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VANCOUVER ISLAND PLAY

In the face of generally strengthening metal prices over the last few years, the search for large, low grade copper-gold ore bodies amenable to open pit mining techniques has intensified and numerous deposits from Chile through to Alaska are currently subject to feasibility studies. However, the viability of projects in remote areas may be prejudiced by the enormous capital expenditure necessary to construct milling and infrastructure facilities from scratch.

The advantage of developing mines near existing operations is seen to particularly good effect at three deposits in the north of Canada's Vancouver Island, where BHP-Utah has its 45,000 t/d Island Copper mine and milling facility. The benefits of close proximity to underutilized milling capacity were pointed out in a research report by Yorkton Continental Securities Inc. earlier this year.

BHP's operations on the 360 Mt orebody, one of North America's largest copper-gold deposits, began in 1971, and in a typical production year the mine delivers 275,000 t of copper concentrate and 4,600 t of molybdenum concentrate to smelters abroad. Island Copper has also been one of British Columbia's leading gold producers through an annual by-product output of 40,000-60,000 oz of gold. Facing depletion of the original orebody, Island Copper recently received permission to expand the pit further into the Rupert Island inlet thereby extending the life until 1996.

As part of a regional exploration programme between 1960 and 1980, BHP found or developed several other deposits with analogous geology and mineralization to the Island Copper orebody, including Expo and Red Dog (which should not be confused with Cominco's deposit in Alaska).

In a period of weak metal prices during the mid-1980s, BHP optioned the large Expo property — containing the Hushamu deposit — to Moraga Resources for a $C2.7 million work commitment over seven years. This will earn Moraga, as operator, an undivided 45% interest in the property.

In 1988, BHP released the **Red Dog** property, whereupon Crew Natural Resources acquired 100% of the project (subject to a 3% net smelter royalty). Because of the closeness and similarity of the two orebodies, the managements of Crew and Moraga recently signed a letter of intent to develop Crew's Red Dog deposit jointly. Under the agreement, Moraga can earn a 45% stake by spending a total of $C3.0 million on the property, and another 5% by spending a further $C1.0 million (*MJ*, July 20, p.44).

The Red Dog orebody is completely surrounded by the Expo property and part of the deposit, the Red Dog Hill zone, extends onto the Expo claims. An engineering report based upon work conducted at Red Dog by BHP and Crew estimates a mineable open pit reserve in excess of 50 Mt containing 0.32% copper, 0.37 g/t gold and significant silver and molybdenum values.

BHP spent approximately $C5 million on the exploration of the Expo property and located a drill proven and possible reserve of about 57.5 Mt grading 0.32% copper in the **Hushamu** zone. Moraga has completed its first two years work commitment to BHP and has begun the third year requirement which involves completion of a deep hole in the Hushamu zone and step-out holes to test the area between this zone and the known mineralization located by drill holes on the McIntosh mountain immediately south of the Hushamu zone.

Another junior Canadian company pointing to the advantage of finding a deposit close to the BHP-Utah milling facility is Taywin Resources. This Vancouver-listed company has recently announced that Noranda Exploration Ltd has signed an option and joint venture agreement on its wholly-owned **Merry Widow** copper-gold property 40 km south of Port McNeill. Under the agreement, Noranda is committed to spending $C250,000 on exploration by March next year, and can earn a 51% interest upon making cash payments totalling $C225,000 and incurring exploration expenditures of $C1.5 million within two years. Taywin, which has already spent $C0.5 million exploring the property, would retain the remaining 49% stake. Merry Widow is also subject to a 12.5% net smelter royalty.

Held for many years by Quatsino Copper Gold Mines Ltd, the property was first staked in 1897. The southern group of claims was worked as an open pit/underground iron ore mine between 1957 and 1967 (and was named after the Merry Widow mountain to the south-east), while the northern half of the claims, which centred upon the rich Old Sport horizon, was developed under Cominco management as the Benson Lake mine between 1962 and 1972.

The property attracted considerable attention last year following Taywin's 42 hole diamond drilling programme, which included four 100 ft intersections averaging 5.1 g/t gold plus 0.4% copper, 3.8 g/t plus 0.6%, 5.8 g/t plus 0.6%, and 6.9 g/t plus 1.3% copper. Two drillholes intersected 59 g/t gold plus 5.4% copper over 2 m, and 22 g/t plus 3.9% over 6 m, both at depths of less than 31 m. Hole 89-30, drilled 200 m to the north of the existing pit on the Raven zone, assayed 8.6 g/t gold and 0.7% copper over 5 m. This area was abandoned by the iron miners because of contamination from the high copper-zinc content.

The shallower mineralization at Merry Widow can be mined at particularly low strip ratios because it has been partially stripped by the existing pit. Taywin, which was originally incorporated as Taylor Windfall Gold Mines Ltd in 1934, signalled its intention to discuss participation with major mining companies in its 1989 annual report (the company has an end-September year end). Indeed a 'farm out' agreement has also been reached on the company's second property on Vancouver Island. Placer Dome is due to explore on a portion of the Electrum gold-silver property, located to the south of Merry Widow. This holding is subject to a 5% net smelter royalty. □

PLATINUM GO-AHEAD

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of all platinum mines and Mr Ray Menne, senior planning manager, has said that the chances are very good that operating costs can be offset from platinum production alone. Working costs have been projected at R76/t of ore milled. Smelting and refining will take place at the company's refinery in the town of Rustenburg under an arm's-length business arrangement.

Funding by the two project partners will not be finalized until further studies are completed and the South African Government clarifies its proposals on ring fencing. Introduced in 1984 to prevent the erosion of the tax base, ring fencing restricts the capital expenditure tax allowance of a mine to income from that particular mine alone, thus preventing capex on new mines being offset against income earned from new mines. Revisions to the policy were introduced in the 1990/91 budget whereby capital spending on a new mine may be offset against 25% of the taxable income of any of a company's existing mines.

Ironically, the announcement that the mine is to proceed has coincided with the price of platinum on the free market hitting a four-year low of $440/oz on recessionary fears brought about by the Gulf crisis and high oil prices. Some 75% of platinum consumption is shared equally between the auto industry and the jewellery sector and demand in both sectors would be hit in the event of a recession.

Nevertheless, the platinum market is notoriously volatile, and long-term consumption growth prospects are good. □