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SHOSHONE QUICKSILVER MINING COMPANY

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ANALYSES

#        Oversize Doc(s)

Y Assay Data

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Map Scale:                     

T: 12N

R: 39E

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PRELIMINARY REPORT

SHOSHONE QUICKSILVER MINING COMPANY

NYE COUNTY, NEVADA

Examined by Fred A. Earls

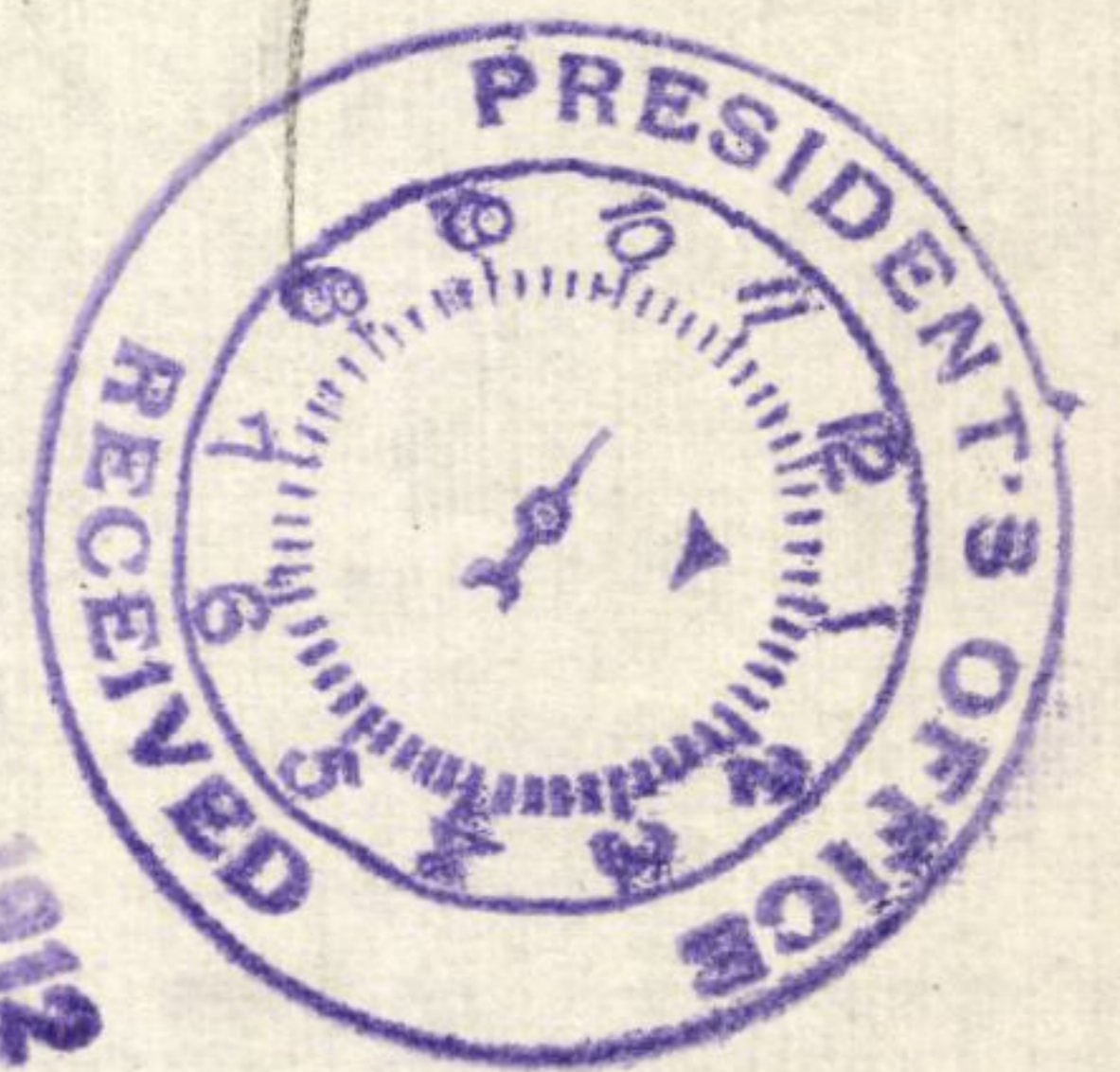
For

A.P. ANDERSON, MANAGER PACIFIC COAST

UNITED STATES SMELTING REFINING & MINING EXPLORATION COMPANY

June, 1912

No. 272



## SHOSHONE QUICKSILVER MINE

### LOCATION:

The claims are located about 3 miles Easterly from the town of Ione, in the Shoshone Range of Mountains, in Nye County, Nevada, 50 miles South of the town of Austin.

Their Camp is situated about a mile below the mine workings, but in the same gulch or draw.

### OWNERSHIP:

The property is owned by the Shoshone Quicksilver Mining Company, organized under the Nevada laws, and incorporated for 1,000,000 shares, 350,000 shares of which are Treasury Stock, of which about 62,000 shares have been sold, at from 25 to 50 cents per share, it is claimed. The organization is controlled by Frank J. and Fred J. Davis of Ione P.O., Nye County, Nevada.

### HISTORY:

The ground was located by Frank J. Davis, several years ago and has been under the control of him and his brother ever since.

### DATA SUBMITTED:

No maps or other data were available.

### BIBLIOGRAPHY REFERRED TO:

Eighth Annual Report U.S. Geo. Survey	Part II
Monograph XIII	" "
Mineral Resources	1910 Part I

### CLAIMS:

The group consists of 23 full locations, or about 490 acres of ground. The claims have been surveyed, and the map is said to be in Salt Lake, but there was no map at the property.

ADJOINING PROPERTY:

The ground adjoins the property of the "Mercury Mining Company", which is controlled by Fred W. Bradley, Mark Requa and J.H. McKenzie, of San Francisco. Clifford G. Dennis is the local manager.

The original bond on the Mercury Mine was \$20,000.00, and the parties who held this option made a deal with Bradley et al (turning over 60% of the stock in a corporation of 1,000,000 shares), who advanced the payments on the bond, and developed and equipped the mine. The superficial geology of the formation has been studied by Oscar Hirshey, Geologist for the Bunker Hill & Sullivan, who also made the report for Bradley prior to their taking the property over. Dennis showed me Hirshey's geological maps, which indicate considerable complexity as to faults and formations, and also much irregularity as to ore occurrence.

Their work is chiefly along or near the main fault, known as the Cinnabar Fault. Their development is all by adit tunnels and their deepest workings are 100 ft. under cover. Their ore occurs as disseminations in a fault breccia and in and associated with bodies of fractured, intensely brecciated cherty limestone, on minor faults, making into the main or Cinnabar Fault.

The Cinnabar Fault has a Northerly-Southerly course and dips Easterly at about 45°. The prevailing country rock formation is rhyolite, but various other eruptive rocks occur along the faults, which are numerous. Along the main faults occurs a white rhyolite tufa, also at points much obsidian mixed with other volcanic rock, and cherty limestone and conglomerate. In this property the tendency so far seems to be for the ore to make in association with the cherty limestone, whose occurrence is quite irregular and little understood.

The ore occurs entirely as cinnabar, or mercury sulphide, and the form and extent of the ore-bodies are very irregular. Their effort is to keep the ore up to an average of 1.25%, which they claim they have been able to do so far by a little careful mining and rough sorting.

Their costs were given to me by their manager, Mr. Dennis, as follows:

Mining & Dev'p	\$3.26
Furnace	<u>1.72</u>
Total (no depreciation)	\$4.98

They have a Scott Furnace of 30 tons daily capacity, with 7 condensers, all of brick-work. Roasting is by wood fuel, at a cost of \$8.00 per cord. It is understood that the full installation cost is between \$30,000.00 and \$40,000.00, so that a fair depreciation of 25% per annum, on the basis of 10,000 tons treated yearly, would mean a depreciation charge of approximately \$1.00 per ton, assuming they found ample tonnage to run four years.

It is evident also that their development cost, which they do not give as a separate item, is far too low, if any extensive work were included, or if their developments were kept well ahead of mining, which is not the case.

The cost of superintendence, general expense and marketing, would mean easily \$1.00 per ton. A revision of cost, according to my estimate, would be as follows:

Mining	\$2.50
Furnace	1.72
Development	2.50
Depreciation	1.00
Supt., Gen'l	
Marketing	<u>1.00</u>
Total	\$8.72

It is therefore safe to estimate that with the additional charge of interest on their entire investment that their total charge would very probably aggregate \$9.00 per ton, which, on a 1.25% crude ore, worth \$15.00 gross (with quick selling at \$45.00 per flask of 75#) would leave about \$6.00 per ton profit, assuming no loss in recovery, which they claim is true.

On the basis of 10,000 tons per annum, this would mean approximately \$60,000.00 in profits annually, assuming they were successful in finding

ore to keep their furnace going at full capacity, which of course is entirely problematical in the light of present developments. The ore occurrence is irregular and erratic, making it somewhat inadvisable, at present at least, to devise any extensive development plans, their policy apparently being to feel the ground out gradually by staying with the ore until its occurrence is better understood. Before they can hope for any definite tonnage, however, they will doubtless be subject to a considerable development expense.

These costs are high as compared to California costs, due chiefly to \$4.00 labor as against \$2.00 on the Coast. Supply costs are also naturally high at this distance from R.R. Their brick, made near the property, cost them \$17.00 per M. Timber costs 7¢ per Bd. Ft. Flasks cost 60¢ each f.o.b. mine. Their compensating or counterbalancing element is their better grade of ore as compared with Calif. ores, which reports put at an average of about five-tenths of one per cent.

This (Mercury) company has produced about 1700 flasks since the first of January, 1912, which, at \$45.00 per flask, means a gross output of \$76,000.00. From Dennis' attitude, it is apparent the principals in the project will be satisfied with the return of their outlay, though they hope that the property may develop to the extent of paying them a fair profit.

As this concern has plenty of ground, i.e. 15 claims, I am of the opinion that Dennis was not influenced in any of his statements to me by a desire on his company's part to eventually secure possession of the Davis (Shoshone Mining Co's) ground, although if they harbored any hopes of a large operation profits, it would be natural to suppose they would want to control all desirable ground, and if large profits were possible, the Davis ground would be attractive.

#### TRANSPORTATION:

All supplies are hauled in from Austin, the nearest R.R. point, 50 miles distant, or from Falton, about 90 miles.

#### FACILITIES:

Water.-- Springs and a small stream would furnish ample water for all requirements.

Timber.-- Sufficient for fuel and for limited prospecting and development purposes.

Power.-- There is no hydro-electric power in this section of Nevada. All power used is distillate burning gas engines.

Climate.-- Favorable for perennial operations.

Labor.-- Ample labor always available at the customary wage.

#### TOPOGRAPHY:

The mountains attain an elevation of five to six thousand feet. The claims of this group are located Northerly and Southerly, completely covering the ridge in which is situated the "Cinnabar Fault" so prominent in the property of the Mercury Mining Company, which, in this (Shoshone) ground, shows a series of transverse faults throwing the "Cinnabar" and other more or less parallel faults to the West as the system is followed to the South. The "Cinnabar" Fault, in the Shosone ground, is therefore situated in a ridge West of that containing the fault in the Mercury Mine claims. The slopes of the mountains are gentle and nearly all points are easily accessible, rendering road-building comparatively easy and inexpensive. The claims are located on both sides of a draw or gulch, through which a wagon-road passes on an easy grade.

#### GEOLOGY:

##### General.

From my limited observations it appears that the country is composed entirely of eruptives, except for occasional bunches of limestone. The prevailing country rock is rhyolite, considerably faulted, and cut by dikes and intrusions of later origin.

##### Local.

Clifford G. Dennis, Manager of the Mercury Mining Co., made a report on the Davis claims, and, regarding the geology, I quote his report as follows:

"The geologic condition here is the result of a flow of rhyolite over a harder formation (Fertiary Granite) followed by submerging and subsequent upheaval and tilting. Later on intrusions of diabase coming up in the granite broke through the rhyolite, fracturing same, and caused crushed zones, making possible the circulation of mercurious gases. The gases were probably held down by a sedimentary formation since partly eroded and thus the concentration of cinnabar occurred."

Mr. Dennis states that this report was written before he had the opportunity that he has since had to study the ground in question, and that he would modify his ideas as to the geology somewhat now, although in what particular he did not explain.

I am of the opinion that the limestone occurrences are more in the nature of intercalated blocks or bodies, and that while development work to date in the Mercury Company's ground shows their ore occurrences intimately associated with limestone and chert, either in bodies or as brecciated particles or boulders along the fault drag, the presence of limestone is not a requisite, for in the Davis ground the development has all been on ore occurring in the rhyolite tufa, which has intruded along the main and cross-faults. The Northerly end of the Davis ground does, however, show a body of lime and chert to all appearances identical with that on the Mercury claims.

#### Veins & Ore Occurrence

The veins are simply lines of faulting with a brecciated filling, or a filling of white rhyolite tufa, through which the cinnabar is disseminated, with a tendency of a concentrated condition along minor fault and fracture planes, forming reticulated masses of higher contents than the less fractured sections of the tufa.

The main faults, as stated above, are Northerly and Southerly, but in the Davis ground a series of cross-faults have thrown the N.-S. faults or veins to the West, so that their workings, while on the same zone, are not directly in line with the Cinnabar Fault line projected South.

Their ore as developed is chiefly on a cross-fault at the South end of their claims, although they have opened good ore in prospect holes along what is supposed to be the Cinnabar Fault.

In addition to the rhyolite tufa, much obsidian is in evidence along the main or Cinnabar Fault, indicating a strong probability of the volcanic origin of the quicksilver which accords with the accepted theory of numerous deposits.

As the mineral is shown by authorities to occur in various formations, the age and character of the enclosing wall rocks are not considered to have any direct bearing on the deposition or genesis of the ore. Mineral associations in which cinnabar is found seem to show that it has been deposited from solutions and that its origin is closely associated with volcanic activity in many instances. Many of the California deposits also occur near intrusive masses or dikes of rhyolite, a condition that presents an interesting similarity in comparing the property in question.

#### PRODUCTION:

The Shoshone Mine has produced about 325 flasks, of a gross value of about \$15,000.00

#### EQUIPMENT:

They installed 3 batteries of 3 retorts each, which hold about 500# at a charge. All production was from these retorts, which they found of too small capacity to allow profitable operations.

#### DEVELOPMENT:

The work on the property aggregate 600 to 800 ft. of adit tunnels. Most of this work is on the South end of the group, where a fair tonnage of ore is exposed from the surface to the level of two adit tunnels, a vertical distance of probably 40 ft. A 30 ft. winze was sunk in the tufa in which a horizontal fracture appears, below which the tufa fails to show any cinnabar. A little work has been done by running a few short drifts on this flat plane, and so far they have not found any vertical fractures where the mineralization might be picked up below this apparent limit.

They have several holes and shallow tunnels at various points on the main "Cinnabar Fault", with interesting exposures of cinnabar mineral in the tufa, and at one point, at the Northern end of the claims, the altered and

and cherty limestone shows the mineral, not only as infiltrations in the fractures, but as impregnations in the body of the rock as well.

COSTS:

Operations have never reached the point where cost data was recorded. As in the case of the adjoining property, the costs would undoubtedly be high as compared with those of California quicksilver properties.

SAMPLING:

Owing to the preliminary nature of the investigation, which was made hurriedly and chiefly for the purpose of securing this information for *future* reference, no sampling was done.

ESTIMATES OF ORE TONNAGE, COSTS, NET VALUES, ETC:

The following figures were copied from Dennis' report made for the Shoshone people:

Mine

11,372 tons @ 1.25 % =	24.0#
Recovery Loss	<u>2.4#</u>
Net Recovery	21.6
Total 245,635.2# @ 60¢	\$147,331.00

Dumps

6,278# @ 60¢	3,766.00
	<u>\$151,147.00</u>

Costs

Mining	\$2.50
Development	3.50
Reduction	1.10
Flasks	.21
Freight	.63
Marketing	.17
Taxes, etc.	<u>.10</u>
Total	\$8.21

Mining & Red. 11,372 tons @ \$8.21 .....	\$93,364
Dumps 786 " @ 1.60 .....	<u>1,272</u>
Total Cost .....	\$94,636
Gross Value .....	<u>151,147</u>
Estimated Profit .....	\$56,506
Less Cost 30 T. Furnace 31,000	
" Building & Equipment <u>10,000</u> .....	<u>41,000</u>
Net Bal. On Developed Ore .....	\$15,506

I concur with Mr. Davis, that both mining and development costs are far too high when applied to the "Developed Ore", as there is little or no further development required, and the mining of this ore should not exceed \$1.50 per ton. This would permit a revision of the costs with respect to the Developed Ore as follows:

Total	8.21
Deduct Dev'p Cost of 3.50	
" Mining " " <u>1.00</u>	<u>4.50</u>
	3.71
Add correction " " reduction	<u>.62</u>
	4.33

This difference on 11,372 tons would add \$49,240.00 to the estimated Net Profits of \$15,000, making Total Net Profits on Developed Ore of \$64,240.00.

It is safe to say, however, that Dennis' Estimate of Costs applied to new developments, is a fair one and covers all conditions, except plant and equipment depreciation. This could easily vary widely, but for preliminary purposes, estimating the cost of a 30-ton plant at \$30,000., and assuming they would produce all told 20,000 tons of ore, (or about one-third more than Dennis allows them as already developed) the depreciation charge would be \$1.50 per ton or a total cost of \$9.20 per ton. This is \$1.00 per ton higher than my estimate of Mercury Mining Co's costs, due to my assumption of a development cost of \$2.50, as against Dennis' estimate for Shoshone development cost of \$1.50 per ton, but as a factor of safety, if the occasion required serious calculation, I would employ \$9.70 as total cost figures.

PRICE & TERMS:

The investigation was made simply for the reason that I was in the district, and was able to go over the ground without any additional expense or loss of time, and not with any hope that the proposition would be of direct or positive interest. Terms were not discussed, as I advised Mr. Davis that it was not likely that you would be interested in a quicksilver property.

They have sold some stock as high as 25 cents per share, so I presume they would ask not less than \$250,000 or \$300,000 for the property, although they might be willing to retain a minority interest, if the property was equipped with furnace, etc.

CONCLUSIONS:

It is plain that the undertaking could not be of interest to any but small operators. There is no doubt but that the present owners, if able to equip the property with a furnace etc., could make a little profit, and I am impressed that judicious development would undoubtedly open up more commercial ore, and that small capital would find the undertaking a worthy one, if the control could be acquired on reasonable terms, for I believe the geological conditions are indicative of an important deposit of quicksilver within the boundaries of these claims.

However, in this instance, I realize the possibilities are too limited to make the property of further interest to you, and I might add that I believe as a general rule, from my study of conditions relating to quicksilver, that mercury mines<sup>may</sup> as a whole be considered as undesirable for your investigation. Not only is the market demand limited, and not advancing, but the vast resources of Spanish quicksilver mines and their low cost of production would make the operation of American mines impossible were the tariff removed.

The following figures are of interest:

U.S. Production 1910	Total Value	.....	\$957,859.00
U.S. Exports	1910	" "	..... 91,077.00
U.S. Imports	1910	" "	..... 381.00
U.S. Crude Ore Treated 1910	=	123,562 tons.	

Average Yield, .6% or 11.7 lbs. per ton.

Uses. -

Gold milling, placer-mining; manufacture of vermilion and fulminates.

Average domestic price for 1910 was \$46.51 per flask of 75#.

I have gone into detail at my spare time, chiefly in order to have cost and other data on hand for your future reference.

Respectfully submitted,

*J. A. Gault*  
*10/19*

COPY

UNITED STATES SMELTING, REFINING  
AND MINING CO.,  
100 BROADWAY, NEW YORK CITY

For

42 BROADWAY.



FILE	167
SUBJECT	

October 10, 1910.

Mr. D. D. Muir, Jr.,  
c/o U.S. Smelting, Refg. & Min. Co.,  
W. P. Story Bldg., Los Angeles, Cal.

Dear Sir:

Your letter of October 2nd, with re-  
port of Mr. Morris Kirk on the Shoshone Quick-  
silver Mining Company, were duly received.

I should be very glad to hear from  
you what you know of Mr. Kirk and what were  
the negotiations you had with him before re-  
turning to Los Angeles. My experience in the  
new Almaden Quick Silver Mine would not lead  
me to think that the Shoshone Quick Silver Mine  
had much of a chance of developing into a big  
mine.

I sent you a wire, asking you to re-  
port to Mr. Anderson before having received  
your letter; and while I am not very hopeful  
of the Shoshone Quicksilver Mine, I would like  
to know the extent of the negotiations you had  
with Mr. Kirk and the knowledge you may have  
acquired of his capability.

I beg to remain,

Yours very truly,

*S. J. J.*  
Vice-president.

SJJ/AGB

*n y.*  
*Mesa Co*  
*Nevada*

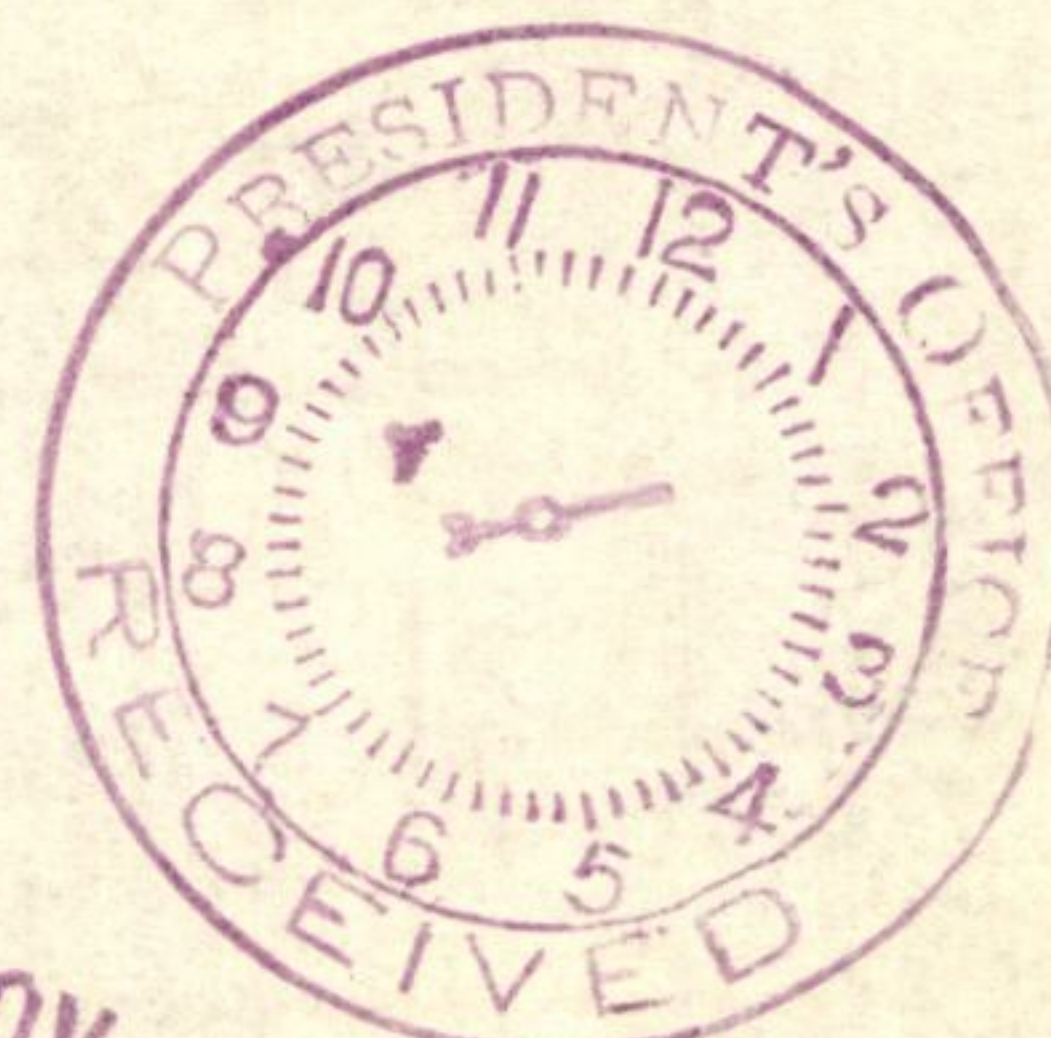
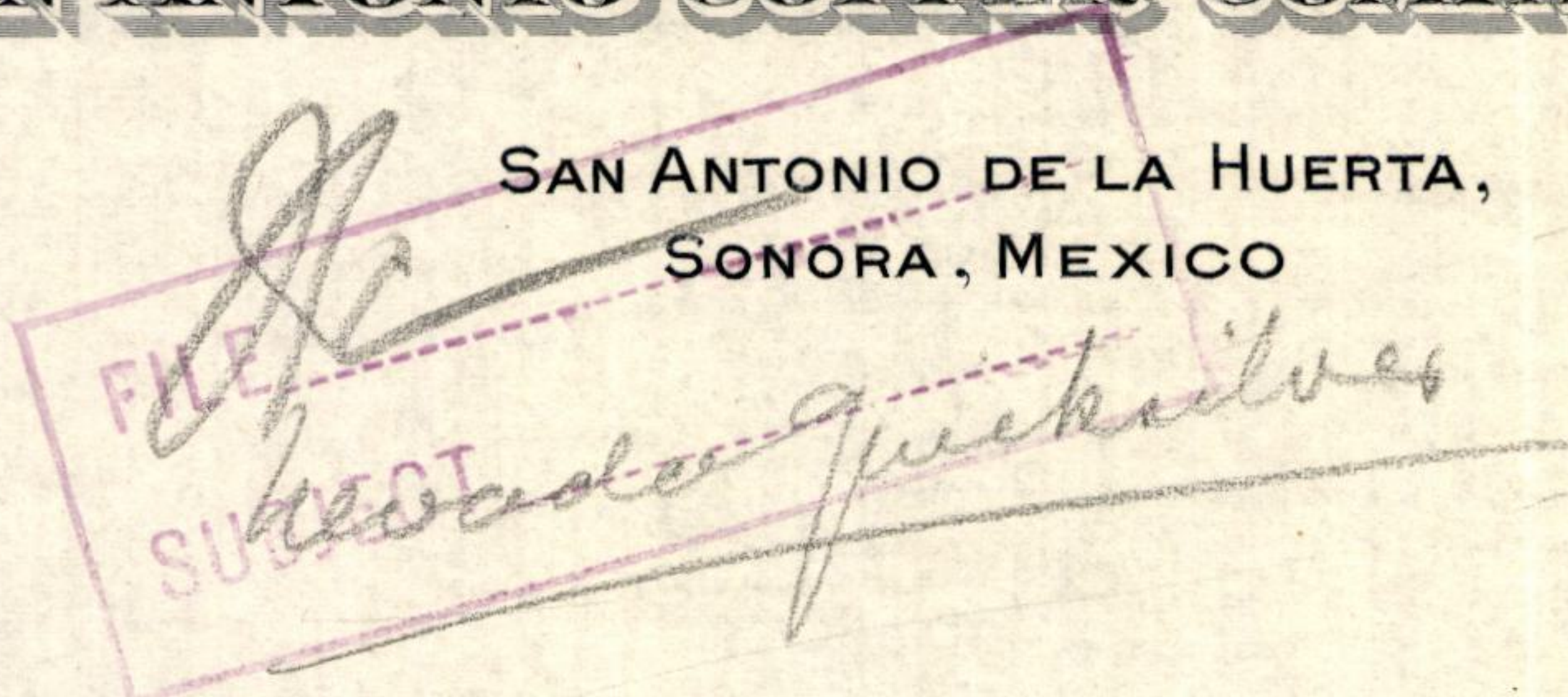
O. C. DAVIDSON, PRESIDENT  
J. A. CROWELL, VICE PRESIDENT  
GEO. J. EISELE, SECY. AND TREAS.  
IRON MOUNTAIN, MICH. U.S.A.

H. F. ELLARD, GENL. MANAGER  
SAN ANTONIO DE LA HUERTA,  
SONORA, MEXICO

## SAN ANTONIO COPPER COMPANY S.A.

SAN ANTONIO DE LA HUERTA,  
SONORA, MEXICO

Nov. 2 1910.



NOV 9 1910

Mr S.J.Jennings.

Vice Pres. U.S.S.R.& M.Co.

Dear Sir;

I beg to acknowledge receipt of your letter of the 21st instance, with enclosed letter of introduction to Mr Courtney DeCalb. I shall endeavor to do my best with this gentleman although I am afraid my connections may be known to him as the Toledo Smelter people knew of them.

I am also in receipt of your letter regarding the quicksilver mine of which I forwarded you report by Mr Kirk. The latter gentleman I have never met and was unable to find any information regarding his record. The last time the property was offered for sale it was upon the following terms: Twenty five thousand for the first 100,000 shares, this to be invested in the installation of new retorts. The next 500,000 shares at twenty cents per share and carrying a bonus of 100,000 shares giving 700,000 shares in all.

This price is undoubtedly high and I think much more reasonable and desirable terms might be secured.

I beg to remain

Yours vert truly,

*Downie D. Munis Jr.*

*Nevada Quicksilver*

Oct 7 1910

Salt Lake

Mr. J. Jennings

Dear Sir,



Please find  
enclosed report on

Shoshone Quicksilver  
Property of which I wired  
you yesterday.

This I think has some  
merit as I have heard  
of it while in Nevada.

The last offer I believe  
was around 20 cents  
a share on 1000000  
capitalization. No doubt a  
cash price considerably  
lower could be made.

Yours very truly,  
Downie Dunnig Jr.



OCT 7 1910

*Mc*  
ECT. *Shoshone*  
*Quicksilver*

Salt Lake City, Utah, May 27th, 1910.

Shoshone Quicksilver Company,  
Salt Lake City, Utah.

Gentlemen:-

As per instructions from your Secretary and  
Treasurer, Mr. W. J. Davis, I visited your property at  
Ione, Nye County, Nevada, and made an examination of  
your mine, and my report which you will find attached,  
I herewith submit for your careful consideration.

Respectfully,

(Signed) Morris P. Kirk.

I N D E X

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THE SHOSHONE QUICKSILVER MINING COMPANY

LOCATION

The Shoshone Quicksilver Mine is situated in the Union Mining District, two miles east of Ione, Nye County, Nevada.

It is reached from Battle Mountain, Nevada, a point on the Southern Pacific Railway, 300 miles west of Ogden, Utah. From Battle Mountain the train leaves three times weekly, over the Nevada Central Railway to Austin, a distance of 93 miles, from Austin you go by stage to Ione, 57 miles.

It lies on the western slope of the Shoshone range of mountains, which rise to an elevation of 8000 feet, at the mine the elevation is 7200 feet. It is situated in Latitude North 39 deg. and Longitude 117 deg. 30 min. West.

PROPERTY

The property consists of 25 unpatented mining claims forming one contiguous group, covering an area of 484 acres. These claims are known as follows: Red Ants, Black Ants, Black Ants No. 1, Norman, Norman No. 1, Norman No. 2, Norman No. 3, Norman No. 4, Mollie Thompson, Mollie Thompson No. 1, Mollie Thompson No. 2, Mollie Thompson No. 3, Shoshone, Shoshone No. 1, Hg., Hg. No. 1, Hg, No. 2, Hg, No. 3, Hg, No. 5, Hg, No. 6, Hg, No. 7, Hg Fraction, Hg, No. 4, Baltimore and Baltimore No. 1, (See Map No. L, attached).

### History

This mine was discovered in 1907 and was acquired by the present company in that year.

### ADJOINING PROPERTY

On the north end of the property, adjoining the Mollie Gibson, Mollie Gibson No. 2 and Norman claims are the workings of the Mercury Mining Company, this property has just been purchased by Tonopah people. The ore occurs in rhyolite, adjacent to quartizite and limestone.

To the west lies the old and productive old-silver camp of Ione, whose history dates back to 1884, and it was in the workings of these properties that colors of cinnabar was first found.

### TOPOGRAPHY

The principal topographic feature of this immediate section are the numerous small mountains which are intersected by canons which in places widen out into small valleys, containing 100 acres or more. In places the sides of the mountains have abrupt rough walls which disclose the geology of the section. The small valleys are as a rule filled with the overburden brought down from the hills.

The drainage is into Ione valley, which parallels the Shoshone range of mountains on the west and which is some 1000 feet lower in elevation.

### GEOLOGY

The rocks involved in the geology of this property consist of Limestone, Rhyolite, Quartizite and Phonolite

and Tuff.

Taking the total surface of 484 acres, I find that the limestone is exposed in one claim, the Mollie Thompson No. 3, and the quartzite on Mollie Thompson No. 2, the balance of the surface is covered by the Rhyolite, and Tufaceous overflows, with the exception of the Baltimore claims, where a rock resembling a granite porphyry is overlying the rhyolite.

How thick the rhyolite capping is, I was unable to determine, except at what we will call the rhyolite workings where the work done in the mine has shown it to have a thickness of from 30 to 60 feet and lies upon the phonolite, this contact has a dip to the northeast of 9 degrees.

Beginning on the Hg. No. 4, claim and extending S. 5 30' E is an igneous dike, resembling diabase, this dike which has cut the rhyolite and phonolite, extends through Hg. No. 5, and into Hg. No. 7, claim where it is covered from view by the overburden. The ore zone on which is located the Phonolite workings, follows this dike, on the west side for a distance of some 3000 feet, the ore occurring in the phonolite, where exposed, and in the rhyolite. On the Hg. No. 4, claim at the Phonolite workings there is a large fault plane which is filled with broken masses of phonolite and diabase. Whether this fault plane follows the diabase dike or not, I cannot say.

#### FORMATION OF ORE BODIES

The formation of this quicksilver deposits is due, no doubt, to the great igneous activity which has taken place

and their source was from the limestone beds below, there deposition is due either to aqueous solutions alone or to aqueous-igneous activity, as they are usually found near scenes of great volcanic action.

#### OCCURENCE OF ORE

The ore occurs as cinabar (sulphide of mercury) and in the phonolite it is disseminated through it in minute specks also along the fracture planes it forms a coating. In the rhyolite it occurs in narrow veins from one-half to three inches in width, it is also disseminated through the rhyolite on each side of these veins for a distance of from two to eight feet. These small veins have a strike of No. 80 deg. W. with a dip to the N. E. of 77 deg. from the horizontal. They outcrop at the surface and have been exposed for a distance of 250 feet. They follow the rhyolite down to the phonolite contact which they then follow in the same course but with a dip<sup>of</sup> only 9 deg. towards the diabase dike.

#### SURFACE IMPROVEMENTS

The improvements consist of building containing 9 retorts, lime house, ore house, boarding house, bunk house, office, etc., all buildings are in excellent condition being practically new.

#### FUEL

Wood is used for fuel and there is an abundant supply to last for years. It is of excellent quality, consisting of pine, cedar, etc. A payment of \$1.00 per cord has to

be made to the government as it is situated in the To-Ya-Be forest reserve. It costs \$5.00 per cord delivered at the mine.

#### WATER

There is a spring of excellent water at the camp which is sufficient for all future purposes.

At the rhyolite workings a little water makes in the rhyolite and while it is not of sufficient quantity to interfere with your operations, it is likely that you will get sufficient for steam purposes at the mine.

#### EXTENT OF WORKINGS

There has been some 600 feet of development work done (exclusive of assessment work and prospect holes) mostly in the rhyolite workings. It consists of shafts, winzes, drifts, crosscuts, etc.

#### ASSAYS

Below is a list of samples taken by me and the results obtained. By referring to maps 1, 2, & 3, you will see from what part of the workings they were taken.

No.	Width of Sample	Percent of Mercury	Value in \$ per ton
1.	23 ft., 9 in.	0.28 %	\$ 3.52
2.	23 ft.	2.11 %	26.58
3.	20 ft.	2.18 %	27.46
4.	17 ft., 3 in.	1.91 %	24.06
5.	15 ft.	1.70 %	21.42
6.	3 ft., 6 in.	1.57 %	19.78
7.	4 ft.	0.31 %	3.90

No.	Width of Samples	Percent of Mercury	Value in \$ per ton
9.	6 ft.	10.96 %	\$132.09
10.	4 ft.	2.11 %	27.58
11.	17 ft.	0.07 %	.88
12.	3 ft.	1.05 %	13.25
13.	3 ft.	0.03 %	.37
14.	30 ft.	0.13 %	1.63
15.	14 ft.	0.60 %	7.56
16.	12 ft.	1.42 %	17.89
17.	12 ft.	0.06 %	.75
18.	4 ft.	1.02 %	12.85
19.	4 ft.	2.12 %	26.71
20.	----	0.16 %	2.01
21.	----	0.08 %	1.00
22.	0. ft. 10 in.	1.40 %	17.64
23.	0. ft. 6 in.	0.23 %	2.90

Samples 2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 16, 18, and 19, are from the rhyolite workings and were taken at right angles to the ore zone. (See map No. 2).

Samples 11, 13, and 14, are from the rhyolite workings but were taken outside the ore zone. (See map No. 2).

Sample No. 9, is from a rich streak of ore on the left side of the main or west drift in the rhyolite workings and is a cut taken 6 feet at right angles to the streak.

Samples 20, 21, and 22, are from the open cuts next to the diabase dike in the overburden.

Sample No. 23, is from the phonolite workings and at right angles to the mineralized area.

Sample No. 17 is from the rhyolite workings, but taken in the phonolite, below the rhyolite, in the winze.

#### ORE EXTRACTED

The ore extracted from the mine came from the rhyolite workings and consisted of some 175 tons of hand sorted ore. It was treated in the retorts and 316 flasks of quicksilver were recovered and which was sold for some \$14,000.00. As the recovery was not more than 70 %, this ore had a gross content of some \$20,000.00.

As the loss by retorting is very great and the method a costly one, the company have for the present abandoned this method of treatment.

#### ORE IN SIGHT

By ore in sight is meant that which has been exposed on four or at least three sides, which can be sampled and its values in place determined. While the ore hereinafter mentioned is not fully exposed, yet it is sufficiently so to warrant calling it developed.

It consists of a block of ground in the rhyolite workings (which I have outlined in black dotted lines on map No. 2) varying in depth from 27 to 57 feet, with a length of 170 feet, by a width of 23 feet. This gives some 164,500 cubic feet. Allowing 20 cubic feet to the ton (this ore is very light) it gives us 8,225 tons. With a value of \$20.73.

The above cubic feet is obtained after deducting the ore already extracted (which has been treated in the retorts).

There is also a block of ground, which begins on the

southeast end of that outlined in black and extends southeast to, and possibly beyond, the open cut from where sample No. 19, was taken. This ground is partially developed but not sufficiently to make any estimates as to its tonnage and value as it is covered with overburden except where disclosed in the open cut. Sample No. 19, gave 2.12% of mercury worth \$26.71 per ton.

At the phonolite workings there has not been sufficient work done to determine the amount of ore available and it is not nearly as good a grade of ore as that in the rhyolite and I cannot make any estimated as to the amount in sight nor the grade. The one sample taken in an open cut over 23 ft. 6 in. gave 0.23% mercury worth \$2.90 per ton.

#### PROBABLE PROFITS

There is, as stated above, some 8225 tons of ore exposed, which averages 1.62% mercury, worth \$20.73 per ton, with quicksilver selling at \$48.00 per flask, F. O. B. San Francisco, Calif. (See quotations May 19, 1910). This would give a total gross content of \$170,500.00. Allowing an extraction of 90% (which is a conservative estimate based on modern practice), this would give a return of \$153,450.00 in quicksilver. A modern 20 ton furnace of the Scott type, would cost some \$17,500.00 erected at the mine. With labor at \$4.00 per day and wood at \$5.00 per cord, it would cost you \$1.50 per ton for treatment.

The ore could be mined by a large open cut and should not cost more than \$3.00 to mine and deliver to the furnace.

Your general expense such as selling, office expenses,

etc., should not amount to more than 50 cents per ton.

Below is a summary of the expenses to be occurred in mining, treating, selling, etc., of the ore in sight.

VALUE:

8225 tons	At \$20.73 per ton with 90 % extraction	\$153,450
-----------	--------------------------------------------	-----------

COSTS:

Mining	at \$3.00 per ton	\$24,675.00	
Treating	at 1.50 per ton	12,338.00	
Selling,,etc.	at .50 per ton	4,112.00	
Cost of furnace.		<u>17,500.00</u>	<u>58,625</u>
Leaving a profit of - - - - -			\$ 94,825.00

FURNACE

While you might be justified in erecting a furnace of 20 tons daily capacity, to help pay the expenses of the development of your property, it would be more conservative on your part to proceed with the development work for another year before deciding the furnace question and in the mean time it is more than likely that you will develop sufficient ore to warrant the erection of a larger furnace, with its decreasing cost of erection in proportion to its size and the corresponding smaller cost per ton of treating. This would enable you to treat a much lower grade of ore at a profit.

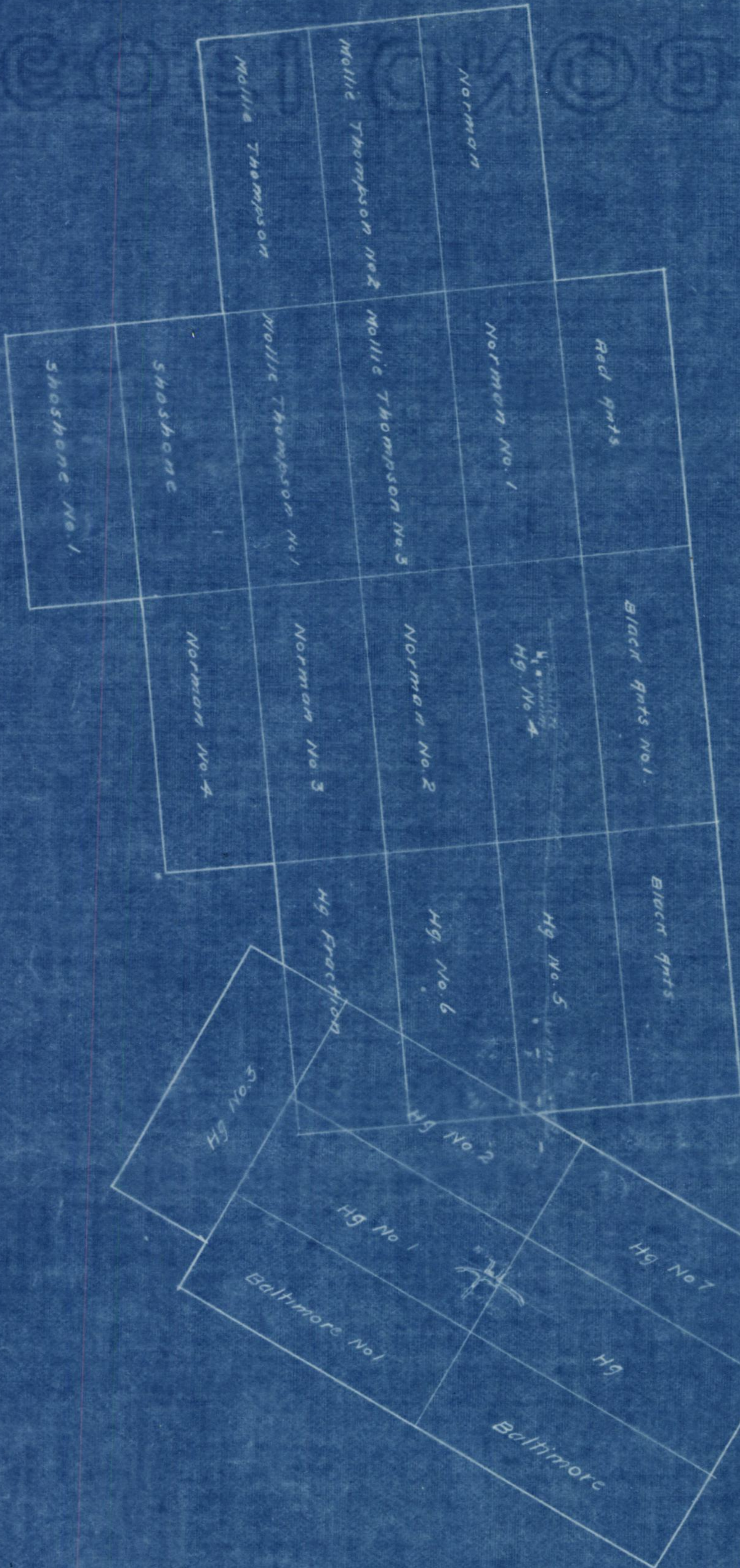
The furnace that I would recommend for your consideration is the Scott-Hutner, built by Robert Scott, of San Jose, Calif., it is of a shaft type, built in sizes of from 10 to 50 tons daily capacity, it is used almost entirely throughout the

quicksilver camps of the United States, and is the result of a great many years of experimenting at the new Almaden mine in California. The principle is the vaporization of the quicksilver by heat, and the condensation of the vapor into metallic quicksilver by air cooled chambers called condensers. This the Scott furnace does in a cheap and efficient manner, and makes a recovery of at least 90 Percent of the values.

(A full illustrated description of this furnace by Christy, is contained in the Transactions "American Institute of mining Engineers" for 1884, Vol. XLIII).

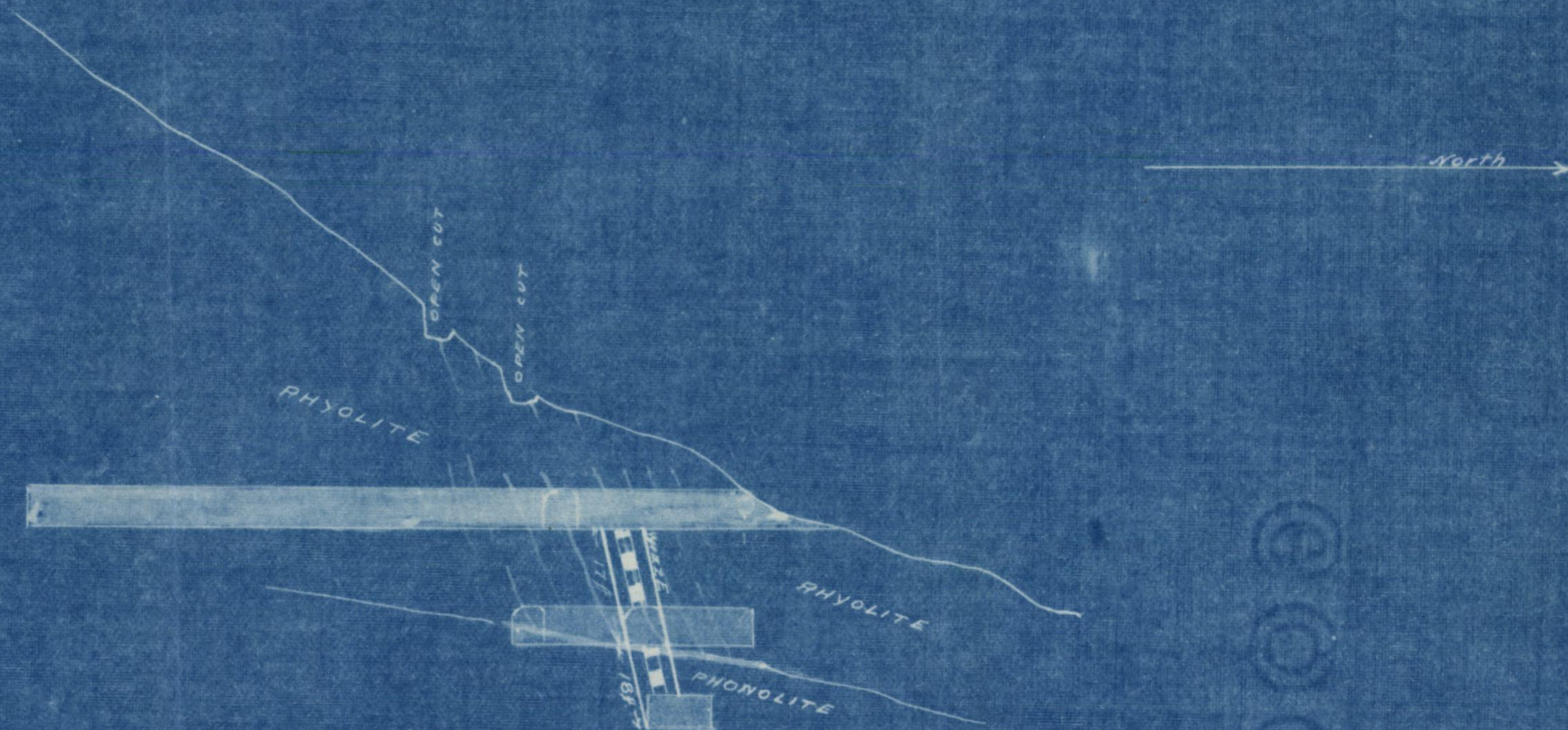
#### FUTURE PROSPECTS

While you have partially developed some ore of low grade, in your phonolite workings, it is to the ore in the rhyolite that you can expect the best results. The ore body so far exposed has a thickness of some 57 feet, at which depth it encounters the phonolite, and judging from its course in the winze (see map 3) there is an enrichment at this point, it lies on top of the phonolite, making in the rhyolite, and dipping to the north and east at about 9 degrees, following the phonolite and rhyolite contact towards the diabase dike, which is some 450 feet to the east. While most of this ground, between the rhyolite workings and the diabase dike is covered with overburden and you cannot see the rhyolite in place, it is possible that it contains more or less ore and it is possible that it extends clear to the dike, at any rate you should find your richest and largest bodies of ore where the rhyolite and phonolite contact encounters the diabase.



North

Map  
showing claims  
Shoshone Quicksilver Mining Company  
Union Mining district  
Nye County  
Nev.  
Scale 1 in. = 1000 feet.



vertical section  
 along line A-B on Map No. 2  
 Shoshone Quicksilver Mng. Co.  
 scale 1-in = 30 ft

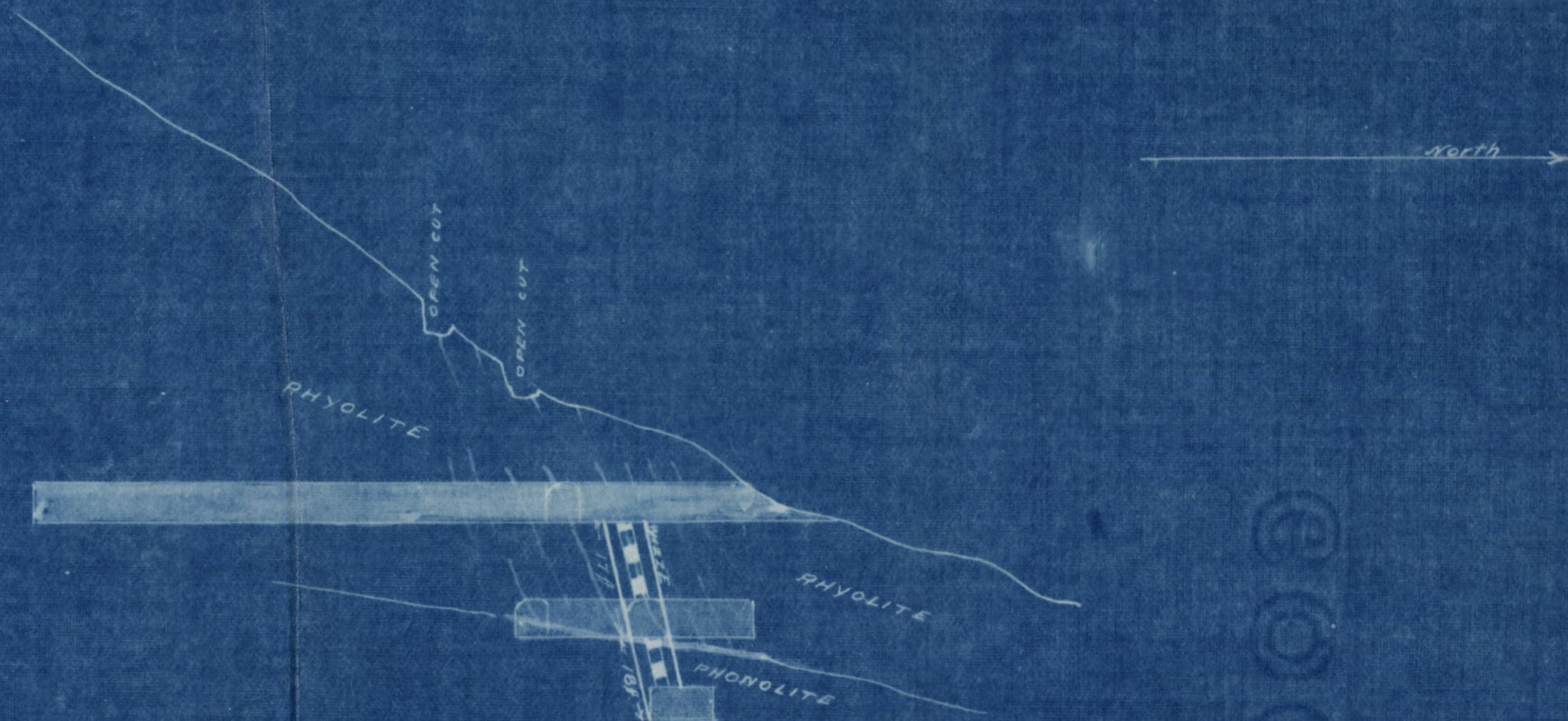


ideal section  
 Through Rhyolite workings  
 Shoshone Quicksilver Mng. Co



OPEN  
#15  
cut

Map of  
Rhyolite workings  
Shoshone Quicksilver Mining Co.  
scale 1-in = 30 ft.



vertical section  
 along line A-B on Map No. 2.  
 Shoshone Quicksilver Mng. Co.  
 scale 1-in = 30 ft