



CONTACT INFORMATION

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Arizona Department of Mines and Mineral Resources Mining Collection

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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: GRAND REEF

ALTERNATE NAMES:

ARAVAIPA
JOHN W. MACKAY
CALISTOGA MNG. & DEV. CO.
BRINGHAM SILVER AND LEAD
VIVIAN MINE
PATENTED CLAIMS MS 1760
JOE RUBAL
BOTTS, GEORGE H.
LEAD JEWEL

GRAHAM COUNTY MILS NUMBER: 167B

LOCATION: TOWNSHIP 6 S RANGE 20 E SECTION 29 QUARTER E2
LATITUDE: N 32DEG 53MIN 00SEC LONGITUDE: W 110DEG 19MIN 01SEC
TOPO MAP NAME: COBRE GRANDE MTN - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

LEAD OXIDE
COPPER OXIDE
ZINC
SILVER
GOLD
FLUORINE FLUORSPAR
IRON
SILICON QUARTZ
VANADIUM
CALCIUM

BIBLIOGRAPHY:

USGS PP. 461, GEOLOGY OF THE KLONDYKE QUAD,
1964, P. 146
ROSS, CLYDE H., USGS BULL. 763, GEOLOGY & ORE
DEPOSITS FO THE ARAVAIPA & STANELY MINING
DISTRICTS, GRAHAM CO. AZ., 1925, P. 78-86
ANTHONY, JOHN W. & OTHERS, MINEROLOGY OF AZ.,
1977, P. 22
BLM MINING DISTRICT SHEET 753

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CONTINUATION OF GRAND REEF

ADMMR GRAND REEF FILE
ELEVATORSKI, E.A., ADMMR AZ. FLUROSPAR 1971,
P. 19
AZBM BULL. 156, AZ ZINC & LEAD DEPTS. 1950,
P. 235
AZBM BULL. 180, MINERAL AND WATER RESOURCES
OF AZ. 1969, P. 235
ADMMR U FILE
AZ MINING JOURNAL AUG. 1920, P. 31
FLAGG, A.L., VANADIUM REPOT 2, 1942, P. 4
ADMMR DOG WATER AND SILVER CABLE CLAIMS FILE
ADMMR ARAVAIPA MINING DISTRICT GEOLOGY FILE
ELSING & HEINEMAN, AZ METAL PRODUCTION, AZBM
BULL. 140, 1936, P. 93
ELEVATORSKI, E.A., AZ INDUSTRIAL MINERALS,
ADMMR 1978, P. 33
ADMMR FAR MINING RESOURCES FILE
HICHS, CLIFFORD J., MOLYBDENUM OCCURENCES IN
AZ. ADMMR 1979, P. 17

09/26/97

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

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AZ. ADMMR 1979, P. 17

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA
GRAHAM COUNTY
GRAND REEF MINE

MILS # 167 B

9 - AKA's

GRAND Reef (gib)

MM 5289	Linarite
6973	"
6974	"
7259	"
7313	"
438	Chrysocolla on Quartz
439	" " "
440	Gearksutite
441	"
442	"
443	Linarite
444	"
445	"
446	"
447	"
8517	Cerussite
8518	Cerussite
8532	Linarite
8236	Caledonite and Anglesite
9095	Linarite
L-078	Linarite
L-079	Linarite

RECEIVED

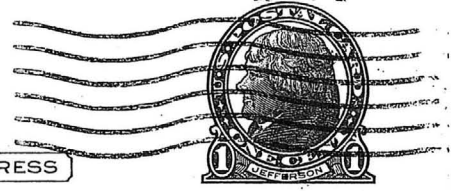
DEC 1 1942

PHOENIX, ARIZONA

Kland, Ariz.
11/30-42
C.P.

Dear Sam. In regards to your letter of Nov 25. I ask Jimmie Orr about this and he said the American Lead Zone are the People that own the Grand Reef Mine so you can find out from H.J. Gray 943 Paul Brown Bldg. St Louis M.O. There is not any thing going on at the Grand Reef mine yet. but there is some road work started at the Aravaipa mine so any time I can help you just let me know.
Very truly yours

Sam Rutledge



THIS SIDE OF CARD IS FOR ADDRESS

J.S. Coupal, Director,
Dept. of Mineral Resources,
413 Home Builders Bldg.
Phoenix, Ariz.

7-22-43
PT. PINES
JUL 24 1943
Dear Sam:

I have just written Mr.
Massie, c/o Divian Mining Co. inc.
at Klondyke advising him to
get in touch with the Walker &
Son Trucking Co. of Duncan, Pa.
They haul from most anywhere. Their
specialty is ore hauling.
Regards - Albert Spelling



United States Department of the Interior

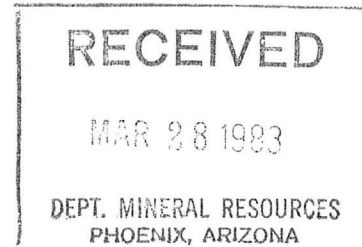
BUREAU OF MINES

P. O. BOX 25086
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Intermountain Field Operations Center

March 24, 1983

Mr. Ken Phillips
Arizona Department of Minerals Resources
Mineral Building, Fairgrounds
Phoenix, Arizona 85007



Dear Ken,

Thanks for the answers to my questions on the Grand Reef Fault fluorspar occurrence. We have recommended that the property not be included in MAS at this time because of the low probability that would have to be assigned to the reserves. If, in the future, you find that they really do have a significant minable orebody, I would appreciate your letting us know so that we could reconsider it for inclusion in MAS.

I am enclosing copies of the letters from the President of Corango Resources to the Bureau on this property for your files as they may be of interest to you.

Sincerely,

George R. Schottler, Chief
Branch of Minerals Availability

Enclosures

Copy to: DP Blasko

PM. M...
CORANGO RESOURCES LTD.

30555 SOUTHFIELD ROAD

SUITE 350

SOUTHFIELD, MICHIGAN 48076

(313) 645-2103

January 5, 1983

United States Department of Interior
Washington, D.C.

Re: Strategic Minerals - Fluorspar

Gentlemen:

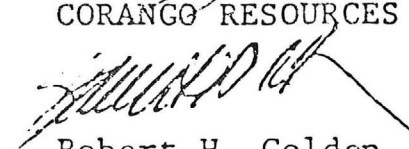
We have acquired and are exploring a domestic occurrence of fluorspar. The occurrence is within a fault which was filled with breccia and then filled with fluorspar. The fault itself has been delineated for approximately 1,200 feet, is 200 feet wide, 600 feet deep and for its entire length is filled with this material. The fault has been traced on the surface for a distance of three miles on the company's property with surface outcrops consistent with continuous deposition of fluorspar for its entire three mile length. Fluorspar grades run 20% at the surface outcrops subject to weathering and from 40% to 60% underground. We are developing a plan for the outlining of reserves and believe that we will, this coming exploration season, outline in excess of 12,000,000 tons of fluorspar. The property has the potential to go as high as 200,000,000 tons.

Fluorspar is on the strategic mineral list and there is only minute domestic production.

We would appreciate being informed of any programs, grants, or other matters for which we may apply, in which the Federal Government would participate with us in the outlining of these reserves of this strategic mineral.

Yours very truly,

CORANGO RESOURCES LTD.


Robert H. Golden, President

RHG/dl

CORANGO RESOURCES LTD.

30555 SOUTHFIELD ROAD

SUITE 350

SOUTHFIELD, MICHIGAN 48076

(313) 645-2103

January 21, 1983

United States Department of the Interior
Bureau of Mines
2401 E Street, NW
Washington, D.C. 20241

Att: Mr. Robert C. Horton
Director

Dear Mr. Horton:

I respond to your letter of January 17, 1983, in regard to our fluorspar property.

Our property is an amalgamation of patented claims and State of Arizona Prospecting Permits which can be turned into leases at ou election, comprising approximately 4 miles of strike length along that geologic feature known as "The Grand Reef Fault", Graham County, Arizona.

This fault extends for many miles and has been the subject of substantial mining activity in earlier years for lead and silver. The Grand Reef Mine was the largest silver producer in the State of Arizona during the early 1900's. Our property does have indications of substantial lead/silver deposits.

The Grand Reef Fault is a geologic feature which varies up to 220 feet in width and traverses the entire 4 miles of our property. The fault was the subject of at least three periods of mineralization and is presently filled with brecciated rock cemented in place by fluorspar.

Representative underground sampling has ranged between 40%-65% CAF2 with 40% being a generalized representation. It is apparent that the fluorspar increases in grade in association with sulphide minerals. This fluorspar is known to extend the entire four mile length of the property and to exist to a depth of 600 feet. We have not confirmed the depth as a uniform feature, however, drilling which has been done does confirm uniform depth of the deposit at a 600 foot level.

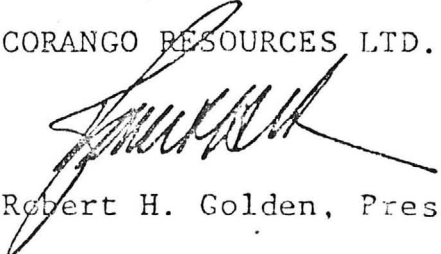
We estimate tonages of CAF2 grading 40%-60% to be in excess of 200,000,000 tons.

This property is particularly amenable to open pit mining methods and it is our belief that the property could be mined in total satisfaction of domestic fluorspar needs for many years.

It is our intention to continue exploration and delineation of reserves on this property, however, we recognize our inability to mine this deposit and the necessity of joint venturing or otherwise, interesting a major mining company due to the anticipated size of the mining project.

Yours very truly,

CORANGO RESOURCES LTD.



Robert H. Golden, President

RHG/dl

GRAND REEF

GRAHAM COUNTY
T6S R20E Sec 29 E2

1LS Index # 167B

A. L. Flagg vanadium reports - V-II

A. L. Flagg vanadium reports - V-V

USGS Bull. 763 p. 78-86

ABM Bull. 180, p. 163, 235

Eagle-Picher (geology file) G.M. Fowler report 7-8-36 *7-8-36*

DMR - Fluorspar p.19

ABM Bull. 180, p. 351

See: Arizona Mining Journal Issue of
Aug. 1920 p. 31

ABM # 156 p. 60 (Grand Reef, Aravaipa,
Dog Water & Silver Cable)

Minerology of ARizona p. 22

December 1, 1948

Mr. Howard I. Young
American Zinc, Lead & Smelting Co.
1600 Paul Brown Building
St. Louis, Missouri

Dear Howard:

Mr. Taylor finally got here today and we went over the Grand Reef maps. He decided that it would not serve his purposes.

I am therefore returning the maps under separate cover and wish to thank you for letting us see them.

Yours sincerely,

Chas. H. Dunning
Director

GHD:rah

American Zinc, Lead and Smelting Company

HOWARD I. YOUNG
PRESIDENT

1600 PAUL BROWN BUILDING
SAINT LOUIS 1, MISSOURI

November 30, 1948

Air Mail

Mr. Chas. H. Dunning, Director
State of Arizona
Department of Mineral Resources
Mineral Building, Fairgrounds
Phoenix, Arizona

Dear Charlie:

We have no maps on the adit level to send to you. We have given you all the accurate information recorded on our maps.

I note from your letter of November 26 that Mr. Taylor was in the city Saturday and I am hopeful you can give us your reply immediately, as another responsible party is waiting for you to make a decision.

The value of shipping ores, f.o.b. shipping point, is meant to determine the value of the ore based on what the operator actually receives after deducting freight from point of shipment to smelter and the smelting charges. I presume in your country this means the net smelter return, which shows the return after deducting treatment charges and smelting.

On milling ores it would mean the value to the operator after deducting milling charges, freight, and smelter treatment charges. In other words, we expect the royalty to be paid on the net check the operator receives for the ore after it leaves point of shipment.

Very truly yours,


President

HIY:LJ

November 26, 1948

Mr. Howard I. Young, President
American Zinc, Lead & Smelting Co.
1600 Paul Brown Building
St. Louis, Missouri

Dear Howard:

We received the file of maps and will return them to you in a few days.

There was no map of the adit level which is the only work open to inspection at present. It would be nice to have one if possible.

The main party I had in mind - Mr. Leslie Taylor is due here today or tomorrow and I will go over the matter with him.

One point is not clear. You use the term..."ores that have a value FOB shipping point"... We presume that you mean net smelter (or mill) value or the amount of money that would be paid the producer after the deduction of smelter (or mill) charges and railroad freight. Such is customary in leases here and the word "value" certainly implies the net that can be received. However some might think that "gross assay value" was intended.

Will you please clear this up for me as quickly as possible.

Sincerely,

Chas. H. Dunning
Director

CHD:mh

American Zinc, Lead and Smelting Company

HOWARD I. YOUNG
PRESIDENT

1600 PAUL BROWN BUILDING
SAINT LOUIS 1, MISSOURI

November 23, 1948

Air Mail

Mr. Chas. H. Dunning, Director
Department of Mineral Resources
State of Arizona
Mineral Building, Fairgrounds
Phoenix, Arizona

Dear Charlie:

In line with your recent request and our telephone conversation today, I am enclosing the following blueprints:

1. Print showing the location of our various claims in Arizona.
2. Assay plan of outcrop on the Grand Reef Group.
3. Assay plan of the 100 foot level of the Grand Reef Group.
4. Assay plan of the 200 foot level of the Grand Reef Group.
5. Assay plan of the 300 foot level of the Grand Reef Group.

These assays are in the order of : (1) ounces of silver; (2) per cent copper; (3) per cent lead.

These are the only assay plan maps we have on any of the claims controlled by our company. As soon as these enclosures have served your purpose, please return them to us here, as we have no other copies.

I am attaching a list of the patented and unpatented claims presently owned by this company.

I am also attaching a basis on which we are ready to negotiate with your principals for the operation of all of these properties.

Inasmuch as the Athletic mill is available for treating milling ores, I believe, under present prices, several of these claims can be worked on a profitable basis. Others offer good development possibilities.

We would require a reasonable number of operating shifts daily

Mr. Chas. H. Dunning

No. -2-

November 23, 1948

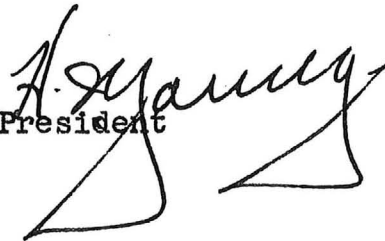
by any company to whom we lease. We want to make the lease only with responsible people who will crowd the operation and development. We have not yet set a sales figure, but will do so if that is necessary. We would, however, prefer to operate on a straight lease basis for a period of two years.

As I told you, Mr. W. L. Allison, of the Allison Steel Manufacturing Company, is very much interested in all of these claims and has equipment ready to move on to them. If the people you have in mind are not in a position to start work immediately, then I think we should go ahead with Mr. Allison, who, I understand, is a good friend of yours.

I shall appreciate your letting me know your conclusions at an early date.

Very sincerely yours,

ARAVAIPA LEASING COMPANY


President

HIY:LJ

Enc.

PATENTED CLAIMS

- ✓ Grand Reef
- ✓ Junction
- ✓ Aravaipa
- ✓ South Point
- ✓ Mountain Spring
- ✓ Dog Water
- ✓ Blank

UNPATENTED CLAIMS

- ✓ Verick
- ✓ Conumdrum
- ✓ Blevin
- ✓ Silver Cable

Terms on Which the Aravaipa Leasing Company Will
Lease all of the Claims it Owns in the Aravaipa
Mining District of Arizona:

- 10 per cent on all direct shipping ores that have a value f.o.b.
shipping point of not in excess of \$45 a ton
- 12 per cent on all direct shipping ores that have a value f.o.b.
shipping point of \$45 per ton and up to and including \$50 per ton
- 14 per cent on all direct shipping ores that have a value f.o.b.
shipping point of \$50 per ton and up to and including \$55 per ton
- 16 per cent on all direct shipping ores that have a value f.o.b.
shipping point of \$55 per ton and up to and including \$60 per ton
- 18 per cent on all direct shipping ores that have a value f.o.b.
shipping point of \$60 per ton and up to and including \$65 per ton
- 20 per cent on all direct shipping ores that have a value f.o.b.
shipping point of \$65 per ton and up to and including \$70 per ton
- 25 per cent on all direct shipping ores that have a value f.o.b.
shipping point in excess of \$70 per ton.

Following basis would apply on milling ores:

Royalty of 10 per cent on all ores delivered to mill bin where the value is not in excess of \$45. For each \$5 increase above \$45, add 2 per cent royalty.

Lessor would agree to keep all required work on any unpatented claims, in line with requirements of the United States Government, Department of the Interior, and agree to work a certain number of shifts per month on the group of claims.

The Athletic Mining Company will provide milling space for a limited tonnage of milling ores produced from these claims.

A handwritten signature, possibly reading "A. M.", is written in dark ink.

St. Louis, Missouri
November 23, 1948

October 28, 1948

Mr. Howard I. Young
1600 Paul Brown Bldg.
St. Louis, Missouri

Dear Mr. Young:

Have been looking for those Grand Reef
maps you were going to send. Bet you forgot all about
them.

Sincerely,

CHD:mmh

Chas. H. Dunning
Director

December 22, 1947

✓ Mr. Howard I. Young
✓ American Zinc Lead & Smelter Co.
St. Louis, Missouri

Dear Mr. Young:

You will recall that when in El Paso a couple of months ago I spoke to you about the Grand Reef Mine in the Aravaipa District and you told me that you were open for a deal on the mine, but that there would be a little delay and you would let us know soon.

We have a reliable party here who would be interested in investigating the property and negotiating a deal. We would like to assist him in this, or find something else that would be satisfactory for him.

In case you do want to make a deal on the Grand Reef would you also furnish us with any reports or assay maps and the results of diamond drilling. It is evident that the property has been very thoroughly sampled in recent years, but we do not have any record of the results. Also, there are conflicting stories about the drilling results.

With seasons greetings,

Yours very truly,

Chas. H. Dunning
Director

CHD:mb

September 18, 1943

Office of Price Administration
Phoenix, Arizona

To Whom it May Concern:

This is to certify that Mr. Albert E. Kern, President of the Vivian Mining Company, is in Phoenix and requires transportation to the Grand Reef Mine, operated by the company, which mine produces lead ore, which is essentially a war need.

We wish to certify to the war necessity of a special gasoline quota to take care of this transportation.

Yours very truly,

J. S. Coupal, Director

JSC:LP

September 16, 1943

Mr. Albert E. Kern, President
Vivian Mining Co., Inc.
110 Sutter Street
San Francisco 4, California

Dear Mr. Kern:

Many thanks for your letter on the easement for the road leading to the Lead Jewel Mine. I have been in contact with the Grazing Service and the easement has been received by them.

I am endeavoring to initiate an access road leading north from the end of the Aravaipa road to make the shortest route to Highway 70. This application will go in in a few days and I would like very much to know your contemplated operations at the Grand Reef, as early production will aid in our efforts to get an access road project through.

I am hoping that I will see you soon here in Phoenix.

With best wishes and kindest personal regards,
I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

VIVIAN MINING CO., Inc.

(4)
110 SUTTER STREET • SAN FRANCISCO, CALIFORNIA • SUTTER 6397

PROPERTIES: OATMAN, MOHAVE COUNTY, AND KLONDYKE, GRAHAM COUNTY, ARIZONA

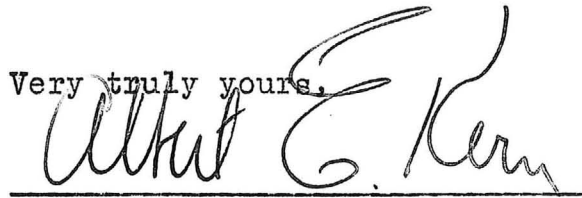
September 13, 1943.

J. S. Coupal, Director,
Department of Mineral Resources,
413 Home Builders Bldg.,
Phoenix, Ariz.

Dear Mr. Coupal:

I have just had word from Aravaipa Leasing Company, giving me permission to execute the easement and right-of-way for the road leading to the Lead Jewel Mine, and I have, this day, executed all the papers and returned them to the Department of the Interior.

Very truly yours,


President.

VIVIAN MINING CO., INC.

AEK/B.



September 14, 1943

Mr. Albert E. Kern, President
Vivian Mining Co., Inc.
110 Sutter Street
San Francisco 4, California

Dear Mr. Kern:

Thank you for your letter of September 4 and as a matter of record, I hope that Mr. Howard Young will send the easement of the claims mentioned. I know that Mr. Young is busy in Washington and it may have slipped his attention.

I was in Klondyke last week and had a pleasant visit with Mr. Massey. I also went over the new road that is about completed to the Rubal claims.

Mr. Massey said that you were expected in Klondyke soon and I hope that on your way you will be able to call at the office so that we may discuss any of the problems which you are now facing.

Very truly yours,

J. S. Coupal, Director

JSC:LP

VIVIAN MINING CO., Inc.

(4)

110 SUTTER STREET • SAN FRANCISCO, CALIFORNIA • SUTTER 6397

PROPERTIES: OATMAN, MOHAVE COUNTY, AND KLONDYKE, GRAHAM COUNTY, ARIZONA

September
Fourth
1943



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

Dear Mr. Coupal:

I received the letter from the Department of the Interior concerning the right-of-way across some of our claims for a road to the Lead Jewel Mine. The same day I received it, August 12, I sent the papers to Mr. H. I. Young, president of Aravaipa Leasing Company who owns the mining claims constituting the Grand Reef Group. I suggested that it would be a good thing for us to give the right-of-way and since his company owned title the right-of-way should legally come from that company, but since we had a certain interest through our bond and lease, I, for Vivian Mining Co., Inc., would execute the right-of-way papers, if he would write me a letter giving his approval. I have not heard from him since. I believe Mr. Young is a "dollar a year man" working for the War Department at Washington, which may be the reason for the delay.

Rest assured I agree with you that it would be a good thing for all concerned, and I will try to have the papers signed just as early as possible. With kindest regards and best wishes, I am

Yours truly,


President

VIVIAN MINING CO., INC.

AEK:AHG

September 1, 1943 \

Mr. Albert E. Kern, President
Vivian Mining Company
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

I have just called on the Grazing Service to discuss access road problems and find that an access road project on the Lead Jewel Mine is being held up due to the fact that the Grazing Service has not received an easement from you or from the Vivian Mining Company. For this road to cross a portion of the Dogwater and Junction claims.

I believe this access road development will be a benefit to you as well as to the Lead Jewel Mine and I hope you can see fit to give the easement requested.

Very truly yours,

J. S. Coupal
Director

JSC:JE

July 27, 1943

Mr. Albert E. Kern
Vivian Mining Company
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

Thank you for your letter of July 24.
I am very glad to hear you have received the additional
loan.

I have heard from one of the parties I wrote
to in Safford regarding trucking and he has given the
name to Mr. Massey of one concern that he suggests
contacting.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

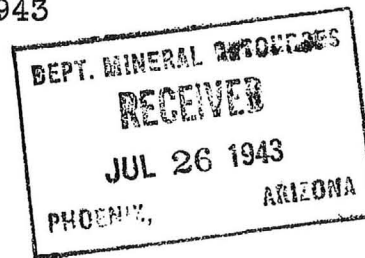
JSC:LP

VIVIAN MINING CO., Inc.

110 SUTTER STREET • SAN FRANCISCO, CALIFORNIA • SUTTER 6397

PROPERTIES: OATMAN, MOHAVE COUNTY, AND KLONDYKE, GRAHAM COUNTY, ARIZONA

July 24th 1943



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

Dear Mr. Coupal;-

I am sure you will interested
to know that our application to Reconstruction
Finance Corporation for an additional loan on
the Grand Reef Mine at Klondyke, Graham County,
Arizona, has been granted. The original loan
was in the sum of \$8,500. and this additional
loan is in the sum of \$12,000.

Sincerely

Albert E. Kurn

k;k

July 26, 1943

Mr. Albert F. Spalding
Box 349
Safford, Arizona

Dear Albert:

Many thanks for your postcard of July 22nd. I have noted that you have written to Mr. Massie at Klondyke.

I have just had a note from Mr. Kern, President of the Company, stating that the original RFC loan on the property was for \$8500, and that an additional loan of \$12,000 has been granted.

Your assistance will be of help in getting the ore moved.

Very truly yours

J. S. Cougal, Director

JSC:ach

July 21, 1943

Mr. Albert E. Kern, President
Vivian Mining Co., Inc.
110 Sutter Street
San Francisco (4), California

Dear Mr. Kern:

Many thanks for your letter of July 19th. I have forwarded copies of it to Judge Merrill and Albert Spalding, both of Safford.

You may have some difficulty in finding a trucking concern that would have a back haul from El Paso to Arizona. Such an arrangement is a fine one when it can be made. I have asked Judge Merrill and Mr. Spalding to contact your Mr. Massie at Klondyke, and also the possible truckers in Safford who might consider a haul from your mine to El Paso. Copies of this letter and the letter to Judge Merrill have been sent to Mr. Massie.

With best wishes and kindest personal regards.

Very truly yours

J. S. Coupal, Director

JSC:ach
cc-Judge Merrill
Albert Spalding
T. W. Massie

July 21, 1943

Judge J. D. Merrill
Box 400
Gifford, Arizona

Dear Judge Merrill:

I am enclosing copy of a letter I have just received from Albert E. Korn, President of the Virgin Mining Company, and also a copy of my reply to him.

In his letter you will note that Mr. Korn wishes to obtain the services of a trucking concern to truck load ore from the Grand Reef Mine at Klontyino. E. H. Masie, c/o Virgin Mining Co., Inc., P. O. Box 7, Klontyino, Graham County, Arizona, who is in charge of the operations, is the man they would like to have advised as to obtaining trucking to haul ore to El Paso.

As this property is in your general area, I am taking the liberty of asking you to let either me or Mr. Masie know who can do such trucking.

I will greatly appreciate it if you will give me this information, or advise me when you have given it direct to Mr. Masie.

Very truly yours

J. E. Gough, Director

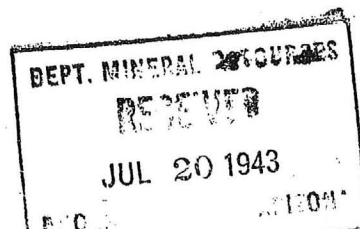
cc-Mr. A. F. Spalding
Mr. T. H. Masie

VIVIAN MINING CO., Inc. 110 SUTTER STREET • SAN FRANCISCO, CALIFORNIA • SUTTER 6397 (4)

PROPERTIES: OATMAN, MOHAVE COUNTY, AND KLONDYKE, GRAHAM COUNTY, ARIZONA

July 19, 1943.

Charles F. Willis & J. S. Coupal,
Department of Mineral Resources,
413 Home Builders Bldg.,
Phoenix, Ariz.



Dear Friends:

I have one problem at the Grand Reef Mine that I do not seem to be able to solve and I am asking you to help, if possible. We are now to the point where we want to ship ore to the American Smelting & Refining Co., at El Paso, Texas, but there is no trucking firm in or around Klondyke, available. I wrote the smelter to see if they could suggest anyone, but they could not help me. Do you know of any trucking firm who we can get to haul our ore, even if for only three or four shipments, so that we can establish the smelter returns from the reports? We are hoping that we can find some trucking concern who would have a paying load from El Paso to Arizona. The ore we want to ship now has been sorted and I am sure will run at least 20% lead. When our operation at Klondyke is going on a larger scale we may be able to build the right kind of a loading platform at Cork, and truck to that point, and thereafter ship by rail. However, our problem now is to get at least 40 to 50 tons of this high grade ore to the smelter for a test run.

You have been most helpful to me in the past and I am hoping you can give me some advice as to my present problem. In answering my letter would you kindly send a copy to T. W. Massie, c/o Vivian Mining Co., Inc., P. O. Box 7, Klondyke, Graham County, Arizona, so that he will have the benefit of your suggestions without the loss of time of a letter getting to me and I then advising him.

Thanking you for your many courtesies, I am,

Sincerely,

President

VIVIAN MINING CO., INC.

AEK/B.

May 27, 1943

Mr. Albert E. Kern, President
Vivian Mining Company, Inc.
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

I am enclosing a copy of the form for filing
notices of intention to hold claims and also a copy
of the law.

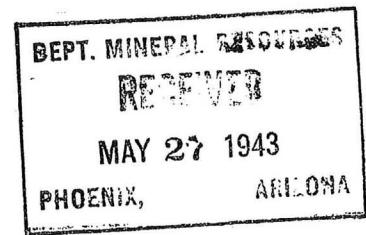
Very truly yours,

J. S. Coupal, Director

JSC:kk
Enclosure

VIVIAN MINING CO., Inc.

(4)
110 SUTTER STREET • SAN FRANCISCO, CALIFORNIA • SUTTER 6397
PROPERTIES: OATMAN, MOHAVE COUNTY, AND KLONDYKE, GRAHAM COUNTY, ARIZONA



May 25, 1943

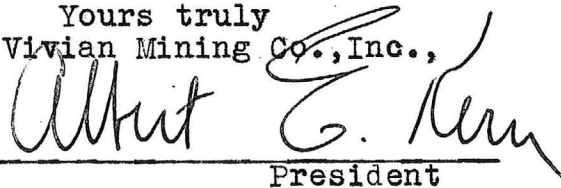
Department of Mineral Resources,
413 Home Builders Building,
Phoenix, Arizona.

Gentlemen;-

Please send us the forms required
for filing notices of intention to hold
claims.

Yours truly
Vivian Mining Co., Inc.,

by


President

C

February 5, 1943

Mr. Albert E. Kern, President
Vivian Mining Co., Inc.,
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

I greatly appreciate receiving
the copy of your letter of January 28 addressed
to Governor Osborn.

While I do not know what effect such
letters will have, I do know they cannot help but
make him wonder whether the attitude he has taken
is basically sound.

Thanking you again and with kindest
personal regards, I am

Yours very truly,

CHARLES F. WILLIS, Chairman
Board of Governors

CFW:MH

VIVIAN MINING CO., INC.

110 SUTTER STREET
SAN FRANCISCO, CALIF.

TELEPHONE SUTTER 6397

PROPERTIES
OATMAN, MOHAVE CO.,
ARIZONA

C
O
P
Y

January
Twenty eighth
1943

Hon. Sidney P. Osborn,
Governor State of Arizona,
Phoenix, Arizona.

Sir:

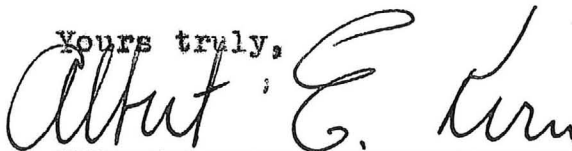
Until closed by governmental orders, I operated the Vivian Mine at Oatman, Mohave County. I will shortly reopen the Grand Reef Mine at Klondyke for which work I have been granted a RFC loan.

I am not a resident of Arizona nor acquainted with the political situation. However, I do want you to know that Mr. Willis, Mr. Coupal and Mr. Broadgate of Department of Mineral Resources have been very helpful to me for sometime past, first in connection with the operation of my gold mine at Oatman and secondly in securing the RFC loan with which I am about to open the Grand Reef Mine at Klondyke. At both of these properties they have extended me material worthwhile help.

Since our mine and mill at Oatman have been shut down I had been trying for several weeks to get trucks to collect our scrap so that it get moved and be helpful in our war endeavors. Due to the great shortage of local trucks I was unable to make a delivery. At one time I arranged for army trucks to pick up this scrap but on the day I expected them they were moved to another location. I took this up with Mr. William J. Graham of the Department of Mineral Resources and within a week he arranged for trucks to pick up this scrap and deliver it to authorized dealers at Kingman and start it on its good government work.

I feel that you would want to know of instances where a department of your State has given real assistance which has resulted in benefit to the government, the state and a citizen.

Yours truly,



President VIVIAN MINING CO., INC.

ABK:AHG

December 4, 1942

Mr. Lon Rutledge
Klondyke, Arizona

Dear Lon:

Many thanks for your letter of November
30.

I have just found out that the American
Zinc Associates is the name under which Walter
Sims was operating when Joe Grewell was putting
in their plant to treat Aravaipa tailings.

With best wishes and kindest regards,
I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

December 4, 1942

7d
Mr. Stuart H. Ingram
Regional Technical Advisor
W. P. B., Mining Branch
Room 1040, 1031 S. Broadway
Los Angeles, California

Dear Mr. Ingram:

I have been delayed in getting the information for you on the American Zinc Associates.

I have recently found that this was the name under which Mr. Walter Sims of Arcadia, California was operating. A Mr. Joe Grewell was in charge of the work and it consisted of the installation of a wet process for handling the tailings from the old Aravaipa mill. It was experimental and new work and the results were not successful so that the work was stopped and the plant equipment salvaged.

I hope this is the information you were seeking.

Yours very truly,

J. S. Coupal, Director

JSC:LP

December 7, 1942

Mr. Albert E. Kern, President
Vivian Mining Company
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

Your letter of November 30 has just been received by this Department, Monday, December 7.

Your desire to cooperate with our government as expressed in your desire to see that the industrial scrap material on your premises is moved where it will serve a useful purpose is to be commended. I will contact the officials of the Arizona Highway Department and see if we can get their cooperation to have the material moved to Kingman, where I believe the E. M. Leonard Co., or the Outdoor Grocery Co., both of whom are handling scrap shipments from Kingman, will purchase the same.

I will advise you of the result of my effort with the Highway Department. In any event I will see that arrangements are made in some manner to have the material moved to market.

Yours very truly,

W. J. Graham
Assistant to the Director

WJG:LP

CC: Vivian Mining Co., Inc.
Oatman, Arizona

November 25, 1942

Mr. Lon Rutledge
Klondyke, Arizona

Dear Lon:

I have just received an inquiry from S. H. Ingram, Regional Technical Advisor of the War Production Board, asking me for information concerning the operation of the American Zinc Associates whose address is Klondyke, Arizona. Mail has been sent to them at that address and has been returned unclaimed.

Can you tell me who the American Zinc Associates were and what operations ~~or~~ proposed operations they were carrying out in Klondyke.

Best wishes and kindest regards,

Very truly yours,

J. S. Coupal
Director

JSC:kk

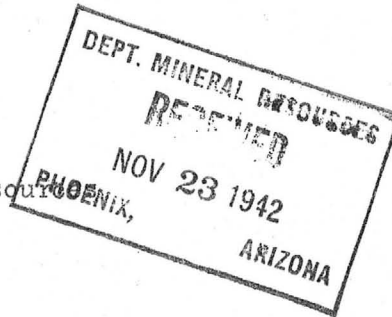
WAR PRODUCTION BOARD

Room 1040, 1031 S. Broadway
Los Angeles, California

IN REPLY REFER TO:

Ingram:eh

November 21, 1942



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

Attention: Mr. J. S. Coupal
Director

Gentlemen:

Can you give me any information concerning
the operation of the American Zinc Associates
whose address is Klondike, Arizona?

Mail sent to them at that address has been
returned.

Very truly yours,

Stuart H. Ingram
Regional Technical Adviser
War Production Board
Mining Branch

FOR VICTORY



**BUY
UNITED
STATES
WAR
BONDS
AND
STAMPS**

c

October 20, 1942

Albert E. Kern, President
Vivian Mining Co., Inc.
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

We were very pleased to hear that your Development loan on the Grand Reef had been granted. In the event that the Reconstruction Finance Corporation questions your choice of attorney to investigate title, we will be glad to assist you in the choice of another. Having presented alternates we feel that one should be satisfactory to them.

We have been doing considerable work on access road projects for the Klondyke-Arivaipa region. Numerous spur roads have run the gauntlet of approval up to the War Production Board, which either grants or rejects with finality. We do not know the condition of the road from the Grand Reef but suggest that if it needs repairing or reconstructing in any sections that application be made for this work immediately. In this way the application will be favorably considered if the required work could be included in the project already under consideration. It may be that no work is desired, in which case you may disregard the enclosed application forms.

With our best wishes on your success on this project,
I remain

Very truly yours,

Earl F. Hastings
Assistant Director
& Projects Engineer

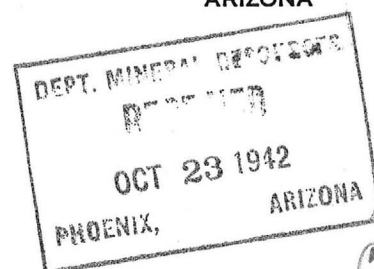
EFH:ba
Enc.

VIVIAN MINING CO., INC.

110 SUTTER STREET
SAN FRANCISCO, CALIF.

TELEPHONE SUTTER 6397

W
PROPERTIES
OATMAN, MOHAVE CO.,
ARIZONA



October
Nineteenth
1942

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

Re: Vivian Mining Company, Inc.
Docket No. B-ND-4144

Dear Mr. Hastings:

For your further information I have just been advised that Mr. W. B. Gohring whose address is c/o Reconstruction Finance Corporation, 325 Heard Building, Phoenix, Arizona has been appointed Supervising Engineer for our project.

Yours truly,

VIVIAN MINING CO., INC.

By

President.

AEK:AHG

*Copy in
to R.F.C. file
Reviewed by
2.14*

X. W

VIVIAN MINING CO., INC.

110 SUTTER STREET
SAN FRANCISCO, CALIF.

TELEPHONE SUTTER 6397

October 16, 1942.

PROPERTIES
OATMAN, MOHAVE CO.,
ARIZONA

Mr. Earl F. Hastings,
Assistant Director & Project Engineer,
Department of Mineral Resources,
Home Builders Bldg.,
Phoenix, Ariz.



My dear Mr. Hastings:

Please be advised that under date of October 10th, we received notice from the Reconstruction Finance Corporation that our loan had been granted, and under date of October 13th, we received a certified copy of the Resolution in connection therewith. For your information I am enclosing a copy of this Resolution.

Would you please call this matter to the attention of both Mr. Willis and Mr. Coupal ?

Reconstruction Finance Corporation asks that some attorney give his opinion on the title to the property we are leasing, but advise me, before I make such employment, to submit the name of the attorney to them for their approval. I have this day advised R.F.C. that we intended employing Mr. Ben Blake, whose address is Safford, Graham County, Arizona, or in the event that he is unable, for any reason, to accept such employment, that we will then employ Mr. Claude L. Spriggs, of the same address. I am sure both Mr. Willis and Mr. Coupal know these two gentlemen, and either would have their approval. If, however, neither of these men are satisfactory to R.F.C. I will wire you to that effect and ask you to consult with Mr. Willis and Mr. Coupal and give me the name and address of some other attorney qualified to make the report on the title.

Very truly yours,

Albert E. Kern
President.

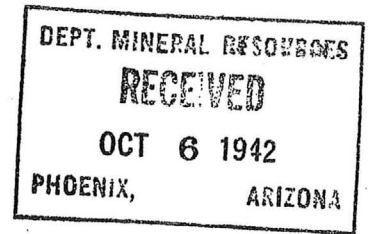
VIVIAN MINING CO., INC.

AEK/B.

Encl.

Washington, D.C.
Oct. 4, 1942

Mine Loans
Class B
SUBJECT: Vivian Mining Co.



Please note the last two lines in the Vivian letter in the first paragraph.

Do you get from this the impression that Kern does not realize that the men must be on his pay-roll? It is the applicant who is supposed to be developing the ore body.

Bill Broadgate

October 2, 1942

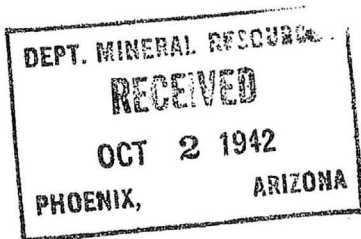
MEMORANDUM

VIVIAN MINING C.

TO: W. C. Broadgate

FROM: Earl F. Hastings

I am enclosing herewith a letter from Mr. Kern to keep you posted on their attitude.



Washington, D.C.
Sept. 30, 1942

*Esth
J.C.*

SUBJECT: Mine Loans,
Class B
Vivian Mining Company

With reference to Hastings' letter to subject company.

I hear that there is some sort of a hot legal fight on with these people or between themselves. I don't know the details, but I should think they would want to get all these things straightened out. They certainly won't get the money until they get these things settled.

Bill

Bill Broadgate

VIVIAN MINING Co., INC.

110 SUTTER STREET
SAN FRANCISCO, CALIF.

TELEPHONE SUTTER 6397

PROPERTIES
OATMAN, MOHAVE CO.,
ARIZONA



September
Thirtieth
1942

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

My dear Mr. Hastings:

We have not in any way given up the matter of getting a RFC loan on the Grand Reef Mine. I did not mean to convey the idea that we did not have this mine tied up since as a matter of fact we have an option, the term of which was to run until we found we could or could not get a RFC loan. I am now about to send a copy of this option to the RFC which will take care of one of their two requests contained in the last letter from them. I will leave in a day or two for Los Angeles and meet with the officers of Grand Reef Mining Corporation and Calistoga Mining & Development Co. who now hold the lease from the owners and who maintain some men at the mine but at this time I do not know exactly how many.

I will keep you informed of what we do. During the last few weeks all of the letters from RFC have been very encouraging and both Mr. Willis and Mr. Coupal advised me when I first took up the matter of this loan that the property was worthy of such loan. However, until I received the last letter from the RFC, I did not understand that in order to be eligible it was necessary for the applicant to have actual possession and be working the property on which the loan was to be granted.

Thank you very much for your aid. I am sending a duplicate of this letter in case you would like to forward it to your Mr. Broadgate.

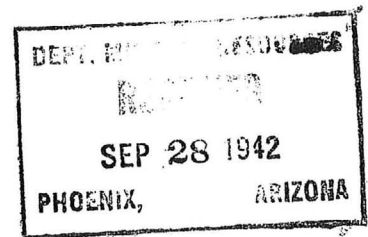
Yours truly,

A handwritten signature in dark ink, appearing to read "Albert E. Kury".

President VIVIAN MINING CO., INC.

AEK:AHG
enc.

Washington, D.C.
Sept. 25, 1942



SUBJECT: Mine Loan, Class B
Vivian Mining Company
Hasting's memo and enclosed letter, herewith returned.

Please note the last paragraph in my first memo of today on this subject.

I am afraid that the Vivian people did not tell all in this matter.

The principle delay has been because they have no lease whatever on the property, as I understand it, but just a verbal understanding; a pretty tenuous stand to ask for a loan on. This was called to my attention this afternoon, and my face was a little red. The Senators and Congressmen find the same trouble, that the correspondent only tells them what he wants them to know and not the whole story, and it makes them mighty cagey in taking up a case on the presentation of the complainer alone.

That is why I am so anxious to have the Department filter these matters before they get to me.

However, I have taken an unusual step and the RFC will go through with this application and to the Board with it if necessary, contingent upon the Vivian getting a satisfactory lease, title or whatever way they are to acquire the property even after approval, so as not to hold up the deal waiting for Vivian to get straight. What the Board will do with such a contingent application we cannot say.

I think it is up to Vivian to get busy and cure these troubles promptly and so notify the RFC.

Bill Broadgate

September 28, 1942

Mr. Albert E. Kern, President
Vivian Mining Company, Inc.
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

Since our Day Letter of September 24, in which we advised you to place two or three men to work on the Grand Reef property, we have heard further from Mr. W. C. Broadgate relative to your application. Mr. Broadgate states that you would be unable to obtain a loan or even consideration of your application unless you had some legal right to the property, either lease, option to purchase or something of that nature.

We noted in your letter of September 21 that you stated you did not have possession of the property, however, we did assume that you did have some kind of an option on it. Regulations relative to R.F.C. loans specifically state that the applicant must have possession of record. In order to qualify under this regulation you would have to obtain this written lease and/or option and record it. You would further have to employ the men as suggested in our telegram. When these things are done and the R.F.C. so notified, we believe that you would be able to obtain consideration of your loan in a relatively short time.

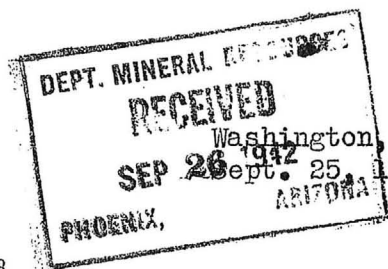
Will you please advise us if you intend to follow these suggestions? Mr. Broadgate will gladly follow up your application, providing you wish to continue. However, we would like to notify him one way or another so that he will not be pursuing a dead issue.

Yours very truly,

Earl F. Hastings, Assistant Director
and Projects Engineer

EFH:LP

CC: W. C. Broadgate



Mine Loan, Class B
SUBJECT: Vivian Mining Company
Hasting's memo

I wired you on this matter simply because the Vivian letter seemed to indicate that too much delay has already occurred, and because I was so tied up yesterday clear up to midnite that I could not write any reports.

I am very glad that you brought up this Vivian case as it helps to punctuate my arguments along this line and I have this morning started a chain of investigations going which is going to help along several lines of procedure.

I notice that Earl remarks "This is a rather peculiar problem and certainly shows a weakness in the loan program! I do not remember if my investigations of this point started before Earl came, but if he will review the State of Texas case in our files and the correspondence about my bill S2746, of which you have a copy, he will see that this is being taken care of.

As a matter of fact I have interested Senator Henderson, Hossack and Kuehl and Macartney so much in this, in spite of the comparative rareness of such cases, that they are going to try and find authority to make the changes in rules and avoid my having to go to the tremendous detail work of getting this through two committees and two Houses, which would take months, as you know, in the most favorable circumstances.

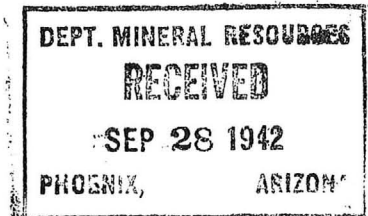
If you will review the cases mentioned, you will see that the Vivian falls into the category (if their letter is correct, and I hope it is) where they are experienced miners, and work goes on on the property, but there is no actual connection between the two, and the law DOES say that the applicant MUST BE ENGAGED, etc. If they had even done anything on the mine, and were not working now, if they had done assessment work, road work, anything at all, themselves, the technicality would be waved. But there must be SOME showing to get them by.

I told Kuehl and Hossack about my advice to Vivian and they laughed and agreed that it was an ingenious solution to the problem.

I am a little alarmed by the statement in the Vivian letter that "we have not possession of the property". Does this mean that they have no lease or hold on it? If so there is another snag.

Bill
Bill Broadgate

Washington, D.C.
Sept. 25, 1942



SUBJECT: Mine Loan, Class B
Vivian Mining Company
Hasting's memo and enclosed letter, herewith returned.

Please note the last paragraph in my first memo of today on this subject.

I am afraid that the Vivian people did not tell all in this matter.

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That is why I am so anxious to have the Department filter these matters before they get to me.

However, I have taken an unusual step and the RFC will go through with this application and to the Board with it if necessary, contingent upon the Vivian getting a satisfactory lease, title or whatever way they are to acquire the property even after approval, so as not to hold up the deal waiting for Vivian to get straight. What the Board will do with such a contingent application we cannot say.

I think it is up to Vivian to get busy and cure these troubles promptly and so notify the RFC.

Bill
Bill Broadgate

September 22, 1942

MEMORANDUM

VIVIAN MINING CO.
"B" LOAN

TO: W. C. Broadgate
FROM: Earl F. Hastings

I am enclosing herewith a letter received from the above company in which they quote from letters received from the Mine Loan Division, R.F.C. From the letter it is to be gathered that there is very little chance of their obtaining their loan, even though this is a company which has the personnel and equipment for operating and has been operating for a number of years.

Their ores at Oatman are, of course, strictly gold ores and now that they wish to put their organization to work in the production of more necessary metals it appears that because they were not engaged in mining on the exact property on which they are applying for a loan, it will be unable for them to make this change. This is rather a peculiar problem and certainly shows a weakness in the loan program. Will you please check into it and see if Mr. Keel can't figure some way to obtain a more favorable interpretation of the qualifying clause relative to applicants engaging or being engaged in actual mining operations.

The access road from the Stanley-Aravaipa district has been O.K.'d by the Bureau of Mines and apparently is merely a matter now of locating the exact route. This road program would be of considerable benefit to the Grand Reef Mine on which the Vivian Mining Company is making application.

September 22, 1942

Mr. Albert E. Kern, President
Vivian Mining Company, Inc.
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

We have your letter of September 21 and can certainly appreciate your confusion in your application for an R.F.C. development loan. Inasmuch as you have been engaged in mining operations for a number of years it would appear to us that you should be qualified as an applicant even though you have never engaged in the operations on the subject property.

We have forwarded your letter to our Washington representative asking him to check with the head of the Legal Department in the R.F.C. and see if there is not some way in which the qualifying clause can be more broadly interpreted. The head of the Legal Department was in Phoenix not long ago and very definitely gave us to understand that broad interpretations were being placed on all phases of the R.F.C. loans in order to cover the specific problems of each applicant that the metal production could be rapidly enlarged.

We feel that by appealing through our Washington representative to the originator of the above statements that we would have his personal interest and enthusiasm in obtaining your loan for you.

Immediately on receipt of any information from Washington we will advise you and be assured that we are extremely interested in your problem and will make every effort to solve it for you.

Yours very truly,

Earl F. Hastings, Assistant Director
and Projects Engineer

EFH:LP

VIVIAN MINING CO., INC.

110 SUTTER STREET
SAN FRANCISCO, CALIF.

TELEPHONE SUTTER 6397

PROPERTIES
OATMAN, MOHAVE CO.,
ARIZONA

AIR MAIL

September
Twenty first
1942

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

Re: Vivian Mining Co., Inc. - Grand Reef Mine
Application Reconstruction Finance Corporation.
Docket #B - ND - 4144

Dear Mr. Coupal:

I have written you heretofore about our application with Reconstruction Finance Corporation at the Grand Reef Mine. I thought I was making splendid progress and that the loan would be granted without further bothering you. However, at this late date I seem to have run into an obstacle regarding which I ask that you please advise me.

A portion of a letter written us by Reconstruction Finance Corporation on August 26 is as follows: "We desire that you furnish a statement of your expenditures on the property. We wish to point out that in order to obtain a development loan the applicant must be engaged in the development of an ore body and will accordingly appreciate a statement of the work being done, number of men employed, etc." I advised them of the expenditures made by Grand Reef Mining Corporation and Calistoga Mining & Development Company; a statement of the work being done, number of men employed and certain other data. On Sept. 9 they wrote me again, and a portion of the letter is as follows: "As in our previous correspondence, we wish to call to your attention the qualifying clause applying to applicants for loans, viz: Be engaged in mining on subject property."

Your compliance with our request should not be construed as meaning that a loan will necessarily be granted, however, do feel assured that upon receipt of the requested information, your application shall receive our further study."

I thought we had sent them an application complete in every way. It certainly took a lot of time and work in preparing, and I sent with the application every map I thought they would desire. The application must have been satisfactory and also the engineer's report because of the fact that several weeks after the engineer's report

must have been in the government's hands at Washington, they wrote asking for certain data concerning our option on the property which data in my opinion would have no effect on the decision regarding a loan and would not have been asked for if the report on the property had not shown it was worthy of a loan.

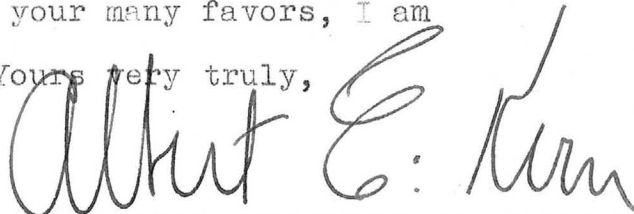
As you know we have not possession of the property nor have we expended any money on it, nor are we working it at this time. Eith^{er} Grand Reef Mining Corporation or the Calistoga people are doing those things. In addition five or six leasers are working a portion of the property and shipping an average of two trucks per week, the lead content of which averages a little better than 21%.

Can you make any suggestion as to what answer I should give them, or what method I should pursue. The fact that we at this time do or do not work the property would seem to have little effect on the merits of a loan. If we had been working the property between the time we first put in our application and the present time, we would have been able to do all of the development work we proposed to do according to our application and would not need the government whatever. Do you suppose this rule of requiring the applicant to already be engaged in mining on a particular piece of property is a hard, fast rule that must stand.

I will appreciate word from you just as soon as possible.

Thanking you for your many favors, I am

Yours very truly,

A handwritten signature in dark ink, appearing to read "Albert E. Kurn". The signature is fluid and cursive, with the first name "Albert" being more prominent and the last name "Kurn" following in a similar style. There is a small mark above the "i" in "Kurn".

President VIVIAN MINING CO., INC.

AEK:AHG

July 1, 1942

Vivian Mining Co., Inc.
Grand Reef Mine

Mr. Albert E. Kern, President
Vivian Mining Co., Inc.
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

Your letter of June 29 has just been received and I was notified by our representative, W. C. Broadgate, Assistant Director and located in Washington, that he had been successful in advancing the consideration for your loan to the point where action could be expected immediately. Your letter shows that this has been accomplished.

I have just talked with Mr. Lane and he expects to be able to go to the property about Wednesday of next week, although he cannot make this a positive date at this time. He will advise Mr. Clarkson several days in advance and I have given him Mr. Clarkson's address as Klondyke. I told Mr. Lane that I was available and he will undoubtedly call and see me before he makes the examination so that I can pass on to him any personal information that I have available.

I do hope that this attempt will be successful on getting the loan on the Grand Reef.

Yours very truly,

J. S. Coupal, Director

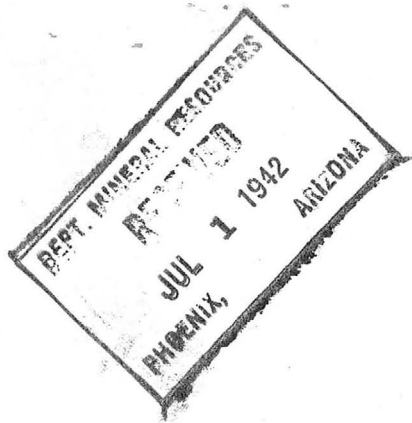
JSC:LP
CC: W. C. Broadgate

VIVIAN MINING CO., INC.

110 SUTTER STREET
SAN FRANCISCO, CALIF.

TELEPHONE SUTTER 6397

PROPERTIES
OATMAN, MOHAVE CO.,
ARIZONA



JUNE

Twenty ninth
1942

Messrs. Charles F. Willis & J. S. Coupal,
c/o Department of Mineral Resources,
413 Home Builders Building,
Phoenix, Arizona.

My dear Mr. Willis and Mr. Coupal:

In the mail this morning came the enclosed letter from Mr. Chas. W. Tully, Engineer Examiner of Reconstruction Finance Corporation, Washington, D. C. I have this day written Mr. Hugh B. Martin, General Manager of Calistoga Mining & Development Company asking him to please immediately notify Mr. Clarkson, the superintendent at the Grand Reef Mine to expect Mr. Travis P. Lane to call shortly and make an examination and to please ask Mr. Clarkson to extend Mr. Lane every courtesy and assistance. Since you both have been so kind as to advise me heretofore concerning our application for a loan on the Grand Reef Mine, I am asking that you further lend me your assistance by getting in touch with Mr. Lane and facilitate his inspection of the property as much as possible. Both of you know the property, and I am sure if you will talk with Mr. Lane you can assist him in making an examination and a report.

Thanking you for your many courtesies, I am

Yours very truly,

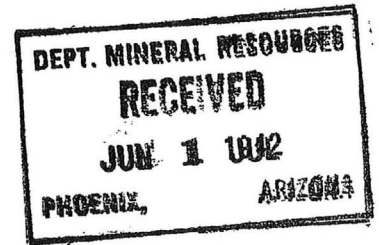
President, VIVIAN MINING CO., INC.

AEK:AHG
enc.

*Not used
Kern*

Washington, D.C.
June 27, 1942

SUBJECT: RFC Class B Loan,
Vivian Mining Company, Inc.,
GRAND REEF MINE



We have chased the application for the Grand Reef out to Gohring
and he should have it now.

Its up to Bill now.

Bill
W. C. Broadgate

June 23, 1942

MEMORANDUM

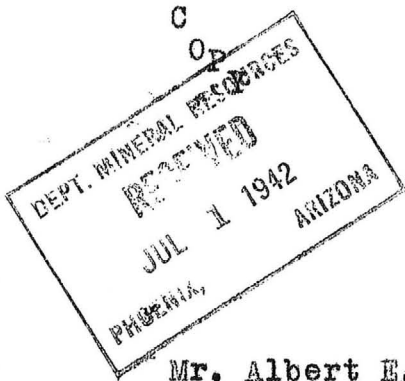
RFC CLASS B LOAN
✓ VIVIAN MINING CO., INC.
✓ GRAND REEF MINE

To: W. C. Broadgate

From: J. S. Coupal

I believe the Grand Reef Mine well worth while going strong on trying to get the \$8,500 for a development loan. This property is equipped, has a certain tonnage in sight, and the development loan should put enough additional ore in sight to warrant a general mining loan.

The owners have sufficient equipment so that they might be able to go ahead without the general development loan if enough ore is put in sight by this \$8,500 loan.



RECONSTRUCTION FINANCE CORPORATION

WASHINGTON

June 22, 1942

Mr. Albert E. Kern,
110 Sutter Street
San Francisco, California

Re: Vivian Mining Co., Inc.
Docket No. B-MD-4144

Dear Mr. Kern:

We have authorized our Supervising Engineer, Mr. Travis P. Lane, whose address is 325 Heard Building, Phoenix, Arizona, to make a field examination of your mining property in Graham County, Arizona.

It is suggested that you communicate with Mr. Lane at his Phoenix office to arrange a mutually convenient time when you can conduct him over your mining property and explain to him at first hand the development expenditures you propose.

In the event that any of your mine workings, where ore is claimed, are inaccessible, it will, of course, be necessary for you to repair and render safe such places for Mr. Lane's detailed inspection and systematic sampling. It is also suggested that you furnish any labor or other assistance our engineer may require in order to expedite his examination of the property.

This authorization for a field examination is being made to determine whether or not this Corporation can consider a loan on your property and is not to be construed as meaning that a loan is being recommended.

In the event that Mr. Lane is not immediately available to make the examination, please be assured that he will do so at his first opportunity.

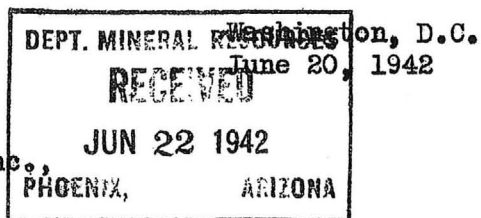
Very truly yours,

(Signed)

CHAS. W. TULLY

CHAS. W. TULLY
Engineer Examiner

SUBJECT: RFC Class B Loan
Vivian Mining Co., Inc.,
Grand Reef Mine



This application for \$ 8,500 is now being considered and
analyzed by the Department engineers.

It is expected to be referred to the field very soon, if they
find that the evidence warrants it.

How strong do you want me to go on this?

Bill
Bill Broadgate

June 17, 1942

MEMORANDUM

RFC CLASS B LOAN
VIVIAN MINING CO., INC.
GRAND REEF MINE

TO: W. C. Broadgate

FROM: J. S. Coupal

The Grand Reef Mine is located in the Aravaipa mining district, and is near Klondyke.

The investigation on this loan falls into the classification where undoubtedly, an argument will be necessary. The complete maps and reports have been filed with the RFC. The application has been turned down on two occasions.

The property has a definite tonnage of ore blocked out which is of commercial grade, but evidently it was not a large enough

tonnage to warrant the loan of \$80,000.

The present loan is to develop additional ore and make it fall within the requirements for a general mining loan.

When the information on the small mine loan is available the owners of this property may decide on the small mine loan to unwater and make all of the workings accessible.

Washington, D.C.
June 6, 1942

Conrad

RFC Class B Loan
SUBJECT: Vivian Mining Co., Inc.
Grand Reef Mine
Calistoga Mining Co.

I will open a file for subject company loan.

Of course, you are right in stating that the letter should be held a reasonable time before follow up, as it will not do to press them if they are handling applications with reasonable expedition.

I also feel that you are right in commenting on the small size of the loan. The RFC would rather apply the full amount to a more complete development program, than fool around with a little loan and then another following it, if the supporting data is in any way satisfactory. They don't have to be timid about the amount. Rait or the local man will cut them down if they ask for too much.... and in fact might turn down ~~and~~ an application if the amount asked for doesn't look as though it would do the job-- although they might ask the company to apply for more.

Another thing; these investigations fall into two categories--

1. If all that is wanted is the data on the status of the loan, all I need is the general information to identify the loan; when filed, name of loan, and I can easily check it through the girl who keeps track of the file on each loan.
2. If what is required is an argument with Norton, Rait, et al, to get a move on a loan application that has bogged down on the way, I should have more information. I find that when I mention a property, they immediately start to ask questions about it. I can understand this. They are dealing with an application, a piece of paper. If they can talk with someone about a property, they feel they are getting a first-hand slant, and it can help, if we do not plug some dog.

I don't know that I should have all reports, etc., as I wouldn't know any more than the desk examiner knows from his file. But a fairly complete letter from our own man who I can trust and quote as though I were speaking of my own knowledge, would be a different matter. This sort of a deal should be used judiciously, but when necessary to really go to bat, I don't want to be in the position of knowing substantially less about the broad outlines and merits of the proposition than the desk examiner. In the majority of cases, it will probably merely require a tracer. But in a few, we may have to argue the matter because the engineer here doesn't like the looks of the deal or some slant is missing. I think you know what I mean. It might be very well for them to make their application out in quadruplicate. Two for the RFC, one for our office, and one for their files. Then you could summarize it to me, with, perhaps, our man's comment where it would be good poker.

Bice

W. C. Broadgate

I don't even know where this Grand Reef is located.

B.

XXXXXXXXXXXXXXXXXXXX

413 Home Builders Bldg.

✓ GRAND REEF MINE
CALISTOGA MINING CO.

June 4, 1942

Mr. Albert E. Kern, President
Vivian Mining Co., Inc.
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

I am glad to know by your letter of June 1 that you have made an application for a development loan on the Grand Reef Mine. My only comment is that I believe you were a little too modest in the sum you applied for. From what I know of the property you could well afford to have planned out work on the mine which would have developed it more extensively on a \$20,000 application. However, in view of the fact that the application for an operating loan on this property has been turned down twice, once on the old prices of lead and the second time on the premium prices, your decision on a small loan may be advisable.

I am forwarding the copy of the letter mentioned to our representative in Washington. It will be advisable to wait a reasonable length of time before trying a follow-up on this. I would be pleased to know within a week or ten days whether or not you have had any response.

Yours very truly,

J. E. Coupal, Director

JEC:LP

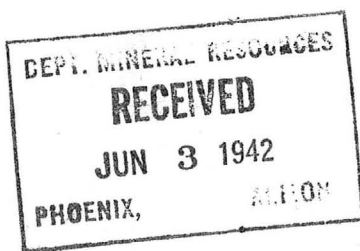
CC: W. C. Broadgate

VIVIAN MINING CO., INC.

110 SUTTER STREET
SAN FRANCISCO, CALIF.

TELEPHONE SUTTER 6397

PROPERTIES
OATMAN, MOHAVE CO.,
ARIZONA



June
First
1942

Mr. J. S. Coupel, Director,
Department of Mineral Resources,
Capitol Building,
Phoenix, Arizona.

My dear Mr. Coupel:

This morning I mailed to John E. Norton, Chief Mine Loan Division, Reconstruction Finance Corporation, Washington, D. C. the application of Vivian Mining Co., Inc. for a development loan on the Grand Reef Mine, and we applied for a loan in the sum of \$8,500. We have emphasized the fact in the application that we are seeking simply a development loan and propose: (1) To run the two raises from the 100 foot level to the adit level in preparation for stoping the 30,400 tons of ore between those levels, the assays of which average approximately \$14. (2) Extend the North raise at #4 stope an additional 50 feet to get above the caved ground in that area and then drift South approximately 100 feet to prospect and develop the ore body there in place. (3) Carry the North drift ahead approximately 150 feet or until the limits of the ore shoot now indicated in the face has been determined. These three headings should produce from thirty to fifty tons of ore per day which we can stock pile and keep for future milling. In going over all of the maps and data, I am satisfied in my mind of the amount and value of ore that can be stoped by running the two raises first mentioned so forth that operation there can be little question as to the advisability. At #4 stope which has now caved, the last assays taken by Robert Mc Cart, Jr. in 1917 show some excellent values, and it is our intention to get above this caved area and develop the ore body which is clearly evident by the old stoping work and again just above this stope on the surface. The values in each instance are excellent. The third phase is in the face of the North drift on the adit level. Some of the ore in that face is real specimen rock and we hope this indicates contact with another ore body.

We are only applying for a very small loan; using it where the data we can secure indicates it is worthy of further investigation, and if this is true we would then revamp the mill and open up work at lower levels. In the report of Mr. C. E. Minor, he continually refers to the possibility of copper ores being found from the 300 to the 800 foot level.

Mr. J. S. Coupel, Director

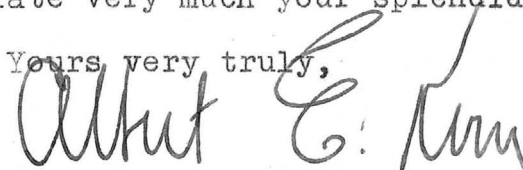
6/1/42

Page 2

I am sending you this letter in duplicate, thinking you might send a copy to your representative in Washington who might be able to assist in this matter.

We appreciate very much your splendid co-operation.

Yours very truly,

A handwritten signature in dark ink, appearing to read "Albert E. Ryan". The signature is written in a cursive style with a large, looped initial "A".

President VIVIAN MINING CO., INC.

AEK:AHG
enc.

RECEIVED

May 29, 1942

JUN 3 1942

PHOTO

OPERATING MINES
Mohave County

To: J. S. Coupal
From: Elgin B. Holt

This mine has closed down.

VIVIAN MINING COMPANY: Located in Oatman District, Mohave County.

Thomas V. Barton, Pres., Kohl Bldg., San Francisco, Calif.

This company has been operating a 100-ton cyanidation plant for a number of years. However, this company closed down all operations, mining and milling during March, 1942

No records of production available.

May 25, 1942

Vivian Mining Co., Inc.
110 Sutter Street,
San Francisco, California

Gentlemen:

Many thanks for your list of mining equipment and supplies now at the Vivian property in Oatman. I have already called this to the attention of some of the people who will soon be in the market for used equipment.

We have established a used equipment department in connection with "Pay Dirt" and we will undoubtedly be able to make some valuable contacts for you.

We are also working with the Industrial Salvage and Conservation Division, of the W P B, and will advise you when and if we have any inquiries.

Yours very truly,

J. S. Coupal, Director

JSC:GS

XXXXXXXXXXXXXXXXXXXXXXX

413 Home Builders Bldg.

May 21, 1942

Mr. Wm. T. Amos
General Superintendent
Vivian Mining Co., Inc.
Oatman, Arizona

Dear Mr. Amos:

I hope you will pardon my delay in replying to your letter of May 7. I have had some correspondence with Mr. Kern and have recently had a call from Mr. Clarkson who was superintendent at the Grand Reef Mine.

I do believe that the \$30,000 to \$40,000 mentioned would put the Grand Reef into profitable production. Mr. Clarkson is basing his estimates of money needed at that figure.

The question of government loan has been taken up by Mr. Kern and also Mr. Martin. The loan was reconsidered on the basis of the premium prices for lead and even at that the application was turned down, although it was based on request for a \$80,000 loan.

I do not see where either Senator Hayden or Senator McFarland could help at this time. If a new loan is to be applied for, it undoubtedly should wait until some additional development work is done or it should be submitted on the basis that the amount asked for was too large for the net profit on the ore in sight. It may be possible that a \$40,000 loan would be granted where an \$80,000 loan would not be considered.

Yours very truly,

J. S. Coupal, Director

JSC:LP

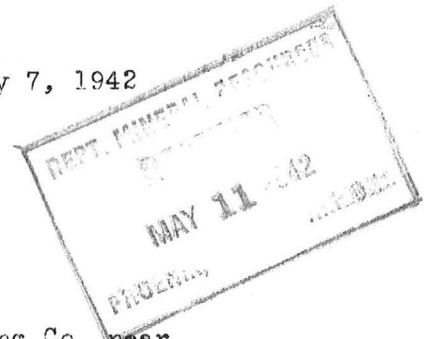
VIVIAN MINING Co., INC.

OATMAN, MOHAVE CO., ARIZONA

TELEPHONE OATMAN 28

HEAD OFFICE
110 SUTTER ST.
SAN FRANCISCO, CALIF.

May 7, 1942



Mr. J. S. Coupal

Dear Sir,

I am writing you in regards to the Grand Reef Mining Co. near Klondike, Ariz. Mr. A. E. Kern and Mr. T. V. Barton of this company, for whom I have worked for the past five years, are very much interested in it and want me to go down there for them.

They also have a property in mind in New Mexico, but I would rather have them stay in Arizona. I know Mr. Kern has written you about the mine and think they have about made up their mind to ask for a government loan on it.

Do you think \$35 or \$40,000 would develop the mine. They have plenty of machinery here that they could move down to that mine and mill if they need it. So the money would all be spent in the mine and if watched should do a lot of development work. They say there is about 30,000 tons of ore in sight.

Do you think they can get a government loan on the place. Also do you think that our Senators, Mr. Hayden and Mr. McFarland, could help get the loan. Do you think it would hurt the A.S.M.O.A. if they were asked? I know both of them well and feel sure they would do all they can to help the state.

VIVIAN MINING Co., INC.

OATMAN, MOHAVE CO., ARIZONA

TELEPHONE OATMAN 28

HEAD OFFICE
110 SUTTER ST.
SAN FRANCISCO, CALIF.

May 7, 1942

Page 2

If this loan is granted then it would help show the governor
that the A.S.M.O.A. are active and are trying to get the small mines
in this state working and aiding our defense with their minerals.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Wm T. Jones".

General Superintendant

May 4, 1942.

Mr. Albert E. Kern, President.
Vivian Mining Company, Inc.
110 Sutter Street
San Francisco, Calif.

My dear Mr. Kern:-

Politics may have had a bearing on former applications and also the fact that the applicant had money but I do believe that the conditions have changed and that you are fully justified in taking the steps proposed and go at a loan on the revised basis.

While Mr. Charles Willis was in Washington he talked with Mr John Norton of the RFC mine loan division and called to his attention the fact that the new prices (premium prices on copper, lead and zinc) justified a renewal of the Calistoga application. Word has since been received that it was again turned down.

With this in mind it would seem useless to make an application unless some additional work was done. A change in the sum asked for, the use of your present equipment, the taking over the operation by a new group and an independent engineers advice and estimate and numerous other factors may be enough to warrant a reconsideration of your loan.

It is difficult for me to give an opinion in view of what has transpired as to the wisdom of making an application for loan and in the presenting of it even with the suggested change in amount asked for. There is always the possibility that the loan division may have felt the margin too small to make a profit on an \$ 80,000 loan and would have been favorable on a \$ 40,000 loan.

I do feel as though the property justifies the loan. If a few thousand dollars were spent in unwatering and do some drifting on the north ore body, your chances would undoubtedly be much better. If, however, that money is not available I would make the revised application along the lines you suggest.

I will be in Phoenix and will give you as much time as possible in preparing your application. We expect to have one of our men in Washington to assist in such problems as yours. He will start about the 16th and be available there on the 20th.

Hoping this non-committal letter is of value to you, I am,

Very truly yours,

J. S. Coupal. Director.

VIVIAN MINING CO., INC.

110 SUTTER STREET
SAN FRANCISCO, CALIF.
TELEPHONE SUTTER 6397

PROPERTIES
OATMAN, MOHAVE CO.,
ARIZONA

AIR MAIL

May
Second
1942.



Mr. J. S. Coupal, Director,
Department of Mineral Resources State of Arizona,
Title & Trust Building,
Phoenix, Arizona.

My dear Mr. Coupal:

Referring to our proposed application to the government on the Grand Reef Mine, I am told that Mr. Bard, the president of Calistoga Mining and Development Company is a staunch Republican; a very wealthy man and whose views on the present administration he has given publicity throughout the State of California. People tell me that the political angle might have something to do with turning down the application. I am also told that in another development which would have been for the general good of the State and the United States, his application was turned down for political reasons. I am further told that the fact he is a very wealthy man and well able to put up any money required without a government loan was one of the things that the government officials may have taken into consideration. Of course, all of the above is only hearsay.

I think the Calistoga application was for \$80,000. I had in mind applying for only \$40,000. The application would be made in a new name and by an experienced mining company incorporated in 1917. As you know, we have been mining in Mohave County, Arizona for some years but were forced to discontinue because of the rules and regulations which the government has seen fit to make. I emphasize this point because I am told that the government leans a little in helping gold mining companies which have been forced to discontinue their work. We have on hand and are not using machinery which we could place and use at the Grand Reef property. Of course, the price of lead and copper is materially different than when the application was first presented.

I have talked with my people about doing some development such as unwatering as suggested by you, at the mine but the opinion is that we should not expend any money until we know that we will be able to carry on the operation in a good minerlike way. We very definitely told Mr. Martin of the Calistoga Mining & Development Company that it would be absolutely essential for us to

VIVIAN MINING Co., INC.

OATMAN, MOHAVE CO., ARIZONA

TELEPHONE OATMAN 28

HEAD OFFICE
110 SUTTER ST.
SAN FRANCISCO, CALIF.

May 1st, 1942.



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

Dear Mr. Coupal: Enclosed is a partially completed list of the equipment and supplies which this company is offering for sale. Our thought in sending this list to you is that in your travels around the State, in connection with your ASMOA activities, you might be in position to tip off some operator as to just where he might secure certain equipment of material.

Such a tip would be of much value to the operator and would be very much appreciated by us. Difficulty in securing delivery of certain equipment is hard enough at best these days, regardless of priorities priveledges.

Not on the attached list will be quantities of pipe and pipe fittings and considerable electric wire in the larger sizes. These have not as yet been dismantled and therefore are not listed. However as an example, we will have in the neighborhood of 550 ft of 500,000 c.m. weatherproof wire- stranded. Some 1000 ft of 250,000 c.m. and roughly 4000 ft of 2/0 In addition to this there will be pole accessories such as x-arms, braces, insulators etc sufficient for the erection of the above wire.

Innumerable other items are not yet listed but will, as time permits, be gathered up and placed in position for delivery. Tools; bolts, nuts & washers, electric fittings, conduit & conduit fittings. You know the stock which makes up a mine and mill requirement.

We feel that you can do a service to many operators in the state and in sending this to you we certainly hope that we havent appeared too bold.

Yours most sincerely,

A handwritten signature in cursive script, appearing to read "A. E. Latten".

For Vivian Mining Co., Inc.

5/2/42

secure a loan from the government or elsewhere before we could take up our option on the property.

I would, therefore, like to have your opinion just as soon as possible as to whether or not you thought it would be worth while to put in a new application to the RFC for the reasons enumerated above and if your opinion is favorable, I have in mind leaving here for Los Angeles where I would talk further with Mr. Martin and secure from him all of the data regarding his application; then go to Phoenix and get the forms for the application and have somebody there help me in preparing the forms because I have had absolutely no experience in any government financing. I even hoped that possibly you would have time to give me your assistance in preparing the forms. Undoubtedly, I could hire somebody in Phoenix to do the actual typing, etc. After spending what time would be necessary in Phoenix, I had intended ^{returning} by way of Kingman to stop off at our mine for a few days.

It is so easy for the news to travel in mining circles that we have closed our operation at Oatman, Arizona, and we have been offered several properties that interest us and particularly one in New Mexico. However, my associate, Mr. Barton is so enthusiastic about the Grand Reef Mine; Mr. Martin was so sincere in his opinion as to the possibilities there and a friend of mine who is also a stockholder in Vivian Mining Co., Inc. has recently inspected the Grand Reef Mine and he is enthusiastic. However, we are faced with the absolute necessity of a loan and I am at a loss where to secure one excepting from the government. To me it seems that the Mine Loan Division of the RFC was formed to grant loans under just such a condition as we are talking of. The Vivian Mining Co., Inc. has been operating mines in a successful way for many years and this Grand Reef Mine is entitled to a loan, and will beyond any question of doubt ~~will~~ result in a successful operation.

I would appreciate your answer either by wire or air mail and I assure you I appreciate your help.

Yours very truly,



President VIVIAN MINING CO., INC.

AEK:AHG

April 28, 1942

Mr. Albert E. Kern
Vivian Mining Co., Inc.
110 Sutter Street
San Francisco, California

Dear Mr. Kern:

I have just received your letter of April 27 regarding the Grand Reef at Klondyke. Mr. Charles F. Willis was in Washington a few weeks ago and talked the question up with Mr. John E. Norton, Chief of R.F.C. Mine Loan Division, on the Calistoga Mining and Development Company and asked the R.F.C. to reconsider the application for a loan in view of the premium prices for lead. This was done at the request of Mr. Willis, the application was reconsidered and the loan was again turned down.

I am as enthusiastic as you are regarding the prospects of making a real producing mine of the Grand Reef and unless private capital is available a government loan seems the only answer. In view of the fact that the application has again been turned down I suggest that certain development work be done and that the property be dressed up and prepared for a new application by a certain amount of development work.

My suggestion on this would be that an engineer be sent to the property and if Mr. Clarkson, the superintendent under the Calistoga Company, is there, that they work out a simple development, and, if necessary, unwatering project so that the ore available can be actually measured and sampled and a new application then be made for a loan. In this connection all of the material submitted for the first loan should be available to you. Once ready you should get the application blanks for an RFC loan from the local representative of the R.F.C. The office here in Phoenix is R.F.C. Mine Loan Division, Heard Building, Phoenix.

Hoping that I may be of assistance to you, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

*John & Martin
Carl Hayden*

VIVIAN MINING CO., INC.

110 SUTTER STREET
SAN FRANCISCO, CALIF.

TELEPHONE SUTTER 6397

PROPERTIES
OATMAN, MOHAVE CO.,
ARIZONA

AIR MAIL

April
Twenty seventh
1942

Mr. J. S. Coupal, Director,
Department of Mineral Resources State of Arizona,
Title & Trust Building,
Phoenix, Arizona.

Dear Mr. Coupal:

We have just finished making an examination of the Grand Reef Mine near Klondyke, Arizona, and we are all very enthusiastic about the prospects. We have gone over all of the data and reports we could get and particularly that report by Mr. C. E. Minor. Our opinion of this mine can probably best be summed up in saying that there is a probability that it can be developed below the 600 foot level into one of the outstanding copper properties in this country. The present face of the north drift on the adit level is as near pure lead as anything I have ever seen. The Calistoga Mining and Development Company has given us an option on the property. The next step will be to secure a government loan which we all feel the property is entitled to receive.

We want to proceed just as fast as we can. However, before doing anything about a government loan I wanted to write you and ask if you would be kind enough to suggest any particular lines that we can follow in putting in our application. I have had no experience in obtaining any government financing. We believe that with a reasonable government loan and expended in a good miner like manner that the success of this property is beyond a question of doubt, and at the same time we can produce a large quantity of the metals our government needs so badly at this time.

Any suggestions will be most appreciated by us, and if you should feel that you would like to talk to me over the telephone please do not hesitate to call me and reverse the charges. While we were forced to discontinue our operations at Oatman, Mohave County, Arizona, for reasons over which we have no control, we believe that in this Grand Reef Mine we have an opportunity of developing an outstanding property for the State of Arizona.

Yours truly,

Albert E. Martin

AEK:AHG

CARTER GLASS, VA., CHAIRMAN

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CHAN GURNEY, S. DAK.
C. WAYLAND BROOKS, ILL.

United States Senate

COMMITTEE ON APPROPRIATIONS

April 23, 1942

EVERARD H. SMITH, CLERK
JOHN W. R. SMITH, ASST. CLERK

Mr. Hugh B. Martin, General Manager
Calistoga Mining and Development Company
811 West Seventh Street Building
Los Angeles, California

My dear Mr. Martin:

Referring to my letter of April 10, I am enclosing a reply from Mr. Harry O. King, Chief of the Copper Branch, War Production Board, by which I am sorry to observe that there seems to be no possibility that a favorable recommendation can be sent by the War Production Board to the Reconstruction Finance Corporation in connection with the loan application filed by the Calistoga Mining and Development Company.

With best wishes, I am,

Yours very sincerely,

Carl Hayden

CARTER GLASS, VA., CHAIRMAN

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WALLACE H. WHITE, JR., MAINE
CHAN GURNEY, S. DAK.
C. WAYLAND BROOKS, ILL.

United States Senate

COMMITTEE ON APPROPRIATIONS

April 23, 1942

EVERARD H. SMITH, CLERK
JOHN W. R. SMITH, ASST. CLERK

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

My dear Charlie:

Referring to my letter of April 10, I am attaching a copy of a supplemental communication I have sent to Mr. Hugh B. Martin, General Manager of the Calistoga Mining and Development Company, which may be of interest to you.

With kindest personal regards, I am,

Yours very sincerely,

Carl Hayden

WAR PRODUCTION BOARD
WASHINGTON, D.C.

April 15, 1942

4H-HOK

The Honorable
Carl Hayden
United States Senate

My dear Senator Hayden:

This is in reply to your letter of April 10, relative to the Grand Reef mine located near Klondyke, Arizona, which is now under option to the Calistoga Mining and Development Company.

One of the members of the Copper Branch is quite familiar with the Grand Reef mine. At one time he "grub staked" a number of leasers who shipped considerable lead ore from stopes in the old mine. This operation was unprofitable. Later he was associated with a mining corporation which did a considerable amount of development on this property and in other parts of the district. The result of this work was also unfavorable.

He is thoroughly in agreement with the engineers of the Reconstruction Finance Corporation that the indicated size and submarginal character of the orebodies of the Grand Reef mine do not warrant favorable consideration for a loan.

The enclosures which accompanied your letter are being returned herewith and also a copy of this letter.

Yours very truly,

H. O. King
Chief, Copper Branch

Enclosures

CARTER GLASS, VA., CHAIRMAN
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CARL HAYDEN, ARIZ.
ELMER THOMAS, OKLA.
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C. WAYLAND BROOKS, ILL.

United States Senate

COMMITTEE ON APPROPRIATIONS

April 10, 1942

EVERARD H. SMITH, CLERK
JOHN W. R. SMITH, ASST. CLERK

Mr. Hugh B. Martin, General Manager
Calistoga Mining & Development Company
811 West Seventh Street Building
Los Angeles, California

My dear Mr. Martin:

Referring to my letter of March 26, I am enclosing a reply from the Chairman of the Board of Directors of the Reconstruction Finance Corporation, in which he says that the engineers of the Mining Loan Section have determined that on the basis of the information available, the proposed development of the property of the Calistoga Mining and Development Company would not open up sufficient ore deposits to justify a loan. I am sorry that I cannot send you some more favorable report.

I am writing today to Mr. Harry O. King, who is the Chief of the Copper Branch of the War Production Board, asking him to investigate this question with a view to determining whether the potential production at the Grand Reef Mine might be of sufficient importance to the war effort to justify a recommendation from the War Production Board to the RFC. I shall let you know what I learn from Mr. King.

With best wishes, I am,

Yours very sincerely,

Carl Hayden

cc: ✓ Charles Willis

CARTER GLASS, VA., CHAIRMAN

KENNETH MCKELLAR, TENN.
CARL HAYDEN, ARIZ.
ELMER THOMAS, OKLA.
MILLARD E. TYDINGS, MD.
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EVERARD H. SMITH, CLERK
JOHN W. R. SMITH, ASST. CLERK

United States Senate

COMMITTEE ON APPROPRIATIONS

April 10, 1942

Mr. Charles Willis, State Secretary
Arizona Small Mine Operators Association
528 Title & Trust Building
Phoenix, Arizona

My dear Charlie:

I am attaching a copy of a letter I have just addressed to Mr. Hugh Martin, General Manager of the Calistoga Mining and Development Company, 811 West Seventh Street Building, Los Angeles, California, as well as a copy of a reply sent to me on April 6 by the Chairman of the Board of Directors of the Reconstruction Finance Corporation. I am simply sending you this for your information.

With kindest personal regards, I am,

Yours very sincerely,

Carl Hayden

RECONSTRUCTION FINANCE CORPORATION

WASHINGTON

April 6, 1942

Honorable Carl Hayden,
Senate Office Building,
Washington, D. C.

Dear Senator Hayden:

This will acknowledge receipt of your letter of March 26, 1942, enclosing a letter dated March 20, 1942, addressed to you from Mr. Hugh B. Martin, General Manager of the Calistoga Mining and Development Company, and the accompanying data relative to their application to this Corporation for a development loan.

Our engineers have carefully studied the application on the basis of the new prices for lead, zinc, and copper, and, as stated in our letter of February 20, 1942 to Mr. Martin, the Corporation did not approve the loan. It is our opinion, based upon the available data, that the proposed development would not disclose a sufficient quantity of ore that could be mined and milled at a profit. Furthermore, an additional capital investment for mill reconstruction would be necessary before the ore could be successfully concentrated. The indicated size and submarginal character of the ore body did not warrant a favorable consideration of the loan, even if the expense of reconstructing the mill were financed by the applicant.

The enclosures which accompanied your letter are being returned herewith.

With kindest personal regards,

Sincerely yours,

(Signed) Charles B. Henderson

Enclosures

March 24, 1942

Mr. Hugh B. Martin,
Calistoga Mining & Development Company,
811 West Seventh Street Building,
Los Angeles, California.

Dear Mr. Martin:

I greatly appreciate your letter of March 20 enclosing copy of the letter you sent to Senators Hayden and McFarland.

I am leaving for Washington tomorrow night and am taking the data regarding your proposed loan with me in order that I may have a chance to discuss it with the proper officials there.

I am hoping to get some of the difficulties ironed out, but it certainly is a heck of a mess.

Thanking you again for sending me this additional data, I am

Yours very truly,

CHARLES F. WILLIS
State Secretary

CFW:MH

P.S. Dictated by Mr. Willis on March 21 but transcribed and signed after he left for Washington.

COPY

March 20, 1942

Mr. Carl Hayden
United States Senator from Arizona
Washington, D. C.

Dear Mr. Hayden:

For the past year we have been operating the Grand Reef Mine near Klondyke, Arizona, a silver, lead, copper mine.

Early in November, 1941, it became evident to us that this was a marginal property, and under the then existing price for lead and copper and the difficulties of operation because of high wages, uncertainty of securing materials and supplies and tax factors, we realized that we could not proceed with the project.

After the outbreak of hostilities in the Pacific, it seemed to this corporation that it was unwise and unpatriotic to dismantle this mine, even though it was a borderline property from the standpoint of profit, and on December 24th, we applied to the R. F. C. for a Government loan to carry out the indicated operations thereon.

The enclosed summary shows clearly the position of this company and the physical aspects of the property. The R. F. C. has summarily and without explanation refused to assist us. This relatively small project is not attractive to private capital for the simple reason that unless a return of invested capital can be had through the period of high prices for lead and copper, there is considerable doubt as to the ultimate profit to be gained. No small corporation can make a substantial profit and expect to keep it under the present tax laws.

If the information coming from Washington is substantially correct, then it is difficult to understand the attitude of R. F. C. I suggest that this matter deserves attention and further consideration.

COPY

Page 2
Mr. Carl Hayden

March 20, 1942

Mr. Charles F. Willis, State Secretary of the Arizona Small Mine Operators Association, and Sam Coupal, with the Bureau of Mines, are both personally familiar with this mine and our operations, and share the views I have expressed herein.

Our hands are tied. Unless we get Government assistance, this mine and mill will be dismantled and the known reserve of silver, lead and copper will be forever lost.

Very truly yours,

CALISTOGA MINING AND DEVELOPMENT
COMPANY

By

Hugh B. Martin, Gen. Mgr.

HBM-lm

CALISTOGA MINING AND DEVELOPMENT COMPANY

811 WEST SEVENTH STREET BUILDING
LOS ANGELES, CALIF.

March 20, 1942

Mr. Charles F. Willis
528 Title & Trust Building
Phoenix, Arizona

Dear Mr. Willis:

The enclosed letter was sent to Mr. Hayden,
Mr. McFarland and Mr. Douglas, in the hope
that they might stir up some Government in-
terest in the Grand Reef Mine.

I will be glad to have you give us whatever
sponsorship you think consistent with the
facts.

Very truly yours,



Hugh B. Martin

HBM-gm
Enc.

March 12, 1942

Mr. Charles F. Willis
528 Title & Trust Building
Phoenix, Arizona

Dear Mr. Willis:

Thank you for your letter of March 10th concerning our operations at Grand Reef.

I had a very fine talk with Sam Coupal while he was in Los Angeles. It is extremely difficult for us to understand the attitude of the R.F.C. in regard to this property.

For your information there is blocked out in the mine approximately 30,400 tons of ore which will conservatively average \$18.50 per ton at the bonus prices for lead and copper (14 oz. Ag., 6% Pb and 1.35% Cu).

Including the return of additional necessary capital and all costs incident to the operation, the ore body can be mined, milled and realized for approximately \$14.00 per ton. This shows a net profit, after all charges of \$4.50 per ton, or \$136,800 in 18 months' operation. The estimated salvage value of the equipment now installed on the property, which includes a 100-ton flotation mill, is \$30,000.

In addition to the ore body discussed above, there are approximately 60,000 tons of other ore in this mine which can be recovered at a relatively low development cost. There are also several speculative leads which any intelligent operator would consider decidedly worth exploration. I feel that any fair appraisal would justify Government financing. It is difficult to get private business to invest money in this kind of an enterprise, because of the uncertainty of being able to realize even a return of investment under the contemplated tax laws. No one denies that the property is marginal with lead at 5.85 cents and copper at 11.6 cents. Under the present Government bonus for these two materials, it is decidedly a commercial producer.

I will be happy to give you all the detailed information which you might require in any representations you can make to assist us in avoiding the necessity of dismantling the mine and mill for lack of proper official understanding.

Very truly yours,

HBM-gm

Hugh B. Martin

CALISTOGA MINING AND DEVELOPMENT COMPANY

811 West Seventh Street Building

LOS ANGELES, CALIF.

March 12, 1942

Mr. Charles F. Willis
528 Title & Trust Building
Phoenix, Arizona

Dear Mr. Willis:

Thank you for your letter of March 10th concerning our operations at Grand Reef.

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For your information there is blocked out in the mine approximately 30,400 tons of ore which will conservatively average \$18.50 per ton at the bonus prices for lead and copper (4 oz. Ag., 6% Pb and 1.35% Cu).

Including the return of additional necessary capital and all costs incident to the operation, the ore body can be mined, milled and realized for approximately \$14.00 per ton. This shows a net profit, after all charges of \$4.50 per ton, or \$136,800 in 18 months' operation. The estimated salvage value of the equipment now installed on the property, which includes a 100-ton flotation mill, is \$30,000.

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Very truly yours,

(Signed) Hugh B. Martin

✓
CALISTOGA MINING AND DEVELOPMENT COMPANY
811 WEST SEVENTH STREET BUILDING
LOS ANGELES, CALIF.

March 12, 1942

Mr. Charles F. Willis
528 Title & Trust Building
Phoenix, Arizona

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I will be happy to give you all the detailed information which you might require in any representations you can make to assist us in avoiding the necessity of dismantling the mine and mill for lack of proper official understanding.

Very truly yours,



Hugh B. Martin

HBM-gm

James

March 10, 1942

✓
Mr. Hugh B. Martin,
811 West 7th Street Building
Los Angeles, California.

Dear Mr. Marstent:

I was talking with Sam Coupal regarding your problem of financing the Calistoga Mining Company and you have such a very good story to tell that I would suggest you attend the mining conference at Reno on March 12 and tell your difficulties to the assembled group of mining operators who will be there.

You have a problem that is typical of the difficulties being encountered in Washington and you have such a good case that the telling of the story might serve to help the entire mining industry as well as you and it certainly will be of great assistance if we can get such changes made in Washington to help the war program.

It seems to me to be perfectly ridiculous that your mine loan should have been turned down when the country so badly needs the lead that you could produce.

Incidentally, I personally will not be present at Reno but Billie Graham, president of the Arizona Small Mine Operators Association will be there. The reason for my not getting there is that I am attending a war production board conference in Denver on Saturday. It would be appreciated if you could drop me a letter right away telling me your experience so that I can discuss it with officials at the war production board conference.

Hoping that you will find it possible to go to the Reno conference, I am

Yours very truly,

CHARLES F. WILLIS
State Secretary

CFW:MH

GRAND REEF

GRAHAM COUNTY

KAP WR 4/19/85: Armand D. Kunz (c) of Corango Resources Ltd. reported he wants to meet in the Department office the afternoon of May 9 to discuss his company's fluorspar occurrence at their Grand Reef mine (file) property in Graham County.

KAP WR 5/10/85: Armand D. Kunz and Robert H. Golden of Corango Resources Ltd., 30555 Southfield Road, Suite 350, Southfield, Michigan 48076, Phone (313) 645-2103 were in the office to discuss a course of action for their Arizona property holdings. Corango owns the Grand Reef Mine (f) in Graham County and a number of claims surrounding it. The Grand Reef Mine in the Grand Reef mineralized system has historically been a significant producer of silver, lead, and zinc. Mr. Kunz reports that drilling on the property they now control, has indicated the potential for a very large deposit of fluorspar. They asked for suggestions of companies which may be interested in exploring or developing the deposit.

NJN WR /17/85: Robert E. Cohenour, consulting geologist 1065 East 900 South, Salt Lake City, Utah 84105, phone 901-363-4684 visited. With him, were attorneys Armond Kunz and Bob Golden of Corango Resources (c). They have been evaluating the Grand Reef Mine (f) Graham County. Mr. Cohenour reported that Continental Materials has done a lot of deep drilling (approx. 900') there finding 15-20 feet of good grade fluorspar. If they do not follow through on the project they will send us copies of the data.

AWB WR 5/31/80: Ken Phillips and Dick Beard donated a limonite specimen to the Arizona Mineral Museum, from Grand Reef Mine. Estimated value \$200.

KAP WR 4/22/80: Armand D. Kunz of Corango Resources, Ltd., 30555 Southfield Road, Suite 350, Southfield, Michigan 48076, phone (313) 645-2103, reported his firm plans a drilling project and surface geology mapping at the Grand Reef Mine, Aravaipa District, Graham County. They have optioned the property from the Bingham Silver-Lead Company.

KAP WR 5/29/80: In the company of Richard Beard a visit was made to the Grand Reef Mine, Graham County. A separate report will be made.

KAP WR 6/27/80: Douglas Christopherson, 13845 West 75th Place, Aravada, Colorado 80005, phone (303) 420-5483, is a consulting mining engineer for the Kuntz et al Group, which is investigating the Grand Reef Mine, Aravaipa District, Graham County. He has just returned from visiting the property where he had collected numerous geochem samples to establish background geochem data and dump samples. He has noted with much interest, breccia in volcanics adjacent to the Grand Reef fault and vein system. He also reported that Continental Materials, who holds claims adjacent to Grand Reef Mine has drilled fluorite in the system 500 to 1000 ft below the surface and that this would be a positive indication of the extension of at least some type of mineralization deep within the vein system.

KAP WR 7/10/81: Armond Kunz reported on activities of his firm, Corango Resources Ltd. at the Grand Reef Mine, Aravaipa District, Graham County. They have acquired a 5 sq. mile property position in the area through claim location, acquisition and State prospecting permits, including reef structure north of the Grand Reef mine. They have completed a geochem survey of the area and a reconnaissance geochem survey of the regional drainages. They started an underground sampling program in March 1980 in the Grand Reef Mine. Kunz reported that Consolidated Goldfields has extensive data on the mine and he has obtained copies. He also reported that they obtained copies of Continental Materials drill data from Continental's holding (claims) west of the Grand Reef. Bingham Silver-Lead Company is reported to be the owner of the Grand Reef.

KAP WR 3/25/83: George Shotler of the U.S. Bureau of Mines reported their director has received a letter from a R. G. Holden, President of Corango Resources, Southfield, Illinois to the effect that Corango has a huge deposit of fluorspar on their holding in the area of the Grand Reef Mine, Aravaipa District. Further they plan to prove their hoped for reserve. Mr. Shotler promised us a copy of the letter.

To: JHJ From: GI 8/15/79 ap.
From Herb Reynolds, Continental Materials Co. via phone reports that the Grand Reef mine belongs to Bingham Silver Lead/ His Co. has been leasing same with option to purchase. They (Continental) drilled 5 holes into the vein the deepest being 1100 feet. The metallic mineralization does not extend below the present mine workings, but there is considerable fluorspar (Nonmineable under present conditions). CMC expects to return the property to Bingham Silver Lead in the near future.



GRAND REEF - *see 17 TGS R 20 E*

GRAHAM COUNTY

Mr. Rhea, watchman, American Zinc and Lead Co. - Mr. Rhea reported that the American Zinc and Lead Co. to his knowledge has made no plans for resumption of mining in the Aravaipa-Klondyke district. ALJ WR 6-8-64

The Frya Enterprises, Fred Riebold are busy at Aravaipa with Parson-Jourden as consultants. On June 1 they reported to have 381 claims, patented and unpatented tied up. This included American Zinc, George Botts' Brushy group, Bellman Landsman camp and others including the Grand Reef and Dog Water Mine. The roads in the area have been widened some drilling has been going on, the shaft number one is being retimbered, they report that they are going to take over the Klondyke mill after giving Mr. Stoffers 30-day notice. GWI QR 6-1968

Far Mining Enterprises, BOX 447, Safford, Arizona, expect to start mining at the Grand Reef soon. Fred A. Riebold, General Manager. GWI Report 4-1-69
Athletic Mining Co. (file)

Mine visit - Grand Reef Mine; no recent activity. GWI WR 5/4/76

B&B Mining Co. has said that liens and encumbrances on the Grand Reef Mining Group are greater than the value. VBD WR 8/12/76

Bingham Silver and Lead, an unknown, has purchased the Grand Reef claim and six others in the Aravaipa district from Graham County. The Board of Supervisors sold the Grand Reef for \$139.00. Over \$40,000.00 in liens and taxes were charged to the property. VBD WR 9/27/76

Bingham Silver and Lead of Salt Lake City, Utah, has purchased the Grand Reef and six other patented mining claims in the Aravaipa District. They are a Utah Corporation in good standing, incorporated in the 1930's, authorized to issue 20,000,000 shares of stock of which 2,571,000 have been issued to date. George H. Badger, 550 Northmont, Salt Lake City, Utah, 84105, is president. The company's stated value is \$224,673.24. VBD WR 10/6/76

MG/WR 3/22/79 - Mr. George Bott informed me that Continental Materials Corp. has leased the Grand Reef Mine Area (Graham Co.) and staked some new claims. The company has drilled five holes. 4/26/79 a.p.


REPORT 4/28/69

CORANGO RESOURCES LTD.

30555 SOUTHFIELD ROAD

SUITE 350

SOUTHFIELD, MICHIGAN 48076

(313) 645-2103

*GRAND REEF MINE (File)
GRAHAM Co.*

July 23, 1985

Mr. Ken A. Phillips
Arizona Department of Mines & Mineral Resources
Mineral Building Fairgrounds
Phoenix, AZ 85007

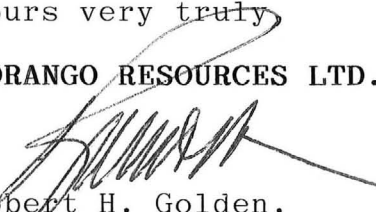
Dear Mr. Phillips:

Perhaps you will recall that, at your suggestion, we wrote Echo Bay Mines and Stan West Minerals Corporation in regard to our Grand Reef prospect, sending a copy of our letters of May 20, 1985, to you.

We have had no response whatsoever from either of our letters. If you have occasion to talk with the people at Echo Bay Mines and Stan West, we would appreciate your making an inquiry relative to their interest.

Yours very truly

CORANGO RESOURCES LTD.


Robert H. Golden,
President

RHG/dl

*received
7-26-85*

GRAND REEF MINE (file) K
GRAMM Co.

CORANGO RESOURCES LTD.

30555 SOUTHFIELD ROAD

SUITE 350

SOUTHFIELD, MICHIGAN 48076

(313) 645-2103

May 20, 1985

Echo Bay Mines 303-278-3662
14618 W. Sixth Avenue
Golden, CO 80401

Att: ~~Chris French~~

Dear Mr. ~~French~~:

From time to time, when we're in Arizona, we take the opportunity of stopping by the Mineral Museum to see Ken Phillips in regard to our Arizona properties. Very recently, Mr. Phillips suggested that we contact you since our property may be of some interest to you.

We at Corango Resources Ltd. are very enthusiastic about a series of claim groups which we have in Arizona composed of state mineral leases, patented mining claims and federally staked mining claims, forming a contiguous group several miles on strike.

The primary mineralization of this vein structure is fluorspar. The fluorspar totally permeates the vein and varies in grade, with what we believe to be substantially more than the next 20-year United States need for fluorspar, grading in excess of 40% active CaF_2 . Also within the vein structure, geologically deposited at a different time than the fluorspar, are substantial amounts of secondary copper silver, lead and other minerals. We believe that drilling in a very few select places will produce economic silver at one or more locations on the property.

We realize that there are two ways to approach this property, one being as a fluorspar producer or marketer who would take the entire material, processing the fluorspar along with the base metals and precious metals; the other being to a company interested in the precious metals who might also be interested in processing the fluorspar. We realize that if a mining operation dealing in silver ores only is to be economic, we would have to have in the neighborhood of 30 ounces per ton in substantial reserve. We have not tested the locations which we have picked, at depth, however, we believe that at depth (500 to 1000 feet) there will be considerable redeposition of high grade silver ores. We are seeking some kind of a transaction with a mining company to bring this property to a

further state of development.

The directors of our company have given considerable thought to this letter and to the best way of contacting your company as one with a potential interest in this property. We believe our best course of conduct would be to receive your confidentiality agreement or letter agreeing to preserve the confidential nature of the material which we disclose to you and to recognize a sphere of influence one mile in any direction of this property. Upon receipt of such a letter, we would then prepare a letter to you in substantial detail on the location, history, and other information concerning the property, as well as on work done by ourselves and, as evidenced by records which we have been successful in obtaining, by others. At that point, should you have a further interest, we would authorize our geologist, Dr. Robert Cohenour, to aid you in your evaluation of the property, disclosing any information to you which he considers necessary to your evaluation of the property. Our authorization would also include, should you be interested, his authority to meet with you and to inspect the property.

I don't know if you know of Dr. Cohenour, however, he is very conservative and I assure you that if you have not previously dealt with him, you will find the experience encouraging and enlightening.

Should you desire information or consultation in regard to matters concerning geology, such consultation would be with Dr. Cohenour, while should you have a continuing interest after evaluation, Dr. Cohenour would prefer that any overtures negotiations, or conversations in regard to some participation in the property be handled directly by this office.

I would hope to hear from you and to have an opportunity to disclose to you more information in regard to our property, in the hope that it can benefit both our companies.

Yours very truly,

CORANGO RESOURCES LTD.

Robert H. Golden,
President
RHG/dl

cc: Mr. Ken Phillips
Dr. Robert Cohenour

*also one sent to: Mr. Frank H. Crearie
Chairman of the Board, Stans West Minerals
Corp., 2701 E. Camelback Rd, Ste. 260 Phoenix
85016*

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Grand Reef

Date Jan. 1, 1955

District Aravaipa Dist., Graham County

Engineer Axel L. Johnson

Subject: Present Status. Information from Elton Kidd, Aravaipa, Ariz.

Location About 4 miles north of Klondyke, Ariz.

Number of Claims 7 claims, some patented, some unpatented.

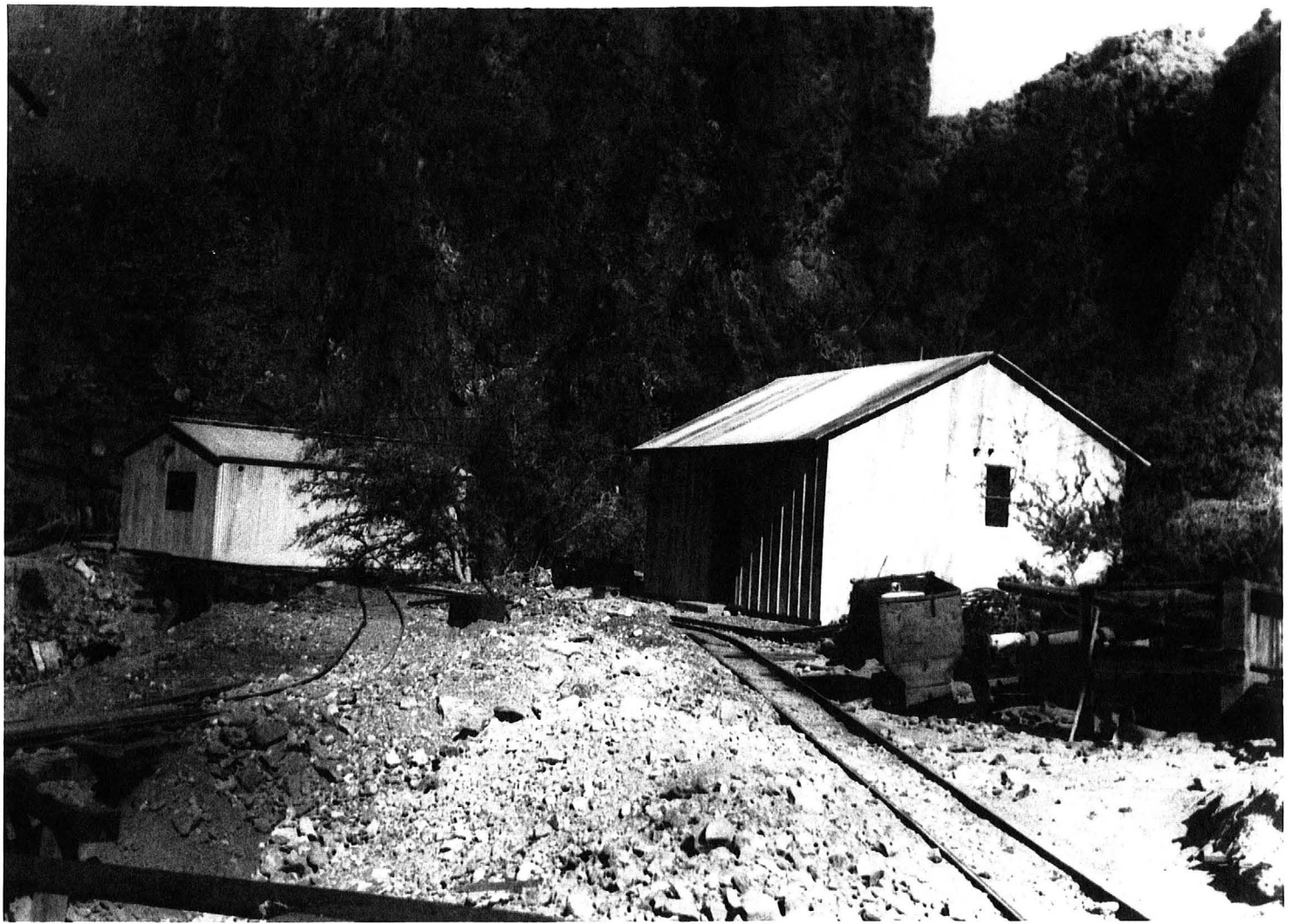
Owners American Zinc, Lead, and Smelting Co., 1600 Paul Brown Bldg., St. Louis, Missouri.
(old name----- Aravaipa Leasing Co.)

Metals Zinc and Lead (also fluorspar) see Minerals of Ariz. 8943

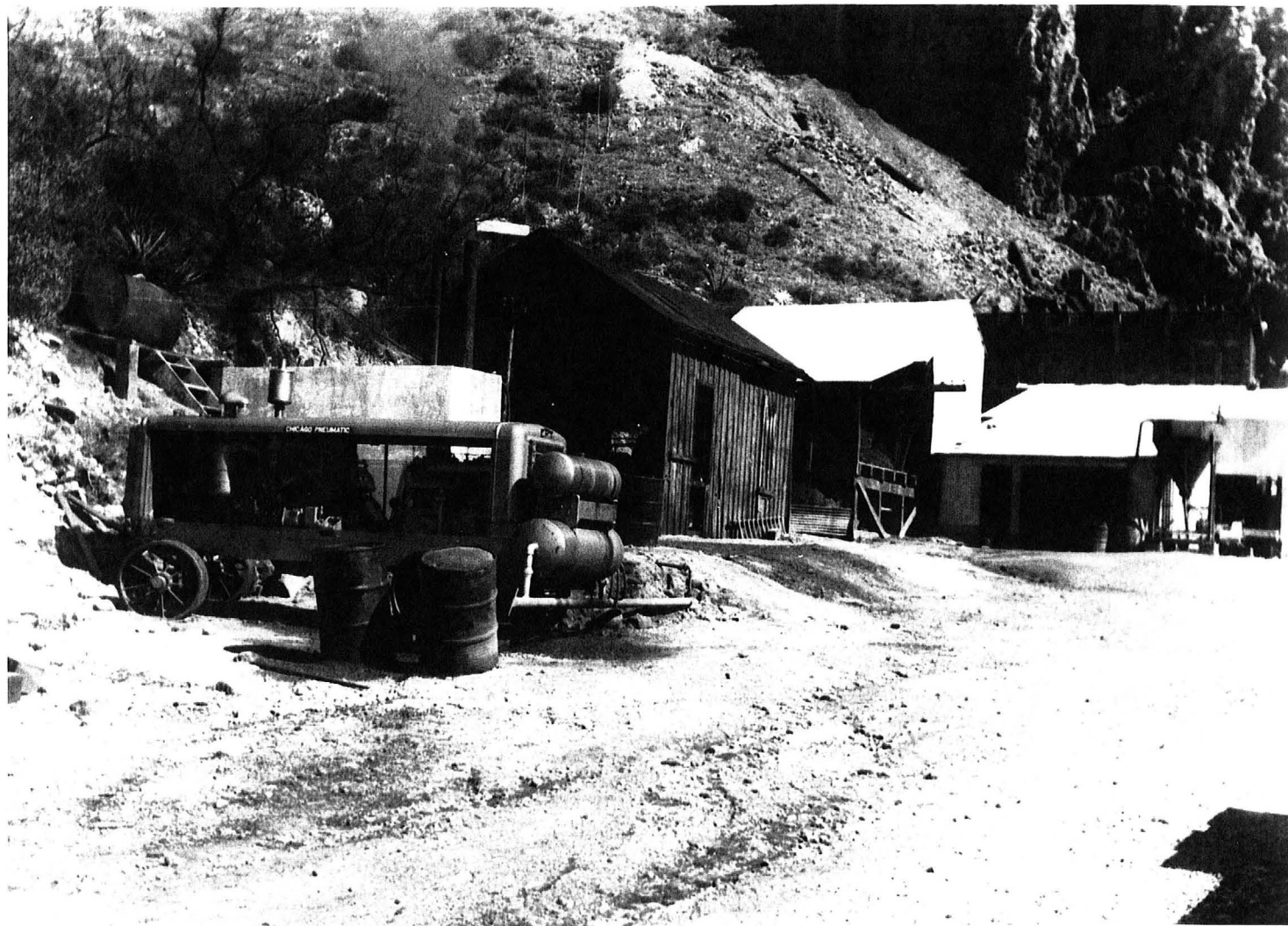
Men Employed None. Mine is idle.

Production None.

Present Status Mine is idle. Assessment work done annually on unpatented claims.



Milling jig chat, stockpiled from previous operation.
Grand Reef Mine 1941-1942.



Mill, Diesel electric plant and portable compressor.
Grand Reef Mine 1941-1942.



The Grand Reef 1941-1942

The dark formation in the center foreground that projects up on both sides of Laurel Canyon gives name to the mine. Tailings ponds show in the foreground, manager's house in center, mill and mine surface facilities in background next to the Reef.

1783

claim located 1-1-1892
by Edward J. Plott.

Aravaipa

Surveyed 4-23-03
Philip Carlsen

1- 4x6 x 125' deep 550
#2 4x6 x 10' " 50
#3 4x6 x 65' " 500
#4 4x6 x 10' "
#5 4x6 x 10' "
#6 4x6 x 35' "

cut #7, 6 x 14 x 20' long

shaft #8 4x6 x 25' deep

cut #9 4x6 x 12' long

Per 4-19-1905
1

DEPARTMENT OF MINERAL RESOURCES

News Items 5314532 Road Rate
T75 R20E Date 5-8-47
Mine Grand Reef
Location E1 + 100
Owner Pictures
Address S 14E D 80W
Operating Co.
Address P. 114W 1350
Pres.
Genl. Mgr. X LUD on 200
Mine Supt.
Mill Supt. R. Campbell
Principal Metals
Men Employed Pub.
Production Rate S R
Mill, Type & Capacity
Power, Amt. & Type
Signed

Aravaipa Leas. Co. G.S. 20E

Grand Reef
Mountain Spring
South Point
Blank
Dogwatch
Junction

SW 1/4

Aravaipa Leas

SC T 75 R20E

28729 C S 20E

3090

with Payor

74.43

pd 46

Present Operations

Report
at Varick
Concussion
Blow

New Work Planned

Unworkable
Viggo M.
Corp. 8 cdy
from

Misc. Notes

Aramp. Lear
CO.

Great Reefing
Corporation

Hugh B. Martin
Gen Mgr

Shes Mason

Are vairs (code)

Rec 608 918
page 855-87

General Land Office

Log # 1783

E. F. D. H. 42097

My main subject # 825

65205

DEPARTMENT OF MINERAL RESOURCES.

News Items

Date December 7, 1939.

Mine Grand Reef

Location 3 miles NE of Klondyke.

Owner Aravaipa Leasing Co.

Address _____

Under lease and bond to _____

Operating Co. Grand Reef Mining Corp.

Address 412 West 6th St., Los Angeles, Cal.

Pres. Headed by a group of five, including

Genl. Mgr. E. K. Potter, C. E. Booth, T. O.

Mine Supt. Boyd and Walter Saxe.

Mill Supt. _____

Principal Metals Lead, silver, gold, copper

Men Employed 5 or 6

Production Rate Not started yet.

Mill, Type & Capacity 70-100 tons. Flotation

and tables. Jig to be added.

Power, Amt. & Type _____

125 h.p. Diesel, generator, etc.

Signed [Signature]

(Over)

DEPARTMENT OF MINERAL RESOURCES.

News Items

Date 6/9/39

Mine Grand Reef

Location 5 Mi. Northeast of Klondyke

Owner _____

Address _____

Operating Co. Grand Reef Mining Co.

Address Klondyke

Pres. _____

Genl. Mgr. J. A. Grewell

Mine Supt. _____

Mill Supt. _____

Principal Metals Lead, silver, gold.

Men Employed ### About ten

Production Rate Now treating old dumps and

Mill, Type & Capacity tailings. Mill consists

of ball mill, cone classifier, tables

Power, Amt. & Type and flotation unit.

Operations are just starting.

Signed _____

(Over)

DEPARTMENT OF MINERAL RESOURCES.

News Items

Date 8/4/39

Mine Grand Reef

Location 5 Miles N.W. of Klondyke

Owner _____

Address _____

Operating Co. Grand Reef Mining Co.

Address _____

Pres. _____

Genl. Mgr. _____

Mine Supt. J. A. Grewell

Mill Supt. _____

Principal Metals Lead, silver, little gold.

Men Employed About 10

Production Rate Has shipped one car of con-

Mill, Type & Capacity concentrates and is ready

to ship the second. Still working dump

Power, Amt. & Type material. Getting good

grade of concentrates.

Signed [Signature]

(Over)

Present Operations Work is practically finished on a complete re-modeling of former mill. A new and larger power unit, rake classifier, 6 cell flotation unit are among new pieces of equipment added.

New Work Planned

Operations will start immediately on the treatment of approximately 15,000 tons of old tailings which are supposed to contain about \$11 per ton in values. At the same

Misc. Notes time, the underground workings will be put into shape for production, and a new working shaft will be raised from the lower levels to the surface. It is understood that a large tonnage of a very good grade of milling ore is already blocked out and can be stoped with comparatively little preparatory work. J.T. Gruwell is in charge of operations.

Present Operations. Operators intend to work over material on dumps and then to supplement this with underground production. No underground mining being done at present.

New Work Planned

Misc. Notes

Present Operations

New Work Planned

Misc. Notes

Present Status Mine is idle. Assessment work done annually on unpatented claims.

A GENERAL REPORT ON THE ARAVAIPA
MINING DISTRICT OF SOUTHERN ARIZONA WITH SPECIAL
REFERENCE TO THE PROPERTIES OF THE ARAVAIPA
MINING CORPORATION.

bjr

H. Hendrickson (1928)

The Aravaipa Mining District is located in Western Graham County, about seventy miles northwest of Wilcox, Arizona. Roughly, it comprises an area some ten miles long in the lower reaches of the western slope of the Santa Teresa Mountains.

Transportation Facilities

The district lies about forty-five miles over a fair highway from the railroad at Cork, a siding on the Globe branch of the Southern Pacific. The lack of transportation facilities has been the main drawback to date of the district. However, there are two feasible routes to the railroad, which will greatly shorten the distance which ores and supplies have to be hauled, and greatly facilitate transportation in general. One route calls for a road down the Black Rock canyon to Ft. Thomas on the Globe branch of the Southern Pacific. The other calls for a road westerly from Aravaipa to Winkelman, or Christmas, near Hayden. Both of these routes call for some twenty-five miles of new highway construction about half of which will be heavy mountain work, and the other half will be over fairly level ridges and mesas.

Geology

The district lies in the foothills on the western slope of the Santa Teresa Mountains. The drainage is into the Aravaipa Canyon, and then into the San Pedro and Gila River. The general trend of the ledges and ore bodies is from the southeast to the northwest. In the Grand Reef mine, some four miles from Klondyke, which will be considered the southern end of the district, there is an immense silica-breccia ledge some hundred feet wide, and projecting several hundred feet into the air. This is apparently on the main fault, connected with the main uplift of the mountains to the east, probably representing a throw of several thousand feet. The hanging, or western wall of the immense ledge is a soft rhyolitic tuff. The foot wall is a greenish basic igneous rock which occupies a narrow area of two or three hundred feet in most places between the ledge and the main granite mass of the mountain. The ledge itself marks the eastern boundary of the sediments of the region in some places, but in many places the hanging wall country is in acidic igneous rock.

This big ledge can be traced for about five miles. It often disappears, or pinches down to a very narrow width, and then again swells and presents a bold outcrop. It traverses several big canyons between the Grand Reef

See page 4 for Aravaipa

and Aravaipa, and nearly everywhere shows small amounts of lead ore. The country traversed by this ledge is all igneous until Bullis Mountain, about a mile south of Aravaipa, is reached. Traversing Bullis Mountain, the ledge enters the carboniferous limestone of the region, and from this point north its general character changes.

On the properties of the Aravaipa Mining Corporation, the predominating country rock is the carboniferous "Tornado" limestone of the Globe-Miami district to the north, although there also are not inconsiderable areas of igneous materials traversed by ore-bearing veins.

There seem to be three types of ore deposits on the Aravaipa property. First, there are immense areas of tremolite, or actinolite, which invariably carry lead and zinc ores.

Second, there are bodies in the limestone which appear to be true limestone replacement deposits, and are generally evidenced by siliceous outcrops in the limestone.

Third, there are several true fissure veins, both in the limestone and in the igneous material.

Generally speaking, the ores in the igneous rock carry better silver values than in the limestone.

To describe these various deposits in detail and give a fairly comprehensive description of the district, it is best to start with the Grand Reef property at the southern end of the area. This property was originally owned by John Mackay, of Comstock fame, who held the thing for many years with the idea that he had a second Comstock. It is now owned by the Aravaipa Leasing Company, which in turn is controlled by the American Zinc Lead and Smelting Company.

To repeat, it is a big siliceous breccia fissure vein with a width, in places, upward of a hundred feet. The vein dips about seventy degrees to the west, and strikes northwest twenty degrees. The hanging wall is a soft rhyolitic tuff. The footwall which is not very well defined, is a greenish basic igneous rock which is of no great width between the vein and the main granite mass of the mountain.

Upwards of thirty-thousand tons of ore has been mined from the Grand Reef property, and there is considerable good ore left in the mine. It is developed by a tunnel which is a drift on the ledge some three hundred feet below the surface. This tunnel is one thousand five hundred feet long and explores two ore shoots, and a long area of very low grade ore, which can hardly be considered ore under any conditions. A shaft has been sunk three hundred feet deep from this adit level, and several hundred feet of work has been done on the various levels. In the vicinity of this shaft, and above the tunnel, some thirty thousand tons of ore has been mined in an

immense open stope. ✓ The average grade of this ore was twelve percent lead, eleven ounces of silver, and one percent copper. There is no gold in the ore, concentrates seldom running even their required sixty cents gold in order to be paid for by the smelter. Above the tunnel level and practically everywhere, the ore as seen in the Grand Reef is zinc free, running less than one percent everywhere.

This ore extends below the tunnel to the hundred foot level, where it is both smaller in area and lower in lead content than in the tunnel above.

On the two hundred foot level, which is a hundred feet below the water level, a width of about five feet, and a length of about sixty feet, is exposed which will assay about five percent copper and twenty ounces of silver. The ore here is of an entirely different character than in the levels above, being a soft aluminous material, carrying sooty black chalcocite, and a few percent lead as galena, which is so intimately and finely mixed as to be with difficulty discerned.

On the three hundred foot level, a wider and apparently larger area is exposed. It is more oxydized than in any other part of the mine, and shows five or six ounces of silver, with very few copper and lead minerals to be seen.

The natural conclusion here is that there is a possibility of a big copper-silver ore body being found at some depth. However, an abortive attempt at diamond drilling here proved a failure. This diamond drilling was done by the American Zinc Lead and Smelting Company. Reliable information is that they did not succeed in getting a hole down to the area of possibility.

There are several other exposures of workable ore on this Grand Reef ledge, notably the Dog-water, a half mile to the south where there is an exposure of ore some two hundred feet long and a foot or two wide, the best of which will run some twenty percent lead and thirty ounces of silver. Generally speaking, the property is well worth investigation by anyone looking for lead ores.

✓ The Bullis property is on the same fault, or vein system, some four miles north of the Grand Reef, and a mile south of the Aravaipa Post Office, is also a true fissure of igneous rock. It is very similar in structure to the Grand Reef Mine itself, except that in one place it traverses quite a block of limestone. This ledge has been cut by an adit tunnel some two hundred feet below the outcrop. It shows widths of ore up to and exceeding twenty feet in places. The one ore body mentioned has been estimated by various engineers to contain fifty thousand tons of ore which will assay about fifteen ounces of silver and two percent lead. It is an ore which would be very difficult to mill as a small amount of copper present precludes cyaniding, and the fact that a large part of the silver is present as chloride renders any concentration process difficult.

Properties of the Aravaipa Mining Corp.

Entering the limestone area to the north of Bullis, owned largely by the Aravaipa Mining Corporation, entirely different structural and geologic conditions are encountered.

In place of a single big fissure there are many prominent fissures traversing the limestone, and other rocks with the same general strike and dip. In place of the ore being confined to this single fissure, it occurs in various places over an area with an east-west dimension of several miles. The various workings, starting with the south end of the property, are described below.

On the Sand-Carbonate claim, which is a few hundred feet south of the mill and power plant, a big width of ore is indicated on the surface by the outcropping in the limestone of lead and zinc carbonates and calamine. While the width of the ore here exposed is evidently upward of one hundred feet, it is predominately low grade in lead and very zincy. In one place a small incline has been sunk about twenty feet, and it shows a foot of carbonate which will assay about sixteen percent lead and twenty-two percent zinc. The walls are largely zinc carbonate. Another small hole has been started on the out-cropping and shows a lot of zinc and lead carbonates of no special interest. However, there is here a big area of black tremolite which probably indicates a big lead zinc ore body below. The mill excavation itself is largely in this black actinolite, or tremolite, and will assay considerable zinc.

On the number two claim, about two hundred feet west of the mill, is an open cut which shows a big body of lead-zinc carbonate and calamine. Surface indications here are that it is probably there is a big tonnage of this stuff. Ore from this cut as mined to date has averaged above eight percent lead and twenty-two percent zinc with one dollar gold and an ounce of silver. However, there are several streaks of rather high grade lead carbonate exposed. This ore body has not been prospected at any depth. It may be big.

On Number One Claim, in the Canyon to the north of the mill, is the working known as the Number One. A considerable tonnage of lead zinc carbonate has been mined here. On the hundred twenty-nine foot level an ore body has been developed which is about three hundred feet long and forty feet wide. There is a streak on the foot-wall, some fifteen feet in width, which will average about twelve percent lead and eighteen percent zinc, with spots of higher grade material at irregular intervals. The rest of the area is oxidized zinc ore, in places very high grade. To the east, the ore body degenerates into a bunch of apparently barren fissures; to the west our last work was still in ore with no walls apparent, but the lead content had dropped to about eight percent, and the zinc content had raised to about thirty-five percent. It may continue to the northwest for some distance where an incline was sunk for another hundred feet in the footwall of this ore body. The fissure was cut but the ore was never found. It is believed to have a

very flat pitch to the northwest of the inter-section of two of these fissures, in the limestone, and for that reason was not encountered on the level below. The stopes in this ore body have caved in the surface, and, while the incline shaft in the hard footwall is surely in good shape, water from the creek has run into and filled the workings and they are not now accessible.

The Nina, some four hundred feet northeast of the Number One, is an exposure on the north-south fissure, some sixty feet long and five feet wide, of ore which will assay about fifteen percent lead and twenty percent zinc, as carbonate and silicate. Following this same break to the north, several small similar outcrops are encountered until some 5000 feet to the northwest the Arizona Shaft is reached. This showing merits considerable discussion and in itself may develop into a big mine.

At the Arizona, igneous material is again encountered. The ore deposit is manifested on the surface by a big prominent vein outcropping for some one thousand feet in length and generally running from five to ten feet wide. About a quarter mile south of the shaft the carboniferous limestone can be noted apparently covered by the igneous material. The igneous rock is here a basic porphyry with large white phenocrysts of feldspar. Where the vein intersects the contact between the porphyry and the limestone is an immense area of black tremolite carrying small amounts of lead and zinc materials. Returning to the Arizona Shaft about a quarter mile to the north: the ore here is in the big fissure mentioned before. An adit has been run into the vein and about a thousand feet of drifting has been done. For the greater part of this length the vein is soft, loose, oxidized material carrying small amounts of lead and zinc carbonates and an occasional stain of silver chloride. To the north the vein tightens up and is filled with hard quartz carrying a considerable amount of galena.

The shaft was started vertically in the outcrop and is about six hundred feet deep. The vein does not leave the shaft until the 300 foot level is reached at which point it starts diverging to the west. On the 400 foot level the vein lies about twenty feet to the west of the shaft. From the surface to this level the vein carries a width of two to three feet of ore running about 13% lead, a little silver and considerable zinc. On the 450 foot level the vein cannot be seen but a big area of red oxidized materials has been exposed by a considerable amount of drifting and crosscutting. On the 500 foot level the limestone appears and a big area of blocks of limestone, mixed with red hematite and large amounts of tremolite can be seen. The water level generally stays about this level. Between the 500 and the 560, which is the bottom level, the shaft goes through a loose tremolite. The bottom of the shaft which is the 560 foot level is in good grade zinc lead ore. A small amount of drifting was done here and at the time of shutting down prospects were very favorable indeed. There is an ore body on this level about fifty feet wide and it has all the earmarks of being of great extent.

An attempt to drift south along the ore was frustrated by the drift caving in while being timbered. The face of the drift at the time it was abandoned assayed 22% lead and 22% zinc. The shaft should still be in good shape as it was retimbered from top to bottom. It is believed that this ore shaft will develop into a big mine.

Returning to the vicinity of the Number One shaft, a break similar to the one just described and parallel to it at a distance of some six hundred feet to the East is encountered. Several large areas of zinc lead are encountered along the fissure, and where last seen to the north is a big area of tremolite and ore on the surface. Zinc seems to predominate on the fissure. In one place there is an exposure which assays 40% zinc, and 6% lead. There is a very probably an enormous tonnage of this material.

About two miles to the East of the main group of claims are two claims called the "Head Center" and the "Grand Central" which are contiguous on their ends.

A small fissure some five feet wide can be traced for the entire length of the two claims. Ore is shown everywhere and there is one large area which is very interesting. Two inclines have been sunk. In the one on the "Head Center" the ore is about five feet wide and in the sulphide which has just been reached assays 12% lead and 18% zinc, 3.5 ounces of silver and \$1.00 gold. The fissure also enters a big area of open caves and may make a mine in itself. Farther south on the "Grand Central" claim an incline has been sunk about 100 feet. The ore here insofar as developed is entirely oxidized. While it looks like white quartz, the entire incline will average 15% lead, 30% zinc, 0.15 gold and 1.5 ounces of silver. This "Head Center", "Grand Central", fissure looks very promising and can well develop into a good mine with its greater precious metal content.

On the same hill as the vein just described, but over the top and on the eastern slope at a distance of one half mile lie three claims known as the "Iron Cap", "Ironton" and "Ionia". The formation here is entirely different. There are several big black areas of tremolite which show a lot of lead and zinc. The one on the "Iron Cap" covers an area of 200 by 600 feet on the surface and is partially developed by a tunnel some 200 feet below, and a smaller one higher up.

There is considerable tonnage, possibly 25,000 tons of stuff developed here which will assay 12% lead and 18% zinc. There is also a big probably tonnage of low lead and high zinc. The zinc is a beautiful lemon yellow, transparent sphalerite, and makes a very high grade concentrate. Values in precious metals are negligible.

In summary, the area described contains, without question, an extremely large tonnage of lead zinc ore. Transportation presents the greatest difficulty but it is believed that the possibility for tonnage is more than enough to justify solving this difficulty and that one of the greatest lead zinc mines in the country may be developed.

11-26-48

Averages of 10 samples east and
resamples 200' Level

Arivaipi Leasing Co. Grand Reef Mine

Ag Cu Pb.

Sample	1.6	.75	1.24	} #1
Resample	1.9	.83	1.02	

[Handwritten signature/initials]

Sample	.97	.41	.36	} #2
Resample	1.07	.30	.56	

Sample	1.35	.69	.74	} #3
Resample	1.98	1.19	.87	

7

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

DAY LETTER

September 24, 1942, Phoenix, Arizona

Mr. Albert E. Kern, President
Vivian Mining Co., Inc.
110 Sutter Street
San Francisco, Calif.

Following wire received from Washington department representative Broadgate quote advise Vivian immediately to put two or three men to work developing ore body and report to RFC are engaging in same unquote. Broadgate opinion undoubtedly follows discussion your problem with officials. For immediate loan action suggest you comply and report RFC Washington. We will attempt to obtain more lenient interpretation in future but our efforts would be late for you and only help others following with like problem.

Earl F. Hastings, Asst. Director & Proj. Eng.
Department of Mineral Resources

Grd Reef

(Do not write
in this space)(Wrap each specimen separately, or place it in a substantial
bag, by itself, with a number attached, identical with the
number on this card.)

Ore _____

Cabinet _____

No. _____

Specimen No. 11, collected by Newton Wolcott
Field EngineerName of ore Lead-zinc

Operator _____

Minerals contained Galena and SphaleriteMine active or inactive Inactivewith some combined silver.If inactive, when operated 1927Gangue Quartz and calciteSpecimen presented by Lon RutledgeDepth at which taken Not knownDate October 4, 1939Approximate mineral content (in terms of
average per ton) Approximately 60%Notes (Any general information regarding
the history of the property.) At the time thiscombined lead and zincproperty closed down, an attempt was being madeName of mine or claim Not knownto separate the lead and zinc minerals in a millGroup AravaipaMetallurgical difficulties made it impossibleDistrict Aravaipa Mining Districtto operate profitably, and the work was stopped.Location (distance and direction by high-
way from what town) At AravaipaNo large scale operations have been tried since.Owner of property Aravaipa Mining Co.If more space is desired for notes, use
other side.

316 8g 13.5 x 11.5 x 5.0 cm

1-4-40

(Do not write
in this space)

Ore _____

Cabinet _____

No. _____

(Wrap each specimen separately, or place it in a substantial
bag, by itself, with a number attached, identical with the
number on this card.)Specimen No. 1, collected by Newton Wolcott

Field Engineer

Name of ore Lead-silverOperator Joe RubalMinerals contained Galena cerrusiteMine active or inactive Activemalachite (silver present probably as argen-
tite in galena)If inactive, when operated New workGangue Quartz predominantSpecimen presented by Joe RubalDepth at which taken 20 feet below surfaceDate Sept. 7, 1939.Approximate mineral content (in terms of
average per ton) \$ 35.00 grossNotes (Any general information regarding
the history of the property.) New shaft onan extension of the Dogwater Lode. Very littleName of mine or claim Junction Claim (Pat.)work has ever been done in this vicinity, andGroup Grand Reefall of it has been at shallow depths. PresentDistrict Aravaipa Mining Districtoperator has packed out one shipment of ore.Location (distance and direction by high-
way from what town 3 Mi. North of KlondykeIf more space is desired for notes, use
other side.Owner of property Aravaipa Mining Co.Subsidiary of American Zinc, Lead & Smelting Co.
Leasing

216 100g

12.0 x 9.0 x 8.0 cm
1-4-40

3017 North 16th Drive
Phoenix, Arizona.
June 28, 1948.

Frank Knight

Mr. Frank P. Knight, Jr.
Christmas Copper Corporation,
Winkelman, Arizona.,

Dear Frank:

This letter will probably cause you to indulge in some fancy head-scratching and wondering. In order to answer the "why me?" question which will naturally pop into your mind when you have read it, I'll start by explaining that angle first.

You have a standing as an established mine operator with quite a few years active experience in a mine which presents more than the average ratio of operating difficulties. You would have no trouble in securing satisfactory references as to your character and ability as an operator from any number of individuals and companies with whom you have dealt. This is not "salve" to make you feel good-- it is my reason for presenting the following facts for your consideration. Maybe you will not be interested, in which case you need only to say so, and no feelings will be hurt.

The subject of all these preliminaries is a lead-silver mine which has had me itching for a long time. The property is owned by one of the large midwestern mining outfits and has not been worked for several years. From all I can learn, the present owners have no intention of doing anything with the mine themselves and it is completely inactive. There has been an enormous amount of development work done on the property, some of it good, some not so good, and it has an interesting, though not large, production record.

The feature which arouses all my grasping instincts is the fact that there is a spanking tonnage of perfectly good shipping ore positively developed and unmined. This ore is not prospective or probable-- it is actually there, and all you need is normal eyesight to see it. I have considerable data on both the tonnage and grade of this ore, and I believe that you would consider the source of this information to be reliable.

There are no physical difficulties which would impede or interfere with putting the property into production within a reasonably short length of time and, once it is in operation, it should be a dandy to work. The ground is good, and the orebodies of sufficient width to permit of low-cost extraction. The principal items of necessary preparatory work would consist of sinking a shaft (approximately 100 feet in depth) from the surface, and possibly 50 feet of cross-cut to connect with present workings. These workings would have to be pumped out and surveyed in order to make the desired connection, but the pumping would not take long. There are not over six or seven hundred feet of workings altogether on this level, and the flow of water at this depth is negligible.

I have estimated roughly that the amount necessary to get going here would probably be somewhere between \$20,000 and \$30,000. This would include

equipment, camp, supplies, labor and all the usual items.

The big question in this situation is whether or not a deal of some sort can be made with the owning company, and it is this connection that I thought you might fit admirably into the picture. To my knowledge there have been three fly-by-night outfits on the property in the past ten years and none of them has done the mine any good. The last gang walked off with rails, pipe and all equipment when the scrap drive was on during the war. For this reason it may be somewhat difficult to get the owners to listen to a proposal, but I certainly think that it is worth trying.

My idea as to financing the undertaking would be to have five or ten (the fewer the better) individuals chip in the necessary money, incorporate and go to work. I would kick in with all my bank account can stand and I am quite sure that Roger Manning would want to participate. He has been over the property and is as enthusiastic as I am about its value. You may know of others who would fit into the picture.

If you are interested in getting the details on what I have roughly outlined above, I would be glad to meet you in Globe and show you the whole business. Then, if you were still interested, we could go out and have a good look at the mine itself.

Maybe I am unduly enthusiastic about this idea, but the fact remains that in the years I have wandered over the hills, and of the hundreds of mines I have gone into, this appears to me to contain a smaller element of risk and a greater promise of profit than anything I have seen.

Let me know your reaction to what I have told you and, as I said before, if you are not interested and do not feel like pursuing the subject further, don't hesitate to say so. This is a straight business proposal and I will not be insulted if you shy away from it. I have put it up to you simply because I figure that you can do us some good and, so far as I am concerned, our friendship is not in any way involved in the matter.

Yours sincerely,



H. N. Wolcott
3017 North 16th Drive,
Phoenix, Arizona.

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A GENERAL REPORT ON THE ARAVAIPA
MINING DISTRICT OF SOUTHERN ARIZONA WITH SPECIAL REFERENCE
TO THE PROPERTIES OF THE ARAVAIPA MINING CORP.

By H. Hendrickson (1928).

The Aravaipa Mining District is located in Western Graham County, about seventy miles northwest of Willcox, Arizona. Roughly, it comprises an area some ten miles long in the lower reaches of the western slope of the Santa Teresa Mountains.

Transportation Facilities.

The district lies about forty-five miles over a fair highway from the railroad at Cork, a siding on the Globe branch of the Southern Pacific. The lack of transportation facilities has been the main drawback to date of the district. However, there are two feasible routes to the railroad, which will greatly shorten the distance which ores and supplies have to be hauled, and greatly facilitate transportation in general. One route calls for a road down Black Rock Canyon to Fort Thomas on the Globe branch of the Southern Pacific. The other calls for a road westerly from Aravaipa to Winkelman, or Christmas, near Hayden. Both of these routes call for some twenty-five miles of new highway construction about half of which will be heavy mountain work, and the other half will be over fairly level ridges and mesas.

Geology.

The district lies in the foothills on the western slope of the Santa Teresa Mountains. The drainage is into the Aravaipa Canyon, and then into the San Pedro and Gila Rivers. The general trend of the ledges and ore bodies is from the southeast to the northwest. In the Grand Reed Mine, some four miles from Klondyke, which will be considered the southern end of the district, there is an immense silica-breccia ledge some hundred feet wide, and projecting several hundred feet into the air. This is apparently on the main fault, connected with the main uplift of the mountains to the east, probably representing a throw of several thousand feet. The hanging, or western wall of the immense ledge is of soft rhyolitic tuff. The foot wall is a greenish basic igneous rock which occupies a narrow area of two or three hundred feet in most places between the ledge and the main granite mass of the mountain. The ledge itself marks the eastern boundary of the sediments of the region in some places, but in many places the hanging wall country is in acidic igneous rock.

This big ledge can be traced for about five miles. It often disappears, or pinches down to a very narrow width, and then again swells and presents a bold outcrop. It traverses several big canyons between the Grand Reef and Aravaipa, and nearly everywhere shows small amounts of lead ore. The country traversed by this ledge is all igneous until Bullis Mountain, about a mile south of Aravaipa, is reached. Traversing Bullis Mountain, the ledge enters the carboniferous limestone of the region, and from this point north its general character changes.

On the properties of the Aravaipa Mining Corporation, the predominating country rock is the carboniferous "tornado" limestone of the Globe-Miami district to the north, although there also are not inconsiderable areas of igneous materials traversed by the ore-bearing veins.

There seem to be three types of ore deposits on the Aravaipa property. First, there are immense areas of tremolite, or actinolite, which invariably carry lead and zinc ores.

Second, there are bodies in the limestone which appear to be true limestone replacement deposits, and are generally evidenced by siliceous outcrops in the limestone.

Third, there are several true fissure veins, both in the limestone and in the igneous material.

Generally speaking, the ores in the igneous rock carry better silver values than in the limestone.

To describe these various deposits in detail and give a fairly comprehensive description of the district, it is best to start with the Grand Reef property at the southern end of the areas. This property was originally owned by John Mackay, of Comstock fame, who held the thing for many years with the idea that he had a second Comstock. It is now owned by the Aravaipa Leasing Company, which in turn is controlled by the American Zinc, Lead and Smelting Company.

To repeat, it is a big siliceous breccia fissure vein with a width, in places, upward of a hundred feet. The vein dips about seventy degrees to the west, and strikes northwest twenty degrees. The hanging wall is a soft rhyolitic tuff. The footwall which is not very well defined, is a greenish basic igneous rock which is of no great width between the vein and the main granite mass of the mountain.

Upward of thirty-thousand tons of ore have been mined from the Grand Reef property, and there is considerable good ore left in the mine. It is developed by a tunnel which is a drift on the ledge some three hundred feet below the surface. This tunnel is one thousand five hundred feet long, and explores two ore shoots, and a long area of very low grade ore, which can hardly be considered ore under any conditions. A shaft has been sunk three hundred feet deep from this adit level, and several hundred feet of work have been done on the various levels. In the vicinity of this shaft, and above the tunnel, some thirty thousand tons of ore have been mined in an immense open stope. The average grade of this ore was twelve percent lead, eleven ounces of silver, and one percent copper. There is no gold in the ore, concentrates seldom running even their required sixty cents gold in order to be paid for by the smelter. Above the tunnel level, and practically everywhere, the ore as seen in the Grand Reef is zinc free, running less than one percent everywhere.

This ore extends below the tunnel to the hundred feet level, where it is both smaller in area and lower in lead content than in the tunnel above.

On the two hundred foot level, which is a hundred feet below the water level, a width of about five feet, and a length of about sixty feet, is exposed which will assay about five percent copper and twenty ounces of silver. The ore here is of an entirely different character than in the levels above, being a soft aluminous material, carrying sooty black chalcocite, and a few percent lead as galena, which is so intimately and finely mixed as to be with difficulty discerned.

On the three hundred foot level, a wider and apparently larger area is exposed. It is more oxydized than in any other part of the mine, and shows five or six ounces of silver, and with very few copper and lead minerals to be seen.

The natural conclusion here is that there is a possibility of a big copper-silver ore body being found at some depth. However, an abortive attempt at diamond drilling here proved a failure. This diamond drilling was done by the American Zinc, Lead and Smelting Company. Reliable information is that they did not succeed in getting a hole down to the area of possibility.

There are several other exposures of workable ore on this Grand Reef ledge, notably the Dog-water, a half mile to the south, where there is an exposure of ore some two hundred feet long and a foot or two wide, the best of which will run some twenty percent lead and thirty ounces of silver. Generally speaking, the property is well worth investigation by anyone looking for lead ores.

The Bullis property is on the same fault, or vein system, some four miles north of the Grand Reef, a mile south of the Aravaipa Post Office, and is also a true fissure in igneous rock. It is very similar in structure to the Grand Reef Mine itself, except that in one place it traverses quite a block of limestone. This ledge has been cut by an adit tunnel some two hundred feet below the outcrop. It shows widths of ore up to and exceeding twenty feet in places. The one ore body mentioned has been estimated by various engineers to contain fifty thousand tons of ore which will assay about fifteen ounces of silver and two percent lead. It is an ore which would be very difficult to mill as a small amount of copper present precludes cyaniding, and the fact that a large part of the silver is present as chloride renders any concentration process difficult.

PROPERTIES OF THE ARAVAIPA MINING CORP.

Entering the limestone area to the north of Bullis, owned largely by the Aravaipa Mining Corporation, entirely different structural and geological conditions are encountered.

In place of a single big fissure there are many prominent fissures traversing the limestone, and other rocks with the same general strike and dip. In place of the ore being confined to this single fissure, it occurs in various places over an area with an east-west dimensions of several miles. The various workings, a starting with the south end of the property, are described below.

On the Sand-Carbonate claim, which is a few hundred feet south of the mill and power plant, a big width of ore is indicated on the surface by the outcropping in the limestone of lead and zinc carbonates and calamine. While the width of the ore here exposed is evidently upward of one hundred feet, it is predominately low grade in lead and very zincy. In one place a small incline has been sunk about twenty feet, and it shows a foot or carbonate which will assay about sixteen percent lead and twenty-two percent zinc. The walls are largely zinc carbonate. Another small hole has been started on the out-cropping and shows a lot of zinc and lead carbonates of no special interest. However, there is here a big area of black tremolite which probably indicates a big lead-zinc ore body below. The mill excavation itself is largely in this black actinolite, or tremolite, and will assay considerable zinc.

On the Number Two claim, about two hundred feet west of this mill, is an open cut which shows a big body of lead-zinc carbonate and calamine. Surface indications here are that it is probably there a big tonnage of this stuff. Ore from this cut as mined to date has averaged above eight percent lead and twenty-two percent zinc with one dollar gold and an ounce of silver. However, there are several streaks of rather high grade lead carbonate exposed. This ore body has not been prospected at any depth. It may be big.

On Number One claim, in the canyon to the north of the mill, is the working known as Number One. A considerable tonnage of lead-zinc carbonate has been mined here. On the hundred twenty-nine foot level an ore body has been developed which is about three hundred feet long and forty-feet wide. There is a streak on the foot wall, some fifteen feet in width, which will average about twelve percent lead and eighteen percent zinc, with spots of higher grade material at irregular intervals. The rest of the area is oxidized zinc ore, in places very high grade. To the east, the ore body degenerates into a bunch of apparently barren fissures; to the west our last work was still in ore with no walls apparent, but the lead content had dropped to about eight percent, and the zinc content had raised to about thirty-five percent. It may continue to the northwest for some distance where an incline was sunk for another hundred feet in the footwall of this ore body. The fissure was cut but the ore was never found. It is believed to have a very flat pitch to the northwest of the intersection of two of these fissures, in the limestone, and for that reason was not encountered on the level below. The stopes in this ore body have caved to the surface, and while the incline shaft in the hard footwall is surely in good shape, water from the creek has run into and filled the workings and they are not now accessible.

The Nina, some four hundred feet northeast of the Number One, is an exposure on the north-south fissure, some six feet long and five feet wide, of ore which will assay about fifteen percent lead and twenty percent zinc, as carbonate and silicate. Following this same break to the north, several small similar outcrops are encountered until some 5000 feet to the northwest the Arizona shaft is reached. This showing merits considerable discussion and in itself may develop into a big mine.

At the Arizona, igneous material is again encountered. The ore deposit is manifested on the surface by a big prominent vein outcropping for some one thousand feet of length and generally running from five to ten feet wide. About a quarter mile south of the shaft the carboniferous limestone can be noted apparently covered by the igneous material. The igneous rock is here a basic porphyry with large white phenocrysts of feldspar. Where the vein intersects the contact between the porphyry and the limestone in an immense area of black tremolite carrying small amounts of lead and zinc materials. Returning to the Arizona shaft about a quarter mile to the north; the ore here is in the big fissure mentioned before. An adit has been run into the vein and about a thousand feet of drifting has been done. For the greater part of this length the vein is soft, loose, oxidized material carrying small amounts of lead and zinc carbonates and an occasional strain of silver chloride. To the north the vein tightens up and is filled with hard quartz carrying a considerable amount of galena.

The shaft was started vertically in the outcrop and is about six hundred feet deep. The vein does not leave the shaft until the 300 foot level is reached at which point it starts diverging to the west. On the 400 foot level the vein lies about twenty feet to the west of the shaft. From the surface to this level the vein carries a width of two to three feet of ore running about 13% lead, a little silver, and considerable zinc. On the 450 foot level the vein cannot be seen but a big area of red oxidized materials has been exposed by a considerable amount of drifting and cross-cutting. On the 500 foot level the limestone appears and a big area of blocks of limestone, mixed with red hematite and large amounts of tremolite can be seen. The water level generally stays about this level. Between the 500 and the 560, which is the bottom level, the shaft goes through a loose limestone and mud, consisting of oxidized gossan material and tremolite. The bottom of the shaft which is the 560 foot level is in good grade lead zinc ore. A small amount of drifting was done here and at the time of shutting down prospects were very favorable indeed. There is an ore body on this level about fifty feet wide and it has all the earmarks of being of great extent.

An attempt to drift south along the ore was frustrated by the drift caving in while being timbered. The face of the drift at the time it was abandoned assayed 22% lead and 22% zinc. The shaft should still be in good shape as it was retimbered from top to bottom. It is believed that this ore shaft will develop into a big mine.

Returning to the vicinity of the Number One shaft, a break similar to the one just described and parallel to it at a distance of some six hundred feet to the east is encountered. Several large areas of zinc-lead are encountered along the fissure, and where last seen to the north is a big area of tremolite and ore on the surface. Zinc seems to predominate on the fissure. In one place there is an exposure which assays 40% zinc, and 6% lead. There is very probably an enormous tonnage of this material.

About two miles to the east of the main group of claims are two claims called the "Head Center" and the "Grand Central" which are contiguous on their ends.

A small fissure some five feet wide can be traced for the entire length of the two claims. Ore is shown everywhere and there is one large area which is very interesting. Two inclines have been sunk. In the one on the "Head Center" the ore is about five feet wide and in the sulphide which has just been reached assay 12% lead and 18% zinc, 3.5 ounces of silver and \$1.00 gold. This fissure also enters a big area of open caves and may make a mine in itself. Farther south on the "Grand Central" claim, an incline has been sunk about 100 feet. The ore here insofar as developed is entirely oxidized. While it looks like white quartz, the entire incline will average 15% lead, 30% zinc, 0.15 gold, and 1.5 ounces of silver. This "Head Center," "Grand Central" fissure looks very promising and can well develop into a good mine with its greater precious metal content.

On the same hill as the vein just described, but over the top and on the eastern slope at a distance of one half mile lie three claims known as the "Ironcap", and "Ionia." The formation here is entirely different. There are several big black areas of tremolite which show a lot of lead and zinc. The one on the "Iron Cap" covers an area of 200 by 600 feet on the surface and is partially developed by a tunnel some 200 feet below, and a smaller one higher up.

There is considerable tonnage, possibly 25,000 tons of stuff developed here which will assay 15% lead and 18% zinc. There is also a big probable tonnage of low lead and high zinc. The zinc is a beautiful lemon yellow, transparent sphalerite, and makes a very high grade concentration. Values in precious metals are negligible.

In summary, the area described contains, without question, an extremely large tonnage of lead-zinc ore. Transportation presents the greatest difficulty but it is believed that the possibility for tonnage is more than enough to justify solving this difficulty and that one of the greatest lead-zinc mines in the country can be developed.

Aug 13. Martin

811 W. 7th St. Bldg. ^{Spec} ^{July 1234}

Tel. Augusta 91775 ^{Wm}

Chicago Machinery Co.

Clarkson

Grakau Lyster Oil Engine

Cumple Mills — 9000. Springfield

300 H. Steel — Electric.

Engelmann & Thompson N. Mex.

12 x 10,000

300 H. Vertical Shaft — 10,000

2 100 can start production

100 ton daily

10,000
induced
output

7 1/2 lead 1-2 1/2 copper

50,000 lbs — in sight and

technically worked
above the 200th level

36000.

.07

2500.00

2000

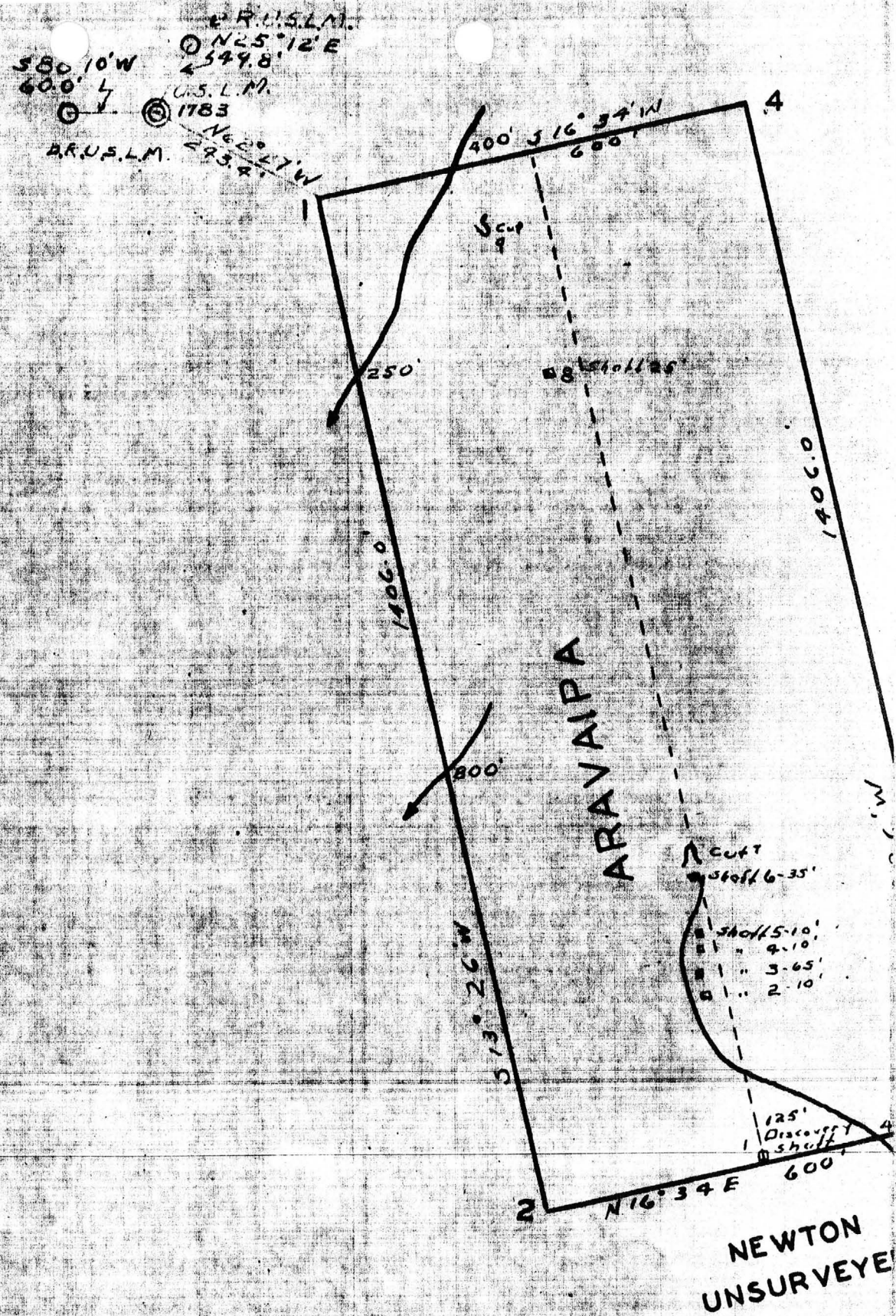
5,000,000. lbs. lead = \$5,000,000

100 x 1000 on March 12 (11)

1005 A17 st

4-1131

Am. 1928-
E2 SW4- Sec 17-
65-20E.



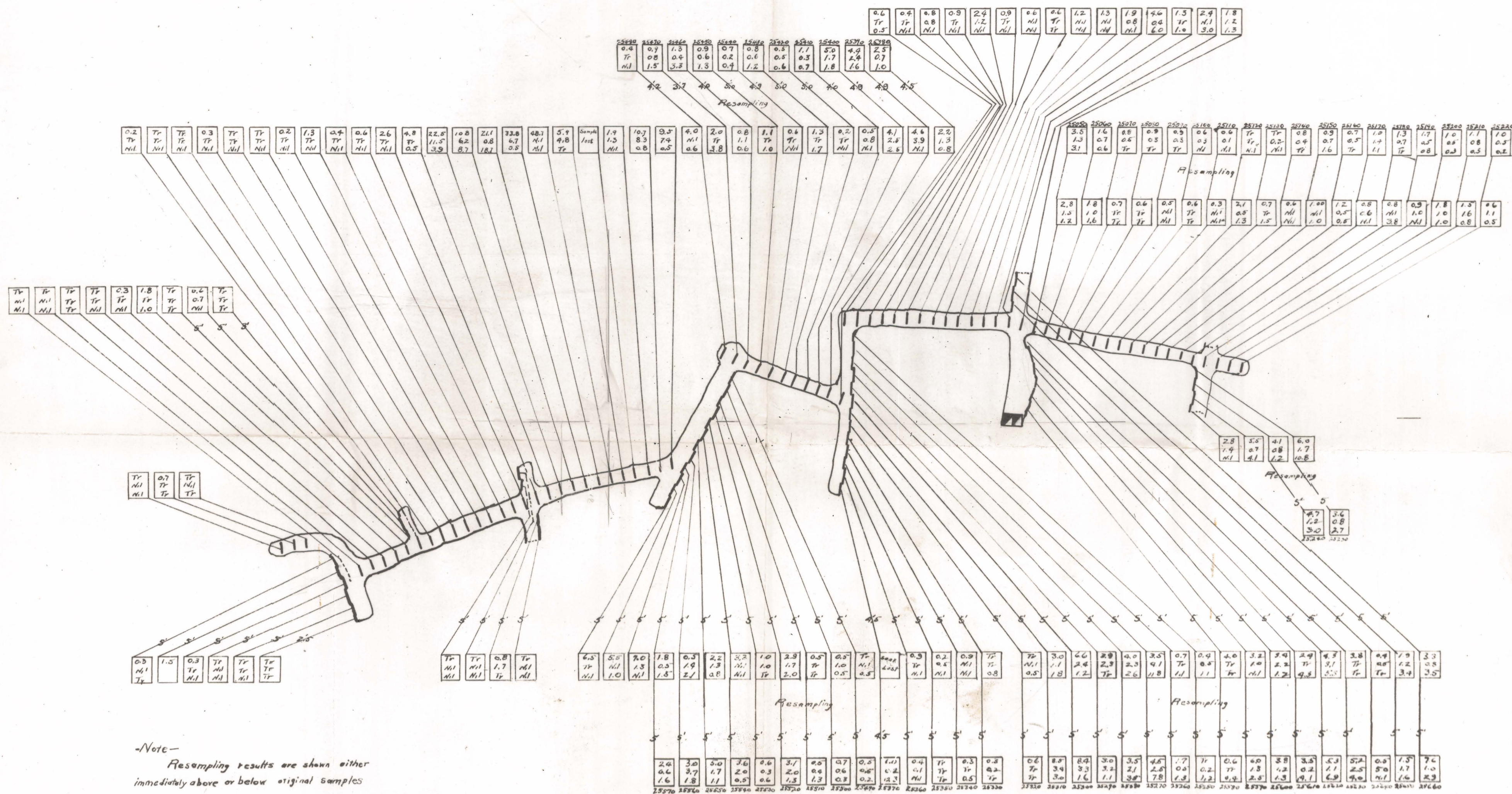
ARAVAIPA CLAIM
 SEC. 17 T 6 S R 20 E
 GRAHAM CY, ARIZ.

SURVEYED 4 23 1903

PATENTED 4 19 1905

TRACED 3 28 1947

200' = 1" VAR. 13° E
 LOC. 1, 1892 ED. C. PLATT



-Note-
Resampling results are shown either
immediately above or below original samples

→ N
ARAWAIPA LEASING COMPANY
GRAND REEF MINE
ASSAY PLAN
200 FOOT LEVEL
ORIGINAL vs RESAMPLING
Scale 1 in = 20 ft
Nov 1913