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LEGEND

**PALEOZOIC**  
12 Gabro, olive gabro dikes, ophitic texture, coarse grained, generally north-northeast trending.

**HADRYNYIAN**  
110 Double Mer Formation  
110 Conglomerate, rounded, subrounded and locally angular clasts of (mostly) gabbro and gneissic rocks, in pebbly unsorted matrix.  
111 Shale and arkose, well bedded, characteristically red and maroon weathering.  
10 Fault and shear zone breccia and other cataclastic rocks. Extensively epidotized, hematitic; commonly interlayered mafic rocks and microgranite. Postdates Double Mer Formation in part.

**NEOHELKIAN-HADRYNYIAN**  
9e 9p  
9e Equigranular diabase/mesodabase, gabro/mesogabbro dikes, medium and coarse grained, ophitic texture preserved.  
9p Plagioclase porphyritic diabase/mesodabase dikes, medium grained, ophitic texture commonly well preserved.

8 Microgranite, apite and pegmatite dikes, and irregular intrusions; various ages.

**HELKIAN (cf. ELSONIAN) but probably includes earlier intrusions**  
7b 7i 7m 7r 7y (Includes Michael Gabro)  
7i Amphibolite or granite associated with metabasaltic rocks, commonly garnetiferous, medium grained, foliated to gneissic.  
7l Leucogabbro, leuconorite, minor anorthosite, medium and coarse grained.  
7m Monzogabbro grading into monzodiorite, medium and coarse grained.  
7r Gabro, norite, commonly diorite-bearing, minor ultramafite, medium to coarse grained.  
7y Syenite grading into monzonite, quartz-bearing in part, medium to coarse grained.

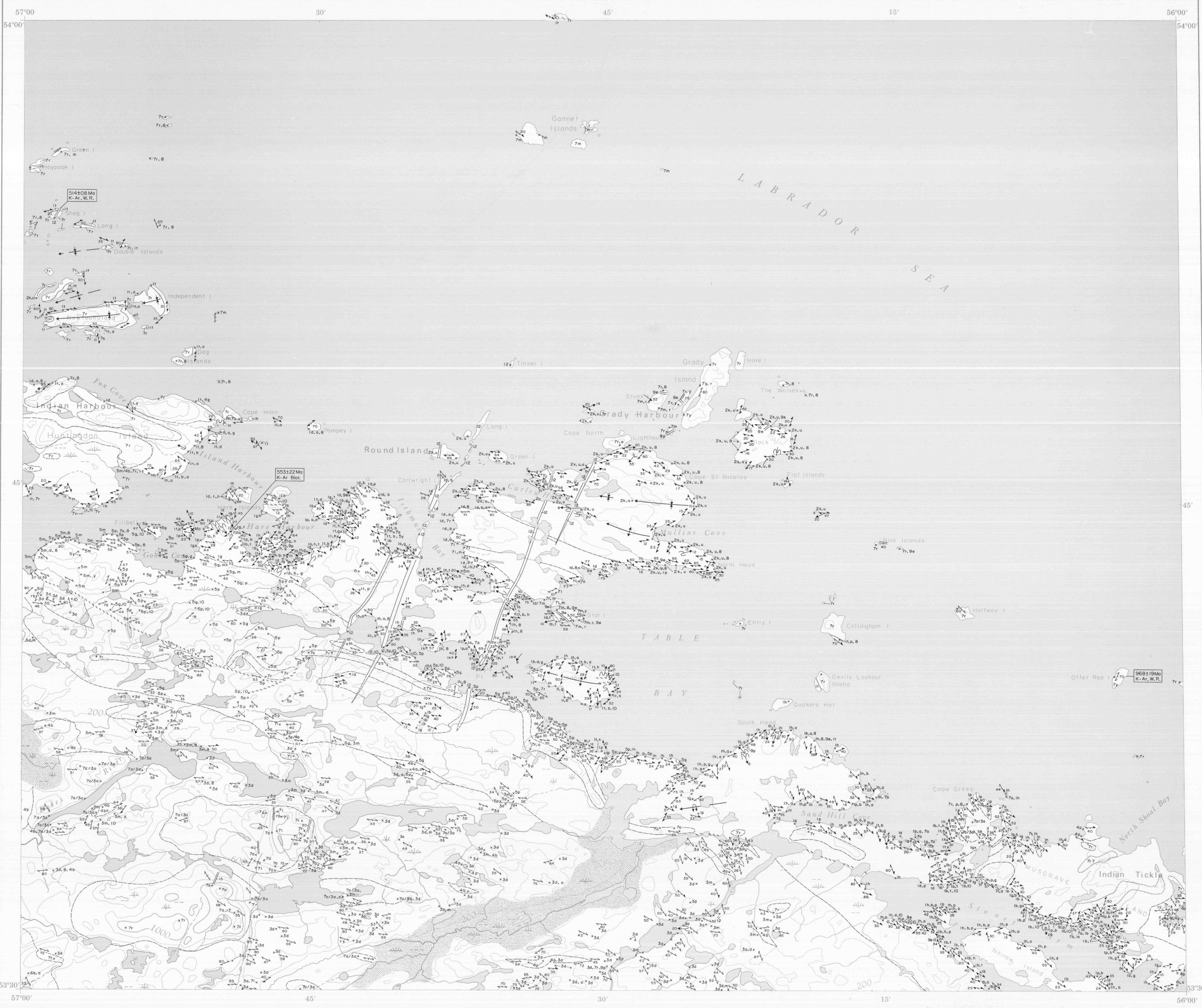
(Includes Mealy Mountains Intrusive Suite)  
6g 6i 6m 6n  
6g Alkali feldspar granite, grading into quartz monzonite, coarse grained.  
6i Leucogabbro, leuconorite, anorthosite, fine grained to very coarse grained.  
6m Monzonite to monzogabbro, coarse to very coarse grained.  
6n Leucocratic layered plagioclase-rich rock with minor garnet, pyroxene, hornblende and quartz, medium to coarse grained.

5d 5m 5p 5s  
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, feldspar orthopyroxene bearing, medium to coarse grained.  
5p Alkali feldspar granite, quartz syenite, syenite and monzonite, clinopyroxene-bearing in part, medium to coarse grained, characteristically pink weathering.  
5s K-feldspar megacrystic granite to granodiorite, medium to coarse grained.  
5q Biotite-hornblende granite to alkali-feldspar granite, medium to coarse grained.

**HELKIAN (cf. KETILDIAN)**  
4b 4g 4h 4p 4s  
4b Amphibolite, skialite, lenses and layers, possibly remnants of former mafic dikes.  
4g Biotite ± hornblende granodiorite, medium or coarse grained, weak to strongly foliated, generally not gneissic, includes granodiorite associated with 3d.  
4h Biotite granite, medium or coarse grained, weak to strongly foliated, not gneissic.  
4p Hornblende granite, grading into quartz syenite, medium to coarse grained, weak to strongly foliated.  
4s Granodiorite to granite with K-feldspar megacrysts, medium to coarse grained, augen fabric in part.  
4i Granodiorite to granite with Unit 2 restite, rare sillimanite and/or kyanite, extremely garnetiferous. Usually with K-feldspar megacrysts; equivalent to 4p in part.

**HELKIAN and/or APHEBIAN**  
3a 3d 3m  
3a Amphibolite, metadiorite, minor quartzofeldspathic leucosome, fine to coarse grained, foliated.  
3d Diorite, quartz diorite, hornblende ± biotite, commonly with irregular quartzofeldspathic leucosome patches.  
3m Monzonite, monzodiorite, quartz-bearing with hornblende ± biotite, irregular quartzofeldspathic leucosome patches.  
2c 2k 2q 2s 2u 2v 2w 2x 2z  
2c Amphibolite with quartz-feldspar layers; schistose or gneissic.  
2k Calc-silicate rock, marble, Grossularite ± calcite ± diopside ± forsterite ± plagioclase assemblages, fine to coarse grained.  
2q Kyanite-bearing quartz-feldspar schist and gneiss, fine to coarse grained, grades into muscovite schist.  
2s Quartzite, meta-arkose, thin to thick bedded. Thin phyllosilicate partings. Fine to coarse grained.  
2u Sillimanite ± orthopyroxene-bearing quartz-feldspar schist and gneiss, pegmatitic in part, rusty weathering. Fine to coarse grained.  
2v Muscovite-rich quartz-feldspar schist, pelitic. Fine to medium grained, rusty weathering.  
2w Biotite-rich quartz-feldspar schist, pelitic. Fine to medium grained; some could be restite from partial melting.  
2x Quartz-feldspar schist, plagioclase, metagraywacke, fine to medium grained, some fragments fabrics suggesting derivation from prolyclastic protolith in part.  
2y Diabase: coarse grained to pegmatitic, white weathering quartzofeldspathic neosome with mafic restite. Inhomogeneous varieties have abundant restite lenses and schlieren; homogeneous varieties have restite more uniformly dispersed. Uraniferous locally.  
2z Cordierite-bearing schist and gneiss, fine to medium grained.

**APHEBIAN-HELKIAN** (includes many of above units reworked during Grenville Orogeny, as well as earlier gneiss remnants)  
1a 1b 1c 1d 1e 1f 1g 1h 1j 1p 1r  
1a 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.  
1c Biotite-hornblende diorite to quartz diorite, fine to coarse grained, foliated to gneissic.  
1d Biotite granite, minor muscovite, fine to coarse grained, foliated to gneissic.  
1e Biotite-hornblende quartz diorite to granodiorite, fine to coarse grained, foliated to gneissic.  
1f Biotite granodiorite with K-feldspar phenocrysts, porphyroblasts or augen, seriate texture in part, foliated to gneissic.  
1g Biotite tonalite, minor hornblende, fine to coarse grained, foliated to gneissic.

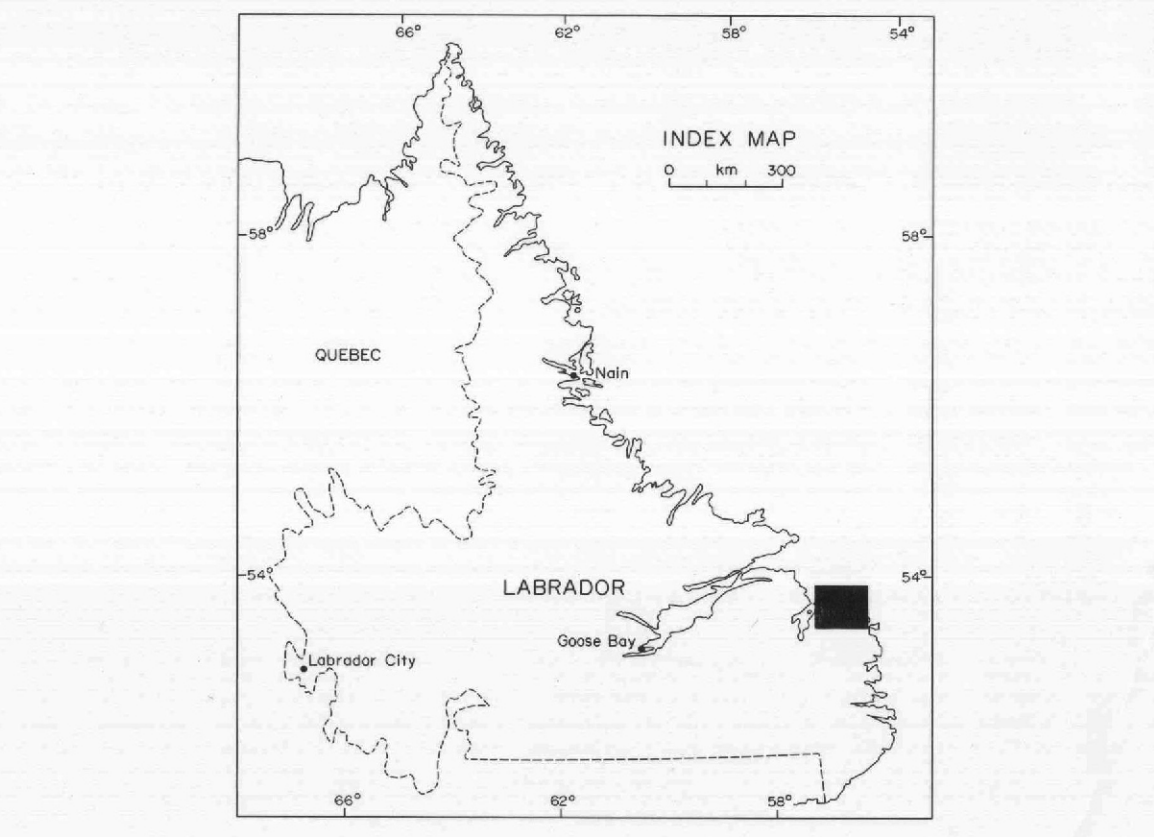
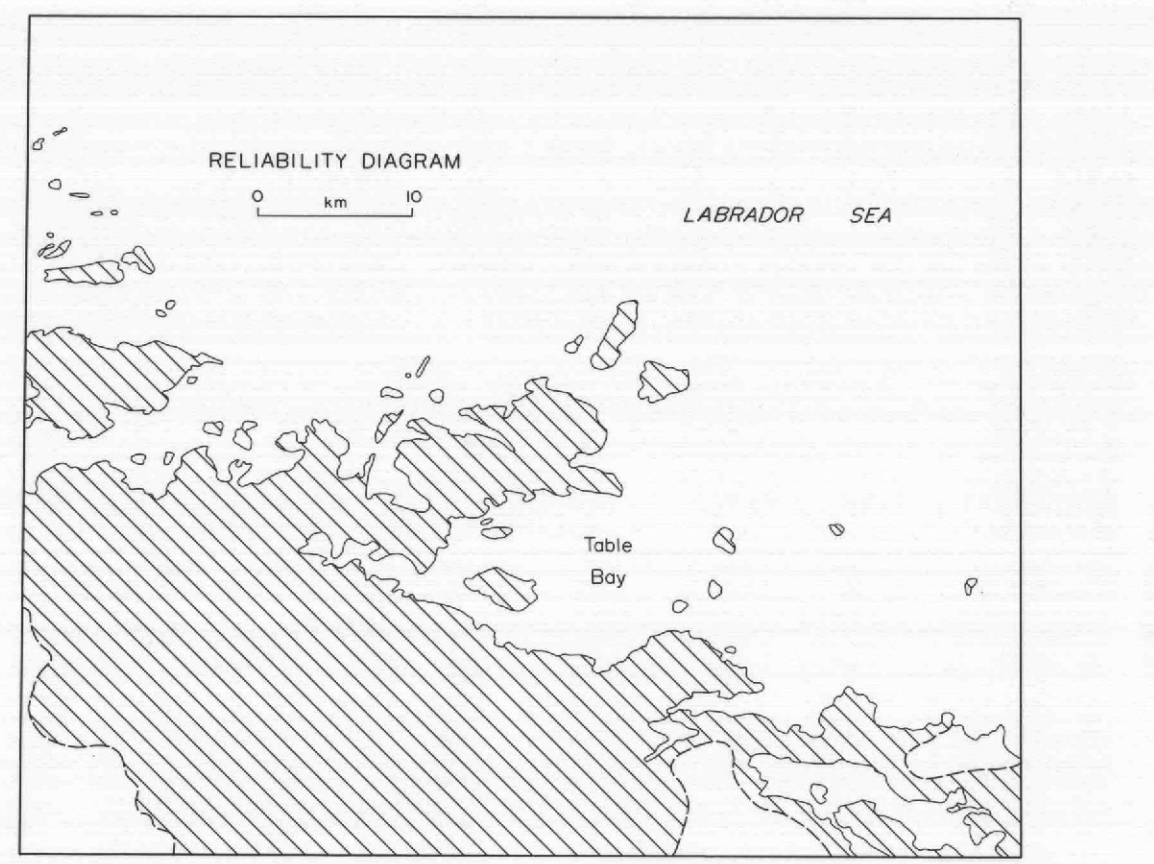


SYMBOLS

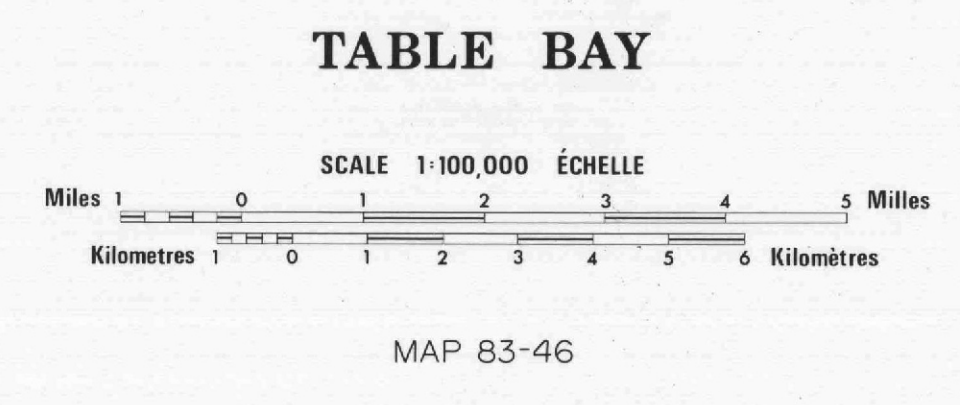
- Geological boundary: defined, approximate, assumed.
- Assumed unconformity.
- Bedding: inclined, vertical.
- Inferred primary igneous layering.
- Foliation: horizontal, inclined, vertical, dip unknown.
- Foliation to discontinuous gneissosity: horizontal, inclined, vertical, dip unknown.
- Gneissosity: horizontal, inclined, vertical, dip unknown.
- Lineation: horizontal, inclined, inclined but plunge 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		
1	Age interpreted as anomalously old		
2	Age interpreted as reset during metamorphism		

- NOTES:
- Orebody terminology follows IUGS recommendations (Streckeisen, 1976; Earth Science Reviews, Volume 12, pages 1-33).
  - Age relationships are not implied by the order in which units are presented within each group, and are poorly documented between groups.
  - This is a combined legend for 13J SE, 13I SW, 13G NE, 13H NE and 13H NW.
  - Units are indicated in order of decreasing abundance at each data station.
  - Unit symbols separated by slash, e.g. 3d/1d, indicate alternative designations, preferred unit given first.
  - Map users are encouraged to reinterpret map units with the same letter as possible equivalents, e.g. 7a = 1a.



Geology by V. Owen, C.F. Gower and G. Finn, 1981. Data from Cherry 1978, Newfoundland Department of Mines, Map 28176 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 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 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.