BRANDON, MARSHALL 021785

82E/2E

HIGHLAND LODE MINES LTD.

Phoenix Property

Greenwood Area, B.C.

ALRAE ENGINEERING LTD.

April 4, 1973

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INTRODUCTION

Highland Lode Mines Ltd. has recently optioned a group of claims located three miles east of Greenwood. These claims have been subjected to initial exploration work by the vendors and, on one claim, sulphide mineralization has been discovered which contains gold, silver and copper. Induced polarization and preliminary magnetic and geochemical soil surveys have been conducted over much of the claim area. Mineralization discovered on the Marshall claim was the direct result of this geophysical work.

The Highland Lode Mines Ltd. claims are immediately north of the Phoenix open pit copper mine owned by The Granby Mining Co. Ltd., and are underlain by similar rock types and structures as those exposed in the Phoenix pit.

LOCATION AND ACCESS

The Phoenix property is located in south central British Columbia approximately seven miles north of the United States border and some 300 miles east of Vancouver, B.C. Greenwood is approximately four miles southwest of the claims and a good gravel road from Greenwood to the Phoenix mine provides ready access to the claims. The Canadian Pacific Railway and the Southern Trans-Provincial highway pass thro ugh Greenwood.

CLAIMS

Claims and mineral leases which are owned or optioned by Highland Lode Mines Ltd. are as follows:

Brandon)	
Brandon Fr.)	portions of Mineral Lease M138
Little Annie)	
Marshall)	
Marshall Fr.	Mineral Lease M229
Little Burne Fr.	Mineral Lease M269

The property is approximately 132 acres in area and is within the Greenwood Mining Division.

HISTORY

The Phoenix camp was one of the first mining areas in British Columbia, copper was discovered here in 1891. Several properties were developed to production by 1900 and smelters were built in Grand Forks, Greenwood and Boundary Falls to treat the self-fluxing ore produced from the mines. A railroad was constructed to the Phoenix camp and a town developed at Phoenix.

Approximately 15,000,000 tons of ore, grading about 1.5% copper was produced in the Phoenix area mines before production ceased in 1919. The townsite was subsequently abandoned and it was not until the late 1950's that mining activity revived. In 1957, Granby Mining Company Ltd. reopened mines in the Phoenix area by starting an open pit operation on the Knob Hill and Old Ironsides Crown Grants. This operation has since expanded many times and is the present Phoenix open pit mine. Production is now approximately 2,400 tons per day and average grade is reported to be approximately .78% copper with small amounts of gold and silver.

The Highland Lode Mines Ltd. property includes claims which were examined by Cominco Ltd. in 1938. Much of the drilling work by Cominco was on the Marshall claim several hundred feet to the west of the sulphide exposure discovered in 1966 on that claim. During Cominco's work, extensive hand trenching, shallow shaft sinking, sampling and 1,337 feet of diamond drilling in seven holes, were used to explore the property. Massive pyrrhotite containing minor gold was encountered in this work, but no assays were made for copper content of the massive sulphides.

RECENT EXPLORATION WORK

The claims adjoin the Phoenix pit and have been subjected to induced polarization survey, soil sampling, bulldozer trenching and preliminary geological mapping and magnetometer work. As a result of the geophysical work, one of the early bulldozer trenches in 1966 encountered a gossan of heavy sulphide mineralization at a point 2W on picket line 2N of the control grid. This is immediately west of the west end of Marshall Lake and is on the Marshall claim. Initial surface sampling indicated unusually high gold content in the sulphide occurrences. Bulldozing has exposed the gossan for a length of 120 feet and a width of 50 feet.

During 1967 and 1968, 1971 and 1972, a total of 277 tons of this sulphide material were shipped to the Trail lead smelter by leasers. These shipments contained an average of 1.389 oz. of gold per ton and 1.56 oz. of silver per ton. One of the shipments (30 tons) was sampled for copper content and contained an average of 0.68% copper. Later shipments were not analysed for copper content but are described by the shippers to be near 1% Cu. Highest copper assay taken by the

writer in the pit area was 3.27% copper across a 12 foot width.

Induced polarization surveys conducted by Huntec Ltd. in 1966, indicate a distinct anomalous zone which is recommended for drill hole testing. This anomaly is coincident with the mineralization exposed at 2N and 2W of the grid (the location of the ore shipments).

Six short diamond drill holes were drilled in 1969, five of which were in the vicinity of the 2N, 2W discovery. These holes were drilled by San Jacinto Exploration Ltd. and detailed records of the work were not made.

GEOLOGY

The Company's claims are underlain by Late Paleozoic limestone and chert. Sediments to the north and west of Marshall Lake appear to be gently dipping to the south, however, where mineralization is exposed in the 2N-2W trench it occurs at the contact of limestone and chert near the crest of an isoclinal fold. Highly altered quartz diorite occurs approximately 300 feet to the northwest of the mineralization. This intrusive may be related to the quartz diorite stock which occurs to the west and underlies the town of Greenwood. Detailed mapping will be required to test this relationship and to investigate the relation between the quartz diorite and mineralization.

Sulphide minerals occurring at the 2N-2W exposures consist of pyrrhotite, pyrite, chalcopyrite, sphalerite and minor magnetite and specular hematite. These minerals occur in skarn consisting chiefly of garnet and chlorite at the contact of limestone and rubbley chert. Garnet skarns containing minor mineralization

have been observed in bulldozer trenches some distance to the north and northeast of Marshall Lake, however, the sulphide content was much less than the main showing area. The trend of sulphide mineral exposures is northeasterly as is the trend of I.P. survey anomalies, and presently known geochemical soils anomalies of copper.

A low magnetic anomaly and a distinct induced polarization survey anomaly coincide with the area of good surface mineralization on the Marshall claim and indicate this to be a promising area for detailed exploration. Preliminary geochemical soil sampling indicates increased copper content in the region of linear pyrrhotite masses tested by Cominco and coincident with a strong I.P. survey anomaly. Reconnaissance magnetometer survey of this area indicates that the more massive pyrrhotite occurrences are narrow and erratic. More detailed magnetometer and geochemical surveys would be required to outline the massive pyrrhotite zones and the skarn areas.

CONCLUSIONS AND RECOMMENDATIONS

The Highland Lode Mines Ltd. claim holdings in the Phoenix area are immediately adjacent to the Phoenix open pit and are on the general strike extension of the structure containing ore in the Phoenix pit. Good mineralization has been encountered on the claims and is coincident with geophysical survey anomalies. Gold, silver and copper mineralization of economic grade has been exposed by bulldozer trenching on the company's claims, and a significant amount of ore has been shipped directly to a smelter which does not recover the contained copper.

Considering the value of material which has now been shipped directly from a surface test pit to a lead smelter, it may be advisable to study the economics of beneficiation on a small scale (50 tons per day) and shipment of concentrate to a copper smelter. Investigation would entail study of mineral composition of the ore and amenability to simple milling, equipment rental rates, freight rates, concentrate grades and copper smelter schedules. Closely kept records of results of such milling would be valuable in detailed evaluation of any ore reserves developed by the continuing exploration program and may help to defray some of the costs of this exploration.

To further evaluate the property, the following work is recommended:

(a) Survey of the property boundaries.

(b) Detailed magnetometer and geochemical surveys in the vicinity of the known anomalies and mineralization; soil samples should be analysed for gold as well as copper.

(c) Diamond drilling to test the cause of the known anomalies, and to test the known pyrrhotite zone.

COST ESTIMATE

Approximate cost of the above recommended work would be as follows:

Stage I

Property boundary survey	$ 2,000
Detailed magnetometer, and geochemical surveys	3,000
Cost study of a small mill for bulk sampling and concentrate preparation	4,000
Diamond drilling - 1,500 ft. @ $10/ft.	15,000
	$24,000

Stage II

Continued diamond drilling, if warranted,
3,000 ft. @ $10/ft. $30,000

TOTAL: $54,000

Should this work encounter a significant tonnage of ore, much more drilling and bulk sampling would be required to fully evaluate the discovery.

Respectfully submitted,

Rae G. Jury, P. Eng.

CERTIFICATE

I, Rae G. Jury, of the City of Vancouver, British Columbia do hereby certify that:

1. I am a consulting geological engineer.

2. I am a graduate of Queen's University in Kingston (B.Sc. in Geological Sciences 1957).

3. I am a registered Professional Engineer of the Provinces of British Columbia and Ontario and a Member of the Canadian Institute of Mining and Metallurgy.

4. I have practised my profession since 1957 with Labrador Mining and Exploration Company, Quemont Mining Corporation, Canadian Johns-Manville Co.Ltd., and Alrae Engineering Ltd.

5. I have personally examined mineralization on the Phoenix group of claims of Highland Lode Mines Ltd. on April 6th and 7th, November 5th, 1966 and on August 23rd, 1969.

6. The mineral claims which have been examined by the writer are surveyed claims and, although individual claim boundaries are not readily evident, detailed land surveyors maps showing accurate location of the claims are available.

7. I have not received, nor do I expect to receive, any interest, either directly or indirectly in the properties or securities of Highland Lode Mines Ltd.

DATED at Vancouver, B.C. this 4th day of April, A.D. 1973.

Rae G. Jury, P. Eng.