



CONTACT INFORMATION

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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 11/21/2001

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: LOMA PRIETA

ALTERNATE NAMES:

PATENTED CLAIMS MS 3425
COPPER GLANCE

YAVAPAI COUNTY MILS NUMBER: 247

LOCATION: TOWNSHIP 13 N RANGE 3 W SECTION 21 QUARTER SW
LATITUDE: N 34DEG 29MIN 21SEC LONGITUDE: W 112DEG 34MIN 50SEC
TOPO MAP NAME: WILHOIT - 7.5 MIN

CURRENT STATUS: DEVEL DEPOSIT

COMMODITY:

COPPER SULFIDE
MOLYBDENUM SULFIDE
COPPER OXIDE

BIBLIOGRAPHY:

BLM MINING DISTRICT SHEET 268
ADMMR LOMA PRIETA MINE FILE
KIRKEMO, H. ETAL. INVEST. OF MOLY. DEPTS IN
US USGS BULL 1182-E 1965 P E26-E30
HICKS, C.J. MOLY. OCCUR. IN AZ ADMMR PUB 1979
P 26
CLAIMS ALSO IN SEC 28 & 29
ADMMR LOMA PRIETA COLVO FILE
YAVAPAI MAGAZINE APRIL 1918P 4-8 SHARLOT HALL
MUSEUM PRESCOTT AZ

LOMA PRIETA MINE

YAVAPAI COUNTY

USGS Bull. 1182-E p. E26

ABM Bull. 180, p. 149

Loma Prieta file (Colvocoresses)

NAME OF MINE: LOMA PRIETA

COUNTY: YAVAPAI
DISTRICT: COPPER BASIN
METALS: CU, MO

OPERATOR AND ADDRESS:

MINE STATUS

DATE:

DATE:

N. Dwyer ✓ 12-62
Box 1429 (unclaimed) 1934 E. 15th St
Prescott January 1936

11/43

RFC loan \$5000
Shut down

.OMA PRIETA MINE

YAVAPAI COUNTY

Inactive. Reported leased to Ventura. Mark Gemmill
5-1-57

International Molybdenum Mines Ltd., through its wholly-owned subsidiary, Ranwick, Inc., has sold its copper claims near Copper Basin to Phelps Dodge Corporation. The sale was \$29,786 (Canadian) and a royalty of three cents a ton of ore mined. The Copper Basin area is west of Prescott, and has been the scene of active exploration recently.
Mining World Nov. 1961

USGS Bull. 1182-E, p. E26

ABM Bull. 180 p. 149

Post Office Department
OFFICIAL BUSINESS

PENALTY FOR POSTAGE



Return to Dept. of Mineral Resources
(NAME OF BENEFIT)
Capital City

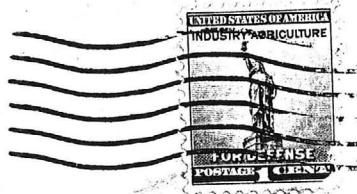
Street and Number
or Post Office Box
REGISTERED ARTICLE
18125

No. INSURED PARCEL
NO.

PHOENIX,
ARIZONA

Don't she expect you
might want me to
go to Copper Basin
with you. I can
go most any morning
except Saturday.
Might not be able
to go in the after-
noon.

Just



DEPT. MINERAL RESOURCES
RECEIVED
 JAN 28 1943
 PHOENIX, ARIZONA

Mr. EARL F. HASTINGS.

DEPARTMENT OF MINERAL RESOURCES

413 Home Builders Bldg.

128 North 1st Avenue

PHOENIX, ARIZONA

X

Perrott - 1/26/43

Dear Carl:-

You talked with Fred J. Pico
on his visit & saw the
loan for Roma Pichla.
I care fully suspect of the
dumps in Roma Pichla - a
year ago. There is a
wide distribution of No. 2
& Copper in dumps which
substantiate claims made

for gold showing.

I am strongly in favor

of the loan in Roma

Pichla - so please look

for points to substantiate

a favorable recommendation.

I am trying to get Corliss,

Chas. Eng. & Geological for

Kaiser Co. to come on

& consider 500 to 1000 ton

plant.

J. C. Campbell.

March 17, 1943

Mr. Fred Gibbs
Sunnyslope
Prescott, Arizona

Dear Fred:

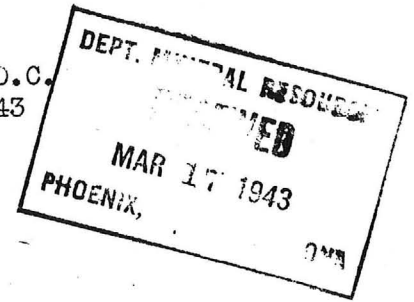
I am enclosing a copy of a memorandum just received from Bill Broadgate on Copper Basin which I know will be of interest to you and to Mr. Duyn on Loma Prieta.

Very truly yours,

J. S. Coupal, Director

JSC:kk
Enclosure

Washington, D.C.
March 11/ 1943



SUBJECT: Copper Basin
N. Duyn, Loma Prieta
Docket No. ND-8082

I have had several conversations on this matter.

It is really being held up by the WPB, rather than RFC, as you may know, because WPB is waiting for a report from Bureau of Mines and USGS on the area and does not want RFC to go ahead until they see if a real project can be made out of it.

If the thing turns out as well as it seems at the moment, the applicant may be given more than he asks for and other projects fostered also.

I think the answers will be in not later than next week and Duyn will then be informed of the decision.

WPB ~~is~~ has been carrying out my request of some months ago to have a complete survey of the Copper Basin possibilities and I hope it may result in a real development of the whole area.

Bill Broadgate

March 2, 1943

MEMORANDUM

SUBJECT: Copper Basin
N. Duyn, Loma Prieta
Docket No. ND-8082

TO: W. C. Broadgate

FROM: J. S. Coupal

I am enclosing a letter from Fred Gibbs to which is attached a copy of a letter to Don Rait on his problem. Evidently from this information one of the loans is being held up pending the development of a property located some three quarters of a mile away and which development did not affect the property on which development is held up.

Knowing your interest in this, I am sending you this information so that you may talk with Mr. Rait about it.

March 2, 1943

Mr. Fred Gibbs
Sunnyslope
Prescott, Arizona

Dear Fred:

Thank you for your letter. I have forwarded it together with the Rait letter to Bill Broadgate and asked him to look into it.

Very truly yours,

J. S. Coupal
Director

JSC:kk

Some data

325 Heard Building
Phoenix, Arizona

H.

Tully - Asst. Chief - Washington - February 6, 1943

Re: N. Duyn, Docket No. Phoenix C-130

Enclosed please find application and complete data with maps of N. Duyn, under the above docket number.

The State Bureau of Mines has reviewed this and recommended a loan of \$5,000.00.

This office has no intention of recommending otherwise or offering recommendation adverse to the loan, but we do suggest that the application be held in abeyance and Mr. Duyn be notified for the following reasons:

As you note, the property adjoins that of Fred Gibbs who is now expending a loan under Docket No. C-ND-7872, Phoenix 47. Gibbs has notified us that he is almost ready for the "B" examination for a further loan. In as much as the two loans are based on the same mineral structure and mineralization is identical and that they later plan to combine and operate as one company if they ever get into production, I suggest that the Duyn application enclosed be held up until we see how the Gibbs examination comes out.

We suggest you advise Mr. Duyn.

W. B. GOHRING
Supervising Engineer

Enclosure
Application and accompanying data

c-Mr. Hastings

File

January 28, 1943

Mr. N. Duyn
Box 1429
Prescott, Arizona

Sub: Loma Prieta Loan
Application.

H
C

Dear Mr. Duyn:

The R.F.C. has forwarded your application to us for review and recommendation. The application and supporting data is interesting and generally complete. There are, however, a few omissions and/or conflicting information which should be clarified.

They are as follows:

1 - On line 1 of application form the name N. Duyn appears as the applicant. On line 8 of the same page the name Fred Gibbs appears as applicant.

2 - Under Exhibit A, Paragraph 4 it is stated that you have an assignment of lease executed between Sophia Smoot, owner, and Fred Gibbs, lessee. This statement is insufficient evidence of your right to enter the premises and remove ore therefrom. It ~~is~~ likewise does not indicate the terms and conditions of the lease. A copy of the lease and assignment should be forwarded to supplement your docket as it will save considerable time in the event your application receives final approval from the engineering department.

3 - An omission has been made on page 3 of the Tovote report. In the paragraph discussing tonnage and values he states, "The values in gold, silver and molybdenum, as indicated by compound (composite?) assays of the 105' and 400' levels are:

Au.	Ag.	Mo. "
The amounts of these respective metals or minerals are not given.		

4 - In your summary under Exhibit B, (A) Reports, page 1, paragraph 3, you state: "The mine dumps show the presence of molybdenum, - one general dump sample running 0.35% MoS₂ and another 0.25% MoS₂."

Information in our files discloses the claim that 30 grab samples of the dump assayed 0.35% MoS₂; this information does not reveal by whom the sample was taken or assayed. Your summary does not reveal the origin of this data nor that of the second dump sample, nor yet of a "picked"

sample assaying 0.80%

Illumination and correction regarding these various points would be helpful in appraising your application.

This information should be forwarded directly to the R.F.C. Mine Loan Division, 325 Heard Bldg., Phoenix, Arizona.

Very truly yours,

Dept. of Mineral Resources
State of Arizona

E. F. Hastings
Projects Engineer.

Loma Prieta

28 April 1941

Mr. H. C. Smoot,
219 West Gurley Street,
Prescott, Arizona.

My dear Mr. Smoot:

With further reference to your letter
of April 2, I am enclosing herewith newspaper article
which you so kindly sent to me.

With best wishes, I am

Yours very truly,

J. S. Coupal
Director

JSC-jrf
encl.

7 April 1941

Mr. H. C. Smoot,
Prescott,
Arizona.

My dear Mr. Smoot:

In the absence of Mr. J. S. Coupal,
I am taking the liberty of acknowledging receipt of
your letter of recent date enclosing Advanced
Information Concerning Large Molybdenite Occurrence
in Arizona, together with letter which was addressed to
you on November 29.

We have a copy of this report in our
files, and I am returning your copy herewith.

Yours very truly,

Jess R. Fickas
Secretary to Mr. Coupal

jrf
encls.

Registered Mail
Return Receipt Requested

April 4, 1941.

H. C. Smoot
219 West Gurley Street
Prescott, Arizona.

Dear friend Smoot:-

Your letter of March 2nd with clipping and also the two descriptive sheets and the map of the claims in Copper Basin are received.

I will have the news item copied and returned to you and will place the other sheets in the Loma Prieta file. I will have a reduced scale plot of the claims made and will then return your tracing.

I remember the Saris report but at the time we did not have chance to make a copy of it. With the plans I have in mind it might pay to send me the Saris report again and I will have copies made of it and will then return it to you.

I might say, for your personal information only, that I had a talk with Mr. Kuzell in Clarendale and he said that whereas he could not at this time commit his company on a deal he would be very glad to discuss a deal with the parties I mentioned.

Under these conditions I think it will pay me to try and get as complete a presentation of the information as possible.

Very truly yours,

J. S. Coupal.
Director.

Phoenix, Arizona, 26 December 1940

M E M O R A N D U M

TO: Elgin B. Holt, Field Engineer
FROM: J. S. Coupal, Director
SUBJECT: C. J. Sarle Report on Molybdenite Occurrence

Complying with request contained in your Memorandum of October 21, I am enclosing herewith a copy of Advanced Information Concerning Large Molybdenite Occurrence in Arizona as prepared by C. J. Sarle.

The original copy was returned to Mr. Smoot.

Yours very truly,

J. S. Coupal, Director

29 November 1940

Mr. H. C. Smoot,
Prescott,
Arizona.

My dear Mr. Smoot:

I am returning herewith copy of ADVANCED INFORMATION concerning large Molybdenite Occurrences in Arizona as prepared by C. J. Sarle, Consulting Geologist, Tucson, Arizona.

A copy of this information has been made and placed in our files.

Assuring you of my appreciation of this report, and with best wishes, I am

Yours very truly,

J. S. Coupal
Director

JSC-jrf
encl.

Registered Mail
Return Receipt Requested

ML-16 LOMA PRUETA C. O. Carlson Prescott, Arizona

Your name and address has been furnished to -

Albert Poston, 3107 Brighton Ave., Los Angeles, California

who has made inquiry for the same with reference to mining property listed with the Department of Mineral Resources.

DEPARTMENT OF MINERAL RESOURCES

J. S. Cougal, Director

Post Office Department

OFFICIAL BUSINESS

PERMIT PRIVATE USE TO AVOID PAYMENT OF POSTAGE, \$300

POSTMARK ON DELIVERING OFFICE

REGISTERED MAIL

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17815

INSURED PARCEL

No.



Return to Dept of Internal Revenue
Street and Number, or Post Office Box
Capital City (NAME OF SENDER)

PHOENIX,

ARIZONA

RETURN RECEIPT

Received from the Postmaster the Registered or Insured Article, the original number of which appears on the face of this Card.

(Signature or name of addressee)

(Print name of addressee's agent)

Date of delivery
Form 3811

12-5-1958

U.S. GOVERNMENT PRINTING OFFICE

9-4116

356 Hassayampa Drive
Prescott, Arizona
December 15, 1952

Mr. R. J. Higgins, Asst. Vice Pres.
Shattuck Denn Mining Corp.
503 Sellwood Bldg.
Duluth, Minn.

Dear Mr. Higgins:

Re Copper Basin Properties

Pursuant to your request made during our conversation in the Company office here in November, herewith some further information on my Copper Basin properties. What follows is a restatement of what I told you at that time, and, in part, of the contents of a letter written to Mr. Mills on the same subject in September 1950. At that time (September, 1950) the price of molybdenum was 45¢ a pound. It is now firmly established at 60¢ a pound, with Climax getting almost double this figure on metal produced from their lower grade ores. The difference in price alters considerably the profit potential on the Copper Basin properties.

Two groups of claims, the "Copper Hill" and the "Loma Prieta", make up the holdings. Though quite similar in most respects, each property will be described separately, and both rather briefly.

Loma Prieta:

Seven patented claims. Title clear, and vested jointly in Nick Duyn, of Tucson, and Fred Gibbs, of Prescott.

Breccia pipe deposit. Hydrothermally altered fragments of quartz-diorite are cemented by quartz carrying sulphides of iron, copper and molybdenum.

Anderson's (U.S.G.S) figures give 1,750,000 tons available inside present known lateral dimensions above the 400 foot level. Using a cut-off grade of 0.45% copper, he gives this tonnage a grade of 0.90% copper and 0.13% MoS₂. This grade was arrived at by mulling channel samples in ten foot lengths throughout the entire mine. I feel that this type of sampling gives incorrect results on the low side, due to the fact that too much of the soft barren altered diorite and too little of the hard ore-carrying quartz are obtained.

By assuming that the ore continues for fifty feet below the 400 foot level, I estimate that 2,200,000 tons are indicated having a grade of 1.00% copper and 0.20% MoS₂. More tonnage of lesser grade, or less tonnage of better grade, can be had by changing the cut-off figure used. My grade figures were obtained by bulk sampling the mine dump which contains all of the material taken from the mine, with the exception of a couple of cars of high grade copper that were sorted out and shipped during the development period. Mr. Al Peach was the mine superintendent and his sampling, done at regular intervals as the drifts were run, gave an average of 1.52% copper; moly was not then recognized. A Mr. Tovote, reputable geologist who at one time worked for Phelps Dodge, sampled the mine for the then owners in 1917 and obtained an overall average of 1.26% copper, with no moly determination. In my opinion, true grade should be established by shipping a thousand tons of the dumps to a custom smelter, or by slashing several hundred tons from drift walls, and sending it to a smelter. Assays of the reject obtained from all the sampling indicate a combined gold-silver value of 25¢ a ton. How much of this would be recovered and paid for I don't know, but probably enough to cover the purchase price of the property.

The breccia pipe is cylindrical in shape and there are no structural walls. The degree of brecciation determines the amount of mineralization, and it fades very gradually from a center point to the surrounding unaltered quartz diorite. The 400 foot shaft is about in the center of the pipe, and drifting from this shaft was done on the 140 and 400 foot levels, in each case in the shape of a letter "X". Most work was done on the 400 and there is no evidence there of any change in the deposit. Lateral limits of the ore have not yet been determined to the northwest, but in other directions it seems to be pretty well defined by lessening of grade near the ends of the present drifts. Alluvial cover prevents determination of size on surface. Other breccia pipes are indicated on the property but they are wholly unexplored.

Best method, or methods, of mining, are a matter for further study, and experimentation. Top of the sulphides is about 35 feet below shaft collar, and of this, the top 15 feet is made up of gravel, and the balance of oxidized carbonate ore. Lay of the land is such that a small open pit could probably be opened to advantage. To a depth of 100 feet below the top of the sulphides about 600,000 tons of ore could be had, and an additional 100,000 tons could be had by scavenging the pit bottom. A straight inclined approach for truck haulage from the pit could be had from a fairly deep wash to the southwest

of the deposit with a grade of not over 14 per cent. To uncover the top of the sulphide, about 75,000 tons of gravel would have to be removed, and a like amount of carbonate ore. The latter could probably be heap leached. Because of the nature of the rocks, I believe that a 60 degree pit slope could be used, and, if so, about 500,000 tons of low grade ore would have to be removed to obtain this slope. It is probable that this strip material could be milled for enough revenue to cover entire cost of stripping. Amount of rock to be excavated to provide the inclined approach would approximate 150,000 tons, all of it waste. Considering the relatively small amount of ore to be had by pit mining, it might be found preferable to contract this part of the work rather than to make the necessary initial capital investment.

Because there are many small slips and faults in the ore, and also because the bulk of it is made up of relatively soft altered quartz-diorite, I feel reasonably sure that the stuff would block cave readily and that the cost of this type of mining would approach quite closely that of open pitting. Since it would have to be used eventually anyway, it might be desirable to omit the open pitting entirely and go at once to caving. The new shaft, which would be necessary, would be in stable unaltered quartz-diorite near enough to the cave area to permit relatively short haulage drifts. Overall cost of preparing the first block for caving would probably not be much greater than that of getting a small pit into production, and it would eventually be amortized over a greater tonnage. Mill location would probably be adjacent to the shaft, eliminating haulage at that point.

Very little metallurgical work has been done, and that, only on ore which had developed an oxide coating from several years of exposure on the surface of the dump. Your Mr. Hendrix at one time tried some sink-float experiments with the idea of trying to eliminate after coarse crushing a lot of barren material, but these tests were not successful. Rather recently, Mr. Pessin at the Iron King mill ran some flotation tests and obtained a good copper con free of moly at a relatively coarse grind and about 87% recovery. He did no work on the moly end. It is his thought that in practice, and with fresh ore having no oxide film, that 90% extraction can be expected.

With present metal prices, including the gold-silver assay, head value of the ore, using my figures as to grade, would be approximately \$7.50 per ton. Assuming 90% recovery, and with the usual smelter deductions, value at smelter before deducting smelter and freight charges, would probably approximate \$6.25 a ton. Mining (with either method), milling and marketing would probably be in the neighborhood of \$3.25 a ton, which would leave an operating profit of about \$3.00 a

ton. I feel that it is quite probable that one of the newer methods of pre-flotation concentration after a coarse grind might well be found feasible, in which event mine tonnage would considerably exceed tonnage going to the float end of the mill, which would be a decided advantage cost-wise.

I don't know what could be done with the Federal Government on a thing of this sort, but my guess is that the worst would probably be a guarantee of present metal prices for five or more years, with provision for quick amortization. Due to the relative scarcity and importance of molybdenum it is not unlikely that an over-ceiling price could be obtained for it. Climax gets a dollar a pound for its stuff, and \$1.24 a pound for that metal that comes from their lowest grade ore.

Duyn and I have set a price of \$200,000 on the property, payable over a period of ten years. Monthly payments after production was initiated would, in the case of pit ores, be 15¢ per ton multiplied by the tonnage mined per month, and 10¢ per ton on ore mined by underground methods.

Copper Hill:

Four unpatented claims. Owned entirely by Gibbs. Title clear. Located about a half mile west of the Loma Prieta.

This is another breccia pipe having about the same tonnage per vertical foot as the Loma Prieta.

Information on this deposit is not as clear and accurate as that on the Loma Prieta, but I estimate that there is 1,000,000 tons available above the 200 level running 0.60% copper and 0.30% MoS₂. U.S.G.S. estimate based largely on results from quite unreliable diamond drilling, and after making many theoretical deductions geology-wise, give 600,000 tons running 0.50% copper and 0.25% moly.

This pipe has been opened by a shaft 330 feet deep and drifting on the 130 and 300 foot levels. Work on the 300 is very limited and exposes a very faulted condition with no mineable ore so far indicated. The work on the 130 shows two well-brecciated zones with a narrow, less brecciated, zone between. The work has not exposed the lateral limits of the pipe, especially to the east, but 5,000 tons per vertical foot are indicated. I think that it is reasonable

12-15-52

to assume that the conditions which exist on the 130 continue down to at least the 200 level. Major faulting shows in the shaft just above the 300 level.

The cropping of this pipe is not covered by alluvial and it shows as a rounded hill rising above the surrounding country. There is no waste overburden, the carbonates carrying through to the surface, and having a thickness of about 40 feet.

An open pit could be used to advantage in mining the top 100 feet of the sulphides, but this would leave a lower block too small to justify underground mining, and too deep to reach with a pit. Accordingly, I feel that this deposit should be block caved from the 200 (or whatever level may be found to represent the bottom of the mineable ore) without first resorting to open pitting.

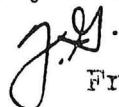
With present prices, assay head of this ore would be about \$6.75 a ton, and smelter value, assuming 90% recovery, about \$5.85 before deducting smelter and freight charges. Operating costs should be about the same as at the Loma Prieta.

Purchase price over a ten-year period is \$100,000, with monthly payments on the same basis as the Loma Prieta.

In General:

Since your company already has a 500 ton mill available which could be moved to the property, and possibly some mining equipment, the initial capital cost of getting into operation would be much less than customary. There is enough ore in sight to support a mill of that capacity for over 15 years without the necessity of doing further exploration or development work. Both deposits are virgin and not messed up with previous abortive attempts to mine, so that they lend themselves well to proper planning involving the use of the newest in machinery and methods. Copper Basin is only ten miles from Prescott, and six miles from the railroad at Skull Valley, so that there is no need for housing facilities or for boarding or lodging places at the mine. The Prescott office, and management, is well located for taking care of those respective needs, and it might be that most of the repair work could be handled in the shop at Iron King.

Very truly yours,



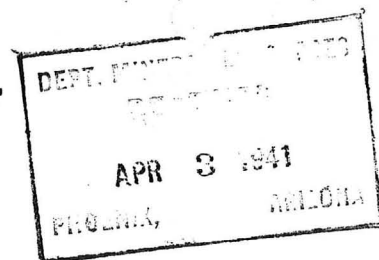
Fred Gibbs

cc-Mr. H. F. Mills, Mngr.
Iron King Mine
Humboldt, Arizona

HARVEY C. SMOOT

CHEMIST AND ASSAYER
219 WEST GURLEY STREET
PRESCOTT, ARIZONA

4-2-41.



Mr. S. J. Coupal,
Phoenix, Arizona.

Dear Mr. Coupal;

I mailed you this afternoon map of claims in Copper Basin District covering;

1st the Copper Hill group

2nd the Commercial group

3rd the Loma Prieta group

4th a group held by Martin Schubert.

This was copied from map made by Johnny Jackson before his death; however I added the claims held by Schubert. As I do not know where to get another copy, please take care of it and return. Jackson's work is fairly accurate; at least, his map of the Loma Prieta compares favorably with the patent maps.

Also enclosed find clipping from the Prescott Courier of June 20, 1936, on Molybdenite Deposit in Copper Basin. I arranged this article and it was included in a survey of the Copper Basin district. I took most of the ideas from a report by C. J. Sarle which you have on file. At least I gave the report to Holt and it later came back to me with your name on it. Please return this news clipping as it is the last one I have.

I am also including a couple sheets showing the information I have presented to various people on the Loma Prieta. These are for your files. Note map on back.

Very truly yours,

H. C. Smoot

Sunnyslope,
Prescott, Arizona.
January 23, 1944

Mr. J. Seward Potter,
S. W. Shattuck Chemical Co;
1805 South Bannock St;
Denver 10, Colorado.

Dear Mr. Potter:-

Re: Loma Prieta Mine:

Mr. Sam Coupal, Director of the Arizona Mineral Resources Board, suggests, in a letter dated the 15th, that I write you concerning a molybdenum property which I have near here. His letter was received just yesterday when I returned home from a mine examination trip. Briefly, the data on the molybdenum property, called the "Loma Prieta," is as follows:

PROPERTY AND LOCATION:

The property consists of a group of twenty patented claims located in Copper Basin approximately eleven miles south of Prescott and six miles east of Skull Valley. Both of these towns are on the Phoenix-Ash Fork branch of the Santa Fe railway. A good dirt road connects the property with both places. The problem of transportation is quite satisfactory.

TITLE:

An Abstract of Title brought up to date of the time that I took a lease and option on the property a year ago showed the title to be absolutely clear and negotiable, with no clouds of any sort thereon. I completed purchase of the mine from the owner last fall. All taxes are paid to date.

HISTORY:

The several claims were staked between 1912 and 1915 and in 1916 were consolidated into the present group by the Loma Prieta Mines Company, a local stock organization. They were patented in 1917. The Loma Prieta Company sank a shaft and opened drifts on the 150 and 400 foot level during 1916 and 1917. Their objective was the development of a large low grade copper property, - no thought was given to molybdenum at that time. The incentive for this work was the results being had on the adjoining Phelps-Dodge "Commercial" mine. The grade of ore exposed was below expectations and in 1917 the Company ran out of money and shut down the operation. No other development work has been done since that time. I understand that a small shipment of sorted chalcopryite ore was made

from development muck. There was no stoping or any attempt at mining. I have been told that Union Carbide dewatered the mine to the 150 level about 1936 and did a little sampling, but I have no authoritative data on this.

I took a lease and option on the mine in December, 1942, and with the aid of RFC funds retimbered the caved shaft to water level (40 feet) and dewatered the mine to the bottom. A thorough sampling program was then carried out by the U.S.G.S. After the completion of this work last July the pump was pulled and the mine is now filling with water. However, as the shaft is in good shape, and the water inflow at the bottom is not over 15 gallons a minute, the mine could be quickly and cheaply dewatered again.

DEVELOPMENT:

The vertical compartment and a half shaft is 430 feet deep. On the 150 foot level there are 285 feet of drifts and on the 400 level there are 760 feet of drifts. There are no raises. The drifting on both levels was carried out in the form of a letter "X" so that the ground between drift-ends is pretty well explored. As a matter of fact the openings might just as well be called crosscuts as the deposit is in the form of a pipe.

GEOLOGY:

The chief rock types in Copper Basin are granitic. These granites are also the oldest geologically. They have been intruded, particularly on the south rim of the basin, by large stocks of younger rhyolite. Dikes of the latter rock also crop in places throughout the basin.

At the Loma Prieta the deposit is a breccia pipe. The granitic fragments in the breccia are highly altered. The cementing quartz carries the sulphides of copper, iron, and molybdenum. In places the copper and molybdenum sulphides permeate the cemented fragments as well as the cementing quartz.

The deposit has no structural walls. In mining, these would be economic, as the mineralization fades out into the surrounding unbrecciated granites.

Much of the surface is covered with a deep (20 feet or more) layer of alluvial, so that surface exposures of the pipe are almost nil and its boundaries are undetermined, either on surface or underground.

ORE:

In 1917, an able and well known geologist named W. Tovote made a thorough examination of the mine and sampled it throughout with channel cuts made with single jack and moils. The weighted average of his samples showed 1.25% copper for the entire mine. His report noted the presence and possible economic importance of molybdenum, but gave no assay figure for it.

In and around 1936 several engineers sampled the

mine dump and obtained results varying from 1.20% to 1.30% copper and an average of 0.25% molybdenum, according to the previous owner.

While the development work was being carried out in 1916 and 1917 under the supervision of A. B. Peach, formerly superintendent at the Commercial mine, muck samples were taken from each round shot in both the shaft and the drifts. According to Mr. Peach, these averaged, for the whole mine, 1.52% copper.

In 1942 I sampled the mine dump thoroughly on a rather large scale and obtained 1.00% copper and 0.20% molybdenum, - (MoS₂). The dump represents about 5,000 tons of material.

Last summer, as previously stated, the mine was sampled by the U.S.G.S. For the purpose, a compressor was installed and the sampling was done with pneumatic chippers cutting large horizontal cuts along the sides of all drifts, and, where possible, vertical cuts in the shaft. Over a thousand feet of channels were cut. The samples were broken by hand to about half inch size and riffled down to about 20 pounds per sample. Union Assay of Salt Lake did the assaying, checked, at times, by Hawley and Hawley of Douglas. The results of this program showed an indicated tonnage of 1,750,000 tons of ore above the 400 foot level having a grade of 0.85% copper and 0.125% MoS₂.

At the conclusion of the above work the consensus of opinion was that any method of hand sampling a deposit of this sort was apt to be inaccurate, and on the low side. The reason for this is that, whether sampled with single jack and moils, or with air chippers, it is a physical impossibility to get the proper proportion of cementing quartz and cemented material in any given channel cut because the cemented fragments in general are quite soft and the cementing quartz which carries the values is quite hard. I believe that the true grade will be found to lie somewhere between that obtained by Mr. Peach with his muck samples and that obtained by us last summer, - that is, approximately 1.20% copper and 0.20% MoS₂. About the only accurate method of sampling such a deposit, in my estimation, would be to put a thousand tons of broken muck thru a reliable sampling plant, such muck preferably to be obtained from the running of drifts on both levels, or, less preferably, from the mine dump.

As noted above, the underground openings have not reached the limits of the pipe, nor are these determinable on surface because of alluvial covering. I think it safe to figure that well over 2,000,000 tons can be developed above the 400 level. In addition to this pipe, there are indications of others on the property which could be developed and mined from the same shaft.

MINING AND MILLING:

The mineralized area so far developed is hardly large enough to permit of mining with open pit methods. I believe that large shrinkage stopes could be used to advantage, and that if complete mechanical handling were used from the draw-off openings, to the surface, that mining cost could be held

1/23/44

below a dollar per ton. Milling would apparently present no serious problems since preliminary tests carried out on the ore by Mr. Crabtree of the Arizona Bureau of Mines gave good results by straight flotation. Ratio of concentration would be very high, so that cost per ton should be well under a dollar on a large scale operation.

I fully realize that the grade of this deposit is low, but with the large tonnage indicated and probable low costs to be had in mining and milling, I believe that it justifies serious consideration by any consumer of molybdenum.

The property can be acquired on a low⁴ time lease and option basis, or, on long time lease alone, on a straight royalty basis, no down payments or payments at stated intervals and with ample time for examination and sampling.

If this is of interest to you I would very much like to have you send down an engineer so that I could go over the property with him in person.

Very truly yours,

cc: J.S. Coupal.

Fred Gibbs.

COPY

Loma Prieta Group.

Name and address of owner ? S. Smoot, 219 W. Gurley St., Prescott, Arizona.

Owners claim relative to property ? A large low grade molybdenite deposit with additional values in copper, gold and silver.

Number of claims in group ? 15. Total acreage ? About 274.
Number of claims patented ? All 15.

Location of Property ? Ten miles from Prescott on Copper Basin road. Shipping point ? Skull Valley. Distance by road from property ? About 8 miles. Road conditions and grade ? Good roads and mostly down grade to Skull Valley. Water for domestic use ? Yes. Water for milling ? In shaft and creek. Power ? Power line about one mile from shaft.

Size of dump ? Probably between 12,000 and 14,000 tons.
Character of ore on dump ? A brecciated quartz porphyry intruded into granite. It has also been classed as monzanite.
Assay of dump ? A composite sample made by taking 30 grab samples around and half way down edge of dump assayed 0.35MoS₂. A picked sample from dump assayed 0.80 MoS₂.

Development ? A two compartment shaft 414 feet deep with drifts and crosscuts. Probable cost of under-ground workings ? \$35,000.
Condition of workings ? Filled with water. Shaft was opened in August 1935. G. J. Harbauer, mining engineer of Prescott, made an inspection at that time and stated " I spent five hours on the 400 level examining the formation and found an extensive mineralization in all the drifts showing sulphides of iron, copper and molybdenum. As the sulphides occur in irregular bunches thruout the formation, one would have to take a large number of samples in order to determine the average value of the deposit."

Ore ? Ore was encountered at 46' and continued to the bottom at 414' depth. On the 150' level, there is a total of 265 feet in drifts and crosscuts, of which 225 feet are in ore averaging 1.5% Cu. On the 400' level, there is a total of over 750 feet in drifts and cross cuts, 445 feet of which are in ore averaging 1.25% Cu. Shaft samples taken beginning at 15' and continued while sinking to 414' depth, averaged 1.50% Cu. All contained small amount of Au and Ag. As molybdenum had not been identified and was supposed to be antimony, molybdenum was not determined. However, engineers report more mineralization on the 400' level than on the 150'. Property was last operated in 1917.

Adjacent properties ? The occurrence of molybdenite is roughly covered by three separately owned groups of mining claims, which variously lap over an area, over a mile in length from east to west and in excess of one third of a mile in width. These groups are disposed as follows: 1st The Copper Hill group on the west, 4 claims unpatented, under option to Richard Kingdon, Cleator, Arizona; 2nd the Commercial group, owned by Phelps Dodge Corporation, intermediate in position, 17 or 18 patented lode claims or fractions; 3rd the Loma Prieta group on the east. All three of these properties were opened and developed over 20 years ago in the search and mining of copper and ~~molybdenite~~ molybdenite was not recognised as such when the work was done. However, an inspection of the dumps at these three properties will show one who knows molybdenum that there is probably a large deposit of molybdenum in Copper Basin.

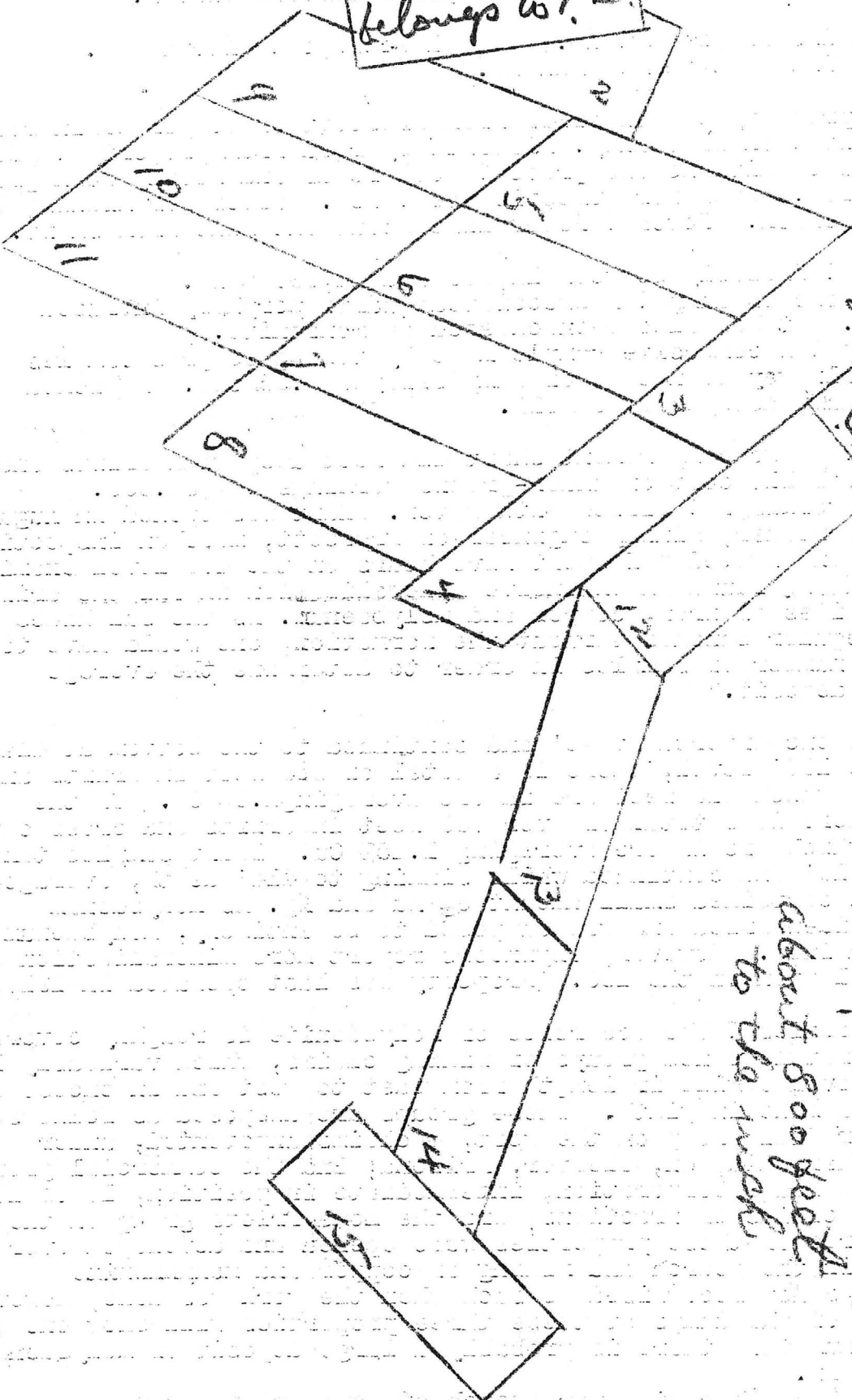
See other side for sketch of Loma Prieta group.

DVER

Full claim belongs to P.B.

Full claim belongs to P.B.

Full claim belongs to P.B.
Staff



about 800 feet to the north



CHAS. A. Anderson, 1943

Loma Prieta v 521 13N 3W
5800' El.

Jain's Commercial

#17 shaft vert. 1 1/2 c in ore 1.20'

1170' drifts mostly on 400 level

NW 250' SW 300' SE 300' NE 200'

fine to medium grained

biotite-quartz diorite

near bond on surface

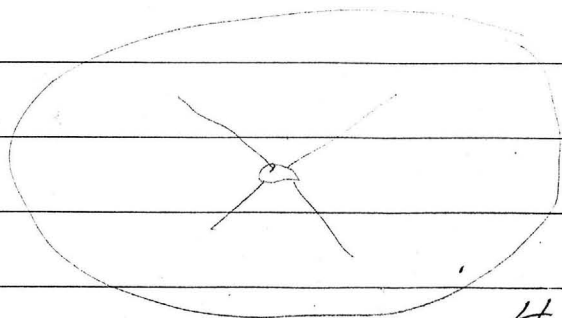
150' level Cu 0.9 MoS₂ 0.15

400' " .45 .12

" .87

fresh sulfides on H¹⁴ level

1,750,000 lbs .85 & .90 Cu
0.10 - 0.15 MoS₂



H-2979

C O P Y

Aguila, Arizona, October 21, 1940

To: J. S. Coupal, Director
From: Elgin B. Holt
Subject: MOLYBDENITE:

Copper Hill Group - also known as Gold Hill Group and Jackson Property. Controlled by Richard Kingdon, Cleator, Ariz.

Loma Prieta Group, owned by H. C. Smoot, Assayer, Prescott, Ariz.

Commercial Property, owned by Phelps Dodge Corp.

These properties were called to my attention, in Prescott, by Mr. W. C. Broadgate, who suggested that I see Mr. H. C. Smoot about the matter.

I then called on Mr. Smoot who explained that the best property of the three groups above mentioned is the Gold Hill, or Jackson property, on which considerable development work has been done and from which "1800 tons of ore mined for its molybdenite content, between 1916 and 1918, 7 car lots of 300 tons are said to have averaged 5% MoS₂; that the balance ran 1.5% to 2% MoS₂ -- and in gold at the old price \$2.00, in silver 3 ozs., in copper 2 to 2.5%". (See attached report by Sarle.) → Copper Hill Grp.

Smoot said the two other groups referred to above are more or less in the prospect stage of development.

Smoot also handed me a rather complete report on these properties by G. J. Sarle, Consulting Geologist, Tucson, Arizona, dated Nov. 14, 1935, and which report is herewith attached and made a part of this memorandum. → Copper Hill Grp.

Reference is made to your confidential memorandum of October 3, in which you advise Field Engineers that you have a call for molybdenite properties from responsible people. I suggest that you submit these properties to these parties for their consideration.

When time permits, I want to look these mines over myself. Smoot has agreed to go with me in order to show me over the same. However, as properties are rather fully covered by the report enclosed, I thought I would get this information to as soon as possible.

Should you have the Sarle report copied, I would like to have a copy of it for my files.

E.B.H.
E. B. HOLT

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
MINE OWNER'S REPORT

DEPT. MINERAL RESOURCES
RECEIVED
JUL 1 1946
PHOENIX 46 ARIZONA

Date.....

6/31/46

1. Mine: ~~Copper Hill~~ Loma Prieta ✓
2. Location: Sec. Unsurveyed Twp. 13N Range. 3W Nearest Town. Prescott
Distance. 10mi. Direction. North Road Condition. Good.
3. Mining District & County: Copper Basin. Yavapai
4. Former Name of Mine: Same
5. Owner: Fred Gibbs ✓
Address: Sunnyslope, Prescott, Arizona
6. Operator: Not operating
Address: _____
7. Principal Minerals: Copper, Molybdenum ✓
8. Number of Claims: 14 Lode. ✓ Placer. _____
Patented Yes Unpatented _____
9. Type of Surrounding Terrain: Gently rolling

10. Geology & Mineralization: Breccia pipe - cementing material is quartz carrying sulfides of copper and molybdenum.

11. Dimension & Value or Ore Body: 2,000,000 tons developed above 400' level with limits of orebody not fully disclosed.
Ave. grade: 1% Copper 0.15% MoS₂

12. Ore "Blocked Out" or "In Sight": See (11)

Ore Probable: Impossible to estimate, - other breccia pipes occur on property, which have not been explored.

13. Mine Workings—Amount and Condition:

No.	Feet	Condition
Shafts 1	400	Good
Raises		
Tunnels		
Drifts Crosscuts	1500'	Good
Stopes	None	

14. Water Supply: Sufficient available 6 miles distant for 1000 ton mill.

15. Brief History: Originally developed as copper project in early 1900's, - no attention given at that time to molybdenum. Reopened & sampled by owner in 1943-44 with aid of U.S.G.S. & RFC.

16. Signature: Fred Gibbs

17. If Property for Sale, List Approximate Price and Terms: \$100,000 payable in 20 years.

B.I.C.M.

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
MINE OWNER'S REPORT

Date 1943

1. Mine: Loma Prieta

2. Location: Sec. 21 Twp. 13N Range 3W Nearest Town

Distance Direction Road Condition

3. Mining District & County: Thumb Butte Yavapai

4. Former Name of Mine:

5. Owner:

Address:

6. Operator:

Address:

7. Principal Minerals: Cu

8. Number of Claims: Lode Placer

Patented Unpatented

9. Type of Surrounding Terrain:

10. Geology & Mineralization:

Fine to medium grained biotite-quartz diorite
iron only on surface. Fresh sulphides
encountered in shaft at 46' level

11. Dimension & Value of Ore Body:

lenticular body

12. Ore "Blocked Out" or "In Sight":
 1,750,000 tons .85 to .90 G.C.
 .10 to .15 G.M.S.

Ore Probable:

13. Mine Workings—Amount and Condition:

No.	Feet	Condition
Shafts..... 1	714	Fair
Raises.....		
Tunnels.....		
Crosscuts & Drifts	1170'	Fair. Mostly on 400' level
Stopes.....		

14. Water Supply: 6000

15. Brief History:

16. Signature:

17. If Property for Sale, List Approximate Price and Terms:

ML 16
A

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date Sept. 18, 1939

Mine Loma Prieta
District Copper Basin

Location Copper Basin Mining Dist.

Former name

Owner E. O. Carlson

Address

Prescott

Operator

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals silver - copper, gold

Men Employed

Production Rate

Mill: Type & Cap.

Power: Amt. & Type

Operations: Present None

Operations Planned

Number Claims, Title, etc. 15 claims - patented

Description: Topog. & Geog.

Mine Workings: Amt. & Condition 600 ft. - 400 ft. shaft - 200 drifts

Geology & Mineralization Porphyry

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date Sept. 15, 1939

Ore: Positive & Probable, Ore Dumps, Tailings Large deposit - molybdenum, copper, gold.

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route Copper Basin Road

Water Supply Shaft full - plenty -

Brief History Operated in 1916 for copper

Special Problems, Reports Filed

Remarks Big molybdenum deposit

If property for sale: Price, terms and address to negotiate.

\$40,000 - terms
Bond - lease

Signed C. O. Carlsen
Prescott, Ariz.

Use additional sheets if necessary.

(over)

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Mine
District
Former name
Owner
Operator
President
Mine Supt.
Principal Metals
Production Rate
Power: Amt. & Type
Operations: Present

Sona Prieta
Copper Basin

Date Sept 18, 1939
Location Copper Basin Mining
"Hill"
Address
Address
Gen. Mgr.
Mill Supt.
Men Employed
Mill: Type & Cap.

None

Operations Planned

Number Claims, Title, etc.

15 Claims - Patented -

Description: Topog. & Geog.

Mine Workings: Amt. & Condition

200 ft Shaft - 600 ft - 400 ft Shaft -

Geology & Mineralization

Porphyry -

Ore: Positive & Probable, Ore Dumps, Tailings

Moly - Copper - gold - Large Deposit -

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route

Copper Basin Road -

Water Supply

5 kept full - plenty -

Brief History

operated in 1916 - for copper -

Special Problems, Reports Filed

Remarks

Big Moly Deposit -

If property for sale: Price, terms and address to negotiate.

40,000 Terms
Bond - Lease -

Signed.....

C. O. Carlson
Prescott, Ariz.

Use additional sheets if necessary.

ML-14

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
MINE OWNER'S REPORT

Geology & Mineralization

Date 9/18/39

- 1. Mine LOMA PRIETA
- 2. Location 10 miles from Prescott on Copper Basin Road
- 3. Mining District & County Copper Basin Mining District Yavapai County
- 4. Former name
- 5. Owner H.C. Smart
- 6. Address (Owner) 219 W. Gurley St. Prescott
- 7. Operator
- 8. Address (Operator)
- 9. President, Owning Co.
- 9A. President, Operating Co.
- 10. Gen. Mgr.
- 14. Principal Minerals Molybdenum, copper, gold & silver
- 15. Production Rate
- 16. Mill: Type & Cap.
- 17. Power: Amt. & Type
- 18. Operations: Present - none -

19. Operations: Planned Pending finances to mine & mill

20. Number Claims, Title, etc. 15 patented claims - 274 acres.

21. Description: Topography & Geography Low rolling foothills - at about 5000 feet elevation - no appreciable amount of timber on claims -

22. Mine Workings: Amt. & Condition A 2 compartment shaft - 414 ft deep with several hundred feet of drifting & crosscuts on various levels. 265 ft. on the 1500 ft. level - 750 ft. on 400 ft. level. At present - filled with water. Was unwatered in 1935 & examined by G.F. Harbauer (over)

23. Geology & Mineralization *It is a quartzite quartzite by intrusion into granite. (It has also been called a monzonite.) Molybdenum occurs as the sulphide along with sulphides of copper and iron.*
24. Ore: Positive & Probable, Ore Dumps, Tailings *Between 12 and 14,000 tons on dump. A composite sample made from 30 grabs around & half ways down dump assayed 0.35% MoS₂. Top. level shows 1.25% copper*
- 24A. Dimensions and Value of Ore body *Report by C. J. Darle, Consulting Engineer - Tucson states development work indicates a probable tonnage of between 500,000 & 700,000 tons.*
25. Mine, Mill Equipment & Flow-Sheet *No equipment.*
26. Road Conditions, Route *Shipping point Skull Valley - about 8 miles from camp. Road in good condition - all down grade. Nearest trading center - Prescott - 10 miles good Road.*
27. Water Supply *Amples water supply in shaft and in district for milling purposes - cheaply developed.*
28. Brief History *Opened up in 1917 as a copper property. Molybdenum was not recognized until later years. Other adjoining properties showing copper & molybdenum ~~are part of a large general operation.~~*
29. Special Problems, Reports Filed *Electric power line crosses property.*
30. Remarks *3 or 4 other properties adjoining have been developed for copper and also contain molybdenum. A consolidation of all properties would admit of large scale operation.*
31. If property for sale: Price, terms and address to negotiate. *\$40,000 price - For sale on terms.*
32. Signature *H. C. Allport.*
33. Use additional sheets if necessary.