

CAROLIN GOLD MINE

92H/6, 11

LOCATION:

18Km northeast of Hope
Discovered in 1927-29

OWNERSHIP:

Carolin Mines Limited (50% Aquarius Resources)

GEOLOGY:

In 1927, the Aurum gold mine was discovered just south of the current Carolin mine operation. Spectacular values of free gold, hosted in a talcose shear, were found in the Hozameen fault which is a major fault marking the eastern margin of the Coquihalla Serpentine Belt.

The Carolin mine orebody (Idaho Zone) is hosted in a structurally inverted sequence of Ladner Group sedimentary rocks, close to their faulted contact with the Coquihalla Serpentine Belt. The mineralized zone forms an irregular, steeply inclined ore body approximately 35 metres wide, 100 metres deep and over 300 metres in length which is still open down plunge. The predominant mineral assemblage in the zone comprises quartz, plagioclase, carbonate, chlorite, pyrrhotite, arsenopyrite and pyrite.

RESERVES:

2,000,000 Tonnes 0.128oz/T Au at a cut-off of 0.05oz/T Au.
1,500,000 Tonnes 0.141oz/T Au at a cut-off of 0.08oz/T Au.

PRODUCTION:

Carolin mine started production in December 1981 and the mill was scheduled to handle 1500 short tons/day.

The mine has recently been shut-down since it faces 14 charges under the Federal Fisheries Act and 7 under the Pollution Control Act of B.C. for discharging untreated cyanide effluent into the Coquihalla River.

REFERENCES:

Geological Fieldwork 1981, Geological Branch Paper 1982-1, pg. 87-101

VALUATION: Carolin Au Mine

Assumptions: 1,500,000 short tons 0.141oz/T Au.

Recovery 90%

Production 500,000 TPY

Production Life, 3 years

Capital Cost \$20,000,000

Au = \$450.00/oz CAN

Operating Costs \$50.00/T

Annual Revenue = \$28,552,500

Operating Cost = 25,000,000

Taxes @ 55%

Payback Period = 6 years

NPV (15%) = -10,600,000

Carolin Mines Limited and Aquarius Group are to share 50-50 after repayment of costs: 1/3 to Carolin and 2/3 to Aquarius.

ESTIMATED CASH FLOW - CAROLIN MINE (\$000,000)

1982

1 2 3 4 5 6 7 8 9 10

REVENUE	-	-	28.5	28.5	28.5					
OPERATING COSTS	-	-	25.0	25.0	25.0					
NET INCOME BEFORE ALLOWANCES	-	-	3.5	3.5	3.5					
DEPRECIATION ALLOWANCE	-	-	3.5	3.5	3.5					
TAXABLE INCOME	-	-	-	-	-					
TAX (55%)	-	-	-	-	-					
TAX CREDIT	-	-	-	-	-					
TAX PAYABLE	-	-	-	-	-					
NET INCOME AFTER TAXES	-	-	3.5	3.5	3.5					
CAPITAL COSTS	10.0	10.0	-	-	-					
AFTER TAX CASH FLOW	-10.0	-10.0	3.5	3.5	3.5					

0 1 2 3 4 5 6 7 8 9 10

Net Present Value (1982)

$$\begin{aligned}
 \text{NPV} &= 3.5 \left(\text{CPVF}_{3}^{15} \right) - 20.0 \left(\text{SFF}_{2}^{15} \right) \times 2 \\
 &= 3.5 (2.283) - 20.0 (0.4651) \times 2 \\
 &= 7.99 - 18.6 \\
 &= -10.6
 \end{aligned}$$