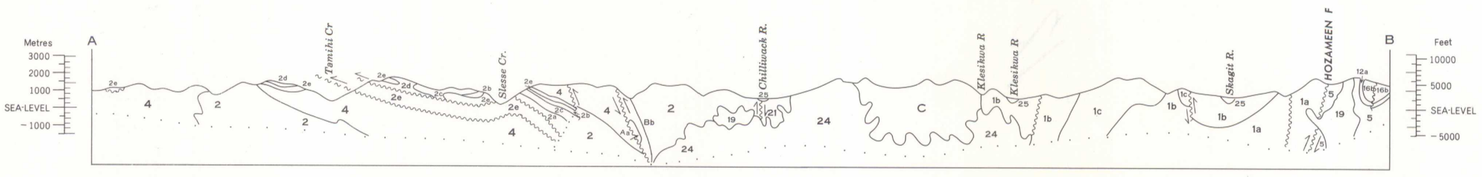
GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES



Diagrammatic Cross-Section along line A-B

PRELIMINARY SERIES

LEGEND

CENOZOIC

QUATERNARY
PLEISTOCENE AND RECENT

25	Glacial, glaciofluvial and fluvial gravel, sand and clay, talus and slope-wash deposits

TERTIARY
MIOCENE AND EARLIER

24	Granodiorite, quartz diorite
23	COQUIHALLA GROUP Basalt, rhyolite, tuff, agglomerate, diorite
22	SKAGIT FORMATION: andesite, tuff, agglomerate

CRETACEOUS AND/OR TERTIARY
EOCENE AND PALEOCENE OR UPPERMOST CRETACEOUS

21	Conglomerate, sandstone

EARLY TERTIARY AND/OR LATE CRETACEOUS

20	Foliated granodiorite, quartz diorite

CRETACEOUS
UPPER CRETACEOUS OR(?) OLDER

19	Quartz diorite

LOWER CRETACEOUS
KINGSVALE GROUP

18	Basalt, andesite, agglomerate, tuff

PASAYTEN GROUP

17	Sandstone, conglomerate, pelite

JACKASS MOUNTAIN GROUP

16	16a, sandstone, pelite and conglomerate; 16b, sandstone, minor conglomerate
15	BROKENBACK HILL FORMATION: tuff, agglomerate, sandstone, pelite
14	PENINSULA FORMATION: sandstone, conglomerate

JURASSIC AND/OR LOWER CRETACEOUS

13	Foliated granodiorite

MESOZOIC

JURASSIC
UPPER JURASSIC
DEWDNEY CREEK GROUP

12	12a, sandstone, pelite; 12b, tuff, pelite
11	AGASSIZ PRAIRIE FORMATION: pelite, minor sandstone, tuff, limestone
10	KENT FORMATION: conglomerate

MIDDLE JURASSIC

9	BILLHOOK CREEK FORMATION: tuff, sandstone
8	MYSTERIOUS CREEK FORMATION: pelite
7	ECHO ISLAND FORMATION: tuff, minor agglomerate, sandstone, pelite
6	HARRISON LAKE FORMATION: intermediate to acidic flow and pyroclastic rock

LOWER AND MIDDLE JURASSIC
LADNER GROUP

5	Pelite, volcanic sandstone

TRIASSIC AND JURASSIC
UPPER TRIASSIC, LOWER AND UPPER JURASSIC

4	CULTUS FORMATION: pelite, sandstone

TRIASSIC
UPPER TRIASSIC
NICOLA GROUP

3	Porphyritic andesite and basalt

PALEOZOIC

PENNSYLVANIAN AND PERMIAN
CHILLIWACK GROUP

2	2, basic volcanic rocks and pelites; 2a, pelite, siltstone, sandstone; 2b, Lower Pennsylvanian limestone; 2c, pelite, sandstone, conglomerate; 2d, Lower Permian limestone; 2e, basic volcanic flows, intermediate to acidic tuff and agglomerate

DEVONIAN(?), CARBONIFEROUS(?) AND PERMIAN(?)
HOZAMEEN GROUP

1	1, pelite, chert, basic volcanic rock, minor limestone; 1a, chert, basic volcanic rock; 1b, basic volcanic rock; 1c, chert, pelite; 1d, basic volcanic rock, chert, pelite; 1e, limestone

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A	ULTRAMAFIC ROCK Aa, serpentinite, serpentinized peridotite; includes some Upper Paleozoic volcanic rocks in broad belt northeast of Hope; Ab, pyroxenite; Ac, hornblendite
B	SCHIST, AMPHIBOLITE AND PHYLLITE Ba, graphitic and quartzose phyllite; Bb, schist, amphibolite; Bc, migmatitic equivalent of Bb; Bd, amphibolite, hornblendite, quartz diorite; in southwestern part of map-area between Welch Peak and Slesse Mountain these rocks are complexly imbricated with Upper Paleozoic rocks and the area shown as Bd includes both
C	GNEISS

Geological boundary (defined — approximate, assumed)
Bedding (horizontal, inclined, vertical)
Schistosity, gneissossity, foliation in granitic rocks (inclined, vertical)
Zone of imbricated Paleozoic and Mesozoic rocks
Fault (defined or approximate, assumed)
Fault (solid circle indicates downthrow side)
Thrust fault (teeth on upper plate; defined or approximate, assumed)
Antiform
Synform
Antiform or synform (arrow indicates plunge)
Fossil locality Ⓕ
Locality where age has been determined in millions of years
Determination by Geological Survey of Canada . . . 39 Ⓐ
Determination by University of British Columbia . . . 16 [A]
Determination by Bradsgaard, Folinsbee, Lipson, 1961 . . . 18 ◇
Mineral occurrence (number refers to property listed in text) . . . 5 ×

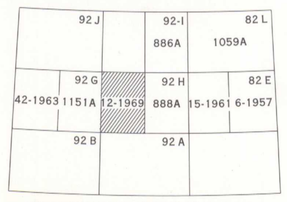
Geological compilation by J. W. H. Monger, 1969

Geological cartography by the Geological Survey of Canada, 1969

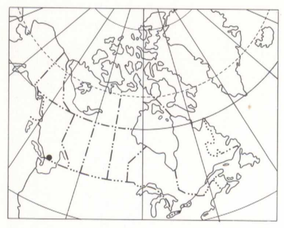
Magnetic declination 1969 varies from 22°32′ easterly at centre of west edge to 22°23′ easterly at centre of east edge. Mean annual change, decreasing 2.9′

Base-map at the same scale compiled and drawn by the Surveys and Mapping Branch, 1957

Elevations in feet above mean sea-level



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



INDEX MAP

Copies of the topographical edition of this map may be obtained from the Map Distribution Office, Department of Energy, Mines and Resources, Ottawa.

MAP 12-1969
PAPER 69-47

GEOLOGY

HOPE

(West Half)

BRITISH COLUMBIA

Scale 1:250,000

Miles 4 0 4 8 12 Miles
Kilometres 6 0 6 12 18 Kilometres

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

HOPE
BRITISH COLUMBIA

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