



CONTACT INFORMATION  
Mining Records Curator  
Arizona Geological Survey  
3550 N. Central Ave, 2nd floor  
Phoenix, AZ, 85012  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

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September 28, 1953

Mr. Thomas G. Moore  
Mgr., Geol. & Explor. Dept.  
The American Metal Co., Ltd.  
61 Broadway  
New York 6, N. Y.

Dear Tom:

Re: Knox-Arizona Copper Mining Corp.  
Property known as Copper Mountain Mine  
22 miles south of Ajo, Pima County, Ariz.

This property was visited on September 23, 1953, with Messrs. Wheeler and James, and Mr. Wheeler is reporting in more detail on its geologic features. In my opinion the ground has very poor chances of containing a worthwhile porphyry copper deposit because:

1. Hydrothermal alteration and metallization are confined to erratically-spaced northerly trending fractures with relatively fresh monzonitic and andesitic rock in between that makes up most of the bulk of the bedrock.
2. A close-spaced fracture pattern of the usual "porphyry copper type" was not developed and hence the ground preparation was very poor.
3. Both copper stains and "boxwork" after sulphides are generally absent in the country rock. This coupled with the low-sulphur type of primary mineralization observed rules out any hope for a worthwhile deposit of disseminated secondary sulphides at depth.
4. The quartz-specularite-<sup>copper</sup> sulphide veins and veinlets are far too small and weakly mineralized to be minable.

I do not concur in Edward L. Clark's recommendation that 9,000 feet of drilling be undertaken. I recommend that Amco

Mr. Thomas G. Moore - Page 2 - September 28, 1953

Exploration, Inc. take no further interest in this property.

With kind regards,

Yours sincerely

E. N. PENNEBAKER

ENP:mc

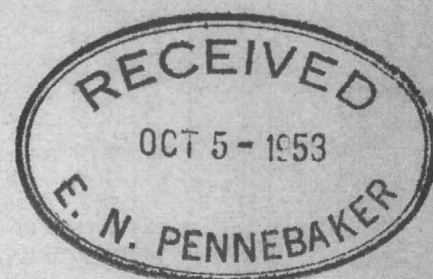
cc - Mr. Dooley P. Wheeler, Jr.  
Mr. Jack A. James



October 1, 1953

MEMORANDUM

To: Geological & Exploration Department  
From: Dooley P. Wheeler, Jr.  
Re: Knox-Arizona Copper Mining Corp. Property  
Pima Co., Arizona



On September 23, 1953, Jack James, E. N. Pennebaker and the writer visited the above property.

We found the property to be of no interest to Amco Exploration Inc. because the zone of mineralization is too small and too low grade to be of interest. There is no reason to expect secondary or primary enrichment to have produced, at depth or laterally, a commercial ore body. The volcanic country rock surrounding the deposit, the weak structural environment of the deposit, and the mineralogy of the deposit combine to discourage attempts at finding extensions of the mineralization in the alluvial flats around the deposit.

The deposit is in a hill, 150 feet high and 1,000 feet in diameter at the base, one mile east of Highway 10 and twelve miles south of the junction of Highway 10 with Highway 86 in the desertous flats of Organ Pipe Cactus National Monument. The property is marked Copper Mountain Mine on the Reconnaissance Geologic Map of U.S.G.S. Water Supply Paper 499.

The western two-thirds of the hill is aplitic to granitic textured quartz monzonite and the eastern one-third is green Tertiary-Cretaceous andesite volcanics with evidently more basic and more acid facies. Steep dipping, small, equant to elongated north trending dikes of quartz monzonite locally form small topographic highs in the volcanics.

The contact between the main quartz monzonite mass and the volcanics dips steeply, probably eastward, and strikes about N 15° W. Roughly paralleling the contact in both the quartz monzonite and andesite is a zone about 100 feet wide containing approximately ten narrow mineralized faults separated by barren country rock. The faults are of the order of six inches wide and contain glassy to milk quartz, specularite and, locally, abundant partly oxidized chalcopyrite. Pyrite is scarce or absent. East and west of the mineralized contact zone as far as continuous outcrops exist there are locally narrow veinlets and stockworks of specularite and quartz barren of copper.

Judging by the erosion resistant nature of the monzonite, and the evidence of andesite to the north and south of the hill, the main mass of monzonite is assumed to be plug-like and surrounded by heterogeneous Tertiary-Cretaceous volcanics.



September 18, 1950

Mr. John Henry Greenway Albert  
P. O. Box 248  
Tombstone, Arizona

Dear Mr. Albert:

Your letter of September 5, 1950, has been forwarded to me at Globe, Arizona, where I make my headquarters.

I have read your remarks concerning the Cornelia-Copper Giant property with much interest. Unfortunately during the next month or so we shall be snowed under with work. After that, however, if it is agreeable with you, either Mr. Hope, or I, or both of us would like to pay the Ajo property a visit. We shall give you plenty of advance notice.

Yours very truly,

Memorandum

October 1, 1953

Re: Knox-Arizona Copper Mining Corp. Property  
Pima Co., Arizona

Knox-Arizona drove a tunnel through the hill along the contact zone in the mineralized zone. The tunnel is roughly 800 feet long and locally cross-cuts much of the zone. Samples of the vein material indicate an average grade of 1.5% copper in the veins but inasmuch as the veins constitute no more than 5% of the zone width, the zone cannot be expected to average more than 0.075% copper over a 100 foot width. Incomplete oxidation at tunnel level, low pyrite content and relatively high andesite content of the mineralized zone eliminate the possibility of a secondary enrichment copper ore body below the tunnel level.

Although the quartz monzonite and andesite are moderately chloritized, sericitized, kaolinized and silicified in the mineralized zone, the hill and its best mineralized part must be considered weakly mineralized even from a barren hydrothermal alteration point of view.

Dooley P. Wheeler, Jr.

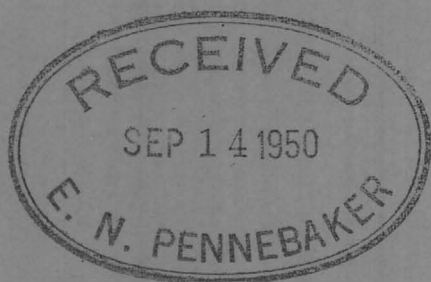
DPW/R

cc: Mr. E. N. Pennebaker ✓  
Mr. Jack James  
Salt Lake City Office



Perma County

**John Henry Greenway Albert**  
Consulting Mining Engineer  
109-119 Sumner Avenue  
Tombstone, Arizona



Mr. E. N. Pennebaker,  
Consolidated Coppermines Corp.,  
Post Office Box 111,  
Kimberly, Nevada.

Dear Mr. Pennebaker;      Re: Cornelia-Copper Giant Copper property,  
Ajo Mining District, Arizona.

In compliance with your request during our telephone conversation in Salt Lake City last week, I will write you briefly what has transpired since I discussed my copper property with you in San Francisco during the American Mining Congress meeting Nov. 1948.

The property (as you may remember) consists of 64 mining claims located in the South East section of the Ajo Quadrangle. Copper carbonate ore in various places is exposed over a vast area. In two highly mineralized zones 200 and 600 feet in width the ore exposed by shallow pits averages better than 2% Cu. with values in Au. and Ag. sufficient to cover power shovel costs of mining.

Recent stripping and trenching in the 200 foot zone increased the width to 242 feet and showed the deposit was widening out to the South East and narrowing to the North West. Two diamond drill holes 200 feet apart were put down at a 50 degree dip to cut the deposit at right angles. The collar of these holes were started 600 feet South West of the South edge of the mineralized zone. The North West hole showed no ore. The South East hole cut the edge of the mineralized zone at 416 feet. This would indicate the deposit to be considerably over 300 feet at that depth. Core assays at this point were 3.76% Cu. and 4.25% Cu. .05Au. .5 Ag. The deposit is apparently pitching to the South East and widening out in that direction and it is reasonable to assume that the North West hole penetrated the mineralized zone below the ore horizon. Several geophysics surveys have indicated the presence of a large sulfide deposit some 1600 feet South East of where the diamond drill holes were put down, but showed little evidence of sulfide directly below the surface mineralization.

The ore is not blocked out, but I feel the property has exceptional potential possibilities for any company willing to gamble for high stakes in a proven District. Most of the preliminary exploration work has been completed, which would mean setting up a diamond drilling program to determine size and depth of the indicated deposit.

If you feel that the Consolidated Coppermines Corp. or any other company would be interested in a property of this type I would be glad to arrange to meet you in Ajo with complete data and show you the property, provided you give me a little advance notice.

HGA/CC

Very truly yours,

Very truly yours,  
H. M. Mowbray Albart,

AMCO EXPLORATION, INC.

61 BROADWAY  
NEW YORK 6, N.Y.

SALT LAKE OFFICE  
912 KEARNS BUILDING  
SALT LAKE CITY 1, UTAH

TORONTO OFFICE  
68 YONGE STREET  
TORONTO 1, CANADA

TGM/lw  
March 6, 1953

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

Re: Knox-Arizona Copper Mining Corp.  
Property in Pima County, Ariz.

Dear Penny:

I am enclosing herewith copy of Jack James' memo and map of February 24 on the Knox-Arizona copper property. This is the one he told you about in Los Angeles.

At such time as Knox is ready to present the property I will let you know and will ask you to make an examination of it.

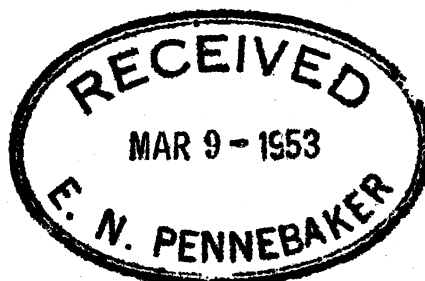
Kindest regards,

Sincerely yours,

  
T. G. Moore

Encl.

cc: *Mr. Jack E. James*





MEMORANDUM

FEB 27 1953  
JAJ  
Sub copy for  
Cincinnati  
Dictaphone from  
Rolla, Mo.

JAJ/lw

February 24, 1953

TO: Mr. T. G. Moore, G & E Dept.

FROM: Jack A. James

RE: Knox-Arizona Copper Mining Corporation Property in Pima County, Ariz.

On February 28 and 29, 1952 I made an examination for Mr. William A. Knox, Sr. of the Knox-Arizona Copper Mining Corporation of their property known as Copper Mountain. The property is situated 25 miles south of Hao, Arizona in the Oregon Pipe Cactus National Monument. It is south 65 degrees west of "Montezuma Head", a landmark in the Hao Mountains, and south 14 degrees east of the Phelps Dodge Smelter at Hao. Copper Mountain lies 2 miles east of Arizona Highway 85.

Ajo  
Copper Mountain is a small hill rising out of the surrounding flat desert to a height of about 250 feet. The Hao Mountain Range rises from the desert about 3 miles to the east. The desert altitude is approximately 1850 feet.

The geology consists of an intrusive mass of quartz-monzonite partly capped with rhyolite extrusive and surrounded by desert wash or conglomerate. A dioritic facies of the quartz-monzonite and an andesite porphyry facies or injection are present. Both the rhyolite cap rock and the quartz-monzonite are broken with fractures trending in many directions. However, well defined zones of closely spaced fractures guide the trends of principal mineralization. The fractures have been filled with vein material forming hematite-quartz, quartz, and rhyolite-hematite-quartz veins.

The quartz-monzonite-rhyolite contact dips west at one place at 64 degrees, and at 55 degrees at another place. The contact migrates westward down the south slope, indicating this dip holds to a vertical interval of 60 to 70 feet. The contact apparently flattens at this elevation, turns west and then north along the contour of the hill. The contact drops in elevation northward.

A zone of alteration marks the contact from the top of the hill southwestward down the south slope for a distance of nearly 300 feet. The zone was measured as 3 feet wide at one place, but isolated exposures suggest a width of 15 to 20 feet.

The predominant fracture sets in the rhyolite differs from those in the quartz-monzonite. Nearly vertical fractures striking north 43 degrees east are predominant in the cap rocks; in the quartz-monzonite they strike north 14 degrees west and dip east at 60 degrees. Zones of closely spaced fractures are more numerous in the

To: Mr. T. G. Moore  
Re: Knox-Arizona

February 24, 1953  
Page 2

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quartz-monzonite than in the rhyolite. The veins strike north 14 degrees west and deep east at 60 to 70 degrees.

Very little indication of copper mineralization is evident in the veins in the cap rock. This observation is substantiated by assays which show only a trace of copper, trace of gold and 0.3 ounces of silver.

Copper mineralization is chiefly in the quartz-monzonite and the dioritic facies. Many veins at the surface, when broken below the surface, show copper oxide minerals, mostly malacite and chrysocolla. Oxide minerals of copper are present also along fractures not filled with vein material.

The copper minerals observed include the sulphides chalcopyrite and bornite; the carbonates malacite and azurite; and the silicate, chrysocolla. The sulphide minerals were seen only in the rock on the dump from the tunnel. Most of the copper staining is in the form of malacite and chrysocolla.

Character samples of some of the rock types at the New Cornelia Pit at H<sup>412</sup> were obtained for comparison with the rock types from Copper Mountain. The rock types at the two properties are similar.

At the time of my visit all development work was restricted to near surface workings, consisting of several open cuts, shallow shafts, a tunnel, a trench, and two diamond drill holes. The available records of the drill holes are wholly inadequate and of little value for an evaluation of the property. The relative position of the surface workings is shown on the sketch map accompanying this memorandum.

Several assays of samples taken from the dumps of these workings are available and prove the presence of copper mineralization, however, they just as certainly give no indication of the tenor or grade of the mineralization throughout a rock mass of appreciable size.

My conclusions from the examination of Copper Mountain were

- (1) that surface and near surface copper mineralization is present in Copper Mountain;
- (2) No tonnage is proved owing to the lack of a systematic sampling procedure;
- (3) The rhyolite-hematite-quartz veins are the principal copper bearing veins;
- (4) The copper-gold-silver values are highest in the veins in the quartz-monzonite;
- (5) Copper Mountain can be classed as a prospect only;
- (6) Additional closely supervised development work is necessary to prove or disprove the presence of ore;



To: Mr. T. G. Moore  
Re: Knox-Arizona

February 24, 1953  
Page 3

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- (7) Sufficient surface work has been done;
  - (8) Additional development work should be designed to test the property at depth;
  - (9) The exact nature of the mineralization is not yet known, that is, whether it is restricted to the fracture zones, whether fracture zones are spaced closely enough and carry sufficient mineralization to make the entire mass ore, and whether a sulphide zone of mineralization is present at depth;
  - (10) On the basis of the meager information available, the property appears to have some gross geologic relation similar to that for Ajo Pit some 25 miles to the northwest.

Tunnel work was started during the summer of 1952 to extend along the trend of the mineralized zones indicated at the surface. As of January 18, 1953 this tunnel had been advanced a distance of 529 feet. I have not seen this tunnel since it has progressed beyond the open cut stage. I do know that from my point of view the sampling and assay from the tunnel has been wholly inadequate, so much so that in effect the only evaluation of the mineralization from this tunnel is a visual examination.

As of December 31, 1952 the Knox-Arizona Copper Mining Corporation had sold stock totaling \$18,500, and as of that date the bank balance was \$11,000. In addition to the \$18,500 obtained from stock sales, the organization took a loan from Mr. W. A. Knox, Sr. of \$10,000. Therefore, the total expenditure to date has been \$17,500. You will note that the rate of expenditure is greater than the rate of stock sale, which is rapidly creating an impossible financial situation for the Knox-Arizona Corporation.

Jack A. James

COPY

JP:AS  
July 29, 1948

Mining Department

Mr. Victor Bongard  
4317 Cumberland Street  
El Paso, Texas

Dear Vic:

As you probably know, Fred is going to be tied up on work in the northwest for at least the next month or two. It is necessary that someone visit the Ajo area, Arizona for us in the relatively near future and inasmuch as Fred will not be able to do this, we would like you to do so at your convenience. I herewith give you a summary of the background of our interest in Ajo.

About two months ago Hovel Smith of Washington brought to Consolidated Coppermines attention the possibility that three small groups shown as the A, B and C groups on the enclosed maps, which are very close to Phelps Dodge, Ajo, might be available. As you know our relations with Coppermines are exceedingly friendly and, in the course of his negotiations with Smith, Mr. Tripp, President of Coppermines, brought this matter to our attention. We, at first, were not interested on the basis of these three properties because we felt that taking them over would be too much a matter of obtaining a nuisance value on Phelps Dodge doorstep. However, in investigating their possibilities, we developed the idea that the Cardigan and Babbitt groups (shown on the attached maps) might have possibilities on their own which would constitute a justifiable geologic bet. Mr. Tripp also brought to our attention the fact that the two holes drilled on the Bluestone had encountered mineralized porphyry\*depth. This completely changed our ideas regarding the Bluestone and made it evident that that property may contain the southward continuation of the Ajo pit ore. It, therefore, became apparent that the A, B and C groups are as contiguous to either the Cardigan-Babbitt undertaking\*\*as they are to the Phelps Dodge operation and it put the possible acquisition of the A, B and C in an entirely different light.

On the basis of the foregoing we joined Coppermines in negotiating with Smith. However, the terms on the A, B and C were not acceptable and the negotiations broke down early in June. There has recently been some indication that these negotiations may be resumed on a businesslike basis and, if so, we may go ahead

\* at

\*\* or the Bluestone



COPY

July 29, 1948

Mr. Victor Bongard

with them again. Incidentally, Hovel Smith also owns the Blue-stone.

What we would like you to do at this time is to contact the owners of the Cardigan and Babbitt groups to determine - first - just what the ownership status of these groups is and - second - to try to find out what terms might be involved in the optioning of these groups.

When Fred visited Ajo previously in May, he obtained the following data regarding the ownership of these groups:

**CARDIGAN GROUP.** This is supposed to consist of 23 claims owned by C. A. Baker of Rowood, Arizona (I understand Rowood is very near Ajo). Baker told Fred that his group included the Bulldog, Eagle and Copper Sulphate claims and you will note that the Bulldog is also supposed to be part of the so-called "B" group. Baker is evidently very poor and it may be that he has traded some interest in his claims in order to keep going. Baker can be contacted through Malone who is mentioned below.

**BABBITT GROUP.** This group is said to be owned by George Babbitt of Flagstaff, Arizona. Babbitt's agent is William A. Snyder who can be contacted c/o V. P. Marley, 227 W. Georgia, Phoenix, Arizona, Phone 52220. At the time of Fred's visit Snyder was on this group carrying out the assessment work. Fred talked with Snyder and the latter indicated that Babbitt would be interested in the type of long term option which we might wish to obtain on this group.

**COLORADO GROUP.** We are confused as to the ownership of this group. Hovel Smith claims to either own it or have an option on it, but when Fred was at Ajo, Elis Malone, P. O. Box 53, Gibson, Arizona (Gibson is a part of Ajo), stated that he owned the Colorado group. Malone is an old prospector in that area and owns a barber shop in Gibson. He is easily found and can tell you where to locate Baker. It would also be advisable to again discuss the Colorado group with Malone to see if you can clarify its ownership.

In checking on the ownership and other features of the Ajo area it is, of course, essential that your activities in the district are not disclosed to anyone other than the property owners whom you will see. If there were any intimations of our possible interest it might cause action by others especially Phelps Dodge which would be undesirable. I realize this is a handicap in your work but there is no other way to handle it and you must certainly stay away from the Phelps Dodge people.

I should also mention that when we were dealing with Hovel Smith through Consolidated Coppermines, a man named Nesbit

COPY

Mr. Victor Bongard

July 29, 1948

was in the picture. He is still probably trying to interest other people in this area and if you should run across him, leave him strictly alone as he is very bad medicine and we do not want anything to do with him.

Our arrangement with Coppermines is that they would carry out any negotiations on the A, B and C groups with Hovel Smith but that we would negotiate on the Cardigan-Babbitt or other groups which we might wish to option in that area. If anything comes of this, we would mutually offer each other a 50% interest in whatever either company acquired.

Mr. E. N. Pennebaker, P. O. Box 2996, Globe, Arizona, is consulting geologist for Coppermines and John Hope, Consolidated Coppermines Corp., Kimberly, Nevada, is their chief geologist. If you can arrange that either or both of them join you on your trip to Ajo, this would be an excellent arrangement. I am sending them copies of this letter and leave it up to you to get in touch with them directly to see if anything can be worked out. I am also sending Ted Dodge, 201 North Court Street, Tucson, Arizona, a copy of this letter and we would very much like for Ted to accompany you on your trip if it is possible for him to do so. We again leave it up to you to get in touch with Ted to see what may be arranged.

I think the above just about covers the ownership matters which we want you to look into, if possible. We would not yet want you to undertake definite negotiations with any of the others but merely wish to find out the property ownership situation and if you can do so we would like for you to discuss with the owners in general terms the possibility of their granting long term options for the development of their properties. If they should be interested in principle in such an option, we could then decide the best way to carry out any further negotiations. As a matter of fact we do not yet know enough about the geology to be at all sure that the possibilities are sufficiently good to justify our undertaking a project in this area. Therefore, any option arrangement would have to first embody a provision that we could carry out a full study of the area. The terms would also have to give us ample free time for preliminary drilling before any payments.

In regard to the possible geology of the Cardigan-Babbitt area, I quote from a letter written to Stewart on April 28th and this summarizes our ideas as to this area -

"Consolidated Coppermines is looking into an area which may contain the extension of the Ajo Pit in Arizona. This possibility was brought to our attention in 1941



COPY

Mr. Victor Bongard

July 29, 1948

but we did not wish to go into it for several reasons.

In studying the geology of the Ajo area in connection with this matter, Tom and I are interested in another possibility in the Ajo area. I refer to Arizona Bureau of Mines Bulletin 141 and U. S. G. S. Professional Paper No. 209, especially Plate 20 of P.P.209 and the summary of economic possibilities on pages 108 and 109. This points out that west and southwest of the Ajo Pit, between Arkansas Mountain and Cardigan, the area shows intense specularite, and Gilluly believes that the specularite may be capping which may be related to a buried monzonite containing copper mineralization.

The entire geological picture at Ajo is exceedingly interesting, and I am sure that if you have not already done so you will want to read P.P.209. From this you will see that, subsequent to emplacement of the monzonite and ore deposition, there was a period of erosion followed by deposition of the post-mineral fanglomerate and recent volcanics. One of the last steps in the geologic history was tilting about  $50^{\circ}$  to the south. The monzonite at Ajo was originally lacolithic and made an angle of approximately  $30^{\circ}$  with the surface at the time of emplacement. Therefore the intrusive mass is now inclined on the order of  $20^{\circ}$  to the south and the part that is being mined by the surface pit is geologically lower in the mass than is the downward extension of this mass in the mine. From the above our thought is that in the area west of Arkansas Mountain another such lacolithic mass could exist beneath the surface and be connected to the monzonite area northwest of the Ajo Pit and east of the Gibson Arroyo fault."

In regard to the Bluestone, this entire property is covered by recent fanglomerate and there is absolutely nothing you can tell about the geology from the surface. On a casual visit such as you will make there is also practically nothing that you will be able to learn about the geology of the Cardigan-Babbitt area, but you will be able to look at the specularite veins and, perhaps, get an impression of the alteration or any other indications which might have a bearing on the problem. Notwithstanding the fact that any geology would be strictly a shotgun proposition, we still believe it very well worthwhile that Ted accompany you on this trip so that he can at least give us his general impressions.

In further regard to the geology of the A, B and C groups, all you can possibly do is to see their general relation to the Ajo pit.



COPY

Mr. Victor Bongard

July 29, 1948

Fred may have some further comments regarding this entire matter and, if so, I know that he will write you.

You may find it more convenient to fly either to Tucson or Phoenix and meet anyone who may accompany you there. This would avoid the long car trip for you.

With very best regards,

Sincerely yours,

John Payne, Jr.

Enclosure

CC Mr. Chester D. Tripp  
Mr. E. N. Pennebaker  
Mr. John Hope  
Mr. Theodore A. Dodge  
Mr. Fred H. Stewart

P. S. #1. I neglected to mention that a lawyer named John Westney of Philadelphia has, in the past, presented to us a group of claims which he called the "85 Group". These claims cover part of the ground which we know as the Cardigan group. Westney has never furnished any proof that he actually represents the owners or has an option and we have not carried out any discussions with him. We would, of course, prefer to deal with the owners than through an intermediary but if you have the opportunity while talking to the owners could you find out whether or not Westney is in any way in the picture.

P.S. #2. The "B" group is also known as the Zitlau property; the "A" group is also known as the Firefly property and the record owner is the Little Ajo Mining Company (a man named Knox who lives in Missouri apparently owns 85% of the Little Ajo Mining Company); the "C" group is also the Colorado property referred to earlier.

JPJr

by Coppermines and the  
suggestions to Mr. Bongard relative to his forthcoming visit to  
Ajo and your desire that he be accompanied by Mr. Dodge and by  
Mr. Hope or myself or both of us.

XXXXXXXXXXXX

In order to facilitate selecting a date for this visit, the  
following is our schedule for the next few weeks. Mr. Hope is  
now with me in Arizona and we expect to be traveling together in  
the southern part of Arizona most of this coming week, returning  
to Globe about August 7. We may be in Tucson during the course

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

Dear John:

This acknowledges receipt of a copy of your letter to Mr.  
Victor Bongard dated July 29, 1948, in which you review the Ajo  
situation with respect to the recent interest shown in this area  
by Coppermines and the Metal Company. I further note your sug-  
gestions to Mr. Bongard relative to his forthcoming visit to  
Ajo and your desire that he be accompanied by Mr. Dodge and by  
Mr. Hope or myself or both of us.

In order to facilitate selecting a date for this visit, the  
following is our schedule for the next few weeks. Mr. Hope is  
now with me in Arizona and we expect to be traveling together in  
the southern part of Arizona most of this coming week, returning  
to Globe about August 7. We may be in Tucson during the course  
of this journey, and if so shall call Mr. Dodge.

Between August 8 and 18, I expect to be here in my office  
at Globe doing work for O'okiep Copper Company. Mr. Hope will  
be in Arizona until at least August 14, perhaps a little longer,  
after which he will return to Kimberly. There should be no dif-  
ficulty in arranging for at least one of us to accompany Mr.  
Bongard to Ajo.



Mr. John Payne, Jr.

-2-

August 2, 1948

Inasmuch as this is to be a very quiet visit principally for the purpose of acquiring information regarding property ownership status and possible option terms rather than geological data, it might be better that I not go along. I might bump into some of my Phelps-Dodge acquaintances and they would be forewarned of our interest in the area. However, we can decide this point at the proper time.

Yours very truly,

ms

cc--Mr. Chester D. Tripp  
Mr. C. I. Cook  
Mr. Victor Bengard  
Mr. Theodore A. Dodge  
Mr. John Hope, Jr.



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# WESTERN UNION

JOSEPH L. EGAN  
PRESIDENT

1213

ACCOUNTING.

TIME FILED

Send the following telegram, subject to the terms on back hereof, which are hereby agreed to

## CONFIRMATION

To Mr. Victor Bongard August 7 19 48

Street and No. 4317 Cumberland Street

Place El Paso, Texas

Your letters received stop after discussion with Dodge in Tucson yesterday we agree meeting in Tucson August 18 and then proceeding to Ajo most convenient for us Please advise your reaction this plan to Hope in Nevada and to Dodge and to me

E.H. Pennebaker

Sender's address  
for reference

Sender's telephone  
number

XXXXXXXXXXXX  
P. O. Box 2996  
Globe, Arizona

August 7, 1948

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

Dear Cash,

Enclosed is a copy of a telegram I am sending to Mr. Victor Bongard after discussing the forthcoming Ajo visit with Mr. Dodge in Tucson yesterday. I sent you a copy of the letter to Mr. John Payne, Jr., dated about a week ago which should clarify the situation.

I should very much appreciate your bringing me up-to-date regarding the Ajo situation. I do not know at present whether we are still actively interested in a deal in this area with the American Metal Company or not.

Unless I receive instructions to the contrary, I do not plan on accompanying Messrs. Dodge and Bongard to Ajo. If I were to go, it is quite likely that I would meet someone there with whom I am acquainted and our possible interest in the area would become apparent. According to John Payne, Jr., this present trip is simply to secure data regarding property ownership and the feasibility of arranging a deal. They do not plan on making any study of the geology at this time. Consequently, I think my efforts for Coppermines can best be spent on other work in Arizona, but I do think that John Hope should accompany the party to see what goes on. If we still maintain our interest in the area, then at a later date I shall be most interested in having a view of Ajo geology.

Yours very truly,

E. N. Pennebaker

Enclosure

ENP  
ms



4317 Cumberland St.  
El Paso, Texas  
August 3, 1948

Mr. E. N. Pennebaker  
P.O. Box 2996  
Globe, Arizona

Dear Mr. Pennebaker:

This will acknowledge receipt of the copy of your letter to Mr. John Payne, Jr. in which you give your schedule and Mr. Hope's schedule for the next few weeks. My delay in getting in touch with you and Mr. Hope, to set a date for the Ajo trip, is due to the uncertainty of my plans for the next two weeks.

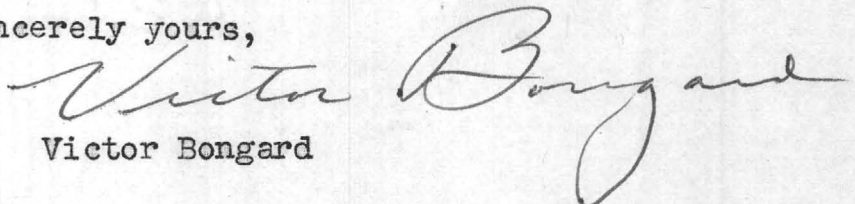
I am leaving here for New Mexico on Thursday next and if everything goes smoothly I hope to be back in El Paso on the 8th. I would be then free to leave for Arizona. There is the chance that the New Mexico business will not be finished by the 8th. and in which case I will have to stay in New Mexico until it is finished.

What I can do at this time is to make a tentative date to meet you or Mr. Hope, or both, on August 11 th. at the Santa Rita Hotel in Tuscon, if this fits into your future plans. I will know for sure on the 6th. if I could keep this appointment and ~~could~~ wire you definitely from New Mexico at this time. I suggest meeting in Tuscon because I hope that Mr. Hodge will be free to make the trip with us and Tuscon would be convenient for him.

If it would suit your plans better we could set a definite date to meet in Tuscon on the 15th. as I am certain that the New Mexico business will be settled in time to permit me to keep this appointment.

With best regards,

Sincerely yours,

  
Victor Bongard

cc-- Mr. John Payne, Jr.  
Mr. Theodore Dodge



4317 Cumberland St.  
El Paso, Texas  
August 3, 1948

Mr. Theodore A. Dodge  
201 North Court St.  
Tuscon, Arizona

Dear Mr. Dodge:

I am enclosing a copy of the letter that I sent today to Mr. Pennebaker regarding my proposed visit to Ajo. I hope that the New Mexico business will be concluded in time to permit me to come to Tuscon on the 11th. and hope that you will free at that time to make the trip to Ajo with me. If you would rather have me postpone my visit until the 15th. I will be glad to do so. The reason that I would like to make it on the 11th. is that Mr. Hope will be in Arizona at that time.

I will definitely know, on the 6th., if I will be able to be in Tuscon on the 11th. and will wire you from New Mexico at that time.

Hoping that you will be able to make the trip and with best regards, I am

Sincerely yours,

*Victor Bongard*  
Victor Bongard

*Bongard*

cc-- Mr. John Payne, Jr.  
Mr. E. N. Pennebaker

# CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

# WESTERN UNION

JOSEPH L. EGAN  
PRESIDENT

1201

## SYMBOLS

DL = Day Letter

NL = Night Letter

LC = Deferred Cable

NLT = Cable Night Letter

Ship Radiogram

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination.

EPA74 PD= CARLSBAD NMEX 9 352P=

E N PENNYBAKER=

=PO BOX 2996 GB=

CAN MEET YOU IN TUCSON AUGUST EIGHTEENTH HAVE ALSO WIRED  
HOPE AND DODGE=

=VICTOR BONGARD=

1948 AUG 9 PM 4 27

921 R7 Busy 436 716P  
Da 550P 448 740P  
PL 51 1  
D 51 6  
977a 578P

XXXXXXXXXXXXXX  
P. O. Box 2996  
Globe, Arizona

August 11, 1948

Mr. John Hope, Jr., Chief Geologist  
Consolidated Coppermines Corporation  
Kimberly, Nevada

Dear John,

Enclosed is a copy of the telegram received day before yesterday from Mr. Bongard from New Mexico.

No doubt you have already heard from him, but I am sending this along simply for confirmation.

Yours very truly,

ms

Enclosure



CLASS OF SERVICE DESIRED	
DOMESTIC	CABLE
TELEGRAM	ORDINARY
DAY LETTER	URGENT RATE
SERIAL	DEFERRED
NIGHT LETTER	NIGHT LETTER <input checked="" type="checkbox"/>

Patrons should check class of service desired; otherwise the message will be transmitted as a telegram or ordinary cablegram.

# WESTERN UNION

1213

CHECK
ACCOUNTING INFORMATION
TIME FILED

JOSEPH L. EGAN  
PRESIDENT

Send the following telegram, subject to the terms on back hereof, which are hereby agreed to

## CONFIRMATION

To Mr. Victor Bongard

August 7

19 48

Street and No. 4317 Cumberland Street

Place El Paso, Texas

YOUR LETTERS RECEIVED STOP AFTER DISCUSSION WITH DODGE IN  
TUCSON YESTERDAY WE AGREE MEETING IN TUCSON AUGUST 18 AND THEN  
PROCEEDING TO AJO MOST CONVENIENT FOR US PLEASE ADVISE YOUR  
REACTION THIS PLAN TO HOPE IN NEVADA AND TO DODGE AND TO ME

E. N. PENNEBAKER

Sender's address  
for reference

Sender's telephone  
number

CLASS OF SERVICE DESIRED	
DOMESTIC	CABLE
TELEGRAM	ORDINARY
DAY LETTER	URGENT RATE
SERIAL	DEFERRED
NIGHT LETTER	NIGHT LETTER <input checked="" type="checkbox"/>

Patrons should check class of service desired; otherwise the message will be transmitted as a telegram or ordinary cablegram.

# WESTERN UNION

1213

CHECK
ACCOUNTING INFORMATION
TIME FILED

JOSEPH L. EGAN  
PRESIDENT

Send the following telegram, subject to the terms on back hereof, which are hereby agreed to

To Mr. Victor Bongard August 7 19 48

Street and No. 4317 Cumberland Street

Place El Paso, Texas

Your letters received Stop after discussion with Dodge in Tucson yesterday we agree meeting in Tucson August 18 and then proceeding to Ajo most convenient for us Please advise your reaction this plan to Hope in Nevada and to Dodge and to me

E.N. Pennebaker

Sender's address  
for reference

Sender's telephone  
number



DOMESTIC SERVICE	
Check the class of service desired; otherwise this message will be sent as a full rate telegram	
FULL RATE TELEGRAM	<input checked="" type="checkbox"/> SERIAL
DAY LETTER	<input type="checkbox"/> NIGHT LETTER

# WESTERN UNION

JOSEPH L. EGAN, PRESIDENT

1206

INTERNATIONAL SERVICE	
Check the class of service desired; otherwise this message will be sent at the full rate	
FULL RATE	<input type="checkbox"/> DEFERRED
CODE	<input type="checkbox"/> NIGHT LETTER

NO. WDS.-CL. OF SVC.	PD. OR COLL.	CASH NO.	CHARGE TO THE ACCOUNT OF	TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to.

Mr. Victor Bongard  
4317 Cumberland Street  
El Paso, Texas

Wire received will meet you Hope Pennebaker  
Tucson eighteenth for Ajo trip

Theodore A. Dodge

*Theodore A. Dodge*

Confirmation to: Bongard  
Payne, N. Y.  
Pennebaker ✓

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CURTIS  
SERVICE**

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

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

JP:AS  
August 10, 1948

PLEASE ADDRESS REPLY TO

Mining Department

SUBJECT:

Mr. E. N. Pennebaker  
P. O. Box 2996  
Globe, Arizona

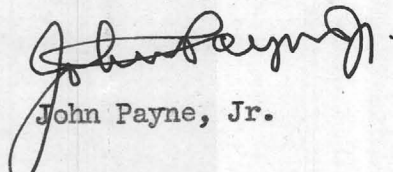
Dear Penny:

This morning we received confirmation of your wire of August 7th to Bongard suggesting a get-together on August 18th for the purpose of going over the Ajo project. I hope that he can complete his work in New Mexico in time to meet you as you suggested.

" I also have your letter of August 2nd and see that you think it advisable that you stay away from Ajo at this stage because you might run across some of your Phelps-Dodge acquaintances and this could easily make them suspicious as to our activities in that area. I think this is a very good point. "

With best regards,

Sincerely yours,

  
John Payne, Jr.

CC Mr. Victor Bongard



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

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

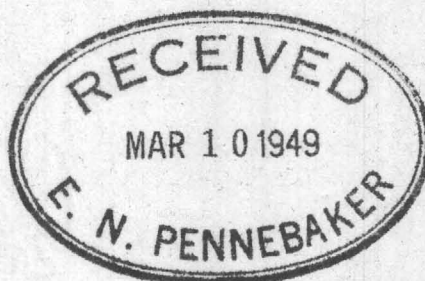
TGM:MHD

PLEASE ADDRESS REPLY TO MINING DEPARTMENT

March 8, 1949

SUBJECT:

Mr. E. N. Pennebaker,  
P. O. Box 2996,  
Globe, Arizona.



Dear Penny:

I want to supplement John's letter to you of today concerning Ajo.

The groups which we have in mind and which are shown on the maps in John's report would be the Babbitt, Cardigan, Mertz, Malone, and the B and C Groups. The Bluestone property itself is of course out of the question due to terms which Hoval Smith is asking. The Cardigan group is also owned by Smith and is really the key group for any possible development in this area. Fred Stewart recently saw Smith in Phoenix and Smith indicated that he would be willing to deal on this group alone for a total purchase price of \$75,000, payable \$7,500 on signing of an agreement and \$7,500 two years from that date, with the other payments strung along over a period of several years. On my way back east recently, I stopped off in St. Louis to see Knox, who controls the Little Ajo Mining Company which owns the A Group. Knox is still asking \$25,000 down, and this time a purchase price of \$1,000,000. Consequently, this group could not be considered at the outset in any event. Smith previously had an option on this A Group for a total price of \$500,000 with \$25,000 down and \$25,000 per year.

As you may know, Mr. Tripp expects to be here in New York for the Consolidated Coppermines Board Meeting the latter part of this month and, if it fitted in with your schedule, it would be helpful if you were able to go over this Ajo project and write him about it before he comes on here at the end of the month.

On the Babbitt, Cardigan, Malone, and Mertz, we would expect to get a free drilling period of up to four years. This has already been indicated from preliminary talks with the owners. On the Bulldog claim, however, we would very probably have to make some down payment. They have asked \$12,500 but this can probably be reduced. In any event the payment on the Bulldog plus the \$7,500 which would be required on Smith's C Group would mean a total down payment on the order of \$15,000 to \$18,000.

TGM:MHD

THE AMERICAN METAL COMPANY, LIMITED

March 8, 1949

SHEET NO. 2. Mr. E. N. Pennebaker

I hope we won't continue this practice of missing one another here or in Africa. It seems to me too long a time has gone by without our getting together. Let's hope the opportunity will present itself at an early date.

Best regards.

Sincerely yours,



Thomas G. Moore

cc Mr. Chester D. Tripp  
Mr. Fred H. Stewart



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 Mining Department

SUBJECT:

JP:ART

June 16, 1949.

Mr. E. N. Pennebaker  
P. O. Box 2996  
Globe, Arizona

Dear Penny:

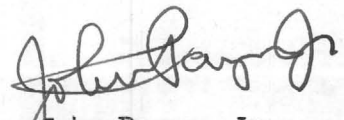
Thanks for your letter of June 12th advising that you have sent Fred Stewart the three copies of the Copper Handbook.

Consolidated Copper Mines sent us a copy of your report on Ajo. We are extremely glad to have this and, while I realize that you were pressed for time, I think you did an excellent job. The points which you brought out had not been sufficiently stressed in previous reports. In general I believe we are coming around to the viewpoint that this project must be regarded as an exceedingly long shot with several unfavorable factors from the business angle.

Both Tom (who is now in Mexico) and I very much look forward to seeing you when you reach New York on the 26th.

Very best regards,

Sincerely yours,

  
John Payne, Jr.



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

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

TGM:MHD

PLEASE ADDRESS REPLY TO MINING DEPARTMENT

March 15, 1949

SUBJECT:

Mr. E. N. Pennebaker,  
P. O. Box 2996,  
Globe, Arizona.

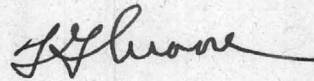
Dear Penny:

Thanks very much for your letter of March 12th enclosing copy of your letter to John Payne. I look forward to hearing from Mr. Tripp what you think of the Ajo area after you have had the chance of getting there.

Since John is going to be away in Africa, I shall probably have to stay pretty close to New York and don't at the present time expect to be in Arizona before you leave in June. I look forward to seeing you and Kate here in New York on your way to O'okiep.

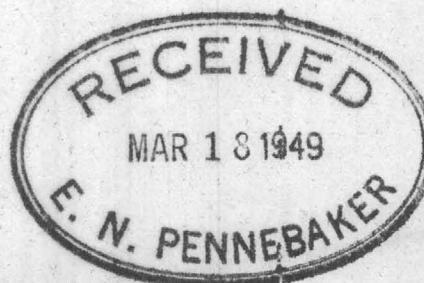
Kindest regards.

Sincerely yours,



Thomas G. Moore

cc Mr. Chester D. Tripp



# Rossin Letter Re Ajo -

Dated May 26-1948.

Report (PSS) photos, & maps

Nesbit → Hirsch & Co → Guggen-  
heimer & Untermyer → Miami Copper

## Two propositions:

### (1) A-B & C. Claims

C = Colorado group-owned by  
Hoval Smith. Smith has  
option on A & B groups.

ABC offered at \$650,000  
\$40,000 down & \$7,000 per annum

Nesbit states that claims are  
within 12 feet of pit perimeter -  
& that there are 30,000,000 tons  
of ore on which a profit can  
be made of \$1<sup>10</sup>/<sub>100</sub> per ton.

Nesbit wishes to receive 10%  
of all future profits.

Nesbit claims an exclusive  
option on these A, B, & C claims.

(2) Bluestone property. Here Nesbit  
has no exclusive option -  
Evidently owned by Hoval Smith



& the Van Dyke estate.

(2)

\$5,000,000 purchase price

\$100,000 down

3-year expl. period

Balance of purchase price  
in payments between the  
end of 3rd & 10th years.

"A"

← ARKANSAS PEAK.



"B"





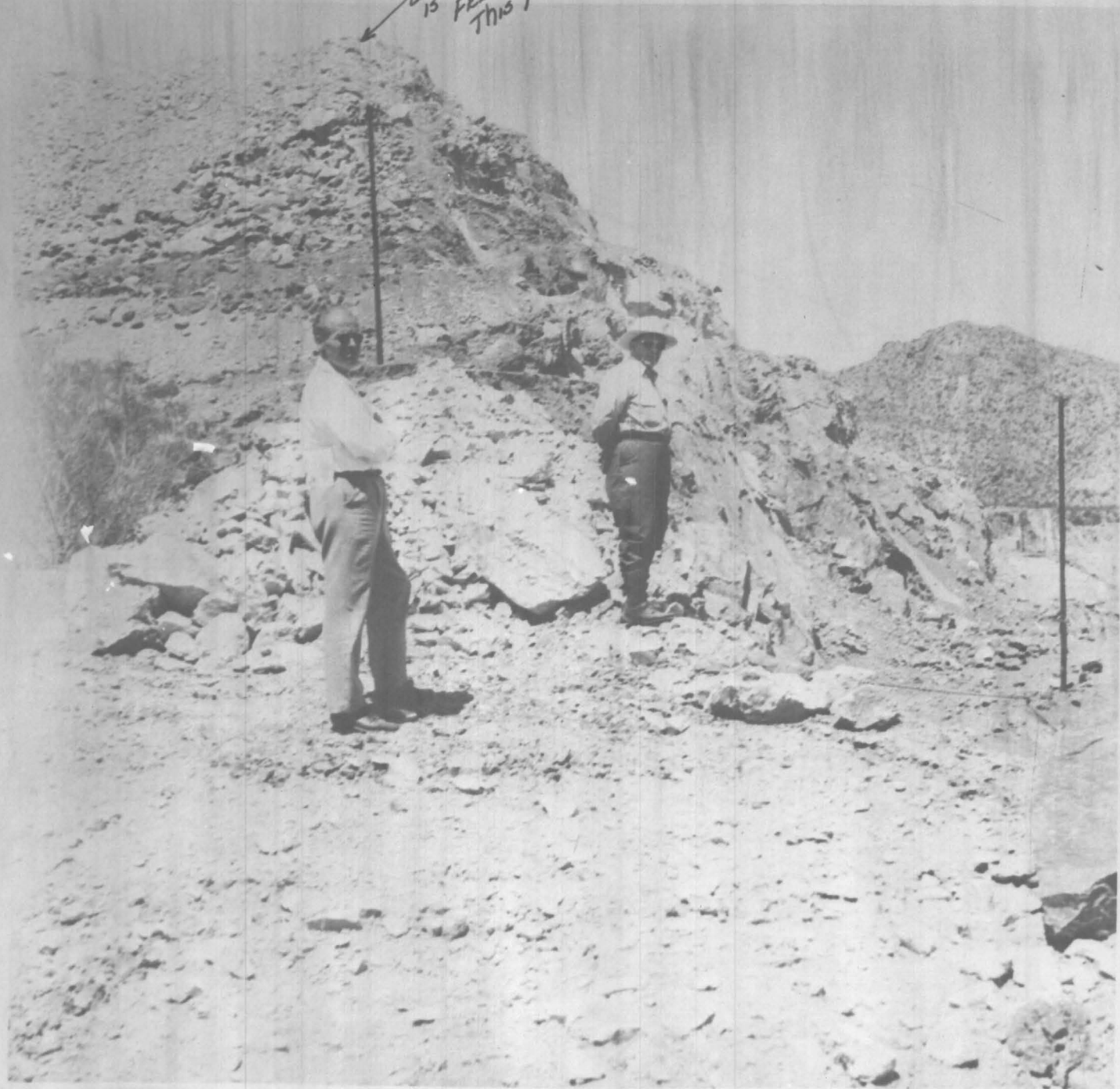


2



ARKANSAS PEAK  
IS A FEW HUNDRED  
FEET WEST OF  
THIS POINT

E







E. N. PENNEBAKER  
CONSULTING GEOLOGIST  
~~XXKIMBERLY, NEVADA~~

P. O. Box 2996  
Globe, Arizona

June 9, 1948

Mr. R. W. Hughes, General Manager,  
Miami Copper Company,  
Miami, Arizona.

Dear Mr. Hughes:

I have at hand Mr. Rossin's letter of May 26, 1948, with regard to the Ajo property of Mr. Hoval A. Smith and his associate, Mr. R. H. Nesbit. Accompanying Mr. Rossin's letter are two copies of a memorandum dated April 19, 1948, from P. J. Sirkegian to Chester D. Tripp, a number of photographs of the Ajo pit, and a photostatic copy of U. S. Geological Survey information with various property outlines inserted, all of these data obtained by Mr. Rossin from Hirsh and Co. via Guggenheimer & Untermeyer. In his letter, Mr. Rossin asks for some comment on my part regarding the merits of the property, because of my joint association with Miami Copper Company and Consolidated Coppermines Corporation and my recent conversation with Mr. John Hope, Jr., and Mr. Paul J. Sirkegian, respectively Chief Geologist and General Superintendent for Coppermines, after their April visit to Ajo. This I shall be very glad to do, first recounting my position in the examination.



For the past five or six years, I have been retained as consulting geologist by Consolidated Coppermines Corporation, although I have hardly averaged a month a year on their problems. Recently my position with that Company has been renegotiated whereby I shall devote about two-thirds of my time during the next three years to directing their exploration activities in the West and Southwest with headquarters at Globe, Arizona. I shall take over these duties after completing the current examinations for Miami Copper Company about July 1st or 15th of the present year. Coppermines understands that until I complete Miami's work, I shall undertake no outside examinations except for Miami and that my services to Coppermines during this period will be in advising their geologists how to proceed in an examination and criticism of their results. Coppermines has respected my desire not to serve two clients at the same time in the same general region to the extent that I am not fully informed on the current status of this Ajo situation. Consequently, my knowledge of the merits of the proposed deal is little more than that expressed in Mr. Sirkegian's memorandum to Mr. Tripp, which is essentially the information he conveyed to me in Globe.

I note from Mr. Rossin's letter that Mr. Nesbit alleges that Mr. Tripp was enthusiastic about the property, but that the proposition was turned down by Coppermines' board. I, too,



Mr. R. W. Hughes

-3-

June 9, 1948

had gained the impression that Coppermines was out of the picture but recently I have heard that Coppermines and American Metal Company were discussing the general possibility of some joint venture at Ajo. I have no knowledge of the results of these conversations. Whether this alleged unfavorable decision of Coppermines' board came before or after this joint consideration of the area, I do not know. As you can see, I am very much on the side lines until I am ready to take over Coppermines' exploration campaign in July.

To me, the Ajo proposition has two possible merits. (1) The ABC ground is strategically located in an area that will apparently have to be stripped before the Ajo pit is finally completed. It would seem that a purchaser could capitalize on this "nuisance value" after a period of a few years. It is also possible that new owners might deal more agreeably with Phelps Dodge than the present owners. (2) The ore body plunges down toward the ground in question and it seems reasonable to believe that it will enter it, but at considerable depth. However, this is a matter that must be proved by reliably conducted and strictly supervised drilling. It has been my experience that ore bodies that head for a given area do not always arrive there in commercial amounts.

Even though a substantial ore body were proved to be present, its value would be problematical unless favorable

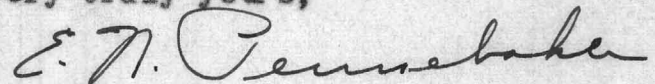
Mr. R. W. Hughes

-4-

June 9, 1948

arrangements could be made with Phelps Dodge. The matter of water supply, for instance, is a problem of grave importance and considerable expense in the Ajo district. This alone might make the treatment of the ore impractical unless a favorable agreement were made. On the other hand, the strategic position of the ground might aid considerably in obtaining such an agreement.

Very truly yours,



E. N. Pennebaker

ENP:mes



E. N. PENNEBAKER

CONSULTING GEOLOGIST

~~XXIMBESLY, NEVADA~~

P. O. Box 2996  
Globe, Arizona

June 9, 1948

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June 9, 1948

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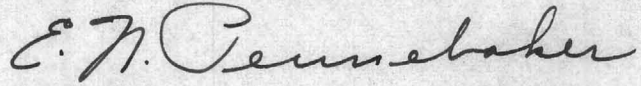
Mr. R. W. Hughes

-4-

June 9, 1948

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Very truly yours,

A handwritten signature in cursive script, reading "E. N. Pennebaker".

E. N. Pennebaker

ENP:mes



THE AMERICAN METAL COMPANY, LIMITED

61 BROADWAY  
NEW YORK 6, N.Y.

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

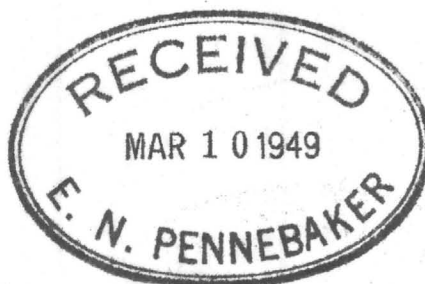
JP:MHD

PLEASE ADDRESS REPLY TO MINING DEPARTMENT

March 8, 1949

SUBJECT:

Mr. E. N. Pennebaker,  
P. O. Box 2996,  
Globe, Arizona.



Dear Penny:

Your letter of March 6th came this morning and both Tom and I were very much interested in seeing that you expect to leave for Africa around July 1st for about six months.

As you know, we have been considering an exploration project at Ajo. This morning Tom discussed this by telephone with Mr. Tripp to determine whether or not Consolidated Coppermines might be interested in joining us if we undertake this project. I want to emphasize at the outset that we ourselves have not yet reached a decision as to whether or not we will go ahead. Even if we should decide affirmatively, it might develop that satisfactory terms could not be arranged and we would have to abandon the undertaking for that reason.

We very much hope that you will have an opportunity to visit Ajo before you leave for Africa. Such a trip would require only two or three days and could be carried out I believe without any need of your becoming involved with the Phelps Dodge people.

I enclose herewith copy of my report based on the visit which Fred Stewart and I made to the Ajo area in January. Since this report was written we have received the logs of two holes drilled on the A Group (Firefly) and we enclose these. You will note that they are very sketchy, give no assays, and we cannot be positive that the rock formations were correctly identified. The holes show the depth to monzonite to be considerably greater than I had anticipated for that area. Mr. Knox told Tom that the holes showed native copper, but no assays were made at that time (1919); they were only looking for high grade ore. The results of these two holes suggest that the depth to monzonite under the C Group may be deeper than we had thought likely.

In regard to the holes drilled on the B Group we understand that the monzonite was found at about 400' or 450' but do not have any reliable information on the assays.

THE AMERICAN METAL COMPANY, LIMITED

March 8, 1949

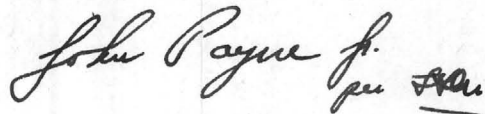
SHEET NO. 2. Mr. E. N. Pennebaker

Fred recently saw Hoval Smith in Phoenix, and Smith showed him a letter from the U. S. G. S. in which it was stated that Holes 1 and 2 on the Blue Stone encountered concentrator volcanics and not monzonite as previously reported. I regard this as unfavorable so far as the Blue Stone goes. The U. S. G. S. is preparing a correction to P.P. 209 and this will be available for inspection at Washington in a month or so.

If there are any other points which we can supplement, please do not hesitate to write us.

With very best regards,

Sincerely yours,

A handwritten signature in cursive script that reads "John Payne Jr." followed by a small flourish.

John Payne, Jr.

Enc.

cc Mr. Chester D. Tripp  
Mr. Fred H. Stewart

C O P Y

LITTLE AJO CONTRACT, ARIZONA  
FIREFLY CLAIMS

D.D. Hole No. 1 - commenced August 1, 1917  
completed January 1, 1918

Abstracted Log of Drill Hole

<u>Footage</u>		<u>Formation</u>
<u>From</u>	<u>To</u>	
0	130'	Conglomerate
130	251	Conglomerate and monzonite
251	1530	Rhyolite
1530	1720	Monzonite

D.D. Hole No. 2 - commenced February 1, 1919  
completed November 26, 1919

Abstracted Log of Drill Hole

<u>Footage</u>		<u>Formation</u>
<u>From</u>	<u>To</u>	
0	120'	Conglomerate
120	1050	Rhyolite
1050	1130	Monzonite
1130-	1160	Monzonite and quartz
1160	1225	Monzonite
1225	1240	Monzonite and quartz
1240	1401	Quartz
1401	1425	Monzonite
1425	1489	Monzonite
1489	1512	Monzonite and quartz
1512	1537	Monzonite
1537	1595	Monzonite and quartz
1595	1609	Quartz
1659	1671	Monzonite and conglomerate
1671	1684	Conglomerate
1684	1710	Conglomerate and quartz
1710	1724	Quartz and monzonite
1724	1775	Monzonite
1775	1786	Monzonite and quartz
1786	1796	Quartz and monzonite
1796	2212	Monzonite



Colorado Group

under option (?)

owned by Elis Malone

P.O. Box 53

Gibson, Ariz.

has barber shop in Gibson

Cardigan Group

23 claims including Bulldog, Eagle, —

Copper sulphate

owned by C.A. Baker

Rowood, Ariz.

ask Malone where to find Baker

Babbitt Group

Flagstaff, Ariz.

owned by Geo. Babbitt

Agent for Babbitt is:

Wm. A. Snyder

227 West Georgia

Phoenix, Ariz.

c/o V.P. Marley

Phone 5-2220

July 30, 1955

Mr. John Payne, Jr., Vice President  
The American Metal Company, Limited  
61 Broadway  
New York 6, New York

Dear John:

I have your letter of July 27 with regard to the Bluestone claim group located just south of the open pit at Ajo, Arizona.

When this matter came up in 1948 and 1949 I was working for Miami Copper Company, and John Hope handled much of this for Coppermines; however, I did make a brief visit to the area on May 23 and 24, 1949, just before I took off for my second trip to South Africa. I have reviewed my file on our discussions, and the following are my comments. At present I find myself somewhat more favorably impressed than I was six years ago.

As regards PD's failure to acquire this property and John Hope's role in the proceedings, I have no ready answer; however, Hope is with the Exploration Department, which, as I understand it, is entirely divorced from the operating units. The latter employ geologists as assistants in the various engineering departments to handle local geology. If the unit managers want other help, they request assistance from the Exploration Department, but I suspect this is rather seldom done. I further suspect that suggestions for property purchase close to operating units would originate with the local general manager rather than the Exploration Department at Douglas. Hope's work has been largely on outside scouting, and some of the top officials at Ajo didn't know him when I mentioned his name a year or two ago. Had he been actively promoting the acquisition of the Bluestone group, they would have known him well, I should think; maybe his ideas haven't reached the right place.

So the mystery still goes on as to why they haven't acquired property on the south. Maybe they think there are no ore extensions and have some supporting facts to prove this contention; maybe they are thinking in terms of open cut operations only and are afraid of the stripping ratio; or maybe they are persisting in a freeze-out policy set years ago and followed with Scotch Presbyterian stubbornness, thinking that the physical difficulties of starting an independent operation and the PD prestige will keep others out. I sort of incline to the last supposition.



In recent years, three things have impressed me that add some favorability to a project at Ajo:

One is the rather common occurrence of ore fringes and extensions in the rocks flanking porphyry copper deposits, particularly if lower grade ores can be handled. In 1933, Ajo had a reported reserve of 170 million tons. In the last 22 years they probably have mined out 140 million tons, so present reserves less 30 million represents additions due to discoveries and the lowering of the cut-off grade. At Ajo heads have dropped from 1.25% to about 0.8% since 1933. Similar fringes have been developed at Chino, Ray, and Ely, so it is common to find substantial extensions with vigorous explorations.

Second, recent advances in the price of copper may make it possible to profitably mine lower grade extensions.

Third, we are too prone to evaluate possible future discoveries at the same grade as present reserves. In other words copper recovery at Ajo is currently about 14 pounds per ton, and we are likely to consider that future discoveries will be of the same tenor. On the other hand, recent discoveries at Little River and Pima are better than neighboring occurrences, and perhaps we should take a more optimistic view, particularly when considering the primary mineralization at Ajo.

There are two significant structural trends in and near the Ajo pit. One runs about N40W and is reflected by:

- 1 - SW. contact of the Cornelia quartz monzonite against the volcanics.
- 2 - Trend of introduced orthoclase.
- 3 - Trend of introduced quartz.
- 4 - Trend of vein magnetite.
- 5 - Trend of main ore body.

The other runs NE and is shown by:

- 1 - Trend of specularite zone.
- 2 - Trend of a segment of the ore body on the south on 1600-foot to 800-foot elevations.

There is also an east-west dike trend of debatable significance.

The trend of the main ore body projected southeasterly leads to the Bluestone and Copper Ridge groups. To me this is the most promising trend because more features directly related to mineralization fall along it. The two Bluestone diamond drill holes are on the



Mr. John Payne, Jr.

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southwest edge of this trend rather than along its axis. These holes gave favorable results in that (1) the bedrock was somewhat shallower than expected and (2) the volcanics cut beneath the fanglomerate were highly altered and carried some copper (apparently about an average of 0.24%). I would expect better mineralization farther to the east.

If, on the other hand, we correlate the southwesterly specularite trend with the ore segment on the south, then a promising trend would follow through the NW corner of the Blue-stone group, the ABC ground, the Malone claims, and the Cardigan group. I am not as favorably impressed with this possibility as I am with the southeasterly projection mentioned above, but it needs to be carefully considered. In this case additional drilling should be west of the Bluestone holes.

The unfavorable features accompanying possible extensions of the Ajo ore body have been discussed before and are:

- 1 - Ore body extensions would probably be covered by thick capping, 1500 to 2000 feet or better, and underground mining would be required. If the tenor were about 0.8% copper, as at present, and several hundred million tons were found, then the economics would be about similar to those at San Manuel and a high price for copper would be essential.
- 2 - An adequate water supply remains a very serious problem.
- 3 - Underground caving would probably damage PD surface workings, and they would have recourse to an injunction to stop neighboring mining.

The latter point brings up the question as to Ajo's remaining life. At present they are depleting reserves at the rate of about 9 million tons annually. Assuming a substantial ore body were found on Bluestone ground, it would be about 8 years from the date of the initial discovery hole until an independent operation was set up and producing copper metal. What would PD's reserve position be then and might they be inclined to be cooperative on a custom basis?

I have read Ted Dodge's memo of August 24, 1948, with more appreciation than when I went over it 6 years ago. He brings up some good points, and it surely looks like the U.S.G.S. plans and

July 30, 1955

sections, whatever the reason may be, do not give the full picture.

If you can get the Bluestone ground on favorable terms and the Copper Ridge group, I think you would have a good gamble on the southeasterly trend.

To cover the situation on the less-favored (by me) southwesterly trend, the Malone and Cardigan groups would be needed plus the ABC claims, if available. I seem to recall that John Hope told me that PD had acquired the A, or B, or both; no doubt you have the exact information on this matter.

There is one other point that bothers me. The association of the Ajo ore body with abundant vein magnetite makes an aeromagnetic survey a must, and this should be followed by magnetic surveys on the ground. PD has done considerable magnetic work around Bisbee, I believe from the air. Surely they must have taken a whirl at Ajo, even though the fanglomerate cover is very deep.

This is a very disjointed and unorganized memo, as again I am in a hurry and plan to leave for the Copper Range on August 4. My conclusion is that you would have a legitimate gamble on the Bluestone and Copper Ridge groups. It would sure be fun to stir up Douglas with a little action on this ground.

With kind regards,

Yours sincerely,

ENP:bhs



Original & 4 carbons.

Mr. R. W. Hughes, General Manager,  
Miami Copper Company,  
Miami, Arizona.

1948

Dear Mr. Hughes:

I have at hand Mr. Rossin's letter of May 26, 1948,  
with regard to the Ajo property of Mr. Hoval A. Smith and his  
associate, Mr. R. H. Nesbit. <sup>Insert "A"</sup> In his letter, Mr. Rossin asks  
for some comment on my part regarding the merits of the  
property because of my <sup>joint</sup> association with <sup>Miami Copper Company and</sup> Consolidated Coppermines  
Corporation and my recent conversation with Mr. John Hope, Jr.,  
and Mr. Paul J. Sirkegian, respectively Chief Geologist and  
General Superintendent for Coppermines, after their April visit  
to Ajo. This I shall be very glad to do, first <sup>recounting</sup> ~~explaining~~  
my position in the examination.

For the past five or six years, I have been retained  
as consulting geologist by Consolidated Coppermines Corporation,  
although I have hardly averaged a month a year on their problems.  
Recently my position with that Company has been renegotiated  
whereby I shall devote about two-thirds of my time during the  
next three years to directing their exploration activities  
in the West and Southwest with headquarters at Globe, Arizona.  
I shall take over these duties after completing the current  
examinations for Miami Copper Company about July 1st or 15th  
of the present year. Coppermines' understands that until I  
complete Miami's work I shall undertake no outside examinations  
except for Miami and that my services to Coppermines during this

Mr. R. W. Hughes

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June 8, 1948

period will be ~~only~~ in advising their geologists how to proceed in an examination and in criticism of their results. Coppermines has respected my desire not to serve two clients at the same time in the same general region to the extent that I am not fully informed on the current status of this Ajo <sup>proposed</sup> situation. Consequently, my knowledge of the merits of the deal is little more than that expressed in Mr. Sirkegian's memorandum to Mr. Tripp, which is essentially the information he conveyed to me in Globe.

I note from Mr. Rossin's letter that Mr. Nesbit alleges that Mr. Tripp was enthusiastic about the property, but that the proposition was turned down by Coppermines' board. I, too, had gained the impression that Coppermines was out of the picture but recently I have heard that Coppermines and American Metal Company were discussing the <sup>general</sup> possibility of <sup>some</sup> joint venture at Ajo. <sup>I have no knowledge of the results of these conversations.</sup> Whether this alleged unfavorable decision of Coppermines' board came before or after this joint consideration of the area, I do not know. As you can see, I am very much on the side lines until I am ready to take over Coppermines' exploration campaign in July.

*merits.*

To me, the Ajo proposition has two possible ~~assets~~.  
*The ABC ground*  
(1) <sup>It</sup> is strategically located in an area that will apparently have to be stripped before the Ajo pit is finally completed. It would seem that a purchaser could capitalize



Mr. R. W. Hughes

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on this "nuisance value" after a period of a few years. It <sup>also</sup> is possible that new owners might deal more agreeably with Phelps Dodge than the present owner. (2) The ore body plunges down toward the ground in question and it seems reasonable to believe that it will enter <sup>but</sup> it <sub>at</sub> considerable depth. However, this is a matter that must be proved by reliably conducted and strictly supervised drilling. It has been my experience that ore bodies that head for a given area do not always arrive there in commercial amounts.

Even though a substantial ore body were proved to be present, its value would be problematical unless favorable arrangements could be made with Phelps Dodge. The matter of water supply, for instance, is a problem of grave importance and <sup>considerable</sup> ~~great~~ expense in the Ajo district. This alone might make the treatment of the ore impractical unless a favorable agreement were made. On the other hand, the strategic position of the ground might aid considerably in obtaining such an agreement.

Very truly yours,

E. N. Pennebaker

- A -

Accompanying Mr. Rossin's letter are <sup>two</sup> copies of a memorandum dated April 19, 1948, from P. S. Sirhegian to Chester D. Tripp, a number of photographs of the Ajo pit, and a photostatic copy of U. S. Geological Survey information with various property outlines inserted, all of these data obtained by Mr. Rossin from Kirsh and Co. via Guggenheimer & Zentmeyer.



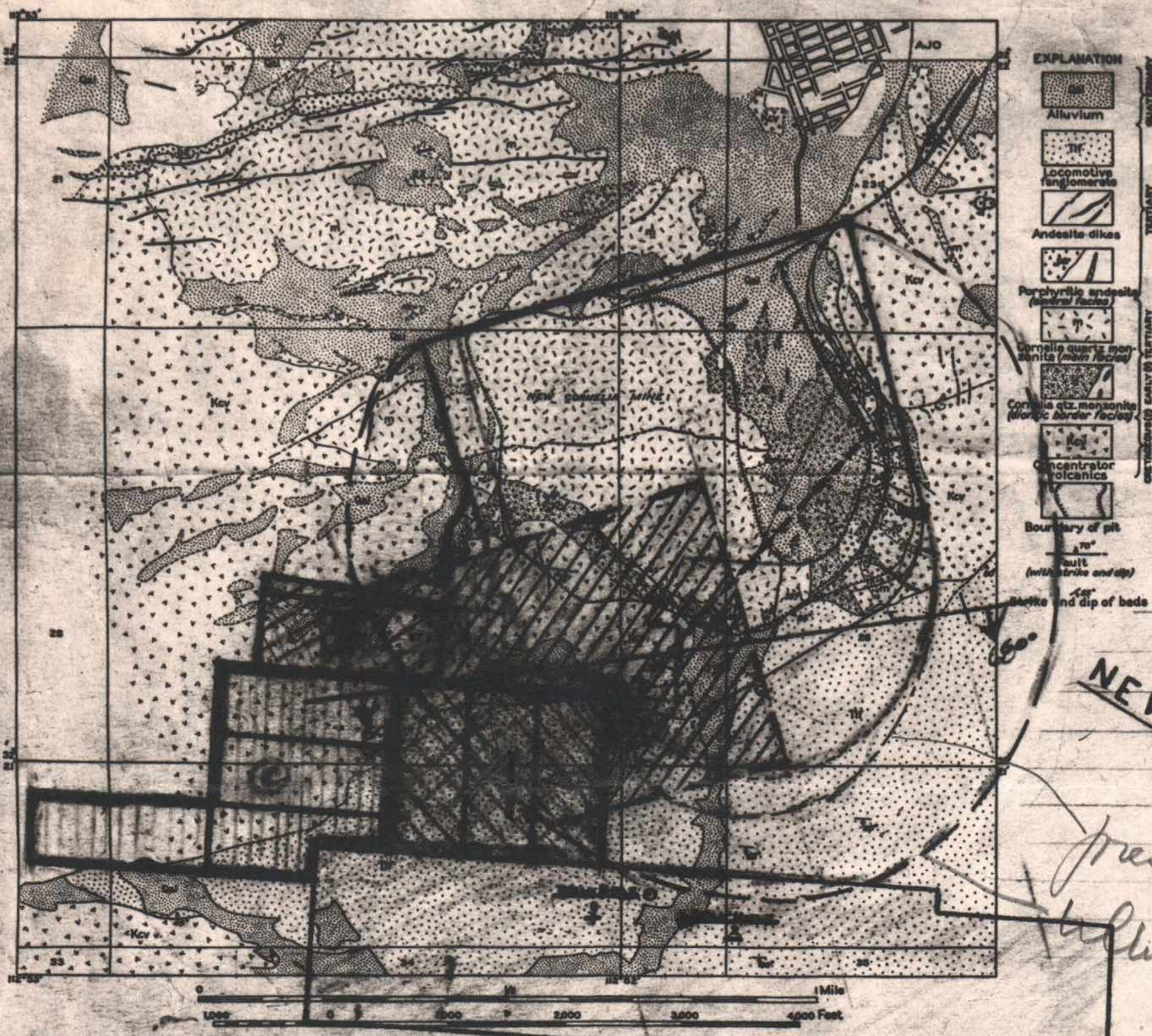


Plate III—Geological map of the mining area of the Ajo district, Arizona.

$A \pm 61 + B \pm 26 + C \pm 75 = 162 \text{ Acres}$

$\pm X-Y \text{ Areas by H.A.S.}$

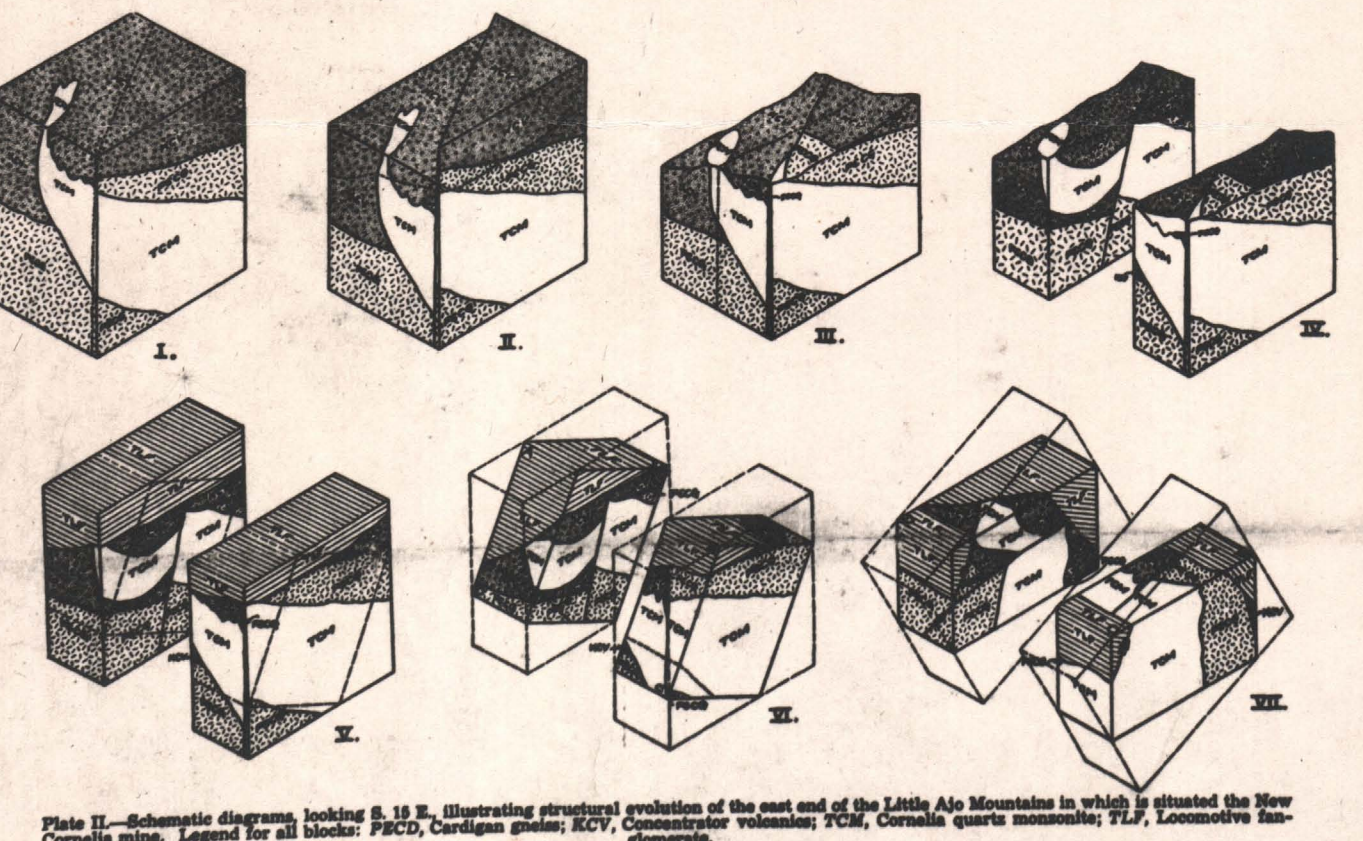
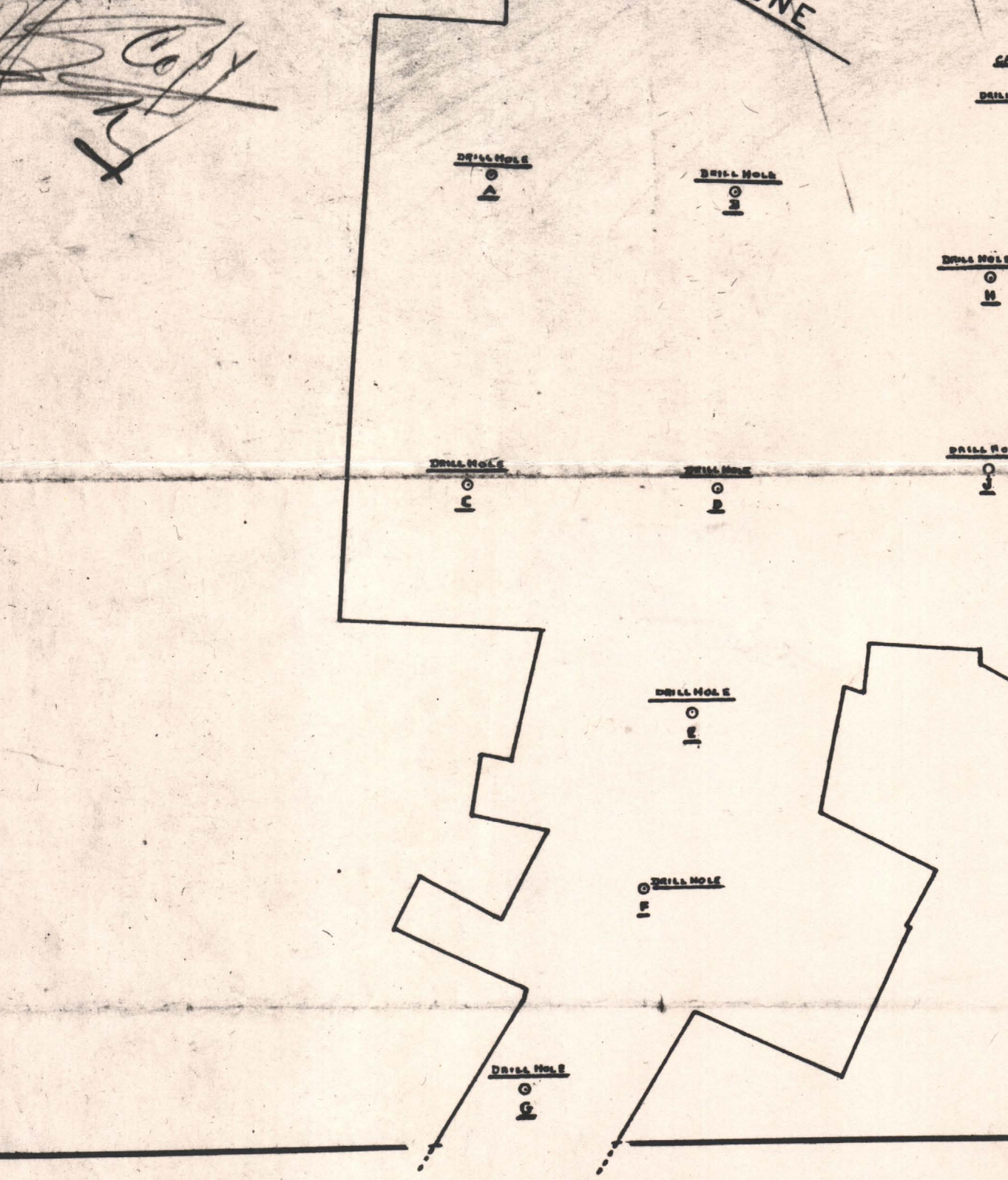


Plate II—Schematic diagrams, looking S. 15° E., illustrating structural evolution of the east end of the Little Ajo Mountains in which is situated the New Cornelia mine. Legend for all blocks: PECD, Cardigan gneiss; KCV, Concentrator volcanics; TCM, Cornelia quartz monzonite; TLV, Locomotive fanglomerate.

I. Structural relations following the intrusion of the Cornelia quartz monzonite. The dashed line marks the course of the Gibson Arroyo fault, not yet developed.

II. Relations following the displacement on the Gibson Arroyo fault, arbitrarily assumed to be a dip-slip normal fault with a throw of 4,000 feet. The dashed line indicates the approximate extent of erosion prior to the deposition of the Locomotive fanglomerate.

III. Conditions following the erosion of the area prior to the deposition of the Locomotive fanglomerate. The dashed line indicates the place where the block is cut in two in later diagrams.

IV. Block of Diagram III split in half in order to show the structure at depth in the center of the area.

V. Block of Diagram IV after deposition of the Locomotive fanglomerate. The dashed lines outline the inscribed blocks shown in diagrams VI and VII.

VI. Same relations as in Diagram V except that the geology is shown on the inscribed blocks of that diagram. These inscribed blocks are so oriented that after tilting on the Little Ajo Mountain fault (the position of which is indicated by the heavy dashed line) the faces ABCD, which have appeared in their original attitude, will become horizontal.

VII. Present conditions, after tilting on the Little Ajo Mountain fault. Somewhat generalized, with topography not shown. The face ABCD is horizontal. TCM on top of the left-hand block marks the size of the New Cornelia mine.

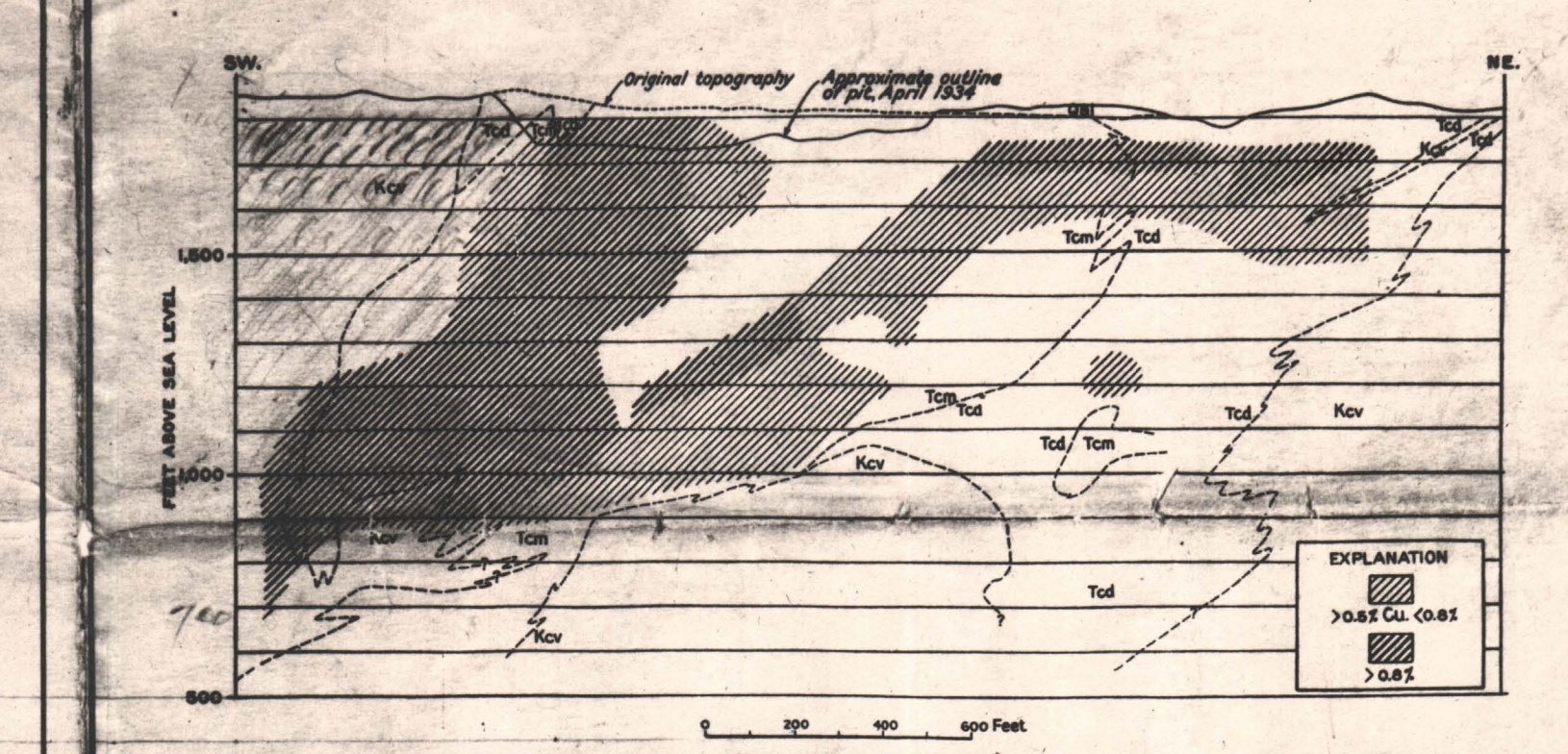


Plate IV—Northeast cross section through the New Cornelia mine, Ajo, Arizona, showing the distribution of the ore and the geology at depth. KCV, Concentrator volcanics; Tcd, dioritic facies of Cornelia quartz monzonite; Tcm, Cornelia quartz monzonite; Qel, alluvium.

