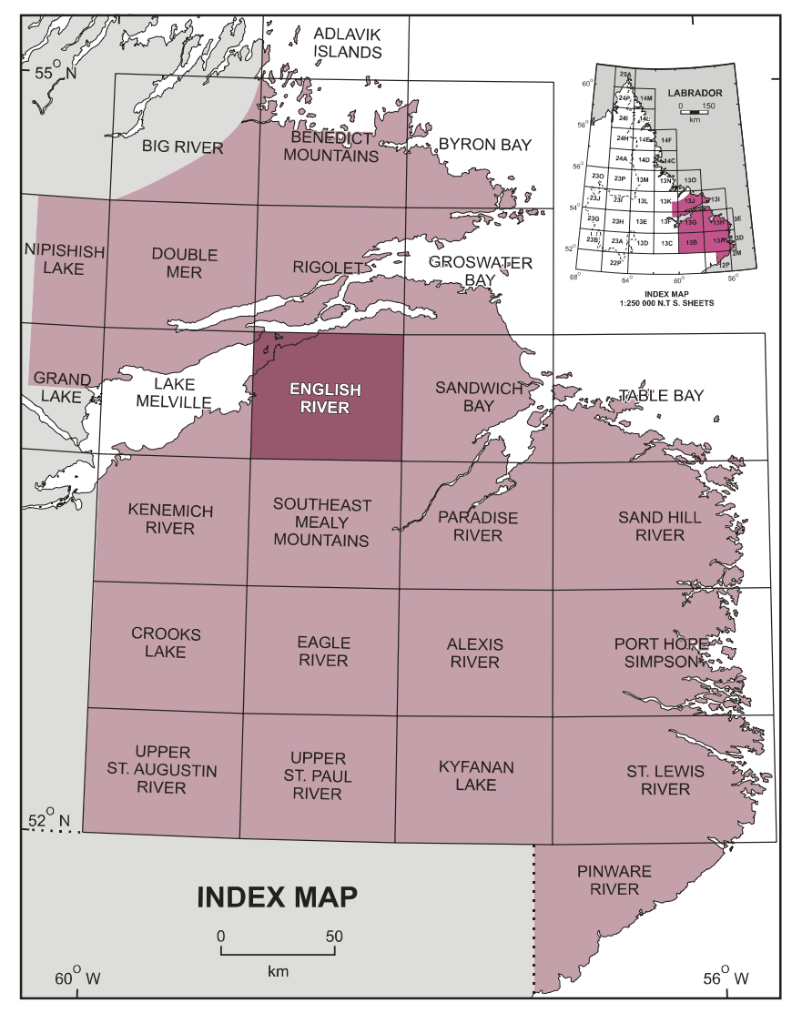
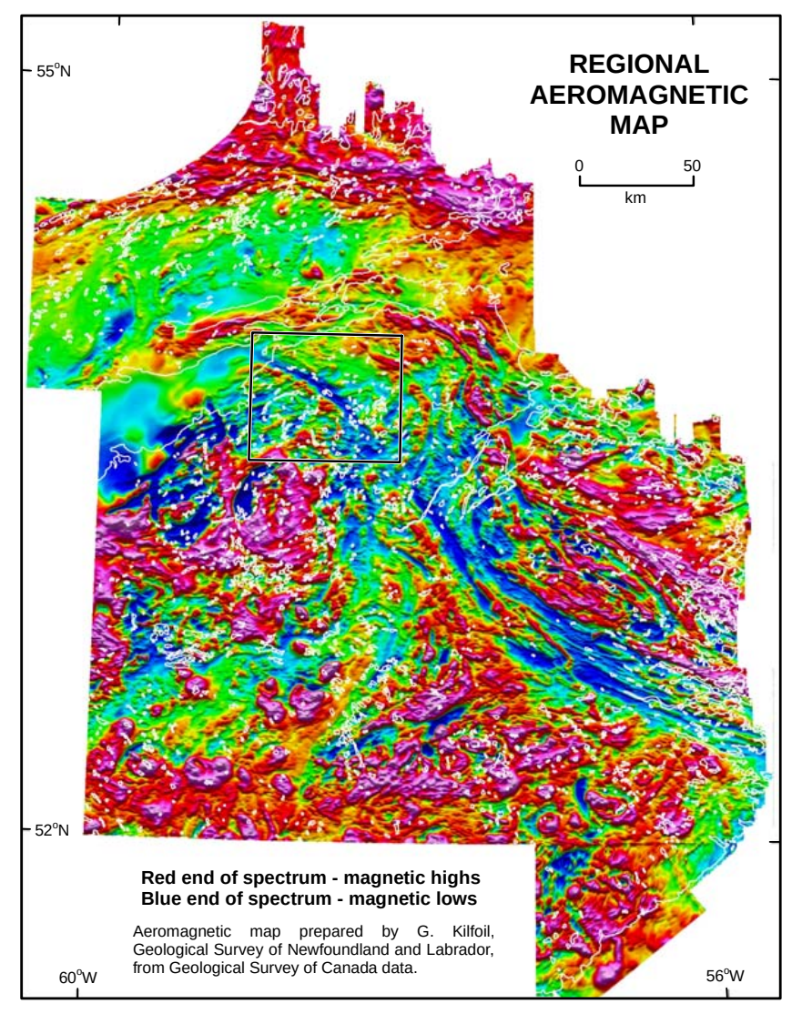
Newfoundland Labrador
NATURAL RESOURCES

MAP 2010-10
OPEN FILE 013G/0055

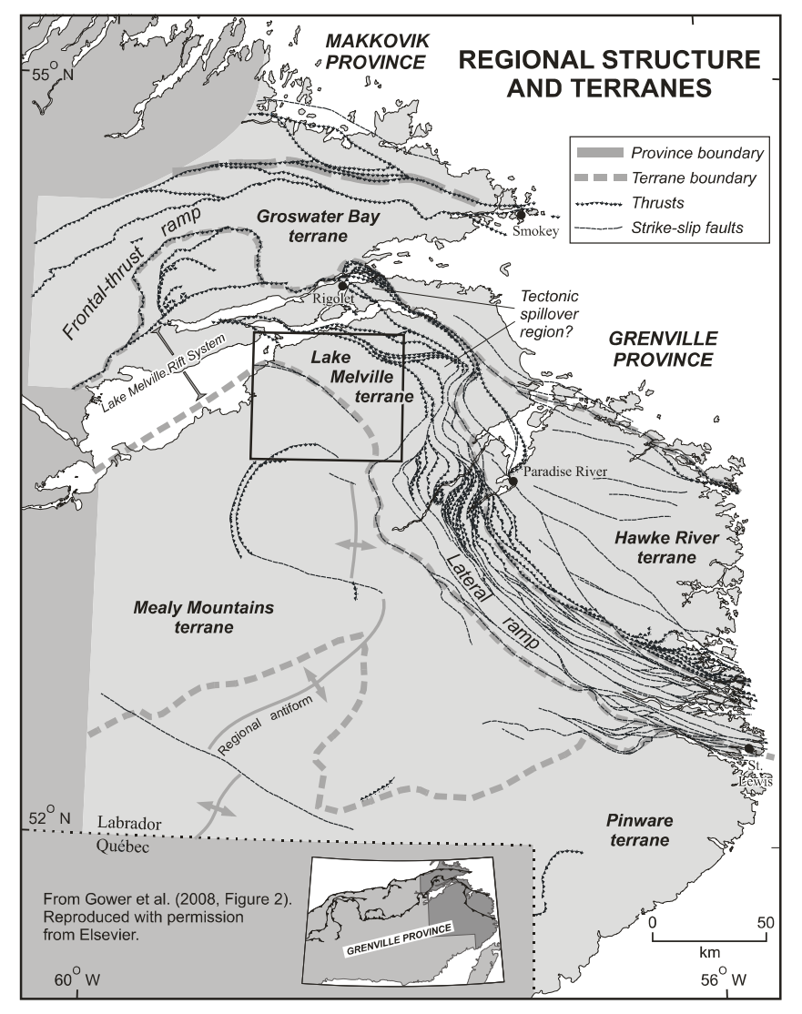
GEOLOGY OF THE ENGLISH RIVER AREA
(NTS SHEETS 13G/09, 10, 15 & 16)
SOUTHEASTERN LABRADOR



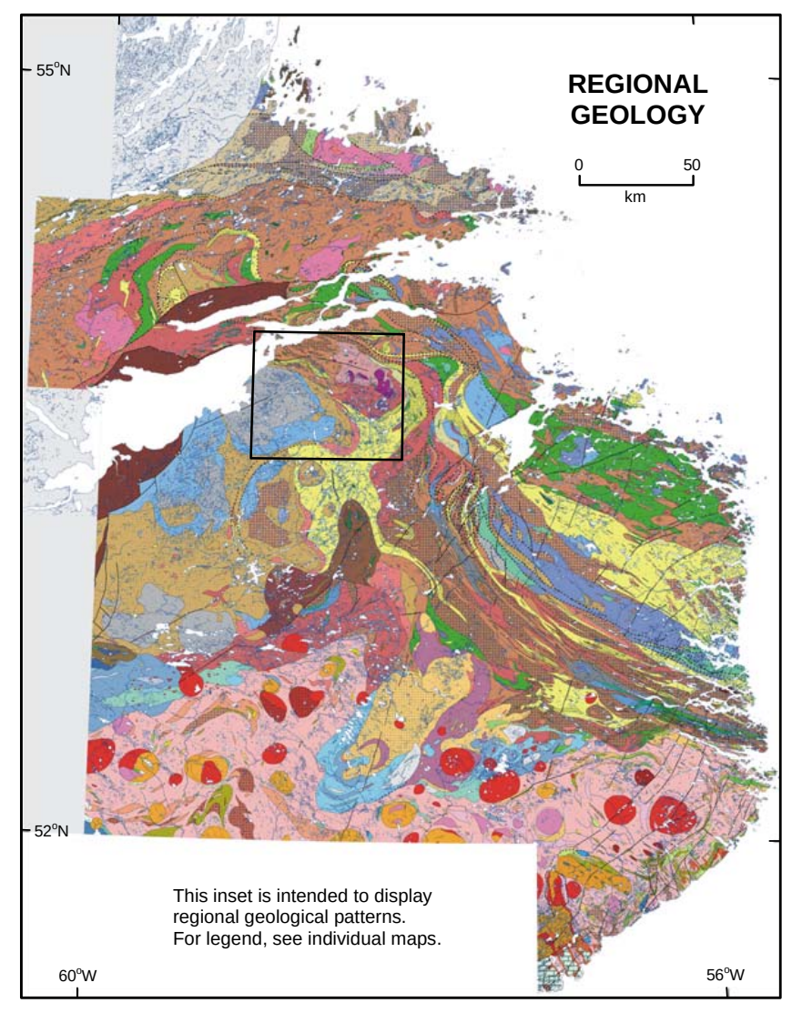


Red end of spectrum - magnetic highs
Blue end of spectrum - magnetic lows

Aeromagnetic map prepared by D. Kilfoil, Geological Survey of Newfoundland and Labrador, from Geological Survey of Canada data.



From Gower et al. (2008, Figure 2). Reproduced with permission from Elsevier.



This inset is intended to display regional geological patterns. For legend, see individual maps.

ENGLISH RIVER

A previous version of this map was originally published uncoloured (Gower et al., 1983) and a brief description of rock types in the area was given by Gower et al. (1981). Most of the map is based on investigations carried out in 1979 and 1980, but additional field data were collected in subsequent visits. The present map also incorporates field data recorded by Eade (1962), Emslie (1976; unpublished 1995 field notes) and Erdmer (1983, 1984), making use of original field notes recorded by them or their assistants.

The map is augmented by follow-up examination of stained slabs, petrographic thin sections, and whole-rock geochemical analyses. U-Pb geochronological results (Schärer et al., 1986; Emslie and Hunt, 1990; Corrigan et al., 2000), Nd-Sm isotopic data (Ashwal et al., 1986; Schärer, 1991; R.A. Creaser, unpublished - see digital database), Rb-Sr isotopic data (Brooks, 1984; Emslie et al., 1984; Schärer, 1991), K-Ar isotopic data (Emslie et al., 1984), Ar-Ar isotopic data (Reynolds, 1989; R.D. Dallmeyer – unpublished, see digital database), and paleomagnetic sites (Park and Emslie, 1983) are shown. Localities designated as mineral occurrences are based mostly on observations made during the 1980 field season, but include earlier and later reported discoveries (see Mineral Occurrence Table; current to 2009).

Since the preliminary map was published, interpretation for the region has evolved, so there are significant differences between the current and preliminary versions of this map, particularly regarding the depiction of thrusts in the northeast part of the map, most of which are yet to be confirmed. Unit modification is partly related to a compilation approach applied to the whole of eastern Labrador, but border regions of the map have been revised as a result of data integration with adjacent map areas. Geological boundaries are poorly controlled, especially away from shorelines, and have been extrapolated inland using structural observations, regional aeromagnetic data and topographic trends. Pre-1994 data station sites have been digitized from where originally located on aerial photographs or (rarely) on topographic maps, so reliability of location is likely mostly dependent on initial plotting accuracy. Subsequent locations are based on GPS-supported readings.

As is characteristic of metamorphic and plutonic terranes, individual outcrops are typically very complex, and commonly embody several different rock types. Generally, the unit polygon depicted is based on what was judged to be the dominant rock type present, but this approach was not universally followed, due to the exigencies of specific situations, such as the need to emphasize minor rock types deemed to have high significance. All rock types recorded from any individual outcrop may be determined by consulting the ‘Unit designator’ string for that locality given in the digital database. The user is alerted to the fact that, in the digital database, no attempt has been made to reconcile rock names applied to field outcrops, versus those applied to stained slabs, or petrographic thin sections. Differences may be due to subsequent, more refined identifications, but other reasons may apply, such the sample (or thin section) not being representative of its source material. Unit designator and polygon labels applied are based on an awareness of such factors.

Recommended citation
Gower, C.F., 2010: Geology of the English River area (NTS sheets 13G/09, 10, 15 and 16), southeastern Labrador. Geological Survey, Mines Branch, Department of Natural Resources, Government of Newfoundland and Labrador, Map 2010-10, Open File 013G/0055.

Geological cartography by T. Paltanavage, Cartographic Unit, Geological Survey, Department of Natural Resources.

Digital NTS base maps (NTS 13G/09, 10, 15 and 16) used for this map are available from Surveys and Mapping Branch, Natural Resources Canada.
Magnetic declination at the centre of the map at the start of 2010 was 23° 00’ W.
Elevations are in metres above sea level for NTS sheets 13G/09 and 10, and feet for NTS sheets 13G/15 and 16. Contour interval 20 metres or 50 feet.
UTM (Universal Transverse Mercator) Grid Zone 21, NAD (North American Datum) 27.

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Copies of this map may be obtained from the Geoscience Publications and Information Section, Geological Survey, Mines Branch, Department of Natural Resources, Government of Newfoundland and Labrador, P.O. Box 8700, St. John’s, NL, A1B 4J6, Canada. Email: pub@gov.nl.ca.

NOTE: Map 2010-10 is one of twenty-five maps on the geology of the Grenville Province in eastern Labrador and adjacent eastern Makkovik Province produced by the Geological Survey, Mines Branch, Department of Natural Resources, Government of Newfoundland and Labrador.

Mines Branch website: http://www.nr.gov.nl.ca/nr/mines/index.html.

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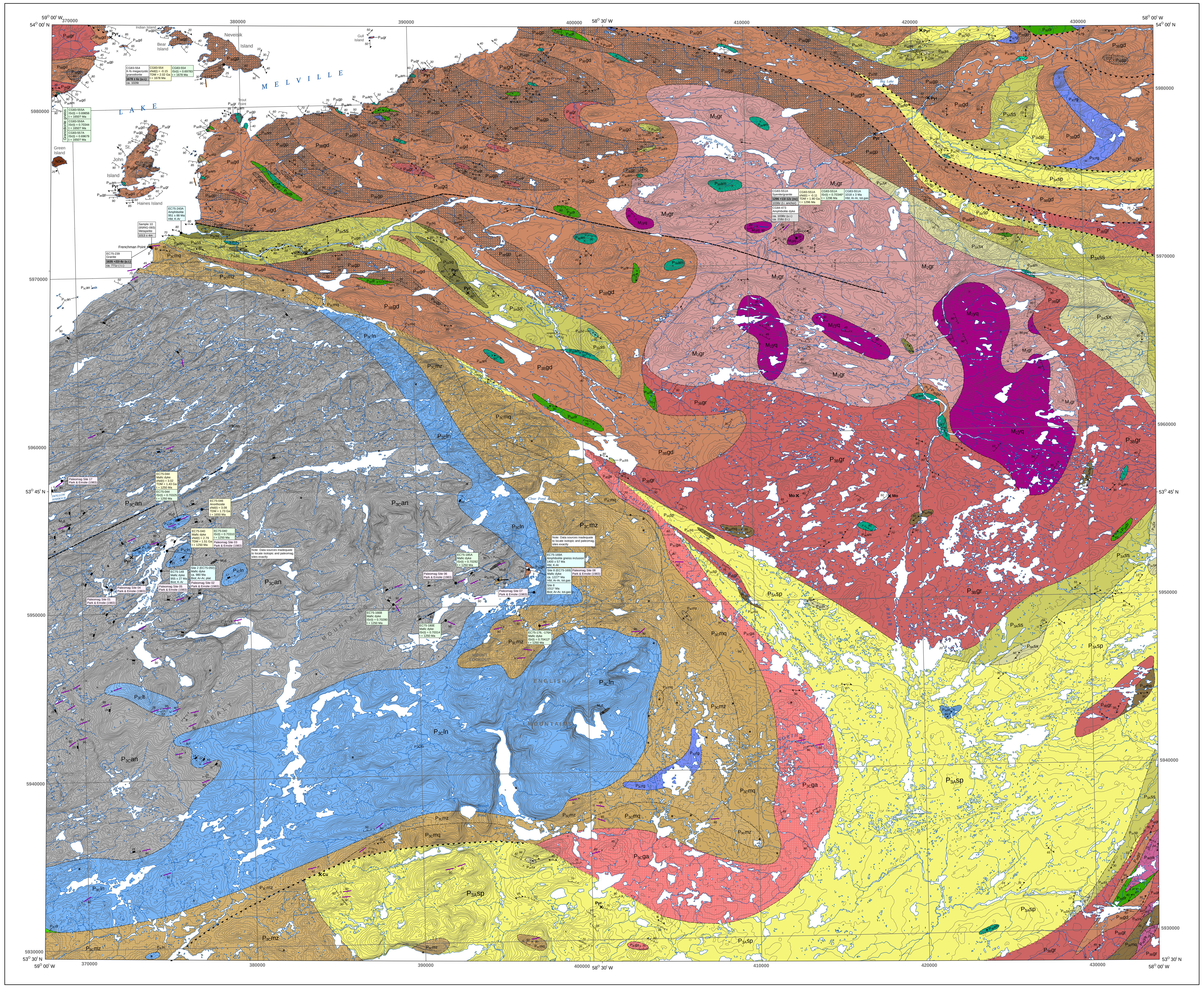

MINERAL OCCURRENCE DATA SOURCES

Inventory No.	*Map label*	*Status*	*Easting*	*Northing*	*Reference*
013G/09/Mo 001	Mo	Indication	412695	5956197	GSNL (field notes; CG80-550)
013G/09/Mo 002	Mo	Indication	418178	5956062	GSNL (field notes; CG81-547)
013G/10/Cu 001	Cu	Indication	384611	5933918	Wares and Leriche (1996); GSNL (field notes CG09-022)
013G/10/Pyr001	Pyr	Indication	400501	5931945	GSNL (field notes; GF81-154)
013G/10/Pyr002	Pyr	Indication	372980	5953340	Emslie (1976), and pers. comm.
013G/15/Pyr001	Pyr	Indication	372677	5975238	GSNL (field notes; NN80-215)
013G/15/Pyr002	Pyr	Indication	383751	5971220	GSNL (field notes; NN80-442)
013G/15/Pyr003	Pyr	Indication	372386	5984337	GSNL (field notes; NN80-289)
013G/15/Pyr004	Pyr	Indication	391004	5982035	GSNL (field notes; NN80-246)
013G/15/Pyr005	Pyr	Indication	392533	5969788	GSNL (field notes; NN80-473)
013G/15/Pyr006	Pyr	Indication	393337	5968680	GSNL (field notes; NN80-613)
013G/16/Pyr001	Pyr	Indication	420633	5983741	GSNL (field notes; RG80-379)
013G/16/Pyr002	Pyr	Indication	420980	5979705	GSNL (field notes; RG80-518)
013G/16/Pyr003	Pyr	Indication	417739	5977635	GSNL (field notes; RG80-519)

GSNL (Geological Survey of Newfoundland and Labrador)

GEOLOGICAL DATA SOURCES

Personnel	*Stations*	*Year(s) data collected*	*Project name*	*Mapping references*
N. Noel (assistant geologist)	382	1980	Rigolet region	Gower et al. (1981, 1983)
C.F. Gower (project geologist)	163	1980, -81, -83, -84; 2009	English River & other visits	Gower et al. (1981, 1983); additional data
R.F. Emslie (project geologist)	141	1975, -95	Mealy Mountains & other visits	Emslie (1976); additional data
R.T. Gillespie (assistant geologist)	130	1980	Rigolet region	Gower et al. (1981, 1983)
G. Finn (assistant geologist)	35	1981	Rigolet region	Gower et al. (1981, 1983)
G.R. Dunning (assistant geologist)	14	1975	Mealy Mountains	Emslie (1976)
?. Reynolds (assistant geologist)	13	1961	Battle Harbour - Cartwright	Eade (1962)
K.E. Eade (project geologist)	12	1961	Battle Harbour - Cartwright	Eade (1962)
D. Mahaffy (assistant geologist)	9	1961	Battle Harbour - Cartwright	Eade (1962)
P. Erdmer (project geologist)	5	1982	Lake Melville	Erdmer (1983, 1984)

ISOTOPIC DATA

U/Pb Geochronology

Sample number
Rock type
Inherited/detrital age
Emplacement age
Metamorphism/closure/cooling/undefined Pb loss age

Mineral abbreviations:
a - allanite
b - baddeleyite
m - monazite
r - rutile
t - titanite
x - xenotime
z - zircon
Concordia abbreviations:
c - concordant
nc - near-concordant
l.i. - lower intercept
u.i. - upper intercept

Nd/Sm Geochronology

Sample number
Rock type
Epsilon value
Depleted mantle age
Age of rock

(? age inferred)

Rb/Sr Geochronology

Sample number
Rock type
Initial Sr ratio calculated from time t
Age of rock

(? age inferred)
(* one of two or more analyses)

K/Ar Geochronology

Sample number
Rock type
Age
Mineral; Method

(* average of two or more analyses)

Biot - biotite
Hbl - hornblende
Musc - muscovite
WR - whole rock
plat - plateau age
tot. gas - total gas age

ISOTOPIC DATA SOURCES

Method	*Reference(s)*	*Samples*
U-Pb	Corrigan et al. (2000)	Sample 10 (95RIG 093)
U-Pb	Emslie and Hunt (1990)	EC75-239
U-Pb	Schärer et al. (1986)	CG83-551A; CG83-554; CG84-473
Nd-Sm	Ashwal et al. (1986)	EC75-040; EC75-044; EC75-046
Nd-Sm	Creaser (unpublished)	CG83-551A
Nd-Sm	Schärer (1991)	CG83-554
Rb-Sr	Brooks (1984)	CG83-551A; CG83-551B; CG83-551C; CG83-551D; CG83-551E; CG83-551F; CG83-555A; CG83-555B; CG83-555C; CG83-556A; CG83-556B; CG83-557A; CG83-557B; CG83-557C
Rb-Sr	Emslie et al. (1984)	EC75-040; EC75-044; EC75-166B; EC75-176; EC75-176A; EC75-180E; EC75-185A
Rb-Sr	Schärer (1991)	CG83-554
K-Ar	Emslie et al. (1984)	EC75-149; EC75-169A; EC75-243A
Ar-Ar	Dallmeyer (unpublished)	CG83-551A
Ar-Ar	Reynolds (1989)	Site 2 (EC75-050); Site 8 (EC75-169)

MINERAL OCCURRENCE ABBREVIATIONS

Amz	Amazonite
Au	Gold
Bt	Biotite
Cly	Clay
Cr	Chromium
Cu	Copper
Fe	Iron
Fel	Feldspar
Fl	Fluorite
Gnt	Garnet
Ilm	Ilmenite
Lst	Limestone
Mgt	Magnetite
Mo	Molybdenite
Ms	Muscovite
Neph	Nepheline
Ni	Nickel
Pb	Lead
Pd	Paladium
Po	Pyrrhotite
Pt	Platinum
Pyr	Pyrite
Saph	Sapphire
Si	Silica
Stn	Dimension stone
Th	Thorium
Tourm	Tourmaline
Tpz	Topaz
U	Uranium
V	Vanadium
Zn	Zinc
Zr	Zirconium
(?)	Occurrence reported but validity suspect

NOTE:
All mineral occurrence and structural symbols do not appear on each map.

Vertical structures use 90° dip value.

* Generation of structure only applicable at observation site.

PALEOMAGNETIC DATA

Paleomagnetic site number
Reference source

Scale 1:100 000
0 2 4 6 8 10
Kilometres

SYMBOLS

Geological contact ....
Normal fault ....
Strike-slip fault ....
Thrust fault ....
Normal fault reactivating thrust ....
*Fold axial plane (1st, 2nd, 3rd generation)** ....
S-fold axis (1st generation) ....
Z-fold axis (1st generation) ....
Dyke (affinity unspecified) ....
Fault (sense of movement unknown, dextral, sinistral, normal) ....
Joint ....
*Linear fabric (1st, 2nd, 3rd generation)** ....
*Fold axis (1st, 2nd, 3rd generation)** ....
Slickenside ....
Geological data station..
Geological data station (no fabric measured) ....
Bedding (tops known, unknown) ....
Enclave ....
*Foliation (1st, 2nd, 3rd generation)** ....
*Gneissosity (1st, 2nd generation)** ....
Igneous layering (tops known, unknown) ....
Vein ....
Shear zone (sense of movement unknown, dextral, sinistral, reverse) ....
Mineral occurrence .... ×
Geochronology location .... ●

LEGEND

DEVONIAN (?)

Dd	Sandwich Bay and Battle Harbour dykes

EARLY CAMBRIAN

CFo	Forteau Formation
CBr	Bradore Formation (subdivided into L’Anse-au-Clair, Crow Head and Blanc-Sablon members)

NEOPROTEROZOIC – EARLY CAMBRIAN

NCLc	Lighthouse Cove Formation
NCBa	Bateau Formation

NEOPROTEROZOIC

NDm NGi NSb

NDm	Double Mer Formation
NGi	Gilbert arkose
NSb	Sandwich Bay conglomerate

Nc Nd Nq

Nc	Clastic dykes
Nd	Long Range dykes
Nq	Quartz veins

LATE MESOPROTEROZOIC (M$_3$ 1200 – 900 Ma)
LATE POST-GRENVILLIAN INTRUSIONS (M$_{3D}$ ca. 975 – 955 Ma)
e.g., Chateau Pond granite

M$_{3D}$gp M$_{3D}$gr M$_{3D}$ln M$_{3D}$mn M$_{3D}$mq M$_{3D}$mz M$_{3D}$yq M$_{3D}$d

M$_{3D}$gp	Massive to weakly foliated megacrystic/porphyritic granite to quartz monzonite
M$_{3D}$gr	Massive to weakly foliated granite to alkali-feldspar granite
M$_{3D}$ln	Massive to weakly foliated leucogabbro to leuconorite
M$_{3D}$mn	Massive to weakly foliated monzogabbro and monzonorite
M$_{3D}$mq	Massive to weakly foliated quartz monzonite; mantled feldspar textures
M$_{3D}$mz	Massive to weakly foliated monzonite to monzodiorite
M$_{3D}$yq	Massive to weakly foliated syenite, quartz syenite and alkali-feldspar quartz syenite
M$_{3D}$d	Unnamed mafic dykes

EARLY POST-GRENVILLIAN INTRUSIONS (M$_{3C}$ ca. 985 – 975 Ma)
e.g., Beaver Brook and Picton Pond plutons

M$_{3C}$gr M$_{3C}$ln M$_{3C}$mn M$_{3C}$mq M$_{3C}$rg M$_{3C}$yq M$_{3C}$d

M$_{3C}$gr	Weakly to moderately foliated granite to alkali-feldspar granite
M$_{3C}$ln	Weakly to moderately foliated leucogabbro to leuconorite
M$_{3C}$mn	Weakly to moderately foliated monzogabbro to monzonorite
M$_{3C}$mq	Weakly to moderately foliated monzonite to quartz monzonite
M$_{3C}$rg	Weakly to moderately foliated gabbro, norite and troctolite
M$_{3C}$yq	Weakly to moderately foliated syenite, quartz syenite and alkali-feldspar syenite
M$_{3C}$d	L’Anse-au-Diable, York Point, Gilbert Bay mafic dykes

SYN-GRENVILLIAN INTRUSIONS (M$_{3B}$ ca. 1085 – 985 Ma)

M$_{3B}$gd M$_{3B}$gp M$_{3B}$gr M$_{3B}$yn M$_{3B}$d

M$_{3B}$gd	Moderately to strongly foliated granodiorite to quartz diorite
M$_{3B}$gp	Moderately to strongly foliated megacrystic/porphyritic granodiorite to quartz diorite
M$_{3B}$gr	Moderately to strongly foliated granite to alkali-feldspar granite
M$_{3B}$yn	Moderately to strongly foliated aegerine- or nepheline-bearing syenite
M$_{3B}$d	Unnamed mafic dykes (Makkovik Province and adjacent Grenville Province)

PRE-GRENVILLIAN INTRUSIONS (M$_{3A}$ ca. 1200 – 1085 Ma)
e.g., Gilbert Bay pluton

M$_{3A}$gr M$_{3A}$mn

M$_{3A}$gr	Weakly to strongly foliated granite
M$_{3A}$mn	Weakly to strongly foliated monzonite to monzonorite

MIDDLE MESOPROTEROZOIC (M$_2$ 1350 – 1200 Ma)
e.g., Upper North River intrusion

M$_2$gr M$_2$rg M$_2$yq M$_2$d

M$_2$gr	Weakly to strongly foliated granite and alkali-feldspar granite
M$_2$rg	Weakly to strongly foliated gabbronorite (in database only - Lourdes-de-Blanc-Sablon intrusion, Quebec)
M$_2$yq	Weakly to strongly foliated syenite, quartz syenite and alkali-feldspar syenite
M$_2$d	Mealy dykes

EARLY MESOPROTEROZOIC (M$_1$ 1600 – 1350 Ma)
e.g., Upper Paradise River, Kyfanan Lake and 13B/12 intrusions, and Michael Gabbro

M$_1$an M$_1$am M$_1$dr M$_1$gp M$_1$gr M$_1$ln M$_1$mn M$_1$mq M$_1$mz M$_1$rg M$_1$um M$_1$yq M$_1$d

M$_1$an	Massive or weakly foliated anorthosite to leucogabbronorite, indistinctly layered in places
M$_1$am	Weakly to markedly foliated amphibolite, plus leucocratic and melanocratic variants; granulite facies equivalents
M$_1$dr	Massive, weakly or strongly foliated diorite to amphibolite, may be metamorphic derivative of monzodiorite or leucogabbronorite
M$_1$gp	Moderately to strongly foliated megacrystic/porphyritic granitoid rocks
M$_1$gr	Massive, weakly or strongly foliated granite to quartz monzonite
M$_1$ln	Massive, weakly or strongly foliated leucogabbronorite and anorthositic gabbro, locally grading into gabbronorite, locally coronitic
M$_1$mn	Moderately to strongly foliated monzonorite
M$_1$mq	Moderately to strongly foliated monzonite to quartz monzonite
M$_1$mz	Moderately to strongly foliated monzonite to monzodiorite
M$_1$rg	Massive to strongly foliated gabbro, norite and troctolite, commonly layered; subophitic and locally coronitic; includes recrystallized derivatives retaining igneous textures
M$_1$um	Massive, weakly or strongly foliated ultramafic rocks, commonly layered and locally showing cumulate textures
M$_1$yq	Moderately to strongly foliated syenite and quartz syenite
M$_1$d	Mafic dykes; includes Michael Gabbro

LATE PALEOPROTEROZOIC AND EARLY MESOPROTEROZOIC (PM 1800 – 1350 Ma)
(Ages generally unknown, but ca. 1650 Ma and 1500 – 1470 Ma rocks identified)
RECRYSTALLIZED IGNEOUS ROCKS

PMdr PMgd PMgp PMgr PMln PMmd PMmq PMrg PMtn PMyq PMam

PMdr	Medium-grained, equigranular, recrystallized weakly to strongly foliated diorite, quartz diorite and to leucoamphibolite
PMgd	Weakly to strongly foliated granite to granodiorite
PMgp	Megacrystic/porphyritic recrystallized granite to quartz monzonite
PMgr	Medium- to coarse-grained, recrystallized weakly to strongly foliated granite and alkali-feldspar granite
PMln	Medium- to coarse-grained, recrystallized leuconorite, leucogabbro
PMmd	Medium- to coarse-grained, recrystallized, weakly to strongly foliated, monzodiorite to monzonite
PMmq	Medium- to coarse-grained, recrystallized, weakly to strongly foliated quartz monzonite
PMrg	Medium- to coarse-grained, gabbro, norite and troctolite
PMtn	Medium- to coarse-grained, recrystallized, weakly to strongly foliated tonalite to granodiorite
PMyq	Medium- to coarse-grained, recrystallized, weakly to strongly foliated syenite, alkali-feldspar syenite and quartz syenite
PMam	Amphibolite; generally thought to be derived from mafic dykes

SUPRACRUSTAL ROCKS PROVISIONALLY ASSIGNED AS PITTS HARBOUR GROUP

PMsc PMsp PMsq PMss PMsx PMvf PMvm

Sedimentary protolith

PMsc	Calc-silicate rocks, compositionally layered, medium grained
PMsp	Pelitic schist and gneiss
PMsq	Quartzite, meta-arkose, thin to thick bedded
PMss	Quartz-feldspar psammitic schist and gneiss; medium grained
PMsx	Coarse-grained to pegmatitic-granitic material (diatexite), characteristically associated with psammitic gneiss and quartzite

Volcanic protolith

PMvf	Fine- to medium-grained, banded quartzofeldspathic rocks; locally having lensoid shapes, possibly indicating felsic volcaniclastic protolith
PMvm	Fine- to medium-grained, banded amphibolite containing quartz-feldspar layers and calc-silicate pods; interpreted as mafic volcanic rocks

AGE GENERALLY POORLY CONSTRAINED

β δ

β	Brittle deformation; cataclastic rocks, pseudotacholite
δ	Ductile deformation; mylonite, straight gneiss

AGE GENERALLY POORLY CONSTRAINED

f k p q

f	Aplite, microgranite (felsite)
k	Carbonate vein
p	Pegmatite
q	Quartz vein

LATE PALEOPROTEROZOIC (P$_3$ 1800 – 1600 Ma)
LATE LABRADORIAN GRANITOID INTRUSIONS (P$_{3C}$ 1660 – 1600 Ma)
e.g., Paradise Arm intrusion and Hawke Bay intrusive suite

P$_{3C}$dr P$_{3C}$ga P$_{3C}$gd P$_{3C}$gp P$_{3C}$gr P$_{3C}$mn P$_{3C}$mq P$_{3C}$mz P$_{3C}$yq P$_{3C}$d

P$_{3C}$dr	Diorite, quartz diorite and tonalite; locally grading into leucogabbronorite
P$_{3C}$ga	Alkali-feldspar granite, granite and quartz syenite forming discrete plutons
P$_{3C}$gd	Granite to granodiorite forming discrete unmigmatized plutons
P$_{3C}$gp	Megacrystic/porphyritic granite to granodiorite
P$_{3C}$gr	Granite and minor alkali-feldspar granite
P$_{3C}$mn	Monzonorite and monzogabbro
P$_{3C}$mq	Quartz monzonite, including rare quartz syenite
P$_{3C}$mz	Monzonite, including minor syenite
P$_{3C}$yq	Syenite to quartz syenite forming discrete plutons
P$_{3C}$d	Unnamed mafic dykes

LATE LABRADORIAN ANORTHOSITIC AND MAFIC INTRUSIONS (P$_{3C}$ 1660 – 1600 Ma)
e.g., White Bear Arm complex and Sand Hill Big Pond intrusion

P$_{3C}$ag P$_{3C}$am P$_{3C}$an P$_{3C}$rg P$_{3C}$ln P$_{3C}$lt P$_{3C}$um

P$_{3C}$ag	Weakly to markedly foliated mafic granulite, plus leucocratic and melanocratic variants
P$_{3C}$am	Weakly to markedly foliated amphibolite, plus leucocratic and melanocratic variants
P$_{3C}$an	Massive to strongly foliated anorthosite and leucogabbronorite
P$_{3C}$rg	Massive to strongly foliated gabbro and norite, commonly layered; subophitic and locally coronitic
P$_{3C}$ln	Primary textured to recrystallized leucogabbronorite and leucogabbro; coronitic locally
P$_{3C}$lt	Primary textured to recrystallized leucotroctolite
P$_{3C}$um	Massive, weakly or strongly foliated ultramafic rocks, commonly layered and locally showing cumulate textures

EARLY LABRADORIAN MAFIC AND ASSOCIATED ROCKS (P$_{3B}$ 1710 – 1660 Ma)
e.g., Alexis River anorthosite (assigned here although age is uncertain)

P$_{3B}$ag P$_{3B}$an P$_{3B}$ln P$_{3B}$mn P$_{3B}$rg P$_{3B}$um

P$_{3B}$ag	Weakly foliated to gneissic amphibolite and mafic granulite, plus leucocratic and melanocratic variants
P$_{3B}$an	Weakly foliated to gneissic anorthosite and leucogabbronorite
P$_{3B}$ln	Weakly foliated to gneissic leucogabbronorite and leucogabbro; coronitic locally
P$_{3B}$mn	Weakly foliated to gneissic monzonorite and monzogabbro
P$_{3B}$rg	Weakly foliated to gneissic gabbro and norite
P$_{3B}$um	Massive, weakly or strongly foliated ultramafic rocks, commonly layered and locally showing cumulate textures

EARLY LABRADORIAN GRANITOID AND ASSOCIATED ROCKS (ca. 1678 and 1671 Ma)
e.g., Neveisik Island and Red Island events

P$_{3B}$dr P$_{3B}$gd P$_{3B}$gp P$_{3B}$gr P$_{3B}$mq P$_{3B}$mz P$_{3B}$ya P$_{3B}$am

P$_{3B}$dr	Foliated to gneissic diorite to quartz diorite, and compositionally equivalent well-banded gneiss; in part derived from leucogabbronorite
P$_{3B}$gd	Foliated to gneissic granodiorite and compositionally equivalent well-banded gneiss
P$_{3B}$gp	Foliated to gneissic megacrystic/porphyritic granitoid rocks, augen gneiss
P$_{3B}$gr	Foliated to gneissic granite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss
P$_{3B}$mq	Foliated to gneissic quartz monzonite, grading into diorite or syenite, and compositionally equivalent well-banded gneiss
P$_{3B}$mz	Foliated to gneissic monzonite and monzodiorite, and compositionally equivalent well-banded gneiss
P$_{3B}$ya	Foliated to gneissic syenite, alkali-feldspar syenite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss
P$_{3B}$am	Amphibolite skialiths, lenses and layers (mainly remnants of former dykes)

PRE-LABRADORIAN GRANITOID ROCKS (P$_{3A}$ 1800 – 1710 Ma)

P$_{3A}$ag P$_{3A}$dr P$_{3A}$gd P$_{3A}$gp P$_{3A}$gr P$_{3A}$ln P$_{3A}$am

P$_{3A}$ag	Mafic granulite skialiths, lenses and layers
P$_{3A}$dr	Foliated to gneissic diorite to quartz diorite, and compositionally equivalent well-banded gneiss
P$_{3A}$gd	Foliated to gneissic granodiorite and compositionally equivalent well-banded gneiss
P$_{3A}$gp	Foliated to gneissic megacrystic/porphyritic granitoid rocks, augen gneiss
P$_{3A}$gr	Foliated to gneissic granite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss
P$_{3A}$ln	Foliated to gneissic leucogabbronorite, and compositionally equivalent well-banded gneiss
P$_{3A}$am	Amphibolite skialiths, lenses and layers (mainly remnants of former dykes)

PRE-LABRADORIAN SUPRACRUSTAL ROCKS (P$_{3A}$ 1800 – 1710 Ma)
(Age uncertain; certainly pre-1670 Ma, probably 1800 – 1770 Ma)

P$_{3A}$sc P$_{3A}$sp P$_{3A}$sq P$_{3A}$ss P$_{3A}$sx P$_{3A}$vf P$_{3A}$vm

Sedimentary protolith

P$_{3A}$sc	Calc-silicate rocks, compositionally layered, medium grained
P$_{3A}$sp	Fine- to medium-grained pelitic schist and gneiss
P$_{3A}$sq	Quartzite, meta-arkose, thin to thick bedded
P$_{3A}$ss	Quartz-feldspar psammitic schist and gneiss; medium grained and commonly rusty-weathering
P$_{3A}$sx	Metasedimentary diatexite; coarse grained to pegmatitic and characteristically white-weathering

Volcanic protolith

P$_{3A}$vf	Fine- to medium-grained, banded quartzofeldspathic rocks; locally have lensoid shapes, possibly indicating felsic volcanoclastic protolith
P$_{3A}$vm	Fine- to medium-grained, banded amphibolite containing quartz-feldspar layers and calc-silicate pods; interpreted as mafic volcanic rocks

MID PALEOPROTEROZOIC (P$_2$ 2100 – 1800 Ma)
LATE MID PALEOPROTEROZOIC (P$_{2C}$ 1900 – 1800 Ma)
Granitoid and related intrusive rocks

P$_{2C}$dr P$_{2C}$ga P$_{2C}$gd P$_{2C}$gp P$_{2C}$gr P$_{2C}$mq P$_{2C}$mz P$_{2C}$ya P$_{2C}$yq

P$_{2C}$dr	Foliated to gneissic diorite to quartz diorite, and compositionally equivalent well-banded gneiss
P$_{2C}$ga	Alkali-feldspar granite, granite and quartz syenite
P$_{2C}$gd	Foliated to gneissic granodiorite and compositionally equivalent well-banded gneiss
P$_{2C}$gp	Foliated to gneissic megacrystic/porphyritic granitoid rocks, augen gneiss
P$_{2C}$gr	Foliated to gneissic granite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss
P$_{2C}$mq	Foliated to gneissic quartz monzonite, grading into diorite or syenite, and compositionally equivalent well-banded gneiss
P$_{2C}$mz	Foliated to gneissic monzonite to monzodiorite, and compositionally equivalent well-banded gneiss
P$_{2C}$ya	Foliated to gneissic syenite to alkali-feldspar syenite, and compositionally equivalent well-banded gneiss
P$_{2C}$yq	Syenite to quartz syenite

Mafic and associated intrusive rocks

P$_{2C}$am P$_{2C}$rg P$_{2C}$d

P$_{2C}$am	Amphibolite skialiths, lenses and layers (mainly remnants of former dykes)
P$_{2C}$rg	Massive to strongly foliated gabbro and norite, commonly layered; subophitic and locally coronitic
P$_{2C}$d	Unnamed mafic dykes

Sedimentary protolith

P$_{2C}$sc P$_{2C}$so P$_{2C}$sp P$_{2C}$sq P$_{2C}$ss

P$_{2C}$sc	Calc-silicate rocks, compositionally layered, medium grained
P$_{2C}$so	Conglomerate and agglomerate, partially of volcanic origin
P$_{2C}$sp	Fine- to medium-grained pelitic schist and gneiss
P$_{2C}$sq	Quartzite, meta-arkose, thin to thick bedded
P$_{2C}$ss	Quartz-feldspar psammitic schist and gneiss; medium grained and commonly rusty-weathering

Volcanic protolith

P$_{2C}$vb P$_{2C}$vf P$_{2C}$vi P$_{2C}$vm P$_{2C}$vp

P$_{2C}$vb	Volcanic breccia, angular clasts, grading into agglomerate
P$_{2C}$vf	Fine- to medium-grained, banded quartzofeldspathic rocks; locally have lensoid shapes, possibly indicating felsic volcanoclastic protolith
P$_{2C}$vi	Intermediate volcanic rocks
P$_{2C}$vm	Fine- to medium-grained, banded amphibolite containing quartz-feldspar layers and calc-silicate pods; interpreted as mafic volcanic rocks
P$_{2C}$vp	Felsic volcanic porphyry interpreted to be hypabyssal

NOTES

1. Legend is common to all maps (Map 2010-01 to Map 2010-25), but all units do not appear on every map.
2. Uncoloured units do not appear as polygons on maps, but are in unit-designator strings in database.
3. Some mafic dykes also shown as polygons (especially where orientation is unknown).