REPORT OF EXAMINATION OF THE BLACK COALT MINE BANDON, B.C.

To:

Mr. F. H. Weekes, Manager,
Porcupine Goldfields Development & Finance Co.Ltd.

By:

Chas. C. Starr,
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THE BLACK COALT GROUP

DISTRICT: The Slocan Mining Division, B. C.

KIND OF MINE: The valuable metals in the ore are silver, lead and zinc.

PRESENTED BY: Chas. I. Vandergrift and brother, New Denver, B. C.

DATA SUBMITTED: Brief description of property.

PROPERTY: The property consists of the Black Coalt claim, (L. 1721 G.1) which is under bond to George Petty of Sandon, B. C.; the Silver Ridge and Silver Ridge Fraction claims (unsurveyed) which are owned by John Cory of New Denver. B.C.

LOCATION: The property is situated on the west side of Carpenter Creek, two and a half miles northwest of Sandon, at an elevation of 4600 feet. It adjoins the American Girl claim which was the most productive ground of the Queen Bess Mine.

PRICE & TERMS: The price asked is $75,000; $10,000 is due in eighteen months, and the remainder at the end of a further twelve month period. The royalty on ore shipped is 15%.

TRANSPORTATION: The property is connected with Sandon, and the railway, by a broad trail of good grade, about three miles in length. The mine could easily be connected with the railway, by a tramway a scant mile in length.

POWER, WATER, ETC: It is said that water of sufficient quantity and fall to operate a small plant and mill can be obtained within a mile and a half. Water for domestic use is available at the camp. There is a fair amount of good mine timber on partsof the claims.

The mine is situated on a rather steep easterly slope but neither the mine nor the trail is in danger from slides.

EQUIPMENT: At the upper tunnel of the Black Coalt there is a blacksmith shop and ore sorting shed, and the tunnel is equipped with

rails and a car. At the lower tunnel there is a timber shed, and rails are laid to the face.

Between the tunnels there is a fair cabin of sufficient size to handle a dozen men.

DEVELOPMENT: Considerable ground-sluicing has been done but without much result. There are few open cuts on account of thick overburden. The chief work has been done in two tunnels of which the Upper Tunnel (elevation 4770 feet) extends across the north east part of the Black Coalt claim to the Palmita line. In this tunnel nearly eight hundred feet of work has been done, exclusive of raises and several short intermediate levels. The ore shipped was taken from above the inner end. Less than 200 feet of the main tunnel is on the vein.

The lower tunnel at an elevation of 4600 feet, has a total length of 620 feet of which none is on the vein; no raising has been done. Eight feet lower there is an old caved tunnel about 500 feet in length.

GEOLOGY: The country rocks consist of the metamorphosed members of the Slocan Series, mainly argillites, which locally are nearly flat. Two or three dikes of granite-porphyry also appear in the tunnels. The rocks are generally badly crushed, without any great local contortion, and there has been a very considerable amount of small faulting which cuts and throws the vein small distances at frequent intervals.

The majority of the faults belong to two systems, the earlier being flat, and along the bedding planes of the rocks, with a throw of the upper segment to the northwest; above the upper tunnel these faults occur every few feet. The second system consists of faults striking northwest and southeast and dipping at

medium angles to the south west. These faults throw the vein to the right going from the portal inward; the movement is small but larger than those of the first series.

VEIN: The principal vein strikes N 45° E and dips very steeply to the southeast. In character, it is typical of the veins of the Sandon region and consists of argentiferous galena and sphalerite, with a very limited amount of quartz in a gangue of crushed graphitic slate.

In the southwesterly intermediate level the full width of the vein is 19 feet; the ore streak, however, is not over two or three feet in width. The latter occurs on the hanging wall; on the footwall there is a streak which is too low grade and narrow to form ore, the filling between the ore-streaks is altered slate with very low values or none at all. In other parts of the Upper Tunnel workings the width of the ore streak and the vein as a whole is badly obscured by faulting.

On the main level the vein is badly broken up but appears narrow except in the east drift (near the 60° fault on the map) from which locality a small amount of ore was shipped.

In the crosscuts to the east of this the vein shows only as irregular fragments of ore in a crushed zone. At the southwest face of the drift the vein is very weak and narrow.

In the Lower Tunnel a small irregular vein of zinc ore shows over the "caved Tunnel"; it is reported that a small amount of zinc ore was found in this tunnel.

PRODUCTION: Most of the production from the mine was made from the Black Coalt vein in the last year. This ore was hand sorted and five shipments made to the custom concentrator of the Consolidated Mining & Smelting Cp., at Trail (of which four are given below) and two shipments of crude ore for direct smelting.

This ore was taken from the stopes (not shown on the map) above the intermediate levels and came from a badly faulted zone where it had to be "gophered" from between faults.

The following tabulation shows the values etc:-

Milling Ore					Net Smelter returns per ton
Lot	Oz.Ag.	Pb %	Zn %	Tons	
1	28.8	18.8	14.1	38.3	$32.
2	34.9	26.1	16.6	13	36 (approx)
3	43.	29.1	21.5	43.9	43
4	32.7	19.2	22.2	31.3	32
Smelting Ore					
	63.3	60.0	10.3	14.9	90
	79.7	65.6	10.4	41.9	86

It is impossible to estimate the tonnage or value of the lower grade ore that could have been treated if there had been a concentrator on the ground, but it is not believed to be very large.

MILLING: The milling ore shipped was concentrated in an over crowded custom plant and it is to be expected that considerably better results could be obtained under more favorable conditions.

The following table gives the approximate average results:-

Class	% of Wt.	Ag.Oz.	Pb %	Zn %
PB Conc	30	68	65	10
Zn "	27	43	8	49
Tails	43	7½	5	5½

GENERAL NOTES:

Little can be learned of the vein from the surface as there is a deep covering of soil. There has been rather extensive ground-sluicing which however showed little but float ore, and has now caved.

The district in which the property is located has been a productive one and mines with good records lie on all sides at various distances. This is a matter which is worthy of bearing considerable weight in a district such as that around Sandon.

The vein as it now appears in the Upper Tunnel is of little commercial value, in places on account of the narrowness of the ore-streak, and in other places on account of the closely spaced faulting which has broken and dragged it into small segments in which the ore and waste are badly mixed and expensive to extract. This fracturing has also put the vein into such a condition that it is difficult to form a definite opinion as to its probable size and values at greater depth.

The Lower Tunnel has now reached a point where an extension of 150 feet should encounter the vein at a depth of about 170 feet below the present exposures in the Upper Tunnel provided the series of flat faults do not extend below the Upper Tunnel Level. In case they do, the distance required to be driven should be reduced. The last 260 feet of the Lower Tunnel has been driven to the northwest along a fault plane and has had to be heavily timbered. If it should be extended it would be advisable to drive through the solid ground to the westward as there is a very real possibility that the vein could not be identified in the fault plane.

The ore that has been encountered to date has been of very good value and would make a fine ore for concentrating and separating the lead and zinc. It is probable that satisfactory arrangements could be made for much improved custom milling, or for the rent of a plant to treat it if a sufficient tonnage were developed.

If the Palmita claim could be obtained without a material increase in the price asked for the Black Coalt Group, the extension of the Lower Tunnel to cut the vein would be justified, since the cost of advancing it to the projected position of the vein would not exceed $2000 on contract. Without the Palmita claim, I do not believe such work is justified on account of the very limited distance the vein would lie in Black Coalt ground.

SUMMARY & CONLUSION:

The district in which the mine is situated is a productive one, and the vein is typical of the district and has produced some good ore from a comparatively limited amount of work (on the vein) in a badly faulted zone. The vein is wide, although to date the ore-streak is rather small, and it can be expected to be cut at an additional depth of 170 feet at a cost of about $2000.

It therefore appears that the showing would justify further development were it not for the fact that the ground is extremely limited to the westward and there would be a very limited amount of vein, under the present ore shoot, in Black Coalt ground.

The optioning of the Black Coalt as now constituted cannot be recommended, but if the Palmita claim could be obtained at a low figure the taking over of the ground would seem justified.

Respectfully submitted,

Chas. C. Starr