SUMMARY DESCRIPTIONS OF MAP UNITS FOR
1:50 000 scale NTS SHEETS 14D/3,4,5 and 6, and 24A/1 and 8
(Not all units are present on this sheet)

QUATERNARY

Surficial deposits

Glacial and fluvial/lic deposits of sand, gravel, and boulders; swamp and bog locally, especially on map sheets 14D/4 and 14D/5. (Significant bedrock outcrops, in addition to those indicated on the maps as being visible on the ground or spotted from the air, are likely present within some of the areas dominated by the glacial debris, particularly on the walls of river valleys.)

MIDDLE MESOPROTEROZOIC

Strange Lake intrusive suite

M2.S *Western part of map sheet 24A/8, along the border with Quebec.*
Fine- to medium-grained, rare-mineral-enriched, peralkaline, arfvedsonite granite; includes pegmatitic and aplitic phases; crystallization age, indicated by U-Pb isotopic data from zircon, is 1242 +- 2 Ma (see Geochronological Notes for map sheet 24A/8).

Nain (Harp) dykes

M2.D1 *The largest olivine gabbro dykes in the area, particularly those found on map sheets 14D/5 and 6.*
These are especially prominent examples of rocks otherwise encompassed by "second generation" dykes as described in an accompanying map note regarding dyke symbols.
Predominantly medium- to coarse-grained olivine- and titanaugite-bearing, locally friable, diabase and gabbro, but some rocks are olivine-free. Except for a local low-temperature alteration of the mafic minerals to a chlorite-epidote-calcite-(+-talc) assemblage, the dykes are relatively fresh massive, fine-grained parts of these dykes exhibit microscopic quenched textures and microphenocrysts of plagioclase and pyroxene. These dykes are probably members of a 1270 Ma swarm which intrudes the Nain Plutonic Suite along the Labrador coast. The olivine gabbro intrusion (Unit M2.Y) may be contemporaneous with these dykes or it may be an older intrusion.

Nain Plutonic Suite

M2.Y1 *Confined to the northeast corner of map sheet 14D/3.*
Fine-grained to very coarse-grained, dark-green- to brown- to white-weathering, biotite-bearing olivine gabbro and leucogabbro; locally displays a crude stellate array to the plagioclase laths. Generally massive, but locally exhibits a well-defined plagioclase lamination and a diffuse compositional layering. This intrusion is geographically divorced from the closest members of the 1350-1290 Ma Nain Plutonic Suite (NPS), but may be the same age. Alternatively, it may be related to the eight olivine gabbro dyke swarm that transects the NPS (see Unit M2.Dn above), and thus be a particularly large example of these gabbroic dykes.

EARLY MESOPROTEROZOIC

Napeu Kainiut intrusion

M2.P1 *Confined to the eastern edge of map sheets 14D/4, and parts of 24A/1 and 8.*
Hypidiomorphic quartz monzonite and granite; probably the same age as the Mistastin Lake batholith, but lacks rapakivi characteristics.

Mistastin Lake batholith

M1.Mm *Occupies the southern parts of map sheets 14D/3 and 4.*
Predominantly medium to coarse-grained, biotite-hornblende (orthopyroxene-bearing) quartz monzonite and granite, displaying rapakivi characteristics such as ovoid quartz "eyes" and potassium feldspar megacrysts having plagioclase mantles; locally has more mafic, quartz-free, varieties (margerite) along its margin. The chief mafic mineral is inverted pigeonite, locally occurring with subordinate hornblende and biotite along the western margin; olivine appears to be absent. Fine-grained mafic enclaves derived from the disaggregation of contemporaneous mafic intrusions are locally present. Patches of the country-rock gneisses and abutting massive anorthositic rocks are widely hornfelsed, and a pyroxene hornfels thermal metamorphic aureole has developed in the gneisses adjacent to the intrusion (see accompanying additional note on map sheets 14D/3 and 4 regarding the extent of the aureole).

M1.Mm1 *Occurs only along the southern part of map sheet 14D/3.*
Medium- to coarse-grained subophitic leuconorite and anorthosite, having widespread distribution of chatoyant plagioclase (labradorite).

LATE PALEOPROTEROZOIC

Granite of uncertain affinity

PY-Gr1 *Designated an anealy-related intrusion until near the Quebec border, straddling map sheets 14D/5 and 24A/8*
White-weathering massive to weakly foliated granitic pegmatite, locally having screens of gneiss and being anomalously radioactive by comparison with enclosing gneissic rocks. This unit may be a variant of and Ps3Gr or Unit Pt1Gr.

Granite

PS-Gr *Includes only the granitic rocks of the western parts of map sheets 14D/4 and 5.*
Massive to weakly foliated, generally medium- to fine-grained, pink biotite-(+muscovite) granite, having rare garnet; pegmatoidal phases are locally present. The unit possibly includes rocks of more than one generation, and may, in part, be the larger expression of some of the massive to weakly deformed granitic pegmatites that are intruded into the gneisses. It is possible that some of the granitic rocks assigned to Unit AP-Cgp are equivalent to this unit, but the two are separated on the maps because this unit seems to postdate the mylonitic imprint of the abutting gneisses and contains inclusions of mylonitic-textured gneisses, whereas Unit AP-Cgp predates the mylonitic imprint and exhibits the mylonitic foliation. U-Pb data from zircon and monazite within one medium-grained massive phase provide ambiguous ages. The time of crystallization - from ca. 1990 Ma to ca. 1760 Ma (see Geochronological Notes for map sheet 14D/4, sample 14D/4(1)).

PALEOARCHEAN TO MIDDLE PALEOPROTEROZOIC

Churchill Province Gneisses and Associated Rocks

Gabbronorite dykes

M-Dn *The largest granular dykes found in the area, especially on map sheets 14D/3, 4 and 5. These dykes are particularly prominent examples of intrusions that are otherwise encompassed by "first generation" dykes as described in the accompanying map note regarding dyke symbols.*
Generally dark-green to grey to brown, fine- to medium-grained, granular rocks, but locally are coarse-grained. These are "granitoid facies" rocks, containing both ortho- and clinopyroxene, but this gabbronorite mineral assemblage may be, in part, a primary rather than metamorphic feature. The dykes retain relicts of gabbroic texture, and locally contain variably recrystallized plagioclase phenocrysts several centimetres in maximum size (e.g., southeast corner of map sheet 14D/5); some of the best preserved plagioclase phenocrysts exhibit flashes of labradorite schiller.

Gabbronorite, monzogabbronorite, gametiferous granite, and schistose to gneissose derivatives

P1-Gb1 *Early Paleoproterozoic. Confined to western part of map sheet 14D/4 and the eastern part of map sheet 14D/5.*
Undivided mapping of the mafic rocks of units P1-Gb1 and P1-Gb1a intruded by white to pink gametiferous granite of Unit P1-CQw. Either the mafic or granitic rock may be the dominant one in individual outcrops; mafic rocks in areas of abundant gametiferous granite are likewise garnet-bearing.

P1-Gb1a *Early Paleoproterozoic. Confined to western parts of map sheet 14D/4,5 and the eastern part of map sheets 24A/1 and 8.*
White-, to pale-grey-, to pink-weathering, gametiferous and non-gametiferous massive to foliated biotite granite, and biotite-(+garnet) granitic gneiss derived from it, orthopyroxene or sillimanite is locally present, and some of the rocks are enderbitic. These granitoid rocks occur chiefly as large lobes and metre-scale dykes intrusive into units P1-Gb and P1-Gb1a, locally giving rise to a lit-par-lit type migmatite (cf. Unit P1-CQm). These rocks display a variety of foliation types, varying from a weak mineral lineation to a distinct gneissic layering; high strain zones have ultramylonitic rocks. Garnets in this unit have two habits: (i) a homogeneous type randomly scattered through the rock, and (ii) aggregates of euhedral garnets commonly associated with biotite, quartz, plagioclase, gamtoonite(?) aggregates within the foliation and having associated green spinel, likely derived by granulite-facies metamorphic transformation of another mineral. The unit also locally contains massive screens of mafic rocks, and may include some gametiferous rocks of supracrustal origin.

P1-Gb1 *Early Paleoproterozoic. Confined to map sheet 24A /8, near the Québec border.*
Charnockitic, mangeritic and enderbitic rocks, locally gametiferous, of unknown stratigraphic relationship to enclosing Unit P1-CG, but could be a more quartzofeldspathic variant of it. Most of the rocks assigned to this unit contain both orthopyroxene and clinopyroxene, as well as green to brown hornblende; some of the mangeritic rocks have megacrysts of purplish-pink potassium feldspar. This unit differs from Unit P1-Qkw in the paucity of biotite, the scarcity of garnet, and the lack of sillimanite.

P1-Gb1 *Early Paleoproterozoic. Confined to western parts of map sheets 14D/4 and 5 and the eastern parts of map sheets 24A/1 and 8.*
Rocks considered to be porphyritic equivalents of Unit P1-CG , having either plagioclase or, more commonly, potassium feldspar megacrysts. Most of the rocks are porphyritic quartz-bearing gabbronorite and monzogabbronorite, and augen schist and gneiss derived from them; restricted areas of nonporphyritic rocks also occur within this unit, as do more leucocratic rocks, including foliated enderbite and enderbitic gneisses. Regionally, this group of rocks is intruded by varying sized dykes of pegmatitic granite, leading to a distinctly migmatitic gneiss in places. The augen gneisses encompassed by this unit differ from some superficially similar augen-textured gneisses within Unit AP-CQn directly to the east in being pyroxene-bearing rocks.

P1-Gb1 *Early Paleoproterozoic. Confined to western parts of map sheets 14D/4 and 5 and the eastern parts of 24A/1 and 8.*
A metamorphosed suite of plutonic rocks comprising predominantly fine- to medium-grained gabbronorite and foliated to gneissose derivatives, having components that locally contain quartz and potassium feldspar; rock types range from melanocratic gabbronorite to quartz-bearing gabbronorite and monzogabbronorite to leucogabbronorite. Hydrous minerals are, overall, a minor constituent of this unit on a regional scale; apatite and zircon are widespread accessory minerals, whereas opaque oxides may locally be quite abundant. Orthopyroxene is the only anhydrous pyroxene mineral assemblage is so widespread that it is likely an igneous attribute of these rocks, rather than being a product of regional metamorphism. Primary subophitic and porphyritic (gray plagioclase and purplish potassium feldspar) textures, as well as primary compositional layering are locally preserved; most of these porphyritic rocks are, however, allocated to a separate map subdivision (Unit P1-CGa). U-Pb (zircon) dating of a little-deformed subophitic textured gabbronoritic rock from this metamorphosed plutonic suite has yielded an age of 2304 Ma, interpreted to be the time of crystallization (see Geochronological Notes for map sheet 24A/8, sample 24A/8(1)).

Foliated quartz diorite

AP-Qd *Paleoproterozoic? Unit confined to the western part of map sheet 14D/5*
A foliated mafic rock that mesoscopically resembles parts of Unit P1-CG but lacks the pyroxene of that unit; it may be an amphibolitized equivalent, but has microscopic features suggestive of a metamorphosed mafic rock. Most of the more quartzofeldspathic rocks to the east, especially by the presence of hornfels, biotite and titanite. White, medium- grained to pegmatitic granitic dykes are locally abundant.

Quartzofeldspathic gneisses of diverse origins

P1-CG *Early Paleoproterozoic. Includes all the "granitic" rocks between the granulite-facies gneisses and the layered metagabbronorite on map sheets 14D/4 and 5.*
This unit includes more than one generation and variety of granitic rocks, and in places it resembles Unit P3-CG. In the south, it differs from the Unit P3-CG rocks in having much more biotite, in being more commonly foliated, and in having a less "granitic" appearance and an absence of allanite and titanite. The unit locally displays strain zones having fabrics akin to the mylonitic foliation of some inclusions within the granite of Unit P3-CG, implying it had undergone deformation prior to the emplacement of the latter granite. The predominant rock of this unit is a white to pink, aplitic to pegmatoidal, foliated to gneissose, leucocratic one that encompasses rocks of tonalitic to granitic composition. The northern part of the unit on map sheet 14D/5 has very little potassium feldspar, whereas the southern part of the unit on map sheet 14D/4 comprises microline-rich biotite-leucogranites; the widespread distribution of muscovite, garnet, and sillimanite in the latter imply the precursor magma was either derived from a metasedimentary source or that it has been contaminated by interaction with the same. Some of these rocks have a foliation that is defined simply by biotite-rich schlieren, others are foliated megacrystic types, resembling the augen gneisses of Unit AP-CQn, and others are foliated leucogranite gneisses areas where an earlier biotite-hornblende gneiss (Unit AP-CQh) occurs as numerous screens, as well as undivided areas where the older gneiss is dominant but injected by abundant sheets of the granitoid rock. The unit is locally migmatitic; it displays an augen structure defined by relicts of feldspar megacrysts or knots of quartz and feldspar in a strongly schistose matrix. Several generations of granitic pegmatite are present; some pegmatites are affected by the mylonitic overprint whereas others postdate the mylonitization but are nevertheless locally openly folded or exhibit a pinch-and-swell morphology. Zones of anomalous radioactivity, seemingly related to an abundance of allanite or another radioactive mineral, are present throughout the unit. A U-Pb (zircon) age of 2328 +55/-47 Ma from white aplitic biotite granite in the central part of the unit (on map sheet 14D/5) probably represents the time of crystallization, whereas an age of 1946+25 Ma from a pink pegmatitic granite from the south-central part of the unit may date the time of partial melting. (There is some ambiguity with regard to the metamorphic history of this rock. No field nor microscopic evidence has been found to indicate that this ca. 2330 Ma rock was ever subjected to granulite facies metamorphism, yet the adjacent granulite facies terrane is, by comparison with other parts of the Churchill Province in northern Labrador, considered to be a product of such metamorphism at ca. 1860 Ma).

AP-CQp *Paleoproterozoic? Distributed over map sheets 14D/3 and 14D/6.*
Pink-weathering, fine-grained to pegmatoidal, microline-bearing, biotite leucogranite; newly recognized in the south, it is a prominent component of the augen gneiss terrane. The augen gneiss unit has greater proportions of this granitoid than does any other rock unit, but the augen gneisses locally have screens of mafic rocks, and may include some gametiferous rocks of supracrustal origin.

P1-CQn *Early Paleoproterozoic. Confined to map sheet 24A /8, near the Québec border.*
Charnockite, mangerite and enderbite rocks, locally gametiferous, of unknown stratigraphic relationship to enclosing Unit P1-CG, but could be a more quartzofeldspathic variant of it. Most of the rocks assigned to this unit contain both orthopyroxene and clinopyroxene, as well as green to brown hornblende; some of the mangerite rocks have megacrysts of purplish-pink potassium feldspar. This unit differs from Unit P1-Qkw in the paucity of biotite, the scarcity of garnet, and the lack of sillimanite.

P1-CQm *Early Paleoproterozoic. Confined to western parts of map sheets 14D/4 and 5 and the eastern parts of map sheets 24A/1 and 8.*
Rocks considered to be porphyritic equivalents of Unit P1-CG , having either plagioclase or, more commonly, potassium feldspar megacrysts. Most of the rocks are porphyritic quartz-bearing gabbronorite and monzogabbronorite, and augen schist and gneiss derived from them; restricted areas of nonporphyritic rocks also occur within this unit, as do more leucocratic rocks, including foliated enderbite and enderbitic gneisses. Regionally, this group of rocks is intruded by varying sized dykes of pegmatitic granite, leading to a distinctly migmatitic gneiss in places. The augen gneisses encompassed by this unit differ from some superficially similar augen-textured gneisses within Unit AP-CQn directly to the east in being pyroxene-bearing rocks.

P1-Qkw *Early Paleoproterozoic. Confined to western parts of map sheets 14D/4 and 5 and the eastern parts of 24A/1 and 8.*
A metamorphosed suite of plutonic rocks comprising predominantly fine- to medium-grained gabbronorite and foliated to gneissose derivatives, having components that locally contain quartz and potassium feldspar; rock types range from melanocratic gabbronorite to quartz-bearing gabbronorite and monzogabbronorite to leucogabbronorite. Hydrous minerals are, overall, a minor constituent of this unit on a regional scale; apatite and zircon are widespread accessory minerals, whereas opaque oxides may locally be quite abundant. Orthopyroxene is the only anhydrous pyroxene mineral assemblage is so widespread that it is likely an igneous attribute of these rocks, rather than being a product of regional metamorphism. Primary subophitic and porphyritic (gray plagioclase and purplish potassium feldspar) textures, as well as primary compositional layering are locally preserved; most of these porphyritic rocks are, however, allocated to a separate map subdivision (Unit P1-CGa). U-Pb (zircon) dating of a little-deformed subophitic textured gabbronoritic rock from this metamorphosed plutonic suite has yielded an age of 2304 Ma, interpreted to be the time of crystallization (see Geochronological Notes for map sheet 24A/8, sample 24A/8(1)).

Foliated quartz diorite

AP-Qd *Paleoproterozoic? Unit confined to the western part of map sheet 14D/5*
A foliated mafic rock that mesoscopically resembles parts of Unit P1-CG but lacks the pyroxene of that unit; it may be an amphibolitized equivalent, but has microscopic features suggestive of a metamorphosed mafic rock. Most of the more quartzofeldspathic rocks to the east, especially by the presence of hornfels, biotite and titanite. White, medium- grained to pegmatitic granitic dykes are locally abundant.

Quartzofeldspathic gneisses of diverse origins

P1-CG *Early Paleoproterozoic. Includes all the "granitic" rocks between the granulite-facies gneisses and the layered metagabbronorite on map sheets 14D/4 and 5.*
This unit includes more than one generation and variety of granitic rocks, and in places it resembles Unit P3-CG. In the south, it differs from the Unit P3-CG rocks in having much more biotite, in being more commonly foliated, and in having a less "granitic" appearance and an absence of allanite and titanite. The unit locally displays strain zones having fabrics akin to the mylonitic foliation of some inclusions within the granite of Unit P3-CG, implying it had undergone deformation prior to the emplacement of the latter granite. The predominant rock of this unit is a white to pink, aplitic to pegmatoidal, foliated to gneissose, leucocratic one that encompasses rocks of tonalitic to granitic composition. The northern part of the unit on map sheet 14D/5 has very little potassium feldspar, whereas the southern part of the unit on map sheet 14D/4 comprises microline-rich biotite-leucogranites; the widespread distribution of muscovite, garnet, and sillimanite in the latter imply the precursor magma was either derived from a metasedimentary source or that it has been contaminated by interaction with the same. Some of these rocks have a foliation that is defined simply by biotite-rich schlieren, others are foliated megacrystic types, resembling the augen gneisses of Unit AP-CQn, and others are foliated leucogranite gneisses areas where an earlier biotite-hornblende gneiss (Unit AP-CQh) occurs as numerous screens, as well as undivided areas where the older gneiss is dominant but injected by abundant sheets of the granitoid rock. The unit is locally migmatitic; it displays an augen structure defined by relicts of feldspar megacrysts or knots of quartz and feldspar in a strongly schistose matrix. Several generations of granitic pegmatite are present; some pegmatites are affected by the mylonitic overprint whereas others postdate the mylonitization but are nevertheless locally openly folded or exhibit a pinch-and-swell morphology. Zones of anomalous radioactivity, seemingly related to an abundance of allanite or another radioactive mineral, are present throughout the unit. A U-Pb (zircon) age of 2328 +55/-47 Ma from white aplitic biotite granite in the central part of the unit (on map sheet 14D/5) probably represents the time of crystallization, whereas an age of 1946+25 Ma from a pink pegmatitic granite from the south-central part of the unit may date the time of partial melting. (There is some ambiguity with regard to the metamorphic history of this rock. No field nor microscopic evidence has been found to indicate that this ca. 2330 Ma rock was ever subjected to granulite facies metamorphism, yet the adjacent granulite facies terrane is, by comparison with other parts of the Churchill Province in northern Labrador, considered to be a product of such metamorphism at ca. 1860 Ma).

AP-CQp *Paleoproterozoic? Distributed over map sheets 14D/3 and 14D/6.*
Pink-weathering, fine-grained to pegmatoidal, microline-bearing, biotite leucogranite; newly recognized in the south, it is a prominent component of the augen gneiss terrane. The augen gneiss unit has greater proportions of this granitoid than does any other rock unit, but the augen gneisses locally have screens of mafic rocks, and may include some gametiferous rocks of supracrustal origin.

P1-CQn *Early Paleoproterozoic. Confined to map sheet 24A /8, near the Québec border.*
Charnockite, mangerite and enderbite rocks, locally gametiferous, of unknown stratigraphic relationship to enclosing Unit P1-CG, but could be a more quartzofeldspathic variant of it. Most of the rocks assigned to this unit contain both orthopyroxene and clinopyroxene, as well as green to brown hornblende; some of the mangerite rocks have megacrysts of purplish-pink potassium feldspar. This unit differs from Unit P1-Qkw in the paucity of biotite, the scarcity of garnet, and the lack of sillimanite.

P1-CQm *Early Paleoproterozoic. Confined to western parts of map sheets 14D/4 and 5 and the eastern parts of map sheets 24A/1 and 8.*
Rocks considered to be porphyritic equivalents of Unit P1-CG , having either plagioclase or, more commonly, potassium feldspar megacrysts. Most of the rocks are porphyritic quartz-bearing gabbronorite and monzogabbronorite, and augen schist and gneiss derived from them; restricted areas of nonporphyritic rocks also occur within this unit, as do more leucocratic rocks, including foliated enderbite and enderbitic gneisses. Regionally, this group of rocks is intruded by varying sized dykes of pegmatitic granite, leading to a distinctly migmatitic gneiss in places. The augen gneisses encompassed by this unit differ from some superficially similar augen-textured gneisses within Unit AP-CQn directly to the east in being pyroxene-bearing rocks.

P1-Qkw *Early Paleoproterozoic. Confined to western parts of map sheet 14D/4 and 5 and the eastern parts of 24A/1 and 8.*
A metamorphosed suite of plutonic rocks comprising predominantly fine- to medium-grained gabbronorite and foliated to gneissose derivatives, having components that locally contain quartz and potassium feldspar; rock types range from melanocratic gabbronorite to quartz-bearing gabbronorite and monzogabbronorite to leucogabbronorite. Hydrous minerals are, overall, a minor constituent of this unit on a regional scale; apatite and zircon are widespread accessory minerals, whereas opaque oxides may locally be quite abundant. Orthopyroxene is the only anhydrous pyroxene mineral assemblage is so widespread that it is likely an igneous attribute of these rocks, rather than being a product of regional metamorphism. Primary subophitic and porphyritic (gray plagioclase and purplish potassium feldspar) textures, as well as primary compositional layering are locally preserved; most of these porphyritic rocks are, however, allocated to a separate map subdivision (Unit P1-CGa). U-Pb (zircon) dating of a little-deformed subophitic textured gabbronoritic rock from this metamorphosed plutonic suite has yielded an age of 2304 Ma, interpreted to be the time of crystallization (see Geochronological Notes for map sheet 24A/8, sample 24A/8(1)).

Foliated quartz diorite

AP-Qd *Paleoproterozoic? Unit confined to the western part of map sheet 14D/5*
A foliated mafic rock that mesoscopically resembles parts of Unit P1-CG but lacks the pyroxene of that unit; it may be an amphibolitized equivalent, but has microscopic features suggestive of a metamorphosed mafic rock. Most of the more quartzofeldspathic rocks to the east, especially by the presence of hornfels, biotite and titanite. White, medium- grained to pegmatitic granitic dykes are locally abundant.

Quartzofeldspathic gneisses of diverse origins

P1-CG *Early Paleoproterozoic. Includes all the "granitic" rocks between the granulite-facies gneisses and the layered metagabbronorite on map sheets 14D/4 and 5.*
This unit includes more than one generation and variety of granitic rocks, and in places it resembles Unit P3-CG. In the south, it differs from the Unit P3-CG rocks in having much more biotite, in being more commonly foliated, and in having a less "granitic" appearance and an absence of allanite and titanite. The unit locally displays strain zones having fabrics akin to the mylonitic foliation of some inclusions within the granite of Unit P3-CG, implying it had undergone deformation prior to the emplacement of the latter granite. The predominant rock of this unit is a white to pink, aplitic to pegmatoidal, foliated to gneissose, leucocratic one that encompasses rocks of tonalitic to granitic composition. The northern part of the unit on map sheet 14D/5 has very little potassium feldspar, whereas the southern part of the unit on map sheet 14D/4 comprises microline-rich biotite-leucogranites; the widespread distribution of muscovite, garnet, and sillimanite in the latter imply the precursor magma was either derived from a metasedimentary source or that it has been contaminated by interaction with the same. Some of these rocks have a foliation that is defined simply by biotite-rich schlieren, others are foliated megacrystic types, resembling the augen gneisses of Unit AP-CQn, and others are foliated leucogranite gneisses areas where an earlier biotite-hornblende gneiss (Unit AP-CQh) occurs as numerous screens, as well as undivided areas where the older gneiss is dominant but injected by abundant sheets of the granitoid rock. The unit is locally migmatitic; it displays an augen structure defined by relicts of feldspar megacrysts or knots of quartz and feldspar in a strongly schistose matrix. Several generations of granitic pegmatite are present; some pegmatites are affected by the mylonitic overprint whereas others postdate the mylonitization but are nevertheless locally openly folded or exhibit a pinch-and-swell morphology. Zones of anomalous radioactivity, seemingly related to an abundance of allanite or another radioactive mineral, are present throughout the unit. A U-Pb (zircon) age of 2328 +55/-47 Ma from white aplitic biotite granite in the central part of the unit (on map sheet 14D/5) probably represents the time of crystallization, whereas an age of 1946+25 Ma from a pink pegmatitic granite from the south-central part of the unit may date the time of partial melting. (There is some ambiguity with regard to the metamorphic history of this rock. No field nor microscopic evidence has been found to indicate that this ca. 2330 Ma rock was ever subjected to granulite facies metamorphism, yet the adjacent granulite facies terrane is, by comparison with other parts of the Churchill Province in northern Labrador, considered to be a product of such metamorphism at ca. 1860 Ma).

AP-CQp *Paleoproterozoic? Distributed over map sheets 14D/3 and 14D/6.*
Pink-weathering, fine-grained to pegmatoidal, microline-bearing, biotite leucogranite; newly recognized in the south, it is a prominent component of the augen gneiss terrane. The augen gneiss unit has greater proportions of this granitoid than does any other rock unit, but the augen gneisses locally have screens of mafic rocks, and may include some gametiferous rocks of supracrustal origin.

P1-CQn *Early Paleoproterozoic. Confined to map sheet 24A /8, near the Québec border.*
Charnockite, mangerite and enderbite rocks, locally gametiferous, of unknown stratigraphic relationship to enclosing Unit P1-CG, but could be a more quartzofeldspathic variant of it. Most of the rocks assigned to this unit contain both orthopyroxene and clinopyroxene, as well as green to brown hornblende; some of the mangerite rocks have megacrysts of purplish-pink potassium feldspar. This unit differs from Unit P1-Qkw in the paucity of biotite, the scarcity of garnet, and the lack of sillimanite.

P1-CQm *Early Paleoproterozoic. Confined to western parts of map sheets 14D/4 and 5 and the eastern parts of map sheets 24A/1 and 8.*
Rocks considered to be porphyritic equivalents of Unit P1-CG , having either plagioclase or, more commonly, potassium feldspar megacrysts. Most of the rocks are porphyritic quartz-bearing gabbronorite and monzogabbronorite, and augen schist and gneiss derived from them; restricted areas of nonporphyritic rocks also occur within this unit, as do more leucocratic rocks, including foliated enderbite and enderbitic gneisses. Regionally, this group of rocks is intruded by varying sized dykes of pegmatitic granite, leading to a distinctly migmatitic gneiss in places. The augen gneisses encompassed by this unit differ from some superficially similar augen-textured gneisses within Unit AP-CQn directly to the east in being pyroxene-bearing rocks.

P1-Qkw *Early Paleoproterozoic. Confined to western parts of map sheet 14D/4,5 and the eastern part of map sheets 24A/1 and 8.*
White-, to pale-grey-, to pink-weathering, gametiferous and non-gametiferous massive to foliated biotite granite, and biotite-(+garnet) granitic gneiss derived from it, orthopyroxene or sillimanite is locally present, and some of the rocks are enderbitic. These granitoid rocks occur chiefly as large lobes and metre-scale dykes intrusive into units P1-CG and P1-CGa, locally giving rise to a lit-par-lit type migmatite (cf. Unit P1-CGm). These rocks display a variety of foliation types, varying from a weak mineral lineation to a distinct gneissic layering; high strain zones have ultramylonitic rocks. Garnets in this unit have two habits: (i) a homogeneous type randomly scattered through the rock, and (ii) aggregates of euhedral garnets commonly associated with biotite, quartz, plagioclase, gamtoonite(?) aggregates within the foliation and having associated green spinel, likely derived by granulite-facies metamorphic transformation of another mineral. The unit also locally contains massive screens of mafic rocks, and may include some gametiferous rocks of supracrustal origin.

P1-CG *Early Paleoproterozoic. Confined to western parts of map sheets 14D/4 and 5 and the eastern parts of map sheets 24A/1 and 8.*
Rocks considered to be porphyritic equivalents of Unit P1-CG , having either plagioclase or, more commonly, potassium feldspar megacrysts. Most of the rocks are porphyritic quartz-bearing gabbronorite and monzogabbronorite, and augen schist and gneiss derived from them; restricted areas of nonporphyritic rocks also occur within this unit, as do more leucocratic rocks, including foliated enderbite and enderbitic gneisses. Regionally, this group of rocks is intruded by varying sized dykes of pegmatitic granite, leading to a distinctly migmatitic gneiss in places. The augen gneisses encompassed by this unit differ from some superficially similar augen-textured gneisses within Unit AP-CQn directly to the east in being pyroxene-bearing rocks.

P1-Qkw *Early Paleoproterozoic. Confined to western parts of map sheet 14D/4,5 and the eastern part of map sheets 24A/1 and 8.*
White-, to pale-grey-, to pink-weathering, gametiferous and non-gametiferous massive to foliated biotite granite, and biotite-(+garnet) granitic gneiss derived from it, orthopyroxene or sillimanite is locally present, and some of the rocks are enderbitic. These granitoid rocks occur chiefly as large lobes and metre-scale dykes intrusive into units P1-CG and P1-CGa, locally giving rise to a lit-par-lit type migmatite (cf. Unit P1-CGm). These rocks display a variety of foliation types, varying from a weak mineral lineation to a distinct gneissic layering; high strain zones have ultramylonitic rocks. Garnets in this unit have two habits: (i) a homogeneous type randomly scattered through the rock, and (ii) aggregates of euhedral garnets commonly associated with biotite, quartz, plagioclase, gamtoonite(?) aggregates within the foliation and having associated green spinel, likely derived by granulite-facies metamorphic transformation of another mineral. The unit also locally contains massive screens of mafic rocks, and may include some gametiferous rocks of supracrustal origin.

P1-CG *Early Paleoproterozoic. Confined to western parts of map sheet 14D/4,5 and the eastern part of map sheets 24A/1 and 8.*
White-, to pale-grey-, to pink-weathering, gametiferous and non-gametiferous massive to foliated biotite granite, and biotite-(+garnet) granitic gneiss derived from it, orthopyroxene or sillimanite is locally present, and some of the rocks are enderbitic. These granitoid rocks occur chiefly as large lobes and metre-scale dykes intrusive into units P1-CG and P1-CGa, locally giving rise to a lit-par-lit type migmatite (cf. Unit P1-CGm). These rocks display a variety of foliation types, varying from a weak mineral lineation to a distinct gneissic layering; high strain zones have ultramylonitic rocks. Garnets in this unit have two habits: (i) a homogeneous type randomly scattered through the rock, and (ii) aggregates of euhedral garnets commonly associated with biotite, quartz, plagioclase, gamtoonite(?) aggregates within the foliation and having associated green spinel, likely derived by granulite-facies metamorphic transformation of another mineral. The unit also locally contains massive screens of mafic rocks, and may include some gametiferous rocks of supracrustal origin.

AP-CQn *Paleoproterozoic? Confined to the northeastern corner of map sheet 14D/3.*
A pale-grey- to dark-grey- to pink-weathering rock, that varies from a weakly foliated, augen textured, hornblende +- biotite tonalite to a tonalitic gneiss; screens of older migmatitic gneiss are locally present and the tonalite forms patches in the parent gneisses. It is possible that this unit is a well-preserved representative of the precursor to some the regional tonalitic gneisses. The tonalite exhibits abundant pale-green to pale-brown hornblende and biotite, and lacks garnet, including a variety of pale green, veins that had intruded prior to the last episode of deformation. Primary magmatic foliation is well preserved, but hornblende is disposed as clots that give the rock a speckled appearance; orthopyroxene is present in the northern part of the unit and seems to be a remnant of the igneous assemblage rather than a regional metamorphic mineral. This unit is cut by metamorphosed and deformed basic dykes, a field feature that can be used as an indicator of an Archean age for this unit. A U-Pb age of 2677 +15/-12 Ma has been derived from zircon from this unit, supporting the field interpretation that the tonalite's age, and probably indicating the time of crystallization (see Geochronological Notes for map sheet 14D/3, sample 14D/3(1)).

AP-CQa *Likely includes Nevacheran and Paleoproterozoic rocks. Predominant rock type through the western part of map sheet 14D/3, the eastern half of map sheets 14D/4 and 14D/5, and the central part of map sheet 14D/6.*
An undivided and diverse group of buff-, white-, grey- and pink-weathering gneissic rocks; the white and pink colours usually reflect zones where the rocks lack orthopyroxene even though mafic compositions (including metamorphosed mafic dykes) in this setting do have granulite facies assemblages. Predominant rock comprises a gray to buff paleosome alternating with a white to pink gneissic neosome (a "pink-and-grey" gneiss), especially those rocks that transgress the boundary between map sheets 14D/3 and 14D/4, and those occurring along the northern half of the boundary between map sheets 14D/5 and 14D/6. A mesoscopic plutonic rock having a random array of pink granitic veins seems to have been the protolith to the gneisses in some areas, but this is not the case everywhere. Some of the gneisses are "granitic" in appearance, and includes homogeneous, anhimic, and diffusely- to nebulous-layered metaplutonic rocks having a streaky discontinuous foliation, as well as compositionally well-layered gneisses and granite-veined migmatitic gneisses; laminar-banded "straight gneisses" are present within parts of the mylonitically re-foliated terrane of the Moon-base shear zone (see accompanying note for map sheets 14D/5 and 6). In the Long Pond area, especially, these granulitic gneisses are invaded by largely concordant pink aplitic and pegmatitic granitic sheets. Enderbitic and charnockitic compositions dominate within the unit, but granitic varieties are locally abundant. Both biotite and hornblende are normally present in the granulite-facies rocks, and define the foliation, but some parts of the unit have undergone a retrograde hydration that has destroyed the mafic minerals in the gneisses. Orthopyroxene occurs in some areas, but not everywhere, and is commonly in hornblende-rich layers along the western side of the unit on map sheet 14D/5. The rocks locally have a speckled appearance from postdeformational orthopyroxene and/or hornblende.

This unit may represent the same group of rocks as the hornblende-biotite gneisses to the east and west, but at a higher metamorphic grade - the contact as demarcated on the maps is largely a metamorphic boundary. The unit certainly contains gneisses derived from more than one generation of granitoid rocks, as evident just west of Moon-base lake where interbanded mafic gneisses and quartzofeldspathic gneisses are injected by sheets of white weathering, homogeneous, more siliceous gneiss. The unit probably includes rocks with a wide age range; the oldest rocks may be Paleoproterozoic in age (metamorphosed equivalents of the Nain Plutonic Suite ANcT) and yielded a tonalitic protolith, whereas younger rocks may be Archean and have streaky hornblende (clots). Inclusions of older rocks, including mafic, ultramafic and leucogabbronitic to anorthositic gneisses are regularly observed. Many outcrops have metamorphosed and deformed mafic dykes, presumed to be of Paleoproterozoic age, both oblique and parallel to the gneissic layering. The dykes generally lack the widespread mylonitic foliation of the gneissose plutonic host, and their presence has proven to be a fairly reliable indicator that the host protolith, as well as the migmatite within it, is Archean. Gneisses with dykes that are not grouped in this unit are less-reliably designated as Archean and thus could be Paleoproterozoic. The high-grade metamorphic rocks of the Long Pond area, which are in part retrogressed, are considered to be Archean and thus part of the Churchill Province, but alternatively, they could be Archean and the granulite-facies assemblage of the dykes is a "primary" feature induced by recrystallization in the deep crust shortly after emplacement. Rocks of this general aspect, but from near Long Pond, where there are abundant inclusions of meta-leucogabbro and anorthosite, have yielded a U-Pb (metamorphic?) age from zircon of 2807+45/-27 Ma (see Geochronological Notes for map sheet 14D/3, sample 14D/3(2)). Mylonitic foliations and a fine laminated aspect characterize these rocks straddling the boundary between map sheets 14D/4 and 14D/5, defining the Moon-base shear zone. A laminated and mylonitic "straight gneiss" from within the Moon-base shear zone has yielded a U-Pb (metamorphic?) age of 1857 ±3 Ma from thorites?) (see Geochronological Notes for map sheet 14D/5, sample 14D/5(1)).

AC-Mm *Paleoarchean to Mesoarchean. Confined largely to the Long Pond - Kogalux River area, along the western margin of map sheet 14D/3 and the eastern margin of map sheet 14D/4; minor occurrences on map sheet 14D/6.*
Predominantly white-weathering, locally quartz-bearing, recrystallized and foliated anorthosite and leucogabbronorite and migmatized variants; biotite and black hornblende in the more mafic rocks provide a speckled aspect that highlights both remnant primary textures and the superimposed foliation. The unit, as outlined on the maps, includes both areally coherent masses and also zones of inclusion trains within quartzofeldspathic migmatitic gneisses (some individual outcrops in the latter setting may have few such inclusions, and thus contacts bounding the anorthositic rocks are locally approximate). Contacts between the unit and the surrounding quartzofeldspathic anorthositic and leucogabbronoritic rocks are locally intruded and "exploded" by the surrounding quartzofeldspathic gneisses, and they are cross-cut by deformed and metamorphosed mafic dykes that postdate the emplacement of the plutonic precursor to the quartzofeldspathic gneisses and its subsequent migmatization. The foregoing intrusive relationships with the mafic dykes were features initially used as a field indicator of Archean age for this map unit, and this interpretation was subsequently confirmed by zircon geochronology of the anorthositic component. The oldest age so far obtained is a U-Pb (zircon) crystallization age (see Unit A