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06/23/93

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: SHATTUCK MINE

ALTERNATE NAMES:

COCHISE COUNTY MILS NUMBER: 527

LOCATION: TOWNSHIP 23 S RANGE 24 E SECTION 17 QUARTER E2
LATITUDE: N 31DEG 25MIN 57SEC LONGITUDE: W 109DEG 55MIN 14SEC
TOPO MAP NAME: BISBEE - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

COPPER OXIDE
LEAD
ZINC
GOLD LODE
SILVER
VANADIUM
MANGANESE

BIBLIOGRAPHY:

KEITH, S.B., 1973, AZBM BULL. 187, P. 89
MINERALOGICAL RECORD, "BISBEE" ISSUE,
ARIZONA III, P. 277, SEPT.-OCT. 1981
ADMMR SHATTUCK MINE FILE
ANTHONY, J.W, ET AL MINERALOGY OF AZ P 20, 41
92

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine

Date Sept. 30th, 1943

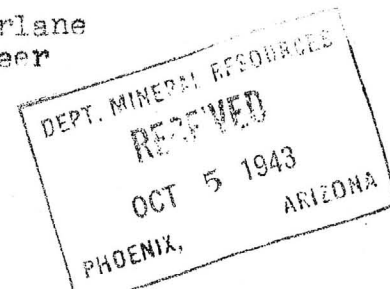
District

Engineer A. Macfarlane
Field Engineer

Subject:

Old Shattuck Mine

Mr James S. Maffeo Lessee
Bisbee, Arizona.



Shattuck Mine, Eight Level: On September 17th, 1943, I made a brief examination of this level, as on which the lessee has conducted an active mining operation covering the past two years more or less.

The purpose of this examination, was to determine the availability of larger bodies of copper ores which old maps of the former operating Company, indicated were left, both above the ceiling of the 8th, level and continuing downwards towards the 9th, level.

Also to estimate the tonnage and grade of said ores and the costs attendant in mining and marketing same, under present costs and conditions.

To further estimate the probable extent of ores being won from the present stone heads: I was aided in this work by an old mine foreman and the Supt. of the present lessee, both these gentlemen knew their way into the extensive and intricate old workings and more recent drifts and stones.

Mine Equipment: Before consideration of other phases, it is noted that this mine is well equipped with all needed mining machinery capable of hoisting several hundred tons per day, from the 8th, level; the ores are trammed about 300' northerly from shaft collar, to extensive ore bins installed just below the shaft surface and an aerial tramway, transports the ores to gondolas on rail siding about 1/2 mile distant and several hundred feet lower.

Installed in the back of the 8th, level is an air hoist, used in raising the ores from the present working stone below the 8th, level.

Electric power is used as motive for the surface plant when required.

Mine Location: A high bold ridge extending in an easterly direction from the crest of Mule Mountain for several miles, ~~for~~ forms the southern barrier of Tombstone Canyon. Chihuahua hill an almost equally long bold hill, of Igneous rock structures forms the northern rampart of the canyon.

An air line distance of nearly three miles from the northern hill crest to the southern and within these ridge limits, are located the extensive mines of Bisbee and

OLD SHATTUCK MINE

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the town of Bisbee.

Canyon like incisions bite into the southern limestone hill and high up on the north slope of the ridge, at the head of one of these side canyons, is located the Old Shattuck mine.

Road: From the village of Johnston, which is the eastern limits of Bisbee, graded roads are made to the various mines lying south of the village and the continuation and terminus of one of these roads, reach the Shattuck main shaft.

Mine Workings ; Of import herein are, the main shaft in working order to the 8th, level and lower, and a main cross-cut with a general course of north 15 degrees west a distance of about 1,500 linear feet from the main shaft.

At a distance of about 1100' from shaft, this cross-cut reached into a mineralization, well north of the former mined areas, and here a drift has been advanced for 300' on this mineralization also a winze sunk to near the 850' level and a sub-level and stopes are being carried forward on this ore body.

Hereafter referring to this part of the mine, as 850' level North, it has been from this working, that a large portion of the ores as shipped during the past two years, have been mined by the present Lessee.

This area of the mine may yet be extended and an important tonnage of copper be produced; the general strike of these ores are from south towards the north and are dipping flatly towards the east.

Eight Level; Eastern Stopes are found both above and below the level in an area beginning about 200' east of the shaft and continuing a distance of nearly 700' further, and in this eastern strike, there are several square set stopes, showing that ore bodies of magnitude have been mined.

At the eastern end of this drift, an ore body with a course of south to north was found and a drift extended on this northerly course, for 150'.

At some past time, stoping for the higher grade ores has been done, but much ore is now visible in pillars and un-mined bodies, however the present visible ores of this locality will not average more than 3% copper. Samples taken here vary from 1 1/2% to 6% in liberal mining widths.

Ore Tonnage ; Available in the back and below the floor of the 800' level North stopes, I estimate a block of ground 300' by 75' by an average width of 6' containing about 2,000 tons, less 50% for ground within this block already mined, 4,500 tons reasonably measurable. The probable ores in this area are larger.

OLD SHATTUCK MINE

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Ore Tonnage; Eastern Stopes above referred to , comprehends a block of ground about 500' along a northeasterly course by a depth of 75' and a mining width of approximately 8', this area should yeild about 20,000 tons.

There are many other development drifts and cross-cuts, radiating from the shaft on this level, and some of these workings still contain commercial grades and quantity of copper, but the above stated Right Level North Stope and the Northeast stopes containing and estimated tonnage of about 25,000 tons, most of which is available, without major preparation cost; seems to be the paramount consideration now.

Copper Content; The estimated tonnage of ore as given above, I beleive from inspection and some channeled mine samples taken, will contain about 70% cooper per ton.

The ores now being mined from the North Stope are from the best bands of the mineralization; the car samples at smelter assaying 4% to 6% Cu. however the quantity of this present shipping grade is small, the monthly output of a total crew of 9 men is about 360 tons each 24 days, or about 1 1/4 tons per miner shift.

The price of copper of course has a direct influence on the tonnage per man shift: as in order to obtain 1 ton of 5% generally 2 tons of 3% has to be rejected, as at 14.5 cts per pound, ores of a grade under 4% do not pay the cost of production.

At a price of about 20cts. per pound the 3% ores would at least pay their costs of production and when mixed with some richer ores, making an average of 4 % or 4 1/2% in all would make an output much larger in copper recovered, from the same bodies of the crude ores.

In order that the Operator receives a price of 20 cts, per pound, the price would have to be about 23 cts, New York.

The following tabulation is representative of the available ores in the areas above described.

Date	Gold Oz.	Silver Oz	Copper %	
9/17/43	0.02	0.4	0.10	Hanging wall north stope
"	0.08	0.5	0.10	Face cross-cut " "
"	0.005	0.4	4.0	North face 850' stope
"	0.01	0.4	3.8	South face " "
"	0.005	0.7	3.4	" " " "
"	0.005	0.8	4.0	North Stope South face
"	0.005	0.6	2.7	Eastern Stope back
"	.005	0.8	5.3	" " face of stop

OLD SHATTUCK MINE

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Assays continued;

Date	Gold Ozs.	Silver Ozs.	Copper %	
9/17/43	.005	0.6	1.7	North 8th Lev. stope
"	.005	0.7	2.8	" " " Car S.
"	.05	0.7	4.6	" " " " "
"	.005	0.8	5.1	" " " " "
"	.005	0.9	4.7	" " " " "
"	.015	0.4	4.7	" " " Face
"	.02	1.6	4.6	East Stopes large pillar
"	.04	1.6	4.0	" " " " "
"	.005	0.4	4.3	North 8th Lev. stope
"	.005	0.34	2.9	East stope face S'
"	.005	0.25	6.0	" " above drift back
"	.02	0.3	3.5	" " " " "

The above are copies of the original certificates.

<u>Operating Costs</u> ; Per ton ore now shipped to smelter	
Winers, muckers and hoistman	\$ 6.50
Explosives	.50
Haulage	1.25
Power	1.00
Social S. Ins. Taxes, accounting	1.00
Exploration limited,	1.50
Total direct mining costs	<u>11.75</u>

Outcome ; Assuming an average grade of 3.5% which is very close to the actual copper content of these available ores, the per ton actual value to the Producer is.

Smelter pays for 60% at .0961	\$5.76 less smelting & fr.	5.76
freight of \$16.00 plus 3.00 treatment, in all deductions		<u>4.65</u>
Net Smelter returns		1.11

A Premium 97% of 70% or for 67.9% at 5cts.	<u>3.39</u>
Total value of 3.5% copper to Producer	4.50

Although by selecting the better grade ores a higher per ton return is obtained, the quantity is much reduced and but little development or exploration is possible, except at a considerable loss to the producer.

The costs given above are based on the tonnage shipped during the past two years, the grade of the selected ores being around 5%. This grade of ore in quantity, is not now reflected in the visible ore supply, and lower grade ores are required to be marketed, in order to continue the operation.

A price F.O.B. eastern seaboard of about 24 or 25 cts. is required, to insure a larger supply of copper from the Old Shattuck mine.

SHATTUCK MINE

COCHISE COUNTY

ABM Bull. 125 p. 78

USBM "U" file

A. L. Flagg vanadium reports - Book III
Book VIII

Ariz. Mng. Journal, May, 1918, p. 15;
Sept., 1918, p. 20

SMR 9/1/73, p. 21

" 9/14/74, p. 30 (re: Brown Co. acquiring Shattuck Denn Mining Co. in 1973)

Minerology of Arizona p. 20

See: Mineralogical Record, "Bisbee" issue, ARIZONA-III, Pg. 277, Sept.-Oct. 1981

SHATTUCK MINE

Cu

Cochise

2 - 5

T 23 S, R 4 E

'43

SHATTUCK-DENN

Cu

Cochise

2 - 5

T 23 S, R 24 E

Shattuck Denn Mng. Corp., J. A. Wilcox, Bisbee

'45

70·60·50 YEARS AGO

from issues of Skillings' Mining Review Dec. 11, 1982

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine OLD SHATTUCK MINE

Date September 30, 1943

District

Engineer A. Macfarlane
Field Engineer

Subject: Mine examination

Mr. James S. Maffeo, Lessee
Bisbee, Arizona

Shattuck Mine, Eight Level: on September 17th, 1943, I made a brief examination of this level, as on which the Lessee has conducted an active mining operation covering the past two years more or less.

The purpose of this examination, was to determine the availability of larger bodies of copper ores which old maps of the former operating Company, indicated were left, both above the ceiling of the 8th, level and continuing downwards towards the 9th level.

Also to estimate the tonnage and grade of said ores and the costs attendant in mining and marketing same, under present costs and conditions.

To further estimate the probable extent of ores being won from the present stope heads; I was aided in this work by an old mine foreman and the superintendent of the present lessee, both these gentlemen knew their way into the extensive and intricate old workings and more recent drifts and stopes.

MINE EQUIPMENT:

Before consideration of other phases, it is noted that this mine is well equipped with all needed mining machinery capable of hoisting several hundred tons per day from the 8th level; the ores are trammed about 300' northerly from shaft collar, to extensive ore bins installed just below the shaft surface and an aerial tramway, transports the ores to gondolas on rail siding about 1/2 mile distant and several hundred feet lower.

Installed in the back of the 8th level is an air hoist used in raising the ores from the present working stope below the 8th level.

Electric power is used as motive for the surface plant when required.

MINE LOCATION:

A high bold ridge extending in an easterly direction from the crest of Mule mountain for several miles, forms the southern barrier of Tombstone Canyon. Chihuahua Hill, an almost equally long bold hill, of igneous rock structures, forms the northerly rampart of the canyon.

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Canyon-like incisions bite into the southern limestone hill and high up on the north slope of the ridge, at the head of one of these side canyons, is located the Old Shattuck Mine.

ROAD:

From the village of Johnston, which is the eastern limits of Bisbee, graded roads are made

to the various mines lying south of the village and the continuation and terminus of one of these roads, reach the Shattuck main shaft.

MINE WORKINGS:

Of import herein are, the main shaft in working order to the 8th level and lower, and a main cross-cut with a general course of north 15 degrees west a distance of about 1,500 linear feet from the main shaft.

At a distance of about 1100' from shaft, this cross-cut reached into a mineralization, well north of the former mined areas and here a drift has been advanced for 300' on this mineralization also a winze sunk to near the 850' level and a sub-level and stopes are being carried forward on this ore body.

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EIGHT LEVEL:

Eastern stopes are found both above and below the level in an area beginning about 200' east of the shaft and continuing a distance of nearly 700' further and in this eastern strike, there are several square set stopes, showing that ore bodies of magnitude have been mined.

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ORE TONNAGE:

Available in the back and below the floor of the 800' level north stopes, I estimate a block of ground 300' by 75' by an average width of 6' containing about 9,000 tons, less 50% for ground within this block already mined, 4,500 tons reasonably measurable. The probable ores in this area are larger.

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preparation cost; seems to be the paramount consideration now.

COPPER CONTENT:

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	0.005	0.4	4.0 North face 850' stope
	0.01	0.4	3.8 South face " "
	0.005	0.7	3.4 South face 850' stope
	0.005	0.8	4.0 North stope south face
	0.005	0.6	2.7 Eastern Stope back
	0.005	0.8	5.3 Eastern Stope face of stope
	0.005	0.6	1.7 North 8th Level stope
	0.005	0.7	2.8 North 8th Level Car S.
	0.05	0.7	4.6 North 8th Level Car S.
	0.005	0.8	5.1 North 8th Level Car S.
	0.005	0.9	4.7 North 8th Level Car S.
	0.015	0.4	4.7 North 8th Level Face
	0.02	1.6	4.6 East stopes large pillar
	0.04	1.6	4.0 East Stopes large pillar
	0.005	0.4	4.3 North 8th Level stope
	0.005	0.34	2.9 East Stope face 8'
	0.005	0.25	6.0 East Stope above drift back
	0.02	0.3	3.5 East stope above drift back

The above are copies of the original certificates.

OPERATING COSTS: Per ton now shipped to smelter

Miners, muckers and hoistman
Explosives

\$ 6.50
.50

Haulage	\$1.25
Power	1.00
Social Security, Taxes, Accounting	1.00
Exploration limited,	<u>1.50</u>
Total Direct Mining Costs	11. 75

OUTCOME:

Assuming an average grade of 3.5% which is very close to the actual copper content of these available ores, the per ton actual value to the Producer is:

Smelter pays for 60# at .061 \$5.76 less smelting and freight of \$1.65 plus \$3.00 treatment, in all deduction	5.76 <u>4.65</u>
Net smelter returns	1.11
A premium 97% of 70# or for 67.9# at 5 cts.	<u>3.39</u>
Total value of 3.5% copper to producer	4.50

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A price F. O. B. eastern seaboard of about 24 or 25 cts. is required to insure a larger supply of copper from the Old Shattuck Mine.

QUESTIONNAIRE

Relating to survey of potential copper production from Arizona small and marginal mines for national defense purposes;

Name of mining property.... Shattuck Shaft.....

Location..... Bisbee, Arizona.....

Ownership..... Shattuck Denn Mining Corporation.....

Name of Manager..... Leased to J. S. Maffeo.....

Post Office address..... Bisbee, Arizona.....

Copper production (pounds) during each of the past five years:

1936..... 1937..... 1938.....

1939..... 1940.....

1941 rate of copper production based upon first four months.....

How much copper could this property produce annually

on a 14 cent price? 150,000 lbs......

on a 16 cent price? 500,000 lbs......

on an 18 cent price?.....

on a 20 cent price?.....

What price copper is necessary for this property? 16..... cents per pound?

What plant facilities would be required and how much is the estimated cost in the event a 14 cent price could be assured? Hardly worth starting......

a 16 cent price could be assured? All facilities available at plant. No.....
..... cost to get started......

18 cent price?

20 cent price?

For what length of time would assurance of price and sale of full production be necessary? 1 year......

(Over)

How long would it take, after financing has been provided for, before production on the above basis could be reached?Immediately.....

Does your organization have the facilities for raising the necessary capital to increase production to the amount stated?Yes.....

If not, do you believe that your company would be amenable and agreeable to government financing?

Do you believe that you could finance the capital investment yourself on some such basis as a guarantee of sale of output at a fixed price and for a definite period, with damages to cover unamortized portion of capital investment in the event the government failed to take the output for the agreed upon time - or some similar arrangement?

Please let us have your comments on the probability or possibility of your organization participating in such a program for national defense purposes

.....We will mine when price is high enough to make a profit......

.....

.....

.....

What would be your ideas on financing and carrying out such a plan as is indicated by these questions?.....

.....

.....

.....

.....

Kindly list names and addresses of other potential copper producers in Arizona whose operations should be included within this survey.....

.....

.....

.....

.....

.....

Date 6-18-41 Signed..... J.A. Wilcox - Sept

ARIZONA DEPARTMENT OF MINERAL RESOURCES

Capitol Building, Phoenix, Arizona

Name of property. SHATTUCK MINE

Lease on Shattuck Shaft.

Location and accessibility of property.

Shattuck shaft of Shattuck Denn Mining Corporation accessible by truck.

Ore transported to R.R. by cable tramway.

History of ownership.

Mine has not operated on production basis for several years.

Exploration work just being completed.

Production history.

General geology (brief)

Ore occurrence.

Replacement ore in Abrigo limestone.

Ore reserve (quantities and values).

Probably 3000 tons of 3-5% Copper Sulphides.

Accessory metals of value.

Small gold and silver values.

Development work done.

Many feet of drifting done. Ore body ready to mine when price is high enough.

Plants (with capacity) already on property.

Plant equipped.

Date

6-18-41

Signed

J. A. Wilson - Supt.

Shattuck Sh. - Level

ORE RESERVES

Positive ore:
Probable ore:

Tonn
3,000

Copper %
3.5

Copper, lbs.
210,000

Year	Tonn	Pb, %	COPPER PRODUCTION PERCENT		Cu, %	Cu, lbs
			Ag, ozs	Au, ozs		

PRODUCTION POSSIBILITIES

144	100	100	200
156,000	3,000		

CAPITAL INVESTMENT REQUIRED

144	100	100	200
-----	-----	-----	-----

"all facilities work at plant. No cost
to get started."

THE REQUIRED TO START PRODUCTION

144	100	100	200
-----	-----	-----	-----

Shattuck Sh.

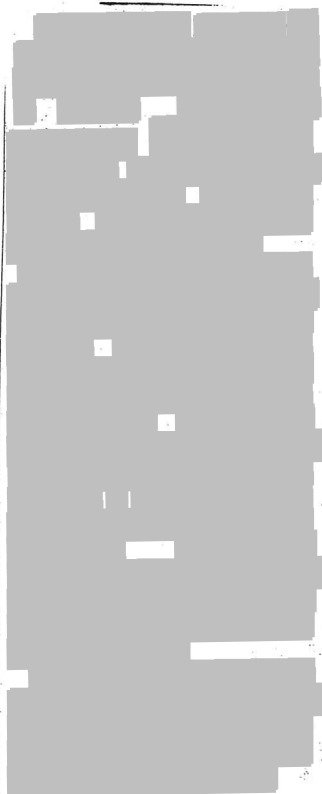
REMARKS:

This is a preliminary report
on Shattuck Sh.

SHATTUCK MINE

COCHISE

A Canadian group (Cutlass) is exploring the DeSoto group of claims. They are optimistic and have optioned the Shattuck-Denn mill. JHJ telephone conversation with Jack Pierce 3/27/74.



Bisbee Review
3/20/75



May 22, 1943

MEMORANDUM

Shattuck-Denn Schedule

MAY 24 1943

PHOEN

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

Joe Wilcox informed me that the company is preparing a simplified and more attractive schedule. It is being printed now, and I have asked him to send in a copy. The company is very much interested in picking up some more custom work, and has some good suggestions on stockpiling. I suggested that he convey them to CFW which he promised to do.

Their new schedule includes no deduction of ore, but embraces a sliding scale of deductions from net assay, according to the volume and uniformity of ore with consideration to amenability for treatment. For instance, the customary deduction of 20% of assay value has been reduced to 10% in the case of Lewis and Skinner, who are furnishing a good grade of ore. In this manner, the producer of good ore will not be penalized to carry the lean stuff. On the less flexible schedule, for instance, Humphrey of Pride o' the West, has been up against a tough schedule from Callahan, and might conceivably, ship to Denn despite ~~the~~ the extra dollar or so for transportation.

The company seems to be inclined to cooperate with the department and CFW, especially in regard to stockpiling of complex ores, or low grade coppers in volume.

George A. Ballan

December 6, 1943

Mr. J. A. Wilcox, Supt.
Shattuck Denn Mining Corp.
Bisbee, Arizona

Dear Mr. Wilcox:

Some time ago you informed me that you were preparing a revised custom ore schedule. Frequently we are asked to make estimates of production and milling costs in preparing R.F.C. or other government aid applications, and would like some approximate figures to serve as a general guide for our information only.

Will you kindly assist us in this matter?

Yours very truly,

George A. Ballam
Assistant to the Director

GAB:LF

SHATTUCK MINE

COCHISE

William Epler of Pay Dirt called regarding PD purchase of the old Shattuck mine from Shattuck Denn Mining Company. This property is located near the Cole shaft.
GWI WR 10/11/73

June 14, 1941

Mr. J. A. Wilcox
Shattuck Denn Mining Corporation
Bisbee, Arizona

Dear Mr. Wilcox:

As you probably know, we are conducting a survey of the potential increase in copper production from Arizona mines in the event a higher price can be obtained, and we are anxious to know whether or not there is any possibility that the Shattuck Denn could increase their copper output if there was a real demand and an emergency existing in the defense plans.

We know that the potential production of copper from both North and South America at 12¢ per pound is far less than the present consumption, and there is actually going to be a 15,000 tons a month shortage before the beginning of next year. Therefore, the government has to determine from where they are going to get this copper and what will be the necessary inducements to bring it out.

I am sending you a questionnaire such as we are using to get this information. I appreciate, however, that this questionnaire does not fit the case of the Shattuck Denn, as it is intended to apply to smaller marginal producers, but you will get an idea as to the information we are seeking and I would greatly appreciate your comments on what you believe Shattuck Denn could produce in addition to its present production and the conditions under which such an added production may be obtained.

I would greatly appreciate an early reply, as this report must be completed and sent to Washington by the end of this month. Thanking you and with kindest personal regards, I am

Yours very truly,

Chairman, Board of Governors
Arizona Department of Mineral Resources

CFW:LP
Enc.

June 20, 1941

Mr. J. A. Wilcox
Bisbee, Arizona

Dear Mr. Wilcox:

Many thanks for filling out the questionnaires regarding the possibility of an increase in copper production from the Shattuck Shaft in the event a higher price can be obtained. This is the best one we have had yet in that no capital investment is required.

I would take it that this is the answer to my letter of a few days ago, and that this is all of the increased production that could come from the Shattuck mines in the event a higher price of copper could be obtained.

Thanking you, and with kindest personal regards, I am

Yours very truly,

Chairman, Board of Governors
Arizona Department of Mineral Resources

CFW:LP