

**LEGEND**

This legend is common to maps 1635A, 1636A, 1637A, 1638A, coloured legend blocks indicate map units that appear on this map

**OVERLAP ASSEMBLAGES**

**TERTIARY**  
TI Lamprophyre

**JURASSIC AND CRETACEOUS**  
JKLR LITTLE RIVER STOCK: granodiorite and quartz monzonite

**PERMIAN OR YOUNGER**  
Pp Quartz porphyry rhyolite

**QUESNEL TERRANE**

**TRIASSIC AND JURASSIC NORIAN AND (?) YOUNGER QUESNEL RIVER GROUP (uTa1-TjB)**  
TjB Augite porphyry basalt breccia, minor flows, tuff and tuffaceous argillite; local andesitic basalt  
TjA Basaltic tuff and breccia, generally fine grained; argillite, flows, chert

**UPPER TRIASSIC KARNIAN AND (?) NORIAN**  
uTa1 Phyllite, argillite, slaty argillite, quartzite, schist, minor greenschist (subgreenschist to amphibolite (kyanite) facies of metamorphism); uTa1g, conglomerate  
uTa3 Undivided uTa and greenschist, augite-porphyrty breccia, tuff breccia, tuff; possible dykes and sills (subgreenschist and greenschist facies of metamorphism)

**SLIDE MOUNTAIN TERRANE**

**UPPER PALEOZOIC MISSISSIPPIAN TO PERMIAN**  
SLIDE MOUNTAIN GROUP (PMAb-P4)  
uPA ANTILER FORMATION: pillow basalt, breccia, diorite, chert, greyswacke, (minor limestone?); uPAu, serpentinite; uPAS, chert, minor basalt and diorite  
uPC CROOKED AMPHIBOLITE: undifferentiated; uPCu, serpentinite and sheared ultramafic rock; uPCt, facies altered ultramafic rock; uPCa, amphibolite

**PALEOZOIC OR MESOZOIC**  
PMub Serpentine and peridotite (as mapped by Campbell, 1978)

**BARKERVILLE TERRANE**

**LOWER PERMIAN**  
PS Sugar limestone: grey crinoidal limestone, minor grey chert

**UPPER PALEOZOIC? SNOWSHOE GROUP (P4-P14)**  
uPIM ISLAND MOUNTAIN AMPHIBOLITE: amphibolite, minor siliceous mylonite  
uPSC Orange weathering fuchsite-bearing ankeritic carbonate  
uPHM Hardscrabble Mountain succession: black siltite and phyllite, grey micaceous quartzite, limestone, minor metatuff?; uPHMv, greyswacke, muddy conglomerate

**PALEOZOIC?**  
PB Braico succession: marble  
PI Foliated diorite and augite porphyry basalt, gabbroic rocks; includes undifferentiated diabase, diorite

**PALEOZOIC QUESNEL LAKE GNEISS**  
POL Light grey potassium feldspar porphyritic granitic orthogneiss

**PALEOZOIC SNOWSHOE GROUP (H4-H14)**  
PE Eaglesnest succession: olive and grey micaceous quartzite and phyllite  
PD Downey succession: olive and grey micaceous quartzite and phyllite, and undifferentiated rocks; P4a, amphibolite, includes some marble, quartzite and schist; P4c, marble, includes some phyllite, schist, quartzite and amphibolite; P4p, phyllite, schist, metatuff, includes some marble, quartzite and amphibolite; P4v, metatuff, metadiorite, includes some marble, phyllite, schist and amphibolite; (metamorphism ranges from chlorite to kyanite grade)  
PA Agnes succession: quartzite clast conglomerate, quartzite, minor tmy conglomerate  
PGP Goose Peak succession: quartzite, minor conglomerate  
PHR Harvey's Ridge succession: dark grey and grey micaceous quartzite, black quartzite and interbedded dark grey phyllite, schist, siltite, and minor micritic limestone and undifferentiated rocks; PHr, limestone and limestone conglomerate; PHv, purple grey very micaceous quartzite and black phyllite; PHv, grey slate and green metatuff, in part calcareous

**HADRYNIAN OR PALEOZOIC**  
HPT Tom succession: olive grey micaceous quartzite, phyllite and schist

**HADRYNIAN?**  
HKE Kelmley succession: grey and olive, fine micaceous quartzite and phyllite, minor marble; HKEm, marble, phyllite; HKEp, grey and green phyllite, minor olive quartzite; HKEq, white to dark grey quartzite  
HKK Kee Khan marble: marble, calcareous sandstone, micaceous quartzite, green and grey phyllite, in part calcareous  
HT Tregillus succession: grey and olive-grey micaceous quartzite, phyllite and schist; undifferentiated HTg, conglomerate  
HR Ramos succession: olive and olive grey micaceous quartzite, and phyllite, light brown and grey sandstone and undifferentiated rocks; HRs, phyllite, schist, quartzite, calc-silicate rocks, may be partly equivalent to HKc; HRc, limestone, calcareous quartzite; HRp, black siltite, phyllite and slate, may be partly equivalent to PHr; HRv, olive and grey slate and micaceous quartzite, may be part of HKE  
HPS Snowshoe Group undifferentiated: H4 to P4, mainly PHR to PE

**PERMIAN AND/OR TRIASSIC**  
PTs Olive and grey greyswacke and slate

**PENNSYLVANIAN**  
Pc Grey fusulinid and pelleroidal limestone

**MIDDLE PENNSYLVANIAN**  
PAA ALEX ALLAN FORMATION: black micritic limestone, grey and black shale

**ORDOVICIAN TO MISSISSIPPIAN MISSISSIPPIAN OR YOUNGER**  
BLACK STUART GROUP (SD4s-M8s)  
MBS Sandstone unit: olive grey micaceous and white quartzite, black and pink chert

**LOWER MISSISSIPPIAN**  
MG GREENBERRY FORMATION: crinoidal limestone, chert, dolostone

**UPPER DEVONIAN AND LOWER MISSISSIPPIAN**  
DMG GUYET FORMATION: muddy and sandy conglomerate and breccia, granule quartzite and slate

**MIDDLE AND/OR UPPER DEVONIAN**  
DW WAVERLY FORMATION: schistose, calcareous, basaltic tuff, and volcanoclastics, pillow basalt, minor siltite

**UPPER ORDOVICIAN AND DEVONIAN TO MISSISSIPPIAN OR YOUNGER**  
OMBS Black pelite unit: black slate, argillite and cherty argillite, black limestone, dolostone and silticified limestone (in part amphibolite)

**UPPER SILURIAN AND LOWER DEVONIAN**  
SDBS Chert-carbonate unit: light to dark grey chert breccia, grey limestone matrix, dolostone granule to pebble breccia, limestone matrix, chert-quartz-dolostone conglomerate to breccia

**CAMBRIAN TO (?) DEVONIAN**  
CDBS Black Stuart formation (as used by Campbell, 1978)

**HADRYNIAN AND CAMBRIAN LOWER TO (?) UPPER CAMBRIAN CARIBOO GROUP (H4-C4c)**  
CDC DOME CREEK FORMATION: dark shale and limy shale

**LOWER CAMBRIAN**  
ICM MURAL FORMATION: grey limestone, minor shale and argillite

**HADRYNIAN AND/OR CAMBRIAN**  
HCM MIDAS FORMATION: dark siltstone and quartzite, minor shale and argillite  
HCYP YANKS PEAK FORMATION: grey and white, minor pink and green quartzite, minor siltstone and argillite  
HCU MIDAS, YANKS PEAK AND YANKEE BELLE FORMATIONS: undivided

**HADRYNIAN (WINDERMERE)**  
HYB YANKEE BELLE FORMATION: green and grey thin bedded argillite, shale, minor quartzite and limestone; local phyllite and schist

**HC** CUNNINGHAM FORMATION: grey limestone, minor shale, argillite and dolostone

**HI** ISAC FORMATION: dark phyllite, calcareous phyllite, slate, argillite, and minor limestone and micaceous quartzite

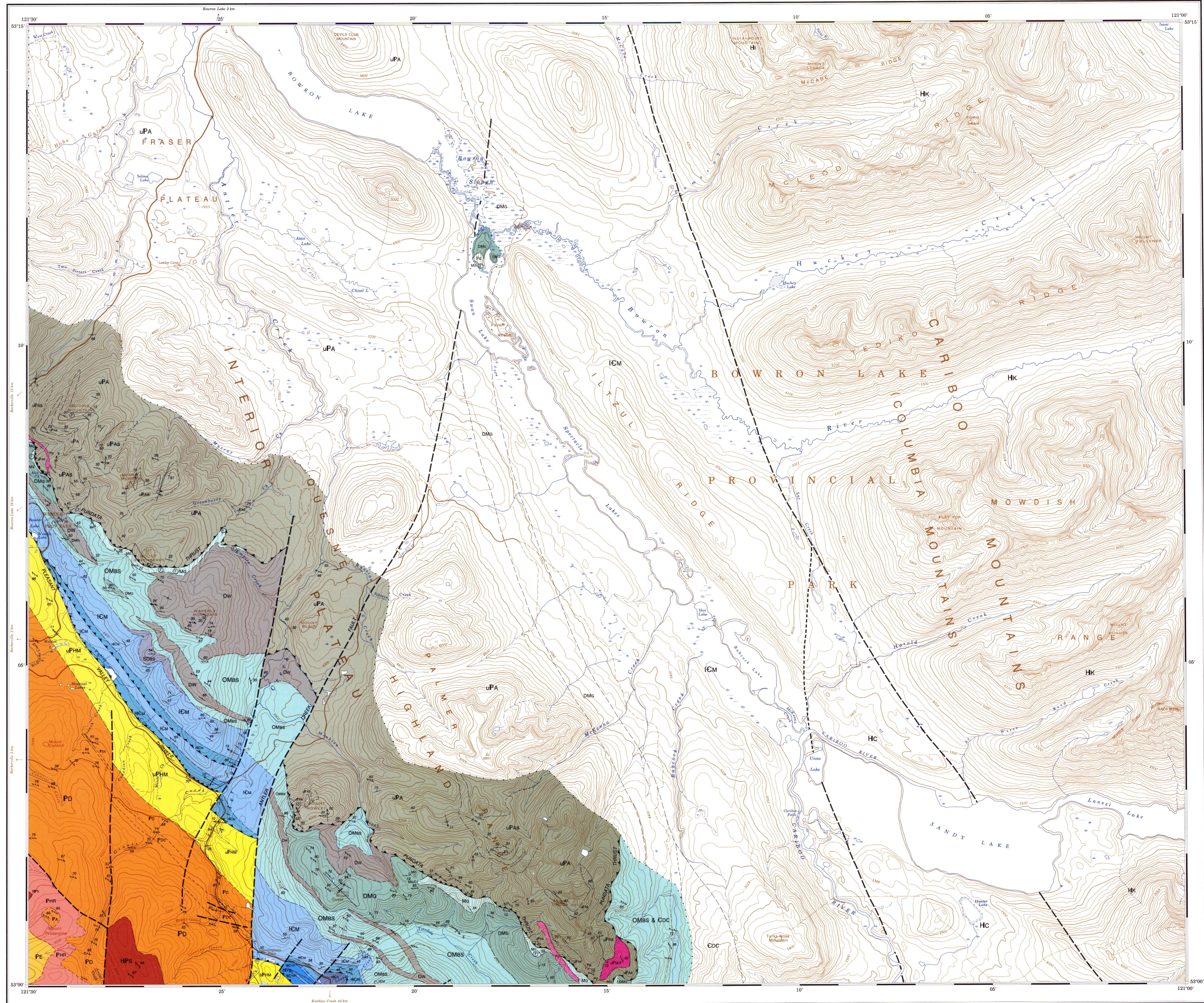
**HCCU** Cariboo Group undifferentiated:

**HADRYNIAN**  
HK KAZA GROUP  
Greywacke, argillite, phyllite, schist, minor pebble conglomerate

**IGNEOUS ROCKS OF UNKNOWN TERRANE AFFINITY**  
MISSISSIPPIAN OR YOUNGER  
uPM4 Diabase, diorite

Calc-silicate rocks (isolated outcrops) ..... CS x  
Geological boundary (defined, approximate, assumed) ..... - - - - -  
Bedding, tops known (inclined, overturned) ..... / / / / /  
Bedding, tops unknown (inclined, vertical) ..... | | | | |  
Bedding parallel to cleavage (inclined, overturned) ..... / / / / /  
Cleavage, first generation (horizontal, inclined, vertical) ..... - - - - -  
Cleavage, second generation (inclined, vertical) ..... - - - - -  
Fault (defined, approximate, assumed) solid circle indicates downthrow side  
Thrust fault (defined, approximate or assumed) hanging wall teeth  
Anticline (upright, overturned) arrow indicates plunge  
Syncline (upright, overturned) arrow indicates plunge  
Antiform  
Minor fold axes (first generation, horizontal, second generation, horizontal)  
Pebble long axis, average trend and plunge  
Fan axis  
Fossil locality  
Garnet isograd (half moon on higher grade side)

Border of detailed geology as mapped by Struk, reconnaissance geology beyond the border is from the McBride map area (Campbell, Mounloy and Young, 1973) and the Quesnel Lake map area (Campbell, 1978)



**REFERENCES**

Campbell, R.B. 1978. Quesnel Lake (93A) map area, Geological Survey of Canada, Open File 574.

Campbell, R.B., Mounloy, E.W., and Young, F.G. 1973. Geology of McBride map area, British Columbia, Geological Survey of Canada, Paper 72-35.

Recommended citation:  
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1988. Geology, Spectacle Lakes, Cariboo Land District, British Columbia: Geological Survey of Canada, Map 1636A, scale 1:50 000.

Copies of this map may be obtained from the Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario K1A 0E8, 2803-28th Street, N.W., Calgary, Alberta T2C 2A7, 100 West Pender Street, Vancouver, B.C. V6B 1P8.

MAP 1636A  
GEOLOGY  
**SPECTACLE LAKES**  
CARIBOO LAND DISTRICT  
BRITISH COLUMBIA

Scale 1:50 000 - Echelle 1/50 000

Geology by L.C. Struk, 1977 - 1982

Geological cartography by P.P. Hermann, Geological Survey of Canada

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

Base map at the same scale published by the Surveys and Mapping Branch in 1981. Roads were revised by the Geological Survey of Canada for this edition.

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Approximate magnetic declination 1986, 23°05' East, decreasing 15.1' annually

Elevations in feet above mean sea level

9308	9310	9312	9314
9316	9318	9320	9322

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO THE BOUNDING SHEETS OF THE GEOLOGICAL SURVEY OF CANADA 1982

**SPECTACLE LAKES**  
CARIBOO LAND DISTRICT  
BRITISH COLUMBIA