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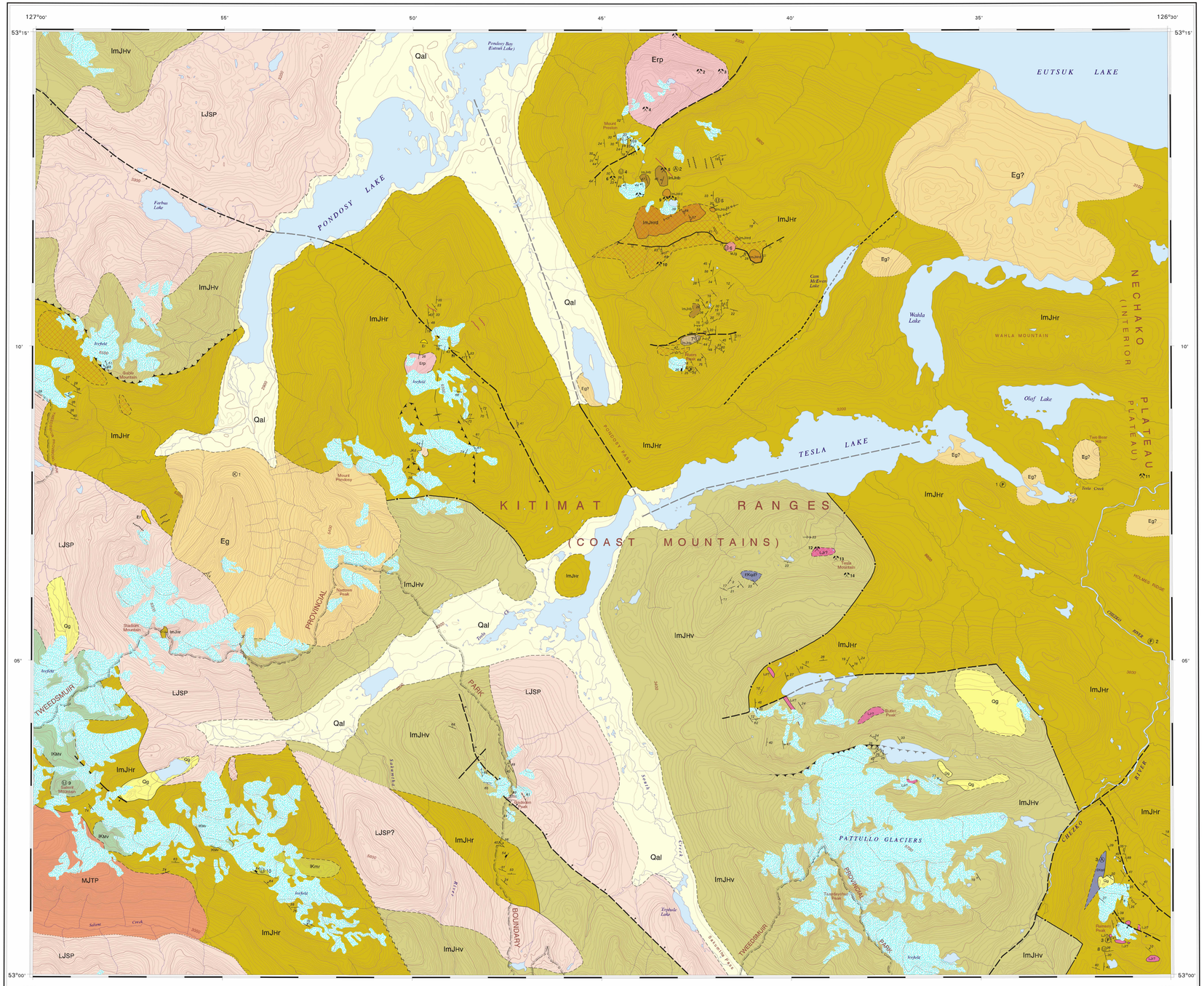
GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA

Geoscience BC



LEGEND

STRATIFIED ROCKS

QUATERNARY

Qal — *Recent alluvium, till*

PLEISTOCENE TO RECENT

Qg — *Unconsolidated glacial till and morainal deposits*

LOWER CRETACEOUS
?VALANGINIAN TO ?APTIAN
MONARCH ASSEMBLAGE (U/Pb ca. 136-122 Ma)

IKMv — *Dominantly volcanic rocks; amorphous olive green amygdaloidal basalt and basaltic andesite and associated breccia, tuff, and tuff breccia; locally intercalated with thinly bedded siltstone, black argillite to slate*

Rhyolite dome facies

IKmr — *Light coloured, aphanitic to plagioclase-porphyritic rhyolite domes*

LOWER TO MIDDLE JURASSIC
SINEMURIAN TO BATHONIAN OR EARLY CALLOVIAN
HAZELTON GROUP (U/Pb ca. 177-172 Ma)
Sedimentary facies

ImJHs — *Tan, coarse-grained, poorly-sorted, massive lithic-feldspathic arenite with euhedral to subrounded quartz and euhedral to broken and angular plagioclase; local pebble conglomerate with pink, subangular to subround quartz- and plagioclase-phyric rhyolite and light grey-green, aphanitic andesite clasts at base*

Rhyolitic facies

ImJHr — *Aphanitic to locally plagioclase- and lesser quartz-phyric ± vitric ± crystal ± lithic rhyolite tuff, lapilli tuff and tuff breccia; accretionary lapilli, cooling joints and gas-escape vesicles occur locally; locally up to 50% intercalated felsic volcanic breccia, block tuff, polymictic volcanic granule-cobble conglomerate, and locally fossiliferous and carbonaceous arkose and lesser crystal-rich sandstone, siltstone and red mudstone; minor rhyolite lava flows, basalt and basaltic andesite lava flows with local pillow structures, plugs, dykes and sills*

Rhyolite domes

ImJHrd — *Aphanitic to plagioclase-porphyritic rhyolite domes; primarily yellow weathering, light grey aphanitic, sericitized and silicified rhyolite with rare quartz phenocrysts; pyritization, columnar joints and carapace breccia occur locally*

Basalt plugs

ImJHb — *Aphanitic to plagioclase-phyric basalt plugs and volcanic necks; local peperitic contacts with adjacent sandstone and mudstone facies of ImJHr; lithology and alteration patterns similar to ImJHv*

Mafic volcanic facies

ImJHv — *Dark green-grey, aphanitic to slightly plagioclase-porphyritic basalt to basaltic-andesite lava flows, complexly interfingering hypabyssal intrusions, and sill and dyke complexes; lava flows locally contain well-developed cooling joints and pillow structures; locally pervasive epidote and chlorite alteration and abundant epidote and jasper clots and epidote and quartz veining; intercalated mafic volcanic breccia with fluid-shaped clasts locally, tuff and associated mafic volcaniclastic conglomerate, sandstone and siltstone; contains minor rhyolitic tuff breccias, lapilli tuff, tuff and red mudstone*

INTRUSIVE ROCKS

EOCENE

Er — *Light grey to yellow rhyolite*

PALEOGENE
EOCENE

Erp / Eg — *Light pink to light grey K-spar porphyritic/megacrystic to equigranular coarse-grained pink hornblende-biotite to biotite granite and quartz-feldspar porphyry rhyolite intrusions; intrusive contacts sharp; forms prominent outcrops with distinct exfoliation planes; Erp includes white to light gray quartz-+/-biotite-bearing rhyolite porphyritic stocks and locally abundant white rhyolite porphyry dykes*

CRETACEOUS

EKqd — *(Ar/Ar ca. 136 Ma): Fine- to coarse-grained, equigranular, unfoliated, heterogeneous hornblende-pyroxene quartz diorite; locally gabbroic along margins; locally abundant quartz and epidote veins and partially to wholly assimilated epidotized wall rock(?) xenoliths; lithologically similar dykes locally cut LJr*

LATE JURASSIC TO CRETACEOUS

JKd — *Light green to pink, fine- to medium-grained biotite-hornblende granodiorite to diorite; locally with mafic xenoliths*

LATE JURASSIC

LJr — *White to light tan, very siliceous, convolutely flow-banded to massive, ± quartz- and plagioclase-phyric, variably brecciated rhyolitic to clastic plugs, dykes and sills; commonly pyritiferous, locally forming gossans; locally cut by dykes lithologically similar to EKqd*

STICK PASS PLUTONIC SUITE (U/Pb ca. 148-156 Ma)

LJSP — *Hornblende-biotite quartz monzodiorite to granite; medium- to coarse-grained, equigranular to inequigranular; distinctive mottled dark pink and light green appearance; abundant quartz, epidote veining; minor rafts and screens of metasedimentary and volcanic strata*

MIDDLE JURASSIC

MJg — *(U/Pb ca. 175 Ma): Pink, medium-grained, equigranular to locally porphyritic biotite-hornblende granite stock; locally mafic margins; may be subvolcanic to MJrhh; may be analagous to Topley Intrusions*

EARLY TO MIDDLE JURASSIC

MJTP — TRAPPER PEAK PLUTON (ca. 170 Ma)
Hornblende-granite to lesser biotite-hornblende granite, medium- to coarse-grained, equigranular to inequigranular, distinct light purple to medium pink K-spar oikocrysts enclose quartz, hornblende and plagioclase; plagioclaselocally saussuritized to light green colour; pluton locally cut by small epidote veins and numerous hornblende-andesite, basalt, and rhyolite dykes

SYMBOLS

- *Geological contact (defined, approximate, assumed)*
- *Facies boundary (approximate)*
- *Fault, normal (defined, approximate, assumed)*
- *Fault, normal, defined, approximate, assumed (down dropped on side with balls)*
- *Fault, low-angle extensional, defined, approximate (down dropped on side with barbs)*
- *Fault, compressional, defined, approximate, assumed (teeth on upthrust side)*
- *Shear zone*
- *Shear zone (inclined, vertical)*
- *Anticline (defined and approximate)*
- *Syncline (defined and approximate)*
- *Basalt dyke (Miocene-Pliocene Chilcotin)*
- *Rhyolite dyke*
- *Fold axis*
- *Axial plane*
- *Fault*
- *Bedding (tops unknown inclined, tops known inclined, vertical)*
- *Gossan*
- *Fossil locality with ID number*
- *Ar-Ar age determination locality with ID number*
- *K-Ar age determination locality with ID number*
- *U-Pb age determination locality with ID number*
- *MINFILE occurrence with ID number*
- *Park boundary*

MINFILE*

MAP #	MINFILNO	NAME	STATUS	COMMODITY	DEP_CODE
1	093E 077	BOB2	Showing	CU, AG	D03,L01
2	093E 076	BOB5	Showing	CU, AG	L01,D03
3	093E 064	IRENE, JAM	Showing	CU, AG	L01,D03
4	093E 078	JAM7	Showing	CU, AG	L01,D03
5	093E 079	RON43	Showing	CU, AG	L01,D03
6	093E 065	RON47	Showing	CU, AG	D03,L01
7	093E 080	RON48	Showing	CU, AG	D03
8	093E 081	RON4	Showing	CU, AG	L01,D03
9	093E 082	RON10	Showing	CU, AG, AU	L01,D03
10	093E 058	PON3	Showing	CU	L04,L05
11	093E 062	TWOBEARHILL	Showing	CU	L01
12	093E 060	CHALCOPYRITE	Showing	CU, AG, PB	L01,05
13	093E 059	TETRAHEDRITE	Showing	AG, CU	L01,05
14	093E 061	DOLLYD	Showing	CU	L01,05

* Data from British Columbia Geological Survey Branch MINFILE Mineral Inventory
COMMODITY abbreviations: AU = gold; AG = silver; CU = copper; PB = lead
DEP_CODE abbreviations: D03 = Volcanic redbed Cu; 05 = Polymetallic veins Ag-Pb-Zn±Au
L01 = Subvolcanic Cu-Ag-Au(Au-Sb); L04 = Porphyry Cu±Mo±Au; L05 = Porphyry Mo (Low F-type)

GEOCHRONOLOGY

MAP #	FIELD #	LOCATION	AGE (Ma)	MINERAL	METHOD*	REFERENCE
1	WV-1003	Pondosy Lake South	50 ± 2	Biotite	K/Ar	1
2	25-SMG-03	Preston Lake	51.87 ± 0.8	Biotite	Ar/Ar	This report
3	03-Mt-2	Ramsey Peak North	136.4 ± 1.5	Hornblende	Ar/Ar	This report
4	47-SMG-03	Mount Preston	175.4 ± 0.9	Zircon	U/Pb	This report
5	29-SMG-03	Preston East	176.6 ± 3.3	Zircon	U/Pb	This report
6	16K-JBM-04	Rivers North	175.0 ± 0.9	Zircon	U/Pb	This report
7A	24-JBM-04	Rivers Peak	172.7 ± 0.9	Zircon (D2)	U/Pb	This report
7B	24-JBM-04	Rivers Peak	174.4 ± 1.1	Zircon (D2)	U/Pb	This report
7C	24-JBM-04	Rivers Peak	175.4 ± 1.8	Zircon (D2)	U/Pb	This report
8	107-SMG-03	Ramsey Peak South	175.7 ± 0.9	Zircon	U/Pb	This report
9	85-WV-SAL	Salient Mountain	ca. 136	Zircon	U/Pb	2
10	13K-JBM-04	Salient East	122.9 ± 0.6	Zircon	U/Pb	This report

* All new Geochronology done at Pacific Centre for Isotopic and Geochemical Research, University of British Columbia; U/Pb analyses by R.M. Friedman, Ar/Ar analyses by T. Ullrich
DZ = detrital zircon

REFERENCES

[1] Hunt, P.A. and Roddick, J.C., 1990. A compilation of K-Ar ages, Report 19; *in* Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, p. 153-190 (Date 89-12).

[2] van der Heyden, P., 1989. U-Pb and K-Ar geochronometry of the Coast Plutonic Complex, 53°N to 54°N, British Columbia, and implications for the Insular-Intermontane superterrane boundary; University of British Columbia, Ph.D. thesis, 392 p.

PALEONTOLOGY*

MAP #	GSC #	FIELD #	COLLECTOR	DATE	FOSSILS	AGE	IDENTIFIER	REFERENCE**
1	n.a.*	-	G.J. Woodsworth	1978	Bivalves, gen. et sp. indet.; Belemnites, gen. et sp. indet.	Indeterminate	H.W. Tipper	This report
2	C-53550*	12-78TD-F4	H.W. Tipper	1978	*Lilloettia* sp. indet.	Late Bathonian or early Callovian	H. Frebold	J-10-1978-HF
3	C-307263	06-SMG-04	S.M. Gordee	2004	*Trigonia* sp.; *Clenostreon* sp.	Possibly Middle Toarcian through Early Callovian, but almost certainly Early Bajocian	T.P. Poulton	J4-2005-TPP
4	C-307712	59-SMG-04	S.M. Gordee	2004	Probable belemnite fragment; Bivalve or ammonite fragment, possibly *Trigonia*? sp.	Probably Middle Toarcian through Early Callovian	T.P. Poulton	J4-2005-TPP

* compiled by J.W. Haggart
** unpublished GSC Paleontological Report numbers
* collection location approximate
n.a. = not available

Canada

Geology by S.M. Gordee (2004), J.B. Mahoney (2004), R.L. Hooper (2004), and J.W. Haggart (2004)

Geological compilation by S.M. Gordee, J.B. Mahoney, R.L. Hooper, and J.W. Haggart

Digital cartography by M. Ceh and N.L. Hastings

Contribution of Geological Survey of Canada's Bella Coola Targeted Geoscience Initiative, Cordilleran Energy and Minerals Project Number Y15 and British Columbia Rocks to Riches Program, Project Number 2005-032

GSC OPEN FILE 5387

GEOLOGY

TESLA LAKE (93E/02)

BRITISH COLUMBIA

Scale 1:50 000/Échelle 1/50 000

kilometres 1 0 1 2 3 4 kilometres

Universal Transverse Mercator Projection
North American Datum 1983

Projection transverse universelle de Mercator
Système de référence géodésique nord-américain, 1983

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

Digital base map from data compiled by Geomatics Canada modified by Geological Survey of Canada

Mean magnetic declination 2006, 20° 27' E, decreasing 15.0' annually. Readings vary from 20° 33' E in the northwest to 20° 22' E in the southeast corner of the map

Elevations in feet above mean sea level

Contour interval 100 feet

93E/06	93E/07	93E/08
93E/03 OF5386	93E/02 OF5387	93E/01
93D/14	93D/15	93D/16

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO GEOSCIENCE-GEOLOGICAL SURVEY OF CANADA MAPS

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GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
2006

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