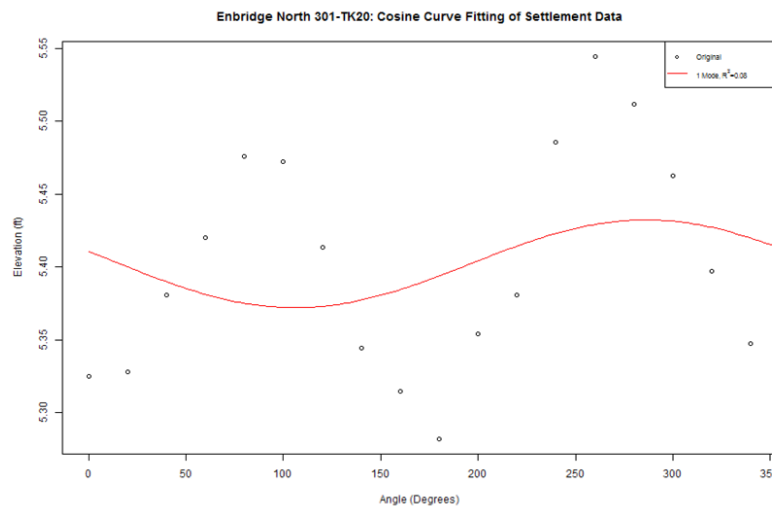




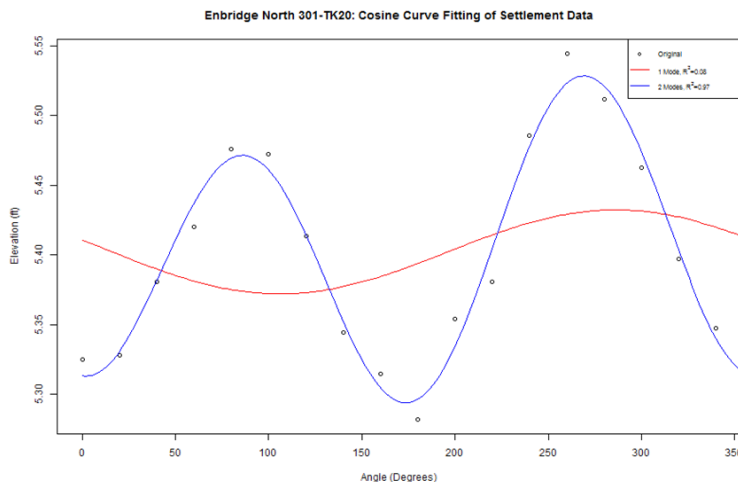
# 2-Mode Cosine Curve

Are you experiencing compliance issues with API 653? Don't want to resort to having to do an FEA or releveling of your tank? Perhaps you don't need to. Consider whether your tank is folding; tank folding is a behavior of the tank that may show a lot of settlement, but physically the tank is not experiencing a lot of stress in the bottom.

Under standard API 653 procedures, one would get the following:

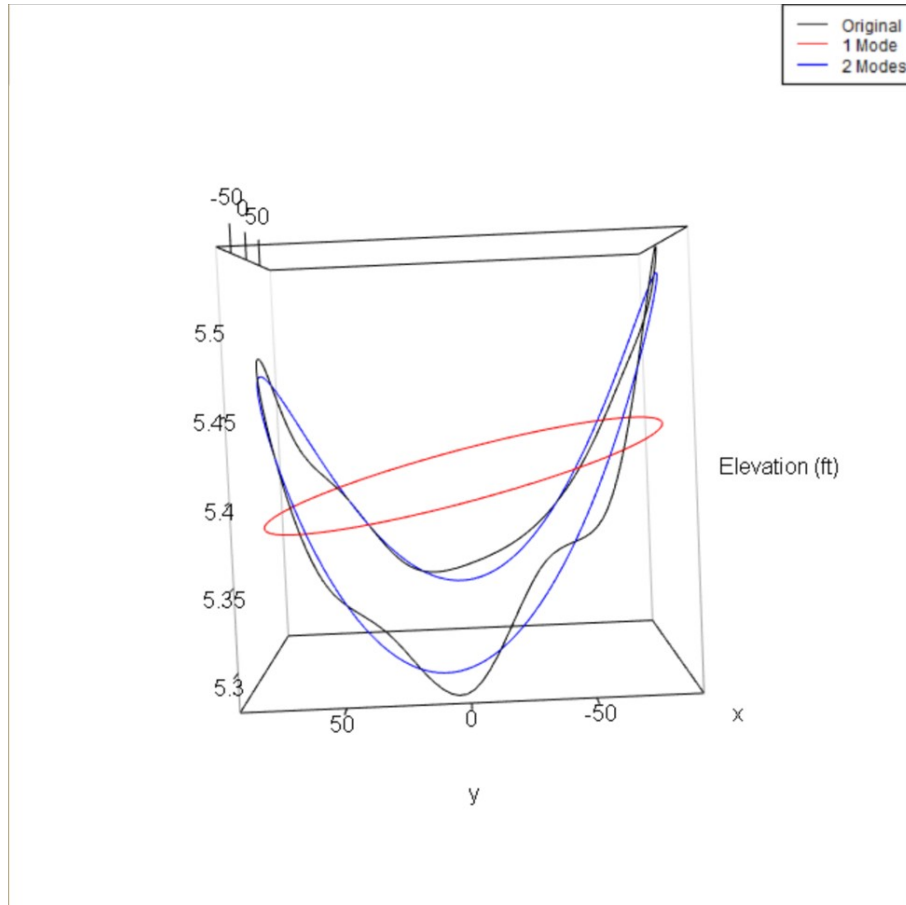


The settlement calculations may inaccurately predict the amount of stress that is in the bottom of the tank. A more accurate fit is to use a 2-mode cosine curve:





The following plot shows the profile of the tank bottom.



A single cosine curve only shows the amount of tilt in the tank, but does not provide an indication of whether the tank is folding. Using a 2-mode cosine curve, we can see whether a tank is folding or not; both tilting and folding are tank behaviors that do not induce stress in the tank bottom, and thus are not of concern. If your tank is folding, you don't need to be concerned with releveling or having to do an FEA to check the stresses in the tank.

We have developed this technique to accurately model the behavior of tank folding. If you think your tank is folding, we can help you so you don't need to run an FEA or relevel your tank.