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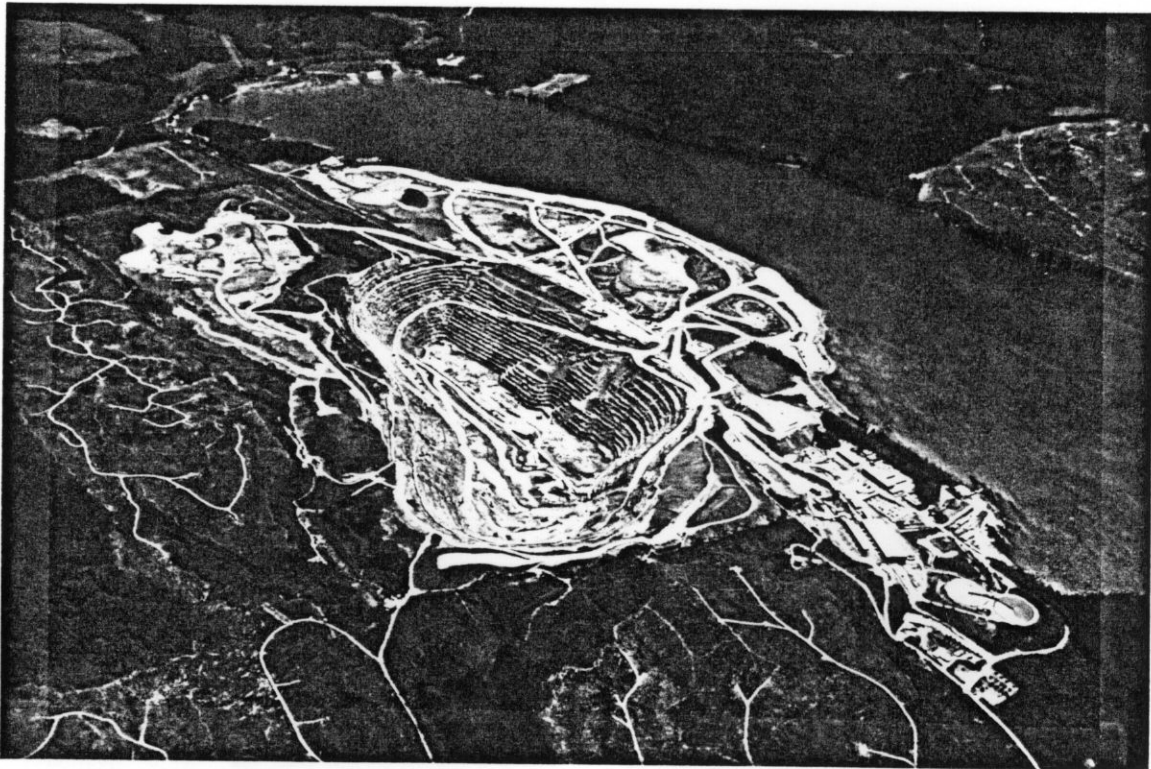
CONFIDENTIAL

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BHP-Utah Mines Ltd.
Island Copper Mine

Notice of Work

November, 1987



1. History and Development

The Island Copper Mine, operated by BHP - Utah Mines Ltd., is located on the north shore of Rupert Inlet, about 16 kilometers south of Port Hardy on Vancouver Island. Figure 1. The workforce resides in the District of Port Hardy and the nearby community of Coal Harbor.

In January 1966 BHP - Utah Mines Ltd. optioned a group of claims from Gordon Milbourne, a prospector, who had discovered high grade chalcopyrite in volcanic rocks immediately southwest of Bay Lake. The ensuing exploration program delineated a large copper soil geochemical anomaly, which by hole #82 in February 1967 intersected 0.45% copper over an interval of 88 meters. An exploration shaft was sunk and a bulk sample taken to determine milling and mining characteristics in 1968. Diamond drilling continued through 1968 and up to May 1969, at which time nearly 35,600 meters of drilling had been completed in 128 holes. This defined a 257 million tonne orebody, grading 0.52% copper and 0.17% molybdenum, with minor amounts of gold, silver and rhenium, at a strip ratio of 2.23:1 (tonnes waste/tonnes ore).

Project approval was given and construction began in June 1969 and was completed 28 months later in September 1971, when the first copper concentrates were produced. Construction consisted of (1) mill facilities - a 30,000 tonne concentrator, including tailings thickeners and outfall line; an out-of-pit crushing station and screening tower; reagent and concentrate storage facilities, and a marine barge dock and a deep sea dock connected to a concentrate ship loader. (2) buildings - assay/environmental labs; administration office and changehouse; maintenance and lubrication shops; and dock and plant warehouses. (3) a water supply system - including Alice Lake pump station, 19 kilometers of pipeline, and on site storage tanks and distribution lines, and (4) power supply - B.C. Hydro and Power Authority built a 194 kilometer, 138 KV transmission line from the Strathcona Generating Station to the mine site substation.

2. Production

Initially, the Island Copper mine was based on a truck and shovel open pit operation, sized to feed a 30,000 tonne per day concentrator, and required 8.75 million tonnes of pre-production stripping.

Cumulative production to fiscal year end May 31,1987 has been 208.6 million tonnes of ore and marginal ore at 0.435% copper and 0.017% molybdenum, with 539.5 million tonnes of waste rock and overburden. (Table 3) The present daily production rate is 47,600 tonnes of ore and 72,300 tonnes of waste, to produce 585 tonnes of copper concentrate at 25% copper, and 15 tonnes of molybdenum concentrate at 45% molybdenum.

Over the past 16 years, the daily mill throughput has increased from the original 30,000 tonnes in 1971 to the present 45,400 tonnes, as documented in Table 1.

TABLE 1
Daily Mill Throughputs (Tonnes per Day)

<u>Year</u>	<u>Rate (Tonnes)</u>	<u>Explanation</u>
1971	30,000	mill design
1973	34,500	add 3 secondary ball mills & improve ball charging
1980) 1981)	42,800	Computerize grinding control mill motor modifications discontinued screening
1982) 1984)	44,900	Speedup secondary ball mills
1985) 1986)	47,600	Crusher - conveyor installed installed 4th ball mill
1987	45,400	High work index in west end ore

As mill throughput was increased, mine operations responded with increased ore and waste production. Total daily production increased to 127,000 tonnes in 1975, and remained at this level until fiscal year end May 31, 1987. Over the 5 year period 1978 - 1982, total daily production averaged 145,000 tonnes.

The current plan (beyond May 31, 1987) is to mine +0.30% copper at a daily rate of 36,300 tonnes per day, and supplement mill feed by marginal grade material (0.20% and 0.30% Cu), at a rate of 10,070 tonnes in fiscal 1988 - 1990, and 11,340 tonnes in 1991, until current ore reserves are exhausted. Table 4.

3. Geology

The Island Copper deposit lies in the upper portion of the Bonanza Volcanic Formation. Ore zones occur in the andesitic pyroclastic rocks in the hanging wall and foot wall of a quartz - feldspar porphyry dyke which strikes N 70° W over 1,700 meters, and dips 50° NNE. The margins and parts of the interior of the Island Copper dyke are complexly brecciated, shattered, healed, veined and altered.

In section, the ore body averages about 350 meters from hanging wall to foot wall ore boundaries. A 30 - 200 meter, irregular, weakly mineralized central zone extends downward from about 60 meters below sea level, separating the ore limbs. The mineralized limbs have been traced to a maximum depth of 425 meters below sea level, and are not cut off.

In plan, the ore body is elongate, with a maximum length of about 900 meters along strike length. On the east, the hanging wall and foot wall limbs are linked below 120 meters below sea level, but open to the west, with the north limb extending up to 300 meters further west than the south limb.

The ore minerals are chalcopyrite and molybdenite, occurring mainly as fracture fillings and smears on fractures and slips. About half the ore grade mineralization occurs in the biotite and transition zone andesites, and the remainder in the crackle zone, the rotational breccias, and the dyke.

4.0 Ore Reserves

4.1 Current Mine Plan Reserves

The initial ore reserves were based on mining 12.2 meter (40 ft.) benches, at a 0.30% copper equivalent cutoff grade, with stripping material categorized as either overburden or waste rock. Table 2 summarizes the original ore reserves.

TABLE 2

Original Ore Reserves
(Tonnes x 1,000)

<u>Ore (0.30 % Cu)</u> <u>Tonnes</u>	<u>Grade Cu/Mo</u>	<u>Waste</u> <u>O'burden</u>	<u>Rock</u>	<u>Total</u> <u>Waste</u>	<u>Strip Ratio</u> <u>Waste/Ore</u>
257,058	0.52/0.017	74,477	499,111	573,588	2.23 : 1

A new category, marginal ore (0.20% 0.30% Cu) has come into use over the past 16 years. Based on economics and operational constraints, marginal material mined and fed to the mill is classed as ore, stockpiled marginal material is classed as waste. Cumulative production to fiscal year end May 31, 1987 is summarized in Table 3.

TABLE 3

Cumulative Production to May 31, 1987
(Tonnes x 1,000)

<u>Mill Feed</u> <u>Tonnes</u>	<u>Grade Cu/Mo</u>	<u>Marg.Ore</u> <u>Stock</u>	<u>Marg.</u>	<u>Waste</u> <u>W.Rock</u>	<u>Till</u>	<u>Waste</u> <u>Total</u>
208,591	0.435/0.017	893	23,875	450,607	65,000	539,482

Table 4 illustrates the reserves as of June 1987, and the onsite stockpiled marginal ore to be used as mill feed until the reserves are exhausted in March 1993.

TABLE 4

Remaining Material for Mining June 1987
(Tonnes x 1,000)

<u>Ore</u> <u>Tonnes</u>	<u>Grade %</u>	<u>Marginal</u> <u>Tonnes</u>	<u>Grade</u>	<u>Waste</u> <u>Rock</u>	<u>On-site</u> <u>Stockpile</u> <u>Tonnes</u>	<u>Grade %</u>
95,043	0.483 Cu 0.023 Mo	33,718	0.244 Cu 0.013 Mo	97,303	21,573	0.24 Cu 0.01 Mo

The above reserves include 32,531 million tonnes ore and 15,110 million tonnes of marginal beyond the southern limit of the current pit.

4.2 Recoverable Reserves and Future Production

The original diamond drilling indicated that the ore body extends to the southeast beyond the current ultimate pit limit. Recent in-fill and stability diamond drilling (1,700 meters in 10 holes) has confirmed the ore body extension.

Assuming favourable economics, it is proposed to expand current mining operations along the southeast pit slope, beyond the current pit limits. (Figure 2). This will result in the recovery of reserves sterilized due to slope flattening, as well as reserves beyond the current pit limits, and extend the operating life of the property by an additional +4 years over the currently remaining in-pit reserves. Figure 3 is a current mine plan showing the south wall push back and Table 5 summarizes the recoverable reserves.

TABLE 5

Recoverable Reserves
(Tonnes x 1,000)

Ore					
<u>0.30% Cu</u> <u>Tonnes</u>	<u>Grade</u>	<u>0.20% & 0.30%Cu</u> <u>Tonnes</u>	<u>Grade</u>	<u>Waste Rock</u> <u>Tonnes</u>	<u>Strip Ratio</u> <u>Waste/Ore</u>
49,400	0.442 Cu 0.019 Mo	25,949	0.254 Cu 0.013 Mo	76,941	1.02 : 1

It is the intention to extend the previously described production levels from 1991 through to the exhaustion of the recoverable reserves by mid year fiscal 1998. Figures 4 and 5 depict the incremental increase in daily mine production and pounds of copper produced respectively over the proposed period.

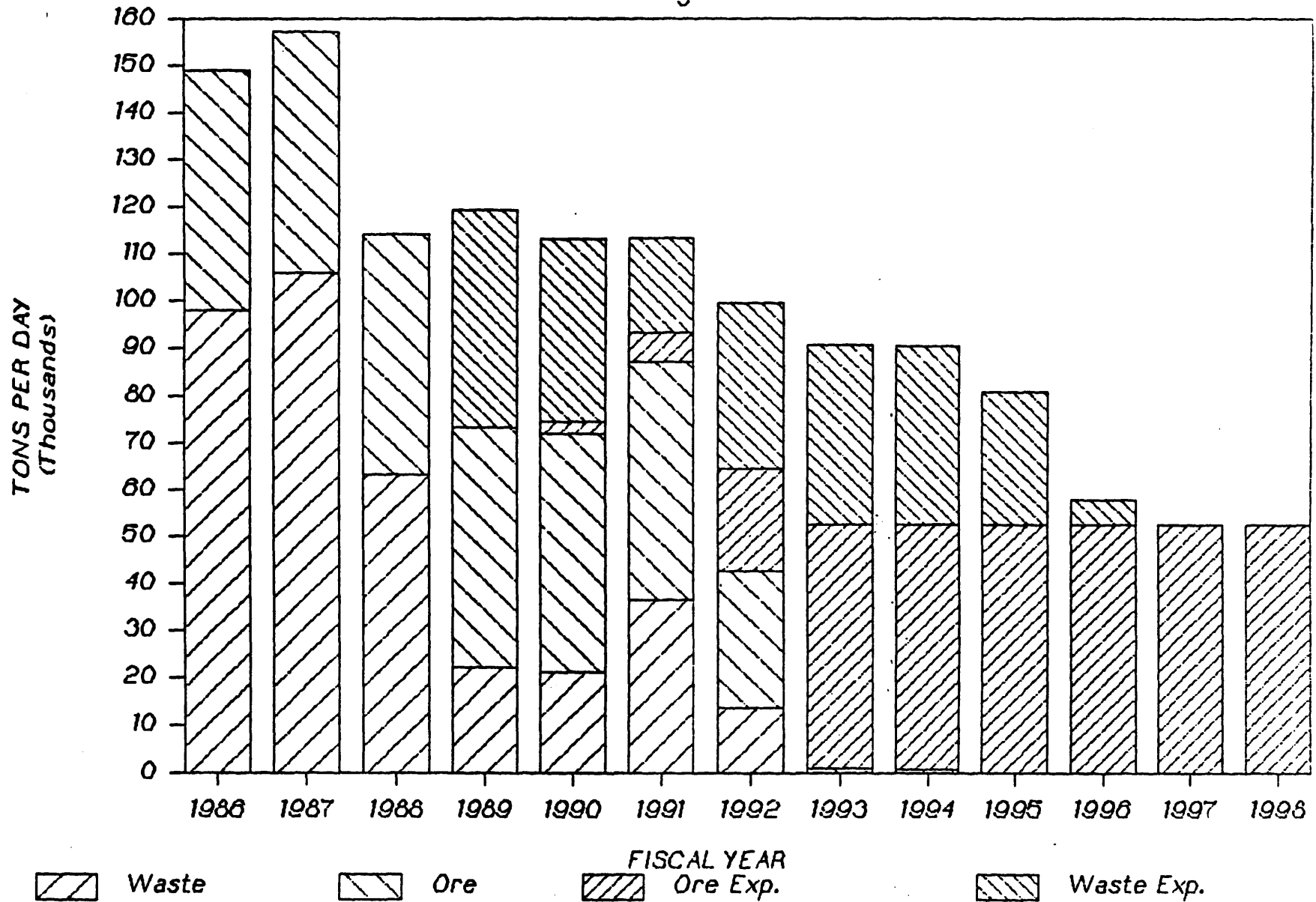
5.0 Development of Recoverable Reserves

The ore reserves lying beyond the southern pit limit have been defined by diamond drilling. Recovering these reserves will be dependent on:

1. The ability to maintain rock slopes at safe and economic angles.
2. Creating an effective and secure barrier against the tidally active water table in the waste dump and underlying till deposits.
3. Operating costs and metal prices adequate to provide an acceptable return on the 4 year 70 million ton pre-stripping project.

DAILY PRODUCTION

Figure 4



COPPER PRODUCTION

Figure 5

