



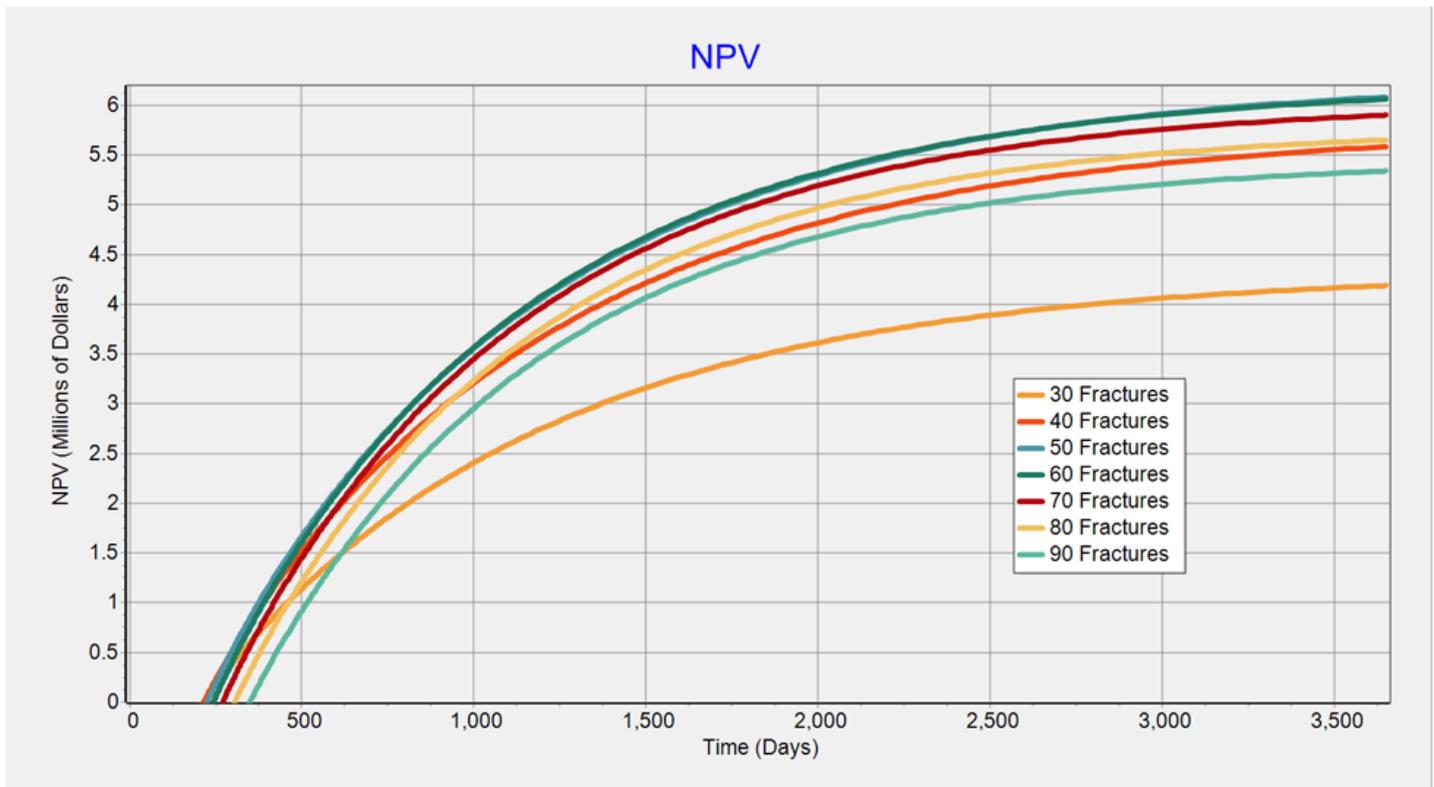
PREDICT-K “TIP OF THE MONTH”

Optimizing Fracture Spacing

When Predict-K was first introduced, its primary purpose was to provide an estimate of proppant conductivity as a function of stress and numerous damage factors such as residual fracturing fluid, non-Darcy flow, and filter cake deposition. The Baseline and Dynamic Analysis Modes inside of Predict-K still serve this purpose, but the Production Analysis Mode and its numerous improvements over the years have greatly expanded the utility of Predict-K into a larger portion of the completion design process.

One of the best ways to utilize Predict-K in horizontal wells is to consider the change in net present value resulting from additional fracture stages and tighter cluster spacing. Predict-K's production simulator takes into account the interference between fractures with overlapping drainage areas to give an accurate representation of the diminishing long-term production increase per stage as stages are added. Because well and completion costs, oil and gas prices, and the time-value of money can be added to Predict-K, you can obtain an estimate of the net present value of a variety of completion procedures including the number of fracture stages.

The example plot below shows the estimated net present value of the fracture treatment on a 5,000 ft horizontal well with a variety of fractures contributing to production. This example includes a permeability of 3 μ D, and each fracture is capable of draining a rectangle drainage area with dimensions of 120' X 500'. Cost to add an additional contributing fracture was estimated at \$50,000.



With these well properties, the optimal number of contributing fractures is around 60 fractures. Additional simulations could easily be run changing the listed reservoir properties or a number of other parameters including well length to determine how these changes might alter the optimal number of fractures. With this information and other tools from your reservoir engineering toolbox, you can make more educated decisions about each well's completion strategy.

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2. [Predict-K Main Screen](#)
3. [Quick Entry](#)
4. [Predict-K General Structure](#)
5. [Creating a New Proppant Manager Database](#)
6. [Running the Proppant Manager Correlations](#)
7. [Exporting Proppant Manager Results to Predict-K](#)

8. [Baseline Conductivity](#) [Demonstration Base Project for Videos 8 - 10](#)
9. [Dynamic Conductivity](#)
10. [Production Analysis Overview](#)
11. [Adding Production Data to Predict-K](#) [Demonstration Base Project for Video 11](#) [Simulated Production Data Excel File](#)
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