

CONTACT INFORMATION

Mining Records Curator Arizona Geological Survey 1520 West Adams St. Phoenix, AZ 85007 602-771-1601 http://www.azgs.az.gov inquiries@azgs.az.gov

The following file is part of the

Arizona Department of Mines and Mineral Resources Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

PRINTED: 09/21/2001

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: HUMBOLDT TAILINGS

ALTERNATE NAMES:

VAL VERDE MILL TAILINGS

YAVAPAI COUNTY MILS NUMBER: 994A

LOCATION: TOWNSHIP 13 N RANGE 1 E SECTION 23 QUARTER NW LATITUDE: N 34DEG 29MIN 54SEC LONGITUDE: W 112DEG 13MIN 51SEC

TOPO MAP NAME: MAYER - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

COPPER SILVER

BIBLIOGRAPHY:

USGS MAYERQUAD

ADMMR HUMBOLDT TAILINGS FILE

et s

United States Senate

DEPT. MINERAL C.E MEMORANDUM

Oct. 16

PHOENIX, hope my memo on the Dunning matter was sufficiently clear.

If not, inquire further.

I just want to be sure that I have the full story with checked data before asking for the case to be reppened, and all possible further information to show a larger sized operation than Dunning's application seemed to indicate.

I believe that the examiner told me the sampled dump as he calculated it only measured about 18,000 tons, which is a small operation, considering the low grade.

Bill

United States Senate

MEMORANDUM

July 2, 1942

Please refer to my memo of June 19th,

SUBJECT: Dunning Lease

Power Quota

Bill



Designation	Outline of Plan	Positive Tonnage	Copper Assay Cu # per ton	Mill Recovery	Smetler Recovery	Total Ibs Cy to be produced
Ά΄ ⑦	Direct shipping "as is". Requires considerable stripping	1000 D	% 175 # 35	No mill	97%	34000 00
"Α" I	Direct shipping with 64 additional premium Requires considerable stripping	2000 D	% 150 # 30	No mill	97%	
	Milling with short water and no grind. 4-5 hours per day. Some stripping		% 1 25 # 25	57% P	97%	120000 00
"B" I	Same as "B" with 6° additional premium	17,000	9 110 # 22	5776 4	97%	206 000
1'0"	Milling (150 tons day) with adequate water and grinding. No stripping.	32,000	% 78 ± 3 15.6	78% B	97 %	380000
"C" I	Same as "C" with 64 additional premium. Includes Tonnage from lower dam.	64,000 (b)	% 69 ± 6 13.8	78 % 6	97%	665000
0 0 0 0 0 0	Figures in Blue ref. Cutlined from layer Smelter- Metals Reser Combination Yost and Crabtice tests of Ma Yost report and Cra Herzogs sampling of dam-combined with Can handle on ow Requires R.F.C. loo	san ve ba laye 1943 btrees 1936 w	poling. sis. r sampling tests for to hich included			

Market Tacking

December 27, 1943

Mr. C. H. Dunning Route 1 Phoenix, Arizona

Dear Chuck:

Many thanks for the copy of the letter of December 24 to Landon F. Strobel. I believe you have presented your case very fully and if that does not get an increase in your advanced premium, I don't know what to recommend.

I believe Bill Broadgate will go to work on it and with the data you present will be fully armed to get favorable consideration.

Yours very truly,

J. S. Coupal, Director

JSC:LP

I sert a eggy to Sil

PHOENIX ARIZONA

Dec 24th DETAMERAL RESOURCES

PHOSM

DEC 27 1943

Mr. Landon F. Strobel, Exec Secy., Premium Price Plan for Copper, Washington, D. C.

Dear Sire-

I have yours wires of Dec 22nd and 23rd in further regard to my application for a special copper premium at Humboldt.

By withdrawing a portion, constituting the heaviest portion of the feed, with a classifier, experiments show the followings 25% heavies will contain 33% of the total values. 33.3% heavies will contain 50% of the total values. 50% heavies will contain 60% of the total values. The most economical point seems to be to set the classifier to withdraw about one third of the feed.

The classifier overflow would constitute the flotation head and we find that the extraction on this feed by flotation is higher than when floating the entire feed because much of the material most difficult to float has already been removed. This extraction is approximately 66.6% of the copper and silver (lower on the gold) and the ratios of concentration on such feed is about 15 to 1.

On an attached sheet I have worked out a typical case, showing the two steps and the combined concentrate and its smelter value. In this case I have used a head assayings Gu .90%; Au .03; Ag .40. This is slightly less than the assay value of the remaining workable material but it will be necessary to work material down to this assay as a minimum limit. It is my thought that a premium should be set to permit such minimum material to be handled on a "break even" basis without operating loss. Then such higher grade material as there is could yield a small margin og profit to help wipe out the investment.

In regard to operating costs my costs have risen considerably since my first application. I am paying \$1.00 per day more wages than at that time and because of the "over-age" or lack of ability of the labor it is often necessary to hire an extra man. Hany other items are also higher but power and reagents remain the same. The figure of milling costs as set forth in my original application was \$1.71. If I am to continue to work as heretofore this should be increased to \$2.00. But if I install the method suggested it can be lowered to \$1.70 on account of the increased capacity. I have used the \$1.70 figure in the calculations on the attached sheet.

I believe that I am producing more copper per unit of man power than any other mine in ARisona and also that I am the lowest grade copper producer. But in spite of this I receive the least premium of any mine that was started as a war effort.

ROUTE NO. 1 PHOENIX, ARIZONA

I am also enclosing copy of my most recent smelter settlement on a concentrate shipment. This is the result of about a 12 to 1 ratio of concentration by straight flotation on an original head assaying t Cu 1.0%; Au .04; Ag .40. Extractions work out Cu and Ag about 50%, Au 25%. I am not getting quite the gold extraction shown by laboratory tests but everything else has worked out identical.

I have gone into this proposition in good faith - largely as a war effort. I have spent some \$7000 in equipment and other necessary items. I have not made any money. But I have produced around 100,000 lbs of copper and have kept going in spite of turn downs by the RFC and by yourselves. I shall continue to produce even if it is necessary to take further lesses. I can hardly hoper to come out whole on the investment, considering the limited life of the project, but I think I should be given as much relief as possible.

Yours Very Truly.

a fa a litar ficance or breeff a

ROUTE NO. 1
PHOENIX, ARIZONA

TYPICAL CASE

Concentration by classification followed by floating classifier overflow.

One 100 tons original feed.

Item	Assay	Metal Quantaties.			
Heads 100 tons	.90%(18∯)	Au Ag •03 •40	Cu 1800	8.0	Ag 40.0
33.3 tons classifier "heavies" containing 50% total values	1.38%(27#)	.045 .60	900	1.5	20.0
66.6 tons classifier overflow flotation heads	.675%(13.5/	0.0225 .30	900	1.5	20.0
Flotation concentrates 15 - 1 66.6% extraction	6.75%(135%)	.14 3.0	600	•62	13.0
Combined concentrates 37.78 tons	2.0% (40#)	.058 .85	1500	2.12	33.0
Final tails 62.12 tons	.24%(4.8#)	.014 .11	300	.88	7.0
Overall extraction Ou 83%	Au 70%	Ag 83%			

Value of Combined Concentrate: At smelter contract:

Gold Goppers	40# - € •058	# dquals at 32.12	32# at	9.2756	2.97 1.87
Silver	.65 at	.61		8 * 15	5.36
Loading,	freight	and tree	eseme		4.50

Total for 37.78 tons is \$32.20 or \$0.32 per original ton.

Operating cost of \$1.70 per original ten leaves \$1.38 deficit per original ten to be made up with premiums. At 14 lbs per ten recovered this would require total premiums of .10 per lb., or .05 extra premium in addition to the regular .05.

December 20, 1943

CONFIDENTIAL

TO: Bill Broadgate

C. H. DUNNING HUMBOLDT TAILINGS PREMIUM PRICE

You will recall at one time Dunning was asked to get a letter from the smelter saying that his material was necessary. He was unable to get the letter although it was admitted that the material was desirable in personal conversation.

The main difficulty in getting this letter was that the mechanical condition of the tailings and that the smelting charges were rather high and the company could not make much money on an increased tonnage shipment from Dunning. They are, however, treating a very similar product from the Copper Chief tailings.

Due to the fine condition of the tailings they had to be placed in the reverberatory at an early stage increasing the cost of treatment and could not be added at a later stage due to a large percentage of the material being blown out into the stack. The chemical composition of the tailings is such that they are beneficial in the reverberatories.

There was a difference of opinion by the metallurgists at the smelter, one claiming that there was a need irrespective of the increased cost in handling these tailings and the other feeling that they should not encourage the acceptance of fine ores where the treatment costs were such that there was little or not profit in handling them.

For this reason Dunning was unable to get the required letter from the smelter and they were not particularly anxious to see his production stepped up.

December 20, 1943

MEMORAN DUM

C. H. DUNNING HUMBOLDT TAILINGS PREMIUM PRICE

TO: W. C. Broadgate

FROM: J. S. Coupal

I just had a long visit with Chuck Dunning and would like to make a few comments. He has continued working under the 1.2 cent advanced premium granted. I could never quite understand the reason back of such a small premium.

Dunning states and shows figures that if his operations ceased today or if he decided to quit and clean up only the hot spots occurring on the tailings pile, he would still be about \$5,000 in the red and could probably produce an additional 15,000 to 20,000 pounds of copper. If he was granted a 3.8 cent increase advanced premium which would mean 5 cents plus 17 cents, or 22 cents a pound for his copper, he could within a year's time produce about 200,000 pounds of copper from the 12,000 tons of ore he could treat. He has been treating these tailings at a very low cost and at a high production per man pound of copper.

He presented two settlement sheets November 11 and December 13, 1943, respectively 41 tons of concentrates 6.68% copper, and 50 tons of concentrates 8.40% copper.

This case of the Humboldt tailings has been worked on since March, 1942 and Dunning has made application for an advanced premium and was advised only last month that it was being considered. It would seem as though a determination of this could be made so that Dunning might know whether or not to make his plans so as to partially bail himself out, that is, concentrate on the hot spots in the tailings deposit and then salvage the equipment. This would leave him still in the red.

Dunning has stuck by this, probably more from a sense of pride in his work. He stated that he could make it go and despite difficulties has done a good job and has produced a sizeable amount of copper with the expenditure of a comparatively small amount of money.

A slight increased advanced premium, which I believe he is as well entitled to as many of the operators who have been getting prices up to close to 27 cents per pound, would allow him to add about 2,000 pounds of copper to our copper production and allow him to bail out and get out of the red. It seems as though personalities or early decisions must have tempored the recent indecisions on this case.

You know the situation and the parties concerned and if you find it advisable, I would like to see some pressure exerted so that a decision might be rendered, that is, a definite statement saying an advanced premium cannot be granted and the reasons therefor, or a granting of the slight advanced premium applied for.

Liveladide

November 12, 1943

Mr. C. H. Dunning The Mountain Club Prescott, Arizona

Dear Chuck:

I have just received the following memorandum from ... Bill Broadgate:

"Please inform Dunning that I am having the Copper Division set up his project according to the new plan he proposed and that they will give it most sympathetic consideration."

Whereas there is a change in the Government policies as far as Government aid on copper properties after December 31, 1943, I believe the new policy will in no way affect any operations now under way.

Yours very truly,

J. S. Coupal, Director

JSC:LP

Washington, D.C. Nov. 10, 1943



SUBMECT: Dunning's Humbolt Operation

Please inform Dunning that I am having the Copper Division set up his project according to the new plan he proposed and that they will give it most sympathetic consideration.

Bill Broadgate

The state of the s

October 18, 1943

Mr. C. H. Dunning Route 1, Box 1134 Phoenix, Arizona

Dear Chuck:

I have just received a memorandum from Bill Broadgate accompanying your letter of October 12. His memo reads as follows:

"Will you tell Chuck Dunning that he can do nothing without this letter and time is running fast against him."

It seems as though it is up to you to get that letter to Washington as quickly as possible as there is a big amount of uncertainty as to the future and some retrenghment may be in order on granting advanced premiums even on copper. It is now effective on lead and zinc so action should be the key note.

Yours very truly,

J. S. Coupal Director

JSC: JES

c.c. Humboldt, Arizona

ROUTE NO. 1
PHOENIX, ARIZONA
Oct 12th, 1943

Mr. W. C. Broadgate, Was hington, D. C.

Dear Bill:-

I have been having one devil of a time trying to get a desired letter out of the P.D. Co. Some time ago I had a talk with Byrkit and he agreed to write me such a letter. When the letter came it was a letter saying that he was sorry but after further consideration they had decided that they couldn't write such a letter.

I went back up there and got Pullian and Byrkit together and finally got, of them the reason why. It seems that the material I propose to ship is very desirable chemically but undesirable mechanically. They cant feed it direct to converters where they want high silica because of high dust losses. They say it costs them \$1.00 per ton more to smelt it when \$1 has to go through the usual process preliminary to the converters. However they will take it and maintain my present contract of 8 pound deduction.

On the other hand the Metals Reserve attitude that it might inhibit the smelting of better material is not true. The Clarkdale smelteris not running to top capacity and has little chance of doing so. They want and need this material but are afraid they will lose money handling it. They suggested that they might increase the smelting rate and then ask for enough extra premium to offset the increase but that sounded like a goofy idea to me and one that defeat its own purpose.

Finally Pullian said to leave the matter with him for a few days and he would write me some sort of a letter. So I will wait and see what I get.

It doesn't see to me that the smelteris always very consistant in such matters. In the case of Schemmer operating the Commercial they went to the bat for him and got him a 4 c extra premium and they give him a contract with a 4 lb deduction. His ore runs 12 - 14% alumina which is exceedingly bad. It runs about the same in copper as the material I propose to ship. But they own the mine. Then there is the Copper Chief tailings which they bought. They run about the same as my tailings except only about .5% Cu. It cost them the same to haul them as the freight from Humboldt. Their mechanical situationwas identical. They smelted them all. But they owned them.

As soon as I hear from Pullian I will set up the proposition and send to you. I am going to have to increase my cost estimate over the original set up. I am now having to pay \$1.00 per day more than I did for labor. But my worst item of costs are those costs incident to operating delays. And nearly all these delays are due to trouble keeping a "cat" operator. It

out

PARTONAL SALIMA NUMICHA

seems as if I am shut down half the time looking for a new cat operator. I may have to pay wages in line with Government work in order to keep one.

Outside of that the little project at Humbolt is going quite well. But throwing away so much copper in the tailings hurts me.

Yours Sincerely,

Chan Hormany

W

ROUTE NO. 1
PHOENIX, ARIZONA

Sept 1

DEPT. MINERAL RESOURCES

SEP 29 1942

PHOENIX

ARIZONA

Mr. W. C. Broadgate, Hotel Harrington, Washington, D. C.

Dear Bill:-

I am enclosing herewith letter and exhibits for the premium price board, with copy for yourself. I thought it might be better for you to present this personally, and have a chance to talk it over, rather than for me to mail it.

Sam sent me excerpts from your letter regarding my premium application but I have been waiting until I got the settlement sheet on the trial car of crude tailings I shipped, and I also wrote the smelter and asked them to send me a letter confirming our conversation regarding their great need of this class of material and offering an unusual deal on account of that need.

I have just received the smelter sheet but have not received the letter. Perhaps they do not want to write such a letter because Byrkit told me they never deviated (that is hardly ever) from that 10# copper deduction, but would do it in my case because they wanted that silica so much. Furthermore thay can put this material directly into the converter, which gets are ound other bottlenecks. He almost swore me to secrecy in regard to it, and perhaps they do not want to publicize the matter with a letter. On the other hand I cant do otherwise than lay the cards on the table with the government. I will go up there again this week and have another talk - and perhaps a letter.

In the meantime however their need of this material is self-evident and their offer is demonstrated by the letter from Byrkit which I have quoted in the letter attacked to the settlement sheet.

I will await the results of your efforts and please address me at Humboldt. I have moved the family back to Phoenix but spend most of my own time at Humboldt.

Yours Sincerely,

Copy to Sam.

Chafforming

DEPT. MINERAL RESOURCES
RECEIVED
SEP 29 1943

Sept. 26, 1943

Hotel Harrington Washington, D.C.

Mr. Chas. H. Dunning, Humbolt, Arizona.

Dear Chuck

As per your request. I have handed your application to Strobel.

However, this is not the place where the deal is blocked, as it is on the approval of the Copper Production Section that action of the Quota Committee depends and they set the specifications.

The fact that you have a concession on copper deductions should help. I do not know whether the rates and deductions are sufficient to show strong desire on the part of the smelter for the material.

Certainly your case is weakened if you cannot get a letter out of the smelter, as it has been our experience the smelters are generally quote willing to give such letters. Many have passed through my hands. The Copper Division is well aware of this also. The quotation from Byrkit certainly is not sufficiently clear to serve the purpose. I should think.

When I get a further reaction I shall let you know. In the meantime while I am trying to get favorable action, get that letter.

Sincerely,

W. C. Broadgate Asst. Director CHARLES H. DUNNING MINING ENGINEER ROUTE NO. 1 PHOENIX, ARIZONA DEPT. MINERAL RESOURCES Sept 18, 1943 WECE, NED SEP 21 1943 Mr. W. C. Broadgate, NAME OF Hotel Harrington, Washington, D. C. I am emolosing herewith letter and exhibits for the ENDENIX Dear Bill: premium price board, with copy for yourself. I thought it might be better for you to present this personally, and have a chance to talk it over, rather than for me to mail it. () (人) () Sam sent me excerpts from your letter regarding my premium application but I have been waiting until I got the settlement sheet on the trial car of crude tailings I shipped, and I also wrote the smelter and asked them to send me a letter confirming our conversation regarding their great need of this class of m terial and offering an unusual deal on account of that need. 1 144 $h(h,y)(t^{2})$ I have just received the smelter sheet but have not received in Marie the letter. Perhaps they do not want to write such a letter because Byrkit teld me they never deviated (that is hardly ever) from that 10# copper deduction, but would do it in my case because they wanted that silica so much. Furthermore they can put this material directly into the commerter, which gets armound other bottlenecks. He almost swore me to secrecy in regard to it, and perhaps they do not want to publicize the matter with a letter. On the other hand I cant do otherwise than lay the cards on the table with the government. I will go up there again this week and have another talk - and perhaps a letter. In the meantime however their need of this material is self-evident and their offer is demonstrated by the letter from Byrkit which I have quoted in the letter attached to the settlement sheet. I will await the results of your efforts and please address at Humboldt. I have moved the family lack to Phoenix but spend most of my own time at Humboldt. Yours Simerely. Copy to Sam.

HE TELL

Mr. Landon P. Strobel, Ruse Senye, Premium Price Plan for Gopper, 6428 Pemb House, Railroad Retirement Bldge, Washington, D. C.

PHOENIX, ARIZONA

CSOURCES

DEPT. MINITED TO SEP 21 1943

SEP 21 1943

SEP 21 1943

Dear Sirte

About July 1st, 1944 I filed with you an application for a special promism on copper, for my operations at the Hamboldt tailings dump.

A premium of 8.0 s per 1b was requested in order to permit the direct shipment to smelter of the bulk of these tailings and thus produce copper that is now being wasted in lesses made by remillings Subsequently you granted me an entra premium of 1.2 s but such a premium does not permit direct shipments and therefore does not put into useful channels the copper lest in remillings

About this time I talked the matter ever with the Supt of the Pheips Dodge Smelter at Clarkdale and he tald me that they were very anxious to have this material shipped direct an account of its silion content. They are in great need of high cilion cres in order to smelt their can high iran-copper cres. They often have to use cres containing me copper(or copper around .20% such as the Copper Chief tailings, which they can) in order to obtain anough silion, and it soums a shame to waste smelting capacity on non-copper cres if ore containing 20 to 50 lbs copper, and just as much silion, is obtainable.

I told him I expected to get an extra premium that would permit the shipment of an everage of 1:17% copper ore but that it would also be necessary for them to came down on their copper deduction from 10 lbs to 8 lbs per ton. This he agreed to do provided the combined iron and alumina was below 14%.

the returns from same. A copy of this settlement sheet is attached because, with sertain corrections and calculations attached to same.

milling since the filing of my application in July here been exactly the same as stated or anticipated in that application. Mill heads have been la20% one extraction 50%; capacity 6.5 tens per hours operating costs \$1.20 per ten plus marketing expense. This gives a tailings loss of copper of 68 lbs for each hour of operation.

In the light of the fact that the amplier is in such need of this material and the chipment of it will not only put to useful purposes its own copper now being wasted, but will also enable the smalter to produce more copper from other eyes on account of its silice content, I ask that my premium application to reconsidered and the premium requested be allowed.

ROUTE NO. 1 PHOENIX, ARIZONA

DEPT. MARTIN IN SOURCE

Corrections and Analysis regarding attack d settlement shoots 21 1943

The smelter accounting office did not know that the management had agreed to give me an eight pound copper legistion instead of ten pounds as the sheet shows. In this regard I received in the next mail from Mr. J.W.Byrkit, Smelter Supt., the following letter:

I believe that your settlement sheet went out today on car of tailings. Deduction was 10# although combined iron and alimina was less than 14%. If you will please return these sheets I will ask the accounting department to issue revised sheets in acco dance with our agreement.

(signed) J. W. Byrkit.

This correction will make a difference if \$.19 per ton on the settlement, leaving a deficit of \$.02 per ton before freight.

Freight amounts to \$1.03 per wet ten or #1.12 per dry ton. Operating costs including stripping, loading, overhead,

royalty, etc amount to \$1.53 per ton (see eriginal application)

The total deficit is therefore \$2.47 per tem. To this
must be added a minimum operating m rgin of \$.50, mking a total
of \$2.97 to be made up with total premiums on 21# of copper.

This particular ear would require 9 6 extra premium to yield the operating margin of \$.50. But this particular car is slightly lower in copper than the average ore available (1.05% on instead of 1.17% ou). Furthermore if the plan of a rough classification followed by floating 50% of the finer ground heads were inaugerated, operating costs would be lowered so that the 8 a permium requested would be satisfactory.

September 14, 1943

Mr. C. H. Dunning The Mountain Club Prescott, Arizona

Dear Chuck:

New Comments

I have just received the following memorandum from Bill Broadgate regarding your operations:

"I sent you a copy of a letter I wrote Dunning on his premium.

"I never had a word from him re the suggestions made about getting a low smelter rate and a letter of necessity from the smelter.

"The Copper Division will be pleased to open the case for me to get him a still higher price for shipping if he will furnish the desired information."

You may or may not want to furnish the additional information but if you desire to try for a higher price on your shipping ores, it seems as though you must supply the information they ask.

Yours very truly,

J. S. Coupel, Director

JSC:LP

Sept. 10, 1943

Washington, D. C. DEPT. MINERAL RESOURCES

SEP 13 1943

PHOENIX,

110H

SUBJECT: C. H. Dunning tailings operation.

I sent you a copy of a letter I wrote Dunning on his premium.

I never had a word from him re the suggestions made about getting a low smelter rate and a letter of necessity from the smelter.

The Copper Division will be pleased to open the case for me to get him a still higher price for shipping if he will furnish the desired information .

Bill Broadgate

Humbell Touling

DEPT. MINERAL RESOURCES

AUG 28 1943

PHOENIX,

Hotelian

Hotel Harrington Washington (4), D.C.

Mr. C. H. Dunning, Route 1, Phoenix, Arizona.

Dear Chuck.

I had a memo from Sam Coupal on your case, and then your letter.

I am not at all puzzled at the decision on quota which you received, although I did not know the details of the application at the time I wired Sam.

Unquestionably, your request was turned down and the 1.2¢ was allowed because the Quota Committee did not want you to ship, but wanted to give you a little more margin on your milling operation as a sop.

In departmental circles here, it is not believed that you can average better than 1% heads over any quantity of tailings. The policy is not to ship copper smelters flux unless it contains better than 1% unless no other can be obtained, as this will displace other copper and cause bottlenecks at smelters, the output of which is the item of importance. More than the 600 pound loss you assume may be incurred in immediate production. I think this theory adequately explains the theory under which the boys operate.

Now for a suggestion of what can be done. If the smelter will write a sufficiently strong letter of necessity for the flux, and implement it with a goodfaith showing of a very low rate and small copper deficiency deduction, you can, armed with this, approach the Quota Committee again with pretty good chances for success.

I am sorry that you are having such a struggle, but the cards are stacked against you under present WFB policies which, of course, affect RFC.

Sincerely,

W. C. Broadgate. Asst. Director

She found fundation

ROUTE NO. 1
PHOENIX, ARIZONA
Aug 22nd, 1943

Mr. W. C. Broadgate, Hotel Harrington, Washington, D. C.

Dear Bill:-

I was in Phoenix yesterday and called up Sam Coupal and told him something of my Washington troubles, especially that I had a copper premium application for Homboldt pending, and had been unable to get a satisfactory reply. I red him Mr. Strobles letter of August 6 which I will requote harewith:

"Your telegram of August 2, 1943 is acknoledged herewith and I beg to advise that on August 2, 1943 the Committee acted upon your request for a quota revision for a special quota for copper. Official notification of same will be sent you within a week or ten days."

When I got back to Prescott last night I found that the special premium had come through, accompanied by the following letter from

Believe it or not this is verbatim. Perhaps you have now had enough Washington experience so you can decipher such a masterpiece of English - I cant.

the premium application which I made on July 5th. I do not have an extra copy and I do not know what the custom is there, so I will enclose an order which you can use if desired.

In any event here is a summary of the application and situation. Following last summers attempted operation on the Humboldt tailings I did a great deal of boring and sampling with view to laying out special areas or tannages that would be sufficiently high grade to work at a profit with my present milling facilities. This sampling was quite successful and I found that with some stripping and the elimination of some margins I could provide a mill head considerably higher than the general average and still have a worthwhile tonnage. So I revamped the mill somewhat and provided myself with a water supply that is ample for one shift. I do not have any grinding facilities (the RFC loan application which would provide same is still pending after a year) and I only get 50% extraction, but I make \$.56 per ton operating margin on a 1.17% cu head. On 50 tons per day this throws 600 lbs of copper per day down the gulch. To ship this same material direct to the smelter I would have to have 8.2¢ per 1b extra premium, in order to leave me the same \$.56 operating margin as I am now obtaining by milling, but that great waste of copper would go into war production instead of down the gulch. Furthermore the smelter is particularly anxious for this crude material as it runs 77% silica, whereas they dont like the irony concentrates.



So I made premium application accordingly, asking for 8.6 extra premium for direct shipping, and the entire situation was set forth in considerable detail in the application.

Now they come forth and give me 1.2¢ for milling which accomplishes nothing toward the production of more copper although it does give me about 12¢ per ton more for my mill products and thus enables me to operate on a slightly lower head. How they arrived at the 1.2 ¢ I cannot imagine. Sometimes I think it must be a typographical error and they intended to give me the 8.2¢ the figures show as being required.

..When I made the application in July I expected to abandon milling altogether if the 8¢ were granted. But in the light of operating experience since then it is evident that even with such a premium I should still do some milling, because I have a considerable quantity of marginal material that would not stand direct shipment even with the 8¢, but would pay to mill if the premium also applied to milling, and would produce that much extra copper over and above original estimates. Furthermore both shipping and milling could be carried on at the same time with reduced overhead. If the 8¢ were granted for both shipping and milling I would plan to ship all material over 1.0% cu and mill all under that. My mill heads would probably be about .75% cu but I could make a slight margin on such ore with the 8¢ if I were direct shipping at the same time.

One other point comes up. I have two spots in the dump totalling about 5000 tons that I cannot mill although they average 1.17%cu. One is too highly oxidized and the other is too coarse to float without regrinding. They would ship 0k with the 8¢ but have to go to waste without it.

As soon as you get into this I wish you would wire me at Prescott and keep me well informed by wire at my expense. A certain amount of basic planning is necessary and the delays and indecision have been very expensive and annoying. With train service to Humboldt once a week I have to order cars two weeks ahead. The most important flotation reagent (Minerec) can only be obtained from New York City so you can imagine how much forethought that takes, and men cant be picked up or laid off on the spur of the moment. So I need to know where I stand. When I received Mr. Strobel's letter of August 6th, which is quoted above, I assumed, although he didnt say so, that the committee action was favorable and according to my application. So in order not to lose any time I immediately proceeded to build two loading ramps and even ordered cars spotted for this week. But I cant ship 1.17% copper on a 1.26 premium.

With best regards,

Yours Sincerely,

C/c to Sam Confal.

Charlet During

PHOENIX, ARIZONA
Aug 22nd, 1943.

Executive Secretary,
Premium Price Plan for Copper,
6428 Pent House, Railroad Retirement Bldg.,
Washington, D. C.

Dear Sir:-

Will you please allow Mr. W. C. Broadgate to study my application for a special premium on copper. made July 5th, 1943, and discuss the matter with him.

Yours Very Truly,

The ADuring

And Market Market

August 23, 1943

Mr. Charles H. Dunning The Mountain Club Prescott, Arizona

Dear Chuck:

Many thanks for the copy of your letter of August 22 to W. C. Broadgate.

I have just received a wire from Broadgate which I quote as follows:

"Dunning given one point two cent advance on zero quote retroactive to July first. Should have notification by now."

Evidently the 1.2 was not a typographical error and that is your advanced premium on copper. I can readily see that it will do little or no good to you and I think we had best continue to follow up and drive at them to let them know that the 1.2 advance is of so little value. Bill Broadgate may have some comments to make after he received your letter.

There is another matter I would like to take up with you. During the past year you have had good reason to kick on account of the delays and the pushing around you have received from the various Washington agencies. The only way we can get action in Washington is by presenting specific instances showing the inefficiency of the manner in which their business is conducted.

I would like very much to have in our files and be able to send to Washington a chronological history of your dealings with these agencies and that means both the R.F.C. and the Cuota Committee. In such a history I would like the dates from time to time and the high lights of the reactions and replies that you have received.

The Mountain Club Prescott, Arizona

August 22nd, 1943

Mr. W. C. Broadgate Hotel Harrington, Washington, D. C.

Dear Hill:-

I was in Phoenix yesterday and called up Sam Coupal and told him something of my Washington troubles, especially that I had a copper premium application for Humboldt pending, and had been unable to get a satisfactory reply. I read him Mr. Stroble's letter of August 6 which I will requote herewith:

"Your telegram of August 2, 1943 is acknowledged herewith and I beg to advise that on August 2, 1943 the Committee acted upon your request for a quota revision for a special quota on copper. Official notification of same will be sent you within a week or ten days."

When I got back to Prescott last night I found that the special premium had come through, accompanied by the following letter from Mr. Strobel:

"Effective July 1st, 1943, your quotas have been revised as follows:

	//	$\mathbf{Zn} \setminus {}^{\uparrow}$	Pb	Cu
A Quota	Contraction of the Contraction o	0	0	0
Special at	1.20	- /	-	0

These quotas are so revised in the expectation that they will enable you to mill the tailings to your present mill facilities in obtaining that operating margin."

In order for you to understand the situation you should review the premium application which I made on July 5th. I do not have an extra copy and I do not know what the custom is there, so I will enclose an order which you can use if desired.

In any event here is a summary of the application and situation. Following last summer's attempted operation on the Humboldt tailings I did a great deal of boring and sampling with view to laying out special areas or tonnages that would be sufficiently high grade to work at a profit with my present milling facilities. This sampling was quite successful and I found that with some stripping and the elimination of some margins I could provide a mill head considerably higher than the general average and still have a worthwhile tonnage. So I revemped the mill somewhat and provided myself with a water supply that is ample for one shift. I do not have any grinding facilities (the RFC loan application which would provide same is still pending after a year) and I only get 50% extraction, but I make \$.56 per ton operating margin on a 1.17% cu head. On 50 tons per day this throws 600 lbs. of copper per day down the gulch. To

To ship this same material direct to the smelter I would have to have 8.2¢ per lb. extra premium in order to leave me the same \$.56 operating margin as I am now obtaining by milling, but that great waste of copper would go into war production instead of down the gulch. Furthermore the smelter is particularly anxious for this crude material as it runs 77% silica, whereas they don't like the irony concentrates.

So I made premium application accordingly, asking for 8.¢ extra premium for direct shipping, and the entire situation was set forth in considerable detail in the application.

Now they come forth and give me 1.2¢ for milling which accomplishes nothing toward the production of more copper although it does give me about 12¢ per ton more for my mill products and thus enables me to operate on a slightly lower head. How they arrived at the 1.2¢ I cannot imagine. Sometimes I think it must be a typographical error and they intended to give me the 8.2¢ the figures show as being required.

When I made the application in July I expected to abandon milling altogether if the 8¢ were granted. But in the light of operating experience since then it is evident that even with such a premium I should still do some milling, because I have a considerable quantity of marginal material that would not stand direct shipment even with the 8¢, but would pay to mill if the premium also applied to milling, and would produce that much extra copper over and above original estimates. Furthermore both shipping and milling could be carried on at the same time with reduced overhead. If the 8¢ were granted for both shipping and milling I would plan to ship all material over 1.0% cu and mill all under that. My mill heads would probably be about .75% cu but I could make a slight margin on such ore with the 8¢ if I were direct shipping at the same time.

One other point comes up. I have two spots in the dump totalling about 5000 tons that I cannot mill although they average 1.17% cu. One is too highly oxidized and the other is too coarse to float without regrinding. They would ship OK with the 8% but have to go to waste without it.

As soon as you get into this I wish you would wire me at Prescott and keep me well informed by wire at my expense. A certain amount of basic planning is necessary and the delays and indecision have been very expensive and annoying. With train service to Humboldt onee a week I have to order cars two weeks ahead. The most important flotation reagent (Minerec) can only be obtained from New York City so you can imagine how much forethought that takes, and men can't be picked up or laid off on the spur of the moment. So I need to know where I stand. When I received Mr. Strobel's letter of August 6th, which is quoted above, I assumed, although he didn't say so, that the committee action was favorable and according to my application. So in order not to lose any time I immediately proceeded to build two loading ramps and even ordered cars spotted for this week. But I can't ship 1.1% copper on a 1.2¢ premium.

With best regards,

Yours sincerely, /s/ Charles H. Dunning

P.S. Believe it or not this is verbatim. Perhaps you have now had enough Washington experience so you can decipher such a masterpiece of English - I can't.

MEMORAN DUM

QUOTA - C. H. Dunning Humboldt Tailings

TO: W. C. Broadgate

FROM: J. S. Coupal

Chuck Dunning just phoned me to say that on August 2 he wired Landon F. Strobel, Quota Committee, and asked for a reply by wire on his application for a special quota on copper. I do not know how long prior to August 2 the application for the special quota had been filed, but I do know that you recall the long siege Dunning has been through trying to get an R.F.C loan and struggling with the Humboldt Tailings. He has now reached a point where he must have a decision with a day or two as to the special quota, as it will greatly affect the work that he is doing and he asked me to explain the situation to you and for you to contact Landon F. Strobel, if possible, and wire C. H. Dunning at Prescott the results.

In reply to his wire of August 2 asking for a reply by wire he received a letter from Landon F. Strobel dated August 6, which in part reads as follows:

"Your telegram of August 2, 1943 is acknowledged herewith and I beg to advise that on August 2, 1943 the committee acted upon your request for quota revisions and a special quota on copper. Official notification of same will be sent you within the next week or ten days."

As this letter was written on the 6th, the ten days were up on August 16, and here on August 21 Dunning is still waiting for advice as to the action of the committee. In the letter he received it states, as noted above, that the committee acted, but whether or not they acted favorably and what special quota was granted, if any, is left up in the air.

This delay is holding up plans for an added production of copper and I hope you can contact Mr. Strobel or the committee on Monday and get a reply to Dunning by wire.

PHOENIX, ARIZONA
June 12th, 1943

Mr. Sam Coupal, Arizona Small Mine Operators, Phoenix, Ariz.

Desr Sam: -

In regard to my project on the Humbolt tailings there are three possible ways for me to proceed. I have putlined these three methods on a chart herewith with their various results in total expected copper production etc.

Whichever one of these plans, "A", "B", or "C", is decided upon the production of copper for the war effort would be approximately doubled if a 6 cent additional premium could be obtained and relied upon, because in each instance it enables marginal tonnage to be worked that could not otherwise be handled.

It is now nine months since I applied for an RFC loan to provide an adequate water supply and grinding unit, and so far we have gotten to about second base. Their attitude has been that there must be something wrong with it. They have spent a large amount of money (especially considering the small amount appliedfor) in engineering work and check ups and I know that all this work cehcked within reason with the application. Considering their attitude in the matter and the way it has been delayed I do not have much confidence in any very speedy finish.

My own patience is about exhausted and I have decided to go to work on the project on my own, in my own small way immediately. This is rather unfortunate because it will result in a definate and final waste of a large percentage of the copper that might otherwise be produced. On the otherhand the small amount that I can thusuproduce is better than none.

The waste of copper will come about in the following way: In order to operate on short water and no grinding unit it will be necessary for me to "gouge" the higher grade spots thus imparing the set up for future operations. I will obtain a 57% copper extraction without grinding against a 78% with grinding, the balance goingto waste. It will be necessary for me to waste my new tailings on top of the lower dam thus precluding any thought of receovering values from there in the future.

On the other hand, irrespective of the RFC loan, if an additional premium of 6 cents could be obtained:

- 1. I could afford to mine the upper deposit in an orderly and proper manner thus preserving even its margins for later work.
- 2. I would still lose the difference between 57% and 78%.
 3. I could afford to take proper care of my new tailings

so as not to preclude later work on the lower dam. (it would require an extra man on operations).

ROUTE NO. 1
PHOENIX, ARIZONA

In the chart attached herewith I have brought each catagory of tonnage to the point where, considering its method of operation, it should return costs plus a leeway of 50 cents per ton. I am willing to operate the proposition without profit for the sake of its copper production but would scarcely want to tackle any plan without an "on paper" leeway of at least 50 cents.

The best plan all around would be the RFC loan combined with a 6 cent additional premium which should result in a production of 665,000 lbs of copper. But assuming that it will take many more months to get as far as third base with the RFC the next best plan would be "B" 1 which should produce 206,000 lbs - the better end of which might produce enough profit for me to finance my own water supply and grinding unit.

In any event the additional premium is badly needed to obtain copper for the war effort so lets get it.

Yours Sincerely,

Char Holming

Washington, D.C. FEB 23 1943

SUBJECT: C. H. Dunning loan

After a good deal of pros and desch 12go 1942 a Copper Branch to put in a word on this deal and RFC has authorized Cohring to sample the deposit of tailings, to use \$600 for the work and \$400 for the assaying.

I don't know if Dumning has yet been notified, but the authorization by the Board was Feb. 12. Hope the sampling comes out OK as have pressed this pretty hard in one direction or the other.

Mr. C. H. Dunning Rte. 1, Box 1134 Phoenix, Arizona

Bill Broadgate

Dear Mr. Dunning:

On February 23 we received the following memorandum from W. C. Broadgate:

"After a good deal of pros and cons, I got the Copper Branch to put in a word on this deal and RFC has authorized Gohring to sample the deposit of tailings, to use \$600 for the work and \$400 for the assaying.

"I don't know if Dunning has yet been notified, but the authorization by the Board was February 12. Hope the sampling comes out OK as have pressed this pretty hard in one direction or the other."

This memorandum was placed on Mr. Coupel's desk but as he is, and has been, out of town, the message was not relayed to you. We are sorry for the delay in this matter.

Yours very truly.

Secretary

sherobold whire

Jan. 17, 1943



Hotel Harrington, Washington, D.C.

Mr. Chas. H. Dunning, Route No. 1. Phoenix, Arizona.

Dear Chack.

Thank you for your letter of the 15th enclosing a clipping of the Ickes Hearings. This is the first report I have had from the Western papers and I am pleased at the way they treated the subject.

As I had quite a bit to do with engineering this statement, I am pleased that it is attracting attention. Of course you realize that Ickes is in no position to correct any of the abuses he points to, but we used him as a sounding board for the industry against the other Bureaucrats.

I am working on a bill for the appointment of a War Minerals Director to try and cut some of the red tape and coordinate the departments better. This has been "cooking" for some time, and the question to Ickes was to prepare the public for it, as have been the items in the Mining Journal from time to time.

Unless you were here and partly on the inside, you cannot realize the resistance in the War Production Board against allowing any new operations or expansions to operate, and my principal attention for some time has been to attempt to crack that attitude. Copper projects of the greatest merit are and have been for months, held up by the WPB Facilities Bureau, and naturally this attitude has filtered into the RFC, which feels that there is little use putting out loans if priorities are not to be made available and if the WPB, charged with production for war, is not sufficiently interested in the copper. For some time, the RFC has been far more liberal than WFB, and is merely taking the rap for WPB attitude which dictates many of the turndowns.

I have done all that I could for you, and have at least kept the deal open when it would have been rejected long ago in the normal course of events. The Gohring conference was at my request. The results depend on his report entirely.

Very sincerely yours,

W. C. Broadgate Asst. Director



PHOENIX, ARIZONA, TOUS Jan 15th 1943
DEPT. MARIZONA 1943
JAN 21 1943
PHOENIX,

Mr. William C. Broadgate, Hotel Harrington, Washington, D. C.

Dear Bill:-

When the general policy of the Government seems to be as outlined in the enclosed clipping, why does the RFC haggle for four months or more over a matter of \$4500 when it promises a considerable amount of copper production.

As you probably know they sent the file back to Bill Gohring with some questions to take up with me. Bill seemed very well satisfied and I believe sent a good report.

I am continuing direct shipments of "hot spots" to keep the matter alive, but am hardly breaking even on them, and am about at the end of the rope. However have produced over 30,000 lbs of copper by these direct shipments, but cant keep it up anylonger.

Cant you get some action?

Yours Sincerely.

Charle Dunning

Washington, D.C. Nov. 14, 1942

NOV 16 1942
ARIZONA

SUBJECT: Mine Loans

Class A (Defense loan)

C. H. Dunning

Memo of J. S. Coupal

I have your memo of November 12 at hand this morning on this matter.

I spent considerable time discussing this loan with the examiner, who is a very able engineer, and went over the data.

I must say that from the information available here, and leaving aside the matter of whether or not the loan might pay a profit, which point has not been considered very strongly, merely if the expenditure will benefit the national defense, the deal looks very sketchy to me. It seems rather questionable if Dunning would be able to keep the project afloat and make any substantial production.

I looked at the mill tests, and taken on the average, together with what has been done in the plant and experience on dump operations I believe the figures given in the report are very optomistic indeed when you consider the exidization which will be run into.

Also the physical problem of handling would indicate a much greater operating cost than Dunning shows.

It would be unfortunate if Dunning, after installing further plant (and he did not indicate much about the proposed plant) and tieing up men and machinery, could not make the grade at all.

However, the RFC is more than willing to give all the benefit of the doubt to Dunning if Bill Gohring can figure that the deal is sound.

There is substantial agreement as to assays, tonnage, ratio of concentration, etc., so it is scarcely necessary to make a field check of the sample holes or haul away material for tests, which the RFC is ill equipped to do, unless the economics of the case seem reasonably feasible.

So that, in order to make certain that no mistake is being made, Dunning will be instructed to get in touch with Gohring and Gohring with Dunning to make a close check on Dunning's figures.

You will please not discuss the contents of this memo with Dunning as he will receive the proper notification from the RFC in due time.

I could of course get a "C" eard for the family car (we now only have an "A") and use it for my mining work, and then have someone's else truck to transport the supplies. All of this I could do if you insist on cutting my mileage. But it would result in about double the use of gas and rubber compared to my present method of operating, and as the Humbeldt operation is a " nip and tuck" operation at the best, the lowered operating economy brought about by yourselves could easily cause the closing of this operation and the consequent loss of a half million pounds of copper to the war effort.

Such an arrangement would really be more pleasurable to me personally. It is no pleasure to herd a rough riding pick-up ever miles of rough mining reads - a passanger car would be much more comfortable. But the economy of the operations and the economy of the war effort demand that it be done as it is being done.

At least the War Production Beads thinks enhugh of it to gant me a priority rating of AA-I on all materials and supplies used at Humboldt.

This pick-up truck is never used for anything expect work important to the war effort.

I have a detailed record of all 1945 mileage and gas and same is as follows:

			4					1					
٠.	177.	Quart	er		*	H	Les			Gas	(t.) . L	A Long	All Marie Contract
		lst	775 mg			7.	74	•		317		γ' e. F	
		2nd	ar to	#a	1 4 1	27	41		* 5 × 1	251	gitta Maga	on of the	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
		3rd		1.		47		N		429			apraissie,
	. "	4th				53				476		4	14.0 Mg 1 1 2.00
	£ 77	Total				162			n Ower	1473	Salt Land Le	11.	er i
	1	T G.cc. T				700	90	1.7		TH LO	Ar Arter		
	20 V. 10	(1 * v)	T. P. 24	ันแม่ให้ร	4.1. 19/4		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			La Property			

The above is based on actual speedometer readings. A speedometer tests shows, because of eversized tires, about a 5% underreading. Therefore the tetal mileage would be about 17,000 miles corresponding very closely to the 18,000 miles requested and allowed by certificate 1496231. In regard to gasoline I wantemp the year with a IT coupons left over, which also shows that the original estimate of about 12 miles per gallon was correct. I cannot attain the 15 miles per gallon you seem to have used in your new certificate. This difference is due to an over-age pick-up and the character of roads I have to travel.

As a further thought I might mention that I have recently purchased a lead mine near Battle Flat in Yavapai County and expect to put it in production in March. It will require additional miles for the pick-up - but the country needs the lead - it doesn't grow on office deaks.

Trusting the above will give you sufficient information so you can visualize my situation and grant me sufficient mileage for my pick-up truck, 2-1927A, so that mone of these important projects need be harrassed or crimped.

Yours Very Truly,

Same of he burer no function of the farmer

Sam- Thought your might like it toward about they. Last years custicity - 18,000 miles - 1620 gellows CHARLES H. DUNNING MINING ENGINEER Thus new carretal certificate 3/10 miles.

PHOENIX, ARIZONA

PHOENIX, ARIZONA DEPT. MINERAL RESOURCES Jan 7th, 1944 JAN 10 1944 Office of Defense Transportation, whiterey in 210 gailengter from Phoenix. Aris.

Gentlement-

Phoenix Aris.

I is we just received your corrected Certificate of War Necessity # 9-08-01 892517-COR which is supposed to supplant my previous certificate # 9-08-01 1496231. It appears that you have made a slight reduction in the gaseline allowed me - in fact a cut of about 85% - and this is an appeal that the former allegance be reinstated.

First - a brief summary of my activities and operations: I own, operate, and live on a 52 acre citrus ranch nurtheast of Phoenix. E have my own packing house and formerly have packed and marketed all my own fruit. This year however, because most of my taline is taken up by more important activities, I have turned ever a large portion of my fruit to commercial packing houses. However I still have to handle considerable fruit at the ranch and this pick-up truck (2-1927A) is used for the multitudinous odd jobs necessary to such an operation

I am also operating a producing copper mine near Humboldt, Arisona. This mine started producing in the spring of 1943 and I have produced about 100,000 lbs of copper during 1943. I expect to produce over 500,000 lbs of copper in 1944. I have the reputation of producing mode pounds of copper per unit of man power than any other mine in Arizona. I also produce from the lowest grade material.

This has been accomplished largely because I am my own manager, accountant, engineer, purchasing agent and errand boy. This pick-up truck (2-1927A) is miss used for the multitudinous work in connection with this activity. It supplies my personal transportation and also keeps the mine supplied with all supplies and equipment that it is possible to have with a pick-up. Right new I am doubling the especity of my milling plant at Humbeldt. I cannot sit at a desk and order the items I need. They must be first tecimacally determined, then sought out in various supply houses, second hand places and junk yards - sometimes with the necessity of making something out of nothing. Then they must be bargained for, purchased and transported to the mine and properly installed. I am the only one that can do it and to accomplish it the use of a pick-up truck is essential.

Furbiglmore I am also consulting engineer for two other mines producing strategic metals at widely varied loactions. I have to make periodic trips to these and can often combine such trips with the hauling of a pick-up load of mecessary supplies. And I also enjoy some practice as a professional mining engineer which requires occassional trips - often to remote spots - to examine some prospect or mine. For all of this it is much more feasible to use a pick-up truck (but much less comfortable).

You will note that I am evidentally using this pick-up truck (2-1927A) for both personal transportation and servicing ranch and mines with necessary supplies. That is exactly the situation.

CLASS OF SERVICE DESIRED

DOMESTIC CABLE

TELEGRAM FULL RATE

DAY LETTER DEFERRED

NIGHT CABLE

MESSAGE LETTER

NIGHT WEEK END

LETTER LETTER

Patrons should check class of service desired; otherwise message will be transmitted as a full-rate

WESTERN UNION

DEPT. M NEDA RESPUEDES

PESIDENT SEP 28 1943

PHOIN

1206 A

CASH OR CHG

NEWCOMB CARLTON, PRESIDENT

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

W. C. Broadgate Hotal Harrington, Washington, D. C.

Since my letter of eighteenth have done more testing and an entrined that flow sheet wherein third of feed is withdrawn as heavy sands from classifier and combined for shipment with concentrates unde by floating classifier cerflor is best plan. This results in everall extraction of eighty six percent and a shipping product between two and three percent copper with high silies and low alumins. If authorities are arreid I will consume smelting especity with very low naterial let them make premium apply only shipments ever we and loss that five percent. It is expedient that noise this change immediately so San suggested I wire you. Floate wire advise as to her it looks and if you answer by tweedey might address Phoenix otherwise Humbolt.

Chas. H. Dunning

J. C. WILLEVER, FIRST VICE-

Paid Charg Chase He Dunning Rt 1 Phoenix

RU WASHINGTON DE 8-23-43-118 PM CORRECT DUPLICTE AND 23 PM | 38 NI -84152 \$-20198 C-11826 TELEPHONE YOUR TELEGRAMS CONTRACTOR AND OF

TINERAL RESOURCES

STANDARD TIME INDICATED

Commercial Cables

Conadian Facific Telegraphs

RU12 W 20 COLLECT (FIVE)

ON HAND AT EACH OFFICE AND ON FILE WITH

TO JULY FIRST SHOULD HAVE MOTIFICATION BY HOME THIN ING GIVEN ONE POINT TWO GENT ADVANCE ON ZERO QUOTA RETROCATIVE BILL BROWNSAFE.

STANDARD TIME INDICATED

[21]

TO POSTAL TELEGRAPH

REGULATORY AUTHORITIES.

AUG 23 AM 1/7 1/2PM=

ON HAND AT EACH OFFICE AND ON FILE WITH THIS IS A FULL RATE TELEGRAM, CABLE

NI. SA99

8.0879

C. NA 102 RUTHE 20 COLLECT (FIVE) RU WASHINGTON DC 8-23-43-

ARIZONA DEPARTMENT OF MINERAL RESOURCES

112 HOME BUILDERS BLIDG! PHOENTY ANIZIN

TO JULY FIRST, SHOWLD MINE HOTTERS AND BY HOUSE

DENNING SIVEY ONE POINT THE CENT ADMINIS ON ZELF OWN, RETRICKLY

United States Senate

MEMORANDUM

Nov. 27

Have you heard if Gohring and Chuck Dunning got together yet?

Aumbold

Bill Broadgate

DEPT. MINEPAL BASSUREES

0----

NOV 30 1942

PHOENIX, ATTION

United States Senace

MEMORANDUM

Oct. 15, 1943

Dear Sam,

Will you tell Chuck Dunning that he can do nothing without this letter and time is running fast against him.

Bill Broadgate

DEPT. MINERAL RESOURCES
RETTIN

OCT 18 1943
PHOEN

DEPARTMENT OF MINERAL RESOURCES

REPORT TO OPA ON ACTIVE MINING PROJECT

Date 12/23/44		Filing Information						
Name of Mine Humboldt	File System	File No.						
Owner or Operator Chas			to be used for gallons of gas-					
Address J. Sox //	34 Monni	oline requi	red per month.					
Mine Location Humbeln	A Aria							
PRESENT OPERATIONS: (check X)							
Production; Developme	nt; Financing	; Sale of mine;						
Experimental (sampling)								
Other (specify)								
PRODUCTION: Past and Future.	11	Tons						
Approx. tons last 3 months		500						
Approx. present rate per 3 months								
Anticipated rate next 3 mont	hs 4	500						
If in distant future check (X) here		e e					
			£ 8					
EQUIPMENT OPERATED:	Overtity on	Wiles on House	Callana Paguinad					
Туре	Quantity or Horse Power	Miles or Hours Per Month	Gallons Required Per Month					
Personal Cars								
Light or Service Trucks	•							
Ore Hauling Trucks			•					
Compressors								
Cot of School Mill Eqpt.	22	80	200					
PRODUCT PRODUCED OR CONTEM								
Copper	*							
REMARKS:	cer of coda	a Cart and	Burkey					
a story producer of copper Cat and scroper								

ARIZONA DEPARTMENT OF MINERAL RESOURCES

By Harf Dunner

Off.

SOUNHWESTHERN BUGINERERING COMPANY

Engineers · Manufacturers · Constructors

TELEPHONE

MAIN OFFICE AND PLANT 4800 SANTA FE AVE.

Los Angeves in Caurornia

cable address "southeng" los angeles Feb. 21. 1945

Humboldt Smelter C. H. Dunning, Owner Humboldt, Arizona

Gentlemen:

The Southwestern Engineering Company is preparing an economic survey, at the request of a group of clients, to determine the feasibility of a project comprising a custom mill, smelter and electrolytic refinery in the Los Angeles Metropolitan Area.

This proposed development is for the production of electrolytic copper, lead and zinc as major products together with minor products such as cadmium, silver and gold.

Our clients believe that this plant would make available a higher return to producers through freight savings on incoming ore and concentrates, the elimination of usual smelter freight charge for metals outbound to eastern points and the return freight on the finished metals to the west coast.

It is to mine owners and/or operators, such as yourself, that we look for the information on which to predicate the scope of this project, so that a maximum of service can be offered the western mining industry.

For your convenience we have attached in duplicate a short questionnaire, one copy to be returned in the enclosed self-addressed envelope and the other copy for your files.

The completed questionnaire is to be regarded by us as strictly confidential. We will not release the data contained therein without your permission except as consolidated totals in our engineering report covering this proposed project.

Your cooperation in supplying this desired information in no way obligates you in the future to do business with the proposed smelter and refinery.

We will appreciate your expediting these data to us as time is of the essence. The proposed plant operation is intended to be part of the war effort as well as a post war activity.

Thanking you in advance for your prompt cooperation, we remain

Yours very truly,

SOUTHWESTERN ENGINEERING COMPANY

P. J. Thibodeaux, Jr., Engineering Dept.

PJT:mn

August 15, 1946

Norman & Yount 325 East Gurley Prescott, Ariz.

Gentlemen:

The only dump at Humboldt that has any possibility of being shipped, that I know of, is a small dump of about 1500 tons down on the Agua Fria River west of Humboldt. This is the old Val. Verde mill tailings dump.

One either has to maintain a road down the river, which will wash out, or build a road up a steep bank just east of the old townsite.

I hauled 13 cars from this dump direct to Clarkdale but it was not profitable. A small margin might be made now with silver 20 cents higher, and if a man had his own trucks.

I am enclosing one of these settlement sheets so you can see how the material runs and works out.

The old smelter site has been well gleaned of anything shippable. There are stories of rich spots in the old slag dump but I could never find any evidence. It might be advisable to have someone run over it with a geophysic instrument and spot any hot spots. The cost should be small.

I worked over all of the mill tailings dump that I consider workable and have dismantled my mill.

However, there is one place in the lower tailings dam that shows 1000-2000 tons of almost pure iron sulphide. This runs about \$5.50 in gold and silver - no copper. There could be a small margin if you had some cheap way to load and hauled direct, and if the smelter would take it. (They don't want iron)

My lease has never been cancelled but I will be glad to relinquish it at any time as I am through there.

You are welcome to any information I have.

Yours very truly Chas. H. Dunning RECEIVED
AUG 12 1946

PHOENIX,

ARIZONA

August 10, 1946 Prescott, Arizona.

Mr. G. H. Duning, Dept. of Mineral Resources, Arizona Bank Bldg., Phoenix, Arizona.

Dear Sir:

We are interested in the Smelter dumps at the old Smelter site in Humbolt, Arizona and have been informed by Mr. Morgan of Morgan and Locklear that you hold or held a lease on this property.

We would greatly appreciate any information or advice that you could give us in regards to the assayed values and the possibilities of hauling the ore to the Clarkdale Smelter.

Yours very truly,

Norman & Yount

un: Mr

Marcalde

ON

Apartment 204 - El Caser, RESOURIES
705 4th Street, PAN W. 1944
Washington 1, D. C. DEC 18 1944

Dec 16, 1444

Dear Chuck-

I have your letter to the queta Committee on the nicreased grenim to handle longrade.

am not too sure we can get a definitive answer unless the case can be regularly processed - it is quite a septem - invarien to run it through the quota Committee

The Copper Unisim into how the real Say in the watter and I think such a preliminary inquiry should have been addressed to F. H. Hayes and not to Stated. Howes could answer an inquiry of this type. Stated only processes applications. But we will see, It sounds reasonable, what you ask,

Bis.

Smelter Office Phelps Dodge Corporation Clarkdale, Arizona

Gentlemen:

It looks like at last I have more premium on the Humboldt operations.

I am enclosing the official notice herewith and presume you will want to photostat, etc.

Also, please note that this is retroactive to June 1 so I will have a supplementary amount of 49¢ per pound coming on lot 3148 sampled on June 23.

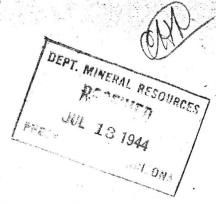
Yours very truly,

Chas. H. Dunning

CHD:LP Enc. Hundrich

July 11, 1944

Subject; Dunning tailings premium



This has been cleared by both WPB and OPA and has gone to MRC where it should be loose tomorrow with luck.

Bill Broadgate

W. C. Broadgate
Apt. 204 El Caser
705-4th N. W.
Washington (1) D. C.

Humbrock

Dear Mr. Broadgate:

Before you leave will you make a final check up on my premium matter? I am especially interested in the effective date, that is how retroactive.

You will be in Dutch if they turn it down after you leave.

Very truly yours

Chas. H. Dunning Director

CHD: emz

Washington, Dept. MINERAL RESOURCES

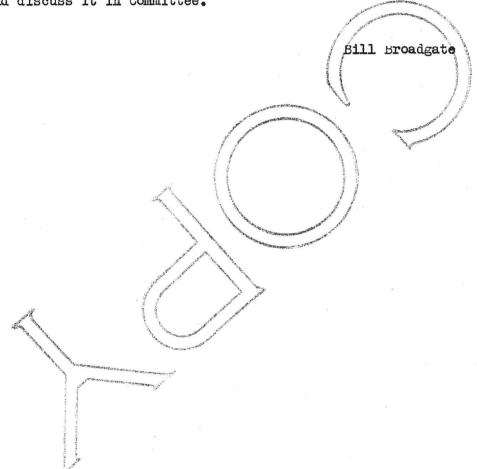
June 26, 1944 DEPT. MINERAL RESOURCES

JUN 28 1044

bolt, premium

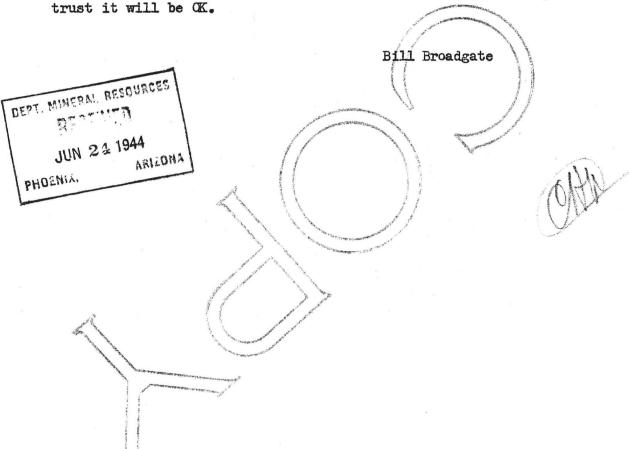
Subject; Dunning Tailings operation, Humbolt, premium

This is on the Quota Committee Agenda with a satisfactory recommendation, but won't know what the outcome will be until they meet and discuss it in Committee.



SUBJECT: Dunning Humbolt Tailings Operation, Premium revision.

This seems to be going very well. I asked that at least 5¢ be granted over the present special. The analyst said today he would try and set up the case so as not only to show a profit, but to amortize the return of the investment. I don't know how OPA will go for it, but I



Mr. C. H. Dunning Rte. 1, Box 1134 Phoenix, Arizona

Dear Chuck:

Many thanks for your wire and Charlie and I will look to have you join us on Monday at 12 o'clock for lunch. As there is usually a crowd in line, we try to get there very shortly after 12 o'clock so I hope you can make it at the office as close to 12 o'clock as possible.

I hope you will not let your tailing plans interfere. I expect to be footloose and believe we can enter into some arrangement whereby the work can go ahead and, if necessary, I could give some time to it under the plans I am considering.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

CC: Humboldt, Arizona

Mr. C. H. Dunning Rte. 1, Box 1134 Phoenix, Arizona

Dear Chuck:

I would like very much to have you drop in to see me the next time you are in Phoenix.

For once the Governor and myself see eye to eye. He wants me out of the Department as director and I want to go.

As you know, Hap Mills is one of the new members of the Board of Governors. It is up to them to decide who the new director will be and I am trying to locate someone who can fill the bill. I would like to propose your name as director and will see that it is done if I have assurance from you that you would accept.

I think you know about what the job is and know you could fulfill it and whereas the salary of \$350 per month, the maximum set by law, might not attract you, under the conditions where you have your ranch close by it would seem to me as though it would be an interesting piece of work for you as you could work at the job required here and at the same time look after your interests on the ranch. My major concern is that the Department be in the hands of a sound director and I know that it would be if you would consider and accept the job.

Please let me hear from you and I would like to have you join Charlie and me at lunch some day as soon as you are in Phoenix so phone a little in advance of the lunch hour.

Yours very truly,

J. S. Coupal, Director

JSC:LP CC: Humboldt, Arizona February 29, 1944

Mr. C. H. Dunning Rte. 1, Box 1134 Phoenix, Arizona

Dear Chuck:

I have received the following memorandum from Bill Broadgate and there is no need for me to add anything more than to forward to you his memorandum which is as follows:

"As you probably know, this was finally rejected Jan. 19th, but I only just ran across my note to write you about it, the memo having dropped in back of some papers.

"I have spend a great deal of time on the various Dunning applications, although the deal is a little one, because I think Dunning deserved a break, having been so hard at work all this time.

"You have memos on phases of the other applications, but perhaps nothing recent on the last one.

"You can tell him that I managed finally to convert the Copper Production boys to our way of thinking and the Copper Division went to bat for him in the Quota Committee meeting.

"However, the OPA refused to sign the Quota and could not be moved, although it nearly degenerated into a fight. The Copper Division engineers spent a great deal of time on the case, more than its size merited, as I understand the whole income has been less than \$3,500. It would not have hurt anyone to grant the few dollars involved, as I have pointed out time and time again, but the OPA has its principles and would not be moved.

"Lydon t want Dunning to think he has been neglected."

Yours very truly,

J. S. Coupal, Director

Washington, D.C. Feb. 22, 1944

SUBJECT: C. H. Dunning premium

DEPT. MINERAL RESOURCES

RESOURCES

RESOURCES

ARIZONA

FEB 26 1944

ARIZONA

As you probably know, this was finally rejected Jan hatan but I only just ran across my note to write you about its, the memo having dropped in back of some papers.

I have spend a great deal of time on the various Dunning applications, although the deal is a little one, because I think Dunning deserved a break, having been so hard at work all this time.

You have memos on phases of the other applications, but perhaps nothing recent on the last one.

You can tell him that I managed finally to convert the Copper Production boys to our way of thinking and the Copper Division went to bat for him in the Quota Committee meeting.

However, the OPA refused to sign the Quota and could not be moved, although it nearly degenerated into a fight. The Copper Division engineers spent a great deal of time on the case, more than its size marking merited, as I understand the whole income has been less than \$3,500. It would not have hurt anyone to grant the few dollars involved, as I have pointed out time and time again, but the OPA has its principles and would not be moved.

By the way, I had Maury and Beeson at lunch this week and imporived the laison a little, I hope.

Bill Broadgate

I don't want Dunning to think he has been neglected.

November 12, 1942 Mr. Charles H. Dunning Route 1, Box 1134 Phoenix, Arizona Dear Chuck: Many thanks for your copy of the letter from the Reconstruction Finance Corporation of October 14, 1942 disapproving your loan. I have forwarded this to Bill Broadgate as requested by him. Very truly yours, J. S. Coupal Director JSC:kk

RECONSTRUCTION FINANCE CORPORATION WASHINGTON

W

October 14, 1942

DEPT. MINETAL BESOURCES

NOVILY 1942

PHOENIX,

ASST.

Mr. Charles H. Dunning Route #1, Box 1134 Phoenix, Arizona

Re: Charles H. Dunning
Docket No. ND-5210

Dear Mr. Dunning:

Your application for a loan under Section 5d of the Reconstruction Finance Corporation Act, as amended, has been given careful consideration by the Directors of this Corporation and I am directed to advise you that the Corporation is unable to approve the loan.

Very truly yours,

CHAS. W. TULLY

Assistant Chief, Mining Section

14

November 12, 1942

MEMORANDUM

SUBJECT: Mine Loan

Class A (Defense Loan) Charles H. Dunning

TO: W. C. Broadgate

FROM: J. S. Coupal

On the summary I made on this property, I did not look into the metallurgy. They only had certain very definite tests made and their tests indicated a 70% recovery.

If definite authentic tests indicate a certain recovery which seems reasonable, even though the experience of the Reconstruction Finance Corporation on the dumps have indicated an overoptimestic attitude, it would seem as though it would be unnecessary for any applicants to submit ore tests to accompany their applications, if when these tests are made by competent men, the results are going to be questioned merely on general principles.

I do hope that this property will get its field examination.

Washington, D.C. Nov. 5, 1942

SUBJECT: Mine Loan, Class A (defense loan) C. H. Dunning



I have discussed this with Rait and the Examiner in connection with the Coupal report.

The 70% recovery figure used seems to be over-optomistic, as the experience with these jobs is nearer 50%.

However, the 23,000 ton positive ore figure was near the 18,000 figure reached here by the examiner.

I believe I have been able to at least get an authorization for a field check, which would be a step in the right direction, and will know after they give the matter a little more study. That was the atmosphere this afternoon.

The RFC has been badly bitten on dump operations of greater magnitude than hhis one.

One thing is sure, the payments to the owner of \$150.00 per month will have to be second to the RFC repayment or arrangements made so that if Dunning assumes them, the lease will not be jeopardized by non-payment.

That is a matter of private arrangement which can be gone into later in case we get a field check and it is satisfactory.

I had a letter from Dunning explaining how he made his mistake and I turned that over to Rait.

I gather that the Examiner knows of a sampling made in about 1927 or thereabouts which showed much lower results than Dunnings. Remarkable how these things turn up.

Bill Broadgate

October 30, 1942

71.

Mr. Charles H. Dunning Route No. 1 Phoenix, Arizona

Dear "Chuck":

I have had a memorandum from Bill Broadgate stating that he would like to have a copy of the letter of rejection in the Dunning case.

Would you kindly send me a copy of the letter you received from Washington saying that your application had been turned down.

With best wishes,

Very truly yours,

J. S. Coupal Director

JSC:kk

Mr. Charles H. Dunning Route 1 Phoenix, Arizona

Dear Chuck:

I have just mailed copies of the enclosed report to Bill Broadgate. He asked for three copies and I know he will go to bat and get results if possible.

I am holding your original file at the office which you can pick up any time you wish.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

Washington, D.C. Oct. 25, 1942

SUBJECT: Mine Loans, Class B

C. H. Dunning

Memo of Charles Willis, Oct. 23

Dear Charlie,

DEPT. MINERAL GESOUSOES

OCT 28 1942

ARIZONA

I note what you say about the Dunning loan and dividing it into "capital" and "operating".

This classification would have no bearing whatever on this loan.

After the eggineer examiner got through recasting Dunning's data there wantkingx showed insufficient possible return to come anywhere near paying off however you divided the loan.

We discussed, and they are perfectly cognizant of the fact, that the largest part of this loan was for operating purposes and that would have been OK.

Even the extremely high cost of the copper in the total amount shown to be recoverable by the examiner's figures would not have deterred them, I think, if the volume had seemed to be worthwhile compared with the investment.

After all, however you divide the loan, some return is to be expected and what with the small amount of material, the low concentrate grade, the sketchy metallurgy, etc., it looks from the examiner's angle as though there would be nothing left after operating and marketing costs to pay much of either the capital or operating portions. If you arranged to return the capital and operating fund it looks to them as though log per pound would have to be the figure deducted and that would leave nothing for much for costs and for Dunning... if indeed he could work within the gross 7¢ left.

All this is why I have asked in my several memos for a verification of the figures, etc., before going to bat further on the matter.

But I want to stress that the fact that a large part of the loan is for operating capital had no bearing on the rejection.

Bill Broadgate

Washington, D.C. Oct. 24, 1942

SUBJECT: Mine Loan
Class B
C. H. Dunning
Memo by Coupal



I am glad that you have decided to go into the Dunning loan.

I have felt that this must have merit, as your initial memos indicated as much.

It is surprising what recalculation of data by a desk engineer will do to figures supplied by the applicants. Ore reserves sometimes shrink to an alarming extent.

The emgineer who handled this loan, as I have stated previously, is a very competant, but very careful and conservative man. He splits every cent three ways and his calculations of reserves or dump tonnages leave out any possible optomistic angle.

Yet the gross discrepancies between Dunning's calculations and his show something radically wrong.

I discussed this application not only with the engineer, but also had him in Rait's office and talked the matter over with both of them. It was not possible to go over the detailed calculations and I had to accept the engineer's recitation of the conditions as his lead-pencil found them.

There was a definate question as to the metallurgy, aside from the small amount of dump sampled and its lowness of grade. The fact that the proportion of sumphides and oxides was not shown in the samples seemed of great importance as it was questioned that much of a recovery could be made. The low-grade concentrate also came in for criticism.

It was indicated that satisfactory sampling of larger amounts of dump material (I understand there are several dumps) to show larger possible operation might have a beneficial bearing. They cannot take for granted that because one dump samples in a certain way that another will be similar. They have had some bad experiences with dumps with very experienced operators.

When our calcualtions come through, if necessary, I shall ask for a consultation between the WPB and RFC engineers on the loan, in case our figures make a satisfactory showing, so furnish me three copies of the supporting data.

Bill Broadgate

October 22, 1942

MEMORANDUM

MINE LOAN CLASS "B" C. H. DUNNING

TO: Bill Broadgate

FROM: J. S. Coupal

We have gone over Chuck Dunning's figures and note the discrepancy. We do believe his application is sound and either Earl Hastings or I will go into the field within a day or two to check certain features and then submit our analysis of this loan direct to you.

I am in hopes we can put this analysis in such shape that he can go to bat and get the loan.

C. H. Dunning Route 1 Phoenix, Arizona

Subject: Humbolt Tailings

Dear Mr. Dunning:

We have a memorandum from Bill Broadgate relative to your application for a loan.

At your earliest convenience would you drop into the office and discuss the situtation with us.

Very truly yours,

Earl F. Hastings Assistant Director & Projects Engineer

EFH: BA

Washington, D.C.
Oct. 15, 1942



SUBJECT: Mine Loans
Class B
C. H. Dunning

I have been working with this loan, but have not had much luck.

I fact it has been turned down.

Before anything further is done, please go over this deal with Dunning carefully and check his figures.

(Dunning)
The Examiner cannot see, from the portion he/has sampled, more than about 90 tons of net metallic copper from an expenditure of \$17,500, even if optomistic recoveries are obtained. This information is of course confidential and I would not want anyone writing it back to the RFC. The metallurgy is sketchy.

Samples, as I understand it, were only submitted from one dump and they did not seggregate oxides from sulphides, making it difficult to estimate results.

The dump sampled does not figure as large as Dunning indicates.

The experience of the RFC with dumps of this sort has been entirely bad and usually a lot of work has produced little or no output.

This is no reason to dispair of the deal, however. Dunning should sample more material to indicate a larger volume, and submit better data as to the probable results. As I understand it, he estimates some 350,000 # of copper, and the discrepancy between this and possibly represents the difference between wishful thinking and estimates and cold figures. A very able man did the checking.

If we can go over the thing and make a recommendation based on facts as our man sees it and can show that the output will be commensurate with the expenditure of dollars, men and materials, we can cheerfully have the matter reopened. This was not considered from the standpoint of whether the production would pay a profit, but from the amount of copper which would be produced.

If our check shows worthwhile results and substantiates Dunning's figures and the RFC is still leery, I have arranged for the WPB to examine the loan, but only then as the showing now would not be attractive. I believe that Dunning has a large dump he has not sampled at all.

In otherwords, I want independent confirmation and calculation of net results before going to bat with the RFC and, if necessary later, with WPB. The grade of concentrates shown was very low. Please don't let Dunning go off half cocked and fight the RFC on this. Lets make a showing for reppening the case logically.

Bill Broadgate

Washington, D.C. **XAXX** Oct. 1, 1942

DEPT. MINERAL DESOURCES
RECEIVED
OCT 3 1942

PHOENIA,

SUBJECT: Mine Loans

Class B

C. H. Dunning

ANIONS

The Engineer Examiner is nearly through with his scrutiny of this application.

Unfortunately, Rait put this in the hands of a man who goes through each application in the most meticulous detail and is considered a little tough, but I see no reason why the deal should not stand up under careful analysis.

Bill Broadgate

Washington, D.C. Sept. 26, 1942

SEP 28 1942
PHOSPIX. ADDIONA

SUBJECT: Mine Loans, Class B
C. H. Dunning, Route L, Phoenix
Humbolt Dump Mill

Dunning will be interested to know that I have this in the hands of an examiner already, who is checking the data.

This is something in the nature of a record, as I only filed it on Monday morning.

My special treatment of this is due to your interest and the fact that immediate production may be obtained without the development lag inherent in the usual loan.

Please make sure that Dunning records his documents promptly.

Bill Broadgate

Mr. C. H. Dunning Route 1, Phoenix, Arizona

Dear Mr. Dunning:

We have a memorandum from W. C. Broadgate this morning in which he states he personally filed your docket with the R.F.C. and inasmuch as you come in the catagory of immediate and substantial producers, Mr. Broadgate feels that you will get rapid action.

In order to safeguard yourself in this matter I feel it is quite urgent that you record your lease, as it would be a shame to have the entire docket held up over this minor technicality.

Very truly yours,

Earl F. Hastings, Assistant Director and Projecto Engineer

EFH:LP

Washington, D.C. Sept. 21, 1942



SUBJECT: Mine Loans,
Class B
C. H. Dunning, Route L, Phoenix.
Humbolt Dump Mill

I received the folio of material and application on the Dunning loan last night.

I took it to the RFC personally thin morning and filed it with the chief with comments that the Department thinks it worthy of immediate condideration due to the speed with which copper can be taken out of the dump and that Dunning has the metallurgy worked out in advance and the best part of his plant.

I also took the precaution of contacting a friend of mine in the Engineer Examiner section and asking him to check the files in a day or so and see if the Dunning application is being processed, and if not to let me know.

I believe that I will get rapid action on this deal as you wish.

September 23, 1942

MEMORANDUM

HUMBOLDT DUMP MILL

TO: W. C. Broadgate

FROM: Earl F. Hastings

Dunning has not come into the office to pick up his original lease. He was to have done this and have the document filed, as I understand that recording is a requisite prior to R.F.C. loans.

Should this failure on his part develop into a sticker, please just try to stall the thing until I can get hold of Dunning.

September 14, 1942

MYMORANDUM

TO: W. C. Broadgate

FROM: Earl F. Hastings

Enclosed is an application for an R.F.C. mining loan by Charles H. Dunning, Route 1, Phoenix, Arizona. Inasmuch as this project can be put into immediate and substantial production it was considered worthy of presentation by you.

Will you please file it with the proper authorities and keep an eye on it so that it will not be lost in the shuffle.

The Char Willis Title & Trust Bldg Thounix ain. Dear Charlie Toverlooked attacking this lease to application. do do. Hostily Cher & Duning Hope the election is O.K.

Dunning Lease Power Quota.

Received the following reply from Dunning dated July 2nd.

Dear Mr. Coupal:-

I have yours of June 24th in regard to a memo from Bill Broadgate regarding my power installation at Humbolt.

I want to thank will and Charles and the rest of you for the fine work that was done in this matter. The Power Co received a very prompt wire reply from the Chief in Washington and the power installation is now all completed. We turned the power plant over a little today and within a week we should have it going in fine shape.

Incidentally - several days ago after the power installation was all finished I received a wire from a Mr. J. D. McClintock of the WPB saying " The WPB appears to have no information concerning proposed treatment of tailings dump at Humbolt therefore suggest you send us details of project so that we may have sufficient information on which to base recommendations for extension of power line."

Anyway its done - thanks to Bill.

Yours sincerely.

Chas. H. Dunning (signed) Address until Sept 1st. The Mountain Club. Prescott, Ariz.

It seems as though that may now be considered "fait accompli".

ROUTE NO. 1
PHOENIX, ARIZONA
July 2nd, 1942

Mr. J. S. Coupal, 413 Home Builders Bldg., Phoenix, Ariz.

Dear Mr. Coupal:
I have yoursof June 24th in regard to a
memo from Bill Broadgate regarding my power installation at Humbolt.

I want to thank Bill and Charles and the rest of you for the fin work that was done in this matter. The Power Co received a very prompt wire reply from the chief in Washington and the power installation is now all completed. We turned the plant over alittle today and within a week should have it going in good shape.

Incidentally - several days after the power installation was all finished I received a wire from a Mr. J.D.McClintock of the WPB saying " the WPB appars to have no information concerning proposed treatment of tailings dump at Humbolt therefore suggest you send us details of project so that we may have sufficient information on which to base recommendation for extension of power line."

Anyway its done - thanks to Bill.

Yours Sincerely,

Address until Sept 1st,

The Mountian Club, Prescott, Ariz.

DEPT. MINERAL PROUNCES

RECEIVED

JUL 4 1942

PHOENIX,

ARIZONA

Respire to the special .

Mr. Charles E. Dunning C/o Hassayampa Mountain Club Prescott, Arizona

Dear Mr. Dunning:

I have received a memorandum from W. C. Broadgate in Washington asking me to check up on the progress of your work to know whether or not he should consider the incident closed and your requests complied with.

I would be glad to hear from you so that I may advise Mr. Broadgate of the results of his attention on your problem.

Yours very truly,

J. S. Coupal, Director

JSC:LP

CC: Humboldt, Arizona



Washington, D.C. June 19, 1942

SUBJECT: Dunning Lease,

Power Quota.

Please report back if these items have been straightened out satisfactorily to the client so that I may close my file.

WASHINGTON DC VED
June 18, 1920EVED

JUN 20 1942

PHOENIX.

ARIZONA

SUBJECT: Power Line to Dunning Lease.

Authority was wired to the Arizona Power Company by the WPB today and if they are on their toes, the connection can be made tomorrow.

I should appreciate it if you would review the file on this matter.

I received this request June isk 9th, the request having been mailed from Phoenix the 8th. Part of the request having to do with zero quota was taken care of immediately.

A good deal of time was wasted by me and the WPB on this job because of incorrect data, misrepresentation, and lack of detailed information, not to speak of the failure of our client to carry out our specific instructions.

The information furnished me stated that the application was mailed in to the WPB Power Branch June 2. This was not true and cause a lot of embarassment and lost time when the application could not be found. The implication was that the WPB had lost it, or if was not distributed. Several days were lost because of this and it cost us several trips and much time.

Last Friday I wired for the Phoenix office to contact the Arizona Power Company for all details and authority to zekz act as their agent. This was handled in this fashion as I believe we will be far ahead if all Washington matters are cleared through Phoenix and my office here to avoid duplications of effort and so that we may be completely informed and avoid duplication.

Instead of the Arizona Power Company, Dunning was contacted, and he did not follow instructions. As I had made a personal arrangement with the WPB to get wired authority for the connection and by-pass the apparently lost application, I waited around for a wire which I was assured would reach here Monday morning at the latest, and waited some time after that.

Yesterday noon when I was lunching with Charlie Willis, a wire came in from DUNNING, not the Power Company, giving no authority and little information excepting that the application had been mailed in the TWELVTH.

At Willis' suggestion, I wired the Power Company, to my friend Seares, for authority.

I got this by return wire in time to hop over to the WPB with it this morning, when I should have been back there Saturday with it after the song and dance I had handed them.

Still, although I had the authority, I had no data with which to file an application or a memo on which to base an application. I should have had a copy of the original application data.

You can imagine my embarassment. I spent a good deal of time today finding someone who would take my word for everything and finally talked the Power Branch into wiring authority for the connection on my say-so, sight and information unseen.

W



The application will not turn up for some days yet, and hope to God it is in proper form and as I represented it. The chances are it has not been "distributed" in the mailing section yet, let alone being "Processed" and "Channalized", before hitting the right desk.

Of course, it is true that as we have advanced this application from 6 or more weeks to 6 days, our work is well justified as it will turn this valuable copper sooner into the war effort.

It is also true that the Phoenix office is not responsible for any of the delay directly, it being the client who is at fault.

But at the same time, I am going into this in detail as it is our first of this kind and shows that complete information MUST be gathered in the Phoenix office, and accurate information, before the request is shipped out here.

About one more case like this and my jig will be up with the Power Section and I will be powerless to help our clients.

MORAL: Let's not jump the gun, and lets have full and accurate data on subsequent cases.

Bill

Bill Broadgate

CC/Willis

Washington, D.C. June 16, 1942

SUBJECT: Power Line to Dunning Lease.

Your will pardon me for being a little bitter about this, but a few more cases of this kind and I might as well come home, as I will have my throat well cut in the Departments.

Pleage review the correspondence on this matter. I was told that this was very urgent and to use prompt action and personal contact to get immediate results.

I got the quota certificate out.

I made arrangements last Friday that if I could get a telegram of authority to sign for the connection, I would be given an immediate wire authority for the connection for power. I turned the WPB inside out on this and lost a lot of people a lot of time.

Here it is NAM Tuesday night and I haven't heard a damned thing, and when I do I shall be practically ashamed to go over the the WPB with it and you can imagine the way they will treat my next emergency request. I know it is not the Department's fault, as Charlie took care of the matter promptly. But in future, lets not treat anything as emergency unless the folks who think they want the job done are willing to cooperate. We just ruin ourselves here by showing we are no better in Arizona than the Departments. Perhaps there is a good explanation. very likely. but I won't be able to use it in the WPB.

I hope they have four! the application in the interior and

Bill Broadgate

Sent it sat, but don't want to chick with Them till I have four Topes.

Washington, D.C. June 15, 1942

SUBJECT: Power Line to Dunning Lease.

I am not writing this memo as a hurry up, just as a follow-up report to say that I have not had anything from the Power co or Dunning on this up to this evening.

So I gather that someone is not in as much of a hurry as I thought and am sorry I caused the W.P.B. so much trouble over it on Friday. It will make it a little more difficult next time as they naturally expect me to move fast if I expect them to.

I note that Charlie took care of the matter promptly, thus absolving Washington and Phoenix from any delay, and I think that the men who file requests with us should be made to realize that they must also move fast at our request, or they leave us on the spot.

Washington, D.C. June 15, 1942

SUBJECT: Quote for Dunning Lease.
Willis letter of June 13

Dunning should have his quota certificate by the time you have this letter. It has gone out.

Your address for filing applications for quotas is correct.



SUBJECT: Power line to Dunning Lease

I thought I had this well in hand, but checked back on it again today and found that in spite of everything, the application apparently has been lost, and could not get track of it again.

I enlisted the Copper Branch to press the Power Branch and they sent a man over there and they both searched two hours without locating the application.

Pointing out that they seemed to need the sopper, and that we are waiting to turn it out, I finally made a deal that if the Power Company will appoint me to handle the matter for them, I can personally make the application and they will wire the premit at once.

As Willis stated that prompt personal action was required on this, I have wired this afternoon to get the authority. If I get the wire in the morning I will hop over to the Power Branch and get the permit. You should have it... or rather, the Arizona Power Company should have it by afternoon and can make the connection Saturday if they move that fast.

Probably the best I could do WHEN the application turns up again, is a week, now. The routine time is extending more and more all the time and may run over 6 weeks soon. In such cases as this, in future, it would help everybody if you have the particular power company send me a copy of the application. I found myself lacking information here.

DEPT. MINERAL RESOURCES

RECEIVED

JUN 13 1942

PHOENIA, ARIZONA

91

Washington, D.C. June 11, 1942

SUBJECT: DUNNING LEASE

Zero Quota Certificate

Believe I can get this mailed out of here Friday June 12, 1942.

If Dunning does not have it by Tuesday, please let me know.

DEPT. MINERAL RESOURCES
RECEIVED
JUN 12 1942
PARANIX, ARIZONA



Washington, D.C. June 10, 1942

SUBJECT: Power Line to Dunning Lease

I appreciate very much the detailed information that came along with this inquiry. I should suggest also that in each case you give me the dates of application, which was missing in the case of the quota application. It is surprising what questions one is apt to be asked and forwarned is forarmed. So far I have had everything asked for, exceping the date above indicated.

If the Arizona Power Company does not have its permit by Monday, please notify me. I understand these are running to about 6 weeks now in the regular routine.

I have not been able to contact the right man on the zero quota for Dunning yet. No one around here knows from one day to the next who is around and where. Today I chased one man to three temporary buildings, and then had a man's secretary get on the phone and spend 15 minutes calling all the government information services to find what his next office move might have been, only to eventually find he had "gone back home".. that is, left the service. This is the second one of these I have run into. No one and no directory can possibly keep up to date, and you live from day to day with your contacts.

I expect to have something on the quota tomorrow or Friday.

W. C. Broadgate

Speat all day on this

MEMORANDUM

POWER LINE TO DUNNING LEASE

To: W. C. Broadgate

From: Charles F. Willis

Here is one that you can go to work on and see what prompt action personal contact will get. C. H. Dunning, Route I. Phoenix, Arizona, is about to put into operation a mill on the Humboldt Tailings. About everything is arranged and he is ready to start copper production, but he now finds that in order to get a power connection the Arizona Power Company will have to put in 8 feet of line (one post) and transformers to reduce 11,000 voltage to 440 to run 30 h.p. motors. They have all material available and on hand but require a permit to make the connection. The total cost of the material involved is about \$500.00, however, there is none to be purchased.

The Arizona Power Company has applied to the Power Branch, WPB, for the permit. This application went in last Saturday. I believe the man at the head is named Sickler, but you may have to check up on that. We communicated with him before regarding the Farnham permit to the Hackberry Mine.

Permits in the past have, according to the Arizona Power Company, taken from 4 to 6 weeks to get through, so if we can speed it up we will have accomplished something. Dunning is ready to start production just as quickly as he gets his power connection.

Also, Dunning has not yet received his quota notification so you may have to see Nathason, executive secretary of the Quota Committee. He will have a zero quota as there was no production last year but there has been some correspondence with Nathason on it, as he wanted a lot of data.

I would also suggest that you see WPB Copper Branch as they might help you speed it up.

Now I suppose that you are going to want the story on the Dunning lease. Dunning has a lease on the tailings, ord dump and gleenings of the old Humboldt smelter at Humboldt. Included in this is about 300 tons of ore that was shipped to the Humboldt smelter from the De Sota Mine Just before the price of copper broke in the early 30°s to 7¢ per pound. This ore assays about 2.75 per cent copper. When the price of copper broke the ore did not pay the smelter charges and was dumped. Shortly after the smelter closed permanently and has since been dismantled. At no time since has the ore been sufficiently profitable to do anything with until the premium prices came up. Dunning has already shipped 5 cars of this ore and these cars assayed from 2.49 per cent to 3.18 per cent copper. This works cut at a slight loss without the government bonus which, of course, was anticipated when the shipments were made and they cannot get the bonus until they get a quota set.

Regarding the Humboldt mill tailings there are approximately 65,000 tons of these tailings with an average assay of .04 ounces gold, .45 ounces silver, .92 per cent copper. The milling plant is practically completed and the retreatment process

consists of a quick regrind followed by block flotation with re-agents. Tests show that the concentration ratio is about 10 to 1 and the recovery will approximate 80 per cent. Concentrates assay .25 ounces gold, 3.0 ounces silver and 6.5 per cent copper.

The tailings originated from the mill operated in connection with the Humboldt smelter some years ago and came mostly from the Blue Bell Mine, De Soto Mine, Swansea Mine and possibly several others. The mill will have a capacity of about 10 tons per hour.

The Humboldt smelter property is owned by Ruben Finklestein, 9901 S. Alameda Street, Los Angeles, and was leased by C. H. Dunning on April 4, 1942 for three years.

I hope the above gives you enough of the story to expedite this proposition. Also, do not forget to check into the quota as the smelter questioned whether the material of this nature was entitled to the premium payments. Correspondence with Nathason indicates that it is O.K., but the actual quota certificate has not yet been received.

DE, ARTMENT OF MINERAL RESOURCES STATE OF ARIZONA FIELD ENGINEERS REPORT

Mine Humboldt Tailings - C. H. Dunning

Date

October 30, 1942

District Humboldt

Engineer

J. S. Coupal

Subject: Review of B loan for W. C. Broadgate

The office copy of the application for a "B" loan by Charles H. Dunning, Route 1, Phoenix, was carefully reviewed and a day spent on the property to check up in a general way the physical features of the proposed operation and the following comments are submitted.

Positive Tonnage: A check on the calculations of the positive tonnage north of the line "Arbitrary economic line - estimated tonnage above line - 45,000 tons" on sketch map accompanying filed applications shows the 45,000 tons estimated to be in error. The calculated tonnage in the area bounded by the drill holes is approximately 14,100 tons. The estimated tonnage (all of which can economically be moved) in the areas outside of the drill holes and to the edge of the tailings area (and north of the "arbitrary economic line") is 8,900 tons or a total of 23,000 tons of positive tailings above the arbitrary line.

Probable Tonnage: I had three augur holes sampled in the tailing area south of the "Arbitrary economic line" and obtained the following results:

				•
C-1	11.0 ft	. deep	0.8%	copper
C-2	12.5 "	11	0.9%	11
C-3	8.2 "	11	0.6%	11

These holes are located as follows and may be spotted on the maps submitted.

C-1	35	ft.	SE	of	#14				
	35	ft.	SW	of	#14	E 2			
C-2	20	ft.	SW	of	#15	E 4			
C-3	65	ft.	189	S	of H	from	#16	E	4

There is insufficient data to estimate accurately the tonnage represented by the area south of the so-called "Arbitrary economic line" but an approximate tonnage can be estimated at 16,000 tons. An arithmetic average value of the samples taken shows about 0.6% copper content. This makes a sub-marginal tonnage which can only be considered as clean-up tonnage when capital investment is retired but could furnish an additional 128,000 pounds of copper.

In addition to the tonnage represented on the sketch map there are several smaller tailings areas - one N and W of the main tailings which I safely estimate at 2,000 tons, and two areas S and E of the main area estimated at 5,000 and 3,000, respectively.

All of these additional areas can be moved to the mill at little additional cost. This gives a total probable additional tonnage of 26,000 tons.

There is in addition to this probable tonnage a possible tonnage in an area about 800 feet south of the area being considered. It is backed by a concrete dam, 30 feet high and 100 feet in width, and is filled to within one foot of the top of

the dam for a distance 600 feet north. This area probably contains between 40,000 and 50,000 tons of tailings. It is safe to assume that these tailings will average close to the estimates of the tailings in the main area under discussion. The treatment, however, would involve either moving the mill or possibly slushing and pumping back to the present mill site. They represent a possible recovery of additional copper.

Summarizing Tonnage:

Positive	Tonnage	23,000	tons
Probable	Tonnage	26,000	tons
Possible	Tonnage	45,000	tons

Metallurgy: I will not attempt to discuss the metallurgy but wish to point out certain facts. A special sample was taken by me from two of the holes, I put down, and the upper two feet averaged 0.2% copper. This material is highly oxidized and a stripping operation to remove the two feet of surface or upper material would probably improve the recovery on the tonnage milled, but would reduce the total tonnage. The optimum results would not warrant stripping due to the actual cost and the possible recovery of some of the oxides by proper sulphidizing reagents. There seems no economic way of separating the oxides and sulphides for selective treatment.

Copper Production and Costs: With the addition of certain equipment to the mill, the installation of a Sauerman drag line, and an adequate supply of water, all of which are provided for by an estimate of \$4,500 capital expenditure, it seems that a sizeable amount of copper can be recovered at a profit with the 17-cent price of copper which applies to this zero quota operation.

Assuming for the sake of concrete and definite analysis only the 23,000 tons of positive tailings, which ample testing has shown an average copper content of 1% copper, and a 70% recovery of copper in plant treatment, we have:

23,000 x (70% of 20 pounds) = 322,000 pounds of recoverable copper

The applicant asks for a loan of \$15,000 of which \$4,500 is for capital expenditure, the balance being for operating or working capital. This is equivalent to a charge of 1.365 cents per pound of copper to amortize the capital expenditure. The estimated costs of operation by the applicant of \$1.37 per ton on a 240 ton daily basis should be increased by 19.11 cents to amortize capital expenditure would give a cost per ton of \$1.56 per ton. The estimated recoverable value, including the gold and silver values and figuring on 17-cent copper, is \$2.50 per ton or a net operating profit of 94 cents per ton.

On this basis operating costs could increase approximately 6% and the operator could still amortize the capital expenditure. As the applicant is a capable operator and particularly skilled in handling materials, it seems probable that an appreciable tonnage can be produced from these tailings at a profit and with the very nominal capital expenditure of \$4,500. Additional tonnage of copper may be produced from the probable and possible tonnage estimated.

Some error crept into the calculations of the tonnage estimated by the applicant on the area above the "arbitrary economic line". He rechecked our figures and agreed he was in error.

St. Compal.

DEPARTMENT OF MINERAL REJOURCES STATE OF ARIZONA FIELD ENGINEERS REPORT

Mine Humboldt Tailings - C. H. Dunning Date October 30, 1942

District Humboldt Engineer J. S. Coupal

Subject: Review of B loan for W. C. Broadgate

The office copy of the application for a "B" loan by Charles H. Dunning, Route 1, Phoenix, was carefully reviewed and a day spent on the property to check up in a general way the physical features of the proposed operation and the following comments are submitted.

Positive Tonnage: A check on the calculations of the positive tonnage north of the line "Arbitrary economic line - estimated tonnage above line - 45,000 tons" on sketch map accompanying filed applications shows the 45,000 tons estimated to be in error. The calculated tonnage in the area bounded by the drill holes is approximately 14,100 tons. The estimated tonnage fall of which can economically be moved) in the areas outside of the drill holes and to the edge of the tailings area (and north of the "arbitrary economic line") is 3,900 tons or a total of 23,000 tons of positive tailings above the arbitrary line.

Probable Tonnage: I had three augur holes sampled in the tailing area south of the "Arbitrary economic line" and obtained the following results:

C-1	11.0 ft	. deep	0.8%	copper
C -2	12.5 "	#1		11
0-3	8.2 "	11	0.6%	***

These holes are located as follows and may be spotted on the maps submitted.

C-1	35 ft. SE of #14	
	35 ft. SW of #14 E 2	
C-2	20 ft. SW of #15 E 4	
C-3	65 ft. 180 S of F from #16 F	1

There is insufficient data to estimate accurately the tonnage represented by the area south of the so-called "Arbitrary economic line" but an approximate tonnage can be estimated at 16,000 tons. An arithmetic average value of the samples taken shows about 0.6% copper content. This makes a sub-marginal tonnage which can only be considered as clean-up tonnage when capital investment is retired but could furnish an additional 128,000 rounds of copper.

In addition to the tonnage represented on the sketch man there are several smaller tailings areas - one N and W of the main tailings which I safely estimate at 2,000 tons, and two areas S and F of the main area estimated at 5,000 and 3,000, respectively.

All of these additional areas can be moved to the mill at little additional cost. This gives a total probable additional tonnage of 26,000 tons.

There is in addition to this probable tonnage a possible tonnage in an area about 800 feet south of the area being considered. It is backed by a concrete dam, 30 feet high and 100 feet in width, and is filled to within one foot of the top or

the dam for a distance 600 feet north. This area probably contains between 40,000 and 50,000 tons of tailings. It is safe to assume that these tailings will average close to the estimates of the tailings in the main area under discussion. The treatment, however, would involve either moving the mill or possibly slushing and pumping back to the present mill site. They represent a possible recovery of additional copper.

Summarizing Tonnage:

Positive	Tonnage	23,000	tons
Probable	Tonnage	26,000	tons
Possible	Tonnage	45,000	tons

Metallurgy: I will not attempt to discuss the metallurgy but wish to point out certain facts. A special sample was taken by me from two of the holes, I put down, and the upper two feet averaged 0.2% copper. This material is highly oxidized and a stripping operation to remove the two feet of surface or upper material would probably improve the recovery on the tonnage milled, but would reduce the total tonnage. The optimum results would not warrant stripping due to the actual cost and the possible recovery of some of the oxides by proper sulphidizing reagents. There seems no economic way of separating the oxides and sulphides for selective treatment.

Copper Production and Costs: With the additi n of certain equipment to the mill, the installation of a Sauerman drag line, and an adequate supply of water, all of which are provided for by an estimate of \$4,500 capital expenditure, it seems that a sizeable amount of copper can be recovered at a profit with the 17-cent price of copper which applies to this zero muots operation.

Assuming for the sake of concrete and definite analysis only the 23,000 tons of positive tailings, which ample testing has shown an average copper content of 1% copper, and a 70% recovery of copper in plant treatment, we have:

23,000 x (70% of 20 pounds) = 322,000 pounds of recoverable copper

The applicant asks for a loan of \$15,000 of which \$4,500 is for capital expenditure, the balance being for operating or working capital. This is equivalent to a charge of 1.365 cents per pound of copper to amortize the capital expenditure. The estimated costs of operation by the applicant of \$1.37 per ton on a 240 ton daily basis should be increased by 19.11 cents to amortize capital expenditure would give a cost per ton of \$1.56 per ton. The estimated recoverable value, including the gold and silver values and figuring on 17-cent copper, is \$2.50 per ton or a net operating profit of 94 cents per ton.

On this basis operating costs could increase approximately 6% and the operator could still amortize the capital expenditure. As the applicant is a capable operator and particularly skilled in handling materials, it seems probable that an appreciable tonnage can be produced from these tailings at a profit and with the very nominal capital expenditure of \$4,500. Additional tonnage of copper may be produced from the probable and possible tonnage estimated.

Some error crept into the calculations of the tonnage estimated by the applicant on the area above the "arbitrary economic line." He rechecked our figures and agreed he was in error.