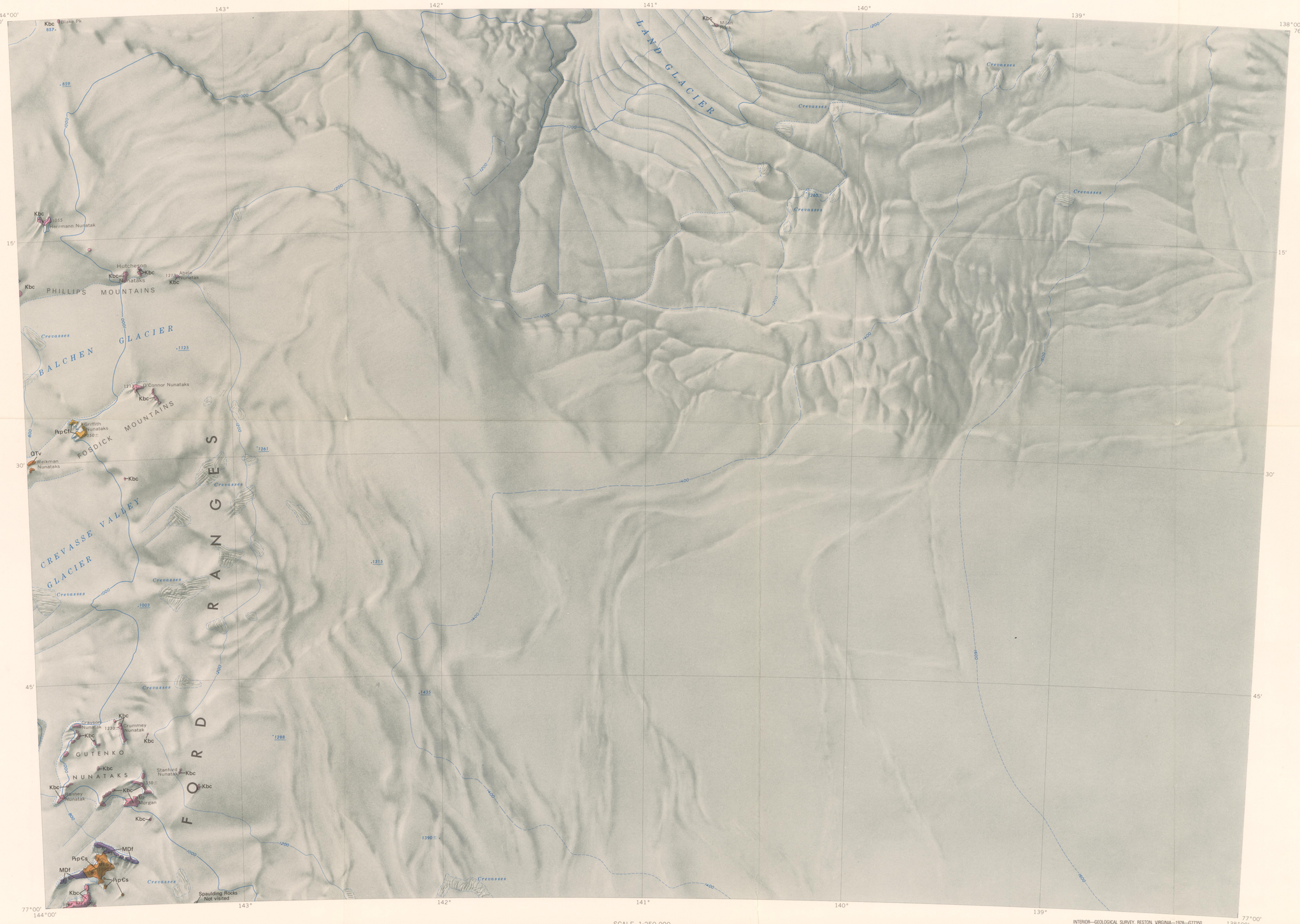
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED BY THE
ANTARCTIC RESEARCH CENTER, THE MUSEUM
TEXAS TECH UNIVERSITY
UNDER THE AUSPICES OF THE
NATIONAL SCIENCE FOUNDATION

U.S. ANTARCTIC RESEARCH PROGRAM
GUTENKO NUNATAKS QUADRANGLE
ANTARCTIC GEOLOGIC MAP A–11



Base from U.S. Geological Survey, 1973

SCALE 1:250,000

5 0 5 10 15 20 Statute Miles
5 0 5 10 15 20 25 30 Kilometers
5 0 5 10 15 Nautical Miles

Lambert Conformal Conic Projection—Standard Parallels 76°40′ and 79°20′
CONTOUR INTERVAL 200 METERS—DATUM IS MEAN SEA LEVEL

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1978—G77350

Geology mapped in 1940 by L. A. Warner and C. F. Passel; in 1966–1967 by F. A. Wade, V. L. Yeats, and L. V. Klimov assisted by J. R. Wilbanks and J. Suggs

CORRELATION OF MAP UNITS

QTv	QUATERNARY AND TERTIARY
Unconformity	
Kbc	CRETACEOUS
Unconformity	
MDf	MISSISSIPPIAN AND DEVONIAN
Unconformity	
PpCs, PpCf	LOWER PALEOZOIC AND UPPER PRECAMBRIAN

DESCRIPTION OF MAP UNITS

QTv OLIVINE BASALT FLOWS, TUFF AND OTHER PYROCLASTIC DEPOSITS

Kbc BYRD COAST GRANITE—Biotite granite, leucogranite, and alaskite, equigranular to porhpyritic, marginal and local foliation, magmatic origin. Includes associated pegmatites and aplites, and mafic dikes. Intrudes Swanson Formation and Fosdick metamorphic rocks. Radiometric ages mainly 100±10 m.y.

MDf FORD GRANODIORITE—Biotite-hornblende granodiorite. Composition of plagioclase ranges over wide limits, probably two generations: oligoclase-andesine and younger albite. Includes associated pegmatite, aplite and rhyolite dikes, and mafic dikes. Intrudes Swanson Formation. Radiometric ages mainly 345±11 m.y.

PpCs SWANSON FORMATION—Sequence of metamorphosed sedimentary rocks with total thickness estimated to be in excess of 4000 m. Degree of metamorphism seldom exceeds greenschist facies. Metagraywacke dominates sequence with lesser amounts of biotite schist, phyllite, and slate. Not subdivided because of insufficient field data. Late Precambrian age based upon achritarch assemblages (Iltchenko, 1972)

PpCf FOSDICK METAMORPHIC ROCKS—Progressively metamorphosed sedimentary rocks range from biotite schist to migmatitic granite; restricted to Fosdick Mountains. Relationship to Swanson Formation not established; probably age equivalent of Swanson but in a zone of higher regional metamorphism

——— Contact

.80 Strike and dip of beds

REFERENCES

Fenner, C. N., 1938, Olivine fourchites from Raymond Fosdick Mountains, Antarctica: Geol. Soc. America Bull., v. 49, no. 3, p. 367–400.

Iltchenko, L. N., 1972, Late Precambrian achritarchs of Antarctica, *in* Adie, R. J. ed., Antarctica geology and geophysics: Oslo, Universitetsforlaget, p. 599–602.

Klimov, L. V., 1972, Some results of geological investigations in Marie Byrd Land and the Eights Coast, *in* Adie, R. J., ed., Antarctic geology and geophysics: Oslo, Universitetsforlaget, p. 245–250.

Passel, C. F., 1945, Sedimentary rocks of the southern Edsel Ford Ranges, Marie Byrd Land, Antarctica: Am. Philos. Soc. Proc., v. 89, no. 1, p. 123–131.

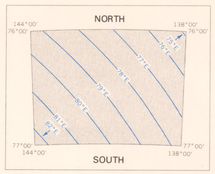
Wade, F. A., 1937, Petrologic and structural relations of the Edsel Ford Range, Marie Byrd Land, to other Antarctic mountains: Geol. Soc. America Bull., v. 48, no. 10, p. 1387–1396.

——— 1972, Geologic survey of Marie Byrd Land: Antarctic Jour. of the U.S., v. 7, no. 5, p. 144–145.

Wade, F. A and Wilbanks, J. R., 1972, Geology of Marie Byrd and Ellsworth Lands, *in* Adie, R. J., ed., Antarctic geology and geophysics: Oslo, Universitetsforlaget, p. 207–214.

Warner, L. A., 1945, Structure and petrography of the southern Edsel Ford Ranges, Antarctica: Am. Philos. Soc. Proc., v. 89, no. 1, p. 78–122.

Wilbanks, J. R., 1972, Geology of the Fosdick Mountains, Marie Byrd Land, *in* Adie, R. J., ed., Antarctic geology and geophysics: Oslo, Universitetsforlaget, p. 277–284.



Photogrammetric compilation

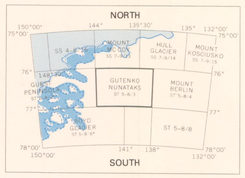
Isogonic lines compiled from U. S. N. O. O. Chart 1706 S, 1970

ISOGONIC LINE DIAGRAM

RECONNAISSANCE GEOLOGIC MAP OF THE GUTENKO NUNATAKS QUADRANGLE, MARIE BYRD LAND, ANTARCTICA

By
F. Alton Wade, Carl A. Cathey, and Jerry B. Oldham

1978



Sheet numbering system based on International Map of the World

INDEX TO ADJOINING SHEETS

For sale by Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202