



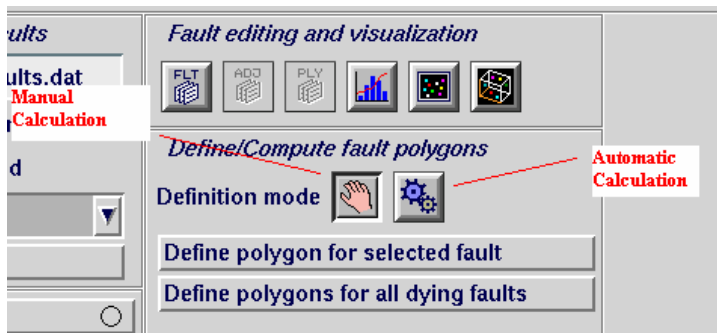
Fault Polygons

Horizon Gridding Project Paper I

When creating a faulted model in the WorkFlow Manager, the user is presented with the Fault Data menu. On that menu is a **Dying Fault** checkbox and file selection box for **Boundary Polygons**:

	Adjustment Data	Use	Fault Surface	Dying Fault	Boundary Polygon	Color	Compute
at		<input type="checkbox"/>	TST/fault/f32.2grc	<input type="checkbox"/>		256	<input type="checkbox"/>
at		<input type="checkbox"/>	TST/fault/f41.2grc	<input type="checkbox"/>		255	<input type="checkbox"/>
at		<input type="checkbox"/>	TST/fault/f43.2grc	<input type="checkbox"/>		254	<input type="checkbox"/>

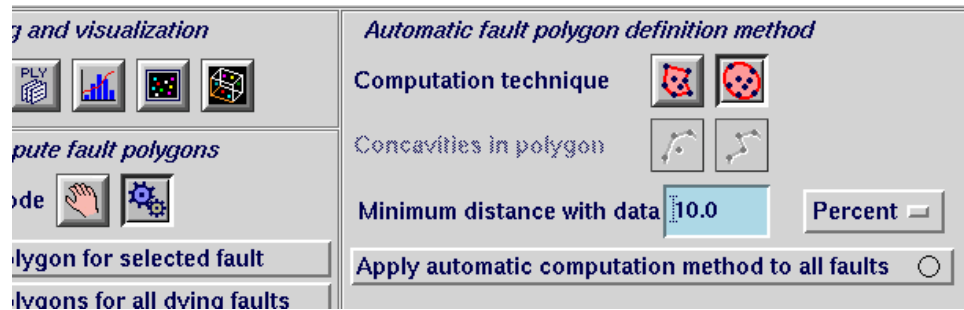
If the **Dying Fault** checkbox is checked, the user can add or calculate a polygon that prevents throw for that fault from occurring in the horizon surfaces outside that polygon. To specify a previously existing polygon file click the **Boundary Polygon** button. The user can also have the program automatically calculate a polygon. When the **Dying Fault** checkbox is selected, a new section appears in the lower part of the menu:



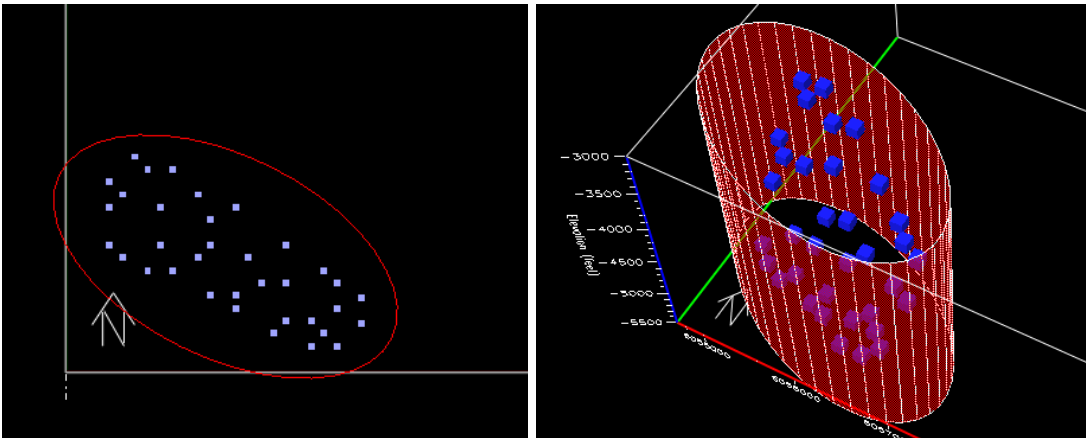
The user selects the “hand” icon in order to create the polygon in the Graphic Editor or the “gears” icon to have the program automatically calculate the polygon.

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Selecting the “gears” icon displays another section in the menu:

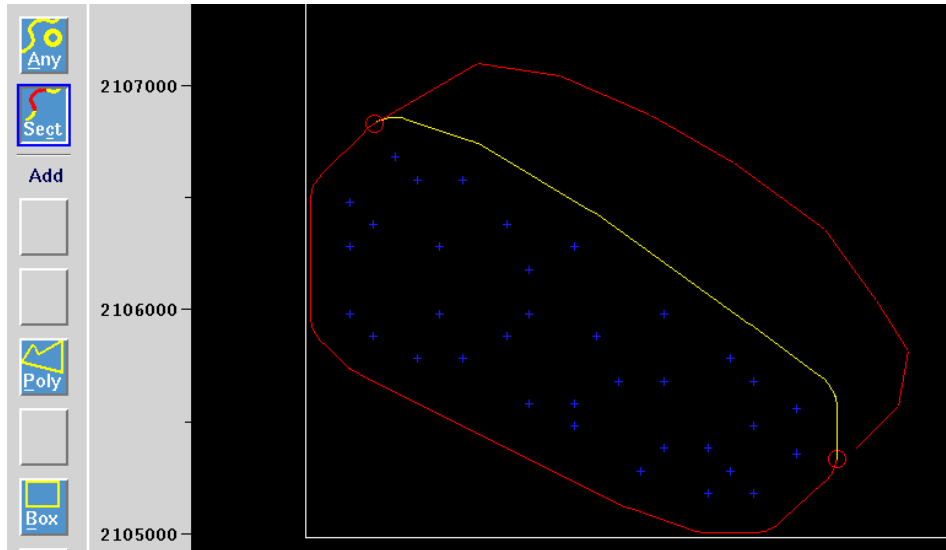


The options on this part of the menu allow the user to select how the polygon is constructed. The polygon is created by surrounding the data to create the fault using the criteria the user specifies. The polygon can be elliptical or jagged (“Computational Technique,” convex only or allow concave sections (“Concavities in Polygon,” and with a minimum distance between the data and the polygon. Here is a polygon made with the default “**Ellipse**” **Computational Technique**:



Note: Select *Help* → *On This Window* for more information on these polygon creation methods.

If you select the **Validate after Computation** checkbox, the program displays the polygon and the fault data file in the Graphic Editor so that you can make adjustments.



Note: This polygon was created using the “Jagged polygon” Computational Technique.

Advanced

1. Often the distribution of fault data creates perfectly good polygons but sometimes the polygons need to be expanded or contracted because the throw found in the horizon data differs from the fault data. To determine if the bounding polygons are creating problems in your model, simply remove them, calculate the model, then re-introduce them one at a time until the problem polygon is found.
2. Automatic polygons are calculated in X,Y but sometimes polygons are used to clip the fault in Z. To do this, calculate the fault, then digitize scattered data points on the fault surface in the 3D Viewer as you wish it to be clipped. Then convert the scattered data file into a polygon file (add a polygon header and the keyword “POLYGON” before the data points).

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