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REPORT ON THE MABEL MINE

OF THE

WEST END CONSOLIDATED MINES CORPORATION

GARFIELD MINING DISTRICT

MINERAL COUNTY, NEVADA

Report by: H. D. Budelman
Tonopah, Nevada

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WEST END CONSOLIDATED MINES CORPORATION

GARFIELD MINING DISTRICT, MINERAL COUNTY, NEVADA

CLAIMS:

The Mabel mine includes the following lode mining claims, held by location and purchase, an area of approximately 120 acres: Mabel No. 1, Mabel No. 2, Mabel No. 3, Mabel No. 4, Boston No. 1, Boston No. 2, and Mabel North; giving an aggregate length along the lode of 4500 feet; also water right on Pepper Spring, situated 12 miles from the property.

LOCATION AND ASSESSIBILITY:

The property is situated in the Garfield Mining District, Mineral County, Nevada, 20 miles by good road from Mina, Nevada, the nearest railroad station, which is on both the Southern Pacific and Tonopah and Goldfield railroads. In a direct line the Southern Pacific passes within six miles of the property and at any time operating conditions warrant, a suitable road can be built to this point. The Mineral County power line passes within six miles of the property.

TITLES AND PRESENT OWNERSHIP:

Title to the property is vested in the West End Consolidated Mines Corporation, through purchase, location and transfer of title.

HISTORY OF PROPERTY AND OTHER MINES IN THE DISTRICT:

The Garfield District is an old one, discovered about 1875. The principal production was made between 1880 and 1890, and the principal producer was the Garfield Mine, originally owned by Archie Farrington, later sold by him to an English company, Records on production are incomplete, but the production of the Goldfield Mine alone is estimated to have been between five and fifteen millions in value, all in high grade gold and silver ore. Development was superficial, from funnels, and so far as known the sulphide zone was never reached in any of the workings, although the veins persist in the lowest tunnel workings and show values. Orginally the ore was shipped to outside plants for reduction but later a clorination plant was constructed at Garfield Springs, about ten miles from the mine, and so long as the ore continued high grade and carbonate in character it was treated at this plant. When the English company took over the property, ore in sight was stopped out without proper development work being done to open new ore bodies and the mine was finally closed down. Several desultory attempts have been made to reopen the mine, but without success, new work being confined to the tunnel workings in the developed area.

The property which is now the Mabel Mine, adjoining the Garfield on the West, was, in the early days of the district, worked in a few places on surface, the maximum depth being about 100 feet below surface. Production probably did not exceed $200,000.00 in gold and silver, and the claims were finally abandoned without obtaining patent. Around 1920 Messers. Jones and Fitting from Hawthorne, Nevada, made six locations covering all known Westerly extensions of the Garfield veins, naming the mine the Mabel Mine. By hand methods they mined and shipped four cars of ore from the shallow stopes near the Easterly end of the property. The ore averaged over $100 per ton and netted them about $20,000.00.

Due to the complicated ownership, which involved other parties who had assisted these two men in financing their first operations, they decided to dispose of the property and it was offered to the West End Consolidated Mining Company for $50,000.00 on terms, royalties on ore shipped to apply on

the purchase price. This company took over the option, installed a Chicago Pneumatic Hothead compresser, and sunk an inside vertical two compartment shaft from the main tunnel level to a depth of 100 feet, abd then started lateral development on what was designated the 200 level. A North crosscut to the so called Mabel vein opened ore of shipping grade almost at once, within 50 feet of the shaft, placing the mine on a self sustaining basis. During the next few years the shaft w was sunk to the 500 level, raised to the surface, and a 25 H.P. gasoline hoist installed. It is noteworthy to remark that the royalties from ore shipped met payments on the purchase price, so that the ,mine paid for itself without capital expenditure. Total production since the West End Company acquired the property is in excess of $400,000.00, of ore which averaged about $100 per ton.

TOPOGRAPHY:

The mine is at an elevation of 7000 feet above sea level and topography is mountainous, although not rugged.

GEOLOGY:

Geologyof the Garfield District is not complex. The principal rooks are shales and slates, with some thin beds of limestone, and with intrusions of a dark colored andesite. These rocks are so altered that they are not always easy to identify, and until recently had been classed as metamorphosed volcanic ash. A portion of the surface is covered by late basaltic flows, locally known as malpais, which has no bearing on the mineralization but does make it difficult, and at times impossible, to trace the outcrops of the veins. The shale and slate sieres is of unknown thickness and covers a large area, and no reason is indicated why the veins of the district should not extend a considerable but indefinite distance on both striks and dip.

The veins are true fissure veins, having a general Easterly and Westerly strike, with steep dips usually to the South. Hanging Wall and Footwall are well defined, the former usually showing evidence of some fault movement in the plane of the vein. Wall rock in the vicinity of the veins is usually highly altered, sometimes brittle and quite soft. However, conditions in the wall rocks are not such as interfere with economical mining. All outcrops are highly oxidized.

Vein filling consists of quartz, with considerable iron oxide at times, which latter changes to pyrite and chalcopyrite with depth. Very little calcite is found, but at times barite is common, especially in the wall rocks near the veins, where occasional stringers up to several inches in width are sometimes found.

So far as developed the veins are rarely over four feet in width, and will average about two feet where steped, with a tendency to widen average width depth.

As previously stated some faulting along the plane of the veins is in evidence, and in addition there are many small cross faults, with various strikes and dips, in that portion which has been developed. To date however, no large faults have been encountered, although one important one has been cut in westerly work on three levels: the 300, 400 and 500 levels. This fault has a streng Northeasterly strike with a deep dip to the North-west, and the strike tends to become more a Westerly one as it is developed to the West. There has been some silicification and mineralization along this fault, and the secondary vein thus produced at times shows a marked resemblance to the Mabel Vein, but without the presence of sufficient precious metals to prove at all profitable to mine. When this fault was first cut subsequent development drifts to the West were driven on it, on the three levels above mentioned, in the belief that it was the Mabel Vein, and a great deal of work done before the conclusion was reached that what was being followed was a secondary vein.

By crosscutting into the footwall on the 300 and 500 levels the real vein was found but on account of the operating conditions very little work has been done on it, due principally to the fact that values are not sufficiently high to make shipping grade ore. A few tons were saved which ran over $100 per ton, but the average of the vein opened would probably not exceed $20 per ton.

Principal values are in silver, gold and lead, with a noticeable proportionate increase in the gold content with depth. Surface ores are oxidized, with the silver as a shloride, gold content small, and lead practically absent except in certain sections of the mine. The first sulphide ore was found in the vicinity of the 300 level, and the sulphide area increases with depth, although there is still oxidation found on the 600 level. In the sulphide ore the silver and gold occur with galena, sphalorite and pyrite. Lead occurs in commercial amount but zinc so far does not, being more spotted. No conclusion has been reached as to whether the silver and gold show any tendency ot accompany any particular one of the above base metals and, in fact, careful sampling fails to indicate any preference.

In both the oxidize and sulphide zone there are found occasional areas where segregnated high grade gold values occur. To date the most important of these was found between the 400 and 500 levels, where five tons of ore averaged over $1000 per ton in gold alone was mined.

There appears to be a low grade, in places almost barren zone, in the leached or partially leached portion of the Mabel Vein between the lower limits of the oxidized zone and the upper limits of the sulphide zone. A part of the 500 and 600 levels and all of the 700 levels appear to have passed below this low grade zone.

GENERAL FACILITIES AND EQUIPMENT:

Water for domestic and mining purposes is obtained from Pepper Springs, 12 miles from the mine, on which the company has sufficient water rights to provide for operating needs. There is no water in the mine, and no springs of importance in the immediate neighborohood. The property is well equipped with necessary tools, tanks and buildings for present hoisting and compressor equipment. The compressor is large enough to handle at least three drills of the jackhammer type. The 25 H.P. gasoline hoist is in good condition. Camp buildings will accomodate a maximum of 15 men, which is ordinarily sufficient for normal operations.

DEVELOPMENT:

Development on the Mabel group consists of a 567 foot vertical shaft, with laterals on the 100,200,300,400,500 and 600 levels, with a winze on the vein from the 600 to the 730 level, with about 130 feet of development work on the 700 level. A total of 10,050 feet of development work, outside of the shaft, has been performed on the property. More than half this amount is drifting, and includes a considerable footage of work from intermediate levels. This estimate does not see include the surface work done by the original owners, no record on which is available.

PRODUCTION:

Production since the West End Consolidated Mining Company purchased the property, from 1922 to 1929 inclusive, amounted to 4310.3 dry tons, of an average gross value of $97.82 per ton, and a total gross value of $421,626.79. Net returns from smelters, less hauling, was $281,866.04.

Metal content of this area is interesting, and was as follows: gold, 5526.310 ounces, an average of 1.282 ounces per ton, valued at $113,882.09; silver, 396,255.99 ounces, an average of 91.93 ounces per ton,

valued at $271,913,47; lead 440,169 pounds, an average of 102 pounds per ton, valued at $35,831.23.

A resume' of these figures show gold value to be 27.01% of the total value, silver 64.69% of the total, and lead 8.5% of the total. It is quite evident that the lead content has so not been important. This is generally true of the oxidized zone but as the sulphide zone is developed the lead content may become of more economic importance.

A previously stated production by original owners as estimated was $ $200,000.00 gross. Messers. Jones and Pitting shipped 200 tons of ore in 1920 and 1921 which has a gross value of $25,000.00. Gross production of the Mabel Mine to date is therefore approxinately 6510 tons, of an average value of $99,32 per ton, and with gross value of $646,627.00.

DISCUSSION:

The following discussion is made with the idea of sumarizing facts in an effort to arrive at a definate conclusion regarding future possibilities of the Mabel Mine.

The mine is in a district which has produced from six to fifteen millions in gold and silver, from high grade ore, and is adjacent to, and contains the Westerly extensions of the veins of the Goldfield Mine, by far the largest producer in the district.

The mine contains at least two veins which are known to contain commercial ore, only one of which, the Mabel Vein, has been partly developed. One other known commercial vein has been stoped near the surface during the early days of the district, but has never been developed at any depth. Practically no cross-cutting has been done during to determine what value the other known vein may have, or whether there are still other veins.

All early work in the district was surface work, never reaching the sulphide zone. Recent work in the Mabel Mine has proved that the Mabel Vein extends into the sulphide zone, is really stronger and larger there than it is above, and contains high grade values, with evidence that proportionate gold content is increasing with depth.

The property is not fully developed, as an examination of the attached map will show. Lateral development on the Mabel Vein on the various levels is as follows: 100 Level 300 feet; 200 level, 450 feet, 300 level, 650 feet; 400 level,700 feet; 500 level 800 feet; 600 level 500 feet; and 700 level 130 feet;. The maximum development of the vein on its strike is on the 500 level, of 800 feet. As stated on page of this report, the west drifts on the 300,400 and 500 levels were driven through a fault, and where additional work was done west of this fault it was practically all on a secondary vein. The Mabel Vein has been recovered west of this fault on the 300 and 500 level, and is normal. There appears to be no logical reason why it cannot be recovered on all the levels. By referring to the attached map you will see some of the surface work about the center of the Mabel No. 2 claim which is labeled "WOODHOUSE WORKINGS". This is some of the original work, done about 1880, and is reported to have produced some very high grade gold and silver ore. This work is 1000 feet westerly from the extreme west work done on the Mabel Vein by the West End Consolidated. To the West of these "WOODHOUSE WORKINGS" the surface is rolling and covered with dirt and loose rock, so that is impossible to trace the outcrops of the veins. However, there is no visable change in geological conditions so that it is believed the vein will extend west from the work an indifinate distance.

Operating conditions are ideal, and there is no indication of water in the mine, which might cause heavy ground and thereby increase operating costs.

There is no blocked out tonnage of ore of shipping grade in sight but there is an uncertain tonnage of ore of mill grade. In the sulphide zone this millgrade ore is ideal for concentration, but in the oxidized zone it is of uncertain value on account of the problem of milling it.

Average gross value of the ore in the sulphide zone of primary enrichment is not so high as in some portions of the oxidized zone, where secondary enrichment has occured, but proportionate gold values are noticeably higher and some very high grade gold has been found in this zone. The gold in the sulphide zone is not usually visable to the naked eye and at times is so intimately associated with the galens, sphalerite, and pyrite that it cannot be detected even by panning, except by treating the panned concentrate with acid. This is found to be true of rock which will assay several thousand dollars per ton, From a small bunch near the 615 Winze to the 700 level a care of ore was mined and shipped which ran over 7 ounces gold per ton, and carried but 14 ounces silver per ton. It is also true that in the oxidized zone bunches of high grade gold ore have been found, silver and lead values being almost entirely lacking, but these occurences are not so numerous as in the sulphide zone.

The sulphide ore on the lowest levels has been carefully examined by Mr. H. C. Ferguson, geologist with the United States Geological Survey, and his opinion coincides with ours that these sulphides are primary, and there is no known mineroligical or geological reason why these area should not extend to much deeper horizons. The ore is an ideal one for flotation concentration so it appears very probable that, by an energetic campaign of development, sufficient sulphide ore can be blocked out to justify the erection of a mill, thereby permitting the treatment of lower grade ores than will pay to ship to smetlers, and saving a large portion of the present high costs of hauling, railroad transportation and treatment.

CONCLUSION$:

The Mabel Mine is a property of high potential value. The Mabel Vein is the only one on which any extensive development has been accomplished, and this work shows that the vein extends at least 3000 feet on surface, and to a depth of over 700 feet, continuing strong on both strike and dip, with good possibilities for profitable ore in both the oxidized and sulphide zones, although the latter appears to have the best chance for permennency.

In addition the development work already done shows a noticeable absence of crosscuts into either hanging wall or footwall country to open up parallel veins. I feel, and Mr. Ferguson has expressed the same opinion, that there are splendid opportunities for additional ore from these parallel veins.

The mine should be developed by sinking the shaft an additional 200 feet to the 800 level, drifting done on the 800 for at least 100 feet easterly and for an indefinite distance westerly, a raise connection driven on the vein from from the 800 to the 730 level. Then this preliminary work is completed ventilating conditions will be greatly improved add stoping can be carried on while the development work is puched westerly on the 600,700 and 800 levels, with possibly additional drifting on the upper levels of the mine and crosscutting.

The present hoist, powered by a 25 H.P. Western Gas Engine is inadequate for this work, and another larger hoist should be purchased. A 50 H.P. gasoline driven hoist will be suitable and it is estimated that a used hoist of this type can be purchased for $2000. The Mineral County power line passes within six miles of the mine and later it is planned to electrify the entire mine equipment. However, on account of the first cost, it is not recommended that this change be made at the present time.

I regard the Mabel Mine as one with many first class possibilities, and feel that conditions justify the expenditure of at least $25,000 on development, which sum is estimated will complete the preliminary work outlined above to a point where actual mining of ore can be begun.

The following compilation illustrates comparative figrues on value of some of the ore shipments from the Mable Mine, made on early part of 1929, based on prices received for gold and silver at time shipments were made, as compared with present day prices obtainable for gold and silver:

Lot No. 96

Metal Quotations at time shipment was made;
Gold,-----$20.67 per ounce.
Silver,--- .57375 per ounce.

7,0203 ounces gold per ton, $145.11 Gold value per ton.
13.267 " silver " " , 7.61 Silver value per ton.
$152.72 Total value per ton.

Metal quotations at present time;
Gold,-----$35.00 per ounce.
Silver,--- .645 per ounce.

7.0203 ounces gold per ton, $245.71 Gold value per ton.
13.267 " silver " " , 8.56 Silver value per ton.
$254.27 Total value per ton.

Total gross value of shipment at time it was made,
34.494 Tons @ $152.72 per ton ----------$5267.98

Total gross value of shipment at present prices,
34.494 Tons @ 254.27 per ton ----------$8770.71

Additional present day value ----$3502.73

An increase in gross value of 66.5%

Lot No. 100

Metal quotations at time shipment was made:
Gold,-----$20.67 per ounce.
Silver,--- .5375 per ounce.

1.25 ounces gold per ton, $25.84 Gold value per ton.
72.00 " silver " " , 38.70 Silver value per ton.
$64.54 Total value per ton.

Metal quotations at present time;
Gold,-----$35.00 per ounce.
Silver,--- .645 per ounce.

1.25 ounces gold per ton, $43.75 Gold value per ton.
72.00 " silver " " , 46.40 Silver value per ton.
$90.15 Total value per ton.

Total gross value of shipment at time it was made,
50.443 tons @ 64.54 per ton---------- $3255.59

Total gross value of shipment at present prices,
50.443 tons @ 90.15 per ton---------- $4547.44

LOT NO. 100 (Continued)

Additional present day value--$1291.85

An increase in gross value of 39.7%

LOT NO. 99

Metal quotations at time shipment was made,
Gold,-----$20.67 per ounce.
Silver,--- .55875 per ounce.

.755 ounces	gold per ton,	$ 15.61 Gold value per ton.
32.15 "	silver " " ,	17.96 Silver value per ton.
		$ 33.57 Total value per ton.

Metal quotations at present time,
Gold,-----$35.00 per ounce.
Silver,--- .645 per ounce.

.755 ounces	gold per ton,	$26.43 Gold value per ton.
32.15 "	silver " " ,	20.74 Silver value per ton.
		$47.17 Total value per ton.

Total gross value of shipment at time it was made,
41.72 Tons @ $35.57 per ton----------$1400.54

Total gross value of shipment at present prices,
41.72 tons @ $47.17 per ton----------$1967.93

Additional present day value----$ 567.39

An increase in gross value of--- 40.5%