Case Study

[Name of the Writer]

[Name of the Institution]

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The basic cost has been divided into equipment cost, opportunity cost of land, and to total of these. Here, $7,500,000 (opportunity cost of land) has added to the cost of equipment which is $46,000,000 which comes total of s$53,500,000. Computation of depreciation tax shield involves several parts. Here we have 4 years labeled as “N”. Accumulation of every part have integral part of the computation/calculation. The production of coal “A” is amounted for 770,000, 830000, then 850000, and 740000 tons. These amount would be sold in spot market “B” by the formula/equation B=A-450000 where the delivery of coal each year at $65 per ton. Hence, the amount for tons will be 320000, 380000, 400000, and 290000. While the sale revenue from market could be seen as “C” in C=B \* 82 dollar while $82 is the exceeded production per ton which is sold in market (Berk, & DeMarzo, 2017). Hence, this will be amount for $26240000, $31160000, $32800000, and $23780000.

The sales revenues as on the contract has been marked as “D”. While the equation is D=$65\*450000 where it has been stated that 450000 tons coal would be supplied at $65 price per ton. While in C+D=E where is the accumulated annual sales. For “F” variable cost, the equation is (F = $26 \*) in which the VC is $26. Fixed cost is revealed as “G” given in case. We find the before tax operating cash flow in H = E – F – G. To get this you have to subtract the total annual sales revenue to the variable costs and then the fixed costs to get the before tax operating cash flow (Singh, 2016). The after tax operating cash flow is I = H \* (1 – 0.38) where the 0.38 is the 38% tax rate. The “X” is the depreciation tax shield.

The working capital cash flow includes the net working capital investment and the cash flow due to decrease/increase of working capital. This is annotated as “J” and “K” then “Y” for the cash flow due to initial costs. The terminal cash flow due to sale of equipment section starts with “L” and is the sales price of equipment which is 65% of initial purchase price. The book value of equipment at the end of 4 years would then be “M”. You can get the gain on sale of equipment which is “P” by utilizing P = L – M and subtracting sales price of equipment to the book value of equipment at the end of 4 years. The tax on gain on sale of equipment would be the 38% tax multiples by the gain on sale of equipment in Q = 0.38 \* P. The terminal cash flow due to sale of equipment is R = L – Q which is subtracting sales price of equipment by tax on gain on sale of equipment. The “S” is the after tax cash flow for land reclamation and the “T” is the cash flow due to charitable expense deduction. The net cash flow for the year is U = I + X + K + Y + R + S + T and that would be adding the after tax operating cash flow, depreciation tax shield, cash flow due to decrease/increase of working capital, cash flow due to initial costs, terminal cash flow due to sale of equipment, after tax cash flow for land reclamation, and the cash flow due to charitable expense deduction (Berk, & DeMarzo, 2017).

The payback period is equal to the period when net cumulative cash flow is zero. The payback period is 2 + (8593756/2859252) and results in 2.33 years. The net present value is the sum of present value of cash flows and results in $30,934,512. The profitability index is equal to the NPV plus initial investment divided by initial investment which results in 1.55. The internal rate of return comes out to 33.12%. This is why Pickins Mining should take the contract and open the mine due to the positive results of the NPV (Berk, & DeMarzo, 2017). The IRR is higher than the required return of 12% because it’s 33.12% and the greater the IRR and the higher the amount/volume by which it exceeds the CC (cost of capital), the more the net cash flows to the investor.

**References**

Berk, J. B., & DeMarzo, P. M. (2017). Corporate Finance: The Core, 4/e. Boston: Pearson Education. ISBN 9780134083278.

Singh, R. (2016). Lessons in Corporate Finance: A Case Studies Approach to Financial Tools, Financial Policies and Valuation. Delhi Business Review, 17(2), 127.