

LEGEND

UPPER CRETACEOUS OPEN CREEK VOLCANIC ROCKS

- uKw: Dark grey to brown weathering basalt lava and tephra, chaotic volcanic breccia (~83-78 Ma; Stevens et al., 1982; Hart, 1997; Tempelman-Kluit, 2009)

LATE CRETACEOUS TESLIN MOUNTAIN PLUTON (RANCHERIA SUITE?)

- LKgr: Massive, blocky, medium-grained, grey weathering, pale grey-white granodiorite (~78 Ma; J. Crowley, pers. comm. 2016)
- LKdr: Tan to grey weathering, massive, blocky, fine-grained dark grey-green diorite and quartz diorite

EARLY CRETACEOUS LAURIER CREEK PLUTON (TESLIN SUITE?)

- EKgt: Grey to tan weathering, white to pink, equigranular, medium-coarse grained granodiorite, monzonite, monzodiorite and quartz diorite (~118 Ma; Stevens et al., 1982)

DIKES - EARLY TO LATE CRETACEOUS (?)

- Rhyolite: Pale pink/orange/beige to tan weathering, massive to blocky or locally foliated rhyolite. Finely to medium crystalline pale pink to grey groundmass contains up to 10-60% plagioclase. Phenocrysts include K-feldspar (5-25%), quartz (1-10%), hornblende or biotite (1-5%)
- Diorite: Grey-beige weathering, grey fresh, porphyritic (plagioclase 10-15% up to 25%; hornblende, 1-5% up to 10%, quartz <1%). Grey, aphanitic to finely crystalline equigranular groundmass

DIKES - JURASSIC (?)

- Gabbro: Brown weathering, conchoidally fractured, dark grey green gabbro dikes with pyroxene (1-2%), plagioclase (5%) in a fine crystalline dark grey groundmass

LOWER AND MIDDLE JURASSIC WHITEHORSE TROUGH, LABERGE GROUP

- Jlog: Grey-brown-rusty to tan weathering, thick-bedded, dominantly matrix-supported to locally clast-supported, poorly-sorted, polymictic pebble to boulder conglomerate. Interbedded with metre-scale lenses of lithic sandstone (J.lst). Base of the unit comprises brown weathering, thin-bedded, dark grey calcareous mudstone, argillaceous limestone, lithic sandstone (Sinurian to Toarcian; Tempelman-Kluit, 1984)
- Jlbcx: Dark grey-green weathering, bright green, thick to medium-bedded, matrix-supported, immature polymictic, chaotic cobble to boulder conglomerate. Bright green, fine-grained, non-calcareous volcanic quartz-rich sandstone matrix.
- Jlst: Dark grey-brown weathering, dark grey, thin-bedded, slightly calcareous to non-calcareous, turbiditic mudstone and siltstone; medium-grained mafic sandstone; minor tan-to-rusty weathering, granule to pebble conglomerate (Sinurian; Hart, 1997)

UPPER TRIASSIC LEWES RIVER GROUP (carbonate sequence; Carnian to Norian, Tozer, 1958)

- u.TLrLst: Brown-rusty weathering, dark grey, thin to medium-bedded non-calcareous to locally calcareous mudstone
- u.TLrLst: Very thick bedded, pale grey to orange weathering, dark grey, finely to coarsely crystalline, micritic limestone; minor wackestone with fossil clasts (corals, bivalve shells or brachiopods, crinoids); calcareous sandstone and conglomerate
- u.TLrLst: Brown-orange weathering, dark grey-green, non-calcareous, polymictic medium to coarse-grained sandstone and matrix supported granite conglomerate; thin-bedded mudstone
- u.TLrLst: Thick to medium-bedded pale grey limestone mudstone including lenses of rusty weathering, dark grey calcareous mudstone; medium bedded (30-50 cm) argillaceous, fossiliferous limestone wackestone (bivalve or brachiopods shells, corals, burrows); thin-bedded calcareous sandstone and mudstone
- u.TLrLst: Massive to thick-bedded pale grey weathering, finely to coarsely crystalline, micritic limestone and bioclastic limestone; calcareous sandstone and conglomerate; colitic sandstone
- u.TLrLst: Tan-grey weathering, clast-supported (locally matrix-supported), non-sorted, pebble to cobble calcareous conglomerate interbedded with very thick bedded limestone mudstone; lenses of tan-orange weathering fine grained calcareous sandstone
- u.TLrLst: Orange-brown weathering, thin-medium bedded, grey fine-grained non-calcareous and calcareous laminated sandstone/mudstone; coarse calcareous sandstone and subangular limestone pebble breccia; chaotic limestone conglomerate
- u.TLrLst: Brown to grey weathering, brown, matrix-supported polymictic conglomerate and fine to medium-grained sandstone

UPPER TRIASSIC LEWES RIVER GROUP (volcanic sequence; Carnian and older, Hart, 1997)

- u.TLrLst: Coherent dark green-grey to rusty brown weathering, dark green, finely crystalline, flow-banded to pillowed aphyric to pyroxene-phyric basalt and plagioclase-phyric basalt; matrix-supported volcanic breccia
- u.TLrLst: Thick-bedded (1-5 m), orange-brown-grey weathering, matrix-supported, dark green polymictic volcanic breccia; thick-bedded (10-20 m) pale green mafic volcanic breccia with pale green rubby matrix supporting subrounded, pyroxene-phyric basalt blocks
- u.TLrLst: Beige-brown weathering, pale grey-green, medium-grained volcanoclastic sandstone and matrix-supported, polymictic cobble conglomerate, with locally calcareous plagioclase-mafic-rich sandstone matrix; pyroxene-phyric lithic mafic sandstone

MIDDLE TRIASSIC JOE MOUNTAIN FORMATION

- m.TLmB: Grey to rusty-brown weathering, dark grey-green, fine to medium-crystalline, locally finely amygdaloidal or vesicular aphyric basalt and basaltic andesite. Thick-bedded (up to 1-2 m), blocky, massive to pillowed lava flows. Locally plagioclase-phyric (up to 5%), minor pyroxene cumulates
- m.TLmC: Thick-bedded, polymictic, chaotic volcanoclastic boulder conglomerate; orange-brown-grey to tan weathering, pale grey-green, medium-bedded volcanoclastic sandstone; pale green weathering, dark green to grey, silified laminated mafic ash tuff (~245 Ma; J. Crowley, pers. comm. 2016)
- m.TLmS: Rusty brown weathering, dark grey to pale grey-green, thin to medium-bedded, fine-grained, locally slightly calcareous laminated mudstone and medium-fine grained lithic crystal-rich sandstone; sandstone and matrix-supported angular pebbles/granule conglomerate; thin to medium-bedded calcareous sandstone and limestone
- m.TLmJ: Recrystallized zones of thin-bedded banded calcareous mudstone and sandstone; brown-grey weathering, calcareous sandstone to pebble conglomerate

OVERLAP ASSEMBLAGES

STIKINIA

SYMBOLS

geological contact (defined, approximate) bedding (subvertical)
 fault; movement not known (defined; approximate, inferred) bedding (overturned)
 fault; normal (defined, inferred) fault plane
 fault; strike-slip, sinistral/dextral (inferred) flow-banding
 fault; thrust (defined; inferred) foliation (dominant)
 fold; anticline field station
 fold; syncline

FOSSIL DATA

MAP ID	SAMPLE ID	Material dated	Age	Source
1	903306	Brachiopoda (<i>Spondylosira Lewisensis</i>)	Norian	Hoover, 1991
2	15EB-514-1	columnar crinoid ossicles, shells (bivalves or brachiopods), poorly preserved, indeterminate solitary sclerocrinarian corals	Upper Triassic	Blodgett, 2015 (pers. comm.)
3	C-203082, 94CH 60-1	conodonts, ichthyoliths, echinoderms, holothurians	Late Norian	Orchard, 1995
4	395279	Porifera (<i>Cinabaria Expansa</i>); conodonts (<i>Trassina oberhauseri</i> , <i>Microlobus communis</i>)	Norian	Senowbari-Daryan, 1990

RADIOMETRIC AGES

SAMPLE ID	Easting	Northing	Analysis type	Material dated	Result	Age interpretation	Source
15EB-124-1 (U1)	520809	6768424	U/Pb TMS	Zircon	~245 Ma	Crystallization	Crowley, 2016 (pers. comm.)
15EB-109-1 (U2)	521936	6767969	U/Pb TMS	Zircon	~78 Ma	Crystallization	Crowley, 2016 (pers. comm.)
93CH-T22 (K1)	522483	6767671	K/Ar	Whole rock	75.1 ± 2.5	Reset	Hart, 1997
TO79-40-3 (K2)	517555	6765592	K/Ar	Biotite	118 ± 3	Cooling	Stevens et al., 1982

MINIFILE OCCURRENCES

MINFILE Number	Name	Easting	Northing	Occurrence type	Symbol
105E 006	LABERGE	497766	6770987	Cu Skam	●
105E 024	HIG	514103	6763712	Alkalic porphyry Cu-Au	■
105E 025	LORI	515771	6767061	Porphyry Mo (Low F-Type)	■
105E 036	AURIER	502443	6788485	Unknown	*
105E 039	AKEL	498934	6766283	Unknown	*
105E 038	SLINE	522844	6770905	Unknown	*
105E 050	DEBCKI	523708	6767260	Unknown	*

REFERENCES

Hart, C.J., 1997. A transect across northern Stikinia: geology of the northern Whitehorse map area, southern Yukon Territory (105D/13-16). Indian and Northern Affairs Canada, Exploration and Geological Services Division, Yukon Region, Bulletin 8, 77 p.

Hoover, P.R., 1991. Late Triassic crinoid spiriferacean brachiopods from western North America and their biostratigraphic and biogeographic implications. *Bulletin of American Paleontology* 100:37163-109

Orchard, M.J., 1995. Report on conodonts and other microfossils from the Whitehorse (105D) and Lake Laberge (105E) map areas. Geological Survey of Canada. Unpublished report MJQ-1997-10

Senowbari-Daryan, B., 1990. Die systematische Stellung der thalassimiden Schwämme und ihre Bedeutung in der Erdgeschichte. *Münchner Geowissenschaftliche Abhandlungen, Reihe A* 21:15-326

Stevens, R.D., Delabio, R.N. and Lachance, G.R., 1982. Age determinations and geological studies, K-Ar isotopic ages. Report 16, Geological Survey of Canada, Paper 82-2

Tozer, E., 1958. Stratigraphy of the Lewes River Group (Triassic), central Laberge area, Yukon Territory. Geological Survey of Canada, Bulletin 43

Tempelman-Kluit, D.J., 1984. Laberge (105E) and Carmacks (115), Yukon Territory. Geological Survey of Canada, Open File 1101, scale 1:250,000.

Tempelman-Kluit, D.J., 2009. Geology of Carmacks and Laberge map areas, central Yukon: Incomplete draft manuscript on stratigraphy, structure and its early interpretation (ca. 1986). Geological Survey of Canada, Open File 5982, 399 p.

Yukon MINFILE, 2015. Yukon MINFILE - A database of mineral occurrences. Yukon Geological Survey, <http://data.geology.gov.yk.ca> [accessed May 2015].

RECOMMENDED CITATION

Bordet, E., 2016. Bedrock geology map of the Teslin Mountain and East Lake Laberge areas, parts of NTS 105E/2, 105E/3 and 105E/6, Yukon Geological Survey, Open File 2016-38, Scale 1:50000.

Digital cartography and drafting by Esther Bordet, Yukon Geological Survey.

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

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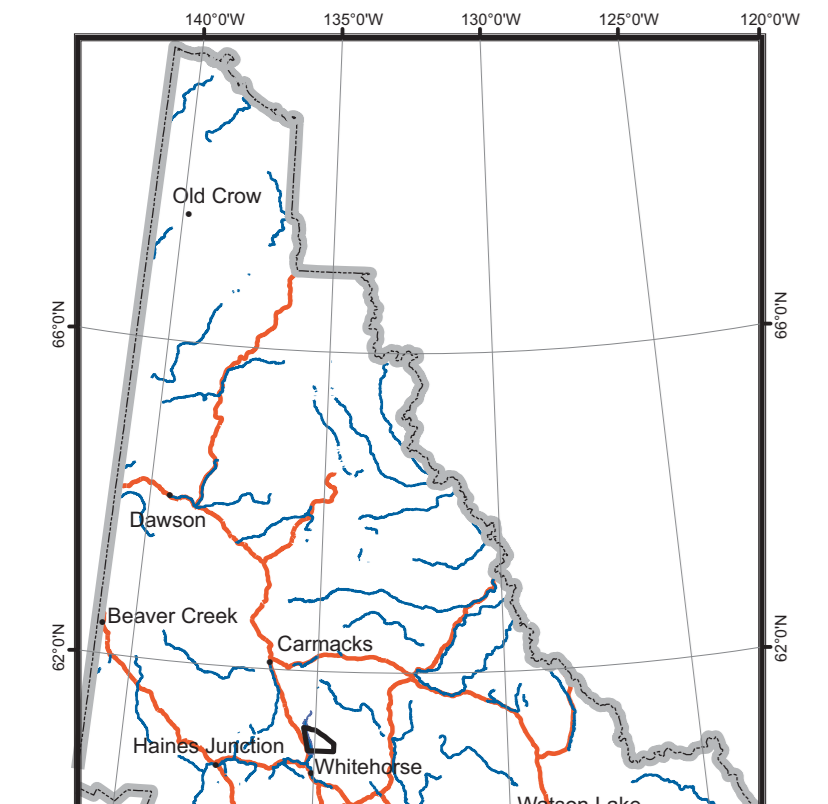
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Open File 2016-38

Bedrock geology map of the Teslin Mountain and East Lake Laberge areas, parts of NTS 105E/2, 105E/3 and 105E/6 (1:50 000 scale)

by
Esther Bordet

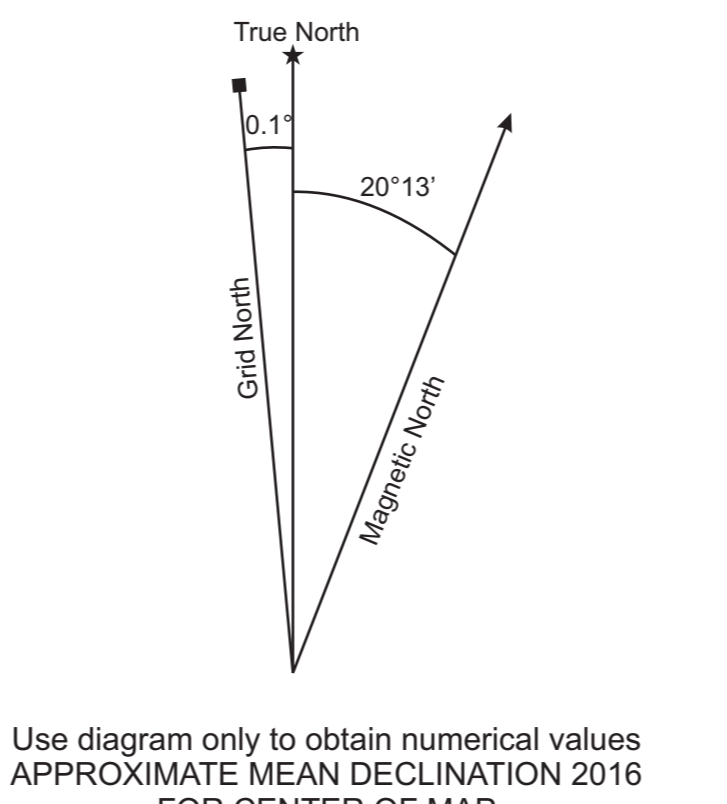
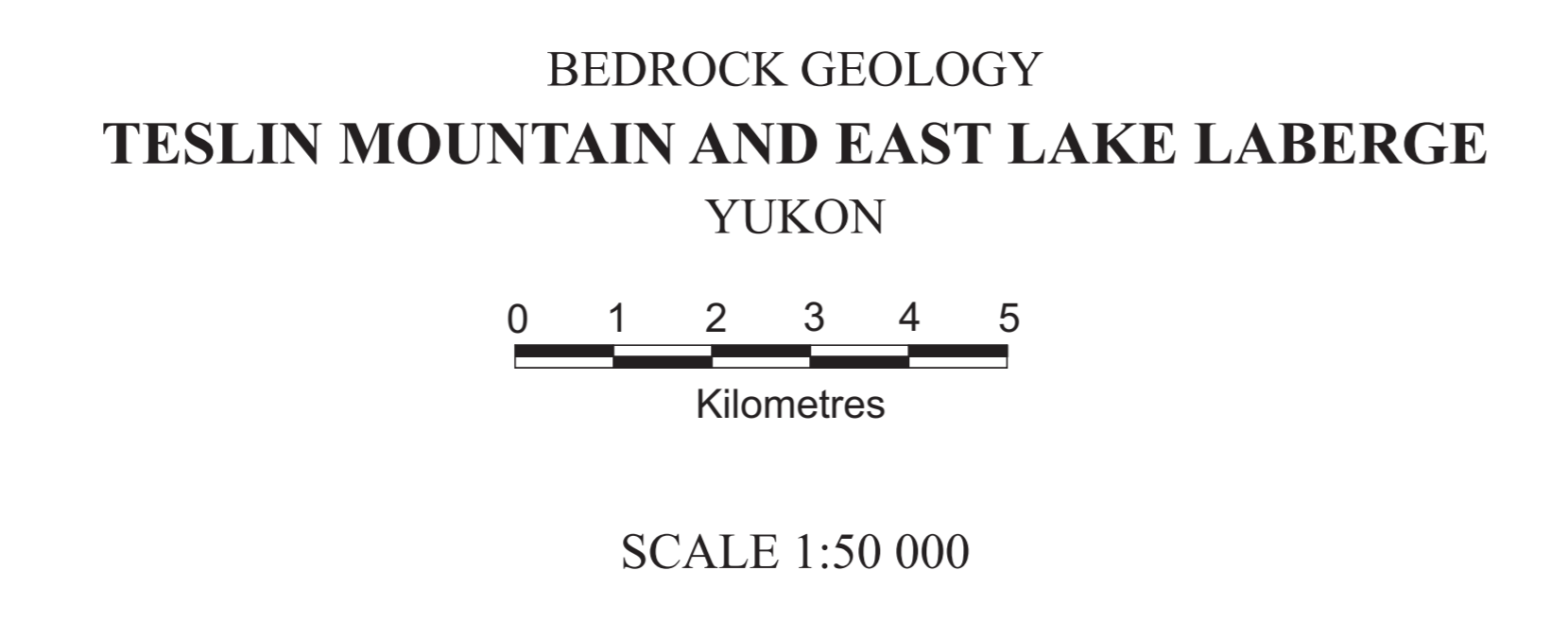


1:50 000-scale topographic base data produced by CENTER FOR TOPOGRAPHIC INFORMATION, NATURAL RESOURCES CANADA

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

CONTOUR INTERVAL 200 Feet (105E/03 and 105E/06) or 20 Metres (105E/02)

Elevations in feet/metres above Mean Sea Level



105E/06	105E/07	105E/08
LOWER LABERGE	MASON LANDING	LEWISTONE CREEK
105E/03	105E/02	105E/01
LAKE LABERGE	TESLIN MOUNTAIN	BOSWELL MOUNTAIN
105D/14	105D/15	105D/16
UPPER LABERGE	JOE MOUNTAIN	MOUNT MCLINTOCK