

## encom<sup>+</sup> modelvisionpro version 7.1 release notes



Encom ModelVision Pro 7.1 is an interim release which contains a number of new features and a range of bug fixes and improvements to major release 7.0. Release 8.0 which is due out in the last quarter of 2006 will be the major release for the year.

### New Features

#### General Model Import & Topology Checker

Now you can import and validate 3D faceted models from a range of third party software applications including Encom Profile Analyst, Encom Discover, GoCAD, AutoCAD 3D DXF, Gemcom BT2, ESRI TIN, Datamine, Vulcan and 3D Studio. The example below illustrates the import of a Profile Analyst Isosurface model where unclosed surfaces are automatically rejected and others are listed as suitable for import to ModelVision. You can select, zoom and rotate objects in the 3D view to ensure only those components you need are imported. Importantly, you can quickly validate the imported model components to ensure that they are closed and suitable for potential field modelling. All models are converted to general polyhedral bodies inside ModelVision. You can use inversion to determine the bulk physical properties or adjust the x,y,z location of each body.

ModelVision Topology Checker

Input file: C:\MV\_Pro\Testing Notes\San Nicolas Isosurface.dxf

Layer	Surface	Show	# Facets	Area	Volume	Closed	# Unclosed Edges	Export
0	2	<input checked="" type="checkbox"/>	550	182923.75134570	0.00000000	<input checked="" type="checkbox"/>	172	<input type="checkbox"/>
0	8	<input checked="" type="checkbox"/>	103	21845.46246434	0.00000000	<input checked="" type="checkbox"/>	66	<input type="checkbox"/>
0	9	<input checked="" type="checkbox"/>	18	2576.94426749	0.00000000	<input checked="" type="checkbox"/>	20	<input type="checkbox"/>
0	5	<input checked="" type="checkbox"/>	16	1267.59809180	2846.70689645	<input checked="" type="checkbox"/>	0	<input type="checkbox"/>
0	3	<input checked="" type="checkbox"/>	52	9345.89103940	68192.56391994	<input checked="" type="checkbox"/>	0	<input type="checkbox"/>
0	4	<input checked="" type="checkbox"/>	104	22813.13933087	215295.38224837	<input checked="" type="checkbox"/>	0	<input checked="" type="checkbox"/>
0	7	<input checked="" type="checkbox"/>	340	73730.86396419	1550476.55483445	<input checked="" type="checkbox"/>	0	<input checked="" type="checkbox"/>
0	6	<input checked="" type="checkbox"/>	384	81740.05690754	1937829.53282962	<input checked="" type="checkbox"/>	0	<input checked="" type="checkbox"/>
0	1	<input checked="" type="checkbox"/>	170	37992.29100000	1510000.11701000	<input checked="" type="checkbox"/>	0	<input checked="" type="checkbox"/>

Surface Properties...

Global

Define each layer in a separate mesh

Coincident Point Tolerance: 0.0009625

Advanced...

Rendering

Cull reverse facing

Wireframe

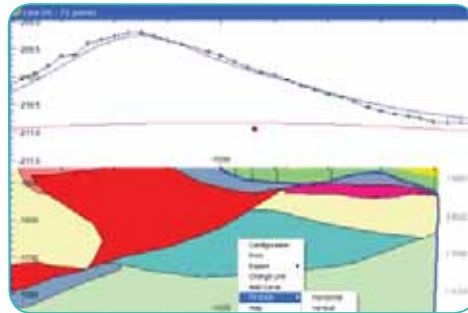
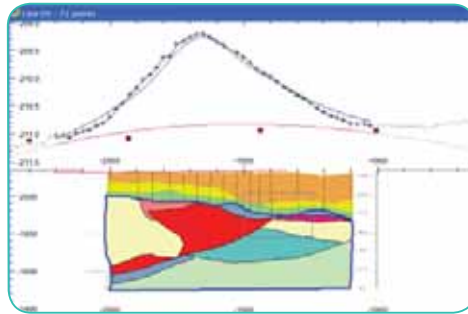
Show Unclosed

Show Selection Bounding Box

## New Features cont'd

### Improved Zoom Operation in Track Windows

Zooming in and out in particular tracks in the multitrack window and cross-section window is now much easier and can be done in both axis directions or just one direction using the mouse. Re-fitting either axis can be done independently and either to the displayed line data or to the project range.



### Speed Toolbar

This has new "+" and "-" buttons which add the last operation to the toolbar and remove the last item from the toolbar. This toolbar comes into its own when you repeat operations which are nested two or three levels deep in a menu. After doing the operation once, click the "+" button and the operation appears on the speedbar and can be activated by a single click.

### Broadcast Model Changes to External Applications

Live updates of models in other applications is now possible with the ModelVision broadcast button. The example below illustrates how individual model edits inside ModelVision will be immediately updated in the 3D view inside Profile Analyst where you can integrate your drillhole, geology, geochemistry and other geophysical models.



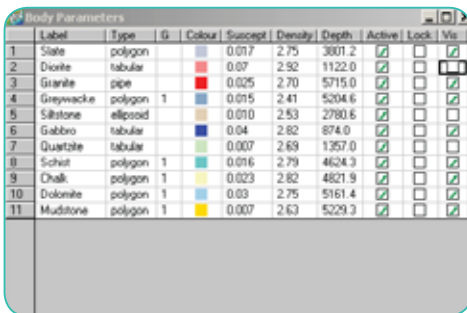
This techniques makes it easier to visually assign geological constraints to the models within the ModelVision context.

This technique will be very helpful to those wanting to look at resource extensions where there is a density or magnetic susceptibility association.

## Body Visibility

This is a new feature of the Body Table which allows a body to be removed from all graphic displays with a single click on the relevant checkbox. This is particularly useful for temporarily hiding bodies which are obscuring other bodies in the section or mapview and for selecting particular parts of the model for hardcopy display.

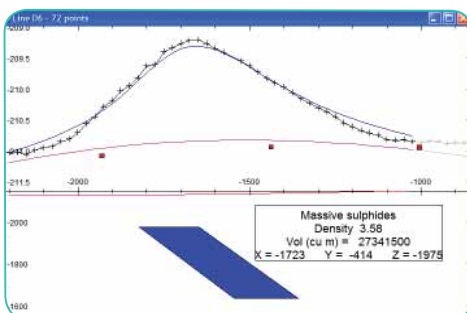
## Extensions to Body Labelling



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

Additional keywords have been added to the body labelling options in the map and cross-section views. Besides body name, susceptibility and density you can have x, y, depth and volume in either m3 or km3 for all bodies and many of the other parameters such as dip which are specific to particular body types.

The substitution parameters (“@par %n.nf”) include “label”, “dens”, “susc”, “depth”, “x”, “y”, “vol” and “vkm”. Body specific labels include “dip”, “strike”, “azim”, “extent”, “plunge”, “thickn” and “rad”.



## Export of a Subset of the Model

Up until now the entire model had to be exported to a model file. However now you have the additional option of exporting selected bodies only and excluding the rest. This is done quite simply using the new visibility attribute. So what you see is what gets exported. This applies to all formats: TKM, DXF, UBC etc.

## Geosoft Compressed Grid Format

ModelVision will now read Geosoft grid data in both uncompressed and compressed format.

## Bug Fixes and Improvements

- **Screen Resolution Problems**  
If a session created on one machine was opened on a machine with a different resolution, an existing map view could display bodies and data misplaced relatively. This was easily rectified by the user refitting or resizing the window, but has now been fixed.
- **Geosoft Grid Export**  
The default data format has been changed from 2 byte integer to 4 byte real.
- **GDF Data Export**  
A minor correction was made to output format.
- **Multitrack**  
The Change Line option did not refit the horizontal axis to the new data length. Rescaling now takes place when the dialog is closed.
- **Upward Continuation Filter**  
This was adjusting the chosen continuation height to the nearest integer multiple of the sample spacing. This has been changed to allow continuously variable height.
- **Magnetic Tensor**  
The computations for the general polyhedron could fail if a station lay exactly on the projected plane of a facet. Special cases like this have been allowed for.
- **Projection Parameters**  
When displayed in the Project Properties dialog project parameters were not being updated when browsing to a new project.
- **Match Average**  
It was disabled in Version 7.0 if modelling more than one line. This has been re-enabled but the adjustment now matches the project averages. This means that the same shift is applied to all data.
- **Drillholes**  
Adding too many drillholes to a map display previously caused the program to crash.
- **Changing to a new project**  
Editing the projection in a new project could result in the old project being modified if the mvproj.ini file was absent.
- **Polygroup Body Editing**  
Moving a vertex on one body in a polygroup model could cause an adjacent body to become invalid.
- **Polyhedron Body Position**  
Editing the position of a general polyhedron in the body properties dialog was ignored.
- **Body Names**  
Entering long body names could be truncated or cause corruption. The new version facilitates long body names.
- **Polygroup outer polygon boundary**  
It was not clipped to the depth track in the cross-section window.
- **Deleting Group Selection of bodies**  
Dragging out a rectangle in a window could result in bodies outside the window being deleted if the window was displaying a zoomed in view.
- **TKM model file**  
Format differences between ModelVision and Profile Analyst has been fixed.
- **Polygroup Bodies**  
Added options to allow users to have body visibility and active attributes apply to all component bodies of a polygroup or just to the specified one.
- **DXF Model File Import and Export**  
Coordinate precision increased.

## Bug Fixes cont'd

- **Geosoft Database**  
Reading bug fixed where number of data channels exceeded 256.
- **Geosoft Database Import**  
User is now asked to select X and Y channels.
- **Geosoft Database Export**  
Added full line name support. Fixes the naming convention problems between Geosoft and ModelVision.
- **Computation Bug**  
Computation bug which occurred for large polyhedral bodies containing any zero area facets has now been fixed.
- **Perspective Display**  
It sometimes failed to respond immediately to model changes.
- **Inversion Tolerance Setting**  
Changes to dialog to make more intuitive and to retain settings between inversion runs. The user should no longer have to keep re-entering tolerance ranges.
- **Strata Creation**  
Previously caused a crash when run from a cross-section window.
- **3D Display of Large Polygon Bodies**  
Did not display properly if created with more than 255 vertices. This limitation has been removed.
- **Calculator Crash**  
Crashing would sometimes occur if a grid operation was done when no grids were present.
- **EGB Export**  
The export of cross-sections to produce EGB, BMP files for importing into Profile Analyst showed a slight registration problem. This has been corrected but the accuracy of registration will still be limited by the resolution of the bitmap image.
- **Files not saved to Project Directory**  
Occured for EGB export in some circumstances where projects were changed within a ModelVision run.
- **AutoMag points dip the wrong way**  
AutoMag points created from existing bodies by the "Body to point" function in the AutoMag toolbar could have symbols dipping in the opposite sense to the bodies. This occurred for bodies oblique to the profile and has been fixed.
- **Ticks missing from edges of map**  
This occurred if the initial map was created with only point data. All ticks will now be shown.
- **Renaming a Grid**  
This had associated problems in updating a grid image display and the listed grids in various windows.
- **Synthetic Line Creation**  
Incorrect number of lines were reported on the Status Bar prior to closing the dialog. It was also possible to create lines with duplicate names.
- **Grid Shading**  
Some improvements to the shading of grid images in the map view.

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