## EXTENDED LEGEND

Common to NTS map sheets 14D/9 and 14D/16. Some units are restricted to a single map sheet. Unit order does not necessarily reflect relative ages. Parts of maps having subdued unit colours and random dotted pattern denote various types of overburden, largely interpreted from aerial photographs, and have little or no MESOPROTEROZOIC AND OLDER

DYKES OF DIVERSE COMPOSITION AND STRUCTURE: Includes all dykes in the area; some dykes cutting pre-Mesoproterozoic rocks are likely pre-Mesoproterozoic Massive to foliated, mafic and felsic dykes, generally less than 2 m wide, and having an array of strike and dip attitudes; includes rocks showing a wide variation in mineral assemblages and deformation (undeformed to

db, dbN, dbh: Fine-grained, black- to dark-green-weathering, steeply dipping to gently inclined, diabase, metadiabase, and other undivided mafic dykes of several ages (Unit db); includes possible Paleoproterozoic metagabbroic dykes, the Mesoproterozoic olivine-gabbroic 'Nain dykes' (Unit dbN ), and 'hydrated' olivine-bearing dykes (Unit *dbh*) [some dykes are extrapolated along, or assumed to occupy, long linears lacking outcrop]

mylonitic); local dyke compositions mirror some proximal larger intrusions, to which they may be genetically

dm, dmf: Fine-grained, granular, grey to black, variably 'hydrated', straight to meandering to podiform, massive (Unit *dm*) and foliated (Unit *dmf*) mafic dykes; range from anhydrous gabbronorite ('mafic granulite') to hornblende+biotite-rich amphibolite (meladiorite); rare olivinebearing variants; many dykes resemble larger gabbronoritic (ferrodioritic) intrusions of the NPS in having abundant apatite and opaque oxides; includes dykes that may have undergone in situ autometamorphic modification and/or reflect the influence of thermal imprints of Paleoproterozoic regional metamorphism as well as Mesoproterozoic contact metamorphism from nearby NPS

dc, dcf: Composite dykes of multiple generations, having varying volumes of mafic and felsic components and exhibiting textural and grain-size inhomogeneity (Unit dc); some dykes are internally foliated (Unit *dcf*)

dmz, dmzf: Undivided, fine-grained to pegmatitic, brown-weathering, dykes of monzonite, quartz monzonite, syenite and oxide-gabbronorite (ferrodiorite) composition (Unit dmz), in some cases likely related to compositionally similar larger intrusions; some dykes have internal mineral foliations (Unit *dmzf*) arising from localized, pre-full-consolidation or subsolidus, wall-parallel shearing **dg:** Undivided, aplitic to pegmatitic, pink to white, charnockite to mafic-mineral-free leucogranite and

leucosyenite dykes of various ages and deformational states

pervasive textural modification

B) Granular gabbronoritic (ferrodioritic) rocks

oxdot dox: Medium- to coarse-grained, metallic-oxide-rich, leuconorite to leucogabbro dykes (likely equivalent to some variants of Unit *Moxn*) dt: Medium-grained, reddish-brown troctolite and pyroxene-bearing melatroctolite dykes

di: Black to rusty-brown, metallic-oxide-dominant dykes having ilmenite+olivine and ilmenite+apatite [shown as outcrop point location only] MESOPROTEROZOIC ROCKS

NAIN PLUTONIC SUITE (NPS): A polyphase batholitic assemblage of predominantly anorthositic rocks, but including lesser granitic and other rocks; oldest members of the suite have been widely deformed and annealed under high temperature, anhydrous conditions, but younger members, although having localized penetrative deformational fabrics and recrystallization features, lack such

Anorthositic, leuconoritic, gabbronoritic (ferrodioritic), monzonitic and granitic NPS rocks generally devoid of subsolidus deformation and significant recrystallization; mafic minerals in the basic rocks mostly exhibit a subophitic relationship to the feldspars; feldspars show localized static recrystallization and can vary from tabular euhedral to granular anhedral grains A) Mafic and composite mafic – silicic rocks having dyke and irregular form (see also dyke division above)

Mfox: Gabbronorite (ferrodiorite) dyke [southwest of Iglusuataliksuak Lake (NTS 14D/16)] Mainly brown-weathering, granular, massive to layered, oxide-rich gabbronorite (ferrodiorite), but Iocally includes mangerite; more than one dyke may be included in the unit Mfdh: Gabbronoritic (ferrodioritic) and hybrid dykes [southwest of Iviangiujak east flank lake (S) and Mfdh north of Kingurutik Lake (NTS 14D/16)]

☐ Brownish-weathering, friable gabbronorite (ferrodiorite) and hybrid gabbronorite and granite Moxn: Coarse-grained, oxide-rich, massive to foliated, noritic and gabbroic dykes, sills and irregular stocks of more than one generation [distributed from south of Iviangiujak east flank lakes (NTS 14D/16) to near Anaktalik Brook (NTS 14D/9)] Generally rubbly-weathering, very-coarse-grained (>10 cm grain size), texturally variable rocks having a distinct rusty patina, likely a more extensive equivalent of some localized small dykes designated as dox (see above); ilmenite/magnetite+orthopyroxene (clinopyroxene in some cases) surrounds plagioclase in a net-like array or in a subophitic relationship; most such intrusions are undeformed, but some are sheared and internally foliated (parallel and oblique to trend) and interpreted to be older than the undeformed ones

MAgb1, MAgb2, MAgb3: Massive, brown-weathering rocks presumed to be of gabbronoritic to nonzogabbronoritic composition; locally feldsparphyric and contaminated by assimilated Tasiuyak gneiss [Anaktalik Brook area (NTS 14D/9)] gb1: massive gabbronorite and quartz-bearing monzogabbronorite of the Avalikkok area MAgb2: massive gabbronorite intruded into the Tessiarsuyungoakh intrusion northwest of Anaktalik MAgb3: massive feldsparphyric gabbronorite of the western Anaktalik Brook area

Mgblv: Massive to layered, oxide-rich gabbronorite (ferrodiorite) [south of Kingurutik Lake (NTS Heterogeneous series of rocks of possibly more than one age; comprises massive to layered, darkbrown, oxide-rich, medium- to coarse-grained granular rocks in the southeast and fine-grained, granular, buff- to greenish-grey rocks having scattered plagioclase phenocrysts(?) and intruded by myriad grey anorthositic to leucosyenitic dykes in the northwest

Mgbn: Massive to weakly foliated gabbronorite (ferrodiorite) and hybrid rocks [northeast of Kingurutik Lake (NTS 14D/16)] outhward-widening sheet (sill) of grey- to brownish-weathering, fine-grained, oxide-rich gabbronoritic (ferrodioritic) rocks; local weak planar fabric formed by stringers and streaks of pyroxene; northernmost part of sheet displays schlieren of monzonite (mangerite) and small phenocrysts or xenocrysts of feldspar in a fine granular host

Mgbf: Massive, weakly foliated, gabbronoritic (ferrodioritic) rocks [northeast of Kingurutik Lake (NTS Brownish-weathering, friable gabbronoritic (ferrodioritic) rocks; locally having a well-defined mineral fabric and diffuse layering

Mgf, Mp: Even-grained to feldsparphyric gabbronoritic (ferrodioritic) rocks [west of Iglusuataliksuak Fine- to medium-grained, brown-weathering gabbronoritic (ferrodioritic) rocks, having an abundance of opaque oxide; coarser type is texturally different from proximal poikilitic leucogabbro (Unit *Molg*) inasmuch as it has granular interstitial pyroxene rather than the intercumulus and oikocrystic pyroxene of the adjacent rock, and the content of metallic oxide is significantly higher; locally has scattered phenocrysts and/or xenocrysts of dark-grey to black plagioclase, and is especially feldsparphyric in its the southern half (Unit Mp); pale feldspar xenocrysts in this rock comprise mosaics of small plagioclase crystals cemented by pyroxene; streaks of granular pyroxene and the long axes of tabular feldspars locally impart a foliation, and a diffuse compositional layering is C) Massive to mildly foliated granitoid rocks

MMkg?: Granite possibly equivalent to the Makhavinekh Lake intrusion to the south (compiled or interpreted data only) [Anaktalik Brook valley (NTS 14D/9)] ale-brown- to pink-weathering, medium- to coarse-grained, hornblende granite having ovoidal feldspar megacrysts (by analogy with rocks to the south on NTS 14D/8)

Mgc: Massive to foliated charnockitic rocks [west of Iglusuataliksuak Lake and northeast of Kingurutik Lake (NTS 14D/16)] ale-grey-, pale-brown- to pink-weathering, medium- to coarse-grained rocks of mostly hypersthene granite (charnockite) composition; quartz content variable; locally displays a protomylonite-like (pre-full crystallization?) fabric; rare enclaves of fine-grained mafic rock and scattered black plagioclase xenocrysts; north and south bodies may be unrelated; northern body yielded U-Pb age of ca. 1327 Ma

MAIfds, MAh [Akpaume Intrusion]: Olivine- and clinopyroxene-bearing rocks of largely monzonitic and syenitic composition (distribution derived mainly from work of D. Deuring and E.P. Wheeler 2<sup>nd</sup>) [Ukpaume Island and adjacent south shore of Tikkoatokak Bay (NTS 14D/9)] Predominantly a layered group of rusty-weathering, generally quartz-absent, augite+fayalite ferrosyenite, ferromonzonite and ferrodiorite (gabbro) cumulates; layering in places nebulous and contorted; lesser 'hybrid' rock (MAh) of overall ferromonzodiorite (monzogabbro) composition, locally enriched in ilmenite and having clinopyroxene exceeding 10 cm

Mqmg: Undivided quartz monzonite to gabbronorite (ferrodiorite) [north of Anaktalik Brook (NTS A composite and undivided intrusion comprising mainly olivine-free, hypersthene quartz monzonite (mangerite) in the north and lesser oxide+apatite gabbronorite (ferrodiorite) in the south; locally feldsparphyric (xenocrysts and phenocrysts), and felsic parts have 'drop' quartz and a weak to moderate pre-full-consolidation(?) feldspar foliation

Mcqm, Mcqmgn: Mainly clinopyroxene-bearing monzonite to granite and coeval gabbronoritic rocks [north of Kingurutik Lake (NTS 14D/16)] ne- to medium-grained, creamy white-, grey-, pale-brown- and pale-orange-weathering clinopyroxene-bearing quartz monzonite, monzonite, granite and syenite, and their orthopyroxenebearing variants; pyroxene and (rare) olivine provide a granular supportive matrix to equant (generally < 1 cm) feldspar tablets; rare feldspar phenocrysts, up to 2 cm long; quartz 'eyes' and interstitial quartz are present throughout most of the intrusion; locally characterized by a magmatic or pre-full crystallization foliation defined by oriented feldspars, streaks of pyroxene, and rare elongate contemporaneous mafic enclaves; seems gradational into a narrow gabbronorite (ferrodiorite) (Unit *Mcqmgn*) on western and southern margins

Mfs: Olivine-bearing syenite [south of Kingurutik Lake (NTS 14D/16)] Fine- to medium-grained, pale-creamy-brown, dull-brown to orange-brown-weathering syenite, having fayalitic olivine, augitic clinopyroxene, and mesoperthite as the dominant minerals; rare orthopyroxene-bearing variants; texture is 'speckled', comprising aggregated mesoperthitic feldspar domains enclosing randomly distributed aggregates of granular mafic minerals; pale-blue, moonstone-like schiller is locally evident in the feldspars; magmatic or pre-full crystallization fabrics expressed by streaks of olivine and by local alignment of long axes of feldspars; gravity-stratified and gneissic xenoliths; crystallization age of ca.1333 Ma

MTog [Tessiuyarsuk intrusion]: Olivine gabbro and associated rocks [north of Tessiujâtsuk (Saltwater pond) (NTS 14D/9)] Fine- to medium-grained, dark-grey olivine gabbro and leuconorite; may contain leucotroctolite

MsIn: Grey seriate leuconorite [north of Anaktalik Brook (NTS 14D/9)] Massive subophitic-textured leuconorite generally having a seriate aspect to the plagioclase tablets; mildly recrystallized and has a localized foliation along western side; abundant interstitial ilmenite Molg: Medium- to coarse-grained poikilitic leucogabbro [west of Iglusuataliksuak Lake (NTS

Massive, pale-grey- to reddish-brown-weathering, mainly coarse-grained leucogabbro, having

) Massive anorthosite, leuconorite, leucogabbro and leucotroctolite; localized recrystallization and

variably recrystallized anorthositic rocks [between the Fraser River and Anaktalik Brook (NTS scattered feldspar megacrysts (up to 30 cm), in which clinopyroxene normally occurs as 5- to 10-cm Mclba: Very coarse-grained, pale-grey to white anorthosite and leuconorite [west and southwest of Iglusuataliksuak Lake (NTS 14D/16)] Massive, pale-grey- to white-weathering, coarse-grained to pegmatitic, anorthosite and leuconorite, exhibiting varying degrees of recrystallization and locally having blue-green labradorite iridescence

Mgagl: Grey, mauve and white anorthosite, leucogabbro and leuconorite [east of Iviangiujak east Massive, grey, mauve, white and buff anorthosite, leucogabbro and leuconorite; a layering between anorthosite and more melanocratic rocks locally developed; variably recrystallized and having crazed texture (appearance of cracked glaze on pottery, imparted largely by grain boundary myrmekite) in places; primary, locally laminated plagioclase, up to 40 cm long, displays minor labradorite schiller

Mbmln: Brown to mauve leuconorite [west of Iviangiujak east flank lake (N) (NTS 14D/16)] Generally a brown-weathering leuconorite, locally having a primary alignment of tabular plagioclase 👚 🧰 and a streaky pyroxene foliation; seemingly peculiar to this unit are generally oval, centimetre-scale cavities ("rockpecker holes") reminiscent of water-worn potholes and probably a relict of Pleistocene

Mika, Mikit, Mika1, Mika2, Mika3, Mikin, Mikino, Mikini, MiKin2 [ikpialuk pluton]: A polyphase intrusion comprising (i) a massive, grey-, pink-, and mauve-weathering anorthosite 'core' including subordinate olivine-bearing rocks, and (ii) a dark-grey- to brown-weathering leuconorite 'border' including reddish-brown- to black-weathering olivine anorthosite to leucotroctolite [between Iviangiujak east flank lakes, Iglusuataliksuak Lake and north and south of Kingurutik Lake (NTS Medium-grained to pegmatitic, pale-grey anorthositic and brown leuconoritic rocks, commonly having feldspar megacrysts (up to 30 cm in maximum dimension) distributed through a finer-grained host; labradorite schiller is common to the megacrysts of this intrusion and to dark, autolithic anorthosite inclusions that may be the intact source of most of the megacrysts, the play of colours seemingly more so in these settings than it is in the 'groundmass' of the enclosing rock; i' anorthositic rocks have textures varying from rather featureless 0.5 - 1 cm adcumulates(?) showing distinct crazed texture (cracked-glaze appearance imparted largely by grain boundary myrmekite) to ones where dark-grey plagioclase megacrysts are scattered throughout; ii) leuconoritic rocks contain numerous dark-grey plagioclase megacrysts, but otherwise have generally 1- to 5-cm tabular feldspars, and display intercumulus, commonly oikocrystic, orthopyroxene that varies from having a uniform distribution to isolated poikilitic blotches ('clotted' texture); relative age relations of 🔠 🖐 the major rock types are ambiguous and range from intrusive to gradational, but locally abundant pink to grey anorthosite fragments in the brown leuconorite imply that the latter is the younger of the two dominant lithological subdivisions; centimetre- to tens-of-metre-scale inclusions are common: metaplutonic rocks derived from the proximal envelope, autoliths of labradorite-bearing anorthosite

xenoliths of foliated leuconorite, and fine granular anorthosite; crystallization age is ca. 1324 Ma MIka: 'Core' zone of white-, grey-, pink-, and mauve-weathering anorthosite and leuconorite containing an internal subzone of leucotroctolite (Unit *Mlklt*) MIka1, MIka2 and MIka3: Anorthositic rocks resembling, but physically separated from, the 'core'

Mlkln: 'Border' zone of buff-, dark-brown-, dark-grey- to black-weathering leuconorite, including massive to locally well-layered olivine-bearing leucogabbronoritic and troctolitic rocks (Unit MIklno) MIkInI: WeII-layered gabbronoritic rocks of the northeast-trending part of the 'border' leuconorite MIkIn2: Region of leuconorite that may be unrelated to, and older than, the 'border' zone Mpaln: Pink anorthosite and leuconorite [northwest of Iviangiujak east flank lake (S) (NTS 14D/16)] Medium-grained to pegmatoidal anorthosite generally having pink to mauve plagioclase; locally

Mblna: Leuconorite and anorthosite [northeast of Polygon ponds (NTS 14D/16)] Grey to buff leuconorite and anorthosite characterized by local north – south-aligned plagioclase megacrysts showing deep-blue labradorite schiller

Mgbln: Rusty-brown gabbronorite, buff and honey-brown leucogabbronorite and grey to mauve anorthosite [north and east of Polygon ponds (NTS 14D/16)] Massive, fine-grained, locally oxide-rich, reddish-brown to chocolate-brown, granular gabbronorite subophitic-textured buff leucogabbronorite, and grey to mauve anorthosite; abundant dark-grey plagioclase phenocrysts or xenocrysts in parts of unit; northern part is locally diffusely layered and the southern two-thirds has widespread preferred alignment to the plagioclase crystals; intrusion breccia (Bx), comprising texturally variable anorthosite and leuconorite fragments, occurs east of the

Msfoln: Mainly poikilitic leuconorite in which elongate pyroxene oikocrysts have a strong preferred orientation [between Iglusuataliksuak Lake and Iviangiujak east flank lakes and south of Polygon ponds (NTS 14D/16)1 Medium- to coarse-grained, brown- to buff-weathering leuconorite, and lesser leucogabbro displaying a wide distribution to preferentially oriented, generally ellipspoidal, centimetre- to tens-ofcentimetres-scale pyroxene oikocrysts, but also containing irregular intercumulus pyroxene; mildly recrystallized feldspars exhibit local crazed (having the appearance of cracked pottery glaze) and tapioca (dark-grey feldspar relicts in the pale recrystallized groundmass) textures; local layering between leuconorite and mauve to pink anorthosite

MgIn: Massive to locally poikilitic leuconorite [south of Kingurutik Lake (NTS 14D/16) and

extrapolated to south of Tikkoatokak Bay (NTS 14D/9)] Massive subophitic- to poikilitic-textured, variably recrystallized, pale-grey to reddish-browr leuconorite having plagioclase from 2 cm to tens of centimetres in maximum dimension; local foliation defined by lenticular pyroxene oikocrysts and trains of tabular feldspar Mbln: Blotchy poikilitic leuconorite [east of Iviangiujak east flank lake (S) (NTS 14D/16)] Leuconoritic rocks having irregular to globular, centimetres- to tens-of-centimetres-scale patches of

ikocrystic, rusty-brown pyroxene scattered through a groundmass of grey plagioclase Mblt: Blotchy leucotroctolite [northeast of Iviangiujak east flank lake (S) (NTS 14D/16)] Leucotroctolitic rocks characterized by oval to amoeboid, centimetres- to metres-scale, reddishbrown- to orange-weathering patches of oikocrystic olivine scattered through an anorthositic 'groundmass' of grey to mauve plagioclase

MIn1–MIn6: Leuconorite bodies of limited or undetermined extent and mostly of unknown relation to nearby rock units; pale-brown to reddish-brown weathering; dominant texture is seriate, and cumulus plagioclase is cemented by an even distribution of intercumulus pyroxene [west and south of Iviangiujak east flanks lakes (NTS 14D/16), north and south of Kingurutik Lake (NTS 14D/16), south of Tikkoatokak Bay (NTS 14D/9) and south of the Fraser River (NTS 14D/9)] Mln1: Brown-weathering somewhat crumbly, diffusely layered, leuconorite; single outcrop on western edge of sheet 14D/16 Mln2: Pale-brown- to reddish-brown-weathering, fine- to medium-grained, massive leuconorite crescentic body on a mountain scarp south of Iviangiujak east flank lakes Mln3: Subophitic and seriate, pale-grey to dark-grey to brownish-grey leuconorite; abundant orthopyroxene, conspicuous interstitial metallic oxide and abundant apatite; lacks the recrystallization features of the adjacent anorthositic rocks; 'sill' west of quartz monzonite north of Mln4: Reddish-brown-weathering, seriate, leuconorite having uniformly distributed intercumulus orthopyroxene; wedge in anorthosite south of Kingurutik Lake, possibly southward continuation  ${f o}$ Mln5: Reddish-brown, crumbly-weathering leuconorite having evenly distributed, locally war orthopyroxene; inner Tikkoatokak Bay Mln6: Brown- to grey-weathering leuconorite, comprising variably recrystallized pale- to dark-grey plagioclase and subophitic to multi-grain aggregates of pyroxene; diffusely layered; in Pearly Gates

Dominantly a layered (on tens-of-centimetres to several-metres scale) rock comprising cream- to brown-weathering, oxide-bearing leuconorite alternating with pale-grey, fairly pure anorthosite, but where not layered is overall leuconoritic; orthopyroxene has a fairly even distribution in most of this layered unit, but some outcrops of leuconorite display a pyroxene-oikocrystic texture

rystallization to subsolidus deformation A) Foliated granitoid rocks

Anorthositic, leuconoritic and monzonitic NPS rocks exhibiting significant recrystallization as well as pre-full-

intrusion (Unit *MPGman*) south of Fraser River

MABs [Anaktalik Brook dyke]: Foliated, olivine+clinopyroxene-bearing rocks of generally syenitic composition, including possible correlative sills and dykes in the nearby country-rock [north of Anaktalik Brook (NTS 14D/9)] Variably foliated, fine-grained to pegmatitic, dark-brown- to orange-brown- to pale-browr weathering, favalite+augite-bearing syenite and monzonite; flecked appearance from mafic mineral clots and lozenges; locally feldsparphyric and hornblende-bearing; smaller intrusions superficially similar to the larger body occur as subparallel sheets and stockworks in adjacent anorthosite and as sills in the proximal gneisses; crystallization age ca. 1326 Ma

MfmzK, MfmzT, MfmzH, MfmzTI, MfmzU ('marginal monzonites'): Foliated, reddish-brown- to orange-brown-weathering, equigranular to porphyritic olivine+clinopyroxene+/-orthopyroxenepearing rocks of generally syenitic and monzonitic composition; contain garnets where intruded into garnetiferous metasedimentary gneiss; sited mainly along the contact between deformed anorthositic rocks and the country-rock gneisses but also occurring nearby as sills in the gneisses themselves [north of Kingurutik Lake (NTS 14D/16), north of Tikkoatokak Bay (NTS 14D/9), south of VAP Nain Bay (NTS 14D/9), and near Anaktalik Brook (NTS 14D/9)] MfmzK: Foliated to gneissose, augen-textured, augite+fayalite syenite; north of Kingurutik Lake: MfmzT: Foliated, porphyritic, augite+fayalite monzonite, fayalite quartz syenite and fayalite+augite quartz syenite; north of Tikkoatokak Bay MfmzH, the Hare Hill intrusions: Foliated to gneissic, porphyritic to megacrystic, charnockitic (orthopyroxene-bearing) rocks including fayalite mangerite, fayalite+augite mangerite, garnetiferous

fayalite mangerite, fayalite norite, and farsundite(monzogranite); crystallization age ca. 1351 Ma; south of Nain Bay MfmzTl, southeast extent of the Tessiarsuyungoakh intrusion which widens northwestward into a 2. Septum east of PuijiKaut (Seal Bay), Kingurutik Lake (NTS 14D/16) larger body emplaced ca. 1360 Ma: Gneissose to utramylonitic, charnockitic rocks including olivinebearing enderbite, fayalite mangerite, fayalite jotunite; northwest of Anaktalik Brook MfmzU: Undivided granitic rocks possibly compositionally and structurally similar to those above; near Anaktalik Brook (unpublished data compiled from map of E.P. Wheeler 2 nd)

B) Variably foliated and recrystallized anorthosite and leuconorite MMLanf, MMLfo, MMLan, MMLfoln, MMLpan [Mount Lister intrusion]: A polyphase plutonic unit, dominated by a generally pegmatitic anorthosite, but having a zone of foliated leuconorite along its eastern side on NTS 14D/16. Pink diagonal lines show distribution of the pink- to mauve-weathering rocks [pm] in contrast to the grey- to white-weathering [gw] ones [extends north-south from east of Kingurutik Lake (NTS 14D/16) to Tessiujâtsuk (Salt-water pond) (NTS 14D/9)]

MMLanf: Marginal zone of coarse-grained, white- to pink-weathering, variably recrystallized, foliated anorthosite and leuconorite; contains metre-scale, metallic oxide-rich subzones of more gabbroic or gabbronoritic composition (Unit *MMLf*o), some of which may represent separate minor intrusions unrelated to the deformed rocks; northeast of Kingurutik Lake only MMLan: Interior zone of mostly white-, pale-grey-, mauve- and pink-weathering massive

anorthosite; variably recrystallized but generally very coarse grained and pegmatitic; subordinate volumes of finer-grained leuconorite; has a diffuse metre-scale layering; pegmatoidal anorthosite south of Nain Bay may be an unrelated intrusion inclusions of oxide-enriched syenite (osy) and layered syenite (lsy), and a diversity of anorthositic and gneissic xenoliths; crystallization age of ca 1333 Ma dimensionally oriented amoeboid to ellipsoidal pyroxene oikocrysts; directly south of Kingurutik Lake

> MMLpan: Mainly medium-grained, pink to mauve, recrystallized (granular) anorthosite having a crazed texture (resembling cracked glaze on pottery); local pegmatoidal variants; directly south of

[Note: Solid triangles and Bx designator in those parts of the Mount Lister intrusion bordering on the Akpaume intrusion (NTS 14D/9) denote extensive brecciation by stockworks of the younger rocks (based on work by D. Deuring, Dartmouth College, Hanover, N.H., undertaken in 1976)] MPGfIn, MPGman [Pearly Gates intrusion]: A coarse-grained to pegmatoidal intrusion having i) a marginal zone of deformed and recrystallized, generally pale-grey- to white- to brown-weathering

leuconorite and pale-grey- to white-weathering anorthosite, and ii) an interior zone of massive but

MPGfln: Marginal zone of generally strongly foliated and recrystallized leuconorite and anorthosite, in places having a mylonitic aspect; characterized by a penetrative deformational fabric defined by lozenges of recrystallized orthopyroxene and plagioclase, and locally containing augen of warped megacrystic orthopyroxene; fabric expressed as schistosity in formerly homogeneous massive rocks and as a gneissose feature in previously layered rocks; anorthositic components are generally

saccharoidal and lack a foliation

MPGman: Interior zone of predominantly massive and variably recrystallized pale-grey to whiteweathering, pegmatitic (plagioclase being tens of centimetres on a side) anorthosite and leuconorite in which feldspar locally exhibits royal-blue to pale-blue labradorite schiller; primary dark-grey feldspar characteristically shows myriad white hairline fractures, and pervasively recrystallized white anorthosite displays abundant, small, dark-grey, feldspar remnants in the pallid groundmass (a tapioca-pudding-like appearance); megacrystic orthopyroxene (+/- ilmenite) locally present, and typically has a subophitic relation to adjacent plagioclase; some orthopyroxene hosts cleavagecontrolled plagioclase lamellae

MfIn1-MfIn4: Belts of deformed and recrystallized, generally pale-grey- to white- to mauve- to brown-weathering leuconorite and pale-grey- to white-weathering anorthosite similar to the marginal zones of the Mount Lister intrusion (Unit MMLanf) and the Pearly Gates intrusion (Unit MPGfln); could be correlative with the foliated rocks of the Pearly Gates intrusion but continuity not firmly established [south of Iviangiujak east flank lakes (14D/16), and north and south of Tikkoatokak Bay Strongly foliated and recrystallized, brown, white and mauve leuconorite and white to mauve

anorthosite, sharing similar characteristics, and typically in a 'foliated margin' setting between fairly massive anorthosite and country-rock gneisses; variable in width and internal character; generally displays a penetrative deformational fabric but primary igneous textures locally preserved; foliation expressed by straight and anastomosing lozenges of recrystallized orthopyroxene within a variably recrystallized feldspathic groundmass, defining a schistosity in initially homogeneous rocks and enhancing any original layering to impart a gneissose structure; least-deformed rocks retain remnants of primary very coarse-grained plagioclase and warped megacrystic orthopyroxene; biotite and metallic oxides are locally conspicuous minerals; foliated leuconorite in the zones south of Iviangiujak east flank lake (S) (Unit *Mfln2*) and north of Tikkoatokak Bay (unit *Mfln3*) differ structurally from the deformed, compositionally similar leucocratic rocks assigned to the enveloping gneisses in having a simple rather than polydeformational fabric Mman1–Mman5: Massive but variably recrystallized anorthositic rocks along the western side of

Mman1-5 the map area, resembling the interior zone of the Pearly Gates intrusion (Unit MPGman) but

temporal and genetic correlation with the aforementioned intrusion undetermined [north and south of Kingurutik Lake (14D/16), and between Tikkoatokak Bay and the Fraser River (14D/9)] Mman1 north of Kingurutik Lake and Mman2 between Tikkoatokak Bay and Nain Bay: White-, palegrey- and mauve-weathering massive anorthosite, generally very coarse grained and pegmatitic but locally extensively recrystallized and having a saccharoidal aspect; isolated labradorite schiller to plagioclase; rare intercumulus and isolated hypersthene megacrysts, variably warped and recrystallized; local development of actinolite and epidote Mman3 south of Kingurutik Lake: Eastern part comprises white, recrystallized anorthosite having dark grey plagioclase relicts; no convincing field indications of an original exceptionally coarse grain size to any of the rocks; pyroxene locally disposed as oikocrysts; no labradorite colour evident in the feldspar; western part comprises white anorthosite to leuconorite having very coarse to pegmatoidal grain size (e.g., metre-scale hypersthene megacrysts) and lacking labradorite colour in the feldspar; displays intercumulus to oikocrystic hypersthene, locally altered to dark-green amphibole Mman4 and Mman5 straddling Tikkoatokak Bay: White-weathering, variably recrystallized, massive anorthosite and leuconorite having biotite associated with pyroxene Mgpa1, Mgpa1f, Mgpa2: 'Giant-pyroxene' anorthosite and leuconorite characterized regionally by

isolated megacrysts and aggregates of very coarse hypersthene [north and south of Kingurutik Lake (NTS 14D/16) and south of Tikkoatokak Bay (NTS 14D/9)] Mgpa1, Kingurutik Lake area: White-, pale-grey-, mauve- to pink-weathering anorthosite and leuconorite; widespread occurrence of metre-scale individual, or aggregates of, brown- to blackweathering hypersthene showing varying degrees of warping and kinking, locally constituting masses over 10 metres across; most pyroxene displays exsolved plagioclase (+/- olivine) as narrow, white, plates along cleavage or as internal granular blebs; several morphological types of pyroxene are evident: i) subophitically enclosing adjacent plagioclase and thus indigenous, ii) irregular to rounded crystals and masses that appear to be xenocrystic, and iii) rare discrete dyke-like arrays; biotite is locally associated with pyroxene, and some pyroxene is surrounded by an amphibole rind; ilmenite forms isolated concentrations and also accompanies the pyroxene; feldspars are universally more recrystallized than the pyroxene, with the granular textures varying in appearance from crazed (like cracked glaze on pottery) to tapioca (grey feldspar remnants in white saccharoidal host) to adcumulate-like, but where subophitic pyroxenes are present the granular plagioclase can be shown to be derived by static recrystallization of coarser primary grains; unit is locally characterized by a foliation defined by trains of oriented and elongate megacrysts of pyroxene, and south of Kingurutik Lake such foliated rocks appear to underlie an extensive area (designated as Mgpa2, south of Tikkoatokak Bay: Rocks appear to lack the deformation and the orthopyroxene recrystallization evident to the north; pyroxene of the southern zone locally displays internal blebs and cleavage-discordant linear arrays of feldspar, and biotite is a widespread associate; some 'groundmass' pyroxene has an oikocrystic habit and in some places the pyroxene occurs as clusters

Msfln1, Msfln2, Msfln3, Msfln3a: Streaky-foliated, white-weathering, poikilitic leuconorite and anorthosite [south of Kingurutik Lake (NTS 14D/16), south of Tikkoatokak Bay (NTS 14D/9) and on the south shore of Nain Bav (NTS 14D/9)1 Msfln1, south of Kingurutik Lake: White, variably recrystallized leuconorite and anorthosite having preferentially oriented ellipsoidal arrays (oikocrysts) of orthopyroxene Msfln2, between Tikkoatokak Bay and Nain Bay: Streaky-textured, locally layered, saccharoidal leuconorite and anorthosite locally resembling 'foliated margin'-type leuconorite (units MPGfln, Mfln1-Mfln4) and having biotite and ilmenite associated with the pyroxene; also, like the 'giantpyroxene' anorthosite (units *Mgpa1*, *Mgpa2*) in containing irregular to attenuated orthopyroxene megacrysts and having rare clusters of oval (cumulus?) pyroxene showing internal blebs and streaks of plagioclase Msfln3, south of Maligiak, Nain Bay: White-weathering, ilmenite-bearing anorthosite and leuconorite similar to Unit Msfln2 but differs from Unit Msfln2 in having, inverted pigeonite, feldspars showing labradorite iridescence, coarse cumulus apatite, zircon, and minor biotite; subunit Msfln3a of the Maligiak zone has a more strongly foliated character and locally comprises a golden-brown, oxiderich, apatite- and zircon-bearing variant superficially resembling monzonite

Mspk: 'Speckled' leuconorite characterized regionally by oval to elongate clots of orthopyroxene ■ [south of Kingurutik Lake (NTS 14D/16) and south of Tikkoatokak Bay (NTS 14D/9)] Generally golden-brown- to reddish-brown-weathering, friable, fine- to coarse-grained rocks, in which most orthopyroxene is disposed as 5- to 12-cm oval clots of granular individuals; in common with the 'giant-pyroxene' anorthosite (Unit Mgpa1), this unit has biotite widely associated with the pyroxene, and some rocks have megacrysts and vein-like arrays of orthopyroxene; some pyroxene contains internal linear aggregates and isolated granules of plagioclase; deformed rocks locally resemble 'foliated leuconorite' of units MPGfln and Mfln1-Mfln4 but lack the recrystallized and augen-shaped aspect of the pyroxene in these units Mlpa: Oriented-feldspar anorthosite and leuconorite [south of Tikkoatokak Bay (NTS 14D/9)]

<sup>」</sup> Variably recrystallized and deformed anorthosite and leuconorite having tabular plagioclase exhibiting a primary preferred orientation and enclosed by pyroxene oikocrysts; locally contains hypersthene megacrysts that display plagioclase lamellae and are mildly kinked to strongly deformed; some deformed rocks resemble the foliated leuconorite of units MPGfln and Mfln1–Mfln4, ARCHEAN AND/OR PALEOPROTEROZOIC AND/OR MESOPROTEROZOIC ROCKS

VARIOUS MIGMATITIC GNEISSES AND LAYERED TO FOLIATED METAPLUTONIC ROCKS PALEOPROTEROZOIC OCCURRING AS SEPTA BETWEEN PLUTONS OF THE NAIN PLUTONIC SUITE (NPS) AND AS LARGE RAFTS IN THE NPS PLUTONS: These rocks are assigned to the Paleoproterozoic Southeast Churchill Province, but may contain internal components ranging from Archean to Mesoproterozoic; the basic plutonic rocks of these map subdivisions differ from Unit A/P?man northeast of Kingurutik Lake and Mblan: Sharply to diffusely layered, oxide-bearing, brown leuconorite and pale-grey anorthosite from the Aupalukitak Mountain intrusion (Unit P?AMa) by their lack of a pervasive network of mafic [north and south of western Kingurutik Lake (NTS 14D/16) and possibly south of Tikkoatokak Bay dykes and pink aplitic granitic dykes, and they are distinguished from the foliated NPS rocks of similar composition by their regionally polydeformed nature. See NOTE 2.

1. Septum south of Iviangiujak east flank lakes (NTS 14D/16)

of subhedral, cumulus megacrysts

APMIm: Layered mesocratic (gabbronoritic) rocks and migmatitic granulite-facies gneisses Generally quartz-poor, fine-grained to medium-grained, grey-weathering mesocratic metaplutonic rocks of overall gabbronoritic composition, containing lesser reddish-brown, olivine-bearing, melanocratic rocks; parts of the unit comprise medium-grained, compositionally layered rocks in which centimetre-scale-thick lenses and layers having an abundance of granular dark-brown pyroxene alternate with white to grey layers of more anorthositic character; also includes wellfrom deformed dykes, as well as rusty biotite-rich paragneiss(?) components; laminar-style uniform layering is present locally; rocks exhibit small-scale fold structures both intrafolial to a more regular layering and of the layering itself

APMmq1: Mesocratic, quartz-bearing gabbronoritic (enderbitic) rocks, mafic gneisses and metasedimentary gneisses Mesocratic, granulite-facies rocks superficially and mineralogically similar to parts of APMIm but containing quartz and widely characterized by numerous, narrow (<1 cm), subparallel to slightly anastomosing, quartz-rich veins; lesser volumes of melagabbronoritic rocks (mafic granulites) and streaky-blue, sulphide- and graphite-bearing metasedimentary hornfels; metasedimentary rocks have a contact metamorphic assemblage of cordierite+hypersthene+hercynite (+/-osumilite?) replacing older, regional metamorphic, garnet and sillimanite

APMIs: Olivine-bearing melagabbronorite, mesocratic gabbronorite, leucogabbronorite, anorthosite and peridotite A well-layered group of metaplutonic rocks varying from peridotite to anorthosite, but dominated by buff- to reddish-brown- to dark-brown-weathering melanocratic to mesocratic gabbronoritic rocks; melanocratic rocks are invariably olivine bearing; layering is on the centimetre to metre scale, and internally disrupted; leucocratic (leucogabbronorite to anorthosite) layers are lensoid and bifurcating and some may be intrusive into the more melanocratic host; locally contains screens of hypersthene+cordierite+hercynite-bearing metasedimentary gneisses, a contact metamorphic equivalent of garnet- and sillimanite-bearing regional paragneisses

Well-layered, friable, generally, brownish-yellow-weathering mesocratic 'granulites', some of which are olivine bearing; foliation defined by streaks of orthopyroxene aggregates; minor peridotite lenses 3. Septum between anorthosite (Unit MIka2) and syenite (Unit Mfs) south of Kingurutik Lake, and lithologically similar rafts in proximal NPS intrusions (NTS 14D/16) APMt1: Deformed plutonic rocks of leucotroctolite to peridotite composition A suite of polydeformed metaplutonic rocks, derived from a layered intrusion, having a significant

APMIgo: Olivine-bearing mesocratic to ultramafic rocks

fabrics isoclinally folded in places

and subordinate white granular anorthosite, olivine-bearing anorthosite, mesocratic gabbronorite, olivine-bearing melagabbronorite and peridotite; central part of unit includes a sequence of finely layered and foliated gabbronoritic, troctolitic, and anorthositic rocks; least-deformed leucotroctolitic members retain mineral domains indicative of original coarse-grained (10 cm) plutonic precursor; foliation of the leucotroctolitic rocks is anastomosing to lenticular, but is locally straight and mylonitic; compositional layering and mineral fabrics are folded into outcrop-scale, open to tight folds APMmq2: Undivided, brown-weathering, granulite-facies quartzofeldspathic rocks

component of mottled (reddish brown and white), foliated, orthopyroxene-bearing leucotroctolite,

Massive enderbitic, mangeritic and charnockitic gneisses but also including mesocratic (gabbronoritic) rocks APMgb: Granular olivine gabbro and gabbronorite Olivine-bearing gabbro, gabbronorite and associated hornblende-bearing mafic granulite

4. Septum stretching north – south from the syenite (Unit Mfs; NTS 14D/16) to the north shore of Tikkoatokak APMmq3: Granulite-facies quartzofeldspathic gneisses Yellowish-brown- to grey-weathering, locally biotite-rich, granulite-facies, quartzofeldspathic gneisses (enderbitic to charnockitic to mangeritic) having a network of centimetre-scale opalescentblue-quartz veins, similar to Unit APMmq1 south of Iviangiujak east flank lakes; minor rusty, mesocratic and/or semi-pelitic metasedimentary gneiss and white metaquartzite; lesser units of olivine-bearing melanocratic gneiss; has narrow mafic layers likely derived from pre-deformation

mafic dykes, as well as centimetre-scale pods and lenses of ultramafic rock; layering and mineral

APMa1: Meta-anorthosite and metagabbro Lens of streaky-foliated, layered, white, meta-anorthosite and olivine gabbronorite (within western part of Unit *APMmq3*, similar to Unit *APMa2* south of the bay) APMpg1: Garnetiferous paragneiss and garnetiferous enderbite Garnetiferous paragneiss and garnetiferous enderbitic gneiss west of the 'marginal monzonite' (Unit

MfmzT); paragneiss also contains the contact metamorphic minerals cordierite, hercynitic spinel (+/corundum) and hypersthene as breakdown products of garnet and sillimanite

**APMt2:** Deformed olivine-bearing gabbronoritic rocks Olivine-bearing rocks that are likely a southward continuation of Unit *APMt1*, but apparently lacking the streaky-foliated, mottled, leucotroctolite component; comprises mostly yellowish-brown to grey, locally friable, olivine-bearing, granular gabbronoritic rocks (mesocratic gneisses) and grey to white, olivine-bearing meta-anorthosite; compositional differences and wispy lenticular pyroxene, olivine, and coal-black hornblende aggregates give rise to a sharp to diffuse, centimetre-scale layering; unit locally has dense, reddish-brown- to black-weathering, olivine-bearing melagabbronoritic layers especially enriched in hornblende; some of the melanocratic layers may be derived from pre-

deformational mafic dykes; rocks are locally highly strained, and layering is transposed and

APMgI1: Layered to gneissic granular gabbronorite (mesocratic gneiss) and meta-anorthosite Olivine-free, heterogeneous, basic metaplutonic rocks that locally retain vestiges of primary macroscopic textures; mostly granular, friable rocks comprising buff-weathering leucogabbronoritic and white- to pale-grey-weathering anorthositic compositions, locally layered; in some places the anorthositic component could be younger, seemingly discordant to internally layered leucogabbronorite; some plagioclase in the leucocratic rocks displays blue labradorite schiller . Septum stretching north – south from the south shore of Tikkoatokak Bay (NTS 14D/9)

Recrystallized, foliated, brownish-grey leuconoritic and white-weathering anorthositic rocks; resembles Unit APMg/1 across the bay to the north as well as deformed NPS members, so stratigraphic linkage uncertain

APMqflm: Undivided quartzofeldspathic and layered mesocratic rocks Northern half of unit is a granular, mesocratic gabbronoritic rock having laminar to mylonitic layering and discontinuous layers/pods of pyroxenite; southern part comprises diffusely layered "gneissose"), tan-weathering, rocks of enderbitic to leuconoritic composition; leucocratic members, locally retaining delicate primary features akin to those of the NPS leuconorites, lack a sharply contrasting compositional layering and pervasive granitic veining of 'migmatitic' gneisses, but a local gneissic character and anastomosing white granitoid vein network is present

White anorthositic lens within western part of Unit APMqflm (similar to Unit APMa1 in Unit APMmq3 to the north of Tikkoatokak Bay)

APMpg2: Garnetiferous paragneiss and associated rocks

to anorthositic gneiss northeast of Kingurutik Lake (Unit A/P?man)

APMmq4: Quartzofeldspathic to noritic gneiss

An undivided heterogeneous group of rocks including highly-strained, isoclinally folded, locally mylonitic and strongly lineated, garnet+cordierite-bearing semipelitic and quartz-rich metasedimentary gneisses, garnetiferous enderbitic to gabbronoritic (mesocratic) gneiss, and foliated orthopyroxene monzonite (mangerite) 6. Septum stretching north – south from Nain Bay to Anaktalik Brook (NTS 14D/9) APMmag1, APMmag2, APMmag3, APMmag4: Foliated and folded unit derived from a basic intrusion having local and regional-scale compositional layering; has mesoscopic aspects

comparable to NPS leucocratic basic rocks, to Aupalukitak Mountain anorthosite (Unit P?AMa) and

APMmag1: Mesocratic, foliated, granular leuconorite to gabbronorite to anorthosite; locally displays a diffuse igneous layering, but predominant is a deformational foliation defined by discontinuous trains of granular orthopyroxene locally forming a prominent lineation; some feldspars show green to bronze labradorite schiller; isolated, blocky to lenticular mafic, and rare ultramafic, enclaves; has two lenses of brown- and yellow-brown-weathering olivine-rich peridotite (symbolized by black lenses and um) along northwest side APMmag2: Well-layered succession of pale-grey- to dark-brownish-grey-weathering granular rocks

APMmag3: Spotted, locally diffusely layered, foliated gabbronoritic rocks having black or brown lenses and lozenges of orthopyroxene and clinopyroxene aggregates within a granular plagioclase

APMmag4: Strongly foliated to gneissic, white-weathering, hornblende-bearing, gabbronoritic to anorthositic rocks having mildly to strongly deformed, very coarse pyroxenes, now recrystallized to granular aggregates; rare olivine occurs in the more melanocratic components; less-deformed rocks have retained the original forms of the coarse-grained plagioclase and pyroxene; unrecrystallized, primary plagioclase displays a pale-blue labradorite schiller; melanocratic lenses and pods, comprising pyroxenes, hornblende, and ilmenite, are derived by deformation and recrystallization of original intercumulus pyroxene(s) and ilmenite but some continuous and podiform mafic and ultramafic layers reflect primary mafic layers or enclaves in the precursor, or are derived from basic dykes; post-foliation, metamorphosed and folded, basic dykes are locally present; invaded by white to pink, foliation-parallel, aplitic granitic sheets at its southern end

Well-layered to chaotic to agmatitic, yellow-brown-weathering, migmatitic, enderbitic and

charnockitic rocks, locally containing quartz-poor compositions such as mangeritic, gabbroic and noritic gneiss; minor garnet-bearing gneisses; locally has small-scale isoclinal folds; mafic granulite layers and pods common, probably derived mostly from pre-deformation basic dykes; quartz-poor mesocratic (gabbronoritic) rocks of the northern part of unit are superficially similar to the diffusely layered metagabbronorite (Unit *APMmag1*) immediately to the east Rusty-brown, garnetiferous (± sillimanite), biotite-rich, hypersthene-bearing paragneiss and garnetiferous graphitic paragneiss; contains pale-brown- to white-weathering, garnetiferous and

nongarnetiferous, charnockitic sills and dykes; local small-folds and shallowly plunging lineations; superficially similar to the regional Tasiuyak gneiss (Unit PTgn) but differs in having fewer and smaller garnets, having an indistinct layering, being more biotite-rich, having hypersthene and cordierite as regional metamorphic minerals, and lacking the pervasive cordierite+hypersthene+spinel-rich contact metamorphic assemblage replacing garnet and **APMmq5**: Non-migmatitic quartzofeldspathic and mangeritic gneiss Buff-weathering, mesocratic gneisses having quartz-bearing and quartz-deficient variants

(charnockite to gabbronorite); gneisses differ from Unit APMmq4 to the east in having a less distinct layering, lacking the migmatitic character, and having clinopyroxene as the dominant mafic mineral; in places the mesoscopic texture resembles simply foliated igneous rocks, having relicts of feldspar phenocrysts; displays a widespread lineation and local small-scale folds; local rafts of a greyweathering, foliated, metagabbroic rock; quartzofeldspathic veins parallel and transgress the foliation; some gneisses have graphite smears, and are possibly derived from a sedimentary protolith; includes augite-bearing, foliated, monzonitic rocks probably related to the NPS

Dark-green- to dark-grey-weathering, massive to well-layered mafic granulite, likely of more than one age and origin (within units APMmag4, APMmq4 and APMgpg) PTgn [Tasiuyak gneiss]: Cordierite-rich rocks, being the contact metamorphosed equivalent of a regional garnet+sillimanite-rich paragneiss [near Anaktalik Brook (NTS 14D/9)]

quartz+feldspars+orthopyroxene; local static melting giving a diatexite aspect; rare lenses and layers of mafic rock PALEOPROTEROZOIC(?) ARNANUNAT PLUTONIC SUITE: Leucocratic plutonic rocks characterized by high temperature

Brown-weathering, locally sulphide- and graphite-bearing, somewhat friable, gneiss having spots

and discontinuous streaks of greyish-blue, dark-blue and light-blue cordierite (+/- spinel,

orthopyroxene; from breakdown of regional garnet and sillimanite) within a granular matrix of

recrystallization and hydration and/or by greenschist-facies metamorphism, and having myriad mafic and silicic dykes. These rocks are interpreted to predate the Mesoproterozoic Nain Plutonic Suite; although having compositional characteristics of the NPS, certain mesoscopic features set this group apart from the more widespread Mesoproterozoic intrusions

layered, granulite-facies, quartzofeldspathic gneisses containing subordinate mafic layers derived P?AMa [Aupalukitak Mountain pluton]: Variably recrystallized and mildly deformed, generally pale-grey to white, coarse-grained anorthosite, leucogabbronorite, and leuconorite (southward continuation of an intrusion having a crystallization age of ca. 2112 Ma underlying Aupalukitak Mountain and the area west of Iglusuataliksuak Lake to the north on NTS 14E/1) [west of lalusuataliksuak Lake (NTS 14D/16)) White- to pale-grey- to greenish-grey-weathering variably recrystallized, originally medium-grained to pegmatitic (grain size up to 60 cm) anorthosite, leucogabbronorite and leuconorite in which biotite is a locally conspicuous mineral; original coarse pyroxene replaced by a granular aggregate of orthopyroxene, clinopyroxene, plagioclase, biotite and hornblende; includes rare, reddish-brownweathering, olivine-bearing gabbroic rocks; pale-blue labradorescence to feldspar is preserved in some places; characteristically pervaded by multi-generation networks of massive to foliated, straight to sinuous, melanocratic dykes varying from black, olivine-bearing melagabbronorite to pale-grey-brown, biotite gabbronorite, and by local stockworks of white and pink granitic veins and

> P?WPgn [Webb's Pond pluton]: Grey meta-leucogabbronorite [east of Iglusuataliksuak Lake (NTS Grey- to black-weathering, medium- to coarse-grained, variably foliated and altered, leucogabbronoritic to anorthositic rock; intruded by metamorphosed basic dykes P?dml: Grey meta-leucogabbro (an extrapolation southward of a pluton east of Iglusuataliksuak Lake on NTS 14E/1) [east of Iglusuataliksuak Lake (NTS 14D/16)] Medium- to coarse-grained, locally sheared, meta-leucogabbro, having plagioclase subophitically

enclosed by variably altered, intercumulus pale-green augite; intruded by subvertical metadiabase

dykes correlated with a ca. 2045 Ma swarm within the equivalent leucogabbro on map sheet 14E/1 ROCKS OF UNCERTAIN STRATIGRAPHIC LINKAGE EAST OF IGLUSUATALIKSUAK LAKE: Gabbroic to tonalitic rocks extending onto adjacent map sheets

P?gtu: Layered tonalitic rocks and pyroxenite [east of Iglusuataliksuak Lake (NTS 14D/16)]

Layered melatonalitic rock having diffuse, opalescent-blue-quartz-rich 'sweats' and veins; minor pyroxenite; intruded by metamorphosed basic dykes P?lmu: Layered mafic rocks [east of Iglusuataliksuak Lake (NTS 14D/16)] Dark-grey- to black-weathering, variably recrystallized and granular, gabbro, gabbronorite leucogabbronorite and norite; a distinct layering, locally folded, may be regionally characteristic; local pink to white granitoid 'sweats' containing coarse-grained clinopyroxene; intruded by finegrained metadiabase and composite metagabbronoritic dykes; intruded by layer-discordant quartz

ARCHEAN AND/OR PALEOPROTEROZOIC ROCKS HETEROGENEOUSLY DEFORMED ORTHOGNEISS ALONG THE EASTERN SIDE OF NTS 14D/16: Metaplutonic basic and silicic rocks tentatively considered to be part of the Archean Nain Province; could contain Paleoproterozoic components A/P?qgn: Quartzofeldspathic gneisses [northeast of Kingurutik Lake and west of Iglusuataliksuak Lake (NTS 14D/16)]

Pale-brown- to pink-weathering, variably retrogressed, granulite-facies, tonalitic (enderbitic) to

granitic (charnockitic) metaplutonic rocks; subordinate pods and layers of mafic to ultramafic

composition, derived both from fragments of older rock in the plutonic protolith and from folded and

disrupted pre-metamorphic mafic/ultramafic dykes; local fragments of deformed anorthosite and

leucogabbronorite (like Unit A/P?man); several generations of granitic veins; rare granular basic

dykes postdate the pervasive granitic veining; intruded by massive and foliated pink, granitic aplite

sheets both parallel and discordant to gneissic layering; lens northeast of Kingurutik Lake has mylonitic aspect and a fine laminar layering ('straight gneisses') A/P?man: Deformed basic rocks of predominantly anorthositic to gabbronoritic composition [northeast of Kingurutik Lake and west of Iglusuataliksuak Lake (NTS 14D/16)] White-, pale-grey-, to buff-weathering, texturally variable, granular rocks, comprising recrystallized anorthosite, leuconorite, leucogabbronorite and minor peridotite; isolated pale-blue labradorite flashes evident in plagioclase of the leucocratic rocks; originally coarse-grained to pegmatitic locally, and remnants of the primary plutonic textures remain; irregular ultramafic (pyroxenite) to mafic pods scattered throughout, in part derived from recrystallized pyroxene megacrysts; mafic layers derived from basic dykes are present; polydeformed and displays internally heterogeneous structure (e.g. remnants of primary texture may co-exist with strongly deformed equivalents); locally permeated by narrow, white, sinuous to folded, granitic sheets and veins; intruded regionally by pink, massive to foliated, ca. 1870 Ma, granitic aplite dykes

Geology compiled by B. Ryan, interpreted mainly from helicopter-supported regional mapping by B. Ryan and D. James in 2003. A full listing of the data sources from which the final map has been constructed is provided in Note 1 of accompanying notes (see separate document). GIS/digital cartography by K. Morgan.

Approximate magnetic declination at centre of map (2015 model): 22°45' west, decreasing 15.5' annually. Elevations in feet above mean sea level. Contour interval 100 feet. Universal Transverse Mercator (UTM) projection Zone 20.

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**GEOLOGICAL MAP OF** THE TIKKOATOKAK BAY AREA

Approximate boundary to weathering-colour change in Mount Lister intrusion (pm = pink and mauve dominant; gw = grey and white dominant).... Outcrop: visited, observed from air or through binoculars, compiled mainly from unpublished sources....... x Prominent topographic linears (some mark mafic dykes and minor faults)... Gneissic layering and associated mineral fabrics (also designates foliated primary compositional variations in some metaplutonic rocks within the gneissic units, and mineral fabrics in metaplutonic rocks assigned to the gneissic units; see Note 5a): inclined, vertical, dip unknown; M, S, V indicate moderate, steep and vertical attitudes derived from unpublished maps of E.P. Wheeler 2<sup>nd</sup>.... Igneous layering (primary planar compositional variations in igneous rocks as well as well-preserved primary layering in metaplutonic rocks that are part of gneiss units; see Note 5b): inclined, vertical, dip

Dispersed feldspar megacrysts (antecrysts, autocrysts, and xenocrysts) prominent in outcrop: random orientation, preferred orientation...... Trend of trains of dispersed plagioclase megacrysts, showing dip where determined.... Pronounced primary lamination or prominent preferred orientation to tabular plagioclase in anorthosition and leuconoritic rocks: inclined, vertical, dip unknown.... Compositional layering having aligned feldspar tablets... Labradoresence prominent in outcrop feldspars; includes that shown by megacrysts as well as by host Trend of orthopyroxene trains, including small cumulus grains and megacrysts..

xenocryst orientation in monzonitic and ferrodioritic [gabbronoritic] rocks, by streaks of orthopyroxene aggregates in medium- to fine-grained granular leuconoritic rocks, and by ellipsoidal elongate pyroxene oikocrysts in medium-to coarse-grained leuconoritic rocks; see Note 5c): inclined, vertical, dip unknown..... Solid-state (post-crystallization) fabrics in igneous rocks (defined by variably deformed and variably recrystallized felsic and mafic minerals and their macroscopic textures; includes foliations in Paleoproterozoic plutonic rocks and in some NPS leuconoritic and monzonitic rocks abutting the gneissic septa; see Note 5d): inclined, vertical, dip unknown....... Unspecified fabrics (includes some fabrics of the larger intrusions and observed in narrow dykes, and may be of both pre-full-crystallization and solid-state origin; see Note 5e): inclined, vertical, dip unknown; M, S V indicate moderate, steep and vertical attitudes derived from unpublished maps of E.P. Wheeler 2<sup>nd</sup>........ 🛴 🕺 🕺 🕺 Primary or superposed mineral foliation parallel to compositional layering: inclined, vertical.....

Primary and late-magmatic (pre-full-consolidation) fabrics of igneous rocks (defined by phenocryst or

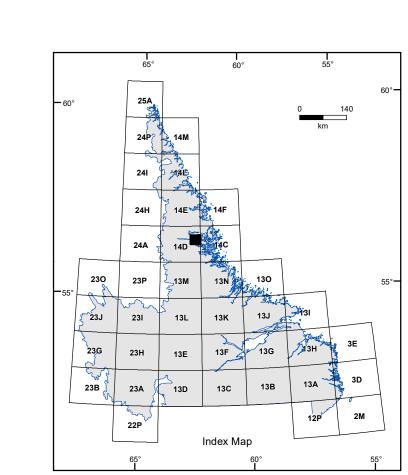
Metre-scale inclusions, layers and screens within, and subordinate to, the surrounding gneissic and foliated meta-plutonic rocks: ma – meta-anorthosite; m – mafic gneiss; ms – metasedimentary gneiss; um ultramafic rocks; Q – quartzite..... Metre-scale inclusions within plutonic rocks, including those of autolithic origin: an – undivided, white to grey to mauve to pink, anorthositic rocks of variable grain size; *cln* – coarse-grained leuconorite (in some cases may be derived from the 'giant-pyroxene' anorthosite unit); flt – foliated leucotroctolite; fma – anorthositic and leuconoritic rocks of 'foliated margin' type; fln – foliated leuconorite of unspecified type; gpa – 'giant-pyroxene' anorthosite; m – mafic gneiss; gn – undivided gneisses; lsy – layered syenite; ln – leuconorite; It – leucotroctolite; um – undivided ultramafic and melanocratic mafic rocks; ma – metaanorthosite/meta-leucogabbro; osy – oxide-rich syenite; ran – recrystallized and fine-grained anorthosite; sln – streaky-foliated oikocrystic leuconorite; spk – speckled leuconorite....... Giant orthopyroxene (intercumulus, rounded individuals and multi-crystal aggregates) prominent in outcrop; locations so designated have pyroxene on the tens-of-centimetre to metre scale..... Mineral occurrences (py – pyrite; po – pyrrhotite; cp – chalcopyrite; pent – pentlandite; il-m – ilmenite Gossan zone, area displaying several separated gossan zones...

Breccia zones (outcrop area of plutonic rocks having numerous angular blocks of older rock, or older rock pervasively fragmented by networks of younger dykes)..... Mineral lineation, showing plunge Small-folds of layering (symmetry and plunge, open or unspecified, isoclinal)...

Notes reflecting ancillary aspects encountered during field work and map assembly are available as a separate document released with this map.

Age determination site (U-Pb ages, in millions of years; see Note 7)

Localized lenses of ultramafic rocks southeast of Maligiak (NTS 14D/9)...



DISTRIBUTION OF THE NAIN PLUTONIC SUITE (MESOPROTEROZOIC), NAIN PROVINCE (ARCHEAN), ARNANUNAT PLUTONIC SUITE (PALEOPROTEROZOIC) AND CHURCHILL PROVINCE (ARCHEAN TO IN NORTHERN LABRADOR Internal tectonic subdivisions of the Churchill Province: PLUTONIC LZ = Lac Lomier zone (Complex) LZ = Tasisuak Lake Zone RZ = Fraser River Zone BZ = Konrad Brook Zone (Comple MDZ = Mistinibi – Dihourse Zone = Falcoz (mylonite) Zone MBZ = 'Moonbase' (mylonite) Zone RZ = Mistastin River (mylonite) Zone ASZ = Abloviak Shear Zone NTS sheet 14D is outlined in red. Shaded box shows location of map area.

Unit contact having intrusive relationship displayed in outcrop; arrow points into older rock....

Unit contact: defined, approximate, gradational, assumed, conjectural...

Trend of ellipsoidal mafic enclaves in monzonitic rocks......