

STRATIFIED AND HIGH-LEVEL PLUTONIC ROCKS

PLEISTOCENE AND RECENT

22 Unconsolidated alluvial, fluvial, and glacial deposits

PLIOCENE TO RECENT

21 GARIBALDI GROUP: Basalt to rhyodacite flows and pyroclastics, minor intercalated sediments; 21a, olivine basalt flows of Pleistocene age

MIOCENE OR YOUNGER(?)

20 Rhyolite and dacite breccia, tuff, and flows, minor sediments; 20a, andesitic volcanic breccia and conglomerate, lesser basalt; 20b, REMOUNT PORPHYRY: dacitic porphyry (intrusive equivalent of 20?)

MIOCENE

19 Quartz monzonite, minor granite; 19a, miarolitic granodiorite and syenodiorite

18 Basalt flows; minor dacite

MIOCENE(?) AND OLDER(?)

17 Andesitic to basaltic flows and breccia, minor dacite; 17a, basalt flows with interbedded conglomerate and siltstone

EOCENE(?)

16 Shale, siltstone, sandstone, arkose, and conglomerate

15 Miarolitic granite; 15a, dacitic volcanics and porphyries (possibly equivalent to 19a?)

MID TO UPPER CRETACEOUS

14 KINGSVALE GROUP: 14a, arkose, greywacke, shale, minor conglomerate; 14b, andesitic flows and pyroclastics

LOWER CRETACEOUS

13 TAYLOR CREEK GROUP: Chert-peggle conglomerate, black limy shale, green tuff, volcanic breccia, andesite and basalt

12 JACKASS MOUNTAIN GROUP: 12a, interbedded carbonaceous argillite and greywacke, minor conglomerate and coal; 12b, greywacke, pebble conglomerate, argillite and gritty sandstone; 12c, argillite, conglomerate, and greywacke; 12d, massive greenish greywacke, argillite, gritty sandstone and pebble conglomerate

11 GAMBIER GROUP: Andesitic to dacitic tuff, breccia, agglomerate; andesite, argillite, conglomerate, lesser marble, greenstone, and phyllite

10 FIRE LAKE GROUP: Greenstone, chlorite schist, conglomerate, andesite, greywacke

UPPER JURASSIC AND LOWER CRETACEOUS

9 RELAY MOUNTAIN GROUP: Greywacke, siltstone, argillite

UPPER TRIASSIC TO MIDDLE JURASSIC

8 TYAUGHTON GROUP: Shale, siltstone, greywacke

UPPER TRIASSIC

7 CADWALLADER GROUP (undivided; includes Hurley, Pioneer and Noel strata, may include older and younger rocks): andesitic breccia, tuff, and flows, greenstone; lesser slate, argillite, phyllite, conglomerate, limestone, rhyolitic breccia and flows

6 HURLEY FORMATION: Thin-bedded argillite, phyllite, limestone, tuff, conglomerate, andesite, minor chert

5 PIONEER FORMATION: Greenstone, andesitic to basaltic flows and pyroclastics; 5a, BRALORNE INTRUSIONS (in part): augite diorite, gabbro, greenstone (intrusive and dioritized equivalents of 5)

4 NOEL FORMATION: Thin-bedded argillite, chert, conglomerate and greenstone

TRIASSIC AND JURASSIC AND OLDER(?)

ub Ultramafic rocks: Serpentine, harzburgite, periodite, diorite

3 BRIDGE RIVER (FERGUSON) GROUP: Greenstone, basalt, chert, argillite, phyllite; minor limestone, serpentine, and serpentinized peridotite; 3a, more metamorphosed equivalents of 3, mainly biotite schist

PALEOZOIC(?)

2 Metasedimentary rocks, mainly micaceous quartzite, biotite-hornblende schist; minor garnet and staurolite schist; 2a, hornblende-biotite-garnet schist, amphibolite, quartz diorite, garnet-cordierite gneiss, and migmatite

1 Granitoid gneiss, migmatite complexes, amphibolite, quartz diorite, and schist

PLUTONIC ROCKS  
(mostly of unknown age)

qm Quartz monzonite

gd Granodiorite

qd Quartz diorite

di Diorite; dioritic complexes containing diorite, quartz diorite, amphibolite, greenstone, and dyke swarms

gb Gabbro

MAP SYMBOLS

Geological boundary (defined, approximate, assumed) ————

Bedding (horizontal, inclined, vertical) ————

Foliation, schistosity (inclined, vertical, dip unknown, absent) ————

Fault (defined, approximate, assumed) ————

Fossil locality @

Radiometric ages

● Age in millions of years

System: k=potassium-argon, u=uranium-lead

Minerals: b=biotite, h=hornblende, m= muscovite,

w=whole rock, z=zircon

Laboratory: (u)=U.B.C. All others are G.S.C.

◆ Whole-rock K-Ar age determination (age given in years) for Garibaldi Group rocks. Data from N.L. Green (Ph.D. thesis in preparation) and Anderson (1975)

GEOLOGY BY

J.A. Roddick and G.J. Woodsworth (1970, 1974), W.W. Hutchison (1970), and from earlier reports (see references)

ADDITIONAL DATA FROM

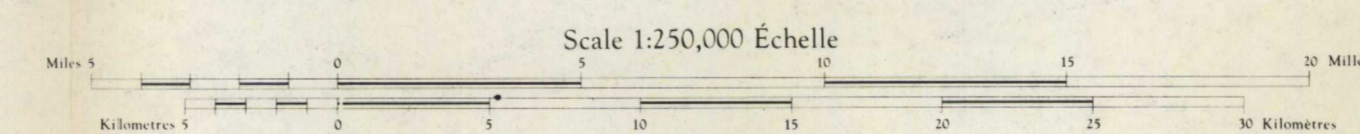
J.A. Jeletzky (Camelefoot Range), H.W. Tipper (Gun Creek), and N.L. Green (Cheakamus River area).

COMPILED BY

G.J. Woodsworth (1977)



GEOLOGY  
PEMBERTON (92J) MAP-AREA



SELECTED REFERENCES

Anderson, R.G.  
1975: The geology of the volcanics in the Meager Creek map-area, southwestern British Columbia; B.Sc. thesis, Univ. British Columbia.

Cairnes, C.E.  
1925: Pemberton area, Lillooet District, British Columbia; Geol. Surv. Can., Sum. Rep. 1924, Pt. A, p. 76-99.

1937: Geology and mineral deposits of Bridge River mining camp, British Columbia; Geol. Surv. Can., Mem. 213, 140 p.

1943: Geology and mineral deposits of Tyaughton Lake map-area, British Columbia; Geol. Surv. Can., Paper 43-15, 39 p.

Camsell, C.  
1918: Reconnaissance along the Pacific Great Eastern Railway between Squamish and Lillooet; Geol. Surv. Can., Sum. Rep. 1917, Pt. B, p. 12-23.

Drysdale, C.W.  
1916: Bridge River map-area, Lillooet Mining Division; Geol. Surv. Can., Sum. Rep. 1915, p. 75-85.

Joubin, F.  
1948: Structural geology of the Bralorne and Pioneer mines, Bridge River district, British Columbia; Western Miner, v. 21, no. 7, July, p. 39-50.

Leech, G.B.  
1953: Geology and mineral deposits of the Shulaps Range, southwestern British Columbia; B.C. Dept. Mines, Bull. 32, 54 p.

McCann, W.S.  
1922: Geology and mineral deposits of the Bridge River map-area, British Columbia; Geol. Surv. Can., Mem. 130, 115 p.

Pearson, D.E.  
1975: Bridge River map-area; B.C. Dept. Mines Pet. Resour., Geological Fieldwork 1974, p. 35-39.

Read, P.B.  
1977: Meager Creek volcanic complex, southwestern British Columbia; in Report of Activities, Part A, Geol. Surv. Can., Paper 77-1A, p. 277-281.

Roddick, J.A. and Hutchison, W.W.  
1973: Pemberton (east half) map-area, British Columbia; Geol. Surv. Can., Paper 73-17, 21 p.

Stanley, A.D.  
1960: The geology of Pioneer gold mine, Lillooet Mining Division, British Columbia; M.Sc. thesis, Univ. British Columbia, 127 p.

Stephens, G.C.  
1972: The geology of the Salal Creek pluton, southwestern British Columbia, Canada; Ph.D. thesis, Lehigh Univ., 117 p.

Woodsworth, G.J., Pearson, D.E., and Sinclair, A.J.  
1977: Metal distribution patterns across the eastern flank of the Coast Plutonic Complex, south-central British Columbia; Econ. Geol., v. 72, p. 170-183.

Wright, R.L.  
1974: The geology of the Pioneer ultramafite, Bralorne, British Columbia; M.Sc. thesis, Univ. British Columbia, 179 p.

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