71-237

EXPLANATION

QUATERNARY

Pleistocene to Holocene

Qb — Beach deposits

Qa — Alluvium

Qf — Fans + cones

Qls — Landslides

Qc — Colluvium

Qt — Stream terrace

Qtm — Marine terrace

Pleistocene

Qg (Qg1, Qg2, Qg3, Qg4) — Glacial moraines
Qg3 may include Tertiary gravels in Juniper + Kavik Rivers area

Qgf — Glacial fluvial deposits

Qu — Unconsolidated deposits undifferentiated

Qgbk — Gubik Fm unconsolidated silt, sand, gravel.

UNCONFORMITY

TERTIARY

T

Poorly consolidated marine to non-marine (?) tan and gray siltstone, mudstone sandstone and conglomerate.
Miocene or Pliocene fossils at Carter Creek, locality 1

UNCONFORMITY

CRETACEOUS

Upper Cretaceous

Kcp

Sandstone, siltstone, salt and pepper sandstone; with wood fragments and coal. Weathers gray to brown
Probably in part equivalent to Prince Creek Formation

Kp

Pyroclastic rocks
Silicified tuff and bentonitic shale; minor siltyshale. Weathers red and green. Locally includes underlying black organic shale.

Kc

Sandstone and shale
Includes thin sandstone and conglomerate (similar to Ignek Sandstone) above the pyroclastic rocks, and organic shale below the pyroclastic rocks.
Equivalent to upper member of the Ignek Formation of Keller et al 1961, and to part of the Colville Group

UNCONFORMITY

Lower Cretaceous

Kn

Nanushuk Group
Sandstone, wacke, siltstone and shale; thin to medium bedded; flutes, grooves and load casts; minor cross-beds. Weathers yellow and orange. Resistant quartzose sandstone beds shown by dots.
Lower Cretaceous (mid-Albian) ammonites (Paragastroplites spatkari) near Kekiktuk River, loc. 2.
Inoceramus prisms locally abundant

Kl

Sandstone and shale
Equivalent to lower member of Ignek Formation of Keller et al, 1961

UNCONFORMITY

Lower Cretaceous (?)

Ki

Ignek sandstone
Subgraywacke and arenaceous sandstone; chert and quartz-pebble conglomerate; thin to medium beds; weathers gray to reddish brown.
Probably equivalent to Kemik Sandstone
Buchia of latest Jurassic or earliest Cretaceous age near Hank River, locality 3

KJ

Pebbly shale
Pebbly silty shale, siltstone, sandstone and quartzite; thin bedded; weathers gray, tan, dark brown. Minor ironstone concretions and orange-weathering ironstone beds. Worm borings locally abundant

UNCONFORMITY

JURASSIC

Lower, Middle and Upper Jurassic

JK

Kingak Shale
Upper part: clay shale, silty shale and siltstone with rusty weathering ironstone beds; pyrite abundant locally.
Middle and Upper Jurassic ammonites and pelecypods.
Lower part: dark gray to black fissile paper shale; abundant large ironstone concretions.
Lower Jurassic pelecypods and ammonites

JR

Kingak Shale and Shublik Formation undifferentiated

TRIASSIC

Middle and Upper Triassic

TRS (TRK, TRSS)

Shublik Formation
TRK: dark gray, fine-grained quartzitic sandstone and siltstone; locally calcareous or dolomitic; phosphatic nodules common. Uppermost Triassic fossils (Cratonis achetra achetra; Gryphaea kellogii) on Fire Creek, locality 4.
TRSS: interbedded black calcareous siltstone and limestone. Middle and Upper Triassic fossils

DISCONFORMITY

Permian and Upper Triassic

TRPs

Sadlerochit Formation
Upper part: massive, cuesta-forming gray to tan quartzitic sandstone and conglomerate; siltstone and shale; limonite and pyrite; weathers rusty brown. Grades into shale and thickens to south.
Lower Triassic ammonites and pelecypods
Lower part: massive dark gray quartzite and quartzitic siltstone; locally calcareous. Channel conglomerate at base locally.
Upper Permian brachiopods.

UNCONFORMITY

PERMIAN

Upper Mississippian to mid Pennsylvanian

PMI (Pw, Ma)

Lisburne Group.
Pw: Wahoo Limestone. Fine-grained limestone; oolitic limestone; glauconitic limestone; weathers light gray and creamy. Mid or upper Pennsylvanian brachiopods in upper beds near Wahoo Lake, locality 6.
Ma: Alapah Limestone; bioclastic limestone; dolomite; black chert. Weathers gray to dark gray. To south lower part is shaly and basal contact is obscure

PMI-MKy

Lisburne Group and Kayak Shale undifferentiated

MISSISSIPPIAN AND PENNSYLVANIAN

Lower and Upper Mississippian

MKy

Kayak (?) Shale
Dark gray to black shale; local interbedded limestone.

MKt

Kekiktuk Conglomerate
Quartzite and quartz and chert pebble conglomerate; local anthracite coal

MKs

Siltstone
Dark gray phyllitic siltstone with laminae and knots of red weathering ferruginous siltstone; local anthracite coal. Distinguished only in southwestern part of quadrangle

MK

Shale and sandstone undifferentiated. Locally absent; locally not differentiated from Lisburne Group.

UNCONFORMITY

DEVONIAN (?)

DCS (Ds, Dc)

Calcareous siltstone; chert and shale
DCS: ferruginous, micaceous, calcareous siltstone, shale and thin cross-bedded sandstone; ferruginous silty limestone. Tentatively correlated with lower Upper Devonian limestone-siltstone of southern Brooks Range.
Dc: thin to medium bedded chert; mostly black
Ds: black, noncalcareous phyllite, shale and siltstone

UNCONFORMITY

DEVONIAN

Middle Devonian

Dn

Nanook Limestone
Calcilutite and dolomite; minor shale. Top of basal red weathering shale and limestone indicated by ---- Middle Devonian corals in upper part at locality 4.

UNCONFORMITY ?

Pzn1

Black limestone
Gray to black argillaceous to sandy limestone; slate; phyllite; siltstone and sandstone.
Relation to other pre-Mississippian rocks uncertain.

SILURIAN (?)

SK

Katakturuk Dolomite
Dolomite; stromatolitic, pisolitic, cross-bedded; silty shale in lower part.

SILURIAN (?) OR OLDER

SO

Dolomite
Dolomite and dolomitic conglomerate with clasts of volcanic rocks; weathers orange and red.
Less than 200 feet thick

Pzn gq

Slate and quartzite
Gray, green, maroon and brown slate; minor quartzite. In eastern Sadlerochit Mtns. and Old Man Creek. Stratigraphic position uncertain.

Reference Keller, A.S., Morris, R.H., and Detterman, R.L., 1961, Geology of the Shaviovik and Sagavanirktok Rivers Region, Alaska: US Geol. Survey Prof. Paper 303-D

CAMBRIAN ---?

Pzncp

Chert and phyllite
Dark gray to black phyllite; thin bedded glassy gray to black chert; minor red and green chert.

Ev (Eu, Ec)

Volcanic and carbonate rocks
Ev: flows, tuffs, volcaniclastic rocks, agglomerate.
Ec: limestone and dolomite, partly oolitic. Lower Cambrian trilobites at Marsh Fork of Canning River, locality 7.
Eu: undifferentiated red, green, gray phyllite; graywacke, volcanic and carbonate rocks

PRECAMBRIAN (?)

pEnq (pEnq?)

Quartzwacke and semischist in Neruokpuk Formation
Locally includes maroon and green phyllite and argillite
Pzng?: orange-weathering quartz grit; chert; green argillite; minor volcanic rocks.

IGNEOUS INTRUSIVE ROCKS OF UNCERTAIN AGE

mi

Mafic sills and dikes

gr

Romanzof Granite
Quartz monzonite and granite

ALTERED ROCKS AT GRANITE CONTACT

Schist / altered schist

Schist: probably sheared Mississippian clastic rocks of units MKy and MKt.
Altered schist: mostly red-weathering highly pyritic quartzite of unit pEnq.

Contact
Dashed where approximate; queried where doubtful.

Fault
Dashed where approximate; queried where doubtful. U on upthrown side

Thrust fault
Sawteeth on upper plate

Axis of anticline showing plunge

Axis of syncline showing plunge

Inclined (25) · Overturned (25) · Vertical · Crenulated
Strike and dip of beds. Arrow indicates attitude from distant view or aerial photographs.

Overturned anticline

Overturned syncline

FA — Fold axis

10° — Lineation
Showing direction and amount of plunge

• 5 — fossil locality cited in Explanation

Location of measured section

MT. MICHELSON QUADRANGLE 1971