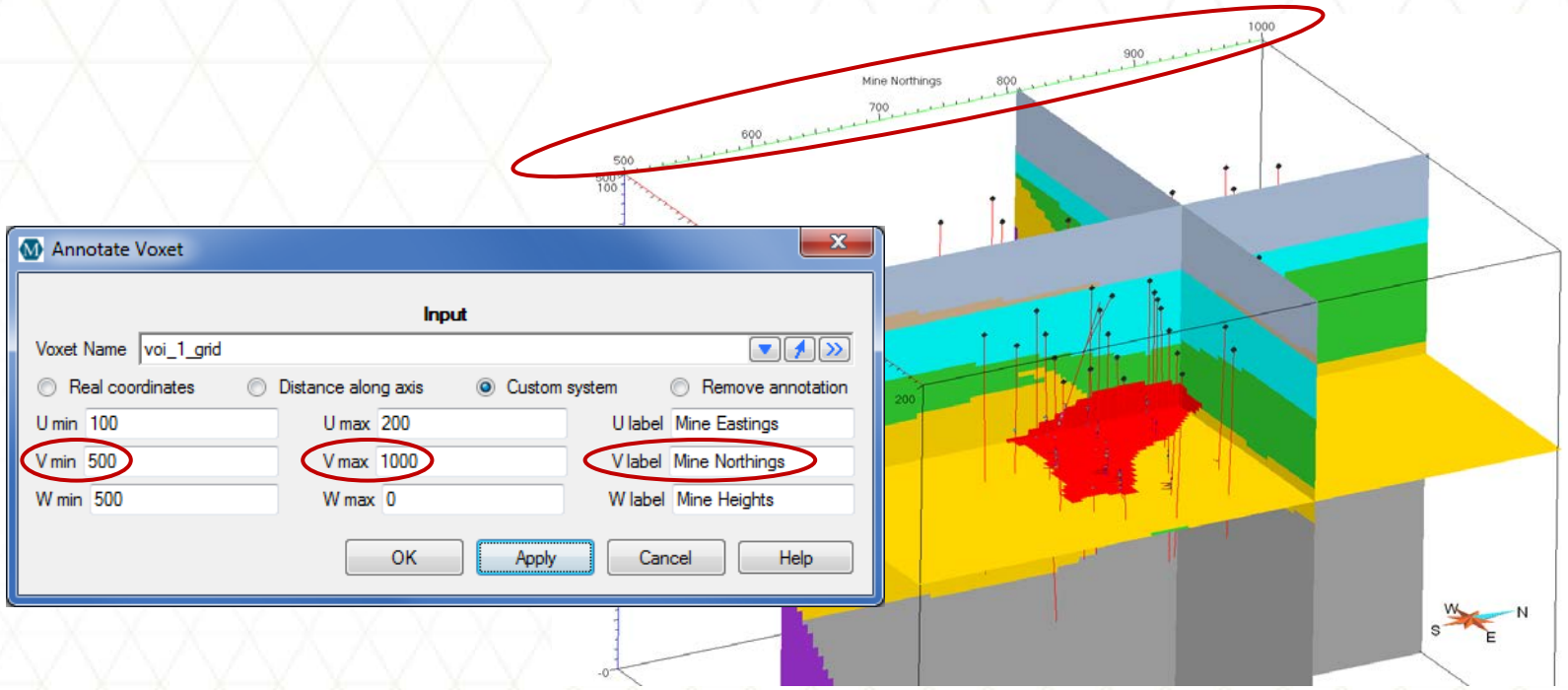
Annotate Voxet

The 3 Voxet axes can be annotated: Menu > Voxet > Tools > Annotate Voxet > Custom system.

You can then enter the start and end coordinate values as well as custom labels. The annotation values will automatically be computed linearly along the length of the axis, allowing imperial coordinates to be plotted in a metric project or local grid coordinates in a UTM project.



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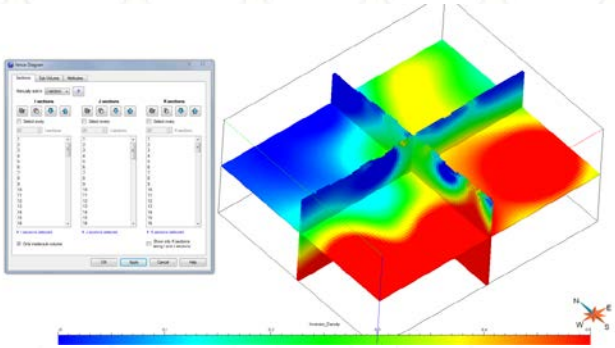
GOCAD® Mining Suite tip - December 2013

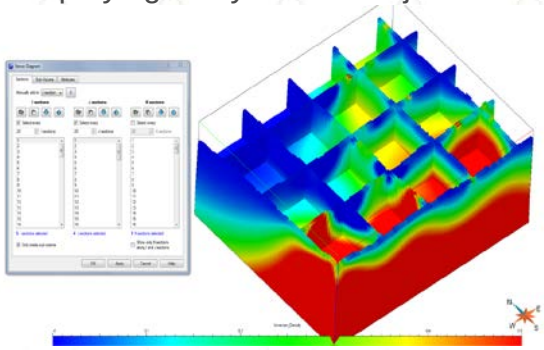
SGrid Fence Diagrams

The Fence Diagram utility allows you to quickly display single and multiple stratigraphic grid sections as well as subvolumes. To access: Click on the Fence diagram button on the SGrid Attribute toolbar.

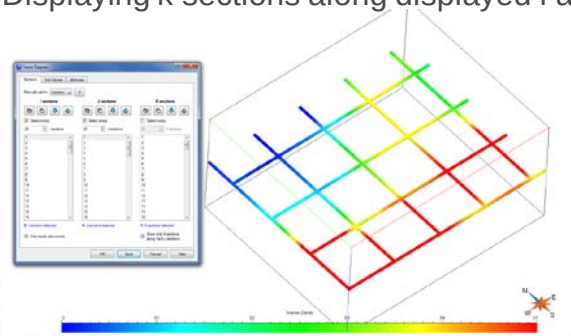
Displaying one i, j and k section:



Displaying every 20th i and j sections and one k section:



Displaying k sections along displayed i and j sections:



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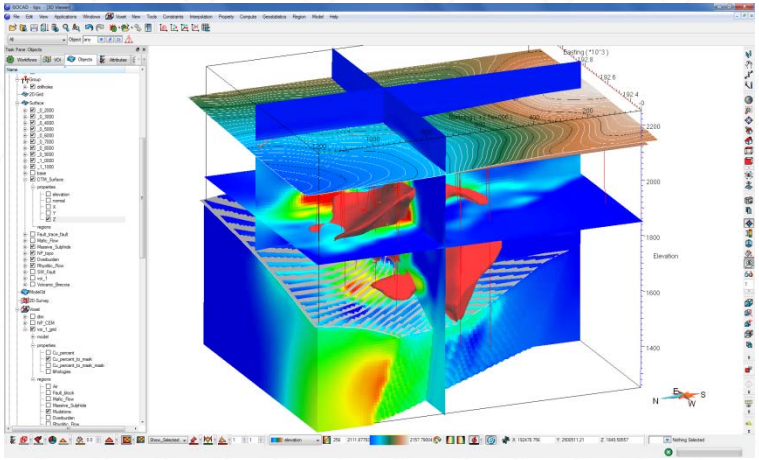
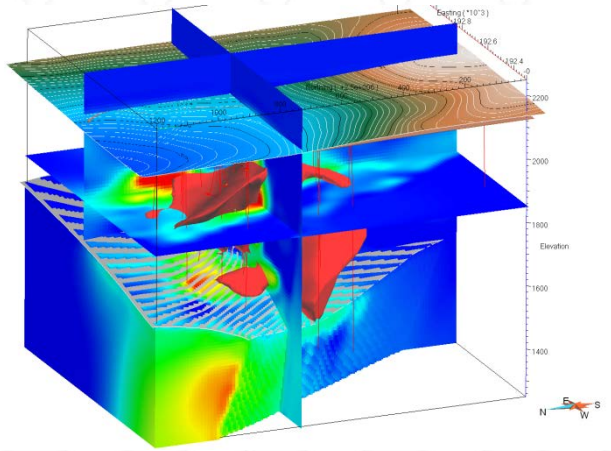
F11 for full screen

In the spirit of conference season, we thought that this simple tip can maximize your audience's experience.

When you are doing a presentation of your model or for taking a snapshot, you do not necessarily wish to show task panes, toolbars, menus etc. Press F11 for full screen mode. Press F11 again to revert back to normal screen.





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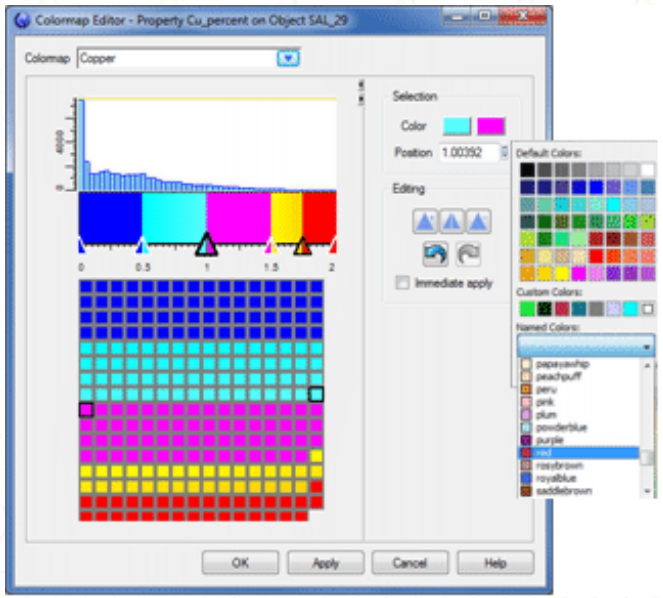
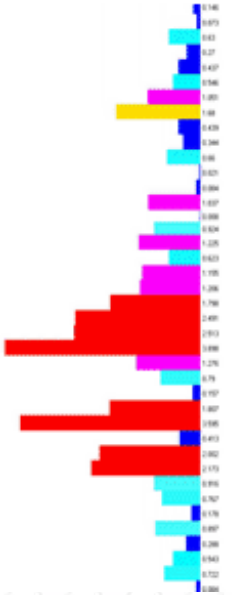
3 easy steps to create a custom ‘binned’ Colormap

1. In the Objects Task Pane: Right-click on Colormaps > New Colormap > Enter a new Name > OK. It will be gray by default.
2. Using the (property) Attributes toolbar: Map your property to this new colormap > Choose appropriate Low clip and High clip values (0 and 2) > Click on the Edit Colormap button.

3. By default, the colormap is divided into 255 discrete colors: Add new anchors > Position them at the closest value to 0.5, 1, 1.5 and 1.75 > Split selected anchors > Designate their colors by name as shown below > OK.





Named Colors:

<0.5 = **blue**
0.5 to 1 = **cyan**
1 to 1.5 = **magenta**
1.5 to 1.75 = **yellow**
>1.75 = **red**

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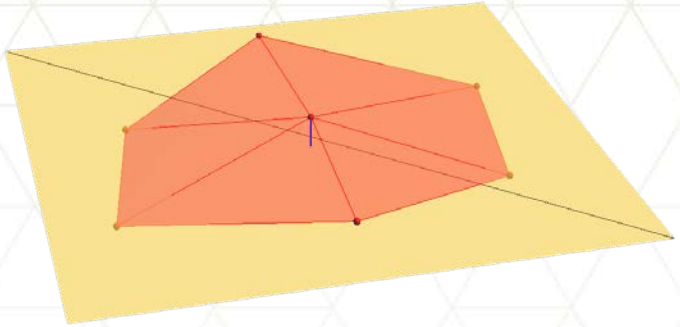
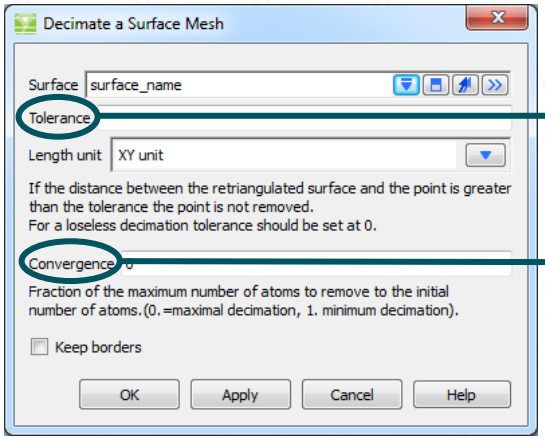
Decimate a surface

If a surface has too many triangles, it can become heavy to manipulate in the 3D camera. Situations like these are where the **Decimate a Surface Mesh** tool can be very useful. It is found in Surface > Tools > Decimate.

To decimate a surface take one point on the surface and its neighbouring points; create a medium plane through the surrounding points and then draw a line from the point perpendicular to the plane. If length of the line is less than the allowed tolerance, then the point will be removed.

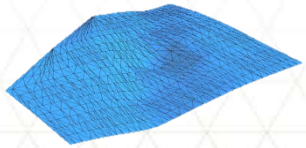




This is the maximum relief you allow to be deleted in this operation.

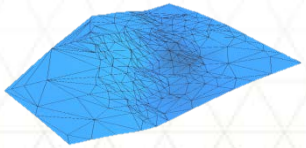
This is the ratio of points after and before the decimation. E.g., if you enter 0.4, it will try to reduce the number of points in the surface by 60%.

You may want to beautify the mesh for equilaterality afterwards (see September 2012 tip).

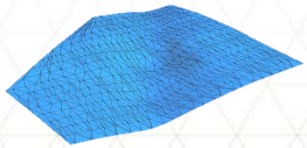


Original surface

Tolerance = 5;
Convergence = 0.6



Tolerance = 1;
Convergence = 0.6



Tolerance = 0.5;
Convergence = 0.8

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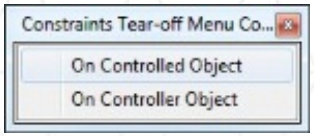
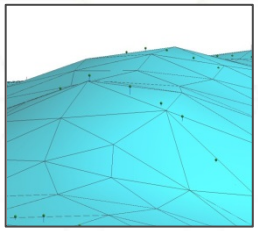
How well does your wireframe surface fit the geological data constraints? Compute Error...

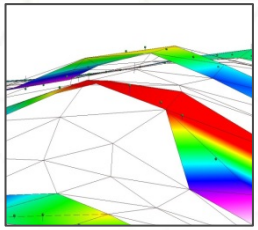
When a surface has been interpolated to fit control points, the result will be smooth but not necessarily an exact match. The Compute Error command quantifies in distance how well the fit is:

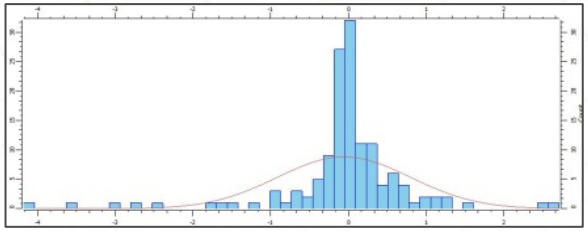
Surface > Constraints > Compute Error



The error can be computed on the surface (controlled) and/or dataset (controller) object. Select the desired method and click on any blue control point constraint line. A new property will be created that you can view, display histogram, etc. The results can be refined by splitting the mesh and re-interpolating.



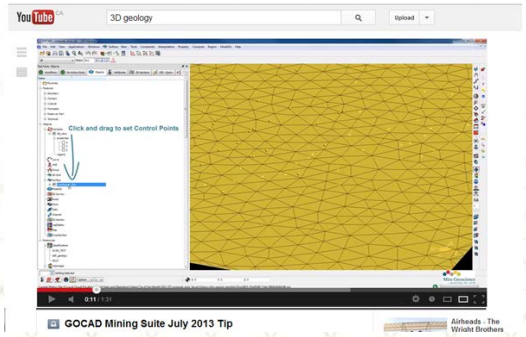




Exact matches can be achieved by turning the surface control points within a distance tolerance into control nodes.

Surface > Constraints > Control Nodes > Set from Control Points

NEW: For additional details,
click here to see the video



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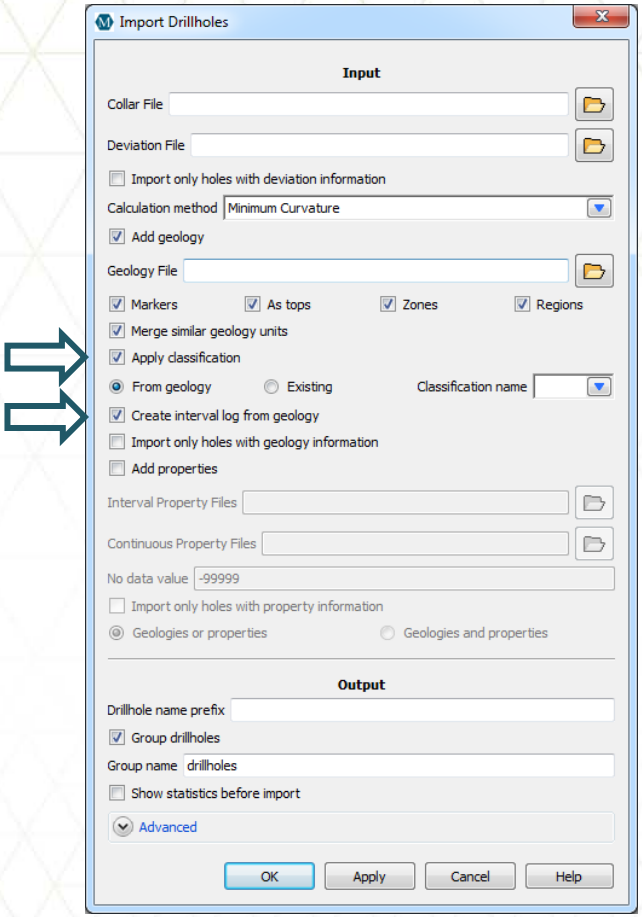
GOCAD® Mining Suite tip - July 2013

Interval geology logs on drillholes



When adding geology to your drillholes from the ASCII drillhole importer, we recommend creating an interval log at the same time.

These logs offer more flexibility than markers, zones and regions as they can be queried with the 3D-GIS utility using Geological Queries to find the first, last, nth occurrence of a unit (Class query) or two units that are in contact with each other (Contact query).

They allow to place queried points that fall at the collar or end of hole in a region for easy filtering (PointSet > Tools > Region > Delete Points).

Interval logs are projected on to 2D Section panels with the user-defined geology colourmap specific to your project and can be used in the crossplot and histogram tools.

If you have a GOCAD® Mining Suite tip you would like to share, let us know!
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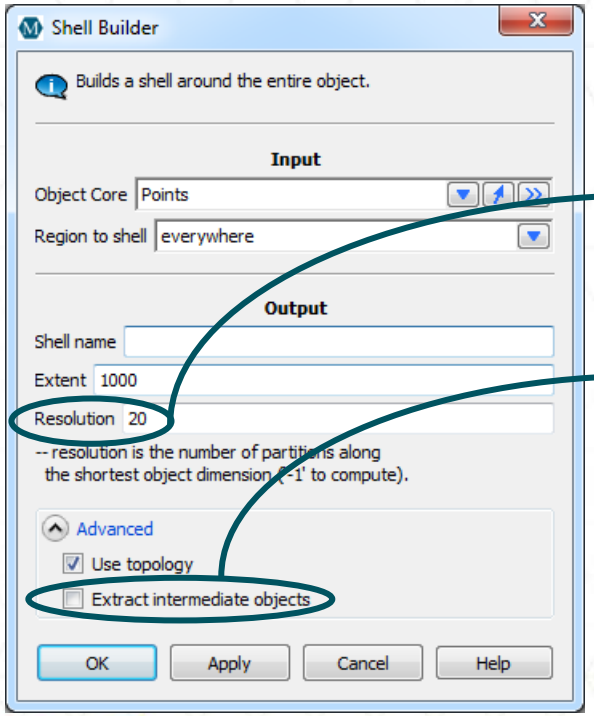
Proximity isoshell builder

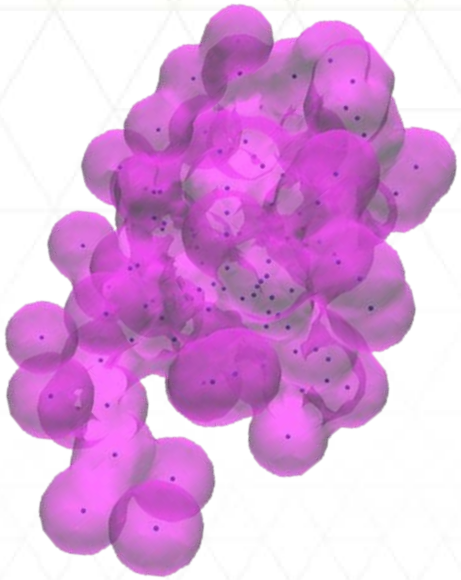
This command is ideal for performing shell queries since it quickly creates closed surfaces at a specified distance from nodes of an object.

It generates a temporary 3D grid around the core object, computes the distance from each cell to the object and creates isosurfaces at a distance equivalent to the chosen Extent.



You can increase the resolution to smooth out the shell or set it to -1 to automatically compute a default value.

To preserve the interim Voxet, select Extract intermediate objects in Advanced Settings.



The Proximity isoshell is the yellow icon on the GIS Shell Builder toolbar.

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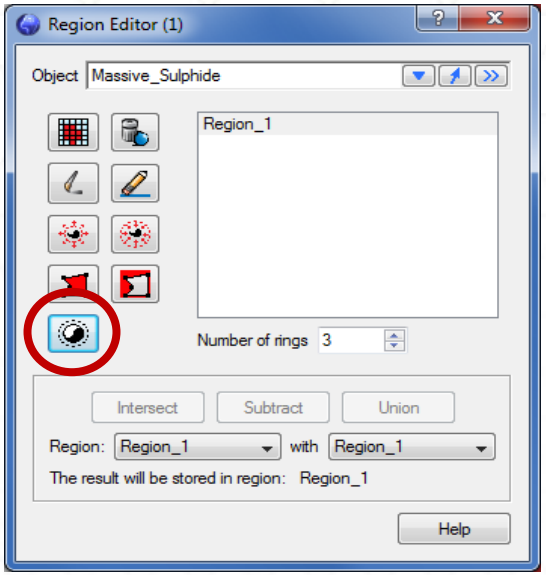
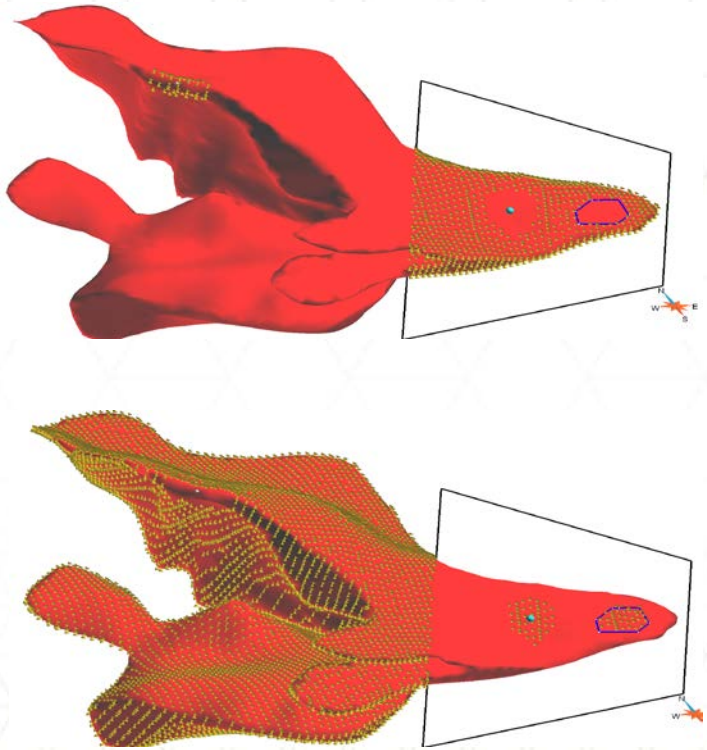
Using the region editor

There are different ways of creating regions on objects, but we particularly enjoy using the very useful and flexible Region Editor tool. With this tool, new regions can be created and existing ones can be deleted or modified by adding or removing nodes. This editor provides a variety of features: digitizing polygons, clicking on a node and adding or removing rings of nodes, as well as switching between selected and non-selected nodes.





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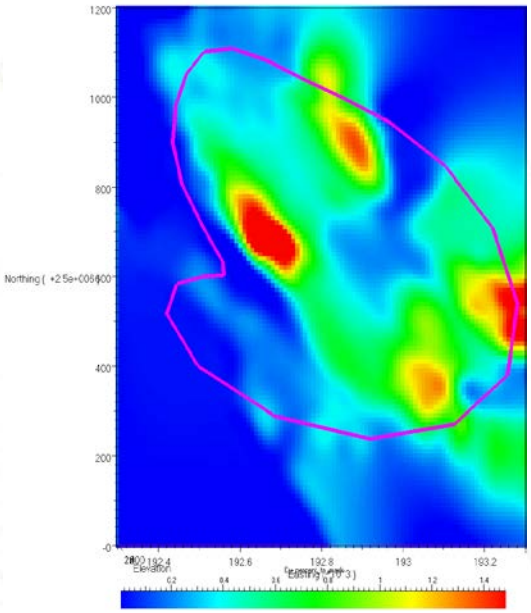
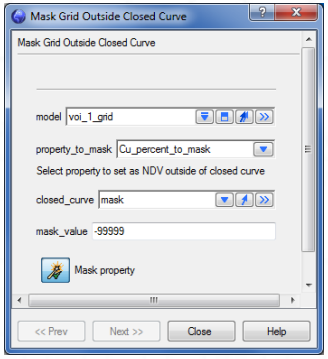
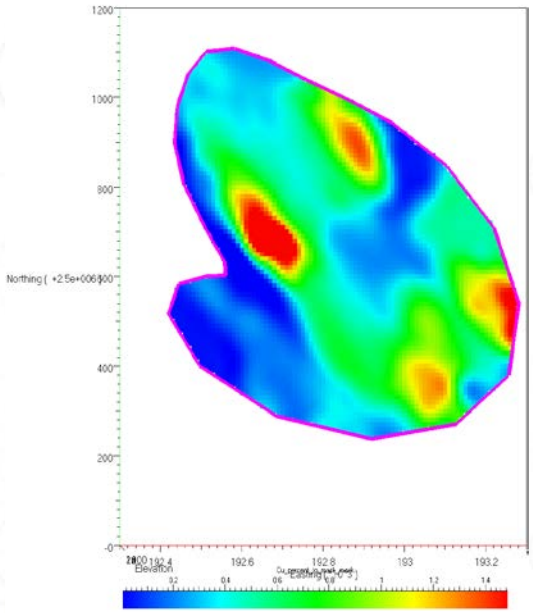
Masking grid properties with a closed curve

Voxet or SGrid properties can be masked using a closed curve as the boundary. This could be helpful to null out data outside a property boundary or away from source data points by setting it to no-data values falling outside a vertical projection of a curve. The tool is a custom wizard:

Applications-Wizards-Mira > Wizards-Mask > Grid Outside > Closed Curve







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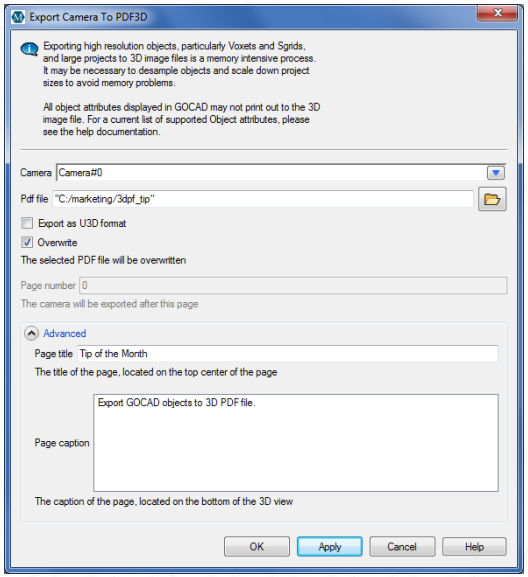
Creating a 3D PDF

GOCAD® Mining Suite models can be exported into 3D PDF files. In Adobe, the model can be spun and zoomed in 3D, objects can be turned on and off, and some attributes can be changed, such as displaying surface meshes and turning bounding boxes on and off.

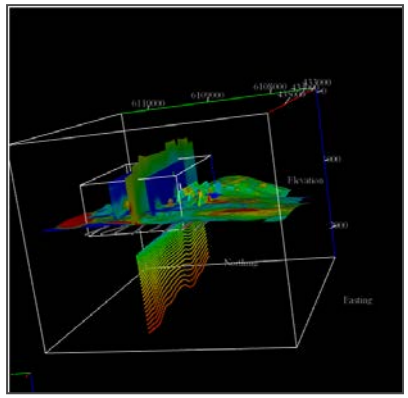
> Simply display the objects you want to export to the camera.

> Ensure their extents are all contained in the same coordinate space by pressing the global view icon.

> Set your desired view, which is preserved in the .pdf, then click on the Export Camera to PDF3D icon.



Tip of the Month



Export GOCAD objects to 3D PDF file.

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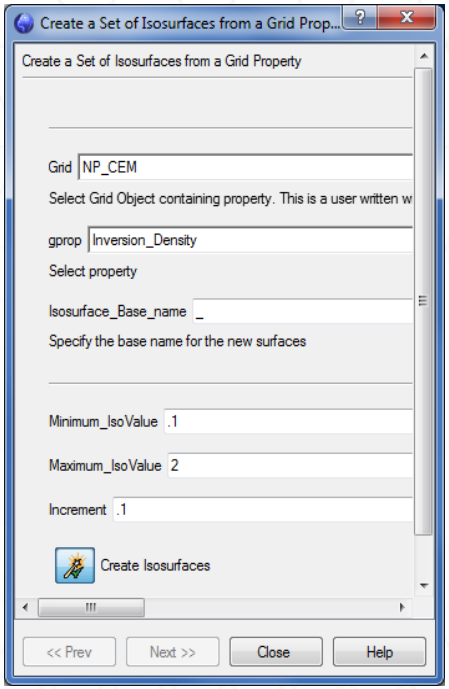
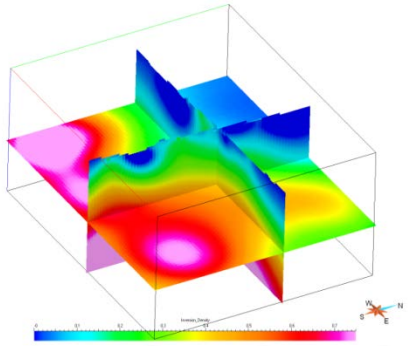
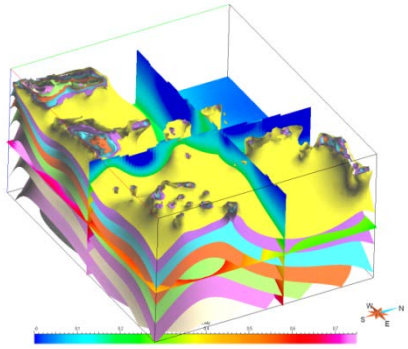
Multiple 3D Isosurfaces Wizard

The normally manual process of creating a series of multiple Isosurfaces from a 3D Grid property has been incorporated into the following wizard:

Surface > New > From Grid > Create a Set of Isosurfaces from a Grid Property







Did you know…

Wizards can be written by anyone and easily incorporated into GOCAD Mining Suite manually or automatically. They streamline processes by automating a series of commands into one or more dialog environments. Many built-in wizards are already available and custom ones are always being created for common and user requested functions. These can all be found here: Applications > Wizards > Mira Wizards; as well as within the object menu system.

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