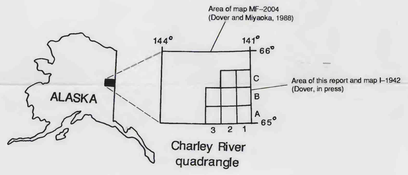
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

MISCELLANEOUS FIELD STUDIES
MAP MF–2007

Explanatory pamphlet accompanies map



142°00'
141°30'
141°00'
65°45'
65°30'
65°15'
65°00'

C-2 C-1 B-3 B-2 B-1 A-3 A-2 A-1

Folded Lower Cretaceous and Jurassic rocks, undivided

Folded Lower Cretaceous and Jurassic rocks, undivided

KATHUL MOUNTAIN SYNCLINE

STEEL MOUNTAIN ANTICLINE

WEST FORK ANTICLINE

HARD SYNCLINE

NATION RIVER ANTICLINE

MICHIGAN CREEK ANTICLINE

HARD LUCK ANTICLINE

CATHEDRAL CREEK ANTICLINE

WINDY MOUNTAIN SYNCLINE

INDIAN CRAVE SYNCLINE

YUKON RIVER

EXPLANATION OF SYMBOLS ON FOSSIL LOCATION MAP

• 65 Location of fossil collection--Locations 1-30 are approximate; numbers refer to collections listed in Table 1

B-2 1:63,360-scale (1°= 1 mile) topographic quadrangle

EXPLANATION OF GEOLOGIC BASE MAP

LIST OF MAP UNITS

Quaternary Surficial Deposits

Qa	Alluvium (Holocene)
Qt	Terrace deposits (Holocene and Pleistocene)
Ql	Loess? (Pleistocene)

Tertiary and Cretaceous Sedimentary Rocks

TKs	Sandstone, conglomerate, and mudstone (lower Tertiary and Upper Cretaceous)

Mesozoic Sedimentary Rocks

	Kandik Group (Lower Cretaceous)
Kka	Kathul Graywacke (Lower Cretaceous)
Kb	Biederman Argillite (Lower Cretaceous)
Kk	Keenan Quartzite (Lower Cretaceous)
Ka	Argillite (Lower Cretaceous)
	Glenn Shale (Lower Cretaceous to Middle Triassic)
KJgu	Upper part (Lower Cretaceous and Jurassic)
Tgl	Lower part (Upper and Middle Triassic)

Mesozoic and(or) Paleozoic Metamorphic Rocks

MzPzm	Metamorphic rocks, undivided (Mesozoic and(or) Paleozoic)

Paleozoic Sedimentary Rocks

Pt	Tahkandit Limestone (Permian)
Ps	Step Conglomerate (Permian)
Psl	Limestone
PMcb	Calico Bluff Formation (Lower Pennsylvanian and Upper Mississippian)
MDf	Ford Lake Shale (Upper Mississippian to Upper Devonian)
Dnr	Nation River Formation (Upper Devonian)
Dm	McCann Hill Chert (Upper to Lower Devonian)
Do	Ogilvie Formation of Clough (1980) (Middle and Lower Devonian)
DOr	Road River Formation (Lower Devonian to Lower Ordovician)
OCjr	Jones Ridge Formation (Upper or Middle Ordovician to Lower Cambrian)
OCh	Hillard Limestone (Lower Ordovician to Lower Cambrian)
€a	Adams Argillite (Lower Cambrian)
€f	Funnel Creek Limestone (Lower Cambrian)

Cambrian(?) and Precambrian Sedimentary and Igneous Rocks

	Tindir Group (Lower Cambrian to Middle Proterozoic)
€Ztu	Upper part, undivided (Lower Cambrian? and Late Proterozoic)
€Ztq	Quartzite (Lower Cambrian? and Late Proterozoic)
€Ztlq	Limestone and quartzite (Lower Cambrian? and Late Proterozoic)
€Ztaqa	Quartzite and argillite (Lower Cambrian? and Late Proterozoic)
€Ztrb	Red beds and quartzite (Lower Cambrian? and Late Proterozoic)
€Ztbs	Basalt and sedimentary rocks of Washington Creek (Lower Cambrian? and Late Proterozoic)
Ztdl	Dolomite and limestone (Late Proterozoic)
Ztdls	Shale
Ztl	Laminated limestone (Late Proterozoic)
Ztlc	Limestone and conglomeratic rocks (Late Proterozoic)
Ztdo	Dolomite (Late Proterozoic)
Ztls	Limestone (Late Proterozoic)
Ztbr	Basalt and red beds, undivided (Late Proterozoic)
Ztr	Red beds
Ztb	Basalt
Ztba	Basalt and argillite (Late Proterozoic)
Ztbc	Basalt and clastic rocks (Late Proterozoic)
	Lower part
Ytsh	Shale and diamictite (Middle Proterozoic)
Ytsl	Stromatolitic limestone (Middle Proterozoic)

Contact--Queried where uncertain

Bedding trace or marker bed

High-angle fault (including listric normal fault)--Dashed where approximately located; dotted where concealed; queried where uncertain. Bar and ball on downthrown side

Thrust fault--Dashed where approximately located; dotted where concealed; queried where uncertain. Sawteeth on upper plate

Landslide--Hachures point into slide mass

Strike and dip of beds--Ball indicates stratigraphic top as determined from sedimentary features
- Inclined
- Horizontal
- Vertical
- Overturned
- Determined from aerial photographs or estimated from a distance

Strike and dip of inclined axial plane cleavage

Strike and dip of inclined metamorphic foliation

Major fold axis--Shows direction of plunge where known; dotted where concealed
- Anticline
- Overturned anticline
- Syncline
- Overturned syncline

Minor fold axis--Shows direction of plunge where known
- Anticline
- Syncline
- Overturned
- Crenulations or group of minor folds

REFERENCES CITED

Clough, James G., 1980, Fossil algae in Lower Devonian limestones, east-central Alaska, in Short notes on Alaskan geology, 1979-80: Alaska Division of Geological and Geophysical Surveys Geologic Report 63, p. 19-21.

Dover, James H., in press, Geologic map and fold and thrust belt interpretation of the southeastern part of the Charley River quadrangle, east-central Alaska: U. S. Geological Survey Miscellaneous Investigations Map I-1942, __p., scale 1:100,000

Dover, James H., and Miyaoka, Ronny T., 1988, Reinterpreted geologic map and fossil data, Charley River quadrangle, east-central Alaska: U. S. Geological Survey Miscellaneous Field Studies Map MF-2004, scale 1:250,000

Base from U.S. Geological Survey 1:63,360
Charley River A–1, 2, 3; B–1, 2, 3; C–1, 2; 1956
Universal Transverse Mercator projection

SCALE 1:100 000

1 0 1 2 3 4 5 6 7 8 9 10
KILOMETERS
1 0 1 2 3 4 5
MILES
5000 0 5000 10000 15000 20000 25000
FEET

Geology from Dover, in press

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For sale by U.S. Geological Survey, Alaska Distribution Section, New Federal Bldg., Box 12, 101 Twelfth Avenue, Fairbanks, AK 99701, and U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225

FOSSIL LOCALITY MAP AND FOSSIL DATA FOR THE SOUTHEASTERN CHARLEY RIVER QUADRANGLE, EAST-CENTRAL ALASKA

By

Ronny T. Miyaoka

1990