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REPORT ON THE EMMA NEVADA MINE, LYON COUNTY, NEVADA

LOCATION:

The Emma Nevada mine is located on the eastern slope of the Washoe mountain range in what is known as the Devil's Gate mining district, Lyon County, Nevada. It is approximately one mile west of the town of Silver City and is accessible from this town by a fairly good auto road. The elevation at the portal of the present working tunnel is 5500 feet.

PROPERTY:

The property comprises one full mining claim known as the Emma Nevada, and a fraction known as the Thanksgiving Fraction. There are approximately 35 acres in all. It is held by location and full compliance with the United States and Nevada mining laws. Ownership has remained in the Ninnis family for 49 years.

Adjoining the property on the east is the Oest mine - one of the famous producers of the district. Authentic records give the production of the Oest mine as $1,500,000.00.

Immediately to the south and southwest are the Santiago-Hayward group. The production to date from these two properties has exceeded $1,650,000.00.

HISTORY AND DEVELOPMENT:

The Emma Nevada was located in 1885. During the following four years it was operated by the owners, driving a tunnel near the crest of the hill on the No. 4 vein. The portal of this tunnel is located at an elevation of 5495 feet. This tunnel encountered a very highgrade ore body after it had been driven 290 feet. The length of this shoot was 150 feet and extended from the tunnel level to the surface, a distance of 150 feet. All of the ore

was stoped from this shoot and yielded $150,000.00. It averaged about two feet in width and portions of the body yielded ore of $150.00 per ton. The ore was milled in a custom mill at Silver City.

Later a tunnel was commenced at an elevation of 5391 feet on the same vein and was driven 200 feet but was abandoned.

Little or no development work was carried on until 1932, when the owners began a crosscut tunnel at an elevation of 5290 feet to explore the No. 3 vein that lay 150 feet to the southeast of No. 4 vein. The vein was reached at a distance of 400 feet from the portal and drifting on the vein was commenced. This drift has been extended 260 feet at the present time.

This development work has definitely proven an ore shoot 250 feet in length with the face still in ore. It will in all probabilities extend to the surface - an average height of 175 feet. Stoping is now being carried on. One raise has already been advanced to a height of 40 feet and still in good ore.

The vein is narrow - varying from 4 inches to 18 inches in width but carries very highgrade values in free gold.

One shipment of nine tons was made during drifting operations by Mr. Minnis and yielded $513.00, or an average value of $57.00 per ton.

A shipment of 36 tons extracted from stoping operations returned $30.00 per ton.

A shipment of 15 tons extracted from stoping operations returned $34.00 per ton.

The gold in the ore is free and can be seen with the naked eye, therefore, sampling of such a type of ore is exceedingly difficult. The shipments that have been made are truly representative of the true value of the ore.

GEOLOGY:

The property is traversed by a system of narrow quartz veins. As observed in all of the workings and surface trenches, these veins are seen to be fillings of small fractures in a hard dense basic rock - andesite. There are six of these veins definitely known to exist on the property. There may be, and undoubtedly are, others that do not outcrop. They have a distinct northeast-southwest trend and have been observed to dip to the southeast with varying angles.

This variance of dip and slight variation in strike are features which play an important role in the possibilities of the property, for it has been noted that the intersections of these veins have been favorable points for the formation of orebodies. All future exploration work should have these intersections as its objective.

The vein fillings are practically quartz with minor amounts of wall rock as inclusions. The values occur as free gold with but a very small amount of sulphides. An idea of the amount of sulphides is gained by the fact that in the milling of 36 tons of ore, there was obtained but 500 lbs. of concentrates, or a ratio of 144 to 1.

SUMMARY and CONCLUSIONS:

The development and exploration work on this property has been justified in that it has disclosed two very important orebodies of a workable grade, on two different veins.

All of the ore has been extracted from the shoot on the footwall vein in the upper tunnel. This shoot has been observed to have been the result of the intersection of two veins - Nos. 4 and 5. There is no record of the tonnage extracted but other records show that it yielded ore of a

very high grade reaching as high as $178.00 per ton. The total value of ore extracted from this shoot which measures 150 feet in length by 130 feet in height and averaging around two feet in width is given at $150,000.00.

A winze was started below this shoot and carried to a depth of 30 feet. The vein has been faulted but by careful work can be picked up again. Sampling of the two ends of the bottom of the winze gave $27.69 and $4.78 respectively for a width of six inches. This would indicate that excellent possibilities of the extension of this shoot to a greater depth exists at this point. A crosscut from the No. 3 tunnel level to explore this footwall vein would certainly be justified.

The other oreshoot disclosed by development work on the No. 3 vein has already been found to extend for a length of 250 feet with the face of the drift still in ore. This shoot will in all probabilities extend to the surface and would, therefore, have an average depth of 175 feet. Measurements of the width of the vein along the tunnel level shows it to average six inches. Stoping operations have already been started and one raise that has been carried to a height of 40 feet shows ore of exactly the same grade as that encountered on the drift level. Mill returns from a shipment of 38 tons from stoping show it to average $30.00 per ton. A shipment of nine tons from drifting gave an average value of $57.00 per ton. The mill tests revealed that the precious metal value of the ore can be recovered by simple amalgamation and table concentration, thus no complex milling problem is involved in the treatment of the ore.

By carrying the No. 3 drift ahead, the present ore reserve estimated at 1680 tons will be greatly increased.

This oreshoot offers excellent opportunities and possibilities for extension in depth and should, therefore, be explored by sinking.

Intersection of veins has been found to play an important part in the formation of the ore shoots already developed. Therefore, future exploration work should take this into account and all drifting and crosscutting work should have these intersections as their objective. Six distinct veins have already been mapped in this investigation. All of these have apparent varying dips and strikes. This fact shows the opportunities for the future development of intersections.

The veins of the adjoining property - Oest - have been examined and found to be very similar in character to the veins in the Bama Nevada. High grade and specimen ore was obtained from the workings in the upper part of the Oest mine, and the veins have been found to be fairly persistent in depth with but little variation in their metal value, so it appears logical to presume that the veins of the Bama Nevada will be as equally persistent in depth.

RECOMMENDATIONS:

Drifting on the No. 3 vein offers the possibility of developing more ore on the present shoot and should be continued for 250 feet, when a crosscut should be run northwest to intersect the footwall vein below the shoot that has been worked in the upper tunnel. This crosscut will be around 150 feet in length. The working costs show that drifting can be accomplished for $11.50 per foot with the present methods of mining. Compressor installation would cut cost to $4.50 per foot.

Sinking on the ore shoot in No. 3 vein can be recommended from the fact that good values were obtained from the drift and the vein appears very strong in the floor of the drift. Sinking for the first 50 feet will

probably cost $50.00 per foot.

Ample milling facilities are provided in the custom mills of Silver City. Hauling charges are 60 cents per ton from the mine to the mill, and a graduated scale of milling costs are imposed at the mill.

Respectfully submitted,

(Signed) JAMES HOPKINS
Engineer of Mines

Silver City, Nevada.
October 30, 1934.