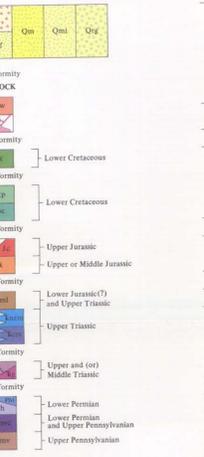


Geologic map of the Mccarthry C-8 Quadrangle, Alaska

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

Unconformity SURFICIAL DEPOSITS
Diverse unconformable or poorly consolidated surficial deposits are widely exposed and well marked in the quadrangle. They largely consist of glacial and glaciofluvial phenomena, although marked topographic relief has contributed to rapid modification of glacial features and has enhanced accumulation of deposits of glacial and glaciofluvial origin. The Berg Creek Formation is generally mapped as Quaternary deposits, but is not included in this section because of its position in the Quaternary Period and is partly covered, and others are ephemeral deposits that are still less than 20 m thick and chiefly a basal conglomerate. In place the limestone and conglomerate interstratified. The impure limestone typically is light gray and weathers light brown or pale yellowish brown. It generally is well developed, and commonly underlain by well-sorted sand-size grains that are calcite cemented. Fragmented limestone is abundant in much of the limestone and is the dominant constituent of some limestone. Besides its generally abundant to dominant calcite, the limestone contains diverse amounts of detrital quartz, ilitic fragments, and plagioclase, subordinate quartzite, pyrite, chert, hematite, sericite, muscovite, and traces of K-feldspar, biotite, perthite, and ilmenite.

MINES, PROSPECTS, AND MAIN MINERAL OCCURRENCES

Table with columns: Map Cate. number, Name (if known) and location, Ore metal(s), Type. Lists various mines and prospects with their locations and mineral types.

ADDITIONAL DESCRIPTIONS AND REFERENCES FOR THE EVALUATED DEPOSITS AND OCCURRENCES

1. Lower Permian - Lower Permian and widely distributed along bars, beds, and modern flood plains of the river and, to a lesser extent, along the tributaries. It consists of unconformable detritus, chiefly sand, and gravel, that generally is poorly sorted and locally is indurated. Many alluvial deposits are ephemeral, and most represent rapid deposition from overland glacial streams. Maximum thickness of the alluvium are not accurately known, but they probably are on the order of 10 m.

UNCONFORMITY

Lower Cretaceous - Lower Cretaceous and widely distributed along bars, beds, and modern flood plains of the river and, to a lesser extent, along the tributaries. It consists of unconformable detritus, chiefly sand, and gravel, that generally is poorly sorted and locally is indurated. Many alluvial deposits are ephemeral, and most represent rapid deposition from overland glacial streams. Maximum thickness of the alluvium are not accurately known, but they probably are on the order of 10 m.

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Upper Jurassic - Upper Jurassic and widely distributed along bars, beds, and modern flood plains of the river and, to a lesser extent, along the tributaries. It consists of unconformable detritus, chiefly sand, and gravel, that generally is poorly sorted and locally is indurated. Many alluvial deposits are ephemeral, and most represent rapid deposition from overland glacial streams. Maximum thickness of the alluvium are not accurately known, but they probably are on the order of 10 m.

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GEOLOGIC MAP OF THE MCCARTHY C-8 QUADRANGLE, ALASKA

By E. M. MacKevett, Jr., James G. Smith, D. L. Jones, and G. R. Winkler

1978

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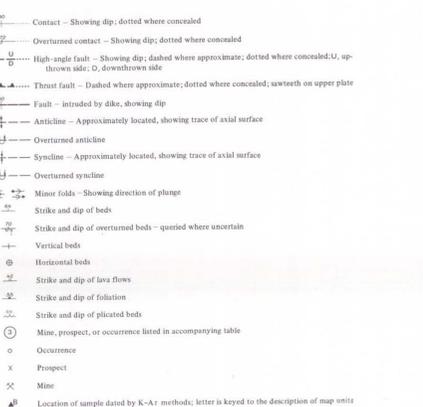
STATION CREEK FORMATION - The Station Creek Formation was divided by Smith and MacKevett (1970), p. 90 into two informal members, a volcanic flow member and an overlying volcanoclastic member. Both members are confined to the structurally complicated southern part of the quadrangle.

Volcanic flow member - The volcanoclastic member conformably underlies the Station Creek Formation and in the C-8 quadrangle it is in fault contact with the regionally underlying volcanic flow member. The volcanoclastic member is by small patches of gabbro and the China Valley batholith. It is at least 900 m thick, but complete stratigraphic sections are lacking. The member consists of volcanic pebbles, conglomerate and coarse volcanic gray wackes with weathered surfaces variegated in shades of gray, brown, and black. The member is generally metamorphosed to greenschist-facies amphibolite. The dominant pebbles are conglomerate and coarse volcanic gray wackes contain abundant clasts of volcanic rocks and subordinate mineral clasts. Matrix of these rocks are altered and recrystallized and consist chiefly of albite, chlorite, calcite, and epidote, with flocks of various opaque minerals and their alteration products. The volcanic rocks of this member are generally the same as the volcanic flow member.

No direct data are available on the age of the volcanoclastic member. The member is widespread in the McCarthry quadrangle (MacKevett, 1976; Smith and MacKevett, 1970). It locally correlates with the Middle Peninsular to Lower Permian Status Spur Formation of the Matanuska Group of the eastern Alaska Range as revised by Richter and Datto (1975), p. 184-191, 220) and with similar rocks elsewhere in eastern Alaska and the Yukon Territory.

Volcanic flow member - The volcanic flow member forms a sequence of metamorphosed rocks in the southern part of the quadrangle. It is in fault contact with younger rocks, but its base is not exposed. It is cut locally by gabbro dikes that are too thin to show on the map. The member is about 300 m in exposure thickness. Most of its rocks have been altered and are semichert. They are mainly dark greenish gray with weathered surfaces variegated in shades of gray, brown, and black. The member consists of massive meta-andesite or metabasalt flows and some calcareous, locally similar block-pile flows. Pillow structures are preserved in several flows. Rocks of the member were metamorphosed, mainly to greenschist-facies amphibolite. Typical mineral assemblages in the volcanic flow member include: (1) albite + epidote + opaque minerals and their alteration products + chlorite + quartz; (2) albite + opaque minerals + clinzoisite + chlorite + chlorite + chlorite + chlorite + chlorite + prehnite + opaque minerals + epidote + calcite + chlorite + clinopyroxene and (or) actinolite. Descriptions and some analytical data for typical rocks of this member are given by Smith and MacKevett (1970), p. 97-101, and additional information on the diverse metamorphic member throughout the McCarthry quadrangle are given in MacKevett (1976a).

On the basis of stratigraphic position and lithology, the member correlates with the Peninsular part of the Tetina Volcanics in the eastern Alaska Range (Richter and Datto, 1975, p. 184-187).



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