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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 09-14-2012

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: MOON CLAIMS

ALTERNATE NAMES:
- GRIFFEY-SWARTZ GROUP
- AMALGAMATED COPPER MNG. PROP.
- JUNO GROUP
- AZ. STATE MNG. AND SMTG. CO.
- BLACK COPPER GROUP
- ALTA CENTRAL MNG. CO.

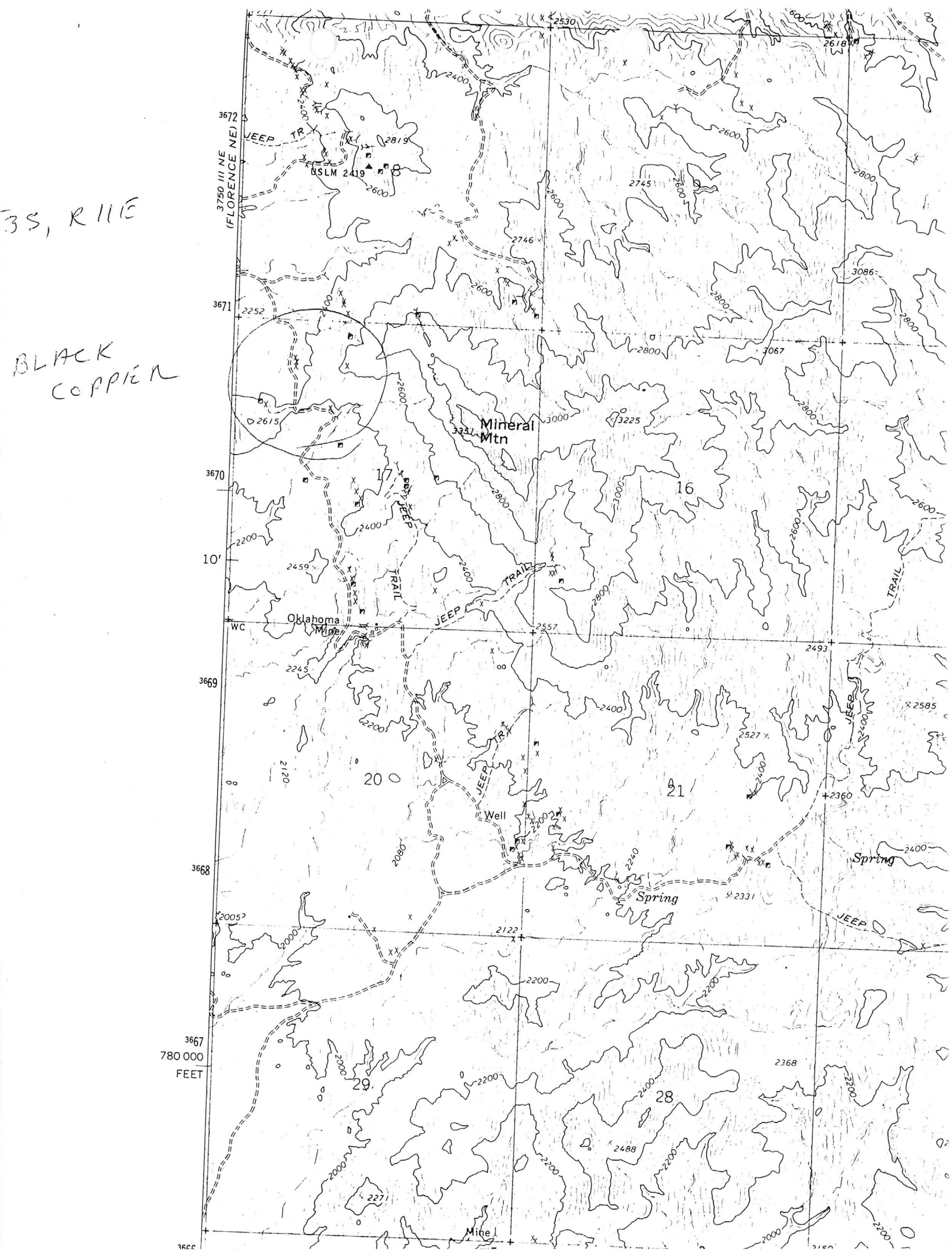
PINAL COUNTY MILS NUMBER: 204

LOCATION: TOWNSHIP 3 S RANGE 11 E SECTION 8 QUARTER S2
LATITUDE: N 33DEG 10MIN 44SEC LONGITUDE: W 111DEG 14MIN 32SEC
TOPO MAP NAME: MINERAL MTN - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
- SILVER
- COPPER
- LEAD
- ZINC

BIBLIOGRAPHY:
- ADMMR MOON CLAIMS FILE
- ADMMR PHOTOS
- SEE: ADMMR OKLAHOMA GROUP FILE (SILVER BAR)
- MINE REPROTS)
- CLAIMS EXTEND INTO SEC. 7, 16, 17 & 18
- MOON CLAIMS ARE UNPAT. JUNO GROUP ARE PAT.
- BLM MINERAL SURVEY MS 3752
- BLM MINING DISTRICT SHEET 599



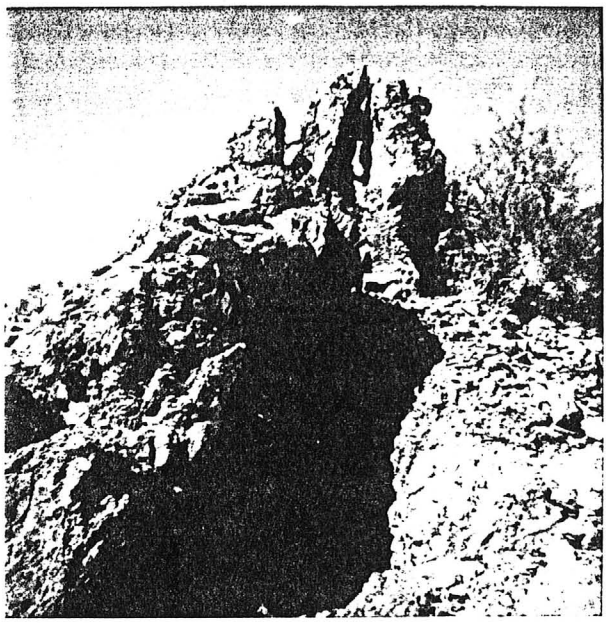
T3S, R11E

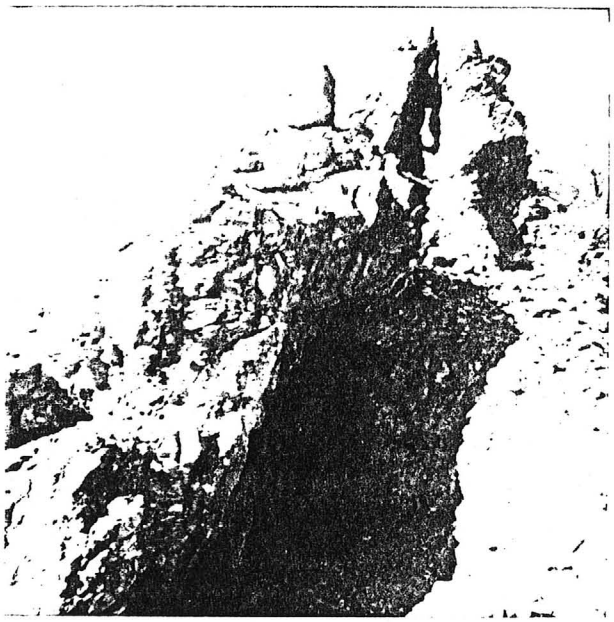
BLACK COPPER

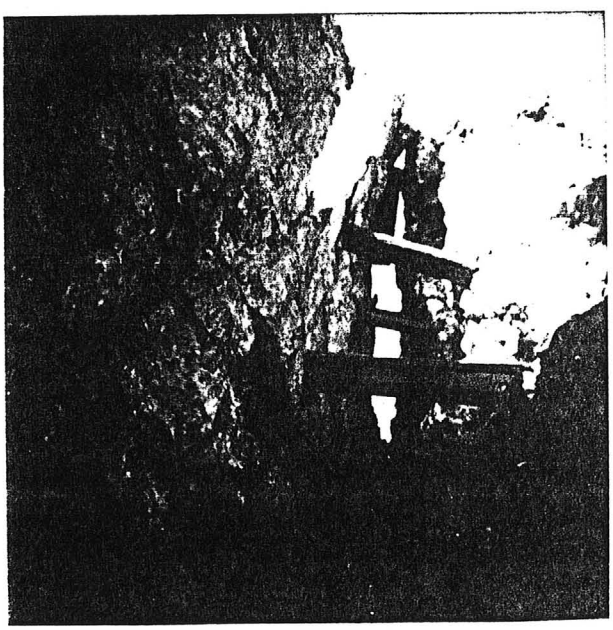
ARIZONA STATE MINING & SMELTING CO.

PINAL COUNTY
T3S R11E Sec 17 NW¼

RPB WR 2/24/84: Visited the Black Copper Tunnel and Shaft of the Arizona State Mining and Smelting Co., Pinal County. to take pictures of ultimate example of stoping to daylight. No activity.



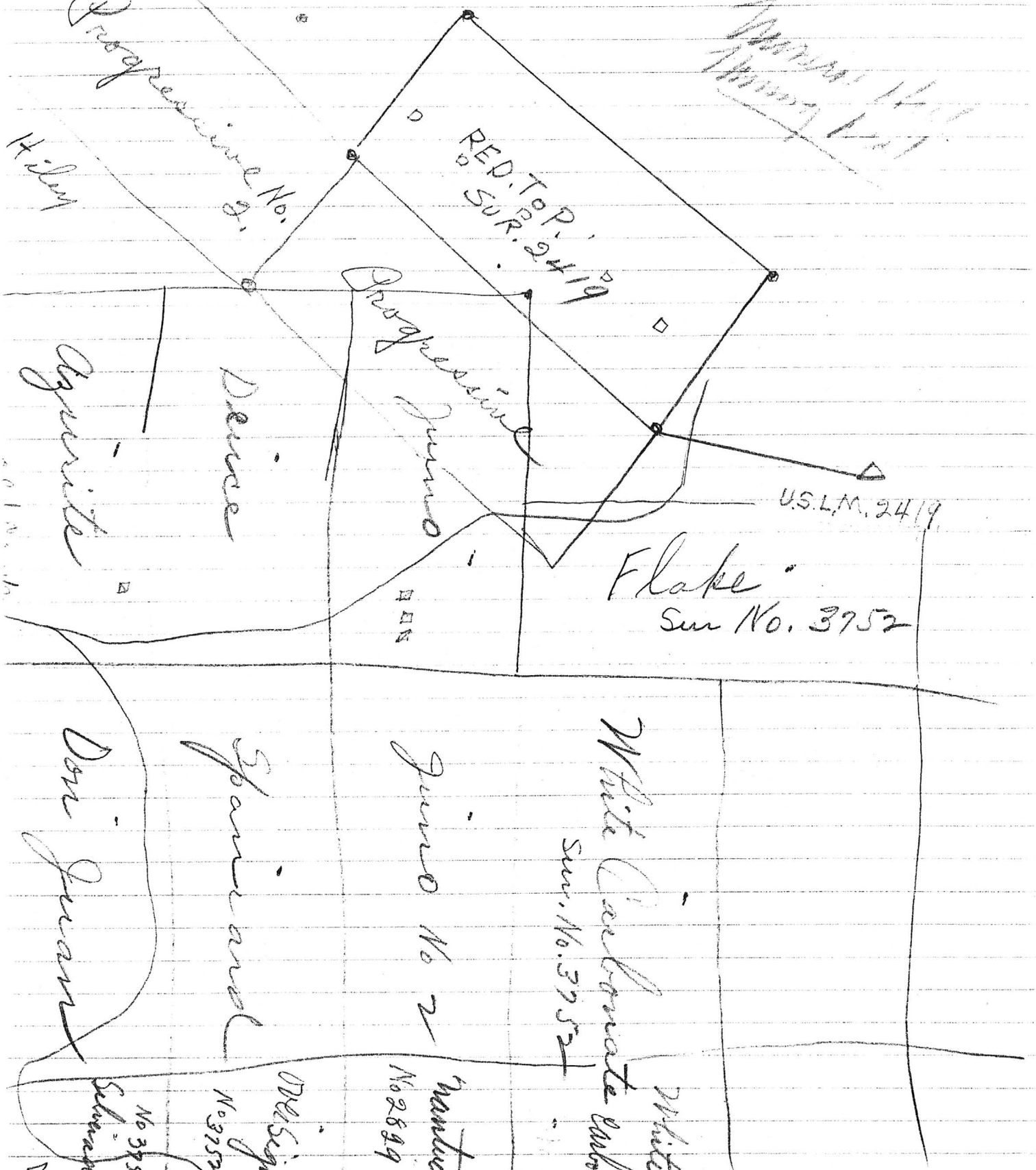




Secs. 7, 8, 17, 18 June -1921
T. 3. S R. 11. E.

UNSUR.

MINERAL SURVEY No.
3752 — 4 SHEETS



HAMILTON PROPERTY
See BLACK COPPER (PINAL) - Ariz. State Mining & Smelting File.

718.865 acres

ALEX C. HAMILTON - 609 S. Olive
Los Angeles.

Patented Mining Property

Alice 1 & 2
Apache
Azurite
Black Copper, Cabanture
Copper
Copper No. 1
Copper No. 3
December
December No. 1
Deuce
Don Juan
Flake
Golden Dream
Golden Gift; Spaniard
Tentoo
Vulture
White Carbonate
White Carbonate No. 2
Golden Link
Golden Quiver
Golden Quiver No. 2
Good Thing
Grand Pacific
Grand Pacific No. 2
Hidden Treasure
Hiley

(over)

From the desk of

FRANK P. KNIGHT

2-25-58

According to A. L. Flagg, Tom Sparks drilled this property, north of the Gila River near Cochran, and the drill logs are in the Department files.

Mr. Flagg thought the sampling showed about 1.25% copper for the area of schist drilled. Needs further exploration particularly to the west beneath the rhyolite. F. W. Maclennan drilled south of the river to a depth of about 1500 feet and found too low grade to interest him.

Pioneer Mine is the same as the New England States Group (file)

RP

I

5902 Ardmore
Houston, Texas

Dear Mr. Dunning:

I enjoyed my visit to Phoenix and our trip to the Pioneer claims. I received your mining report in K.C. and presented it to our group.

As I tried to relay to you in Phoenix, we are only interested in investment and not the "get rich quick" philosophy. I also mentioned to you that I am a junior associate.

Our group ~~are~~ in no sense of the word "mining people" although a few have some oil production. They appreciated your "frankness" and conservativeness.

They asked me to contact you again and obtain from your wide experience your personal opinion on the following:

II

1. "Putting yourself in our shoes" Do you deem these claims worthy of limited investment?

2. In your opinion what would be a fair "deal" between Mountain States Mining and our group?

   a) As it now stands we are to put up all venture capital for core drilling for a 50% interest. However, Mountain States Mining Co. has not mentioned what the over-riding royalty would be, but I presume that they are preparing that now. Just how should this over-riding royalty read? For instance if core drilling proves unsatisfactory after 2 or 3 holes would we still maintain whatever % over-riding royalty you deem fair if the

project were dropped. All of the above would be based on your recommendations as we definitely plan to employ your services, if a satisfactory contract can be made with Mountain States Mining Co.

Probably the main reason for inquiring on the above questions is that our group was wondering (looking at the worst side) if drilling didn't prove out, but at a later date another group came in with Mountain States Mining and were able to set up an operation on some portions of the claims (there are 32 claims) would we be entitled to an over-riding royalty. As you know if we abandon the project the leases revert back to Mountain States Mining Co.

IV

We would appreciate any suggestions that you can advance pertaining to the above. Hoping to see a lot of you in the future I remain.

Very truly yours,
R. C. Reardon

P.S. If time doesn't permit an early answer, you can call me collect at Jackson 9-3205 - 5902 Ardmore Houston, Texas. Anytime after 6 P.M. in the evening except tomorrow (Monday) I will be at the above number.

MINERAL ECONOMICS CORPORATION

HALE C. TOGNONI, P.E. 2084
MINING AND GEOLOGICAL ENGINEER
GEORGE-ANN TOGNONI, CARTOGRAPHER

CONSULTING MINING ENGINEERS AND GEOLOGISTS

1525 WEST NORTHERN AVENUE
PHOENIX, ARIZONA - 85021
WI 4-2124

GEOLOGICAL REPORT OF THE MINERAL MOUNTAIN MINING CLAIMS

For the Moon Development Company

By Hale C. Tognoni, P.E. 2048

I

PROPERTY DESCRIPTION

The Moon Development Company owns 42 patented lode mining claims, herein referred to as the "Juno Group", and 21 unpatented mining claims, herein referred to as the "Moon Claims". The Juno Group are situated on the western foothill ridge in the Mineral Hill Mining District and the Moon Claims adjoin them on the west as the hills blend into the gently rolling alluvial plain, all in Sections 7, 8, 17 and 18, Township 3 South, Range 11 East, G&SRB&M, Pinal County, Arizona. Mineral Mountain is about 10 miles east of Florence Junction and approximately 11½ miles southwest of Superior, Arizona.

II

FORWARD

This report is based upon information gathered by the author, Hale C. Tognoni, Arizona Registered Professional Mining Engineer, #2048, during the summer and fall of 1965 for the purposes of writing a geological report to be used for assessment work on the 21 Moon Claims (unpatented mining claims). Approximately 20 days were spent on the ground and in various governmental departments gathering information.

Aerial photographs were taken by Arizona Aerial Photo Co. A property map was compiled from existing mineral surveys. A geological map made from the aerial photographs, the Pinal County Geological Map, and surface observations.

Other reports relied upon for background information are as follows:

1. Red Top Mining Claim report written on June 18, 1945 by A. Macfarlane.

2. Ajax Mine Report, a report of the examination by Gerald A. Russell, B. Sc., P.E.M., for the Alba Mines, Ltd., in January of 1957.

3. A report on the Mineral Mountain Mining & Milling Co., Mineral Mountain Mining District, by Travis P. Lane, on March 29, 1951.

4. A report on the Key and Woodpecker claims by J. S. Coupal on August 6, 1948.

5. Notes of the geology of Mineral Creek District, Pinal County, by F. L. Gowing, Mining Reporter, May 19, 1904.

6. Abstracts from Bluebird Mine Report by Hale C. Tognoni, P.E. #2048, July, 1955.

Maps used are as follows:

1. Mineral Mountain Quadrangle 7½ minute series, 1964, U.S.G.S.

2. Geological Map of Pinal County prepared by the Arizona Bureau of Mines in 1959.

3. Township plat, General Land Office, U. S. Department of the Interior.

4. Mineral Surveys No. 2419, 3752, 2829, 2787 and 3894.

III

ABSTRACT

The Moon mining property, herein separated into Moon claims, the unpatented claims, and the Juno Group, patented claims, are in a Pre-Cambrian schist area criss-crossed by a network of diabase, and diorite dikes and silicified shear zones containing ore chutes.

In the Juno Group the mineralized shear zones form prominent ridges, one of which is Mineral Mountain. These shear zones are north-south striking and have paralleling and at angles to them quartz veins, diabase, and diorite dikes. Numerous small workings

appear along this system of veins, silicified zones and dikes and show silver, lead, zinc and copper mineralization. Evidently, these mine workings have produced some silver, although none of them have sufficiently large or perhaps recent enough production to be recorded in the Arizona Bureau of Mines metal production records.

The Moon Claims are to the west of the prominent shear zone and the western portion of them are covered by a thin mantle of alluvial material.

Occasionally, on the surface of this thin alluvial cover, are concentrations of quartz float indicating quartz veins beneath. The schist in the southern portions of the Moon Claims has a more granular appearance and grades into a granitic intrusion. Silver, lead, zinc and copper mineralization is found in mineralized chutes in the silicified shear zones and in quartz veins on the surface. Elongated iron stained semi-elipse shaped areas lap out from the silicified shear zones onto the pearly white schist as the hills level out into the valley and the alluvium.

It is recommended that detailed geology mapping followed by geophysical work be done across the shear zone areas and out onto the pediment areas followed by drilling with a possibility of developing an economic mineral concentration.

IV

ACCESSABILITY, ROADS AND CLIMATE

The property of the Moon Development Company is located in the Mineral Hill Mining District, Pinal County, Arizona. The property is reached by 6.1 miles of graded dirt road from a point on U. S. Highway 80 and 89, 5.7 miles southerly by paved roads from Florence Junction, 20.7 miles southerly and westerly by paved road from the smelter of the Magma Copper Company at Superior, Arizona, and 45 miles easterly from Phoenix, Arizona. The roads are passable at all times of the year.

The region is typically southwest arid desert with light rainfall and scant vegetation and no timber. The topography is moderately rugged with sharp gullies and ridges and a few flat areas. Elevation at the property ranges from 2,500 to 3,350 feet (Mineral Mountain) above sea level.

V

NEIGHBORING MINES (INACTIVE)

The Red Top claim which is on the northeast corner of the Juno Group was owned in 1945 by Mr. A. C. Haigler of 1211 North First Street, Phoenix, Arizona. The Reymert silver mine, last known to be in operation in 1945, is about five miles north over a series of ridges. Almost due easterly three or four miles is located the Sunset or Bell-Martinez mine and mill of which the southeastern extension is the Byers group and the Alto mine.

VI

HISTORY AND PRODUCTION (TRAVIS LANE)

The first work in the district dates back to the early 1880's and the first production was made from the Silver Bell mine followed shortly afterwards with production from the Woodpecker mine. Each of these properties is credited with a large early day production of high grade silver ore.

Another substantial producer in the early days and again in the recent years is the nearby Reymert mine credited with over 2,000,000 oz. of silver. A moderate production, old and recent, has been made by a considerable number of other properties in the immediate vicinity of the Moon Development Company holdings.

The ore in the district, because of its highly silicious character, is desirable as a smelter flux and for this reason it has generally been accorded favorable treatment rates at the smelters at Superior and Miami. The ores all carry an appreciable amount of lead and often zinc, and except for a few lots sent to a lead smelter the ore all has been sent to copper smelters as dry silver ore and no payment was received for the base metal content. No serious attempt has been made to concentrate the ore, thus realizing nothing for the base metals because until quite recently the market for these metals was not sufficiently favorable to warrant the treatment procedure. The ore does not respond readily to cyanide treatment for the recovery of the silver because of its manganiferous character and for this reason and also because of the proximity of the smelter, and the favorable treatment rates offered, no cyanide plants have been built. Recorded production in years immediately prior to 1951 from the property held by the Mineral Hill Mining & Milling Co. has amounted

to approximately 450 tons, most of which was sent to copper smelters as silver ore and assayed 16 oz. of silver and about 3½% lead per ton. Three lots sent to a lead smelter averaged 7.7 oz. of silver and 11.9% lead.

A. Macfarlane reported in 1945 that the immediate area of the Red Top and Moon Property is well known as a silver belt and for many years has yielded an important silver production through frequent operating periods. The veins are of substantial mining widths but the silver content is often sub-marginal, so that only such ore shoots as contain 20 ounces of silver and upwards are being mined.

VII

ORE MARKETS

The Magma smelter at Superior, distant by road 28.8 miles, has purchased much of the production from this locality, also the Hayden Custom Smelter, distant 5 miles east of Florence rail siding, and from the Moon properties to the rail siding, about 22 miles by truck road. This provides this mining sector with reasonable transportation costs to the two markets.

VIII

GENERAL GEOLOGY

The principal rock of the region in which the Moon Claims and the Juno Group are located is Pre-Cambrian Final schist. The schist is intersected by numerous silicified shear zones, the general trend of which is northwest-southeast with dips averaging nearly vertical with slight variations to southwest dips.

Diabase and diorite sills and dikes intrude the schist and appear to run approximately parallel with the silicified shear zones and the planes of schistosity of the schist.

The shear zones or veins as they are locally referred to, range from several feet to 30 feet in width and are readily traceable on the surface because of their precipitous outcrops which often rise many feet above the surface. The walls are well defined and the structure of the silicified zones is of the ribbon rock type with numerous small quartz veinlets and parallel longitudinal bandings of alternating type of vein materials. Quartzite, quartz and coarse crystaline calcite are the most common constituents of the zones with manganese, limonite, copper oxides

and carbonates occurring as coatings and as fillings in the cavities in the veinlets. Amethystine quartz in drusy cavities is a common occurrence in the silicified zones.

Numerous quartz veins nearly parallel the shear zones and intersect them at very small angles. Some of these quartz veins are traceable for hundreds of feet on the surface and are as much as eight feet in width.

The Moon Claims are to the west of the prominent shear zones and the western portion of them are covered by a thin mantle of alluvial material.

Occasionally, on the surface of this thin alluvial cover, are concentrations of quartz float indicating quartz veins beneath.

Elongated iron stained semi-elipse shaped areas within the schist lap out from the silicified shear zones onto the pearly white schist as the hills level out into the valley. The schist in the southern portions of the Moon Claims has a more granular appearance and grades into a granitic intrusion.

IX

GEOLOGY, ROCK TYPES

Pinal schist is a foliated metamorphic rock and varies from dark brown when adjacent to igneous activity in the Juno Group to a white with a pearly lustre on the west side of the Moon Claims. Near the shear zones lit-par-lit injections of quartz are found within the planes of schistosity.

In the Lexicon of "Geologic Names of The United States", U.S.G.S. Bulletin 896, Pinal Schist is described as follows:

> "Pinal Schist
> Pre-Cambrian: Central Arizona
> F. L. Ransome, 1903 (U.S.G.S. PP 12). Pinal Schists-
> Crystalline schists of pre-Camb. age. The oldest rocks
> in Globe quad. Are broken by granite intrusions into very
> irregular masses. Are at least in part derived from
> quartzose sediments. Are abundantly present and well
> exposed in Pinal Mtns. whence their name. The largest
> single body of schistose rocks is that underlying greater
> part of W. slope of the range. Are unconformably overlain by
> Apache group.

F. L. Ransome, 1904 (U.S.G.S. Globe folio, No. 111). Final Schist consists of quartz-sericite and quartz muscovite schists.
F. L. Ransome, 1904 (U.S.G.S. Bisbee folio, No. 112). Final Schist Light to dark-gray or greenish schists; very fine-grained, uniform texture; imperfect cleavage, surfaces commonly have a satinlike sheen; essential constituents quartz and sericite biotite and tourmaline rare; amphibole not observed. General character indicates the schist was at one time arkosic sands or silts. Vastly older than Camb. May-Vishnu schist of Grand Canyon. Thickness unknown."

Diabase The diabase dikes or intrusions on the Moon property have to be more closely mapped. It appears to be the same rock as studied by the author at Superior, Arizona, and has bladed light colored feldspar crystals oriented at random in the black or near black matrix.

C. M. Rice, in the 'Dictionary of Geological Terms , defines diabase as follows:

> "diabase. A basic igneous rock usually occurring in dikes or intrusive sheets, and composed essentially of plagioclase feldspar and augite with small quantities of magnetite and apatite. The plagioclase froms lath-shaped crystals lying in all directions among the dark irregular augite grains, giving rise to the peculiar diabasic or ophitic texture, which is a distinctive feature in the coarser-grained occurrences..."

Diorite. The diorite rock found on the Moon property was rather scant but closer mapping may reveal a more extens ve dike pattern as has been reported on neighboring properties. Diorite, as defined by C. M. Rice in his "Dictionary of Geological Terms' is as follows:

> "diorite. A granitoid rock composed essentially of hornblende and feldspar which is mostly or wholly plagioclase, with accessory biotite and augite or augite alone. Minute grains of magnetite and titanite may be visible...

X

GEOLOGY VEIN MINERALIZATION AND SAMPLES

Due to the fact that this geology report was written to comply with the annual assessment work requirement for 1964-1965 on the Moon Claims and that these claims occupy an area where few

veins outcrop only a few samples were taken on the veins.

Sample #1604, a piece of quartz typical of the vein with copper and silver staining apparent was taken from a dump on the White Carbonate claim and assayed 1.2 oz. of silver, .04 oz. of gold, 4.9% copper and 2.8% zinc.

Sample #194, taken from a quartz veinlet injected area at the place marked #3 on the geology map, assayed .5 oz. of silver, 1.91% copper and 3% zinc.

Sample #195, taken across a five foot width of quartz vein at the place marked #4 on the geology map, assayed .7 oz. of silver, .24% copper and 4.32% zinc.

Sample #478, taken 50 feet southeast of claim survey #3752, corner #1 of the Copper claim in a schist outcrop of iron stained quartz vein assayed .3 oz. of silver, .045% copper, 0.2% lead and 0.50% zinc.

Red Top Vein. A. Facfarlane, in his 1945 report, reported that the Red Top vein is now developed by a 100 foot tunnel 2 winzes and a prospect shaft, all driven on the apparent fissure which has a between walls width of about 5 feet, in all, 275 linear feet of vein development has been made.

One general sample taken by Macfarlane across a copper bearing portion of the vein within the tunnel assayed silver 28.2 ozs., gold .01 ozs., and Cu 3.0% with a gross value in 1945 of $25.10 per ton.

Travis Lane reported that these veins all carry an appreciable amount of silver in the form of cerargyrite and probably some argentite and lead in the form of cerussite, anglesite and galena. Some zinc as sphalerite is also present. Portions of the veins which carry a substantial amount of silver are more silicious than those parts which are higher in lead content and where calcite and generally manganese stained is the principal gangue mineral. Bleaching and oxidized mineralization is evident on the surface in all the veins. At shallow depth, however, and often on the surface, galena is the predominent lead mineral. A sprinkling of galena is often present with low silver values, across the full width of the vein, but the better mineralization is generally found in a band several feet wide against the hanging wall with a clay gouge seen in the wall.

Travis Lane reported that some oxidized copper mineralization is generally found in a band several feet wide against the hanging wall. . . but the occurrences of copper are sporadic and unimportant in the mountain.

"A small amount of development on the Orphan Boy group discloses in one place two closely paralleled shear zones in rhyolite. The veins are separated by a small intrusive mass of monzonite and the mineralization is similar to that of the Hall Gorham group except that there is less manganese. An appreciable amount of zinc is present in the form of sphalerite of the black jack type."

Mr. Lane lists a number of veins to the east of Mineral Hill among which are the Woodpecker vein, the Grandfather vein, the Silver Pick vein, and the Jumbo vein, from which chutes or pockets of silver have been mined.

Shipments of ore from these veins showed silver at 22 oz., 5.3 oz., 1.7 oz., 2.6 oz., 17 oz., with lead varying from 3.5% to 39%.

The surface to the west of Mineral Hill and in the area of the Moon Claims is covered by a mantle of gravel wash and detrital material from the hills to the east and the vein croppings are rare.

XI

MINERALIZATION, DIABASE AND GRANITIC INTRUSIVES

Diabase is exposed in a number of places on the Juno Group and the Moon Claims. Usually on either side of the silicified shear zones some diabase can be found. In an exposure on the southern end of the Moon Claims the diabase is approximately 100 feet wide.

Mineralization in the Superior area is closely associated with the diabase intrusion. In the Magma mine diabase is one of the more favorable wall rocks of the vein.

This relationship between the diabase and mineralization is not confined to the copper, lead, zinc, silver and manganese deposits of the Superior area but is evident in the asbestos deposits along the Salt River Canyon where the diabase cuts along the base of and into the Mescal lime. This zone of metamorphism

just above the diabase in the Mescal lime is the most favorable for the asbestos deposits of that region.

In the Sierra Anchas, it is also being found that a zone directly above the diabase intrusion to the Dripping Springs quartzite is favorable for deposition of primary uranium ores.

A granitic intrusion is exposed approximately one-half mile south of the Moon claims. Sample #192 was taken from an exposure of this granite on the south side of the road to Florence and assayed 0.6 oz. of silver, 0.60% copper and 0.65% zinc.

Sample #193 was taken across the zone of granite with schist just north of Sample #192 and assayed .4 oz. of silver, .10% copper and .85% zinc.

XII

GEOLOGICAL THEORY AND MINERALIZATION PROSPECTS OF THE MOON PROPERTIES

The fact that the Juno claims are dissected by a series of quartz veins and mineralized sheer zones and that they have diabase dikes running roughly parallel to the zones and veins does result in favorable structure worth investigation with a view of discovery of an economic mineral deposit.

The copper mineralization on the south edge of the Moon property in the granitic rock indicates that not far below this dissected schist roof pendent may lie a mineralized intrusive with possible secondary enrichment by leaching of the overlying rock.

An additional set of geologic indications worth investigating on its own merit is the diabase dike which possibly has a mineralized zone on each side.

Present knowledge of these claims does not add up to economic production at this time, but they do merit detailed geologic mapping, geophysics and exploration drilling, which could prove any one of the following:

1. That large ore chutes of economic silver, zinc, lead and copper exist in the veins and shear zones.

2. That underlying the dissected schist roof pendent is

an intrusive that could contain a low grade copper deposit.

3. That the zones of metamorphism on each side of the diabase dike could be large enough and have sufficient mineralization to be mineable on a large scale.

XIII

CONCLUSIONS AND RECOMMENDATIONS

In view of the whole geologic picture, and the few known facts of the geology on the Moon property, I feel that it merits a detailed geologic mapping program from which should come recommendations for preliminary geophysics, drilling and a core drilling program. Such a preliminary exploration program should bring to light additional facts upon which a more extensive drilling program could be based.

The Moon property is a likely prospect and is characterized by the following four general features:

1. Favorable rock type combinations which have been known to carry economic mineral deposits.

2. Mineralization of a type that is found in such rock combinations plus a limited past silver production.

3. Structural conditions which could have made room for an economic mineral deposit.

4. Proximity to other mines where a combination of the first three features have produced an economic mineral deposit.

Respectfully submitted,

Hale C. Tognoni

Hale C. Tognoni
Registered Professional
Mining Engineer
Arizona Registration
Number 2048

Hale C. Tognoni

MERCURY-GOLD-SILVER
TONTO MINERALS, ?
SCOTTSDALE, ARIZONA
BOX 324 — ZIP 85252

Date Printed: 08/30/95

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION SUMMARY

Information from: **Dave Hills**

Company: Golden Eagle International

Address: 4949 South Syracuse, Suite 300
City, State ZIP: Denver, Colorado 80237
Phone: 303-694-6101

MINE: **Silver Bar and Moon Claims**

ADMMR Mine File: Moon Claims
County: **Pinal**
AzMILS Number: **204**

SUMMARY

Dave Hills called about the information we might have on the Silver Bar Mine in the Mineral Hills District of Pinal County. His company, Golden Eagle International, is being solicited by a Jim Brown to invest in the development of a mine on the property. Mr. Hills has been provided only a promotional report on the property and hoped we had more data. He learned about us from Perry Durning.

Want Jim Brown calls his Silver Bar corresponds well to the Moon Claims and the Juno Mine in the district. A report by Hale Tognoni on the Moon Claims was copied and sent to Mr. Hills and he promised a copy of the report he has.

Some time was spent explaining the different types of consultant reports one might receive about a property. He was encouraged to hire some expertise that could review the property on his behalf.

Ken A. Phillips, Chief Engineer Date: August 30, 1995

MINERAL ECONOMICS CORPORATION

CONSULTING MINING ENGINEERS AND GEOLOGISTS

HALE C. TOGNONI, P.E. 2084
MINING AND GEOLOGICAL ENGINEER
GEORGE-ANN TOGNONI, CARTOGRAPHER

1525 WEST NORTHERN AVENUE
PHOENIX, ARIZONA - 85021
WI 4-2124

GEOLOGICAL REPORT OF THE MINERAL MOUNTAIN MINING CLAIMS

For the Moon Development Company

By Hale C. Tognoni, P.E. 2048

I

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The Moon Development Company owns 42 patented lode mining claims, herein referred to as the "Juno Group", and 21 unpatented mining claims, herein referred to as the "Moon Claims". The Juno Group are situated on the western foothill ridge in the Mineral Hill Mining District and the Moon Claims adjoin them on the west as the hills blend into the gently rolling alluvial plain, all in Sections 7, 8, 17 and 18, Township 3 South, Range 11 East, G&SRB&M, Pinal County, Arizona. Mineral Mountain is about 10 miles east of Florence Junction and approximately 11½ miles southwest of Superior, Arizona.

II

FORWARD

This report is based upon information gathered by the author, Hale C. Tognoni, Arizona Registered Professional Mining Engineer, #2048, during the summer and fall of 1965 for the purposes of writing a geological report to be used for assessment work on the 21 Moon Claims (unpatented mining claims). Approximately 20 days were spent on the ground and in various governmental departments gathering information.

Aerial photographs were taken by Arizona Aerial Photo Co. A property map was compiled from existing mineral surveys. A geological map made from the aerial photographs, the Pinal County Geological Map, and surface observations.

Other reports relied upon for background information are as follows:

1. Red Top Mining Claim report written on June 18, 1945 by A. Macfarlane.

2. Ajax Mine Report, a report of the examination by Gerald A. Russell, B. Sc., P.E.M., for the Alba Mines, Ltd., in January of 1957.

3. A report on the Mineral Mountain Mining & Milling Co., Mineral Mountain Mining District, by Travis P. Lane, on March 29, 1951.

4. A report on the Key and Woodpecker claims by J. S. Coupal on August 6, 1948.

5. Notes of the geology of Mineral Creek District, Pinal County, by F. L. Gowing, Mining Reporter, May 19, 1904.

6. Abstracts from Bluebird Mine Report by Hale C. Tognoni, P.E. #2048, July, 1955.

Maps used are as follows:

1. Mineral Mountain Quadrangle 7½ minute series, 1964, U.S.G.S.

2. Geological Map of Pinal County prepared by the Arizona Bureau of Mines in 1959.

3. Township plat, General Land Office, U. S. Department of the Interior.

4. Mineral Surveys No. 2419, 3752, 2829, 2787 and 3894.

III

ABSTRACT

The Moon mining property, herein separated into Moon claims, the unpatented claims, and the Juno Group, patented claims, are in a Pre-Cambrian schist area criss-crossed by a network of diabase, and diorite dikes and silicified shear zones containing ore chutes.

In the Juno Group the mineralized shear zones form prominent ridges, one of which is Mineral Mountain. These shear zones are north-south striking and have paralleling and at angles to them quartz veins, diabase, and diorite dikes. Numerous small workings

appear along this system of veins, silicified zones and dikes and show silver, lead, zinc and copper mineralization. Evidently, these mine workings have produced some silver, although none of them have sufficiently large or perhaps recent enough production to be recorded in the Arizona Bureau of Mines metal production records.

The Moon Claims are to the west of the prominent shear zones and the western portion of them are covered by a thin mantle of alluvial material.

Occasionally, on the surface of this thin alluvial cover, are concentrations of quartz float indicating quartz veins beneath. The schist in the southern portions of the Moon Claims has a more granular appearance and grades into a granitic intrustion. Silver, lead, zinc and copper mineralization is found in mineralized chutes in the silicified shear zones and in quartz veins on the surface. Elongated iron stained semi-elipse shaped areas lap out from the silicified shear zones onto the pearly white schist as the hills level out into the valley and the alluvium.

It is recommended that detailed geology mapping followed by geophysical work be done across the shear zone areas and out onto the pediment areas followed by drilling with a possibility of developing an economic mineral concentration.

IV

ACCESSABILITY, ROADS AND CLIMATE

The property of the Moon Development Company is located in the Mineral Hill Mining District, Pinal County, Arizona. The property is reached by 6.1 miles of graded dirt road from a point on U. S. Highway 80 and 89, 5.7 miles southerly by paved roads from Florence Junction, 20.7 miles southerly and westerly by paved road from the smelter of the Magma Copper Company at Superior, Arizona, and 45 miles easterly from Phoenix, Arizona. The roads are passable at all times of the year.

The region is typically southwest arid desert with light rainfall and scant vegetation and no timber. The topography is moderately rugged with sharp gullies and ridges and a few flat areas. Elevation at the property ranges from 2,500 to 3,350 feet (Mineral Mountain) above sea level.

V

NEIGHBORING MINES (INACTIVE)

The Red Top claim which is on the northeast corner of the Juno Group was owned in 1945 by Mr. A. C. Haigler of 1211 North First Street, Phoenix, Arizona. The Reymert silver mine, last known to be in operation in 1945, is about five miles north over a series of ridges. Almost due easterly three or four miles is located the Sunset or Bell-Martinez mine and mill of which the southeastern extension is the Byers group and the Alto mine.

VI

HISTORY AND PRODUCTION (TRAVIS LANE)

The first work in the district dates back to the early 1880's and the first production was made from the Silver Bell mine followed shortly afterwards with production from the Woodpecker mine. Each of these properties is credited with a large early day production of high grade silver ore.

Another substantial producer in the early days and again in the recent years is the nearby Reymert mine credited with over 2,000,000 oz. of silver. A moderate production, old and recent, has been made by a considerable number of other properties in the immediate vicinity of the Moon Development Company holdings.

The ore in the district, because of its highly silicious character, is desirable as a smelter flux and for this reason it has generally been accorded favorable treatment rates at the smelters at Superior and Miami. The ores all carry an appreciable amount of lead and often zinc, and except for a few lots sent to a lead smelter the ore all has been sent to copper smelters as dry silver ore and no payment was received for the base metal content. No serious attempt has been made to concentrate the ore, thus realizing nothing for the base metals because until quite recently the market for these metals was not sufficiently favorable to warrant the treatment procedure. The ore does not respond readily to cyanide treatment for the recovery of the silver because of its manganiferous character and for this reason and also because of the proximity of the smelter, and the favorable treatment rates offered, no cyanide plants have been built. Recorded production in years immediately prior to 1951 from the property held by the Mineral Hill Mining & Milling Co. has amounted

to approximately 450 tons, most of which was sent to copper smelters as silver ore and assayed 16 oz. of silver and about 3½% lead per ton. Three lots sent to a lead smelter averaged 7.7 oz. of silver and 11.9% lead.

A. Macfarlane reported in 1945 that the immediate area of the Red Top and Moon Property is well known as a silver belt and for many years has yielded an important silver production through frequent operating periods. The veins are of substantial mining widths but the silver content is often sub-marginal, so that only such ore chutes as contain 20 ounces of silver and upwards are being mined.

VII

ORE MARKETS

The Magma smelter at Superior, distant by road 28.8 miles, has purchased much of the production from this locality, also the Hayden Custom Smelter, distant 5 miles east of Florence rail siding, and from the Moon properties to the rail siding, about 22 miles by truck road. This provides this mining section with reasonable transportation costs to the two markets.

VIII

GENERAL GEOLOGY

The principal rock of the region in which the Moon Claims and the Juno Group are located is Pre-Cambrian Final schist. The schist is intersected by numerous silicified shear zones, the general trend of which is northwest-southeast with dips averaging nearly vertical with slight variations to southwest dips.

Diabase and diorite sills and dikes intrude the schist and appear to run approximately parallel with the silicified shear zones and the planes of schistosity of the schist.

The shear zones or veins as they are locally referred to, range from several feet to 30 feet in width and are readily traceable on the surface because of their precipitous outcrops which often rise many feet above the surface. The walls are well defined and the structure of the silicified zones is of the ribbon rock type with numerous small quartz veinlets and parallel longitudinal bandings of alternating type of vein materials. Quartzite, quartz and coarse crystaline calcite are the most common constituents of the zones with manganese, limonite, copper oxides

and carbonates occurring as coatings and as fillings in the cavities in the veinlets. Amethystine quartz in drusy cavities is a common occurrence in the silicified zones.

Numerous quartz veins nearly parallel the shear zones and intersect them at very small angles. Some of these quartz veins are traceable for hundreds of feet on the surface and are as much as eight feet in width.

The Moon Claims are to the west of the prominent shear zones and the western portion of them are covered by a thin mantle of alluvial material.

Occasionally, on the surface of this thin alluvial cover, are concentrations of quartz float indicating quartz veins beneath.

Elongated iron stained semi-elipse shaped areas within the schist lap out from the silicified shear zones onto the pearly white schist as the hills level out into the valley. The schist in the southern portions of the Moon Claims has a more granular appearance and grades into a granitic intrusion.

IX

GEOLOGY, ROCK TYPES

Pinal schist is a foliated metamorphic rock and varies from dark brown when adjacent to igneous activity in the Juno Group to a white with a pearly lustre on the west side of the Moon Claims. Near the shear zones lit-par-lit injections of quartz are found within the planes of schistosity.

In the Lexicon of "Geologic Names of The United States", U.S.G.S. Bulletin 896, Pinal Schist is described as follows:

> "Pinal Schist
> Pre-Cambrian: Central Arizona
> F. L. Ransome, 1903 (U.S.G.S. PP 12). Pinal Schists- Crystalline schists of pre-Camb. age. The oldest rocks in Globe quad. Are broken by granite intrusions into very irregular masses. Are at least in part derived from quartzose sediments. Are abundantly present and well exposed in Pinal Mtns. whence their name. The largest single body of schistose rocks is that underlying greater part of W. slope of the range. Are unconformably overlain by Apache group.

F. L. Ransome, 1904 (U.S.G.S. Globe folio, No. 111). Final Schist consists of quartz-sericite and quartz muscovite schists.
F. L. Ransome, 1904 (U.S.G.S. Bisbee folio, No. 112). Final Schist Light to dark-gray or greenish schists; very fine-grained, uniform texture; imperfect cleavage, surfaces commonly have a satinlike sheen; essential constituents quartz and sericite. Biotite and tourmaline rare; amphibole not observed. General character indicates the schist was at one time arkosic sands or silts. Vastly older than Camb. May-Vishnu schist of Grand Canyon. Thickness unknown."

Diabase The diabase dikes or intrusions on the Moon property have to be more closely mapped. It appears to be the same rock as studied by the author at Superior, Arizona, and has bladed light colored feldspar crystals oriented at random in the black or near black matrix.

C. M. Rice, in the 'Dictionary of Geological Terms , defines diabase as follows:

> "diabase. A basic igneous rock usually occurring in dikes or intrusive sheets, and composed essentially of plagioclase feldspar and augite with small quantities of magnetite and apatite. The plagioclase forms lath-shaped crystals lying in all directions among the dark irregular augite grains, giving rise to the peculiar diabasic or ophitic texture, which is a distinctive feature in the coarser-grained occurrences...

Diorite. The diorite rock found on the Moon property was rather scant but closer mapping may reveal a more extens ve dike pattern as has been reported on neighboring properties. Diorite, as defined by C. M. Rice in his "Dictionary of Geological Terms' is as follows:

> "diorite. A granitoid rock composed essentially of hornblende and feldspar which is mostly or wholly plagioclase, with accessory biotite and augite or augite alone. Minute grains of magnetite and titanite may be visible...

X

GEOLOGY VEIN MINERALIZATION AND SAMPLES

Due to the fact that this geology report was written to comply with the annual assessment work requirement for 1964-1965 on the Moon Claims and that these claims occupy an area where few

veins outcrop only a few samples were taken on the veins.

Sample #1604, a piece of quartz typical of the vein with copper and silver staining apparent was taken from a dump on the White Carbonate claim and assayed 1.2 oz. of silver, .04 oz. of gold, 4.9% copper and 2.8% zinc.

Sample #194, taken from a quartz veinlet injected area at the place marked #3 on the geology map, assayed .5 oz. of silver, 1.91% copper and 3% zinc.

Sample #195, taken across a five foot width of quartz vein at the place marked #4 on the geology map, assayed .7 oz. of silver, .24% copper and 4.32% zinc.

Sample #478, taken 50 feet southeast of claim survey #3752, corner #1 of the Copper claim in a schist outcrop of iron stained quartz vein assayed .3 oz. of silver, .045% copper, 0.2% lead and 0.50% zinc.

Red Top Vein. A. Facfarlane, in his 1945 report, reported that the Red Top vein is now developed by a 100 foot tunnel 2 winzes and a prospect shaft, all driven on the apparent fissure which has a between walls width of about 5 feet, in all, 275 linear feet of vein development has been made.

One general sample taken by Macfarlane across a copper bearing portion of the vein within the tunnel assayed silver 28.2 ozs., gold .01 ozs., and Cu 3.0% with a gross value in 1945 of $25.10 per ton.

Travis Lane reported that these veins all carry an appreciable amount of silver in the form of cerargyrite and probably some argentite and lead in the form of cerussite, anglesite and galena. Some zinc as sphalerite is also present. Portions of the veins which carry a substantial amount of silver are more silicious than those parts which are higher in lead content and where calcite and generally manganese stained is the principal gangue mineral. Bleaching and oxidized mineralization is evident on the surface in all the veins. At shallow depth, however, and often on the surface, galena is the predominent lead mineral. A sprinkling of galena is often present with low silver values, across the full width of the vein, but the better mineralization is generally found in a band several feet wide against the hanging wall with a clay gouge seen in the wall.

Travis Lane reported that some oxidized copper mineralization is generally found in a band several feet wide against the hanging wall. . . but the occurrences of copper are sporadic and unimportant in the mountain.

"A small amount of development on the Orphan Boy group discloses in one place two closely paralleled shear zones in rhyolite. The veins are separated by a small intrusive mass of monzonite and the mineralization is similar to that of the Hall Gorham group except that there is less manganese. An appreciable amount of zinc is present in the form of sphalerite of the black jack type."

Mr. Lane lists a number of veins to the east of Mineral Hill among which are the Woodpecker vein, the Grandfather vein, the Silver Pick vein, and the Jumbo vein, from which chutes or pockets of silver have been mined.

Shipments of ore from these veins showed silver at 22 oz., 5.3 oz., 1.7 oz., 2.6 oz., 17 oz., with lead varying from 3.5% to 39%.

The surface to the west of Mineral Hill and in the area of the Moon Claims is covered by a mantle of gravel wash and detrital material from the hills to the east and the vein croppings are rare.

XI

MINERALIZATION, DIABASE AND GRANITIC INTRUSIVES

Diabase is exposed in a number of places on the Juno Group and the Moon Claims. Usually on either side of the silicified shear zones some diabase can be found. In an exposure on the southern end of the Moon Claims the diabase is approximately 100 feet wide.

Mineralization in the Superior area is closely associated with the diabase intrusion. In the Magma mine diabase is one of the more favorable wall rocks of the vein.

This relationship between the diabase and mineralization is not confined to the copper, lead, zinc, silver and manganese deposits of the Superior area but is evident in the asbestos deposits along the Salt River Canyon where the diabase cuts along the base of and into the Mescal lime. This zone of metamorphism

just above the diabase in the Mescal lime is the most favorable for the asbestos deposits of that region.

In the Sierra Anchas, it is also being found that a zone directly above the diabase intrusion in the Dripping Springs quartzite is favorable for deposition of primary uranium ores.

A granitic intrusion is exposed approximately one-half mile south of the Moon claims. Sample #192 was taken from an exposure of this granite on the south side of the road to Florence and assayed 0.6 oz. of silver, 0.60% copper and 0.65% zinc.

Sample #193 was taken across the zone of granite with schist just north of Sample #192 and assayed .4 oz. of silver, .10% copper and .85% zinc.

XII

GEOLOGICAL THEORY AND MINERALIZATION PROSPECTS OF THE MOON PROPERTIES

The fact that the Juno claims are dissected by a series of quartz veins and mineralized sheer zones and that they have diabase dikes running roughly parallel to the zones and veins does result in favorable structure worth investigation with a view of discovery of an economic mineral deposit.

The copper mineralization on the south edge of the Moon property in the granitic rock indicates that not far below this dissected schist roof pendent may lie a mineralized intrusive with possible secondary enrichment by leaching of the overlying rock.

An additional set of geologic indications worth investigating on its own merit is the diabase dike which possibly has a mineralized zone on each side.

Present knowledge of these claims does not add up to economic production at this time, but they do merit detailed geologic mapping, geophysics and exploration drilling which could prove any one of the following:

1. That large ore chutes of economic silver, zinc, lead and copper exist in the veins and shear zones.

2. That underlying the dissected schist roof pendent is

an intrusive that could contain a low grade copper deposit.

3. That the zones of metamorphism on each side of the diabase dike could be large enough and have sufficient mineralization to be mineable on a large scale.

XIII

CONCLUSIONS AND RECOMMENDATIONS

In view of the whole geologic picture, and the few known facts of the geology on the Moon property, I feel that it merits a detailed geologic mapping program from which should come recommendations for preliminary geophysics, drilling and a core drilling program. Such a preliminary exploration program should bring to light additional facts upon which a more extensive drilling program could be based.

The Moon property is a likely prospect and is characterized by the following four general features:

1. Favorable rock type combinations which have been known to carry economic mineral deposits.

2. Mineralization of a type that is found in such rock combinations plus a limited past silver production.

3. Structural conditions which could have made room for an economic mineral deposit.

4. Proximity to other mines where a combination of the first three features have produced an economic mineral deposit.

Respectfully submitted,

Hale C. Tognoni

Hale C. Tognoni
Registered Professional
Mining Engineer
Arizona Registration
Number 2048

Hale C. Tognoni

MERCURY-GOLD-SILVER
TONTO MINERALS, INC.
SCOTTSDALE, ARIZONA
BOX 324 — ZIP 85252

Date Printed: 08/30/95

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION SUMMARY

Information from: **Dave Hills**

Company: Golden Eagle International

Address: 4949 South Syracuse, Suite 300
City, State ZIP: Denver, Colorado 80237
Phone: 303-694-6101

MINE: **Silver Bar and Moon Claims**

ADMMR Mine File: Moon Claims
County: **Pinal**
AzMILS Number: **204**

SUMMARY

Dave Hills called about the information we might have on the Silver Bar Mine in the Mineral Hills District of Pinal County. His company, Golden Eagle International, is being solicited by a Jim Brown to invest in the development of a mine on the property. Mr. Hills has been provided only a promotional report on the property and hoped we had more data. He learned about us from Perry Durning.

Want Jim Brown calls his Silver Bar corresponds well to the Moon Claims and the Juno Mine in the district. A report by Hale Tognoni on the Moon Claims was copied and sent to Mr. Hills and he promised a copy of the report he has.

Some time was spent explaining the different types of consultant reports one might receive about a property. He was encouraged to hire some expertise that could review the property on his behalf.

Ken A. Phillips, Chief Engineer Date: August 30, 1995

TELEGRAMS
HAMCO LOS ANGELES

LONDON OFFICE
43 BERNERS STREET

HAMILTON'S

MEN'S SHOES
DESIGNERS
IMPORTERS

July 18
19 42

Mr. Charles Dunning
c/o The Mountain Club
Prescott, Arizona.

Dear Mr. Dunning:

Am quite pleased with your work, and with the showing made by the samples.

Here are three matters in which I think you can help me.

First: Priority Rating. Just what is the proceedure to secure a priority rating ? Since the lumber, machinery, trucks, tires,etc are needed for production of copper, which, is classed as a stratigic metal, I would think there should be no great difficulty in getting an A1 rating.

I heard that a Mr. Moore, who runs a cooperative in Phoenix is the man to see. One man said he was sent from office to office until he contacted Moore. Do you know him, and is he the man to see ? Can the whole matter be arranged in Phoenix, or does it take a long time to get it, from some where else?

Second: Mine Superintendent. I do not know whether Milo Porter is going to be with us, as Mine Superintendent, if he is not , do you know of a good man that you could put in charge, who would be fully capable of carring out your instructions in the installation of machinery and in mine development?

Third: Where can I rent a portable compressor for a week or two, for road work? With a small one and a couple of drills, we can do the blasting; then the county will grade the road, but

TELEGRAMS
HAMCO LOS ANGELES

HAMILTON'S

MEN'S SHOES
DESIGNERS
IMPORTERS

LONDON OFFICE
43 BERNERS STREET

July 18
19 42

they will not do the blasting.

We sent the papers all on to Washington July 15th.

Sincerely yours

Alley L Hamilton

ACH:MF

TELEGRAMS
HAMCO LOS ANGELES

LONDON OFFICE
43 BERNERS STREET

HAMILTON'S

MEN'S SHOES
DESIGNERS
IMPORTERS

June 29
19

STODDARD
Incorporating Company

JUN 30 1942
RECEIVED
PHOENIX, ARIZONA

Mr. C. Martin Stoddard
Title & Trust Building
Phoenix, Arizona

Dear Jack:

Your letter of 27th received. Muter's report is dated April 17, 1929. In making the copy this evidently was omited by error of the typist. Copper was then about .20¢, which accounts for his $22.66 gross. In his cost estimate (page 3) he says " Cost smelting $1.00 to $5.00 ton; then he uses the $5.00 figure, which runs his cost up to $13.60. the eleven shipments listed in McMechen's report, as shown on the smelters statements , was $2.00 per ton. Muter is therefore $3.00 too high on his costs; which should be but $10.60. Deducting these actual costs from your $15.30 figures leaves $4.70 per ton profit.

If this explanation is appended to Muter's report it will be better understood.

Porter's report can be eliminated if Dunning thinks best.

We certainly do need a real assay map, would like to have Mr. Dunning go down and get a dozen or so samples in the drift on the Black Copper claim which runs from an adit near the shaft. Call me up and let me talk to him as soon as he has gone over all this data, Yes it is hard to estimate cost per foot, and for the reason you state, which are also mentioned at the bottom of page 4 of McMechen's report. And I agree that the estimate of these should be placed at a safe high figure. Ask Dunning $12.00 to $16.00 per ft.for drifting and $18.00 to $24.00 per ft. for sinking shaft is high enough?

TELEGRAMS
HAMCO LOS ANGELES

LONDON OFFICE
43 BERNERS STREET

HAMILTON'S

MEN'S SHOES
DESIGNERS
IMPORTERS

I will be here at the office if you want to talk to me. Tr.3431

With kind regards, I remain

Sincerely yours

Ally C Hamilton

ACH:MF

P.S.
Enclosed herewith copy of report just received from Phelps Dodge Company, made by Sahnnon Copper Companys Engineer before that company started operation on this property.

The Arizona State M & S is the name of my property Ally.

TELEGRAMS
HAMCO LOS ANGELES

LONDON OFFICE
43 BERNERS STREET

HAMILTON'S

MEN'S SHOES
DESIGNERS
IMPORTERS

609 Rollins St. La.

June 25
19 42

STODDARD
Incorporating Company
JUN 26 1942
RECEIVED
PHOENIX

Mr. C. Martin Stoddard
Title & Trust Building
Phoenix, Arizona

Dear Jack:

We are enclosing one copy of everything, which is to be sent to Washington and retaining two copies here which will be sent from here to Washington.

Tell Mr. Dunning here are copies of the reports, map and develements and loan application. A copy of the assay certificates is not enclosed, but the data is given in both MaMechen's and Porter's reports. The original assay certifiactes will accompany the two copies required, of the loan application, reports and map, to go to the R. F. C. Washington.

Please look these over carefully, and wire me day or night letter collect, any suggestions or corrections.

Have Mr. Dunning OK his appointment as supervising engineer and general manager, and to devote 1/3 of his time for $150.00 per month, and tell him his name is to be inserted in the loan application.

Try and get in touch with Dunning and lets get this going as fast as possible, so phone me when necessary and reverse the charges.

Thanking you for your cooperation, I remain.

Sincerely yours.

Allen C Hamilton

ACH.MF

GIROUX ASSAY OFFICE

Mayer, Arizona July 8, 194 2

This is to certify that the sample assayed for Mr. Chas. H. Dunning, Humboldt, Arizona, gave the following results per ton of 2000 pounds.

NO.	DESCRIPTION	GOLD OZ.	SILVER OZ.	COPPER %	LEAD %	ZINC %	IRON %	VALUE $
36777	#I-Au-Ag-Cu-	0.02	Nil	I.80				
36778	#2-" " "	0.03	Nil	I.I5				
36779	#3-" " "	0.08	0.37	I.75				
36780	#4-" " "	0.03	0.37	2.00				
36781	#5-" " "	0.04	2.96	5.50				
36782	#6-" " "	0.I0	Nil	3.60				
36783	#7-" " "	0.0I	0.I9	0.30				
36784	#8-" " "	0.04	0.66	0.90				
36785	#9-" " "	0.08	0.42	I.60				
36786	#I0-" " "	0.02	0.28	0.85				
36787	#II-" " "	0.08	I.52	3.30				

Gold @.....Per Oz.
Silver @.....Per Oz.
Copper @.....Per Unit
Lead @.....Per Unit

Charges $I6.50

.....
ASSAYER.

1942
27th June

Mr. Alex C. Hamilton

609 South Olive Street
Los Angeles, California

Dear Alec:

Your registered letter of the 25th instant, enclosing a copy of your Application to the R.F.C. for a prospecting loan, was received yesterday.

I took your Application to Mr. William Gohring, and went through it with him. There were several points concerning which he raised question. The main ones were:

He does not consider your hand-drawn assay map as very efficient. We both thought you would use a blueprint and put on your assays in white ink. In any case, the number of assays shown are very few indeed.

The Report of Mr. A. F. Mutter, mining engineer, is not dated. Several questions arose as to the statements in said Report. Mutter values the ore at $22.60 per ton, and estimates an ore ~~value~~ at $9.06 per ton (page 3 of Report). Taking present values, we could figure a profit of not more that $1.70 per ton. We figured values at $15.30 per ton instead of $22.60 per ton. How did Mr. Mutter get his value? Gross values would only figure $18.30 per ton based on present prices.

Referring to your itemized estimate of proposed expenditures: Mr. Gohring was very much amused at your items of a total of $5400 and then noting "items not listed above $14,600"!! It is his opinion that probably after you had expended $5400, you would then have to get approval and consent to go on and spend the remaining $14,600!! However, while he said that he could not be sure on this point, still it might be considered "very frank and honest and appeal to the humor of the examining official"!!

but may I urge that you do not try to save a few days at the cost and expense of possible favorable action on your Application.

With kind personal regards, I remain

Sincerely yours,

DICT
CMS:B

CELORA M. STODDARD

Sept 14th, 1942

Mr. Alec G. Hamilton,
609 So Olive St., Los Angeles, Calif.

Dear Mr. Hamilton:-

There is nothing much to add to our recent phone conversation. I took Mr. Rockwood of the R.F.C. to the property and we had considerable discussion regarding it. He felt that so much is dependant on what that vein looks like where cut on the 300 level that no definate development program could be considered until that is done.

Class "B" loans require a definate development program which must be justified by the present ore exposures. Class "C" loans were designed to unwater shafts etc to to permit thorough examination preliminary to a class "B", and this property falls naturally into that catagory.

He raised the question of how you could get the work done when you have not equipment and equipment is very hard to rent, and men capable of undertaking a job of that sort are very scarce. To satisfy him in this regard I told him I would take a contract to do the complete job for $2500. furnishing a equipment necessary to get it done, and would put up a bond to that effect if necessary. I have two trucks of my own and know where I can get the other equipment necessary. That will be up to you and the RFC but I am sure they will require some positive insurance that you can get the job done and the cost of same before putting up the cash. I believe I told you 2250 over the phone but when I get to looking around for equipment I had to raise my sights and 2500 is the figure I presented in writing to the RFC office.

I doubt if much help could be counted on from the county for a rough job on the road. Their usual scheme is to charge you full price for the labor but make no charge for the use of their equipment. In this case bulldozers etc would be useless and the work will require a good many man days. My plan was to fix the road enough so that the heavy equipment, supplies etc can be landed at the shaft without undue risk of injuring tires - but that is all.

I took the Mexican guide (Robles) again as I thought he might be useful to Rockwood, and I took Rockwood out and back from Florence. I had to make the round trip from Prescott with attendant expenses but I will bt you off for $75.00 which should about cover my actual expenses. You can send check at your convenience.

Am now moving back to Phoenix so you can address me as above in the future.

Yours Very Truly,

July 22nd, 1942

Mr. Alex C. Hamilton,
Los Angeles, Calif.

Dear Mr. Hamilton:

I have yours of the 18th and am glad you thought the work was all right.

In regard to priorities there is no such thing as a blanket priority for construction or capital items. In such cases a complete list must be made out and forwarded to Washington from where a fpreference will be assigned each item. They are handling these matters quite promptly now however. After you get in operation you can get a serial number that will give priority for operating supplies and repairs.

You have the right man in mind in Phoenix all right but his name is Chas. Martin, and not Moore. His office is at his cooperative store at 19th and Madison Sts. Should you be in Phoenix it would be a good idea to give him a call.

I do not know anyone available for Mine Supt at the present time but we can find someone when you are ready. I have found it better as a rule when starting a new job of that sort to get a local man if possible and an inquiry around Florence might bring one to light. Otherwise one might be found throughthe Small Mines Operators, Home Builders Dldg., Phoenix, or several others lines of inquiry. Of course all good men are workin and it will probably be necessary to get a man away from another job.

The Western Machinery Co., South Central Ave, Phoenix, make a business of renting portable compressors and equipment. If they do not have anything at the time we will have to enquire among the contractors or it might be possible for you to get one more easily in Los Angeles.

Keep me posted on any word from Washington etc. At the best I am sure it will be some little time before you really have any government money in hand to use.

Yours Very Truly,

The Mountain Club, Prescott, Ariz.

July 10th, 1942

Mr. Alex C. Hamilton,
609 So Olive St., Los Angeles, Calif.

Dear Mr. Hamilton:

The assayer delayed me a couple of days in getting out his assays but at last I have them, have made up the sketch assay map, have written you a letter-report on some phases of the situation and enclose all of same herewith.

You are furnishing so many reports and so much detail with your application that I feared the main interesting features regarding the property might be overlooked in the confusion of reports in Washington so I felt that a very brief report or letter mentioning a few points only would call their attention to and emphasize these points.

I feel that they will surely grant the application on the information and data as now presented.

There is no other suggestion in regard to the application except to "up" the costs as we mentioned over the phone.

You can do just as you like about mentioning myself in connection with the proposed operation but I would not state that it was to be one third time or any other specified time - merely "to give such time as the work requires".

You will surely have to get that road fixed first - although $2,000 is ample. I drove in from the north end and my Mexican guide kept me going whereas we should have stoped and walked when a couple of miles from the mine. The result I think was most of my fee in tires. No truck can take any equipmment at all to the mine, under the present tire situation, until the road is at least partially repaired.

I have my operation at Humbolt started and as soon as it is running smoothly I will not be so cramped for time.

Will you please tell Mr McMechen that I am sorry I did not get his letter until after I had been to the property and therefore could not get him the information he wants. I went through Phoenix in the late evening and did not get in touch with Stoddard on the way down so did not get his letter until on the way back.

I trust that everything is in such shape that it will go through without any hitch. With best wishes regarding same.

Yours Very Truly,

3055 Palm St.
San Diego, Calif.
July 1, 1942

Mr. Chas. H. Dunning
Phoenix, Arizona
In care of Mr. Stoddard

Dear Mr. Dunning:

While you are at the Black Copper shaft, where the old hoist frame stands, please sketch a plat, not to scale but with notation of measurements, of the approximate amount of level ground around the shaft, upon which the hoisting and compresser plant is to be built. Also the bottom,and top of the bank, of the wash that runs around the plant site, should be shown, and road Etc.

Also please make a cross-section, east-west, thru center of plant site, showing approximate slope of the ground for about a hundred feet east and west of the shaft; showing difference of level of road and floor of plant. You can then draw it to scale when you get home.

I presume the plant will, for some time, consist only of hoisting, pumping and compressor machinery. Perhaps the hoist should be built high enough so that the cage can raise the ore cars to a floor or tipple, a short distance above the ore bins. A conveyor could carry the ore across a sorting platform, or perhaps an adjustable one, then on to the ore bins, or, to the low grade dump on high ground, for future treatment. The ore bins of course being just over the truck road.

This should suffice while the mine development proceeds, the medium grade,to high grade,being trucked to the smelter. After the character and quantity of ore is determined other plans will probably be made.

Please draw what you think would be a good plan of the plant as outlined above, with cross-sections, showing slope of surrounding ground and exact angle of dip of shaft.

Now Mr. Dunning please dont consider the above as anything but suggestions, in order that we may have data at hand for reference in future work and plans, which, I sincerely hope will come to fruition in the very near future.

Yours respectfully

F. L. McMechen

F. L. McMechen

Metcalf, Arizona, Sept. 10th, 1916

Mr. J. W. Bennie, Mgr.,
Clifton, Ariz.

Dear Sir:

As to the Griffey Swartz, Arizona State Mining, Amalgamated Copper Co., and Alta Central groups in the Mineral Mountain District, Florence, Ariz.

In a general way, these properties cover a schist area which has been intruded by both acid and basic dykes. These intrusions have resulted in strong fissure veins being formed which owing to their heavy quartz contents have resisted erosion and stand up strong above the surrounding country. These outcrops carry indications of copper throughout and the limited amount of underground work available shows the veins open and porous with considerable amount of iron stain.

Mr. Leland's report shows the extent of these veins and a description of the development work.

I was favorably impressed with the general character and appearance of the veins. With both acid and basic intrusions through the schists and the fact that the solutions coming up through these fissures have been copper bearing, I can see no reason why they should not carry good copper values at depth with a strong chance for secondary enrichment below the surface action.

The fact that the schist is not mineralized or copper stained would indicate that the values have been confined to the veins and that therefore they will be richer than otherwise. Against this is the enormous lateral extent of the veins with the probability of long stretches of ground which would be barren. This tends to make a thorough exploitation expensive and upon the frequency of the ore chutes would depend the value of the property.

A shaft deep enough to penetrate the ore zone and considerable drifting will be necessary to get any reliable data as to the value of the property. The depth of such shaft is entirely problematical, the deeper the shaft required to get through the oxidized portion, the better the prospects for secondary enrichment below.

I believe the surface showing warrants the expenditure of sufficient money to do this work and would suggest that the work be done at some point so that the effect of the intrusions, both acid and basic can be noted. This would possibly give a clue as to future developments. A careful survey would be necessary to determine whether such a point could be found.

Yours very truly,

(Signed) H. H. Dyer

N O T E

Regarding the cost and profit estimates in Muter's report, page 3 , I wish to say:

In April, 1929, when this report was made, the price of copper was 8 to 10 cents higher than it is now; this accounts for his gross value estimate of $22.66 per ton.

No smelter shipments had been made when he made this report. The smelter shipments were made in Dec. 1929 and thru 1930. His smelter cost estimate is $3 too high. His estimate was $5, whereas the actual cost was only $2 per ton for smelting, as shown on the smelter receipts on eleven car loads listed in my report.

Therefore, correcting his smelter charges, and using present prices, his gross value estimate

would have been	$15.30	instead of	$22.66	
and his costs	10.60	"	" 13.60	
and his profits	4.70	"	" 9.06	per ton.

Respectfully

F. L. McMechen

June 24, 1942

AN OPINION
ON THE PROSPECTIVE VALUE OF THE
PROPERTY OF THE
ARIZONA STATE MINING AND SMELTING COMPANY

April 17 1929

Gentlemen:-

The reports of G. M. Comstock, E. M., and Col. Griffey, which you have in your possession, furnish all the data concerning the physical and geological condition of your property that are necessary. They seem to have covered the ground thoroughly.

I found the property, consisting of 39 patented claims, admirably situated for mining and milling. It is only 7 miles distant from Price Station on the Arizona Eastern branch of the Southern Pacific Railroad and only 33 miles from there to the smelter at Hayden.

At Hayden, on account of the fact that the smelter is treating the basic ores of the Christmas Mine, I believe the need for the acid, oxidized ores of this mine will secure for you a very low smelting cost, ranging from $1.00 to $5.00 per ton.

The freight rates from Price Station to Hayden are as follows:

Value of Ore per Ton			Cost per Ton of 2000#
	Under	$15.00	$1.00
Over $15.00 &	"	20.00	1.30
" 20.00 &	"	30.00	1.60
" 30.00 &	"	40.00	1.90

The haulage from the mine to Price Station should not be over $2.00 per ton.

There are five vein systems on the property, of which the Black Carbonate or copper vein is the most important, although the Silverado which parallels it, has produced considerable high grade ore containing copper, gold and lead, and furnished considerable low grade ore for a mill on the property, but there are no production data available. The Azurite, which is between the Black Carbonate and Silverado, also seems to have considerable merit and should be developed.

The work done by the Alta Mining and Milling Company that first owned the property, although it must have cost considerable money was practically worthless as far as development of the property was concerned. A few 10 foot holes along the croppings of the veins would have told as much of their character as the company learned with several thousand feet of crosscuts, drifts and tunnels just under the surface.

The later work done by the Shannon Copper Company was along right lines, and my investigation shows that if this company had been given the opportunity, it would have carried the Black Carbonate shaft to water level and would have thoroughly proved the ground.

This Black Carbonate shaft was sunk to 349 feet and a 12 foot crosscut at 300 feet disclosed a vein between three and four feet in width with a high grade streak of about 10 inches of oxidized ore in the center that ran 12 to 20% copper, .08 oz. in gold and 3½ oz. silver.

The ore was thoroughly oxidized and the company decided to go on down to the sulphide zone before drifting. When the shaft was 349 feet deep, a payment of $50,000.00 became due and the Shannon Copper Company asked for an extension of time on the payment until the shaft could be carried down to the water level.

This request was refused by the Alta Mining and Milling Company and the Shannon Copper Company decided to give up its lease, a decision that was hastened probably by the blowing up of its boiler which necessitated the installation of a new power plant.

Water is now standing in this shaft at 150 feet from the collar, but according to the statements of the men who sunk it, the shaft made very little water after they discovered that the water pumped out had to be carried at least 150 feet away from the collar of the shaft in order to keep it from flowing back in, although the water gradually increased as depth was attained. They kept it out by hoisting a few buckets a shift.

The altitude of the collar of the Black Carbonate shaft is 2500 feet above sea level, and that of the Azurite shaft on a parallel vein 600 feet west is 2240 feet above sea level. At the level in this latter shaft the water could not be handled with the small equipment, and the ore found in the bottom of the shaft was chalcopyrite with considerable secondary chalcocite. It was the highest grade copper ore found on the property; the secondary enrichment was plainly evident, and the permanent water level is apparently close to hand.

As there is only a few feet difference in altitude in the bottoms of these shafts, the water level should be the same, but in the Azurite it is higher, due to the drainage being stopped by a dyke that cuts across the vein system in a northeasterly direction just north of the Azurite claim, while I believe the water level in the Black Carbonate is lower due to the drainage which is apparent to the southwest. Therefore, I wouldn't expect to get water level in the Black Carbonate shaft before 600 feet.

The Black Carbonate vein I consider to be the most important at this time because of the high price of copper, although the others have a high potential value. This vein extends through the property for at least 4500 feet in a northeasterly-southwesterly direction. It is apparently 5 to 10 feet wide and has a strong, continuous outcrop. This outcrop or gossan is iron and copper stained and in places highly siliceous. It is much harder than the schists, diorites, etc., that the fissure cuts through and has not eroded as rapidly, which accounts for its bold outcrop. It is apparently a true fissure vein, cutting across the formation and from its length and size it should go to a great depth. The weathered, leached condition of the outcrop, together with the residual iron and copper left in the harder matrix, would lead one to believe that the vein has eroded from a heighth considerably above the present altitude, and that there should have been a considerable value in copper and silver leached therefrom and carried down to water level where I should expect to find a considerable zone of secondary enrichment. From other occurrences in the immediate vicinity I should expect the secondary ore to be largely chalcocite.

I would advise the cutting of a station at 350 feet in the Black Carbonate shaft; crosscutting the vein; and drifting along the vein at this level, while the shaft is being sunk to the 600 foot level, as I think that at present prices of copper and silver, a considerable tonnage of ore could be shipped that would go far toward paying the cost of the development.

At this time four per cent ore with .08 oz. in gold and 3.5 silver, which is a conservative estimate of the value of the ore in the dumps, is worth $22.66 per ton. The charges against ore of this kind are as follows:

Cost of mining per ton		$5.00
" " hauling to Railroad		2.00
" " freight to Hayden		1.60
" " smelting $1.00 to $5.00		5.00
	Total	$13.60
	Profit	9.06 per ton

This profit could probably be boosted to $12.00 per ton.

It is of course impossible for me to say how much of this ore could be produced in a day until after the drift on the 300 foot level and a few upraises are completed, and the size of the ore shoots demonstrated.

An encouraging feature of the ore in this vein is that the oxidized ores above the water level can be profitably mined and smelted under present conditions if the ore runs only 3% copper, while the rich ore both above and below the water level can be sorted and shipped as high-grade and the low grade sulphide ores of this character can be easily concentrated by oil flotation to form a high grade concentrate at a small cost.

All the equipment on the property has been removed or become obsolete, and I recommend that the mine be re-equipped with new, modern machinery.

In order to install the machinery and do the necessary development work, I suggest that you create a fund of at least $ 150,000.00. This fund, together with the returns from the ore which I believe you will take out in development work, should be ample to prove the value of your property.

Respectfully submitted;

Signed: A. F. Muter, E. M.

April 17, 1929.

702 Lane Mortgage Building
Los Angeles, California

This report is to accompany the Development Loan application of Alex C. Hamilton, of 609 S. Olive St. Los Angeles, Calif.

A CONDENSED REPORT

BY

F. L. McMECHEN

ON THE "BLACK COPPER" PATENTED MINING CLAIM

Property of Alex. C. Hamilton
609 S. Olive St., Los Angeles, Cal.

- - -

LOCATION:

This mining property is located on the west side of MineralHill in Mineral Hill Mining District, Pinal County, Arizona, which is about 14 miles northeast of Florence, Arizona.

Two roads lead from Florence to the property. One road goes eastward along the Gila River about 8 or 9 miles and then northeastward about 6 or 7 miles to the property. The other road, which is much better, leaves the State Highway (a fine paved highway) just 10 miles north of Florence and runs eastward across a level mesa 7 miles to the mine.

From the mine it is a down hill run of about 6 miles, almost due south, to Price Station on the Arizona Eastern branch of the Southern Pacific Railroad. From Price it is 33 miles to the smelter at Hayden, where a considerable amount of ore from this property has been smelted. The freight charges run about $1.50 per ton and the smelting charges about $2.00 per ton. The ore could also be hauled by truck and trailer over the State Highway about 30 miles northeast to the smelter at the Magma mine.

FUEL:

Fuel oil can be brought in drums or car lots by rail or by trucks.

SMELTER SITE:

A good smelter site is available near Price and the Gila River.

WATER:

There are several fine springs of excellent water for camp and mine purposes located on patented property, owned by Mr. Hamilton, owner of the mine. These springs are about a mile from the Black Copper claim and several hundred feet lower in elevation.

With underground storage tunnels at the springs, quite a large quantity of water could be developed and stored, from which it could be raised to a pressure tank above the mine, thus delivering water under pressure

for domestic and fire prevention purposes at camps on any part of Mineral Hill. The camps could then be placed at convenient points near the mines, which would be a great saving in time in going back and forth between camps and mines.

GEOLOGY:

The country rock of Mineral Hill, on the westerly side, where the Black Copper claim is located, is of a schistose character which is quite characteristic of many of the largest copper producing districts of Arizona.

VEIN SYSTEM:

The hard vein outcroppings on the Black Copper claim stand 5 to 20 feet above the softer schistose country rock which has been eroded away. The strike of the outcroppings is in a general northerly and southerly direction, paralleling in a general way other large veins of the district.

This Black copper vein continues both to the north and the south through adjoining claims, for a total distance of over 5000 feet and runs from 5 to 20 feet wide, with pay ore running from one foot to thirteen feet in width. The narrower 10 to 12 inch high grade streaks on the 300 foot level producing 12 to 20% copper, while the wider portions up to 13 feet running 2% to 3% copper. It all carries from $3.00 to $5.00 in gold and a little silver.

Samples across the vein, taken by Milo Porter, whose report, assay map and assay certificates are to accompany Alex C. Hamilton's loan application, show as follows:

	%copper	Oz.Gold	Oz.Silver
#1, 14 ft. across vein, above shaft	2.35	.10	.60
#2, 4 ft. across vein, 10' from adit	2.25	.04	1.20
#3, 4 ft. across vein, 300' from adit	1.55	.08	.20

DEVELOPMENT:

About 600 feet of drift has been run in from an adit in the side of the hill. Although this drift, from a development standpoint, was practically a waste of time and money by former owners, yet it does show several things of very considerable interest to the geologist and mining engineer.

Although it is just under the surface, prdably not 150 feet below the surface at the extreme end, it shows a width of ore 4 to 13 feet, running 2 or 3% copper (carbonates), $2.00 to $4.00 in gold, and some silver. But the most interesting thing that this drift shows is the persistancy of the pay ore and the enormous amount of leaching action that has taken place, dissolving out the copper sulphides, sulphates and carbonates and carrying them below. This porous iron stained spongy condition of the gossan, with the gold values and some of the copper values still there, are as near absolute proof as a miner ever finds of strong secondary enrichment below.

The shaft, near the entrance of the above mentioned adit, is said to be 394 feet deep, and from data of former owners, I presume it is, but storm and flood water has run into it and evidently almost filled it, then receded until it stands about 135 feet from the surface.

Men who worked in the mine, sinking the shaft, say that the vein dips slightly to the west for a short distance in depth and then becomes almost perpendicular. The shaft, however, was continued on an incline in a straight line, and at the 300 foot level a station and a 12 foot crosscut was made, intersecting the vein. This cross-cut showed the vein to be several feet in width with a high grade streak of about ten to twelve inches of oxidized ore in the center that ran 12 to 20% copper, .08 oz. gold and 3½ oz. silver.

FUTURE DEVELOPMENT:

The plan is to unwater and sink the shaft to endeavor to reach the permanent water level, where the sulphide zone will doubtless be found. However, the secondary enrichment zone will without doubt be reached much sooner, as the high grade streaks on the 300 foot level would indicate.

By drifting on the 200, 300 and 400 foot levels a considerable tonnate of carbonate and oxidized ore can be blocked out, mined and shipped to the smelter, while deeper development progresses.

PAST SHIPMENTS:

Quite a bit of loosely sorted ore has been shipped by former owners and lessees from open cuts and the above mentioned shallow drifts on this and adjoining properties.

The smelter returns ran as follows:

From the smelter at Hayden, Arizona.

Date	Smelter Lot No.	Tons	% Copper	Oz. Gold	Oz. Silver
12/21/29	1237	52	3.65	.08	1.34
2/ 1/30	94	52	2.93	.155	.80
3/10/30	239	49	2.25	.18	.80
4/25/30	407	55	2.00	.14	.95
4/25/30	420	42	2.10	.12	1.05
5/ 2/30	442	50	1.90	.15	.80
6/12/30	617	35	2.70	.14	.80
6/12/30	618	12	8.50	.12	2.00
6/25/30	743	46	4.76	.12	1.15
9/12/30	915	5.7	2.34	.10	.90
9/12/30	914	35	3.23	.12	1.05

HISTORY:

Former owners optioned this property to the Shannon Copper Company in 1918. They sank the shaft from about the 100 foot level to 394 feet. The boiler blew up a few weeks

before a $50,000.00 payment was due. I understand that the Shannon Company about that time was in serious financial difficulties. At least, they were not able to make the payment. A few weeks later, I understand, they were trying to arrange a renewal of the option and more time for payment, just about the time the first World War ended. The price of copper dropped and the Shannon Company folded up. Their properties and smelters were later taken over by the Phelps-Dodge Company. Their option had not been renewed by the owners. No further development was done by them or anyone else. The low price of copper precluded further development expenditures.

The present owner secured the property and patented it. In 1929 he signed a working lease with a party who shipped the above listed ore to the Hayden smelter in 1929 and 1930. This party left labor bills for the owner to clear up and disappeared. The owner has since refused to lease to anyone. Since that time the "Depression" of 1930-1934, and the low price of copper ever since, have prevented further development.

All camp and machinery equipment was stolen from the property during the depression years. Most of the machinery had deteriorated until it was of little value, I am told.

EQUIPMENT FOR DEVELOPMENT:

I understand the owner desires to obtain a $20,000 loan from the R.F.C. for equipment and development of this property. With this loan it is highly essential that as much real development as possible be accomplished. I therefore suggest that a pumping equipment, compressor and hoist be rented in Phoenix on a monthly rental basis, with option to purchase, and rentals paid to apply on the purchase price.

This will require but $200.00 for a month's use of a $2000.00 electric pumping outfit to unwater the shaft and the lower levels. Men who worked in the shaft said they had no trouble keeping the water down by simply dipping by hand and hoisting a few buckets each shift.

NATURE OF EXPENDITURES:- Approximately as follows:

	Day	Month	4 months	Percentage
Labor, 3 shifts	$125.00	$3,250.	$13,000.	65
Trucking & Road Work		500.	2,000.	10
Unwatering shaft			500.	2½
Rental of machinery			1,300.	6½
Lumber, fuel, supplies		600.	2,400.	12
Management		200.	800.	4
		TOTALS	$20,000.	100

COSTS OF UNDERGROUND WORK AND DEVELOPMENT:

Will vary, depending on labor conditions, character of ground (hard, soft, wet, shattered, firm, dry, etc.), amount of timbering required and quantity of water encountered.

For above mentioned reasons costs will probably vary about as follows: Drifting (horizontal tunneling inside of vein) $12 to $16 per foot; sinking shaft $18.00 to $24.00 per foot of depth.

RENTAL OF MACHINERY:

	Rental	Purchase Price
A 31½ K.V.A. Generator and electric driven pump, one month - - - - - - - - - - - - - -	$200.	$2000.
One 15 HP Hoist, $50 per month, 4 months	200.	450.
One 285 cu.ft. compressor on skids, with V belt drive to 75 HP, 4 Cyl Eng complete, in first class condition, rental $225. per month, 4 months - - - - - - - - - - - -	900.	2500.
TOTAL RENTAL OF MACHINERY 4 Months	$1300.	

RENTAL PURCHASE TERMS:

All of the first month's rental would apply on the purchase price and 75% of the rent paid thereafter would apply on the purchase.

F. L. McMechen

F. L. McMechen
Mining Engineer
3055 Palm Street
San Diego, California

EXHIBIT B

Technical Data

ALL OF THE FOLLOWING REQUESTED DATA IS GIVEN IN McMECHEN'S REPORT HERETO ATTACHED.

The data required by Exhibit B should be supplied in detail on separate sheets of paper attached at end of this Exhibit. Data should be lettered and numbered to correspond with respective paragraphs below.

A. REPORTS: Furnish any reports available that apply to this application, including results from any metallurgical investigations.

B. METAL OR MINERAL: State metal or mineral to be produced. Applicant must present evidence of definite markets for products other than gold and silver which will be produced during the life of the loan, with location and capacity of each market and sales prices.

C. GEOLOGY AND TOPOGRAPHY: Submit all available information and maps.

D. EXISTING DEVELOPMENT:

1. Furnish all possible information with regard to the ore body or mineral deposit. If maps and sections of the mine or placer are not available, pencil sketches are acceptable. However, such sketches should, if possible, be drawn to scale, or if not, dimensions must be shown. **Give the assays of all samples, stating clearly how samples were taken, giving width and location of each sample. Show the location, value, and width of each sample on maps submitted.** For placer deposits give the values obtained from each shaft or drill hole and state how the values were determined. If the data is available, show the estimated yardage and value.

2. Submit certificates, when available, giving analysis of each sample and number each sample to correspond with sample numbers on the maps submitted.

3. State type of mine, whether tunnel or adit, shaft, open-cut, placer, drift, etc., and show in detail the amount of development work. State distance along vein between levels and to surface. Indicate condition of workings, noting necessary repairs, if any.

4. List present equipment on property and describe condition.

E. PROPOSED DEVELOPMENT:

1. State clearly and in detail the proposed work. Estimate the cost of producing and marketing the product.

2. State recent daily, monthly, and annual production (if any) and estimated production if loan is granted.

3. State whether workings are dry or wet; if latter, amount of water that has to be pumped, gallons per minute, to keep water down.

F. MARKETING OF PRODUCT: Explain fully whether the product produced is milled on the property, shipped to custom mill or smelter, or shipped direct to the mint, or otherwise marketed. In any case, supply all cost data with regard to marketing.

G. WATER SUPPLY: State whether water supply for all proposed operations is sufficient during all seasons of year. State amount in gallons per minute, miners' inches, or second-feet. If available, state the maximum, minimum, and average flow. Describe the source of the water supply, its dependability, water rights, etc.

H. POWER: State kind and source of power proposed to be used in operating the property.

I. COST: State past (if mine has been in operation) and estimated future:

1. Detailed mining cost per ton, or per cubic yard of product and per foot of development work.

2. Detailed milling cost.

R. F. C. Form L-254
(Revised 4-10-42)

APPLICATION FOR A DEVELOPMENT LOAN

NOTE.—Read carefully Reconstruction Finance Corporation Circular No. 14 (revised) and this application form before starting to prepare application.

Application of

(NAME) ✓ ALEX C. HAMILTON

(ADDRESS) 609 South Olive Street

(CITY AND STATE) Los Angeles, California

For a Development Loan under authority of section 14, Public No. 417, Seventy-third Congress, as amended.

The application should be prepared and executed in duplicate; one counterpart should be accompanied by a complete set of exhibits, including maps, reports, and all other documents called for; the other should be accompanied by a set of exhibits complete except for supporting maps, assay reports, and other documents of which it is difficult to obtain more than one copy; each counterpart with exhibits should be fastened in a separate binder and sent to Reconstruction Finance Corporation, 811 Vermont Avenue NW., Washington, D. C.

Name and address of applicant should be stamped or typed on each sheet of application, and on all accompanying papers, for identification. If any space in any exhibit is not large enough to permit giving full information, such information should be typewritten on attached sheets of paper labeled, lettered, and numbered to correspond with the respective exhibit, section, and subsection.

Date .....

Name of correspondent Alex C. Hamilton

Address of correspondent as above

Location of mine: County Pinal State Arizona Mineral or metal produced Copper

Does this application pertain to the production of strategic and critical minerals? Yes
(Yes or no)

Alex C. Hamilton (hereinafter called "applicant"),

a n individual, hereby applies to RECONSTRUCTION FINANCE CORPORATION (hereinafter called
(Corporation, individual, partnership)

"R. F. C."), for a loan of not more than $20,000.00 to be evidenced by a note or notes satisfactory to R. F. C. and secured as required by R. F. C.

To induce R. F. C. to make such loan, applicant submits as part of this application the attached exhibits, A to D, inclusive, and such other exhibits and papers as are attached hereto, and warrants and represents the statements herein and therein to be true and complete.

Applicant represents that applicant is not, at the time of making this application, indebted to R. F. C. in any amount, and neither the applicant nor any other party on applicant's behalf has heretofore applied to R. F. C. for a loan, except as follows:

NONE

Applicant hereby authorizes all constituted Federal, State, municipal, and other authorities at all times and from time to time to permit representatives of R. F. C. to have full access to and to furnish R. F. C. with any and all information, records, reports, returns, and files pertaining to or filed by or on behalf of applicant.

Dated ....., 194....

(Sign below)

WITNESS:

.....

.....

WITNESS:

.....

.....

.....

.....

(Corporate application to be executed by the President and Secretary with corporate seal affixed; partnership application to be executed by a general partner)

16—4062-1

R. F. C. Form L-255
(Revised 4-10-42)

Page 2 of Alex C. Hamilton's Loan Application
609 S Olive St., Los Angeles, Calif
EXHIBIT A

General Information

1. NATURE OF BUSINESS: Describe briefly the type of operation being conducted.
Development and operation of copper mine
2. LOAN:

(*a*) Amount of loan applied for: $ 20,000.00
(*b*) Full statement of necessity for loan: **To secure equipment, run drifts, block out ore and deepen the shaft.**

3. PURPOSES OF LOAN: Specific purposes for which applicant proposes to expend proceeds of loan applied for. (Detailed information should be given.)

Nature of Expenditure **Approx. as follows**	Day	Month	Amount	Percent
			$ 4 Months	
Labor, 3 shifts	$125.00	$3250.00	$13,000	65
Trucking and road work		500.00	2,000	10
Unwatering shaft			500	2½
Rental of machinery			1,300	12
Management		200.00	800	6⅔
Lumber, fuel, supplies		600.00	2,400	4
			$ 20,000	100

ITEM : This subject should be fully covered and should include the following informa-
development and operation of the mining property; statement as to exact
property, including date and circumstances under which
for the loan has been involved in receiver-
signment for the benefit of,
that applicant

No. 4. HISTORY, MANAGEMENT, ETC.

The property consists of several patented lode claims, upon which considerable development work has been done. I acquired title to the property and patented it several years ago and now own it free and clear of any encumbrance. The history of the property is fully given in McMechen's report hereto attached.

I intend to place the further development and operation of the mine under competent Engineering Management and start production and shipping to smelter as quickly as possible, which can be done very shortly after loan is granted.

Mr. _____ is to be Supervising Engineer and General Manager. Mr. Milo Porter, an experienced mine operator and a mining man of long experience, is to be Superintendent.

2

(*c*) D...
(*d*) Names of any adj...

8. OPERATION:

(*a*) Are operations being carried on at present time? If so, ...en employed. None

(*b*) If operations are not now being carried on or have not been continuous, give dates o... and resumption of operations, reasons for such suspensions, and description of most recent operations.
Fully explained in McMechen's report hereto attached.

16—4002-1

9. If Applicant is a Corporation, Supply the Following:

(a) General information:

1. Principal office and place of business Applicant is not a corporation
(Street and number)

_____, _____
(City) (State)

2. When organized.

3. Under what laws organized.

4. Names of States in which qualified to do business.

(b) Names and addresses of officers, directors, and ten largest stockholders:

Name and address	Official title (if officer is also director indicate by "D")	Annual salary, commissions, bonuses, etc., received from applicant and/or affiliates during last fiscal year	Number of shares held	
			Common	Preferred
Total				

(c) Capital stock issues:

	Authorized	Outstanding	Par value	Number of shares	Dividend rate	
					Last paid	Fixed by charter
Common stock	$	$	$			x x x
Preferred stock						

(d) Articles, bylaws, etc.—Copies of Articles of Incorporation, bylaws, and certificates of authority to do business, with all amendments to date, certified and sworn to by applicant's Secretary, all to be attached hereto as Exhibit "E".

10. If Applicant is a Partnership, Supply the Following:

(a) Names and addresses of all partners:

Name (Indicate if any partners are limited or special partners)	Address

(b) Affidavits and agreements.—Copies of all partnership affidavits and agreements, certified and sworn to by the partner signing the application, all to be attached hereto as Exhibit "E".

11. Taxes:

Amounts of all Federal, State, municipal, and other taxes and assessments:

(a) Delinquent at the time of the filing of this application.

(b) Levied or assessed each year for the past 3 years.

R. F. C. Form L-257
(Revised 4-10-42)

EXHIBIT C

Current Financial Statement

As of
Page 5 of Alex C. Hamilton's loan application
609 S. Olive St., Los Angeles, Calif.

(It is desired that this should be not more than 30 days prior to date of application)

These patented mining claims are free and clear of encumbrance. There is no machinery or plant on the property now; for reason of this, see McKechen's report hereto attached. The property is not now in operation and there is no indebtedness pertaining to this mine and no assets pertaining to it except the patented lode claims themselves.

TOTAL CURRENT ASSETS	
FIXED AND OTHER ASSETS:	
5. Plant used in business — Lands	
Buildings	
Ores	
6. Machinery	
7. Equipment, furniture, fixtures, etc.	
TOTAL ASSETS	
Liabilities	
CURRENT LIABILITIES:	
8. Notes payable	
9. Accounts payable	
10. Other current liabilities	
11. Liabilities accrued but not yet payable (interest, rent, taxes, wages, payments due on account of leases, options, or other contracts, etc.)	
TOTAL CURRENT LIABILITIES	
FIXED AND OTHER LIABILITIES:	
12. Mortgage debt, etc.	
13. Contracts for lease, royalty, or purchase which constitute charges:	
14. Other liabilities (describe)	
TOTAL LIABILITIES	
15. Contingent liabilities (describe)	

INSTRUCTIONS.—In addition to the foregoing statement, attach a copy of latest balance sheet; also state terms of notes payable, mortgage debts, etc., giving maturity dates, rate of interest, etc.; and describe any other liens.

EXHIBIT D

Fees, Commissions, Etc.

(No fees or commissions shall be paid by applicant for the purpose of procuring a loan, but reasonable compensation may be paid for proper services actually and necessarily rendered to applicant. If an application is granted it is to be expected that prior to disbursement the Corporation will require that it be furnished with certificates and agreements from applicant and from persons retained to render services to applicant, in form satisfactory to the Corporation, that all compensation shall be subject to the approval of the Corporation.)

All fees, commissions, salaries, charges, compensation, and things of value paid or delivered, or agreed to be paid or delivered, or contemplated to be hereafter paid or delivered by or on behalf of applicant in connection with the application and/or any loan granted are as follows:

Name	Description of services	Amount paid	Amount agreed or contemplated to be paid
		$	$

U. S. GOVERNMENT PRINTING OFFICE 16—4002-1

This report is to accompany the Development Loan Application of Alex C. Hamilton of 604 S. Olive St Los Angeles, Calif

BRIEF REPORT AND SKETCH MAPS

OF HAMILTON MINE

BY M. WILSON PORTER

This property is reached by going 10 miles northeasterly on the highway from Florence, Arizona, and thence in same direction 6 miles over a fair desert road.

I have visited the property on August 19,1941, November 18, 1941, and June 12, 1942.

My sketch maps attached hereto show where I sampled and what the samples assayed.

On my last visit to the property I was unable to go to the bottom of the 392 foot black copper shaft because the ladders had recently been stolen and there was about 200 feet of water in the shaft.

All workings are in good shape, and it will require about $500 to unwater the shaft, and the expenditure of $1,000 will make the dirt road first class . The Pinal County Engineering Department will aid in fixing this road.

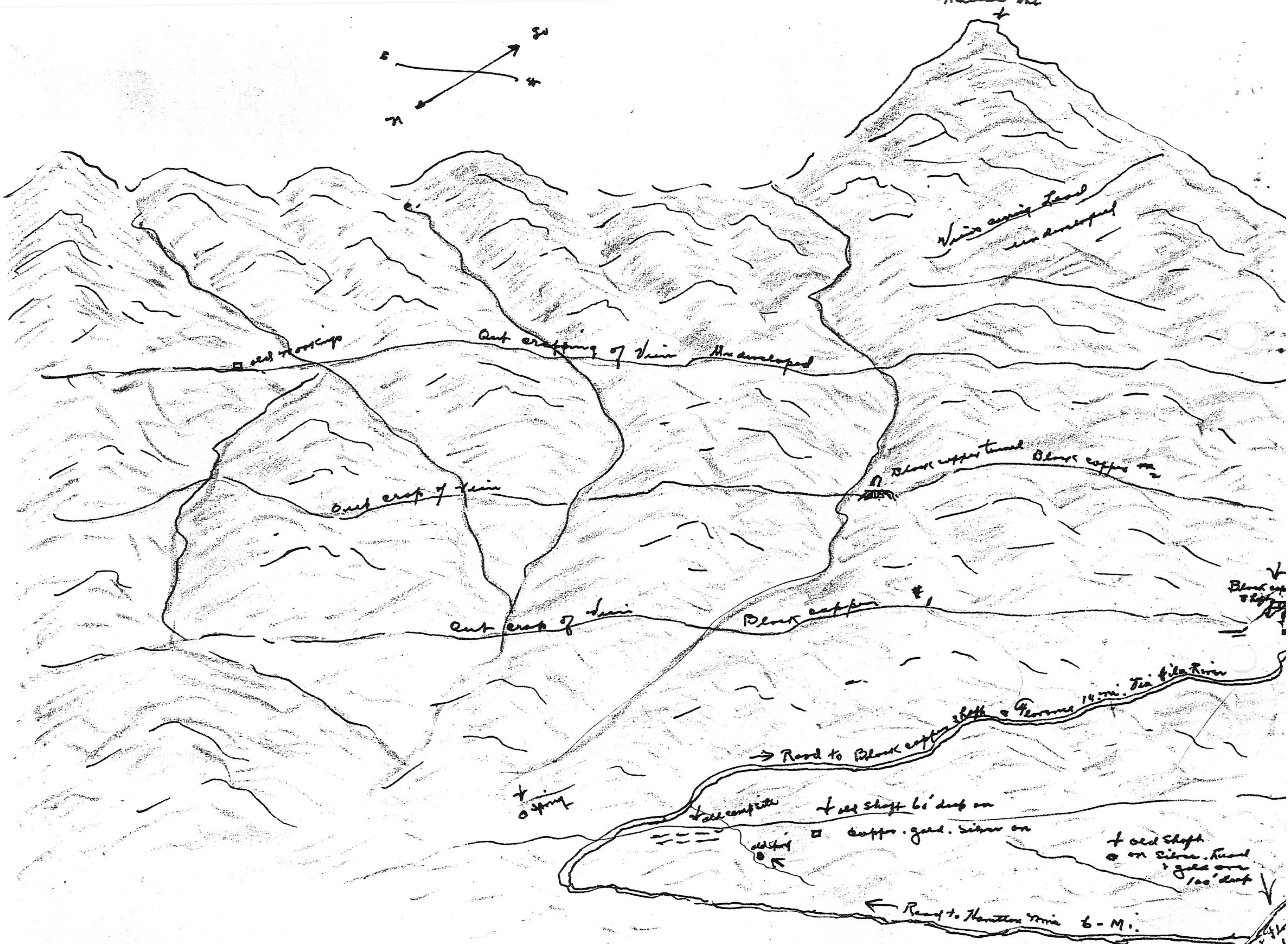
The reports of A.F.Muter and Theo B. Comstock give the details of the geology and surface of the property.

The enormous outcrops clearly indicate that large ore bodies of shipping and milling ore can be developed with depth. The sulphide zone, being the zone of secondary enrichment, will carry mugh higher values than the surface outcrops.

In my opinion this property should develop into a large producer.

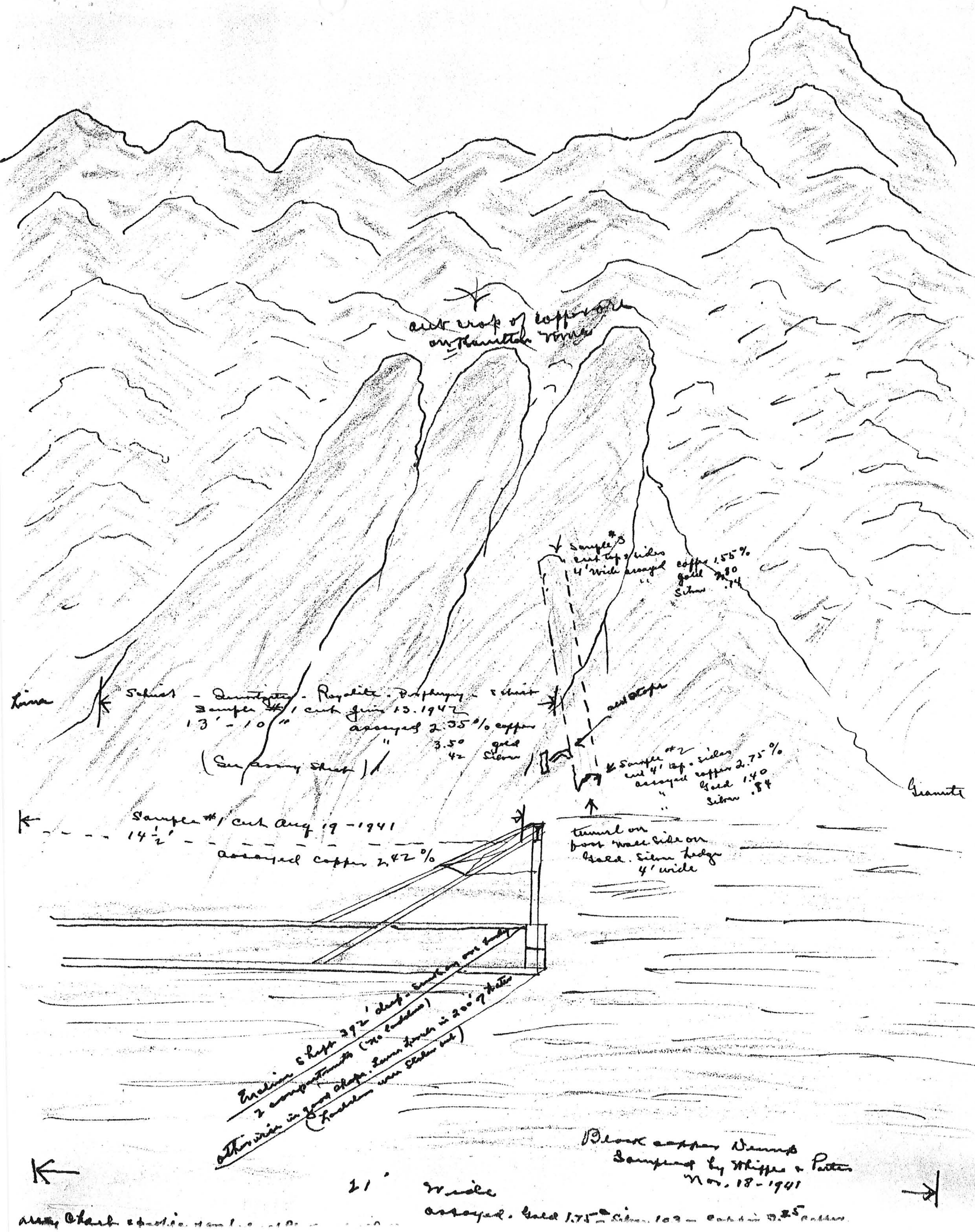
Very truly yours,

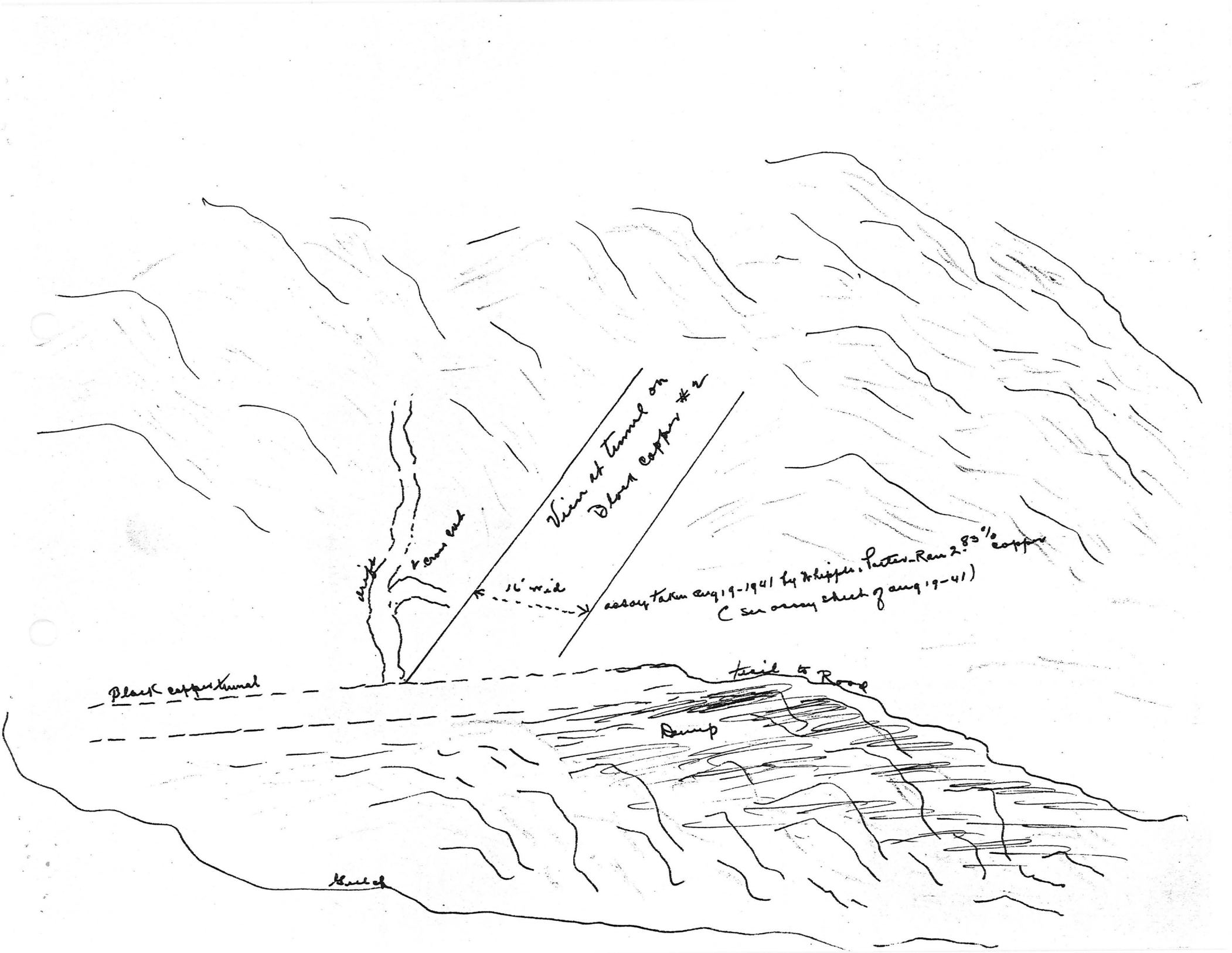
M. Wilson Porter



Sketch relief map - of Hamilton mine 16 mi from Florence Arizona - pencil co By M.H.R.

Mineral Mt.


out crop of copper ore
on Hamilton
Sample #3
cut top & sides
4' wide assayed copper 1.55%
gold .80
Silver .14
Lime
Schist - Quartzite - Ryolite - Porphyry - schist
Sample #1 cut June 13. 1942
13' - 10"
assayed 2.35% copper
" 3.50 gold
42 Silver
(See assay sheet)
old stope
Sample #2
cut 4' top & sides
assayed copper 2.75%
Gold 1.40
Silver .84
Granite
Sample #1 cut Aug 19 - 1941
14 1/2'
assayed copper 2.42%
tunnel on
foot wall side on
Gold. Silver ledge
4' wide
2 compartments (no ladders)
(Ladders were stolen out)
Black copper Veins
Sampled by Whipple & Patten
Nov. 18 - 1941
21' wide


View at Tunnel on Black copper #2
caved
Raise cut
16' wide
assay taken aug 19-1941 by Whipple, Foster-Ran 2.83% copper
(see assay sheet of aug 19-41)
Black copper tunnel
trail to Road
Dump

COPIES OF
ASSAY CERTIFICATE
OF
SMITH EMERY COMPANY
920 Santee Street,
Los Angeles

Gold at $35.00 per oz.
silver at $.7111 per oz

November 18,1941, Deposited by Whipple and Porter
No. 217770 General sample of dump and at Black Copper Shaft:

Gold ounces,	Gold value	Silver, ounces	Silver value	copper per cent
0.05	$1.75	1.45	$1.03	3.25 %

October 18, Whipple and Porter, Nos 214868 and 214 869
Number 1 Shaft, Black Copper

Gold ounces	Gold value	Silver ounces	Silver value	copper
0.06	$2.10	1.15	$0.82	2.42 %

and No. 2 Tunnel Black Copper,

0.01	$0.35	0.10	$0.07	2.83 %

ARIZONA TESTING LABORATORIES
823 East Van Buren Street,
Phoenix, Arizona
For Alex Hamilton on June 15 and June 16,1942

Lab No.	Sample No.	Gold ounces,	Gold value,	Silver ounces,	Silver value	copper
43460	1,	0.10	$3.50	0.60	$0.42	2.35 %
43461	2,	0.04	1.40	1.20	0.84	2.25 %
43462	2,	0.08	2.80	0.20	0.14	1.55 %

ESTIMATE OF
PROPOSED EXPENDITURES

Repairing Road, Highway to Black Copper Shaft,	$1,000.00
Unwatering Shaft,	~~$00.00~~
Sinking shaft, 100 feet, at $16 per foot,	1,600.00
Cutting Stations and drifting, 100 feet at $6.00 per foot,	600.00
Crosscutting ore body from wall to wall, 100 feet at $8.00 per foot,	800.00
Riasing on ore body, 100 feet at $4.00 per foot,	400.00
Timbers, 8 by 8 and mine lumber at Florence will cost $65 per 1,000 feet	
Second hand 2 inch pipe will cost $.15 foot, New pipe, 2 inch, will cost $.20 per foot,	
Sufficient machinery can be bought second hand,	
Deposit with State of Arizona on Compensation Insurance,	$500.00
total,	$5400.00
Items not listed above,	$14,600.00
total,	$20,000.00

A CONDENSED REPORT

By

F. L. McMECHEN

ON THE "BLACK COPPER" PATENTED MINING CLAIM

Property of Alex C. Hamilton
609 S. Olive St., Los Angeles, Cal.

- - - -

LOCATION:

This mining property is located on the west side of Mineral Hill in Mineral Hill Mining District, Pinal County, Arizona, which is about 14 miles northeast of Florence, Arizona.

Two roads lead from Florence to the property. One road goes eastward along the Gila River about 8 or 9 miles and then northeastward about 6 or 7 miles to the property. The other road, which is much better, leaves the State Highway (a fine paved highway) just 10 miles north of Florence and runs eastward across a level mesa 7 miles to the mine.

From the mine it is a down hill run of about 6 miles, almost due south, to Price Station on the Arizona Eastern branch of the Southern Pacific Railroad. From Price it is 33 miles to the smelter at Hayden, where a considerable amount of ore from this property has been smelted. The freight charges run about $1.50 per ton and the smelting charges about $2.00 per ton. The ore could also be hauled by truck and trailer over the State Highway about 30 miles northeast to the smelter at the Magma mine.

FUEL:

Fuel oil can be brought in drums or car lots by rail or by trucks.

SMELTER SITE:

A good smelter site is available near Price and the Gila River.

WATER:

There are several fine springs of excellent water for camp and mine purposes located on patented property, owned by Mr. Hamilton, owner of the mine. These springs are about a mile from the Black Copper claim and several hundred feet lower in elevation.

With underground storage tunnels at the springs, quite a large quantity of water could be developed and stored, from which it could be raised to a pressure tank above the mine, thus delivering water under pressure for domestic and fire prevention purposes at camps on any part of Mineral Hill. The camps could then be placed at convenient points near the mines, which would be a great saving in time in going back and forth between camps and mines.

GEOLOGY:

The country rock of Mineral Hill, on the westerly side, where the Black Copper claim is located, is of a schistose character which is quite characteristic of many of the largest copper producing districts of Arizona.

VEIN SYSTEM:

The hard vein outcroppings on the Black Copper claim stand 5 to 20 feet above the softer schistose country rock which has been eroded away. The strike of the outcroppings is in a general northerly and southerly direction, paralleling in a general way other large veins of the district.

This black copper vein continues both to the north and the south through adjoining claims, for a total distance of over 5000 feet and runs from 5 to 20 feet wide, with pay ore running from one foot to thirteen feet in width. The narrower 10 to 12 inch high grade streaks on the 300 foot level producing 12 to 20% copper, while the wider portions up to 13 feet running 2% to 3% copper. It all carries from $3.00 to $5.00 in gold and a little silver.

Samples across the vein, taken by Milo Porter, whose report, [illegible] assay certificates are to accompany Alex C. Hamilton's loan application, show as follows:

	% copper	Oz. Gold	Oz. Silver
#1, 14 ft. across vein, above shaft	2.35	.10	.60
#2, 4 ft. across vein, 10' from adit	2.25	.04	1.20
#3, 4 ft. across vein, 300' from adit	1.55	.08	.20

DEVELOPMENT:

About 600 feet of drift has been run in from an adit in the side of the hill. Although this drift, from a development standpoint, was practically a waste of time and money by former owners, yet it does show several things of very considerable interest to the geologist and mining engineer.

Although it is just under the surface, probably not 150 feet below the surface at the extreme end, it shows a width of ore 4 to 13 feet, running 2 or 3% copper (carbonates), $2.00 to $4.00 in gold, and some silver. But the most interesting thing that this drift shows is the persistancy of the pay ore and the enormous amount of leaching action that

has taken place, dissolving out the copper sulphides, sulphates and carbonates and carrying them below. This porous iron stained spongy condition of the gossan, with the gold values and some of the copper values still there, are as near absolute proof as a miner ever finds of a strong secondary enrichment below.

The shaft, near the entrance of the above mentioned adit, is said to be 394 feet deep, and from data of former owners, I presume it is, but storm and flood water has run into it and evidently almost filled it, then receded until it stands about 135 feet from the surface.

Men who worked in the mine, sinking the shaft, say that the vein dips slightly to the west for a short distance in depth and then becomes almost perpendicular. The Shaft, however, was continued on an incline in a straight line, and at the 300 foot level a station and a 12 foot cross-cut was made intersecting the vein. This cross-cut showed the vein to be several feet in width with a high grade streak of about ten to 12 inches of oxidized ore in the center that ran 12 to 20% copper, .08 oz gold and 3½ oz. silver.

FUTURE DEVELOPMENT:

The plan is to unwater and sink the shaft to endeavor to reach the permanent water level, where the sulphide zone will doubtless be found. However, the s econdary enrichment zone will without doubt be reached much sooner, as the high grade streaks on the 300 foot level would indicate.

By drifting on the 200, 300 and 400 foot levels a considerable tonnage of carbonate and oxidized ore can be blocked out, mined and shipped to the smelter, while deeper development progresses.

PAST SHIPMENTS:

Quite a bit of loosely sorted ore has been shipped by former owners and lessees from open cuts and the above mentioned shallow drifts on this and adjoining properties. The smelter returns ran as follows:

From the smelter at Hayden, Arizona.

Date	Smelter Lot No.	Tons	% Copper	Oz. Gold	Oz. Silver
12/21/29	1237	52	3.65	.08	1.34
2/ 1/30	94	52	2.93	.155	.80
3/10/30	239	49	2.25	.18	.80
4/25/30	407	55	2.00	.14	.95
4/25/30	420	42	2.10	.12	1.05
5/ 2/30	442	50	1.90	.15	.80
6/12/30	617	35	2.70	.14	.80
6/12/30	618	12	8.50	.12	2.00
6/25/30	743	46	4.76	.12	1.15
9/12/30	915	5.7	2.34	.10	.90
9/12/30	914	35	3.28	.12	1.05

HISTORY:

Former owners optioned this property to the Shannon Copper Company in 1918. They sank the shaft from about the 100 foot level to 394 feet. The boiler blew up a few weeks before a $50,000.00 payment was due. I understand that the Shannon Company about that time was in serious financial difficulties. At least, they were not able to make the payment. A few weeks later, I understand, they were trying to arrange a renewal of the option and more time for payment, just about the time the first World War ended. The price of copper dropped and the Shannon Company folded up. Their properties and smelters were later taken over by the Phelps-Dodge Company. Their option had not been renewed by the owners. No further development was done by them or anyone else. The low price of copper precluded further development expenditures.

The present owner secured the property and patented it. In 1929 he signed a working lease with a party who shipped the above listed ore to the Hayden smelter in 1929 and 1930. This party left labor bills for the owner to clear up and disappeared. The owner has since refused to lease to anyone. Since that time the "Depression" of 1930-34, and the low price of copper ever since, have prevented further development.

All camp and machinery equipment was stolen from the property during the depression years. Most of the machinery had deteriorated until it was of little value, I am told.

EQUIPMENT FOR DEVELOPMENT:

I understand the owner desires to obtain a $20,000 loan from the R.F.C. for equipment and development of this property. With this loan it is highly essential that as much real development as possible is accomplished. I therefore suggest that a pumping equipment, compressor and hoist be rented in Phoenix on a monthly rental basis, with option to purchase, and rentals paid to apply on the purchase price.

This will require but $200.00 for a month's use of a $2000.00 electric pumping outfit to unwater the shaft and the lower levels. Men who worked in the shaft said they had no trouble keeping the water down by simply dipping by hand and hoisting a few buckets each shift.

NATURE OF EXPENDITURES: Approximately as follows:

	Day	Month	4 months	Percentage
Labor, 3 shifts	$125.00	$3,250	$13,000	65
Trucking & Road Work		500	2,000	10
Unwatering shaft			500	2½
Rental of machinery			1,300	6½
Lumber, fuel, supplies		600	2,400	12
Management		200	800	4
	TOTALS		$20,000	100

COST OF UNDERGROUND WORK AND DEVELOPMENT:

Will vary, depending on labor conditions, character of ground (hard, soft, wet, shattered, firm, dry, etc.), amount of timbering required and quantity of water encountered.

For above mentioned reasons costs will probably vary about as follows: Drifting (horizontal tunneling inside of vein) $15. to $20. per foot; sinking shaft $30. to $40. per foot of depth.

RENTAL OF MACHINERY:	Rental	Purchase Price
a 31½ K.V.A. Generator and electric driven pump, one month - - - - - - -	$200.	$2000.
One 15 HP Hoist, $50 per month, 4 mos.	200.	450.
One 285 cu.ft. compressor on skids, with V belt drive to 75 HP, 4 Cyl Eng complete, in first class condition, rental $225. per month, 4 mos.	900.	2500.
TOTAL RENTAL OF MACHINERY 4 MONTHS	$1300.	

RENTAL PURCHASE TERMS:

All of the first month's rental would apply on the purchase price and 75% of the rent paid thereafter would apply on the purchase.

June 24th 1942 F. L. McMechen

F. L. McMechen
Mining Engineer
3055 Palm Street
San Diego, California

ADDENDA

My estimate of $500. for unwatering the shaft (page 4) is made upon the asumption that a hoist, for development purposes, will be installed and the shaft ladders and timbers be placed in good repair; and that those costs will be charged to the equipment account, installation account and the repair account, Etc., leaving the actual cost of pumping operations (rent of electric pumping plant, cost of pipe, and labor necessary to install and operate pumping equipment) to be charged to pumping operations.

However, if all of the above work is done just to unwater the mine and make the shaft and lower workings safe for inspection, the cost may run into several thousand dollars, for the timbers may all be bad and the walls ready to cave when the water pressure is removed, or they may be in good condition, no one can foretell.

June 24, 1942 F. L. McMechen

This report is to accompany the Development Loan Application of Alex C. Hamilton of 609 S. Olive St Los Angeles, Calif.

AN OPINION
ON THE PROSPECTIVE VALUE OF THE
PROPERTY OF THE
ARIZONA STATE MINING & SMELTING CO.

4/17/1929

- - - -

Gentlemen:

The reports of Theo B. Comstock, E. M. and Colonel Griffey, which you have in your possession, furnish all the data concerning the physical and geological condition of your property that are necessary. They seem to have covered the ground thoroughly.

I found the property, consisting of thirty-nine patented claims, admirably situated for mining and milling. It is only seven miles distant from Price Station on the Arizona Eastern branch of the Southern Pacific Railroad and only thirty-three miles from there to the smelter at Hayden.

At Hayden, on account of the fact that the smelter is treating the basic ores of the Christmas Mine, I believe the need for the acid, oxidized ores of this mine will secure for you a very low smelting cost, ranging from $1.00 to $5.00 per ton.

The freight rates from Price Station to Hayden are as follows:

Value of Ore per Ton			Cost per Ton of 2000 lbs.
	Under	$15.00	$1.00
Over $15.00	& "	20.00	1.30
" 20.00	& "	30.00	1.60
" 30.00	& "	40.00	1.90

The haulage from the mine to Price Station should not be over $2.00 per ton.

There are five vein systems on the property, of which the Black Copper or copper vein is the most important, altho the Silverado, which parallels it, has produced considerable high grade ore containing copper, gold and lead, and furnished considerable low grade ore for a mill on the property, but there are no production data available. The Azurite, which is between the Black Copper and Silverado, also seems to have considerable merit and should be developed.

The work done by the Alta Mining and Milling Company that first owned the property, altho it must have cost considerable money was practically

worthless as far as development of the property was concerned. A few ten foot holes along the croppings of the veins would have told as much of their character as the company learned with several thousand feet of cross-cuts, drifts and tunnels just under the surface.

The later work done by the Shannon Copper Company was along right lines, and my investigation shows that if this company had been given the opportunity, it would have carried the Black Copper shaft to water level and would have thoroughly proved the ground.

This Black Copper shaft was sunk to 394 feet and a 12 foot crosscut at 300 feet disclosed a vein between three and four feet in width with a high grade streak of about 10 inches of oxidized ore in the center that ran 12 to 20% copper, .08 oz. in gold and 3½ oz. silver.

The ore was thoroughly oxidized and the company decided to go on down to the sulphide zone before drifting. When the shaft was 394 feet deep, a payment of $50,000.00 became due and the Shannon Copper Co. asked for an extension of time on the payment until the shaft could be carried down to the water level.

This request was refused by the Alta Mining & Milling Company and the Shannon Copper Company decided to give up its lease, a decision that was hastened probably by the blowing up of its boiler which necessitated the installation of a new power plant.

Water is now standing in this shaft at 150 feet from the collar, but according to the statements of the men who sunk it, the shaft made very little water after they discovered that the water pumped out had to be carried at least 150 feet away from the collar of the shaft in order to keep it from flowing back in, altho the water gradually increased as depth was obtained. They kept it out by hoisting a few buckets a shift.

The altitude of the collar of the Black Copper shaft is 2500 feet above sea level, and that of the Azurite shaft on a parallel vein 600 feet west is 2240 feet above sea level. At the level in this latter shaft the water could not be handled with the small equipment, and the ore found in the bottom of the shaft was chalcopyrite with considerable secondary chalcocite. It was the highest grade copper ore found on the property; the secondare enrichment was plainly evident, and the permanent water level is apparently close to hand.

As there is only a few feet difference in altitude in the bottoms of these shafts, the water level should be the same, but in the Azurite it is higher, due to the drainage being stopped by a dyke that cuts across the vein system in a northeasterly direction just north of the Axurite claim, while I believe the water level in the Black Copper is lower due to the drainage which is apparent to the southwest. Therefore, I wouldn't expect to get water level in the Black Copper shaft before 600 feet.

The Black Copper vein I consider to be the most important at this time because of the high price of copper, although the others have a high potential value. This vein extends thru the property for at least 4500 feet in a northeasterly-southwesterly direction. It is apparently 5 to 10 feet wide and has a strong, continuous outcrop. This outcrop or gossan is iron and copper stained and in places highly siliceous. It is much harder than the schists, diorites, etc., that the fissure cuts through and has not eroded as rapidly, which accounts for its bold outcrop. It is apparently a true fissure vein, cutting across the formation and from its length and size it should go to a great depth. The weathered, leached condition of the outcrop, together with the residual iron and copper left in the harder matrix, would lead one to believe that the vein has eroded from a heighth considerably above its present altitude, and that there should have been a considerable value in copper and silver leached therefrom and carried down to water level where I should expect to find a considerable zone of secondary enrichment. From other occurrences in the immediate vicinity, I should expect the secondary ore to be largely chalcocite.

I would advise the cutting of a station at 350 feet in the Black Copper shaft; cross-cutting the vein, and drifting along the vein at this level. While the shaft is being sunk to the 600 foot level, as I think that at present prices of copper and silver, a considerable tonnage of ore could be shipped that would go far toward paying the cost of the development.

At this time four per cent ore with .08 oz. in gold and 3.5 oz. silver, which is a conservative estimate of the value of the ore in the dumps, is worth $22.66 per ton. The charges against ore of this kind are as follows:

Cost of mining per ton	$5.00
Cost of hauling to railroad	2.00
Cost of freight to Hayden	1.60
Cost of smelting $1.00 to $5.00	5.00
Total	$13.60
Profit	$ 9.06 per ton

Smelter Value $14.77

5.00
3.00
3.25
11.25 11.25
$3.52

This profit could probably be boosted to $12.00 per ton.

It is, of course, impossible for me to say how much of this ore could be produced in a day until after the drift on the 300 foot level and a few upraises are completed and the size of the ore shoots demonstrated.

An encouraging feature of the ore in this vein is that the oxidized ores above the water level can be profitably mined and smelted under present conditions if the ore runs only 3% copper, while the rich ore both above and below the water level can be sorted and shipped as high-grade and the low grade sulphide ores of this character can be easily concentrated by oil flotation to form a high grade concentrate at a small cost.

All the equipment on the property has been removed or become obsolete, and I recommend that the mine be re-equipped with new, modern machinery.

In order to install the machinery and do the necessary development work, I suggest that you create a fund of at least $150,000.00. This fund, together with the returns from the ore which I believe you will take out in development work, should be ample to prove the value of your property.

Respectfully submitted,

(Signed) A. F. Muter

Mining Engineer

702 Lane Mortgage Bldg.,
Los Angeles, California

4/17/1929

REPORT ON THE PROPERTIES

OF THE

✓ ARIZONA STATE MINING CO.

✓AMALGAMATED COPPER MINING CO.

✓GRIFFEY & SWARTZ

✓ALTA CENTRAL MINING CO.

PINAL COUNTY ARIZONA.

Aug 7th 1916

These groups of claims lie contigeous and are situated in the Mineral Mt. Mining District, 17 miles northeast of Florence, Arizona, and 6 miles north of Munn siding on the Phoenix-Hayden brand of the Arizona Eastern. A good wagon road of easy grade, 17 miles long, leads from Florence to the camp on the Silverado Claim. The elevation of Florence is 1490 ft. and that of the camp 2190. Munn siding, elevation 1530 is 7½ miles by road from the camp and this road can be fixed with little work so that it can be used for the hauling in of supplies. The water supply from springs at the camp is ample for a fair sized working force.

The area covered by these group of claims comprises a district about one mile wide by three miles long. The country rock is a white mica schist which has been intruded by diabase of at least two ages and by an acid rock, dacite or andesite. This acid intrusion has its largest development on Mineral Mt. where it is in the form of a laccolite dyke. This rock is the latest intrusion and is shown cutting the diabase near the Golden Quiver shaft. There are other dykes of a similar rock in this area but they are small and no attempt was made to trace them out in the field. Extending thru this area in a northeast and southwest direction are four large prominent veins accompanyed by many smaller veins, all of which have the characteristic markings of the fissure vein. These veins cut all the formations and only in one place at the Axurite shaft did I notice any cross faulting. Here the vein was thrown to

the east for a distance of 15 feet.

The laccolite forming Mineral Mt. has no doubt distorted "humped up" the schist and the veins all dip away from this laccolite with a flattening of the dip with an increase of distance from MineralMt.

GRAND PACIFIC VEIN:

Beginning on the east side of the area the first vein of importance is the Grand Pacific. This vein altho showing local characteristics, in general is from 10 to 25 feet, wide and composed of banded and druzy quartz. These bands vary greatly in width but everywhere show the vein filling action of solutions. Vug holes and open spaces in the vein are common and in places there is a development of calcite.

This vein carries a little lead, gold and silver throughout its length of over 2 miles. In nearly every opening a little lead ore has been sorted out. Leaching action is every where in evidence with more or less manganese and a little iron stain. In places a little copper stain shows up, usually in the best mineralized portions of the vein.

GOLDEN QUIVER VEIN:

This vein lies to the west of the Grand Pacific and has a traceable length of 6000 feet. This vein does not average in width more than 4 or 5 feet and does not appear to be asheavily mineralized with lead as the Grand Pacific but shows more copper.

BLACK COPPER VEIN:

The next vein of importance to the west is the Black Copper Vein which has a width of from 6 to 18 feet at its center portion, a length of about 3000 feet, narrowing down to from 5 to 1 foot on the ends. The total length of the vein is about 7000 feet. This vein is more quartzy than the others and shows heavy iron and copper stains throughout its length.

No lead was noted except at one place on surface where the center of the vein showed druzy quartz stained with manganese and carrying some galena. This vein has the best showing of copper and further development on this vein would be advisable.

SILVERADO VEIN:

The character of this vein is somewhat similar to the Grand Pacific in that the mineralization is lead with gold and silver and very little copper stain is in evidence. The vein matter is mostly druzy quartz with local developments of calcite, all stained with manganese oxides.

There are numerous other veins on the properties from small quartz stringers up to veins 4 ft. wide and in general all show copper stain and heavy iron oxides.

GRIFFEY-SWARTZ GROUP

This property consists of a group of seven claims, one of which is patented. They lie on the northeast side of the area and cover 4500 feet of the best portion of the Grand Pacific Vein.

On the Red Top Claim considerable work has been done in driving tunnels on the vein. The vein is from 10 to 25 feet wide and composed of banded and druzy quartz, highly leached and stained with manganese. A little galena was found but only in small bunches or disconnected bands and streaks. The walls are well defined and show evidence of a movement in the vein. A little copper stain was noted, but no commercial ore found. Considerable silver ore has been stoped from near the surface and I understand that some of the ore was shipped and some milled at the present site of the camp on the Silverado Claim. The stoping was confined to the center portion of the vein, usually a width of from 3 to 4 feet. Sample No. 7 a 5 ft.

sample on hanging wall side of the vein near the south end of the Red Top Claim near an old stope.

Lead 1.8; gold - nil; silver, 1.76 oz.

Sample No. 8 Characteristic vein material from dump on Red Top Claim probably low grade ore. Lead - 2.52, gold tr; silver - 6.32; ore 0.51%.

On the Cameron Claim there are two tunnels on the vein. The one on the north end does not show as much quartz filling but is composed of fault breccia, made up of the wall rocks, which at this point are schist and diabase with some quartz and calcite filling. Some stoping has been done on the vein above this point. A shaft at the tunnel portal is caved but material stacked there shows characteristic vein matter, which I sampled:

Sample No. 6 Lead - nil; gold tr; silver 1.76

At about the center of the claim a shaft in the hanging wall reported 125 ft. deep, shows vein matter on the dump carrying some galena. Near this point a small tunnel and shaft on the vein shows banded quartz vug holes, bunches of galena and a heavy leaching action.

A 200 ft. tunnel on the south end of the Cameron shows a strong vein carrying some galena and a little copper stain.

On the Cameron 2 a short cross cut cuts the vein at little depth and shows 20 feet of vein matter carrying a little galena. The galena seems to increase in the vein from north to south but the best silver values, judging from the work which has been done on the Red Top Claim. At no place has the vein been explored to any depth and the result of the present development shows no change in the character of the vein excepting possibly the absence of high grade silver ore, as practically all the stoping has been confined to an area near the surface.

The vein is strong and generally mineralized with lead, gold and silver and the vein everywhere shows a leaching action. To prove its value a depth below the zone of oxidation will have to be reached and the vein developed from that point. This is equally true of all the veins in the area and all four groups of claims described in this report can only be considered as prospects.

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PROPERTY OF THE ARIZONA STATE MINING CO.

Col. G. W. Griffey is manager and also interested in this property which consists of a group of 45 claims and fractions, all of which are unpatented. This group covers the best surface showings of the Golden Quiver and Black Copper Veins and a large portion of the Silverado Vein.

GRAND PACIFIC VEIN:

On the Grand Pacific Claim a 40 foot shaft has been sunk in a 4 foot of vein matter which carries considerable galena and there is 2 or 3 tons of high grade galena on the dump. This was the best showing of lead ore noticed on the property. However, I was informed that in several cuts and pits in this vein on the Leadville claims farther to the south, which I did not visit, there are good showings of lead ore.

GOLDEN QUIVER VEIN:

On the Golden Quiver 2 claim a shaft 150 ft. deep has been sunk in the vein which is about 5 feet wide at this point. The hanging wall is dacite and the foot diabase. This shaft has water in the bottom and is inaccessable. Some copper ore is on the dump similar in character to the ore in the Black Copper Vein. At a depth of 50 ft. it is reported that a small bunch of sulphides were encountered. Rock was found on the dump that contained considerable chalcopyrite. The vein matter does not contain as much quartz and appears to partake more of

the character of the wall rock. I think that this is more or less true in other places and that the character of the vein is modified by the wall rock and that it contains more quartz when both walls are of schist. However, it would take some careful study to prove this point. In general, the schist walls of the veins have been silicified which has helped to make the veins appear more prominent and give one the first impression that they have a greater width than they really have.

Both to the north and south of the Golden Quiver shaft at higher elevations on the vein, small pits and tunnels show galena and in places a little copper stain. A short tunnel on the Golden Quiver Claim shows the vein 5 feet wide of banded quartz vein matter highly leached and but slightly iron stained and a little copper stain showing. The physical appearance is similar to the Grand Pacific Vein. Small lenzes of galena were noted parallel to the banded structure. In a short tunnel below this point some galena was mined by former owners.

Considerable development work has been done on this vein, mostly confined to the White Carbonate and Black Copper Claims. The vein varies in width from 6 to 18 feet and shows copper stains on surface almost continuously along the strike, usually confined, however, to one or two stratas or to one or both walls of the vein.

On the White Carbonate Claim there is a cross cut for 175 feet to the vein and a drift along the vein for 500 feet which shows almost continuous copper mineralization with bunches of commercial ore from 6 inches up to 3½ feet in width. Practically the same conditions were met in the 500 feet of tunneling on the Black Copper Claim as well as in the 120 foot shaft. The bottom of this shaft is in water so I was unable to examine it.

All the openings on the Black Copper Vein show a large amount of hematite. The copper minerals noted were: malacite, azurite, copper pitch, chrysocolla, glance and a few flakes of sulphides associated with the glance. The gangue minerals are predominating quartz and hematite with calcite manganese and kaolin.

1 car of ore was shipped from the sorted material from the Black Copper Shaft and tunnel which gave 10.2% cu. .08 au. 3.5 ag.

Considerable ore remains in the dump and at the White Carbonate dump I should judge that from 75 to 100 tons of high grade copper ore could be sorted.

At the shaft on the Black Copper Claim there is a good equipment well housed in a corrugated iron building that consists of a 50 H.P. boiler equipped with oil burners, steam hoist good for 1000 ft., a 4 drill Lyner compressor with receiver, air pipe, oil and water tanks. Nearly everything needed for the sinking of a prospect shaft.

The camp site is on the Silverado Claim where there are good springs of water that flow the year round. A tent house office building in good repair, an assay office with equipment, a cook house and dining room and a good bunk house are situated at the camp. There is also a good corral that will take care of eight or ten animals.

I am inserting here the record of a few samples taken from a report made on the Arizona State Mining Company's holdings by Dr. T. B. Comstock.

(1) A sample across the middle of the breast of a short drift from the bottom of the 150 ft. shaft on the Golden Quiver 2 Claim.

4 ft. sample gave .10 oz. au.

(2) Grab sample from tunnel dump from White Carbonate

Claim on the Black Copper Vein. The sample contained much manganese and iron and some of the hard ore.

This sample gave .12 au. 2.10 ag. 9.4% copper.

(3) A grab of the fines from the same dump gave,

au. .08 oz. ag. .60 oz. copper 1.6%

(4) Dump on Grand Pacific Claim on Grand Pacific Vein. This sample included the shipping grade of lead ore and gave au. 08 oz. ag. 3.60 oz. pb. 67.6%.

(5) A piece of waxy quartz from Silverado Shaft on Silverardo Vein gave au. .06 Oz. ag. 4.20 oz.

(6) An assortment as would be shipped from Nahant-Nantasket Shaft on the Black Copper Vein.

Au. .02 oz. ag. 1.40 oz. cu. 17.6%

At the top of the hill on the Black Copper Claim a small shaft has been sunk in the center of the vein and it was at this point that the only lead on the Black Copper Vein was noticed. The vein matter is a druzy quartz with some calcite stained with manganese and a little galena was seen on the dump. A sample of the vein matter gave 1.12 oz. of silver only.

A sample of the galena from this place, according to assay reports found at the camp gave 10.2 oz. ag. .08 oz. au. 45% pb.

The Silverado Vein does not stand up as prominently as the other veins due to a larger amount of calcite vein matter with the druzy quartz. On the Silverado Claim there is a vertical shaft 93 ft. to water and a cross cut at 90 ft. through the vein. At this point the vein is 18 feet wide. There is a 6 inch streak of galena on the hanging and an 18 inch streak of black manganese and druzy brittle quartz containing crystals of sulfenite and small irregular pieces of galena.

From office records at the property the vein matter

with the heavy manganese stain gave from 2.4 to 11.5 oz. in ag. and the lead ore 6.3 oz. ag. and from 40 to 52% pb. The Silverado shaft was inaccessable due to water and the above information was obtained from development records found in the office. At other places on the vein a little work has been done in the way of small cuts and pits, all of which show similar character vein as described.

On the Azurite Claim there is an 18 inch to 2 foot quartz vein heavily stained in copper. A 50 ft. shaft was sunk on this vein to water where it intersected an east and west fault that throws the vein on the north side 15 ft. to the east. a 20 ft. drift to the south on the vein shows chalcopyrite coated with bornite. Considerable of this ore is piled on the dump and from office records the general dump sample gave au. tr. ag. 5.20 cu. 6.40% and a sample from the bottom of the shaft gave au. 03 ag. 2.8 oz. cu. 5.2%. A short cross cut to the east picked up the vein on the north side of the fault and there the vein was found to be wider and showed no sulphided but a leached character and the oxidized ores of copper. I was unable to get into the drifts at the bottom of the shaft due to the water but the material on the dump will bear out the information gained from Mr. Griffey regarding this.

I consider that the property of the Arizona State Mining Company is the best in the district and with the Griffey-Swartz Group would cover the best surface showings of the four principal veins.

ALTA CENTRAL GROUP:

This group consists of three patented claims, two of which lie on the Black Copper Vein. The vein is rather narrow on these claims from 2 to 3 feet. A shallow shaft on the Nantasket Claim shows the vein with diabase walls and the vein carries good copper values. On the Nahant Claim there are a few cuts and a 50

foot shaft on the vein and some high grade copper ore has been shipped from here. The vein matter is quartz and a greenish gangue probably altered disbase. There was considerable copper pitch noted and copper stain extends out into the diabase walls in places. On the Nantucket Claim there is a 3 ft. quartz vein stained with copper. A 25 foot shaft shows a little ore of commercial grade.

AMALGRAMATED COPPER MINING COMPANY:

The holdings of this Company consist of 26 unpatented claims which lie to the south of the Arizona State Mining Company's property.

In general, excepting the Silverado Vein, all the veins on this property are small, and although considerable work has been done on the property, very few of the veins have sufficient width to warrant extensive development. The Silverado Vein, however, continues strong across the property and at Jones Knob has an enormous development. The vein matter is calcite quartz with some manganese stain.

On the Malacon Claim there is an incline shaft 90 ft. deep in the schist footwall. At the bottom a little work was done on a 10 foot quartz vein that lies on the foot of the Silverado Vein at this point. There are about 10 tons of 8% copper ore on the dump. I was unable to get to the bottom of the shaft as the ladders had been removed.

Near this point a 210 foot shaft has been sunk in the hanging wall which cut the vein at about 75 feet. No work was done from the bottom of the shaft and the shaft is now filled with water to within 70 feet of the surface. The equipment at this shaft consists of a 50 H.P. boiler with oil burner, a two drill Lyner Compressor and air receiver, a small steam hoist, #7 Cameron sinker, two buckets and a mine car.

To the south of the shaft a small tunnel on the Silverado vein shows a few scattered bunches of galena and an assay of the vein matter at the breast gave 0.46 oz. ag. with no lead.

On the Philadelphia Claim there is a 100 ft. shaft on a copper stained quartz vein that is from 2 to 3 feet wide. Copper ore shows all the way down as small bunches in the vein accompanied by the characteristic iron oxides. A sample of the vein matter taken from the dump gave 2.08% cu. and o.40 oz. ag.

CONCLUSIONS:

The district under discussion in spite of the development work done is still in the prospect stage in that all the development work has not penetrated to a depth of more than 200 feet below surface and at these and lessor depths (with the exception of the Azurite Shaft) have shown conditions to be identical with those on surface as the vein still has the leached appearance with the copper, iron and manganese stains, showing that the zone of enrichment and of primary mineralization lie below. The attractive features of the district are:

(1) A development of large fissure veins, which cut all of the geological formations and have a great extent on surface and therefore should extend to a good depth.

(2) Indications of mineralization of lead or copper or both with silver and sometimes gold throughout the length of the veins.

(3) The presence of acid and basic dykes in the schist mass which form the wall rocks of the veins in many places.

The discouraging features are:

(1) The failure with considerable development work above water level to open up any bodies of commercial ore.

(2) The presence of a rather heavy flow of surface water at depths of from 50 to 150 feet which would have to be handled in doing deep development work.

(3) The fact that the ore found is usually found confined to bands or system of bands in the vein, varying in width from 6 inches to 4 feet, which causes one to fear that at depth the veins might not be mineralized for their whole width.

Although the veins all show extensive mineralization, there has been no commercial ore bodies of any size opened up by the development work in the oxidized zone. Some high grade silver ores are reported to have been taken from the Grand Pacific Vein near the surface and in nearly all places where work has been done on the veins a small percentage of the rock extracted in commercial ore.

On the Black Copper Vein all tunnels and shafts have opened up some copper ore of commercial grade and in places in the vein small bodies of ore a few feet in length and 2 or 3 feet wide have been opened up.

It is in this vein that I would expect to see fair sized bodies of a good grade copper ore developed at depth and without a doubt the best showings are on this vein.

All the work on this vein has shown heavy oxides of iron with the oxides of copper which is a good indication of original sulphide mineralization and at other properties not far distant and in a similar formation when the sulphides were found chalcopyrite predominates.

All the shafts with the exception of a few at higher elevations on the Grand Pacific Vein struck water at a depth of not more than 150 feet and what little development work

that has been done below this water has shown no change in the character of the veins.

I consider the showing good enough to warrant further investigation especially the holdings of the Arizona State Mining Company.

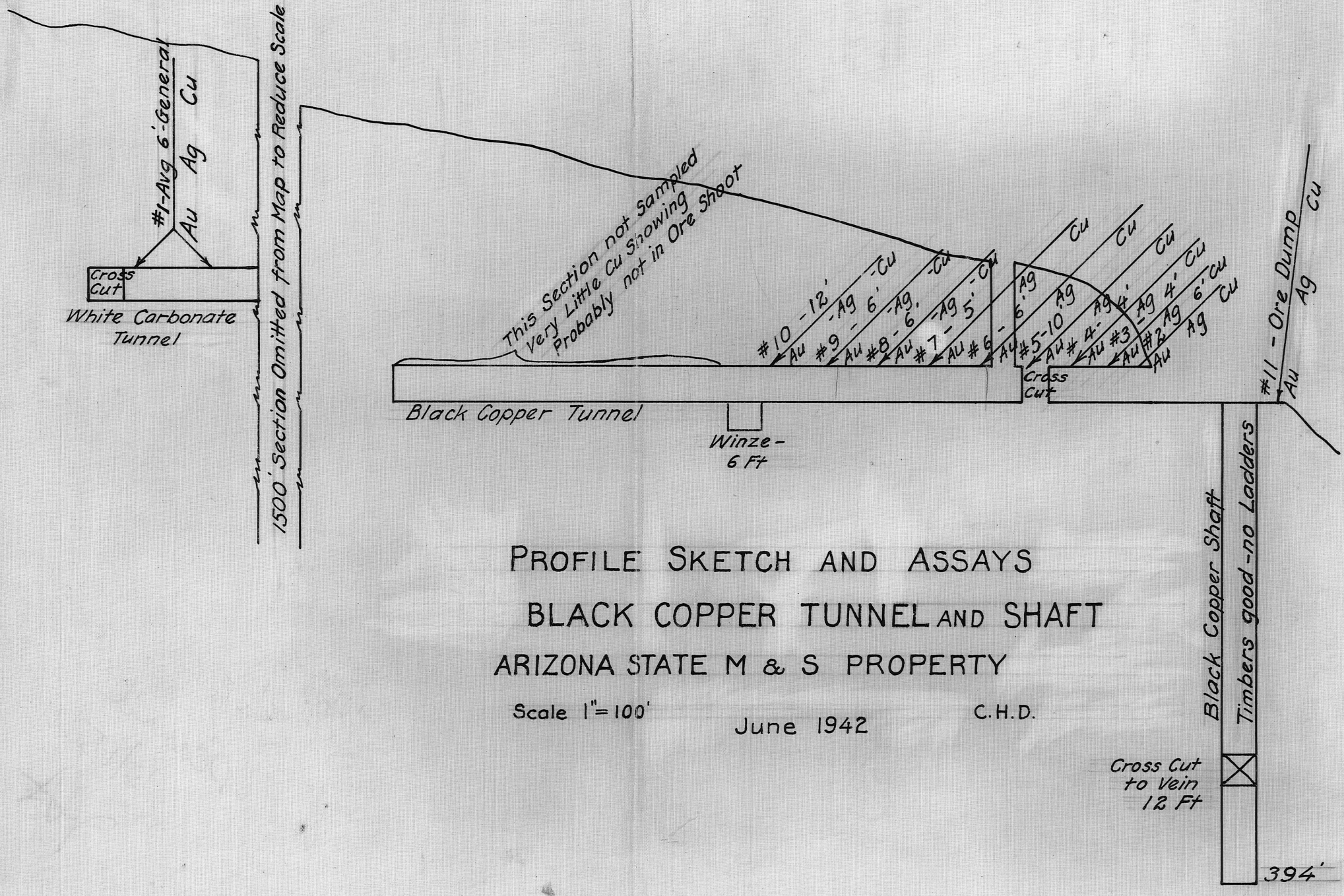
Yours truly,

(Signed) EVERARD LELAND.

Dated:

Clifton, Arizona

August 7, 1916.

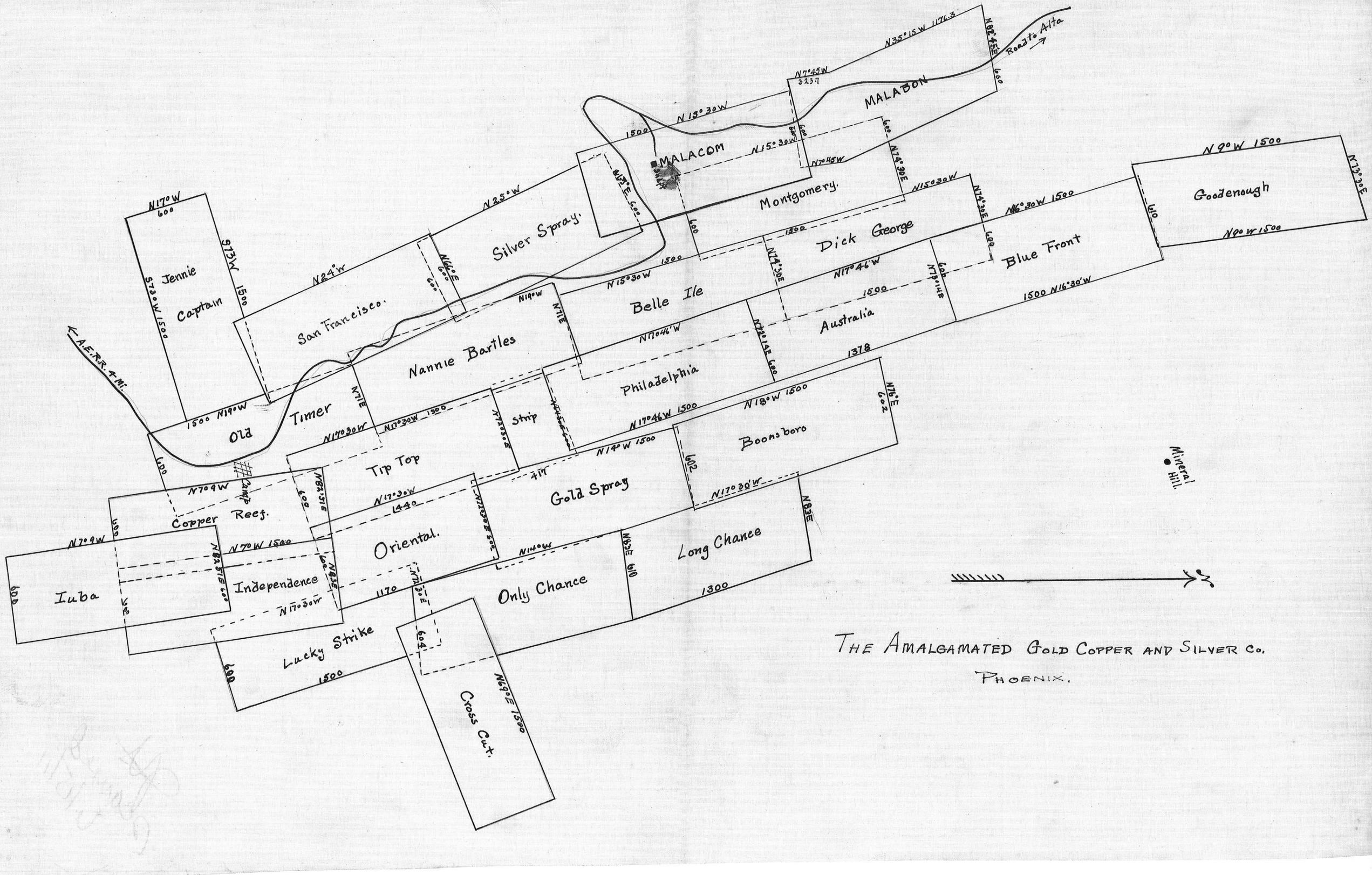


PROFILE SKETCH AND ASSAYS
BLACK COPPER TUNNEL AND SHAFT
ARIZONA STATE M & S PROPERTY

Scale 1"=100'

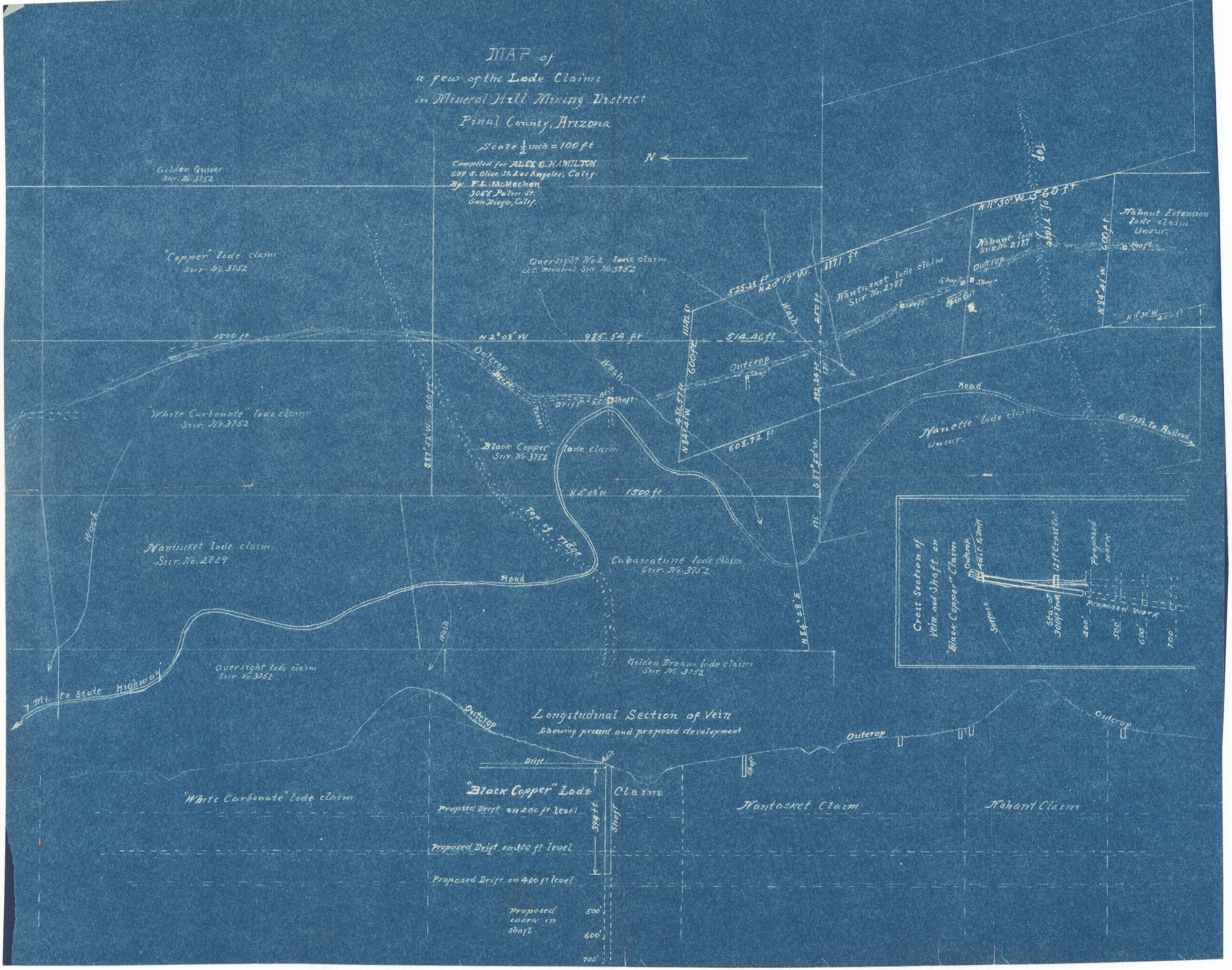
June 1942

C.H.D.



THE AMALGAMATED GOLD COPPER AND SILVER CO.

PHOENIX.


MAP of
a few of the Lode Claims
in Mineral Hill Mining District
Pinal County, Arizona
Scale ½ inch = 100 ft
Compiled for ALEX C. HAMILTON
609 S. Olive St. Los Angeles, Calif.
By F. L. McMechen
3055 Palm St.
San Diego, Calif.
N
Golden Quiver Sur. No. 3752
"Copper" lode claim Sur. No. 3752
Oversight No. 2 lode claim U.S. Mineral Sur. No. 3752
"White Carbonate" lode claim Sur. No. 3752
"Black Copper" lode claim Sur. No. 3752
Nantucket lode claim Sur. No. 2829
Cabaratune lode claim Sur. No. 3752
Oversight lode claim Sur. No. 3752
Golden Dream lode claim Sur. No. 3752
Nantasket lode claim Sur. No. 2787
Nahant lode Sur. No. 2787
Nahant Extension lode claim Unsur.
Nanette lode claim Unsur.
N 2° 08' W 985.54 ft
514.46 ft
1500 ft
N 2° 08' W 1500 ft
N 11° 30' W 560 ft
N 20° 17' W 1171 ft
525.25 ft
608.72 ft
600 ft
S 87° 52' W 600 ft
N 84° 28' E
N 84° 41' W
N 84° 41' W 600 ft
Outcrop
Drift
Adit
Shaft
Open Cut
Wash
Top of ridge
Road
6 Mi. to Railroad
7 Mi. to State Highway
Cross Section of Vein and Shaft on "Black Copper" Claim
Outcrop
Adit to Drift
Surface
Sta. at 300 ft level
12 ft Cross Cut
Proposed work
Proposed Work
400'
500'
600'
700'
Longitudinal Section of Vein
Showing present and proposed development
Outcrop
Drift
Adit
Shaft
"White Carbonate" lode claim
"Black Copper" Lode Claim
Nantasket Claim
Nahant Claim
Proposed Drift on 200 ft level
Proposed Drift on 300 ft level
Proposed Drift on 400 ft level
Proposed work in Shaft
374 ft
500'
600'
700'