



## What's New In Aquifer<sup>win32</sup>/WinFlow Version 3.0?

We updated Aquifer<sup>win32</sup>/WinFlow to include many features users requested. We made the application more user-friendly and full-featured. Since we continually enhance our software, please let us know if there is a feature you would like added. As always, all interim releases are free and downloadable from the internet until Version 4.0 is available.

The major changes are summarized below:

### New Analyses

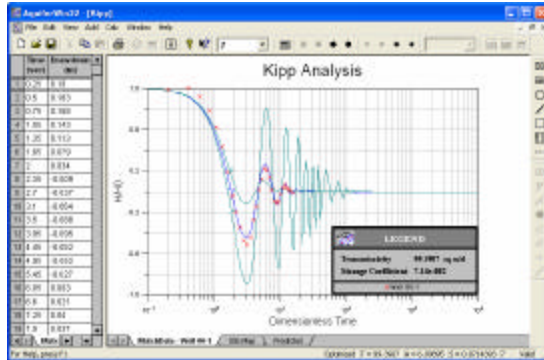
- Kipp, 1985 – Type Curve Analysis of Inertial Effects in the Response of a Well to a Slug Test
- Moench, 1985 - Transient Flow to a Large-Diameter Well in an Aquifer With Storative Semiconfining Layers
- Moench, 1997 - Flow to a well of finite diameter in a homogeneous, anisotropic water table aquifer
- WinTran - WinTran is designed to be an easy-to-use model for simulating the fate and transport of dissolved contaminants in fully saturated groundwater systems.

### New Functionality

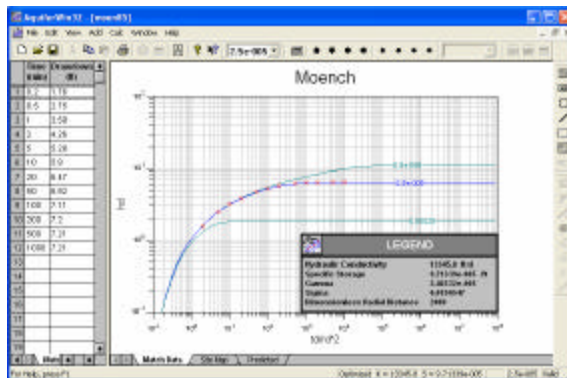
- Legend Wizard – Enables easy setup of legends and optionally automatically resizes legend, adds default parameters and maintains position in the lower right corner of the graph or map
- On screen editing of items within legends
- Line Calculations and Distance/Drawdown graphs
- 3D Perspective in Flow Model
- Shapefile export of contours, particle traces, streamlines and wells
- Shapefile maps now supported

## New Analyses

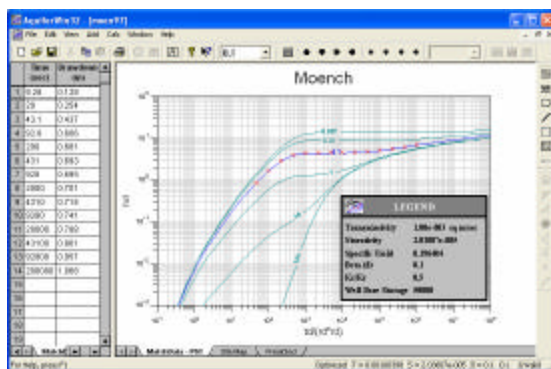
Kipp, 1985. The Kipp, 1985 analysis is used for slug tests that exhibit a sinusoidal response due to inertial effects.



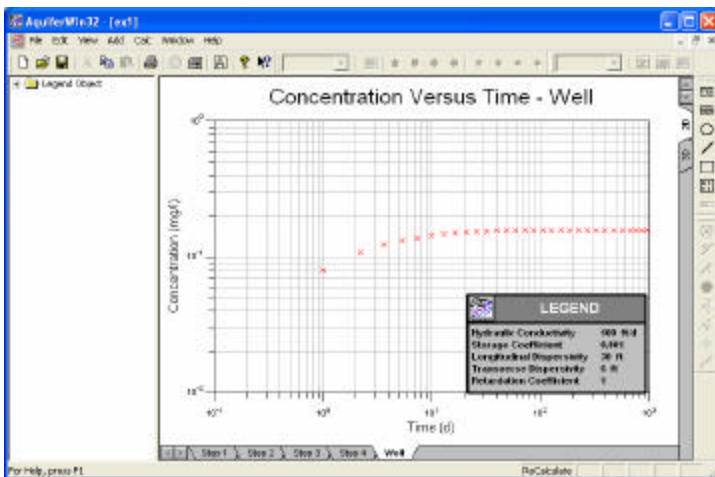
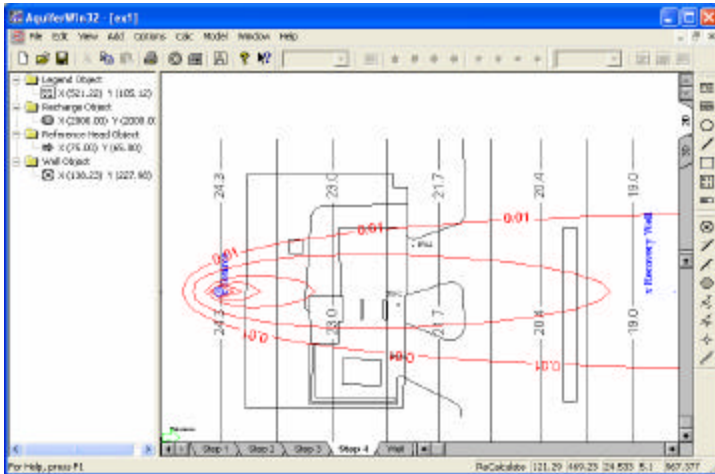
Moench, 1985. The Moench, 1985 analysis is very versatile and supports all three Hantush aquitard boundary types (Constant head, No Flow and Constant Head/No Flow) and allows leakage from above, below or both. It also supports a line source well or a finite diameter well including well bore storage and well bore skin.



Moench, 1997. The Moench, 1997 analysis allows analysis of pump tests in unconfined aquifers in which well bore storage and/or well bore skin are a significant factor.



WinTran. WinTran is designed to be an easy-to-use model for simulating the fate and transport of dissolved contaminants in fully saturated groundwater systems. The WinTran model couples the steady-state groundwater flow model from WinFlow with a contaminant transport model. The transport model feels like an analytic model but is actually an embedded finite-element simulator. The software automatically constructs the finite-element transport so that you may quickly get answers to your groundwater problems.



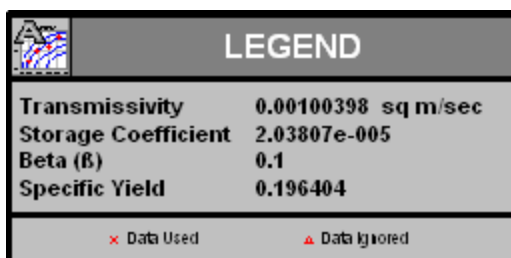
## New Functionality

### Legend Wizard

One of the most common support issues has been setting up legends and we made this process much easier. In Version 3, adding a legend is as simple as clicking the mouse in the view, clicking the *Add->Legend* menu and dragging a rectangle. The following wizard is activated to help in setting up the wizard. If you simply click the finish button, a legend will be created containing the pertinent parameters and will be located in the lower right corner of the graph or map.

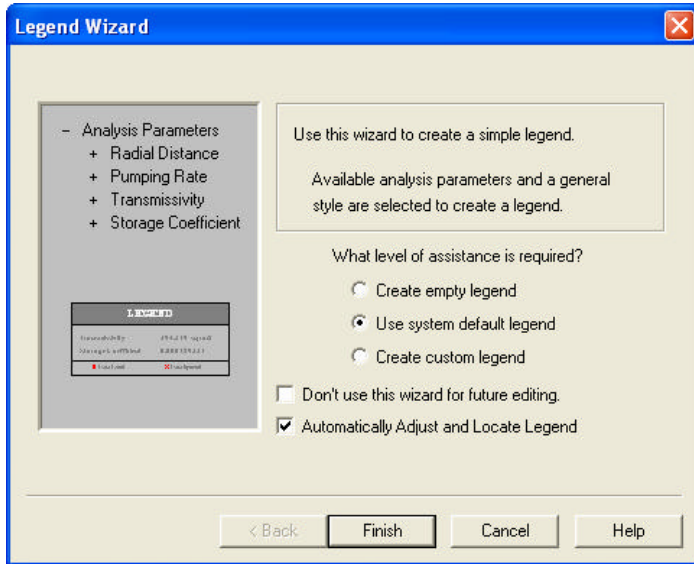
To make a legend as in previous versions, select the *Create empty legend* radio button and click the *Finish* button; double click on the newly created legend box and set it up as you see fit.

The legend generated by the wizard was patterned after the example legends created in the example files shipped with previous versions of the program. The specific legend created using the following example wizard screens is below.

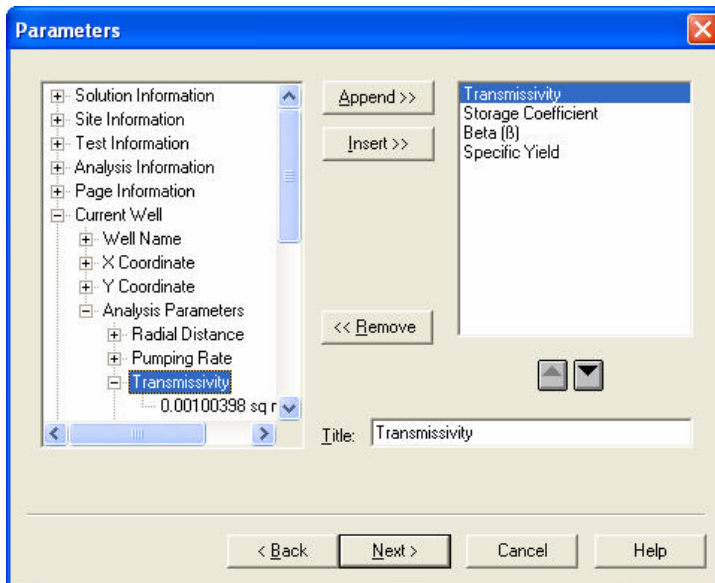


The legend has three sections, the Title sublegend, the Parameter sublegend and the Symbol sublegend. The Title and Symbol sublegends are optional as is the bitmap in the Title sublegend.

To customize the legend created with the wizard, click the *Create custom legend* radio button and the *Finish* button becomes a *Next* button to continue the customization. Two other options are available via check boxes. The *Don't use this wizard for future editing* option overrides the default behavior that, when you double click the legend to edit it, the wizard will not be used. The *Automatically Adjust and Locate Legend* check box controls whether the system will automatically maintain the location of the legend.



If you chose to create a custom legend, the next step in the wizard enables you to choose the items you want added to the legend. The *Parameters* step presents a list of parameter items which is dynamic and defined by the active document type, analysis type and view type. As with Parameters in previous versions, you drill down into the options and click on the item you want, in this case Transmissivity. Using the *Append*, *Insert* and *Remove* buttons, you select what you want. You can also change the default title for an item by selecting it in the right list box and entering the new title in the *Title* edit field.



The *Text* step of the process controls colors and fonts of the legend title, parameter titles and parameter values. It also controls the overall format and precision for parameter values.

**Text**

Legend Title

Font... Arial Color: White

Legend Title: LEGEND

Parameter Titles

Font... Arial Color: Black

Parameter Values

Font... Arial Color: Black

Format: DEFAULT Precision: 2

< Back Next > Cancel Help

The *Styles* step defines the layout of the legend including sublegends, border colors and thicknesses, background colors and title bitmap.

**Styles**

Main Legend Style

Border Color: Black Border Thickness: 4 point

Background Color: Silver

Title SubLegend  Symbol SubLegend  Title Bitmap

Title SubLegend Style

Border Color: Black Border Thickness: 4 point

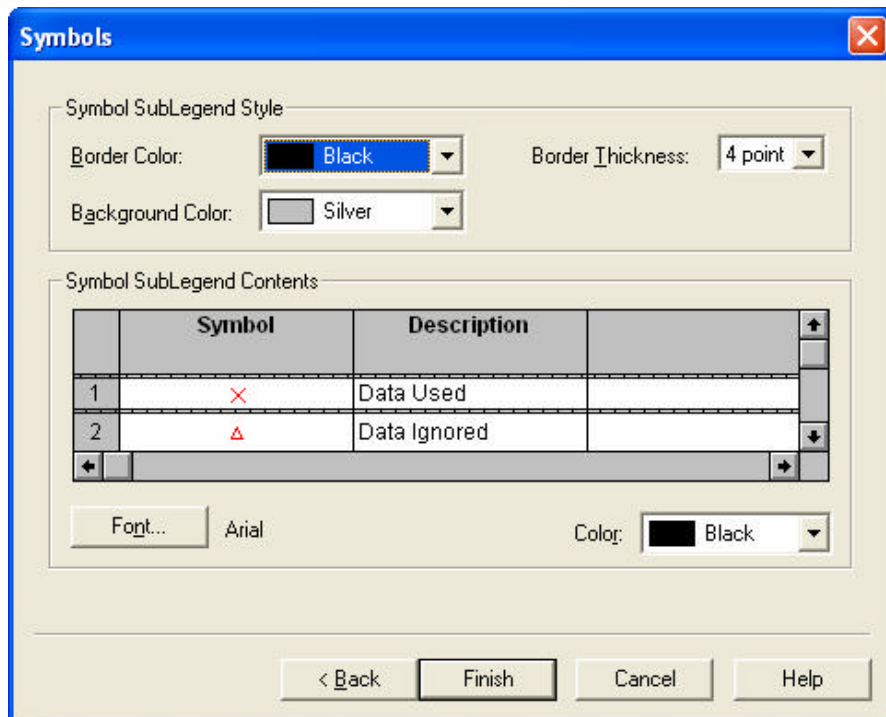
Background Color: Gray

Title Bitmap

File Name: E:\aquifer3\aqicon.bmp Browse...

< Back Next > Cancel Help

The *Symbols* step is only displayed when the *Symbol Sublegend* checkbox has been checked in the previous step. You can control the contents of the symbol sublegend.



## Editing Legends On Screen

If you have created a legend using the legend wizard and have selected the *Automatically adjust and locate legend* option any changes made on screen will be automatically undone when the screen refreshes. The on screen editing features are for older legends, those created as empty legends using the wizard or those that have selected the *Don't use this wizard for future editing* option.

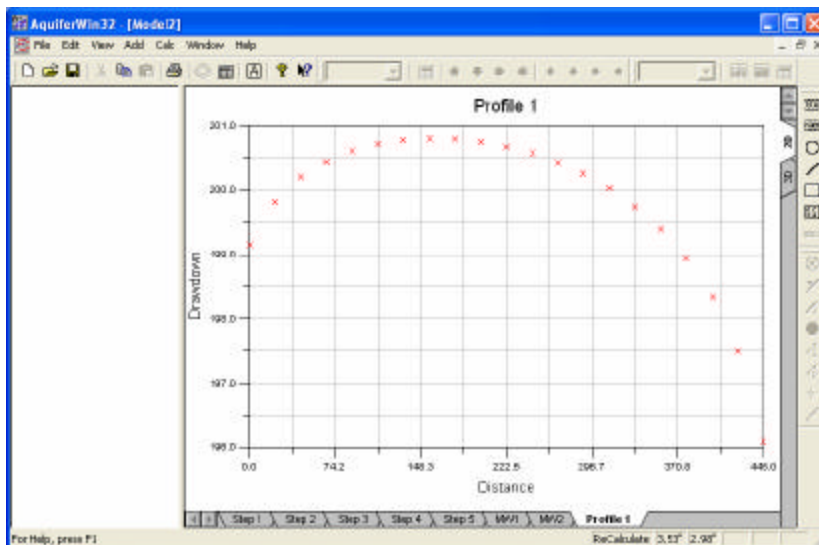
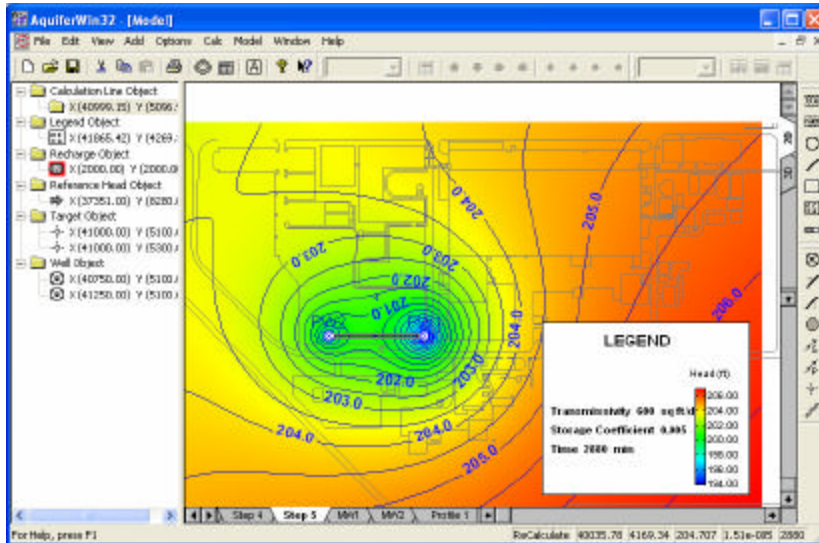
On screen manipulation now drills into legends no matter how deeply they are nested to allow the typical on screen manipulations to be performed. In addition, a context menu has been created for legends that allows for Cut/Copy/Paste/Select All/Delete/Add/Add to Legend operations within the legend.

Of particular note is the *Add to Legend* menu. When items have been selected in the main view, they can be added to the legend using this menu. In most cases, you will want to drag the object into the legend and position it before using this option. You can, however, attach items to the legend that are not located inside the legend. When the legend is moved, they maintain their relative position to the legend.

## Line Calculations and Distance/Drawdown Graphs

A line calculation is simply a line dragged onto the map view in a Simulation or *Flow Model* document along which head/drawdown calculations will be made and a graph generated. If one of the end points of the line corresponds with a pumping well, a drawdown versus distance graph can be generated.

Line calculation elements appear on the map with similar characteristics to a line and, when the *View->Well Data* menu is checked, a view tab is added for the graph of drawdown versus distance.



The specific options available for Line Calculations are as follows:

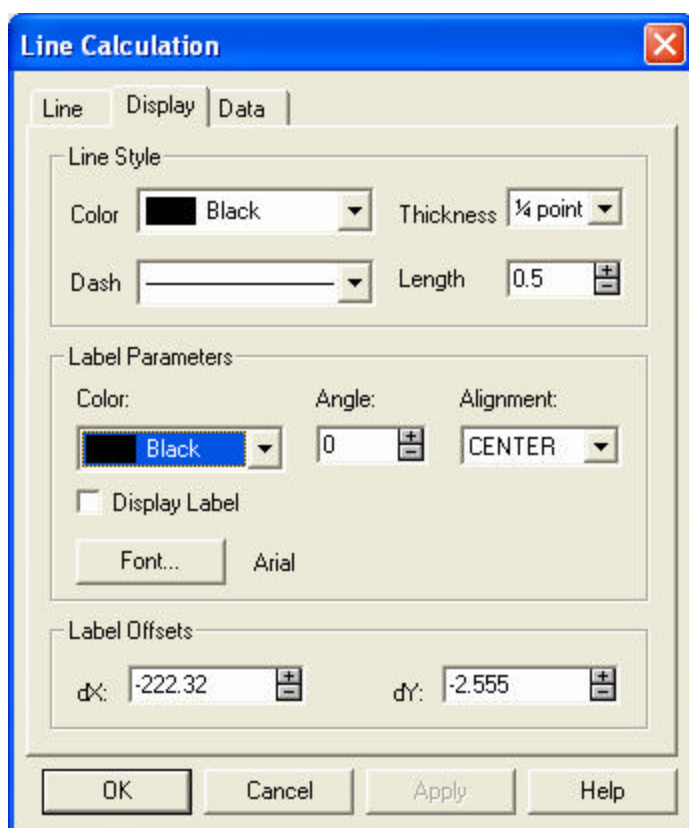
Line Calculation Designator: Each line calculation must have a unique name so that it can be identified on view tabs.

### **Spatial Parameters**

- Start X: The x coordinate of the starting point for the line calculation in map coordinates. Distances are calculated relative to this point.
- Start Y: The y coordinate of the starting point for the line calculation in map coordinates. Distances are calculated relative to this point.
- End X: The x coordinate of the ending point for the line calculation in map coordinates.
- End Y: The y coordinate of the ending point for the line calculation in map coordinates.

### **Data Spacing Parameters**

Equal Divisions	Data points will be calculated at equal intervals between the start and end points of the line calculation.
Number:	The number of equal intervals to calculate between the start and end points of the line calculations.
Linear	Data points will be calculated at specified intervals starting at the start point of the line calculation.
Spacing:	The spacing, in map units, between adjacent points in the line calculation.
Log	Data points will be calculated at logarithmic intervals starting at the start point of the line calculation.
Samples Per Decade:	The number of logarithmic intervals between adjacent powers of 10 in the line calculation.
Custom	Distances, in map units, entered into the spreadsheet on the <i>Data</i> tab will be used for the calculations.

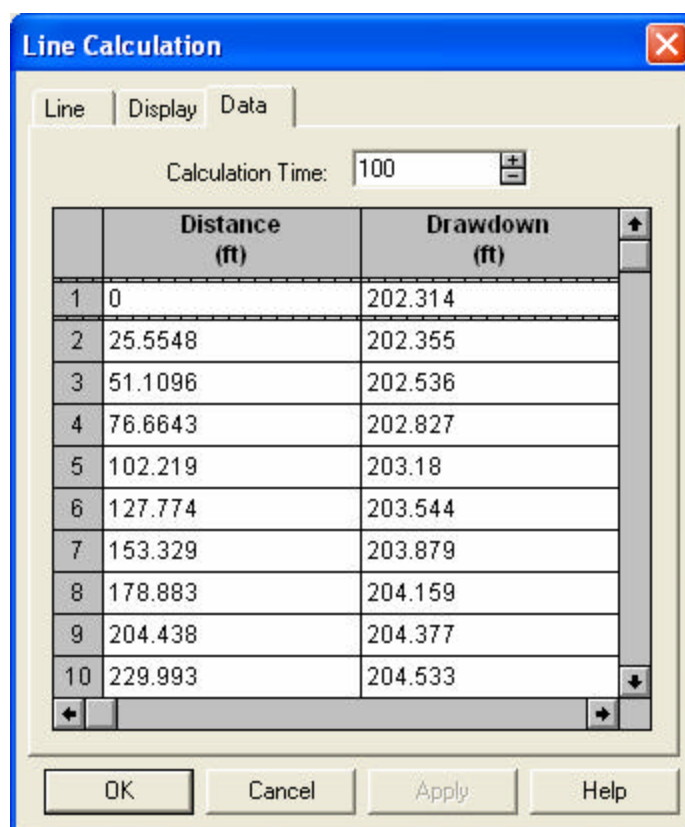


### Line Style

- Color: Sets the color of the line connecting the data points
- Thickness: Sets the thickness in points of the line connecting the data points
- Dash: Sets the dash pattern to use for the line connecting the data points
- Length: Sets the length in inches of the dash pattern for the line connecting the data points

### Label Parameters

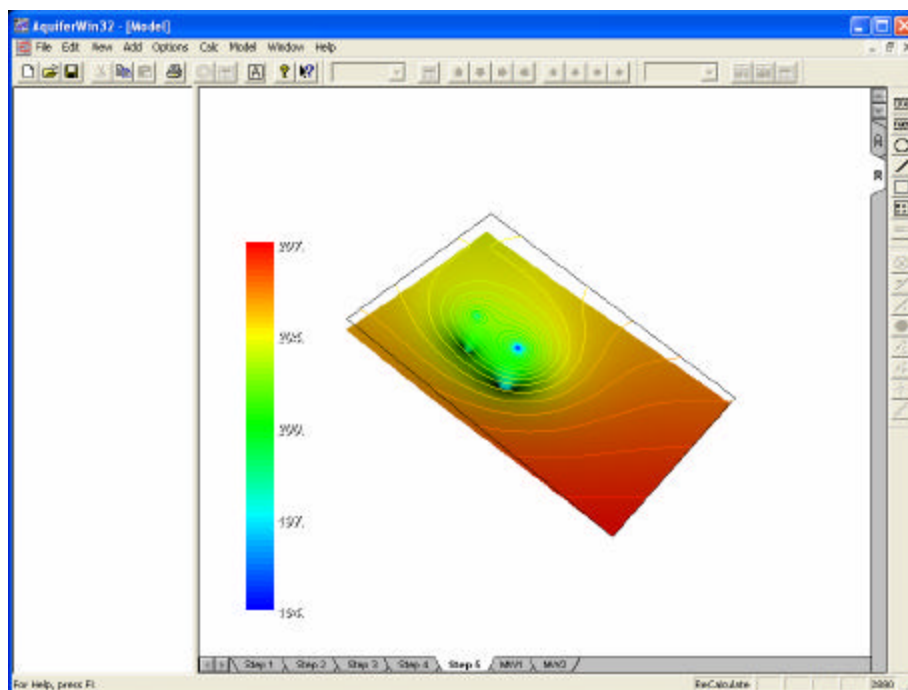
Color	The color to use when displaying the line calculation label
Angle	The angle to rotate the text when displaying the line calculation label
Alignment	The alignment of the label relative to the label location
Display Label	If checked, the line calculation designator is used to label the well
Font	Defines the font, font style, size and effects for the label
Label Offsets	
dX:	The distance, in map units, to offset the label in x from the x-coordinate of the line calculation center point.
dY:	The distance, in map units, to offset the label in y from the y-coordinate of line calculation center point.



Calculation Time:	The time at which to calculate head/drawdown versus distance data.
Spreadsheet	The data in the spreadsheet reflect the calculated data points. If <i>Custom</i> has been selected on the <i>Line</i> tab, you can edit the number lines and the values of the distances at which to calculate; if <i>Custom</i> was not selected, any changes made will be ignored.

### 3D Perspective

The 3D vertical tab contains the 3D perspective view of the hydraulic head or drawdown values. Contour lines can be optionally displayed as well. All the normal annotations can be added; however, the annotations are fixed in position in the view and are not moved/rotated when the 3D perspective is manipulated.



### View Manipulation

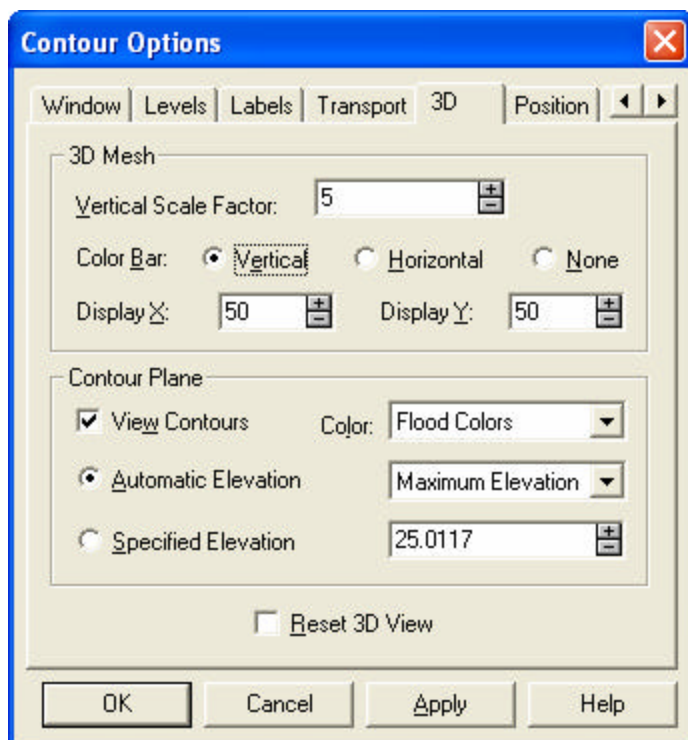
Selecting the *3D Manipulation* menu from the edit field context menu allows the manipulation of the 3D view using the mouse and keyboard. Clicking and/or holding the left mouse button in the view causes the display to rotate in the direction toward the cursor location. Holding the *Shift* button while clicking and/or holding the left mouse button causes the display to move in the direction toward the cursor location.

Clicking and/or holding the right mouse button causes the display to zoom in and zoom out. If the cursor is in the upper half of the view, it will zoom out. If the cursor is in the lower half of the view, it will zoom in. The amount of the zoom is controlled by how far the cursor is from the vertical center of the view.

The *Reset 3D* menu is used to recenter the 3D perspective view. This is sometimes required when changes have been made via the Contour Options property sheet or on screen editing.

### Contour Options

Four tabs on the *Contour Options* property sheet apply to the 3D view and are described below. The color flood parameters apply to both the contour view and the 3D view.

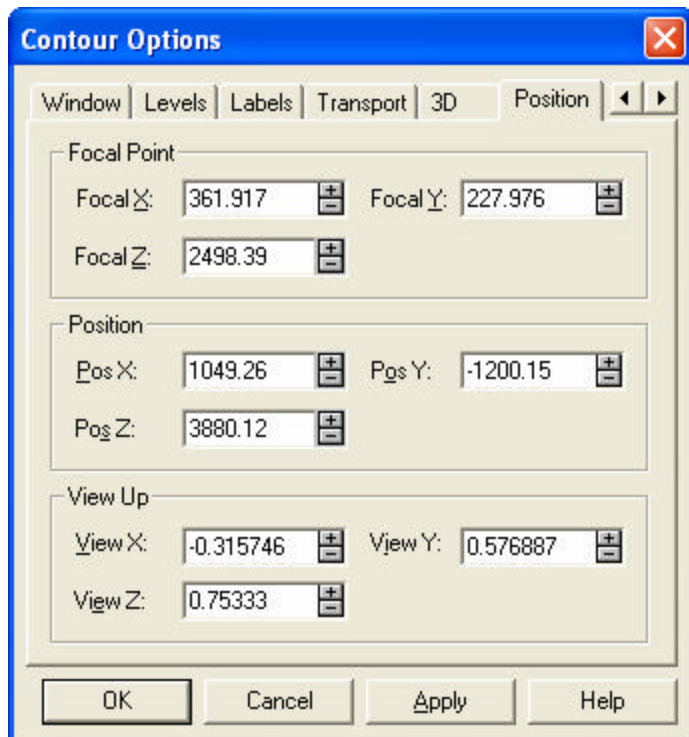


### 3D Mesh

- Vertical Scale Factor: A multiplier applied to head/drawdown to increase the vertical scale relative to the horizontal scale
- Color Bar: Controls the presence and location of the default scale bar
- Display X: The x-coordinate of the lower left corner (vertical) or upper right corner (horizontal) of the scale bar
- Display Y: The y-coordinate of the lower left corner (vertical) or upper right corner (horizontal) of the scale bar

### Contour Plane

- View Contours: When checked, a contour map is displayed in the 3D perspective view
- Color: Controls the color of the contours which can be either Black or Flood Colors
- Automatic Elevation: Controls the elevation on the vertical axis which corresponds to the contour plane; when checked the contour map will automatically be relocated as the contour data changes
- Specified Elevation: Controls the elevation on the vertical axis which corresponds to the contour plane; when checked, the value entered in the adjacent edit field will be used to locate the contour plane
- Reset 3D View: At times, the perspective drawing can leave the field of view. Checking this option will relocate it into view



**Cost: Professional Version \$550**  
**Modeling Version \$750**

**Upgrade from Version 2: \$250**  
**Upgrade from Version 2: \$250**

**Winflow/Wintran \$450**

**Upgrade from Winflow V2: \$250**

**Note: We are discontinuing the standard and slug test versions and have reduced the price of the Professional and Modeling Versions. If you currently own the standard or slug test versions for Version 2, you will still only pay \$250 to upgrade to the Professional Version 3.**