

# Section 13

## 13 Utilities

The Utilities icon in the Warrior Program Group allows access to several programs, some with general, and some with more specific, applications.

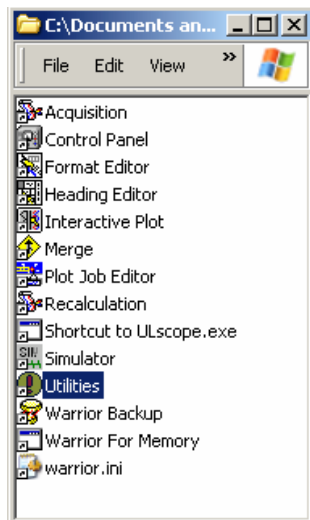


FIG: 13.1 Warrior Program Group

The warrior Utilities has six modules:

- 1) **Data Export**
- 2) **Interpretation Tools**
- 3) **Data Import**
- 4) **Depth Correction**
- 5) **Data Management**
- 6) **Setup Tools**

Clicking on the icon Utilities gives a menu list as shown below.



FIG: 13.2 Warrior Utilities

## 13.1 Data Export

### 13.1.1 Export to LAS Format



FIG: 13.3 Export LAS Format

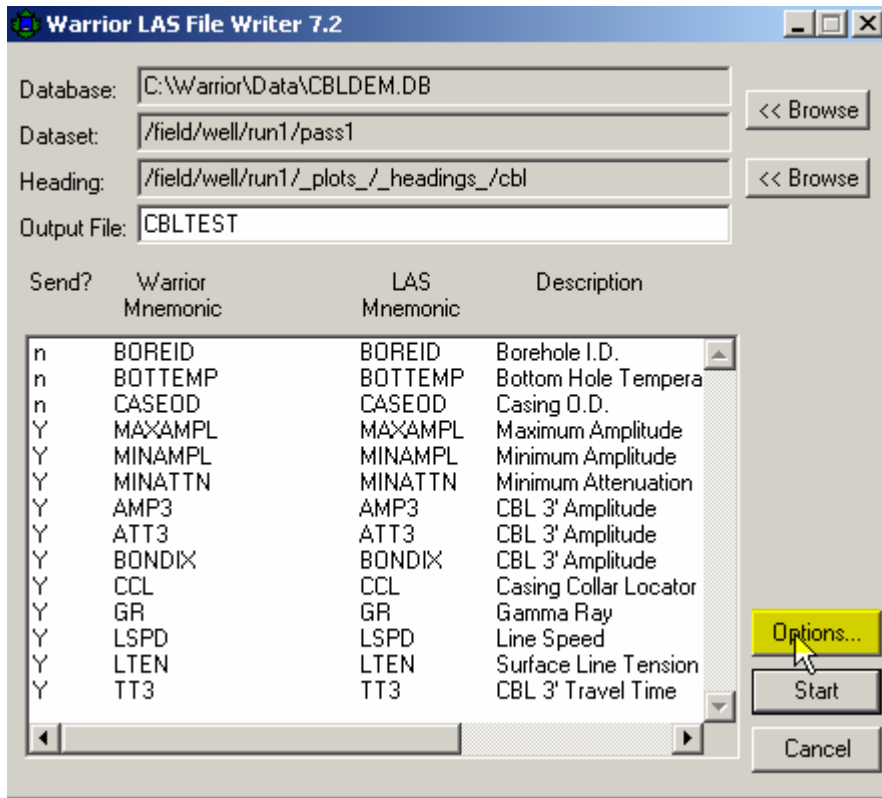


FIG: 13.4 Select Database, Data Set, Heading



FIG: 13.5 Set LAS Outputs

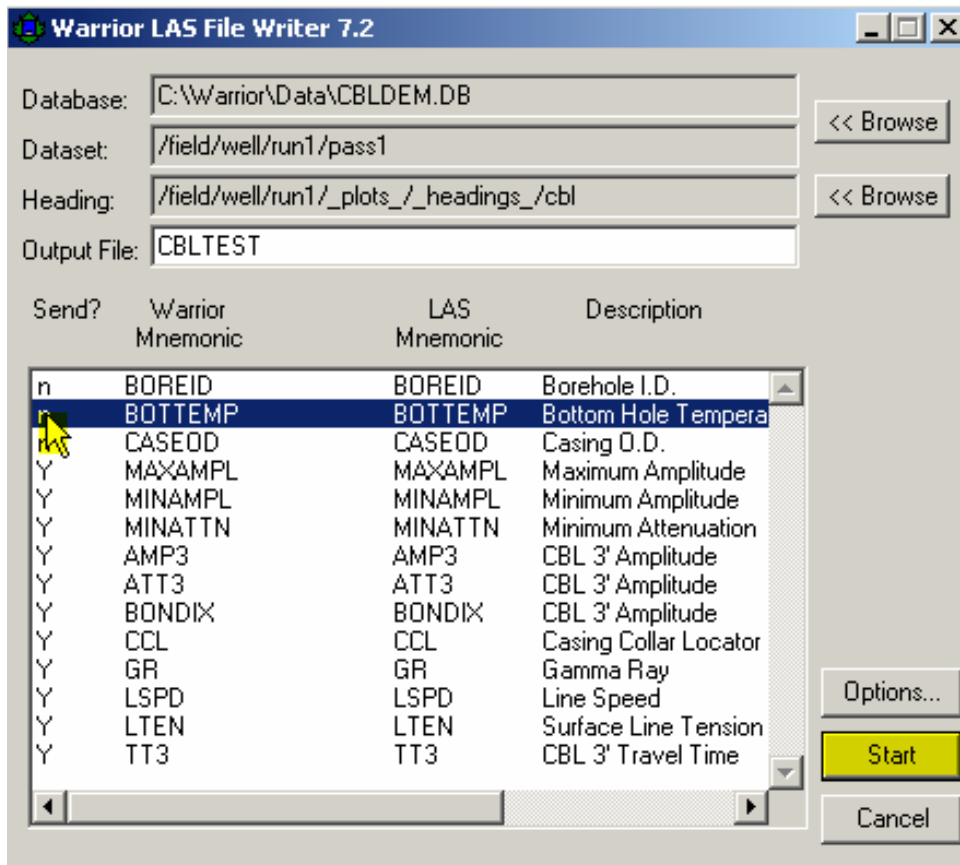


FIG: 13.6 Select curves Y/N and Start

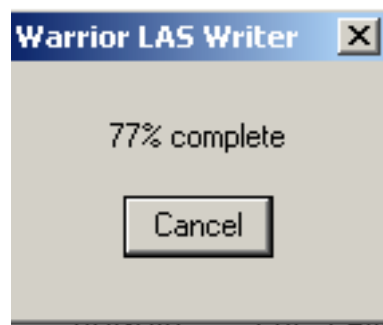


FIG: 13.7 Processing



VIDEO: 13.1 Export LAS

### 13.1.2 Export to LIS Format



FIG: 13.8 Export to LIS Format

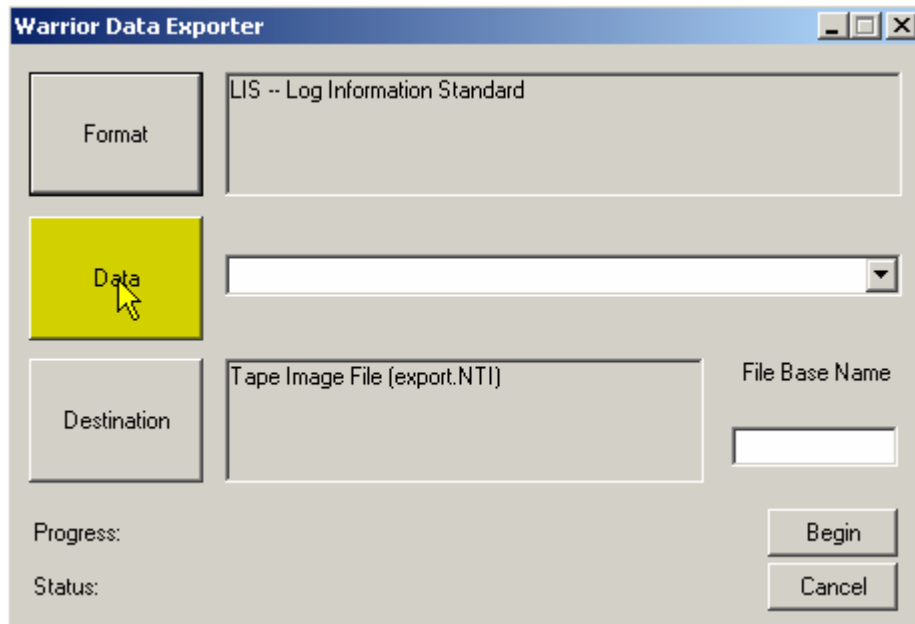


FIG: 13.9 Select DATA to Build the LIS

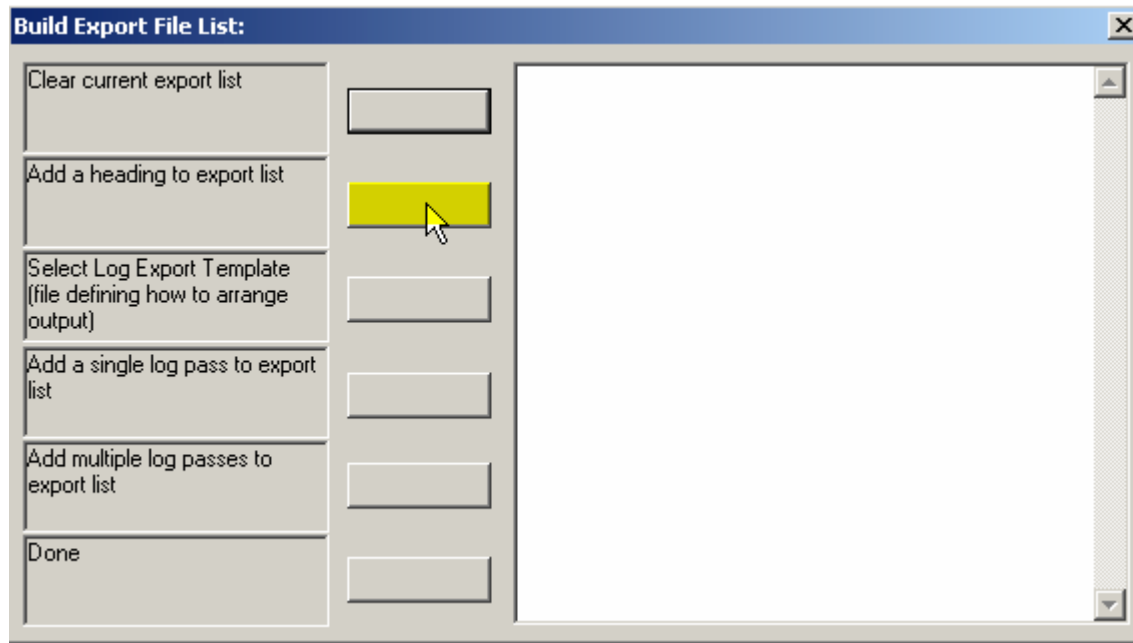


FIG: 13.10 Add a Heading to export list

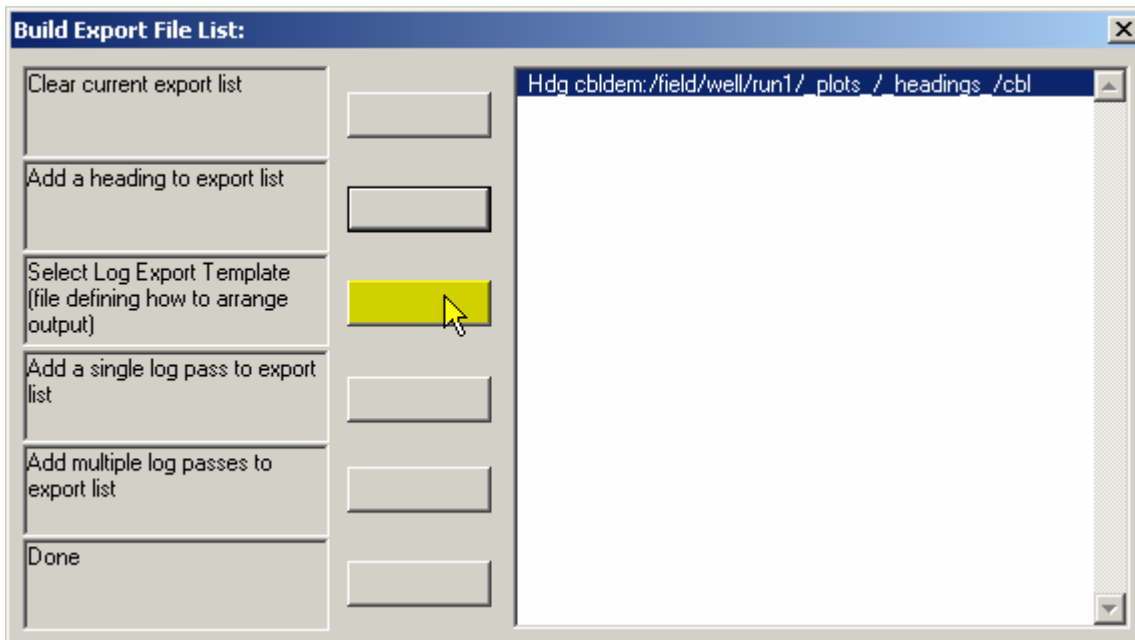


FIG: 13.11 Select Template (\*.LET)

### 13.1.2.1 LET Files

LET files are used to define the output data for Warrior LIS Exporting (LIS Export Template).

This needs to be a sequentially numbered set of outputs. All outputs from a log pass do not have to be listed, but only those listed will be output into the LIS file

#### 13.1.2.1.1 First Item

The first item in the list must be number [0]. This defines the title and frame spacing or output rate. The title is used for information only. The Frame Spacing is followed by one to three parameters. The first parameter is the out rate in inches if the rate is in feet. The second parameter is the output rate in Millimeters if the rate is in meters. The third parameter is the output rate in seconds if it is a time drive log.

Example: [0]  
Title=CBL Export  
FrameSpacing=3,77,.1

#### 13.1.2.1.2 Data Items

Each data item output must be listed with an InputName that is shown as the mnemonic used in the Warrior database. OutputName is optional, but should be used if the input name is longer than 4 characters, otherwise the input name will be truncated to the first 4 characters. LIS Standard is no mnemonic longer than 4 characters. The SampleSpacing is optional. This is used if a rate different than the FrameSpacing is required. It has the same three parameters as the FrameSpacing listed above.

Example: [2]  
InputName=CCL  
OutputName=CCL  
SampleSpacing=1.2

#### 13.1.2.1.3 Last Item - Depth

The last data item should be DEPTH. Note that since Depth is 5 characters, it will automatically be truncated to DEPT, but it is standard to show the output name as DEPT.

Example: [8]  
InputName=DEPTH  
OutputName=DEPT

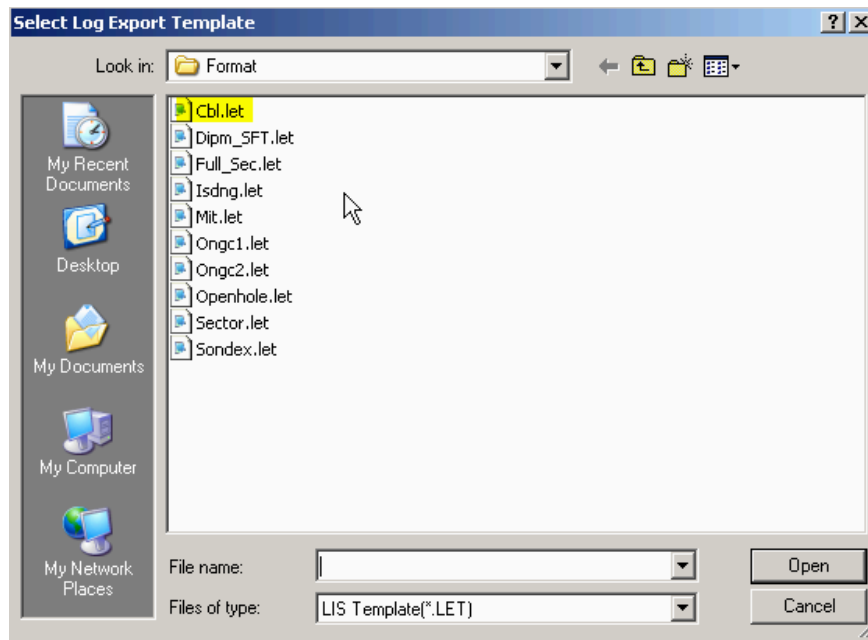


FIG: 13.12 Select Log Export Templates

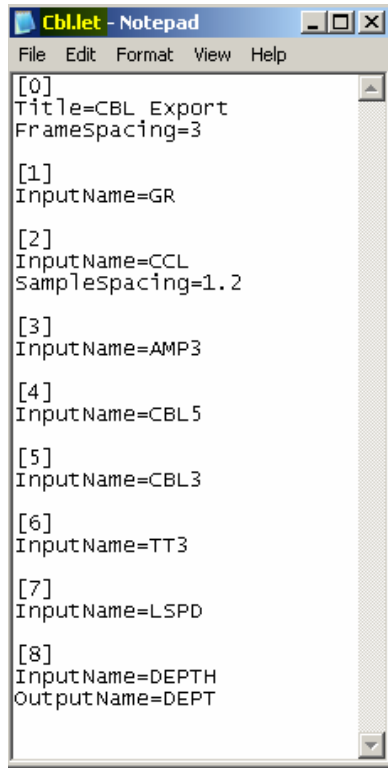


FIG: 13.13 Open with Notepad the CBL.let file

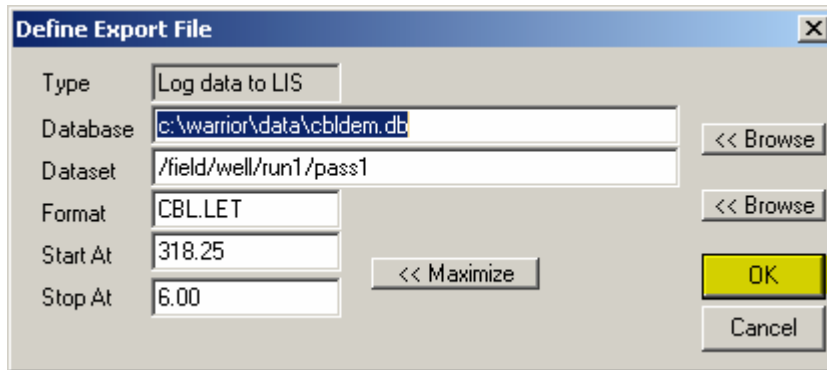


FIG: 13.14 Setup the Export File

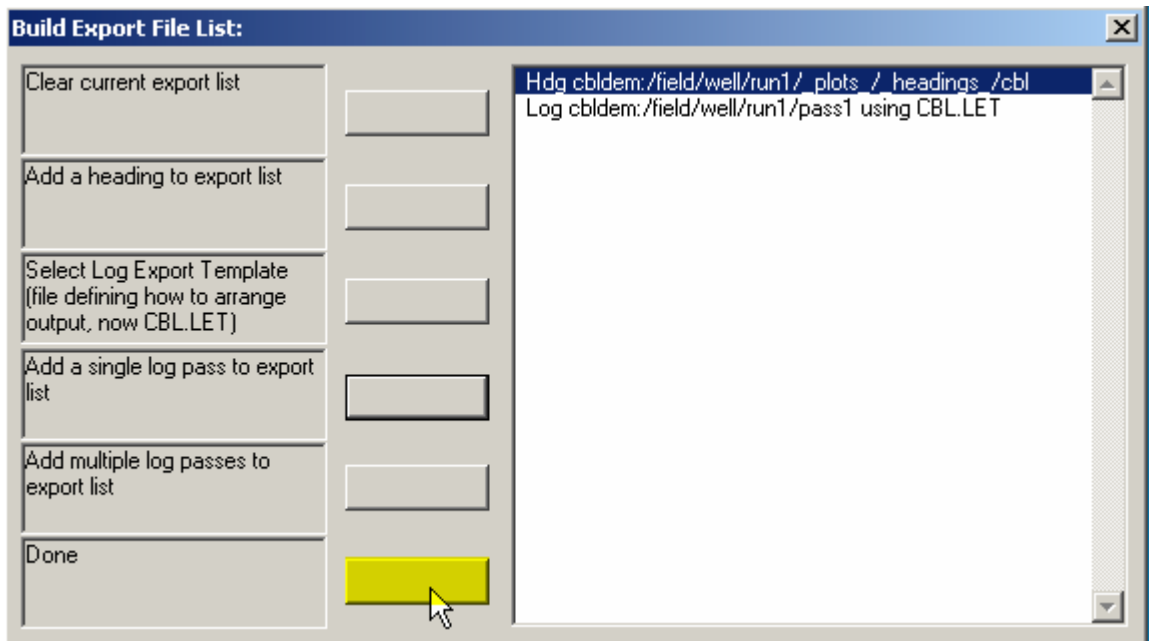


FIG: 13.15 Build Export File List

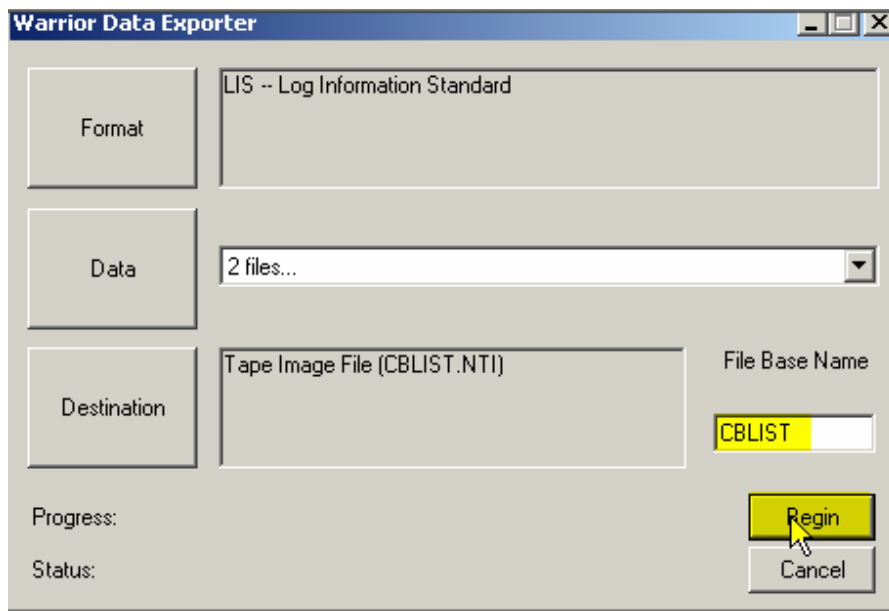


FIG: 13.16 File Base Name



VIDEO: 13.2 Export to LIS

### 13.1.3 Export to ODBC compatible Database

This program will export data for Excel, Access, FoxPro and other ODBC compatible databases. The limit for exporting data is 255 data points per sample. A normal curve is one data point but a waveform will be many more points for each sample. You will see a message in the progress window that the column count has exceeded if you exceed that amount.

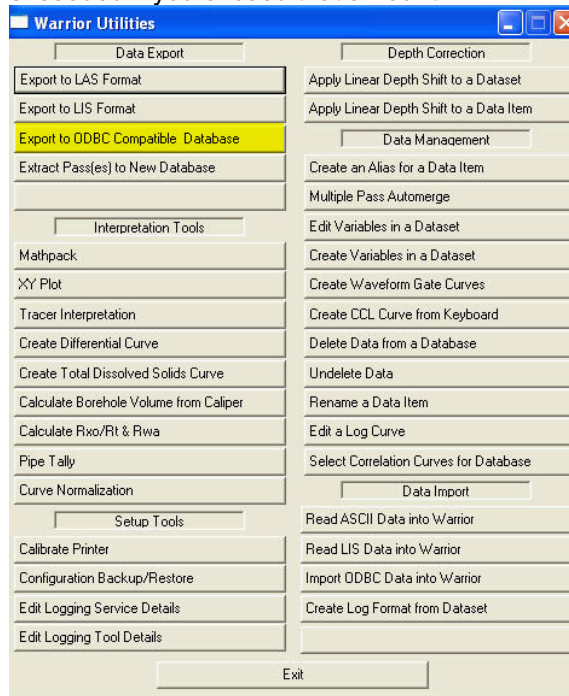


FIG: 13.17 Export to ODBC Compatible Database

### 13.1.4 Extract Pass (es) to New Database.



FIG: 13.18 Extract Pass(es) to New Database

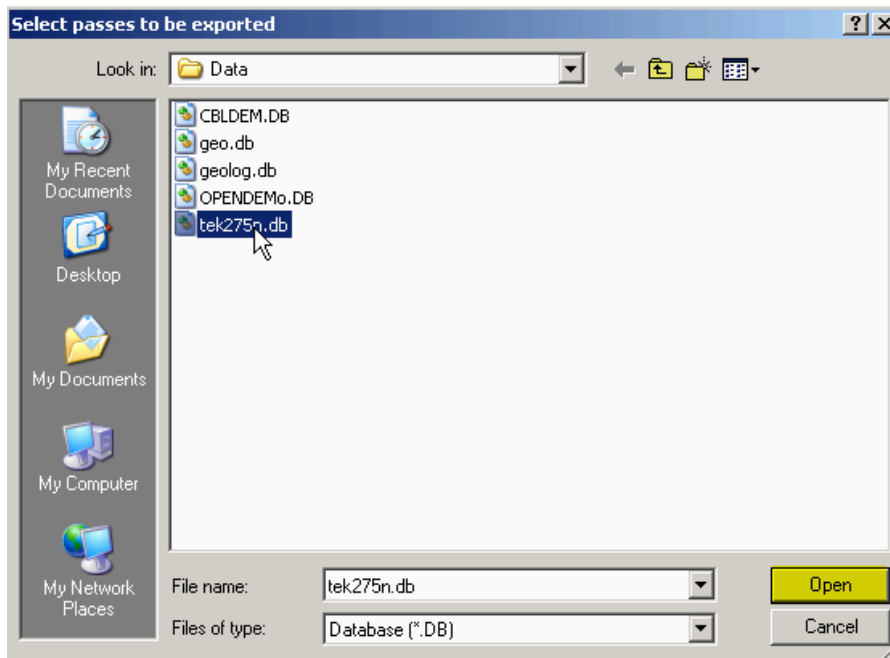


FIG: 13.19 Select Database

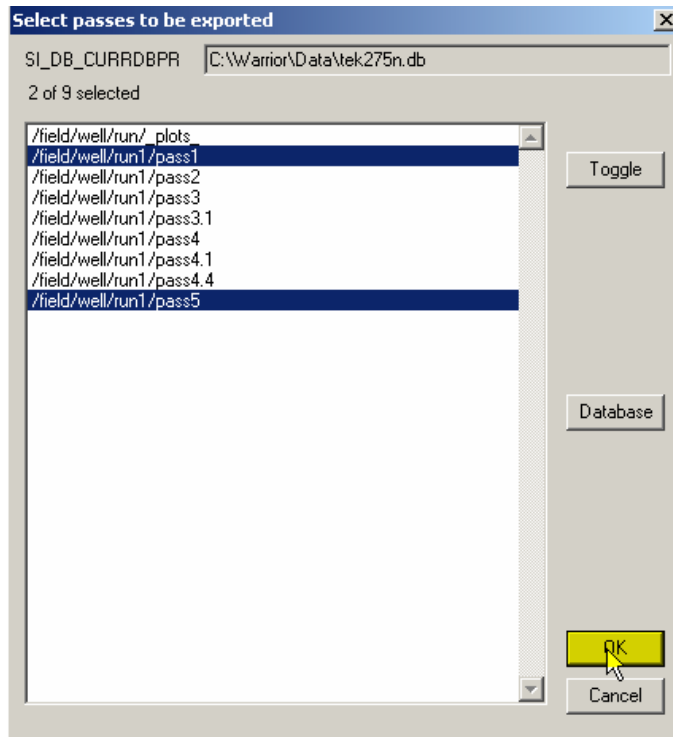


FIG: 13.20 Select Pass(es)

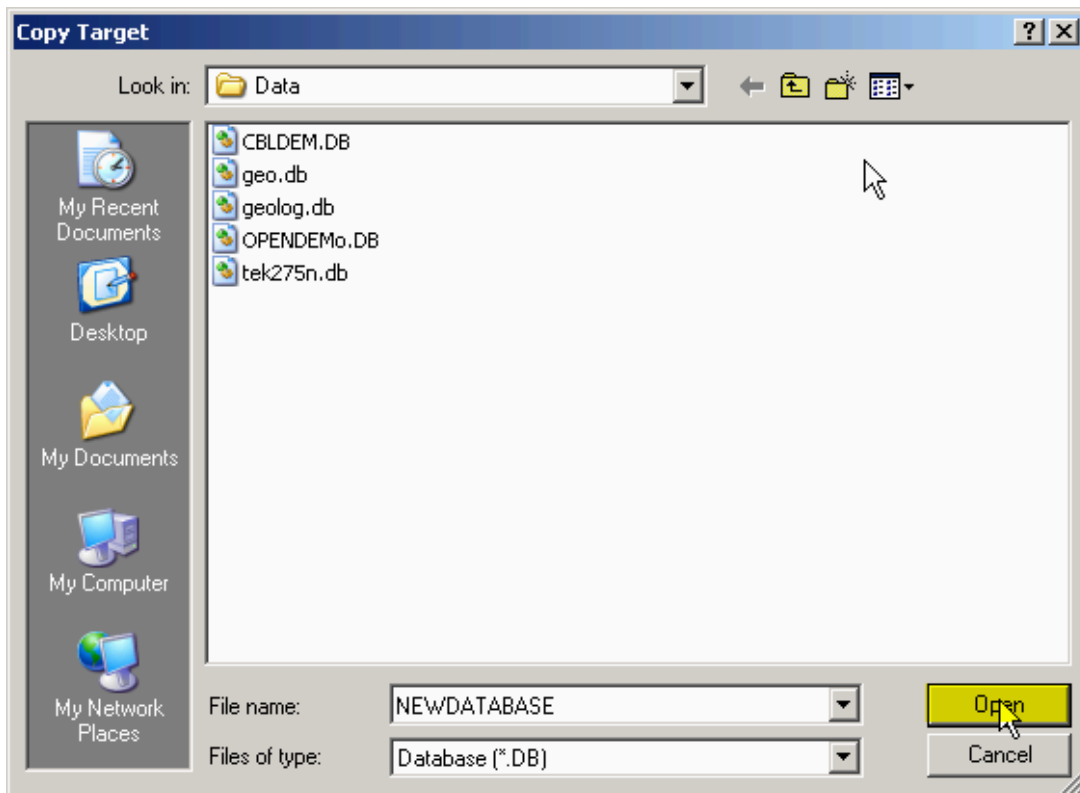


FIG: 13.21 Copy Target

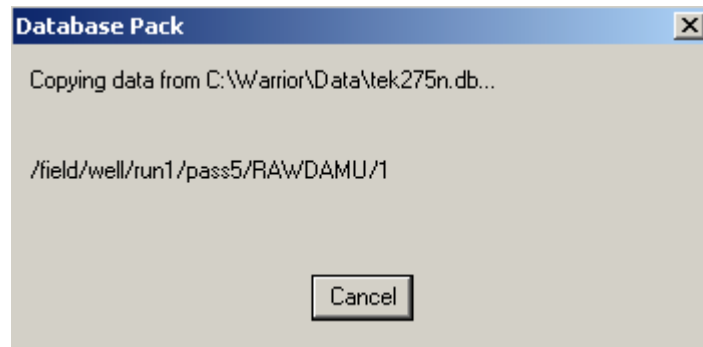


FIG: 13.22 Packing

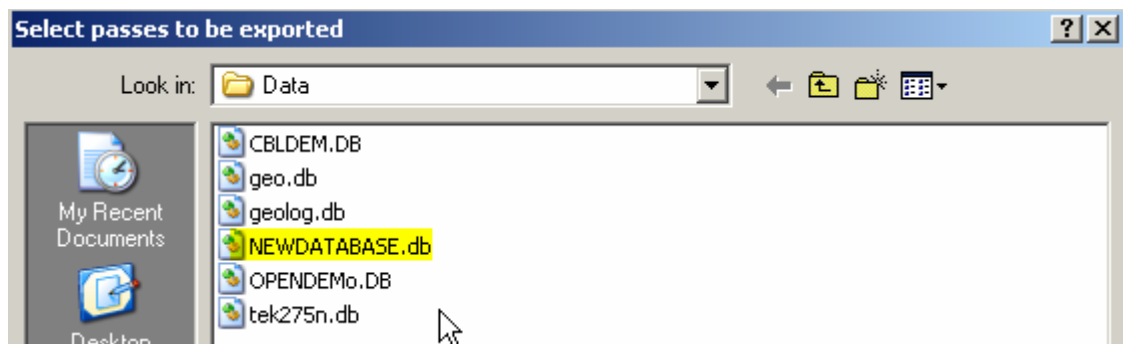


FIG: 13.23 Check the Database Target

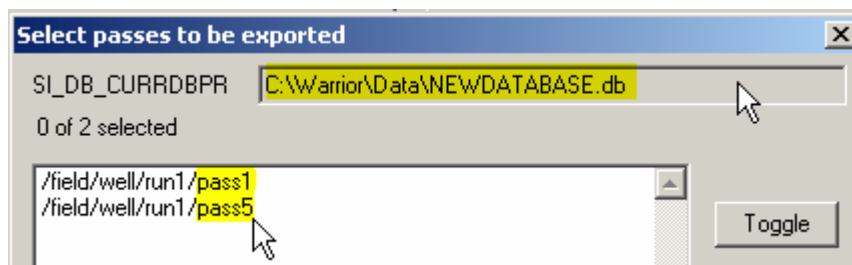


FIG: 13.24 View Passes in the Target



VIDEO: 13.3 Extract Pass(es)

## 13.2 Interpretation Tools

### 13.2.1 Mathpack

See section 15



FIG: 13.25 Math Pack

### 13.2.2 XY Plot

A cross plot will consist of one or more curves. Each curve will be created by plotting one database item plotted against depth or time or from one database item plotted against another database item.

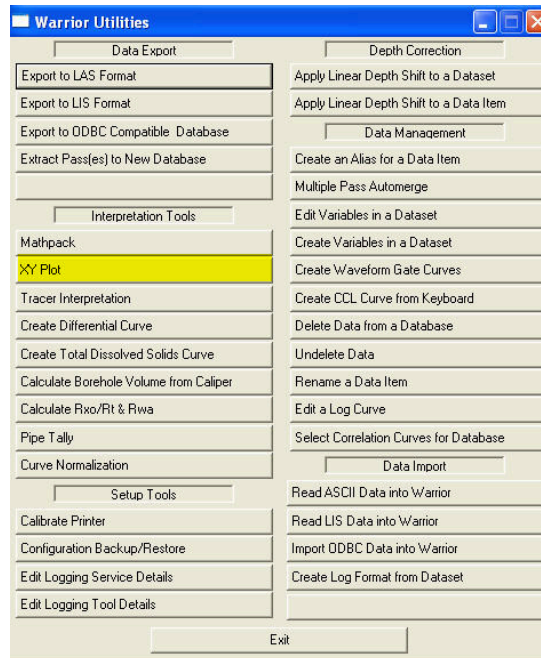


FIG: 13.26 XY Plot

Select **File/New** or the **Create a new plot** icon to create a cross plot. Select **Add Curve** to create each curve. Each curve name will increment by 1 as you add curves. Select **Delete Curve** to delete the selected curve from the plot.

To set up the cross plot you must first select what will be plotted on each axis. If depth or time is selected to plot on the x-axis, then no item will be selected to plot on the x-axis. Next select what database item(s) to plot by selecting the X - Axis or Y - Axis buttons. If you want to plot one database item vs. another, the items do not have to come from the same pass, but they must both be recorded on depth or both be recorded on time. Also the items must have an overlapping depth or time interval to plot from.

Once the plot setup is complete select the **OK** button, and the plot will start. The scaling will be done automatically. To change how the plot is scaled select **Edit/Scaling**.

The plot can be made real-time, and if the auto-scale option is used, the plot will resize automatically to fit all of the data points as needed.

### 13.2.2.1 Scaling

A separate axis will be drawn for each curve unless the option **Overlap scales for each curve** is selected. If the auto-scale option is selected for the x or y axis, the left, right and/or top, bottom scales will automatically be calculated to fit all of the data within the plot. If it is not selected, you can enter the scales yourself. If only one database item is selected to plot, then one of the axis will be depth or time.

When plotting two database items, there is a depth or time scaling option. It can be auto-scaled or a range can be selected. The scales for the depth or time must be within the recorded range of the interval being plotted.

The x and y origin is defaulted to (0,0). If the origin is outside the range of data being plotted, then the origin will be moved to the bottom left corner of the plot.

The X and Y ticks give an approximate count to the number of gridlines that will be shown on that axis. The gridlines will attempt to be drawn at an integral distance apart, so the displayed ticks may not be the same as what are requested.

Sometimes it may not be appropriate to draw a line to connect each data point. To make a dot for each data point, deselect the option "Draw a line between plotted points".

### 13.2.2.2 Plotting

If the plot is being created as the data is being collected, then the **Start Plot** button will change to **Stop Plot**. Press the **Stop Plot** button to halt the plotting. If the data collection continues, then press Start Plot to plot the entire collected interval again. Starting the plot in the middle of data collection will plot over the interval as described in Scaling.

### 13.2.2.3 Annotations

To create an annotation, select **Annotations/Create** or click on the "<-ab" annotation button in the toolbar. When the annotation button is depressed, an annotation can be added. When the cursor is moved in to the plot area, the cursor will change to indicate the type of annotation that will be added. Right click on the mouse to change the annotation type. Left click to place the annotation on the plot. Type in the text for the annotation while the annotation is highlighted. To move an annotation, click and hold the left mouse button and drag the annotation to the appropriate position. To delete an annotation, left click on the item to be removed. When it is highlighted, press the delete key. To edit an annotation, left click on the item and then type in the new text.

### 13.2.2.4 Zoom

Select the Zoom in, Zoom out buttons to change the cursor to a magnifying glass. Then select the area of the plot to magnify. To set the plot back to it's default size, select the Auto scale button.

### 13.2.2.5 Save and Restore

When saving the cross plot, two items can be saved. First the cross plot can be saved to a Warrior database to be plotted with pplot. Second, the plot setup can be saved and restored at a later time

with the cross plot program. Saving the setup does not save the plot itself - it only saves the curve(s) being plotted and the setup used to create the plot. The plot heading is only seen when the plot is printed. It can accept multiple lines by hitting the enter key at the end of each line.

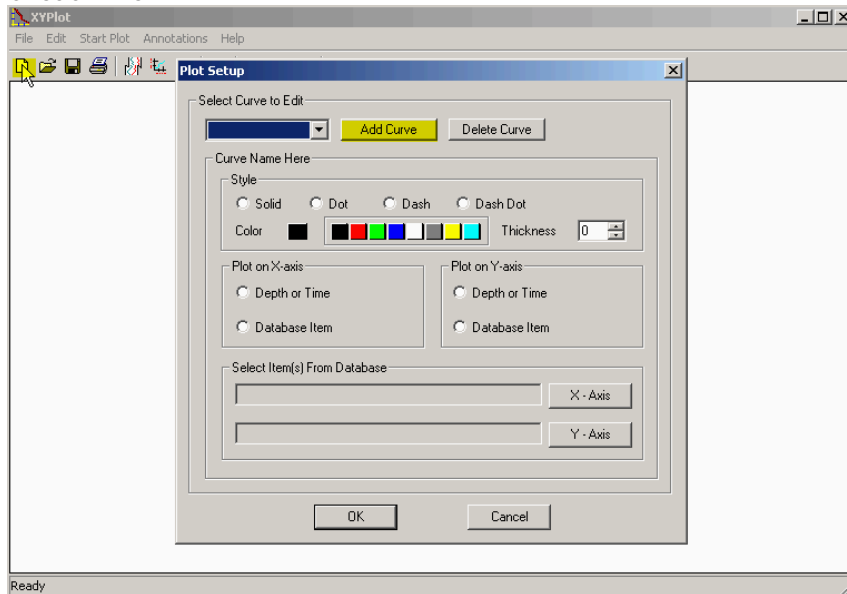


FIG: 13.27 Plot setup

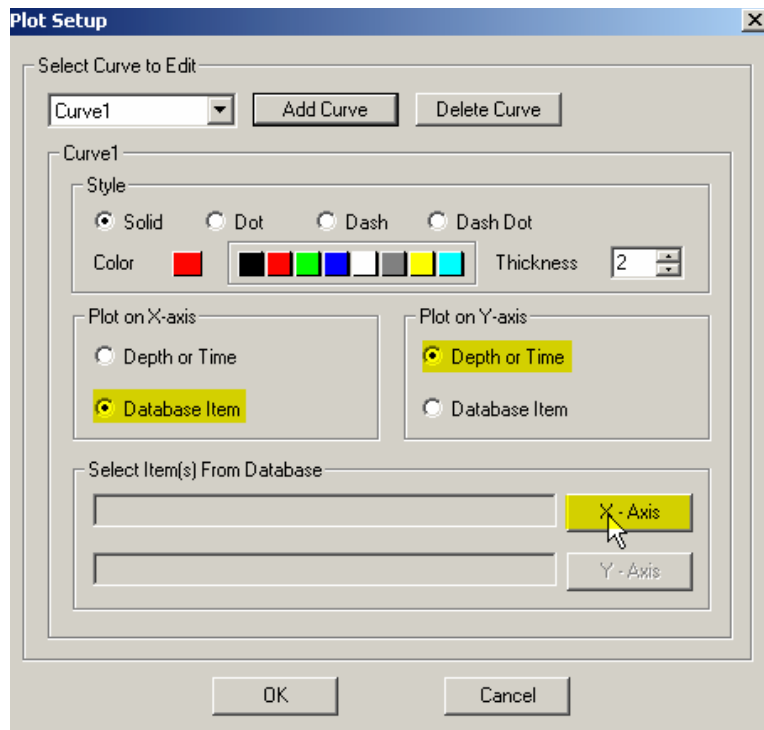


FIG: 13.28 Setup Axis

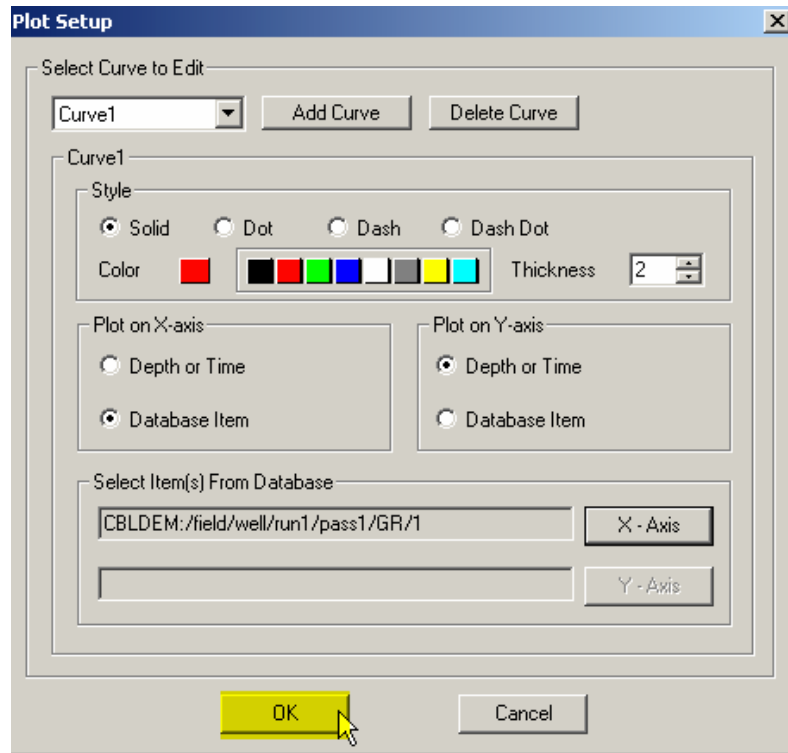


FIG: 13.29 Select database and Curve

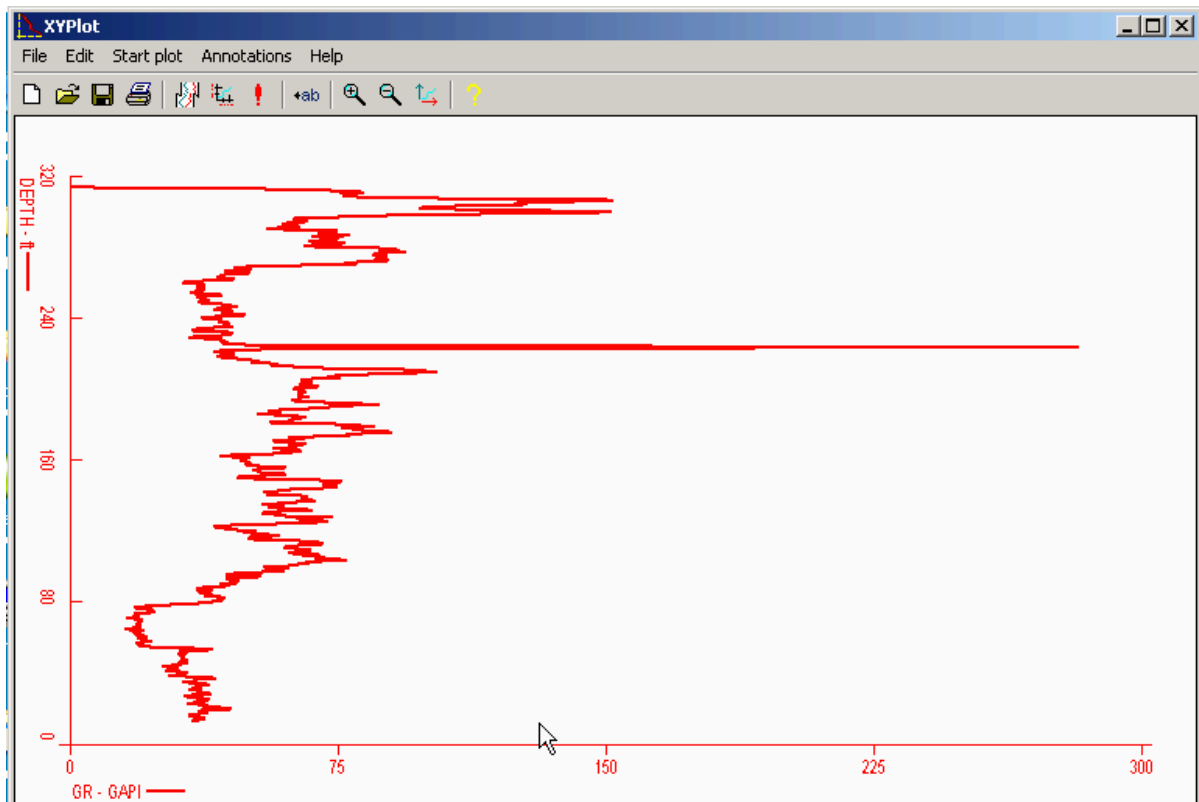


FIG: 13.30 XYPLOT

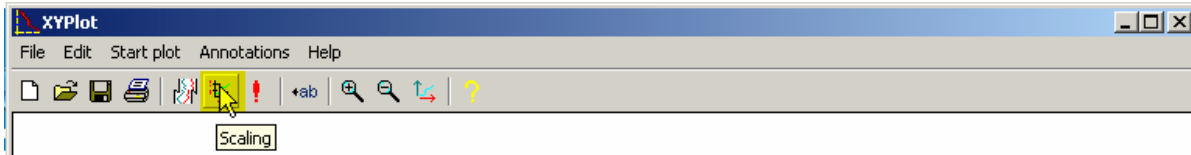


FIG: 13.31 XYPlot Scaling

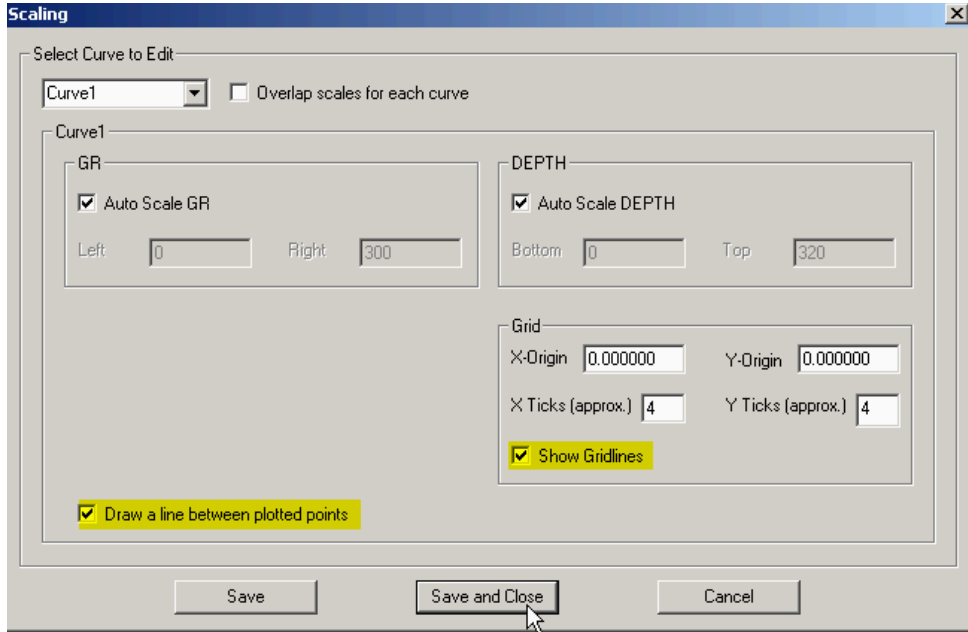


FIG: 13.32 Edit Curve setting

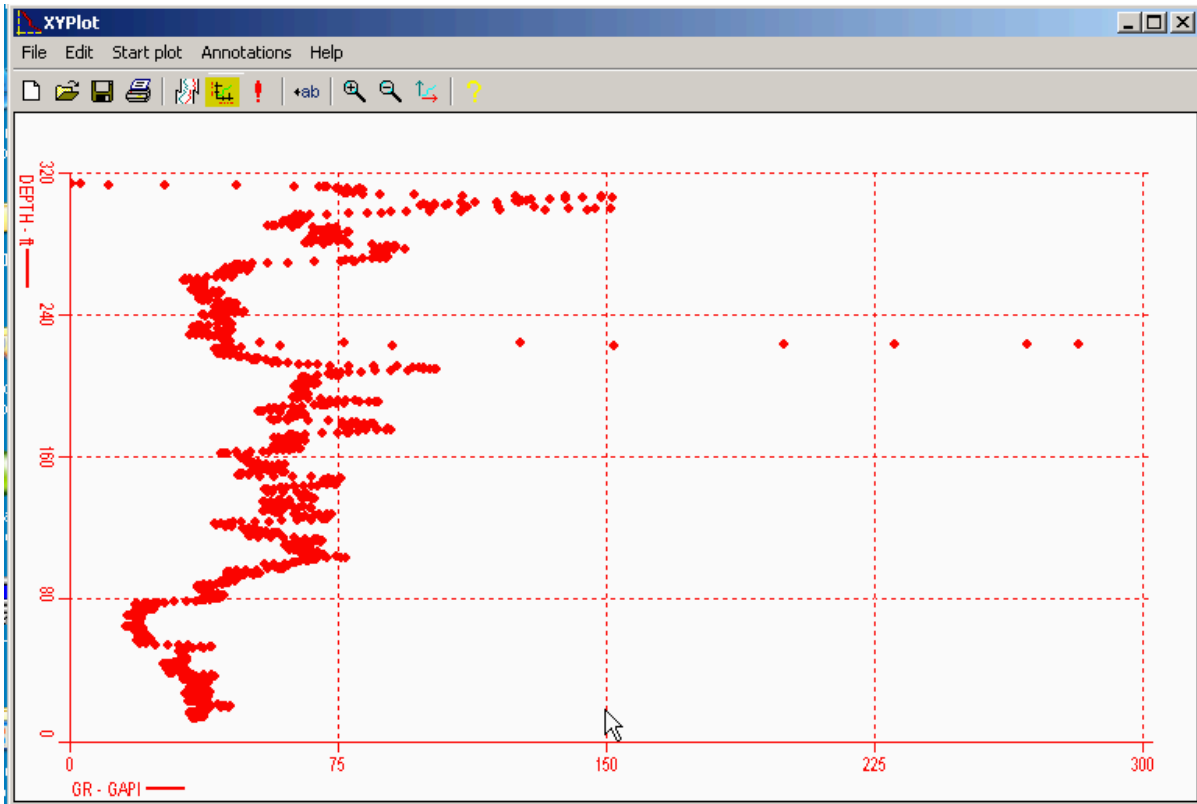


FIG: 13.33 XYPlot with new setting

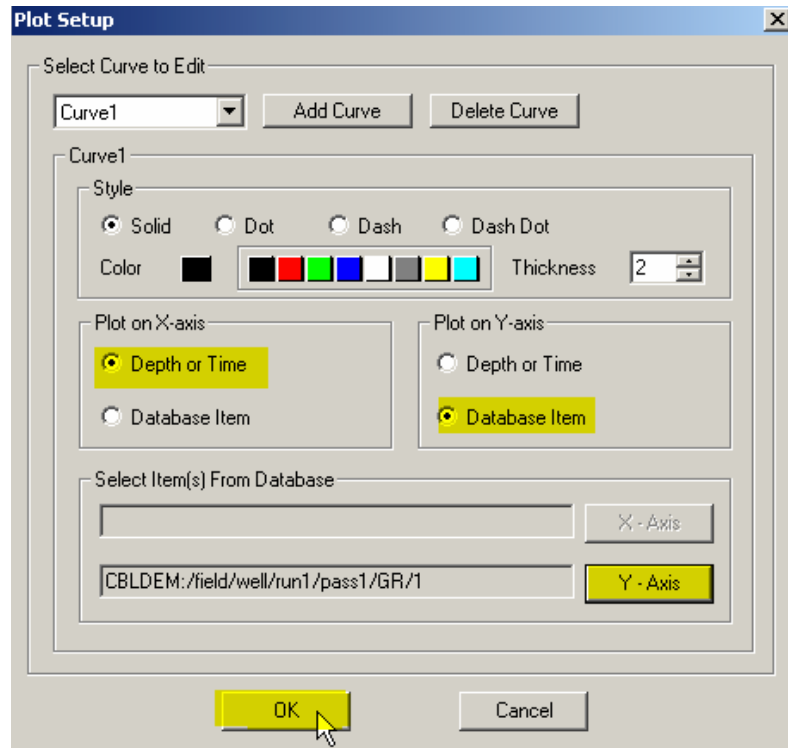


FIG: 13.34 XYPlot Change Axis

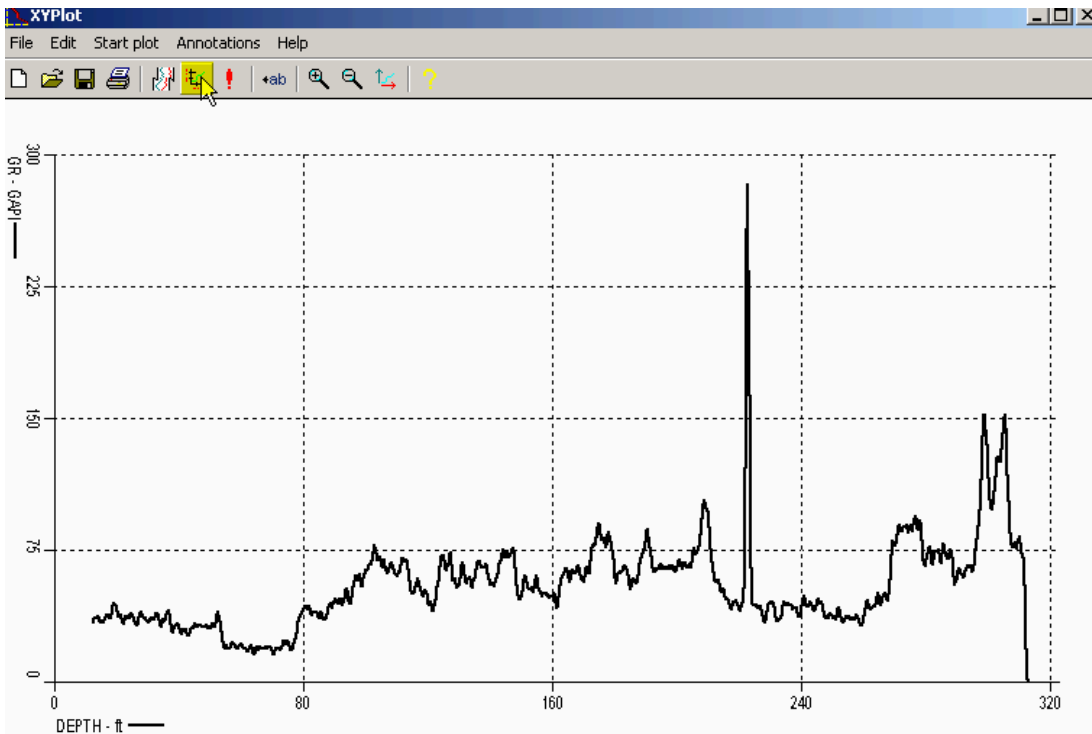


FIG: 13.35 XYPlot

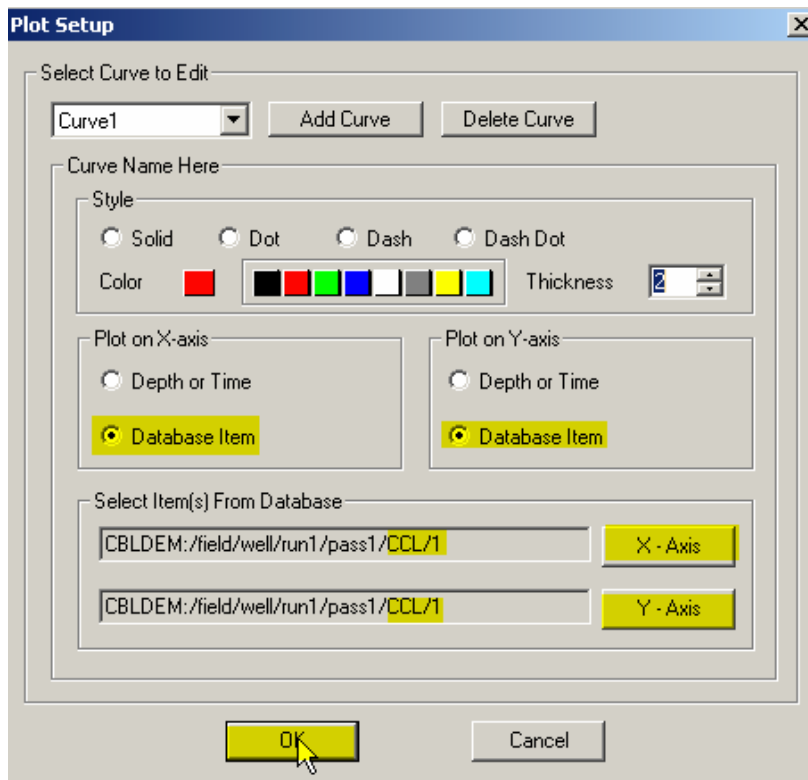


FIG: 13.36 XYPlot setup (X/Y) for two curves

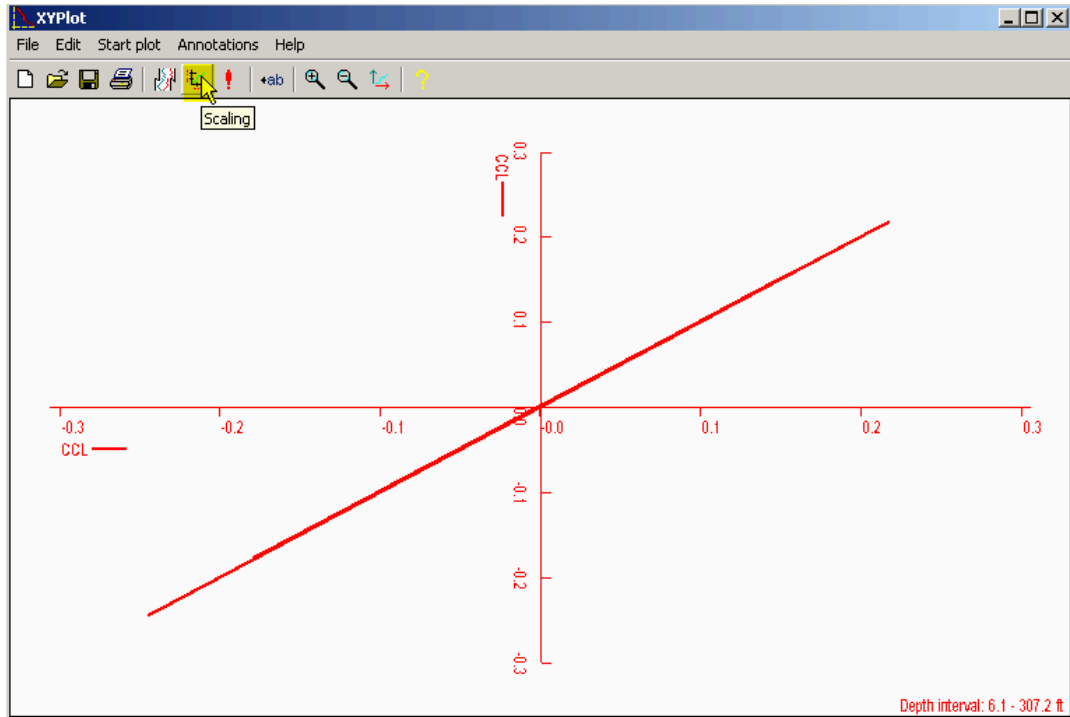


FIG: 13.37 XYPlot

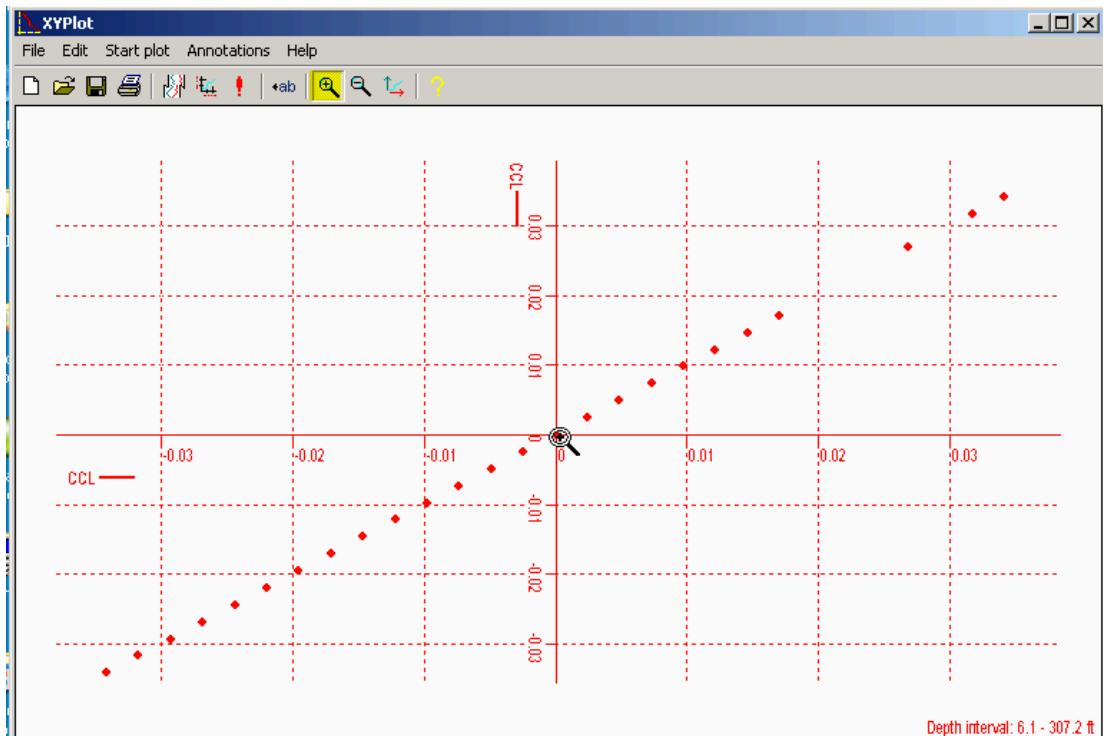


FIG: 13.38 XYPlot new setting zoom

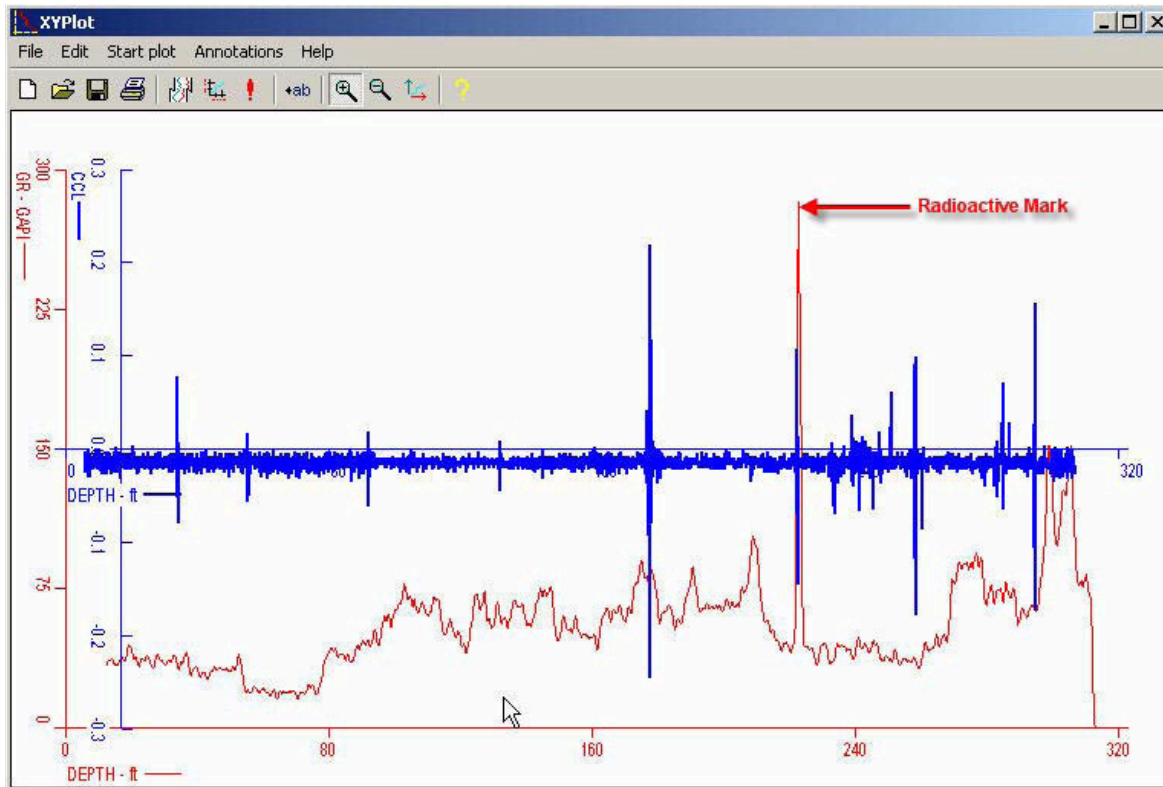


FIG: 13.39 XYPlot Two curves in the same chart



VIDEO: 13.3 XY PLOT

### 13.2.3 Tracer Interpretation

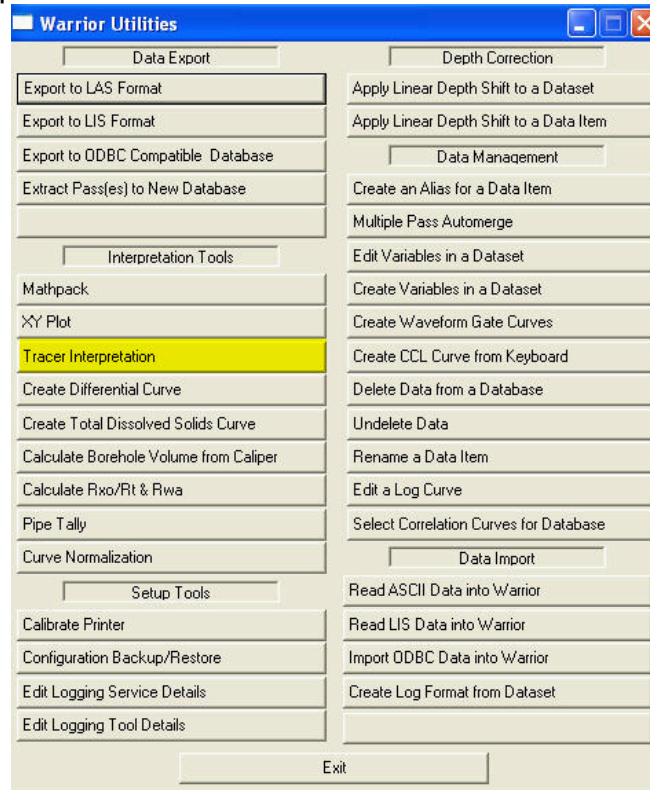


FIG: 13.40 Tracer Interpretation

### 13.2.4 Create Differential Curve



FIG: 13.41 Create Differential Curve

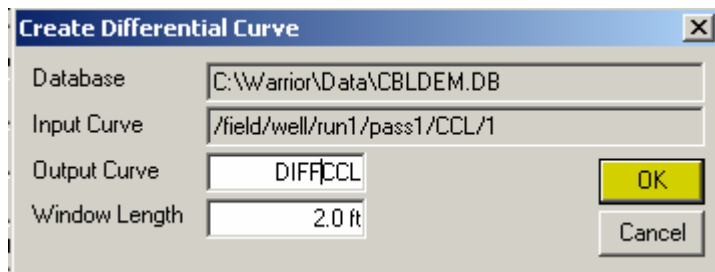


FIG: 13.42 Create Differential curves. (DIFFCCL)

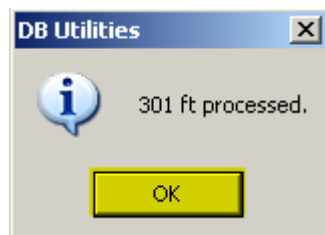


FIG: 13.43 Processing

### 13.2.5 Create Total Dissolved Solids Curve



FIG: 13.44 Create Total Dissolved Solids Curve

### 13.2.6 Calculate Borehole Volume from Caliper



FIG: 13.45 Calculate Borehole Volume from Caliper

### 13.2.7 Calculate Rxo/Rt and Rwa Curves

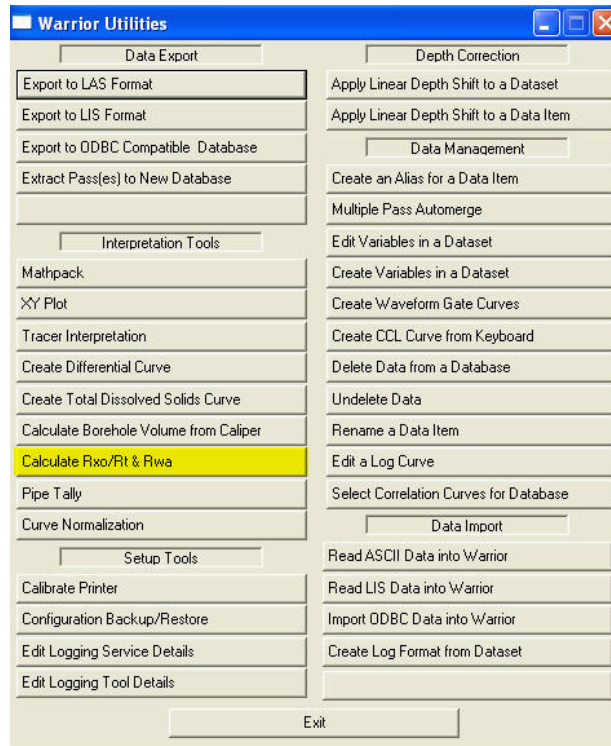


FIG: 13.46 Create Total Dissolved Solids Curve

Click on the Calculate Rxo / Rt button. This produces a file selection box, where the required database may be selected. Double click or Open the database file containing the input data for the calculation.

The program presents a list of the log curves present in the database and requests selection of the Rt curve. Select the desired curve.

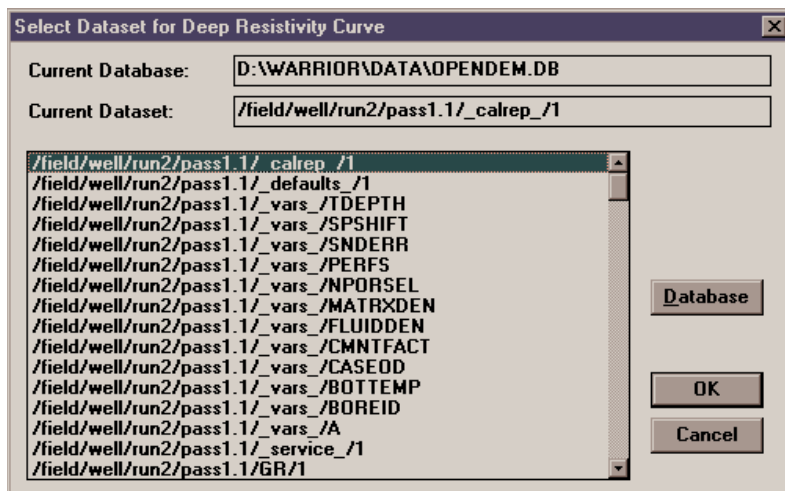


FIG: 13.47 Select Dataset for Deep Resistivity Curve

The system then requests the selection of the shallow resistivity curve.

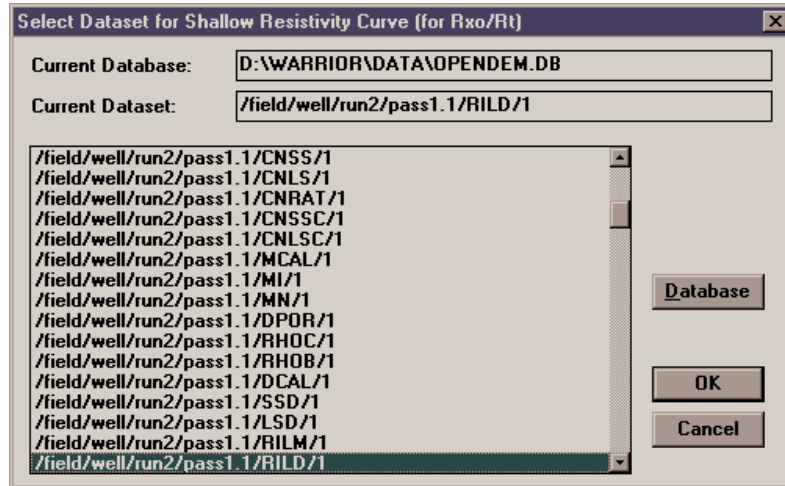


FIG: 13.48 Select Dataset shallow Resistivity Curve

The system then requests the porosity curve for the calculation of  $R_{wa}$ .

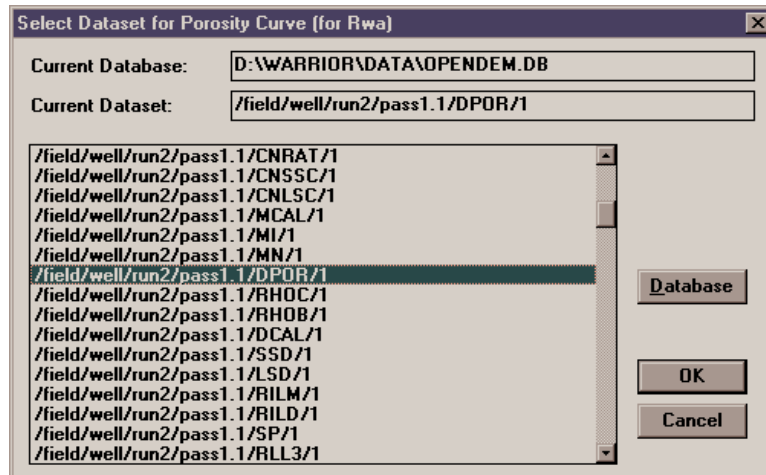


FIG: 13.49 Select Dataset for Porosity

Note that the  $a$  and  $m$  variables must be present in the dataset for  $R_{wa}$  to be calculated. To set the values of  $a$  and  $m$  use Edit Variables in a Dataset. Note that the  $a$  is  $A$  and  $m$  is  $CMNTFC$ . After selecting the porosity curve the system requests the name of the dataset for the output.

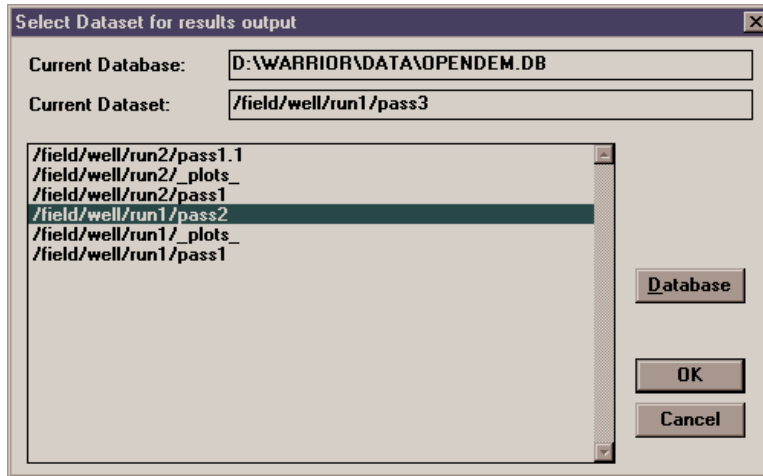


FIG: 13.50 Select Dataset Output

Select the required dataset and the system computes the  $R_{xo} / R_t$  and  $R_{wa}$  curves and displays a message indicating completion and log interval processed.

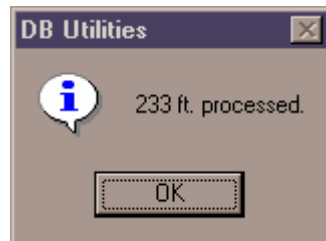


FIG: 13.51 Processing

Note that in order for the  $R_{xo} / R_t$  and  $R_{wa}$  curves to appear on the log, the respective curves must be added to the log format. The mnemonic for the  $R_{xo} / R_t$  and  $R_{wa}$  curves are RXORT and RWA respectively.

## 13.2.8 Pipe Tally



FIG: 13.52 Pipe Tally

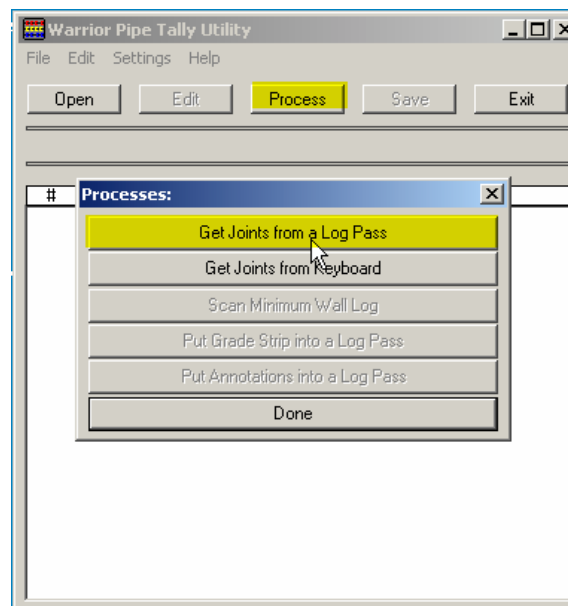


FIG: 13.53 Get Joints from a Log Pass

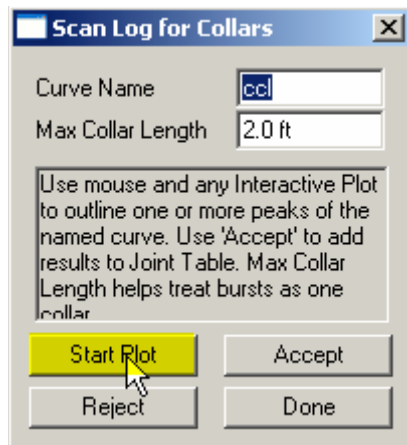


FIG: 13.54 Scan log for Collars



FIG: 13.55 Screen Plot

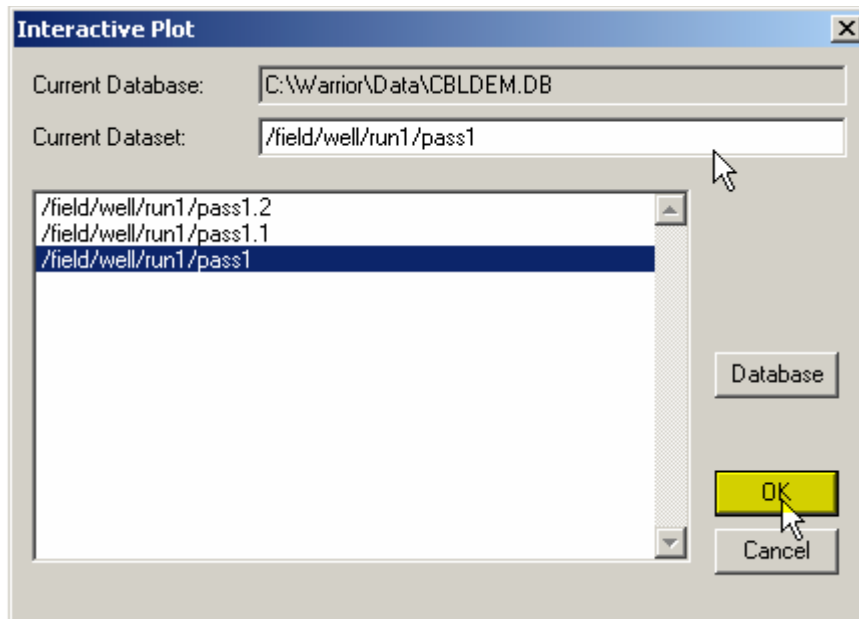


FIG: 13.56 Scan Pass

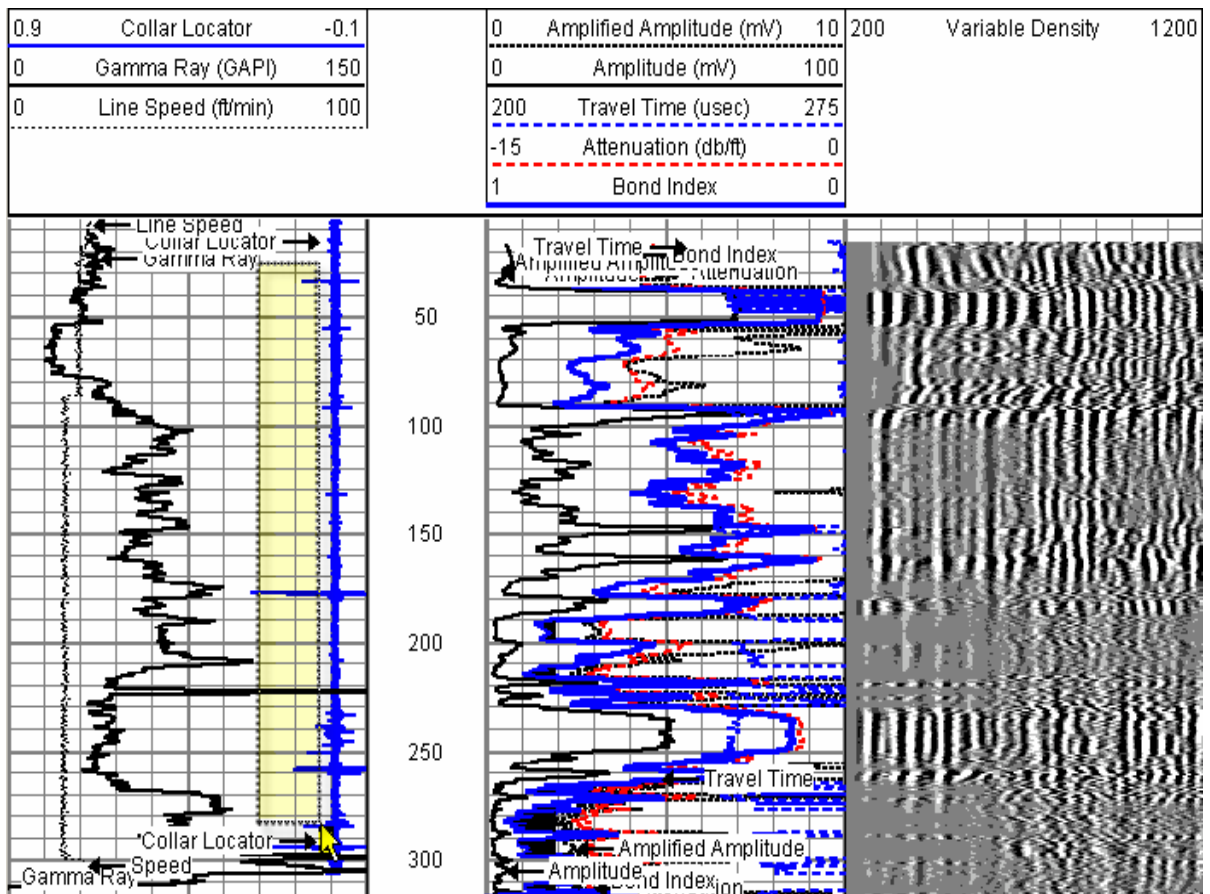


FIG: 13.57 Plot Pass and select area

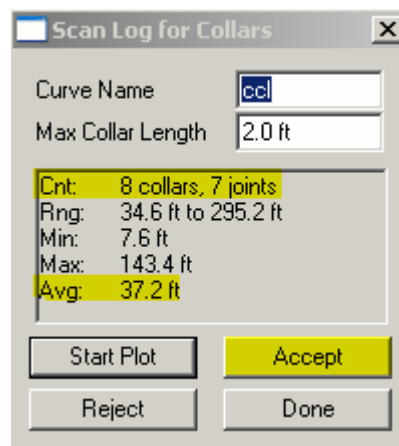


FIG: 13.58 Accept

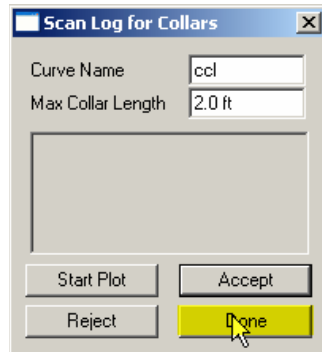


FIG: 13.59 Done

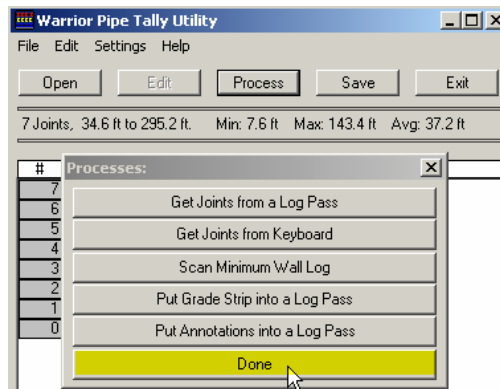


FIG: 13.60 Done

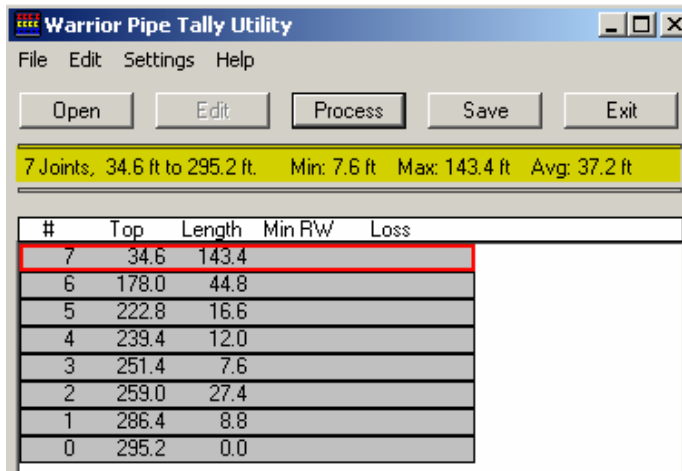


FIG: 13.61 Results



VIDEO: 13.4 Pipe Tally

### 13.2.9 Curve Normalization

This program will cross plot two curves over a chosen interval. Then it calculates the gain and offset required to apply to the second curve (Curve to be normalized) to make it overlay the first (Reference curve).

Select the reference curve, then the curve to be normalized. Interactive plot should start with the reference log pass. You should be able to plot the curve to be normalized on that same pass - look in the progress window to see the name (alias) that was created for the normalized curve. From interactive plot you can drag a rectangle over the interval to choose the depth range for normalization. Once that is done, and then selects MakeXY. If you are satisfied with the data points in the XY plot, then select Normalize. Interactive plot will start again, but this time with the pass from the normalized curve. If you look in the progress window, another curve will have been created in the Normalized pass. That curve will be what the curve looked like prior to the normalization. The name should be the same as the normalized curve except preceded by a '.', and the normalized curve will have the original name.

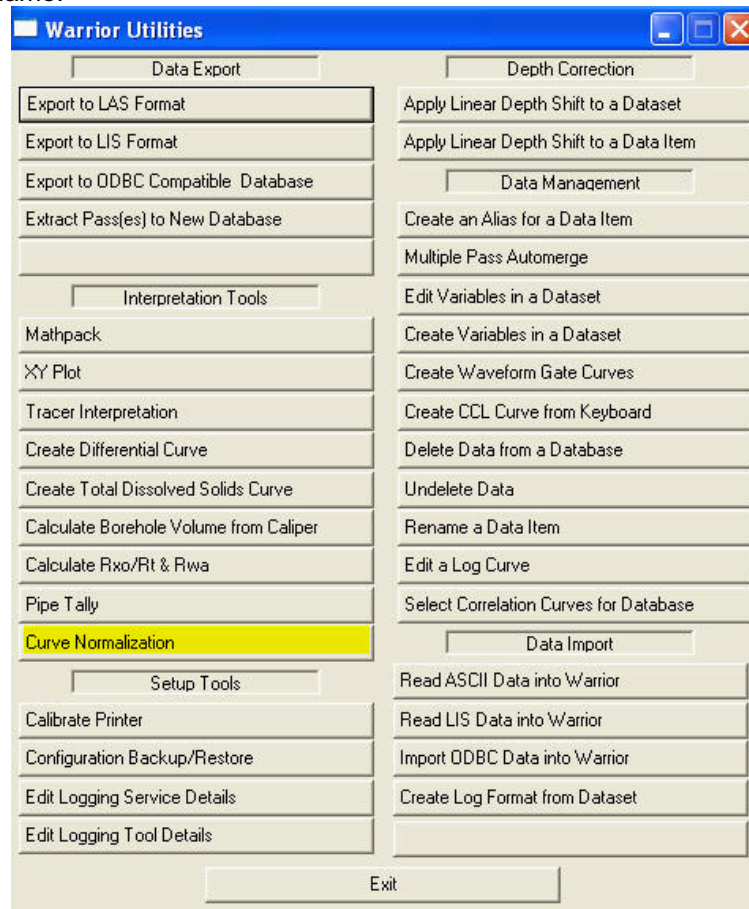


FIG: 13.62 Curve Normalization

## 13.3 Data Import

### 13.3.1 Read ASCII Data into the Warrior (LAS)

In the Warrior System group, choose the Utilities icon. (Double-click the icon, or use the arrow key to move the selection cursor to the icon and hit Enter.) The window shown below appears.

The ASCII Importer reads data from existing ASCII file(s) and writes the data to one or more Warrior well log database files.

Start the ASCII importer from the program group or Interactive Plot. The dialog and control box is presented as shown below.



FIG: 13.63 Read ASCII Data into Warrior

The input files are selected by clicking the Add Files button. This produces a file selection box as shown below.

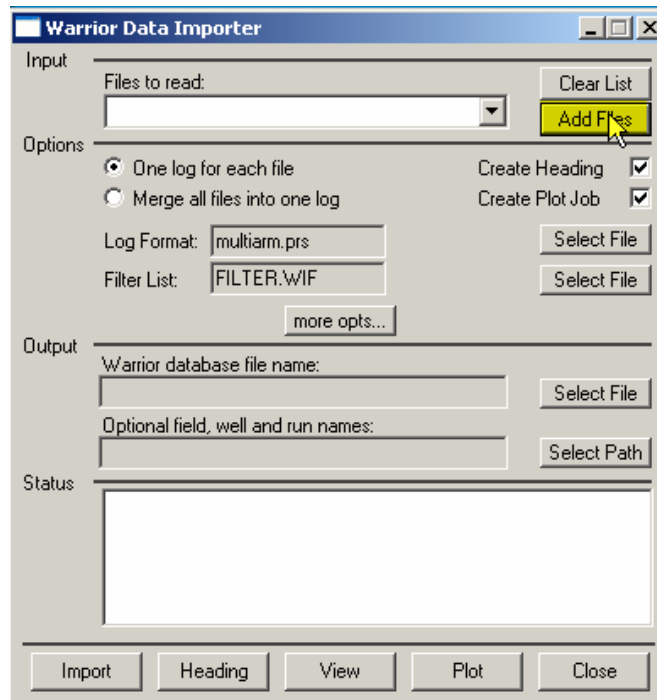


FIG: 13.64 Input File to Read

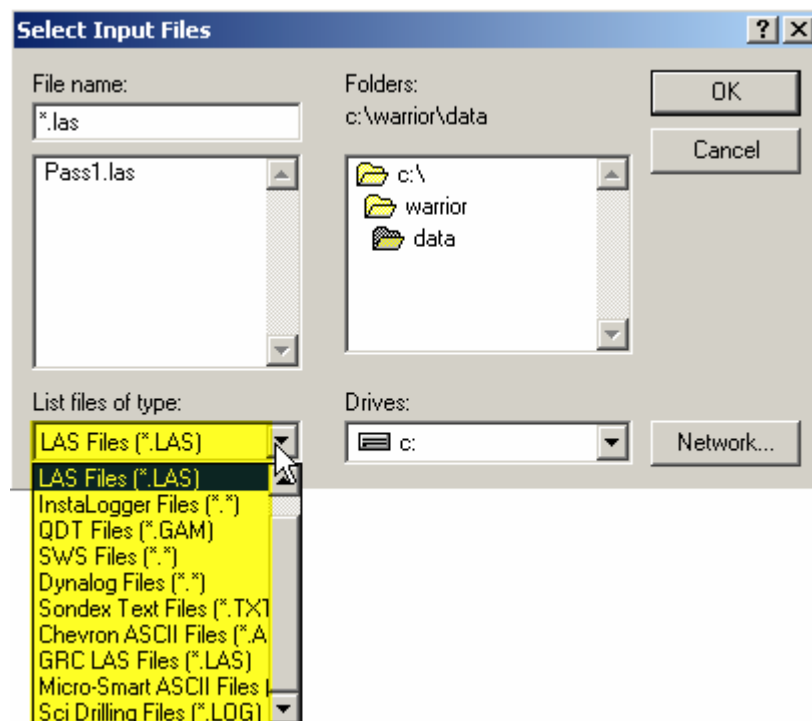


FIG: 13.65 Select the ASCII File Type

The importer will automatically import several common ASCII file types. Clicking on the Files of type selection displays the various ASCII formats handled. Select the type to be imported. If the ASCII file format to be imported is not displayed here contact SDS.

Select the required ASCII files in the normal way and click Open.

The selected files may be viewed by clicking the button in the Files to read: field. The selected files may be cleared by clicking the Clear List button.

In Options Clicking the One log for each file radio button generates a warrior log pass for each ASCII file selected.

Clicking the Merge all files into one log button merges all the selected ASCII files into one log pass. If the ASCII files contain curves of the same name, the importer will automatically add a numerical subscript to the duplicate curves according to the order they appear in the Files to read: list.

The default presentation file for the new log pass is entered in the Log Format field by clicking the corresponding Select File button.

The filter list file has the default extension .wif. It may be selected by clicking the corresponding Select File button.

Checking the Create Heading selection causes the importer to create a log heading file based on any available information from the ASCII input file(s). If no information is available it will create a blank heading in the new database.

Checking the Create Plot Job selection causes the importer to create a default plot job based on the log heading (if any) and the imported log passes.

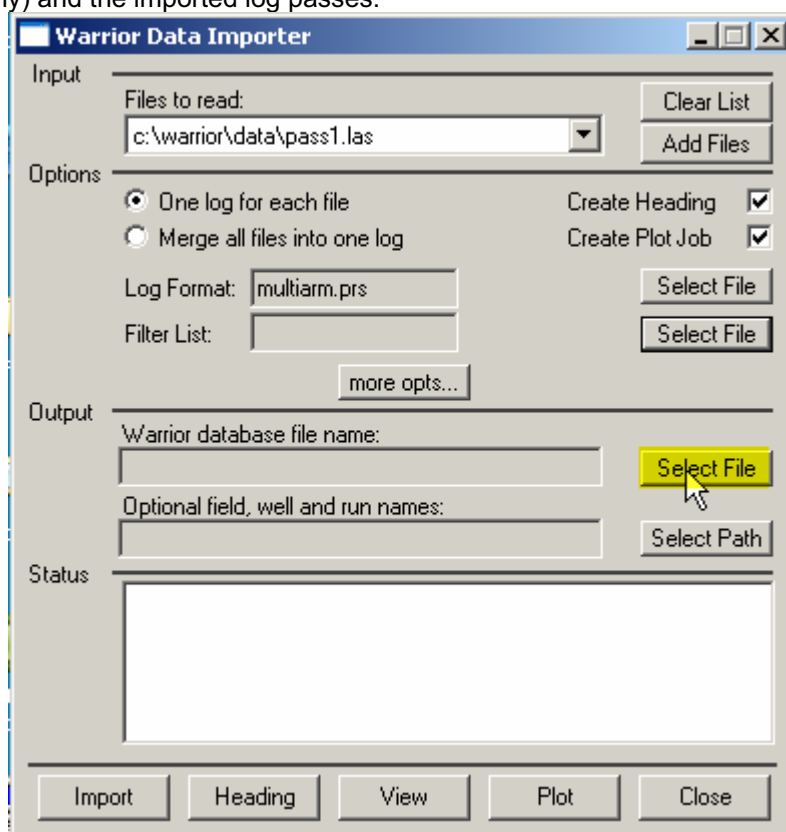


FIG: 13.66 Select File

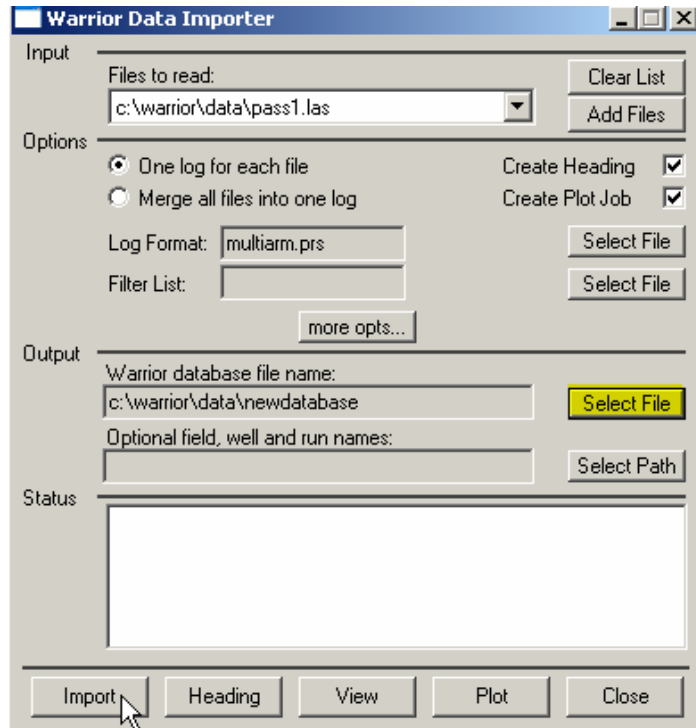


FIG: 13.67 Setup Warrior data Importer

If required the curves may be filtered during the import process. An ASCII text file must be created in the \warrior\bin directory and consist of a list of filter definitions similar to those used in the tools.ini file to define default filters

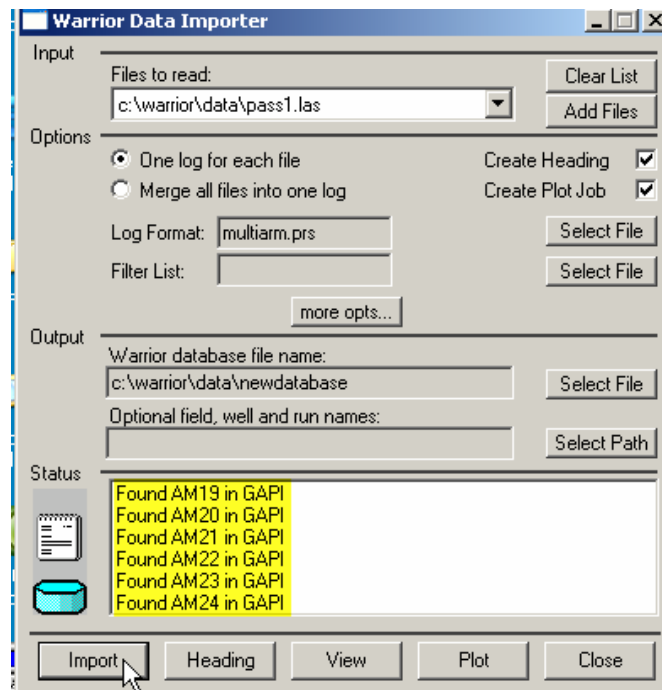


FIG: 13.68 Start to select the curves

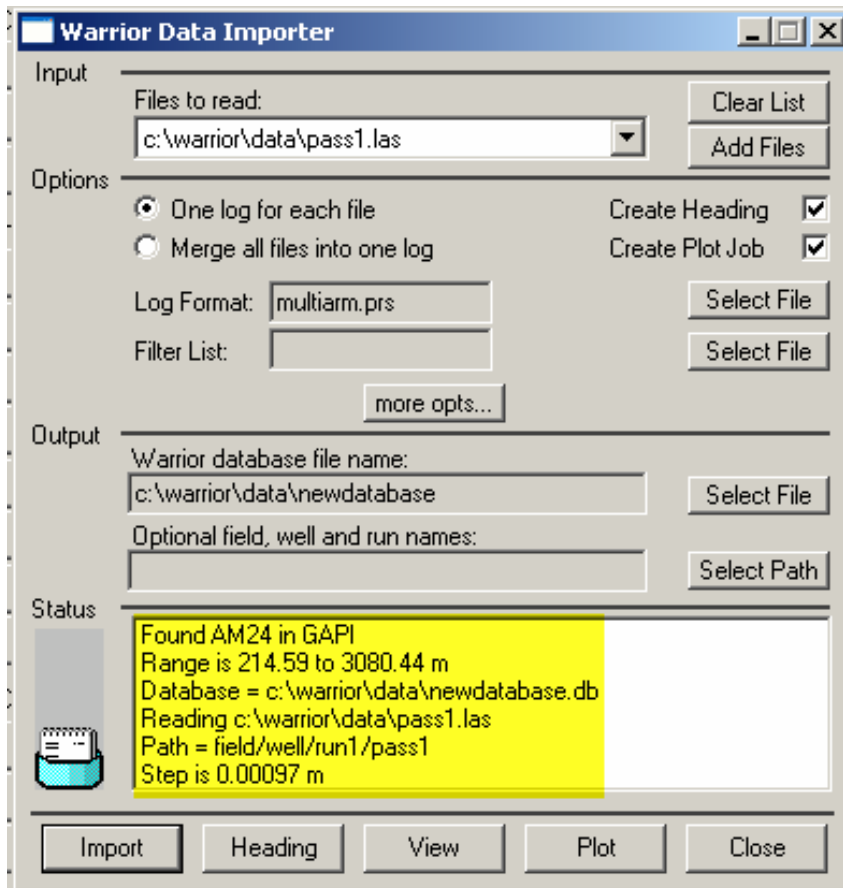


FIG: 13.69 Reading the ASCII and convert to DB

The status window displays a log of the importing operations.

Having made the various selections and chosen the required options the importer may be run by clicking the Import button. The importer will read the selected ASCII files and display the status.

Clicking the Heading button starts the Heading Editor program and displays the heading generated by the import process. If Create Heading was not selected a blank heading will be presented.

Clicking the View button starts the Interactive Plot program for screen display of the results of the import process.

Clicking the Plot button starts the Plot Job Editor program with the plot job generated during the import process (if any). If Create Plot Job was not checked a blank plot job is presented.

The Close button closes the Importer program.



VIDEO: 13.5 Read ASCII

### 13.3.2 Read LIS Data into the Warrior

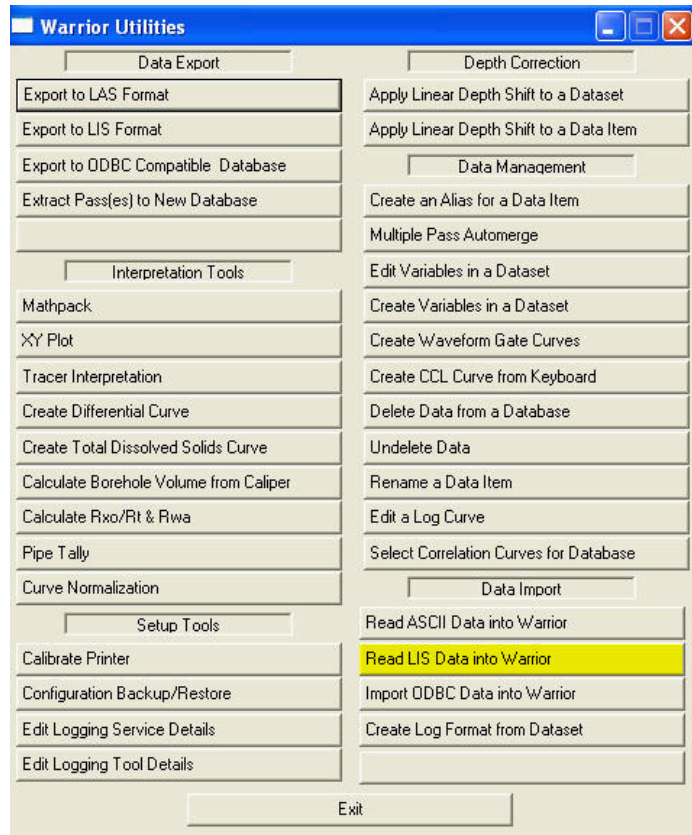


FIG: 13.70 Select Read LIS Data into Warrior

A tape must be copied to a disk file before it can be read in to a Warrior database. Select 'From Tape' and then select the tape drive and the output file name. Once that is completed, select OK to copy the data to a file. Once the data is read to a file, then a scan or conversion can be done.

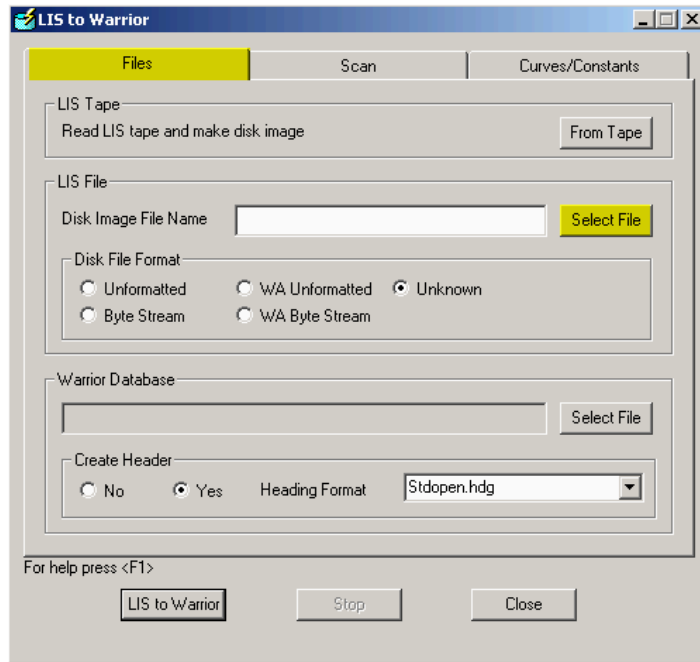


FIG: 13.71 Select LIS file

After the LIS file has been selected, choose one of the LIS file types. If you are not sure what the file type is then select Unknown. This will loop through all of the LIS file types until it can read the file without an error.

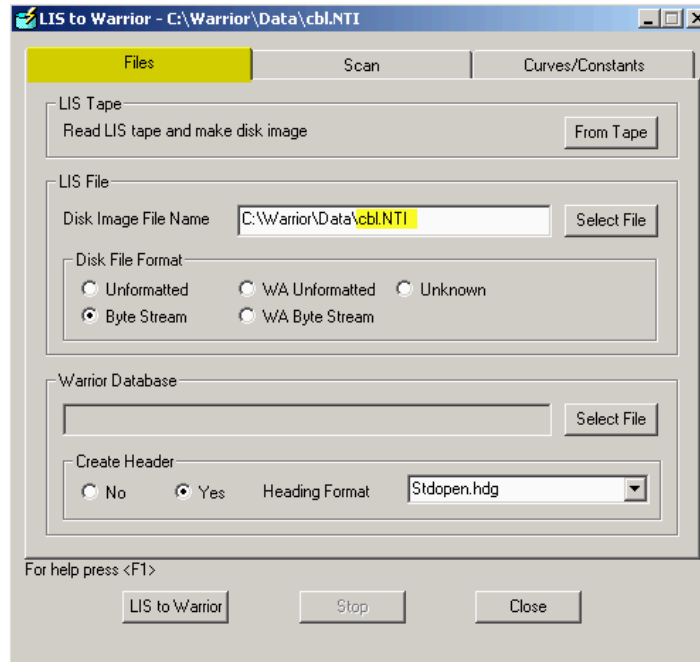


FIG: 13.72 CBL.NIT File

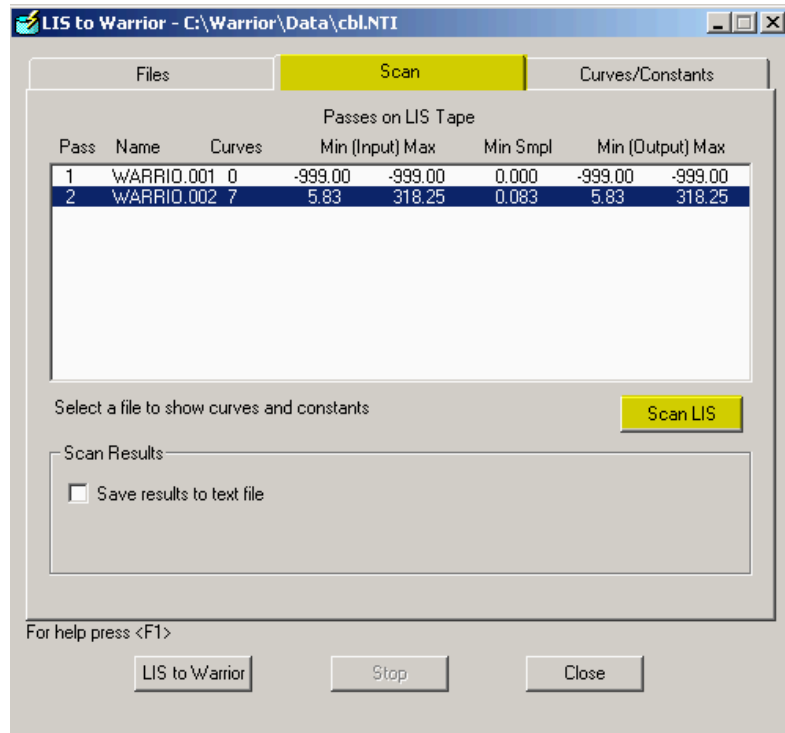


FIG: 13.73 Scan

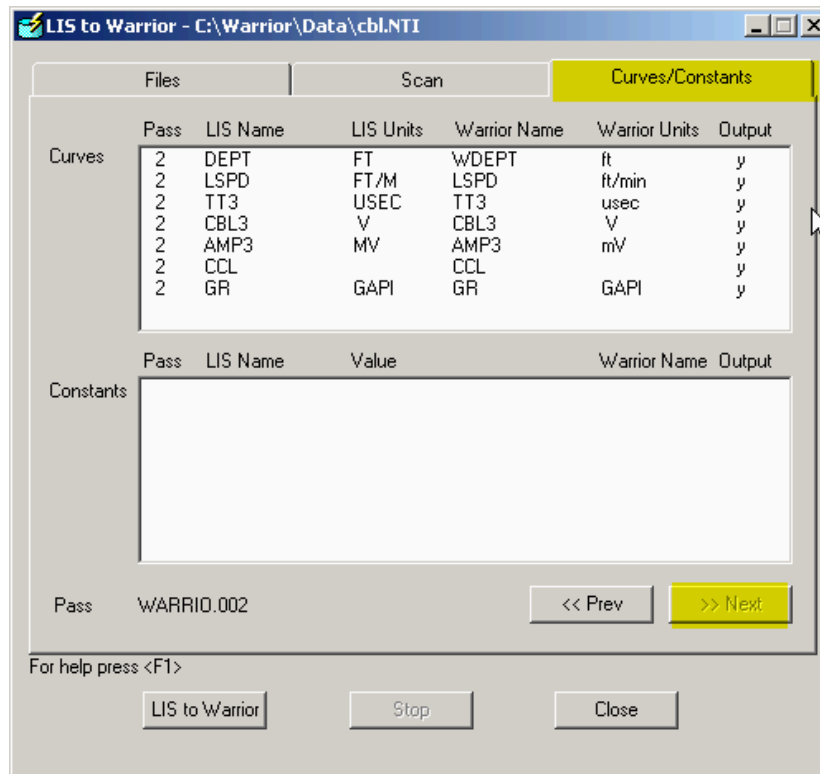


FIG: 13.74 Curves/Constants

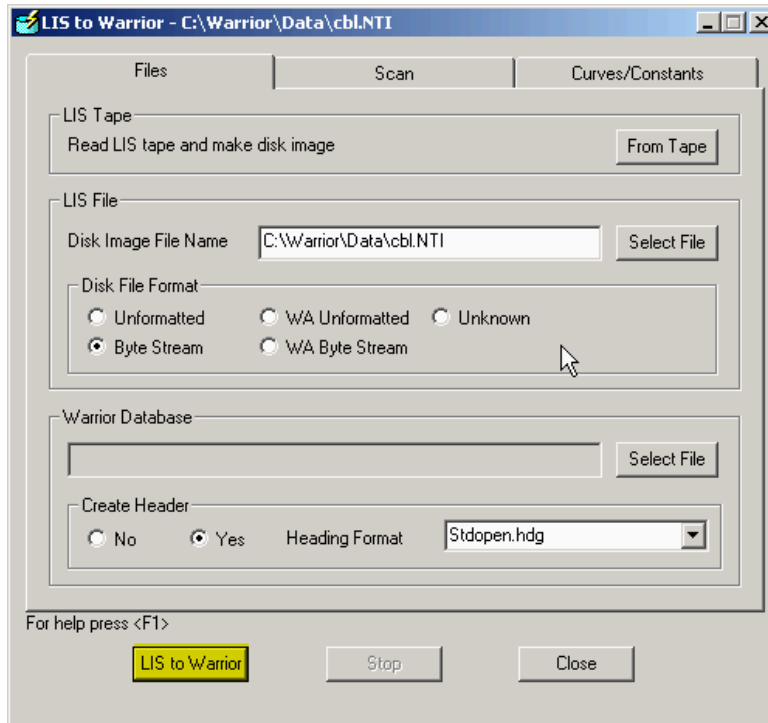


FIG: 13.75 Convert List to Warrior

The destination database file name does not have to exist, but the specific run given for the destination cannot exist. For any LIS passes greater than the first pass, the LIS pass number will be appended to the output Warrior database pass name to create a unique Warrior name for each pass. If a header is requested, then the heading information will be filled out based on the type of heading chosen. The heading that is chosen will affect the list of available heading names shown when editing constants from the Curves/Constants dialog. The heading that is created will go to `/[field]/[well]/[run]/_plots/_headings_/1`. Only one heading is allowed per `/[field]/[well]/[run]/`. Therefore, if a database is created from a LIS file with multiple passes, only the heading information from the first pass will be used to create the heading

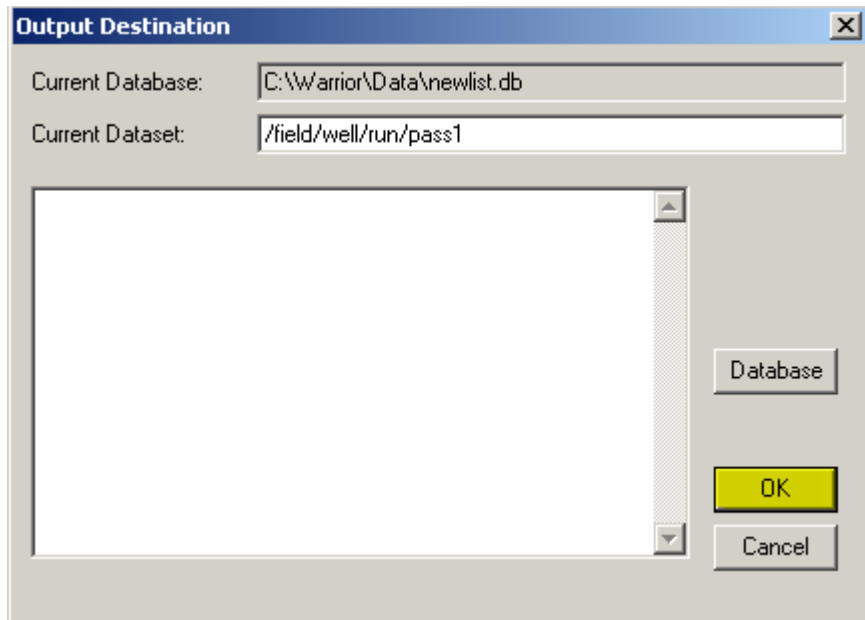


FIG: 13.76 Output

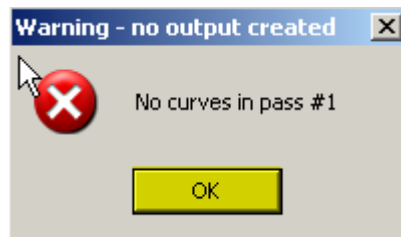


FIG: 13.77 Header not Output Curves

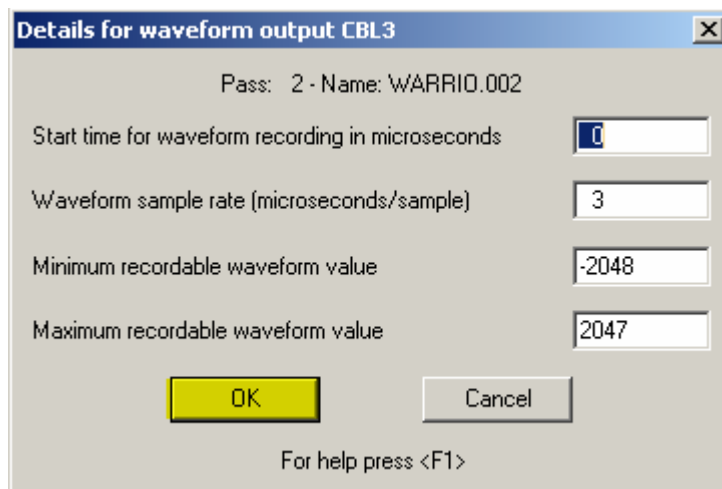


FIG: 13.78 Setup Output Details (see CBL.LET file Section 13.1.2.1)

### More Information Required for Waveform Data

The top line of the dialog contains the pass number and name from the LIS tape.

The start time for the waveform is the number of microseconds that elapsed prior to the beginning of recording the waveform.

The waveform sample rate is the total sample interval (in microseconds) divided by the total number of samples taken.

The minimum and maximum recordable waveform values are required for scaling the waveform plot properly. For example, a 13 bit-sampling device may have a range of values from -2048 to +2047.



VIDEO: 13.6 Read LIS

### 13.3.3 Import ODBC Data into Warrior

This program will import data for Excel, Access, FoxPro and other ODBC compatible databases. The limit for exporting data is 255 data points per sample. A normal curve is one data point but a waveform will be many more points for each sample. You will see a message in the progress window that the column count has exceeded if you exceed that amount.



FIG: 13.79 Import ODBC Data Into Warrior

### 13.3.4 Create Log format from Dataset

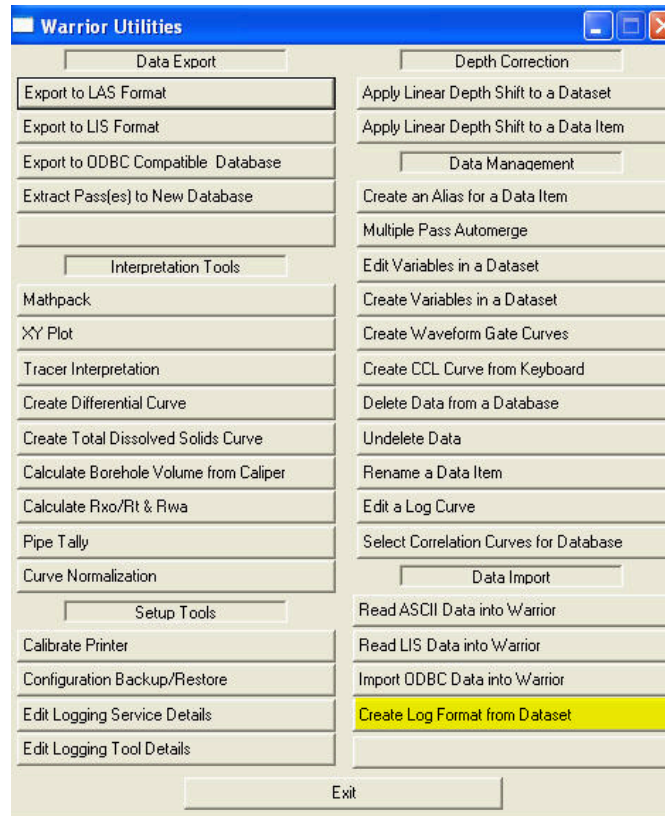


FIG: 13.80 Create Format from Dataset

## 13.4 Depth Correction

### 13.4.1 Apply linear Depth Shift to the a Dataset

This feature is intended to provide a rapid tie-in capability by applying a linear depth shift to a Dataset. Once a section of log has been made and is displayed on the screen, select **Depth Shift** from the Action menu.



FIG: 13.81 Apply Linear Depth Shift to a Dataset

Clicking on this button brings up the same depth shift dialog box that is available from the Acquisition module. It allows a linear depth shift to be quickly applied to a dataset (typically all the curves in a log pass).

#### 13.4.1.1 Depth Shift a Dataset

In the Warrior System group, choose the Utilities icon. (Double-click the icon, or use the arrow key to move the selection cursor to the icon and hit Enter.). The Utilities menu box will appear.

Click on the Apply Linear Depth Shift to a Dataset button. A dialog box will appear as shown below:

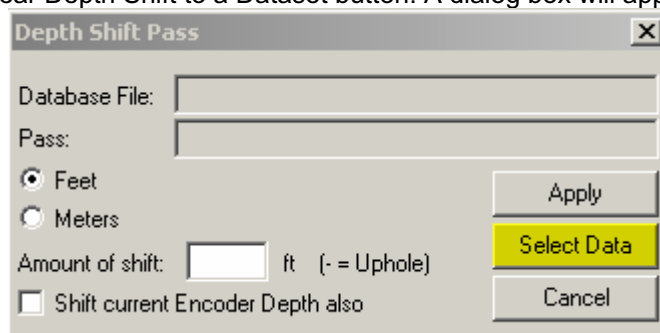


FIG: 13.82 Depth Shift Pass

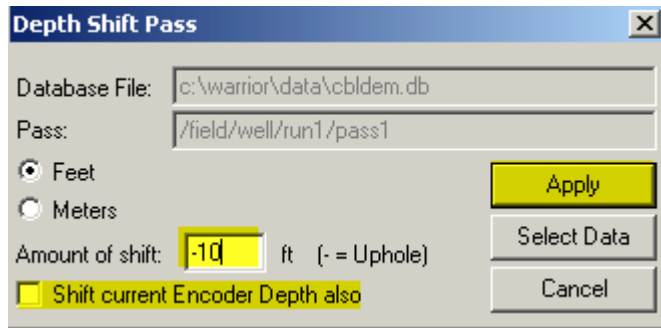


FIG: 13.83 Set Depth Shift

Enter in the Amount of shift box, the shift to be applied (a positive number to make the data deeper, and negative to make the data shallower).

Click on the Apply button and the data is shifted the requisite amount.

Note that the default is for the Shift current Encoder Depth also box to be inactive, i.e. the encoder depth will not be updated unless the box is checked.

### 13.4.2 Apply linear Depth Shift to the a Data item

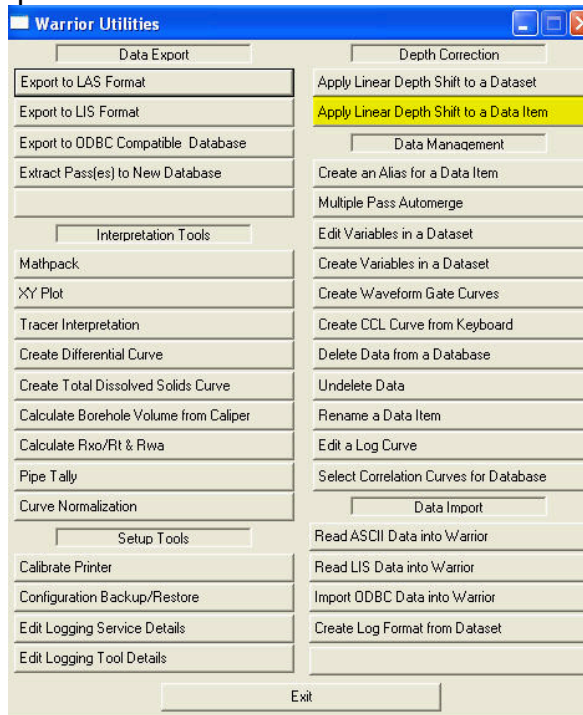


FIG: 13.84 Apply Linear Depth Shift to a Data Item

Clicking on this button brings up a similar depth shift dialog box that is available from the Acquisition module. It allows a linear depth shift to be quickly applied to a data item (typically one curve from a log pass).

In the Warrior System group, choose the Utilities icon. (Double-click the icon, or use the arrow key to move the selection cursor to the icon and hit Enter.) The Utilities menu box will appear.

Click on the Apply Linear Depth Shift to a Data Item button. A dialog box will appear as shown below:

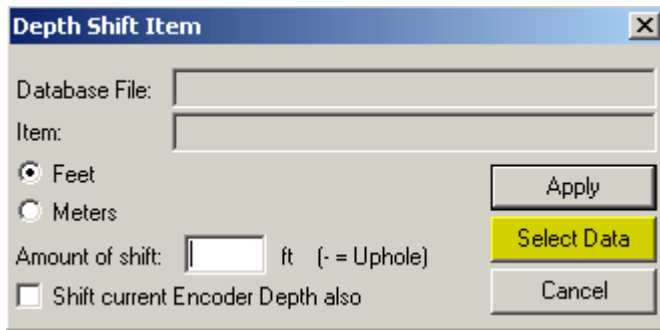


FIG: 13.85 Select Data

Click the Select Data button to select the database file and then the data item (curve) to be depth shifted.

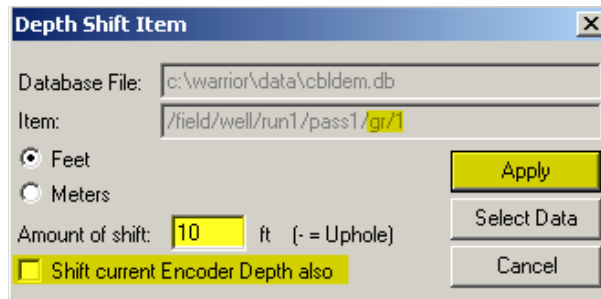


FIG: 13.86 Select

Enter in the Amount of shift box, the shift to be applied (a positive number to make the data deeper, and negative to make the data shallower). Click on the Apply button and the data item is shifted the requisite amount.

Note that the default is for the Shift current Encoder Depth also box to be inactive, i.e. the encoder depth will not be updated unless the box is checked.

## 13.5 Data Management

### 13.5.1 Create an Alias for a Data Item

Clicking on this button brings up a dialog box, which allows a data item, typically a curve from a log pass, to appear as though it were present in another (different) log pass. This allows curves and other data items to be effectively merged to other datasets, without using the Merge program or creating new merged log passes. Essentially a form of link is defined in the database(s) that allows application programs (such as Interactive Plot) to access data items from datasets other than the dataset currently selected.

In the Warrior System group, choose the Utilities icon.



FIG: 13.87 Select Create an Alias for a Data Item

Click on the Create an Alias for a Data Item button. A dialog box will appear as shown below:

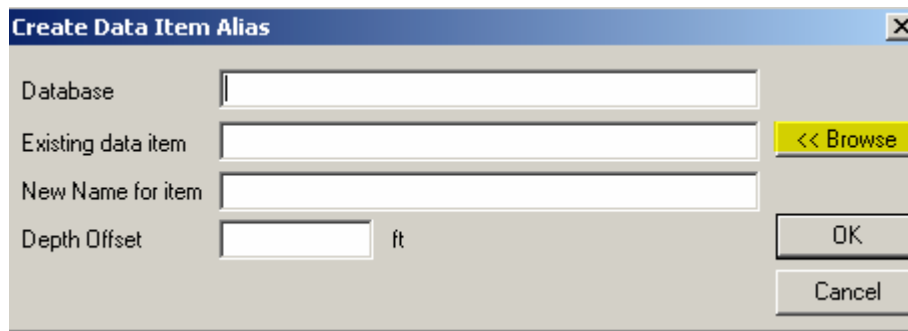


FIG: 13.88 Browse DataBase

Click the Browse button and select the database file, then the dataset (log pass) and finally the data item to aliased. In the case shown below the curve GR has been selected from pass12 of the cbldemo.db database.

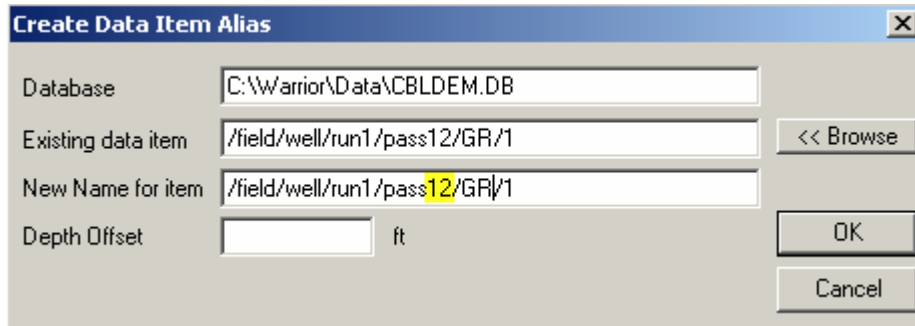


FIG: 13.89 Create data Item Alias

This is the database item to be aliased to another pass.  
 In the New Name for item field replace any or the entire data item path. For example if we want this GR curve to appear in pass1, we type over pass12 with pass1, as shown below:

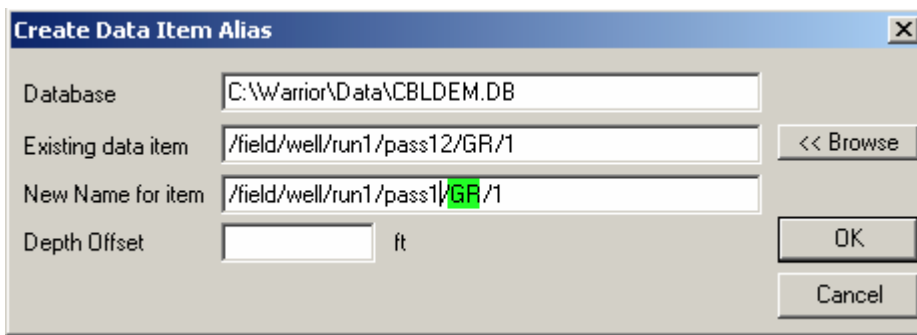


FIG: 13.90 Create Pass1

The OK button is clicked and the GR curve from pass12 will now appear in pass1. If a curve with the same name already exists in pass1 then the program will give a message indicating that this is the case and the alias will not be performed. The easiest thing to do in this case is to rename the GR curve to something else (which does not already exist in that pass) e.g. GR2.

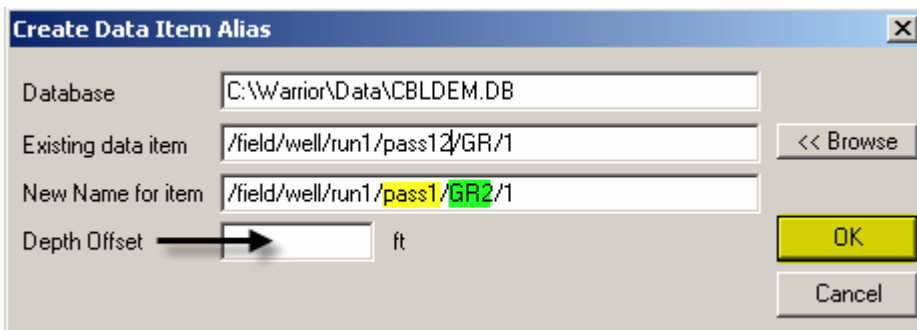


FIG: 13.91 Create GR2 Curve

Clicking the OK button will now alias the pass12 GR curve to pass1 as GR2. Note that if you now wish to plot this curve it will be necessary to include a curve called GR2 in the presentation file with which the pass will be plotted.

Note that a linear depth offset may be applied to the data item as it aliased, so if the curve is not depth aligned with the other data in the destination path, it may be corrected at this point.

Note also that no new log passes are created in this process and the size of the database(s) remains the same. This is very important when wishing to present waveform data from several passes simultaneously, as large amounts of data would otherwise be created.

### 13.5.2 Multiple pass Auto merge

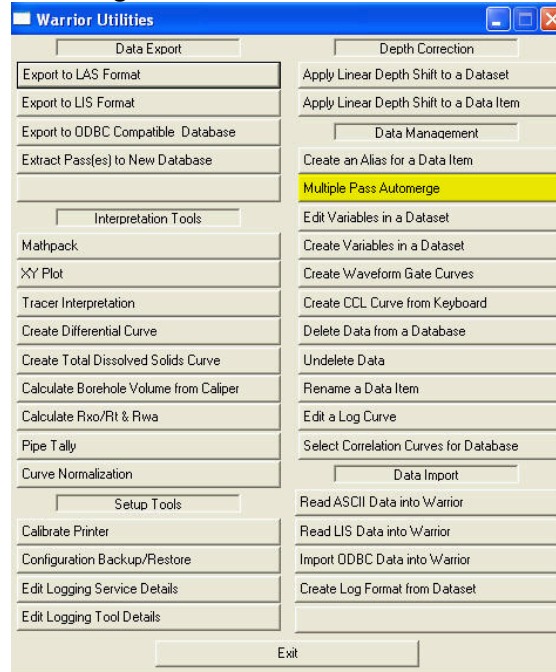


FIG: 13.92 Multiple Pass AutoMerge

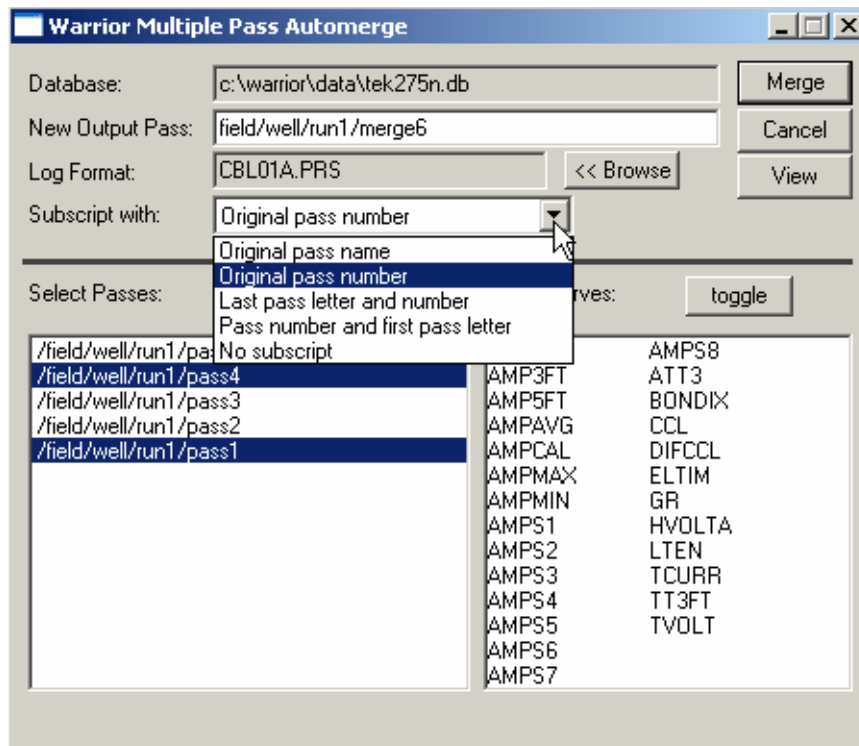


FIG: 13.93 Multiple Pass Automerge

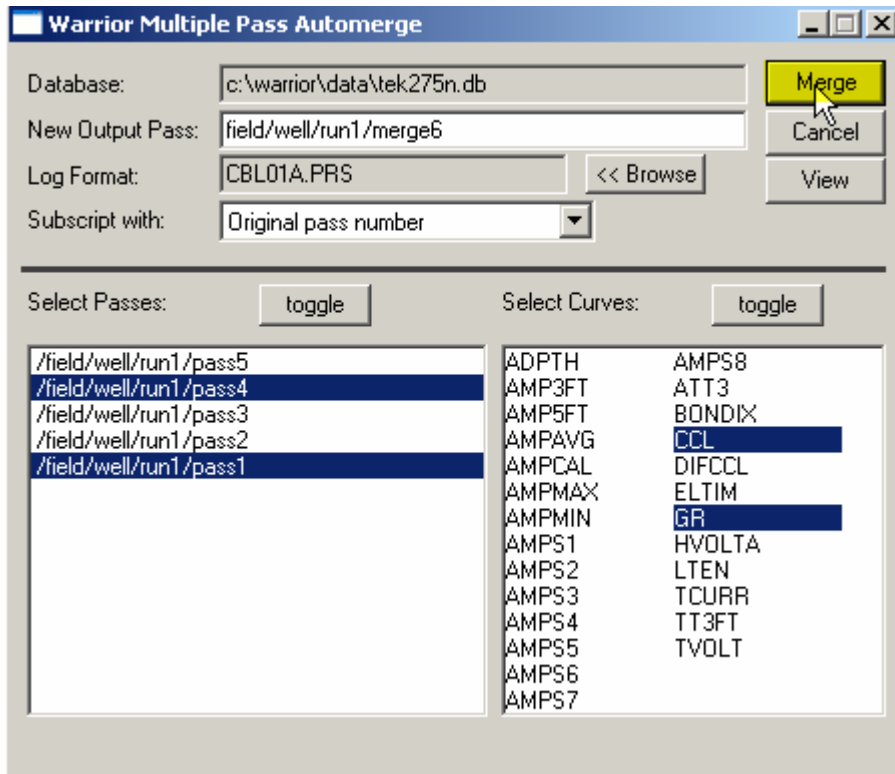


FIG: 13.94 Set Passes and Curves



FIG: 13.95 Four new aliases curves

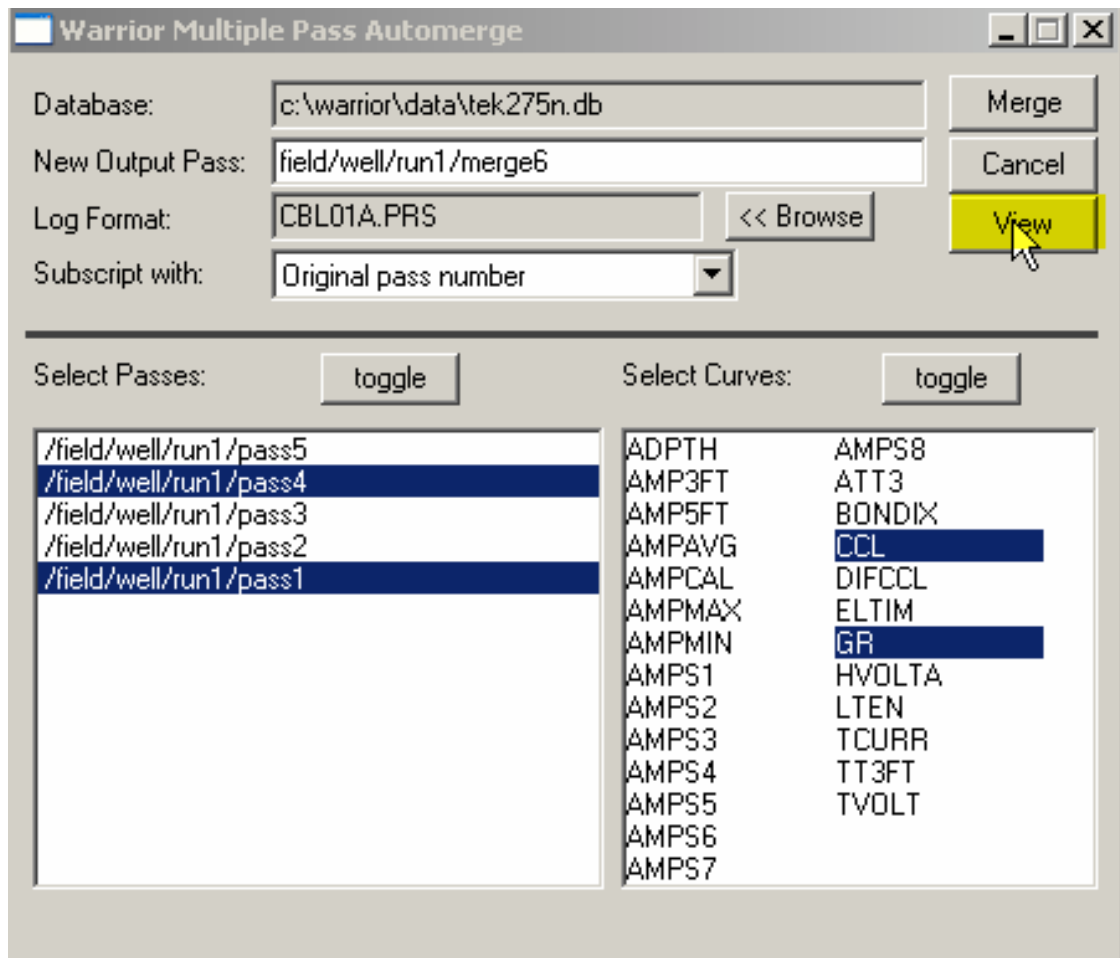


FIG: 13.96 View option

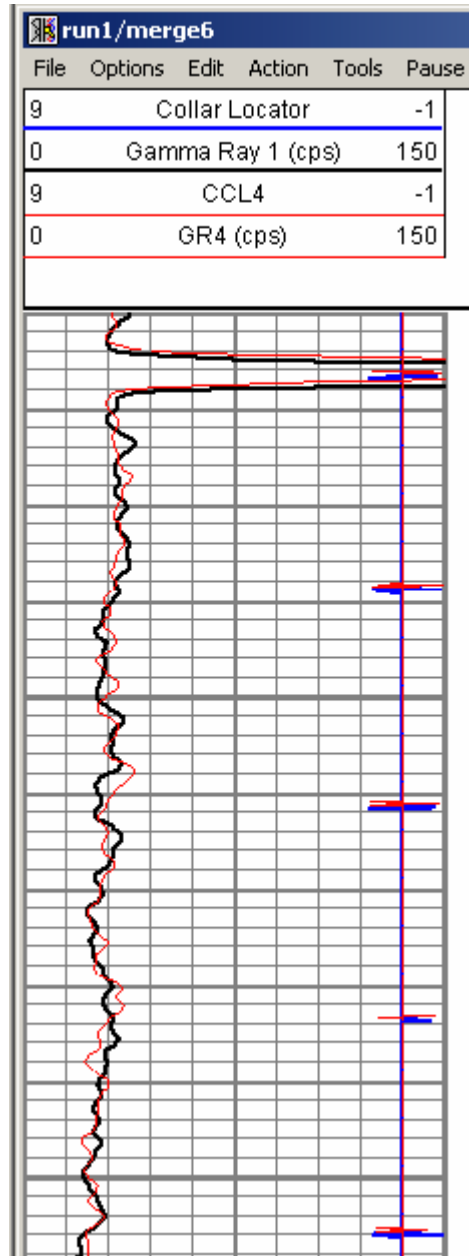


FIG: 13.97 Plot the new add curves



VIDEO: 13.7 AutoMerge

### 13.5.3 Edit Variables in a Dataset

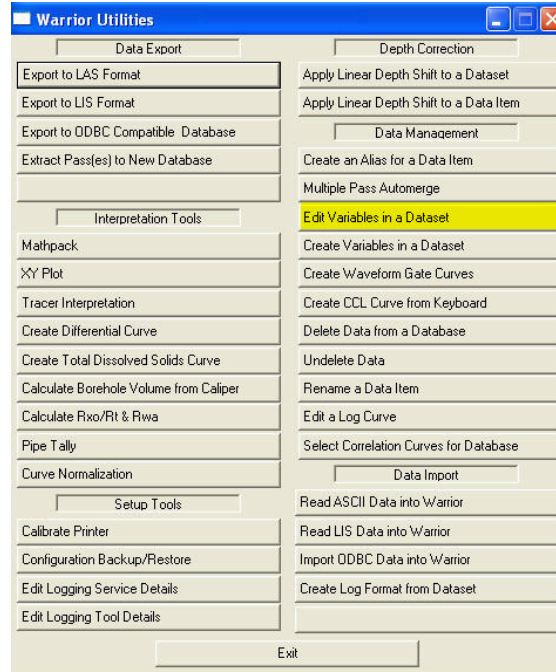


FIG: 13.98 Edit Variables in a Dataset

See Section 4.5.2

### 13.5.3 Create Variables in a Dataset

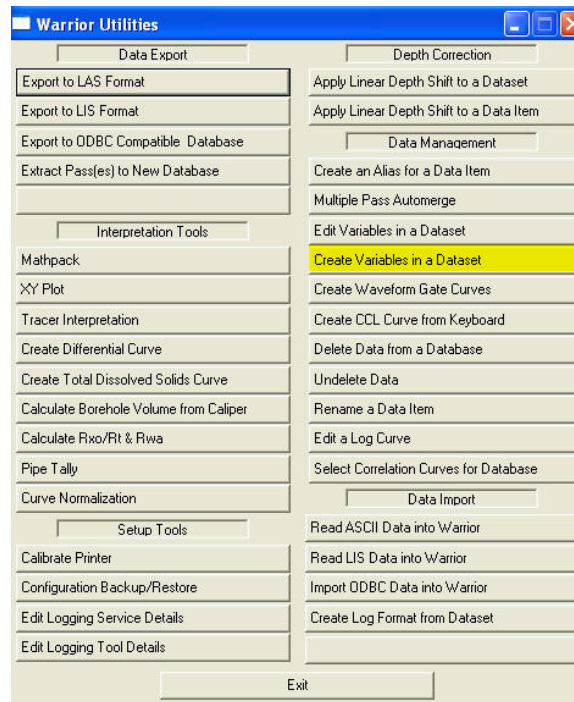


FIG: 13.99 Create Variables in a Data set.

### 13.5.6 Create Waveform Gate Curves

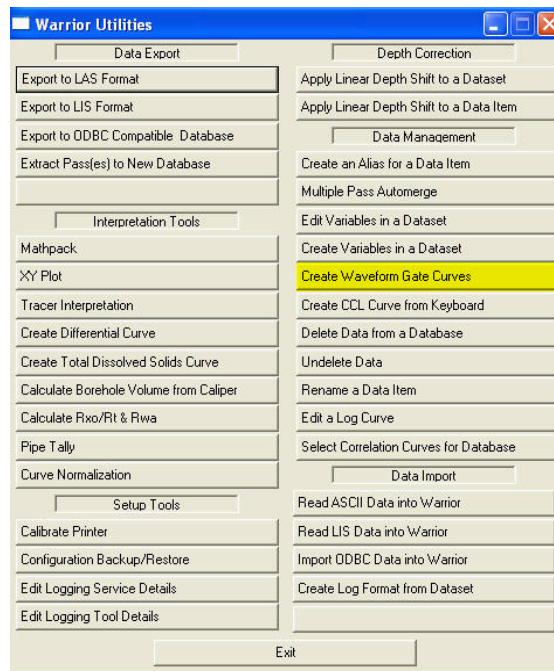


FIG: 13.100 Create Waveform Gate Curves

### 13.5.6 Create CCL Curve from Keyboard



FIG: 13.101 Create CCL Curve from Keyboard

### 13.5.7 Delete Data from a Database



FIG: 13.102 Select Delete data from a Database

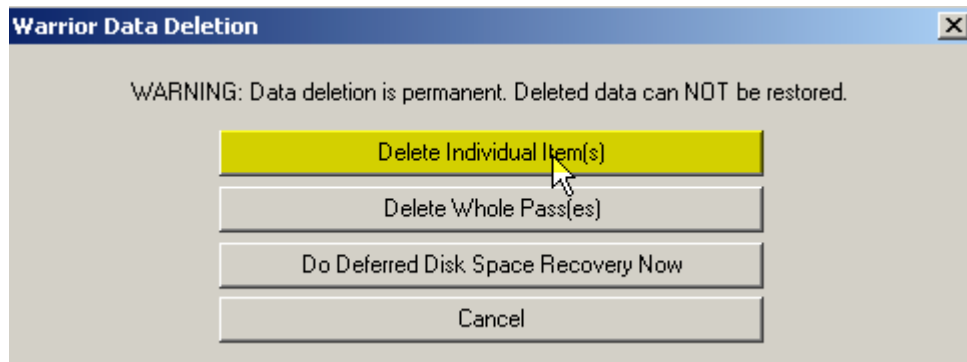


FIG: 13.103 Delete Individual Item(s)

To delete a database item e.g. a curve, click on Delete Individual Item(s). The standard database file selection dialog appears.

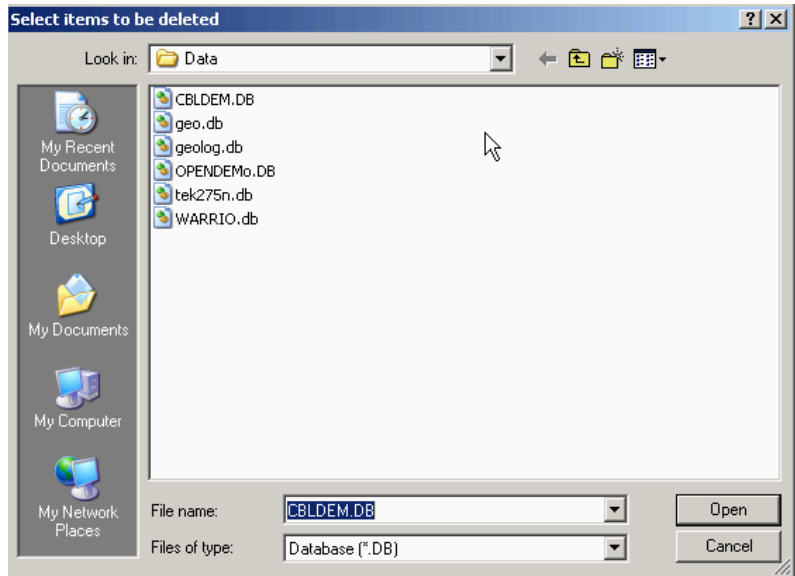


FIG: 13.104 Select Database

After selecting the database, the dialog for selection of the data item appears. Select the data item(s) to be deleted. All or no items may be selected by using the Toggle button.

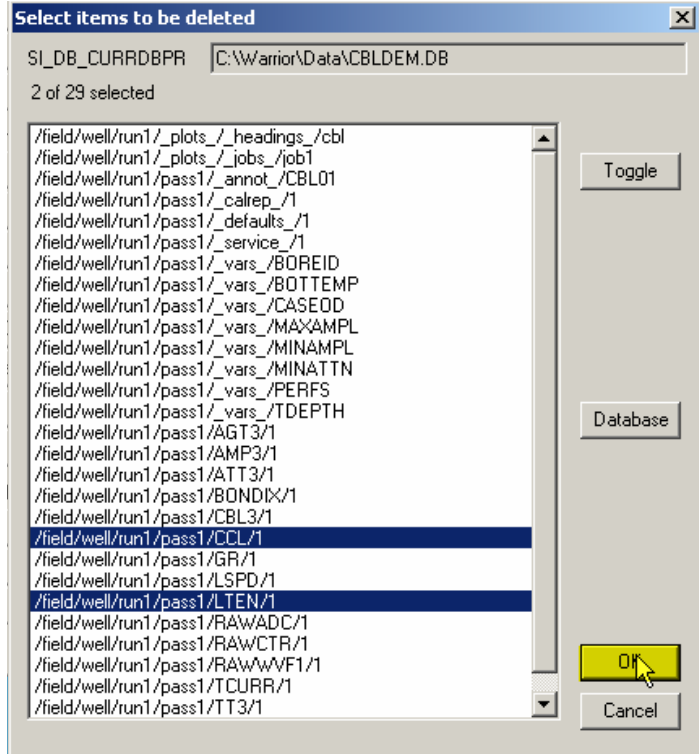


FIG: 13.105 Select Items

A warning message appears informing that permanent data deletion is about to take place.

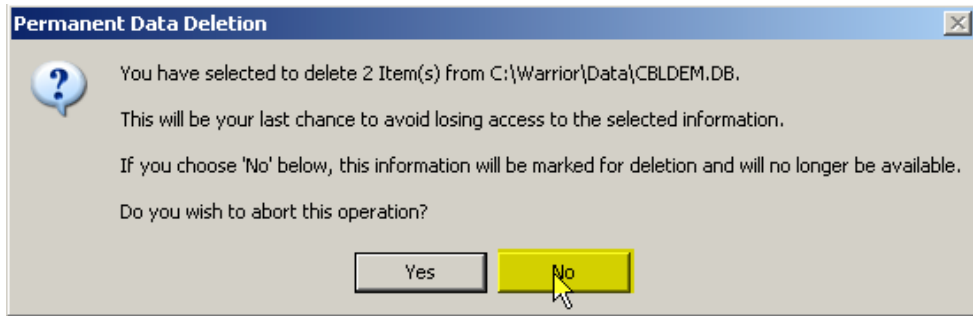


FIG: 13.106 Permanent Data Deletion



**Warning! DATA DELETED WITH THIS UTILITY CANNOT BE RECOVERED**

Clicking Yes in the above aborts the operation. Clicking No proceeds with the operation and allows the choice to repack the database file immediately or to defer the operation until later.

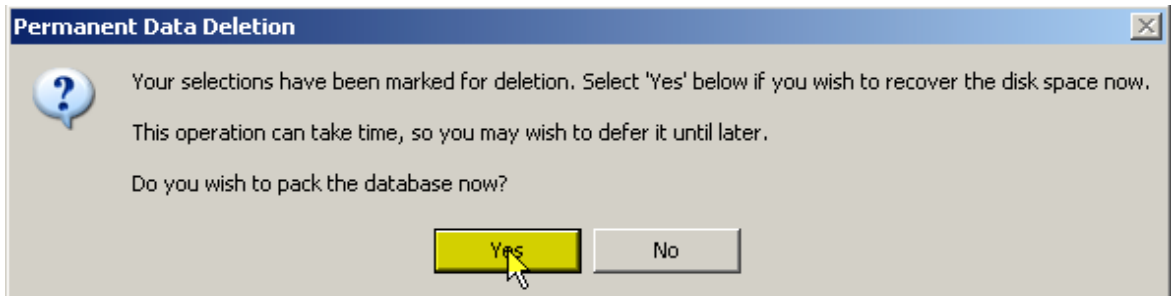


FIG: 13.107 Deletion

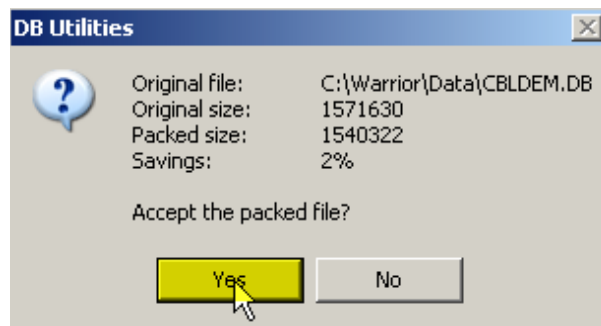


FIG: 13.108 Packing

Clicking Yes causes the data item to be removed and the database repacked immediately and clicking No marks the data item for deletion, but defers the packing of the data base.



VIDEO: 13.8 Deleted data

### 13.5.8 Undelete Data

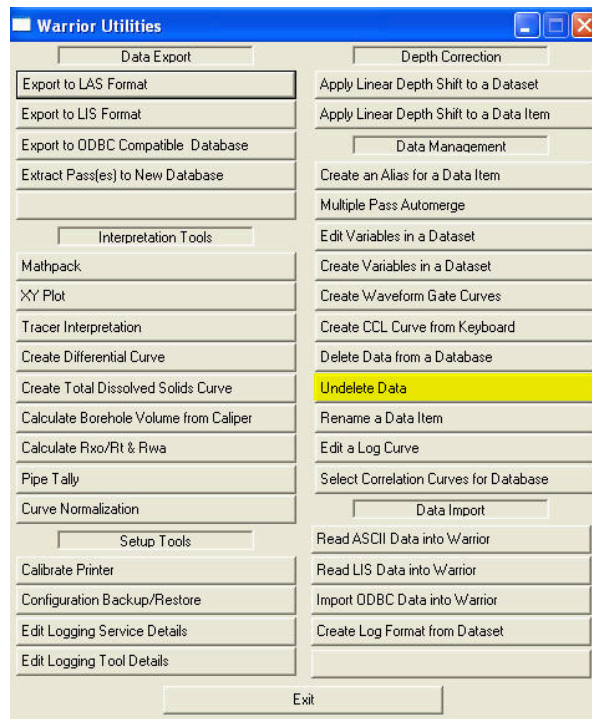


FIG: 13.109 Undelete Data

### 13.5.9 Rename a Data Item

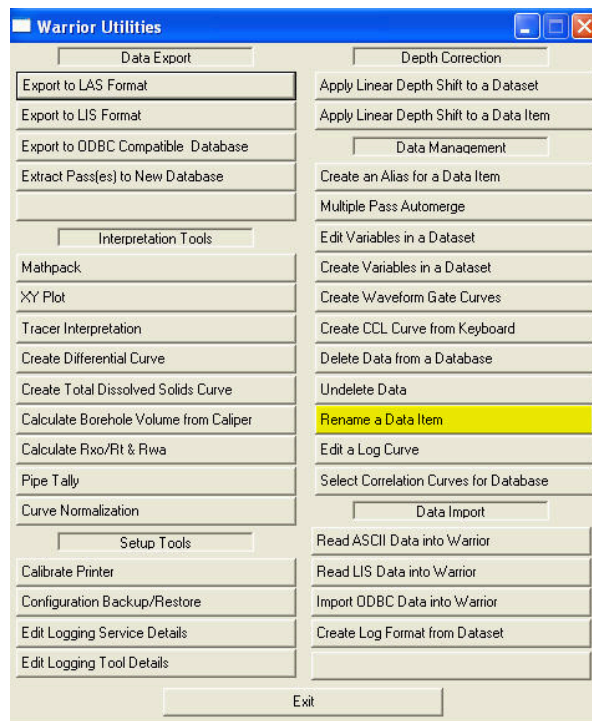


FIG: 13.110 Rename a Data Item

### 13.5.10 Edit a Log Curve



FIG: 13.111 Edit a Log Curve

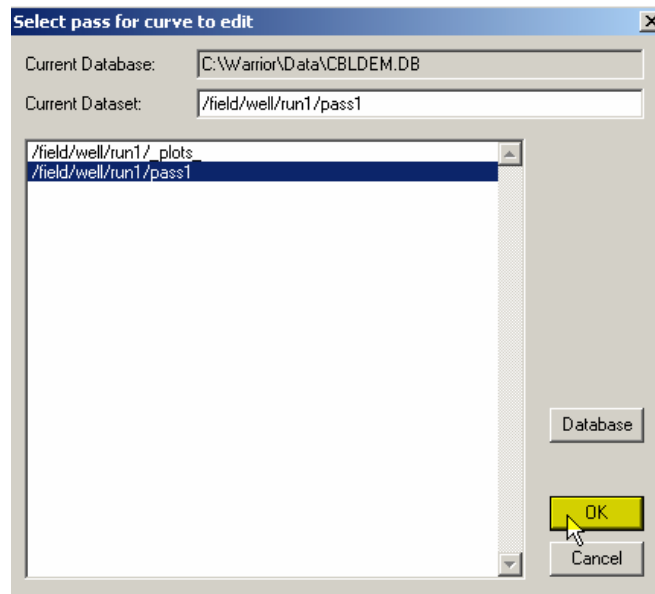


FIG: 13.112 Select Pass for Curve to edit

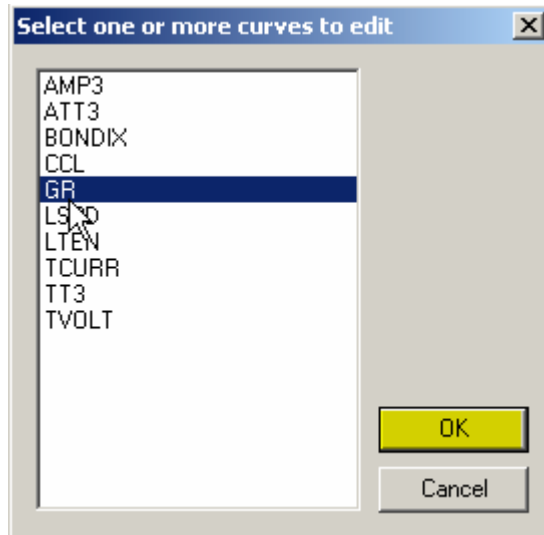


FIG: 13.113 Select Curve

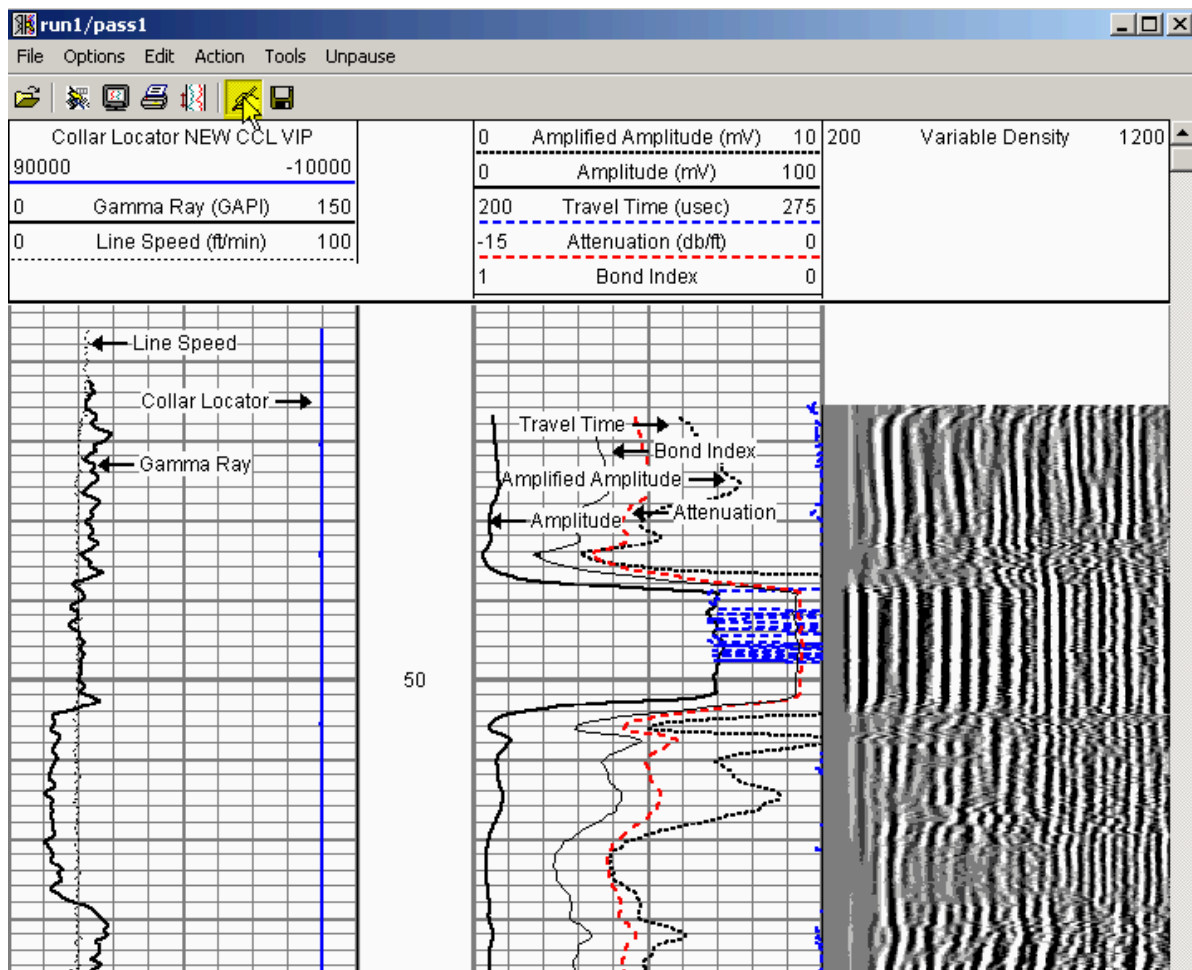


FIG: 13.114 Plot Curve

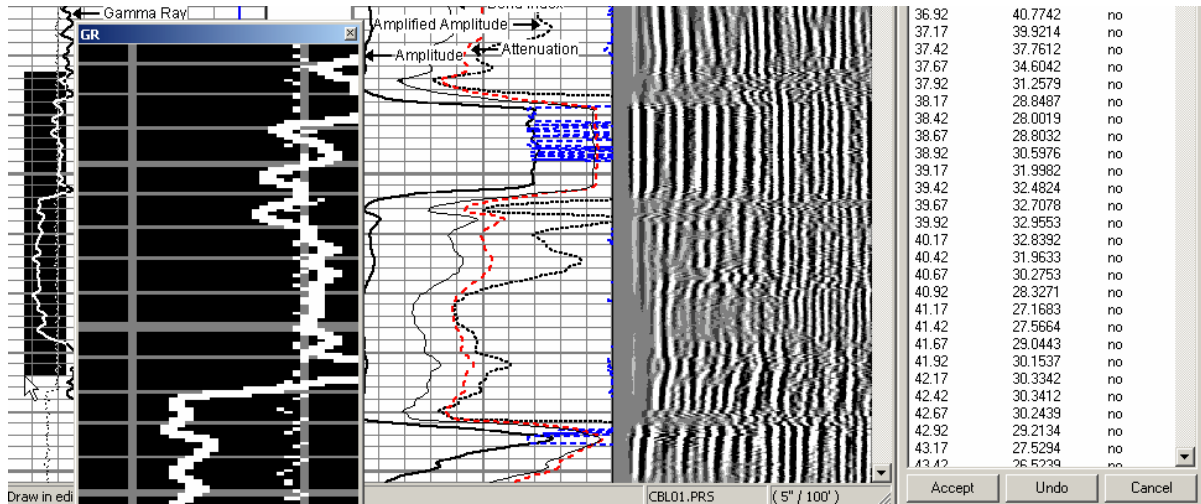


FIG: 13.115 Zoom Curve

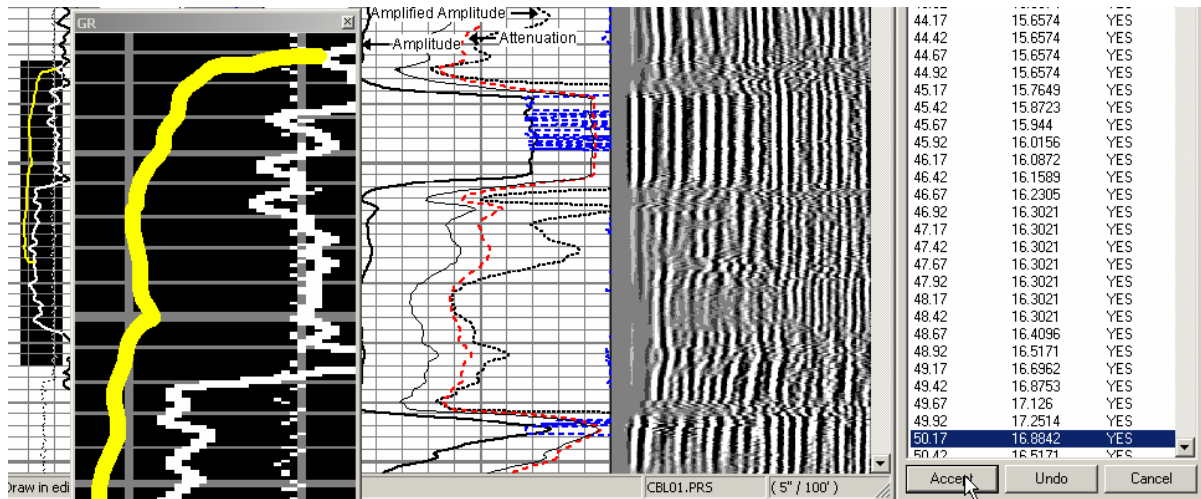


FIG: 13.116 Draw Curve

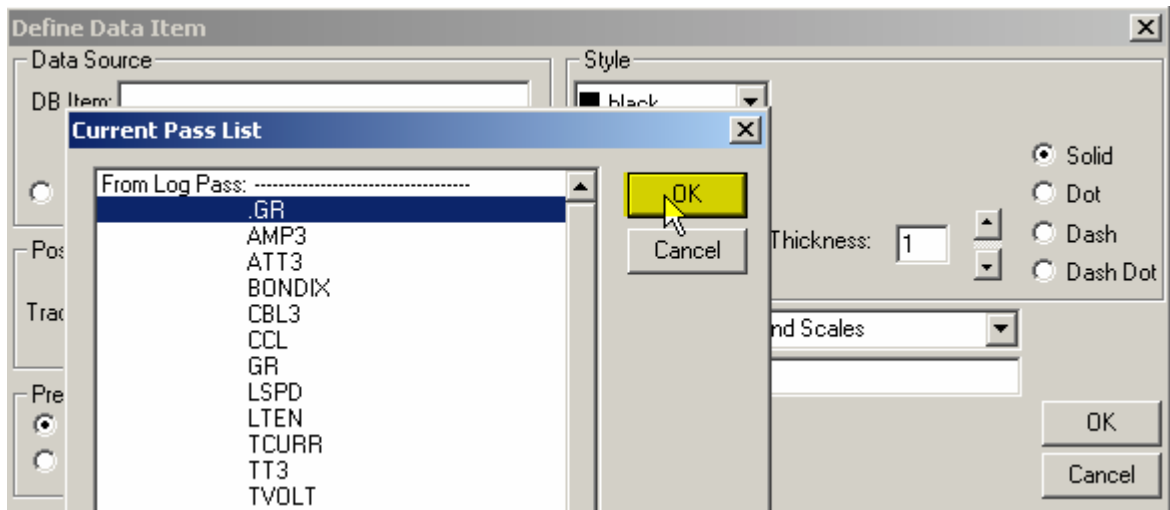


FIG: 13.117 Curve List

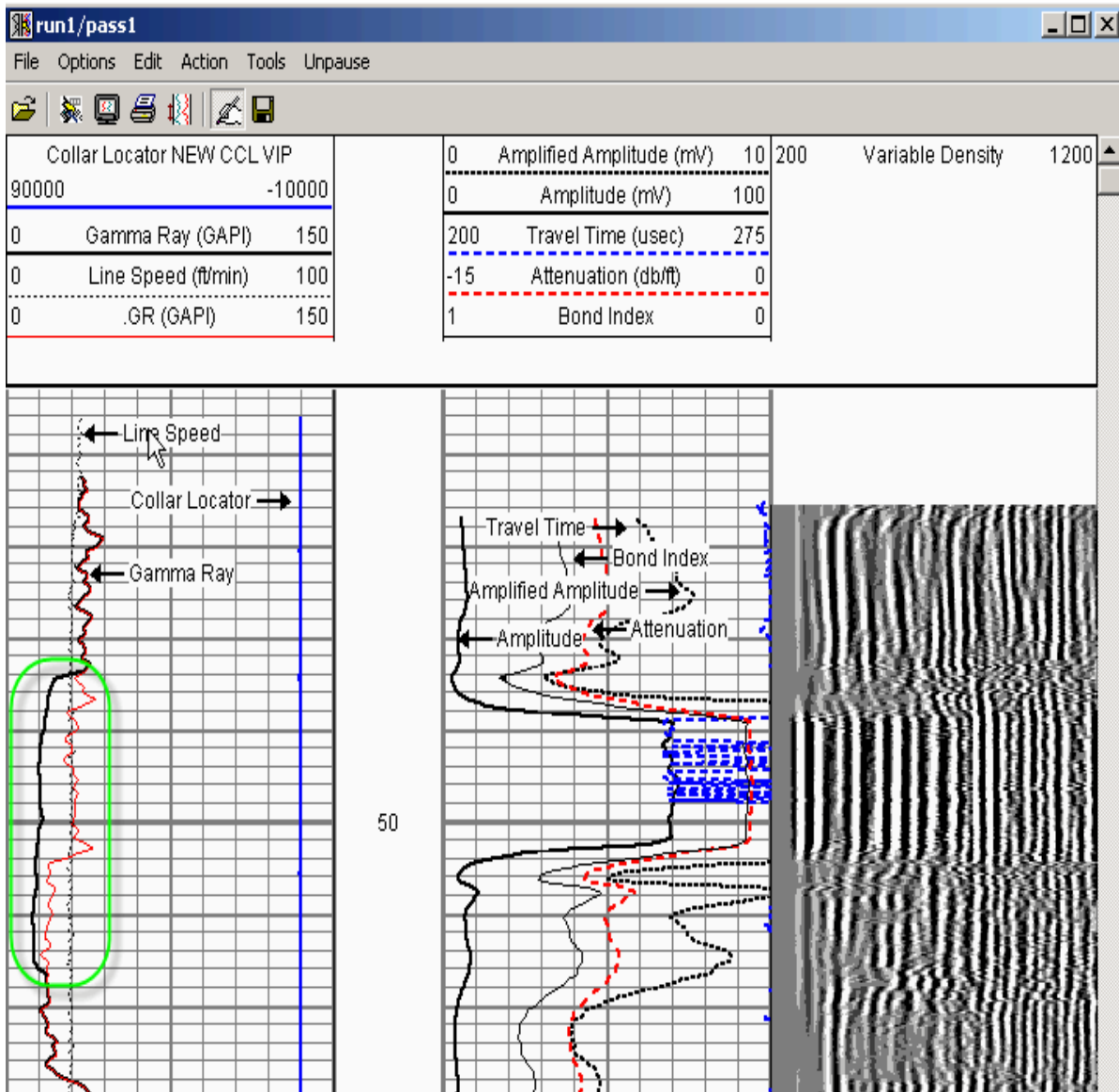


FIG: 13.118 Plot Curves

## 13.5.11 Select Correlations Curves from Data Base



FIG: 13.119 Select Correlation Curves to for Database

## 13.6 Setup Tools

### 13.6.1 Calibrate Printer

In Utilities click on the Calibrate Printer button.

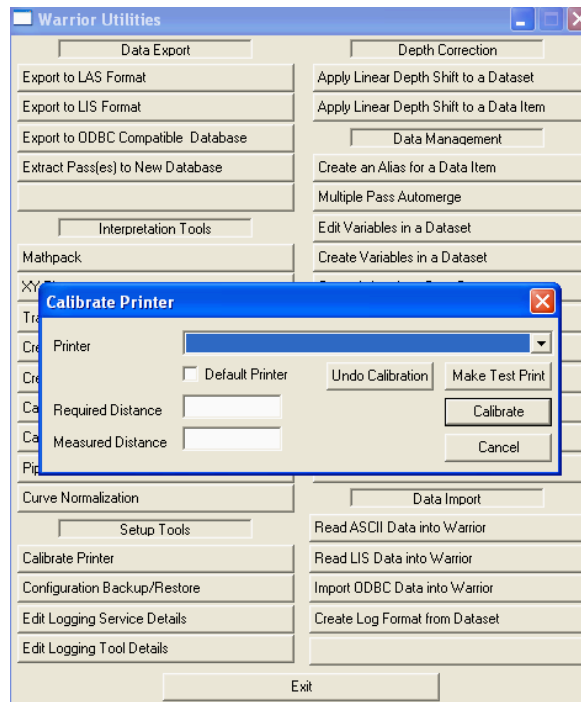


FIG: 13.120 Select Calibrate Printers

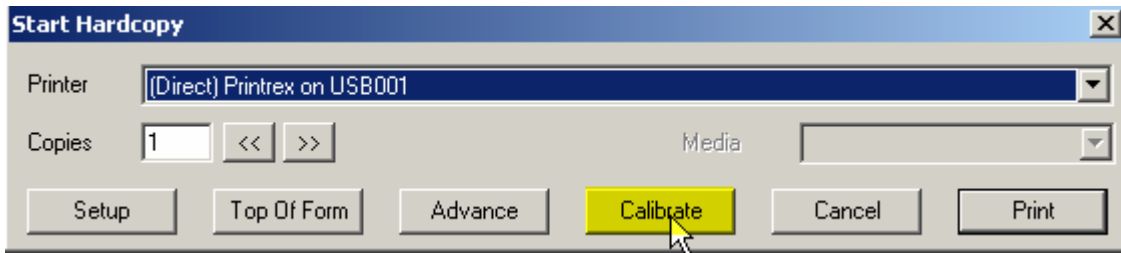


FIG: 13.121 Select from Hardcopy Calibrate

Select the printer to calibrate using the selection box. This printer may be made the Default Printer by checking the Default Printer box.

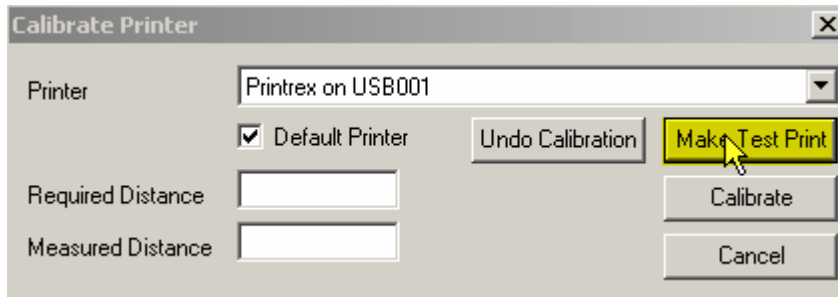


FIG: 13.122 Select Make Test Print

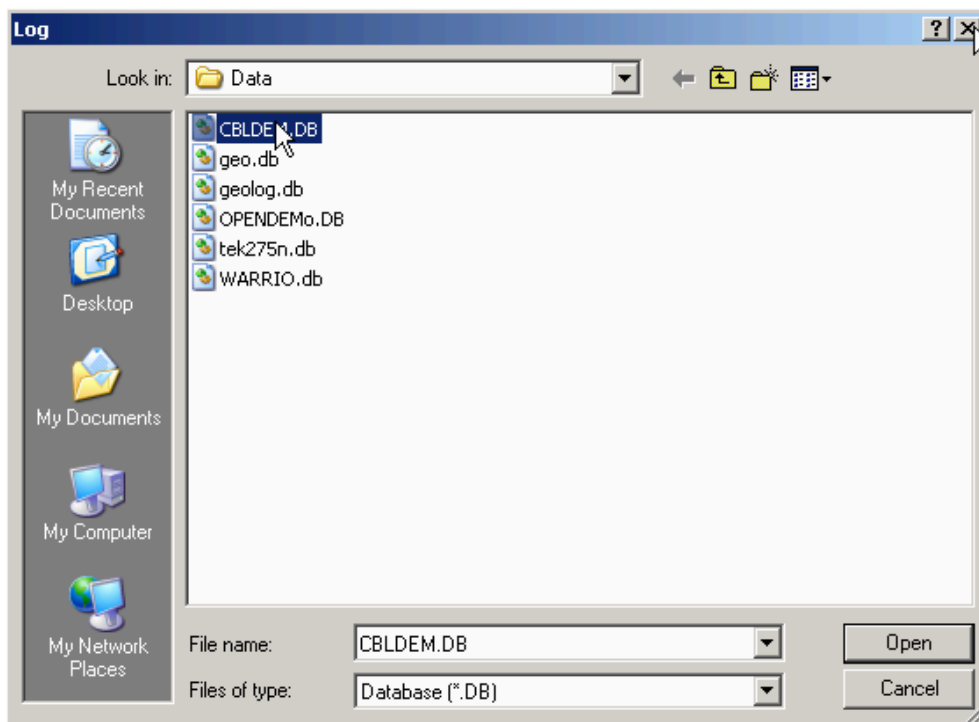


FIG: 13.123 Select Database to Plot

The calibration is based on two parameters entered by the user. Enter the required length of print output for any given log interval, e.g. 10 inches for 200 feet of log on a 5-inch scale (5 in = 100Ft). It means Scale 1: 240. Enter the actual length of plot currently output by the plotter for the same log interval. Press Calibrate.

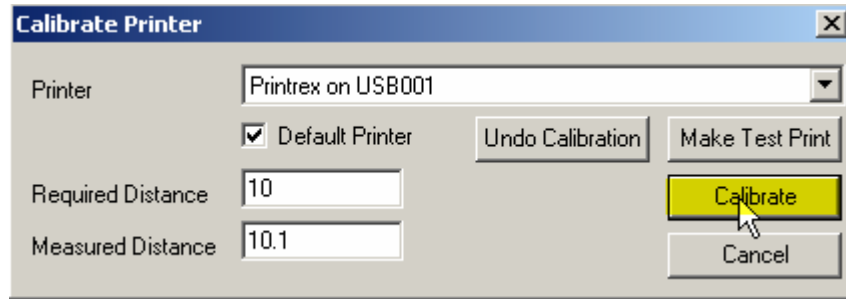


FIG: 13.124 Calibrate

Note that the required length can be any length, so that the current hardcopy may be forced to match any correlation log, even one with an incorrect hardcopy scale.

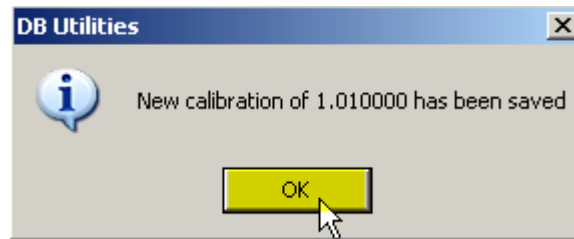


FIG: 13.125 Click on OK



VIDEO: 13.9 Printer Calibration

### 13.6.2 Configuration Backup/Restore

Every computer system will, sooner or later, suffer a failure, like a disk crash, where potential loss of programs and/or data is possible. This will generally happen at the most inconvenient time. **The importance of keeping current backups cannot be overemphasized.** It is vital that current backups are kept of all essential programs and data.

The warrior system is usually configured for the selection of services to be run by a given client. This information is primarily contained in three files, namely warrior.ini, services.ini, and tools.ini. A copy of all your files customized can be backed up to USB Memory/Hard disk/Floppy disk by using Backup/Restore utility 'Configuration Files'.



FIG: 13.126 Select Configuration Backup/Restore.

### 13.6.3 Configuration Files

Configuration files are the files that make one system different from another. This includes Tools.INI, Services.INI, Warrior.INI and other initialization files. It also includes presentation files, heading files, logo files, tool drawings, DSP scripts, external calibration files, and other files that are particular to a given system setup. They do not include any of the program files for Warrior since these are the same for every system with a given software revision.

A configuration file backup is normally made to removable media such as a floppy drive, CD, or a USB drive. There are two main purposes of a configuration backup. The first is to have a copy of files for a particular system off of the system in case of hard drive failure on the system. With a Warrior Installation CD and a configuration backup, the system can be restored to the same setup that was on the system when the configuration backup was made. The second purpose of a configuration backup is to transfer files, or portions on the files from one system to another.

The User selects whether to do a backup or a restore by clicking on the appropriate option. When the [Select Defaults] button is clicked, a predefined set of files is chosen to either backed up or restored. If the [Clear Selections] button is clicked, then no files will be selected at that time to be either backed up or restored. If the alternate option of Back up selected files or Restore selected files is chosen, the default files are then reselected. The User then may select additional files, or deselect certain files by clicking on the box to the left of the file name.

During a back up of configuration files, once the files have been selected, the User must select the Backup to file name. This can be done by either typing the path and file name into the Backup to text box, or by selecting the browse button to the right of the text box and selecting the drive and then typing in the file name. The selected files are then zipped and stored as the chosen file when the [Backup] button is clicked.

To restore files, the User must select both the Restore from file and the destination Restore to folder. The browse buttons can be used to select the appropriate files and folders. With few exceptions, the Restore to folder should be C:\Warrior\. When the Restore from folder has been selected, the Select files to restore window will show the files that are in the backup with the files to be restored indicated

with a check mark. The User then may select additional files or deselect files by clicking on the box to the left of the file name. When the [Restore] button is clicked, the selected files will be restored. Care should be taken when restoring files from one system to a different system. Warrior.INI contains the Keycodes for software access. If it is over written and the new Warrior.INI does not contain a valid Keycode for the system, access to the software will be denied.

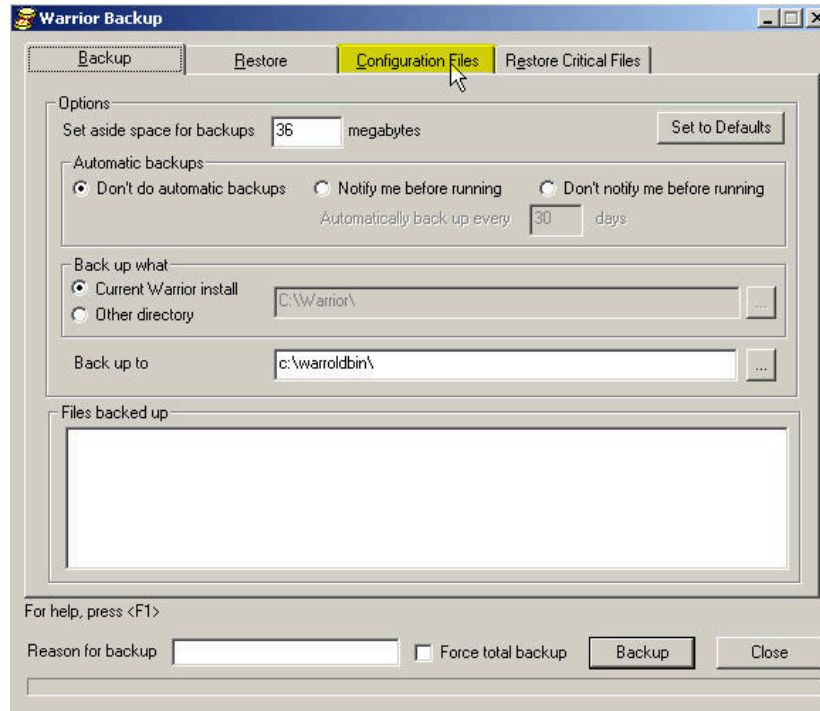


FIG: 13.127 Select the Configuration Files Tap.

If files are written to CD and subsequently restored to disk, they may be marked as read-only, which can prevent the proper operation of Warrior. This includes database files as well as configuration files. To change the attribute, use Windows Explorer, select the copied files, right click on them and select **properties**. Uncheck the 'Read Only' attribute and click the **Apply** button.

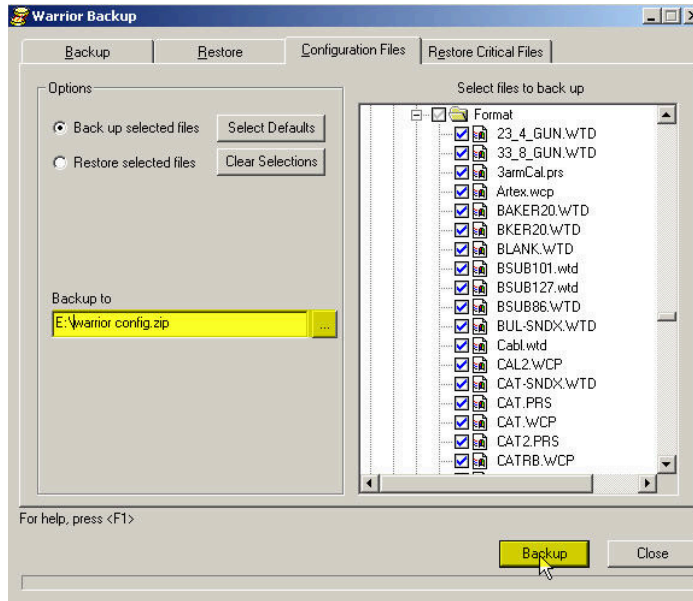


FIG: 13.128 Type Drive, File Name and Select Backup

### 13.6.4 Configuration Restore

There are three critical files that are required for acquiring data in a Warrior System. These are Warrior.INI, Tools.INI, and Services.INI. The User may select to do a backup when the computer is turned off after acquisition has been run. The maximum number of critical backups that will be retained is set to 50 by default.

With User supplied software, selected backup critical files may be compared with active files. When the restore button is clicked, the selected set of critical files will be restored to the system.



FIG: 13.129 Select Configuration Backup/Restore.

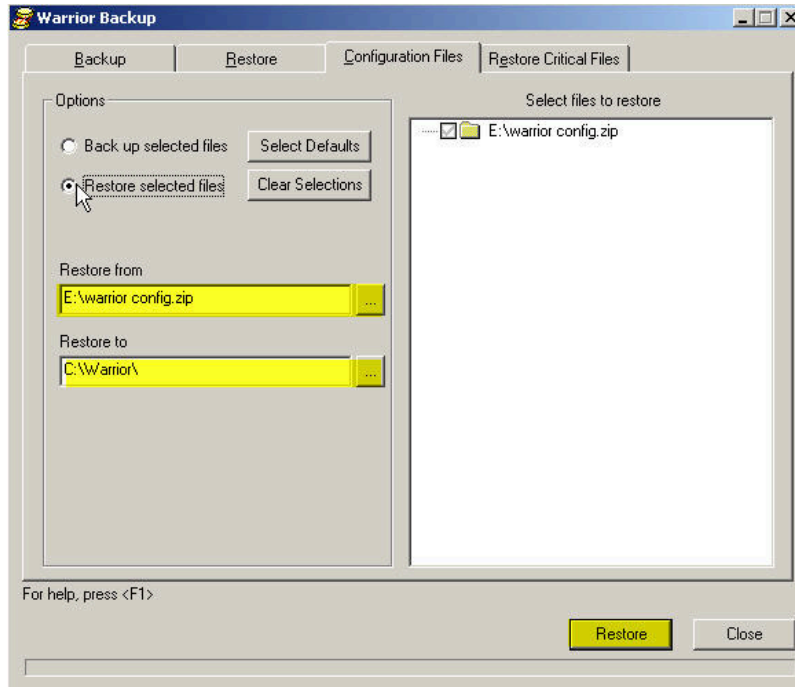


FIG: 13.130 Restore Select files

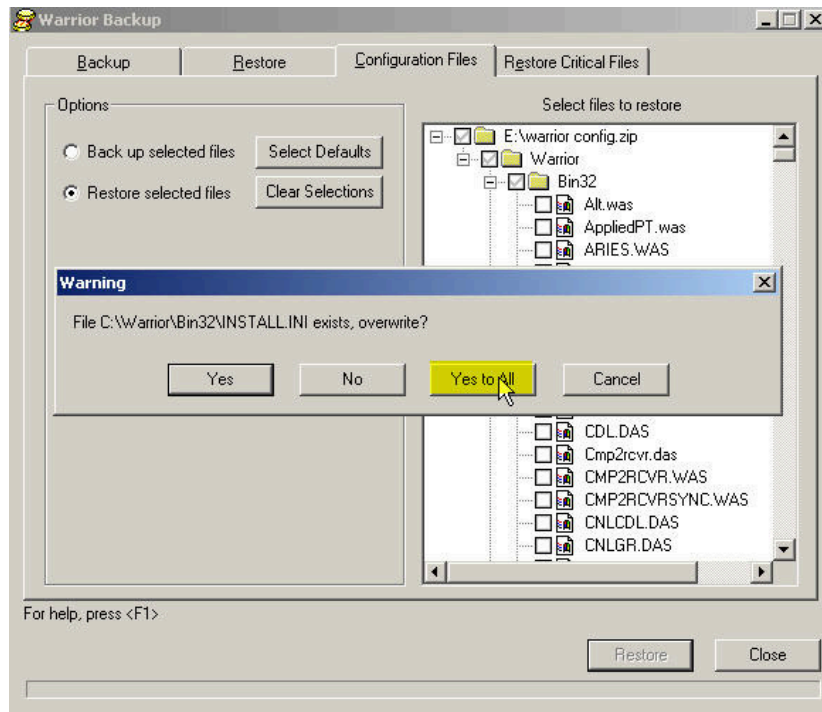


FIG: 13.131 Restore All Files

Restore of all your files customized can be restore from a USB Memory/Hard disk/Floppy by using Restore utility 'Configuration Files'. It means you restore all your presentations, tools string, services, key codes, etc.

### 13.6.5 Warrior Backup

Warrior Backup is a utility used to backup and restore Warrior Software files. This can be a full backup of all files or a partial backup of only the files that have changed since the last backup. It can also be a backup of only the configurations files that distinguish the system from other warrior systems.

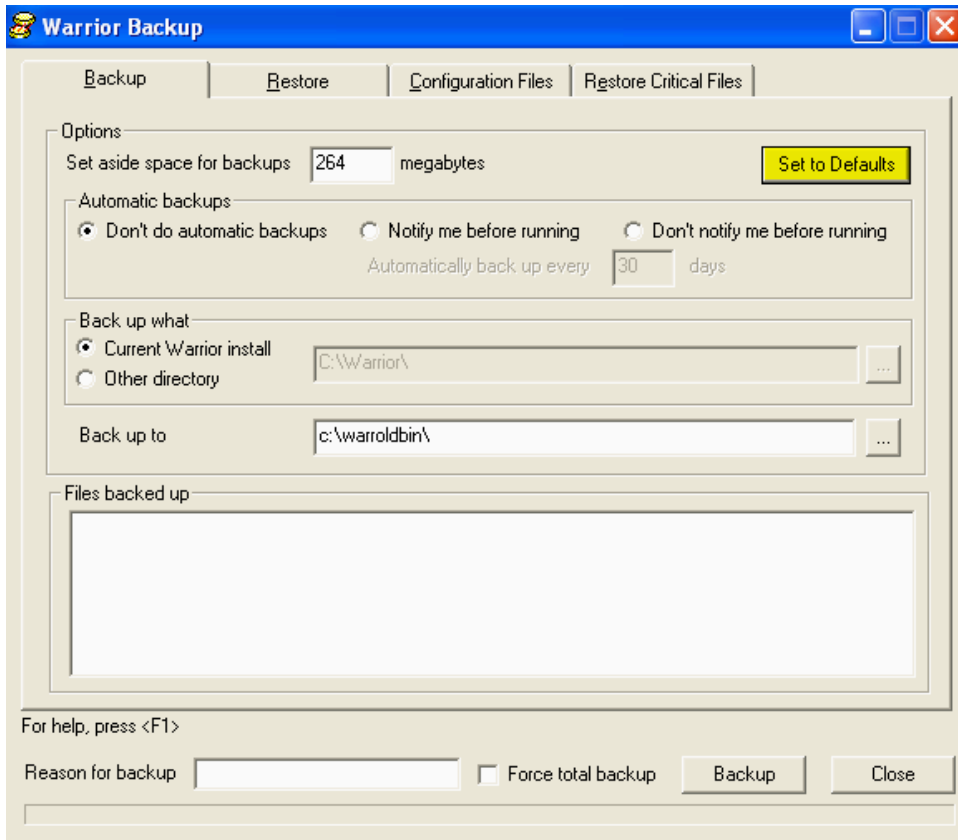


FIG: 13.132 Backup set to Defaults

There are two typical procedures to start Warrior Backup. The first method is to select Warrior Backup from the Warrior 7.0 program group that is normally placed on the Windows desktop or from the Windows program list. Warrior Utilities could also be selected in the same manner, and then click on the Configuration Backup/Restore selection under Setup Tools.

There are four page selections at the top of the Warrior Backup window, Backup, Restore, Configuration Files, and Restore Critical Files. Backup performs a backup of Warrior files to a drive on the computer. Restore will restore Warrior files done in a Backup into the Warrior folder on the computer. Configuration files for the Warrior System can be backed up and restored from this page. The three critical files, Warrior.ini, Services.ini, and tools.ini can be automatically backed up every time the computer is rebooted and then later restored from any of the backups. A short help file for each page is available by pressing the F1 key on the Keyboard.

### 13.6.6 Backup Page

The purpose of the Warrior Backup is to make a copy of the existing Warrior program, configuration, and auxiliary files. This is done so that if problems are found in files, either through the User making incorrect changes, a new bug in the software, or similar problems, then the User can restore the Warrior files to a know set of files that worked correctly for him.

There are several options that can be set before a backup is performed. By clicking the [Set to Defaults] button in the upper right of the page, many of these will be performed automatically. Either incremental or full backups can be done. The default is to do an incremental backup of only the files that have changed since the last backup.

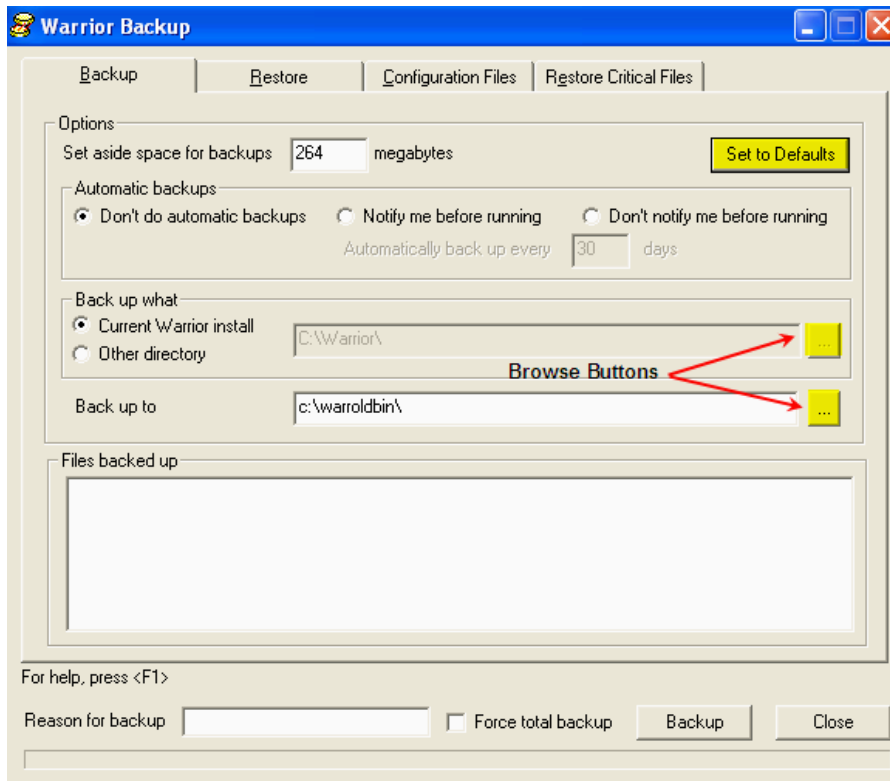


FIG: 13.133 Backup Browse

The maximum disk space that will be used for backup storage is initially set to 400 megabits. The default size will change depending upon the contents of the files in the Warrior Folder, but can be set by the User to any desired number of megabytes. If the maximum limit is exceeded, the User will be notified and asked if he wants to remove the oldest backup, this will be repeated until there is room for the backup to be completed or the User does not allow the oldest backup to be removed. The backup will then be performed, even if after the User has told it not to remove backups, it exceeds the maximum disk space set aside.

Automatic backups can be performed by the Warrior system or can be turned off. It is recommended that automatic backups be done. The User can select whether he is notified that a backup is about to be done or not. If he is notified, he can elect to cancel the backup at that time. The default frequency for automatic backups is 30 days but can be set by the user.

Normally the current Warrior installation directory is chosen for the files that are to be backed up, but the user can choose an alternate directory that contains Warrior files by clicking on the browse button. The backup location is initially set to the C:\warroldb\ folder, but can be changed to a new or different folder by entering a new folder name in the text box, or by clicking on the browse button immediately to the right of the text box.

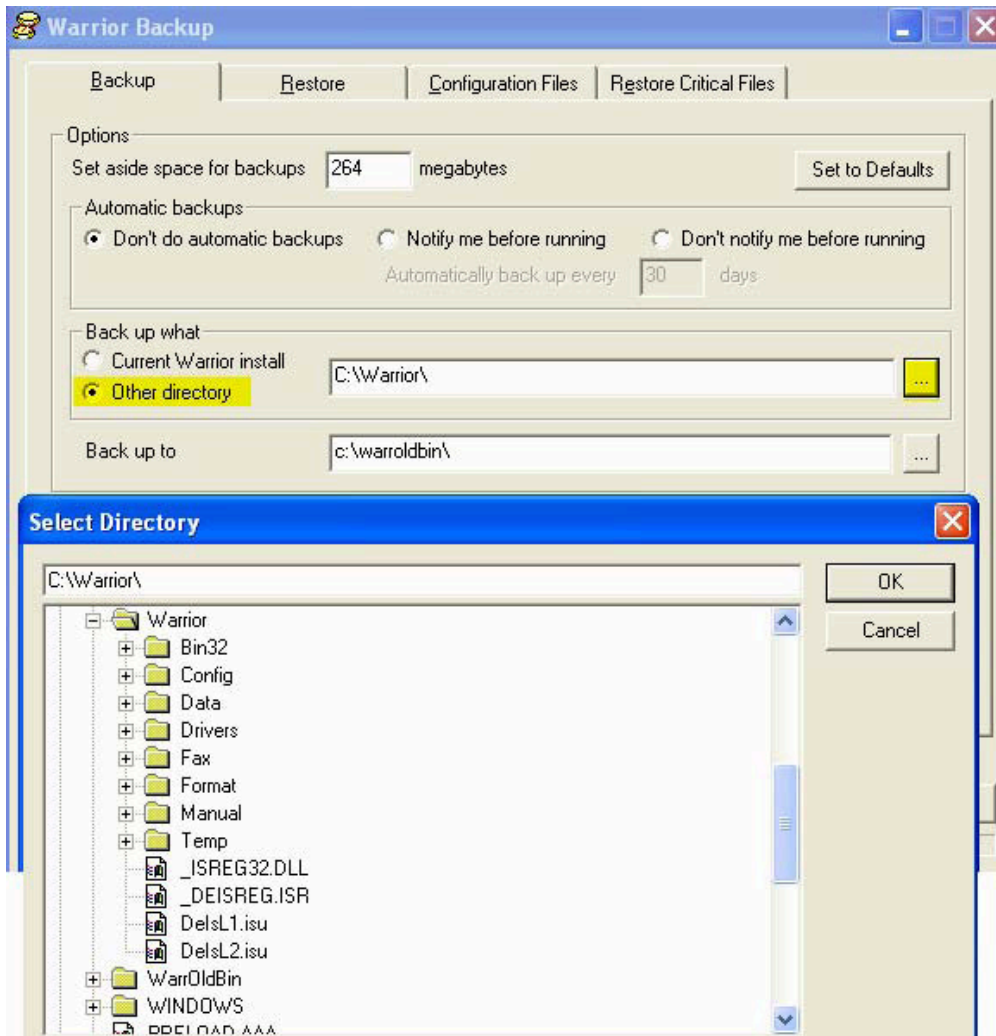


FIG: 13.134 Other directory Backup

A text box is provided for the User to add additional information as to the reason the backup was done. This is to aid in selecting an appropriate backup set to restore.

If a full backup of Warrior files is desired, then checking the Force total backup check box will do a backup of all files, otherwise an incremental backup of only the files that have changed since the last backup will be done.

### 13.6.7 Restore page

The restore page is used to restore the files made from previous Warrior backups that have been done on that particular system. Once the files have been restored, the system will be set up with the same files that it had when the restore was done.

The Restore from default directory is C:\warroldb\ and the Restore to default directory is C:\Warrior\. Each of these directories can be changed by clicking on the browse button to the right of the text boxes.

Once a directory to restore from has been chosen, a list of Backup dates in that directory will be shown. Dates of full backups will be marked with an asterisk (\*). When a date has been selected, a complete list of the files backed up on that date and a list of files that are different than the current files in the Restore to directory will be shown. Initially all files will be selected to restore. The User may wish to only restore certain files. He can do this by clicking on the [Clear Selected] button, then

clicking on the changed file that he wishes to restore. The User may restore multiple selections by holding down on the control key {ctrl} and then clicking on each file that he wishes to have restored.

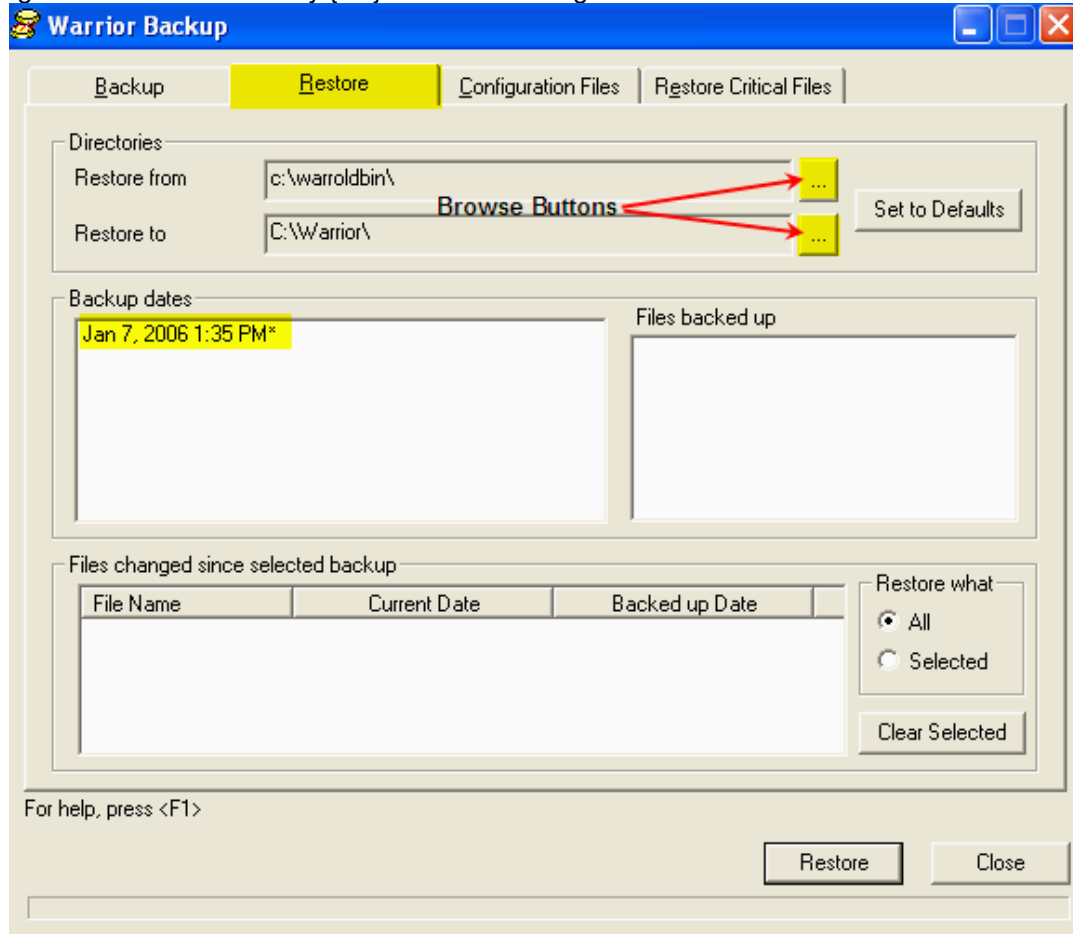


FIG: 13.135 Restore Browse

When the [Restore] button is clicked, the selected files will be restored to the Restore to directory.



VIDEO: 13.10 Backup/Restore

## 13.7 Edit Logging service Details

See Section 5

## 13.8 Edit Logging Tools Details.

See Section 6