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BINGHAMPTON MINING PROPERTY

YAVAPAI COUNTY

ARIZONA

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SCOTTSDALE, ARIZONA

BINGHAMPTON MINING PROPERTY

YAVAPAI COUNTY

ARIZONA

-- Submitted to

Mr. George D. Locke, Executor
Estate of John Olen Willauer, Deceased
May 19, 1965

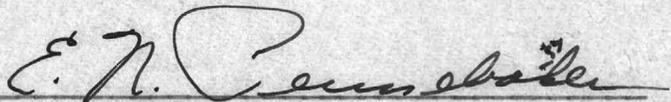
By 
E. N. Pennebaker

TABLE OF CONTENTS

	Page
INTRODUCTION -----	1
HISTORY -----	1
GEOLOGY AND ORE BODIES -----	2
FACILITIES -----	4
RECENT EXPLORATION -----	4
DUMPS -----	7
DISCUSSION -----	8
PRESENT SITUATION -----	9
CONCLUSIONS -----	9

BINGHAMPTON MINING PROPERTY

INTRODUCTION

The following report discusses the present status of the Binghampton mining property in the Agua Fria mining district, Yavapai County, Arizona. This property consists of 14 patented lode mining claims aggregating 223 acres situate in and near Section 6, Township 12 N, Range 1½ E, Salt River Base and Meridian.

The Binghampton mine is reached by 5½ miles of fair gravel road leading northerly out of Highway 69 from the town of Mayer. The property lies at an elevation of about 4,000 feet in an area of steep mountainsides and deep gulches.

The Binghampton claim group is elongated north-south and covers about 1½ miles in length by about 1,500 feet in width.

East of Binghampton and adjacent to it is the Copper Queen mine and claim group. This also is about 1½ miles long, north-south, by about 1,800 feet wide.

HISTORY

The Binghampton was discovered in 1882. The mine was productive from August, 1916, to March, 1919, and also for some time in 1920. The production up to 1922 was 150,000 tons carrying 3% of copper and 2 ounces silver per ton. Other old information credits it with a production of 218,000 tons.

It is reported that exploration work done in the late 20's consisted mainly of underground drilling but failed to find new ore. The property was abandoned in 1930 and was later sold for taxes. It was acquired by its present owners in 1943, who, we are told, mined and shipped all of the remaining low-grade carbonate ore.

Information on file at the Arizona Department of Mineral Resources in Phoenix advises that in 1942 "It looks as if all exposed ores had been worked out."

Shattuck-Denn Corporation is reported to have had a lease on the property in the 50's, but we have no record of any exploration done by this firm.

It is also reported that the Nipissing Mining Company of Canada held an option on Binghampton and Copper Queen in 1956, and that during three or four months in 1956 the properties were explored by diamond drilling. Unfortunately, however, we again have no record of the work performed nor the results obtained.

In 1964 the United Comstock Mines of Arizona, Inc., a Canadian concern, optioned the Binghampton and Copper Queen claims, performed extensive road work, and put down six diamond drill holes from the surface for a total of 6,172 feet. United Comstock early in 1965 abandoned its option.

GEOLOGY AND ORE BODIES

The area of present interest consists of ancient Precambrian volcanic rocks intruded by Precambrian quartz porphyry. These rocks are steeply folded, mashed and sheared to give a northerly "grain" or trend to the schistose country rock.

Mineralization occurs as the replacement of schist by fine-grained quartz. The replaced material also contains some pyrite and abundant chalcopyrite associated with dolomite, quartz and tetrahedrite. The chalcopyrite contains copper; tetrahedrite carries copper and silver. A minor amount of gold is also present.

In the Binghamton mine the ore is reported to have occurred in three shoots, or lenses, in places over 10 feet wide. The so-called 105 shoot (or body) is said to have been 100 feet long and to have extended down to the 600-foot level. The 91 shoot was 50 feet long and about 10 feet wide. The ore apparently bottomed above 900 level.

On the surface the Binghamton zone appears as a rusty trend of hardened schist up to 100 or more feet in width. Green and blue copper minerals occur in only limited stretches of this trend, and in places the schist is bleached and oxidized to a light yellowish-brown. The better surface copper showings occur above the Binghamton mine workings and near the mountain top about 1,000 feet north of the "glory hole". About 1,000 feet south of the "glory hole" the Binghamton trend appears as a zone of bleached and iron-stained schist showing a very little copper.

The Copper Queen mineralized zone is about parallel the Binghamton and lies about 1,300 feet to the east. It is less well defined and shows only a little copper at the surface above the mine workings.

In 1926 Copper Queen ore reserves were reported to be 50,000 tons of 3% copper ore. On 600 level the Copper Queen ore body was said to be 600 feet long, shortening rapidly to 200 feet on 200 level. Limited mineralization of good grade apparently persisted to 900 level below which it was traced for about 200 feet by a diamond hole. This deep ore is about equivalent in elevation to the 600

level of the Binghampton mine. One old report stated that on the 900 level of the Copper Queen the south drift for a length of 300 feet was all in ore running about 2% of copper, but there is no other available information to verify this. Presumably the deep ore was either mined out or shown by diamond drilling to be small in amount.

FACILITIES

The Binghampton mine was served by a vertical (No. 2) shaft about 1,200 feet deep and by an interior shaft about 600 feet deep, going down from an adit. From these shafts eight levels were driven below the adit level, the lowest being the 1,200 level, which was about 1,160 feet below surface. Judging by past history, diamond drill exploration was conducted from underground workings, but we have no records of such exploration.

The Copper Queen mine was served by an inclined shaft leading down about 500 feet below an adit level. This reached down to the 900 level about 900 feet below the high point up-dip on the surface.

The Binghampton flotation mill had a capacity of 250 tons per day. Copper Queen erected a 100-ton flotation mill.

RECENT EXPLORATION

United Comstock of Arizona has recently drilled six holes from the surface on Binghampton ground, one of which was deep enough to cut the Copper Queen ore body projection at depth and another of which probably cut the downward projection of a hanging wall branch of the Copper Queen.

We have available imperfect logs, or records, of these six holes. Missing are the precise collar elevations, drill-hole surveys to detect deviations from the initial courses, and probably some assays. Available information has been put together as best as possible in order to assess the results of this exploration.

Diamond drill hole No. G-3 was located on the surface just west of the collar of Binghampton No. 2 shaft. It was drilled to a depth of 2,003 feet, to about 800 feet below the bottom (1200) level of the Binghampton mine.

No. G-3 was started out as a vertical hole going down into steep-standing schist layers. The tendency of such holes is generally to change their courses in an attempt to put themselves at right angles to the platy layering of the schist. Although we have available no record of a survey to prove such deviation, the log shows a progressive increase in the angle between the axis of the core and the schistose planes running through the core. Obviously the course of the hole has deviated, and when this is studied on a cross-section it is apparent that the Binghampton mineralized zone was cut between 826 and 965 feet where only a scattering of pyrite and chalcopyrite was cut. We have available one assay, which returned only 0.02% of copper. The Copper Queen zone was apparently cut between depths of 1617 and 1747 feet where small showings of pyrite and chalcopyrite were noted. One sample covering 10 feet of length returned 0.035% of copper and 0.7 ounces of silver.

In summary, Hole G-3 cut the Binghampton zone near 900 level of the Binghampton mine and confirmed the weak character of mineralization at this horizon. It also cut the Copper Queen zone some 1,200 feet down dip below the Copper Queen underground deep drill hole

and demonstrated the poor character of this zone at depth. Consequently it proved the unproductive quality of both zones directly down-dip below the old mine workings and ore bodies.

Holes AB-1 and AB-2 were for the purpose of investigating at moderate depth the surface outcroppings of the Binghampton zone about 1,000 feet north of the known productive area. The zone was cut at depths of about 100 and 250 feet below surface where the better samples assayed about 0.80% of copper for about 10 feet. Consequently the extension of commercial ore to the north was disproved.

Hole No. G-2 was drilled to test the northerly extension of the Binghampton zone at considerable depth, about 2,000 feet north of the productive area and about 1,000 feet below the projected outcrop of the zone. Only scattered sulfides were found, assaying 0.11% of copper and less.

The south extension of the Binghampton zone was investigated by Hole No. G-4. This tested a section about 1,000 feet south of the productive area and about 300 feet below outcrop. This found local spots of chalcopyrite, but the log does not give the assay value of the material cut. Apparently no mineralization of consequence was found.

Hole No. G-1 was located about 3,000 feet south of the productive area. This apparently cut a hanging wall branch of the Copper Queen zone at a depth of about 800 feet below surface, most of which assayed a few tenths of one percent of copper.

In summary, the diamond drill holes recently put down are listed as follows:

<u>Hole No.</u>	<u>Direction</u>	<u>Inclination</u>	<u>Length</u>
AB-1	N75E	-35°	352 ft.
AB-2	N75E	-35°	378 ft.
G-1	N89E	-45°	1,246 ft.
G-2	N75E	-45°	1,188 ft.
G-3		Vertical	2,003 ft.
G-4		Vertical	1,005 ft.

DUMPS

Two tailings dumps from the old mills are found some 3,000 and 4,000 feet south of the old productive areas. It is assumed that these are mostly derived from Binghamton ore and a tonnage of 150,000 appears to be a reasonable estimate.

The upper tailings dump was sampled about a foot below its surface by five samples spaced about 100 feet apart, with the following results:

<u>Sample No.</u>	<u>% Cu.</u>
1	0.35
2	0.05
3	0.45
4	0.60
5	0.40
Arithmetical average	0.37

Sample 6 is a cross-cut sample down the toe of the dump, covering a vertical distance of about 30 feet. It returned:

<u>Sample No.</u>	<u>% Cu.</u>	<u>Oz. Au.</u>	<u>Oz. Ag.</u>
6	0.15	Nil	0.60

Samples 7 and 8 were taken down the toe of the lower dump. No. 7 represents the lower 20 feet; No. 8 the upper 25 feet. The assay results are:

<u>Sample No.</u>	<u>% Cu.</u>	<u>Oz. Au.</u>	<u>Oz. Ag.</u>
7	0.65	Nil	0.80
8	0.45	Nil	0.60
Arithmetical average	<u>0.55</u>	<u>Nil</u>	<u>0.70</u>

Samples 1-5, inclusive, are from layers near the top of the upper dump and are of restricted influence. Sample 6 is a cross-cutting sample across the layers of the dump and is more representative. The upper dump, on the basis of this sample, could not be treated at a profit.

At current metal prices, the arithmetical average of the metal content of the lower dump indicates a gross value of about \$4.00 per ton for roughly 75,000 tons. Considering the character of this material, it is doubtful if it could be treated at a profit. The difficulty is the magnesium-calcium carbonate present and the partial oxidation (or tarnish) on the copper minerals.

DISCUSSION

It is said that United Comstock's sampling indicated from 0.8 to 1.5% Cu. across a belt of schist some 500 to 600 feet in width. Obviously the drilling program described above was designed to test this belt to determine whether or not there existed a substantial tonnage of commercial low-grade ore or whether there were richer vein-like zones going down to depth. It resulted that neither was found.

It should be noted that the ore earlier developed in the Binghamton and Copper Queen mines was of relatively short strike length and

provided targets difficult to hit by drill holes located on the surface. Consequently other short shoots of commercial ore may exist that have not yet been discovered; however, the cost of finding and mining these would be such that a future project based on such a possibility is very speculative and does not appear to the writer to be a sound business venture.

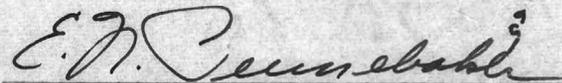
PRESENT SITUATION

Mr. J. O. Willauer and the J. O. Willauer Estate have already paid \$22,500 on the option covering the Binghampton ground, and there is a remaining balance of \$65,000 still to be paid. It is believed that an option can be had on the Copper Queen claims on very reasonable terms, should the Estate care to go into the mining business.

CONCLUSIONS

It is the writer's conclusion that the Estate of John Olen Willauer, Deceased, should decline any further monetary contribution to this venture because:

1. Recent drilling has demonstrated that no large body of commercial copper ore exists in Binghampton ground.
2. Although small bodies of richer ore might still be found, there is little promise in further search for them, and carrying out such a program would be highly speculative.
3. The Copper Queen ground is similarly unpromising.



E. N. Pennebaker

Scottsdale, Arizona
May 19, 1965

ATL ARIZONA TESTING LABORATORIES

A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.

PHONE 254-6181 817 WEST MADISON ST. P. O. BOX 1888 PHOENIX 85001

Chemist... Engineers

For **Mr. E. N. Pennebsker**
Post Office Box 817
Scottsdale, Arizona 85252

Date **May 20, 1965**

Sample of **Ore**

Received: **5-19-65**

Submitted by: **Same**

ASSAY CERTIFICATE

Gold figured at \$ **35.00** per ounce

Silver figured at \$ **1.29** per ounce

LAB. NO.	IDENTIFICATION	GOLD		SILVER		PERCENTAGES	
		OZ. PERTON	VALUE	OZ. PERTON	VALUE	COPPER	
159531	1					0.35 %	
159532	2					0.05	
159533	3					0.45	
159534	4					0.60	
159535	5					0.40	
159536	6	nil	---	0.60	\$0.77	0.15	
159537	7	nil	---	0.80	1.03	0.65	
159538	8	nil	---	0.60	0.77	0.45	

Luftin's

Respectfully submitted,

ARIZONA TESTING LABORATORIES

Claude E. McLean, Jr.
Claude E. McLean, Jr.