U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

MISCELLANEOUS INVESTIGATIONS SERIES
MAP I–1961 (SHEET 2 OF 2)
Explanatory pamphlet accompanies map

Base from U.S. Geological Survey, 1:250,000, 1956, (revised 1981)
Universal Transverse Mercator projection

Additional data compiled by Béla Csejtey, Jr., 1978–85; and M.W. Mullen, 1981–85

SCALE 1:360 000

CONTOUR INTERVAL 200 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
1956 MAGNETIC DECLINATION AT SOUTH EDGE OF QUADRANGLE VARIES FROM 28°30′ TO 28°30′ EAST

MAP A. ADDITIONAL BEDDING AND STRUCTURAL DATA

EXPLANATION FOR MAP A

(Symbols may be combined on map)

Strike and dip of beds
- 45 — Inclined
- Vertical
- 30 — Approximate inclined, estimated from distant observations
- 70 — Overturned
- 75 — Approximate overtuned, estimated from distant observations

Strike and dip of slaty or axial plane cleavage
- 30 — Inclined
- Vertical

Strike and dip of metamorphic foliation, primary igneous foliation, and (or) shear planes
- 35 — Inclined
- Vertical

Bearing of lineation, plunge shown where known
- 20 — Inclined

Strike and dip of joints
- 55 — Inclined
- Vertical

EXPLANATION FOR MAP B

Fossil localities—Numbers refer to table 2 in accompanying pamphlet. Symbols combined for multiple occurrences

- 12 — **Plant fossils**
- 36 — **Mega-invertebrates**
- 94 — **Conodonts**
- 120 — **Radiolarians**
- 164 — **Barren**

Note: See sheet 1 for explanation of geologic map symbols and geologic mapping credit. Also see explanatory pamphlet for additional discussion of data on maps B and C

EXPLANATION FOR MAP C

Tectonostratigraphic terranes—Queried where correlation is uncertain

- YT — **Yukon-Tanana terrane**
- TK — **Talkeetna superterrane**
- NF — **Nixon Fork terrane**
- FL — **Para-autochthonous flysch deposits and associated rocks**
- CH — **Rocks of the Chulitna district (Chulitna terrane of Jones and others, 1983)**
- m — **Melange**
- bs — **Basalts and sedimentary rocks of unknown relation (part of the McKinley terrane of Jones and others, 1983)**

Metamorphic features of the Maclaren metamorphic belt

- **Approximate extent of amphibolite facies metamorphism**—Hachures face toward amphibolite-facies rocks
- Bi — **Metamorphic isograd**—Approximately located. Bi, Biotite; Gar, Garnet

EXPLANATORY NOTE:
In constructing the terrane map and the extent of the Maclaren metamorphic belt, sedimentary and volcanic rocks of Cenozoic age and plutonic rocks of Cretaceous and Tertiary ages have been omitted for clarity.

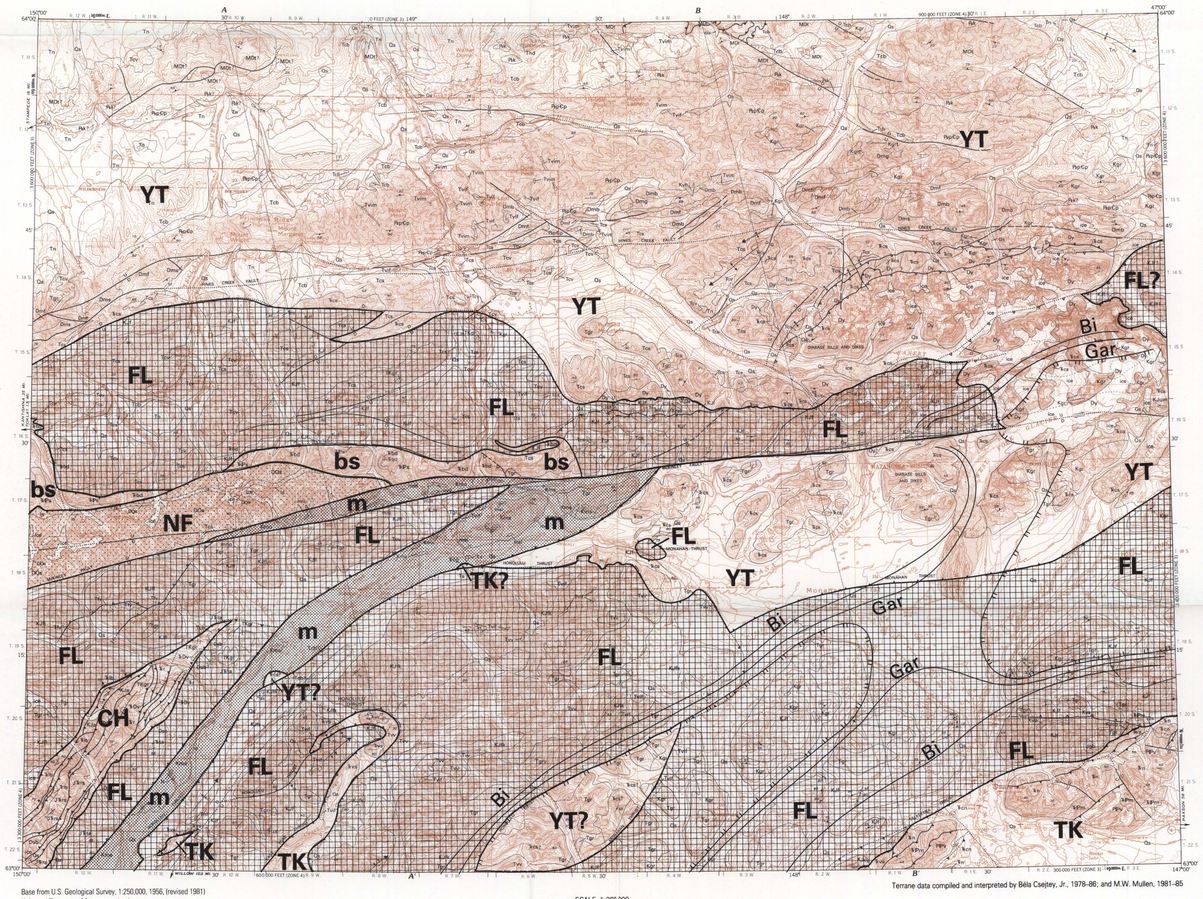
Base from U.S. Geological Survey, 1:250,000, 1956, (revised 1981)
Universal Transverse Mercator projection

Fossil locality data compiled and interpreted by M.W. Mullen, 1981–85

SCALE 1:360 000

CONTOUR INTERVAL 200 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
1956 MAGNETIC DECLINATION AT SOUTH EDGE OF QUADRANGLE VARIES FROM 28°30′ TO 28°30′ EAST

MAP B. FOSSIL LOCALITIES



Base from U.S. Geological Survey, 1:250,000, 1956, (revised 1981)
Universal Transverse Mercator projection

Terrane data compiled and interpreted by Béla Csejtey, Jr., 1978–86; and M.W. Mullen, 1981–85

SCALE 1:360 000

CONTOUR INTERVAL 200 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
1956 MAGNETIC DECLINATION AT SOUTH EDGE OF QUADRANGLE VARIES FROM 28°30′ TO 28°30′ EAST

MAP C. TECTONOSTRATIGRAPHIC TERRANE MAP AND THE APPROXIMATE EXTENT OF THE MID-CRETACEOUS MACLAREN METAMORPHIC BELT

GEOLOGY AND GEOCHRONOLOGY OF THE HEALY QUADRANGLE, SOUTH-CENTRAL ALASKA

By
Béla Csejtey, Jr., Michael W. Mullen, Dennis P. Cox, and Gary D. Stricker