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GEOLOGICAL SURVEY OF CANADA — COMMISSION GÉOLOGIQUE DU CANADA

TGI[3] Cordillera — IGC[3] Cordillière

REFERENCES

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1997: Crustal extension and subsequent crustal thickening along the Cordilleran rifted margin of ancestral North America, western Purcell Mountains, southeastern British Columbia. Unpublished PhD thesis, Queen's University, Ontario, Canada, 361p.

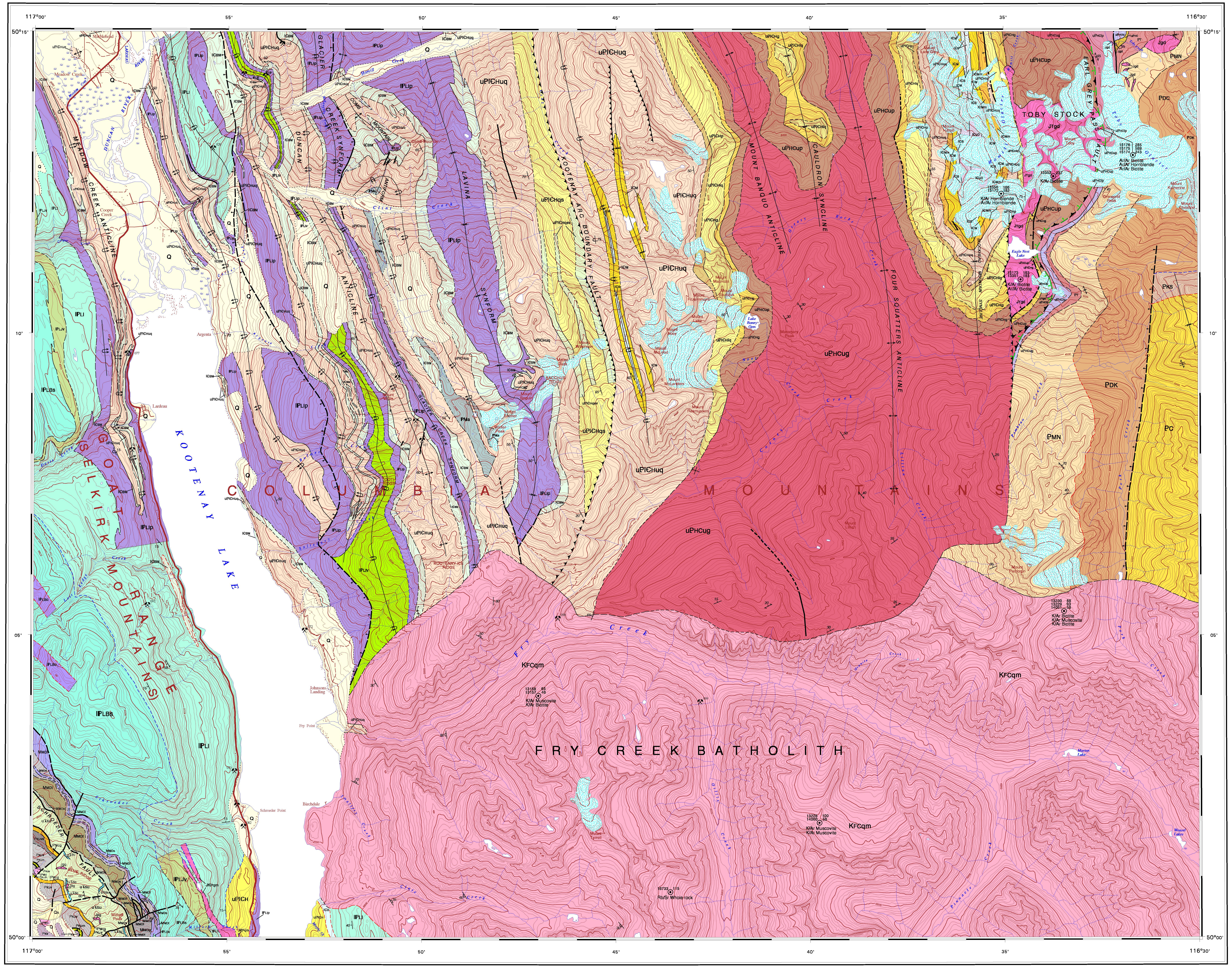
Canadian Geochronology Knowledgebase: http://gdr.nrcan.gc.ca/geochron/index_e.php

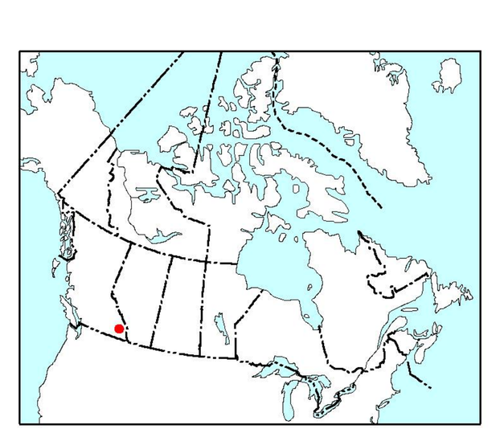
MINERAL OCCURRENCE INDEX

MINFILE NO	NAME	COMMODITY*
082KSE002	FOG	PB,ZN,AG,CU
082KSE011	MOONSHINE (L.1881)	AG,ZN,PB,AU,CU
082KSE014	LAVINA (L.3784)	AG ,PB,ZN
082KSE015	SAL C	ZN,PB
082KSE016	SAL B	ZN,PB
082KSE017	SAL A	ZN,PB
082KSE024	ARGENTA	PB,ZN,CU,AG,AU
082KSE026	ST. PATRICK	AG,PB,ZN
082KSE031	CUBA	AG,PB,ZN
082KSE058	LOOKOUT	AU
082KSE069	PEGLEG	MO
082KSE072	JOHNSONS LANDING	PB,ZN
082KSE073	HI-LO	PB,ZN,CU,WO
082KSE077	LARDEAU	LS
082KSE082	SCHROEDER CREEK	LS
082KSE092	LEDGEND	NI,CO,CU

* Abbreviations for commodities: AG – silver; AU – gold; CO – cobalt; CU – copper; LS – limestone; MO – molybdenum; NI – nickel; PB – lead; WO – tungsten; ZN – zinc

Source: British Columbia Ministry of Energy and Mines, MINFILE database available at: http://www.em.gov.bc.ca/Mining/Geolsurv/Minfile/




LOCATION MAP

OPEN FILE 6188

GEOLOGY

LARDEAU CREEK

BRITISH COLUMBIA

Scale 1:50 000/Échelle 1/50 000

kilometres 1 0 1 2 3 4 kilomètres

Universal Transverse Mercator Projection / North American Datum 1983

Projection transverse universelle de Mercator / Système de référence géodésique nord-américain, 1983

Compilers: R.I. Thompson and P. Dhesi

Geology by: J.T. Fyles, 1960-62; D.W. Klepacki, 1982-84; J.E. Reesor, 1953-57; M.J. Warren, 1991-94

Geological compilation by R.I. Thompson, 2002

Co-ordinated by R.I. Thompson through the auspices of the Targeted Geoscience Initiative 3 (TGI-3)

Digital cartography by P. Dhesi, Geological Survey of Canada, Pacific Division

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

Digital base map from data compiled by Geomatics Canada, modified by the Geological Survey of Canada - Pacific Division

Mean magnetic declination 2009, 16°29'E, increasing 13' annually.

Elevations in feet above mean sea level
Contour interval 100 feet

Universal Transverse Mercator Grid
North American Datum 1983
Zone 11

82 K/6 OF 6184	82 K/7 OF 6183	82 K/8
82 K/3 OF 6187	82 K/2 OF 6188	82 K/1 OF 6189
82 F/14	82 F/15	82 F/16

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE

OPEN FILE
DOSSIER PUBLIC
6188
GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
2009

LEGEND

Cenozoic
QUATERNARY
PLEISTOCENE AND RECENT

- **Q** — *Unconsolidated sediments; glacial deposits, colluvium and alluvium; few if any outcrops; probable subcrop unit within parentheses*
- **Qs** — *Slide*

CRETACEOUS

- **KFcqm** — *FRY CREEK BATHOLITH: Quartz monzonite, granodiorite leucomonzogranite; biotite monzogranite*

JURASSIC

- **JTgd** — *TOBY STOCK (~160 Ma; Ar 40/39): Weakly foliated, mafic-rich, hornblende-biotite granodiorite*
- **JKPqm** — *Kaslo River intrusions (~173 Ma): Foliated to gneissic hornblende quartz monzonite, granodiorite*
- **Jgd** — *Quartz diorite, quartz monzonite*
- **JBg** — *BLUE RIDGE SILLS: Pink to white felsite; light grey leucocratic feldspar porphyry; fine- to medium-grained biotite hornblende leucogranite*

STRATA WEST OF KOOTENAY ARC BOUNDARY FAULT

Paleozoic or Mesozoic

- **PMa** — *Amphibolite (unit A of Fyles, 1964)*

Mesozoic
UPPER TRIASSIC
SLOCAN GROUP

- **uTSu** — *Slocan Formation: Dark-grey argillite; biotite-schist, dark-grey calcareous argillite; dark-grey sooty phyllite; light- to medium-grey meta-siltstone; minor volcanic breccia, sandstone and agglomerate*
- **uTSc** — *Slocan Carbonaceous Limestone: Black, finely-crystalline limestone, calcareous siltstone with shale interbeds*

Paleozoic
UPPER PERMIAN

- **lPMcg** — *Marten Conglomerate: Pebble to cobble conglomerate with grey and green matrix containing clasts of greenstone, diorite, limestone, and occasional serpentinite; matrix is locally calcareous and/or pyritic; local interbeds of limestone (unit TScg of Read and Wheeler, 1974)*

LOWER PERMIAN and(?) older
KASLO GROUP

- **lPWd** — *Whitewater Diorite: Medium-to-coarse-grained, mainly equigranular hornblende diorite; locally intensely sheared and foliated along ductile shear zones*
- **lPKv** — *Undivided Volcanic Rocks (lower plate of Klepacki, 1985): Tholeiitic greenstone, pillow lava, flows, and associated intrusives; breccia; pyroxene-plagioclase porphyry; volcaniclastic rocks*
- **lPKuv** — *Upper Plate Volcanic Member: Tholeiitic, pyroxene-plagioclase porphyry pillow lava; greenstone; breccia; massive tuffaceous rocks; rare volcanic conglomerate*
- **PKuvx** — *Grey-matrix greenstone breccia*
- **lPKum** — *Ultramafic Member (upper plate of Klepacki, 1985): Serpentinite, talc schist, talc-chlorite schist; locally intensely brecciated and/or foliated*

MISSISSIPPIAN
MILFORD GROUP (Davis Assemblage)

- **MMDv** — *Greenstone Member: Tholeiitic greenstone, greenstone breccia, green phyllite, pyroxene-plagioclase porphyry, volcanic conglomerate, pillow breccia*
- **MMDt** — *Cherty Tuff Member: Finely laminated green, white and purple cherty tuff, locally argillaceous*
- **MMDp** — *Siliceous Argillite Member: Bedded black, grey and white siliceous argillite and phyllite; subordinate limestone and cherty tuff*
- **MMDs** — *Sandstone and Phyllite Member: Mainly grey phyllite or slate interbedded with pink to brown feldspathic sandstone; minor calcarenite; grades into map unit MMDp*
- **MMDl** — *Limestone Member: Mainly grey or blue-grey limestone; well-bedded, flaggy, locally with argillaceous partings and basal black carbonaceous argillite and white quartz pebble conglomerate*

LOWER CAMBRIAN TO ?LOWER ORDOVICIAN
LARDEAU GROUP
BROADVIEW FORMATION

- **lPLBc** — *Limestone member: Limestone, grey phyllitic limestone and grey phyllite*
- **lPLBs** — *Grit member: Grey and green phyllitic grit and phyllite*
- **lPLJv** — *JOWETT FORMATION: Green phyllite, limy green phyllite, greenstone*
- **lPLI** — *INDEX FORMATION: Grey and light green phyllite; minor phyllitic limestone and quartz grit (unit 3 of Fyles, 1964)*
  - **lPLIp** — *Grey schist: Fine-grained grey mica schist and garnet mica schist (units 3a and 3b of Fyles, 1964)*
  - **lPLIv** — *Green phyllite, limy green phyllite, chlorite-actinolite schist, garnet mica schist, greenstone (units 3c and 3d of Fyles, 1964)*

LOWER CAMBRIAN

- **lЄBM** — *BADSHOT AND MOHICAN FORMATIONS undivided: Marble, phyllite, muscovite-quartz schist*

late Neoproterozoic to Lower Cambrian
HAMILL GROUP

- **uPlЄH** — *HAMILL GROUP undivided: White, green, and grey quartzite and micaceous quartzite; dark slate, phyllite, and mica schist; some pebbly and feldspathic quartzite*
  - **uPlЄHuq** — *Upper quartzite: Upper part equivalent to MARSH ADAMS FORMATION (Fyles, 1964): intercalated grey and tan quartzite, micaceous quartzite and pelitic schist. Lower part equivalent to MT. GAINER FORMATION (Fyles and Eastwood, 1962; Read and Wheeler, 1976): Discontinuous white quartzite*
  - **uPlЄHqs** — *Lower clastic-volcanic unit: Laterally discontinuous, intercalated green, dark grey and white quartzite, dark grey schist, feldspathic grit, and minor pebble conglomerate*
    - **uPlЄHqsv** — *Metabasite unit: Metabasite and biotite-chlorite schist, minor dolostone and grit*

STRATA EAST OF KOOTENAY ARC BOUNDARY FAULT

LOWER CAMBRIAN

- **lЄuD** — *UPPER DONALD FORMATION (Blockhead Mountain syncline): Thinly interbedded silver muscovite schist or phyllite, light green chlorite schist or phyllite, tan calcareous or dolomitic schist*
- **lЄB** — *BADSHOT FORMATION: Tan or grey marble, dolomitic marble and minor calcareous or dolomitic schist*
- **lЄM** — *MOHICAN FORMATION: Thinly interbedded tan dolomitic schist and dolostone, minor impure quartzite, light green phyllite and quartzose schist*
  - **lЄMm** — *Sandstone member (Blockhead Mountain syncline): Three laterally continuous, thickly cross-bedded, coarse, quartz arenite intervals, up to 10 m thick each, separated by thinner intervals of rusty-weathering schist*

Upper Neoproterozoic to Lower Cambrian
HAMILL GROUP

- **uPlЄHuq** — *Upper quartzite: Thin to medium bedded and cross-bedded white quartzite; minor dark quartzite and pelite (lower part); interbedded pink and green quartzite and dark pelite (upper part); rusty pelite separates lower from upper parts in Blockhead Mountain syncline*
- **uPlЄHp** — *Middle Pelite: Rusty-weathering dolomitic schist, black pelite, dolostone and blue quartz pebble conglomerate, minor dolostone breccia and cobble conglomerate, cross-bedded orthoquartzite (Blockhead Mountain syncline); fine-grained rusty-weathering pelitic schist, green chlorite schist and minor dolomitic schist (Cauldron syncline)*
- **uPlЄHlq** — *Lower quartzite: Thickly bedded to massive orthoquartzite, coarse quartz arenite and grit, locally feldspathic grit and pebble conglomerate; tabular cross beds common*
- **uPlЄHg** — *Basal Grit: White and light grey tabular and trough cross-bedded quartz and arkosic sandstone, grit and conglomerate containing abundant blue and purple quartz, and minor interbedded tan dolostone or dolarenite, black pelite and dark green chlorite schist (Blockhead Mountain and Cauldron synclines); light grey micaceous quartzite, grey phyllite or schist and tan dolostone (Eyebrow syncline, 82 K/7)*

Neoproterozoic
WINDERMERE SUPERGROUP
HORSETHIEF CREEK GROUP

- **uPHCup** — *Upper Pelite: Thinly interbedded, graded micaceous quartzite and grey slate, phyllite or muscovite schist, minor grit and pebble conglomerate, minor dolostone and coarse dolomitic sandstone toward top*
- **uPHCug** — *Upper Grit: Thinly to thickly bedded fining- and thinning-upward succession of feldspathic grit and pebble conglomerate interbedded with pelite and micaceous quartzite*
- **uPHClp** — *Lower Pelite: Brown-weathering thinly interbedded slate to schist, siltstone or quartzite, dolomitic siltstone or schist; minor grit lenses*
- **uPHClc** — *Lower Carbonate: Light grey marble and dark calcareous slate or schist*
- **PT** — *TOBY FORMATION: Homogeneous cream dolostone*
- **PMN** — *MOUNT NELSON FORMATION (Lower part only): Primarily white quartzite and tan micaceous quartzite, minor brown dolostone (included with Windermere Supergroup based on Root, 1987)*

Mesoproterozic
PURCELL SUPERGROUP

- **PDK** — *DUTCH CREEK and KITCHENER-SIYEH FORMATIONS undivided: Argillite, calcareous argillite, quartzite, argillaceous quartzite*
- **PDC** — *DUTCH CREEK FORMATION: Argillite, siltstone, minor dolostone*
- **PKS** — *KITCHENER-SIYEH FORMATION: Laminated, buff-weathering, dolomitic and calcareous argillite and quartzite, green and black argillite; grey and pink quartzite; minor purple argillite*
- **PC** — *CRESTON FORMATION: Massive and laminated, green and grey weathering, green and grey argillaceous quartzite and quartzite, green argillite*

SYMBOLS

- *Foliation (1st generation): inclined, horizontal, vertical*
- *Foliation (2nd generation): inclined, horizontal, vertical*
- *Bedding: inclined, horizontal, vertical, overturned*
- *Igneous layering: inclined, vertical, horizontal*
- *Fold hinge: crenulation lineation*
- *Geochronology sample (http://gdr.nrcan.gc.ca/geochron/index_e.php)* — database no., age, isotopic sys., mineral
- *Mineral Occurrence* — database no.
- *Geological boundary (from Fyles, 1964; Warren, 1997; Klepacki, 1985): defined, approximate, assumed*
- *Geological boundary (from Reesor, 1973): defined, approximate, assumed*
- *Geological boundary (interpreted by compiler): defined, approximate, assumed*
- *Geological boundary: arbitrary*
- *Quaternary limit*
- *Slide*
- *Fault, contraction (teeth indicate upthrust side): defined, approximate, assumed*
- *Fault, extension (solid circles on downthrown side): defined, approximate, assumed*
- *Fault, combination Neoproterozoic to Early Paleozoic extension fault reactivated as Mesozoic contraction fault*
- *Fault, unclassified: defined, approximate, assumed*
- *Syncline: upright, overturned, plunging*
- *Anticline: upright, overturned, plunging*

Recommended citation:
Thompson, R.I. and Dhesi, P. (compilers)
2009: Geology, Lardeau Creek, British Columbia; Geological Survey of Canada, Open File 6188, scale 1:50 000.

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