CAN-AM EXPLORATION, INC.
SNIPPAKER PROSPECT ISKUT R.-UNUK R.
STIKINE RIVER REGION BRITISH COLUMBIA

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CAN-AM EXPLORATION, INC.

SNIPPAKER PROSPECT

Iskut River - Unuk River Area

Stikine River Region

British Columbia

December, 1971

M. J. Fitzgerald

CONTENTS

ILLUSTRATIONS

SUMMARY

The Snippaker Prospect consists of 40 mineral claims of the "PINS" Group which cover a ridge between two forks of Snippaker Creek and are located 55 miles north-northwest of Stewart, B.C. The area has a long history of prospecting and claim staking but became active only after the discovery of the Granduc orebody some 30 miles to the south. As a result of a regional stream silt sampling program, Silver Standard Mines staked over 300 claims on the west side of Snippaker Creek in the mid-1960's but did no systematic exploration and the claims were subsequently allowed to lapse. The "PINS" Group was staked on October 7, 1971. Exploration in the area by Great Plains Development, Ltd. and an extensive underground drilling program by Silver Standard Mines in conjunction with a Japanese group on the east side of Snippaker Creek during 1971 indicates that the area will again be actively explored in 1972.

Mineralization on the Prospect is centered on and around an altered feldspar porphyry stock which intrudes Triassic sediments and volcanics. The stock is one of at least four which occur within a 60-mile long belt of faulting, pyritization, and local copper mineralization which extends from a point south of the Granduc orebody north-northwestward to the Iskut River. Portions of the belt have been explored by major companies in past years but the completion of the Stewart-Cassiar highway, scheduled for 1972, will almost certainly reactivate exploration along the belt.

The feldspar porphyry stock on the Snippaker Prospect is generally altered to quartz, sericite, and chlorite. Disseminated pyrite is abundant and examination of iron oxides from the partially oxidized surface exposures indicates that low-grade and probably non-commercial, copper mineralization is also present in the intrusive. The surrounding sediments and volcanics are altered to chlorite, sericite, and silica and contain varying amounts of pyrite in a zone apparently averaging about 500 feet wide outward from the contact.

Copper showings and limonite after chalcopyrite have been found at several localities within the east and west contact zones of the feldspar porphyry stock. A composite sample of float collected from a stream draining the easterly contact zone assayed 1.56% copper and another large sample of outcrop and float material from the western contact zone,

FIG. 1

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SNIPPAKER PROSPECT

SCALE 1" = 136 MI.

ALTAIR drafting services

which is estimated to be at least one-half leached of its copper value, assayed 0.25% copper. Due to the superficial nature of the work done to date, the sample results can be interpreted only as possibly indicative of the grade of a portion of the contact zone. The general characteristics of geology and mineralization on the Prospect are very similar to those associated with other orebodies in the region, however, and it is concluded that the Prospect warrants a program of geological, geochemical, and geophysical investigation to be followed by preliminary diamond drilling. Estimated cost of the recommended program is $72,000.

LOCATION AND ACCESS

The Snippaker Prospect consists of 40 full-sized claims located on a ridge between two forks of Snippaker Creek, a tributary of the Iskut River, in the Liard Mining Division of Northwestern British Columbia. The Prospect lies 55 miles north-northwest of Stewart, B.C. and 90 miles north-northeast of Ketchikan, Alaska. Although the Prospect is in a presently remote area of British Columbia, access by air is good. Scheduled twice-weekly twin engined DC-3 flights have been made to the Snippaker Creek airstrip, 2-1/2 miles from the Prospect, for the past two field seasons by Harrison Airways of Vancouver and supplementary flights are made by Transprovincial Airlines with twin Otter and Beaver aircraft from Terrace. The focus of this excellent air service has been the Silver Standard Mines underground drilling program on the E & L Prospect, 3 miles southeast of the airstrip, and the Hecla Mining Co. drilling program on the Liard Copper deposit at Schaft Creek.

Transportation from the Snippaker Creek airstrip to the property is by helicopter. The nearest helicopters are based at Stewart and Ketchikan year around and at Schaft Creek, 70 miles to the north, during the field season. The fixed wing availability makes transportation of personnel and supplies to the area relatively easy and cheap. Helicopter trips to the Prospect from the airstrip can be scheduled to coincide with helicopter flights through the area.

Elevations on the claims range from 2,500 to 5,000 feet and nearly all of the mineralization lies below 4,300 feet. A glacier lies in the valley to the south of the mineralized ridge and a glacier ends midway along the claim group in the valley to the north. The slopes rise precipitously from the valley on the north to the top of the ridge

where topography is gentle and rolling. Slopes are less steep on the hillside into the south valley. Exposures are good on the steep slopes and fair to poor on the ridge top. Timber is abundant on the lower slopes and sparse and stunted at higher elevations.

The Prospect lies approximately 35 miles down Snippaker Creek and up the Iskut River valley from the Stewart-Cassiar highway which is scheduled for completion in 1972. Road construction in the valleys would be relatively easy and little blasting would be involved.

PROPERTY

The 40 full-sized claims of the "PINS" Group were staked on October 7, 1971. Record numbers have not yet been issued; tag numbers are 150441M to 150480M inclusive. The area was staked during the mid-1960's by Silver Standard Mines, Ltd. but the claims were allowed to lapse about 1967 and the area has been open since. Great Plains Development, Ltd. was actively exploring and staking in the area at the time the "PINS" Group was located and their activity prevented additional staking in several other favorable nearby areas.

HISTORY

The Snippaker Creek area has a long history of prospecting and claim staking but it was not until the late 1950's and early 1960's following the discovery of the Granduc orebody, 30 miles to the south, that the area received active exploration. Newmont Mining Corp., discoverer of Granduc, was the first to cover this portion of the Stikine River region. Exploration programs by Kennco Explorations and Southwest Potash Corp. (AMAX) also covered the area but no active, systematic work was done by any of the three in the immediate Snippaker Creek area. Newmont did explore and diamond drill prospects at Sulphurettes-Mitchell Creek 21 miles to the east and on McQuillan Ridge 12 miles to the southeast. The programs by the three major companies were geophysically oriented, particularly Newmont's, and apparently no favorable airborne magnetic patterns were discerned in the Snippaker Creek area.

Silver Standard entered the area in the mid-1960's and did the first detailed geochemical stream silt program. Based on the resulting anomalies, Silver Standard staked over 300 claims in four different blocks but they subsequently became involved in exploration of the E & L copper-nickel prospect five miles to the east-northeast of the Snippaker Prospect and, except for prospecting and some reconnaissance soil sampling, did not actively explore the claim group. Claims in the "PINS" Group area were allowed to expire prior to 1968.

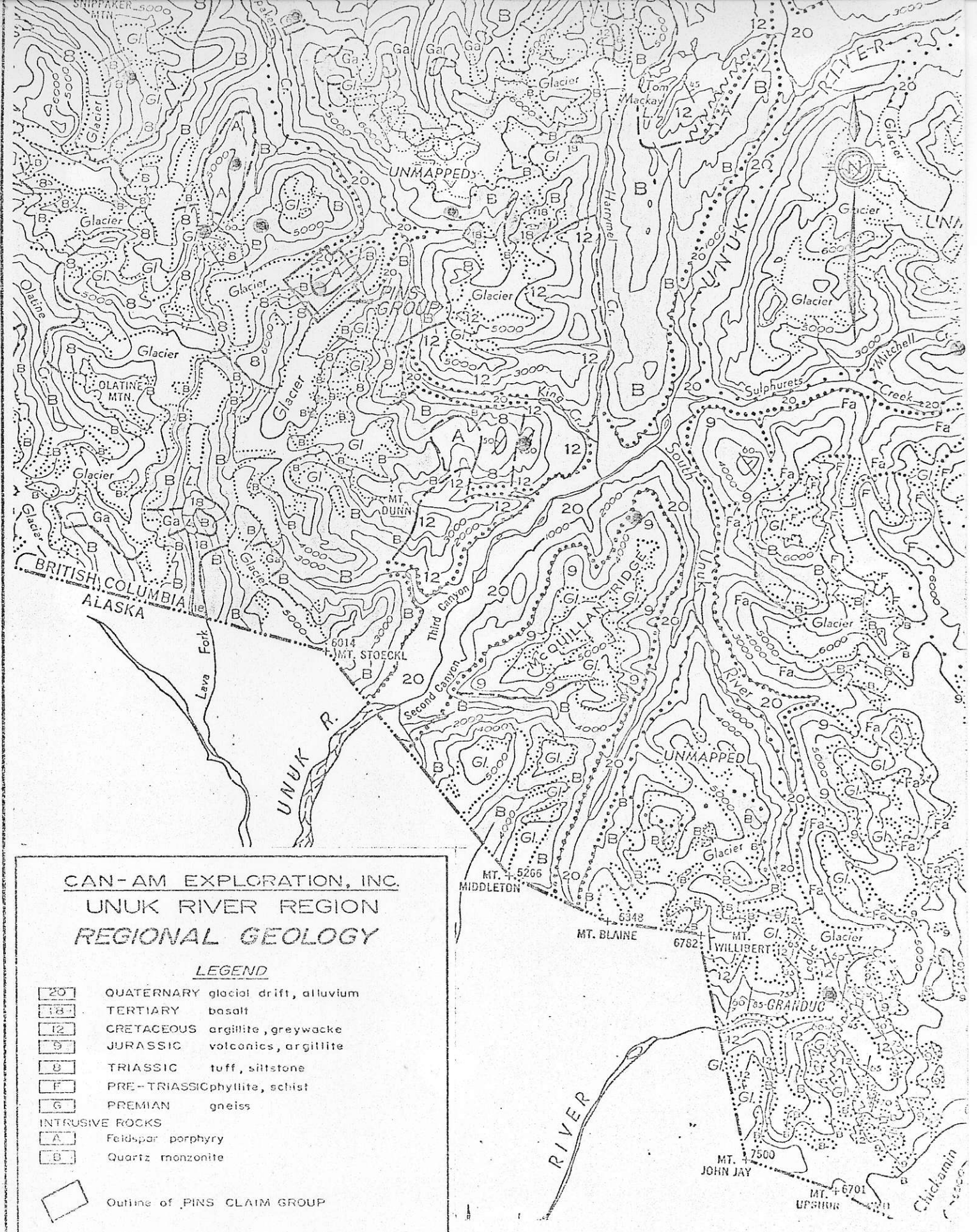
REGIONAL GEOLOGY

Gneisses of probable Permian age are the oldest known rocks in the Unuk River-Iskut River region. These are overlain by Triassic tuff and siltstone and by a thick series of Triassic-lower Jurassic andesitic to basaltic volcanics. Clastic sediments of the Jurassic-Cretaceous Bowser Basin Assemblage overlie the volcanics and consist of argillite, graywacke, and conglomerate. The western margin of the Bowser Basin lies just to the east of the Snippaker Prospect and the much faulted and intruded western margin of the Basin trends generally northward for many miles in the Stikine River region.

All of the above rocks are intruded by the Coast Range Batholith of upper Jurassic to Cretaceous age and by younger, satellitic stocks and plugs which are numerous along the east side of the Batholith. The latter range in composition from felsite porphyry (more properly, feldspar porphyry), granite and granite porphyry, and syenite porphyry. Post-Cretaceous rocks are confined to late Tertiary volcanic lavas and Pleistocene glacial deposits and alluvium. Some of the lavas near the Unuk River are of such recent age that, in places, basalt flows can be observed on top of glacial ice.

The Triassic-Jurassic sediments and volcanics are present in a band along the east side of the Coast Range Batholite which is approximately 10 miles wide in the Unuk River area and becomes progressively wider as one goes north from the Iskut River. These rocks and associated satellitic stocks and plugs are the host for nearly all of the known orebodies in the Stikine River region.

Geologic mapping in the Unuk River-Iskut River area is very inadequate and only the general relationships are known.



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UNUK RIVER REGION

REGIONAL GEOLOGY

LEGEND

20	QUATERNARY	glacial drift, alluvium
18	TERTIARY	basalt
12	CRETACEOUS	argillite, greywacke
9	JURASSIC	volcanics, argillite
8	TRIASSIC	tuff, siltstone
F	PRE-TRIASSIC	phyllite, schist
6	PREMIAN	gneiss

INTRUSIVE ROCKS

A	Feldspar porphyry
B	Quartz monzonite

Outline of PINS CLAIM GROUP

Copper Prospect

FIG. 2 Scale: 1 inch = 4 miles Dec., 1971

REF: G.S.C. MAP 9-1957

These are shown on Figure 3. Little is known of the attitudes of sediments and volcanics in the area. A number of major faults have been noted, however. The largest number of faults mapped to date strike northwest and north; East- and northeast-trending faults are fewer in number but may be very important locally in localization of intrusives and associated mineralization.

One of the most arresting regional features noted by the writer is a north-northwest-trending belt of feldspar porphyry intrusives (Unit "A" on Figure 2), copper showings and extensive pyritization which extends from well south of the Granduc orebody to the Iskut River. Many of the gossan zones resulting from the pyritization are truly spectacular. This belt is approximately 60 miles long by about 4 miles wide and is similar in nearly all aspects to the structural belts found in the Southwestern United States which contain numerous porphyry copper deposits. Kennco Explorations' Stikine Copper Deposit, the most spectacular in British Columbia and containing over 300 million tons of 1% copper, lies 35 miles to the north-northwest directly on trend with the inferred structural belt. Most of the intervening area is covered by glaciers. No less than five very interesting copper prospects lie along the portion of the belt between the Unuk and Iskut Rivers.

PROSPECT GEOLOGY, ALTERATION, AND MINERALIZATION

The only available map showing regional geology in the Iskut-Unuk Rivers - Snippaker Creek region is the Geological Survey of Canada Map 9-1957, a portion of which is reproduced on Figure 2. This map shows a felsite porphyry stock intruding intermediate granitic rocks of the Coast Range Batholith within the area covered by the "PINS" claim group. The Coast Range rocks are in turn shown intruding a band of Triassic sediments and volcanics lying just to the west of the claim group.

Observations on the Prospect suggest that the actual geology is somewhat different from that shown by the Geological Survey of Canada. No Coast Range intrusives were observed on the Prospect and in all instances the felsite porphyry was observed intruding Triassic sediments and/or volcanics. The area of Coast Range intrusives appears to end abruptly at the glacier and drift-filled valley lying along the north edge of the claim group. The ending of the older intrusives to the north, the apparent

extension of the Coast Range intrusives across the valley to the south of the claims and the sudden change in shape and width of general pyritization to the north and south of the Prospect suggests that the mineralized ridge covered by the claims is isolated from areas to the north and south by east-northeast-trending faults lying in the glacier- and drift-filled valleys.

Examination of the felsite porphyry intrusive indicates that it is more properly termed a feldspar porphyry. All portions of the intrusive are moderately to strongly altered; as a consequence, it is difficult to determine the actual composition but the general appearance is that of intermediate (monzonitic) composition. In hand specimen, the rock contains numerous feldspar phenocrysts up to 1/4 inch in length set in a fine grained matrix composed largely of chlorite and fine grained pyrite. The pyrite is abundant, probably averaging between 5 and 10% throughout the intrusive, and occurs largely as disseminations in the groundmass and to a much lesser extent in veinlets. Strength of alteration in the intrusive is somewhat variable but generally consists of quartz-sericite-chlorite throughout. Pink feldspar veinlets are present in some portions, particularly in areas near the contact with Triassic sediments and volcanics.

The rock is variably oxidized but some sulfides remain in all rocks seen. Examination of the limonite (iron oxide) in 75 to 100 partially oxidized specimens taken from various parts of the intrusive suggests that some chalcopyrite was also present in the intrusive rocks prior to oxidation. The greater solubility of chalcopyrite as compared to pyrite accounts for the lack of the former in the partially oxidized surficial rocks and the large preponderance of limonite derived from the oxidation of the much more abundant pyrite largely masks the limonite derived from chalcopyrite. As a consequence, it is difficult to estimate the abundance of chalcopyrite in the intrusive below the oxidized zone and it can only be concluded that the intrusive contains significant amounts of chalcopyrite. From all appearances, however, it is probable that the copper content is of sub-marginal grade, probably less than 0.25% in most portions of the intrusive.

The feldspar porphyry stock is crescent-shaped with the tails of the crescent pointing into the valley lying in the northern portion of the claim group. (It should be noted that the geologic map in Figure 3 is oriented with the top of the map to the south). The stock may be pipe-like in form and the abrupt termination to the north is also suggestive of faulting in the valley.

The Triassic sediments and volcanics bordering the feldspar porphyry stock are generally altered to horn-felsic and quartzitic rock types and are pyritized in a zone averaging approximately 500 feet wide. The exposed and partially exposed contact zone is approximately three miles long and another two miles or so of contact zone is obscured by glacial drift. Alteration in the contact zone varies with the original composition of the bordering rocks and examination of specimens under a binocular microscope reveals that the general types vary from silica-sericite flooding to silica flooding to clay-sericite to strong chloritization with quartz and pink feldspar veinlets. The strongest copper mineralization is associated with silica-sericite flooding and rocks with abundant chlorite. Although much of the contact zone is obscured by vegetation and rubble cover, outcrops and float of partially oxidized copper-bearing contact rocks were found along the western contact zone and a number of specimens of copper-bearing float were found in streams draining the eastern contact zone. Mineralization in these areas is described more completely in the following section.

In summary, economic potential on the Prospect appears to lie within the contact zone of the intrusive and may be substantial. Exposures and evidence of very interesting copper mineralization have been found in both the west and east contact zones and may be present under glacial drift along other portions of the contact. The intrusive appears to have only relatively low grade copper content but some specimens suggest that portions of the intrusive near the contact may have economic potential.

It is worthwhile to compare the Prospect with the Liard Copper Deposit at Schaft Creek (Hecla Mining and Silver Standard Mines). The Schaft Creek deposit is reported to contain 280 million tons averaging 0.52% copper equivalent and personal examination by the writer of drill core from the Schaft Creek deposit reveals a number of similarities with geologic and mineralization characteristics on the Snippaker Prospect. At Schaft Creek, approximately three-fourths of the ore occurs within Triassic rocks in association with chlorite-pink feldspar alteration. Early trenching revealed grades of only 0.25% copper but drilling below the oxidized zone indicated grades approximately twice as great. The remaining ore occurs in a hybrid contact zone of mixed volcanic-intrusive material associated with quartz-pink feldspar alteration. It can be concluded that observed characteristics of mineralization on the Snippaker Prospect are similar in most respects to that in another major deposit in the region and certainly warrant detailed, systematic exploration.

SAMPLING RESULTS

Stream silt samples were taken from major streams draining the slopes on the north-facing slopes of the main ridge. Results of the sampling are as follows:

Stream	Cu (ppm)	Mo (ppm)
1	320	16
2	133	5
3	155	5
4	340	9
5	135	4

These streams essentially drain the intrusive and are interpreted as anomalous in comparison with streams draining nearby unmineralized areas which average only about 50 ppm copper. Molybdenum content is anomalous only in the sample from Stream 1.

A large (15lb) bulk sample was taken from outcrop and float material from the copper-bearing zone found along the west contact zone of the intrusive. This area was largely covered by snow and a substantial portion of the float comes from under a thin ice cornice which caps the nearby ridge. The sampled material consists of sediments altered to clay, sericite, and chlorite and the sulfides are at least one-half oxidized; little pyrite is present. The sample (#23433) assayed 0.25% copper and it is estimated that the grade of this material, if unoxidized, would be at least 0.5% copper.

Another representative sample was taken of copper-bearing float material from streams draining the east contact zone. This material was not found in place. The mineralized material is composed of Triassic sediments or volcanics of hornfelsic texture which have been strongly altered to chlorite and contain disseminated pyrite, some chalcopyrite, and a combination of malachite and limonite after chalcopyrite. The presence of abundant malachite stain suggests that leaching of copper values has not been substantial - the sample (#23432) assayed 1.56% copper.

Both samples were quite large and are representative of the mineralized material seen. The superficial character of the examination to date, however, indicates that the sample values can only be interpreted as possibly indicative

of the grade of a portion of the mineralization in the contact zone. Evaluation of the overall size and grade potential of the mineralization on the Prospect can only take place once initial geologic, geochemical, and geophysical surveys have been completed.

CONCLUSIONS

The results of a preliminary geological examination of the Snippaker Prospect indicate that many geologic characteristics of major orebodies in the Stikine River region are present on the Snippaker Prospect. The best ore potential appears to lie along the contact zone in the Triassic sediments and volcanics and adjoining feldspar porphyry intrusive. Representative samples from outcrops and float from these zones indicate that copper mineralization of commercial grade may be present but it will be necessary to conduct geological, geochemical, and geophysical surveys before the potential size and grade of the mineralization can be evaluated.

RECOMMENDED WORK PROGRAM

A basic exploration program consisting of line cutting, geologic mapping, geochemical sampling, induced polarization surveys, and trenching is recommended. The geologic work would include mapping of all outcrops and assessment of alteration patterns and leached capping. The geochemical sampling program would include analysis of soil samples taken on a systematic basis for copper and molybdenum and analyses of rock samples taken from exposed areas for molybdenum. Mapping and geochemical sampling would cover the entire area of hydrothermal alteration.

Induced polarization surveys would be limited to those areas of indicated favorable alteration and geochemical response. The IP surveys would be followed by hand trenching to bedrock in the area of indicated drill targets.

If results of the above are favorable, an initial program of environmental diamond drilling would be carried out. Initial drilling as presently envisioned would consist of three drill holes to depths of 500 feet.

Estimated costs of the phases in the program are listed below. Estimated time for completion of Phase I is six weeks; completion of Phase II would take an additional 5 to 6 weeks.

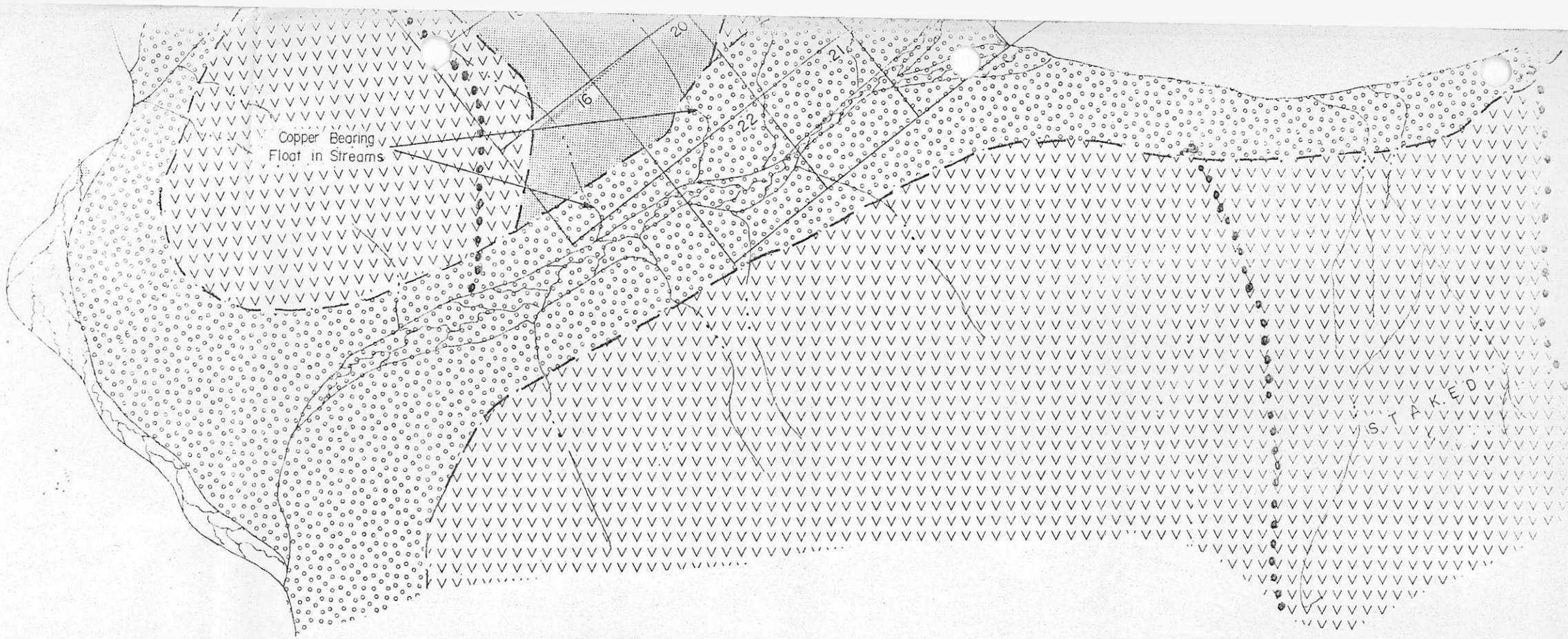
Phase I:

1.	Mobilization and demobilization.	
2.	Geologic Mapping.	
3.	Line Cutting and Geochemical Survey (500 samples)	
4.	Induced Polarization Survey.	
5.	Trenching.	
6.	Helicopter Transportation.	
	Total Phase I	$33,000.

Phase II:

1.	Drilling three holes at 500 feet each and including mobilization, assaying, core logging and splitting, helicopter transportation, and supplies.	
	Total Phase II	$39,000.
	Total Phases I and II	$72,000.

M. J. Fitzgerald



LEGEND

- Glacial Drift & Maraine
- Feldspar Porphyry Intrusive
- Triassic Volcanics and Sediments
- Outline of areas of General Strong Pyritization
- Trunk Streams
- Tributary Streams

UNCONTROLLED PHOTO BASE

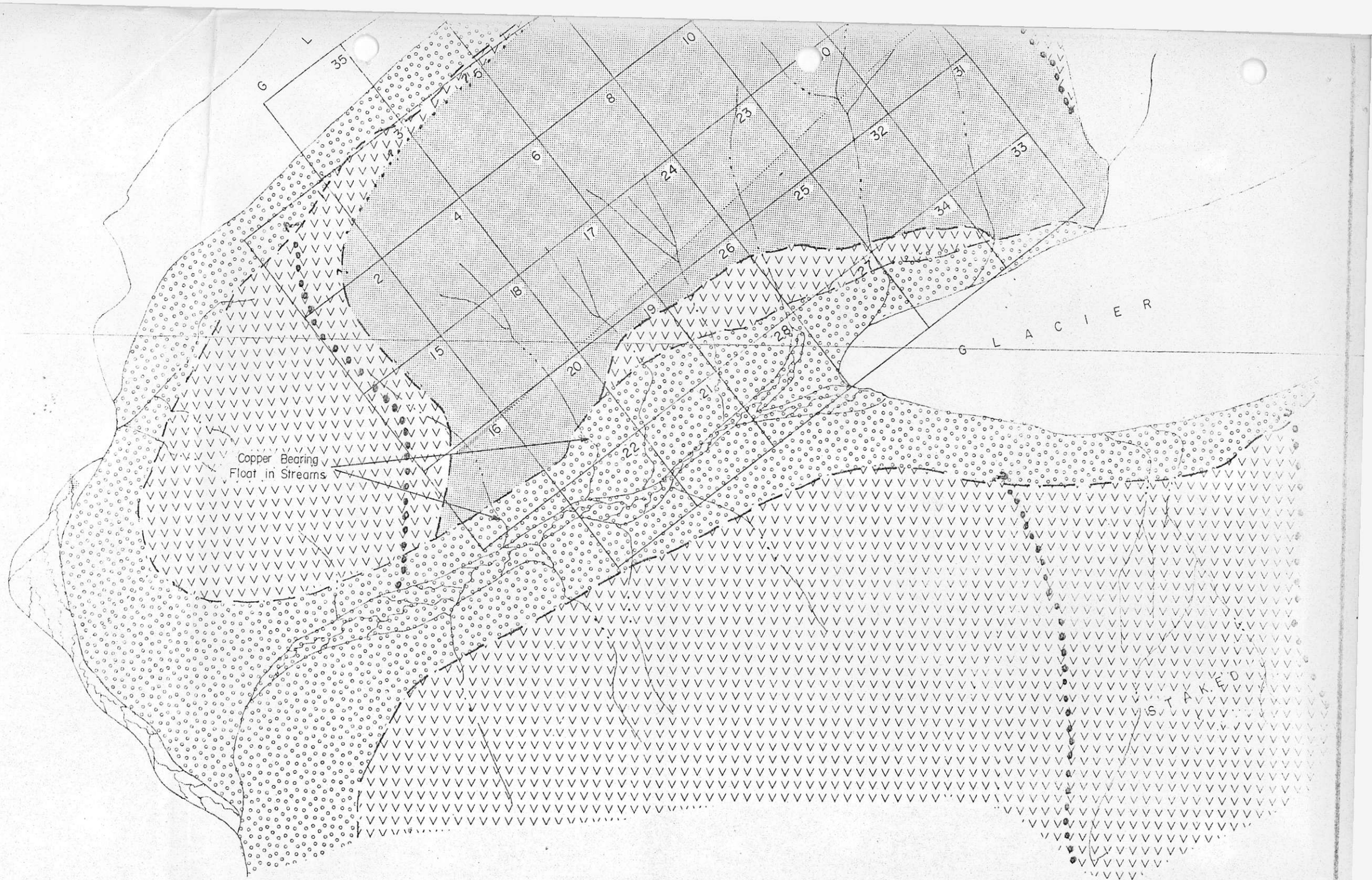
CAN-AM EXPLORATION INC.

SNIPPAKER PROSPECT

GENERALIZED GEOLOGY

PINS CLAIM GROUP
ISKUT RIVER AREA

FIGURE 3	SCALE: 1" = 1500Ft.	DATE: DEC. 1971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Copper Bearing
Float in Streams
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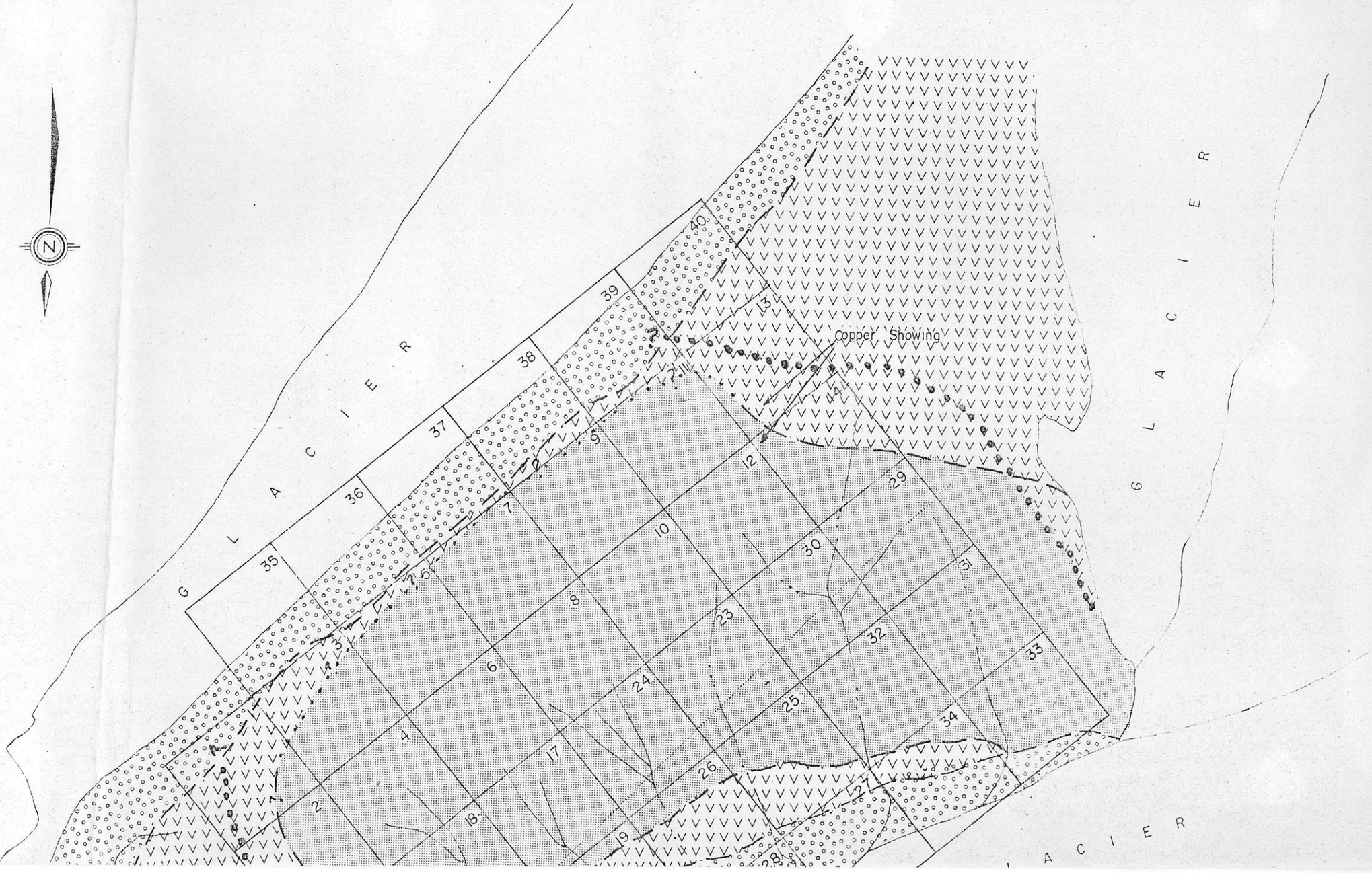
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