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GEOLOGICAL SURVEY OF WYOMING

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A REPORT  
ON  
THE SNOWBIRD GROUP  
NEAR  
DOUGLAS, CONVERSE COUNTY, WYOMING.

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SITUATION

The Snowbird Group is situated on the Northern slope of Elkhorn Mountain, and east of La Bonte Creek, in Section 21, T. 29 N., R. 71 W., in the South Central part of Converse County, Wyoming.

Elkhorn Mountain is the most northerly spur of the Laramie Hills which extend along the Albany-Laramie County line, for a distance of one hundred and fifty miles, to Laramie Peak, and then turn west to Casper Mountain and the Sweetwater Ranges.

The elbow thus formed renders Elkhorn Mountain most easy of access from three sides, and there are two railroads within easy reach. The Colorado and Southern system reaches Glendo Station, distant eighteen miles to the east, and Orin Junction, twenty miles north-easterly, where this road connects with the Chicago and Northwestern system, and Douglas, twenty-six miles North, on the latter road.

Douglas is the main supply point for this region, and there are good wagon roads thruout this district, and the adjoining ranches and mines are connected with Denver, Cheyenne and outlying points by telephone via Douglas, Making the operation of properties here a simple matter, free from the usual isolated condition of most new mines.

EXTENT AND TITLE

This group consists of five claims, each 600' X 1500', as follows:-

The Snowbird Lode

- " Mikado "
- " Grey Eagle "
- " Morning Star Lode
- " Dansmore " .

These Claims comprise about 102 acres of land, held by location and discovery, under the Laws of the United States and the State of Wyoming, by John Foxton et al, of Douglas, Wyoming.

GENERAL GEOLOGY

Elkhorn Mountain is the most northerly exposure of the granites, which form the core or backbone of the Laramie Range, and Laramie Peak, and shows the characteristic, red, feldspathic granite of this range, with a number of schist and diorite dykes or bands, cutting this granite at a varying angle.

These Dykes vary also in size, composition and extent thruout the range, and it is here noted that the principal mineral showings, in the Laramie and similar ranges, occur in intimate connection with these dykes or bands and the adjacent granite rocks. Each showing has a characteristic oxidized mineral outcrop, and similar conditions are noted wherever work has been done to prove these surface showings at depth.

THE SNOWBIRD GROUP.

This group is located along the trend or direction of a huge band of schist, associated with dykes of diorite, lying in the granite, and exhibiting a heavily mineralized condition, at exposed portions of the surface outcrops.

The strike or direction of this schist-diorite band is northerly and southerly and shows a width of about one hundred and fifty feet, with a heavy outcrop of granite on either side of the dyke or band.

In this wide band, there are veins of quartz carrying gold and copper values, and on a vein of this description the main work has been done, but its full extent has not been developed by the present work.

This vein outcrops at intervals along the course of the ledge, and shows a heavily mineralized condition, the principal mineral being oxidized iron and quartz with copper carbonates at intervals. The outcrops show a varying width, up to six or eight feet of quartz and mineralized material.

#### MAIN SHAFT

At a point on the Snow Bird Claim, a shaft has been sunk on one of these showings to a depth of seventy-five feet, and a crosscut run West about ten feet on this shaft.

This shaft is a two compartment prospect shaft, is substantially timbered, and there is a frame shaft house erected over it. Hoisting is done by means of a horse whim, which is sufficient to handle the rock for an additional seventy-five feet, but is not sufficient to handle the shaft water, should it increase with depth.

At the shaft point, there was a heavy outcrop of a vein of quartz, heavily mineralized, and showing some copper carbonate and stains at the surface, and the shaft has been sunk on this vein, and shows more or less mineral for its whole depth.

At the bottom of the shaft, this vein shows the same heavily mineralized condition, with small stringers of schist thruout the quartz and vein matter, with the oxidized iron staining most of the vein matter, and with a number of small mud seams or slips, usually running with the

course of the vein, which seem to be filled with decomposed schist, iron oxides and talc.

The quartz shows copper and iron sulphides scattered thruout the rock mass, and with more or less copper carbonates along the seams and cracks at this depth.

The hard silicious outcrop, which characterizes these quartz-iron ledges, has given place entirely to the above described softer condition, and is found to be shallow at each point, that the vein has been opened.

In the crosscut west, a similar condition is noted, and shows the vein to be of greater width than indicated by the surface outcrop, with the additional probability that other parallel veins or stringers will be cut by further crosscut work.

#### ADDITIONAL PROSPECTING

Two methods are here possible, by mining work, and by Diamond drilling.

At the time of this examination, it developed that a Diamond Drilling outfit was available in this district, and assurance was given that a low price per foot would be made on prospecting by this means on this property.

It is recommended that, if a satisfactory price can be made, say not to exceed two dollars per foot, a drill hole be run East and West thru the formation, from the bottom of the present shaft, to determine the width of schist-diorite band, the possible occurrence of any further veins of mineral therein, and to prove the character of this adjacent formation, its relative dip and extent, in order to decide upon further sinking and development work.

This drill hole should penetrate the granite on either side,

and its relation to the surface showings, as well as the showings made by the cores, all carefully recorded, as upon the showings of this drill hole would depend future work on the property.

After this work has been completed, it would be well to run a couple of holes from convenient points below the shaft, at a satisfactory working angle, to obtain as great depth as possible, to determine by this means the possible extent of any ore at a distance from the shaft, their possible depth, extent and value, as far as may be done by drill holes.

#### SHAFT DEVELOPMENT.

After this work has been completed, it is suggested that the present shaft be straightened up, and sinking resumed, as a vertical two-compartment shaft, to be equipped with steam hoist, pump and suitable plant for deep work, say at least five hundred feet of depth, and that the formation be crosscut at convenient intervals with drifts on the vein or best ore showing, this work to be determined by conditions encountered either in shaft or drill holes.

North of the shaft, adjacent to the outcrop of the vein, is noted a heavy ledge of diorite, which is covered at the present shaft, or possibly does not extend that far south. Should, however, this diorite be encountered in sinking the straight shaft, it is recommended that the shaft be continued on the diorite, following the dip of the ore, instead of trying to sink the straight shaft thru the hard diorite, which would be unnecessarily expensive for prospect work.

This matter, however, should be proven by the drill hole, before the shaft work is started, and is one of the reasons for recommending this drilling work.

### A DRAINAGE TUNNEL

Below the west line of the claims, a tunnel site is noted, which, in case of a heavy flow of water at considerable depth in the present shaft could be utilized as a drainage tunnel, in order to avoid hoisting the shaft water to the present surface, as this would eventually be very expensive, if a large quantity of water is encountered.

This tunnel matter need not be taken up, until deep work renders it necessary, but it is just as well to keep it in mind, should future development warrant it.

### TIMBER & WATER

There is practically no timber of this group, aside from what may be used for small timbering or wood fuel, but shaft timber and lumber may be had in this vicinity at sixteen dollars per thousand, and supplied as required.

La Bonte Creek runs within two or three miles of the property, and furnishes sufficient water for milling purposes later, and there is sufficient elevation from the present shaft to the Creek to insure the successful operation of a Gravity Tramway Line, to any possible mill site.

Mine supplies of all sorts may be had at Douglas, as a supply point, and machinery and other requirements may be filled at Denver, two hundred and fifty miles distant.

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The Snow Bird Property is considered a first class prospect, and it is considered that the showings made on the surface and in present prospecting work fully justify the expenditure necessary to open up and prove them at depth, as herein outlined.

The conditions here noted indicate that this ledge is underlain with commercial copper and gold ores of a concentrating grade, and need but development to become commercially profitable.

Respectfully submitted,

*Henry A. Beeler*

State Geologist.

Date of Examination,  
October 18th, 1907.

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