

LEGEND

QUATERNARY

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

PALEOPROTEROZOIC

Lamprophyre dykes interpreted to belong to the Martell intrusions (Christopher Island Formation, Dubawnt Supergroup); medium brown to black, fine- to medium-grained; phlogopite, clinopyroxene and olivine phenocrysts; local country rock inclusions. Line width for dykes scaled to approximate true width for dykes exceeding 10 metres.

Granite: pink leucocratic to red stained hematitic, medium- to coarse-grained; commonly porphyritic with quartz and perthitic K-feldspar phenocrysts, biotite, magnetite, apatite, fluorite, and titanite in interstitial clots; massive; interpreted to belong to Nueltin granite suite.

Gabbro and pegmatitic gabbro: dark to medium green and white, medium- to coarse-grained ophitic to subophitic with amphibole (after clinopyroxene?) oikocrysts, leucocratic tonalitic and pegmatitic phases with symplectic amphibole-plagioclase intergrowths and microplitic quartz; massive to foliated and gneissic near contacts, cut by veins of pegmatitic granite. Pdto: orbicular diorite, orbicules (up to 5 cm) comprising coarse-grained white plagioclase in dark, fine- to medium-grained matrix. Pgb: gabbro including sills in Amer quartzite, fine- to coarse-grained, ophitic to subophitic, plagioclase phenocrysts, massive to weakly foliated.

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

(All older rocks metamorphosed at greenschist to amphibolite facies)

Amer group (descriptions and Young, unpublished in part based on Tippet and Heywood, 1978; Patterson, 1986; and Young, unpublished data, 1979)

Arkose, siltstone and slate: intercalated red to grey arkose and purplish calcareous arkose, red to green siltstone, grey to black slate; thick to thin bedding, locally graded, local basal scours, rare current ripples and crossbeds, commonly calcareous.

Mafic to intermediate volcanic rocks: dark to medium green, strongly schistose; local relict plagioclase phenocrysts (to 1 cm) and quartz-carbonate-chlorite amygdules.

Siliceous dolomitic marble: buff to pink massive carbonate with quartzose laminations and layers.

Arkose and siliciclastic slate: green, reddish and black slates; locally graphitic and pyritic.

Quartzite: massive white to greenish or pinkish, interbedded oligomictic conglomerate, granule and pebble layers, locally preserved ripple marks and crossbeds.

Boulder, cobble and pebble conglomerate: dominantly quartzite and vein-quartz clasts; local jasper, chert and monocrystalline quartz granules; typically schistose micaceous matrix.

ARCHEAN OR PROTEROZOIC

Monzodiorite to monzonite: medium- to coarse-grained, massive to foliated; biotite, amphibole (some possibly replacing clinopyroxene); mesocratic; abundant accessory apatite.

Olivine and hornblende pyroxenite: black to dark grey, medium- to coarse-grained, massive; locally with thin diffuse magnetite layers, local minor garnet, numerous layers or septa (sheeted inclusions?) of peridotite and septa of strongly recrystallized gossanous iron-formation.

Gabbro and minor quartz leucogabbro including sills in Ukalik quartzite: dark to medium green, fine- to coarse-grained ophitic, typically with clinopyroxene oikocrysts (1–2 cm, pseudomorphed by amphibole), magnetite (pseudomorphed by titanite); massive to foliated.

Gabbro or spotted amphibolite: coarse-grained with amphibole and/or plagioclase phenocrysts or porphyroblasts, local minor microcline; foliated or augen-textured.

Granite to granodiorite: pink, fine- to medium-grained, weakly foliated or massive; biotite, local K-feldspar phenocrysts (5 mm).

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 or L-tectonite fabric. App: quartz-feldspar porphyry commonly with both plagioclase and K-feldspar phenocrysts in a fine- to medium-grained matrix; massive to foliated, locally mylonitic. Agtb: biotitic quartzo-feldspathic paragneiss enclaves in granite. Adtgt: hybrid mixed diorite and granite; heterogeneous with diffuse enclaves of felsic and amphibole-rich composition, locally gneissic; includes local intrusion breccias comprising mafic to intermediate clasts in granitic matrix.

Amphibole-rich skarn: coarse-grained amphibole and carbonate.

Woodburn group
Ukalik formation

Iron-formation: oxide-facies dominated by magnetite and chert layers locally with hematite, chlorite-rich interbeds.

Quartz-feldspar porphyritic volcanic tuff: quartz (2–8 mm), K-feldspar and plagioclase phenocrysts (typically 0.5–5 mm diameter); white to buff; local layering defined by variations in abundance of phenocrysts from sparse to 50%; interbedded with quartzite, slate and iron-formation; includes possible lava flows and subvolcanic rocks.

Felsic volcanic tuff and flows and tuffaceous sedimentary rocks: plagioclase phenocrysts, local quartz phenocrysts; local chloritic, micaceous and carbonate schists.

Mafic to intermediate volcanic rocks and schist: medium to dark green; quartz-carbonate amygdules.

Quartzite and minor oligomictic conglomerate: mostly white, grey, blue or pink, locally green fuchstic or reddish hematitic; crossbedding; massive to strongly cleaved; schistose micaceous interbeds (cm to 10's of cm thick); minor to locally abundant metamorphic kyanite.

Biotitic quartzite and quartz-rich wacke transitional to or associated with quartzite: silt- to granule-sized quartz grains (commonly blue) in white mica, chlorite, carbonate matrix; local oligomictic conglomerate layers.

Phyllite interbedded with quartzite: black to light grey to light green, thinly bedded; Fe-rich varieties characterized by chlorite-muscovite-kyanite-chloritoid metamorphic assemblages.

Oligomictic boulder to pebble conglomerate: quartzite and vein-quartz clasts in a micaceous matrix; commonly pyritic; white to dark grey to gossanous.

Polymictic basal conglomerate: clasts include quartzite, vein quartz, volcanic rocks, granite, and quartz-feldspar porphyry, rounded and ranging in size from pebbles to boulders (>25 cm); matrix varies from white quartz-rich to grey micaceous to pyritic dark or rusty; locally transitional to oligomictic conglomerate.

----- unconformity to Meadowbank formation -----

Meadowbank formation
Apuqti'naaqtuq assemblage

Mafic to intermediate wacke and slate: quartz, plagioclase and lithic grains in medium to dark green to black matrix dominated by metamorphic chlorite, biotite and/or amphibole; locally pelitic, locally fuchstic; includes tuffaceous volcanoclastic rocks with plagioclase phenocrysts; streaky layering, in part well bedded.

Iron-formation: dominantly oxide facies, typically chert and magnetite bands, silicate-rich layers or lamellae with grunerite, chlorite, biotite. Aaifc: carbonate iron-formation, banded with white chert and orange Fe-carbonate layers (mm to cm width).

Undifferentiated felsic to intermediate volcanic, volcanoclastic and volcanogenic sedimentary rocks: tuffaceous wackes, arkose and phyllite, arenite with pebbly interbeds, local coarse debris flow deposits. AAwk: 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.

Felsic to intermediate tuffs, crystal tuffs, lapilli tuffs and tuff breccias: local subvolcanic intrusions and possible lava flows; grey to buff; plagioclase phenocrysts typical and local amphibole phenocrysts; locally bedded and transitional to reworked deposits.

Gabbroic-textured rocks: medium- to coarse-grained. Aama: mafic schist and amphibolite.

Komatiitic flows: massive to layered, polyhedral jointing, breccia zones; strongly magnetic.

Ultramafic to mafic schist: characterized by talc, tremolite, serpentine, magnetite and/or Fe-carbonate, komatiitic protolith.

Nutpililik assemblage

Felsic to intermediate volcanic rocks: plagioclase porphyritic crystal tuff, lapilli tuff, and volcanogenic sedimentary rocks.

Cherty felsic tuffs with iron-formation interbeds: fine-grained to aphanitic, thinly bedded, cm-scale banded iron-formation interbeds locally up to 50% of outcrop; local plagioclase phenocrysts or crystal clasts.

Wacke.

Iron-formation: dominantly oxide facies, locally sulphidic.

Mafic to intermediate volcanic rocks: massive to foliated, includes fine-grained to porphyritic flows and medium-grained subvolcanic(?) intrusions; flows commonly have 5–8 mm plagioclase phenocrysts and amphibole pseudomorphs of clinopyroxene(?); pillows locally recognizable, in part amygdaloidal; local schist and volcanogenic sedimentary rocks.

Quartz-feldspar porphyritic volcanic rock: quartz eyes varying from 0.5–1 cm ellipsoidal lenses of monocrystalline quartz to 0.5–5 mm quartz phenocrysts, very sparse to 25%; matrix white to grey or smokey, very fine-grained to aphanitic; 1–5 mm plagioclase phenocrysts common; includes monolithic lapilli tuffs and breccias; in some cases breccias contain lithic fragments of previously brecciated material; massive to strongly foliated quartz-eye muscovite schists. Anfb: tuffaceous sedimentary rocks and debris-flow deposits.

Komatiitic flows: massive to layered, commonly with spinifex zones; polyhedral jointing, breccia zones, possible pillows; primary textures and structures pseudomorphed by greenschist-facies retrograde minerals; strongly magnetic.

Ultramafic schist: characterized by talc, tremolite, serpentine, magnetite and/or Fe-carbonate; locally porphyroblastic.

Gabbroic-textured mafic rocks: strongly magnetic, typically medium-grained massive with 50–80% prismatic amphibole, rarely schistose; locally mesocratic with diffuse mafic enclaves; local fine-grained enclaves or inclusions(?) resemble komatiite; granitic veins and epidote-K-feldspar alteration in pods and on fractures common near contacts.

Quglililik assemblage

Greywacke and felsic to intermediate rocks of possible volcanic and volcanoclastic origin: biotitic to quartzo-feldspathic; local garnet and garnet-sillimanite-K-feldspar metamorphic assemblages.

Amphibolite or mafic to intermediate schist: commonly associated with banded iron-formation; local amphibole and garnet porphyroblasts; foliation variably developed with local amphibole-augen gneiss.

Banded iron-formation: mostly oxide facies with chert and magnetite-rich laminations, minor silicate facies; locally sulphidic with rusty weathering.

Ultramafic rocks: massive or locally schistose, polysutured, strongly magnetic, local olivine cumulate textures.

Ultramafic porphyroblastic schists: characterized by amphibolite-facies metamorphic assemblages including tremolite, orthoamphibole(?), olivine, chlorite and magnetite; massive or with polyhedral jointing, possible relict pillows.

