C O N F I D E N T I A L

AN EVALUATION
OF THE
MOUNT NANSEN MINES LIMITED
PROJECT

by

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INTRODUCTION

Mount Nansen Mines Limited, a Canadian company incorporated in 1963 with an Ontario charter, has announced that it intends to bring a gold-silver mine into production in the Carmacks area of the Yukon Territory. The mine is situated about 40 miles west of Carmacks. The Company has applied for financial assistance under the Northern Roads Program to build a portion of an access road from the mine to Carmacks. MAP 1 shows the location of the mine and the access road for which financial aid is requested.

An evaluation of the proposed mining operation has been carried out, based on information provided by Dr. D.D. Campbell, [1] consulting engineer, to the Company and also on information obtained from Company officers.

SUMMARY

An evaluation of the Mount Nansen Mines Limited project has revealed that the revenue from the project over its estimated life of 3 years will not quite repay the total capital investment required to bring the property into production.

If funds spent to date on exploring and developing the project are considered to be "lost" and are not taken into consideration in evaluating the future prospects of the project, then the project will yield a good rate of return (25 per cent) on the balance of the funds required to bring the mine into production.

1. Review Report on the Geology and Ore Reserves of the Peso Silver Mines Limited Properties, Yukon Territory by Douglas D. Campbell, November 10th, 1965.

The most important benefits which will accrue to the Crown, and to the Yukon Territory in particular, will be the impact of the 130 new jobs which the project will provide in that Territory. No revenue will be collected as income taxes and only minor amounts as Yukon royalties and Territorial taxes. The discovery of additional ore reserves, which is considered to be highly possible, would, of course, create a much more favourable outlook for the project.

COMPANY INFORMATION

The head office of the Company is at 475 Howe Street, Vancouver, B.C. Officers of the Company are:

C.S. Walker - Chairman

[illegible] Berlis - President

Dr. S.M. Jerome - Managing Director

A. Stone - Secretary Treasurer

B.S. Imrie, Exploration Manager, is in charge of operations at the property.

ACCESSIBILITY

Access to the property is by a low standard, tote road which follows approximately the route chosen for the permanent access road.

HISTORY

The first gold and silver mineralization was found in the Mount Nansen area in 1943 by two prospectors Brown and McDade although gold had been discovered in 1930 at the nearby Mt. Freegold area. Brown-McDade Mines Limited was formed to develop this property. At the same time Conwest Exploration

Company Limited explored the Nebber Creek area, two miles to the west, and the Huestis Syndicate trenched the Huestis vein, about one mile west of Brown-McDade. Results were not encouraging and all activity ceased in the area until 1958 when further exploration was carried out.

In 1962 the Mount Nansen Mines Syndicate (Newmont, Noranda, Rio Tinto, Kerr-Addison, Conwest and Faraday) was formed and extensive drilling and trenching was done in that year.

In 1964 Mount Nansen Mines Limited came under the control of Peso Silver Mines Limited and a program of exploration, both surface and underground, has been carried out continuously since. Results have been encouraging and for this reason, plus the high prices for silver which are prevalent today, prompted the Company to decide early in 1967 to place the mine in production.

PHYSIOGRAPHY, GEOLOGY AND MINERALOGY

The area surrounding the Mount Nansen Mine is one of sparse forest and rounded hills up to 2,000 feet above sea level. There are several prominent peaks in the area which rise to over 6,000 feet elevation.

There are few outcrops in the area and permafrost is prevalent. The property is on the eastern edge of the Cordillera batholith which extends across southwestern Yukon. Rocks are volcanic flows which are intruded by granitic rocks. Complex faulting and alteration is prevalent throughout the area.

The ore bearing veins are associated with these faults and are mainly quartz. Widths vary from 3 to 6 feet and pyrite and arsenopyrite are found associated with the gold and the silver.

ORE RESERVES

The most recent ore reserve figures supplied by Dr. Campbell [2] are as follows:

Proven and probable ore

Wedger-Huestis orebody

132,315 tons grading 0.484 oz/ton gold and 19.49 oz/ton silver.

Brown-McDade orebody

32,190 tons grading 0.61 oz/ton gold and 5.4 oz/ton silver.

Total 164,505 tons grading 0.509 oz/ton gold and 16.73 oz/ton silver.

Dr. Campbell also lists additional possible ore reserves of 119,000 tons. He also states that "reasonable geological extensions of the ore will quadruple the present reserves."

METALLURGY

Metallurgical testing of the ore is not complete but a recovery of 90% for silver and 85% for gold is assumed. The ore contains 3 to 4 per cent of lead and zinc. Initial testing indicates that the most suitable process will consist of:

(a) Production of a lead-zinc concentrate by flotation. This concentrate will carry about 30 per cent of the gold and 76 per cent of the silver.

2. Letter from Dr. Campbell to Dr. S.B. Jerome, Managing Director, Mount Nansen Mines Limited, dated June 23rd, 1967.

(b) Cyanidation of the tailings to recover most of the remaining silver and gold.

For evaluation purposes, the recoverable gold and silver in the ore is considered to be sold at market prices and no value is placed on the lead and zinc. In actual practice the lead and zinc will have a value which is estimated to equal the smelter treatment charges and deductions incurred in recovering the gold and silver.

RATE OF PRODUCTION

The proposed production rate for the Mount Nansen Mine is 200 tons per day, or 70,000 tons per year, based on 350 operating days per year. At this rate the proven and probable ore reserves will last for 2.35 years.

CAPITAL COST AND FINANCING

To date $1.5 million has been spent on the project. An additional $2.5 million will be required to bring the mine into production. Of this amount, $1.5 million will be borrowed at an interest rate of 7 per cent.

EVALUATION

Assumptions

In evaluating the Mount Nansen operation the following assumptions have been made:

1. The life of the mine is estimated to be 3 years. This is considered a fair assumption in view of the 119,000 tons of possible ore quoted by Dr. Campbell which are additional to the reserves used previously to calculate a life of

2.35 years for the mine.

2. Metal recovery is estimated to be 90% for silver and 85% for gold. This gives a recoverable grade of .90 x 16.73 = 15.06 ounces per ton for silver and .85 x 0.509 = .433 ounces per ton for gold.

3. Metal prices are assumed to be-Gold - $37.50 Cdn. per ounce.

-Silver - $1.94 Cdn. per ounce.

4. Recoverable values are then-Gold - $37.50 x 0.433 = $16.24 per ton of ore.

-Silver -$1.94 x 15.06 = $29.22 per ton of ore.

Total - $45.46 per ton of ore.

say $45.00 per ton.

5. Assuming a production rate of 200 tons per day and 350 days per year of production, the annual gross income to the Company will be 200 x 350 x $45 = $3,150,000.

6. Operating costs are estimated to be $25 per ton except for the first two years of production when an additional $1.50 per ton will be added to cover interest on a loan of $1,500,000 at 7 per cent.

7. Total capital investment required to bring the mine into production is $4 million dollars. No consideration is given to possible financial assistance from the government for road construction.

8. Since the mine will have an estimated life of only 3 years, no income tax will be payable and therefore no writeoffs for capital cost and pre-production expenditures will be considered.

Results of Evaluation

Based on the previously mentioned assumptions the rate of return to Mount Nansen Mines Limited on its investment of $4 million is less than zero

(- 1.5%), (see Fig. 1). If the expenditures to date on the property, which total $1.5 million, are not taken into consideration, the rate of return is 25% (see Fig. 1).

There will be no benefit to the Crown in the form of income taxes from this operation unless considerably more ore is found. It is estimated that Yukon quartz royalties amounting to approximately $100,000 will be collected.

CONCLUSIONS

1. The Mount Nansen project is not economically feasible if the expected rate of return from the project is calculated on the total capital that will be invested in the project up until the time the mine goes into production.
2. From the mine managements' point of view, the $1.5 million which has been spent on the project to date can be considered to be money that is "lost", and the return can be calculated on the $2.5 million which is required at the present time to bring the mine into production. Based on this viewpoint, the project will yield a return of 25 per cent on the $2.5 million investment.
3. Although the direct benefits to the Crown from the Mount Nansen project will be insignificant, unless more ore is discovered, there are indirect benefits resulting from the provision of employment for approximately 130 persons. The Yukon Territorial Government will benefit from fuel taxes and licence fees collected.

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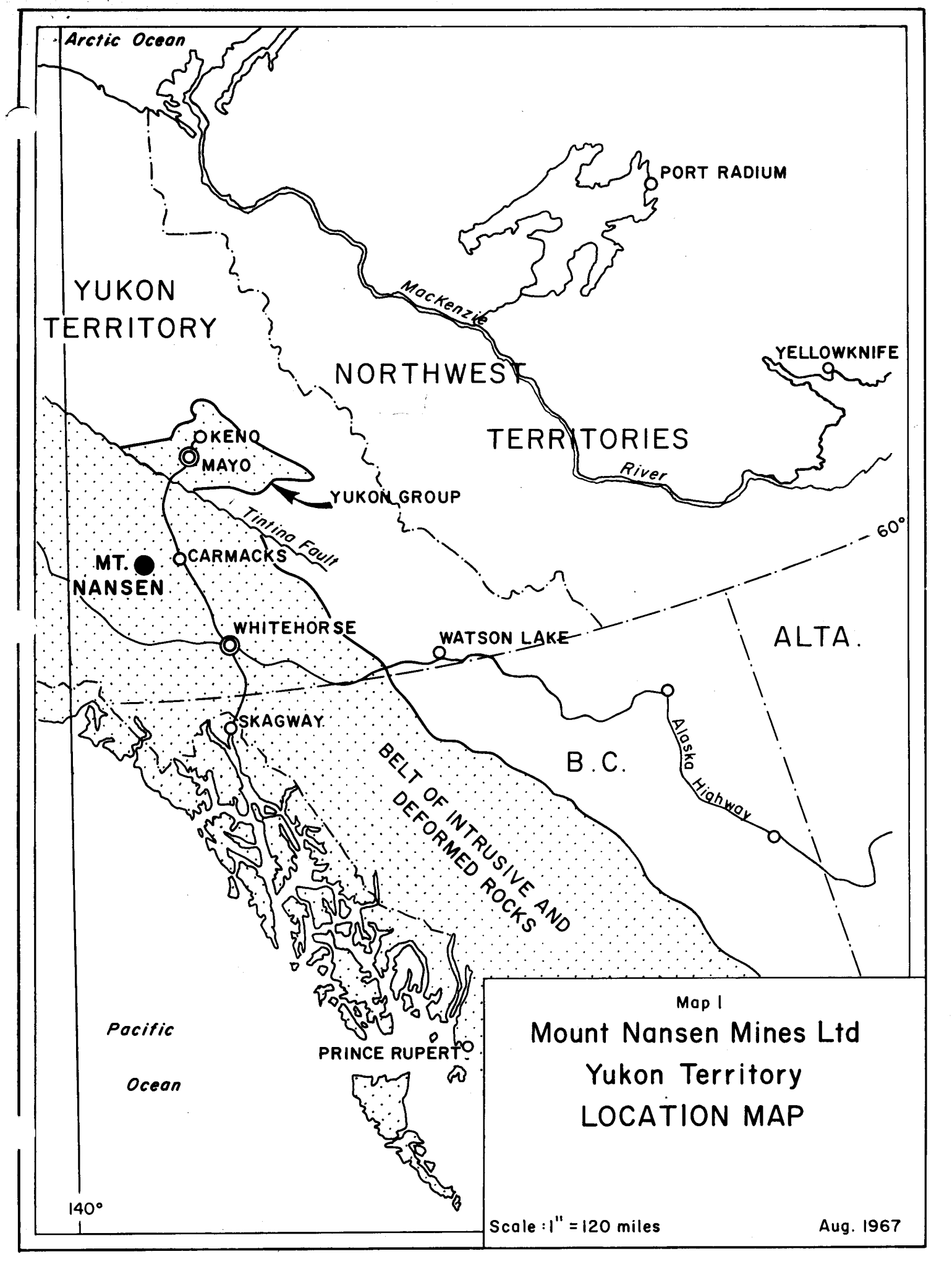
Arctic Ocean
PORT RADIUM
YUKON TERRITORY
Mackenzie
NORTHWEST TERRITORIES
YELLOWKNIFE
River
OKENO
MAYO
YUKON GROUP
Tintina Fault
60°
MT. NANSEN
CARMACKS
WHITEHORSE
WATSON LAKE
ALTA.
SKAGWAY
B.C.
Alaska Highway
BELT OF INTRUSIVE AND DEFORMED ROCKS
Pacific Ocean
PRINCE RUPERT
140°
Map I
Mount Nansen Mines Ltd
Yukon Territory
LOCATION MAP
Scale : 1" = 120 miles
Aug. 1967

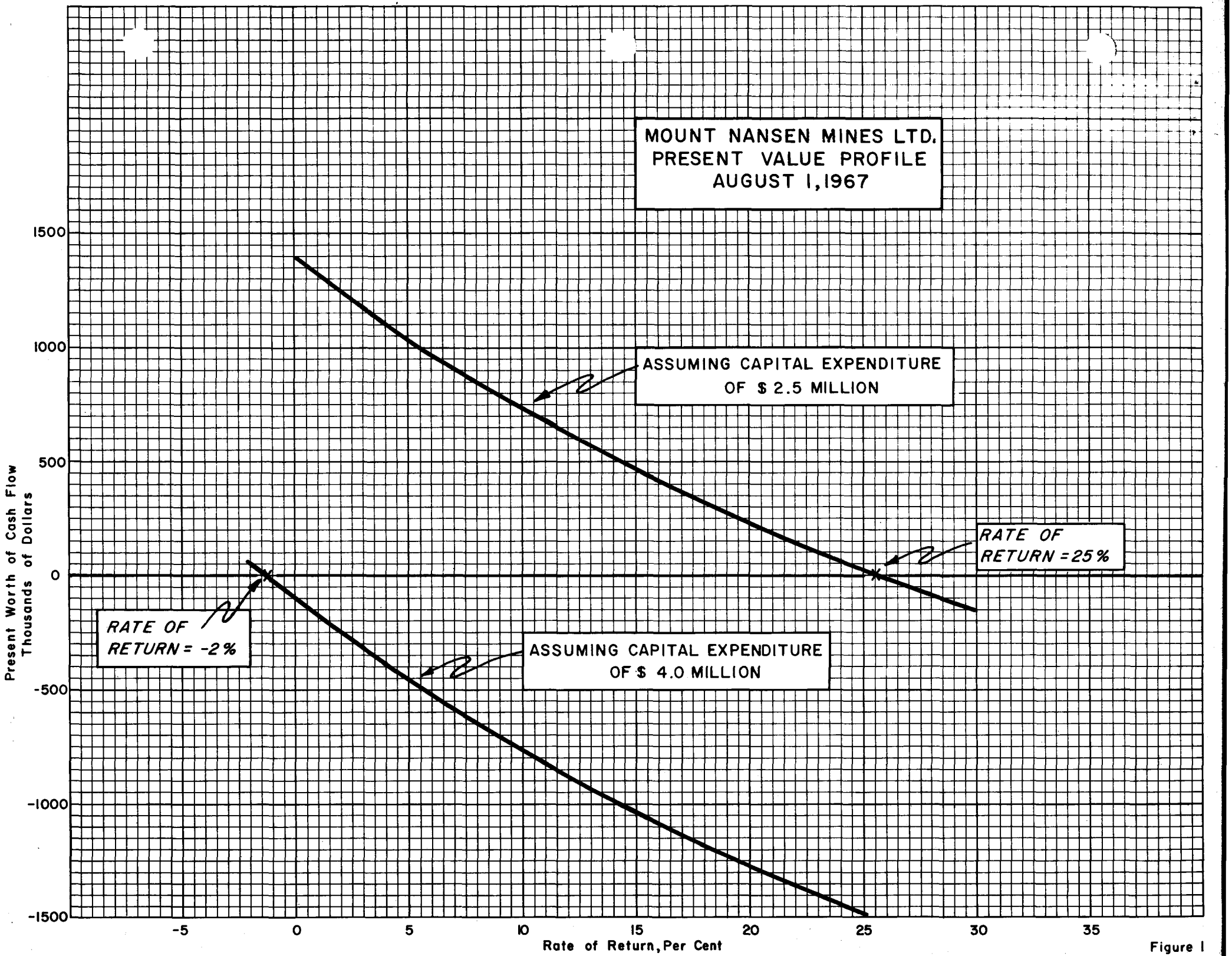
MOUNT NANSEN MINES LTD.
PRESENT VALUE PROFILE
AUGUST 1, 1967
ASSUMING CAPITAL EXPENDITURE OF $ 2.5 MILLION
ASSUMING CAPITAL EXPENDITURE OF $ 4.0 MILLION
RATE OF RETURN = 25%
RATE OF RETURN = -2%
Present Worth of Cash Flow Thousands of Dollars
1500
1000
500
0
-500
-1000
-1500
-5
0
5
10
15
20
25
30
35
Rate of Return, Per Cent

Figure 1