Newfoundland Labrador
NATURAL RESOURCES

MAP 2010-02
OPEN FILE 013J/0290

GEOLOGY OF PART OF THE BIG RIVER AREA (NTS SHEETS 13J/11, 12, 13 & 14) EASTERN LABRADOR

BIG RIVER

An uncoloured map and accompanying report that includes the present area was delivered by Gower et al. (1982). Most of that map was based on investigations carried out in 1978 (Bailey et al., 1979).

Gower et al.'s (1982) map and report embedded follow-up examination of stained slabs and petrographic thin sections, including those archived by D.G. Bailey. The present map incorporates additional field data collected by C.F. Gower during visits in 1982 and 1983, and field data collected by Stevenson (1970) and Burns (1979), making use of original field notes recorded by I.M. Stevenson and assistants. U-Pb geochronological results (Kerr et al., 1992), Nd-Sm isotopic data (Emslie et al., 1997; Kerr and Fryer, 1994), Rb-Sr isotopic data (Emslie et al., 1997), K-Ar isotopic data (Stockwell, 1982; Wanless et al., 1973), Ar-Ar isotopic data (Archibald and Farrar, 1979), and paleomagnetic sites (Fahrig and Larochelle, 1972; Park and Gower, 1996) are shown. No mineral occurrences are recorded within the interpreted area.

The main objective underlying the map is to provide interpretational continuity between areas to the east and south, particularly from a structural perspective. The remainder of the map area is currently the target of detailed geological investigations by both the Geological Survey of Newfoundland and Labrador and industry (cf. Hinchey and Laflamme, 2009). I.M. Stevenson and assistants' field data for the area is, however, included in the present digital database.

For the area of the map for which geological data is provided, the main differences from the map of Gower et al. (1982) are in the depiction of several thrusts (most of which are yet to be confirmed), and refined interpretation of gabbro distribution in the southern part of the area. 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 and are based on structural observations, regional aeromagnetic data and topographic trends. Data station sites have been digitized from where originally located on aerial photographs or topographic maps, so reliability of location is likely mostly dependent on initial plotting accuracy.

As is characteristic of metamorphic and plutonic terranes, individual outcrops may be very complex, and 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 part of the Big River area (NTS sheets 13J/11, 12, 13 and 14), eastern Labrador, Geological Survey, Mines Branch, Department of Natural Resources, Government of Newfoundland and Labrador, Map 2010-02, Open File 013J/0290.

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

Digital NTS base maps (NTS 13J/11, 12 and 14) used for this map are available from Surveys and Mapping Branch, Natural Resources Canada.
Magnetic declination at 54° 30' N, 59° 00' W at the start of 2010 was 23° 29' W.
Elevations are in feet above sea level. Contour interval is 50 feet.
UTM (Universal Transverse Mercator) Grid Zone 21, NAD (North American Datum) 27.

Correspondence:
Dr. C.F. Gower, 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: cgower@gov.nl.ca.

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 2010-02 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.

NOTE: The purchaser agrees not to provide a digital reproduction or copy of this product to a third party. Derivative products should acknowledge the source of the data.

DISCLAIMER: The Geological Survey, a division of the Department of Natural Resources (the "authors and publishers"), retain the sole right to the original data and information found in any product produced. The authors and publishers assume no legal liability or responsibility for any alterations, changes or misrepresentations made by third parties with respect to these products or the original data. Furthermore, the Geological Survey assumes no liability with respect to digital reproductions or copies of original products or for derivative products made by third parties. Please consult with the Geological Survey in order to ensure originality and correctness of data and/or products.

REFERENCES

Archibald, D. and Farrar, E.
1979: 40Ar/39Ar mineral ages from the Walker-Benedict granodiorite, Central Mineral Belt, Labrador. Newfoundland and Labrador Department of Mines and Energy, Open File LAB/0454, 13 pages.

Bailey, D.G., Flanagan, M.J. and Lalonde, A.
1979: Geology of eastern Central Mineral Belt (13J/10-15; 13O/2, 3) Labrador. In Report of Activities. Newfoundland Department of Mines and Energy, Mineral Development Division, Report 79-1, pages 103-108.

Burns, J.G.
1979: Reconnaissance geology, Benedict Mountains, Labrador. N.T.S. 13-J-9, 10, 11, 14, 15 & 16. A part of the Placer-Brinex Aillik-Benedict Mountains J.V. area. Placer Development Ltd. Newfoundland and Labrador Geological Survey, Assessment File LAB/0188, 11 pages plus appendices.

Emslie, R.F., Hamilton, M.A. and Gower, C.F.
1997: The Michael gabbro and other Mesoproterozoic lithospheric probes in southern and central Labrador. Canadian Journal of Earth Sciences, Volume 34, pages 1566-1580.

Fahrig, W.F. and Larochelle, A.
1972: Paleomagnetism of the Michael Gabbro and possible evidence of the rotation of the Makkovik Subprovince. Canadian Journal of Earth Sciences, Volume 9, pages 1287-1296.

Gower, C.F., Flanagan, M.J., Kerr, A. and Bailey, D.G.
1982: The geology of the Kaipokok Bay - Big River area, Central Mineral Belt, Labrador. Newfoundland Department of Mines and Energy, Mineral Development Division, Report 82-77, 77 pages.

Gower, C.F., Kamo, S. and Krogh, T.E.
2008: Indentor tectonism in the eastern Grenville Province. Precambrian Research, Volume 167, pages 201-212.

Hinchey, A.M. and Laflamme, C.
2009: Preliminary geology of the Monkey Hill Map area (NTS 13J/14). Scale 1:50,000. Newfoundland and Labrador Department of Natural Resources, Geological Survey, Map 2009-29, Open File 013J/14/0272.

Kerr, A. and Fryer, B.J.
1994: The importance of late- and post-orogenic crustal growth in the early Proterozoic: evidence from Sm-Nd isotope studies of igneous rocks in the Makkovik Province, Canada. Earth and Planetary Science Letters, Volume 125, pages 71-88.

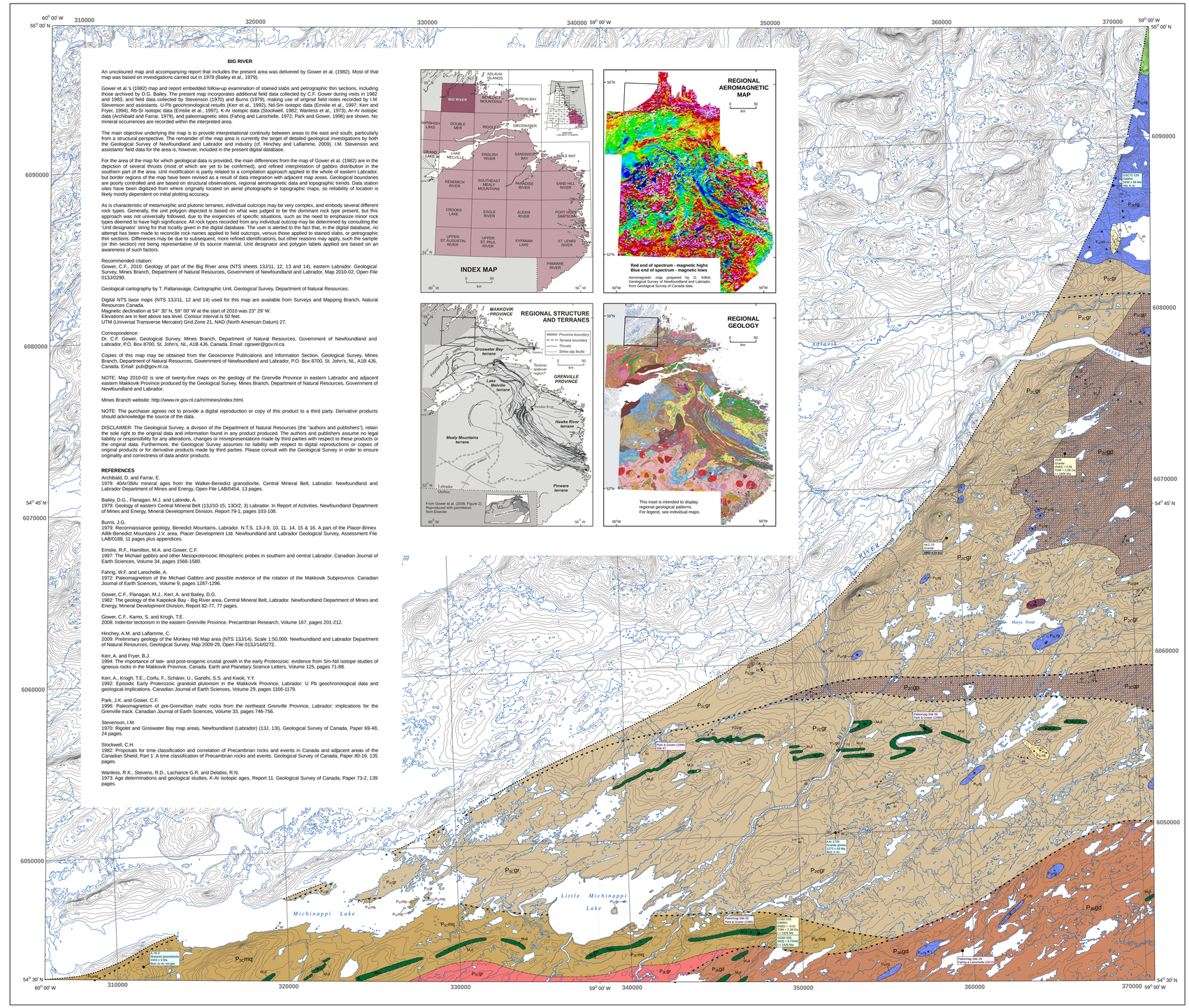
Kerr, A., Krogh, T.E., Corfu, F., Schärer, U., Gandhi, S.S. and Kwok, Y.Y.
1992: Episodic Early Proterozoic granitoid plutonism in the Makkovik Province, Labrador: U Pb geochronological data and geological implications. Canadian Journal of Earth Sciences, Volume 29, pages 1166-1179.

Park, J.K. and Gower, C.F.
1996: Paleomagnetism of pre-Grenvillian mafic rocks from the northeast Grenville Province, Labrador: implications for the Grenville track. Canadian Journal of Earth Sciences, Volume 33, pages 746-756.

Stevenson, I.M.
1970: Rigolet and Groswater Bay map areas, Newfoundland (Labrador) (13J, 13). Geological Survey of Canada, Paper 69-48, 24 pages.

Stockwell, C.H.
1982: Proposals for time classification and correlation of Precambrian rocks and events in Canada and adjacent areas of the Canadian Shield; Part 1: A time classification of Precambrian rocks and events. Geological Survey of Canada, Paper 80-19, 135 pages.

Wanless, R.K., Stevens, R.D., Lachance G.R. and Delabio, R.N.
1973: Age determinations and geological studies, K-Ar isotopic ages, Report 11. Geological Survey of Canada, Paper 73-2, 139 pages.



LEGEND

DEVONIAN (?)
Dd — Sandwich Bay and Battle Harbour dykes

EARLY CAMBRIAN
CFm — 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 — Double Mer Formation
NGr — Gilbert arkose
NSb — Sandwich Bay conglomerate
Nc — Clastic dykes
Nd — Long Range dykes
Nq — Quartz veins

LATE MESOPROTEROZOIC (M_2 1200 – 900 Ma)
LATE POST-GRENVILLIAN INTRUSIONS (M_{2D} ca. 975 – 955 Ma)
e.g., Chateau Pond granite

M_{2D}gD — Massive to weakly foliated megacrystic/porphyritic granite to quartz monzonite
M_{2D}gr — Massive to weakly foliated granite to alkali-feldspar granite
M_{2D}ln — Massive to weakly foliated leucogabbro to leuconorite
M_{2D}mn — Massive to weakly foliated monzogabbro and monzonorite
M_{2D}mq — Massive to weakly foliated quartz monzonite; mantled feldspar textures
M_{2D}mz — Massive to weakly foliated monzonite to monzodiorite
M_{2D}yq — Massive to weakly foliated syenite, quartz syenite and alkali-feldspar quartz syenite
M_{2D}d — Unnamed mafic dykes

EARLY POST-GRENVILLIAN INTRUSIONS (M_{2C} ca. 985 – 975 Ma)
e.g., Beaver Brook and Picton Pond plutons

M_{2C}gr — Weakly to moderately foliated granite to alkali-feldspar granite
M_{2C}ln — Weakly to moderately foliated leucogabbro to leuconorite
M_{2C}mn — Weakly to moderately foliated monzogabbro to monzonorite
M_{2C}mq — Weakly to moderately foliated monzonite to quartz monzonite
M_{2C}yq — Weakly to moderately foliated gabbro, norite and troctolite
M_{2C}yq — Weakly to moderately foliated syenite, quartz syenite and alkali-feldspar syenite
M_{2C}d — L'Anse-au-Diable, York Point, Gilbert Bay mafic dykes

SYN-GRENVILLIAN INTRUSIONS (M_{2B} ca. 1085 – 985 Ma)
M_{2B}gD — Moderately to strongly foliated granodiorite to quartz diorite
M_{2B}gp — Moderately to strongly foliated megacrystic/porphyritic granodiorite to quartz diorite
M_{2B}gr — Moderately to strongly foliated granite to alkali-feldspar granite
M_{2B}yN — Moderately to strongly foliated aegerine- or nepheline-bearing syenite
M_{2B}d — Unnamed mafic dykes (Makkovik Province and adjacent Grenville Province)

PRE-GRENVILLIAN INTRUSIONS (M_{2A} ca. 1200 – 1085 Ma)
e.g., Gilbert Bay pluton

M_{2A}gr — Weakly to strongly foliated granite
M_{2A}mn — Weakly to strongly foliated monzonite to monzonorite

MIDDLE MESOPROTEROZOIC (M_1 1350 – 1200 Ma)
e.g., Upper North River intrusion

M_1gr — Weakly to strongly foliated granite and alkali-feldspar granite
M_1rg — Weakly to strongly foliated gabbronorite (in database only - Lourdes-de-Blanc-Sablon intrusion, Quebec)
M_1yq — Weakly to strongly foliated syenite, quartz syenite and alkali-feldspar syenite
M_1d — Mealy dykes

EARLY MESOPROTEROZOIC (M_1 1600 – 1350 Ma)
e.g., Upper Paradise River, Kyfanan Lake and 13B/12 intrusions, and Michael Gabbro

M_1an — Massive or weakly foliated anorthosite to leucogabbronorite, indistinctly layered in places
M_1am — Weakly to markedly foliated amphibolite, plus leucocratic and melanocratic variants; granulite facies equivalents
M_1dr — Massive, weakly or strongly foliated diorite to amphibolite, may be metamorphic derivative of monzodiorite or leucogabbronorite
M_1gp — Moderately to strongly foliated megacrystic/porphyritic granitoid rocks
M_1gr — Massive, weakly or strongly foliated granite to quartz monzonite
M_1ln — Massive, weakly or strongly foliated leucogabbronorite and anorthositic gabbro, locally grading into gabbronorite, locally coronitic
M_1mn — Moderately to strongly foliated monzonorite
M_1mq — Moderately to strongly foliated monzonite to quartz monzonite
M_1mz — Moderately to strongly foliated monzonite to monzodiorite
M_1rg — Massive to strongly foliated gabbro, norite and troctolite, commonly layered; subophitic and locally coronitic; includes recrystallized derivatives retaining igneous textures
M_1um — Massive, weakly or strongly foliated ultramafic rocks, commonly layered and locally showing cumulate textures
M_1yq — Moderately to strongly foliated syenite and quartz syenite
M_1d — 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 — 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

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 — Brittle deformation; cataclastic rocks, pseudotachylite
δ — Ductile deformation; mylonite, straight gneiss

AGE GENERALLY POORLY CONSTRAINED

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

LATE PALEOPROTEROZOIC (P_2 1800 – 1600 Ma)
LATE LABRADORIAN GRANITOID INTRUSIONS (P_{2D} 1660 – 1600 Ma)
e.g., Paradise Arm intrusion and Hawke Bay intrusive suite

P_{2D}dr — Diorite, quartz diorite and tonalite; locally grading into leucogabbronorite
P_{2D}ga — Alkali-feldspar granite, granite and quartz syenite forming discrete plutons
P_{2D}gd — Granite to granodiorite forming discrete unmigmatized plutons
P_{2D}gp — Megacrystic/porphyritic granite to granodiorite
P_{2D}gr — Granite and minor alkali-feldspar granite
P_{2D}mn — Monzonorite and monzogabbro
P_{2D}mq — Quartz monzonite, including rare quartz syenite
P_{2D}mz — Monzonite, including minor syenite
P_{2D}yq — Syenite to quartz syenite forming discrete plutons
P_{2D}d — Unnamed mafic dykes

LATE LABRADORIAN ANORTHOSITIC AND MAFIC INTRUSIONS (P_{2C} 1660 – 1600 Ma)
e.g., White Bear Arm complex and Sand Hill Big Pond intrusion

P_{2C}ag — Weakly to markedly foliated mafic granulite, plus leucocratic and melanocratic variants
P_{2C}am — Weakly to markedly foliated amphibolite, plus leucocratic and melanocratic variants
P_{2C}an — Massive to strongly foliated anorthosite and leucogabbronorite
P_{2C}rg — Massive to strongly foliated gabbro and norite, commonly layered; subophitic and locally coronitic
P_{2C}ln — Primary textured to recrystallized leucogabbronorite and leucogabbro; coronitic locally
P_{2C}lt — Primary textured to recrystallized leucotroctolite
P_{2C}um — Massive, weakly or strongly foliated ultramafic rocks, commonly layered and locally showing cumulate textures

EARLY LABRADORIAN MAFIC AND ASSOCIATED ROCKS (P_{2B} 1710 – 1660 Ma)
e.g., Alexis River anorthosite (assigned here although age is uncertain)

P_{2B}ag — Weakly to foliated to gneissic amphibolite and mafic granulite, plus leucocratic and melanocratic variants
P_{2B}an — Weakly foliated to gneissic anorthosite and leucogabbronorite
P_{2B}ln — Weakly foliated to gneissic leucogabbronorite and leucogabbro; coronitic locally
P_{2B}mn — Weakly foliated to gneissic monzonorite and monzogabbro
P_{2B}rg — Weakly foliated to gneissic gabbro and norite
P_{2B}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_{2A}dr — Foliated to gneissic diorite to quartz diorite, and compositionally equivalent well-banded gneiss; in part derived from leucogabbronorite
P_{2A}gd — Foliated to gneissic granodiorite and compositionally equivalent well-banded gneiss
P_{2A}gp — Foliated to gneissic megacrystic/porphyritic granitoid rocks, augen gneiss
P_{2A}gr — Foliated to gneissic granite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss
P_{2A}mq — Foliated to gneissic quartz monzonite, grading into diorite or syenite, and compositionally equivalent well-banded gneiss
P_{2A}mz — Foliated to gneissic monzonite and monzodiorite, and compositionally equivalent well-banded gneiss
P_{2A}ya — Foliated to gneissic syenite, alkali-feldspar syenite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss
P_{2A}am — Amphibolite skialiths, lenses and layers (mainly remnants of former dykes)

PRE-LABRADORIAN GRANITOID ROCKS (P_{2A} 1800 – 1710 Ma)
P_{2A}ag — Mafic granulite skialiths, lenses and layers
P_{2A}dr — Foliated to gneissic diorite to quartz diorite, and compositionally equivalent well-banded gneiss
P_{2A}gd — Foliated to gneissic granodiorite and compositionally equivalent well-banded gneiss
P_{2A}gp — Foliated to gneissic megacrystic/porphyritic granitoid rocks, augen gneiss
P_{2A}gr — Foliated to gneissic granite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss
P_{2A}ln — Foliated to gneissic leucogabbronorite, and compositionally equivalent well-banded gneiss
P_{2A}am — Amphibolite skialiths, lenses and layers (mainly remnants of former dykes)

PRE-LABRADORIAN SUPRACRUSTAL ROCKS (P_{2A} 1800 – 1710 Ma)
(Age uncertain; certainly pre-1670 Ma, probably 1800 – 1770 Ma)

Sedimentary protolith
P_{2A}sc — Calc-silicate rocks, compositionally layered, medium grained
P_{2A}sp — Fine- to medium-grained pelitic schist and gneiss
P_{2A}sq — Quartzite, meta-arkose, thin to thick bedded
P_{2A}ss — Quartz-feldspar psammitic schist and gneiss; medium grained and commonly rusty-weathering
P_{2A}sx — Metasedimentary diatexite; coarse grained to pegmatitic and characteristically white-weathering

Volcanic protolith
P_{2A}vf — Fine- to medium-grained, banded quartzofeldspathic rocks; locally have lensoid shapes, possibly indicating felsic volcaniclastic protolith
P_{2A}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 — 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 — 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 — 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 — Volcanic breccia, angular clasts, grading into agglomerate
P_{2C}vf — Fine- to medium-grained, banded quartzofeldspathic rocks; locally have lensoid shapes, possibly indicating felsic volcaniclastic 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).

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

GEOLOGICAL DATA SOURCES

Personnel	Stations	Year(s) data collected	Project name	Mapping references
D.G. Bailey (project geologist)	268	1977, -78	Kaikapok Bay - Big River	Bailey et al. (1979), Gower et al. (1982)
M.J. Flanagan (assistant geologist)	166	1978	Kaikapok Bay - Big River	Bailey et al. (1979), Gower et al. (1982)
I.H. Bourne (assistant geologist)	165	1968	Rigolet - Groswater Bay	Stevenson (1970)
A. Lalonde (assistant geologist)	126	1978	Kaikapok Bay - Big River	Bailey et al. (1979), Gower et al. (1982)
W. Nesbitt (assistant geologist)	112	1968	Rigolet - Groswater Bay	Stevenson (1970)
C.F. Gower (project geologist)	47	1982, -83	Double Mer & other visits	Bailey et al. (1979) Gower et al. (1982); additional data
I. M. Stevenson (project geologist)	44	1968	Rigolet - Groswater Bay	Stevenson (1970)
J.G. Burns (project geologist)	42	1978	Binney/Placer exploration project	Burns (1979)

Note: Number of stations applies to whole of map area.

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
i.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	Kerr et al. (1992)	AKZ-23
Nd-Sm	Emslie et al. (1997)	CG82-035
Nd-Sm	Kerr and Fryer (1994)	1538
Rb-Sr	Emslie et al. (1997)	CG82-035
K-Ar	Stockwell (1982)	KAr-1726
K-Ar	Wanless et al. (1973)	GSC72-139
Ar-Ar	Archibald & Farrar (1979)	A-78-3

MINERAL OCCURRENCE DATA SOURCES

Inventory No.	Map label	Status	Easting	Northing	Reference
					No mineral occurrences

MINERAL OCCURRENCE ABBREVIATIONS

Amz Amazonite
Au Gold
Bt Biotite
Cly Clay
Cr Chromium
Cu Copper
Fe Iron
Fel Feldspar
Fl Fluorite
Grt 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

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