

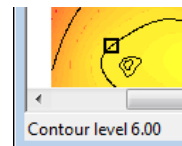
Potent v4.12.03 release notes

January 2012

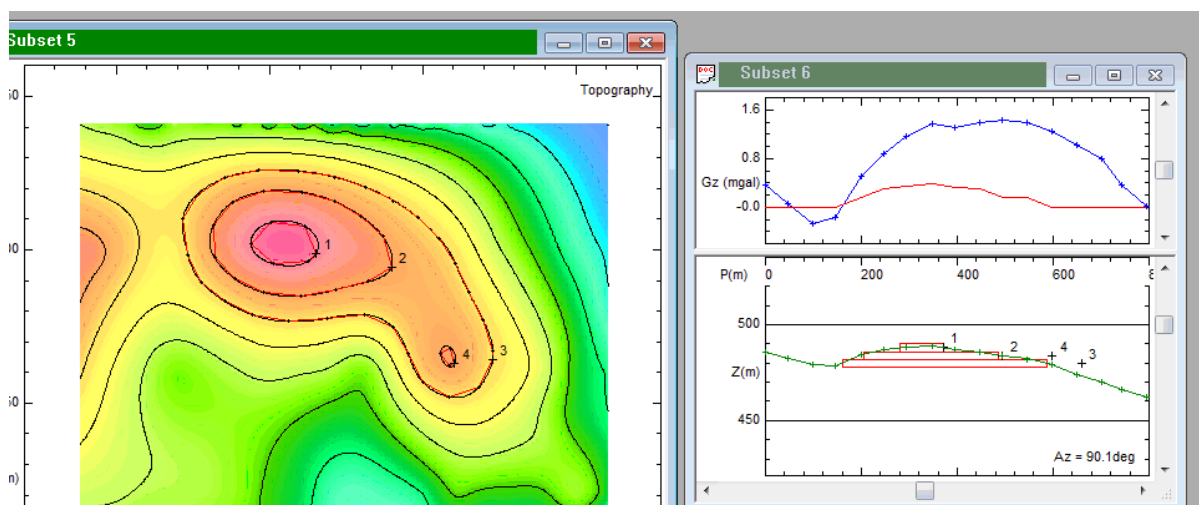
Enhancements (v4.12.02)

Identify contours tool

This is a new tool that allows you to point to a contour to display its value on the status bar. This function applies to contours that are superimposed on any type of grid.

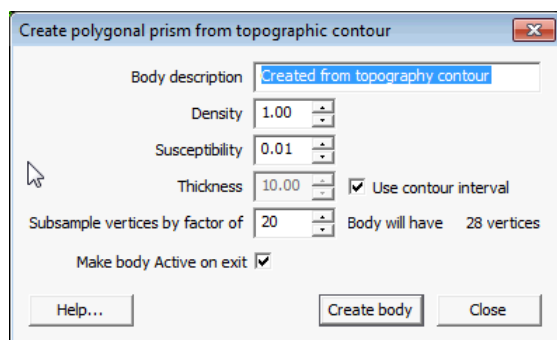


If the contours are of topography the tool also allows you to create a flat-lying polygonal body that fits a contour. This allows you to build a layered terrain model, as shown for the four contours that represent the top of the hill in this example:



The image in the left hand window shows the polygonal outlines of the four bodies inscribed in the contours. The section in the right hand window shows (at 4:1 vertical exaggeration) how the three main polygonal slabs are stacked on top of each other.

A dialog box allows you to control the creation of the bodies:

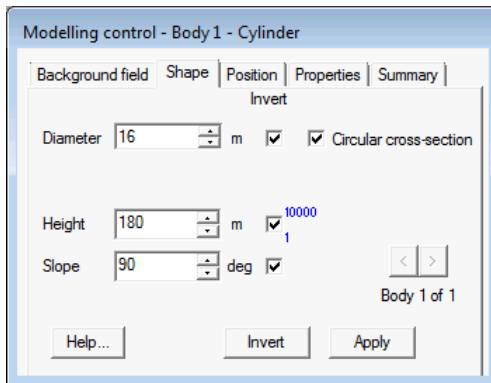


Apply extra smoothing to a grid

A new **Smooth** button in the **Image properties** dialog box applies a simple 9 point (3 cells square) moving average operator to the grid. Use of this feature can improve the stability of the contour-following algorithm used by the **Identify contours** tool when creating a polygonal body from a topographic contour.

Add "Circular cross-section" option to cylindrical body (PQ)

This is applicable only to PotentQ



When the **Shape** tab of the **Model control** dialog box shows a body of type Cylinder, checking **Circular cross-section** causes the **Length** items to be hidden and **Width** is relabelled as **Diameter**, as shown above.

Add "None" to options in Image pop-up menu

Right-clicking on a Plan window displays a menu of commands, one of which is the Image sub-menu. This has options to quickly display an image of Observed, Calculated or Residual field.

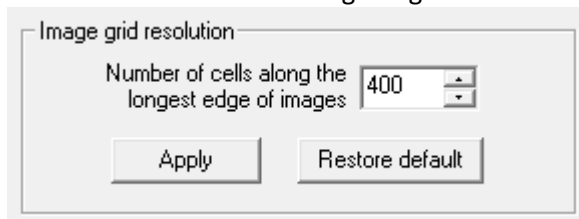
This release introduces a "No image" option that removes any currently displayed image.

Allow user-defined grid size

Previously, when Potent or PotentQ created a grid it set the number of cells along the greater of the X and Y data extents to be nominally 200 (Potent) and 100 (PotentQ). (The actual number of cells might be changed slightly from this figure by the gridding algorithm.) As grid cells are always square, the number of cells along the other dimension would be less than the specified number, in proportion to the aspect ratio of the data.

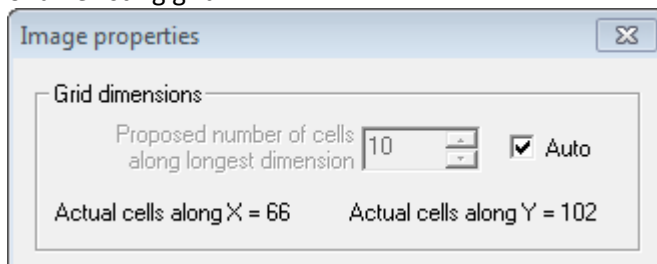
As of this release you may choose the nominal grid dimension in two ways:

1. A new **Image grid resolution** group in the **Preferences** dialog box (**File** menu) allows you to set the default number of cells along the greater of the X and Y extents of grids.



Click **Apply** or **OK** to apply the new setting to all current grids that have **Auto** grid dimensions set (see point 2, below), and to make it the default setting for new grids.

2. A new **Grid dimensions** group in the **Image properties** dialog box allows you to change the cell size of an existing grid.



Check **Auto** to use the settings specified in the **Preferences** dialog box.

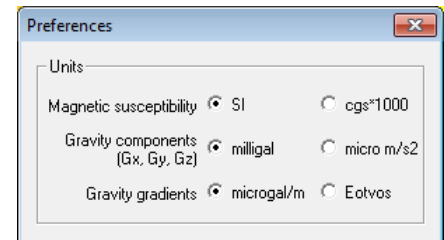
Add ".csv" to "Export model as text" file types

User-selectable file types for the **Model | Export as text** command are comma, tab or space delimited, but ".csv" did not feature in the list of file types offered in the **Save model to a text file** dialog box.

The list of types now contains All, TXT, CSV and XYZ.

Option to work in micro m/s² instead of milligal

Add an option to the **Preferences** dialog box (**File** menu) to allow gravity component data to be provided in micrometre/sec² instead of milligal.



Indicate when running in Demo mode

If the licence has expired then Potent will continue running in "Demo" mode, with degraded functionality. Previously this state was indicated only by a "nag" window that popped up periodically. As of this release the "Demo" status also is indicated on the title bar of the main window.

Bug fixes (v4.12.02)

Numeric rounding problem for output distances and dimensions (PQ)

This is applicable mainly to PotentQ.

For very small scale surveys, such as a UXO survey, dimensions on the Summary page of the Model Control dialog box either had too few decimal places, or were displayed as zero.

The same problem extended to the model summary text file that is optionally created when PotentQ exits, and by association to the **Draw Annotation GX** in the Oasis montaj **Potent** menu (which uses the contents of the model summary file).

Similarly, the polygon file that contains a wireframe representation of the model had too few decimal places for UXO models, resulting in jagged edges when bodies were drawn on a map.

Fixed. The number of decimal places on spatial quantities is now set according to the dimensions of the survey area.

Scrolling problems

Scroll bars were not working correctly on down-hole windows.

Fixed

Inversion fails when a parameter value is outside user-specified limits

When you flag a parameter for inversion by checking its **Invert** box you can also specify upper and lower bounds to restrict the range of variation of the adjusted value. If the starting value of the parameter was outside the specified range, as in this example, then inversion results would be unpredictable:



Here the starting value of 0.5 for the **Height** parameter lies outside the range 1 to 10000.

Fixed. In this situation Potent now moves the parameter value to the nearest limit.

Backdrop image not visible

Make it clear that backdrop image is not displayed if bodies are rendered as "solid", or if the window is a down-hole window.

The Help button in the Licence Transfer dialog box doesn't work

When running the **Potent licensing** application, clicking the Help button in the **Licence Transfer** dialog box now opens the appropriate topic in the Potent Help system.

Fixed.

Edges of 2D polygonal bodies not drawn on Plan

This problem occurred when a workspace file containing 2D bodies was loaded. It was a side effect of the "Drawn length" enhancement that was introduced in the v4.11.06 release.

Fixed

Plan window redraw is very slow

If many observations are input from an XYZ file, drawing a dot (the default marker type) at each point caused Plan windows to draw very slowly.

Fixed. Potent now sets the marker type to "None" if more than 10,000 observation are input. (The marker can be changed via the **Observations** page of the **Plan options** dialog box.)

Unnecessary redrawing of windows

In Potent and PotentQ, eliminate unnecessary window redrawing when dragging a body on a plan window.

In PotentQ (3D mode), remove extraneous redraws when clicking **Apply** on the various pages of the PotentQ modelling control dialog box.

Redrawing slow when contours tightly packed (PQ)

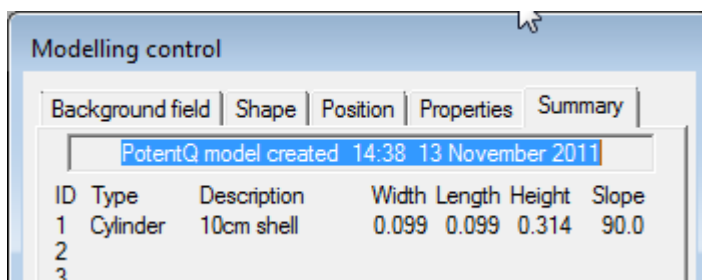
When PotentQ was working in Map Mode the contours of the Calculated and Residual grids could take a long time to redraw when the model fit was poor. This was because the contour interval is set to be the same as that for the Observed grid. The effect was to significantly slow down the progress of the early stages of inversion as much time was spent drawing contours.

Fixed. The drawing of contours is now suppressed if they are very tightly packed.

Body 1 description omitted from Summary page (PQ)

The **Description** field in the **Modelling control** dialog box was not working for body 1. (The body Description must be set using one of the Potent body editing dialog boxes. The simplest way is to right click on the body's reference point.)

Fixed. The body 1 description is now displayed, as in this example from a synthetic UXO survey. The body is a 10cm shell.



Black window when adjusting polygon shape

With some graphics cards the main Plan window flickered black/white when adjusting values in the Shape dialog boxes of polygonal cross-section bodies. With other cards this was manifested just as flickering.

Fixed

Solid-rendered bodies not affected by "Visibility distance"

The **Draw bodies as** group of the **Cross-section pane** page of **Options** dialog boxes for cross-section and down-hole windows has a setting **Don't draw bodies...**, which allows you to define a distance from the cross-section plane beyond which bodies will not be displayed.

This setting was ignored when a body was drawn as **Solid**.

Fixed.

Calculated profiles not redrawn when automatic calculation switched back on

If automatic calculation was switched off (Calculation menu), when it was switched on again after making some model changes any visible profile windows were not redrawn. This resulted in the calculated field profiles being zero until the windows were redrawn manually (Window menu).

Fixed

Bug fixes (v4.12.03)

Cursor senses "Hidden" bodies

When a body's Status is set to "Hidden" it should be invisible to any in-window activities, such as when the cursor hovers over it. This was not the case, and in a complex model a "Hidden" body would be edited (say) instead of an "Active" one.

Fixed

Main Plan window not drawn fully

Under Windows XP, when the main Plan window is resized only solid rendered bodies remain visible. Redrawing the window (**Windows** menu, or right click on the main Plan window) causes the window to be drawn correctly.

This bug was introduced as a side effect of a change made in the 4.12.02 release.

Fixed.