



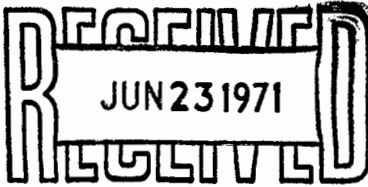
**R. G. HILKER**

LIMITED

CONSULTING GEOLOGIST . . . PROFESSIONAL ENGINEER

P.O. Box 1566  
WHITEHORSE, YUKON TERRITORY  
"LAND OF THE MIDNIGHT SUN"

013524



MEMORANDUM

To: Paul Sawyer  
Cyprus Exploration Corporation Ltd.  
510 West Hastings Street  
VANCOUVER 2, B.C.

From: R.G. Hilker  
Consulting Geologist

Date: June 17, 1971

Re: Topazzio Mining

The enclosed map contains a portion of the Whitehorse Copperbelt and locates the Topazzio Mining Co. claim groups and the New Imperial Mines Ltd. War Eagle - Best Chance - Arctic Chief and Little Chief ore deposits and the company's claims. The New Imperial Mines claim group, as shown on the sketch, is the (1) Central and (2) Northern portion of the Whitehorse Copperbelt. Production has occurred on the Little Chief - Arctic Chief and War Eagle ore deposits. The N.I.M. mill is located at the Little Chief deposit and the company is currently preparing for underground production.

The following is a brief outline of the copper mineral occurrences on the central and northern claim groups of N.I.M.

Central - Whitehorse Copperbelt

The Little Chief ore deposits consists of 2,000,000 tons of 1.25% copper and 5,000,000 tons of 2.74% copper with values of silver and gold. The deposit occurs in a skarn embayment on the west side of a Cretaceous aged Coastal Intrusive granite intrusive and the Triassic Lewis River Group of sediments. The Little Chief contains abundant magnetite, chalcopyrite, bornite, valleriite  $1.526 \text{ Mg}_{.68} \text{ Al}_{.32} (\text{OH})_2$  •  $[\text{Fe}_{1.07} \text{ Cu}_{.93} \text{ S}_2]$  and the precious minerals gold and silver in a skarn host rock. The skarn contains varying amounts actinolite, chlorite, diopside, epidote, garnet and serpentine. The skarn is magnesium rich and the occurrences

of valleriite in Palabora contains similiar rock composition as the N.I.M. Little Chief deposit. The Arctic Chief deposit is similiar to the Little Chief in composition, but is a small structural controlled deposit that is located on the east side of the Cretaceous aged Coastal Intrusive granite. A major block fault is thought to occur between the Little Chief and Arctic Chief deposits.

#### Northern - Whitehorse Copperbelt

The War Eagle deposit contains chalcopyrite and bornite in a garnet and tremolite rich skarn host rock. The northern area and War Eagle deposit is more silicious than magnesium rich compared to the Little Chief or central area. The War Eagle area is probably located stratigraphically higher in the Lewis River Group than the Little Chief deposit. The War Eagle area contains abundant quartzite, greywacke, argillite and arkose rock types. The War Eagle is located on the west side of the Coastal Intrusive granites.

The writer is of the opinion that the Little Chief and Arctic Chief deposits are structually controlled and occur at about the two-thirds position just below the upper carbonaceous limestone zone in the Lewis River Group of sediments. It is considered that this zone in the Lewis River Group is critical for ore deposition and possibly the reason why ore deposits do not occur continuously and only in places along the 18 mile long Whitehorse Copperbelt.

#### Topazzio Claim Groups

The enclosed sketch map contains the inferred Coastal Intrusive granite and Lewis River Group contact in the areas where the Topazzio Claims are located. The contact is located by general knowledge of the Whitehorse Copperbelt, field observations of outcrops and geophysical interpretations. The contacts are drawn only to the best of the writers knowledge and are located in some areas where no outcrop occurs and are therefore inferred.

The Topazzio claims located to the west of Arctic Chief, are thought to occur mainly in Coastal Intrusive granite or or near a major block fault. There is a possibility that the claims cover the Lower Jurassic Laberge Group of rocks. The two claims north of Arctic Chief are in or on the granite with possibly some Lewis River sediments occurring. The potential of an economic ore occurrence on the Topazzio claims in the vicinity of the Arctic Chief is very low.

The rock types and location of the claims to the granite and sedimentary contacts are very unfavorable for an ore deposition.

The large continuous group of Topazzio claims west of the Alaska Highway and bounded by the N.I.M. New claims to the south-east and Carlisle and Jay claims to the north-west appear to be completely within the Coastal Intrusive Cretaceous aged granite - granodiorite. Granite - granodiorite outcrops have been observed in the area of Hillcrest, radar site, McLean Road, rifle range, McLean Lake, south of the Jay claims the Carlisle crown grant claim. About half of the east side of this claim group contains abundant granite outcrop. The west side of the Topazzio main claim group is overburden covered by glacial debris. Glacial boulders in this area are mainly granite. The inferred contact is based on geophysical electro-magnetics data. A major drainage system that is possibly structural controlled occurs roughly parallel to the west boundary of the Topazzio claims. The main claim group discussed is considered extremely poor for economic mineral occurrences of copper.

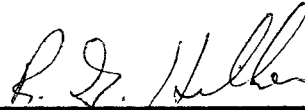
#### Conclusions

The Topazzio claim groups located on the Whitehorse Copperbelt and bounding the New Imperial Mines claim groups have very poor to no possibilities for the occurrence of copper bearing skarn type of deposits. The claims are located on or near unfavorable Coastal Intrusive granite - granodiorite rock types. The claims located near Arctic Chief may contain limited Lewis River Group sediments but are probably not in the favorable horizon that possibly controls mineralization.

Evidently, Canex Exploration had the main group of claims under option and drilled two induced-polarization anomalous. The one drill location was south of Carlisle and encountered altered granite and the second location was near McLean Lake and the drilling was in granite.

Quintana had under option the claims to the west of Arctic Chief and drill results produced no economic mineralization. Granite, quartzite and greywacke was reported to be encountered. The writer has not observed any of the forementioned drill core but has been informed only of the rock types.

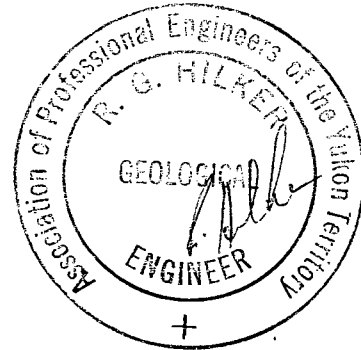
Since Topazzio lost the litigation with New Imperial Mines over the Spring Creek claim the Larsons have continuously tried to harass N.I.M. These claim blocks are a supposed way of embarrassing New Imperial by bringing major mining companies to the Copperbelt. The writers opinion is that the Topazzio claim groups are of no value except tag on value to a producing property.

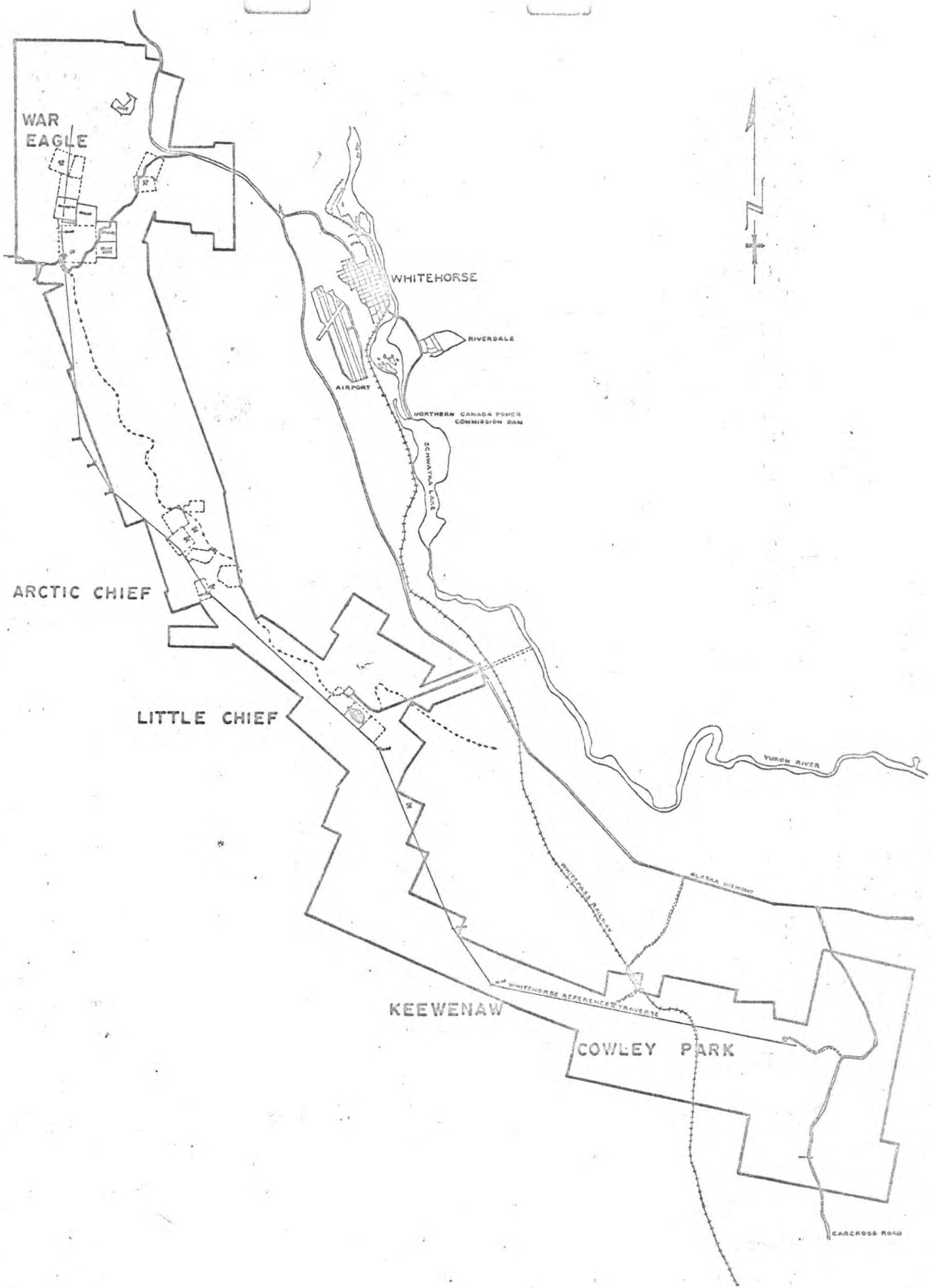


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R.G. Hilker, P. Eng.,  
Consulting Geologist  
WHITEHORSE, Y.T.

RGH/pl





|                          |                    |         |
|--------------------------|--------------------|---------|
| NEW IMPERIAL MINING LTD. |                    |         |
| NIM CLAIMS LOCATION PLAN |                    |         |
| DIST. #                  | APPROX. AREA       | SECTION |
| DATE                     | SCALE 1" = 2.5 MI. |         |
| REF. NO.                 | DIST. NO.          |         |

Sept. 29<sup>th</sup>/71.

Henry Larsen — Tojazzio

Newly acquired 50 cb. — south of N.I. mill.

ATA Group.

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Need some money down + work commitment

7-11

**CYPRUS EXPLORATION CORPORATION, LTD.**  
810 WEST HASTINGS STREET  
VANCOUVER 2, BRITISH COLUMBIA  
TELEPHONE: 683-9304

June 30, 1971

Mr. H. A. Larsen,  
General Delivery,  
WHITEHORSE, Yukon

Dear Mr. Larsen:

Further to our telephone conversation of this morning, this is to confirm our decision regarding further interest in the claims held by Topazzio Mining in the Whitehorse Copper Belt area.

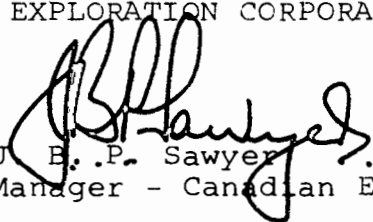
Subsequent to my field trip on the property with you, I have researched the considerable amount of available information on the geology and mineral deposits of this area, and on the basis of this work, am unable to recommend to our Company any further work on your particular block of claims. Although the Whitehorse Copper Belt is of considerable interest and undoubtedly has potential for further discoveries, it seems to us that the greater part of your claims are underlain by the intrusive rocks. In all probability, the contact with the Lewes River sediments does cross your two most northerly claims near the old Arctic Chief Mine, however, the potential for further ore in this area is, we believe, quite limited.

As I indicated to you, I would still be interested in making a field examination of your newer copper showings near the CNT Tower and in the Takhini River area at your convenience, however, we do appreciate your desire to make a deal on all of your holdings in the area as a package and can understand that you may not wish to show these other prospects at this time.

We wish to thank you for giving us the opportunity to consider your property and look forward to hearing from you in the future should you have any other prospects of interest.

Yours very truly,

CYPRUS EXPLORATION CORPORATION, LTD.

  
J. E. P. Sawyer  
Manager - Canadian Exploration

JBPS/jel

c.c. Messrs. C. A. Mark, C.M.C., Los Angeles  
W. O. Irish, C.M.C., Los Angeles

**CYPRUS EXPLORATION CORPORATION, LTD.**

**510 WEST HASTINGS STREET  
VANCOUVER 2, BRITISH COLUMBIA  
TELEPHONE: 603-0304**

June 4, 1971

Mr. R. G. Hilker, P.Eng.,  
Consulting Geologist,  
P.O. Box 1566,  
WHITEHORSE, Yukon

Dear Bob:

I am sorry I missed you on Monday, but had thought you were going to be in town that day. The enclosed copy of part of the Whitehorse claim map shows the ground held by Henry Larsen (Topazzio Mining) between New Imperial and Lewes River. Larsen has approached us with a view to making a deal for further work on his claims, and our interest at the moment is based strictly on its location.

I went out there with him last week and looked at some of the rocks, however, most of the exposures are of intrusive with very minor mineralization. Undoubtedly you are more familiar with the detailed geology of this area, particularly with reference to where the contact might be and to possible structures and/or favourable zones on the adjacent ground which may continue onto Larsen's claims. Would you please look this over and write us a brief summary of your ideas and recommendations at your earliest convenience.

Please invoice this office for your fees.

Yours very truly,

CYPRUS EXPLORATION CORPORATION, LTD.

J. B. P. Sawyer  
Manager - Canadian Exploration

JBPS/jel

Encl.



**R. G. HILKER**  
LIMITED  
CONSULTING GEOLOGIST . . . PROFESSIONAL ENGINEER  
P.O. Box 1566  
WHITEHORSE, YUKON TERRITORY  
"LAND OF THE MIDNIGHT SUN"

June 11, 1971

Mr. J.B.P. Sawyer  
Cyprus Exploration Corporation Ltd.  
510 West Hastings Street  
VANCOUVER 2, B.C.

Dear Paul:

Please be advised that I am preparing a brief report on the potential of the Topazzio Mining claims on the Whitehorse Copper Mill. I will prepare a general geology map of the rock types on the Topazzio claims and to the west on the New Imperial claims. From the initial work that I have done, the claims overlay Coastal Intrusive-Cretaceous aged granite and in parts upper Lewes River group sediments. The economic potential of the claims are not very great and in my final conclusions I will not recommend the property.

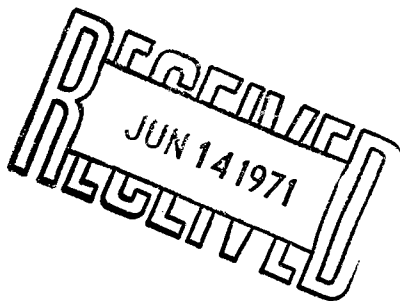
I expect to have the final information to you by June 16. The linecutters arrived and proceeded to the Mt. Nansen area with your crews.

Yours truly,

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R.G. Hilker, P. Eng.,  
Consulting Geologist

RGH/pl



CAREW

20/4/71

Mr. Lawson — Topaz Mining

Please file

Have 150 chs. E. of New Imperial (between NI & highway)  
will be calling in later this week.

21/4/71.

- Most claims in name of H.A. Larson.

CONTACT:

Vancouver 922-1721

Henry A. Larson,  
General Delivery,  
Whitehorse, Y.T.

See Our Files

LEWIS RIVER.