

Tech Tip: Viewing GSF surfaces in section

To view Gridded Surface File (GSF) surfaces in sectional view, as shown below, it's important to know how MineSight 3D (MS3D) slices the surface. MS3D slices the GSF using the **nearest grid cell center**. It does not slice the temporary geometry surface created when viewing the GSF in 3D with a surface/slab or contours view.

Generally, GSF surfaces do not match geometry surfaces because a GSF surface is an approximation based on gridding – the elevation of the surface is calculated over the area defined by the size of the grid cell. Simply due to this approximation, a GSF surface will not exactly match the geometry surface from which it was gridded. This difference is exacerbated when the surfaces are viewed at the edge of a grid cell.



Figure 1: This sectional view indicates the differences that can be observed when viewing GSF surfaces that are a product of gridded geometry surfaces in 2D.

Take an orthogonal E-W section (as above) at the edge of the row and not in the middle, for example. You will see a bigger difference between the actual geometry surface it was created from and the GSF surface view than you would if you viewed the data on a section passing through grid centers. This can be even more exaggerated in a non-orthogonal slice. This is because the sectional view shows the surface location at the nearest grid center; it does not approximate the surface at the location of the section.

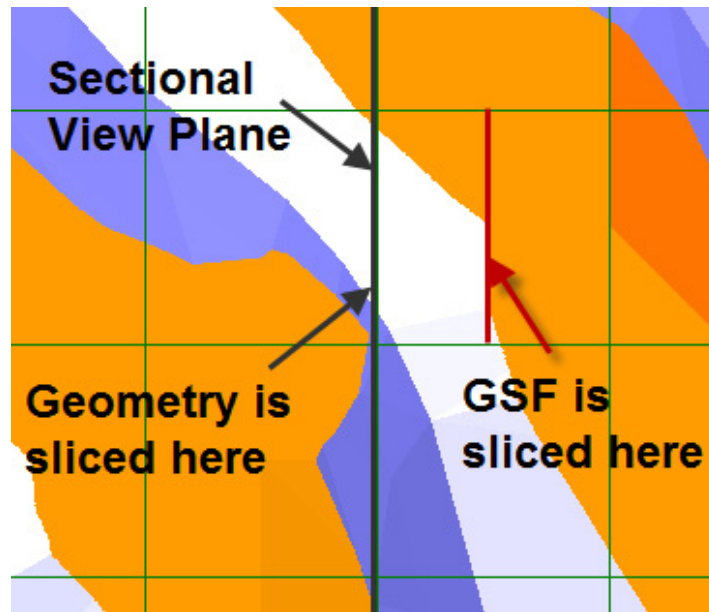


Figure 2: This plan view indicates where geometry is sliced in a sectional view versus where a GSF is sliced.

When comparing GSF surfaces to geometry surfaces, we recommend using a gridset with planes existing on the mid-section, slicing exactly at the block centroid. In this case, the sectional view will allow for the most accurate comparison between the two surfaces. A mid-section gridset can be quickly created by creating an EW or NS PCF Gridset, and then moving the gridset $\frac{1}{2}$ block width along section. This functionality is found in the Edit Grid Set dialog, which can be accessed by right clicking the Grid Set in the Data Manager and choosing Edit.

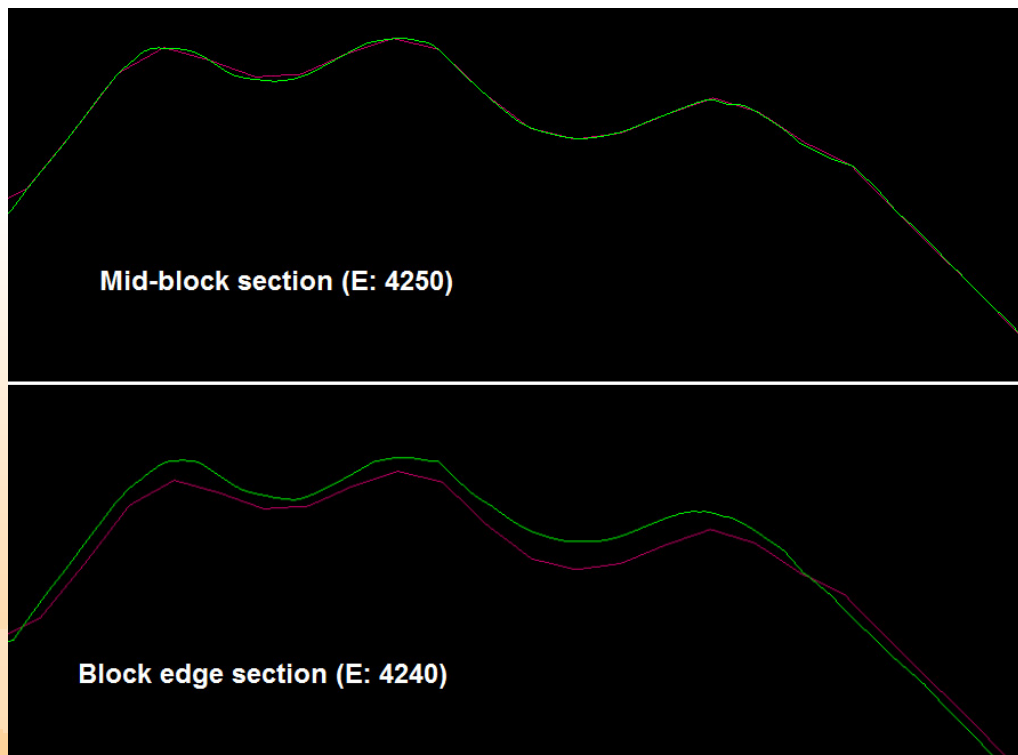


Figure 3: Above is a comparison between a GSF Surface (Red) and geometry surface (Green). The above screen capture shows both surfaces displayed on a mid block section, while the below screen capture shows the same surfaces in a block edge section. At the mid block, the GSF surface matches the geometry surface much more closely.