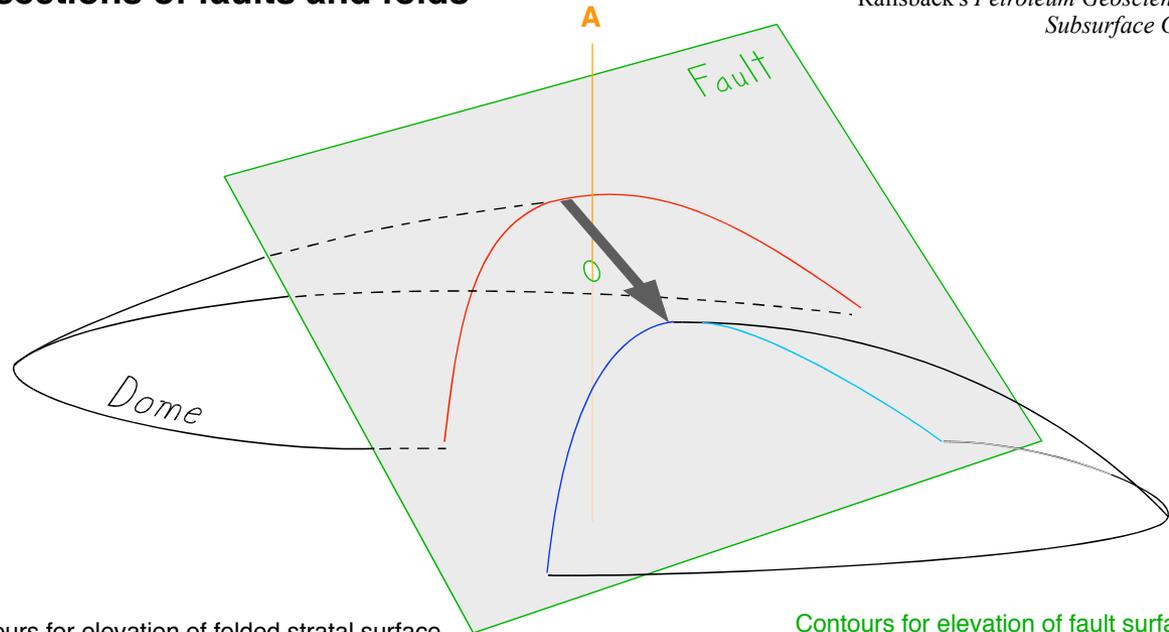


Structural Maps, Part III: Intersections of faults and folds

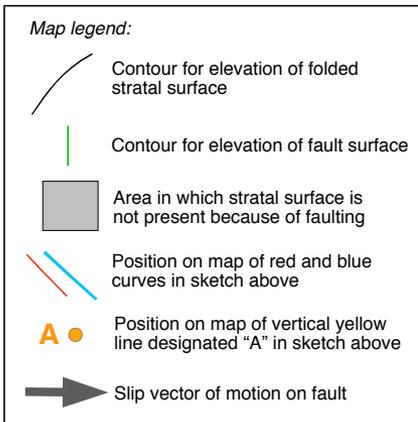
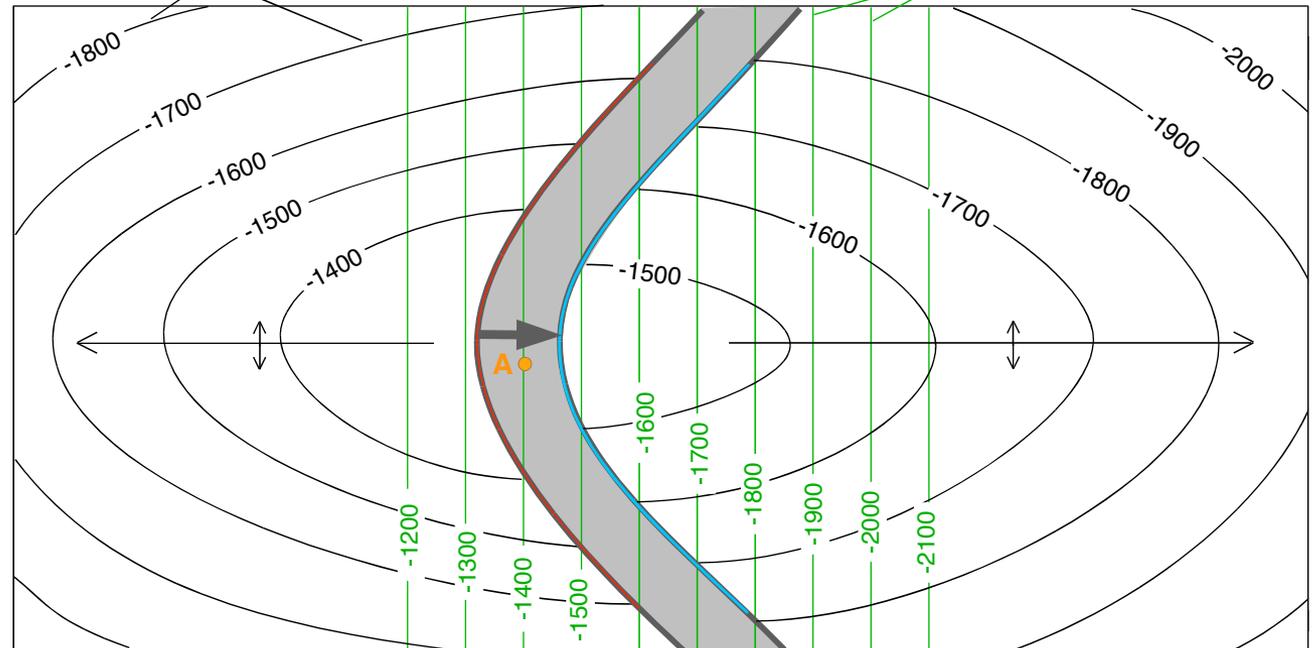
The sketch at right shows a domal surface (a stratal surface folded into a dome) that has been cut by a normal fault. Below the sketch is a structural map of the same features. On that map, contours for the folded stratal surface are shown in black, and contours for the fault surface are shown in green.

Some important thoughts emerge. First, intersection of the folded surface and the planar fault must be a curve on the map (as one would expect from the geometric study of conic sections). Secondly, the map must show the fault not as a line or a single curve but as an area (as shown by consideration of Point A here, and as discussed in Part II of this series). Thirdly, where the stratum and fault meet, elevations for the two must be the same, and so the XX00 contour for the folded stratal surface must intersect the XX00 contour for the fault surface.



Contours for elevation of folded stratal surface

Contours for elevation of fault surface



The author thanks his students Humberto Dugarte-Newman and Alex Brown for making him appreciate the significance of this sort of diagram.