

Subsequent panels when folded are 17cm wide or les

Second panel when folded is also 17cm w

Four trim marks around perimeter of map sheet. Trim map sheet first, then fold at folding marks.

inary		Prelimi	nary	Preliminary
629001	c	32°52′		LEC
63°00′		65°30'		This legend is common to Coloured legend blocks indicate Not all symbols shown in th
			QUATERNA	RY TOCENE–RECENT Unconsolidated deposits: mainly glacial till and fluvial deposits, <i>see</i> Dyke (in press a, b, c) for detailed surficial geology.
			NEOPROTE	
				Diabase dyke : WNW-trending, medium brown weathering, equigranular, magnetite- bearing mafic dykes; typically 1–3 m wide, up to 6 m wide.
			PALEOPRO	TEROZOIC POST-TECTONIC PLUTONIC ROCKS Granite±syenogranite: unstrained to weakly foliated, coarse-grained to pegmatitic,
			Pgr	typically white-weathering peraluminous 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.
			Pgd _{S-type}	SYN- to LATE-TECTONIC PLUTONIC ROCKS Peraluminous granodiorite : Beige-weathering, leucratic, 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.
đ			Pqd	Hornblende quartz diorite±diorite: post-D, pre-D, medium-grained, foliated hornblende-bearing diorite – quartz diorite, characterized by abundant more mafic, 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 (Pc _H) and semipelite (Psp _H).
			Pgd	 Granodiorite: weakly foliated, light grey to beige-weathering, medium-grained, equigranular biotite-magnetite-garnet±orthopyroxene granodiorite; 3% burgundy garnet typically as aggregates; may be quartz porphyritic, up to 1 cm; patchy granulite-facies assemblages and colouring. Charnockite: weakly to strongly foliated, coarse-grained, biotite-orthopyroxene
		- 20'	Pmz	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 sepentine (bastite); locally containing 10–15% K-feldspar phenocrysts, up to 10 cm (e.g. NW of Pangnirtung Fiord); cuts opx-porphyritic ultramafic sills at M79 & M98 and is commonly cut by monzogranite pegmatite veins.
			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.
nak	Q do		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±actinolite pyroxenite occurring as 50–100 m thick sills intrusive into supracrustal rocks and tonalitic gneiss, and cut by K-feldspar porphyritic charnockite of the Cumberland Batholith; pyroxenite displays diagnostic weathered surface due to 15–20% brown-weathering pits, 5–8 mm, thought to represent altered and preferentially weathered orthopyroxene; 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 pegmatitic plagioclase-rich interiors are denoted by a purple line labeled Pum. Potential carving stone locality designated
el est			Psp _H	with cs. SUPRACRUSTAL ROCKS HOARE BAY GROUP Semipelite±psammite±siltstone: light brown-, grey- and/or rusty-weathering layered semi-pelite±pelite commonly containing 15–40% biotite, 1–2 mm, 1–5%
				garnet as 2–4 mm porphyroblasts, rarely up to 2 cm and up to 10% sillimanite as fibrous, felty crystals or as white-weathering nodules (faserkeisel); 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.
			Pps _H	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 _f S _f	 Iron-formation: oxide- (O_t) and/or silicate-facies (S_t): typically thin (<1 m) and lenticular interbeds of silicate-facies iron-formation in the western map area and thicker (up to 5–10 m), predominantly oxide-facies, in the eastern and northeastern map areas. Shale±siltstone: grey to black weathering shale±siltstone±pelite; black shale is
		- 10'	Psh _H	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, is locally associated with dolomitic marble and calc silicate and locally appears to transition up section into black shale. Shale horizons < 1 m wide are denoted by a grey line labeled Psh _H .
			Ct	Chert : massive to laminated chert, typically 1–3 m wide, locally up to 5 m wide; generally 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 (Puv _H).
			Pqz _{H2}	Pink orthoquartzite : vitreous, hematized, pink-weathering, fine- to medium-sand size orthoquartzite; 1–2 m thick, spatially associated with Puv _H ; may have associated minor intercalated, chalky grey-weathering psammite and/or chert.
* +			Puv _H	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 greenblack, Fe-tholeiite 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. llikok Island); this unit is thickest in the east and
	- - -		Pc _H	northeast, and thinnest or absent in the western map area. 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) interbeds and nodules/concretions/boudins, contains up to 25% diopside, up to 25% amphibole±tremolite±grossular; locally with psammite and semipelite interbeds; marble±calc silicate <2 m wide denoted by turquoise line labelled Pc _u .
	<i>A</i>		Par _H	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 _{H1}	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" Kingnait 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.
	Ś		PALEOPRO	TEROZOIC / ARCHEAN (undetermined age) PRE- to SYN-TECTONIC PLUTONIC ROCKS
			PAgd	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.
			PAtn	Tonalite : light grey to white weathering, weakly to moderately foliated homogeneous biotite tonalite.
		— 65°	PAgb PAgb	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); rarely light grey weathering leucogabbro to gabbroic anorthosite (i.e. mafic complex east of Ujuktuk Fiord);
			PAdr	continuous mafic layers <2 m wide are denoted by a blue line labeled PAgb. Diorite - Quartz diorite : medium green-grey (diorite) to light grey (quartz diorite), weak to moderately foliated, diorite has colour index of 45–60 with either hornblende or biotite as dominant mafic mineral and minor clinopyroxene; quartz diorite has colour index of 30–40 and typically hornblende > biotite with 5–20% quartz, non- magnetic.
ŝ			PAps	SUPRACRUSTAL ROCKS Psammite: light grey to rusty weathering psammite±quartzite±chert of undetermined age, may have 10% pale green diopside.
•			PAsp	Semipelite : occurs as panels, layers and inclusions, average 20–50 m wide, within foliated plutonic rocks; typically brown-weathering, biotite-garnet±sillimanite±graphite seminelite
			PAmv	 semipelite. 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.

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	ARCHEAN	
al deposits, <i>see</i> Dyke (in press		PRE- to SYN-TECTONIC PLUTONIC ROCKS Granodiorite: light grey weathered, medium-grained orthopyroxene± garnet
	Āgd	granodiorite ingnt grey weathered, medium-graned orthopyroxene± garnet granodiorite to monzogranite; typically weakly foliated and equigranular, locally K- feldspar porphyritic; commonly cut by monzogranite±charnockitic veins (Amz); yield a preliminary age of ca. 2.7 Ga west of Exaluin Fiord.
ing, equigranular, magnetite- de.	Amz	Orthopyroxene monzogranite : K-feldspar porphyritic, orthopyroxene- monzogranite; moderately foliated; occurring as xenoliths in Agd; yields a preliminary age of ca. 2.75 Ga on Exaluin Fiord.
	Atn	Tonalite : 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 preliminary ages of ca.
oarse-grained to pegmatitic, te-garnet±tourmaline e with 1–5% biotite as coarse		2.77 Ga at the head of Kumlien Fiord (CGM 1) and ca. 2.97 Ga northeast of unnamed fiord (CGM 2).
both rock types are rarely p code, where prevalent in	Atg	Tonalite gneiss : compositionally layered orthogneiss dominated by tonalitic phase interlayered with dioritic, gabbroic and biotitic layers.
ic, weakly foliated biotite- sills characteristically ric in basement plutonic t 1836 ± 2 Ma at Canyon	Адр	Gabbro : black, dark grey to brown weathering, fine- to medium-grained, variably foliated gabbro, typically with colour index of 60 to 85 and mafics dominantly as hornblende (40–60%), biotite (up to 20%), with locally clinopyroxene (5–8%) and minor titanite; occurring as layers, enclaves and xenoliths in plutonic rocks either known, or presumed, to be of Archean age.
dium-grained, foliated d by abundant more mafic, n, possibly of related		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 (>80%) "garnetite" layers, 20–40 cm wide, amphibolite 1–4 m wide, and/or grey chert; 'gp' denotes graphite-rich unit.
d homogeneous biotite soliths of marble $(\mbox{Pc}_{\mbox{\tiny H}})$ and	Amv	Mafic volcanic rocks : dark green weathering, pillowed flow with brown-weathering vesicules and sparse 1 cm plagioclase phenocrysts; overlain by limy arenite and curby quartz porphyry dated at ca. 2.91 Ga; restricted exposure in CGM 1 northeast of the head of Aktijartukan Fiord; may also include amphibolite associated with Asp.
ering, medium-grained, anodiorite; 3% burgundy ic, up to 1 cm; patchy		Lithological contact observed approximate
d, biotite-orthopyroxene a distinctive greasy brown		inferred Limit of mapping
, commonly containing retrogressed to biotite and	40	Structural form line S ₁ , may have representative dip
ar phenocrysts, up to 10 cm amafic sills at M79 & M98	40 * - 52 	S_{1} , may have representative dip S_{2} , may have representative dip S_{3} , may have representative dip Faults
weathering, equigranular, liorite – tonalite, well- pittung and Kingnait fiords		thrust, teeth on upthrown side inferred upthrown side
nirtung and Kingnait fiords. on are represented by three	~~~~~	Ductile shear zone, sense of shear unknown Linear aeromagnetic anomaly
reathering clinopyroxene- g as 50–100 m thick sills	→ → → →	positive
d cut by K-feldspar oxenite displays diagnostic	<u>+</u>	Axial trace of first generation (F ₁) synform upright
ts, 5–8 mm, thought to oxene; 2) black-weathering, ng ultramafic sills, average		overturned, north-dipping limbs Axial trace of second generation (F ₂) antiform, synform
tinuous black rubble in till- e, bright green-weathering	<u></u> <u>+</u> <u>+</u>	upright overturned, north-dipping limbs
oclase-rich interiors are stone locality designated	·····································	Axial trace of third generation (F_3) antiform, synform
	×	Bedrock outcrop examined for this study Gossans
	Great Dyke	Mineral showings*
nd/or rusty-weathering 6 biotite, 1–2 mm, 1–5% 1 up to 10% sillimanite as	¥ /	Bedding inclined: facing known, facing unknown
serkeisel); brick red covite-bearing; typically		overturned, facing known (NW) igneous layering, inclined, tops unknown
thick; interlayered with icate concretions denoted by	Z	S ₀ +S ₁ , transposed Cleavage
nering psammite as cm- to		inclined, first generation inclined, second generation
e, rarely with calc-silicate; ndalusite±staurolite; lenticular	I X	
en open oval symbol.		schistosity, second generation: inclined, vertical schistosity, third generation: inclined, vertical
pically thin (<1 m) and western map area and	y y y	Gneissosity gneissosity, first generation: inclined, vertical gneissosity, second generation: inclined
e eastern and northeastern	82	Ductile shear zone shear zone with dip
ne±pelite; black shale is	×	Mineral lineation
des, commonly gossanous d surface; locally bedding ide, fissile to flaggy, is locally	×	intersection lineation, S_0 - S_1 intersection lineation, S_1 - S_2 mineral, stretching, first generation
denoted by a grey line	्र जू	mineral, stretching, hist generation mineral, stretching, second generation mineral, stretching, third generation
		Extension (direction and plunge indicated)
, locally up to 5 m wide; but locally pale grey- and ar Exeter Sound); observed	- 547	Folds** S fold, first generation; showing dip of axial plane and plunge of fold axis
(Puv_{H}) .		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
ring, fine- to medium-sand h Puv _∺ ; may have associated	1 EX	U fold, first generation; showing dip of axial plane and plunge of fold axis
	IL CHA	U fold, third generation: showing dip of axial plane and plunge of fold axis
	Jr.	U fold, unknown generation; showing dip of axial plane and plunge of fold axis
omatiitic to basaltic volcanic nd massive flows; typically	L.	
omatiitic to basaltic volcanic nd massive flows; typically position; locally dark green- pering elliptical varioles	- 47 - 47	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
omatiitic to basaltic volcanic nd massive flows; typically position; locally dark green- nering elliptical varioles ase-phyric flows immediately nering psammite to quartzite nickest in the east and	L.	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.
omatiitic to basaltic volcanic nd massive flows; typically position; locally dark green- nering elliptical varioles ase-phyric flows immediately hering psammite to quartzite hickest in the east and rea. ering marble, typically average 1–3 m thick; lesser	- 47 - 47	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. Fault inclined, normal
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nd/or chert. comatilitic to basaltic volcanic and massive flows; typically position; locally dark green- hering elliptical varioles ase-phyric flows immediately hering psammite to quartzite hickest in the east and rea. ering marble, typically average 1–3 m thick; lesser s thin (<20 cm) interbeds and ide, up to 25% and semipelite interbeds; he labelled Pc _H .	A A A A A A A A A A A A A A A A A A A	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. Fault inclined, normal vertical, normal Dyke, vein dyke dyke, sill
comatiitic to basaltic volcanic and massive flows; typically bosition; locally dark green- nering elliptical varioles ase-phyric flows immediately hering psammite to quartzite hickest in the east and rea. ering marble, typically average 1–3 m thick; lesser s thin (<20 cm) interbeds and ide, up to 25% ind semipelite interbeds;	Lator Lator Lator Lator Lator Lator	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. Fault inclined, normal vertical, normal Dyke, vein dyke
omatiitic to basaltic volcanic ind massive flows; typically position; locally dark green- nering elliptical varioles ase-phyric flows immediately hering psammite to quartzite hickest in the east and rea. ering marble, typically average 1–3 m thick; lesser is thin (<20 cm) interbeds and ide, up to 25% nd semipelite interbeds; e labelled Pc _H . eterized by 5–15% pale green y component, also commonly	Let A	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. Fault inclined, normal vertical, normal Vetrical, normal Dyke, vein dyke, sill vein: inclined, vertical Ice movement direction known

Preliminary

NU assessment reports http://nunavutgeoscience.ca/numin_e.html (originally published by Indian and Northern Affairs Canada) Geological Survey of Canada's Canadian and world mineral deposit databases, http://gdr.nrcan.gc.ca/minres/ or http://apps1.gdr.nrcan.gc.ca/gsc_minerals/index.phtml?language=en-CA

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Preliminary

63°00'

62°52′

Preliminary

Sanborn-Barrie, M., Young, M., Whalen, J., and James, D., 2011. Geology, Ujuktuk Fiord, Nunavut; Geological Survey of Canada, Canadian Geoscience Map 1 (2nd edition, preliminary), scale 1:100 000. doi:10.4095/289237

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CANADIAN GEOSCIENCE MAP 1 GEOLOGY **UJUKTUK FIORD**

2nd EDITION

Preliminary publications in this series have not been scientifically edited.

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