Énergie, Mines et Ressources Canada / Energy, Mines and Resources Canada

GEOLOGICAL SURVEY OF CANADA / COMMISSION GÉOLOGIQUE DU CANADA

Canada

GEOLOGICAL MAP AND CROSS SECTION

DOWNIE CREEK MAP AREA (82 M/8)

BRITISH COLUMBIA

COMPILATION 1991 BY RICHARD L. BROWN
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STRATIGRAPHIC COLUMN

QUATERNARY
PLEISTOCENE AND RECENT (units mapped prior to flooding of Columbia River valley)

Qs(qm)	Unconsolidated sediments; glacial deposits, colluvium and alluvium; few if any outcrops; probable subcrop unit within parentheses
Qst	River terraces in unconsolidated sediments: glacial deposits, colluvium and alluvium
Qgt	River terraces in unconsolidated coarse glaciofluvial gravel and sand
Qgf	Alluvial fan: coarse gravel and sand

JURASSIC
MIDDLE JURASSIC

Jqm	K-feldspar megacryst-bearing quartz monzonite

CAMBRIAN TO JURASSIC
MIDDLE CAMBRIAN TO MIDDLE JURASSIC

qm	Quartz monzonite
b	Metagabbro
ub	Ultrabasic intrusion

CAMBRIAN AND ORDOVICIAN
LOWER CAMBRIAN TO LOWER ORDOVICIAN
LARDEAU GROUP
BROADVIEW FORMATION:

lPBs	Grey and green phyllitic grit and phyllite

JOWETT FORMATION:

lPJv	Green phyllite, limy green phyllite and greenstone
lPJc	White and grey limestone or dolomite

INDEX FORMATION:

lPIp	Light green siliceous phyllite; minor phyllitic limestone and quartz grit
lPIgr	Quartz grit; minor gritty phyllite
lPIv	Green basic metavolcanic flows, minor green phyllite
lPIc	Grey limestone, phyllitic limestone
lPIs	Light grey siliceous phyllite
lPIsl	Dark grey graphitic phyllite, minor limy phyllite
lPIcg	Quartz pebble conglomerate, quartzite and limestone breccia

CAMBRIAN
LOWER CAMBRIAN
BADSHOT FORMATION:

lЄBc	Grey and white limestone

PROTEROZOIC AND/OR CAMBRIAN
UPPER PROTEROZOIC (WINDERMERE) AND/OR LOWER CAMBRIAN
HAMILL GROUP (lЄMp to lЄs)
MOHICAN FORMATION (lЄMp, lЄMc):

lЄMp	Green and brown calcareous phyllite, minor siliceous phyllite
lЄMc	White to light grey limestone
lЄq	White, brown and pale green quartzite, commonly crossbedded
lЄs	Grey and brown phyllitic quartzite, siliceous phyllite

PROTEROZOIC
UPPER PROTEROZOIC (WINDERMERE)
HORSETHIEF CREEK GROUP - UPPER PELITE MEMBER

Pp	Dark grey pelite, calcareous pelitic schist

PROTEROZOIC AND/OR CAMBRIAN
LOWER PROTEROZOIC(?) TO LOWER CAMBRIAN
MONASHEE COMPLEX - COVER GNEISS

Pmn	Amphibolite-bearing pegmatitic gneiss and micaceous schist
Ppk	Aluminosilicate-bearing pelitic schist; minor calc-silicate gneiss; rare marble and quartz-feldspar grit
Pq	Quartzite
Psc	White and grey marble
Pnc	Calc-silicate gneiss; minor pelitic schist, quartzite and marble
Pqcg	Quartzite; minor quartz pebble conglomerate, micaceous quartzite and basal muscovite-quartz schist

PROTEROZOIC
LOWER PROTEROZOIC
MONASHEE COMPLEX - BASEMENT GNEISS

Aqm	Augen-bearing quartz monzonite
An	Biotite-hornblende-quartz-feldspar paragneiss; minor amphibolite

GEOLOGICAL SYMBOLS

stratigraphic and intrusive contacts (exposed, inferred, uncertain)

fossil locality (archaeocyathids in Badshot Formation)

mineral property

MAJOR STRUCTURES

normal fault and/or shear zone (exposed, inferred); peg on hanging wall

thrust fault and/or shear zone (exposed, inferred); teeth on hanging wall

fault and/or shear zone (exposed, inferred); sense of displacement unknown

axial surface trace of second phase antiform

axial surface trace of third phase synform (terrane northeast of Columbia River fault)

axial surface trace of third phase antiform (terrane southwest of Columbia River fault, Monashee complex)

MINOR STRUCTURES

strike and dip of bedding

strike and dip of bedding where sedimentary structures indicate beds are right way up

strike and dip of bedding where sedimentary structures indicate beds are upside down

strike and dip of first phase axial plane cleavage or foliation; trend and plunge of fold axis, vergence unknown; barbs on tail or on accompanying axial plane symbol indicate phase

strike and dip of second phase axial plane cleavage or foliation; trend and plunge of fold axis, vergence of minor fold to the north (upper member of shear couple displaced northward)

strike and dip of third phase axial plane cleavage or foliation; trend and plunge of fold axis, vergence of minor fold to the south

trend and plunge of fold axis, minor fold is symmetrical; barbs on tail or on accompanying axial plane symbol indicate phase

trend and plunge of second phase elongation lineation; barbs on tail or on accompanying planar symbol indicate phase

MINERAL PROPERTIES

1	Keystone	Lead-zinc
2	Standard	Copper
3	Roseberry	Gold
4	J and L	Lead-zinc

ABBREVIATIONS AND EXPLANATORY NOTES

CRF Columbia River fault: normal fault and shear zone active in the Eocene; Pleistocene and Recent deposits unconformably overlie the shear zone; shear zone fabrics dip moderately (between 20° and 30°) to the northeast

SPF Standard Peak fault: interpreted as a thrust fault that has displaced older units of the Lardeau Group southwestward onto younger units of the Lardeau Group; age of thrusting is inferred to be Middle Jurassic

DCF Downie Creek fault: interpreted as a thrust fault that has displaced older units of the Hamill Group southwestward onto younger units of the Lardeau Group; fault dies out southward as inverted rocks of the Hamill Group lie stratigraphically above inverted Badshot Formation; age of thrusting is inferred to be Middle Jurassic

MCF Mount Craib fault: interpreted as a thrust fault that has displaced the Proterozoic Horsethief Creek Group southwestward onto the Hamill Group; this folded thrust is inferred to be Middle Jurassic

CN Carnes nappe: the overturned and completely refolded limb of the anticlinal nappe extends southwestward in the hanging wall of the Standard Peak fault; see Brown and Lane (1988) for further explanation

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TOPOGRAPHIC BASE

TABLEAU D'ASSEMBLAGE DU SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE

82 M/10	82 M/9	82 N/12
82 M/7	82 M/8	82 N/5
82 M/2	82 M/1	82 N/4

119°00' 117°30' 51°45' 51°00'

INDEX TO ADJOINING MAPS OF THE NATIONAL TOPOGRAPHIC SYSTEM

Information concerning location and precise elevation of bench marks can be obtained by writing to the Geodetic Survey, Surveys and Mapping Branch, Ottawa.

On peut obtenir des renseignements sur le lieu et l'altitude exacte des repères de nivellement en écrivant aux Levés géodésiques, Direction des levés et de la cartographie, Ottawa.

CONVERSION SCALE FOR ELEVATIONS / ÉCHELLE DE CONVERSION DES ALTITUDES

Metres 30 20 10 0 50 100 150 200 250 300 Mètres

Feet 100 50 0 100 200 300 400 500 600 700 800 900 1000 Pieds

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

ÉQUIDISTANCE DES COURBES 100 PIEDS
Altitudes en pieds
Système de référence géodésique nord-américain, 1927
Projection transverse de Mercator

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OTTAWA

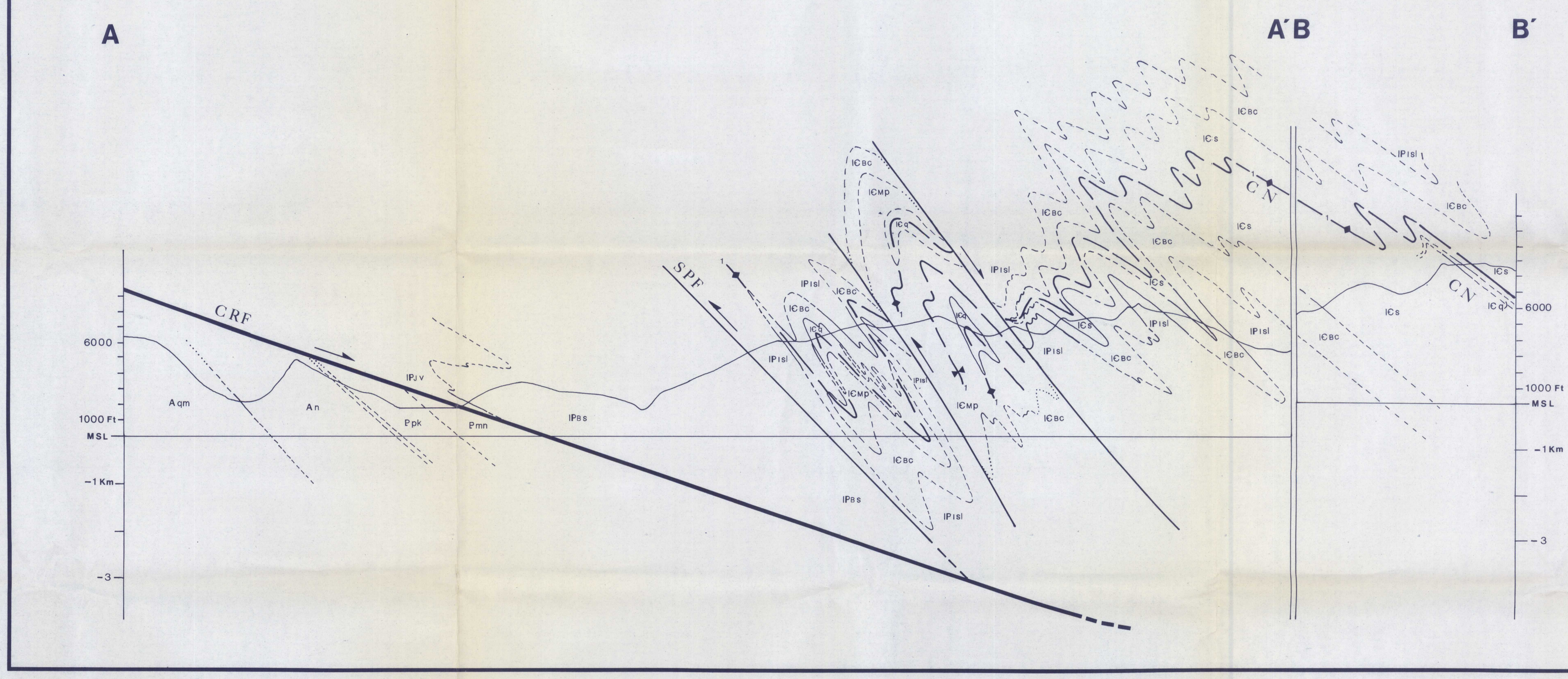
T.N. N.G.
0°59' or/ou 17 Mils
23°38' or/ou 420 Mils
Grid north — Nord du quadrillage
Magnetic north — Nord magnétique

Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 1979
FOR CENTRE OF MAP
Annual change decreasing 5.0'

N'utiliser le diagramme que pour obtenir les valeurs numériques
DÉCLINAISON MOYENNE APPROXIMATIVE
AU CENTRE DE LA CARTE EN 1979
Variation annuelle décroissante 5.0'

Scale 1:50 000 Échelle

Miles 1 0 1 2 3 Milles
Metres 1000 0 1000 2000 3000 4000 Mètres
Yards 1000 0 1000 2000 3000 4000 Verges



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