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(247)

item 15

(See maps in map files)

THE JEFFERSON GOLD & SILVER MINE is situated at Jefferson, Nye Co., Nevada, four miles air line and seven by road from the town of Round Mountain. The nearest railroad shipping points are Austin, 70 miles north and Tonopah, 60 miles south. The survey lines for the projected extension of the Nevada Central Railroad from Austin to Tonopah pass within a few miles of Jefferson.

The elevation is about 8,000 feet, and the mine openings are from 500 to 900 feet higher. Climate conditions are therefore very favorable for continous operation.

The country consists of granite to the south, and porphyry to the north with upturned limestone beds or "reefs" outcropping along or near the granite-porphyry contact. The relations between these formations have not been determined.

Clear title was acquired by original location, and is held by annual assessment work to 16 claims (each about 600 " x 1,500) covering the outcrops of five gold and silver bearing veins, one of which is regarded as the extension of the old Jefferson vein, which produced largely in the 70's.

Water rights sufficient for mill and general use consists of full rights to the entire flow of Jefferson creek, about 30 inch minimum.

Surface rights sufficient for all necessary buildings and for the discharge of mill tailings for an indefinite period have also been acquired.

Surface improvements consist of about 20 small houses and a well constructed mill, planned for amalgamating and concentrating with a cyanide annex.

The equipment consists of a course crusher, a roll jaw crusher, Huntington mill and two pinder tables with

steam power plant, shafting, pulleys and belting, all set up and ready to run: also cyanide equipment of about 150 tons capacity, estimated on a basis of 24 hour treatment, set up with necessary piping, pumps, etc.

Ore is delivered to the mill from the main workings, No. 2 Tunnel by a surface tram 1,200 feet long for which grading is complete and track is on hand ready to lay.

This group of claims surrounds but does not include the old Jefferson claim (400' x 1,200') which was worked to a depth of 700 feet in the 70's.

About ten years ago this old mine was pumped out and some ore was extracted by lessers. The workings were still safe after twenty years neglect, thanks to the limestone hanging wall which is characteristic of the several veins.

Above the water level these workings are still accessible in places and show good ore where the vein enters the present company's property.

DEVELOPMENT:

The principal development work has been confined to three parallel contact veins of great permanance and regularity which outcrop along the ridge which borders Jefferson Creek on the south. Two of these veins, - the Sierra Nevada and Maine -, outcrop on the Jefferson Creek side of the ridge, and the third -- Stars & Flag - on the Berlin Creek slope; all three having an E. and W. strike and a northerly dip.

Bryan [illegible] vein dips N. about 55 degrees and is opened by a slope 190 feet deep measured on the incline, with some drifts and stopes following high grade streaks near the surface. The vein averages 5 feet in thickness

throughout the length and depth of the workings. The ganguo consists of brecciated and silicified porphyry. Careful sampling of the shaft showed an average assay value of $20. in gold and silver per ton. High grade streaks were avoided in sampling and no abnormally high grade assays were included in making up this average. The hanging wall is a firm conpact grey limestone which stands exceptionally well requiring little timbering. The foot wall is porphyry.

The Sierra Nevada vein has an East and West strike and a northerly dip of about 56°. It is opened by 3 adit tunnels on the Jefferson Creek slope as well as by the shafts and numerous pits and crosscuts. It has a thickness of from 3 to 20 feet averaging ten feet and the ore is of similar character to that in Bryan No. 1, vein. It is, however, of lower grade, averaging about $15,00 gold and silver per short ton. The same care was used in sampling and averaging as in the case of Bryan No. 1, systematic sampling was confined to the drifts, no surface or shaft assays being included.

These drifts comprise: "Tunnel No. 3" -600 feet with 600 feet backs: "Tunnel No. 2"-,400,feet,with 500. feet backs and "Tunnel No. 1"-, 100 feet with 190 feet backs, (Tunnel No. 1" opening the vein 200 feet above "Tunnel No. 2"). No connections has been made between No. 1 and No. 2 on the vein. "Tunnel No. 3 is about 100 feet lower than "Tunnel No. 2" and about 1,000 feet to the east. About 600 feet of the vein remains unopened between these workings and the headings of the drifts at both ends give every promise of sustained values between.

The hanging wall is limestone and the footwall porphyry, both walls being well defined and regular.

No. 4.

The third vein, "Bryan No. 3" lies South of the Sierra Nevada, about 400 feet from each. In dip, it corresponds closely to that of Sierra Nevada north about 55°.

The ore, however, is of an entirely different character, being distinctively a high grade dry silver ore, though some of it carries high gold values as well.

It has been opened only in "Tunnel No. 2" where a drift 400 feet or more has been run and a winze 125 feet has been sunk. In these workings more than three feet on the foot wall side consists of a comparatively soft mixture of quartz and (probably) kaolinized feldspar. It is believedto average upwards of 100 Oz. in silver, though sampling has not been thorough or methodical.

On the hanging wall is a hard silicious streak, about 12 inches thick from which many samples have been taken, which run from a few hundred to several thousand Oz. of silver per ton. A "false" hanging wall marks a distinct division between the two classes of ore which will facilitate "stripping." The high grade streak also breaks free and clean from the lime hanging wall. The foot wall where cut, is granite, an unexpected occurence at this point in view of the lime-porphyry contract farther south along Bryan No. 1 vein, which, however, is not yet opened to a corresponding depth. (The bottom of the Bryan incline reaches about the level of "Tunnel, No. 2", which cuts only the Sierra Nevada vein, and is about 500 feet farther west.)

"Tunnel No. 2" which cuts Bryan No. 3 should also cut Harry Flag about 700 feet from the present heading. To 900 deep As the Bryan veins lie 100 and 400 feet respectively south of the Sierra Nevada at "Tunnel No. 2" level,

and have a northerly dip of about 55°, while the Sierra Nevada has a northerly dip of 65°, the first two should join or cross the latter at moderate depth. There are some indications, however, that the difference in dip noticed may not continue with depth.

TONNAGE ESTIMATE:

It is recognized that the development work thus far completed does not "block-out" any ore in the strict sense of the term. On the other hand, the regularity and extent of the ore bodies where they have been opened, the promise given by conditions in all headings and the regular distribution of values warrants more than usual liberality in estimating the tonnage of "proven ore."

On the Sierra Nevada vein. From the conditions exposed by the openings on this vein on "Tunnels No. 2 and 3, we can fairly assume that;

No. 1 will contain	100,000	Cu. Ft. Ore
No. 2 " "	125,000	" " "
" 3 " "	175,000	" " "

allowing 15 Cu. ft. to one ton - approximately 26,500 tons of proven ore.

Careful sampling would warrant a considerable addition to this in the way of probable ore, in fact an aadditional 45,000 tons as probable ore. Beyond this probable ore, the possible ore is more or less a matter of conjecture, but sufficient is shown to warrant at least 200,000 tons additional as possible ore.

The ore from this vein Concentrates and cyanides readily according to tests made when the mill was purchased. General conditions are favorable to cheap mining, except distance from R. R. and this must be taken into consideration and in doing so, a mining cost of $4.00 per ton

would be safe, to which adding milling cost of $2.00, and general expense of $1.00 per ton on a plant of 150 tons daily capacity would make a total cost of $4.00 per ton.

Bryan [illegible]: Sufficient work on this has not been done to really prove more than about 5,000 tons of ore. A fair estimate of probable ore based on the conditions would be about 10,000 tons in addition to that proven.

Bryan No. 2: The regularity of this vein for the distance and depth noted promises of very considerable addition to the above tonnage, but lack of the exact information as to the distribution of the high grade ores, makes a fair estimate of this extremely difficult, but taking everything into consideration, it would be safe to assume at least 40,000 tons of ore. Netting $30.00 per ton on a basis of 50¢ for silver.

If fine grinding and cyaniding prove entirely successful even a higher return should be expected. You would therefore have a more than reasonable expectation of the following yield:

"Sierra Nevada"	$2,705,000
"Bryan [illegible]"	200,000
(with considerable addition for the possible ore probably five) times as much	1,000,000
Harry Flag"	1,200,000
	$5,115,000

(Signed) Geo. B. Jaques, Jr.,

Mining Engineer.