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Property File

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REPORT

OF AN EXAMINATION

OF THE

GOLD CLIFF GROUP

(UNITED EMPIRE GOLD & SILVER MINING CO. LTD.)

STEWART. B. C.

To:-

Base Metals Mining Corporation, Ltd.

By: Chas. C. Starr,  
June 17th., 1929.

INTRODUCTION:

Mr. William Dann, Managing Director of the Company acted as guide. Workings on the Lucille claim of the Bayview property, which is under entirely different ownership, were also inspected since they are on the Main Vein of the United Empire property.

Inspection of a number of the surface exposures, and many of the open cuts was prevented by snow which still lay in all depressions.

LOCATION:

The property is situated in the Portland Canal district of the Cassiar Mining Division, two and a half miles north of the town of Stewart, on the west side of the Bear River.

PROPERTY:

The property consists of fifteen claims and fractions, as follows: Gold Cliff Nos. 1, 2, 4, 5, and 6, Gold Cliff Fractions Nos. 1, 2, and 3, Jerry Dog, Tom, Barney, Margaret, Gold Fraction, Tom Fraction and Cliff Fraction. It is controlled by the United Empire Gold and Silver Mining Company, Ltd., of which Mr. William Dann of Vancouver, and Stewart, B. C., is Managing Director. There are 4,000,000 shares of stock.

CLIMATE:

The winter temperatures are comparatively high for the latitude, but there is a heavy precipitation, and very deep snow is usual in the winter. At the altitude of the mine, not more than three or four months in which the ground is bare, can be expected.

TOPOGRAPHY:

From the valley of Bear River, which is about at sea level, the mountains rise to elevations of 5000 feet, and over, within a distance of less than a mile. On the Gold Cliff Group the slopes are broken by occasional cliffs and narrow flats. The camp is at an elevation of 3100 feet.

TIMBER:

The camp is situated practically at timber-line, and the tunnels are a few hundred feet higher. Some scrub hemlock for fuel can be had at the level of the camp.

On the lower part of the property there is considerable timber, mostly hemlock, of fair size.

WATER:

Water is plentiful whenever the snow is melting, but is rather scarce during the winter, however, it is probable that a convenient supply could be developed sufficient for camp and mine use.

During the summer months sufficient water can be collected under a good head to operate a small compressor. In the Bear River Valley there is ample water for milling purposes, and it is probable that hydro-electric power could be developed the year around from some of the side creeks.

TRANSPORTATION:

An auto road leads up Bear Valley from the town of Stewart, and in going to the Gold Cliff property this is followed for about a mile, thence a very steep, rough, trail some three or four miles in length leads to the mine.

Application has been made to the Provincial Government, to relocate parts of the trail and to improve the remainder. An aerial tramway about three quarters of a mile long would connect with the auto road in Bear Valley, or can be built to tidewater in about 3½ miles.

Stewart is served by Canadian National, and Union steamers.

EQUIPMENT:

Beyond a few tools for hand mining and a fairly good double cabin which will accommodate eight or ten men, there is no equipment.

DEVELOPMENT:

Development consists of a number of shallow open-cuts, trenches and two tunnels. The upper tunnel, at 3375 feet

elevation, is a drift on the Main Vein and is 140 feet long running N. 32° W. The lower tunnel, at 3200 feet elevation, is a crosscut, now 230 feet long, but will have to be continued some 500 feet to cut the vein.

The vein above the drift tunnel has been traced by trenches twenty-five to fifty feet apart for about 500 feet; only six or eight of these cuts could be seen on account of snow.

GEOLOGY: The rocks of the district are of Jurassic age (see Memoir 32, Geological Survey of Canada) and are briefly as follows: from the youngest to the oldest;

quartz porphyry and quartz diorite - large dikes genetically connected with the granite batholith.

Granite and granodiorite of the Coast Range batholith.

Nass Formation - argillites and elastic beds.

Bear River formation - consisting of argillites, tuffs, agglomerates, porphyrites, greenstones, etc. There are no observable contacts between members.

Bitter Creek Formation - altered argillites, tuffs, limestones, etc.

The Bear River formation contains most of the ore deposits of the district, although occasional ore occurs in the Bitter Creek formation, and in the quartz porphyries.

The Main vein on the Gold Cliff Group occurs in the argillites and greenstones of the Bear River formation which forms the country rock over the greater part of the property. Granite occurs just south of the property, the contact being just north of the center of the Lucille claim, of the Bayview Mining Co., running in a NE - SW direction and dipping steeply NW. A large quartz porphyry dike occurs near the east side of the Gold Cliff No. 4, claim, striking in a northerly direction.

MAIN VEIN: What is known as the Main Vein is more properly a shear-zone which strikes N.  $20^{\circ}$  to  $40^{\circ}$  E. and dips from  $80^{\circ}$  to  $65^{\circ}$  west. It has been traced for 1000 feet, about half on the Lucille claim and half on the Gold Cliff No. 2 Fraction.

While the Lucille claim does not belong to the United Empire property, the occurrence of the vein on it will be described on account of its bearing on the remainder of the vein.

The lowest exposure of the vein is just above the granite contact, at elevation of about 2875, where it outcrops for 75 feet with a width of about three feet. The walls are quite definite. A tunnel was started in the granite to cut this, but after encountering a weak shear in the granite, it turned off along the contact, and did not enter the ore-bearing formation.

At elevation 3025 two nearly parallel tunnels, the longest of which is 105 feet were driven on the shear zone, which is here ten or fifteen feet wide, and in the Bear River formation. They did not encounter any ore, although it is reported that there were one or two spots where low values were found. Some disseminated pyrite and a little epidote and quartz are present.

Further NW about 150 feet and 100 feet higher, there is an open-cut, in an outcrop about twenty feet long, from which ore has been sacked which is said to assay \$250 per ton. Here, the shear zone is about ten feet wide; there are three feet of rich ore at the top of the cut, while at the bottom it is much lower grade.

About 250 feet northwest of this cut the vein enters the Gold Cliff No. 2 Fraction of the United Empire Co., and is followed by a 140 foot drift tunnel which starts at the property boundary. It follows the shear zone, which is here of unknown width but apparently narrow, which strikes N.  $32^{\circ}$  W, and dips  $65^{\circ}$  west.

It is reported that ore was found in the bottom of the tunnel from the portal inward for a distance of 35 feet. The back of the tunnel, here, is oxidized and leached and appears to have little value. From the 35 foot point to the 120 foot in the tunnel, the shear zone appears to be nearly barren, but an average of eight to twelve ounces of silver is reported.

From the 120 foot point to the face of the tunnel very good ore about three feet wide is reported but sampling shows this to be too low grade to be profitable, the average being:- .015 oz. Gold, 7.0 oz. Silver, 0.8% Lead, 1.2% Zinc.

This part of the vein is not essentially different in appearance, from the barren part except that it contains a little finely divided galena.

One hundred and fifty-four feet northwest from the portal of the tunnel an open cut shows the shear-zone and occasional specks of galena over a width of twelve feet. One hundred and thirty feet further northwest, at elevation 3475, an open-cut shows two feet of rich ore with considerable galena; a cut ten feet back from this shows little galena and is said to be, and looks, low grade. Several open cuts in the next one hundred feet northwest show the continuation of the shear zone and occasional specks of galena, but are low grade. From this point onward, the shear-zone is covered with deep snow. It is said to outcrop, or to have been opened by cuts, for a further distance of nearly two hundred feet, and that good ore occurs through it.

OTHER VEINS AND SHEAR ZONES:

A vein about 50 feet west of the Main vein and parallel to it, is reported on the Lucille claim near the Gold Cliff No. 2 Fraction line. It is said to have been traced

150 feet and to show a few inches of high grade ore. It could be seen at one point only on account of snow, where it showed eight inches of mixed galena.

A small vein is reported on the Gold Cliff No. 2 Fraction, several hundred feet east of the main vein, but so far as known it does not carry any ore.

Near the east point of the Gold Cliff No. 2 Fraction claim, a trench following a cross fracture in a quartz porphyry dike shows a strong impregnation of the rock with pyrite and very minor amounts of chalcopyrite.

On the Gold Cliff No. 5 claim a shear zone occurs in which a small cut exposes stringers and grains of arsenical pyrite. No attempt has been made to follow up these showings.

VEIN FILLING: The vein is composed of sheared rocks of the Bear River formation (tuffs, greenstones, argillite, etc.) through which there is considerable disseminated pyrite, occasionally spots and streaks of galena accompanied by sphalerite, and rarely a little chalcopyrite. Ruby-silver spots and grains sometimes show, generally in proximity to the galena. There is very little quartz and no calcite was noted. Except where galena and sphalerite is present the "veins" can often only be distinguished from country rock by the shearing.

Mr. Dann states that very rarely is there an important amount of silver unless a little galena is present.

SAMPLES: The following samples were taken:-

Gold Cliff No.2 Fr., in Drift Tunnel. Ft. Wide.	Oz. Au.	Oz. Ag.	% Pb.	% Zn.
#2187 at 115 feet from portal	2.0	.03	6.9	0.1 0.6
2186 " 120 " " "	1.9	.02	12.7	1.5 2.2
2185 " 125 " " "	2.1	.005	7.8	1.1 1.8

Cont'd.	Ft. Wide.	Oz. Au.	Oz. Ag.	% Pb.	% Zn.
# 2184 at 130 ft. from portal	3.4	.01	7.4	1.2	1.5
2183 " 135 " " "	4.0	.01	5.0	0.6	0.8
2182 " 140 " " " (face)	4.2	.01	1.8	0.1	0.3
Gold Cliff No. 2 Fr. from open-cuts above drift tunnel.					
2191 at 154 ft. N-W of tunnel, chips over width of	2.0	.02	3.8	-	-
2190 at 285 ft. N-W of tunnel, taken across "high grade"	1.9	1.5	276.7	11.1	7.9
2189 at 310 ft. N-W of tunnel, rough chips across best	1.0	.005	0.9	-	-
2188 at 365 & 410 ft. N-W of tunnel chips from best part in two cuts.	3.0	.01	1.8	-	-
Gold Cliff No. 5 Claim.					
2192 specimen of arsenical pyrite stringer in small cut	0.2	0.45	1.4	-	-
East end Gold Cliff No. 2 Fr.					
2181 Chips of best spots across 15 ft. of trench, iron & copper sulph.	-	0.02	0.3	<i>Copper-Tk.</i>	
Lucille Claim of Bayview property.					
2193 Sorted ore from outcrop of 3 ft. vein over lowest tunnel	--	0.06	64.8	37.4	17.9

Samples Nos. 2182 to 2187 and No. 2190 are carefully taken although small, channel samples; the "chip" samples are not representative of the full width but are chips of the best appearing ore.

GENERAL NOTES:

The Main vein shear-zone, has been definitely traced for some 500 feet on the United Empire property and varying widths of ore of more or less value have been found in practically every cut, although many of them do not expose the full width of the zone, and in most of the cuts the values obtained are very low. The greatest width of ore yet exposed on either the Gold Cliff or



the Bayview is about four feet.

The good ore appears to occur in small lenses, or pockets, scattered through the shear-zone rather than in definite ore-shoots. While at some points the ore is enclosed between apparently good walls, it is probable that on the whole the walls are indefinite and irregular.

In the Main vein ore has been exposed at intervals over a height of nearly 750 feet.

There has been a very widespread and sometimes strong pyritization of the rocks of the Bear River formation, and of the quartz porphyries over the area examined, which suggests the possibility of a large low grade ore body where conditions are especially favorable.

The property as a whole has been very imperfectly prospected, and the formation, fracturing, and widespread mineralization make it an attractive area for intensive prospecting.

The Main vein, if it extends that far, will lie in the United Empire property for 4000 feet in continuously rising ground to the northwest of the drift tunnel. The Drift Tunnel is started at the lowest point of outcrop on the Company property; the Cross-cut Tunnel, approximately 175 feet lower, will have to be nearly 700 feet long before it should encounter the vein, and any deeper tunnel started on the Company property would be of an almost prohibitive length. As the Lucille Claim of the Bayview property shows the shear-zone and ore to an additional depth of nearly 500 feet, as well as giving opportunities for deeper crosscut tunnels, it would be a great asset to the United Empire if it could be obtained. The shear zone on it is too short to be economically

worked as a separate operation.

It will be difficult if not impossible to find any location for a tunnel in proximity to the main vein, which will be entirely safe from snowslides in winter, although it is evident that no slides ran over the mouths of the present tunnels last winter. Traveling, both between tunnels and camp, and between camp and town will apparently be quite dangerous after the snow becomes heavy.

CONCLUSION:

The property is situated in a well mineralized zone near water transportation, but during the prospect stage before a tramway is built transportation will be expensive.

The main shear-zone has been traced about a thousand feet on this and the adjoining property, over a difference of 300 feet in elevation, but the ore so far found, while some of it is of high grade, is in small bunches and lenses. I see no reason to expect any radical change in depth after the surface oxidation, which is only a few feet in thickness, is passed. This being the case, the expectation would be that a few hundred tons of shipping ore might be found, but that as a whole the shear-zone would be too low grade to be workable.

The property should be more thoroughly prospected and sampled than it has been, on the possibility that there are other more attractive high grade veins, or that some of the more heavily pyritized zones may show large bodies of low grade ore.

A little more work should also be done on the main vein in the vicinity of the high grade spots, especially if the Lucille claim can be obtained without any payments for a considerable time, but while a limited amount of work is justified before the prop-

erty is abandoned I consider the chances of developing a profitable mine are poor and recommend that your option be dropped.

Respectfully submitted,

*Chas. C. Starr*