



CONTACT INFORMATION

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06/27/97

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: SHEEP TANKS MINE

ALTERNATE NAMES:
RESOLUTION GROUP

YUMA COUNTY MILS NUMBER: 285

LOCATION: TOWNSHIP 1 S RANGE 15 W SECTION 1 QUARTER N2
LATITUDE: N 33DEG 22MIN 25SEC LONGITUDE: W 113DEG 45MIN 21SEC
TOPO MAP NAME: KOFA BUTTE - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
GOLD LODE
SILVER
COPPER SULFIDE
MANGANESE OXIDE
BARIUM
LEAD
BERYLLIUM

BIBLIOGRAPHY:

KEITH, S.B., 1978, AZBM BULL. 192, P. 175
ADMMR SHEEP TANKS MINE FILE
ADMMR "U" FILE, Mn1
AZBM BULL. 134, P. 136
AZBM BULL. 137, P. 143
ADMMR SHEEP TANKS COLVO FILE
USBM RI 4077
USBM RI 4097
USBM IC 7843, P. 86
AZBM BULL. 129, P. 87
AZ GEOL. SOC. DIGEST 1984, VOL. 15, P. 167
MAP IN ABM ROLLED MAP BOXES (GEOL. OF CLAIMS)
MAPS 9 ROLLED

SHEEP TANKS

Au, Ag, Mn

Yuma

14 - 6

T 1 N, R 19 W

'43

E. W. Mills, Salome

Edwin Walter Mills
Salome, Arizona

(Deceased)

Sheep Tanks

EDWIN WALTER MILLS
Consulting Mining Engineer

6-6-47

P. O. Box 637,
Salome, Arizona,
June 3, 1947.

Mr. Arthur L. Flagg,
Consulting Engineer,
P. O. Box 2345,
Phoenix, Arizona.

Dear Mr. Flagg:

I am very glad to receive your letter of May 30th relative to tests made by the Federal Bureau of Mines on the Sheep Tanks ores.

Some four years ago a two-ton sample of the Sheep Tanks tailings dump was tested at the Salt Lake City station of the Bureau of Mines by the use of sulphur dioxide to remove the manganese(pyrolusite), and thus leave the silver-content free to be treated by cyanidation. The results obtained were quite satisfactory,- better than 96% recovery of the manganese and better than 70% of the silver content by separate treatment.

In 1932-1933 I had the first series of tests made by Alfred M. Thomsen, 75 Buena Vista Avenue, San Francisco 17, Calif. He obtained as high as a 98% recovery of the manganese, and up to 88% of the silver. Then in later years I got the Bureau of Mines interested in confirming the tests made by Mr. Thomsen.

If you will write to him you will be able to learn more about his method of treatment. If you care to do so, you may mention my name as I know he will be glad to be of service to you.

Then if you will also write to Stuart R. Zimmerly, Chief, Metallurgical Branch, Salt Lake City Station, U. S. Bureau of Mines, and mention that you have heard of tests being made on the Sheep Tanks ores for **therecovery** of both the manganese and the silver, I believe he will arrange to send you some interesting data.

Our two-ton tailings sample contained: Gold 0.06 oz.,
Silver 6.5 oz., Manganese 6.0 %
Our ten-ton ore sample contained: Gold 0.25 oz.,
Silver 8.00 oz., Manganese 3.5%

If you can located a copy of THE MINING JOURNAL, of July 15, 1945, you will find an article written by me on The Metallurgy of the Sheep Tanks ores. This is based upon the results from the tests made on the ten-ton sample. It has been definitely shown that a satisfactory recovery of the silver cannot be made until the manganese is leached out.

I shall be glad to learn what luck you have had in getting the abobe-mentioned information. With kindest regards, I am,

Yours faithfully,

Edwin W. Mills

I do not at all doubt the sincerity of Mr. Hedges in the views expressed in his letter, but an opportunity may arise later whereby he can explain more fully the details of the slim evidence which apparently served as the basis for the report rendered by Mr. Chapman. When a mining geologist like the late Dr. Oscar H. Hershey put in 11 days of strenuous work in his examination of Sheep Tanks to reach the favorable conclusions made in his report, it does seem more or less of a superman stunt for an engineer after a few hours' superficial reconnaissance to arrive at conclusions so entirely different. I shall have more to write about this matter when I get the time to discuss it in detail in letters to be written to Washington.

Then a few days after the letter received from Mr. Hedges I received the copy of the letter addressed to Senator Hayden, under date of September 1st, by Mr. Harry W. Colmery, Special Assistant to the Chairman and Executive Director, of the Smaller War Plants Corporation, Washington, D. C., which reads as follows:

"Supplementing our phone conversation with your office this week with regard to bringing the Sheep Tanks Mine into operation, our investigation reveals that this is a well known property. Different engineers have examined it with no record of a single favorable report. (Underlining by E. W. M.) This tailings dump has a low grade value of manganese, running around 6%. Proposed operations, apparently would be highly technical and a doubtful venture. Water has not been developed and getting water to the plant would be problematic at, probably, an unknown cost.

"We have checked with Mr. A. C. Nebeker, Technical Advisor of the War Production Board, regarding the letter Mr. Edwin W. Mills wrote you in which he was quoted. Mr. Nebeker has not made an examination of this property and is not willing to make any sort of a report based upon the short time that he spent at Sheep Tanks prior to June 26, 1943.

"We are having proper blanks furnished Mr. Mills on which he can make formal application for a loan, and which will enable us to complete our investigation and reach a decision in the matter

"We appreciate your interest in this matter, and will make every effort to process it to an early determination.

Sincerely yours,
(Signed) Harry W. Colmery."

You will be interested to know that I have received the above mentioned application forms from Mr. D. L. Bouse, Phoenix, and with a letter in which it is stated that a recommendation must be made by the R. F. C. I can see no use in wasting any time in preparing or filling out such application as the letter quoted above from Mr. Colmery plainly states that Sheep Tanks is a complete washout, so far as the Smaller War Plants Corporation is concerned.

It may be that this letter has finally given me the opening for which I have been searching to unearth the underground opposition that has prevailed in certain circles during the past six years regarding the resumption of operations at Sheep Tanks. I intend to smoke out these "Different engineers have examined it with no record of a single favorable report." I have a list of ten well known engineers and geologists who have reported favorably on Sheep Tanks, and I am surely going to have an interesting time in bringing to the attention of the competent authorities the erroneous, misleading and false statements made by Mr. Colmery in his letter to Senator Hayden. It's a great life if you don't weaken, and you can probably guess a wee bit of how I feel regarding these two letters. Sheep Tanks will eventually speak for itself in no uncertain terms.

I hope I have not imposed upon your time and good nature by writing such a lengthy letter to you. But I feel that both Charley Willis and yourself will probably see some connection between the contents of this letter from Mr. Colmery and the views expressed by Charley in his letter to me last February regarding what Bill Broadgate and himself had observed from certain indications in Washington.

I shall be glad to have the reaction of both Charley and yourself at your convenience to the Colmery letter.

By the way, have you heard anything further from Mr. Brady?

With all good wishes to both Charley and yourself, I am,

Yours faithfully,

Edwin M. Mills.

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**ARIZONA SMALL MINE OPERATORS
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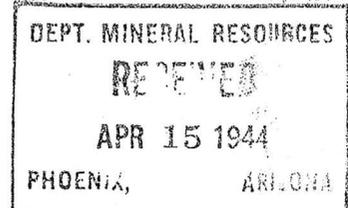
SALOME - WENDEN - VICKSBURG
YUMA COUNTY, ARIZONA

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WENDEN

Salome, Arizona
April 12, 1944

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



Dear Sam:

I had hoped to get in to see you today, but at the last moment I was unable to get away from here to make the trip.

I have been keeping pretty busy and find plenty to do. I have two inquiries in regarding Sheep Tanks, and I do wish I could get hold of those priceless photographs and the report from Mr. Brady. It will soon be a year since they were sent to him and I had hoped that we might be able to get him to return both the photographs and the report. I could make good use of them right at this moment.

How have things been going along for you? I do hope that everything will work out for you to your good advantage in every way.

Am looking forward to our little meeting of this Council again on Friday evening, and I shall be glad to see Mr. Holt again.

My kind regards to Miss Haskell whenever you see her, and with all good wishes to you, I am,

Yours faithfully,

Edwin W. Mills
Chairman.

Shop Tanco

January 20, 1944

Mr. Seth Brady
Room 405
811 West 7th Street
Los Angeles, California

Dear Seth:

I am terribly disappointed in your not even writing or carrying out the promise you made when I saw you the first of the year. Unless you have hocked these or in some other way have disposed of them, you should get the prints back to me at once.

Please try to make contact with the attorney in whose files you say you left the photographs.

Yours very truly,

J. S. Coupal, Director

JSC:LP

January 5, 1944

Mr. Edwin W. Mills
Salome, Arizona

Dear Ed:

I was delayed a day in returning from Los Angeles but left your bottle of cough medicine in Cabin #3 which I believe is your cabin at Salome. You will note that I. O. U. 93¢ on this transaction.

While in Los Angeles, I met Seth Brady by accident and had a long heart to heart talk with him. The photographs are in the file of the attorney whose office he uses. Unfortunately, the attorney has been out of town for many long trips and Brady has been unable to contact him. He is due back this week and Brady definitely promises that he will get the photographs to me.

He has had some difficulty with his own business and has had money coming to him tied up for some time. As soon as his money is relieved he wants to come and look over the property and see what arrangements he can make with you for trying to get it into operation. I told Brady his chances were nil for the time being due to his holding up on returning the information on the mine but that when and if he returned it, I would be glad to go with him to see you and talk over plans for Sheep Tanks.

I hope you have recovered from the flu and will see you the next time you are in town.

Very truly yours,

J. S. Coupal
Director

Stamp number

December 27, 1943

Mr. Edwin W. Mills
Salome, Arizona

Dear Ed:

Many thanks for your letter of the 22nd.

Mr. Baggaley was in and I read him your program for this week. He is leaving for the East on January 3, hence it will be necessary for him to see you this week if possible. I hope you have all of the data ready so that you can present it, as I believe we could arrange for Baggaley to meet you in Salome early on Thursday, December 30.

Undoubtedly Mr. Baggaley will want New Year's Eve free so he may not care to spend the greater part of December 31 driving or in the hills and thus be tired out for what may be a long, strenuous New Year's Eve party.

You say you expect to be in Phoenix on January 2 which I note falls on a Sunday (how come?).

With best wishes for the New Year, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

MS-26 SHEEP TANKS MINE, W. Mills, Salome, Ariz.

Copy of Mine Owners Report covering property listed with the Department of Mineral Resources has been furnished to -

Ralph R. Langley, 1115 So. Hayworth Avenue, Los Angeles, Cal.
Walter Z. Allen, Box 37, Palm Springs, Calif.

DEPARTMENT OF MINERAL RESOURCES
J. S. Coupal, Director

ELLSWORTH COUNCIL
**ARIZONA SMALL MINE OPERATORS
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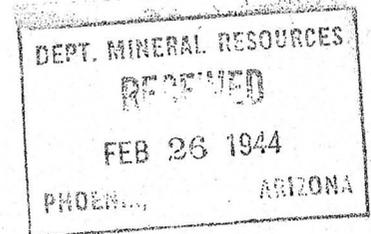
SALOME - WENDEN - VICKSBURG
YUMA COUNTY, ARIZONA

Salome, Arizona
Feb. 24, 1944

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WENDEN

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



Dear Sam:

I certainly enjoyed meeting Miss Haskell
and yourself yesterday.

Today at noon while I was at Sheffler's getting
my daily copy of the Los Angeles Times, I met Mr. Baggaley
who was on his way to Nevada with four miners whom he had
picked up in Wickenburg. I was very glad to meet him and
only about 15 minutes' conversation with him. He has
promised to get in touch with me again very shortly to set
a date for some Sunday for a trip together to Sheep Tanks.

During the course of our short talk today he
expressed the same remark that I have heard a number of
times in the past, namely, - "How is it that such a valuable
property is not in operation, if it is as good as you say?"
My reply was that he would have to see the property in
person, take some samples, look over my assay plats and
reports and then judge for himself whether or not the
property has real merit.

I shall keep you posted regarding any news
concerning Sheep Tanks.

Hoping to see you soon, and also expecting that
your letter to the attorney in Los Angeles will bring
definite results, and with best wishes to you, I am,

Yours faithfully,
Edwin W. Mills
Chairman.

February 7, 1944

Mr. Clarence W. Eubanks
Room 405
811 W. 7th Street
Los Angeles, California

Dear Mr. Eubanks:

I have known one Seth Brady for a number of years and he gave your address as an address for him in Los Angeles.

Some time last year I loaned Mr. Brady copies of a report and photographs on the Sheep Tanks Mine and have persistently tried to get Brady to forward them to me. They are original copies, particularly the photographs, and cannot be replaced. I saw Mr. Brady the first of the year in Los Angeles and he told me that he was awaiting your return to your office as these were in your office files.

I would greatly appreciate if if these could be forwarded direct to me and will stand any expense in connection with it and would also appreciate your advising Seth Brady that you are sending them. The owner of the property loaned these to me as we are old personal friends and I feel a deep responsibility in getting the originals, particularly the photographs, back into his hands.

Very truly yours,

J. S. Coupal, Director

JSC:LP

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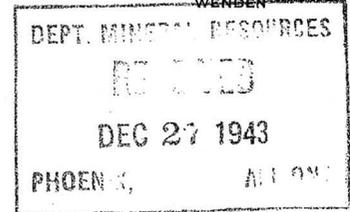
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WENDEN

Salome, Arizona
Dec. 24, 1943



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

Dear Sam:

Thank you for your good letter of Dec. 22nd.

I would like very much to meet Mr. Baggaley some time during this next week. I have a very full program for for the first four days, which means that I would not be free until Friday Dec. 31st. It is barely possible that I may be able to see him here on Thursday, Dec. 30, and, if so, I will plan to send you a telegram the day before.

I regret that I have such a busy week ahead, but owing to important changes in the OPA regulations regarding gasoline rationing I have a lot of additional work to do to prepare for the change over effective on January 1st, 1944.

I very much appreciate all the good things you could tell him regarding the highlights concerning Sheep Tanks.

I expect to be in Phoenix again on January 2nd, but am not certain just at this moment.

With the Season's Greetings to you, I am,

Yours faithfully,
Edwin W. Mills.
Chairman.

December 22, 1943

Mr. Ed Mills
Salome, Arizona

Dear Ed:

I have been talking with a Mr. W. Blair Baggaley, mining engineer, Platteville, Wisconsin. He is to be in town for the balance of the year. This is not the party I mentioned as coming from Bill Broadgate. Mr. Baggaley likes the highlights I have given him on the Sheep Tanks and would like to talk with you and would willingly go to Salome, if in the meantime you are not coming to Phoenix.

Please let me know by return mail, if possible, your plans for next week and if you are to be in Salome, I am sure Mr. Baggaley will drive out to see you.

Best wishes for the holiday season.

Yours very truly,

J. S. Coupal, Director

JSC:LP

November 12, 1943

Mr. Seth Brady
Room 405
811 West 7th Street
Los Angeles, California

Dear Seth:

I am becoming quite exasperated at your failure to even respond regarding the reports I sent you on the Sheep Tanks Mine. I will quote from a letter just received from Ed Mills:

"I would like to get them (the report and photographs) as soon as possible as I wish to use them. I must also revoke the former permission granted to him to make a photostatic copy of the report. I am so sorry he has acted so queerly in this whole matter."

I hope you realize, Seth, that I sent you these reports knowing that you appreciated the value of such things. I did expect at least the courtesy of care in handling them. If you have given them to someone else in an effort to interest them, you could at least make an effort to get them back to me or at least write and let me know your difficulties.

I value Ed Mills' friendship a whole lot and would hate to lose it due to carelessness or inattention on the part of somebody I did have confidence in. You can rest assured my confidence is somewhat shaken by your rather shabby treatment in this matter.

Very truly yours,

J. S. Coupal, Director

JSC:LP

November 12, 1943

Mr. Edwin W. Mills
Salome, Arizona

Dear Ed:

Many thanks for your letter of November 6 and the information about R. R. McDonald, Jr.

I am very sorry to hear that Charlie Reedall was in a serious accident and hope he gets off without any permanent injury. Please give him my best wishes.

I am sorry also to state that Mrs. Botzum was unable to contact Brady and I am again writing him.

I felt sure you would enjoy meeting Mr. Pratt and hope he will work out some solution on the Yuma Copper.

Under separate cover I am sending an additional set of WPB-2465.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

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**ARIZONA SMALL MINE OPERATORS
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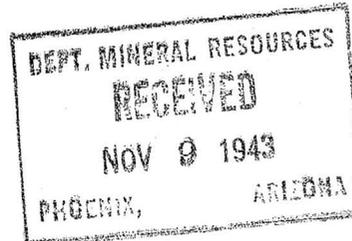
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YUMA COUNTY, ARIZONA

Salome, Arizona
Nov. 6, 1943

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WENDEN

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



Dear Sam:

I have been delayed in replying to your letter of Oct. 25th.

R. R. McDonald, Jr., is, I believe, associated with George Spry in the operation of the Yuma Copper Mine. I also believe that his postal address is Vicksburg, Arizona.

I was glad to meet Mr. Pratt, both on his way to the mine, and also on his return trip to Phoenix. I had an opportunity to have an interesting talk with him both times. I gathered the impression that he has gained a favorable impression of the mining setup at the Yuma Copper Mine. It would be great feather in someone's cap to get this property into successful operation.

You will be shocked to hear that Charlie Reedall was seriously injured in a motor car accident late Wednesday evening, Nov. 3rd, riding in a jeep from Wenden to Salome. Apparently the soldier driver was drunk and ran off the road just $1\frac{1}{2}$ miles east of Salome. Charlie is in the hospital at Blythe, California, and is given just an odd chance to pull through. I will keep you informed regarding him.

Did Mrs. Botzum succeed in getting Mr. Brady to agree to return my report and photographs? I would like to get them as soon as possible, as I wish to use them. I must also revoke the former permission granted to him to make a photostatic copy of the report. I am so sorry he has acted so queerly in this whole matter.

I appreciated receiving your letter of Oct. 18th with enclosure of the Form WPB-2465 (4 copies), and at your convenience I shall appreciate receiving an additional set.

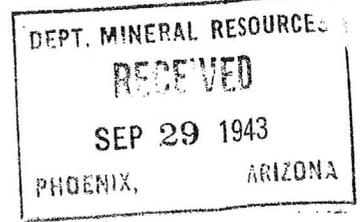
Kind regards and all good wishes to both Charley and yourself.

Yours faithfully,

Edwin W. Mills

Edwin W. Mills
Salome Arizona

Sept. 27, 1943



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

Dear Sam:

I was sorry to miss seeing you during my hurry-up visit to Phoenix last week, but I may get another opportunity to drop in to see you again in the very near future.

You may recall my having mentioned to you that I had made an application to Mr. J. W. Hedges, Bureau of Mines, Tucson, relative to some exploratory drilling at Sheep Tanks. On July 1st Mr. Thomas L. Chapman put in the day with me at Sheep Tanks in just a few hours of going over some of the surface workings, including the work on the lead-silver ore on a good looking fault-fracture. I did not realize that he was to render a report based upon such a superficial examination. So you can imagine my feelings when I received a letter from Mr. Hedges under date of September 9th, with the following:

"Your letter of September 5 regarding the Sheep Tanks property has been received. As you know, the most recent examination of the Sheep Tanks mine by the Bureau of Mines was for the purpose of investigating the possibility suggested by you that there might exist at depth a zone of secondary enrichment containing mineable bodies of copper-lead-zinc minerals.

"The fact that ore in the deeper workings is of lower grade than the shallower ore indicates that some secondary enrichment has taken place at and near the surface. However, leaching and redeposition appear to have been confined to a zone close to the surface.

"Samples of the manganiferous gold-silver ore analyzed by the Bureau of Mines contained minute amounts of zinc and copper, but there is no convincing evidence that a greater quantity of copper-zinc minerals was contained in the primary deposition, or that any considerable amounts of these or of lead minerals have been leached from the oxidized zone and redeposited at greater depth. The supposition that substantial secondary bodies carrying commercial quantities of copper lead, or zinc may be found below the zone of oxidation is based on too slender evidence to justify an expenditure of the Bureau's limited funds for exploration of this property by diamond drilling. There are several promising areas in the State that we would like to explore but cannot include in our present budget.

I am sorry I cannot give you a more favorable report.

Yours very truly,
(Signed) J. H. Hedges
District Engineer."

Sheep Tanks
July 31, 1943

Mr. Seth Brady
Room 405
811 West 7th Street
Los Angeles, California

Dear Seth:

I have just had a letter from Edwin W. Mills, Salome, which I quote as follows:

"I am perfectly willing to grant permission to Mr. Brady to have the report and the photographs copied or photostated, but I do wish to have both the report and the photographs returned to me as promptly as possible."

I hope you will heed this request and get the reports and photographs to Mills right away.

Mr. Mills has been in touch with the Bureau of Mines trying to get them to do some exploratory drilling at Sheep Tanks. However, he has some 3,000 or 4,000 assays from various parts of the mine which seem to determine the value and the size of the deposit.

Was glad to hear from you and to know that your affairs were at least partly settled up and hope that you can get some action on the Sheep Tanks.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

July 31, 1943

Mr. Edwin W. Mills
Salome, Arizona

Dear Ed:

Many thanks for your letters of July 29
and I will pass the word along to Mr. Brady that
you want the report and photographs as promptly
as possible.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

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WENDEN

Salome, Arizona
July 29, 1943



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

Dear Sam;

I was very glad to receive your good letter of July 26th which arrived here a few hours after I mailed a letter written to you yesterday.

Many thanks for the enclosures which I read with interest.

I am perfectly willing to grant permission to Mr. Brady to have the report and the photographs copied or photostated, but I do wish to have both the report and the photographs returned to me as promptly as possible.

There is a good chance that I may succeed in getting the Bureau of Mines to do some exploratory drilling at Sheep Tanks, and this is one reason why I wish to have the report and the photographs in my hands again as soon as possible.

I trust that I may have the pleasure of meeting Mr. Brady before long, as I would like to show him a few things at Sheep Tanks that are of well worthwhile interest.

With all good wishes to you, I am,

Yours faithfully,
Edwin W. Mills,
Chairman.

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ARIZONA SMALL MINE OPERATORS
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SALOME

INCLUDING

SALOME - WENDEN - VICKSBURG
YUMA COUNTY, ARIZONA

Salome, Arizona
July 28, 1943

EXECUTIVE COMMITTEE

EDWIN W. MILLS
J. E. MATTESON
H. C. REEDALL
C. H. WATERS
VICKSBURG
WM. WILKINSON
WENDEN

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



Dear Sam:

Thank you for your good letter of July 26th, which I am very glad to receive.

My thanks to both Mrs. Porter and to yourself for the mailing of a new application blank to Mr. T. J. Rodgers of Wenden.

Also thank you for the address and position of Mr. Strobel to whom I have written today concerning Mr. Rodgers having lost the quota sent to him, and requesting that a duplicate copy of the same be sent to Mr. Rodgers.

I do hope that you will be able to get some word from Mr. Brady regarding the report and photographs.

With all good wishes to you, I am,

Yours faithfully,

Edwin W. Mills
Chairman.

July 26, 1943

Mr. Seth Brady
Room 405
811 West 7th Street
Los Angeles, California

Dear Seth:

Many thanks for your letter of July 24th. Your letter from San Francisco evidently went astray and I was a bit peeved at not receiving word from you.

I am writing Ed Mills and believe he will grant permission to have the data photostated or copied, provided you are seriously at work on the Sheeptanks proposal. The operation of Sheeptanks may present a few minor problems, but I believe it is worthy of your serious attention.

Good luck and best wishes. Don't forget to write and keep us posted.

Very truly yours

J. S. Coupan, Director

JSC:ach
cc-Ed Mills

Saturday July twenty fourth.

San Francisco
811 W. 7th St. Ca.

Dear Sam -

I wrote to you from the El Cortez
in San Francisco early in June, apologizing
to you and Mr. Mills for my slowness
and as you have not received the letter
you must think that I am also eating you -

Try to stay upset in winding up my
personal affairs have nearly had me down -
After accepting a modest settlement in the
San Francisco matter the charges started
dog-fighting over the spoils and I had to
have the money and notes turned over to
a court to divide - I am finally to get four
thousand - instead of twenty - four thousand -
and will never get into a lawsuit again -
If I get hooked or crooked - I will forget
it and go on about my business - no more
of these time-wasting things -

Meanwhile I have sold some fee land in Montana that I have been in for some time and my oil things here - so at last I will be foot loose and liquid enough to handle a mining operation -

The metallurgy ^{business} worked out on manganese and the new type plants are very interesting. Mr Frank Geis of Metallurgical Lab. at 604 Mission St. San Francisco will give us a hand - And Al Hahn in the Ballou Bldg. S.F. is retained by all the big companies and in touch with the school men - By the way - I get my mail in S.F. at 604 Mission

There is private money available for a major mining operation - Mr Paul Wilder who formerly had Federal Securities and sold out to the Dawes Bank in Chicago some time ago is associated with me in some things and will come over to Arizona with me -

The reports and pictures of the Sheep
Tanks mine are in the safe and I would
like to keep ~~them~~^{the present} or have your permission
to have them photostated or copied -

I will write you further Monday - I
received your letter and I wanted to
get in touch with you right now - there is
no stenographer available this afternoon -
I am having my eyes worked over for
glasses and as the doctor put some
clope in the this morning - my writing is
probably worse than usual.

With kindest personal regards and
I am awfully sorry that my clumsiness in
this matter has been embarrassing to you

J. S. Coupl Esq
Phoenix
Arizona -

Very truly

Seth Brady.

ELLSWORTH COUNCIL
**ARIZONA SMALL MINE OPERATORS
ASSOCIATION**

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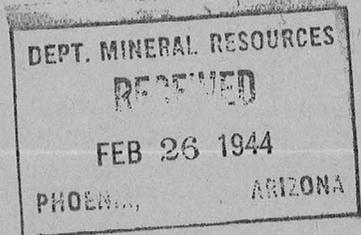
SALOME - WENDEN - VICKSBURG
YUMA COUNTY, ARIZONA

Salome, Arizona
Feb. 24, 1944

EXECUTIVE COMMITTEE

EDWIN W. MILLS
J. E. MATTESON
JOHN A. PROVORSE
GARFIELD GRAY
VICKSBURG
WM. WILKINSON
WENDEN

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



Dear Sam:

I certainly enjoyed meeting Miss Haskell
and yourself yesterday.

Today at noon while I was at Sheffler's getting
my daily copy of the Los Angeles Times, I met Mr. Baggaley
who was on his way to Nevada with four miners whom he had
picked up in Wickenburg. I was very glad to meet him and
only about 15 minutes' conversation with him. He has
promised to get in touch with me again very shortly to set
a date for some Sunday for a trip together to Sheep Tanks.

During the course of our short talk today he
expressed the same remark that I have heard a number of
times in the past, namely, - "How is it that such a valuable
property is not in operation, if it is as good as you say?"
My reply was that he would have to see the property in
person, take some samples, look over my assay plats and
reports and then judge for himself whether or not the
property has real merit.

I shall keep you posted regarding any news
concerning Sheep Tanks.

Hoping to see you soon, and also expecting that
your letter to the attorney in Los Angeles will bring
definite results, and with best wishes to you, I am,

Yours faithfully,
Edwin W. Mills
Chairman.

I do not at all doubt the sincerity of Mr. Hedges in the views expressed in his letter, but an opportunity may arise later whereby he can explain more fully the details of the slim evidence which apparently served as the basis for the report rendered by Mr. Chapman. When a mining geologist like the late Dr. Oscar H. Hershey put in 11 days of strenuous work in his examination of Sheep Tanks to reach the favorable conclusions made in his report, it does seem more or less of a superman stunt for an engineer after a few hours' superficial reconnaissance to arrive at conclusions so entirely different. I shall have more to write about this matter when I get the time to discuss it in detail in letters to be written to Washington.

Then a few days after the letter received from Mr. Hedges I received the copy of the letter addressed to Senator Hayden, under date of September 1st, by Mr. Harry W. Colmery, Special Assistant to the Chairman and Executive Director, of the Smaller War Plants Corporation, Washington, D. C., which reads as follows:

"Supplementing our phone conversation with your office this week with regard to bringing the Sheep Tanks Mine into operation, our investigation reveals that this is a well known property. Different engineers have examined it with no record of a single favorable report. (Underlining by E. W. M.) This tailings dump has a low grade value of manganese, running around 6%. Proposed operations, apparently would be highly technical and a doubtful venture. Water has not been developed and getting water to the plant would be problematic at, probably, an unknown cost.

"We have checked with Mr. A. C. Nebeker, Technical Advisor of the War Production Board, regarding the letter Mr. Edwin W. Mills wrote you in which he was quoted. Mr. Nebeker has not made an examination of this property and is not willing to make any sort of a report based upon the short time that he spent at Sheep Tanks prior to June 26, 1943.

"We are having proper blanks furnished Mr. Mills on which he can make formal application for a loan, and which will enable us to complete our investigation and reach a decision in the matter

"We appreciate your interest in this matter, and will make every effort to process it to an early determination.

Sincerely yours,
(Signed) Harry W. Colmery."

You will be interested to know that I have received the above mentioned application forms from Mr. D. L. Bouse, Phoenix, and with a letter in which it is stated that a recommendation must be made by the R. F. C. I can see no use in wasting any time in preparing or filling out such application as the letter quoted above from Mr. Colmery plainly states that Sheep Tanks is a complete washout, so far as the Smaller War Plants Corporation is concerned.

It may be that this letter has finally given me the opening for which I have been searching to unearth the underground opposition that has prevailed in certain circles during the past six years regarding the resumption of operations at Sheep Tanks. I intend to smoke out these "Different engineers have examined it with no record of a single favorable report." I have a list of ten well known engineers and geologists who have reported favorably on Sheep Tanks, and I am surely going to have an interesting time in bringing to the attention of the competent authorities the erroneous, misleading and false statements made by Mr. Colmery in his letter to Senator Hayden. It's a great life if you don't weaken, and you can probably guess a wee bit of how I feel regarding these two letters. Sheep Tanks will eventually speak for itself in no uncertain terms.

I hope I have not imposed upon your time and good nature by writing such a lengthy letter to you. But I feel that both Charley Willis and yourself will probably see some connection between the contents of this letter from Mr. Colmery and the views expressed by Charley in his letter to me last February regarding what Bill Broadgate and himself had observed from certain indications in Washington.

I shall be glad to have the reaction of both Charley and yourself at your convenience to the Colmery letter.

By the way, have you heard anything further from Mr. Brady?

With all good wishes to both Charley and yourself, I am,

Yours faithfully,

Edwin R. Mills.

EDWIN WALTER MILLS
Consulting Mining Engineer

6-6-47

P. O. Box 637,
Salome, Arizona,
June 3, 1947.

Mr. Arthur L. Flagg,
Consulting Engineer,
P. O. Box 2345,
Phoenix, Arizona.

Dear Mr. Flagg:

I am very glad to receive your letter of May 30th relative to tests made by the Federal Bureau of Mines on the Sheep Tanks ores.

Some four years ago a two-ton sample of the Sheep Tanks tailings dump was tested at the Salt Lake City station of the Bureau of Mines by the use of sulphur dioxide to remove the manganese(pyrolusite), and thus leave the silver-content free to be treated by cyanidation. The results obtained were quite satisfactory,- better than 96% recovery of the manganese and better than 70% of the silver content by separate treatment.

In 1932-1933 I had the first series of tests made by Alfred M. Thomsen, 75 Buena Vista Avenue, San Francisco 17, Calif. He obtained as high as a 98% recovery of the manganese, and up to 88% of the silver. Then in later years I got the Bureau of Mines interested in confirming the tests made by Mr. Thomsen.

If you will write to him you will be able to learn more about his method of treatment. If you care to do so, you may mention my name as I know he will be glad to be of service to you.

Then if you will also write to Stuart R. Zimmerly, Chief, Metallurgical Branch, Salt Lake City Station, U. S. Bureau of Mines, and mention that you have heard of tests being made on the Sheep Tanks ores for therecovery of both the manganese and the silver, I believe he will arrange to send you some interesting data.

Our two-ton tailings sample contained: Gold 0.06 oz.,
Silver 6.5 oz., Manganese 6.0 %
Our ten-ton ore sample contained: Gold 0.25 oz.,
Silver 8.00 oz., Manganese 3.5%

If you can located a copy of THE MINING JOURNAL, of July 15, 1945, you will find an article written by me on The Metallurgy of the Sheep Tanks ores. This is based upon the results from the tests made on the ten-ton sample. It has been definitely shown that a satisfactory recovery of the silver cannot be made until the manganese is leached out.

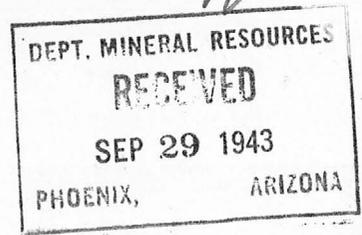
I shall be glad to learn what luck you have had in getting the abobe-mentioned information. With kindest regards, I am,

Yours faithfully,

Edwin W. Mills.

Edwin W. Mills
Salome Arizona

Sept. 27, 1943



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

Dear Sam:

I was sorry to miss seeing you during my hurry-up visit to Phoenix last week, but I may get another opportunity to drop in to see you again in the very near future.

You may recall my having mentioned to you that I had made an application to Mr. J. W. Hedges, Bureau of Mines, Tucson, relative to some exploratory drilling at Sheep Tanks. On July 1st Mr. Thomas L. Chapman put in the day with me at Sheep Tanks in just a few hours of going over some of the surface workings, including the work on the lead-silver ore on a good looking fault-fracture. I did not realize that he was to render a report based upon such a superficial examination. So you can imagine my feelings when I received a letter from Mr. Hedges under date of September 9th, with the following:

"Your letter of September 5 regarding the Sheep Tanks property has been received. As you know, the most recent examination of the Sheep Tanks mine by the Bureau of Mines was for the purpose of investigating the possibility suggested by you that there might exist at depth a zone of secondary enrichment containing mineable bodies of copper-lead-zinc minerals.

"The fact that ore in the deeper workings is of lower grade than the shallower ore indicates that some secondary enrichment has taken place at and near the surface. However, leaching and redeposition appear to have been confined to a zone close to the surface.

"Samples of the manganiferous gold-silver ore analyzed by the Bureau of Mines contained minute amounts of zinc and copper, but there is no convincing evidence that a greater quantity of copper-zinc minerals was contained in the primary deposition, or that any considerable amounts of these or of lead minerals have been leached from the oxidized zone and redeposited at greater depth. The supposition that substantial secondary bodies carrying commercial quantities of copper lead, or zinc may be found below the zone of oxidation is based on too slender evidence to justify an expenditure of the Bureau's limited funds for exploration of this property by diamond drilling. There are several promising areas in the State that we would like to explore but cannot include in our present budget.

I am sorry I cannot give you a more favorable report.

Yours very truly,
(Signed) J. H. Hedges
District Engineer."

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ARIZONA SMALL MINE OPERATORS
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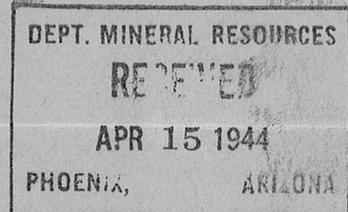
SALOME - WENDEN - VICKSBURG
YUMA COUNTY, ARIZONA

Salome, Arizona
April 12, 1944

EXECUTIVE COMMITTEE

EDWIN W. MILLS
J. E. MATTESON
JOHN A. PROVORSE
GARFIELD GRAY
VICKSBURG
WM. WILKINSON
WENDEN

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



Dear Sam:

I had hoped to get in to see you today, but at the last moment I was unable to get away from here to make the trip.

I have been keeping pretty busy and find plenty to do. I have two inquiries in regarding Sheep Tanks, and I do wish I could get hold of those priceless photographs and the report from Mr. Brady. It will soon be a year since they were sent to him and I had hoped that we might be able to get him to return both the photographs and the report. I could make good use of them right at this moment.

How have things been going along for you? I do hope that everything will work out for you to your good advantage in every way.

Am looking forward to our little meeting of this Council again on Friday evening, and I shall be glad to see Mr. Holt again.

My kind regards to Miss Haskell whenever you see her, and with all good wishes to you, I am,

Yours faithfully,

Edwin W. Mills
Chairman.

Shap Tanks

January 20, 1944

Mr. Seth Brady
Room 405
811 West 7th Street
Los Angeles, California

Dear Seth:

I am terribly disappointed in your not even writing or carrying out the promise you made when I saw you the first of the year. Unless you have hocked these or in some other way have disposed of them, you should get the prints back to me at once.

Please try to make contact with the attorney in whose files you say you left the photographs.

Yours very truly,

J. S. Coupal, Director

JSC:LP

January 5, 1944

Mr. Edwin W. Mills
Salome, Arizona

Dear Ed:

I was delayed a day in returning from Los Angeles but left your bottle of cough medicine in Cabin #3 which I believe is your cabin at Salome. You will note that I. O. U. 93¢ on this transaction.

While in Los Angeles, I met Seth Brady by accident and had a long heart to heart talk with him. The photographs are in the file of the attorney whose office he uses. Unfortunately, the attorney has been out of town for many long trips and Brady has been unable to contact him. He is due back this week and Brady definitely promises that he will get the photographs to me.

He has had some difficulty with his own business and has had money coming to him tied up for some time. As soon as his money is relieved he wants to come and look over the property and see what arrangements he can make with you for trying to get it into operation. I told Brady his chances were nil for the time being due to his holding up on returning the information on the mine but that when and if he returned it, I would be glad to go with him to see you and talk over plans for Sheep Tanks.

I hope you have recovered from the flu and will see you the next time you are in town.

Very truly yours,

J. S. Coupal
Director

Shop Thanks

December 27, 1943

Mr. Edwin W. Mills
Salome, Arizona

Dear Ed:

Many thanks for your letter of the 22nd.

Mr. Baggaley was in and I read him your program for this week. He is leaving for the East on January 3, hence it will be necessary for him to see you this week if possible. I hope you have all of the data ready so that you can present it, as I believe we could arrange for Baggaley to meet you in Salome early on Thursday, December 30.

Undoubtedly Mr. Baggaley will want New Year's Eve free so he may not care to spend the greater part of December 31 driving or in the hills and thus be tired out for what may be a long, strenuous New Year's Eve party.

You say you expect to be in Phoenix on January 2 which I note falls on a Sunday (how come?).

With best wishes for the New Year, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

MS-26 SHEEP TANKS MINE, Ed W. Mills, Salome, Ariz.

Copy of Mine Owners Report covering property listed with the Department of Mineral Resources has been furnished to -

Ralph R. Langley, 1115 So. Hayworth Avenue, Los Angeles, Cal.
Walter Z. Allen, Box 37, Palm Springs, Calif.

DEPARTMENT OF MINERAL RESOURCES
J. S. Coupal, Director

February 7, 1944

Mr. Clarence W. Eubanks
Room 405
811 W. 7th Street
Los Angeles, California

Dear Mr. Eubanks:

I have known one Seth Brady for a number of years and he gave your address as an address for him in Los Angeles.

Some time last year I loaned Mr. Brady copies of a report and photographs on the Sheep Tanks Mine and have persistently tried to get Brady to forward them to me. They are original copies, particularly the photographs, and cannot be replaced. I saw Mr. Brady the first of the year in Los Angeles and he told me that he was awaiting your return to your office as these were in your office files.

I would greatly appreciate if if these could be forwarded direct to me and will stand any expense in connection with it and would also appreciate your advising Seth Brady that you are sending them. The owner of the property loaned these to me as we are old personal friends and I feel a deep responsibility in getting the originals, particularly the photographs, back into his hands.

Very truly yours,

J. S. Coupal, Director

JSC:LP

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ARIZONA SMALL MINE OPERATORS
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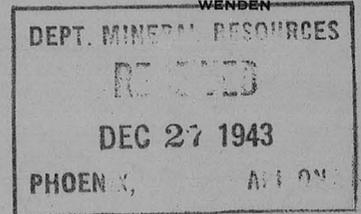
SALOME - WENDEN - VICKSBURG
YUMA COUNTY, ARIZONA

EXECUTIVE COMMITTEE

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J. E. MATTESON
H. C. REEDALL
C. H. WATERS
VICKSBURG

WM. WILKINSON
WENDEN

Salome, Arizona
Dec. 24, 1943



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

Dear Sam:

Thank you for your good letter of Dec. 22nd.

I would like very much to meet Mr. Baggaley some time during this next week. I have a very full program for for the first four days, which means that I would not be free until Friday Dec. 31st. It is barely possible that I may be able to see him here on Thursday, Dec. 30, and, if so, I will plan to send you a telegram the day before.

I regret that I have such a busy week ahead, but owing to important changes in the OPA regulations regarding gasoline rationing I have a lot of additional work to do to prepare for the change over effective on January 1st, 1944.

I very much appreciate all the good things you could tell him regarding the highlights concerning Sheep Tanks.

I expect to be in Phoenix again on January 2nd, but am not certain just at this moment.

With the Season's Greetings to you, I am,

Yours faithfully,
Edwin W. Mills
Chairman.

December 22, 1943

Mr. Ed Mills
Salome, Arizona

Dear Ed:

I have been talking with a Mr. W. Blair Baggaley, mining engineer, Platteville, Wisconsin. He is to be in town for the balance of the year. This is not the party I mentioned as coming from Bill Broadgate. Mr. Baggaley likes the highlights I have given him on the Sheep Tanks and would like to talk with you and would willingly go to Salome, if in the meantime you are not coming to Phoenix.

Please let me know by return mail, if possible, your plans for next week and if you are to be in Salome, I am sure Mr. Baggaley will drive out to see you.

Best wishes for the holiday season.

Yours very truly,

J. S. Coupal, Director

JSC:LP

November 12, 1943

Mr. Seth Brady
Room 405
811 West 7th Street
Los Angeles, California

Dear Seth:

I am becoming quite exasperated at your failure to even respond regarding the reports I sent you on the Sheep Tanks Mine. I will quote from a letter just received from Ed Mills:

"I would like to get them (the report and photographs) as soon as possible as I wish to use them. I must also revoke the former permission granted to him to make a photostatic copy of the report. I am so sorry he has acted so queerly in this whole matter."

I hope you realize, Seth, that I sent you these reports knowing that you appreciated the value of such things. I did expect at least the courtesy of care in handling them. If you have given them to someone else in an effort to interest them, you could at least make an effort to get them back to me or at least write and let me know your difficulties.

I value Ed Mills' friendship a whole lot and would hate to lose it due to carelessness or inattention on the part of somebody I did have confidence in. You can rest assured my confidence is somewhat shaken by your rather shabby treatment in this matter.

Very truly yours,

J. S. Coupal, Director

JSC:LP

November 12, 1943

Mr. Edwin W. Mills
Salome, Arizona

Dear Ed:

Many thanks for your letter of November 6 and the information about R. R. McDonald, Jr.

I am very sorry to hear that Charlie Reedall was in a serious accident and hope he gets off without any permanent injury. Please give him my best wishes.

I am sorry also to state that Mrs. Botzum was unable to contact Brady and I am again writing him.

I felt sure you would enjoy meeting Mr. Pratt and hope he will work out some solution on the Yuma Copper.

Under separate cover I am sending an additional set of WPB-2465.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

ELLSWORTH COUNCIL
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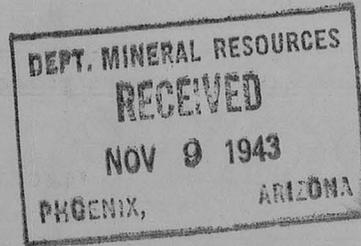
SALOME - WENDEN - VICKSBURG
YUMA COUNTY, ARIZONA

Salome, Arizona
Nov. 6, 1943

EXECUTIVE COMMITTEE

EDWIN W. MILLS
J. E. MATTESON
H. C. REEDALL
C. H. WATERS
VICKSBURG
WM. WILKINSON
WENDEN

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



Dear Sam:

I have been delayed in replying to your letter of Oct. 25th.

R. R. McDonald, Jr., is, I believe, associated with George Spry in the operation of the Yuma Copper Mine. I also believe that his postal address is Vicksburg, Arizona.

I was glad to meet Mr. Pratt, both on his way to the mine, and also on his return trip to Phoenix. I had an opportunity to have an interesting talk with him both times. I gathered the impression that he has gained a favorable impression of the mining setup at the Yuma Copper Mine. It would be great feather in someone's cap to get this property into successful operation.

You will be shocked to hear that Charlie Reedall was seriously injured in a motor car accident late Wednesday evening, Nov. 3rd, riding in a jeep from Wenden to Salome. Apparently the soldier driver was drunk and ran off the road just $1\frac{1}{2}$ miles east of Salome. Charlie is in the hospital at Blythe, California, and is given just an odd chance to pull through. I will keep you informed regarding him.

Did Mrs. Botzum succeed in getting Mr. Brady to agree to return my report and photographs? I would like to get them as soon as possible, as I wish to use them. I must also revoke the former permission granted to him to make a photostatic copy of the report. I am so sorry he has acted so queerly in this whole matter.

I appreciated receiving your letter of Oct. 18th with enclosure of the Form WPB-2465 (4 copies), and at your convenience I shall appreciate receiving an additional set.

Kind regards and all good wishes to both Charley and yourself.

Yours faithfully,

Edwin W. Mills

Sheep Tanks

July 31, 1943

Mr. Seth Brady
Room 405
811 West 7th Street
Los Angeles, California

Dear Seth:

I have just had a letter from Edwin W. Mills, Salome, which I quote as follows:

"I am perfectly willing to grant permission to Mr. Brady to have the report and the photographs copied or photostated, but I do wish to have both the report and the photographs returned to me as promptly as possible."

I hope you will heed this request and get the reports and photographs to Mills right away.

Mr. Mills has been in touch with the Bureau of Mines trying to get them to do some exploratory drilling at Sheep Tanks. However, he has some 3,000 or 4,000 assays from various parts of the mine which seem to determine the value and the size of the deposit.

Was glad to hear from you and to know that your affairs were at least partly settled up and hope that you can get some action on the Sheep Tanks.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

July 31, 1943

Mr. Edwin W. Mills
Salome, Arizona

Dear Ed:

Many thanks for your letters of July 29
and I will pass the word along to Mr. Brady that
you want the report and photographs as promptly
as possible.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP

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SALOME

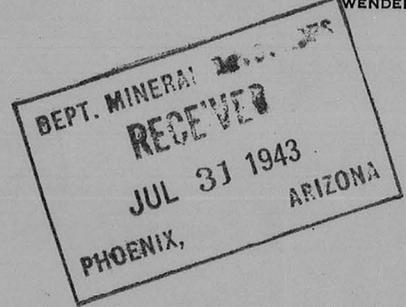
INCLUDING

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YUMA COUNTY, ARIZONA

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J. E. MATTESON
H. C. REEDALL
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VICKSBURG
WM. WILKINSON
WENDEN

Salome, Arizona
July 29, 1943



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

Dear Sam:

I was very glad to receive your good letter of July 26th which arrived here a few hours after I mailed a letter written to you yesterday.

Many thanks for the enclosures which I read with interest.

I am perfectly willing to grant permission to Mr. Brady to have the report and the photographs copied or photostated, but I do wish to have both the report and the photographs returned to me as promptly as possible.

There is a good chance that I may succeed in getting the Bureau of Mines to do some exploratory drilling at Sheep Tanks, and this is one reason why I wish to have the report and the photographs in my hands again as soon as possible.

I trust that I may have the pleasure of meeting Mr. Brady before long, as I would like to show him a few things at Sheep Tanks that are of well worthwhile interest.

With all good wishes to you, I am,

Yours faithfully,

Edwin W. Mills,
Chairman.

ELLSWORTH COUNCIL
ARIZONA SMALL MINE OPERATORS
ASSOCIATION

OFFICERS

EDWIN W. MILLS, CHAIRMAN
SALOME
J. E. MATTESON, VICE-CHAIRMAN
WENDEN
H. C. REEDALL, SEC.-TREAS.
SALOME

INCLUDING

SALOME - WENDEN - VICKSBURG
YUMA COUNTY, ARIZONA

Salome, Arizona
July 28, 1943

EXECUTIVE COMMITTEE

EDWIN W. MILLS
J. E. MATTESON
H. C. REEDALL
C. H. WATERS
VICKSBURG
WM. WILKINSON
WENDEN

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

Dear Sam:

Thank you for your good letter of July 26th, which I
am very glad to receive.

My thanks to both Mrs. Porter and to yourself for the
mailing of a new application blank to Mr. T. J. Rodgers of Wenden.

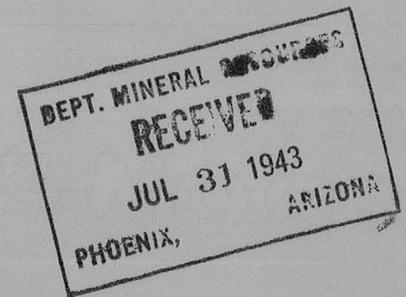
Also thank you for the address and position of Mr. Strobel
to whom I have written today concerning Mr. Rodgers having lost the
quota sent to him, and requesting that a duplicate copy of the same
be sent to Mr. Rodgers.

I do hope that you will be able to get some word from Mr.
Brady regarding the report and photographs.

With all good wishes to you, I am,

Yours faithfully,

Edwin W. Mills
Chairman.



July 26, 1943

Sheeptanks

Mr. Seth Brady
Room 405
811 West 7th Street
Los Angeles, California

Dear Seth:

Many thanks for your letter of July 24th. Your letter from San Francisco evidently went astray and I was a bit peeved at not receiving word from you.

I am writing Ed Mills and believe he will grant permission to have the data photostated or copied, provided you are seriously at work on the Sheeptanks proposal. The operation of Sheeptanks may present a few minor problems, but I believe it is worthy of your serious attention.

Good luck and best wishes. Don't forget to write and keep us posted.

Very truly yours

J. S. Coupañ, Director

JSC:ach
cc-Ed Mills

Saturday July twenty fourth.

Dear Sam -

San Francisco
811 W. 17th St. Cal.

I wrote to you from the El Cortez in San Francisco early in June, apologizing to you and Mr Mills for my slowness and as you have not received the letter you must think that I am absolutely gone -

Day to day upsets in winding up my personal affairs have nearly had me down - After ^{my} accepting a modest settlement in the San Francisco matter the lawyers started dog-fighting over the spoils and I had to have the money and notes turned over to a court to divide - I am finally to get four thousand - instead of twenty-four thousand - and will never get into a lawsuit again - If I get hooked or crooked - I will forget it and go on about my business - no more of these time wasting things.

Meanwhile I have sold some fee land in Montana that I have been in for some time and my oil things here - so at last I will be foot loose and liquid enough to handle a mining operation -

The metallurgy ^{business} worked out on manganese and the new type plants are very interesting. Mr Frank Geis of Metallurgical Lab. at 604 Mission St. San Francisco will give us a hand - And Al Hahn in the Balboa Bldg. S.F. is retained by all the big companies and in touch with the school men - By the way - I get my mail in S.F. at 604 Mission

There is private money available for a major mining operation - Mr Paul Wilder who formerly had Federal Securities and sold out to the Dawes Bank in Chicago some time ago is associated with me in some things and will come over to Arizona with me -

The reports and pictures of the Sheeg
Tanks mine are in the safe and I would
like to keep ~~them~~^{the present} or have your permission
to have them photostated or copied -

I will write you further Monday - I
received your letter and I wanted to
get in touch with you right now - there is
no stenographer available this afternoon -
I am having my eyes worked over for
glasses and as the doctor put some
clope in the this morning - my writing is
probably worse than usual.

With kindest personal regard and
I am awfully sorry that my clumsiness in
this matter has been embarrassing to you

J. S. Cooper Esq
Phoenix
Arizona -

Very truly

Seth Brady.

SHEEP TANKS MINE

YUMA COUNTY

KAP WR 8/22/86: A Mr. McFall of San Francisco requested information on possible gold heap leaching opportunities. He was particularly interested in the Sheep Tanks Mine (file), Yuma County. He contacted the BLM regarding the status of claims on the property and was told they were dropped due to lack of an assessment work affidavit. Since the land is within the Kofa Game Range and withdrawn no new claims could be located.

Do Not Reproduce

Conference with Hale Tognoni

Hale Tognoni reported no further activity has occurred since the last report. LAS Memo 4-9-65

John Brusco said that he and others once sampled the Sheep Tanks mine and tested 10,000 or so tons of tailings. These ran 6-7 oz. Ag, \$2 in gold, and 4% Mn. E. W. Mills, who once had it is reported to have mined \$125,000 in ore in 1932 and 1933 but to have spent much more. Conf. Salome LAS 10-12-65

Phoned the Sunrise Exploration Corporation. They were the reported owners and operators of the old Sheep Tanks Mine in the Kofa area in Yuma County. Sunrise had moved their offices back to New York City. GBG WR 11-2-68

NJN WR 5/6/83: Gabriel Heleday, 905 Fremont St., P.O. Box 301, Tombstone, AZ 85638, Phone 457-3362, visited. He is an exploration geologist working to identify the metal volcanic rock units in the area of the Sheep Tanks Mine, Yuma County, for an unidentified client.

RRB WR 1/27/84: Lance Hughson (card) a geologist is looking at the Sheep Tanks Mine, Yuma County.

Do Not Reproduce

According to Messrs. Manley Mills and Vonald G. Worden of Box 221, Beauer, Utah, they have a lease-option on the property from the widow of the lessee (Lippscomb). Mr. Lippscomb was killed in a car accident and his widow acquired a quit-claim deed to the property from the two maiden sisters of the deceased Edwin W. Mills. The deed covers the 14 and a fraction claims that have been surveyed for patenting and the six protecting claims only, the remaining claims in the original group supposedly being open for location since it is doubtful that Mr. Mills kept up the assessment work on them.
6-18-57

Dec'd 2-27-62

O.K. Gilliam et al leased from Mrs. Lippscomb then gave it up. Gilliam said there was about \$100,000 in gold and silver locked with manganese in a dump of about 15,000 tons.
FPK 10-30-57

20 claims

Present owners: Mrs. Faye Lippscomb
990 6th St., Yuma, Arizona

Fred B. Cross
990 6th Street
Yuma, Arizona

Everett Self
P.O. Bin J
Somerton, Arizona

The mine was worked up to 1935 by a Chicago outfit for gold. The ore deposit consisted of a rectangular horst, bordered on the four sides by normal faults. These faults were reported as being nearly vertical. Little gold ore was found outside of the rectangular block. Later Eddie Mills acquired the property for a time to work the manganese ores.
LAS 4-25-58

Mr. C. C. Gurtzmacher, Mr. C. H. Gurtzmacher, Glenn Mangels of Tucson and Mr. Self are the current owners of this property according to Mr. E. Phil Johnson of Desert Realty Co., 430 W. Main St., Mesa, Arizona. Mr. Johnson and Mr. Harold C. Larsen were in the office.
LP 6-26-63

Falconbridge Nickel Mines Ltd. (Canada) are supposed to have taken over this property.
LP 3-1965

Interview with Hale Tognoni - legal representative for owners - and Charles C. Grutzmacher

Hale Tognoni said that the owners had optioned the mine to R. Campbell, executive secretary, Falconbridge Nickel Mines Ltd. of Canada, but this option is not for Falconbridge. Campbell lives in Marion, Ohio, P.O. Box 241. The engineer in charge is Freeman Lomelino, 348 Via Goldrina, Tucson, Arizona.

Dec'd 2-1968

The owners include: Charles C. Grutzmacher
430 W. Main St.
Mesa, Arizona (964-1483) office
1434 N. Belair, Mesa - home

Everett Self
1622 4th Ave.
Yuma, Arizona (783-8801) office

Glenn Mangels
Mangels, Glenn Real Estate Exchange Corp.
4897 E. Speedway Blvd.
Tucson, Arizona (327-5901) office
6931 E. 3rd St., Tucson (298-5671)

According to Grutzmacher, Campbell et al are now beginning, or had begun an exploration program on a new gold area immediately east of the Sheep Tanks

Mine workings. Road conditions are very bad at present. Memo LAS 3-3-65

KING OF ARIZONA (F) YUMA

SHEEP TANKS MINE (F) YUMA

No. 54
by
Raymond Grant



Recently I found two theses of interest to Arizona mineral collectors. Both are M.S. theses, one by Noel Cousins from Arizona State University, and the other by David Hankins from San Diego State University. Both are about the occurrence of black calcite veins in Arizona. Hankins described black calcite veins from

the King of Arizona District in the Kofa Mountains, Yuma County and Cousins described similar veins from the Sheep Tanks District, Yuma County. Black calcite veins are familiar to anyone who has collected minerals in Arizona. There are many localities around the state which have black calcite present, especially many of the lead-silver veins. Because it is not usually very attractive, the black calcite is not of great interest to collectors. It has some interest to sadistic geology teachers who can fool students with it because they neglect to test it with a little HCl. But it is of greater interest to some exploration geologists because it can contain high metal values especially silver. These veins may have up to one percent silver and some gold, and the residue after dissolving away the calcite may have 1500 ounces of silver per ton (in Silver Bearing Calcite in Western United States, Economic Geology, vol. 62, pages 1 to 27, 1967). The black color and the silver content are due to the manganese oxide minerals present. The silver is probably to a large extent in the manganese oxide - aurorite which can have up to 7.5 percent silver.

In the two theses, the black calcite veins were dissolved and the residues were identified. Cousins (Cousins, N.B., 1972, Relationship of black calcite to gold and silver mineralization in the Sheep Tanks mining district, Yuma County, Arizona, MS Thesis Ariz. State Univ.) found the following minerals in the black calcite from the Sheep Tanks district: Sheep Tank mine (Booth Bonanza deposit) - hollandite (needles); Sheep Tank mine (Vein B) - chalcophanite (tabular crystals), psilomelane, and minor hollandite; Sheep Tank mine (Resolution vein) - pyrolusite and hollandite; and Oakland mine - nsutite as a porous aggregate. Hankins (Hankins, D., 1984, Geologic Setting of Precious Metals Mineralization, King of Arizona District, Kofa Mountains, Yuma County, Arizona, MS Thesis, San Diego State Univ.) found the following minerals in the King of Arizona district: the North Star vein - psilomelane and bixbyite; and six veins around the King of Arizona mine - vein 2 - bixbyite, todorokite, groutite, and manganite; vein 3 - todorokite, groutite, chalcophanite-aurorite (hard to determine which one of these it is by x-ray), and pyrolusite; vein 4 - torodokite; vein 5 - groutite and nsutite; vein 6 - torodokite; and vein 7 - groutite and chalcophanite-aurorite. While these minerals are not very attractive, they are of some economic importance and the micro-mounters if they haven't tried it, might dissolve some black calcite and see what they find.

STATUS OF DORMANT MINES

MINE NAME: Sheep Tanks

LOCATION: Ellsworth District

OWNER AND/OR LEASEE: Edwin W. Mills

ADDRESS: P.O. Box 637, Salome, Arizona

APPROXIMATE PRODUCTION (Year of 1945):

COPPER _____ Lbs. LEAD _____ Lbs.

ZINC _____ Lbs. (OTHER) _____

CHECK THE CHIEF CAUSE OF YOUR DISCONTINUED PRODUCTION:

- (A) Easily available ore worked out.
- (B) Increased costs, but have quantity similar to past grade of ore.
- (C) Too close a margin to develop more ore.
- (D) _____

If you have ore ready to mine please give your estimate of the amount of metal (name each metal) that you could produce in one year (after allowing 60 days to get started) if there were premiums above present market prices. Name amount with a low premium, and amount at a high premium; such as:

Copper at 22 $\frac{1}{2}$ ¢ plus 5¢ premium..... 1,000,000 Lbs.
Copper at 22 $\frac{1}{2}$ ¢ plus 10¢ premium..... 1,500,000 Lbs.

If you do not have ore ready to mine please discuss the following:

- (A) Do you think a reasonable development program would produce a justified tonnage of commercial ore at above mine?

- (B) With a premium price (guaranteed for one year) could you carry out such a development program yourself? What premium?

(C) If you could not do this yourself, would a quick drilling program by some government agency (at government expense) be sufficient?

(D) Or would you prefer a loan plan similar to the arrangements during World War II?

How about a combination plan in two stages such as follows?

✓ Stage 1: Government engineers review project and, if a little drilling appears to be justified and a preliminary key to the situation, such drilling program to be agreed upon by owner and government engineer, paid for by the government, but let by contract. *Yes.*

✓ Stage 2: If results of drilling (or without drilling) justify underground development and/or production equipment, same to be obtainable via a mortgage loan on property. *Yes*

Please discuss the above: _____

SUGGESTIONS:

DATE August 22, 1950

SIGNATURE Edwin H. Miller

BRIEF REPORT ON THE SHEEP TANKS MINE

GENERAL: The Sheep Tanks Mine is located in northern Yuma County, State of Arizona, Townships 1 North and 1 South, Range 15 West, Gila and Salt River Baseline and Meridian.

The present camp is due south of Vicksburg, a distance of 29 miles, or 27 miles due south of U. S. Highway 60. Vicksburg is a station on the Los Angeles-Phoenix branch of the Atchison, Topeka and Santa Fe Railway. Horn, a station on the Southern Pacific Railway, is about 36 miles southeasterly from the present mine camp. The mine road from Vicksburg and U. S. Highway 60 has no heavy grades and is in very good condition for motor transportation.

The mining claims are situated in the Little Horn mountains in the heart of the Arizona desert, and were originally twelve in number covering an area of approximately 197 acres. At the present time fourteen claims are submitted with this report; they cover an area of approximately 260 acres, and they have been surveyed for patent. An abstract of title may be obtained from the Yuma Title Abstract and Trust Company, Yuma, Arizona.

GEOLOGY: The immediate Sheep Tanks area is characterized by a series of Tertiary volcanic flows of andesite, rhyolite, breccia, tuffs, and intrusive rocks. A detailed description of the Sheep Tanks geological conditions, by Dr. Eldred D. Wilson, of the Arizona Bureau of Mines, is given in the University of Arizona Bulletin, Vol. IV, No. 2, February 15, 1933.

With reference to the Tertiary volcanic rocks, Dr. Wilson states: "Breccia - Unconformably overlying the rhyolite and diorite-porphry, and apparently in fault contact with the dacite, are irregular areas of breccia that outcrop as shown on Plate 16. Its maximum thickness is difficult to determine, but probably amounts to less than 200 feet. Throughout, this breccia is rather intensely silicified and stained by iron and manganese oxides. The basal portion consists largely of angular fragments of rhyolite, from small size to several inches in diameter, cemented by vuggy, fine-grained silica. Upward the fragments consist largely of shattered, locally silicified material of andesitic composition resembling the diorite-porphry. Whether this breccia, prior to its cementation, originated from fault movement or from volcanic activity has not been determined. It is the host-rock for the Sheep Tanks gold deposit."

ORE OCCURRENCE AND MINERALIZATION: The ore is greatly oxidized throughout and is highly siliceous and contains minute quantities of galena and oxidized lead minerals, copper and zinc, in addition to visible free gold, and much hematite and limonite. Pyrolusite is widely disseminated throughout the orebodies, and it has been found that a certain percentage of the silver content is combined with the manganese. This silver mineral has not yet been definitely determined. Inasmuch as the gold content is free and bright, it is readily amenable to treatment by amalgamation and cyanidation.

Reports made upon the original group of twelve mining claims by Messrs. Ira B. Joralemon and Oscar H. Hershey indicated a wide-spread mineralization over an area of not less than a total of 2,500,000 square feet. The thickness of this mineralization was estimated to vary from a few feet to forty feet. (At the time of the report made by Mr. Joralemon a total of only 700 feet of development work had been made.) At the present time, due to a greatly amplified program of development work, over 8,000 lineal feet, it may be safely stated that the areas of mineralization now exceed 5,000,000 square feet.

HISTORY: The first location at Sheep Tanks was on January 1, 1909, by J. G. Wetterhall, upon the present Resolution claims. Very little development work was done, however, until 1927. During 1929 shipments of a total of 801 tons were made to the Hayden smelter with a total gold-silver value of \$54,508.05 (at current quotations), with an average gold-content of 1.627 oz., and 15.63 oz. of silver per ton, or an average gold-silver value of \$68.05 per ton.

In 1931 the Anozira Mining and Milling Company, which later became The Sheeptanks Consolidated Mines Company, purchased the twelve original mining claims. During 1931 and 1932 a considerable amount of prospecting and development work was done and the mining area considerably extended.

Sufficient milling ore having been developed, a pilot mill of 100 tons daily capacity was erected and placed in operation in the autumn of 1933. In September, 1933, while this mill was being erected, ore shipments of a total of 120.93 tons were made to the El Paso smelter; this ore averaged \$50.28 per ton (at current quotations), with an average gold content of 1.1665 oz., and 13.306 oz. of silver per ton, or a gross total gold-silver value of \$6,080.36.

The milling plant operated for only a few days in November, 1933, as the Directors of the Sheeptanks Consolidated Mines Company decided that certain changes should be made in the original flow-sheet. Milling operations were resumed on February 1, 1934, and continued until August 20, 1934, when the plant was closed down. During this period of about seven months a total of 15,167 tons was mined and milled from the upper Resolution Tunnel ore body, with a total gold-silver recovery of approximately \$180,000.00.

The mining company went into voluntary liquidation during 1935, and Edwin W. Mills came into possession of all the mining claims and four millsites on July 1, 1936. Since that date additional prospecting and sampling have been carried on. During the month of October, 1936, fifty samples were taken to check the values of the stope faces which were left after the cessation of milling operations. The assay results showed 0.305 oz. in gold and 6.59 oz. in silver per ton, or \$10.66 in gold, \$4.68 in silver, a total of \$15.34 per ton at current quotations.

During the period of from April to July, 1939, ore shipments of 507.87 tons total were made from the stopes which had been mined during 1934; this ore had a total gold-silver value of \$11,026.36 with an average gold-content of 0.491 oz., or \$17.19, and 6.844 oz. of silver, or \$4.52 per ton, or an average gold-silver value of \$21.71 per ton.

During the months of March, April and May, 1940, ore shipments were made from certain dumps and easily worked ground in order to ascertain the net returns from low-grade ores shipped to the Hayden smelter; 776.018 dry tons were shipped with a total gold-silver value of \$7,437.35 with an average gold content of 0.1885 oz. and 4.198 oz. silver per ton, or \$6.60 in gold and \$2.98 in silver, a total of \$9.58 per ton.

Further ore shipments have not been made as it is the intention to resume milling operations as soon as possible.

With reference to milling operations during 1934, the following is of interest: (from U. S. Bureau of Mines):

Gold, Silver, Copper, Lead and Zinc in Arizona
MINERALS YEARBOOK, 1935 - STATISTICAL APPENDIX
YUMA COUNTY

p 240

"Kofa District - The 100-ton mill on the property of the Sheeptanks Consolidated Mines Company operated from February 1 to August 20, 1934, and treated 15,167 tons of gold ore by cyanidation; during this time the property became a large producer of gold."

ORE ESTIMATES: It is estimated that there is available at the present time a total of 120,000 tons of ore in the upper Resolution Hill area with an average gold content of 0.26 oz., or \$9.10 per ton, and an average silver content of 4.50 oz., or \$3.19 per ton, or a gold-silver value of \$12.29 per ton, with a total gross gold-silver value of better than \$1,470,000.00.

In addition it is estimated that not less than 600,000 tons have been partially developed with a gold-silver value of approximately \$8.00 per ton, say 0.15 oz. of gold and 4.00 oz. of silver per ton, or a gross total gold-silver value of not less than \$4,800,000.00. Thus a gross total of not less than 720,000 tons of ore may be estimated as available above the Main Tunnel Level in the Resolution Hill area with an estimated gold-silver value of more than \$6,200,000.00 or better than \$8.00 per ton in gold-silver values.

From the information gained by prospecting, exploration and development work within the boundaries of the areas of mineralization of these fourteen (14) mining claims it is possible to estimate a total of from 12,500,000 to 15,000,000 tons of ore which may be developed within these mineralized areas, with an average gold-silver value of not less than \$4.00 per ton, at current quotations. The potential possible ore tonnage is of considerable magnitude.

TAILINGS AND ORE DUMPS: The tailings dump of some 15,000 tons was stacked by conveyor belts and consequently is readily accessible for further metallurgical treatment. A considerable number of samples from this dump has given assay results of from 0.06 to 0.17 oz. of gold, that is, from \$2.10 to \$5.95 per ton, with an average silver content of 6.3 oz., or \$4.48 per ton, or a total gold-silver value ranging from \$6.58 to \$10.43 per ton. Thus, the total gold-silver value of the tailings dump may be estimated at from \$90,000.00 to \$150,000.00.

There are five ore dumps with an aggregate total of around 10,000 tons with an estimated gold-silver value of not less than \$6.00 per ton.

MANGANESE: Manganese dioxide, in the form of pyrolusite, is widely disseminated throughout the entire Sheep Tanks area. Bodies of this mineral have been found with a manganese content ranging as high as eighteen (18) per cent. Based upon results from many assays and analyses, it is estimated that an average manganese content of not less than four (4) per cent can be maintained throughout the entire mineralized areas. This being the case, the manganese can be recovered as a commercial by product instead of going to the tailings dump or pond as waste material.

From a number of various metallurgical tests which have been made it has been determined that the recovery of this manganese content will add from \$12.00 to \$25.00 to the gross value of every ton of ore mined and milled, based upon the utilization of this manganese content in the production of crude manganese sulphate, or manganese sinter, or artificial manganese oxide, or electrolytic manganese, or in the manufacture of manganese compounds and alloys.

Inasmuch as no mining nor milling costs are directly chargeable to the recovery of the manganese, it is quite evident that the recovery of the same can be made at a low cost, with resultant low production costs in producing manganese sulphate, manganese sinter, artificial manganese oxide, electrolytic manganese, or in the manufacture of manganese compounds and alloys.

A two-ton sample of the tailings dump was tested at the Salt Lake City Station of the Bureau of Mines, and an analysis showed a manganese content of 5.3 per cent. A later ore sample from Sheep Tanks showed a manganese content of 6.3 per cent.

Previous tests made at the Reno Experimental Station of the Bureau of Mines indicated that the Sheep Tanks ore was more suited to the electrolytic process for the deposition of metallic manganese from sulphate solutions. Now that this electrolytic process has been duly perfected it is a natural consequence to expect that this process will soon play an important part in the production of electrolytic manganese from the manganese content of the Sheep Tanks ores.

Tests are now in progress at the Salt Lake City Station of the Bureau of Mines for this purpose, and it is expected that the final results will soon be available.

Not only will the recovery of the manganese yield profitable and vitally necessary by-products, but the percentage of recovery of the silver content of the ore will be greatly increased. Now is an opportune time for an all-out development of the Sheep Tanks property to aid very definitely in building up an important source of supply of manganese in various forms so necessary for the successful furtherance of the present national defense program as related to strategic minerals and metals.

OTHER CONSTITUENTS OF SHEEP TANKS ORES: A spectrographic analysis of a representative ore sample indicated the presence of commercial quantities of hematite and limonite, and also alumina, chromium and other elements which further experimental and research work will show that they can be duly recovered as commercial by-products, thus providing additional sources of revenue from the ores mined and milled.

OPERATING COSTS: Inasmuch as practically all of the tonnages of ore indicated under ORE ESTIMATES can be mined without any hoisting, pumping or timbering operations, it follows that low mining costs may be obtained. The topography of the mineralized areas previously mentioned is such that mining operations may be carried on by means of power shovels with resultant cheap mining costs. As there is practically no overburden no stripping operations are necessary.

Upon a basis of a milling plant of a daily capacity of 1200 tons it is estimated that total mining costs may range from \$0.30 to \$0.50 per ton.

It is estimated that milling operations, based upon the foregoing tonnage, will range from \$0.50 to \$0.70 per ton milled, depending upon the plan of flow-sheet followed.

It has been estimated that total mining and milling costs will not exceed \$1.20 per ton, based upon a daily operation of 1200 tons.

It is expected that the results of the tests now being carried on at the Salt Lake City Station of the Bureau of Mines will aid materially at the determination of operating costs for the production of the various manganese by products previously mentioned in this report.

WATER AND POWER: Thus far sufficient water has been developed only for the operation of a milling plant with a daily capacity of 100 tons, by means of four shallow wells about 7500 feet southerly from the present mine camp.

However, there are strong and favorable indications to warrant the belief that a large supply of water can be developed by wells to be drilled within a short distance to the northward of the present mine camp, and readily accessible from the present mine road leading to U. S. Highway 60.

For large scale mining and milling operations it will be possible to obtain low-cost electrical power from transmission lines leading from the Parker Dam on the Colorado River to the Gila Project. This branch power line will be approximately 25 miles in length, and it can be constructed at a reasonable cost.

CONCLUSIONS: A large tonnage of ore is immediately available for mining and milling operations on a comparatively large scale with attendant low operating costs.

Instead of the Sheep Tanks property being classed as a gold-silver-manganese property, it is now, owing to the national importance of manganese, very definitely a manganese-gold-silver property, with the manganese content of considerable greater value than the silver-gold content of the ores.

The climatic conditions are very good and permit of year-round operations. The mining property is readily accessible by a good mine road connecting with U. S. Highway 60, and good transportation facilities are afforded by both highway and railway.

Sufficient water and power can be made available for all requirements.

The Sheep Tanks property is a mining venture of unusual merit and possibilities, and offers the definite prospect of becoming a large producer of manganese products.

Respectfully submitted,

Edwin Walter Mills
Consulting Mining Engineer

Sheep Tanks Mines,
Yuma County, Arizona
April 15, 1942

11526
08
DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date November 15, 1939

Mine Sheep Tanks

District Alamo-Kofa, Northern Yuma County

Location Townships 1 North and 1 South
Range 15 West, Gila and Salt River Meridian
28 miles south of Vicksburg, Ariz.

Former name

Owner Edwin Walter Mills

Address Salome, Arizona

Operator Edwin Walter Mills

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Gold, silver and manganese

Men Employed

Production Rate Proposed: 1200 tons every 24 hours Mill: Type & Cap.

Power: Amt. & Type Diesel and/or electric

Operations: Present. Sampling and experimental metallurgical work

Operations Planned Mining and milling on a scale commensurate with the available tonnage.

Number Claims, Title, etc. Six groups constituting a total of 63 claims: of these
14 have been surveyed for patent.
Abstract of title may be obtained from Yuma Title Abstract and
Trust Company, Yuma, Arizona.

Description: Topog. & Geog. At the eastern end of the Little Horn Mountains; typical
desert Tertiary hills, with steep slopes and narrow arroyos.
Scant vegetation and country easily prospected.

Mine Workings: Amt. & Condition

Geology & Mineralization The immediate Sheep Tanks area is characterized by a series of Tertiary volcanic flows of andesite, rhyolite, breccias, tuffs and intrusive rocks. Ore is highly siliceous and highly oxidized; gold, silver and manganese.

Ore: Positive & Probable, Ore Dumps, Tailings	120,000 tons, gold-silver value of \$12.00 per ton
	600,000 " " " " " " 6.00 " "
Ore Dumps:	12,000 " " " " " " 5.00 " "
Tailings:	15,000 " " " " " " 6.00 " "
Potential Ore:	10,000,000 " " " " " " 5.00 " "

Mine, Mill Equipment & Flow Sheet 800 feet of 12-lb. track; four 16-cu.ft. ore cars. No mill equipment available at present. Amalgamation and cyanidation.

Road Conditions, Route Good dirt road, no heavy grades, suitable for motor transportation, 26 miles due south from U.S. Highway 60.

Water Supply From four shallow wells (151' to 270' in depth), 8000 feet south of present camp, sufficient water for 80-100 tons every 24 hours. An ample supply of water can be developed within a reasonable distance of the mine along the road leading to Vicksburg, Arizona.

Brief History First location on January 1, 1909. No active work until 1928-1929 when some 800 tons of high-grade ore were shipped; other ore shipments made during 1933; during period of seven months in 1934 some 15,167 tons were milled with an average gold-silver value of better than \$20.00 per ton. Company voluntarily liquidated in 1935. 507 tons of good ore shipped during April-July, 1939.

Special Problems, Reports Filed To insure good silver recovery, manganese content should be leached by SO₂, or otherwise treated, before cyanidation of gold and silver content. Favorable reports by Ira N. Joralemon and Oscar H. Hershey, and other engineers. Also available are various mine maps, and assay plats.

Remarks Low mining costs may be obtained, as mining operations can be carried on with no charges for hoisting, pumping or timbering. Climatic conditions permit of year-round mining operations. An ore tonnage of milling ore of considerable magnitude is assured.

If property for sale: Price, terms and address to negotiate. Sampling and ore-testing option from 60 to 90 days at rate of \$10.00 per day. Lease for 30 years on royalty basis, as follows:

Mint returns, gold-silver up to \$10 per ton	-	10 per cent
" " " " \$10 to \$15 per ton	-	12½ per cent
" " " " over \$15.00 per ton	-	15 per cent
Net returns on manganese recovered and sold	-	10 per cent

Edwin Walter Mills, Salome, Arizona

Signed.....Edwin Walter Mills.....

Use additional sheets if necessary.