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C O P Y

Tucson, Arizona.
February 4, 1924.

Jumbo Group
410 AREA

Mr. Joseph A. Hunter
Tucson, Arizona.

Dear Sir:

In response to your request for my written opinion as to your claims near the New Cornelia Mine at Ajo, which I recently examined.

I observed the exposures of carbonate ore in about ten locations and assessment holes on these claims about three miles south of Ajo.

The ground is flat and largely covered with wash and conglomerate, but wherever holes were sunk, as I observed, carbonate ore was exposed.

This ore appears identical with that in the steam shovel pit of the New Cornelia Mine.

I took several samples, the assay results of which are noted below:

This property, being located so near the New Cornelia Mine and the appearance of the ore and its occurrence being so similar, I believe that you are justified in your opinion that drilling operations will show that you have on this ground a deposit of carbonate ore, subject to treatment by the leaching process, sufficient in quantity to justify the necessary mining operations.

At the time I examined this property and took various samples, I was, of course, unaware of what they would run but concluded that if they went 2% or better, my decision on the property would be decidedly favorable.

I have had these samples assayed by Jacobs, of Tucson, and the general average was about 2-1/2 per cent copper.

Considering the location and the nature of the ore, my opinion of the property is very favorable.

Yours truly,

THOS. FRASER.

MILES M. CARPENTER, E.M.
Mining Engineer
Tucson, Arizona

(COPY)

February 29, 1924.

Mr. Joseph A. Hunter,
Tucson, Arizona.

*Name changed - now Copper Giant
Group.

My dear Mr. Hunter:

*

Your Jumbo Group/ of claims lies about two and one-half miles south of the steam shovel pit of the New Cornelia Copper Company in a group of low hills flanked on the east and the west by higher mountains. The survey of the proposed railroad from Ajo to the Gulf of California crosses your property.

Beginning near the south rim of the steam shovel pit the surface formation is conglomerate and recent wash. I do not know the extent to which this ground has been explored by drilling, nor have I any data on the underlying rocks. In occasional spots the conglomerate is more or less brecciated and copper stained.

On the Jumbo Group are several exposures of rock strongly resembling the monzonite porphyry of the New Cornelia Copper Company's Copper Hill ore body. These exposures are but a few square yards in extent and are surrounded by the same type of conglomerate and wash. The rock is heavily charged with copper carbonates and where opened by the few shallow workings, have a steep dip and a variable strike.

A typical sample of this ore, taken on the Jumbo Claims (my Sample No. 180) shows 5.42% copper. A general sample from a pit near by, of the shattered and copper-stained conglomerate (my Sample No. 179) showed 3.61% copper.

A rough laboratory leaching test on these ores showed the following extractions from a thirty hour contact with a 2% sulphuric acid solution.

Sample No. 179, Conglomerate ore	- 94%
" No. 180, Monzonite ore	- 83%

My impression of your claims, gained on this brief inspection, is decidedly favorable. I wish to emphasize my statement that these claims are worthy of further exploration with the statement that the conditions are unusually favorable for opening up a copper property of real magnitude. I consider this by far the most promising surface showing south of the New Cornelia Steam Shovel Pit.

As preliminary recommendations for the handling of this property:

Before beginning active development on your claims you should locate any vacant ground that is adjacent to your claims and secure as much of the occupied ground as you can get on reasonable terms, holding same pending results of your development work. Do not make the mistake of beginning development work with too little ground.

Sink a system of pits through the conglomerate, beginning near the monzonite exposure. If the thickness of the overlying formation is considerable, then a system of diamond drill holes should be used instead of pits. In any event, diamond drills should be used freely for all deeper exploration.

As soon as the development is carried far enough to expose the formations, have a thorough geological study made, correlating your findings with the data in the district.

The Proximity of your property to the New Cornelia plant, over a good route for road or rail construction, and the fact that you have showings of high grade leaching ores, puts you in a very favorable position. I understand that the New Cornelia Copper Company is ready to take up the treatment of outside carbonate ores. From the condition of your property, it is entirely feasible to maintain shipments of a considerable quantity during your exploration work, thus cutting down the large amount of capital that is usually required to develop a copper property.

I repeat that you have, in my judgment, an unusually promising prospect, and one which should appeal strongly to conservative mining people.

Very truly yours,

(Signed) Miles M. Carpenter, E.M.

Miles M. Carpenter, E.M.

MMC:S

copy

BRIEF OUTLINE

THE COPPER GIANT GROUP.

This property consists of 25 claims, an area of about 500 acres, lying about two miles south of the big New Cornelia Mine of the Phelps-Dodge Company at Ajo, Pima County, Arizona. Elevation 1800 feet in a desert region, where a great variety of cactus, shrubs and desert growth is about. There are many small trees of the Mesquite, Ironwood, Palo Verde and Catspaw varieties.

The mining area is very similar to the New Cornelia, almost flat except for some small hills and lying between higher hills to the east and west. The ore foundation is one continuous body of low grade ore interspersed by dykes, bands and various size bodies of richer ore. The general formation is monzonite porphyry. Some conglomerate and various kinds of porphyries.

The ore is not only identical in appearance to that of the great New Cornelia Mine just north of the Copper Giant Group, but also has the same values in copper, gold and silver, with a tendency to slightly higher values.

The similarity in formation and ore to the New Cornelia is so marked and is becoming so very much more so as development continues, that it appears to be simply a continuation of the New Cornelia ore body, which is now shown to be up towards a hundred million tons of commercial ore. The New Cornelia mine has been in production since 1916, when it was taken over by the Calumet and Arizona Mining Company under the management of John C. Greenway. Its ore possibilities prior to a diamond drilling program were not very much more impressive than the Copper Giant is now, but the New Cornelia Mine under John C. Greenway's management, and with Ira B. Joralemon as its chief engineer, was developed into a property which has paid dividends for over 20 years and has enough ore in sight to work for 30 or 40 years more. Its present handling of ore is about 25,000 tons a day, but this is being increased considerably. Their operations are so economically run that the gold and silver content pays practically all costs, leaving the copper as profit to take care of depletory reserves, charges of other natures, taxes, and dividends, so the dividends will probably have a life of 50 years and more. The disclosed mineralized ore body in the Copper Giant is, roughly speaking, about 3/4 of a mile long by a half mile wide. Within this area are about two hundred shafts, cuts and trenches, all in good ore. No deep sinking has as yet been done, but it is reasonable to expect that such a large ore body will go to considerable depth. There are already a number of diamond drillholes in the New Cornelia ore body one thousand feet deep and still in ore. In all other big mining camps in Arizona it has been proven that the big commercial ore bodies extended to far greater distances than even the most optimistic dreamed when the camps opened up.

This was true of Bisbee, Globe, Miami, Ray, Jerome, Clifton and Morenci. Now the Copper Giant promises to prove another great low grade mine.

In these big low grade mines, of course, there are often very large bodies of quite high grade ore. This was true of the New Cornelia and its two great Glory Holes, where hundreds of thousands of tons of ore ran from 10% copper up, with high corresponding values in gold and silver. Some of these are

likely to be found with exploration on the Copper Giant ground which would make it a producing, paying mine almost overnight.

But its most attractive feature is that here is another potential big low grade producer, which comes up just as these possibilities in the United States seem to be very scarce, and just at a time when this country needs to be assured of a self-sufficient supply of domestically produced copper.

Apparently here another big low cost copper producer is coming into being to increase the importance of the Ajo district which the New Cornelia Mine has already made one of the greatest United States mines.

Every foot of work done on the Copper Giant indicates that here is an extension of the New Cornelia ore body, formed at the same time, under similar conditions, in the same general formation and carrying approximately the same values. Few, if any, of those now living will see these ore bodies exhausted.

As one who has seen in his life time the far extension of nearly all the big mines in Arizona to surrounding ground beyond the supposed limits of commercial ore, I feel sure that the same is true of the Ajo District, and that its true extent is as yet envisioned by few.

(Joseph A. Hunter)

(Signed)

EXHIBIT A-8(b)

Assays from 25 samples taken in 200 and 600 foot zones

Copper Giant show average of 3.03% Cu
 15 cut samples: 200 and 600 foot zones " " " 2.66% "
 10 grab samples " " " " " " " 3.58% "

200 Foot Zone					
	Width	Cu. %	Au. Oz.	Ag. Oz.	
Pit No.1, E.Side	6.5 ft.	2.65%	Not Run		
" No.1, S "	5.0 "	0.90%	" "		
" No.2	3.0 "	2.25%	" "		
" No.3	5.0 "	2.85%	" "		9 Cut samples show average of 2.86% cu. over average width of 4.8 feet
" No.4	5.0 "	5.20%	" "		
" No.5	5.0 "	2.70%	" "		
" No.6	5.0 "	3.40%	" "		
" No.7	3.0 "	2.30%	" "		
" No.8	6.0 "	3.55%	" "		
(9 Cut Samples)	43.5 ft	25.80%			
Pit No.9 Dump	Grab	2.05%	Not Run		4 Dump Grab Samples show average of 3.33% Cu
"	"	3.20%	" "		
"	"	4.07%	Trace	0.38	
"	"	4.02%	"	0.42	
(4 Dump Grab samples)		13.34%			
13 samples		39.14%	show average of 3.01% Cu.		

600 Foot Zone					
	Width	Cu. %	Au. Oz.	Ag. Oz.	
Pit No. 24	2.0 ft.	3.05%	Trace	0.40	
25	4.5 "	2.30%	"	0.30	
26	2.2 "	1.35%	"	0.30	6 cut samples average 2.35% Cu. over avg. width of 2.3 ft
27	0.9 "	1.40%	"	0.40	
28	2.2 "	1.85%	"	0.20	
29	2.0 "	4.20%	"	0.20	
(6 Cut samples)	13.8 ft.	14.15%			
25 Dump	Grab	5.00%	Not Run		
26 "	"	3.25%	" "		
Pits	"	4.70%	" "		6 Grab samples average 3.75% Cu.
Dumps	"	3.43%	Trace	0.36	
"	"	3.54%	"	0.23	
"	"	2.60%	"	0.61	
(6 Grab samples)		22.52%			
12 samples		36.67%	show average of 3.05% Cu.		

EXHIBIT A-8(b) continued B-4 (a)

200 Ft. Zone

Proposed location for Open Pit Mining Operation where nine Cut Samples taken over an average width of 4.8 feet show an average of 2.86% Cu.

Breakdown of Costs and Credits on 2.86% Cu. ore after completion of primary stripping:

2.86% equals 57.2 lbs. cu. per ton	
Less 8.0 " Smelter Deduction	
Net 49.2 " @ 18.975 equals	\$9.34
Less, Treatment and penalties	4.00
Net paid by Smelter	<u>\$5.34</u>
Less: Freight, Ajo to Douglas	2.20
Net Smelter Returns	3.14
Premiums: 5¢ plus 1¢ equals 6¢ per lb. on 97% of wet assay of cu:	
57.2 x .97 equals 55.4 lbs @ 6¢ " "	<u>3.32</u>
Net Smelter returns plus premiums	\$6.46
Estimated cost of secondary stripping, mining, sorting and loading	\$3.30
Trucking 7 miles to Ajo Railroad head	.70
	<u>4.00</u>
	<u>\$2.46</u>
50¢ a ton allocated to exploration and development program	.50
	<u>.50</u>
Royalties 10% of net Smelter Returns	\$1.96
	<u>.31</u>
Estimated net profit per ton with Premiums	\$1.65

MOLSON & CO.

7753 EAST IVANHOE
LA JOLLA, CALIFORNIA

April 9, 1948

Mr. E. N. Pennebaker,
P. O. Box 1542,
Globe,
Arizona.

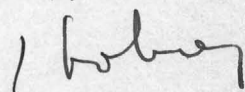
Dear Penny:

I enjoyed your letter of April 2nd very much. It certainly looks as though you have a nice job cut out for yourself for the next few years. It is good of you to offer to go into the question of Mr. Taylor's property near Mammoth. I am writing him today so that he will know what is going on, and hope to have a reply from him shortly.

In the meantime, I will talk to Walter Ewing and try to get the Twin Buttes property which we knew as the Red Carbonate together. I will also keep my eyes open for anything else that looks like something you would want to see.

Peggy joins me in best wishes to you and Kate, and we hope that we will be able to get together before too long.

Sincerely,



THE AMERICAN METAL COMPANY, LIMITED
61 BROADWAY
NEW YORK 6, N.Y.

TELEPHONE BOWLING GREEN 9-1800
CABLE ADDRESS: EFFLUX, NEW YORK

PLEASE ADDRESS REPLY TO

SUBJECT:

JP/ms
August 9, 1955

Mr. E. N. Pennebaker
P. O. Box 817
Scottsdale, Arizona

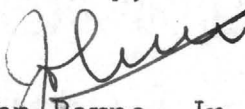
Dear Penny:

Re: Bluestone Mine, Ariz.

Thanks very much for your letter of July 30 regarding the above property. I appreciate the thought that went into it.

We have not decided our policy in this matter and that is the first thing we must do. If we decide we are free to proceed, we will then begin to discuss terms with the owners. I shall keep you posted on any developments.

Sincerely,


John Payne, Jr.

Future investigation. Should
comprise:

- 1- Structure in rhyolite
2. Mapping of silicification
3. Mapping of porphyry in
which hornite is abundant

Are averages 425' deep

Some secondary enrichment
in south end. Shaded check
for primary chalcocite.

Bottom fairly smooth

except for peels.

Geol. of pyrite & secondary

porphyry naturally.

Absence of alt. veinite also

Are minerals Chalcopyrite & hornite

Very little or no pyrite

Carbonate capping. Sulphides
come in sharply below.

Silicification not co-extensive
with sulphides; much are
not in silicified rocks.

"Peel" down center may mark
channelway.

More. Admitted younger
than diorite
Basic dikes appear later
than mineralization

Have mined 34,000,000 tons are
& 7,000,000 tons waste.

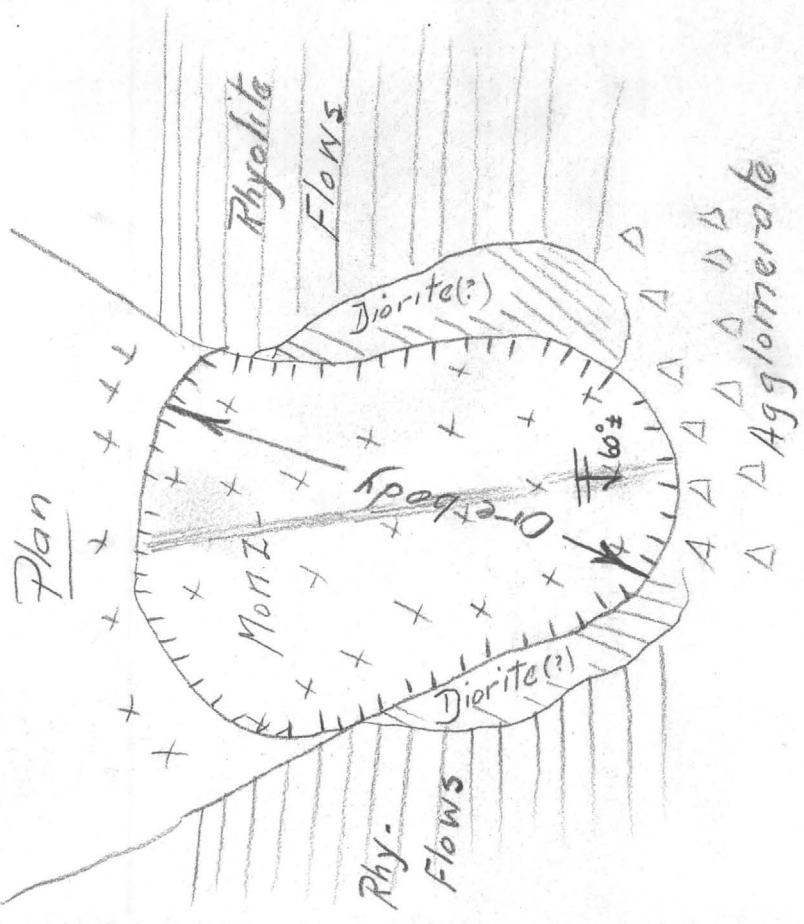
Carbonate ore makes about 1/2
of tonnage now mined.

Every 25' benches

Ajo, Ariz

Notes

± 1931 visit



March 12, 1949

Mr. Chester D. Tripp, President
Consolidated Coppermines Corporation
310 South Michigan Avenue
Chicago 4, Illinois

Dear Chester:

The enclosed letters to Tom Moore and John Payne, Jr. of American Metal Company are self-explanatory, and I shall appreciate your advising me whether Coppermines is still interested in the Ajo Project and if you wish me to make the brief examination proposed in my letters.

One of the reasons I am postponing the date of my contemplated visit to Ajo is that we now expect to start churn drilling at Riverside on March 21, and I wish to stay close by that activity in its beginning stages.

Yours very truly,

cc: Mr. Arthur J. O'Connor
Mr. John Hope, Jr.

March 12, 1949

Mr. Thomas G. Moore
Mining Department
American Metal Company, Ltd.
61 Broadway
New York 6, New York

Dear Tom:

I have at hand your letter of March 8 along with John's letter and report on Ajo.

As you no doubt know I have been on the side lines during Coppermines' consideration of this Ajo project. The deal got under way while I was down here working for Miami Copper, and it naturally fell to John Hope to look after the geological angles of this matter. Since my return to Coppermines' fold last July he has continued to take the lead in this area.

At present I do not know whether Coppermines is still interested in the Ajo project or not. However, I shall be very glad to have a look around this area in company with John Hope, unless Mr. Tripp advises me to the contrary. Unfortunately, I shall be unable to squeeze a trip to Ajo into my schedule prior to March 29, which I am afraid is a little late to write Mr. Tripp my impressions prior to Coppermines' board meeting the last of this month. However, I shall tentatively plan to spend the last few days of March on the Ajo Project.

I am looking forward to seeing you in New York this June. In the meantime, why not come and see us here in Arizona?

With very kindest regards,

Yours sincerely,

cc: Mr. Chester D. Tripp
Mr. Arthur J. O'Connor
Mr. John Payne Jr.
Mr. John Hope Jr.

March 12, 1949

Mr. John Payne, Jr.
Mining Department
American Metal Company, Ltd.
61 Broadway
New York 6, New York

Dear John:

This acknowledges receipt of your letter dated March 8, 1949, with accompanying report and data covering the Ajo situation. Because of various things coming up the past few days I have been unable to study the report as yet but expect to get at it shortly.

As you will note from my letter to Tom, my schedule for the remainder of March is too full to permit a trip to Ajo and transmit a memorandum to Mr. Tripp prior to Coppermines' board meeting during the latter part of March. However, I hope to accomplish this in early April.

I hope this reaches you prior to your departure to Africa. With all good wishes for a most successful journey.

Sincerely,

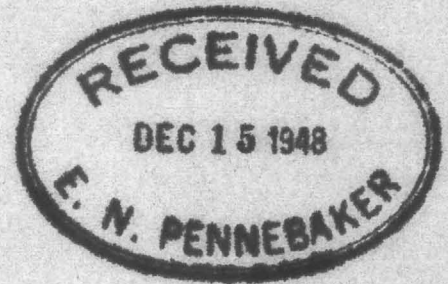
cc: Mr. Chester D. Tripp
Mr. Arthur J. O'Connor
Mr. Thomas G. Moore
Mr. John Hope, Jr.

COPY

CONSOLIDATED COPPERMINES CORPORATION

KIMBERLY, NEVADA

December 11, 1948



Mr. Chester D. Tripp, President
Consolidated Coppermines Corporation
310 South Michigan Avenue
Chicago 4, Illinois

Dear Mr. Tripp:

In accordance with instructions received from Mr. Cook, we are mailing you, under separate cover, two aerial photographs of the property under consideration near the Phelps-Dodge pit at Ajo, Arizona. We have also included a claim map of the Ajo mining district with the 9 claims being considered colored in red.

It is my understanding that the property consists of three groups of claims as follows:

"A" group, consisting of the Fire Fly, Fire Fly No. 1, and Fire Fly No. 2 claims. These are owned by the Little Ajo Mining Company which in turn is controlled by a Mr. Knox.

"B" group, consisting of the Bull Dog and Triangle claims. These are owned by Messrs. Baker and Zitlau.

"C" group, consisting of the Colorado, Colorado No. 2, Colorado No. 4, and the Campo claims. This group is now being patented and is either owned, or will be owned by Mr. Hovel Smith.

On the larger photograph, portions of the Fire Fly, Fire Fly No. 2, Fire Fly No. 1, Bull Dog, Triangle, and Colorado claims are shown in relation to the Ajo pit. A somewhat larger portion of these claims is shown on the accompanying smaller photograph. Also, on this smaller photograph, considerably more of the pit is shown and in one corner, a part of the area owned by the Bluestone Copper Company is designated.

Mr. Elias Malone of Gibson, Arizona, who is one of the minor stockholders of the Bluestone Copper Company pointed out the claim corners in the field for this work and verified their locations on the photographs.

There is but little doubt that the Phelps-Dodge Corporation will be able to mine for a considerable period before being at all embarrassed by the Fire Fly claims. However, from what is known of the Ajo ore body, the ore extends to the south at depth and to mine this ore will necessitate enlarging the present pit boundaries. You will notice that the P-D Company is not using the ground immediately adjacent on the west to the Fire Fly No. 1 claim for dump ground and this may be due to future plans for stripping that area.

Mr. Chester D. Tripp

- 2 -

December 11, 1948

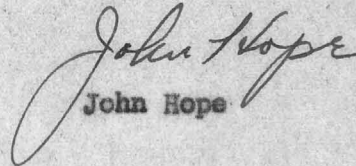
It is impossible to estimate the tonnage of ore that could be developed from the data on hand. There is little doubt that some ore does exist but some drilling would be necessary before any idea as to tonnage, depth, and the feasibility of mining such ore by open cut methods could be obtained. The area of the property is insufficient for any type of separate operation and the property's principal worth would be its nuisance value to the P-D Company. The secondary value would be the ore that could be developed and mined under a joint agreement.

If the property is acquired or optioned, a certain amount of drilling would then be justified. In the event this drilling turned out favorably, an option on the Bluestone Copper Company ground might then be warranted.

I hope that the pictures and the above will help clarify the difficult problem of evaluating the worth of the property.

Our best wishes for the coming season.

Sincerely yours,


John Hope

JH/mg

cc - Mr. Cook
Mr. O'Connor
Mr. Pennebaker

COPY

CONSOLIDATED COPPERMINES CORPORATION
KIMBERLY, NEVADA

December 2, 1948

Mr. Chester D. Tripp, President
Consolidated Coppermines Corporation
310 South Michigan Avenue
Chicago 4, Illinois

Dear Chester:

I talked with John Hope at Florence, Arizona, last evening. He will make a trip to Kimberly about the 10th of this month, and before coming here he will take some pictures from the air above the A B C group at Ajo. John believes the pictures would be a big help in interpreting the structures controlling mineralization as they have been unable to do much on the ground in the way of geological mapping.

Enclosed are two copies of Mr. Pennebaker's letter of November 26th concerning the Ajo property. I think all of our staff with whom we have discussed the matter share Penny's feeling that if Coppermines were to option the A B C group only, it would appear to Phelps-Dodge that we were holding the ground for its "nuisance value." If this ground were tied in with the larger Bluestone area and we were able to prove enough ore to warrant an independent operation, I believe there could be no ill feeling toward Coppermines on the part of Phelps-Dodge. Another way would be to reach an agreement with Phelps-Dodge for the mining and milling of the A B C block before taking the option, and in that way there could be no criticism as to our ethics in the situation. It is my understanding that the Phelps-Dodge management have a deep feeling of antagonism toward Hoval Smith because of some previous deals with him, which is probably one reason why they have not obtained control of the group, -- although it would seem that eventually they must come to terms with him. As Penny points out, Phelps-Dodge has great influence in the State of Arizona, which is a factor we must consider if we succeed in developing a producer in that State. However, I realize that through your influence you may be able to straighten out this matter with the Phelps-Dodge management so that there would be no antagonism from that source. We, of course, cannot lightly pass up the opportunity to get control of a possible 20 or 30 million tons of ore if we can work out a deal with Phelps-Dodge.

With best wishes,

Sincerely,

Original Signed by
C. L. COOK

CIC/mg
Encls.
cc - Mr. E. N. Pennebaker

COPY

November 26, 1948

Mr. C. I. Cook, General Manager
Consolidated Coppermines Corporation
Kimberly, Nevada

Dear Cash:

Subject: ABC group at Ajo.

John Hope was here yesterday and told me that you wanted to know if I had any additional thoughts with regard to the ABC group at Ajo. Ever since our attention has been directed toward the Kelvin area I really have not given the Ajo situation any further attention.

I have not visited the ground, but according to Mr. Hope some considerable amount of ore should extend into these holdings. This seems reasonable, but of course there is no guarantee that local structure will permit this. To me it appears very doubtful that enough ore would extend into this ground to warrant an independent operation.

The perimeter of the Phelps-Dodge open pit is stated now to be within a very few feet of the ABC ground. It seems reasonable to believe that eventually Phelps-Dodge must have this ground, and the mining of whatever ore it contains might be made one condition of its acquisition by them. Should Coppermines purchase these holdings it therefore would be for their "nuisance value" to Phelps-Dodge. Although it would probably be necessary to hold the property for a number of years, eventually it should be profitable to Coppermines.

On the other hand, we hope to become established in Arizona with other mining properties that will be productive. Phelps-Dodge is now one of the industrial powers of the state. If we acquire the ABC ground, we start our activities here by antagonizing a powerful organization. Will our possible financial gain in the Ajo region offset this ill will? To me this appears to be a matter of policy for our board of directors to decide.

Yours very truly,

cc: Mr. John Hope, Jr.

XXXXXXXXXXXXX
P. O. Box 2996
Globe, Arizona

November 26, 1948

Mr. C. I. Cook, General Manager
Consolidated Coppermines Corporation
Kimberly, Nevada

Dear Cash:

Subject: ABC group at Ajo.

John Hope was here yesterday and told me that you wanted to know if I had any additional thoughts with regard to the ABC group at Ajo. Ever since our attention has been directed toward the Kelvin area I really have not given the Ajo situation any further attention.

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Yours very truly,

cc: Mr. John Hope, Jr.

COPY

June 9, 1949

Mr. Chester D. Tripp, President
Consolidated Coppermines Corporation
310 South Michigan Avenue
Chicago 4, Illinois

Dear Chester:

On May 23 and 24, 1949, I visited the Ajo mining area, Pima County, Arizona, in company with Mr. John Hope, Jr. Unfortunately my trip to this district has been repeatedly delayed due to urgent business in other parts of Arizona, and this present journey was made in more of a rush than was desirable. The following memorandum does not attempt to thoroughly cover the proposed Ajo project. It only considers certain phases of the subject which I believe have not been accented in earlier discussions. It will be assumed that the reader has at hand Mr. Hope's report of September 9, 1948, entitled "Property Consideration at Ajo, Arizona" with his accompanying property map, and also at hand the more comprehensive report by Mr. John Payne, Jr., of the American Metal Company under date of February, 1949, entitled "Ajo Mining District, Pima County, Arizona" with attached maps and an accompanying memorandum by Mr. Theodore A. Dodge. It will also be assumed that the reader is familiar with U. S. Geological Survey Professional Paper No. 209 entitled "The Ajo Mining District, Arizona," by James Gilluly, published in 1946.

The situation before us is this: Phelps Dodge Corporation does not own nor control all of the property surrounding its open cut copper mining operations at Ajo, particularly on the south and west. This ground, if acquired, might offer two means for profit: (1) Some of the ground is so closely adjacent to the pit that Phelps Dodge must eventually conduct mining operations in it if they are to extract all of their own pit ore and (2) there is a good chance that some of this flanking property may contain extensions of the ore body. Amongst other things we must consider the opportunities for finding ore on these flanking properties, the possibility of mining at a profit any ore found, and the terms for acquiring as much surrounding property as might be needed. A very important speculation that cannot be avoided is to consider why Phelps Dodge itself has not already purchased this ground if it really has any merit.

At first glance, the chance for finding ore body extensions to the southwest appear excellent. This resolves itself into two problems, one having to do with the possible extension of the favorable porphyry into this flanking area and the other being a consideration of the possibility for such extensions to be economically mineralized. When we look at the first problem more closely, as brought forward in some detail by Gilluly's plate 24, we see that we are not dealing with

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the possibilities for a clean and normal extension of a regularly-formed intrusive body, but rather are we hoping for a protuberance on an irregular, streamer-like wing of porphyry. Here enters the first uncertainty, and we cannot predict with any confidence whether or not such an extension occurs to form a body big enough to be really worthwhile.

The zone in which we might search for such extensions is now deeply buried. The porphyry was intruded into a series of earlier volcanic rocks, and the two were later buried by a thick accumulation of gravels. This area was later radically tilted down to the south so that the zone in which we are interested becomes progressively deeper toward the south, with the result that more difficulties and expense will accrue to its exploration.

Assuming that such extensions exist to the southwest, we have no assurance that they carry worthwhile copper mineralization, although from a general consideration this would seem to be a reasonable expectation. The effects of hydrothermal mineralization now displayed on the surface are not decisive. The significance of the widespread distribution of specularite (primary hematite) is debatable. For example, in some parts of the Bisbee and Ely districts this mineral is associated with good ore; at Miami it is intergrown with calcite and chalcopryite in mediocre deposits on the far western edge of the district; and in northern Yuma County, Arizona, specularite is widespread but seldom has been found associated with profitable ore bodies. A thorough geological study of the area in question would naturally consider the subject of hydrothermal alteration in much detail, but there is no assurance that this would result in definite encouragement for or against exploration. Gilluly's work already shows that the patterns of copper mineralization and specularite distribution are not in symmetrical arrangement. Consequently the use of the latter as a guide to the former may be very unsatisfactory. In all of this type of work care must be used to distinguish between the distribution of specularite (primary hematite) and supergene hematite ("relief limonite") indicative of the former presence of chalcocite in rocks now exposed at the surface. Dodge in the third paragraph of his report intimates that he has not maintained this distinction.

Flanking Phelps Dodge there are a number of property groups of diverse ownership, although the same individual may be part owner in several properties. Of these the following groups are important:

- 1 - Cardigan Group
Owners: Baker and Zitlau
- 2 - Firefly, or A Group
Controlled by: W. A. Knox

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- 3 - Bulldog, or B Group
Owned by Baker, Price and Zitlau
 - 4 - Colorado, or C Group
Owned by Heval Smith (?)
 - 5 - Mertz claims
Owned by J. J. Mertz
 - 6 - Copper Sulphate, Last Chance, & Eagle claims
Owned by Baker, Price and Zitlau
 - 7 - Malone claims
Owned by Malone
 - 8 - Bluestone property
Controlled by Heval Smith and Mrs. Van Dyke.
- Of probable less importance are the following:
- 9 - Babbitt Group
Owned by Babbitt Estate
 - 10 - Copper Ridge Group
Controlled by Steele brothers.

A glance at the maps in Mr. Hope's and Mr. Payne's reports will show the physical position of these various property groups. If we project the axis of the open pit southwesterly and assume that this marks the locus of a possible extension of the ore body (and this fits in reasonably well with the geology), we see that the following claim groups may be particularly valuable:

- 1 - Firefly, or A Group
- 2 - Bulldog, or B Group
- 3 - Colorado, or C Group
- 4 - Malone ("A") claims
- 5 - Mertz claims
- 6 - Copper Sulphate, Last Chance and Eagle claims
- 7 - Northeastern tip of Cardigan Group
- 8 - Northwestern portion of Bluestone property.

If we take the average thickness of a theoretical ore body at 300 feet, then a square inch (2,000 feet on a side) on Mr. Hope's and Mr. Payne's property maps would mark the site of 96 million tons. If we assume the bottom of this theoretical ore body to be at a depth of 2,000 feet and further assume a "caving angle" of 45 degrees, the area liable to be disturbed by its underground mining by block caving methods would be 6,000 feet on a side, covering 9 square inches on our maps.

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Although it might be argued that this extensive surface damage would not result, nevertheless there is sufficient likelihood that such would be the case and enough expert testimony could be brought forward to make it almost certain that the Court would protect an established industry by granting Phelps Dodge an injunction against a project so threatening them. Other property holdings would no doubt be granted similar protection. Consequently areas where deep underground mining might be permitted would be well out to the south and west where the finding of an ore body would be more speculative, and where, because of increasing depth, its finding and preparation for mining would be slower and more costly.

Thus if a second mining project is to be established underground in the southwestern part of Ajo, all of the property groups listed above would need to be controlled. If the A (Firefly) group is not acquired, as suggested by Mr. Payne, then underground mining operations would have to be moved that much farther outward. As has been brought forward earlier, if additional ore exists to the south and west, it probably occurs at considerable depth. Therefore its drilling and preparation for mining would require ample time, during which a substantial proportion of the property payments would fall due. Exploration and mine preparation would be costly and much capital would be tied up. Any return on this investment would be subject to considerable delay, and such a project would need to be financed by a strong group not in a hurry for dividends.

From a rapid examination it seems very likely that some of the Ajo pit ore body must extend into the northeasterly portion of the A, B, and C groups. Furthermore, the pit is so close to some of these properties that Phelps Dodge will eventually need to strip back onto them to release part of their own ore for shovel mining. Just when this time will occur is speculative, but it may be in from 6 to 10 years. At this time the owners of closely adjacent ground will be in a strategic position to get something substantial out of Phelps Dodge, but Phelps Dodge also will be in a strong bargaining position. They can offer to mine and beneficiate their neighbors' ore on a cost plus basis whereby the neighbors can gain a profit without the necessity of making any capital expenditure. Of course the neighbors can refuse and demand their pound of flesh. With this possibility in mind, we are permitted to speculate regarding why Phelps Dodge has not gained control of this flanking ground in past years. It will not profit us to pursue this speculation too far because, after all, we are only guessing, but I believe the following factors to apply: (1) The amount of ore marginal to the pit already discovered; (2) the personalities involved; (3) the possibility that property prices would go down in the future; (4) even if prices remained the same, there was a savings to be made by not tying up the purchase price money at an early date; (5) the probability that Phelps Dodge could protect itself by injunction and thus stymie their neighbors until they were ready to enter into a deal.

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I personally believe that Phelps Dodge's behavior points to the likelihood that no great amount of ore has been found along the westerly and perhaps the southerly margin of the Pit. An active diamond drilling campaign was under way in 1936 and 1937 (which was after Gilluly's investigation for the Geological Survey) and Phelps Dodge has usually been keen to employ competent geological work to guide their exploration. Theodore Dodge points out that the New Cornelia ore body seems to die out within Phelps Dodge ground, as judged from the illustrations accompanying Gilluly's report, and he infers that one reason for this impression might be because Phelps Dodge or Gilluly withheld information from the published description of the district. In this respect we must remember that Gilluly could publish no more information than Phelps Dodge released to him, and, considering everything, I think Phelps Dodge was quite generous. Furthermore, the diamond drilling campaign at Ajo continued for several years after Gilluly completed his work there. There are a number of holes missing from the published data, as mentioned by Dodge, and it is probably true that some of these were drilled at the time Gilluly was there, but such logs were not released to Gilluly by Phelps Dodge. Some of these may have shown ore, but it does not necessarily follow that all of them did. It may be that Phelps Dodge found attractive leads to an ore body extension and believed that they could control the situation by that corporation's strategic position, but my guess is that ore marginal to the pit is in such amounts that a full disclosure of the data pertinent to its occurrence would not necessarily encourage a second mining project.

Secondly, it is common knowledge that some of the property owners have been difficult for Phelps Dodge to deal with. By deferring property purchases, it was possible that some might pass into estates when their owners became deceased, thus removing some of the difficulties. The other points listed above require no further discussion.

In summary, any real ore body found to the south and west could only be mined in the near future if it were distant enough so that its extraction would not cause subsidence in Phelps Dodge ground or other outside properties. In this position exploration would be much more speculative, and any ore body found would probably be deep thus necessitating slow and expensive exploration and preparation for mining. Under these conditions considerable early capital commitments would be necessary, and return of capital and profits might be deferred for many years. Consequently such a project, in my opinion, does not appear too attractive from the standpoint of Consolidated Coppermines Corporation. I think we could get a better run for our money by spreading it into several projects elsewhere.

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Some profit seems more assured from gaining control of any or all of the A, B, and C groups. Certainly there must be some ore in this ground, but Phelps Dodge can probably defer its extraction by Court action until it suits their convenience. Acquiring these properties would obviously be because of their nuisance value, and if they contain no great amount of ore, as published data seem to indicate, we would be faced with a loss. At best, profits would be deferred for many years while a considerable sum of money is tied up.

Yours very truly,

E. N. Pennebaker

VALLEY'S
CONGRESS
BOND
100/434
U. S. A.

THE AMERICAN METAL COMPANY, LIMITED
61 BROADWAY
NEW YORK 6, N.Y.

TELEPHONE BOWLING GREEN 9-1800
CABLE ADDRESS: EFFLUX, NEW YORK

PLEASE ADDRESS REPLY TO

SUBJECT:

JP/ms
July 27, 1955

Mr. E. N. Pennebaker
P. O. Box 817
Scottsdale, Arizona

Dear Penny:

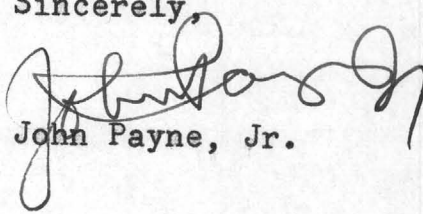
Re: Bluestone Mine near Ajo, Arizona

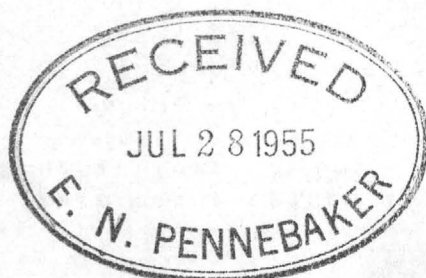
You doubtless recall the above property controlled by Hoval A. Smith (who is now deceased) and located immediately south of the Ajo. We all took a whirl at considering it back in 1949 and our general conclusions seemed to be that there was a chance for a buried porphyry but the depth would be at least 2,000'. Also, at that time, the terms were impossible.

It is possible that we will now be offered the property on reasonable terms and I am trying to judge whether or not we should pursue the matter. I would very much appreciate your thoughts. There is one thing in particular that occurs to me, that is, John Hope was in on the 1949 investigations. Therefore, he knows what our thinking was at that time. He must also have considered this property in connection with Phelps Dodge's Ajo operations. One might, therefore, assume that Phelps Dodge is not interested in the property because John Hope certainly knew about it and if they were interested they would probably have made some move to acquire it.

I would be grateful for any help you can give me.

Sincerely,


John Payne, Jr.



John Hope, Chief Geologist

Kimberly, Nevada

FROM C. I. Cook, General Manager

CITY Sept. 9, 1948

TO DATE

SUBJECT PROPERTY CONSIDERATION AT AJO, ARIZONAINTRODUCTION:

Recent negotiations with Mr. Hoval A. Smith of Washington, D. C., with regard to the property owned by the Bluestone Copper Co. and other claims held under option by Mr. Smith have served to point out that several other groups of claims should also be acquired in the event that Coppermines and the American Metal Co. option Smith's holdings. With this in mind, the American Metal Co. instructed Mr. Victor Bongard and Mr. T. A. Dodge to contact the various owners of these other groups of claims to determine whether or not they would be interested in selling their property under a long term option agreement and the approximate purchase price.

On August 18th, Mr. A. J. Proctor and myself joined Mr. Bongard and Mr. Dodge in Tucson to accompany them on their visit to Ajo, Phoenix, and Flagstaff, Arizona contacting the above mentioned owners. Six days were spent on this work and all but two owners, as will be explained later, were contacted. All of these people seemed anxious to enter into long term agreements and none had any exalted ideas as to the value of their property.

PROPERTIES UNDER CONSIDERATION:

Each of the groups of claims under consideration will be listed separately below together with the information pertaining to each. These various groups are also shown on the attached general property map of the Ajo district. In some cases it has been necessary to subdivide the groups into various sub-groups for easy reference.

1. BLUESTONE COPPER COMPANY:

This company owns some 385 acres of patented mining claims and in excess of 32 unpatented claims in the area immediately adjacent to and south of the Ajo pit. Mr. Hoval A. Smith has represented himself as owning or controlling all but a minority interest in this company. The Van Dyke Estate of Miami, Arizona was known to have some holdings in the company but it was believed to be of a minor interest.

On August 24th, I contacted Mr. Watson Fritz of Miami, Arizona who is secretary of the Van Dyke Estate. From him I learned that of the 4,000,000 shares of common stock issued to date in the Bluestone Copper Co., Mrs. Cleve Van Dyke personally owns 40.5%, Mr. H. A. Smith owns 41.1% and the remaining 18.4% is owned by outsiders. In addition to this common stock, some 88,000 shares of preferred (non-voting) stock have been issued of which Mrs. Van Dyke owns 85% and Mr. Smith owns the remaining 15%.

The property of the Bluestone Copper Company is colored in orange on the attached map.

John Hope, Chief Geologist
C. I. Cook, General Manager

Kimberly, Nevada

FROM

CITY

TO

DATE

SUBJECT

Sept. 9, 1948

PROPERTY CONSIDERATION AT AJO, ARIZONA (PAGE TWO)

2. COLORADO GROUP

This is the original group of nine claims first offered to Coppermines by Mr. Smith. These claims are shown in blue on the attached map. While this ground was offered for sale by Mr. Smith, he does not himself own any of the claims but does have options to purchase. There are, then, three separate sub-groups of claims in this group with each sub-group being owned by different individuals.

The three southeasterly claims or the "A" sub-group are owned by the Little Ajo Mining Company, an Arizona company now defunct. A Mr. Knox who resides in Missouri holds some 85% of the stock in this defunct company. This "A" sub-group is evidently under option to Mr. Smith.

The two fractional claims designated as the "B" sub-group are owned by a Mr. C. A. Baker of Rowood, Arizona, and a Mr. Zitlau of San Diego, California. We were unable to contact Mr. Baker because of his condition that day, and of course, Mr. Zitlau resides in California. These two fractional claims are believed to be under option to Mr. Smith.

The four westerly claims designated as the "C" sub-group are owned by Mr. Ellis Malone of Gibson, Arizona. Mr. Malone spoke of having optioned six claims to Mr. Smith and the location of the other two is somewhat confused but it is believed that they are just to the south of the four shown and their possible location will be discussed later under the "Malone Group." At any event, the four claims shown as the "C" sub-group are known to be optioned to Smith.

3. MALONE GROUP

The same Mr. Malone mentioned above owns or controls the property shown in yellow on the attached map. It is in the area designated as "A" that we believe Mr. Malone holds two claims also optioned to Mr. Smith. In the other area designated as "B", Mrs. Ida Jones, Mr. Malone's daughter, owns four unpatented claims. Mr. Malone, however, says that his daughter does as he advises and that she believes a reasonable long term option of those four claims could be arranged quite easily.

4. CARDIGAN GROUP

This group of 23 claims, shown in brown on the attached map, is owned jointly by the above mentioned Mr. Baker of Rowood, Arizona, and Mr. Zitlau of San Diego. We were unable to contact either of these gentlemen and, consequently, their views as to a long term option are not known. However, Mr. George Babbitt of Flagstaff, the owner of the Babbitt Group which will

John Hope, Chief Geologist

Kimberly, Nevada

FROM

C. I. Cook, General Manager

CITY

Sept. 9, 1948

TO

DATE

SUBJECT

PROPERTY CONSIDERATION AT AJO, ARIZONA (PAGE THREE)

be described later, informed us that he at one time had an option of the Cardigan Group at reasonable terms. In the event that this group is desired, we believe it advisable that all negotiations be done either through Mr. Zitlau or Mr. Babbitt.

It appears that Mr. Baker owns 8 or 9 claims of the group personally and that Mr. Zitlau and family owns the remainder. Probably Mr. Zitlau is the only one who knows who owns what in this group.

5. BABBITT GROUP

This group of 13 claims, shown in olive green on the attached map, is owned by the Babbitt family of Flagstaff, Arizona. Mr. George Babbitt, Jr. of that family acts as agent. Mr. Babbitt advised us that he would be more than willing to enter into any reasonable agreement. He mentioned a purchase price of \$40,000.00 at one point in the conversation and at another point, a price of \$100,000.00 per claim. I believe the reason for this discrepancy is that later in the conversation he believed that he had quoted the first price of \$40,000.00 too low. However, he seems to be a very reasonable man and I have little doubt but that the property could be optioned at a reasonable figure.

6. COPPER RIDGE GROUP

This group of patented and unpatented claims is shown in green on the attached map. This property is owned by the Copper Ridge Mining Company which has been reorganized as the Copper Mountain Mining Company. The Steele Family of Phoenix, Arizona, in turn controls the Copper Mountain Mining Company. The stock of the original Copper Ridge Company has been placed in escrow and will be turned over to the new company at any time upon the payment of \$70,000.00.

The Steele Family indicated that they would be very interested in entering into a long term option agreement. They also indicated that a total purchase price of \$100,000.00 (this includes the \$70,000.00 needed to release the Copper Ridge stock) would be satisfactory.

All in all, this group of claims could easily be optioned at reasonable terms.

FROM John Hope, Chief Geologist
TO C. I. Cook, General Manager
SUBJECT

CITY Kimberly, Nevada
DATE Sept. 9, 1948

PROPERTY CONSIDERATION AT AJO, ARIZONA (PAGE FOUR)

7. PHELPS DODGE TAX CLAIMS

Not too long ago, the Phelps Dodge Company acquired the five claims shown in gray on the attached map. These claims originally belonged to some people living in New York and who failed to pay the taxes. Phelps Dodge, then, acquired the claims thru a tax sale. It is our understanding that, in Arizona, the original owners in such a case have five years in which time they can reacquire title by payment of back taxes. It seems possible that this property could be reacquired by the original owners. In this case, it may prove worthwhile for us to option this group. Mr. Smith could possibly shed some light on this matter.

8. ALLEY-HODGE GROUP

This group of 27 claims is not shown on the attached map but they lie just to the north and west of the Cardigan Group. The Alley-Hodge Group is jointly owned by Mr. Thomas Alley of Ajo and Mr. Robert Hodge of Rowood, Arizona. It is doubtful whether it would be worthwhile to option this group and it is mentioned merely as a matter of interest.

This is the same group of claims offered to the American Metal Co. by a Mr. John Westney of Philadelphia.

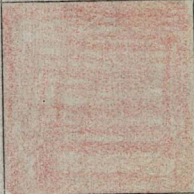
SUMMARY:

With the geological features of the district in view, it is apparent that the property owned by the Blue-stone Copper Co. is the most attractive. In the event that this ground and the Colorado Group is jointly optioned by the two companies, I would recommend that the other property owned by Mr. Malone and the Steele family be optioned also.

As to the ore possibilities in the Cardigan and Babbitt Groups, I am in doubt that the ore indicated by the Ajo Pit would extend that far west. However, these groups would serve as needed protection and possibly should be optioned until such time as the property could be more completely evaluated.

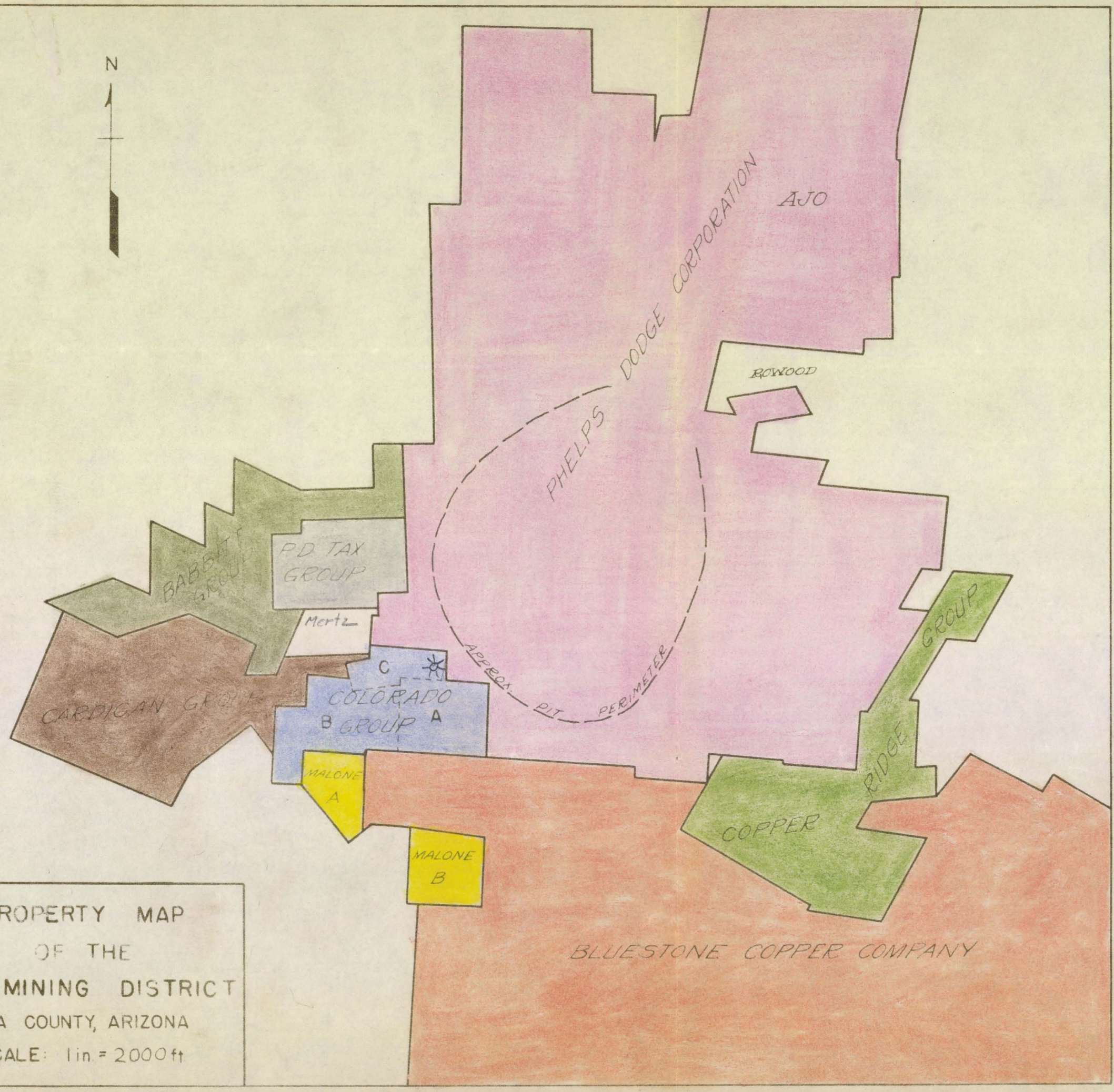
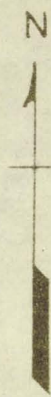
JH/e





300' T

= 96×10^6



PROPERTY MAP
OF THE
AJO MINING DISTRICT
PIMA COUNTY, ARIZONA
SCALE: 1 in. = 2000 ft.