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GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA

## DESCRIPTIVE NOTES

This map shows the geology of the eastern half of the bend in the Abloviak shear zone and the southern limit of the Komaktorvik shear zone where the two converge south of Tower Mountain. This map accompanies Map 24P/7 (Van Kranendonk, 1993), which shows the western half of the bend in the Abloviak shear zone. The map area is well-exposed on the high ground in the north, southeast and southwest, but is extensively covered by Quaternary glacial deposits throughout the low-lying south-central part, where Tower Mountain and its northern neighbor stand as erect monoliths, their classical lee and stoss shape a striking testament to the erosional forces of past glaciers. A very large U- shaped glacial valley strikes north-northeast from Upper Kangalaksiorvik Lake to Two Loon Lake and east from there. The terrain is very rugged in the northeastern and southwestern parts of the map area, where elevations reach a maximum of 3800'. The northwestern part of the area consists of rounded hills on highland plateaux and broad river valleys lined with thigh-high willow bushes and traversed by numerous caribou. Map coverage was accomplished through helicopter-supported ground traverses from a basecamp located to the north of the map area. U-Pb age data was provided by D. Scott of the Université de Québec à Montréal.

### Lithology

Three main groups of rocks, referred to as lithotectonic assemblages, are present in the map area. In the east and north are rocks of the Noodlebook complex (Van Kranendonk et al., 1992). This area is largely underlain by rocks derived from Archean protoliths of the Nain Province, including migmatitic tonalitic orthogneisses (**Agt, Agn, Argn**) with inclusions and rafts of garnet-biotite+/-sillimanite paragneiss (**Ams**), mafic granulite gneiss (**Amf**), and ultramafic rocks (**Aum**). Typical of the Nain Province are the numerous inclusions and lenses of metamorphosed ultramafic rock. Nain Province rocks are cut by Paleoproterozoic diabasic Avayalik dykes (**Pdb**). Together, these rocks are metamorphosed to the granulite facies in the easternmost part of the map area (Archean and superimposed Paleoproterozoic granulite facies), and variably recrystallized under Paleoproterozoic amphibolite-facies conditions in the northern and eastern parts of the map area.

The Hutton anorthositic suite (**APan, APanl, APanm**), of Late Archean or earliest Proterozoic age, has a range in composition from anorthosite to anorthositic gabbro. Textures vary from pristine, coarse-grained anorthosite with subophitic textures of blue igneous plagioclase feldspar (Labradorite) and rare clots of clinopyroxene (variably recrystallized to hornblende) (**APan**), to granoblastic, equigranular garnet-hornblende gneisses (**APanl**), which are characterized by a centimetre- to decimetre-scale layering defined by modal variations between hornblende, plagioclase, titanite, ilmenite, quartz ± epidote. These rocks are interpreted to be derived from mafic volcanic and/or volcaniclastic protoliths and to be Paleoproterozoic in age, because they do not contain Avayalik dykes and are in tectonic contact with Archean Nain Province gneisses.

Cutting across the Hutton anorthositic suite in the map area is a unit of coarse-grained K-feldspar megacrystic granite (**Pgt**), characterized by a porphyroclastic texture (≥40% K-feldspar megacrysts, up to 5 cm in long dimension) and a strongly-developed schistosity defined by aligned micas. An identical rock from Killinek Island was dated as 1864 ± 2 Ma (D. Scott, pers. comm.).

The second lithotectonic assemblage is referred to as the Tasiuyak gneiss complex (Van Kranendonk et al., 1992, after Van Kranendonk and Ermanovics, 1990) and is metamorphosed to the granulite facies. It consists of a monotonous sequence of metasedimentary gneisses - known as the Tasiuyak gneiss (Wardle, 1983) (**PsTg**) - and interlayered metabasic rocks of Paleoproterozoic age (**Pgd, Pbd**). The Tasiuyak gneiss is white- and rusty-brown weathering and homogeneous on a large scale, but at the outcrop scale is seen to consist of 10's of centimetres- to metres-wide layers of garnet- sillimanite ± biotite ± graphite quartz-feldspathic gneiss (metamorphosed pelitic protolith), garnet-quartz ± feldspar rock (quartz arenite), and garnet quartzo-feldspathic gneiss (dalsetite granite; not shown on map). Garnets are typically lilac-coloured in these rocks, and garnetiferous granite is ubiquitous, comprising up to 40% of some outcrops.

Paleoproterozoic metaplutonic rocks in this assemblage include black-weathering, mesocratic (C.I. = 25-30%; orthopyroxene, hornblende ± biotite) quartz diorites (**Pgd**) and tonalite-granodiorite (**Pgt**) gneiss. Leucocratic rocks (C.I.<20%; orthopyroxene ± rare garnet) of tonalite- granodiorite composition (**Pgd**). These rocks contain a simple fabric and were locally seen to have an intrusive relationship with the Tasiuyak gneiss. Rocks of this suite have been dated as 1895-1886 Ma outside of the map area (Map 24P/7; Van Kranendonk, 1993: Maps 25A/2, 25A/7), whereas a sample of orthopyroxene-bearing granodiorite in the map area is 1839 ± 3 Ma (D. Scott, pers. comm., 1993).

The third lithotectonic assemblage includes tonalitic gneisses derived from Archean Rae Province protoliths (**ARtn**), Paleoproterozoic metasedimentary rocks of the Lake Harbour Group (**PLqz, PLpg, PLmb**), and homogeneous, orthopyroxene-bearing granodioritic rocks (**Pgd**) that have an identical field appearance to those in the Tasiuyak gneiss complex and which are therefore assumed to be of Paleoproterozoic age. These rocks are interlayered and infolded with those of the Tasiuyak gneiss complex, but there is a sharp division between Lake Harbour Group paragneisses and the Tasiuyak gneiss.

Rocks belonging to the Rae Province include white-weathering, migmatitic tonalite gneisses, and inclusions of mafic and anorthositic rocks. Inclusions of ultramafic rocks are rare in the map area. Locally, thin amphibolite sheets in the gneisses are interpreted to represent transposed mafic dykes.

Rocks ascribed to the Lake Harbour Group in the map area include garnet-biotite-sillimanite paragneiss and coarse-garnet quartz arenite (collectively under **PLqz**), and pure white marble (**PLmb**). A thin unit of very strongly deformed and tightly folded, heterogeneous calc-silicate and marble (**Pscs**) located in the core of the fold of the Abloviak shear zone (see below), may also belong to the Lake Harbour Group. The paragneisses differ from the Tasiuyak gneiss in that they are less migmatitic in character, have red rather than lilac coloured garnets, and are more homogeneous on the outcrop scale.

Cutting across all units in this third lithotectonic assemblage are numerous sheets of pink, fine- to medium-grained granite (**Pgg**), which locally contain up to 5%, fine-grained garnet, but that are otherwise devoid of mafic minerals. Such granite sheets are not found outside of the southernmost part of the map area.

Across the contact between lithotectonic assemblages 1 and 2 are porphyroclastic mylonites and ultramylonites of the Katherine River shear zone. These rocks contain amphibolite- to greenschist-facies granulite-facies foliation and lineation. An early set of intrafolial isoclinal folds are recognized in the older gneisses. The second foliation is axial planar to a set of regionally-developed, south- plunging folds, whose axes are sub-parallel to granulite-facies mineral lineations. The second set of structures is believed to be Late Archean in age (ca. 2.9-2.7 Ga).

Archean structures within Rae gneisses have been thoroughly transposed into parallelism with Paleoproterozoic structures of the Abloviak shear zone ($D_{Pmo}$).

Structures of interpreted Paleoproterozoic age occur throughout the map area; they have been divided into three sets, based on orientation, kinematics, and associated metamorphic grade. The earliest set of Paleoproterozoic structures ($D_{P1}$) includes a planar fabric, which is manifest as a gneissic layering in Paleoproterozoic rocks, and as a foliation in Archean gneisses. In the former, the degree of migmatization varies greatly with metamorphic grade and protolith: granulite-facies paragneisses are highly migmatitic, whereas amphibolite-facies metaplutonic rocks are foliated to weakly gneissic. In the northwestern part of the map area, Archean structures in Nain gneisses are transposed into parallelism with $S_{P1}$, which is itself parallel to the interlayering of rock units [**Argn, PiDTG, and Psmg**]. Tectonic intercalation between Archean gneisses [**Argn**], mafic supracrustal rocks [**Pamg**], and Paleoproterozoic metaplutonic rocks [**PiDTG**] within the Noodlebook complex is interpreted as a $D_{P1}$ event, as is the intercalation of the lithotectonic assemblages. A possible age constraint for this deformation is provided by the oldest metamorphic U-Pb date of 1870 ± 3 Ma (D. Scott, pers. comm.), obtained from monazite from a sample of Tasiuyak gneiss located in the adjacent map sheet 24P/7 (Van Kranendonk, 1993). No linear fabric elements associated with this deformation have been recognized.

$D_{P2}$ structures of the Abloviak shear zone include a subvertical mylonitic schistosity with kinematic indicators of sinistral transcurrent translation, and subhorizontal ribbon lineations developed at greenschist-facies metamorphic grade. $D_{P2}$ structures are not recognized across the Katherine River shear zone into the amphibolite-facies rocks of the Noodlebook complex. An orthopyroxene-bearing granodiorite body in the southwestern part of the Tasiuyak gneiss complex, that contains strong $L_{P2}$ and $S_{P2}$ fabric elements but does not contain evidence of an earlier migmatitic gneissosity ($D_{P1}$), has been dated as 1839 ± 3 Ma (see map), providing a maximum age for at least some of the $D_{P2}$ deformation. A post $D_{P2}$, pre-$D_{P3}$ pegmatite from just west of the map area (see Van Kranendonk, 1993) is 1824 ± 2 Ma, and provides a minimum age for the formation of the Abloviak shear zone. These results are consistent with ages obtained for Abloviak shear deformation to the south of between 1845-1822 Ma (Bertrand et al., 1993).

Third generation structures ($D_{P3}$) include: lineations, fold axes, and a weakly-developed foliation in rocks of the Noodlebook complex from across the northwestern part of the map area; mylonite and ultramylonite that show a dextral sense of displacement in the Katherine River shear zone; and rocks within the southerly part of the Komaktorvik shear zone, which a contain porphyroclastic mylonitic to ultramylonitic, N-S striking planar schistosity and moderately south-plunging to subvertically-plunging elongation lineations, and that show evidence of east-side-up displacement. $D_{P3}$ structures form a triple point within the map area, directly northwest of Upper Kangalaksiorvik Lake, where $S_{P3}$ planar fabric elements are folded about moderately northwest-plunging fold axes ($F_{P3}$) which are co-linear to mineral elongation lineations ($L_{P3}$). To the west, $D_{P3}$ linear fabric elements show a progressive change in orientation to east-west trends, whereas to the east, they become more steeply plunging on north-south striking foliation surfaces.

In the southeastern corner of the map area, the Komaktorvik shear zone is 1.5 km wide and composed of alternating zones of straight gneiss, porphyroclastic mylonite and spectacular zones, up to 500m wide, of ultramylonite. The easternmost zone of ultramylonite is the most impressive, with abundant isolates of intense strain including sheath folds, wide zones of ultramylonite that has a smooth-weathering, almost glassy appearance due to an ultra-fine grain size, common pseudotachylite - including folded veinlets of pseudotachylite - and highly elongate downdip mineral aggregate and hornblende porphyroblast lineations. A host of shear sense indicators viewed in outcrop and in oriented thin sections from this zone display east-side-up kinematics. In between the zones of ultramylonite are belts of straight, re-worked Archean gneiss and Paleoproterozoic amphibolite facies, that contain a porphyroclastic mylonitic foliation superimposed on tightly folded and sheared Archean gneissosity. These rocks contain strongly foliated to schistose garnet-hornblende Avayalik dykes, and at least two sets of syn-tectonic mafic dykes (described above and in Van Kranendonk and Wardle, 1994).

$D_{P4}$ structures formed in the period 1798-1780 Ma, as determined from a number of ages on syn-kinematic pegmatite dykes found in the Komaktorvik and Katherine River shear zones (Scott et al., 1993; D. Scott, pers. comm.). Both shear zones are interpreted to have formed contemporaneously; the Katherine River shear zone as a slip plane that developed during flexural folding of the Abloviak shear zone and Burwell domain rocks; the Komaktorvik shear zone as a result of slip along the sheared fold limb (see Van Kranendonk et al., 1993).

A set of north-south-striking ultramylonite zones, parallel to and located within the Komaktorvik shear zone, that contain downdip elongation lineations and exhibit west-side- up kinematic indicators, comprise a fourth generation of Paleoproterozoic structures ($D_{P5}$). These are interpreted to have formed roughly contemporaneously with a set of brittle-ductile faults that occur within the core of the bend in the Abloviak shear zone (north-south), and a set of northeast-striking faults along the outer limb of the fold. These faults cut all earlier ductile fabric elements within the map area and commonly contain pseudotachylite veins which locally outline the displacement surfaces of spectacular, outcrop-scale, strike-slip duplexes. Throughout the map area, these strike-slip faults show a sinistral sense of displacement.

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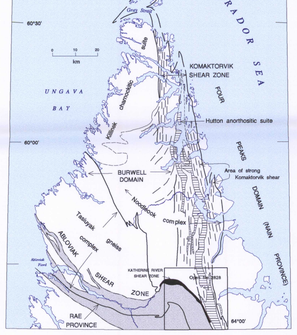



Structural (UPPER CASE) and lithological (lower case) subdivisions of the northern part of the Paleoproterozoic Torngat Orogen, Labrador, Québec and Northwest Territories (after Van Kranendonk et al., 1992).
Location of map area outlined by square box.

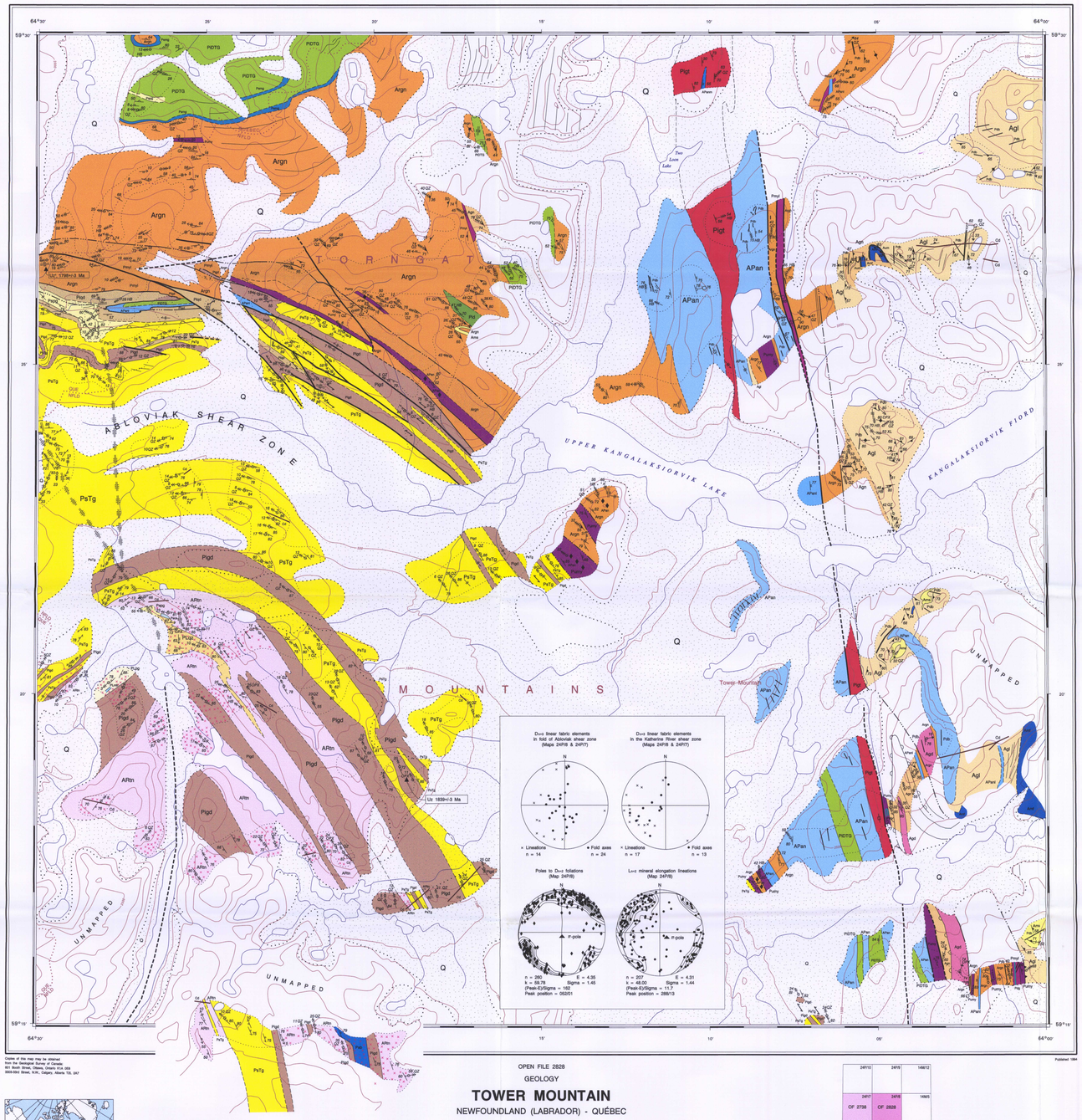
COOPERATION AGREEMENT MINERAL DEVELOPMENT

ENTENTE DE COOPÉRATION SUR L'EXPLOITATION MINÉRALE

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 minérale (1990-1994), entente auxiliaire négociée en vertu de l'Entente Canada/Terre-Neuve de développement économique et régional.

Canada | Newfoundland Terre-Neuve

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LOCATION MAP - LOCALISATION DE LA CARTE

OPEN FILE 2828

GEOLOGY

# TOWER MOUNTAIN

NEWFOUNDLAND (LABRADOR) - QUÉBEC

Scale 1:50 000 - Échelle 1/50 000

Kilometres 0 1 2 3 4 Kilometres

Transverse Mercator Projection CM 64°15', Scale Factor 1.0
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Projection transverse de Mercator M.C. 64°15', facteur d'échelle 1.0
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Published 1994

24P/10 | 24P/9 | 14M/12
24P/7 OF 2738 | 24P/8 OF 2828 | 14M/5
24P/2 | 24P/1 | 14M/4

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS
SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE ET INDEX DES CARTES ATTENANTES PUBLIÉES PAR LA COMMISSION GÉOLOGIQUE DU CANADA

## LEGEND

### ARCHEAN ROCKS

- **Q** — *Unconsolidated Quaternary deposits and fiskernmeer*
- **Cd** — *Brown-weathering, undeformed diabase/microgabbro dykes with delicate ophitic texture; locally with plagioclase agglomerate texture. K-Ar=534 +/-78 on an east-west striking dyke in map area 24P/15 (Taylor,1979); others may be Neoproterozoic*

### PALEOPROTEROZOIC ROCKS

- **Pumy** — *Amphibolite to greenschist-facies mylonite and ultramylonite*
- **Pmyl** — *Amphibolite-facies ductile shear zone and/or mylonite*

### META-IGNEOUS ROCKS

Mafic dykes

- **Pdy** — *Pale green weathering, garnet-hornblende-plagioclase dykes, cut Avayalik dykes (**Pdb**) and were probably emplaced during Komaktorvik shear deformation*
- **Pdb** — *Avayalik meta-diabase dykes, locally with plagioclase-phenocrystic texture. Dykes vary from brown-weathering garnet-clinopyroxene-hornblende-plagioclase-quartz gneisses, to unmetamorphosed, black feldspar megacrysts immediately east of the Komaktorvik shear zone to hornblende-plagioclase ± garnet amphibolites within and to the west of the Komaktorvik shear zone*

### META-PLUTONIC ROCKS

- **Pgg** — *Fine- to medium-grained granite to syenite, locally with small, deep-red garnet; the 2 granite-facies occurs as sheets intruding the Tasiuyak gneiss (**PsTg**), Lake Harbour Group metasediments (**PLqg, PLqz, PLmb**), Paleoproterozoic charnockitic rocks (**Pgd, Pgt**), and Archean gneisses (**ARtn**) in the flank of the Abloviak shear zone. Density of sheeting reflected by density of crosses*
- **Pgt** — *K-feldspar megacrystic granite, with single-cycle augen to mylonitic texture. Intrudes rocks of the Hutton anorthositic suite. Sample from McLellen Island has been dated at 1864 ± 2 Ma (Scott et al., 1993).*
- **PiDTG** — *Polyphase intrusive suite, varying from mafic diorite, through tonalite and granodiorite, to granite and quartz monzodiorite; at amphibolite facies. Dominant (70-80%) homogeneous, leucocratic tonalite to quartz diorite (hornblende-biotite ± epidote), with inclusions of plagioclase-phyric diorite and metagabbro, and layered mafic rocks (**Pmg**). Lack of porphyritic gabbro sheets and numerous plexuses of leucocratic veins and pegmatitic granite. Textures vary from weakly-foliated, isotropic rocks to migmatitic orthogneisses that locally show complex isoclinal folding.*
- **Pid** — *Homogeneous, hornblende-biotite diorite, locally with 20% granite veins; colour index = ~40-60%. Dated at Eclipse Channel (24P/16) by U-Pb on zircon, as 1881 ± 2 (Scott et al., 1993)*
- **Pigd** — *Grey- to black-weathering melanocratic quartz diorite (colour index = 20-30%) at granite-facies (orthopyroxene-hornblende-biotite) contact, commonly with relic igneous plagioclase and cognate xenoliths of fine-grained hornblende-biotite ± garnet quartz monzonite. Isotropic tabular sheets within the Abloviak shear zone. Dated by U-Pb on zircon at 1895 ± 2 Ma (D. Scott, pers. comm.).*
- **Pigd** — *Massive to foliated, leucocratic, orthopyroxene-bearing granodiorite rocks. Dominantly buff weathering, medium-grained, equigranular granodiorite. Sample from Mid-Lake Island (24P/8) dated by U-Pb on zircon as 1895 ± 3 Ma (Scott et al., 1993), and one from NTS 25A/2 as 1886 ± 4 Ma (D. Scott, pers. comm., 1993)*

### SUPRACRUSTAL ROCKS

- **Ppqg** — *Grey- to buff-weathering paragneiss with red garnet and biotite, abundant leucosome and complex migmatitic character*
- **Pscs** — *Calc-silicate and impure diopside-olivine-calcite marble*
- **PsTg** — *Tasiuyak gneiss; rusty brown and white weathering paragneiss and diatexite, interlayered by decimetre- to metre-scale, fine- and medium-grained, garnet-biotite ± sillimanite gneiss, varying from garnet quartzite to semi-pelitic garnet-biotite-feldspar granite, to pelitic sillimanite-garnet quartzo-feldspathic gneiss; all cut by and/or interlayered with white garnet granite*
- **Psmg** — *Centimetre-layered mafic gneiss, interlayered with plagioclase-phyric amphibolite and homogeneous amphibolite, intruded by Paleoproterozoic diorite and tonalite of the PiDTG suite*
- **Pmb** — *Homogeneous, equigranular mafic amphibolite to granulite, layering generally not present*

Lake Harbour Group

- **PLpg** — *Biotite paragneiss; varying from psammitic quartzo-feldspathic gneisses, to semi-pelitic garnet-biotite quartzo-feldspathic gneiss. Leucosome material is rare or absent in these rocks; in contrast to the Tasiuyak gneiss (**PsTg**) and paragneisses farther north (**Ppqg**)*
- **PLqz** — *Metamorphosed quartzite, quartz arenite and semipelitic gneiss; locally with thin units (0cm- 5m) of coarse garnet-sillimanite metapelite*
- **PLmb** — *Pure, white, coarse-grained calcite marble*

### ARCHEAN AND/OR PROTEROZOIC ROCKS

HUTTON ANORTHOSITIC COMPLEX

- **APan** — *White meta-anorthosits, gabbroic anorthosite and leucogabbro; commonly with relic igneous textures and compositional layering, and locally with igneous mineralogy (blue plagioclase and coarse-grained orthopyroxene). Gabbroic anorthosite is dominant, but unit is compositionally heterogeneous*
- **APanl** — *Granoblastic, recrystallized anorthositic gneiss, derived from APan at amphibolite facies. Contains variable amounts of leucocratic veins and is characterized by disrupted mafic layers and cm-dm scale layering. Locally recrystallized to a granoblastic garnet-hornblende gneiss*
- **APanm** — *Layered amphibolite metagabbro to ultramafic rocks: occurs as marginal phase to the Hutton anorthositic complex or as internal layers*

### ARCHEAN ROCKS

Nain Province

- **Agd** — *Buff-weathering, leucocratic granodiorite, with coarse-grained to megacrystic textures, <5-10% orthopyroxene ± biotite ± garnet, and a weak foliation. Altered to a grey, foliated orthogneiss where deformed and retrogressed to Paleoproterozoic amphibolite facies. Cut by plagioclase-phyric metamorphosed diabasic dykes (Pdb)*
- **Agl** — *Unsubdivided tonalite-granodiorite orthogneiss and migmatite, with highly variable composition and texture; typically complex, very well-layered and heterogenous migmatites with <50% of inclusions of mafic gneiss (**Amf**), anorthositic gneiss (**Aan**) and metasedimentary gneiss (**Ams**), varies to homogeneous, foliated metatonalitic rock (**Agf**) with <10-20% inclusions of mafic and supracrustal gneisses. Metamorphosed under Late Archean granulite-facies (foliated rocks) and cut by Avayalik dykes (**Pdb**), and metamorphosed under Paleoproterozoic granulite-facies (garnet-clinopyroxene)*
- **Agn** — *As above, with Paleoproterozoic amphibolite-facies overprint on Archean granulite-facies mineral assemblages*
- **Argn** — *As **Agl** above, but with retrogressed to Paleoproterozoic amphibolite facies mineral assemblages*
- **Ams** — *Metasedimentary gneisses: predominantly rusty brown weathering garnet-biotite ± sillimanite paragneiss and metapelite, but also with rare, thin layers of graphitic gneiss and calc-silicate rock formation, intruded by mafic and quartzo-feldspathic gneiss of unknown derivation*
- **Aamf** — *Equigranular, homogeneous to layered mafic gneiss of unknown derivation; locally with plagioclase megacrysts*
- **ARtn** — *Ultramafic rocks; tan coloured meta-dunite or dark brown pyroxenite*

Rae Province

- **ARtn** — *White to grey tonalite gneiss and migmatite, with inclusions and layers of amphibolite, dated as 1884 ± 4 Ma (Scott et al., 1993).*


*Geology by M.J. Van Kranendonk, F.C. Mengel, L.M. Campbell, L. Godin, D. Schwartz, and R.J. Wardle, Geological Survey of Canada*

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*Magnetic declination 1994, 33°00' W, decreasing 12.6' annually*

*Elevations in feet above mean sea level*


### Structural geology

Planar fabric elements ($S_n$), lineations ($L_n$) and folds ($F_n$) in Archean Nain gneisses, that are cut by Avayalik dykes, are interpreted to be of Archean age. These structures represent at least two deformational events, as older gneisses with a migmatitic gneissosity are cut by younger tonalitic rocks which themselves contain a

- $D_{P1}$ linear fabric elements: Ultramylonites and faults
- *Brittle fault and ultramylonite, with movement unknown; inclined, vertical*
- *Inclined brittle fault or ultramylonite: normal, reverse*
- *Outcrop-scale, brittle, sinistral fault*
- *Lineations on brittle faults and ultramylonites: mineral elongation, stripping* (arrow)
- $D_{P2}$ fabric elements: amphibolite facies
- *Inclined schistosity: no movement sense, sinistral; dextral*
- *Vertical schistosity: no movement sense, sinistral; dextral*
- *Fold axial plane: inclined, vertical*
- *Fold axis: symmetrical, z-asymmetric, s-asymmetric*
- *Lineation: mineral elongation, stripping*
- $D_{P3}$ fabric elements: granulite facies
- *Inclined schistosity: no movement sense, sinistral*
- *Vertical schistosity: no movement sense, sinistral*
- *Fold axis: symmetrical, z-asymmetric*
- *Lineation: mineral elongation*

- *Lithological contact (defined, inferred)*
- *Trace of gneissosity from aliphoto interpretation*
- *Fault (defined with shear sense where known, inferred)*
- *Limit of visited outcrop*
- *Limit of unconsolidated sedimentary cover + fiskernmeer*
- *Lithotectonic assemblage boundary (defined, inferred)*
- *Eastern limit of penetrative Paleoproterozoic deformation in the Komaktorvik shear zone ($D_{P2-3}$ known, inferred)*
- *Subvertically-dipping zone of east-side-up ultramylonite with downdip elongation lineations, marking the eastern limit of the Komaktorvik shear zone*
- *Limit of D3 diectal mylonite in Katherine River shear zone (defined, inferred)*
- *Limit of amphibolite-facies retrogression $M_{n-1}$ (defined, inferred)*
- *Location and U-Pb zircon age of geochronology sample: † = Syn-kinematic granite vein* (U2: 1798+/-3 Ma)
- *Trace of axial plane to $F_{n-1}$ fold of the Abloviak shear zone*
- *Dykes inclined (Cd, Pdb)*
- *Inclusion of meta-anorthosite to gabbro (**APan**)*

Paleoproterozoic fabric elements

- $D_{P1-2}$ fabric elements: Ultramylonites and faults
- *Brittle fault and ultramylonite, with movement unknown; inclined, vertical*
- *Inclined brittle fault or ultramylonite: normal, reverse*
- *Outcrop-scale, brittle, sinistral fault*
- *Lineations on brittle faults and ultramylonites: mineral elongation, stripping* (arrow)
- $D_{P3}$ fabric elements: granulite facies
- *Inclined schistosity: no movement sense, sinistral*
- *Vertical schistosity: no movement sense, sinistral*
- *Fold axis: symmetrical, z-asymmetric*
- *Lineation: mineral elongation*

Archean fabric elements (Dn)

- *Gneissosity: inclined, vertical*
- *Fold axis: symmetrical, z-asymmetric*
- *Lineation: mineral elongation*


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