



East Hoodoo Mountain - Iskut River Geology

NTS 104B/14E & 11NE

Mitchell G. Mihalynuk, James M. Logan and Alexandre Zagorevski

Scale 1:50 000



LEGEND

LAYERED ROCKS

- PLEISTOCENE AND HOLOCENE**
Hoodoo Mountain Volcanic Complex (subdivision and descriptions after Edwards et al., 2000)
- PHppp** Unglaciated porphyritic phonite lava flows containing alkali feldspar phenocrysts.
 - PHppg** Porphyritic phonite lava flows partly modified by glaciation (near margins of modern alpine glaciers).
 - PHap** Unmodified preliminary isochron age determinations of ⁴⁰K and ³⁹K are reported by Edwards et al. (2000). Pleistocene undivided aphanitic phonite lava flows. Immediately southwest of the Twin Glacier terminus, three flow domes have been mapped by Edwards et al. (2000). These authors also report unpublished K-Ar age determinations ranging from 0.11 ± 0.03 Ma to 0.02 ± 0.01 Ma.
 - PHsp** Aphanitic phonite lava flows and spines displaying evidence of shallow subglacial eruption. Strongly-developed, closely-spaced jointing is common. Abundant irregular vesicles may contain analcite.
 - PHpm** Aphanitic phonite lava flows within the medial parts of the volcanic section. Strongly jointed producing thin, commonly radiating columns (~0.5m thick).

- EARLY JURASSIC**
Hazelton Group?
- eJm** Coarse basalt breccia; fine-grained, locally scoriaceous, ± wacke interlayers. May grade into unit eJg and ITrJsc.
 - eJtg** Well-bedded, bright green lapilli ash tuff and tuffite; extensively chlorite - epidote altered; beautiful relief yielding locally overprinted by intense foliation and sericite-quartz schistosity; mafic to intermediate compositions.
 - eJtm** Massive to bedded, maroon ash to lapilli tuff stufite, commonly with a platy cleavage. Similar units occur in Late Triassic and Carboniferous sections.
 - eJdaf** Homblende ± biotite and feldspar crystal-rich dacite ash flow / air fall tuff; commonly light maroon-weathering; preliminary U-Pb zircon age of 187 Ma (N. Joyce, pers. comm.); correlative with Betty Creek Fm. to south.
 - ITrJsc** Dominantly quartz-bearing, turbiditic volcanic sandstone and argillite; lesser calcareous, rusty conglomerate dominated by sedimentary, volcanic and granitoid clasts.
 - ITrJvc** Volcanic conglomerate with carbonate matrix dominated by wacke and feldspar porphyry clasts; a subunit of ITrJsc where mappable.

- LATE TRIASSIC (PROBABLY TO EARLIEST JURASSIC)**
Stuhini Group
- ITrSw** Orange and black turbiditic sandstone and conglomerate with coaly fragments common in 104B/14. Clasts are dominated by brown, altered, tabular feldspar porphyry.
 - ITrSc** Conglomerate and tuffite; orange, coarse biotite crystal-rich matrix; clasts include tabular feldspar porphyry, pyrite and coarse K-feldspar crystals. Cut by breccia dikes and diatremes with similar clasts.
 - ITrSd** Maroon dacite tuff. Feldspar, quartz and minor biotite crystal tuff to lapilli crystal ash tuff. Welding is poorly developed; pumice blocks are compacted. Also white hyalite as coarse breccia, tuff and flow within unit ITrSc; preliminary U-Pb zircon age of ~220 Ma (N. Joyce, pers. comm.).
 - ITrSp** Polymictic conglomerate. Carbonate, feldspar porphyry, pyroxene porphyry and granitoid clasts are common. Ash-rich matrix supported, typically maroon and massive to well-bedded.
 - ITrSvs** Well-bedded maroon and green ash and lesser lapilli tuff and tuffite, commonly feldspar crystal-rich.
 - ITrSp** Feldspar porphyry tuff; mainly breccia, grades into maroon lapilli-ash tuff and may be interbedded with unit ITrSp.
 - ITrSv** Augite feldspar porphyry; orange-tan to green-weathering, coarse, commonly crowded phenocrysts; breccia, ash tuff and lesser pillowed flows.

- MIDDLE TO LATE TRIASSIC**
- ITrT** Dark brown to black, commonly rusty graphic, calcareous, turbiditic argillite-wacke. Sparse decimeter thick, light grey interbeds of micritic trilobites or *Dalmanella* packstone.

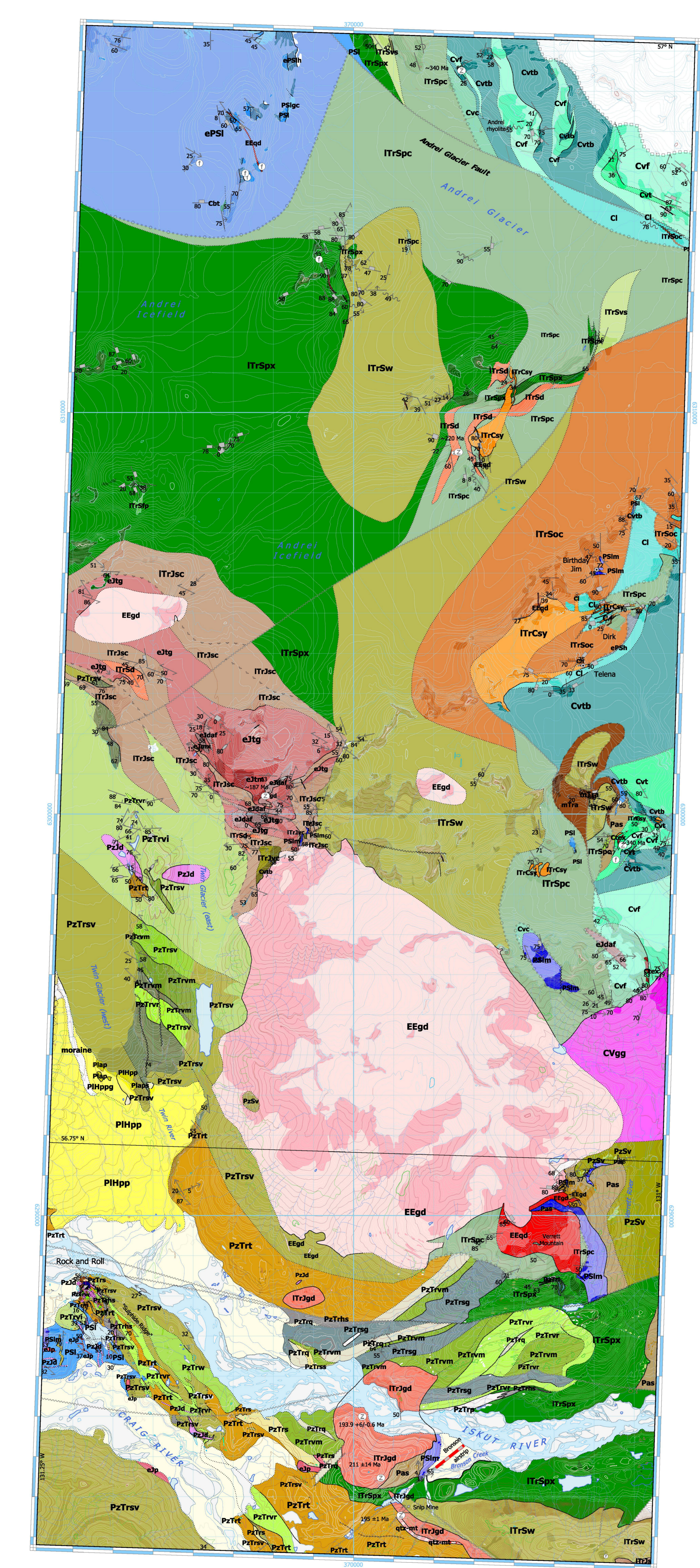
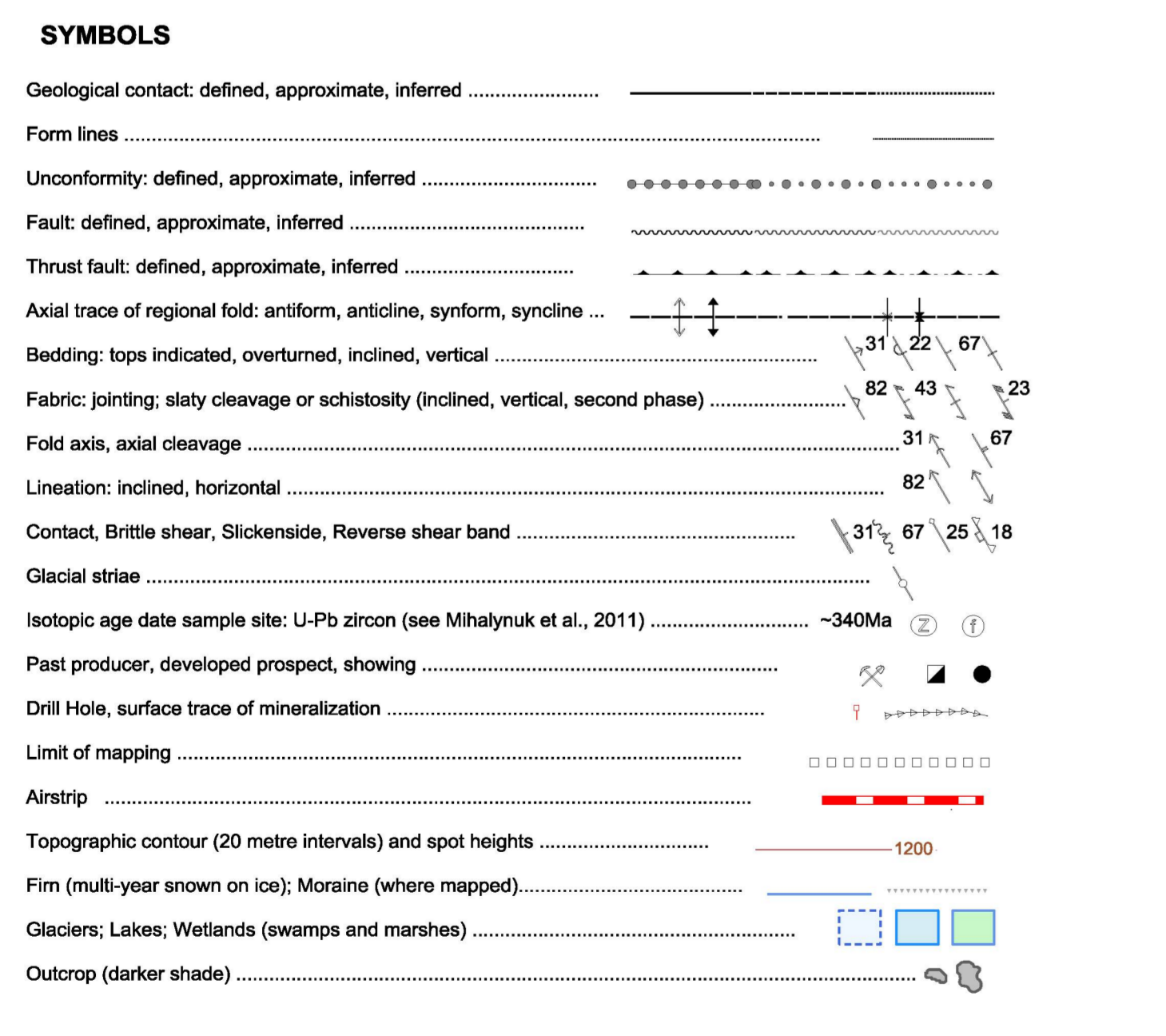
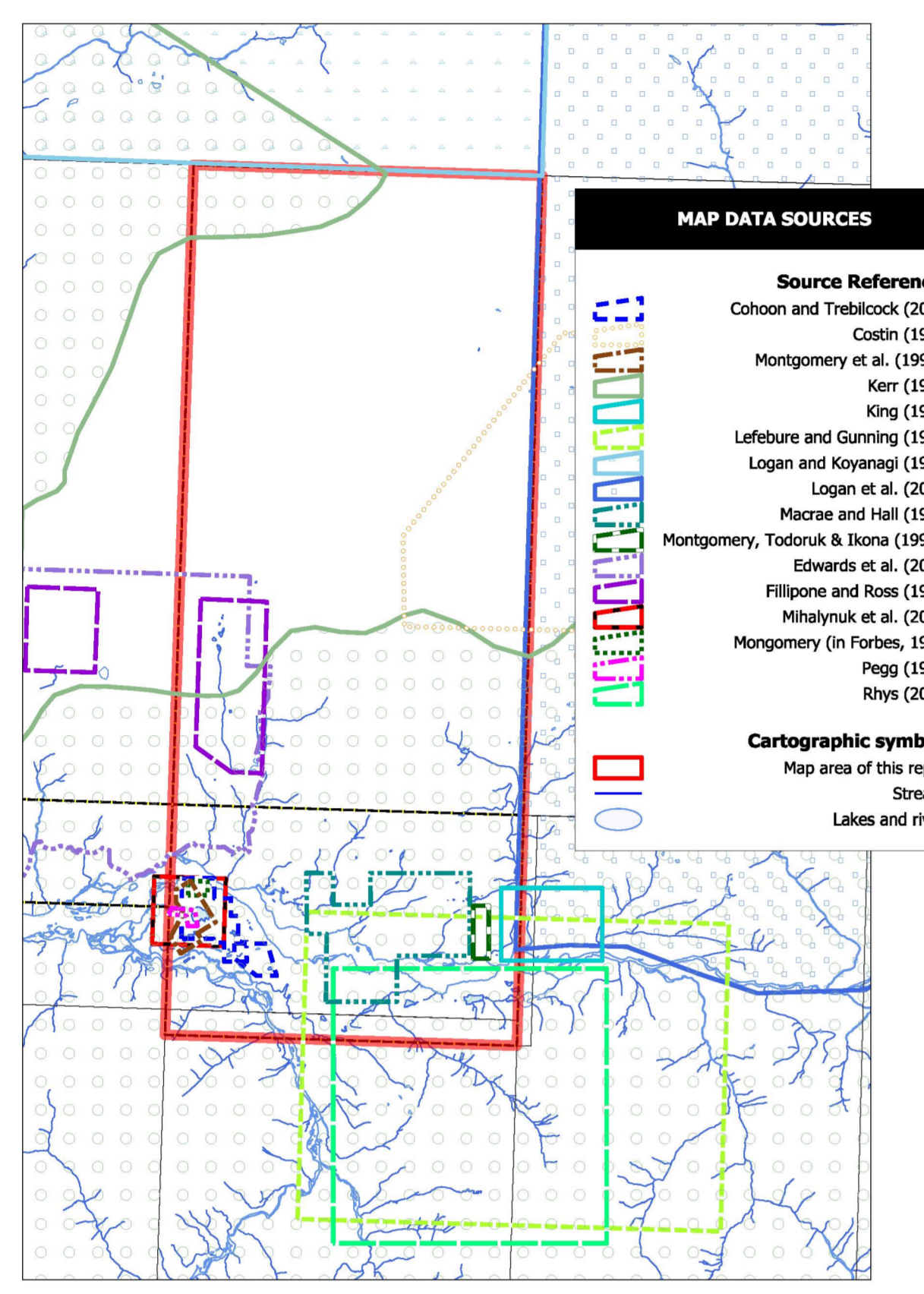
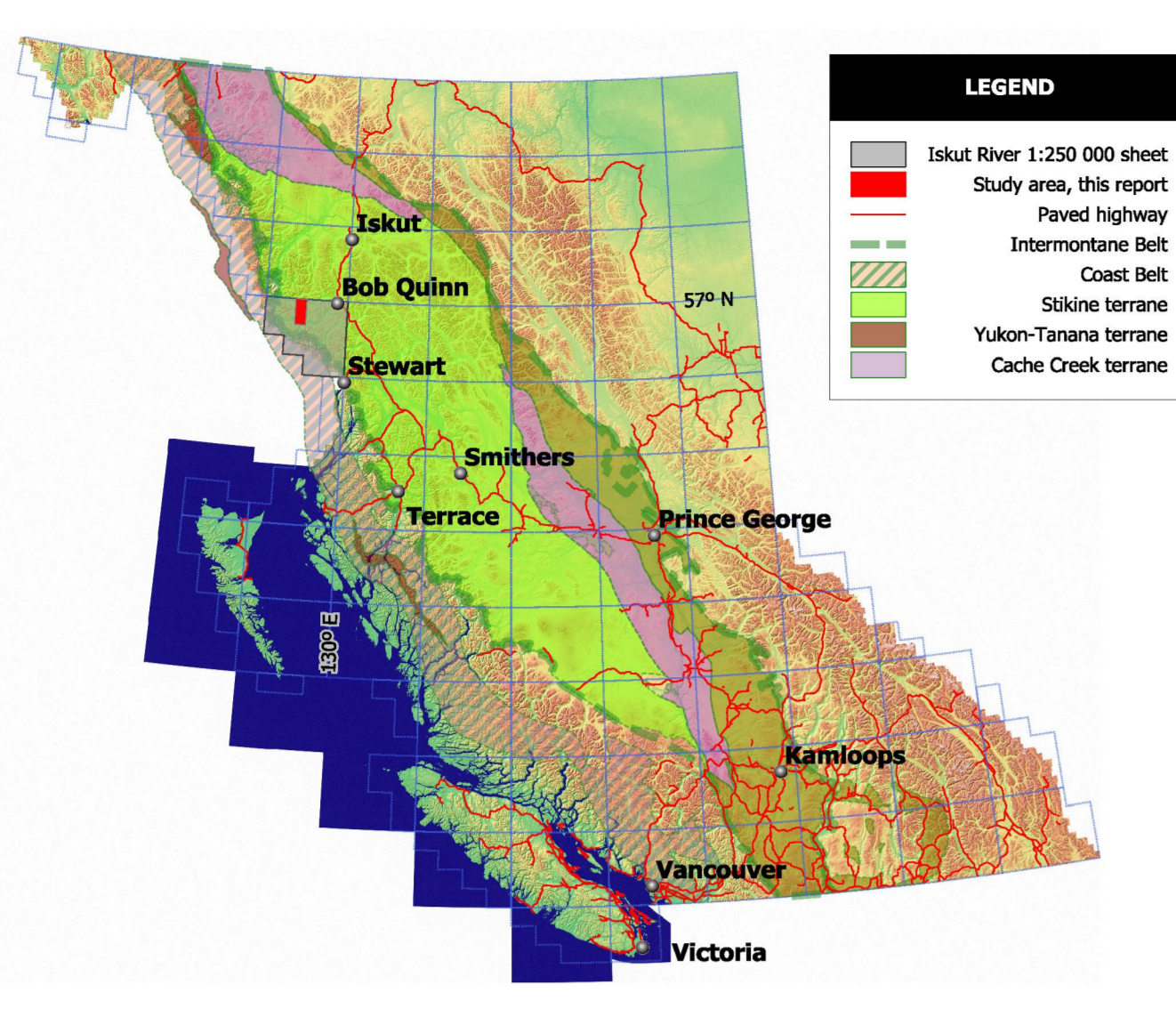
- PALEOZOIC TO TRIASSIC UNDIVIDED**
Metamorphosed Stuhini Assemblage and Stuhini Group, deformed and cut by Late Triassic - Early Jurassic intrusions
- PzTrv** Undivided sedimentary and volcanic rocks.
 - PzTrt** Brown-weathering, slabby recrystallized coralline limestone located south of Mt. Verrett.
 - PzTrvm** Mafic volcanic tuff and minor flows; may display relict pyroxene phenocrysts. Locally magnetite pophyroblasts. Also as dikes.
 - PzTrvl** Breccia and ash of intermediate composition; includes amygdaloidal flows near Twin Glaciers.
 - PzTrvr** Rhyolite and dacite tuff and rare flows (interbedded from drill core near Rock and Roll). Interlayered rhyolite and basalt flows at Twin Glaciers. "Sandstone porphyry" flows south of Mount Verrett; interbedded with quartzite above lower Craig River.
 - PzTrw** Argillite-siltstone; recessive, grey, brown and rust-weathering argillite and laminated siltstone couplets interpreted as A-E turbidites; rare quartz-eye tuff layers near Rock and Roll; may correlate with CVt.
 - PzTrt** Tuffaceous phyllite and volcanic siltstone/wacke; light to dark green and platy-weathering.
 - PzTrs** Siltstone-sandstone; locally well laminated with volcanic association and/or volcanic lithic grains; may contain lenses of conglomerate.
 - PzTrss** Sericite schist (Macrae and Hall, 1983).
 - PzTrp** Porphyritic (Macrae and Hall, 1983).
 - PzTrq** Quartz-rich sandstone southwest of Mount Verrett.
 - PzTrng** Graphic siltstone and argillite; black and rusty, commonly pyritic and recessive. Mainly siltstone southwest of Mount Verrett. At "Subthole Ridge" it is mainly sandy argillite, and hosts mineralization at the Black Dog zone.
 - PzTrts** Chert; may include silicified chertstone and volcanic dust tuff.

- DEVONIAN TO PERMIAN**
Sikine Assemblage - undivided late Paleozoic (Devonian to Permian)
- PSi** Undivided limestone; typically massive, crinoidal grainstone. Probably mainly Early Permian.
 - PSim** White to tan or grey marble. Variable protoliths as young as Permian.
 - PzSv** Metamorphosed intermediate to mafic volcanic tuff.
 - Pas** Calcareous turbiditic wacke; argillite and siltstone couplets.

- mainly Early Permian**
- ePSi** Cream to dark grey limestone, locally with giant fusulinids, silicified bryozoa, bivalves and crinoids common. Possibly ranges in age to Middle Permian.
 - ePSH** Dark grey, thickly bedded (dm to m) limestone with irregular black chert interbeds.
 - ePSg** Well-bedded grey/black and cream/tan-coloured limestone.
 - ePSn** Well-bedded, radiolarian chert; black, grey and rust-weathering. Near the Dirk prospect area cm to dm interbeds with thinner, light grey to yellow-weathering, poorly indurated claystone. Probably ranging in age to Late Carboniferous.
- mainly Middle Carboniferous**
- CVt** Volcanic wacke; argillite; thin lenses or beds of volcanic conglomerate; white rhyolite and dark green mafic clasts; also commonly radiolarian chert; rare cm-thick lenses of pyrite and pyritic clasts.
 - CVc** Well-bedded green to maroon ash to lapilli tuffite and tuff, with sparse, irregular red chert (exhalite?) which may include stratiform pyrite and chlorophylite lenses.
 - CVc** Volcanic conglomerate dominated by wacke and feldspar porphyry clasts. A subunit of CVt where mappable.
 - CI** Crinoidal limestone; typically light grey with large crinoids, well-bedded to massive. Basal parts may be interlayered with basalt.
 - CVf** Felsic volcanic rocks, mainly light yellow to green-weathering rhyolite and dacite; locally displays welding; preliminary U-Pb zircon age of 340 Ma (N. Joyce, pers. comm.).
 - CVk** Mainly green tuff and pillows with Jasper at margins, grades into unit CI; lesser fine-grained rusty wacke and argillite may grade into CVi. Includes one outcrop area (of probable Early Permian age) in NW corner of map area.

- INTRUSIVE ROCKS**
- Early Eocene**
- EEgd** Homblende-biotite granodiorite. White to grey-weathering, locally with xenolith-rich zones and amphibolitic schistone.
 - EEgd** Dark grey, blocky, varietalised biotite homblende quartz diorite and granodiorite.
- Early Jurassic and Late Triassic**
- eJp** Red Bluff stock: K-feldspar porphyry; reported U-Pb zircon age is 195 ± 1 Ma (Macdonald et al., 1992).
 - qtz-mt** Quartz-magnetite alteration zone south of Red Bluff stock (Lefebvre and Gunning, 1986).
 - ITrJgd** K-feldspar megacrystic granodiorite: coarse holocrystalline to porphyritic; secondary fine biotite is pervasive where potassic-altered. Includes Bronson stock with reported U-Pb zircon ages of 193.9 ± 0.6 Ma (Lewis et al., 2001) and 211.4 Ma (Macdonald et al., 1992). Includes non-porphyrific dikes and granodiorite along the Craig River.
 - ITrCv** K-spar porphyritic syenite, generally with abundant primary biotite > hornblende. Breccia, tuff and subvolcanic intrusions. Includes carbonate-biotite-K-feldspar diatremes with multiple generations of botte and/or chrome diopside xenocrysts.
- Paleozoic to Jurassic**
- PzD** Diorite stocks and dikes; variably foliated and/or cataclastically deformed; medium-grained, dark green, includes minor quartz diorite.
- Carboniferous?**
- CVgg** Verrett tuff: graphic granite, tan to orange, rubby to blocky weathering, pyritic, cataclastically deformed north of contact.

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