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CARIBOO-BELL COPPER MINES LIMITED

A REPORT ON THE EXPLORATION AND PRELIMINARY
DEVELOPMENT OF THE COMPANY'S COPPER PROPERTY

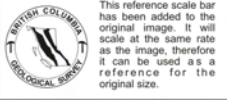
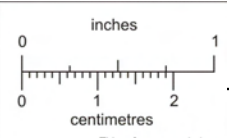
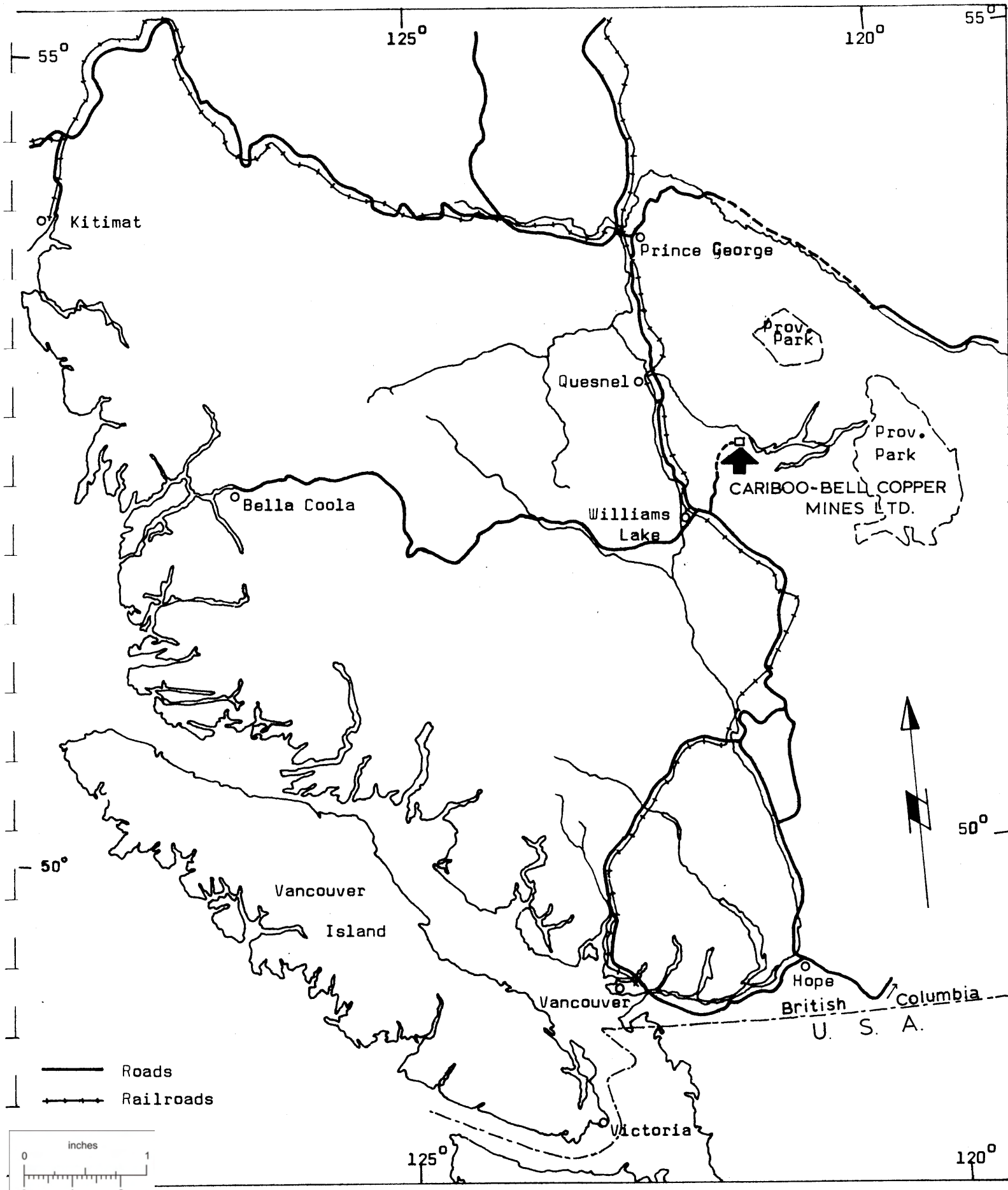
December 1968
Vancouver, B.C.

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PROPERTY
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PROPERTY LOCATION MAP
 Scale 1" = 50 mi
 rv 1968

I N D E X

	Page No.
LOCATION MAP	
THE COMPANY.....	1
PROPERTY LOCATION	1
ACCESS AND FACILITIES	2
GEOLOGY AND MINERALIZATION	2,3
DEVELOPMENT HISTORY.....	3,4
ORE DEVELOPED	4
DEVELOPMENT POSSIBILITIES	5
METALLURGY	5
CONCLUSIONS & RECOMMENDATIONS	6

A P P E N D I X

TRENCH SAMPLING RESULTS

- MAP NO. 1 - COMPOSITE SHOWING GEOLOGY, I.P. SURVEY,
ORE ZONES & CLAIM LOCATION - 1" = 1 mile
- 2 - GEOCHEMICAL SURVEY - 1" = 500 feet
- 3 - GROUND MAGNETOMETER SURVEY - 1" = 500 feet

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THE COMPANY

Cariboo-Bell Copper Mines Limited was incorporated as a public company on 23rd December 1965, under the Companies Act of the Province of British Columbia for the purpose of acquiring from Mastodon-Highland Bell Mines Ltd. and Leitch Gold Mines Limited, a group of 160 claims located in the Cariboo Mining Division of British Columbia. The Company was authorized to issue three million shares of no par value stock and 1,500,005 are presently outstanding.

750,000 shares were issued for the property and the balance was sold through an underwriting. Leitch Gold Mines Limited and Mastodon-Highland Bell Mines Ltd., the original vendors, hold a total of 801,250 shares, a controlling interest.

PROPERTY LOCATION

The property consists of one hundred and fifty-eight (158) claims plus two (2) fractions situated west of Quesnel Lake and 45 miles north-east of Williams Lake between Bootjack Lake and Polley Lake in the Cariboo Mining Division of British Columbia. (See Location Map and Appendix Map #1). All claims are in good standing until 1974 or beyond.

ACCESS AND FACILITIES

Access to the property is by 45 miles of all weather gravel road from Williams Lake off B.C. Highway No. 97. Residential communities are within short driving distance of the property.

There is a winterized development camp on the ground. Drill core is racked on the property.

The B.C. Hydro Power Transmission line and the main line of the Pacific Great Eastern Railway are approximately 30 miles from the property.

A reserve has been placed on the water supply in the immediate area by the Provincial Government Water Rights Branch in Victoria, British Columbia, giving Cariboo-Bell Copper Mines Limited the first right of refusal.

GEOLOGY AND MINERALIZATION

The claims cover a plug or stock of granitic rocks including syenite, monzonite and diorite, intruding andesitic volcanics of Lower Jurassic age. The volcanics occur as inclusions or pendants and, in places, exhibit a significant development of garnet, pyroxene and other skarn minerals.

The most pervasive characteristic of the closely related granitic rocks is their quartz-free habit. Their commonest secondary feature is a salmon colour from potassium feldspathization. These rocks are well exposed in the numerous trenches and exhibit a complex history of multiple intrusion, contamination, fracturing, metasomatism and mineralization. The geology illustrated on Appendix Map #1 is simplified for the sake of clarity.

Three zones shown on Map #1 are centres of more intense mineralization. The primary sulphides are chalcopyrite, minor bornite and pyrite. Secondary minerals consist of malachite, conichalcite and very minor amounts of chalcocite, cuprite and native copper.

DEVELOPMENT HISTORY

A granitic stock intruding Jurassic volcanics in the vicinity of Bootjack Lake showed as an anomaly on aeromagnetic maps published by the Federal Government. Follow-up surface prospecting and reconnaissance geochemistry indicated the presence of copper mineralization and claims were staked in mid 1964. Geochemical and magnetic surveys, both of which outlined anomalous zones, were made. The widespread mantle of overburden prevented normal visual prospecting. (See Maps 3 and 4).

In April 1965 Huntec Limited conducted an induced polarization survey over a section of the property, selected primarily on geochemical results. The resulting anomalies are marked on Map #1.

During September 1965 19 trenches, totalling 21,000 lineal feet on east-west lines spaced at 400 foot intervals, were cut across the geochemical, magnetic and induced polarization anomalies. The top 10 to 12 inches of exposed rock was ripped and the broken material sampled across the full width of the trenches every 10 lineal feet. Sampling results are included in the Appendix.

A drilling program was carried out during 1966 and early 1967. A total of 123 B.X. diamond drill holes totalling 48,325 feet (average depth 400 feet) and 38 percussion drill holes totalling 6,585 feet were completed. The results of the drilling indicated an ore reserve of approximately 37,000,000 tons averaging 0.50% copper, 0.015 ounces of gold and 0.05 ounces of silver per ton.

Part of this drilling was financed by a Japanese group of companies headed by Mitsui Mining and Smelting Company Ltd. This group withdrew from further participation with the Company in July 1967 and have no equity or residual interest in the property.

ORE DEVELOPED

Using a cut-off grade of 0.30% copper, total reserves before any allowance for dilution during mining are estimated at 37,166,050 tons averaging 0.50% copper; 0.015 ounces of gold per ton and 0.05 ounces of silver per ton. These are distributed over three zones (Map #1) as follows:-

<u>ZONE</u>	<u>TONS</u>	<u>GRADE % CU</u>	<u>TONS X GRADE</u>
2	15,549,450	0.458	7,121,648
3	20,432,600	0.524	10,706,682
4	<u>1,184,000</u>	<u>0.664</u>	<u>786,176</u>
T O T A L	<u>37,166,050</u>	<u>0.501</u>	<u>18,614,944</u>

There are approximately 10,000,000 tons of the total, averaging 0.464% copper containing "non-sulfide" copper minerals, which does not give good metallurgical recoveries by standard flotation methods.

DEVELOPMENT POSSIBILITIES

Potential for expansion of the presently indicated ore reserves lies in zones 2, 3 and 4 (see Map #1). Deeper drilling, drilling between widely spaced holes and drilling beyond holes that showed good mineralization are considerations.

Further possibilities for expansion of tonnage are; the unexplored geochemical anomalies existing to the north of the ore zones, the number 2 ore zone which has not been delimited to the north-west, and the inadequately investigated "A" anomaly of the I.P. survey lying partly under Bootjack Lake.

METALLURGY

The principle copper bearing mineral is chalcopyrite disseminated throughout the orebody. Metallurgical testing has shown that normal recoveries from standard flotation methods can be expected.

The Japanese group, on core sample tests, noticed that the "non-sulfide" copper bearing minerals did not respond readily to standard flotation methods but subsequent testing has revealed a variety of possible solutions which should be tested using a large bulk sample. More precise ore zoning determined by further drilling and sampling will be necessary before a representative bulk sample can be taken. Of the 37,000,000 indicated tons approximately 10,000,000 tons contain various amounts of the "non-sulfide" copper minerals in association with the chalcopyrite and pyrite.

Metallurgical reports prepared by the Japanese group, by the Galigher Corporation of Salt Lake City, Utah, by the Federal Government Department of Mines in Ottawa, and by the Kimberly operations of Cominco are available at the Company's head office. All tests to date were run on drill core.

CONCLUSION & RECOMMENDATIONS

There is a good possibility for ore reserve expansion and for satisfactory recovery from the total orebody which gives the property an important economic potential. A suggested program budgeted at \$250,000. for further development is outlined below.

Approximately 10,000 feet of diamond drilling should improve tonnage in the known ore zones.

For the open or unexplored areas approximately 15,000 feet of drilling would assess the geochemical anomalies to the north, test the extension of the #2 zone and probe the "A" anomaly of the I.P. survey.

Assaying and recording the drill cores should be done to show the sulfide/non-sulfide ratios present for more ready appraisal of metallurgical questions.

The suggested budget outline reads as follows:-

Diamond drilling - 25,000' @ \$7.50/foot.....	\$ 187,500.
direct costs	
Assaying - for sulfide and non-sulfide.....	20,000.
copper and gold - 10 foot assays	
Engineering and Administration.....	25,000.
Contingency @ 6%	<u>15,000.</u>
TOTAL PROGRAM.....	\$ <u>247,500</u>

Maps, drill logs and sections, assays, reports and other related information is available at the company's head office - Suite 300, 999 West Pender St., Vancouver 1, B.C.

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TRENCH SAMPLE RESULTS

<u>Location No.</u>	<u>Strike Length</u>	<u>Average Width-Ft</u>	<u>Average Assay % Copper</u>	<u>Ton per Vertical Foot Indicates</u>	<u>Tons x % Copper</u>
1	600	80	0.476	4,000	1,904
2	1,400	452	0.356	52,733	18,773
3	600	455	<u>0.325</u>	<u>22,750</u>	<u>7,394</u>
			<u>0.353</u>	<u>79,483</u>	<u>28,071</u>

SAMPLING DETAILS

	<u>Exposed in Trench No.</u>	<u>Length of Intersection Ft. - i.e. Width</u>	<u>Assay % Copper</u>	<u>Length X Assay</u>
Location No. 1	7	100	0.45	45.00
	8	<u>60</u>	<u>0.52</u>	<u>31.20</u>
	Average	<u>80</u>	<u>0.476</u>	<u>76.20</u>
Location No. 2	7	587	0.42	246.54
	8	294	0.33	97.02
	9	565	0.27	152.55
	10	<u>360</u>	<u>0.41</u>	<u>147.60</u>
	Average	<u>452</u>	<u>0.356</u>	<u>643.71</u>
Location No. 3	4	570	0.34	193.80
	5	<u>340</u>	<u>0.30</u>	<u>102.00</u>
	Average	<u>455</u>	<u>0.325</u>	<u>295.80</u>