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Office of State Geologist
Cheyenne

Cheyenne, Wyo. July 30, 1903.

Mr. I. M. Conners,
Saratoga, Wyo.

Dear Sir:-

Herewith I hand you report on the Cumberland group of claims as per your recent request and hope it may assist you in developing this property, which I believe is a good development proposition.

Very truly yours,

Henry C. Beeler.
State Geologist.

REPORT
ON
THE CUMBERLAND GROUP OF CLAIMS,
NEAR
SARATOGA, CARBON COUNTY, WYOMING.

LOCATION.

This group of claims, known as the Cumberland Group, lies near the head of the South Fork of Lake Creek, on the South end of Coal Mountain, about fourteen miles east of Saratoga, Carbon County, Wyoming, and about twenty-six miles direct from Wolcott Station, on the Union Pacific Railroad, or thirty-eight miles via Saratoga stage road.

EXTENT.

This group consists of eight full claims, 600' x 1500', namely,

The Cumberland,

Cumberland 2,

" 3,

" 4,

" 5,

" 6,

" 7,

" 8, containing about 140 acres, held

by location and discovery under the laws of the United States and the State of Wyoming.

OWNER.

The Cumberland Group is owned by John Conness, Mattapan, Boston, Mass.

FORMATION.

The formation at the Cumberland is a series of bands of schist, usually a quartzose black mica-schist, and also showing some hornblende, tourmaline and garnet mica-schists at intervals, all lying conformably with each other and showing signs of extensive mineralization throughout the formation.

The schists dip to the northwest at an angle of about 15° and have a general easterly and westerly strike.

LEDGE.

On the Cumberland claim, a huge ledge of quartzose material which has been shown to be some 20 feet wide by work done on it, is noted lying in the schist and carrying values in copper, gold and silver.

This ledge lies conformably with the schist with the same dip and strike. It may be traced along the claim by the outcrops and formation and will be likely to develop a greater width with depth.

ORE.

The copper values at the surface are principally in the oxidized forms associated with iron oxides in the quartzose ledge matter, the principal forms of copper being the green carbonate or malachite occurring both as a stain and as a constituent ore.

Some of the sulphide forms of copper minerals are noted here, in the ore found on the shaft dumps and as copper glance at the upper tunnel.

The surface ore presents a broken and crushed appearance, the quartz being fractured and the spaces between filled with the iron oxides, both hematite and limonite, and the copper carbonates as above.

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This condition is noted in many places in the Grand Encampment Copper Region, but as a rule the outcrops are not as large or as promising as this outcrop. It is noted that these oxidized forms of ore extend to the level of permanent water and are replaced in turn by the sulphide form of iron and copper, and, in the present instance it is believed that the permanent ore will be a low grade chalcocite or yellow pyrites of copper, suitable for concentrating and smelting, when depth is reached.

WORKINGS.

These have been located at intervals on the ledge, as shown on the accompanying plate, by Frank Cramer, Surveyor, where the inclination is especially heavy, or the situation favorable for work.

A shaft was sunk to a depth of 70 feet on the Cumberland, but has been abandoned, and a tunnel run in some 50 feet on the ledge at a point west of the above shaft and both show considerable copper as carbonates etc.

The main work has been confined to a tunnel run across the trend of the formation from a point on the Cumberland Tunnel Site and which has reached a present length of 940 feet but has not cut the vein or ledge as the formation dips away from the tunnel and at a very flat angle (about 15° as above) and it is estimated from the attached survey plate, that the additional length required to cut the ledge would be about 700 feet, the condition of dip etc. remaining the same.

This will likely be found to obtain in this vicinity, as the formations shown in the tunnel are very regular and no serious slips or faults are noted in the present length of the tunnel.

940
20
70
60

1130

4.
An upraise has been run at the present face of this tunnel to a height of 60 feet above the tunnel, but has not penetrated far enough to cut into the ore and from the plats attached it is evident that it would not be profitable to continue it at the present time.

DEVELOPMENT.

To develop this property, it is recommended that a survey be made and a new course of the tunnel established which will intersect the plane of the vein at the plane of the tunnel *in* the shortest possible distance, and the tunnel be driven on this line to cut the vein.

This new line should be directly against the trend and dip of the formation and would require about 700 feet of work to cut the vein, as above, but it is believed would be less expensive than to install a new plant at the surface and sink on the vein. This latter course would require about 1000 feet of shaft (being on the dip of the vein) besides steam hoist, etc.

The present tunnel may be repaired, new buildings etc. erected at the tunnel site and the work carried forward without undue expense.

After the vein is cut, quality of ore determined at that point etc. other arrangements for working and handling the ore may be made, but at present it is necessary to get the ore as soon as possible.

WATER, TIMBER, ETC.

The South Fork of Lake Creek flows through the property and furnishes a constant supply of water sufficient for all steam and camp purposes and a small mill.

The claims are well covered with timber suitable for all mining purposes, fuel, etc. but the fire that swept across this mountain a year

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Chapman

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ago, destroyed a great deal of valuable timber as well as the cabins, Tunnel house, etc. belonging to this property.


This fire destroyed the air compressors, Fan and boiler, used in driving the main tunnel and an entire new plant will be necessary when work is started again.

A good road has been built to the mine from the regular wagon road from Saratoga, a distance of about four miles, having a uniform grade and well constructed, so that heavy freighting may be done direct to the mine.

The location of this property is favorable for doing work at all times of the year, as the winters are not severe on the west slopes of this range, and the summer season opens much earlier here than in many other places in the district.

It is considered that this property presents a good opportunity for development and that the showings in the ledge outcrops and the minor works on the Cumberland claim, fully warrant the continuance of work as above outlined, with every prospect of opening up a large amount of ore, which, from its occurrence as compared with other similar properties, will be a low grade sulphide of copper concentrating and melting ore.

Respectfully Submitted,


State Geologist.

Date of Examination

July 18, 1903.