

Kansas City, Missouri, Oct. 6, 1913.

The Mother Lode Gold & Copper Company.

Kansas City, Missouri.

Gentlemen:- In compliance with the provisions of my contract with you, relative to the construction and operation of a 60 ton smelter on your copper property in the Overland Mining District of Fremont County, Wyoming, I take pleasure in submitting for your consideration a brief report of my findings after ~~the~~ two weeks careful examination of the property, and a close study of the adjacent and surrounding country.

LOCATION

The property, consisting of eight full sized lode and two placer claims, is situated about 35 miles South of the city of Lander, in the Wind River Mountains, in what is recognized as the richest mineralized zone so far discovered in Fremont County.

This property contains rich deposits of copper and gold and a fair percentage of silver: It is absolutely free from zinc, bismuth, antimony and contains but a small fractional percentage of arsenic.

TOPOGRAPHY

This property lies in a North^{east}~~west~~ and Southwest direction, at an altitude of about 7600 feet, and is very uniform in natural structure only where streams have eroded the property to their levels.

This district is of volcanic formation, evidenced by basaltic dykes which have tilted the sand stone, the country rock, and in fact all the formations to almost an absolute perpendicular position. These basaltic and quartzite dykes may be traced the entire length and breadth of this property with nearly the ease of a public street in a city.

The static pressure from below at the period of upheaval has precipitated copper and gold into the heavy ore veins, and

this condition is to be seen throughout the entire length and breadth of these veins. Between these contact walls of porphyry and throughout the entire vein matter are found quartz veins, decomposed quartz, and a number of transverse diagonal dyorite and trachyte dykes, which are recognized universally as favorable conditions for the existence of very rich ore bodies. In every shaft and cross cut so far made on this property, decomposition has taken place within from four to six feet from the ground surface, and rich copper ores removed-such as malachite, azurite, copper sulphide, etc., and the veins increase rapidly in width as depth is obtained.

The distance between dyke walls on this property vary in width from 60 to over 200 feet, and variably but heavily mineralized throughout the entire width. All evidences show that at depth the permanent ore will be chalcopryrite.

ORES

The ores in this group consist of silicates and a favorable amount of lime dyorites, copper sulphides, malachite, azurite, copper oxides and ~~xxxxxx~~ variable amounts of gold and silver. Vast quantities of iron varying from 2 to 27% are to be found on this and adjoining property.

These ores have given many assays ranging from 5 to 54 % in copper and from 85 ¢ to \$975.00 per ton in gold. Smelter return from one shipment averaged \$20. per ton, with the ore taken from near the surface. Transportation charges and smelter rates render shipping of ores of this value prohibitive.

DEVELOPMENT

The development of this property so far consists of shafts, ranging from 10 to 40 feet in depth and many shallow cuts, all of which expose well defined copper deposits of a type unmistakably permanent in character, some including sugar quartz veins, wherein rich gold strikes are possible. In each vein of ore so far tapped, a steady increase in high *grade copper*

is assured, and the tests show a very fine self-fluxing ore and with a small percent of coke, almost a self-smelting proposition is presented.

It has been determined by the management of the company to permanently develop this property by driving a cross-cut tunnel at right angles to the trend of the ore veins from a point selected as a smelter sight, and about 100 to 150 feet below the general level of the property, or 1200 feet in the clear.

When the first vein is tapped later tunnels will be run at the level of the main tunnel to supply the smelter with the requisite ore. The main tunnel will be continued to contact with the next vein, which in turn will be developed later in both directions to supply additional ores for the smelter.

CONCLUSION

These claims are traversed by two natural streams which form a junction on the placer ground which has been selected for the smelter ^{sight} sight. These streams furnish an abundant supply of soft water, free from lime and contain but a trace of silica. They are fed from natural springs and mountain streams, and aided by a small dam near their junction will furnish ample water for smelting purposes the year round.

The smelter sight selected with a view to the proposed development of the mine is substantially ideal, and is amply sufficient for a smelting capacity of 1,000 tons in 24 hours, buildings, switches, ore bins, slag dumping ground, etc., with acres to spare.

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I have carefully examined this property from every intelligent standpoint: I have made exhaustive tests and I firmly believe that when developed, this property will rival the best copper mines in America.

Signed --- C.G. Keeton, Metallurgist, for
Keeton-Williams Gold Refining Co.
Kansas City, Missouri.