

The State of Wyoming.
Office of State Geologist,
Cheyenne.

1905
MR 1115-63

October 10, 1905.

Mr. H. Lee Servoss,

Pres. Copper Rock C. M. & M. Co.,

St. Louis, Mo.

My dear Sir:-

Herewith I hand you brief report on the surface showings and conditions noted on the property of your Company eight miles west of the town of Grand Encampment, Carbon County, this State, and will further say that I consider the Copper Rock showings a first class development proposition. I of course regret that work already done on the property has not been confined to one place, or that these workings are not now available for further work, but I consider that the showings you have already made fully justify the continuance of the work, as I have already outlined, with every probability that profitable ore bodies of commercial copper will be opened up.

Hoping you may succeed in your efforts to fully establish this property, I am,

Very truly yours,


State Geologist.

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GEOLOGICAL SURVEY OF WYOMING

The State of Wyoming.
Office of State Geologist,
Cheyenne.

R E P O R T

O N

T H E C O P P E R R O C K G R O U P .

E N C A M P M E N T, C A R B O N C O U N T Y, W Y O M I N G .

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S I T U A T I O N .

The claims comprising Copper Rock Group are situated in Sections 27 and 28, Township 14 North, Range 85 West, about eight miles west of the town of Encampment, Carbon County, Wyoming.

There are six claims in the group and include about 110 acres of land, all held by location and discovery under the laws of the United States and the State of Wyoming.

The property is situated on the main road between Dillon, where the Ferris-Haggarty Mine is located, and the Reduction works at Encampment and is very conveniently situated as regards working economically, either in the present prospecting work or the future work of a shipping mine.

O R G A N I Z A T I O N .

This property is held by the Copper Rock Gold Mining and Milling Company, organized under the laws of the State of Colorado with offices at Denver, Colorado and St. Louis, Mo. Capital stock is \$1,500,000.00 divided into 1,500,000 shares, par value \$1.00 each. The papers of this Company have been properly filed in the office of the Secretary of State of Wyoming, as provided for foreign Corporations doing business in Wyoming.

G E O L O G Y .

The general geology of the Grand Encampment Copper District may be stated to consist of a series of schists, quartzite and gabbro rocks, the latter locally called "diorites", with exposures of granite and quartz-diorite in and around the schist series.

These are the principal ore bearing rocks of this district and the greatest bodies of commercial ore (to date) have been found existing at or near the contacts of these schist-quartzite-gabbro formations under characteristic similar conditions in each case, which may be taken as the guide to future operations in the district.

The surface indications noted as overlying the ore bodies of the Doane-Rambler and Ferris-Haggarty mines consist of a heavy iron cap, principally a soft, spongy limonite or brown oxide of iron and showing some stains of green and blue copper carbonates at intervals.

These surface ores gave place at water level to sulphides of iron and copper and both have been noted as occurring singly and together in both these mines, which may be taken as characteristic of this class of ore in this district.

T H E C O P P E R R O C K G R O U P .

At this point the formation generally consists of schists or slates and quartzite, with a dyke of gabbro intrusive into the slates on and near this group. The general trend or direction of these formations at this point is easterly and westerly with a general dip to the south at an angle of about 45° , though throughout the group both dip and trend vary locally to some extent.

The outcrops on this group show several sheets or layers of "quartzite" and schist, the former being the most prominent and between these layers, as exposed by the workings, have been shown to exist three veins or ledges showing a strongly oxidized iron cap presenting all the characteristics of the iron caps or gossans already described as occurring on the successful commercial mines of this district.

WORKINGS.

These consist of three shafts, the most westerly being fifty feet deep and showing a heavy bed of oxidized iron.

The middle shaft is 100 feet deep on a second ledge of similar oxidized iron and some sulphides were encountered and some copper shown at intervals.

The easterly or main shaft reached a depth of 285 feet and at a depth of 175 feet, a cross-cut was run across the formation for a length of 130 feet in a leached and oxidized iron material similar to the caps material shown by the other surface workings and shafts.

At a point in this shaft considerable copper ore was cut, but as the shaft was sunk vertically the ore dipped out of the shaft to the south or south west, as the formation at this working has a trend south-easterly and dips south west.

As these workings are now caved in and inaccessible no personal examination of the showings may be made, aside from the material shown on the dumps, which has been carefully looked over and considered, but it is evident that this particular locality is heavily mineralized and carries considerable copper in connection with the iron and other values noted from time to time in the iron cap above described.

NEW WORK .

None of the above workings are now available or desirable for future work at this point, the two westerly shafts being below or away from the dip of the ores already shown and the deeper or easterly shaft caved in and would be too expensive to be opened up and repaired.

It is therefore recommended that a new 2 compartment workings shaft, size 4' X 8', be sunk vertically at a point say 200 feet south of the present main shaft to a minimum depth of 500 feet, as the best and most economical method of prospecting and proving the showings of this ground.

In the absence of an accurate survey of the showings already made and considering the dip of the formations and all other limiting conditions, it is estimated that this shaft at this depth would cut all the ore layers already indicated and admit of a thorough exploiting of these ores at a workable depth at a minimum expense for such a work.

A vertical shaft is here recommended for the reason that an inclined shaft on one of these ledges, following the ore, would only prospect one layer and would be more expensive as a prospect work than this vertical shaft and require more drifting and handling of ore from the different veins after its completion and in future operation.

The nature of the ground encountered in the present main shaft renders it very necessary that this shaft be of easy and convenient working size and that it be securely and substantially timbered and all ground kept secured in the most workmanlike manner possible against all caving or movement of the formation, but with this properly done, the work can be most expeditiously carried on with least possible expense or danger to shaft or employees.

WORK ON WEST END OF PROPERTY.

On the west end of this group, prospecting work has been carried on the past summer and a tunnel run in 100 feet to crosscut a showing on the south side of the gulch below the Hidden Treasure tunnel.

This crosscut work showed a heavy body of oxidized iron or goossan similar to that exposed in the workings just described and in similar formations, but with a dip to the north. After a careful consideration of the showings here made and in the vicinity, it is evident that the formation here is much broken up and would involve a considerable expenditure to prospect properly, and it is therefore recommended that the work for the present be confined to the main shaft above described and that the development of this latter showing be deferred until the eastern end of the property is fully proven.

GENERAL CONSIDERATION.

Timber and water are of convenient access at the present workings and the situation of the property on the main Battle road, as before cited, affords an excellent opportunity to install necessary machinery (hoist, boiler, pump etc.) without the usual expense of new roads etc.

The present camp, cabins etc. is now sufficient for all purposes and the present plant of machinery, boiler, shaft house etc. may easily be removed bodily to the new shaft location at small expense.

It is recommended that this work be undertaken as soon as possible and the buildings etc. completed before the heavy fall of snow usual in mountain regions, as this done, the work can be carried on without interruption during the winter, which is the least expensive time of year for such work.

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As before cited, it is considered that the present showings on this property amply justify the completion of the above outlined work and with every prospect of making a commercial mine.

The property affords an opportunity for development work on a large scale when the commercial ores have been fully determined and it is considered that it is only a question of a short time after the present work reaches a satisfactory stage that the property can be put on a firm shipping basis and become a steady and profitable producer.

Respectfully Submitted,

Henry M. Beeler
State Geologist.

Date of Examination

September 29th, 1905.