GEOLOGICAL SURVEY OF CANADA COMMISSION GÉOLOGIQUE DU CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES
MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES

MAP 1: LITHOSTRATIGRAPHIC DISTRIBUTION

QUATERNARY
PLEISTOCENE AND HOLOCENE

- **Gl** — Glaciers and icefields
- **Qal** — Landslides, rockslides
- **Qms** — Mineral Spring Deposits: tufa and rare travertine.
- **Qal** — Glacial, lacustrine and fluviatile gravel, sand, silt and clay; colluvium

JURASSIC TO TERTIARY
ROCKS(?)

- **ld** — Lamprophyre dykes: biotite lamprophyre with grey or green apatite in Kane Creek headwaters; augite lamprophyre west of Wilson Creek

JURASSIC AND/OR OLDER
MIDDLE JURASSIC

- **Jbg** — Blue Ridge Intrusives: pink to white felsite; light grey leucocratic feldspar porphyry; fine- to medium-grained biotite hornblende leucogranite
- **Jg** — Kuskanax Intrusives: medium-grained aggerine-augite leucogranite and leucoquartz monzonite with hornblende, biotite or rare feldspar megacrysts or muscovite

UPPER TRIASSIC TO MIDDLE JURASSIC

- **TrJd** — Davis Ridge Diorite: light green, coarse-grained pyroxene-plagioclase porphyry dykes, sills and plugs; locally well foliated

MIDDLE JURASSIC OR(?) OLDER

- **kgn** — Kaslo River Intrusives: hornblende quartz monzonite; weakly foliated to gneissic

CENOZOIC — MESOZOIC — PALEOZOIC

ROCKS EAST OF THE SCHROEDER FAULT

MISSISSIPPIAN
UPPER MISSISSIPPIAN
MILFORD GROUP: DAVIS ASSEMBLAGE (Mmdv to Mmdl)

- **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 to 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 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

CAMBRIAN TO DEVONIAN(?)
LOWER CAMBRIAN TO MIDDLE DEVONIAN(?)
LARDEAU GROUP (IPb to IPi)

- **IPb** — Broadview Formation: grey quartz mica phyllite or schist; blue-quartz granule grit; quartzite; quartz-pebble conglomerate; all units commonly containing quartz veinlets along the foliation
- **IPj** — Jowett Formation: massive tholeiitic greenstone, locally pyroxene and plagioclase porphyritic; pillow lava; green chlorite phyllite
- **IPi** — Index Formation: muscovite-biotite quartzofeldspathic schist and gneiss; calc-silicate gneiss; grey and white marble; IPim: grey and white marble

CAMBRIAN
LOWER CAMBRIAN

- **lCb** — Badshot and Mohican Formations: white and grey crystalline marble locally interleaved with calc-silicate gneiss, mica schist and quartzofeldspathic gneiss
- **lCh** — HAMILL GROUP: white and brown slaby-weathering micaceous quartzite; muscovite-biotite quartzofeldspathic gneiss; feldspathic gneiss

SCHROEDER FAULT

ROCKS WEST OF THE SCHROEDER FAULT

STUBBS THRUST SHEET

TRIASSIC
UPPER TRIASSIC
ELOCAN GROUP: (Trsc to Trsp)

- **Trsc** — Limestone Member: light grey to black limestone, mainly massive; local black and fetid interbeds; interlayered with Trsp
- **Trsp** — Slate and Phyllite Members: grey slate, phyllite, and argillite; mainly massive but locally rythmically bedded with quartzite, sandstone and calcarenite

PERMIAN
LOWER PERMIAN

- **Pmg** — Marten Conglomerate: pebble to cobble conglomerate with grey and green matrix containing clasts of greenstone, diorite, limestone, and rare serpentinite; matrix is locally calcareous and/or pyritic; local interbeds of limestone
- **Pwd** — Whitewater Diorite: medium-to coarse-grained, mainly equigranular hornblende diorite; locally intensely sheared and foliated along ductile shear zones; Pwdx: porphyroclastic intrusive breccia

PERMIAN AND(?) OLDER
LOWER PERMIAN AND(?) OLDER
KASLO GROUP (Pkv2 to Pkv and Pkuv to kub)

- **Pkv2** — Upper Volcanic Member: tholeiitic pyroxene-plagioclase porphyry greenstone; pillow lava; pillow breccia; tuffaceous greenstone
- **Pks** — Sedimentary Members: green to white cherty tuff; grey and purplish-grey siltceous argillite and phyllite; rare greywacke and volcanic conglomerate; interlayered with Volcanic Members
- **Pkv1** — Lower Volcanic Member: tholeiitic pyroxene-plagioclase porphyry greenstone; pillow lava, breccia; tuffaceous greenstone
- **Pkv** — Undivided Volcanic Rocks: tholeiitic greenstone, pillow lava, flows, and associated intrusives; breccia; pyroxene-plagioclase porphyry; volcaniclastic rocks
- **Pkd** — Kane Creek Diorite: light grey to greenish-grey hornblende diorite and metadiorite, locally foliated and altered to chlorite and saussurite; feeder intrusive for Kaslo Group
- **Pd** — Undifferentiated Diorite: medium grained, equigranular hornblende diorite; locally foliated; may be either Pkd or Pwd

MISSISSIPPIAN TO PERMIAN
UPPER MISSISSIPPIAN TO LOWER PERMIAN
MILFORD GROUP: McHARDY ASSEMBLAGE (MPmmv to Mmmb)

- **MPmmv** — Volcanic Member: tholeiitic greenstone; pyroxene-plagioclase flows, sills and pillow lava
- **MPmmp** — Siliceous Argillite Member: bedded grey siliceous argillite and chert; massive grey siliceous argillite; white siliceous argillite where bleached by intrusives; bedded grey calc-schist; chert pebble conglomerate

STUBBS THRUST FAULT

WHITEWATER THRUST SHEET

PERMIAN AND/OR OLDER
LOWER PERMIAN OR OLDER

- **kub** — Ultramafic Member: serpentinite, talc schist, talc-chlorite schist; locally intensely brecciated and/or foliated

WHITEWATER THRUST FAULT

PENNSYLVANIAN AND/OR YOUNGER
LOWER PENNSYLVANIAN AND/OR YOUNGER
MILFORD GROUP: KEEN CREEK ASSEMBLAGE (MPmks to Pmkp)

- **Pmkp** — Siliceous Wacke Member: dark grey wacke and argillite; quartz-plagioclase mica schist; laminated green and white tuffaceous sandstone; greenstone; pillow lava; volcanics predominate in eastern and argillite in western exposures
- **Pmkl** — Upper Limestone Members: light grey limestone; white marble; interbedded with Pmkp; Pmkl2 : uppermost limestone
- **Pmkv** — Upper Volcanic Member: tholeiitic pyroxene-plagioclase porphyry pillow lava; massive greenstone; grades westward into Pmkp

MISSISSIPPIAN AND PENNSYLVANIAN
UPPER MISSISSIPPIAN TO LOWER PENNSYLVANIAN

- **MPmkl** — Banded Limestone Member: bedded light and dark grey limestone with local grey argillaceous interbeds
- **MPmkv** — Lower Volcanic Member: tholeiitic pyroxene-plagioclase porphyry pillow lava; massive greenstone
- **MPmks** — Basal Clastic Member: bedded plagioclase granulite or argillite; locally containing clasts of quartz and feldspar; local basal conglomerate and metasandstone; MPmkg: basal conglomerate

SCHROEDER FAULT

CAMBRIAN TO DEVONIAN(?)
LOWER CAMBRIAN TO MIDDLE DEVONIAN(?)
LARDEAU GROUP (IPb to IPi)

- **IPb** — Broadview Formation: grey quartz mica phyllite or schist; blue-quartz granule grit; quartzite; quartz-pebble conglomerate; all units commonly containing quartz veinlets along the foliation

MISSISSIPPIAN
UPPER MISSISSIPPIAN AND(?) OLDER

- **Mmmc** — Carbonate Member: mostly massive, locally bedded grey limestone; cream dolostone; medium- to coarse-grained white marble
- **Mmmg** — Cooper Conglomerate: boulder- to pebble-sized matrix-supported conglomerate with clasts of pebble conglomerate, grit, gneiss, diorite, volcanic rock, and quartz monzonite
- **Mmms** — Tuffaceous Sandstone Member: tan and light grey tuffaceous sandstone, bedded, plagioclase-rich
- **Mmmb** — Calc-argillite Member: medium to dark grey argillaceous limestone; grey argillite; amphibole-rich marble

Geological Boundary: defined / approximate / assumed
Fault: defined / approximate / assumed
Thrust Fault (barbs on upper plate): defined / approximate / assumed
Fault with dip, slickensides
Bedding: facing determined (inclined / vertical / overturned); facing undetermined (inclined / vertical)
Foliation[1] (cleavage, schistosity, gneissosity): inclined / vertical
Lineation[1]: mineral lineations / microfold axes / fold axes
Minor Fold[1,2] (axial plane and fold axis): undetermined vergence / northerly vergence / no vergence
Axial Surface Trace[1]: anticline (upright; defined, approximate, assumed / overturned (e.g. to SE); defined, approximate, assumed); syncline (upright; defined, approximate, assumed / overturned (e.g. to NW); defined, approximate, assumed)
Kink Fold[1] (axial plane, fold axis)
Joints, Fracture Set: inclined / vertical / with slickensides
Fossil Locality (F)
Radiometric Age Determination Locality (U-Pb, zircon) (Z)
Addit or Tunnel
Limit of Mapping

[1] Numerical label indicates relative fold generation.
[2] Vergence is the direction of shear implied by fold asymmetry

INDEX MAP

82K/5	82K/6	82K/7
82K/4		82K/2
82F/13	82F/14	82F/15

Location of the study area (ellipse) with respect to maps of the National Topographic System.

Geology by D.W. Klepacki 1982–1984 including areas originally mapped by P.B. Read (1973) and M.S. Hedley (1945).

Topographic base-map from the Survey and Mapping Branch; Department of Energy, Mines and Resources Canada; 1979–1981. This area comprises parts of NTS 82K/2, 82K/3, 82K/6, 82F/14, 82F/15.

Approximate magnetic declination, 1985: 21°10' East, decreasing 5.1' annually.

GEOLOGY

GOAT RANGE
BRITISH COLUMBIA

Scale 1:50 000
Contour Interval 100 Feet

Miles 0 1 2 3 Miles
Metres 1000 0 1000 2000 3000 4000 Metres
Yards 1000 0 1000 2000 3000 4000 Yards

O.F. 1148 Geological Survey of Canada

$ 6.00

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