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Tehama mine

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Item 3

RENO OFFICE
RECONSTRUCTION FINANCE CORPORATION
FIELD REPORT

Docket No. B-ND-4636

Date Application Received — November 3, 1942
Date of Field Examination — April 20 - 22, 1943
Date of Report — May 8, 1943

NAME AND ADDRESS OF APPLICANT

Chas. A. Green
63 Vine Street
Reno, Nevada

NAME AND ADDRESS OF CORRESPONDENT

Same

CHARACTER OF PROJECT

To develop by extending an adit, ore containing Silver, Gold, and a little Copper, and mill the ore on the property, marketing concentrates at smelters.

LOCATION OF PROJECT

In Humboldt Range, 10 miles south of Imlay, Pershing County, Nevada.

APPLICANT'S INTEREST IN OR OWNERSHIP OF PROPERTY

Held by Applicant under lease with option to buy, which expires October 17, 1945. Ten per cent royalty on net smelter returns.

Applicant is known locally as a promoter, who has unsuccessfully attempted to promote this property over a period of about 12 years. He is not represented as being financially responsible, and is reputed to be careless in the payment of obligations.

LOAN REQUESTED

Loan requested is $7500.

LOAN RECOMMENDED

None

SUMMARY

This report deals only with the physical conditions at the Tehama Mine that in the opinion of the writer are pertinent to the problem at hand. The application itself furnishes a multiplicity of details that are not repeated herein. The controlling factors necessary to a decision, or in explanation of the reasoning leading to such decision are set forth. The contradictory evidence presented in the application in reference to the assay values, and the solving of it, at least to the satisfaction of the writer, was the key point around which the examination was made, and with which this report deals.

Cost data as estimated by the Applicant are accepted for purpose of argument, although the writer believes they are too low. Applicant's estimate of value of ore to be produced is not accepted, but the figure used in the final analysis is derived largely from Applicant's data.

The project is considered unfeasible from the standpoint of the R.F.C. but is not condemned as a prospect worthy of speculative capital.

APPLICANT'S OBJECTIVE

The application is for a loan of $7500 to provide some machinery,

for mining and milling, and for operating expenses over a 60-day period. The Applicant proposes to drive ahead from the face of an adit 225 feet long to a point 200 feet distant, where he expects to find an enriched ore body. The expectation is based upon the presence of a small amount of copper carbonates that can be seen on the croppings.

He expects to mine and mill 16 tons per day at a profit of $3.60 per ton, the ore being taken out in the process of driving ahead. He proposes to carry this heading 10 feet high and 5 feet wide. He estimates the mining can be done with "1 tool dresser and machine runner, 1 helper and trammer, 1 foreman and assayer," and adds 1 cook, power, powder, insurance, etc., to make a totalcost of $2.85 per ton.

He expects to operate the mill at full capacity (16 tons per 24 hours) with 4 men, at a cost of $3.00 per ton, plus 90 cents per ton for marketing. He bases his profits on an assay value of $16.73 per ton, but reduces this to $14.26 as the probable smelter settlement basis. This is his own sample of the breast of the adit, and the entire project is built around that single sample. Engineer Sharp's sample taken at that point assayed $1.27, and the writer's sample taken in the presence of the Applicant assayed $0.14. However, the footwall branch of the adit, dug since Sharp's examination assays $4.28.

DESCRIPTIVE

In 1940 a drift branching off from the main adit toward the footwall about 45 feet back of the face was driven on a veinlet that contained a more than average amount of tetrahedrite. The mineralization in this vicinity is in more or less flat structures that dip 5° to 15° North, toward the adit face. In seeking ore for a mill test these were followed in the footwall drift, and in under hand stoping. The ore extracted was milled and the concentrates sent to the International Smelter, and American Smelting and Refining Co.'s smelter near Salt Lake City, Utah. The Applicant does not know, or will not reveal, the number of tons milled to produce the 1½ tons of concentrates. He does state that the ore concentrates at the ratio of 15 - 16 to 1. This checks fairly well with smelter assays and the mill heads assay by a local assayer. However, it brings out the fact that the mill heads value was about $10.00 per ton. About 200 tons of material was mined, which produced by selective mining and sorting about 22 tons that were milled.

The Applicant's principal objective is to drive the adit ahead with a 5 x 10 foot face, thereby producing enough ore to keep the mill running, and (with heads running $14.26 per ton) pay the way out. He estimates he will thereby "block out" 20,000 tons of such ore.

Accompanying the application are reports by Wm. Sharp, a reputable mining engineer, and some geological descriptions by Durand Hall. Sharp's assay map with surveys is furnished. There is a complete inventory of mine, mill and camp equipment, and detailed cost estimates.

The objective in this examination was principally to check assay values in the vicinity of the proposed development, and determine its feasibility. A study of Sharp's assay map and other data presented indicated the possible presence of ore at only two points, both being between the shaft and the face of the adit.

A study of the surface revealed an area about 500 feet long and 100 feet wide composed of silicified rhyolite flows, tuffs and breccias. The degree of silicification varies in different parts of the area. The enclosing formation is schists, limestones, and more or less carbonaceous shales and slates. The east side of the mass is bounded by a fault and is called its footwall. It is a premineral fault, and is the locus of several generations of mineralization. Cross faults are numerous and lateral shearing more or less conformable to the

bedding of the tuffs and flows is evident in places.

Copper is present in small quantities primarily as chalcopyrite, with tetrahedrite occurring in thin veinlets, nodules or irregular shaped splotches. The tetrahedrite is the principal metal bearing mineral, and is secondary in the sense that it undoubtedly followed the original silicification. The vein structure at the points where tetrahedrite is most abundant shows both lateral movement and cross fissuring. A small stope and upraise near the shaft was made on one of these "shoots", and another more recently along the footwall branch and underhand stope of the main adit.

Correlating the structural features with the assay values shown by the various samples it appears that there is an ore shoot having one edge along the footwall, with its long axis parallel to the footwall, and pitching northward at about 15°. This ore averages about $10.00 per ton as mined.

It is evident from the reports and samplings of Hall and Sharp that the mass of silicified rhyolite formation contains a small amount of copper, gold and silver, but development to date indicates that as such it has no economic value. Along the footwall fault there has been greater enrichment, yet only the more highly fractured and sheared zones or horizons contain ore that approaches commercial grade. Even in these areas the values are erratically distributed. The points where samples were taken for this report were selected with the view of giving the most information and to check others that had been taken. The results are shown on the accompanying plat, which was traced in part from the Sharp map filed with the application.

The following table is given to show the comparison, between various samplers and Applicant's statements.

No.	By Whom	Width	Oz. Au	Oz. Ag	% Cu	Location and direction of cut
323	Stoddard	10'	.06	4.0	0.75	45' back of face adit - across roof
13	Sharp	8.5'	.02	9.0	.80	" " " " " " "
22	Engineer Schrader	10.5'	.09	23.0	0.25	" " " " " " "
320	Stoddard	6.0'	Tr.	1.4	1.1	Face N. branch Main Adit (vertical)
A	Green	?	.035	9.57	2.6	" " " " "
322	Stoddard	6.0	0	.2	Tr.	Face Main Adit - (vertical)
11	Sharp	4'	.01	1.20	Tr.	" " " (horizontal)
325	Stoddard	6.4'	.06	3.6	0.20	N. face upraise stope - (vertical)
14	Sharp	10.2'	.01	3.0	.6	" " " " (horizontal)
327	Stoddard	6.6'	0.10	11.6	1.2	4' back S. face upraise stope (vertical)
12	Sharp	4.3'	Tr.	.9	Tr.	Between Sharp's Nos. 11 & 13 - roof
19	Tullis	roof	.10	10.1	2.2	Shaft to face - (Green)

All of Applicant's calculations are based upon his Sample A. It is the writer's opinion that the ore occurs in a shoot as previously described. If this is correct, Samples 13 and 22 cut the shoot horizontally where the shoot crossed the roof of the adit. Sample 323, taken after most of this ore was taken out, missed the best part of it. The north end of the upraise stope (Sample 325 and 14) is above the shoot, and the south end below it. Sample 327, taken 4 feet back of south face of the stope is just within it. Green's Sample A was probably taken in the face of the underhand stope in the north end.

The Tullis' sample could have been taken along the roof of the adit, but entirely within the shoot, and his results obtained. It was obviously not taken over the whole length of the adit roof from the shaft to the face, as stated by Applicant. The average of the six samples apparently taken within the shoot is Au .067 oz., Ag 11.2 Oz. Cu 1.3%.

A test run of the mill produced 1 ton of concentrates from about

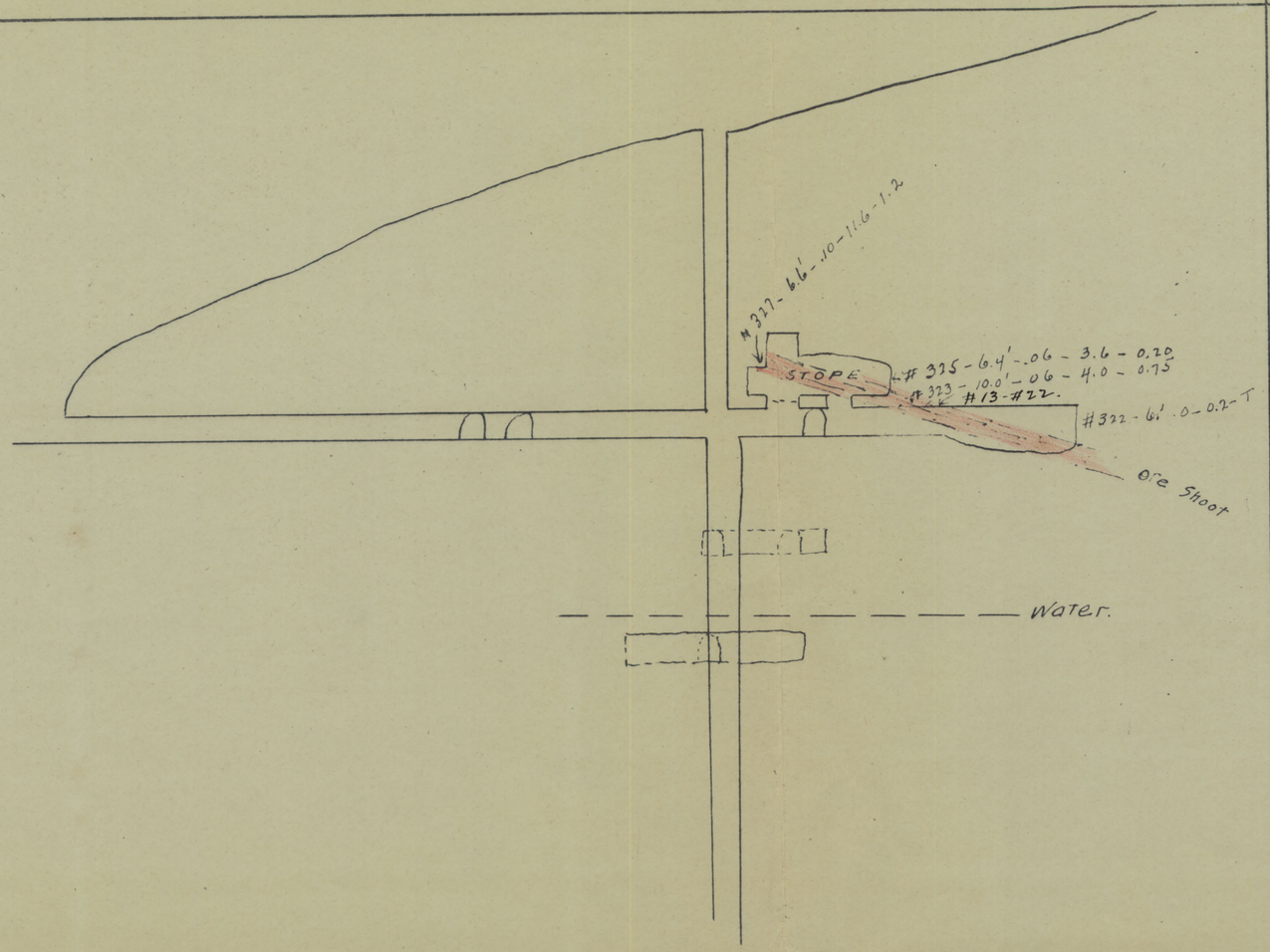
22 tons of ore. (The latter figure is calculated from the stated ratio of concentration, 15 or 16 to 1) The mill heads assayed au .03oz., ag 10.1 oz., cu .7%. This is slightly lower than the average noted above, but is probably the best evidence of the assay value of the minable ore in the shoot. Its gross value figuring copper at 14 cents is $10.18 per ton. Subtracting smelter deductions on gold and silver, plus a 20% mill loss and the value shrinks to $7.55. Applicant's estimate of mining, milling, marketing and royalty costs is $7.80.

Conceding Applicant's estimate of costs is not underestimated (which the writer does not) it is evident the property cannot be worked at a profit on the basis of its present showing. It is quite obvious that Applicant's proposed development, the driving of the adit ahead, is impractical. Even though an incline were driven down the pitch of the ore shoot, it would not pay its way unless values materially increased.

In its present status the mine offers no faces of ore that warrant development with a reasonable expectation of paying a profit, or producing an appreciable amount of metals vital to the war effort. It is recommended that the loan be not granted.

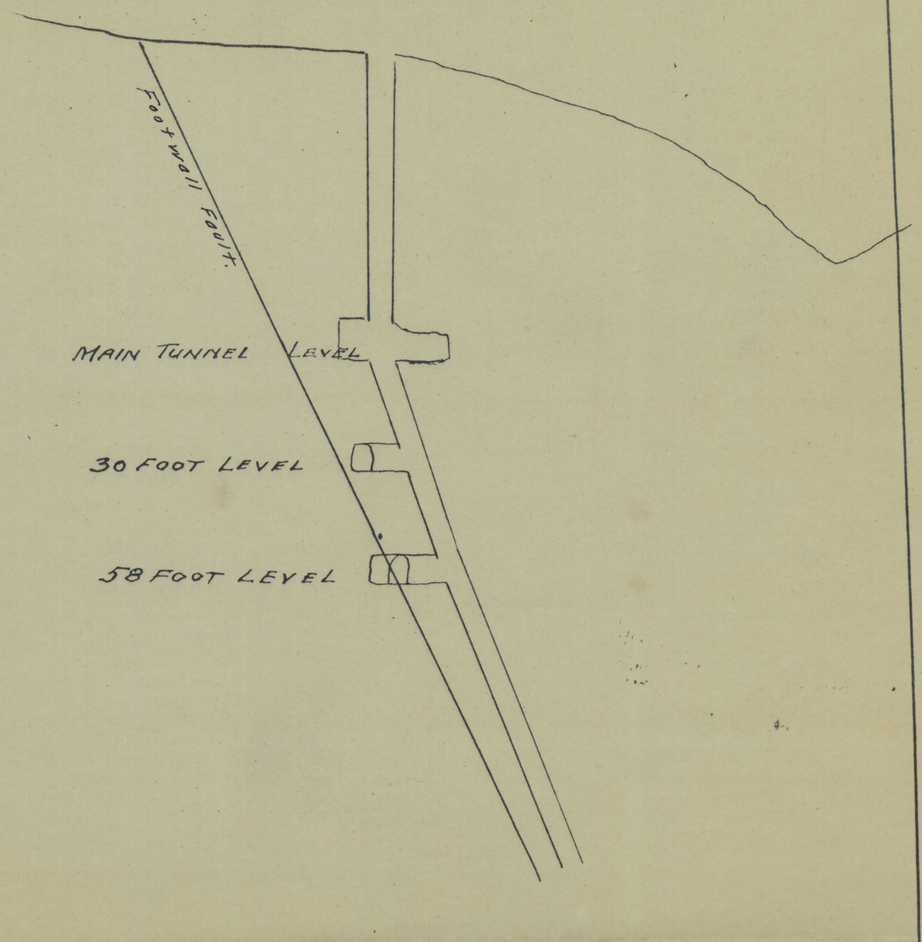
Carl Stoddard

CARL STODDARD
Engineer



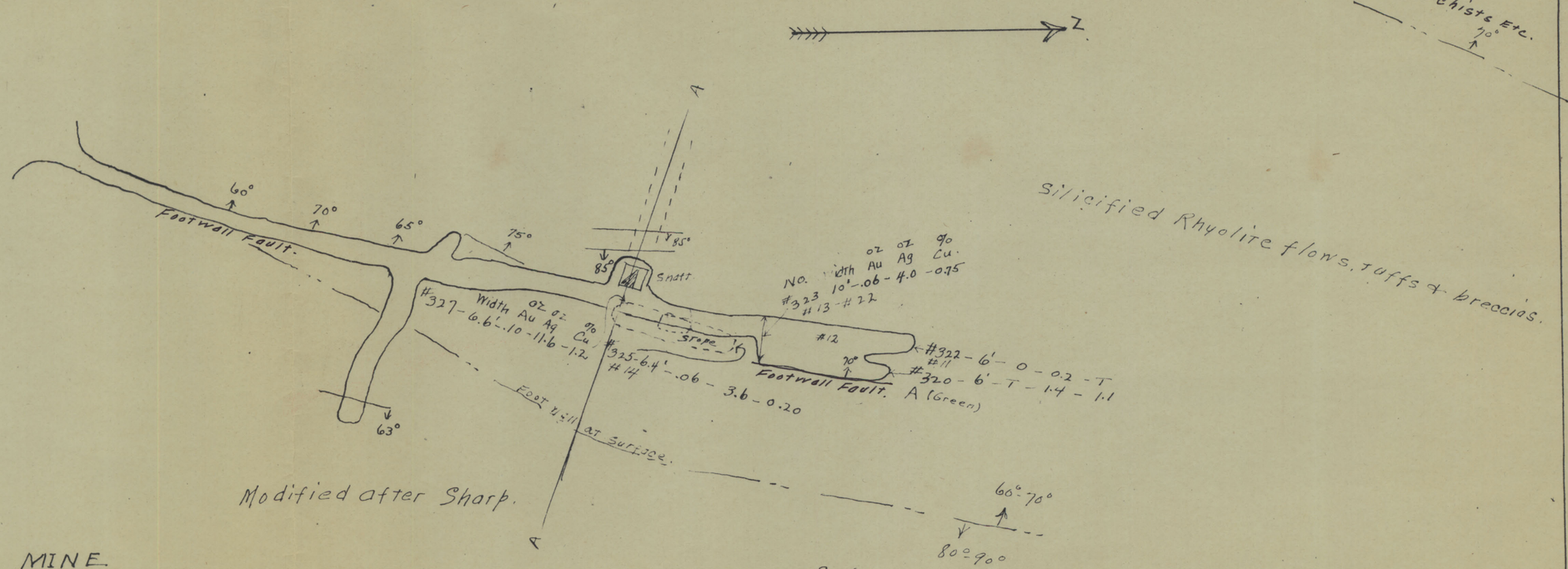
LONGITUDINAL SECTION THROUGH MAIN TUNNEL

scale: 30' = 1 inch (after Sharp)



CROSS SECTION THROUGH A-A

(after Sharp)



Modified after Sharp.

PLAN

scale: 30' = 1 inch

TEHAMA MINE

Pershing County, Nevada

Docket No. BND-4636.

5/1/43