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Copper Ledge, Copper World Mine,  
Copperhead, Cutters Quarries,  
DJ and LJC Placers, Delaware,  
Desert Flower, Desert Queen

Lt 12

GEOLOGIC EXAMINATION  
REPORT  
of  
COPPER LEDGE CLAIMS  
in  
CAVE CREEK MINING DISTRICT  
Maricopa County, Arizona

by

R. E. Mieritz  
Mining Consultant  
Phoenix, Arizona

&

Harry E. Puttuck  
Consulting Geologist  
Phoenix, Arizona

July, 26, 1957

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## APPENDIX

Plate 1--Index Map of Central Arizona.

Plate 2-- Sketch Geologic Map of Copper Ledge  
Group of Claims.

### Conclusions:

This report has been prepared as a matter of record and the following conclusions are based on a personal examination:

1. At present, the property can be classed as merely a prospect having four narrow veins (3 to 4 feet wide in places) of which only two have been explored for a maximum depth of thirty feet,
2. mineralization occurs along two types of veins, one being a copper oxide and sulfide impregnated quartz vein and the other, having the same minerals, is a contact vein between a coarse grained granite and a aphanitic andesite,
3. the property appears to have good possibilities due to the high grade of copper ore near the surface and the strength of the structures housing mineralization,
4. if the grade and width (average 2 to 3 feet) of number 1 vein persists for a reasonable depth and a strike of 100 to 200 feet, a few thousand tons of 5% of better copper ore may be realized from this one structure,

### Location and Accessability:

The Copper Ledge Claims, comprising three contiguous unpatented lode mining claims are located in T 7N, R6E, Sections 15 and 16 approximately three and a half miles south of the Yavapai-Maricopa county line and two miles west of the Verde river.

Access to the property is via the paved Phoenix-Cave Creek road for a distance of about forty miles. Six miles east of Cave Creek a sixteen mile dirt road leading to Horseshoe Dam passes within two miles of the claims. From this dirt road a jeep trail leads to within three quarters of a mile from the property.

### History:

Since no road or pack trail leads to the prospect from the end of the Jeep trail, it is assumed no ore had been shipped from the property to date. The condition of the dumps and the present workings indicates this work was completed many years ago. The present locators have completed all location work on the property prescribed by federal and state laws.

All three claims were located on April 14, 1957 and recorded in the Maricopa County recorders office

on April 15, 1957 in the name of Harry E. Puttuck of Phoenix, Arizona. Present ownership of the claims is divided equally between four parties as follows:

1. Mr. Richard E. Mieritz, Phoenix, Arizona
2. Mr. Harry E. Puttuck, Phoenix, Arizona
3. Mr. Stanley Kalaf, Phoenix, Arizona
4. Mr. George Hayes, Phoenix, Arizona

General Geology:

Geology of the area in which the property is located is that of Pre-Cambrian coarse grained granite intruded by a much later Tertiary intrusives in the form of andesite, and diorite or diabase dikes and sills. No major faulting or thrusting is evident in the area.

Local Geology:

The Copper Ledge claims are underlain by a Pre-Cambrian granite which is intruded by two dikes of Tertiary age. One dike is a very fine grained andesite while the second is a very porphyritic diorite or diabase. Mineralization on the property is evidenced in four veins referred to as Copper Ledge veins number 1 through 4 and indicated on plate 2.

Vein #1 is a north-south striking near vertical quartz-copper bearing vein traceable on the surface

for about two hundred feet. The rock unit housing the entire vein on the surface is the diorite of diabase dike. Malachite, azurite, chalcopyrite, bornite and chalcocite or covellite are the copper minerals observed in the quartz fissure. These same minerals have impregnated the host rock walls as much as 2 feet in places. Samples taken from this vein zone are as follows:

Sample Number	Location	Assay
1	Two foot channel from 15 feet below surface in main pit.	6.5% Cu.
2	Four foot chip from host rock adjacent to vein 15 feet below surface in main pit.	1.7% Cu.
3	Two foot channel from 20 feet below surface in main pit.	4.7% Cu.

Vein #2 strikes north 45° east and dips 73° east and is traceable for only thirty to forty feet on the surface. This vein is also in the diorite or diabase dike. Except for two very shallow pits no development work has been done on this vein. It varies in width along the surface from a few inches to over a foot. Only one sample assaying 1.17% Cu. had been taken from this vein about one foot below the surface in a small pit located near the east center of Copper Ledge #1 claim. Copper and gauge minerals are the same as those observed in vein #1.



### Copper Ledge Claim #3:

Vein #3 is a contact type mineralization between the granite-andesite contact. The vein strikes east-west and dips very steeply to the south. Width of this vein varies from six inches to two feet where it is exposed for fifteen feet in a trench along its strike. An adit driven along the right side of the vein and cross-cutting it twenty five feet from the portal revealed only minor copper mineralization indicating the ore along this vein may be somewhat sporadic. Assay results of three samples taken are as follows:

Sample Number	Location	Assay
4	Grab sample of ore pile (about two Tons).	11.95 % Cu.
5	1.5 foot channel from vein in back of portal	4.7% Cu.
6	two foot channel from right side of vein at portal of adit. (Taken to check mineralization beyond footwall)	0.31% Cu.

### Copper Ledge Claim #4:

Vein #4 outcrops in the northwest corner of Copper Ledge #4 claim and is traceable on the surface for over a hundred feet. To date this vein has not been explored or sampled. It is a somewhat strong north-east striking vein, highly stained with iron oxides.

### Ore Reserves:

Ore broken and available for shipping from #1 vein is estimated at approximately forty tons of 5.0% to 6.0% copper. Estimated ore in place in #1 vein is sixty tons of probably 5.0% copper. This estimate is based on the limited development of the vein and has been calculated by assuming that the vein extends six feet beyond the present north and south faces exposed in the pit with a depth of 30 feet and a vein width of 2 feet. Strength of the surface exposure indicates the vein may assume a considerable strike length in each direction from the present faces in the pit. Geologic conditions indicate the vein could assume considerable depth. If the strike length and depth assumptions hold true, there is an excellent chance of inferring several thousand tons of copper ore of an assumed similar grade - 5% to 6%.

### Production Costs:

The ore contains considerable silica (59.2%SiO<sub>2</sub>) and is readily acceptable by the near by smelters at Superior, and Hayden. The following is an estimated production cost:

Value of ore (5% Cu. & 59.2 SiO <sub>2</sub> ) (@90%)	---	\$26.10/ton
Less cost of Production	-----2---	\$13.90 to \$18.90/ton
Estimated Income from Ore	-----	<u>\$12.20 to \$ 7.20/ton</u>

Value of the ore based on 29 cent copper at an average of 5.0% copper at 90% payment is \$26.10/ton.

Mining-----\$ 7.50/ton

Shipping---Rail-\$ 2.40/ton  
Truck-\$ 4.00/ton     \$ 6.40/ton  
Total-----\$13.90/ton

Smelting                     \$0.00 to \$ 5.00/ton  
Total cost of Production \$13.90 to \$18.90/ton

Potential wise the property has possibilities which should be explored by underground development and surface drilling to determine the continuity along the strike and depth of the veins within the boundaries of the claims.

Respectfully submitted,

*R. E. Mieritz*  
R. E. Mieritz P. E.  
Mining Consultant  
Phoenix, Arizona

*Harry E. Puttuck*  
Harry E. Puttuck Reg.  
Consulting Geologist  
Phoenix, Arizona



## APPENDIX

### Development Plans:

The four owners of the property have agreed to sell 60% of their holdings for the sum of \$5000.00. A cash payment of \$2500.00 is requested which will be used for rehabilitation and initial development.

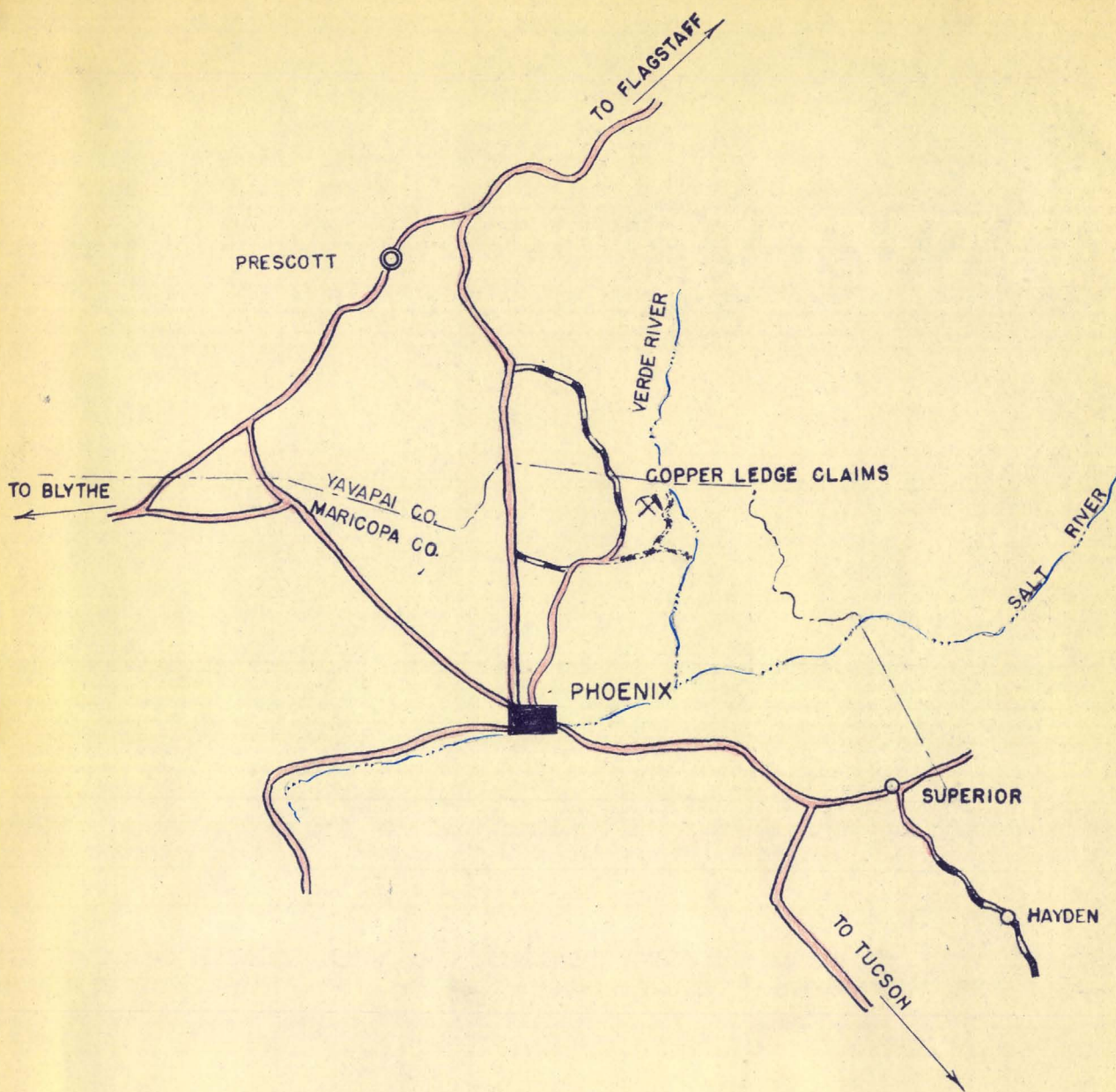
The first profits derived from the property will be used to refund to the original investors the \$2500.00 invested for initial development. After this has been accomplished, the four original owners will be paid the sum of \$5000.00 from profits derived from the property for the 60% sold to the original investors. This \$5000.00 will be paid in small enough payments that it will not hinder the financial structure of the organization

After the purchase price has been paid, then profits will be divided among the investors and original owners according to percent of interest held in the property. Such payments will be made only as the operation can stand.

The following is an itemized list of expenditures anticipated for the initial development of the property:

1. Road rehabilitation & construction -	\$650.00
2. Construction of ore bin -----	\$100.00
3. Rehabilitation of mine workings ----	\$300.00
4. Equipment and supplies for one months operation-----	\$500.00
Total	<u>\$1550.00</u>

The remaining \$350.00 will be used for the production of ore from #1 vein.



INDEX MAP  
OF  
CENTRAL ARIZONA

SCALE: 1" = 27 MI.

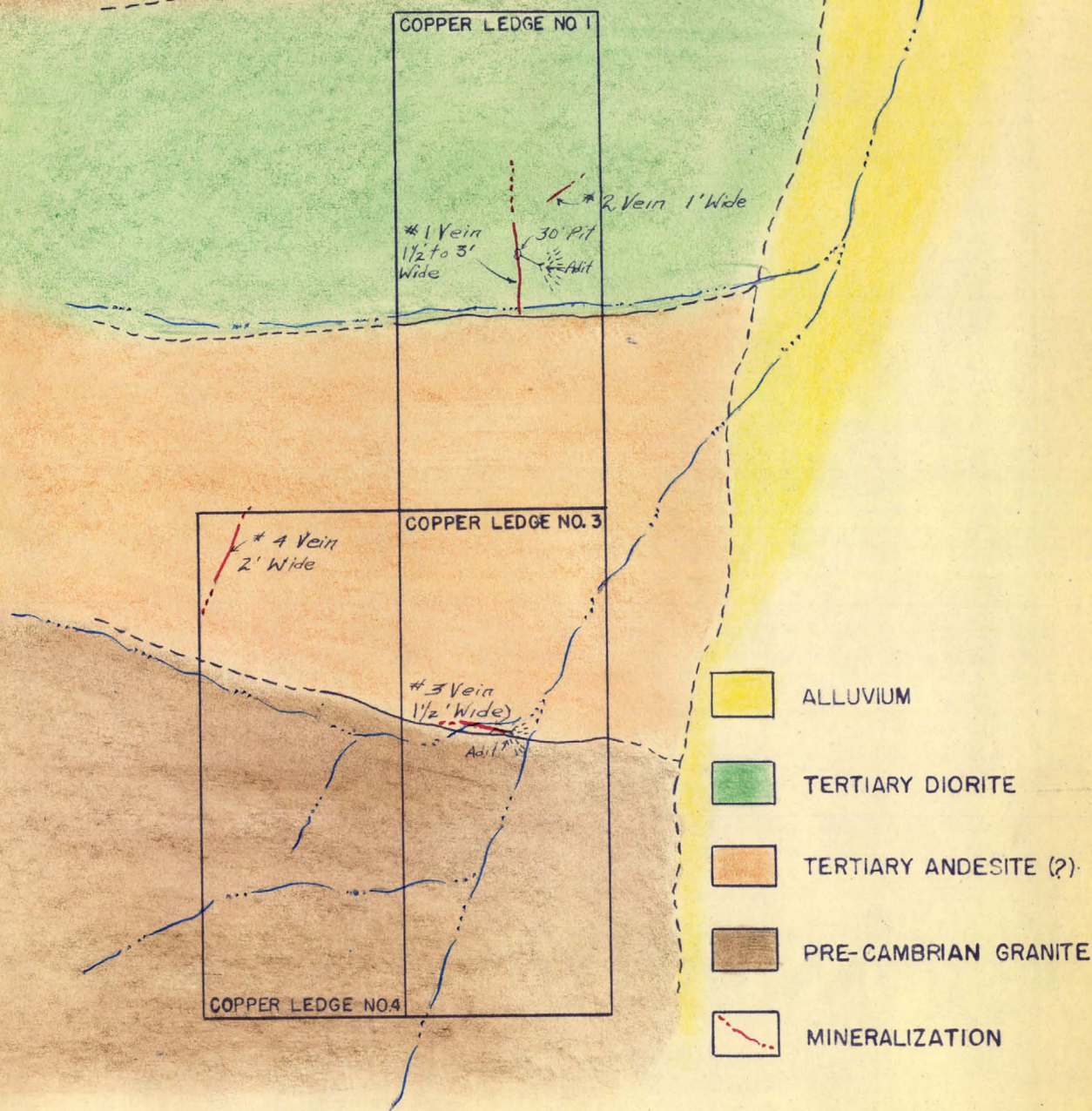
JULY 1957

R.E.M. & H.E.P.

PLATE I



END OF JEEP  
TRAIL



COPPER LEDGE CLAIMS  
GEOLOGIC SKETCH  
MAP

MARICOPA COUNTY,

ARIZONA

SCALE: 1" = 500'

JULY 1957

R. E. M. & H. E. P.





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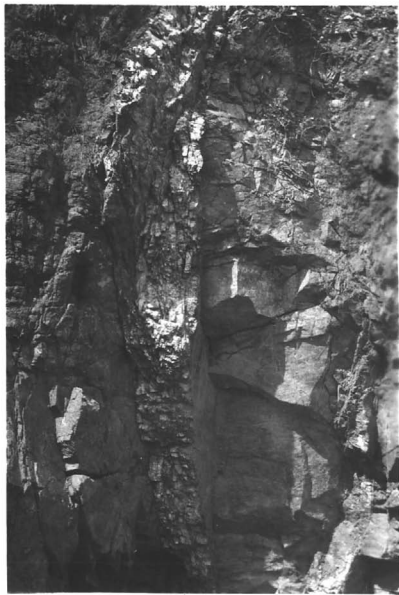
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