



LEGEND

Coloured boxes indicate units that appear on this map

QUATERNARY

- Qal Alluvium, colluvium, fill

PALEOGENE EOCENE

- Eg OOTSA LAKE GROUP (U/Pb ca. 53 Ma)
Megacrystic potassium feldspar-quartz-biotite-plagioclase and/or pyroxene admixed with basalt and andesite lava fragments in crudely upward tilted breccia; small volcanic exposure north of Sea Lion Peak
- Pg Undifferentiated tonalite, quartz diorite, diorite, granitic orthogneiss; fabric weakly strained to mylonitic within Coast shear zone and especially along South Brindley Arm may include fault slices of PBC, T3xlv, and other older granitoid rocks

CRETACEOUS TO PALEOGENE

- KPd Undifferentiated dioritic plutons; hornblende diorite to biotite-hornblende tonalite; lesser quartz monodiorite pyroxene present locally; fine- to coarse-grained; generally equigranular; unfoliated to weakly foliated

LATE CRETACEOUS TO TEOCENE

- LKEp Undifferentiated granitic plutons; hornblende-biotite granodiorite to granite, fine- to medium-grained, equigranular

LATE CRETACEOUS TO PALEOGENE

- LKfM Four Mile Plutonic Suite (U/Pb ca. 67-73 Ma)
Albite-saturated biotite granite, coarse-grained, equigranular; locally contains garnet, pink potassium feldspar megacrysts; apfite dikes with megacrystic segregations bearing garnet and muscovite; unfoliated except possibly at margins; forms prominent exposures characterized by "iron-ore" oxidation parts

LATE CRETACEOUS

- LKf Foulmer Plutonic Suite (U/Pb ca. 67-68 Ma)
Hornblende-biotite-quartz monodiorite to granodiorite with conspicuous sphene; medium- to coarse-grained, equigranular to locally megacrystic with potassium feldspar megacrysts; homogeneous; defined east and copper-rich appearance
- LKBS Big Snow Plutonic Suite (U/Pb ca. 79-85 Ma)
Biotite monzogranite, biotite-hornblende tonalite to granodiorite, coarse-grained, equigranular; inclusions rare
- LKMD Mount Daint Pluton (U/Pb ca. 81 Ma)
Biotite-hornblende tonalite with mylonitic to protomylonitic fabric

EARLY CRETACEOUS

- EKM Melikan Pluton (U/Pb ca. 110 Ma)
Biotite-hornblende tonalite and lesser quartz diorite, unfoliated weak to strong epidote and chlorite alteration; cut by numerous mafic dikes; lithologically similar to KfC
- EKD Desire Plutonic Suite (U/Pb ca. 118-124 Ma)
Fine- to medium-grained hornblende diorite to quartz diorite and medium- to coarse-grained biotite-hornblende tonalite, equigranular; abundant screens and xenoliths of metasedimentary rock and amphibolite; displays magmatic and tectonic foliation; similar in field aspects to LKfM

LOWER CRETACEOUS ALBANY

- IKO Obitreperous Ridge Sedimentary Unit
Silt, shale and mudstone, siltstone, minor fine-grained sandstone, commonly fossiliferous; locally with grit to pebble conglomerates of the base equivalent to Taylor Creek Group and Steens Group; in part

APTIN ALBANY

- IKs Salscoot Assemblage (U/Pb ca. 110-112 Ma minimum)
Volcanic rocks predominate in lower parts of sections; basalt and lesser andesite lava flows with interflow breccia; amphibolite and plagioclase-phylite lavas containing pyroxene and sparse hornblende phenocrysts; thick sections form cliffs with a steep, diffusely bedded appearance; local welded rhyolite ash-flow tuff near the top of the sedimentary succession at Treadwell Peak changes laterally to submarine volcanic facies in the section north of Salscoot Peak where thick hyaloclastite and amygdaloidal flows pass upward into a mixed volcanic-sedimentary section dominated by fine- to coarse-grained, cross-stratified calcareous feldspathic sandstone and pebble conglomerate containing significant felsic volcanic detritus, and black siltstone to mudstone with minor inter-layered welded granitoid, light tuff and tuff breccia; rare grey-black laminated limestone locally, irregularly interlayered with basalt flows; the unconformable lower contact with older layered rocks and Jurassic and Cretaceous plutons is marked locally by a granitoid cobble to boulder conglomerate or a red oxidized conglomerate-sandstone sequence dominated by fine-grained andesite porphyry cobbles and boulders

YALANGLIAN, HALTERVIAN-BARBERIAN

- IKW Mochia Assemblage
Dominantly volcanic rocks; olive green amygdaloidal basaltic andesite and basalt with rare columnar jointing, forming massive sea-like cliffs, associated andesitic breccia and tuff breccia; locally intercalated with thinly bedded siltstone, black argillite to slate and pebble conglomerate, completely interfingered with IKs; unconformably overlies lithologically similar rocks of probable Jurassic age and Jurassic and Cretaceous plutons
- IKMs Dominantly sedimentary rocks including feldspathic sandstone and siltstone, black argillite to slate with grit and pebble to cobble conglomerate; subordinate basaltic andesite lava flows and flow breccias
- IKMa Laterally continuous beds of black argillite, locally with thinly bedded siltstone and sandstone and pebble conglomerate

JURASSIC TO CRETACEOUS

- IKM Mainly orthogneisses and migmatitic gneisses of amphibolite grade; may include metamorphosed plutonic rocks: E3H, JKF, EKD

BATHONIAN TO YALLOVIAN

- mJN Hazelton Group
Nossoglou Assemblage (U/Pb ca. 163-165 Ma)
Feldspathic sandstone and pebble conglomerate locally intercalated with mylonite flows and welded ash-flow tuffs; black-white, thickly laminated tuffaceous mudstone in lower part of section; thin, shallow-marine succession in part overlies and is temporally equivalent with nearby subaerial rhyolite, light tuff and agnathic lava flows; minor ash-flow tuffs and porphyritic andesite lava flows; host succession to the MfM proposed

TOARCIAN TO BADJIAN SMITHERS FORMATION

- ImJS
Feldspathic sandstone, grit and pebble conglomerate, locally thick cobble and boulder conglomerate; interbedded fine-grained light tuff; locally significant welded mylonite gneiss, minor diorite and rhyolite flows; felsic volcanic events are time-stratigraphic with the Nankai member of the Smithers Formation in Whitehead Lake map area

PLEINSBACHIAN TO TOARCIAN

- LJhv Basalt and andesite lava flows, dark green, aphanitic to medium-grained porphyritic; rare plane-cross-stratified grey limestone containing crudely layered calcareous basal clasts, interlayered with flow breccia; volumetrically minor cobble conglomerate and sandstone; maroon and green dikes to mylonite light and clear tuffs (ca. 161 Ma) from prominent stratified units within massive mafic lava flows west of the East Salumina River; west of the Crap Creek fault a presumably correlative succession includes substantial sedimentary rocks (LJh) interlayered with amygdaloidal and porphyritic basalt flows with locally thick hyaloclastites and rare pillowed lavas
- LJhs Dominantly sedimentary strata, feldspathic sandstone, locally turbiditic; black argillite, locally with thin cross-stratified calcareous sandstone to sandy limestone; granule to cobble conglomerate, light tuff and ash-flow tuff; lesser basaltic andesite, basalt flows and breccia; completely interfingered with LJhv
- LJha Laterally continuous beds of black argillite, locally with thinly bedded siltstone and sandstone and pebble to cobble conglomerate; marine locally present locally as poorly-preserved muds

LOWER JURASSIC

- JHvp Undifferentiated aphanitic basaltic flows that appear recrystallized and grade imperceptibly into fine-grained dioritic rocks; dark green with ubiquitous chlorite-epidote alteration; locally cut by northwest-trending pink plagioclase porphyry and granodiorite dikes presumed to be related to larger intrusions of the Firvale Suite

TRIASSIC TO LOWER JURASSIC

- T3xlv Undifferentiated basaltic and andesitic metavolcanic and volcanoclastic rocks; rare calc-alkaline rock, mafic, conglomerate; intruded locally by the Howe Lake suite; may include Cretaceous strata south of Nossoglou River

PALEOZOIC

- PBC Burke Channel Assemblage
Undifferentiated quartzite, semi-pelitic and pelitic schist, minor gneiss and marble; lesser mafic and felsic volcanic rocks and rare conglomerate; lightly foliated and metamorphosed to amphibolite facies; PBCa: amphibolite gneiss with minor biotite schist layers; PBCb: mainly metasedimentary rocks with minor amphibolite

JURASSIC TO CRETACEOUS

- JKP Undifferentiated granodiorite, diorite, and hornblende-biotite tonalite
- JKF Firvale Plutonic Suite (U/Pb ca. 131-140, 148-164 Ma)
Hornblende-biotite granodiorite and quartz diorite, medium- to coarse-grained, equigranular; light green-green colour due to important chlorite alteration; cut by northwesterly mafic dikes in swarms and spaced bodies; incorporates Stas Plutonic suite from earlier published maps

MIDDLE JURASSIC

- MJTP Trapper Peak Pluton (U/Pb ca. 170 Ma)
Hornblende granite to lesser biotite-hornblende granite, medium- to coarse-grained, equigranular to megacrystic; distinct light purple to medium pink potassium feldspar alkali feldspar enclave quartz, hornblende and plagioclase; saussuritized plagioclase imparts light green colour; cut locally by epidote veins and numerous hornblende andesite, basalt, and rhyolite dikes

EARLY JURASSIC

- EJHL Howe Lake Plutonic Suite (U/Pb ca. 182-190 Ma)
Fine- to coarse-grained pyroxene hornblende diorite to quartz diorite and medium- to coarse-grained biotite-hornblende tonalite; abundant metaclastic screens and mafic xenoliths, commonly metamorphosed to amphibolite grade; widespread magmatic and tectonic foliation; may be subvolcanic to Hazelton Group strata
- JT Tenako Plutonic Suite
Compositionally and texturally heterogeneous assemblage of coarse-grained pyroxene-hornblende (diorite) to medium- to coarse-grained hornblende diorite to quartz diorite; lesser hornblende granodiorite; locally contains abundant mafic and ultramafic xenoliths and metaclastic screens ranging from a few centimetres to 10s of metres in length

SYMBOLS

Geological contact (defined, approximate, assumed)

Fault, normal, down dropped on side with balls (defined, approximate, assumed)

Fault, compressional, defined, approximate, assumed (beach on upthrown side)

Strike slip fault, defined, approximate (shaded under Qal and water)

Shear zone

Discrete shear zone (inclined, vertical)

Antiform (defined and approximate)

Synform (defined and approximate)

Fold axis

Axial plane

Bedding tops unknown inclined, tops known inclined, overturned, vertical

Magnetic foliation and layering

Tectonic foliation (inclined, vertical); includes schistosity, gneissic foliation, cleavage, and may also include some magmatic foliations and foliations of unknown type

Mylonitic foliation (inclined, vertical)

Mineral lineation*

Elongation lineation*

Lineation (unifoliated)

Dike (inclined, vertical)*

Glacial trace*

Fossil locality with ID number (see Sheet 3)

Ar-Ar age determination locally with ID number (see Sheet 3)

K-Ar age determination locally with ID number (see Sheet 3)

U-Pb age determination locally with ID number (see Sheet 3)

Gossan

Landslide scarp

Field station location where not indicated by other symbol (foliation, etc.)

Limit of mapping

Park boundary

Road, hard surface (more than 2 lanes, 2 lanes, less than 2 lanes)

MANFILE occurrence with ID number

*data not collected consistently across map-area

NUMBER	MINFILE NO	NAME	MINFILE*	STATUS	COMMODITIES	DEPTH
1	93D 001	BOOM	SHOW	CU, MO	CU, MO	100
2	93D 002	BOOM	SHOW	CU, MO	CU, MO	100
3	93D 003	BOOM	SHOW	CU, MO	CU, MO	100
4	93D 004	BOOM	SHOW	CU, MO	CU, MO	100
5	93D 005	BOOM	SHOW	CU, MO	CU, MO	100
6	93D 006	BOOM	SHOW	CU, MO	CU, MO	100
7	93D 007	BOOM	SHOW	CU, MO	CU, MO	100
8	93D 008	BOOM	SHOW	CU, MO	CU, MO	100
9	93D 009	BOOM	SHOW	CU, MO	CU, MO	100
10	93D 010	BOOM	SHOW	CU, MO	CU, MO	100

* Data from British Columbia Geological Survey Branch MINFILE Mineral Inventory
STATUS abbreviations: SHOW = Showing, FURT = Full Provision, PBC = Project, COMMODITY abbreviations: AD = Silver, AU = Gold, BA = Barite, CU = Copper, FE = Iron, K = Potassium, MA = Magnetite, MZ = Monazite, PE = Lead, ZN = Zinc
DEPTH abbreviations: D33 = Volcanic, reduced Cu, K23 = Fe skarn, L34 = Porphyry Cu, M3 = Mo, H3 = Au, P3 = Kyanite-Hornblende schists, T3 = Hornblende schists (reduced copper Cu, Pb, Zn)

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Les données publiques ont été produites sans passer par le processus normal de publication du GSC.

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Sheet 1 of 3, Geology (North half)

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GEOLOGY
BELLA COOLA REGION
(93D/01, 07, 08, 10, 15 AND PARTS OF
93D/02, 03, 06, 09, 11, 14, 16 AND 92M/15 AND 16)
BRITISH COLUMBIA

Scale 1:100 000/Echelle 1/100 000

Universal Transverse Mercator Projection
North American Datum 1983
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Projection transversale universelle de Mercator
Système de référence géodésique nord-américain 1983
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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: 30° 18' E, decreasing 15.0' annually
Readings vary from 20° 25' E in the northwest to 20° 56' E in the southeast corner of the map

Elevations in metres above mean sea level

Contour interval 200 feet

93 D04	93 D05	93 D06	93 D07	93 D08	93 D09
93 D10	93 D11	93 D12	93 D13	93 D14	93 D15
93 D16	93 D17	93 D18	93 D19	93 D20	93 D21
93 D22	93 D23	93 D24	93 D25	93 D26	93 D27
93 D28	93 D29	93 D30	93 D31	93 D32	93 D33

