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Harris & Strong quit in June 43 but Hillard or others reserved [illegible] & shipped ore in 43 & 44

CLEOPATRA MINES

The Cleopatra group of claims near Alamo Crossing on the Williams River north of Aguila, Arizona, has been leased for three years to Strong and Harris of Vanadium, New Mexico. The lessees have built five miles of road to connect with the county highway, have installed a gas power shovel, and are using a fleet of trucks to haul ore to the railroad for shipment to the Clarkdale smelter. David Strong is in charge of operations at the mine and it is the plan of the lessees to produce and ship a carload of ore daily. The property carries a blanket vein, practically all surface ore, and there are said to be approximately 700,000 tons available. The Cleopatra is controlled by W. Stewart Thompson, majority owner, Kingman, Arizona.

Mining Journal
5/15/42

Cleopatra Mine file, 8/30. 43.

What Are The Facts?

DISTRICT: Williams River

PROPERTY: Cleopatra

LOCATION: 5 miles north west of the Cactus Queen Mine
50 miles west of Congress Junction and 6 miles north of Bill Williams River.

OWNERS: Cleopatra Gold and Copper Mines Co.,
Joe Morgan, Treasurer, Kingman, Ariz.

DATE VISITED: September 9 and 10, 1919

NOTES: 19 Claims - Patent has been applied for on seven of these claims. General strike of formation north 34° west
Capatilized for $3,000,000.00, half of which is outstanding.

History

Organized but not operated by present Company other than to drive a few cuts on the surface and sink several shallow pits.

Reported on by numerous engineers, who have widely different ideas as to the geology of the deposit, none of which are of any value since development has not proceeded far enough to enable one to draw an exact conclusion as to the origin of the ore exposed.

Geology

Somewhat similar to the Cactus Queen, although differing in the amount of Hematite shown, also apparently a much more intense silicification of both the limestone and amphibolite, and the ores are associated with the silicified portion which is apparently a quartz resulting from silicification of limestone and accompanied by mineralization. The source of mineralizing waters may be from the more recent intrusions of quartz porphyry which have intruded both the underlying granite gneiss complex and the overlying limestone. n The mineral has been deposited probably as a primary chalcopyrite, later altered to chalcocite, carbonates and silicates.

The orebody appears flat with a slight dip to the north although as stated sufficient work has not been done to determine exactly the shape of the ore bearing formation. Values are irregular and very careful sampling of the present faces would be necessary to determine the value of present ore exposures.

The ore is ideal for treatment by Volatilization, and a showing that justifies further work in order to determine possible extensions of the ore is found, which extensions if downward would make the property of great interest.

The accompanying map indicates the general position of the ore bearing areas as well as development and location of the seven samples obtained, as follows:

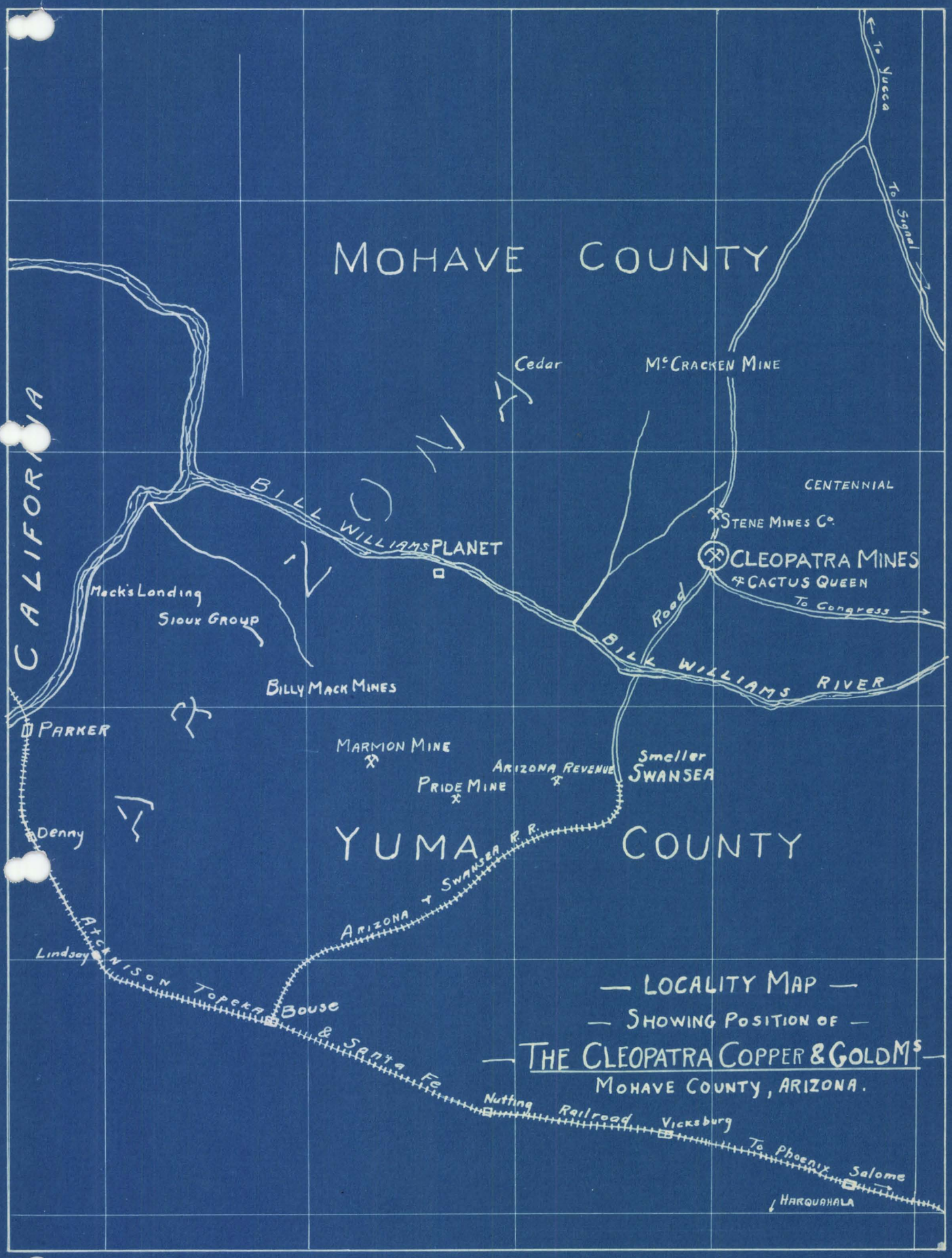
No.	Au.Oz.	Ag. Oz.	Cu %
1	.05	.11	.29
2	.02	.26	.85
3	.02	T	3.04
4	.10	.18	1.18
5	T	T	2.24
6	.03	.15	2.59
7	.14	.34	.95
Average	.05	.15	1.59

The above samples indicate a much lower value for present ore exposures than those indicated by former reports, and also are indicative of the erratic values one would expect in a deposit of this character.

Conclusion

Location, low average grade and irregularity of deposit, as well as uncertainty of further extensions due to insufficient development work makes this property unattractive at the present time, and further detailed examination is not warranted until such time as additional work might open extensions of present ore reserves.

W.V.DeC.


MOHAVE COUNTY
To Yucca
To Signal
Cedar
McCRACKEN MINE
CENTENNIAL
STENE MINES Co.
CLEOPATRA MINES
& CACTUS QUEEN
To Congress
Road
BILL WILLIAMS RIVER
BILL WILLIAMS
PLANET
Mack's Landing
Sioux Group
BILLY MACK MINES
CALIFORNIA
PARKER
MARMON MINE
PRIDE MINE
ARIZONA REVENUE
Smelter
SWANSEA
Denny
YUMA COUNTY
ARIZONA & SWANSEA R. R.
ATCHISON TOPEKA & SANTA FE
Lindsay
BOUSE
Nutting
Railroad
Vicksburg
To Phoenix
Salome
HARQUAHALA
— LOCALITY MAP —
— SHOWING POSITION OF —
THE CLEOPATRA COPPER & GOLD Ms
MOHAVE COUNTY, ARIZONA.

DISTRICT	PROPERTIES	LOCATION	OWNERS & OPERATORS	DATE VISITED	NOTES
Williams River, Mohave, County, Arizona.	Cleopatra	57 M. West Congress Junction. 14 M. N. Swansea. Owens Mining District. 19 claims unpatented.	Cleopatra Copper & Gold Mines Co. Capital Stock 3,000,000 shares $1.00 par, of which 1,500,000 shares were issued to promoters. In June, 1917, the Arizona Corporation Commission gave a permit for the sale of 65,000 shares at 50¢ a share, less 20% commission. Idle prospect.	October 10, 1917	Flat deposit of very siliceous material, practically a quartz, carrying a little copper, overlying the granite-gneiss-schist complex of the region. Areas of limestone, which formerly covered the entire district, still remain, and as is usual here, bunches of specularite and hematite carrying chrysocolla and other copper minerals occasionally occur at the contacts of the limestone and granite-gneiss-schist complex. The showings of such contact ores on the Cleopatra property are, however, very small, compared with the Planet, Swansea and Mineral Hill deposits, and the representations of the promoters appear to be based on the possibility of treating the extremely low grade siliceous material by leaching with sulphuric acid. Approaching the property from Robert Intrum's camp on the Southeast, one finds a cut 30' x 5' showing very siliceous, fractured, quartz like, material, having an average thickness of about 6'. There are occasional copper stains throughout the cut and a few seams about half an inch wide showing some chalcocite. The siliceous material fills the irregularities in the surface of the underlying schist, and at the entrance of the cut is from 1' to 3' thick. Continuing Southwest over iron and manganese stained angular siliceous boulders ("ore") and outcrops of limestone, one comes to a pit 10' deep in silicified lime, with a very few copper stains. Adjoining, is an open cut 21' long, 5' wide, 5' to 7' deep in very siliceous material with a few copper stains. 10' to the Northwest is the location monument of the Cleopatra and another showing the Cleopatra and Keystone end centers. A little farther, is an open cut 40' long, depth 3'

CLEOPATRA CONT'D.

to 8', running south 50 degrees west, showing darker, but still siliceous material with some specularite on limestone and schist contacts, and with better ore on the contacts than the average. The rest of the workings are inconsiderable.

In a compilation by Thos. Warner and C. W. Nelson, two of the promoters, of reports made by C. H. James, J. R. Adams, Byron O. Packard and H. A. de Rudio, estimates of tonnages available are made varying in gross value from $1,893,188.00 to $39,380,000.00. James gives the average grade of ore as 2.8% copper and holds out hopes of developing a great mine on the siliceous dike of which the deposit prospected forms a "wing". Adams shows 4% copper and $7.00 in gold, said to be based on 380 samples. Packard shows 2% copper and $5.00 gold; 30 cents silver; 4.5% iron and 87 plus % Insol., based on four samples. de Radio gives 0.33 gold; 4.9% copper, said to be based on 220 samples, and also states that the ore (whose copper values are practically all in carbonates and silicates) can be concentrated to a high percentage, with a loss of not more than 2%.

Under local conditions the property is so unattractive that I spent no time on the elaborate sampling, which would be necessary to determine the exact value of the ore, but I do not believe that it will average 1% copper, nor more than a few cents in gold; that very little of it would pay to ship for converter flux or other smelting ore; and that the property would not pay to operate, even with a railroad on it.

L.F.H.

C O P Y

CLEOPATRA AND CLEOPATRA EXTENSION MINING GROUPS, OWENS MINING DISTRICT, MOHAVE COUNTY, ARIZONA.

By

B Y R O N O. P I C K A R D
ENGINEER OF MINES
Phoenix, Arizona.

January 1st, 1913.

C O P Y

Phoenix, Ariz. Jan. 1, 1913.

The following report on the Cleopatra-Arizona Mining & Milling Company's property and the Cleopatra Extension property was made from a personal examination of the claims December 14th and 15th (1912) inclusive.

SYNOPSIS

The properties consist of seven claims in the Owens Mining District, Mohave County, Arizona, 14 miles from Swansea, Arizona. Swansea is the nearest railroad point, and is the home of the Swansea Consolidated Smelting Company, now operating a customs smelter and in the market for all classes of ore.

The property is very accessible; water will be furnished by the Big Williams River by a proposed pipe line six miles in length; there is no timber; power will have to be generated by oil or coal shipped in. The ore body is a large schist replacement or brecciated zone caused by an intrusion of quartz porphyry.

An area of an estimated length of 1200 feet with a width of 600 feet is extensively mineralized with copper carbonates, low in iron, high in silica and several assays gave an average better than $5.00 in gold.

The development work is not extensive, consisting of a few shallow shafts in the ore zone and one surface cut 110 feet long and 10 feet deep, but all show ore of commercial value.

The property presents a problem in treatment, but compensating for this, it is a "grass-roots" proposition, with little overburden making it possible to explore and develop very cheaply by prospect shafts, and to mine with a steam shovel, from glory holes or open cuts.

The report is favorable, recommending its development, as it presents immense possibilities.

DESCRIPTION

The main Cleopatra Group consists of three full sized contiguous unpatented lode claims; by name they are Cleopatra, Red Breast and Keystone; the company also has located a small fractional claim called the Cleopatra Fraction, but I am advised there is considerable doubt as to the existence of this fraction. (See Map of Claim)

The group of claims making up the Cleopatra Extension is four in number, viz: the Somerset #2 (adjoining Cleopatra claim on east), the Roosevelt (bounding the Red Breast on the north), the White Horse which adjoins Cleopatra on the south and the Jefferson bounding the Red Breast on the west, making a contiguous group of seven full sized claims and a possible fraction. The two properties will be discussed as one property in the following report. The assessment work for 1912 has been completed. The ground surrounding the property is open to location, with the exception of three claims adjoining the property.

LOCATION, ACCESSIBILITY AND CONDITIONS AFFECTING MINING.

This group of claims is situated in the Owens Mining District of Mohave County, Arizona, 14 miles north of Swansea, and eight miles north of the Big Williams River. It is reached by wagon road from Swansea, the road being generally level, the only impediment being the Big Williams River which is occasionally, especially in flood seasons, not fordable by automobiles, but it is very seldom so high that wagons can not cross.

Potts Mountain and Twin Peaks (two land marks) are within a mile of the property.

Swansea is the nearest railroad station, being the terminal of the Swansea-Arizona R.R. from Bouse. Bouse is a station on the main line of the Santa Fe. R.R. between Los Angeles and Phoenix.

Swansea is the home of the old Clara Consolidated Mining and Smelting Company, which has recently been reorganized as the Swansea Copper Company and capitalized by foreign capital

A 500 ton customs smelter at Swansea is being operated and the company is in the market for all classes of ores, sulphides ores and convertor lining being especially desired.

The property is very accessible either from Bouse, as before explained, or from Yucca on the main line of the Santa Fe from Los Angeles, to Kansas City. It can be reached from either town by automobile, (I went in from Bouse by automobile directly to the property, as the securing of transportation from Swansea was rather questionable) The freight should be routed via Bouse, and Swansea. It is possible to build a railroad from either Swansea or Yucca.

The topography is rolling, the main claims lying on a low hill between two gulches. Very little climbing is necessary in making the examination.

Water will have to be piped from the Big Williams River, which is a perennial stream and one of the largest in Arizona. It is claimed this pipe line need not exceed six miles in length.

There is no timber for mining purposes except some little mesquite and other desert shrubs for domestic purposes. Fuel (oil is used at Swansea) will have to be shipped in.

The climate is delightfully mild in the winter time,but excessively hot in the summer, but work is carried on in the surrounding camps continuously throughout the year.

The altitude is 1500 feet.

Labor of all kinds, especially Mexican, Indian and foreigners usually found in Arizona Mining Camps is obtainable. The wages paid this class of labor is from $1.75 to $3.50. American labor is obtainable also but at higher prices, that is, from $3.00 to $4.00 per day.

The cost of hauling supplies from Swansea to the property will not exceed $3.00 per ton.

Other smelters than the Swansea, treating custom ores and possible markets for the Cleopatra Ores are the United Verde at Jerome, Arizona, (on the Santa Fe R.R.), the A.S. & R. Smelter at Hayden, Arizona, (via Santa Fe to Phoenix and Southern Pacific to

Hayden); The Copper Queen at Douglas (Santa Fe to Phoenix and Southern Pacific and Southwestern Railroads to Douglas) the U.S. S. & R. Co. at Needles, California (Santa Fe to Cadiz and then to Needles) and the A.S.&R. Smelter at El Paso (Santa Fe Railroad).

My examination being a cursory one, I obtained no data on the costs of supplies and freight rates.

GEOLOGY, ORE OCCURRENCES AND MINERALS

Briefly and generally discussing this subject:- the basal formation of the property is a siliceous sericitic schist grading into a gneiss of Pre-Cambrian origin. This is capped (showing only in a few places) by grey limestone which has been practically eroded away exposing the schist. The limestone on the higher places if is from one (1) to twenty (20) feet thick. These formations have been cut by dikes of quartz-porphyry, which have not cut through the formations continuously but outcrop in several places. The effect of this intrusion was to brecciate both the schist and porphyry and practically metamorphose the porphyry to quartz and form a large replacement zone in the schist near the contacts. These brecciatted and replacement zones are irregular in shape, the main one being approximately rectangular in its surface showings and having an estimated length of 1200 feet, and a width of 600 feet, giving an estimated area of 17 acres. This is found on the Red Breast, Cleopatra and Somerset #2 Claims, being covered on the Somerset #2 by limestone and on the Roosevelt and Keystone by wash. Shafts on the Jefferson show the same formation occurring below the wash, making it probable that the zone is of greater extent than estimated.

Another smaller zone is shown by workings on the Jefferson Claim.

These zones are highly siliceous and considerably stained with iron. Copper stains are everywhere in the main zone; it is unusual to knock off new surfaces without finding copper. It is locally known as a copper farm.

The minerals occurring in the mineralized zone are malachite, chrysocolla, chalcocite, gold, silver, quartz, hematite, li-

monite, feldspars and others rarer and less important.

The gold and silver content is more valuable commercially in the surface workings than the copper. See assays.

DEVELOPMENT, SAMPLING, ASSAYING AND ORE.

There are several shafts from 10 to 30 feet sunk for annual assessment work and to show up the ore, but in no place has any of them penetrated the ore body to a greater depth than twenty feet, either being sunk through an overburden of limestone or wash where deeper than 20 feet. These shafts all show ore in the bottom. A surface cut in the center of the ore zone, 110 feet long and averaging 10 feet in depth, shows the brecciated zone to be persistent in this length and depth and the values to be fairly consistent. I took four samples in this cut at a distance of twenty feet apart, the samples each representing a cut of ten feet in width. These assayed:-

#1 From face of cut	Gold	$3.20	Copper 1.4%
#2 " " " " 30	"	3.80	" 2.1%
#3 " " " " 70	"	4.40	" 3.1%
#4 " " " " 100	"	10.40	" 0.7%

Composite of the four samples assayed, Silver $.30; Gold, $6.40; Copper 2.0%; Iron 4.5%; Insoluble 87.6%

In reviewing the above composite assay, we find a very siliceous ore with gold and silver values of $6.70 and two per cent copper. This is probably higher than the average although I have no right to make the assumption as the ore shown in the various shafts was equally as good. It is safer to predict that if proper developments are made, that the entire zone will show ore of the nature shown in the assay of the composite sample, to a depth of at least ten feet; and judging from the geology, I can see no reason why this oxidized zone should not be at least 100 feet in thickness. This, to give a rough estimate, will represent (taking a depth of ten feet, length 1200, width 600) 600,000 tons of ore of probable commercial value. If the depth extends to 100 feet, the figure approaches 6,000,000 tons. If the ore body is larger than represent-

ed by the surface showing, the possibilities are more extensive.

The passing of the ore from this secondary zone into the primary or sulphide zone is worth of consideration. There are possibilities of finding here an immense disseminated low-grade copper-gold ore of commercial value, although the low iron content in the outcroppings is not indicative of a sulphide zone of commercial value. The copper content in the oxidized zone, however is favorable to this possibility and warrants the prospecting of the primary zone.

I have made no estimate of a zone of secondary enrichment, as I have assumed the oxidized zone to pass directly into the secondary enrichment zone and both zones are included in the 100 foot depth estimate.

MINES IN THE VICINITY AND GENERAL REMARKS.

The Swansea Mines 14 miles: the Planet Mines (Lewisohn) 12 miles; McCracken Mine 6 miles; and the Centennial 3 miles are all old producers and are in the same schist zone. But none of them present the same surface showings as the Cleopatra.

Reviewing the preceding general information, we find the Cleopatra presents an exceptional proposition.

Here is a body of gold-copper ore exposed on the surface over an area of some 700,000 square feet, with workings showing it at least 10 feet deep and probabilities of at least 100 feet.

There is very little over-burden to be removed; in the majority of the zone there will be no overburden, making it purely and simply a steam shovel proposition.

It presents a system of cheap and certain development, either by churn drills or by many prospect shafts, preferably the latter.

Either the gold content or the copper content makes the property interesting, as the value of either alone makes the property commercially valuable.

The objection to the copper content is that it is in the form of carbonates and makes the ore either a convertor lining proposition or a leaching proposition, as it cannot be concentrated, nor

is it of high enough grade (in copper) to warrant smelting it directly. Then, too, the ore is very siliceous, the iron content is small and fluxing ores in the district (sulphides more especially) are rare.

The gold content, however, if consistent throughout the ore zone as promised by the various samplings (I note from other reports that one engineer took 380 samples and received an average of $7.00 gold; another took 100 samples that averaged $4.00 gold) will be valuable enough to warrant a direct treatment for the gold values, disregarding the copper content entirely, except for its interference in cyanidation; the tailings could then be used or sold as convertor lining to some large copper company.

This property, however, is of great value to some large copper company requiring convertor lining.

If some of the new methods, recently reported successful in the leaching of copper carbonates, could be applied to this ore and the copper contents leached out, and then the gold-silver content leached out by cyanidation, we would have the treatment problem solved, and the ore would be very valuable.

The immense possibilities the Cleopatra presents as an enterprise of commercial value with cheap exploration, development and mining, compensate for its treatment problem, and I strongly recommend your investigation and consequent development.

Respectfully submitted,

(Signed) Byron O. Pickard
Engineer of Mines.

Dated at Phoenix, Arizona.
January 1st, 1913.