

encom discover 3D version 4.0 release notes



The latest release of Encom Discover 3D provides you with live downhole data interrogation, dynamic drillhole planning, and a range of powerful digitizing and feature editing tools.

Live Data Interrogation

Dynamically examine in 3D all attribute data of individual drillhole intervals, as well as point and line data.

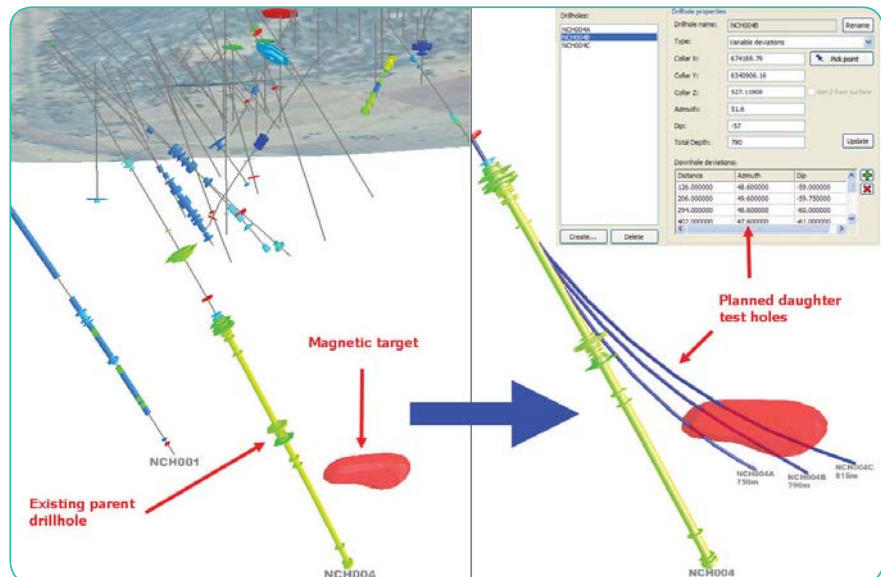
Intuitive Fly-Through Navigation

Smooth and intuitive fly-through style navigation is now possible in Discover 3D, with support for the 3D Connexion SpaceNavigator™ controller.



New Drillhole Planner

Dynamically create and visualise proposed drillholes targeting mineralisation (e.g. grade shell isosurfaces) in 3D. These holes can be interactively refined to accurately and thoroughly intercept target zones, utilise existing drill pads, wedge off parent holes and/or mirror local ground conditions by utilising downhole deviation data from existing drilling.



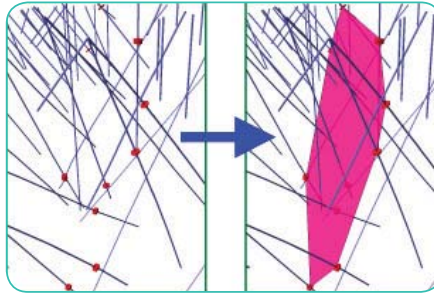
3D Stereo Projection Output

Discover 3D can drive full colour 3D stereo projection systems to create a semi-immersive 3D visualisation environment. This allows the detection of very subtle geometric relationships that are often overlooked in conventional 3D views.

Accurate Digitizing in 3D

Snap to Drillholes

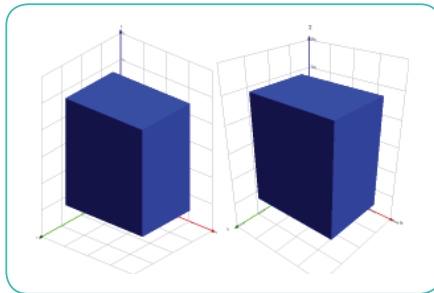
Digitizing geological and geochemical interpretations in Discover 3D is now much more accurate with the ability to snap feature object nodes to existing Drillhole intervals, Points and Lines, allowing the precise delineation of mineralisation or targets.



New View modes

Accurate digitization is further helped by the new **Perpendicular View** mode, which automatically orientates the view perpendicular to the cursor plane.

Use the new **Orthographic View** mode to accurately compare the sizes of 3D objects, regardless of their distance from the viewer.



Orthographic (left) vs. the default Perspective (right) view modes.

A new **Ruler tool** assists in assessing distances, bearings and inclinations between objects on the cursor plane.

Feature objects can also be **Resized** by a user-specified percentage, allowing infill polygons to be created by copying and pasting an existing shape, then resized as necessary.

Manipulating and Editing Solid Models

Solid models/objects created with the Solid Generator or the Extrusion Wizard (or imported into 3D) can now be modified with a range of powerful new feature editing tools. For example, the volume of an inclined orebody between an upper unconformity surface and a semi-vertical fault plane can be calculated and visualised with the new **Erase** tool.

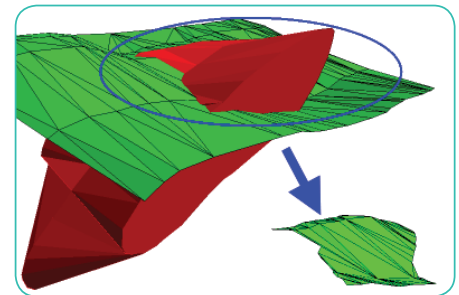
This functionality is enhanced by the new ability to import gridded surfaces (e.g. topographic/DEM models) as feature objects.

Combine

Combine two polyhedrons or surfaces into a single solid.

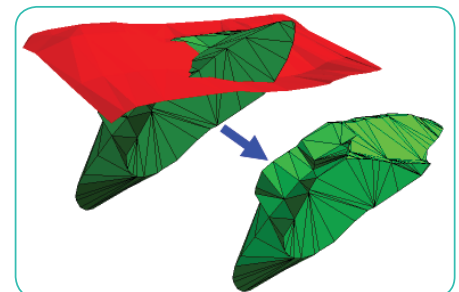
Intersection

Compute the intersection between two polyhedrons or surfaces.

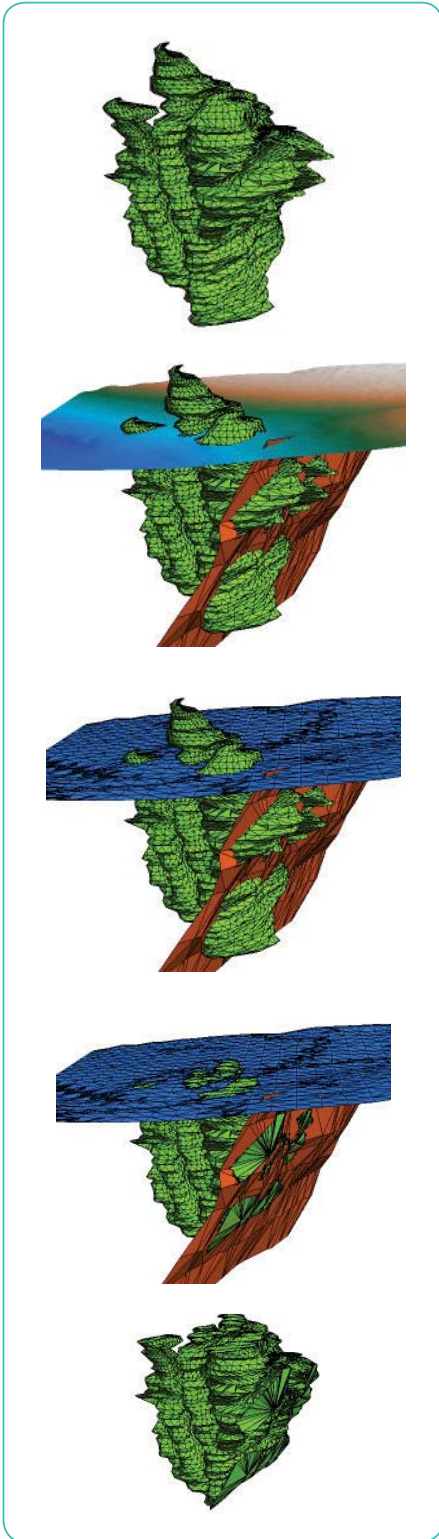


Erase

Cut a polyhedron or a surface into multiple parts using another surface.



The sequence below illustrates how a skarn orebody (green) is cropped with both an imported semi-horizontal unconformity grid surface (blue), as well as an inclined fault plane (brown).



Solid Generator

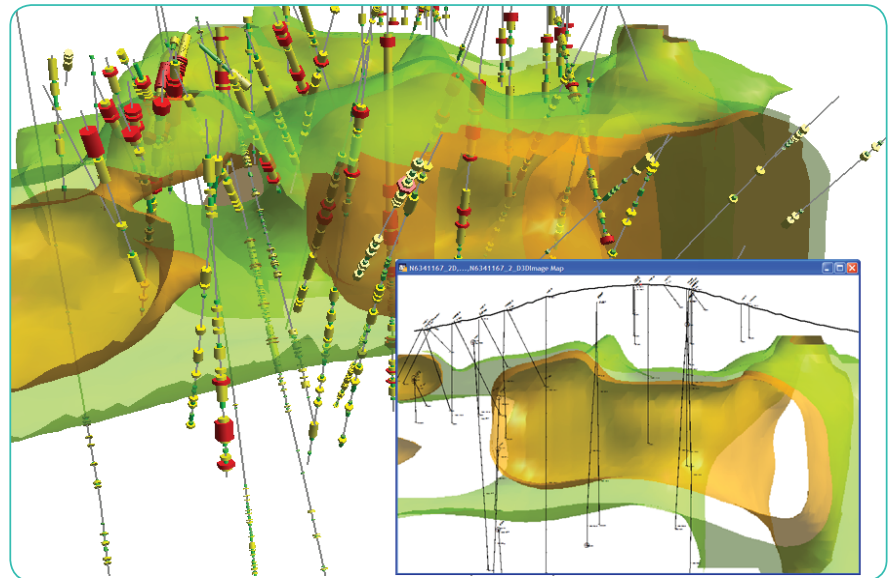
Input polylines and polygons, with sparse or irregularly distributed nodes, can be refined (i.e. extra nodes automatically added) to produce output solid models with smoother faces.

Output solid models can now also be created in a Feature Database. You can then use the new feature editing functions to combine, erase, and intersect one solid with another.

New Georeferenced Image Export tool

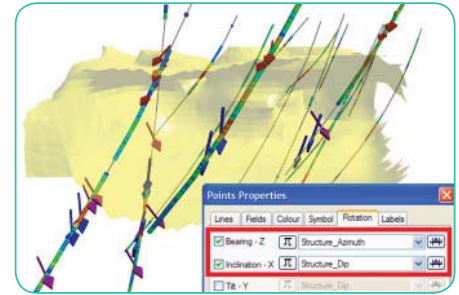
Snapshots of the 3D view can be accurately captured and placed into your 2D drillhole cross-sections using the Georeferenced Image Export tool (pictured below). This enhances the connectivity between the Discover 3D and 2D environments, allowing 3D datasets (such as voxel models or orebody volumes) to be accurately visualised in 2D cross-sections.

The 3D view is captured as a georeferenced image, and is defined using either the cursor plane or an open Discover drillhole section to control the view location, orientation and extents.



Points and Lines

New bearing, inclination and tilt options allow surface and downhole structural measurements (pictured below), subsidence data, and wind and water flow velocity vectors to be displayed as orientated 3D Points.



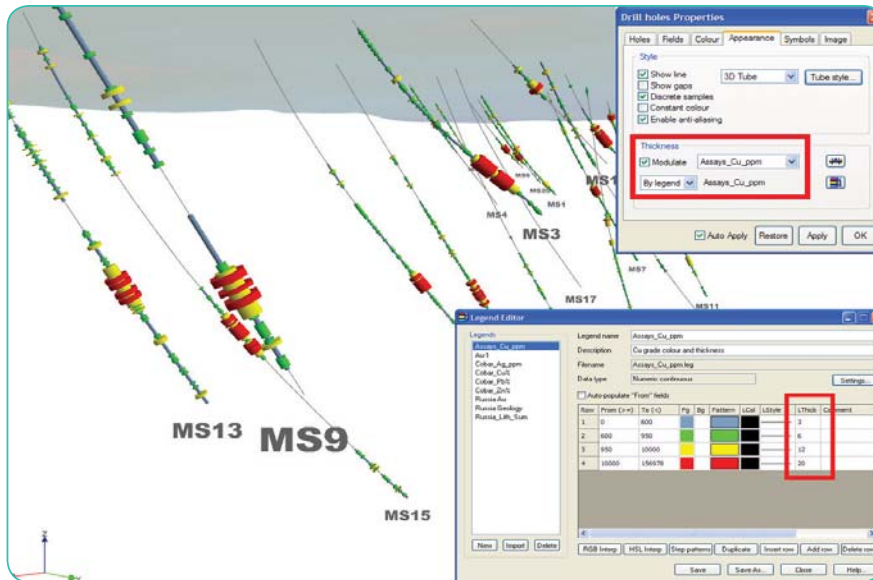
Data conditioning controls have been added to many parameters, allowing data filtering (e.g. display only points with azimuths between 45 and 110 degrees) and null handling.

Significant performance improvements have also been made to the 3D visualisation of point and line data.

Voxel Models

With the 3D Gridding tool, you can fully customise the search ellipse when creating block models with continuously variable gridding. New individual bearing, inclination and tilt controls allow the search ellipse to be biased along a plunging fluid conduit, for example.

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Requirements

Encom Discover 3D 4.0 requires Discover 10.0 and MapInfo Professional 8.0 to 9.5, with Windows 2000, XP or Vista.

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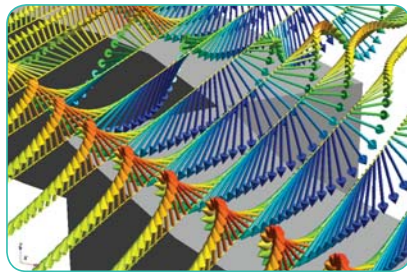
Drillholes

Custom Thickness Modulation

Clearly and concisely visualise downhole assay or geophysical data by modulating the drillhole thickness with custom legends (pictured above).

New Directional Vector Series

Geophysical vector and tensor data can be visualised using the new Directional Vector data type, for example interpreting magnetic vector surveys where directional components have been measured.



Transform Vector

Now with a range of advanced features, plus support for:

- Multi-part polygons in ESRI shapefiles
- ER Mapper vector files (.ERV)
- GPS eXchange files (.GPX)



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