GEOLOGICAL SURVEY
UNIVERSITY OF MINNESOTA

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MISCELLANEOUS MAP SERIES
M-19

Base from U.S. Geological Survey topographic map, 1964

SCALE 1:24 000

1 0 1 MILE

1 .5 0 1 KILOMETER

Geology mapped 1968 and 1969

EXPLANATION

MIDDLE PRECAMBRIAN

LOWER PRECAMBRIAN

g

Diabase
Dominantly gabbro; dikes have fine-grained margins

gb | gmb | gmbm | gu

Giants Range Granite
gb, *pink, moderately foliated, medium-grained biotite granite*
gmb, *gray, massive, fine-grained muscovite-biotite adamellite and granite*
gmbm, *gray, fine-grained muscovite-biotite granite containing abundant inclusions of schist*
gu, *granitic rocks, undivided type uncertain*

dph

Diorite, tonalite, and monzonite
Contains biotite, pyroxene, and hornblende; inferred from aeromagnetic and gravity data

ms

Metasedimentary rocks
Inferred from aeromagnetic and gravity data

mv

Mafic metavolcanic rocks
Dominantly pillowed and massive mafic lavas and metadiabase; outcrops in Section 10, T.60N.-R.22W. are largely biotitic metadiabase

x
Small outcrop

Contact
Long dash where approximately located; Short dash where inferred

Strike and dip of foliation

Strike of vertical foliation

Bearing and plunge of lineation

RECONNAISSANCE GEOLOGIC MAP OF SIDE LAKE QUADRANGLE, ITASCA AND ST. LOUIS COUNTIES, MINNESOTA

By

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1974