

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 INTRUSION**  
LKgt Massive, blocky, medium-grained, grey weathering, pale grey-white granodiorite (~78 Ma; J. Crowley, pers. comm. 2016)  
LKdt Tan to grey weathering, massive, blocky, fine-grained dark grey-green diorite and quartz diorite
- EARLY CRETACEOUS TESLIN SUITE**  
EKgt Grey to tan weathering, white to pale 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**  
J.lcg 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)  
J.lcbx 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.  
J.lst 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.TL.Rul 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.TL.Rib Brown-orange weathering, dark grey-green, non-calcareous, polymictic medium to coarse-grained sandstone and matrix supported granite conglomerate; thin-bedded mudstone  
u.TL.Rif 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.TL.Rli Massive to thick-bedded pale grey weathering, finely to coarsely crystalline, micritic limestone and bioclastic limestone; calcareous sandstone and conglomerate; colitic sandstone  
u.TL.Rlm 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.TL.Rls 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.TL.Rlg Brown to grey weathering, brown, matrix-supported polymictic conglomerate and fine to medium-grained sandstone
- LEWES RIVER GROUP (volcanic sequence; Carnian and older, Hart, 1997)**  
u.TL.Rb 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.TL.Rbx 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.TL.Rvs 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.T.Lmb 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.T.Lmbc 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.T.Lmms 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.T.Lmj Recrystallized zones of thin-bedded banded calcareous mudstone and sandstone; brown-grey weathering, calcareous sandstone to pebble conglomerate

SYMBOLS

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

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 brachiopod), 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	Eastings	Northings	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

MINFILE OCCURRENCES

MINFILE Number	Name	Eastings	Northings	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	*

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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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Ph. 867-497-3201; Email geology@yukon.ca

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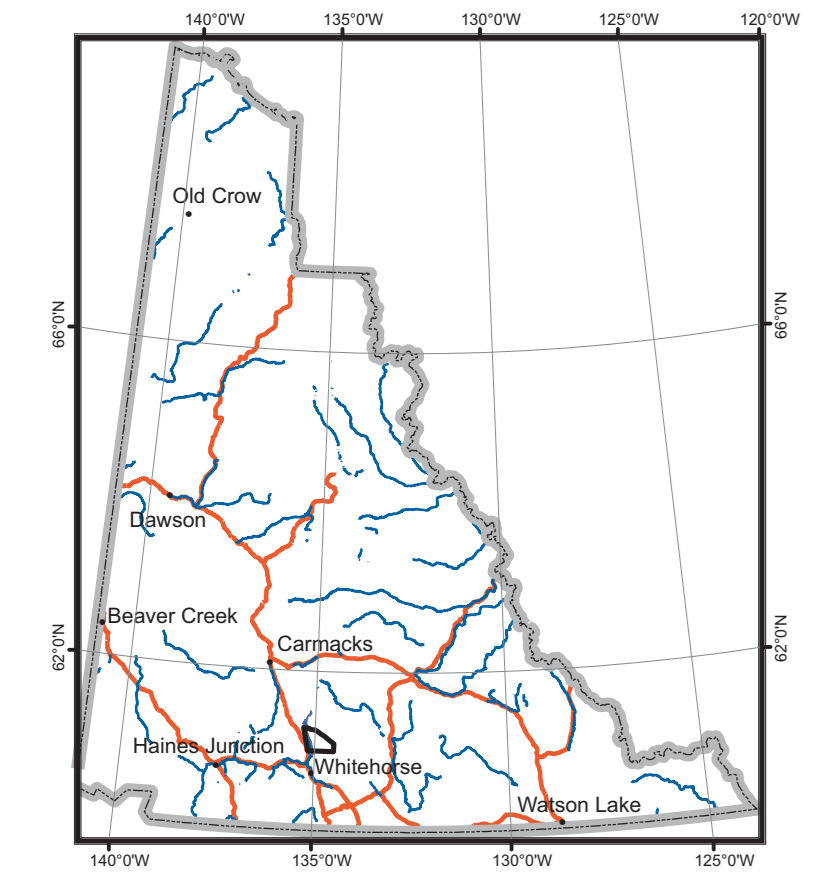
Open File 2016-38

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)

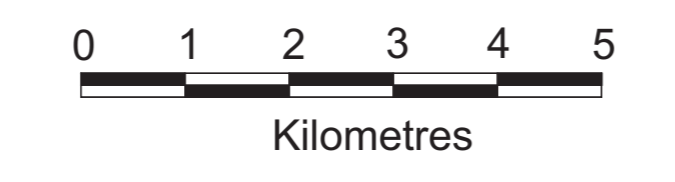
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Esther Bordet

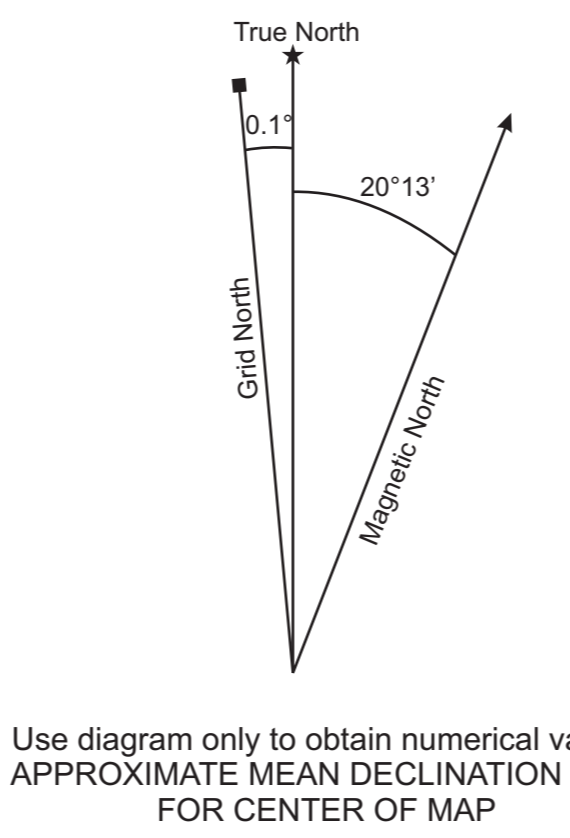


1:50 000-scale topographic base data produced by CENTER FOR TOPOGRAPHIC INFORMATION, NATURAL RESOURCES CANADA  
ONE THOUSAND METRE GRID Universal Transverse Mercator Projection North American Datum 1983 Zone 8  
CONTOUR INTERVAL 200 Feet (105E/03 and 105E/06) or 20 Metres (105E/02)  
Elevations in feet/metre above Mean Sea Level

BEDROCK GEOLOGY  
TESLIN MOUNTAIN AND EAST LAKE LABERGE  
YUKON



SCALE 1:50 000



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

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