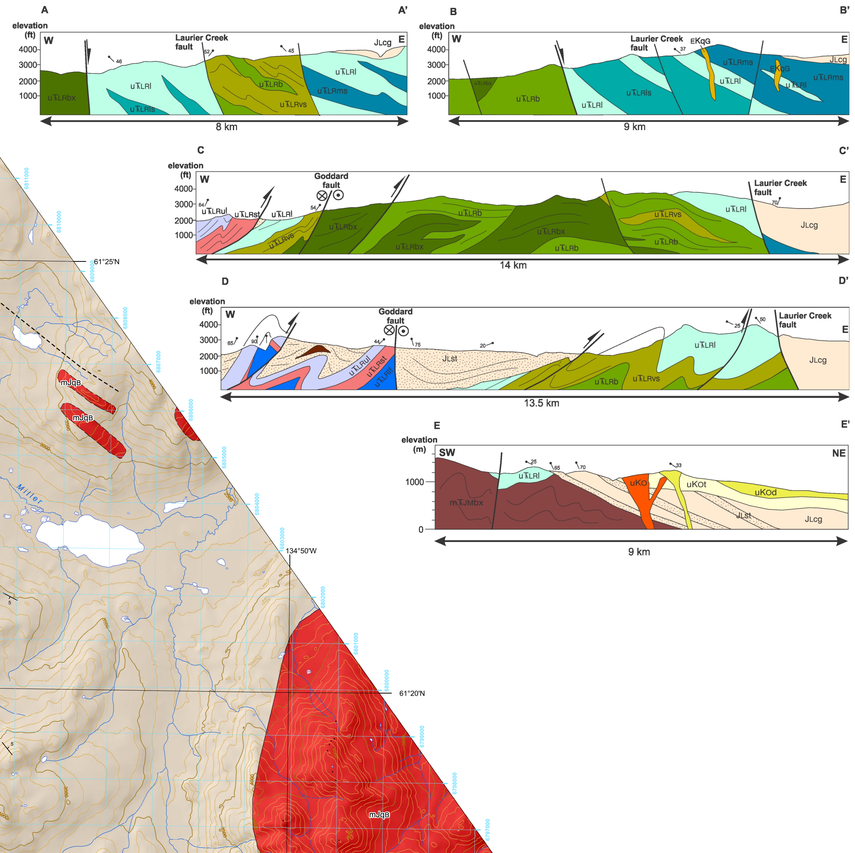
Cross sections



LEGEND

OVERLAP ASSEMBLAGES

UPPER CRETACEOUS

Open Creek volcanic complex (ca. 79-78 Ma)

- uKOb — Brown weathering, dark grey-brown, pyroxene-plagioclase porphyritic vesicular to amygdaloidal basalt and gabbro dikes
- uKOd — Brown-grey weathering, brown, locally aphyric, plagioclase (1-2%), pyroxene (2-3%), ± hornblende (1%) porphyritic phyric, massive to columnar jointed or flow-banded indurated dacite; autobrecia; brown to rusty weathering, matrix-supported
- uKOt — Crystal-rich lapilli tuff and block-and-ash flow forming a ≥400 m thick ignimbrite sequence. Grey to rainbow weathering, beige-tan colored, lithic-crystal lapilli ash tuff having up to 15% crystals (quartz, biotite, plagioclase), 5-10% angular and rounded lithic clasts (plagioclase porphyritic andesite or dacite), and 2-5% pumice lapilli. Elongated vesicles in upper part of the section below contact with overlying dacite lava. Block-and-ash flow has white-pale green silicic ash matrix, with crystals of biotite, plagioclase, hornblende and lapilli-size lithics. Dacite blocks are up to 1 m in size and subrounded.
- uKc — Grey-brown weathering, massive, grey, plagioclase (20%), biotite (1-3%), hornblende (7-10%) coarsely porphyritic diorite; interpreted as a feeder to the ignimbrite sequence

LATE CRETACEOUS

Rancheria suite - Teslin Mountain pluton (ca. 78 Ma)

- LKgR — Massive, blocky, medium-grained, grey weathering, pale grey-white granodiorite
- LKdR — Tan to grey weathering, massive, blocky, fine-grained dark grey-green diorite and quartz diorite

Byng suite (ca, 109 Ma; Hart, 1997)

- mKs — Quartz-eye rhyolite and dacite flows, tuff, fragmental volcanic rocks

Whitehorse suite - Cap Creek and M'Clintock plutons (ca. 118-111 Ma; Hart, 1997)

- mKqW — Medium grey weathering, medium-grained, equigranular, biotite hornblende granodiorite
- mKmW — Quartz monzonite

EARLY CRETACEOUS

Teslin suite - Laurier Creek pluton (ca. 116 Ma)

- EKgT — Grey to tan weathering, white to pale pink, equigranular, medium to coarse-grained granodiorite and quartz diorite (quartz 1-7 %, hornblende 2-3%, up to 10%, biotite 5%, plagioclase 80%), monzonite, monzodiorite (plagioclase up to 75%, hornblende 15-20%, biotite 3-5%)

Goddard suite (138-136 Ma)

- EKgs — Quartz-phyric rhyolite and rhyodacite dikes

MIDDLE JURASSIC

Bryde suite - Teslin Crossing pluton (ca. 172 Ma; Yukon Geochronology, 2018)

- mJqB — Medium to fine-grained, equigranular, leucocratic monzonite, syenite and granite; dikes of porphyritic dacite to andesite with euhedral plagioclase, hornblende and locally quartz in aphanitic greenish, or grey groundmass

WHITEHORSE TROUGH

LOWER TO MIDDLE JURASSIC

Laberge Group

- lJlc — Beige-tan weathering, medium-grained crystal tuff (Nordenskiöld formation; ca. 188-187 Ma; Colpron and Friedman, 2008), includes subrounded quartz crystals, hornblende and lithic fragments of plagioclase-phyric andesite in a microcrystalline plagioclase-phyric matrix
- JLcg — 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. Base of the unit comprises brown weathering, thin-bedded, dark grey calcareous mudstone, argillaceous limestone, lithic sandstone
- JLst — Dark grey-brown weathering, dark grey, thin-bedded, slightly calcareous to non-calcareous, turbiditic mudstone and siltstone; medium-grained mafic sandstone; minor brown-rusty weathering, granule to pebble conglomerate
- JLcbx — 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

STIKINIA

UPPER TRIASSIC

Lewes River Group

Aksala formation (Norian-Rhaetian)

- uTLRsl — 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
- uTLRsl — Brown-orange weathering, dark grey-green, non-calcareous, polymictic medium to coarse-grained sandstone and matrix supported granule conglomerate (max. depositional age ca. 212-211 Ma); brown-rusty weathering, dark grey, thin to medium-bedded non-calcareous to locally calcareous mudstone
- uTLRul — 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
- uTLRms — Brown-beige to orange weathering, pale grey-green, argillaceous laminated mudstone with lenses (10 cm thick) of pale grey limestone mudstone; non-calcareous fine-grained sandstone
- uTLRl — Massive to thick-bedded, pale grey weathering, calcareous mudstone and wackstone; locally interbedded with tan-grey weathering, mainly clast-supported, non-sorted, pebble to cobble calcareous conglomerate; lenses of tan-orange weathering fine-grained calcareous sandstone; minor oolitic sandstone
- uTLRlb — Orange-brown weathering, thin to medium-bedded, grey fine-grained calcareous and non-calcareous laminated sandstone and mudstone; coarse-grained calcareous sandstone and subangular limestone pebble breccia; chaotic limestone conglomerate

Povoas formation (Carnian?)

- uTLRvs — Beige-brown weathering, pale grey-green, medium-grained volcaniclastic sandstone; pyroxene-phyric lithic mafic sandstone; brown matrix-supported polymictic cobble conglomerate with locally calcareous plagioclase-mafic-rich sandstone matrix. Conglomerate units include an increased content of rounded limestone clasts towards the north
- uTLRbx — Mafic volcanic conglomerate, angular breccia and lapilli tuff, main clast composition is plagioclase-pyroxene porphyritic basalt-andesite; thick-bedded (10-20 m) pale green mafic volcanic breccia with pale green rubbly matrix supporting subrounded, pyroxene-phyric basalt blocks
- uTLRb — Coherent dark green-grey to rusty brown weathering, dark green, finely crystalline, flow-banded to pillowed aphyric to pyroxene porphyritic basalt and plagioclase-phyric basalt or andesite; matrix to clast-supported pyroxene porphyritic volcanic breccia (up to 10-15% crystals)

CACHE CREEK?

MIDDLE TRIASSIC

Joe Mountain Formation (ca. 245 Ma)

- mTJMbx — Thick-bedded (1-5 m), orange-brown-grey weathering, matrix-supported, dark green polymictic volcanic breccia, clasts include plagioclase-pyroxene porphyritic basalt-andesite, dark green aphyric basalt, dark green, fine-grained volcanic mudstone; locally interbedded with coherent pillowed to flow-banded basalt and mafic volcanic sandstone and mudstone
- mTJMvs — Thick-bedded, polymictic, volcaniclastic boulder conglomerate; green angular lapilli tuff with up to 3% quartz eyes; pale green weathering, dark green to grey, silicified laminated mafic ash tuff ; orange-brown-grey to tan weathering, pale grey-green, medium-bedded volcaniclastic sandstone
- mTJMg — Dark-weathering, massive, variably textured, coarse-grained and locally pegmatitic, pyroxene gabbro and diorite
- mTJMb — Grey to rusty-brown weathering, dark grey-green, fine to medium-crystalline, locally finely amygdaloidal or vesicular aphyric basalt and basaltic andesite forming thick-bedded (up to 1-2 m), blocky, massive to pillowed lava flows; locally plagioclase porphyritic (up to 5%), minor pyroxene cumulates; volcanic breccia and volcaniclastic sandstone
- mTJMms — Rusty brown weathering, dark grey to pale grey-green, thin to medium-bedded, fine-grained, locally slightly calcareous laminated mudstone; coarse-grained mafic volcanic sandstone, conglomerate and breccia; recrystallized lenses of thin-bedded banded calcareous mudstone/sandstone underlying or locally interbedded with coherent basalt

LEGEND EXPLANATION

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

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

SYMBOLS

- geologic contacts (defined, approximate, inferred)
- fault; movement not known (defined, approximate, inferred)
- thrust fault (defined, approximate, inferred)
- dextral strike-slip fault (defined, approximate, inferred)
- normal fault (defined, approximate, inferred)
- fold; anticline
- fold; syncline
- trail
- Cross section

- bedding (normal, subvertical, overturned)
- foliation (dominant)
- igneous fabric (flow banding, magmatic foliation)
- fault
- fold axis
- slickenlines
- dike (diorite)
- dike (gabbro)
- dike (rhyolite)
- field station

Radiometric date (age in Ma, ± 2σ)

- U/Pb igneous, U/Pb detrital — e.g. 79.14 ± 0.03; 115 ± 2
- K/Ar, Ar/Ar — e.g. 173 ± 4

Lower number corresponds to map reference number (Appendix B4 of Bordet, 2019). Upper number is age in Ma for igneous samples. Maximum depositional ages for detrital zircon samples reported in Appendix B4 of Bordet (2019).

Fossil collection (map reference number corresponds to collection ID in Appendix A of Bordet et al., 2019)

Mineral occurrences*

- Porphyry Cu-Mo-Au and alkalic Cu-Au
- Porphyry Mo (Low F-Type)
- Skarn Cu
- Skarn Mo
- Unknown
- Vein Au-Quartz
- Vein Polymetallic Ag-Pb-Zn+/-Au
- Hematite-rich iron formation

*MINFILE information can be obtained by visiting data.geology.gov.yk.ca

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

30 metre shaded relief from GEOMATICS YUKON www.geomaticsyukon.ca

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

BEDROCK GEOLOGY

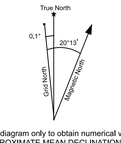
PARTS OF TESLIN MOUNTAIN, LAKE LABERGE, LOWER LABERGE AND MASON LANDING

YUKON

SCALE 1:50 000

0 1 2 3 4 5
Kilometres

CONTOUR INTERVAL 20 METRES OR 200 FEET
Elevations in metres/feet above Mean Sea Level



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

105E/6 LOWER LABERGE	105E/7 MASON LANDING	105F/8 LIVINGSTONE CREEK
105E/3 LAKE LABERGE	105E/2 TESLIN MOUNTAIN	105E/1 BOSWELL MOUNTAIN
105D/14 UPPER LABERGE	105D/15 JOE MOUNTAIN	105D/16 MOUNT M'CLINTOCK

Yukon

Yukon Geological Survey
Energy, Mines and Resources
Government of Yukon

Geoscience Map GM 2019-1

Bedrock geology map of the eastern Lake Laberge area

Sheet 1
Parts of NTS 105E/2, 3, 6 and 7
(1:50 000 scale)

by Esther Bordet