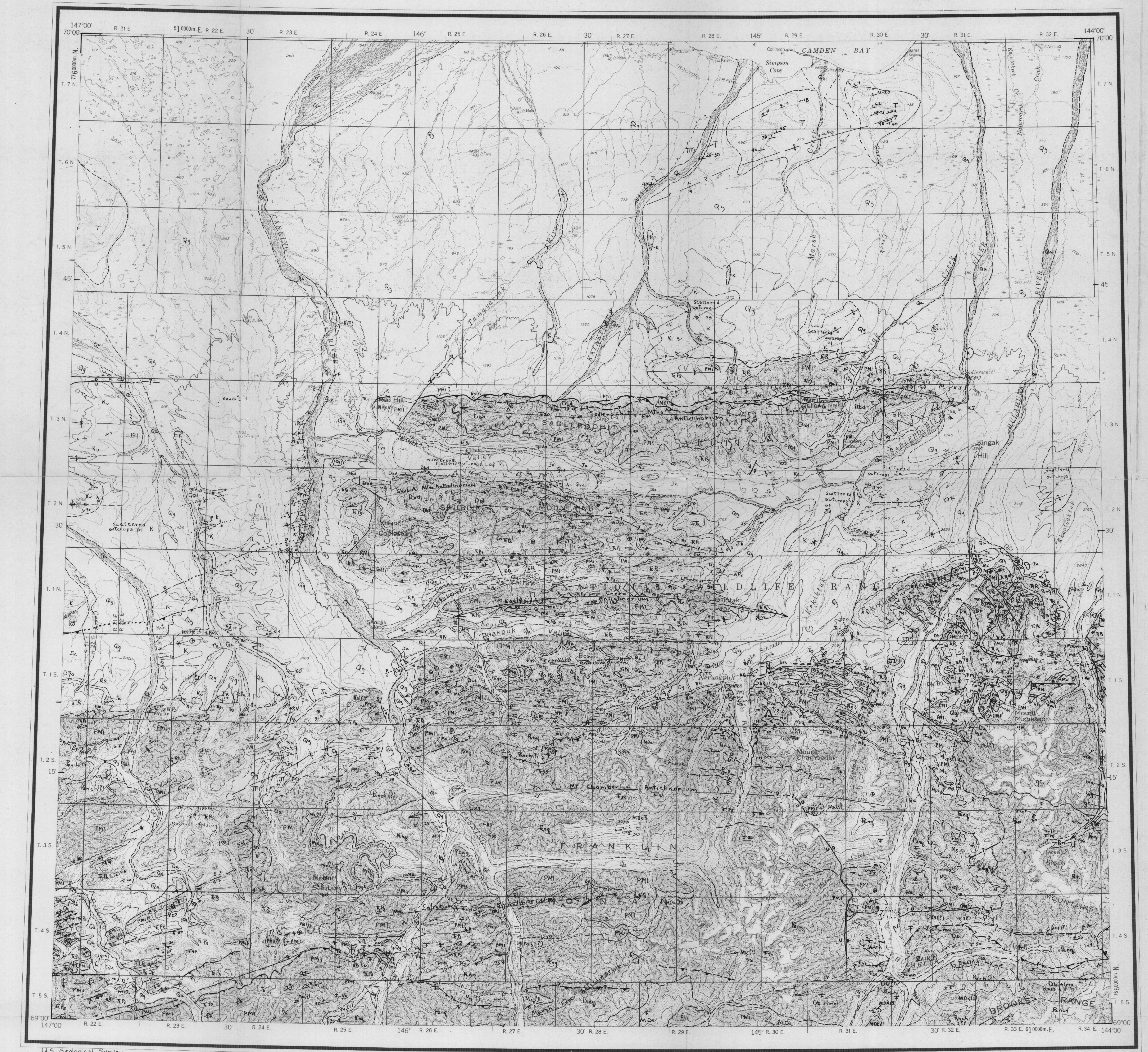
Alaska open file #340

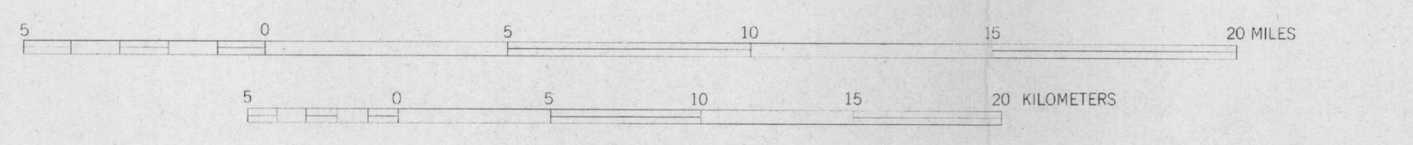
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MT. MICHELSON

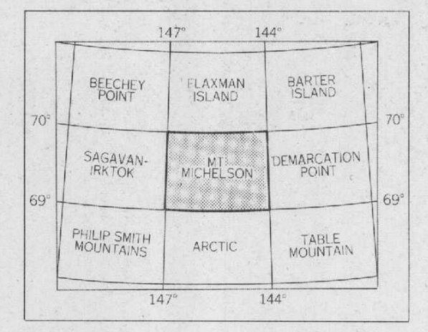


U.S. Geological Survey
OPEN FILE REPORT

This map is preliminary and has not been edited or reviewed for conformity with Geological Survey standards and nomenclature.



CONTOUR INTERVAL 200 FEET
DOTTED LINES REPRESENT 100-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL



OPEN FILE MAP

EXPLANATION

SEDIMENTARY AND METASEDIMENTARY ROCKS

Qa Qrs

Surficial deposits

Qa, flood plain alluvium
Qrs, rockslides, possible rock glacier debris in Ignek Valley

Qg

Glacial deposits

Undifferentiated glacial and glaciofluvial deposits

QUATERNARY

T

Tertiary rocks

Poorly consolidated siltstones, sandstones, conglomerates. Miocene, probable Pliocene fossils in upper part

TERTIARY

UNCONFORMITY

Ku

Upper Cretaceous rocks

Shale, sandstone, siltstone, conglomerate, thin beds of coal

K

Cretaceous rocks undifferentiated

Sandstone siltstone, shale; includes pyroclastic rocks

CRETACEOUS

KJ

Cretaceous and Jurassic rocks, undifferentiated

Jk

Kingak Shale

Dark-colored shale, minor siltstone, sandstone. Early, Middle, and Late Jurassic fossils; upper part may be Early Cretaceous

JURASSIC

JT

Jurassic and Triassic rocks, undifferentiated

JTP

Jurassic, Triassic and Permian rocks, undifferentiated

Trs

Shublik Formation

Dark-colored shale, phosphatic limestone, and calcareous shale and siltstone; fossils of Ladinian, Carnian, and Norian age

TRIASSIC

TrPs

Sadlerochit Formation

Gray to black shale and ferruginous sandstone, siltstone, quartzite; limestone beds in base; unit coarser toward north. Permian fossils in lower part, Triassic fossils in upper part

PERMIAN AND TRIASSIC

DISCONFORMITY ?

PMl

Lisburne Group

Fine-to coarse-grained limestone, some dolomite, chert nodules and lenses common; local basal sandstone..may locally include unit Mk at base. Probable Wolfcampian fossils in upper part, Meramec in lower

PM

Lisburne Group and Kayak(?) Shale undifferentiated

MISSISSIPPIAN, PENNSYLVANIAN(?) AND PERMIAN

Mk

Kayak(?) Shale

Dark-gray to black shale, limy shale, shaly limestone siltstone, quartzite, minor conglomerate. Meramec fossils in upper part; locally includes plant fossils and coal, may include unit MDk locally.

Ms

Mississippian rocks

Limy shale, slate, minor thin platy limestone. Meramec fossils, includes local basal coal

MISSISSIPPIAN

MDe

Endicott Group

Kayak(?) Shale and Kekiktuk Conglomerate, undifferentiated

DEVONIAN AND MISSISSIPPIAN

MDk

Kekiktuk Conglomerate

Quartzite and quartz chert locally cobbles conglomerate. Probably restricted to the Mississippian in mapped area

DEVONIAN OR MISSISSIPPIAN

Pzn Pznq Pznch

Neruokpuk Formation

Pzn, Neruokpuk Formation, undivided; largely clastic unfossiliferous low grade metasediments. Devonian or older

*Pznq, predominantly gray-green massive schistose quartzite and quartz-mica schist, includes phyllite and slate; may locally include Pz nch

*Pznch, predominantly phyllite with interbedded chert, locally calcareous; includes calcareous and schistose, quartzitic sandstone, slaty limestone, and calcareous siltstone

*Stratigraphic position uncertain in relation to each other, Db and Dcs

DEVONIAN OR OLDER

Dcs

Devonian calcareous shale

Ferruginous calcareous shale, slate, phyllite, and thin platy limestone. Tentatively correlated with the Devonian limestone and siltstone unit occurring elsewhere in the Brooks Range. Includes black noncalcareous shale with minor black chert at head of Hula Hula River

Db Dbl Dbf Dbd

Baird Group

Db, carbonate rocks undivided, limestone and marble with numerous sills and dikes at head of Hula Hula River, largely siliceous dolomite at Kikiktuk Mtn., includes conglomerate and breccia (carbonate constituents) at Old Man Creek, may include pre-Devonian rocks
Dbl, limestone with Middle Devonian fossils in upper part, dolomite in lower part
Dbf, Ferruginous siliceous dolomite and chert
Dbd, dolomite

DEVONIAN OR OLDER

IGNEOUS ROCKS

iv

Volcanic rocks may include pyroclastic rocks

ma

Mafic intrusive rocks may include some extrusive rocks

gr

Quartz monzonite and granite

Contact

Dashed where approximately located; short dashed where inferred; queried where doubtful

Fault

Dashed where approximately located; short dashed where inferred; queried where doubtful; dotted where concealed; U, upthrown side; D, downthrown side

Thrust fault

Dashed where approximately located; dotted where concealed. Sawteeth on upper plate

Anticline

Showing trace of axial plane; dashed where approximately located

Overturned anticline

Syncline

Overturned syncline

Inclined

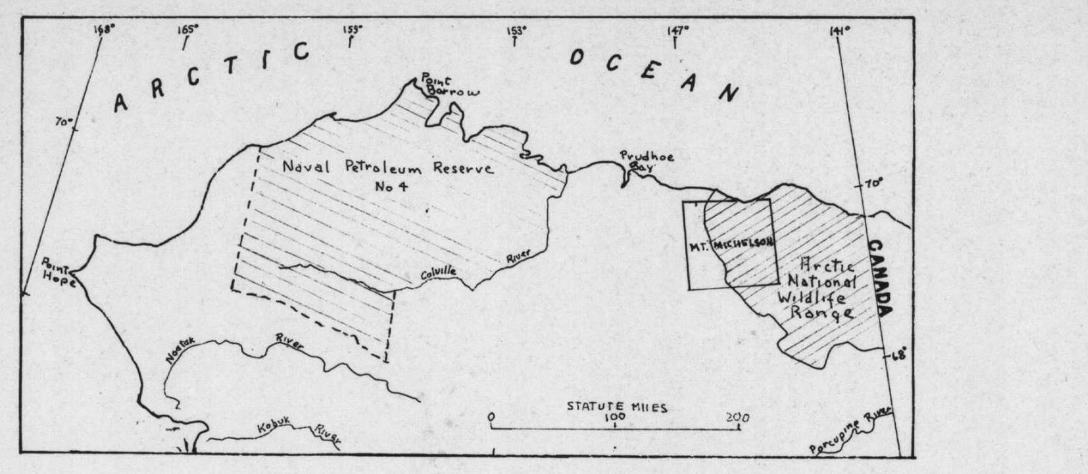
Overturned

Vertical

Crumpled, crenulated or undulatory

Strike and dip of beds

Arrow symbol indicates attitude estimated from distant field observations or photographs



Geology by:

E. de K. Leffingwell, 1908-1915
G. Gryc, A. H. Lachenbruch, M. D. Mangus, 1947
C. L. Whittington, A. H. Lachenbruch, E. G. Sable, 1948
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W. P. Brosgé, J. T. Dutro, M. D. Mangus, H. N. Reiser, 1952
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W. P. Brosgé, H. N. Reiser, 1960
B. L. Reed, 1960-61
A. K. Armstrong, H. N. Reiser, I. L. Tailleur, H. A. Tourtelot, 1968**

Information was contributed by various members of the American petroleum industry including B. P. Exploration USA Inc.
Photogeology by H. N. Reiser

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PRELIMINARY GEOLOGIC MAP OF MT. MICHELSON QUADRANGLE

Compiled by H. N. Reiser and I. L. Tailleur, 1969

THIS MAP IS PRELIMINARY AND HAS NOT BEEN EDITED OR REVIEWED FOR CONFORMITY WITH U.S. GEOLOGICAL SURVEY STANDARDS AND NOMENCLATURE