

## encom<sup>♦</sup> modelvision version 8.0 release notes

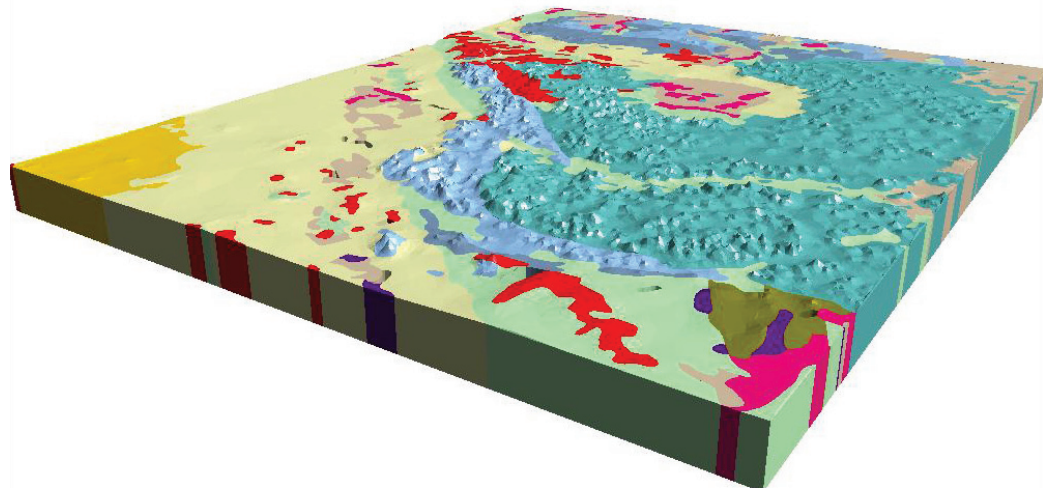


Following on from the interim release ModelVision Pro 7.1 in 2006, Encom is proud to launch ModelVision Pro 8.0 which includes a number of innovative and exciting new features to assist those involved with advanced modelling and interpretation of gravity and magnetic data.

### New Features

#### At a glance

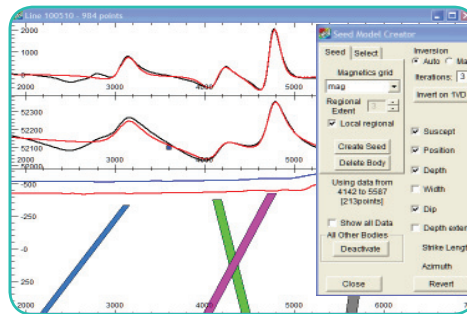
- **Quick Inversion**  
A new quick inversion tool allows the user to drag the mouse across an anomaly in the cross-section view, with ModelVision Pro automatically isolating the local magnetic regional and inverting the selected anomaly for a tabular body.
- **3D Models from Map Polygons**  
Facility to extrude imported or digitised polygons between a top and bottom surface to produce closed 3D solid bodies with attributes assigned to density and susceptibility.
- **Inversion on In-line Filter data**  
ModelVision Pro now supports the inversion of in-line filter data.
- **New Import ASCII interface**  
New interface for importing ASCII files into ModelVision Pro.
- **Grid Utility**  
A new grid operations utility for editing, clipping, converting etc.
- **Export Models in CSV Format**  
Added support for exporting line, point, hole and model data in .CSV ASCII file format.



## Quick Inversion

Quick Inversion provides a complete new tool to model and invert single anomalies in a few simple steps. The tool is only available for cross-sections and tabular bodies, but saves time on production and precision depth interpretation projects. To use this tool, drag the mouse across the anomaly and Quick Inversion will do the rest. This feature extracts the 2D regional from the magnetic grid in the immediate vicinity of the selected anomaly, subtracts it from your profile and runs the inversion. Refine the inversion by constraining individual tabular body parameters. Each anomaly takes only a few seconds to interpret in this mode.

You can switch between the total field and first vertical derivative to refine depth interpretations.



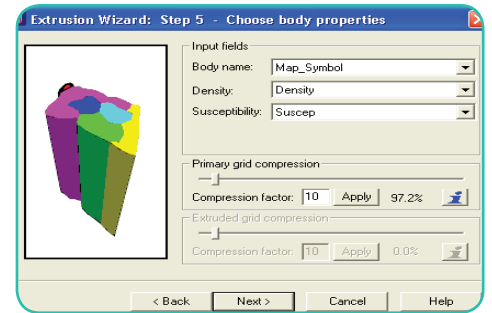
## 3D Models from Map Polygons

It is now easy to build complex 3D geological models from hand drawn polygons or imported ESRI and MapInfo GIS vector files using the 3D Model Generator and Extrusion Wizard. Use this tool to convert a two dimensional map polygonal interpretation into a meaningful three dimensional model with associated properties of elevation, volume, density and susceptibility.

High resolution terrain surfaces are compressed using a triangle reduction method developed by Encom that preserves the resolution

of the terrain and reduces the numerical computation time for the models. This is an excellent tool for computation of terrain corrections.

An Extrusion Wizard allows the application of other geophysical properties such as azimuth and dip for the 3D body.



These models can be applied to problems such as terrain corrections in airborne gravity gradiometry, synthetic survey simulation in a known terrain, waste dump modelling in engineering geophysics, salt diapir modelling for petroleum or seeding of a UBC voxel inversion model.



## Inversion on In-line Filter Data

ModelVision Pro now has the additional capability to perform inversion on in-line filter data, allowing access to the first vertical derivative or, in the case of noisy data, an upward continuation filter. The same filter is applied to model and line data during the inversion. The tool can only be applied to one line at a time.

Please note that this method is different from the direct modelling of first vertical derivative data where there is an input channel that has been measured or calculated from a first vertical derivative grid and then resampled onto the line. This inversion is applied to filtered versions of the original data where the same filter is applied both to the model and the data.

## Body Table Updates

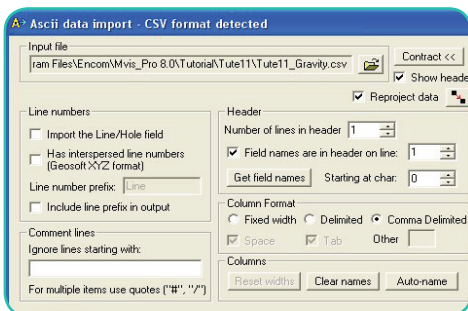
The Body Table option has been updated to include functionality to sort the listing of the bodies or filter the visibility of the bodies based on their physical properties. It sorts the bodies by their variable parameters in either ascending or descending order either directly from the headers of the body table or from a pull-down list based on any parameter (even colour) including computed values such as magnetic moment or volume.

Label	Type	G	Colour	Suscept	Density	Depth	Active	Lock	Vis
1	Slate	polygon		0.017	2.75	3801.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Diorite	tabular		0.07	2.92	1122.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Granite	pipe		0.025	2.70	5715.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Greywacke	polygon	1	0.015	2.41	5204.6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Siltstone	ellipsoid		0.010	2.53	2780.6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Gabbro	tabular		0.04	2.82	874.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Quartzite	tabular		0.007	2.69	1357.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Schist	polygon	1	0.016	2.79	4624.3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Chalk	polygon	1	0.023	2.82	4821.9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Dolomite	polygon	1	0.03	2.75	5161.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	Mudstone	polygon	1	0.007	2.63	5229.3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

A column has been added to the body table to allow the setting of visibility for the listed bodies based on the range of some property. The option to delete the visible or the invisible bodies has also been added, with the option to undo that deletion.

## Import ASCII Plugin

The general ASCII import has been changed to use the same tool as Encom Profile Analyst. Line and point data can be reprojected as they are imported to match the projection assigned in the ModelVision Pro project properties. Automatic recognition of typical ASCII file formats, header and line number allocation and support for nulls is available.



## StatWatch

The StatWatch or Data Comparator is a tool to compare statistics of two curves or a subset of the data. Accessed from either the toolbar or a cross-section window, it selects the first two curves in that track. Multiple instances of StatWatch are supported for different data and statistics, and are updated as the data changes. Use the Data Comparator to display the rms value between two fields.

## Model Export to CSV files

A new CSV model export option has been added to provide easy access to body locations and parameters. Information exported includes body name, body type, XYZ coordinates, susceptibility and density. A new viewing option exists during the exporting process to create and display small spheres at every XYZ location in the export file. The exported .CSV file will then open directly in Excel for review. It can also be exported without text fields in a compatible format for re-importing into ModelVision Pro as point sets.

## Export to EGB and BMP changes

The export option for geo-located cross-sections and maps (as .EGB and .BMP) will now provide an option to specify a prefix or suffix to the file name.

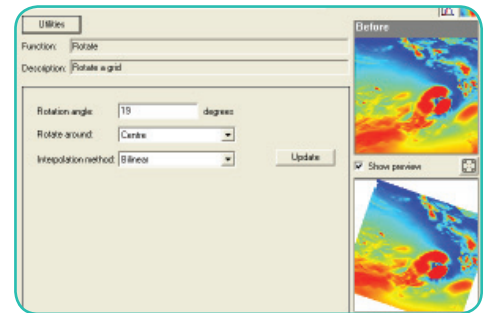
## Geo-located Bitmap Images

When loading a .BMP file as a backdrop into a map window it will now create an .EGB file with the registration coordinates. When subsequently loading the .BMP file it will search for an .EGB file with the same name and use those values. The same .EGB file can be used in Encom PA Explorer.

## Grid Utility plug-in

The Grid Utility plug-in tool provides a choice of operations to be performed on one or more specified grids selected from memory in ModelVision Pro. The input grid is operated on and the computed grid is saved to a file and automatically loaded into memory and displayed in a new window.

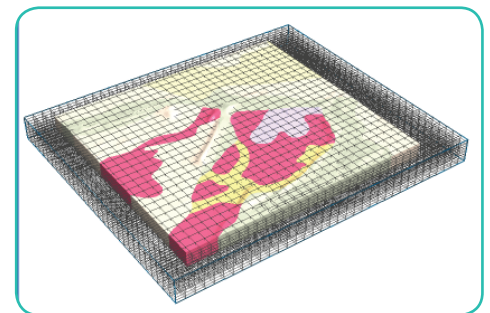
Use the extensive range of grid utilities to classify, clip, convert, create RGB images, edit, fill holes, flip, overlay, replace, resample, reproject, merge, rotate, shift, compute volume and split.



## UBC Mesh Generator

The dialog used for the specification of the UBC mesh has been modified to improve the usability of the module. The Perspective Configuration and UBC Model – Mesh Designer dialogs have been updated to allow a preview of the mesh of a UBC model being generated.

The mesh designer has been updated to simplify interaction and the Z dimension is now referenced to the ground surface.



# encom advances



## Bug Fixes

- **Map View regional fix points**  
Regional fix points were not being updated in cross-section with the Change Line function.
- **Model Import Groupbodies**  
On model import, groupbodies appended to existing groupbodies were not handled correctly.
- **Saved Regional**  
Reloading a saved regional would sometimes fail.
- **Cross-Section Drawing Order**  
Change to drawing order in cross-sections to allow drillholes to be seen in front of bodies.
- **Grid Image Shading**  
The shading of grid image display would occasionally disappear.
- **Property changes for split bodies**  
Fixed property assignments when splitting bodies into multiple bodies with variable property.
- **Multiple Body Deletions**  
Allows multiple body deletions to be undone in one go, and suspended computation until after completion.
- **Moving common vertices in cross-section**  
Fixed a problem with moving vertices common to more than one body in cross-section. They would sometimes not move together.
- **Body lighting button**  
The light bulb button did not affect body colours modulated by property.
- **Line Maintenance Interpolation**  
Interpolation in the line maintenance option changed from linear to smooth interpolation.
- **Execution for plug-in utilities**  
Certain utilities using plug-ins would not execute if a space existed in the program folder name.
- **Addition of Body Label keywords**  
Keywords required for body label substitutions have been added to the text of the dialog.
- **Import/Export Drillhole data**  
Import and export of drillhole data sometimes caused a fatal crash.
- **Program crash for sessions with large bodies**  
Occasional crashes occurred when loading a session containing very large polygonal bodies.
- **Computation of faceted bodies**  
Fixed incorrect computation for faceted bodies (plunging prism, frustum, pipe, general polyhedron) if they had the same property as background (zero contrast).
- **Vertex adjustment for PolyGroup bodies**  
Reloading of sessions containing PolyGroup bodies would sometimes incorrectly adjust vertices. Tolerances changed as well as the ability to override the automatic validation.
- **Layout Configure menu**  
Menu option Layout > Configure did not work.
- **Pop-up warning/error messages**  
Some popup warnings or errors resulted in infinite looping without a chance to cancel or save the data. A checkbox has been added to suppress further popups.
- **Increased size for specific fields**  
Increased the status bar display field for number of bodies to four digits and the AutoMag body name generation to handle up to 9999 bodies.

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