094K 012.

94K/11W

1. Davis-Keays Mines Ltd.

The Davis-Keays property is a high-grade, low-tonnage copper deposit located close to the producing Consolidated Churchill Copper Corporation Magnum mine. Mining would be by the expensive underground method and some underground development has already taken place.

There are two alternatives for the Davis-Keays property. A separate mill may be constructed specifically to treat the Davis-Keays ore, or the ore may be transported to the Churchill Copper mill and treated there.

The capital costs for these alternatives have been estimated by the Wright Engineers Limited Quick Capital Cost computer program, and are summarized in Appendix A, Table 3. The operating cost estimates are summarized in Appendix A, Table 1, and statements of estimated earnings are given in Appendix A, Tables 4 and 5.

At a current price of copper, (62¢ per pound) neither alternative shows the ability to recover the capital investment utilizing the proven reserve tonnage. An increase in the price of copper would help, although the Super Royalty would take an increasing portion of profit above the approximately 93¢ per pound price (calculated for 1975 conditions). Even without the B.C. Royalties, it is doubtful if the price of copper will outstrip the rising operating costs for this type of deposit in the foreseeable future.

The capital cost write-off was calculated by dividing the capital cost of the project by the proven reserve tonnage, so that this cost could be reduced by proving up more ore. However, most companies would be unwilling to write off their capital investment over more than five years for the scale of operations.

Milling at Churchill Copper appears to be the more favourable alternative, but neither proposal is likely to show a sufficiently attractive return on investment to entice the company to proceed in the next twenty years.

Because of the limited reserves (5 years), even low cost money would not make the project viable at current copper prices.

Source: Wright Engineers Report, Jan. 1975

Northeastern Region

X

TABLE 3

QUICK CAPITAL COST ESTIMATE FOR HYPOTHETICAL DAVIS-KEAYS MINE AND MINE AND MILL COMBINATION

(WRIGHT ENGINEERS LIMITED QUICK CAPITAL COST ESTIMATE)

	Mine and Mill	Mine Only
Mining and Exploration	$ 10,354,000	$ 10,354,000
Crushing and Screening	1,620,000	
Concentrating	2,257,000	
Water Supply	527,000	
Tailing Disposal	640,000	
Power Supply, Sub-Station and Distribution System	1,270,000	
Access Road, Surface Vehicles and Fuel Storage	1,849,000	1,849,000
Ancillary Buildings	783,000	783,000
Employee Housing	7,056,000	5,000,000
Working Capital	2,135,000	1,000,000
Engineering and Construction Management	2,372,000	500,000
Administration Costs	609,000	400,000
Interest Charges	2,001,000	1,320,000
TOTAL CAPITAL COST	33,679,000	21,206,000

TABLE 4

DAVIS KEAYS - SEPARATE MILL
STATEMENT OF ESTIMATED EARNINGS

			(Per Ton Ore)
Gross Revenue (62¢/lb. copper)			$ 36.00
Less:	Allowable Costs -		
	Smelting and Refining	$ 8.00	
	Transportation (Concentrate)	6.00	(14.00)
Net Value			22.00
Basic Royalty, 5% of "Net Value			(1.00)
Net Value less Royalty			21.00
Operating Cost (Per Table 1)			(21.00)
Capital Cost Write-off (net of any interest)			(24.00)
LOSS			(24.00)

TABLE 5

DAVIS KEAYS - MILLING AT CHURCHILL
STATEMENT OF ESTIMATED EARNINGS

			(Per Ton Ore)
Gross Revenue (62¢/lb. copper)			$ 36.00
Less:	Allowable Costs -		
	Smelting and Refining	$ 8.00	
	Transportation (Concentrate)	6.00	(14.00)
Net Value			22.00
Basic Royalty, 5% of "Net Value			(1.00)
Operating Cost (Per Table 1)			(17.00)
Operating Profit before taxes		$/ton	-
		$/year	-

( ) Denotes Negative