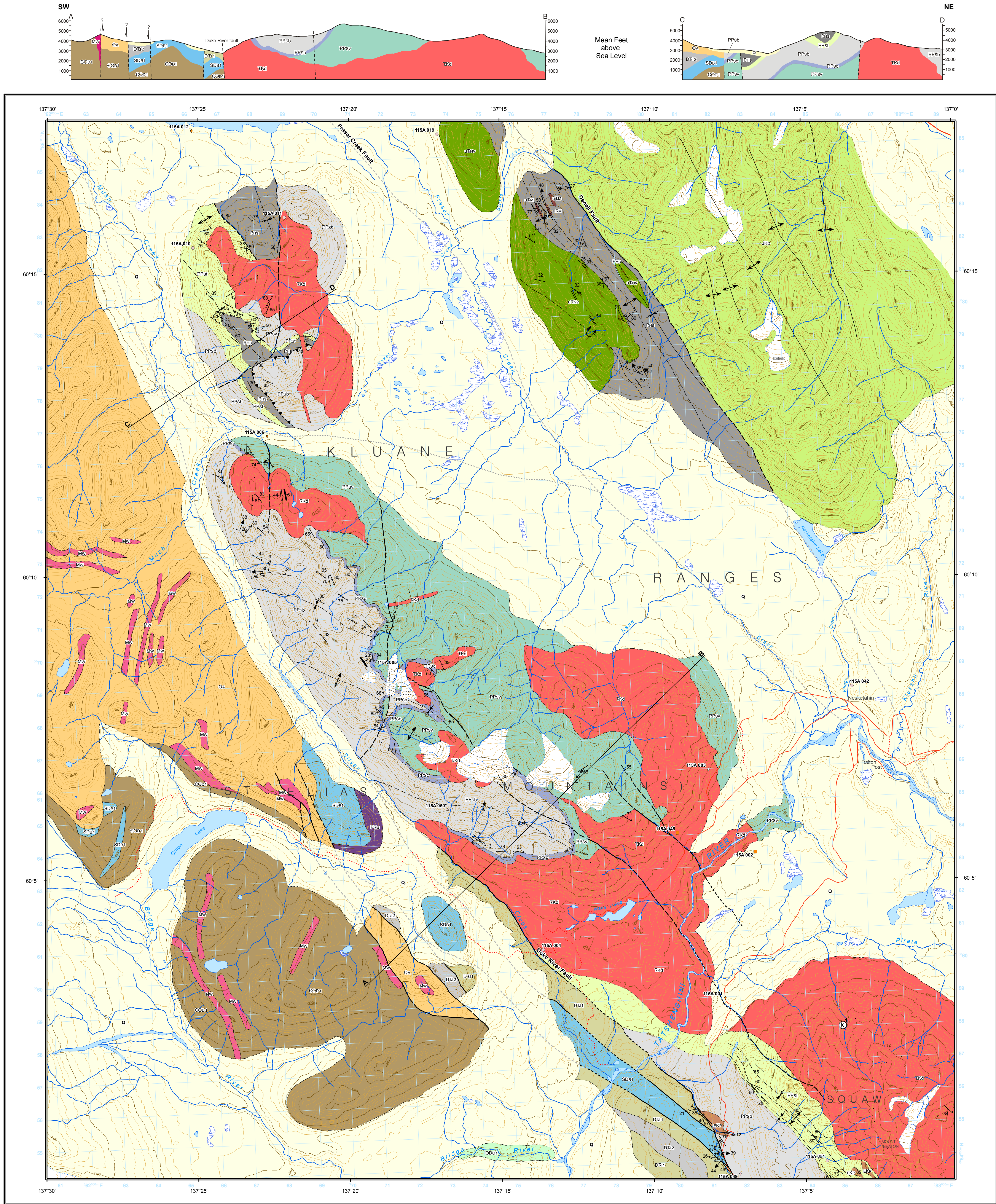




**QUATERNARY**  
**Q** unconsolidated glacial, glaciofluvial and glaciolacustrine deposits; fluvialite silt, sand, and gravel, and local volcanic ash, in part with cover of soil and organic deposits

**INTRUSIVE ROCKS**  
**MW** fine to medium-grained, hornblende +/- biotite granodiorite and porphyritic (K-feldspar) hornblende granodiorite; medium-grained, uniform biotite diorite and pyroxene gabbro; subvolcanic hornblende +/- biotite rhyolite, rhyodacite, dacite

**MIOCENE**  
**Wrangell Suite**  
**Pyroxenite Creek Ultramafic**  
**PKP** medium-grained hornblende pyroxene gabbro, and biotite hornblende diorite; olivine and hornblende clinopyroxenite

**EARLY CRETACEOUS**  
**Pyroxenite Creek Ultramafic**  
**PKP** medium-grained hornblende pyroxene gabbro, and biotite hornblende diorite; olivine and hornblende clinopyroxenite

**TRIASSIC TO CRETACEOUS**  
**YKd** medium to coarse-grained, unfoliated, hornblende diorite to hornblende-biotite, quartz diorite; salt and pepper appearance; locally abundant dark grey fine-grained gabbro; may in part be equivalent to Early Cretaceous Klauane Ranges Suite

**TRIASSIC**  
**Maple Creek Gabbro**  
**PKP** light to dark grey, medium to fine-grained hornblende, pyroxene gabbro

**PERMIAN TO TRIASSIC**  
**PKP** medium to grey-green, massive, medium grained, pyroxene gabbro and greenstone sills; black peridotite, rare dunite; may in part be related to Upper Triassic Klauane mafic-ultramafic suite of the Klauane Ranges

**LAYERED ROCKS**  
**Amphitheatre Formation**  
**OA** yellow-buff to grey-buff sandstone, pebbly sandstone, polymictic conglomerate, siltstone, mudstone; minor brown-grey carbonaceous shale and thin lignitic coal; mostly fluvial and lacustrine deposits, local debris-flow deposits, some shallow marine deposits

**Dezadeash Formation**  
**JKd** interbedded light to dark buff-grey lithic greywacke, sandstone, siltstone, thin dark grey shale, argillite and conglomerate; mass-flow conglomerate common in middle part; rare light grey tuff

**WRANGELLIA**  
**TRIASSIC**  
**Nikolai formation**  
**UKd** dark green/maroon weathered and fresh, massive to locally foliated, amygdaloidal and vesicular basalt flows; rare pillows, volcanic breccia and conglomerate locally developed near base of unit; breccia and conglomerate contain clasts of sedimentary and volcanic rocks of underlying Hasen Creek and Station Creek formations, as well as rounded volcanic clasts typical of the Nikolai basalts

**PENNSYLVANIAN - PERMIAN**  
**Skolai Group**  
**Hasen Creek Formation**  
**Phc** light to medium grey, massive to bedded limestone; locally fossiliferous; fossils include corals and crinoids

**Station Creek Formation**  
**PPst** laminated to thinly bedded, light grey to light green volcanic tuff and volcanoclastic siltstone; local crystal rich tufts interbedded with fine-grained volcanic ash

**PPsb** interbedded volcanic breccia, agglomerate and volcanoclastic sandstone; dominated by pyroxene-phyric volcanic breccia; rare light grey-weathered, dark green to black, fresh, pyroxene-phyric basalt flows

**PPsc** thinly bedded, laminated to massive chert interbedded with crystal tuff; chert is mainly light to dark grey-banded with local black and dark brown massive beds; tuff ranges from maroon to green, fine grained and laminated with phenocrysts of quartz +/- plagioclase

**PPsv** dark green to black-weathered and fresh basalt flows, pillows, pillow breccia and hyaloclastics; red, magnetite-rich jasper found locally as interstitial material between pillows and within pillow breccia, thick accumulations of laminated jasper rarely occur

**ALEXANDER TERRANE**  
**DEVONIAN TO TRIASSIC**  
**Icefield assemblage**  
**DT11** thin to medium bedded, fine to medium-grained, quartz-rich, micaceous, calcareous siltstone to sandstone, mica quartzite, or schist; minor interbedded phyllite, argillite and schist; rare limestone, marble, mafic volcanic rocks and gypsum-anhydrite

**DT12** white to creamy-white gypsum and anhydrite; thin-bedded to massive, light grey to dark bluish-grey limestone or marble; minor dark grey calcareous argillite, calcareous siltstone-sandstone; local buff-grey crinoidal limestone

**SILLURIAN TO DEVONIAN**  
**Bullion Creek Limestone**  
**SDs1** massive to well-bedded light grey limestone or marble, thin-bedded dark grey limestone or marble; minor dark blue-grey calcareous argillite or phyllite

**ORDOVICIAN TO DEVONIAN**  
**Gothard Mountain assemblage**  
**ODg1** yellow to ochre-buff calcareous mudstone-siltstone, grey silty limestone and platy to thick-bedded, cryptocrystalline limestone; local well-bedded limestone in upper parts of unit

**CAMBRIAN TO ORDOVICIAN**  
**Field Creek Volcanics (may include Northern Alek Ranges assemblage and Donjek Range assemblage)**  
**ODs1** massive to well-bedded, coarse to medium-grained greywacke; minor siltstone-sandstone, argillite, phyllite or schist, and mafic intrusions; conglomerate, mafic flows (some pillowed), pyroclastic (?), and volcanic breccia; greenstone

**SYMBOLS**  
geologic contacts (defined, approximate, inferred, covered).....  
fault, movement not known (defined, approximate, inferred, covered).....  
fault, dextral (defined, approximate, inferred, covered).....  
mapping limit.....  
thrust fault (known, approximate, inferred, covered).....  
fold axial trace (upright - anticline, syncline; overturned - anticline, syncline)  
bedding (tops known, inclined, vertical).....  
foliation (dominant, late).....  
stretching lineation.....  
intersection lineation.....  
fold axis (dominant phase).....  
crenulation lineation.....  
dyke, vein.....  
isotopic age locations (K-Ar).....  
field station.....  
cross-section lines.....  
limited use road, trail.....  
ice.....

**Isotopic Age Determinations**  

| Type   | Station #  | Age    | Mineral    | Interpretation  | Reference                |
|--------|------------|--------|------------|-----------------|--------------------------|
| 1 K-Ar | 55-CA-78-7 | 237±24 | hornblende | crystallization | Dodds and Campbell, 1988 |

**Mineral Occurrences**  
**Yukon MINFILE (Deklerk, 2008)**  

| Station # | Age         | Mineral          | Interpretation | Reference |
|-----------|-------------|------------------|----------------|-----------|
| 115A-001  | Jagot       | drilled prospect | Cu, Zn         | vein      |
| 115A-002  | Dalton      | drilled prospect | Cu             | porphyry  |
| 115A-003  | Kane        | past producer    | Ag, Pb         | vein      |
| 115A-004  | Chickaloon  | unknown          |                | unknown   |
| 115A-005  | Photo       | showing          | Cu             | vein      |
| 115A-006  | Mush        | prospect         | Cu             | vein      |
| 115A-010  | Alder       | unknown          |                | unknown   |
| 115A-011  | Three Bears | unknown          |                | unknown   |
| 115A-012  | Cave        | prospect         | Cu             | vein      |
| 115A-019  | Sickle      | anomaly          |                | unknown   |
| 115A-042  | Bont        | unknown          |                | unknown   |
| 115A-045  | Tatshenshni | showing          | Cu             | porphyry  |
| 115A-049  | Dollis      | prospect         | Cu             | vein      |
| 115A-050  | Cashin      | unknown          |                | vein      |
| 115A-051  | Beaton      | unknown          |                | unknown   |

**NOTE:**  
Geology for the area west of the Duke River fault and east of the Denali fault modified from Gordey and Makepeace (2003).

**REFERENCES**  
Deklerk, R. (compiler), 2008. Yukon MINFILE- A database of mineral occurrences. Yukon Geological Survey, www.geology.gov.yk.ca/database\_gis.html  
Dodds, C.J. and Campbell, R.B., 1988. Potassium argon ages of mainly intrusive rocks in the St. Elias Mountains, Yukon, Geological Survey of Canada Paper 87-16.  
Gordey, S.P. and Makepeace, A.J. (compilers), 2003. Yukon digital geology, version 2.0, Geological Survey of Canada, Open File 1749, and Yukon Geological Survey, Open File 2003-9(D), 2 CD-ROMs.

**RECOMMENDED CITATION**  
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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 8  
CONTOUR INTERVAL 100 Feet Elevations in feet above Mean Sea Level

**BEDROCK GEOLOGY  
SILVER CREEK  
YUKON**

SCALE 1:50 000  
0 1 2 3 4 5  
kilometres

True North  
2.2°  
22°43'  
Magnetic North

Use diagram only to obtain numerical values  
APPROXIMATE MEAN DECLINATION 2008  
FOR CENTRE OF MAP

|                             |                        |                          |
|-----------------------------|------------------------|--------------------------|
| 115A/5<br>COTTON WOOD LAKES | 115A/6<br>MUSH LAKE    | 115A/7<br>KLUHNI RIVER   |
| 115A/4<br>BATES RIVER       | 115A/3<br>THIS MAP     | 115A/2<br>TAKKANNE RIVER |
| 115P/13<br>RANGE LAKE       | 114P/14<br>SURVEY LAKE | 114P/15<br>PARTON RIVER  |

Yukon Geological Survey  
Energy, Mines and Resources  
Government of Yukon

Open File 2008-21  
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Silver Creek area, Yukon (NTS 115A/3 and parts of 115A/6)  
(1:50 000 scale)**  
by  
Steve Israel and Rosie Cobbett