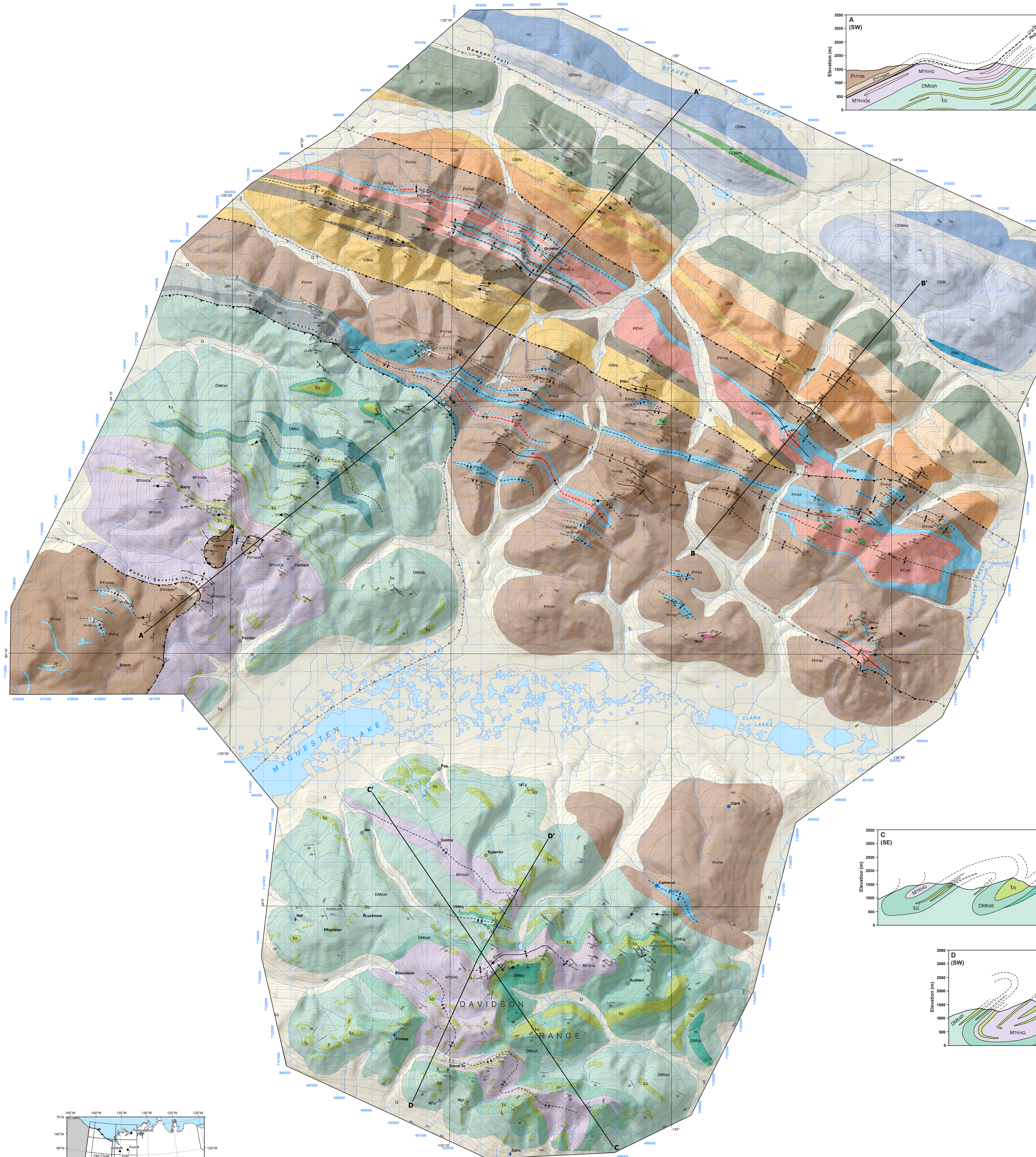
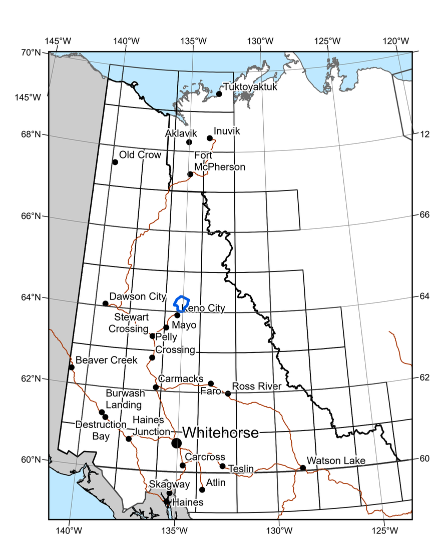




ONE THOUSAND METRE GRID
Universal Transverse Mercator Projection
North American Datum 1983
Zone 8

BEDROCK GEOLOGY

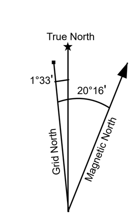
BEDROCK GEOLOGY MAP OF THE MCQUESTEN LAKE AREA, CENTRAL YUKON (PARTS OF NTS 106D/2, 3, 6 & 7)

YUKON

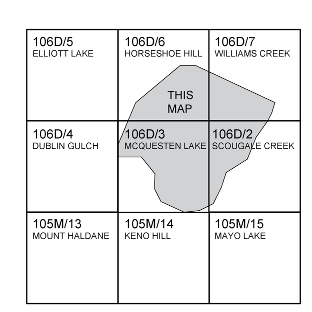
SCALE 1:50 000

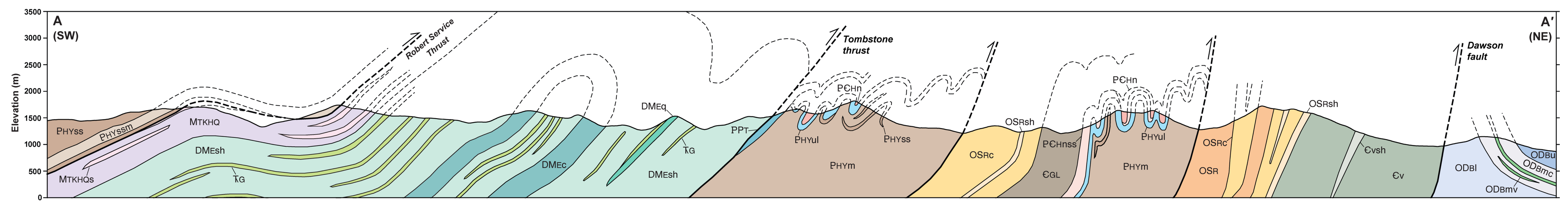
0 0.5 1 2 3 4 5
Kilometres

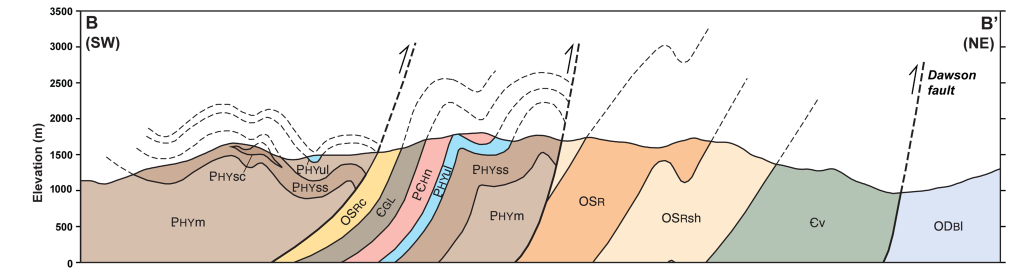
CONTOUR INTERVAL 40 METRES
Elevations in metres above sea level



Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 2016
FOR CENTRE OF MAP







MINERAL OCCURRENCES

SYMBOL	MINFILE #	NAME	DEPOSIT TYPE	STATUS	COMMODITY
	106D 007	Ocelot	Manto Polymetallic Ag-Pb-Zn	Drilled Prospect	Ag, Pb, Zn, In
	106D 011	Clark	Manto Polymetallic Ag-Pb-Zn	Deposit	Pb, Zn, Ag, Cu
	106D 012	Cameron	Manto Polymetallic Ag-Pb-Zn	Drilled Prospect	Sb, Zn, Ag, Pb, Au, Cu
	106D 013	Stand-To	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing	Pb, Ag
	106D 014	Forbes	Vein Polymetallic Ag-Pb-Zn+/-Au	Anomaly	Pb, Ag
	106D 016	Rambler	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect	Cu, Au, Zn, Mn, Ag, Pb
	106D 031	Dutch	Unknown	Anomaly	
	106D 032	Pointer	Unknown	Anomaly	Ag, Zn
	106D 033	Contact	Unknown	Anomaly	Mo, Zn, Ag
	106D 056	Superior	Unknown	Anomaly	
	106D 057	Centre	Unknown	Showing	Pb, Ag
	106D 058	Jee	Unknown	Anomaly	
	106D 059	Pea	Unknown	Anomaly	
	106D 063	Nat	Vein Polymetallic Ag-Pb-Zn+/-Au	Prospect	Cu, Zn, Ag, Pb
	106D 073	Barry	Unknown	Unknown	Zn, Ag
	106D 081	Lucknow	Vein Polymetallic Ag-Pb-Zn+/-Au	Drilled Prospect	Cu, Au, Zn, Ag, Pb
	106D 086	Sudden	Unknown	Unknown	
	106D 091	Davidson	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing	Pb, Ag
	106D 093	Zahn	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing	Pb, Zn, Ag
	106D 110	Caracal	Orogenic Au	Anomaly	Au
	106D 128	Growler	Vein Polymetallic Ag-Pb-Zn+/-Au	Showing	Cu, Au, Ag, Zn
	106D 132	Staff	Unknown	Showing	Zn

From Yukon Geological Survey (2020a)

GEOCHRONOLOGY

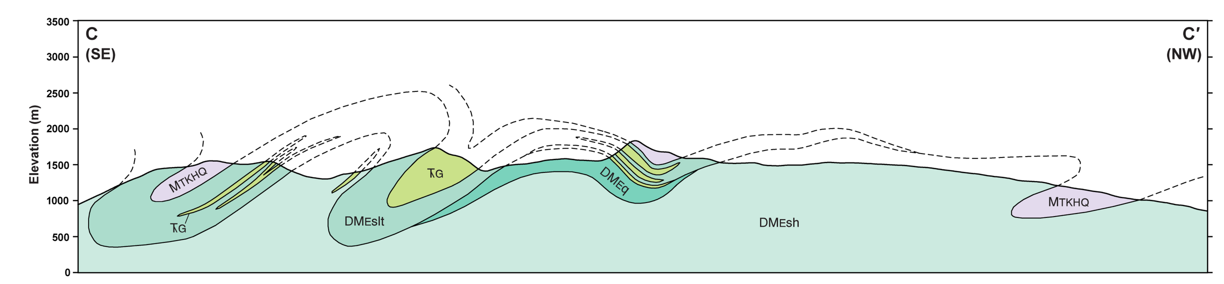
SYMBOL	SAMPLE	ROCK TYPE	METHOD	MINERAL	TECHNIQUE	AGE (MA)	INTERPRETATION	REFERENCE
Ⓤ 1	21DS-134	quartz arenite	U/Pb	zircon	CA-TIMS	166.85 ± 0.13	maximum depositional age	Skipton and Crowley, unpublished
Ⓤ 2	19DS-091	subarkose	U/Pb	zircon	LA-ICP-MS	ca. 730−720	maximum depositional age	Skipton and Crowley, unpublished
Ⓤ 3	19DS-002	quartz grit sandstone	U/Pb	zircon	CA-TIMS	664.66 ± 0.36	maximum depositional age	Skipton and Crowley, unpublished
Ⓤ 4	19DS-051	quartz grit sandstone	U/Pb	zircon	CA-TIMS	724.65 ± 0.30	maximum depositional age	Skipton and Crowley, unpublished
Ⓤ 5	21DS-177	quartzite	U/Pb	zircon	CA-TIMS	428.23 ± 0.66	maximum depositional age	Skipton and Crowley, unpublished
Ⓚ 6	1-48-4/PB	sericite schist	K/Ar	muscovite	furnace: total fusion	95 ± 12	cooling or muscovite crystallization	Wanless et al. (1967)
Ⓤ 7	22DS-019	quartzite	U/Pb	zircon	CA-TIMS	367.79 ± 0.25	maximum depositional age	Skipton and Crowley, unpublished

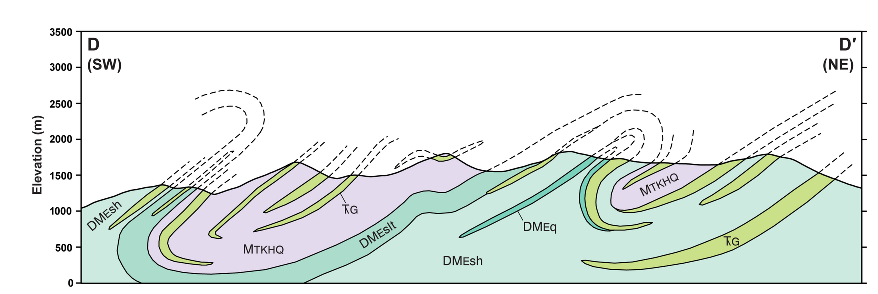
FOSSILS

SYMBOL	SAMPLE	FOSSIL SIZE	FOSSIL TYPE	TAXONOMY	AGE	AUTHOR	REFERENCE
Ⓕ 1	21DS-002-1-3	microfossil	conodont	*Mesogondolella arcuata* ; *Mesogondolella dentiseparata*	Early Permian	S. Gouwy et al.	Skipton and Crowley, unpublished
Ⓕ 2	21DS-002-1	macrofossil	coral; crinoid	Indeterminate	Pennsylvanian?	R.B. Blodgett	Skipton and Crowley, unpublished
Ⓕ 3	O-047211	macrofossil	brachiopod	*Pterospirifer?* sp; *Cancrinella* sp.; *Waagenoconcha?* sp.; *Muirwoodia?* sp.	Pennsylvanian or Permian	E.W. Bamber	Green (1971)
Ⓕ 4	21DS-027-1-2	microfossil	conodont	*Mesogondolella?*	Early-Middle Permian	M. Orchard	Skipton and Crowley, unpublished
Ⓕ 5	21DS-028-1	macrofossil	brachiopod	*Plicatospiriferella?* sp.	Pennsylvanian?	R.B. Blodgett	Skipton and Crowley, unpublished
Ⓕ 6	21DS-135-1	macrofossil	brachiopod	*Plicatospiriferella?* sp.	Pennsylvanian?	R.B. Blodgett	Skipton and Crowley, unpublished

SYMBOLS

- geological contact (defined, approximate, inferred, covered)
- thrust fault (defined, approximate, inferred, covered)
- antiform (defined, approximate, inferred, covered)
- synform (defined, approximate, inferred, covered)
- overturned antiform (defined, inferred, covered)
- overturned synform (defined, approximate, inferred, covered)
- bedding
- foliation
- bedding-parallel foliation
- spaced cleavage
- bedrock mapping station
- bedding (from Green, 1971)
- foliation (from Green, 1971)
- crenulation cleavage
- axial plane
- joint
- quartz vein
- fossil collection
- fold axis
- crenulation lineation
- intersection lineation
- stretching or mineral lineation
- pencil structure





LEGEND EXPLANATION

PLUTONIC SUITES: grouping of plutonic rocks based on age, regional distribution and/or composition

LAYERED ROCK ASSEMBLAGES: regionally mappable units generally of Group or Formation rank

NOTES

Geology north of 7103000N by Diane Skipton (2019, 2021, 2022), Yukon Geological Survey, with information from Green (1971, 1972). Geology south of 7103000N by Green (1971), with modified interpretation by Diane Skipton. Digital cartography and drafting by Diane Skipton, Yukon Geological Survey.

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.

Paper copies of this map may be obtained from the Yukon Geological Survey, Energy, Mines and Resources, Government of Yukon, P.O. Box 2703 (K-102), Whitehorse, Yukon, Y1A 2C6. Email: geology@yukon.ca.

A digital PDF of this map may be accessed free of charge from the Yukon Geological Survey website: https://data.geology.gov.yk.ca

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ACKNOWLEDGEMENTS

Amaya Cherian-Hall, Liam Maw and Jake Charlton are thanked for providing field assistance. ATAC Resources, Metallic Minerals, Capital Helicopters, Fireweed Helicopters and Horizon Helicopters are thanked for logistical support in the field.

RECOMMENDED CITATION

Skipton, D.R., 2024. Bedrock geology map of the McQuesten Lake area, central Yukon (parts of NTS 106D/2, 3, 6 & 7). Yukon Geological Survey, Geoscience Map 2024-1, scale 1:50 000.

LEGEND

QUATERNARY

Q — *Unconsolidated alluvial, colluvial, fluvial and glacial deposits*

NORTH OF DAWSON FAULT

ORDOVICIAN TO DEVONIAN(?)

ODBu — *BOUVETTE FORMATION, UPPER: Pale grey to white-weathered, thick-bedded to massive dolostone; fine-to-medium-grained dolomitic sandstone and mudstone; lesser pebble conglomerate with dolostone, mudstone and rare limestone clasts; two-hole and star crinoids are common*

ODBmv — *BOUVETTE FORMATION, MIDDLE, volcanic member: Dark green to brown weathered vesicular basalt; carbonate-cemented hyaloclastite breccia; volcanic sandstone, grit and pebble to cobble conglomerate*

ODBmc — *BOUVETTE FORMATION, MIDDLE, undivided: Thin to medium-bedded, grey and buff weathered silty limestone; massive, white limestone; grey to light grey bioclastic limestone; local interbedded pale yellow and grey limestone and dolostone*

ODBl — *BOUVETTE FORMATION, LOWER: Light grey-weathered, massive to medium-bedded, variably dolomitized pale grey limestone, dolostone, oncolitic dolostone; light grey quartzite and sandy dolostone*

NEOPROTEROZOIC (EDIACARAN)

PRG — *RACKLA GROUP, GAMETRAIL FORMATION: Orange, yellow and grey-weathered dolostone, dolomitic siltstone/sandstone and limestone, commonly planar and or cross-laminated; carbonate-clast breccia and conglomerate; minor maroon shale*

SOUTH OF DAWSON FAULT

MESOZOIC

MTp — *White to cream coloured, buff-weathering quartz porphyry and granite porphyry; forms sill-like bodies or dikes up to ~3 m wide*

Mgr — *Grey, medium-grained quartz monzonite, granodiorite, granite or quartz diorite*

Mqm — *Medium-grained, foliated quartz monzonite with carbonate-quartz alteration*

JURASSIC

Jss — *Grey-brown-weathered, fine-to-medium-grained, medium-bedded, grey-brown quartz arenite; shiny, sugary-textured fresh surface*

Jsh — *Dark grey-brown-weathered shale (mudstone); locally contains thin interbeds of dark grey-brown siltstone*

TRIASSIC

ŦG — *GALENA SUITE: Dark grey to dark green-weathered, medium-grained, dark green gabbro sills; locally fine-grained with plagioclase phenocrysts*

PENNSYLVANIAN(?) TO PERMIAN

PPT — *TAHKANDIT FORMATION: Fine-grained, medium-bedded, light grey-weathered, fetid grey limestone; commonly contains silica nodules; local fossiliferous beds; local pebble conglomerate ( ) with a grey limestone matrix*

MISSISSIPPIAN

MTKHQ — *TSICHU GROUP, KENO HILL QUARTZITE: Medium to thick bedded, medium-grained, grey quartz arenite with a crystalline texture (quartzite); local siliceous siltstone; local interbeds of buff to orange-weathered, medium-grained quartz-rich sandstone with dolomite cement; local interbeds of dark grey shale and graphitic phyllite*

MTKHQs — *TSICHU GROUP, KENO HILL QUARTZITE, shale member: Dark grey shale; thinly interbedded to laminated; locally light to dark green weathered; locally rich in chlorite ± white mica (phyllitic to schistose); interstratified with Keno Hill Quartzite (MTKHQ)*

DEVONIAN TO MISSISSIPPIAN

DMEslt — *EARN GROUP, siltstone member: Light to medium-grey, thin-bedded siltstone with dark grey laminations; grain size ranges to fine-grained quartz-rich sandstone with local fine (up to 1.5 cm thick) cross-beds*

DMEq — *EARN GROUP, quartzite member: Medium-grey to brown-weathered, fine-to-medium-grained, equigranular, thin to medium-bedded quartz arenite with crystalline texture (quartzite)*

DMEc — *EARN GROUP, carbonate member: Rhythmically interbedded orange-weathered dolostone with local crinoids, white-weathered fine-grained sandstone and dark grey to dark green shale, with local chert interbeds; thinly bedded, locally medium bedded*

DMEsh — *EARN GROUP, shale member: Thin-bedded to laminated dark grey shale and graphitic phyllite; local thin interbeds of grey-brown siltstone ranging to very fine-grained sandstone*

PALEOZOIC TO MESOZOIC(?)

PMm — *Fine- to medium grained, dark brownish-green mafic rock; strongly altered by carbonate and chlorite*

ORDOVICIAN TO SILURIAN

OSR — *ROAD RIVER GROUP, undivided: Thinly, rhythmically interbedded, grey-weathered, dark grey to black mudstone, grey siliceous siltstone and chert*

OSRsh — *ROAD RIVER GROUP, shale member: Grey-green shale to phyllite; dark grey and black shale; minor maroon shale; local interbeds of black mudstone, siliceous siltstone ± chert*

OSRc — *ROAD RIVER GROUP, chert member: Thin to medium-bedded, dark grey-weathered chert with rhythmic dark grey and light grey interbeds; locally white-weathered; locally massive*

UPPER CAMBRIAN

Ꞓvsh — *Blue-grey to silver-weathered, dark grey to black shale; interstratified with volcaniclastic rocks*

Ꞓv — *Dark grey, dark green and dark brown mafic volcaniclastic rocks; lesser dark green amygdaloidal basalt and mafic tuff; minor reddish-brown-weathered intermediate volcaniclastic rocks*

CAMBRIAN TO SILURIAN(?)

Ꞓg — *Medium to coarse-grained, brownish-green, clinopyroxene gabbro sills and plugs; local melanocratic hornblende diorite*

CAMBRIAN

ꞒGL — *GULL LAKE FORMATION: Thinly, rhythmically interbedded grey-brown to chocolate-brown-weathered siltstone and shale (~50/50%) with grey fresh surfaces; locally siltstone-rich (~70%) and medium-bedded*

NEOPROTEROZOIC (EDIACARAN) TO LOWER CAMBRIAN

PꞒHn — *HYLAND GROUP, NARCHILLA FORMATION, undivided: Dark grey, green and maroon shale; grey and green siltstone to phyllite; minor fine-grained, white, thinly bedded sandstone; rare medium-bedded, brown to grey quartz grit to quartz arenite*

PꞒHnss — *HYLAND GROUP, NARCHILLA FORMATION, sandstone member: Medium-bedded, brown to grey quartz grit sandstone and lesser quartz arenite; local interbeds of dark grey, green and maroon shale and grey-green siltstone to phyllite*

NEOPROTEROZOIC (EDIACARAN)

PHYul — *HYLAND GROUP, YUSEZYU FORMATION, LIMESTONE UNIT: Grey, fine-grained, massive to medium-bedded limestone with local laminations; minor orange-weathered, medium-bedded dolostone*

PHYm — *HYLAND GROUP, YUSEZYU FORMATION, "MIXED" UNIT: Green and grey siltstone to phyllite; dark grey, green and maroon shale; minor medium-bedded, brown to grey quartz arenite and quartz grit with local quartz-pebble conglomerate*

PHYss — *HYLAND GROUP, YUSEZYU FORMATION, SANDSTONE UNIT, undivided: Medium to thickly bedded, brown to grey quartz arenite and quartz grit sandstone with local quartz-pebble conglomerate; rare dark grey and green shale and siltstone to phyllite*

PHYsc — *HYLAND GROUP, YUSEZYU FORMATION, SANDSTONE UNIT, calcareous member: Medium to thick-bedded, orange-weathered quartz-rich sandstone with dolomitic cement; local interbeds of grey limestone, orange-weathered dolostone and green-grey shale*

PHYssm — *HYLAND GROUP, YUSEZYU FORMATION, SANDSTONE UNIT, "mixed" member: Thinly interbedded siliciclastic and calcareous lithologies, including: grey-to-tan quartz grit sandstone; dark grey-green shale to phyllite; orange-weathered quartz grit sandstone with dolomite cement; grey limestone; orange-weathered dolostone*

Yukon Geological Survey
Energy, Mines and Resources
Government of Yukon

Geoscience Map 2024-1

Bedrock geology map of the McQuesten Lake area, central Yukon (parts of NTS 106D/2, 3, 6 & 7) (1: 50 000 scale)

by

Diane Skipton