

EXPLANATION

Age and lithology of rocks in areas that are queried are unknown; mapped units that are queried are doubtful

EXPLANATION

Long dashes where approximately located; short dashes where inferred; dotted where concealed

Fossil Collections

Locality number	Field number	Age
1	60ARR672	Silurian or Devonian
2	60ARR661 (plants)	Paleozoic

Identified by S. H. Mamy, 1960 and W. A. Oliver, Jr., 1961

SEDIMENTARY ROCKS



Surficial deposits

Qu, surficial deposits, undifferentiated; includes colluvium
Qal, flood-plain alluvium. Includes small areas of bedrock in river banks. Recent
Qg, glacial drift. Hachured line indicates prominent lateral or terminal moraine; locally coincides with boundary of glacial drift. Pleistocene
Qft, alluvial fan and related terrace deposits. Pleistocene(?)
Hachured broken line represents prominent scarp separating terraces of different altitudes.
Many upland areas probably covered by colluvium and weathered glacial drift are mapped as bedrock

UNCONFORMITY

VOLCANIC AND ASSOCIATED SEDIMENTARY ROCKS



Volcanic rocks and chert

Pzv, basalt, andesite and gabbro; flows, breccias and intrusives; includes many small areas of interbedded(?) chert and slate (Pzc) and graywacke (Dgw). Devonian and possibly younger (Mesozoic?)
Pzc, black, gray, yellow, red and green, laminated, partly radiolarian chert; red, green and black slate, siliceous argillite and tuff; includes undifferentiated mafic dikes and interbedded with Devonian quartzite (Dsq) and graywacke (Dgw). Occurs in black slate (Ds) of Devonian age at one locality. North of quadrangle also occurs in black shale of Mississippian age. May include rocks of younger age

GRANITE AND METAMORPHIC ROCKS



Porphyritic granite and quartz monzonite



Greenstone and greenschist

QUATERNARY

UPPER PALEOZOIC OR MESOZOIC

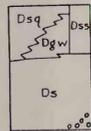
UPPER PALEOZOIC

DEVONIAN



Kanayut Conglomerate

Quartzite and quartzitic conglomerate. Partly equivalent to Dsq. North of quadrangle overlies both Dgw and Ds; locally pinches out southward



Black slate and sandstone

Dsq, quartzite with interbedded slate and lithic graywacke
Dss, undifferentiated quartzite (Dsq) and graywacke (Dgw); west of East Fork of Chandalar River is schistose and includes much schistose ferruginous sandstone
Dgw, micaceous, lithic graywacke and shale
Ds, slate, shale, phyllite and interbedded sandstone. Locally mapped basal conglomerate of stretched quartz, slate and limestone pebbles, grades(?) laterally to gray, noncalcareous sheared grit
Graywacke (Dgw) and quartzite (Dsq) together as much as 2,000 feet thick; slate (Ds) as much as 2,500 feet thick; basal conglomerate as much as 800 feet thick
Plants of Paleozoic age from Dgw identified by S. H. Mamy, 1960 (fossil locality 2). *Cyrtospirifer* sp. of Late Devonian age from Dgw 13 miles north of quadrangle identified by J. T. Dutro, Jr., 1960

LOCAL UNCONFORMITY



Limestone and siltstone

D1, pink-weathering, thin-bedded silty micaceous limestone and calcareous noncalcareous siltstone; some limestone thick-bedded; interbedded calcareous sandstone and grit; some interbedded conglomerate resembling basal unit of Ds is locally mapped
D1s, brown-weathering calcareous and noncalcareous phyllite, siltstone, grit and conglomerate; little silty limestone
Thickness varies from approximately 800 to 2,000 feet on lower Smoke Creek; locally absent
Corals of late Middle or early Late Devonian age 13 miles northwest of quadrangle identified by W. A. Oliver, Jr., 1961

LOCAL UNCONFORMITY



Skajit Limestone

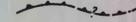
Black, thick-bedded limestone at top; remainder largely light-gray, massive limestone or marble; some silicified limestone at contact with volcanic rocks.

Contact



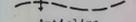
Long dashes where approximately located; short dashes where inferred; dotted where concealed

Fault



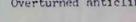
Dashed where approximately located; queried where doubtful; dotted where concealed. U, upthrown side; D, downthrown side

Thrust fault



Dashed where approximately located; queried where doubtful; dotted where concealed. Saw-teeth on upper plate

Anti-line



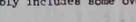
Showing approximately located trace of axial plane

Overtured anticline



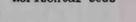
Showing approximately located trace of axial plane, direction of dip of limbs and plunge of axis

Strike and dip of beds



Probably includes some overturned beds

Strike and dip of beds



From distant views and photointerpretations. Probably includes some overturned beds

Strike and dip of vertical beds



Probably includes some overturned beds

Horizontal beds



Probably includes some overturned beds

Fossil locality



Number refers to list of fossil collections

Moraine



Locally coincides with boundary of glacial drift

Alluvial terrace scarp



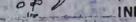
Probably includes some overturned beds

Horizontal beds



Probably includes some overturned beds

Fossil locality



Number refers to list of fossil collections

Moraine

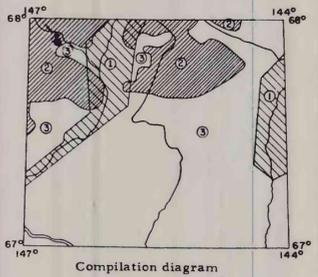


Locally coincides with boundary of glacial drift

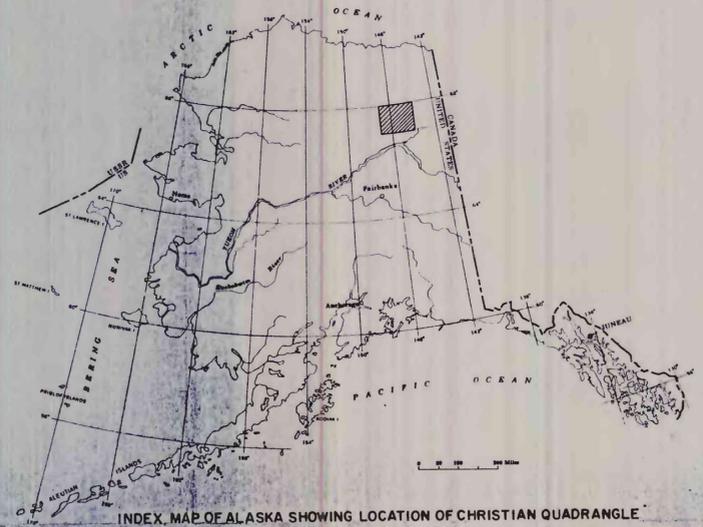
Alluvial terrace scarp



Probably includes some overturned beds



- Geology by J. B. Mertie, Jr., 1926, 1927, modified by recent field work and interpretation of aerial photographs (from Mertie, J. B., Jr., 1929, The Chandalar-Sheenjek district, Alaska: U.S. Geol. Survey Bull. 810-B and unpublished field notes).
 - Geology by W. P. Brosge, H. N. Reiser, J. O. Berkland, and N. K. Hagen, 1960.
 - Geology from interpretation of aerial photographs; few isolated field observations.
- Quaternary geology largely from interpretation of aerial photographs, 1961.



PRELIMINARY GEOLOGIC MAP OF THE CHRISTIAN QUADRANGLE, ALASKA

By
W. P. BROSGE¹ AND H. N. REISER

1962

SHEET 2 OF 2 SHEETS

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