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LEGEND

QUATERNARY

PLEISTOCENE

QPl — *SHINGLE CREEK PORPHYRY: massive, buff and pink, fine grained porphyritic granite and felsite with euhedral phenocrysts of K-feldspar to 10 cm across: occurs as dykes under, and feeders to, the volcanic rocks of the Marron Group, espacially the Kitley Lake Formation: a shallow level equivalent of the Coryell Syenite: includes rhomb porphyries and related rocks*

TERTIARY

MIOCENE

mTv — *PLATEAU BASALT: andesite and basalt with augite and hornblende phenocrysts to 5 mm in a black aphanitic matrix: forms massive flows to 20 m thick: locally underlain by poorly sorted boulder conglomerate and pebbly sandstone: K-Ar cooling ages of 2.9 and 14.9 Ma: includes Daves Creek Basalt (14.9 Ma) and Carrot Mountain alkali basalt (11.8 Ma)*

EOCENE

Eor — *OLALLA RHYOLITE: rhyolite breccia, massive obsidian and related dykes*

Ema — MARRON GROUP
Undifferentiated andesite, dacite and trachyte of the Marron Group: may include minor epiclastic rocks equivalent to Ewl *and* Esb.

Es — *SKAHA FORMATION: brecciated greenstone (Old Tom Formation), brecciated chert (Shoemaker Formation,* Es1*), and brecciated granite (Oliver Granite,* Es2*) resting as fault slices hundreds of metres across, above the White Lake Formation on gently dipping faults: includes undifferentiated polymictic fanglomerate and arkose resting unconformably on these brecciated rocks: near Rock Creek includes heterogeneous epiclastic breccia (Klondike Mountain Formation)*

Ewl — *WHITE LAKE FORMATION: massive to thick bedded volcanic breccia and pyroclastic rocks with clasts of Trepanier Rhyolite and Kitley Lake and Yellow Lake formations: includes interbedded medium and thin beds of brown sandstone and clayey siltstone, minor carbonaceous seams: includes minor trachyte and andesite. Palynomorphs from Powers Creek indicate a Middle Eocene or older age*

Em — *MARAMA FORMATION: medium brownish grey, flow banded dacite with subhedral plagioclase, hornblende and biotite phenocrysts to 5 mm in an aphanitic ground: forms the top of Black Knight Mountain, Mount Boucherie, Aeneas Butte, Mount Law*

En — *MARAMA FORMATION-NIMPIT LAKE MEMBER: recessive, reddish weathering, amygdaloidal, trachyandesite with minor intercalated pyroclastic deposits: includes undifferentiated intrusive equivalents*

Ek — *KITLEY LAKE FORMATION: massive, yellowish to buff, trachyte to trachyandesite; plagioclase and biotite glomerophenocrysts to 3 cm (10 % of the rock) in a finely crystalline groundmass: includes ash flow tuff and minor mudstone: includes undifferentiated intrusive equivalents. Church determined K-Ar ages between 52.9 (biotite) and 44.2 Ma (whole-rocks)*

Eyl — *YELLOW LAKE FORMATION: massive to thick, tabular flows of buff to light tan pyroxene-rich, mafic phonolite locally with rhomb anorthoclase phenocrysts and primary analcite, abundant zeolite fills cracks and amygdules: includes undifferentiated intrusive equivalents*

Etr — *TREPANIER RHYOLITE: white and locally pink, greenish or light grey, flow banded rhyolite with subhedral quartz, hornblende and biotite phenocysts to 3 mm in an aphanitic matrix. K-Ar ages of 47.7 and 46 ± 2 Ma were determined by Church (1981) west of Trepanier*

Esb — *SPRINGBROOK FORMATION: poorly sorted, massive to thick bedded, immature, coarse boulder and pebble conglomerate. Clasts to 50 cm are rounded, but of low sphericity and are locally derived (chert, greenstone, granite, and other pre-Eocene rocks with fewer Marron Group clasts, mainly Yellow Lake and Kitley formations). Near Rock Creek this unit consists of white to light grey, medium bedded, feldspathic sandstone, siltstone and shale with coaly partings, named the Kettle River Formation*

Ec — *CORYELL SYENITE: alkalic to calc-alkalic, high level, pink and buff syenite and quartz monzonite and trachytic pink feldspar porphyry dykes: plutonic equivalent of the Marron Group especially the Kitley Lake Formation: gradational to pulaskite and to Shingle Creek Porphyry: probably includes* JKg *undifferentiated in East half of map area: poorly dated*

Esc — *SHINGLE CREEK PORPHYRY: massive, buff and pink, fine grained porphyritic granite and felsite with euhedral phenocrysts of K-feldspar to 10 cm across: occurs as dykes under, and feeders to, the volcanic rocks of the Marron Group, espacially the Kitley Lake Formation: a shallow level equivalent of the Coryell Syenite: includes rhomb porphyries and related rocks*

Egn — *"OKANAGAN GNEISS": massive, medium grey weathering, resistant hornblende-biotite granodiorite orthogneiss: strongly foliated: grades to mylonitic gneiss, mylonite and blastomylonite: minor amphibolite and paragneiss- minor schist: minor pegmatite and aplite: strongly chloritized along Okanagan Fault: grades eastward (and up the structural succession) to* JKg, mJg *and* Pm *units of which it is presumed as to the sheared equivalent: probably also includes sheared equivalents of the Anarchist Group: presumed sheared and thermally overprinted during the Eocene:* Egn1*- quartz chlorite microbreccia and related altered rocks close to the Okanagan Fault*

Egng — *Massive, light grey weathering, biotite granite gneiss and granodiorite gneiss with pegmatite veins and sills*

Eg — *Hornblende granodiorite: massive, resistant, grey weathering, coarse grained, equigranular mesocratic with euhedral fresh black hornblende crystals; locally weakly foliated: age poorly constrained*

CRETACEOUS AND/OR JURASSIC

JKg — *OKANAGAN BATHOLITH: massive, light grey weathering, medium- to coarse-grained, equigranular to porphyritic, unfoliated to weakly foliated, fresh biotite granodiorite and granite: includes undifferentiated granodiorite of the Nelson suite: age poorly constrained*

Jo — *OLIVER PLUTON: massive, unfoliated, medium grained porphyritic biotite granite with weakly foliated, equigranular hornblende granodiorite along the southern border: includes* Jod*, biotite-hornblende diorite agmatite and* Jog*, massive garnet-muscovite granite; age poorly constrained*

Jos — *OSOYOOS GRANODIORITE: recessive, pasty greenish, hornblende granodiorite: pervasively saussuritized, chloritized, sheared and fractured; age unknown*

MIDDLE JURASSIC

mJg — *NELSON PLUTONIC ROCKS: massive, generally moderately foliated, medium grey weathering, medium- to coarse-grained, equigranular, hornblende-biotite granodiorite, quartz diorite and granite: includes undifferentiated biotite granite of the Valhalla suite: age poorly constrained*

mJum — *OLALLA PYROXENITE: black, fresh, massive, medium- to coarse-grained pyroxenite, hornblendite, serpentinite and peridotite*

Jgd — *KRUGER SYENITE: massive, medium grained, biotite hornblende granodiorite with a marginal zone of megacrystic, mesocratic coarse grained hornblende syenite*

UPPER TRIASSIC AND/OR LOWER JURASSIC

ROSSLAND AND/NICOLA GROUPS

uTrv — *Massive greenstone, andesite, latite, agglomerate and volcanic breccia of greenstone fragments locally with limestone clasts, minor greywacke: minor interbedded limestone: includes lenses of silicified equivalents: may include undifferentiated Lower Jurassic volcanics of similar lithology*

uTrns — *Rusty weathering, black pyritic slate, phyllite and argillite, locally silicified or "cherty": minor quartzite:minor interbedded argillaceous limestone: includes undifferentiated greenstone lenses*

ORDOVICIAN TO UPPER TRIASSIC

uTrot — *OLD TOM FORMATION: massive andesitic greenstone and greenstone breccia: locally includes large, extensive, strongly silicified equivalents in irregular bodies and lenses with gradational boundaries, which are undifferentiated: includes a few small lenses of undifferentiated limestone: minor diorite: unit is poorly understood: known to contain Ordovician, Carboniferous and Triassic fossils- undifferentiated; relations to Shoemaker Formation are gradational*

uTrs — *SHOEMAKER FORMATION: massive, greyish green silicified volcanic rocks, including "cherty" tuff and breccia: includes undifferentiated massive greenstone: may include chert: generally fractured and broken by irregular spaced cleavage: may be largely the silicified equivalent of the Old Tom Formation*

uTri — *INDEPENDENCE FORMATION: massive greenstone- volcanic breccia with greenstone fragments- includes large undifferentiated silicified lenses: includes lenses of undifferentiated limestone: resembles the Old Tom and Shoemaker formations*

MIDDLE AND (?)LOWER TRIASSIC

Trb — *BROOKLYN LIMESTONE AND "SHARPSTONE CONGLOMERATE": white weathering, thick bedded, light grey limestone commonly with rounded to angular detrital "chert" grains: minor greenish siltstone and massive, resistant, breccia with angular, roughly equant, clasts to 10 cm across, of "chert" and greenstone and locally limestone in a matrix of coarse sand and grit of the same material: grades to "chert" sandstone and "chert" grit by decrease in grain size: minor green and black argillite, partly a fine grained tuff: grains and matrix strongly silicified: "chert" and andesitic greenstone fragments derived mainly from the Knob Hill Group: limestone mostly from the Brooklyn Formation, and locally from the Attwood Group: limestone contains Middle Triassic fossils*

CARBONIFEROUS OR PERMIAN

CPk — KNOB HILL GROUP: *massive "chert" (largely silicified greenstone), greenstone and amphibolite: minor limestone or marble: minor "sharpstone": age unknown*

CPat — ATTWOOD GROUP: *light grey limestone with minor interbedded chert: contains Carboniferous fossils*

CARBONIFEROUS

Cbc — *BLIND CREEK FORMATION: medium bedded grey limestone and calcareous argillite; lacks penetrative fabrics, low greenschist facies metamorphism*

Cb — *BARSLOW FORMATION: thin bedded, brown, silty slate and argillaceous siltstone: lacks penetrative fabrics, low greenschist facies metamorphism*

CARBONIFEROUS OR OLDER

CPa — ANARCHIST GROUP: *dark grey weathering, recessive, amphibolite, greenstone, quartz-chlorite schist, quartz-biotite schist, minor serpentinized peridotite: "chert" breccia that resembles* Trbc *is locally included:* CPap*- peridotite and serpentinized equivalents:* CPaa*- amphibolite: age unknown*

CPko — KOBAU GROUP: *undivided amphibolite, greenschist, quartzite, mica schist, greenstone- minor marble: strongly foliated with penetrative flaser fabrics: age unknown*

?ORDOVICIAN TO DEVONIAN?

ODs — *Schist, thin bedded argillaceous limestone, slate and limestone includes metamorphosed equivalents mostly biotite-diopside-quartz skarn and marble: age unknown*

?PROTEROZOIC AND/PALEOZOIC?
GRAND FORKS GNEISS

Pgfm — *Mylonitic biotite leucogranodiorite: Preto unit X*

Pgfo — *Medium crystalline, well foliated biotite hornblende granodiorite orthogneiss: Preto unit IX*

Pgfa — *Amphibolite, amphibolitic gneiss, minor marble: Preto unit IV*

Pgfs — *Coarsely crystalline garnet-biotite schist, interfoliated quartzite, minor marble, abundant pegmatite and leucogneiss: Preto unit III*

Pgfq — *Coarsely crystalline, thick layered quartzite, minor marble and pegmatite: Preto unit II*

Pgfg — *Sillimanite-biotite-quartz paragneiss, amphibolite and amphibolitic gneiss, marble, biotite schist and gneiss, garnet-biotite-quartz schist, micaceous quartzite: includes minor leuco-orthogneiss:Preto unit I*

Pm — *MONASHEE GNEISS: grey, massive, biotite granodiorite gneiss: gradational westward with* Egn*, but not overprinted by the Eocene event that affected the rocks nearer the Okanagan Fault: may be equivalent or related to* Pgf*: may include equivalents of* ODs*: age unknown*

MAP SYMBOLS

Outcrop boundary. .....

Probable stratigraphic contact, location approximate. .....

Geological contact, relations unknown, possibly faulted. .....

Strike and dip of bedding. .....

Strike and dip of foliation. .....

Trend and plunge of lineation and minor folds. .....

Inferred fault, age and displacement unknown. .....

Inferred normal fault, age unknown, circle on downthrown side. .....

Inferred Eocene normal fault, circle on downthrown side. .....

Slide- inferred fault in metamorphosed rocks, roughly parallel to foliation. .....

Mineral occurrence with commonly used name. .....

Locality with radiometric age determination, K-bi, wr, hb, ser,ms- potassium argon model age on biotite, whole-rock, hornblende, sericite and muscovite respectively: U-zirc low 80 up 1500- Uranium lead age on zircon with upper and lower intercept ages as noted: F-ap, sp- fission track ages on apatite and sphene respectively: Sr-bi, fsp, ms, wr- Rubidium-strontium ages on biotite, feldspar, muscovite and whole-rock respectively. .....

Fossil locality- fossil type as follows:
- ⊙ *Conodonts*
- △ *Ammonites*
- ◈ *Brachiopods*
- ⊡ *Plant macrofossils*
- ○ *Other*

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