

2405

GEOCHEMICAL REPORT

ON THE

BEAR 1 TO 24 MINERAL CLAIMS

LOCATED APPROXIMATELY

30 MILES NORTHWEST OF CAMPBELL RIVER

VANCOUVER ISLAND

BRITISH COLUMBIA

LATITUDE 50°21', LONGITUDE 125°42'

92K/SE

By

T. E. Lisle

Supervised By

R. D. Westervelt, P.Eng.

For

Vanco Explorations Limited (N.P.L.)

Work Completed Between May 13th and September 30th, 1969

18th March, 1970

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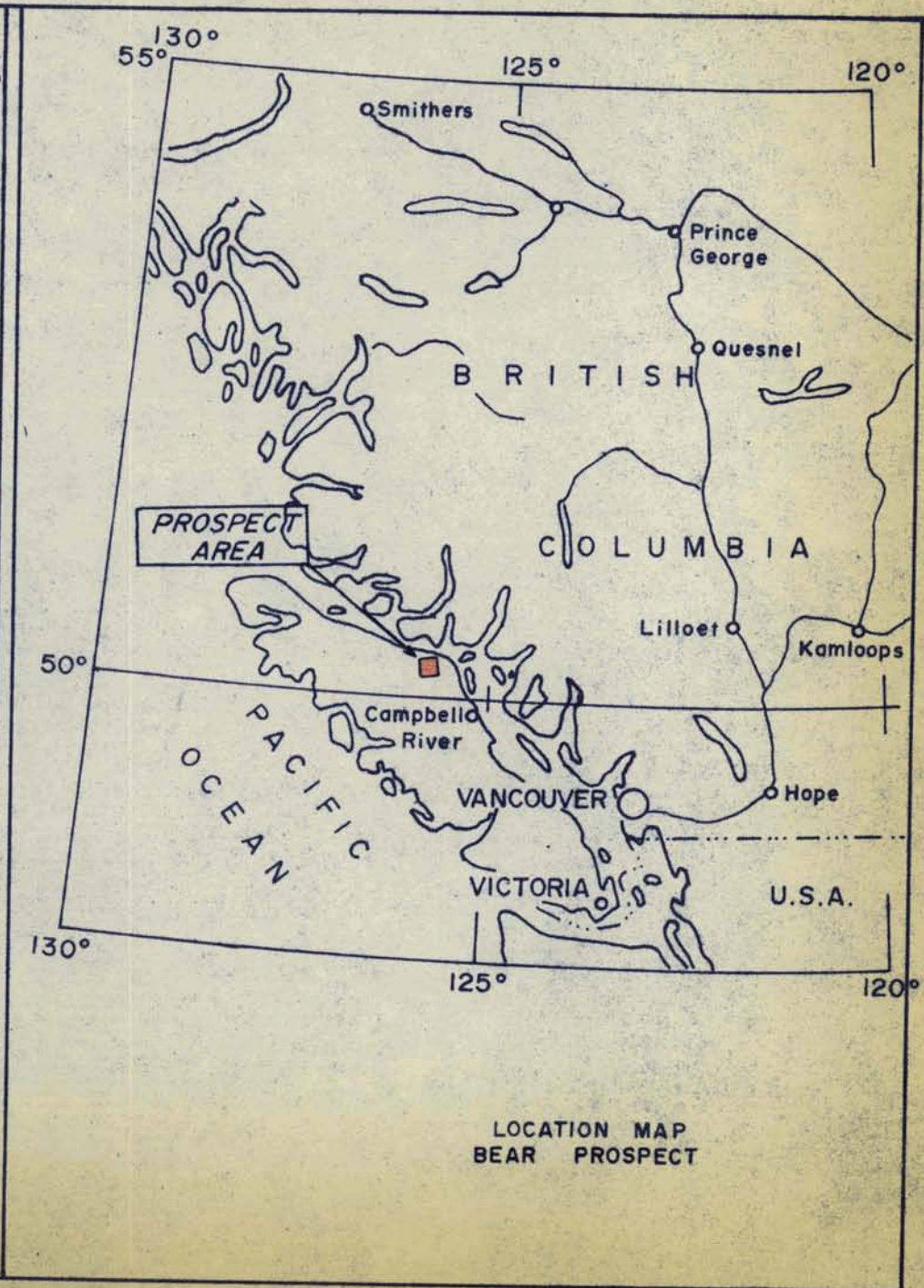
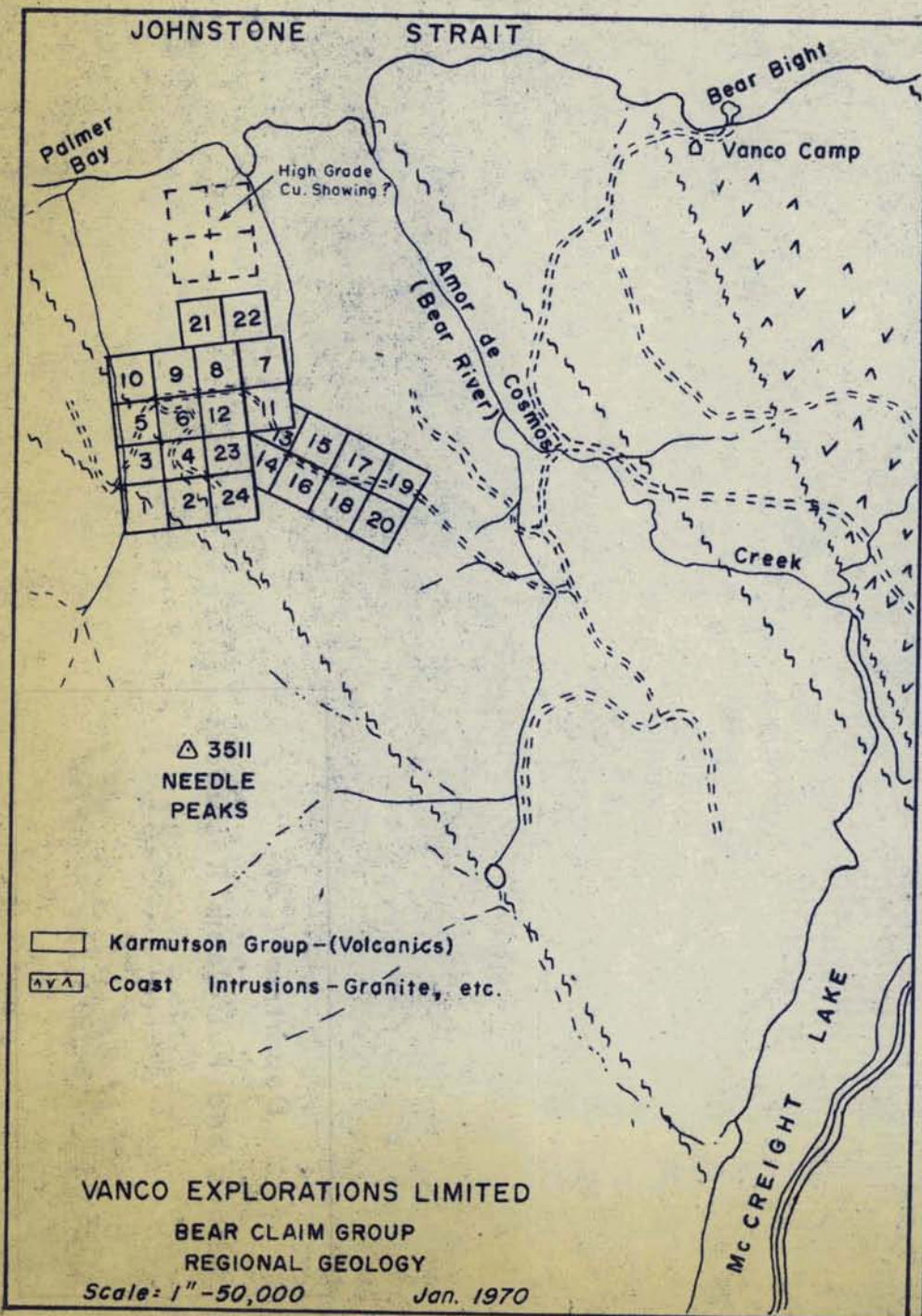
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Department of	
Mines and Petroleum Resources	
ASSESSMENT REPORT	
NO. 2405	MAP



SUMMARY

The Bear claim prospect was found by P. Gottselig in May, 1969, while working on eastern Vancouver Island.

Gottselig staked 24 claims centered on co-ordinates longitude 125°42' and latitude 50°21', about two miles from the east coast of the Island. Access to the claims is by 11 miles of forest access road which leaves the Kelsey Bay Highway about 23 miles northwest of Campbell River and runs generally north and northwest to the coast.

During the course of the 1969 exploration season approximately seven miles of grid line were established at various times, over which geochemical surveys and partial geological and magnetic surveys were run. The work was carried out under the supervision of R. D. Westervelt, P.Eng.

The claims were found to be underlain by andesite, basalt, and volcanic breccias within a few miles of the westerly border of the Coast Range Batholith. Sparse disseminations of chalcopyrite and pyrite, rare pyrrhotite, and minor magnetite were found within the grid area.

The geochemical survey for copper outlined small anomalous zones generally coincident with areas of known mineralization. The silver and molybdenum values were found to be restricted to fairly narrow background ranges. Silver values ranged from 0 to 2.5 p.p.m., and molybdenum from 0 to 4 p.p.m. About 90 per cent of the samples tested for copper fall into a wide background range of 0 to 130 p.p.m. This

type of background is apparently common for soils overlying parts of the Karmutsen volcanic formation.

The sharp magnetic variation found on the northern grid lines is believed to be due to the finely disseminated magnetite noted in the volcanics.

CONCLUSIONS AND RECOMMENDATIONS

The scattered copper occurrences found on the property are too erratic and limited in size to be of much current value.

Sparse disseminations of copper sulphides are common in the Karmutsen volcanic formation, and it is believed that these occurrences are responsible for the wide range of background values found in the soils.

Magnetic and geologic coverage were limited and the geochemical survey failed to define any strong target areas on which to base further work.

The small geochemical anomalies on the Bear 3, 8, and 9 claims all occur on or near roads, and it is suspected that they may have resulted from the dispersion of anomalous soils during the course of road building. It would take a little time to check these anomalies and this should be done prior to letting the property revert.

INTRODUCTION

During the course of the 1969 prospecting season, a party headed by P. Gottselig located some scattered copper mineralization on an old logging road near the east coast of Vancouver Island. Subsequent anomalous geochemical values made the showings sufficiently interesting to warrant holding for further work. Twenty-four mineral claims were staked in May, 1969, and cover the known mineral occurrences.

The ground was prospected by a two-man party in May. About five miles of grid lines were put in by a four-man party between June 17th and 26th, and soil samples collected. An additional two miles of line were put in and additional soil samples were taken by a three-man crew between September 22nd and 27th. Some preliminary geology was completed during this latter period and parts of five lines were covered with the magnetometer.

The work was carried out under the supervision of R. D. Westervelt, P.Eng., of Westervelt Engineering Ltd.

PROPERTY AND LOCATION

The property is comprised of 24 full-sized located mineral claims recorded in the name of Vanco Explorations Limited (N.P.L.), in the Nanaimo Mining Division. Particulars of the claims are as follows:

<u>Name</u>	<u>Staked By</u>	<u>Record No's</u>	<u>Record Date</u>	<u>Expiry Date</u>
Bear 1-24	P. Gottselig	28659-28682	May 29th, 1969	May 29th, 1970

The claim block is centered on co-ordinates longitude 125°42',

and latitude 50°21', and is within approximately two miles of the east coast of Vancouver Island. The area is rugged, slopes are steep, and elevations rise rapidly to over 3,500 feet above sea level at Needle Peaks, south of the claims. Elevations in the main part of the grid are between 1,000 and 1,500 feet above sea level.

ACCESS

Access to the claim group is from the main Kelsey Bay-Campbell River highway. About 23 miles northwest of Campbell River a forest access road leaves the highway and runs north and northwest for a distance of 11 miles to Bear Bight, an abandoned logging camp on the coast of the Island.

The claims are located about 2 1/2 miles in a direct line southwest of Bear Bight, and access is by a system of old logging roads.

HISTORY

The district is not known for its mineral resources. The Western Mines, Buttle Lake deposit of copper-zinc-silver, located about 50 miles to the south, is the closest commercial producer of any size. The showings located by Gottselig are believed to be a new find, however reference is made to the old Copper King deposit in the 1927 British Columbia Minister of Mines Report. This deposit is described as being a one-foot quartz vein with fine chalcopryrite mineralization. It is believed that the vein is located in one of the small northward draining gullies north of the claims, however efforts to find it were unsuccessful. Some very old claim posts were noted above the bluffs on the Bear 8 or 9 claim.

WORK PROGRAMME

In addition to preliminary prospecting traverses a total of about seven miles of grid line were established around the showings. Precipitous bluffs in the southern parts of the Bear 8 and 9 claims and some steep creek valleys made these areas generally inaccessible for surveying. Grid lines were established on 300 foot and 500 foot intervals at N80°E, and the grid covers an irregular area averaging approximately 2,000 by 5,200 feet. Soil samples were collected from stations marked at every 100 feet on the lines and partial coverage by magnetic and geological surveys were made over areas of known mineralization.

GEOLOGY

The prospect is underlain by volcanic rocks and is situated within a few miles of the westerly border of the Coast Range Batholith. The volcanics are believed to be part of the Triassic aged Karmutsen formation, a thick series of basic volcanic rocks with minor sedimentary beds near the top. The formation varies from 7,000 to 20,000 feet in thickness in the Vancouver Island map area. Strong northwesterly trending faults are evident in this area of the coast and one such break marks the fault contact of volcanic and batholithic rocks about three miles east of the showings on the Bear 9 claim.

The Bear grid is underlain by andesite, basalt, and to a lesser degree by poorly developed volcanic breccias. The flow rocks are mainly dark green to grey-green in colour, and commonly amygdaloidal or porphyritic. Amygdules are usually comprised of quartz, epidote, and occasionally of carbonate. Purplish andesitic fragments varying up to

one inch (?) in diameter are widely but apparently thinly scattered in the green basalts and andesites. The fragmental rocks have been located for about 600 feet south of line 0 on the grid, however individual horizons have not been detailed. A bedding attitude in the volcanics on line 9N strikes at $N70^{\circ}W$ and dips at $70^{\circ}SW$. An irregular lens of purple-grey limestone varying up to six inches wide and about 60 feet in length is situated near the road on the southern section of the Bear 9 claim. The steeply dipping limestone strikes a few degrees south of west and it is likely that this is close to the overall trend of the volcanic sequence.

Numerous small faults and shears are evident throughout the grid. Common directions are $N40^{\circ}E$, $N30^{\circ}W$, $N50^{\circ}W$ to $N60^{\circ}W$, and approximately $N80^{\circ}W$. A large fault is postulated for the valley situated north of the road on the Bear 9 claim, trending between $N75^{\circ}W$ and $N80^{\circ}W$. The locus of this fault is not exposed, however there are sufficient subsidiary fractures of similar attitude in the volcanics south of the valley to suggest its existence.

Epidote and quartz are the most obvious alteration minerals, although soft black chlorite (?) of patchy habit locally give the volcanics a dark porphyritic texture. Epidote occurs widely as fracture fillings, disseminations, and as amygdules in the volcanics. Quartz occurs as fracture fillings and as amygdules, and minor amounts of carbonate thought to be associated with epidote were noted in a few specimens.

Sparse disseminations of pyrite, chalcopyrite, and rare pyrrhotite and bornite (?) have been located throughout the grid area. Some

fine magnetite is evident in the volcanics in the northern part of the grid. In the discovery zone on the road on the southern part of the Bear 9 claim, chalcopyrite is finely disseminated in a green epidotized volcanic. The occurrence is spotty, apparently local, and is likely syngenetic in spite of the strong alteration and fractured nature of the rocks. Elsewhere spotty disseminations of pyrite and chalcopyrite can be found in less altered rocks, however these occurrences are also erratic and apparently limited in size.

Four character samples taken by Gottselig from areas of high geochemical results yielded negligible values in gold and silver and from 0.04% to 0.97% copper (see assays on geochemical map). The work programme did not locate any surface areas of mineralization worthy of detail sampling, and the chances of finding any on the grid are now substantially reduced.

GEOCHEMICAL SURVEY

Four hundred and fifty-five samples from the grid and 148 samples from the reconnaissance work were analyzed for copper. Four hundred and ten grid samples were tested for molybdenum, and 320 grid samples were tested for silver.

Where possible samples were collected from the "B" soil horizon. They were dug with a small mattock and packaged in standard brown soil sample envelopes, appropriately marked with prospect and sample number and station location.

The samples were shipped to Vancouver Geochemical Laboratories Ltd., in North Vancouver, where they were dried and screened to a minus

80 mesh. Samples were then digested in hot HNO_3 and HClO_4 and analyzed for the above metals by atomic absorption. The analyses were carried out by C. Chun and L. Nicol.

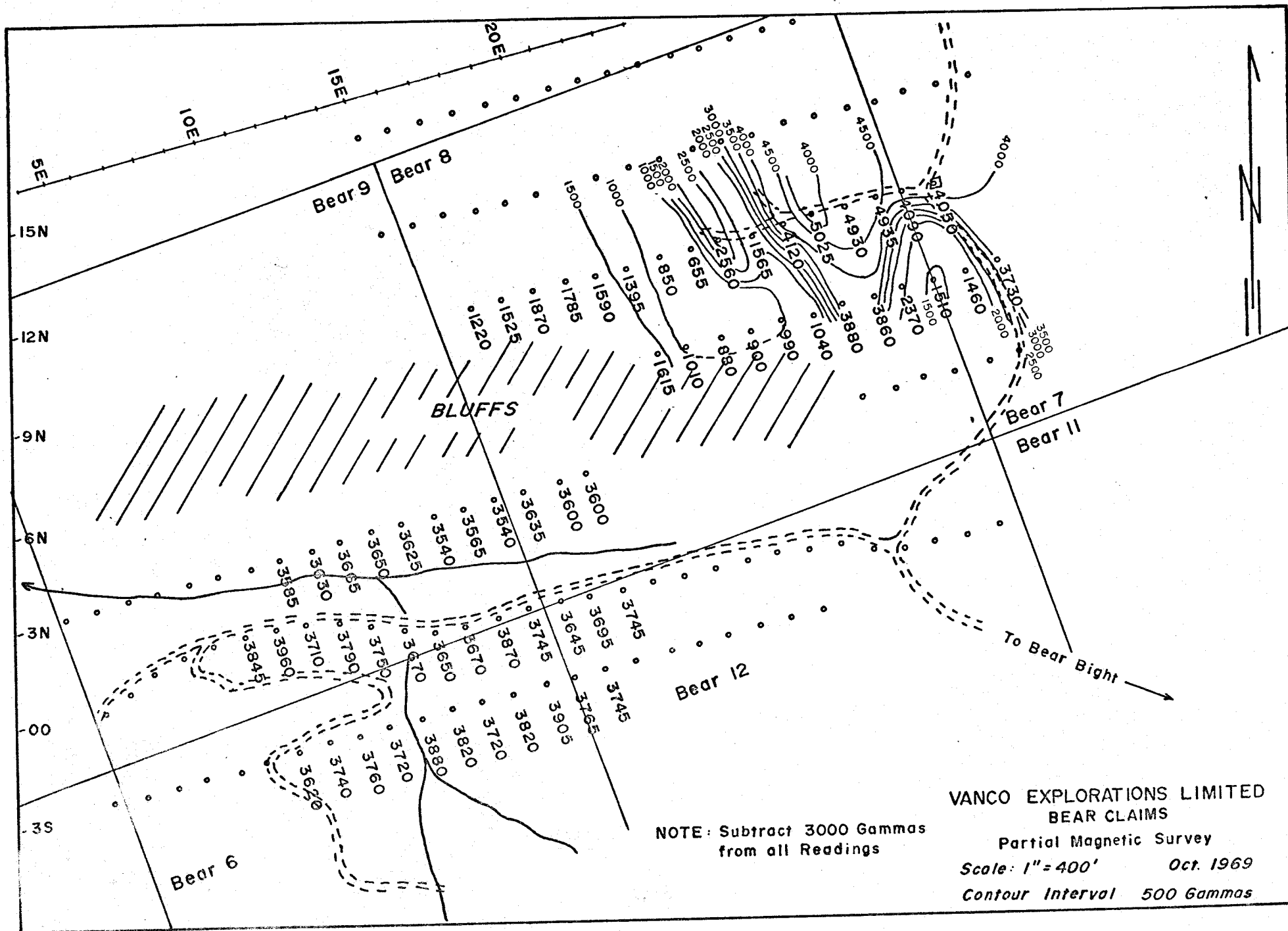
Those soils tested yielded a narrow range of silver values (0 to 2.5 p.p.m.), and a narrow range of molybdenum values (0 to 4 p.p.m.). One sample yielded 6 p.p.m. molybdenum. Both sets of values are considered to be background.

Approximately 90 per cent of 603 samples (grid and reconnaissance) yielded a broad background of 0 to 130 p.p.m. copper. Of the remaining values only those in excess of 180 p.p.m. were of interest, and these commonly outline small areas of known mineralization.

The geochemical survey did not delineate any target areas sufficiently strong on which to base any further extensive programme. The anomaly covering the zone on the road near the southern border of the Bear 9 claim appears to be reflecting overburden which may have been dispersed from a more local anomalous area during the course of road building. It is of interest that the higher anomalous results on the Bear 3 claim and the Bear 8 claim also were found in samples taken along or near a road. In view of the limited size of anomalies and in light of the fact that minor disseminations of copper sulphides are common in the Karmutsen formation, the copper anomalies do not demand more than a limited follow-up examination.

MAGNETIC SURVEY

Sections of lines 3S, 0, 3N, and 9N were covered with a Sharpe MF-1 fluxgate magnetometer. This coverage is too limited to speculate



on the geological interpretation, however the following points are evident.

Readings over the mineralization in the volcanics south of the bluffs showed little variation, with values averaging 600 to 700 gammas.

Readings taken on lines 6N and 9N, north of the bluffs, varied widely from -2345 gammas to 2025 gammas. Finely disseminated magnetite was noted, and is likely the cause of higher magnetic relief in this area. It was not determined whether the magnetite is related to a particular volcanic horizon or whether it occurs in some other structural zone.

J. Little



R. D. Westervelt

A P P E N D I X I
* * * * *

The following personnel worked on the Bear claims during the 1969 field season. Costs and wages are detailed below.

P. Gottselig - Prospector May 13th to 30th June 18th to 26th = 27 days @ \$22.00	\$ 594.00
G. Garratt - Assistant to Prospector, Linecutter and Soil Sampler May 13th to 30th June 18th to 26th = 27 days @ \$17.00	459.00
E. Miyoshi - Linecutter and Soil Sampler June 17th to 26th = 10 days @ \$19.00	190.00
J. Randa - Technician (Westervelt Engineering Ltd.) June 17th to 26th September 22nd to 27th = 16 days @ \$38.00	608.00
T. E. Lisle - Geologist June 17th and 18th = 2 days @ \$45.25	90.50
G. James - Geologist (Westervelt Engineering Ltd.) September 22nd to 27th = 6 days @ \$38.00	228.00
G. LaRocque - Helper September 22nd to 27th = 6 days @ \$18.00	108.00
Miscellaneous Camp Costs 94 days @ \$5.00/man/day	460.00
Truck Rental Approximately one month @ \$350.00	350.00

	Geochemical Analyses		1,035.80
of	Declared before me at the	<i>alg</i>	
	<i>Vancouver</i>	, in the	
Province of British Columbia, this	<i>26</i>	,	\$4,123.30
Day of	<i>May 1970</i>	, A.D.	<hr/> <hr/>

[Signature]
Jean Turner
Sub-mining Recorder

A P P E N D I X I I
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STATEMENT OF QUALIFICATIONS

T. E. LISLE

Education

B.Sc. University of British Columbia
Majors - Geology and Zoology
Degree except a mathematics course - April, 1961
Degree and additional geology courses - April, 1964

Experience

1965-1970 Vanco Explorations Limited (N.P.L.)
Exploration geologist engaged in geological, geochemical, and geophysical surveys, property examinations, supervision of various projects, evaluation of exploration data, etc.

1963-1964 Buttle Lake Mining Company Ltd. Northwest Ventures Ltd. Steep Rock Iron Mines Limited.
Geological, geochemical, and geophysical investigations at Franklin Mining Camp, Grand Forks, British Columbia; at a Westwold, British Columbia, MoS₂ prospect; at a MoS₂ prospect north of Hazelton, British Columbia; and in the Highland Valley.

1955-1962 Mainly as student assistant - Hill, Starck and Associates Limited, Consulting Engineers.

1962 Merritt, British Columbia - geological and geochemical surveys.
Silbak Premier Mine, Stewart, British Columbia - assayer.
Old Estella Mine, Wasa, British Columbia - engineer.

1961 Merritt, Highland Valley, British Columbia - geological investigations.
Trojan Mine, Highland Valley, British Columbia - supervision of drilling.

1959-1960 Giant Nickel Mine, Hope, British Columbia - Assistant to engineer.
McKinney Gold Mines, Rock Creek, British Columbia - Assistant to engineer.

1958 B.C. Slate Quarry, Jervis Inlet, British Columbia.
Magnetic surveys southeast of Kamloops.

1955-1956

Giant Mascot Mines, Spillimacheen, British Columbia -
assistant to geologist.
Prospecting in vicinity of Rico Copper deposit near
Chilliwack, British Columbia.



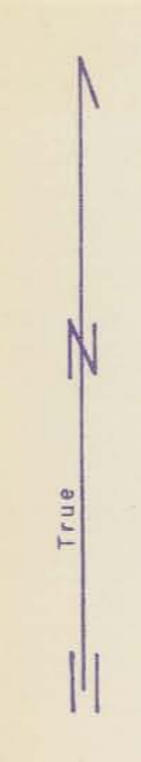
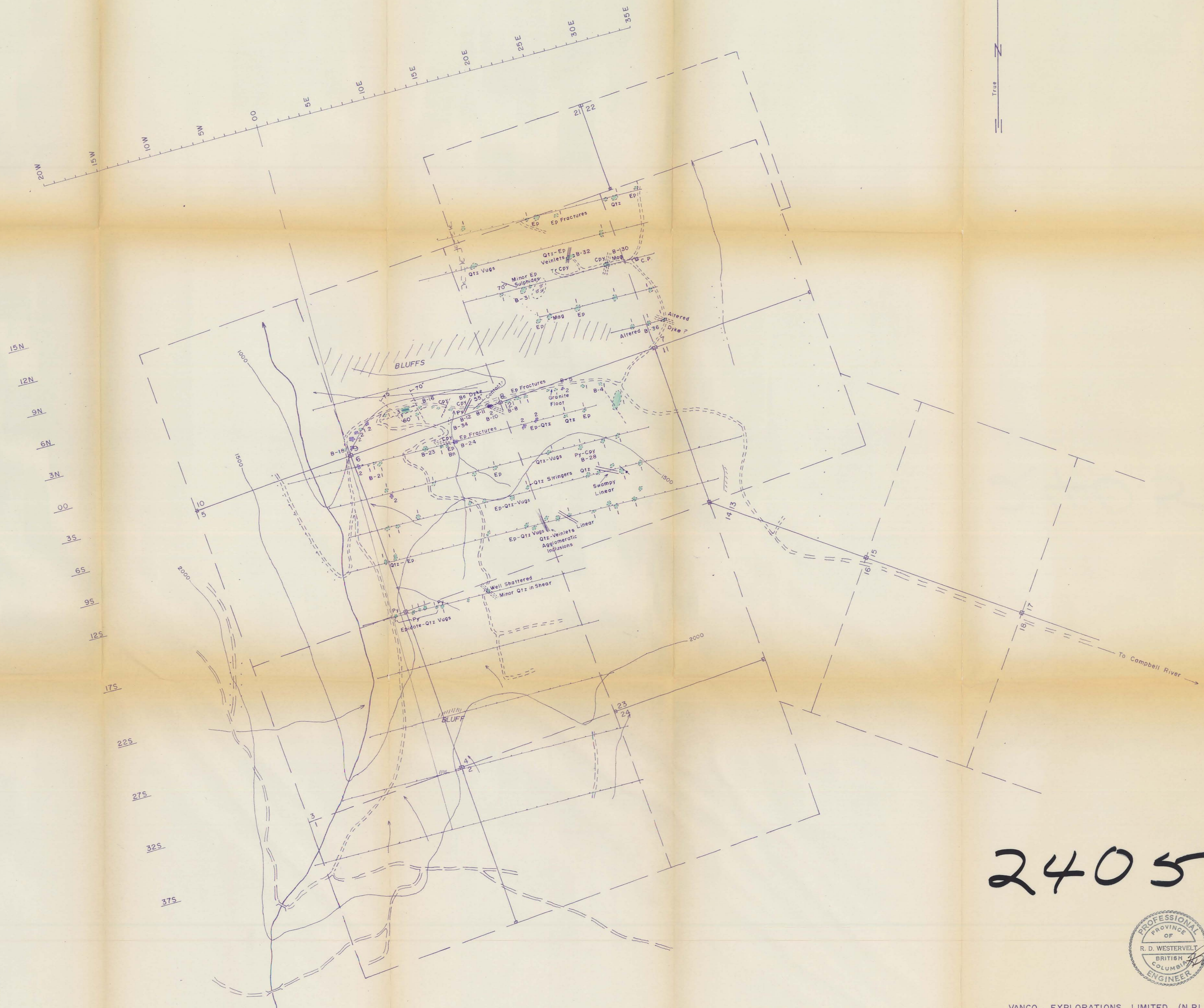
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ASSESSMENT REPORT
NO. **2405** MAP **#5**



Molybdenum 410 Samples
Silver 320 Samples

VANCO EXPLORATIONS LIMITED (N.P.L.)
BEAR CLAIM GROUP
NANAIMO MINING DIVISION, VANCOUVER ISLAND, B.C.
GEOCHEMICAL SURVEY - Mo Ag.
Scale: 1" = 400'
January, 1970
To accompany dated 18, 1970 Report
by T. Hill



- LEGEND
- 1 Andesite, Basalt (Undifferentiated)
 - 2 Volcanic Breccia
 - 3 Limestone
 - Fault
 - Shear Zone
 - 70° Bedding Attitude, Inclined, Vertical
 - 70° Jointing " " "
 - Cpy Chalcopyrite Mineralization
 - Py Pyrite
 - Po Pyrrhotite
 - Bn Bornite
 - Mag Magnetite
 - B-30 Rock Sample

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NO. **2405** MAP **#3**

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VANCO EXPLORATIONS LIMITED (N.P.L.)
BEAR CLAIM GROUP
NANAIMO MINING DIVISION, VANCOUVER ISLAND, B.C.
GEOLOGY OUTCROP

Scale: 1" = 400'
January, 1970
To accompany April 18, 1970 Report
by T. Hill



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FREQUENCY DISTRIBUTION CURVE
Based on 603 Soil Samples



GRID 455 SAMPLES
RECON. 148 "
TOTAL 603 "

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ASSESSMENT REPORT
NO. 2405 MAP #4



VANCO EXPLORATIONS LIMITED (N.P.L.)

BEAR CLAIM GROUP
NANAIMO MINING DIVISION, VANCOUVER ISLAND, B.C.
GEOCHEMICAL SURVEY - Cu

Scale: 1" = 400' January, 1970
Contour Interval - 40 P.P.M.
An accompanying dated 10/15/70 Report
by J. Hub.