

# Predicting tops

Geologists concerned with subsurface exploration often need to predict the elevation of stratigraphic units where no other data are available. One way to do this is to combine a structure map of an overlying, more penetrated, unit and an isopach map of the interval between the top of that overlying unit and the unit of interest. An isopach map, for this purpose or any other, is a map of the thickness of a stratigraphic unit or body.

As an example, we can return to the area for which we developed a structure map of the top of the Bitma Formation (Map A at right). Our assignment is to predict the elevation of the top of the underlying formation at the point marked with a circled "x".

We made our structure map using 28 wells that penetrated the top of the Bitma. There are, as it turned out, six wells that went all the way through the Bitma and penetrated the top of the underlying formation. From the logs of those six wells, we can determine the thickness of the Bitma in each of those wells (Map B). From those data, we can make an isotopach map of the Bitma (Map C). Then, using the estimate of the elevation of the top of the Bitma in Map A and the estimate of the thickness of the Bitma in Map C, we can calculate an estimated elevation of the top of the underlying formation, as in shown in Panel D.

