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1112 West Pender, Vancouver, B.C. INTER-OFFICE MEMORANDUM

DATE: January 30, 1978

TO: J. J. McDougall

COPIES TO: SNC, AMC/WDH, Delta

FROM: B. D. Simmons

SUBJECT: Northair Mines Limited (92-J-3)

SUMMARY: The Northair orebody consists of a narrow polymetallic vein deposit in andesitic volcanics adjacent to Coast Range plutonic rocks. It is segmented into three zones by faulting. Mineralization consists of disseminated to semi-massive pyrite-sphalerite-galena in a quartz-carbonate gangue. Gold occurs free but is very fine grained and not visible.

Production of 300 tpd. comes from nine stopes on three levels to ± 600 feet below surface. Mining is by cut-and-fill to widths of 3 feet with very little dilution. Preproduction ore reserves were as follows (Feb. 1976): 458,000 tons at 0.46oz/T Au, 3.49oz/T Ag, 7% combined Pb & Zn. Production began on May, 1976 and on the basis of remaining proven reserve, the mine staff estimate a present life of 2½ years.

Although the operation is highly efficient, the financial success of the mine will be largely dependant upon the size and grade of mineralization present on a new lower level currently being developed.

INTRODUCTION: The Northair Mines property was visited on January 26 by SNC, ILE, BD and the writer. Our tour was guided by Harry Skolgund (Mine Supt) and Wayne Ashe (Chief Engineer). The guides were very informative and willing to discuss all topics except tonnage and grade.

LOCATION: The mine is located on Callaghan Creek approximately 30 miles due north of Squamish, B. C. and 5 miles by private road from McGuire on the Squamish-Pemberton highway. (see Figure 1)

HISTORY: Surface mineralization was discovered in 1970-71 during follow-up of stream sediment anomalies previously out-lined by an amateur prospector. Several companies investigated the property without much encouragement. DHB and ILE briefly examined the discovery in 1972 (see monthly report, Aug. 1972). Northair Mines optioned the property and undertook a drilling program which was encouraging enough to justify underground exploration. A production decision was reached in July 1974 and the mine attained producing status in May, 1976.

OPERATION: The mine consists of three levels (3700, 3500, 3250 elev.) serviced by separate adits. At present, there are nine producing stopes, all mining by cut-and-fill methods to widths of 3 feet. Dilution is minimal with excellent ground conditions. Production is 300 tpd on a 5 day/week mining cycle. The average cut-off grade is about 0.2 oz/ton gold.

Broken ore is trucked from the 3250 portal to an on-site mill (formerly King Resources, Rossland area). Heads are averaging 0.4 oz/ton gold, tails are 0.2 oz/ton gold. Zinc concentrate is shipped to Trail, lead concentrate to Montana.

The total work force is 96. The entire operation appears to be very efficient and well-managed. The technical staff appeared highly motivated and enthusiastic.

RESERVES: Preproduction reserves (Feb. 1976) were as follows:

TONS	OZ/T Au	OZ/T Ag	% Pb	% Zn
458,000	0.46	3.49	approx. 7% combined Pb & Zn	

Reserve as of Feb. 1977 was as follows:

330637	0.37	4.56	2.72	4.06

Current figures are not available.

GEOLOGY: (see Figures 2 & 3)

a) WALL ROCKS:

The vein is hosted by a fine-grained, grey-green, well-foliated but otherwise featureless rock which appears to be an andesite in composition. A few narrow acid flows (or sills) are indicated on mine plans. This sequence strikes north-south dips vertically, and is part of a narrow linear belt of Cretaceous volcanics bounded on both sides by Coast Range plutonic material. A few massive, fine-grained, post mineral, intermediate sills up to 10' wide are evident in the drifts especially near the fault zones discussed below.

b) MINERALIZED VEIN:

The vein, segmented into three zones by faulting, consists of fine-grained creamy quartz with lesser carbonate and minor lamellae of chlorite. The vein, striking N45W and dipping 80° south, has a weakly banded appearance. Width averages 4 feet but can reach 10 feet. Wall rock/vein contacts are extremely sharp.

Mineralization consists of fine to medium grained disseminated pyrite-sphalerite-galena with minor chalcopyrite. No arsenopyrite is present. Locally, the sulphides are massive to semi-massive is character. Gold is not visible but occurs as free grains of 100 mesh size.

c) STRUCTURE AND ORE ZONES:

The vein is divided into three zones by strike faults in the andesitic volcanics. These faults can be recognized in the drifts by gouge zones up to 2' wide. In some cases, the position of a fault is obscured by

intermediate sills. The total length of mineralized vein before faulting was about 2500 feet.

Each faulted segment appears to have its own character. The eastern or Manifold zone is about 800 feet long and becomes sub-economic just above the 3500' level. This zone, containing only weakly disseminated sulphides, carries high silver values but very little gold. The wall rock never makes ore.

The central or Warman zone is about 1200 feet long and is open at depth below the 3250 level. This zone is by far the largest and contains 15-20% sulphides, rich in both silver and gold. Local pods of massive sulphides are present. Locally, the wall rock makes ore over narrow widths.

The western or Discovery zone is 500 feet long and open at depth. Massive to semi-massive sulphides are common and wall rock makes ore for 2 feet on either side of the vein.

d) ALTERATION:

Wall rock contains up to 10% finely disseminated pyrite up to 5-10 feet from the vein. No other alteration was readily apparent. Character samples were collected for rock geochem. and will be reported later.

e) CLASSIFICATION:

The ore zone is a polymetallic vein deposit within volcanics adjacent to a large area of granitic rocks. As such, it is similar to many other relatively small occurrences throughout the Cordillera.

There is no evidence to support the suggestion that the ore zone could represent a small stratabound volcanogenic deposit.

FUTURE DEVELOPMENT:

An adit has just been started to establish a new level at the 2800' elevation. Unfortunately, topographic relief requires a 4000 foot drive before the vein is reached. Scheduled advance will be 40 feet per day implying completion of the drive by early May. On the basis of remarks by mine staff, the cost of the drifting and necessary new equipment can be guesstimated at ± $1 million. Drill hole information between 3250 and 2800 levels is extremely limited and indicated grades show no improvement over present reserves.

The mine is showing a small operating profit at present and they hope to have a large bank loan (approx. $5 million) paid off shortly. The economic success or failure of the entire operation will depend largely on the nature of the vein at the 2800' level.

B. D. Simmons

BDS:ik

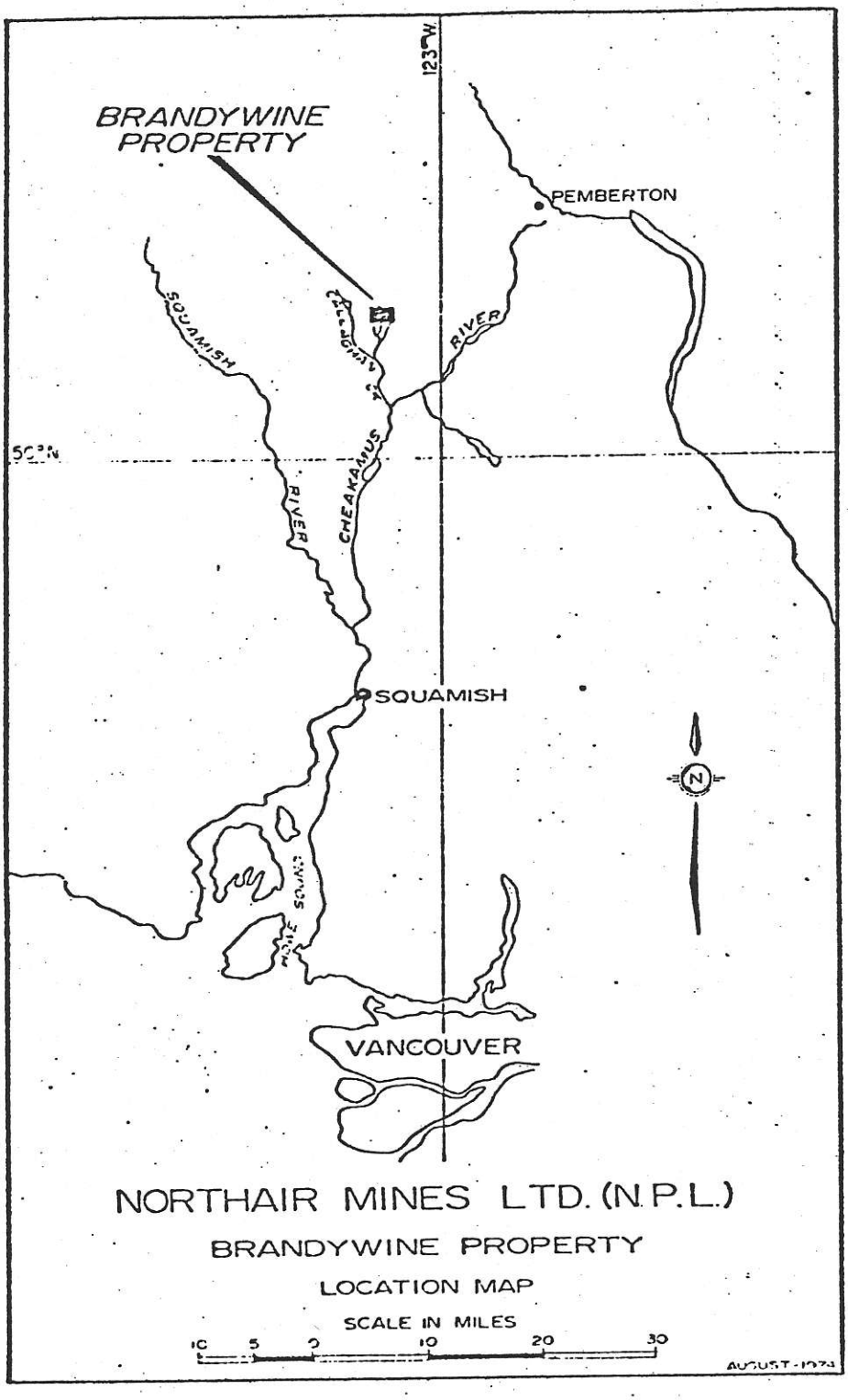

BRANDYWINE PROPERTY
123°W.
PEMBERTON
SQUAMISH
CHEAKAMUS
RIVER
50°N
SQUAMISH
RIVER
SQUAMISH
VANCOUVER
N
NORTHAIR MINES LTD. (N.P.L.)
BRANDYWINE PROPERTY
LOCATION MAP
SCALE IN MILES
10 5 0 10 20 30
AUGUST 1973

FIGURE 1

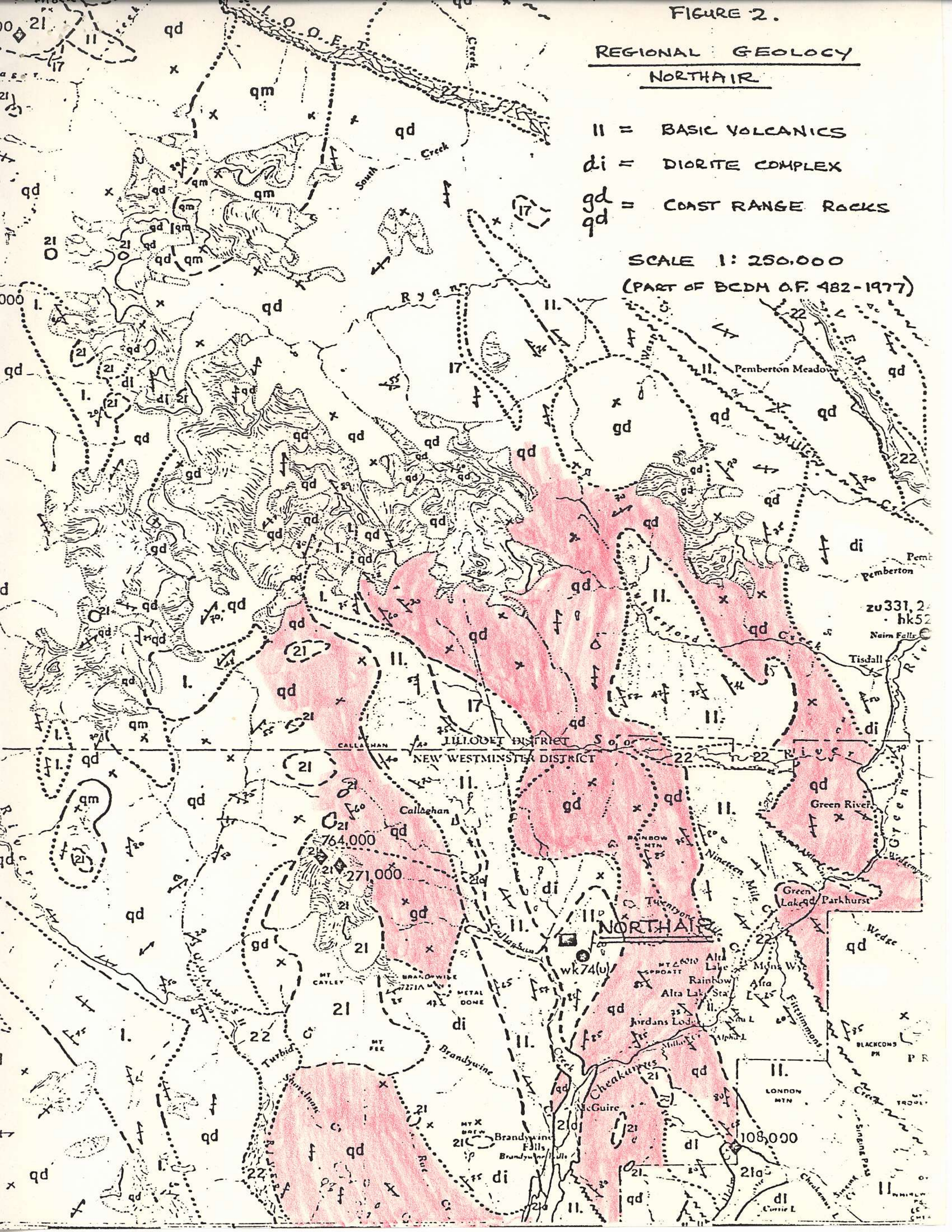
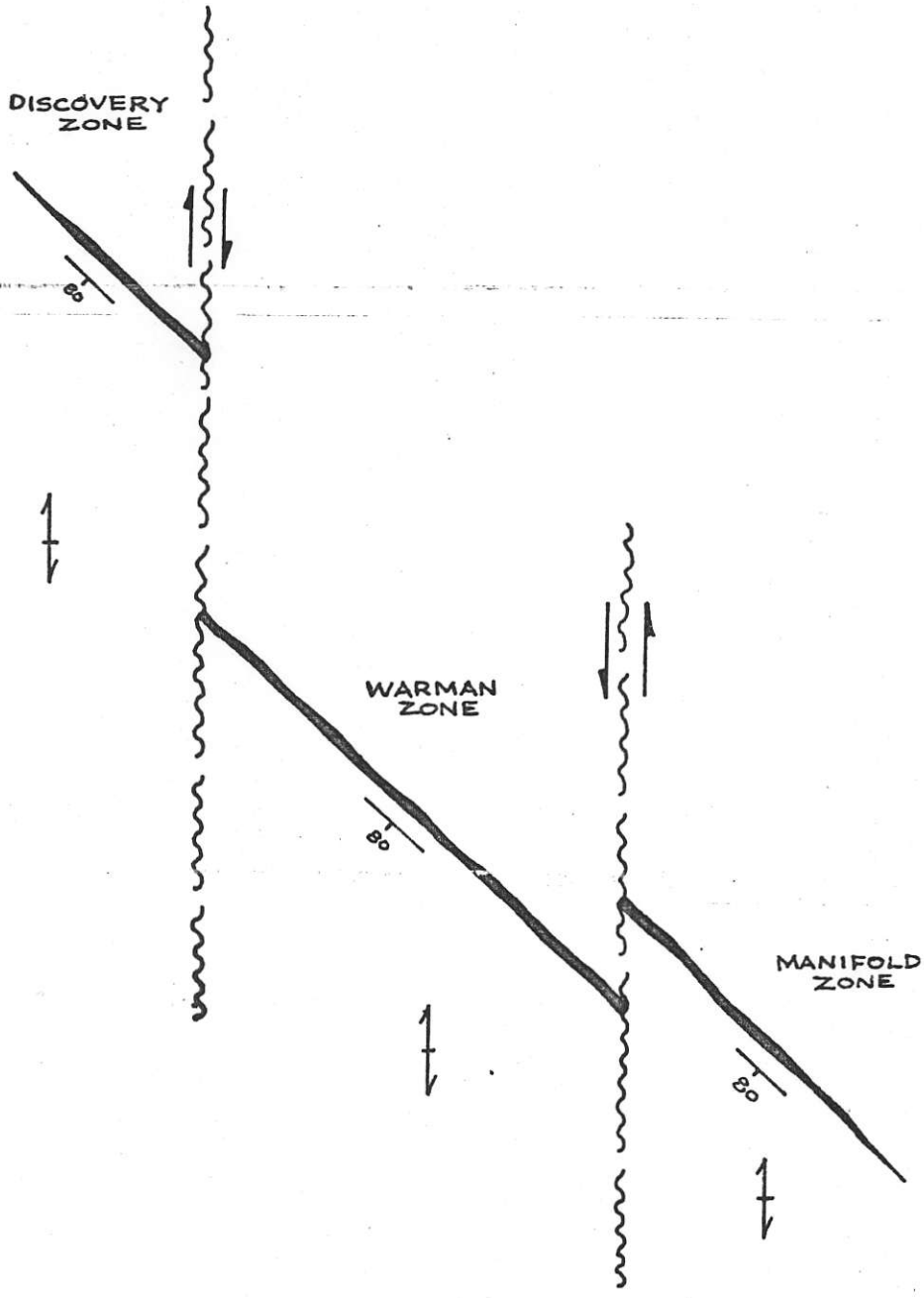


FIGURE 2.
REGIONAL GEOLOGY
NORTHAIR
11 = BASIC VOLCANICS
di = DIORITE COMPLEX
gd
qd = COAST RANGE ROCKS
SCALE 1: 250.000
(PART OF BCDM O.F. 482-1977)
Pemberton Meadows
Pemberton
Nairn Falls
Tisdall
Rutherford Creek
Ryan
South Creek
Miller Cr
LILLOOET DISTRICT
NEW WESTMINSTER DISTRICT
Soo River
Green River
Callaghan
764,000
271,000
RAINBOW MTN
Nineteen Mile Cr
Twentyone Mile Cr
NORTHAIR
wk74(u)
Green Lake
Parkhurst
Alta Lake
Rainbow
Alta Lake Sta
Jordans Lodge
Alpha L
Cheakamus
Brandywine
Brandywine Falls
McGuire
108,000
LONDON MTN
BLACKCOMB PK
Fitzsimmons Cr
Singing Pass
Wedge
Mons
MT CAYLEY
MT FEE
METAL DOME
Turbid Cr
Squamish River
zu331, 24
hk52



FAULT

MINERALIZED VEIN

ATTIDUDE OF VEIN

FOLIATION IN VOLCANICS

FIGURE 3

SURFACE PLAN
NORTHAIR MINES LTD.

92-J-3

APPROX: 1" = 400'