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MEMORANDUM

VANCOUVER

1982 March 15

cc: D.R. Capener  
R.L. Roscoe ✓  
G.A. McCreary

TO: D.A. Barr

FROM: T.W. Law

Baker Mine - Operating Options

In a memorandum 1982 January 25, Jim Torrens requested Dennis Capener to evaluate different operating options for Baker Mine, focusing on high-grading to the limit of mill capacity.

We were requested to evaluate reserves, applying 1981 mining experience and any other relevant factors, and develop realistic operating options for the remaining life of those reserves. Bob Roscoe and his staff completed a reserve forecast and developed a "best-chance" case. This forecast was reviewed and agreed upon during our last visit to Baker Mine on 1982 February 24.

Roscoe Reserve Forecast

<u>Location</u>	<u>Tons</u>	<u>Au (oz/t)</u>	<u>Ag (oz/t)</u>	<u>Dilution</u>
55 level	33,300	0.84	15.87	38%
54 level	40,800	0.47	11.10	38%
stockpile	9,400	0.50	9.0	-
	<u>83,500</u>	<u>0.62</u>	<u>12.76</u>	

Bob applied a dilution factor of 38%, which is higher than the project study (25%) but lower than 1981 experience (67%). The 0.3 oz/ton gold equivalent cut-off eliminated blocks from the 54 level and a gold content experience factor of 85% reduced grades of both Au and Ag.

Operating Assumption

The following operating assumptions were included in developing the options:

a) Resources

It is anticipated process optimization testing through 1982 will lead to improvement in annual average recoveries in 1983 and 1984.

1982 (plan)	90% Au	85% Ag
1983	92% Au	86% Ag
1984	93% Au	86% Ag

b) Operating Costs

Cost reduction of 3% should be achieved on 1982 average monthly operating costs (This assumes drilling costs as per plan). The escalation of wages and material is estimated at 13.5% in 1983 and 8% for the six operating months in 1984. Dennis will probably adjust these estimates more in line with corporate projections.


1982	\$575 k/mos x 0.97
1983	(1982 x 1.135)
1984	(1983 x 1.08)

Operating Options

I have developed three operating options in the attached tables:

- a) 1982 plan (Attachment #1)
- b) high-grading (Attachment #2)
- c) full blend (Attachment #3)

The focus is on the high-grading option vs plan, but the full-blend option is obviously more favourable if you project a higher price of gold in 1983 and 1984.

  
PWL/lh

## Attachment #1

1982 PLAN	1982	1983	1984
MILLING (t/moz)	2,775	2,775	2,775
GRADE Au (oz/t)	0.75	0.75/ 0.47	0.47
Ag (oz/t)	* 14.00	14.50/11.10	11.10
MONTHS	12	4.2 / 7.8	6
RECOVERY Au (%)	90	92	93
Ag (%)	85	86	86
MONTH METAL Au (oz)	1,873	1915/1200	1,213
Ag (oz)	33,023	34604/26490	26,490
ANNUAL METAL Au (oz)	22,478	17,403	7,278
Ag (oz)	396,270	351,961	158,940
TOTAL Au	<hr/>	<hr/>	47,159
Ag	<hr/>	<hr/>	907,171
	*55 Level blend with stockpile, lower than plan number.	*55 Level blend with 54 level for 4.2 months.	<hr/>
NOTES:	<hr/>	54 level mining commences Jan/83.	<hr/>

## Attachment #2

HIGH GRADE	1982	1983	1984
MILLING (t/mos)	2,775	2,775	2,775
GRADE Au (oz/t)	0.84	*0.50/ 0.47	0.47
Ag (oz/t)	15.87	*9.00/11.10	11.10
MONTHS	12	3.4 / 8.6	6
RECOVERY Au (%)	90	92	93
Ag (%)	85	86	86
MONTH METAL Au (oz)	2,098	1276/1200	1,213
Ag (oz)	37,433	21479/26490	26,490
ANNUAL METAL Au (oz)	25,175	14,660	7,278
Ag (oz)	449,200	300,842	158,940
TOTAL Au	<hr/>	<hr/>	47,113
Ag	<hr/>	<hr/>	908,982
		*stockpile feed for 3.4 months	<hr/>
NOTES:	Mining 55 level only	Mining in 54 level starts March 1983	<hr/>

Attachment #3

FULL BLEND	1982	1983	1984
MILLING (t/mos)	2,775	2,775	2,775
GRADE Au (oz/t)	0.62	0.62	0.62
Ag (oz/t)	12.76	12.76	12.76
MONTHS	12	12	6
RECOVERY Au (%)	90	92	93
Ag (%)	85	86	86
MONTH METAL Au (oz)	1,548	1,583	1,600
Ag (oz)	30,098	30,452	30,452
ANNUAL METAL Au (oz)	18,576	18,986	9,600
Ag (oz)	361,176	365,424	182,712
TOTAL Au	<u>                    </u>	<u>                    </u>	47,162
Ag	<u>                    </u>	<u>                    </u>	909,312
NOTES:	Mining of 54 level coincident with 55 level.		