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James S. Murphy of Cripple Creek, Colorado, who superintended the sinking of the shaft to a depth of 600 feet, and the development work on the various levels prior to the installation of the flotation mill, and who inspected the property during the month of February, 1917, writes as follows:

Arizona Binghamton Copper Company,
Stoddard, Arizona.

Denver, Colorado, March 22, 1917.

Gentlemen:

"I have read the report of Mr. Alexander P. Rogers, of the various ore bodies in the levels inspected by him and I coincide with him in all of his opinions and advices. I desire to add further that the ore body No. 91E mentioned by Mr. Rogers in the 360′ level, continues to the 600′ level and is equally as good both as to values and size. While no development work was done on the 600′ level to open up the ore bodies mentioned by him on the levels above, it is my opinion and belief that when such development work is done, they will be found to correspond with No. 91E, which was opened by me on the 600′ level."

JAMES S. MURPHY.

The Management believes in following the policy as outlined in Mr. Rogers' report, and as soon as it can be conveniently done, without interfering with the present output of the mine, nor checking the increase in production up to 250 tons per day, intends to sink a double compartment shaft a distance of 1,200 feet and enlarge the present shaft from a single to a double compartment shaft to coincide with the one to be sunk from the 600′ level.

A public offering of 80,000 shares of the capital stock is made by the undersigned at Five ($5.00) Dollars per share, payable as follows:

Two ($2.00) Dollars per share to accompany the application for subscription and the balance of Three ($3.00) Dollars per share payable upon notice of allotment. If less than the number of shares applied for is allotted, the sum paid on subscription will be credited on the number of shares allotted. On failure to make the final payment when due, the amount paid on subscription will be forfeited.

The undersigned reserves the right to reject any application, or to allot a less number of shares than applied for.

Applications for subscriptions should be addressed to Woodbury & Company, at their office, 44 Pine Street, New York City, or Bank of Arizona, Prescott, Arizona, on or before May 10, 1917 (on which date subscriptions close), upon the annexed application form accompanied by check payable to the order of Woodbury & Company or Bank of Arizona, Prescott, Arizona.

The undersigned now offers the above issue of stock for subscription.

WOODBURY & COMPANY,
44 Pine Street, New York City.

Dated, New York, April 16, 1917.

Copied

Copy marked portions, with and pencil notations with me

PROSPECTUS

THE ARIZONA BINGHAMTON COPPER COMPANY'S property consists of six patented claims and four additional claims adjoining them to the west, acquired for protection and held by location, comprising about 175 acres. The claims are as follows:

COPPER RUIN	OTSELIC	ILLINOIS
CHENANGO	GENNEGANTSLETT	VIRGINIA
SUSQUEHANNAH	TENNESSEE	BINGHAMTON FRACTION
	BINGHAMTON	

These claims are located in a part of the range known as the Black Range in the Copper Mountain District, County of Yavapai, Arizona, in an air line about four miles from the Town of Mayer and about five miles from the Town of Humboldt, where the Consolidated Arizona Copper Company's smelter is located.

If it were possible to select a location for a mine, no better one could have been chosen from all standpoints than the site at Binghamton. Although the readers can tell fairly well by the accompanying panoramic picture of the camp, no description could take the place of a personal view of these mountains sloping down to the banks of the Agua Fria River, from which the mine obtains its water supply. The climate is unsurpassed for mining during the entire year.

EQUIPMENT

The mine is equipped with a full plant of modern mining machinery, sufficient to produce 250 tons of ore per day, also a modern flotation mill having a capacity of 125 tons per day, operated by electric power supplied by the Arizona Power Co. The Company owns the town and town site together with the buildings as shown in the accompanying pictures.

DEVELOPMENT

A shaft has been sunk on the Binghamton claim 600 feet deep and veins opened on the 100, 200, 300, 400 and 600 foot levels.

After the Minerals Separation North America Corporation patent came into existence, it was decided to erect a flotation mill with a capacity of 100 tons a day, with the plans so designed that the capacity could be increased unit by unit at a minimum expenditure of money. Work on the mill was begun in March, 1916, and completed August 15, 1916, and it has been operating continuously since.

From August 15, 1916, to April 1, 1917, 24,802 tons of ore have been treated by the mill, which were reduced to 2,389 tons of concentrates. Such concentrates have been shipped to the smelter and have averaged 21.43 per cent. copper. The Consolidated Arizona Smelting Company at Humboldt, after deducting all smelting, refining and copper selling charges, has paid to the Arizona Binghamton Copper Company $243,570.60 net from August 15, 1916, to April 1, 1917, for the 2,389 tons of concentrates.

The flotation mill capacity is now being increased to treat 250 *tons of ore per day and will be completed and operating within* 60 *days, or about June* 1, 1917, *so that the production and income should be double that of the present time.*

Thomas H. Tullock, a graduate engineer of mines of the Columbia School of Mines, New York City, is the manager of the flotation mill and reports as follows:

Arizona Binghamton Copper Company, Stoddard, Arizona, March 17, 1917.
Stoddard, Arizona.

Dear Sirs:

"The ore of the Arizona Binghamton Copper Company readily concentrates under flotation process. About June 1, 1917, the additional equipment will be installed and the mill will be able to handle 250 tons of ore per day or 7,500 tons a month thereafter."

THOMAS H. TULLOCK,
Superintendent.

Mr. Alexander P. Rogers, well known Mining Engineer of 25 Broad Street, New York City, who made an examination of the property in February, 1917, states:

Arizona Binghamton Copper Company, New York, March 19, 1917.
Stoddard, Arizona.

Dear Sirs:

"In reply to your request for a condensed statement upon your mine, I beg to submit the following:

"On the first level I found the following ore bodies,—No. 99 exposed for 50′ in length, average width 6′, assay 1.97% copper.

No. 100	length	50′,	average width	16.27′,	assay	1.92%	copper
No. 101	"	100′	"	"	12.00′	"	2.63%	"
No. 103	"	60′	"	"	4.74′	"	1.84%	"
No. 109	"	30′	"	"	5.40′	"	1.75%	"
No. 110	"	180′	"	"	10.00′	"	2.30%	"
No. 111	"	60′	"	"	15.32′	"	2.17%	"
No. 115	"	40′	"	"	4.81′	"	1.76%	"

Second Level

No. 91	length	50′,	average width	12.96′,	assay	2.65%	copper
No. 101	"	60′	"	"	7.28′	"	5.02%	"
No. 110	"	10′	"	"	1.90′	"	3.10%	"

Third Level

No. 91	length 60′, average width 5.22′, assay 1.76% copper
No. 110	In two parallel drifts, connected by a crosscut 20′ long, showing values throughout averaging 3.15% copper
	102 drift, length 40′ average width 5.65′, assay 1.26% copper
	102 w " " 100′ " " 7.69′ " 5.34% "

"On the 360′ level No. 91E ore body was 80′ in length, 5′ in width and assayed 3.33% copper. It is the only ore body that has been opened up on that level, as the management has not had sufficient time to drift to where the other ore bodies should be found.

"At the time I examined the property the management was mining ore for the mill from the various levels above 360′, no attempt having been made to unwater the shaft below that point.

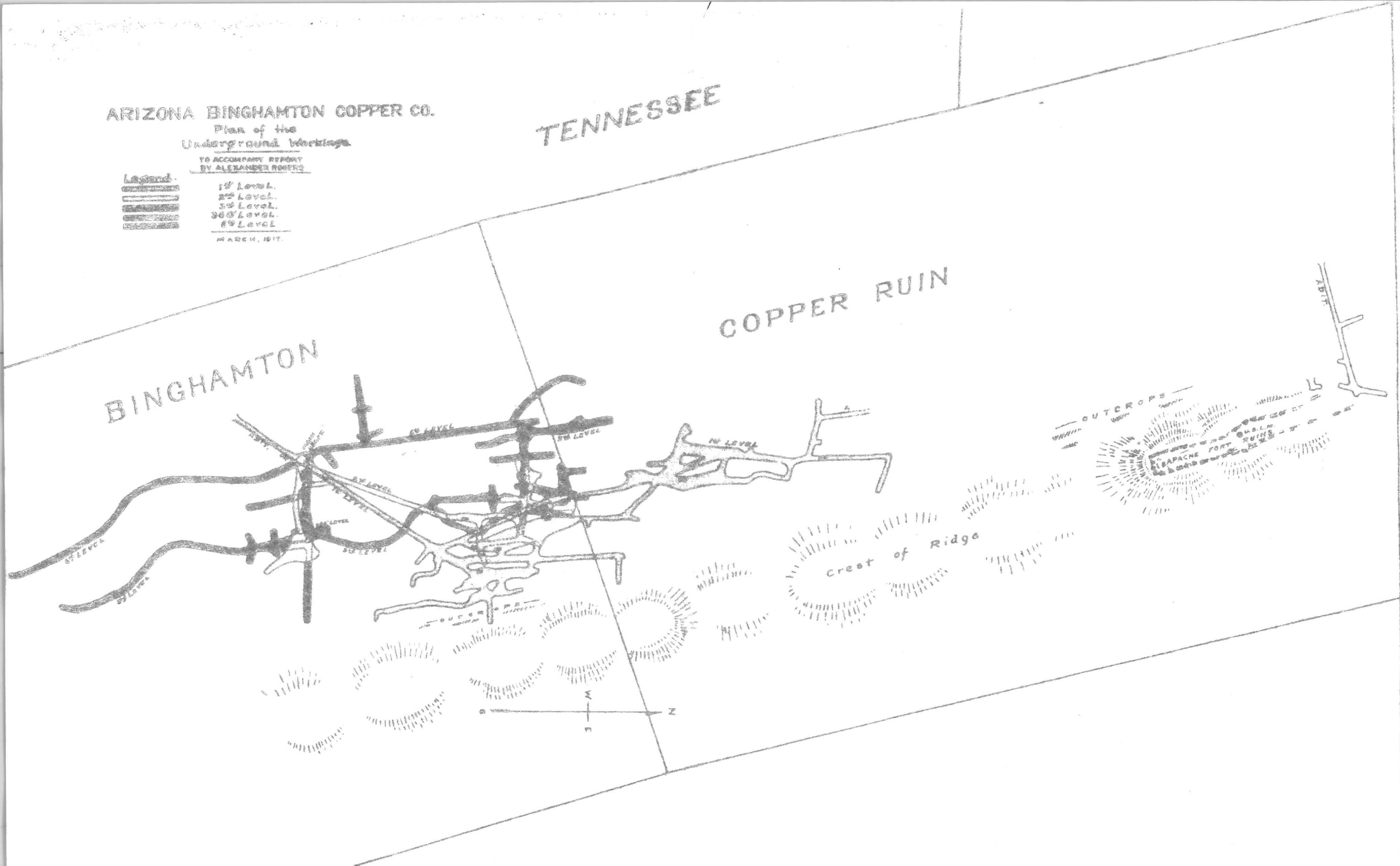
"The exploration work being carried on to the north at my suggestion should open up other good ore bodies, as the surface indications are fully as good as those under which you have opened up your present ore bodies.

"The shaft from the 600′ level to the surface is already being enlarged into a double compartment shaft, upon my advice, to handle the increased tonnage to furnish 250 tons per day to the mill.

"If the ore exposed on the 6th level is found to be of good grade, I advise you to sink the shaft and open up your ore bodies at deeper horizons.

"On the whole, the property is an interesting one and has considerable promise."

Yours very truly,
A. P. ROGERS.

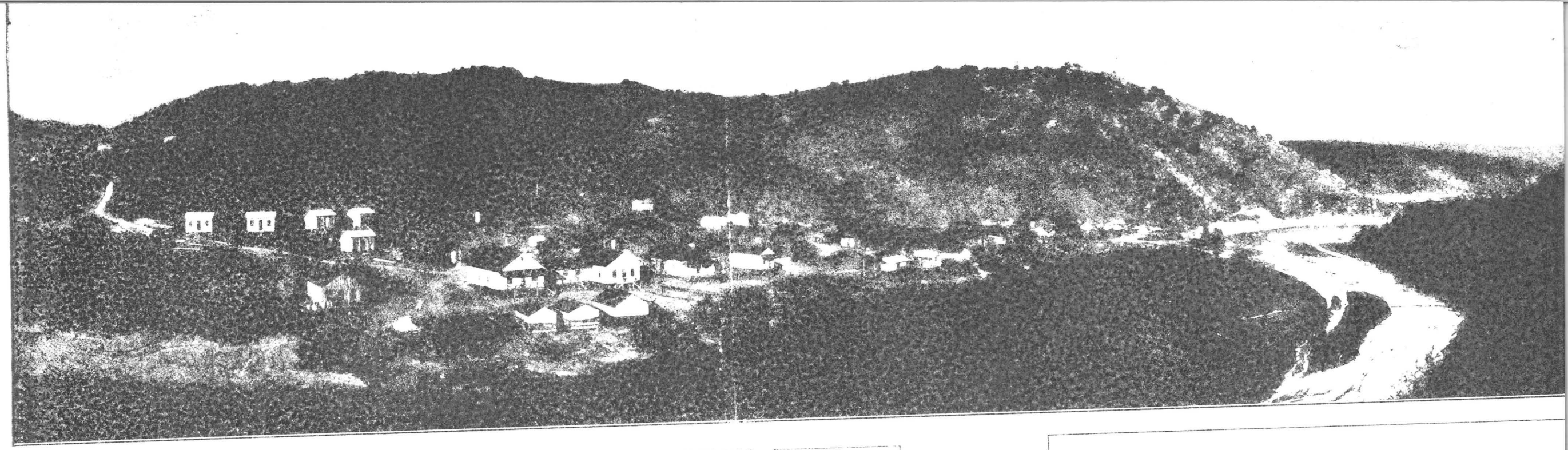


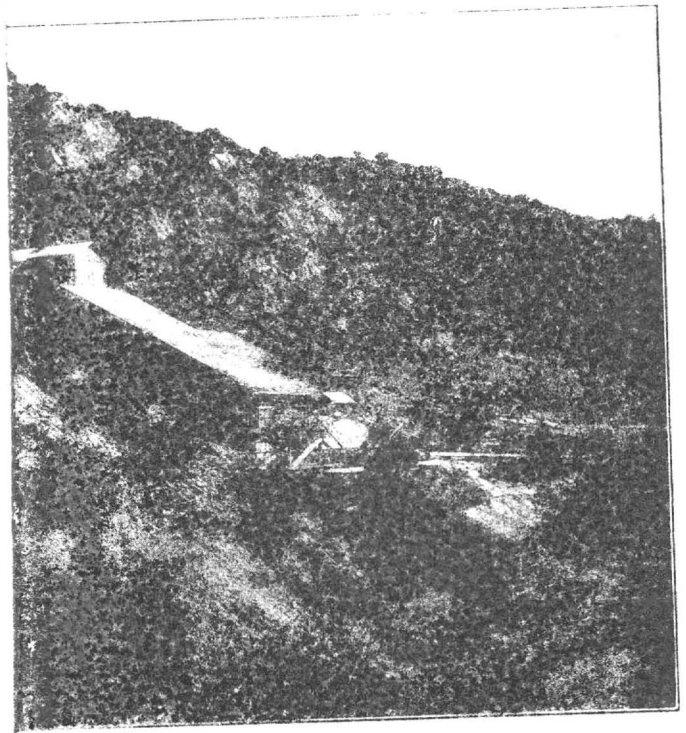
ARIZONA BINGHAMTON COPPER CO.
Plan of the
Underground Workings
TO ACCOMPANY REPORT
BY ALEXANDER ROGERS
Legend.
1st Level.
2nd Level.
3rd Level.
360' Level.
4th Level.
MARCH, 1917.
TENNESSEE
COPPER RUIN
BINGHAMTON
Crest of Ridge
OUTCROPS
APACHE FORT RUINS
ADIT

Mr. Everett L. Hagan
115 North Eastern
Los Angeles 22, California

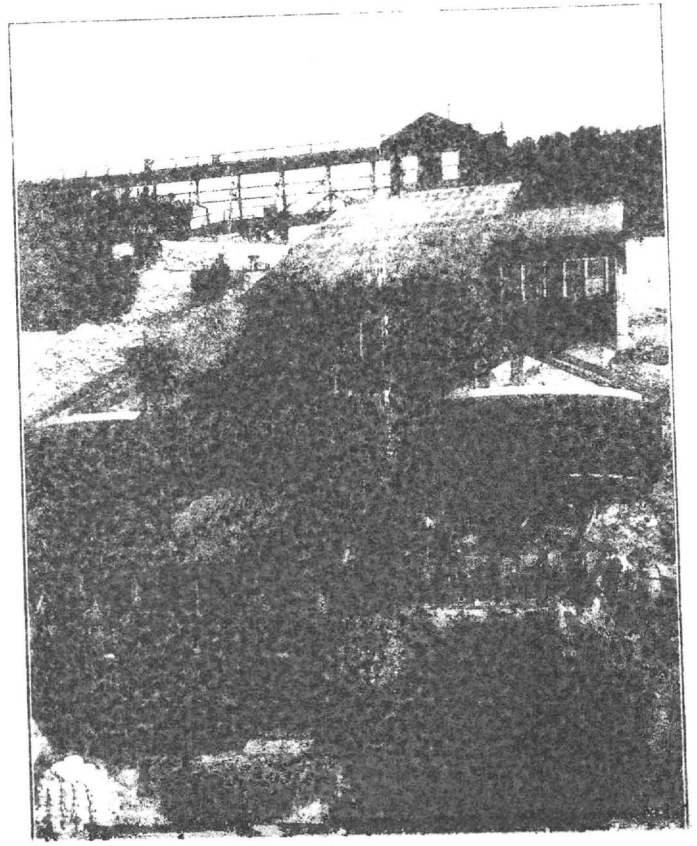
Phone Angelus 25109

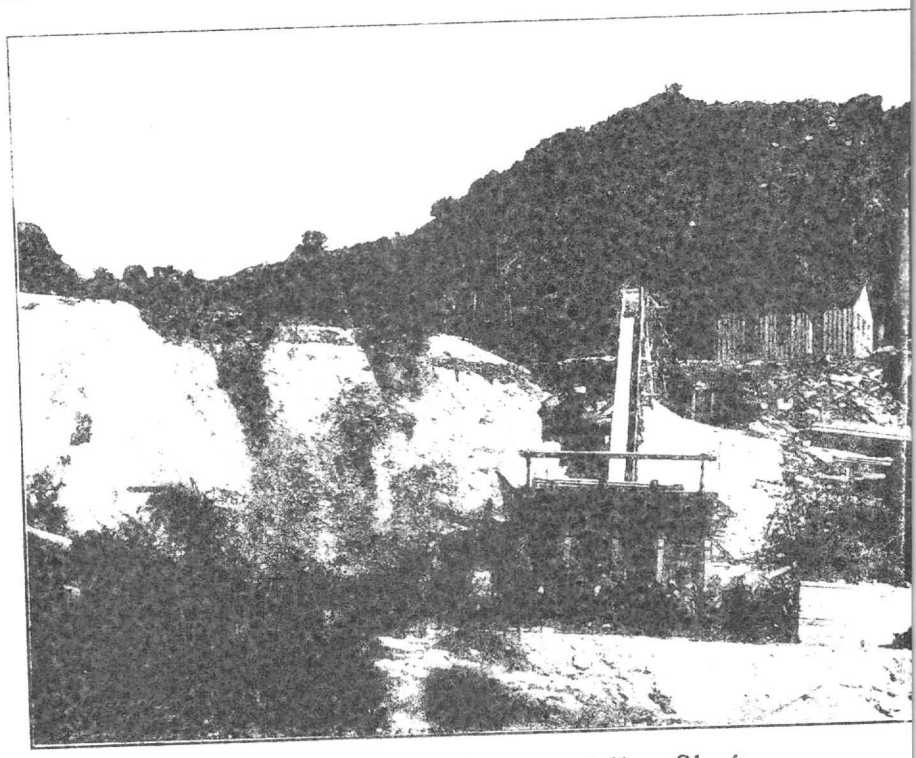
bought - 2 -
(12)
$125.00
sf.





Binghamton Mill — Side View





Arizona Binghamton Mine Shaft

ARIZONA BINGHAMTON COPPER CO.

Plan of the
Underground Workings.

TO ACCOMPANY REPORT
BY ALEXANDER PORTER

Legend.

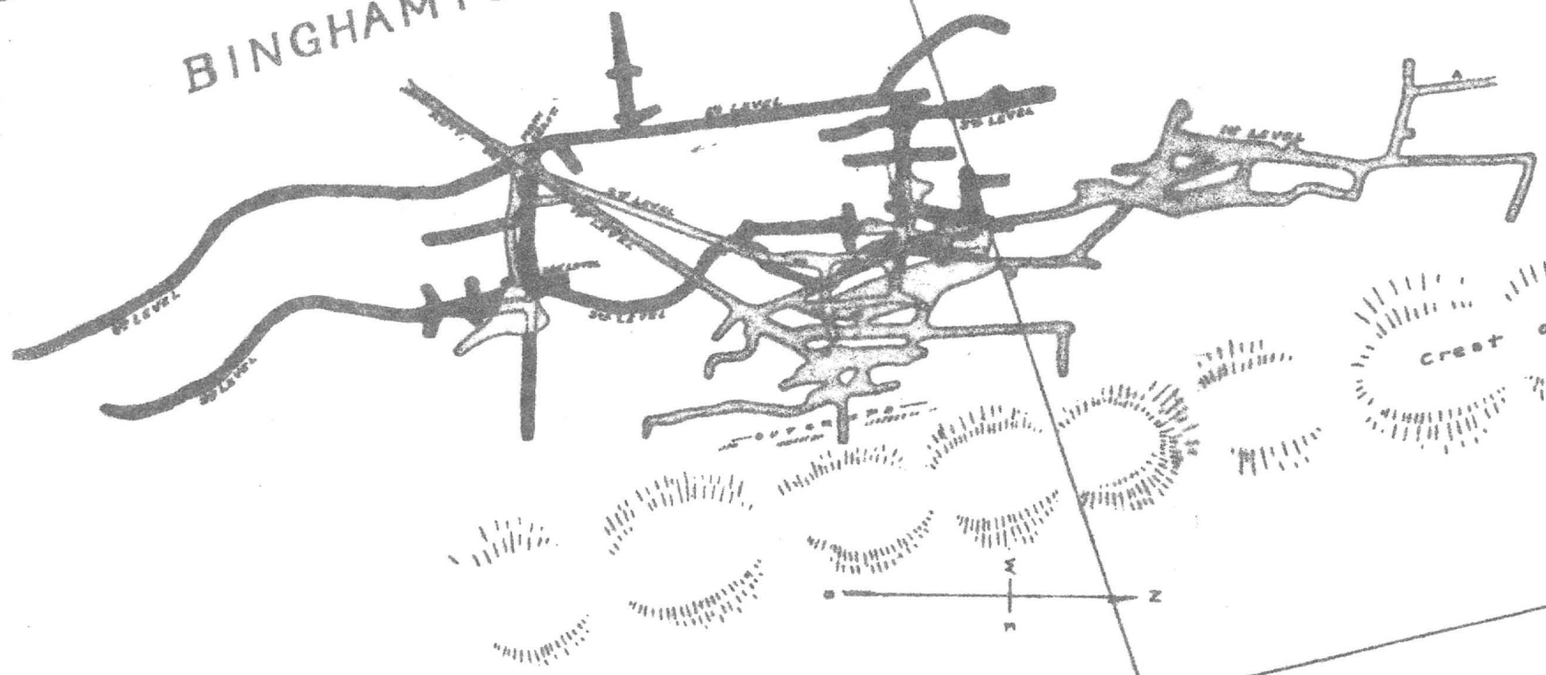
1st Level.
2nd Level.
3rd Level.
346' Level.
6th Level.

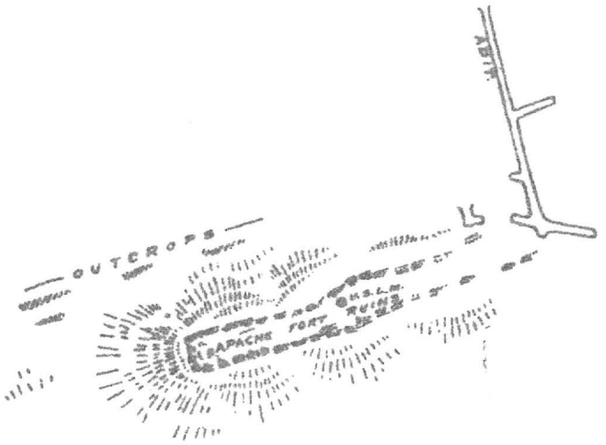
MARCH, 1917.

TENNESSEE

BINGHAMTON

COPPER RUIN





Copy marked proof[?] with one carbon.

ARIZONA BINGHAMPTON

(Note by G. M. Colvocoresses)

~~Oct. 1937.~~ 1943.

This mine operated quite steadily from 1915 through 1920 and again during 1922 ~~and~~ 1923, and on a small scale in 1928-29. During that period much of the best ore estimated by ~~English and other~~ engineers in 1918 was mined and ~~drill~~ shipped but a considerable tonnage of lower grade ore was left & some new ore was developed in the upper levels. ~~while~~ The development and drilling below the 400' level was for the most part disappointing as I determined by a personal examination in about 1924.

The mine was subsequently shut down and the equipment dismantled and sold.

There still remains a substantial reserve, ~~perhaps~~ say 60,000 tons of 2½% copper ore, ~~with practically no gold or silver~~, but it is unlikely that the cost of producing this copper even with first class equipment could be made less than 14¢ per lb. and there would be no incentive to making the heavy capital expenditure required to reopen the mine and provide mining and milling equipment unless an exceptionally high price of copper was assured.

There are some ~~tinges~~ showings of oxidized ore near the surface which have been partly worked by lessees and there is good prospecting ground on the Copper Ruin and further north, ~~but taken altogether the property does not appear attractive.~~

Omit

[of which perhaps half would average close to 3%.

There are practically no values in gold & silver.

CONSOLIDATED ARIZONA SMELTING COMPANY

HUMBOLDT, ARIZONA

ALL COMMUNICATIONS SHOULD BE ADDRESSED TO THE COMPANY

Blue Bell Mine.
Mayer Ariz.
Feb. 6. 1918.

Mr G. M. Colvocoresses.
Con's. Ariz. Smelting Co.
Humboldt, Ariz.

Dear Sir:-

In connection with our phone conversation this morning, Mr johnson gave me a few figures on the cost of production at their mine which might be of interest to you.

Mining Cost delivered at Mill	$4.25 per Ton
Milling Cost	2.44 " "
Average Mill Heads 1917	3.29 %
" " Tails "	0.54 %

In addition he stated that their Smelting cost etc, represented about 6 cents per pound of copper in the ore. You of course have a knowledge of this.

Ratio of concentration between 8 and 9

An additional cost for freight and cartage should be added to this and I have no figures on same.

Their mill heads as you know during the early part of the year were low and down to two percent. During the latter part of the year however they run from 3.5 to 4.5 % on the average, making the total average as stated.

There should be a general office charge against these costs, including taxes insurance etc,

Yours very truly,

W. D. Camp

August 19, 1943

Mr. Ralph H. Pfeffer
14 Valley National Bank Building
Prescott, Arizona

Re: Arizona Binghampton Mine

Dear Sir:

Replying to your request for information regarding this mine will say that I was quite familiar with same from 1914 to 1930 during which period I was general manager of the Consolidated Arizona Smelting Company and its successor the Southwest Metals Company since most of the ore and concentrates produced by the Arizona Binghampton were purchased by us and treated in our smelter at Humboldt.

In 1917 I had this mine examined by L. F. S. Holland, one of our Field Engineers and in January 1918 by W. V. DeCamp and J. L. White two of our other engineers. In May of 1918, we were offered an opportunity to purchase a substantial interest in the property and on that occasion I employed Norris English -- a Consulting Engineer from San Francisco, -- to make a thorough examination and report.

I personally visited the property on many occasions and particularly recall having gone thru all of the underground workings in 1918 and again in 1923 or '24. Based on the reports of our engineers, the operating records of the mine and my own inspection I am very confident that there remains at least 60,000 tons of developed ore above the 600' level. As to the average grade of this ore, I feel that it can be conservatively estimated at something over 2.5% copper while perhaps half of it should average around 3% or a trifle better.

All of the shafts or crosscuts were in hard schist rock and should still be in good condition so that they could be reopened at comparatively small expense, but there is likely to be some caving in the stopes as the ore itself was often rather soft.

I think that you will find the best of the remaining ore above the 400' level and believe that a substantial production of copper can be expected from the reopening of this property.

Yours very truly,

GMC:b

August 19, 1943

Mr. Ralph H. Pfeffer
14 Valley National Bank Building
Prescott, Arizona

Dear Mr. Pfeffer:

The name of the mine superintendent at Binghampton about 1923 was Sam E. Chaney, whose present address is 1747 Bel Air Drive, Glendale, California. I suggest that you write to him as he may have kept some of the underground maps of the mine or be able to tell you where they might be located.

Copies of the reports on the Copper Queen Gold Mine will be sent to you early next week since I am sorry that it will not be possible to have them copied for a few days.

I was glad to have had the pleasure of making your personal acquaintance, and I hope that we shall meet again before long. Give my regards to Mr. Francis.

I hope that the enclosed letter will meet your requirements and you can send the duplicate directly on to Washington if you desire.

Yours very truly,

GMC:b
Enclosure 1

March 30, 1943

Mr. Ralph H. Pfeffer
248 S. Mt. Vernon ~~Ave~~.
Prescott, Arizona

Re: Arizona Binghampton

Dear Sir:

In accordance with our arrangement I am forwarding to you some additional data relative to the Arizona Binghampton Mine, the same being copies of letters in regard to this property sent to me by one of our engineers, T. V. DeCamp; copy of a Prospectus issued by the company; a report by another one of our field engineers, L. F. S. Holland and a note in reference to this property which contains my own general impressions.

I have already mailed to you under separate cover the map of the mining claims, a print of the underground workings and a copy of the report by Norris English and these, together with the enclosed documents, complete the contents of my file.

I hope that I shall have an opportunity to meet you in person when you next come to Phoenix.

Yours very truly,

G. M. Colvocoresses

GMC:t

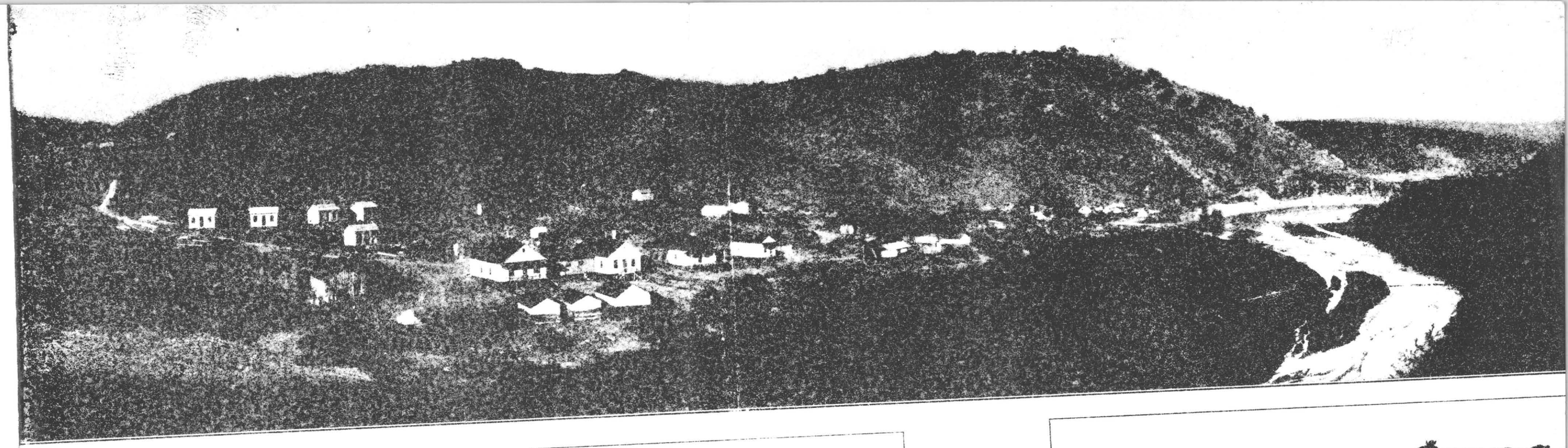
District	Property	Location	Owners & Operators	Date Visited	Notes.
Mayer, Yavapai Co.	Ariz Binghamton	Stoddard	Arizona Binghamton Mines Co., of which Senator W. H. Reynolds, President, owns practically all the shares. Johnson, Manager, Tulloch, Mill Supt., Hess, Mine Supt.	March 11-17 with E.S.S.	Replacements in schist. Nearly all the mineral is chalcopyrite, with a little tetrahedrite. In places pyrite shows up in larger amounts. Shaft 600' deep. Practically all the stoping so far has been above the 100' (Adit) level. Sulphides to 70' up, then oxides. On the 100' level there are seven ore bodies which appear to be on, or in immediate vicinity, of faults. According to Hess, schist with a blue cast is the most favorable indicator of ore. Gray sericite or amphibolite schist not so favorable. one ore body on 100' level is 90' long; one 110', and one 180'. The one 180' long, called "102" ore body (From coordinate) also appears on the 200' and 300' levels. The average copper contents of this ore body are said to have been 3% copper on the 100' level, 1½% on the 200' level and 4.7% on the 300' level. The greatest width is on the 300' level where it is 40 feet. Expect to top slice this. Generally shrinkage stopes. The 90' ore body on the 100' level is 5' to 6' wide and said to average 3½% Cu. The oxidized ore above is said to average 5 to 6% Cu and is perhaps suitable for converter flux. According to Hess mining costs (largely development work) have been 13¢ per lb. copper lately. Now about 7¢. Drifting with jackhammers or bars. Going to use dreadnaughts. Mill designed by H. Kenyon Burch. Now treating 125 tons per day. Going to increase to 250 tons per day. Installing another Marcy Mill, and Butchart (roughing) tables to replace Deisters. At present, Marcy Mill, Dorr Classifier, Flotation plant, (Burch's design) and Deister

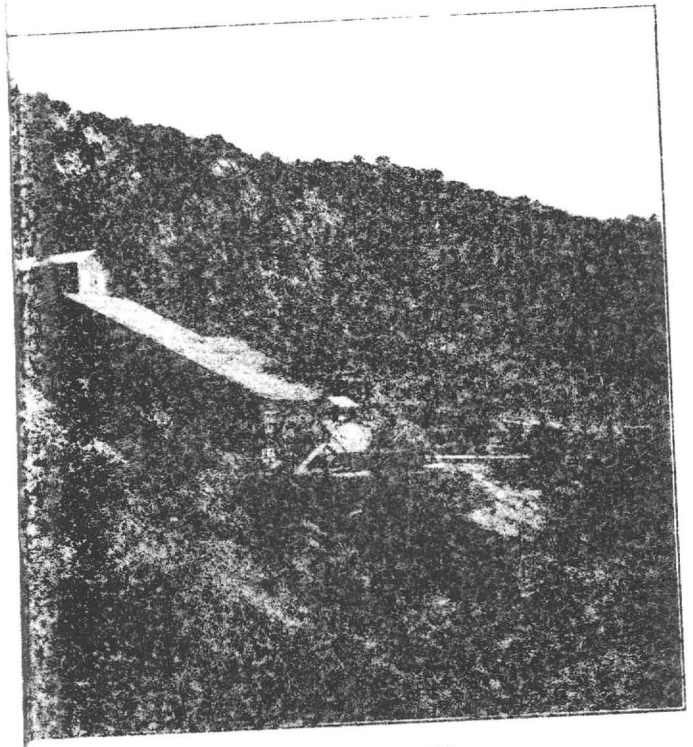
~~Sent for copy in file~~

Copy Sole leased Cop. & Lead.
Report of Con. Cop. Smelting Co.
by L. F. S. Holland, Field Engineer.
March, 1917.

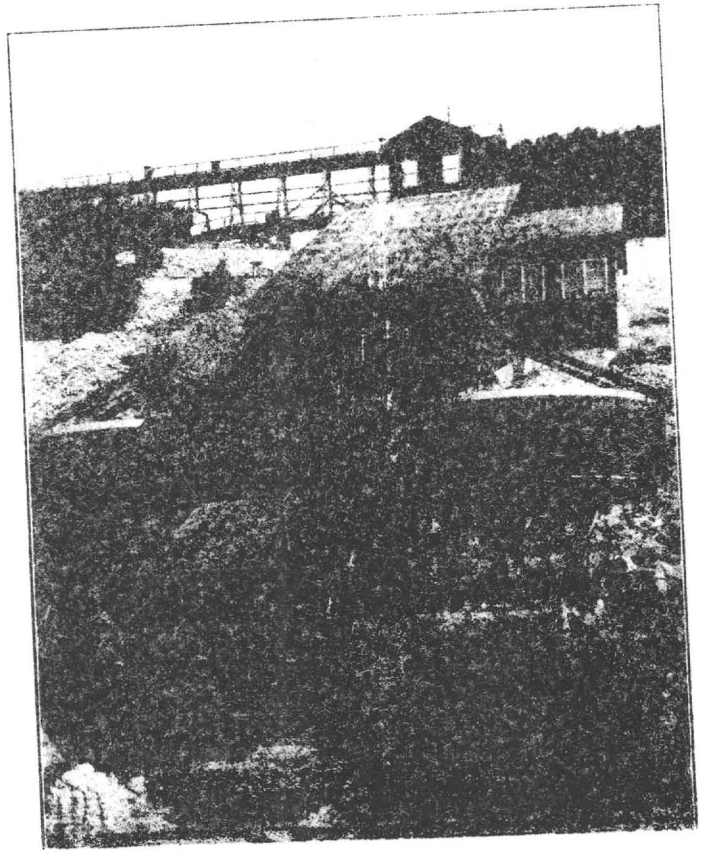
simplex sand tables which have been making product from tailing too low grade to ship until recently. Now going to make trial shipment of separate lot of Deister product from high grade heads. Milled February 3800 tons, average 3/3% Cu. Total cost February copper a shade under 18¢. Heads for March 1-10 have been 2½ to 3% Cu. Sixteen men run the mill three shifts.

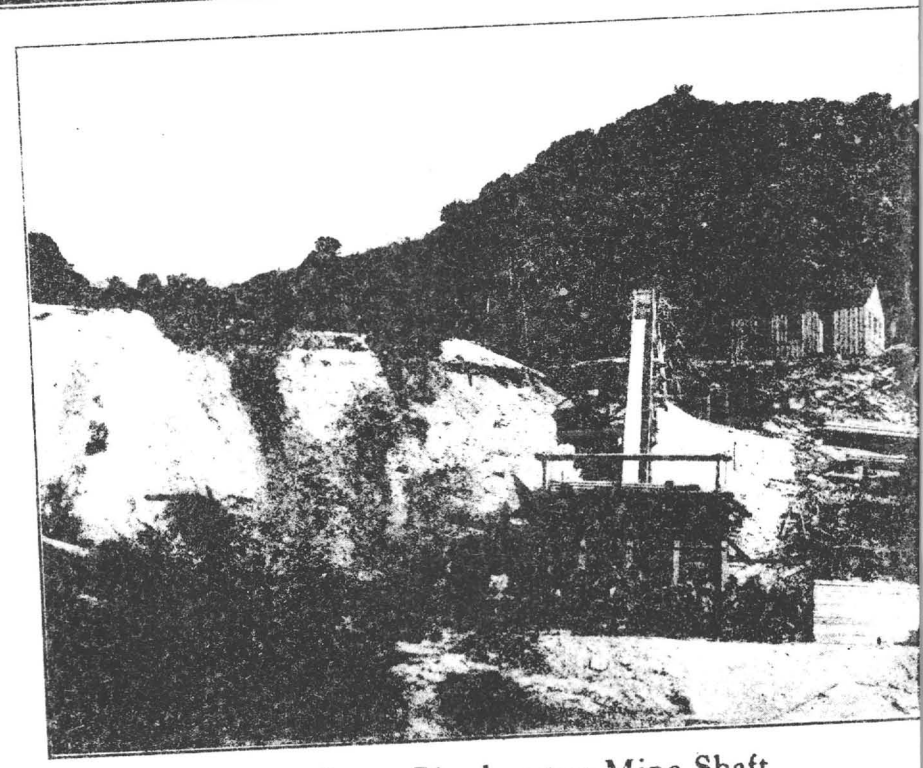
A probable producer of chalcopyrite concentrates when copper is good price, but the values in the ore shoots are variable from level to level and the ore bodies are not generally large. Both mine and mill appear to be well managed.





Binghamton Mill — Side View





Arizona Binghamton Mine Shaft

Ariz. - Binghampton Mine
Report by Norris English

Copied
D.F.

NORRIS ENGLISH
MINING ENGINEER
FIRST NAT. BANK BLDG.
SAN FRANCISCO, CAL.

R E P O R T

on

ARIZONA BINGHAMTON COPPER CO.

by

NORRIS ENGLISH

NORRIS ENGLISH
MINING ENGINEER
FIRST NAT. BANK BLDG.
SAN FRANCISCO, CAL.

San Francisco, May 7, 1918

Mr. G. M. Colvocoresses, Gen Mgr.,
Consolidated Arizona Smelting Company,
Humboldt, Arizona.

Dear Sir:-

Pursuant to your instructions, I have examined the property of the Arizona Binghamton Copper Company, and submit the following:

R E P O R T.

LOCATION:

The property of the Arizona Binghamton Copper Company is situated in the Bigbug Mining District, Yavapai County, Arizona. It is connected with the Prescott and Eastern R.R. at Mayer by a rough wagon road, having fair grades about 8 miles long.

The camp is located on Agua Fria Creek about 4000 feet above sea level. The mine workings lie along the west side of a narrow ridge running north from the camp and about 400 feet higher.

GEOLOGY:

The entire vicinity is composed of the Yavapai schist formation, as classified by the U. S. Geological Survey. This formation is largely composed of sediments ranging from conglomerates to very fine material, which have been folded along north and south lines and greatly compressed, so that the original bedding is now nearly vertical.

The chavage of the schists strikes nearly north and south and dips about 70° to the west.

There are two distinct types of schist. The first is chloritic and is various shades of green in color. It is very fine grained in parts while in other places it contains pebbles of a granitic rock up to several inches in diameter. The second consists of rounded quartz grains in sericite, which appears to have been formed from a quartz porphyry. Just north of the big outcrops on the Copper Ruin claim there is a considerable area of a light colored rock containing phenocrysts of feldspar and rounded quartz grains which is only slightly schistose and which I feel sure to be an intrusive. The second type of schist might easily have been formed from this rock.

ORE DEPOSITS:

The ore-deposits consist of replacements in the fine grained chlorite schist along fissures, which are practically parallel to the schistosity. These fissures occur in a shear zone which development on the No. 6 level has exposed to a width of over 300 feet.

The ore outcrops just to the west of a silicified zone in the schist which forms the crest of a narrow north and south ridge. This silicified ridge contains small amounts of oxidized copper minerals along small fissures but the orebodies developed underground come to the surface further west and have no apparent connection with the prominent silicious buttes.

The ore is oxidized to a depth of about 60 feet. There was no marked eurichment between the zone of oxidication and the sulphides.

The principal ore mineral is chalcopyrite with a little tetrahedrite and chalcocite in the upper levels. The gangue consists of chlorite schist with some quartz. There is considerable pyrite in both the ore and the wall rocks.

The orebodies are lenticular. They are short horizontally, generally less than 100 feet along the strike, but seem to have their greater length vertically. This is shown in the "101" orebody, which is only about 100 feet long but has been developed to the No. 6 level to a depth of over 700 feet.

The entire ore zone is cut by fissures which strike nearly north and dip to the west about 70°. The movement on these fissures has been nearly horizontal. There are several fissures which strike east and west and dip to the south at high angles. None of these fissures seem to have disturbed the orebodies. There is another fissure which strikes about N 20° E magnetic and dips about 45° north west. This fissure cut the "101" orebody at the No. 2 level and faulted it, the displacement being about 50 feet horizontally to the west. The vertical displacement was about the same distance. This fault plane is also exposed in the No.3 level at the intersection of the drift and the 110 west cross cut.

DEVELOPMENT:

The mine is developed by a vertical shaft having one hoisting compartment and a smaller compartment for pipe, ladders, etc. There are five levels which connect with the shaft at depths of No. 1 at 50 feet, No. 2, at 178 feet, No. 3, at 303 feet, No. 4

at 400 feet and No. 6 at 603 feet. There is also the A level which is 98 feet above No. 1 in the oxidized zone and north of the shaft. These workings are shown on the plans accompanying this report. The workings are extensive on each level but only a small portion of them are on ore.

The orebodies have been numbered according to their position north of the zero co-ordinate with numbers found by dividing the distance north in feet by 20. Thus the "101" orebody was first cut at a point 2020 north.

SAMPLES AND ASSAYS:

The position of the samples taken with their width and assay value in percent of copper is shown on the plans of the different levels. More complete sampling was impractical because almost all the ore found above the No. 4 level has been extracted or is broken in the stopes, the sampling of the bottom of the drifts was difficult on account of tramming and water and would not show the true width of the ore because the sill floors have not been removed but the stopes opened on the first floor above.

ORE RESERVES:

Ore reserves are classified as follows:

1st Broken Ore at 16 cu. ft. per ton
2nd Positive Ore at 11 cu. ft. per ton
3rd Probable Ore
4th Indicated

Broken Ore has been estimated at 16 cu. ft. per ton. The company has kept no stope maps so that the average width of the stopes have had to be estimated.

Positive Ore is ore exposed on two sides and applies only to the block of ground in "101" orebody between the No. 4 and No. 6 levels. This ore is also cut in the raise about midway between the levels.

Probable Ore contains the following classes:

1st Ore lying immediately below stopes but exposed in no other place. This has been estimated to continue to a depth below the level equal to twice its width.

2nd Ore showing in the bottom of a level and against the end of a stope connecting with the level below.

3rd Ore showing in cross cuts on two levels which has not been opened by either drifts or raises.

Indicated Ore is used to designate ore that is opened on one level and indicated by the presence of ore in the proper position below.

TABLE OF ORE RESERVES.

	Stope	Average Length	Average Hight	Average Width	Tons	Tons
BROKEN ORE:						
Above No. 1 Level	"110"	175	14.3	9.0	1410	
Above No. 2 Level	"110"	70	120.0	10.0	5250	
Above No.3 Level	"91"	50	105.0	8.0	2620	
Above No. 4 Level	"91"	50	105.0	8.0	2620	
	"101"	110	70.0	17.0	8180	
Above No. 6 Level	"94"	60	40.0	10.0	1500	21580
POSITIVE ORE:						
Above No. 6 Level	"101"	90	196.0	15.0	24100	
PROBABLE ORE:						
Above No. 2 Level	"91"	40	16.0	8.0	465	
	"99"	60	16.0	8.0	700	
	"100"	70	20.	10.0	1270	
	"101"	60	105.	10.0	5730	
	"110"	50	120.	7.0	3820	
Above No. 3 Level	"110"	60	125.	10.0	6820	
Above No. 4 Level	"110"	60	96.	10.0	5240	
Above No. 6 Level	"91"	60	16.	8.	700	
	"110"	60	196.	10.	10700	
Below No. 6 Level	" 94"	60	20.	10.	1090	
	"101"	70	32	16.	5220	41755
INDICATED ORE:						
Above No. 2 Level	"111"	40	120	10.0	4360	
	"115"	50	120	5.0	2730	7090
						94545

VALUE OF ORE:

The ore in the "101" orebody has always been of higher grade than any of the other orebodies. The broken ore in the stope above No. 4 level is estimated by the superintendent to assay 7.50% Copper. This estimate is based on the fact that during July and August 1917 there were 877 tons of this ore shipped to the smelter, which assayed 9.00 copper. This orebody on No. 6 level including the assays of Diamond Drill holes and my samples indicate a width of 16 feet, and an average assay of 3.14 copper over a length of 70 feet. A sample from the raise about 100 feet above assayed 3.92% copper for a width of 12 feet. This orebody has been relied upon to sweeten the mill ore which averages about 3.70% copper, so that I believe it safe to estimate the broken ore to contain 5.00% copper and the ore between the No. 4 and No. 6 levels to contain 4.00% copper.

The "110" which contains most of the remaining ore I estimate at 3.00% copper. I would place the same estimate of 3.00% on the balance of the ore.

The "101" and "110" were both sampled a little below the No. 1 level giving the following:

"101" - 6 samples 5.21% copper width 5.4 feet
"110" - 6 samples 3.22% copper width 9.9 feet

			Cu.%	Tons X %	Tons X %
Broken Ore	"101"	8180 tons	@ 5.00%	40900	
	others	13400	@ 3.00%	40200	
Totals & Average		21580 tons	@ 3.76%	81100	81100
Posative Ore	"101"	24100 tons	@ 4.00%	96400	96400
Probable Ore	"101"	5220 tons	@ 4.00%	20880	
	"other"	36535 tons	@ 3.00%	109605	
Total & Average		41755 tons	@ 3.13%	130485	130485
Indicated Ore		7090 tons	@ 3.00%	21270	21270
Grand Total		94545 tons	@ 3.49%		329255

WORKING COSTS:

The present mining costs are shown by the tabulated statement covering the 10 months period from June 1, 1917 to March 31, 1918. The larger items of expense such as labor, explosives and timber are distributed to the Exploration, Development, and Extraction Accounts.

The General Mine Expense amounts to $2.37 per ton of ore milled and seems very large. It probably contains considerable sums which should have been charged to Capital Accounts, or distributed over a larger tonnage. The administration expense seems very excessive. The Power account I believe can be reduced materially by having less motors installed on the compressors. There are now 2 motors of 75 H.P. and 1 motor of 150 H.P. installed while the 150 H.P. motor and compressor is large enough to do all their present work.

On the whole I believe that at least $1.00 per ton of ore milled can be saved in their general expenses, which will reduce the mining costs from $5.40 to $4.40 per ton. Considerable economy would also result by keeping the mill in full and constant operation so as to increase the mine tonnage which averaged less than 4000 tons per month for the 10 months period.

The following table gives the Mining Costs:-

Mining Costs per ton of Ore Milled

For 10 Months Ending Mar. 31, 1918.

Tons of Ore Shipped	877
Tons of Ore Milled	38943.68
Tons of Ore Produced	39820.68
Tons of Waste Hoisted	33869.07
Tons Hoisted	73689.75

			Per ton	Per ton
Exploration in Waste		46189.98		$1.18
Drilling	25803.66		$.662	
Mucking	11548.67		.296	
Timbering	4898.70		.125	
Contractors	1303.03		.033	
Diamond Drilling	2635.92		.067	
Development in Ore		14369.77		.37
Drilling	5709.06		.146	
Mucking	2336.37		.060	
Timbering	6324.34		.162	
Extraction		57794.28		1.48
Drilling	27302.51		.700	
Tramming	13047.27		.333	
Timbering	8077.99		.207	
Weighing	3058.32		.079	
Tramming to Mill	6308.19		.162	
General Mine Expense		92260.27		2.37
Superintendence	8459.97		.217	
Assay & Engineering	2665.99		.068	
Warehouse	1304.36		.033	
Hoisting	15677.74		.402	
Compressors	2613.50		.065	
Shops	7122.99		.183	
Drill Up-keep	4085.39		.105	
Tracking	3483.87		.089	
Piping	4568.65		.117	
Shaft Up-keep	2125.52		.054	
Cutting Stations	714.59		.018	
Miscellaneous	6475.11		.166	
Insurance	6041.78		.155	
Power	13303.58		.341	
Administration	13617.23		.348	
		210614.30		5.40

The Milling cost exclusive of Road Repairs, Hauling Concentrates and Flotation Royalty of 12 cents per ton have been as follows:

				Cost per ton
August	1916	1257.73	2715	$2.16
Sept.		3703.78	5920	1.60
Oct.		3151.60	5170	1.64
Nov.		3339.07	5540	1.66
Dec.		3264.40	5780	1.77
Jan.	1917	2703.60	6260	2.32
Feb.		3382.20	5210	1.54
Mar.		3840.72	8025	2.09
Apr.		3402.95	5980	1.76
May		3540.87	6335	1.79
June		3279.41	6200	1.89
July		1208.13	8440	6.98
Aug.		4931.18	8000	1.62
Sept.		4024.84	7600	1.89
Oct.		5146.20	8230	1.60
Nov.		4515.15	7415	1.64
Dec.		4278.77	9030	2.11
Jan.	1918	4413.00	8170	1.85
Feb.		3308.00	8800	2.67
Mar.		3849.00	7650	1.99
Totals		70540.60	136470	1.93
Flotation Royalty				12
Total				$2.05

Early in July the feed end of #1 Marcy Mill was cracked. The cost of replacing same was charged to operation for the month.

The cost of marketing the concentrates is estimated on the basis of concentrating 6 tons of 3½% ore into 1 ton of 18.5% concentrates from which the Smelter deducts 1.25% Cu. to cover losses and 4 cents per pound of Cu. with a charge of 7¢ per unit for insoluble and a credit of 4¢ per unit for iron and a smelting charge of $5.00 per dry ton as follows:

	# Cu.			
Contents 6 tons 3.5% Ore	420			
Contents 5 tons 0.5% Tailings	50			
Recover 1 ton 18.5% Concentrates	370			
Smelter deduction1.25%	25			
Copper paid for in ton Concentrates	345# @ $0.2350			$81.07
	Per # Cu	Cost Per Ton Ore	Per Ton Conc.	
Hauling & loading	$0.0087	0.50	3.00	
R.R. Freight to Smelter	.0029	.16	1.00	
Insoluble 20% @ 7¢ - 1.40				
Iron 24% @ 4¢ - .96				
Smelting 5.00	.0158	.90	5.44	
Deduction	.0400	2.30	13.80	
	$0.0674	3.86	23.24	$23.24
Net Proceeds from Smelter	$0.1676	$9.64	$57.83	57.83
Mining Cost	.0765	4.40		
Milling Cost	.0356	2.05		
Net Profit	$0.0555	3.19		

MAPS & PLANS:

Accompanying this report are the following:-

1st Topographic Map of Copper Ruin Claim showing No. 1 Level and upper workings.
2nd Plan of No. 1 Level
3rd Plan of No. 2 Level
4th Plan of No. 4 Level
5th Plan of No. 6 Level
6th Plan of "101" Orebody No. 6 Level showing samples and Diamond Drill holes.
7th List of Samples & Assays

PROSPECTS FOR FUTURE:-

The workings down to No. 6 Level have shown no change in mineralization nor in the size and value of the orebodies.

The Yavapai schist undoubtedly extends to great depth. It is as much sheared and disturbed in the lower as in the upper workings and I see no reason to anticipate any change with greater depth.

No. 1 level has been driven about 900 feet north of the profitable orebodies to prospect at depth the copper showings

LIST OF ASSAYS.

No. 1 Level:

#101	3.3 ft.	0.26%	Copper
102	8.3 "	1.92%	"
103	4.2 "	1.72%	"
104	4.7 "	1.78%	"
105	4.2 "	1.36%	"
106	2.5 "	1.74%	"
107	8.0 "	0.44%	"
108	2.4 "	3.56%	"
109	2.7 "	2.58%	"
110	7.5 "	0.90%	"
111	6.1 "	0.30%	"
112	7.0 "	3.20%	"
113	7.3 "	3.38%	"

No. 2 Level:

#114	3.7 ft.	1.14%	Copper	
115	13.5 "	0.84%	"	
116	3.2 "	2.86%	"	
117	6.1 "	1.72%	"	
118	12.3 "	1.74%	"	
119	4.0 "	2.02%	"	
120	10.3 "	4.76%	"	
121	3.8 "	1.94%	"	
122	5.2 "	3.34%	"	
123	5.2 "	0.70%	"	
124	4.5 "	1.10%	"	
125	5.0 "	1.26%	"	
126	4.4 "	1.64%	"	
127	2.7 "	4.24%	"	
128	6.0 "	2.20%	"	
130	6.1 "	1.68%	"	
151	9.1 "	4.48%	"	In "110" Stope
152	11.0 "	2.80%	"	" " "
153	8.6 "	3.22%	"	" " "
154	12.3 "	1.84%	"	" " "
155	9.0 "	3.26%	"	" " "
156	9.2 "	4.44%	"	" " "
157	Grab	1.30%	"	In "111" Stope
159	5.2 ft.	5.90%	"	In sub-level
161	4.6 "	5.95%	"	" " "
162	5.7 "	3.56%	"	" " "
163	5.0 "	6.26%	"	" " "
164	5.3 "	5.28%	"	" " "
166	6.8 "	4.73%	"	

No. 3 Level:

#301	17.5 ft.	1.36% Copper	
302	12.8 "	1.34% "	
303	5.8 "	1.72% "	
304	2.7 "	1.06% "	
305	4.0 "	1.34% "	
306	7.2 "	2.36% "	
307	9.5 "	1.62% "	
308	4.3 "	1.06% "	
310	6.0 "	1.64% "	

No. 4 Level:

#401	6.8 ft.	2.74% Copper	
402	7.3 "	3.34% "	
403	12.5 "	2.14% "	
404	11.6 "	2.62% "	
405	13.4 "	0.74% "	
406	5.2 "	2.58% "	
407	10.0 "	0.72% "	
408	10.0 "	0.44% "	
409	10.0 "	0.18% "	
410	14.0 "	0.24% "	
411	7.0 "	1.70% "	

No. 6 Level:

#501	3.0 ft.	0.72% Copper	In "104" Raise
601	6.7 "	1.94% "	
602	7.2 "	1.16% "	
603	6.5 "	0.32% "	
604	12.2 "	2.68% "	
605	4.9 "	7.44% "	
606	6.0 "	3.12% "	
607	6.0 "	2.94% "	
608	5.6 "	1.18% "	
609	5.9 "	0.82% "	
610	5.7 "	1.00% "	
611	10.0 "	1.82% "	
612	5.7 "	3.32% "	
613	2.5 "	1.54% "	
614	10.0 "	1.64% "	
615	15.0 "	3.92% "	In Raise
616	13.0 "	2.82% "	
617	3.5 "	2.42% "	In Raise
618	17.3 "	0.70% "	
619	2.9 "	3.04% "	In Raise
620	12.5 "	3.36% "	
621	4.0 "	1.10% "	
622	4.0 "	0.54% "	

in the big silicious outcrops. Crosscuts have been driven under the Apache Fort and under the surface tunnel 200 feet to the north. The breast of the drift is now nearly under the most northerly showing of copper carbonates. This level with the surface topography is shown on the Topographic Map of the "Copper Ruin" Claim. I can see no relation between the silicious outcrops and the orebodies which have been found and believe that the chances of finding valuable orebodies in the north end of the claim are very remote.

Yours Respectfully,

Norris English

ARIZONA BINGHAMTON COPPER CO.

Plan of the
Underground Workings.

TO ACCOMPANY REPORT
BY ALEXANDER ROGERS

Legend.

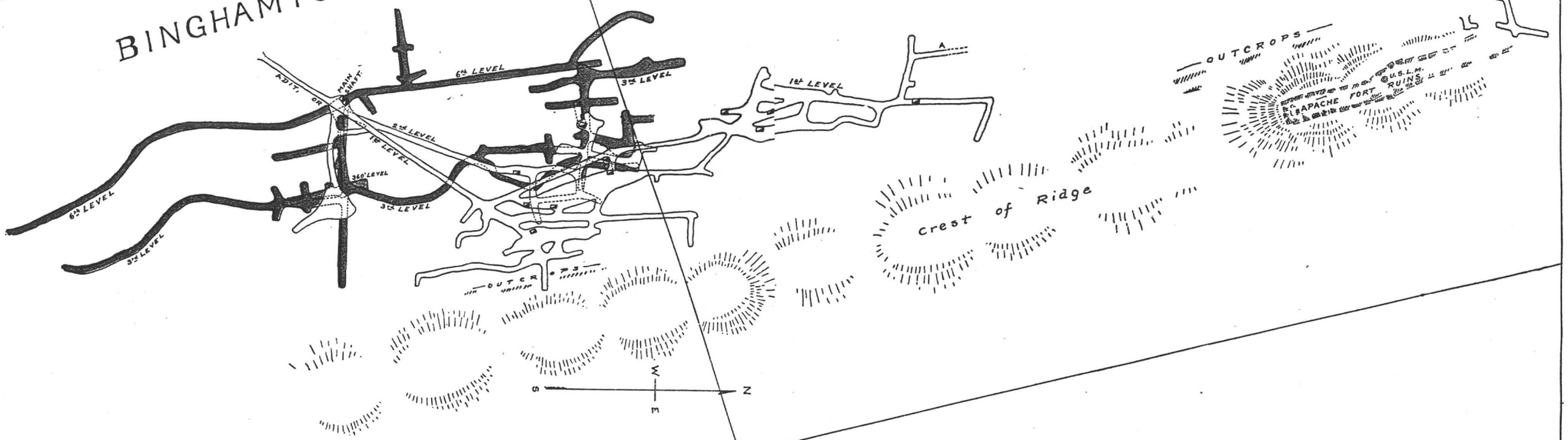
- 1st Level.
- 2nd Level.
- 3rd Level.
- 360' Level.
- 6th Level.

MARCH, 1917.

TENNESSEE

BINGHAMTON

COPPER RUIN



13 9/16" Enlarge to 21 9/16"

Notes:

Replacements in schist. Nearly all the mineral is chalcopyrite, with a little tetrahedrite. In places pyrite shows up in larger amounts. Shaft 600' deep. Practically all the stoping so far has been above the 100' (Adit) level. Sulphides to 70' up, then oxides. On the 100' level there are seven ore bodies which appear to be on, or in immediate vicinity, of faults. According to Hess, schist with a blue cast is the most favorable indicator of ore. Gray sericite or amphibolite schist not so favorable. One ore body on 100' level is 90' long; one 110' and one 180'. The one 180' long, called "102" ore body (from coordinate) also appears on the 200' and 300' levels. The average copper contents of this ore body are said to have been 3% copper on the 100' level, 1½% on the 200' level and 4.7% on the 300' level. The greatest width is on the 300' level where it is 40 feet. Expect to top slice this. Generally shrinkage stopes. The 90' ore body on the 100' level is 5' to 6' wide and said to average 3½% Cu. The oxidized ore above is said to average 5 to 6% Cu and is perhaps suitable for converter flux. According to Hess mining costs (largely development work) have been 13¢ per lb. copper lately. Now about 7¢. Drifting with jackhammers or bars. Going to use dreadnaughts.

Mill designed by H. Kenyon Burch. Now treating 125 tons per day. Going to increase to 250 tons per day. Installing another Marcy Mill, and Butchart (roughing) tables to replace Deisters. At present, March Mill, Dorr Classifier, Flotation plant, (Burch's design) and Deister simplex sand tables which have been making product from tailing too low grade to ship until recently. Now going to make trial shipment of separate lot of Deister product from high grade heads. Milled February 3800 tons, average 3/3% Cu. Total cost February copper a shade under 18¢. Heads for March 1-10 have been 2½ to 3% Cu. Sixteen men run the mill three shifts.

A probable producer of chalcopyrite concentrates when copper is good price, but the values in the ore shoots are variable from level to level and the ore bodies are not generally large. Both mine and mill appear to be well managed.

L. F. S. Hess

Mch. 1917

C O P Y

Consolidated Arizona Smelting Company
Humboldt, Arizona

Blue Bell Mine
Mayer, Arizona
Feb. 6, 1918

Mr. G. M. Colvocoresses.
Cons. Arizona Smelting Co.
Humboldt, Arizona

Dear Sir:

In connection with our phone conversation this morning, Mr. Johnson gave me a few figures on thecost of production at their mine which might be of interest to you.

Mining Cost delivered at mill	$4.25 per ton
Milling Cost	2.44 " "
Average Mill Heads 1917	3.29%
Average Mill Tails "	0.54%

In addition he stated that their smelting cost, etc., represented about 6 cents per pound of copper in the ore. You of course have a knowledge of this.

Ratio of concentration between 8 and 9.

An additional cost for freight and cartage should be added to this and I have no figures on same.

Their mill heads as you know during the early part of the year were low and down to two percent. During the latter part of the year however they ran from 3.5 to 4.5% on the average, making the total average as stated.

There should be a general office charge against these costs, including taxes, insurance, etc.

Yours very truly,

(W. V. DeCamp)

tons and in my opinion there is a strong probability of developing as much more above their six hundred level since there are several outcrops on the surface as yet unprospected that are as good as anything so far developed.

They intend to sink their main shaft starting soon but in my estimation with their present reserves and output they would do well to develop more ore above the six level and might change their mind as to location of shaft once this area were more fully developed etc,.

Their mill heads at present are running 4.I5 %

They are all very enthusiastic about the future of the property and although they don't talk much about it, have visions of a smelter etc, with the idea when the mine becomes large enough to make them independent of outside reduction works. You of course realize the difficulties in the way of any such idea.

As a result of these observations I am more firmly convinced than ever that your company would do well to purchase the property provided of course that a reasonable price were asked. Copper is high and their price would probably be high but a year or two more would develop such a tonnage that it would offset the present high prie of copper assuming that copper would drop during that time.

The ore already blocked out and broken if owned by your company and with a tramway direct to Humboldt(not to exceed 5 miles) would represent a ne t value of over a million dollars,while the profit to the present owners could not represent much over half that amount under their present system and expense due to their position etc.

With a better shaft however and a larger mill the property could be made to produce three hundred and fifty tons a day of four percent ore.

Hoping that you will get an opportunity on your return to look it over and that it will appear in a ~~sm~~ similar light to you,I remain,

Yours very truly,

W. D. Camp

CONSOLIDATED ARIZONA SMELTING COMPANY

HUMBOLDT, ARIZONA

ALL COMMUNICATIONS SHOULD BE ADDRESSED TO THE COMPANY

Special

Blue Bell Mine
Mayer Ariz.
Jan 30. 1918.

Mr G.M.Colvocoresses. Mg'r.
Con's. Ariz. Smelting Co.
Humboldt Ariz.

(Cuy Brigham)

Dear Sir:-

Mr White and myself recently made a trip thru the Stodard mine accompanied by Mr Johnson and I thought you might be interested in our deductions since we have talked about the property before.

At the present time they are mining and milling approximately I75 tons of ore per day and are carrying in reserve about 37,000 tons of broken ore.

They are doing 800 linear feet of development work per month consisting of drifting and cross cutting in addition to which they are diamond drilling the sills of some of their ore bodies to determine the exact outlines of same and have done some drilling in the walls of their drift's at intervals of about one hundred and fifty to two hundred feet, which interval seems very great to me considering the fact that their ore bodies vary in length from seventy five to one hundred and eighty feet. The width of the bodies so far developed varies from six to fifty feet; the fifty foot width carrying a length of only one hundred feet, very wide(50 ft) in the center and tapering to nothing at the ends. I can hardly understand their reason for drilling holes at ten foot intervals to determine the exact area of the sill of this larger body, since they figure on making a cut and fill stope of it anyhow and will eventually cut out the sill.

The formation stands nearly vertical, there is therfore very little caving of the wall rock.

Ground is generally soft and ore either soft or very brittle,.and mining cost's should be very cheap, they figure I2 cu. ft. of ore in place to a ton. Under proper sorting conditions if a smelter were available a large amount of high grade smelting ore could be sorted out of the mill ore and shipped direct to furnace, the balance for mill although this would reduce the mill heads to from 2.5 to 3 percent and raise smelter heads to five to seven percent.

At the present time they figure a total reserve of broken and unbroken ore of approximately I60,000

PROPOSED AERIAL TRAMWAY - ARIZONA BINGHAMPTON COPPER CO.

MAY 17, 1918

INFORMATION RECEIVED FROM MR. W. C. STARR

OF THE U. S. STEEL PRODUCTS CO., LOS ANGELES.

Bids are being submitted to the Arizona Binghampton Copper Co. on three propositions for the erection of aerial tramlines from the Mine at Stoddard to Humboldt, a distance of 18,000 feet, but with a fairly even profile.

The first proposition provides for a tramway of 15 tons per hour capacity; cable for loaded side 1" Lock Coil; empty side 7/8" Lock Coil; traction 1/2" lang-lay. There would be required 66 buckets of 6 cubic feet capacity each. Distance between carriers would be 600 feet or 72 seconds in time with the speed of the traction rope ~~of~~ steel 500 feet per minute. All material for this outlay, shipping weight about 85 tons, would be furnished by the U. S. Steel Products Co. for $32,500.00 and would include ropes, buckets, saddles, etc.

For a tramway of 25 tons per hour capacity the material would be the same throughout as above, except that there would be required an additional 44 buckets, which would cost $4039.00, F.O.B. shipping point.

For a tramway of 50 tons per hour capacity the U. S. Steel Products Co. specifications call for the following: Size of rope loaded side 1 1/4" diameter Lock Coil Cable; empty side 7/8" diameter Lock Coil Cable; traction rope 5/8" diameter lang-lay; 110-12 cubic feet capacity buckets; cost of ropes, saddles, buckets, etc. $51,000.00 F.O.B. shipping point.

To operate a 15 ton capacity tram over this ground would probably require a 15 H.P. motor, on which the quotion for a drum control motor is $850.00. For a 25 ton tram a 30 H.P. motor would be required, price $900.00. For a 50 ton tram a 50 H.P. motor would be required, price $1500.00.

While delivery is not so guaranteed, the U. S. Steel Products Co. confidently expects and will make every effort to make shipment six to seven months after receipt of order and mail complete drawings six weeks after receipt of order.

Mr. Starr says that it is a fairly approximate method, in estimating the total cost of an aerial tram-line erected, to add tothe cost of the cables, buckets and saddles a like amount to cover the cost of lumber, freight and cost of erection. This would include everything except the cost of terminal ore bins and electric motor. On this basis, without allowing for the ore bins, he would roughly figure that a 15 ton per hour capacity tram over the proposed ground would cost about $65,000.00 and a 25 ton capacity tram about $5000.00 more. A 50 ton tram on the same basis would cost a little over $100,000.00.

Figuring on the 50 ton capacity tram and assuming a total of 500 tons per day transported, Mr. Starr estimated cost of transportation as 16¢ per ton, making liberal allowance for overhead charges, including 6% interest and 5% depreciation on the capital outlay and including liberal charges for oil, grease, power, etc.

E. S. S.

ARIZONA BINGHAMPTON

(Note by G. M. Colvocoresses)

1943

This mine operated quite steadily from 1915 through 1920 and again during 1922 - 1923 and on a small scale in 1928-29. During that period much of the best ore estimated by engineers in 1918 was mined and shipped but a considerable tonnage of lower grade ore was left and some new ore was developed in the upper levels. The development and drilling below the 400' level was for the most part disappointing as I determined by a personal examination in about 1924.

The mine was subsequently shut down and the equipment dismantled and sold.

There still remains a substantial reserve, say 60,000 tons of 2½% copper ore, of which perhaps half would average close to 3%. There are practically no values in gold and silver. There are some showings of oxidized ore near the surface which have been partly worked by lessees and there is good prospecting ground on the Copper Ruin and further north.

been successful and profitable to date, and sincerely hope that they will continue to become even more profitable in the future.

If the ore bodies which you have developed on the 6th level are of the dimensions and of the average value stated to us by Mr. Cheney, it would seem that the success of your operations over a considerable period of time is reasonably assured, and, more-over, you have, unquestionably, excellent possibilities of developing new ore bodies in the upper levels and of also proving up the ore shoots, on which you are now working, to a considerably greater depth. The question, of course, will be the grade of the ore and in this matter, as you know, a man cannot form an opinion without having personal knowledge of the sampling methods employed and the actual results of such sampling in detail.

If I were operating your property, I should feel that your best policy in developing additional ore reserves would be to work ~~up~~ laterally both north and south above your 6th level and to thoroly explore all the probably mineralized sections of the property between the surface and that point. After that it would seem to be in order to go deeper provided the work between the 6th level and the surface had thoroly demonstrated the existence of continuous shoots of commercial ore.

It is obvious to any person visiting your property that you are working at the present time under a very considerable handicap with a shaft which is far too small to permit the maintenance of a steady production and carrying on development at the same time, and the size of your Mill and the necessity of subse-

quently transporting the concentrates by wagon or motor truck to Mayer and re-shipping to Humboldt results, of course, in making your working costs unduly high and undoubtedly if your Mine develops in a satisfactory manner you will face a heavy expenditure for the sinking of a new and larger shaft and the proper equipment of same and the construction of a much larger Concentrator and either the construction of a narrow guage railroad, or aerial tramway for handling your concentrates to some point on the railroad.

It was this consideration that prompted me to suggest the possibility of erecting an aerial tramway from your Mine directly to Humboldt at which point I believe that the concentrating operations and also the sorting out of direct smelting ore and the subsequent smelting of ore and concentrates could be carried on much more cheaply and advantageously than elsewhere. Roughly, I find that the distance from your Mine shaft to Humboldt is about 4 ½ miles and I should think that a fully equipped gravity rope-way could be built over this distance at a cost, including storage bins, sorting plant and terminals, of about $120,000.00 and if your milling were carried on in a large and well equipped Concentrator, the cost should not exceed $1.25 per ton which I understand is much less than present costs of concentration. The operation of the rope-way should not exceed 25 cents per ton of ore and if your Mine were worked on a larger scale the mining costs would undoubtedly decrease to a very great extent and permit you to produce with profit a lower grade of ore than can be done at present.

C. A. S. Co.
COPY FOR

Mr. Johnson #4 February 20th, 1918 m

As I stated to you verbally during your recent visit to Humboldt, we are hoping and expecting to make you better terms for the treatment of your concentrates. The high rate at which we have been treating these has been necessitated by the poor equipment of our Smelter and the heavy percentage of dust loss which we have sustained on high grade flotation concentrates, but I am pleased to say that the transformers for our Cottrell equipment have now arrived and should be installed within the next few days and it is my intention to write you very shortly proposing new terms and a reduction in smelting costs from March 1st.

We are most anxious to cultivate the closest and most friendly relation with such people as yourselves to whose effort and courage the development of the mines of this section of the country is so largely due and I want to congratulate you on the splendid results which you have obtained to date. If you think that the proposal which I have tentatively made in regard to the rope-way to Humboldt and the possible treatment of your ore by concentration as well as smelting would be of interest to the principals of your Company, I should like very much to go into this matter further and believe that some arrangement advantageous to both the Arizona-Binghamton and the Consolidated Arizona Smelting Co. may easily be worked out since it would appear that the conditions under which you are now working increase your mining, transportation and milling costs by nearly $4.00 per ton of ore all of which could be saved by adopting

C. A. S. Co.
COPY FOR

such a policy as I have tentatively outlined.

With very best personal regards,

Yours very truly,

GENERAL MANAGER.

m

C. A. S. Co.
COPY FOR

copied

May 2nd, 1918 m

ARIZONA BINGHAMTON COPPER CO.

Mr. Chas. A. Kittle, President.

Referring to this matter which was made the subject of discussion at a Directors' meeting during my last visit to New York, I beg to state that Mr. English has now completed his examination of this property and altho his complete report is not yet made up, I am able to obtain therefrom the essential information desired.

The examination of the Binghamton Mine shows that there are approximately 100,000-tons of ore positive and probable, the average grade being 3.5 % copper; in addition to the above there are good probabilities that the ore shoots will go downwards and that additional lateral tonnage will be developed so that it seems reasonable to estimate at the present time on the probability of 150,000-tons which tonnage may, of course, be greatly increased by subsequent exploration and development work.

Under present working conditions the net profit on this ore cannot be figured at more than $4.00 per ton or a total of $600,000.00 for the property, but should a rope-way be constructed to Humboldt and a different policy in mining and treating the ore be adopted, it is probable that the profit could be increased to $6.00 or even $7.00 per ton which latter figure would place the estimate of the value of the property at a little over a million dollars.

From the above it is evident that it would not be good policy for us to purchase an interest in this property at anything like the par value of the stock which was the basis suggested by Senator Reynolds and which would place the value of the Mine at $1,700,000.00 and it is my impression that later on it may be possible to secure an interest in the property on a more favorable basis, altho I do not believe that at the present time Reynolds and his associates would be inclined to dicker or to sell any substantial quantity of stock at a materially lower figure and on the other hand I would not recommend the purchase of any stock at more than $2.00 per share, considering the heavy Capital Expenditure that must still be made in order to put the Mine on the most efficient operating basis.

On the other hand, the examination proves (as I expected) that while the ore reserves have been considerably over-estimated by the local management, there is a very considerable body of ore in this property and same can be made extremely valuable by providing the necessary equipment and operating in an economic manner and I am hopeful that Senator Reynolds and his associates will decide to construct at their expense an aerial rope-way from the Binghamton Mine to Humboldt Smelter, a distance of about 3 ½ miles.

If this rope-way is to be constructed by the present owners of the Binghamton, it will be necessary for us, on our part, to engage to concentrate their ore as well as to smelt the concentrates as we are doing at the present time.

We know that this ore concentrates by flotation without difficulty

and that the concentrate produced therefrom is extremely desirable and furnishes a source of very profitable revenue to the Smelter thru the treatment of same and naturally it is a business which I am very anxious to retain, and increase if possible.

In order to treat the ore by concentration up to a maximum tonnage of about 200-tons per day,(which is probably the maximum that the Mine could produce for sometime yet to come) it would not be necessary to greatly enlarge our equipment at Humboldt. Our present crushing and sampling plant designed for the treatment of custom ores is sufficiently large to enable us to crush this extra tonnage and sample same and the first new installation that would be required would be a long belt conveyor leading from the sample mill to the ore bins at the Concentrator.

At the Concentrator we should have to erect a new ore bin and also a new flotation unit ~~replacing~~ comprising in all probability a new Hardinge ball mill, classifier, elevator, de-watering tank and a flotation machine and for this last purpose our old 250-ton flotation machine would serve very nicely. The total cost of all this work is roughly estimated at between $50,000.00 and $60,000.00 and assuming that we could only count on 150,000-tons from the Binghamton Mine it would be necessary to depreciate this plant at the rate of 50 cents per ton in order to replace the initial cost out of the operations on said tonnage, and in addition to this we should want to make at least a milling profit of 50 cents per ton in order to make this a satisfactory investment.

Since writing the above I have had an interview with Senator Reynolds and have stated our position to him pretty

fully. The result is that he intends to make his own financial arrangements and will probably proceed to double his Capital Stock to enable him to make the improvements that he desires at the Mine and also to erect the rope-way to Humboldt which he has practically decided to do in any event, assuming that he can secure delivery on the rope which is very hard to obtain at the present time.

As to whether or not he will ship concentrates over this rope-way from his own Mill, these to be smelted by us as at present, or ship to other Smelters in case we cannot meet the terms which the others quote (and which I am very confident of meeting); or whether he will enter upon an agreement with us to concentrate his ore, no definite decision can, of course, be reached at the present time, since the latter agreement would have to be dependent upon the authorization by the Board of Directors of the Capital Expenditure involved in adding the new equipment to our Concentrator which has not been provided for in any appropriations to date.

I shall proceed to have tentative plans for this unit drawn up in order to obtain a more accurate estimate of the cost of same; shall make careful estimates of our milling costs and figure the whole problem back and forth and then submit to the Directors a tentative proposition which I shall propose to submit to Senator Reynolds, provided it meets with the approval of the Directors, and provided they are agreeable to the expenditure involved in adding this unit to our Concentrator. Naturally I should like to undertake this additional business provided it

Mr. Kittle #5 A-B Mine May 2nd, 1918 m

can be figured as surely profitable to this Company and we can see therein a reasonable certainty of replacing all of the first cost of our investment and earning a profit of about 50 cents per ton on the milling or say $75,000.00 on the entire transaction, in addition to our present smelting profit, which, of course, we shall probably obtain in any event.

As stated to the Directors in New York, I look upon this property as a possible producer of considerable ore; a promising Mine in the process of development and one with which we will do well to cultivate the closest relations and by milling as well as smelting their ore we should have a practical certainty of handling all of their output and very probably have an advantageous opportunity of acquiring a direct interest in the property at a later date should the development warrant us in making such acquisition.

Trusting that all of the above will meet with the approval of the Directors and anticipating putting before them a definite proposition in the course of probably three or four weeks' time. --

Yours very truly,

J. M. C.

GENERAL MANAGER.

m

C. A. S. Co.
COPY FOR

February 20th, 1918 m

Mr. George W. Johnson, General Manager,
Arizona-Binghamton Copper Co.,
Stoddard, Arizona.

My Dear Mr. Johnson:-

Please pardon delay in replying to your letter of February 12th which was due, as explained to you over the telephone, to my absence from Humboldt.

I appreciated very sincerely your courtesy to us on our recent visit to the Binghamton Mine and found your property extremely interesting. Frankly I would not feel justified in giving you any definite opinion concerning this property as such opinion could only be formed after a very thoro examination coupled with a complete sampling of all the ore bodies exposed. We know, of course, what you have done in the past and your record of production has certainly been most creditable and the development of the Mine during the past few months would ~~certainly~~ appear to be extremely favorable. I note in looking over my old reports that back in 1913 when I first visited Humboldt, I went over the surface showings at the Binghamton and examined all of the under-ground workings which were then accessible, and it appealed to me then as a very promising prospect, and I so stated in reporting to my principals. To-day you have, of course, passed the stage of prospect and have become a producing Mine and from what I saw at your property recently, and statements which you have made to me, I am indeed pleased to feel that your operations have

ARIZONA BINGHAMTON COPPER CO.

Plan of the
Underground Workings.

TO ACCOMPANY REPORT
BY ALEXANDER ROGERS

Legend.

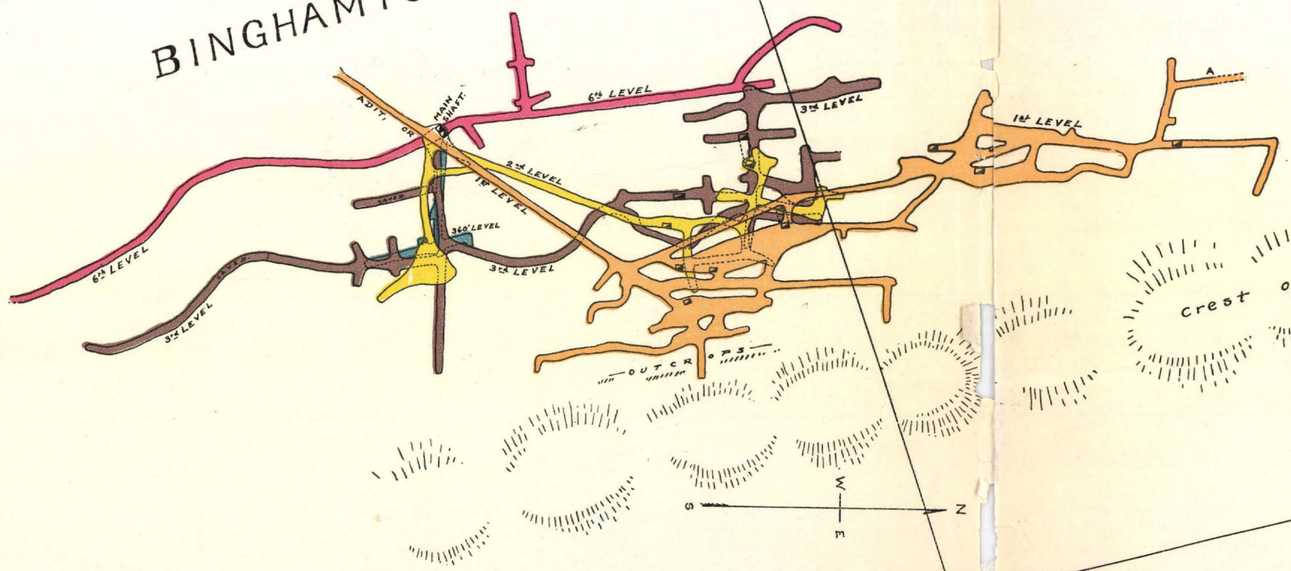
- 1st Level.
- 2nd Level.
- 3rd Level.
- 360' Level.
- 6th Level.

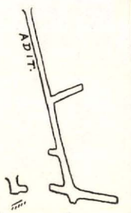
MARCH, 1917.

TENNESSEE

BINGHAMTON

COPPER RUIN





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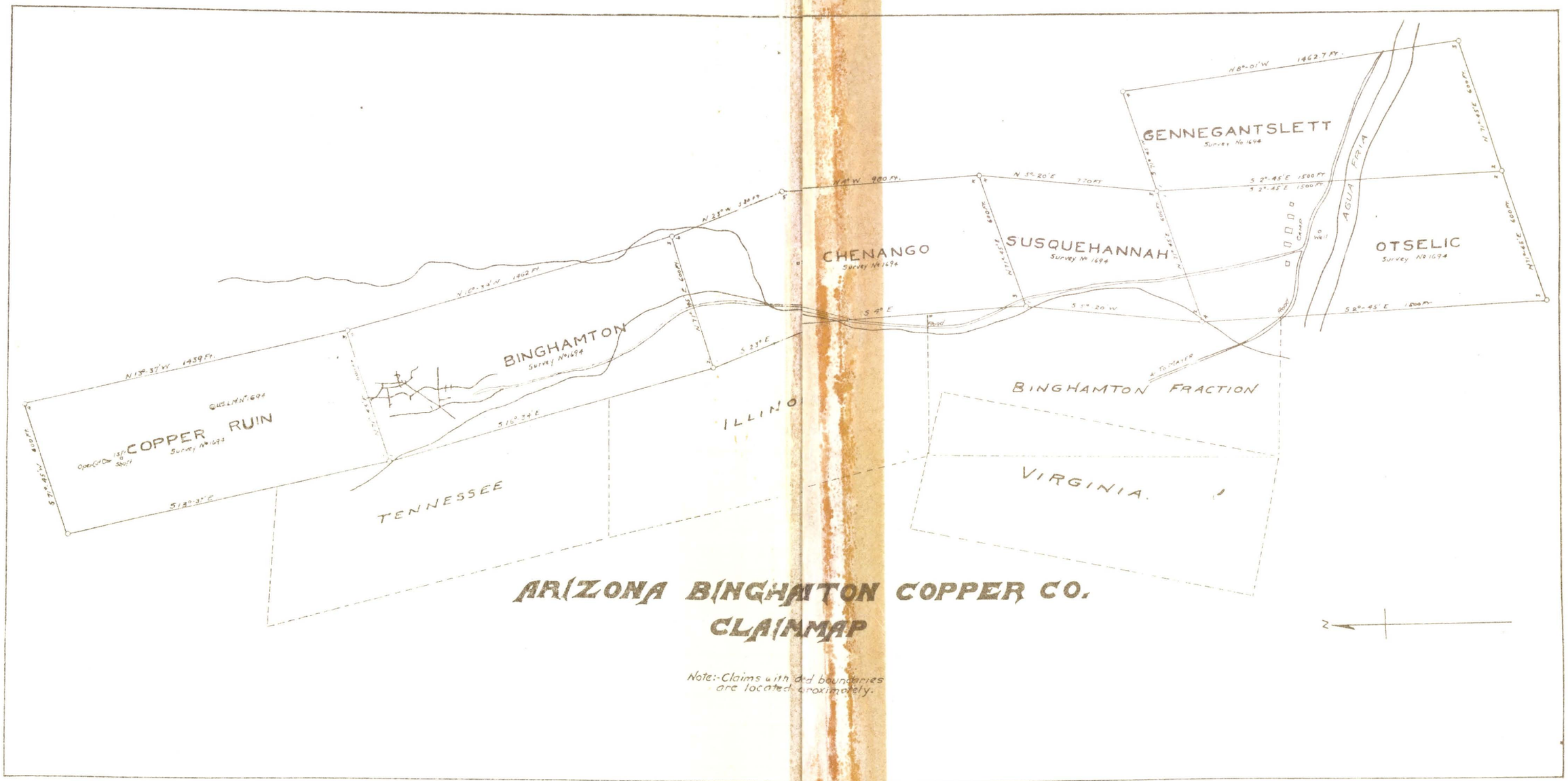
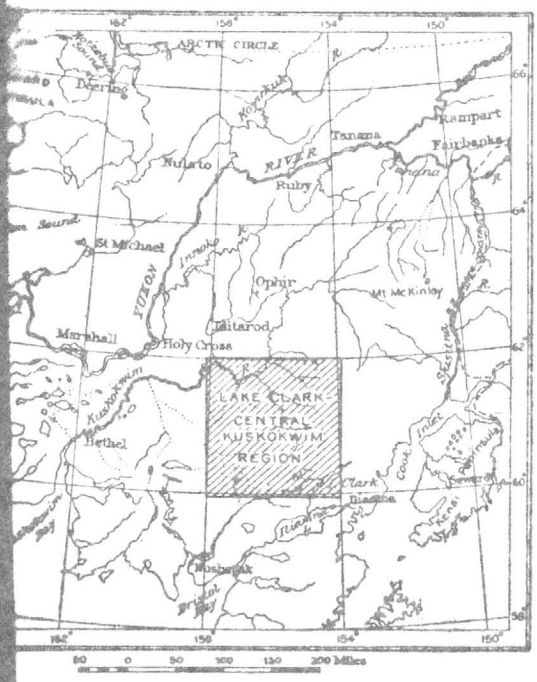


ARIZONA BINGHAMTON COPPER CO.
CLAIM MAP

Note:- Claims with red boundaries are located approximately.

ALASKA

.—In Bulletin 655 (162 pages) of the U. S. Survey, the Lake Clark-Central Kuskokwim described by P. S. Smith. Exploration of this traversed a field almost unknown, therefore its re- was nearly a complete blank in knowledge of the geology of Alaska. Geologic work was ham- by absence of bedrock over wide areas. Few mines are being developed in the region. Iditarod is



G SITUATION OF LAKE CLARK — CENTRAL KUSKOKWIM REGION

ctive district. Gold placers have been worked es adjacent to the area, but only on five creeks Clark drainage basin. The only gold lodes ted lie north-west of Lake Clark and at Candle silver has been reported at several places in im basin. Copper occurs near Iliamna lake e Clark. Antimony is found with mercury on m and near Iditarod; none has been developed. e has been opened south of Iliamna lake; n small quantities west of the north end of nd manganese in the same area. Each of the rces is described as far as possible, and may be prospectors and others who might investigate

ARIZONA

.—This is one of the resurrected districts of m the 'seventies to 1915 the mines experi- s and downs. In the latter year D. B. Gem- . Randolph leased the Crown King mill and g the tailing dump. A system of flotation at recovered 1540 tons of zinc concentrate and 1500 tons of iron-gold-silver concentrate, from 12,000 tons of tailing. These products were sent to the smelter at Humboldt. The old mill was overhauled. The Arizona Power Co. extended its lines to the mill, also the Wildflower and Tiger mines. An aerial tram was erected between the former mine and the mill, which at present is dressing 60 tons daily of $12 gold-silver and $3 copper ore. Recovery in 1917 was 91%. The Tiger mill was remodeled. Old tailing has been treated since February 1918, and will not be worked out until September. It carries 12 oz. silver per ton, also some gold. Concentrate assays 200 oz. silver and $8 gold. Recovery is 70%. The Bradshaw Development Co. has certainly made this district 'come back.' Other mines are the Springfield, Lincoln, Swastika, and Nelson.

Globe.—Arizona Commercial pays 50 cents per share on July 31. This is equal to $87,500.

Jerome.—Owing to the labor situation being investigated by the Federal mediator, Hywell Davies, wages here were not advanced 50c. as was done at other Arizonan copper centres. The Central Labor Union has asked for a flat increase of $1.10 per day for all classes. After hearing committees from all sides and investigating the problems put up to him, Mr. Davies went to Los Angeles, where he has been in consultation with Charles W. Clark, general manager for the United Verde Copper Co. It is said that matters affecting the providing of suitable and cheaper places of abode for the employees of the district will be the principal topic taken up at this conference.

Calumet & Jerome is to prospect by drilling on the 600-ft. level. The Diamond Drilling Co. will do 2000 feet. United Verde Extension is said to have experienced a good deal of trouble in blowing-in its new furnace. Two charges 'froze' last week.

Mayer.—Five miles east of this place is Copper Mountain, where a considerable amount of development is being done. At 500 ft. below the main adit-level in the Copper Queen a wide vein has been found.———The Arizona Binghampton mill is treating 175 tons daily, with high recovery.———The Copper Mountain company's shaft is down 250 ft., and will be deepened to 500 ft.———Rich ore has been opened at shallow depth by the Big Bug Copper Co. Indications point to a probable large deposit.———A 50-ton flotation plant is being erected by the Pocahontas.———There are six new deals pending for well-located properties in this district.

ARKANSAS

Harrison.—The 75-ton mill of the Harrison M. & M. Co. was burned last week. It was under lease to the Continental Mining Co., and will be re-built.

CALIFORNIA

Angels.—The new vein at 3200 ft. in the Utica mine is said to be opening well, assaying $10 per ton.

A considerable quantity of chrome continues to be shipped from deposits in the serpentine belt a few miles east and south-east of Angels.

Coram.—The First National Copper Co., controlling the Balaklala company, will pay a dividend of 15c. per share in

Copied

Copy marked portions / with red pencil

PROSPECTUS

THE ARIZONA BINGHAMTON COPPER COMPANY'S property consists of six patented claims and four additional claims adjoining them to the west, acquired for protection and held by location, comprising about 175 acres. The claims are as follows:

Copper Ruin	Otselic	Illinois
Chenango	Gennegantslett	Virginia
Susquehannah	Tennessee	Binghamton Fraction
	Binghamton	

These claims are located in a part of the range known as the Black Range in the Copper Mountain District, County of Yavapai, Arizona, in an air line about four miles from the Town of Mayer and about five miles from the Town of Humboldt, where the Consolidated Arizona Copper Company's smelter is located.

If it were possible to select a location for a mine, no better one could have been chosen from all standpoints than the site at Binghamton. Although the readers can tell fairly well by the accompanying panoramic picture of the camp, no description could take the place of a personal view of these mountains sloping down to the banks of the Agua Fria River, from which the mine obtains its water supply. The climate is unsurpassed for mining during the entire year.

EQUIPMENT

The mine is equipped with a full plant of modern mining machinery, sufficient to produce 250 tons of ore per day, also a modern flotation mill having a capacity of 125 tons per day, operated by electric power supplied by the Arizona Power Co. The Company owns the town and town site together with the buildings as shown in the accompanying pictures.

DEVELOPMENT

A shaft has been sunk on the Binghamton claim 600 feet deep and veins opened on the 100, 200, 300, 400 and 600 foot levels.

After the Minerals Separation North America Corporation patent came into existence, it was decided to erect a flotation mill with a capacity of 100 tons a day, with the plans so designed that the capacity could be increased unit by unit at a minimum expenditure of money. Work on the mill was begun in March, 1916, and completed August 15, 1916, and it has been operating continuously since.

From August 15, 1916, to April 1, 1917, 24,802 tons of ore have been treated by the mill, which were reduced to 2,389 tons of concentrates. Such concentrates have been shipped to the smelter and have averaged 21.43 per cent. copper. The Consolidated Arizona Smelting Company at Humboldt, after deducting all smelting, refining and copper selling charges, has paid to the Arizona Binghamton Copper Company $243,570.60 net from August 15, 1916, to April 1, 1917, for the 2,389 tons of concentrates.

The flotation mill capacity is now being increased to treat 250 tons of ore per day and will be completed and operating within 60 days, or about June 1, 1917, so that the production and income should be double that of the present time.

Thomas H. Tullock, a graduate engineer of mines of the Columbia School of Mines, New York City, is the manager of the flotation mill and reports as follows:

Arizona Binghamton Copper Company,
Stoddard, Arizona.

Stoddard, Arizona, March 17, 1917.

Dear Sirs:

"The ore of the Arizona Binghamton Copper Company readily concentrates under flotation process. About June 1, 1917, the additional equipment will be installed and the mill will be able to handle 250 tons of ore per day or 7,500 tons a month thereafter."

THOMAS H. TULLOCK,
Superintendent.

Mr. Alexander P. Rogers, well known Mining Engineer of 25 Broad Street, New York City, who made an examination of the property in February, 1917, states:

Arizona Binghamton Copper Company, New York, March 19, 1917.
Stoddard, Arizona.

Dear Sirs:

"In reply to your request for a condensed statement upon your mine, I beg to submit the following:

"On the first level I found the following ore bodies,—No. 99 exposed for 50′ in length, average width 6′, assay 1.97% copper.

No. 100	length	50′,	average	width	16.27′,	assay	1.92%	copper
No. 101	"	100′	"	"	12.00′	"	2.63%	"
No. 103	"	60′	"	"	4.74′	"	1.84%	"
No. 109	"	30′	"	"	5.40′	"	1.75%	"
No. 110	"	180′	"	"	10.00′	"	2.30%	"
No. 111	"	60′	"	"	15.32′	"	2.17%	"
No. 115	"	40′	"	"	4.81′	"	1.76%	"

Second Level

No. 91	length	50′,	average	width	12.96′,	assay	2.65%	copper
No. 101	"	60′	"	"	7.28′	"	5.02%	"
No. 110	"	10′	"	"	1.90′	"	3.10%	"

Third Level

No. 91 length 60′, average width 5.22′, assay 1.76% copper

No. 110 In two parallel drifts, connected by a crosscut 20′ long, showing values throughout averaging 3.15% copper

102 drift, length 40′ average width 5.65′, assay 1.26% copper

102 w " " 100′ " " 7.69′ " 5.34% "

"On the 360′ level No. 91E ore body was 80′ in length, 5′ in width and assayed 3.33% copper. It is the only ore body that has been opened up on that level, as the management has not had sufficient time to drift to where the other ore bodies should be found.

"At the time I examined the property the management was mining ore for the mill from the various levels above 360′, no attempt having been made to unwater the shaft below that point.

"The exploration work being carried on to the north at my suggestion should open up other good ore bodies, as the surface indications are fully as good as those under which you have opened up your present ore bodies.

"The shaft from the 600′ level to the surface is already being enlarged into a double compartment shaft, upon my advice, to handle the increased tonnage to furnish 250 tons per day to the mill.

"If the ore exposed on the 6th level is found to be of good grade, I advise you to sink the shaft and open up your ore bodies at deeper horizons.

"On the whole, the property is an interesting one and has considerable promise."

Yours very truly,

A. P. Rogers.

James S. Murphy of Cripple Creek, Colorado, who superintended the sinking of the shaft to a depth of 600 feet, and the development work on the various levels prior to the installation of the flotation mill, and who inspected the property during the month of February, 1917, writes as follows:

Arizona Binghamton Copper Company,
Stoddard, Arizona.

Denver, Colorado, March 22, 1917.

Gentlemen:

"I have read the report of Mr. Alexander P. Rogers, of the various ore bodies in the levels inspected by him and I coincide with him in all of his opinions and advices. I desire to add further that the ore body No. 91E mentioned by Mr. Rogers in the 360′ level, continues to the 600′ level and is equally as good both as to values and size. While no development work was done on the 600′ level to open up the ore bodies mentioned by him on the levels above, it is my opinion and belief that when such development work is done, they will be found to correspond with No. 91E, which was opened by me on the 600′ level."

JAMES S. MURPHY.

The Management believes in following the policy as outlined in Mr. Rogers' report, and as soon as it can be conveniently done, without interfering with the present output of the mine, nor checking the increase in production up to 250 tons per day, intends to sink a double compartment shaft a distance of 1,200 feet and enlarge the present shaft from a single to a double compartment shaft to coincide with the one to be sunk from the 600′ level.

A public offering of 80,000 shares of the capital stock is made by the undersigned at Five ($5.00) Dollars per share, payable as follows:

Two ($2.00) Dollars per share to accompany the application for subscription and the balance of Three ($3.00) Dollars per share payable upon notice of allotment. If less than the number of shares applied for is allotted, the sum paid on subscription will be credited on the number of shares allotted. On failure to make the final payment when due, the amount paid on subscription will be forfeited.

The undersigned reserves the right to reject any application, or to allot a less number of shares than applied for.

Applications for subscriptions should be addressed to Woodbury & Company, at their office, 44 Pine Street, New York City, or Bank of Arizona, Prescott, Arizona, on or before May 10, 1917 (on which date subscriptions close), upon the annexed application form accompanied by check payable to the order of Woodbury & Company or Bank of Arizona, Prescott, Arizona.

The undersigned now offers the above issue of stock for subscription.

WOODBURY & COMPANY,
44 Pine Street, New York City.

Dated, New York, April 16, 1917.

C O P Y

Copy

Norris English
Mining Engineer
First Nat'l Bank Bldg.
San Francisco, Calif.

San Francisco, May 7, 1918

Mr. G. M. Colvocoresses, Gen Mgr.,
Consolidated Arizona Smelting Company
Humboldt, Arizona

Dear Sir:-

Pursuant to your instructions, I have examined the property of the Arizona Binghamton Copper Company, and submit the following:

R E P O R T

Location:

The property of the Arizona Binghamton Copper Company is situated in the Bigbug Mining District, Yavapai County, Arizona. It is connected with the Prescott and Eastern R.R. at Mayer by a rough wagon road, having fair grades about 8 miles long.

The camp is located on Agua Fria Creek about 4000 feet above sea level. The mine workings lie along the west side of a narrow ridge running north from the camp and about 400 feet higher.

Geology:

The entire vicinity is composed of the Yavapai schist formation, as classified by the U. S. Geological Survey. This formation is largely composed of sediments ranging from conglomerates to very fine material, which have been folded along north and south lines and greatly compressed, so that the original bedding is now nearly vertical.

The chavage of the schists strikes nearly north and south and dips about 70 degrees to the west.

There are two distinct types of schist. The first is chloritic and is various shades of green in color. It is very fine grained in parts while in other places it contains pebbles of a granitic rock up to several inches in diameter. The second consists of rounded quartz grains in sericite, which appears to have been formed from a quartz porphyry. Just north of the big outcrops on the Copper Ruin claim there is a considerable area of light colored rock containing phenocrysts of feldspar and rounded quartz grains which is only slightly schistose and which I feel sure to be an intrusive. The second type of schist might easily have been formed from this rock.

Ore Deposits:

The ore-deposits consist of replacements in the fine grained chlorite schist along fissures, which are practically parallel to the schistosity. These fissures occur in a shear zone which

development on the No. 6 level has exposed to a width of over 300 ft.

The ore outcrops just to the west of a silicified zone in the schist which forms the crest of a narrow north and south ridge. This silicified ridge contains small amounts of oxidized copper minerals along small fissures but the orebodies developed underground come to the surface further west and have no apparent connection with the prominent silicious buttes.

The ore is oxidized to a depth of about 60 feet. There was no marked enrichment between the zone of oxidication and the sulphides.

The principal ore mineral is chalcopyrite with a little tetrahedrite and chalcocite in the upper levels. The gangue consists of chlorite schist with some quartz. There is considerable pyrite in both the ore and the wall rocks.

The orebodies are lenticular. They are short horizontally, generally less than 100 ft. along the strike, but seem to have their greater length vertically. This is shown in the "101" orebody, which is only about 100 ft. long but has been developed to the No. 6 level to a depth of over 700'.

The entire ore zone is cut by fissures which strike nearly north and dip to the west about 70 degrees. The movement of these fissures has been nearly horizontal. There are several fissures which strike east and west and dip to the south at high angles. None of these fissures seem to have disturbed the orebodies. There is another fissure which strikes about No 20 degrees E magnetic and dips about 45 degrees north west. This fissure cut the "101" orebody at the No. 2 level and faulted it, the displacement being about 50 ft. horizontally to the west. The vertical displacement was about the same distance. This fault plane is also exposed in the No. 3 level at the intersection of the drift and the 110 west cross cut.

Development:

The mine is developed by a vertical shaft having one hoisting compartment and a smaller compartment for pipe, ladders, etc. There are five levels which connect with the shaft at depths of No. 1 at 50 ft., No. 2 at 178 ft., No. 3 at 303 ft., No. 4 at 400 ft., and No. 6 at 603 ft. There is also the A level which is 98 ft. above No. 1 in the oxidized zone and north of the shaft. These workings are shown on the plans accompanying this report. The workings are extensive on each level but only a small portion of them are on ore.

The orebodies have been numbered according to their position north of the zero co-ordinate with numbers found by dividing the distance north in feet by 20. Thus the #101" orebody was first cut at a point 2020 north.

Samples and Assays:

The position of the samples taken with their width and assay value in percent of copper is shown on the plans of the different levels. More complete sampling was impractical because almost all the ore found above the No. 4 level has been extracted or is broken in the stopes, the sampling of the bottom of the drifts was difficult on account of tramming and water and would not show the true width of the ore because the sill floors have not been removed but the stopes opened on the first floor above.

Ore Reserves:

Ore reserves are classified as follows:

1st Broken Ore at 16 cu ft. per ton
2nd Positive Ore at 11 cu. ft. per ton
3rd Probable ore
4th Indicated.

Broken ore has been estimated at 16 cu. ft. per ton. The company has kept no stope maps so that the average width of the stopes have had to be estimated.

Positive Ore is ore exposed on two sides and applies only to the block of ground in "101" orebody between the No. 4 and No. 6 levels. This ore is also cut in the raise about midway between the levels.

Probable Ore contains the following classes:

1st Ore lying immediately below stopes but exposed in no other place. This has been estimated to continue to a depth below the level equal to twice its width.

2nd Ore showing in the bottom of a level and against the end of a stope connecting with the level below.

3rd Ore showing in cross cuts on two levels which has not been opened by either drifts or raises.

Indicated Ore is used to designate ore that is opened on one level and indicated by the presence of ore in the proper position below.

Table of Ore Reserves

Broken Ore:	Stope	Average Length	Height	Width	Tons	Tons
Above No. 1 Level	"110"	175	14.3	9.0	1410	
Above No. 2 level	"110"	70	120.0	10.0	5250	
Above No. 3 level	"91"	50	105.0	8.0	2620	
Above No. 4 level	"91"	50	105.0	8.0	2620	
	"101"	110	70.0	17.0	8180	
Above No. 6 level	"94"	60	40.0	10.0	1500	21580
Positive Ore:						
Above No. 6 level	"101"	90	196.0	15.0	24100	

	Stope	Length	Average Height	Width	Tons	Tons
Probable Ore:						
Above No. 2 Level	"91"	40	16.0	8.0	465	
A	"99"	60	16.0	8.0	700	
	"100"	70	20.	10.0	1270	
	"101"	60	105.	10.0	5730	
	"110"	50	120.	7.0	3820	
Above No. 3 Level	"110"	60	125	10.0	6820	
Above No. 4 Level	"100"	60	96.	10.0	5240	
Above No. 6 Level	"91"	60	16.	8.	700	
	"110"	60	196.	10.	10700	
Below No. 6 Level	"94"	60	20.	10.	1090	
	"101"	70	32	16.	5220	41755
Indicated Ore:						
Above No. 2 Level	"111"	40	120	10.0	4360	
	"115"	50	120	5.0	2730	7090
						94545

Value of Ore:

The ore in the "101" orebody has always been of higher grade than any of the other orebodies. The broken ore in the stope above No. 4 level is estimated by the superintendent to assay 7.50% Copper. This estimate is based on the fact that during July and August 1917 there were 877 tons of this ore shipped to the smelter which assayed 9.00 copper. This orebody on No. 6 level including the assays of Diamond Drill holes and my samples indicate a width of 16 ft, and an average assay of 314 copper over a length of 70 ft. A sample from the raise about 100 ft. above assayed 3.92% copper for a width of 12 ft. This orebody has been relied upon to sweeten the mill ore which averages about 3.70% copper, so that I believe it is safe to estimate the broken ore to contain 5.00% copper and the ore between the No. 4 and No. 6 levels to contain 4.00% copper.

The "110" which contains most of the remaining ore I estimate at 3.00% copper. I would place the same estimate of 3.00% on the balance of the ore.

The "101" and "110" were both sampled a little below the No. 1 level giving the following:

"101" - 6 samples 5.21% copper width 5.4 feet.
"110" - 6 samples 3.22% copper width 9.9 feet.

			Cu.%	Tons X %	Tons X %
Broken Ore	"101"	8180 tons	@ 5.00%	40900	
	others	13400	@ 3.00%	40200	
Totals & Average		21580 tons	@ 3.76%	81100	81100
Positive Ore	"101	24100 tons	@ 4.00%	96400	96400
Probable Ore	"101"	5220 tons	@ 4.00%	20880	
	other	36535 tons	@ 3.00%	109605	
		41755 tons	@ 3.13%	130485	130484
Indicated Ore		7090 tons	@ 3.00%	21270	21270
Grand Total		94545 tons	@ 3.49%		329255

Working Costs:

The present mining costs are shown by the tabulated statement covering the 10 months period from June 1, 1917 to March 31, 1918. The larger items of expense such as labor, explosives and timber are distributed to the Exploration, Development, and Extraction Accounts.

The General Mine Expense amounts to $2.37 per ton of ore milled and seems very large. It probably contains considerable sums which should have been charged to Capital Accounts, or distributed over a larger tonnage. The administration expense seems very excessive. The Power account I believe can be reduced materially by having less motors installed on the compressors. There are now 2 motors of 75 H.P. and 1 motor of 150 H.P. installed while the 150 H.P. motor and compressor is large enough to do all their present work.

On the whole I believe that at least $1.00 per ton of ore milled can be saved in their general expenses, which will reduce the mining costs from $5.40 to $4.40 per ton. Considerable economy would also result by keeping the mill in full and constant operation so as to increase the mine tonnage which averaged less than 4000 tons per month for the 10 months period.

The following table gives the Mining Costs:-

Mining Costs per ton of Ore Milled
For 10 Months Ending Mar. 31, 1918

Tons of Ore shipped	877
Tons of Ore milled	38943.68
Tons of Ore Produced	39820.38
Tons of Waste Hoisted	33869.07
Tons Hoisted	73689.75

			Per Ton	Per Ton
Exploration in Waste		46189.98		$1.18
Drilling	25803.66		$.662	
Mucking	11548.67		.296	
Timbering	4898.70		.125	
Contractors	1303.03		.033	
Diamond Drilling	2635.92		.067	
Development in Ore		14369.77		.37
Drilling	5709.06		.146	
Mucking	2336.37		.060	
Timbering	6324.34		.162	
Extraction		57794.28		1.48
Drilling	27302.51		.700	
Tramming	13047.27		.333	
Timbering	8077.99		.207	
Weighing	3058.32		.079	
Tramming to Mill	6308.19		.162	
General Mine Expense		92260.27		2.37
Superintendence	8459.97		.217	
Assay & Engineer.	2665.99		.068	
Warehouse	1304.36		.033	

Hoisting	15677.74		.402
Compressors	2613.50		.065
Shops	7122.99		.183
Drill Upkeep	4085.39		.105
Tracking	3483.87		.089
Piping	4568.65		.117
Shaft Upkeep	2125.52		.054
Cutting Stations	714.59		.018
Miscellaneous	6475.11		.166
Insurance	6041.78		.155
Power	13303.58		.341
Administration	13617.23		.348
		210614.30	5.40

The milling cost exclusive of Road Repairs, Hauling Concentrates and Flotation Royalty of 12 cents per ton have been as follows:

			Cost per ton
August 1916	1257.73	2715	$2.16
Sept.	3703.78	5920	1.60
Oct.	3151.60	5170	1.64
Nov.	3339.07	5540	1.[illegible]--1.77
Dec.	3264.40	5780	2.32
Jan 1917	2703.60	6260	1.54
Feb.	3382.20	5210	2.09
Mar.	3840.72	8025	1.76
Apr.	3402.95	5980	1.79
May	3540.87	6335	1.89
June	3279.41	5200	6.98
July	1208.13	8440	1.[illegible]2
August	4931.18	8000	1.89
Sept.	4024.84	7600	1.60
Oct.	5146.20	8230	1.64
Nov.	4515.15	7415	2.11
Dec.	4278.77	9030	1.85
Jan. 1918	4413.00	8170	2.67
Feb.	3308.00	8800	1.99
Mar.	3849.00	7650	↓
Totals	70540.60	136470	1.93
Flotation Royalty			.12
Total			$2.05

Early in July the feed end of #1 Marcy Mill was cracked. The cost of replacing same was charged to operation for the month.

The cost of marketing the concentrates is estimated on the basis of concentrating 6 tons of 3½% ore into 1 ton of 18.5% concentrates from which the Smelter deducts 1.25% Cu. to cover losses and 4 cents per pound of Cu. with a charge of 7¢ per unit for insoluble and a credit of 4¢ per unit for iron and a smelting charge of $5.00 per dry ton as follows:

	# Cu	
Contents 6 tons 3.5% ore	420	
Contents 5 tons 0.5% tailings	50	
Recover 1 ton 18.5% concentrates	370	
Smelter deduction 1.25%	25	
Copper paid for in ton concentrates	345# @ $0.2350	$81.07

	Per # Cu	Cost Per Ton Ore	Per Ton Con.	
Hauling and Loading	$0.0087	0.50	3.00	
R.R. Freight to smelter	.0029	.16	1.00	
Insoluble 20% @ 7¢ - 1.40				
Iron 24% @ 4¢ - .96				
Smelting 5.00	.0158	.90	5.44	
Deduction	.0400	2.30	13.80	
	$0.0674	3.86	23.24	$23.24
Net proceeds from Smelter	$0.1676	$9.64	$57.83	$57.83
Mining Cost	.0765	4.40		
Milling Cost	.0356	2.05		
Net Profit	$0.0555	3.19		

Maps and Plans:

Accompanying this report are the following:

1st Topographic Map of Copper Ruin Claim showing No. 1 Level and upper workings
2nd Plan of No. 1 Level
3rd Plan of No. 2 Level
4th Plan of No. 4 Level
5th Plan of No. 6 Level
6th Plan of "101" Orebody No. 6 Level showing samples and Diamond Drill Holes
7th List of Samples & Assays

Prospects for Future:

The workings down to No. 6 Level have shown no change in mineralization nor in the size and value of the orebodies.

The Yavapai schist undoubtedly extends to great depth. It is as much sheared and disturbed in the lower as in the upper workings and I see no reason to anticipate any change with greater depth.

No. 1 level has been driven about 900 feet north of the profitable orebodies to prospect at depth the copper showings in the big silicious outcrops. Crosscuts have been driven under the Apache Fort and under the surface tunnel 200 ft. to the north. The breast of the drift is now nearly under the most northerly showing of copper carbonates. This level with the surface topography is shown on the Topographic Map of the "Copper Ruin" claim. I can see no relation between the silicious outcrops and the orebodies which have been found and believe that the chances of finding valuable orebodies in the north end of the claim are very remote.

Yours respectfully,
(Norris English)

CONSOLIDATED ARIZONA SMELTING CO.

HUMBOLDT, ARIZONA

B. F. Smelting - Stoddard Crude Ore

Based on figures for July - Dec (inc.) 1917

DATE

ORE	DRY WT.	SILICA		ALUMINA		IRON		LIME		SULPHUR		COPPER		SILVER	GOLD
	POUNDS	%	POUNDS	%	POUNDS	%	POUNDS	%	POUNDS	%	POUNDS	%	POUNDS	OUNCES	OUNCES
Stoddard Crude	2000	33.0	660			17.3	346	3.1	62	8.6	172	8.65	173	0.50	Tr
Slag Analysis		38.4				32.6		8.9				0.33			
Slag Ratio Insol-Fe-CaO							.84895		.23177						
Matte Produced	441						151				129	36.5	161		
Slag Produced	1737		667				562		155				5.73		
Limerock to be bought	178	4.0	7					52.0	93						
Fe to be bought							367								

Slag Produced = (667 x 100) ÷ 38.4 = 1737# x .0033 = 5.73 Cu. loss in slag

Mechanical Loss = 3% of 173# = 5.19 # Cu. 5.19# + 5.73# = 11.92# Total Cu. loss

Cu. Recovery = 173# - 11.92# = 161.08#

Ag. Recovery = 97.15% of .506z = 0.49 oz. Ag.

Basis of Settlement:- If gold exceeds .03 oz. per T. all gold to be paid for at $19.00 per oz.
If silver exceeds 1 oz. per T. pay for 90% at N.Y. quotation Pay for 90% of the copper at N.Y. quotation less 4¢ per lb. (minimum deduction 15# per T.) Treatment charge $5.00 per ton
Insoluble penalized 7¢ per unit Fe & CaO paid for at 4¢ per unit.

SETTLEMENT

Cu. paid for 155.7# @ 19.5¢			30	36	Brt. Fwd.	7	21	36 41
Treatment charge per ton	5	00			Converting 161.08# Cu. @ 1.02¢			1 64
Smelting cost of 1.089 T's @ 3.16			3	44	Trans. & Refin. 161.08#Cu.@2.5¢			4 03
Unloading, weighing etc per ton				40	Value of 0.49oz Ag @ 85¢		42	
Insol. penalized 33 units @ 7¢	2	21			" " 161.08#Cu @ 23.5¢	37	85	
Fe paid for 17.3 units @ 4¢				69				
CaO paid for 3.1 units @ 4¢				12	Total	45	48	42 08
Limerock to be bought .089 T's @ $1.91				17	Net profit per ton	3	40	
Fe to be bought 18.3 units @ 4¢				73				
Overhead charge per ton				50				
Totals	7	21	36	41				

CONSOLIDATED ARIZONA SMELTING CO.
Humboldt, Arizona

Blue Bell Mine
Mayer, Arizona
Jan. 30, 1918

Mr. G. M. Colvocoresses, Mgr.
Con's. Ariz. Smelting Co.
Humboldt, Arizona

Dear Sir:

Mr. White and myself recently made a trip thru the Stoddard mine (Arizona Binghampton) accompanied by Mr. Johnson and I thought you might be interested in our deductions since we have talked about the property before.

At the present time they are mining and milling approximately 175 tons of ore per day and are carrying in reserve about 37,000 tons of broken ore.

They are doing 800 linear feet of development work per month consisting of drifting and cross cutting in addition to which they are diamond drilling the sills of some of their ore bodies to determine the exact outlines of same and have done some drilling ~~xxx~~ in the walls of their drift's at intervals of about one hundred and fifty to two hundred feet, which interval seems very great to me considering the fact that their ore bodies vary in length from 75 to 180 ft. The width of the bodies so far developed varies from six to fifty feet; the fifty foot width carrying a length of only 100 ft, very wide (50ft) in the center and tapering to nothing at the ends. I can hardly understand their reason for drilling holes at 10 foot intervals to determine the exact area of the sill of this larger body, since they figure on making a cut and fill stope of it anyhow and will eventually cut out the sill.

The formation stands nearly vertical, there is therefore very little caving of the wall rock.

Ground is generally soft and ore either soft or very brittle, and mining costs should be very cheap, they figure 12 cu.ft. of ore in place to a ton. Under proper sorting conditions if a smelter were available a large amount of high grade smelting ore could be sorted out of the mill ore and shipped direct to furnace, the balance for mill although this would reduce the mill heads to from 2.5 to 3 percent and raise the smelter heads to five to seven percent.

At the present time they figure a total reserve of broken and unbroken ore of approximately 160,000 tons and in my opinion there is a strong probability of developing as much more above their six hundred level since there are several outcrops on the surface as yet unprospected that are as good as anything so far developed.

They intend to sink their main shaft starting soon but in my estimation with their present reserves and output they would do well to develop more ore above the six level and might change their mind as to location of shaft once this area were more fully developed etc.

Their mill heads at present are running 4.15%.

They are all very enthusiastic about the future of theproperty and although they don't talk make about it, have visions of a smelter etc. with the idea when the mine becomes large enough to make them independent of outside reduction works. You of course realize the difficulties in the way of any such idea.

As a result of these observations I am more firmly convinced than ever that your company would do well to purchase the property provided of course that a reasonable price were asked. Copper is high and their price would probably be high but a year or two more would develop such a tonnage that it would offset the present high price of copper assuming that copper would drop during that time.

The ore already blocked out and broken if owned by your company and with a tramway direct to Humboldt (not to exceed 5miles) would represent a net value of over amillion dollars, while the profit to the present owners could not represent much over half that amount under their present system and expense due to their position etc.

With a better shaft however and a larger mill the property could be made to produce three hundred and fifty tons a day of four percent ore.

Hoping that you will get an opportunity on your return to look it over and that it will appear in a similar light to you, I remain

Yours very truly,

W. V. DeCamp

PROSPECTUS

The Arizona Binghamton Copper Company's property consists of six patented claims and four additional claims adjoining them to the west, acquired for protection and held by location, comprising about 175 acres. The claims are as follows:

Copper Ruin	Otselic	Illinois
Chenango	Gennegantslett	Virginia
Susquehannah	Tennessee	Binghamton Fraction
	Binghamton	

These claims are located in a part of the range known as the Black Range in the Copper Mountain District, County of Yavapai, Arizona, in an air line about four miles from the Town of Mayer and about five miles from the Town of Humboldt, where the Consolidated Arizona Copper Company's smelter is located.

If it were possible to select a location for a mine, no better one could have been chosen from all standpoints than the site at Binghamton. Although the readers can tell fairly well by the accompanying panoramic picture of the camp, no description could take the place of a personal view of these mountains sloping down to the banks of the Agua Fria River, from which the mine obtains its water supply. The climate is unsurpassed for mining during the entire year.

Equipment

The mine is equipped with a full plant of modern mining machinery, sufficient to produce 250 tons of ore per day, also a modern flotation mill having a capacity of 125 tons per day, operated by electric power supplied by the Arizona Power Co. The Co. owns the town and town site together with the buildings as shown in the accompanying pictures.

Development

A shaft has been sunk on the Binghamton claim 600' deep and veins opened on the 100, 200, 300, 400 and 600 foot levels.

After the Minerals Separation North America Corporation patent came into existence it was decided to erect a flotation mill with a capacity of 100 tons a day, with the plans so designed that the capacity could be increased unit by unit at a minimum expenditure of money. Work on the mill was begun in March, 1916, and completed August 15, 1916, and it has been operating continuously since.

From August 15, 1916 to April 1, 1917, 24,802 tons of ore have been treated by the mill, which were reduced to 2,389 tons of concentrates. Such concentrates have been shipped to the smelter and have averaged 21.43 per cent copper. The Consolidated Arizona Smelting Co. at Humboldt, after deducting all smelting, refining and copper selling charges, has paid to the Arizona Binghamton Copper Co. $243,570.60 net from August 15, 1916 to April 1, 1917 for the 2,389 tons of concentrates.

The flotation mill capacity is now being increased to treat 250 tons of ore per day and will be completed and operating within 60 days, or about June 1, 1917, so that the production and income should be double that of the present time.

Thomas H. Tullock, a graduate engineer of mines of the Columbia School of Mines, New York City, is the manager of the flotation mill and reports as follows:

Arizona Binghamton Copper Co. Stoddard, Arizona, March 17, 1917
Stoddard, Arizona

Dear Sirs:

"The ore of the Arizona Binghamton Copper Co. readily concentrates under flotation process. About June 1, 1917, the additional equipment will be installed and the mill will be able to handle 250 tons of ore per day or 7,500 tons a month thereafter."

Thomas H. Tullock
Superintendent

Mr. Alexander P. Rogers, well known Mining Engineer of 25 Broad Street, New York City, who made an examination of the property in February, 1917, states:

Ariz. Binghamton Copper Co. New York City, March 19, 1917
Stoddard, Arizona

Dear Sirs:

"In reply to your request for a condensed statement upon your mine, I beg to submit the following:

"On the first level I found the following ore bodies, - No. 99 exposed for 50' in length average width 6', assay 1.97% copper.

No. 100	length	50'	average width		16.27'	assay	1.92%	copper
No. 101	"	100'	"	"	12.00'	"	2.63%	"
No. 103	"	60'	"	"	4.74'	"	1.84%	"
No. 109	"	30'	"	"	5.40'	"	1.75%	"
No. 110	"	180'	"	"	10.00'	"	2.30%	"
No. 111	"	60'	"	"	15.32'	"	2.17%	"
No. 115	"	40'	"	"	4.81%	"	1.76%	"
			Second Level					
No. 91	"	50'	"	"	12.96'	"	2.65%	"
No. 101	"	60'	"	"	7.28'	"	5.02%	"
No. 110	"	10'	"	"	1.90'	"	3.10%	"
			Third Level					
No. 91	"	60'	"	"	5.22'	"	1.76%	"

No. 110 In two parallel drifts, connected by a crosscut 20' long, showing values throughout averaging 3.15% copper.
102 drift, length 40' average width 5.65', assay 1.26% copper
102 w drift length 100' average width 7.69' assay 5.34% copper.

"On the 360' level No. 91E ore body was 80' in length, 5' in width and assayed 3.33% copper. It is the only ore body that has been opened up on that level, as the management has not had sufficient time to drift to where the other ore bodies should be found.

"At the time I examined the property the management was mining ore for the mill from the various levels above 360', no attempt having been made to unwater the shaft below that point.

"The exploration work being carried on to the north at my suggestion should open up other good ore bodies, as the surface indications are fully as good as those under which you have opened up your present ore bodies.

"The shaft from the 600' level to the surface is already being enlarged into a double compartment shaft, upon my advice, to handle the increased tonnage to furnish 250 tons per day to themill.

"If the ore exposed on the 6th level is found to be of good grade, I advise you to sink the shaft and open up your ore bodies at deeper zhorizons.

"On the whole, the property is an interesting one and has considerable promise."

Yours very truly,
A. P. Rogers.

James S. Murphy of Cripple Creek, Colorado, who superintended the sinking of the shaft to a depth of 600 feet, and the development work on the various levels prior to the installation of the flotation mill and who inspected the property during the month of February, 1917, writes as follows:

Arizona Binghamton Copper Co. Denver, Colo, March 22, 1917
Stoddard, Arizona

Gentlemen:

"I have read the report of Mr. Alexander P. Rogers, of the various ore bodies in the levels inspected by him and I coincide with him in all of his opinions and advices. I desire to add further that the ore body No. 91E mentioned by Mr. Rogers in the 360' level, continues to the 600' level and is equally as good both as to values and size. While no development work was done on the 600' level to open up the ore bodies mentioned by him on the levels above, it is my opinion and belief that when such development is done, they will be found to correspond with No. 91E, which was opened by me on the 600' level.

James S. Murphy

The Management believes in following the policy as outlined in Mr. Rogers' report and as soon as it can be conveniently done, without interfering with the present output of themine, nor checking the increase in production up to 250 tons per day, intends to sink a double compartment shaft a distance of 1200 feet and enlarge the present shaft from a single to a double compartment shaft to coincide with theone to be sunk from the 600' level.

Ralph H. Pfeffer

March 25, 1943

Mr. George M. Colvocoresses
1102 Luhrs Tower
Phoenix, Arizona.

Dear Mr. Colvocoresses:

I am encosing my check for Twenty-five Dollars ($25.00) as promised to you over the telephone today. This is in payment for the reports and maps on the Arizona Binghampton Mine. If there are any additional charges in connection with the enlargement of the plan map, please advise and I will gladly take care of same.

I appreciate your promise to get this data as soon as possible. As I mentioned to you over the telephone the plan map is more important to me at this time than the rest of the data.

I expect to be in Phoenix sometime next month and I hope to have the pleasure of meeting you.

Yours very truly,

R. H. Pfeffer

248 S. Mt. Vernon Ave.
Prescott, Arizona