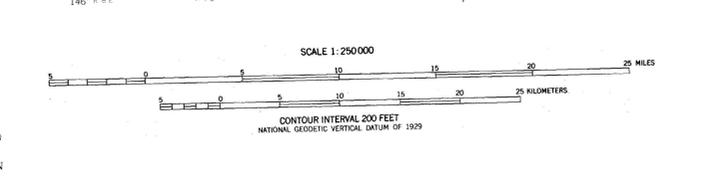
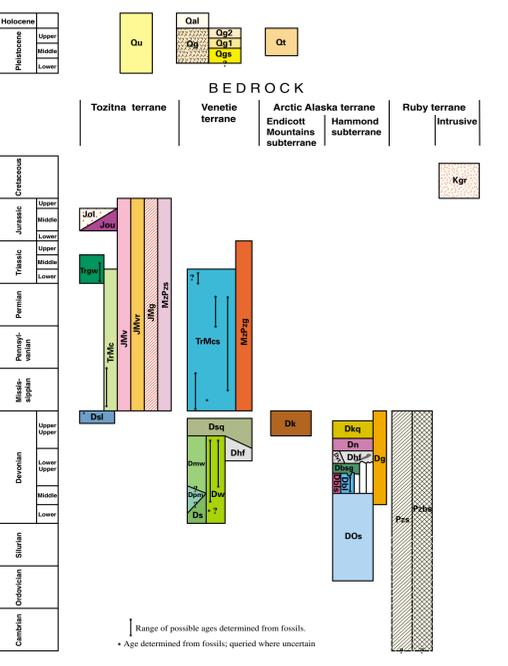


Base from U.S. Geological Survey, 1956  
Limited revisions 1983  
Universal Transverse Mercator, zone 6



Geology by: W.P. Brosgé, 1959; W.P. Brosgé and H.N. Reiser, 1960, 1963; L.L. Tallier, 1966; W.P. Brosgé and H.N. Reiser, 1972, 1979; C.C. Hawley and Geoff Garcia, 1976  
Digital representation by: K.A. Labay and D.C. Fray, Raytheon STX contractors, 1999-2000

### CORRELATION OF MAP UNITS UNCONSOLIDATED DEPOSITS



### DEFINITION OF MAP UNITS (See pamphlet for detailed descriptions)

(All surficial deposits have been mapped by interpretation of aerial photographs. The individual drift units are identified as mapped by Williams (1962) and Hamilton and Porter (1975). Terrace deposits are modified from map by Williams (1962).

- Qu** Undifferentiated deposits (Quaternary)
- Qal** Alluvium (Holocene)
- Og** Glacial drift undifferentiated (Pleistocene)—Composed of three drift units described by Hamilton and Porter (1975). May also include some Lower Pleistocene drift. Prominent moraines indicated by hachured lines.
  - Og2** Drift of Itkillik II glaciation (Upper Pleistocene)
  - Og1** Drift of Itkillik I glaciation (Middle to Upper Pleistocene)
  - Ogs** Drift of Sagavirktok glaciation (Middle(?) Pleistocene)
- Qt** Terrace deposits (Pleistocene)—Deposits of outwash fans of the Sheenjek, Christian and Chandalar Rivers and some of their tributaries. Hachured lines separate terraces at different elevations

### BEDROCK

- Tozitna terrane**
  - Venetie terrane**
  - Arctic Alaska terrane**
  - Endicott Mountains subterrane**
  - Hammond subterrane**
  - Ruby terrane**
  - Intrusive**
- Ophiolitic sequence:**
- Jol** Layered leucogabbro (Middle Jurassic)
  - Jou** Ultramafic rocks (Middle Jurassic)
  - JMv** Mafic volcanic rocks (Jurassic through Mississippian)  
Oil shale (Not shown on map)
  - JMvr** Rhyolite and dacite (Jurassic through Mississippian)
  - JMg** Greenstone (Jurassic through Mississippian)
  - Trgw** Graywacke (Middle or Lower Triassic)
  - TrMc** Chert and argillite (Triassic(?) through Mississippian)
  - MzPzs** Shale (Mesozoic or Paleozoic)
  - Dsl** Sandy limestone (Upper Devonian)

### EXPLANATION

- Contact Dashed where approximately located, short dashes where inferred, dotted where concealed
- Fault Dashed where approximately located, queried where doubtful, dotted where concealed
- Thrust fault Dashed where approximately located, queried where doubtful, dotted where concealed. Saw-teeth on upper plate
- Anticline, approximately located
- Syncline, approximately located
- Moraine, locally coincides with boundary of glacial drift
- Strike and dip of beds
- Strike and direction of dips of beds from distant views and photo-interpretations
- Strike and dip of vertical beds
- Fossil locality number refers to list of fossil collections
- Oil shale locality

### Table 1. Fossil Collections from the Christian Quadrangle, Alaska

Map No.	Locality No.	Sample No.	Longitude	Latitude	Fossil	Age	Identifier
Triassic rocks—graywacke (Trgw)							
13	USGS D 3276	63ARRS	67°38'N	144°47'W	pollen, spores	Triassic (probably Early or Middle)	R.L. Scott 11/20/64
Triassic to Mississippian rocks—chert and argillite (TrMc) and chert and slate (TrMcs)							
1	USGS MR-6005	560AB606	67°58'N	145°43 1/2'W	conodonts	Permian	B.R. Wardlaw 3/12/79
2	USGS MR-1084	79ABc257	67°37'N	145°41 1/2'W	radiolarians	Mesozoic to Recent; probably Mesozoic	D.L. Jones and B.L. Murchey 3/31/81
8	USGS MR-6006	60ABc629	67°47'N	144°28 1/2'W	radiolarians	Mississippian?	D.L. Jones 3/77
9	.....	60ABc794	67°47'N	145°23'W	radiolarians	Indeterminate	D.L. Jones 3/77
10	USGS MR-1083	79ABc256	67°43'N	145°24'W	radiolarians	Late Mississippian to Permian; probably Late Mississippian	D.L. Jones and B.L. Murchey 3/31/81
11	.....	60ABc790	67°42'N	145°26'W	radiolarians	Indeterminate	K.N. Sachs, Jr. 11/30/65
12	USGS MR-0112	60ARR663	67°39'N	145°18'W	radiolarians	Mississippian	D.L. Jones 3/1/79 and 4/17/81
14	.....	59ABc19	67°34'N	145°46'W	conodonts	Early Mississippian (late Kinderhookian)	R. Stamm 11/17/97
Devonian rocks—wacke (Dw)							
3	.....	72ABc235, 238B	67°54'N	145°17 1/2'W	plant fragments	Indeterminate	S.H. Munnay 12/22/72
3	Maceration 1423	72ABc235	67°54'N	145°18'W	spores	Early Devonian?	J.M. Schopf 2/7/73
6	USNM 41849	60ABc661	67°51'N	145°24'W	spores	Middle or Late Devonian	R.A. Scott 2/17/63
6	USNM 41849	60ABc661	67°1'N	145°24'W	plants	Palaeozoic, (Late Devonian?)	S.H. Munnay 11/4/60 and 1962
7	Maceration 1424	72ABc236	67°51'N	145°24'W	spores	Early Devonian?	J.M. Schopf 2/7/73
Upper Devonian rocks—Beaucoup Formation, limestone and siltstone member (Dbls)							
5	USGS 6418-SD	60ARR672	67°48'N	146°41 1/2'W	corals; stromatolites	Middle(?) and Late Devonian	W.A. Oliver, Jr. 1975
Upper Devonian rocks—sandy limestone (Dsl)							
15	.....	59ABc17	67°33'N	145°144'W	conodonts	Late Devonian (middle to Late Famem)	Rob Stamm 11/17/97
16	.....	63ARR146	67°33'N	145°40'W	conodonts	Late Devonian (Late Famemian)	Rob Stamm 11/17/97
Devonian through Ordovician rocks—Skajit Limestone (DOs)							
4	.....	Standard Oil Co. of CA, 25569-6	67°48'N	146°43'W	rugose coral	Indeterminate	W.A. Oliver, Jr. 3/17/72

Fossils identified by: D.L. Jones, S.H. Munnay, B.L. Murchey, W.A. Oliver, Jr., K.N. Sachs, Jr., J.M. Schopf, R.A. Scott, R. Stamm, B.R. Wardlaw.

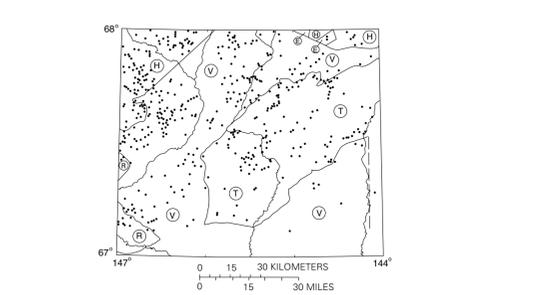


Figure 1. Index map showing locations of field observation points (dots) and boundaries of terranes and subterrains (E-Endicott Mountains; H-Hammond; V-Venetie; T-Tozitna; R-Ruby)

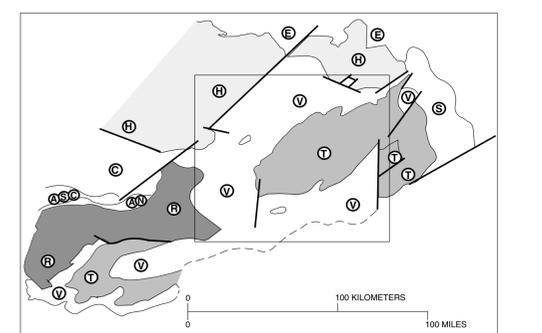


Figure 2. Map showing distribution of terranes and subterrains in and around the Christian quadrangle. Inset rectangle outlines the quadrangle. R—Ruby terrane; A—Angayacham terrane; H—Hammond subterrane; V—Venetie terrane; T—Tozitna terrane; S—Sheenjek terrane; C—Coldfoot subterrane; H—Hammond subterrane; E—Endicott Mountains subterrane.

## GEOLOGIC MAP OF THE CHRISTIAN QUADRANGLE, ALASKA

By  
**W.P. Brosgé and H.N. Reiser**  
2000

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