

Published 1983

LEGEND

PALEOZOIC

12 Gabbro, olivine gabbro dikes, ophiolite texture, coarse grained, generally north-south trending.

HADRYNIAN

11a 11b Double Mer Formation
11a Conglomerate, rounded, subrounded and locally angular clasts of (mostly) gabbro and granitic rocks, in pebbly unmetamorphosed matrix.
11b Shale and arkose, well bedded, characteristically red and maroon weathering.
10 Fault and shear zone breccia and other cataclastic rocks. Extensively epilitized, hematitic; commonly interbedded mafic rocks and microgneiss. Post-Derby Double Mer Formation in part.

NEOHELIXIAN-HADRYNIAN

9e Epigabbro, diabase/meladiorite, gabbro/megagabbro dikes, medium and coarse grained, ophiolite texture preserved.
9p Plagioclase porphyritic diabase/meladiorite dikes, medium grained, ophiolite texture commonly well preserved.
8 Microgranite, apfite and pegmatite dikes, and irregular intrusions; various ages.

HELIXIAN (cf. ELSONIAN but probably includes earlier intrusions)

7b 7i 7m 7r 7y (includes Michael Gabbro)
7a Amphibolite or granulite associated with megagabbro rocks, commonly gneissous, medium grained, foliated to granitic.
7i Leucogabbro, leucocrinite, minor anorthosite, medium and coarse grained.
7m Megagabbro grading into monzonite, medium and coarse grained.
7r Gabbro, norite, commonly olivine-bearing, minor ultramafite, medium to coarse grained.
7y Syenite grading into monzonite, quartz-bearing in part, medium to coarse grained.

(includes Maaly Mountains Intrusive Suite)

6g 6i 6m 6n
6g Alkali feldspar granite, grading into quartz monzonite, coarse grained.
6i Leucogabbro, leucocrinite, anorthosite, fine grained to very coarse grained.
6m Monzonite to megagabbro, coarse to very coarse grained.
6n Leucocratic, layered plagioclase-rich rock with minor garnet, pyroxene, hornblende and quartz, medium to coarse grained.

5d 5m 5y 5p 5g

5d Diorite, quartz diorite, grading into monzonite, hornblende-bearing, medium to coarse grained.
5m Monzonite, quartz monzonite grading into dioritic, granitic or syenitic varieties, clinopyroxene, and rarely orthopyroxene bearing, medium to coarse grained.
5y Alkali feldspar granite, quartz syenite, syenite and monzonite, clinopyroxene-bearing in part, medium to coarse grained, characteristically pink weathering.
5p K-feldspar megacrystic granite to granodiorite, medium to coarse grained.
5g Biotite-hornblende granite to alkali-feldspar granite, medium to coarse grained.

HELIXIAN (cf. KETILDIAN)

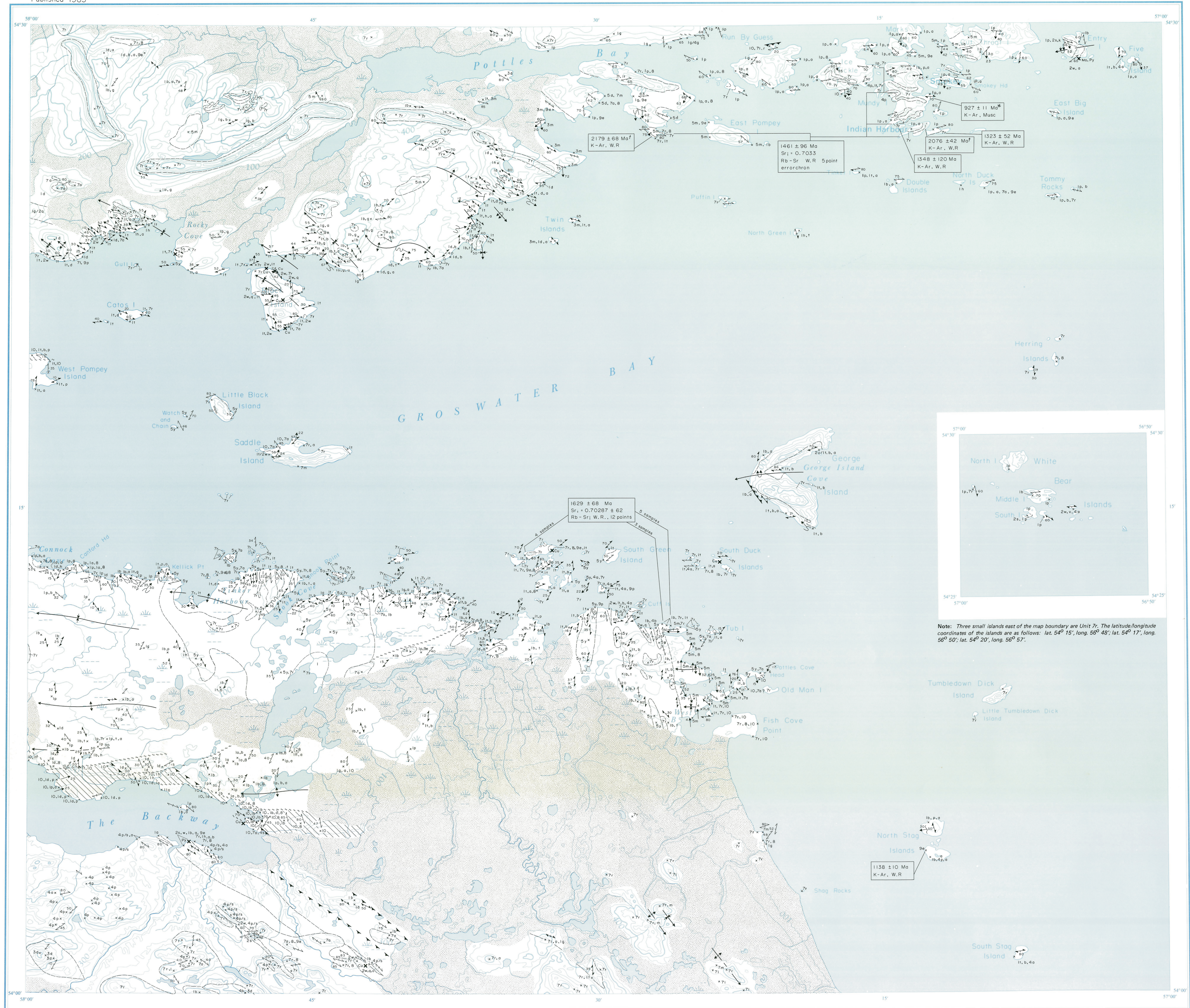
4a 4b 4c 4d 4e 4f 4g 4h 4i 4j 4k 4l 4m 4n 4o 4p 4q 4r 4s
4a Amphibolite, skarns, lenses and layers, possibly remnants of former mafic dikes.
4b Biotite ± hornblende granodiorite, medium to coarse grained, weak to strongly foliated, generally not gneissic, includes granodiorite associated with 3f.
4c Biotite granite, medium to coarse grained, weak to strongly foliated, not gneissic.
4d Hornblende granite, grading into quartz syenite, medium to coarse grained, weak to strongly foliated.
4e Granodiorite to granite with K-feldspar megacrysts, medium to coarse grained, augen fabric in part.
4f Granodiorite to granite with Unit 2 relict, rare sillimanite and/or kyanite, extremely gneissous. Usually with K-feldspar megacrysts; equivalent to 4p in part.

HELIXIAN and/or APHEBIAN

3a 3b 3c 3d
3a Amphibolite, metadiorite, minor quartzfeldspathic leucosome, fine to coarse grained, foliated.
3b Diorite, quartz diorite, hornblende ± biotite, commonly with irregular quartzfeldspathic leucosome patches.
3c Monzonite, monzoniorite, quartz-bearing with hornblende ± biotite, irregular quartzfeldspathic leucosome patches.
2a 2b 2c 2d 2e 2f 2g 2h 2i 2j 2k 2l 2m 2n 2o 2p 2q 2r 2s 2t 2u 2v 2w 2x 2y 2z
2a Amphibolite with quartz-feldspar layers; schistose or gneissic.
2b Calc-silicate rock, marble, Grossularite ± calcite ± diopside ± forsterite ± plagioclase assemblage, fine to coarse grained.
2c Kyanite-bearing quartz-feldspar schist and gneiss, fine to coarse grained, grades into muscovite schist.
2d Quartzite, meta-arkose, thin to thick bedded. Thin phyllosilicate partings. Fine to coarse grained.
2e Sillimanite ± orthopyroxene-bearing quartz-feldspar schist and gneiss, pegmatitic in part, rusty weathering. Fine to coarse grained.
2f Muscovite-rich quartz-feldspar schist; pelitic. Fine to medium grained, rusty weathering.
2g Biotite-rich quartz-feldspar schist; pelitic. Fine to medium grained, some could be relict from partial melting.
2h Quartz-feldspar schist, psammite, metapsammite, fine to medium grained, some fragmental fabrics suggesting derivation from pyroclastic protolith in part.
2i Diabase: coarse grained to pegmatitic, white weathering quartzfeldspathic relictose with mafic relict. Inhomogeneous varieties have abundant relict lenses and schlieren, homogeneous varieties have relict more uniformly dispersed. Unconformably locally.
2j Cordierite-bearing schist and gneiss, fine to medium grained.

APHEBIAN-HELIXIAN (includes many of above units reworked during Grenville Orogeny, as well as earlier gneiss remnants)

1c 1d 1e 1f 1g 1h 1i 1j 1k 1l 1m 1n 1o 1p 1q 1r 1s 1t 1u 1v 1w 1x 1y 1z
1c Amphibolite, commonly with quartz-feldspar veins and segregations, fine to medium grained, massive, foliated or gneissic.
1b Biotite granodiorite, minor hornblende, fine to coarse grained, foliated to gneissic.
1d Biotite-hornblende diorite to quartz diorite, fine to coarse grained, foliated to gneissic.
1g Biotite granite, minor muscovite, fine to coarse grained, foliated to gneissic.
1h Biotite-hornblende quartz diorite to granodiorite, fine to coarse grained, foliated to gneissic.
1i Biotite granodiorite with K-feldspar phenocrysts, porphyroblasts or augen, seriate texture in part, foliated to gneissic.
1t Biotite tonalite, minor hornblende, fine to coarse grained, foliated to gneissic.

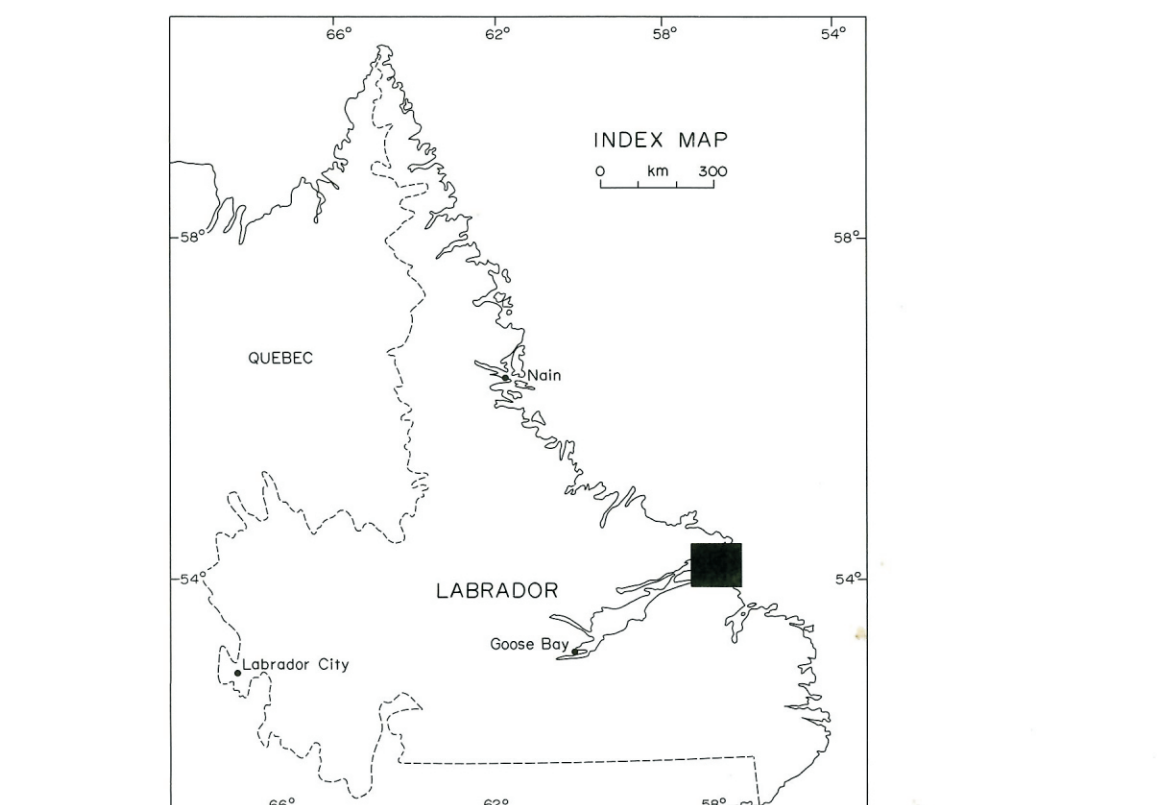
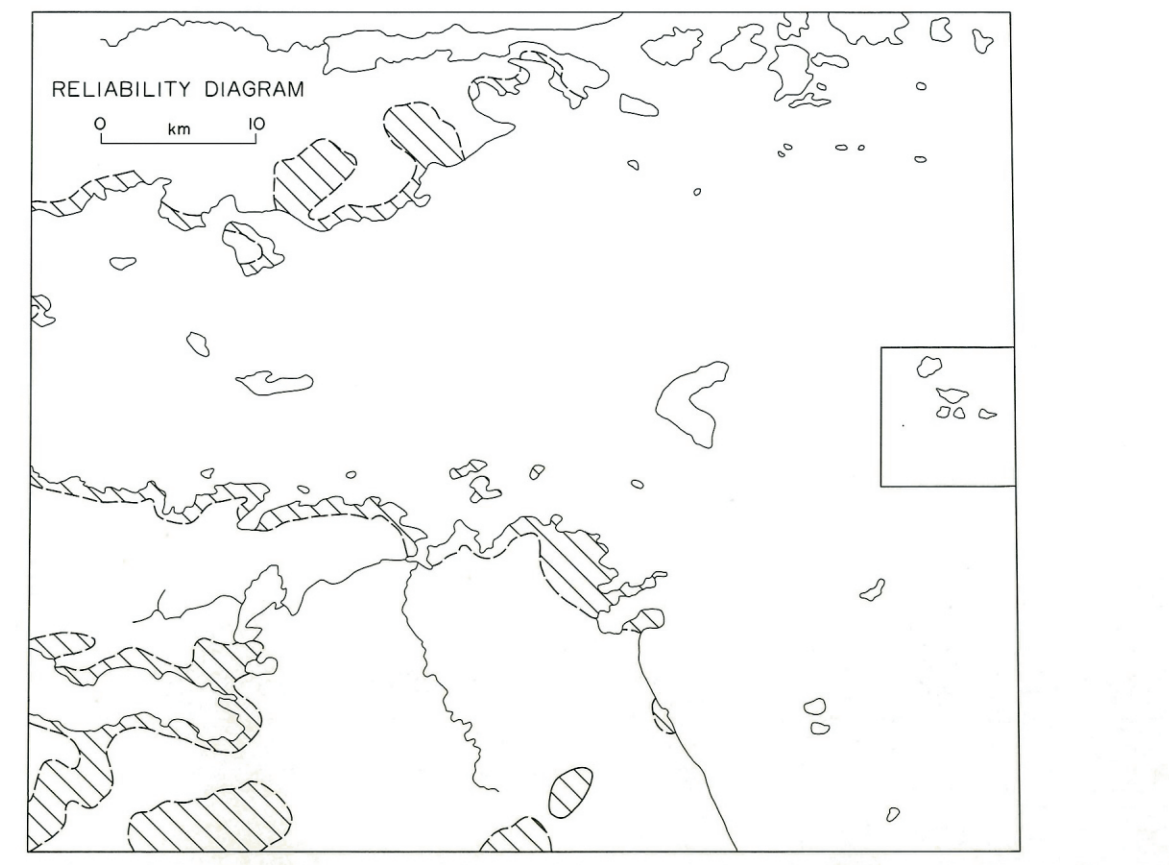


SYMBOLS

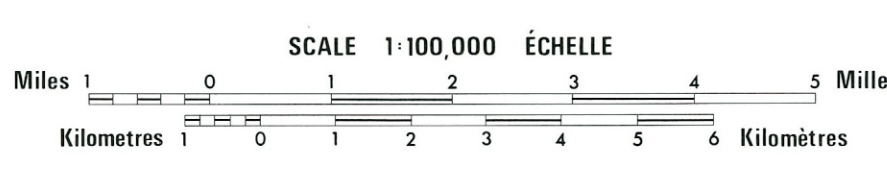
- Geological boundary: defined, approximate, assumed,
- Assumed unconformity
- Bedding: inclined, vertical,
- Inferred primary igneous layering,
- Foliation: horizontal, inclined, vertical, dip unknown,
- Foliation to discontinuous gneissosity: horizontal, inclined, vertical, dip unknown,
- Gneissosity: horizontal, inclined, vertical, dip unknown,
- Lineation: horizontal, inclined, dip unknown,
- Combined planar and linear measurements,
- S, Z, M and W folds, axial trace indicated by fold limbs, plunge direction by arrow,
- As above, plunge unknown,
- Fold style reflecting individual structures,
- Refolded folds,
- Fault: approximate, assumed,
- Fault or thrust: assumed,
- Thrust: defined, approximate, assumed,
- Shear zone,
- Antiform, synform: plunge indicated by arrow,
- Overturned antiform, overturned synform,
- Area of thick overburden,
- Esker,
- Mineral occurrence,
- Data station,

Geochronology Abbreviations		Mineral Abbreviations	
Rb-Sr	Rubidium-strontium isochron	Cu	Chalcopyrite, malachite
Sr	Initial strontium ratio	Mo	Molybdenite
K-Ar	Potassium-argon date	Py	Pyrite
W-R	Whole rock age	U	High radioactivity and/or secondary uranium mineralization
Musc	Muscovite age		
Biot	Biotite age		
?	Age interpreted as anomalously old		
*	Age interpreted as reset during metamorphism		

- NOTES:
1. Granitoid terminology follows IUGS recommendations (Streckeisen, 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 poorly documented between groups.
 3. This is a combined legend for 13J SE, 13I SW, 13G NE, 13H NE and 13H NW.
 4. Units are indicated in order of decreasing abundance at each data station.
 5. Unit symbols separated by slash, e.g. 3d/1d, 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. 7a - 1a.



GROSWATER BAY



MAP 83-43

Geology on north side of Groswater Bay by C.F. Gover, 1979. Geology of remainder of area by C.F. Gover, N. Noel and R.T. Gillespie, 1980. Data from Stevenson (1970; G.S.C. Paper 60-48) have also been incorporated into the map.
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 4760, 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 longitude 56° 00' in 1983 was 33° 09' westerly; annual magnetic change 4.1' easterly.
Elevations in feet above mean sea level.
This project was financed under the Canada/Newfoundland Mineral Development Subsidiary Agreement (1977-1981) by contributions from the Government of Newfoundland and Labrador (10 percent) and from the Departments of Regional Economic Expansion (45 percent) and Energy, Mines and Resources (45 percent) of the Government of Canada.