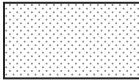


LEGEND

QUATERNARY



Unconsolidated cover, little or no outcrop, shown as overlay on bedrock geology.

PALEOPROTEROZOIC



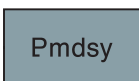
Diabase dykes (defined, assumed): massive, fine- to medium-grained ophitic texture, local plagioclase megacrysts. Line width scaled to approximate true width for dykes exceeding 10 m.



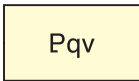
Lamprophyre and syenite dykes and stocks belonging to the Martell intrusions (Christopher Island Formation, Dubawnt Supergroup): medium brown to red, fine- to medium-grained equigranular or porphyritic; lamprophyres contain phlogopite, clinopyroxene and olivine phenocrysts; local intrusion breccia with abundant country rock fragments. Line width for dykes scaled to approximate true width for dykes exceeding 10 m.



Granite: pink leucocratic, medium-grained sugary, equigranular to weakly porphyritic; minor biotite, local garnet; massive; commonly contains inclusions of foliated supracrustal and plutonic rocks; interpreted to belong to Hudson granite suite.



Monzodiorite-syenite suite: pink or white mottled syenite and medium to dark green hornblende monzodiorite, commonly showing commingling textures; medium- to coarse-grained, hornblende and lesser biotite; massive to weakly foliated (possibly with a component of magmatic layering); local tectonic foliation and associated biotite retrogression especially near contacts or in smaller intrusions and dykes. Pmd: monzodiorite, hornblende-rich melanocratic. Psy: syenite, abundant perthitic microcline, minor biotite and hornblende, minor to trace amounts of quartz.



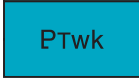
Quartz veins and pervasively silicified fractured rocks: locally could have inclusions of quartzite or chert.

(All older rocks metamorphosed at greenschist to amphibolite facies)



Tasirjuak conglomerate

Polymictic boulder, cobble and pebble conglomerate with wacke and slaty interbeds: rounded clasts up to 1 metre, matrix- and clast-supported layers, clasts include abundant granite, red-pink coarse-grained syenite, quartzite, quartz-feldspar porphyry; local clasts of wacke, conglomerate, amphibolite, laminated dolostone, mafic and felsic volcanic, and chert; strong schistosity in matrix typically wraps more competent clasts.



Greywacke: buff, grey to pale brown weathering, typically flaggy to schistose, pervasive carbonate; occasional gritty to pebbly beds. PTsl: slate, medium grey to black, fine-grained, strongly schistose, chlorite, white mica.

unconformity

NEOARCHEAN OR PALEOPROTEROZOIC



Granodiorite: local granite to diorite, strongly to weakly foliated or massive, biotite; local supracrustal inclusions and quartzite septa, local quartz veins and intense hematization.

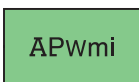


Whitehills quartzite belt

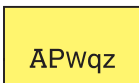
Biotitic pelite, semipelite and local conglomerate: medium grey to black, fine-grained, commonly gossanous and sulphidic, possibly graphitic; local white mica, local bedding of 2–40 cm width, local dark cherty layers transitional to thin iron-formation, strong schistosity. APWpa: paragneiss, medium-grained quartzofeldspathic muscovite-biotite schist.



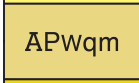
Iron-formation: sulphide-silicate facies interlayered with quartzite, typically gossanous; pyrrhotite, grunerite, hedenbergite, biotite.



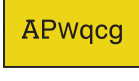
Mafic to intermediate volcanic rocks: dark to medium green, fine- to medium-grained, ophitic to subophitic; commonly plagioclase porphyritic locally megacrystic (1–3 cm), variably foliated; includes subvolcanic dykes, minor volcanoclastic rocks.



Quartzite and minor oligomictic conglomerate: white, locally grey or reddish hematitic; locally preserved clastic textures, crossbedding and wave ripples; massive to strongly cleaved, schistose micaceous interbeds (cm to 10's of cm thick); minor metamorphic kyanite and sparse fuchsite, quartz veins locally abundant.

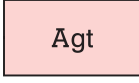


Subarkose: buff to grey; fine-grained muscovite, biotite, chlorite, minor feldspar; local carbonate, schistose.



Oligomictic conglomerate.

NEOARCHEAN



Granite: pink to buff; medium- to coarse-grained; equigranular or with microcline megacrysts or augen, biotite, amphibole, epidote and/or magnetite, retrograde chlorite and muscovite common; massive to foliated, locally mylonitic, may contain undifferentiated enclaves of Mesoarchean basement.

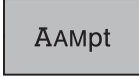


Woodburn formation
Amarulik group

Feldspathic greywacke: buff to medium grey; quartz and feldspar crystal clasts (0.5–4 mm diameter) and lithic clasts (typically 0.5–3 cm) thick, poorly sorted massive beds common, bedding defined by subtle compositional layering and local grading. AAMTf: tuffaceous or volcanoclastic wacke with abundant quartz and feldspar crystal clasts, layered to massive over widths of 40 metres plus.



Slate: medium grey to black; interlayered very fine-grained mudstone and siltstone, strongly fissile and flaggy.



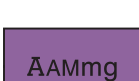
Biotitic pelite: dark grey; fine- to medium-grained; locally with porphyroblastic garnet, staurolite, and/or sillimanite. AAMpa: paragneiss, buff to black, streaky; medium- to coarse-grained quartzofeldspathic with muscovite and biotite defining schistosity or as porphyroblasts; local sillimanite lenticules.



Iron-formation: typically thin (< 5 m) zones or layers of silicate-facies garnet-amphibole iron-formation and sulphidic (pyrrhotite or pyrite) iron-formation; minor banded chert-magnetite iron-formation; local carbonate-bearing iron-formation; individual layers laterally discontinuous or semicontinuous, commonly gossanous.



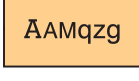
Laminated volcanoclastic wacke with amphibole porphyroblasts: grey to green millimetre-centimetre scale layering overgrown by foliated to randomly oriented coarse porphyroblasts of amphibole; locally amphibole obliterates layering; also includes fine-grained amphibolite and mafic schist.



Amphibole-clinopyroxene-plagioclase gneiss: medium- to coarse-grained; buff to dark green gneissic layering defined by variations in abundance of amphibole, epidote, clinopyroxene, biotite and plagioclase; local garnet; local thin iron-formation; strong schistosity and lineation; local mylonite and amphibole augen gneiss.



Quartzite: white; locally preserved clastic textures and bedding, schistose micaceous interbeds (cm to 10's of cm thick); minor metamorphic kyanite or sillimanite and sparse fuchsite.



Quartzite with abundant granite sheets typically representing 50% of the outcrop area.

interpreted unconformity or disconformity



Meadowbank formation
Sanningajukuluk assemblage

Banded iron-formation: mostly oxide facies with chert and magnetite-rich laminae; also carbonate-facies iron-formation and local silicate-facies iron-formation; locally sulphidic with rusty weathering. ASch: chert, gossanous sulphidic, interlayered with chlorite schist.



Carbonate altered rock: heterogeneous, including orange to red-brown weathering, subtly layered to polyhedral jointed (0.5 m diameter), quartz-carbonate rock, commonly with rough pock-marked surface, and dark green-grey chlorite schist; local fuchsite, chlorite and serpentine seams in carbonate rock, local quartz net veins, local sulphide minerals; unit possibly comprises altered ultramafic-mafic and iron-formation protoliths.



Felsic-intermediate volcanoclastic rocks and volcanogenic wacke: buff to medium grey; fine-grained to gritty to pebbly with abundant quartz and plagioclase crystal clasts (to 5 mm diameter); muscovite, carbonate and chlorite in fine-grained matrix. ASfs: felsic-intermediate schist.



Quartz-plagioclase porphyritic felsic volcanic rocks: phenocrysts 1–5 mm diameter; local monomictic breccia, buff to light green; fissile-flaggy with carbonate, muscovite and chlorite on partings.



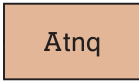
Mafic volcanic rocks: mostly pillowed flows; dark green; fine- to coarse-grained; ophitic to subophitic to equigranular, local plagioclase phenocrysts; locally schistose especially in selvages of deformed pillows; semicontinuous outcrop-scale calcareous zones. ASms: mafic-intermediate schist, reddish brown to grey weathering, dark green to light grey fresh, mottled to streaked with pervasive carbonate alteration; varies from chlorite-carbonate-epidote schist to quartzofeldspathic chlorite-carbonate schist; local massive domains.



Komatitic basalt flows and possible subvolcanic ultramafic-mafic intrusions: reddish brown to dark grey; massive to layered with local spinifex zones; polyhedral jointing, and breccia zones; primary textures pseudomorphed by greenschist-facies minerals, carbonate, schistose zones especially near contacts.

interpreted unconformity

MESOARCHEAN OR NEOARCHEAN



Quartz-eye tonalite: white to grey; coarse-grained; quartz-rich with abundant blue-grey quartz eyes (3–10 mm diameter); typically L-tectonite to locally mylonitic fabric. Atng: gneissic to layered tonalite-amphibolite.



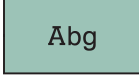
Amphibolite: dark to medium green, fine- to medium-grained, mafic to intermediate schist.

MESOARCHEAN

Half Way Hills basement complex



Granodiorite: foliated to schistose, typically with strong fabrics; medium- to coarse-grained, white weathering; greenish fresh with carbonate-chlorite alteration of mafic minerals.



Banded mafic and felsic gneiss: white to green; heterogeneous varying from layered (0.5–2 cm) or lenticular to laminated or mylonitic; possible supracrustal protoliths.

Geological contact (defined, approximate, assumed)

Trend of modified bedding

Fault (known, assumed)

Low angle, reverse fault (teeth on upper panel)

Limit of mapping

U-Pb zircon age (Ma)

2677 ± 2

DYKES

Diabase dyke (unit Pdb) (vertical)

Martell lamprophyre or syenite dyke (unit PmIm) (inclined, vertical)

Hudson granite dyke (unit PHgt) (inclined)

Monzodiorite-syenite dyke (unit Pmdsy) (vertical)

Granite-granodiorite dyke (unit APgd) (vertical)

Kingarjuit mafic to intermediate dyke (unit APWmi) (vertical)

Sanningajukuluk mafic dyke (unit ASm) (inclined)

MODIFIED PRIMARY STRUCTURES/FABRICS

Bedding, younging known (inclined upright, inclined overturned)

Bedding, younging unknown (inclined, vertical)

Volcanic flow horizon, younging known (inclined upright, vertical)

Flow facing, depositional horizon unknown

Magmatic foliation (inclined)

PLANAR TECTONIC FABRICS

Gneissosity (inclined, vertical)

Mylonitic foliation (inclined)

Mineral schistosity or dominant layer-parallel foliation (S₁) (inclined, vertical)

Crenulation cleavage or recrystallized overprinting foliation (S₂) (inclined, vertical)

Crenulation cleavage (S₃) (inclined)

Crenulation cleavage (S₄) (inclined, vertical)

Shear foliation (inclined dextral oblique, inclined sense unknown, vertical)

LINEAR TECTONIC FABRICS

Mineral lineation

Stretching lineation or strong pencil lineation

Bedding/schistosity intersection (S₀/S₁)

Crenulation axis or strong pencil lineation (S₁/S₂)

Crenulation axis (typically S₁/S₃)

Crenulation axis (typically S₁/S₄)

MACROSCOPIC FOLDS

Axial trace, F₁ fold

Axial trace, overturned F₂ fold (synform, antiform)

Axial trace, F₃ fold

Axial trace, F₄ fold

MESOSCOPIC FOLDS

F₁ axial plane (inclined)

F₁ axis

F₂ axial plane (inclined, vertical)

F₂ axis

F₃ axial plane (inclined)

F₃ axis

F₄ axial plane (inclined)

F₄ axis

METAMORPHIC PARAGENESES

Quartzite and related sedimentary rocks:

Kyanite

Chloritoid-white mica±kyanite±chlorite

Felsic volcanic and plutonic rocks, arkosic wacke and conglomerate:

K-feldspar-chlorite±white mica

Biotite-muscovite±chlorite

Greywacke and pelite:

Biotite-andalusite-muscovite

Biotite-andalusite-staurolite-muscovite

Biotite-staurolite-chlorite-muscovite

Biotite-andalusite-sillimanite-muscovite

Biotite-sillimanite-muscovite

Biotite-sillimanite-K-feldspar

Metabasite:

Amphibole-chlorite-epidote-plagioclase

Amphibole-clinopyroxene-plagioclase

Amphibole-clinopyroxene-garnet-plagioclase

MINERAL OCCURRENCES (see Table 2) AND GOSSANS

Polymetallic occurrence

Gold occurrence

Base metal occurrence

Gossan