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(7) At and near intersection of U.V.X. Road and short cut the latter was regraded after the storm of August '38.

(8) The cracks in the scale-pit near the coal bunkers were noted in Sept. '35 and have not changed since then. They might have been caused by subsidence but Waara believes they were caused by the vibration and jar of heavy trucks.

(9) Don't know of any cracks along Giroux St. northwest of Sabin house.

(10) The upper break in the concrete ditch above the town was caused by the upper surface landslide from the lone tank.

(11) The lower breaks in this concrete ditch were caused by ground slippage in the upper slide area between the lone tank and the three tanks.

(12) The break at the Club House is a fault break on the line of the fault plane and there are more breaks along this fault plane to be the south of the area outlined by Fields and especially at Verde Ave. and 5th St. in the Copper Chief Addition.

All conditions except those caused by the storm of August '38 were noted in Sept. of '35 to be practically the same as they are today.

The concrete swimming pool (Mexican pool) was built on the conglomerate barrier which limits the toe of the slide several years prior to '35 and it is northeast of the point where the toe of the landslide comes to the surface. There was a change house at the west end of the swimming pool which is about 25 by 50' (My estimate 30 x 60').

The concrete sides and floor of the pool have not cracked or warped (Change house was pushed over and destroyed by pressure from above.)

The Bakery Shaft was sunk about 200' north of the Small Bldg. and east of the Boyd Hotel which is on the other side of

Main Street. From this shaft a crosscut was driven west to run under Main Street. This crosscut followed the contact between the caliche conglomerate and the lava which was thus exposed for a length of 110' without showing any breaks or cracks.

Everything considered it is Waara's opinion that the causes of damage to the Small Bldg. were fire (and water pumped in) ground slippage and weak footings. None of the damage was due to mine subsidence. In forming this opinion he considered the surveys which he made in '37, '38 and '39 and which show no change in the relative position of points which he located at the front and rear of the building.

WAARA - Cross-Examination - 5/24/39

Was employed by U.V.X. Co. since Jan 1935 but not on pay-roll.

In reaching his conclusions as to the causes of damage he took into consideration all information in his possession including that which pertained to mining and stoping in the U.V.X. Mine and the location of their stopes, drifts, cross-outs, rains, etc., and their relation to the town of Jerome and the building in suit.

All mining was done in the hanging wall and only exploration and development work in the foot wall. Some of the exploration drifts do run under the town of Jerome and under Main Street.

There was one stope which extended from 1400' level to 950'. (The big stope actually extended from between 1500' and 1600' to just below 1200') and on the 1400' level the horizontal dimensions of this stope are 300 feet north-south by 250' east-west but it grew smaller as they worked upwards. (He seems to have combined the big stope with 1207).

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NOTE RE GRAY'S GULCH TRIP 8/14/42

7m geology in Red River file

Samples:

#1 Dump at Shaft B--probably sorted ore

(Lute Shgs)

Cu 12.17%

#2 Dump from Adit Tunnel (now largely washed away by creek)

Cu 4.12%

#3 From outcrops of west vein

Cu 9.36%

Composite Au .02 = \$0.70

Ag 2.6 1.82

2.52

*3000
200

60,000,000
5*

Four unpatented claims known as:

Rockledge

" #1

" #2

" #3

located in ^{Magazine} mining district, and in township 7 N, Range 4E, Maricopa County and recorded on pages 282, 283, 284 of Book 41

Owned jointly by Eugene D. Bettler and his brother-in-law

James

of Phoenix. Assessment work for last year was performed but not yet recorded. Bettler says that they would give a three year lease and option with usual terms and 10% royalty on ore or concentrate shipped. Lessee to improve the property by working 200 shifts per month or could suspend work for not more than six months by paying rental of \$100.00 per month.

What's v. app. and...

Option price \$50,000 payable over five years @ \$10,000 per annum.

Changed Terms must be confirmed by brother-in-law. Best means of making property accessible for preliminary work at cost of not over \$5,000 would be to expend this sum in completing and fixing up Bettler's present road for 5 miles from Magazine Springs (Onyx Mine).

Later on a permanent road might be built westward to join road

2'
which runs up along New River from Black Canyon Highway. Distance from mine to New River is only two miles in air line.

On the old wagon road might be fixed up for $3\frac{1}{2}$ miles to join old County Road at Cave Creek. This County Road ran from Cave Creek Post Office (Howard Camp) up past the Phoenix Mine but it has not been kept up for many years and the New River-Black Canyon Route would probably be preferable as distance from mine to Cave Creek Post Office would be some 17 miles (11 miles in air line).

Apparently the old Yavapai schists or slates were overlaid by limestone (Carboniferous) and then all these rocks were tilted up to a nearly vertical angle by successive intrusions of quartz diorite and porphyry. Some of the limestone is very siliceous. The ore seems to make along shear-zones along or near the contacts between the porphyry (some of which may be alaskite) or diorite and the limestone. Ore is associated with quartz and the copper occurs as carbonate and silicate along the much weathered and altered outcrops, but below chalcocite and gray copper are noted. There has been a strong mineralization in this district and much evidence of leaching so that there are chances of finding more persistent bodies of sulphide ore below the water level which should not be at any great depth.

The present showings are largely pockets and stringers which represent no large tonnage but in some places it is claimed that the ore is very rich and carries high values in gold and silver (see samples).

There are three distinct veins or lines of mineralization prospected to date. The east vein outcrops near the portal of the adit and ore here is badly leached but in the 50' shaft (A) which is sunk about 120' NE of the adit it is said that the ore became much more solid and that a crosscut at the bottom of the shaft showed solid 6% ore for the entire width. The shaft could be unwatered for sampling at small expense.

The adit (driven in about 1900) has a total length of 300'. It runs in from the portal N. 70 degrees W and at about 150' from portal Bettler claims that they cut 12' width of $3\frac{1}{2}\%$ copper ore which should represent the middle vein while at 176' in the west vein was cut for a width of 20' which is said to have assayed 6% copper, but is now badly leached by percolating water.

The best surface showings with several pits showing high grade ore are probably on this west vein and 120' or so above the level of the adit.

There are numerous outcrops going southwest and the new shaft (B) was sunk 50' (probably on the west vein which is badly pinched and twisted) having an incline of 65° to southeast and striking about N. 40° east. Width of ore from 6" to 3' and does not look promising except on the theory that it may make with depth. Rocks are porphyry and diorite.

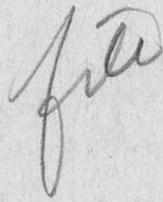
If ore in adit on west vein will actually run 6% copper the best plan would be to raise up to surface in this ore and then stope out for length of ore shoot which might be 300' or more judging from outcrops.

At present would not pay to ship less than 6% ore and it might have to be sorted to bring it up to shipping grade.

September 16, 1943

Mr. Herbert H. Brown
312 West Willetta Street
Phoenix, Arizona

Re: Gray's Gulch



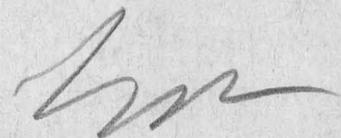
Dear Mr. Brown:

My friend Strobel acknowledged my letter requesting the premium on copper from Gray's Gulch Mine and said that the matter would receive attention, but he also returned to me an affidavit which it appears that you should file as soon as possible.

Inasmuch as I had repeatedly stated in my letter that this property was a prospect and had never produced any copper whatever it seems ridiculous that the Government should oblige you to make an affidavit to the effect that you did not produce as much as 200 tons of copper metal during the year 1941. This however, is doubtless part of the red tape which we all have to try to unwind. I am enclosing herewith two copies of the affidavit in which everything is filled out except for your signature and the certificate of the notary before whom you must make the affidavit. If you will take the necessary steps to complete this document and have it sent to my office, I will forward the same promptly, or you can send it on direct to the War Production Board as noted on the form.

Drop in and see me some time when you are in town. I hope that things are going nicely at the mine.

Yours very truly,



GMC:b
Enclosures 2

September 22, 1943

Mr. Landon F. Strobel
Executive Secretary, Quota Committee
Premium Price Plan for Copper, Lead & Zinc
Room 2047, Temporary "R" Building
Washington, D. C.

Re: Gray's Gulch

file

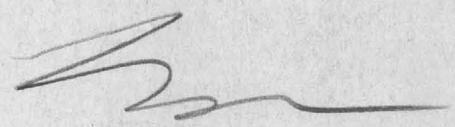
Dear Strobel:

Thank you for your recent letter in reference to the above property and for sending me forms GA--596, one of which is herewith enclosed duly executed by Herbert H. Brown.

I am sorry that I did not realize that such a form would have to be submitted, for I had assumed that since it was very clearly stated in the other documents that this property was a prospect with no previous production whatever it would hardly be necessary to file an affidavit in respect to the lack of production in 1941.

With personal regards.

Yours very truly,



GMC:b
Enclosure

September 22, 1943

Mr. Herbert H. Brown
312 West Willetta Street
Phoenix, Arizona

Dear Mr. Brown:

Re: Gray's Gulch Mine.

We have Mr. Colvocoresses' letter of August 30, 1943 to which was attached your application for special copper premiums on ore from your contemplated mining operation of the Gray's Gulch Mine.

As we understand it, your operation at this time consists mainly of development and that no production has resulted incidental to that development. Under the Premium Price Plan, the zero "A" premiums which are now assigned to all mines not producing in 1941, are intended to assist in the development of such mines and the special premiums are not available unless there can be a well-based estimate of monthly tonnages and grades of ore to be produced, the segregated costs of production, including hauling and royalty charges, etc., the expected revenues, and a copy of a recent smelter settlement sheet or purchase schedule proposal. Without these facts, the Committee cannot act.

Such necessary information is specifically requested on Form WPB-2465, however, was omitted in your application. Additional forms are enclosed for this purpose and upon receipt of same, completely filled out, the Committee will be glad to further consider your request.

Very truly yours

ORIGINAL SIGNED BY
LONDON F. STROBEL

Landon F. Strobel
Executive Secretary, Quota Committee
Premium Price Plan for Copper, Lead & Zinc
Pent House, Railroad Retirement Bldg.

Enclosures

COMittendorf/-/aec

cc: Mr. George M. Colvocoresses
1102 Luhrs Building
Phoenix, Arizona
Mr. Hayes
Mr. Maury

August 30, 1943

Mr. Landon F. Strobel
Executive Secretary, Quota Committee
Premium Price Plan for Copper, Lead and Zinc
Room 2047, Temporary "R" Building
Washington, D. C.

Re: Gray's Gulch Copper Mine

Dear Sir:

The following is a brief statement to accompany application for extra bonus price of copper on forms W.P.B. 1572 and W.P.B. 2465.

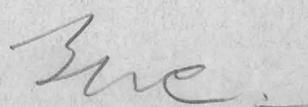
The Gray's Gulch prospect has been developed for many years but because of its remote and inaccessible location progress was extremely slow until Mr. Brown in September, 1942 took over the property under lease and option. Mr. Brown has since put in a great deal of his time and spent a considerable amount of money in completely building the first mile of road from the mine and repairing and widening the next 4 miles to connect with the County Road and in opening up the ore showings which give promise of developing shoots of good grade oxidized siliceous copper ore. Mr. Brown is now desirous of mining and shipping this ore to the Hayden Smelter which will be very glad to purchase the same and may find it suitable for converter flux.

On the assumption that the shipments will contain 6% copper and \$2.00 value in gold and silver, payments based on the zero quota (17%) for copper would amount to about \$12.00 per ton from which the shipper would have to meet the cost of mining and of trucking the ore 57 miles from the mine to the railway at Phoenix. These costs seem likely to aggregate just about \$12.00 per ton.

In view of the risks and difficulties involved in this small operation it appears to me that a special premium in the order of 8¢ per pound of copper would be well justified as this should leave the operator a sufficient profit to permit him to purchase and install new equipment and thus speed up his development and increase the ore production from the mine which, altho it is at present only a prospect, is well worthy of active development and holds promise of becoming a steady producer.

Yours very truly,

GMC:b



file
Copy of Brown
September 28, 1943

Mr. Landon F. Strobel
Executive Secretary, Quota Committee
Premium Price Plan for Copper, Lead & Zinc.
Pent House, Railroad Retirement Building
Washington, D. C.

Re: Gray's Gulch Copper Mine

Dear Sir:

This letter is written on behalf of Mr. Herbert H. Brown to whom you wrote on September 22nd, sending me a copy of your letter. In connection with the enclosures, please refer to my letter to you dated August 30th in reference to this same property and to the enclosures which I sent you at that time.

I note that your Form WPB-2465 has been revised and that the forms which were sent to Mr. Brown with your letter of September 22nd were different from those which had been sent out and forwarded to you together with my letter of August 30th. I have also noted the additional information which was requested in your letter of September 22nd and which I have tried to incorporate in the four copies of the revised Form WPB-2465 which are enclosed herewith.

I believe that you and any other practical engineers who may be on the Committee will realize that some of the information which you desire can not be furnished when the property in question is merely a developing prospect and it has been repeatedly stated in previous correspondence that such was the case with the Gray's Gulch Mine. You must therefore consider that the data given on the enclosed forms is approximate rather than exact and represents expectations which may or may not be realized from future development and operation of the mine.

Included in data on the enclosed form is a brief estimate of the cost of mining and shipping the ore and attached to same is one original copy of the smelter schedule from the American Smelting and Refining Company and three copies of essential portion of same.

The essential fact in respect to Gray's Gulch is simply that the operator can not afford to continue his work or make any shipments of ore unless your Committee should see fit to grant a substantial bonus on the price of copper, which as stated in my letter of August 30th I believe should be in the order of 8¢ per pound so

Mr. Landon F. Strobel

-2-

September 28, 1943

the shipper would realize a total of 25¢ a pound for copper which price has already been granted several other copper mines in this vicinity.

If the Government wishes to have additional copper produced I presume that favorable action may be taken on this request since Gray's Gulch is a promising prospect and while the present outlook does not justify any estimate of large production, it is entirely possible that subsequent work may open up much larger bodies of ore and eventually permit an output of several tons per day, thereby permitting the operator to substantially increase his plant and the scope of operations.

Trusting that all of the above may be given favorable consideration, I remain

Yours very truly,

GMC:b
Enclosures

September 28, 1943

Mr. Landon F. Strobel
Executive Secretary, Quota Committee
Premium Price Plan for Copper, Lead & Zinc.
Pent House, Railroad Retirement Building
Washington, D. C.

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Yours very truly,

GMC:b
Enclosures

August 17, 1944

MEMO: RE GRAYS GULCH

Brown says that he is taking in three mines and will push the work aiming to positively mine and ship a car-load of ore before the end of this month.

He thinks that it should run 4% Cu. and perhaps 4 Oz. Ag. and 0.02 Oz. Au. Transportation by truck and rail to Hayden will cost \$6.50 per ton so that he may net 6 to \$10.00 per ton, perhaps some \$400.00 for the car if he is not fooling himself as to grade.

He says that the big vein (near top of hill?) shows a width of 30' of low grade ore 1 to 2% Cu. which might some day be milled. Oxidized ore quickly gives place to sulfid a short distance below the surface.

10/2/44

NOTE RE GRAYS GULCH MINE

Brown says that a picked specimen of the ore carried 59% Cu, 18 oz. Ag and about \$2.00 in gold.

He has now mined enough ore for a carload but road washed out again and he does not know when he can ship. Hopes that shipment will carry 8 - 10% Cu and a little gold and silver.

NOTES RE GRAY'S GULCH MINE

File

Visited with Brown and Fred Long February 28th, 1945.

Shipments entitled to a premium price for copper, total, 22¢

Ore Mined:--	In Phoenix about	3.00 tons
	At Magazine Springs	10.00 "
	" mine along the road	2.00 "
	On dumps to be sorted, say	5.00 "
	Total	20.00 "

Does not look as if it would average better than 3% Cu. with perhaps \$2.00 in gold and silver values.

Recent work has consisted in improving the road from Magazine Springs to top of hill above mine gulch and then building on down to the spur which is just above the camp buildings and which I used as a datum point for previous surveys.

This last section of the road now forms a cut along the slope from a point above and northwest of the upper or west ledge extending south-east to near the datum point, i. e, some 250 - 300' in all of which there appears to be residual traces of copper minerals plus carbonates and a small amount of sulphide all of which might indicate the existence of primary sulphides below the oxidized zone and perhaps a zone of secondary enrichment between them.

The showing in the cut which has been made along the strike of the west ledge is very disappointing for the ledge itself has all been covered by debris from the upper part and the hillside above and there is no ore

showing except for a few fragments of carbonates while the wall rock does not appear to show nearly so much metallic mineral as on the southwest side of the hill.

No other workings were visited but Bettler spoke of having drifted a short distance along the assumed extension of the west vein from the main adit but as I recall he found no pay ore there. He also spoke of having sunk the south shaft for an additional 4 or 5' and said that he now had good streaks of ore and both the foot and the hanging walls of the shaft with low grade quartz or silicified rock between them.

Brown and his associates have spent close to \$5000 since they took over the property, -mostly on road work.

If subsequent development work should prove that there is a disseminated body of copper ore with an average width of 300' and a length of 2000' (if it extends from the main workings down to the south shaft then there might be some 5,000,000 tons of ore for each 100' of depth and the depth might well prove to be 200 - 400'.

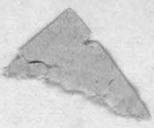
The first development work should probably consist of diamond drilling with holes run at an angle to the west from down near the bed of the creek located near the collar of the little north shaft and the portal of the main adit and similar holes should be put in farther to the south along the creek. The first two holes, say 300' - 400' deep should give a lot of information regarding the formation under the oxidized zone and the average grade of the ore, if any. Cost might be around \$3.50 per ft. or say \$1000 - \$1500 per hole and an initial expense of \$2000 might be required for camp buildings, additional road work, etc. might be required so that \$10,000 should be sufficient to drill say 5 holes and if the results were negative it would not appear worth while to continue the work beyond that point but otherwise

another \$10,000 should probably be spent to confirm any favorable findings in the first lot of drill holes.

Expenditure of the first \$10,000 will be purely a gamble.

Call of Peffer. Hunter
3/30, 45

Assn + Perm by decide to
Spnd 10,000 of drilling it



32601

MAJOR GENERAL
BROWN
MAY 1946

Expenditures of the first \$10,000 will be largely a sample.

In the first lot of 5000 notes.

Another \$10,000 should probably be spent to continue and complete printing

11

March 1st, 1945

MEMO RE GRAY'S GULCH

Dear Brown:

I this morning talked on the telephone to Mr. J. K. Gustafson, Chief Geologist of the Magma Company. I learned from him that on some recent occasion Jaquays presented the property for consideration and showed him some samples. From the description given to him, Gustafson felt that it would be worth investigating and told Jaquays that he would arrange to have one of his assistants make an examination at some time in the near future. However, he did not specify any date, and he tells me that there would be no possibility of their investigating the property during the balance of this week, nor in all probability next week. He went on to say that while they are anxious to investigate any promising mining properties, the present shortage of man-power, etc. would under any circumstances make it difficult or impossible for them to carry on any extensive exploration work without considerable delay, and should they find this property attractive they would probably have to ask for a long time option as there would be no chance to definitely determine its value in the near future.

Under these circumstances I advise you to forget about the Magma for the present and go ahead as you had previously planned in dealing with your friends in California whose assistance should enable you to develop the mine to a point where it may become much more attractive to the Magma Company or any other large copper company than it is at present.

The Magma may send a man out to look over the showing at almost any time, and if they find it sufficiently interesting they will doubtless keep in touch with the progress and results of your work.

Yours very truly,

A handwritten signature in dark ink, appearing to be 'SWE', is written over a horizontal line. The signature is cursive and somewhat stylized.

May 1st, 1945

MEMO RE GRAY'S GULCH

Steele of Magma Co. is of the opinion that more exploration should be done laterally along the porphyry dike and more work in the vicinity of the lower shaft. The showing in the main adit is obviously very disappointing and it might be better to start drilling in some other section of the claims.

AMERICAN SMELTING & REFINING CO.

HAYDEN, ARIZONA

PURCHASE SCHEDULE F

Mine: GRAY'S GULCH

Location: CAVE CREEK DISTRICT,
MARICOPA COUNTY.

Shipper: H. H. Brown

Character Ore: Copper--Siliceous R.R. Station: Phoenix

The following purchase terms are subject to the General Clauses shown on the back of this sheet and are subject to prompt acceptance. Unless shipments are begun within 30 days this quotation is automatically cancelled.

PAYMENTS

Gold: If 3/100 of an ounce per dry ton or over pay for all at the rate of \$19.50 per Troy ounce, plus 90% of the realized gold premium in excess of \$20.67 per Troy ounce. Under present Government net realized price (\$34.9125), this is equivalent to \$32.31825 per Troy ounce.

Silver: Pay for 95% (minimum deduction of 1/2 ounce) at the average Handy & Harman New York Silver quotations for the calendar week, including date of arrival of last car of each lot at plant of Buyer, or, if higher, at the realized Mint price provided silver qualifies for Government purchase and affidavit is furnished, less a deduction in either case of 1 1/2¢ per ounce.

Copper: Deduct from the wet copper assay eight pounds and pay for ninety-five per cent of the remaining copper at the daily net refinery domestic quotations for electrolytic cathodes as published in the Engineering and Mining Journal of New York averaged for the calendar week preceding date of arrival of last car of each lot at the plant of the Buyer less a deduction of 2.6 cents per pound of copper accounted for. Nothing paid for copper if less than one-half per cent by wet assay.

No payment will be made for any metal or content except as above specified.

DEDUCTIONS

Base Charge: \$3.50 per net dry ton of 2,000 pounds; provided the sum of payments for gold, silver and copper does not exceed \$15.00 per ton. Add to the base charge ten per cent of the excess over \$15.00 to a maximum charge of \$5.00 per dry ton.

Note re Gray's Gulch 8/10/42

Call from Oscar P. Long who now lives in Phoenix and can be reached by phoning 3-6848.

Long has no direct interest in the mine but could obtain a commission from Bettler in case any business resulted. Bettler and wife and brother-in-law still own the property and Bettler lives at mine. He has tried to finance it through a Government loan but was not able to properly prepare the data. He had a verbal agreement with a promoter named Orme who proposed to help him to get this loan but since Orme has made no progress for several months they no longer consider this agreement to be in effect.

Last ^{five} ~~four~~ miles of road to mine is still very bad but road has been extended from top of hill part way down to the lower workings.

Bettler has four unpatented claims, two claims long and two wide which cover the workings, but the favorable formation extends well beyond the limits of these claims and Long may stake others in that vicinity.

During the last three years Bettler has sunk a new shaft down the creek to south of old workings and has found good ore there.

There are three parallel veins partially developed striking north-south. The gulch at this point runs south and then turns southeast and empties into Cave Creek.

Mine was examined late in 1939 by Stewart, Engineer for Col. Braken who said that it was too small for them but might be developed to stand a 300 tons or 400 ton mill and said according to Long that it was the most promising showing that they had examined in two years. Stewart claimed that the rock which had been termed rhyolite was really an alaskite prophyry along which the ore made and that there was also

much altered and mineralized limestone.

Long says that aside from the Gray's Gulch structure the only other promising location in this vicinity is at Cram Mountain some four miles farther east and $1\frac{1}{4}$ miles below the Icedale Ranger Station on Cave Creek. Here there is a 500' adit which opens up copper ore of low grade. It was examined by ^{Bulwith} ~~Bulwith~~ who is said to have recommended it to the Inspiration Company.

The motive power, that is furnished by herds of cattle that I put into the mill from time to time, and I should be completely happy with my invention except that yesterday I lost this old friend of twenty years, my son George.

~~Perzowski, also confided to me that he had planned to be a philanthropist, to erect a mill for Caledonia with rabbit cages for a height of fourteen miles which would at once and permanently bring relief to the hunger of the poor.~~

~~And after this there follows a discourse on mines that is as much like the one he gave to me that it is not worth while to continue the translation.~~

A strange man and a strange life he leads. He never associates with the other convicts and few people have ever penetrated into his house. There stand large tall of huge books, prepared no one knows how; books on law, philosophy, geology, socialism, books literally read to pieces and singed, in every corner by the candle flame that has been held close over them. Some years ago people in France and Poland used to send small sums of money for him from time to time in case of the kindly hearted Perzowski, but the latter might never give these to him openly but always as a very high price for some of his garden produce or left quietly lying ~~on his~~ among his books where he would find it later; for Perzowski's pride has never yet allowed him to touch money as a gift. They tell of him, before his famous horse died, it was his habit to walk into Bognail leading that horse all

Point in middle 0 also 3330 (20)

0 & program part #1 = h 35° W dir 200

0 & legs A = h 35° E dir 400 (200)

0 & cut #2 h 80° W dir 300

0 & " #3

0 & side cut h 40° W " 150

at 20' dir 130° also legs A = h 35° E, d 130°

cut of part & line ~~to 300~~ N 70° W dir 300

" & legs A h 40° E dir 110

legs A & part part h 75° W " 150

h (program) h 45° W " 108
40° h " h 60° W

legs at dir legs h 40° W " 200

" " dir 20' " legs h 45° E " 200 (part)

Condit

August 27, 1943

Mr. Herbert H. Brown
312 West Willetta Street
Phoenix, Arizona

Re: Gray's Gulch Mine

Dear Sir:

The following is a condensed report on the property known as the Gray's Gulch Copper Mine.

PROPERTY AND LOCATION

The Gray's Gulch property consists of four unpatented mining claims, the possessory title to which is held by Ernest S. Bettler and H. M. Jones and on which a three (3) year lease with option to purchase has been executed in favor of Herbert H. Brown, effective September 1, 1942.

These claims are located in the Magazine Mining District, Maricopa County, Arizona, in Township 6 North, Range 4 East; Gila and Salt River Base and Meridian.

X
At present access to the ^{claims} claims is by way of the Cave Creek Road from Phoenix to the Onyx Mine at Magazine Springs 52 miles from Phoenix and thence by five miles of very poor mountain road which last year was passable for an auto to within 3/4 mile of the mine. From that point a trail leads down the west slope of Gray's Gulch to the Camp and principal workings which are on the bank of the creek. This

trail you have now converted into an auto road, and you have also much improved the road from Magazine Springs. The climate is mild and dry permitting operations to continue without difficulty through all seasons of the year.

TOPOGRAPHY AND GEOLOGY

The country is rough and rugged but with few steep slopes excepting those which form the sides of Gray's Gulch where the Bettler camp is located at an elevation of about 3,200' above sea level while the divide above is 400' higher. On the hills and ridges the vegetation is scant mostly native shrubs and grasses with a few juniper cedars, while sycamores and cottonwoods grow in the ravines. A small spring at the mine camp in the bed of Gray's Gulch furnishes water for domestic purposes and is reported to have flowed continuously for the past 40 years.

The local geology is rather complicated. The basal formation appears to be pre-Cambrian Yavapai schist, shale and quartzite which in this particular district was penetrated by large intrusions of granite and quartz diorite and subsequently these rocks and the later sedimentary limestone were metamorphosed, distorted, compressed and displaced by intrusions of quartz porphyry, mainly rhyolite and alaskite, which carried up with them blocks and masses of limestone and shale.

The recent flows of basaltic lava which once covered so much of this district have been completely eroded away in this particular locality but are still found above an elevation of 4000' notably

along the top of New River Mesa to the west and Skull Mesa to the south.

X The fault and contact fissures which accompanied the intrusions of porphyry seem to have been largely filled with quartz and mineralized by solutions the origin of which is obscure, but probably they came from some deep-seated magma. These solutions also penetrated into the seams and fracture ^hplaces of the rock which seems to have been shattered and shaken in place by violent disturbances.

X All of the ore so far developed at the Gray's Gulch Mine is definitely secondary resulting from the decomposition of the original sulphide which I assume to have been a chalcopyrite while the copper minerals were reprecipitated as ^{bornite}~~beresite~~ and chalcocite and later oxidized to brown and red copper oxide, silicate and native copper. Green and blue carbonates are found in the outcrop of the ledges.

An examination of various fragments of porphyry and quartzite and analysis of samples suggests but does not positively indicate that the copper mineral was originally disseminated throughout large areas of this rock, but any conclusion as to the existence of a commercial deposit of disseminated copper ore will have to await subsequent exploration.

Although the showings of oxidized copper and copper bearing float are widely distributed over the surface of the claims the work has been largely confined to two zones of mineralization which will later

be described in detail. These cannot properly be termed veins as there are no distinct walls and I shall refer to them as ledges. These ledges, as well as the formations, have a general strike of northeast-southwest while the dip has not yet been established.

HISTORY

Copper was first found here by a man named Gray who prospected for gold in the 90's and in 1898 Bettler first staked his present claims and has lived there and developed them usually single-handed and almost continuously since that date.

The remote location, difficulty of access and comparatively meagre extent of the workings have combined to render these showings unattractive to other parties and prevented them from receiving the attention which they would have merited if accessibility and transportation conditions had been more favorable.

My first visit was made in September, 1939, and I made examinations in August and September, 1942 and another in 1943 on which occasions I took some samples and made the notes on which this report is based.

ORE OCCURRENCE AND DEVELOPMENT WORK

No substantial tonnage of pay ore has yet been developed and the present showings assure only a very limited production from surface workings but serve to encourage further development by indicating the probability that the ledges will continue downward for some distance with oxidized ore in shoots or sections and that at a greater depth and particularly below the local water level these

Mr. Herbert H. Brown

- 5 -

August 27, 1943

will be replaced by more consistent shoots of primary sulphide ore of commercial grade.

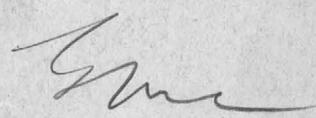
RECOMMENDATIONS

Samples which I took from various pits, shafts and trenches showed a content of from 3 to 10% copper with gold and silver values to the extent of \$1.00 to \$5.00 per ton. The porphyry rock between the two main ledges assayed in some sections from 0.90 to 1.22% copper.

Under present conditions I do not advocate any attempt to explore the possibilities of the disseminated deposit (which would involve a lengthy drilling campaign) and I advise that your efforts should continue to be directed to opening up the better grade of ore in the main ledges by which you are likely to develop the property into a small, but continuous producer of ore which can stand shipment to a smelter, provided a satisfactory price for copper can be obtained.

The present operations, using hand steel in this hard ground, are slow and expensive and better equipment is most essential. Such equipment may later be purchased from operating profits thus permitting economy of operation and an increase in the production.

Yours very truly,



GMC:b

No. 140 Co

Phoenix, Arizona,

CHAS. A. DIEHL

Aug. 15, 1942.

ARIZONA ASSAY OFFICE

Phone 3-4001

815 North First Street

P. O. Box 1148

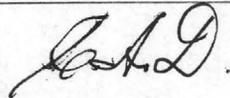
This Certifies That samples submitted for assay by **Mr. G. M. Colvocoresses.**

contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER		VALUE (Oz.)	GOLD		VALUE (Oz.)	TOTAL VALUE Of Gold and Silver	PERCENTAGE			REMARKS
	Ounces	Tenths		Ounces	Hundredths			%			
Compo 1-2-3	2	6		.02		\$.70		COPPER			
No. 1								12.17			
No. 2								4.12			
No. 3								9.36			

Charges \$ 4.00

Assayer ARIZONA ASSAY OFFICE



No. 142 Co

7/4
284
254
3124

Phoenix, Arizona,

Aug. 29, 1942.

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Phone 3-4001

815 North First Street

P. O. Box 1148

This Certifies That samples submitted for assay by **Mr. G. M. Colvocresses.**

contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER		VALUE (Oz.)	GOLD		VALUE (Oz.)	TOTAL VALUE Of Gold and Silver	PERCENTAGE		REMARKS
	Ounces	Tenths		Ounces	Hundredths			%	COPPER	
1								3.38	Prod #3 in head pan	
2								5.19	" 2 " " "	
3	4.4			.14		\$4.90		16.07	" 1 " " "	
4		.1		Trace		--		.76	half of acid supposed to be in head ledge	
5	Trace			Trace		--		.91	frag of head ledge of A ledge	
6								1.22	half of " " " " "	
7		.2		Trace		--		2.36	whelp pits on head ledge	

Charges \$ 11.00

Assayer ARIZONA ASSAY OFFICE

C. A. Diehl

May 4, 1943

Mr. Brent N. Rickard
American Smelting & Refining Co.
Valley National Bank Building
Tucson, Arizona

Re: Gray's Gulch

Dear Rickard:

My friend, Mr. H. H. Brown, has been opening up a little mine known as the Gray's Gulch located in the Cave Creek district north of Phoenix and he has asked me to find out if you will accept carload shipments, the first one of which he hopes to make sometime during the latter part of this month. I hardly imagine that he will ship more than a car a month and in fact he may only be able to get out a very few carloads altogether.

I cannot give you any exact analysis of the ore but it is quite silicious and will probably carry upwards of 10% of copper as oxides also a few dollars value in gold and silver. I have told Brown that I believe you would be glad to accept this at Hayden on the basis of your regular terms of which I have a copy but if such is not the case please let me hear from you.

Personal regards.

Yours very truly,

GMC:t

NOTE RE GRAY'S GULCH PROPERTY

Sept 22nd, 1942

Work on surface has developed another outcrop between pits 2 and 3 and Long is running in a cut about 30' north of #2 and 15' below the outcrop but this has not yet advanced far enough to reach the ledge which it is important to open up at this point.

In main adit it appears that Bettler's last sample which carried 1.59% copper was taken only about 4' in from the wall of the adit and the face of the drift is now about 6.5' in and in upper part there is hard compact quartzite or quartz diorite which shows copper oxide and a little native copper as thin films along the cleavage planes and some tiny specks of sulphide in the rock. My sample #2 ran 0.51% copper.

About 2' above the floor of the drift there is a horizontal cross seam with some gouge and below this the rock is softer and badly shattered but copper minerals are absent. My sample #1 ran 0.10% copper.

Sample #3 was grab from material mined from this drift: Cu. 1.05%

The drift runs North 30° E. which about corresponds to the strike of the ledge.

Looks as if the quartzite had been shattered and cracked in place and copper minerals (sulphides) which were contained in small quantity in the original rock had been leached and then precipitated as oxide along the cracks.

About 7' west of the drift there is a fault or contact but beyond this the same type of rock occurs but is coated with lime precipitate although there is very little lime in the quartzite.

Near the portal of the adit the schist is noted but not much porphyry except along the surface and it seems that the porphyry, quartzite and schist are all badly mixed up in this section and their relations are not clear.

Bettler's trail for less than $\frac{1}{2}$ mile from end of his road to point

just above the camp and below the line of outcrop is already from 3 to 7' wide and could probably be widened sufficiently to permit a car to pass for about 400 with very little shooting. A part of the grade is 14° (22%) but this could be reduced to about 20% in widening out the trail.

Brown thinks that later on a good road for hauling out ore could be built down to New River, about 3 miles from crest of grade at the divide above the mine and then some two miles would have to be built along New River to reach the end of the present road.

are located appears to have a width of about 200 or more feet while the length of same--as noted on the surface is pretty surely in excess of 4,000' and in view of the widespread surface of copper in many portions of this area, as far south as Shaft B and the assays of samples which seemed to ^{represent} be nothing more than the porphyry dike it seems quite possible that the entire area carries a disseminated copper deposit from the upper section of which the values have been largely leached out but in which there is a very good chance of finding a zone of chalcocite secondary enrichment. The possible extent of this enriched zone might be in the order of 600,000 sq. ft. of superficial area in which an enriched zone 100' deep might well represent up to 5 million tons of ^{disseminated} ~~low grade~~ ore the grade of which might ~~well~~ prove to be commercial. *judging by the leached capping which*

originally covered the operating porphyry copper mines & which in no case, to the best of my knowledge, had an average content of as much as 0.5% copper.

note Aug 29th 1942

From samples it would appear that the surface outcrop of the upper vein or mineralized showing on the hill is very rich at least in places. A grab sample of ore from the first pit (in which the powder magazine is located) carried 0.14 oz Au, 4.4 oz Ag and 16.07

oz copper, gross value \$62.66 per ton.

As sample from pit #2 about 100' further along the vein to the northeast carried 5.19% copper and was not assayed for gold and silver.

A combined sample from the two pits entirely distinct from the above ran 9.36% copper.

A sample from pit #3 some ¹⁰⁰60' beyond pit #2 ran 3.38% copper indicating that this was approaching the end of the ore shoot which was confirmed by the fact that pits further to the northeast showed so little ore that they were not sampled.

While the broken up surface of the slope, a portion of which is covered with float from above, and the lack of continuous trenching made it impossible to state that the ore shoot is continuous, it appears probable that these showings indicate the existence of a fairly continuous shoot with a length of at least ²⁰⁰160', an average width of some 4-5' and the surface grade in the order of 8% copper with a value in gold and silver of at least 3.00 per ton giving this an average gross value of about \$30.00 per ton at bonus price of copper. The tonnage of such ore is of course problematical but if the shoot is continuous ^{7160'}it would amount to some 60 tons for every foot of depth or say 7,000 tons above the level of the adit where the walls are so badly leached that samples cut at present have no value and the one sample which I took showed only traces of gold and silver and 0.76% copper. (^{710% in surface})

It is reported by Bettler and Long that when this adit was first driven about 40 years ago it passed directly below the vein through 20' width of ore which averaged 6% copper and in places carried gold

good values in gold and silver. While I do not accept this statement as in any sense accurate it is quite evident that percolating waters have been continuously seeping through this ground with strong oxidizing and leaching action and that no true indication of the grade of the ore can be obtained without exposing fresh rock some distance from the present faces.

Much of the ore dump made at the portal of the adit has since been washed down by the creek but as a partial check on the owners statement I took a grab sample from the remaining pile which assayed 4.12% copper with 2.52 value in gold and silver. The condition of the main shaft (A) was disappointing since having been only just unwatered the walls were all coated with black slime and no distinct ledge vein or zone of ^{intensive} intrinsic mineralization could be noted in either the shaft or 20' west drift at the bottom, while the east drift (which was driven about half way down the shaft) was piled full of muck and could not be examined.

From material mined on the copper stained outcrop near the collar of the shaft and a surface pit a few feet to the southwest I took a grab sample which carried only a trace of gold 0.2 oz silver and 2.36% copper. From the drift on the 50' level I took two samples one in the face which carried only traces of gold and silver and 0.91% copper. The second sample chipped from various points along the walls from ^{the drift} the breast to the shaft carried 1.22% copper.

From the above results and the appearance of the workings I am led to conclude that most of the metallic mineral which may have been concentrated in any part of this area have been leached out and that there is merely a general dissemination of partially leached copper remaining in the porphyry rock which may have an average content of from 1 to 2% copper.

The band of porphyry in which all of the above described workings

No. Co 156

Phoenix, Arizona,
Sept. 23 1942.

CHAS. A. DIEHL

Edw. L. L...

ARIZONA ASSAY OFFICE

Phone 3-4001

815 North First Street

P. O. Box 1148

This Certifies That samples submitted for assay by **Mr. G. M. Colvocoresses.**

contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER		VALUE (Oz.)	GOLD		VALUE (Oz.)	TOTAL VALUE Of Gold and Silver	PERCENTAGE		REMARKS
	Ounces	Tenths		Ounces	Hundredths			%	COPPER.	
No. 1	<i>Face of drift</i>		<i>6.5</i>	<i>in ft x and below slip</i>				<i>.10</i>	<i>leached + talley rock shales</i>	
No. 2	<i>W n n</i>		<i>n</i>	<i>n above slip</i>				<i>.51</i>	<i>solid granite + con 1 seam</i>	
No. 3								<i>1.05</i>	<i>X Prob. Carbon from drift + con</i>	<i>slime</i>

Charges \$ 3.00

Assayer ARIZONA ASSAY OFFICE.

Chas. A. Diehl

No. 149 Co

Phoenix, Arizona,
Sept. 17, 1942.

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Phone 3-4001

815 North First Street

P. O. Box 1148

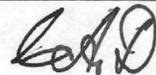
This Certifies That samples submitted for assay by **Mr. G. M. Colvocoresses.**

contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER		VALUE (Oz.)	GOLD		VALUE (Oz.)	TOTAL VALUE	%	PERCENTAGE		REMARKS
	Ounces	Tenths		Ounces	Handths		Of Gold and Silver				
GG								COPPER			
								1.59			
<i>Tray Lulch, from face of Bellis drift which was advanced about 5' to bottom of main adit</i>											

Charges \$ 1.00

Assayer ARIZONA ASSAY OFFICE



NOTES RE GRAY'S GULCH PROSPECT

Sept. 2nd, 1939

Visit from Oscar P. Long, Cactus, Arizona.

(Working at the Union Mine.)

Showed samples of copper ore with *cuprum* silicate, chalcopryrite and bornite, said to have some from the workings (see Sketch) on the 4 claims of ^{et} Butler on which he has option and where he plans to locate 6 more claims.

Reached from the Camp Creek Onyx Mine by four miles of bad road.

See map of southeast portion of Prescott Forest.

Outcrops in Grays Gulch and on slope over 200' away and on contacts of a dyke of rhyolite which is all more or less impregnated with minerals.

Made a concentrate from some of the lower grade ore which carried 40% Cu. and Au. = \$29.00 and Ag. = 5 oz.

Old tunnel run some ³⁰~~15~~ years ago and last 20' to ₃₇ contact between rhyolite and shale supposed to assay 6% Cu. More recently tunnel extended 100' in shale but only traces of copper noted.

7
(
Butler working in shaft on the upper outcrop and has mined some 30-40 tons of high-grade ore which appears to carry 25% Cu. ^{et} Butler lives at the Onyx Mine.

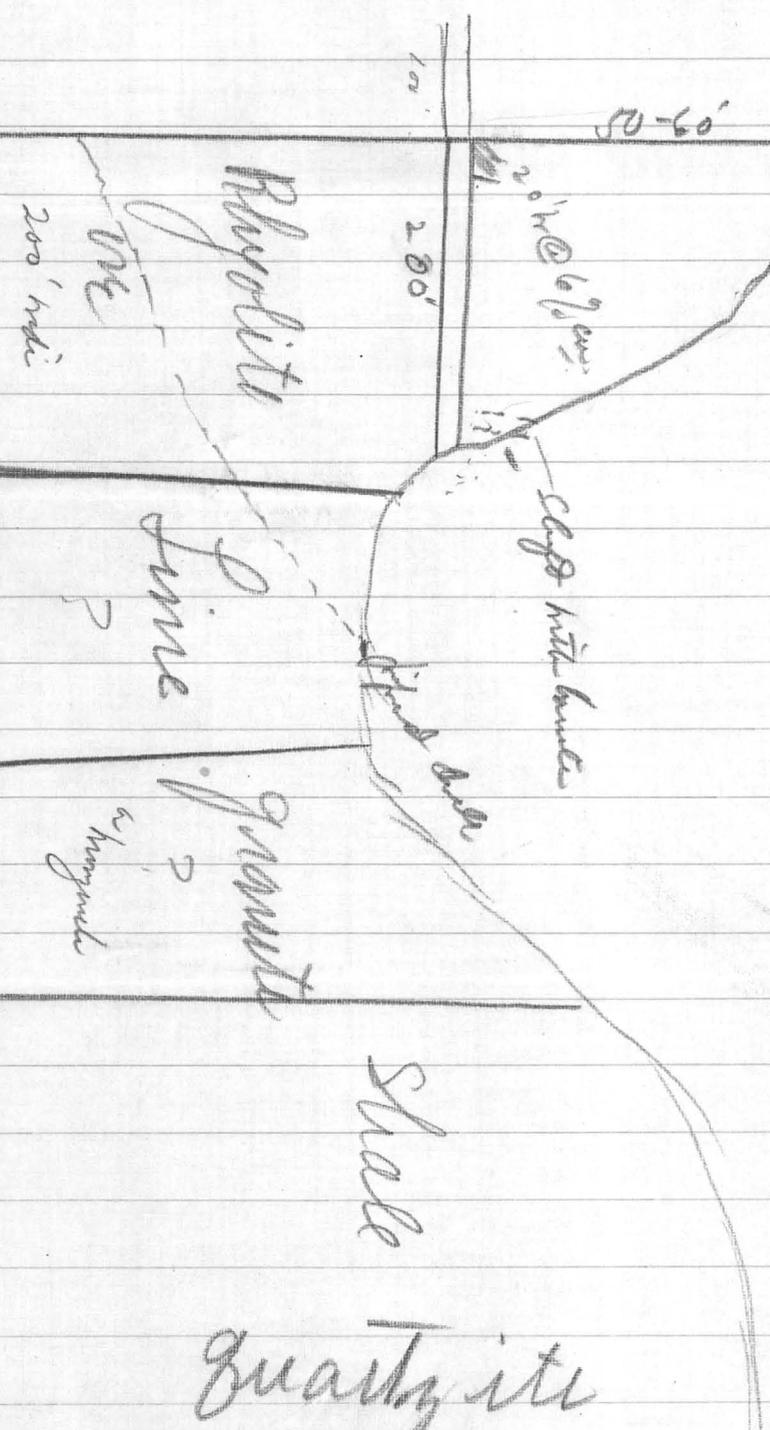
Long will have the tunnel cleaned out and ore in vein exposed after which I may visit and sample.

Frags mine in Frags tunnel (Bottle Creek)

Frags ca. 2 tunnel of 2 hrs

outcrop with shales, depth of 30-40 ft x 100 ft x 25 ft ca.

Shale on State



Quartzite

Shale

fine granite

Rhyolite

200' wide

cap with limest.

Frags mine

09-05

100'

200'

200' wide

Frags tunnel

Frags ca. 2 tunnel of 2 hrs

outcrop with shales, depth of 30-40 ft x 100 ft x 25 ft ca.

Long's mine in Gray Sulch (or Bettler's Claims)
 1 Sq = 10'

Slate

Siliceous
 sandstone of interp

rhyncholite sand

Shops in outcrop which can be traced for 2 miles.
 depth of 30 tons in sand & gang 25% Cu

Shale or
 slate

or 6% rhyncholite sand, 1/2 copper

Shops into limestone

Gray Sulch creek

disseminated as in the
 porphyry & schist

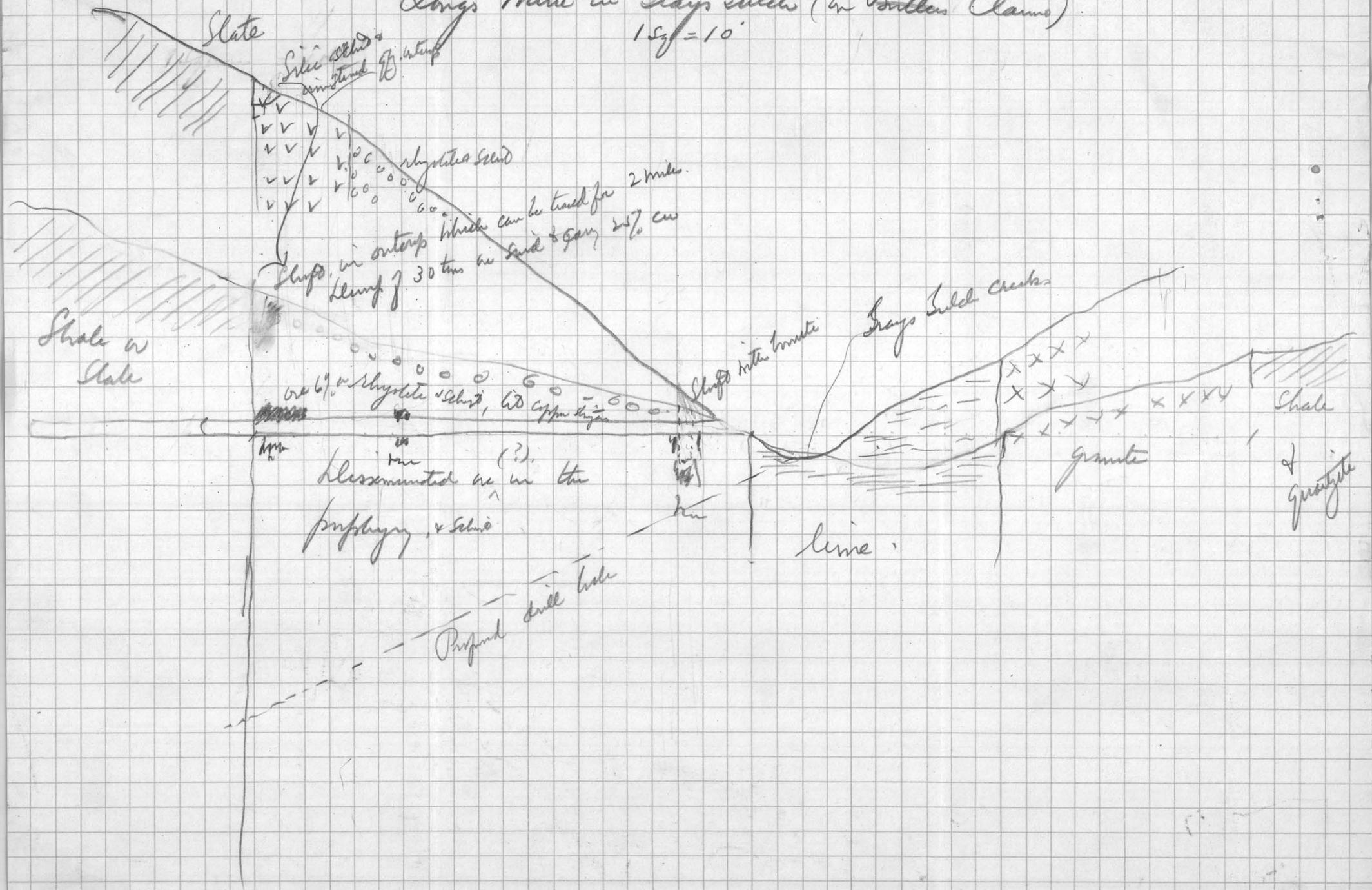
lime

granite

Shale

& quartzite

Proposed drill hole



No. Co 158

Trays Encl

CHAS. A. DIEHL

Phoenix, Arizona,
Sept. 29, 1942.

ARIZONA ASSAY OFFICE

Phone 3-4001

815 North First Street

P. O. Box 1148

This Certifies That samples submitted for assay by **Mr. G. M. Colvocoresses.** contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER		VALUE (Oz.)	GOLD		VALUE (Oz.)	TOTAL VALUE	PERCENTAGE	REMARKS
	Ounces	Tenths		Ounces	Handths		Of Gold and Silver		
Special								COPPER	
								.11	
<i>Sample bought in 7 Puma 9/28 for better dupd.</i>									

Charges \$ 1.00

Assayer ARIZONA ASSAY OFFICE

R. A. D.

physical conditions but if all economic conditions were also considered the value of the land in '36 might be placed at \$1000 and the building at \$3500 but that because of the settling and damage since '36 these figures had dropped to only \$750.

Plaintiff Rests.

W.V.X. Attorneys made and argued a motion for directed verdict in reference to all damage to building since only damage to land could legally be charged unless the vertical support had been weakened and testimony had failed to show any mine workings directly below the Small Bldg. Motion overruled., - ^{Ernest} Douglas testifies and Colvocoresses.

WAARA - 5/22/39 - Direct (in afternoon)

Identifies photos taken from 1906 on, especially in '15, '16, '17, '20 and '21 and pointed out various slides notably one back of site of Club House in '15 and Hampton House, Lone Tank, Three Tanks, Below town along U.V.X. Road and above the Episcopal Church.

Noted springs as follows:-

Site of Ritz Theatre - '15

Street - '15

FORM WPB-1572 (9-2) PAGE 8 OF 8 PAGES

TABLE D - METAL PAID FOR IN CONCENTRATES AS SHOWN ON SMELTER SETTLEMENT SHEETS—Continued

YEAR AND MONTH	COPPER CONCENTRATES					
	OZ AU	OZ AG	TONS PB	TONS ZN	TONS CU	NET SMELTER RETURNS
1941:						
JANUARY - DECEMBER						
1942:						
JANUARY						
FEBRUARY						
MARCH						
APRIL						
MAY						
JUNE						
JULY						
AUGUST						
SEPTEMBER						
OCTOBER						
NOVEMBER						
DECEMBER						
1943:						
JANUARY						
FEBRUARY						
MARCH						
APRIL						
MAY						
JUNE						
JULY						
AUGUST						
SEPTEMBER						
OCTOBER						
NOVEMBER						
DECEMBER						

REMARKS:

List on a separate sheet of paper premium payments received since January, 1942, showing the production of metals by months for which the payments were received.

Operations started only few weeks ago. No shipment to date but hope to start as soon as satisfactory premium price can be obtained.

CERTIFICATION

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION CONTAINED IN THIS REPORT IS CORRECT AND COMPLETE TO THE BEST OF HIS KNOWLEDGE AND BELIEF.

X H. _____ NAME OF COMPANY SIGNATURE OF AUTHORIZED OFFICIAL

_____ DATE _____ TITLE

SECTION 35 (A) OF THE UNITED STATES CRIMINAL CODE, 18 U.S.C. SEC. 80, MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

FORM WPB-1572 (9-2) UNITED STATES OF AMERICA WAR PRODUCTION BOARD

BUREAU OF THE BUDGET NO. 08-R006-42 APPROVAL EXPIRES JUNE 30, 1943

AND OFFICE OF PRICE ADMINISTRATION QUOTA COMMITTEE FOR LEAD, COPPER, AND ZINC

DATE *Aug 27th 1943*

NAME OF COMPANY *Herbert H. Brown, Inc.*

INFORMATION TO BE USED IN THE REVISION OR ESTABLISHMENT OF QUOTAS FOR OPERATING MINES

TO: War Production Board, Washington, D. C.
ATTN: The Executive Secretary Copper, Lead, and Zinc Quota Committee

ADDRESS *312 W. Hillside St. Phoenix*

NAME OF MINE *Trays Gulch* ADDRESS *Can Creek P. O.*

GENERAL INSTRUCTIONS - The following pages specify certain operating and financial data to be furnished when quota revision is contemplated. In addition, a letter should accompany this data setting forth any reasons, for which a change in quota should be made. It is intended that there shall be discussed, with supporting figures, such matters as: (a) recent substantial changes in ore reserves due to inadequate or unsuccessful exploration; (b) expected changes in grades of ore to be mined due to changing grade of ore reserves or intended increases in production rates by the mining of low-grade ores; (c) contemplated capital expenditures; (d) expected changes in operating costs; (e) contemplated development programs with specifications, estimated costs, and statements of the degree to which these are dependent upon premium price payments; (f) diminishing labor supply and expected difficulties in replenishment; (g) increased wages and their impact on costs; and so forth. If the financial position of the concern is relevant to the problem of quota revision, a recent balance sheet should also be enclosed. Four copies of all material should be furnished.

SPECIFIC INSTRUCTIONS - one (1) original and three (3) copies of this form are to be filled out and sent to: The Executive Secretary, Copper, Lead, and Zinc Quota Committee, War Production Board, Washington, D. C. The term "Tons" means dry tons of 2,000 pounds. The term "Mine" means any mine, group of mines, dump, or other source of primary metal-bearing material for which a quota has been or is to be established or revised. Lb...Pounds, Cu...Copper, Pb...Lead, Zn...Zinc, Au...Gold, Ag...Silver, Oz...Ounces. Only those questions or parts of questions applicable to the operation to be described should be answered.

I. OPERATING COST DATA. SHOW IN DOLLARS AND CENTS PER DRY TON OF CRUDE ORE MINED THE COSTS INDICATED BELOW. CASH, OPERATING EXPENDITURES ONLY ARE TO BE INCLUDED, EXCLUDING INCOME AND EXCESS PROFITS TAXES. TOTALS IN THE SIXTH AND TENTH COLUMNS SHOULD BE THE SAME.

YEAR AND MONTH (1)	DEVELOPMENT (2)	MINING (3)	MILLING (4)	OTHER (5)	TOTAL (6)	LABOR (7)	MATERIALS (8)	OTHER (9)	TOTAL (10)
1941:									
1942:									
JANUARY									
FEBRUARY									
MARCH									
APRIL									
MAY									
JUNE									
JULY									
AUGUST									
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									
1943:									
JANUARY									
FEBRUARY									
MARCH									
APRIL									
MAY									
JUNE									
JULY									
AUGUST									
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									

2. PRODUCTION DATA FOR THE YEAR 1941 AS A WHOLE AND BY MONTHS THEREAFTER

TABLE A - DIRECT SMELTING OR CUSTOM MILLED ORE: (Omit cents in smelter returns) (THIS TABLE IS TO BE USED TO SHOW ONLY THOSE ORES WHICH ARE TO BE SHIPPED DIRECT TO SMELTERS OR TO CUSTOM MILLS. FOR ORES THAT THE PRODUCER MILLS AT HIS OWN MILL USE TABLE B)

YEAR AND MONTH	TONS ORE SHIPPED	ASSAY OF ORE SHIPPED					METAL PAID FOR					NET SMELTER OR MILL RETURNS
		OZ. AU (Per ton)	OZ. AG (Per ton)	PER-CENT PB	PER-CENT ZN	PER-CENT CU	OZ. AU	OZ. AG	TONS PB	TONS ZN	TONS CU	
1941: JANUARY-DECEMBER												
1942: JANUARY												
FEBRUARY												
MARCH												
APRIL												
MAY												
JUNE												
JULY												
AUGUST												
SEPTEMBER												
OCTOBER												
NOVEMBER												
DECEMBER												
1943: JANUARY												
FEBRUARY												
MARCH												
APRIL												
MAY												
JUNE												
JULY												
AUGUST												
SEPTEMBER												
OCTOBER												
NOVEMBER												
DECEMBER												

TABLE D - METAL PAID FOR IN CONCENTRATES AS SHOWN ON SMELTER SETTLEMENT SHEETS: (Continued)

YEAR AND MONTH	ZINC CONCENTRATES					NET SMELTER RETURNS
	OZ. AU	OZ. AG	TONS PB	TONS ZN	TONS CU	
1941: JANUARY-DECEMBER						
1942: JANUARY						
FEBRUARY						
MARCH						
APRIL						
MAY						
JUNE						
JULY						
AUGUST						
SEPTEMBER						
OCTOBER						
NOVEMBER						
DECEMBER						
1943: JANUARY						
FEBRUARY						
MARCH						
APRIL						
MAY						
JUNE						
JULY						
AUGUST						
SEPTEMBER						
OCTOBER						
NOVEMBER						
DECEMBER						

list on a separate sheet of paper premium payments received since January, 1942 showing the production of metals for which the payments were received.

SECTION 36 (a) OF THE UNITED STATES CRIMINAL CODE, 18 U.S.C. SEC. 36, MAKES IT A CRIMINAL OFFENSE TO MAKE A FALSIFY STATEMENT OR REPRESENTATION TO THE GOVERNMENT OR TO ANY AGENCY OR OFFICER OF THE GOVERNMENT OR TO ANY AGENCY OR OFFICER OF THE UNITED STATES DEPARTMENT OF COMMERCE OR TO ANY AGENCY OR OFFICER OF THE UNITED STATES DEPARTMENT OF THE INTERIOR.

TABLE D - METAL PAID FOR IN CONCENTRATES AS SHOWN ON SMELTER SETTLEMENT SHEETS: (DATA FOR ANY ONE MONTH BELOW SHOULD APPLY TO TONNAGES LISTED AS MILLED IN THAT MONTH IN TABLE B) (Omit cents in Smelter Returns)

YEAR AND MONTH	LEAD CONCENTRATES						NET SMELTER RETURNS
	OZ. AU	OZ. AG	TONS PB	TONS ZN	TONS CU		
1941:							
JANUARY-DECEMBER							
1942:							
JANUARY							
FEBRUARY							
MARCH							
APRIL							
MAY							
JUNE							
JULY							
AUGUST							
SEPTEMBER							
OCTOBER							
NOVEMBER							
DECEMBER							
1943:							
JANUARY							
FEBRUARY							
MARCH							
APRIL							
MAY							
JUNE							
JULY							
AUGUST							
SEPTEMBER							
OCTOBER							
NOVEMBER							
DECEMBER							

TABLE B - MILLING ORE:

YEAR AND MONTH	TONS MILLING ORE MILLED	ASSAY			TONS CONCENTRATES PRODUCED					
		OZ. AU (Per ton)	OZ. AG (Per ton)	PERCENT PB	PERCENT ZN	PERCENT CU	LEAD	ZINC	COPPER	
1941:										
JANUARY - DECEMBER										
1942:										
JANUARY										
FEBRUARY										
MARCH										
APRIL										
MAY										
JUNE										
JULY										
AUGUST										
SEPTEMBER										
OCTOBER										
NOVEMBER										
DECEMBER										
1943:										
JANUARY										
FEBRUARY										
MARCH										
APRIL										
MAY										
JUNE										
JULY										
AUGUST										
SEPTEMBER										
OCTOBER										
NOVEMBER										
DECEMBER										

TABLE C - CONTENT OF CONCENTRATES: (DATA FOR ANY ONE MONTH BELOW SHOULD APPLY TO TONNAGES LISTED AS MILLED IN THAT MONTH IN TABLE B)

YEAR AND MONTH	LEAD CONCENTRATE					ZINC CONCENTRATE				
	OZ AU	OZ AG	TONS PB	TONS ZN	TONS CU	OZ AU	OZ AG	TONS PB	TONS ZN	TONS CU
1941:										
JANUARY-DECEMBER										
1942:										
JANUARY										
FEBRUARY										
MARCH										
APRIL										
MAY										
JUNE										
JULY										
AUGUST										
SEPTEMBER										
OCTOBER										
NOVEMBER										
DECEMBER										
1943:										
JANUARY										
FEBRUARY										
MARCH										
APRIL										
MAY										
JUNE										
JULY										
AUGUST										
SEPTEMBER										
OCTOBER										
NOVEMBER										
DECEMBER										

TABLE C - CONTENT OF CONCENTRATES—Continued

YEAR AND MONTH	COPPER CONCENTRATE				
	OZ AU	OZ AG	TONS PB	TONS ZN	TONS CU
1941:					
JANUARY - DECEMBER					
1942:					
JANUARY					
FEBRUARY					
MARCH					
APRIL					
MAY					
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
1943:					
JANUARY					
FEBRUARY					
MARCH					
APRIL					
MAY					
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					

WAR PRODUCTION BOARD

WASHINGTON, D. C.

September 9, 1943

IN REPLY REFER TO:

See B... 9/15/43

Mr. George H. Colvocoresses
1102 Luhrs Tower
Phoenix, Arizona

Dear Mr. Colvocoresses: Re: The Gray's Gulch Copper Mine

Your letter of August 30, 1943 enclosing copy of Mine Lease and option, together with Forms WPB-2465 and 1572 for the Gray's Gulch Copper Mine is acknowledged herewith.

This information is being presented to the members of the Quota Committee for their analysis, and as soon as they bring in their report, I will communicate with you again.

In checking over our records, I do not find where you have been assigned an initial quota; therefore, it will be necessary for you to file affidavit Statement of Mine Production, two copies of which are enclosed. Please fill out and sign one of these blanks before a notary and return same to me as soon as possible.

Yours very truly,

Landon F. Strobel

Landon F. Strobel,
Executive Secretary, Quota Committee,
Premium Price Plan for Copper, Lead & Zinc.,
Pent House, Railroad Retirement Building.

Enclosures: (2)



August 30, 1943

Mr. Herbert H. Brown
312 West Willetta Street
Phoenix, Arizona

Dear Brown:

Enclosed herewith are four copies of W.P.B. Form 1572 and W.P.B. Form 2465, both of which I have filled out as far as it is possible to do so in respect to a prospect such as the Gray's Gulch Property. You will note that you should sign on four copies of both of these forms as the authorized official and above the word "title" write "lessee". All of the forms should then be forwarded in the large envelope which is addressed to Mr. Strobel, Secretary of the Quota Committee. With these you should send the two copies of the report which I have revised and dated August 27th, also the letter dated August 30th. In other words, send everything which is enclosed in the envelope except this letter and the carbons of the report of August 27th and the letter of August 30th on the top of which I have marked "copy for Brown".

I shall write a personal letter to Strobel asking him to give this matter special attention, which I am sure he will be glad to do, although you cannot expect any very quick action, and the Committee will probably not establish a special premium price for a couple of weeks after these communications are received.

I have thought it better to make it appear that you are not actually arranging to ship any ore until you find out just what price you can receive and I suggest that even though you may find it advisable to truck your ore to Phoenix same should not be actually shipped to Hayden until you have received the premium price mentioned above as otherwise Hayden could not pay you more than 17¢ per pound copper and you certainly need a higher price which I have suggested should be about 25¢ per pound.

Hoping everything is going well with you at the mine and I shall be glad to see you and talk things over any time that you are in Phoenix.

With personal regards,

Yours very truly,



GMC:b
Enclosures

including copy of your letter.

UNITED STATES OF AMERICA
WAR PRODUCTION BOARD

PREMIUM PRICE PLAN FOR
COPPER, LEAD AND ZINC

Name of Company:

Herbert H. Brown

Date:

November 24, 1943

Address:

312 West Willetta St.
Phoenix, Arizona

(#2-155) tm

<u>Name of Mine</u> (a)	<u>Class of Quota</u> (b)	<u>QUOTA</u>		<u>Tons Metal</u>		
		<u>Effective Date</u> (c)	<u>Zinc</u> (d)	<u>Lead</u> (e)	<u>Copper</u> (f)	
Gray's Gulch	Revised:					
	A Quota	10-1-43	-	-	0	
	Special @ 5¢	10-1-43	-	-	0	

REMARKS:

Your copper quota of A zero means that for all your production, calculated according to Rule 13 (See reverse side of this form) you will receive 5¢ a pound premium. Your Special Copper Quota at 5¢ of zero tons means that for all your production over zero ton per month, calculated according to Rule 13, you will receive an additional 5¢ per pound premium.

Metals Reserve Company has further stated that the premium payments will be made on its behalf through smelting companies or other agents in your district designated by Metals Reserve Company.

August 13, 1948

Mr. H. H. Brown
312 W. Willetta Street
Phoenix, Arizona

Re: Gray's Gulch Mine

Dear Sir:

Let this letter, confirming our conversation of the 11th instant, serve as an agreement between us in respect to the Gray's Gulch Mining property which I visited some years ago and have now brought to your attention.

(1) We will jointly pay a preliminary visit to this property so that you can form a personal opinion as to its merit.

(2) Should you find or believe that the said property is of interest to you or your associates I will arrange to help you to secure a bond and lease on same on the best terms that may be obtainable. I will make a brief professional examination of the property with a Brunton survey and the taking of some representative samples. I will furnish you with a report and such other data as may seem essential to accompany an application for a Federal Development Loan to provide funds for the equipment and operation of the property. For the services outlined above in this paragraph you are to pay me the sum of \$300.00 plus the repayment of out-of-pocket expenses for assaying samples, etc.

(3) I will continue to assist and advise you in connection with the operation of this property as you may desire and on such terms as may be agreed upon and when and if you and your friends organize an operating company or syndicate I am to receive an interest in same equivalent to 10% of your and their holdings, or, in the event that you should dispose of your interest to other parties, 10% of the net purchase price is to come to me as a commission on this transaction.

Kindly signify your agreement with and acceptance of the terms of this letter by signing the duplicate copies under the word "accepted".

Yours very truly,

Accepted:



August 3, 1942

Mr. Oscar P. Long
Cactus, Arizona

Re: Gray's Gulch *mine file*

Dear Mr. Long:

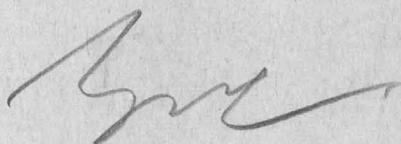
I trust that this letter will reach you and find you in good health. If so you will probably recall our conference in September of 1939 and subsequent visit to the Gray's Gulch Mine near Cave Creek.

Although that property did not appear attractive under the conditions which then prevailed it left with me a very favorable impression and now that the government is making such strenuous efforts to increase the output of copper it seems as if something might be done toward developing and operating Gray's Gulch.

Perhaps this mine is already in operation or has been sold by Bettler to other parties but I would be greatly obliged if you could tell me what you know of the present situation and whether or not Bettler is still alive and prepared to do business with private individuals or with the Government in case they should fine this property suitable for a Government loan.

Should you still be living at Cactus I hope that you will visit me the next time you are in Phoenix as this matter could be better discussed in conference than by correspondence.

Yours very truly,



GMC:CG

Tracy's Index file

COPIES OF THIS NOTICE AND THE LAW ARE MADE AVAILABLE BY THE ARIZONA DEPARTMENT OF MINERAL RESOURCES, 413 HOME BUILDERS BLDG., PHOENIX, ARIZONA

STATE OF Arizona)
COUNTY OF Maricopa) SS:

NOTICE OF INTENTION TO HOLD MINING CLAIMS WITHOUT ASSESSMENT WORK
(To be filed with the recorder in the County in which the claims are located)

Notice is hereby given that the undersigned, pursuant to the provisions of Public Law No. 47 passed by the 78th Congress and signed by the President on May 3, 1943, providing for the suspension of annual assessment work on mining claims held by location in the United States and Alaska, do hereby avail (myself) (ourselves) of the benefits of such act as same applied to the following mining claim or claims belonging to undersigned and which claims are situated in the Magazine mining district in the County of Maricopa, Arizona the record of location of such claim or claims being as follows:

	CLAIM	BOOK	PAGE
1	<u>Rock Ledge</u>	<u>39 of mines</u>	<u>501</u>
2	<u>Rock Ledge #1</u>	<u>42 " "</u>	<u>527</u>
3	<u>Rock Ledge #2</u>	<u>42 " "</u>	<u>528</u>
4	<u>Rock Ledge #3</u>	<u>42 " "</u>	<u>529</u>
5			
6			
7			
8			
9			
10			
11			
12			

WITNESS my hand this 19 day of June 1943

A Note: There is no limit on lode or placer claims which may be held without assessment work by this law.

B This notice MUST be filed with the County Recorder (in Arizona) by noon July 1 of each year covering the period for the preceding year in order to obtain the benefits of this act.

H. D. Burn
Lessee

Claimant

(Public Law 47--78th Congress)

(Chapter 91--1st Session)

(H. R. 2370)

AN ACT

Providing for the suspension of annual assessment work on mining claims held by location in the United States, including the Territory of Alaska.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the provision of section 2324 of the Revised Statutes of the United States, which requires on each mining claim located, and until a patent has been issued therefor, not less than \$100 worth of labor to be performed or improvements aggregating such amount to be made each year, be, and the same is hereby, suspended as to all mining claims in the United States, including the Territory of Alaska, until the hour of 12 o'clock meridian on the 1st day of July after the cessation of hostilities in the present war as determined by proclamation of the President or concurrent resolution of the Congress: Provided, That every claimant of any such mining claim, in order to obtain the benefits of this Act, shall file, or cause to be filed, in the office where the location notice or certificate is recorded, on or before 12 o'clock meridian of July 1 for each year that this Act remains in effect, a notice of his desire to hold said mining claim under this Act.

Approved May 3, 1943.

May 9th, 1944

Mr. Herbert H. Brown
312 West Willetta
Phoenix, Arizona

Re: Gray's Gulch

Dear Brown:

I have just made arrangements to leave Phoenix on a mining trip early Friday morning and shall probably be gone a week or so. I hardly think that you will be shipping the carload of ore until I return, but if you should have occasion to do so, just send it to Hayden with regular bill of lading and other documents of consignment and tell them that I will write to them and send them the authority to make bonus payment within the next few days.

Since I shall be in Tucson while away from Phoenix I will mention this matter to Mr. Rickard, Manager of the A.S. & R., and I am sure that the delay in sending proper papers will not make any difference in the date when you will actually receive payment.

Yours very truly,

GMC/b

November 24, 1943

Mr. Herbert H. Brown
312 West Willetta Street
Phoenix, Arizona

Re: Gray's Gulch Mine

Free

Dear Brown:

I received a copy of your letter of November 22nd and this morning have had a telephone conversation with Coupal who promised to write immediately recommending that your request for extra gasoline should be granted. I explained that the mine was over 50 miles from Phoenix and that I understood that you were giving the operation personal supervision and were obliged to make very frequent trips to and from Phoenix, although I could not tell Coupal just how often you went back and forth. I hope that your request will be granted.

A friend of mine, who has just returned from Washington tells me that the Quota Committee are tied up in knots and that Strobel who did most of the work is still a very sick man and not able to attend to much business, so I am afraid that there may be more delay in obtaining any premium price for the copper in your ore. I still trust, however, that some action will be taken in the near future.

Sincerely,

GMC/b

Plum

312 West Willetta Street
Phoenix, Arizona
November 22, 1943

Mr. J. S. Coupal, Dir.,
Dept. of Mineral Resources,
413 HomeBuilders Bldg.,
Phoenix, Arizona

Dear Sir:

I am referring this application for a renewal of supplemental gasoline to you at the request of the Rationing Board.

I am developing a copper property northwest of Cave Creek, and I have spent considerable of my own money as well as my time on this proposition without any government help, and it is absolutely necessary that I have this supplemental gas in order to carry on this work.

Mr. George M. Colvocoresses is the engineer on this property, and he can verify what I have told you about this proposition.

Please let me have an answer at your earliest convenience as I have gas enough for only one more week.

Yours very truly,

Herbert H. Brown

HHB:mb
Enc.

cc: Mr/ G. M. Colvocoresses ✓

7. INVESTMENT ESTIMATES—Continued

ITEM	MADE TO DATE Since Jan. 1, 1942	FURTHER ANTICIPATED ¹	TOTAL
EXPLORATION			
ORE-TESTING			
DEVELOPMENT (PHYSICAL WORKINGS ONLY)	about 1000		
SAMPLING			
MINING PLANT (GROUP IN GENERAL CATEGORIES)			
TOTAL MINING PLANT			
MILLING PLANT (GROUP IN GENERAL CATEGORIES)			
TOTAL MILLING PLANT			
OTHER			
TOTAL OTHER			
TOTAL			

¹Amount necessary to reach rate of production described under 3-b above.

REMARKS

Pumpkin was partly developed by owner several years ago & present lessee has recently spent money to build a road in order to make the workings accessible & in getting up a mining small quantity of ore from surface cuts & shallow shafts.

CERTIFICATION—THE UNDERSIGNED CERTIFIES THAT THE INFORMATION CONTAINED IN THIS REPORT IS CORRECT AND COMPLETE TO THE BEST OF HIS KNOWLEDGE AND BELIEF.

NAME OF COMPANY _____
DATE _____

SIGNATURE OF AUTHORIZED OFFICIAL _____
TITLE _____

SECTION 35(A) OF THE UNITED STATES CRIMINAL CODE, 18 U.S.C. SEC. 80, MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

UNITED STATES OF AMERICA
WAR PRODUCTION BOARD

PREMIUM PRICE PLAN FOR
COPPER, LEAD AND ZINC

Name of Company:
Herbert H. Brown

Date:
November 24, 1943

Address:
312 West Willetta St.
Phoenix, Arizona

(#2-155) tm

<u>Name of Mine</u> (a)	<u>Class of Quota</u> (b)	<u>Effective Date</u> (c)	<u>QUOTA</u>			<u>Tons Metal</u>		
			<u>Zinc</u> (d)	<u>Lead</u> (e)	<u>Copper</u> (f)			
Gray's Gulch	Revised:							
	A Quota	10-1-43	-	-	0			
	Special @ 5¢	10-1-43	-	-	0			

REMARKS:

Your copper quota of A zero means that for all your production, calculated according to Rule 13 (See reverse side of this form) you will receive 5¢ a pound premium. Your Special Copper Quota at 5¢ of zero tons means that for all your production over zero ton per month, calculated according to Rule 13, you will receive an additional 5¢ per pound premium.

Metals Reserve Company has further stated that the premium payments will be made on its behalf through smelting companies or other agents in your district designated by Metals Reserve Company.

UNITED STATES OF AMERICA
WAR PRODUCTION BOARD

PREMIUM PRICE PLAN FOR
COPPER, LEAD AND ZINC

Name of Company:

Herbert H. Brown

Date:

November 24, 1943

Address:

312 West Willetta St.
Phoenix, Arizona

(#2-155) tm

<u>Name of Mine</u> (a)	<u>Class of Quota</u> (b)	<u>QUOTA</u>		<u>Tons Metal</u>		
		<u>Effective Date</u> (c)	<u>Zinc</u> (d)	<u>Lead</u> (e)	<u>Copper</u> (f)	
Gray's Gulch	Revised:					
	A Quota	10-1-43	-	-	0	
	Special @ 5¢	10-1-43	-	-	0	

REMARKS:

Your copper quota of A zero means that for all your production, calculated according to Rule 13 (See reverse side of this form) you will receive 5¢ a pound premium. Your Special Copper Quota at 5¢ of zero tons means that for all your production over zero ton per month, calculated according to Rule 13, you will receive an additional 5¢ per pound premium.

Metals Reserve Company has further stated that the premium payments will be made on its behalf through smelting companies or other agents in your district designated by Metals Reserve Company.

October 20, 1943

Mr. Herbert H. Brown
312 West Willetta
Phoenix, Arizona

Re: Gray's Gulch

Dear Brown:

Referring to notice from the Quota Committee concerning which we talked on the telephone yesterday and which is returned to you with this letter, this is merely the formal notice that you are entitled to the premium based on the zero quota for copper produced, namely 17¢ per pound. You will note that the effective date is given as February 1, 1942 when the original law went into effect and the date of the enclosed notice is October 7, 1943. You may remember that after we had sent an application for a special bonus the Quota Committee advised that it would be necessary to first apply for the 17¢ quota price, and accordingly an application for same was forwarded, and this enclosed notice takes care of this situation but has nothing to do with the request for an additional bonus which was first made some time ago and revised on September 28th.

I have a letter from Strobel dated October 13th in which he says that this last application is being presented to members of the Quota Committee and indicates that their decision will be communicated to you some time during the next week or two, or in any event, probably before the end of this month.

At that time they will inform you whether or not you will be entitled to a price in addition to the 17¢ and I think your chance of getting an extra bonus is good, and would advise that you postpone any actual shipments until this notice is received.

Best regards.

Sincerely,

GMC:b
Enclosure

AMERICAN SMELTING AND REFINING COMPANY

SOUTHWESTERN ORE PURCHASING DEPARTMENT

810 VALLEY BANK BUILDING

P. O. BOX 2229

TUCSON, ARIZONA

BRENT N. RICKARD
MANAGER

May 14, 1943

Mr. George M. Colvocoresses
1102 Luhrs Tower
Phoenix, Arizona

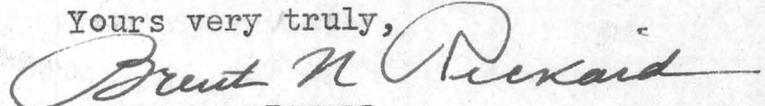
GRAY'S GULCH MINE (Cu), CAVE CREEK--H.H.BROWN

Dear Mr. Colvocoresses:

There is little I can add to our letter of May 5th except to assure you and Mr. Brown that when I have the results of a trial carload of this copper ore I will personally review the matter to see if it is possible to make some concession in treatment charges.

With kind regards,

Yours very truly,


BRENT N. RICKARD

AMERICAN SMELTING AND REFINING COMPANY

SOUTHWESTERN ORE PURCHASING DEPARTMENT

810 VALLEY BANK BUILDING

P. O. BOX 2229

TUCSON, ARIZONA

May 5, 1943

BRENT N. RICKARD
MANAGER

Mr. George M. Colvocoresses
1102 Luhrs Tower
Phoenix, Arizona

GRAY'S GULCH MINE (Cu), CAVE CREEK--H.H.BROWN

Dear Mr. Colvocoresses:

In Mr. Rickard's absence I acknowledge receipt of your letter of May 4th regarding market for 10% copper oxide siliceous ore which Mr. H.H. Brown contemplates shipping from the Gray Gulch Mine in the Cave Creek District at the rate of about one car per month.

We shall be glad to accept this at Hayden under the terms of Schedule F, of which I enclose a copy which you may wish to hand to Mr. Brown. On this basis and present metal price 10% copper, disregarding possible values in gold and silver, would show outcome about as follows:

Smelter payment Copper		\$ 16.51 per ton
Metals Reserve Premium		9.70
		\$ 26.21
Less Base charge to \$15	3.50	
Surcharge	.15	
Freight incl. 3% tax	1.07	4.72
Net at Phoenix per ton		\$ 21.49

I presume Mr. Brown understands that he must establish a quota for this property before he will qualify for the Metals Reserve premium. For ready reference I enclose a statement outlining the procedure for making quota application in case he has not already done so.

Before he starts shipments would you please ask Mr. Brown to send us for examination a copy of his operating agreement if he is working the mine under lease. We need this information in order to prepare the affidavits required by the Government in connection with premium payments, etc. He can send the lease to this office and after inspection we will return to him.

This matter will come to Mr. Rickard's attention on his return to Tucson next week, and if he has any further suggestions he will be glad to write you.

Yours very truly,

A.C. Stepp
Secretary to
BRENT N. RICKARD

Encs.

AMERICAN SMELTING AND REFINING COMPANY
Southwestern Ore Purchasing Department
310 Valley Bank Building
Tucson, Arizona

INSTRUCTIONS TO ORE SHIPPERS

1. ORE PURCHASE SCHEDULE will be submitted after receipt of representative sample or assays. Shipper should advise name and location (mining district, county, etc.) of mine, railroad shipping station, and estimate of tonnage to be shipped per week or month.
2. OWNERSHIP OR LEASEHOLD: Before making shipment please submit recording data for mining claims or other evidence of ownership. If operating under lease, send certified copy or abstract of operating agreement showing names and addresses of Lessor and Lessee, name and location of property, and quoting paragraphs pertaining to marketing of products and payment of royalty.
3. SETTLEMENT: Mail direct to Smelter original bill of lading and full instructions regarding payment of proceeds; advice and release form accompanying schedule may be used for this purpose. Smelter settlement is usually made within about ten days after receipt of product at Plant, with metal payments based on established New York ceiling prices.
4. PREMIUMS: In accordance with the Government program for the period of National Emergency, Metals Reserve Company will pay premiums on domestic production of copper, lead, and zinc in excess of monthly quotas established by War Production Board (5¢ per pound# copper, 2.75¢ per pound lead and zinc.) The Smelting Company has been designated as Agent for Metals Reserve Company in assisting with the premium payment program.

To establish quota producer should secure information and proper forms from:
Executive Secretary, Quota Committee
W.P.B. - C.P.A., Temp. "R" Bldg., Room 2047
Washington, D. C.

This office will be glad to assist producers in making out Statement of Mine Production (1941) form.

When official Assignment of quota is received, this should be sent promptly for inspection to the Smelter.

At the close of each month's business, Smelter will send to shippers with established quotas "Affidavit of Producer" showing pounds of payable copper, lead, or zinc in excess of monthly quota. This form must be signed, notarized, and returned to the Smelter for transmittal to Metals Reserve Company. Premium checks will then be issued by Metals Reserve Company for distribution to producers by the smelter.

Producers who during the course of any month ship to more than one smelter, custom mill, ore-buying agency, or other Buyer, should notify each Buyer of his products to this effect. For such producers special instructions will be supplied.

#Rev. Rule 13 provides premium payment based on 97% of copper contained in ore treated in a copper smelter.

BRENT N. RICKARD
Manager

AMERICAN SMELTING AND REFINING COMPANY
HAYDEN PLANT HAYDEN, ARIZONA

GENTLEMEN:

(I) (We) have shipped you today lots of

in car, as described below:

Shipper's Lot No.	Number Sacks	Marks	Weight	ESTIMATED ASSAYS			
				Gold	Silver	Per Cent Lead	Per Cent Copper

(I) (We) enclose bill of lading herewith and ask you to receive and handle the shipment as below in the name of....., who is the owner of the same, and remit the net proceeds to..... for the credit of

Send control sample to.....
 Return the empty sacks to.....

(I) (We) have read the "Notice to Shippers" on the reverse hereof and assent to the terms and conditions therein and understand that the shipment is made subject to all rules of your company applicable to such cases.
 (Signed).....
 By.....

(1) (I) (We) hereby name..... (my) as (our) representative, with full authority to release the shipment as sampled.
 (Signed).....
 By.....

(2) (I) (We) hereby authorize you to sample and dispose of this shipment, without representation on (our) part, it being understood and agreed that the results of your weighing and sampling shall be used in making settlement for said shipment.
 (Signed).....
 By.....

NOTES

The shipper will sign the general release and one of the two sets of numbered instructions outlined above. If the shipment is made by a corporation or company, the name of such corporation or company should appear on the first line, and the second line should bear the signature of its Manager, Superintendent or other officer fully authorized to act in such cases.

Use one of these sheets for each shipment.

Shipments should be consigned to AMERICAN SMELTING AND REFINING COMPANY, Hayden Plant, Hayden, Arizona.

AMERICAN SMELTING AND REFINING COMPANY
HAYDEN PLANT
HAYDEN, ARIZONA

GENTLEMEN:

AMERICAN SMELTING AND REFINING COMPANY
HAYDEN PLANT

ESTIMATED ASSAYS
HAYDEN, ARIZONA

Shipper's Lot No.	Number Sacks	Mark	Weight	Gold	Silver	Per Cent Lead	Per Cent Copper
NOTICE TO SHIPPERS							

As we cannot undertake to hold entire shipments of ore, etc., subject to acceptance of our results by the shipper, unless a special arrangement is made to cover the extra expense of so doing, it is necessary for us to request that you adopt one of the two propositions set forth below, and sign one of the two sets of instructions which appear on the reverse side of this sheet. Kindly read the outline of each of the two propositions below:

(1) That you be present at the weighing and sampling of the shipment, either personally, or by a representative with full authority to release the same to us as sampled, in order that we may dispose of the material to our smelting mixes at the time of sampling. It is understood and agreed that the sample then taken shall represent the lot; the customary sack sample taken from the plates at the final quartering being retained as a control sample for reference purposes.

(2) That in case you do not desire to employ a representative, or be present yourself, you release the shipment in advance, the conditions as to disposition of the ore and the retaining of the sack sample for reference purposes, being the same as outlined in proposition Number 1 above.

In the absence of any instructions from the shipper, we will be obliged to hold the shipment intact without sampling at his expense. We prefer, however, to handle all shipments with the least possible delay, and we trust that you will, without fail, sign one of the two instructions for each shipment made.

We also ask that the advices and instructions, together with bills of lading, be sent to us as soon as possible after the shipment is delivered to the railroad company, in order that we may know in advance of the prospective delivery of the material to us, and assist you in securing prompt handling by the railroads.

AMERICAN SMELTING AND REFINING COMPANY.

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AMERICAN SMELTING AND REFINING COMPANY
HAYDEN PLANT **HAYDEN, ARIZONA**

GENTLEMEN:

(I)
 (We) have shipped you today..... lots of.....

in car, as described below:

Shipper's Lot No.	Number Sacks	Marks	Weight	ESTIMATED ASSAYS			
				Gold	Silver	Per Cent Lead	Per Cent Copper

(I)
 (We) enclose bill of lading herewith and ask you to receive and handle the shipment as below in the name of.....
, who is the owner of the same,
 and remit the net proceeds to..... for the
 credit of

Send control sample to.....
 Return the empty sacks to.....

(I)
 (We) have read the "Notice to Shippers" on the reverse hereof and assent to the terms and conditions therein and understand that the shipment is made subject to all rules of your company applicable to such cases.

(Signed) *Hebert H Brown*
 By.....

(1) (I) (my)
 (We) hereby name..... as (our)
 representative, with full authority to release the shipment as sampled.

(Signed) *Hebert H Brown*
 By.....

(2) (I) (my)
 (We) hereby authorize you to sample and dispose of this shipment, without representation on (our) part, it being understood and agreed that the results of your weighing and sampling shall be used in making settlement for said shipment.

(Signed) *Hebert H Brown*
 By.....

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Use one of these sheets for each shipment.

Shipments should be consigned to AMERICAN SMELTING AND REFINING COMPANY, Hayden Plant, Hayden, Arizona.

AMERICAN SMELTING AND REFINING COMPANY
HAYDEN PLANT
HAYDEN, ARIZONA

AMERICAN SMELTING AND REFINING COMPANY
HAYDEN PLANT
HAYDEN, ARIZONA

Shipper's Lot No.	Number Sacks	Grade	Weight	Gold	Silver	Per Cent Lead	Per Cent Copper
NOTICE TO SHIPPERS							

As we cannot undertake to hold entire shipments of ore, etc., subject to acceptance of our results by the shipper, unless a special arrangement is made to cover the extra expense of so doing, it is necessary for us to request that you adopt one of the two propositions set forth below, and sign one of the two sets of instructions which appear on the reverse side of this sheet. Kindly read the outline of each of the two propositions below:

- (1) That you be present at the weighing and sampling of the shipment, either personally, or by a representative with full authority to release the same to us as sampled, in order that we may dispose of the material to our smelting mixes at the time of sampling. It is understood and agreed that the sample then taken shall represent the lot; the customary sack sample taken from the plates at the final quartering being retained as a control sample for reference purposes.
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In the absence of any instructions from the shipper, we will be obliged to hold the shipment intact without sampling at his expense. We prefer, however, to handle all shipments with the least possible delay, and we trust that you will, without fail, sign one of the two instructions for each shipment made.

We also ask that the advices and instructions, together with bills of lading, be sent to us as soon as possible after the shipment is delivered to the railroad company, in order that we may know in advance of the prospective delivery of the material to us, and assist you in securing prompt handling by the railroads.

AMERICAN SMELTING AND REFINING COMPANY.

Signed _____

By _____

NOTES

The shipper will sign the general release and one of the two sets of numbered instructions outlined above. If the shipment is made by a corporation or company, the name of such corporation or company should appear on the first line, and the second line should bear the signature of its Manager, Superintendent or other officer fully authorized to act in such cases. Use one of these sheets for each shipment. Shipments should be consigned to AMERICAN SMELTING AND REFINING COMPANY, Hayden Plant, Hayden, Arizona.

(over)
(over)

MINING LEASE AND OPTION

THIS AGREEMENT, made and entered into this 24th day of August, 1942, by and between ERNEST S. BETTLER AND WIFE & H. M. JANES AND WIFE of Phoenix, Arizona, hereinafter referred to as the FIRST PARTY, and HERBERT H. BROWN of Phoenix, Arizona, hereinafter referred to as the SECOND PARTY.

WITNESSETH:

The FIRST PARTY is the legal OWNER of four unpatented mining claims in the Magazine Mining District, Maricopa County, Arizona, known as:

Rock Ledge	recorded on Page 501 of Book 39
Rock Ledge #1	" " " 527 " " 42.
Rock Ledge #2	" " " 528 " " 42
Rock Ledge #3	" " " 529 " " 42

Mining Records of Maricopa County, and the SECOND PARTY is desirous of obtaining a lease and option on these premises.

NOW, THEREFORE, THIS AGREEMENT FURTHER WITNESSETH AS FOLLOWS:

That the parties hereto, in consideration of One Dollar (receipt of which is hereby acknowledged) and of the premises, covenants, and the conditions hereinafter set forth, to be kept and performed by them, do agree as follows: -

ARTICLE I

TERM OF LEASE AND OPTION

The FIRST PARTY does by these presents, lease, demise and let unto the SECOND PARTY and SECOND PARTY hereby hires all of the mining premises hereinabove described, together with such buildings, improvements, machinery and tools belonging to the FIRST PARTY as are now situate on the said premises, for a period of three years commencing September 1, 1942, and ending at midnight August 31, 1945, but upon and subject to the following terms and conditions: -

ARTICLE II

OPTION TO PURCHASE

Throughout the term of this lease, or at the expiration thereof,

the SECOND PARTY shall have the exclusive right and option to purchase the premises hereby demised, for the sum of fifty thousand dollars, (\$50,000), lawful currency of the United States of America. In the event that this option is exercised, any monies previously paid as royalties ^{and rental} under ARTICLE III of this agreement, shall be credited as part payment of the purchase price herein stipulated, and the balance of the purchase price shall be paid in three installments. The first installment of \$20,000 payable upon exercising this option, the second installment of \$20,000 payable within one year from date of exercising this option, and the third and final payment of \$10,000 payable within two years of exercising this option.

ARTICLE III

ROYALTIES

Throughout the term of this lease SECOND PARTY shall have the right to mine, extract and remove ores from any or all of any part of said mining claims, and to ship or concentrate or otherwise treat said ore, or any part thereof. On the net smelter and/or mining returns of all ores, concentrates or bullion or other product derived from the said ores, the SECOND PARTY will pay to FIRST PARTY a royalty of TEN PERCENT (10%) of the net smelter and/or mint returns, as hereinafter defined, but, in any event the royalty and/or rental during the term of this agreement and lease subsequent to April 1, 1943 shall not be less than the sum of \$100.00 per month, payable monthly.

ARTICLE IV

NET RETURNS DEFINED

The net smelter and/or mining returns within the meaning of this lease shall be the correct returns as shown by the liquidation sheets furnished to SECOND PARTY by the Mint and/or Smelting Company and/or Government Agency, which ever shall purchase the output of this property. Said returns shall be considered as the actual payment made by the Mint and/or Smelting Company and/or Government Agency purchasing the ores and/or bullion and/or concentrates from the

leased property after the purchaser has deducted from the value of the shipments the trucking and/or railway freight and switching charges, if any, and actual minting or smelting charges and deductions for slag or other loss. It is understood that SECOND PARTY will use due diligence to secure the best smelting or purchase terms obtainable for the output from the claims hereby leased.

ARTICLE V

ASSESSMENT AND DEVELOPMENT WORK

During the term of this lease subsequent to July 1st, 1943, SECOND PARTY guarantees to perform sufficient work to cover such Annual Assessment work as may be required by law on the unpatented claims covered by this lease and will make affidavit and record of the performance of such assessment work for and on behalf of FIRST PARTY, fully complying in these respects with the Federal and State mining law, and will from time to time furnish FIRST PARTY, or his local representative, with written proofs of payment and performance within a reasonable period prior to any possible lapse of forfeiture of such mining claims by default in any such payment and/or performance. During the term of this lease/^{subsequent to April 1, 1943,} SECOND PARTY will devote at least 200 shifts per month to the improvement and/or development of the leased property but with the understanding that should conditions make such operation impossible or inadvisable SECOND PARTY may discontinue such work for a period not exceeding six months by paying to FIRST PARTY a rental of \$100.00 per month.

ARTICLE VI

OPERATION OF PROPERTY

(1) Mining

(A) Workings

All work upon said mining premises by SECOND PARTY shall be done in a good and workmanlike manner and after the manner of good mining. All tunnels, shafts, winzes, raises, and other work by SECOND PARTY where necessary, or where directed by the State Mine Inspector, or his Deputy, or Assistant, shall be timbered properly and substantially,

and all openings necessary for the operation of the mine shall be kept in a safe and workable condition, except such openings as are now caved in and are not necessary for future operations.

(B) Requirements by Law

The laws of Arizona and all requirements of the State Mine Inspector shall be complied with promptly by SECOND PARTY particularly those with reference to fire protection, devices, escapement ways, manways, outlets, ladders, signals, notices to employees and the care and storage of explosives.

(2) Reports and Maps

SECOND PARTY shall furnish monthly to FIRST PARTY without further demand, copies of all progress, profile, contour, surface, assay, underground and other maps or blueprints or of Engineering Reports which may relate to the said mining property, that may be made and/or revised by or at the direction of SECOND PARTY.

ARTICLE VII

CLAIMS AND LIENS

Throughout the term of this lease, SECOND PARTY shall comply with all the laws of the State of Arizona with respect to the designation of pay days and the prompt payment of employees, and shall conform to the Workmen's Compensation Law of the State, carrying such Workmen's Compensation as shall protect the FIRST PARTY from all claims for injury or damages arising out of the operation of the leased property. All miners, laborers, and other persons who may labor or furnish labor or material in or upon the said mining property during the life of this lease, and to whom any sum may be due from SECOND PARTY for labor or materials, shall be paid promptly by said SECOND PARTY. Notices to the effect that the SECOND PARTY and not the FIRST PARTY shall be responsible for the payment of all bills for labor, material, and other claims in connection with the operation under this lease, shall be posted and kept posted on the property by the SECOND PARTY.

ARTICLE VIII

It is mutually agreed between the parties hereto, that during

the life of this lease, mine operations and development work shall be under the exclusive direction and for the exclusive charge of SECOND PARTY, but FIRST PARTY, shall have access at all reasonable times to any or all of the workings necessary for the purpose of determining whether or not the terms of this lease and good mining practice are being conformed with by the SECOND PARTY.

ARTICLE IX

RIGHT OF REMOVAL

All ore broken and mined by SECOND PARTY, whether on the surface or in underground stopes and also all machinery, equipment and personal property, together with all improvements belonging to SECOND PARTY, excluding houses and other permanent improvements attached to the property, may be removed by SECOND PARTY at any time during the term of this lease, or within sixty (60) days after its expiration. But such right of removal shall not extend to ladders, timbers or structures in place on or beneath the surface of the property.

ARTICLE X

MISCELLANEOUS PROVISIONS

(1) Assignment and Subletting

It is mutually understood and agreed that the SECOND PARTY may assign all or part of his rights hereunder to other parties or to a corporation who will carry out and perform all operations herein specified.

(2) Surrender of Lease

SECOND PARTY may at any time quit and surrender the said mining property, upon giving the FIRST PARTY thirty (30) days notice in writing of his intention to do so. This lease shall thereupon terminate but the SECOND PARTY shall not be discharged thereby from any obligation in favor of the FIRST PARTY that may theretofore have accrued under the terms hereof.

(3) Conditions Beyond the Control of SECOND PARTY

Acts of Nature and the public enemy, strikes, fires, floods, financial disturbances, or any other causes beyond the control of

SECOND PARTY, preventing or delaying the fulfillment of the obligation undertaken in this agreement, shall during their continuance, excuse the failure of the SECOND PARTY to carry out said obligations without penalty.

(4) Forfeiture

Time is the essence of this agreement. If SECOND PARTY shall fail, neglect, or refuse to make any payment when due hereunder, or shall fail, neglect or refuse to perform any of the acts and things agreed herein to be done and performed by SECOND PARTY within the time limited herein and in the manner contemplated herein, or if SECOND PARTY shall make default in any of its promises and agreements herein, then and in the event, FIRST PARTY may demand in writing that such default be remedied and if this is not done within a period of sixty (60) days thereafter, FIRST PARTY may, at his election, declare a forfeiture of and an end to this agreement and all payments heretofore made by SECOND PARTY to FIRST PARTY shall be retained by FIRST PARTY as rental for the use of said property and as liquidated damages for the breach of this agreement by SECOND PARTY, AND SECOND PARTY shall have no further interest of any kind in said property and shall immediately surrender possession thereof to FIRST PARTY.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed, in duplicate, the day and year first above written.

WITNESS:

Arson P. Long

Gene L. Cunningham

WITNESS:

John. Glavin

Ernest S. Bettler } 1st Party

Harry L. Jones } 1st Party

Herbert H. Benson 2nd Party

August 21, 1948

Ernest S
Messrs. ~~Ernest S.~~ Bettler
& H. M. James
Phoenix, Arizona

Gentlemen:

Let this letter serve as an agreement between us in respect to your Rock Ledge Mining property in the Magazine Mining District which through my efforts is being leased and optioned to Herbert H. Brown of Phoenix as per agreement which will probably be made effective by September 1st of this year.

Throughout the term of this lease it is understood that you will pay me as a commission and for services rendered ten percent (10%) of any rental and/or royalty which you may receive under the said agreement with Herbert H. Brown and in the event that the option to purchase is exercised, I am to receive ten percent (10%) of the purchase price paid for your property, less such amount as I may have previously received on account of the rentals and/or royalties paid during the term of the agreement.

Kindly signify your acceptance of the above arrangement by signing under the word "accepted" on the duplicate copies of this letter.

Yours very truly,

Ernest S. Bettler

ACCEPTED:

Along the walls of the adit tunnel

~~if the ledge actually lies along this contact copper values are either non-existent or have been almost entirely leached out of the walls by water which percolates and weats out the rock and has doubtless done so continuously during the 40 years since this opening was made. This is a matter ^{obviously} ~~which~~ ^{calls} ~~for~~ further investigation since Bettler and his associates insist that a substantial width of 6% copper ore was penetrated when the adit was driven, but ^{sub value} ~~nothing of this kind~~ ^{had} is now in evidence, *and samples cut from the walls of the adit ran less than 1% copper.*~~

out

(b)

Continuous trenching from the southwest pit sunk on the outcrop of this ledge should serve to make clear the true geological conditions and at the same time permit the mining of a small tonnage of ore which can be sorted and shipped with profit even in the face of adverse conditions of transportation.

(c)

LOWER OR EAST LEDGE

*all
and*

The lower ledge outcrops along the west bank of the creek close to the portal of the adit and the collar of the shaft and only some 20' above the bed of the creek. Here the erosion has naturally been faster than along the upper ledge and no high grade ore was found but the exposure of copper carbonate is continuous for a length of about 150' and apparently the width of the ledge is 4' or more.

Only one of my samples may be considered as representative of this outcrop and that assayed ~~only~~ a trace of gold, 0.2 oz. silver and 2.36% copper. Ore of this grade is not commercial but here also further investigation is in order.

Indications of

SILICEOUS DEPOSIT

The porphyry continues eastward under the bed of the creek in places but elsewhere is replaced by a siliceous limestone which appears to have been a block carried up to the surface by the porphyry intrusion. The extent of this lime formation was not determined but in the upper

portion of the east bank of this creek there is a granite formation and again further to the east it is reported that the shale and quartzite are found.

Between the outer walls of the East and West Ledges the distance is 300' at the southeast workings and somewhat less ^{further} north on a line at right angles from the shaft.

On the surface of ~~the~~ ^{a quartzite} porphyry ^{these} formation^s there are many showings of copper and specimens of ~~porphyry~~ rock which I took from the adit and the shaft workings, but away from the ledges, ^{all} showed residual copper minerals in very small quantity and assayed from 0.91 to 1.23% copper.

It therefore appears that there is a very suggestive condition indicating the occurrence of a disseminated copper deposit of which the present showings represent only the leached section or capping and below which, by analogy with thoroughly developed deposits, there is good reason to expect that a zone of secondary enrichment may be found with chalcocite, bornite and tetrahedrite (of which small quantities may be noted in some samples from the shaft and adit) replacing the residual minerals and sufficiently well disseminated to make a large low grade ore body.

Going southwest from the main workings and the camp the porphyry can be readily traced for some 2000' and throughout this area ^{are found} numerous outcrops of copper carbonate, silicate and oxide ore although no distinct ledges of such material have yet been developed. About 1500' from the main workings another shaft (2) ^{50'} was sunk on an attractive outcrop and some ore showing carbonate and gray copper was mined a small pile of which assayed 12.17% copper. ^{but the ledge had faulted out of the shaft} A short distance further to the southwest a very promising outcrop of carbonate was noted but at this point the porphyry appears to be in contact with quartz diorite-

had had been predicted up above
ad the same depth

schist and the formations are so badly folded and distorted that it is uncertain whether or not these showings represent either one of the ledges described above and no distinct ledge can be noted here.

X
X

It does however appear that ^{a similar} ~~whatever~~ dissemination of ~~porphyry~~ ^{copper to that found} near the edit and Shaft (A) will very likely ~~be found~~ to continue throughout this distance to the southwest and still further in that direction less promising outcrops and some copper float has been found for another 1000' although these appear to be too far to the east to represent a continuation of the same dike unless there has been substantial faulting.

Northeast of the edit and Shaft A the porphyry formation continues for at least 5000' but there was no opportunity to examine this section where the surface rises rapidly to an elevation of some 600' above the camp.

CONCLUSION AND RECOMMENDATION

It is my opinion that the present showings justify further development and in the event that it is decided to proceed my recommendations in respect to same are as follows:

(d)

(9)

~~become the basis for large scale mining operations.~~

it can be installed a proper development
Before ~~any of this work can be undertaken~~ it will be necessary to improve certain portions of the road from Magazine Springs to its present terminus, particularly the one very steep pitch on which there is a corkscrew turn, and ^{also} ~~it would also be very desirable to continue the road along Bettler's partially widened ~~and~~ trail to ~~my~~ datum survey a point just above the camp and below the outcrop of the upper ledge so that a portable compressor could be taken to the location and a small truck used for hauling in supplies, and hauling out the ore that would be mined along the upper ledge.~~

The shack which is at present unoccupied at the camp with the addition of a small tent should be sufficient to temporarily house the few men who would be employed, and the required equipment at the outset would comprise a small portable compressor, two jackhammer drills and the usual amount of hose, drill steel (for detachable bits) and fittings; plus picks, shovels and other small tools and camp utensils.

P. With road improved & equipment installed I then recommended that you:-

Open up 4 pits & trenches
 (1) ~~Run out~~ *the surface* from pit #1 northeast on the *hard ledge* ~~main ledge~~ for at least 800' (i.e. beyond pit #3) to a depth of 10' or deeper whenever good ore is found to continue forward.

This work should serve to produce a ~~certain~~ *certain* quantity of high grade copper ore which could be shipped to the smelter with profit. It should also serve to determine the length, width and average grade of the ore occurring at and near the surface of this ledge and to show whether or not ~~the~~ *the* ore is practically continuous or merely confined to bunches and pockets.

X (2) In the edit tunnel ~~shoot crosscuts~~ *continue the drift in the hard ledge* ~~in~~ *directions* both walls for a sufficient distance to make certain that the ore which Bettler and Long

claim to have found 100' in from the portal has not been altered and leached out by the water percolating into the tunnel and carefully sample such fresh faces of ore as may be exposed. If these faces prove to carry, as claimed, approximately 6% copper or any percentage approaching that figure it will be in order to consider driving a raise up through to the surface of the ledge which would be a preliminary to further development and the stopping out of the ledge between the adit and the outcrop. Also a winze might advantageously be sunk for some distance to determine whether or not the grade of the ore is improving with depth and if such should prove to be the case crosscuts and drifts would serve to indicate the width and average value of the ledge material and the character and value of the mineralized rock beyond its limits.

(3) The lower or east ledge does not appear attractive since here one could expect to mine little or no pay ore and the present shaft

X (4) is merely a "gopher hole" and would have no place in any program of extensive development. Therefore for the time being I will merely suggest that this shaft and the drifts should be made safe for entry and partially cleaned out of loose muck (as can be done with a bucket and windlass) so that the walls can be examined and sampled, to determine the extent of the dissemination of copper mineral in these openings, and in order to permit noting the width, dip and character of the lower ledge,--if this actually extends into these workings.

Some further work might also be done along the outcrop of this ledge especially between the shaft and the adit.

X (4) Should the procedure above outlined, with such changes and additions as may suggest themselves while it is in progress, continue to indicate a disseminated deposit a comprehensive campaign of drilling will be in order to determine the mineralization of the porphyry with depth and the existence of a zone of secondary enrichment which might

Since the climate is mild and extremely pleasant during the fall and winter there should be no serious obstacles to the continuance of this program which can be amended and enlarged upon according to the conditions which may actually be found to exist or otherwise discontinued at any time that it may seem proper to do so.

Respectfully submitted,

S. M. Colver

An approximate estimate of the cost of the recommended procedure including the necessary overhead expense for taxes, accounting & engineering services is as follows.

Road work, magazine spring to end of present road	600.00
End of present road to present new intercept of road ledge	400.00
Mining equipment including transportation & installation	1500.00
Trenches & pits along intercept ledge	500.00
Lease for adit ^(over 100) 100 with concrete adit returns & detour full width on	2000.00
	5000.00

It is

It is believed that this expenditure should serve to definitely determine whether or not the project will pay the mining

and/or rental
 The royalty shall be paid on or before the ²⁵ ~~15th~~ day of the month next succeeding that in which the shipments are made. *at the rental has accrued* But it is also agreed that during the term of this lease Second Party will pay to First Party for the use and occupancy of the leased premises and as a consideration for this agreement a minimum royalty of one hundred dollars (\$100.00) per month, such payment or the excess portion thereof to be made as rental in the event that the royalty from shipments as stipulated in ARTICLES III and/or IV does not amount to this sum.

ARTICLE IV

For shipments made to the Trench Mill or any other mill the royalty payments shall be based upon the prices for the metals actually paid to the producer for the ores under the terms established by Federal Government Authority it being understood that the production from the leased property will all be in the nature of new production and as such entitled to the bonus prices paid by the Metals Reserve Corporation.

Schedule of Payment for lead and zinc contained in the ore:

	C e n t s p e r L b.									
Metal Price	4	4.4	5	5.5	6	6.5	7	7.5	8	8.5
Pay Per Lb.:										
Pb -	1.4	1.75	2.06	2.39	2.72	3.05	3.38	3.71	4.04	4.37
Zn -	.4	.65	.90	1.15	1.40	1.65	1.90	2.15	2.40	2.65
Metal Price	9	9.5	10	10.5	11	11.5	12	12.5	13	
Pay Per Lb.:										
Pb -										
Zn -										
Metal Price	13.5	14	14.5	15						
Pay Per Lb.:										
Pb -										
Zn -										

Silver - Pay at 50¢ an ounce. Treatment \$3.00

ARTICLE V

TAXES AND EXPENSES

During the term of this lease, SECOND PARTY will pay the State, County and Local Taxes, assessed against the patented mining claims and upon any improvements thereon subsequent to January 1st, 1943.

*at found from of lead or by product of metal
 they charge in same*

of a ~~comparatively~~ small producing mine & if
 the results are favorable they should constitute
 a basis for putting in a permanent road & a larger
 equipment which would be adequate both for
 future development and for a steady production.

I say ^{no} The present showings in my opinion amply
 justify the preliminary expenditure also soon outlined.

The royalty shall be paid on or before the 15th day of the month next succeeding that in which the shipments are made. But it is also agreed that during the term of this lease Second Party will pay to First Party for the use and occupancy of the leased premises and as a consideration for this agreement a minimum royalty of one hundred dollars (100.00) per month, such payment or the excess portion thereof to be made as rental in the event that the royalty from shipments as stipulated in ARTICLE III does not amount to this sum.

(c) To open up the upper portion of the vein a
cut has been made to surface trenching has been
done north of # 2 pit where [#] 5¹/₂ we had been
buried 4 30 ft. beyond the pit a cut is
being run in the hillside & entered the
vein just below a very promising showing and
this cut had not yet reached the vein at
the time of my last visit.

Comparing Costs

Humboldt, Arizona.

April 9, 1926.

Mr. G. M. Colvocoresses, General Manager,
Southwest Metals Company.

Dear Sir:-

Pursuant to your request, I am submitting the following comments on Mr. Lindsay Duncan's report on "Side Charged Reverberatories".

"Reduction in costs due to side charging in copper reverberatory furnaces".

- (1) Increased tonnage.
- (2) Decreased fuel per ton charged.
- (3) Decreased repairs.
- (4) Decreased operating labor.

(1) Mr. Duncan states, "Repairs to sidewalls are practically eliminated, due to their almost complete protection by the charge".
----- This is true of those plants which treat only crushed ores, such as United Verde and United Verde Extension, but is not true in the case of such plants as Hayden, Miami and the Copper Queen, where the percentage of flotation concentrate and extremely fine roaster dust on the charge is very considerable. With much flotation concentrate, the calcines are so wild that it is impossible to keep the sidewalls covered at all times, so that rather frequent repairs to the upper part of the sidewalls, as well as to the skew-backs, are required at the three last named plants.

(6) In order to ~~ascertain~~ determine the true condition
a drift was started in the north wall of the
adit and ~~up~~ by ~~the~~ ~~end~~ had advanced
6.5' north 30° east ~~for~~ ~~The upper portion~~
of this drift is in quartzite or quartz
stone in ~~the~~ ~~face~~ which large particles of
chalcocite are embedded while along the
fracture planes thin films of copper oxide &
occasionally native copper ~~are~~ frequently noted.

At the exact point where the drift was
started a sample cut from the wall of the adit
carried 0.76% copper. Four feet in the face
of the drift sampled 1.59% copper & 6.5'
in ~~the~~ ~~end~~ samples of the face carried

In the old days of coal firing in outside fire-boxes, separated from the furnace hearth by a bridgewall, the flame was generally "cleared" in the vicinity of the "verb" arch or in the uptake. Often secondary combustion occurred in the uptakes, header-flues, and even in the waste-heat boilers. This method of firing persisted even after oil had superseded coal as fuel in reverberatory furnaces.

Under modern conditions, complete combustion is sought, and frequently attained, in the first forty feet of the furnace, resulting in much higher furnace temperatures than obtained in the old days. Ample proof of this is furnished by the much higher silica slags which are now made as compared with those made under the old system of firing.

In December, 1917, the first enlarged-uptake furnace was put in operation at the Copper Queen Smelter. During the following month this furnace (#2) was run side by side with a small-uptake furnace (#3), both furnaces having the same hearth area and taking the same charge. Tonnages of solid charge were as follows:-

	<u>Fce.#2</u>	<u>Fce.#3</u>
January 1 - 10, incl.	6894	3375
" 11 - 20 "	5360	3572
" 21 - 31 "	7239	4067
Daily average for month	629	355

During the second period, Furnace #2 lost about two days, during which time the fire was cut off entirely, on account of the failure of an arch in the dust flue system leading to the stack.

Mr. Duncan states, "A higher average and a more uniform temperature can be maintained, due to the elimination of hand-fettling with the necessary admission of cold air when the side doors are opened". ----- This is true, of hand-fettling, but Heggie, at El Paso, ^{& Hayden} was able to avoid admission of cold air while fettling by using "manger-hoppers", built between the buckstays and just under the skewbacks, by the use of which a sufficient supply of fettling material was kept in the "manger-hoppers" to keep the openings into the sidewalls of the furnace closed at all times.

Mr. Duncan states, "The capacity of side-charged furnaces, when run up to their limit, is surprising to those who are accustomed to the 400 - 450 tons per day maximum of the center-charged furnace". He gives tonnages as follows:-

United Verde	-----	955 tons per day
Calumet & Arizona	-----	730 " " "
Copper Queen	-----	757 " " "
Miami	-----	734 " " "

The enormous increase ⁱⁿ reverberatory unit tonnage which occurred late in 1917 and during 1918 was not a result of changing from center-charging to side-charging, but was a result of increasing furnace, uptake and flue areasto permit of drawing greatly increased volumes of air and gases into and through the furnaces, thus permitting the rapid and complete combustion of correspondingly greater quantities of fuel. At the same time, attention was directed toward increasing efficiency in the atomization of fuel and introduction of air in proper proportion to attain perfect combustion and a maximum temperature.

September 1, 1942

Mr. Herbert H. Brown
312 West Willetta Street
Phoenix, Arizona

*See record of your letter
found note*

Dear Sir:

I beg to submit the following report on the property known as the Gray's Gulch Copper Mine accompanied by sketch maps entitled Exhibits A, B, and C.

PROPERTY AND LOCATION

The Gray's Gulch property consists of four unpatented mining claims, the possessory title to which is held by Ernest S. Bettler and H. M. Jones and on which a three (3) year lease with option to purchase has been executed in favor of Herbert H. Brown, effective September 1, 1942.

These claims are located in the Magazine Mining District, Maricopa County, Arizona, in Township 8 North, Range 4 East; Gila and Salt River Base and Meridian.

At present access to the claims is by way of the Cave Creek Road from Phoenix to the Gayx Mine at Magazine Springs 52 miles from Phoenix and thence by five miles of very poor mountain road which is passable for an auto to within 3/4 mile of the mine. From that point a trail leads down the west slope of Gray's Gulch to the camp and principal workings which are on the bank of the creek. Over one-half mile of this trail must be converted into an auto road before shipments of ore can begin and either the present road from Magazine Springs must be

improved or a new road built in from New River some $3\frac{1}{2}$ miles distant from the camp. The climate is mild and dry permitting operations to continue without difficulty through all seasons of the year.

TOPOGRAPHY AND GEOLOGY

The country is rough and rugged but with few steep slopes excepting those which form the sides of Gray's Gulch where the Bettler camp is located at an elevation of about 5,200' above sea level while the divide above is 400' higher. On the hills and ridges the vegetation is scant mostly native shrubs and grasses with a few juniper cedars, while sycamores and cottonwoods grow in the ravines. A small spring at the mine camp in the bed of Gray's Gulch furnishes water for domestic purposes and is reported to have flowed continuously for the past 40 years.

The local geology is rather complicated. The basal formation appears to be pre-Cambrian Yavapai schist, shale and quartzite which in this particular district was penetrated by large intrusions of granite and diorite and subsequently these rocks and later sedimentary limestone were distorted, compressed and displaced by intrusions of quartz porphyry mainly rhyolite and alkite which carried up with them blocks and masses of limestone and shale.

The fault and contact fissures which accompanied the intrusions of porphyry seem to have been largely filled with quartz and mineralized by solutions the origin of which is obscure, but probably in some deep seated magma.

All of the ore so far developed at the Gray's Gulch Mine is definitely secondary resulting from the decomposition of the original sulphide which I assume to have been a chalcocite while the copper minerals were reprecipitated as bornite and chalcocite and later oxidized to brown and red copper oxide, and green and blue carbonates, ^{silicates.}

An examination of various fragments of the porphyry and analysis

of samples suggests but does not positively indicate that the copper mineral was originally disseminated throughout large areas of this rock and any conclusion as to the existence of a commercial deposit of disseminated copper ore will have to await subsequent exploration.

Although the showings of oxidized copper and copper bearing float are widely distributed over the surface of the claims the work has been largely confined to two zones of mineralization which will later be described in detail. These cannot properly be termed veins as there are no distinct walls and I shall refer to them as ledges.

These ledges, as well as the formations, have a general strike of northeast-southwest while the dip has not yet been established. The recent flows of basaltic lava which once covered so much of this district have been completely eroded away in this particular locality but are still found above an elevation of 4000' notably along the top of New River Mesa to the west and Skull Mesa to the south.

HISTORY

Copper was first found here by a man named Gray who prospected for gold in the 90's and in 1898 Bettler first staked his present claims and has lived there and developed them usually single-handed and almost continuously since that date.

The remote location, difficulty of access and comparatively meagre extent of the workings have combined to render these showings unattractive to other parties and prevented them from attracting the attention which they would have merited if accessibility and transportation conditions had been more favorable.

My first visit was made in September, 1939, and I have made two brief examinations in August of 1942 on which latter occasions I took the samples and made the notes on which this report is based.

ORE OCCURRENCES AND DEVELOPMENT WORK

The sketch plan of the claims (Exhibit A) will give an idea of the general location of the surface ~~showings~~^{outcrops} and existing workings while the plan and section (Exhibit B and C) show the relation of these to the two principal ledges and the showings of ore exposed to date.

Obviously no tonnage of pay ore has yet been developed and the present showings assure only a very limited production from surface workings but serve to encourage further development by indicating the probability that the upper or west end perhaps also the east ledge will continue downward for some distance with oxidized ore in shoots or sections and that at a greater depth and particularly below the local water level these will be replaced by more consistent shoots of primary sulphide ore of commercial grade.

UPPER OR WEST LEDGE

The outcrop of this ledge shows high grade ore associated with quartz at intervals for ~~over~~ a length of about 300' and the three shallow pits which have been sunk at points as shown on the plan have produced ore which for ^{OVER} the first 100' will average, according to my samples, close to 10% copper and \$5.00 per ton in gold and silver. The width of this ledge appears to vary from 2 to 6' and the dip as judged from the surface is about 80° to the west. This dip very likely may change or reverse entirely with depth but otherwise it does not appear that the edit tunnel has been driven sufficiently far to cut its downward extension.

The ore occurs in the porphyry but a contact with quartzite and quartz diorite seems to occur along or near the northwest edge of the ledge and in the edit tunnel the diorite comes in almost directly below the ledge so that at this point the contact appears to be vertical but

if the ledge actually lies along this contact copper values are either non-existent or have been almost entirely leached out of the walls by water which percolates and sweats out the rock and has doubtless done so continuously during the 40 years since this opening was made. This is a matter which calls for further investigation since Bettler and his associates insist that a substantial width of 6% copper ore was penetrated when the adit was driven, but nothing of this kind is now in evidence.

Continuous trenching from the southeast pit sunk on the outcrop of this ledge should serve to make clear the true geological conditions and at the same time permit the mining of a small tonnage of ore which can be sorted and shipped with profit even in the face of adverse conditions of transportation.

LOWER OR EAST LEDGE

The lower ledge outcrops along the west bank of the creek close to the portal of the adit and the collar of the shaft and only some 20' above the bed of the creek. Here the erosion has naturally been faster than along the upper ledge and no high grade ore was found but the exposure of copper carbonate is continuous for a length of about 150' and apparently the width of the ledge is 4' or more.

Only one of my samples may be considered as representative of this outcrop and that assayed ~~only~~ a trace of gold, 0.2 oz. silver and 2.36% copper. Ore of this grade is not commercial but here also further investigation is in order.

DISSEMINATED DEPOSIT

The porphyry continues eastward under the bed of the creek in places but elsewhere is replaced by a siliceous limestone which appears to have been a block carried up to the surface by the porphyry intrusion. The extent of this lime formation was not determined but in the upper

portion of the east bank of this creek there is a granite formation and again further to the east it is reported that the shale and quartzite are found.

Between the outer walls of the East and West Ledges the distance is 200' at the southeast workings and somewhat less ^{further} north on a line at right angles from the shaft.

On the surface of this porphyry formation there are many showings of copper and specimens of porphyry rock which I took from the adit and the shaft workings, but away from the ledges, showed residual copper minerals in very small quantity and assayed from 0.91 to 1.22% copper.

It therefore appears that there is a very suggestive condition indicating the occurrence of a disseminated copper deposit of which the present showings represent only the leached section or capping and below which, by analogy with thoroughly developed deposits, there is good reason to expect that a zone of secondary enrichment may be found with chalcocite, bornite and tetrahedrite (of which small quantities may be noted in some samples from the shaft and adit) replacing the residual minerals and sufficiently well disseminated to make a large low grade ore body.

Going southwest from the main workings and the camp the porphyry can be readily traced for some 2000' and throughout this area ^{are found} ~~these~~ numerous outcrops of copper carbonate, silicate and oxide ore although no distinct ledges of such material have yet been developed. About 1500' from the main workings another shaft (B) was sunk on an attractive outcrop and some ore showing carbonate and gray copper was mined, a small pile of which assayed 12.17% copper. A short distance further to the southwest a very promising outcrop of carbonates was noted but at this point the porphyry appears to be in contact with quartz diorite-

schist and the formations are so badly folded and distorted that it is uncertain whether or not these showings represent either one of the ledges described above and no distinct ledge can be noted here.

It does however appear that ~~the~~ ^{a similar} dissemination ^{copper to that found} of ~~porphyry~~ near the adit and Shaft A will very likely ~~be found to~~ continue throughout this distance to the southwest and still further in that direction less promising outcrops and some copper float has been found for another 1000' although these appear to be too far to the east to represent a continuation of the same dike unless there has been substantial faulting.

Northeast of the adit and Shaft A the porphyry formation continues for at least 2000' but there was no opportunity to examine this section where the surface rises rapidly to an elevation of some 600' above the camp.

CONCLUSION AND RECOMMENDATION

It is my opinion that the present showings justify further development and in the event that it is decided to proceed my recommendations in respect to same are as follows:

(1) Trench out along the surface from pit #1 northeast on the main ledge for at least 200' (i.e. beyond pit #3) to a depth of 10' or deeper whenever good ore is found to continue downward.

This work should serve to produce a small quantity of high grade copper ore which could be shipped to the smelter with profit. It should also serve to determine the length, width and average grade of the ore occurring at and near the surface of this ledge and to show whether or not the ore is practically continuous or merely confined to bunches and pockets.

(2) In the adit tunnel ^{drive} short crosscuts ~~==~~ in both walls for a sufficient distance to make certain that the ore which Bettler and Long

claim to have found 180' in from the portal has not been altered and leached out by the water percolating into the tunnel and carefully sample such fresh faces of ore as may be exposed. If these faces prove to carry, as claimed, approximately 6% copper or any percentage approaching that figure it will be in order to consider driving a raise up through to the surface of the ledge which would be a preliminary to further development and the stopping out of the ledge between the adit and the outcrops. Also a winze might advantageously be sunk for some distance to determine whether or not the grade of the ore is improving with depth and if such should prove to be the case crosscuts and drifts would serve to indicate the width and average value of the ledge material and the character and value of the mineralized rock beyond its limits.

(3) The lower or east ledge does not appear attractive since here one could expect to mine little or no pay ore and the present shaft (A) is merely a "gopher hole" and would have no place in any program of extensive development. Therefore for the time being I will merely suggest that this shaft and the drifts should be made safe for entry and partially cleaned out of loose muck (as can be done with a bucket and windlass) so that the walls can be examined and sampled, to determine the extent of the dissemination of copper mineral in these openings, and in order to permit noting the width, dip and character of the lower ledge,--if this actually extends into these workings.

Some further work might also be done along the outcrop of this ledge especially between the shaft and the adit.

(4) Should the procedure above outlined, with such changes and additions as may suggest themselves while it is in progress, continue to indicate a disseminated deposit a comprehensive campaign of drilling will be in order to determine the mineralization of the porphyry with depth and the existence of a zone of secondary enrichment which might

become the basis for large scale mining operations.

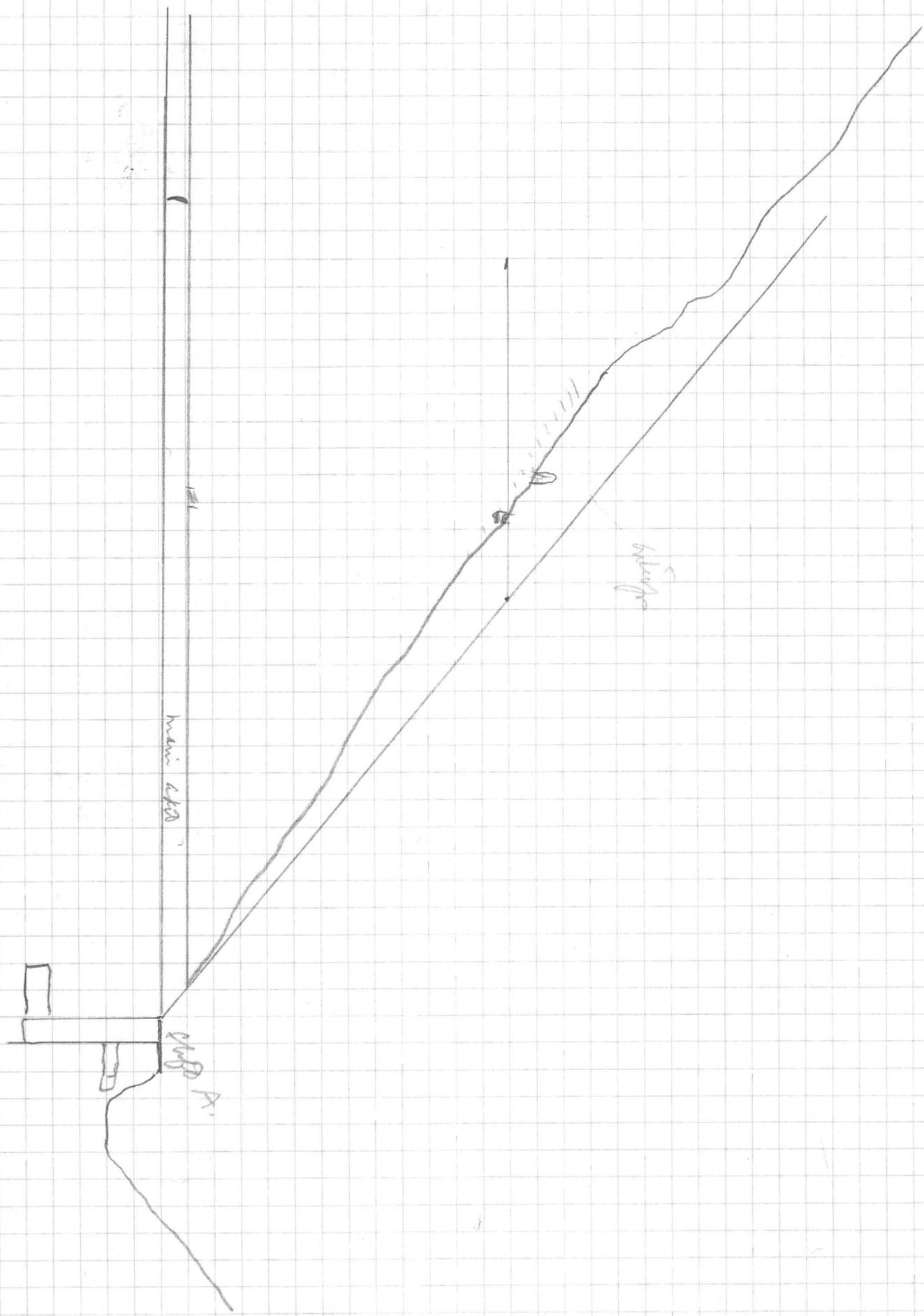
Before any of this work can be undertaken it will be necessary to improve certain portions of the road from Magazine Springs to its present terminus particularly the one very steep pitch on which there is a corkscrew turn and it would also be very desirable to continue the road along Bettler's partially widened out trail to my datum survey point just above the camp and below the outcrop of the upper ledge so that a portable compressor could be taken to the location and a small truck used for hauling in supplies and hauling out the ore that would be mined along the upper ledge.

The shack which is at present unoccupied at the camp with the addition of a small tent should be sufficient to temporarily house the few men who would be employed and the required equipment at the outset would comprise a small portable compressor, two jackhammer drills and the usual amount of hose, drill steel (for detachable bits) and fittings; plus picks, shovels and other small tools and camp utensils.

Since the climate is mild and extremely pleasant during the fall and winter there should be no serious obstacles to the continuance of this program which can be amended and enlarged upon according to the conditions which may actually be found to exist or otherwise discontinued at any time that it may seem proper to do so.

Respectfully submitted,

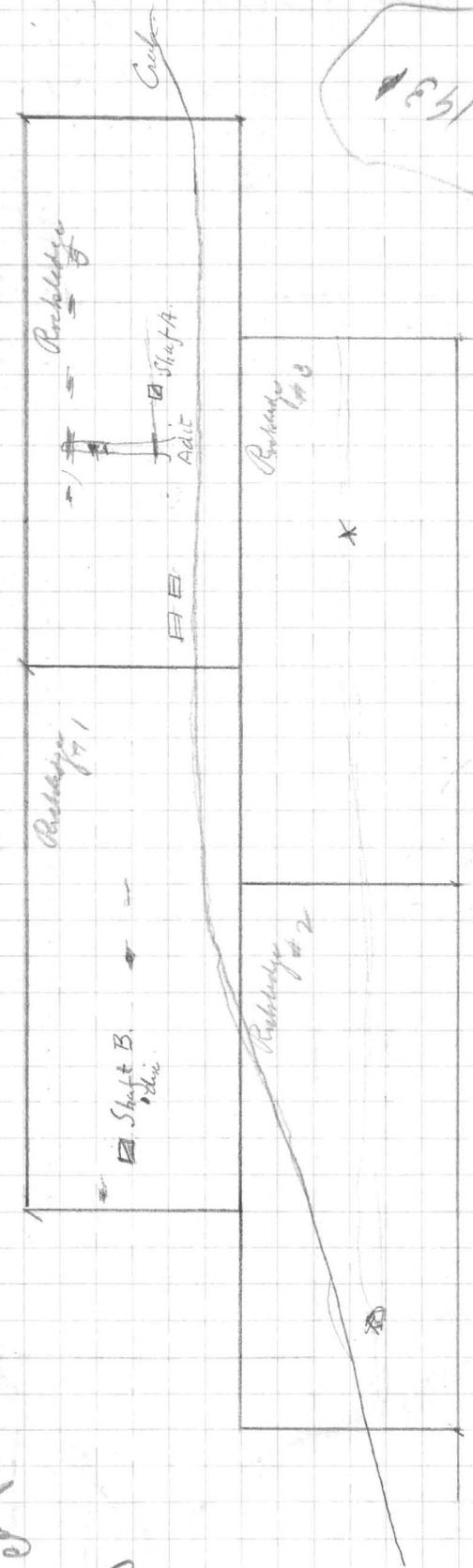
S. M. Colverson



Steps Lulea Canal

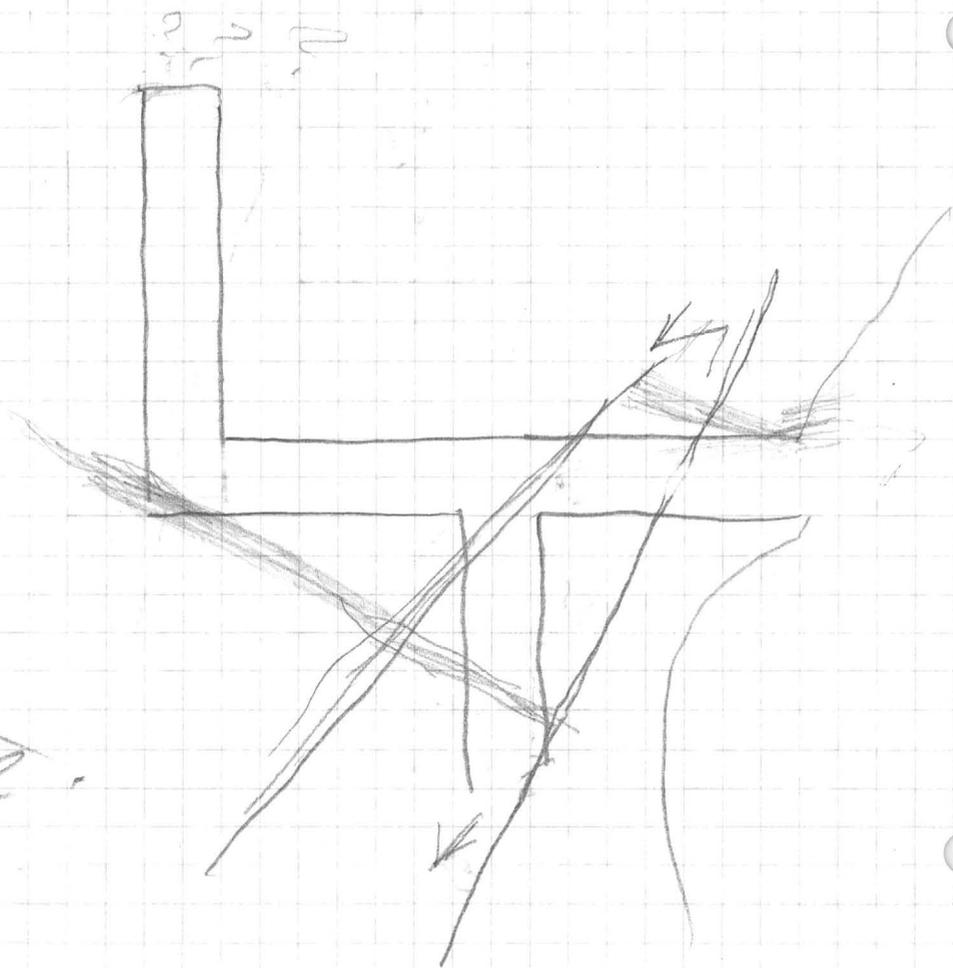
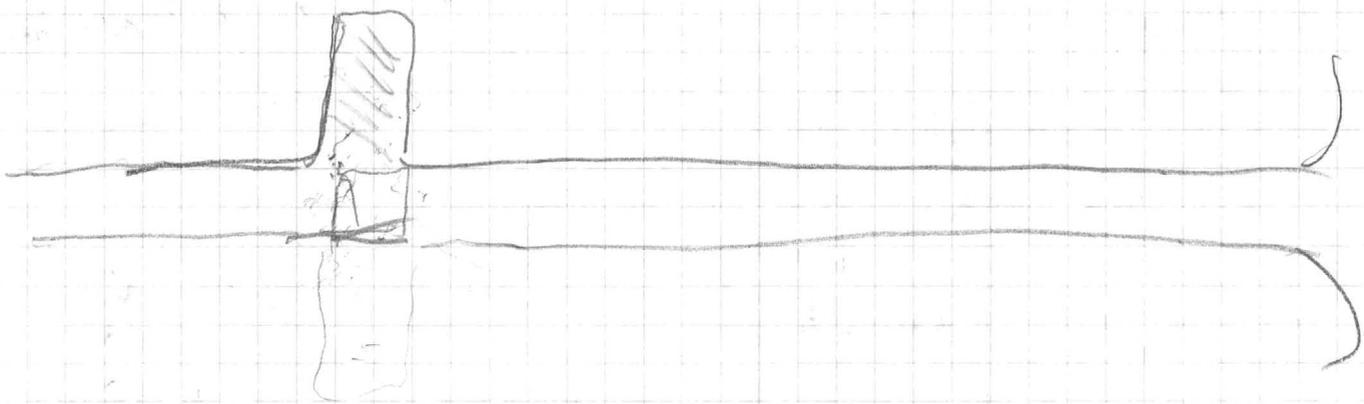
1 Sq = 100'

Map of Lulea Canal
 1931
 Lulea Canal
 1931

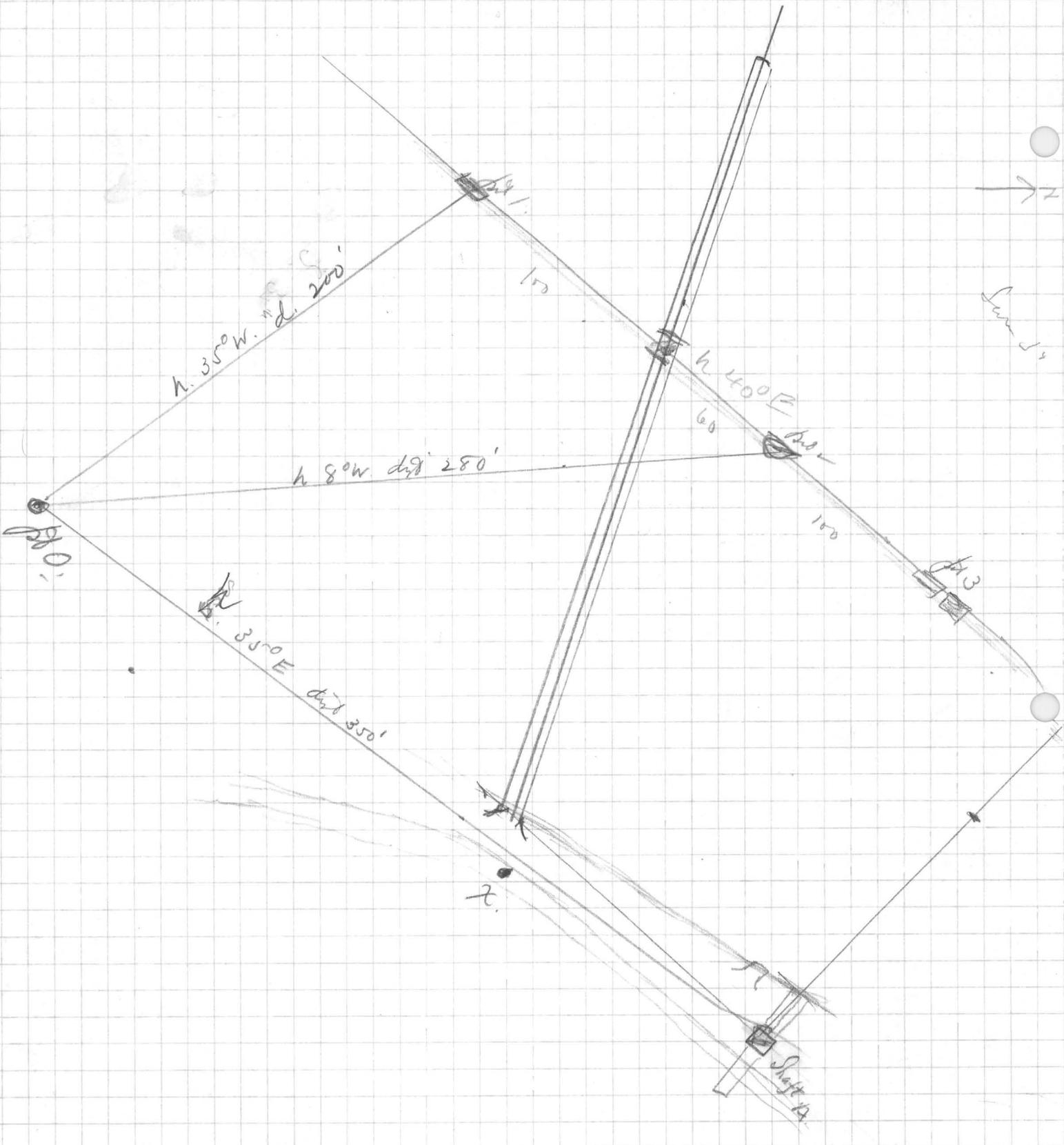


Recharge #1, #2, #3
 1931

Recorded as Reel Log #10 - Box 41, page 282
 " " " 282 & 283
 " " " 283
 " " " 283-284



Bormen Hotel



N
Shaft 12

A3

Shaft 12

7

NOTES RE GRAY'S GULCH MINE

9/28/39

Visit with Oscar P. Long of Cactus (Union Mine) and Eugene D. Bettler of Onyx Mine near Seven Springs.

Phoenix to Onyx Mine, 52 miles of good road.

Onyx Mine to Gray's Gulch, 5 miles of very bad road then $\frac{1}{2}$ mile of trail down steep side of gulch with drop of about 350' to the creek which is at elevation of about 3600'.

The country is mainly Yavapai Schist ^(Slate?) with intrusions of granite and porphyry and bands of limestone, in places these are still capped with the Tertiary lavas.

Throughout the schist are noted strong outcrops of silicified schist and iron stained quartzite much resembling the outcrops at Bluebell and DeSoto.

The ore deposits are similar replacements in the silicified zones of the schist and two of these are very prominent lying nearly parallel with strike northeast-southwest and separated by some ²600' of country rock some of which is a porphyry dike. All development has been done under the west outcrop but was told that there were copper showings in the east outcrop down near Gray's Creek. ?

The copper showings were originally noted by Gray who prospected this district for gold back in the 90's and Bettler and others started to develop them about 1900 and have since done additional work at intervals.

On the west side of Gray's Creek the west outcrop

shows on the steep slope (42°) and has a width of about 40' at a height of 160' above the creek and 180' west of it. Here there is some excellent copper ore, ^{bo}carbonates and some bornite and chalcocite in stringers and a dump of high grade ore has been mined and sorted from the surface pits, - perhaps 8 or 10 tons on which I took sample #2 that ran:
Au, _____, Ag., _____ and Cu. _____.

Ten feet above the creek a cross-cut adit was driven to cut under this showing which can be traced for several hundred feet and this runs in $200' \overset{N}{S.} \overset{70}{80^{\circ}} W.$ and 160' from the portal there is 18' of mineralized ground which Bettler claims will average 6% copper though it does not look it. Samples would have to be milled as rock is very hard. The schist or porphyry between this vein and the portal shows quite a lot of copper stain and might carry pay values for a large scale operation.

About ¹²⁰100' north of this adit a shaft was sunk in rhyolite porphyry or schist to depth of 50' starting about 20' above the level of the adit.

This is now full of water but it is reported that 30' below the collar there is a crosscut 20' to the east and another at the bottom of the shaft 50' to the west.

Apparently the ore made only in stringers as not a great deal shows on the dump but it is high grade material with some chalcopyrite, bornite and chalcocite as well as carbonates.

Sample #2 analyzed

From this dump I sorted sample #1 which assayed
Au. _____, Ag. _____ and Cu. _____.

This shaft is really not in the vein but all of the schist and other rocks have been uptilted and show signs of intense shearing, folding and faulting.

The strike of all this strata is northeast-southwest and the dip as well as that of the vein is slightly to the northwest but often nearly vertical.

This prospect appears to have real merit although the location is bad,- but a good road could be built down Gray's Gulch for some 4 or 5 miles to its junction with Cave Creek where a road of sorts is already built.

Water,- in any quantity would have to be obtained from Cave Creek and perhaps from New River.

The best method of developing would seem to me to consist of sinking the shaft perhaps another 100' or until the primary sulphides were reached and then crosscutting under the west outcrop and drifting if good ore were found.

An alternate plan would be to put down angling diamond-drill holes from near the bed of the creek but these would likely be deflected by the bedding of the rocks.

Long hopes that Bernard Gillespie who is now drilling at the Red Rover will finance this exploration.

There are two small cabins on Gray's Gulch (from which a little good water is obtainable) and in these Bettler

and his wife and brother-in-law spend all or part of their winters.

As an exploration venture I think that this property has merit.

G.M.C.

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G.M.C.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

COMMITTEE ON MEMBERSHIP

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2824 GRAYBAR BUILDING
420 LEXINGTON AVENUE
NEW YORK, N. Y.



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NEW YORK, N. Y.

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RAYMOND R. KNILL, WYOMING

August 10, 1942
Our 72nd Year

To All Members of the General Membership Committee,
and Chairmen and Secretaries of Local Sections:

Gentlemen:

The Membership Committee may well take pride in our report for July, which shows the receipt of 119 applications. In previous years, the highest number registered for that month was 102; that was in 1939.

It is apparent that, among the reasons for this increase, at least 12 applications were the result of responses by members to President McAuliffe's recent appeal for the names or applications of eligible candidates.

On the whole, our program for maintaining and increasing membership is working remarkably well; let us keep at it, since results are directly proportional to the efforts we make.

Cordially yours,

Scott Turner, Chairman,
Committee on Membership

ST mg

Enclosures

BOND
MADE IN U.S.A.

APPLICATION FOR A PRELIMINARY DEVELOPMENT LOAN

NOTE—Read carefully Circular No. 14, Revised, and this application form before starting to prepare application.

Application of

(NAME) Trays Suleh Mini Loan (Herbert H. Penn)

(ADDRESS) 312 W. Hilltop St.

(CITY AND STATE) Phoenix Arizona

For a Preliminary Development Loan under authority of Public Law 603 approved June 11, 1942.

The application should be prepared and executed in duplicate.

Date _____

Name of correspondent Herbert H. Penn

Address 312 W. Hilltop St.

Location of mine: County Maricopa State Ariz. Mineral or metal produced Copper

_____ (hereinafter called "applicant"),

a an individual _____, hereby applies to RECONSTRUCTION FINANCE CORPORATION (hereinafter called "R. F. C."), for a loan of not more than \$ 5000.00 to be evidenced by a note or notes satisfactory to R. F. C., payable only out of proceeds of operation of the mining property.

To induce R. F. C. to make such loan, applicant submits as part of this application the attached exhibits, A and B and such other exhibits and papers as are attached hereto, and warrants and represents the statements herein and therein to be true and complete.

Applicant represents that applicant is not, at the time of making this application, indebted to R. F. C. in any amount, and neither the applicant nor any other party on applicant's behalf has heretofore applied to R. F. C. for a loan, except as follows:

no exceptions

Applicant hereby authorizes all constituted Federal, State, municipal, and other authorities at all times and from time to time to permit representatives of R. F. C. to have full access to and to furnish R. F. C. with any and all information, records, reports, returns, and files pertaining to or filed by or on behalf of applicant.

Dated X _____, 194____ (Sign below)

WITNESS: _____

WITNESS: _____

EXHIBIT A

1. **NATURE OF BUSINESS:** Describe briefly the type of operation being conducted or contemplated.

2. **LOAN:**

- (a) Amount of loan applied for: \$ 5000.00 (Not to exceed \$5,000 to any one applicant.)
- (b) Submit statement explaining manner in which loan will be advantageous to the national defense.

3. **PURPOSES OF LOAN:** Specific purposes for which applicant proposes to expend proceeds of loan applied for. (Detailed information should be given.)

Nature of Expenditure	Amount
<i>Road into mining to make property accessible</i>	\$ <u>1000.00</u>
<i>Equipment for development operation</i>	
<i>Surface & underground development of the mining</i>	

4. **HISTORY AND PRESENT STATUS:** This subject should be fully covered and should include the following information: A statement of previous development, operation and production of the mining property, giving dates; statement as to exact nature of applicant's interest in or ownership of the property, including date and circumstances under which acquired.

5. **LOCATION AND DESCRIPTION OF MINING PROPERTY:**

- (a) Mining district in which property is situated. If on surveyed ground, give section, township, and range. Give name and distance to railroad station.
- (b) Names and survey numbers of all patented claims, including map.
- (c) Names, dates of location, place and date of recording, book and page record of all unpatented locations, including sketch map.
- (d) Description of mineral acreage, including map, and recording data.
- (e) Names of any adjoining or neighboring productive properties.

See Report attached

6. **IF APPLICANT IS A CORPORATION, SUPPLY THE FOLLOWING:**

(a) *General Information*

1. Principal office and place of business _____
(Street and Number)

(City) (State)

- 2. When organized.
- 3. Under what laws organized.
- 4. Names of States in which qualified to do business.

(b) *Names and Addresses of Officers:*

Name and address	Official title (if officer is also director indicate by "D")
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(c) *Articles, Bylaws, Etc.*—Copies of Articles of Incorporation, bylaws, and certificates of authority to do business, with all amendments to date, certified and sworn to by applicant's Secretary, all to be attached hereto.

7. **IF APPLICANT IS A PARTNERSHIP, SUPPLY THE FOLLOWING:**

(a) *Names and Addresses of All Partners:*

Name <small>(Indicate if any partners are limited or special partners)</small>	Address
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(b) *Affidavits and Agreements*—Copies of all partnership affidavits and agreements, certified and sworn to by the partner signing the application, all to be attached hereto.

8. **FINANCIAL STATUS:** Submit current financial statement, and state terms of notes payable, mortgage debts, etc., giving maturity dates, rate of interest, etc.; and describe any other liens.

EXHIBIT B

Technical Data

The data required by Exhibit B should be supplied in detail on separate sheets of paper attached at end of this Exhibit.
Data should be lettered and numbered to correspond with respective paragraphs below.

- A. REPORTS: Furnish any reports available that apply to this application, including results from any metallurgical investigations.
- B. GEOLOGY AND TOPOGRAPHY: Submit all available information and maps.
- C. EXISTING DEVELOPMENT:
1. Furnish all possible information with regard to the ore body or mineral deposit. If maps and sections of the mine are not available, pencil sketches are acceptable. However, such sketches should, if possible, be drawn to scale, or if not, dimensions must be shown. Give all available assays of samples, stating clearly how samples were taken, giving width and location of each sample. Show the location, value and width of each sample on maps submitted.
 2. Submit certificates, when available, giving analysis of each sample and number each sample to correspond with sample numbers on the maps submitted.
 3. State type of mine, whether tunnel or shaft, and show in detail the existing workings. State distance along vein between levels and to surface. Indicate condition of workings, noting on map caved areas and those areas which it is proposed to make accessible.
 4. List present equipment on property and describe condition.
- D. PROPOSED PRELIMINARY DEVELOPMENT OF EXISTING MINE WORKINGS:
1. State clearly and in detail the proposed work such as unwatering, retimbering and making accessible such workings, together with estimated cost thereof, including purchase of tools and supplies.
 2. State whether workings are dry or wet; if latter estimated volume of water that has to be pumped, total gallons and gallons per minute to keep water down, and estimated cost of initial dewatering as well as cost to keep water down.
 3. Show on sketch map of existing workings the extent of ore which it is proposed to sample and assay when such workings are made accessible.
- E. POWER: State kind and source of power proposed to be used.

WAR PRODUCTION BOARD

WASHINGTON, D. C.

October 13, 1943

IN REPLY REFER TO:

Mr. George M. Colvocoresses
1102 Luhrs Tower
Phoenix, Arizona

Dear Mr. Colvocoresses:

Re: Gray's Gulch Mine

File

We have your letter of September 28, 1943, together with the purchase schedule and Form WPB-2465 for your Gray's Gulch Mine.

This information is being presented to the members of the Quota Committee for analysis and as soon as they bring in their report, I will communicate with you again.

Very truly yours,

Landon F. Strobel

Landon F. Strobel
Executive Secretary, Quota Committee
Premium Price Plan for Copper, Lead & Zinc
Railroad Retirement Building



**PREMIUM PRICE PLAN FOR
COPPER, LEAD AND ZINC**

NAME OF COMPANY

Herbert H. Brown

DATE

Nov. 24, 1943

ADDRESS (Street, City, State)

312 West Willetta St.
Phoenix, Arizona

(#2-155) tm

ON THE BASIS OF INFORMATION FURNISHED BY YOU, WAR PRODUCTION BOARD AND OFFICE OF PRICE ADMINISTRATION HAVE, WITH THE APPROVAL OF THE METALS RESERVE COMPANY, ESTABLISHED THE FOLLOWING MONTHLY QUOTA(S) FOR THE BELOW-DESCRIBED PROPERTY, AS PROVIDED BY THE RULES AND REGULATIONS OF THE PREMIUM PRICE PLAN FOR COPPER, LEAD AND ZINC.

QUOTA

(IN TONS OF 2,000 POUNDS EACH, CALCULATED ACCORDING TO RULE 13, A COPY OF WHICH IS ON OTHER SIDE)

NAME OF MINE (a)	CLASS OF QUOTA (b)	EFFECTIVE DATE (c)	TONS METAL			TRI-STATE ONLY TONS CONCENTRATES PER MONTH EQUIVALENT TO	
			ZINC (d)	LEAD (e)	COPPER (f)	60% ZINC (g)	80% LEAD (h)
Gray's Gulch	Revised: A Quota	10-1-43	-	-	0		
	Special @ 5¢	10-1-43	-	-	0		

METALS RESERVE COMPANY HAS STATED THAT IT WILL CAUSE THE PREMIUM PAYMENTS ON PRODUCTION IN EXCESS OF THE RESPECTIVE QUOTAS TO BE MADE AS LISTED BELOW:

ITEM (a)	ZINC, EAST ST. LOUIS (b)	LEAD, NEW YORK (c)	COPPER, CONNECTICUT VALLEY (d)
"A" QUOTA - DEDUCT CEILING PRICE FROM	11¢	9 1/4¢	17¢
"B" QUOTA - DEDUCT CEILING PRICE PLUS "A" PREMIUM FROM	13 3/4¢	12¢	
"C" QUOTA - DEDUCT CEILING PRICE PLUS "A" & "B" PREMIUMS FROM	16 1/2¢		

REMARKS Your copper quota of A zero means that for all your production, calculated according to Rule 13 (see reverse side of this form) you will receive 5¢ a pound premium. Your Special Copper quota at 5¢ of zero tons means that for all your production over zero ton per month, calculated according to Rule 13, you will receive an additional 5¢ per pond premium.

METALS RESERVE COMPANY HAS FURTHER STATED THAT THE PREMIUM PAYMENTS WILL BE MADE ON ITS BEHALF THROUGH SMELTING COMPANIES OR OTHER AGENTS IN YOUR DISTRICT DESIGNATED BY METALS RESERVE COMPANY.

FOR THOSE WHO OPERATE IN THE TRI-STATE DISTRICT ONLY
Arkansas - Missouri - Kansas - Oklahoma

IN EFFECTING THE PROGRAM, METALS RESERVE COMPANY HAS STATED THAT IT WILL CAUSE PREMIUM PAYMENTS TO BE PAID ON PRODUCTION OF CONCENTRATES IN EXCESS OF THE RESPECTIVE QUOTAS AS LISTED BELOW - ON THE BASIS OF THE PRESENT CEILING PRICES, THE PREMIUMS PER DRY TON OF CONCENTRATES WILL BE:

ITEM (a)	60% ZINC CONCENTRATES F.O.B. MILL BIN (b)	80% LEAD CONCENTRATES F.O.B. MILL BIN (c)
"A" QUOTA	\$29.70	\$41.80
"B" QUOTA - AN ADDITIONAL	29.70 AN ADDITIONAL	41.80
"C" QUOTA - AN ADDITIONAL	29.70	

WITH AN ADJUSTMENT OF FIVE CENTS (5¢) FOR EACH VARIATION OF ONE-TENTH OF ONE PERCENT (0.1%) IN THE GRADE OF THE CONCENTRATES ABOVE AND BELOW 60%, WITH RESPECT TO ZINC CONCENTRATES, AND ABOVE AND BELOW 80%, WITH RESPECT TO LEAD CONCENTRATES. METALS RESERVE COMPANY HAS FURTHER STATED THAT THE PREMIUM PAYMENTS WILL BE MADE ON ITS BEHALF BY ITS AGENT IN YOUR DISTRICT.

ALL INQUIRIES CONCERNING THE PREMIUM PRICE PLAN SHOULD BE DIRECTED TO THE EXECUTIVE SECRETARY OF THE QUOTA COMMITTEE, PREMIUM PRICE PLAN FOR COPPER, LEAD AND ZINC, WAR PRODUCTION BOARD, WASHINGTON, D. C.

H. G. Batcheller
OPERATIONS VICE-CHAIRMAN
WAR PRODUCTION BOARD

BY *Landin F. Stubel*
EXECUTIVE SECRETARY, QUOTA COMMITTEE
PREMIUM PRICE PLAN FOR COPPER, LEAD & ZINC

G. W. Slocum
ASSISTANT ADMINISTRATOR, DIRECTOR
INDUSTRIAL MATERIALS PRICE DIVISION
OFFICE OF PRICE ADMINISTRATION

**PREMIUM PRICE PLAN
FOR COPPER, LEAD AND ZINC**

The Office of Price Administration Press Release PM-2458 February 9, 1942 outlined the rules and regulations of the Premium Price Plan.

Rule 13 of the Plan is hereby amended as set forth below, effective with receipts at processing plants on and after August 1, 1943.

RULE 13

Monthly production quotas, and monthly production for determining the amount of over-quota production on which premium metal payments are made, will be based on the following percentages for the respective metals, regardless of the percentages of the metals actually recovered or paid for under mine-smelter contracts or mill-smelter contracts, or mine-mill contracts:

A. For ores or other qualified materials shipped direct to custom mills, or other mills where co-mingling of ores (from several producers) prevents accurate allocation of metal contents of concentrates among the producers of ores, and for materials shipped to Waelz plants.

ITEM	PERCENTAGES OF TOTAL METAL CONTENTS OF QUALIFIED MATERIAL AS QUALIFIED BY PARAGRAPH C BELOW
COPPER.....	87%, IF COPPER IN LOT EXCEEDS 0.25%
LEAD.....	86%, IF LEAD IN LOT EXCEEDS 0.50%
ZINC.....	77%, IF ZINC IN LOT EXCEEDS 0.50%

Metal in lots in which the assay does not exceed the above-stated minimum limit for that metal shall be disregarded for premium purposes.

B. For ores, concentrates, or other qualified materials (except concentrates or other products produced under A) shipped direct to a smelter, or electrolytic reduction plant.

PROCESSING PLANT	PERCENTAGES OF TOTAL METAL CONTENTS OF QUALIFIED MATERIAL AS QUALIFIED BY PARAGRAPH C BELOW		
	COPPER	LEAD	ZINC
(a) COPPER SMELTER.....	97%	70%	0%
(b) LEAD SMELTER WITHOUT ZINC FUMING PLANT.....	85%	95%	0%
(c) LEAD SMELTER OPERATED IN CONJUNCTION WITH A ZINC FUMING PLANT.....	85%	95%	81%
(d) ZINC SMELTER, OR ELECTROLYTIC PLANT.....	70%	60%	90%

provided, however, that the copper, lead and zinc, respectively, contained in the individual lot is in excess of 0.50% copper, 1.50% lead, and 1.50% zinc, in shipments to (a), (b), and (d); and in excess of 0.50% copper, 1.50% lead, and 6.0% zinc, in shipments to (c). Metal in lots in which the assay does not exceed the aforesaid limit for that metal shall be disregarded for premium purposes.

C. Premium payments on over-quota production will be made to all shippers to a processing plant for any specific metal (copper, lead, or zinc) contained in all qualified materials shipped to that plant, on the basis of the percentages specified in A and/or B above, provided it is the practice of that processing plant to make payment to any shipper for some part of that specific metal (copper, lead, or zinc) contained in qualified material.

However, if it is the usual practice at any lead smelter, to recover in a zinc fuming plant the zinc contained in the lead blast furnace slag produced, premium payments on over-quota production of zinc in qualified materials shipped to that smelter will be made to all shippers to that smelter, on the basis of the percentages specified in paragraph B(c), provided that the zinc content of the individual lot exceeds 6%.

Special percentages other than those specified may be prescribed for shipments to custom mills making low recoveries.

D. The above metal percentages for premium payments do not relate to recoverable metals or actual recoveries at any particular concentrator or smelter, nor to the terms of private settlement contracts.

INFORMATION TO BE USED IN THE REVISION OF QUOTAS FOR NEW MINING OPERATIONS

NAME OF MINE

Grays Gulch

LOCATION OF PROPERTY

Cave Creek, 5.7 miles north of P...

NAME OF COMPANY

home

LOCATION OF COMPANY

DATE

Sept 28th, 1943

TO: War Production Board, Washington, D. C.
ATTN: The Executive Secretary of the Quota Committee
Premium Price Plan for Copper, Lead and Zinc

INSTRUCTIONS - One (1) original and three (3) copies of this form are to be filled out and sent to the above address. The term "tons" means dry tons of 2,000 lbs. The term "mine" means any mine, group of mines, dump, or other source of primary metal-bearing material for which a quota is to be revised. (All new mining operations receive zero A quotas upon application. "Revision" as used herein refers to the establishment of B or C quotas for such mines.) Only those questions or parts of questions applicable to the operation to be described should be answered.

1. DESCRIPTION OF PROPOSED OPERATION (DESCRIBE HERE IN GENERAL TERMS THE PROPOSED OPERATION, USING ONLY THE SPACE BELOW)

Property has been partially developed & is now ready to start small production of copper ore provided satisfactory price can be obtained for this metal. An estimate of mining cost is as follows. Mining 6.00, Trucking & R.R. 6.00, Royalty 1.00, Freight to Hayden 1.50, Smelter toll charge 3.50.

2. ORE RESERVE DATA AS OF THE MOST RECENT DATE AT WHICH ESTIMATED

DATE OF ESTIMATE

CLASSIFICATION	SHORT TONS	AVERAGE GRADE				
		OUNCES PER TON		PERCENT		
		GOLD	SILVER	ZINC	LEAD	COPPER
PROVEN	about 50	0.03	1.50	none	none	6%
PROBABLE	few hundred	similar to above	"	"	"	6%

DESCRIBE IN THE BLANK SPACE ON THE LAST PAGE OF THIS FORM THE BASIS UPON WHICH THE ABOVE ORE RESERVE ESTIMATES WERE MADE, SUCH AS CHURN DRILL RESULTS, ASSAYS OF SAMPLES, OR SHIPMENTS OF ORE.

3. PRODUCTION ESTIMATES

ITEM	DATE	ITEM	SHORT TONS
A. STATE ESTIMATED DATE WHEN PRODUCTION WILL BEGIN	Oct 1st 1943	C. STATE THE ESTIMATED MAXIMUM RATE OF PRODUCTION IN SHORT TONS PER 24-HOUR DAY, OF	
DATE WHEN MAXIMUM PLANNED RATE OF PRODUCTION WILL BE OBTAINED	Dec 43	(1) DIRECT SMELTING ORE	two tons
		(2) MILLING ORE	none
B. HOW MANY MEN (MAXIMUM) WILL BE REQUIRED TO PREPARE MINE AND MILL FOR PRODUCTION?		D. HOW MANY MEN WILL BE REQUIRED?	
(1) UNDERGROUND	none	(1) UNDERGROUND	2
(2) SURFACE	2003 at start	(2) SURFACE	1

3. PRODUCTION ESTIMATES - Continued

ITEM	GRADE OF ORE	CONCENTRATE CONTENT	OUNCES PER TON		PERCENT		
			GOLD	SILVER	ZINC	LEAD	COPPER
		ZINC CONCENTRATE					
		LEAD CONCENTRATE					
		COPPER CONCENTRATE					
		MILL RECOVERY					
		ZINC RECOVERY					
		LEAD CONCENTRATE					
		COPPER CONCENTRATE					

F. STATE IN THE TABLE BELOW THE ESTIMATED CHARGES AND NET SMELTER OR MILL RETURNS PER TON OF DIRECT SMELTING ORE, OR ORE TO BE SHIPPED TO CUSTOM MILLS, OR PER TON OF CONCENTRATES. NET SMELTER OR CUSTOM MILL RETURNS MEANS THE NET MONEY PER TON TO BE REALIZED FOR THE ORE AFTER FREIGHT AND SMELTER OR MILL CHARGES, ROYALTIES AND OTHER DEDUCTIONS, and does not include any premium payments either in the "A" range under zero quotas or in the other ranges. THEREFORE, IF THE SUM OF THE FREIGHT AND SMELTER OR MILL CHARGES WILL BE GREATER THAN SMELTER OR MILL PAYMENTS, WITHOUT PREMIUM PAYMENTS, SHOW HOW MUCH GREATER THE CHARGES WILL BE. LABEL THIS AMOUNT "DEFICIT".

ITEM	TONS	ITEM	FREIGHT CHARGES PER TON	SMELTER CHARGES PER TON	ROYALTY PER TON	NET SMELTER OR MILL RETURNS PER TON
ZINC CONCENTRATE		DIRECT SMELTING ORE OR ORE TO BE SHIPPED TO CUSTOM MILLS	\$ 1.50	\$ 3.50	\$ 1.00	\$ 12.00
LEAD CONCENTRATE		COPPER CONCENTRATES				
COPPER CONCENTRATE		LEAD CONCENTRATES				
		ZINC CONCENTRATES				

4. COST ESTIMATE

ITEM	MILLING ORE	DIRECT SMELTING ORE OR ORE TO BE SHIPPED TO CUSTOM MILLS	B. ARE THE ORE BODIES IN A VEIN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
EXPLORATION	\$	\$	IF SO: FEET
DEVELOPMENT			WHAT IS THE AVERAGE STOPPING WIDTH? 2
MINING		6.00	HOW LONG ARE THE AVERAGE ORE BODIES? 30
MILLING			IS THE DIP <input type="checkbox"/> FLAT OR <input checked="" type="checkbox"/> STEEP?
OTHER (Specify)			ARE THE ORE BODIES IN BEDS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO: FEET AVERAGE
TOTAL			HOW THICK IS THE ORE IN THE BEDS
			IS THE MINE OPENED BY A SHAFT <input type="checkbox"/> YES <input type="checkbox"/> NO. IF SO: FEET
			HOW DEEP IS THE SHAFT? Surface cuts
			HOW MANY WORKING LEVELS?
			IS THE MINE OPENED BY A TUNNEL? <input type="checkbox"/> YES <input type="checkbox"/> NO. IF SO: FEET
			HOW LONG IS THE TUNNEL?
			WHAT METHOD OF MINING IS USED? (FOR EXAMPLE - SQUARE SET, SHRINKAGE, CUT AND FILL)
			So far mostly surface mining from pits & benches

5. INVESTMENT ESTIMATES - SPECIFY UNDER THE GENERAL HEADINGS INDICATED ON THE FOLLOWING TABLE THE EXPECTED CASH INVESTMENTS REQUIRED. INCLUDE ONLY CASH INVESTMENTS SINCE JANUARY 1, 1942. OMIT CENTS.

ITEM	MADE TO DATE SINCE JANUARY 1, 1942	FURTHER ANTICIPATED ¹	TOTAL
EXPLORATION			
ORE-TESTING			
DEVELOPMENT (PHYSICAL WORKINGS ONLY)	1000	depends	
SAMPLING			
MINING PLANT (GROUP IN GENERAL CATEGORIES)			
Chapman also	500	in	
Small tests etc	500	primary efflu	
TOTAL MINING PLANT	2000	at least	
MILLING PLANT (GROUP IN GENERAL CATEGORIES)			
TOTAL MILLING PLANT	none		
OTHER			
TOTAL OTHER		depends on primary efflu	
TOTAL			

¹Amount necessary to reach rate of production described under 3-C above.

6. FINANCIAL CONDITION - ATTACH TO THESE PAPERS A RECENT STATEMENT OF CURRENT ASSETS AND LIABILITIES. IF YOU HAVE AN RFC LOAN OR OTHER TYPES OF LOANS, STATE:

AMOUNT YOU OWE ON LOAN	DOLLARS	WHEN DUE	DATE
	none		

IF YOU HAVE ANY ORE STOCKPILED FOR SHIPMENT OR MILLING, STATE:

ESTIMATED TONNAGE OF SUCH ORE	TONNAGE	ESTIMATED AMOUNT YOU CAN REALIZE ON IT	DOLLARS
	abd 30 ton		depends on price of efflu

7. DO YOU OWN THE PROPERTY? YES NO IF NOT:

WHO OWNS IT? E. S. Bettler & H. M. Jones of Phoenix	DOES THE ROYALTY APPLY ON THE PURCHASE PRICE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO. IF SO, STATE:
WHAT ROYALTY WILL YOU PAY? 10%	PURCHASE PRICE 50,000 DOLLARS
% OF NET SMELTER RETURNS	IF OTHER BASIS, DESCRIBE

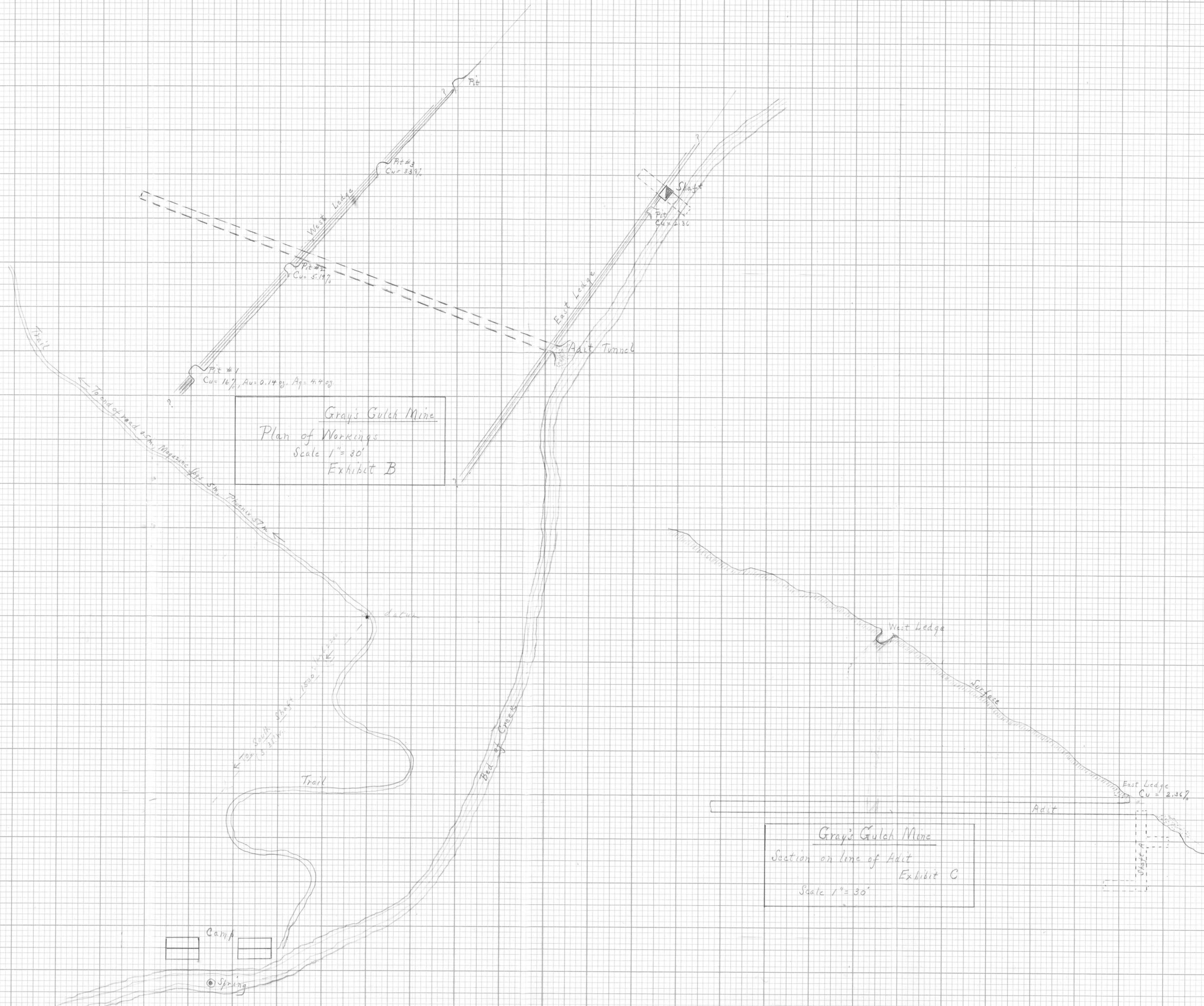
8. ARE THE ORES TO BE MINED MOSTLY OXIDIZED ORE? IF SO, STATE WHAT RECOVERIES ARE EXPECTED.

Ores are partly oxidized & partly sulphide, these will be shipped crude to the smelter which can be expected to recover the usual percentages.

CERTIFICATION - THE UNDERSIGNED COMPANY, AND THE OFFICIAL EXECUTING THIS CERTIFICATION ON ITS BEHALF, HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS CORRECT AND COMPLETE TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

NAME OF COMPANY: none BY: Herbert H. Brown
 DATE: Sept 25th 1943 TITLE: Lessee

SECTION 35(A) OF THE UNITED STATES CRIMINAL CODE, 18 U.S.C. SEC. 80, MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

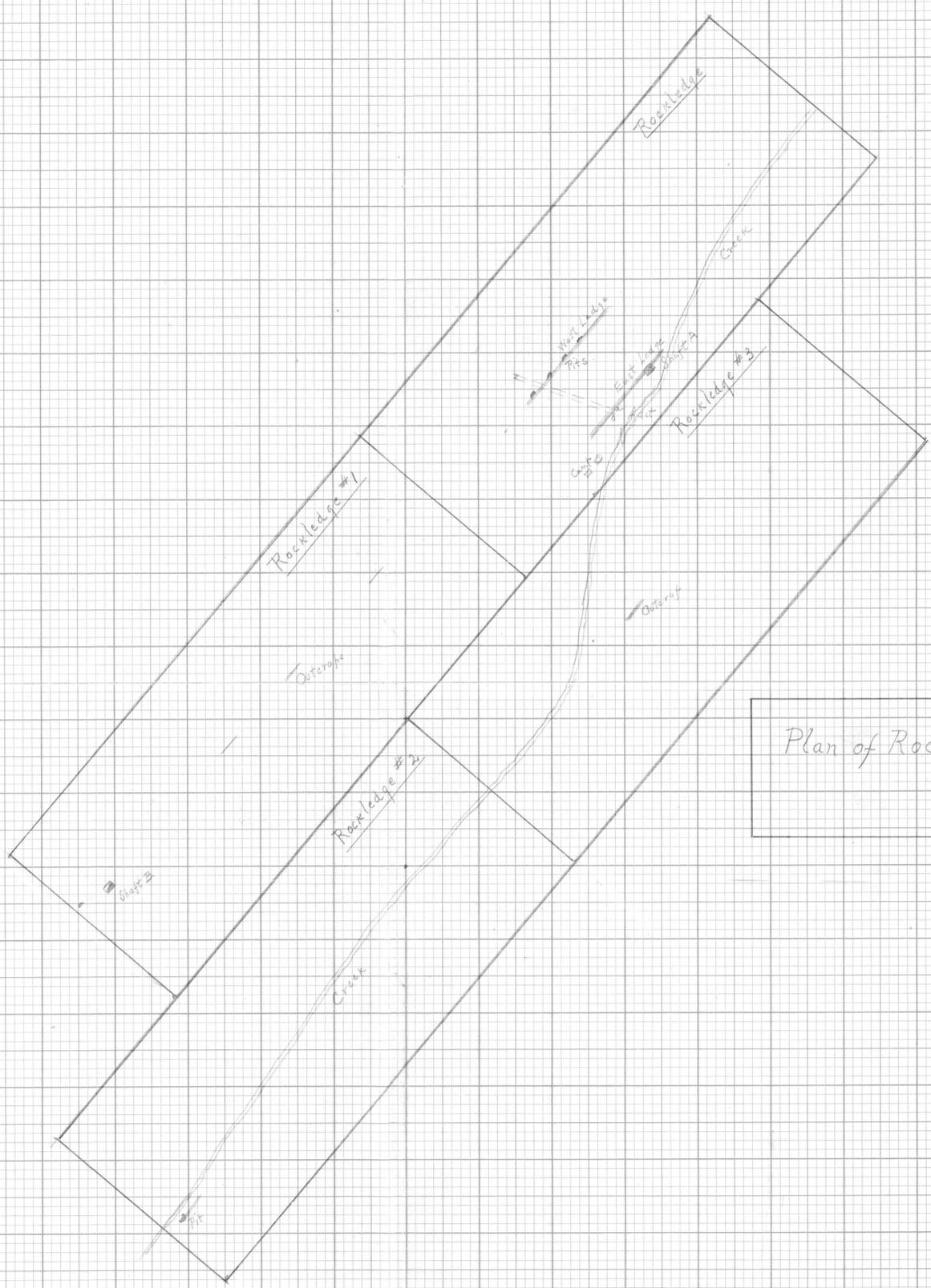


Gray's Gulch Mine
 Plan of Workings
 Scale $1" = 30'$
 Exhibit B

Gray's Gulch Mine
 Section on line of Adit
 Exhibit C
 Scale $1" = 30'$

30' = 1"

Scale $1" = 30'$



Plan of Rockledge Mining Claims
Grays Gulch
Scale 1"=200'