

MEMORANDUM

1989 May 31

To: MINE SUPERINTENDENT

From: Engineering Supervisor

Re: Lindquist Lake Potential - Revision 1INTRODUCTION

The Ministry of Energy Mines and Petroleum Resources has called for exploration proposals on the old Deer Horn property at Lindquist Lk. in Tweedsmuir Park by June 16/89. The proposal is to include a general plan for development and reclamation of the property as well as exploration plans. A deposit of 10% of the first years budget is to accompany proposals. The successful bidder will be informed by July 07/89 and will not have his deposit returned.

The question then is whether sufficient potential exists on the property to prepare an aggressive proposal. Some risk is evident as the Government has indicated in the call for proposals that development of the property could be subject to expropriation pursuant to the Park Act. This memorandum provides a "back-of-the-envelope" estimate of potential economic value to Equity of presently indicated reserves.

FINDINGS

Under the parameters and assumptions used the property could provide a pretax operating profit of \$10 mill. Using a 47% tax rate this would provide an undiscounted after tax profit of \$6.5 mill. and a return of 20.1% on a total expenditure of \$32.3 mill.

Doubling the tonnage would give a pretax total profit of \$32.7 mill., an undiscounted after tax profit of \$17.3 mill. and a return of 30.7% on a total expenditure of \$56.3 mill.

MAIN ASSUMPTIONS

1. Portions of Equity's present mill can be utilized with minimal capital cost to process Lindquist ore.

2. Gold and silver recoveries will be 90% and 80% respectively, produced as readily saleable dore.

3. Metallurgy will be relatively simple and contaminant levels low.

PRESENT INDICATED RESERVES

	<u>Tonnes</u>	<u>Au g/t</u>	<u>Ag g/t</u>
<u>In Place</u>			
M. Zone	154000	7.7	216
Contact Zone	<u>95000</u>	<u>13.9</u>	<u>420</u>
Total	249000	10.1	294
<u>Incl. 15% Dil.</u>	286000	8.8	256

GENERAL DEVELOPMENT PROPOSAL

Ore would be hauled via a 10 km road (present route upgraded) from the Lindquist minesite to a dock at the south end of Whitesail Lk. Ore would then be barged to Andrews bay - a distance of 60 km.

Ore would then be trucked from Andrews Bay to the Equity minesite via the present road from Wistaria to Houston and then to the Equity mill, a distance of 120 km.

Production would be in the order of 200tpd with a theoretical mine life of 3.8 years. Production would be year round with ore stockpiled over winter.

A camp would be set up close to the mine site. Personnel would be transported by boat when the lake is open and by air when the lake is frozen.

Sections of the present Equity mill and gold scavenging circuit would be utilized to recover gold and silver in dore. Capital expenditure is expected to be minimal.

COSTS

## 1.Capital

Equity mill modifications	1000000	
Upgrade minesite road	1000000	
Docks, two barges, two loaders	2500000	
Camp and diesel generator	1000000	
Equipment 4.25mill x 286/435	2800000	
Development 5.0 mill x 286/435	<u>3300000</u>	
Total capital		\$11600000

## 2.Camp Operating

\$2000/day x 365 days x 3.9 yrs 2800000

## 3.Personnel transportation

\$5000/wk x 52wk x 3.9 yrs 1000000

4.Mining \$30/t x 286000t 8600000

5.Milling, plant, admin. \$8/t x 286000t 2300000

## 6.Ore transportation

Rehandling 2 x

\$ .5/t x 2 x 276000t \$276000

Total haul 190km

Using \$20/t/300 km

Then \$20/t/300 km X 190 km = \$12.67/t

Say \$13/t x 286000t = \$3718000 4000000

## 7.Dore refining

Treatment C\$.2/oz dore 441000

Refining C\$1/oz Au 73000 500000

8.Reclamation & Decommissioning 1500000 \$20700000

9.Total cost \$32300000

REVENUE

tonnes x grade x rec x payable fact. x price x exchange

Au rev	286000 x 8.8g x .9 x .996 x \$367/31.1 x 1.2	= \$31900000
Ag rev	286000 x 251g x .8 x .995 x \$5.6/31.1 x 1.2	= <u>12600000</u>
Total rev		= \$44500000

PROFIT

Potential profit = \$44500000 - \$32300000 = \$12200000

After tax profit (47% rate) 6500000

Results in an undiscounted return of 20.1% on cost of \$32300000

PROFIT @ DOUBLED TONNAGE (same grade)

Additional capital	\$ 3300000
New total capital	14900000
Previous operating x 2 =	<u>41400000</u>
New total cost	56300000
Previous total revenue x 2 =	<u>89000000</u>
New total profit(pretax)	32700000
After tax profit (47% tax rate)	17300000

Results in an undiscounted return of 30.7% on cost of \$56300000.

DISCUSSION

Costs are only "guesstimates" and could be higher or lower. Mining and UG capital costs are based on the recently completed S.Tail UG study but prorated by tonnage. Milling, plant and administration are current Equity costs. Transportation is based on a quotation for hauling limestone from Dahl Lk and prorated by distance. Transportation includes an allowance for rehandling twice.

Revenue is calculated using expected prices from the S.Tail UG study.

Tonnage is from the MEMPR invitation for proposals with a 15% allowance

for dilution.

Metallurgical information contained in a 1954 report indicates good recoveries for gold and silver (95% & 84% respectively) at a grind of 25.2% passing minus 100 mesh. Recoveries in this report are about 5% below these figures.

Mineralization appears similar in the two zones. Quartz veins contain pyrite, pyrrhotite, sphalerite, galena, chalcopyrite, magnetite, scheelite and tellurides with gold occurring in fractures in both the tellurides and galena.

Potential for increasing tonnage in the Main Zone is limited at depth as it intersects the Contact zone at about 200 ft., but still has considerable potential along strike to the west. Also the contact zone has good potential to increase tonnage at depth and along strike due to presence of quartz veins and veinlets within a 150 ft wide quartz-sericite schist.

Work to bring a property to the present exploration stage of Lindquist Lake would cost in the order of \$1000000 (590m of UG dev. and 5800m of diamond drilling). Chances of locating a similar property through Equity's grass roots heavy mineral program and property submissions in the time period while Equity is still producing are very low. Lindquist Lk. offers a unique opportunity to obtain a property which could provide ore to the present Equity mill before ore at the minesite is depleted. Also the only up front money required to obtain a 100% interest in the property is 10% of the first years exploration budget.

Diamond drilling information may no longer be available, however the adit was still open in 1987 when L.Diakow mapped the area for the Ministry of Mines. Shallow drilling from surface could readily redefine the Main Zone and Contact Zone (an estimated 7-800m on 12 sections) to the adit at 4260 elevation. Present available general information would allow efficient

location of diamond drill holes.

An early review by management to define the scope of Equity's proposal is required to allow preparation of a successful presentation by the June 16, 1989 deadline. Proposals will be evaluated on the following criteria:

- a. technical merits of the proposal;
- b. committed expenditures in the first year;
- c. proposed expenditures in subsequent years;
- d. plan for environmental protection and reclamation of surface disturbances;
- e. financial capability of the proponent;
- f. exploration, development and mining experience and capability of the proponent;

Evaluation criteria would appear to fall within Equity's capabilities. As long as the first years commitment is sufficiently competitive to place Equity among the serious contenders we should have a good chance of having our proposal accepted on the basis of merit in the other criteria.



R. Baase

Engineering Supervisor

cc P. Martin

D. Hanson

T. Heard