2002 Economics

KERR-SULPHURETS TARGET ECONOMICS

Placer Dome Modeling

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A rough-cut economic evaluation by Placer Dome in 1996 for open pit mining of known resources contained in the Kerr and Sulphurets deposits indicated an NPV of \$ -115 CDN @7%, a DCFROI of 3.8%, and payback of 7.3 years. The model used the following assumptions:

Reserves:	Kerr - 139.4 Mt at 0.68% Cu, 0.33 g/t Au (incl. 10% dilution at 0 grade)				
	Suphurets - 54.3 Mt at 0.29% Cu, 0.93 g/t Au (")				
	Total - 193.7 M t at 0.57% Cu, 0.49 g/t Au (")				
Production:	60,000 tonnes/day				
Minelife:	8.9 years				
Metal Prices:	\$0.95 US/lb Cu, \$375 US/oz Au				
Exchange Rate:	\$0.763 US = \$1.00 CDN				
Capital Cost:	\$779.2 M CDN spread over 3 years				
Operating Costs:	\$6.14 CDN/tonne milled				
Stripping Ratio:	2:1				
Recovery:	86% Cu, 57% Au				
Concentrate Grade:	25% Cu, 8.04 g/t Au, 7% Moisture				
NSR:	\$9.10 US/tonne				
Taxes:	28% federal income tax, 4% federal income surtax, 12% provincial tax				
Financing:	equity funded				

Cash flows, Placer Dome rough-cut evaluation of Kerr and Sulphurets: \$ CDN x 1.000.000

YEAR	REVENUE	OPERATING COST	CAPITAL EXPENDITURES	TAXES	NET CASHFLOW	NPV 7%
1			236.1	0.8	-236.9	-221.4
2		7.6	266.9	2.5	-277.0	-241.9
3		7.6	216.9	2.6	-227.1	-185.4
4	218.1	151.1	71.1	4.9	-9.0	-6.9
5	306.5	169.6	11.0	4.8	121.1	86.3
6	306.5	170.1	11.0	4.5	120.9	80.6
7	306.5	170.1	11.0	4.2	121.2	75.5
8	306.5	170.1	40.0	4.0	92.4	53.8
9	306.5	170.1	11.0	3.7	121.7	66.2
10	323.7	160.1	11.0	3.6	149.0	75.7
11	308.2	144.0	11.0	71.1	82.1	39.0
12	311.8	131.4		36.8	143.6	63.8
TOTAL	2694.3	1451.8	897.0	143.5	202.0	-114.7

Capital costs included construction of an all-season 20 km road from Highway #37 to the millsitecampsite, a 28 km summer road connecting the mine to the Eskay Creek mine road for hauling in large equipment, and a 19.7 km tunnel with rail and conveyor from the millsite to the minesite. Power would be supplied by a 325 km line from Terrace. Tailings would be pumped to the bottom of Bowser Lake. This was the method of tailings disposal for the Granduc Mine, some 25 km to the south, which was in production from 1971 to 1978 and 1980 to 1984 and processed 15.2 M tonnes of massive sulfide ore.

The reserve calculation is based on polygonal calculations using a 0.4% Cu cut-off. Mining of Sulphurets followed mining of Kerr. No pit optimization was undertaken, and it is assumed the grade remains constant over the minelife. Recoveries were based on preliminary metallurgical results from limited sampling.

Exploration Target Modeling

Using the Placer Dome report as a base, a revised model was constructed which shows the threshold of 400 M tonnes grading 1% Cu equivalent can be economically viable using certain assumptions. With a 75% ownership of the project, this model indicates NPV of \$557 M CDN @ 7%, a DCFROI of 15%, and a payback over 4 years could be achieved. Assuming:

Reserves:	400 M tonnes at 0.75% Cu, 0.4 g/t Au
Production:	80,000 tonnes/day
Minelife:	13.7 years
Metal Prices:	\$0.95 US/lb Cu, \$325 US/oz Au
Exchange Rate:	\$0.65 US = \$1.00 CDN
Capital Cost:	\$900 M CDN spread over 3 years
Operating Costs:	\$6.50 CDN/tonne milled
Stripping Ratio:	2:1
Recovery:	90% Cu, 70% Au
Concentrate Grade:	25% Cu, 10.4 g/t Au, 7% Moisture
NSR:	\$11.9 US/tonne
Taxes:	28% federal income tax, 4% federal income surtax, 12% provincial tax
Financing:	equity funded
Ownership:	75% Noranda

Cash flows, revised rough-cut evaluation of Kerr and Sulphurets (Noranda's 75% interest): \$ CDN x 1,000,000

YEAR	REVENUE	OPERATING	CAPITAL	TAXES	NET	NPV 7%
		COST	EXPENDITURES		CASHFLOW	
1			25.0		-25.0	-23.4
2			281.3	3.0	-284.3	-248.3
3			281.3	3.0	-284.3	-232.0
4	403.1	142.4	115.9	4.5	140.3	107.1
5	403.1	142.4	11.3	4.5	245.0	174.6
6	403.1	142.4	11.3	4.5	245.0	163.2
7	403.1	142.4	11.3	123.8	125.7	78.3
8	403.1	142.4	11.3	123.8	125.7	73.2
9	403.1	142.4	11.3	123.8	125.7	68.4
10	403.1	142.4	11.3	123.8	125.7	63.9
11	403.1	142.4	11.3	123.8	125.7	59.7
12	403.1	142.4	11.3	123.8	125.7	55.8
13	403.1	142.4	11.3	123.8	128.7	52.2
14	403.1	142.4	11.3	123.8	125.7	48.7
15	403.1	142.4	11.3	123.8	125.7	45.6
16	403.1	142.4	11.3	123.8	125.7	42.6
17	282.1	99.6	7.9	86.6	88.0	27.9
TOTAL	5521.8	1950.2	846.3	1343.6	1381.7	557.4

A lower gold price and higher operating cost were used. The \$25 M expenditure in year one is for the feasibility study, and 75% of \$4.5 M is added in year 4 to purchase the NSR royalty from Placer Dome.

In addition to the increased grade, higher production and longer minelife, changes which enhanced the economic model include a lower exchange rate and higher recoveries. The assumption of higher recoveries is supported by the fact that preliminary testing used too few samples, which were not representative of the bulk of ore, included low grade material and a