

DOLMAGE CAMPBELL & ASSOCIATES (1975) LTD.
CONSULTING GEOLOGICAL & MINING ENGINEERS
1000-1055 WEST HASTINGS STREET
VANCOUVER, CANADA V6E 2E9

680429

Taseko Mines Ltd.
Ashcroft, British Columbia

PRELIMINARY AIRPHOTO GEOLOGY
of the
SCUM LAKE AREA
Lower Taseko River
British Columbia

August 31, 1981

Robert S. Adamson, P.Eng.

Consultant

Vancouver, Canada

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SUMMARY

An airphoto study of the Scum Lake district, situated on the Taseko River 277 kilometres north of Vancouver, was undertaken. Emphasis was placed upon establishing potentially favourable geological environments for the deposition of porphyry-type copper (gold) mineralization. The Scum Lake porphyry-type occurrence, apparently not of economic interest, lies near the geographic centre of the study area.

The regional geological setting consists of a succession of Lower Cretaceous to Upper Miocene volcanic and sedimentary rocks unconformably overlying a basement of Middle Jurassic granitic rocks. In the region, porphyry-type copper-gold mineralization is associated with Early Tertiary feldspar porphyry stocks which intrude the above rocks excepting Upper Miocene plateau volcanics.

The Scum Lake district is a rectangular segment of the Chilcotin Plateau bisected by the Taseko River canyon. The plateau is underlain directly by windows of older rocks in Upper Miocene plateau basalt. The incision of the canyon has exposed part of a Middle Jurassic granodiorite intrusion. Three low topographic domes, the largest of which is the Scum Lake feldspar porphyry stock, rise above the general level of the plateau.

Three promising geological anomalies that may host porphyry-type copper with associated gold mineralization have been identified based upon a preliminary air photo study. They are a northeast-trending, indicated fracture zone and two small topographic domes which may reflect satellite porphyry stocks. A preliminary prospecting and mapping program emphasizing geochemical sampling is recommended.

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INTRODUCTION

Dolmage Campbell and Associates (1975) Ltd. have been requested to undertake a geological study of a rectangular area centred on Scum Lake. The object of the study is to identify one or more geological environments that would be amenable to hosting mineral deposits of economic interest. Emphasis was placed upon establishing a potentially favourable geological setting for porphyry-type copper-gold deposits.

The geological assessment was predicated principally on a detailed airphoto geological study supported by the available geological literature, which is sparse, and by topographic maps. The writer has not visited the area under consideration.

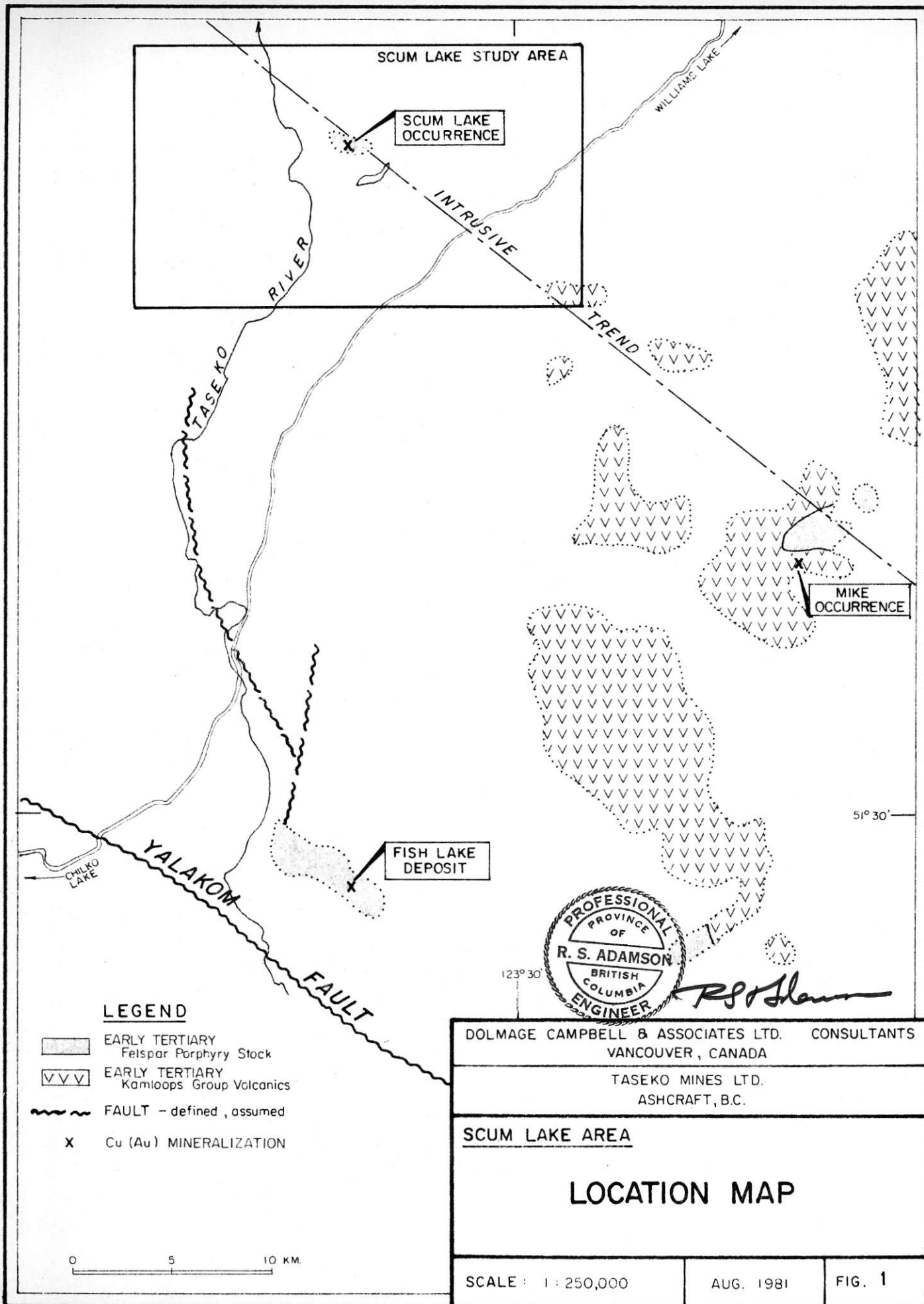
LOCATION AND ACCESS (51°50'N. Lat.; 123°35'W. Long.)

The area lies 277 kilometres due north of Vancouver, B.C.. The northerly flowing Taseko River traverses the area.

A gravel road connecting Hanceville on the Bella Coola road (Hwy. 20) with Chilko Lake provides vehicular access to the area from Williams Lake. Two airstrips lie within the study area; one on the Chilko Lake road, the other on Scum Lake.

HISTORY

The history of mineral exploration in the area is not well documented. Of direct interest with respect to this study is the presence of the Scum Lake porphyry-type copper-gold occurrence situated two kilometres north of the west end of Scum Lake. The twenty unit Ski claim owned by Taseko Mines covers the occurrence. Nine holes were drilled on the Scum Lake mineralization in the past by a large mining company, but with discouraging results.



SCUM LAKE STUDY AREA

SCUM LAKE OCCURRENCE

INTRUSIVE

WILLIAMS LAKE

TASEKO RIVER

TREND

MIKE OCCURRENCE

FISH LAKE DEPOSIT





YALAKOM FAULT

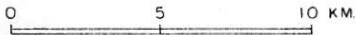
CHILKO LAKE

51° 30'

123° 30'

LEGEND

-  EARLY TERTIARY Felspar Porphyry Stock
-  EARLY TERTIARY Kamloops Group Volcanics
-  FAULT - defined, assumed
-  Cu (Au) MINERALIZATION



R. S. Adamson

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SCUM LAKE AREA

LOCATION MAP

SCALE : 1 : 250,000

AUG. 1981

FIG. 1

REGIONAL GEOLOGY

The relevant regional geological setting of the area northeast of the Yalakom Fault, (Figure 1), consists essentially of a basement of Middle Jurassic granitic intrusive rocks that are unconformably overlain by a succession of sedimentary and volcanic rocks ranging in age from Lower Cretaceous to Upper Miocene. The Middle Jurassic intrusions comprise granodiorite, diorite, and quartz diorite. The Jackass Mountain Group, a broadly folded sedimentary unit of Lower Cretaceous age containing greywacke, sandstone, shale, and conglomerate, lies unconformably on the Middle Jurassic rocks. The above units are intruded by Early Tertiary feldspar porphyry stocks. Acidic to intermediate volcanic rocks of the Kamloops Group, contemporaneously deposited with the intrusion of the Early Tertiary stocks, unconformably overlie the older units. Extensive flat lying sheets of basaltic lavas of Upper Miocene age flowed over all the above rocks, leaving windows of older rocks at higher elevations. Locally, the older rocks have been exposed by rivers cutting through the plateau basalts.

TABLE OF FORMATIONS

Recent	-Alluvium
Pleistocene	-Glacial Drift
U. Miocene	-Plateau basalt
Eocene to Oligocene	-Feldspar Porphyry -Acidic to Intermediate volcanics (Kamloops Grp.)
Lower Cretaceous	-Greywacke, ss, sh, conglomerate (Jackass Mt. Grp.)
Middle Jurassic	-Granodiorite, Diorite, Q. Diorite

Major faulting in the area is northwesterly (e.g. Yalakom Fault), and northerly. Younger intrusive and associated extrusive trends appear to be governed by the northwesterly striking fault structures.

Of potential economic significance are the Early Tertiary feldspar porphyry stocks. Porphyry-type copper (gold) mineralization is associated with feldspar porphyry intrusions at Fish Lake, on Bambrick Creek (Mike occurrence), and at Scum Lake. The Fish Lake deposit, currently under active exploration, grades 0.24% copper and one half gram gold per tonne.

AIRPHOTO INTERPRETATION

The Scum Lake district extends over an area 12.7 kilometres in a north-south direction by 22 kilometres in an east-west direction. Air-photos that cover the area are:

Line B.C. 4303	Photos 044-055
Line B.C. 4303	Photos 149-160
Line B.C. 4308	Photos 054-065
Line B.C. 4296	Photos 152-163
Line B.C. 4297	Photos 59-70

The district geomorphology consists essentially of a rectangular segment of the Chilcotin Plateau cut into east and west sections by the Taseko River canyon and modified locally by small hills and ridges. The plateau rises gently from north to south. Elevations along the northern edge of the block average 3800 feet and along the southern edge, 4000 feet. The canyon, approximately 150 to 180 metres in depth, ranges in width from one to two kilometres.

SURFICIAL GEOLOGY (Figure 2)

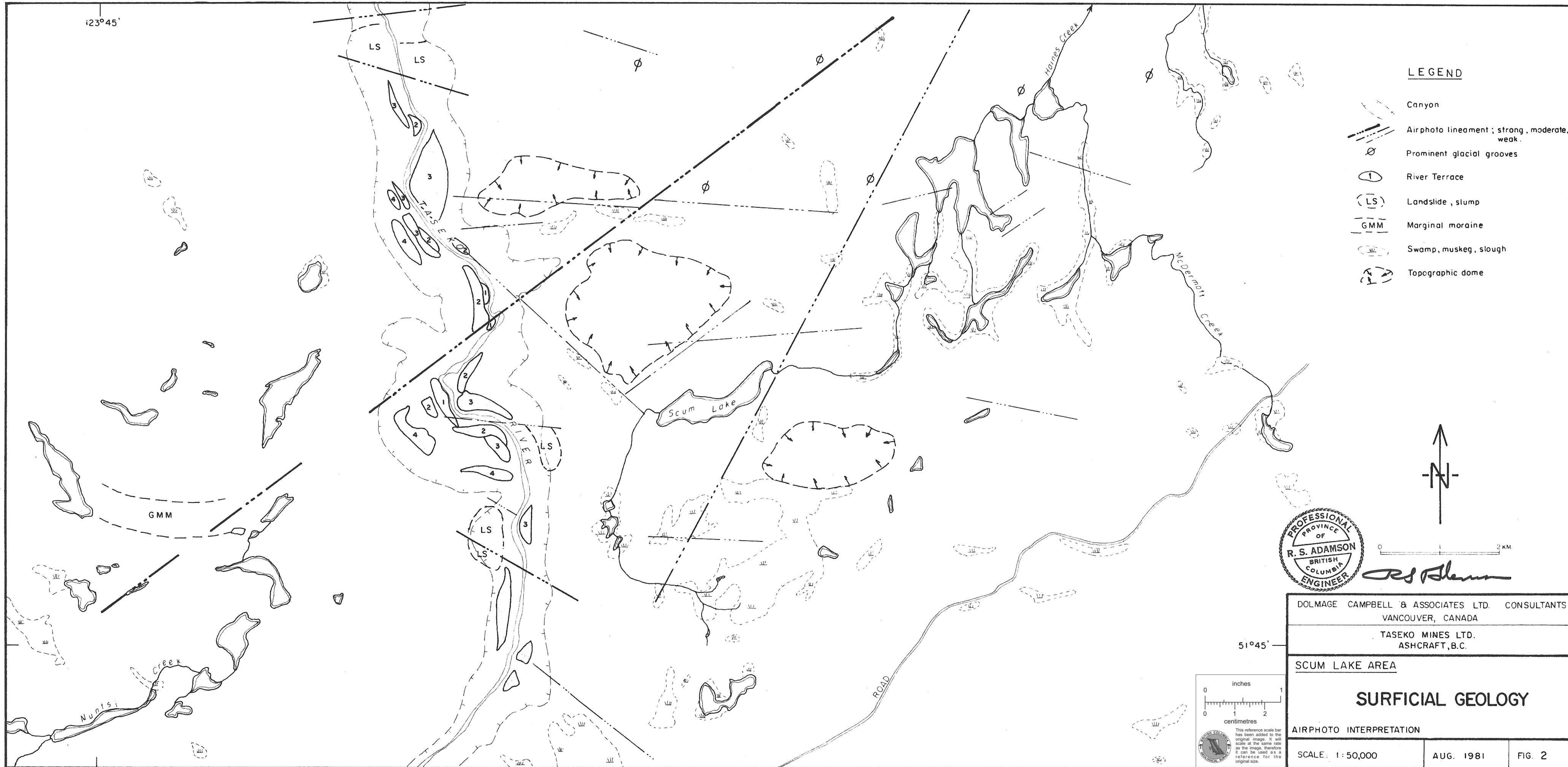
The plateau comprises a glacial till plain and local glacial outwash debris. Continental style glaciation was north northeast. The drainage is poor. Numerous, small, shallow lakes, swamps, and streams are present. Outcrops are few to nonexistent. The area is heavily wooded, except where forest fires have prevailed.

The canyon contains recent deposits of reworked alluvium. Gravel terraces at up to four levels above the water's edge are distributed along the river. Landslide slumps are common, apparently in most instances aided by faulting. Rock outcrops are relatively plentiful, particularly along the canyon rims.

Three prominent topographic domes, probably reflecting changes in the underlying bedrock geology, are evident. Airphoto lineaments likely indicate some of the underlying geological structure.

BEDROCK GEOLOGY (Figure 3)

The general geological setting of the central section of the Scum Lake study area is shown on Figure 3. The remainder of the study area, where outcrops appear to be non-existent, is probably underlain by Upper Miocene plateau volcanic flows, possibly with windows of older sedimentary and volcanic rocks.



LEGEND

- Canyon
- Airphoto lineament; strong, moderate, weak.
- Prominent glacial grooves
- River Terrace
- Landslide, slump
- Marginal moraine
- Swamp, muskeg, slough
- Topographic dome



R. S. Adamson

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VANCOUVER, CANADA

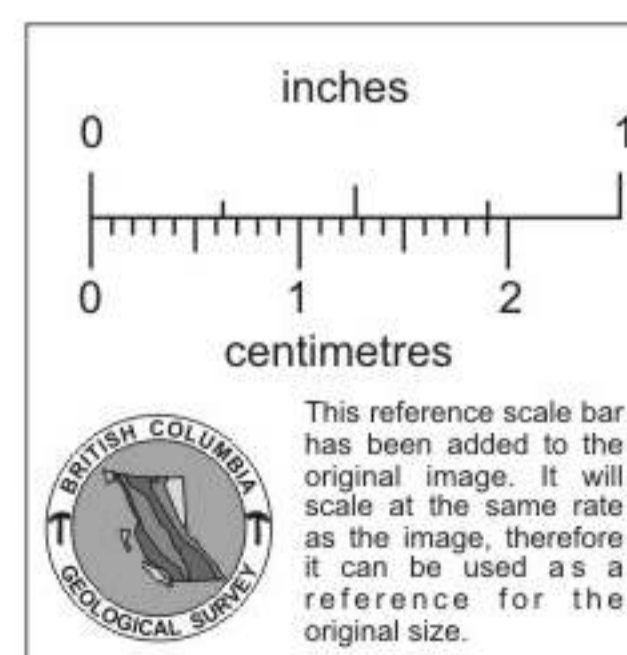
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SCUM LAKE AREA

SURFICIAL GEOLOGY

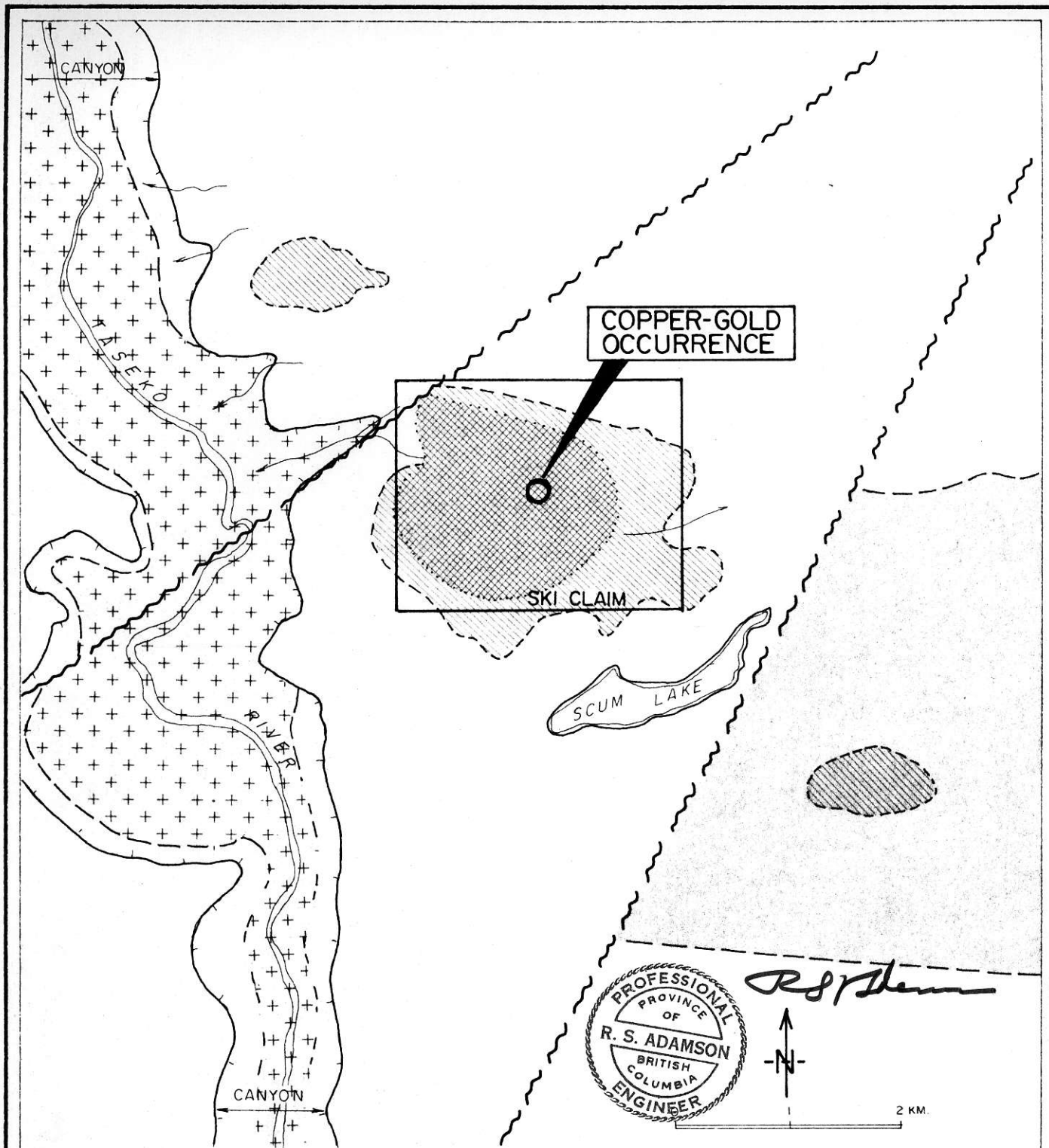
AIRPHOTO INTERPRETATION

SCALE: 1:50,000 AUG. 1981 FIG. 2









In the Taseko River canyon, the incision of the river through plateau basalt has exposed a body of Middle Jurassic granodiorite. In the creek draining Scum Lake, an outcrop of Lower Cretaceous sedimentary rock of the Jackass Mountain Group probably lies on granodiorite, unconformably. An Early Tertiary feldspar porphyry stock containing the Scum Lake copper-gold occurrence intrudes the granodiorite and possibly the sedimentary unit. The porphyry intrusion, which crops out as a prominent hill 150 metres in height, appears to be partially overlain by the flat lying plateau basalt. Two less prominent hills, situated nearby, may also be cored by porphyry plugs. The three hills and the granodiorite body could be viewed collectively, for exploration purposes, as an intrusive complex.

A fault of sufficient magnitude to dislocate the Taseko River is inferred from airphoto lineament analysis. It apparently cuts the plateau basalt, the granodiorite, and possibly the feldspar porphyry if the northern hill is in fact an extension of the Scum Lake porphyry intrusion. Airphoto lineaments of lesser indicated strength probably also reflect fault activity in the area since the Upper Miocene.



LEGEND

-  Plateau volcanics
-  Feldspar porphyry (outcrop, inferred)
-  Sedimentary rocks
-  Middle Jurassic granodiorite
-  Fault (assumed, uncertain)
-  Geological contact, inferred

DOLMAGE CAMPBELL & ASSOCIATES LTD. CONSULTANTS VANCOUVER, CANADA		
TASEKO MINES LTD. ASHCRAFT, B.C.		
<u>SCUM LAKE INTRUSIVE COMPLEX</u>		
PRELIMINARY BEDROCK GEOLOGY		
SCUM LAKE AREA		
SCALE : 1 : 50,000	AUG. 1981	FIG. 3

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CONCLUSIONS

The central hill northwest of Scum Lake, apparently thoroughly pyritized hence prominently altered, hosts known porphyry-type copper-gold mineralization, although not in economic amounts. Most of the previous exploration done in the area including drilling was done near the top of the hill; that is, well within the porphyry body. The cupola of the intrusion, long since denuded by erosion, should be expected to have contained more concentrated copper (gold) mineralization.

With regard to finding additional occurrences in the area but with better grade mineralization, emphasis should be shifted to the periphery of the body, particularly where well-fractured. The indicated presence of a strong fault lying along the porphyry's northwest contact offers a geological setting worthy of renewed exploration in the area. This locale, between the northern and central hills and extending from the Taseko River canyon northeastward, should be viewed as the most promising in the area.

Secondary targets are the two satellite hills themselves. Providing that either of the two hills are a manifestation of underlying porphyry plugs, both offer the possibility of hosting porphyry type mineralization. Each or both may be capped by sedimentary rocks or else may have been slightly eroded prior to basalt capping.

RECOMMENDATIONS

A preliminary exploration program is proposed with its object being to indicate the presence of copper-gold mineralization in at least one of the three geological environments discussed above. The program should consist of extensive stream sediment and reconnaissance soil geochemical sampling along the indicated fault zone and surrounding the three hills. The geochemical survey should be supported by reconnaissance geological mapping and careful visual prospecting. In the event that positive geochemical results are achieved, the indicated favourable geological setting should be subjected to geophysical surveys (induced polarization and magnetics) to determine appropriate drill sites.

Respectfully submitted by
DOLMAGE CAMPBELL & ASSOC. (1975) LTD.



A handwritten signature in black ink, appearing to read "R. S. Adamson".

Robert S. Adamson, P. Eng.

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CERTIFICATE

I, Robert S. Adamson, with business and residential addresses in Vancouver, British Columbia, do hereby certify that:

1. I am a consulting geological engineer.
2. I am a graduate of the University of British Columbia (B.A. Sc., in Geological Engineering, 1957).
3. I am a registered Professional Engineer of the Province of British Columbia.
4. From 1957 to 1967 I was engaged in mineral exploration in Canada as a geologist for a number of companies. I was Chief of Exploration for Anvil Mining Corp. Ltd. when I retired in 1967 to join the firm of Dolmage, Campbell & Associates Ltd. as a senior engineer. In 1968 I became an associate of the firm.
5. I have not examined the Ski property nor visited the Scum Lake area.
6. I have not received, directly or indirectly, nor do I expect to receive any interest, direct or indirect, in the property of Taseko Mines Ltd. or of any affiliate thereof, nor do I beneficially own, directly or indirectly, any securities of Taseko Mines Ltd. or any affiliate thereof.

Respectfully submitted,



Robert S. Adamson, B.A.Sc., P.Eng.




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TELEPHONE (604) 681-2345
TELEX 04-54262

August 31, 1981

Mr. L. Ross, President
Taseko Mines Ltd.
Ashcroft, B.C.
VOK 1A0

Dear Mr. Ross;

Please find enclosed four copies of my report entitled "Preliminary Air-photo Geology of the Scum Lake Area" and dated August 31, 1981.

I was able to view the Cyprus Anvil data, courtesy of Mr. Osintenko of Cominco, before finalizing the report. Cyprus Anvil carried out an induced polarization survey over the hill prior to drilling in 1973. They drilled nine holes on the high I.P. response which proved to be caused by pyrite mineralization carrying low copper values and at least one sample which assayed 0.06 oz. gold. They did not drill the I.P. medium or low responses which appear to be peripheral to the core of the stock. In many of these types of deposits the best copper values do not occur within the highest I.P. response. Sometimes the lowest response, providing it is spatially related to high I.P. reflecting peripheral pyritization, may ultimately be the place to drill. In this case, drill hole siting would be predicated to a large degree on soil geochemical responses.

Yours very truly,
DOLMAGE CAMPBELL & ASSOC. (1975) LTD.



Robert S. Adamson, P. Eng.

Enclosures

RSA:pp