PE-085-20

PE 85-20

TERRITORY OF ALASKA
DEPARTMENT OF MINES

PROPERTY EXAMINATION REPORT

K+85-245

BERNARD LOCKE COPPER PROSPECT
GLACIER FAN CREEK, SHEEP MOUNTAIN, PALMER PRECINCT
ANCHORAGE QUADRANGLE, ALASKA

BY

M. W. JASPER
TERRITORIAL MINING ENGINEER
May 1957

CONTENTS

SUMMARY

Although copper occurrences in the Glacier Fan Creek area have been known, and claim locations made and held at various times for many years, no evidence was seen of work done to prospect and develop them. Open-cuts which may have made on the steep slopes are probably obscured by slides. Short adits, if driven, would also be covered.

The copper showings located by Bernard Locke in 1956 are not outstanding. However, they are considered of special interest because of their association with and occurrence in a dike which is the most persistent one cutting the thick series of layered volcanics on Sheep Mountain investigated to date.

Two showings - one located at north end of Chalco No. 1 claim outcropping at intervals through the talus for 150 feet, and one near center of Chalco No. 2 claim also showing through the talus at intervals for 125 feet - have encouraging values across appreciable widths, although the dikes full width has not been exposed. The dike has been sheared along its strike and silicified to a certain extent. The mineralization is associated with and probably accompanied the silicification.

These two sections are of sufficient interest to justify a limited trenching program to determine whether the mineralization is "spotty" or has continuity, greater width than presently exposed, and of a grade that will warrent expanding the exploration program.

INTRODUCTION

The copper occurrences in the short drainage basin of Glacier Fan Creek (formerly called Ivy Wash) gulch, Sheep Mountain area, were examined June 30th and July 1st and revisited September 7, 1956, at request of Bernard Locke of Anchorage, the locator.

LOCATION AND ACCESSIBILITY

Located at approximate geographical coordinates Longitude 147° 28' West and Latitude 61° 50' North this prospect is on the south slopes of Sheep Mountain in the northeast section of the Anchorage Quadrangle.

The property is easy of access, with the most northerly showing at north end of Chalco No. 1 Mineral Claim being 1¼ mile up Glacier Fan Creek gulch from Mile 114.7 on the Glenn Highway.

Situated on the west slopes of the gulch within the 3800 to 4150 elevation range, a road can be graded with dozer equipment for truck haulage in a few days, following a course along floor of the gulch to points directly below the several showings. *

CLIMATE

The Sheep Mountain area is one of fairly heavy winter snows. Exposed to frequent strong southerly winds, the south slopes show large areas blown free of snow at various times during the winter, and as a whole are bare around first of June except for drifts and slides in upper ends of ravines and the two main gulches. Winter temperatures lower than 25° below are reported rare.

Rainfall during the summer and fall is much less on south side of the mountain than in the areas a few miles to the east and west, and (by some) is considered a relative "dry belt". No records are available for total annual precipitation in the district.

TIMBER AND VEGETATION

Timberline is about the 2900 elevation, with only a few scattered spruce to be found between the highway and foot of the mountain slope. There is fairly abundant spruce growth suitable for mining requirements within a few miles between the 2000 and 2500 foot elevations. Small poplar and birch is present and common where sandy or gravly material is near surface up to the 2900 elevation.

Willow and alder growth is fairly heavy in protected areas up to the 3300 elevation. The steep mountain slopes are bare of vegetation above the 3700 elevation except for moss growth that lie along sections protected from snow slides.**

* Refer to Map 1 & Views attached.
** Refer to Views attached

WATER SUPPLY

With a short drainage basin and steep, bare mountain slopes, stream flow in Glacier Fan creek is subject to wide fluctuations. With a rapid run-off from melting snows in late spring, by end of June the water ~~is~~ drops to a low of an estimated 50 to 100 cubic feet per minute at point below mouth of the one tributary entering from the west. Within a few hours after start of a fairly heavy rainstorm the creek rises rapidly and drops as quickly when the storm is over.

It is estimated that during the six month period there should be sufficient water in the creek below its tributary to operate a 50 to 75 ton mill (May through October). A well (or wells) put down in the wide alluvial fan near the highway would possibly provide a water supply for a larger operation throughout the year; depth of the gravels in this vicinity may be as much as 200 feet. The only other alternatives would be Trail Creek 1¼ mile or the South Fork of the Matanuska River 2 miles south of the highway.

TOPOGRAPHY

Sheep Mountain's south side is an area of steep precipitous slopes and deeply entrenched ravines. Weathering of the volcanics is rapid with snow slides keeping the slopes fairly clear of the small talus.*

HISTORY AND OWNERSHIP

Copper occurrences in the Glacier Fan Creek area have been known for many years. Some of these showings are located upon claims held by Steve Worbel and/or an associate reputedly for 15 to 20 years; the last relocation of these claims was in name of Mr. Worbel, deceased, fall of 1956. Boundaries of the Worbel claims were not determined, nor was evidence of recent work upon them observed.

The Chalco No. 1 and Chalco No. 2 Mineral claims were located by Bernard Locke on June 24, 1956. ** The orientation of two posts - one on east slope and one on west slope, an estimated 600 feet apart - of Mr. Worbels is easterly-westerly, and cut across Glacier Fan gulch on a line a short distance above mouth of the creeks west tributary. The possibility of a conflict of interests through an overlapping of claims was pointed out to Mr. Locke. However, the location of the two Worbel posts suggested his claims may have paralleled those of Mr. Locke.

GEOLOGY

"Sheep Mountain is made up of a thick section of layered volcanics of Jurrassic age. Within most of area mapped these rocks have been intruded by many mafic (basic) dikes. The volcanics have undergone alteration to the extent they are now greenstones. (Note:- Alteration to greenstone applies specifically to gypsiferous area of Yellow Jacket gulch 1½ mile to west. MWJ)***.....

* Refer to views attached
** Refer to Map I attached
*** Refer to USGS Bul. 989-C, pages 41-42

"The volcanic rocks comprising Sheep Mountain consist largely of interbedded tuffs, lava's, and volcanic breccias.....included in the Talkeetna formation of Jurrassic age. This formation has a wide distrition in and adjacent to the upper Matanuska Valley."*

The tuffs and breccias are light gray, gray, or greenish gray and are well bedded. Thickness of the tuffs range up to 20 feet or more, are well consolidated, compact, and in part, if not wholly, water-laid. They consist of rock and mineral fragments embedded in an aphanitic matrix (grain texture so fine it is not distinguishable to naked eye).*

The breccia beds (layers) are as much as 20 to 40 feet in thickness and are less abundant than the tuffs. The breccia layers cohsist of angular fragments of porphyritic basalt and andesite in a fine-grained largely chloritic ground mass, with fragments varying from few inches to a foot of more in diameter; rock fragments in the tuffs are mainly andesite and diabase.*

The lava flows, which constitute upper part of layered rocks in the (Yellow Jacket gulch) mapped area, consist of at least several hundred feet of fresh, greenish gray to reddish and black basalts and andesites. Most of these flows are very fine grained, few are porphyritic, and some are amygdaloidal. The amygdules consist of ~~of~~ zeolites, calcite, and quartz, and the phenocrysts are mostly labradorite.*

The layered volcanics in Glacier Fan Creek gulch are generally similar to those mapped in the Yellow Jacket and Gypsum Creeks gulches in detail by the U. S. Geological Survey in 1949. However, the former is entirely lacking the intense alteration of certain beds which resulted in development of several gypsiferous deposits, which occur in the latter and are considered of ecomonic importance.

The copper showings upon which Mr. Locke made locations in 1956 are associated with a dark andesitic (?) fine grained dike. This dike - the most continuous structure of this type noted to date on Sheep Mountain and the only one observed in this vicinity - cuts the layered volcanics at nearly right angles to their dip. Striking N35E and dipping 55° to 70° westerly, the dike has been traced for an estimated 6000 feet by means of a number of outcrops.** Where observed the dike width varies from 8 feet at northeast end to 3 feet at southwest end.

The volcanics have a strike of N15° to 20°E and dip 50° to 60° locally.

Glacier Fan Creek and its tributary occupy deeply incised V-shaped gulches, which have been cut to depths of 1500 to 2000 feet. The sides of the gulches have 30°to 45° slopes with numerous precipitious drops of several hundred feet.**

The two gulches were cut down along strong fault zones. While the

* Refer to USGS Bul. 989-C, pages 41-42
** Refer to Views and Map I, attached.

dike has not as yet been located to northeast and on the east side of main gulch beyond the Chalco No. 1 discovery, the vertical displacement is considered greater than the horizontal. The several small ravines on west side of the creek are weak fault planes of minor displacement. Looking along strike of the dike from northeast end to the southwest, there does not appear to have been a marked displacement of it.*

The dike itself has been subjected to a certain degree of shearing along its strike and dip. At one point an estimated 800 feet westerly from mouth of the creeks tributary, the hanging wall shows the gray tuff to have "slipped" downward 10 to 15 feet in the cliff face.

Mineralization

The as yet limited number of showings are confined to occurrences in the dike. Their approximate locations and mineralization present are as follows:-**

1. This is at the "Discovery" on the Chalco No. 1 Mineral Claim, which is at approximate 4100 foot elevation at north end of the dike. It is 80 to 100 feet above and 150 feet west of Glacier Fan Creek where the dike stands out as a "rib" as it cuts down across the steep slope and disappears under the talus near the creek. Going to the southwest from the "Discovery" it rises abruptly about 30 feet and levels-off for 150 to 175 feet. Along this section the dike stands several feet above the steep fine-talus slope for 10 to 30 foot distances because the moderately silicified sections exposed are more resistant to erosion.*

The mineralization is predominately chalcopyrite with little pyrite, and appreciable amounts of malachite. The strongest mineralization occurs in the silicified dike section, with greatest width being 58 inches on the west side. An additional 3 feet of dike on cliff (east) side at the "discovery" could not be reached but showed little mineralization. The other croppings in this 175 foot section shows similar mineralization with the far one being the higher grade.

Full width of dike and mineralization is obscured by the fine talus on west side.

2. From point about 100 feet north of tributary the bearing to dike outcrop in a cliff (on south side of a ravine) is S65W and the distance an estimated 800 feet. Here it cuts tuff layers at right angles to their dip as noted above. Elevation at bottom of cliff is about 3900.** Dike width is 5 feet.

Mineralization here is limited to a little disseminated chalcopyrite and pyrite. A few small pieces of "float" with heavier mineralization of same sulfides were observed in ravine a short distance below.

3. The next showing is an estimated 500 feet south of last described point and located on steep south slope of another ravine at about the 4000 foot elevation. The mineralization here across a 28 inch width was the strongest

* Refer to Views on Plates 1 & 2, and to Map 1
** All elevations by Paulin Precision Altimeter

noted along the dike with chalcopyrite most abundant and minor pyrite and a little malchite stain. Full width of dike and mineralization was not determined or exposed due to talus. The 28 inch width carried 9% copper.

This mineralization shows at intervals for 125 feet upthe very steep south side of ravine to the 4100 elevation, with heaviest concentration noted at lower end, and the dike showing moderate silicification.

On south rim of this ravine disseminated chalcopyrite is present with some silicification. This point was not sampled as full width of mineralization was not determined.

4. The last and most southerly exposure examined is located on north side of a ravine at the 3600 foot elevation, and is about 3200 feet from the Chalco No. 1 discovery. Here the dike rises vertically for 15 to 20 feet through a gray tuff of that thickness. The dike where exposed on its vertical face averages 3 feet in width. The "crumbly"tuff has been eroded away from west side of dike for a distance of 30 feet or more, leaving the dikes hanging-wall exposed. Its dip is 85°E to 85°W and strike N35E.

Face of dike shows a little disseminated chalcopyrite and small "Blebs" and veinlets of malachite. The exposed west wall shows some short lenses of malachite up to 2 or 3 inches in thickness, 7 or 8 feet above the ground. Sampling of this showing was delayed until some stripping to expose the the dikes width beyond the vertical face was done.

Sufficient work has not as yet been done to determine whether mineralization extends into the layered volcanic wall rocks, or which if any are favored"host"rocks or influence mineral deposition to certain definite horizons.

Appreciable gold values and some silver were found in nearly all samples taken, as well as in those submitted from time to time by the owner. The gold and silver content does not appear to be dependent upon amount of chalcopyrite present, as increase in copper content does not necessarily reflect higher gold-silver values.

Fairly abundant "float" found at base of and upon the east slopes of the gulch are considered to have their source in narrow discontinuous veins. Some of the "float" was up to 6 inches in thickness and both the larger and smaller pieces from the east side carry high grade values in chalcocite and bornite, with very little chalcopyrite or pyrite noted. Some of these high-grade pieces have a brecciated appearance and are elongated lathlike crystals of chalcocite and bornite with gangue filling of calcite of greenish cast from malachite being formed around and migrating away from those sulfides.

Several hours were spent in effort to trace the high-grade "float" to its source on the east side slopes without success.

An 21 inch vein with N70E strike and 60°S dip was found on the east side slope. It is located at 4350 elevation, an estimated 600 feet N35E of the Chalco No. 1 Discovery. It carried a small amount of disseminated copper sulfides and little pyrite and traces of malachite. The "vein" is a silicified, epidotized dike. Its lateral extent is obscured by fine talus above and below the exposure.

At an estimated 800 to 1000 feet up Glacier Fan Creek to northwest of Chalco No. 1 Disdovery post, at about 4400 foot elevation, a piece of high-grade chalcocite and bornite "float" (estimated 20 to 30% copper) 12" by 15" by 4" was found on top of 10 foot snowslide remnant in bottom of gulch. Considered to be from point on northeast slope or the cliffs above, the brief effort to find its source was unsuccessful. Similar "float" is reported found at several points further up the gulch, which Mr. Locke believes is from the west side.

Sampling

Samples taken and assay results are listed and described below.

Sample Results

Sample No.	Width in.s	Au oz	Ag oz	Cu %	Description
3BL	Float	0.20	1.13	6.67	Chalcocite, bornite, little malachite and pyrite. 1300' N. of Discovery.
4BL	21	0.15	tr	0.64	Vein 600' N35E of Discovery, 4350 Elev. Some dissem. copper sulfides & malachite.
5BL	28	0.06	2.00	tr	Dike outcrop 50' S35W of Chalco No. 1 Disc. Little pyrite and malachite.
6BL	18	0.08	1.28	11.71	75' S35W of 5BL. Grab. Chalcopyrite and little pyrite.
9BL	18	0.02	tr	1.42	Central section of Chalco No. 1 Discovery. Chalcopyrite, little pyrite & malachite.
10BL	22	tr	nil	0.18	On east side & adjoins 9BL. Little malachite.
11BL	18	0.04	0.32	2.61	On west side & adjoins 9BL. Chalcopyrite, little pyrite and malachite.
12BL	33	0.36	0.44	2.07	From same outcrop as 6BL.
13BL	Grab	0.20	2.70	13.97	"Float" found in main gulch above mouth of tributary. Chalcocite & bornite in calcite gangue. (Float from narrow vein).
GFK	28	?	?	9. %	Taken by G. F. Kalmbach from center Chalco No. 2. Chalcopyrite, little pyrite & malachite. Total mineralized width obscured.

Refer to attached Map I for sample locations.

Samples 1BL, 2BL, 7BL, and 8BL are specimen and were not assayed. The one taken by Kalmbach was cut while undersigned present.

Sample 13BL by B. Locke for informative purpose. Other samples by MWJ.

CONCLUSIONS

Mineralization found to date upon the Chalco No.s 1 and 2 mineral claims is confined to the fine grained andesite (?) dike. The most interesting and persistent structure of this type seen to date on Sheep Mountain, it has been moderately sheared by movement along its strike and dip.

Silicification of the dike to a certain degree at exposures examined is probably an important factor controlling the mineral deposition; in any event, it is strongest at points of heaviest chalcopyrite concentrations. Chalcopyrite is the predominate sulfide and only a small (minor) amount of pyrite is present; appreciable gold and silver occurs, while the malachite adds little to the copper content.

The showings along the 150 foot section at north end of the Chalco No. 1 and the 125 foot section on the Chalco No. 2 claims are at present the only points exposed of possible interest. Trenching to determine (1) the full width of dike and mineralization, and (2) lateral extent of mineralization in these sections, may indicate them to be outcrops of orebodies of possible economic importance. Should further work prove this to be the case, possibilities of other orebodies occuring alng the dike are considered good.

Future work may prove that ore deposition of economic importance is limited to horizon of cebain type (or types) of the layered volcanics, and that mineralization may extend outward into them appreciable distances.

Although the high-grade chalcocite-bornite "float" appears to be from narrow veins, an effort should be made to find its source.

RECOMMENDATIONS

Future work on the Chalco claims should first be limited to completion of following program:-

1. Trenching to determine width of dike and mineralization, and whether mineralization extends into the wall rock appreciable distances. This should first be confined to the 150 foot section on Chalco NO. 1 and the 125 foot lehgth on Chalco No. 2 claims. Fifty foot intervals between trenches are sugessted. Intervals should be reduced to 25 feet if fair values are found.

2. Continue trenching at same intervals to determine lateral limits of mineralization.

3. Sample each trench systemmatically as soon as completed.

4. "Prospect" for and trench through shallow talus in the steep open slopes beyond and between the two known "possible" ore-shoots in effort to locate additional occurrences.

4. Should encouraging results be obtained from trenching the section on Chalco No. 1 claim, an adit cross-cut should be driven from base of cliff at point where portal would be at footwall of the dike. This location will give a depth of 75 to 80 feet below the outcrop. The cross-cut should be driven through the dike and into the volcanics to determine width of mineralization.

This should be followed by drifting on the dike for 25 to 50 feet to northeast and southwest.

Results obtained from the above program will determine course to be followed from there.

Martin W. Jasper
Territorial Mining Engineer

Anchorage, Alaska
May 2nd, 1957

SUPPLIMENTARY REPORT
on
RECENT WORK ON COPPER OCCURRENCES, GLACIER FAN CREEK AREA
SHEEP MOUNTAIN, ANCHORAGE QUADRANGLE

Investigation of recent work done on the Chalco Claim Group was made May 5th, 1957, at request of Bernard Locke, owner.

Shortly after the September 7th, 1956, visit the Chalco No.s 3 and 4 Mineral Claims were located. These locations tie onto south end of Chalco No. 2 claim, which gives a continuous 6000 foot length along the S35W strike of the dike.

With an early spring this year, following a below normal winter snowfall, a large percentage of Sheep Mountain's south slopes were bare, and additional prospecting along the dike was resumed during last of April.

DIAMOND DRILLING

A Super Pioneer (Pack-Sack) diamond drill was rented from the Territorial Department of Mines office April 30th. Three holes were started and oriented to cross-cut the dike. The shattered, altered character of bedrock near surface quickly proved that ground conditions were too difficult for satisfactory performance of the lightweight drill.

Two holes were abandoned a foot or two below surface and the third hole at 10 feet. In the last hole only three small rounded pieces of core, totalling $1\frac{1}{2}$ to 2 inches were recovered, and most of the water was lost due to broken nature of the ground. However, Mr. Locke and associate, Jack Pratt, reported that the small amount of sludge returned to surface was "loaded" with black cuttings of the sulfides.

Results of this work shows that any diamond drilling that may be planned for the future will have use heavier drilling equipment, and that holes will have to be cased an as yet undetermined distance (estimated minimum of 50 feet).

OPEN-CUTS AND TRENCHING

Following the drilling effort open-cut and trenching was started to determine full width of dike and mineralization, as well as lateral extent of two ore-shoots, whose outcrops indicate them to have "possible" economic importance.

1. At the "discovery" on Chalco No. 1 claim - which is on the dike "rib" standing 8 to 20 feet above the surface where it plunges down the steep slope and disappears under the talus on west side of the creek's "V" bottom gulch - a total mineral mineralized width of 7 feet has been exposed. The fresh ex-

posures are in several off-set sections across the dike. The copper mineralization (limited to chalcopyrite, little malachite stain, and some minor pyrite in the moderately silicified dike) is of varying intensity; its overall average is of fair grade.

Neither the full width of dike or mineralization has been determined across this section to date.

2. At point about 30 feet above and 50 feet S35W of the Chalco No. 1 "discovery", where the dike stands as an irregular outcrop a foot or two above the talus covered slope (*), a cut at right angles to its strike shows a 10 foot mineralized width. (The lower side of this exposures is also location of the atempted diamond drilling). The average grade of copper present appears appreciably higher and minerals present are the same as at showing 50 to the northeast.

This cut is limited to very shallow digging into the broken formation, and is "stepped" down on east side of the irregular dike outcrop.

This showing is considered of especial interest, as it is in a zone of greatest alteration of the"host"rock noted in area to date. On the east (gulch) side of the dike the altered rock appears to have been a reddish layered volcanic. This is very encouraging as it suggests that at least some volcanic horizons are favorable for ore deposition, (under certain still to be determined conditions), and holds possibility of finding larger orebodies than could be expected if mineralization was limited to the dike only.

The full width of mineralization here has not yet been determined; on the west side the dikes hanging-wall (as well as the intruded volcanics) is covered by fine talus, while on its east side the very steep slope has prevented continuing the cut (temporarily) in that direction.

The above work (done during week before the May 5th visit) was not sampled; it was considered desirable to delay doing so until a continuous cut across full width of mineralization was completed. To expedite open-cut work to determine lateral extent and full widths of mineralization, the owner plans to obtain power drilling equipment.

On May 7th Mr. Locke advised that the day before digging at lower end (northeast) of outcrop along the mineralized section on Chalco No. 2 claim exposed an additional 18 inches mineralized widths on each side of the 28 inch width noted in the original attached report, which location is shown (approximately)on Map 1. Specimen brought in and reported taken from sections of this 64 inch width shows some chalcopyrite as small veinlets and "blebs" in silicified dike. Full width of mineralization was not determined.

It was also reported that 200 feet down the slope from last above noted showing a second mineralized dike had been found. A speciman from it

* Refer to Views on Plate 2

Supplimentary Report
Glacier Fan Creek Area

- 2½ by 2½ by 1½ inches in size - contained some disseminated chalcopyrite and little malachite. Width of dike (?) is said to be 15 feet, with only a few feet exposed on each wall and balance of it covered by talus. Strike and dip was not determined, nor had time as yet permitted tracing it beyond point of discovery. The speciman is light green in color, has been considerably silicified, and subjected to shearing; a fragment of a red volcanic breccia was noted on one side.

A speciman of high-grade bornite-chalcocite "float" was brought in at the same time, weighing 5 or 6 pounds. It was reported found near head of Glacier Fan Creek gulch on the west side slope. An effort will be made to find its source.

CONCLUSION

The limited work done since last September has resulted in exposure of greater dike widths as well as exposing additional widths of chalcopyrite mineralization at several points.

If the planned digging of additional open-cuts uncovers greater mineralized widths and adds to present known lengths of similar grade as now exposed, the indicated ore-shoots should be explored by underground development work as previously recommended.

Martin W. Jasper
Territorial Mining Engineer
Territorial Department of Mines

Anchorage, Alaska
May 11th, 1957

TERRITORY OF ALASKA

DEPARTMENT OF MINES

FIELD STATION AND ASSAY OFFICE
Box 657 NOME, ALASKA

October 9, 1956

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ITINERAY REPORT

TO: Phil R. Holdsworth, Commissioner of Mines

FROM: Martin W. Jasper, Territorial Department of Mines

SUBJECT: Examination of copper occurrences on claims of Barney Locke covering his recent discoveries on Glacier Fan Creek, Sheep Mountain area, Mile 114.75, Glen Allen Highway. Made at request of owner, Barney Locke. KX 85-245-

June 29, 1956. Leaving Anchorage at 5 PM arrived at Sheep Mountain at 10 PM.in personal car.

June 30, 1956. From 8 AM to 7 PM was spent with Mr. Locke on a reconnaissance study of both the east and west slopes of Glacier Fan Creek gulch. Copper "float" showing several different types of mineralization was observed to be fairly abundant in bottom of gulch as well as along the talus slopes.

At several points ¼ to ½ mile upstream from the most northerly mineralized section of the dike fairly large "float" was found on top of snow drift in bottom of gulch, which had rolled down (or been carried by snowslide) the steep mountain slope last spring. Of fairly hi-grade, its source was not located in the hour or two devoted to tracing it. Its width (as well as width of most of the "float" found) was 10 to 12 inches, which seemed to be maximum width of "float" found, varying from that down to 6 inches. Examination of the usually fairly hi-grade "float" suggested presence of numerous narrow veins, from outcrops of varying strikes on both sides of gulch and not directly related to mineralization in the long, continuous dike on west side of the gulch.

July 1, 1956. The day was largely spent in study of the dike which had been traced at intervals for 7000 feet, and which shows very encouraging copper mineralization localized (limited at present) to several sections. The copper occurrences along this dike are the most interesting examined to date on Sheep Mountain, as this dike is the only strong, persistent structure brought to our attention in that area so far.

Returned to Anchorage at 9 PM, July 1st.

Respectfully submitted,

Martin W. Jasper

Martin W. Jasper
Territorial Mining Engineer

TERRITORY OF ALASKA

DEPARTMENT OF MINES

FIELD STATION AND ASSAY OFFICE
BOX 657 NOME, ALASKA

October 9, 1956

ITINERARY REPORT

TO: Phil R. Holdsworth, Commissioner of Mines

FROM: Martin W. Jasper, Territorial Mining Engineer

SUBJECT: Trip to Barney Locke's copper prospect, Glacier Fan Creek, Sheep Mountain, Mile 114.75, Glen Allen Highway. Made at request of George H. Kalmbach, geologist, Coronado Copper and Zinc Company.

September 6, 1956. Leaving Anchorage at 7:30 PM in personal car arrived at Sheep Mountain at midnight.

September 7, 1956. The day was spent traversing the property property with Mr. Kalmbach. We were joined at noon by owner Barney Locke and all known copper showings found to date by Mr. Locke were studied and sampled.

Several additional showings had been found since the examination of area was originally made by me during period of June 29th to July 1st, 1956 (inclusive).

While the dike is strongest and most persistent structure carrying copper mineralization examined to date on Sheep Mountain, only scattered, widely spaced and apparently localized mineralized sections have been uncovered along the 7000 feet of dike. While generally of good grade copper ore widths and lengths suggest presence of only small orebodies.

However, the owner may find more persistent mineralization through more thorough prospecting and trenching in the long sections between the presently known occurrences, which are more difficult of access due to very steep slopes.

Returned to hiway at 8 PM. Following supper at Sheep Mountain Lodge return trip was delayed due to car trouble by Mr. Locke, arriving in Anchorage at 4 AM, September 8, 1956.

Mr. Kalmbach continued on to Big Delta to take care of an assignment in that district forenoon of the 8th.

Respectfully submitted,

Martin W. Jasper
Territorial Mining Engineer

June 30, 1956

Looking N35W up gulch to divide from point about 500 feet upstream from Chalco No. 1 Discovery. Hi-grade "float" found on snow at left-center.

Glacier Fan Creek gulch

June 30, 1956

Looking N25E up talus slope from point about 500 feet upstream from Chalco No. 1 Discovery. Narrow mineralized stringer in front of cave.

Plate 1

June 30, 1956
Looking N45W up tributary gulch of Glacier Fan Creek showing layered volcanics on ridges in background.

July 1, 1956
Looking S35W along mineralized dike from point 60' south of Chalco No. 1 Discovery.

July 1, 1956
Looking up Glacier Fan Creek gulch. Shows layered volcanics in background & tributary gulch and center.