GEOLOGICAL SURVEY BRANCH

OPEN FILE 1989-19

GEOLOGY OF THE NEEDLEPOINT MOUNTAIN MAP AREA

NTS 104P/4 (NE 1/4)

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SCALE 1:25,000

LEGEND

SYLVESTER ALLOCHTHON (DEVONIAN TO TRIASSIC)

TRIASSIC

TrTMs — TABLE MOUNTAIN SEDIMENTARY UNIT -- Black slatey argillite with interbedded brown carbonaceous siltstone and black fine grained quartzite. Bedding and cleavage are commonly folded. A distinctive *Halobia(?)*-bearing limestone occurs locally at or near the base of the unit

PENNSYLVANIAN

lPHMapb — HUNTERGROUP MASSIF AUGITE PORPHYRY BASALT -- A thick volcanic suite dominated by green augite-porphyry basalt. The unit is heterogeneous at its base where it may include coarse volcaniclastic, green tuff, black argillite and dacitic intrusive bodies

AGE UNCERTAIN

PzTrTMum — TABLE MOUNTAIN ULTRAMAFIC -- Serpentinite, listwanite, ultramafic and altered ultramafic rocks which occur in small discontinuous lenses along the fault contact at the base of Unit TrTMs

PzTrTMvs — TABLE MOUNTAIN VOLCANIC-SEDIMENTARY UNIT -- Aphanitic green basalt. Large lenses of sedimentary rock including green and black chert, siliceous argillite, coarse volcaniclastic, and poorly sorted black greywacke occur as inclusions or interlayers within the basalt. May represent one or more stratigraphic sequences

PzTrNMvs — NEEDLEPOINT MOUNTAIN VOLCANIC-SEDIMENTARY UNIT -- Aphanitic green basalt. Southwest of Needlepoint Mountain the unit includes large volumes of fine- to medium-grained gabbro and diorite. The base of the unit is an east-tapering wedge of bedded black siliceous argillite, with minor interbedded siltstone and carbonate

PzTrBMvs — BLACKFOX MOUNTAIN VOLCANIC-SEDIMENTARY UNIT -- Green aphanitic basalt with chert. May consist of several subunits, from structural top to bottom; green aphanitic basalt with large inclusitions of buff recrystallized chert; multicolored (black, red, green, buff) bedded chert with minor basalt; and green basalt and diabase

PzTrsi — PALEOZOIC SEDIMENTARY UNIT -- Locally consists of argillite, or black chert with basalt and diorite

IlMvs — PALEOZOIC VOLCANIC-SEDIMENTARY UNIT -- Not exposed in this map area. Occurs in contiguous sections of 104P/3 and 104P/3

NORTH AMERICAN MIOGEOCLINAL STRATA (CAMBRIAN TO MISSISSIPPIAN)

DEVONIAN-MISSISSIPPIAN

DME — EARN GROUP -- Black argillite, black porcellanite and gunsteel grey shale, approximately 30 m thick

MIDDLE DEVONIAN

mDM — McDAME GROUP -- Light- to dark-grey, fetid micritic carbonate, locally Amphipora- and Stringocephalus bearing

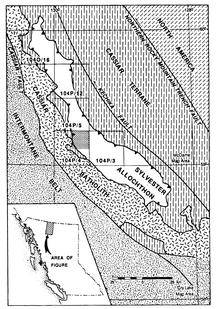
CAMBRIAN-ORDOVICIAN

€OK — KECHIKA GROUP -- Dark, rusty biotite-quartz hornfels

- LIMITS OF OUTCROP
- LITHOLOGIC CONTACT -- Dashed where approximated
- THRUST FAULT -- Dashed where approximated. Teeth on upper plate
- BASAL SYLVESTER ALLOCHTHON FAULT -- Dashed where approximated
- FAULT -- Dashed where approximated
- 72 BEDDING
- 20 CLEAVAGE
- 34 MINOR FOLD AXIS
- GEOCHEMICAL SAMPLE SITE

REFERENCE

Harms, T.A., 1989, Geology of the northeast Needlepoint Mountain map area and Erickson mine area, northern British Columbia (104P/4 - NE1/4), *B.C. Ministry of Energy, Mines and Petroleum Resources*, Geological Fieldwork, 1988, Paper 1989-1.



LOCATION MAP

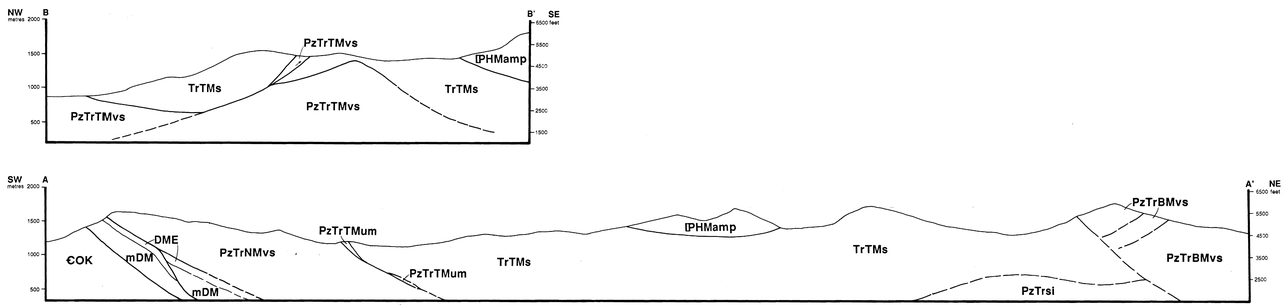
MINERAL OCCURRENCES

NAMES	MINFILE NUMBER	ECONOMIC MINERALS	DESCRIPTION
Erickson (Jennie, Maura, Allison)	104P 029	gold, tetrahedrite	Mesothermal Au, Ag: Steeply-dipping multiphase quartz veins in sheared, carbonate altered basalts contain fine gold and gold disseminated within pyrite and tetrahedrite.
Vollaug	104P 019	gold, tetrahedrite	Mesothermal Au, Ag: An easterly-striking ribbon quartz vein dips 30 degrees north along the contact between footwall listwanites and overlying Triassic sediments. A strike length of 2.7 km is exposed.
Cussac (Eileen, Katherine)	104P 070	gold, tetrahedrite	Mesothermal Au, Ag: A quartz vein trending 060-070 and dipping 60 degrees north has been mined along a strike length of 200 m. Mineralization occurs along listwanite bodies bounding the upper contact of Unit PzTrTMvs.
Sky	104P 078	gold, tetrahedrite	Mesothermal Au, Ag: A quartz vein about 4 m wide lies along an east trending fault which dips 75 degrees north. Listwanite occurs along the hanging wall, between the vein and Unit PzTrTMvs sedimentary strata.
Pete	104P 025	gold, tetrahedrite	Mesothermal Au, Ag: East to northeast-trending quartz veins up to 1.8 m wide contain tetrahedrite and minor gold. Host is a large listwanite body.
Hunter	104P 034	gold, tetrahedrite	Mesothermal Au, Ag: A wide north-trending shear zone contains northeasterly-trending quartz veins up to 1 m wide.
Rocky Ridge/ Trouline Adit, Gold Hill, Nora	104P 016, 104P 017, 104P 018	gold, tetrahedrite	Mesothermal Au, Ag: A zone containing quartz veins trending 040-055 and 070 degrees can be traced for 2.5 km.

GEOCHEMICAL ANALYSES

Au and Hg analyses given in ppb; all other analyses given as ppm unless indicated as percent

NO.	HOST LITHOLOGY	Au	Ag	Cu	Pb	Zn	Hg	As	Sb	DESCRIPTION
1	Sylvester - TrTMs	932	9.0	0.12%	134	390	700	64	2	Gossan in black argillite
2	Sylvester-PzTrBMvs	<20	0.7	9.0	3	68	200	692	24	Carbonate-altered basalt with marcasite
3	N Am Earn - DME	<20	0.6	11.0	16	100	26	3	1	Gossan with sulphides in black argillite
4	Sylvester-PzTrNMvs	<20	2.0	120	62	42	31	59	5	Altered basalt with sulphides
5	Sylvester-PzTrNMvs	<20	0.5	5.0	10	30	18	104	1	Gossan in medium-grained gabbro
6	Sylvester-PzTrNMvs	139	<0.5	15.0	2	54	11	224	3	Carbonate-altered basalt with pyrite and marcasite
7	Sylvester-PzTrNMvs	72	<0.5	7.0	4	44	<10	305	3	Carbonate-altered basalt with pyrite and marcasite
8	Sylvester-PzTrNMvs	18	<0.5	55.0	2	71	12	—	8	Gossan in altered fine-grained gabbro
9	Sylvester - lPHmph	09	0.5	23.0	21	37	12	—	2	Altered basalt with sulphides



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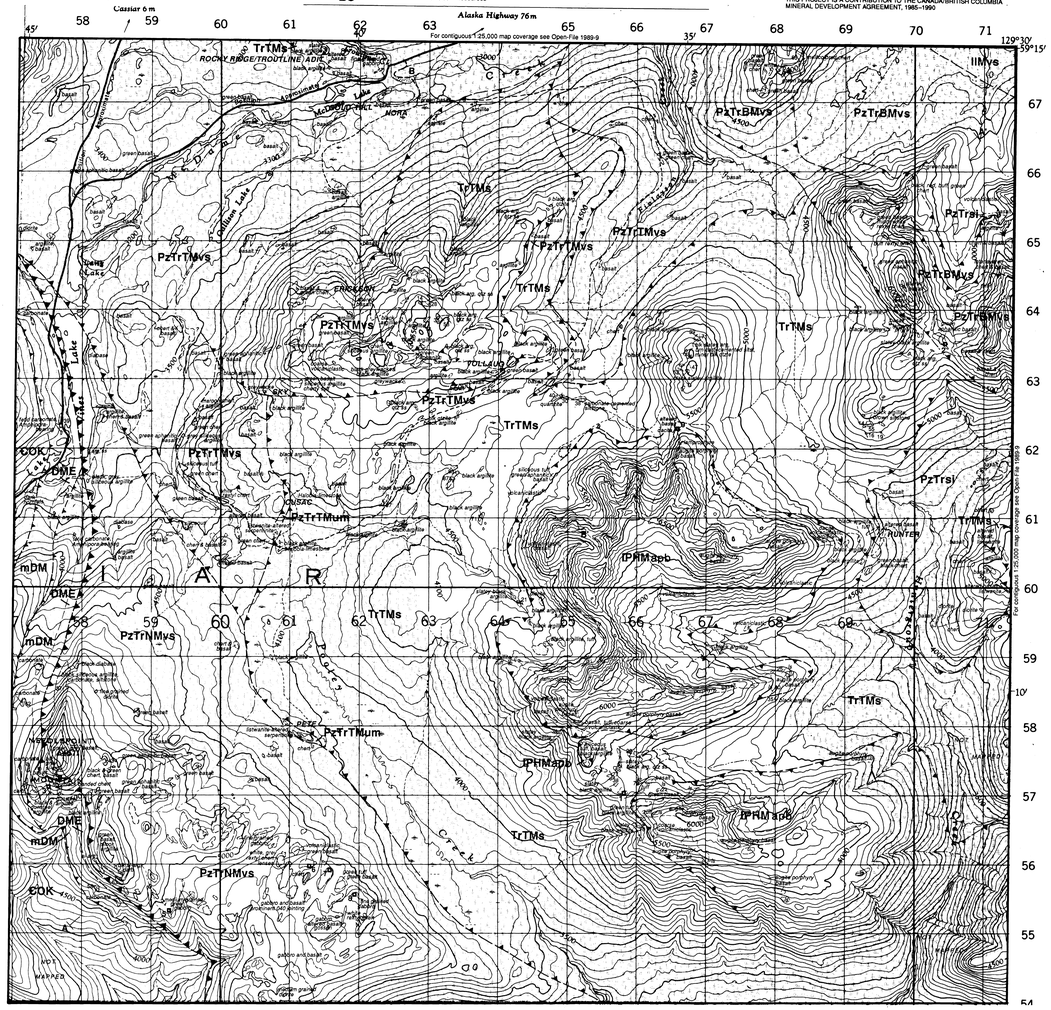

NEEDLEPOINT MOUNTAIN

CASSIAR DISTRICT

BRITISH COLUMBIA

SCALE 1:25,000

1 0 1 Miles

1 0 1 2 Kilometres

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