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CAN-AM EXPLORATION INC.

GRIZZLY PROSPECT SHESLAY R. AREA
STIKINE RIVER REGION BRITISH COLUMBIA

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GRIZZLY PROSPECT

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STIKINE RIVER REGION

BRITISH COLUMBIA

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#### SUMMARY

Copper showings on the Grizzly Prospect were discovered in 1956 by Newmont Mining Corp. and were investigated by Kennco Explorations Ltd. in 1960-64 and by Colo Corporation in 1970. Kennco abandoned the prospect without seriously investigating the extent and grade of the mineralization when the discovery at Stikine Copper some 60 miles to the south was made. Colo Corporation's work returned what are regarded as very favorable results but the company was unable to proceed to the drilling stage due to financial difficulties. CAN-AM Exploration, Inc. optioned the prospect in December 1971. The writer is very familiar with the prospect and was present on the property during a portion of the Colo Corporation work program.

The past work indicates that copper mineralization occurs along a more or less linear zone trending about N30°W which has an apparent length in excess of 3,500 feet. The linear zone lies along a broad, flat gully and is generally covered by soil and vegetation. Exposures of copper mineralization are present at either end of the zone and geochemical and geophysical survey results indicate that the mineralization in the intervening covered area may be considerably stronger than that which is exposed.

The mineralized zone lies along a northwest-trending prong of the Kaketsa Mountain stock and copper minerals occur in altered volcanics and intrusive rocks near their mutual contact. The intrusive contact appears to be rather flat and belts of volcanic rocks extending into areas of the intrusive may represent roof pendants. The fundamental control of mineralization appears to be a major north-northwest-trending fault zone. Copper mineralization is associated with strong pink-feldspar flooding and replacement.

The geochemical and geophysical surveys reveal the presence of large areas of anomalous copper and sulfide content. A drilling program is warranted to evaluate the extent and grade of the known and indicated copper mineralization. Estimated cost of an initial program is \$90,000.

### LOCATION AND ACCESS

The Grizzly Prospect consists of 21 mineral claims located in the Atlin Mining Division, north of the Stikine River in northern British Columbia. Approximate co-ordinates are latitude 58°14'N, longitude 131°53'W and elevations on

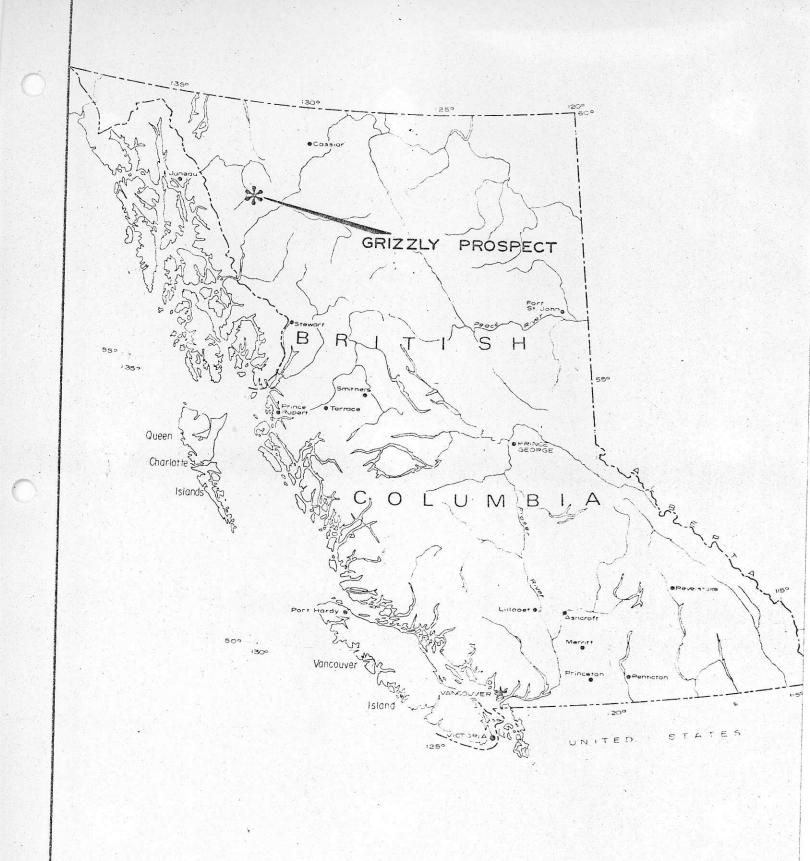


FIG. I

CAN-AM EXPLORATION, INC.

GRIZZLY PROSPECT

SCALE I" = 136 MI.

the property range from 1,900 to 3,600 feet. Telegraph Creek lies 35 miles to the southeast of the property and access is by helicopter from Telegraph Creek or by float plane to Kennicott Lake with the remaining 13 miles by helicopter. The area lies within the dry belt which extends along the east side of the Coast Range and, although undeveloped, presents fewer access problems than nearly any other area in the Stikine.

The claim group starts on the north side of the Sheslay River and extends up slope to the northwest. Timber and water are available on the property and both are abundant in the Sheslay River Valley. Road access could be provided with no great problems from Telegraph Creek or along the Tahltan-Hackett and Sheslay Rivers from the point where the Dease Lake-Telegraph Creek road crosses the Tahltan River.

### PROPERTY

The property consists of the following mineral claims:

Claim	Record Number	Recording Date	Owner
Grizzly 1-20	13951-13970N	Oct. 20/69	E.F. Asp
Kid 1	4146K	Aug. 5/60	G. Davies

### HISTORY AND PAST WORK

The showings were discovered by prospectors working for Newmont Mining Corp. in 1956 but apparently were not investigated further. In 1960 Kennco Explorations Ltd. located the Kid 1-12 mineral claims to cover the showings and conducted limited geological and geochemical surveys in August of that year. Two years' assessment work was credited for this work and in 1962 Kennco conducted a limited induced polarization survey which was applied toward an additional two years' assessment work. Kennco also attempted to drill several holes with a packsack drill in 1962 but broken ground caused loss of the holes at very shallow depth. No other drilling attempts have been made.

Kennco abandoned all its projects in the general area in the period after 1961-62 in favor of a major exploration and development program on the Stikine Copper Deposit some 60 miles to the south.

All the claims were allowed to lapse after 1964 except for the Kid l claim which was assigned to Gordon Davies, the prospector who staked the claims for Kennco.

Edward Asp staked the Grizzly Group in 1969, in process overlapping the Kid 1 claim, and in mid-1970 optioned the property to Colo Corporation of Denver, Colorado. Colo Corporation completed geologic mapping, a more complete geochemical survey, and excavated a number of test pits. The results were considered to be very favorable but, due to financial problems, Colo Corporation was unable to continue the option.

CAN-AM Exploration, Inc. optioned the property in December, 1971.

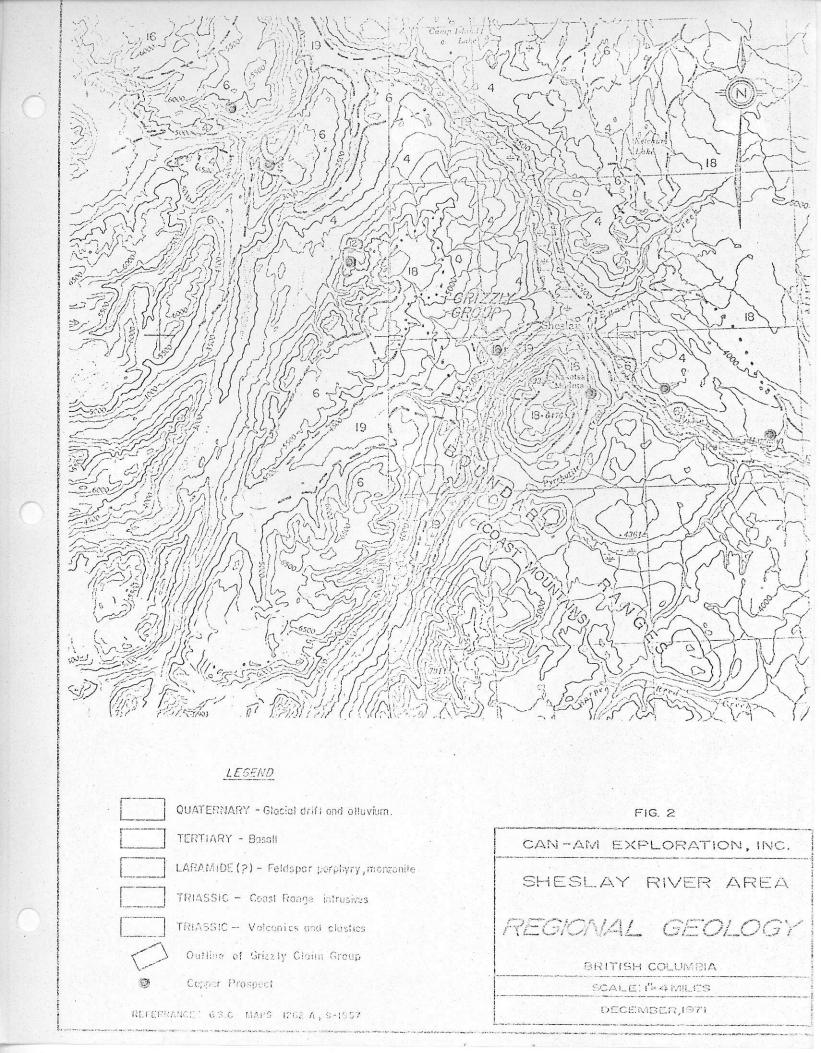
### GEOLOGY Regional:

This portion of the Sheslay River area is underlain principally by Triassic volcanics lying 20-40 miles east from the east flank of the main mass of the Coast Range. A deviation from the northwesterly regional trend occurs in the vicinity of the Sheslay River where several batholiths protrude from the main Coast Range mass in a north-easterly direction. Smaller satellitic bodies are also present and the stock which forms the core of Kaketsa Mountain southeast of the claim area is one of these.

Several highlands in the vicinity are capped by postore basaltic flows of probable Pleistocene age. These flows are the remnants of the Nahlin Plateau eruptives which underlie an area of 800 square miles to the northeast.

Kaketsa Mountain, lying on the southeast side of the Sheslay River near its confluence with the Hackett River, is largely composed of a granitic stock, approximately 6 square miles in area, which is capped by a remnant of the Pleistocene basalt flows. A tongue-like extension of the stock projects across the Sheslay River to the northwest and is moderately well exposed on a lightly drift-covered slope having an average relief of 2,000 feet in one mile. The Grizzly Prospect consists of copper showings associated with this extension of the stock. Another very interesting prospect is known on Pyrrhotite Creek which lies along the eastern complex contact zone of the Kaketsa stock.

Work in the region has revealed the presence of seven porphyry copper prospects lying along a west-northwest-



trending belt 25 miles long by 4 miles wide. Pyritic alteration is widespread along the portions of the belt which are not covered by post-ore volcanics or overburden. The general characteristics of this belt of prospects are very similar to those along several of the structural belts which contain major porphyry copper prospects in the southwestern United States. The Grizzly Prospect lies midway along the Hackett-Sheslay belt; the other six prospects are held by two mining companies which have been active in the region. The two prospects which occur where the structural belt intersects the Kaketsa stock appear to be among the most favorable of the seven due to their geological characteristics, metal zoning, and large associated geochemical anomalies.

### Local:

In the area of the Grizzly claims, the northwestern extension of the Kaketsa stock is composed of medium grained material ranging from monzonite to quartz diorite in composition. Included within the main boundaries of the stock are several northeasterly trending belts of Triassic volcanic rocks, 400 feet or more wide, in which the observed flow trends are also northeasterly. The contact between the stock and the intruded volcanics is very irregular and throughout the prospect area the roof of the intrusion is cut at a very low angle by the topography. It is probable that these belts of volcanic rocks represent thin remnants of the roof above the northwestern extension of the stock which have been nearly isolated by erosion.

The volcanics lying just above the relatively flat intrusive contact have been subjected to rather intense contact metamorphism and some of the copper mineralization in the prospect, together with magnetite, epidote, and carbonate gangue occur in the areas of the volcanic roof rocks.

The intrusive and, to some extent, the volcanics have been subjected to extensive pink-feldspar flooding and a large portion of the intrusive material shown as syenite in the accompanying map (Plate I) may represent a combination of syenitized monzonite-quartz diorite and later stage syenite intrusion.

Copper mineralization on the prospect is closely associated, at least spatially, with rocks mapped as syenite. The absence of quartz veinlets and flooding in both intrusive and mineralizing phases is noteworthy but not unusual in the Stikine Region. A typical environment for chalcopyrite mineralization is in proximity to the contact

of the stock in areas of pink-feldspar flooding. The pink feldspar may be potash-rich but secondary pink albite has been found in close association with a number of orebodies in the Stikine Region and in the absence of thin section work, the secondary feldspar alteration will be referred to simply as "pink-feldspar".

Structure on the prospect is quite complex, notably in the contact zone of the major intrusive. Many faults of relatively small size and variable attitude have been mapped. The most common strike directions are north and north-northwesterly. Several major faults, striking north-northwest and north, are suspected from indirect evidence.

Overburden cover is fairly extensive in the central portion of the property (Plate I) and no outcrops are present in much of the portion which is indicated by geochemical and geophysical surveys to have the greatest potential. Evaluation of known copper showings and the surveys indicates that the distribution of best mineralized areas appears to be roughly coincident with two major inferred north-northwest-trending fault zones and these may perhaps constitute the fundamental control of mineralization. Due to the apparent structural control, a linear zone of strong pink-feldspar replacement and copper mineralization is present which occupies an area about 3,500 feet long and 200 to 700 feet wide. This zone lies close to the intrusive-volcanics contact for nearly its entire length.

#### COPPER SHOWINGS

Two main areas of copper showings are known on the claims; these are termed the North Area and South Area showings and lie on either end of the apparent linear zone of strong pink-feldspar flooding and copper mineralization. In the South Area, the Triassic volcanics are intruded by sheared, fractured, and mineralized syenite to monzonite dikes. A number of local shoots of fracture and shear controlled mineralization are present within the dikes and volcanics which are estimated to assay as much as 1% copper over widths of up to 100 feet. Most of this higher grade mineralization is restricted to widths of only a few feet, however, and the portion of the monzonite stock present in this area is only locally mineralized.

The North Area showings consist of disseminated chalcopyrite in syenitic intrusive material. The exposure of the intrusive here is approximately 600 feet long by 400 feet wide and all portions contain at least low grade

mineralization. Unoxidized sulfides in this area are all finely disseminated in the fractured intrusive and consist of small grains and nests of chalcopyrite and lesser pyrite which replace chloritized hornblende and biotite. Examination of the mineralized material reveals the presence of limonite relicts after chalcopyrite along the oxidized fractures indicating that substantial amounts of additional chalcopyrite were present in the rocks prior to oxidation.

Seven large grab samples have been taken from the North Area showing which returned assays ranging from 0.13% to 0.39% copper. The majority of the samples range between 0.2% and 0.3% copper and, as mentioned above, the leached capping indicates that the pre-oxidation grade was probably 50% to 100% higher. The North Area showings are open in all directions and the long geochemical anomaly, discussed in a later section, extending to the southeast, suggests that similar mineralization, possibly of higher grade, is extensive in that direction.

### GEOCHEMICAL SURVEY RESULTS

Kennco Explorations Ltd. completed a geochemical soil sampling survey on the Kid claim group during 1961. The samples were gathered from the "A" soil horizon rather than the now-conventionally sampled "B" horizon. Line spacing on the survey was 1,000 feet and samples along the lines were taken at 200-foot intervals. Two intermediate lines were placed in the central portion of the survey (amounting to 4 central lines at 500-foot spacing) and sampling interval in the central portion was shortened to 100 feet. Area covered by the survey was 6,000 feet by 3,000 feet. Three anomalous areas were found by the Kennco survey; the anomaly sizes and peak values reported are as follows:

Anomaly	Size Within Copper Content Contour	Peak Values
Α	500' x 350' at 500 ppm Cu	ppm 2175, 2000
В	1,600' x 500' at 500 ppm Cu	5175, 5375
С	1,000' x 400' at 500 ppm Cu	9125, 1425

Sample digestion was by hot acid techniques; no attempt was made to contour the lower values obtained in the survey.

The geochemical survey conducted by Colo Corporation in 1970 covered an area of 3,500 by 3,000 feet and lies within the limits of the previous Kennco survey. The samples were collected from the conventional "B" soil horizon and these were digested with hot acid (HNO3, HClO4). Contained copper, molybdenum, lead and zinc were determined with an atomic absorption spectrophotometer. The molybdenum and lead values were all in the background ranges and only the copper and zinc values appear to be meaningful.

A composite of contoured copper and zinc values, together with results from the Kennco induced polarization survey, is shown on Plate II, a transparency which overlays the Geologic Map (Plate I).

The area covered by the soil sampling grid is characterized by some rather rapid changes in soil conditions; these include transition from residual soil to talus to remnants of glacial overburden. As a consequence, there are some rapid changes in copper content and the presence of several long, linear zones of low copper content which interrupt broad anomalous areas may reflect the presence of similarly shaped trains of glacial debris. Vegetation varies from very meager patches in dry areas to thick and abundant in areas of good subsurface water circulation.

Background values for copper and zinc in the area of the survey and in other areas along the mineralized belt are less than 100 ppm. 100 to 200 ppm is considered to represent threshold anomalous values and areas containing in excess of 200 ppm are regarded as definitely anomalous. As shown on Plate II, a broad area generally containing in excess of 100 ppm copper is outlined which covers an area 2,400 feet wide and in excess of 3,500 feet long. The north and south copper showings lie roughly on the northwest and southeast ends of the broad anomalous trend. The area of plus 100 ppm copper content is believed to generally outline the area of low grade copper mineralization in bedrock.

Rather extensive areas of anomalous zinc content (+200 ppm) are present along the northwest and southwest portions of the sample grid and inspection of the composite geochemical map (Plate II) reveals that these are generally peripheral to the broad area of anomalous copper content. This pattern is believed to be indicative of the metal zoning which is associated with many porphyry copper deposits, particularly those which have a low molybdenum content.

Within the areas of +100 ppm copper content are several zones which contain considerably higher copper content. Peaks revealed by the survey include values of 2,380, 2,450, 3,150, 5,350, and 42,500 ppm copper. The most significant areas of higher copper content are 1) the area containing +200 ppm copper associated with the North Area showings (approximately 1,400' by 300' in area) and 2) the broad zone of +200 ppm copper which extends to the southeast of the North Area showings (approximately 2,000' by 600'). As mentioned earlier, the South Area showings are believed to be indicative of locally high grade but very erratic mineralization and the extent of this type mineralization towards the North Area showing, which is of a more uniform, disseminated type, is unknown.

The very high values obtained in the extreme southeastern corner of the grid have not been evaluated and may represent another possible target area.

As mentioned earlier, seven samples taken from the north copper showing assayed from 0.13 to 0.39% copper, with the majority ranging between 0.2 to 0.3%. Mineralization in this area is variably oxidized but it is estimated that the material prior to oxidation probably averaged 50% to 100% higher. Copper values in soil in this area range up to 1,140 ppm but values within the long broad zone to the southeast are as high or higher and are considerably more uniform.

In summary, the geochemical survey results are considered to be very favorable and indicate that the covered area between the north and south showings has definite potential for the discovery of ore-grade porphyry copper mineralization.

### KENNCO EXPLORATIONS INDUCED POLARIZATION SURVEY RESULTS

The Kennco induced polarization survey was conducted by McPhar Geophysics in 1962 using rather low-powered, portable equipment. The survey was run on five lines of the geochemical grid spaced 1,000 feet apart. Graphic results of the survey are shown on the composite geochemical map (Plate II) and the anomalous zones seem to generally correspond with the western edges of the +200 ppm geochemical anomalies. Considering the very wide line spacing and the use of what is considered today to be low-powered and unsophisticated equipment, the results are considered to be very encouraging.

Mineralization observed on the prospect to date is of the relatively low-sulfide type where pyrite is roughly equal to or less than the chalcopyrite content. Where the pyrite-chalcopyrite ratio is 1:1, material averaging 0.5% copper contains only 3% sulfides, a content which was very difficult to detect with the equipment used. It should also be noted that 3% sulfide content in an area where no pyrite is present is representative of 1% copper content.

The electrode spreads used in the survey were 100 and 200 feet and it is strongly recommended that a new survey be conducted with 400-foot line spacing and 200-and 400-foot electrode spreads using higher powered, modern equipment prior to drilling on the prospect.

### CONCLUSIONS

The results of past geologic mapping, geochemical surveys and induced polarization surveys indicate that the Grizzly Prospect has excellent potential for discovery of a porphyry copper deposit of commercial grade. Access and climate problems are minimal for this portion of British Columbia and it is concluded that the prospect definitely warrants a drilling program to determine the extent and grade of the known and indicated copper mineralization. A detailed induced polarization survey with modern portable equipment is indicated prior to drilling to guide intelligent placement of drill holes.

### WORK RECOMMENDATION AND ESTIMATED COSTS

1.	Induced Polarization Survey 5 line miles at 200- and 400- electrode spacing; including mobilization, demobilization, camp costs, interpretation, and report	\$ 10,000
2.	Diamond Drilling 3,000' @ \$20/foot, including assaying, splitting, and logging	60,000
3.	Helicopter, camp costs, mobili- zation and demobilization	20,000
	Total	\$ 90,000

