



LEGEND

LATE PROTEROZOIC OR PALEOZOIC

- 12 Gabbro, olivine gabbro, diorite dikes, characterized by ophitic texture; coarse grained and generally north-northeast trending

No Unit 11 on this map (See Note 7)

LATE PROTEROZOIC AND EARLIER

- 10c: 10m Fault and shear zone breccia; extensively hematized, epidotized, chloritized and silicified
- 10m Mylonitic rocks; fine grained, intensely foliated and lineated
- 9e 9p Minor mafic dikes; medium grained and equigranular, deformed and metamorphosed
- 9p Minor mafic dikes; medium grained and plagioclase porphyritic, deformed and metamorphosed
- 8 Microgranite, apite and pegmatite dikes, and irregular intrusions; various ages

MIDDLE PROTEROZOIC

- 7a 7i 7j 7k 7l 7m 7n 7p 7r Amphibolite and retrograded metagabbro; commonly garnetiferous, medium grained and foliated to gneissic
- 7i Two-pyroxene granulite, leuconorite; fine grained (rectangular shape of outcrops suggests these rocks are dikes in part)
- 7j Granite to alkali-feldspar granite; medium to coarse grained
- 7l Leucogabbro and leuconorite; medium to coarse grained (similar to 7r but lower color index)
- 7m Monzonite, monzodiorite, syenite and quartz-bearing varieties; medium to coarse grained
- 7n Anorthosite, leucogabbro; medium grained
- 7p Quartz monzonite to alkali-feldspar granite containing K-feldspar megacrysts; medium to coarse grained
- 7r Gabbro, norite, troctolite characteristically olivine bearing; medium to coarse grained, commonly coronitic and locally layered

6a 6i 6n

- 6a Metagabbroid rocks; amphibolite to granulite facies
- 6i Leucogabbroid rocks; fine to very coarse grained
- 6n Anorthosite and leucogabbroid rocks; fine to very coarse grained

No Unit 5 on this map (see Note 7)

4a 4b 4d 4f 4g 4h 4m 4p

- 4a Amphibolite skoliths, lenses and layers (possibly remnants of former mafic dikes)
- 4b Granodiorite; medium to coarse grained
- 4d Diorite to quartz diorite; medium to coarse grained
- 4f Granodiorite to granite; fine grained
- 4g Biotite granite; medium to coarse grained
- 4h Hornblende quartz monzonite; coarse grained
- 4m Biotite monzonite characterized by seriate to megacrystic texture; coarse grained
- 4p Granodiorite to granite containing K-feldspar megacrysts; medium to coarse grained

MIDDLE OR EARLY PROTEROZOIC

3a 3b 3d 3g 3m 3p

- 3a Amphibolite, meladiorite, minor quartzofeldspathic leucosome; fine to coarse grained and foliated
- 3b Quartz diorite to granodiorite containing hornblende ± biotite; medium to coarse grained; irregular quartzofeldspathic leucosome layers
- 3d Diorite to quartz diorite containing hornblende ± biotite; medium to coarse grained; irregular quartzofeldspathic leucosome layers
- 3g Granite to granodiorite containing biotite ± muscovite; medium to coarse grained; quartzofeldspathic leucosome in places
- 3m Monzonite, monzodiorite, quartz-bearing with hornblende ± biotite; medium to coarse grained; irregular quartzofeldspathic leucosome patches
- 3p K-feldspar megacrystic quartz diorite to granodiorite containing hornblende ± biotite; medium to coarse grained; irregular quartzofeldspathic leucosome patches

2a 2c 2k 2q 2s 2u 2w 2x 2z

- 2a Amphibolite containing quartz-feldspar layers and calc-silicate pods; schistose or gneissic (probably supracrustal in part)
- 2c Calc-silicate rocks, compositionally layered; medium grained
- 2k Kyanite-bearing quartz-feldspar schist and gneiss; medium grained
- 2q Quartzite, meta-arkose(?), thin to thick bedded; pelitic gneiss layers
- 2s Sillimanite-bearing quartz-feldspar schist and gneiss; medium grained and rusty weathering
- 2u Muscovite-rich quartz-feldspar schist; pelitic and semipelitic; medium grained and rusty weathering
- 2w Quartz-feldspar ± hornblende psammitic schist and gneiss, meta-graywacke(?); medium grained and rusty weathering in places
- 2x Metasedimentary diatexite; coarse grained to pegmatitic and white weathering
- 2z Cordierite-bearing schist and gneiss; fine to medium grained

MIDDLE OR EARLY PROTEROZOIC (includes many of above units mobilized during Grenvillian (or earlier) Orogeny)

1a 1b 1d 1g 1h 1p

- 1a Mafic to ultramafic gneissose rocks, commonly containing quartz-feldspar veins and segregations; fine to coarse grained
- 1b Biotite granodiorite gneiss containing minor hornblende; fine to coarse grained
- 1d Biotite-hornblende diorite to quartz diorite gneiss; fine to coarse grained
- 1g Biotite granite gneiss containing minor muscovite; medium to coarse grained
- 1h Hornblende-biotite quartz diorite to granodiorite gneiss; medium to coarse grained
- 1p Biotite granodiorite gneiss containing K-feldspar megacrysts, seriate texture in part; medium to coarse grained

GEOCHRONOLOGY ABBREVIATIONS

- Ar-Ar Argon-argon date
- P/Ar Plateau age - with parentheses
- T/Ar Total gas age - without parentheses
- K-Ar Potassium-argon date
- U-Pb Uranium-lead date
- W/R whole rock
- bi biotite
- hb hornblende
- mz monazite
- spn sphene
- zr zircon
- upper intercept
- lower intercept

MINERAL ABBREVIATIONS

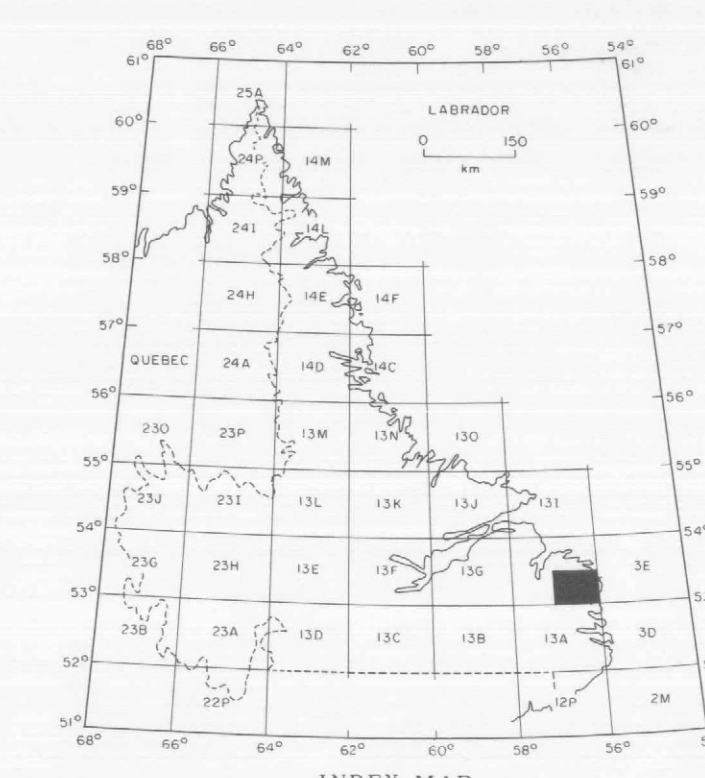
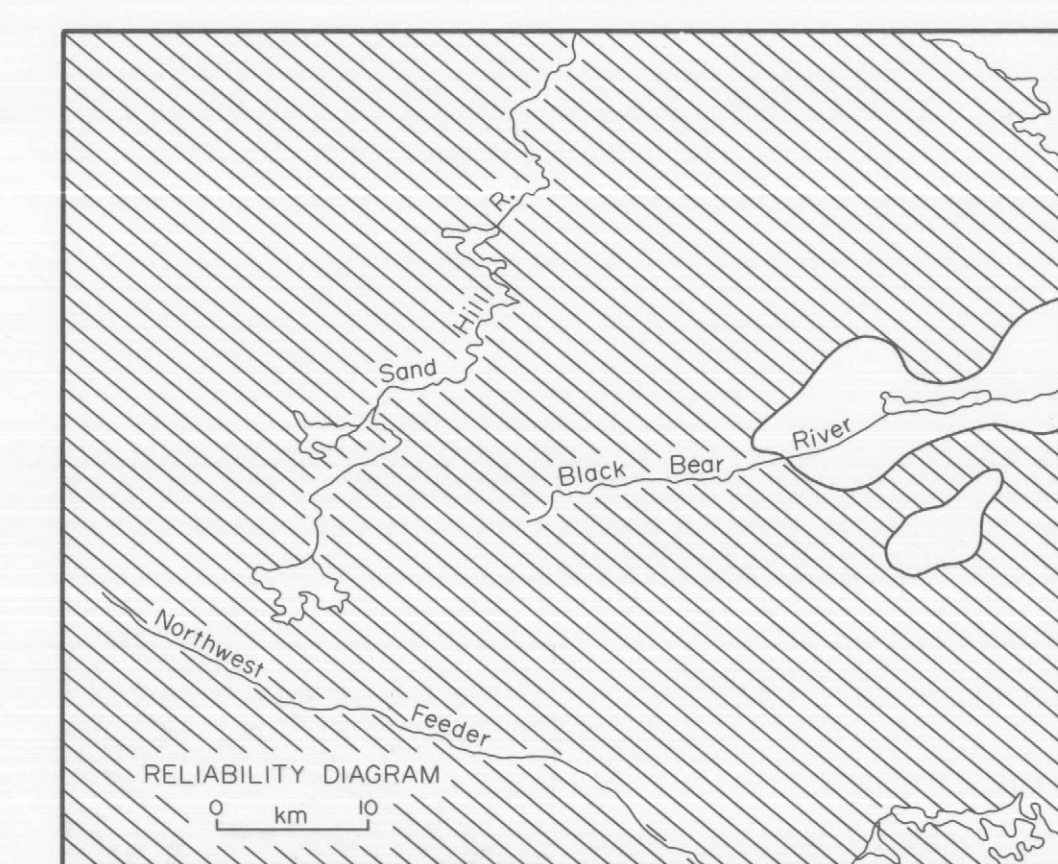
- Cu chalcocopyrite, malachite
- py pyrite
- U anomalous radioactivity
- mu muscovite
- sp sapphire
- osm osmium

SYMBOLS

- Geological boundary (approximate, assumed, inferred from aeromagnetic data in areas of thick overburden)
- Inferred primary igneous layering (inclined)
- Foliation (horizontal, inclined, vertical, dip unknown)
- Gneissosity (horizontal, inclined, vertical, dip unknown)
- Lineation (horizontal, inclined, combined with foliation)
- Minor folds, plan view and fold axis (the folds illustrated here are only examples of a wide range of fold styles depicted on the map)
- Fault (normal, type unspecified)
- Thrust (defined, assumed)
- Shearing and dip
- Antiform, synform; arrow indicates plunge
- Lineament, interpreted from aerial photographs
- Mineral occurrence
- Data station
- Area of thick overburden
- Glacial striae

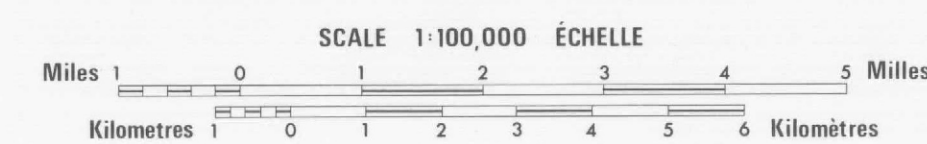
NOTES

- 1. Granitoid terminology follows IUGS recommendations (Steckelisen, 1976; Earth Science Reviews, Volume 12, pages 1-33).
- 2. Age relationships are not implied by the order in which units are presented within each group, and are not completely known between groups.
- 3. This is a combined legend for 13HSW, 13HSE and 3ESW; not all units are present on each map.
- 4. Units are indicated in order of decreasing abundance at each data station.
- 5. Unit symbols separated by slash, e.g. 1h/4h, indicate alternative designations, preferred unit given first.
- 6. Map users are encouraged to reinterpret map units with the same letter as possible equivalents, e.g. 1g = 4g.
- 7. Units 5 and 11 do not occur on this map. Unit 5 consists of syenitic, monzonitic and granitic plutons with lesser diorite and granodiorite. Unit 11 is Double Mer Formation. Both units occur farther north and west in eastern Labrador (see Newfoundland Department of Mines and Energy Maps 83-43, 44, 45, 46).



Geology by C. F. Gower, T. Van Nostrand, G. McRoberts, L. Crosby and S. Prevec, 1985.  
This preliminary map may be subject to revision and correction.  
Geological cartography by Drafting Section, Mineral Development Division, Department of Mines and Energy, Government of Newfoundland and Labrador.  
Copies of this map may be obtained from the Publications and Information Section, Mineral Development Division, Department of Mines and Energy, P.O. Box 4750, St. John's, Newfoundland, A1C 5T7.  
Base map enlarged from 1:250,000 scale map published by Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa.  
Magnetic declination at centre of map was 31°15' westerly in 1986, annual decrease 3.9' easterly.  
Elevations in feet above mean sea level.  
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MAP 86-74  
SAND HILL RIVER



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