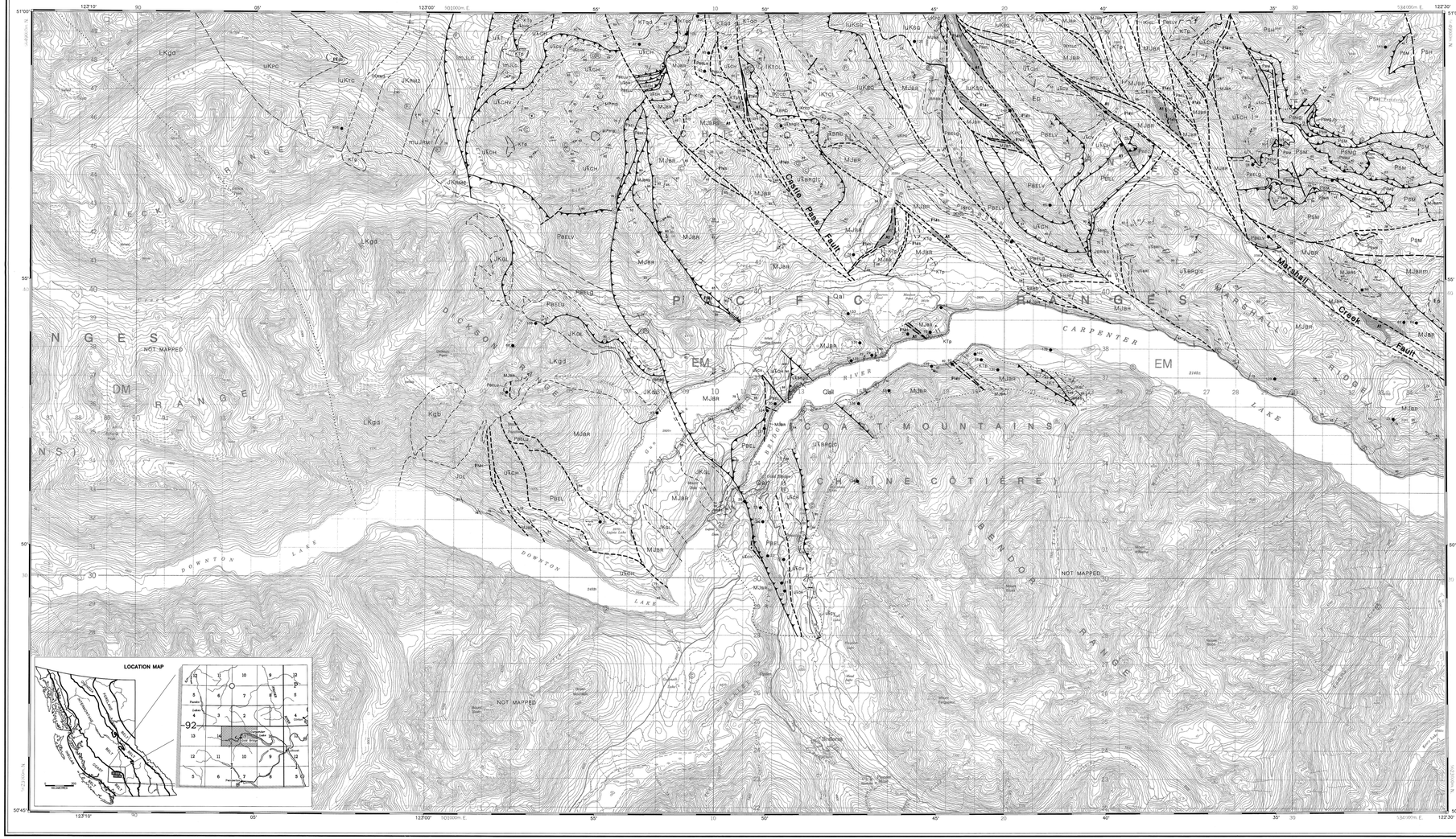


Cartography by P. Chicorelli

BC Ministry of Energy, Mines and Petroleum Resources

Geological Survey Branch

GEOSCIENCE MAP 1993-7

GEOLOGY OF THE BRALORNE (NORTH HALF) AND NORTHEASTERN DICKSON RANGE MAP AREAS

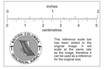
NTS 92J/14, 15

Geology compiled by P. Schiarizza and R.G. Gaba

Based on geological mapping by P.Schiarizza, R.G. Gaba, J.J. Garver, J.K. Glover, R.W.J. Macdonald, D.A. Archibald, T. Lynch, K.E. Sutton, P.P. Gajalski, T. Calon, J. Marjaia and P.J. Umhoefer (1988-1990)

Scale 1:50 000

0 1 2 3 4 5 KILOMETRES



LEGEND

QUATERNARY

Qal — Unconsolidated glacial, fluvial and alluvial deposits; volcanic ash; locally may include small bedrock exposures not examined during the present study

TERTIARY

Eocene(?)

Ev — Light grey porphyritic dacite and volcanic breccia

Paleocene or Eocene(?)

PEbs — Basalt flows and flow breccia

RELAY MOUNTAIN - BRIDGE RIVER OVERLAP
(UPPER TYAUGHTON BASIN)

UPPER CRETACEOUS

uKvc — POWELL CREEK FORMATION: medium to dark green volcanic breccia and lapilli tuff; volcanic conglomerate; pyroxene porphyry flows

LOWER AND/OR UPPER CRETACEOUS

Albian and/or Cenomanian

luKsp — SILVERQUICK FORMATION: medium to thick-bedded pebble to cobble conglomerate containing clasts of chert, volcanic rock and sandstone; lesser amounts of sandstone, siltstone and shale; upper part of unit includes intercalations of volcanic breccia and volcanic conglomerate

LOWER AND(?) UPPER CRETACEOUS
TAYLOR CREEK GROUP (lKtc, luKtc)

Albian

lKtcL — LIZARD FORMATION: thin to medium-bedded, light brown to grey-weathering micaceous quartzofeldspathic sandstone, and dark grey laminated shale; lKtcLp - thick-bedded polymict conglomerate, micaceous quartzofeldspathic sandstone, green lithic sandstone and conglomeratic sandstone

lKtcD — DASH FORMATION: orange-weathering, medium to thick-bedded, locally massive chert-pebble conglomerate, thin to medium-bedded chert-rich sandstone, and dark grey shale and siltstone

Albian and(?) older and(?) younger

luKtc — Volcanic sandstone, pebble conglomerate and shale; micaceous quartzofeldspathic sandstone; intermediate to felsic volcanic flows and tuffs

RELAY MOUNTAIN TERRANE
(LOWER TYAUGHTON BASIN)

MIDDLE JURASSIC TO LOWER CRETACEOUS
RELAY MOUNTAIN GROUP (lKbas to mJuMan)

Hauterivian and(?) Barremian

lKbas — Dark grey shale and siltstone; sandstone and calcareous sandstone

Upper Oxfordian to Valanginian

JKmu — Sandstone, siltstone, shale; calcareous sandstone, coquina; conglomerate containing mainly volcanic and plutonic clasts

Callovian to lower Oxfordian

mJuMan — Siliceous shale, siltstone and fine grained sandstone; medium to coarse grained sandstone and calcareous sandstone; pebble conglomerate containing mainly felsic to intermediate volcanic clasts

BRIDGE RIVER TERRANE

GAYDORH ASSEMBLAGE (JKr and JKsL)

JURASSIC AND/OR CRETACEOUS

JKr — TRAUX CREEK CONGLOMERATE: polymict conglomerate; minor amounts of sandstone and shale

JKsL — GUN LAKE CLASTIC UNIT: sandstone, siltstone and shale; minor amounts of pebble conglomerate

BRIDGE RIVER COMPLEX (Jassa to MJsen)

JURASSIC AND(?) OLDER

Jassa — Argillite, sandstone and chert; minor amounts of pebble conglomerate, greenstone, limestone and serpentinite

UPPER TRIASSIC

uTsmp — Marly pillowed to massive greenstone and lower Norian limestone; lesser amounts of chert, argillite, diabase, sandstone and pebbly mudstone; uTsmL - limestone

TRIASSIC AND(?) OLDER

Tsms — Blueschist: glaucophane-lawsonite schist; glaucophane-epidote-garnet-white mica schist; glaucophane-stilpnomelane-epidote-calcite-quartz schist; also includes non-schistose pillowed and massive greenstone containing minor amounts of blue amphibole

MISSISSIPPIAN TO MIDDLE JURASSIC

MJsm — Undivided ribbon chert, argillite, phyllite, quartz phyllite and pillowed to massive greenstone, with lesser amounts of limestone, gabbro, diabase, sandstone, pebble conglomerate and serpentinite

MJsen — Serpentinite with knockers and fault slivers of other Bridge River rock types

MJsen — Biotite-quartz schist, biotite-chlorite-actinolite schist, calcareous actinolite schist, talc schist, metachert and marble

CADWALLADER TERRANE

JURASSIC(?)

JDc — DOWNTON LAKE UNIT: siliceous argillite and siltstone; lesser amounts of sandstone, conglomerate, silty limestone and carbonaceous limestone

LOWER TO MIDDLE JURASSIC
Hettangian to Bajocian

lmJLc — LAST CREEK FORMATION: brown calcareous sandstone, siltstone and conglomerate; dark grey to black calcareous shale

UPPER TRIASSIC
Middle(?) and upper Norian
TYAUGHTON GROUP

uTt — Massive to thick bedded conglomerate and conglomeratic sandstone intercalated with medium to thin-bedded red to brown sandstone; conglomerate contains clasts of limestone, intermediate to felsic volcanic rocks and locally plutonic rocks

Lower and middle Norian (and? older)
CADWALLADER GROUP (uTcc to uTcv)

uTcc — CHERTY CREEK UNIT: chert pebble conglomerate (uTcw)
Thin to thick-bedded sandstone, calcarenite and siltstone; lesser amounts of polymict conglomerate with clasts of limestone, mafic to felsic volcanic rocks and granitoid rocks; locally includes pebbly mudstone, limestone-greenstone breccia and micritic limestone

uTcw — Greenstone, mafic volcanic breccia and tuff intercalated with sandstone, tuffaceous sandstone, micritic limestone and polymict conglomerate containing clasts of limestone, mafic to felsic volcanic rocks and granitoid rocks

uTcv — VOLCANIC UNIT: pillowed to massive greenstone, mafic volcanic breccia and mafic tuff

OPHIOLITIC ASSEMBLAGES

PERMIAN

Pelc — BRALORNE-EAST LIZA COMPLEX: pillowed and massive greenstone, greenstone breccia, diabase, gabbro, diorite, quartz diorite, soda granite and serpentinite; minor amounts of limestone and chert; Pelcv - mainly pillowed to massive greenstone and greenstone breccia; Pelcg - mainly gabbro, diabase, diorite, quartz diorite and soda granite; Pelcu - mainly serpentinite and serpentinized ultramafic rocks

PERMIAN (AND YOUNGER AND? OLDER)
SHULAPS UNITS (Psm, Psw, Psu, Psg, Psd, Psp)
SERPENTINITE MELANGE UNIT: serpentinite derived from olivine-clinopyroxene ultramafite (locally metamorphosed to olivine-talc-serpentine and olivine-talc-magnesite schists, or altered to listwanite), with knockers of ultramafic rock, gabbro, diorite, diabase amphibolite, greenstone, rodingite, chert, phyllite, sandstone, conglomerate and limestone; Psmu - wehrlite, websterite, dunite and clinopyroxenite; Psmg - gabbro, in part layered, with minor pyroxenite; Psws - conglomerate, sandstone, phyllite and chert

Psu — HARZBURGITE UNIT: harzburgite, with lesser amounts of dunite and orthopyroxenite (variably serpentinized); locally with a penetrative foliation and lineation inferred to be a mantle tectonite fabric

PALEOZOIC AND/OR MESOZOIC

PSu — Serpentinite, serpentinized ultramafite and quartz-carbonate-mariposite-altered rocks (listwanite); PMsf - undivided serpentinite, listwanite, and fault slivers of mainly MJsm and lulsb

INTRUSIVE ROCKS

TERTIARY
Miocene or Pliocene(?)

uMmp — Mafic plugs

Eocene(?)

Ep — Hornblende-biotite-quartz-feldspar porphyry

LATE CRETACEOUS AND/OR EARLY TERTIARY

KTgr — Granite

KTqd — Equigranular quartz diorite to granodiorite

KTp — Hornblende-feldspar porphyry, hornblende-biotite-feldspar porphyry and felsite

KTd — Diorite, gabbro

LATE CRETACEOUS

LKgd — Granodiorite

CETACEOUS (?)

Kgb — Gabbro

SYMBOLS

Geological contact (defined, approximate, assumed)

Bedding, tops observed (inclined, vertical, overturned)

Bedding, tops not observed (inclined, vertical)

Bedding estimated from pillows (inclined, overturned)

Phase layering in ultramafic and mafic rocks

Cleavage, schistosity (inclined, vertical)

Crenulation lineation

Mesoscopic fold axis

Anticline (upright, overturned)

Syncline (upright)

Thrust or reverse fault; teeth on upthrust block (defined, approximate, assumed)

Fault; solid dot indicates downthrown block, arrows indicate relative sense of strike-slip movement (defined, approximate, assumed)

Alteration zone (At - quartz-carbonate-mariposite; carbonate)

Mineral occurrence (number refers to 92J/NE MINFILE number; W26 is 92J/W MINFILE number)

Macrofossil locality

Plant fossil locality

Radiolarian fossil locality

Conodont fossil locality

Conodont from clast in conglomerate

Limit of quaternary cover

Limit of geological mapping

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