2530 0022

(247)
Item 65

PRELIMINARY REPORT NO. 1

JEFFERSON CANYON SILVER PROJECT

NYE COUNTY, NEVADA

AUGUST 1967

TUMA CORPORATION
INC.

by

Einar C. Erickson

PRELIMINARY REPORT NO. 1

JEFFERSON CANYON SILVER PROJECT
NYE COUNTY, NEVADA

1. INTRODUCTION

1. GENERAL:

During July, at the request of W. Maxfield and on behalf of Tuma Corporation, Inc., silver properties in the Jefferson Canyon area of Nye County, Nevada were examined, reconnaissance field work was conducted for the purpose of taking samples to ascertain the possible merit of the property for future activity, prospecting, and detailed evaluation. The purpose and scope of the work was mainly to obtain samples to determine the relative value of silver on the property, to deduce the possible future possibilities of silver in unmined and unprospected portions of the area, and to recommend action, if such was indicated by results of the sample work, on the property.

The writer was accompanied on the field trip by W. Maxfield, and W. Gergen who represented the owner of the property.

2. LOCATION OF PROPERTY:

The two patented claims, subject of this investigation, are located in Section 24 of Township 10 North, Range 44 East, in Nye County, Nevada.

The location of the area is shown on the NJ 11-5 Map which accompanies this report. The area is unsurveyed, and other than the small scale topographic map NJ 11-5, there seems to be no other map control for the area. Research into the geological literature is being made to see if there has been any detailed work, published or unpublished that might be available to permit some basis for future work, though perhaps most of the work that may be required will have to be original work.

The property is located about eight miles east of Highway 8A, and about 6 miles from Round Mountain where a dirt road permits access to the properties through Jefferson Canyon.

The properties are located in the Toiyabe National Forest on the Toquima Range.

3. ACCESSIBILITY:

The properties are near the head of Jefferson Canyon, and are accessible over dirt roads partially maintained by the county in the canyon for recreational purpoes. Sometimes rains do a little damage to the road, but any operation contemplated for the area would have county assistance in maintaining the roads.

The access road leaves the north side of Round Mountain, a small gold camp just a few miles off of Highway 8A. The area is about 56 miles north of Tonapah, Nevada, which would be the chief center of supplies, labor, and accessory facilities needed to sustain an operation.

The property is in the drainage of Big Smoky Valley, and contains several advantages for any mining operation that might materialize. In general, the property is very accessible.

4. WATER:

The remote nature of the area would probably dictate that ores up to $100.00 in value per ton be upgraded and concentrated. For such activity plentiful water is required, and Jefferson canyon is one of the few canyons with a very plentiful supply of running water. An excellent stream runs through the property and water rights could be filed for to obtain what might be required for a concentrating facility-possibly a flotation mill.

5. VEGETATION:

The upper portions of the adjacents,and Jefferson Canyon itself, contain wooded zones that would be available for timber, and once did sustain a saw mill operation. Any operation that might be contemplated in the area might desire to investigate the re-installation of a saw mill plant. This would supply timber for mining operations, building-construction, and associated requirements for a permanent type operation.

6. HISTORICAL BACKGROUND:

Jefferson Canyon was originally the site of the discovery of the Kanrohat mine, situated at an elevation of about 6,700 feet. The district was discovered in 1866 and became quite active by 1871 when it was oficially organized as a Mining District.

There were two original producing mines, the original Jefferson, and the Prussian. The Original Jefferson has only been recently called by that name, originally it was the Kanrohat mine. Kanrohat discovered another mine in 1873, it was only a meager producer.

This last mine discovered by C.J. Kanrohat in 1873 was known as the Sierra Nevada. The original Jefferson was also known as the South Prussian, and was located on the southeast end of the silver lode zone. On the northwest end, the mine there was known as the Prussian.

Both of these mines were on the same vein system, which strikes northwest and dips steeply to the northeast. Both properties had sufficient ores to justify the erection of mills. The ruins and remains of these old mills are in part still extant in the area.

7. PRODUCTION:

What records are available shows there was considerable production in silver from the area, but no payments were ever made for the copper-zinc-lead associated with the ores. In fact from the records it would be difficult to deduce that there was accessory values in the base metals associated with the high content of silver mined in the early days.

During 1869-1890 the records show a production of $473.295. Unrecorded production was also known, but cannot be estimated.

The mills were then erected and the records show that at least $1,000,000.00 was produced in bullion from the mills, one report (Packard) shows that for one year alone the mills produced $200,000.00.

On the basis of the old production records and limited records for more recent work in the area it can only be stated that the production was between $1,000,000.00 and $10,000,000.00

8. GENERAL GEOLOGY:

The Prussian mine is located on the northwest end of the vein system. The vein is on the contact of Ordovician shaly limestone with late Tertiary rhyolite porphyry, However, there is some question as to the age of this acidic rock. The felsic rock is on the hanging wall or northeast side.

Workings along the vein indicate that it can be traced for several thousand feet. Some of it is unexplored. The possibilities of systems below or above, with structural control, appear to have never been investigated. No drilling has been in the area to check out such a possibility. The origin of the system is not known, and the magmatic chamber which generated the ores and the alteration associated with the ores has not been designated or perhaps even looked for. Geological work in the area has not been done, to the extent that such work would permit detailed answers to the problems of ore genesis, control, and origin.

About 1 mile south of these workings on the Prussian area, the sediments of Ordovician age are intruded by the Cretaceous acidic rocks (granites of Ferguson-but could be quartz monzonites) which extends southernly into the Belmont district. Thus the deposits are on the northern tip of an intrusive system of Laramide age, and this would have implications for a possible copper porphyry type generating source since the mineralogy and elemental suite of the deposits are most suggestive, especially in light of recent U.S. Geological Survey publications, particular on Nevada, dealing with tellurium as a guide to copper porphyry type deposits, with emphasis on one such deposit the writer was involved in near Ely, Nevada and Kennecott's large copper operations there.

The implications are important because the main silver mineral in the Jefferson Canyon area is hessite, a telluride of silver, found abundantly in the Robinson-Ward Mining Districts of eastern Nevada in conjunction with major copper porphyry deposits.

SILVER:

While silver, as described below, is the main objective in the area, and is enjoying a high price and will continue to enjoy a high price, it is important to check out the possibilities that the mineral suite, and the alteration and mineral assemblages might indicate a subsurface or near-surface associated deposit of entirely different dimension and ore complex.

The Prussian vein workings are on the northwest end, said to be owned by Boston interests. That end of the silver lode is said to have been worked by a 250 foot shaft which encountered water at depth and could not be coped with in the early days, but suggests a potential now. The county may own the other workings in the Prussian area, but the records indicate no work has been done on these since the very early days.

Some 4,000 feet of adits explore the southern end of the system, or at least the southern part so far exploited, since the full character of the system is not known.

Work has been eratic since 1917 and several attempts up to 1950 have tried to operate the property with varying success. These include the Brady interest in 1917 out of New York, the Elsa Mining Co, in 1928 which operated a mill for a short duration, and recent investigations in 1950 which did not result in any operations.

Other than the two patented claims on the main property, little is known about the present ownership of the other properties in the vicinity, including the Prussian Vein area.

Houses and equipment in the area are of course now in a

poor state of repair, but the mine workings, openings and general facilities seem to be in a general good condition. Some additional details can be found in the Mineral and Resources of Nye County, Nevada by Kral, University of Nevada Bulletin, No. 3, Geology and Mining Series No. 50.

Many openings have exploited the area in the Main mine area. Two main portals driven southeast prospect and provided haulage tunnels for workings in that direction. Mine working maps are not available, perhaps were never prepared. An effort is being made to obtain patented property plats on the claims, and these will be forwarded when obtained.

The properties were primarily mined for their silver ores, and little attention was given to any by-product or accessory values as mentioned above.

9. SAMPLING:

The sampling activity in July was directed to two objectives:

1 Establish the ratio of silver to copper and lead and to identify the richest ores to permit visual evaluation.

2 To obtain samples for petrogenesis, paragenesis, and detailed petrographic-polished section work to ascertain the alteration and mineralogical assemblages and their possible implications for a possible porphyry copper type ore generating source.

The results of the quantitative and first objective have been obtained and are presented in this Preliminary Report No. 1. The results of the petrographic work will be forwarded and submitted in Preliminary Report No. 2, on the Jefferson Canyon Silver Project.

QUANTITATIVE RESULTS:

Rock Type:	oz Silver	% Copper	% Lead
Sooty Manganese Rock-black:	2.10		
Quartz-chalcopyritic-white:	11.82	2.76	
Quartz-manganese stained-no visible ore mineral:	.24		
Very Vuggy Quartz-visible galena and hessite. Low temperature:	25.76		.95
Quartz-higher temperature variety, massive-speckled-hessite crystals very tiny--:	78.56		

Details of the paragenesis, and sequence of mineralization, and what mineral group or type came first and so forth will be contained in the Preliminary Report No. 2.

The manganese stained rock is clearly of uneconomic importance, and merely reflects the alteration of an original manganese containing mineral, not apparent in the dumps or waste areas. The importance of manganese and its relation to porphyry copper type deposits has been described recently in Economic Geology, and publications of the U.S. Geological Survey. For this reason samples of the manganese rock types are being studied and also were subjected to analysis, and high silver content is found in the sooty variety, but not the stained variety. Some silver perhaps was contained in the original manganese gangue mineral because 2.10 oz silver is found in the sooty type manganese rocks.

Early high temperature veins contain the hessite and the rich silver, up to 78.56 ounces in the speckled rock, and some quantity much more than this in the heavily mineralized rock, samples of which were not sent for anslysis since they were obviously very high grade. Large crystals of hessite can be found in the mine, and some are reported from this mine as being museum specimen type material.

Late lower temperature vein material, containing galena and chalcopyrite, contain much less silver. The copper mineral and the galena, a lead mineral, do not seem to carry silver, they are not argentiferous, but are associated with a late waning phase of silver mineralization, but associated with the implacement of copper mineralization not unlike the Ward Mining District mineralization now being drilled by Phillips Petroluem Company in Eastern Nevada.

The later vuggy quartz zones, reflecting considerable gas, and also lower temperatures, and generally without the chalcopryite or galena, contains hessite and good silver.

The ores will run from nearly $20.00 to nearly $150.00 in silver content and can carry considerable values in copper and lead-locally.

The mine does have a potential, therefore, in terms of silver production, but the methods of the past utilized in evaluating the vein system would not be applicable, modern methods of cheap and fast surface-subsurface drilling are now available. Structural mapping and modern geological techniques can now be employed, and geochemical and mineral gensis methods are now available to evaluate and interpret the mineralogy and alteration facies. It is believed that these methods may be able to establish unmined portions of the system, and perhaps open up another target potential entirely-that of a porphyry copper type ore generating source.

The evidence now available, suggest that there were three episodes of silver mineralization. The vein system may reflect only one or more of these at any point, where they all overlap or occur together, such areas would constitute important centers to prospect and evaluate in detail.

The laboratory work on the samples subjected to rock analysis and to be reported in the future report of this series, will provide definitive data on the origin of the mineralogy and its sequential deposition, and indicate many directions further work can take in the field. That report will be assembled as soon as the results have been obtained from the laboratory.

10. CONCLUSIONS:

There are many aspects of the Jefferson Canyon area which invite detailed work, these include the geological setting in a Laramide igneous intrusive belt, and 75 % of copper porphyry type deposits originate in such belts; intense mineralization in a system of veining not studied in detail; more than three phases of mineralization, including at least three silver phase, one associated with chalcopyrite (the primary ore and chief source of most copper deposits) and galena. The mineralization occurred as pulses from a waning temperature-pressure gradient system generating the ore deposits, and this has implications as well as to the nature of the mineralization and the nature of the source. Parallel, or zones below the present exploited zone have never been prospected for, and should be.

The quantitative silver assays show excellent silver, and hold out promise for high grade silver at depth, especially associated with the early higher temperature mineralizing activity.

The area enjoys an excellent setting, is accessible, could sustain an annual operation without any difficulties, is near power (six miles) and is located right near available water supplies. The past production indicates considerable mineralization does exist, perhaps much unimined potential may be extant on the property, the property therefore does deserve additional work to establish its merit and possible inclusion in a field program.

The properties are patented, therefore the title is good.

The observations made in the field suggest that in addition to the silver potential, that a porphyry copper type project might also exist. This too, should also be investigated. Copper porphyry type deposits have a billion dollar gross potential, and thus any chance for such a deposit should be checked out in detail.

11. RECOMMENDATIONS:

On the basis of the above quantitative results, and the field observations made in the area, it is now recommended that at least one day be spent examining the underground workings in the area.

In addition, as soon as the polished section details are available, perhaps a regional reconnaissance might be made in the area, this combined with the underground details might materialize a possibility of one or more prospect drill sites to explore and prospect the subsurface.

If the laboratory results are as good as the quantitative results were, and the underground and surface work confirms a possible drilling program, it is then recommended that the properties be acquired, and that possibly adjacent ground be staked or acquired-if owned already.

Then it would be proposed that an OME application be filed for possible governmental assistance in silver prospecting where up to 75 % of the cost of a drilling program is paid for by the OME agency.

For the work recommended and an OME application, a budget of at least $2500.00 would be required.

It is also recommended that certain zones in the altered igneous rocks which were mined, be sampled for a possible large disseminated silver ore body. This can be done along with the underground work. If a unit of ore in large tonnage of 4 ounces of silver or more could be found, then the possibilities of a large open pit silver mine might also materialize.

Regardless, it is recommended that further work be done in the area, the property does present several favorable aspects, and at this time only further evaluation work will provide more confirmation for this favorable merit and guide the future work.

Respectfully submitted,

Einar C. Erickson

Einar C. Erickson
Registered Engineer
Nevada 1653-Geological
Las Vegas, August 1967