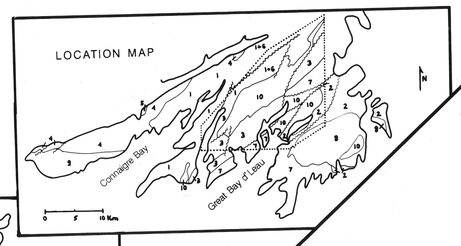
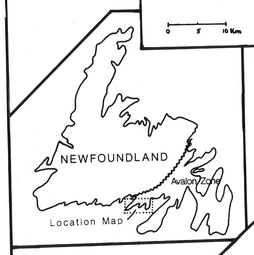
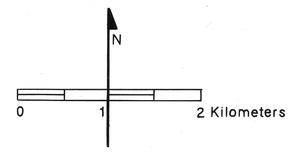
GEOLOGICAL MAP of the HARBOUR BRETON COMPLEX, Fortune Bay, NEWFOUNDLAND







LEGEND -- HARBOUR BRETON GEOLOGICAL MAP

Post-Devonian:

D DYKES and VEINS:
- Dq: ENE-trending 2 to 50 cm wide quartz veins, locally host orange K-feldspars.
- Dd: Undivided aphanitic and fine-grained green diabase dykes, brown-green hornblende-phyric silicic dykes, and medium-grained black quartz diorite dykes.

Devonian:

H HARBOUR BRETON COMPLEX:
- Hr: Red-orange fine-grained K-feldspar-phyric granite and associated microgranite dykes intrusive into units Hl, Hg and Ha.
- Hl: Orange-grey seriate plagioclase-phyric monzogranite and granite, increasing in grainsize towards the center of the pluton.
- Hwp: White very fine-grained saccharoidal monzogranite, gradational from Hw.
- Hw: Orange-grey very fine-grained to fine-grained plagioclase-phyric hornblende monzogranite and granite, intrusive into Ha and Hg.
- Hp: Purple-white undivided saccharoidal microgranite, fine-grained leucocratic granodiorite and medium-grained hornblende-biotite granite.
- Hgc: Pink-orange coarse-grained equigranular to megacrystic hornblende-biotite granite.
- Hg: Fine- to medium-grained biotite-hornblende seriate granite, gradational from Hab.
- Hab: Orange seriate alkali-feldspar granite (alaskite); mafic and plagioclase crystals typically much smaller than K-feldspar and quartz crystals; gradational from Haq.
- Haq: Red-orange medium-grained equigranular alkali-feldspar granite (alaskite); locally miarolitic and gradational from Hm.
- Hau: Dark red alkali feldspar granite (alaskite), with mafic minerals less than one percent also occurs adjacent to fault contacts, where strong northwest-southeast jointing parallels topography.
- Ha: Undivided red alkali-feldspar granite (alaskite) of units Hau, Haq and Hab.
- Hy: Undivided orange fine-grained biotite-muscovite syenite, locally host to molybdenum mineralization, and red fine- to medium-grained hornblende syenite, locally host to fine-grained disseminated pyrite or cm-wide pyrite crystals.
- Hm: Orange-red miarolitic contact-zone microgranite with local phenocrysts of quartz, K-feldspar, biotite and/or hornblende, and biotite schlieren; local zones of white microgranite are associated with quartz and epidote veins, clay minerals, and disseminated molybdenum mineralization.

B BELLEORAM PLUTON: Fine- to medium-grained, gray to pink enclave rich quartz monzonite and medium-grained granodiorite, (Reference: Furey, D.J., Geology of the Belleoram pluton, southeast Newfoundland; in Current Research, Part A, Geological Survey of Canada, Paper 85-1A, p. 151-156, 1985).

Cp POOL'S COVE FORMATION: Homogeneous granite-pebble conglomerate and coarse-grained arkoses.

Ci CINQ ISLES FORMATION: Red to grey quartz-pebble and granite-pebble conglomerate, and cross-bedded sandstone.

Cambrian:

P PORPHYRITIC PLUTON: Medium-grained pink-white hornblende granite, with 1-3 cm wide purple orthoclase megacrysts.

S SIMMON'S BROOK BATHOLITH:
- Sd: White-grey fine- to medium-grained foliated quartz diorite and diorite.
- Sh: Orange medium-grained equigranular foliated hornblende granite.
- S: Green-orange medium-grained locally-foliated hornblende granite and granite mylonite; undivided Sh and Sd.

Cc CHAPEL ISLAND FORMATION: Grey ripple-marked siltstone, shale and sandstones; metapelites and hornfelsed sediments locally host to pyrite, hematite or magnetite mineralization.

Hadrynian:

Cr RENCONTRE FORMATION: Cross-bedded purple sandstone, pebble conglomerate and red argillite; locally hornfelsed.

Cb BELLE BAY FORMATION: Fine- to medium-grained, dark grey to black hornfelsed mafic volcanics.

Ct CONNAIGRE BAY GROUP: Purple-gray cross-bedded sandstone and congloemrate interbedded with mafic tuffs and tuffaceous sediments.

LEGEND -- LOCATION MAP

10 Harbour Breton Complex (Hm, Ha, Hg, Hp, Hw, Hl, Hr, etc.)
9 Pass Island Pluton
8 Belleoram Pluton (B)
7 Great Bay d'Leau, Pool's Cove (Cp), Cinq Isles (Ci) Fms.
6 Hardy's Cove Complex
5 Hermitage Complex -- Furby's Cove Granite
4 Hermitage Complex -- Grole Diorite
3 Simmons's Brook Batholith (S, Sh, Sd, P)
2 Chapel Island Formation (Cc); Long Harbour Group (Cr, Cb)
1 Connaigre Bay Group (Ct)

KEY -- GEOLOGICAL MAP

Geological Contacts
Defined Approximate

Faults
Defined Assumed

Dykes and Veins
Dq, Dd, Dp, Df

Jointing Patterns

Geochemical/Petrographic Sample Locations
Work completed Work in progress

Mineral Occurences
Molybdenum *M Pyrite *P Fluorite *F Calcite *C

KEY -- SAMPLE LOCATION MAP

Outcrop Patterns
Inland Along shore

Field Stations
1984 1985
472702 (K)82014

Physiography
Proper Name Map-defined Name
Devil's Island Second Pond*

Magnetic Contours (gammas)
-----55000-----

5285000 MN
5280000 MN
5275000 MN
5270000 MN
5265000 MN
595000 ME
600000 ME
605000 ME
610000 ME

GEOLOGICAL MAP
of the
HARBOUR BRETON COMPLEX
Fortune Bay, Newfoundland

Project 730044 and Contract 14SQ.23233-5-0076

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References:
Current Research, Part A, GSC Paper 86-1A, p. 461-464, 1986
Current Research, Part A, GSC Paper 85-1A, p. 151-156, 1985

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