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
GUEST PENINSULA QUADRANGLE
ANTARCTIC GEOLOGIC MAP A-7

Base from U.S. Geological Survey, 1972

Geology mapped in 1911 by K. Prestrud; in 1940 by F. A. Wade; in 1966-1967 by F. A. Wade, V. L. Yeats, and L. V. Klimov

CORRELATION OF MAP UNITS

Unit	Age
Qs	QUATERNARY
QTm, QTv	QUATERNARY AND TERTIARY
Unconformity	
Kbc	CRETACEOUS
Unconformity	
MDf	MISSISSIPPIAN AND DEVONIAN
Unconformity	
Pzp€s, Pzp€f	LOWER PALEOZOIC AND PRECAMBRIAN

DESCRIPTION OF MAP UNITS

Qs — SCREE—Broken rock fragments

QTm — MORAINE

QTv — OLIVINE BASALT FLOWS, TUFFS, AND OTHER PYROCLASTIC DEPOSITS—Radiometric ages 3.4 to 44.2 m.y.

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

MDf — FORD GRANODIORITE—Biotite-hornblende granodiorite. Probably two generations of plagioclase: oligoclase-andesine and younger albite. Includes associated pegmatite, aplite, and rhyolite dikes; and mafic dikes. Intrudes Swanson metasedimentary rocks. Radiometric ages mainly 345±11 m.y.

Pzp€s — SWANSON FORMATION—Sequence of metamorphosed sediments 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 quartzite, biotite schist, phyllite, and slate. Upper Precambrian-lower Paleozoic age based upon achritarch assemblages (Iltchenko, 1972). Name from Swanson Mountains

Pzp€f — FOSDICK METAMORPHIC ROCKS—Progressively metamorphosed sedimentary rocks ranging from biotite schist to migmatitic granite. Restricted to Fosdick Mountains. Relationship to Swanson Formation not established but probably age equivalent and representing a zone of higher regional metamorphism

Contact

Fault, dotted where concealed

Anticline, showing plunge

Antiform, showing plunge; drawn on foliation

Synform, showing plunge; drawn on foliation

Parallel folds, showing plunge

Strike and dip of beds

Strike and dip of foliation

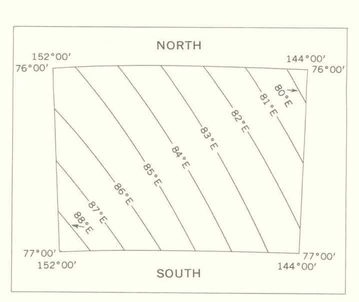
SCALE 1:250,000

5 0 5 10 15 20 Statute Miles

5 0 5 10 15 20 25 30 Kilometers

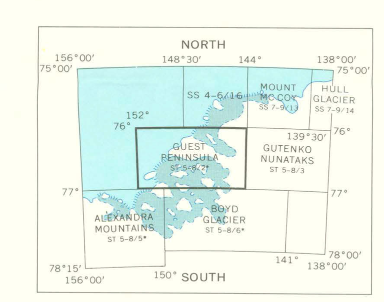
5 0 5 10 15 Nautical Miles

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



Compiled from U.S.N.O.O. Chart 1706 S, 1965

ISOGONIC LINE DIAGRAM



Sheet numbering system based on International Map of the World

INDEX TO ADJOINING SHEETS

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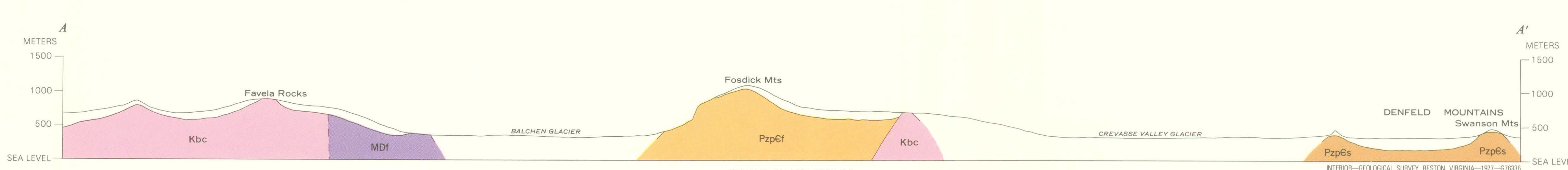

VERTICAL EXAGGERATION X 5

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1977—G76336

RECONNAISSANCE GEOLOGIC MAP OF THE GUEST PENINSULA QUADRANGLE, MARIE BYRD LAND, ANTARCTICA

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

1977

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