DESCRIPTIVE NOTES

The Padle Fiord map sheet, northern Cumberland Peninsula, Baffin Island, exposes Archean tonalite, narrow panels of supracrustal rocks, and relatively homogeneous, variably foliated Paleoproterozoic monzogranite, charnockite and granodiorite.

Archean tonalitic rocks (unit Atn, unit Atg) dominate the southwest half of the map sheet. These light grey weathered, biotite-bearing tonalite-granodiorite±trondhjemite rocks are strongly foliated to gneissic, commonly containing mafic plutonic layers and lenses. At several localities, tonalite cuts gabbro (unit Agb) and diorite clearly establishing these mafic rocks as Archean and likely correlative with the mafic inclusions. At other localities (unit PAdr), relative age relationships are uncertain. The tonalitic complex is typically cut by granitic veins that are concordant to the strong tectonic foliation.

Narrow panels of supracrustal rocks trend east-southeast across the map sheet. At most localities, these are dominated by clastic rocks with a significant chemical and/or volcanic component. In these cases, the lithological association is consistent with designation of the supracrustal rocks as part of a Paleoproterozoic cover sequence, the Hoare Bay group (Jackson 1971) comprising marble (unit PAp$_m$), chert (unit Ch), mafic to ultramafic volcanic rocks (unit PAv$_u$) with semipelite (unit PAp$_s$) and/or psammite (unit PAp$_m$). Contacts between tonalite and the cover sequence are generally poorly exposed but locally are highly lectonized and inferred to coincide with thrust faults. At supracrustal localities where diagnostic cover units are absent and where contact relationships with tonalite are not observed or appear to be intrusive, the age of supracrustal rocks is uncertain. For instance, the Duck Islands of Merchants Bay expose tonalite with intervening narrow panels of semipelite (unit PAsp), chert (unit Ch) calc-silicate (unit PAps) and amphibolite (unit PAmv) that cannot confidently be assigned as Archean or Paleoproterozoic, since similar units form part of the Archean basement complex in the south (Sanborn-Barrie et al., 2011).

The northwest half of the map sheet exposes relatively homogeneous, variably foliated monzogranite, charnockite and granodiorite, part of a plutonic suite that extends more than 300 km from Pangnirtung to Qikiqtarjuaq (Figure 1) and forms the spectacular peaks and towers of Auyuittuq National Park. Designation of this belt as the Qikiqtarjuaq plutonic suite is based on extensive exposures of compositionally similar rock types, which yield U-Pb ages between ca. 1880 and 1884 Ma from Pangnirtung fiord (Corrigan et al., 2009) and ca. 1878 Ma from Qikiqtarjuaq (Rayner et al., unpub. data). Rocks of similar age (2010) exposed to the west and formerly predicted to underlie this region. Both phases of the Qikiqtarjuaq plutonic suite are exposed in this map sheet. Brown weathering, high-grade monzogranite-charnockite (unit PPmz) containing up to 15% orthopyroxene in various stages of retrogression (biotite) occurs within two north-south trending magnetically high (Figure 2) corridors across Kangert Fiord, and north of Canso Channel. These rocks are greasy green on fresh surfaces, reflecting high-temperature modification of feldspar crystal structure during post-emplacement high-grade metamorphism. This older charnockitic phase yielded an U-Pb age of 1894±5 Ma (Rayner et al., 2012) from Akulaviik Point northeast of Pangnirtung. More widespread, pale grey-pink weathering, granodiorite to monzogranite (unit Pgd) cuts the charnockite and contains it as inclusions. This younger phase contains 10-15% biotite, isolated aggregates of dark red garnet, may contain ~5% quartz and/or K-feldspar phenocrysts, and yields a weaker magnetic response (Figure 2) relative to the green charnockitic phase. Although not dated within this map sheet, this phase yielded an age of ca. 1891 Ma (N. Rayner, unpub. data, 2012) from Broughton Island to the north and 1889±3 Ma from a pinnacle to the southwest (Kocsy et al., 1070).

The tonalitic complex is characterized by gneissic layering which is variably oriented due to superimposed upright folds. Widespread evidence exists across the map area that the main strong shallow foliation/layering is a S_0+S_1 transposition foliation. This main foliation is generally parallel to the axial planes of inclined to recumbent F_1 folds that fold S_0. Accordingly, upright folds that modify S_0+S_1 transposition foliation across this map sheet are F_2. Plutonic rocks of the Qikiqtarjuaq plutonic suite display a moderately developed, southwest- to west-striking foliation that generally dips moderately northwest. Where a preferred mineral extension was noted, it invariably plunged shallowly (10-30°) to the west. This L/S fabric was interpreted to be S_{2a} across the map sheet to the north (Sanborn-Barrie et al., 2013). A west-northwest-striking, near-vertical, post-tectonic gabbro dyke (unit Mfg) is exposed at the head of Padle Fiord.

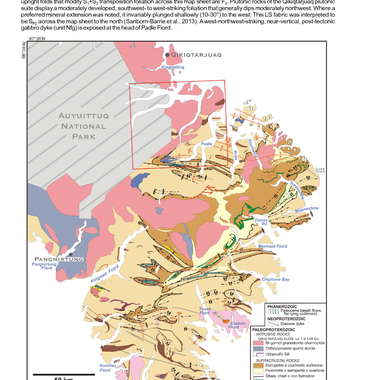


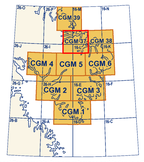
Figure 1. Generalized bedrock geology of Cumberland Peninsula, eastern Baffin Island, showing the location of the Padle Fiord map sheet (CGM 37) outlined in red.

Abstract

Cumberland Peninsula, eastern Baffin Island, is an under-explored, frontier region with significant diamond, base- and precious-metal potential. Archean (2.97–2.77 Ga) foliated to gneissic tonalitic plutonic rocks with enclaves of <2.77 Ga semipelite, ca. 2.8 km a gabbro and rare ca. 2.92 Ga metavolcanic rocks form the structural basement, exposed in the core of the Maktak antiform. Supracrustal cover rocks of the Paleoproterozoic Hoare Bay group, exposed from the central to the northeast part of the peninsula, are in tectonic contact with the basement gneisses. The cover sequence includes widespread semipelite-psammite with minor quartzite, marble, calc-silicate and oxide-facies iron-formation, chert and graphitic-pyritiferous shale, and two geochemically-distinct strands of ultramafic-mafic metavolcanic rocks of pyroclastic origin. Basement and cover rocks are cut by 1.9–1.88 Ga charnockite, biotite-garnet granodiorite and lesser quartz diorite of the Qikiqtarjuaq plutonic suite. Major structures and medium to high-grade metamorphic assemblages are attributed to polyphase tectonometamorphism between ca. 1.90-1.84 Ga.

Résumé

La péninsule Cumberland, dans l'est de l'île de Baffin, est une région pionnière sous-explorée qui revêt un important potentiel en diamants, métaux usuels et métaux précieux. Des roches plutoniques foliées à gneissiques de composition tonalitique de l'Archéen (2,97-2,77 Ga), renfermant des enclaves de semipélite de <2,77 Ga, de gabbro d'environ 2,88 Ga et de rares roches métavolcaniques d'environ 2,92 Ga, forment la structure arbitrairement exposée au sud-est du noyau de l'antiforme de Maktak. Les roches métasédimentaires de couverture du Groupe de Hoare Bay du Paléoprotérozoique, qui affleurent de la partie centrale à la partie nord-est de la péninsule, sont en contact tectonique avec les gneiss du socle. La séquence de couverture se compose d'une abondance de semipélite-psammite et de quantités accessoires de quartzite, de marbre, de formation de fer à faciès silicaté et à faciès oxyde, de chert, de shale graphitique-pyriteux ainsi que de deux lignées géochimiquement distinctes de roches métavolcaniques ultramafiques-mafiques d'origine pyroclastique. Les roches du socle et de la séquence de couverture sont recoupées par des roches de 1,9 à 1,88 Ga de la suite plutonique de Qikiqtarjuaq formées de charnockite, de granodiorite à biotite-grenat et, en moindre quantité, de diorite à quartz. Les structures principales ainsi que les paragenèses métamorphiques de degré intermédiaire à élevé sont attribuées au tectonométamorphisme polyphasé qui s'est déroulé approximativement entre 1,90 et 1,84 Ga.



National Topographic System reference and index to adjoining published Geological Survey of Canada maps.

Cover illustration
View to east of the south shore of Padle Fiord where marble (Pp_m) and psammite (Pp_m) of the Paleoproterozoic Hoare Bay group form a resistive ridge. Photo by Mike Young. 2012-061

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CANADIAN GEOSCIENCE MAP 37
GEOLOGY
PADLE FIORD
Baffin Island, Nunavut
1:100 000

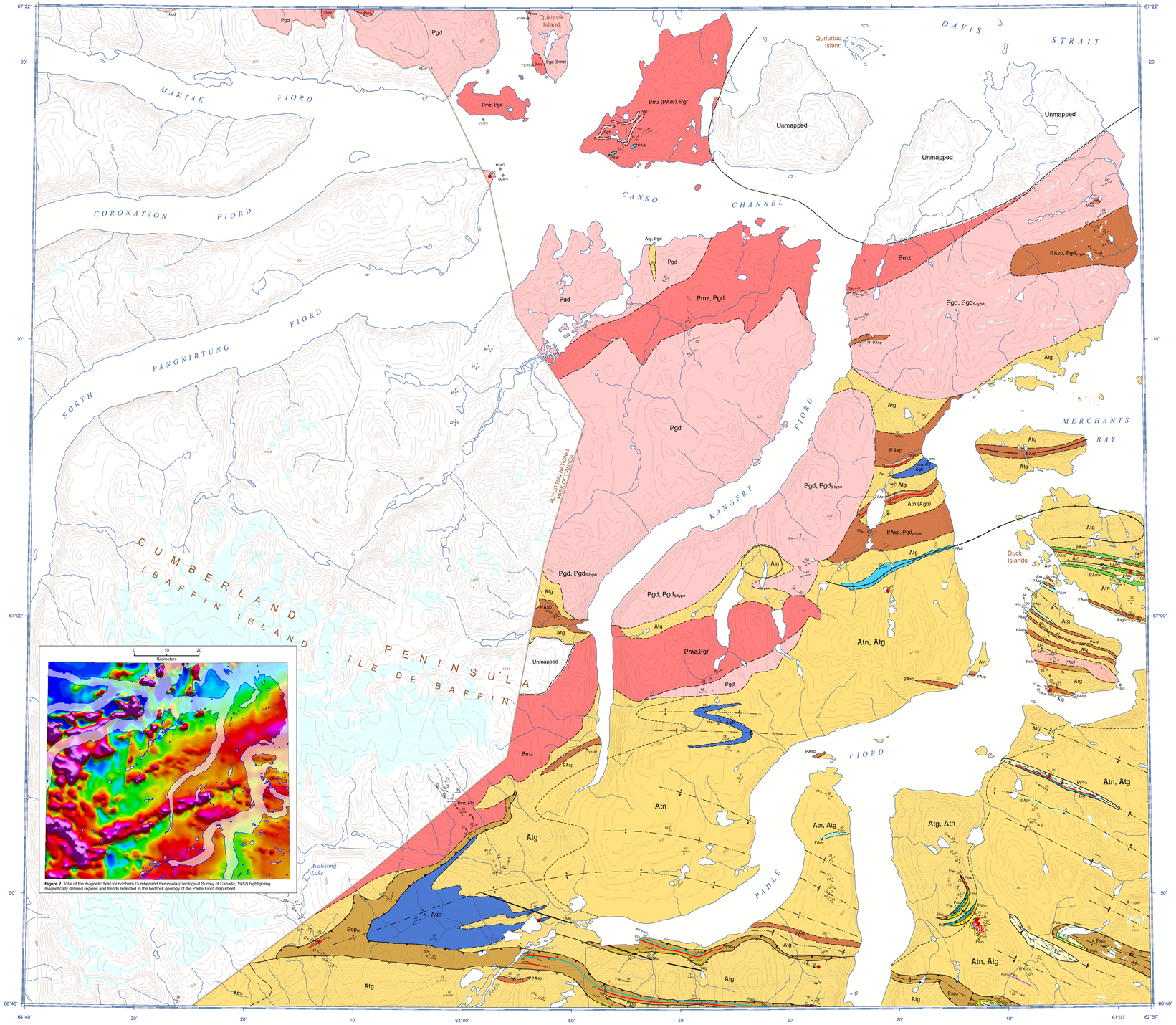

Figure 2. Total of the magnetic field for northern Cumberland Peninsula (Geological Survey of Canada, 1972) highlighting magnetically defined regions and trends reflected in the bedrock geology of the Padle Fiord map sheet.

Authors: M. Sanborn-Barrie and M. Young

Geology by M. Sanborn-Barrie, M. Young, B. Hamilton, C. Nagy, R. Kein, G. Dobbelsteyn, B. Hillary, J. Whalen, and N. Rayner. Geological Survey of Canada, 2010.

Geological interpretation and notes by M. Sanborn-Barrie, 2010–2012

Remote image analysis by T. Lynds, 2008–2012

Cartography by P. O'Regan, M. Méthot, B. Hillary and O. Brown

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LEGEND

UNDERSTANDING THE LEGEND

The age category (Eon) of bedrock material is indicated by the first upper case letter, the lithology indicated by abbreviated lower case, e.g., tg (tonalite gneiss), and formational name, if applicable, e.g. H (Hoare Bay Group) is subscripted. Combined units are used where, for reasons of scale, the units cannot be separated. The main unit, covering over 50% of the geologic polygon, is separated by a comma (,) from the secondary unit and, in rare cases, the secondary unit is separated by a comma (,) from the tertiary unit. The digital geodatabase denotes primary, secondary and tertiary units as separate fields. Brackets denote unit occurring as inclusion in the host unit, where notable.

This legend is common to CGM 4, CGM 5, CGM 6, CGM 37, CGM 38 and CGM 39 and is slightly modified from that for CGM 1, CGM 2 and CGM 3.

Coloured legend blocks indicate map units that appear on this map.

QUATERNARY
PLEISTOCENE–RECENT

Unconsolidated deposits: mainly glacial till and fluvial deposits.

CENOZOIC
PALEOCENE

Cv — **Basaltzsandstone**: Flat-lying picritic basalt flows and breccia with local underlying impure sandstone; shale, conglomerate and coal (Clarke and Upton, 1971).

NEOPROTEROZOIC ca. 723 Ma

Mfg — **Diabase dyke**: WNW-trending, medium brown weathering, equigranular, magnetite-bearing gabbro dyke; ca. 723 Ma Franklin swarm (Heaman et al., 1992); typically 1–3 m wide, up to 6 m wide; cut by all rocks (Cape Dyer).

PALEOPROTEROZOIC

POST-TECTONIC PLUTONIC ROCKS

Pgr — **Granite±syenogranite**: unstrained to weakly foliated, coarse-grained to pegmatitic, typically white-weathering pink±orange±purple±blue muscovite-biotite-garnet±tourmaline pegmatite; less commonly pink weathering syenogranite with 1–5% biotite as coarse books, locally up to 10% muscovite±garnet±tourmaline; both rock types are rarely represented as a map-scale unit but are denoted by map code, where prevalent in outcrop.

SYN- to LATE-TECTONIC PLUTONIC ROCKS

Pgd$_{S\text{-}type}$ — **Peraluminous granodiorite**: Beige-weathering, leucocratic, weakly foliated biotite-muscovite±garnet granodiorite occurring as 1–2 m thick sills characteristically concordant to the dominant shallow-dipping tectonic fabric in basement plutonic rocks and cover rocks of the Hoare Bay group. Dated at 1836 ± 2 Ma at Canyon Wash locality M107, 25 km east of Kingnait Fiord (CGM6).

Pqd — **Hornblende-quartz diorite±diorite**: post-D_2, pre-D_3, medium-grained, foliated hornblende-bearing diorite–quartz diorite, characterized by abundant hornblende-bearing inclusions of more mafic composition, possibly of related (cognate) origin.

PRE- to SYN-TECTONIC PLUTONIC ROCKS

Ptn — **Tonalite**: light grey to white weathering, variably foliated homogeneous biotite tonalite±trondjemite±granodiorite; locally containing xenoliths of marble (Pp_m) and semipelite (Pp_s).

QIKIQTARJUAQ PLUTONIC SUITE ca. 1.88–1.9 Ga

Pgd — **Granodiorite-monzogranite**: weakly foliated, light grey to beige-weathering, medium-grained, equigranular biotite±garnet±orthopyroxene granodiorite-monzogranite; 3% burgundy garnet typically as aggregates; may be K-feldspar or quartz porphyritic; patchy granulite-facies assemblages aps colouring.

Pmz — **Charnockite**: weakly to strongly foliated, coarse-grained, biotite-orthopyroxene monzogranite±granodiorite (charnockite±enderbite) with distinctive greasy brown fresh surface indicative of attainment of granulite facies, commonly containing elliptical, 1 cm long quartz eyes; orthopyroxene partially retrogressed to biotite and serpentine (bastite); locally containing 10–15% K-feldspar phenocrysts at times displaying orbicular structure; cuts ope-porphyritic ultramafic sills at two localities and is commonly cut by monzogranite pegmatite veins. Hatch lines denote agmatite with abundant predominantly psammitic±calc-silicate inclusions.

Pdr — **Quartz-diorite–tonalite**: Variably foliated, olive-brown weathering, equigranular, medium-grained, orthopyroxene±biotite-bearing quartz diorite – tonalite, well-exposed, prevalent unit on the peninsula between Pangnirtung and Kingnait fiords. Hatch lines denote agmatitic structure with abundant predominantly psammitic±calc-silicate inclusions.

Pum — **Ultramafic sills**: concordant sills of ultramafic composition are represented by three main types: 1) most prevalent is dark green- to brown-weathering clinopyroxene-orthopyroxene-magnetite±phlogopite±hornblende occurring as 50–100 m thick sills intrusive into supracrustal rocks and tonalitic gneiss, and cut by K-feldspar porphyritic charnockite (unit Pmz); pyroxenite displays diagnostic weathered surface due to 15% olivine porphyroblasts which weather as brown-5-8 mm pits; 2) black-weathering, fine-grained, equigranular, non-magnetic, ilmenite-bearing ultramafic sills, average 3–5 m thick, forming resistant layers exposed as discontinuous black rubble in till-covered region SE of Kingnait Fiord; 3) minor <2 m wide, bright green-weathering clinopyroxenite with pale green to white phlogopite plagioclase-rich interiors. Sills <10 m wide are denoted by a purple line labeled Pum.

SUPRACRUSTAL ROCKS

HOARE BAY GROUP

PAsp$_s$ — **Semipelite±psammite±pelite**: light brown- grey- and/or rusty-weathering layered semipelite±pelite commonly containing 15–40% biotite, 1–2 mm, 1 to 10% garnet as 2-4 mm porphyroblasts, rare to 2 cm and up to 10% sillimanite as fibrous, felty crystals or as white-weathering nodules (fiserkeiser); brick red weathering units contain up to 15% graphite; rarely muscovite-bearing; typically occurring as 2–4 m thick panels, but may be up to 12 m thick; interlayered with psammite, rarely quartzite; lenticular to elongate calc-silicate concretions denoted by pale green open oval symbol.

PAps$_m$ — **Psammite±semipelite**: grey, white, creamy-beige weathering psammite as cm- to m-scale layers, up to 5 m thick, generally with semipelite, rarely with calc-silicate; contains 5–15% biotite 0.5–1 mm, <5% garnet, rarely andalusite±staurolite; lenticular to elongate calc-silicate concretions denoted by pale green open oval symbol.

O_x / S_x — **Iron-formation**: oxide- (O_x) and/or silicate-facies (S_x) : typically thin (<1 m) and lenticular, commonly associated with pelite, occurs in the western map area and thicker (up to 5–10 m), predominantly oxide-facies, in the eastern and northeastern map areas.

PAsh$_n$ — **Shale±siltstone**: grey to black weathering shale±siltstone; black shale is generally 1–3 m wide with abundant graphite and sulphides, commonly gossanous or marked by white chalky sulphur coating on weathered surface; locally bedding and cleavage coated by pyrite; grey shale is 1–100 m wide, fissile to flaggy, may be associated with dolomitic marble±calc-silicate and locally appears to transition up section into black shale. Shale horizons < 1 m wide are denoted by a grey line labeled PAsh$_n$.

Ch — **Chert**: massive to laminated chert, typically 1–3 m wide, locally up to 5 m wide; internally deep purple- to rusty-weathering (gossanous) but locally pale grey- and white-weathering and thinly to thickly laminated (*i.e. near Exeter Sound*); observed to occur structurally above and below metavolcanic rocks (PAv_u).

PAqz$_m$ — **Pink orthoquartzite**: vitreous, hematized, pink-weathering, fine- to medium-sand size orthoquartzite; 1–2 m thick, spatially associated with PAv_{fm}; may have associated minor intercalated, chalky grey-weathering psammite and/or chert.

PAv$_u$ — **Ultramafic-mafic volcanic rocks**: komatiitic, basaltic-komatiitic to basaltic volcanic rocks, variably textured including fragmental, pillowed and massive flows; typically bright green weathering, characteristic of high-Mg composition; locally dark green-black, Fe-tholeiitic as pillowed flows with light buff-weathering elliptical varioles (Totnes Road) or as massive, aphanitic slightly plagioclase-phyric flows immediately west of Mermaid Fiord; minor interbedded, cream-weathering psammite to quartzite occurs as 1 m wide beds (*i.e.* Illiok Island); this unit is thickest in the east and northeast, and thinnest or absent in the western map area.

PCa$_m$ — **Marble–calc-silicate**: pale brown- to light-grey weathering marble, typically composed of calcite, olivine-clinohumite assemblages; average 1–3 m thick; lesser associated pale-green to white calc-silicate generally as thin (<20 cm) layers and nodules/concretions/boudins, contains up to 25% diopside, up to 25% amphibole±grossular; locally with psammite and semipelite layers; marble±calc silicate <2 m wide denoted by turquoise line labelled PCa$_m$.

Par$_a$ — **Limy arenite**: immature quartz-rich clastic rocks characterized by 5–15% pale green diopside±tremolite, an indication of metamorphosed limy component, also commonly containing <3% muscovite and graphite; occurs as cm- to m-thick layers, associated with quartzite.

PQz$_m$ — **Orthoquartzite**: pale grey, blue-grey to white-weathering, equigranular, fine- to medium-sand size orthoquartzite; typically massive and thickly bedded, with no recognizable primary structures; across the map area, this unit averages 5–20 m and thickens to 400 m at the "type" Xingnait exposure on the southeast shore of Kingnait Fiord; may contain up to 2% pale pink garnet and <5% biotite; locally interbedded with psammite and semipelite.

PALEOPROTEROZOIC / ARCHEAN (undetermined age)

PRE- to SYN-TECTONIC PLUTONIC ROCKS

P̄Agd — **Granodiorite**: light grey weathered, medium-grained biotite±orthopyroxene±garnet granodiorite to monzogranite; variably foliated to mylonitic, locally K-feldspar porphyritic or porphyroclastic; commonly cut by monzogranite±charnockitic veins.

P̄Atn — **Tonalite**: light grey to white weathering, weakly to moderately foliated homogeneous biotite tonalite.

P̄Agb / P̄Ag$_m$ — **Gabbro**: black, dark grey to brown weathering, fine- to medium-grained, variably foliated non-magnetic gabbro typically with colour index between 60 and 85 occurring as 1–5 m wide layers, up to 20 m wide; mafics consist dominantly of hornblende (40–60%), biotite (up to 20%), locally clinopyroxene (5–10%), and 1–2% visible titanite; locally medium grey-green weathering gabbro contains both orthopyroxene (opx) and clinopyroxene (cpx); continuous mafic layers <2 m wide are denoted by a blue line labelled P̄Agb.

P̄Adr — **Diorite - quartz diorite**: medium green-grey (diorite) to light grey (quartz diorite) variably foliated, diorite has colour index of 45–60 with either hornblende or biotite as dominant mafic mineral and minor clinopyroxene; quartz rock with colour index of 30–40 and typically hornblende > biotite with 5–20% quartz; non-magnetic.

SUPRACRUSTAL ROCKS

HOARE BAY GROUP

P̄Aps / P̄Am — **Psammite**: light grey to rusty weathering psammite±arg±quartzite±chert of undetermined age, may have 10% pale green diopside, minor marble.

P̄Asp — **Semipelite**: occurs as panels, layers and inclusions, average 20–50 m wide, within foliated plutonic rocks, typically brown-weathering, biotite-garnet±sillimanite±graphite semipelite.

P̄Amv / P̄Am$_m$ — **Mafic volcanic - amphibolite**: black to dark green weathering, fine- to very fine-grained amphibolite with 50–70% hornblende and locally up to 5% garnet; occurs as layers up to 10 m thick; suspected to be extrusive in origin, but lacking diagnostic primary features. Mafic units <2 m wide, thought to be of extrusive origin, are denoted by a green line labelled P̄Amv.

ARCHEAN ca. 2.71–2.99 Ga

PRE- to SYN-TECTONIC PLUTONIC ROCKS

Agd — **Granodiorite**: light grey weathered, medium-grained orthopyroxene± garnet granodiorite to monzogranite; typically weakly foliated and equigranular, locally K-feldspar porphyritic; commonly cut by monzogranite±charnockitic veins (unit Amz); yields a U-Pb age of ca. 2.7 Ga west of Exeter Fiord (CGM 3).

Amz — **Orthopyroxene monzogranite**: K-feldspar porphyritic, orthopyroxene-monzogranite; moderately foliated; occurring as xenoliths in unit Agd; yields a U-Pb age of ca. 2.77 Ga on Exeter Fiord (CGM 3).

Atn — **Tonalite-granodiorite**: variably foliated, fine- to medium-grained biotite tonalite±granodiorite, typically cut by mm- to cm-wide veins of medium- to coarse-grained quartz diorite, monzogranite and trondjemite and typically containing xenoliths of diorite and quartz diorite; locally of homogeneous tonalite composition; yields ages of ca. 2.76 Ga at the head of Kumlien Fiord (CGM 1).

Atg — **Tonalite gneiss**: compositionally layered orthogneiss dominated by tonalitic sgranodiorite; phases interlayered with dioritic, gabbroic and biotitic layers; yields U-Pb ages of 2.99 Ga (CGM 2) and ca. 2.94 Ga (southern CGM 5).

Agb — **Gabbro-diorite±gabbroic anorthosite**: black, dark grey to brown weathering, fine- to medium-grained, variably foliated gabbro±diorite, typically with colour index of 60 to 85 and mafics dominantly as hornblende (40–60%), biotite (up to 20%), with minor clinopyroxene (5–10%) and 1–2% visible titanite; locally grades into leucogabbro to gabbroic anorthosite (*i.e. mafic complex east of Ujukulik Fiord*) occurring as layers, enclaves and xenoliths in plutonic rocks either known, or presumed, to be of Archean age.

SUPRACRUSTAL ROCKS

Asp — **Semipelite**: occurs as panels, layers and inclusions, average 20–50 m wide, within foliated to gneissic tonalite; typically brown-weathering, biotite-garnet±sillimanite ±graphite semipelite, may be interlayered with garnet-rich (>60%) "garnetite" layers, 20–40 cm wide, amphibolite 1–4 m wide, and/or grey chert; 'gp' denotes graphite-rich unit.

Amv — **Mafic volcanic rocks**: dark green weathering, pillowed flow with brown-weathering vesicles and sparse 1 cm plagioclase phenocrysts; overlain by limy arenite and cut by quartz porphyry dated at ca. 2.91 Ga; restricted exposure in CGM 1 northeast of the head of Akkjartukan Fiord; may also include amphibolite associated with Asp.

Lithological contact
- Observed
- Approximate
- Inferred

Limit of mapping

Structural form line

S_0, may have representative dip
S_1, may have representative dip and plunge
S_2, may have representative dip

Faults
- Thrust, teeth on upthrown side
- Inferred thrust, teeth on inferred upthrown side
- Inclined, normal, may be reactivated thrust fault
- Vertical, normal
- Ductile shear zone, sense of shear unknown

Linear aeromagnetic anomaly
- Positive
- Negative

Axial trace of first generation (F_1) synform
- Upright
- Overturned, north-dipping limbs

Axial trace of second generation (F_2) antiform, synform
- Upright
- Overturned, north-dipping limbs

Axial trace of third generation (F_3) antiform, synform

Bedrock outcrop examined for this study

Gossans

Mineral showings*

Bedding
- Inclined: facing known, facing unknown
- Overturned, facing known (NW)
- Igneous layering, inclined, tops unknown

S_0 - S_1, transposed

Cleavage
- Inclined, first generation
- Inclined, second generation

Schistosity
- Schistosity, first generation: inclined, vertical
- Schistosity, second generation: inclined, vertical
- Schistosity, third generation: inclined, vertical

Gneissosity
- Gneissosity, first generation: inclined, vertical
- Gneissosity, second generation: inclined

Ductile shear zone
- Shear zone with dip

Mineral lineation
- Intersection lineation, S_0-S_1
- Intersection lineation, S_1-S_2
- Mineral, stretching, first generation
- Mineral, stretching, second generation
- Mineral, stretching, third generation

Regional extension (direction and plunge indicated)

Folds**
- S fold, first generation; showing dip of axial plane and plunge of fold axis
- S fold, second generation; showing dip of axial plane and plunge of fold axis
- S fold, third generation; showing dip of axial plane and plunge of fold axis
- U fold, first generation; showing dip of axial plane and plunge of fold axis
- U fold, second generation; showing dip of axial plane and plunge of fold axis
- U fold, third generation; showing dip of axial plane and plunge of fold axis
- U fold, unknown generation; showing dip of axial plane and plunge of fold axis
- Z fold, first generation; showing dip of axial plane and plunge of fold axis
- Z fold, second generation; showing dip of axial plane and plunge of fold axis
- Z fold, unknown generation; showing dip of axial plane and plunge of fold axis

**Fold axis may occur without axial plane.

Dyke, vein
- Dyke
- Dyke, sill
- Vein: inclined, vertical
- Prominent joint, vertical

Y7555 — Observation from air, number corresponds to jpeg photo image (see \Data\FieldReports\Photos)

*Sources of Information for Mineral Showings

NWT assessment reports http://www.nwtgeoscience.ca/assmnt/ (originally published by Indian and Northern Affairs Canada)

NU assessment reports http://nunavutgeoscience.ca/assmts_e.htm (originally published by Indian and Northern Affairs Canada)

Geological Survey of Canada's Canadian and world mineral deposit databases, http://gsc.nrcan.gc.ca/mineral/ or http://apps1.gdr.nrcan.gc.ca/gsc_minerals/index.phtml?language=en-CA

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GEOLOGY
PADLE FIORD
Baffin Island, Nunavut
1:100 000

2 0 2 4 6 8 km

Map projection Universal Transverse Mercator, zone 20. North American Datum 1983

Base map at the scale of 1:250 000 from Natural Resources Canada, with modifications.
Elevations in metres above mean sea level.

Mean magnetic declination 2013, 34°00'W, decreasing 30.2' annually. Readings vary from 33°36'W in the SE corner to 34°24'W in the NW corner of the map.

The Geological Survey of Canada welcomes corrections or additional information from users.

Data may include additional features not portrayed on this map. *See documentation accompanying the data.*

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Canadian Geoscience Maps

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CANADIAN GEOSCIENCE MAP 37
GEOLOGY
PADLE FIORD
Baffin Island, Nunavut