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Introduction

At the request of Mr. Bruce Isaakson, President of Mistral Resources Ltd, the writer has prepared this Evaluation Report as requested by the Vancouver Stock Exchange. The Exchange, before passing judgement on the Genie - Mistral proposed agreement, rightfully wish to know whether the agreement and subsequent take over of the Genie Atlin placer deposit will be beneficial to the Mistral shareholders.

This report documents the items that necessarily must be taken into consideration in the evaluation of a property. All items are brought down into integer form for insertion into appropriate formulae. On the basis of constants, calculations are made as to the annual profit or loss. The figures are brought together for insertion in 'Hoskold Formula', the accepted theorem for engineering evaluation of a mining property.

The writer presents a brief discussion of the ~~values~~ results and its effects on operations of Mistral Resources Ltd. and on the mining claims.

regarding this investment

and other similarities

acceptable

and writeholders

The Approach.

The proposed agreement between Genie and Mistral is complicated by the original agreement that Genie made with what eventually became one of its major shareholders. The royalties and forms of payment that Genie undertook to repay its shareholders must all be worked into the final calculations. There are some intangibles such as "prime rate"; there are some variables such as the gold price. The writer has sought to put them into figures with no variations (just constants) and with a prediposition in the conservative vein.

The calculations are advanced in the most simple form. Of assistance to the writer (and other mathematicians) is the presence of tables to eliminate the possibility of errors and simplify the final outcome. To be judged then is the writers approach to specific items.

A mining property has a definite value only by virtue of its ability to produce a profit over a term of years. The money value of that mining operation is that sum which the exploitation of the commodity or mineral will return, together with a fair rate of interest, besides paying operating expenses, taxes, etc, the

Approach (2)

same fair rate of interest on the required working capital, and redeeming with a fair rate of interest the capital required for equipment and development.

The net present value as requested by the Vancouver Stock Exchange designates the capital which must be invested immediately to be equivalent to the future incomes to be received in exchange

to many engineers

Items

(A) Ore Reserves. On April 14, 1986 the writer presented Genie Resources Ltd with a report (1) in which was documented the ore reserves of the property. This report was amended October 5, 1986 in which that portion of the ore reserves referred to previously as "proven" was altered to "drill indicated". Although synonymous with "proven", it implies identification through drilling, surface or underground, but no close-sided drifting, or proving, of the ore. It is the next best thing to going underground.

The writer identified a total of 1,530,000 yards of ~~pay horizons~~ in the drill indicated and possible category grading 0.052 ounces gold per yard. The grade figure is arrived at through the aggregating of all the ore intercepts.

The total number of pay horizons has been identified in the Channel as being four, namely Svoboda (the highest), Moran, Strand and Bedrock (the lowest). The average thickness of the pay gravels is ten feet or totalling 35 to 40 feet through the four beds.

The internal strip ratio of the working face is approximately 2½ to 1. That is, for every ~~=~~ feet of pay

A (2) in the working pit face | Genie | total | on the property | in the fall

horizon, there is 2½ feet of unproductive, or weak, material. Therefore for the average working pit face there is 35 feet of productive gravels and 90 feet of weak material. In a like manner, the waste material can be considered to be 2½ times the amount of the ore material, or 3,825,000 yards.

In 1986 produced gold from a pit face at the average grade of 0.012 ounces gold per loose yard while mutual operating in 1987 through the same wash plant had a recovery averaging 0.013 ounces gold per unconsolidated yards (2). The new wash plant improved this grade considerably. On the basis of the above figures the writer has given the weak material a grade of 0.015 ounces gold per yard.

As it is unlikely that selective placer mining will be undertaken, a grade must then be attached to the combined waste and ore gravels. The total aggregate yardage is 5,355,000 yards with a weighted grade of 0.026 ounces gold per yard.

The historic fineness of the Atlin gold is 820. Therefore one ounce of placer gold contains 0.82 ounces of gold and 0.18 of impurities. Usually the largest percentage of impurities is that

(82%) (18%)

of silver. The writer has presumed that of the 18%, ~~of~~ silver inhabits 11%. This silver resource, although minor, has been calculated into the revenues.

(B) Length of Season - The average length of a plant season is from May 15th to October 15th or 152 days. Down time of the wash plant varies as to its manufacture and preventive maintenance. The writer has assumed from past experience that 10% will be the average down time per season or 15 days. This leaves an operating season of 137 days.

1987

(C) Annual Throughput - On the basis of a 137 days season and using the presently rated capacity (250 yards) of the wash plant at 80% for two shifts totalling 20 hours, the average ~~daily~~ annual throughput will be 548,000 yards.

If the total available yardage on the property is 5,355,000, this rates the productive life of the ~~population~~ at 10 years.

per ounce

(D) Price of Commodities - The chief commodity on this Alten placer claim is gold. It would appear that the gold price has built a floor barrier of $450 American. The writer assumes for the purposes of this exercise that the price of gold does not fall below $425 American for the operational life of the mine but remains constant at this price. The conversion factor of 1.30 makes the price of gold $552.50 Canadian.

As silver seemingly fluctuates between the $6 and $7 American price per ounce the writer following convention has adopted $9 Canadian per ounce. The amount of silver handled annually is not significant.

(E) Return on Investment - This varies with the individual, organization and type of investment. However it would appear that a standard return could be said to be 15%. Length of investment is also a factor of some importance.

The writer has approached this rate of return by involving the 15% in two returns. A 4% rate of return is involved in an sinking

fund to which payments are made from earnings. ~~and~~ This account ten is improved at this 4% compound interest ~~rate~~ in the given period of ten (10 years). The 11% is the interest rate applied to the balance of the annual earnings for the redemption of the capital

(F) Annual Labour Costs - Placer operations are modestly labour intensive. However in the case at hand it is presupposed that Mistral will do all material handling and transportation to the wash plant by means of contractors. This had been the case with Genie in 1986 and Mistral in 1987.

The number of company and contractor personnel on the property varied from a low of 15 to a high of 37 during the past year.

To operate the two shifts required on the wash plant, gold recovery room, dining room and supervision, Mistral employed 9 people during 1987. The average rate per hour varied from $13 to $15 with time and a half paid beyond the normal eight hour day.

The writer has increased company operating personnel by 1/3 to 12 and has taken the average wage as $20 per hour for a 20 hour

working day. The season is considered as the full 152 days as labour will be put to work and paid during the downtime periods.

The annual labour cost is $729,600.

(G) Annual Mining Costs. This figure is derived from two sources - overburden removal and gravel haulage to the wash plant.

The amount of overburden to be removed is calculated from the width of the channel, the length of the claim remaining to be mined, and the thickness of the overburden previously removed. On claim PL 1782 the thickness is calculated at 100 feet while on its adjoining upstream claim, PL 1702, the overburden thins to an average of 70 feet. The next claim, PL 1699, is presently being sluiced and the glacial overburden thickness is in the 50 to 60 foot range.

The mine's calculations returned 2,555,000 yards of overburden to be stripped during the life of the mine. This appears to be on the low side so the mine has upped it 50% to 3,750,000 yards. At the $2 per yard removal rate this equates to $7½ million

(7) In addition the 1,153,140 Genie shareholders will receive Mustral consolidated stock on a 1 for 1 basis.

over 10 years or 750,000 per year.

The mining rate is set by the wash plant production. This is 548,000 yards at $2 per yard or $1,100,000 annually.

It is quite possible that a further reduction in stripping and mining rates could be affected. A reduction of 25 cents per yard would effectively reduce the annual total mining + stripping operation by some $230,000.

(H) Royalties This is a very complicated situation and in the calculation which follow several assumptions have been made. There are several groups involved in the payment schedules either through gold, dollars or stock payouts.

Stock - Mustral has proposed payments of stock on the basis of the consolidation (1 for 5) to Genie unit holders, those holding builders liens, outstanding debtors and various parties holding interests in the Aitkin placer claims. There total 480,325 shares. Similarly LSH Investments can convert $100,000 of its $1,570,000 loan into 133,333 shares of stock. There is also a finders fee of 208,450 shares to be issued. The aggregate amount to 1,976,248 shares.

(at $50,000 per unit)

Dollars - Those holding Builders Liens, in addition to accepting a portion in stock, are to be repaid a total of $360,000 in cash. Holders of a purchased placer lease (Drain) similarly have accepted stock plus a $62,500 settlement. Total cash to be paid by Mistral on Genie's behalf is $422,500

Raw Gold - The ~~[redacted]~~ holders of 17 units have agreeded to accept payment in gold at the rate of 200 raw ounces per $50,000. This totals 3,400 ounces of gold. Calculations show this will be paid out in 3 years. In addition they are to be paid interest at the rate of prime plus 2% effective January 1, 1958. This is also to be paid out in raw gold.

(interest) (for 3 years)

The $50,000 at prime (assume 10%) plus 2% interest equals to $344,165 which at the above payment rate ($50,000 = 200 ounces) is the equivalent of 1377 ounces. If payment rate is current price of gold ($52.50) then the ~~[redacted]~~ gold payout is 623 ounces. This point should be clarified by Mistral before payments begin.

Mistral has stated that 10% of production will be set aside as payment to the unit holders.

added

Canadian

principal

With Hallman and his associated companies (2SH Investments Ltd and 666030 Ontario Limited) Mistral, through Genie, have ~~to~~ two contract loans to fulfil.

The first, called the Assumed Obligation, states that the $2,000,000 advanced by 666030 Ontario Limited will be paid by refined gold from 40% of annual production at a price of $350.88. This is met by the delivery of 5700 ounces of gold.

The second, or Loan, states that payment of the $1,570,000 loan (less $100,000 converted to shares) is met by the delivery of 4189.5 ounces of refined gold again at a price of $350.88 Canadian.

In addition a bonus of 500 ounces of gold is payable to the above.

Besides being ~~bonused~~ bonused by receiving gold at $350.88 Canadian an ounce, Hallman's associated companies also realized double bonusing by having interest on both loans ($2 million and $1.47 million) at prime plus 1½% due and payable on November 1, 1990. Assuming prime to be 10%, this double bonus effect amounts to (a) $1,296,436 on the assumed obligation and (b) $703,836 on the loan for a grand total of $2,000,272 payable by the end of the 1990 season.

(10)

Summation of Royalties

Stock to be paid out = 1,976,248 shares

Dollars to be paid out = Settlements = $422,500

Interest = 2,000,272

Total = $2,422,772

Gold to be paid out = Unitholders = 3,400 ounces

Interest = 1,377 (623?)

Hallman et al = 10,690

15,467 ounces.

(1)

(of balance)

Mathematics

Annual Profit or Loss

Assumption of Constants and Items

Price of Gold = $552.50 Canadian
Annual Throughput = 548,000 yards
~~Length~~ Life of Property – 10 years.
Return on Investment = 11% on capital; 4% Annual Redemption
Royalties = Unit holders = 10%
LSH = 30% until unitholders paid then 40% of total

" —— "

Amount of gold ounces produced annually at .82 fineness
~~= 14,248 × .82~~
= 548,000 × 0.026 × .82
= 11,683
less 10% = 1,168
10,515
less 30% = 3,155
7,360 ounces gold to Company.

Should production drop but grade improve then required: if grade = .04 (50% more) then throughput = 11,683 ÷ .04 × .82 = 356,189 ÷ 20 × 137 = 130 yds/hr.

Annual Gross Sales = 7,360 × $552.50 = $4,066,400
less labour costs = 729,600
($713,000) less annual mining costs = 1,100,000
less annual stripping = 510,000

→ add $387,000 annually

Annual Profit $1,726,800
Silver Profits = 11,683 × .11 × $9 = 11,566

Total Net Profit = $1,738,366
(prior to taxes) ($2,125,366)

" —— "

M (2)

At 1,168 ounces annually, the unitholders will be paid in 4,777 ÷ 1,168 = 4 years

At the 3 year period (1988, 1989 & 1990) Hallman et all will have been paid 9,465 ounces.

At the 3 years period, the Company will have made in excess of $5.2 million and will presumably have paid the interest on the loan and Assumed Obligation.

In the 4th year of operation:

Amount of gold = 11,683
less 10% = 1,273 (Unitholders paid off)
10,410
less Hallman remainder = 1,225 (Hallman paid off)
9,185 oz. sold.
net profit after deductions = $2,747,000
(prior to taxes)

In the remaining 5 through 10 years of operation
Amount of gold = 11,683
Annual net profit after deductions = $4,126,800
(prior to taxes)

Profit of 10 year property life = 1st 3 years = 5,215,000
4th year = 2,747,000
years 5 thru 10 = 24,761,000

m (3)

Total	$32,723,000
less dollar payouts =	2,422,800
	$30,300,200

M (4)

Net Present Value

The normal mine evaluation premise used by engineers is the Hoskold formula developed by H. D. Hoskold in 1877. More than a century later this formula is still in common usage.

The formula is of the two-rate type and presupposes uniform earnings, uniform return on capital and provides for redemption of capital at the expiration of the operating life by annual reinvestment of the balance of the yearly earnings at a safe rate of interest.

$$V_p = \frac{A}{\frac{r}{R^n - 1} + r'}$$

"In the formula A represents the yearly profit from the mine. This is an estimated figure of future annual earnings and is, of course, susceptible to more than one interpretation, the interpretations depending upon the engineer who has examined the mine and upon the data which he has collected during his examination. The actual mathematical solution of the formula is an exact problem, and the accuracy of the calculated

(years life) (practicable safe return on redemption of capital) (speculative rate to purchaser on his capital investment)

valuation figure for the mine is, therefore, wholly dependant upon the accuracy of the estimated values for A, n, r, and r' which are substituted in the formula. The foundation built beneath the formula during the mine examination determines the accuracy of the final figure. The principal estimates involved in the determination of A are reserve tonnage, rate of mining, estimated cost per unit, and expected profit per unit. The length of life of the property is a function of reserve tonnage and rate of mining and determines the value of n, the years of life of the annuity (operation)." (2)

The above quote is most accurate in assessing the basis of determination of the various items. The writer in the foregoing pages has tried to explain his approach to the figures used in the calculations.

In the calculation of net profit there are 3 stages of return. This does not adhere to the theory of uniform earnings therefore a weighted earnings figure must be arrived at. The first three years of

M (6)

operating gives us a figure of ₦5,215,000, while the fourth year figure is ₦2,247,000 and the final six years aggregate ₦24,761,000. Totalling them, ~~and~~ subtracting the cash output ~~the~~ and dividing by the life of the property, 10 years, gives an annual yearly profit of ₦3,030,000. Inserting this into the formula and utilizing the present value of redemption annuities tables:

Net Present Value V_p = 3,030,000 × 5.1735
= ₦15,675,700

Hrs. Loan

	11%	11½%	12%
4 yrs =	1.5518	(1.5458)	1.5735
5 yrs =	1.6851	(1.7337)	1.7623

0.1779 over 12 months or 1 yr (100%)

.42 = 0.0747
4.00 = 1.5735
4.42 = 1.6482

2M x 1.6482 = 3,296,486
− 2,000,000
1,296,486

Loan

	11%	(11½%)	12%
3 yrs	1.3676	(1.3863)	1.4049
4 yrs.	1.5181	(1.5458)	1.5735

0.1595 over 12 months.

.58 = .0925
3.00 = 1.3863
3.58 = 1.4788

1.47M x 1.4788 = 2,173,836
less 1,470,000

Interest = 703,836

Yada, Tompkins, Humphries, Palmer & Co.
Chartered Accountants

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Acc. Oblig = Time July Aug Sept Oct Nov Dec 1985
= 7 months in 1985
plus 12 " " 1987
" 12 " " 1988
" 12 " " 1989
" 10 " " 1990
5.3 months (4.42 yrs)

Loan = 1987 Apr. May June July Aug Sept Oct Nov Dec
= 9 months in 1987
plus 12 " " 1988
" 12 " " 1989
" 10 " " 1990
4.3 months (3.58 yrs)

Acc. Oblig = 2M x 4.42 yrs x 11½%
= 2M x .
Interest = $.

Loan = $1.47M x 3.58 x 11½%
= 1.47M x 1.4788
Interest = $703,836

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