

1905
MR 115-55

STATE GEOLOGIST AND
EX-OFFICIO INSPECTOR OF MINES.

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

January 30th, 1905.

Emerald Mining Company.
Wheatland, Wyoming.

Gentlemen:-

Herewith I hand you brief report on the Emerald Group of claims owned by your Company at Sturgeon Gulch and trust it may aid you in developing what certainly appears to me to be a good prospect.

Very Truly Yours,

Henry C. Beeler
State Geologist.

GEOLOGICAL SURVEY OF WYOMING

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

A BRIEF REPORT
ON
THE EMERALD GROUP.
NEAR
WHEATLAND, LARAMIE COUNTY.
WYOMING.

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LOCATION.

The Emerald Group, which consists of three claims, namely, the Emerald, Emerald No. 2 and Emerald No. 3, is situated in Sturgeon Gulch, in Section 8, T. 23 N., R. 70 W., about 23 miles south and west of the town of Wheatland, in Laramie County, Wyoming.

These claims are full claims, each 600' x 1500', held by location and discovery under the laws of the United States and the State of Wyoming, and comprise about 61 acres of land.

FORMATION.

The general formation of the Laramie Hills, in the foothills of which these claims are situated, consists of a huge core of granite, usually of a red feldspathic variety, having a general trend or direction north and south, with bands and masses of gneiss and schist at intervals throughout the ranges and on one of these schist exposures the Emerald group has been located.

These schists are, as a rule, the different varieties of black mica hornblende schist with occasional bands of gneiss and also intrusive rocks which usually lie in the schist and have the same dip and trend. Other rocks are noted but are usually limited in extent and their influence is local.

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Emerald, 2.

THE EMERALD GROUP.

At this point the schists vary in trend and dip and there is evidence of considerable disturbance in the formations. North of the Emerald group a ridge of gneiss and granite is the most prominent feature which extends east from the main ranges and passes under the wash of the plains on the eastern end, with a general dip towards the north.

South of this ridge occurs a schist band or mass but shows a varying dip and trend as above stated, the apparent point of change or center of disturbance being at the present shaft on the Emerald claim, where the schists west of this shaft have a north-east and south-west trend, and east of it, a north-west and south-east trend.

As far as can be noted on the surface without a survey and plat of the different bands, the change is abrupt and caused by conflicting movements in the formation, resulting in the broken and crushed condition noted at this point.

From the shaft point south-west along the trend of the schists, is noted a heavily mineralized ledge lying in the schist, some of the outcrops showing a heavy iron cap with the usual oxidized forms of iron and also stains of copper carbonates at intervals. Several small holes have been opened along this lead and on the pedges parallel with it but the main shaft is the principal showing in this lead, at the northerly end of the schist.

MAIN SHAFT.

This has been sunk to a depth of fifty feet following the dip of the ledge; the material is schist, varying somewhat in composition but usually a black mica schist and the whole material much crushed, altered and replaced. The altering material is silica and lime, the latter form-

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Cheyenne.

Emerald 3.

ing bunches and streaks of spar or calcite.

Pitching across the dip of the schist are noted numbers of stringers and streaks of quartz and calcite which carry the ore at this point. This ore varies from a speck and thin streak to masses many pounds in weight; this ore has been taken out in sinking, sorted roughly and about four or five tons is ready for shipment at convenient times. The principal ore here is that yellow pyrites of copper and iron known as chalcopryite but some bornite and chalcocite or copper glance, as well as the usual copper carbonates and some oxides near the surface are also noted. The shaft has not yet passed through the whole oxidized portion and a considerable portion of the ore shows the oxidized forms which will, however, give place to the sulphide forms with depth and it is very probable that the grade of ore will be low, suitable for concentration and smelting, in common with other similar ores in this State.

These stringers all pitch towards the north west and appear to become stronger and heavier with depth and indicate that the ore bodies will lie at a point in this direction but at a greater depth than now attained. With this end in view I recommend that the present shaft be sunk to a depth of 150 to 200 feet and drifts run to the point indicated by the stringers at that depth and cross-cuts run to develop the possible showings at that point.

This can be done without machinery unless a very heavy flow of water is encountered in which event a pump will, of course, be necessary. A Common Sense Horse whim will handle the work to the above depth, as well as any ordinary amount of water that may reasonably be expected at this season of the year, when the surface water is of small amount.

The State of Wyoming.

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Cheyenne.

Emerald, 4.

A drift has been run near the bottom of this shaft and has shown considerable ore, and this work may be carried on when convenient, following the ore and saving it as well as the ore taken out in the sinking work.

This work will prove the property to a commercial depth and indicate what will be necessary for permanent work, so this question as well, as that of ore treatment etc may not be taken up at this time. Shipments of the ore mined during development work may easily be made, as roads are first class from mine to station and a favorable rate could no doubt be secured, for both transportation and smelting.

Supplies of all kinds may be secured at Wheatland at reasonable rates and general conditions are favorable for economical working.

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It is considered that the above presents a good prospect for development with every reasonable assurance that a producing property will be developed, if properly handled and work done on the ore.

Respectfully submitted.



Date of Examination.

State Geologist.

January 28th, 1905.