

INTER OFFICE MEMO

CYPRUS EXPLORATION CORPORATION LTD  
VANCOUVER OFFICE

TO	REPLY	
	COMMENT	
RETURN TO		
FEB 6 1970		
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3	EALIC	7
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Date: February 4, 1970

To: Mr. C.A. Mark  
From: J.B.P. Sawyer  
Subject: DOD CLAIMS, CARIBOO MINING DIVISION, B.C.

I enclose for your records a copy of the report and maps on the 48 DOD claims, prepared by Stokes Exploration Management Company.

On the geological plan I have indicated the outlines of the AEM conductors and, also, a couple of areas of low order geochemical anomalies in copper. From this work it is apparent that the results are not particularly encouraging; however, as far as the thoroughness of the investigation is concerned, I feel it leaves something to be desired.

Scattered anomalous copper values along the volcanic-intrusive contact, and just within the intrusive, suggest the possibility of very minor sulphide mineralization. The EM work must, I think, be considered to have given negative results, but the extent of the EM coverage was not sufficient to cover the airborne EM anomalies properly. It may be of some significance that almost all of the AEM conductors fall within the area underlain by intrusives. The original stream silt sampling programme did not give any positive indications of mineralization in this area. However, the stream density is minimal.

While I do not think this area warrants any substantial further expenditure on the basis of the results of work done to date, I think it might be worth while to check the possibilities for copper mineralization within the intrusives a little more carefully. I think this could be done by a limited amount of further soil sampling, and some ground geophysical work over the AEM conductors. The dollar value of the work carried out by Stokes in 1969 should be adequate to renew the 48 DOD claims for at least one year.

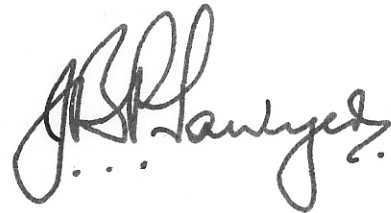
I would recommend, therefore, that we file assessment work on these on their 1970 anniversary (May 5) and that a

Mr. C.A. Mark

February 4, 1970

limited amount of further work be done during the 1970 season as our programme allows, along the lines I have outlined above.

I would appreciate your comments on this work.

A handwritten signature in cursive script, appearing to read "J. R. Sawyer". The signature is written in dark ink and is positioned in the lower right quadrant of the page.

JBPS:lah

Enclosures

TITLE: Murphy Lake Prospect  
British Columbia, Canada

ESTIMATED  
COST:

Budget Title	1969	Proposed AFE 16-69A	Total
	Expenditures Under AFE 16-69		Estimated Expenditures
Acquisition	\$14,365	\$1,250	\$15,615
Salaries and Wages	-	1,250	1,250
Surveying and Mapping	25,518	200	25,718
Geochemistry	7,440	300	7,740
Geophysics	1,551	2,500	4,051
Outside Contract Serv.	2,370	200	2,570
Excavation	-	500	500
Travel	1,538	500	2,038
Air Charter	1,737	-	1,737
Equipment	22	-	22
Miscellaneous	13	750	763
Total	<u>\$54,554</u>	<u>\$7,450</u>	<u>\$62,004</u>

Note: *←* Approximately \$2,000 has been spent during 1970, most of which covered assessment work, filing, and legal fees necessary to maintain the DOD claims in good standing. These costs are included in AFE 16-69A.

PROJECT  
DESCRIPTION:

*Last years AFE (16-69) totaled \$12,000 of which only \$4,544 was expended by year end.*

A helicopter-borne magnetometer/E. M. survey was flown in the Murphy Lake area of central British Columbia in May, 1969, in connection with the Murphy Lake project work. Evaluation of the original area of interest (Area H TARG claims) was completed during 1969 with negative results and these claims have been allowed to lapse. However, the original aerial survey did detect four areas of conductivity south of the Lake which at that time was not the primary area of interest. The forty-eight claim DOD group was staked in June, 1969, to cover the airborne conductors and a follow-up ground program was carried out in July and August, 1969, consisting of geological mapping of the DOD claim area, and a limited amount of soil sampling, and ground geophysical work in the area of the airborne conductors. The ground E. M. work gave inconclusive results, but several soil samples, concentrated mainly in three small groups, carried anomalously high amounts of copper.

More detailed correlation of the airborne and the ground work results in the winter of 1969-70 revealed that two of the anomalous geochemical groups are near, or are partially superimposed on some of the airborne conductors. It also became apparent that ground coverage of the airborne conductors was poor, two of the four not being covered at all. The airborne conductors appear to lie along a volcanic-intrusive contact, but mostly within the intrusive boundary.

WORK  
PROGRAM:

In order to get more complete coverage and to verify the validity of earlier results, it is proposed to carry out a brief field program



which will consist of soil sampling and J. E. M. surveying, partly over existing lines and also over new lines to be flagged and chained.

This will involve approximately five line miles of work. Positive results from this initial work will be followed by I. P. Surveying. I. P. anomalies will require testing with trenching and/or drilling.

**JUSTIFICATION:** Limited ground work has revealed some anomalous values in copper in soils collected from an area characterized by weak but distinct airborne E. M. conductors. The underlying bedrock is in part intrusive. These results suggest the possibility of disseminated copper mineralization in this area. Other occurrences of porphyry-type copper mineralization are known to exist in this general area, for example, at the Cariboo Bell property (37 million tons of 0.5% Cu) situated about 40 miles north of the DOD claims. These facts justify a more complete investigation of this situation before the next claim anniversary.

**APPROVAL:**

	Date
<u>J. B. P. Sawyer</u> J. B. P. Sawyer	<u>Aug. 14, 1970</u>
<u>C. A. Mark</u> C. A. Mark	<u>Aug. 14, 1970</u>

\_\_\_\_\_  
J. G. Hansen

\_\_\_\_\_  
Kenneth Lieber

\_\_\_\_\_  
Final Approval



TITLE: DOD CLAIM GROUP  
British Columbia.

ESTIMATED COST:	Acquisition	\$ 1250
	Salaries & Wages	750
	Surveying & Mapping	200
	Geochimistry	300
	Geophysics	2500
	Excavation	500
	Travel	500
	Equipment	
	Miscellaneous	500
		<u>\$ 6,500</u>

<sup>a</sup>  
A helicopter borne magnetometer / EM. survey was flown in the Murphy Lake area of central British Columbia in May 1969, in connection with the Murphy Lake (Area H) project work. This survey detected four areas of conductivity south of the lake which at that time was not the primary area of interest. Forty seven claims (DOD 1-6, 8-48) were staked in June 1969 to cover the airborne conductors, and a follow up ground program was carried out in June and July 1969, consisting of geological mapping of the whole claim area, and a limited amount of soil sampling, and ground geophysical work, in the area of the airborne conductors. The ground EM. work gave inconclusive results but several soil samples, <sup>concentrated</sup> mainly in three small groups, carried anomalously high amounts of copper.

More detailed correlation of the airborne and the ground work results in the winter of 1969-70 revealed that two of the anomalous geochemical groups ~~seem~~ are near, or are partially superimposed on some of the airborne conductors. Coverage of these conductors. It also became apparent that

ground coverage of the airborne conductors was poor, two of the four not being covered at all.

In order to get more complete coverage, and to check the airborne conductors appear to lie along a volcanic-intusive contact, but mostly within the intrusive boundary.

WORK PROGRAM:

In order to get more complete coverage & to verify the validity of earlier results it is proposed to carry out a brief field program which will consist of soil sampling and I.E.M. surveying, partly over existing lines and also over new lines to be flagged and chained. This will involve approximately five line miles of work. Positive results from this initial work will be followed by I.P. surveying. I.P. anomalies will be tested by resist testing with trenching and/or drilling.

JUSTIFICATION:

Limited ground work has revealed some anomalous values in copper in soils collected from an area characterized by weak but distinct airborne EM conductors. The underlying bedrock is in part intrusive. These results suggest the possibility of disseminated copper mineralization in this area. Other occurrences of porphyry type copper mineralization are known to exist in this general area, for example at the Cariboo Bell property (37 million tons of 0.50% Cu). These facts justify a more complete investigation of this situation before the next claim anniversary.

Situated about 40 miles south of DOD claims

RECOMMENDATION:

We recommend that approval be given for the expenditure of \$ \_\_\_\_\_, for the further evaluation of the DOD claim group.

Date \_\_\_\_\_

Approval:

JBPS  
CAM  
JGH

J.G.H.

Approved confidentially for immediate staking. Refer AFE's when confidential stage is completed.

MEMORANDUM

March 3, 1969

KL 3/6/69

TO: Kenneth Lieber

FROM: J. G. Hansen

ok. to file now.  
Can

SUBJECT: Request for Approval to Stake the Murphy Lake and Foster Lake Anomalies, Southern and Central British Columbia, Canada

Summary

It is requested that approval to proceed with the staking of the two subject areas be given so that field contracts may be prepared early in March.

<u>Estimated Costs</u>	<u>Foster Lake (500 Claims)</u>	<u>Murphy Lake (500 Claims)</u>
First Acquisition Costs*	35,000*	35,000*
Outside Contract Services	7,000	7,000
Wages	2,000	2,000
Geophysics	10,000	10,000
Geochemistry	5,000	5,000
Excavation	3,000	3,000
Assaying & Sampling	3,000	3,000
Surveying & Mapping	5,000	5,000
Travel	3,000	3,000
Air Charter	2,000	2,000
Totals	\$75,000	\$75,000

\*The minimum cost to acquire each claim block would be \$35,000 for each block or a total of \$75,000. The balance of the budget request would be for a normal program of continued exploration during the field season.

Conclusions and Recommendations

It is recommended that we proceed with the planned staking under contract during the month of March in order to protect our land position while conducting our proposed program. It is felt that both of these areas and in particular the Murphy Lake area will attract considerable attention during the summer field season due to striking



similarities to Highland Valley. Since these geophysical data used for the evaluation were released in October and November of 1968, most exploration groups are presently evaluating the same information in a similar manner we have used.

These companies and exploration groups would normally be making their plans to hit these areas heavy when the field season starts.

We feel that Cyprus can get the jump on most organizations by moving fast and making the decision to stake in the winter before others are in the field. We have been staking in the areas A through G by using staking contractors and operating with fixed-wing ski-equipped planes and using snow shoes to get around on the ground. The cost so far has been about \$70 per claim including preliminary magnetometer work to confirm our anomaly locations.

The enclosed budget chart is included to demonstrate the fact that we are well within our planned budget for the Canadian Exploration Program for 1969.

### Introduction

A study of all available geologic, geophysical, geochemical and claim data related to the geologic province in the Highland Valley was initiated in November 1968. This study was extended to the north to encompass published data and included the major producing mines and prospects. As the study progressed obvious trends developed that required immediate staking which was done under our normal exploration program. (See tabulation attached showing Planned and Approved AFE's A through J.)

As a result of the Highland Valley study, it was apparent that a correlation exists between copper-molybdenite mineralization and aeromagnetic lows in the Highland Valley intrusive area. The purpose of this study was to locate similar geological and geophysical features within the Guichon Batholith and use these yardsticks in other comparable geologic environments. The study embraced a compilation of all airborne magnetic, geologic mapping, mineral occurrences and fracture density data in the focal areas.

The parameters offering a potential for success are considered to be as follows:

- 1) Correlation exists between aeromagnetic lows and copper mineralization at and within the geologic intrusive contact areas of the Guichon intrusive complex.
- 2) Association exists between aeromagnetic lows and alteration of the intrusive rocks, particularly the Bethsaida phase of the Guichon intrusive rocks.

- 3) Northeasterly and possible northwesterly trends exhibited by fracture patterns are associated with the mineralization.
- 4) The Craigmont type of copper-magnetite occurrence in Highland Valley differs from the others described above in that the environment is that of magnetic highs. This is explained by the mobilization of iron from the center of each successive intrusive and moved outwards and upwards. The iron is deposited as magnetite and in many cases is accompanied by copper. This offers another parameter of magnetic highs to evaluate for copper.

### Prospect Descriptions

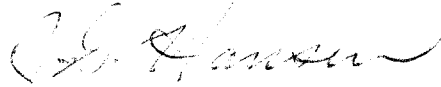
a) Murphy Lake - The Murphy Lake Prospect anomaly is located about 12 miles west of Boss Mountain (Noranda, See Index Map) which is a molybdenite producer. It is an aeromagnetic low of 1,100 gammas intensity and measures about 6 miles by 2 miles in dimension along a northeast trend. Discrete anomaly highs surround this magnetic low on three sides marking it as an extremely sharp, major geophysical feature. The area underlying this anomaly is a granodiorite batholithic complex of Jurassic Age.

This anomaly exhibits characteristics of the Highland Valley focal areas and has the added feature of being larger but similar to the anomalous low over the Boss Mountain orebody nearby.

It is proposed to stake approximately five hundred claims over the Murphy Lake anomaly to protect our land position while conducting a proposed program of outcrop prospection, geologic mapping, geochemical silt sampling and ground magnetometer work. It is proposed to contract a prospector-geologist team to prospect and geologize the claim group. A camp will be provided with some road work to gain access to the area. The proposed work should evaluate the target area for a second-phase work program the following year. The total cost per claim is estimated at about \$150 per claim with about \$70 per claim estimated for the preliminary field work and staking.

b) Foster Lake - The Foster Lake Prospect anomaly is located about six miles east of the Endako (Placer Development - See Index Map) which is a molybdenite producer. It is an aeromagnetic low of 1,200 gammas intensity and measures about 6 miles by 2-1/2 miles in dimension along an east-west trend. Discrete anomaly highs surround this magnetic low in an accurate pattern. The area underlying this anomaly is a granodiorite batholithic complex of Jurassic Age. Nithi Mountain, which lies on the west flank of the anomaly between Foster Lake and Endako, is staked by others and is quite actively prospected. Reports of some good discoveries in this area have been heard but nothing new announced.

It is proposed to stake approximately five hundred claims over the Foster Lake anomaly to protect our land position while conducting a proposed program of outcrop prospection, geologic mapping, geochemical silt sampling and ground magnetometer work. It is proposed to contract a prospector-geologist team to prospect and geologize the claim group. This proposed work should evaluate the target area for a second-phase work program the following year. The total cost per claim is estimated at about \$150 per claim with about \$70 per claim estimated for the preliminary field work and staking.



J. G. Hansen

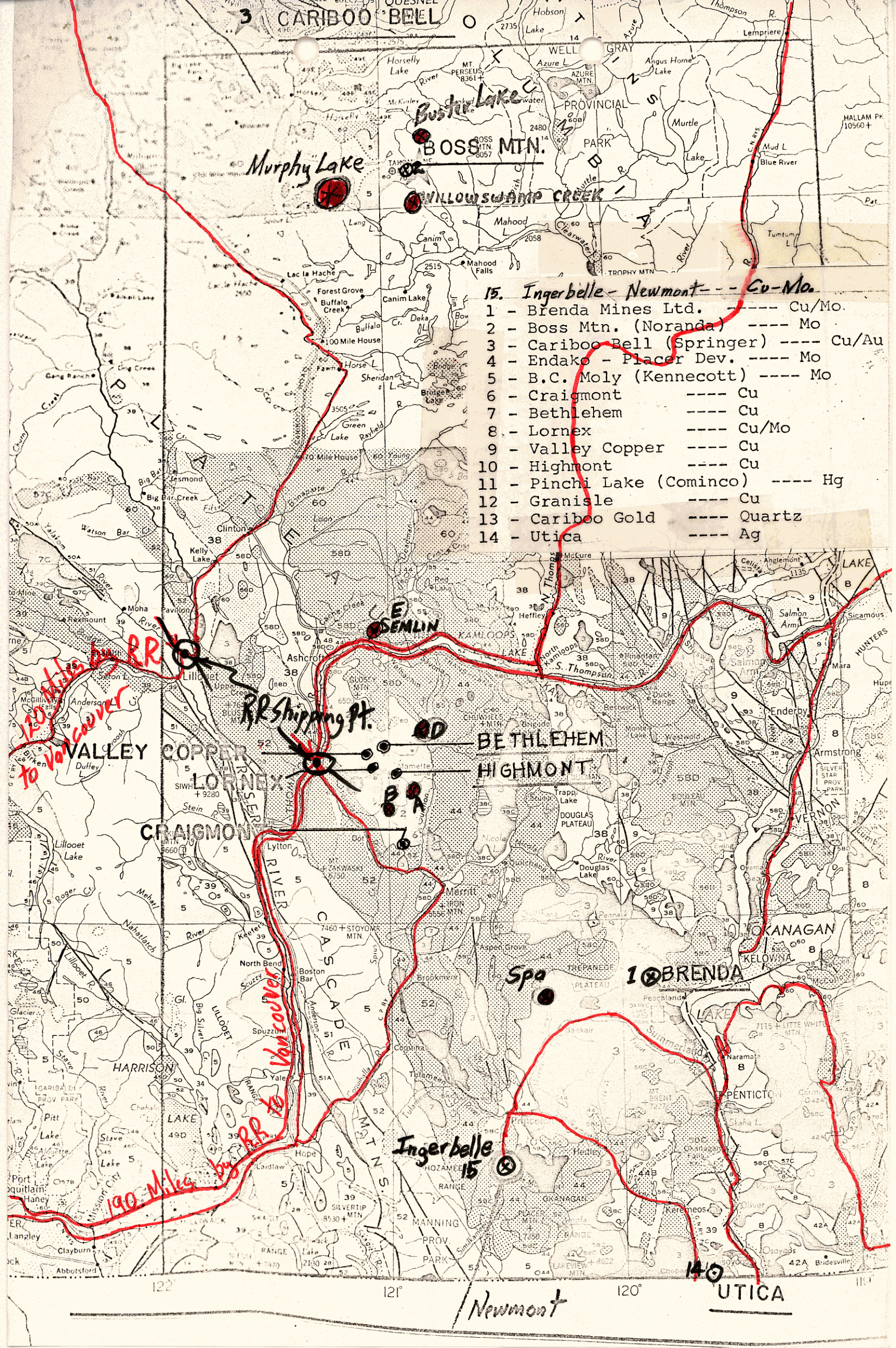
JGH/pc





- 1 - Brenda Mines Ltd. ----- Cu/Mo
- 2 - Boss Mtn. (Noranda) ----- Mo
- 3 - Cariboo Bell (Springer) ----- Cu/Au
- 4 - Endako - Placer Dev. ----- Mo
- 5 - B.C. Moly (Kennecott) ----- Mo
- 6 - Craigmont ----- Cu
- 7 - Bethlehem ----- Cu
- 8 - Lornex ----- Cu/Mo
- 9 - Valley Copper ----- Cu
- 10 - Highmont ----- Cu
- 11 - Pinchi Lake (Cominco) ----- Hg
- 12 - Granisle ----- Cu
- 13 - Cariboo Gold ----- Quartz
- 14 - Utica ----- Ag





15. Ingerbelle - Newmont - - - - Co-Mo.

- 1 - Brenda Mines Ltd. - - - - Cu/Mo.
- 2 - Boss Mtn. (Noranda) - - - - Mo
- 3 - Cariboo Bell (Springer) - - - - Cu/Au
- 4 - Endako - Placer Dev. - - - - Mo
- 5 - B.C. Moly (Kennecott) - - - - Mo
- 6 - Craigmont - - - - Cu
- 7 - Bethlehem - - - - Cu
- 8 - Lornex - - - - Cu/Mo
- 9 - Valley Copper - - - - Cu
- 10 - Highmont - - - - Cu
- 11 - Pinchi Lake (Cominco) - - - - Hg
- 12 - Granisle - - - - Cu
- 13 - Cariboo Gold - - - - Quartz
- 14 - Utica - - - - Ag

120 Miles by RR to Vancouver

190 Miles by RR to Vancouver

140 Miles by RR to Vancouver

Ingerbelle 15

Newmont

UTICA