

31st May ~~1965~~ 1966

801520

STELLAKO MINES LIMITED

INTRODUCTION

At the request of Mr. I. Shulman, President of the company, I visited this property in the Highland Valley, B. C. where I examined the open-cuts and diamond drill core on 26th and 27th May 1966.

I greatly appreciate the help of the company's consulting geologist, Mr. W. M. Sharpe P. Eng. in Vancouver and of the field manager, Mr. L. Hachey at the property.

SITUATION

The large group of claims is centred around Bescoe Lake (el. 5200') with the main workings extending from 2300 to 3800 feet south of the south end of the lake. These showings are 8 miles south of the Bethlehem mine and 5½ miles southeast of the Lornex deposit.

GENERAL GEOLOGY

The property is in the central portion of the Quichon batholith, about 6 miles west of the east contact.

* { A plot of the main drainage directions in the general area of the claims reveals that the underlying fracture pattern is mainly a combination of N N W and N N E strikes. This could be significant since the combination of these two directions of fracturing is apparently an important condition for the mineralisation at both Lornex and Bethlehem.

ROSCOE LAKE DEPOSIT

Last year a spectacular showing of copper mineralization was found here by bulldozing. For two sample cuts at 100 feet apart the company records an average of 2.25% Cu over 57½ feet. Trenching at intervals for 400 feet to the north and 900 feet to the south of this section found similar but much weaker mineralization. Careful examination showed that the sulphides bornite and chalcopyrite were confined to quartz in veins and stringers the main one being 12 feet wide and striking N E E. Copper staining in the form of malachite was widespread however in the country rock.

An unusual feature in these trenches was the prevalence of black dendritic 'manganese'. A chemical test showed this material is cupriferous so that, in part at least, it probably consists of the black copper oxide tenorite.

About 20 holes were diamond drilled at -40° to -45° E to explore this occurrence, the best result being 1.40% Cu over 39 feet with the bornite and chalcopyrite in quartz at 50 to 70 feet below the surface. Another hole at 90 feet below this found a barren altered zone. The only other significant drill intersection that corresponded to the surface showing was 3.50% Cu over 3 feet of quartz.

In practically all other cases the copper sulphides were also confined to quartz veins and stringers and were not found in the fractured country rock as might have been expected from the abundant malachite on the fracture planes near the surface.

The explanation, no doubt, is that the circulating ground water in the oxidation zone has carried the copper from the veins into the surrounding rock.

The angle that most of the veins and stringers make with the core suggests that they have nearly a vertical dip.

The veins occur in a zone of altered rock that has been termed Stellako rock to distinguish it from the fresh 'Bethsaida' type from which it is derived. A light coloured aplitic rock that is presumably in the form of dykes is common in the zone.

Molybdenite is more common in the veins than the drill logs suggest. (*evidence?*)

G E O P H Y S I C S

An I P survey over part of the claims found two anomalies that were tested by diamond drilling. One was to the west of the original discovery and was found to be essentially devoid of mineral. A zone of strong alteration for 55 feet could have caused the anomaly.

The other anomaly was to the east and also proved to be barren.

G E O C H E M I S T R Y

A portion of the claims around the Roscoe Lake showings has been tested by geochemical soil sampling along lines 400 feet apart from 28 S to 24 N and on the east side of Roscoe Lake from 28 N to 64 N. Up to 600 ppm Cu were obtained in an area that can be correlated with the known mineralization.

This survey is now being extended to cover the ^{west} eastern side of the property where stream sediment sampling in Skuhun Creek has yielded good indications.

Because of the presence of molybdenum in the area and the possibility that it may occur in economic quantities with little copper it should always be tested for.

D I S C U S S I O N

Although the drilling results on the original discovery have been disappointing there is still the possibility of a worthwhile deposit being present elsewhere in the claim area. For this reason Mr. Sharpe has extended the geochemical coverage and also plans further I P surveying.

There is no geological map of the property showing the distribution of the rock outcrops, their composition and fracture directions. This basic information should be obtained as a help in the interpretation of the geophysical and geochemical surveys.

On other properties in the area it has been found that a magnetometer survey using the sensitive but rapid fluxgate type of instrument defines areas of magnetic lows. These correspond to the highly altered zones in which the magnetite of the original rock has been destroyed and in which mineralization is sometimes found.

*Brand's
reprints*

*following prelim trench or
whole drill hole intervals*

There is now good evidence at several properties in this area that the I P method of geophysical prospecting is responding strongly to the zones of alteration which mask any reaction due to associated low grade copper mineralization. *or not indicate the latter at all.*

The original geochemical survey was done on lines spaced at 400 feet apart but the present survey is at 800 feet which is quite large. I suggest that the spacing should be 400 feet and also that stream sediment samples are taken wherever a line crosses a gully or depression.

The most prominent topographic feature within the claims is the valley of upper *eastern branch* Skuhun Creek where it is flowing S S E. This could well be a major zone of fracturing and alteration. It is significant that a high content of copper was found by Noranda Mines in the stream sediments along this creek.

The Roscoe Lake showings appear to be on a zone that strikes N N E and that defines the east shore of the lake. Its southern projection is into an area with several S S W striking gullies which would intersect Skuhun Creek in the southern block of claims from 40 S to 90 S. This is an area that should be closely investigated

Done by participants

RECOMMENDATIONS

1. Continue the geochemical survey but with lines at 400 ft spacing.
When the western area has been covered move down to the south area.
All samples should be run for molybdenum as well as copper.
2. Take magnetometer readings at 100 ft intervals along all lines.
3. Map all rock outcrops.
4. Postpone further I P surveys until the previous steps have been completed.
5. Where justified uncover bedrock by bulldozing.

A. C. Skerl