

GEOLOGICAL SURVEY BRANCH
OPEN FILE 2001-11
**GEOLOGY OF THE
FRANK CREEK - CARIBOO LAKE AREA,
CENTRAL BRITISH COLUMBIA**
(NTS 93A/11,14)

Geology by Filippo Ferri
and after Struik (1983) and Rees (1987)
*Units showing the distribution of the Coastal Amphibolite, Black Phyllite and Snowflake Group in the southern part of the map area.
Digital cartography by Pam Dineen (Geological Survey of Canada), and Fil Ferri
Digital base map compiled by the Province of British Columbia, Ministry of Environment Land and Parks, modified
by the Geological Survey of Canada
TRIM 63.64.65, 73.74.75, 83.84.85

Scale 1:25 000
Universal Transverse Mercator Projection
North American Datum 1983
Magnetic declination 2001, 28° 30' E, increasing 11.4 annually.
Centre of the map
Elevation in metres above mean sea level
Sheet 1 of 2, Geological map

LEGEND

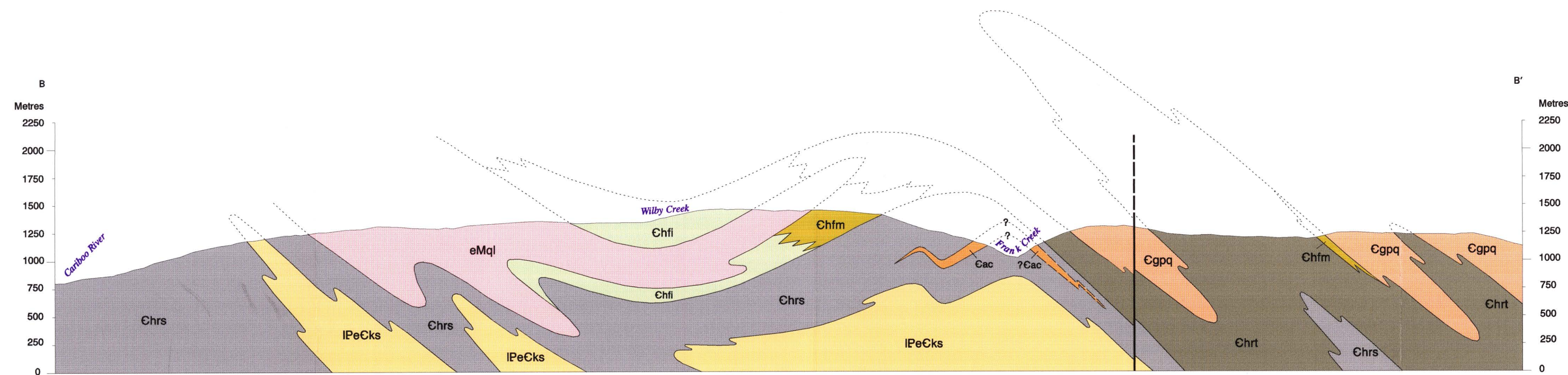
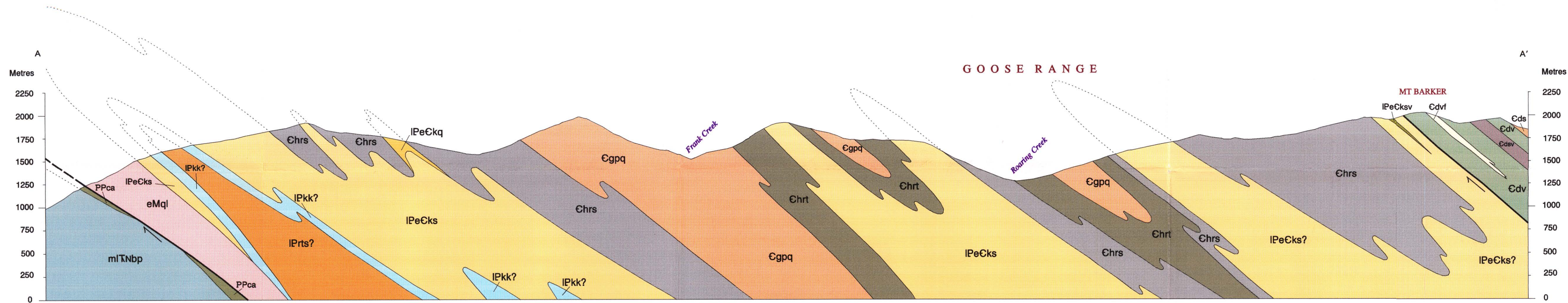
INTRUSIVE ROCKS
LATE JURASSIC OR YOUNGER
Mcm Mafic hornblende-diorite ± biotite-pyroxene porphyry dikes or plugs.
EARLY MISSISSIPPIAN
eMql WESTERN QUEENSLAKE GNEISS: Coarse grained, megacrystic orthogneiss to foliated muscovite-biotite granite or granodiorite. Locally mylonitic.
PALEOZOIC
Pg Foliated, very fine to finely crystalline dark green gabbro.

LAYERED ROCKS
MIDDLE TO LATE TRIASSIC
NICOLA GROUP
mITNbp "Black Phyllite": Rusty weathering, dark grey to blue grey or silvery phyllite. Lesser grey to dark grey thin bedded siltstone, argillite and fine-grained sandstone.
PENNSYLVANIAN TO PERMIAN
SLIDE MOUNTAIN GROUP
PPca CROOKED AMPHIBOLITE: Chlorite schist, amphibolite (actinolite), talc schist and serpentinite.
PROTEROZOIC AND PALEOZOIC
SNOWFLAKE GROUP
CAMBRIAN
Downey succession?
Cdv Green to dark green mafic feldspar-pyroxene crystals to lithic tuff and chlorite schist. Lesser foliated coarse to very coarse-grained mafic gabbro.
Cdv Rusty weathering, greenish grey to grey muscovite schist.
Cdv Red-brown weathering, light grey schist, dark grey to black banded limestone; orange to honey weathering, grey to cream limestone; dark grey to black phyllite and cream, unevenly bedded quartzite interbedded with chlorite schist (meta-volcanic). Minor foliated, medium to coarse crystalline mafic gabbro.
Cds Massive to thickly bedded, fine to coarse grained greenish grey micaceous and feldspathic quartz sandstone. Light green chlorite-muscovite schist and cream to purplish impure quartzite near contact with mafic volcanics. Rare massive, orange weather grey carbonates.
Cgppq Goose Peak quartzite
Cgppq Grey to limestone grey, massive to thick bedded, medium to coarse grained feldspathic quartzite to micaceous sandstone. Thin interbeds of dark grey to grey phyllite or schist to siltstone.
Cgppv Chloritic phyllite to schist.
Agnes conglomerate
Cac Grey to dark grey, feldspathic quartzite clast, granule to boulder conglomerate. Matrix to clast supported with matrix varying from dark grey to black phyllite to quartz sandstone. Associated with light grey to beige, massive to thickly bedded micaceous and feldspathic quartz sandstone.
Harveys Ridge succession
Chrs Grey to dark grey or black phyllite, schist, siltstone, blocky to platy, dark grey to grey sandstone to impure quartzite. Sandstone locally characterized by fluting, grains of dark to black, vitreous quartz. Rare dark grey to grey recrystallized limestone to marble and chlorite phyllite to schist.
Chrt Transitional Harveys Ridge: Grey to dark grey or black siltstone, phyllite, schist, blocky to platy, dark grey to grey sandstone and impure sandstone with thin to thickly bedded sections of micaceous and feldspathic quartz sandstone to quartzite similar to that of the Goose Peak. Commonly contains a thin sequence of Chrs at its base above unit IPeCks.
Chfl Frank Creek meta-volcanic; mafic to intermediate: Mid to light green chlorite-actinolite schist or phyllite. Reddish-brown (dunite) or volcanic breccia textures are locally preserved. Abundant iron carbonate porphyroblasts locally developed. Interbedded with dark grey to black phyllite to siltstone and thin bedded grey to beige sandstone to impure quartzite.
Chfm Frank Creek meta-volcanic; mafic: Green to dark green chlorite-actinolite schist. Locally dark green massive to platy (pyroxene) feldspar phyllite, meta-basalt. Minor foliated mafic gabbro. Abundant iron carbonate porphyroblasts locally developed. Interbedded with dark grey to black phyllite to siltstone and grey to beige sandstone to impure quartzite.
Chbv Belloger Peak meta-volcanic: Crystalline chlorite-actinolite-biotite schists. Locally banded with feldspar impregnating a gneiss texture. Mafic gabbro. Iron carbonate porphyroblasts locally developed. Probably equivalent to Frank Creek meta-volcanic.

LATE PROTEROZOIC OR CAMBRIAN
Snowflake Group
PCS Undifferentiated Snowflake Group.
LATE PROTEROZOIC TO EARLY CAMBRIAN
Kelliey succession
IPeCkq Kelliey quartzite: Massive to thickly bedded, white, cream, beige, pink or purplish orthoquartzite. Locally displays micaceous partings and up to several per cent feldspar grains. Typically less than 10 metres in thickness and found at the top of the Kelliey succession, although similar quartzites are observed lower in the Kelliey succession.
IPeCks Brown to rusty brown weathering, thin to medium bedded light green to grey micaceous quartz sandstone to siltstone and green to grey phyllite to schist. Sections of white, beige, cream or purplish quartzite to orthoquartzite are locally present.
IPeCksv Green, chloritic schist, minor quartz-schist.
LATE PROTEROZOIC
Kee Khan mafic?
IPk Beige to brown weathering, grey to white banded marble. Beige to white calcareous quartzite in upper part. Minor rusty weathering, chloritic schist and sandstone.
Remon succession? or Tringhaus clastics?
IPrs Rusty-weathering chloritic schist, green micaceous sandstone and beige to white quartzite.

SYMBOLS
Bedding, tops unknown: indirect, vertical
Bedding, tops known: indirect, vertical
Pillows, tops known: indirect
Foliation: 1st phase, 2nd phase, 3rd phase: inclined
Foliation, 3rd phase: vertical
Mineral lineation: inclined
Stretched cleat: inclined
Bedding-second phase foliation intersection lineation
Minor Fold axis, second phase: inclined
Minor Fold axis, third phase: inclined
Geological contact: defined, approximate, inferred
Outcrop
Thrust Fault, tooth on hanging wall: defined, approximate, inferred
Fault: defined, approximate, inferred
Folds: antiform, synform, 2nd phase
Folds: antiform, synform, 3rd phase
Inferred to on high grade side: brittle, garnet
Cross-section line
Middle locality: showing prospect
Small intrusive dike or sill
Station location/bedded outcrop
Topographic contour (20m, 100m intervals)
Limit of mapping

References
Rees, C.J. (1987). The Inasmuch - Onimosa Belt boundary in the Queen's Lake area, east-central British Columbia: Tectonic implications based on geology, structure and paleomagnetism. Ph.D. Thesis, Carleton University, Ottawa, Canada, 61 pages.
Struik, L.C. (1983). Bedrock geology of Spanish Lake (93A/11) and parts of adjoining map areas, central British Columbia. Geological Survey of Canada, Open File 803.
Struik, L.C. (1988). Structural geology of the Cariboo Gold Mining District, east-central British Columbia. Geological Survey of Canada, Memoir 421, 109 pages.



**Interpretive Vertical Cross-sections,
Frank Creek - Cariboo Lake Area,
Central British Columbia (scale 1:25 000)**

*Geology by Filippo Ferri
and after Struik (1983) and Rees (1987)*

*Digital Cartography by
Parm Dhesi (Geological Survey of Canada), and Filippo Ferri*

Sheet 2 of 2, Cross-sections



**NATMAP
CARTNAT**
Canada's National Geoscience Mapping Program
Le Programme national de cartographie géoscientifique du Canada

Sheet 2 of 2, Cross-sections

Recommended citation:
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(2001): Geology of the Frank Creek area (NTS 93A/11:14);
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Open File 2001-11, scale 1:25 000.
Copies of this map can be purchased from Crown Publications Inc., Victoria, B.C.