

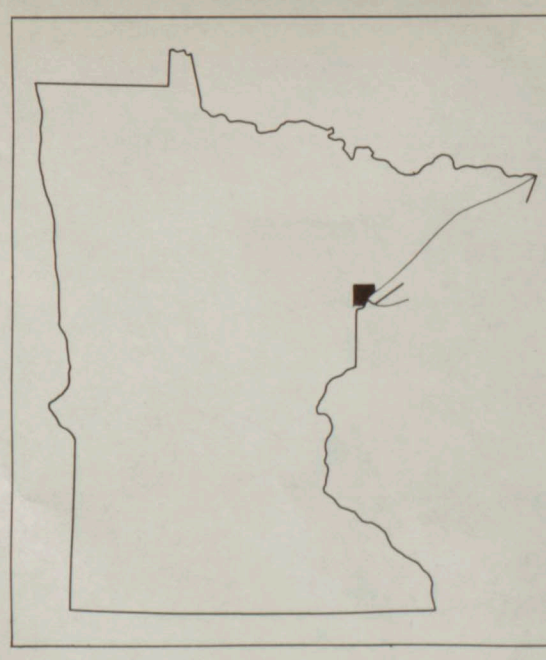


EXPLANATION

- Microgabbro dikes and sills
gn. Fin to medium-grained diabolic gabbro; includes granodiorite (g) and gneissophyre (g) in the Duluth and Superior areas
 - Granophyre
Fines to medium-grained red microporphyr, detailed impaction intergrowth of quartz and feldspar, "red rock"
 - Ferruginous gabbro
Medium-grained, dark-gray, iron-rich, pyroxene granodiorite
 - Layered series gabbro
H. Medium to coarse-grained, dark-gray, siliceous gabbro characterized by facies structure of rhythmic layering; formed by multiple intrusions
G. Coarse-grained outcrops with minor peridotite; intrusion at Island Park
 - Anorthositic gabbro
Very coarse-grained, light-gray, feldspathic gabbro; coarse inclusions of quartz
 - North Shore Volcanic Group
Lava flows and interflow tuffaceous; No. 1, basal flow; No. 2, flow of subvolcanic and regular composition; No. 3, tuffaceous tuffaceous, chiefly coarse-grained, consisting of detrital products of flow
 - Packawa Formation
Gray to buff, medium-grained sandstone; local quartz pebbles conglomerate at base
 - Thomson Formation
Gray to black interbedded siliceous and pyroxenitic, ortho- and paragneiss; quartzite, phyllonitic slate grades to, and is interbedded with medium to coarse-grained granitic gneiss consisting of quartz, plagioclase, and rock fragments cemented by chlorite and sericite
Outcrop areas indicated by darker color, as shown for Thomson formation
- Contacts
Dashed where approximate, dotted where inferred
- Gradational contact
- Strike and dip of beds
- Strike and dip of igneous flow banding
- Strike and dip of foliation structure or rhythmic banding

DULUTH GABBRO COMPLEX
LATE PRECAMBRIAN
MIDDLE PRECAMBRIAN

APPROXIMATE MEAN DECLINATION, 1954



GEOLOGIC MAP OF DULUTH AND VICINITY
ST. LOUIS COUNTY, MINNESOTA

BEDROCK GEOLOGY
By
Richard B. Taylor

SCALE 1:24,000

CONTOUR INTERVAL 10 FEET
DATHM IS MEAN SEA LEVEL