Property File

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REPORT OF EXAMINATION

OF THE

RED ROCK GROUP

AND ADJACENT GROUND

PEND d'OREILLE DISTRICT

B. C.

To

Goldfield Consolidated Mines of Nevada.

By

Charles C. Starr,
October 29, 1930.

INTRODUCTION: This property was examined in December 1929 and a report made. Since that time further work has opened a larger and richer body of ore.

LOCATION: The property is in the Nelson Mining Division near the International Boundary, one mile northwest of the Salmon River, and a mile and a half northeast of the Pend d'Oreille River. The nearest towns are Salmo to the north and Waneta to the west.

PROPERTY: Options are held on several adjoining groups of claims, and a number of claims have been located for the Company. None of the claims are Crown granted.

The mineral showing is on the Red Rock Claim which is now being surveyed. All the promising ground in the immediate vicinity is well covered.

Surface rights to most of the area are separately owned, and necessary parts will have to be purchased.

TOPOGRAPHY: The ground lies on the southeast slope of a low mountain at elevations between 2500 and 3500 feet. The surface slopes generally average from 15° to 30° and are free from cliffs, but largely covered with soil and thick brush. Contours on the Geological Map, herewith, while not accurate, give a fair idea of the topography.

TRANSPORTATION: The property may be reached from Salmo, B. C., Metaline Falls, Wash., or Waneta, B. C. The road to Waneta is sixteen miles long, and poor; that to Salmo, B. C. is 25 miles long, of which 18 or 20 miles is good; that to Metaline Falls is about 17 miles long, of which 12 miles is splendid road. Salmo is the usual shipping point for the district.

From the main road along the Pend d'Oreille River, a steep, crooked side road leads about a mile and a half toward the property, ending at a pole-camp. Thence a good trail leads to the mine workings, a distance of about a mile and a quarter and 850 feet higher. A road could be built along the line of the trail with light excavation except for about a thousand feet where the work would be rather heavy.

WATER: There is very little water on the property except in McCormick Creek. This, at the elevation of the workings is probably sufficient for mine and domestic use, and increases somewhat lower down. A mill would probably be located on the Salmon or Pend d'Oreille River where there is ample water for all purposes.

TIMBER: Good timber is plentiful, though rather scattered, but will have to be purchased from owners of the surface rights.

CLIMATE: The climate is comparatively mild and the snowfall is said to be less than two feet.

EQUIPMENT: There is no equipment or buildings on the property. A cabin at the pole-camp which belongs to the owner of one of the group of claims is now being used.

HISTORY: Several of the claims have been held for several years, but most of them are this years locations. Nothing of interest was found until 1929 when ore was uncovered at the shaft on the Red Rock claim. During the past summer trenching at the intersection of the mineralized fracture through the shaft and a bed of limestone disclosed an

attractive body of silver-lead-zinc ore.

DEVELOPMENT: (See Map) The only work done is near the center of the Red Rock claim, and consists of a ten foot shaft, several open cuts, and some stripping and trenching.

GEOLOGY: Regional (From C. G. S. Memoir 38, Survey of the 49th Parallel, by R. A. Daly).

The Pend d'Oreille group forms the chief country rock of the district. It is a thick group of heavily metamorphosed sediments which are in a zone of maximum orogenic shearing and mashing, with complete re-crystallization.

The group is roughly separated into two parts, (1) schists, including greenstone, amphibolite, phyllite, quartzite and thin impure limestones, and (2) massive limestones and marble.

The original bedding is very obscure, and no columnar section is possible; it is impracticable to use limestones as a horizon marker, as it has acted as a plastic material and sometimes squeezed into pods.

Near the Salmon River dark greenish or gray to black phyllite is predominant, with blackish quartzite. The dip and strike of the schistosity are very variable. The age of the formation is uncertain but believed to be Ordovician or Carboniferous.

(Recent work by Dominion geologists indicates the probability that the Pend d'Oreille formation is pre-Cambrian).

Local: The Red Rock and adjoining claims lie chiefly in the Pend d'Oreille schists but also include some granite of the Nelson batholith.

The schists are usually dark in color, variable in character, and difficult to classify by eye. On one hand they grade into quartzites, and to limestones on the other. Only those beds which are fairly pure and similar to the massive Pend d'Oreille limestones are classed as "limestone" on the map herewith. No very distinctive beds of quartzite were noted, and on the map they are included with the "schist" as it proved impracticable to make a separation in a limited time.

The strike of the sediments varies from east and west to N 45° E, with a usual strike of about N 70° E. The dip is from 30° to 70° southeast, with a usual dip of about 45°. They have been strongly sheared, the schisting striking from N 10° to 20° E and dipping quite steeply eastward. The schisting has usually obliterated the bedding which can only be determined with certainty by tracing some distinctive bed (usually limestone). It has therefore been impossible to trace out any definite folds in the formation from the meagre outcrops projecting through the soil.

The shearing, sometimes accompanied by silicification, has influenced the topography to a greater extent than the bedding. Granite, associated with the Nelson batholith (Jurassic) occurs on the north part of the Red Rock claim, and the contact, while extremely irregular, has a general east-west strike and unknown dip. Many irregular dikes and tongues project a short distance into the schists. According to Daly, the granite covers several square miles to the northeast of the Red Rock.

Details at ore showing: In the ten foot shaft there is a strong N 15° W vertical fracture along which there is a showing of lead and zinc. Samples of this, taken in 1929 were as follows:-

	Width	Oz.Au.	Oz.Ag.	%Pb	%Zn.
Across vein, N side	2.3	.04	7.6	9.85	3.2
" " S "	1.6	.01	2.1	3.30	4.55
Best 6" on N side	.5	.05	7.55	8.90	1.40

The rock at the shaft is crushed calcareous schist, some of which, near the bottom of the shaft, is almost limestone.

The cuts and trenches north from the shaft show the same, or parallel, fractures but no ore, and in fact are too shallow to show anything definitely.

In the large cut south of the shaft there is a strong pre-mineral fracture, - probably the same as at the shaft - from which ore has penetrated the adjoining rocks, but only for a short distance, as the east-west stripping at the north end shows the ore quits abruptly a few feet from the fracture. Along the east wall of the cut ore and un-replaced, contorted limestone show, but are not sufficiently exposed to determine their relations; on the west side, opposite, there is a face of ore of unknown penetration. Near the south end of the cut, barren, blue-white, banded limestone striking east and west and dipping south forms an apparent hanging wall to the ore.

The intersection of the north-south fracture with the limestone hanging-wall has not been uncovered and it is not known if the mineralization extends to the south along

it. It is not to be expected, however.

To the westward ore follows the wall, which bends slightly southward, to the limits of the stripping, and also extends northward to the limits of the stripping. In the small cut (El. 3098) west of the main one, barren limestone and schist and a strong east-west fracture show. In the small cut (El. 3088) east of the main one, limestone with traces of mineralization shows. The first cut south of the main one is now filled, but it is said that no ore but barren limestone was found. The next cut is too shallow but shows barren limestone at its west end. In the stripping at the southwest corner of the main cut the ore was capped by one or two feet of barren rock, - probably impure limestone.

Three moiled samples were taken across the ore at the west, the north, and the south ends of the cut, with the following results:-

No.	Oz.Au.	OzAg	%Pb	%Zn	%Fe.	**	Width cut
2207 West	Tr	20.4	38.1	6.7	20.4	20.2	7.0 plus
2208 North	Tr	4.4	8.2	8.4	28.8	26.2	8.0 full width
2209 South	Tr	2.3	2.5	14.9	30.8	25.6	9.0 plus

Note: ** - Iron as FeO.

The ore generally appears to be a replacement in limestone, and occasionally and locally it replaces a silicious schist. It consists of galena, dark brown sphalerite, a little coarse pyrite, and their oxidation products which are accompanied by a little manganese.

The gangue is unreplaced rock, calcite, siderite and ankerite(?)

Apparently ore has formed along the north-south fracture where it cuts favorable rocks and in the crushed area due to the sharp folding of the beds, especially in the limestone. How far the ore may follow the lime beds is to be determined; it is known however that the fold is a small one. No certain conclusions can be drawn from the present development.

Details of adjacent geology: No outcrops of limestone were found beyond those shown on the map, nor was there limestone float for more than a few feet along the strike; it is possible, though hardly probable that the limestone beds are elongated lenzes and pinch out. Lacking distinctive strata it was impossible, at least in a limited time, to locate any definite folds such as that at the ore occurrence. The north-south fracture through the shaft and the large open cut coincides in dip and strike with the regional shearing; no other fracture of similar strength was found, although there probably are others.

A prong from the main granite mass can be traced directly toward the ore-showing and to within three hundred feet of it; there is however no evidence that it has had any influence in localizing the ore. The limestone beds, where found, show no evidence of mineralization except at the main showing. The thickness of these beds is frequently indeterminate, but apparently never over ten or fifteen feet, and usually less. The limestone shown in the lower center of the map is not over four or five feet thick, but shows wide as it dips nearly with the surface.

RECOMMENDATIONS: The present showing is very attractive, as far as it extends, and fully justifies development under favorable terms of option. In order to obtain the most information in the shortest time I would recommend the following:-

1. Run open cuts or trenches on the surface, as follows: Run the small cut (El. 3088) east of the main cut westward into the ore; trench deeply from the limestone westward to the stripping at the northeast corner of the main cut; trench north to show the full width of the ore at the southwest corner of the main cut; trench deeply northwest and southeast from the small cut (El. 3098) southwest of the main cut. Further surface work should be guided by the results of the above.

2. Drive a short crosscut tunnel to cut the ore at about twenty five feet depth. A tunnel started about 50 feet southeast of the big cut will attain this depth with a drive of 35 feet to the expected position of the ore. A tunnel seems advisable since the ore is, in places at least, capped by barren rock at the surface, indicating the possibility that the present showing is just at the top of an orebody. A deeper tunnel would take too long to drive at present.

CONCLUSION: The showing is very unusually good for the limited amount of work done and development is recommended, but must be undertaken with caution since there is no certainty that orebodies of substantial size are present.

The present showing appears to be due to the combined influence of a cross-fracture and a sharp fold in limestone beds.

The Pend d'Oreille limestones have proven fairly productive in other parts of the district, containing such properties as the Reeves-McDonald (2½ miles south of the Red Rock), the Pend d'Oreille Lead & Zinc, Grandview, Hudson Bay, Emerald, and others. The schists are not known to contain workable ore deposits.

The study of the local geology gave mostly negative results since it was not possible to trace the limestones far, nor to locate any particularly favorable areas for intensive prospecting on account of meagre outcrops and the interferance of cross-shearing.

Respectfully submitted,

Chas. C. Starr