Section

8

8 Format Editor

The Format Editor allows the creation and editing of the log presentation or format files. The output of the format editor are files of the type *.prs which are subsequently used to control all aspects of the log format. The Format Editor may be started in three different ways: From its icon in the Warrior group box, when started from the Warrior program group the Format Editor window appears as shown below, i.e. with no presentation available for edit

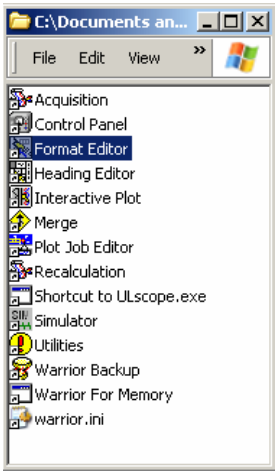

FIG: 8.1 Select Format Editor

The Format Editor may be started from its icon in Warrior shortcut folder, from the **Edit** menu of the Acquisition or Recalculation modules, from the **File** menu of the Presentation Plot module, or from the **Action** menu of Interactive Plot. In addition, double-clicking in the scales area of the Interactive Plot window will also start the Format Editor.
When started from Warrior shortcut folder or from Presentation Plot, the Format Editor window appears as shown below, i.e. with no presentation available for edit. If started from the Acquisition, Recalculation or Interactive Plot modules, the log format currently being used will be presented.
Displays a file selection window showing all the presentation files, currently available, within the system. The operator can select the presentation file to be edited. Note that all presentation files are to be found in the \warrior\format directory and have a prs extension.

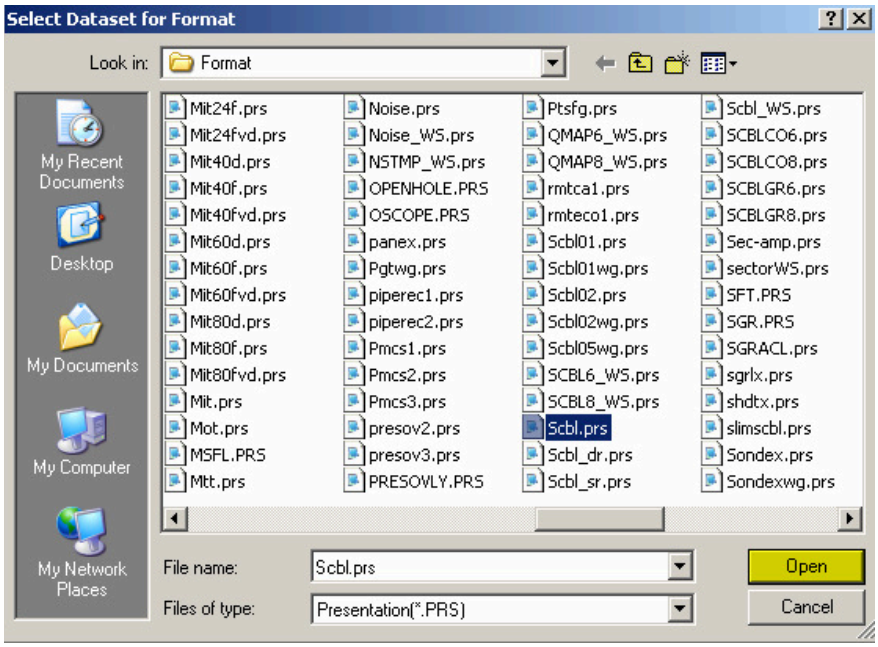

FIG: 8.2 Select Format

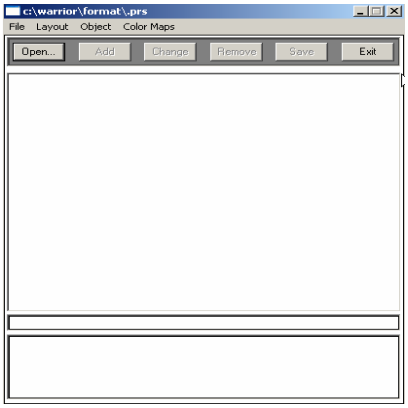

FIG: 8.3 Open Format

From the Acquisition or Recalculation modules select Edit menu (Master Log Format) the log format currently being used will be presented

FIG: 8.4 Select Master Log Format

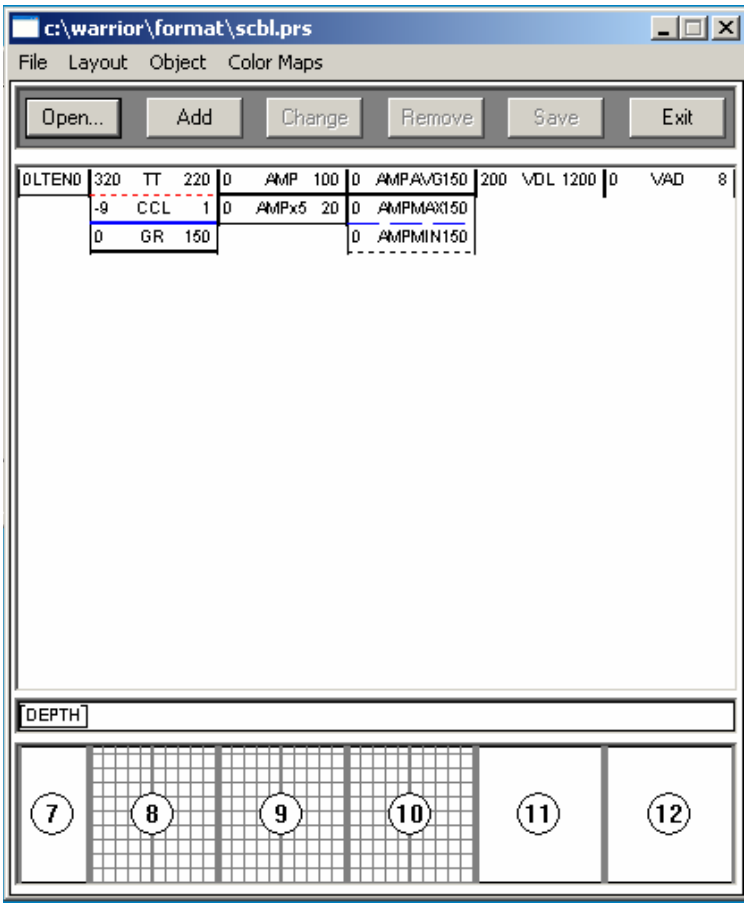

FIG: 8.5 Edit Format

From interactive plot select Action\Screen Plot menu. In addition double-clicking in the scales area of the interactive plot window will also start the Format Editor.

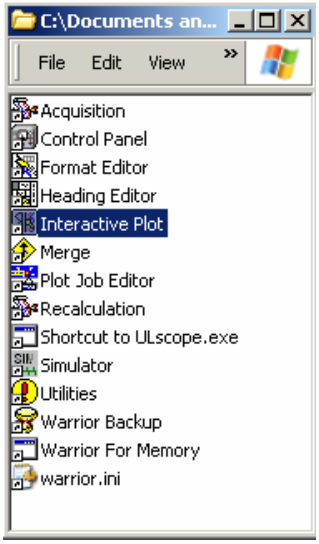

FIG: 8.6 Interactive Plot

FIG: 8.7 Select Action/Screen Plot

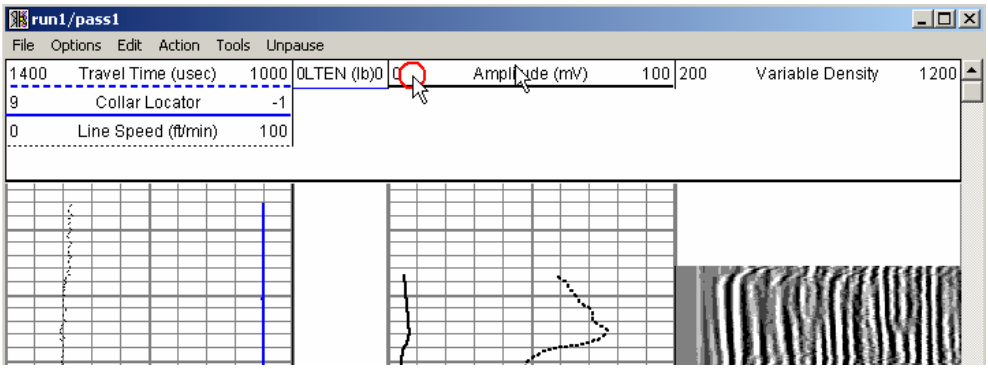

FIG: 8.8 Double Click over the header

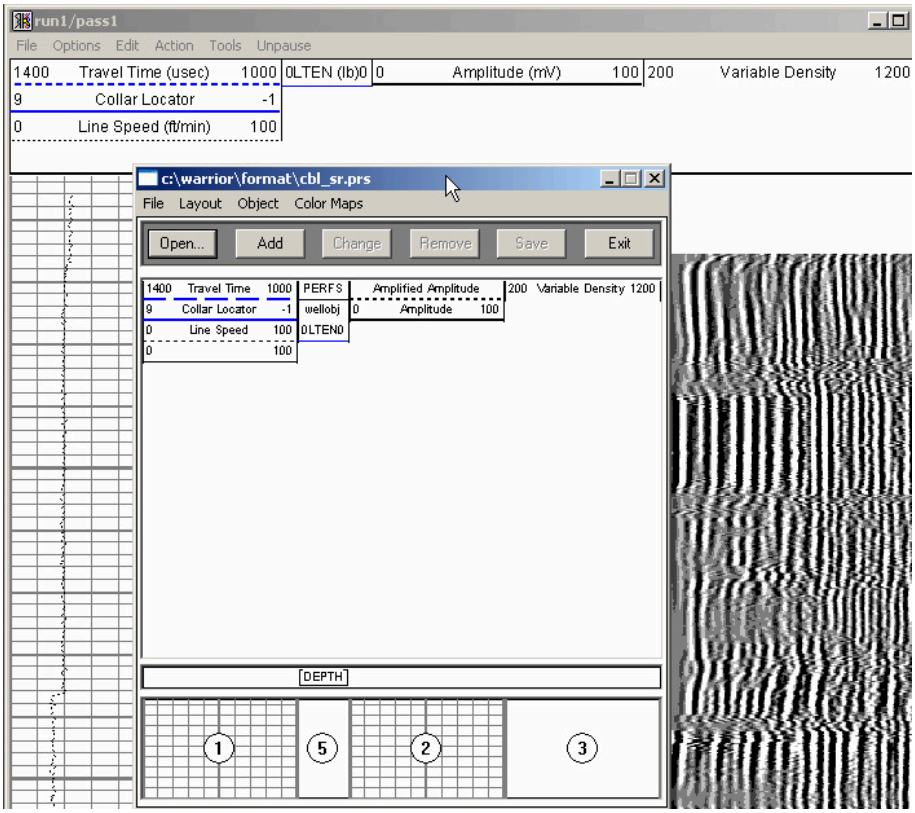

FIG: 8.9 Edit Presentation

8.1 File

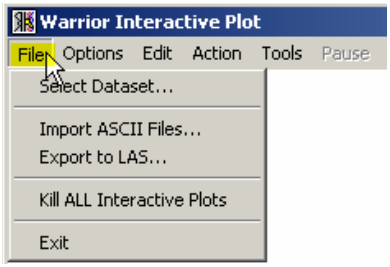

FIG: 8.10 File option

8.1.1 Select Dataset

Select Dataset from Database for specifically Log pass

8.1.2 Import ASCII Files

See Section 12.3.1 Read ASCII data into Warrior

8.1.3 Export to LAS

See section 12.1.1 Export to LAS Format.

8.2 Options

Allows selection of various presentation options as shown below.

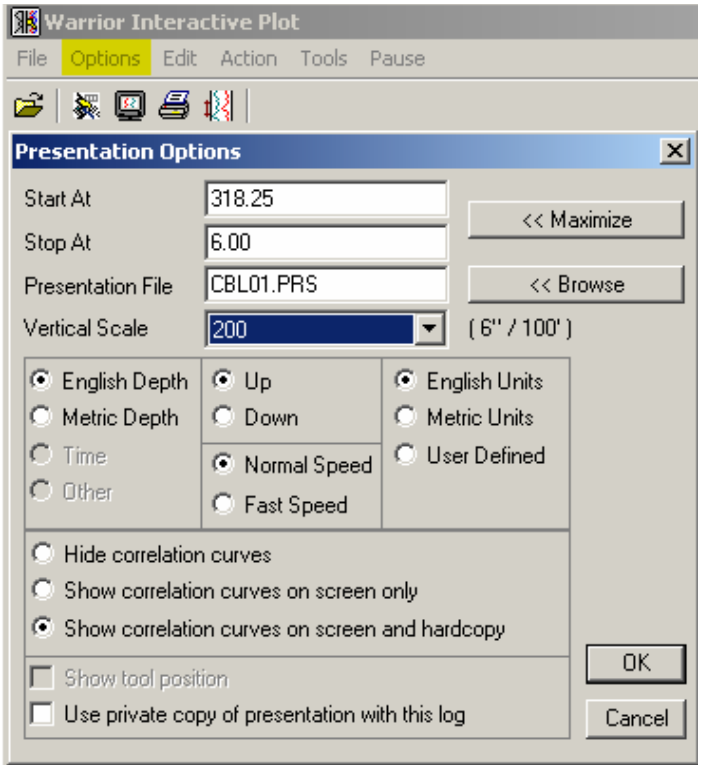

FIG: 8.11 Options

Start and Stop depths can be selected or the full range of the database can be selected using the **Maximize** button.
Alternative presentation files may be selected using the **Browse** button, which brings up a standard file selection box. Warrior log format information is contained in individual files with a prs extension. These files are created or edited using the Log Format Editor program.
Note that a selection can be made to **Use a private copy of presentation with this log**. This embeds the current presentation file in the database so that the database can be archived complete with its presentation or sent to other Warrior systems without having to remember to send the presentation file along with it. Also, if the presentation is embedded and it is subsequently edited from Interactive Plot, the edit will only take place on the embedded copy, not on the original file. **English** or **Metric** depth units may be selected, or **Time** can be used as a reference. The log may be plotted **Up** or **Down**. The log data units may be selected as **English** or **Metric**, or you may define a hybrid system. The **User Defined** units setup is done from with the **Control Panel**. Whenever a parameter in the Options window is changed, the current log screen plot(s) will be redrawn with the new option.

Warning! When an option is changed, ALL interactive plots are redrawn. This can be a heavy load on the computer if a large number of CBL-VDL plots are currently on the screen and with a slow machine it may look as though the system has halted.

Select the depth to Start/Stop to Plot the LOG

Select presentation from the Warrior\Format (directory).

Select Vertical Scale by default is 1:240 (5" = 100') or (1' = 240 ')

8.3 Edit

8.3.1 Log Format

Provides rapid access to the Log Format Editor. When the Format Editor is invoked from Interactive Plot, changing the log format and saving it causes the active screen plots to be replotted with the new format. Note that many screen plots may be overlaid on each other at any one time. If a large number a plots are present, a noticeable delay will occur while all are replotted.

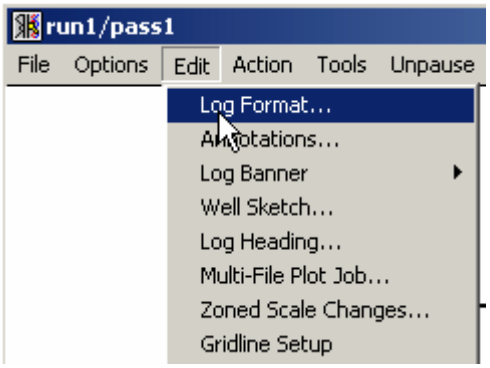

FIG: 8.12 Log Format

8.3.1.1 File

The Format Editor allows the creation and editing of the log presentation or format files. The outputs of the format editor are files of the type (*.prs), which are subsequently used to control all aspects of the log format.
The Format Editor may be started from its icon in Warrior shortcut folder, from the **Edit** menu of the Acquisition or Recalculation modules, from the **File** menu of the Presentation Plot module, or from

the **Action** menu of Interactive Plot. In addition, double-clicking in the scales area of the Interactive Plot window will also start the Format Editor.
When started from Warrior shortcut folder or from Presentation Plot, the Format Editor window appears as shown below, i.e. with no presentation available for edit. If started from the Acquisition, Recalculation or Interactive Plot modules, the log format currently being used will be presented.

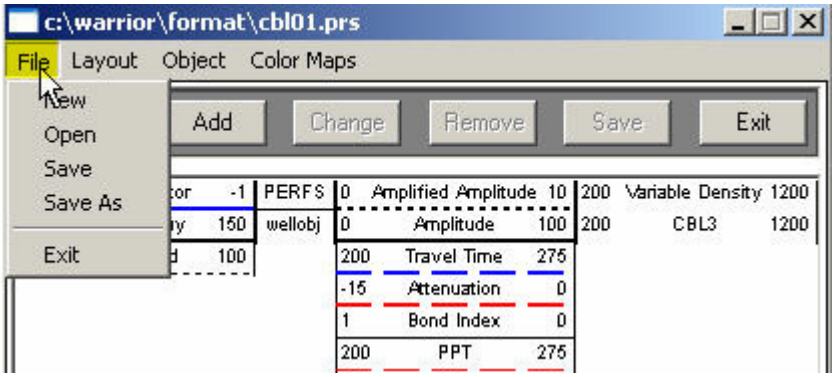

FIG: 8.13 File

8.3.1.1.1 New

If a log format is currently selected for editing, **New** clears the editor for a new log format.

8.3.1.1.2 Open

Displays a file selection window showing all the presentation files, currently available, within the system. The operator can select the presentation file to be edited. Note that all presentation files are to be found in the \warrior\format directory and have a (*.prs) extension.

8.3.2 Layout

Allows selection of the log grid layout from a selection, supported within the logging system.
The Warrior system is delivered with most standard layouts included. If you require a grid layout that is not available within layouts select **Edit Layout** to construct your own.

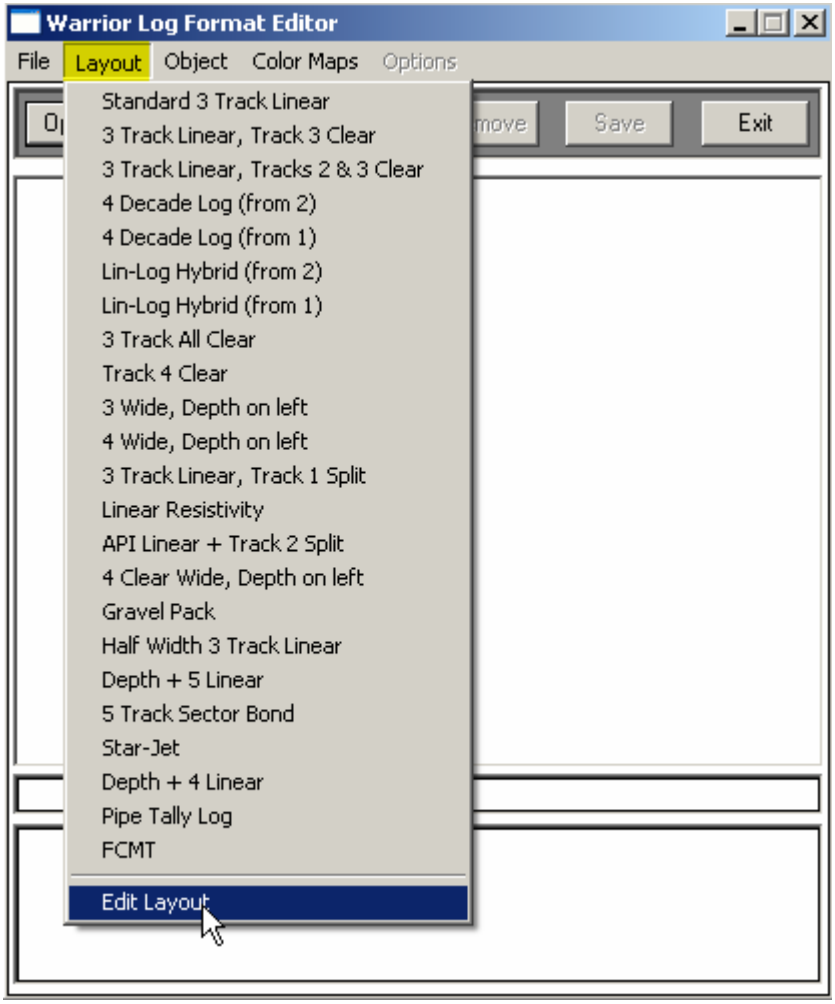

FIG: 8.14 Layout options

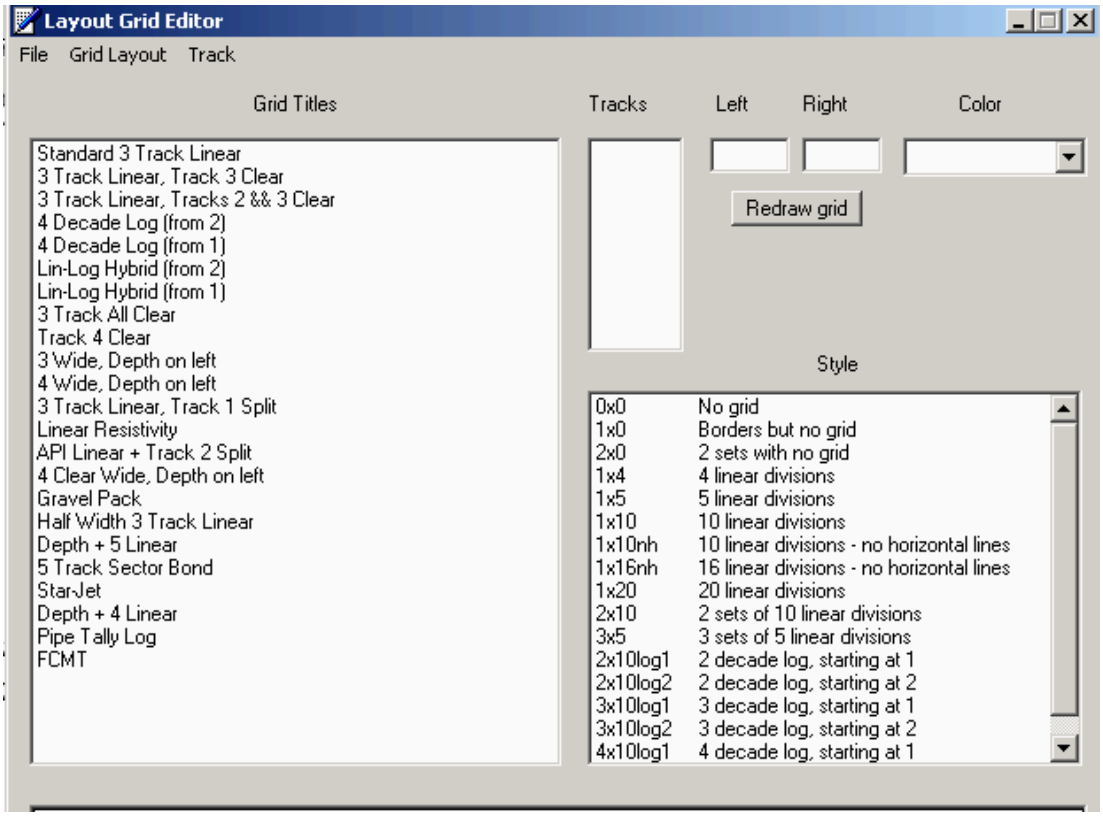

FIG: 8.15 Layout Editor

8.3.3.1 OPEN

Select Database for Format presentations.

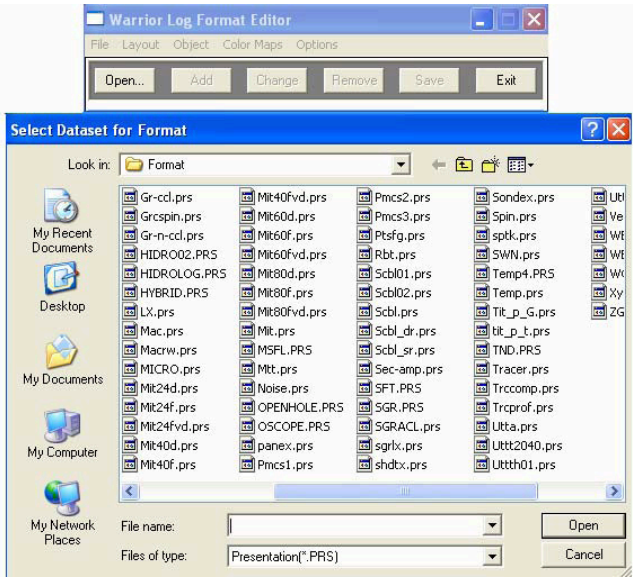

FIG: 8.16 Select Presentation

Select **Object** / **Add Data** or click the **Add** button.

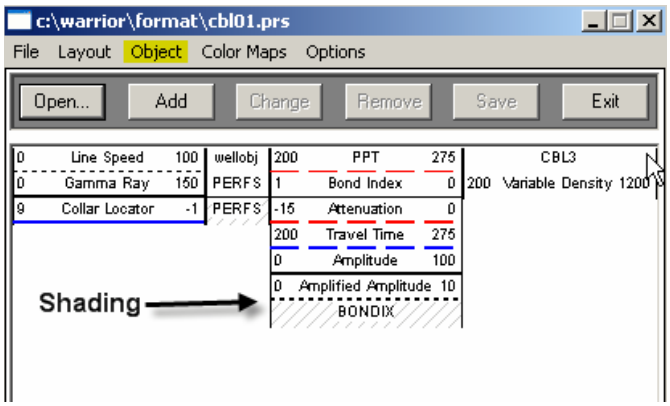

FIG: 8.17 Object

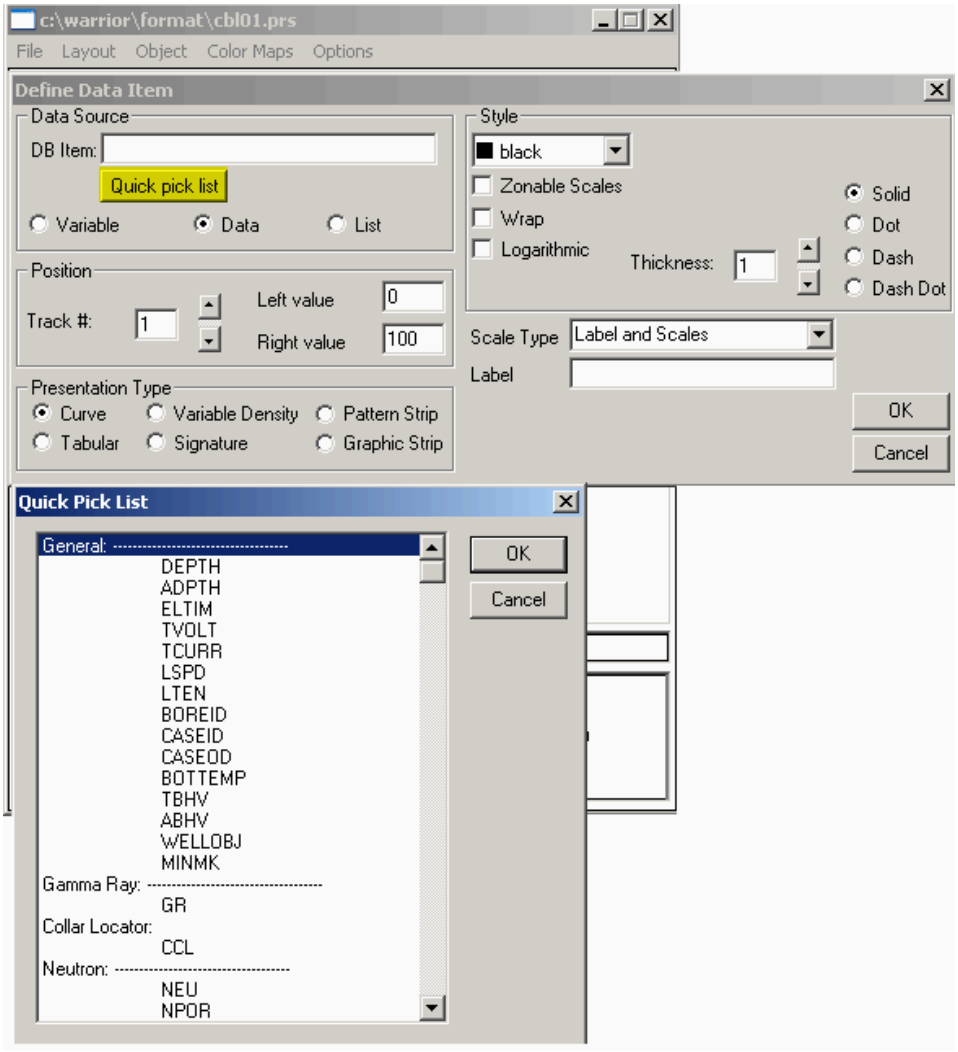

FIG: 8.18 Select Curve

8.3.3.2 Data source

Define the **Data Source**. Select the **DB Item** by using the **Quick Pick list** button or by typing the item name directly into the **DB Item** field.

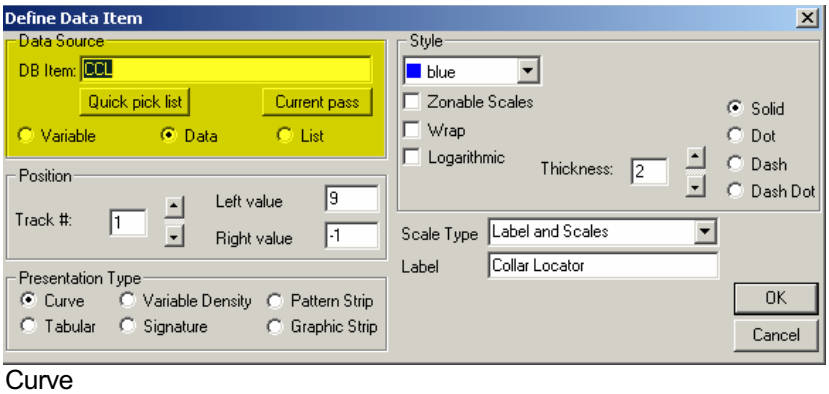

FIG: 8.19 Select Curve

Not all database item names are available from the **Browse** button. In a given service, use Monitor/Outputs to see all curves, or Edit/Variables to see all variables.
Define the data item as a **Variable** or a **Data** (curves, waveforms, etc.), using the radio buttons so marked.

8.3.3.3 Position

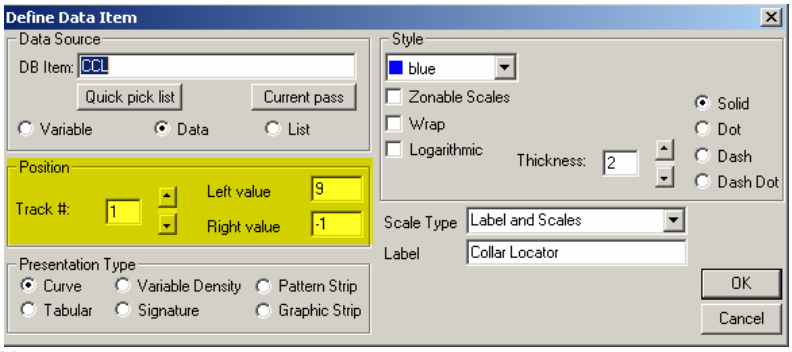

FIG: 8.20 Set Position

Define the track, where the curve is to be presented, by typing the track number directly into the **Track** # box or by using the arrow buttons. The track numbers are indicated in the power section of the main Format Editor window.
Define the **Left value** and **Right value** of the curve.

8.3.3.4 Presentation Type

Define the **Presentation Type**. Depending on the **Presentation Type** chosen, the right hand side of the Define Data Item window, or **Style** section, will present different options.

8.3.2.4.1 Curve

Define color (for color graphics devices only). If required, select **Wrap**. Causes infinite left and right backup curves to be presented.
Selecting wrap causes backup traces to be generated, however the backup scales are not labeled, nor is there any control over the trace thickness or coding. Adding another curve with the same output name, but with different scales, etc., allows complete control of the attributes of the backup curve(s).

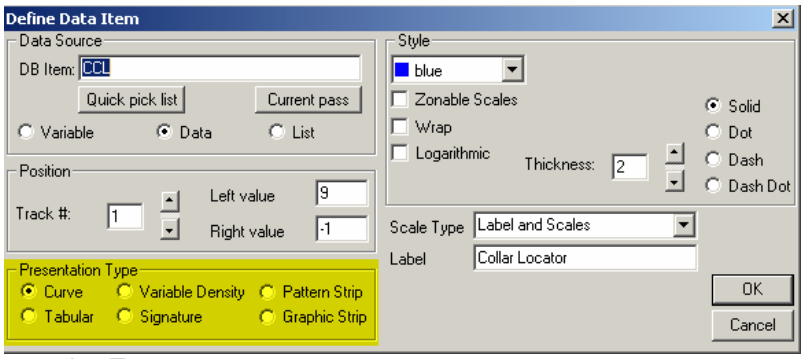

FIG: 8.21 Set Presentation Type

If required, select **Label**. Allows the standard database mnemonic in the log scales header to be replaced by a text string. For example, GR may be replaced by Gamma Ray. Enter the text string in the **Label** field.
If the curve is to be presented on a logarithmic scale, select **Logarithmic**.
Select the required curve thickness and curve coding.
Click the **OK** button.

8.3.2.4.2 Tabular

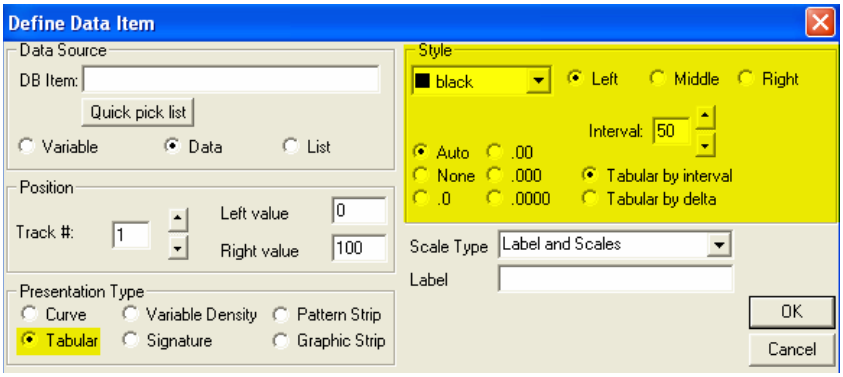

FIG: 8.22 Tabular Style

Define the position of the tabular number with the track, previously selected, as **Left**, **Right** or **Middle**. Define the required decimal point display.
Define the depth interval at which the tabular number is to be printed, i.e. every xx ft.
Note that the numerical depth, displayed in the depth column, is a tabular depth curve, and its presentation may therefore be modified in the same manner as any other curve.
Enter the required label for the log scales header in the **Label** field.
Click the **OK** button.

8.3.2.4.3 Variable Density

In the **Style** section, set the **VDL Black Level** and the **VDL White Level** parameters. These parameters set the level at which the (acoustic) waveform will appear as black or white on the log output. The normal range of the digitizer is plus and minus 5 volts. Therefore, with the levels set at 25% as shown below, any signal above 1.25 volts will appear black, and any below minus 1.25 volts will appear as white. The number of levels of gray, defined by the color map, is set evenly between these two limits.

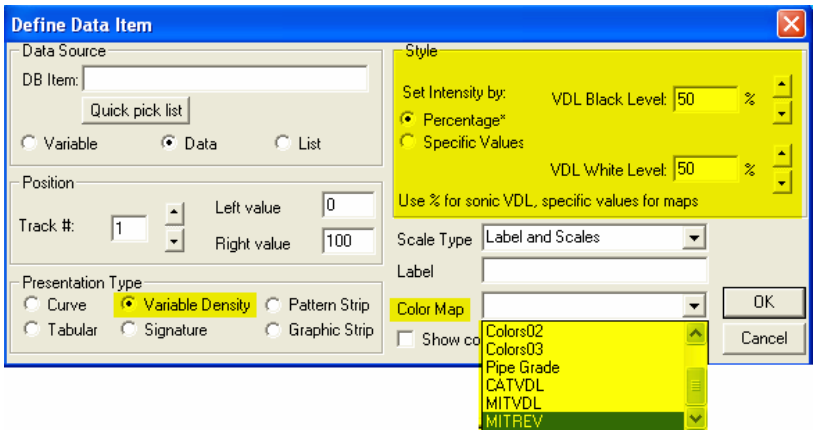

FIG: 8.23 VDL Style

Enter the required label for the log scales header in the **Label as** field.
Enter the name of the required Color Map in the **Color Map** field. The color map controls the number and appearance of gray shadings or colors used in the VDL presentation. Various color maps may be defined the in the Warrior.ini configuration file.
Click the **OK** button.

8.3.2.4.4 Signature

In the **Style** section, set the **Signature Height** and **Interval** parameters. The Signature Height sets the vertical (or y-axis) size of the waveform in inches of paper. As mentioned previously, the range of the digitizer is 10 volts peak to peak; therefore the Signature Height parameter normally corresponds to this range of raw waveform signal. The Interval parameter defines how often the waveform is printed on the output in feet or meters

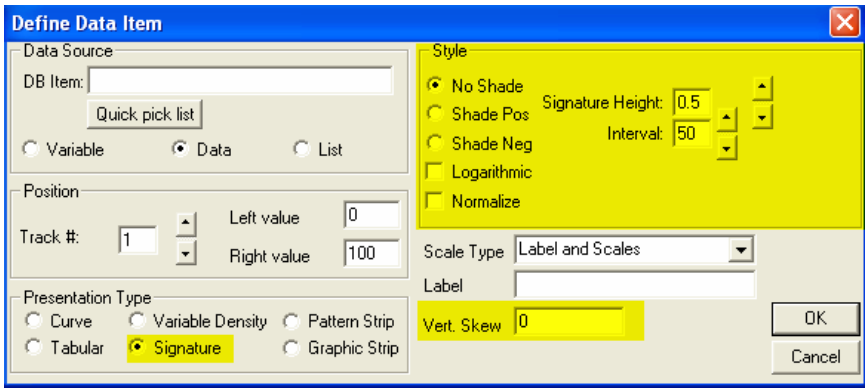

FIG: 8.24 Signature Style

In the **Style** section, set the **Signature Height** and **Interval** parameters. The Signature Height sets the vertical (or y-axis) size of the waveform in inches of paper. As mentioned previously, the range of the digitizer is 10 volts peak to peak; therefore the Signature Height parameter normally corresponds to this range of raw waveform signal. The Interval parameter defines how often the waveform is printed on the output in feet or meters.
Choose:
No Shade or Shade Pos. or Shade Neg.
Select Normalize and/or Logarithmic, if required. Normalize amplifies the maximum peak to peak reading of each waveform to the maximum set by the Signature Height parameter. Logarithmic displays the waveform on a logarithmic vertical scale.
Enter the required label for the log scales header in the Label field.
Click the **OK** button.

8.3.2.4.5 Pattern Strip

Pattern Strip is a curve presentation, similar in appearance to a VDL, except that it has only one value at a given depth. For example, a Gamma Ray curve might be represented as a narrow track, where high values of gamma ray were shown as black and low values as white, with intermediate values shown as varying shades of gray.

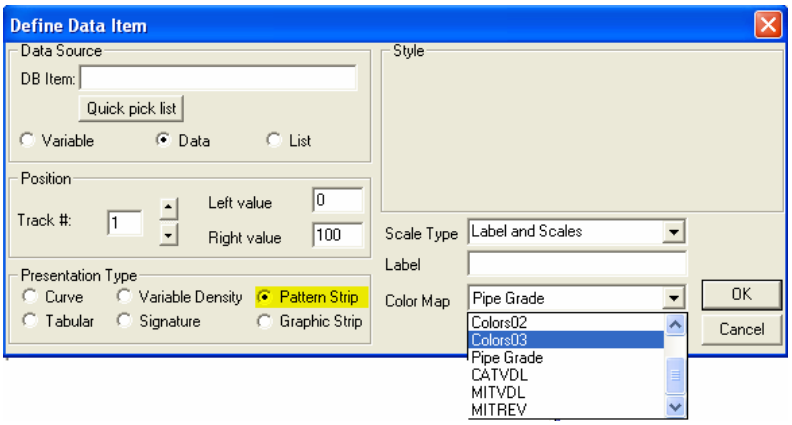

FIG: 8.25 Pattern Strip

Select **Label** in **Scale Type** if a user defined **Label** is to be used.
Enter the desired curve label in the **Label** field.
Define the **Color Map** in the same way as a VDL presentation.
Click the **OK** button.

8.3.3.5 Add Shading

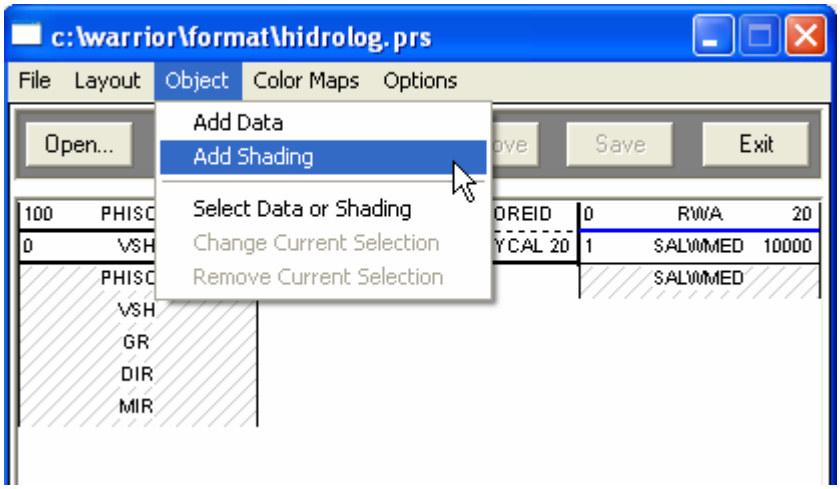

FIG: 8.26 Add Shading

Click on **Object/Add Shading**. A dialog box appears as shown below.
In the **Left Boundary** section, enter the name of the curve, with which the shading is associated.
If it is desired for the left boundary of the shading to follow the curve, select **Follow Curve**. If it is desired for the left boundary of the shading to follow a constant value, select **Constant** and enter value of the constant in the units of the associated curve. In the **Right Boundary** section, repeat the steps above. Select the required shading pattern by clicking on the pattern itself, and select the color

by choosing from the list in **Foreground**. If you wish the grid to show through the shading, click on **See Through**.

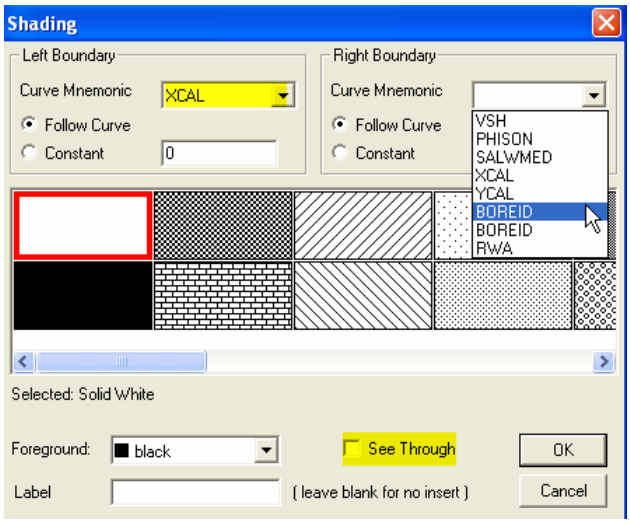

FIG: 8.27 Shading

Warning!

To see more patterns, left-click and hold the mouse on a pattern, then move the mouse to the right or left. The patterns will then scroll, showing more of them. Click the **OK** button.

8.3.3.5.1 Change & Remove Shading

Click on **Object/Select Data** or **Shading**. A list of the objects is presented.

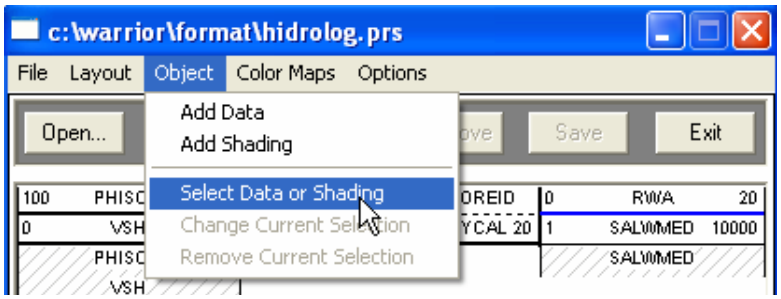

FIG: 8.28 Select Data or Shading

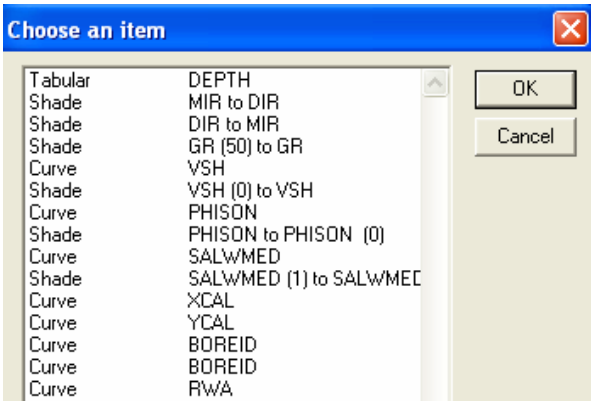

FIG: 8.29 Chose an Item

Double-click on the object to be changed, the window disappears, and then click on the Change button. The shading setup window appears as before, allowing changes to be made.
A shading object may be similarly removed by clicking the Remove button, once the object has been selected.

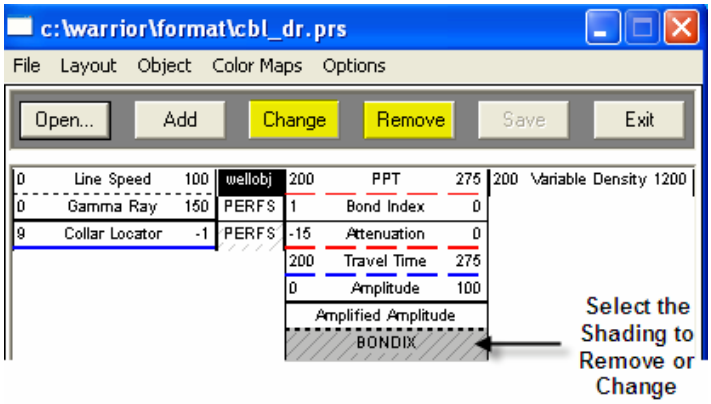

FIG: 8.30 Remove & Change Shading

Currently, there is no possibility to identify which curve is selected when a curve is presented more than once (e.g. multiple curves with different scales). In a CBL, for example, if AMP3 is resented twice on the log, then AMP3 will appear twice in the list of plot objects. The only way of distinguishing them is by trial and error, or that, when curves are added by the format editor, they appear at the bottom of the object list. So if AMP3 (scale 0 to 100) was added first, it will appear above AMP3 (scale 0 to 10) in the object list. Of course, when looking at an existing log format, this method cannot be used to distinguish them.

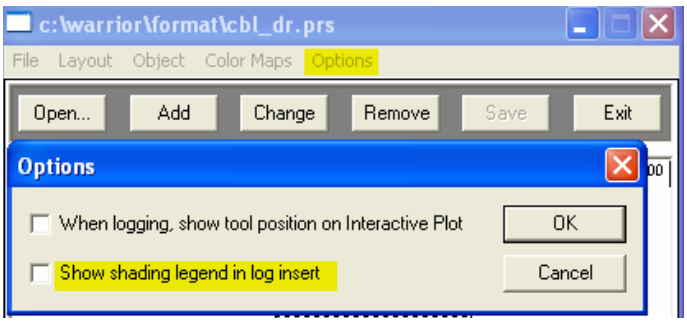

FIG: 8.31 Show Shading

Show the shading in the header ON/OFF

8.3.3.6 Enable Curves For Zone Scaling

Occasionally it is required to alter the plotted scales of a curve in different zones. This can be achieved by selecting the **Zonable Scales** checkbox when defining a data item.
Select the curve that requires zone scales by highlighting it in the format editor and clicking the **Change** button.
Select the **Zonable Scales** option and the **ZSC Name** textbox appears in the bottom right hand corner. The default variable name can be overridden by entering a name in the ZSC Name box; in this case "GAMM" has been entered as an example.
Selecting the **Zonable Scales** option creates two new special types of variables in the dataset, in this case L_GAMM and R_GAMM. These can be zoned during Interactive Plot by selecting the **Zoned Scale Changes** option in the **Edit** menu:
Add a new Zone by clicking the **Zones** button and enter the depth at the change.

Multiple curves from the same DB item can have separate ZSC controls, e.g. when a main GR and a backup GR curve is available. Leave the **ZSC Name** blank for the main curve, but enter GRBU for the backup curve. This will still show two curves plotting from the DB item GR, but the ZSC editor will present L_GR, R_GR, L_GRBU and R_GRBU controls.
Note: a curve may be turned off over an interval by selecting its right and left scales to be equal over the desired zone.

VIDEO: 8.1 Master Log Format

8.3.3.7 Minute Marks

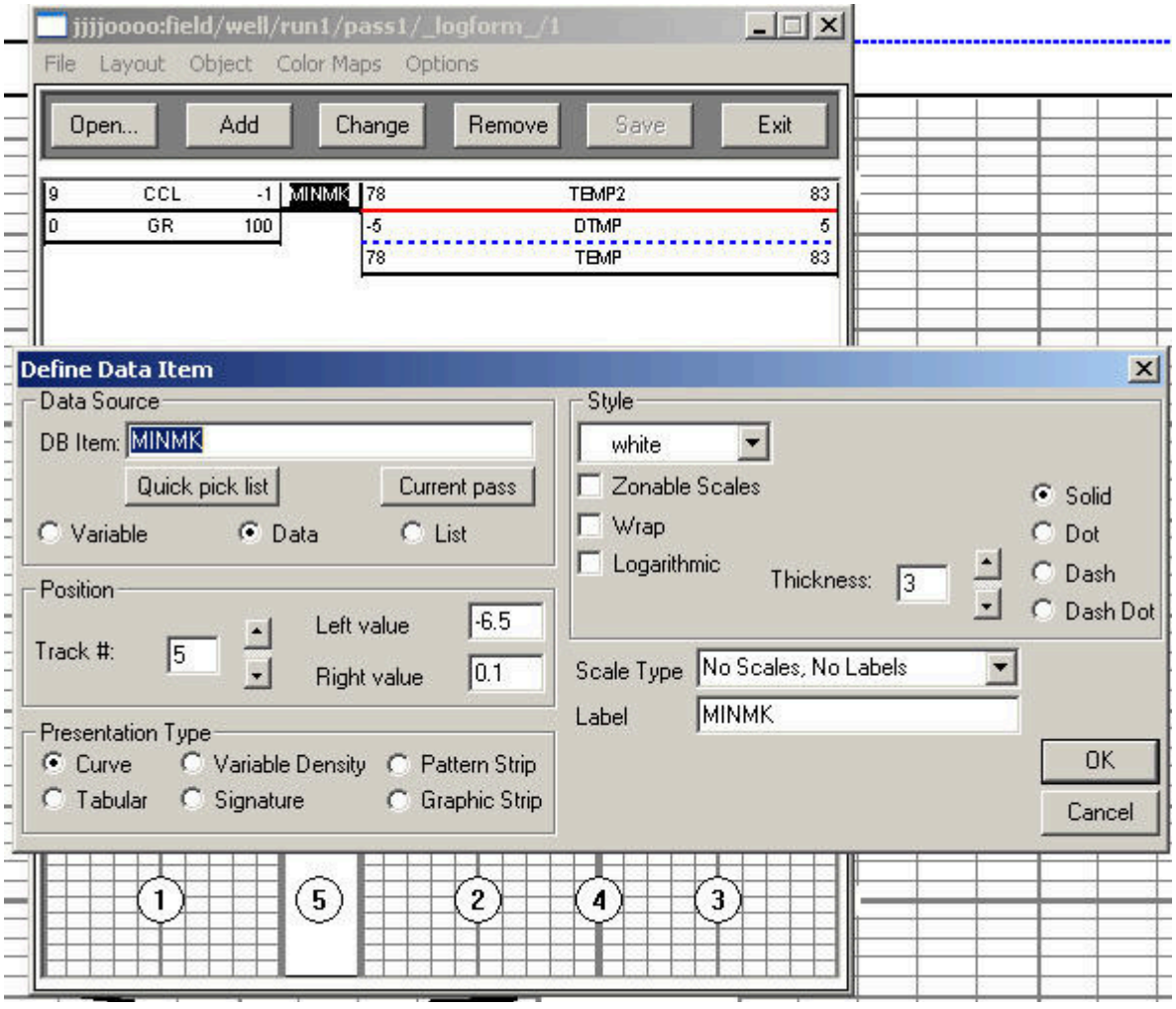

FIG: 8.32 Setup MINMK

Add MINMK curve and set the presentation.

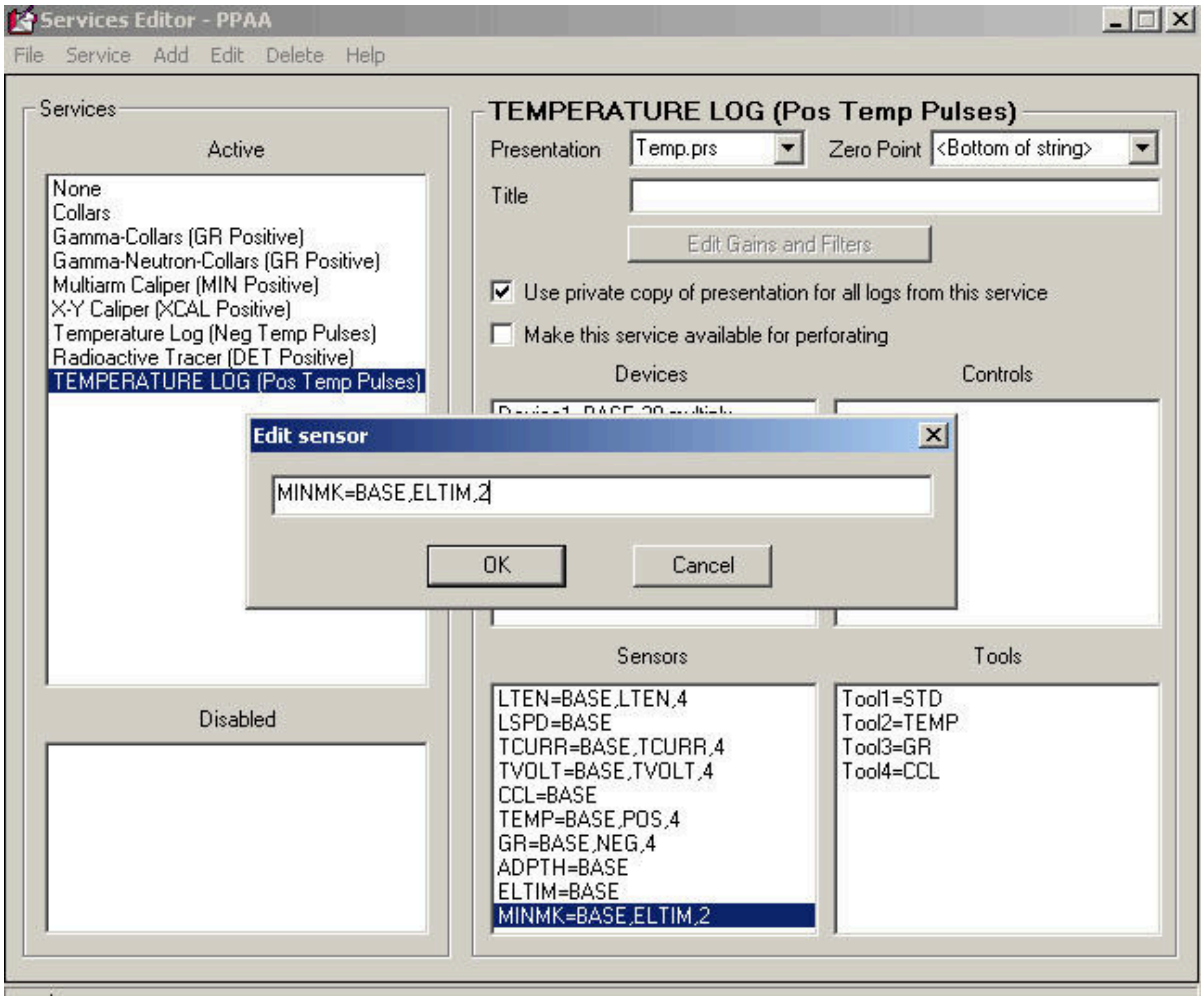

FIG: 8.33 Edit MINMK

In Utilities select Edit services Details and Edit Sensor

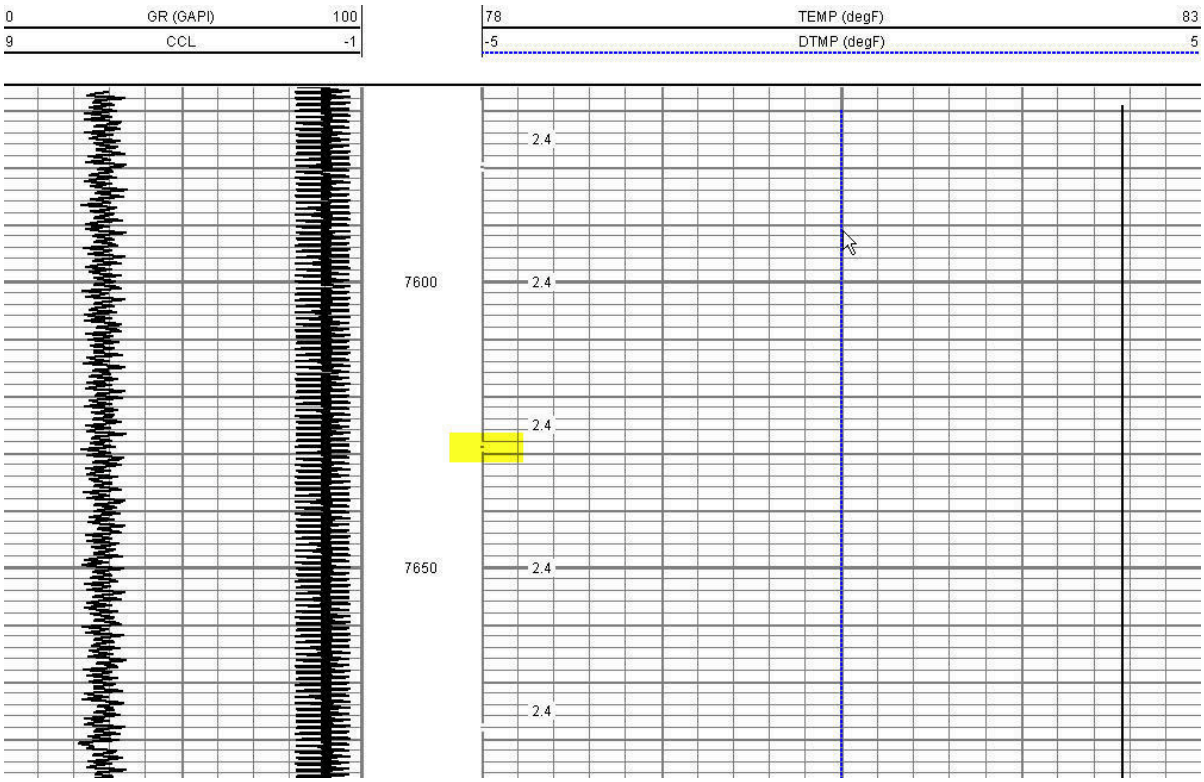

FIG: 8.34 Plot MINMK

8.3.4 Color Maps

In Warrior, there is a section labeled [Color Maps]. Color maps that are to be selected from the format editor are sequentially numbered under this heading.

Under each plotting device (including the SCREEN) the colors or shading for that device will need to be defined or that map will not print for that device.

For monochrome maps, the shading for a device is defined by the number of shades N, followed by N numbers with ranges from 0 to 255. 0 will be all black and 255 will be white. Grayscales=5, 0, 64,128,192,255

For color maps, the shading for a device is defined by the number of colors N, followed by N groups of three numbers. Each group of three numbers {R,G,B} are intensities of red, green, and blue. These numbers also must be in the range of 0 to 255.

Colors01=5,{0,0,255},{1,228,254},{2,253,97},{115,253,2},(255,255,0}.

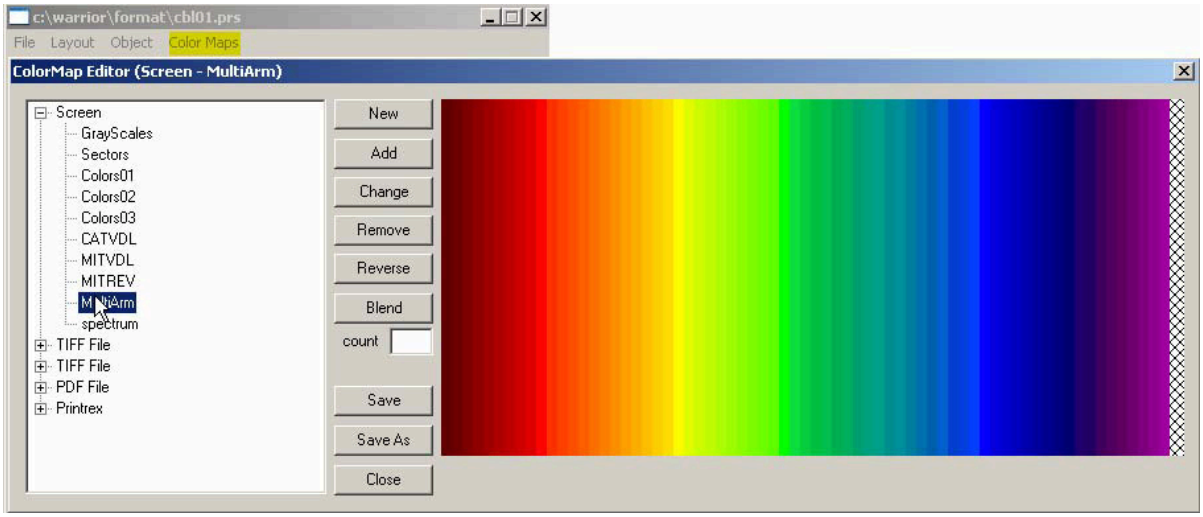

FIG: 8.35 Color Map

VIDEO: 8.2 Color Maps

8.4Action

8.4.1 Screen Plot

See section 9

8.4.2 Hardcopy

See section 9

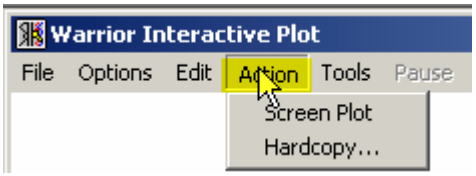

FIG: 8.36 Action

8.5 Tools

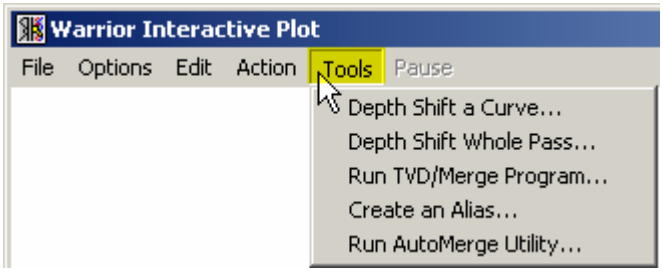

FIG: 8.37 Tools

8.5.1 Depth Shift a Curve

See section 12.4.2

8.5.2 Depth Shift Whole Pass

See section 12.4.1

8.5.3 Run TVD/Merge Program

See section 11.3

8.5.4 Create an Alias

See section 12.5.1

8.5.5 Run Auto Merge Utility

See section 12.5.2

8.6 Pause/ Unpause

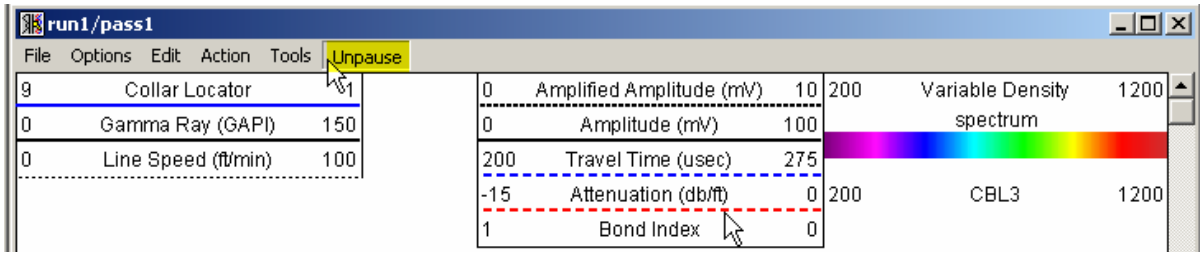

FIG: 8.38 Pause/Unpause

8.7 Annotations

Allow you to place annotations, curve labels and graphical objects on the log.

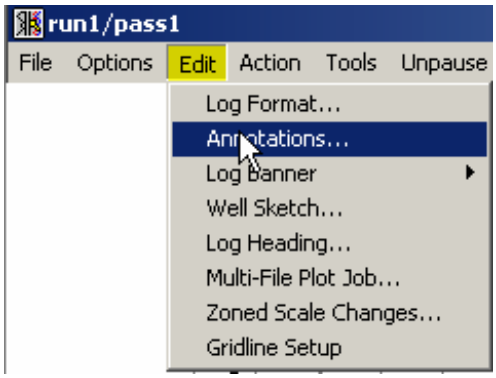

FIG: 8.39 Annotations

Scroll the log to the area where annotations are required and select **Annotate** from the Action menu. Note that annotations may be placed on the log even whilst logging. Simply 'Pause' the scrolling log, scroll back to the area where the annotations are to be inserted, place the required annotations and 'Unpause' to return to the current logging depth.

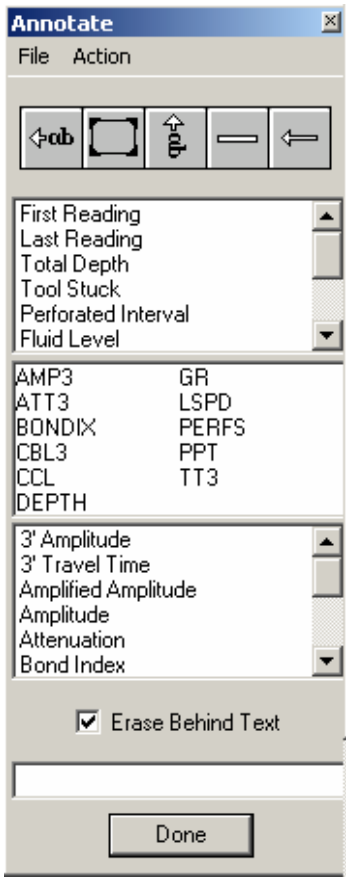

FIG: 8.40 Annotate

8.8 Log Banner

Ensure that the pass, to which the banner is to be attached, is selected in the active plot window. Select Edit/Log Banner, and if required a database and dataset.
Clicking on the File menu and clicking the Select can select the format of the Log Banner Format… option. There are a number of Log Banner formats (*.Wlb) to choose from. Select the most appropriate format and the edit the details by clicking on relevant areas within the window.

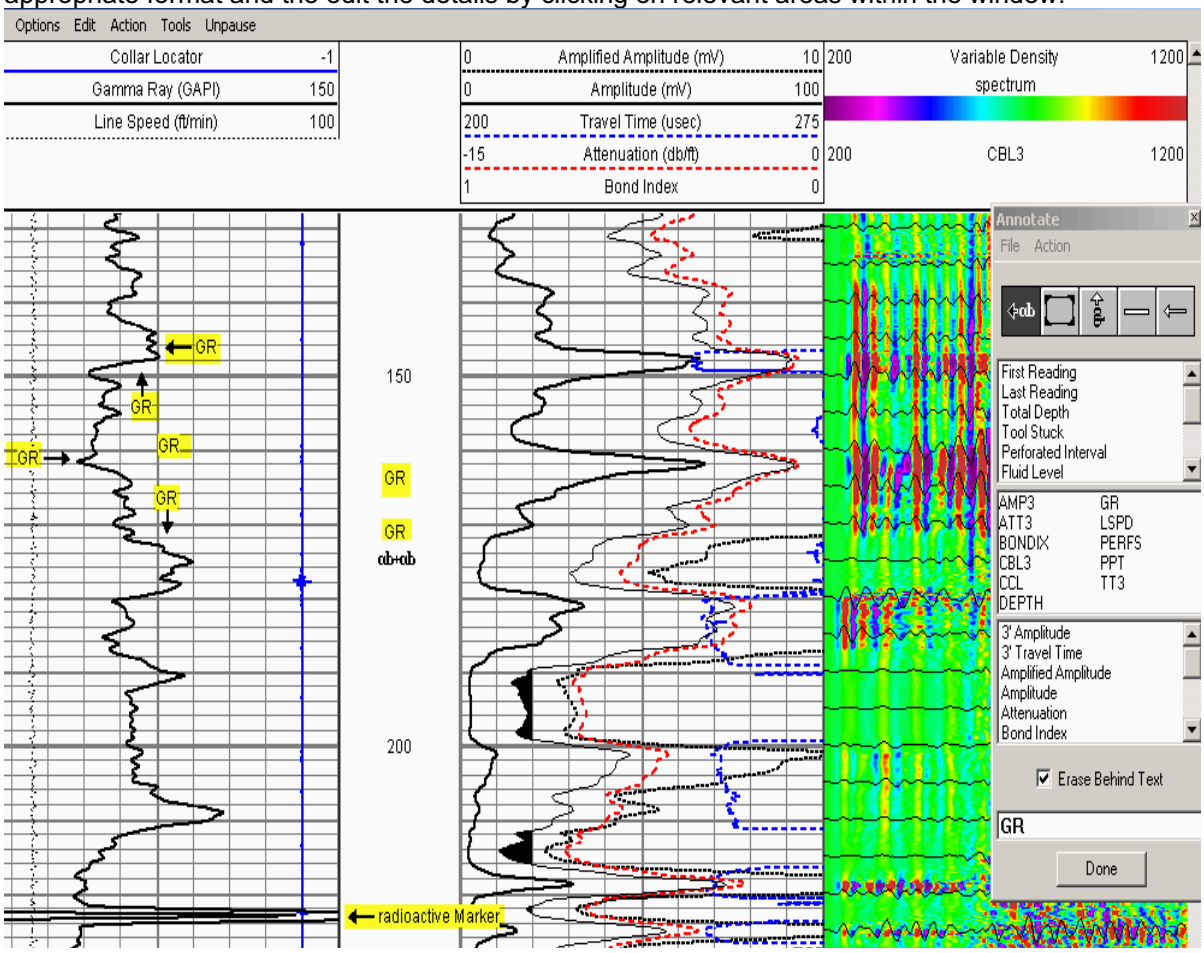

FIG: 8.41 Log Annotations

VIDEO: 8.3 Annotations

8.9 Well Sketch

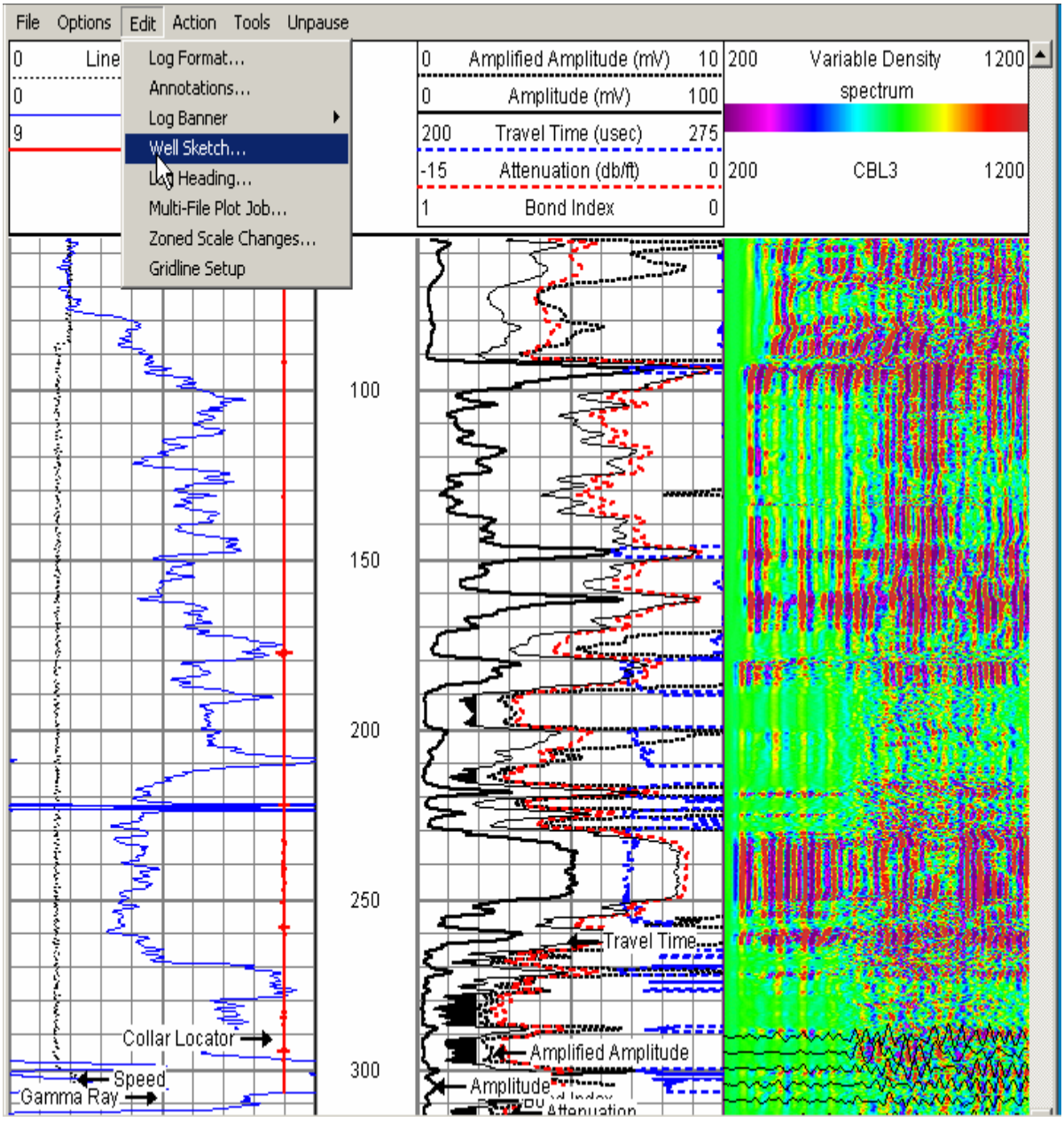

FIG: 8.42 EDIT\Well Sketch

Run Interactive Plot and select the dataset to accompany the well sketch. Click Edit/Well Sketch and the window, shown below, appears.

FIG: 8.43 EDIT \ Well Sketch

To add a new well object, select the object you wish to insert from the toolbar. A dialog window opens where the selected object's properties are defined.

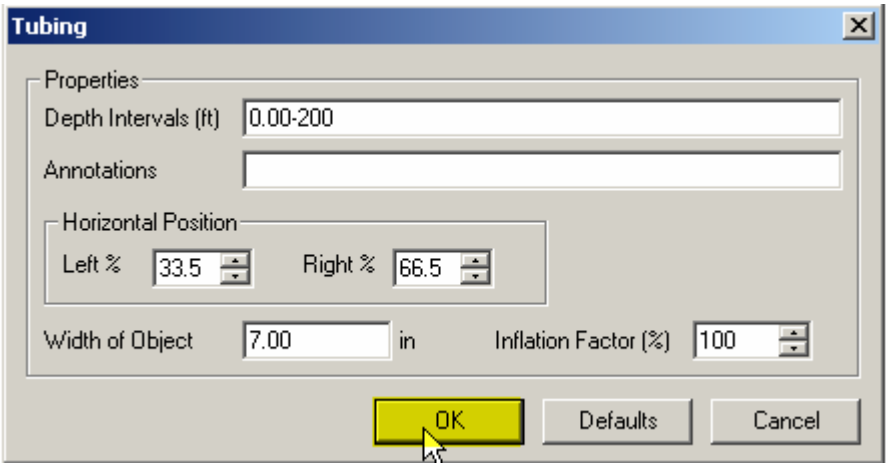

FIG: 8.44 Tubing Setup

Attachable' objects should be inserted first. Once these objects are added a list of 'attachable' objects is generated. Additional items can be added at this stage.
To edit or delete a well object, double-click on the object or press <Ctrl> and click to select more than one item. Right click opens the popup menu where the edit or delete options are available.
Selecting the area between the column headings and dragging to resize can change column widths. Columns can be sorted by clicking on the column heading.
Nipples & Packers, etc. can be added at a single depth, however if a well object appears at various intervals enter the depths and range in the **Depth Interval(s)** textbox, e.g. 0.00-200.
Continue adding objects until all required objects are entered, then save the well sketch by clicking **File/Save** or **Save As…**.

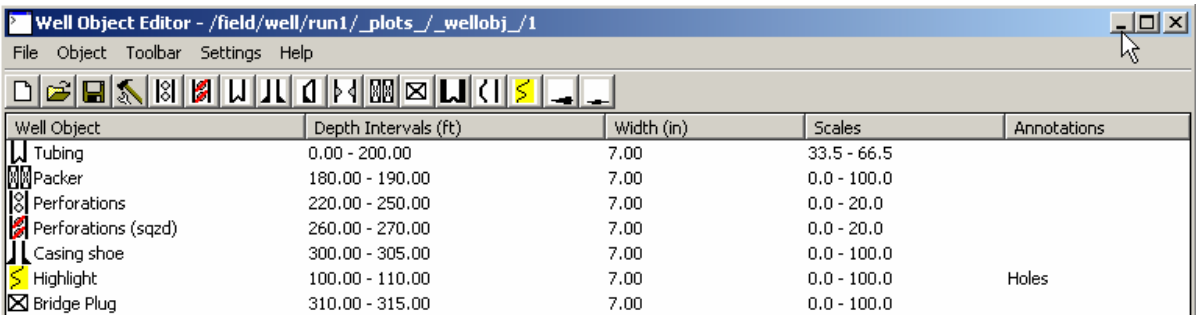

FIG: 8.45 Well Object Editor

8.9.1 Depth Intervals

The following are examples of valid depth intervals:
A semicolon or a space separates each depth interval. Top and bottom depths of one depth interval must be separated by a dash.

8.9.2 Annotations

You can automatically annotate your well object by typing in the annotation here. If the annotation is moved to a different position, it becomes a normal log annotation and will no longer show up here.

8.9.3 Vertical Position

The position of the well object is defined as a offset percentage from the left and right hand sides of the track. Values less than 0 and or greater than 100 will draw part of the object outside of its assigned track. A scale of -100 to 0 will place the object entirely outside of its assigned track at a width equal to the assigned track.

8.9.4 Width

The objects in the diagram will be drawn proportionally to each other. If a size is entered, then the left and right vertical position will be calculated to draw that object centered in the diagram. If the left and right scales are changed, the size will reflect the change.

8.9.5 Inflation Factor

The width * Inflation factor will be the actual size of the object drawn on the diagram. If the width is changed, the inflation factor is set back to 1 (100%).

8.9.6 Attaching Objects

If a bridge plug object is attached to a casing object, then the bridge plug scales and size will be fixed to the scales and size of the casing object. If the casing size and/or scales are changed, the bridge plug settings will reflect that change.

8.9.7 User Defined Metafiles

Any metafile can be used as a well object by placing the metafile in the 'Warrior\Format' directory with an extension of 'wwd'. The new object will be displayed on the toolbar with the same name as the file without the extension.

8.9.8 Metafile Properties

Metafiles can be displayed as either Fixed or Stretched. The fixed mode can display the graphic in its original proportions using three different methods. Center will center the object about the center of the interval. Top will start drawing the object at the top of the interval. Bottom will draw the object so the bottom of the object will be at the bottom of the interval. The stretched mode will stretch or compress the graphic to fit within the depth interval.

In order for the well sketch to appear on the log, open the Log Format Editor and Add a database item, called **wellobj**, to the log format.
Click the **Graphic Strip** radio button and select the track where the well sketch is to be presented.
In our example the result is as shown in Fig: 8.44

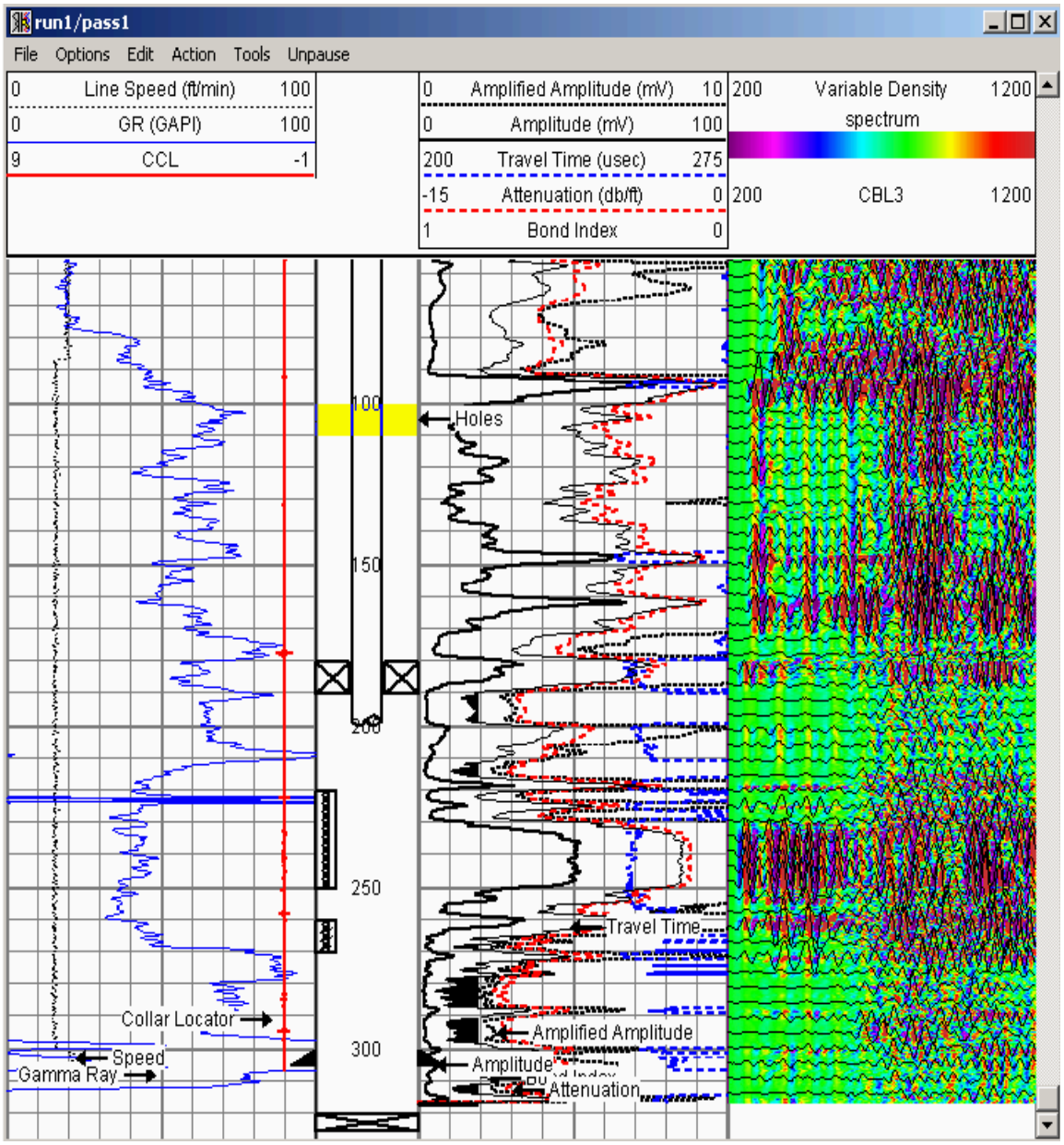

FIG: 8.46 Plot LOG

VIDEO: 8.3 Well Sketch Editor