

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

1903  
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Cheyenne, Wyo. May 9, 1903.

Messrs Worrell and Allen,  
Lincoln, Nebr.

**GEOLOGICAL SURVEY OF WYOMING**

Gentlemen:-

Pursuant to your request, I hand you the following brief report upon the Trail Creek group of Mining Claims, this State.

LOCATION.

The Trail Creek Group of seven claims, namely,

The Hetty Green,

Senator Thurston,

Elisha Gray,

Sage hen,

Summit,

Happy Jack and

Fraction Claims, a total of about ONE HUNDRED FORTY acres, lies near the head of Trail Creek, in the southern part of Converse County, Wyoming, about twenty-five miles south of the town of Douglas on the F. E. & M. V. R. R. and about fifteen miles west of Glendo, on the Colorado and Southern R. R., the property being reached by wagon roads from either point.

The Claims are held by location and discovery under the laws of the United States and the State of Wyoming, and are owned by

A. D. Lee,	Douglas, Wyo.	2/3 interest.
Ed. Shafner,	" "	1/6 "
C. Ferbrach	" "	1/6 "

The property lies north of Laramie Peak at the north eastern angle of the eastern range of the Laramie Hills where the direction

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of this range changes from a northerly and southerly course to the western range extending to the Casper Mountain vicinity.

FORMATIONS.

The formation of the range may be generally stated to be a granite core, flanked on either side, more or less irregularly by some schists and by the succeeding sedimentary formations, extending out to the plains east and north.

At the Trail Creek property, the formation consists of a series of huge ledges of granite and schists, having a general north-easterly and south westerly direction and a slight dip to the north-west.

Both the granite and schist show considerable evidence of alteration and change in their composition and appearance. In many cases the granite has lost nearly all the characteristics of granite, the composing minerals being replaced to a great extent by silica and lime, giving a quartzose appearance to some of the dykes and causing them to be known locally as "quartz leads".

The same may be said of the schists, especially where the iron oxides have been noted in the schists and have become a part of the formation.

This altered condition is principally noted on the surface where a great deal of the changed appearance is caused by weathering of the schists and granites.

Associated with these rocks and lying conformably with them, are noted dykes of dioritic rocks, also altered and changed in many instances.

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### LEDGES.

In the above described formations are found ledges of silicious iron oxides, showing the different forms of these oxides, both as a solid part of the ledge and staining the ledge matter and adjacent rocks.

The principal showing is ~~on~~ <sup>a</sup> the Hetty Green Claim in ~~the~~ series of ledges heavily mineralized and of considerable extent, the surface outcrops showing a width of from five to twenty feet.

Here the principal development work has been done, in a shaft about sixty feet deep on the top of the hill and a tunnel at the creek level, intended to cut the ~~V~~ veins below the shaft.

In the shaft, which was sunk some time ago, the iron oxides show on all sides and are principally hematite, the red oxides of iron, both silicious and hard, and the softer varieties and some limonite or brown oxide of iron, which is usually soft and spongy in appearance. Mixed with these iron oxides are shown quantities of schist ledge matter and some quartz, both usually stained with the iron as above and the whole broken and crushed in appearance.

At intervals in the shaft (as far as ~~is~~ could be determined in its present state) are noted stains and bunches of copper carbonates, both the green (Malachite) and blue (azurite) carbonates of copper showing in considerable quantity. Some small amounts of copper and iron sulphides are also noted herein, but at the present level these are not continuous.

In the tunnel below, several small ledges showing similar conditions to the above, have been cut in its present length of one hundred fifteen feet, but ~~is~~ the main ledges above described have not

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been reached as yet and the present state of this latter work is not important.

All these ores and ledges show decided evidences of action by water which has leached and altered the contained minerals to a considerable extent, and this condition has affected the values contained in the ledges at the present depth.

SAMPLING.

No attempt was made at this time to sample these works with reference to the gold values contained and before this is done would suggest the works be cleaned out thoroughly and the sampling done in considerable quantity.

It is quite evident that these various ledges will carry values in gold and at or below the level of permanent ore, which should be at water level, satisfactory values will no doubt be obtained.

DEVELOPMENT.

To prospect this property, I would suggest that a survey be made of the relation of the different works to determine the height above the creek of the surface of the main ledge where the shaft now is, and the distance between the present face of the tunnel and these ledges, also, to plat the position of these ledges and the ledges beyond or south of them. This will determine accurately the relation of these ore showings and enable estimates of the cost <sup>of prospecting</sup> to be made.

I would recommend that the present tunnel be cleaned out and a track and car be put in and the tunnel be pushed to a point under the present shaft before any sinking is done or machinery installed.

This work may be contracted for at a rate of from \$5.00 to \$7.00 per foot and will demonstrate the value of these ledges to the tunnel level

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When the ledges are reached a small station may be shot out and a windlass used to sink to a further depth of fifty or seventy-five feet before machinery is needed, thus proving the value of the ore, without machinery, to a depth estimated at nearly two hundred feet and cross cutting a considerable section of the ground at a low cost.

I consider that the showing made on this property fully warrants further development on the lines indicated and that it has a fair chance of becoming a profitable venture when opened up and developed.

Very truly yours,



State Geologist.

Date of Examination,  
May 5-1903