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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: VICTOR-LUCKY-COPPER PEAK

ALTERNATE NAMES:

ALTAR CANANEA MINES CO

PIMA COUNTY MILS NUMBER: 704

LOCATION: TOWNSHIP 20 S RANGE 7 E SECTION 2 QUARTER N2

LATITUDE: N 31DEG 42MIN 44SEC LONGITUDE: W 111DEG 35MIN 47SEC

TOPO MAP NAME: PRESUMIDO PEAK - 15 MIN

CURRENT STATUS: UNKNOWN

COMMODITY:

COPPER SULFIDE

COPPER OXIDE

SILVER

GOLD

BIBLIOGRAPHY:

ADMMR VICTOR-LUCKY-COPPER PEAK FILE

REPORT ON THE PROPERTY OF THE ALTAR-CANANEA
MINES COMPANY.

The following report is the result of long continued and critical study of the three groups of claims known respectively as the Victor, Lucky and Copper Peak, situated in the Baboquivari mining district, Pima county, Arizona.

Examinations were also made of many other prospects and mines in the same region and sufficient mining has been done in the district to give a thorough understanding of the nature of the ore-deposits.

The groups above mentioned are located on the most highly mineralized sections of a belt three and a half miles long and a little over a mile wide, the center of this belt being approximately five miles south of Baboquivari Peak and four miles north of the Three Peaks Mine. Twenty-five claims were owned on this belt at the time of making a topographical and geological map of the company's property, when the relation of the mineral deposits to the ground covered by the claims was more accurately determined, and the requisite steps were taken to acquire other claims by right of location.

TITLE.

The twenty-five claims that were acquired by purchase had a clear abstract of title presented.

WOOD AND WATER.

No timber of consequence grows in the district, there being a sparse growth of mesquite and live oak of moderate size. Plenty of wood for fuel can be obtained at about \$4 a cord.

Springs furnish good water for the use of a large number of people at all seasons, and an abundance of water can be developed cheaply for the operation of a very large mill.

LOCATION AND TOPOGRAPHY.

The claims are located on the east slope of the Baboquivari Range about fifty-eight miles southwest of Tucson and thir-

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ty-five miles west of Amadoville on the Tucson-Nogales railroad. Good roads already connect the Victor and Lucky groups with both these places and a road to the Copper Peak can be built at very slight expense by following the ridges of the maturely foothills of Mildred Peak.

East of the mountains is a broad, eroded valley plain, gently sloping for about eight miles to the center of the Altar Valley, presenting natural grades to roads in every direction. The topography is still gentle on the company's property, becoming more rugged as the main range is neared.

GENERAL GEOLOGY. (See map.)

The geology of the region is comparatively simple. Beginning with the oldest, the rock formations are, several thousand feet of sericite-quartz and shaly schists, with a belt of nearly one thousand feet of calcareous-shaly schist, containing beds of limestone interbedded in the upper series. The schists have a fairly uniform strike of N45E dipping sixty degrees NW, and probably represent metamorphosed early paleozoic sediments.

An intrusion of a normal coarse-grained granite is in evidence by a large exposure on the Victor group and a few smaller patches in that section.

A very large and deep seated intrusion of quartz monzonite next occurred. This apparently irregularly underlies the whole series of schists and forms the hill known as Mildred Peak and the major part of Victor Peak. On Victor Peak the quartz monzonite has absorbed, during its invasion, blocks of all sizes of the schist which it has failed to entirely assimilate, resulting in a complex of intrusive and intruded rocks. Here, although more acidic, it is unquestionably part of the great intrusive mass that is transitional into the more basic quartz monzonite of the Copper Peak group, which carries cupriferous sulphides as constituent minerals, and which shows definite relation to the deposits of copper ore throughout the district, linking the ore genesis with the rock genesis in a way that leaves no room for doubt in the mind of an observer.

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Next an intrusion of a reddish, dense, porphyritic rhyolite took place, which outcrops in the western part of the property in the form of dikes and sills. The rhyolite is auriferous and has been the source of the gold placers which have been worked extensively in Gold Creek.

A large part of the area is covered with late gravels and detritus derived from the other rocks. *Previous to the intrusion of the rhyolite*
~~After the intrusion of the quartz monzonite~~ extensive faulting took place throughout the region.

The only evidence of great displacement by faulting on the company's property is to be seen in a conspicuous fault scarp on the Victor group but the forces that caused the faulting resulted in stresses sufficient to shear the rocks over wide areas.

The major fractures of the shear zones which have a general strike of N 70 E and a very steep dip to the north, with subordinate intersecting fractures, are well defined by mineralized outcrops and on these zones of mineralization the various groups of claims are located.

MINERALOGY.

The ore minerals noted in all the deposits are principally chalcopryite, bornite, chalcocite and pyrite, with cuprite, malachite, azurite and some native copper. The ores carry gold and silver in varying amounts and in the Victor and Copper Peak groups is found molybdenite in appreciable quantities.

The gangue minerals are chiefly quartz, calcite and sericite.

DESCRIPTION OF GROUPS. (See map.)

THE VICTOR GROUP embraces nine full sized claims, the country rock throughout their entire area being the complex of quartz monzonite with included blocks of schist.

This rock is much weathered and is almost vertically sliced by shearing with a general trend of N 70 E. For 600 feet in width on the Victors Nos. 1 and 5 there is a belt of closely spaced veinlets that show prominently when not covered by debris, with two quartz veins 4 feet wide and 50 feet apart tra-

versing the full length of claims No. 1, 2, 3, and 4. Elsewhere in the group the sheared zones are well defined by ledges with enormous outcrops, showing that the fissures have acted as conduits for ascending mineralizing solutions which have deposited their metallic contents in these zones. The embayed blocks of schist where sheared, have acted as favorable loci for the deposition of the metals from these solutions, and copper sulphide ore has been developed in all these outcrops.

On the Victor No. 1 claim a shaft 35 feet deep in an included block of schist that has been almost entirely metamorphosed to quartz has been sunk. Close to the surface there is but little mineralization, but as depth is attained mineralization becomes more and more conspicuous, until in the whole bottom of the shaft copper sulphides and molybdenite are sufficiently in evidence to give a general assay of Cu. 3.2%, Ag. 3.1 ozs. and Au. \$1.25.

At 30 feet a crosscut to the south has been driven for 15 feet in the direction of an open cut on the surface which exposes considerable copper carbonates. This cross cut shows disseminated sulphides and averages 1% copper and the face is in a body of quartz showing massive chalcopyrite, with much cuprite, carbonates and native copper. A general sample of a pile of ore on the dump assays Cu. 6.9%, Ag. 2.6 ozs. Au. \$8.40 per ton each. On the No. 3 claim two open cuts on one of the veins expose copper sulphides and carbonates in appreciable amounts. On No. 4 claim is an old shaft 25 feet deep originally worked for gold, with a dump of about 5 tons of copper sulphide and carbonate ores assaying 4% copper. Close by is a 10 foot shaft on the same vein^{of} similar cupriferous mineralization. On the No. 5 claim is an immense quartz outcrop, with two 10 foot shafts showing oxides, carbonates and sulphides of copper and a 10 foot shaft on the No. 6 showing similar mineralization, appearing to be a continuation of the same ledge. On the No. 8 claim is a large outcrop with sulphides developed by the location shaft and this is the case on the No. 9 claim also. These two

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claims are located so as to embrace Thomas Creek Cañon where a stream of water flows at all seasons.

The rapid increase in metallic contents with shallow depths so far developed; the distinctive association of quartz, which is here a replacement material, with the copper sulphides, bornite and chalcopyrite; the general shattering and silicification of the country rock with accompanying cupriferous mineralization for considerable distances away from the veins; these, and many other facts, accumulated during the study of this group indicate that the ore bodies here are of great lateral and vertical extent, consisting of shipping ore in the veins with lower grade milling ore in the immediate vicinity of these veins.

THE LUCKY GROUP of six claims is located on low, maturely eroded hills of calcareous, shaly schist interbedded with limestone. A big part of this area is covered with residual soil which slightly obscures the ~~xxxx~~ true extent of the ore deposits. As far as developed by trenches and shafts, there is here a mineralized belt 1000 feet wide, debris obscuring the full longitudinal extent. This belt consists of a system of quartz veins and veinlets that strike N 70 E and dip 60 degrees to the north. An intersecting system of veins forms a crude stockwork on the surface showing an extensive silicification and mineralization. Copper carbonates are much in evidence over this area, and the veins carry chalcocite, bornite and chalcopyrite, with sulphides showing in comparatively unaltered rock.

General samples from the surface croppings assay:-

- (1) 4.78 % copper and \$8.72 in gold and silver.
- (2) 4.24 % " " \$3.42 " " " "

Estimates formed from the dip of the schist and that of the quartz monzonite at its various contacts with the schist, lead me to believe that within a depth of 300 feet the limestone and schist is entirely underlain by the monzonite and that at that horizon will be found a typical igneous-limestone contact metamorphic deposit of large extent and high grade ores. It can hardly be doubted that that the calcite and organic materi-

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al of the schist were important and controlling factors in the immediate precipitation of the metals carried by the ascending solutions which, diluted, continued to ascend to the surface, abundant proof of the above being veinlets of solid bornite which have been developed on this group.

The belt of limestone and calcareous schist extends to the rhyolite dike on the Copper Peak group, and midway to the dike is exposed a shear zone, probably a continuation of the above, showing similar highly mineralized characteristics.

The Lucky Group, with proper development will be superior to any ore deposit in the district.

THE COPPER PEAK GROUP , including the Gold Creek Nos. 1 and 2 claims, consists of 8 claims which extend almost up to the summit of Mildred Peak. The quartz monzonite is here a fine grained, greenish gray rock, which, from the many exposures, apparently underlies the schist in an irregular manner. On the No. 1 claim an inclined shaft 36 feet deep with a crosscut at the bottom 17 feet to the east and 58 feet to the west exposes a well mineralized contact between the quartz monzonite and schist. Copper carbonates and sulphides impregnate all the rock ~~x~~ extracted. The schist is full of quartz and in the crosscut are closely spaced shear zones that carry chalcopyrite, bornite and pyrite in a gangue of quartz, with molybdenite, chalcocite and copper oxides.

Indiscriminate sampling of the whole area mined in shaft and crosscut assays 1.25 % copper and \$2.42 in gold and silver per ton.

A tunnel 20 feet long with a crosscut at the end 10 feet west and 18 feet east, situated 125 feet east of the shaft, shows the whole area exposed highly stained by copper carbonates assaying on an average 1.75 % Cu. and \$3.30 gold and silver. Open cuts and shallow surface workings over a zone 800 feet long and 400 feet wide shows continuous mineralization.

The surface zone exposed by the workings is greatly leached and partly denuded of its copper content. The rhyolite here forms

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a semicircular dike about 300 feet to the east of the entrance to the tunnel. The dike averages 60 feet wide and dips 60 degrees west, forming a barrier to the waters circulating in the mass of monzonite forming Mildred Peak. A large proportion of the copper carried off in solution by this water has undoubtedly been precipitated on this dike, forming a good body of high grade ore.

From the intrusive nature of the containing rock and the profoundness of the disturbance it is inferred that the ore deposits here occur as metasomatic replacements in the rock itself, notably in the fissures and fractures and good ore bodies will be found at favorable intersecting fissures.

There is an excellent tunnel site, starting from which a tunnel 1500 feet long gives a depth of over 400 feet from the collar of the No. 1 shaft and drains over 200 feet of vertical depth below the lowest saddle on the rhyolite dike, giving access to the enriched sulphides there and forming an excellent working tunnel for the whole mineralized area of the group.

This deposit is typical of the enormous bodies of copper ore in porphyry and a large tonnage of milling ores can be cheaply developed, mined and concentrated.

THE BONANZA CLAIM has a 20 foot open cut 10 feet deep, which exposes a zone 10 feet wide, highly impregnated with copper carbonates and 150 feet to the east a shaft 10 feet deep shows the schist highly stained with carbonates, a general sample of the shaft assaying 3.1 % copper and \$10 in gold and silver.

SUMMARY.

It must be appreciated by all who read this report that the groups described are situated in an area of intense vein formation where mineralization is very pronounced.

The well known association of sulphides with abundant quartz which is here the result of metasomatic processes and the consequent concentration of silica at the surface, due to the removal of the more soluble sulphides and other minerals, accounts for the presence and size of the silicious capplings which give way

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to plentiful and rich ore within a short distance of the surface,
as has been demonstrated by the development work so far done.

The very profound influence of the organic and calcareous materials in the schist upon the formation and deposition of large bodies of ore and the fortunate combination of many favorable factors working harmoniously together in these deposits, can not be too strongly emphasized.

I can unhesitatingly recommend this property as one of exceptional merit and worthy of extensive development.

Respectfully submitted,

Signed ^{priz/son} C. W. Gabrielson

March 5th 1917

Cananea. Sonora. Mexico

METHOD AND COST OF DEVELOPMENT.

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VICTOR GROUP:- The Victor No. 1 shaft is situated in the most prominent zone of mineralization and from a working point of view this shaft is the most favorable place for developing the group. The rock is comparatively hard and for efficient working it will be necessary to install a plant for drilling and hoisting purposes.

The following is an estimate, by item, of the cost of installation of plant, based upon quotations made by Morse Bros. Prices F. O. B., Denver.

Hoist and engine (complete) 25 H. P.	\$1000.00
Compressor 10 X 10 - 134 cu. ft.	375.00
Air receiver 36 X 10	85.00
2 jackhammers	200.00
Sheave wheel	15.00
Cable 3/4" - 350 ft.	52.50
Leather belt for compressor	60.00
Steel	300.00
Bucket	12.50
Transportation and erection	700.00
Rails, cars, wheelbarrows, etc.	600.00
No. 5 Cameron sinking pump	200.00
Incidentals	200.00

Total cost of installation	<u>\$3866.00</u>
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By drilling and hoisting at different shifts this prospecting plant is sufficiently large for sinking to a depth of 300 feet.

COST OF DEVELOPMENT.

Sinking at \$10. per foot, shaft 4 X 5 ft. in the clear, 265 ft., shaft being 35 ft. deep now	\$2650.00
Three crosscut levels	150.00
Drifting 1st. level 1000 ft. at \$4 per ft.	4000.00
" 3rd. " 1000 " " 5 " "	5000.00
Crosscutting 3rd. level 600 ft. at \$5 per ft.	3000.00

Total cost	<u>\$14800.00</u>
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A crosscut 600 ft. long will intersect three other shear zones which are exposed by a number of shallow workings.

This development work will not only block out bodies of ore sufficiently large to warrant the erection of working and treatment plants, but will also furnish complete data as to the character of the ore and the kind of treatment plant required.

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PROBABLE TONNAGE AND GRADE OF ORE
EXPOSED BY DEVELOPMENT.

The shaft which is now 35 ft. deep, has for the last 10 ft. of depth, an 8 inch stringer assaying 14% copper and \$11.75 in gold and silver, while the whole bottom of the shaft assays 3.2% copper and \$3.45 in gold and silver, having a total value of \$22.75 per ton. At present the shaft is in the leached zone and the tenor of the ore will unquestionably improve with depth, there being a zone of secondary enrichment at a depth of from 150 to 200 ft. where the permanent water level will be.

Assuming that the average content of the ores will not exceed \$25.00 per ton the above outlined work will develop at least $1000 \times 250 \times 4 = 1,000,000$ cu. ft. or roughly 100,000 tons of ore having a total value of \$2,500,000.00

ON THE LUCKY GROUP the rock is comparatively soft and flexible, standing well without expensive timbering, so that sinking of the first 100 ft. may readily be accomplished ^{by} hand drilling and hoisting with windlass and whim. The prospecting plant from the Victor mine could be used for deeper development work.

COST OF DEVELOPMENT

Shaft 5' X 6' - 100 ft. at \$7.50 per ft.	\$750.00
Steel	50.00
Timber	50.00
Shaft 5' X 6' - 300 ft. at \$10 per ft.	3000.00
4 X-cut stations, 1 at each level	200.00
Drifting 2nd. level 1000' at \$4 per ft.	4000.00
" 4th. " 1000' " 5 " "	5000.00
X-cutting " " 1000' " 5 " "	5000.00
Moving plant from Victor and replacement of necessary parts etc.	1000.00
Total cost of development	\$19300.00

PROBABLE TONNAGE AND VALUE OF
ORE DEVELOPED.

From all indications this group of claims is irregularly underlain by the quartz monzonite porphyry and at a depth of from 200 to 400 feet there will be a zone of contact-metamorphosed rock with bodies of ore of high grade ~~with bodies of ore of high grade~~ in the most fractured parts of this zone. The veins and veinlets exposed by the shallow workings will increase

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in size and tenor of the ore as depth is attained and these main bodies, which have acted as feeders are approached. Shipping ore will be developed and extracted as shaft sinking and drifting proceeds.

It is impossible to attempt to estimate the tonnage or grade of the ore, but it is beyond any doubt that the ore exposed will both in volume and richness very much more than justify the expense of developing it.

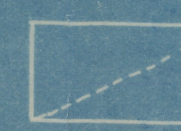
THE COPPER PEAK GROUP AND BONANZA CLAIM are very meritorious properties, yet their development should be delayed until results are obtained from the development of the Victor and Lucky groups. The company will then have collected sufficient data and be operating on a scale to ensure the maximum of economy and efficiency, enabling the development of these properties to proceed in a manner commensurate with the size and extent of their ore deposits.

Respectfully submitted,

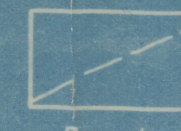
Signed P. E. Haskewitch

Cananea, Mex -
March 10th, 1917.

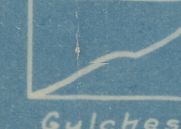
Legend



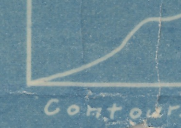
Trails



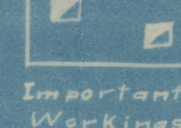
Roads



Gulches



Contours

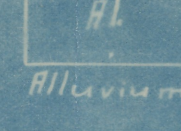


Instant Workings

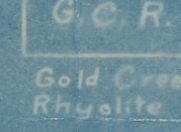
Geology



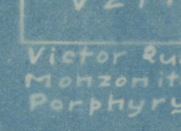
Interbedded Volcanic Rocks



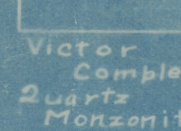
Alluvium



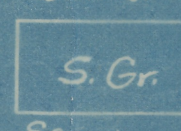
G.C.R. Gold Creek Rhyolite



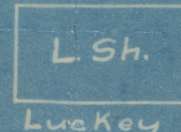
V2M Victor Quartz Porphyry



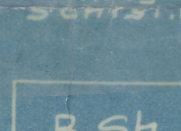
V.C.2M Victor Quartz Porphyry



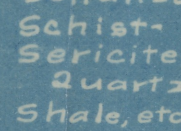
S.Gr. Searles Granite



L.Sh. Luckey Interbedded Lava and Shale



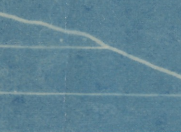
B.Sh. Banana Schist



S.Gr. Searles Granite



B.Sh. Banana Schist



S.Gr. Searles Granite



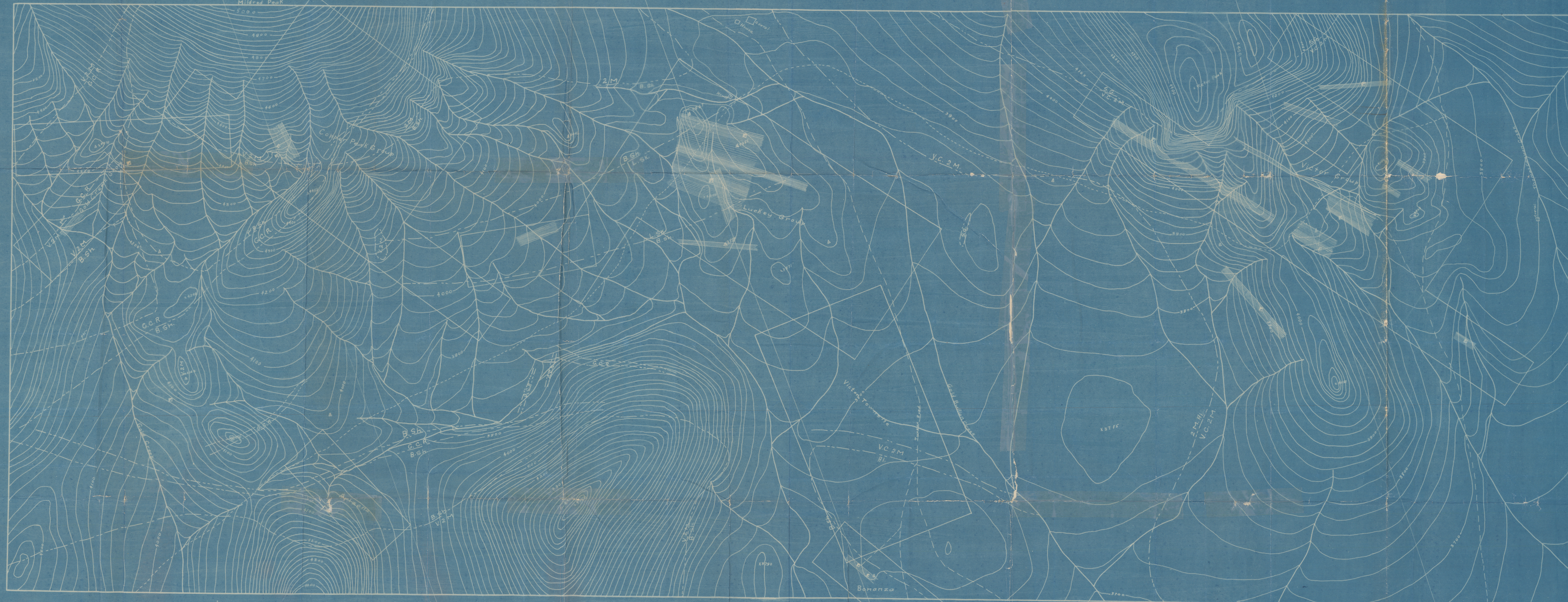
B.Sh. Banana Schist



S.Gr. Searles Granite



B.Sh. Banana Schist



Scale, 1" = 1000'
Contour Interval 20 feet

Property
of
The Altar-Camano Mines Co.
Barbaquiveri District
Pima County Arizona
March 1917
Topography by F. S. McChesney