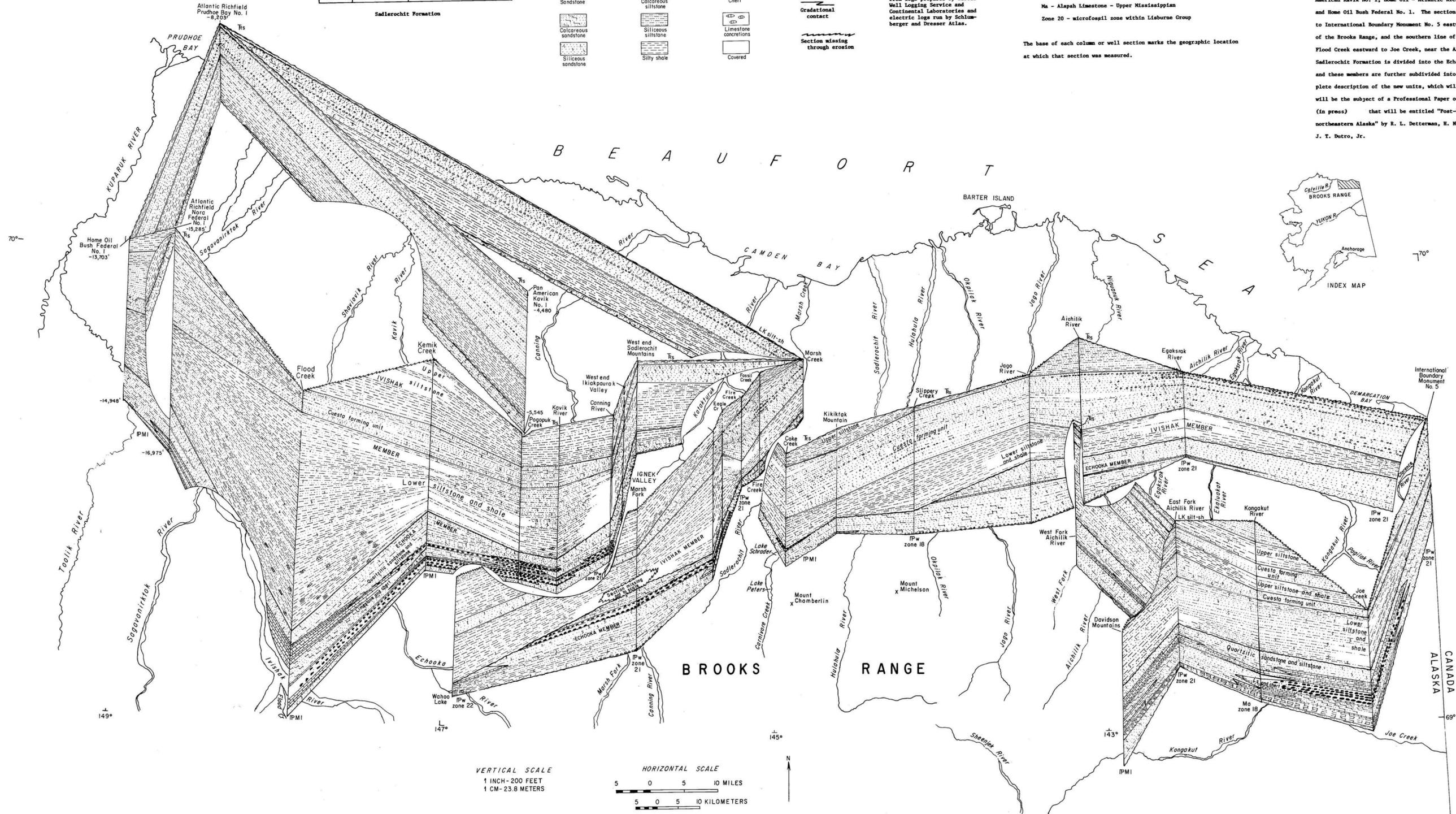
Depth to top and base of Sadlerochit Formation, obtained from well records. Depth measured from Kelly heading.

Lithology of wells obtained from logs prepared by Harold Well Logging Service and Continental Laboratories and electric logs run by Schlumberger and Dresser Atlas.

STRATIGRAPHIC SYMBOLS USED TO INDICATE BEDS OVERLYING AND UNDERLYING THE SADLEROCHIT FORMATION

- LK - silt-shale - Lower Cretaceous siltstone and shale
- JK - Kingak Shale - Jurassic
- Ts - Shublik Formation - Middle and Upper Triassic
- PMI - Lisburne Group - Upper Mississippian to Middle Pennsylvanian
- IPw - Wahoo Limestone - Middle Pennsylvanian
- Ma - Alapah Limestone - Upper Mississippian
- Zone 20 - microfossil zone within Lisburne Group

The base of each column or well section marks the geographic location at which that section was measured.



FENCE DIAGRAM SHOWING LITHOLOGIC FACIES OF THE SADLEROCHIT FORMATION (PERMIAN AND LOWER TRIASSIC), NORTHEASTERN ALASKA

Outcrop sections measured 1969-1972

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