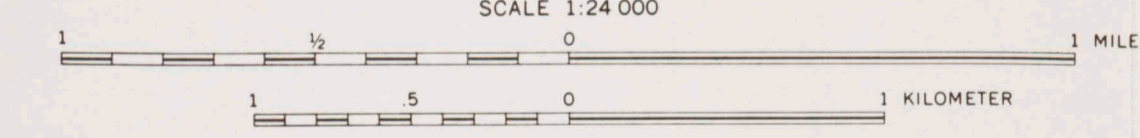




EXPLANATION

- | | | | | | |
|----|--|--|----|--|-------|
| | <table border="1" style="width: 100px; height: 15px;"> <tr> <td style="width: 50%; text-align: center;">fs</td> <td style="width: 50%; text-align: center;">fq</td> </tr> </table> | fs | fq | | upper |
| fs | fq | | | | |
| | | Fond du Lac Formation
fs, red arkositic sandstone and shale.
Includes basal beds of quartz pebble conglomerate | | | |
- | | | | | |
|-----|---|---|--|-----------------------------|
| | <table border="1" style="width: 100px; height: 15px;"> <tr> <td style="text-align: center;">dgl</td> </tr> </table> | dgl | | middle
(normal polarity) |
| dgl | | | | |
| | | Duluth Complex
medium- to coarse-grained, dark gray troctolitic rocks characterized by
fluxion structure or rhythmic layering | | |
- | | | | | |
|----|--|--|--|------------------------|
| | <table border="1" style="width: 100px; height: 15px;"> <tr> <td style="text-align: center;">gd</td> </tr> </table> | gd | | relative age uncertain |
| gd | | | | |
| | | Microgabbro dikes
fine- to medium-grained diabasic gabbro | | |
- | | | | | | | | | | |
|-----|--|---|----------------------------|-----|----|----|--|--|------------------------------|
| | <table border="1" style="width: 100px; height: 30px;"> <tr> <td style="width: 50%; text-align: center;">ecb</td> <td style="width: 50%;"></td> </tr> <tr> <td style="width: 50%; text-align: center;">esb</td> <td style="width: 50%; text-align: center;">eu</td> </tr> <tr> <td style="width: 50%; text-align: center;">eg</td> <td style="width: 50%;"></td> </tr> </table> | ecb | | esb | eu | eg | | | lower
(reversed polarity) |
| ecb | | | | | | | | | |
| esb | eu | | | | | | | | |
| eg | | | | | | | | | |
| | | Ely's Peak basalts
ecb, gray, fine-grained, augite basalt porphyry
and augite porphyritic basalt
esb, gray, fine- to medium grained, subophitic and
poikilitic basalt
eg, gray, medium-grained, ophitic and poikilitic
basalt flow approximately 500 feet thick
eu, basalt flows, the contacts of which
cannot be defined | North Shore Volcanic Group | | | | | | |
- | | | | | |
|----|--|--|--|-----------------------------|
| | <table border="1" style="width: 100px; height: 15px;"> <tr> <td style="text-align: center;">ns</td> </tr> </table> | ns | | lowest
(normal polarity) |
| ns | | | | |
| | | Nopemung sandstone
gray to buff, medium-grained quartzite and lesser amounts of siltstone
and conglomerate | | |
- | | | | | |
|----|--|--|--|--|
| | <table border="1" style="width: 100px; height: 15px;"> <tr> <td style="text-align: center;">fg</td> </tr> </table> | fg | | |
| fg | | | | |
| | | Thomson formation
gray to black meta graywacke, meta-siltstone, and slate; mainly of lower
greenschist grade | | |
- | | | | |
|--|--|---------------|--|
| | | | |
| | | Outcrop areas | |
- | | | | |
|--|--|--|--|
| | | | |
| | | Contact
dashed where approximate, dotted where inferred | |
- | | | | |
|--|--|---|--|
| | | | |
| | | Fault
dashed where approximately located
U, up thrown side; D, down thrown side | |
- | | | | |
|--|--|---------------------------------|--|
| | | | |
| | | Strike and dip of beds or flows | |
- | | | | |
|--|--|-------------------------|--|
| | | | |
| | | Strike of vertical beds | |
- | | | | |
|--|--|------------------------------------|--|
| | | | |
| | | Strike and dip of igneous layering | |
- | | | | |
|--|--|----------------------------|--|
| | | | |
| | | Strike and dip of cleavage | |
- | | | | |
|--|--|-----------------------------|--|
| | | | |
| | | Strike of vertical cleavage | |
- | | | | |
|--|--|---|--|
| | | | |
| | | Anticline
showing crest line and direction of plunge | |
- | | | | |
|--|--|--|--|
| | | | |
| | | Syncline
showing crest line and direction of plunge | |
- | | | | |
|--|--|--|--|
| | | | |
| | | Minor anticline
showing direction of plunge | |
- | | | | |
|--|--|----------------------------------|--|
| | | | |
| | | Drill hole
penetrates bedrock | |

Base from U.S. Geological Survey, 1954



Geology mapped in 1958, 1968 and 1971.
Data on outcrop distribution of Duluth
Complex previously published by Taylor (1963)
as Minnesota Geologic Map Series GM-1.

RECONNAISSANCE GEOLOGIC MAP OF ESKO QUADRANGLE,
ST. LOUIS AND CARLTON COUNTIES, MINNESOTA

By
J. A. Kilburg and G. B. Morey
1977