OPEN-FILE REPORT 94-679
PLATE 1

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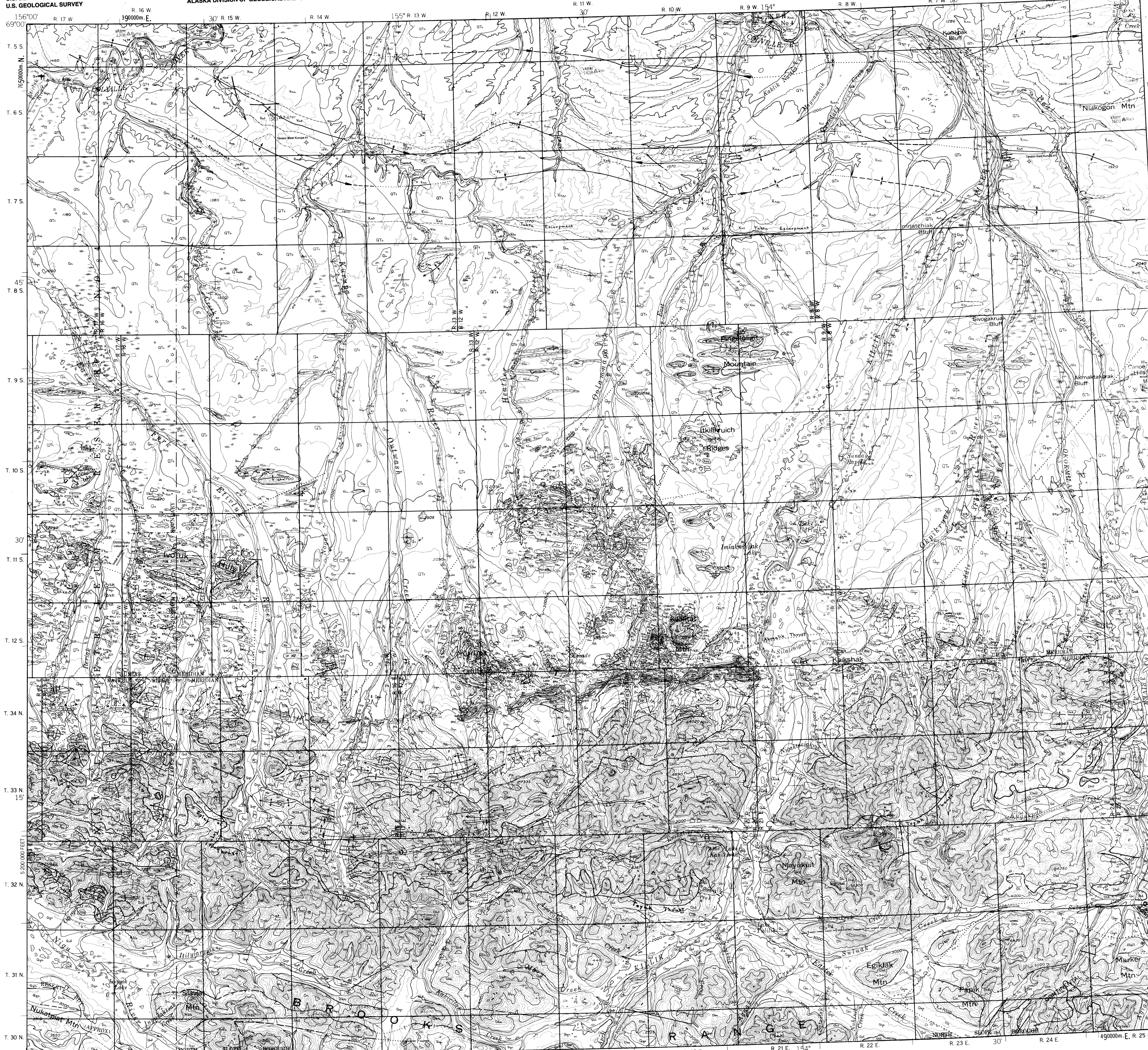


Base from U.S. Geological Survey, 1973
Universal Transverse Mercator Projection
1927 North American Datum

SCALE 1 : 125,000

CONTOUR INTERVAL 200 FEET

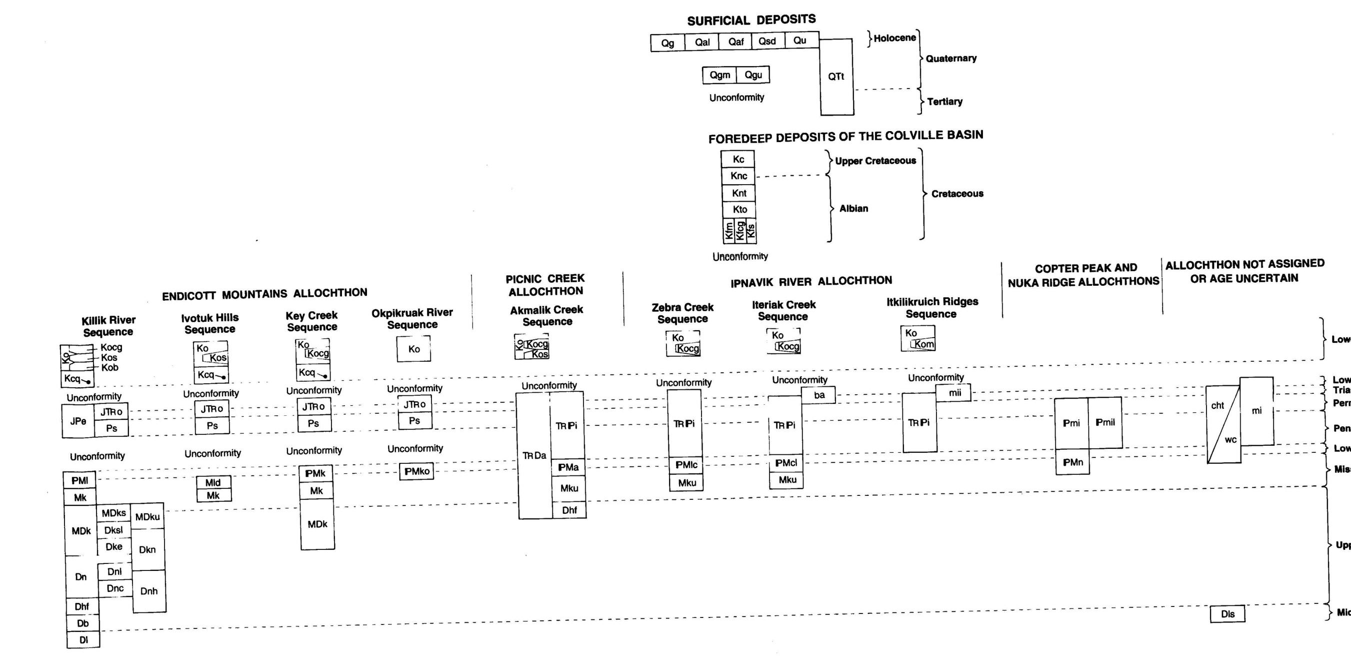
GEOLOGIC MAP OF THE KILLIK RIVER QUADRANGLE, BROOKS RANGE, ALASKA

By
C.G. Mull, T.E. Moore, E.E. Harris and I.L. Tailleur

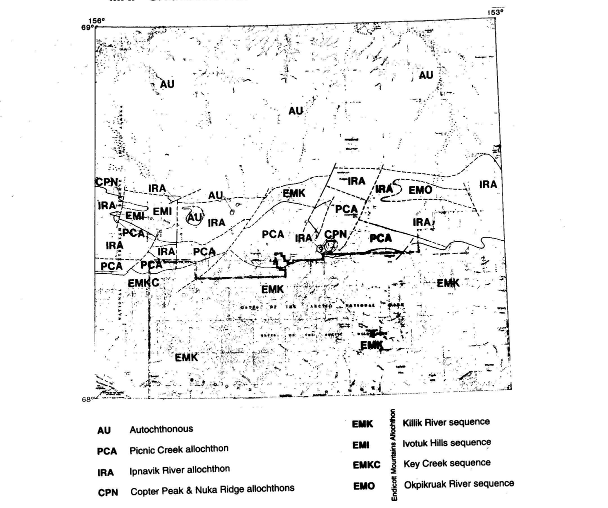
1994

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic Code. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

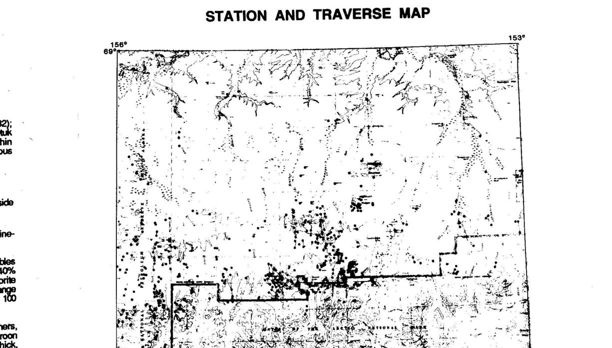
CORRELATION OF MAP UNITS



MAP SHOWING DISTRIBUTION OF ALLOCHTHONS



STATION AND TRAVERSE MAP



DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS

Modified from Hamilton, 1980

Qg GLACIAL ICE (Quaternary)—Modern cirque glaciers.

Qal ACTIVE ALLUVIAL DEPOSITS (Quaternary)—Silt, sand and gravel deposited by modern streams; includes flood-plain deposits which are lightly vegetated in some areas.

Qaf ALLUVIAL-FAN DEPOSITS (Quaternary)—Poorly to moderately sorted fluvial silt, sand and gravel forming deltoid fans and aprons where tributaries join higher order streams.

Qsd SAND AND DUNES (Quaternary)—Moderately sorted fine- to medium-grained sand, horizontally bedded to slightly cross-bedded. Initially deposited by slow-moving glacial streams reworking glacial outwash. Locally reworked into eolian deposits as sand sheets and dunes.

Qu SURFICIAL DEPOSITS, UNDIVIDED (Quaternary)—Includes colluvium and older vegetated alluvial deposits above present stream levels, alluvial fans, upland silt deposits, lacustrine material in Killik, Okokmilaga, and Okpikruak River valleys, and other surficial material not otherwise differentiated.

Qgm MORAINAL DEPOSITS (Quaternary)—Poorly sorted unstratitified till ranging from clayey stony silt to sandy bouldery gravel, contains large erratic boulders in some places; deposits form subdued to distinct, lightly to heavily vegetated, lateral and terminal moraines that in some places form well defined nested concentric ridges. Includes deposits of Anaktuvuk River, Sagavanirktok River, and Itkillik glaciations.

Qgu GLACIAL DEPOSITS, UNDIFFERENTIATED (Quaternary)—Stratified and unstratified drift of various glacial intervals. Includes till, outwash and ice-contact deposits.

QTt TERRACE GRAVEL (Quaternary and Tertiary)—Gravel and sandy gravel, forms terraces ranging from 3-4 m above modern stream levels, to high-level terraces as much as 110 m above modern stream levels. Includes extensive low level terrace material near major stream valleys and extensive higher level surfaces near Killik River.

FOREDEEP DEPOSITS OF THE COLVILLE BASIN

Kc COLVILLE GROUP, UNDIVIDED (Upper Cretaceous)—Poorly exposed interbedded marine sandstone and shale.

Knc NANUSHUK GROUP, CHANDLER FORMATION (Lower Cretaceous, Albian to Upper Cretaceous, Cenomanian)—Dominantly nonmarine, gray to light-gray sandstone and quartz- and chert-pebble conglomerate interbedded with dark-gray shale and coal, forms rolling tundra-covered hills with occasional resistant sandstone or conglomerate ledges north of Tuktu Escarpment.

Knt NANUSHUK GROUP, TUKTU FORMATION (Lower Cretaceous, Albian)—Dominantly gray to greenish-gray very-fine to fine-grained sandstone and conglomeratic sandstone.

Kto TOROK SHALE (Lower Cretaceous, Albian)—Soft, dark-gray to black clay shale and thinly interbedded silty shale, generally exposed only in discontinuous stream cutbanks, most exposures tightly folded, lower portion interfingers with Fortress Mountain Formation.

Kfm FORTRESS MOUNTAIN FORMATION, UNDIVIDED (Lower Cretaceous, Albian)—Dominantly greenish-gray graywacke interbedded with dark-gray mudstone and shale; forms Pingaluligit Mountain and lower resistant linear ridges between Okpikruak River and Kurupa River; interfingers with Torok Shale, in places contains differentiated units:

Kfcg —As above, contains thick massive beds of pebble- to boulder-conglomerate, clasts are well rounded and consist dominantly of gray, black, and green chert and a large variety of altered mafic igneous rocks.

Kfs —As above, dominantly dark-gray shale and mudstone.

ALLOCHTHONOUS ROCKS

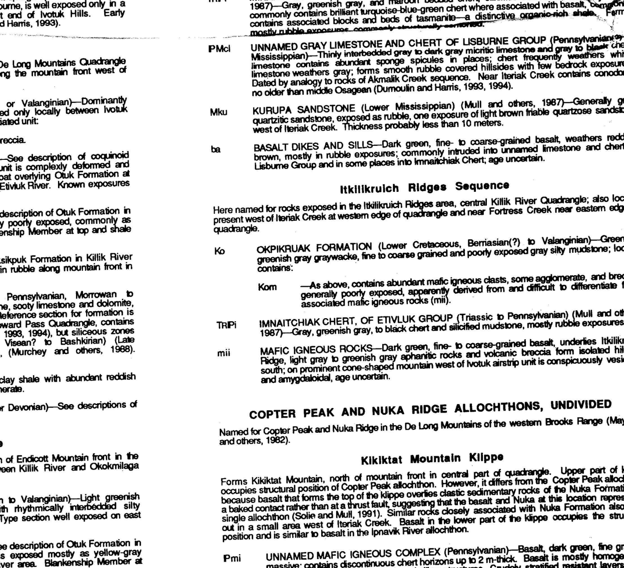
ENDICOTT MOUNTAINS ALLOCHTHON

Named for the Endicott Mountains (Mull, 1985), which are composed dominantly of rocks of this allochthon. Also known as the Brooks Range allochthon (Martin, 1970; Mayfield and others, 1988).

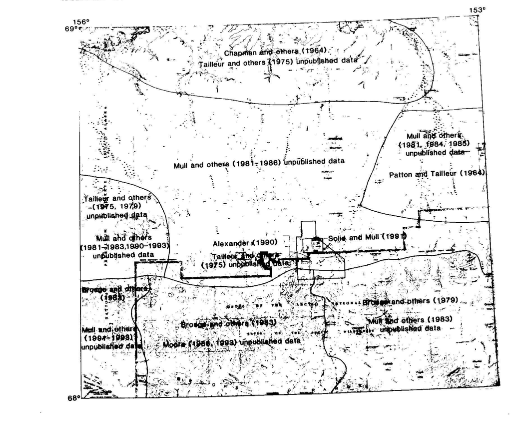
Killik River Sequence

Here named for the upper Killik River area, where the sequence is well exposed in the adjacent mountains, and along the northern mountain front west of the Killik River.

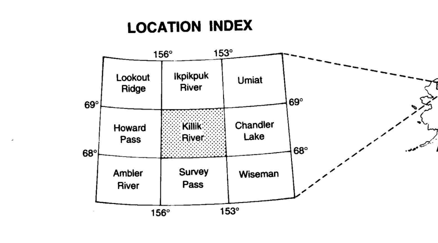
MAP SYMBOLS



INDEX MAP SHOWING SOURCES OF BEDROCK GEOLOGY



LOCATION INDEX



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