





1:50 000-scale topographic base data produced by CENTRE FOR TOPOGRAPHIC INFORMATION, NATURAL RESOURCES CANADA

ONE THOUSAND METRE GRID Universal Transverse Mercator Projection North American Datum 1983 Zone 9

CONTOUR INTERVAL 20 METRES Elevations in metres above Mean Sea Level

kilometres

BEDROCK GEOLOGY 95D8 YUKON

> SCALE 1:50 000 2 3

Use diagram only to obtain numerical values APPROXIMATE MEAN DECLINATION 2005 FOR CENTRE OF MAP

True North

2°23' -

95D/10	95D/9	95C/12	
		JACKPINE LAKE	
95D/7	95D/8	95C/5	
	MAP LOCATION	POOL CREEK	
95D/2	95D/1	95C/4	
LOOTZ LAKE		LARSEN LAKE	

NW W This Map *}*-----95D/8 95C/5 95D/ PF \sim См DCBR SDRR ~____ minimum unconformity not to scale \rightarrow Schematic stratigraphic section illustrating lithologies in NTS 95C/5 and 95D/8 (modified from Pigage, 2006) LEGEND LAYERED ROCKS geologic contact PALEOCENE (defined, approximate, infer dark grey, aphanitic, amygdaloidal to massive basalt ₽b fault; movement not knowr (defined, appropriate, inferr poorly consolidated siltstone, sandstone and conglomerate Pssc strike-slip fault (dextral, sini TRIASSIC (defined, approximate, infe Grayling - Toad Formations (undivided) thrust fault (symbol on hang grey, red and green shale interbedded with thin- to thick-bedded, brown TGT sandstone and siltstone; locally calcareous (defined, approximate, infe normal fault (symbol on har PERMIAN Fantasque Formation (defined, approximate, infe dark grey, siliceous, bedded shale; contains lesser thin interbeds of limestone, PF-s limestone concretions and sandy limestone hornfels (symbol on high g dark grey, light grey-weathering, finely crystalline, fetid, sandy, bedded limestone; contains thin interbeds of dark grey to black, fissile shale PF-I fold, anticline (upright) —-EARLY CARBONIFEROUS fold, anticline (overturned) Mattson Formation UNDIVIDED: pale grey, strongly indurated, fine-grained, quartz sandstone; grey-weathering; locally contains trace amounts of pyrobitumen and detrital fold, anticline-box (upright) См muscovite bedding (general, upright, UPPER MEMBER: orange-weathering, grey, calcareous, rippled, very fine- to CM-b fine-grained sandstone and siltstone bedding (helicopter observ CM-a LOWER MEMBER: alternating quartz-rich, fine-grained, well sorted, well indurated sandstone and dark grey to black shale on a scale of 10 to 15 meters; foliation (dominant) local ripples and load casts lineation (elongation, inter **DEVONIAN to EARLY CARBONIFEROUS** Besa River Formation field station dark grey to black, carbonaceous shale, siltstone, bedded chert and siliceous DCBR limestone; weathers recessively to pale bluish-grey radiometric date (U/Pb, K/A DEVONIAN fossil Dunedin Formation buff- to grey-weathering, medium grey, argillaceous limestone; micritic with the exception of local thin grainstone beds containing two-hole crinoids fossil (visual of biaxial crin DD-I medium dark grey to dark grey, thin to thickly bedded, fetid dolostone; fossiliferous; local black, discontinuous chert bands and nodules DD-d ferricrete SILURIAN to DEVONIAN measured stratigraphic se Muncho-McConnell-Stone Formations (undivided) buff- to grey-weathering, light to medium grey, thick-bedded, fine-grained, watercourses SDMMS vuggy, unfossiliferous dolostone esker Nonda-Muncho-McConnell-Stone-Dunedin Formations (undivided) topographic contours buff- to grey-weathering, light to medium grey, thick-bedded dolostone and SDc (20m interval, 100m interv limestone; locally fossiliferous; locally vuggy waterbody, wetlands, sand Road River Group SDRR-b dark grey to black, sparsely fossiliferous, siliceous, silty shale; weathers as pale FOSSIL sample: Map ID GSC ID Field Station Formation fossil type Max Age-Epoch grey platelets dark grey to black, locally calcareous or dolomitic, graptolitic shale or siltstone with lesser very fine-grained sandstone, bedded chert and limestone; weathers -417156 04LP013 conodont SDRR-a COc conodont Early Ordovician 2 C-417157 04LP037
 3
 C-417159
 04LP042
 OSu
 conodont
 Middle Ordovician

 4
 C-417163
 04LP055west
 OSu
 conodont
 Late Ordovician
recessively
 5
 C-417165
 04LP063
 OSu
 conodont
 Early Ordovician

 6
 C-417166
 04LP064
 OSu
 conodont
 Early Ordovician
SILURIAN
 7
 C-417167
 04LP068
 OSu
 conodont
 Early Ordovician

 8
 C-307428
 05LP015
 OSu
 conodont
 Middle Ordovician

 9
 C-404735
 03LP008
 TGT
 palynology
 Early Triassic
Nonda Formation dark grey, fetid, medium- to thick-bedded, fossiliferous dolostone; contains SN discontinuous lenses and beds of black chert ORDOVICIAN to SILURIAN grey to buff, quartz-rich sandstone to pebbly sandstone; contains beds up to OSs 2 m thick of heavily burrowed, slightly dolomitic, very fine-grained sandstone and siltstone 095D 002 • Gusty ORDOVICIAN Sunblood Formation mottled, light to dark grey, medium-bedded dolostone; lesser limestone OSu interbeds; weathers light brownish-grey to buff; locally laminated CAMBRIAN to ORDOVICIAN Crow Formation cream to pink, indistinctly bedded, quartz sandstone to subarkosic sandstone £OC interbedded with maroon to greyish-red, laminated siltstone to argillite; locally contains quartz-sandstone conglomerate and limestone or dolostone interbeds grey-weathering, thick-bedded, basaltic lapilli tuffs and breccias interbedded **EOCv** with amygdaloidal to vesicular, pillowed flows; fresh colours are greyish-green with lesser maroon Rabbitkettle Formation thin-bedded, brownish grey, slightly dolomitic siltstone; uppermost part contains EOR Yukon Geological Survey, p. 267-285. thin interbeds of nodular limestone PROTEROZOIC Toobally Formation (eds.), Yukon Geological Survey, p. 199-219. dark grey to black, orange-brown weathering, polymictic, matrix-supported conglomerate; matrix mudstone to fine siltstone; clasts dominantly sedimentary Ρт Pyle, L., 2004. Unpublished Paleontology Report No. LJP04-02, 12 p. sandstone, siltstone and limestone

green to grey, locally greyish-red, banded siltstone to argillite with very fine-Pa grained sandstone; sandstone beds, 1 to 5 cm thick, are quartzose, internally laminated and graded; minor green, matrix-supported, volcaniclastic conglomerate beds BASALT CONGLOMERATE MEMBER: greyish-red, clast-supported Pa-bc conglomerate; subangular to subround clasts, clasts predominantly basalt with lesser amounts of quartz, carbonate and sandstone; unit is up to 20 m thick white to light grey quartzite; very fine-grained to sugary, massive to faintly laminated; interbeds of dark grey to black, laminated siltstone Ps INTRUSIVE ROCKS EOCENE Ting Suite greyish-red and pale green, aphanitic igneous breccia; xenoliths include Pool Creek Eib syenite, volcanic rocks and quartz sandstone; microphenocrysts of quartz and

coarsely crystalline, unfoliated syenite; white-weathering K-feldspar and plagioclase with lesser coarse biotite Ebsy PROTEROZOIC POOL CREEK SYENITE: pink, medium to coarsely crystalline, unfoliated PPCsy nepheline syenite; predominantly randomly oriented pink K-feldspar crystals with lesser sausseritized nepheline and minor dark, strongly chloritized biotite; associated dykes range from dark grey to distinctly banded pink and dark green

Note: darker colour for each unit indicates areas of outcrop.

K-feldspar

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SYMBOLS

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s - 95D/8 map area			
Max Age-Stage	Min Age-Epoch	Min Age-Stage	
arly Tremadocian	Early Ordovician	Early Tremadocian	Pyle (2004)
arriwilian	Middle Ordovician	Darriwilian	Pyle (2004)
arly Caradocian	Late Ordovician	Early Caradocian	Pyle (2004)
iddle Tremadocian	Early Ordovician	Middle Tremadocian	Pyle (2004)
iddle Arenigian	Middle Ordovician	Middle Arenigian	Pyle (2004)
arly Whiterockian (Dapingian)	Middle Ordovician	early Whiterockian (Dapingian)	Nowlan (2008)

Mineral Occurrences Yukon MINFILE (Deklerk, R., 2008)

showing Cu cpy in volcanics

Early Triassic

Utting (2004)

REFERENCES

Deklerk, R. (compiler), 2008. Yukon MINFILE 2008 - A database of mineral occurrences. Yukon Geological Survey, <www.geology.gov.yk.ca/database_gis.html>. Gabrielse, H. and Blusson, S., 1969. Geology of Coal River map-area, Yukon Territory and District

of Mackenzie (95D). Geological Survey of Canada, Paper 68-38, 22 p. Nowlan, G.S., 2008. Geological Survey of Canada, Paleontology Report No. 003-GSN-2008.

Pigage, L.C., 2004. Preliminary geology of NTS 95D/8 (north Toobally Lakes area) southeast Yukon (1:50 000 scale). Yukon Geological Survey, Open File 2004-19.

Pigage, L.C., 2006. Stratigraphy summary for southeast Yukon (NTS 95D/8 and 95C/5). In: Yukon Exploration and Geology 2005, D.S. Emond, G.D. Bradshaw, L.L. Lewis and L.H. Weston (eds.),

Pigage, L.C. and MacNaughton, R.B., 2004. Reconnaissance geology of northern Toobally Lake (95D/8), southeast Yukon. In: Yukon Exploration and Geology 2003, D.S. Emond and L.L. Lewis

Utting, J., 2006. Unpublished Palynology Report No. 04-JU-2006, 3 p.

RECOMMENDED CITATION

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Digital cartography and drafting by Lee Pigage and Shannon Mallory, Yukon Geological Survey. An earlier version of this map was published as Open File 2004-19 by Yukon Geological Survey.

Any revisions or additional geological information known to the user would be welcomed by the

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> Yukon Geological Survey Energy, Mines and Resources Government of Yukon

Geoscience Map 2008-2

Geological map of NTS 95D/8 southeast Yukon (1:50 000 scale)

> by Lee Pigage