



CONTACT INFORMATION

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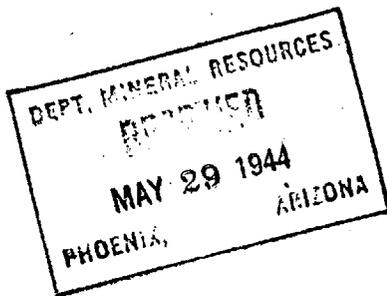
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May 25, 1944

Apartment 204
705-4th N.W.
Washington, (1) DC.

Mr. Frank Waitman,
Arizona Mining Supply Corporation,
Prescott, Arizona.

Dear Sir,

Regarding your telegraphic request for aid in getting a priority for a 105 ft compressor for the Mardun Mine, I am pleased to inform you that an AAS has been allowed.

In future, I should appreciate it if you will address any further correspondence or requests through the Phoenix office as per the usual routine.

With best personal regards,

Very truly yours,

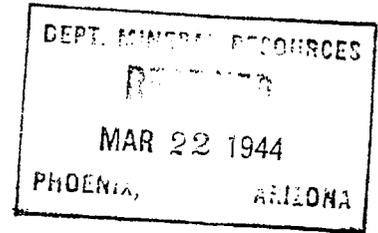
W. C. Broadgate

MARDUN COMPANY

THE COPPER MINE

VIA - CAMERON, ARIZONA

March 20, 1944



Mr. J. S. Coupal, Director
Department of Mineral Resources
304 Home Builders' Building
Phoenix, Arizona

Dear Mr. Coupal:

In answer to your letter of March 9th, we are still of the opinion that a larger operation at this time would be, if not impossible, at least very doubtful.

Based upon our experience during the past five months in attempting to locate the small amount of odds and ends necessary to complete our present mill, we feel that the necessity of locating, if in existence, all equipments necessary for the enlargement of our operations would be doubly expensive.

More particularly are we concerned over the question of sufficient and competent personnel for such an operation. With our small operation at the present time we are having to carry on with insufficient and very definitely incompetent personnel. We are also faced at this time with the very definite possibility of losing to the armed forces our only competent key men. We feel that we have been very successful in the use of the Navajo labor in comparison with others who have attempted to use this type of labor, but we have not been able to use the Navajo on any job with responsibility. Frankly, the situation has developed to such a point that our efforts from here on out to obtain man-power, correction, woman-power, will be to attempt to place women wherever possible in this operation.

Naturally, we want to see this operation enlarged to its maximum just as soon as it is practical, and we appreciate your efforts along this line. There is no doubt but that the time is coming when this can be accomplished. If you feel like making a visit to our operations in the near future, we will be very happy to have you.

Very truly yours,

MARDUN COMPANY

O. F. Marvin

OFM:LS

April 5, 1944

Mr. O. F. Marvin
Mardun Company
Via Cameron, Arizona

Dear Mr. Marvin:

Many thanks for your letter and I note the difficulties and have checked up with Washington and find that you are correct.

I did discuss your problem with Mr. Hersey of the War Production Board and asked Broadgate to investigate the possibilities of any construction. Broadgate is not a bit optimistic and he took the matter up direct with Mr. Bunker, vice-chairman of the W.P.B., who stated that "no facilities, new or used, would be approved until the course of the invasion." That practically means that things will probably be held up until after we have Germany licked.

There may be some easing up in this situation and if and when an opportunity presents itself, I may come up for a visit so as to get lined up for possible post war work.

Yours, very truly,

J. S. Coupal, Director

JSC:LP

Washington, D.C.
March 12, 1944

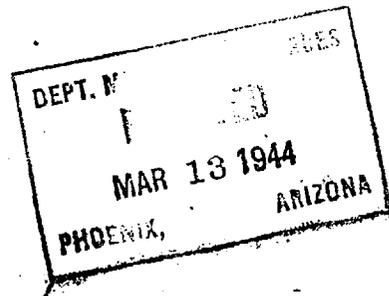
SUBJECT: Mardun Expansion

I am glad you were able to take this up with Hersey and tell him all about the deal. This will help.

However, I am not optimistic about such an expansion if it has to go to Facilities or to the Operating Committee for approval.

Bunker told me that no facilities, new or used, would be approved until the course of the invasion.

Bill Broadgate



March 1, 1944

Mr. O. F. Marvin
Mardun Copper Company
The Gap
Via Cameron, Arizona

Dear Mr. Marvin:

I have not heard from you regarding the taking over of the operations on the copper property.

I would like very much to know whether or not you and Mr. Duncan would consider such a proposal at this time which would include the putting in of a 1,000 ton plant with proposal to put in an electrolytic copper plant as soon as the restrictions on critical materials are eased up.

I believe a favorable deal could be made along these lines, your company retaining a certain royalty and also you remaining personally actively connected with the work.

I would appreciate an early reply on this from you.

Yours very truly,

J. S. Coupal, Director

JSC:LP

CC: c/o C. L. Duncan, 1001 17th St., San Francisco

February 7, 1944

Mr. O. F. Marvin
Mardun Copper Company
The Gap
Via Cameron, Arizona

Dear Mr. Marvin:

W. H. Orme-Johnson, Jr., representing the American Metal Company, Ltd., 61 Broadway, New York, has just been into the office and wanted full information on your operations. He has been requested by his company to look into your property. I gave him a copy of Ballam's report and gave him such other details as I have in mind, but suggested that the best plan would be for him to go to the property and see for himself and also discuss with you the possibilities. He told me that his company would be interested in large scale operations and I told him that right now I was discussing with you plans for certain private capital to work either with you or take over your operations.

I have talked this matter over and, as you know, I have stated that I believe I am in touch with certain capital which would consider the immediate plans for expanding your operations to 1,000 tons per day capacity, and as soon as priority and other restrictions were relieved, would go ahead with an electrolytic plant at some such point as Flagstaff to handle the concentrates produced. I might say that I was talking with Mr. Charles Kuezell at Clarkdale and he poo-hoo'd the idea of electrolytic precipitation, saying that it would be more economical to continue shipping your product to Clarkdale. Be that as it may, I believe it would pay to treat your concentrates and ship electrolytic copper to the west coast.

I would like to have this from you or Mr. Duncan, namely, a statement saying that you would consider a deal to take over and from you an estimate of what you think would be the amount of money necessarily involved to do so and to complete the job which would mean a thousand ton plant and adequate electrolytic installation. Ample allowances could be made on any such estimates so that we might know the outside involved. If I can have this from you I am prepared to make a visit to the property and then immediately get into action on the parties I have in mind.

Any plans I have contemplate your continuing in a very active capacity, both advisory and operating, and also assistance in the design end, as a matter of fact, continuing as you are excepting that a pay-off would be made to you and Mr. Duncan.

Mr. C. F. Marvin

-2-

February 7, 1944

I understand and hope that you now have your advanced premium and would like to know the amount.

With best wishes and kindest personal regards, I am,

Yours very truly,

J. B. Coupal, Director

JSC:LP

December 15, 1943

Mr. O. F. Marvin
The Gap Via
Cameron, Arizona

Dear Mr. Marvin:

Many thanks for your letter of December 1. Please pardon my delay in replying.

I believe Broadgate is still at work on your advanced premium and hope you have it by now. When you do get it, I would like to be advised as to the amount you obtained. I may have something further to write you regarding the thousand-ton plant; and, if you can get time to outline the deal, please do so. There has been a delay in the party I mentioned who is interested in my outline to him for a pending deal, so no harm is done.

As stated, please keep the proposal in mind and when you can, roughly outline a plan. I will appreciate hearing from you.

Very truly yours,

J. S. Coupal
Director

JSC:JES

MARDON COMPANY

SAN FRANCISCO, CALIF.

December 1, 1943



J. S. Coupal
412 Home Builders Building
Phoenix, Arizona

Dear Mr. Coupal:

From your letter of November 22nd I gather that you feel quite optimistic in respect to our obtaining the advance premium applied for.

Up to date we have heard nothing whatsoever from the Quota Committee in regard to our application. I am indeed very much surprised that we have not received an answer to our original application or to the telegrams which followed. It seems to me that we are entitled to at least an answer, as it is certainly very hard to make plans without sufficient information.

Our situation with respect to this is that at the present time if we were operating under this special premium, we could be shipping roughly ten times the amount of copper. As it is, we are forced to stock pile a large portion of the material mined. Of course, this ore will be run through the mill as soon as the new mill is completed, but at the present time, we are forced to open up new areas from time to time because the stock piled ore interferes by being in the way. This can be overcome, of course, by transporting this ore to some other point. This, however, requires additional expense and equipment, which we feel is not justified. Perhaps you have some suggestion to make as to how we may at least get some kind of answer, one way or the other.

In regard to the outline of a proposal we discussed, I have communicated with Mr. Duncan in San Francisco, and he feels as I do, that at this particular time, we are not properly prepared to offer even a rough outline. We hope, however, that within the next sixty days this will be practical. I am indeed sorry that I have to put this matter off, but it wouldn't be good policy at this moment.

J. S. Coupal

-2-

December 1, 1943

However, I can say this much, that our present operation has shown us more definitely that the thousand ton daily capacity operation can and should be carried out as soon as all things permit.

As far as our present size operation is concerned, and the known tonnage of the grade of ore we are now mining and shipping, we can see at least a full year's continued operation on our present basis. We estimate that this operation, under the present conditions and size, ~~can~~ continue for well over five years.

Yours very truly,

MARDUN COMPANY


By, O. F. Mardun

November 22, 1943

Mr. O. F. Marvin
Mardun Company
The Gap, via
Cameron, Arizona

Dear Mr. Marvin:

I have been hoping to hear definitely the amount of advanced premium that you have been granted and if and when you get official notice, would appreciate being advised.

Tomorrow I am to meet with the party who is interested in the thousand ton project we discussed and hope that you will soon find time to roughly outline a proposal along those lines and then we can go into greater detail as soon as time permits. With this brief outline on hand we would plan to come up and visit with you for a day or two.

I expect to be out of the office from the 25th of November to the 6th or 7th of December, but will be doing some work on the proposal in the next few days.

Yours very truly,

J. S. Coupal, Director

JSC:LP

Washington, D.C.
Nov. 21, 1943
RESOURCES
NOV 23 1943
POSTAL

SUBJECT: Mardun Copper Premium

Lipkowitz of the Labor Division has the docket now, though why he wants to investigate the Navajos, I don't know. Am trying to get it loose now.

Bill Broadgate

November 24, 1943

Mr. O. F. Marvin
Mardun Copper
The Gap (Via)
Cameron, Arizona

Dear Mr. Marvin:

I have just had the following memorandum from Bill Broadgate:

"Lipkowitz of the Labor Division now has the Mardun Docket.
Why he wants to investigate the Navajos, I do not know.
I am trying to get it loose now."

I am leaving the office for about ten days, but while in Tucson yesterday, I talked with the party with whom I have discussed the thousand ton plant. I believe we can make arrangements to carry out the plans I discussed with you as the party providing the funds has been approached and wants more information. The proposal was only generally outlined.

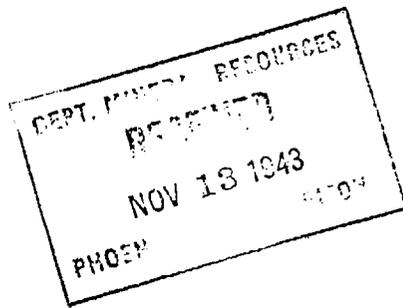
I would appreciate a brief summary from you outlining in general the terms, the amount of money which would be required, and the results which should be obtained. With this in hand, shortly after my return I hope to be able to make a trip to the property and be able to go into full detail.

In replying to this, please make the letter personal.

Very truly yours,

J. S. Coupal
Director

JSC:JES



The Gap via
Cameron, Arizona
November 12, 1943

Mr. J. S. Coupal
413 Home Builders Building
Phoenix, Arizona

Dear Mr. Coupal:

Your letter of November 5th was greatly appreciated and it certainly renewed our hopes in respect to the advanced premium. However, we are not planning too much upon obtaining this special premium and we are at present installing a new diesel power unit capable of operating a 200-ton mill. As soon as this is done, we will enlarge our present mill to a capacity of approximately 100 tons a day with the idea of operating this 100-ton mill for at least 6 months before building a 200-ton mill. We have sufficient ore stock pilings at present to more than pay for the cost and installation of this new unit and mill.

At the present time, in one of our workings we are recovering by hand sorting to about 1/4 of the total; high-grade shipping ore averaging 30% copper; approximately 80% of the remainder constitutes a mill ore averaging 6½% copper. A large portion of this high-grade shipping ore is quite unusual in that it consists of a mixture of Calcocite, Malochite, and a considerable amount of the Cupric oxide of copper. This is the first time to our knowledge that any such ore has been found in this area. The mineralization in this ore is identical to the others in that the mineral has been deposited between the sand grains and milling tests show that it works with equal results as the other ores. We feel that this may possibly lead to either primary ore or, if not, an extremely large body of high-grade ore as it continues to get larger and richer as our work continues.

Sincerely yours,

MARDUN COMPANY


O F Marvín

OFM.1p

November 15, 1943

Mr. O. F. Marvin
The Gap via
Cameron, Arizona

Dear Mr. Marvin:

Many thanks for your letter of November 12 and I believe that the advanced premium situation will be cleared up very shortly and I hope you are advised that your premium will be granted, even though from your report now it looks as though you may not need it for the immediate operations.

Do the present operations in any way change the plan we discussed for trying to get your property into the thousand ton daily capacity class? You cannot expect to continue in such good ore and it would seem to me as though for post war operations you have got to aim at handling the low grade ores.

Yours very truly,

J. S. Coupal, Director

JSC:LP

November 11, 1943

Mr. O. F. Marvin
Mardun Company
The Gab (Via)
Cameron, Arizona

Dear Mr. Marvin:

I have just received the following memorandum from
Bill Broadgate:

"Mardun Quota Application. I have been following
this matter very closely and I believe that it will progress
OK now that the freeze on copper applications was lifted."

Last night, Charlie Willis and I were at a meeting of the
Tucson Council at Tucson and H. O. King, chief of the copper
division, War Production Board, was there and he felt confident
the quota applications would be soon released.

Very truly yours,

J. S. Coupal
Director

JSC:JES



Washington, D.C.
Nov. 7, 1943

SUBJECT: Mardun Quota Application
Willis letter to Hayes, Nov 5

I have been following this matter very closely and I believe that it will progress OK now that the freeze on copper applications was lifted Saturday.

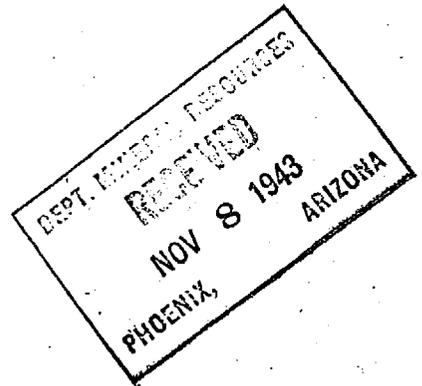
Bill Broadgate

Washington, D.C.
Nov. 5, 1943

SUBJECT: Mardun Quota Case.

This is now in the hands of the CPA section of the Quota Committee, having been passed by the Copper Production Section with a good sendoff.

Bill Broadgate



November 5, 1943

Mr. O. F. Marvin
The Gap Via Cameron
Arizona

Dear Mr. Marvin:

Many thanks for your letter of November 3. I was very glad to get the information. Evidently the Phelps Dodge smelting superintendent is more sanguine than I am as to the action of the Quota Committee. I see no logical reason why your advanced quota should not be granted, but, at the same time, the actions of the Quota Committee do not seem always logical or reasonable.

I do know that the policy of the War Production Board has changed radically in the past month and that there are now pending before them applications for some 80 advanced premiums. They have held up making a decision as to policy on copper. I am enclosing a press release which shows their attitude on other metals which does not look too pleasing. I understand a hearing is being held this week when the policy of the copper branch will be definitely determined. I will advise you as soon as I hear, but you may hear direct regarding your advanced premium before I do. There is nothing further that Bill Broadgate can do at this time, but I have sent him a memorandum showing what you are doing.

I am still anxious for the summary and the proposal we discussed and am ready to go at it as soon as I get your setup. As soon as this is on hand, I believe I can arrange to visit the property.

With kindest personal regards, I am

Very truly yours

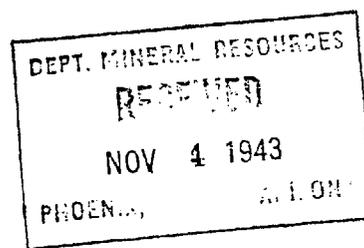
J. S. Coupal
Director

JBC:JES

MARDON COMPANY

SAN FRANCISCO, CALIF.

November 3, 1943



J. S. Coupal
413 Home Builders Building
Phoenix, Arizona

Dear Mr. Coupal:

I have received two letters from you in the past month and I am indeed sorry I haven't answered, but I have been extremely busy getting into operation again.

Shortly after my visit to Phoenix, I had a discussion with the Phelps Dodge smelter superintendent and he advised me at that time that he was quite positive that we would receive our special quota and for us to start operating immediately in view of their experience at the smelter in regard to these special quotas and stated that regardless of when the material was shipped or sampled, the special price quota would be retro-active from the date of our application. Immediately thereafter we started up our operation and since the 10th of October, we have shipped 18,000 pounds of workable copper. We find that during this period we have been able to show a small profit without the special price quota we had asked for, so, we are preparing now to increase our operations as far as and to as large an extent as conditions will allow.

I have not attempted to prepare the data you asked for in respect to this operation for two reasons; first, that I have not had time and secondly, I feel quite sure that a little later we will have more definite information and be able to make a more accurate report.

It has been considerably over a month since we made this application for special quota and in the meantime, I have sent several wires to the quota committee and have received no answer. Frankly, I feel like telling them to "go jump in the lake." I am wondering if you have had anything further from Bill Broadgate with reference to this.

It might be of interest to you to make a trip up and see the operation. Particularly in view of statements made by Coronado. If you do decide to visit the property, I suggest that you get in touch with me by wiring Flagstaff and having the message telephoned to the Gap so that I can meet you at the Gap or Flagstaff, whichever is more convenient for you.

Very truly yours,

O. F. Marvin

November 2, 1943

Mr. O. F. Marvin
Mardun Company
The Gap, via Cameron
Arizona

Dear Mr. Marvin:

Mr. Willis has just returned from Washington where he had chance to investigate the applications for advanced premiums on a number of properties. I am informed that there are some 80 applications for advanced premiums being held up pending a decision of policy by the W.P.B. Copper Division and among them Mardun.

The War Production Board has issued a statement of their policies on marginal mineral production but made no definite statement as to advanced premiums on copper. Our Mr. Broadgate in Washington is working on this subject now and we are in hopes his effort may result in the Board devising a more liberal policy regarding copper and advanced premiums on copper than they have on lead and zinc.

Pending a decision on this I would still be interested in the proposal we discussed for larger scale operations.

Very truly yours,

J. S. Coupal, Director

JSC:LP

CC: 1001 17th Street
San Francisco, Calif.

October 18, 1943

Mr. O. F. Marvin
Mardun Company
The Gap (via)
Cameron, Arizona

Dear Mr. Marvin:

I have just had a memorandum from Bill Broadgate in Washington referring to the Mardun Company and he writes as follows:

"Copper Division has set this up for the premium as was requested....perhaps a little better.

"How the Quota Committee will look at it the way things are going, it remains to be seen. I know they think that this is rather sketchy because of the long haul necessary."

I am awaiting your set-up and am prepared to start my end as soon as I get a definite line up from you.

Yours very truly,

J. S. Coupal, Director

JSC:JES

c. c. San Francisco office

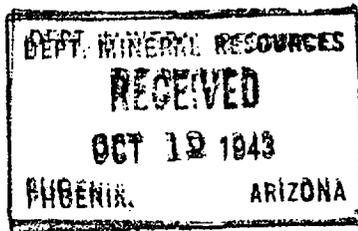
Oct. 10, 1943

Dear Sam,

Your memo on Lardun is at hand. I have been following this closely, and will report from time to time.

As yet the restrictive policies applied to lead and zinc have not yet spread to copper, and they will not if the production section can prevent it.

Bill



MEMORANDUM

TO: MR. W. C. BROADGATE

October 7, 1943

FROM: J. S. COUPAL

SUBJECT: CONFIDENTIAL

We are naturally much concerned with your memorandum of October 3, covering small mine restrictions. I am personally concerned with the fifth paragraph as applies to copper and in direct connection with the work I contemplate on the Mardum Copper which is the sandstone in Coconino County. You will recall I mailed a copy of a quota application of the Mardum Company for an increased price of 26.5¢ on copper. This operation, as stated, is ready to go, making use of an ample supply of Indian labor which is otherwise unemployed and will give an added production not only of 1600 pounds of recoverable copper per day, but also will supply Clarksdale with a much needed copper flux. I would like to have that quota followed up with the quota committee.

In addition to this, I am directly interested in a future for the Mardum Company as I have a preliminary contacts with possibly enough money to consider taking over the operations with plans to install a 1000-ton daily capacity mill, and, if investigations warrant, plans to install an electrolytical plant at a point such as Flagstaff to treat the concentrates and make electrolytic copper direct.

The operations are such that I firmly believe they can produce copper under 9¢ a pound and at a profit in post war conditions. Keep this in mind. It will be all private money and probably will call for some engineer's investigations, but I am in hope that I can directly assist in carrying out these plans and use them as an anchor when the change in economic conditions come about.

My first interest would be to try to push the quota for the present operations despite the sad tone of conditions as you find them. Once this is settled, I feel sure I would be willing to put an extra effort into the 1000-ton operation if I felt as though it would be a chance of getting them through without too much opposition from Washington. Please reply to this as "personal" to me.

J. S. Coupal

September 29, 1943

Mr. O. F. Marvin
Cameron, Arizona

Dear Mr. Marvin:

I am enclosing a letter received from Phelps Dodge Corporation, Clarkdale, and I have sent copies to Mr. David Forrester, Mr. Landon F. Strobel, and Mr. Broadgate.

Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

PHELPS DODGE CORPORATION

UNITED VERDE BRANCH
CLARKDALE, ARIZONA

September 22, 1943

To Whom It May Concern:

During the early part of 1942, copper ore and concentrates shipped from the property of the Mardun Company, Mr. O. F. Marvin, General Manager, was treated at the Clarkdale Smelter of the Phelps Dodge Corporation. Both ore and concentrates contained an exceptionally high amount of residual silica, causing the material to be highly desirable as a fluxing agent in the smelter operation.

The small amount of ore received was of a lower grade than could be profitably produced at that time, although the SiO_2 content was above 90% and basic constituents correspondingly low.

The smelter would be glad to accept ore and concentrates from Mr. Marvin's property in any amount up to six thousand tons per month.

Yours very truly,



J. W. Byrkit
Smelter Superintendent

JWB/p

T

September 29, 1943

Marvin
Mr. O. F. Marvin
Cameron, Arizona

Dear Mr. Marvin:

I wrote Philip Wiseman in reply to an inquiry he made regarding a lead property and mentioned the fact that you were going ahead on a production scale with your present plant. In reply to this he writes as follows:

"All of us very greatly regret that our work on the Navajo Indian land did not show ore in quantity or grade to permit a company operation on any scale whatsoever. I do not suppose Mr. Marvin agrees with our conclusions but we can be governed only by the results obtained by our own work. Some time when we are together you possibly will be interested in learning some of the results of our work."

When I know what can be done with the people I mentioned, I will try at some time to get in touch with the Wiseman office in Los Angeles and see just what their results were, but feel as though I would first like to see the property and line up the plan we were discussing.

Yours very truly,

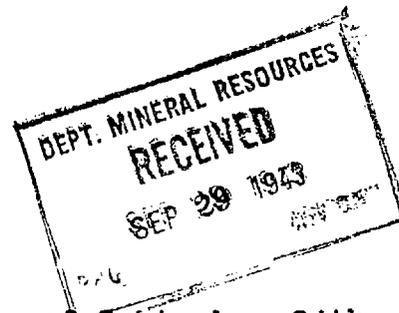
J. S. Coupal, Director

JSC:LP

PHILIP WISEMAN
1206 PACIFIC MUTUAL BLDG.
LOS ANGELES - 14

September 27, 1943

Mr. J. S. Coupal, Director
Department of Mineral Resources
413 Home Builders Building
Phoenix, Arizona



Dear Mr. Coupal:

Thank you for your letter of September 24th enclosing your office notes on the PRODIGAL LEAD MINE.

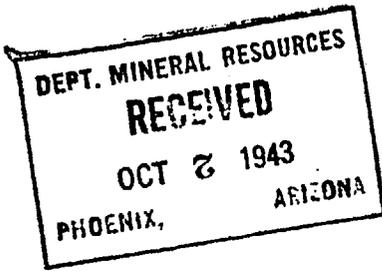
I am afraid that the property does not seem to have the possibilities of as large a tonnage operation as we would like.

All of us very greatly regret that our work on the Navajo Indian land did not show ore in quantity or grade to permit a company operation on any scale whatsoever. I do not suppose Mr. Marvin agrees with our conclusions but we can be governed only by the results obtained by our own work. Some time when we are together you possibly will be interested in learning some of the results of our work.

Yours very truly,


PHILIP WISEMAN

PW:RC



WAR PRODUCTION BOARD

WASHINGTON, D. C.

September 28, 1943

IN REPLY REFER TO:

4-H:DLF

Arizona Department of Mineral Resources
413 Home Builders Building
Phoenix, Arizona

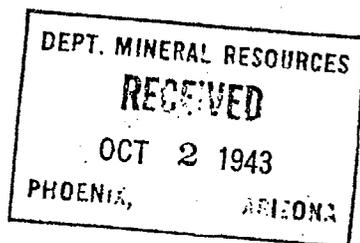
Attention: Mr. J. S. Coupal

Dear Sam:

This will acknowledge receipt of your letter of September 24th and enclosed data regarding Special Premium for Mardun Copper.

I will turn this over to the Quota Committee for their immediate attention.

Thanks and best regards,

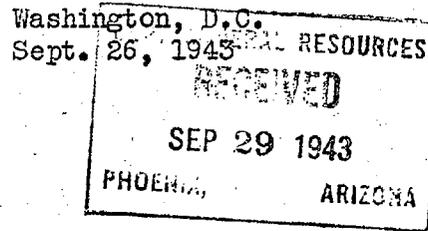


Very truly yours,

A handwritten signature in cursive script, appearing to read "D. L. Forrester".

D. L. Forrester
Assistant Chief
Primary Production Branch
Copper Division





SUBJECT: Mardun Company

I have the memos on this subject.

I do not have the reports you mention.... they must have been sent to the Copper Division.

I will take the various phases of this matter up with the proper parties as soon as I return from New York.... I am going up Monday afternoon on the Wage and Hour business.

I shall check with Forrester on the phone before I go and see how the land lies. I have already talked to Hersey on this matter briefly.

Bill Broadgate

September 24, 1943

Mr. David Forrester
Copper Division
War Production Board
Washington, D. C.

Dear Dave:

I am enclosing a copy of application for advanced premium on the Mardun copper and also a memorandum written by Mr. Marvin to accompany the application for advanced premium on copper.

As you are well acquainted with the proposed operations on this property, I know you will be interested, and if you can in any way assist in expediting the obtaining of the advanced premium, I am sure it will be highly appreciated and of benefit to the copper production.

As stated, the property is already to go and all that is necessary is the advanced premium on copper. The plans are to operate on the higher grade ore and future plans can then follow while steady production is being maintained.

We all still believe that the property is capable of large scale production but in the meantime a steady production can be maintained at a reasonable profit if the advanced premium is granted. There are no problems as far as labor, materials, supplies, or working capital.

With best wishes and kindest personal regards, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

September 24, 1943

MEMORANDUM

MARDUN COPPER

TO: W. C. Broadgate

FROM: J. S. Coupal

Following up memorandum from Charles F. Willis, September 23, 1943, on this subject, I am enclosing a copy of the Form WPB 2465, also a memorandum attached to it, and a copy of a letter I have just written to Dave Forrester.

In Charlie's letter please note in the second paragraph, the cementing material is malachite and not chrysocolla. Also, in the third paragraph on the second page it states: "The price, as I get it, in preliminary figures would be around 21 cents." Instead of price this is cost and by including royalty the cost will be 22.5 cents instead of 21 cents.

Dave Forrester is very well acquainted with the proposed operations and has given a lot of time to discussion of this project with Mr. Marvin of the Mardun Company. You may recall that a report is available and, I believe, in your hands or in the hands of Dave Forrester by George Ballam.

With the Mudd-Wiseman definitely out of the picture it seems as though the best move is to operate continuously the 40-ton plant, get out a production of copper and have operations going so that some other large capital would consider further investigation and the possible erection of a thousand or whatever size plant additional development work might justify. With the 40-ton plant in steady operation production could be immediately obtained and the ground work set for further investigation.

We will appreciate your taking this up with the Quota Committee.

JSC:LP
Enc.

SUBJECT: MARDUN COMPANY

September 22, 1943

Dear Bill:

You probably will recall the case of the Mardun Company which has the northern Arizona sandstones on the Navajo Indian Reservation. This was the proposition in which we were trying to interest the WPB last fall and I believe that we had Hayes and Forrester quite interested in it. It came just at the time when all the copper projects were put on the shelf and they were hesitant about developing any more projects as their pet ones had been sidetracked.

The Mardun Company has literally millions of tons of .7% copper ore. It is chrysocolla cementing grains of quartz sand. However, in this area there are a great many places of enrichment where there is a considerable tonnage in blocks running up as high as 4 or 5%.

Our proposal at that time was a large scale operation using a new milling process they had developed which did not require water. Failing to get any action out of the copper division of WPB, we made a contact for them with the Mudd-Wiseman interests in Los Angeles. About six months ago they took over the property for exploration, principally for a drilling program to determine definitely the tonnage and values. During this period they have had a heck of a time due to inability to get equipment and the work which they did pretty well substantiated the presentation of the Mardun Company, so we understand.

The Mudd-Wiseman interests, however, were after a big tonnage proposition and it was their desire to see developed and made available a 35,000,000 ton reserve and on the scale on which they wished to work it would require 20,000,000 tons or more to make a go of it. They were not interested in small production. I am inclined to believe that some of their troubles in getting priorities for equipment was due to the fact that it was a long-range proposition and that they were developing something for after-the-war use rather than for immediate production of copper. I also am inclined to believe that this policy of the Mudd-Wiseman interests does not stand well in government circles and that they are not going to make it easy for them to get an after-the-war proposition ready during the war period.

They were, however, satisfied with what they found and, inasmuch as the property is partially on Indian Reservation and in order to get a large tonnage area it would be necessary to continue on Indian lands, an application was made by the Mardun Company for an assignment of their lease to the Coronado Copper & Zinc Company which is the name under which the Mudd-Wiseman interests operated. This assignment was approved by the Department of Interior, Office of Indian Affairs on August 30, 1943. However, in giving the approval they put in certain conditions which were impossible for either the Coronado or Mardun company to accept. These conditions related to the time for which the lease would be granted and as it was to be a very large affair time would be an important element as they certainly should be allowed enough time to thoroughly explore their property and to remove the ore which they developed. This could not be done under the time limits provided, or anything near to it.

Another condition was the demand for a large immediate production which could not be lived up to because they were not ready for a large production at this time. If they were to mine the whole thing it required large scale operations to make a go of .7% copper. The result is that the Mardun and Coronado companies have jointly requested a cancellation of the lease and the entire project has now stopped. The machinery used by the Mudd-Wiseman interests has been removed from the property and has been stored in Flagstaff. In other words, it is dead even though we had great hopes of another large copper mine in Arizona.

However, some of the lands on which this copper deposit is located are patented and unpatented mining claims not within the Indian Reservation and not subject to a lease. The area of these is not enough to assure an orebody capable of handling a 10,000-ton a day production; but on these properties there are numerous bodies of sufficiently high-grade copper ore which can be gotten into immediate production and which can be made to operate on small scale work provided a higher price for copper can be obtained. The ore is highly desirable for the Arizona smelters in that they can ship 4 to 5% metal and can with the present mill ship a considerable amount of 15 to 15% concentrates which will run around 80% in silica. Both Clarkdale and Hayden need quantities of this ore.

Therefore, I have suggested to O.F. Marvin that he put up his proposition for an immediate production program asking for a price on copper necessary to handle this type of a deposit on a smaller scale and confine it to a program which will not require any new machinery, including in his price the extra amount necessary to avoid buying equipment. The price, as I get it in preliminary figuring, would be around 21 cents. I figured that 21-cent per pound copper for an ore that is badly needed as a siliceous flux would be more desirable under the present conditions than 17-cent copper which would require an initial investment in equipment, etc.

This application is being made out and will go to Washington shortly. It is a property that can get into production very quickly on this basis. The former basis on which it was being developed was to get something ready which would live in the post-war economy with copper at 8 or 9 cents. However, much of the higher grade could be mined or milled with their present equipment and get production now.

There is no manpower problem in that there are worlds of Navajo Indians in that section looking for jobs who would not be working elsewhere unless jobs are found in their particular neighborhood. They used Indians almost exclusively on their previous work and during their recent program.

I can understand the Mudd-Wiseman interests being stymied in their long-range program for a large copper producer of the future, but this is something that offers a smaller amount of copper right now.

I believe that you have full reports on the property and I know that the report made by George Ballam was sent to Dave Forrester so pretty complete information regarding their deposit is on hand in Washington. I feel that the need of copper bearing siliceous ores will cause them to give early consideration to the proposal and anything that you can do to help it along will be greatly appreciated.

With kindest personal regards, I am

CFW:MH

Yours very truly,

September 21, 1943

Mr. C. L. Duncan
Mardun Company
1001 Seventeenth Street
San Francisco, California

Dear Mr. Duncan:

Your letter of September 17 was received during the absence from the office of Mr. Coupal and I thought that I better write you as he will not be in until the end of this week.

We are very much disturbed over the fact that the Coronado Copper & Zinc Company and the Mardun Company are cancelling their lease as we had great hopes relative to the possibilities of production of copper from the northern Arizona sandstone, and, as you appreciate, we have tried to do a great deal to help in getting a new copper producing industry in Arizona underway, both for the war effort and the post-war period.

I would like to obtain some more information on your troubles. I would like a line on the conditions imposed upon your assignment of lease which were impossible to accept and who made those conditions; that is, what government department.

We have found it very necessary to trace down those who are putting on restrictions and placing obstacles in the way of production and unless they are reasonable and have some good excuse for their acts, we feel they should be made to defend their position.

Therefore I am anxious to get some further data from you before taking the matter up with our Washington contacts.

Thanking you for an early reply, I am

Yours very truly,

CHARLES F. WILLIS
Consultant, Metals Reserve Company

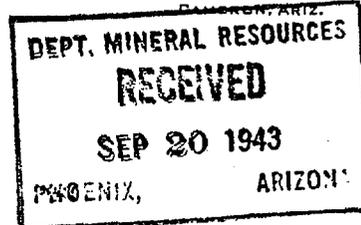
CFW:MH

MARDUN COMPANY

SAN FRANCISCO, CALIF.

September 17, 1943

MINE ADDRESS
THE GAP VIA
PHOENIX, ARIZ.



Department of Mineral Resources
State of Arizona
#413 Home Builders' Building
Phoenix, Arizona

Attention: Mr. J. S. Coupal
Director

Dear Mr. Coupal:

You will, no doubt, be interested to learn that our application for assignment of our lease to the Coronado Copper & Zinc Company dated April 15, 1943 was finally approved by the Department of Interior, Office of Indian affairs on August 30, 1943, however, the assignment was approved subject to certain conditions which were impossible for either the Coronado Copper & Zinc Company or the Mardun Company to accept.

Therefore, we (meaning the Mardun Company and the Coronado Copper & Zinc Company) have jointly requested the proper the authorities that our application for approval of Agreement and Assignment dated March 15, 1943 be withdrawn and cancelled.

We have also requested of the proper authorities a cancellation of our lease.

It is almost unbelievable that our government would put so many restrictions and obstacles in the way of anyone wishing to produce copper but such is the case.

For your further information, our operations have ceased, but we expect to maintain our Pilot Mill on the property for a short time should you or anyone else you know of be interested in any further work in this territory. We have an idea that the Vanadium Corporation of America who are operating in this district on Vanadium ores found in the sandstones might possibly be interested in our dry process. We have written them as of this date.

We wish to thank you for the interest you have always shown in this property and the many courtesies extended both to Mr. Marvin and myself.

Very truly yours,

MARDUN COMPANY



C. L. DUNCAN

CLD:DP
cc: O. F. Marvin

SUMMARY OF MARDUN PROCESS FOR THE SEPARATION OF
MINERAL VALUES FROM MINERALIZED SANDSTONES

The development of the Mardun Process covers a period of three years of extensive research and experimental work, and the building and operation of a seventy five ton Pilot Mill. The Pilot Mill was erected in August of 1941 and was operated and refined from time to time until September of 1942 at which time it was considered complete. From this time on, operations were carried out to establish costs and other operating data.

This is essentially a dry process and was developed for the recovery of mineral values from sandstone where the mineral is in voids of the sandstone.

Any difference in gravity of the various elements present in the ore is not a determining factor in the operation of this process. The Process is continuous and requires only two men per shift for its operation.

Three simple adjustments are necessary to compensate for the changes in the character of ore milled and these adjustments are made while the plant is in operation.

The plant is extremely simple in construction and is all standard equipment with the exception of one specially designed machine which can be built by any steel fabricator in one week's time.

The tailings consist of the original sand particles which are not broken or substantially reduced in size.

The following is a typical result of mill operations on copper ore found in Navajo sandstones of District #1 of the Navajo Indian Reservation.

<u>HEADS</u>	<u>TAILS</u>	<u>CONCENTRATES</u>	<u>RECOVERY</u>	<u>RATIO OF CONCENTRATION</u>
0.41% cu.	0.087% cu.	13.97% cu.	80%	34.0
0.609% cu.	0.094% cu.	15.73% cu.	84%	25.8
0.82% cu.	0.11% cu.	16.93% cu.	87%	20.6
1.90% cu.	0.34% cu.	21.7% cu.	82%	11.4

COST PER TON OF ORE TREATED

Power @ 1¢ per KW hr.	\$0.079
Fuel (oil) for drying @ 8½¢ per gal.	0.063
Labor (500 ton per day plant)	0.120
Repairs & Maintenance	0.016
Depreciation	0.032
Interest on investment	0.020
Actual cost of present seventy five ton plant	\$8,000
Estimated cost of 500 ton plant installed	\$50,000

May 7, 1943

As stated Mr. Phillip Wiseman has run into several disagreeable discussions along similar lines. He mentioned one in particular where a man, whom he met at a semi-social gathering, had mentioned that he would like to have Mr. Wiseman meet a certain potential mine investor and had given Mr. Wiseman his name. Some ten years later Mr. Wiseman met the man on a business deal (although he may have met him prior to the particular deal) and a property was sold to this man. The man who had first mentioned to Mr. Wiseman the potential purchaser was quite incensed at Mr. Wiseman in not paying him a commission even though ten years had elapsed and even though the deal was made by contacts over which the first party had no interest whatsoever.

April 3, 1943

Mr. C. L. Duncan
Mardun Company
1001 Seventeenth Street
San Francisco, California

Dear Mr. Duncan:

I am most pleased at the information in your letter of March 30 that a satisfactory deal has been closed with Phillip Wiseman interest.

As suggested, I am writing Mr. Wiseman and hope that we will have a chance to break this good news which will not be done until we are so advised.

I wish to thank you for your appreciation of our efforts and to also assure you it has been a pleasure doing it, as personally, I was intrigued by the good work you folks had done on the almost unlimited possibilities of the copper production from Arizona.

With best wishes and kindest regards, I am

Very truly yours,

J. S. Coupal, Director

JSC:kk

GENERAL OFFICES
1001 SEVENTEENTH STREET
SAN FRANCISCO, CALIFORNIA

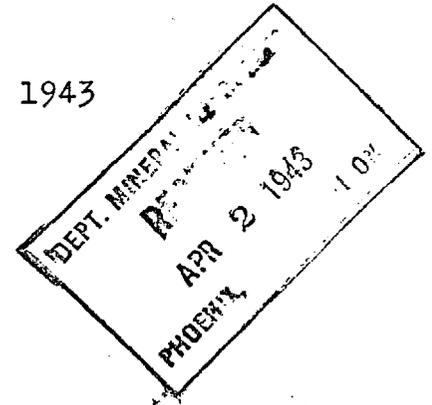
MARDUN COMPANY

SAN FRANCISCO, CALIF.

MINE ADDRESS
THE GAP VIA
CAMERON, ARIZ.

March 30, 1943

Department of Mineral Resources
State of Arizona
413 Home Builders Building
Phoenix, Arizona



Attention: Mr. J. S. Coupal - Director

Dear Mr. Coupal:

This will acknowledge your letter of March 24.

For your information, our negotiations with Mr. Phillip Wiseman's interest have been concluded in a very satisfactory manner, and I believe they will have their Engineers on the job by the first of April.

I would suggest, therefore, that you communicate directly with Mr. Phillip Wiseman, 1206 Pacific Mutual Building, Los Angeles for his permission to break the news to the public. As, if and when he gives his permission, I would request that you send me copy of what will be given out.

I would like to take this opportunity to thank you most sincerely for the help your office has given us. Without your assistance, I truly believe we would have been unable to contact the proper people to do this job.

Very kindest regards.

Very truly yours,

MARDUN COMPANY


C. L. DUNCAN

CLD:DP

cc: Mr. Phillip Wiseman

April 3, 1943

Mr. Phillip Wiseman
1206 Pacific Mutual Building
Los Angeles, California

Dear Mr. Wiseman:

I have just had a letter from C. L. Duncan stating that negotiations have been concluded in a very satisfactory manner with you on the sandstone copper. I would like very much to be able to break this news publicly and know that it will be of great benefit to the Department of Mineral Resources if we can do so and point with a little pride to our having recognized the merits of the property and of having been able to present it to you.

If you can see your way clear to let us know just what your plans are and authorize us to give a little publicity to it, it may possibly have some effect in making our Governor appreciate the fact that the Department of Mineral Resources, under its present management, does at least accomplish something of benefit to the State.

There is another matter that has come to my attention. Indirectly I was informed that you had stated sometime during the past two years that you did not care to undertake the worries of establishing a new operation, but that you were most interested in gathering together the data and doing the preliminary work and then letting someone else take over the operating worries. I have a certain contact who has all the money necessary and who, I believe, would willingly make a deal which would be satisfactory to you so that you might retain a substantial interest and cooperate with them in expanding the operations on these copper deposits.

If this is at all of interest to you I would be very glad to discuss it. I expect to be in Los Angeles around April 23 or 24 and will call on you.

Very truly yours,

J. S. Coupal, Director

JSC:kk

March 24, 1943

Mr. C. L. Duncan
Mardun Company
1001 Seventeenth Street
San Francisco, California

Dear Mr. Duncan:

Many thanks for your letter of March 18. I am very glad to hear that you are making such good progress with your negotiations.

I do believe it would be best for me to wait until I hear from you that the contract is closed and I will then write Mr. Wiseman and ask that he allow us to give the program the publicity it so richly deserves.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

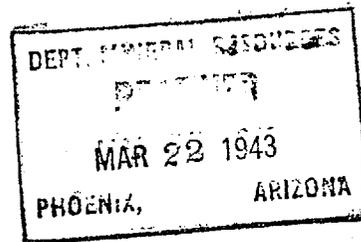
GENERAL OFFICES
1001 SEVENTEENTH STREET
SAN FRANCISCO, CALIFORNIA

MINE ADDRESS
THE GAP VIA
CAMERON, ARIZ.

MARDUN COMPANY

SAN FRANCISCO, CALIF.

March 18, 1943



Department of Mineral Resources
State of Arizona
413 Home Builders Building
Phoenix, Arizona

Attention: Mr. J. S. Coupal, Director

Dear Mr. Coupal:

For your information our negotiations with the Wiseman interests regarding our copper deposit in the Navajo Indian Reservation are still going on with great hopes of success, but we find that it takes more time than we had anticipated. I took the matter up with Mr. Wiseman as refers to your letter of February 19 and publicity and it is his thought that there should be no publicity given this district until our deal is finally closed up. He fears great damage might be done to the project just at this time.

I feel so sure that our negotiations will be completed within the next week or ten days I would therefore request that you take the matter of further publicity up with Mr. Wiseman.

Very truly yours,

MARDUN COMPANY

By 
C. L. Duncan

CLD:S

March 20, 1943

Mr. C. L. Duncan
Mardun Company
1001 Seventeenth Street
San Francisco, California

Dear Mr. Duncan:

I have just received a letter from a Mr. Robert Rae of Phoenix stating that he would like very much to contact you in event that you have not closed the contract on the Mardun operations, as he has people who would be very much interested in taking this matter up with you.

I also would be very much interested in knowing the outcome of the contract you were discussing with the Wiseman interests.

Any information you give will be, of course, confidential, but I do hope you will keep in mind my recent letter asking that we be allowed to present the story publicly as soon as you are in position to do so.

Yours very truly,

J. S. Coupal, Director

JSC:LP

February 27, 1943

Mr. W. D. McMillan
District Engineer
U. S. Bureau of Mines
P. O. Box 118
Rolla, Missouri

Dear Mr. McMillan:

I am enclosing a copy of the December 21, 1942 issue of "Pay Dirt". On Page 3 you will find an item, "Northern Arizona Copper Area Awaiting Development", which gives the information on the Mardun Company and the treatment of low-grade copper deposits. The type of mineralization and the method of treatment are briefly covered in this article.

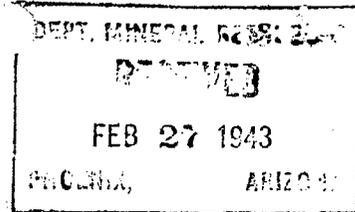
If you desire additional information, I would suggest that you contact Mr. C. L. Duncan, Care of Mardun Company, 1001 Seventeenth Street, San Francisco, California.

Very truly yours,

J. S. Coupal, Director

JSC;kk
Enclosure

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES



CENTRAL REGION
OFFICE OF THE DISTRICT ENGINEER
FOR MISSOURI, KANSAS AND OKLAHOMA

ROLLA, MISSOURI
P. O. BOX 118

February 24, 1943

Mr. J. S. Coupal, Director,
Arizona Department of Mineral Resources,
Phoenix, Arizona.

Dear Mr. Coupal:

Reference is made to the news item on Page 136 of the February issue of Engineering and Mining Journal relating to the recent development by the Mardun Company in the treatment of low grade copper deposits in sandstone.

I would appreciate any details you can furnish with respect to the type of mineralization in these deposits and the process used in concentrating the ores.

Very truly yours,


W. D. McMillan,
District Engineer.



GENERAL OFFICES
1001 SEVENTEENTH STREET
SAN FRANCISCO, CALIFORNIA

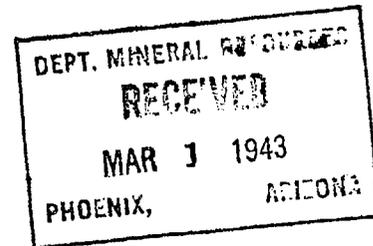
MINE ADDRESS
THE GAP VIA
CAMERON ARIZ.

MARDUN COMPANY

SAN FRANCISCO, CALIF.

February 26, 1943

Mr. J. S. Coupal, Director
Department of Mineral Resources
State of Arizona
413 Home Builders Building
Phoenix, Arizona



Dear Mr. Coupal:

Mr. Duncan has been ill at home during this past week, and this letter is being written at his request to advise you he heartily approves of your letter under date of February 19th. He expects to go to Los Angeles the first of next week, March 1st, to close the deal. Mr. Duncan further requests that you keep the above information confidential until you hear from him personally.

Very truly yours,

MARDUN COMPANY

BY

A. J. Nelson

CLD:PJ

February 19, 1943

Mr. C. L. Duncan
Care of Mardun Company
1001 Seventeenth Street
San Francisco, California

Dear Mr. Duncan:

Thank you for your letter of February 15. I will say that it was indeed a pleasure to be able to render service to you and to Mr. Marvin on your sandstone copper.

I have one request to make which I feel sure you will be willing to grant in appreciation of our efforts on your property and that is this: if and when a deal is consummated on your property with the Wiseman interests, I hope you will make every effort to give the information to this office first, so that we may break the news to the public and if you have no objections, we will take our share of the credit in having brought about the operations.

This will be of great help to us in the State of Arizona in combating some of the misinformation distributed by certain individuals who, having political reasons, claimed the Department is of no service to the general public.

I would also appreciate your transmitting this information to Mr. Wiseman and his associates at the time you definitely close your deal.

As stated, we feel as though it will be of great benefit to the Department if the publicity can first come from this office.

With best wishes and kindest regards, I am

Very truly yours,

J. S. Coupal, Director

JSC:kk

GENERAL OFFICES
1001 SEVENTEENTH STREET
SAN FRANCISCO, CALIFORNIA

MINE ADDRESS
THE GAP VIA
CAMERON, ARIZ.

MARDUN COMPANY

SAN FRANCISCO, CALIF.



February 15, 1943

Department of Mineral Resources
State of Arizona
413 Home Builders Building
Phoenix, Arizona

Attention: Mr. J. S. Coupal, Director

Dear Mr. Coupal:

First I wish to apologize for the apparent delay in answering your letter of February 5th. I really feel guilty in a way because we have had such wonderful service from your office. However, the writer was in Los Angeles all of last week and returned to the office this morning. Therefore I could not answer your letter prior to this date.

I wish to thank you most sincerely for the interest you have shown in our project and to advise you that at the present moment we are more or less tied up with our negotiations with the Wiseman interests, as you suspected. I would however appreciate your keeping that information confidential, at least for another two weeks, and at that time if our negotiations are not complete, I will then advise you to that effect. At that time, of course, I will be very glad to take the matter up with whomever you might suggest.

For your information I also have a letter this morning from Mr. Thomas Bardon of the Shattuck Denn Mining Corporation covering the same subject, and I have written him to the effect that at the present time we are negotiating with other parties, and therefore are not interested in any further negotiating with him at this time. I further advised him that if our negotiations failed, I would then be glad to contact him.

For your further information I expect to return to Los Angeles within the next few days to complete the negotiations above mentioned.

Assuring you of our sincere appreciation of the interest you have shown and the many courtesies extended us, I am.

Very truly yours,

MARDUN COMPANY

BY

CLD:PJ

February 5, 1943

Mr. O. F. Marvin
The Gap via
Cameron, Arizona.

Dear Mr. Marvin:

I have just had a call from Robert Rae, 311 Phoenix National Bank Building, Phoenix, Arizona, regarding your deposit of copper ore and the plans which you have for getting the property into immediate production. I have been informed that a period of examination has been given (I understand this is to be Wiseman interests) and that until something definite is decided along those lines, you would probably be unable to work definitely with any other people.

I have known Mr. Rae for a great many years and know that he has one particular contact very desirous of taking over a sizeable mining operation. They are seasoned mine operators and fully capable of placing your property into full capacity production provided examination and terms justify it.

I would be very glad to know when and if you expect to be free to deal and suggest that you contact Mr. Rae direct if you care to do so. I would appreciate your advising me of your decision.

With best wishes and kindest regards, I am

Very truly yours,

J. S. Coupal
Director

JSC:kk

cc - Mr. Robert Rae
311 Phoenix National Bank Building
Phoenix, Arizona

February 5, 1943

Mr. C. L. Duncan
1001 Seventeenth Street
San Francisco, California

Dear Mr. Duncan:

I have just had a call from Robert Rae, 311 Phoenix National Bank Building, Phoenix, Arizona, regarding your deposit of copper ore and the plans which you have for getting the property into immediate production. I have been informed that a period of examination has been given (I understand this is to be Wiseman interests) and that until something definite is decided along those lines, you would probably be unable to work definitely with any other people.

I have known Mr. Rae for a great many years and know that he has one particular contact very desirous of taking over a sizeable mining operation. They are seasoned mine operators and fully capable of placing your property into full capacity production provided examination and terms justify it.

I would be very glad to know when and if you expect to be free to deal and suggest that you contact Mr. Rae direct if you care to do so. I would appreciate your advising me of your decision.

With best wishes and kindest regards, I am

Very truly yours,

J. S. Coupal
Director

JSC:kk

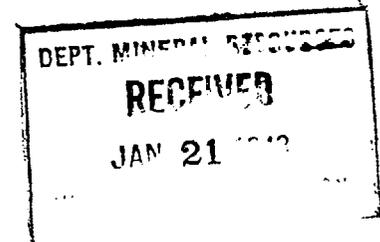
cc - Mr. Robert Rae
311 Phoenix National Bank Building
Phoenix, Arizona

MARDUN COMPANY

SAN FRANCISCO, CALIF.

January 18, 1943

Department of Mineral Resources
State of Arizona
413 Home Builders Building
Phoenix, Arizona



Attention: Mr. Earl F. Hastings,
Assistant Director and Projects Engineer

Dear Mr. Hastings:

I have just returned from a trip to Los Angeles and find your letter of January 11th on my desk.

For your information I did contact Mr. Philip Wiseman in Los Angeles. In fact we had two very interesting meetings with their Mr. Harvey Mudd and their engineer, Mr. Blair Stewart, and as a result they are sending Mr. Stewart to Flagstaff. Mr. Marvin will pick him up today, Monday. I have agreed not to make any further negotiations until after February 1st. This, of course, will give them a full two weeks to make a preliminary examination, also to determine whether or not they wish to go ahead with this matter.

I received a letter from the War Production Board this morning, stating that they are still awaiting the report from Shattuck Denn Company and the result of their work in this area before forming definite conclusions and making recommendations for possible projects. For some unknown reason it is evident the Shattuck Denn Company is withholding its report to the War Production Board.

I am also in receipt of a letter from Mr. Thomas Bardon, President of the Shattuck Denn Mining Corporation, to the effect that he will be in San Francisco January 28th, remaining here two or three days, then to Los Angeles, then to their headquarters in Arizona. Of course I do not know what Mr. Bardon's business will be in San Francisco.

I shall try to keep you posted on any new developments, and in the meantime I wish to thank you for the interest you are showing in our property.

Very truly yours,

MARDUN COMPANY

BY *C. Duncan*

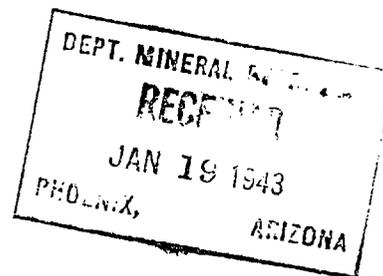
CLD:PJ

Shattuck Denn Mining Corporation

BISBEE, ARIZONA

January 17, 1943

Mr. Earl F. Hastings
Assistant Director and Projects Engineer
Department of Mineral Resources
413 Home Builders Building
Phoenix, Arizona



Dear Mr. Hastings:

This will acknowledge receipt of your letter of January 7th, together with enclosures. We certainly appreciate your thoughtfulness in forwarding a copy of the report on the Mardun Company Lease by George A. Ballam. I think the report covers the items we were mainly interested in.

Rest assured that we appreciate your kind offer to serve us should the occasion arise, in handling the matters relative to the Navajo in Washington.

With kindest personal regards, I am

Yours very truly,

S. S. Shattuck, Vice President
Shattuck Denn Mining Corporation

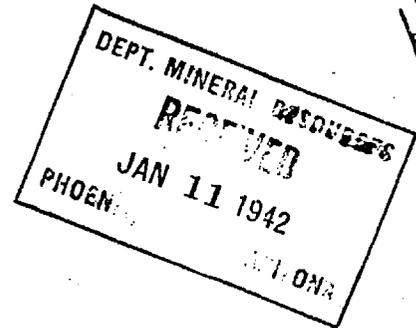
GENERAL OFFICES
1001 SEVENTEENTH STREET
SAN FRANCISCO, CALIFORNIA

MINE ADDRESS
THE GAP VIA
CAMERON, ARIZ.

MARDUN COMPANY

SAN FRANCISCO, CALIF.

January 6, 1943



Department of Mineral Resources
State of Arizona
413 Home Builders Building
Phoenix, Arizona

Attention: Mr. Earl F. Hastings,
Assistant Director & Projects Engineer

Dear Mr. Hastings:

I want you to know how thoroughly I appreciate your prompt reply to my letter of December 31st. Furthermore I wish to thank you for enclosing copies of your letters of December 18th and 22nd to Mr. Marvin, which, as you say, explain the circumstances relative to the War Production Board's action, or rather inaction.

You know, Mr. Hastings, I am very much inclined to believe that the powers that be in Washington, namely the Copper Branch of the War Production Board, are under the impression that this proposition is a mining venture and that they would feel more secure if a concern like the Shattuck Denn Corporation had more or less to do with it. Well, I will admit that the Shattuck Denn Corporation undoubtedly has had many years more experience in mining operations than we have, but you and I know that this is not a mining operation at all; it is merely a dirt moving operation, and no mining experience is required. By the same token the Shattuck Denn people do not approve of any dry method of securing copper, therefore we know far more about this portion of the endeavor than they do. Do you not think it would be wise to explain this matter more in detail to the Copper Branch of the War Production Board?

Thank you for bringing the name of Mr. Philip Wiseman to my attention as a possible interest in this endeavor. I expect to be in Los Angeles next week and will undoubtedly call on him.

What would be your reaction to taking up this whole matter with the Arizona senators? Do you think they would be able to help in any way?

Assuring you of my appreciation of your interest and efforts in our behalf, I remain.

Very truly yours,
MARDUN COMPANY

BY 

CLD:PJ

c

January 7, 1943

Mr. S. S. Shattuck, Vice Pres.
Shattuck Denn Mining Corporation
Bisbee, Arizona

Dear Mr. Denn:

Enclosed is a copy of the report on the Mardun Company lease by George A. Ballam. Likewise, enclosed is a copy of the Drill Log furnished us by the Mardun Company. Unfortunately we do not have copies of the exhibits referred to in the report.

These exhibits were, in the main, sketches of the equipment in use by the Mardun Company in their test plant, or proposed for the larger plant. Also among the exhibits was a map giving the location of the drill holes listed in the log tabulation.

I am quite sure that neither Mr. Marvin nor Mr. Duncan would object to your having any of the equipment data which they have worked up, as they expressed themselves as perfectly willing to give the benefit of their testing and design to any other responsible parties interested in the general area. If you would like to have this data let us know and we will request Mr. Marvin to send it to you.

Mr. Ballam reported that he was quite encouraged over the additional assay information you had obtained, since I last saw you in Tucson.

I sincerely hope that something can be worked out on this Navajo deposit which will be to your, as well as Mardun Companies, advantage.

We are more or less handling matters for Mardun in Washington. In the course of this service to them we would be glad to likewise serve you in any matters which you might call to our attention.

Very truly yours,

Earl F. Hastings
Assistant Director and
Projects Engineer

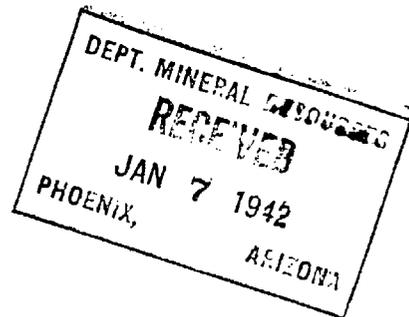
EFH:BA

Enc. 2

Shattuck News Mining Corporation

BISBEE, ARIZONA

January 5, 1943



Mr. J. S. Coupal, Director
Arizona Bureau Mineral Resources
Phoenix, Arizona

Dear Mr. Coupal:

We were intensely interested in the recent Associated Press dispatch, as well as the article appearing in "Pay Dirt" for December 21, 1942, regarding the Navajo sandstone copper deposit.

In glancing over the article in "Pay Dirt", I note that Mr. George A. Ballam submitted a report to the W. P. B. at a recent War Metal Mine Conference, held at Salt Lake City. As you know, we have spent a good deal of time exploring the country involved and, therefore, we would appreciate having a copy of Mr. Ballam's report, unless the same is of a confidential nature, which would preclude your sending us the same.

Any consideration you may give us in this regard will be greatly appreciated.

Yours very truly,

S. S. Shattuck
Vice President

SSS:s

January 5, 1943

Mr. Philip Wiseman
1206 Pacific Mutual Building
Los Angeles, California

Dear Mr. Wiseman:

Knowing of your interest in the copper deposit now leased from the Bureau of Indian Affairs by the Mardun Company, we are sending you a copy of the report by our field engineer, Mr. George Ballam.

In the event that the Mardun Company does not soon obtain government aid in their project they will no doubt be willing to negotiate with private companies. This might be of some interest to you.

Very truly yours,

Earl F. Hastings
Assistant Director and
Projects Engineer

EFH:BA

Enc. 1

December 31, 1942

e

Mr. C. L. Duncan
Mardun Company
1001 Seventeenth Street
San Francisco, California

Dear Mr. Duncan:

This will acknowledge receipt of your letter of December 29 addressed to Mr. Coupal. Mr. Coupal is out of town this week and I am taking the liberty of answering for him.

Enclosed are copies of letters of December 18 and 22 to Mr. Marvin which I think explain the circumstances relative to the War Production Board's action, or rather inaction up to date.

In the letter of December 22 the memorandum referred to states that the Shattuck-Denn information, after completely charted and analyzed, fully substantiated claims made by you relative to the extensive ore zones apparent and likewise confirmed the average value which you have set as your mill heads. This completed information will be of great benefit to you as it is no doubt by now before the War Production Board.

I hate to advise as to what course seems expedient to follow in the immediate future without some indication of the interest or lack of interest, beyond that which we now have. It is hard to decide whether or not it is worth while for you to keep the camp and plant in condition and available for operating inspection.

I am writing Mr. Hayes today and I am taking the liberty of quoting the 4th paragraph of your letter. I will ask him that if he has any intention of sending one of his own engineers on the property to please so notify us at once. Perhaps we can get some reaction from him as he knows the conditions you are facing up there.

Mr. Philip Wiseman, whom you no doubt know as one of the leading mining men of our times, expressed considerable interest in your project. His attention was called to it through the recent publicity. Mr. Wiseman's address is 1206 Pacific Mutual Building, Los Angeles, California. In the event that you cared to arrange

Mr. C. L. Duncan

-2-

December 31, 1942

finances through channels other than Reconstruction Finance Corporation I hardly think you would find a more competent group with whom to deal. I do not know that you would be interested in this type of thing but thought it no harm to call it to your attention.

We will keep you advised as to any news we have from Washington.

With best wishes for the New Year, I remain

Very truly yours,

Earl F. Hastings
Assistant Director &
Projects Engineer

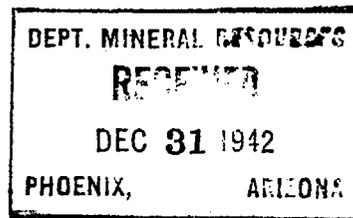
EFH:BA

Enc. 2

MARDUN COMPANY

SAN FRANCISCO, CALIF.

December 29, 1942



Department of Mineral Resources
State of Arizona
Phoenix, Arizona

Attention: Mr. J. S. Coupal, Director

Dear Mr. Coupal:

One of our San Francisco papers carried a re-print from one of your Phoenix papers under date of December 22nd headlined "Copper Found on Navajo Reservation". The article went on to state that the survey had been made and that representatives of the Copper Branch of the War Production Board had gone over this report and expressed an interest in the development as a source of quick cheap copper.

This, of course, is the first word we have had since my visit to your city with Mr. O. F. Marvin on November 25th, 26th and 27th. At that time you expected Mr. Hayes and Mr. Forrester to arrive in Phoenix the following Tuesday, at which time, I believe, Mr. Marvin had a conference with you and these gentlemen. Mr. Marvin returned to the mine, expecting a visit from either or both of these gentlemen, and just yesterday I received a letter from Mr. Marvin to the effect that they had not seen fit to make the trip to the mine.

Would it be asking too much to ask you if you would give me a letter setting forth to what extent Mr. Hayes and Mr. Forrester were actually interested in our proposition, and what, in your opinion, would be the best and next move for us to make? If we could get some encouragement from the Copper Branch of the War Production Board, we would be perfectly willing to continue our efforts. On the other hand if we cannot get the necessary encouragement from this department, we will do nothing further until the weather has entirely settled, which we presume will be around March or April. As you know in the meantime we are keeping the camp and the pilot plant in good condition and ready to show its operation to anyone concerned. Naturally we are doing this at considerable expense to ourselves.

Anything you can consistently tell me about what is going on and what we should do will be very gratefully received. Furthermore, I wish to thank you and Mr. Hastings for the courtesies extended Mr. Marvin and myself while in your office.

Very truly yours,

MARDUN COMPANY

BY *W. J. ...*

CLD:PJ

December 31, 1942

Mr. H. F. Hayes, Asst. Chief
Temporary R
War Production Board
Copper Division
Washington, D. C.

Dear Mr. Hayes:

I just received a letter from Mr. C. L. Duncan of the Mardun Company from which I quote in part:

"Would it be asking too much to ask you if you would give me a letter setting forth to what extent Mr. Hayes and Mr. Forrester were actually interested in our proposition, and what, in your opinion, would be the best and next move for us to make? If we could get some encouragement from the Copper Branch of the War Production Board, we would be perfectly willing to continue our efforts. On the other hand if we cannot get the necessary encouragement from this department, we will do nothing further until the weather has entirely settled, which we presume will be around March or April. As you know in the meantime we are keeping the camp and the pilot plant in good condition and ready to show its operation to anyone concerned. Naturally we are doing this at considerable expense to ourselves".

I believe this explains their problem fully and hope that you will be able to advise us when any serious action is taken relative to this project one way or another. I know you could have only recently received the Shattuck-Denn data and have therefore not had a great deal of opportunity to study it. I was quite elated to hear that the completed Denn report looked a great deal better both in respect to value and quantity of ore than those portions which you were able to look over in Tucson. Apparently this matter does have merit beyond the expectations of either the Mardun or Shattuck-Denn Companies'.

With best wishes to you and all of my friends in the Copper Branch a prosperous New Year, I remain

Very truly yours,

Earl F. Hastings
Assistant Director &
Projects Engineer

EFH:BA

WAR PRODUCTION BOARD

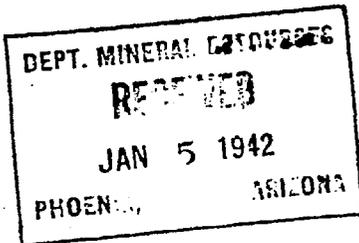
WASHINGTON, D. C.

December 31, 1942

IN REPLY REFER TO:

4H - FHH

H.
/



Mr. Earl F. Hastings
Assistant Director Department of Mineral Resources
State of Arizona
413 Home Builders Building
Phoenix, Arizona

Dear Earl:

Many thanks for your letter of December 21, enclosing the data on Mardun and the memo from George Ballam.

We have not yet received the report by Shattuck Denn on the Mardun, but as soon as it arrives, we will give further study to the Mardun project.

With best wishes for a successful new year.

Sincerely yours,

Harry Hayes

F. H. Hayes
Assistant Chief of Production
Copper Division



December 21, 1942

Mr. F. H. Hayes, Asst. Chief
Copper Division
War Production Board
Temporary "R"
Washington, D. C.

Dear Mr. Hayes:

Enclosed is a drilling log of the Mardun Co. The hole numbers correspond to those on the assay map which you already have. Please add this to the report which was given to you in this office.

I enjoyed our trip a great deal and trust that you will be in Arizona again before long.

With kindest personal regards, I am

Very truly yours

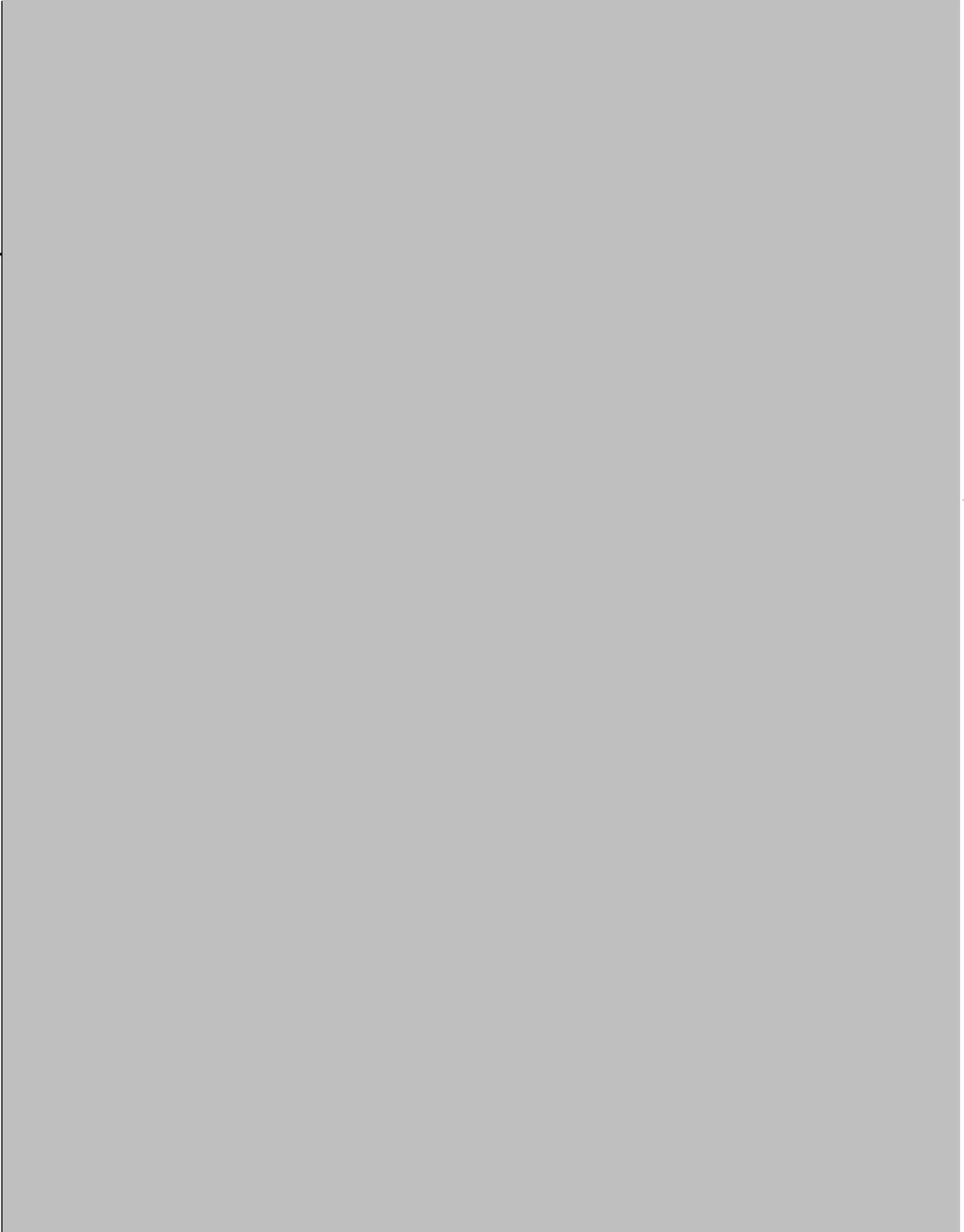
Earl F. Hastings
Assistant Director and
Projects Engineer

EFH:BA

Enc. 1

From PAY DIRT
December 21, 1942

NORTHERN ARIZONA COPPER AREA AWAITING DEVELOPMENT



CHECK SERVICE DESIRED OTHERWISE MESSAGE WILL BE SENT AT FULL RATE	
DOMESTIC	FOREIGN
FULL RATE	FULL RATE
DAY LETTER	CODE RATE
NIGHT LETTER	URGENT
SERIAL	DEFERRED
RESERVATION	NIGHT LETTER
TOUR-RATE	SHIP RADIO



CHARGE ACCOUNT NUMBER	
CASH NO.	TOLLS
CHECK	
TIME FILED	(STANDARD TIME)

Send the following message, subject to the Company's rules, regulations and rates set forth in its tariffs and on file with regulatory authorities

Phoenix, Arizona, December 18, 1942

Marden

Mr. O. F. Marvin
The Gap
Via Cameron, Arizona

Forrester was delayed on routine trip and is now recalled to Washington. They evidenced interest your proposition. Letter follows.

Earl F. Hastings
Department of Mineral Resources

①

December 18, 1942

Mr. O. F. Marvin
The Gap via Cameron
Arizona

Dear Mr. Marvin:

We wired you today as follows: "Forrester was delayed on routine trip and is now recalled to Washington. They evidenced interest your proposition. Letter follows".

I have not written you subsequent to our conference in Tucson with the Shattuck-Denn people as Mr. Forrester had agreed to let you know as soon as he had received orders from Washington to visit your property. He was somewhat delayed in completing the itinerary to which he was already committed at the time you were here and upon his arrival in Phoenix today was instructed to return to Washington, immediately.

This is no reflection upon your property. Both Mr. Hays and Mr. Forrester were interested in your proposal and the data which was submitted by the Shattuck-Denn in no way substracted from this interest. While Mr. Forrester had hoped to visit your property, no action would have resulted from that visit as they wanted to wait until the Shattuck-Denn's incomplete assay map had been finished. Shattuck-Denn, at the time we conferred with them, had several hundred assays plotted but had several hundred more on which their laboratory had not given determinations. The Copper Board intended to take their results, as well as your detail on the assaying of your drill holes, and study them both as one.

This combination of results they felt would establish the existence of ore beyond any reasonable doubt. It would probably, however, have resulted in a reduction of your estimated tonnage in the two buttes for the reason that the Shattuck-Denn's results indicated 50 or 60 feet of commercial ore rather than the 150 feet which you estimated. They might have asked for a few deep holes on your mesa to establish continuity of values to the depth of the general table land surrounding. This is merely a technicality, however, as your tonnage estimated on this new basis would still be sufficient to justify the operation you planned.

Mr. O. F. Marvin

-2-

December 18, 1942

As to metallurgy, I believe I am quite safe in saying that your flow sheet was acceptable to both Mr. Hays and Mr. Forrester. They are far more favorable to it than to any of the other possible means of beneficiating your ore.

Almost all of the projects approved by the Copper Branch are done without investigation by any individual of that branch. Mr. Forrester's failure to visit the property in no way detracts from their interest. The one thing that may be difficult even with the Copper Branch one hundred per cent in favor of your project is the new trend in Washington to limit new enterprises. The fact that so little critical material would be required by you is one thing which might get the project past the Materials Control section following WPB Copper Branch approval. That is a hurdle, however, which we will take when we reach it.

Please let us know if you submitted the tabulated information on the drill holes as Mr. Hays requested. Shattuck-Denn had sectionalized their holes and charted a cross section in both directions, which gave a very clear picture of the nature of the deposition in the area which they drilled, even though the holes were too far apart for really detailed calculations.

Be assured of our continued interest in this project and our intention to keep it before the proper officials in Washington. With kindest personal regards, I am

Very truly yours

Eeri F. Hastings
Assistant Director and
Projects Engineer

EFH:BA

Dec. 17, 1942

MEMORANDUM

Mardun
WHITE MESA COPPER

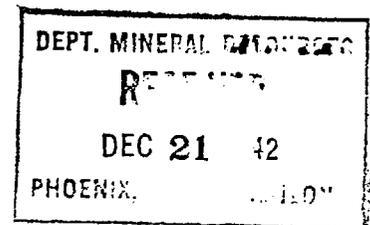
To: Director, Dept. Mineral Resources
From: George A. Ballam

I had a talk with Joe Wilcox of Shattuck-Denn this morning. He had just finished his recapitulation of test work done on White Mesa during the past summer (this report was incomplete at the time of the conference with Forrester and Hayes recently)

He has scaled his tonnage estimates upward, and believes that in the light of the new information it may be doubled. He also concedes that his former figures on recoverable values, 0.5 percent Cu, are low and is revising his estimates to approach if not reach the 0.75 figure reported on the Mardun lease. In reviewing the very detailed figures he has available he finds very little disagreement with the report rendered this department on Mardun. He thinks this is especially significant since the two investigations were directed toward very different objectives from the treatment standpoint.

He also asked permission to quote the department report in the matter of discrepancies experienced in sampling and assaying, which were found to be in complete accord with his experience. I saw no objection to this, but will stand advised in the matter.

G. A. Ballam



December 2, 1942

MEMORANDUM

SUBJECT: The Mardun Copper Project

TO: George Ballam

FROM: J. S. Coupal

Earl Hastings will leave Thursday for Tucson and will be at the Pioneer on Friday and Saturday. He is to have an appointment with Spencer Shattuck and Friday afternoon Dave Forrester and Frank Hayes of the War Production Board will be on hand to discuss the Mardun Copper Project.

Please contact Earl at the Pioneer and arrange to give them some little time in order to explain your observations.

November 20, 1942

Mr. Spencer Shattuck
Shattuck Denn Company
Bisbee, Arizona

Dear Mr. Shattuck:

Attached is a card signed by Mr. Eugene Dines which was given me by him to serve as an introduction.

At the recent American Mining Congress Meeting in Salt Lake City I was discussing with Mr. Dines the White Mesa copper deposit formerly operated by the Coconino Copper Company. Our engineer was at that time on the premises obtaining operating information for the War Production Board. Mr. Dines informed me that the Shattuck Denn Company had done some drilling of the property and that he was confident that, on the basis of this introduction, you would be willing to furnish this Department with the results and data obtained from your examination. Our engineer was, of course, unable to estimate ore reserves or ore values and necessarily confined his investigation to metallurgical results being obtained in the current operation of a 70-ton dry concentrating plant. The tonnage would necessarily be an opinion and based upon the work of others, original data on which is lacking. With the information in your possession, it would assist this Department greatly in evaluating the property.

Mr. Harry Hayes and D. L. Forrester of the War Production Board are scheduled to arrive in Phoenix the middle of next week. We are most anxious to have our recommendations relative to this copper property ready for them on their arrival and would be extremely appreciative if you made available to us your data that it might be inspected by them. The Department will assume responsibility for the immediate return and safety for all documents, and I can assure you that the information contained will not be made public and will be for the exclusive use as above outlined.

Trusting for your cooperation in the matter, I remain

Very truly yours,

Earl F. Hastings
Assistant Director and
Projects Engineer

EFH:kk

CHECK SERVICE DESIRED OTHERWISE
MESSAGE WILL BE SENT AT FULL RATE

DOMESTIC		FOREIGN	
FULL RATE		FULL RATE	
DAY LETTER		CDE RATE	
NIGHT LETTER		URGENT	
SERIAL		DEFERRED	
RESERVATION		NIGHT LETTER	
TOUR-RATE		SHIP RADIO	

COPY
POSTAL TELEGRAPH-CABLE CO.
TELEGRAM

December 2, 1942

Mr. Spencer Shattuck
Pioneer Hotel
Tucson, Arizona

Arrive Tucson Friday instead of Thursday. Please plan staying over

Saturday with WPB officials for conference on Cochise copper if possible.

Earl F. Hastings
Department of Mineral Resources

CHECK SERVICE DESIRED OTHERWISE
MESSAGE WILL BE SENT AT FULL RATE

COPY

POSTAL TELEGRAPH-CABLE CO.

TELEGRAM

DOMESTIC		FOREIGN	
FULL RATE		FULL RATE	
DAY LETTER		CDE RATE	
NIGHT LETTER		URGENT	
SERIAL		DEFERRED	
RESERVATION		NIGHT LETTER	
TOUR-RATE		SHIP RADIO	

Phoenix, Arizona, November 27, 1942

Mr. Spencer Shattuck
Shattuck Denn Company
Bisbee, Arizona

Forrester and Hayes arrive Tuesday morning December 1. Please advise
if your engineer can be present our office that date with complete data
on Coconino copper deposit.

Earl F. Hastings
Department of Mineral Resources

CHECK SERVICE DESIRED OTHERWISE MESSAGE WILL BE SENT AT FULL RATE	
DOMESTIC	FOREIGN
FULL RATE	FULL RATE
DAY LETTER	<input checked="" type="checkbox"/> CDE RATE
NIGHT LETTER	URGENT
SERIAL	DEFERRED
RESERVATION	NIGHT LETTER
TOUR-RATE	SHIP RADIO

Postal Telegraph



Mackay Radio All America Cables
Commercial Cables Canadian Pacific Telegraphs

CHARGE ACCOUNT NUMBER	
CASH NO.	TOLLS
CHECK	
TIME FILED	STANDARD TIME

Form 2 Dbl

Send the following message, subject to the Company's rules, regulations and rates set forth in its tariffs and on file with regulatory authorities

DAY LETTER

Phoenix, Arizona, November 23, 1942

**D. L. Forrester
Hotel Utah
Salt Lake City, Utah**

Shattuck Denn encouraged in results of their work on northern Arizona sandstone copper deposits as is our engineer after analysis Mardun Company holdings.

Shattuck and Mardun engineers anxious to meet you and Hayes earliest possible date and this department urges you allow full day in our office for consideration of this project. Please notify by wire if and when possible so all may arrange plans accordingly. Regards.

**Earl F. Hastings
Department of Mineral Resources**

November 20, 1942

Mr. David L. Forrester
Hotel Utah
Salt Lake City, Utah

Dear Dave:

Mr. Ballan, our Field Engineer, has returned from an examination of the Navajo copper deposit now being operated by the Mardun Company. During his examination he checked mill results carefully. The analysis of this operation is very definitely interesting and offers a possibility for a tremendous copper production. We trust that you will be sure and visit this office when enroute to Ray that this report may be studied.

By that time we likewise expect to have the drilling information compiled by the Shattuck Denn Company.

Thoroughly enjoyed the trip to Salt Lake City, although somewhat late in returning due to train schedules. When you come down, you had better allow about a thirty-three and one-third per cent factor on time judging from our experience of this week.

Kindest personal regards,

Very truly yours,

Earl F. Hastings
Assistant Director and
Projects Engineer

EFH:kk

November 11, 1942

H.

Mr. O. F. Marvin
Care of Mardun Company Copper Mine
Cameron via
Flagstaff, Arizona

Dear Mr. Marvin:

I am enclosing the photostatic copy of the article "Copper Deposits of the White Mesa District, Arizona" by James M. Hill which was taken from "Contributions to Economic Geology, Part I, Metals and Nonmetals, U. S. Geological Survey Bulletin No. 540."

I have another copy of this on file in our office which we will keep to accompany the report by Mr. Ballam.

Very truly yours,

J. S. Coupal
Director

JSC:kk

Enclosure

October 27, 1942 C

Mr. O. F. Marvin
The Mardun Company
The Gap - Via
Cameron, Arizona

Dear Mr. Marvin:

We are utilizing the information contained in your letter of October 3 to Mr. Charles F. Willis in the preparation of a report for the Army-Navy Munitions Board.

In studying your letter, we do not find that you have made application for a Reconstruction Finance Corporation loan although we note you have discussed your problem with an engineer and gave him all of the detailed data on your proposed mill and so forth.

We suggest that you make formal application for a Reconstruction Finance Corporation General Mining Loan. Application blanks can be obtained for this from the RFC Mine Loan Division, 325 Heard Building, Phoenix. When you have completed this application, if you will send it to this office we will have our representative Mr. Broadgate file it in Washington and follow it through for you.

We trust that you did not give the only originals to the engineer whom you mentioned in your letter as these will be a necessary part of the substantiating evidence to your application. If you can follow the above suggestion we believe we can assist in getting an early consideration of your project.

Very truly yours

Earl F. Hastings
Assistant Director
& Projects Engineer

EFH:BA

October 8, 1942

Mr. O. F. Marvin,
Mardun Company,
The Gap via Cameron,
Arizona.

Dear Mr. Marvin:

I have your letter of October 3 and appreciate the complete information that you give me regarding your property.

The work which the U. S. Bureau of Mines is doing relative to the survey of potential copper resources is more largely connected with the resources of the more distant future than those of immediate use; therefore, there is no particular hurry to that which they are doing.

You apparently have something which is of immediate value and therefore you should make a direct application for a mine loan from the Reconstruction Finance Corporation, outlining exactly what you have; what you want; and what you anticipate the results will be in production.

I am sending you a circular regarding the mine loan program and I will have a copy of the government booklet and a Class "A" mine loan application blank sent to you direct. We do not have copies of these blanks as they are sent out only from the government office.

There is nothing in your letter that indicates the size loan required or how much money would be needed to build the plants necessary to get it into production. If you would give me that information at an early date, I will see to it that it gets to the proper people in Washington so that when your application comes in they will have full information regarding it and will be able to act more promptly.

You have something that Washington should be very much interested in getting into production in a short time and I am certain that we can help you.

Hoping that I will hear from you again soon as to your financial requirements to carry out this program, I am

Yours very truly,

CHARLES F. WILLIS, Consultant
Metals Reserve Company

October 8, 1942

Mr. W. B. Gohring,
Reconstruction Finance Corporation
325 Heard Building,
Phoenix, Arizona.

Dear Bill:

Will you kindly send Circular No. 14 and a
Class "A" mine loan application blank to

O. F. Marvin
Mardun Company
The Gap via Cameron
Arizona

We have a letter from Mr. Marvin explaining
his proposal in full and I should of course ask him
to write you direct, but due to his remoteness from
civilization much time would be saved if you could
send him the circular and blank form immediately.

With kindest personal regards, I am

Yours very truly,

CHARLES F. WILLIS, Consultant
Metals Reserve Company

CFW:MH

MARDUN COMPANY

San Francisco, Calif.

October 3, 1942

Mr. Charles F. Willis
520-528 Title and Trust Building
Phoenix, Arizona

Dear Mr. Willis:

The writer contacted you by telephone on October first in search of information regarding the proper procedure required for the obtaining of a government loan for our copper mine, located in District one of the Navajo Reservation.

This Company obtained a mining lease on January 1, 1942. The lease consists of five hundred and eighty-four acres of Navajo Tribal Land. This lease was granted after this Company had blocked, by drilling, approximately one and one half million tons of copper ore averaging approximately one and one-half percent copper and had also perfected a milling operation for the concentration of this particular type of ore and satisfied the Navajo Service and the Land Office that our milling operation was successful.

This deposit, which has surface showings over an area of approximately five by seven miles, has been known to exist for well over fifty years, to our knowledge, and there have been, from time to time, various attempts at selective mining and the shipping of high grade ores. None of these were successful, due to the fact that the percentage of shipping ore was too low. There has also been an attempt made some three or four years past, at leaching this ore. This also was a failure because the nearest water available for this purpose is approximately thirty miles distant and approximately three thousand feet lower in elevation. The supply of necessary chemical reagent for leaching was shipped from Salt Lake City, four hundred and fifty miles from the property.

It is therefore necessary, in order to carry out an economical operation, to use a method of concentration which does not require the use of water. This, of course, looks to the metallurgist as being practically in the realms of impossibility, due to the fact that there have been thousands of attempts at dry concentration of all kinds of ores and in all cases known to the writer, these have failed. But in this particular case, we are dealing with a most unusual material. This material is a very loosely bound sandstone, impregnated with malachite. The sand particles are extremely hard and

tough, whereas the malachite, which has formed between the sand particles, is very friable. This physical characteristic enabled us to pulverize the malachite while at the same time, very little reduction in size takes place in the original sand particles. This, in turn, allows us to remove substantially all the mineral from the sand by the use of air separation. The ratio of concentration has been averaging approximately twelve to one.

We have had a small mill in operation since the first of April of this year. This mill has a maximum capacity of sixty tons of ore per twenty-four hours and has been producing a concentrate of approximately fifteen percent copper with approximately ninety percent recovery, all of our shipments going to the Phelps Dodge Smelter at Clarkdale, upon which we receive a premium for their fluxing value. This operation has proved to be the most economical milling and concentrating operation that the writer has ever come in contact with. Our results have proven that the complete cost of milling and concentration a ton of ore to be approximately thirty cents per ton through a three hundred ton per twenty-four hour mill.

My object in going into as much detail as I have in regard to our particular operation, was to bring out the point that perhaps we may be extremely slow in obtaining action unless there is some way of possibly obtaining a supervising engineer's examination first rather than what we are attempting to do at the present time.

As I explained to you by phone, approximately three months ago we obtained the services of a man who represented himself to be an expert in this particular field. We supplied this man with detailed reports and drawings covering our flow sheets, equipments, detailed drawings of our proposed mill and equipment, photostatic copies of our mining lease, smelter contracts and smelter settlement sheets, drill maps and certificate of analysis, in other words, all pertinent data pertaining to this operation. It is my understanding that this man submitted this to the Copper Branch of the War Production Board in Washington D. C. Apparently this has been in their hands for well over sixty days and we have had nothing to indicate their attitude, with the exception that this man notified me on September 28, that it was his opinion that the Bureau of Mines, out of Mr. Hedges office in Tucson, will undoubtedly have their engineers on our ground for a recheck. No indication of the time nor that there was anything definite about this. This seems to me to be quite unusual, in view of what little we know of the experiences of other companies who have made application for a government loan.

Our government needs copper so badly and we could be on a large scale operation within ninety days after the grant-

ing of a loan, it is impossible for us to understand why we do not get some definite action from our effort of the last ninety days.

We feel that if any one can give us information to assist us along these lines it would be yourself. Any information that you can give us will be indeed appreciated.

Thanking you for the interest you have shown and your willingness to assist us, we beg to remain,

Yours very truly,

THE MARDUN COMPANY

(Signed) By O. F. Marvin

Mine Address
The Gap Via
Cameron, Arizona

OFM:RD

MARDUN COMPANY

San Francisco, Calif.

October 3, 1942

Mr. Charles F. Willis
520-528 Title and Trust Building
Phoenix, Arizona

Dear Mr. Willis:

The writer contacted you by telephone on October first in search of information regarding the proper procedure required for the obtaining of a government loan for our copper mine, located in District one of the Navajo Reservation.

This Company obtained a mining lease on January 1, 1942. The lease consists of five hundred and eighty-four acres of Navajo Tribal Land. This lease was granted after this Company had blocked, by drilling, approximately one and one half million tons of copper ore averaging approximately one and one-half percent copper and had also perfected a milling operation for the concentration of this particular type of ore and satisfied the Navajo Service and the Land Office that our milling operation was successful.

This deposit, which has surface showings over an area of approximately five by seven miles, has been known to exist for well over fifty years, to our knowledge, and there have been, from time to time, various attempts at selective mining and the shipping of high grade ores. None of these were successful, due to the fact that the percentage of shipping ore was too low. There has also been an attempt made some three or four years past, at leaching this ore. This also was a failure because the nearest water available for this purpose is approximately thirty miles distant and approximately three thousand feet lower in elevation. The supply of necessary chemical reagent for leaching was shipped from Salt Lake City, four hundred and fifty miles from the property.

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Yours very truly,

THE MARDUN COMPANY

(Signed) By O. F. Marvin

Mine Address
The Gap Via
Cameron, Arizona

OFM:RD

WAR PRODUCTION BOARD

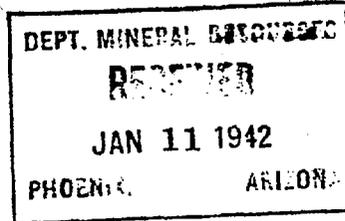
WASHINGTON, D. C.

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January 5, 1942

IN REPLY REFER TO:

4H FHH



Mr. Earl F. Hastings
Department of Mineral Resources
413 Home Builders Bldg.
Phoenix, Arizona

Dear Earl:

I have your letter of December 31 regarding the Mardun property. We have not yet received the report from Shattuck-Denn, but Mr. Bardon will be in here during the latter part of the week, and I am hopeful that he will have the report with him. In the meantime, we thank you for the information contained in your letter.

With best wishes for a prosperous

New Year,

Very truly yours,

F. H. Hayes
Assistant Chief of Production
Copper Division



MARDON COMPANY

SAN FRANCISCO, CALIF.

October 3, 1942

H.

Mr. Charles F. Willis
520-528 Title and Trust Building
Phoenix, Arizona

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MARDON COMPANY

SAN FRANCISCO, CALIF.

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MINE ADDRESS
THE GAP VIA
CAMERON, ARIZ.

MARDUN COMPANY

SAN FRANCISCO, CALIF.

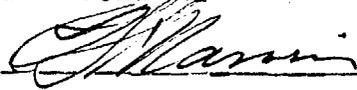
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Yours very truly,

THE MARDUN COMPANY

By 

OFM:RD

Excerpt on
Copper deposits of the White
Mesa District, Arizona

from
Contributions to Economic Geology
U.S. Geological Survey,
Part 1. Metals & Non-metals
Bulletin No. 540.

Budget

2.7 million

% Mardun Company Copper Mine

Cameron

via Flagstaff

Arizona

File under

Mardun Co.