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Summary Report

on

BIG LEDGE PROPERTY

Upper Arrow Lake

Kootenay District

B.C.

by

Chas. L. Coleman

PROPERTIES & LOCATION

The property which is the subject of this report consists of a group of claims presently under option to Van Mers Mines, Ltd. and additional adjoining claims staked on behalf of the same company.

The claims under option are known as Empress Nos. 1 - 5 inc., Foggy, Sloping Brush, Lakeview, Dennis, Muran, Ann Stogard, Kathleen and Kootenay. These claims comprise the major portion of what is generally known as the Big Ledge property. The recently staked adjoining claims are known as Madeline Nos. 1 - 7, inc., Margaret Nos. 1 - 7 inc., and Van Mers Nos. 1 - 7 inc. The two groups of claims comprise a strip about 5 miles long and 3000 feet wide, representing a total area of approximately 1700 acres.

The property is on the west side of Arrow Lake, Kootenay district in south-central British Columbia. It is 8 miles northwest of Pingston creek landing at which a regular C. P. R. boat service will call on request. Pingston creek is 115 miles north of Robson West which is 20 miles by C. P. R. from the snelter at Trail.

A good trail leads from the lakeshore at Pingston to a central point on the Big Ledge property where a camp is located. This camp is about 3500 feet above the level of the lake.

HISTORY

The Big Ledge was discovered about 1896 and during the past 50 years has been spasmodically prospected and explored by many.

The most comprehensive work was undertaken about 20 years ago when a program of diamond drilling was carried out on a portion of the property following surface exploration. Since that time the property has lain idle except for intermittent prospecting.

TOPOGRAPHY

The area of the Big Ledge is mountainous. The lower end of the showing, located on a ridge, is about 4000 feet elevation and rises in a distance of 4 miles westward to 7000 feet.

Pingston creek flows along the north side of the ridge and Brownie creek, a tributary of the former, flows along the south side. Both of these streams carry a large volume of water.

Heavy timber is found from the level of Arrow Lake up to 5000 feet elevation.

Rock outcrops are scarce below the timber line but above it is practically continuous.

GENERAL GEOLOGY

The most comprehensive information available on the geology of the Big Ledge property and adjoining territory is set out in a report by Messrs. C. E. Cairnes and H. C. Cuning of the Geological Survey of Canada.¹

According to these men and verified insofar as observed by the writer, the rock types exposed on the property consist of a variety of schists, limestones and sedimentary gneisses that have been intruded by

¹ - (Big Ledge Property, Upper Arrow Lake, Kootenay District, B.C. -
G.S.C. Summary Report 1928 - Part A)

pegmatites and lamprophyre dikes. These rocks have been classified as chiefly Precambrian age by the Geological Survey. The sedimentary or para-gneisses are said to be intruded by igneous or ortho-gneisses, but if such a differentiation can be made it was not observable by the writer in his brief survey of the property.

A lamprophyre dike was noted by the Geological Survey on the Golden Hope claim, now known as Empress No. 5. Two of these dikes were observed near the boundary between Empress Nos. 4 and 5.

STRUCTURAL GEOLOGY

The general attitude of the rocks is quite regular and no evidence of complex folding or movement was seen. The strike is about east-west and dip to the south at 30° - 60° .

ECONOMIC GEOLOGY

Within the belt of schists, limestones and gneisses, a highly metamorphosed zone occurs that carries extensive replacement mineralization. This geologic body has been traced for upwards of 3 miles, $2\frac{1}{2}$ miles of which was traversed by the writer, and throughout this length the same characteristics of alteration and mineralization are found. The true width of the body is difficult to determine as in places the dip conforms with the eroded mountainside along which the zone strikes. On the evidence of 16 diamond drill holes that have traversed the zone at irregular intervals for about 2 miles, the width would average 135 feet.

A traverse was made along the strike of the zone, commencing near the eastern end of the property at an elevation of 5000 feet on

Kathleen M.C. and proceeding westward to Empress No. 3 at an elevation of 6500 feet, a total distance of about $2\frac{1}{2}$ miles. Although the zone is known to persist further westward, show at the higher elevations precluded examining the ground.

The eastern end of the zone is obscured by overburden but numerous opencuts enable its course to be traced until above the timber line it is completely exposed and may be followed for thousands of feet without difficulty.

The strike and dip of the zone as observed conforms with the enclosing wall rocks.

The occurrence of the mineralization is by no means uniform but appears as erratic lenses scattered throughout the zone. At the eastern or lower end of the property, massive mineralization is exposed in most of the open cuts but even in the short strike lengths exposed at these points its lensy character can be noted. Where the whole surface can be examined at higher elevations, the very erratic distribution is quite apparent and can be distinguished by the variable colour of the gossan. The massive mineralization is capped by very dark brown or black oxidation, whereas beneath the reddish brown oxidation only lightly disseminated mineralization occurs. These lightly mineralized areas are very dominant.

It has been suggested that the diamond drill hole logs indicate a concentration of the more massive showings close to the hanging wall of the zone. However, this feature could not be

confirmed in the examination of the surface exposure, where the concentration of mineral did not appear to favour any particular horizon.

The mineralization consists of pyrrhotite, pyrite, sphalerite and galena. The most dominant minerals are pyrrhotite and pyrite with subordinate amounts of sphalerite. Galena was seen in only very minor amounts along the length of the zone traversed, but it is said to occur in more abundance west of Empress Lake, where the showings were snow covered at the time of the examination.

The massive sulphide mineralization at first glance appears to be entirely pyrrhotite, but closer inspection reveals narrow seams and disseminations of sphalerite. Occasionally massive streaks of sphalerite are encountered.

No evidence of precious metals has been noted.

EXPLORATION

The work done to date on the property consists of a great number of open cuts, several short crosscut adits and 16 diamond drill holes. This work is distributed along $2\frac{1}{2}$ miles of strike length with concentrations of same at two or three points.

The sites for working appear to have been selected on the basis of mineral concentration, although some of the adits, now largely collapsed, are said to have had the objective of crosscutting the zone.

The diamond drilling has been concentrated at three locations, two of which seem to have been drilled at regular intervals according to the plan accompanying the G. S. C. report previously annotated.

ORE

Examination of the surface showings on the property shows that no continuity has been established between the lenses of sulphides in which frequently quite high zinc assays have been obtained.

The only sampling information available that can be correlated in any way is the tabulation of drill hole information set out in the government geological report.

Holes Nos. 1 to 5 inc. were apparently drilled in a regular sequence spaced 300 feet apart. Only holes Nos. 1, 2, & 3 returned any values across appreciable widths as per the schedule below from which a weighted average has been computed.

<u>Hole No.</u>	<u>Selected Width</u>	<u>% Zinc</u>	<u>Width x value</u>
1	11'	4.00	44.00
2	12	6.38	76.56
3	60	3.58	214.80
	83		335.36

Average width - 28' Average value - 4.0% zinc

Length - 700'

Similarly holes Nos. 12 - 16 inc. were drilled in a sequence about 375' apart. A weighted average has been computed as below.

<u>Hole No.</u>	<u>Selected Width</u>	<u>% Zinc</u>	<u>Width x value</u>
12	14'	2.49	34.86
13	36	1.76	63.36
14	37	3.04	112.48
15	16	5.99	94.84
16	5	12.80	64.00
	108		369.54

Average width - 21.6' Average value - 3.4% zinc

Length - 1600'

The average selected width in each instance above is said to include one to several mineralized bands so close to each other as to suggest that they might be mined together.

It is apparent that on the basis of the market price for zinc and the recoveries to be expected, that the computed grade above does not constitute ore.

A higher average grade can be obtained by taking the best intersection in each hole but such intersections do not necessarily correlate and in any event the corresponding widths are so narrow that they cannot be said to be ore.

Considering the whole width of the mineralized zone, the dilution by barren rock reduces the average to less than 1%.

On the assumption that the usual sampling procedure has been followed and the values tabulated are correct, the results shown above should be representative of the sections considered. They certainly do not appear out of line with the surface showing.

PROSPECTS & LIMITATIONS OF THE PROPERTY

Although the whole length of the zone has not been tested by drilling, there is nothing about the surface exposure to suggest that results of a much higher or lower order would be obtained from the untested portion, the whole being remarkably uniform.

All of the drill holes cut the zone at approximately the same depth below the surface. Whether the mineralized zone trends with the contour of the surface or otherwise, would determine if the holes could be said to be all at the same horizon or not. There is a difference of approximately 1500 feet in elevation between the holes drilled at the opposite ends of the zone.

It is claimed that more galena is present in the zone west of Impress lake, but whether it is present in quantity to make ore was not determined. Hole No. 6 drilled in this vicinity returned about 0.1% lead across the width of the zone.

There is a considerable length of the zone at the eastern end which is largely obscured by overburden and about which the possibilities are not so apparent by surface examination. However, it is a portion of this area in which the most regular diamond drilling has been concentrated with results as above.

CONCLUSIONS

The weight of the evidence obtained to date indicates that the zinc values, the only values of consequence that occur, are too low to be of economic importance.

It is hardly necessary to point out, that despite a greatly improved demand for zinc, the successful recovery of sphalerite from associated minerals and the subsequent expensive metallurgical treatment for the reduction to metal, demands a high grade ore or very large bodies of medium grade.

The chances of developing such an ore-body on the Big Ledge do not appear good. However, considering the great dimensions of the zone it is impossible to completely reject the whole on the basis of the work done which is largely concentrated at certain points.

The continued search for an orebody can only be regarded as highly speculative.

It is recommended, that if any further work is contemplated, that a very thorough geological mapping of the whole zone be made, which might reveal possibilities warranting investigation by additional drilling.

ACKNOWLEDGEMENTS.

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Respectfully submitted,

(Sgd.) Chas. L. Coleman

Toronto, Ont.

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Stamp affixed

"Chas. L. Coleman"