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Case 07:

The Fracking Oil Investment Decision

Oil fracking has proven a controversial yet lucrative industry in recent years. The industry itself is quite volatile, and with only a few mistakes or even stroke of misfortune, an investor’s money could rot in the bottom of a dried-up oil well. Recently, our team of investment analysts was approached by a wealthy venture capitalist who is considering entering the market after meeting with a well-off Texas oilman. Instead of him jumping in headfirst, we were tasked to create an in-depth cash flow summary model based on a given scenario and current oil trends. On top of that, the wealthy investor tasked us with using the model to predict the value of his potential investment in eight possible investment scenarios. The following report is a detailed summary of the data that our team gathered.

The following scenario conditions were given to us by the investor, were tested using our cash flow model, and the data was recording a scenario summary. “His” denotes the Texas oilman’s requested investment, and “Yours” denotes the wealthy investor’s offer for the oilman. The scenarios are as follows:

1. His 50—The investment is $10 million, the price per barrel is $50, and the interest rate is 4 percent each year from 2017 to 2024.
2. His 70—The investment is $10 million, the price per barrel is $70, and the interest rate is 4 percent each year from 2017 to 2024.
3. His 90—The investment is $10 million, the price per barrel is $90, and the interest rate is 4 percent each year from 2017 to 2024.
4. His 110—The investment is $10 million, the price per barrel is $110, and the interest rate is 4 percent each year from 2017 to 2024.
5. Yours 50—The investment is $10 million, the price per barrel is $50, and the interest rate is 4 percent each year from 2017 to 2024.
6. Yours 70—The investment is $10 million, the price per barrel is $70, and the interest rate is 4 percent each year from 2017 to 2024.
7. Yours 90—The investment is $10 million, the price per barrel is $90, and the interest rate is 4 percent each year from 2017 to 2024.
8. Yours 110—The investment is $10 million, the price per barrel is $110, and the interest rate is 4 percent each year from 2017 to 2024.

The investor instructed the team to determine if any of these given scenarios would yield a Net Present Value (NPV) of -$100,000 or greater and would account for a 15% discount. After building a cash-flow model and using Excel’s scenario manager, it was determined that only three of the eight given scenarios would yield an NPV that the investor would consider acceptable: scenarios 4, 7 and 8. Scenario 4 yielded a negative NPV of -$60,661, while scenarios 7 and 8 yielded much greater NPVs of +$2,290,299 and +$4,939,339 respectively. Per the investor, the results of scenario 4 would represent a “break-even proposition”, where there are no monetary gains or losses. However, scenarios 7 and 8 represent good investments with a high potential profit.

Scenarios 2,3,5, and 6 all yielded results with very low negative NPVs, making them terrible investment scenarios. The results of each scenario are recorded in the following table:

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| --- | --- | --- | --- | --- |
| Scenario | Investment | Oil Price | Interest Rate | NPV @ 15% |
| His 50 | $10,000,000 | $50 | 4% | $(8,083,588) |
| His 70 | $10,000,000 | $70 | 4% | $(5,375,756) |
| His 90 | $10,000,000 | $90 | 4% | $(2,709,701) |
| His 110 | $10,000,000 | $110 | 4% | $(60,661) |
| Yours 50 | $5,000,000 | $50 | 4% | $(3,083,588) |
| Yours 70 | $5,000,000 | $70 | 4% | $(365,756) |
| Yours 90 | $5,000,000 | $90 | 4% | $2,290,299 |
| Yours 110 | $5,000,000 | $110 | 4% | $4,939,339 |

Note: Negative monetary values are enclosed in parentheses. Yellow shading denotes a “break-even proposition”, while green shading represents a good investment.

It is important to note that a rising trend in oil prices dictates higher potential profit (or fewer total losses), and that the only scenarios that represent good potential investments have oil prices of $90 or more per barrel. Before the investor makes his final decision, he should consider the current state of the global economy, and the market on oil. Oil prices today are lower than they have been in a decade or more. A barrel of oil today costs about $50. If the wealthy investor were to pursue a venture in today’s oil market, he would likely face the results as seen in scenarios 1 or 5, depending on the deal that is struck with the Texas oilman.

Based on our team’s results, in most cases, the investor would not be getting a good deal by striking an investment with the Texas oilman. Unless there is a dramatic rise in the cost of oil, the investor is better off staying away from the market. Currently, the market is not doing well, and entry into said market would not be a smart financial move. There is currently little to gain, and a lot to lose, given the high barriers to entry due to the cost of running an oil operation. If the cost of oil were to rise to nearly double its current price or more, the investor would profit the most by investing as little as possible. In this case, that would involve the Texas oilman agreeing to the current counteroffer of $5,000,000. Agreeing to the oilman’s initial request of 10,000,000 would amount to breaking even at best, even with high oil prices. If the investor is unable to sway the oilman to negotiate, his investment dollars would be better spent elsewhere.