

EXAMINATION REPORT

ON THE

BIG LEDGE EXTENSION

SLOCAN MINING DIVISION

N.T.S. 82K-5 and 82L-8

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SUMMARY AND CONCLUSIONS

The Big Ledge massive sulphide zinc deposits form a very large reserve of low grade zinc totalling in the hundreds of millions of tons.

Although Cominco undoubtedly controls the best ground, significant potential exists to the east of their holdings in near-surface deposits and to the south of their ground at depth. In these areas it is probable that grades will be low but tonnage may be substantial.

The property should be acquired if it is available on terms that will allow for a long term hold at reasonable cost.

Reported high grade float in the eastern area should be followed up and tested.

The potential immediately to the south of Empress Lake should be checked with a drill hole following geological mapping to plot the projection of the horizon through the area.

The ground further to the south should be reconnaissance mapped to check for folding which could bring the mineralized horizon back near surface.

INTRODUCTION

The property consists of the southern and eastern extensions of Cominco's Big Ledge deposit, a stratabound zinc deposit in the southern portion of the Thor-Odin gneiss dome.

LOCATION AND ACCESS

The property lies on the west shore of Upper Arrow Lake about 60 kilometers south of Revelstoke. Mineralization extends for about 7 kilometers west from

Upper Arrow Lake in the Pingston Creek area.

Access is by 37 kilometers of logging road from a point 5 kilometers north of Shelter Bay on Highway 23.

GENERAL GEOLOGY

The Big Ledge is located in the south portion of the Thor-Odin Gneiss Dome on the eastern edge of the Shuswap Complex. The deposits are syngenetic bedded sulphide zones in a sedimentary sequence now altered to a mixture of schist, gneiss, quartzite, calc-silicate gneiss, marble and amphibolite.

Structurally the area has been folded into a series of east-west folds which appear to vary from moderately open to nearly isoclinal. One such tight fold appears to be involved in developing the large body of massive sulphide material exposed on Cominco's Big Ledge claims.

The picture is further complicated by the fact that the area has been subjected to more than one period of folding.

There are two areas of economic interest outside the Cominco ground. They differ somewhat in structure and potential and will be discussed separately.

PROPERTY GEOLOGY

1. Eastern Area

The eastern area of interest extends from Cominco's claims east for some 4 kilometers to the shore of Upper Arrow Lake. This is an area of fairly gentle open folds. It has been examined in the past by Cominco in the 1950's and more recently by a Cyprus-Metalgesellschaft joint venture in 1976.

The early Cominco work identified two mineralized horizons. Limited drilling and surface work failed to find material of interesting grade.

Later, in 1976, the area was remapped by Wellmer et al and as many as six possible sulphide horizons were suggested. Still no areas were found of high enough grade to encourage further work. The descriptions of petrology and mineralization types by Wellmer are very detailed.

Wellmer suggests on the basis of facies change evidence that the potential for better sections in these horizons is limited. This would imply a fairly simple depositional model with an essentially straight shore line. While this may be the case here, it is probable that the irregularities that are normally a part of depositional shoreline topography make it difficult to predict the third dimension in these basin deposits with any certainty. This conclusion is supported by the fact that high grade float has been reported in the area by Cominco. As yet the source has not been located.

2. Western Area

The western area of the Big Ledge Extension consists of the ground to the south of the Cominco holdings and would contain the southern extension of the stratigraphy which hosts their deposit. On the Cominco ground the mineralized horizon contains three large lenses up to 200 feet thick and extending at least 1500 feet down dip to the south. Grades vary from 4 to 7 percent zinc.

Earlier work in this area (Carnahan and Malcolm, 1965) suggested that these thicknesses were a single sulphide-rich bed which was dipping to the south in a simple monoclinial structure. Following this reasoning the horizon should have passed out of the Cominco ground at a depth of about 2000 feet and still hold potential for mineral zones of similar grade and thicknesses.

Later work by Hoy (1965) shows a more complicated picture. This mapping shows Cominco's deposit to lie in the core of a tight anti-form inclined to the south and overturned to the north. The observed thickness of the deposit would represent at least two thicknesses of the mineral horizon. Following this concept it is still probable that mineral zones of some size occur to the south, however the tonnage potential is sharply reduced since the target in this area would be only a single thickness of the horizon.

The substantial zones of sulphides developed by folding on the Cominco ground may not be unique in the area. It is possible that this situation, in a synform or antiform, may be repeated at depth to the south. Further field mapping would be required to shed light on this point.

Hoy presents two drill sections from holes put down on the Cominco ground. It is not certain whether the holes cut the full antiform or are entirely in the upper (south) limb. Both holes were collared about 200 meters south of the mineralized outcrop and cut the ledge to depths of 175 meters or less. One hole cut a total of about 10 meters of sulphides in several layers, the other somewhat less. Although the grades are not known, the thicknesses are not exciting. Neither hole is directly down dip (south) of a significant exposed deposit but one is close.

It would appear that although the sulphide horizon is very continuous and extensive, economic ore zones within it are irregularly located and in part a function of superimposed structures. Locating ore zones will require careful mapping and perhaps some diamond drilling for geological information alone.

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