GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.,

MINING EXPLORATION DEPARTMENT

YEAR END REPORT
SPLIT CREEK, BRITISH COLUMBIA
N. T. S. 104 - G

H. M. VISAGIE

NOVEMBER, 1974

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A view from the north of the AS claim group. Note the old caterpillar tractor road up the hill.

A. SUMMARY

The AS claims were staked over weakly mineralized intrusives and volcanics in the Stikine River region of Northern British Columbia. The claims are located about eight miles south of the Galore Creek mineral camp. The AS group was formerly held by Julian Mining Company in the mid 1960's. Work conducted by Julian included surface trenching and diamond drilling. The results of their program was considered to be of limited economic significance. The copper grade was generally low even though sections of high sulphide mineralization were encountered.

Since 1965 the importance of alteration and mineral zoning patterns of large scale low grade hydrothermal deposits has been greatly expanded. In the light of the more subtle exploration technology and the favourable regional setting of the AS group a re-evaluation of the property is recommended.

B. INTRODUCTION

1. History

During the spring of 1974, a regional study on properties in the Stikine region was initiated in an effort to maintain a competitive edge with other companies. The discovery of tremendous volumes of low grade gold and silver at Ball Creek and the possible success of ore discovery on the Ball and Chris properties made clear the necessity to isolate and acquire any properties within the Stikine region that have similarities to the Ball Creek deposit.

It became apparent from the study that numerous concentrations of copper, gold and silver occur within this region. For example, one mineralogically rich area is centered around the Galore Creek camp. Within a ten mile radius of this property considerable tonnage of ore grade mineralization of copper with values in gold and silver have been found in proven and indicated tonnages. For the most part the developed properties have associated surface showings which served as exploration guides. However a significant portion of the region is covered with glacial debris, overburden and snow cover which could easily cover other mineralized areas. Due to this lack of outcrop many hidden deposits can be postulated.

The AS claim group was staked in the summer of 1974 as a result of the Stikine study. From descriptions in the literature the claim group seemed to have characteristics similar to Ball Creek. The predominance of volcanics, large sections of low grade copper mineralization and lack of intense potassic alteration all contributed to the similarity. However, after a short property examination this comparison to Ball Creek appears to be erroneous. The Split Creek property is now considered to belong to the Galore Creek type ore bodies. Even if this is the case the potential of a copper-gold porphyry deposit is still a real possibility.

2. Ownership

The property consists of twelve contiguous mineral claims. The following is a schedule of the land holdings and pertinent data.

Claims	Acreage	Anniversary Date
AS 1-12	600	August 15/74

Under a joint venture agreement Great Plains Development Company of Canada, Ltd., retains 57.5% of the property and Chevron Standard Limited, retains 42.5%.

3. Location and Access

The AS claims are located in the Coast Range 6½ miles southwest of the junction of the Anuk and Stikine Rivers. The co-ordinates of the claim group are 131 degrees 32 minutes west longitude and 57 degrees 4 minutes north latitude. Elevation of the group ranges from 2200 feet along Split Creek to over 4500 feet on the valley walls. Split Creek flows into the Porcupine River which in turn flows into the Stikine.

Access by air is available from Stewart, Terrace and Wrangell to an air strip at Galore Creek. From Galore Creek men and supplies would be ferried by helicopter, ten miles south to the AS property. An alternative method for getting supplies to the property exists by use of a flat boat. Supplies can be brought up the river from Wrangell, Alaska to the mouth of the Anuk River. From this point supplies would be ferried eight miles by helicopter to the property.

4. Economic Considerations

The AS claims are set in a remote rugged part of northwestern British Columbia. At present the closest road is approximately forty-five air miles away. Cost of road construction in this area is extremely high, however, the Galore Creek deposit is about seven miles north of the property. This camp has huge rich mineral reserves which will be developed in the future. With this development, road access to the entire area will become a certainty.

5. Previous Exploration

The property was first staked as the Ann and Su claims in the early 1960's by Julian Mining Company in response to the discovery of numerous copper showings on the property. During the next few years Julian conducted a combination of geologic mapping, induced polarization surveys, trenching and diamond drilling in the area which is presently covered by the AS claims. Over 5,000 feet of trenching and 7,000 feet of diamond drilling were completed on the property. The resultant values were deemed to be too low in copper content to warrant further exploration and the property was allowed to lapse.

In 1969, Silver Standard staked the area and held the claim group for two years. Details of work carried out is not known.

In 1974, Great Plains staked the property but so far has not done any work.

6. Objectives

A study launched on properties in the Stikine Region during the Spring of 1974 suggested the vast potential of an extremely rich mineralogic province in that area. When easier access is finally achieved into the area through massive road building programs; the Stikine region promises to become one of the mining centres of Canada. Copper, gold and silver are all present in highly anomalous quantities. Other minerals such as iron, tungsten, uranium, asbestos etc., are also present in unusual quantities. Because of this tremendous mineral potential the Stikine Region can not be ignored and demands a lot more attention by prospecting.

Great Plains has three properties in Eastern Stikine region or rather the Iskut area which appear to be very promising. Both the Chris and Ball properties are undergoing intense exploration because of their excellent mineral potential. In view of these possible successes, more properties should be acquired.

Texasgulf is a relatively new company to the Stikine area and it has fully realized the mineralogical potential of the area. During the last few years they have been slowly picking up and slowly evaluating their properties in the region. To date they have optioned one property and acquired two others of good potential.

In response to the challenge of Texasgulf and other companies Great Plains Development Company of Canada, Ltd., decided to maintain their exploration edge in the area. A literature study aimed at isolating occurrences similar to Ball Creek was initiated and as a result the AS claims were staked.

At first the AS claims were considered to be similar to Ball Creek, however on closer examination are now considered to be part of the Galore Creek Camp. Because of the great potential (some of which is proven), of the Galore Creek Camp, a close inspection of the AS claims is recommended. The ground and its past work on the property will be evaluated according to current thought on porphyry copper deposits. The AS claims will also serve as a base for expanded investigation of mineral potential and ore controls within the Galore Creek area.

C. EXPLORATION AND RESEARCH

1. Research

To date, only one day's field work has been done by Great Plains staff on the AS group. This work consisted mainly of staking the property but cursory examination of some of the core and showing was also undertaken.

Most of the information in this report is from literature research. The Department of Mines has supplied the sum total of all information to date. The sections on geology, mineralization and the geological map have been taken from a report by W.G. Jeffery in the Mineral and Petroleum Resources Report, 1965.

D. GEOLOGY

1. General Geology

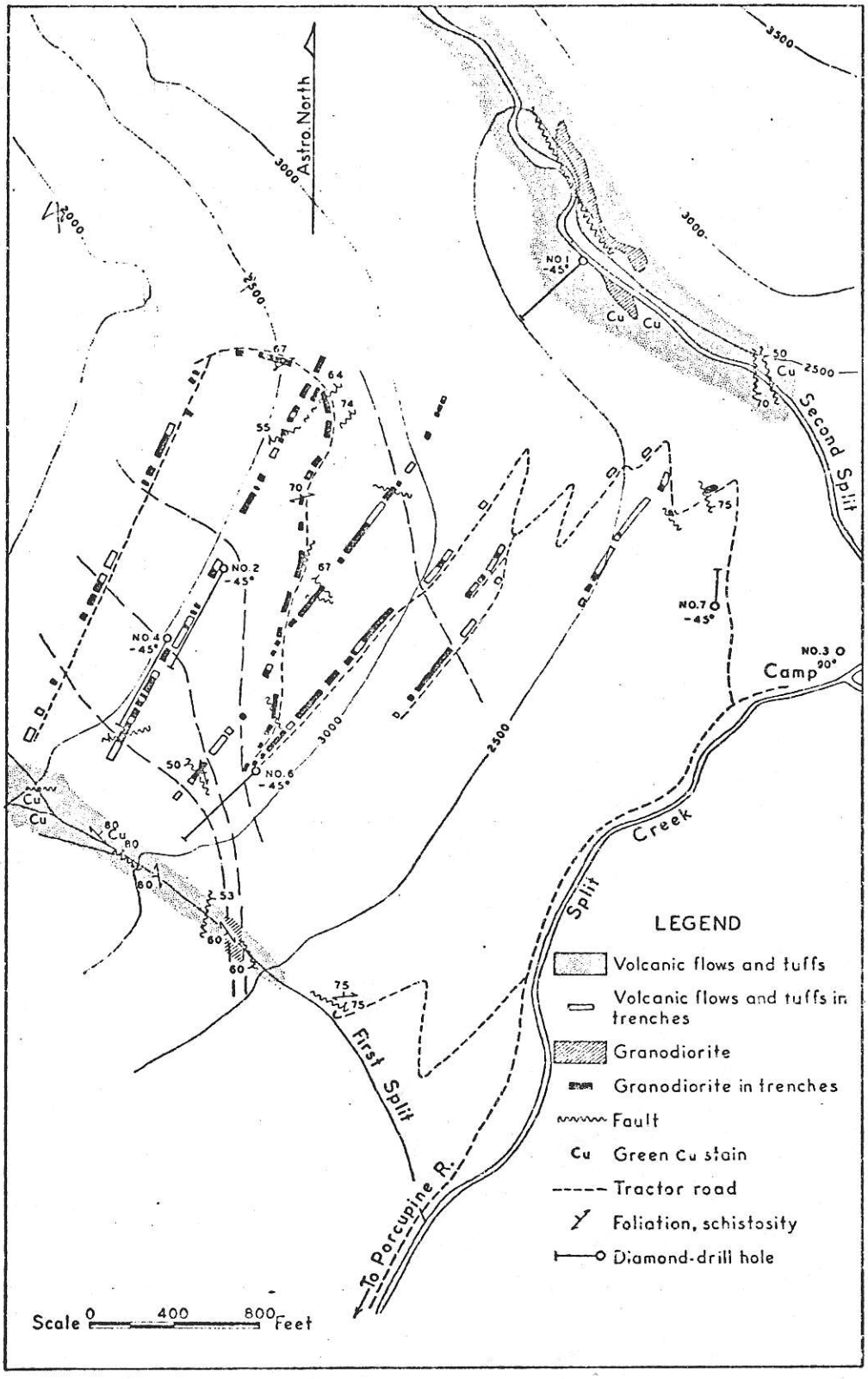
"Previous geological work in the area and some traverses in 1965 show that the regional rocks are moderate to steeply dipping beds of volcanic breccias, tuffs, and flows with thin interbeds of unfossiliferous shales and argillites. In the gorge section of Split Creek toward the Porcupine River there is a fresh coarse-grained monzonite intrusive similar to the Coast Intrusions. Upstream from the main area of investigation there are outcrops of igneous-appearing rocks of monzonite to syenite composition. Stubby cream to yellow altered feldspar phenocrysts in a dark-grey fine-grained matrix are replaced, and in places included, by porphyroblasts of euhedral tabular pink potash feldspar. Amphibole, epidote, and dispersed biotite are the main mafic minerals.

Trenching and a large part of the diamond drilling has been done on the steep slopes of the north side of Split Creek between two precipitous tributaries named First and Second Splits. The two creeks expose the underlying rocks, but between them rubble, overburden, and dense bush cover the area. South of Split Creek there has been a limited amount of diamond drilling and bulldozer excavation in following up magnetic anomalies that extend across the deeply buried channel of Split Creek. The accompanying map (Figure 5) shows the geology in the main area of investigation north of Split Creek and between First and Second Splits.

The trenching has revealed that the slope is underlain by a body of fine-grained rock of andesite to granodiorite composition. The rock is porphyritic with highly altered feldspar phenocrysts, masses of epidote, and clots of green biotite in a fine feldspathic matrix. This granodiorite is enclosed by fine to medium-grained greenstone rocks of andesitic composition. The superficial weathering and alteration, together with the similarity of the two types of rock, make field identification difficult and in places arbitrary. The granodiorite tends to have a spheroidal weathered surface and can be distinctly granular. Sparse biotite flakes can be seen under a hand-lens. In places the rock is bleached in outcrops exposed in trenches. Apart from one small exposure all the rocks in First and Second Splits are tuffs and andesite flows. A number of fine-grained greenstone dykes and a few white-weathering alaskite dykes were seen.

Top of AS Claim Group

Creek cut on south side of AS Claim Group



GEOLOGY OF AS CLAIM GROUP

The structure of the granitic rock is not apparent from the trench exposures on the property, but approximately on strike at the head of Second Split, at the toe of the glacier, there are metamorphosed strongly magnetic volcanic rocks that overlie, on a 40-degree southwesterly dipping contact, a feldspar porphyry rock with amphibole partially altered to biotite in a very fine-grained feldspathic matrix. This feldspar porphyry has large irregularly shaped inclusions of biotite-chlorite-epidote schist, and contains disseminated pyrite forming red-brown oxide stains on weathered surfaces."

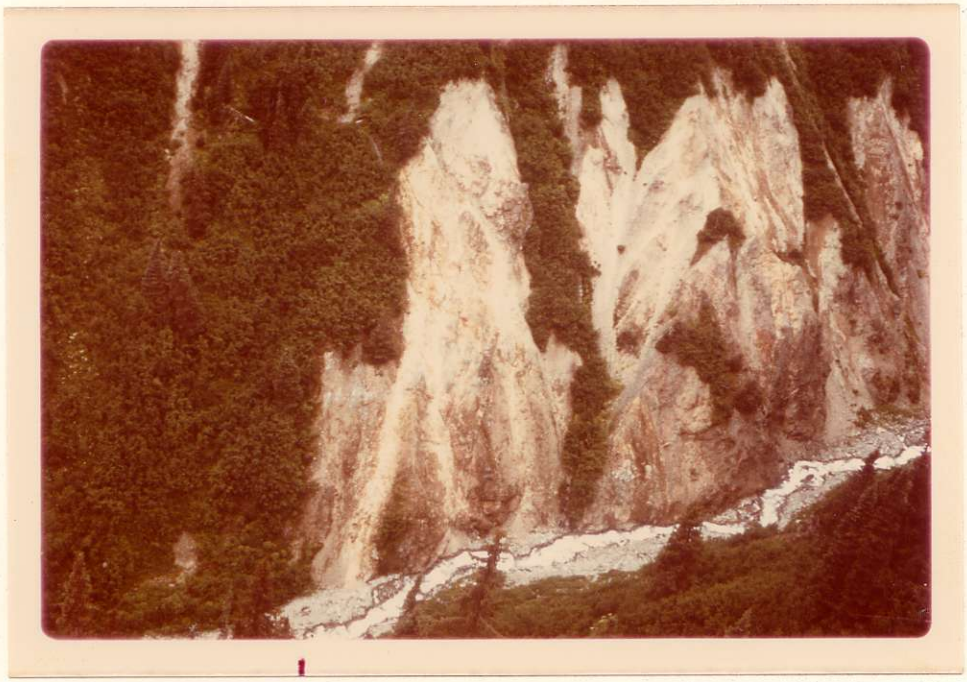
2. Mineralization

"Disseminated pyrite mineralization is abundant in the granodiorite porphyry and the volcanic rocks. Copper mineralization is sparse. There are scattered small green copper oxide stains on the highly weathered pyritiferous rock at the head of First Split between 3,000 and 3,500 feet elevation. The first outcrops of volcanic rocks encountered on ascending Second Split show a little green copper stain on the surface, and a few specks of chalcopyrite were seen close to some north to northwesterly trending faults. Higher up the creek but still below 2,500 feet above sea-level on the southwest bank there is more green copper stain on highly weathered pyritiferous rocks that in part appear to be a granodiorite dyke within volcanic rocks. The diamond drill core contains sparsely disseminated copper mineralization in both granodiorite and volcanic rocks. Chalcopyrite also occurs on fracture planes and with occurrences of magnetite healing short sections of brecciated rock. In the diamond drilling the longest section of copper values was obtained from almost the whole length of hole No. 2, in which the values ranged from trace to a maximum of 0.32 percent copper, with most of the values between. 0.10 and 0.20 percent copper. Diamond drill holes Nos 4 and 6 showed similar values, and one 5 foot intersection in hole No. 6 contained 0.72 percent copper."

"Sparse small areas of green copper oxide stain were seen. Small faults, a biotite lamprophyre dyke, and a white quartz vein between 1 and 2 feet wide containing irregular blebs of specularite, galena and chalcopyrite cut the feldspar-porphyry intrusive."

"First and Second Splits expose strong faults that strike northwestward along the creeks. Other faults exposed in the creeks and the trenches appear to be of minor importance."

Creek cut on south side of AS Claim group - Note the Azurite Staining on the Cliff.



Creek cut on north side of AS Claim group - Note the Azurite staining on the Cliff

E. DISCUSSION

The area within a ten mile radius of the AS claims contains indicated and proven ore tonnage. The main deposits are at Galore Creek and consist of two zones of mineralization as well as many zones which could possibly provide additional tonnage. The first zone is the South Zone with 59,000,000 tons of 1.2% copper. The second zone is the Central Zone with 79,000,000 tons of 1% copper. Several miles east of the Galore Creek is the Copper Canyon property. The indicated tonnages run from a conservative 28 million tons to an optimistic 100 million tons of 1% copper. To the south of Copper Canyon, the Sphaler Creek property has held a lot of exploration interest although no tonnage estimates are available.

It is quite conceivable that greater tonnage of mineralization would be found in the vicinity of Galore Creek if the difficulties in doing exploration were not so great. The exploration season is short with inclement weather spanning most of this time. The valleys are covered with either thick vegetation or deep glacial debris which obscures all outcrops other than those near deeply incised stream cuts. The rock exposures at higher altitudes are generally highly weathered and often inaccessible due to rugged terrain. Yet despite these problems considerable tonnage has already been found.

The obvious surface mineralization has been located and tested in the Galore Creek region. The proof of this is in the vast number of properties which now or at one time had been claimed in the area. Because of costly exploration, it would be reasonable to assume that unless immediate success was met on most of the properties, they would soon be dropped. This was not carried out and some of the showings may still have merit.

Since the mid-sixties when most of the exploration had been done in the Galore region the relationship between alteration and mineral zoning of hydrothermal systems within host rock has been expanded. This expansion has led to better interpretation of what occurs in a hydrothermal system and of where the best mineralization will be obtained if it is not visible in surface exposure. Consequently room for re-interpretation of data exists which may lead to the discovery of a deposit.

The AS group underwent exploration in the mid-sixties. The drill results returned low grade copper values within a zone of heavy pyritization. The drill holes were spotted from the results of I.P. and magnetometer survey. Holes were drilled into I.P. highs which might not have been the best targets. The I.P. would define the area of greatest sulphide deposition however, according to observations of porphyry systems the best mineralization is found on the flanks of these high I.P. responses; not in the centre.

A quick examination of the core revealed mainly propylitic alteration. Any centre of economic mineralization is usually associated with intense sericitic and potassic alteration. From these two observations it is entirely possible that the main centre of mineralization has been missed.

F. CONCLUSIONS

1. The AS claim group is situated in a mineralogically rich region. It has a geological environment capable of housing large low grade tonnage of copper and related minerals.

2. Most of the work in the region has been carried out on properties which have obvious surface expressions of mineralization. These surface expressions were found in the late 1950's and early 1960's.

3. The AS claim group was explored in the early 1960's by use of trenching and diamond drilling. When work was conducted recognition of alteration and metal zonation in porphyry deposits was not as well defined as it is today. Consequently some subtle trends in zonation could exist that have been over looked.

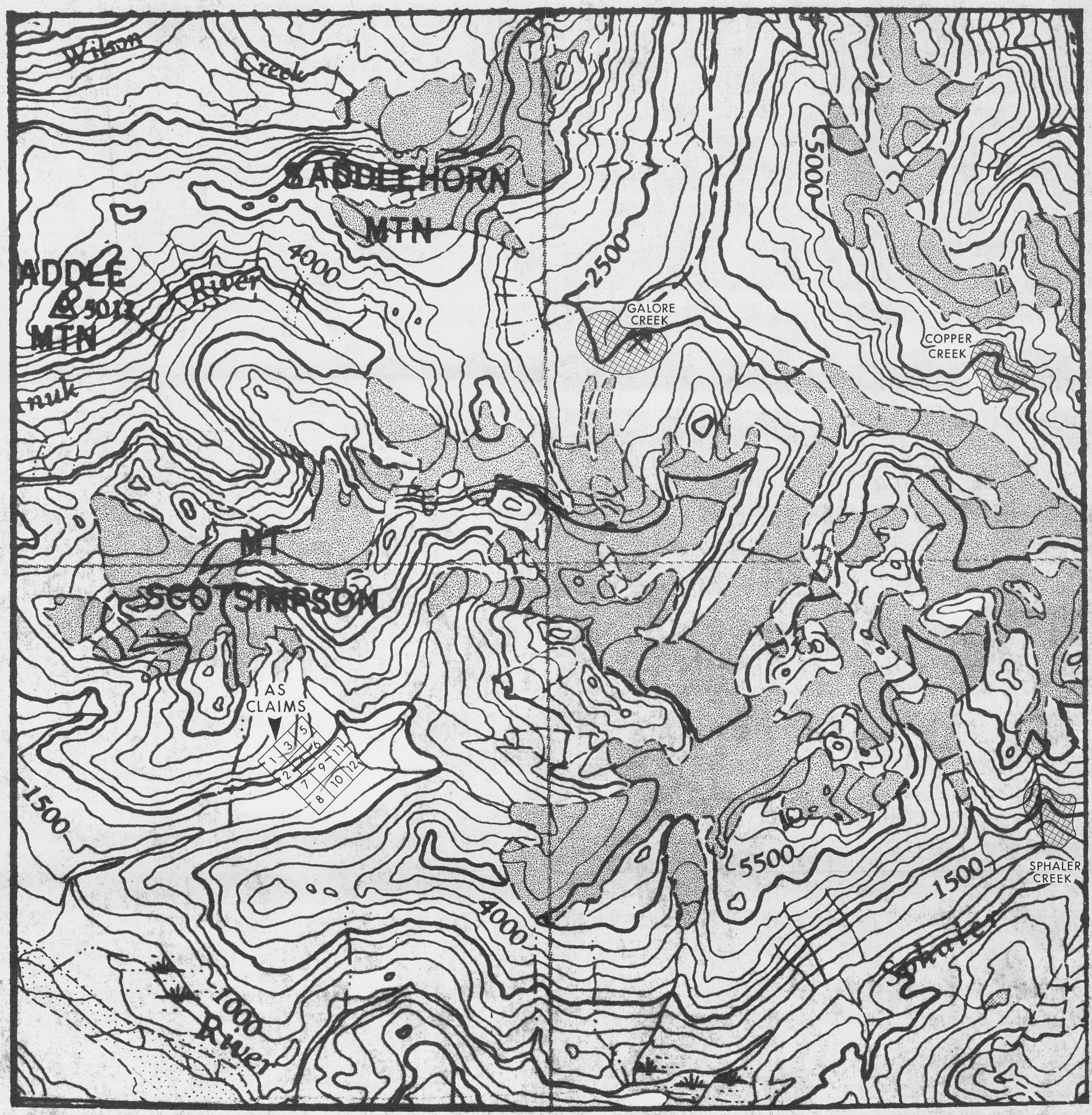
4. The Stikine region appears to be extremely rich in gold and silver. The recent increase in price of gold and silver also makes these minerals very important by-products of copper porphyries.

G. RECOMMENDATIONS

1. A preliminary study should be conducted on core samples collected in the field in 1974. This study should include analysis of alteration and mineralization to elucidate any zoning or possible trends. In addition, the core should be analyzed for gold and silver content.

2. The regional study on properties of the Stikine be continued with special emphasis on ore controls of the Galore Creek Camp deposits.

3. Next year, a program should be undertaken on the property to log the drill holes that were drilled by Julian. Also, prospecting in the area surrounding the property should be undertaken. The purpose would be to define any alteration trends or areas of mineral potential.



LEGEND

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OTHER PROPERTIES

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BRITISH COLUMBIA GEOLOGICAL SURVEY

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GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.
BRITISH COLUMBIA

AS CLAIM GROUP

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R.VISAGIE

SEPT., 1974