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ESPERANZA

November 11, 1942

Twin Buttes

Earl F. Hastings

Reconstruction Finance Corporation ✓  
Preliminary Development Loan

77 ?

Docket No.

C-ND-Phx. 76

Date Application Received

October 24, 1942

Date of Field Examination

November 7, 1942

Date of Report

November 11, 1942

1. Name and address of applicant (correspondent):  
D. J. Miller, Box 2552, Tucson, Arizona.
2. Character of project and estimated cost thereof:  
Unwater, repair and sample shaft and lateral workings of the 750 foot main shaft for the production of lead-zinc-copper-silver ore, \$5,000.00.
3. Location of property:  
Twin Buttes Mining District, six miles southwest of Twin Buttes, Pima County, Arizona.
4. Applicant's interest in or ownership of property:  
Applicant holds lease and option to purchase.
5. Loan requested:  
\$5,000.00
6. Loan recommended:  
\$5,000.00
7. Comments:  
(A) Added to the docket are:
  1. Report by George A. Ballam, Field Engineer, Dept. of Mineral Resources, November 7, 1942.
  2. Report by Todd B. Elliot, E. M. dated June 28, 1935, San Francisco, Cal.
  3. Letter to T. P. Lane from A. R. Byrd., Jr., Box 5226, Tucson, Arizona, November 4, 1942.
  4. Signed statement by Anton and Dan Zambonini.
  5. Letter to applicant from J. M. Martinex, dated October 28, 1942, Greater-ville, Arizona.
  6. Letter to applicant from Mrs. E. A. Pike, dated October 29, 1942, Tucson, Arizona.
  7. Correspondence between the Department of Mineral Resources and the applicant.



November 11, 1942

(B) Original data pertaining to the old workings is lacking in this application, but statements contained in the added documents listed above are indicative of a substantial shipping record and unmined areas of ore which could now be classed as commercial.

(C) The map is not particularly illustrative but verbal communication with the applicant clarifies conditions to some extent. The 750 foot shaft is on the #1 vein and follows it on it's dip. The 300 foot shaft is on #2 vein and from it a crosscut has been driven to another unidentified vein. A connection between the two shafts is a matter of crosscutting rather than strictly of drifting.

(D) The dump ore, after further sorting, is not of shipping grade but there is fair evidence of sufficient quantity and value for it's consideration in any future mill plans. It, coupled with previous shipments and extent of workings, combine to indicate a most favorable overall value of the ore to be found in place. That there is a large quantity in place can be assumed from the Martinez and Zambonini statement, the first indicating that the 400 to 700 level areas are almost intact and the latter that there is ore left on the 170 foot level.

(E) Based upon the statements of the above mentioned parties who have been in the now inaccessible workings, and upon a favorable location in a highly mineralized area, it can be anticipated that granting this loan will make accessible both shipping and milling grades of ore. A custom mill is now in operation at Tucson which can treat this type of ore, and a reputable operating company is seriously considering moving a mill into the Twin Buttes area for treating custom ores. Thus there is an outlet for a high grade complex mill ore, and the possibility of a closer market in the near future.

(F) This property adjoins the Castile Mine operated by C. B. Conlin on Reconstruction Finance Corporation funds, Docket No. C-ND-7640 (Phx. 25).

ARIZONA DEPARTMENT OF MINERAL RESOURCES

Earl F. Hastings  
Assistant Director and  
Projects Engineer

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine NEW YEAR'S EVE, Cu-MoS<sub>2</sub>

Date November 23, 1942

District Pima

Engineer Earl F. Hastings

Subject: Reconstruction Finance Corporation  
Preliminary Development Loan

Docket No.

C-ND-Phx. 86

Date Application Received

November 5, 1942

Date of Report

November 23, 1942

1. Name and address of applicant (correspondent):  
New Year's Eve Mining Co. Wendell P. Hubbard, 1015 Security Building, Los Angeles, California.
2. Character of project and estimated cost thereof:  
Unwater and sample mine workings to check copper-molybdenum values, \$5,000.00.
3. Location of Property:  
Pima Mining District, five miles SE of Twin Buttes, Pima Co., Arizona.
4. Applicant's interest in or ownership of property:  
Applicant is partnership of four equal partners holding Lease and Option agreement on a 5% royalty basis.
5. Loan requested:  
\$5,000.00.
6. Loan recommended:  
None. (Note 7-E below)
7. Comments:
  - (A) Added to the docket are:
    1. Copy of letter to applicant from Elgin B. Holt, Field Engineer, Department of Mineral Resources.
    2. Copy of letter to Elgin B. Holt from Eagle-Picher Mining & Smelting Co.
    3. Copies of correspondence between the Department of Mineral Resources and the applicant.
  - (B) Paragraph 3, page 13 of the C. J. Sarle report is incorrectly copied and should read as follows: "....by a raise has an estimated thickness of 60 ft., a north-south length of 75 ft. and a breadth of 70 ft; and a contained tonnage of 25,250 tons, allowance being made for one removed in development amounting to a little over 1,000 tons".
  - (C) The above mentioned block assaying 0.82% MoS<sub>2</sub> and 1.013% Cu. is, together with an additional 10,000 probable additional tons, insufficient upon which to base a profitable operation. The reported results of 0.14% MoS<sub>2</sub> average as determined by the sampling of the Arizona Molybdenum Corporation are not favorable to overall economics. Reported development subsequent to the Sarle's report refers to high grade ore exposures in local areas, but are not well confirmed.



November 23, 1942

- (D) An attempt should be made to obtain the assay plan compiled by the Arizona Molybdenum Corporation from which it can be determined if the distribution of the values, comprising the average given, is such that a selective mining system is practicable. If selection is possible the property would be interesting as a supply source of a limited quantity of molybdenite and copper which would probably be obtained at a net loss.
- (E) This loan cannot be recommended from an angle of economics, but cognizance of the critical molybdenum shortage should be a factor in the consideration and final action.

ARIZONA DEPARTMENT OF MINERAL RESOURCES



Earl F. Hastings  
Assistant Director and  
Projects Engineer

①

Superior Planifold

WENDELL P. HUBBARD  
Attorney-at-Law  
510 South Spring St.  
Los Angeles, Calif.  
Michigan 5649

November 2, 1942

Reconstruction Finance Corporation  
325 Heard Building  
Phoenix, Arizona

Gentlemen:

I am enclosing in duplicate an application for a preliminary development loan for \$5,000.00 on behalf of a co-partnership consisting of the undersigned, Wendell P. Hubbard, Walter F. Haussler, Fred E. Adams and A. M. Phippen.

We have attempted to give all the information available in the application and in the exhibits attached. I trust that these will be sufficient for your requirements.

With respect to the partners, I wish to give you the following information:

1. I, Wendell P. Hubbard, am an attorney in good standing in Los Angeles, California, and have practiced in Los Angeles for fourteen years. My work during the past two or three years has been particularly concerned with representation of those interested in oil and mining and in such work I have had to sit in on the working out of various mining problems.

2. Walter F. Haussler has been a resident of Los Angeles for many years and during the late Twenties and for several years up to 1937 was a contractor and builder. Since that time, his work has been more in the mining field and he has had considerable practical experience in mining.

3. Fred E. Adams is a metallurgical chemist and holds a degree from a university. His work during the last few years has given him a great practical knowledge of mining inasmuch as he has had to work out mining problems for a number of mining companies, as he is familiar with the treatment of ores as well as the practical phases of mining operations.

4. A. M. Phippen is a mining engineer and has had many years experience in that profession. He has acted as consultant for many mining companies and is thoroughly familiar with the various phases of mining operations.

COPY



Reconstruction Finance Corp. - #2

November 2, 1942.

Mr. Adams, Mr. Phippen and Mr. Haussler will spend most of their time at the property and their past experience will assure the operations being carried on in a good and minerlike manner. Because of their experience, they will be able to make the very most out of the mine leased to the partnership.

Trusting that the enclosed application will receive your early and favorable attention, I remain,

Very truly yours,

wph:lw

RECONSTRUCTION FINANCE CORPORATION  
MINING DIVISION  
SUPERVISING ENGINEER'S REPORT

Docket No. ND-5464  
D. J. Miller

Date of Examination: Aug. 8, 1943  
Date of Report: Aug. 12, 1943

The borrower under the above captioned docket has applied for a development loan in the sum of \$13,000. The project was granted a preliminary development loan in the sum of \$5000 followed by an additional loan of \$4500. The present application therefore represents a request for an additional \$3,000.

The accomplishment under the second loan (\$4500) has fallen far short of the program which was set forth at the time of granting the loan. The main items of the program are commented upon as follows:

1. The main shaft was to have been repaired and cleaned out to the 170 ft. level. Actually, only some six sets were replaced in the shaft. Several more sets will have to be installed before the work reaches the fill in the shaft at 101 feet.
2. The program provided for drifting 50 feet on the 300 ft. level in the No. 3 shaft. No part of this work was done. Several sets were repaired at the collar of this shaft and several posts and some logging was replaced at the head of the caved winze on the 200 ft. level.
3. The drift on the 75 ft. level in the incline shaft was advanced some 60 ft. It was expected that this work would pay its way in ore produced. The good values which were present at the start of this work continued for only a short distance and the balance of the drift exposes an irregular stringer with low metal content. Sampling of the new work is shown on the sketch accompanying this report - Samples No. 1 A, 2 A and 3 A. At the time of my examination the applicant was trucking out for shipment the piled ore which was derived from this working place. The ore is to be sent to Bisbee for treatment. He estimates that the shipment will amount to 40 tons averaging between 20 and 25% combined lead, zinc and copper with 10 ounces of silver. Judging from the appearance of the pile of ore, I believe that the estimates regarding both quantity and grade are high. On the basis of the assays estimated



by the applicant the ore would return a net, before mining, of somewhat under the \$16.06 which was the anticipated return before mining, calculated in my report dated April 16, 1943. The applicant states that "it is well known that the value of the ore increases with depth", and that "the 75 foot level is just about on top of the ore body". While it is true that the bulk of the past production was made from a lower horizon in the mine, there is no evidence in the limited exposure here that the value or size of the ore shoot is progressively increasing with depth.

CONCLUSIONS:

Development of the ore showing upon the 75 foot level has proved disappointing.

The applicant has expended \$9500 and has accomplished very little in the way of construction development of the property. While it is true that labor as well as other costs is quite high and that the quality of the labor is not good, the chief reason for the sorry showing is chargeable to the applicant's lack of aggressiveness and industry and general competence to handle a job of this nature.

The possibilities in the deeper development of the mine remain attractive but I do not believe that any results commensurate with the risks and costs in materials and manpower will be obtained by lending more money to this applicant; and I recommend therefore that the request for a further loan be declined.

T. P. LANE  
Supervising Engineer

# Progress Report

Docket No. C-ND-7932

D. J. Miller

Date of Inspection May 28, 1943

Date of Report June 3, 1943

The property was visited on May, 28, 1943 and progress under the loan was noted as follows:

IX The drift in the <sup>on the 70 FT. level in No 1 sh. ft.</sup> ore was continued in a northeasterly direction to a breakthrough at the end of the short crosscut, (see sketch map which accompanied the Supervising Engineer's Report dated April 16, 1943). The drift shows ~~a~~ a 26 foot length of ore averaging about 18" in width, with a somewhat narrower width <sup>of ore</sup> continuing in the face. The crew ~~is~~ <sup>was</sup> timbering the drift after <sup>which they</sup> intended to resume drifting on the ore.

~~The ore derived from the drift is piled at the collar of the shaft.~~

II Approximately 30 tons of ore derived from the drift is piled at the collar of the shaft. It is sulphide ore and is estimated to assay 25% combined zinc, lead and copper with zinc predominating. Originally it was planned to ship to the Shattuck-Denn mill at Bisbee but with the prospect of early completion of the Eagle-Richer plant



at Sahuarito it is planned to hold  
the ore and ship to <sup>the latter</sup> ~~that~~ company. The  
transportation charges in this event would  
be lower and it is anticipated that a  
~~more favorable~~ <sup>more favorable</sup> settlement schedule  
~~would be~~ more favorable than that  
of the Shattuck-Dean would be available.

Work in the <sup>shaft</sup> below the 75 Ft. level  
had been delayed by the inability to get  
men but the ~~company~~ <sup>company</sup> ~~had~~ <sup>is</sup> expected  
to have this ~~work~~ <sup>sit</sup> under way soon.

T. P. Lane  
Sup. Eng.

~~Chas. W. Tully, Asst. Chief,  
Mining Section, R.R.C.  
Washington, D.C.~~

325 West Bldg.  
Phoenix Ariz.

Tully - Asst Chief - Mining Section - Washington  
Re - Docket No. C - ND - 7932 - J. J. Miller

I am ~~the~~ enclosing herewith a Progress  
Report under the above-captioned docket

T. P. Lane  
Sup. Engineer

Tully

I am enclosing herewith ~~my~~ 2  
copies of ~~a~~ Application for loan together  
with my Supervising Engineer's report on  
the above captioned project.

Encl.

~~2~~ 2 Copies from Application

Supervising Engineer's Report

3 Sketches

1 Assay Certificate



1  
Docket No.

C-NO-7932

Date of Examination

April 7, 1943

Date of Report

April 1943

1 Name and Address of Applicant

Name

D. J. Miller

Address

Box 2552

City and State

Tucson, Arizona

Note: The property has been operating under a "C" loan granted in Jan. 1943 and the present examination was made following application for additional funds.

2 Character of Project

Development of lead-zinc-copper-silver deposit

3 Location of mine

The mine is located in the Turin Buttes mining district in Pima County, Arizona. Sahavita, the nearest shipping point, is 17 miles east from the mine by hard surfaced road, and Tucson, the nearest supply center, is 32 miles from the mine by good road, the first few miles of which is

hard surfaced. There are no steep grades.

#### 4 Applicant:

The applicant is a middle-aged man. His earlier business was real estate in California. For ~~the past~~ <sup>the past</sup> many years he has been ~~was~~ in the used machinery business, and has been associated at intermittent intervals with various mining enterprises, ~~this~~ <sup>although</sup> chiefly in a promotional way. He does not appear to have had much experience ~~as a mine~~ in actual mining operations. He seems capable of handling a development such as that under consideration.

#### 5. Loan Requested:

The original loan in the sum of \$5000 was granted for the purpose of unwatering, repairing and sampling a 750 foot shaft and its lateral workings. The borrower <sup>built</sup> a cabin, and a head frame over the shaft, and equipped the property with hoist, compressor etc. On entering the shaft it was found that the water previously noted in ~~the~~ <sup>it</sup> ~~bottom~~ had receded and that ~~shaft was dry to a depth of approximately 100 feet where it was the~~ shaft was accessible to a depth of



only 101 feet where ~~it~~<sup>was</sup> is filled with waste  
 from a ~~leasers~~<sup>former</sup> operations on the 75 foot  
 level. There is said to be a bulkhead  
 at the ~~160~~ 170 foot level and the  
 shaft therefore is filled ~~at least~~ to at  
 least that depth. Some repair was  
 done in the shaft above the fill and  
 when it was realized that the funds  
~~would fall far short of~~ ~~what~~ ~~was~~ available  
 would fall far short of accomplishing  
 the original objective the borrower cleaned  
 out a portion of the 75 foot level and  
 drove ahead ~~and~~ a short distance on  
 a hanging wall vein. This work  
 uncovered a showing of ore heretofore  
 described. The condition of the shaft  
 is very poor and it ~~was~~<sup>is</sup> evident  
 that a full clean out ~~of~~ of the shaft  
 would ~~be~~ be a job of considerable  
 magnitude which ~~cannot be justified~~  
 the cost for which ~~cannot be justified~~<sup>is hardly</sup>  
 by ~~the~~ the vague sketchy reports ~~presently~~  
 available regarding the deep workings.  
 The applicant therefore ~~has requested~~<sup>is only requesting</sup>  
~~only request to~~ such additional funds  
 as would be required to explore ~~the~~ his  
 recent showing on the 75 foot level and  
 a ~~below~~ the area below it on the  
~~foot level~~ ~~on the~~ presently inaccessible  
 170 foot level, and to do some  
 exploration work below on ore showing in this

4

No 3 shaft hereinafter described, but the event that this development program resulted from consideration of a full clean out job would be in order.

## 6. Description of Property

### A. General Features

1. There are no mine workings, etc. which are not confined within the applicant's ownership.
2. The project complies with state compensation and safety-first statutes.
3. There are no apparent legal discrepancies in the project.
4. There are no impeded right-of-way facilities.
5. There is no likelihood of surface or sub-surface trespass.

### B. Existing Development

The mine is opened by shafts

- a. No maps of the workings are available. The sketches which accompany this report were made from a compass and tape survey of the workings.
- b. Samples were picked and marked across the vein and gathered on canvas.
- c. The workings were largely inaccessible and much that was accessible was in poor condition.



d. General features of the deposit etc.

The property is a very old one and has made <sup>reported</sup> a ~~small~~ production amounting to several hundred thousand dollars <sup>mostly from ore shipped to Swansea, Wales.</sup> None of the old records or maps is available and the history of the operations is ~~very~~ <sup>meagre</sup>. ~~All the~~ The original application for loan ~~contained~~ was accompanied by ~~all the~~ an account of its early operations and by all the sketches, letters, etc which are available.

~~The~~ Following is a description of the workings and of the sampling, (see accompanying sketches):

The property is opened by 3 shafts and ~~a~~ <sup>an old</sup> step-shaft. The most important of these is an incline (shaft No 1) <sup>sunk to a depth of</sup> ~~shaft~~ ~~750~~ <sup>sunk 750 ft on the vein. Another shaft</sup> shaft (No 2) is ~~sunk~~ <sup>sunk</sup> vertically some 200 ft north and a little higher than No 1 shaft was <sup>to a depth of</sup> ~~sunk~~ <sup>250(?)</sup> vertically ~~with~~ <sup>in</sup> the ~~large~~ <sup>main</sup> hanging wall of the vein. It is said that this <sup>shaft</sup> ~~was~~ <sup>was</sup> begun on a vein parallel to the main vein but this cannot be ~~positively~~ <sup>so</sup> ~~reinforced~~ <sup>reinforced</sup> because of the large cicles and cored condition at the collar of the shaft. A shaft-stope, formerly called the "Spanish Shaft", is ~~sunk~~ <sup>sunk</sup> on the main vein near the vertical shaft. It is said to be 80 feet deep and is only partially accessible in its upper portion ~~and~~ <sup>which shows no ore.</sup> Some 200 feet

and somewhat high in the <sup>hill</sup> ~~sh~~

further to the north east, No 3 shaft is sunk in the main vein to a depth of 300 Ft. with levels at 128 Ft., 200 Ft. and 300 Ft. A number of longitudinal cuts have been made upon the main vein and on a parallel vein in it, forming wall. ~~The~~ The past production <sup>of the property</sup> was

~~largely~~ made from above the 300 Ft. level in the incline shaft. The vertical shaft and the Spanish shaft are each said to have contributed substantially to the production. It is not known what connections were made between these inclines. <sup>The</sup> No 3

shaft is a comparatively recent development and some work that was done on the 200 Ft. level <sup>in it</sup> 2 years ago uncovered a ~~short~~ lens of complex ore ~~at a short distance north east from the shaft~~.

~~No 3~~ A 30 foot wide vein was sunk in the ore and <sup>there</sup> it is said to be continuing in the bottom with a width of 24". This vein was covered and inaccessible at the time of the examination ~~and was~~.

~~The 200~~ and the 300 Ft. level was under water. The <sup>main</sup> vein on the 128 Ft. level has been drifted in in both directions.

It occurs as a thin mud seam with occasional widths up to 18" <sup>containing</sup> ~~and~~ <sup>enriched</sup> quartz and vein material with some quartz. This is completely oxidized and ~~is~~ in places <sup>shows</sup> much copper sulphate. ~~and~~

Sample No 4 was taken across the vein



in the ~~next~~ <sup>small</sup> ~~for~~ <sup>small</sup> a small opening above the ~~level~~ <sup>level</sup> in its southern end. This was the most attractive showing in the vein on this level. Another <sup>in the hanging wall of the main vein</sup> vein is opened by the shaft crosscut and a mine <sup>was</sup> sunk on it to the level below. No ore was ~~seen~~ <sup>seen</sup> in this vein.

P (11 Apr 1904)

A crosscut 20 feet from the shaft opens the main vein on the 200 ft level and continues beyond it into the hanging wall where it connects with the bottom pit level. The crosscut beyond the main vein was filled and bulkheaded off and therefore inaccessible. A short distance northward from the crosscut a lens of zinc sulphide is visible <sup>for a length of about 10 feet</sup> in the back of the drift. Sample ~~sample mine said to be 30 feet deep~~ ~~has been sunk on this vein~~ ~~sample across the vein at its widest place~~ ~~assayed~~.

~~Sample No 2 cut across its widest place~~ ~~assayed~~ ~~13 1/2 tons of ore which came from this mine is piled at a millsite in Tucson~~

No 2 was cut across its widest place. A mine was sunk on this one to a depth of 30 feet but is now caved and inaccessible. 13 1/2 tons of ore which came from this mine is piled at a millsite in Tucson. The applicant presented an assay of this material as follows:

Oz Au	Oz Ag	% Cu	% Pb	% Zn
.05	19.3	4.4	8.6	15.9

8

Another bulk sample taken by a reliable party checks this sample ~~rather~~ fairly closely as follows:

O <sub>2</sub> Au	O <sub>2</sub> Ag	% Cu	% Pb	% Zn
.07	13.0	3.1	8.2	17.0

MR

It is said that a crosscut on the 300 Ft. level encountered the vein but found no ore. Practically no drifting was done on the level.

#(20 pce)

The 75 foot level in the incline shaft ~~has been~~ ~~was clean~~ partially cleaned out and a lens of ore has been picked up in a vein paralleling the main vein and ~~a distance~~ some 20 feet from it in the hanging wall. ~~A crosscut from the main drift further in on the level cuts this same ore. Sample No. 3 was~~ ~~cut across the vein in the crosscut~~ ~~and~~ Samples 4 and 5 were cut across this showing, and sample No. 3 was cut across the same vein where it is opened by a crosscut from the main drift a short distance NE from sample No. 4. The ore in these samples is sulphide, predominantly sphalerite. ~~A stop~~ Several leasewas number of years ago stopped 3 crosscuts ~~from~~ <sup>of ore</sup> the main ~~vein~~ vein above and below

the 75 foot level in this same area.

R

The dumps were sampled by shovelling into cones and reducing the bulk of the samples by breaking and quartering the material. The dumps show appreciable amounts of sulphide mineral, but ~~nothing~~ <sup>most part of the dump is</sup> of commercial value.

### C. Proposed Development

The applicant proposes to repair the shaft below the 75 foot <sup>level point of</sup> ~~level~~ and <sup>drive</sup> it in filled and clean out and repair it to the 170 Ft. level. This level will then be examined to check reports of ore exposures on it with particular attention to the vein immediately below the sulphide ore ~~exposure~~ presently exposed on the ~~75~~ <sup>75</sup> Ft. level. He ~~the~~ proposes also to drift 50 feet on the 300 Ft. level in the 3 shaft with the expectation of picking up the down, extension of the ore occurring in the waste on the 300 Ft. level. The hoist, head frame etc. are in <sup>good</sup> ~~excellent~~ condition at this shaft.

The applicant is not mining at the present time. Local Mexican labor is available at \$6.00 per day for miners.



It is not possible to estimate ~~the~~ probable production rate in the present state of development of the property.

#### D Equipment

The Applicant presents in his application a list of the equipment now on the property. The list has been checked <sup>and found to be correct</sup>. The equipment is adequate ~~full~~ to handle the proposed program.

R

Housing will be required for the compressor and list.

#### E Estimated Costs

Estimated cost for the proposed program is as follows.

Clean out and repair <sup>main</sup> shaft to 170 FT level	\$2,000
Repair drift on 170 FT. level	400
Drift 50 ft on 300 FT level (No 38 ft)	
@ 150 per foot	750
Housing for compressor & hoist	300
Supervision, 3 mos @ \$200	600
Freight, auto expense, unforeseen	450
Total	4500

A. R

It is assumed that development in the ore on the 75 FT. level will pay its way.

R Min costs <sup>used probably</sup> ~~should~~ not exceed \$6.

It is not possible to estimate this <sup>costs</sup> in the present state of development of the property. ~~There is no mining in the past or present in the small irregular bunches, and it is quite high grade.~~

It is proposed to ship the ore to the ~~the~~ custom mill of the Shattuck-Dunn Mining Co at Bisbee. Costs per ton ~~within~~ schedule would be about as follows (on an ore containing \$20 pay value):

Truck to Railroad	\$ 1.50
Freight to Bisbee	1.27
Milling charge	3.00
20% to processor	<u>4.00</u>
	\$ 9.77.

In the event that the Eagle-Picher Co builds their mill at Sahuarita and accepts custom ~~on~~ the handling cost ~~for~~ there will be considerably lessened.

F. It is not possible to estimate ore reserves in the present state of development of the property. The ore which was produced in the past occurred in fairly small irregular bunches and was often

quite high grade.

~~The ore on the 75 FT. level~~

The weighted average of the ore present exposed on the 75 FT. level (3 samples) is as follows:

oz Au	oz Ag	% Cu	% Pb	% Zn
.08	8.4	11.0	4.6	16.0

In the absence of a mill test ~~and schedule~~ the general schedule of the U.S. Smelt & Ref Co is used to arrive at an approximate pay value for ore of this grade, as follows:

Gold	.08 oz	x .75	x \$ 31.818	=	1.91
Silver	8.4#	oz x .75	x \$ .71	=	4.47
Lead & Copper	110	x .75	x \$ .446	=	3.68
Brown Copper	20	x .87	x .275	=	.48
Lead	92	x .86	x .275	=	2.17
Zinc	320	x .60	x 40 x 8.25	=	6.34
Brown	320	x .77	x 2.75	=	6.78
Total					25.83

The indicated profit per ton

~~profit per ton~~ on the above would be:

Pay Value	25.83
Less: Handling and marketing	9.77
Mining	6.00
	15.77
Profit	10.06

In the event that the project qualified for additional bonuses for lead and zinc the above profit would be materially increased.



The project will employ local Mexican  
lab at \$6.00 per day for mining.

Comments of Supt. Eng.

There is no possible body of ore  
in sight ~~out~~ in the mine  
and the indication on the 75  
foot level in the incline shaft  
and, less clearly, on the 200 ft. level  
in the No. 3 shaft point to only  
small probable ore bodies. The  
project ~~cannot~~ <sup>even ought not to</sup> be dismissed lightly  
on this uncertain ~~if this~~ evidence.

While authentic records of the past  
performance are not available there  
is no doubt that the project has

~~Made an important~~ produced a  
substantial amount of lead zinc  
and ~~from~~ <sup>with</sup> a comparatively small amount of  
rein development. While the outlook  
is admittedly speculative the  
<sup>for developing substantial amount of lead and zinc</sup>  
chances ~~seem~~ <sup>are</sup> sufficiently attractive  
to justify expending some additional  
money to further develop <sup>the</sup> ~~adverse conditions~~ <sup>ore showings and</sup>  
~~incline shaft and the No. 3 shaft~~  
and to test the <sup>reports</sup> ~~status~~ regarding  
the presence of ore on the 170 Ft.  
level.

Egpt.

Rep. shaft to 75' level

CO. 75' level

17 (or 160) 80 feet drift NE

to Douglas

3 carloads from 170' level \$3.10 - 474g - 34% Ph

3% Cu - 8% Zn

Anderson says 2 reins come in 170 and run (6 ft)

5 Ft. 3.60 - 400g - 3 1/2 Cu - 24% Ph - 8% Zn

13.5 Tons from. Band shaft

cu ph zn  
04 - 1475 - 3.38 1293 199

2' wide in bottom

Water stands 205' from surface (highest)

Repa 25 shaft

100 Ft. shaft CO to 170 Ft level @ 20 2000

~~50 Ft. Drift on 300~~ 400

50 Ft. Drift on 300 @ 15 <sup>intended</sup> 750

Repa against Housing for Comp. & Hot. 300 - 050

Sup. 3 mms @ 200 600

Unpinned, int. etc. 450

\$ ~~500~~

500

80 170  
Repa drift on 50 ft level

400

Docket No.

AND-7892

Date of Examination, incl.

Feb 2-4, 1943

Date of Report

Feb 18, 1943

NOTE :

1. 1. Note: The project was granted a "C" loan in the sum of \$5,000 on Nov 11, 1942. The purpose of the loan, which was to mine the mine and make the workings accessible for examination and sampling, has been accomplished and the loan funds have been exhausted. ~~which was not the purpose of the project.~~ The borrower has made application for an additional <sup>loan</sup> funds with which to further develop the property, and the present report covers a ~~few~~ recent field examination, <sup>which was</sup> made in response to this application.

1. Name and Address of Applicant

Name: Armagosa Molybdenum and Copper Co.,

Address P.O. Box 1463  
Tucson, Arizona

Correspondent: Samuel T. Sherman, president,  
P.O. Box 1463  
Tucson, Arizona



2. Character of Project

Development of Molybdenum-copper deposit.

3. Location of Mine: Secs. 8, 9, 16, 21, 17.

The mine is located in T. 18 S, R. 12 E, Gila and Salt River <sup>Mission</sup> in the Pinal <sup>Mining</sup> District in Pinal County, Arizona. The nearest rail point, Continental, Arizona, is 10 miles distant by road <sup>east</sup> from the mine and the nearest supply point, ~~Phoenix~~ <sup>Tucson</sup>, is 34 miles distant by road in a northerly direction. The last 4 miles ~~to~~ the mine is rather rough sand and mine road with several short steep grades. The balance of the road is hard surfaced well maintained county road except the last 9 miles into Tucson which is paved highway. The <sup>road passes through the</sup> old mining town of Twin Buttes, in the district of that name,  $2\frac{1}{2}$  miles east from the mine.

4. Applicant.

The applicant-company is a corporation the principal <sup>members</sup> being Mr. Samuel Freeman, president, and his wife Celia Freeman, secretary-treasurer. The other officers and stockholders are listed in the application together with the number of shares held by each. To date of the ~~examination~~ <sup>examination</sup> approximately \$30,000 had been spent upon the project including the R.F.C. loan of \$5,000. Of this ~~amount~~ <sup>amount</sup> other than the R.F.C. loan Mr. Freeman had spent all but \$2,500 ~~which was~~, this latter

amount having been furnished by <sup>one of</sup> his ~~business~~ associates ~~Mr.~~ in his eastern business, in addition Mr. ~~Freeman~~ has assumed property payment obligations in the sum of \$10,000. Prior to the granting of the above R.F.C. loan approximately \$20,000 had been spent by Mr. ~~Freeman~~ <sup>in part</sup> ~~upon a part of the property, not~~ ~~concerned in the proposed development~~ ~~under the present loan application.~~ The ~~in part~~ as property payments and in part for development upon a ~~part~~ <sup>portion</sup> of the property, not concerned ~~with~~ <sup>in</sup> the proposed development under the present loan application. The balance of the stock holders received their stock as consideration for property, arguments or services rendered.

Mr. Freeman is an elderly man who has spent his adult life in chemical ~~works and~~ <sup>industry</sup>. His plant in New Jersey ~~manufactures~~ <sup>produces</sup> various constituents and bases which are used in <sup>the manufacture of</sup> dyes, perfumes and a wide variety of other chemical products. He is the holder of a number of valuable <sup>chemical</sup> patents including one which enters largely in the color formula for Ethyl gasoline. ~~He has apparently achieved~~ <sup>significant success</sup> ~~in this line of work~~ <sup>but in a scientific and industrial way</sup>. He has ~~had no previous experience prior to~~ <sup>conducted</sup> the subject undertaking, ~~last development in the~~ <sup>early part of 1942.</sup>

Prior to undertaking the ~~subject~~ development of the subject property he had had no ~~previous~~ mining experience. He has a keen mind and his manner is extremely cooperative and these factors together with a proven <sup>in the direction</sup> business ability justifies the belief that he would be able to competently handle the business details of the <sup>proposed</sup> ~~prop~~ project. He ~~counts upon~~ <sup>plans</sup> calling ~~up~~ upon technical assistance when needed and eventually to place the operation into the hands of a qualified mining engineer.

Mr. R. H. McGee <sup>vice-</sup> president of the corporation acts as ~~assistant~~ <sup>a middle-aged man and</sup> superintendent of operations. He is a member of an old Ranch family of the region. Many years ago when a division of the ~~the~~ extensive land holdings of the family was made he elected to accept the mineral rights on all the land in ~~the~~ <sup>fee rights</sup> ~~lieu~~ of a share of the ~~land~~. He has prospecting and mining, between periods of branching, in many districts all the state and is competent to handle the non-technical details of a mine development job.

5

Loan Requested

\$20,000



## 6 Description of Project

### A. General Features

1. There are no mine workings, mill etc which are not confined within the applicant's ownership.
2. The project complies with state compensation and safety - first statutes.

3. A controversy threatens that part of the property ~~group~~ known as the "New Year's Eve group".

A number of ~~per~~ letters and ~~paper~~ documents reflecting the various ~~views~~ ~~in~~ opinion in the matter have been forwarded to the Washington ~~and~~ ~~can be~~ office of the R.F.C. and ~~there~~ reference is made

to the ~~docket~~ ~~docket~~ files on the subject in that office. Briefly, the owners of the New Year's Eve group of mining claims entered into an agreement, dated March 6, 1942, with a Mr. Phippen of Los Angeles looking toward development of the claims. Mr.

Phippen made a \$500 cash payment within 3 weeks ~~time~~ of signing the agreement as required in the terms of the agreement. <sup>no work was done</sup> ~~shown~~ and ~~monied~~ <sup>the</sup> other stipulations of the agreement were complied with and in

Sept 1942 The owners of the property entered into an agreement with <sup>representing the Arizona Molybdenum & Copper Co.</sup> Mr. ~~Freeman~~ <sup>Freeman</sup> regarding these same claims. ~~Meanwhile~~ <sup>calling themselves the New Year's Eve Mining Co.</sup> Mr. Phippen and associates made application for a Class "C" Development loan

*Very clear*

(received Nov. 5, 1942) in the sum of \$5,000, and  
or on or about Nov. 15, 1942 Mr. Phipps  
approached the owner with a request for  
an extension of the lease granted on March  
6, 1943. The request was refused upon the  
grounds that the property was ~~no longer~~  
under contract to <sup>the Amargosa Molybdenum & Copper Co.</sup> ~~other parties~~. The affidavit  
of one of the owners recounting the conversation  
between himself and Phipps is attached  
herein (Exhibit A). The New Year's Eve  
Mining Co. has expressed <sup>its</sup> intention to  
contest the <sup>contract of the</sup> ~~Amargosa~~ Amargosa  
Molybdenum and Copper Co., ~~and to~~  
prove the <sup>present</sup> validity of their <sup>present</sup> contract, ~~that~~  
~~base their suit upon the fact that the~~  
~~of the lease of the~~ ~~60 days~~ ~~notice of default before cancellation had~~  
~~not been given~~

→ basing its claim upon the fact that their  
lease contains a clause requiring 60  
days notice of cancellation of the lease  
and ~~allows~~ <sup>permits</sup> the 60 day period within which  
the default may be cured.  
and allows curing of <sup>an</sup> default within the 60 day period,  
also that a certain amount of laborator, work  
in Los Angeles was held up because of <sup>lack of</sup> ~~provisions~~.  
Counsel for Mr. Iserman points out that work  
was not commenced on the project as required  
and none of the other specific requirements  
within specific time limits were met  
and that the non-compliance with any  
of the provisions of the lease on a period of

1 Krieger

C. J. Park 6A

~~was~~ exceeding 6 months constituted  
abandonment of the lease.

4. There are no unimpeded right-of-way  
facilities.

5. There is no likelihood of surface or  
sub-surface trespass during the project.

### B. Existing Development

~~a. The property is presently under field  
examination and geologic study by Charles A. Anderson and  
his assistant, Donald Kupfer, both geologists  
with the U.S.G.S.~~

a The property is presently being made  
the subject of a U.S.G.S. field examination  
and geologic study by Charles A. Anderson and  
his assistant Donald Kupfer, both  
geologists ~~with~~ that department. These parties  
were present at the time the ~~examination~~  
which is the subject of this ~~work~~ <sup>with this company</sup> was  
made and they assisted and shared in  
the sampling and gathering of <sup>the</sup> data ~~which~~  
is the <sup>upon which</sup> basis of this ~~work~~ report is based.  
Their work is continuing and <sup>essentially</sup> will be made  
the subject of a detailed report to the  
U.S.G.S.

The borrower <sup>company</sup> presented with his its  
application for a Development loan  
a report by Nellie G. Krueger, <sup>Field Engineer,</sup> and

another report by C.G. Searle, <sup>geologist.</sup> The former report was made prior to the acquisition of the New Year's Eve group of claims and concerns only <sup>the</sup> Amargosa and Esparanza <sup>group of claims</sup> ~~group~~ which lie about a mile <sup>west of</sup> over the hill from the New Year's Eve. The report by Mr. Searle covers the New Year's Eve group and was made in December 1939. Mr. Searle also examined <sup>Esparanza and Amargosa</sup> the group of claims at about the same time that Nellie Krueger made her ~~own~~ examination and report (mid-1942) but to date has not submitted his report.

The maps accompanying this report ~~was~~ <sup>are</sup> made from compass surveys by the engineer and by Anderson and Kupfer, and also, ~~when appropriate, from maps furnished in the Krueger and Searle report.~~

The ground between the New Year's ~~group of~~ E. group and the <sup>Amargosa - Esparanza</sup> group of claims has been <sup>recently</sup> acquired <sup>by the company</sup> either by purchase or by location. A claim map <sup>has been</sup> showing the relation of the claims and groups of claims has not <sup>yet</sup> been made. Mr. Anderson proposes during the mapping of the surface geology to tie his work in to the various claims and his report will no doubt contain a plot of the claims in their approximate <sup>correct</sup> orientation and ~~relation~~.



~~b. Samples were cut with pick and~~  
~~pick in~~

b. Samples were cut as nearly as  
 practical in 1" x 4" channels the  
 frequently

b. Samples were cut with pick and  
 maul and gathered on canvas. An  
 attempt was made to cut channels  
 1" x 4" in dimension but because of  
 the frequently shattered <sup>and</sup> blocky nature  
 of the ground the dimension could not  
 be rigidly ~~observed~~ maintained. It is  
 believed however that a continuously  
 uniform pattern the material was taken  
 in uniform proportion through the length  
 of <sup>the cuts</sup> ~~samples~~ and that the results ~~are~~  
 reasonably representative ~~samples~~ of the  
 material. Weight of <sup>the</sup> samples ~~was~~ ranged  
 from 50 to 100 lbs and size of the  
 pieces ~~was~~ reduced by breaking  
 and rolling on the canvas to ~~a~~ 6 to 10 lbs.  
~~of 6 to 10 lbs.~~

c. The workings in the <sup>immediate</sup> area of the claimed  
 pieces <sup>in the New Years Eve mine</sup> are accessible and in  
 fairly good condition. The balance of  
 the workings on the property are only  
 partly accessible as hereinafter described.

d. The mine is located <sup>in the</sup> ~~a~~ low mountainous area known as the Sierra mountains. ~~The peaks of these mountains rise to approximately 6000 ft from the plains and surrounding~~ <sup>altitudes</sup> the higher peaks reach ~~altitudes~~ around 6000 ft and rise from canyon floors and plains surrounding the mountains having elevations of from 2000 to 3500 ft. The numerous canyons ~~walls~~ of the range are fairly shallow ~~but~~ but the canyon walls are generally ~~steep~~ steep. ~~The canyon floors and plains at the surrounding the base of the mountains~~ are cut by sharp drainage gulches ~~which~~ frequent ~~after~~ <sup>eroding</sup> ~~break~~ sandy ~~rock~~ are common. commonly opening into broad sandy washes.

v) The geology of the region is described in detail in Mr. Sailer's report and, further, is ~~being made~~ <sup>now in progress</sup> the subject of a field survey, as noted ~~above~~ <sup>above</sup>, by the U.S.G.S.

① Briefly, the rock mass of the Sierra range is a porphyritic biotite granite which is cut by numerous fine grained <sup>acid</sup> ~~dikes~~ <sup>and</sup> ~~different segregations in the final stages of cooling of the acid magma.~~ locally the ~~granitic country rock~~ <sup>the</sup> ~~rock~~ <sup>locality</sup> under study, and largely covered by the

quartzitic <sup>the country</sup> ~~rock~~ of the Elmore-Lake Copper and Molybdenum Co. ~~is more particularly identified as a quartz monzonite porphyry and~~ there occurs <sup>in it an</sup> area approximately 2 miles in length ~~in a general~~

east-west direction and about a mile ~~wide~~  
~~wide~~ which <sup>contains as much</sup> ~~mineralized~~ contains a  
 broadly diffused ~~mineralization~~ is mineralized  
 in a broadly diffused manner with  
 molybdenite, associated with chalcopyrite  
 and, superficially, the oxidized minerals of  
 copper. The ore minerals occur in quartz  
 seams and veins and, more importantly,  
 in a large quartz mass or plug on the  
 New Year's Eve group of claims. While  
 practically all the workings, prospect cuts, and  
 dumps <sup>on the property</sup> show notable amounts of molybdenite  
 and copper minerals the none of this work  
 with the possible exception of that in the  
 quartz <sup>mass</sup> ~~plug~~ above referred to discloses sufficient  
 concentrations of these metals to constitute  
 a body of commercial ore.

The property of the applicant company  
 comprises the following groups of unpatented claims:  
~~Esperanza~~ Amayosa (10 claims), Esperanza (4),  
 New Year's Eve (3), Domingo (4) and Fortune  
 (3), or a total of 24 claims. The claims  
 were acquired originally by Mr. Dequar and ~~have~~  
~~been~~ <sup>are</sup> ~~now~~ <sup>now</sup> ~~on the property~~ <sup>in him</sup>  
 April 1914 been assigned to the <sup>by him</sup> Amayosa  
 Molybdenum Copper Co.

(2) The first mining work in the area was  
 done in 1895 on the property now known  
 as the New Year's Eve Mine, and consisted of  
 the mining of oxide copper ore in a quartz  
 "flow-out" area ~~on the Amayosa Eve group~~

on the <sup>south</sup> edge of Anacapa gulch, and the  
 sinking of several prospect shafts and ~~pits~~ <sup>pits</sup> in that  
 neighborhood. In 1906-7 the Calumet  
 and Arizona Company took over these  
 claims along with a larger block of  
~~develop the property and a claim and~~  
 other claims in the area and undertook  
 an extensive <sup>exploration</sup> ~~development~~ campaign  
 in an attempt to procure a large  
 tonnage of silicious copper ore. A 220  
 foot shaft was sunk <sup>from which</sup> and approximately 3000  
 feet of ~~footing~~ work was done. <sup>also,</sup> Considerable  
 surface work in the form of shallow shafts  
 and cuts was done and a large number  
 of <sup>diamond drill</sup> ~~diamond drill~~ holes were put down. The  
 results were disappointing ~~however~~ and the  
 work was abandoned. The work <sup>done</sup> showed  
 a wide-spread scattering of copper in  
 small non-commercial amounts, and, it is said,  
 small amounts of "graphite". The latter  
 term no doubt <sup>referred</sup> ~~referred~~ to the then little  
 known mineral molybdenite. ~~The~~  
 property lay idle for many years until  
 World War I when its molybdenite  
 possibilities were appraised <sup>recognized</sup> ~~recognized~~  
 and operations were resumed in a small  
 way consisting chiefly of ~~shuttling~~ <sup>hauling</sup> ~~the~~  
 a part of the <sup>newly</sup> ~~dump~~ <sup>ore</sup> derived from the 50 ft.  
 level ~~making~~ workings in the New Year's Eve  
 mine.



No P A report and authentic history of the Calumet and Arizona Company is not available and in an event no data would have been kept on the malachite showings.

Following the Calumet and Arizona operation the property lay idle until World War I when its malachite possibilities were recognized and ~~some work~~ <sup>for a short period</sup> ~~some work~~ was done in the mine ~~principally~~ <sup>which and a</sup> and a portion of the New Year's dump <sup>was trucked to a</sup> mill in Tucson. The operation was not successful and no shaft lined.

(v)

The present operations were begun in April 1942 on the Amargosa - Esperanza group of claims and <sup>later</sup> were transferred to the New Year's Eve group following acquisition of that property and the granting of ~~a R.F.C.~~ <sup>by the R.F.C.</sup> ~~for~~ <sup>a</sup> ~~pan~~ <sup>pan</sup> for the purpose ~~mining~~ <sup>mining</sup> its workings and making them accessible for sampling.

① Work on the Amargosa - Esperanza group consisted principally of sinking a shaft on the the bank of Coparoo canyon ~~into the~~ <sup>it was planned</sup> from which to explore at depth the favorable ~~and quite mineralized~~ surface exposures <sup>noted</sup> ~~the floor of the bottom~~ of the canyon and on the opposite bank and hillside above ~~Coparoo~~ <sup>the</sup> canyon. The shaft ~~was~~ <sup>had been</sup> sunk ~~carried~~ to a depth of 92 feet when work

~~This work was done in the <sup>area</sup> of ~~Miss Krueger~~~~  
~~1. S. S. S.~~

was suspended. If or when the shaft sinking is resumed it will be carried to water level and lateral exploration will be made <sup>at</sup> this level. The work was done at this point on the advice of Mr. Sade and Miss Krueger.

There was no ore <sup>to be seen</sup> in the shaft and nothing ~~more~~ which merited sampling, ~~could~~ <sup>was</sup> seen elsewhere in its vicinity. The area is here <sup>of few</sup> ~~but~~ interesting possibilities but <sup>the development</sup> would be highly speculative. The main

P 2 ~~at~~ purpose of the examination was ~~to~~ to appraise ~~the~~ <sup>the workings in</sup> situation in that part of the property (the New Year's Eve Mine) which had been made the subject of basis of the request for additional development loan funds. Following is a description of these workings together with the sampling etc. (see accompanying maps):

(2) The chief surface feature of the New Year's Eve group and the one which received earliest development is a <sup>quartz mass</sup> or "blow-out" on the <sup>south bank of</sup> ~~hillside~~

~~at the~~ <sup>near foot of the quartz mass</sup> Amargosa gulch. Two short tunnels <sup>one 40 ft long the other</sup> were driven into the hill and a considerable amount of oxidized copper ore was removed (no record is available regarding the quantity or grade of ore shipped). The crest of the hill <sup>above</sup> has slumped <sup>in</sup> ~~into the~~ <sup>which was not extensive</sup> workings and the workings are ~~not~~ inaccessible. A longer tunnel <sup>approximately</sup> ~~some~~ 80 ft below the upper workings was driven

some 230 feet

southward into the hill from a point abt. 25' above the floor of the gulch. This tunnel ~~encounters the~~ which starts in the granitic contact country, and enters the quartz mass at approximately 100 ft from the portal. The contact strikes about  $30^{\circ}$  NW and dips approximately  $55^{\circ}$  SW.

A few feet back from the face of the tunnel a crosscut was driven 50 feet in a southwesterly direction and <sup>at its end</sup> a raise was put through to the workings above. The raise is now cased and inaccessible.

The crosscut has been ~~broken~~ <sup>broken</sup> out widely ~~large section~~ on the level in the

center 25 ft of its length and a <sup>vertical 1 1/2 compartment</sup> raise was put down at 25 feet

from the crosscut. The level workings

are all within ~~the~~ <sup>the</sup> quartz ~~mass~~ <sup>mass</sup> except for the first 100 feet of the tunnel. This mass is a ~~body of~~

~~mass is a milky, massively crystalline quartz.~~ This mass is a

body of milky white to intense massively crystalline quartz. The quartz shows general

~~much~~ sheeted fracturing though <sup>at the south</sup> ~~much~~ <sup>occurs in</sup> ~~of it is~~ dense hard masses. ~~The fault~~ <sup>Occasional</sup>

fault planes ~~are noted~~ with attendant gouge material are noted the same

of these is of major proportion in

or any of them <sup>applies to</sup> can, then into the enclosing granite country rock.

The mine opens a 50 Ft level and a 100 Ft level and connects with a chute raise from the 200 Ft level of the main vertical shaft <sup>hereafter</sup> (described later).

The granite surrounding the quartz mass is barren and the quartz on the tunnel level shows practically no mineralization. In the mine tunnel at about 15 feet from its collar chalcoprite and malachite ~~minerals~~ appear <sup>in the quartz and continue down to 100 Ft</sup> level and probably lower. The change from barren to mineralized quartz is sharp and the ~~accompanying~~ <sup>point at</sup> which mineralization begins is clearly marked by a heavy coating of copper sulphate <sup>which</sup> continues <sup>down</sup> several feet below this point on the sides of the mine.

① The southwest drift on the ~~100~~ 50 Ft. level enters the granite beyond the quartz mass at 45 ft. from the shaft and the northeast drift encounters the contact at about 60 feet from the shaft. The strike and dip of the contacts are not clearly evident ~~so~~ because of their <sup>irregular</sup> <sup>nature in the</sup> ~~planes~~ and ~~the~~ <sup>shut</sup> exposures. They appear <sup>to</sup> cut ~~almost~~ squarely across the drifts and to stand about vertically. The

balance of the level workings are wholly within the quartz mass. Molybdenite and chalc. pyrite ~~occur~~ <sup>is</sup> ~~is~~ <sup>are</sup> fairly evenly distributed <sup>all</sup> through the quartz which is exposed upon this level. The molybdenite occurs in patches and fine disseminations <sup>in occasional rare instances in</sup> and ~~occasionally~~ <sup>occasionally</sup> ~~some~~

fist-sized masses of nearly pure molybdenite. ~~The~~ ~~distribution is fairly uniform throughout the~~ ~~specimens on this level.~~ Chalcopyrite occurs wholly in finely disseminated manner.

Frequent <sup>in</sup> ~~Some~~ carbonate staining is visible and, occasionally, copper sulphate, particularly <sup>in</sup> joint seams, and in the gouge of fault planes. The copper mineralization however is predominantly chalcopyrite, the oxidation products very probably having resulted from ~~the~~ <sup>the</sup> ~~many years~~ exposure to air and moisture during the ~~many years~~ <sup>the</sup> ~~the opening was made~~ that the ground has been open. The openings on the level were sampled by longitudinal channel cuts. ~~as indicated~~ The location of the samples ~~is~~ <sup>is</sup> indicated upon the accompanying map. Sample No 10 was a grab ~~sample~~ taken from some high grade material in the face of the drift at the designated point. ~~the~~ The

weighted average of the samples on this level is ~~43.70% Cu and 1.02% Cu~~ <sup>43.70% Cu and 1.02% Cu</sup> weighted average of the samples on this level (excluding No 10) is 43.70% Cu and 1.02% Cu

The molybdenite and copper mineralization is fairly uniform throughout the level on this level



X

Since the material in the  
block is below commercial  
grade at <sup>the</sup> present market  
price for  $\text{MoS}_2$  the term "ore" ~~is~~  
is used advisedly, with the thought  
that the <sup>urgency of the</sup> need for  $\text{MoS}_2$  <sup>might</sup> ~~will~~  
justify subsidization of production,  
probably in the form of bonus  
price ~~as similar to as has been~~  
done in the ~~same~~ manner that  
bonus prices are <sup>now</sup> paid on various  
other strategic <sup>and critical</sup> minerals.

minerals, etc. on the  
 ① The 100 FT. level ~~is~~ weaker  
~~mineralization~~ than that shown on the  
 50 FT. level. The ~~quartz~~ <sup>northeast</sup> part -  
 granite contact is found in the ~~short~~ mine  
 at this level. It strikes approximately  
 $N 60^{\circ} E$  and dips approximately  $30^{\circ}$  <sup>west</sup>. A

south + drift from the mine encounters the southwest

quartz - granite contact at 45'. The contact  
 here has <sup>an approximate</sup> NW strike and an average  
 dip of about  $65^{\circ} NE$ . and is

drifted on for ~~some~~ 78 feet. The <sup>drift</sup> ~~part~~  
 of the drift <sup>on the southwest contact</sup> is wholly within the

quartz, while the north part was driven  
 largely in the soft granite's contact material.

In the latter ~~and~~ case the quartz forms  
 in part one wall of the drift. This wall

is smooth and <sup>conspicuous</sup> ~~shows~~ considerably malgdenite  
~~magnetite~~ as a scale or skin, in places  
 up to  $\frac{1}{8}$ " thick. ~~much of the material for which~~ <sup>for this reason</sup> the

~~sample (No. 11A) was not used~~  
 in - Much of this material was

broken into the sample at this place  
 and therefore in order to avoid an

undue distortion of the ~~average~~ <sup>the sample (No. 11A)</sup>  
 was not included in the <sup>calculation</sup> weighted  
 average of the samples on this level.

This ~~weighted average~~ <sup>is</sup> %  $MoS_2$  %  $Cu$

① Samples in the mine were obtained  
 by combining the <sup>from vertical</sup> cuttings <sup>from opposite walls</sup>  
~~from~~ <sup>location and the</sup> results of these samples is  
 shown on the accompanying map, as well as the

Longitudinal channel - 2 samples were  
 cut in the opening on the level  
 as on the 50 FT. level.

36	.22	73
28.5	.34	13
<u>28.5</u>	<u>.40</u>	<u>15</u>

36	.22	<del>21</del>	73
28.5	.13	<del>40</del>	34
28.5	.15		40

7.92	26.28
3.70	9.69
4.28	<u>11.40</u>

93	15.90	47.37
	<u>0.17% Mos</u>	0.51% Cu

0.17% Mos	0.51% Cu
-----------	----------

P. 2 A shaft and several cuts in the NW hill slope some 8-50 feet N from the quartz mass exposure in an easterly trending quartz vein. The shaft was inaccessible and no information regarding its depth or value was available. It is said to be about 50 feet deep and that the dipping appears to confirm this. The dump above, finally disseminated, indurated and some copper calcination.

18  
Samples were not cut below the 50 FT. level and the upper limit of the <sup>about</sup> 35 feet above the level. ~~the level~~ <sup>the level</sup> is ~~at the level~~ <sup>at the level</sup> and the result ~~of the~~ <sup>of the</sup> ~~mineralization~~ <sup>mineralization</sup> here it was felt safe to assume a ~~content~~ <sup>content</sup> equal to the average of the balance of the samples.

① An average assay value for the indicated ~~mass~~ <sup>block of ore</sup> was obtained by ~~calculating the weight~~ <sup>calculating the weight</sup> ~~using~~ <sup>using</sup> average of the mine samples and the 50 FT. level samples. The 35' above the level was not sampled but since ~~the~~ <sup>the</sup> area is strongly mineralized and Sale's sample showed 17.0% MoS<sub>2</sub> and 1.10% Cu it is assumed that the material here will ~~stand~~ <sup>stand</sup> up to the average of the balance of the samples. X

② The mine below the 100 FT. level (or chute from the 200 FT. level) was open for some 30 feet below the level. The contact cuts across here on dip below the level. The ground could not be ~~observed~~ <sup>closely</sup> examined because of its unsafe condition.

③ The main shaft (reference to above) which was sunk by the Calumet and Arizona Company in 1906 is located on the south bank of the ~~the~~ <sup>the</sup> ~~main~~ <sup>main</sup> gulch some 20 above the bottom of the gulch and about 250 ft north from the portal of the above described tunnel. The shaft of 2 compartments is 220 ft deep with a level opened at the 200 ft. A drift at this level was driven in a westerly direction some

Thickness of the granite area  
The width of the granite area  
on the level directly below the quartz  
mass showing a plane of altered  
molybdenite and chalcopryite  
mineralization.

A drift was driven south from the shaft on  
the 200 FT. level and the area beneath  
the quartz mass was explored <sup>by branches from this drift.</sup> The main drift  
is accessible for a distance of approximately 380  
ft from the shaft and at 325' from the shaft a raise was put up to connect with the bottom  
It is said that  
~~exploration work amounting to many hundreds~~  
of feet was done south of the presently  
accessible faces of the drifts in this end of  
the mine. The quartz mass does not reach  
down to this level in any of the present  
openings on the level. East of the main drift  
~~crosscut~~ a <sup>vertical</sup> raise was put down to a  
reported depth of 120 ft at a point where  
a mass of quartz was encountered. The quartz  
on its <sup>irregular</sup> contact with the granite <sup>is irregular</sup> shows ~~no~~  
~~mineralization with chalcopryite and pyrite~~  
does not rise above the top of the drift and its  
contact with the granite forms the west wall of the drift  
at this point for a length of some 30 feet.  
The thickness of the quartz mass is not  
~~ascertainable~~ <sup>indicated by</sup> ~~It~~ <sup>It</sup> does not extend  
through to the main drift <sup>parallel</sup> ~~50~~ <sup>50</sup> ft west  
of this point. The raise was filled with  
water and which overflowed the collar at  
the time of the visit. Mr. Anderson writes  
that since this examination was made the  
raise was unwatered to 75 feet <sup>and</sup> that the  
material exposed ~~was~~ all granite with  
<sup>occasional slight</sup> ~~little~~ mineralization with molybdenite and  
chalcopryite. At 18 feet a short crosscut  
from the raise was in barren quartz.  
(see next page)

the quartz  
mass



Mr P

The quartz at the head of the mine is mineralized at its contact with the granite and shows appreciable amounts of chalcopyrite and some molybdenite, in irregular branches. ~~The whole area of the granite on the level under the large party, shows some sparse chalcopyrite and molybdenite mineralization.~~ It is said that someone was ~~run~~<sup>run</sup> ~~stopped~~ from the mine and that it was piled in the drift beyond the mine (now inaccessible) which curves around and connects with the end of the main drift. Also, it is said that a drift several hundred feet in length was driven in a southerly direction from <sup>a point in</sup> this ~~drift~~ <sup>drift</sup> and that good copper ore with molybdenite was ~~exposed~~ exposed in the drift. Mr. Anderson's observations in the mine would not seem to confirm the statement that any important production was made from the mine. Another <sup>vertical</sup> mine was

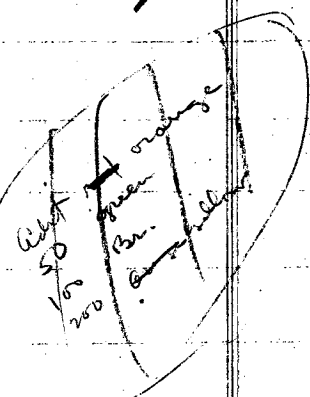
- D sunk in a crescent about 20 feet west from the main <sup>drift</sup> ~~crescent~~ in this same area. The mine is said to be 80 feet deep and to have produced a carload of ore. ~~The mine~~ <sup>It</sup> was full of water at the time of the examination. There was no ore exposed at the head of the mine although the granite here <sup>contains</sup> ~~appears to be~~ <sup>exposed</sup> ~~is~~ <sup>is</sup> patches and small branches of chalcopyrite.

(Return to page 19)

Sampling of this area is shown on the accompanying map.

700 ft to explore the area below the ~~so~~ shaft on the NW hillside. The drift <sup>at its end</sup> is approximately 26 ft below the collar of this shaft. Nothing of <sup>importance</sup> ~~interest~~ was encountered in the drift. Occasional sparse mineralization is seen, generally in the form of east-west quartz seams containing thin foils and plates of molybdenite up to  $\frac{1}{8}$ " in thickness. Seams of this nature would need ~~to~~ <sup>to</sup> occur in the close grouping which ~~would make a body of ore~~ in order to make a body of ore and there is no point at which such a ~~stratigraphic~~ condition is indicated.

19A



✓ An ~~inclined~~ shaft has been put down during the present operation on an east-west strike fracture zone <sup>in the bank</sup> south <sup>from the</sup> edge of the wash in Anonymous Gulch. The shaft which inclines <sup>some 220 feet west from the portal of the tunnel</sup> ~~is~~ about  $30^\circ$  in a South direction is 30 foot deep. Samples ~~at~~ taken by the company at 18 feet in the shaft assayed .55%  $\text{MoS}_2$  ~~and~~ 2.85% copper across 4 ft. and at 30 ft. assayed .48%  $\text{MoS}_2$  and 1.41% copper, and a sample of the dump ran .28%  $\text{MoS}_2$  and 2.02% Cu. These samples are more particularly described in Mr. Freeman's letter of Jan. 26, 1943 which is enclosed herewith. The shaft was largely filled with water at the time of this examination. A sample (No 4A) was taken by shovel from the better portion of the dump representing material from the lower part of the shaft. The sample assayed

Sample	% MoS <sub>2</sub>	% Cu
2A	1.09	.24

✓ ~~Other~~ <sup>other</sup> numerous shallow cuts and pits on the surface of the property showed nothing of importance <sup>of immediate</sup> ~~or~~ interest to the purpose of this report.

### C Proposed Development

1. The proposed development concerns two projects in the New Years Eve property, viz: (a) further exploration of the quartz mass by drifting northeast and southeast from the shaft near the lower limit of the present ore block, and (b) cleaning out ~~out the drifts in the south end of the 200 Ft. level. for the purpose of checking some regions, but none there.~~ ~~persistent, however, evidence regarding ore in the area underlying south beyond the points presently accessible from this level~~

✓ The first part of the proposed <sup>development</sup> ~~is~~ program is logically <sup>indicated</sup> ~~indicated~~, in view of the ~~indicated~~ <sup>partially</sup> block of ore already developed in the quartz mass. ~~The term "ore" is used advisedly, being in mind the possibility of substitution of pyrite or covellite, discussed more fully hereafter.~~ The development in <sup>the</sup> 50 Ft. level in the mine in the quartz mass ~~indicates~~ discloses the ~~southern~~ <sup>NE</sup> and ~~southeastern~~ <sup>SW</sup> ~~boundaries~~ of the quartz, but no limits ~~are~~ the

NW-SE axis. The surface trace of the  
 boundary of the quartz mass suggests that the NW-SE  
 axis might be <sup>about the same</sup> ~~considerable longer~~ <sup>as</sup> the  
 known NE-SW axis. ~~The limits of develop-~~  
~~ment~~ (The possible <sup>amount</sup> ~~amount~~ of ore to be  
 developed beyond the present block is  
 conjectured. Apparently <sup>much</sup> ~~quite~~ <sup>limited</sup> ~~in view of fact~~  
 that the ~~plac.~~ quartz mass does not  
~~reach~~ extend down to the 200 ft. level,  
 and in any event the minable portion  
 now disclosed is not thick (about 50 feet).  
~~There is room in the~~ ~~for developing~~, in the  
 probable projection of the surface boundaries,  
 about as ~~much~~ <sup>or perhaps a little more</sup> ~~as~~ <sup>is</sup> already ~~worked~~  
 out and the prospect for doing so  
 appears reasonably attractive.

The <sup>now exposed</sup> ~~ore~~ in each end of the block on this  
 NW-SE <sup>axis</sup> seems to assure that some extension  
 of ore will be developed in this direction. There  
 is room for developing ~~ore~~ with the  
 projection of the surface boundaries. The  
 quartz mass about <sup>about the same</sup> ~~as~~ <sup>much</sup> ~~as~~ (ore <sup>in mass</sup>)  
~~a little more~~ as is presently indicated ~~now~~  
~~in the block~~ and the prospect for  
 doing so appears good.

~ The second part of the proposed develop-  
 ment would be highly ~~spectacular~~,  
~~and would be~~ based upon vague, but  
 nevertheless persistent, hear-say reports  
 regarding the occurrence of <sup>copious</sup> ~~good~~ <sup>ore</sup> ~~in~~ <sup>conjunction</sup>  
~~with~~ appreciable molybdenite in the

cored portion of the mine ~~on the~~ beyond the presently accessible faces on the 200 F.T. level south. Other reports <sup>from</sup> ~~regarding~~ <sup>the 200 F.T. level</sup> ~~the mine~~ have not been borne out by the findings upon <sup>recently</sup> ~~unwatering~~ it. The development therefore would be highly speculative and would not deserve consideration excepting as possibly in ~~conjunction of with other more~~ ~~important~~ that it might be ~~done~~ <sup>done</sup> ~~presidentally~~ <sup>done</sup> ~~in conjunction with~~ <sup>an operation</sup> ~~incidental~~ <sup>concurrent</sup> ~~to~~ other more important work in the mine.

2. <sup>keeping the working population</sup> The applicant is at present ~~engaged~~ <sup>on the 200 F.T. level</sup> and in cleaning out the drifts <sup>in the south</sup> end of the mine. Development in the <sup>because of the need for drilling equipment is</sup> quarters <sup>of</sup> ~~more~~ <sup>waiting</sup> in a decision regarding the application for a loan. ~~The present work~~ at the mine comprises 9 men including ~~the superintendent.~~

3 Expected capacity of operations

- a. It is anticipated that the proposed develop-  
<sup>if feasible</sup> ~~ment~~ <sup>will</sup> result in an output of 100 tons  
of ore per 24 hours.
- b, c, d. Rate <sup>of advance</sup> for drifting crosscutting and raising,  
is estimated at 4 feet per 8 hour shift.
- e. Milling, if justified, would probable  
be at a rate of 100 tons per day.
- f, g. Mill tests ~~have not been made~~  
on the ore are not available records



is there any record of the results obtained in ~~the~~ milling of some of the dump ore many years ago. The minerals to be concentrated are molybdenite ~~with no~~ <sup>unaccompanied by</sup> oxidized ~~mineral~~ molybdenum minerals, and chalcopirite accompanied ~~with~~ <sup>by</sup> a small amount of apatite, all in a clean quartz gangue. ~~One of these~~ <sup>an</sup> contraction <sup>with satisfactory recovery</sup> of one of these character into a bulk chalcopirite-molybdenite concentrate ~~by~~ <sup>by</sup> followed by ~~concentration~~ separation of these sulphides into concentrates of marketable grade <sup>for each product</sup> is readily accomplished elsewhere, and ~~should~~ <sup>ought</sup> not to present ~~no~~ <sup>any serious</sup> difficulties in this instance.

For purposes of estimation it seems reasonable to assume that 85% of the metals would be recovered in a concentrate which for the chalcopirite would have a grade of about 25% Copper, and for the molybdenite a grade of 90%  $\text{MoS}_2$ . ~~The ore in the block under consideration on the~~ <sup>On the</sup> basis of these assumptions the <sup>ratios of concentrate</sup> ~~for the~~ <sup>in the block under consideration would</sup> be  $\frac{25}{1 \times 85}$  or 29.4 for the copper and  $\frac{90}{.50 \times .85}$  or 212 for the molybdenite.

n. Not applicable

i. The present crew is ~~largely Mexican~~ and is made up of local men, largely

Mexican and the wage scale is low ranging from \$4.50 per day to \$6.00 per day (the latter <sup>figure</sup> being the wage paid to the foreman). In the event that ~~large scale operation~~ the property is brought into production the wage scale would have to be <sup>increased</sup> brought up to conform with the scale paid at ~~at~~ ~~near~~ other operating properties of the region. The base pay for miners would then be \$6.50 per day.

D

Equipment.

1. ~~Equipment~~ <sup>and supplies</sup> on the Amargosa - Esmeralda claims comprises the following:

1. 9 HP Fairbanks Morse single drum hoist

1. Portable compressor - IR 105 cu ft

1. Blower with 3 HP engine and 100 ft of 6" vent pipe

1. Mine car

2. 1000# Ore buckets

1. Small injector type pump

1. <sup>12 ft</sup> Ton mine rails

300 ft 1 1/2" and 1" pipe

1. Used I.R. <sup>light</sup> jackhammers

1. used ~~Ch~~ Cochise rotating slope (good condition)

~~Mine~~ <sup>shop</sup> equipment and tools

Equipment <sup>and supplies</sup> at the New Year's Eve property consists of:

1. 6 HP Fairbanks Morse single drum hoist (rusted)

Heavy with cylinder and rods  
1 Jack Pump ~~etc~~ (rented)

1 15 H.P. single cylinder engine driving above  
jack pump (rented)

1 Small Jack Pump with cylinder and rods

1 6 HP engine driving small jack pump

300 FT. Galvanized  $3\frac{1}{2}$ " pipe

$3\frac{1}{4}$  Tons 12" Min rail

1 12' x 24' House

Beside the above there is on the property  
a considerable quantity of mixed size timber,  
~~and also~~ miscellaneous tools, and a  
 $\frac{1}{2}$  ton Ford 1934 Pick-Up with new engine

2. There is no mill now on the property

3. Not applicable

4. Min. Equipment and Supplies <sup>required</sup> ~~recommended~~  
for the project comprises the following:

~~4 Used  $1\frac{1}{2}$  Ton trucks~~

1 - Compressor -

1 - Hoist with cage and line

~~1~~ 2" Pipe

Air and Water Pipe

One Car

Miscellaneous tools and supplies.

5. ~~The above equipment is not~~ recommended  
under the present development  
project.

6. Present planning is adequate for the  
development project.

7 No. camp construction is required.  
The members of the crew live in the  
outlying district

8 A  $1\frac{1}{2}$  ton truck will be required.

F

## Cost Estimates.

a There is no past performance record  
upon which to base a <sup>detailed</sup> ~~min~~ cost.  
The ground is <sup>firm and</sup> ~~the~~ <sup>the</sup> ore body <sup>to be mined</sup> would be one of large  
dimensions, and ~~the~~ <sup>is</sup> ~~space~~ <sup>is</sup> ~~is~~  
~~stand firm~~ ~~timber support~~  
~~and filling~~ would not be required  
to maintain the workings. The ore  
could be mined and be most cheaply  
seamed by sinking in large  
stopes with narrow pillars at  
widely spaced intervals. Mining  
cost is estimated at  $\$2.50$  per ton.

b, c, d. Cost for drifting <sup>crosscutting and</sup> raising ~~is~~ estimated  
at  $\$1.5$  per foot

e, f. Sinking of mine or shaft is not  
contemplated in the proposed  
project.

g. Milling cost is estimated at  $\$2.50$   
per ton <sup>at</sup> ~~at~~ 100 tons per day plant.

h. Trucking cost ~~to~~ to railroad  
is estimated at  $\$1.00$  per ton of  
concentrates.

i. j. Marketing of methylaldehyde ~~is~~

concentrate to  
~~releasing the outlet for the concentrate.~~  
~~at~~

concentrate would be the subject of  
 negotiation in the future and  
 practically no data are available at this  
 time. ~~The open market price for the~~  
~~marketable concentrate is on a~~  
~~flat purchase basis per unit of~~  
~~MnO<sub>2</sub> in a minimum MnO<sub>2</sub> is quoted~~  
~~purchased at a unit price for the~~  
~~MnO<sub>2</sub> content of a in a concentrate~~

Mr P Since the MnO<sub>2</sub> is purchased at a  
 quoted price for the MnO<sub>2</sub> content of a  
 high grade (90% plus) concentrate the  
 cost for marketing <sup>of the concentrate</sup> would be only the  
 freight trucking and to the railroad  
 and the freight to the buyer, and  
 because of the anticipated high ratio  
 of concentration the market charge would  
 proportion out at a low figure per ton  
 of ~~min. mill feed~~ i.e. min. 1. ~~and~~  
 v. Cost of marketing the copper concentrate  
 also would be low because of the high  
 ratio of concentration would be under  
 \$10 per ton per ton or, at the anticipated  
 ratio of 29 to 1, about 34¢ per ton of  
 ore min. d.

W. Cost of supervision of the development project is estimated at \$2.00 per  
 month.

f. Tank requirements would be small

m. Total costs <sup>per ton of ore</sup> assuming that the contribution



of a mill will be justified by the results of the development project ~~available~~ are roughly estimated as follows:

	\$
Mining, including slope preparation	2.50
Milling	2.50
Marketing	.50
Supervision and overhead	<u>.50</u>
Total	6.00

3. Month premium on payroll for state compensation is estimated at \$250. ~~per~~

F

### Ore Reserves

#### 1. Probable Ore and Dump Ore.

1. Development on the 50 Ft. level and in the waste in the quartz mass indicates a probable block of ore in this area. Sampling in the raise indicates that the block <sup>has</sup> a thickness of ~~the~~ 50 ft. width of the ore and of the quartz mass ~~is~~ on its NE-SW axis on the 50 ft level is ~~defined~~ <sup>to be</sup> approximately 100 Ft. <sup>on this</sup> width of the ore axis at the top of the block is probably the same. <sup>The NE-SW</sup> width of the quartz mass on the 100 Ft. level will average about 50 ft. The line limit of <sup>the block</sup> ~~the ore~~ <sup>is about</sup>  $\frac{1}{3}$  of the distance down to the 100 ft level from the 50 Ft level. ~~Meaning between the 100 ft level and the 50 Ft level and its~~ <sup>NE-SW</sup> width would ~~be~~ <sup>calculate</sup> ~~at~~ about the mean between the width on

~~show a block 85 feet. across~~  
 width of 100 ft. block then would be approximately  
 90 ft. width of ~~the NW-SE axis~~  
 No P indicated. Indicated width of the block on  
 its NW-SE axis in the 50 ft. panel is 80 ft.  
 Using the above figures as a basis for  
 calculation the ~~one~~ probable ~~one~~ block would  
 contain  $\frac{90 \times 80 \times 50}{13} = 27,700$  tons.

In ~~reference~~ <sup>quantity</sup> to this ~~block~~ of  
 probable ~~one~~ it should be noted that ~~the~~ it  
 is only partially blocked by ~~a~~ <sup>one</sup> vertical and  
 one horizontal opening in about its center. <sup>thought</sup> A fairly uniform  
 distribution of values ~~on these specimens~~  
 implies a degree of ~~probability~~ <sup>justification</sup> for  
 the assumptions.

The dump near the main shaft contains  
 in one end approximately 2,500 tons of  
 material containing an appreciable amount of  
 mol. b. denite. Copper content is insignificant.  
 The source of this material is not  
 certainly known. It is essentially  
 granitic in character and did not come  
 from the quartz mass. It is said to have  
 come from the ~~the~~ south workings in  
 the 200 ft. level of the mine, and  
~~propose to be in this part of the mine~~  
~~in part to verification of this statement~~



MoS<sub>2</sub>

$$0.50 \times 2000 \times 0.45 \text{ / p. lb.} = 4.50$$

Copper

$$1.00 \times 2000 \times 0.1425 \text{ (mil brass)} = \frac{2.85}{7.35}$$

## 3. Estimated Net Profit

Residual Value of scrap metal of ore, assuming recovery of 85% 6.25

## Estimated Cost

Mining 2.50

Milling 2.50

Smelting .50

Overhead .50

6.00

Estimated profit

.25

4.56 There appears to be reasonable justification for the expectation that the proposed development in the quartz mass would make available an additional tonnage equal ~~to~~ <sup>and probably</sup> ~~possibly~~ somewhat greater than that which is presently partially developed in that mass. ~~with~~ <sup>at</sup> about the same extent of ~~development~~ <sup>as</sup> chalcopyrite and copper.

7. A. The present crew <sup>consists of</sup> ~~comprised~~ 9 men as follows:

- 1 Superintendent
- 1 Working foreman
- 2 Hristmen
- 5 Miners and muckers

B. The proposed project contemplates employing a crew of men listed as follows:

- 1 Superintendent
- 1 Foreman
- 2 Hristmen
- 2 Top loaders and roostabants
- 4 miners
- 4 muckers

13

C. Project will work 2 shifts per day 6 days per week.

## 8. Objections to Project

A. There are no local or regional objections to the project.

~~B. The project would be feasible only under a substantial subsidy for molybdenum. Since the expected reasonable value of the ore would be just about offset by ~~not~~ operating costs the amount of the subsidy would~~

B. The project is expected to <sup>ultimately</sup> ~~produce~~ ~~substantial output of molybdenum and copper~~ amounts of the strategic metals, molybdenum and copper.

## 9. Time Schedule

A. It is expected that the ~~the~~ proposed development project <sup>would</sup> ~~will~~ be completed within 6 months time. If the development <sup>a further loan and the</sup> justifies construction of a mill it is expected that the project will be producing metals within a years time. Complete mining out of the presently indicated ore and the ore expected from the proposed development would be accomplished in about 2 years time with a 100 tons per day plant on the property. The prospective cycle therefore would embrace approximately 3 years time from the present date.

B. Operation <sup>would</sup> ~~can~~ be conducted the year round.

C. The loan could be repaid only if a subsidy were granted for the molybdenum.

## 10. Estimated Cost of Project

### A. Total Development

The program <sup>of development</sup> originally discussed with the applicant <sup>and listed in his application</sup> included a considerable



amount of development ~~with~~ of a speculative nature in the south end of the mine upon the 200 Ft. Level. Upon reviewing the situation, and in the light of information obtained from Mr. Anderson since the time of the examination this engineer is of the opinion that less emphasis should be placed upon that part of the <sup>program</sup> ~~mine~~ at this time and that whatever work is <sup>undertaken</sup> ~~done~~ in the South <sup>end</sup> should be incidental to the main purpose which is to <sup>further</sup> develop and explore the quartz mass. Accordingly the sum of \$1500 is listed for this work in place of the \$6000 originally planned, also the amount allowed for ~~such~~ "inforecasts, etc" is <sup>reduced</sup> ~~to~~ \$1000. Recommended development, <sup>estimated and cost</sup> ~~will be~~ as is as follows.

Rig Up, install equipment, Pipe, etc	\$500
Clear out and timber raise	
between 100 Ft and 200 Ft levels	1000
<del>400 Ft</del> Drift and Crosscut 400 ft	
on the 65 Ft. Level in waste in	
Quartz Mass @ 15" per ft	6000
Clear out <sup>and</sup> Sand 200 Ft. level	<u>1500</u>
	9000

### B Purchase of Equip Supplies etc

1 1/2 Ton Truck	750
1 Rock Drill and Mounting	450
Compressor	1000
Horst, cable and line	700
850 ft. Vent Pipe @ 35¢	280
1600 ft pipe (1" and 2") w/ fittings	500

1. Ore Car 50

Miscellaneous tools 150

3380

C. Construction - none contemplated

D. General Expense

1. Supervision - 4 mos @ \$200 per mo. \$800.00

2. Insurance 100

3. Compensation is included in above ~~rough~~ figures estimates for development cost4. Interest during project,  
\$20,000 (5,000 "C" loan plus 15,000 develop-  
ment loan), 4 mos @ 4% \$267

1167

E. Contingencies, auto expense freight,  
unforeseen

953

15,000

II

A. How and when loan will be repaid.

1. Repayment of loan <sup>would be</sup> ~~as possible~~ only  
under subsidy ~~now granted for price~~ price  
for molybdenum.2. Project envisages <sup>essential</sup> construction of mill and  
additional loan funds <sup>therefor</sup> would be required to  
put the property on a producing basis.For purposes of estimation the following  
tentative ~~estimates~~ figures are <sup>advanced</sup> put forward.

<del>A</del> Construction of 100 Ton Milling Plant	50,000
<del>B</del> Power Plant	15,000
<del>C</del> Pipe line and pumping Plant	20,000
<del>D</del> Mine Equipment and housing	10,000
<del>E</del> <del>Expense of development loan</del>	<del>20,000</del>
<del>F</del> Working capital	25,000
	<u>130,000</u>

Repayment of development loan	20,000
Interest (approx.)	10,000
Total Cost	<u>150,000</u>

The third item above is open to argument and deserves ~~mine investigation~~.  
 It is contended by some parties that <sup>an adequate</sup> ~~sufficient~~ supply of water <sup>for milling</sup> could be gathered in the vicinity of the mine ~~to furnish an adequate~~. The mine itself makes about 10 gallons per minute and since it is on the edge of the <sup>Amargosa</sup> gulch it does not seem likely that any more water could be developed in the gulch. Other sources ~~over the~~ in the area have not been measured <sup>to ascertain their</sup> ~~for their~~ constant <sup>in</sup> flow. Many wells are pumped only lightly at intermittent intervals ~~to supply~~ <sup>to fill</sup> stock troughs and the fact that they stand full of water is no assurance that any appreciable amount of water could be drawn continuously from them. In any event the gathering of water from many <sup>widely separated</sup> ~~points with separate~~ <sup>each</sup> pumps with individual pumping units and lengthy pipe lines is not practical. It has been this engineer's experience that most wells in <sup>an elevated location in</sup> a notoriously dry desert ~~land~~

area soon exhaust the underground storage and therefore <sup>from</sup> ~~disappointing~~.

For this reason the <sup>cost</sup> ~~to~~ <sup>for water</sup> in the above tabulation covers the laying of a pipe line to the Santa Cruz river some 9 miles distant and installing a pumping plant there to lift it about 1000 feet to the mine.

3 Property would need substantial premium price to render it self-sustaining.

4 General Remarks - see below

### Comments of Supervising Engineer

The New Years Eve property

~~The property contains a partially developed block of material comprising <sup>approximately</sup> 25,000 tons which contains <sup>about</sup> .50 MoS<sub>2</sub> and 1.00% Cu. and there appears to be a good possibility for developing ~~an~~ extensions of this ore amounting to some 60,000 tons more than ~~the~~ 25,000 tons. ~~now partially developed out~~ In the event that this development was undertaken and resulted favorably there would <sup>then</sup> be available over 50,000 tons of ore containing about 8.5 lbs recoverable MoS<sub>2</sub> and 17 lbs recoverable copper per ton or a total of over 400,000 lbs. of MoS<sub>2</sub> and over about 850,000 lbs. of copper.~~

The New Year's Eve mine contains a partially developed block of material assaying about .50%  $\text{MoS}_2$  and 1.00 % Copper<sup>ph</sup>. The block is estimated to contain 25,000 tons and there appears to be a good possibility for enlarging an additional 25,000<sup>tons</sup> or more in the extension of this block.

In the event that the development results favorably, then ~~the material~~ ~~from the~~ ~~developed block~~ ~~will be available in the~~ ~~amount of~~ ~~400,000 lbs of recoverable  $\text{MoS}_2$~~  ~~and 850,000 lbs of copper in the developed block.~~

The material is low grade and a miller's plant would be needed on the property. Probable <sup>ultimate</sup> recovery of metals ~~from the~~ from the presently partially developed ore together with the ore expected from the proposed development, totaling 500 tons plus, would be in excess of 400,000 lbs <sup>MoS<sub>2</sub></sup> and 850,000 lbs Cu.

~~For development, totaling 500 tons plus, would be in excess of 400,000 lbs of  $\text{MoS}_2$  and 850,000 lbs Cu, and~~

MoPP Since the expected value of the recoverable metals ~~these metals~~ at present market prices would just about offset anticipated operating costs it is apparent that the project would not be feasible under a substantial subsidy for  $\text{MoS}_2$  nor grant to the project.

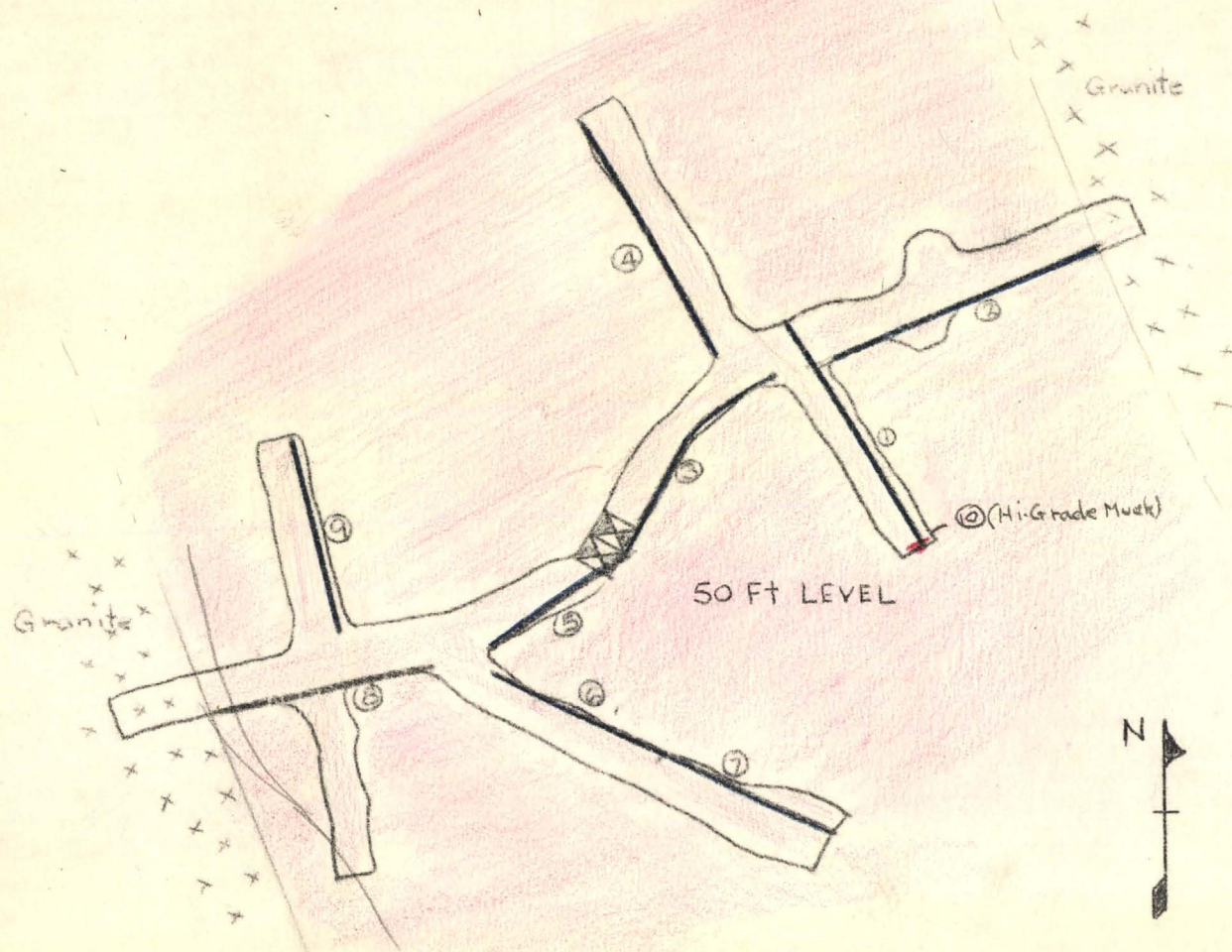
Since the expected reasonable value, <sup>at present market prices</sup> this ore, would be just about offset by the operating cost, the project would not be feasible unless a substantial subsidy in the form of a premium price for molybdenum were granted to the project.

The capital expenditure, <sup>required eventually</sup> to bring the property ~~to~~ into production would be about \$150,000 or \$3.00 per ton against the 50,000 tons which is expected to be <sup>available</sup> ~~developed~~. In addition, Mr. Iserman, the principal in the Amargosa Copper and Molybdenum Co., is ~~entitled~~ <sup>entitled</sup> to return of his capital and ~~some profit~~ <sup>interest</sup> in view of the fact that he ~~has~~ assumed a premium risk in the sum of nearly \$25,000 personally invested in the project. Altogether, then, <sup>a</sup> the subsidy ~~would~~ in the <sup>form of a loan</sup> amount of approximately \$200,000, or \$4.00 per ton, ~~about~~ <sup>per pound</sup> equal to the present quoted price for MoO<sub>3</sub>, would be required to make the project self-liquidating.

Consideration of the application for loan ~~would~~ <sup>would</sup> depends primarily upon <sup>whether</sup> the urgency of need for molybdenum <sup>would</sup> ~~and the~~ <sup>justify</sup> consequent subsidization of the project. The substantial subsidization set forth above.

Prof.





Sample	Wt. (lb)	% Cu	% MoS <sub>2</sub>
No. 1	27 Ft	1.22	0.25
2	26	0.31	0.39
3	36	0.35	0.67
4	30	1.34	0.48
5	17 1/2	1.00	1.06
6	19 1/2	2.30	0.28
7	19 1/2	1.46	0.30
8	21 1/2	0.83	0.10
9	19	0.55	0.31
10	Muck	4.21	11.32

(Pickled)

Weighted Av.  
(excl. No. 10): 1.02 .43

DOCKET NO. C-ND-7892

AMARGOSA MOLYB. & COPPER CORP.

(ISERMAN)

Pima Co., Arizona

Scale: 1" = 20'

Samples: ① Dec. 15, 42  
Mineralized  
quartz Plug:



# AMARGOSA



Scale in feet

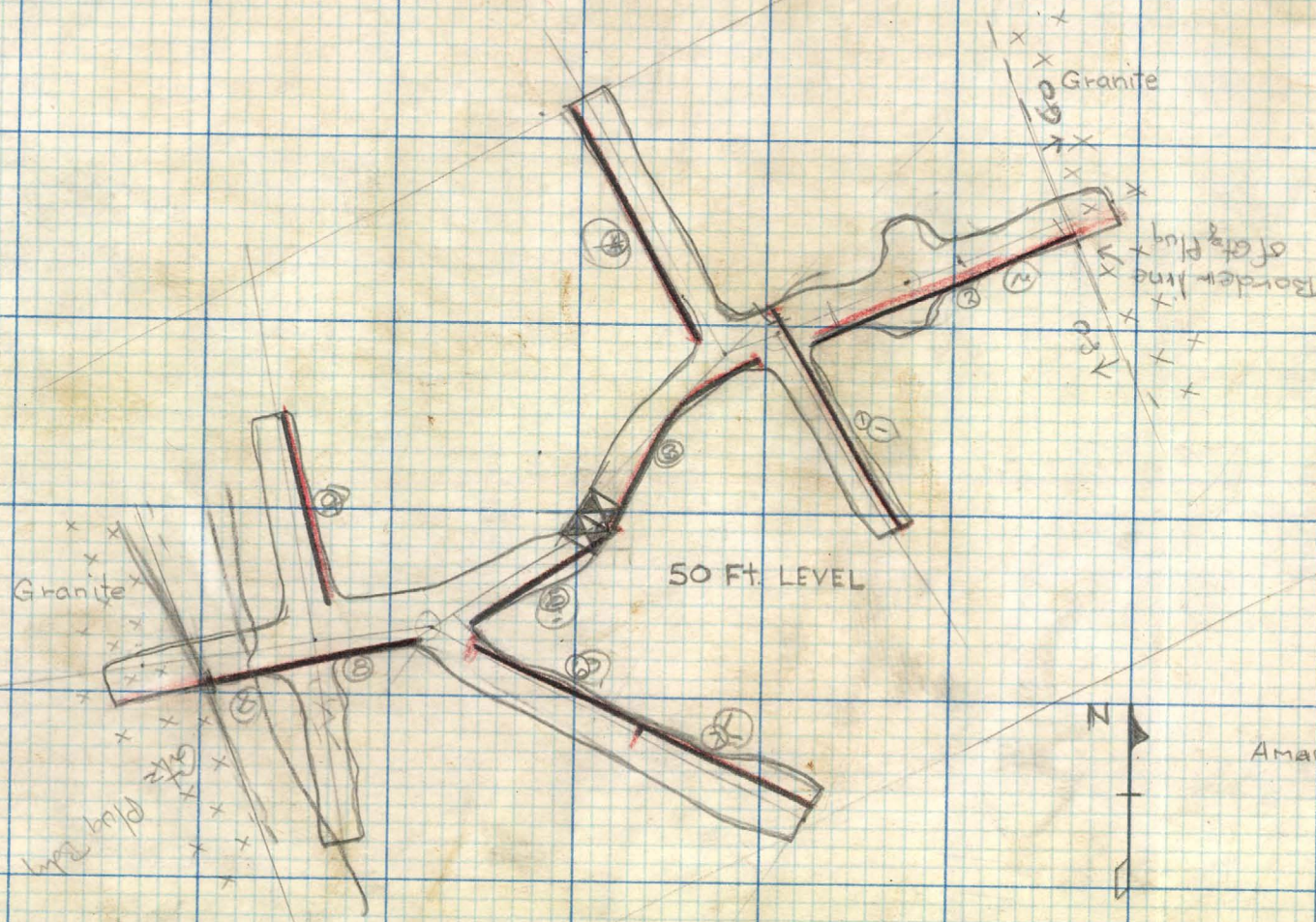
Sample No.	Width	%Cu	%MoS.
1	27 Ft	1.22	0.25
2	26	0.31	0.39
3	26	0.35	0.67
4	30	1.34	0.48
5	17 1/2	1.00	1.06
6	19 1/2	2.30	0.28
7	19 1/2	1.46	0.30
8	21 1/2	0.83	0.20
9	19	0.55	0.31
10	Mock	4.21	11.32 (Picked)

Weighted Avg (excl. No. 10): 1.02 .43

DOCKET NO. C-ND-7892

AMARGOSA MOLYB. & COPPER CORP.  
(ISERMAN)  
Pima Co., Arizona  
Scale: 1" = 20'

Samples: ① Dec. 15, 42  
Mineralized  
Quartz Plug:



Sample #1 27'  
Sample #2 26'  
Sample #3 26'  
Sample #4 30'  
Sample #5 17 1/2'  
Sample #6 19 1/2'  
Sample #7 19 1/2'  
Sample #8 21 1/2'  
Sample #9 19'

1000 ft.  
153 W. 1/4 Sec. 36, T. 1N, R. 1E

10' scale  
10' scale



Good Enough Mine (file)  
Las Guijas Dint  
Pima Co. \*

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# Amarigossa

Muricks 60¢/hr. 6<sup>00</sup> day Foreman 7<sup>00</sup>/day  
muckers 57¢/hr

## Water

Mine muckers 10 gpm  
(Vane pumps)

Several Wells 2 mi from mine in water basin must be p'd over  
hill. 200 Ft up to top of ridge.

## Eqpt.

- ✓ other side 9HP Motor FM
- ✓ Port. Comp. 105 on ft
- ✓ Blower w/ 3 HP and 100' 6" shaft is 92' deep
- ✓ 300' 1" and 1 1/2"

- ✓ Main Gas
- ✓ Ton Rails
- ✓ 2 - 1000 # Branches
- ✓ 1 Turbine Pump
- Blow Shop & Eqpt.

None used IR Mg.

Need Rock Drill

✓ Steel

None used Casing  
slaps and rotating  
new many gears.

34 1/2 Ton End up near engine

## Wreck

- ✓ 6HP FM Motor rented w/ pipe cap
- ✓ Jack Pump w/ 5 HP engine rented 45 gpm
- ✓ 15 M.P.
- under bar

6 H.P. FM

1 Duct Jack Pump

300 FT. galn. 3 1/2" pipe w/ nut & nuts

1 Horse 12 X 2

3 1/2" Ton Mine Rail 60

Considerable Timber  
Mine Tools

Mine level 100 Ft. level very bad.

500 Ft. S drift. nothing for 100 then  
scattered lead and silver and poor Cu.  
old Mexican worked down Es A der.  
is now gobbled w/ ore for mine and circular  
drift from mine.

120 - 110 in ore filled w/ 75' open  
other mine 75 feet fill w/ 40' open. Said  
ore had shipped from here.

Lewis A. Perensaler  
Technical Consultant  
Ferro-Alloys Branch

W.P.B.  
Yosh.