GEOLOGICAL SURVEY OF CANADA COMMISSION GEOLOGIQUE DU CANADA

DEPARTMENT OF ENERGY, MINES AND RESOURCES
MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES

LEGEND

PROTEROZOIC

NEOHELIKIAN

Flowers River Igneous Suite (18, 19)

19 *Peralkaline granite;* **19a**, *medium to coarse grained equigranular phase;* **19b**, *aphanitic to fine grained porphyritic phase.*

18 *Felsic volcanic rocks;* **18p**, *quartz and quartz-feldspar porphyry;* **18t**, *massive to flow-banded felsite, locally containing a fine quartz phenocryst;* **18t**, *welded ash-flow tuff;* **18b**, *volcanic breccia and agglomerate.*

17 *Olivine diabase dikes, may be equivalent to the Harp dikes.*

PALEOHELIKIAN

Nain Igneous Complex (14 to 16)

16 *Pyroxene-amphibole-fayalite granitoid plutons;* **16a**, *medium grained granite and minor granodiorite;* **16b**, *medium grained quartz syenite, quartz monzonite;* **16c**, *fine grained porphyritic equivalents of Units 16a and 16b;* **16d**, *hornblende-biotite and biotite granite, granodiorite.*

15 *Intermediate plutons;* **15a**, *diorite, monzodiorite, quartz monzodiorite;* **15b**, *monzonite, quartz monzonite;* **15c**, *syenite, quartz syenite;* **15d**, *altered plagioclase cumulate.*

14 *Gabbroid plutons;* **14a**, *Outer Border Zone - plagioclase-phyric olivine gabbro, gabbronorite, monzogabbro;* **14b**, *Inner Border Zone - olivine leucogabbro;* **14c** to **14b**, *Cumulate Zone - cumulus phases are: plagioclase* **(14c)**, *plagioclase-olivine* **(14d)**, *plagioclase-olivine-clinopyroxene* **(14e)**, *plagioclase-orthopyroxene* **(14f)**, *olivine-oxide* **(14g)**, *plagioclase-olivine-apatite* **(14h)**; **14i**, *miscellaneous gabbro and norite dikes and sills.*

APHEBIAN (and older?)

Churchill Structural Province (6 to 13)

13 *Altered diabase dikes, may be early Paleohelikian in age.*

12 *Metatonalite, metagranodiorite.*

11 *Meta-anorthosite.*

10 *Leucocratic biotite-hornblende granite and granodiorite orthogneiss;* **10a**, *medium to coarse grained granite to granodiorite augen gneiss;* **10b**, *fine to medium grained mylonitic granite to granodiorite gneiss;* **10c**, *medium grained mylonitic biotite-muscovite granite gneiss.*

9 *Leucocratic biotite-garnet tonalite to granite orthogneiss;* **9a**, *coarse grained biotite-garnet tonalite to granite augen gneiss;* **9b**, *fine to medium grained biotite-garnet granite gneiss.*

8 *Banded tonalite gneiss;* **8a**, *biotite-garnet tonalite gneiss, contains minor thin bands of quartzite and biotite schist;* **8b**, *biotite-hornblende tonalite gneiss, contains bands of amphibolite, diorite schist and minor marble;* **8c**, *medium grained unbanded tonalite to granodiorite gneiss.*

7 *Diorite to quartz diorite gneiss and schist, includes bands of tonalite gneiss and amphibolite.*

6 *Amphibolite, includes minor bands of diorite and tonalite gneiss and schist.*

M *Banded and veinitic migmatite, formed by pretectonic injection of numerous dikes and stringers of leucogranite (correlated with Units 9 and 10) into Units 6 to 8.*

ARCHEAN

Nain Structural Province (1 to 5)

5 *Diabase dikes, includes dikes of Aphebian age and younger.*

4 *Metagranite and metagranodiorite.*

3 *Banded pyroxene-hornblende-biotite tonalite gneiss, locally grading to granite gneiss. Typically intruded by dikes and lenses of leucogranite pegmatite;* **3a**, *tonalite gneiss without inclusions of mafic gneiss;* **3b**, *tonalite gneiss containing numerous rafts and inclusion trains of mafic gneiss.*

2 *Amphibolite, locally intruded by leucogranite pegmatite.*

1 *Finely banded, fine grained gabbro to tonalite gneiss;* **1a**, *pyroxene-hornblende-biotite gabbro to diorite gneiss;* **1b**, *pyroxene-hornblende-biotite tonalite gneiss, locally containing bands of* ©*nit 1a. May be in part equivalent to Unit 3a;* **1c**, *biotite-garnet tonalite gneiss, intruded by biotite-garnet leucogranite.*

NOTE: THIS IS A COMPOSITE LEGEND FOR MAPS 81-136 AND 81-137 AND ALL UNITS DO NOT APPEAR ON EACH MAP.

Geologic boundary (observed, approximate, assumed)

Mineral occurrence ×

Drift covered area

Striae (direction known, unknown) relative age shown by numbers)

Abbreviations

uranium	*u*
molybdenite	*mo*
fluorite	*fl*
chalcopyrite	*cp*
galena	*gn*
sphalerite	*sp*
pyrite	*py*
pyrrhotite	*po*
total count scintillometer anomaly	*ra*

TILL GEOCHEMISTRY, FLOWERS RIVER AREA, LABRADOR

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NIOBIUM (PPM) LESS THAN 63 MICRONS

Scale 1:100 000

Kilometres 2 0 2 4 6 8 Kilometres

Universal Transverse Mercator Projection

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INDEX MAP

Geology modified from Map 81-136

Hill, J.D.
1982: Geology of the Flowers River-Notakwanon River area, Labrador; Department of Mines and Energy, Government of Newfoundland and Labrador, Report 82-6, 138 p.

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DEPARTMENT OF MINES AND ENERGY
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