You have to present Apache's board of directors with a formal evaluation of the MW properties that Apache is considering acquiring. You will pay particular attention to identifying and valuing the several options that are imbedded in MW's assets.

1) Estimate the value of all the MW reserves using APV. Is your APV estimate more likely to be biased high or low? What is the main source of the bias?

2) How would you structure a simplified analysis of MW as a portfolio of assets-in-place and a number of significant options imbedded in MW's assets? Which parts of the business will you regard as assets-in-place and which as options?

3) Conduct the analysis you structured above, beginning with the assets-in-place. For each of the options you have decided to value:
   a) Estimate S, X, r, T, σ, and discuss your estimates.
   b) Compute option values and compare them to APV values.

4) **Decision Time:** What is your estimate of the MW properties under consideration?