

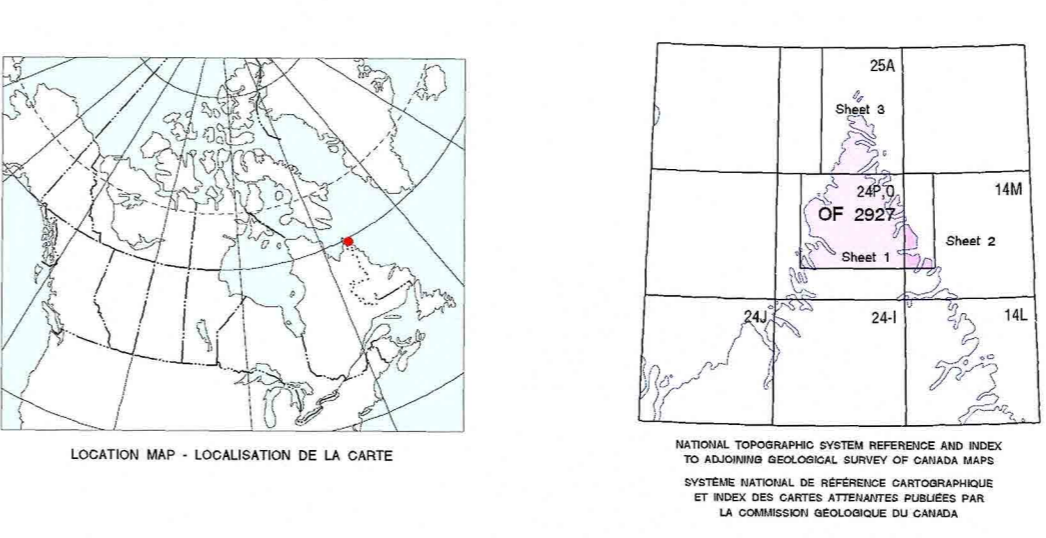
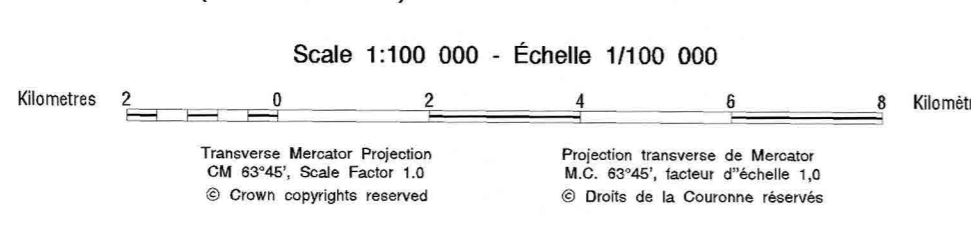
This legend is common to Sheets 1-3

LEGEND

<b>PHANEROZOIC</b>	<b>Q</b>	Unconsolidated Quaternary deposits and fill	<b>Agd</b>	Granodiorite - tonalite plutons; buff-weathering, foliated, at granule facies (5-10% orthopyroxene + biotite + garnet). Varies from medium-grained, equigranular textures to coarse-grained, megacrystic rocks; locally containing inclusions of earlier gneiss [Ag]. Contacts with surrounding gneisses are diffuse and obscured by metasediments.
	<b>Ud</b>	Lamprophyre dykes; dark grey to brown-weathering, undeformed. Locally fine grained with compositional fine zoning or with breccia texture defined by numerous, small ultramylonitic xenoliths locally with nodular texture (foliate nodules). Age unknown.		
	<b>Gd</b>	Dialase/microgabro dykes; brown-weathering, undeformed with fine- to coarse-grained aphyric texture; E-W trending, K-Ar 524 ± 178 (Watkes et al., 1970; Taylor, 1979)		
<b>MESOPROTEROZOIC</b>	<b>Nd</b>	Dialase/microgabro dykes; brown-weathering, undeformed with NW-SE trends. Dated to the south of the map area by the K-Ar method, at ca. 1150 Ma (Watkes et al., 1970; Taylor, 1979)	<b>Agf</b>	Buff-weathering granule-facies gneisses that generally retain Archean orthopyroxene + clinopyroxene + hornblende assemblages and which are largely unaffected by subsequent Paleoproterozoic overprints or retrogression. South of Eclipse Channel in the Four Peaks domain, gneisses were largely overprinted by a static Paleoproterozoic (1.83-1.79 Ga) garnet-clinopyroxene high-pressure granulite-facies assemblage.
<b>PALEOPROTEROZOIC HIGHLY STRAINED ROCKS</b>	<b>Pf</b>	Fault breccia and cataclasis, faced with pseudotachylite veins	<b>Agm</b>	Buff-weathering granule-facies gneiss, which locally retain relict Archean orthopyroxene-hornblende assemblages partially retrogressed to grey amphibolite-facies equivalents during 1.75-1.71 Ga Paleoproterozoic metamorphism. South of Eclipse Channel in the Four Peaks domain, gneisses were largely overprinted by a static Paleoproterozoic (1.83-1.79 Ga) garnet-clinopyroxene high-pressure granulite-facies assemblage that developed prior to the later Paleoproterozoic amphibolite-facies retrogression.
	<b>Pmy</b>	Mylonite and ultramylonite; developed under amphibolite- to greenschist-facies metamorphic conditions	<b>Argn</b>	Grey-weathering gneisses, retrogressed to Paleoproterozoic amphibolite-facies assemblages
	<b>Pmyl</b>	Amphibolite-facies ductile shear zone and/or mylonite	<b>Sup</b>	Supracrustal gneisses and associated rocks
<b>METAPLUTONIC ROCKS</b>	<b>Pdg</b>	Amphibolite dykes; olive green weathering, thoroughly recrystallized, hornblende-plagioclase ± garnet (rarely also with clinopyroxene) syn-tectonic intrusions in the Komatukvik shear zone. On southeastern Kilnisk Island, formed. Some show, grey-green weathering dykes with irregular shape and general compositional layering.	<b>Ans</b>	Supracrustal gneisses; white to rusty-weathering, well layered and generally strongly migmatitic. Composed predominantly of rusty, garnetiferous quartzite, rusty ultramylonite-bearing pelitic gneiss, garnet leucocrystalline gneiss and minor amphibolite-facies and garnet-clinopyroxene-magnetite iron formation, all interlayered with mafic gneiss and pothole ultramylonite units, and locally having gradational contacts with, Anf.
	<b>Pba</b>	Amphibolite dykes; black to grey weathering, with an irregular hornblende-clinopyroxene-plagioclase ± garnet matrix and locally, relict plagioclase orthopyroxene. Some are syntectonic with the Komatukvik shear zone bracketed by U-Pb ages of 1804-1779 Ma D. Scott, undated but may be equivalents of Anysakik dykes [Pb].	<b>Aan</b>	Anortholite, layered anortholite gabbro and metagabbro; purple to white-weathering, with recrystallized granoblastic textures, locally garnetiferous (5-40%). Occur as sheets and elongated bars of bodies, intrusions within orthogneiss [Pb, Agn, Argn, APg]. Gneiss layering and 'topo' rock textures are locally preserved.
<b>Granulite facies amphibolite facies</b>	<b>Pmg</b>	Swiftly, migmatite gneiss, derived from veins of Paleoproterozoic gneiss [Pb]. Locally contains fine-grained clastic xenoliths. Intrusive into Archean Nain gneisses [Pb, Agn] and Paleoproterozoic charnockitic rocks [Pq]. Sample from McLean Strait dated by U-Pb on zircon as 1869 ± 3/2 Ma (Scott and Machado, 1993)	<b>Amf</b>	Mafic gneisses; variably migmatitic, including layered (paragneissitic) mafic granulite, layered metagabbro - mafic granulite, and thin ultramylonite (large) meta-igneous layers. Dominated by clinopyroxene-garnet-hornblende assemblages but locally with relict orthopyroxene. Unit probably derived from a mixture of metaclastic and intrusive rocks.
	<b>Prg</b>	Pink and grey granitic, saggy-textured, fine- to medium-grained rocks, intruding and retrogressing charnockitic rocks [Pq] on Kilnisk Island.	<b>Aum</b>	Ultramafic rocks; tan coloured melanulite or dark brown pyroxenite, often spatially associated with metasedimentary gneisses. Locally altered to actinolite-orthopyroxene-bearing rocks with rosasite texture.
	<b>Prgt</b>	K-feldspar megacrystic gneiss. Texturally variable from weakly foliated and lined to protomylonitic. Sample from McLean Strait dated by U-Pb on zircon as 1844 ± 2 Ma (Scott and Machado, 1993)	<b>ARCHEAN GNEISS IN TASUYAK GNEISS AND HOOLOOQ COMPLEXES</b>	
	<b>Prgm</b>	Mesocratic tonalite; colour index = 30-35, composed of hornblende (locally after clinopyroxene). Foliated, with relict poopyphylic texture defined by augen of plagioclase leucocryst. Locally contains fine-grained clastic xenoliths. Intrusive into Archean Nain gneisses [Pb, Agn] and Paleoproterozoic charnockitic rocks [Pq]. Sample from McLean Strait dated by U-Pb on zircon as 1869 ± 3/2 Ma (Scott and Machado, 1993)	<b>APgl</b>	Tonalite-granodiorite orthogneiss and migmatite, with highly variable composition and texture. Generally contains abundant interlayers of massive and banded amphibolite-facies granulite, ultramylonite and minor amounts of pelitic gneiss and anortholite rocks. In the Tasuyak gneiss complex, the unit is preserved at Paleoproterozoic granulite facies and named by Paleoproterozoic charnockitic rocks [Pq] or gneiss into Prgm. In the Hoolooq complex, this unit is preserved at transitional Paleoproterozoic granulite to amphibolite facies.
<b>DTG suite</b>	<b>Prgv</b>	Heavy granitic, quartz monzonitic, locally to porphyritic gneiss and granulite. Grey to pink-weathering, medium- to coarse-grained, foliated to schistose rocks, at amphibolite facies. Dated by U-Pb on zircon, as 1885 ± 2 Ma (Scott and Machado, 1994)	<b>ARIN</b>	White to grey tonalite gneiss and migmatite, contains inclusions and layers of amphibolite, layered mafic gneiss, anortholite, gabbro, and rare metasedimentary rock. Interbedded with Lake Harbour Group. Distinguished from Archean Nain gneisses [Pb, Agn, Argn] by presence of abundant granitic veins and a lesser amount of leucocratic and ultramylonite intrusions. Cut by rare amphibolite dykes, charnockitic rocks of suspected Paleoproterozoic age [Pq], and by Paleoproterozoic granite sheets.
	<b>Pid</b>	Hornblende-biotite diorite. Colour index = 30-50; locally contains 20% by volume of granite veins. Dated at Eclipse Channel by U-Pb on zircon, as 1891 ± 2 (Scott and Machado, 1993)		
	<b>Pign</b>	Grey, dioritic, tonalitic to granodioritic gneiss; locally retaining relict igneous texture, but generally moderately to strongly migmatitic, and strongly deformed under Paleoproterozoic amphibolite-facies conditions. Preserved in large part equivalent to PRTG. Distinguished from similar adjacent Archean gneisses by the absence of Paleoproterozoic dykes; however, it is possible that the unit includes some dyke-like Archean orthogneiss.		
	<b>PIDTG</b>	Polyphase intrusive suite, including mafic diorite, tonalite, granodiorite, granitic and quartz monzonitic, at amphibolite facies to retrograde granulite facies. Dominated (>80%) by hornblende-biotite-quartz to quartz diorite, with inclusions of plagioclase-epidote diorite and gabbro, and layered mafic gneiss [Prgm]. Foliated tonalite at Toluak arm is dated by U-Pb on zircon as 1815 ± 2 Ma (Scott and Machado, 1993). Cut by porphyritic gabbro sheets (1891 ± 2 Ma; Scott and Machado, 1993) and numerous phases of leucocratic veins and pegmatite. At and south of Ikkusluk Lake, passes into gneissic tonalite with numerous inclusions and rare mafic granulite gneiss [Prg].		
<b>Granulite facies amphibolite facies</b>	<b>Pimx</b>	Tonalite gneiss, alternating black hornblende ± orthopyroxene rich layers and white plagioclase-quartz rich layers, on 5-30 cm scale. Also includes agmatite of amphibolite facies [Pq] at Toluak [PRTG] out.		
	<b>Pip</b>	Tonalite and tonalitic gneiss; grey to buff-weathering, mesocratic to leucocratic (colour index = 5-30), at transitional granulite facies. Contains inclusions and rare of amphibolite to mafic granulite [Prgm, Pba] and small bodies of megacrystic [Prgm], some of which might be Archean. Cut by white pegmatite, tonalite dykes and veins. Tonalite gneiss can contain orthopyroxene and a mesocratic facies cut by several phases of paleo-diorite-quartz-diorite and grey tonalite; relict, mylonitic, dyking (pre-layering) and multiple cross-cutting intrusive phases are common. Gneiss tonalite at Ikkusluk Lake dated as 1888 ± 2 Ma (Scott and Machado, 1994)		
	<b>Piqd</b>	Mesocratic quartz diorite; grey to black-weathering, with colour index = 20-30. Weakly stained, foliated rock outside of Abloviak shear zone, with relict poopyphylic igneous texture defined by recrystallized plagioclase aggregates, and with coarse xenoliths (<50 cm) of the granitic diorite, transformed into porphyroblastic mylonite within the Abloviak shear zone. Dated by U-Pb on zircon as 1895 ± 2 Ma (Scott and Machado, 1994)		
	<b>Pignm</b>	Tonalite to granodiorite; leucocratic, medium- to coarse-grained, characterized by wavy, indistinct layering, or containing numerous inclusions of ultra-banded gneissic tonalite and mafic granulite. Typical homogeneous at a large scale, although amount of mafic inclusions varies from 1-30% of rock. Derived from incomplete assimilation of granulite-facies Archean tonalite orthogneiss [Prg] by charnockitic magmas [Pq].		
	<b>Piqg</b>	Massive to foliated, homogeneous orthopyroxene-bearing granulite-tonalite (leucocratic), buff-weathering, medium-grained, equigranular. Includes coarse-grained, megacrystic granitic north of 60°N latitude. Locally contains inclusions of ultramylonite [Pmy], mafic [Pba] and anortholite [Pba] rocks, and locally some tonalite orthogneiss of suspected Archean age [Pb]. This sample of orthogneiss, dated by U-Pb on zircon as 1895 ± 3 Ma and 1886 ± 2 Ma (Scott and Machado, 1993, 1994). An enclave within the Abloviak shear zone is 1850 ± 2 Ma (Scott and Machado, 1994)		
	<b>Piqk</b>	Mafic diorite; medium-grained, granoblastic rocks, as marginal phase to charnockitic rocks [Pq] and as small sheets within Paleoproterozoic paragneiss [Prg, Prgm]		
<b>SUPRACRUSTAL GNEISSES</b>	<b>Psdx</b>	White granitic with red to blue-coloured garnets; medium- to coarse-grained, with grey garnetiferous schistosity of paragneiss relict. Derived through granulite-facies anatexis of paragneiss [Prg, Prgm]		
	<b>Pstqz</b>	Quartzite; grey, graphitic, locally with fine grained garnet		
	<b>Pspg</b>	Paragneiss and metasedimentary migmatite. Dominantly grey, to buff-weathering, migmatitic paragneiss, characterized by red garnets, biotite, and abundant leucocratic, but in which clinopyroxene is rare. At Tasuyak Arm, grey, fine-layered (predominantly quartz-feldspar) gneisses contain white to pink granitic leucocratic veins and dikes, and are locally interlayered with rusty biotite schistosity and mafic metasedimentary rocks. In the Tasuyak gneiss complex, rare granitoid and volcaniclastic metasediments. At Ikkusluk Lake, rusty-weathering gneissous paragneissic gneiss is interlayered with green-weathering paragneissic gneiss, rare garnetiferous amphibolite, and hornblende-plagioclase layers interpreted as mafic metaclastic rocks. White graphitic (+biotite) paragneiss and granitic sheets constitute 550% by volume of outcrop.		
	<b>Pstq</b>	Rusty brown- and red-weathering paragneiss; graphitic, with biotite + garnet		
	<b>Pscs</b>	Calc-silicate and impure marble; consists of 15m wide layers of impure calc-silicate-calcite marble, and light grey, massive calc-silicate unit (diorite), 1-10m thick, locally with numerous hyperparallel and layer-discontinuous white quartz veins		
	<b>Pstg</b>	Tasuyak gneiss; rusty brown and white weathering paragneiss and diorite, characterized by blue-coloured garnets and sillimanite. Homogeneous at large scale, but well-layered on a 100m scale, varying from garnet quartzite to semi-pelitic garnet-biotite-feldspar-quartz gneiss, to pelitic ultramylonite-garnet-quartzite-biotite gneiss, all cut by mafic interlayered with white garnet gneiss [Pba].		
	<b>Psmg</b>	Mafic gneiss and amphibolite characterized by units with coarse-scale compositional layering, but also includes plagioclase-epidote and more homogeneous rocks. Probably derived from mafic metaclastic rocks.		
<b>ANORTHOSTIC TO ULTRAMAFIC ROCKS</b>	<b>Panm</b>	Layered anortholite to leucogabbro		
	<b>Pab</b>	Amphibolite; homogeneous, equigranular textured rocks at amphibolite to granulite facies. Layering generally not present, locally sheared and retrogressed by pink-white leucocratic and pegmatite (south sheet). Derived from gabbro and/or metaclastic rocks.		
	<b>Pumf</b>	Protonic; massive to foliated, with homogeneous to layered textures, composed of clinopyroxene-hornblende ± orthopyroxene		
<b>LAKE HARBOUR GROUP</b>	<b>Plpg</b>	Biotite paragneiss, varying from psammitic quartzite-feldspar gneisses, to psammitic garnet-biotite quartzite-feldspar gneiss. Leucocratic material is rare or absent, in contrast to paragneiss in the Tasuyak gneiss complex [Prg and Prgm]		
	<b>Plrg</b>	Rusty-brown weathering metapelite gneiss		
	<b>Pltg</b>	Hornblende-biotite-feldspar-quartz ± garnet gneiss (diorite to mesocratic amphibolite); homogeneous to layered mesocratic rocks, with <10% leucocratic material. Interpreted to be derived from volcaniclastic metasedimentary rocks		
	<b>Plqz</b>	Quartzite, quartz anorthite and psammite gneiss; locally with thin veins (30cm-5m) of coarse garnet-sillimanite metapelite		
	<b>Plmb</b>	Marble; pure, white-weathering, coarse grained calcite		
<b>MAFIC DYKES</b>	<b>Pb</b>	Anysakik diabase dykes. Characteristic black feldspar phenocrysts are common throughout Four Peaks domain, where dykes vary from fresh diabase in the southern part of the map area to dykes with a partly recrystallized matrix of hornblende ± biotite cut by hornblende-clinopyroxene-quartz veins, to brown-weathering granitoid gneiss (garnet-clinopyroxene-hornblende-plagioclase ± quartz ± orthopyroxene) immediately east of the Komatukvik shear zone. Within and to the west of the Komatukvik shear zone, strongly foliated and deformed dykes contain hornblende-plagioclase ± garnet ± epidote assemblages, in which relict biotite phenocrysts are visible. Many dykes on Sheet 2 were interpreted from photographs and consequently may represent more than one age.		
<b>ARCHEAN OR PALEOPROTEROZOIC</b>	<b>APgb</b>	Dark and orthopyroxene gabbro to leucogabbro, with igneous layering and compositional variation to anortholite, hornblende gabbro, and alkaline syenite, isotermized to weakly stained. Cut by Anysakik(?) dykes [Pb]		
	<b>APmf</b>	Mafic gneiss; massive to migmatitic, locally well layered. Associated with APgl on Kilnisk Island, at base of Paleoproterozoic orthogneiss to amphibolite facies.		
<b>HUTTON META-ANORTHOSTIC GULTE</b>	<b>APan</b>	Anortholite, gabbro, anortholite and leucogabbro; white-weathering, commonly with relict igneous textures and compositional layering, and locally with preserved igneous plagioclase (blue labradorite) and coarse-grained orthopyroxene. Gabbroic anortholite is dominant, but unit is compositionally heterogeneous.		
	<b>APanl</b>	Granoblastic, recrystallized anortholite gneiss, derived from APan. Characterized by disrupted mafic layers, and a cm-dec scale gneissic layering, contains locally abundant amounts of leucocratic-anortholite veins in hornblende-plagioclase ± garnet ± orthopyroxene rock.		
	<b>APann</b>	Layered metagabbro, to rare ultramafic rocks		
<b>ARCHEAN ROCKS NAIN PROVINCE</b>	<b>Mesoproterozoic rocks</b>			
	<b>Agg</b>	Pegmatite granitic sheets; white, non-foliated, generally shallowly dipping		
	<b>Agz</b>	Medium-grained, granoblastic gneiss and granite of the Duck Island granulite suite. Locally with pink and grey migmatitic layering. 770 Myr ages on monazite of 2706, 2670, and 2649 Ma (Scott and Machado, 1994). Cut by mafic dykes [Pba, Pdg].		

Other maps of this area may be obtained from the Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario K1A 0E8, 603-993-2266, or by e-mail, geology@nrc.ca

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SHEET 2  
GEOLOGY  
**GEOLOGY OF THE ARCHEAN NAIN PROVINCE AND PALEOPROTEROZOIC TORNGAT OROGEN**  
NEWFOUNDLAND (LABRADOR) - QUÉBEC - NORTHWEST TERRITORIES



**COOPERATION**  
AGREEMENT  
MINERAL DEVELOPMENT  
ENTENTE DE COOPÉRATION SUR L'EXPLOITATION MINÉRIALE

Contribution to Canada-Newfoundland Cooperation Agreement on Mineral Development (1990-1994), a subsidiary agreement under the Economic and Regional Development Agreement.

Contribution à l'Entente de coopération Canada-Terre-Neuve sur l'exploitation minière (1990-1994), entente auxiliaire négociée en vertu de l'Entente Canada-Terre-Neuve de développement économique et régional.

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SHEET 2 OF 4  
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