



CONTACT INFORMATION

Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
<http://www.azgs.az.gov>
inquiries@azgs.az.gov

The following file is part of the

Arizona Department of Mines and Mineral Resources Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

01/14/87

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: BLUE NOSE

ALTERNATE NAMES:

ABE LINCOLN
AMERICAN CAMP
BIG CHIEF
BIG JIM
BLUE NOSE EXT.
WAR HORSE
HOME AGAIN

SANTA CRUZ COUNTY MILS NUMBER: 4B

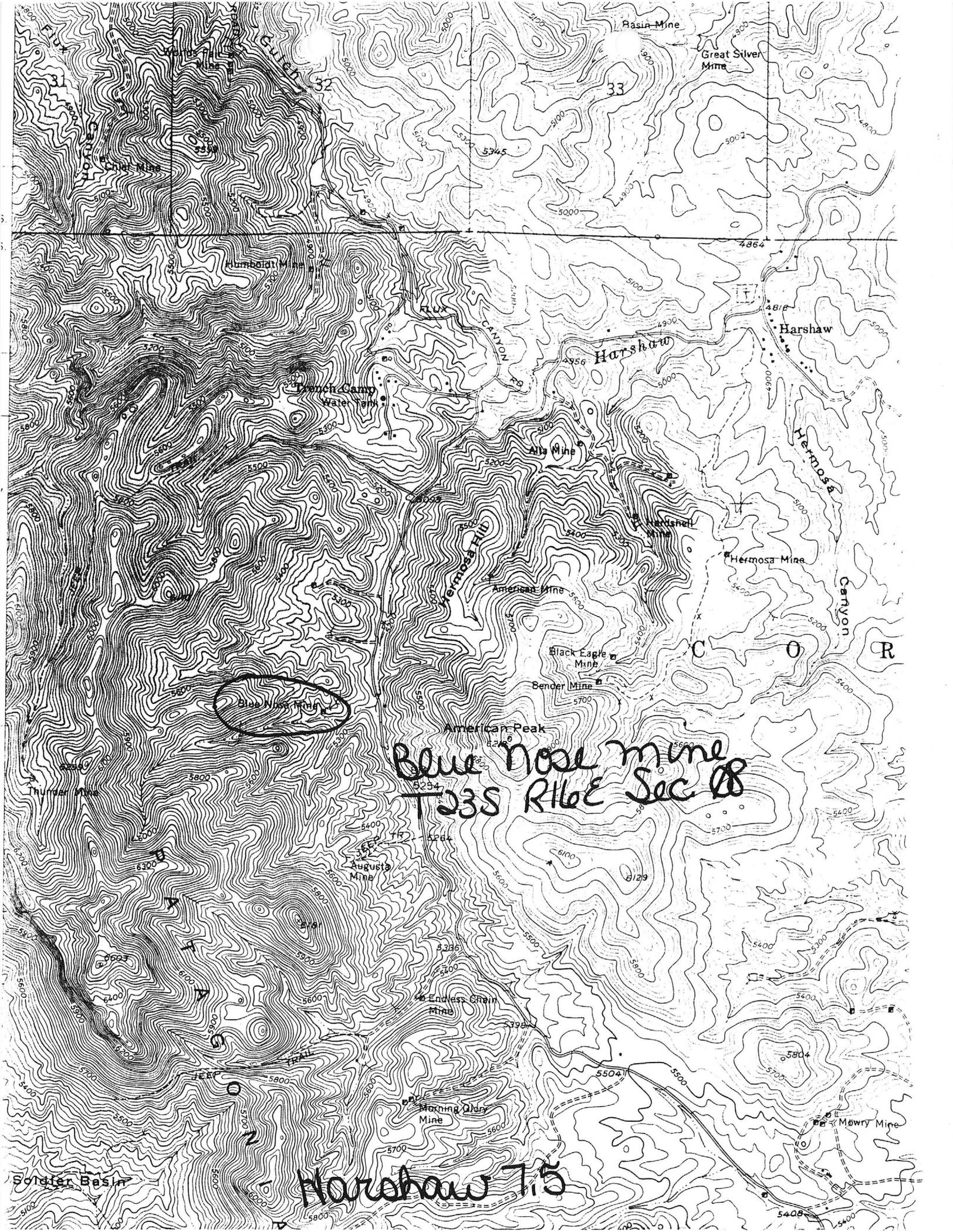
LOCATION: TOWNSHIP 23 S RANGE 16 E SECTION 8 QUARTER NE
LATITUDE: N DEG MIN SEC LONGITUDE: W DEG MIN SEC
TOPO MAP NAME: HARSHAW - 7.5 MIN

CURRENT STATUS: UNKNOWN

COMMODITY:
UNKNOWN

BIBLIOGRAPHY:

ADMMR BLUE NOSE FILE
ABM BULL 129, P. 79
ABM BULL 191, P. 278-279
USGS PP 658-e, P. 3
USGS BULL 582, P. 277
KARTCHNER, WAYNE E., GEO FILE
AZ MINING JOUR 1920, P. 21, 24



Blue Nose Mine

Blue Nose Mine
T23S R16E Sec 08

Harshaw T15

Mine visit, Blue Nose mine. The Forest Service has apparently completely removed the old home of Virginia Hay, the former owner.
GWI WR 9/1/76

CJH WR 11/12/82: Visitors: Juan Chavez, Box 902, Patagonia, AZ 85624 and Bob Rumsey, 6575 E. 22nd Street, Tucson, Arizona 85710. Mr. Chavez holds the Blue Nose, Morning Glory, Augusta and Endless Chain mines in the Patagonia District, Santa Cruz County. Along with Mr. Rumsey they are going to put the Morning Glory back into production. They are going to build a mill and ship lead-silver concentrates to ASARCO-El Paso.

CJH WR 3/11/83: Visitor: Juan Chavez (see Big Jim Mine file - Harshaw district) Box 902, Patagonia, AZ 85624. Trying to promote his property to investors and/or people with some heavy equipment.

BIG JIM MINE

SANTA CRUZ COUNTY

Miss Virginia Hay, Patagonia, Arizona re Big Jim Claim, which she owns, and buildings on same. Miss Hay states that the Bureau of Land Management has proposed to her that they will give her a lease for 10 years of one acre around her buildings at a rate of \$25 per year, or a lease of two acres at \$37 per year, and the lease to run for 10 years. In return for this, they want her to relinquish her mineral rights of the area around her buildings. This is supposed to be in accordance with the terms of Public Law 87-851 (S 3451) - "The Secretary of the Interior may convey to any occupant of an unpatented mining claim, which is determined by the Secretary to be invalid an interest. She further states that the BLM had refused to sell her the same acreage, stating that they prefer to lease it to her. Miss Hay would like to know, if, by the terms of PL 87-851, she can demand of the BLM that she be permitted to purchase 1 or 2 acres outright.

Field engineer did not think this arrangement is in accordance with the terms of the bill, where in Sec. 5 it gives the rules for determining "the purchase price". Field engineer also was of the opinion that a 10 year lease was too short a time.

Field engineer promised to give the matter further study and confer with the Director of Dept. of Mineral Resources, and advise further.

Miss Hay said she intended to write to several Congressmen, both from Arizona and other States, regarding the purchase or conveyance of the 2 acres around her buildings.

ALJ Patagonia Conf. 3-4-64

Mine visit to the American Camp Mine near Harshaw - It belongs to Miss Virginia Hay, and Mr. H. Wheeler - met them and Mrs. Wheeler there. GWI WR 11-11-67

Mine visit to American Mine, Patagonia Mts. No activity. Blue Nose Mine, same. GWI WR 8/9/71

Mine visit. The Blue Nose Mine. GWI WR 11/22/71

Mine visit. Blue Nose Mine, no activity. (See Eagle-Picher file). GWI WR 1/24/72

Field interview. Miss Virginia Hay regarding her Bluenose & American mines. GWI WR 5/21/72

Mine visit. The Blue Nose mine. Not active. The owner, Miss V. Hay said that Inspiration had done the assessment work on all but one claim and that she did that herself. She is dickering with Inspiration on the property. GWI WR 9/25/72

Inspiration returned the Blue Nose and adjacent claims to the owner Virginia Hay. GWI AR 73-74

Was informed that Virginia Hay, the owner of the Blue Nose mine, had died in November; age 90 plus. GWI WR 12/19/74

60
08
Deposited
BLUE NOSE MINE

SANTA CRUZ COUNTY
HARSHAW DISTRICT

Miss Hay stated that she owned an unpatented mining claim in the valley, next to the road between the Mowry Mine and the Y to the Trench, with some quite valuable adobe buildings on the claim, but no ore showing on the same. Also that she owned an undivided $\frac{1}{2}$ interest in a patented claim about 1500 feet east of her unpatented claims with no buildings on same, but which contained an open pit which had been mined many years ago. She stated that she was desirous of selling both claims and moving to California. Miss Hay wanted to know how she could get her unpatented claim patented, so that she would be able to sell same, and also how she could sell her undivided $\frac{1}{2}$ interest in the patented claim.

Field engineer informed her that he did not think she could get a patent on the unpatented claim, as there were no ore showings, and also that it could be difficult to sell an undivided $\frac{1}{2}$ interest in the patented claim, since her co-owner did not want to sell, but that she might be able to lease it out on royalty to get some revenue.

Miss Hay also wanted to know if she could stake out a new claim, taking in part of the Old Blue Nose Mine (now open for location), and extending down to take in her buildings, and then apply for patent on same. Field engineer stated that this would be possible, but that she should show commercial ore on this claim, do \$500 worth of work, and have to spend considerable money to get a patent, with the results uncertain.

Miss Hay then wanted to know if she could not sell her unpatented claims with the buildings to a church or charitable institution for a picnic and recreational area, and if the BLM would set the 20 acre area aside for recreational purposes to this institution for sale or lease to them. Field engineer replied that she would have to take that up with the BLM.

ALJ ASMOA REPORT DEC 2, 1959

Miss Mary Virginia Hay, Patagonia, visited office and says that she is the owner of the Blue Nose Mine. Visit re patent

ALJ Weekly report 4-9-60

See: BLUE NOSE MINE (RFC FILE)

C
O
P
Y

REPORT AND DATA ON THE BLUE NOSE MINE
HARSHAW MINING DISTRICT
SANTA CRUZ COUNTY
ARIZONA

SUMMARY AND CONCLUSIONS:

The great majority of mining ventures are for the purpose of looking for the veins and the ore, and consequently a speculation of the prospects of finding ore in commercial quantities and values.

The opportunity on the Blue Nose group of claims is unusual, in so far as ore has been proven to present depths of a little more than 160 feet, the value reported to have been mined by the U. S. - G. S. Bulletin of over \$300,000.

Also, it is only necessary for a small amount of development to be done to block out a large additional tonnage. Further, there are also excellent proofs of large quantities which can be blocked out at further depths on the ore below the present workings.

The mine is excellently situated with regards to highways, railroads, power lines, smelters, etc. The nearest smelter being 112 miles distant over good highways to Douglas, Arizona, and less than 300 miles to El Paso, Texas, smelters.

Market conditions are excellent for the metals with stable prices in sight for them all over the world.

I have no hesitancy in recommending this property. Dated about 1925.

(Signed) J.N.D. GRAY
ENGINEER OF MINES

SITUATION:

This property is situated about 1-1/2 miles from the Mexican Village called HARSHAW, ARIZONA, in the HARSHAW MINING DISTRICT, SANTA CRUZ COUNTY, ARIZONA.

The Post Office and railroad station being about 10 miles distant at PATAGONIA, ARIZONA, which is about 20 miles by auto road northeast of Nogales, Arizona, but only about 10 miles by trail. About 112 miles over a good highway where you can haul or truck your ore to the smelter at Douglas, Arizona.

PROPERTY:

It is plainly evident that silver will be in great demand all over the world at high figures. Lead is increasing in price and demand. Gold has almost doubled in value.

This property produces silver and lead with small gold values and is located in the Oldest Mining District in NORTH AMERICA, having records of production away back in the 16th century by the JESUIT MISSIONARIES and PAPAGO INDIANS.

Many millions of these metals and gold having been shipped from these mines to Spain in those days, and hauled to Guymas, Mexico, by teams.

This District is in the northwest extension of the great mineral belts which penetrate from the mining regions of the States of CHIHUAHUA, DURANGO, SONORA, CANANEA, MEXICO, and on over the line into the UNITED STATES and through ARIZONA, many of the mines which are famous throughout the entire world for their gold, silver, copper, lead and zinc production.

Most of these mines have gone to great depths and many are still mining the ore at several thousand feet depth.

This property has been carefully inspected by other Engineers and I have made checks on their reports.

The BLUE NOSE MINE is practically a virgin one, having first worked many years ago from the grass roots to the present depth of over 160 feet and has records of having produced then over \$300,000 above this level.

There are 4 veins proven to a large extent to this depth. The principal developing having been done on the Blue Nose vein from where most of this ore was produced. The lateral development so far done is only a fraction of the length and depth of these veins.

With ore blocked out in a large area in the main vein, with two others of apparently equal size opened up, and with a 4th vein in evidence but not fully developed yet, the future seems assured for a large mine.

A good highway crosses the property. Water for domestic uses and miners change room comes by gravity from up on the hillside from springs nearby and water for milling purposes can be obtained from a creek which runs over the property or other sources in the District.

The altitude is about 5000 ft. with a moderate winter climate; hot, sunny days in summer and cool nights. You can work the year around in comfort.

It is about 70 miles south of Tucson, Arizona.

The property comprises about 140 acres of unpatented mineral land. There are many other mines, many of them having produced large amounts of these metals in the immediate neighborhood and nearby in the same District. Production being copper, gold, silver, lead and zinc.

GEOLOGY:

The important formations with reference to these minerals and deposits are the Rhyolites, Diorites, Granite Porphyry, Quartzite and Sedimentaries. Quartzite covers a greater part of the property, while the main body of the

Rhyolites fringe on the western side of the property. The ore bodies show lengthening in depth as far as they have followed them, suggesting possibilities of these veins and values merging or coming together at a greater depth. In such event, and the mineralization continuing, an ore body of remarkable size and richness should be opened up.

The surface indications of these ore zones and veins are bleached and decomposed materials stained red and brown by the oxide of iron and with films of black oxides of manganese.

The main developed vein on the hanging wall of these zones and veins was highly mineralized. Four of these mineral zones and veins have been opened up by surface and underground developments and the main vein found to be over 135 feet in length.

The principal economic mineral is silver, and associated with it is lead and small gold values as a rule; also a small amount of manganese in the form of pyrolusite. Selected samples of the ores assayed more than 1000 ounces of silver with the other metals. Zinc appears at lower levels. Streaks of a few inches or a foot of high grade ore occur at intervals which is similar to other nearby mines, many of which shipped ores varying from 100 to 1000 ounces of silver per ton with galena as the lead bearing mineral in the ratio of one ounce of silver to 1% lead.

Some of the other veins have been opened up on the BLUE NOSE property where similar minerals and conditions exist as above and suggest the possibility that they may be cappings of other similar ore deposits.

Developments have proven the existence of four separate ore bodies. Three have been located on the 160 ft. level and one on a higher horizon. Number 2 ore body on the 160 ft. level has been thoroughly developed to this depth. On the other ore bodies only a limited amount of development has been done but has enough to demonstrate the existence of a profitable grade of ore.

ORES:

Number 2 ore body is fully exposed. It is developed by shaft to the 160 ft. level and by a tunnel higher up which runs in and taps it above. The raises, one on either wall, have been driven through the ore to near the surface, with one to the surface where it outcrops for a long distance at the grass roots.

This ore body was carefully sampled. The values principally silver with a small amount of lead, zinc showing in lower levels.

I eliminated the high grade streaks and calculated the average value for this block of ore at 25.5 ounces of silver and 6% lead to the ton. A previous valuation of this ore was 26.5 ounces silver and similar lead values.

Taking this ore in place estimating 12 cubic ft. to the ton, gives 24,131 tons. On account of some caved ground I could not estimate fully the tonnage in Number One and Number Three chutes on a systematic basis. A visual examination confirmed the fact that the ores are there, while samples taken checked approximately the values claimed for these ore bodies. A sample of what looked like higher grade ore was taken across about 5 feet of the ore and

assayed 24 ounces of silver, 25% lead. This would naturally increase the general averages.

Number Four ore body was not sufficiently opened up or developed to definitely demonstrate its size and value but showed a similar grade of ore.

In valuating these ore bodies, numbers One, Three and Four have not been taken into consideration in tonnage developed but ultimately they will prove up a large tonnage both laterally and in depth and make a large asset to the mine.

ORE TREATMENT:

There are no problems to be faced in the treatment of this ore in the Blue Nose mine. Tests showed a recovery of 90% by a combination of table concentrates and flotations with a ratio of 5 tons of ore to one ton of concentrates. There will be no difficulties in maintaining this ratio and recovery while the ratio of concentrates and the metallurgical requirements of the ores are further studied and as milling progresses.

The estimated grade of concentrates that can be made from the 25.5 oz. of silver on the basis of 90% recovery and a ratio of concentrates of 5 to 1, makes 110 ounces of silver. Lead would be 108 pounds.

Valuation of Number 2 ore body 20,510 tons developed.

There is evidence to be reasonably sure that each of the other three ore bodies partially developed would do as well or better. With further sinking on the ore bodies to a greater depth an enormous tonnage is pretty certainly assured.

Each 100 foot depth on these ore bodies should produce an enormous tonnage.

(Signed) J. D. N. GRAY

C
O
P
Y

EDWARD W. BROOKS
C. C. CHAPMAN BUILDING
Los Angeles, California
Office - Tucker 4674

Res. - Crescenta 260-W

(Date - Sept 1st 1927)

SUMMARY OF REPORT ON THE PROPERTY OF THE "BIG JIM MINES,
INCORPORATED"
-- AND CONCLUSIONS DRAWN --

I regard the "Big Jim" (now called "Blue Nose") as far advanced towards the making of a very large and profitable mine, capable of producing for many years to come.

In the "Trench" I see more than a probable source of revenue to be taken from ores of profitable milling grade contained in its dumps and old stope-fills, with potentialities for development.

Regarding the "Hardshell", I believe it extremely probable that the very great tonnage of low-grade, oxidized ores which it is known to contain, can be successfully treated at a substantial profit, and that, at and below the water-level, the prospects are bright for opening enriched ore-bodies of commercial importance and of possibly great dimensions.

Taken together, I believe that these three properties will support a mining enterprise of more than ordinary importance and permanence, considering the class of ores that will be produced. Under the conservative, experienced and competent direction of those who have it in charge, a circumstance in which this Company is unusually fortunate, a successful outcome appears to be well assured.

My reasons for these conclusions, taking the properties in the order given above, are briefly as follows:

The "Big Jim"

A very considerable tonnage of both positive and probable ore has been developed in the upper level and above it. This is the 150 ft. level. This ore has been opened in full strength and values on the 250 ft. level where the ore body is of exceptional size, as to width, and proved for distance along the vein of 115 feet, or more, with limits undetermined.

The ore has been broken into on the 350 ft. level, to and indefinitely below which it undoubtedly extends from the surface.

Four distinct ore-shoots are known and partially developed, having common characteristics as to size and metallic contents as far as they have been exposed or developed.

A tendency for these ore-bodies to become larger with depth is observable, and all evidence points to their extension downward in the vein to much deeper levels than the 350 ft. level to and below which it is known to extend. This should carry them well into the body of limestone which underlies the surface formation at no great depth, where even larger ore-bodies are to be expected.

The ores are easy to treat by flotation and table-concentration methods as proved by actual milling of several thousand tons with an average concentration ratio of 12 into 1, and a recovery of 92% of the values contained in the head samples.

The ore already developed is sufficient to maintain the present mill in operation for a long period of time.

The cost of mining, milling and marketing the concentrates is unusually low. Relatively cheap power and labor are the principal factors resulting in the low operating costs.

"Trench Mine"

The "Trench" contains a large amount of dump ores, which large scale tests by actual milling have shown to be profitable, and capable of yielding a total of upwards of \$250,000.00 over and above all costs of obtaining it.

There is a strong likelihood, amounting almost to certainty, that there is a very large volume of stope-filling in the old workings which can be drawn and made to yield a substantial net profit. This is now in process of being proved.

The property possesses some possibilities for further development of ore in virgin ground.

Economic conditions are favorable.

"Hardshell Mine"

This property contains a vein of great width. It is opened to a depth of 430 feet, measured on the dip of the vein which is inclined at a dip of from 26 degrees to 35 degrees from the horizontal. It contains an indefinite, though positively large tonnage of low-grade, oxidized Silver-Lead Ore. Metallurgical investigation, in competent hands, makes it highly probable that this ore can be successfully milled.

From the 325 foot level to the surface, this ore-body has been sampled by measured cuts at regular five foot intervals on the accessible faces. An average value of about eleven dollars per ton is shown.

Conditions are favorable for very cheap mining costs accompanying the extraction of this ore, such that a substantial margin of profit, over and above the cost of mining and milling it, can reasonably be expected.

The character of the oxidized ore indicates that it has suffered considerable leaching, whereby a large part of its originally contained Silver and Copper has been removed and carried to the permanent water level which is encountered within 500 feet of the surface, vertically below. At the horizon of the permanent water-level it is reasonable to expect a zone of substantial enrichment in which ore-bodies of great value should be found. Former operators, by sinking a new shaft so placed as to intercept the vein on its dip, made an attempt to reach this zone of enrichment at and below the water-level, but the objective was never attained, and this portion of the "Hardshell Vein" remains virgin. It holds out the promise of a rich reward in return for the labor and expense of proving it up.

The property is accompanied by very favorable economic conditions, particularly in regard to labor and power.

The great metallurgical advances that have been made, covering low grade ores of this character, since the property was last worked, make possible metal recoveries and low treatment cost formerly impossible of achievement.

Proposed New Mill

With a new mill of 300 tons daily capacity, now in contemplation, centrally located with respect to the three properties involved, built and in operation, the milling costs will be measurably lowered over those governing the mill now in operation.

By employing a system of aerial tramways, the cost of transporting the ore from the several properties will be greatly reduced over that now possible by truck haulage.

The plan is entirely feasible and in line with large economies in operation.

Explanatory

No attention has been given to questions of title and boundaries, since these matters properly come under the supervision of your legal department. Investigation has been confined entirely to the physical conditions and evidences of value in the properties themselves, with a study of the geology and ore occurrences connected therewith.

In considering further developments, the writer suggests the use of a small diamond drill, suitable for underground work. This could be used to advantage both at the "Big Jim" and at the "Hardshell" properties for exploratory work in advance of actual development.

For more complete details, you are referred to the main body of this report contained in the following pages, and also to maps, reports and records contained in the files of the Company.

In closing the writer wishes to express his thanks to the Management for the many courtesies rendered, and facilities placed at his disposal during the progress of his work.

Very respectfully,

Edward W. Brooks

Consulting Mining Geologist
and Engineer.

EDWARD W. BROOKS
C. C. CHAPMAN BUILDING
LOS ANGELES, CALIFORNIA

Patagonia, the nearest supply point, is reached over an excellent automobile highway in a distance of approximately ten and one-half miles. Nogales, the County Seat, is reached in a distance of about twenty-two miles over a graded highway which forms a part of the general system of state highways. Bisbee and Douglas, Arizona and El Paso, Texas, are the closest markets for the ores.

Physical Conditions

The climate is excellent; cool in summer and mild in winter. Summer and winter rains sustain an adequate water supply, some of the streams flowing continuously through the year.

Oaks, Black Walnut, Sycamore, Alder, Pine, Juniper and Cedar grow along the streams and on the slopes above. So extensive is this timber growth that it has been set aside by the Government as a timber reserve.

Water for camp use is brought from neighboring springs through pipelines. Harshaw Creek, flowing across the property, will afford water for all operating requirements. A strong sub-surface flow will supplement that on the surface.

The physical conditions at the "Big Jim" are very favorable for conducting mining operations; some of them exceptionally so.

Supplies can be purchased at Patagonia or Nogales at the prices ruling throughout the Southwest. Proximity to the Mexican Line makes it possible to secure experienced and efficient Mexican miners at a wage cost well below the wage scale paid in most other mining camps in Arizona.

Topography

Located at the head of Alum Gulch in an area of rather low, rounded, thinly forested hills separated by gulches draining laterally into Alum Gulch.

The locality as a whole is part and parcel of the highly mineralized Patagonia Range, the geology of which, in its broader aspect, is described by F. C. Schrader and J. M. Hill in Bulletin 582, U. S. Geol. Sur.

The elevation is about 5000 feet above sea level.

Geology

A brief reference to the geology of the region of which this area forms a part is given herein, that the local geology may be better understood.

The general formation of the region comprises a thick series of Paleozoic sediments upon which rest scattered remnants of a once thick series of Cretaceous sediments, the two series being separated by a pronounced erosion unconformity. This means that, prior to the laying down of the Cretaceous Beds, the surface of the older Paleozoic terrane had been exposed to a long period of erosion, resulting in an irregular, hilly topography upon which the Cretaceous Beds were subsequently laid down.

Before the Cretaceous period set in, the Paleozoic series had been broken up and extensively intruded by large masses of Quartz-Monzonite, Quartz-Diorite, Granite-Porphry and Alaskite in the order named. Following the Cretaceous period Rhyolite, Andesite and Basalt were intruded into the pre-existing rocks in the order given. Accompanying and following each of these intrusive periods, the region was subjected to great dynamic disturbances, resulting in intricate faulting and dislocations of the rocks affected.

The periods of igneous intrusion were accompanied in both instances by the deposition of primary ores, those connected with the Post-Cretaceous disturbance yielding the more important and extensive deposits.

Bordering this area is a heavy flow of Rhyolite on west and north. Dikes and sheets of this Rhyolite have been forced into the surrounding rocks being especially conspicuous in the Cretaceous Beds where they both conform to and break across the bedding. Wherever found, this Rhyolite carries abundant, small, disseminated crystals of Pyrite with some Chalcopyrite, which fact serves as an excellent means of identification.

There is good reason for believing that the ore-occurrences of this locality owe their origin to the genetic influence of this Rhyolite. To it is also due the intense silicification of the Cretaceous Beds throughout.

The Cretaceous series originally consisted of quite thin bedded sandstones, shales and conglomerates, with small, lenticular limestone members here and there. The sandstones have been changed to quartzites, the shales to hornfels and the limey members have been re-crystallized or marmorized in large part.

Although the dips in both the Carboniferous and Cretaceous Beds appear conformable, it should be borne in mind that the Cretaceous series is here separated from the Carboniferous limestones below by an irregular erosion unconformity, that is to say, the Cretaceous Beds cover hills and valleys in the limestone being thus thicker over the valleys and thinner over the hills. The significance of this will appear farther along in this report.

Two pronounced systems of faulting are shown in this area; one striking northerly and southerly, the other easterly and westerly across the former. The northerly-southerly system is the stronger and dips eastwardly. The east-west system has a southerly dip. Small slips with slight displacement affect the rocks well out in the country away from the larger displacements of the east-west system. These have a similar strike and dip and are evidently the expression of movements sympathetic with those which occasioned the main dislocations.

The Trench Property has a record of substantial production in earlier years. When last operated, none but relatively high grade ores could be mined at a profit. These were largely mined out and shipped, either directly, or concentrated by crude and inefficient methods. The lower grade, not then workable at a profit, but now, under modern methods, capable of being milled and made to yield good returns, was either left standing in the old workings, or used as filling, or hoisted to the surface and dumped as waste. It has been estimated that 80,000 tons of filling remains in the Mine. Except for work done by occasional leasers, property has been left idle in recent years.

It contains four full and two fractional claims, together forming a single block of ground having an area of a little more than 100 acres in extent. One of these claims, the "Trench," is patented. The others are held by possessory title subject to annual assessment work.

Geology

The country rock is Quartz-Diorite and Rhyolite, with dikes of the latter intruding the former. It exhibits at least two systems of faults, an east-west system, believed to be the earlier, and a later system striking northerly and southerly across, and somewhat displacing the east-west system. Both systems are earlier than the period of ore deposition.

Considered as a whole, the geologic conditions at the "Trench" are very favorable for ore deposition.

Owing to the workings being filled with water and inaccessible, the writer will here deal with only such economic factors as could be noted under the circumstances.

"Trench Vein"

Several veins occur on the property. Only one of them, the "Trench Vein," has been vigorously attacked. This is a well-defined, prominent vein striking nearly east and west for the full length of two claims, the Trench and the Josephine. It is thus 300 feet in length within the property and is said to extend beyond in each direction.

At the surface the vein, in places, appears to have a width between walls of fully fifteen feet. It is crossed and somewhat displaced by faults of the north-south system, some of which have, it is said, produced considerable ore at and near their intersections with the east-west vein. The "Trench Vein" dips to the north at about 70 degrees, and the faults crossing it dip at about the same angle to the east.

In the matter of development the writer was obliged to rely entirely on such authenticated maps as were available. A study of these shows that the vein has been opened to a depth of some 700 feet. A very extensive, though narrow orebody was stoped from the 400 ft. level, to the surface, the ore continuing in places down to the 500 ft. level and below. The stoped area extends for some 560 feet along the vein, and the ore was broken from a few inches to as much as five feet in width. A width of two feet will probably be a fair average for the stops as a whole.

While some very rich ore was frequently encountered, all available information leads to the conclusion that the greater part averaged from \$25.00 to \$35.00 per ton. This was concentrated by jigging accompanied by a high tailings loss as shown by subsequent tests.

All ore falling below \$25.00 per ton value, was apparently used either for filling the stopes, or hoisted and dumped as waste. The extent and value of this stope filling remains to be determined. If, as probable, they contain values equal to those shown in the dumps, and if they exist to the extent believed, they can be drawn and delivered to a mill at a substantial profit.

There are undoubted possibilities of opening new orebodies in the extension of this vein beyond the limits of the old workings. The westerly extension of the vein appears the more promising.

A short distance south of the "Trench Vein", and striking southerly in going east, at an acute angle therewith, is another well defined, somewhat narrow vein. Its strike is such that it must intersect the "Trench Vein" a few hundred feet west of the main shaft. It can be followed south-easterly to the County Road in Harshaw Gulch where it is seen outcropping in a cut in the hillside along the road.

This vein has produced some good ore from shallow workings near the shaft, but is otherwise essentially virgin. Good assays can be obtained from points along the outcrop, and it merits some exploration.

The walls of both the "Trench Vein" and the vein just described are Quartz Diorite. The mineralization is similar in each of them. The ore consists of a quartz matrix carrying Silver, Lead, Zinc and Copper, predominantly in the form of their sulphides. Pyrite is abundant, and some black oxides of Manganese occurs throughout.

That this ore is amenable to flotation and table concentration has now been proved.

Hardshell Vein

Cropping along and around the south slope of a high, rounded hill, near the bottom, is an exceptionally large and clearly defined vein traceable for perhaps a thousand feet or more. It strikes N. 70 degrees, E. and dips at 26 to 35 degrees to the north. Both of its walls, so far as can be seen at this time are in Rhyolite. Diorite shows in a hill south of, and just across a gulch separating it from that in which the "Hardshell Vein" outcrops.

The vein is of extraordinary width, ranging up to sixty feet in places. It occupies what appears to be the crushed and brecciated plane of an over-riding fault, much like that on the 350 ft. level in the "Big Jim". It probably originated in connection with the movement which formed the Mowry Hill Anticline. This condition supports the belief that the vein will be found to extend to very considerable depth, measured on its dip.

Unfavorable conditions made it impossible to examine the underground workings on this vein thoroughly. Such statements concerning it as are made herein, are based on the study of the maps of the workings, to which the writer was given access. From these maps it appears that the vein is opened by a centrally located, inclined shaft extending from the collar to a depth on the vein of 430 ft. They show that a very considerable tonnage of ore has been taken out during the periods of its activity. As in the case of the "Trench" and "Big Jim," only relatively high grade ores returned a profit at that time. In consequence of this search was confined to finding and mining out such ores. A much greater volume of low grade, possibly profitable milling ore, was left standing.

A well executed assay may covering the vein on and above the 325 ft. level, with samples taken on measured cuts at regular five foot intervals, totalling seventy-nine in all, shows an average of five and one-half feet, carrying 7.25 oz. in Silver and 5.7 Percent in Lead. This by no means represents the total thickness of the ore, but only such widths as were accessible to sampling at the time. It is certain that the ore extends much beyond the limits indicated by the samples, and that its total volume is very large. The per-ton value of this ore, on the assay shown above, with Silver at 60 cents per ounce, and Lead at 6 cents per pound, is a little more than \$11.00.

All ores appear thoroughly oxidized and much opportunity for leaching and transference of the metals down the vein has been afforded. The lead appears as carbonates and the sulphate -- Anglesite, -- predominantly. Occasional, residual sulphides found, show the ore to have been originally in sulphide form, as regards the metals; the Silver occurring in combination with Galena, and with Copper in the mineral, tetrahedrite. It is accordingly, reasonable to expect that at the permanent groundwater level, and for some indeterminate distance below it, sulphide enrichments will be found. Because of the extent of the leached zone above, these enriched ores, if and when found, may aggregate a very large and important tonnage. In the writer's judgment, the future of the property depends on developing these enriched ores. The invitation to such development is very strong.

The great volume of low grade, oxidized ore above the water level, now exposed in the old workings, should be mined out very cheaply. Experiments made by competent metallurgists, to whom this ore has been submitted for experimental study, indicate that the values in the low grade, oxidized ores of the "Hardshell Vein" can be recovered to the extent that they can be made profitable. If, as there is good reason for believing, a satisfactory recovery of the values contained in this ore can be made, you have, in the "Hardshell", a mine from which very large profits will accrue from ores already opened and known. Additional to this, you have the strong probability that development at and below the permanent water-level will disclose very important bodies of enriched ores for direct shipment to the smelter. Much lower grade ore may be expected to accompany the enriched ores as well.

A new, vertical working shaft was sunk on the north, or opposite side of the hill to that in which the inclined shaft was sunk. This was for the purpose of intercepting the vein on its dip at a point slightly below

the water-level. This shaft is understood to be some 500 ft. in depth, with a cross-cut started, near the bottom to reach the vein. This work was never completed, and the shaft is badly caved. Though possible, the writer doubts the advisability of trying to clean it out and re-timber it. The sinking of an entirely new shaft, at a point a short distance to the west of the caved shaft, would be likely to be less expensive in the end, and at the same time more readily accessible. However, this is left to the judgment of the engineers assigned to this work.

Equipment

There is a large amount of obsolete equipment on the "Hardshell", especially at the caved shaft just referred to. It consists of a large steam power plant, hoists, pumps and other working accessories. Most of it is valueless except for old iron. A new and modern equipment should be installed for any future work that is undertaken. This would be greatly favored by the fact that a high-power, electric transmission line passes within a short distance of the property, to which connection can be quickly and cheaply made. When this is done, the cost of power will be lowered much below that ruling during the periods of former activity. In this connection, it should be borne in mind that in a country such as this, without native fuel of any kind, and devoid of water for generating hydro-electric power, this item becomes most important and governs the operating cost scale very generally. In this particular the "Hardshell" is greatly favored.

New Mill

The writer is informed that your Company is seriously considering the building of a new and larger mill at a point centrally located with respect to the "Big Jim," "Trench" and "Hardshell" properties.

Contingent upon the successful outcome of work now well under way for the purpose of proving up the dump and slope-fill ores in the "Trench" property, and of determining the proper metallurgical treatment of the "Hardshell" ores, the writer is in accord with this plan.

Additional reserves of ore are being continuously opened in the "Big Jim", which alone promises to overtax the capacity of the present mill in a short time. Conditions at the "Trench" afford a degree of probability, almost amounting to assurance, that this property will yield a large tonnage of profitable milling ores already broken and requiring only to be milled. There is certainly now available at the "Hardshell" a huge volume of ore, which there is reason for believing will average eleven dollars per ton or more in value, above the water-level. With these three properties working to capacity, sufficient ore can be delivered to sustain in continuous operation a mill of three hundred tons daily capacity.

The properties involved are so situated as to enable their ores to be delivered to a mill, built on the site selected, by aerial tramways, each less than a mile in length. Differences in elevation between the loading stations at the heads of the trams and the mill are such that very little, if any power would be required to operate the trams, except possibly

in the case of the "Trench", where some power would probably be required. The item of transportation, respecting delivery of the ores to the mill, will, under this arrangement, be inconsiderable.

Respectfully,

Edward W. Brooks

Consulting Mining Geologist and
Engineer.

00

M B 13

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date

Mine Blue Nose Extension

District Patagonia

Former name

Owner Rupert Beyerle

Operator Rupert Beyerle

President

Mine Supt.

Principal Metals Lead and Silver

Production Rate

Power: Amt. & Type

Operations: Present

Location about 1 1/2 miles south
of Trench mine and 2 miles
north of old Mawree mine in a
proven district

Address

Gen. Mgr.

Mill Supt.

Men Employed

Mill: Type & Cap.

Operations Planned

Number Claims, Title, etc. Nine claims all surveyed clear title

Description: Topog. & Geog. Traversed by Bolphery dikes

Mine Workings: Amt. & Condition 900 foot tunnel in best of condition

Geology & Mineralization Highly mineralized district lime formations

Ore: Positive & Probable, Ore Dumps, Tailings at present there is one foot of ore in sight in the tunnel containing lead, zinc and silver running about two to one that is 40 percent lead and 25 oz., in silver

Mine, Mill Equipment & Flow Sheet

The mine is equiped with rails and mine car. Big ore body could be developed by doing development work. Dumps of which is several thousands tons would only pay if there was a mill on the ground

Road Conditions, Route

situated at the Mawree and Patagonia Highway 1000 feet off the highway

Water Supply

Brief History

Has been worked by prospector. Years ago one prospector had a jigger. Myself has sent patches of highgrade of lead and silver

Special Problems, Reports Filed

Remarks

If property for sale: Price, terms and address to negotiate.

Will sell \$1000 a claim, \$500 cash the rest in payments.

Royalty to be applied to the payments.

Signed

Rupert Beyerle

Use additional sheets if necessary.

*The River Store
Nogales, Arizona.*

HB-13

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date

Sept 12

Mine Blue Nose Extension

District Patagonia

Location About $1\frac{1}{2}$ miles south of Trench mine and 2 miles north of old Mawree mine in a proven district

Former name

Owner Rupert Beyerle

Address

Operator Rupert Beyerle

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Lead and silver

Men Employed

Production Rate

Mill: Type & Cap.

Power: Amt. & Type

Operations: Present

Operations Planned

Number Claims, Title, etc. Nine claims all surveyed - clear title

Description: Topog. & Geog. PORPHYRY
Traversed by ~~Belphery~~ dikes

Mine Workings: Amt. & Condition 900 foot tunnel in best of condition

(over)

Geology & Mineralization Highly mineralized district lime formations

Ore: Positive & Probable, Ore Dumps, Tailings At present there is one foot of ore in sight in the tunnel containing lead, zinc and silver running about two to one that is 40 per cent lead and 25 oz. in silver -

Mine, Mill Equipment & Flow Sheet Big ore body could be developed by doing development work, dumps of which are several thousands tons would only pay if the mine is equipped with rails, and mine car. There was a mill on the ground

Road Conditions, Route Situated at the Mawree and Patagonia Highway 1000 feet off the highway

Water Supply

Brief History Has been worked by prospector. Years ago one prospector had a jigger. Myself have sent patches of highgrade of lead and silver

Special Problems, Reports Filed

Remarks

If property for sale: Price, terms and address to negotiate.

(Will sell \$1000 a claim, \$500 cash, the rest in payments.)
Royalty to be applied to the payments.)

Signed.....Rupert Beyerle

Use additional sheets if necessary.

The River Store,
Nogales, Arizona.

7MB-13

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date Nov. 22, 1939

1. Mine Blue Nose Extension
2. Mining District & County Harshaw
3. Former name
4. Location Two miles south of Trench Mine
Two miles north of Mawree Mine
5. Owner Rupert Beyerle
6. Address (Owner)
7. Operator Rupert Beyerle
8. Address (Operator)
9. President
10. Gen. Mgr.
11. Mine Supt.
12. Mill Supt.
13. Principal Metals Lead, silver and zinc
14. Men Employed Three
15. Production Rate At present two tons per day
16. Mill: Type & Cap.
17. Power: Amt. & Type
18. Operations: Present
19. Operations Planned Driving a tunnel towards the main ledge
20. Number Claims, Title, etc. Nine (9) claims all surveyed, title clear. Assessment work performed.
21. Description: Topography & Geography This district is characterized by its Borpherie Dikes which turn into ore in depth
22. Mine Workings: Amt. & Condition 150 feet tunnel containing track in safe condition. Besides 3000 feet of surface workings, in which the ore lines extracted lead and silver

23. Geology & Mineralization This is a proven district heavily mineralized, being surrounded by old producing mines north 1-1/2 the trench, easterly the Harshaw.
24. Ore: Positive & Probable, Ore Dumps, Tailings One big ledge is crossing the claims which will bring partly a great mine in depth.
- 24-A Vein Width, Length, Value, etc. Assay of last shipping ore. Lead 30% Gold 1. Silver 35 oz.
25. Mine, Mill Equipment & Flow Sheet
26. Road Conditions, Route Good county route
27. Water Supply Water in depth
28. Brief History The mine was worked by the old timer for its lead and silver content. There was a zig on the ground all works is surface, no deep working present.
29. Special Problems, Reports Filed The claims are all surveyed and the yearly work is performed.
30. Remarks
31. If property for sale: Price, terms and address to negotiate. I will give 1/2 interest to party that agrees to do 3000 feet of development work. That is tunnel work.
32. Signed...../sd/ Rupert Beyerle
33. Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Mine *Blue Nose Extension*
District *Harshaw*
Former name
Owner *Rupert Beyerle*
Operator
President
Mine Supt.
Principal Metals
Production Rate
Power: Amt. & Type
Operations: Present

Date
Location
Address
Address
Gen. Mgr.
Mill Supt.
Men Employed
Mill: Type & Cap.

Operations Planned *Diving a tunnel towards the main ledge.*

Number Claims, Title, etc. *nine (9) claims all surveyed, title clear assessment work performed.*

Description: Topog. & Geog. *This district is characterized by its Porphyry ~~Borphenic~~ Dikes, which pass into ore in depth.*

Mine Workings: Amt. & Condition *150 feet tunnel containing track in safe condition. Besides 3000 feet of surface workings, in which the ore lines extracted lead and silver*
(over)

Geology & Mineralization This is a proven district highly mineralized, being surrounded by old producing mines north $1\frac{1}{2}$ the trench, easterly the Harshaw.

Ore: Positive & Probable, Ore Dumps, Tailings

one big ledge is crossing the claims which will bring forth a great mine in depth.

Mine, Mill Equipment & Flow Sheet

Assay of last shipping ore;
Lead 30% Gold 100 Silver 35 oz.

Road Conditions, Route

Good county route

Water Supply

water in depth.

Brief History

The mine was worked by the old times for its lead and silver content there was a jig on the ground all works is surface

Special Problems, Reports Filed

no deep working present.

The claims are all surveyed and the yearly work is performed.

Remarks

If property for sale: Price, terms and address to negotiate.

I will give $\frac{1}{2}$ interest to party that agrees to do 3000 feet of development work that is tunnel work

Signed

Ryszert Beyerle

Use additional sheets if necessary.

Report on
the
AMERICAN MINE

The following constitutes a summary of information available in regard to this interesting silver property in Southern Arizona.

LOCATION: The mine is located in the Harshaw Mining District. It is about ~~twenty-two~~ ^{thirteen} miles from the town of Nogales and about ¹⁰ eleven miles by road south of Patagonia. The mine is close to a good highway and eleven miles from the railroad. The elevation is about 5600 feet.

PROPERTY: This consists of one claim and millsite patented. The vein averages 25 feet to 30 feet in width, and is associated with porphyry and limestone. The length of the shoot is about 150 feet. There is a possibility of it being somewhat longer as the present development work does not fully disclose the entire length. It has been opened up to a depth of about 105 feet by tunnel and shaft.

There are three inaccessible old shafts with a depth of about 80 feet, one shaft fifty feet deep was sunk in 1924. The tunnel was run in about 60 feet for haulage purposes from which ore in the open pit was pulled through chutes.

ORE: There is estimated to be from eight to ten thousand tons of ore blocked out at present, and this is believed to average sixteen to eighteen ounces of silver, up to 3½% lead, and 0.3% copper. This average is said to hold up for the total width of the vein. Analyses show 80% of silica, which is desirable for fluxing.

In the 1880's there was reported to be about \$80,000 of ore produced, averaging \$100 a ton. This body was said to have pinched out and was not re-opened when the property was operated about 1923 and 1924. At this latter date, Mr. J. H. Macia took out about 32 cars of ore. Smelter returns on 32 cars shipped ran 28 ounces silver, .3% copper, a trace of lead which brought no returns, and 80% silica.

A shaft makes about 150 gallons a day. There is believed to be enough water in the district for milling purposes.

It is believed that a flotation process would be the most successful as the ore is said to occur in small sulphide particles.

It is believed that fairly extensive explorations would prove advisable to determine whether or not any of the

so-called high-grade ore body remains at a depth of approximately 100 feet. There is sufficient milling ore blocked out to warrant a small flotation plant, which, at the worst, should at least prove moderately profitable. The mine, therefore, appears to be one which should be operated with a small development, where, as such, it represents a fairly sure gamble. If, during such development, any of the old ore body is opened up, there is a possibility of quite higher return on the investment. There is a manganese outcropping on the property.

SALE
PRICE:

The writer believes that he can obtain approval of the various owners of the undivided interest in this property to sell for a cash price of \$25,000. However, they believe that additional exploration has a very good chance of recovering material values. If they can be protected adequately against depletion of the blocked-out ores, they appear willing to consider some alternative proposition. The blocked-out ores appear capable of producing an attractive margin of profit at present prices of silver, and they offer a big opportunity for providing a sort of guarantee against loss for the cost of exploring properties further for continuation or re-occurrence of the richer ores which were formerly obtained from this mine.

The property is available for inspection. Arrangements can be made for the former principal operator, or his son, to show the properties.

Rockwell Hereford
180 South Arroyo Boulevard
Pasadena, California

December 10, 1937

December 11, 1942

MEMORANDUM

Blue Nose Extension

To: Director, Dept. Mineral Resources
From: George A. Ballam

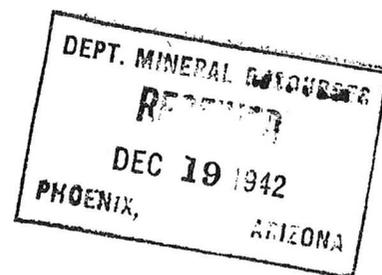
I called on H.C.Herrick and Louis Verdugo who are operating on 4 claims located just south of the Trench on the Harshaw-Washington road. The property is leased from Rupert Byerley and lies about 1000 feet to the west of the road.

They have five men working in a tunnel which has been driven about 180' to a vein of high grade ore, 14" to 18" of galena and rosin-jack running 22% Pb, 28% Zn with up to 60 ozs. Ag. They have about 40 tons on the dump which they plan to haul to the Duquesne mill of Callahan Zinc Lead Co. Mill tests have been reported favorably.

They were just blasting so I didn't get a chance to make a more complete report on the workings. They are drifting on the vein and taking out about 6 tons per week which they expect shortly to step up to 50 tons per month increasing production as development proceeds.

A camp has been established just off the highway, and they are running their dumpout to make head room for an ore chute down to the end of the road in a canyon.

George A. Ballam



The River Store
Nogales, Arizona
June 28, 1940.

J. S. Coupal, Director
Dept., of Mineral Resources
State of Arizona
Phoenix, Arizona

Dear Sir;

I'm sending here additional information in regard
to the Blue Nose Extention Mine.

I appreciate very much the interest you are taking
in this matter.

Very truly yours,

Rupert Beyerle.
Rupert Beyerle

RB/CB

THE RIVER STORE

Nogales, Arizona

November 22, 1939.

Department of Mineral Resources

State of Arizona

Dear Sir-

Sometime ago I have send you e report in regard of the Blue Nose
Extention.

I wish that you cancel this report as I have discovered a nice body
of ore since I have written you and I'm sending you now a new report.

Very truly yours,


Rupert Beyerle

CPB: RB

THE RIVER STORE
Nogales, Arizona
Sept. 12, 1939.

Department of Mineral Resources
State of Arizona
Capitol Building
J. S. Coupal, director
Phoenix, Arizona.

Dear Sir-

I have received your last letter dated August the 28th., and also your forms.

In regard to the crystal claims I can inform you that the roads are all washed out now and there is no use to talk about it for the present at least.

I'm inclosing here a filled out form describing my mining claims situated in the Patagonia District near Harshaw I 1/2 miles south from the Trench Mine.

I would like to give a thorough description of said claims. It is impossible however because it is necessary for a person that is interested in same to come and look them over.

If you glance over the form you will notice the same old story what we need is development work.

I'd be also willing to sell half of my claims if the other party be willing to put money in the ground and develop same.

Very truly yours,

Rupert Beyerle.
Rupert Beyerle

OPB-RB

DEPARTMENT of MINERAL RESOURCES
State of Arizona
OWNERS MINE REPORT

MINE: Blue Nose Extention

DISTRICT: Harshaw

FORMER NAME:

OWNER: Rupert Beyerle

OPERATOR: Rupert Beyerle

PRESIDENT:

MINE SUPT.

PRINCIPAL METALS: Lead, silver and zinc

PRODUCTION RATE: At present two tons per day

POWER: AMT. & TYPE:

OPERATIONS: PRESENT Stopping

OPERATIONS PLANNED: Sinking on ore install machinery

NUMBER CLAIMS, TITLE, etc. Mine surveyed and maped clear title

DESCRIPTION: TOPOG. & GEOG. The same kind of metal of formation as
the Trench, operated by: A.M.S.

mine WORKINGS: AMT. & CONDITION: Shaft cross cut, tunnel good
condition natural ventilation.

DATE: November 22, 1939

LOCATION: Two miles south of Trench Mine, two miles north of Mawree
Mine.

MEN EMPLOYED: Three men.

MILLS: TYPE & CAP.

GEOLOGY & MINERALIZATION: Lime formation at present

ORE: POSITIVE & PROBABLE, ORE DUMPE, TAILINGS: Positive ore, ore in
sight as much as two ft., of solid ore.

MINE, MILL EQUIPMENT & FLOW SHEET: Assay about 20% lead, 20% zinc,
and 15 oz., in silver.

ROAD CONDITIONS, ROUTE: 500 feet from the Patagonia Mawree Highway.

WATER SUPPLY: None

BRIEF HISTORY: Worked by prospectors for its lead and silver contents.

SPECIAL PROBLEMS, REPORTS FILED:

REMARKS: At present the ore of this mine can be milled near by a custom mill belonging to the A.M.S.

IF PROPERTY FOR SALE: PRICE, TERMS AND ADDRESS TO NEGOTIATE:
One party with capitol for shipping ore and do developing work, ore will sell on the fallowing terms: \$10,000. \$1,000 cash, besides payments of ore already mined, balance in payments two years time.

Blue Nose

From Schrader's Report - Department of The Interior
U. S. Geological Survey
Geo. Otis Smith, Director
Bulletin 582

Written by Frank C. Schrader with contributions by
James S. Hill Year 1916 (Or perhaps as early as 1909)

Washington Government Printing Office

The Blue Nose Mine, also known as the Abe Lincoln mine is two miles Southwest of Marshaw, near the south line of the district, just west of the Mowry Stage Road, on open ground. It is owned by R. E. Richardson and Neil McDonald, It has produced \$250,000 in lead-silver ore.

About 3,000 tons of good-looking ore lie on the dumps, the size of which shows that much work has been done.

The mine is developed to a depth of more than 200 feet, mainly by shafts and drifts. Work ceased, it is said, because the poor equipment then on the ground was unable to handle the water.

The country rock is the Paleozoic limestone and quartzite series, and it is intruded by dark-greenish, slate-colored dense, glassy rhyolite, seemingly in the form of intrusive sheets. The rocks dip about 40 degrees N W and are sliced by a prominent sheeting of that dips 80 degrees S E.

Water, which seemingly is ground water stands at about 200 feet below the surface.

The deposits occur in a vein or lode which dips 40 degrees N W, about conformable with the enclosing rocks. It is about four feet in width.

The footwall, a sheet of the dense, dark rhyolite, is pyritic, being impregnated with small crystals and grains of pyrite and chalcopyrite. The ore occurs in pockets, mostly in a white talc-like substance.

Most of the ore produced is said to have occurred in a dipper-shaped body.

End.

Department Of The Interior
U.S. Geological Survey
General Otis Smith, Director

Bulletin 582
Written by
Frank C. Schrader
With contributions by
James S. Hill
Year 1915

Washington Government Printing Office

AMERICAN MINE, Patented

The American Mine is one and one-half miles south-southwest of Harshaw, a half mile southwest of the Hardshell Mine, about a quarter of a mile east of the Mowry Stage Road, in a short, steep gulch, at the northwest slope of American Peak, at an elevation of about 5400 feet.

The deposit was discovered about 1880 and has produced more than \$80,000.00 worth of ore (silver then being quoted at fifty-five and one quarter cents) (my insertion), of which the better grade was shipped to Douglas (Arizona), and the rest concentrated at Harshaw in the old mill below the Park place. The mine is said to have been leased recently to a Tucson man who is installing machinery.

The mine is developed to a depth of 112 feet by about 500 feet of work, which includes three 90 foot shafts all connected by drifts on the 90 foot level.

The mine is on what seems to be the contact of silicified limestone, or quartzite, with intrusive porphyritic brecciated rhyolite.

The dominant structure in the sedimentary rocks dips steeply to the southeast, and the rhyolite shows north-south vertical flow structure and banding rhyolite occurs in considerable amount in the north slope of American Peak south of the mine. Blue limestone is said to form the hanging wall on the north in the mine, and the Paleozoic limestone is well exposed in the mountain above and in the gulch below the mine toward the road. Water standing in the shaft is said to be rain water.

The vein containing the deposit seems to trend west-northwest and dips to the north.

The openings extend interruptedly west-northwest for a length of 150 feet and a width of about 50 feet.

Prominent and suspicious looking croppings of iron, and manganese, stained quartz and replaced silicified rhyolite occur northwest of the mine, and large boulders from the croppings are strewn down the gulch.

The iron is normally about three feet in width but is said to widen to ten feet or more in places in the mine, forming pockets or lenses which carry good ore that probably in part represents replacement bodies in the wall rock.

Most of the ore mined, or more than \$50,000.00 worth occurred in such a lens, which is likened to the "hull of an ocean vessel tilted 40 degrees to the side". It was 75 feet in length and 14 feet in width and dipped to the north. About all the ore mined was obtained between the surface and the 90 foot level, mostly from the oxidized zone, but it contained also sulphides.

The metals contained in the ore are silver, copper, iron, zinc, and lead.

The ore minerals are cerargyrite, argentite, chalcopyrite, pyrite, sphalerite and galena.

The shipping ore is said to average about 12 per cent each in lead and zinc and 100 ounces in silver and \$9.00 (nine dollars) in gold, to the ton. (You understand this was prior to the year 1915.)

The smelter sheet of a shipment of 31,230 pounds of ore, made to the El Paso plant shows the following recoveries, silver being quoted at fifty-five and one quarter cents and copper at nine cents.

| | | |
|--------|--------------|---------|
| Silver | 62 ozs. | \$32.86 |
| Copper | 1.2 per cent | 2.16 |
| Iron | 4 " " | ,20 |
| Zinc | some | |

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Big Jim Mine
(formerly called "Blue Nose")
District Harshaw District, Santa Cruz Co.
Date Mar. 6, 1963, & Sept. 5-Oct. 5, 1962
Engineer Axel L. Johnson
Subject: Field Engineers Report. Information from Miss Virginia Hay and personal visits.

References (1) Bulletin # 582 --"Mineral Deposits of the Santa Rita & Patagonia Mts." pages 278 & 279. (called Blue Nose Mine)
(2) Arizona Bureau of Mines Bulletin # 140 ---"Arizona Metal Production" page 100 (called Blue Nose Mine)

Location About 2 miles SW of the village of Harshaw & about 2 miles S of Trench mill.

Owner Miss Virginia Hay, Patagonia, Arizona.

Number of Claims 2 unpatented claims --- Big Jim and American Camp, overlapping at right angles. Big Jim was located Sept. 9, 1960.

Principal Minerals Lead and silver.

Present Mining Activity Mine is idle.

Geology See Bull. # 582, pp 278 & 279.

Ore Values No information available.

Ore in Sight No commercial ore in sight. There may be some low grade ore in the dumps.

Past History & Production

- (1) Ore production of \$250,000 worth of lead and silver prior to 1909, acc. to
 - (a) Bull. # 582 reports \$250,000 in lead and silver had been produced.
 - (b) Ariz. B. of M. Bull. # 140 reports ore production of 500,000 lbs. of lead and \$225,000 worth of silver for a total of \$ 250,000.
- (2) There is a large tailings dump near the shaft, which indicates that a considerable amount of ore was milled. Evidently most, if not all, of the ore mined was milled and concentrated.
- (3) Miss Hay reported that a man (Alfredo Valenzuela) shipped a carload of lead-silver ore from the mine in 1956, about 1/2 of this coming from the dumps, and the remaining 1/2 coming from a narrow vein at the surface. It was reported that he netted \$ 800 on the shipment.
- (4) Mine was located by Miss Virginia Hay on Sept. 9, 1960 (i. e. the Big Jim claim), as it was then open for relocation. The American Camp claim, on which the house stands, was inherited by Miss Hay from her brother.
- (5) Exploration work was done by Inspiration Consolidated Mining Co. on the Big Jim claim and surrounding area from 1960 to 1963. Miss Hay reports that this exploration work has been discontinued, as they did not find enough evidence of ore.

Old Mine Workings (1) 1 vertical shaft (inaccessible)--- said to be over 200 ft.
(2) Extensive underground workings reported.
(3) 1 adit, 80 ft. long, showing narrow stringers of manganese.
(4) 1 adit, (inaccessible) reported to be 100 ft. long.
(5) 2 mine dumps --- 1 near the vert. shaft, and 1 at the 100 ft. ad

Proposed Plans Miss Hay, being convinced that she will not be able to sell or lease the mine, now is considering two alternatives to permit her to retain her home, viz:
(1) Purchase of 5 acres around her home according to P. L. 87-851.
(2) Make a land exchange with the Forest Service, giving them a patented claim about a mile up the hill, for some acreage around her home.

MINERAL PROPERTY ABSTRACT

MINERALS: Zinc, lead, copper, silver

PROPERTY NAME: Blue Nose 1-3 *Blue Nose*

CLAIM TYPE: Lode

LOCATION: Santa Cruz County, Arizona
Patagonia Mining District
Harshaw Quadrangle (7-1/2 minutes)
T. 23S, R. 16E Sec. 8, G&SRB&M
Located about 12 miles southeast of
Patagonia city on Highway 82. Easily
accessible by automobile.

GEOLOGY: East-tending mineralized veins in-
truded into faulted and deformed
volcanic Rhyolite of Jurassic-Triassic
age.

RESERVES: From the early 1880's through
1956, the Blue Nose Mines have
been worked intermittently producing
about 13,000 tons of ore averaging
about 18 oz of silver ore ton, 2% lead,
1% zinc, and 5 % copper. Determination
of reserves would require a systematic
exploration program.

QUALITY: Assay analysis indicates the mineralized
veins contain noticeable amounts of cop-
per, lead, zinc and silver

FINANCIAL TERMS: 2.3 million dollars. After downpayment,
payments arranged primarily from mine
production.

Date: March 25, 1982 Prepared by: Victor Gad

* GENERAL REFERENCES

- REFERENCE 1 F1 < ABGMT - USBM FILE DATA
- REFERENCE 2 F2 < SCHRADER, FRANK C., 1915, MINERAL DEPOSITS OF THE SANTA RITA AND PATAGONIA MOUNTAINS, ARIZONA; USGS BULLETIN 582, p. 278-279
- REFERENCE 3 F3 < SIMONS, FRANK S., 1974, GEOLOGIC MAP AND SECTIONS OF THE NOGALES AND LOCHIEL QUADRANGLES, SANTA CRUZ COUNTY, ARIZONA. USGS MAP I-7162 (1:48000)
- REFERENCE 4 F4 < ARIZONA DEPARTMENT OF MINERAL RESOURCES FILE DATA, BIG JIM MINE

C30 < PYROLUSITE, RHODOCHROSITE, PYRITE >

L110 < ALFREDO VALENZUELA, M.F. JONES (OWNER-1944); M.A. HOOVER AND CAPTAIN COY; H.C. HERRICK; LOUIS VERDUGO; PROPERTY COMPRISES 4 PATENTED CLAIMS >

K5 < SUBSTANCE >

N115 < WEST BY BLUE NOSE FAULT - APPARENT LEFT-LATERAL SLIP IN RELATION TO HARSHAW CREEK FAULT AND AMERICAN MINE FAULT BLOCK IS 4-5 MILES >

N70 < LIMESTONE BEDS >

N75 < SERICITE, KAOLINITE, ALUNITE, AND PYROPHYLLITE >

F5 < MOORES, RICHARD C., 1972, THE GEOLOGY AND ORE DEPOSITS OF A PORTION OF THE HARSHAW DISTRICT, SANTA CRUZ COUNTY, ARIZONA. M.S. THESIS, UNIVERSITY OF ARIZONA >

F6 < KEITH, STANTON B., 1975, INDEX OF MINING PROPERTIES IN SANTA CRUZ COUNTY, ARIZONA; ARIZONA BUREAU OF MINES BULLETIN 191, p. 57 >

F7 < ABGMT FILES, STANTON B. KEITH >

F8 < SIMONS, FRANK S., 1972, MESOZOIC STRATIGRAPHY OF THE PATAGONIA MOUNTAINS AND ADJOINING AREAS, SANTA CRUZ COUNTY, ARIZONA. USGS PROFESSIONAL PAPER 658-F, p. 3 >

F9 < ABGMT CLIPPING'S FILE. BIG JIM MINE, BLUE NOSE MINE, ABE LINCOLN MINE >

F10 < TENNEY, JAMES B., 1927-1929, HISTORY OF MINING IN ARIZONA; ARIZONA BUREAU OF MINES, p. 312 >

F11 < KARTCHNER, WAYNE E., 1944, THE GEOLOGY AND ORE DEPOSITS OF A PORTION OF THE HARSHAW DISTRICT, PATAGONIA MOUNTAINS, ARIZONA; PHD THESIS, UNIVERSITY OF ARIZONA, p. 94-95 >

U.S. CRIB-SITE FORM

RECORD IDENTIFICATION

RECORD NUMBER B10 < _____ > RECORD TYPE B20 < X, I, M > DEPOSIT NUMBER B40 < _____ >

REPORT DATE G1 < 82, 03, _____ > INFORMATION SOURCE B30 < 1, 2, _____ > FILE LINK IDENT. B50 < _____ >

REPORTER (SUPERVISOR) G2 < CALDER, SUSAN R. > (last, first, middle initial) (last, first, middle initial)

REPORTER AFFILIATION G5 < ABGMT > SITE NAME A10 < BLUE NOSE MINE >

SYNONYMS A11 < BLUE NOSE EXTENSION, ABE LINCOLN, BIG CHIEF, BIG JIM, WAR HORSE HOME AGAIN, VIRGINIA HAY CLAIMS >

LOCATION

MINING DISTRICT/AREA A30 < HARSHAW DISTRICT >

COUNTY A60 < SANTA CRUZ > STATE A50 < AZ > COUNTRY A40 < U.S. >

PHYSIOGRAPHIC PROV A63 < 1, 2, _____ >

DRAINAGE AREA A62 < 1, 5, 0, 3, 0, 1, 1, 1, LOWER COLORADO >

QUADRANGLE NAME A90 < LOCHIEL > LAND STATUS A64 < 4, 1, _____, (1, 9, 7, 9, 1) >

QUADRANGLE NAME A90 < _____ > QUADRANGLE SCALE A100 < 1:25,000 >

SECOND QUAD NAME A92 < _____ > SECOND QUAD SCALE A91 < _____ >

ELEVATION A107 < 5,300 FT >

UTM

NORTHING A120 < 3479075 >

EASTING A130 < 525475 >

ZONE NUMBER A110 < 12 >

ACCURACY

ACCURATE ACC (circle)

ESTIMATED EST < _____ >

GEODETIC

LATITUDE A70 < 31-26-52 N >

LONGITUDE A80 < 110-43-58 W >

CADASTRAL

TOWNSHIP(S) A77 < 0235 > RANGE(S) A78 < 016 E >

SECTION(S) A79 < 08 >

SECTION FRACTION(S) A76 < NW OF SE >

MERIDIAN(S) A81 < GILA AND SALT RIVER >

POSITION FROM NEAREST PROMINENT LOCALITY A82 < 2 MILES SW OF HARSHAW >

LOCATION COMMENTS A83 < LOCATED ON THE WEST SIDE OF HARSHAW CREEK, 0.75 MILE UNW OF AMERICAN PEAK >

* ESSENTIAL INFORMATION
 + ESSENTIAL SOMETIMES OR HIGHLY RECOMMENDED



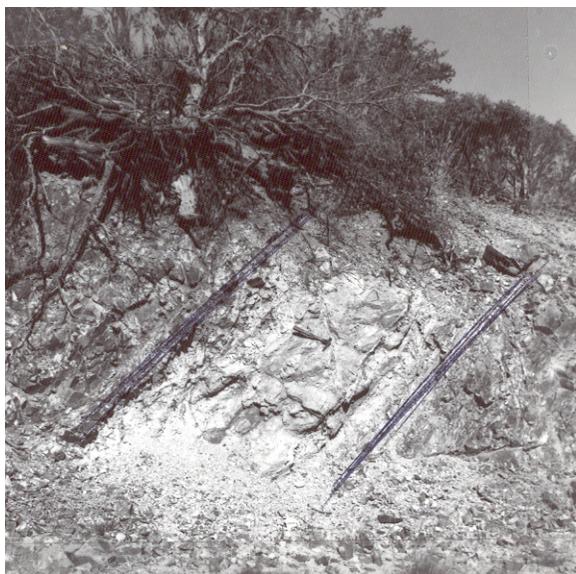
BLUE NOSE SHAFT COLLAR



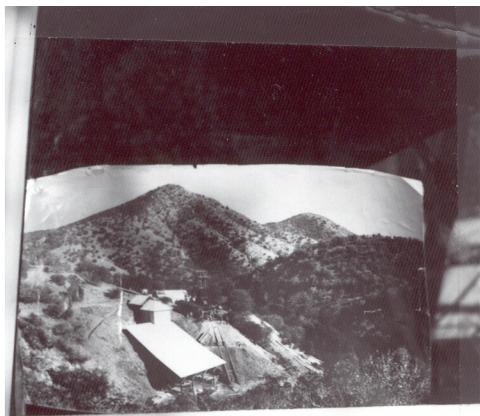
BLUE NOSE VEIN
OUTCROP ABOVE SHAFT



OLD PICTURE OF BLUE NOSE MILL
ORIGINAL BELONGS TO VIRGINIA HAY OF PATAGONIA







8-27-42
✓

MB-13

W. L. Copeland
17. S. Lynch

NAME OF MINE: BLUE NOSE

COUNTY: S. CRUZ
DISTRICT: HARSHAW
METALS: AG, PB

OPERATOR AND ADDRESS:

MINE STATUS

DATE:

DATE:

5/1/44

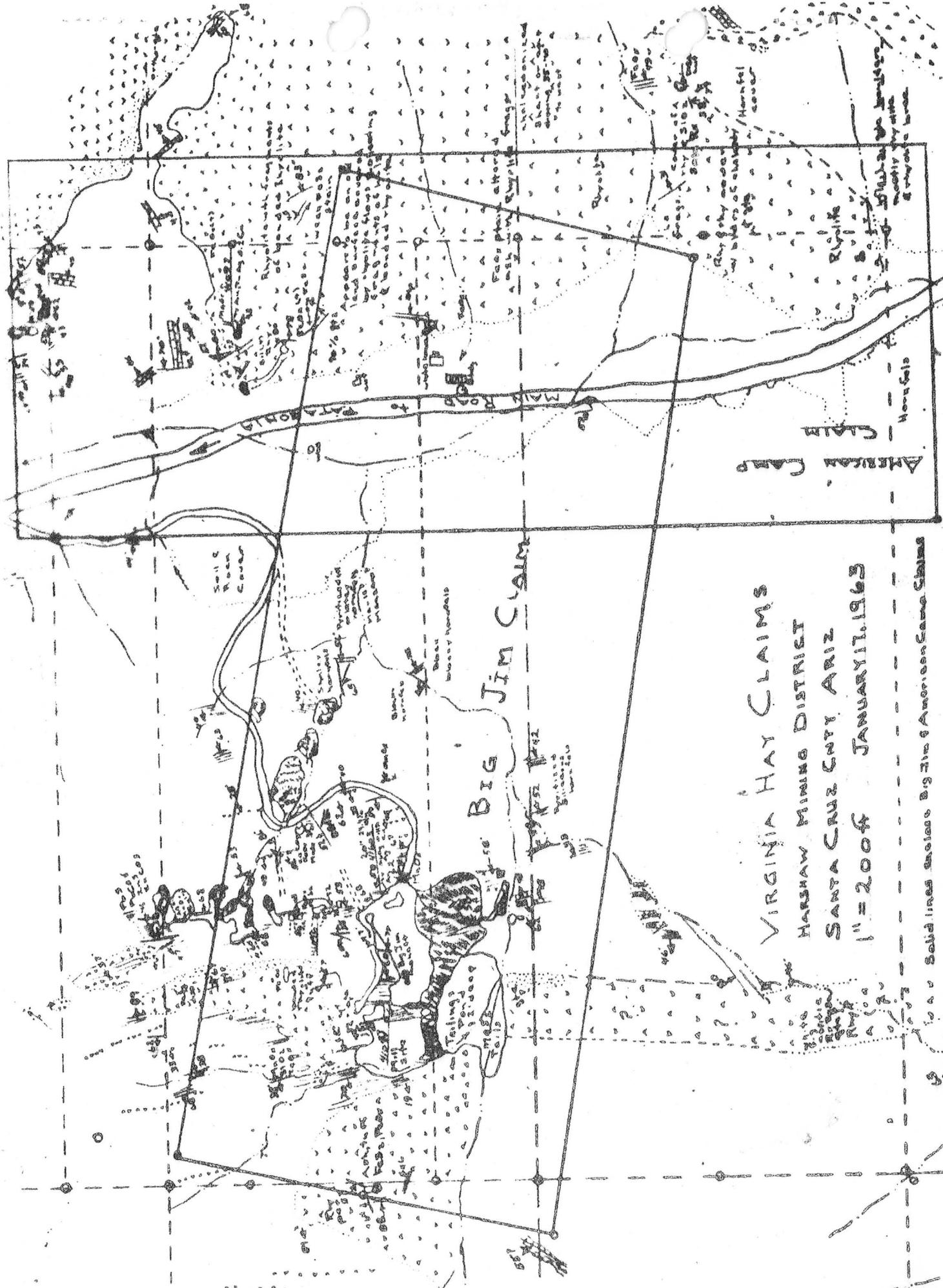
Mike A. Hogan
Patagonia (Owner: Mark F.
Jones, 1805 Court Ave.,
Pasadena, California)

5/1/44

Developing

9/44

Idle



VIRGINIA HAY CLAIMS

HARSHAW MINING DISTRICT

SANTA CRUZ CNTY ARIZ

1" = 2000' JANUARY 11, 1965

- Solid lines enclose Big Jim & American Camp Claims
- - - - - dashed lines enclose Icee claims
- Red = FeOx Mineralized Zones
- Blue = Fault z.