POWER SUITE

Version 9.0 Addendum Manual

Wellsight Edition

TRIVISION GEOSYSTEMS LTD.
The Intelligent Geological Software Solution
Suite 314, 602 – 11th Avenue S.W.
Calgary, Alberta T2R-1J8
Phone: (403) 777-9454 Fax: (403) 777-9455
Website: www.powerlogger.com Email: info@powerlogger.com

Overview

We have completely **revamped the Annotations**. We now have a true Rich Text field that can be completely customized with respect to fonts, font color, background font color, bullets. Line size styles with heads and tails. You are now able to copy previously done descriptions and paste them into a new position on the log.

We have added an **MDT Layer and Report** to show the location and test number for multiple a Modular Dynamic Test tool as well as a report to show the data.

We have added an **MDT Import Utility** window to import MDT data directly into our MDT Table fields and retain the mapping for subsequent imports.

We have added a **Dip Meter and Hole Dip layers** to represent the dips (angle and inclination) estimated from any of your common Imaging tools.

We have added a **Dip Meter and Hole Dip Import Utility** window to import Dip Meter data (bedding, fracturing etc.) MDT data directly into our MDT Table fields and retain the mapping for subsequent imports.

We have added a **Casing Data layer** to display the casing shoe with the casing size and landed depth information from the casing report information..

We have added a **Multi Array Curve layer** to display the logging tool information that have multiple channels such as induction and sonic tools.

We have added an **LAS Unwrap Utility** which will remake a wrapped LAS file and make it into an unwrapped file which then Power*Suite can then import utilizing the LAS import utility.

We have added a **retro look (soft or hard edges) to Porosity Grade, Grain size, Grain size Matrix, Carbonate texture, Carbonate texture Matrix and Generic Percent** tracks to give the log a look very similar to the way it appeared when the Lithology logs were hand drafted.

System Options Window: We have added the ability to Change the **Depth Font** style and orientation in the track as well as the default Annotation Font Type, size and style. We have also reordered the System options into a tab dialogue window so that the choices are more easily found. The **grain size and carbonate texture fill pattern** can now be modified with a pattern and a foreground and background color elections.

We have added the ability to print the **track header** for a striplog on both the **top and bottom** of a log to more resemble the wire line log output. The bottom footer prints out the last scale applicable for the curves being drawn. We have also added a new abbreviated title page for Sample Logs to go along with our normal Striplog and Corelog Header.

We have made it much **simpler to add sample descriptions** to the **morning report** and we have added the ability to add your **striplog descriptions** to your **Morning report**.

We have added the ability to change the **Bit Record Font**, style size and color to be editable by the user and can be used as defaults for subsequent logs.

We have added the ability to change the **Directional Survey Font**, style size and color to be editable by the user and can be used as defaults for subsequent logs.

We have added the ability to change the **Formation Tops and Ages Font**, style size and color to be editable by the user and can be used as defaults for subsequent logs.

We have added the ability to change the **Track Header Font**, style size and color to be editable by the user and can be used as defaults for subsequent logs.

We have added the ability to change the **Layer Header Font**, style size and color to be editable by the user and can be used as defaults for subsequent logs.

We have increased the functionality of the **Interpretive Lithology Layer.** We have added the ability to double click a lithology or no data interval between two drawn beds. We have also added the ability to

draw multiple interbedded lithologies including grain sizes on your log without having to redo all the original parameters.

We have added the ability to **delete multiple Rock Accessories**, Sedimentary structures, Trace Fossils, Diagenesis and Fractures by Holding the CTRL Key and drawing a box around the ones you wish to delete.

We have revised the **Core Header Display**: We have expanded the information entered into the remarks field of this window. This will enable the user to put in any information they wish. The printed Core header is now dynamic and can change is size with the text that has been added.

We have revised the **Well Record table** input window with the Casing Coordinates.

We have revised the **Well Formation** table so the user can display either Sample / Log / or Prognosis tops for a particular formation to your striplog.

We have revised **Bit Record table** to retain the pump data and calculates the flow area as well as allow the user to enter as many nozzles as they like. We have also added some dull characteristics for the PDC bits and their grading system.

We have added a **sorting ability for our Generic categories** so the user can change from our standard of ordered alphabetically to any order they wish to see for their generic category listings.

We have revised the **Undo controls**: The Undo selection allows the user to undo any or all of the striplog manipulations, with respect to the layer functionalities, performed on the striplog. This will now also apply to all annotations done on the log as well. We have also added an Undo button on the toolbar.

We have revised the **Redo controls**: The Redo selection allows the user to redo any or all of the striplog manipulations, with respect to the layer functionalities, performed on the striplog. This will now also apply to all annotations done on the log as well. We have also added a Redo button on the toolbar.

Added to the Sample / Core Description Window an option to **Transfer the Top Depth Only** to the Strip / Core Log

We have revised the **Bit Record window** to a tab dialogue window to better organize the data. We know also remember the Pump data from one bit record to another. We also allow the user to enter as many nozzles as they have and the application will calculate the total flow area for those nozzles.

We have completely revised the **Layer Configuration Window** to better organize the data and added more fields to accommodate the Dip meter display.

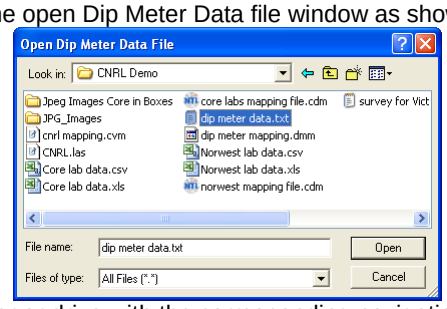
We have added the ability to print the Striplog Header, Legend and Formation tops to a Tabloid paper format with both Landscape and Portrait page orientations.

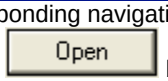
Import Dip Meter Data

This method will allow the user to import ASCII, space, comma or tab delimited file formats into our database. We cannot import EXCEL or any other type of spreadsheet format. If the data comes that way you must resave it in another format before attempting to import the data.

Importing Dip Meter Data

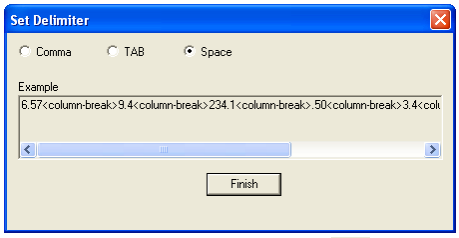
1. To access the Dip Meter Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Dip Meter or click on the**  **Import Dip Meter data button** on the **Import Toolbar**. This will activate the open Dip Meter Data file window as shown below.

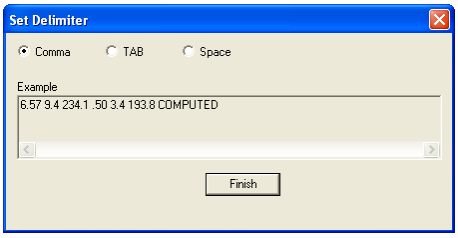


2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the 

button. This will activate the **Set delimiter** window as shown below.

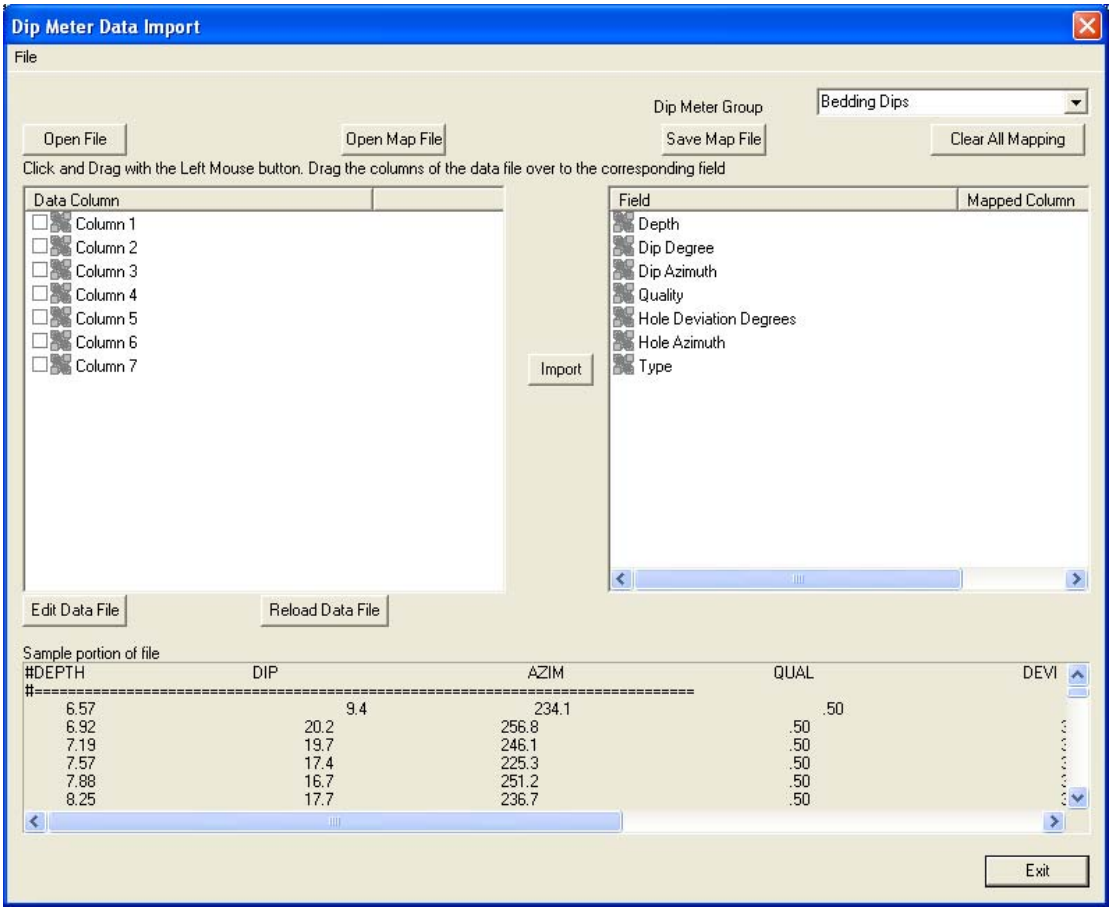
N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

3. Highlight the correct corresponding  button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the 

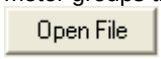
button to close this window and activate the Dip Meter Data Import window shown on the next page.



Overview of the window.

The **left hand side** of the **Dip Meter Data Import window** allows the user to view the different data columns represented in the file numbered in ascending order.
The **right hand side** of the **Dip Meter Data Import window** allows the user to see the data fields associated with the Dip Meter Table supplied by Power*Suite.

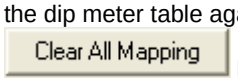
Drop box allows the user to import the dip data into unique dip meter groups that have been made in the program.



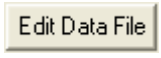
Button allows the user to open another Dip meter file after the Import window has been opened.

Button allows the user to utilize the mapping file saved from above to remap data columns in the dip meter file to database fields in the dip meter table in the database**.**

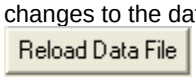
Button allows the user to save the mapping between data columns in the Dip meter survey file to database fields in the Dip meter table in the database. Once the initial mapping has been done and saved, the user can utilize this mapping file so you do not have to repeat the clicking of dragging of data columns to database fields in the dip meter table again and again if you do not want to.



Button allows the user to undo all the mapping from data columns in the dip meter file to database fields in the dip meter table that was done either by dragging or by utilizing the mapping file.



Button allows the user to open the file in Wordpad to look at the file format and possibly make changes to the data file prior to importing the files data.



Button reloads the data into the sample portion of the file window.

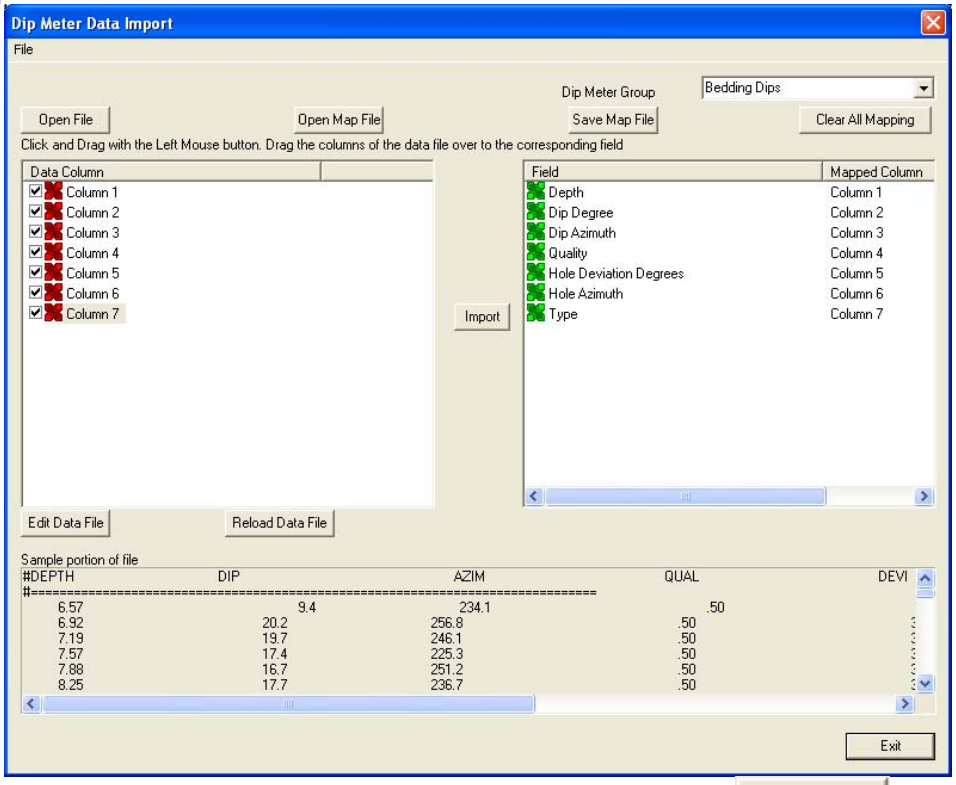
Importing / Mapping of Dip Meter data.

A Dip Meter Layer should already have been added through the Log configuration builder so that a Dip Meter group exists in the database to be able to import Dip Meter data.

1. **On the left side** of the window **Click and drag** the **data column** you wish to import to the corresponding **table field on the right side** and release it when the field becomes highlighted. If mapped the field will turn green on the right and red on the left.

N.B. The user can **Right click** on the **Field** to remove the mapping.

2. Repeat the Clicking and Dragging of data columns to fields until all the columns that you want have been mapped.



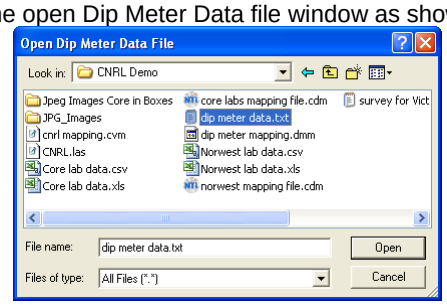
3. The user can save this mapping procedure at this time by **clicking** on the Save Map File **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.

4. **Click** on the Import **button**. After the data has been imported you will be prompted with a s**ystem message.**

5. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the to exit or **click** on the Exit **button** to close the Window.

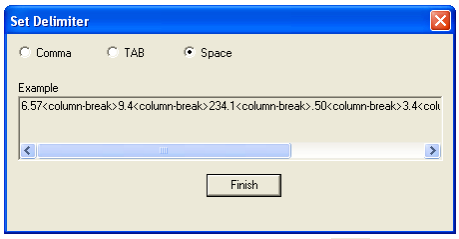
How to Import Dip Meter Data with an Existing mapping file.

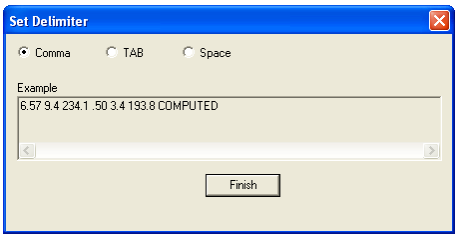
1. To access the Dip Meter Data Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import Dip Meter or click on the** **Import Dip Meter button** on the **Import Toolbar**. This will activate the open Dip Meter Data file window as shown below.



2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the Open **button**. This will activate the **Set delimiter** window as shown below.

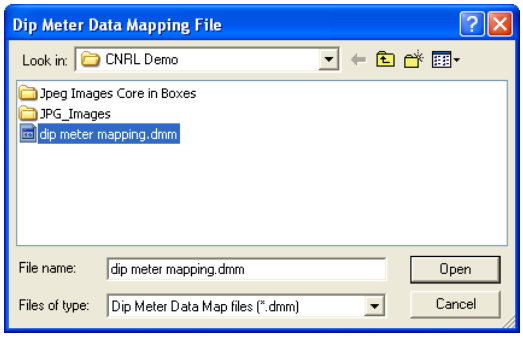
N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

3. Highlight the correct corresponding button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the Finish **button** to close this window and activate the Dip Meter Data Import window shown on the next page.

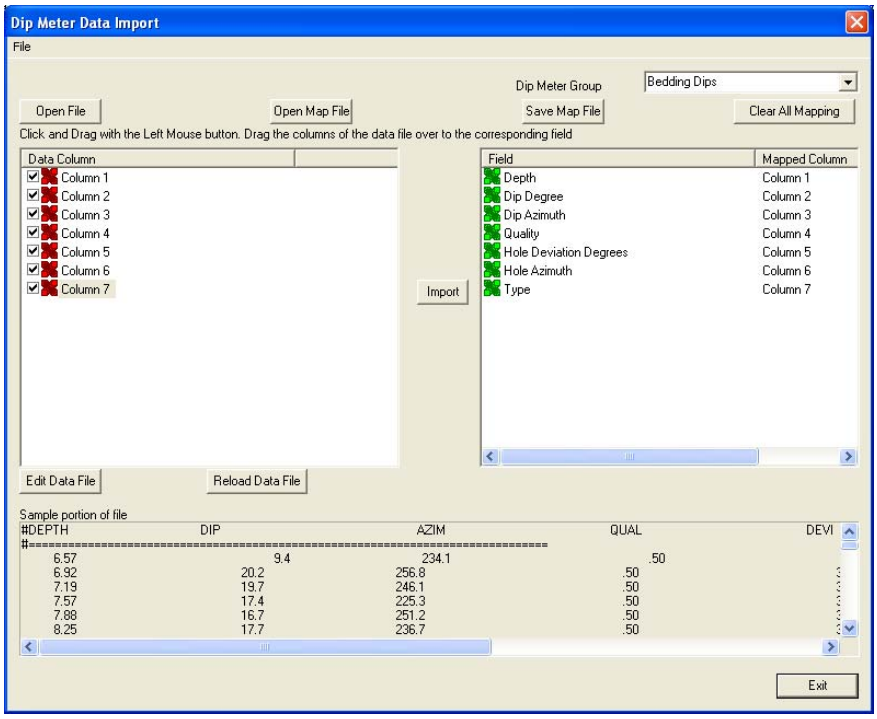
4. In the upper portion of the window **click** on the Open Map File **button**. This will activate an open file window.



5. Select the mapping file with the ***.dmm** saved from previous imports of similar dip meter data files to your dip meter table by highlighting the file and **clicking** on the Open **button** or double clicking on the file name. Once the file has been opened it will refresh with the current mapping configuration as shown below.

N.B. The user can **Right click** on the **Field** to remove the mapping.

6. The user can map more data columns on the left side of the window **by Clicking and dragging** the **column** you wish to import to the **field** on the right side and release it when the layer becomes highlighted.



6. **Click** on the Import **button**. After the data has been imported you will be prompted with a s**ystem message.**

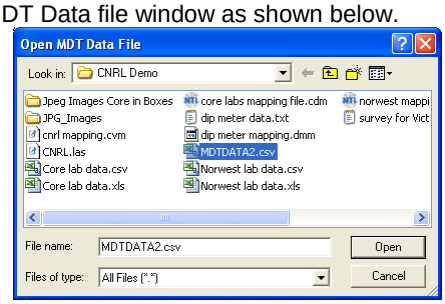
7. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the  to exit or **click** on the Exit **button** to close the Window.

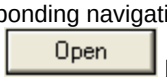
Import Modular Dynamic Tester (MDT) Data

This method will allow the user to import ASCII, space, comma or tab delimited file formats into our database. We cannot import EXCEL or any other type of spreadsheet format. If the data comes that way you must resave it in another format before attempting to import the data.

Importing MDT Data

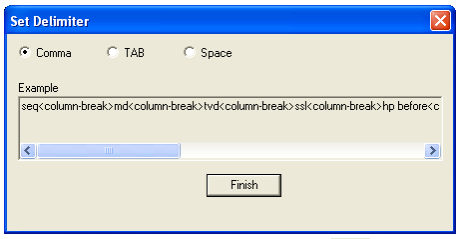
1. To access the MDT Data Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import MDT or click on the**  **Import Dip Meter data button** on the **Import Toolbar**. This will activate the open MDT Data file window as shown below.

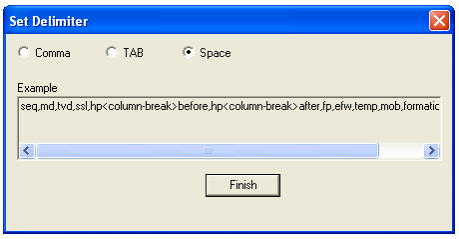


2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the 

button. This will activate the **Set delimiter** window as shown below.

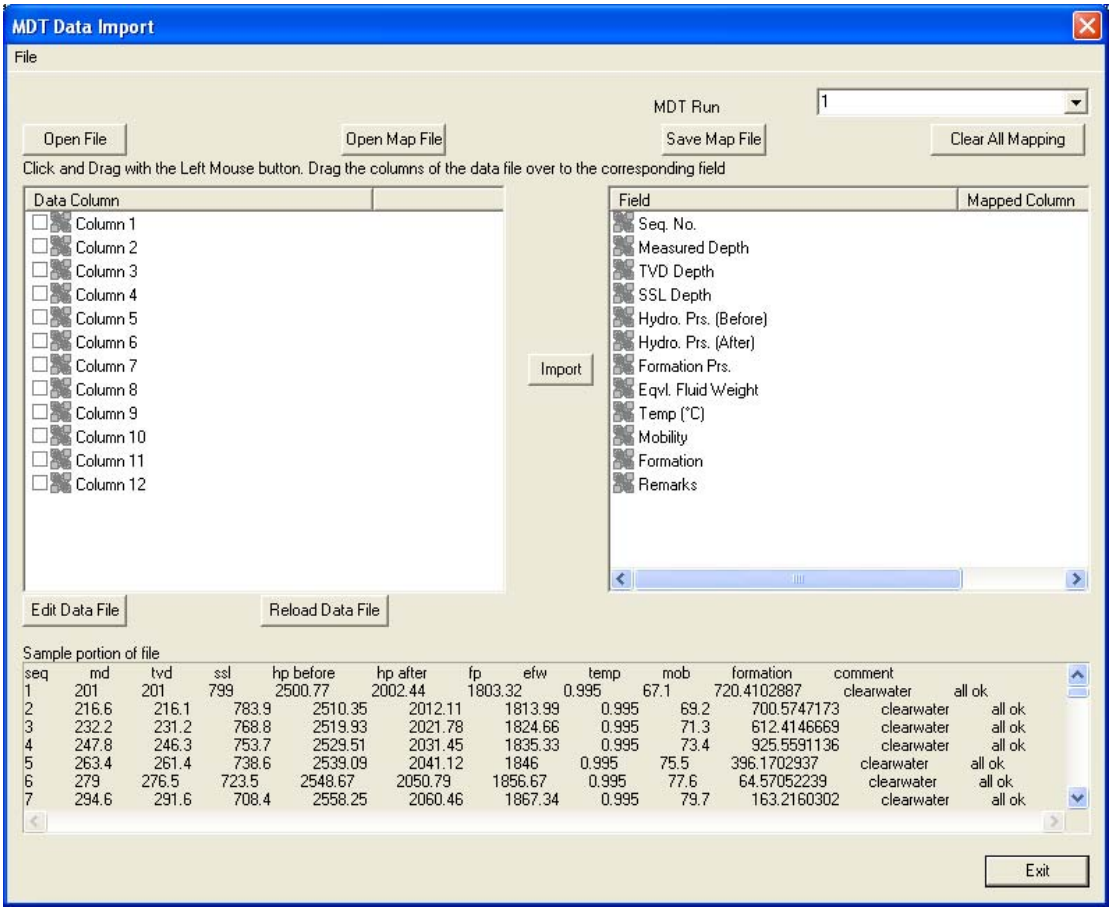
N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

Not Correct 

3. Highlight the correct corresponding  button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the 

button to close this window and activate the MDT Data Import window shown on the next page.



Overview of the window.

The **left hand side** of the **MDT Data Import window** allows the user to view the different data columns represented in the file numbered in ascending order.
The **right hand side** of the **MDT Data Import window** allows the user to see the data fields associated with the Dip Meter Table supplied by Power*Suite.

MDT Run 1 Drop box allows the user to import the dip data into unique MDT groups that have been made in the program.

Open File **Button** allows the user to open another MDT data file after the Import window has been opened.

Open Map File **Button** allows the user to utilize the mapping file saved from above to remap data columns in the MDT data file to database fields in the MDT table in the database**.**

Save Map File **Button** allows the user to save the mapping between data columns in the MDT data file to database fields in the MDT table in the database. Once the initial mapping has been done and saved, the user can utilize this mapping file so you do not have to repeat the clicking of dragging of data columns to database fields in the dip meter table again and again if you do not want to.

Clear All Mapping **Button** allows the user to undo all the mapping from data columns in the dip meter file to database fields in the MDT table that was done either by dragging or by utilizing the mapping file.

Edit Data File **Button** allows the user to open the file in Wordpad to look at the file format and possibly make changes to the data file prior to importing the files data.

Reload Data File **Button** reloads the data into the sample portion of the file window.

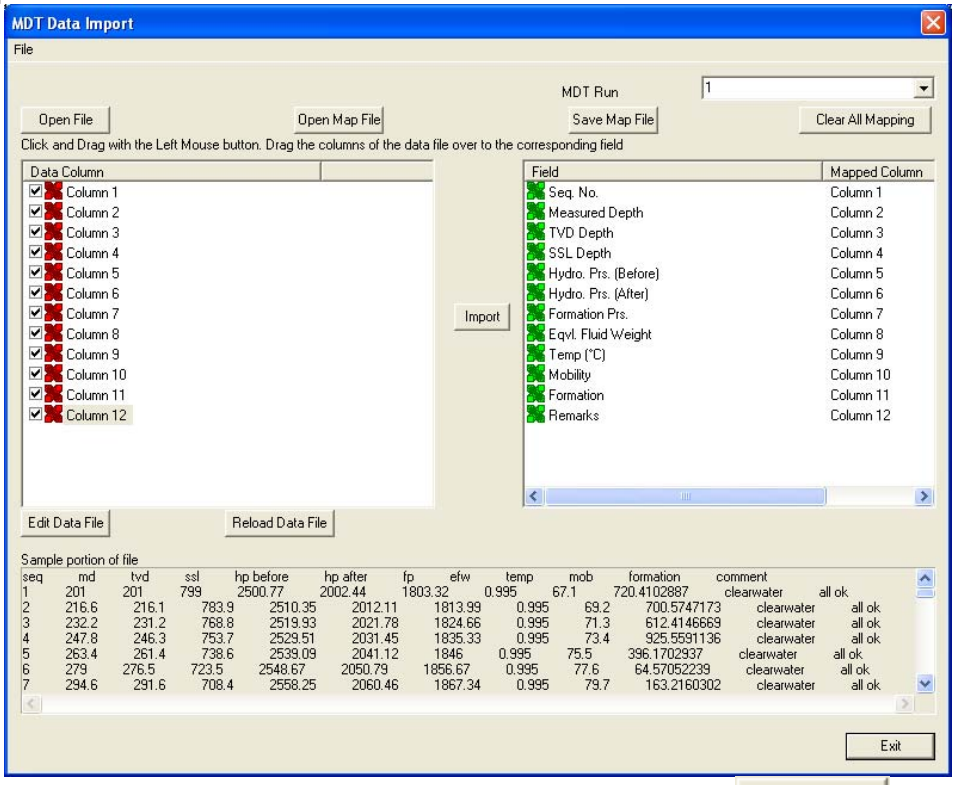
Importing / Mapping of MDT data.

An MDT Layer should already have been added through the Log configuration builder so that an MDT group exists in the database to be able to import MDT data.

1. **On the left side** of the window **Click and drag** the **data column** you wish to import to the corresponding **table field on the right side** and release it when the field becomes highlighted. If mapped the field will turn green on the right and red on the left.

N.B. The user can **Right click** on the **Field** to remove the mapping.

2. Repeat the Clicking and Dragging of data columns to fields until all the columns that you want have been mapped.



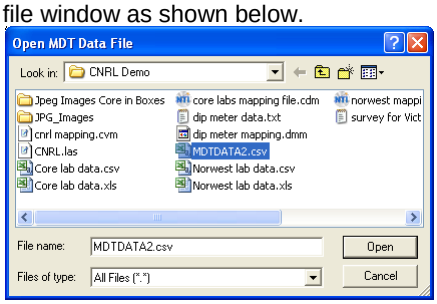
3. The user can save this mapping procedure at this time by **clicking** on the Save Map File **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.

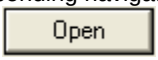
4. **Click** on the Import **button**. After the data has been imported you will be prompted with a s**ystem message.**

5. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the to exit or **click** on the Exit **button** to close the Window.

How to Import MDT Data with an Existing mapping file.

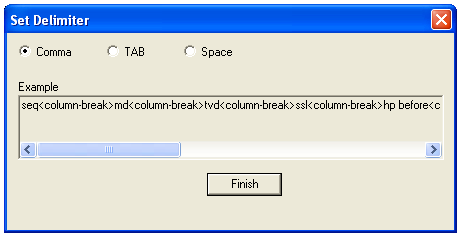
1. To access the MDT Data Import window, click on **Import / Export** under **File** to activate the pop-out menu and then select **Import MDT or click on the**  **Import MDT button** on the **Import Toolbar**. This will activate the Open MDT Data file window as shown below.

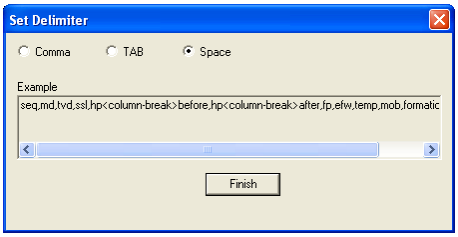


2. **Select the file** from the folder or drive with the corresponding navigational tools provided and either **double click** on the **file name** or **click once** and **click** on the 

button. This will activate the **Set delimiter** window as shown below.

N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

Correct 

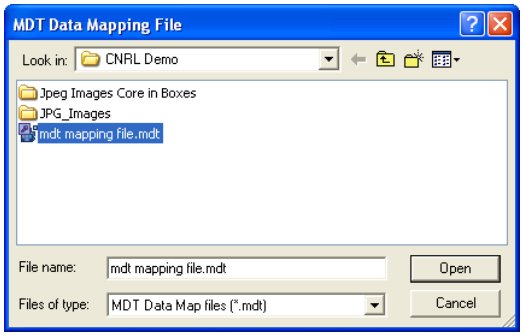
Not Correct 

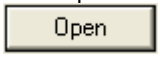
3. Highlight the correct corresponding  button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then **click** on the 

button to close this window and activate the MDT Data Import window shown on the next page.

4. In the upper portion of the window **click** on the 

button. This will activate an open file window.

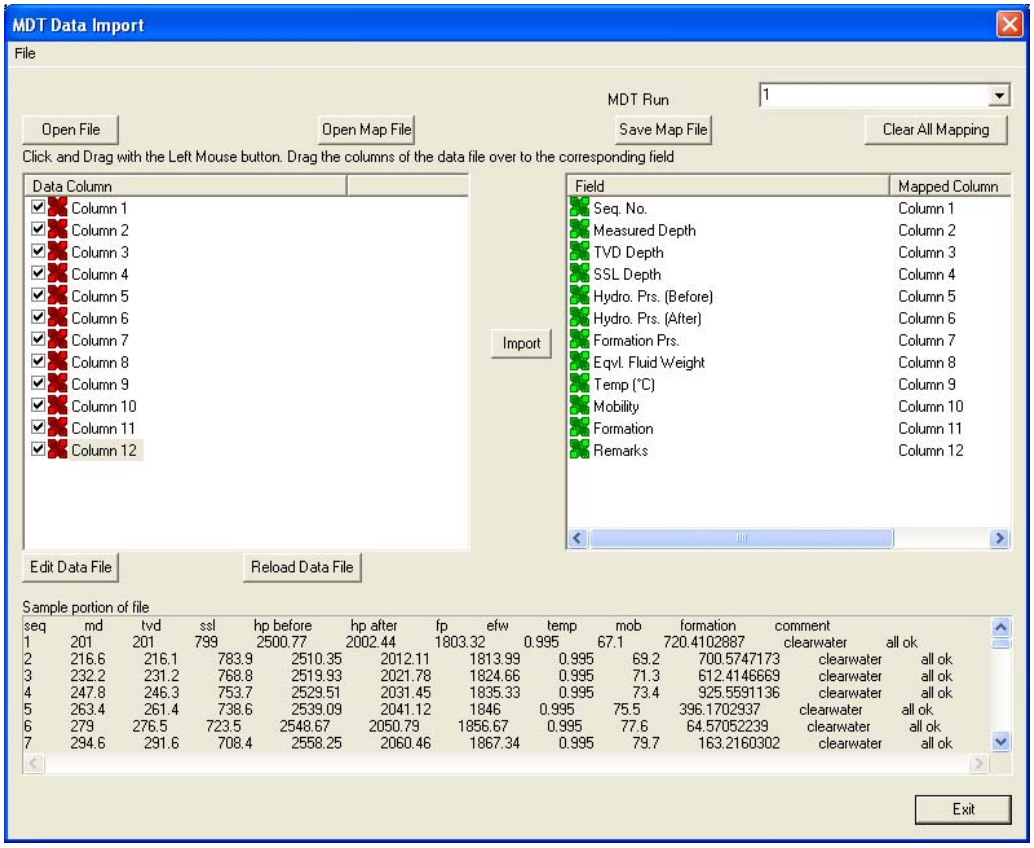


5. Select the mapping file with the ***.mdt** saved from previous imports of similar MDT data files to your dip meter table by highlighting the file and **clicking** on the 

button or double clicking on the file name. Once the file has been opened it will refresh with the current mapping configuration as shown below.

N.B. The user can **Right click** on the **Field** to remove the mapping.

6. The user can map more data columns on the left side of the window **by Clicking and dragging** the **column** you wish to import to the **field** on the right side and release it when the layer becomes highlighted.



6. **Click** on the Import **button**. After the data has been imported you will be prompted with a s**ystem message.**

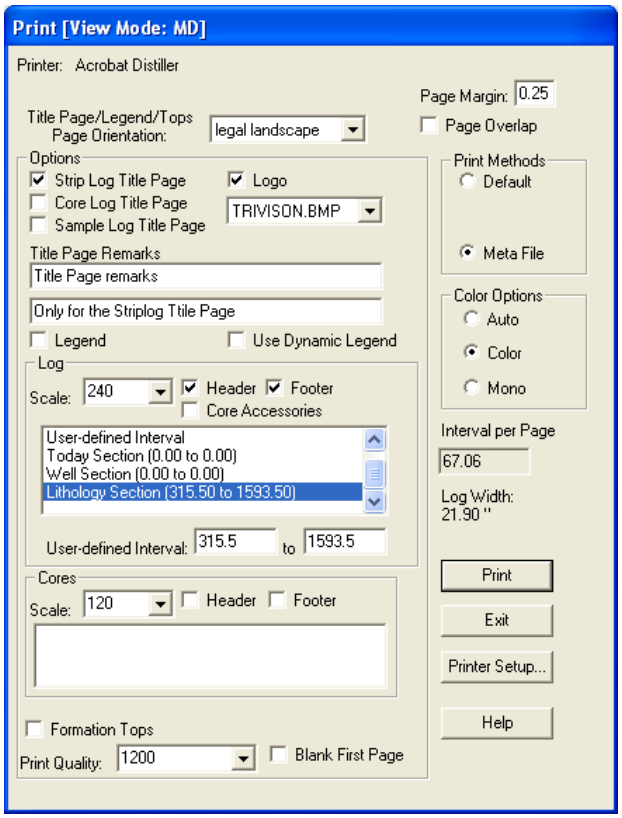
7. **Acknowledge** the Import message. **Click** on the OK **button** and then click on the  to exit or **click** on the Exit **button** to close the Window.

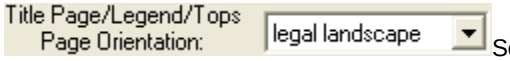
Print Log- File Pull down menu

Prints all or part of your log/well along with the Title page, legends, individualized cores and formation tops on a continuous or single sheet basis

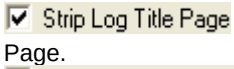
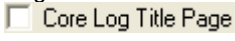
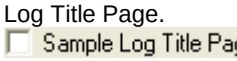
1. Under the **File** menu selection, **click** on **Print Log or click** on the  **Print button** on the Toolbar to activate the **Print Log** window shown below:

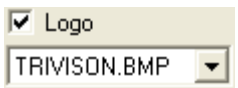
Note: The Title bar and all depths associated with the Print Log window are defaulted to the Depth View that Power*Log or Power*Curve are in at the time of the activation of the Print Log window.



2.  Select the appropriate paper orientation from this drop box field and the **Title Page**, **Legend**, and **Formation Tops** will automatically conform to the selected orientation. There are four (4) types of paper orientation to choose from: **letter portrait or landscape** and **legal portrait or landscape** settings.

Note: The letter or **legal landscape or portrait settings selected from within the Print Log** window will NOT override the paper orientation settings selected in the printer's **Properties** window. Therefore, you must also modify the paper orientation settings in your printer's **Properties** window to letter or legal landscape.

3.  Activate this check box, if you wish to printout a full Wellsight Version of the Title Page.
4.  Activate this check box, if you wish to printout an abbreviated version of the Core Log Title Page.
5.  Activate this check box, if you wish to printout an abbreviated version of the Sample Log Title Page.

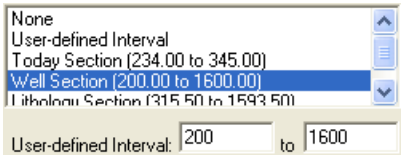


6. Activate this check box, if you wish to printout a logo, and then select a logo from the **Logo** drop box field.

Note: Any bitmap image may be printed out as a logo. However, the bitmap image must be an equally sided square image, because **Power*Suite** will shrink or expand the image to fit the logo space on the **Title Page**. This bitmap should be placed in the **Powersuite_V9\logo directory.**

7. Type any pertinent **comments into the Title Page Remarks** field and they will be displayed accordingly on the **Strip Log Title Page only**.
8. ☐ Legend Activate this check box ☑, if you wish to have our entire legend printed out.
9. ☐ Use Dynamic Legend Activate this check box ☑, if you wish to have the legend reflect only the symbols printed on the log or core portions of the printed intervals defined in the log and core portions of the print log window.

In the Log portion of the Print Log window

10. Log Scale: 240 Select or type in the **Scale** for the main log to be printed out at, in the **Scale** drop box field.
11. ☑ Header Activate this check box ☑ to have the track headers printed out with the main log.
12. ☑ Footer Activate this check box ☑ to have the track footers printed out with the main log.
13. ☐ Core Accessories Activate this check box ☑ to have the core accessories printed out on the main log.
14. 

Highlight the main log printing options in the selection box. The user can select either **None**, **User-defined Interval** (requires that you manually enter the desired print interval depths), **Today Section**, **Well Section**, or **Lithology Section**.

Note: Today Section interval is derived from the **From** and **To** Depth values entered into the **Today's Section** portion of the Power*Log Data Transfer: Export window.

The **Well Section** interval is derived from the **Top** and **Base Depth** values entered into the **Print Sections** window (see **Print Sections**).

The **Lithology Section** interval is derived from what has been drawn into the interpretive lithology track of the well that is being printed.

15. If user **defined interval** is chosen the user can select which depth type, either measured depth, true vertical depth or subsea level depth from the depth measurement drop box. The user must also type in the depth interval to be printed.

Note: The log itself must be displayed in whatever **depth view you wish to print before you activate the print log window. To change the log to the desired format, refer to depth view under the view pull down menu.**

In the Cores portion of the Print Log Window

16. If you are printing out a **Core** log on the tai**l of the striplog, select the Cores** you wish to print by highlighting them.
17. Cores Scale: 120 Select or type in the **Scale** for the core log to be printed out at in the **Scale** drop box field.
18. ☑ Header Activate this check box ☑ to have the track headers printed out with **the core log.**
19. ☑ Footer Activate this check box ☑ to have the track footers printed out with **the core log.**

Note: A separate **Header Information Box** is automatically printed out with every **Core** and includes the **Core Scale**, **Core Date**, **Core Number**, **Cored Interval**, **Amount Cut**, **Amount Recovered**, and **Percentage**.

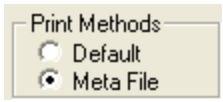
**A value must be entered into the Core Scale field in order to printout anything. **

20. ☐ Formation Tops Activate this check box ☑ if you wish to printout **Formation Tops** and the **Formation Tops** will be included on a separate page at the end of the log printout.

Page Margin: 0.25 The page margin field is available, primarily, when you are printing to Adobe Acrobat writer. When a numerical value in inches is typed into this field it will initiate a top and left margin for the templates (Title Page, Legend and Formation Tops) as well as a left margin for the main log.

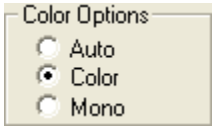
Page Overlap Activate this check box if you are printing on single sheets. This will force the printer to include an additional 1/4 inch of the log at the top and bottom of each page, so that you can cut-and-paste pages manually**,** if you so desire.

Activating the **Default** radio button forces Power*Log / Core & Curve to use a **raster or bitmap graphic printing method.** This printing method is generally used with Laser printers but not exclusively so.



Activating the **Meta File** radio button forces Power*Log / Core & Curve to use the **meta file technology printing method**. This printing method was developed for the newer models of printers on the market today as well as using the Adobe Acrobat Distiller **or pdf printing technology.**

Auto Activating the Auto radio button forces Power*Log / Core & Curve to use the settings from the printer driver to printout the log.



Color Activating the Color radio button forces Power*Log / Core & Curve to override the printer driver settings and consequently Power*Log / Core & Curve assumes that you are using a color printer.

Mono Activating the Mono radio button forces Power*Log / Core & Curve to override the printer driver settings and consequently Power*Log / Core & Curve assumes that you are using a monochrome (black and white) printer.

21. **Click** on the Printer Setup... **button** to activate the **Print Setup** window and confirm that the correct printer settings are in effect.

Note: If you are printing out logs in color, **you must activate the Diffusion** or **Error Diffusion** option normally found under **Graphics** in the **Properties** window for most printers.

22. **Interval per page** field indicates how many meters of log will fit on a page of selected paper size and orientation selected in the setup as well as what log scale you are printing at. This will help indicate to the user how many pages will be required by the print job.
23. Blank First Page Activate this check box if the user wishes to have a blank page before the logs starts. This could be useful if utilizing continuous paper when you want the title page oriented on the correct side of the prefolded paper.
24. When you are ready to print your log, **click** on the Print **button**.

Note: If you do **exit** from the **Print Log window**, you will be asked if you wish to save the print settings. If you click on **Yes,** the program will remember every setting that you made to the **Print Log** window and then will default to those settings the next time you enter the Print Log window

Undo – Edit pull down menu item

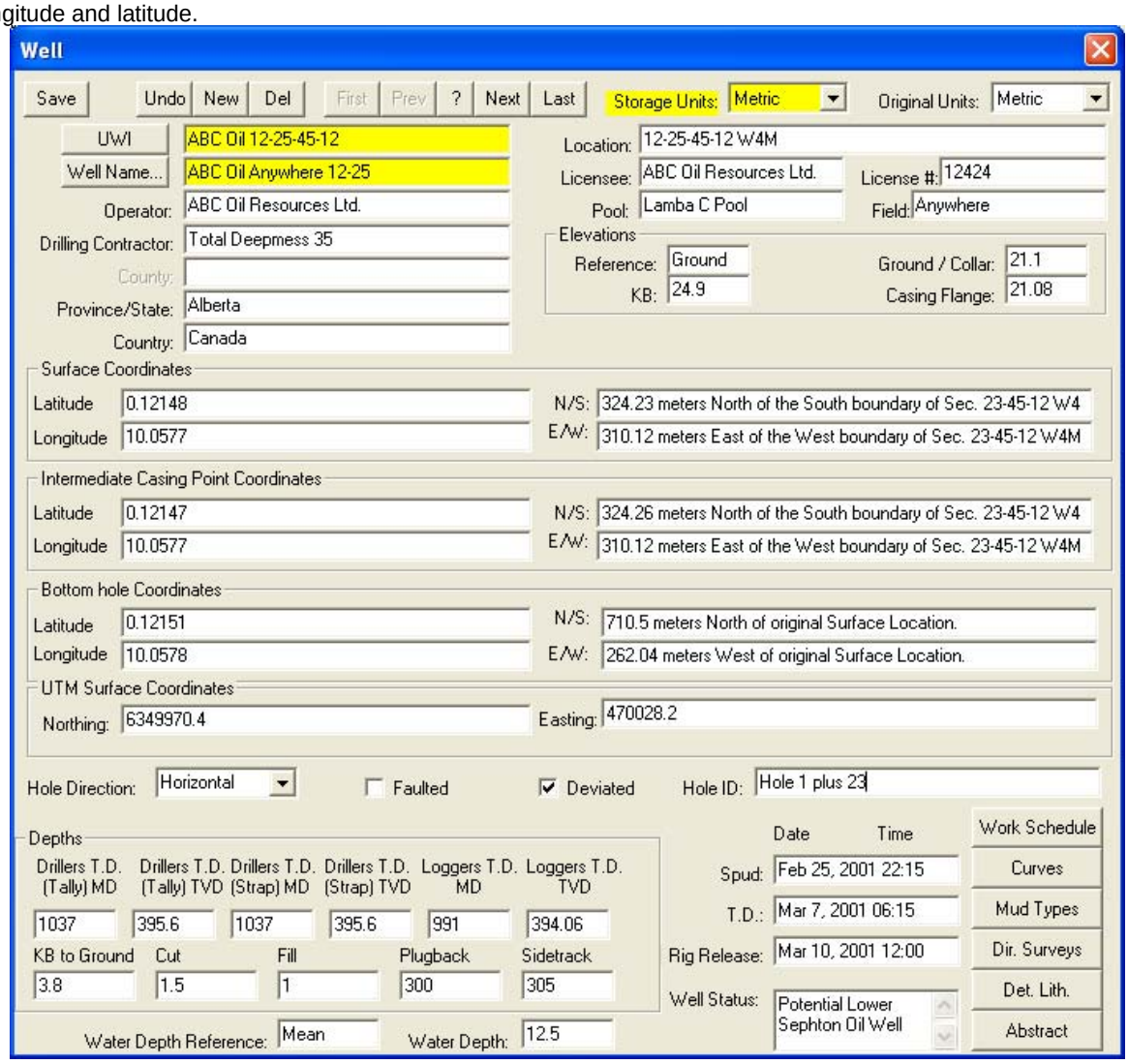
The Undo selection allows the user to undo any or all of the striplog manipulations, with respect to the layer functionalities, performed on the striplog. This includes adding, deleting, resizing, moving etc. of any of the individual layers functionalities. The undo comments changes with each function performed to indicate what undo action can be performed. **This now applies to all Annotations done on the log as well**.

Redo – Edit pull down menu item

The Redo selection allows the user to redo any or all of the striplog manipulations, with respect to the layer functionalities, performed on the striplog. This includes adding, deleting, resizing, moving etc. of any of the individual layers functionalities. The redo comments changes with each function performed to indicate what redo action can be performed. **This now applies to all Annotations done on the log as well.**

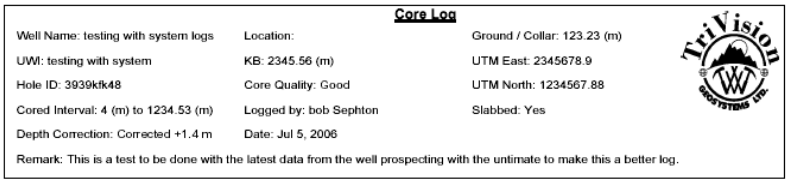
Well Window – Edit pull down menu item

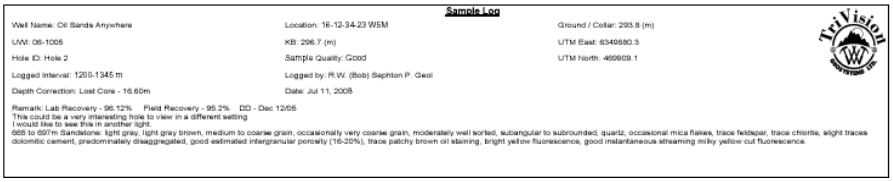
We have added 4 new fields to this table including Intermediate Casing Coordinates Metes and Bounds as well as Longitude and latitude.



Core / Sample Header – Edit pull down menu item

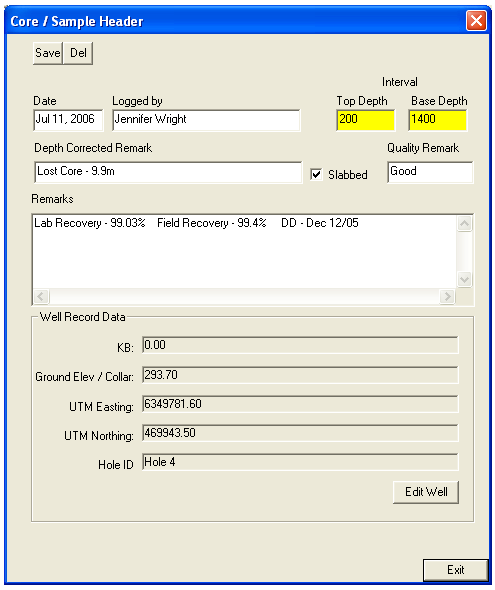
The **Core / Sample Header** window allows you to edit the information being displayed when the core or sample log header is printed. It also allows you to delete the core log header.





How to Edit a Core / Sample Header

1. **Click** on the **Core / Sample Header** selection located under the **Edit pull down menu**.

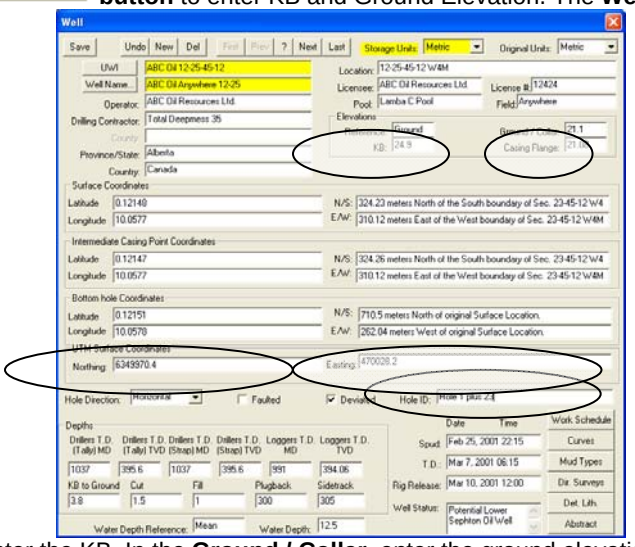


2. In the **Logged by** field, type in the name of the person who the core is logged by.
3. In the **Top Depth** and **Base Depth** fields, type in the Top Depth and Base Depth of the core / sample interval.
4. In the **Depth Corrected Remark** field, type in the remark related to depth change that you wish to appear at the core log header.
5. Activate the **Slabbed** check box ☑, if you wish the core log header to be cut in half. This is not applicable to the Sample Log abbreviated Header.
6. In the **Quality Remark** field, type in the remark related to quality that you wish to appear at the core log header.
7. In the **Remarks** field, type in any other remarks that you wish to appear on the Core Log header.

N.B. The Remarks field is limitless as the Core Header Expands to the appropriate size to accommodate the entire Remarks Field.

Well Record Data portion of the Core / Sample Header window

1. **Click** on the Edit Well **button** to enter KB and Ground Elevation. The **Well** window will be shown.



2. In the **KB** field, enter the KB. In the **Ground / Collar,** enter the ground elevation as well as the UTM coordinates and the Hole ID if you have them.
3. **Click** on the Save **button** or press ALT-S. This will activate the **Core Header** window showing the KB and Ground Elevation that you have just entered.

4. **Click** on the Exit **button**. If the record has been successfully saved, **click** on the appropriate button when prompted with the **Shortcut Options** system window.

How to Delete a Core / Sample Header

1. **Click** on the **Core / Sample Header** selection located under the **Edit pull down menu**. This will activate the **Core / Sample Header** window.
2. **Click** on the Del **button**, and the **Confirmation** window will be shown.
3. **Click** on the Yes **button**, and the **Core Header** will be deleted.

Field Restriction Table:

Date	DATE FORMAT	Default=Current Date	Optional
Logged By	50	Character	Optional
Core Interval Top Depth	5.5	Numeric	Mandatory
Core Interval Bottom Depth	5.5	Numeric	Mandatory
Depth Corrected Remark	20	Character	Optional
Quality Remark	20	Character	Optional
Remark	40,000	Character	Optional

Layer Configuration - Edit pull down menu item

The Layer is the lowest level of a log. A layer is part of a track, which in turn is part of a log. The Layer Configuration window allows you to edit all aspects of any given layer. You have access to all layer attributes, including curve attributes, layer grid styles and patterns and layer display controls. You may also control the display format and depth offset of layers in this particular window. None of the layer data types use all the layer controls.

A layer is a set of information that is displayed on a track. A track can consist of one or more layers. The layers are positioned within a track and are superimposed or stacked on top of one another, if there are multiple layers in a track. You are able to show/hide the layers and adjust the layering order. This can be done in the Layers Organizer window located under the view pull down menu.
You can only work with one layer at a time and we call this the **active layer** on an **active track**. Layer information is restricted to the **Primary Well** of your log, unless you have the **Correlational Module**, which allows a layer to be pointed at any well in the database. A layer can access any type of information in the **Primary Well** or any other well in the database and display it within the log. A layer can be offset on its depth axis to make correlations between wells relatively simple.
In the **Layer Configuration** window, you are able to associate specific **Annotation Groups** with **Annotation** layers via their **Annotation Group ID**. The user can also associate specific **Data Groups** with a specified layer.

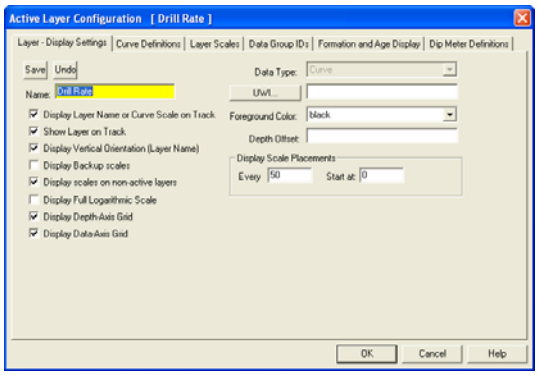
Note: The **Correlational Module** allows you to access all of the **UWI's** or wells in the database in order to display their information in comparison with the current **Primary Well** on the same log.

There are numerous Data Types for Layer Configurations. Each data type viewed below are shown in the data type field of each layer and it represents what type of data each layer can show. For instance a Curve layer can only show curves. The directional survey layer can only show survey data. These data types are listed on the next page.

Accessories
Age (Era/Series/Stage)
Annotation (Track)
Annotation (Log)
Bedding Contacts
Bioturbation
Bit Record
Carbonate Texture
Carbonate Texture Matrix
Casing Data
Core
Core Box Data
Core Bulk Density
Core Grain Density
Core Permeability Kmax
Core Permeability K90
Core Permeability KV
Core Permeability K Air
Core Porosity Calculated
Core Porosity Helium
Core Porosity Measured
Core Sample Code
Curves
Curve Fill
Date / Drilling Schedule
Depth
Detailed Lithology
Diagenesis
Dip Meter Data
Directional Survey
Formation (Group / Formation / Member)
Formation (Short Name)
Formation (Long Name)
Fractures
Framework
Generic Category
Grain Size
Grain Size Matrix
Graphics
Hole Dip Meter Data
Interpretive Lithology
% Lithology
Lithology Descriptions
MDT Data
Multi Array Curve layer
Oil Show
Oil Staining
Percent
Porosity Grade
Porosity Type
Physical Contacts
Rounding
Core Saturated Bulk Mass – Fluids
Core Saturated Bulk Mass – Oil
Core Saturated Bulk Mass – Water
Core Saturated Bulk Mass – Solids
Core Saturated Bulk Mass – Totals
Core Saturated Grain Mass – Oil
Core Saturated Grain Mass – Water
Core Saturated Pore Volume – Oil
Core Saturated Pore Volume – Water
Core Saturated Pore Volume (Frc)- Oil
Core Saturated Pore Volume (Frc)- Water
Sedimentary Structures
Sidewall Cores
Slide / Rotate
Snieder's Rock Type Geology
Snieder's Rock Type Core
Sorting
Survey
Test
Trace Fossils

Shortcut: 

This is an example of our Tab Dialogue Configuration window for a Curve Data Type Layer:



How to Edit a Layer Configuration Window

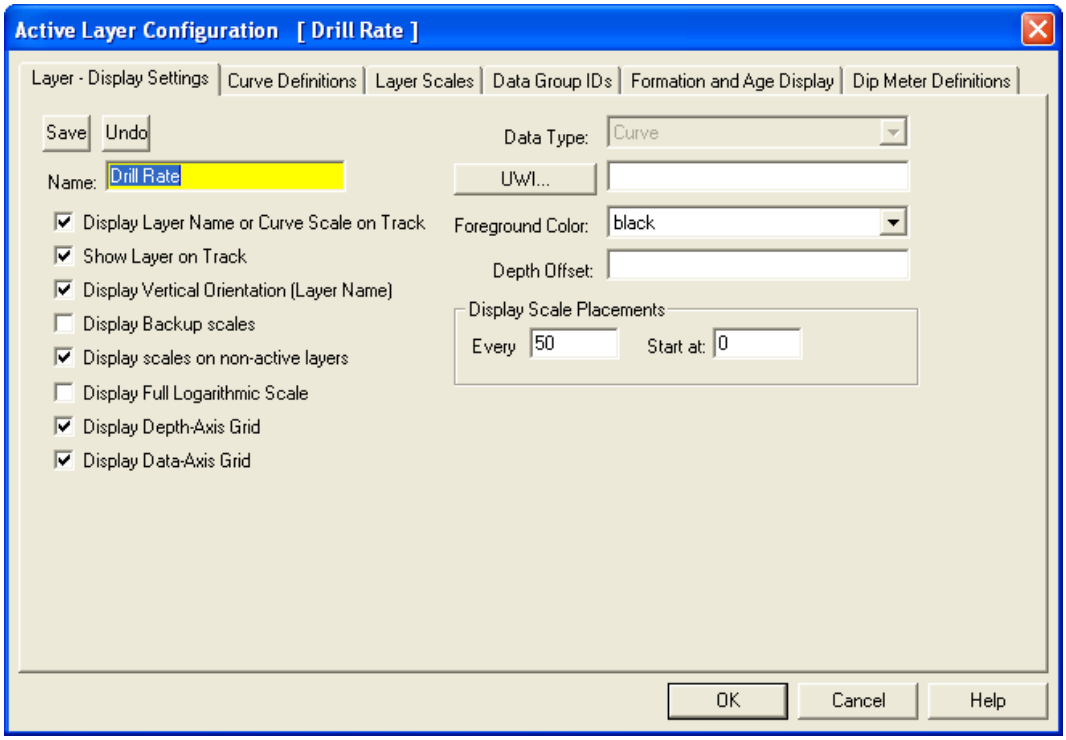
1. Make the desired layer active by **clicking** once on the **track** containing the layer to make the track active (Highlighted in Green).
2. **Click** on the **Layer Selection List** located on the Selection Bar (top left corner) and **select** the desired **layer name** contained within the currently active track that you wish to edit or make changes to.
3. **Click** on the **Edit pull down menu** and **select Layer Configuration or click** on the  **Layer Configuration button** on the Toolbar to activate the **Layer Configuration** window.

Note: You may also access the Layer Configuration window by clicking on the Layer Config. **button** within the Log Configuration Builder window, once you have highlighted the layer that you wish to edit.

4. Edit the Layer Configuration window, according to the specific requirements of each individual layer or data type as to what you would like the layer to look like, as outlined in various sections of the User Manual and then **click** on the Save **button** when finished.
5. A system message will appear telling the user *"Record saved successfully. Do you wish to Exit?"* **Click** on the Yes **button** to exit the window and view your changes.

Display Settings Tab

This tab in the layer configuration window allows the user to change the display setting for each individual layer. An example is shown below:



Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

The Name: Drill Rate field in yellow is a mandatory field. This is the name that is displayed for a layer or a curve irregardless of the Curve you have identified to show on this layer within the Curve Definition Tab of this dialogue window.

☑ Display Layer Name or Curve Scale on Track If this box is checked (default), indicates that the Curve Scale or Layer heading will be displayed in the track header.

☑ Show Layer on Track If this box is checked (default), indicates that the layer is being displayed.

☑ Display Vertical Orientation (Layer Name) If this box is checked indicates that the Layer heading will be displayed vertically in the track header. If unchecked it will be displayed horizontally.

☐ Display Backup scales If this box is checked (default), any time a curve goes off scale or wraps the curve is hatched and the backup scale is viewed on the Layer.

☑ Display scales on non-active layers If this box is checked (default), it will display the scales (including scale changes) for a curve on the log will be shown regardless of which layer is active at the time.

☐ Display Full Logarithmic Scale If this check box is activated it will display all the major cycles will be labeled. If this is unchecked or deactivated only the two end borders of the scale will be activated.

☑ Display Depth-Axis Grid If this box is checked (default), it will display the **Depth Axis Grid** (**X-axis**), Horizontal grid lines in Power*Log and Vertical grid lines in Power*Curve as defined in the **Log Configuration Layer Scale Tab Dialogue window**.

☑ Display Data-Axis Grid If this box is checked (default) it will display the **Data Axis Grid** (**Y-axis**) Vertical grid lines in Power*Log and Horizontal grid lines in Power*Curve, as defined in the **Log Configuration Layer Scale Tab Dialogue window Data Axis Grid Style**.

UWI... **UWI Button**

Normally, the **UWI** field within the **Layer Configuration** window should be blank, because the layer normally exhibits data from the **Active or Primary Well** on the current log. This Button or field (if you have the Correlational Module) will allow you to exhibit another wells data.

Note: If you decide to use this log as a template for creating future logs and refrain from clearing the **UWI** field(s) in the **Layer Configuration** window(s), then all future logs created from this template will contain layers pointing to another **UWI**.

If you possess the **Correlational Module**, you can use the UWI... **button** to access data from other **UWIs** or wells within the database.

How to Display a different Wells data on a layer of an Existing Log from another UWI or well.

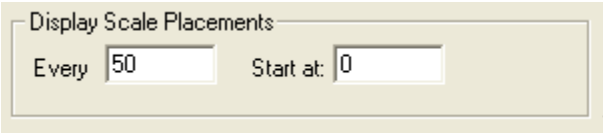
1. To access other wells within the database, **click** on the UWI... **button**. This will activate a Well List window.
2. Double click on the Well you wish to display on this layer. This will select the well you wish to retrieve the data from. You will now view the UWI of the well you chose in the UWI field of the Layer Configuration window. However, keep in mind that the type of well data that you are able to retrieve is dependent upon what layer was active at the time you attempted to retrieve the well data from within the **Layer Configuration** window.

For example: If the active layer within the **Layer Configuration** window, at the time of the retrieval, was a Curve layer. Then, the only well data you would be able to retrieve from another well in the database, via the UWI... **button**, would be **Curve** layer data.

This field will change the color of individual items with a fill pattern, such as Grain Size, Carbonate Texture, and Porosity Grade and MDT Data Layers

(**Correlational Module only)**, This field allows you to offset a layer by typing the depth you want to offset the layer by into the **Depth Offset** field.

Note: A positive (+) number will move the layer **DOWN** the striplog, while a negative (-) number will move the layer **UP** the striplog.



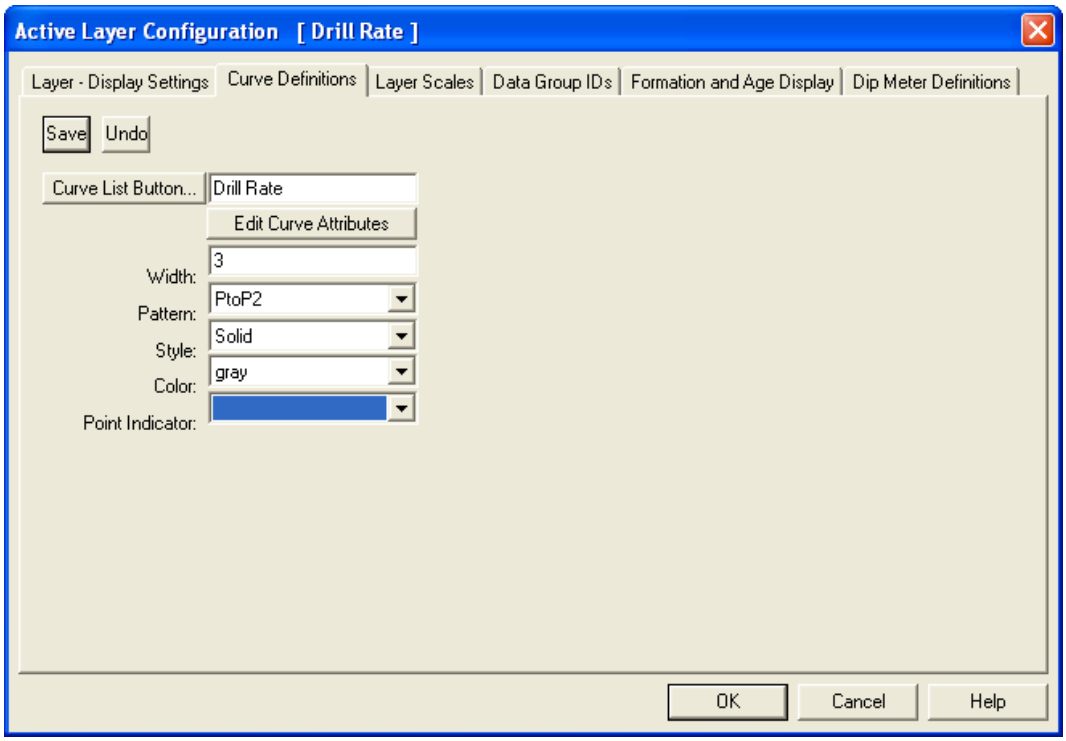
The **Every Field** indicates the frequency (at either 1:240 or 5") at which the curve scale will be indicated for that curve layer on the log. If all curve layers on a track have this same frequency and start depth they will be staggered according to the scales on the track header for that track. The **Start At field** indicates where the first scale for the curve will be placed and then it will add whatever is in the Every field and place the curve scale for that curve on the layer. There will be no curve scale it there is no data over that particular interval on the log.
Example. Every field 50, Start at field 250. You will have a scale placed on the log for that curve layer at 250, 300, 350, 400 etc.

Note: If the **Start at** and **Every** fields are **Blank** the default for the scale placement will be at the top of the screen or the top of every printed page. **But** they will only show if the Curve layer is the active layer on the track at the time of printing or viewing regardless of if the Scale on non-active layers is checked.

Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

Curve Definitions Tab

This tab in the layer configuration window allows the user to change the curve attributes for each individual curve layer. An example is shown below:



Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

The Curve List Button... **button** in the Curve Definitions tab of the Layer Configuration window activates a list of the curves associated with the active layers well. These Curves have been created through the Add Curve window when new Curve layers have been added to a log or when a new log has been started. The user has the ability to show any Curve and its values that has been added to the database as long as the data type for the layer is Curve.

The Edit Curve Attributes **button** activates the Digital Curve window and the user can edit the curve attributes as well as get at a secondary window to edit or view the curve scales. There are three ways to change the Curve Attributes. One is through the Layer Configuration window and the other is in the Well Window and is located under the Edit pull down menu. The last way is to right click on a curve layer and select Edit Curve from the pop out menu selection.

The **Curve** Field between the Curve and Curves Button shows the curve that is being displayed on that particular curve layer.

The **Width** Field indicates the width of the curve in pixels. To change, click in the Width field and typing in a new curve width (Values [1-9]).

The **Pattern** Field indicates the line pattern associated with the curve. The user has five (5) patterns to choose from.

PtoP	point to point curve (stop curve at null values)
PtoP2	point to point curve (disregard null values [continuous curve])
Box	histogram or box curve (stop curve at null values)
Box2	histogram or box curve (disregard null values [continuous curve])
Track Fill	fills track with color determined in the pgeology32.ini
Histogram	draws a colored histogram the width of the line width from the data point back to the lowest value track edge.
Points Only	shows only the data points and defaults to circles if nothing defined in the point indicator portion of curve definitions

The **Style** Field indicates the line style associated with the curve. The user has five (5) styles to choose from. They are Solid, Dash, Dot, Dash Dot, and Dash Dot Dot. This field can be changed by clicking on the style field and selecting a new style from the drop down list.

The **Color** Field indicates the line color associated with the curve. The user has a lot of curve colors to choose from. This field can be changed by clicking on the style field and selecting a new style from the drop down list

The **Point Indicator** Field indicates if the data points for the curve selected will be marked with some kind of indicator demonstrating where the actual curve data points are that make up the curve representation. The user has a lot of curve point indicators to choose from. This field can be changed by clicking on the style field and selecting a new point indicator or none from the drop down list.

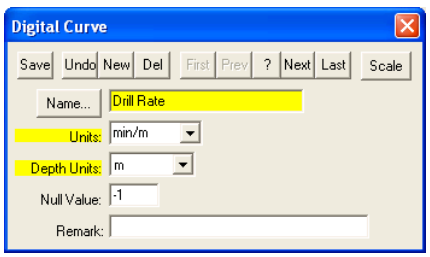
Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

How to select a different Curve to display on a Curve layer

1. **Click** on the **track** containing the Curve layer to make the track active (Highlighted in Green).
2. **Click** on the **Layer Selection List** located on the Selection Bar (top left corner) and ***select*** the desired ***Curve*** layer contained within the currently active track that you wish to edit or make changes to.
3. **Click** on the **Edit pull down menu** and **select Layer Configuration or click** on the  **Layer Configuration button** on the Toolbar to activate the Layer Configuration window **or right click** on the layer and **select Edit options** and then **Edit Layer** from the pop out menus.
4. **Click** on the **Curve Definitions tab**
5. **Click** on the Curve List Button... **button**. This will activate a list of all the Curves that have been created for this well.
6. Select the Curve you wish to display on this layer by **double clicking** on the desired **Curve**. If selected the Curve Name will show in the field beside the Curve List Button... button.
7. **Click** on the Save **button or press ALT-*S***, when you are finished.
8. A system message will appear telling the user *"Record saved successfully. Do you wish to Exit?"* **Click** on the Yes **button** to exit the window and view your changes.

How to change the Curve Attributes (Curve and Units, Null Value and Remarks)

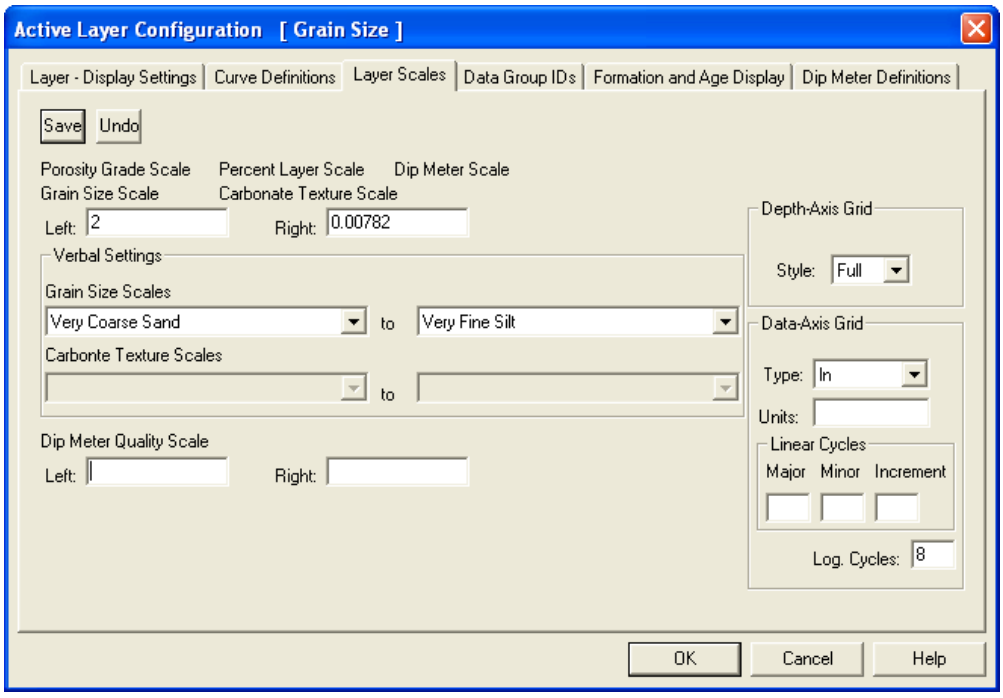
1. **Click** once on the **track** containing the Curve layer to make the track active (Highlighted in Green).
2. **Click** on the **Layer Selection List** located on the Selection Bar (top left corner) and **select** the desired **Curve** layer contained within the currently active track that you wish to edit or make changes to.
3. **Right Click** on the Layer and select **Edit Options** and then **click** on the **Edit Layer** selection or **click** on **Edit pull down menu** and **select Layer Configuration or click** on the  **Layer Configuration button** on the Toolbar to activate the Layer Configuration window or **Select** the **Edit Curve** selection.
4. **Click** on the **Curve Definitions Tab**
5. **Click** on the Edit Curve Attributes **button**. This will activate **Digital Curve** window:



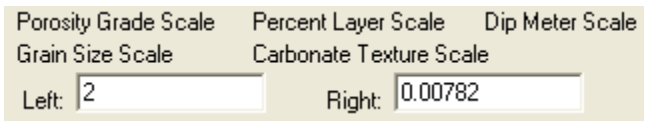
6. The Default Curve name will be the one in the Layer Window but the user can access any curve associate with the active well. The user can **click** on the Name... **button** to see a list of the curves associated with the primary well.
7. You can now rename, or **type** in **new units**, change the **null value**, or add/change the **remarks**.
8. **Click** on the Save **button or press ALT-S.** The user can also change the curve scales by clicking on the Curve Scales button and editing the curve scales here, and then, **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Layer Scales Tab

This tab in the layer configuration window allows the user to change the scale on non curve layers as well as curve or layer attributes that utilize grid attributes for each individual layer. The six data layer types that would utilize this tab would be all curves, Grain Size, Carbonate texture, Porosity Grade, Percent and Dip meter layers. An example of a grain size layer is shown below:



Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.



Grain Size, Carbonate texture, Porosity Grade, Percent and Dip meter layers Left and Right scale fields.
These two fields are used to define the scales for the layers defined above. Any other scales are handled by the digital curve attributes and scales The Grain size and Carbonate Texture scales can also be defined from the verbal setting selector. On the horizontal log the left scale is the bottom and the right scale is the top.

This is an easy way to set your grain size scale for either the Grains Size or Grain size matrix layers. When this verbal selector is utilized it will automatically set up the natural log cycles for you.

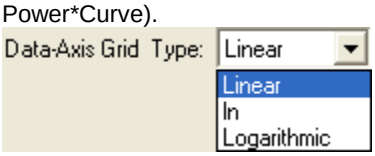
This is an easy way to set your Carbonate texture scale for either the Carbonate Texture or Carbonate Texture matrix layers. When this verbal selector is utilized it will automatically set up the linear cycles for you.

This is the only way to reset the Dip Meter Quality Scale range is by utilizing this feature. The default is 0 to 1. This would depend on the data that has been imported or input manually through our report window. Quality ranges would either be 0 to 1 or 0 to 100 depending on the vendor.

The **Depth-Axis** grid represents the **X-axis** on the log (Horizontal lines on Power*Log/Core or Vertical Lines on Power*Curve). You can edit the **Depth Axis** grid or Frequency of Depth Lines and Depth Track Numbers in the **Log Configuration** window. This is located in the Edit Pull Down menu

Style - Select from ***Full*** or ***Ruler*** styles for your grid lines. A Full style goes across the entire width of the layer while a Ruler style only goes partially across the layer

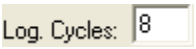
The **Data-Axis** grid represents the **Y-axis** on the log (Vertical lines on Power*Log/Core or Horizontal Lines on Power*Curve).



Data Axis Grid Type - Select from ***Logarithmic, Linear***, and ***Natural (LN)*** grid types or lines. This LN type (Natural log Base 2) can only be used with the Grain Size or Grain Size Matrix Layer.
If you choose Logarithmic or LN you must fill in the number of Log Cycles. If you choose Linear you must fill in the Linear cycles or grid pattern you wish to use on this layer.

The **Units field** is used to display the units used in the layer header for the Grain Size, Carbonate texture, Porosity Grade, Percent and Dip meter layers.

Linear Cycle Fields - Alters how the grid lines are displayed on a layer. You can set the occurrence of major divisions (lines) on a layer and minor divisions (lines) as well as the number of increments divisions (lines) on a particular layer. In this case the layer will be divided in two with a major line, divided into 5 with minor lines and divided in 10 with increment lines. The grid lines styles and thickness are determined in the Log Configuration window located under the Edit pull down menu. The Scale markings numbers are dictated in this portion of the window as well. The Minor linear cycles takes precedent so in this case you would have 5 markings on the scale. The frequency of the scale is determined in the Display options tab.



Log Cycles – The number of Log cycles is directly dependent on the Scale of the curve that is represented on this layer. The system does not mandate any values and will attempt to display the curve scale with the Log Cycles entered into this field but there is no guarantee as to the correctness of the curve scale represented in the Curve Header Scale. The frequency of the scale is determined in the Display options tab.

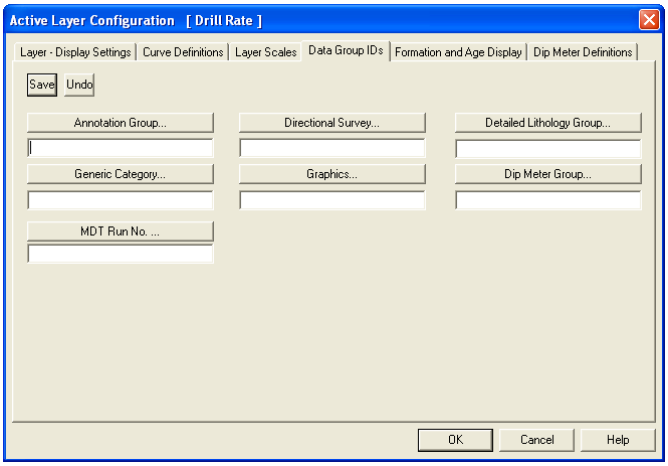
Remember that for ***Logarithmic*** scales, the left and right values must be values according to the Log Based 10 (0.1, 1.0, 10.0, 100.0 etc). Therefore, if your left and right values are 0.001 and 100 respectively, then the ***Log Cycle*** field should have a value of ***5*** cycles. Moreover, if the left and right values are 1.0 and 1000 respectively, then the ***Log Cycle*** field should have a value of ***3*** cycles.

Grain Size LN (Natural Log) cycles are best determined utilizing the grain size Verbal setting selector. Otherwise to determine the left/right values and grid cycle, you should refer to the grain chart that is produced on the log legend. This will help you find out the upper (**coarse**) and lower (**fine**) limits of your **Grain Sizes**.

For example*:* If the lower limit is ***Coarse Silt*** at 0.03125mm and the upper limit is ***Very Coarse Sand*** at 2mm, then you should have 6 Log Cycles for the grid (on a natural log scale) and also have a LN as a Data Axis Grid Type.

Data Group ID's Tab

This tab in the layer configuration window allows the user to change the specific data groups available for each Layer type. An example is shown below:



Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

Annotation Group Button

The Annotation Group... **button** allows you to associate an existing Annotation Group with the Annotation layer active within the **Layer Configuration** window at the time. Each **Annotation Group** has a unique **Group ID** as they are assigned when a new log is created for a well. So for every annotation layer that is associated with a well there is a new Annotation group created. Accordingly, if you have multiple **Annotation** layers associated with a single well, then you will have to assign a unique **Group ID** number to each of the **Annotation** layers within each of their respective **Layer Configuration** windows.
For example: "***Comments***" is an Annotation layer, that when a well/log was first created was assigned an Annotation Group ID of **Comments1** with its own **Layer Configuration** window. Meanwhile, "***Remarks***" is another Annotation layer in that same well/log creation, that has been assigned Annotation Group ID **Remarks1** within its own **Layer Configuration** window. If another log is created for the same well that has both a Remarks and Comments Layers they each will be assigned Group ID's of **Remarks2** and **Comments2**. The new log will not show the same comments as the original log. You can show any group of annotations on any annotation layer and this is shown below.

Generic Category Button

You can use the Generic Category... **Generic Category button** only when the Data Type field displays, "Generic Category.". The user can use this button to associate a Generic Category Group and its associated data with a layer. Generic Category Groups are listed by their Name.

MDT Run Number Button

You can use the MDT Run No. ... **MDT Run Number button** only when the Data Type field displays, "MDT."
The user can use this button to associate a MDT Run Group Numbers and its associated data with a layer. A layer can be associated with only one MDT Run Number Group and its associated data. MDT's are listed by their Run Number and can be selected by utilizing the drop box and selecting the according number from the List. Then **click** on the OK button.

Directional Survey Button

You can use the Directional Survey... **Directional Survey button** only when the Data Type field displays, "Directional Survey." The user can use this button to associate a Directional Survey Group and its associated points with a layer Directional Survey Groups are listed by their Start Date and their Survey Group ID. The default for any Directional Survey Layer is for it to display the Survey Group ID 1and its associated points.

Graphics Button

The 

Graphics Groups button is used, when a **Graphics** layer is the currently active layer within the **Layer Configuration** window. The **Graphics Group** button allows you to associate an existing **Graphics Group** to the currently active layer. Graphic Groups are listed by their Group Number / Name and can be selected by utilizing the drop box and selecting the according number from the List. Then **click** on the 

button.

Detailed Lithology Group Button

The 

Detailed Lithology Group button is used, when a **Detailed Lithology** layer is the currently active layer within the **Layer Configuration** window. The **Detailed Lithology Group** button allows you to associate an existing **Detailed Lithology Group** to the currently active layer.
Each **Detailed Lithology Layer** added when creating new logs for a well or adding a Detailed Lithology layer/track to a log is assigned a unique **Detailed Lithology Group ID**. So for every Detailed Lithology layer that is associated with a well there is a new Detailed Lithology group created. Accordingly, if you have multiple **Detailed Lithology** layers associated with a single well, then the system will have to assign a unique **Group ID** number to each of the **Detailed Lithology** layers within each of their respective **Layer Configuration** windows.
For example: The First Detailed Lithology layer added to a well/log is assigned a Detailed Lithology Group ID of **Detlith1** with its own **Layer Configuration** window. Meanwhile, if another Detailed Lithology layer is added in a new log creation that will be assigned another Detailed Lithology Group ID **Detlith2.** Etc. Etc. Etc.

Dip Meter Group Button

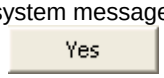
The 

Dip Meter Group button is used, when a Dip Meter layer is the currently active layer within the **Layer Configuration** window. The **Dip Meter Group** button allows you to associate an existing **Dip Meter Group** to the currently active layer. Dip Meter Groups are listed by their Group Name and can be selected by utilizing the drop box and selecting the according name from the List. Then **click** on the 

button.

How to select a different Group to display on a layer

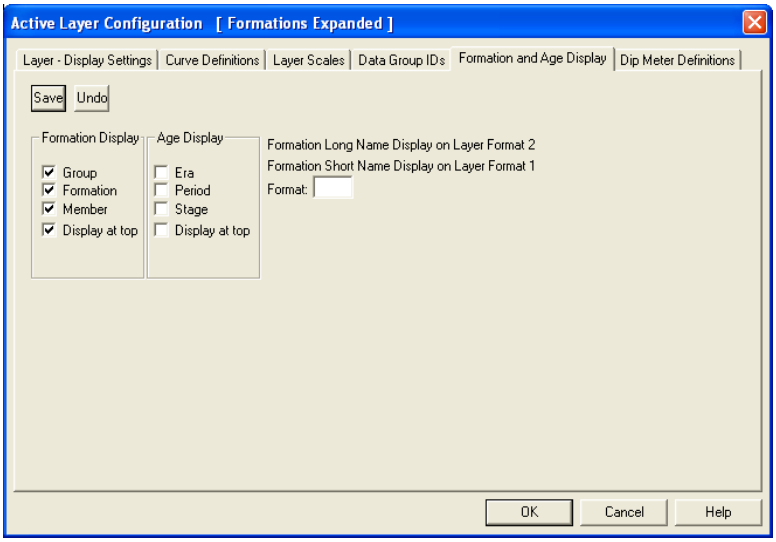
1. **Click** on the **track** containing a Multiple Group layer to make the track active (Highlighted in Green).
2. **Click** on the **Edit pull down menu** and **select Layer Configuration or click** on the  **Layer Configuration button** on the Toolbar to activate the Layer Configuration window.
3. **Click** on the **Data Group ID's Tab**.
4. **Click** on the appropriate **Group button**. This will activate a list of all the groups that have been created for this well.
5. Select the Group you wish to display on this layer by **double clicking** on the desired **Group Name**. If selected the Group Name will show in the field below the Group button in the Layer Configuration window.
6. **Click** on the 

button or press ALT-S, when you are finished.
7. A system message will appear telling the user "Record saved successfully. Do you wish to Exit?" **Click** on the 

button to exit the window and view your changes.

Formation Age Display Tab

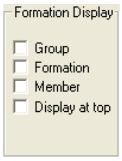
This tab in the layer configuration window allows the user to change the display of the Formation in either the Long / Short / or Extended as well as the Ages layers.



Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the Save **button or press ALT-S**.

Formation Display

This portion of the window is only applicable to the Expanded Formation Track / Layer that displays the Group, Formation and Member information that is entered into the Formation Report.



Group – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Group information will be displayed on the Formation Track / Layer.
Formation – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Formation information will be displayed on the Formation Track / Layer.
Member – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Member information will be displayed on the Formation Track / Layer.
Display at top – If this box is checked, indicates that the Group / Formation / Member information will be displayed at the top of the interval instead of the middle of the interval.

Age Display

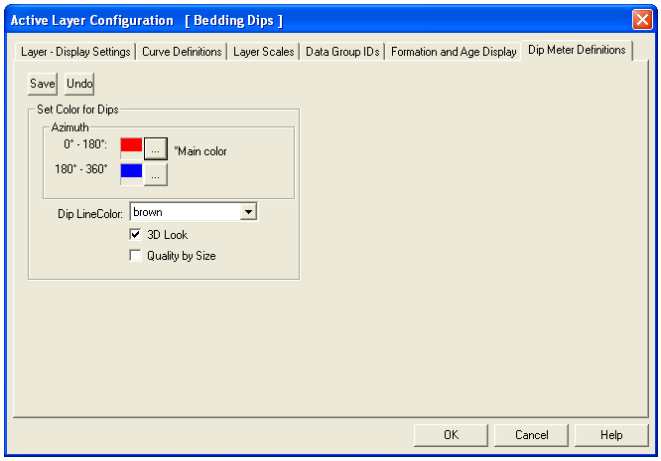
This portion of the window is only applicable to the Ages Track / Layer that displays the Era, Period/series and stage information that is entered into the Formation Report.

Era – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Era information will be displayed on the Ages Track / Layer.
Period – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Period information will be displayed on the Ages Track / Layer.
Stage – This track can be divided into as many as 3 portions. If this box is checked, indicates that the Stage information will be displayed on the Ages Track / Layer.
Display at top – If this box is checked, indicates that the Era / Period / Stage information will be displayed at the top of the interval instead of the middle of the interval.

The **Format field** indicates which format you wish to display the top on the log (either short name [1] or long name [2])
Format 1 indicates the Formation top with a line and its appropriate **Depth** above the line and a short form for **Age** and **Formation below the line.**
Format 2 displays the **Member**/**Formation** (in long form), along with **True Vertical Depth** (**TVD**) and **Sub Sea Depth (SSL)** and is typically used in the Formation Long Name Layer.

Dip Meter Definitions Tab

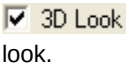
This tab in the layer configuration window allows the user to change the display of the Dip Meter Data on the Dip meter and hole dip layers. An example is shown below:



Set Color for Dips Azimuth selection allows the user to make a color differential between dips from 0-180°and dip azimuths from 180- 360°

To change a color **Click** on the  **button** and this will activate the Color Picker. **Click** on a **color** or Use custom defined color picker and then **click** on the  **button**.

Dip Line Color selector allows the user to define the line and circle color of the dip data so that you can utilize multiple groups on a single track and you can differentiate between them.



3D Look check box when activated will give the dot or indicator a 3 Dimensional look rather than a flat look.

Quality by Size check box when activated will allow the user to identify the quality of the dip reading by size rather than a color fill lood. Examples of both are shown below.

Quality by Size checked

Quality by Size not checked

Once a field in this Layer Configuration Tab dialogue window has been changed the user must then **click** on the 

button or press ALT-S.

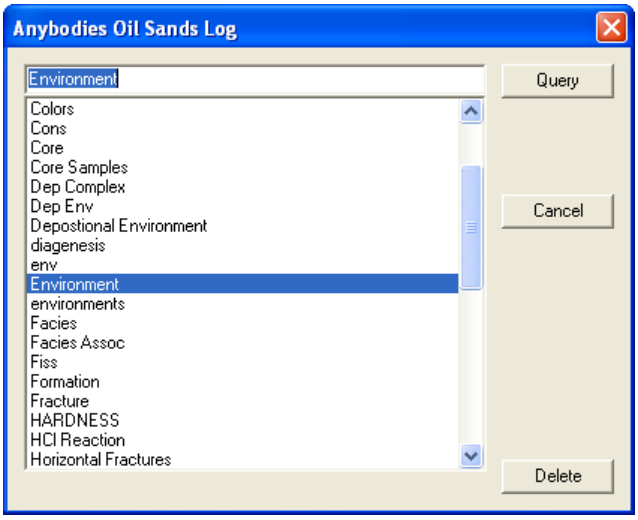
Field Restriction Table:

Name	30	Character	Mandatory
Sequence	5.0	Numeric	Optional
Remarks	100	Character	Optional
UWI	20	Character	Optional
Annotation Group	30	Character	Optional
Directional Survey	30	Character	Optional
Depth Grid Style	5	Character	Optional
Data Axis Type	15	Character	Optional
Data Axis Style	5	Character	Optional
Log Cycles	5.0	Numeric	Optional
Major Linear Cycles	5.0	Numeric	Optional
Minor Linear Cycles	5.0	Numeric	Optional
Increment Cycles	5.0	Numeric	Optional
Scale Left	10.5	Numeric	Optional
Scale Right	10.5	Numeric	Optional
Scale Units	10.5	Numeric	Optional
Curve ID	30	Character	Optional
Curve Line Width	1.2	Numeric	Optional
Curve Line Pattern	5	Character	Optional
Curve Line Style	10	Character	Optional
Depth Offset	5.2	Numeric	Optional

Delete Generic Groups

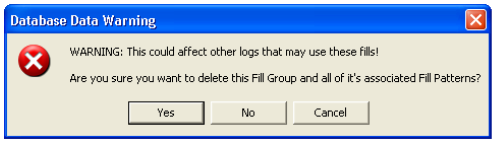
The **Delete Generic Groups** window allows you to delete a generic group.

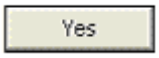
1. **Click** on the **Delete Generic Groups** selection located under the **Edit pull down menu**. This will activate the **Generic Groups** window shown below.



2. **Click** on the **Generic Group Name** that you wish to delete, and click on the 

button. This will activate the **Database Data Warning** window.



3. **Click** on the 

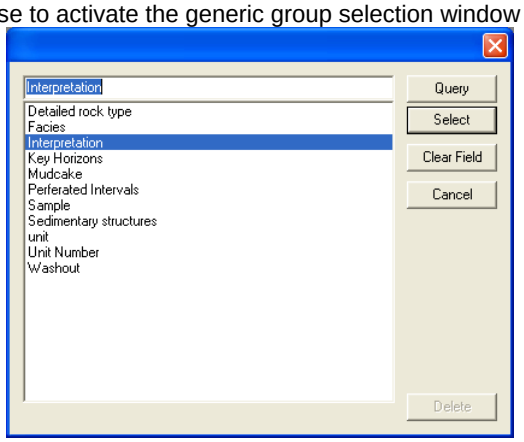
button, and the Generic Group will be deleted.

Generic Group Sorting – Edit pull down menu item

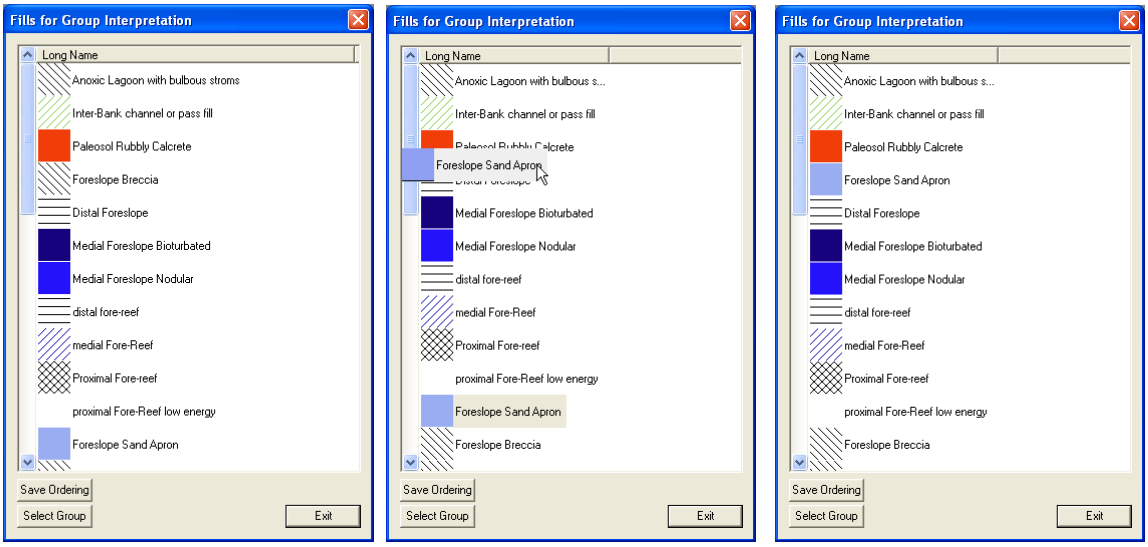
The **Generic Group Sorting** allows the user to view all the generic groups and order the group list into a format that is sensible to the user rather than our default that would be alphabetically.

How to sort a Generic Group List

1. **Click** on **Generic Group Sorting**, under the **Edit** menu selection. If any Generic Groups have been added to the Database to activate the generic group selection window shown below.



2. **Click** once on the **Group Name** (Interpretation) you wish to resort and then **click** on the Select **button or Double Click** on the **Group Name**. This will activate a window that allows you to resort the Fill list as shown below.

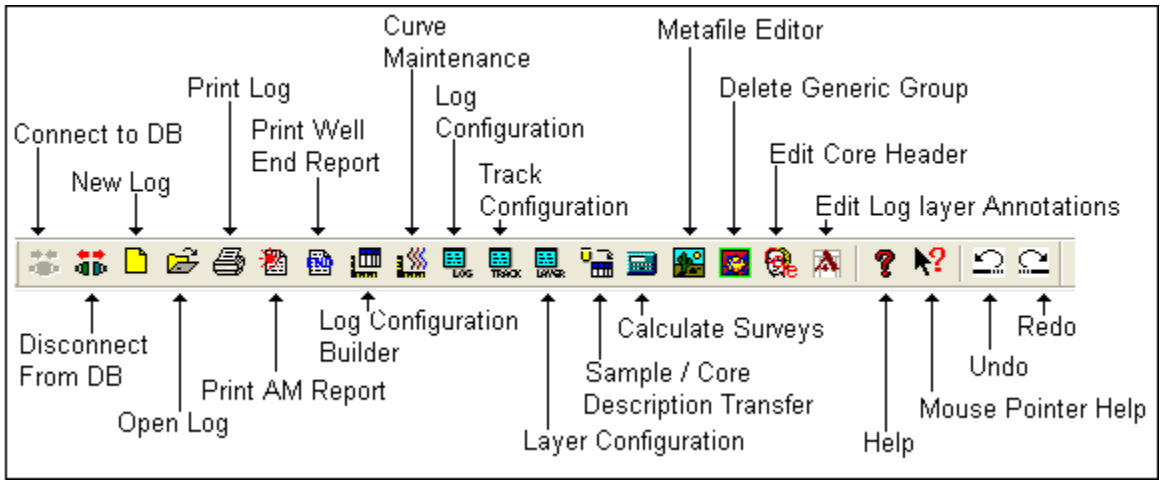


Before Move During Move Result of Move

3. **Click and drag** on the **Generic fill** you wish to resort and move it above or below the generic fill you want it beside.
4. Repeat step 3 as many times as you like.
5. Once you have finished **Click** on the Save Ordering button.
6. The user can either **select a different group** by **clicking** on the Select Group **button** or you can **close this window** by **clicking** on the Exit **button**.

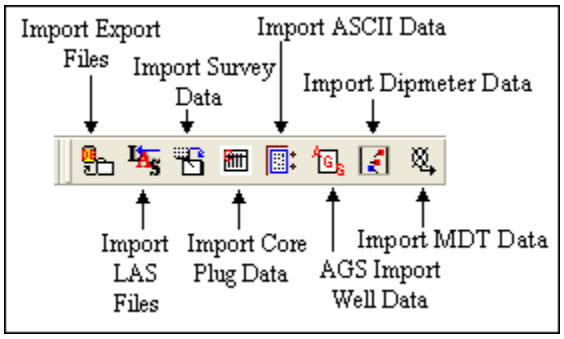
Toolbar – View pull down menu item

Turns the Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen.
We have added / removed some more shortcuts to this toolbar.



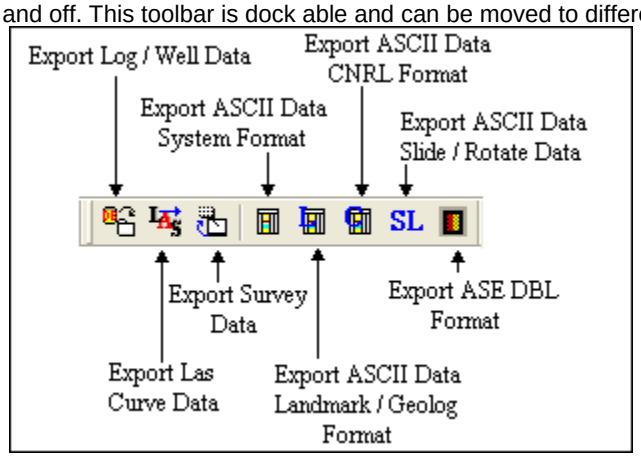
Import Toolbar – View pull down menu item

Turns the Import Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen.
We have added some more shortcuts to this toolbar.



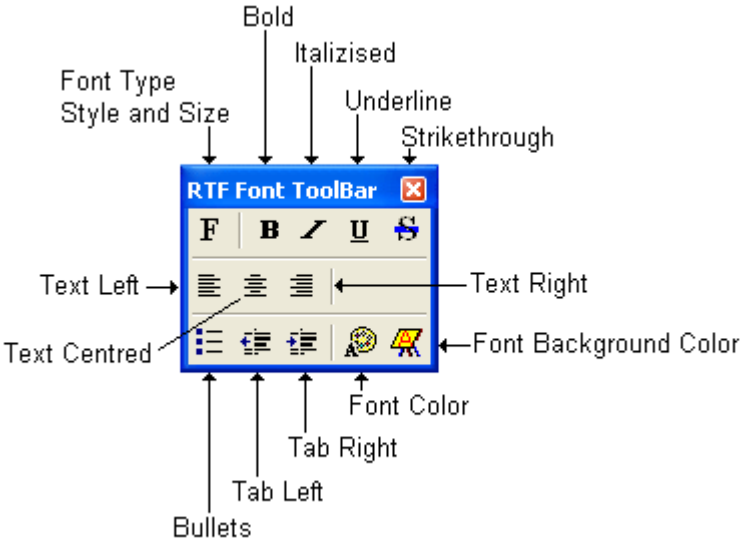
Export Toolbar – View pull down menu item

Turns the Export Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen.



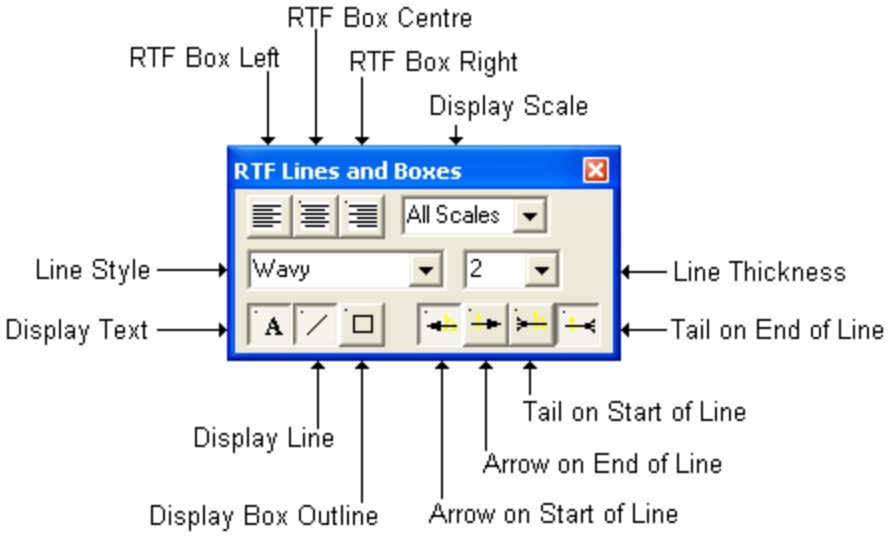
RTF Font Toolbar – View pull down menu item

Turns the RTF Font Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen. This is used with the New RTF Annotations used on the Log.



RTF Line and Boxes Toolbar – View pull down menu item

Turns the RTF Line and Boxes Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen. This is used with the New RTF Annotations used on the Log.

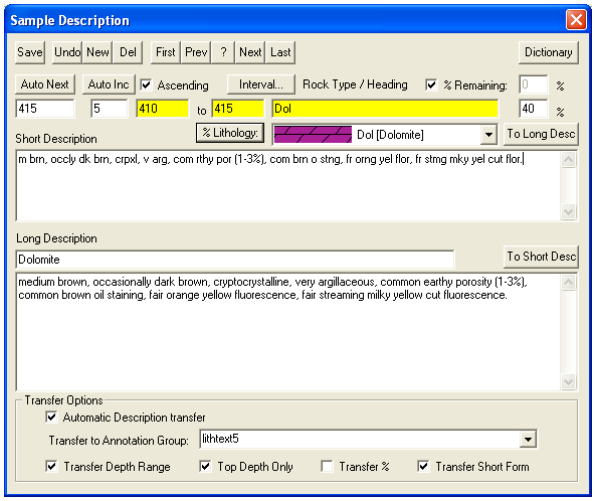


Sample Description – Reports pull down menu item

This report allows you to describe a Sample. The long descriptions will be used in the Sample Description Report that is printed out in the Well End Report. We have added an Ascending Check box so that user can either log up or down with respect to the depth intervals.

This window will now populate the % Lithology layer if it is utilized on your log as well. This % Lithology Layer will be populated if a % (percentage) is used as well as a Rock Type is selected in the % Lithology Rock Type drop down box.

Note: If the descriptions are then transferred to the Striplog and then edited on the striplog the descriptions entered in the Sample Description reports remain unchanged.



The Dictionary **button** activates the **Geology Dictionary** window that allows you to add, edit and delete abbreviations and long forms from the expansion dictionary.

The Auto Next **button** takes the last value saved to the **Interval** (To) field and places it in the **Interval** (From) field. Then, it places the cursor in the empty **Interval** (To) field and waits for the user to enter a new value.

The Auto Inc **button** adds the amount entered into the **Auto Increment** field (the default is 5m), to the **Interval** (From) and **Interval** (To) fields.

The Ascending check box when activated will advance the Top Depth with the Base depth value. This will only be implemented when the record is saved and the Start New Record option is chosen and then the Auto Next or the Auto Inc buttons are activated. If the Ascending check box is not activated the descending order will be implied and the Top depth will be place in the Base depth field.

Note: The Auto Next or the Auto Inc buttons should only be activated, when the window has been cleared. This would mean selecting either the New **button** or the Start New Record in the save options window. If a **Rock Type** is present in the **Rock Type** field, prior to using these buttons, that **Rock Type** and its associated data will be associated with the new depths.

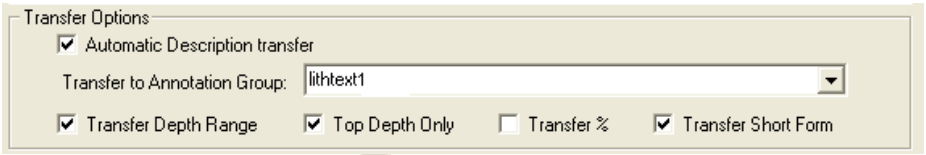
The Interval... **button** displays a list of descriptions that have been entered to date for the current well.

The % Lithology: **button** takes the correct Rock Type abbreviation and places the rock type in its associated field. If the abbreviation is not correct according to our expansion dictionary, the rock type will not be placed. Then, the user can choose the rock type from the drop down box.

The To Long Desc **button** expands the text you have typed in the **Short Description** field and places them in the **Long Description** field.

The To Short Desc **button** abbreviates the text you have typed in the **Long Description** field and places them in the **Short Description** field.

Automatic Sample Description Transfer Options



The **Automatic Description transfer** check box when activated will automatically transfer the sample description to the log when it is saved. It will transfer with the options specified in the transfer Options discussed below.
The **Transfer to Annotation Group** selection drop box indicates which group the description is being transferred to. This window will default to Lithtext1. If this is not the group you wish to transfer you descriptions to, select a different group from this drop box.

Note: The first log created for a well will have a lithology description layer identified with a group called lihtext1, the second log created for a well will have a lithology description layer identified with a group called lihtext2 etc. The user can select any annotation group that exists for that well.

The **Transfer Depth Range** check box when activated will transfer the from and to depth intervals to the log.
The **Transfer Top Depth Only** check box when will transfer only the from depth interval to the log.
The **Transfer %** check box when activated will transfer the rock % to the log.
The **Transfer Short Form** check box when activated will transfer the short description to the log. When this selection is unchecked the samples long sample description will be transferred to the log.

Adding a Sample Description

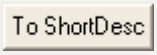
1. **Click** on **Sample Description**, under the **Reports** menu selection. If any descriptions have been entered for the current well, the last description will be displayed. **Click** on the New **button**. The intervals are set to zero (**0**) and the cursor is placed in the **Interval**(From) depth field.
2. Type the **Interval** (From) and **Interval** (To) depth values into their respective fields and press the **Tab** key on the keyboard to move to the next field.

3. **Type in** the **Rock Type** and press the **Tab** key.
4. **Type in** a **Percentage (%),** if you require one, and **Tab** out of the field.
5. This will make the 

button active. The user can **press** the **Enter Key** with this button active and if the Rock Type abbreviation is correct the rock type will show in its associate field. **Or** The User can **click** on the 

button and the rock type will show in its associate field.
6. If the rock type does not show in the field the user can **pick** their own rock type from the **drop down box** provided. The reason why it would not be populated is either the rock type symbol does not exist or the Short Form was not abbreviated correctly for this field to be populated. **Tab** to the Short Description field.
7. Type the **Short** (abbreviated) **Description** into the **Short Description** field. Note that any abbreviations that are misspelled or are not found in the **Geology Dictionary** will not be expanded.

Note: When you type your abbreviations in ALL CAPS, your long description will be ALL CAPS as well. Similarly, if you use all lower case letters in your abbreviations, your expanded description will be all lower case. You are also able to use capital letters to begin your abbreviations and leave the remaining letters in lower case. This will produce lower case words that are capitalized in the long description.

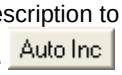
Note: You also have the option of typing out the non-abbreviated form of the **Sample Descriptions** into the **Long Description** field and then clicking on the 

button to display the abbreviated form of the **Sample Descriptions** in the **Short Description** field. Moreover, you may also type out the **Sample Descriptions** (abbreviated or non-abbreviated), using a **Window's** program, such as **Notepad** or **Word**, and then **Copy/Cut** and **Paste** the **Sample Descriptions** into either the **Short** or **Long Description** fields within the **Sample Description** window.

8. **Click** on the 

button or press ALT-S.
9. To enter another description at the same interval, **click** on the 

button and repeat **Steps 3** to **8**.
10. To add a description to a new interval, **click** on the 

button or press ALT-N, then **click** on the 

button or the 

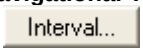
button, and repeat **Steps 3** to **8**.

Note: IT IS IMPORTANT TO SAVE EVERY RECORD!! You must **click** on the 

button or press ALT-S every time you finish entering a new record.

Editing a Sample Description

1. Use the Database Navigational Tools 

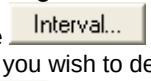
to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information**.**
2. Or, **Click** on the 

button to view a list of **Sample Descriptions** and then **double click** on the interval that you wish to edit.
3. Once the selected interval is displayed in the **Sample Description** window, make any changes you feel are necessary. **Click** on the 

button or press ALT-S and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Sample Description…

1. Use the Database Navigational Tools 

to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information**.**
2. Or, **Click** on the 

button to view a list of **Sample Descriptions** and then **double click** on the interval that you wish to delete.
3. **Click** on the 

Delete button.

4. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

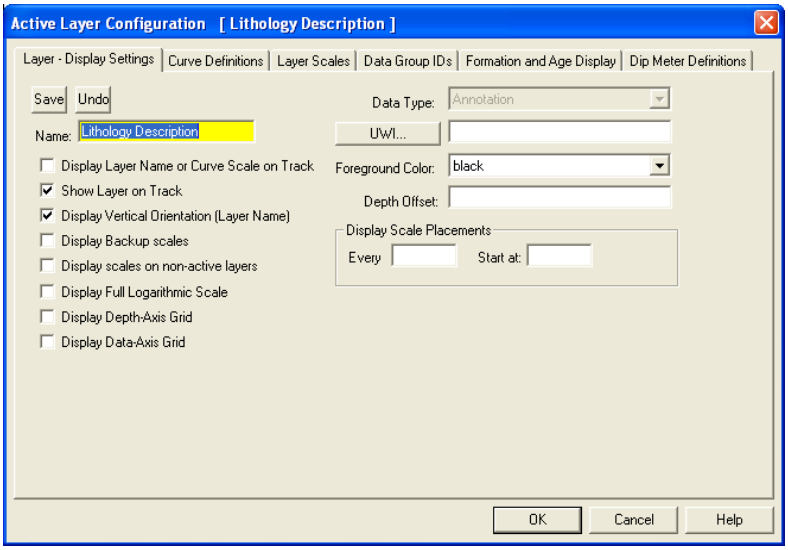
The Undo **button** will restore the window to the settings of the last saved record.
You can **Tab** between fields or press **Shift + Tab** to move backwards between fields.

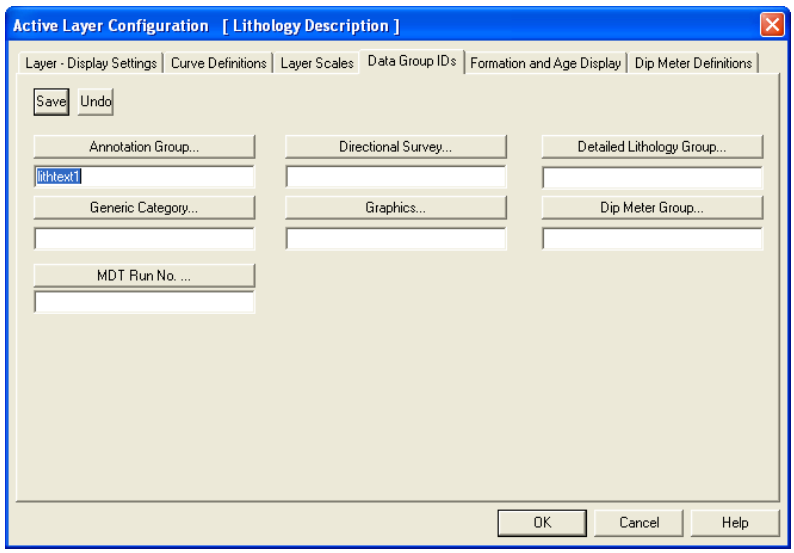
Field Restriction Table:

Intervals (From & To)	7.5	Numeric	Mandatory
Rock Type	50	Character	Mandatory
Percentage	3	Numeric	Optional
Short Description	65,535	Character	Optional

For other ways on how to transfer Sample Descriptions to a log, see the "*Sample/Core Description Transfer*" section in Chapter Five of the User Manual.

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a **Lithology Description** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the layer is active.

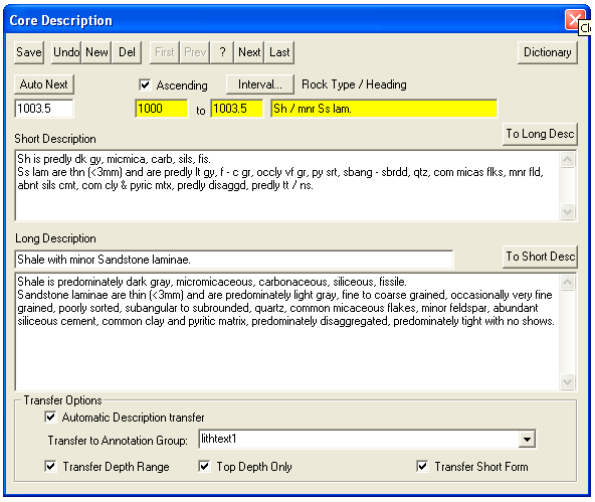




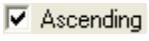
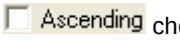
Core Descriptions

This report allows you to describe a Core on an interval basis. The long descriptions will be used in the Core Description Report that is printed out in the Well End Report print window. We have modified the window to get rid of some of the confusing buttons and we have added an Ascending Check box so that user can either log up or down with respect to the depth intervals.

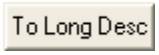
Note: If the descriptions are entered into this Core Description report and transferred to the Striplog and then edited on the striplog the descriptions entered in this Core Description reports remain unchanged.

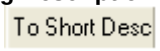


The  **button** activates the **Geology Dictionary** window that allows you to add, edit and delete abbreviations and long forms from the expansion dictionary.

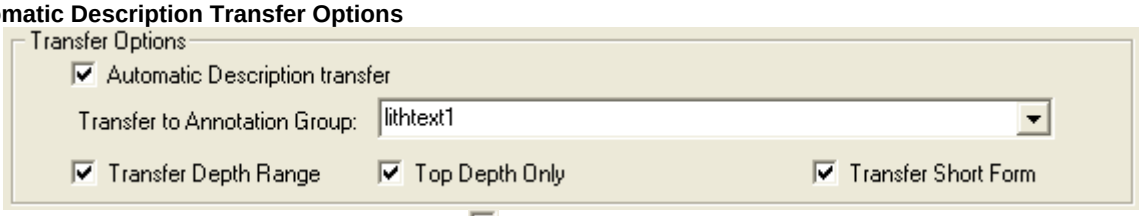
The  check box when activated will advance the Top Depth with the Base depth value. This will only be implemented when the record is saved and the  option is chosen. If the  check box is not activated the descending order will be implied and the Top depth will be place in the Base depth field.

The  **button** displays a list of descriptions that have been entered to date for the current well.

The  **button** expands the text you have typed in the **Short Description** field and places them in the **Long Description** field.

The  **button** abbreviates the text you have typed in the **Long Description** field and places them in the **Short Description** field.

Automatic Description Transfer Options



The **Automatic Description transfer** check box  when activated will automatically transfer the sample description to the log when it is saved. It will transfer with the options specified in the transfer Options discussed below.
The **Transfer to Annotation Group** selection drop box indicates which group the description is being transferred to. This window will default to Lithtext1. If this is not the group you wish to transfer you descriptions to select a different group from this drop box.

Note: The first log created for a well will have a lithology description layer identified with a group called lithtext1, the second log created for a well will have a lithology description layer identified with a group called lithtext2 etc. The user can select any annotation group that exists for that well.

The **Transfer Depth Range** check box ☑ when activated will transfer the from and to depth interval to the log.
The **Transfer Top Depth Only** check box ☑ when activated will transfer only the from depth interval to the log.
The **Transfer Short Form** check box ☑ when activated will transfer the short description to the log. When this selection is unchecked the samples long sample description will be transferred to the log.

Adding a Core Description

1. **Click** on **Core** under the **Reports** menu selection to activate the **Well Core** window.
2. The user must fill in the Mandatory fields in the core window and save this record before you can click on **Core Description Button** in the Well Core window. If any descriptions have been entered for the current well, the last description will be displayed. Otherwise, the intervals are set to zero (**0**) and the cursor is placed in the **Interval** (From) depth field.
3. Type the **Interval** (From) and **Interval** (To) depth values into their respective fields and press the **Tab** key on the keyboard to move to the next field.
4. Type in the **Rock Type** and press the **Tab** key.
5. Type the **Short** (abbreviated) **Description** into the **Short Description** field.

> **Note** that any abbreviations that are misspelled or are not found in the **Geology Dictionary** will not be expanded.
> When you type your abbreviations in ALL CAPS, your long description will be ALL CAPS as well. Similarly, if you use all lower case letters in your abbreviations, your expanded description will be all lower case. You are also able to use capital letters to begin your abbreviations and leave the remaining letters in lower case. This will produce lower case words that are capitalized in the long description.

6. **Click** on the Save **button or press ALT-S**, and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

> **Note:** You also have the option of typing out the non-abbreviated form of the **Core Descriptions** into the **Long Description** field and then clicking on the To Short Desc **button** to display the abbreviated form of the **Core Descriptions** in the **Short Description** field.

7. Repeat **Steps 3** to **6.**

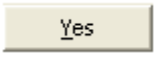
> **Note:** IT IS IMPORTANT TO SAVE EVERY RECORD!! You must **click** on the Save **button or press ALT-S** every time you finish entering a new record.

Editing a Core Description

1. Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information
2. Or, **Click** on the Interval... **button** to view a list of **Core Descriptions** and then **double click** on the interval that you wish to edit.
3. Once the selected interval is displayed in the **Core Description** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S and** then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Core Description

1. Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information
2. Or, **Click** on the Interval... **button** to view a list of **Core Descriptions** and then **double click** on the interval that you wish to delete.
3. **Click** on the Del **Delete button**.

4. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the 

button.

Field Restriction Table:

Intervals (From & To)	7.5	Numeric	Mandatory
Rock Type	50	Character	Mandatory
Short Description	63,535	Character	Optional

For another way on how to transfer Core Descriptions to a log, see the “*Transferring Core Descriptions*” section in Chapter Five of the User Manual.

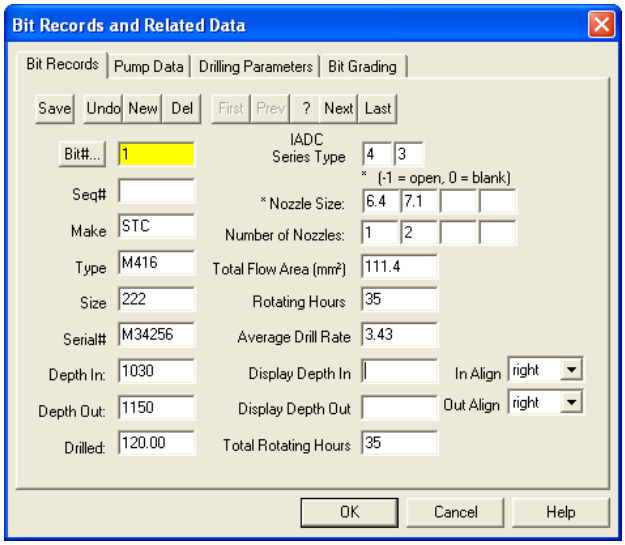
Bit Record

Bit Record data is entered into this window.

The data entered into this window is used to generate three separate **Well End Reports**: the "***Bit Records***" report, the "***Bit Record Summary (IADC)***" report, and the "***Bit Record Summary (TBG)***" report. The "***Bit Record Summary (IADC)***" report is made up of select fields of data including: **Bit #, Make, Type, Size, Depth In, Depth Out, Drilled, Rotating Hours, Average Drill Rate,** and the **IADC Bit Grading System** fields. The "***Bit Record Summary (TBG)***" report is made up of the same fields of data, however, it also includes the **Size** and **TBG Grading System** fields.

When entering this data into the **Bit Record** window, you can save time by filling in only the information required for the **Bit Record** and **Bit Record Summary** reports, as well as the information that is displayed on the **Bit Record** layer on the log.

Note: The **Pump Data** tab section of the **Bit Record** window only needs to be filled in once per well. The only information required for each additional **Bit Record** is the **Pump SPM**, **Efficiency (%)**, and **Pump Output (l/min)**.



Adding a Bit Record

Bit Records Tab

1. **Click** on **Bit Record** under the **Reports** menu selection.
2. **Click** on the 

button or press ALT-N.

Note: In the event of a "plugback" or redirected well, the Seq# field can be used to override the Bit order (normally dictated by the values in the Depth Out field), so that the Bits can be kept in the proper sequence or order.

3. Enter any appropriate information into the empty fields.

Note: Please leave the Rotating Hours field blank or empty, if you wish to indicate a zero(0) value for Rotating Hours. Otherwise, you will receive an "Error in formula" error message, in the Well End Report window, when you attempt to printout the Bit Record Summary reports.

4. Select an alignment for the **Bit In** and **Bit Out** data to be shown on the **Bit Record** layer. The default alignment is to the **right** of the **Bit Record** layer. However, you can select a **left**, **right**, **center**, or **blank** alignment. If you select a **blank** alignment the **Bit Record** will not be displayed, but it will still be printed out in the **Well End Report** window.

5. The Bit In data is defaulted to display the information NB#6 WRB HR-S35 from the depth entered into the depth in field. That can be changed by typing in a different depth in the **Display Depth In field** for the information. The bow ties will remain at the depth the bit was tripped in.

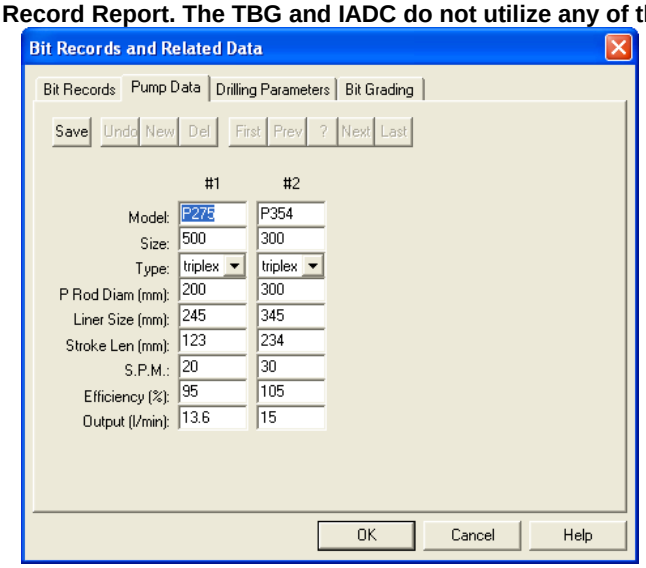
6. The Bit Out data is defaulted to display the information Bit#6 WRB HR-S35 237.00 / 32 hrs Cond 6-6-WT-A- -F-16-RG-TG from the depth entered into the depth out field. That can be changed by typing in a different depth in the **Display Depth Out field** for the information. The bow ties will remain at the depth the bit was tripped out.

Note: The **Bit In** information consists of Bit #, Make, and Type NB#6 WRB HR-S35, while the **Bit Out** information consists of Bit #, Make, Type, Meters Drilled, Rotating Hours, and either Bit Grading Systems Bit#6 WRB HR-S35 237.00 / 32 hrs Cond 6-6-WT-A- -F-16-RG-TG.

7. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

Pump Data Tab

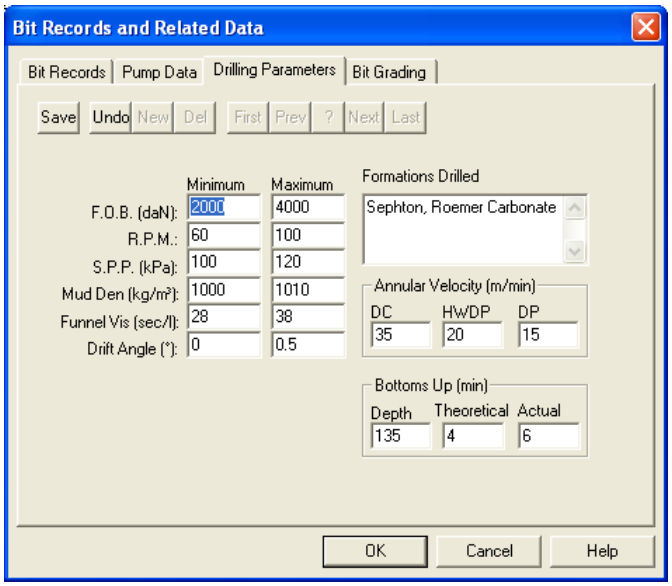
This information is stored and remembered for the entire well. You may wish to change the average strokes per minute and the output otherwise all should be good. The only Bit Record Report that utilizes this information is the Full Bit Record Report. The TBG and IADC do not utilize any of this information.



1. **Click** on the **Pump Data Tab**
2. **Tab** through the fields and **type** the appropriate information in each field**.**
3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

Drilling Parameters Tab

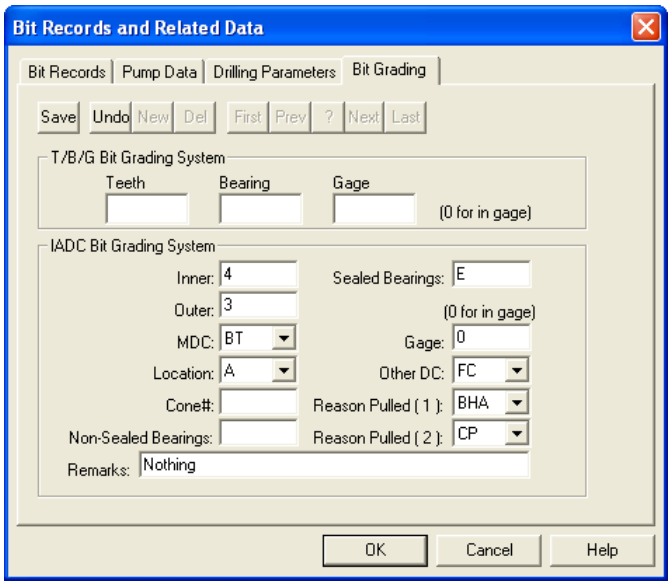
The only Bit Record Report that utilizes this information is the Full Bit Record Report. The TBG and IADC do not utilize any of this information.



1. **Click** on the **Drilling Parameters Tab**
2. **Tab** through the fields and **type** the appropriate information in each field**.**
3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

Bit Grading Tab

This information is utilized in all Bit Record Reports.



1. **Click** on the **Drilling Parameters Tab**
2. **Tab** through the fields and **type** the appropriate information in each field**.**

3. When you have finished adding your data, **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button out of the ensuing **Shortcut Options** window.

Editing a Bit Record

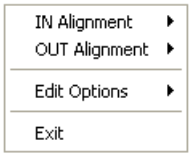
1. **Click** on **Bit Record** under the **Reports** menu selection.
2. **Click** on the Bit#... **button** to view a list of **Bit Records** to date and then **double click** on the record that you wish to edit.
3. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
4. Once the selected interval is displayed in the **Bit Record** window, make any changes you feel are necessary. Click on each Tab to view all the information entered for this bit.
5. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Bit Record

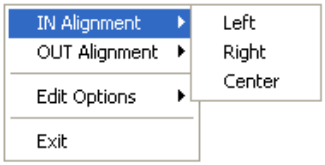
1. **Click** on **Bit Record** under the **Reports** menu selection.
2. **Click** on the Bit#... **button** to view a list of **Bit Records** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Bit Record** window, **click** on the Del **Delete button**.
3. Or, use the database navigational tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Abandonment Plug** window. Then, **click** on the Del **Delete button**.
4. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the Yes **button**.

Aligning All Bit Records

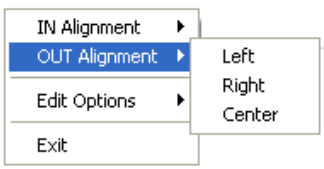
1. Make the **Bit Record** layer active within the **Drilling Progress** track by clicking on the track and then selecting the **Bit Record** layer from the **Layer Selection List** field.
2. **Right click** anywhere within the **Bit Record** layer to activate the pop-up menu.



3. **Select IN Alignment** from the pop-up menu to activate a pop out menu and **select Left, Right** or **Center** to align the bit in records accordingly.



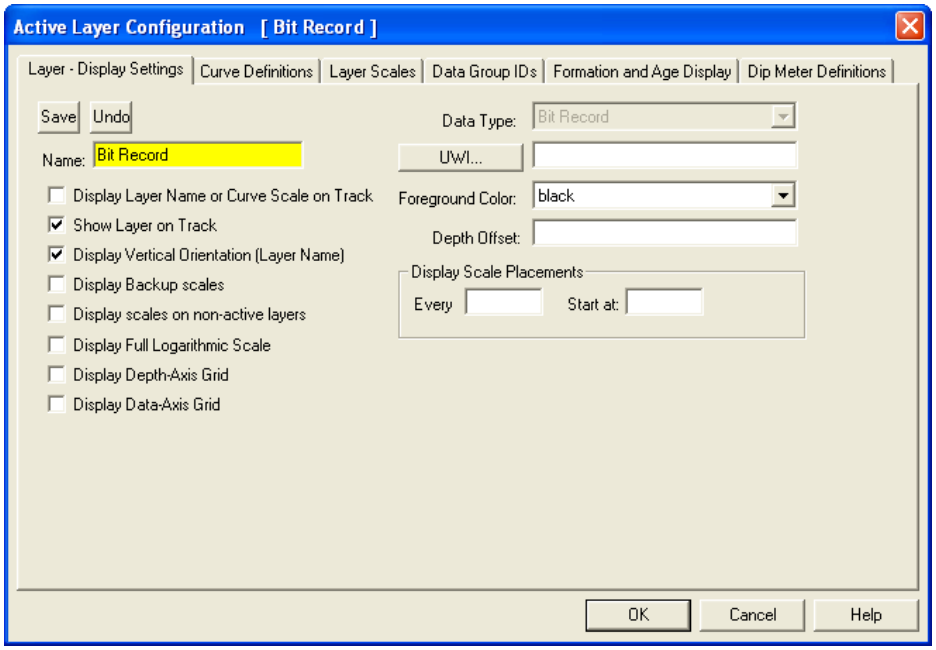
4. **Select OUT Alignment** from the pop-up menu to activate a pop out menu and **select Left, Right** or **Center** to align the bit out records accordingly.



Field Restriction Table:

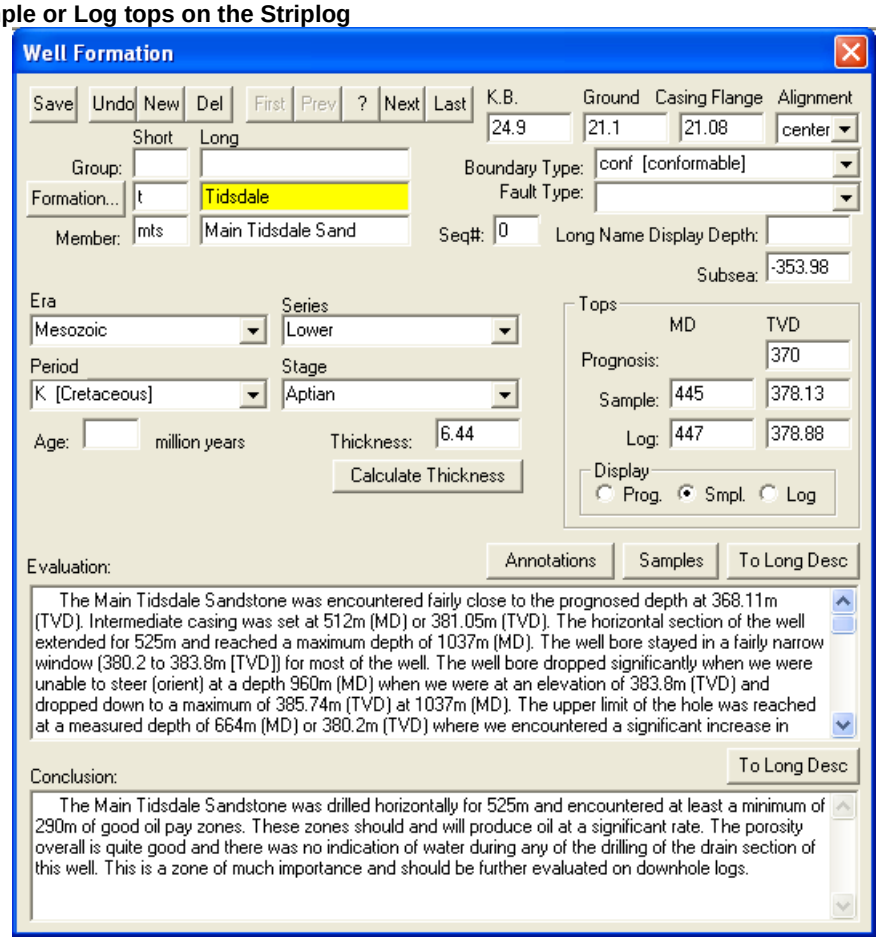
Bit Number	10	Character	Mandatory
Make	15	Character	Optional
Type	10	Character	Optional
Size	5.3	Numeric	Optional
Serial Number	15	Character	Optional
IADC Series	2.0	Numeric	Optional
IADC Type	2.0	Numeric	Optional
Nozzle Size 1	2.1	Numeric	Optional
Nozzle Size 2	2.1	Numeric	Optional
Nozzle Size 3	2.1	Numeric	Optional
Nozzle Size 4	2.1	Numeric	Optional
Number of Nozzle 1	1.0	Numeric	Optional
Number of Nozzle 2	1.0	Numeric	Optional
Number of Nozzle 3	1.0	Numeric	Optional
Number of Nozzle 4	1.0	Numeric	Optional
TFA	4.1 (Calculated)	Numeric	Optional
Depth In	5.2	Numeric	Optional
Depth Out	5.2	Numeric	Optional
Display Depth In	5.2	Numeric	Optional
Display Depth Out	5.2	Numeric	Optional
Drilled	Calculated		
Rotating Hours	3.2	Numeric	Optional
Average Drill Rate	3.2	Numeric	Optional
Total Rotating Hrs	5.2	Numeric	Optional
FOB Min	6.0	Numeric	Optional
FOB Max	6.0	Numeric	Optional
RPM Min	6.0	Numeric	Optional
RPM Max	6.0	Numeric	Optional
SPP Min	6.0	Numeric	Optional
SPP Max	6.0	Numeric	Optional
Mud Density Min	6.0	Numeric	Optional
Mud Density Max	6.0	Numeric	Optional
Funnel Vis Min	6.0	Numeric	Optional
Funnel Vis Max	6.0	Numeric	Optional
Drift Angle Min	3.3	Numeric	Optional
Drift Angle Max	3.3	Numeric	Optional
TBG Teeth	1	Character	Optional
TBG Bearing	1	Character	Optional
TBG Gage	6.0	Numeric	Optional
Pump Model (1&2)	15	Character	Optional
Pump Size (1&2)	10	Character	Optional
Pump Type (1&2)	10	Character	Optional
Pump Rod Di(1&2)	6.0	Numeric	Optional
Liner Size (1&2)	6.0	Numeric	Optional
Stroke Length (1&2)	6.0	Numeric	Optional
SPM (1&2)	6.0	Numeric	Optional
Efficiency (1&2)	3.0	Numeric	Optional
Output (1&2)	5.2	Numeric	Optional
Formations Drilled	254	Character	Optional
Annular Vel DC	6.0	Numeric	Optional
Annular Vel HWDP	6.0	Numeric	Optional
Annular Vel DP	6.0	Numeric	Optional
Bottoms Up Depth	5.2	Numeric	Optional
Bottoms Up Theor.	6.0	Numeric	Optional
Bottoms Up Actual	6.0	Numeric	Optional
IADC Inner Rows	1	Character	Optional
IADC Outer Rows	1	Character	Optional
IADC Major Dull C	2	Character	Optional
IADC Location	1	Character	Optional
IADC Show Cone #	4	Character	Optional
IADC Non-sealed B	1	Character	Optional
IADC Sealed Bearing	1	Character	Optional
IADC Gage	6.0	Numeric	Optional
IADC Other Dull C	2	Character	Optional
IADC Pulled Reasons	3	Character	Optional
IADC Remarks	50	Character	Optional

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for a **Bit Record** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the layer is active.



Formation

Enter the details of any Formation into this window. This information is then printed out in 3 different reports and can be place on the striplog in 4 different formats. The reports this information generates would be a Formation Top Summary, Formation Evaluation Report and the Sample Description report with Tops and the Morning Report Formation report. These reports can be printed using the Print Well End Report and the Print Morning Report windows. The Formations can also go on the striplog as a Short Name, Long Name with TVD and SSL Depths and expanded format along with the Ages. The user can also choose between showing the Prognosis, Sample or Log tops on the Striplog



Adding a Formation Top

1. **Click** on **Formation** under the **Reports** menu selection.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Formation Top

1. **Click** on the Formation... **button** to view a list of **Formations** to date and then **double click** on the record that you wish to edit.
2. Or use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.

3. Once the selected interval is displayed in the **Formation** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

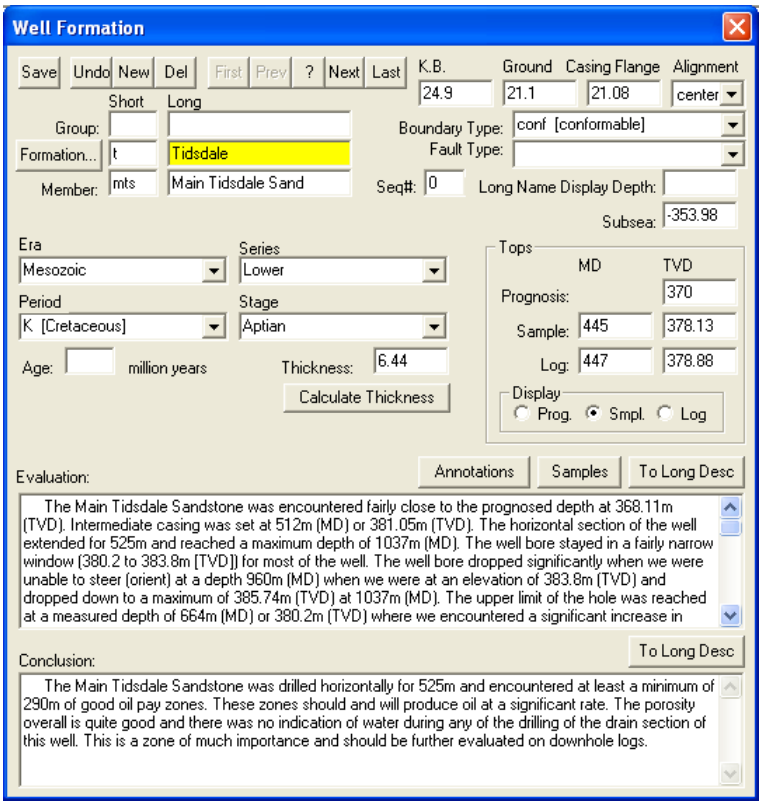
Deleting a Formation Top

1. **Click** on the Formation... **button** to view a list of **Formations** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Formation** window, **click** on the Del **Delete button**.
2. Or use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Formation** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or **press Shift + Tab** to move backwards between fields.

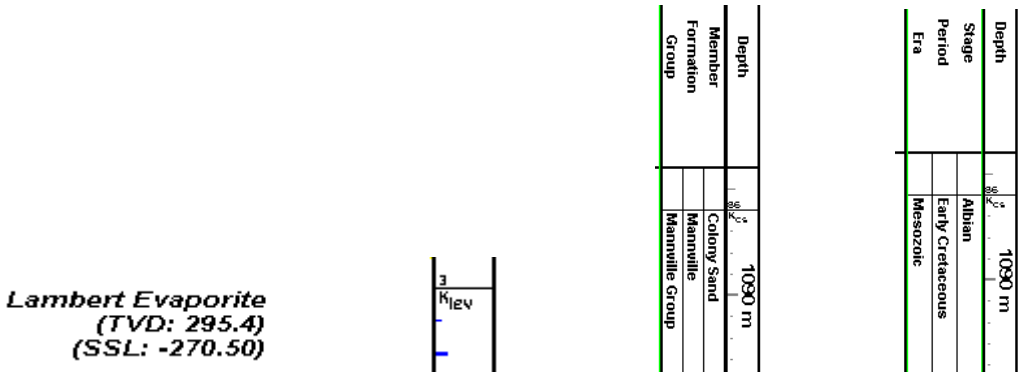
Well Formation Window - Breakdown of Fields:



K.B., Ground, and Casing - This information is displayed based on the **Well** information that you entered in the **Well** window. The Well window can be located under the Edit Menu Selection.

Formation... **Button - Click** on the Formation... **button** to display the list of **Formations** and **Sample Tops** that have been entered to date. **Double click** on the **Formation** or highlight the **Formation** and click on the **Select** button to edit or view the **Formation**.

Group, Formation, and Member (short and long) - Type in the short and long name for the **Group**, **Formation**, and **Member** names. Only the **Formation** long name is a mandatory field. The short name will be added to the formation short name layer display on the log coupled with the short period name and the measured depth.



Formation Tops Long Name **Short Name** **Expanded Layer** **Ages Layer**

Sequence Number - The Seq # field can be used to override the order that the formations are printed out in the well end and morning reports.

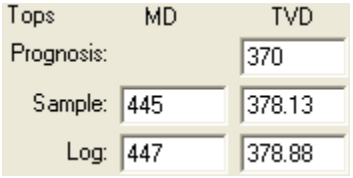
Era, Series, Period, and Stage - Use the drop box methods to access the various **Eras** on the lists. Note that the **Period** chosen will affect the list in the **Stage** drop box.

Age – You may enter the estimated geological age of this formation in this field.

Thickness – You may enter the thickness of this formation into this field (or) the user can **click** on the

button if you wish the program to calculate the Measured Depth thickness between this formation and the next formation in the list.

Note: When the Thickness field is filled in with the measured depth thickness of the formation you will be able to generate a sample description report with formation tops that will contain all your sample descriptions.



Tops Depth section - You may enter the **Measured Depths** and **True Vertical Depths** in these fields. If you have entered survey point data and have filled in or calculated the TVD fields and you have a survey point above and below the depth of this formation the True Vertical depths will be calculated for the user.

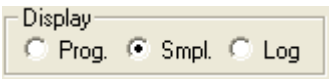
Note: Formations are normally ordered by their depths starting with Log Tops TVD, then MD followed by Sample Top TVD, then MD and lastly by Prognosis Tops TVD in all the well end and morning reports where the tops are generated.

Subsea - This is calculated from the depths entered in the **Tops** section and the **K.B.** elevation that you entered in the **Well** window**.**

Subsea is calculated successively using the following data respectively: Prognosis depth, Sample Top (MD), Sample Top (TVD), Log Top (MD), and finally Log Top (TVD).

Alignment - This is used to align the **Formation Top** in a **Formation** (long name) layer, using **Format 2** in the **Layer Configuration** window. The following choices are available from this drop box: **Left**, **Middle**, **Right**, and **Blank**. Leave this box **blank**, if you don't want the **Formation Top** to be shown on the layer, but still want the **Formation Top** to be printed out via the **Well End Report** window. If you are using the **Formation** layer in more than one track, you should beware of layer overlapping. You will discover which the best alignment for all layers is. You have one selection for all layers using this format.

Long Name Display Depth field is defaulted to empty (Display Long name data at the sample top measured depth). The user can change the display depth for the Long Name by typing in a depth in this field.



Display Options on the tops allows the user to show the Prognosis top, the Sample top or the Log top on the Log. This applies to all the display options on the Formations and Ages Layers

Samples **Button** - **Click** on the Samples **button** to activate the Transfer Sample Description window from which you may copy Sample/Core Descriptions into either the Evaluation and/or Conclusion fields. See "*Copying a Sample/Core Description*" in the Table of Contents for more information.

Annotations Button – Click on the Annotations Button to activate the Transfer Annotations window from which you may copy Lithology Descriptions into either the Evaluation and/or Conclusion fields. See "Transfer *annotation*" in the Table of Contents for more information.

Evaluation - Type in the Formation Evaluation pertaining to the lithology, etc…. You may use the short forms and then click on the To Long Desc button to lengthen the descriptions.

Conclusion - Type in the Formation Conclusion pertaining to hydrocarbon potential. You may use the short forms and then click on the To Long Desc button to lengthen the descriptions.

Field Restriction Table:

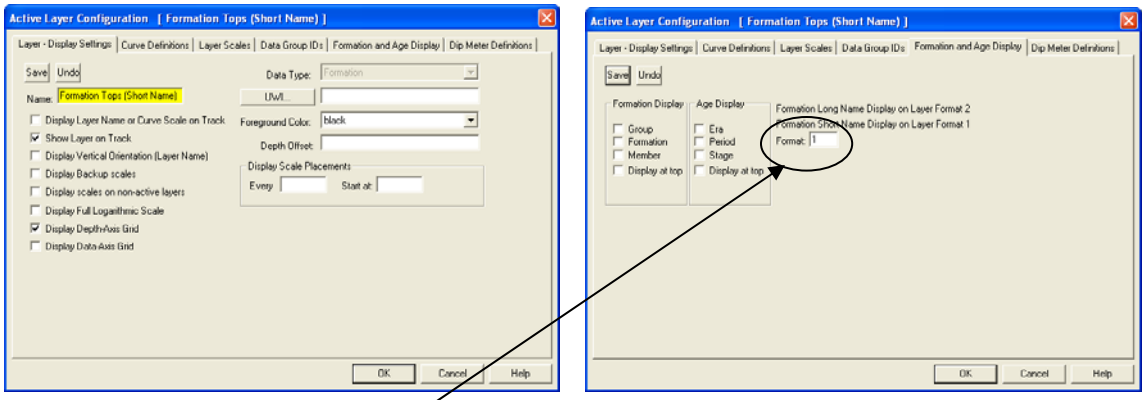
Group (short)	5	Character	Optional
Group	30	Character	Optional
Formation (short)	5	Character	Optional
Formation	30	Character	Mandatory
Member (short)	5	Character	Optional
Era	30	Character	Optional
Series	30	Character	Optional
Period	30	Character	Optional
Stage	30	Character	Optional
Age	7.3	Numeric	Optional
Boundary Type	30	Character	Optional
Fault Type	30	Character	Optional
MD Sample	5.2	Numeric	Optional
MD Log	5.2	Numeric	Optional
TVD Prognosis	5.2	Numeric	Optional
TVD Sample	5.2	Numeric	Optional
TVD Log	5.2	Numeric	Optional
Evaluation	40000	Character	Optional
Conclusion	40000	Character	Optional
Thickness	10.5	Numeric	Optional

Note: In order to have the **Formation Evaluation** report printed, there are two fields that must be filled in: **Boundary Type** and **Period**. If these fields are left blank, the **Formation Evaluation Report** for that **Formation** will **NOT** be printed**.**

Note: **Format 1** displays **Period** (short name), **Formation** (short name field), a **Bedding Line**, and the last two digits of the **Sample Top**.
Format 2 gives the **Formation Name** in long form True Vertical Depth **TVD** and Sub Sea Value **SSL**. This format data can be viewed in the Layer Configuration window with Formation data types. The Display depth field will only alter the Long Name format.
Also, the Ages (Era / Period / Stage) [Ages Track] as well as tops (Group / Formation / Member) [Formations Track] can be displayed along the log.

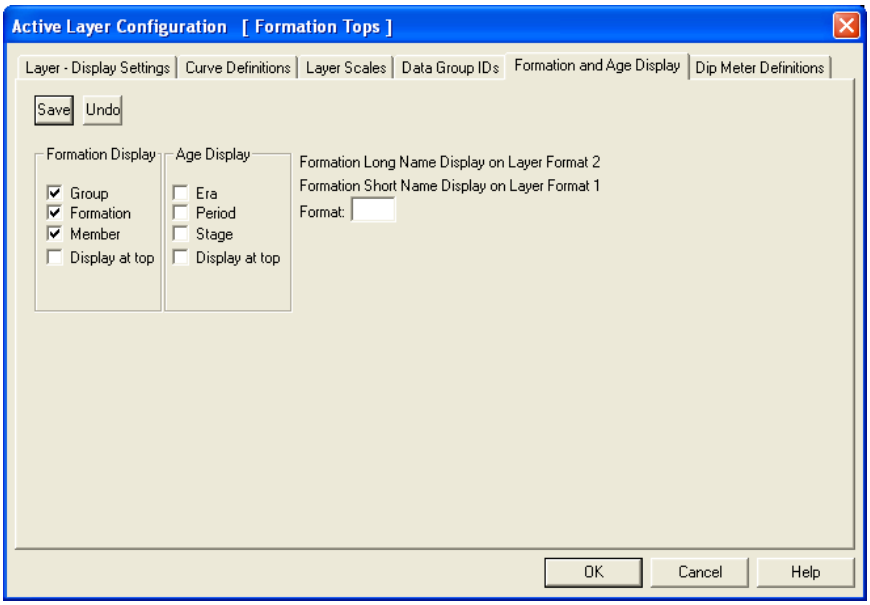
Formation Tops are automatically generated in the **Morning Report** from the **Formation Tops** that are entered into the **Well Formation** window. The depths entered into the **Morning Report** window are used to generate the **Morning Formation Top** report list. However, before a list can be generated, two (2) reports must be filled in to initiate a range. If your **Sample Tops** are located between these two (2) depths, the **Formation Tops** will then come out in the **Morning**

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for a **Formations** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Formations** layer is active.



Format 1: Short Names
Format 2: Long Names

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for a **Formation** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Formation** layer is active and then click on the Formation and Age Display Tab.

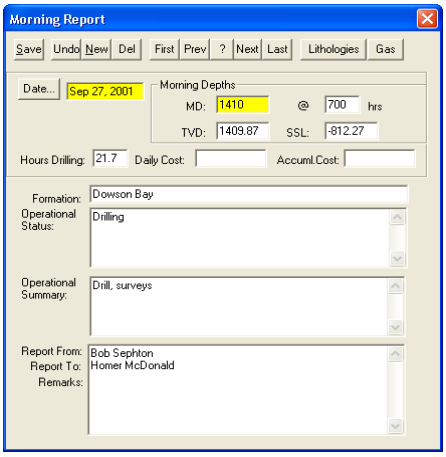


Note: When you add any layer to a log, it is always associated with a **Data Type**. Every **Data Type** in **Power*Log / Core & Curve™** has a default setting. The default settings for an **Ages** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Ages** layer is active and then click on the Formation and Age Display Tab.

Morning Report

This window gathers information to include in your Morning Reports. Simply enter the requested criteria into the window and then this information can be printed out, using the Print Morning Report window. This report is combined with the Lithology information to give you the Summary and Lithology Reports.

This is the Morning Report window:



Adding a Morning Report

1. **Click** on **Morning Report** under the **Reports** menu selection.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.

Note: If the Directional Survey points are already calculated, the Morning Depth [TVD] field will be calculated as soon as you type in a value in the Morning Depth [MD] field. Otherwise, the Morning Depth [TVD] field will show the same value that has been typed in the Morning Depth [MD] field.

3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Morning Report

1. **Click** on the Date... **button** to view a list of **Morning Reports** classified by date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Morning Report** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Morning Report

1. **Click** on the Date... **button** to view a list of **Morning Reports** classified by date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Morning Report** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Morning Report** window. Then, **click** on the Del **Delete button**.

3. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

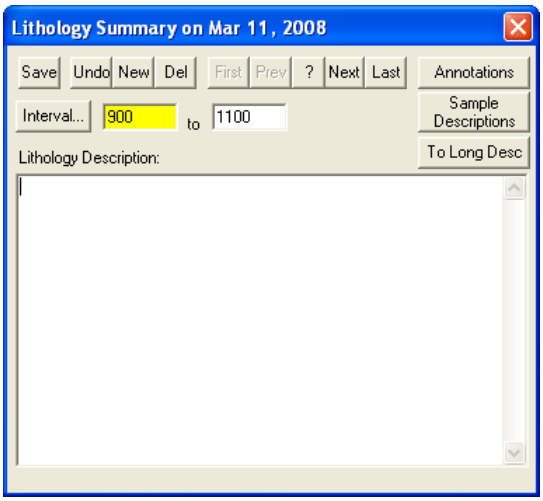
You can **Tab** between fields or press **Shift+Tab** to move backwards between fields.

Field Restriction Table:

Date	DATE FORMAT	Default=Current Date	Mandatory
Morning Depth	5.2	Numeric	Mandatory
Morning Depth (TVD)	5.2	Numeric	Optional
Morning Depth (SSL)	5.2	Numeric	Optional
Report Time	4.0	Default=800 Hrs	Optional
Hours Drilling	2.1	Numeric	Optional
Daily Cost	8.2	Numeric	Optional
Formation	50	Character	Optional
Operational Status	40000	Character	Optional
Operational Summary	40000	Character	Optional
Remarks	40000	Character	

Lithology Summary

This is the window that appears when you **click** on the Lithologies **button**. This information can be printed out in the Morning Report. The Lithology Report is combined with the Morning Report to give you a Summary and Lithology Report.



The Annotations **button** gets you to the **Transfer Annotations** window. Here the user can transfer single or multiple lithology descriptions or annotations from their striplog into their AM Lithology Summary report.

The Sample Descriptions **button** gets you to the **Transfer Sample Description** window. Here the user can transfer single or multiple sample descriptions into their AM Lithology Summary report.

The To Long Desc **button** expands the abbreviated text you have typed in the **Lithology Description** field.

Adding a Lithology Summary

1. **Click** on **Morning Report** under the **Reports** menu selection. Then **click** on the Lithologies **button** to activate the **Lithology Summary** window shown above.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Transferring a Sample/Core Description into the Morning Lithology Report
See "Transferring a Sample/Core Description" on the following page for more information.

Editing a Lithology Summary

1. **Click** on the Interval... **button** to view a list of **Lithology Summaries** to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Formation** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Lithology Summary

1. **Click** on the Interval... **button** to view a list of **Lithology Summaries** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Lithology Summary** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Lithology Summary** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

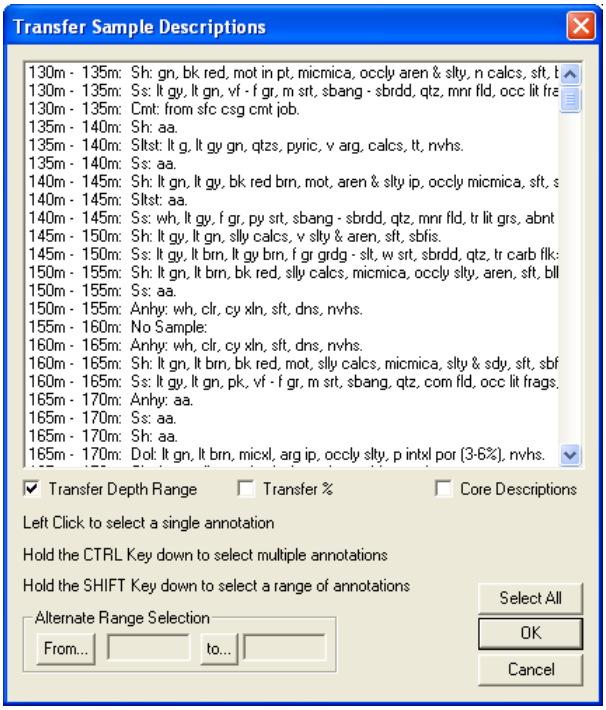
You can **Tab** between fields or press **Shift+Tab** to move backwards between fields.

Field Restriction Table:

Top Depth	5.2	Numeric	Mandatory
Base Depth	5.2	Numeric	Optional
Lithology Description	40000	Character	Optional

Transferring a Sample Description

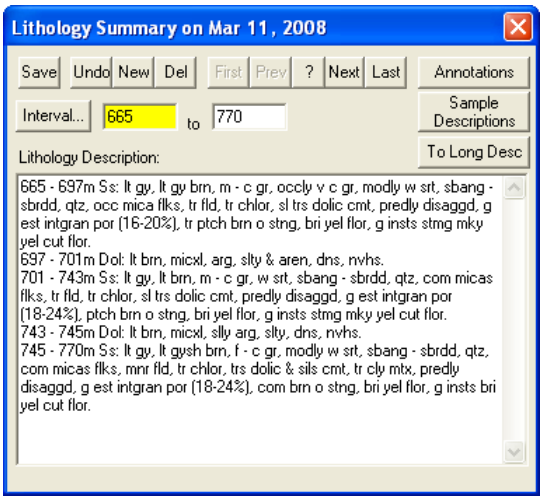
1. **Click** on the Sample Descriptions **button**, in the **Lithology Summary** or the **Well Formation** window, to activate the **Transfer Sample Description** window.
2. If you want to transfer Core Descriptions activate the ☐ Core Descriptions check box and you will see your core descriptions.



3. To transfer a **single description Click** on a **Description** to highlight the description in this window and then **click** on the OK **button**. This will place the description in the Lithology Summary Window. Or, to transfer **multiple description, Click** on a **Description** in this window then **hold down** the **CTRL Key** and **click** on subsequent **descriptions** to highlight them. Then **click** on the OK **button**. This will place all the descriptions in the Lithology Summary Window
4. To Transfer a **range of descriptions Click** on a Description in this window then **hold down** the **SHIFT Key** and **click** on the last **descriptions** to highlight the entire range. You can also **hold down** the **CTRL Key** and **click** on subsequent **descriptions** to highlight them. Then, **click** on the OK **button**. This will place all the highlighted descriptions in the Lithology Summary Window.

OR the Alternate Range Selection Utility

1. Or **click** on the From... **button** to select the starting depth of the first interval that you wish to transfer.
2. **Click** on the to... **button** and select the starting depth of the last interval to be transferred.
3. Then **click** on the OK **button**. This will place all the highlighted descriptions in the Lithology Summary Window.



5. **Type** in the **From** and **To** Interval fields in this Lithology Summary window.
6. **Click** on the 

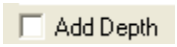
button if you want the abbreviated descriptions expanded to a long form**.**
7. **Click** on the 

button or press ALT-S and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

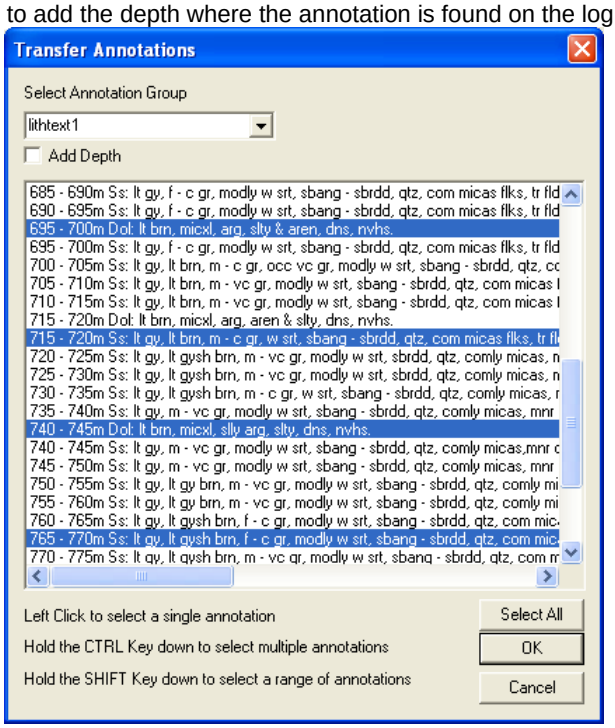
Transferring Lithology Descriptions from the Striplog

1. **Click** on the 

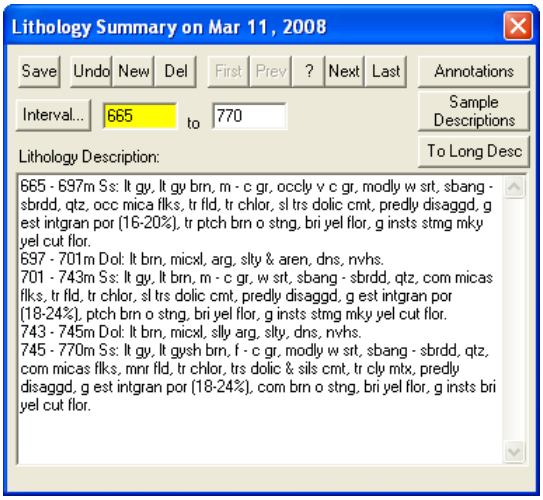
button, in the **Lithology Summary** or the **Well Formation** window, to activate the **Transfer Sample Description** window.
2. To Select a different Annotation group 

and **Click** on the **down arrow** and **select** from any group associated with your log. The default group is lithtext1.
3. If the User has not transferred or utilized any Depths on the striplog you may want to **activate** the 

check box to add the depth where the annotation is found on the log.



4. To transfer a **single annotation, Click** on an **annotation** to highlight the annotation in this window and then click on the OK button. This will place the annotation in the Lithology Summary Window. Or, to transfer **multiple annotation, Click** on a annotation in this window then **hold down** the **CTRL Key** and **click** on subsequent annotations to highlight them. Then **click** on the OK **button**. This will place all the annotation in the Lithology Summary Window
5. To Transfer a **range of annotation Click** on a **annotation** in this window then **hold down** the **SHIFT Key** and **click** on the **last annotation** to highlight the entire range. You can also **hold down** the **CTRL Key** and **click** on subsequent **annotations** to highlight them. Then, **click** on the OK **button**. This will place all the highlighted annotations in the Lithology Summary Window.

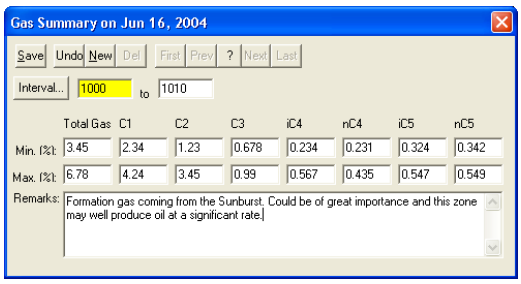


8. **Type** in the **From** and **To** Interval fields in this Lithology Summary window.
9. **Click** on the To Long Desc **button** if you want the abbreviated descriptions expanded to a long form**.**
10. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Gas Summary

This is the window that appears when you **click** on the Gas **button**. The **Gas** information can be printed out, for each report date, in the **Morning Report**.

Note: All gasses are entered in percentage (%) form and the **C4's** and **C5's** will be totaled for you in the final **Morning Gas Report**



Adding a Gas Summary

1. **Click** on **Morning Report** under the **Reports** menu selection. Then **click** on the Gas **button** to activate the **Gas Summary** window shown above.
2. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
3. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a Gas Summary

1. **Click** on the Interval... **button** to view a list of **Gas Summaries** to date and then **double click** on the record that you wish to edit.
2. Or Use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Gas Summary** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting a Gas Summary

1. **Click** on the Interval... **button** to view a list of **Gas Summaries** to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Gas Summary** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Gas Summary** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift+Tab** to move backwards between fields.

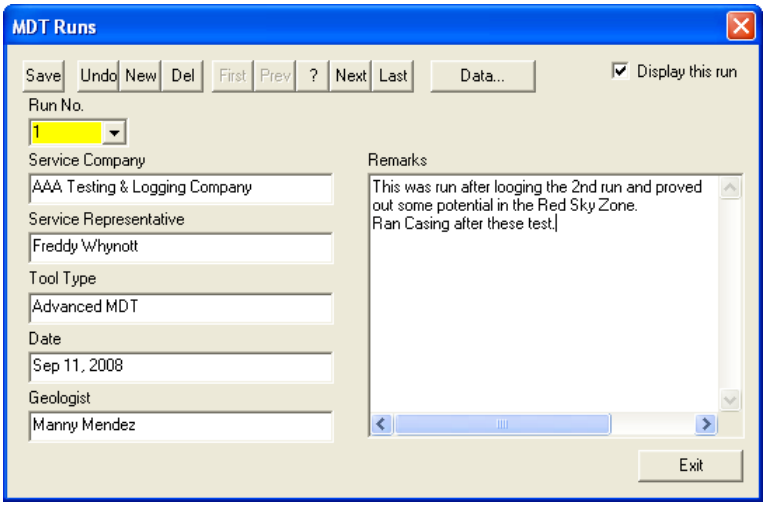
Field Restriction Table:

Top Depth	5.2	Numeric	Mandatory
Base Depth	5.2	Numeric	Optional
All fields	3.3	Numeric	Optional
Remarks	40000	Character	Optional

MDT Report Window – Reports pull down menu item

MDT Report window information is entered into the window shown below. This information fills in the header of the MDT Test report. The indications for the MDT Test Locations are handled through the MDT Data Entry windows. The MDT Run #1 is added automatically when you add the MDT Layer to your striplog.

The actual **MDT Data** is entered through the Data... **button**, located in the upper right side of the MDT Runs Window. . The values can be entered into the report manually or can be imported through the Import MDT Data Utility. *Refer to Import MDT Data Utility*



Adding a MDT Run

1. **Click** on **MDT,** under the **Reports** menu selection, to activate the **MDT Runs** window.
2. **Click** on the New **button or press ALT-N**.
3. **Type** in the **Run Number Field press** the **Tab key** to advance the cursor to the next field.
4. **Type** and **Tab** between all the fields and Fill in the appropriate information.
5. When you have finished entering your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing a MDT Run

1. **Click** on the Run No. 1 **drop box** to view a list of **MDT Runs** to date and then **click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Sidewall Core Runs** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

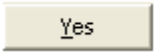
Deleting a MDT Run

1. **Click** on the Run No. 1 **drop box** to view a list of **MDT Runs** to date and then **click** on the record that you wish to delete. Once the selected record is displayed in the **MDT Runs** window, **click** on the Del **Delete button**.

2. Or, use the Database Navigational Tools 

to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **MDT Runs** window. Then, **click** on the 

Delete button.

3. The user will be prompted with a confirmation "Do you really want to delete?" **Click** on the 

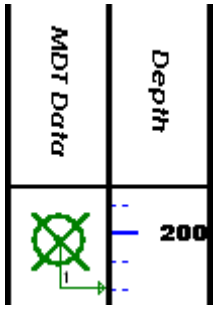
button.

Field Restriction Table:

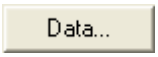
Run Number	4	Numeric	Mandatory
Service Company	160	Character	Optional
Service Representative	160	Character	Optional
Tool Type.	254	Character	Optional
Date	DATE FORMAT	Default=Current Date	Optional
Geologist	60	Character	Optional
Remarks	40,000	Character	Optional

MDT Data Window

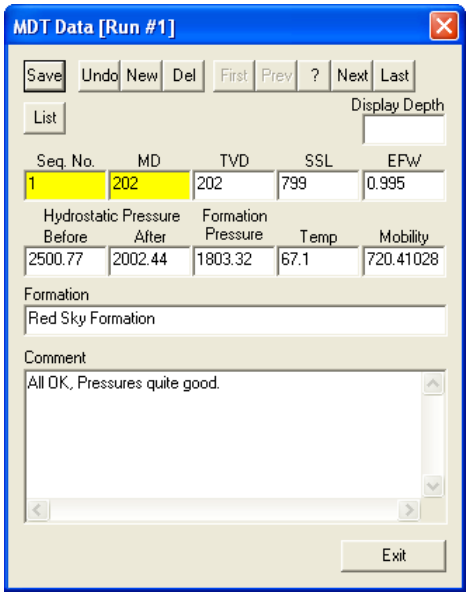
This report allows you to enter MDT Data manually or view the data once it has been imported through the Import MDT Data Utility. The MDT locations can be viewed on the MDT layer.



Adding an MDT record manually

1. **Click** on **MDT** under the **Reports** menu selection.
2. **Click** on the 

button. This will activate the MDT Data window.



3. **Click** on the New **button or press ALT-N** and then fill in the report window with your data.
4. When you have finished adding your data, **click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Editing MDT Data

1. **Click** on the List **button** to view a list of MDT Data to date and then **double click** on the record that you wish to edit.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information.
3. Once the selected interval is displayed in the **Core Plug** window, make any changes you feel are necessary. **Click** on the Save **button or press ALT-S** and then **click** on the appropriate button when prompted with the **Shortcut Options** system window.

Deleting MDT Data

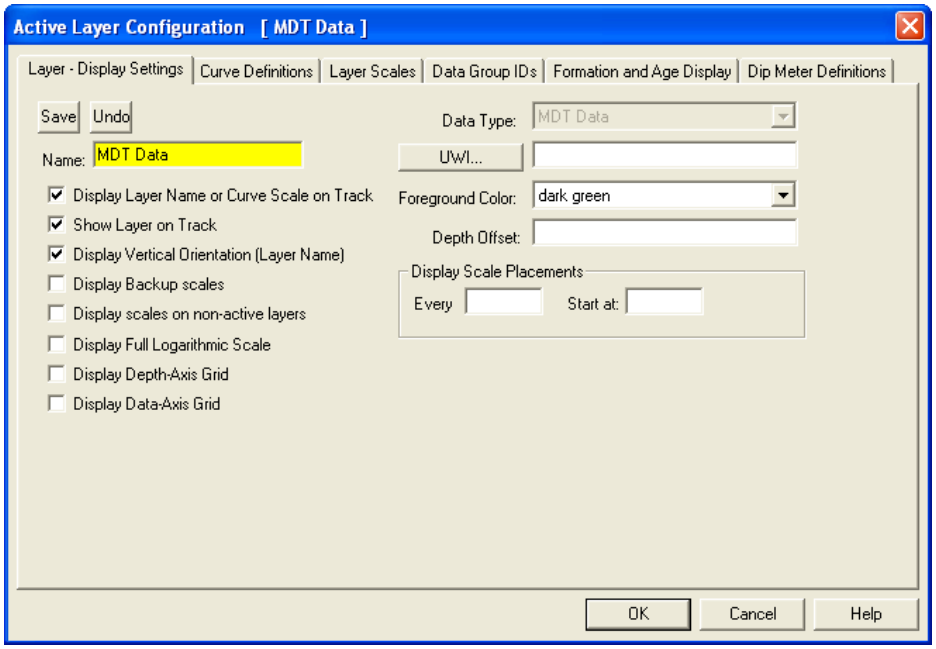
1. **Click** on the List **button** to view a list of MDT Data to date and then **double click** on the record that you wish to delete. Once the selected record is displayed in the **Core Plug** window, **click** on the Del **Delete button**.
2. Or, use the Database Navigational Tools First Prev ? Next Last to navigate through the records. See the **Database Navigational Tools** section later in this **User Manual** for more information. Select the record you wish to delete and it will be displayed in the **Core Plug** window. Then, **click** on the Del **Delete button**.
3. The user will be prompted with a confirmation “Do you really want to delete?” **Click** on the Yes **button**.

The Undo **button** will restore the window to the settings of the last saved record.

You can **Tab** between fields or press **Shift + Tab** to move backwards between fields.
Field Restriction Table:

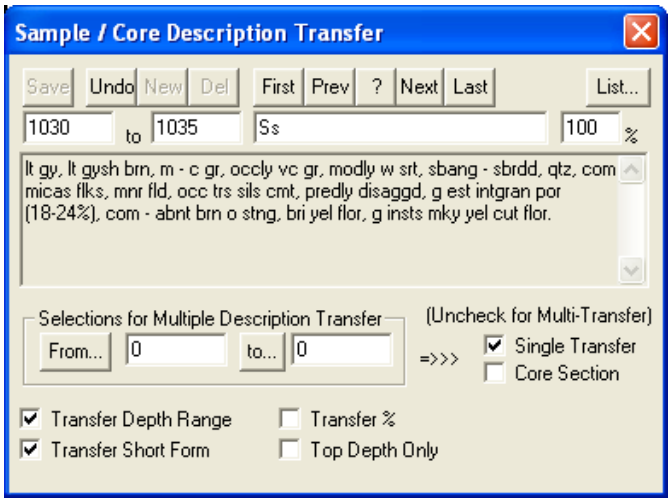
Seq No.	4	Numeric	Mandatory
Depth (MD)	10.4	Numeric	Mandatory
Depth (TVD)	10.4	Numeric	Optional
Depth (SSL)	10.4	Numeric	Optional
Display Depth (MD)	10.4	Numeric	Optional
EFW Estimated Fluid Weight	10.4	Numeric	Optional
Hydrostatic Pressure Before	10.4	Numeric	Optional
Hydrostatic Pressure After	10.4	Numeric	Optional
Formation Pressure	10.4	Numeric	Optional
Temperature	10.4	Numeric	Optional
Mobility	10.4	Numeric	Optional
Formation	254	Character	Optional
Comments	40,000	Character	Optional

Note: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log / Core & Curve** has a default setting. The default settings for a **MDT** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the layer is active.



Sample / Core Description Transfer - Options pull down menu Item

This utility can be used to transfer Sample and Core Descriptions entered into the Sample and Core Description Report windows to an annotation layer on the log.



The List... **button** activates a list of all descriptions that are entered into the current well.

The From... and to... **buttons** allow you to select an interval or range of **Sample** or **Core Descriptions** to be transferred. If you utilize these buttons, the user must deactivate (uncheck) the **Single Transfer** check box ☐. You may also then disregard whatever information is being displayed within the **Interval** (From), **Interval** (To), and the **Description** fields. See "***Transferring Multiple Sample Descriptions***" on the following page.

When activated, the **Single Transfer** check box ☑ only allows for the transfer of the single description currently being displayed within the **Sample/Core Description Transfer** window.

When the Single Transfer is deactivated (unchecked) it will allow the user to transfer Multiple Descriptions to the log

The **Core Section** check box ☑, when activated, sets the display scale of the **Descriptions** selected to be transferred onto the **Lithology Description** layer to **1:120**.

Note: The **Core Section** check box ☐ does not have to be activated (checked) in order to transfer a **Core Description** to the log. It is only used to modify the display scale from **1:240** to **1:120** in order to limit the overlapping of descriptions within the standard **1:240** log scale.

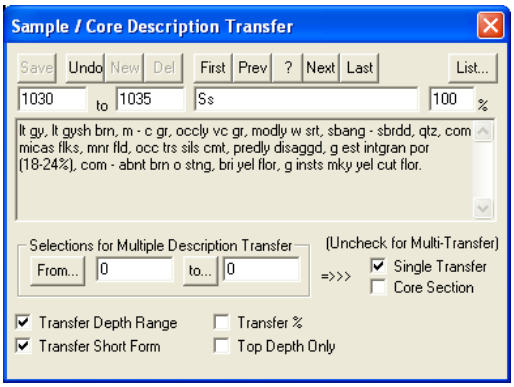
The **Transfer Depth Range** check box ☑ when activated will transfer the **From** and **To Depth Interval** to the log.

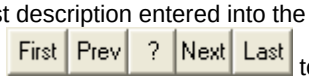
The **Transfer %** check box ☑ when activated will transfer the rock % to the log.

The **Transfer Short Form** check box ☑ when activated will transfer the short description to the log. When this selection is unchecked the samples long sample description will be transferred to the log.

The **Top Depth Only** check box ☑ when activated will transfer the only the **From Interval** (or Top of the interval described) to the log.

Transferring one Sample Description

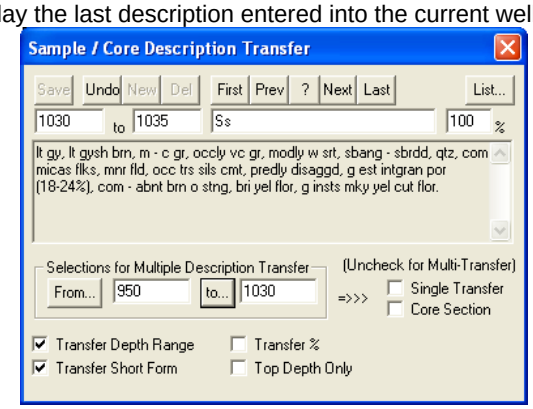


1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the  **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.
2. Use the **database navigational tools**  to navigate through the records.
3. **Or, Click** on the  **button** within the **Sample/Core Description Transfer** window to activate the **Sample/Core Description List** window. Then, **double click** on the desired description within the **Sample/Core Description List** window in order to display it in the **Sample/Core Description Transfer** window.
4. **OR Click** on the  **button** to enter query mode. The **Depth** and **Rock Type** text fields will become red.

   Type in either a depth value or rock type where you want to start a query from, and **click** on the  **Start Query** button. This will refresh the window with all the records starting from the depth value or rock type that you have just entered. Then, use the database navigational tools to navigate through the records.
5. Once the description is displayed within the **Sample/Core Description Transfer** window, click once on a spot on the active **Lithology Description** layer, on the **Lithology Description** track, where you want the **Sample Description** to be placed.

Transferring Multiple Sample Descriptions

1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the  **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.



2. **Click** on the  **button** to select the starting depth of the <u>first</u> interval that you wish to transfer.
3. **Click** on the  **button** and select the starting depth of the <u>last</u> interval to be transferred.
4. Deactivate the **Single Transfer** check box  .
5. **Click** on the desired spot within the **Lithology Description** layer where you want the first description transferred and the following system message will be activated, "***Do you really want to transfer sample / core text between _ and _ to the log starting at _?***"

6. If the depths outlined in the system message are correct, then **click** on the Yes **button** and the **Sample Descriptions** will be transferred to the log.

Note: The depth difference between the position of the first description and the actual start depth interval of the first description will remain constant for the entire range of your current transfer. If there are multiple descriptions for one interval they will be placed on the log one meter apart in descending order of percentage, or alphabetically if percentage was not used in the original sample/core descriptions. These can be edited later in the **Annotation** window.

Editing Previously Transferred Sample Descriptions

Note: The user must first close down the Sample Core Description Transfer window before you start editing the sample descriptions that have been transferred to the log. Otherwise every time you click on the layer (with the Sample Core Description Transfer window open) you will either transfer a new description or be prompted to see if you want to transfer.

1. **Click** anywhere within the **Lithology Description** track to make it the active track: highlighted in green. Then, make the **Lithology Description** layer active by selecting it from the **Layer Selection List.**
2. **Click** anywhere inside the **Annotation field**. This will activate the RFT Editing boxes and highlight the annotation.
3. Make any necessary **changes** to the Sample Description within the highlighted Region.
4. **Click outside the annotation field** to finish or save the changes.

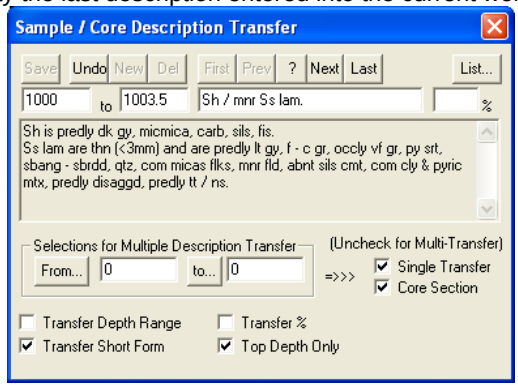
Note: If you wish to edit any other **Sample Description** parameters, including the **Display Scale**, simply make the necessary changes within the RFT Toolbars and then **click outside the annotation field** to finish or save the changes.

Transferring Core Descriptions

Before transferring **Core Descriptions**, it is recommended that you expand the main log screen to the same scale that you will be using to printout your **Core Log**. Normally, **Core Logs** are printed on a log scale of **1:120** or less. To select your scale, **click** on the **Log Scales** field drop box, located on the **Toolbar** in the main **Power*Log / Core & Curve** window, and select a **Log Scale** of **1:120** or less, e.g. 1:96 or 1:48.

Transferring a Single Core Description

1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.



2. **Use** the **database navigational tools** First Prev ? Next Last to navigate through the records.
3. **OR Click** on the ? **button** to enter query mode. The **Depth** and **Rock Type** text fields will become red.

   Type in either a depth value or rock type where you want to start a query from, and **click** on the **Start**

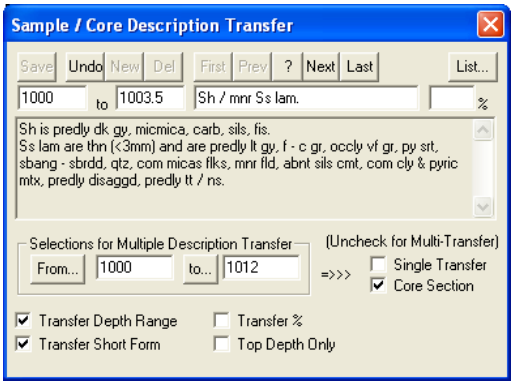
Query button. This will refresh the window with all the records starting from the depth value or rock type that you have just entered. Then, use the database navigational tools to navigate through the records.

4. **OR, Click** on the List... **button** within the **Sample/Core Description Transfer** window to activate the **Sample/Core Description List** window. Then, **double click** on the desired description within the **Sample/Core Description List** window in order to display it in the **Sample/Core Description Transfer** window
5. When the desired Core Description for transfer is displayed within the **Sample/Core Description Transfer** window, activate the **Core Section** check box ☑.
6. Next, select a spot on the active **Lithology Description** layer, on the **Lithology Description** track, where you want the **Core Description** to be placed.
7. **Click** on a spot and the following system message will be activated, "Transferring Core Descriptions. Do you wish to change screen scale to 1:120 so you can see the core descriptions?"
8. **Click** on the Yes **button** to proceed with the transfer of the **Core Description**.
9. Press the **Esc** key on the keyboard to exit from the **Sample/Core Description Transfer** window.

Note: You may now wish to change the **Log Scale** back to the default of **1:240**. When the scale is changed back to 1:240 the descriptions transferred will be turned off by default. Refer to Annotation builder display scale to see how to manage these annotations.

Transferring Multiple Core Descriptions

1. **Click** on **Sample/Core Description Transfer**, under the **Options** menu selection, or **click** on the **Sample/Core Description Transfer button** on the Toolbar to activate the **Sample/Core Description Transfer** window, which will then display the last description entered into the current well.



2. Then, **click** on the From... **button** to select the starting depth of the first interval that you wish to transfer.
3. **Click** on the to... **button** and select the starting depth of the last interval to be transferred.
4. Deactivate the **Single Transfer** check box ☐.
5. Activate the **Core Section** check box ☑ to ensure that the display scale for the **Core Descriptions** is set at **1:120**. This will ensure that all of the **Core Descriptions** will be seen on the log at a **Log Scale** of **1:120**, while avoiding any possibility of overlapping with the **Sample Descriptions** being displayed at the standard **Log Scale** of **1:240**.
6. **Click** on a spot within the active **Lithology Description** layer, where you want the **Core Descriptions** to be placed, and the following system message will be activated, "***Do you really want to transfer sample / core text between _ and _ to the log starting at _?***"
7. If the depths outlined in the system message are correct, then **click** on the Yes **button** and the following system message will be activated, "***Transferring Core Descriptions. Do you wish to change screen scale to 1:120 so you can see the core descriptions?***"
8. **Click** on the Yes **button** to proceed with the multiple **Core Description** transfer with the transfer options selected.

Note: The depth difference between the position of the first description and the actual start depth interval of the first description will remain constant for the entire range of your current transfer. If there are multiple descriptions for one interval they will be placed on the log in descending order of percentage one meter apart. These can be edited later in the **Annotation** window.

9. Press the **Esc** key on the keyboard to exit from the **Sample/Core Description Transfer** window, when you are finished.

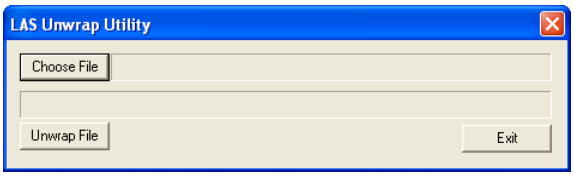
Note: You may now wish to change the **Log Scale** back to the default of **1:240**. When the scale is changed back to 1:240 the descriptions transferred will be turned off by default. Refer to Annotation builder display scale to see how to manage these annotations.

Unwrap LAS - Options pull down menu Item

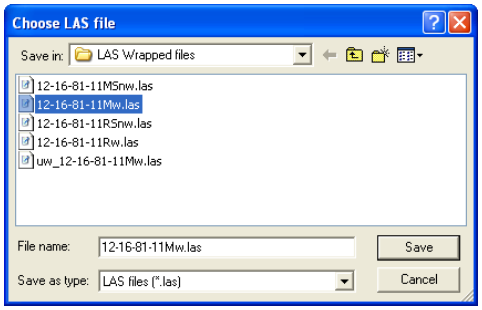
The LAS import module does not allow the user to be able to import wrapped LAS file formats. The wireline logging companies sometimes wrap their files so that they can be printed on an 8.5 x 11" sheet of paper but does not lend itself to pure columnar data. The user can now unwrap these wrapped LAS files using this utility.

How to unwrap a wrapped LAS file format

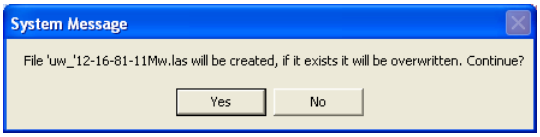
1. **Click** on the **Unwrap LAS** selection under the **Options menu** selection. This will activate the LAS Unwrap Utility.



2. **Click** on the Choose File **button**. This will activate the Choose LAS file window.

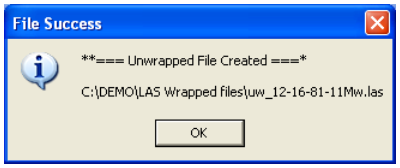


3. Find the wrapped LAS file in question through the regular file finding tools and highlight the file and **click** on the Save **button**. This will populate the Unwrap utility with the file to be unwrapped.
4. **Click** on the Unwrap File **button**. This will activate a system message indicating the new file name.

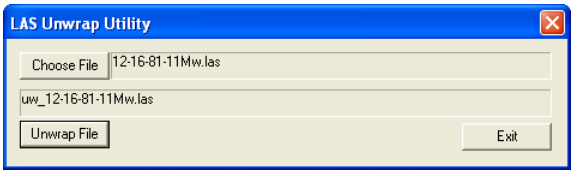


5. **Click** on the Yes **button**. This will activate file Success message window showing you your path and new file name.

Note: The application basically renames the file with a prefix un_ and put the file in the same folder as it was found.



6. **Click** on the OK **Button** and the LAS Unwrap window will also reflect the new file creation.

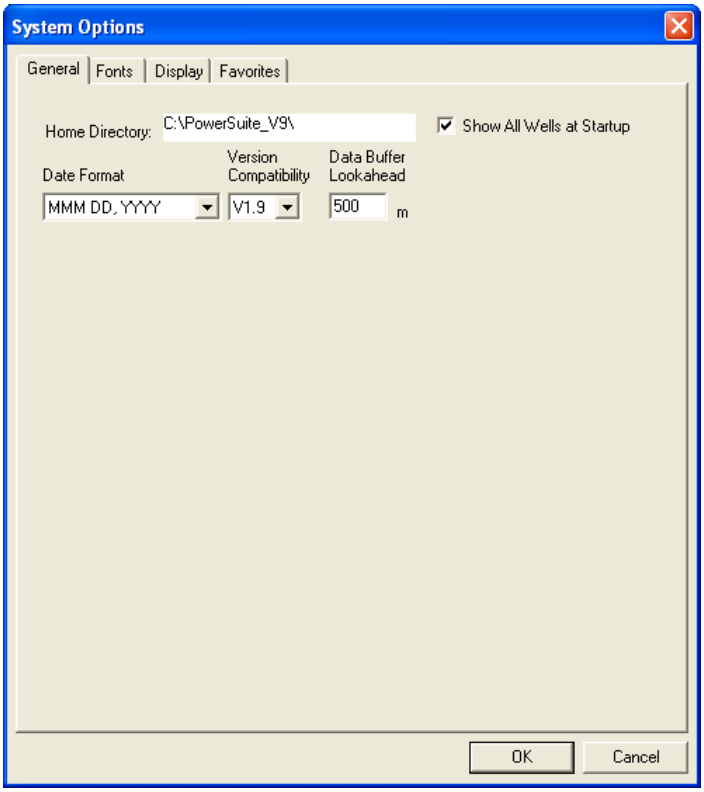


7. If you are finished then **click** on the Exit **button**. This will close the LAS Unwrap Utility.

System Options - Options pull down menu Item

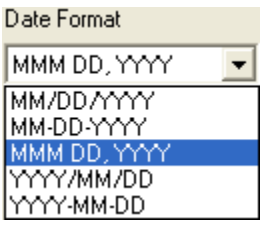
The user can manage Power*Log, Power*Core and Power*Curve system settings with this tab dialogue window. Once you have made your changes Click on the OK **button**

General Tab



Home Directory - This is the directory on your hard drive where **Power*Log, Power*Core and Power*Curve** is being executed. The user will not see any symbols on their log or print out any of our reports it you have the wrong home directory.

Show All Wells at Startup This check box when activated will populate the Open Log window with all the wells in the database. If it is unchecked it may help our corporate users and the time it take to retrieve thousands of wells from the database and to populate the Open Log window with that information. If this check box is deactivated and you wish to see all your wells then simply **click** on the Clear Query **button** in the Open Log window to see all their wells if this option is deactivated.



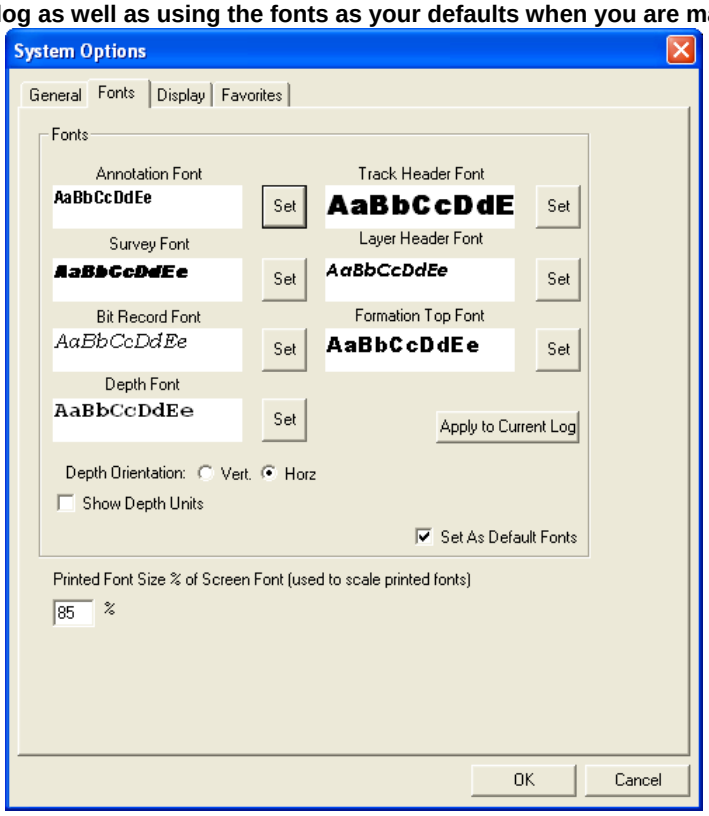
Date Format - From this drop box, you can select the date format. This selection determines how every date in **Power*Log / Core & Curve** will be entered and displayed. If you import a log with different date formats, **Power*Log / Core & Curve** will change the dates to comply with the format you've chosen here. The user can change this at any time and all the Date formats will be changed in the database.

Version Compatibility - Enables the user to achieve compatibility for Annotations in the older Versions of Power*Suite (V1.81 and before) and the Annotations in the newer Versions of Power*Suite (V1.9 and later).

Data Buffer Lookahead - The number placed in this field determines how far ahead and behind the current top depth will be stored in the computers buffer. The larger the look ahead number, the longer it takes for Power*Log / Core & Curve to refresh the screen when you exceed the look ahead value. However, until you meet or exceed the look ahead value, scrolling will be much faster, because the database is not yet being accessed.

Fonts Tab

This tab allows the user to set up most of the fonts used in Power*Log, Core and Curve. You can set it up to be used on the current log as well as using the fonts as your defaults when you are making new logs.



Annotation Font - Allows you to determine the default font style, type and size of your annotations on your log, Also this is the default when you use any of the Sample Description Transfer options.

Track Header Font - Allows you to determine the font style, type and size of your Track Headers on your log. All track headers use the same font across the entire log.

Survey Font - Allows you to determine the font style, type and size of your survey data associated with the Survey Layer on your log.

Layer Header Font - Allows you to determine the font style, type and size of your Layer Headers on your log. All Layer headers use the same font across the entire log.

Bit Record Font - Allows you to determine the font style, type and size of your bit record data associated with the Bit Record Layer on your log.

Formation Tops Font - Allows you to determine the font style, type and size of your Formation Tops data associated with the Formation Tops Long and Expanded Layers on your log.

Depth Font - This allows you to determine the font style, type and size of the depth markers in the **Depth** track of the log.

Depth Orientation: Vert. Horz - These radio buttons allows the user to change the orientation of the Depth Font on the Layer. Beware you may have to change the Track Width to accommodate the Font size and orientation. Refer to the Log Configuration Builder to do this.

Show Depth Units This check box when activated will display the depth units with the depth on the Depth Layer. ie. 1000 ft or 1000 m vs. 1000

Set As Default Fonts This check box when activated will make the font setting in this window your defaults for any new log created regardless on the Fonts stored in the template.

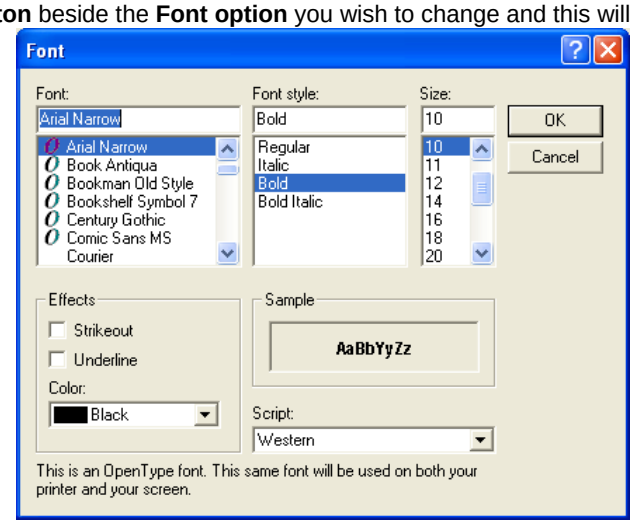
Printer Font Size - Used to scale the printer's font size up or down, so that the font size on printouts can match the font size displayed on the screen.

As an example, if the font size on the printout is bigger than the font you see on the screen, then the user must reduce this printer font size percentage. And vice versa, if the font size on the printout is smaller than the font you see on the screen then the user must increase the value of this printer font size percentage.

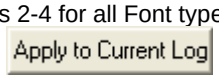
How to Set your Fonts

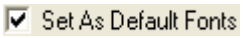
1. **Click** on **System Options selection** under the **Options** menu selection To activate the System Options window.
2. Then **click** on the **Font Tab** to activate the Tab.
3. **Click** on the 

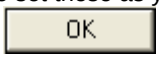
button beside the **Font option** you wish to change and this will activate the Font Window.



4. Select form the Font, Font Style, Size Effects and Color. When you are finished **click** on the 

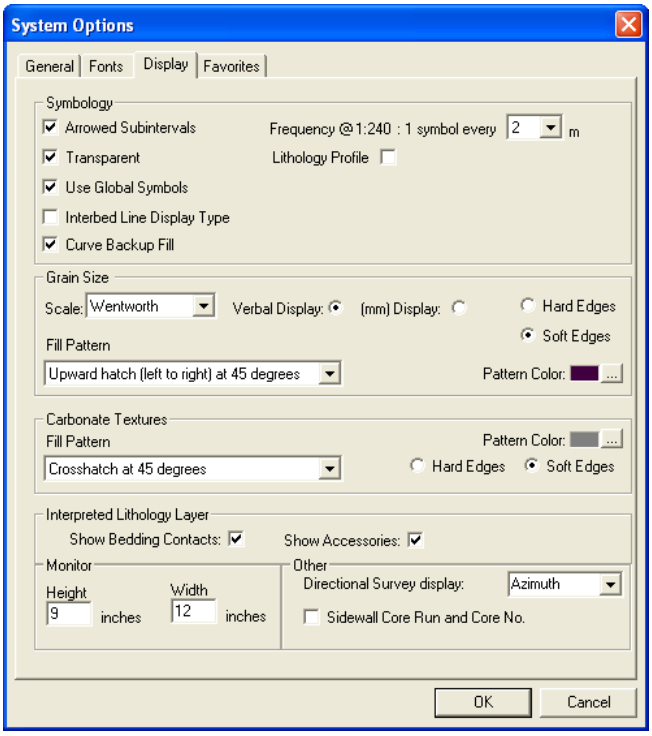
button
5. Repeat steps 2-4 for all Font types.
6. **Click** on the 

button.
7. If you want to set these as your default Font settings **click** on the 

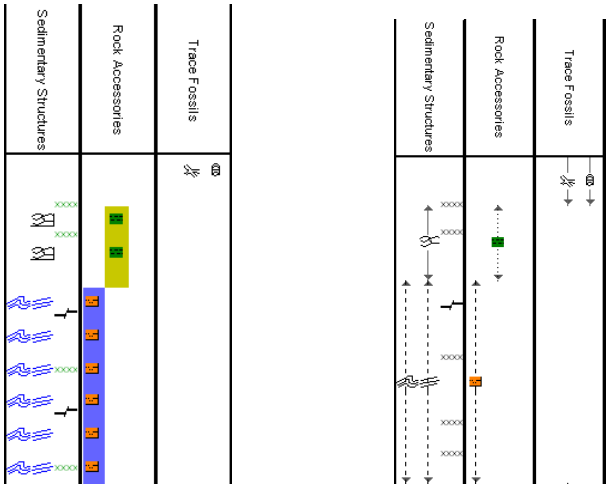
check box.
8. **Click** on the 

button in the **Systems Options** Tab dialogue window**.**

Display Tab



Arrowed Subintervals - This check box ☑ when activated will indicate the top and bottom of your subintervals (portion of an interval) with an arrow rather than a set of symbols. An example is shown below.

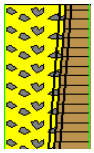


Normal Subintervals **Arrowed Subintervals**

Transparent - This check box ☑ when activated, this function makes the background of the accessory symbols transparent, so that the bed in the background shows through. If deactivated, a white background surrounds the accessory symbols in order to separate them more from the beds.

Use Global Symbols – With the ability to edit existing metafiles the user may have imported a well that has used metafiles or symbols that have been modified to look differently than the one existing within your system symbols. If you wish to use your symbol set instead of the revised imported ones you can select this check box ☑ to make that change.

Interbed Line Display Type - This check box ☑ when activated will display the interbed data with a line display splitting the two lithology types or when unchecked will display the lithology in an interbed fashion as displayed below.

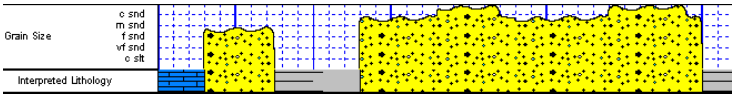


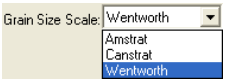
Curve Backup fill – This check box ☑ when activated will show a sideways hatching fill pattern when a curve goes off scale or in the backup mode. If unchecked there will be no hatching pattern when the curve goes off scale.

Frequency @ 1:240 – This drop box determines how often symbols are drawn on a **Lithology Layer**, with the scale of 1:240. For example: 1 symbol every 1 meter at 1:240, 2 symbols every 1 meter at 1:120, 1 symbol every 2 meters at 1:480, and so on. These frequencies are only in effect if you utilize the entire interval in **Oil Shows**, **Rounding**, **Sorting**, **Framework**, or designated an interval in **Sedimentary Structures**, **Traces Fossils** and Rock Accessories.

Lithology Profile - This check box ☑ when activated will fill in the Carbonate Texture and Grain Size layers with the interpretive lithology. It will draw the lithology to the maximum size filled in over the interval.

Note: The user may wish to turn off the track borders when this option is selected. You will see an example of this shown below.

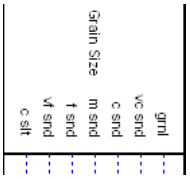




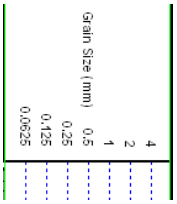
Grain Size Scale List box - You may choose between **Wentworth, Canstrat** or **Amstrat** scales, when using the **Grain Size Builder**. The Wentworth Grain size only allows full grain size while Canstrat / Amstrat allow half grain sizes when drafting in the Grain size and matrix layers.

Verbal Display: ◉ This ◉ radio button will display the **Grain Size Track header** with the equivalent verbal grain sizes such as such as C slt, VF snd, F snd, M snd, C snd etc.

Verbal Scale



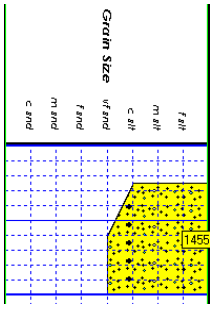
MM Scale



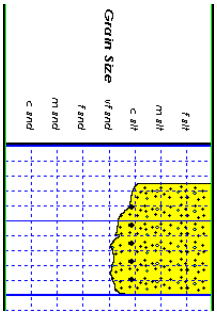
(mm) Display: ○ This ◉ radio button will display the **Grain Size Track header** with the equivalent numeric grain sizes (in mm) such as .0625, .125, .25, .5, 1, 2 etc. as shown above.

○ Hard Edges This ◉ radio button will display the grain size with strait edges and right angles between the grain sizes. The illustration below is shown with Lithology Profile activated.

Hard Edges



Soft Edges



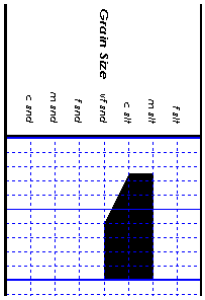
◉ Soft Edges This ◉ radio button will display the grain size with curved edges and rounded angles between the grain sizes.

Grain Size 

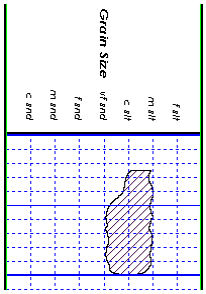
This drop box allows the user to select a hatching pattern when using the Grain Size Layer with the Lithology Profile not activate.

Grain Size 

This color selector allows the user to pick the line color (foreground) when the fill pattern option is used. The background color is found in the Layer configuration for the Grain Size.



Grain Size No Pattern Hard edges



Grain Size Pattern Soft edges

Carbonate Texture 

This drop box allows the user to select a hatching pattern when using the Carbonate Texture Layer with the Lithology Profile not activate.

Carbonate Texture 

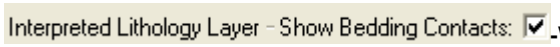
This color selector allows the user to pick the line color (foreground) when the fill pattern option is used. The background color is found in the Layer configuration for the Carbonate Texture Layer.

Carbonate Textures 

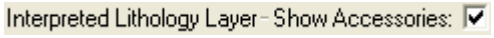
This  radio button will display the grain size with strait edges and right angles between the Carbonate Textures. The illustration below is shown with Lithology Profile activated.

Carbonate Textures 

This  radio button will display the grain size with curved edges and rounded angles between the Carbonate Textures.



-When this check box  is activated the bedding contacts (lines) between the drawn lithology types in the Interpretive Lithology Layer will be shown.



When this check box  is activated it will turn on the accessories in the Interpretive Lithology Layer.

Monitor Height - This option allows you to scale your monitor for Power*Log / Core so you may correlate on-screen wells with hard copy logs that you may have. It is recommended that you take an opportunity to measure the vertical viewing area of your monitor in inches and then insert that value in the **Monitor Height** field. Be aware, however, that if you adjust the screen height knob on your monitor, this will affect the monitor height setting.

Monitor Width - This option allows you to scale your monitor for Power*Curve so you may correlate on-screen wells with hard copy logs that you may have. It is recommended that you take an opportunity to measure the horizontal viewing area of your monitor in inches and then insert that value in the **Monitor Width** field. Be aware, however, that if you adjust the screen width knob on your monitor, this will affect the monitor width setting.

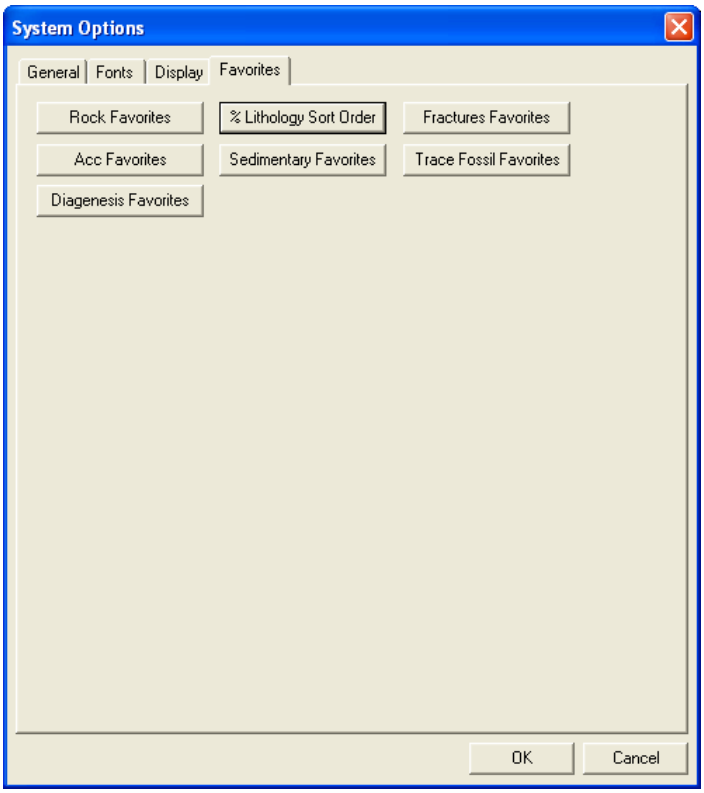
Note: You must restart **Power*Log / Core & Curve** for the **Monitor Width / Height** changes to take effect.

This drop box option will display your directional surveys on your log in either Quadrant format N 62 º W) or Azimuth format (AZ 298 º)

This check box  when activated will display the Sidewall Core Run & Core numbers above the core triangle indicator on the Sidewall Core layer.

Favorites Tab

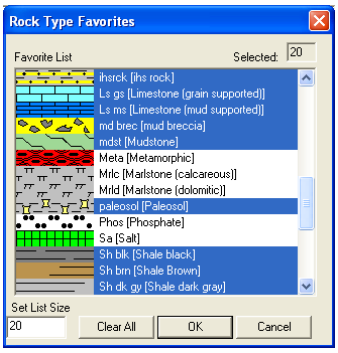
This tab allows the user to define their System favorites for all the data categories that support these choices. This tab dialogue also allows the user to access the % Lithology Sort order for the % Lithology Track.



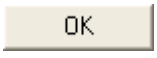
Rock Favorites - The  **button** when activated allows the user to determine the number of the activation of the Rock Type Builder window in the Interpreted and Detailed Lithology tracks.

How to Change the Rock Favorites Selection

1. **Click** on the  **button** in the System Options window to activate the **Rock Type Favorites** window.



2. **Click** on the  **button** in the Rock Type Favorites list window to prepare it for the selection of your Rock Favorites.

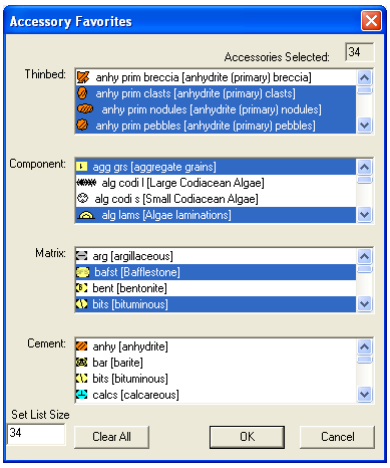
3. Select by **clicking on** or highlighting some of your more **commonly used Rock Types** from the Rock Type Favorites list window.
4. **Click** on the  **button** to return to the System Options window.

5. **Click** on the Save **button** in the System Options window, when you are finished.

Accessory Favorites - The Acc Favorites **button** when activated allows the user to determine the number of favorites for their favorite Accessories and then displays them in a pop-up menu or Tool Box generated by the activation of the Accessory Builder window in the Interpreted and Detailed Lithology tracks.

How to Change the Accessory Favorites Selection

1. **Click** on the Acc Favorites **button** in the System Options window to activate the **Accessory Favorites** window shown below:



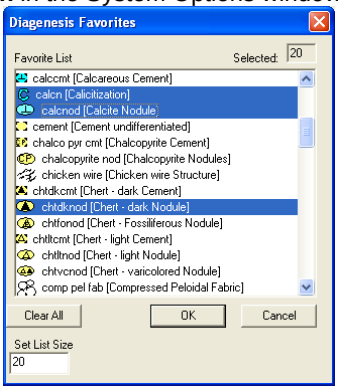
2. **Click** on the Clear All **button** in the Accessory Favorites list window to prepare it for the selection of your Accessory Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used Accessories** from the Accessory Favorites list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Diagenesis Favorites Button

The Diagenesis **button** when activated allows the user to determine the number of favorites for their favorite Diagenesis list and then displays them in a pop-up menu generated by a right **click** in the Diagenesis layer / track along with a tool box when the layer is activated.

How to Change the Diagenesis Favorites Selection

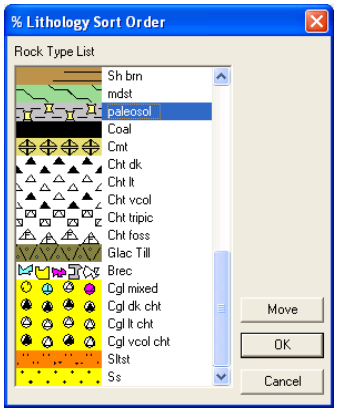
1. **Click** on the Diagenesis **button** in the System Options window to activate the Diagenesis window.



2. **Click** on the Clear All **button** in the Diagenesis Favorites list window to prepare it for the selection of your Diagenesis Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used** Diagenesis from the list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Lithology Sort Order Button- % Lithology Sort Order This button activates a window that does the ordering of the % Lithology layer. The rock types listed in this window is the sort order from left to right in Power*Log and top to bottom in Power*Curve when the %Lithology Track / Layer is utilized. The sort order can be changed by the user at any time but will only take effect after the application has been reactivated. The % Lithology Sort Order Window is shown on the next page.

How to Change the % Lithology Sort Order



1. **Click** on **Systems Options** under the **Options** menu selection. This will activate the **System Options** window.
2. **Click** on the % Lithology Sort Order **button**. This will activate the **% Lithology Sort Order** window shown above.
3. **Select the Rock Type** the user wishes to move by clicking on the rock type once. This will highlight the rock type.
4. **Click** on the Move **button**. The Move button will then transform into a Move Start **button**.
5. **Select the Rock Type** you wish to move the previously selected type above **by clicking** on the **new rock type**. The previously selected rock type will now be placed above or to the left of the rock type you just clicked on.
6. If you wish to change the order of more rock types proceed with steps 3-5.
7. If you are pleased with the newly rearranged % Lithology Rock order **click** on the OK **button**. This will close the % Lithology Sort Order window and put the user back into the Systems Options window.

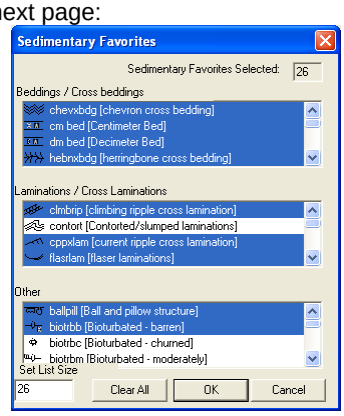
   Then, **click** on the Save **button** in the **System Options** window.

Sedimentary Favorites Button

The Sedimentary Favorites **button** when activated allows the user to determine the number of favorites for their favorite Sedimentary Structures list and then displays them in a pop-up menu generated by a right **click** in the Sedimentary Structures layer / track along with a tool box when the layer is activated.

How to Change the Sedimentary Favorites Selection

1. **Click** on the Sedimentary Favorites **button** in the System Options window to activate the Sedimentary Favorites window shown on the next page:



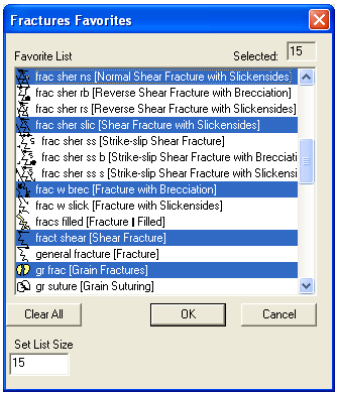
2. **Click** on the Clear All **button** in the Sedimentary Favorites list window to prepare it for the selection of your Sedimentary Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used** sedimentary structures from the list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Fractures Favorites Button

The Fractures **button** when activated allows the user to determine the number of favorites for their favorite Fractures list and then displays them in a pop-up menu generated by a right **click** in the Fractures layer / track along with a tool box when the layer is activated.

How to Change the Fractures Favorites Selection

1. **Click** on the Fractures **button** in the System Options window to activate the Fractures Favorites window shown on the next page:



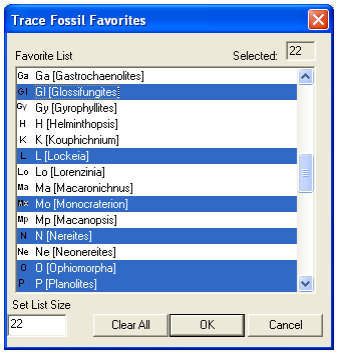
2. **Click** on the Clear All **button** in the Fracture Favorites list window to prepare it for the selection of your Fracture Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used** fractures from the list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Trace Fossils Button

The Trace Fossil Favorites **button** when activated allows the user to determine the number of favorites for their favorite Trace Fossils list and then displays them in a pop-up menu generated by a right **click** in the Trace Fossils layer / track along with a tool box when the layer is activated.

How to Change the Trace Fossil Favorites Selection

1. **Click** on the Trace Fossil Favorites **button** in the System Options window to activate the **Trace Fossils Favorites** window.

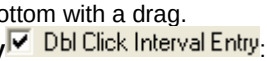


2. **Click** on the Clear All **button** in the Trace Fossils Favorites list window to prepare it for the selection of your Trace Fossil Favorites.
3. Select by **clicking on** or highlighting some of your more **commonly used** Trace Fossils from the list window.
4. **Click** on the OK **button** to return to the System Options window.
5. **Click** on the Save **button** in the System Options window, when you are finished.

Grain Size Layer

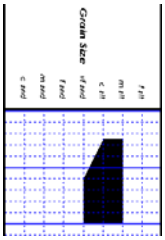
This layer gives the user the ability to add, delete, or change Entire Intervals and/or Sub-intervals of Grain Sizes for any given Interpreted Lithology (Rock) Interval.
Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.
Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.
Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

Snap to Closest Lithology 

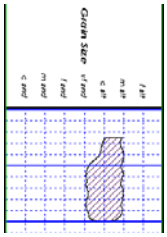
: When checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.
Double Click Interval Entry 

: When checked will allow the user to enter a Grain size over an entire interval with a double click on the left mouse button.
Soft Edges 

: When checked will round off the grain sizes and will present the grain size edges with sine wave lines instead of strain lines.

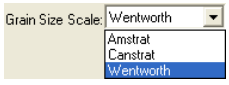


Grain Size No Pattern Hard edges



Grain Size Pattern Soft edges

How to Change the Grain Size Scale Type (Wentworth, Canstrat or Amstrat)

1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**
3. Then select the corresponding 

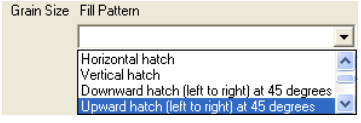
from the list drop box. **Click** on the 

button after you have changed your selection.

How to Change the Grain Size Display from a Solid Color to a Hatching Pattern on your log.

This can only be represented with the Lithology Profile deactivated 

in the System Options Display Tab dialogue window. This will also change all the grain size and matrix layers on all logs.

1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**
3. Then **select** the **grain size pattern** 

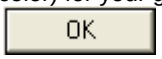
from the **Fill pattern** list drop box.
4. Select the Foreground Color (Line Color) from the 

selector 

button.
5. **Click** on the 

button after you have changed your selection.
6. You may also have to change the background color of the Grain size as well. To do this **click** on the **Grain Size** layer.

7. **Click** on the **Layer configuration** selection under the **Edit** pull down menu. This will activate the Layer configuration tab dialogue window.
8. **Click** on the 

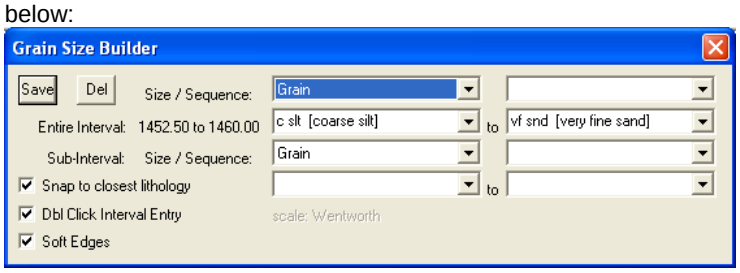
drop box and **select** (in this case a background color) for your grain size**.**
9. **Click** on the 

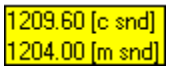
button.

Adding an Entire Interval

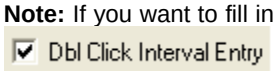
Note: All description categories, such as **Grain Size**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Grain Size**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Grain Size** layer to expand the **Grain Size** track and to activate the **Grain Size Builder** window shown below:



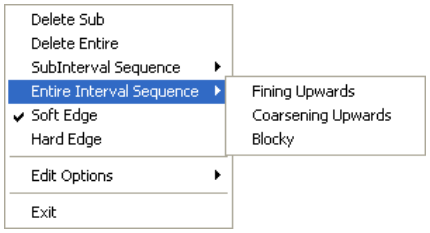
2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Grain Size**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Grain Size**, , e.g. **1209.60 [c snd]** to **1204.00 [m snd]**, on the **Grain Size** track 

3. **Release** the mouse button and the entire **Grain Size** interval will be drawn accordingly.

Note: If you want to fill in the entire interval with only one grain size and not a range of grain sizes and you have the 

selected in the builder simply double click in the interval the grain size you wish to enter and it will fill in the entire interval with your selection.

4. If you wish to see a different type of sequence and the user has previously dragged the entire interval, **right click within the interval** to be changed and **select** the **Entire Interval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.

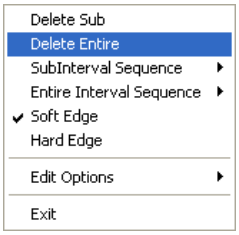


5. Repeat **Steps 2** - **4** to add more **Grain Sizes**.
6. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

Note: If you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

Deleting an Entire Interval

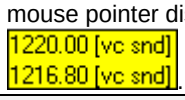
1. **Double click** on the **Grain Size** layer to expand the **Grain Size** track and to activate the **Grain Size Builder** window.
2. On the **Grain Size** layer, **right click** anywhere within the interval that you wish to delete to activate the pop-up menu.



3. **Click** on **Delete Entire** and the **Grain Size** will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

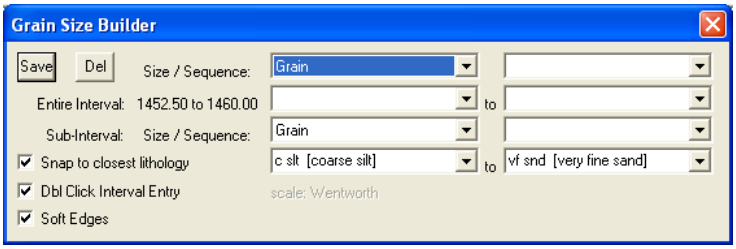
Adding a Sub-interval

1. **Double click** on the **Grain Size** layer to expand the **Grain Size** track and to activate the **Grain Size Builder** window.
2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Grain Size**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Grain Size** within an entire **Grain Size** interval

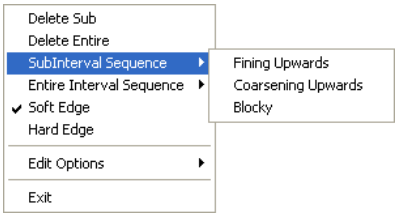


Note: You can drag the pointer to the left or right of the **Grain Size** track to more accurately describe your grain size range.

3. **Release** the mouse button and the **Grain Size** sub-interval will be drawn accordingly.



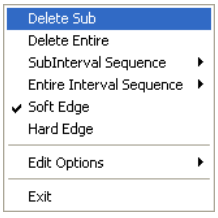
4. If you wish to see a different type of sequence and the user has previously dragged a subinterval, **right click within the subinterval** to be changed and **select** the **SubInterval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.



5. Repeat **Steps 2** - **4** to add more **Grain Size** sub-intervals to the **Grain Size** track.
6. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

Deleting a Sub-Interval

1. **Double click** on the **Grain Size** layer to expand the **Grain Size** track and to activate the **Grain Size Builder** window.
2. On the **Grain Size** layer, **right click** anywhere within the sub-interval that you wish to delete to activate the pop-up menu shown below:



3. **Click** on **Delete Sub** and the **Grain Size** sub-interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

Expanded Combined Canstrat / Wentworth Grain Sizes (Clastic/Crystalline Rocks):

Clastic Name (Wentworth)	Clastic Name (Canstrat)	Crystalline Name	Size Range (mm) from	Size Range (mm) to	Phi
Lower Clay	Lower Clay Lower	Lower Crypto Lower	0.00098	0.00147	+10.0 to +9.5
	Lower Clay Upper	Lower Crypto Upper	0.00147	0.00195	+9.5 to +9.0
Upper Clay	Upper Clay Lower	Upper Crypto Lower	0.00195	0.00299	+9.0 to +8.5
	Upper Clay Upper	Upper Crypto Upper	0.00299	0.00391	+8.5 to +8.0
Very Fine Silt	Lower Very Fine Silt	Very Finely micro Upper	0.00391	0.00585	+8.0 to +7.5
	Upper Very Fine Silt	Very Finely micro Upper	0.00585	0.00782	+7.5 to +7.0
Fine Silt	Lower Fine Silt	Finely micro Lower	0.00782	0.01172	+7.0 to +6.5
	Upper Fine Silt	Finely micro Upper	0.01172	0.015625	+6.5 to +6.0
Medium Silt	Lower Medium Silt	Medium micro Lower	0.015625	0.0234375	+6.0 to +5.5
	Upper Medium Silt	Medium micro Upper	0.0234375	0.031250	+5.5 to +5.0
Coarse Silt	Lower Coarse Silt	Coarsely micro Lower	0.031250	0.037875	+5.0 to +4.5
	Upper Coarse Silt	Coarsely micro Upper	0.037875	0.06250	+4.5 to +4.0
Very Fine Sand	Very Fine Lower Sand	Very Finely Lower	0.06250	0.09375	+4.0 to +3.5
	Very Fine Upper Sand	Very Finely Upper	0.09375	0.12500	+3.5 to +3.0
Fine Sand	Fine Lower Sand	Finely Lower	0.12500	0.18750	+3.0 to +2.5
	Fine Upper Sand	Finely Upper	0.18750	0.25000	+2.5 to +2.0
Medium Sand	Medium Lower Sand	Medium Lower	0.25000	0.37500	+2.0 to +1.5
	Medium Upper Sand	Medium Upper	0.37500	0.50000	+1.5 to +1.0
Coarse Sand	Coarse Lower Sand	Coarsely Lower	0.50000	0.75000	+1.0 to +0.5
	Coarse Upper Sand	Coarsely Upper	0.75000	1.00000	+0.5 to +0.0
Very Coarse Sand	Very Coarse Lower Sand	Very Coarsely Lower	1.00000	1.50000	0.0 to -0.5
	Very Coarse Upper Sand	Very Coarsely Upper	1.50000	2.00000	-0.5 to -1.0
Granules	Granules Lower	Finely mega Lower	2.00000	3.00000	-1.0 to -1.5
	Granules Upper	Finely mega Upper	3.00000	4.00000	-1.5 to -2.0
Fine Pebbles	Fine Pebbles Lower	Coarsely mega Lower	4.00000	6.00000	-2.0 to -2.5
	Fine Pebbles Upper	Coarsely mega Upper	6.00000	8.00000	-2.5 to -3.0
Medium Pebbles	Medium Pebbles Lower		8.00000	12.00000	-3.0 to -3.5
	Medium Pebbles Upper		12.00000	16.00000	-3.5 to -4.0
Coarse Pebbles	Coarse Pebbles Lower		16.00000	24.00000	-4.0 to -4.5
	Coarse Pebbles Upper		24.00000	32.00000	-4.5 to -5.0
Very Coarse Pebbles	Very Coarse Pebbles Lower		32.00000	48.00000	-5.0 to -5.5
	Very Coarse Pebbles Upper		48.00000	64.00000	-5.5 to -6.0
Lower Cobbles	Lower Cobbles Lower		64.00000	96.00000	-6.0 to -6.5
	Lower Cobbles Upper		96.00000	128.00000	-6.5 to -7.0
Upper Cobbles	Upper Cobbles Lower		128.00000	192.00000	-7.0 to -7.5
	Upper Cobbles Upper		192.00000	256.00000	-7.5 to -8.0
Lower Boulders	Lower Boulders Lower		256.00000	384.00000	-8.0 to -8.5
	Lower Boulders Upper		384.00000	512.00000	-8.5 to -9.0
Upper Boulders	Upper Boulders Lower		512.0000	768.0000	-9.0 to -9.5
	Upper Boulders Upper		768.00000	1024.00000	-9.5 to -10.0

Grain Size Matrix Layer

This layer allows the user to log two grain sizes (bimodal grain size) at the same depth. The layer gives the user the ability to add, delete, or change Entire Intervals and/or Sub-intervals of Grain Sizes for any given Interpreted Lithology (Rock) Interval.

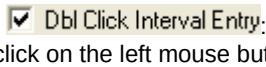
Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

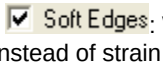
Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

Snap to Closest Lithology 

: When checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.

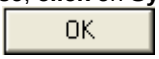
Double Click Interval Entry 

: When checked will allow the user to enter a Grain size over an entire interval with a double click on the left mouse button.

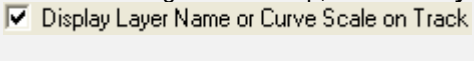
Soft Edges 

: When checked will round off the grain sizes and will present the grain size edges with sine wave lines instead of strain lines.

If the user has the Grain Size Matrix layer added to the Grain Size track, the user should verify that the 

check box is not activated. To do so, **click** on **System Options** under the **Options** menu selection and deactivate this check box. **Click** on the 

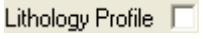
button.

Note: If the Grain Size track contains two headings that overlap, **click** on **Layer Configuration** under the **Options** menu selection and **uncheck** the 

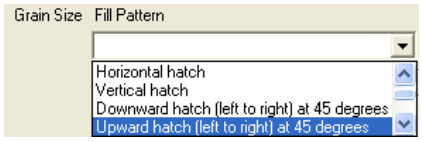
check box. Then **click** on the 

button.

How to Change the Grain Size Display from a Solid Color to a Hatching Pattern on your log.

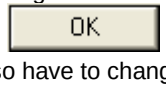
This can only be represented with the Lithology Profile deactivated 

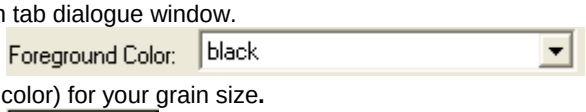
in the System Options Display Tab dialogue window. This will also change all the grain size and matrix layers on all logs.

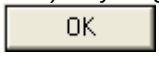
1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**
3. Then **select** the **grain size pattern** 

from the **Fill pattern** list drop box.
4. Select the Foreground Color (Line Color) from the 

selector 

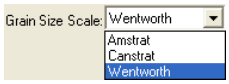
button.
5. **Click** on the 

button after you have changed your selection.
6. You may also have to change the background color of the Grain size as well. To do this **click** on the **Grain Size** layer.
7. **Click** on the **Layer configuration** selection under the **Edit** pull down menu. This will activate the Layer configuration tab dialogue window.
8. **Click** on the 

drop box and **select** (in this case a background color) for your grain size**.**
9. **Click** on the 

button.

How to Change the Grain Size Scale Type (Wentworth, Canstrat or Amstrat)

1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**
3. Then select the corresponding 

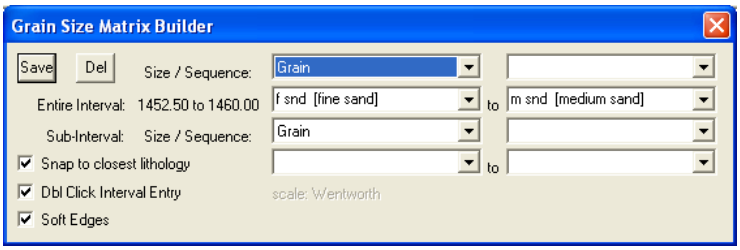
from the list drop box. **Click** on the 

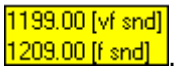
button after you have changed your selection.

Adding an Entire Interval

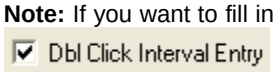
Note: All description categories, such as **Grain Size Matrix**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Grain Size Matrix**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. Make the **Grain Size Matrix** layer active within the **Grain Size** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field
2. **Double click** on the **Grain Size Matrix** layer to expand the **Grain Size** track and to activate the **Grain Size Matrix Builder** window shown below:



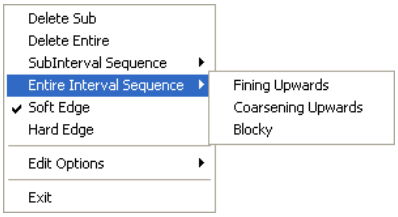
3. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Grain Size**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Grain Size**, e.g. **1199.00 [vf snd]** to **1209.00 [f snd]**, on the **Grain Size** track 

.
4. **Release** the mouse button and the entire **Grain Size Matrix** interval will be drawn accordingly.

Note: If you want to fill in the entire interval with only one grain size and not a range of grain sizes and you have the 

selected in the builder simply double click in the interval the grain size you wish to enter and it will fill in the entire interval with your selection.

5. If you wish to see a different type of sequence and the user has previously dragged the entire interval, **right click within the interval** to be changed and **select** the **Entire Interval Sequence** selection and select one of the appropriate selections. The grain size matrix appearance will be redrawn to reflect the newly selected criteria.



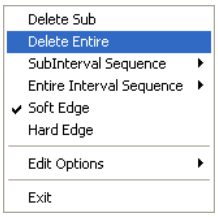
6. Repeat **Steps 2** - **4** to add more **Grain Size Matrixes.**

Note: The intervals that belong to the active layer are purple. The non active layers data are black, e.g. the intervals within the Grain Size Matrix layer are purple while the intervals within the Grain Size layer are black.
Also, if you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

7. Press the **Esc** key on the keyboard to exit from the **Grain Size Builder** window.

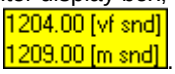
Deleting an Entire Interval

1. Make the **Grain Size Matrix** layer active within the **Grain Size** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field
2. **Double click** on the **Grain Size Matrix** layer to expand the **Grain Size** track and to activate the **Grain Size Matrix Builder** window.
3. On the **Grain Size Matrix** layer, **right click** anywhere <u>within</u> the interval that you wish to delete to activate the pop-up menu.



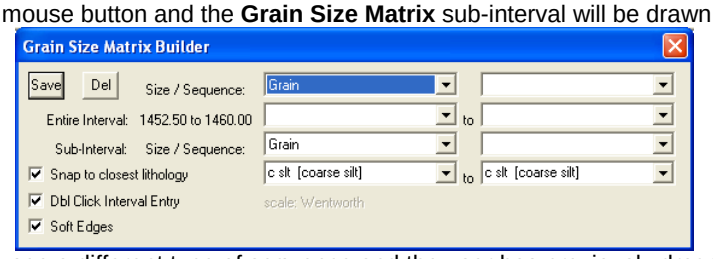
4. **Click** on **Delete Entire** and the **Grain Size Matrix** will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Grain Size Matrix Builder** window.

Adding a Sub-interval

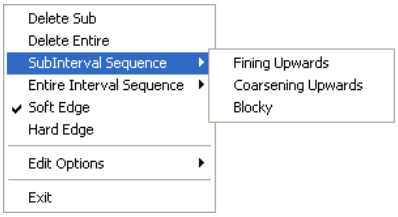
1. Make the **Grain Size Matrix** layer active within the **Grain Size** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field.
2. **Double click** on the **Grain Size Matrix** layer to expand the **Grain Size** track and to activate the **Grain Size Matrix Builder** window.
3. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Grain Size**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Grain Size** within an entire **Grain Size Matrix** interval 
.

<u>Note</u>: You can drag the pointer to the left or right of the **Grain Size** track to more accurately describe your grain size range.

4. **Release** the mouse button and the **Grain Size Matrix** sub-interval will be drawn accordingly.



5. If you wish to see a different type of sequence and the user has previously dragged a subinterval, **right click within the subinterval** to be changed and **select** the **Subinterval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.



6. Repeat **Steps 2** - **4** to add more **Grain Size Matrix** sub-intervals to the **Grain Size** track.
7. Press the **Esc** key on the keyboard to exit from the **Grain Size Matrix Builder** window.

Deleting a Sub-Interval

1. Make the **Grain Size Matrix** layer active within the **Grain Size** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field.
2. **Double click** on the **Grain Size Matrix** layer to expand the **Grain Size** track and to activate the **Grain Size Matrix Builder** window.
3. On the **Grain Size Matrix** layer, **right click** anywhere <u>within</u> the sub-interval that you wish to delete to activate the pop-up menu shown below:

4. **Click** on **Delete Sub** and the **Grain Size Matrix** sub-interval will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Grain Size Matrix Builder** window.

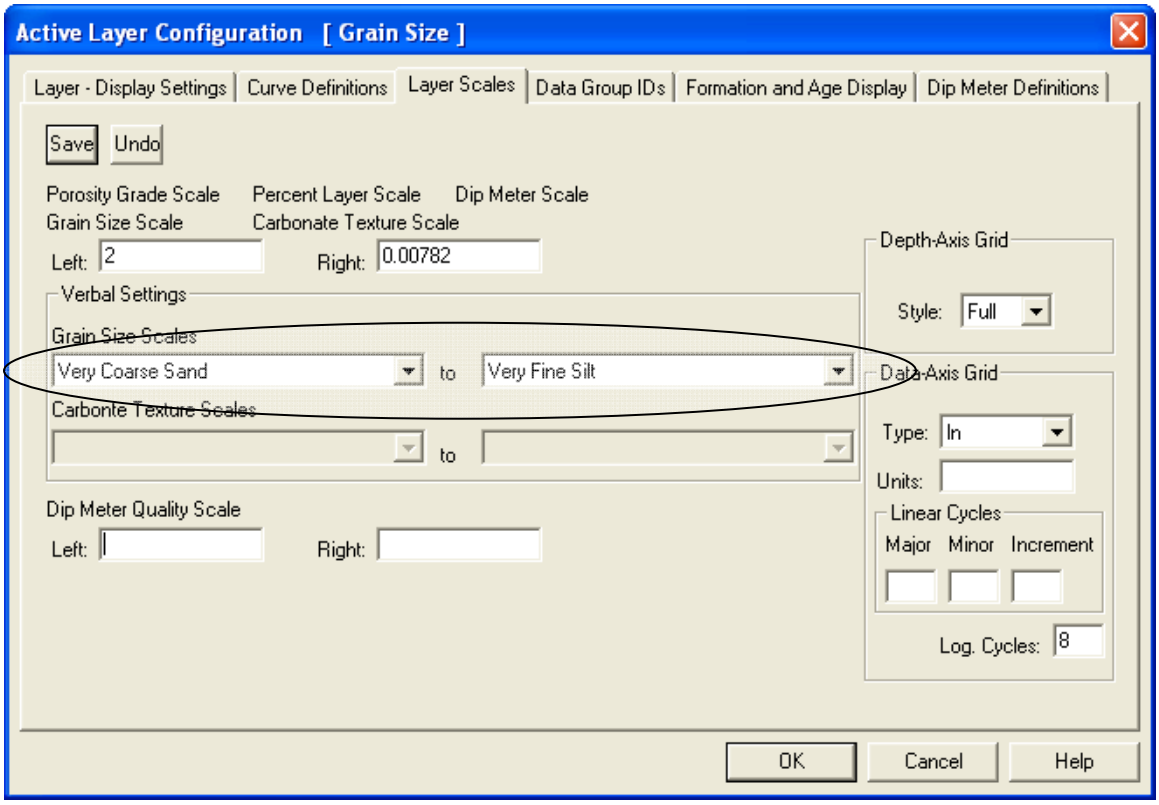
Expanded Combined Canstrat / Wentworth Grain Sizes (Clastic/Crystalline Rocks):

Clastic Name (Wentworth)	Clastic Name (Canstrat)	Crystalline Name	Size Range (mm) from	Size Range (mm) to	Phi
Lower Clay	Lower Clay Lower	Lower Crypto Lower	0.00098	0.00147	+10.0 to +9.5
	Lower Clay Upper	Lower Crypto Upper	0.00147	0.00195	+9.5 to +9.0
Upper Clay	Upper Clay Lower	Upper Crypto Lower	0.00195	0.00299	+9.0 to +8.5
	Upper Clay Upper	Upper Crypto Upper	0.00299	0.00391	+8.5 to +8.0
Very Fine Silt	Lower Very Fine Silt	Very Finely micro Upper	0.00391	0.00585	+8.0 to +7.5
	Upper Very Fine Silt	Very Finely micro Upper	0.00585	0.00782	+7.5 to +7.0
Fine Silt	Lower Fine Silt	Finely micro Lower	0.00782	0.01172	+7.0 to +6.5
	Upper Fine Silt	Finely micro Upper	0.01172	0.015625	+6.5 to +6.0
Medium Silt	Lower Medium Silt	Medium micro Lower	0.015625	0.0234375	+6.0 to +5.5
	Upper Medium Silt	Medium micro Upper	0.0234375	0.031250	+5.5 to +5.0
Coarse Silt	Lower Coarse Silt	Coarsely micro Lower	0.031250	0.037875	+5.0 to +4.5
	Upper Coarse Silt	Coarsely micro Upper	0.037875	0.06250	+4.5 to +4.0
Very Fine Sand	Very Fine Lower Sand	Very Finely Lower	0.06250	0.09375	+4.0 to +3.5
	Very Fine Upper Sand	Very Finely Upper	0.09375	0.12500	+3.5 to +3.0
Fine Sand	Fine Lower Sand	Finely Lower	0.12500	0.18750	+3.0 to +2.5
	Fine Upper Sand	Finely Upper	0.18750	0.25000	+2.5 to +2.0
Medium Sand	Medium Lower Sand	Medium Lower	0.25000	0.37500	+2.0 to +1.5
	Medium Upper Sand	Medium Upper	0.37500	0.50000	+1.5 to +1.0
Coarse Sand	Coarse Lower Sand	Coarsely Lower	0.50000	0.75000	+1.0 to +0.5
	Coarse Upper Sand	Coarsely Upper	0.75000	1.00000	+0.5 to +0.0
Very Coarse Sand	Very Coarse Lower Sand	Very Coarsely Lower	1.00000	1.50000	0.0 to -0.5
	Very Coarse Upper Sand	Very Coarsely Upper	1.50000	2.00000	-0.5 to -1.0
Granules	Granules Lower	Finely mega Lower	2.00000	3.00000	-1.0 to -1.5
	Granules Upper	Finely mega Upper	3.00000	4.00000	-1.5 to -2.0
Fine Pebbles	Fine Pebbles Lower	Coarsely mega Lower	4.00000	6.00000	-2.0 to -2.5
	Fine Pebbles Upper	Coarsely mega Upper	6.00000	8.00000	-2.5 to -3.0
Medium Pebbles	Medium Pebbles Lower		8.00000	12.00000	-3.0 to -3.5
	Medium Pebbles Upper		12.00000	16.00000	-3.5 to -4.0
Coarse Pebbles	Coarse Pebbles Lower		16.00000	24.00000	-4.0 to -4.5
	Coarse Pebbles Upper		24.00000	32.00000	-4.5 to -5.0
Very Coarse Pebbles	Very Coarse Pebbles Lower		32.00000	48.00000	-5.0 to -5.5
	Very Coarse Pebbles Upper		48.00000	64.00000	-5.5 to -6.0
Lower Cobbles	Lower Cobbles Lower		64.00000	96.00000	-6.0 to -6.5
	Lower Cobbles Upper		96.00000	128.00000	-6.5 to -7.0
Upper Cobbles	Upper Cobbles Lower		128.00000	192.00000	-7.0 to -7.5
	Upper Cobbles Upper		192.00000	256.00000	-7.5 to -8.0
Lower Boulders	Lower Boulders Lower		256.00000	384.00000	-8.0 to -8.5
	Lower Boulders Upper		384.00000	512.00000	-8.5 to -9.0
Upper Boulders	Upper Boulders Lower		512.0000	768.0000	-9.0 to -9.5
	Upper Boulders Upper		768.00000	1024.00000	-9.5 to -10.0

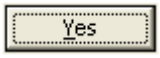
How to Change the Grain Size or Grain Size Matrix Scales

Grain Size scale can be changed through the **Layer Configuration** window.

1. **Click** on the  **Layer Configuration button** on the **Toolbar**, when the **Grain Size or Grain Size Matrix** layer is active. This will activate the **Layer Configuration** window tab dialogue window
2. **Click** on the **Layer Scales** tab shown below.



Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification, so the system knows what default settings to use when adding the layer to the log. The Layer Configuration window shows the default settings for the **Grain Size Matrix** layer.

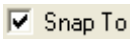
3. **Select** the left and right grain size scales from the Grain Size Scale drop boxes.
4. **Click** on the  **button** and **select**  from the **System Message** window to exit the Layer Configuration window.

Porosity Grade Layer

Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

Sub-interval: A sub-interval can be of any thickness(less than the entire rock unit or bed), and can rest within an entire interval or can stand alone as a sub-interval without being part of a entire interval. You can have as many sub-intervals as you wish. If you have a sub-interval equal to or greater than the rock unit or bed and the top intervals are identical, the sub-interval will become an entire interval.

Snap to: 

when checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.

Double Click Interval 

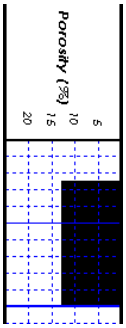
: When checked will allow the user to enter a porosity grades over an entire interval with a double click on the left mouse button.

Soft Edges 

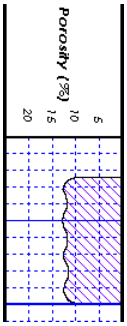
: When checked will round off the porosity grades and will present the porosity grades edges with sine wave lines instead of strain lines.

Porosity Pattern and Color 

These selectors allow the user to select a specific pattern and foreground color for the lines for the porosity grade indicators. The user may have to change the background color for the porosity grade in the layer configuration window so that the lines show on the layer. (Ie black on black)



Porosity Grade No Pattern Hard edges



Porosity Grade Pattern Soft edges

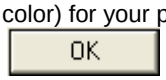
How to Change the Porosity Grade Pattern from a Solid Color to a Hatching Pattern on your log.

1. **Double click** on the **Porosity Grade** layer to expand the **Porosity (%)** track and to activate the **Porosity Builder** window:
2. **Select** the **pattern** 

from the **Fill pattern** list drop box.
3. Select the Foreground Color (Line Color) from the 

selector 

button.
4. You may also have to change the background color of the Porosity Grade as well. With the **Porosity Grade** layer **click** on the **Layer configuration** selection under the **Edit** pull down menu. This will activate the Layer configuration tab dialogue window.
5. **Click** on the 

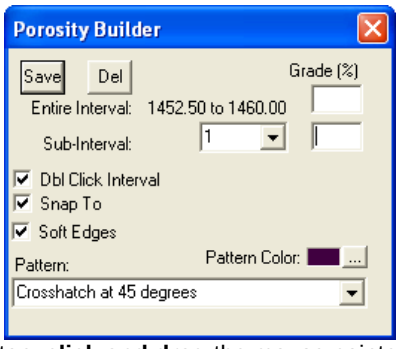
drop box and **select** (in this case a background color) for your porosity grade layer. The illustration above is a white background.
6. **Click** on the 

button.

Adding an Entire Interval

Note: All description categories such as **Porosity Grades** are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Porosity Grades**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

7. **Double click** on the **Porosity Grade** layer to expand the **Porosity (%)** track and to activate the **Porosity Builder** window shown below:



8. Then, using the **left** mouse button, **click and drag** the mouse pointer from a specific **Measured Depth** and **Porosity (%)**, as indicated within the mouse pointer display box, to another **Measured Depth**, e.g. **1200.00 [3%]** to **1203.00**, on the **Porosity (%)** track.
9. **Release** the mouse button and the entire **Porosity (%)** interval will be drawn in purple accordingly. Repeat **Steps 2** and **3** to add more **Porosity (%)**.

Or Use the Double Click data entry method.

1. With the 

selected in the builder simply double click in the interval the porosity grade you wish to enter and it will fill in the entire interval with purple with your selection.

Note: If you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

Press the **Esc** key on the keyboard to exit from the **Porosity Builder** window.

Deleting an Entire Interval

1. **Double click** on the **Porosity Grade** layer to expand the **Porosity (%)** track and to activate the **Porosity Builder** window.
2. On the **Porosity (%)** layer, **right click** anywhere within the purple interval that you wish to delete to activate the pop-up menu shown below:

3. **Click** on **Delete Entire** and the entire **Porosity Grade** interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Porosity Builder** window.

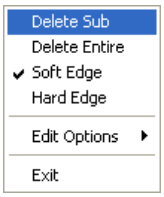
Adding a Sub-Interval

Note: An entire interval does not have to be in effect in order to add a sub-interval. You can add a sub-interval to a rock layer or bed that does not contain an entire interval. To add a sub-interval:

1. **Double click** on the **Porosity Grade** layer to expand the **Porosity (%)** track and to activate the **Porosity Builder** window.
2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Porosity (%)**, as indicated within the mouse pointer display box, to another **Measured Depth** on the **Porosity (%)** track.
3. **Release** the mouse button and the **Porosity (%)** sub-interval will be drawn in green accordingly.
4. Repeat **Steps 2** and **3** to add more **Porosity (%)** sub-intervals.
5. Press the **Esc** key on the keyboard to exit from the **Porosity Builder** window.

Deleting a Sub-Interval

1. **Double click** on the **Porosity Grade** layer to expand the **Porosity(%)** track and to activate the **Porosity Builder** window.
2. On the **Porosity(%)** layer, **right click** anywhere within the green sub-interval that you wish to delete to activate the pop-up menu shown below:

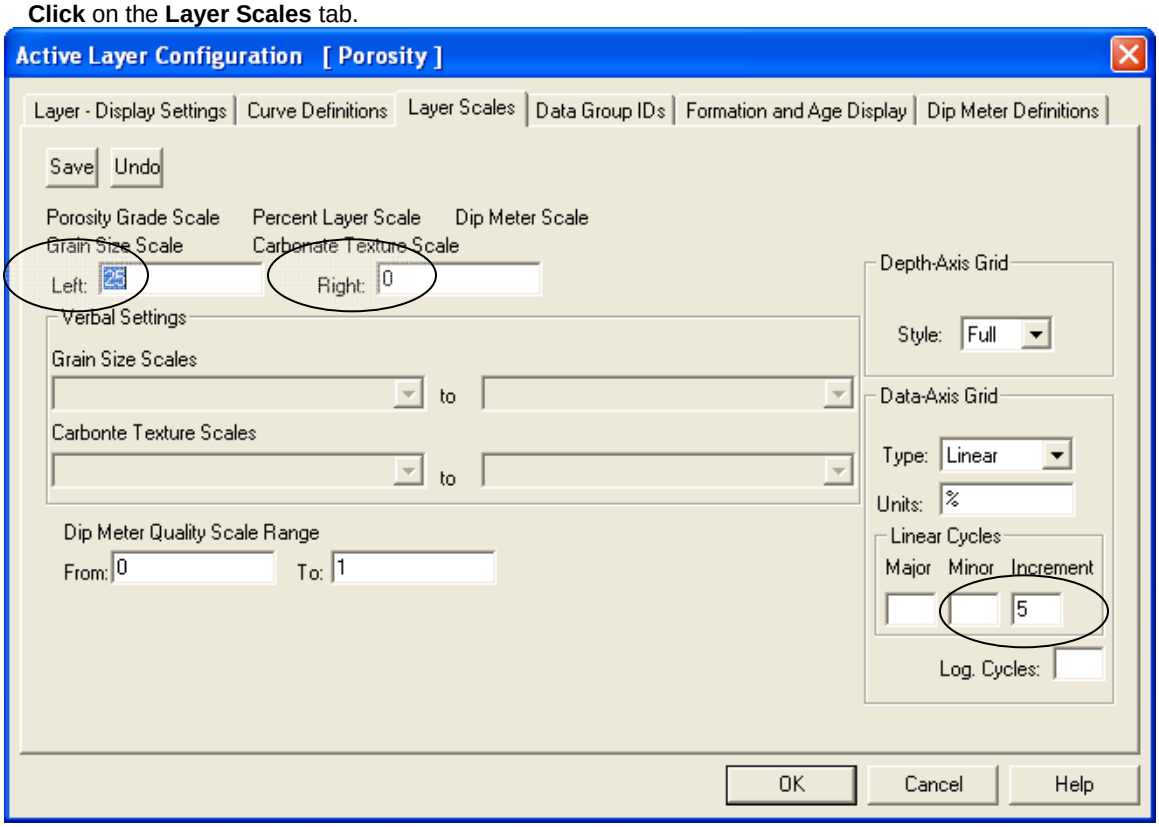


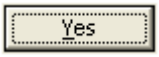
3. **Click** on **Delete Sub** and the **Porosity (%)** sub-interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Porosity Builder** window.

How to Change the Porosity Grade Scale and grid pattern

Porosity Grade scale has to be changed through the Layer Configuration window.

1. **Click** on the **Porosity Grade** layer to make it active.
2. **Click** on the  **Layer Configuration button** on the **Toolbar**. This will activate the **Layer Configuration tab dialogue** window.
3. **Click** on the **Layer Scales** tab.

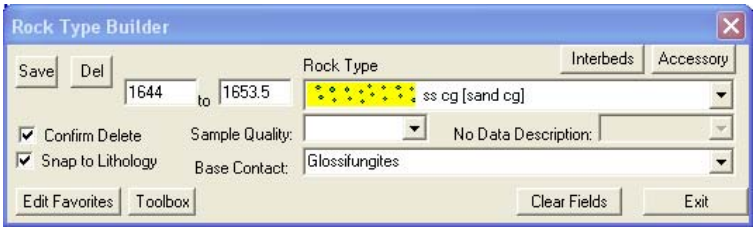


4. Notice that the default scale (when the porosity grade was originally added to the log) was 25 to 0. To change the original scale from **25 – 0** to **12 to 0**, simply adjust the **Left Scale** value to **12** by **double clicking** in the **Left Scale** field and typing in a value of **12**.
5. The user can also adjust the grid scale increments on the log in the Linear Cycles Increment portion of this window.
6. **Click** on the  **button** and **select**  from the **System Message** window to exit the Layer Configuration window.

Interpreted Lithology Layer - Rock Type Builder

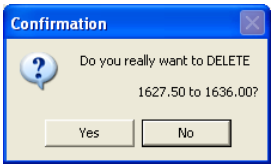
This window will allow you to draft on the Interpreted Lithology Layer. The user can utilize the accessory builder. The user may also define the basal contact if they have the Power*Core Module. We have revised this layer with respect to resizing a bed or interval. We have also added the Interbedding options to the builder.

Overview of Rock type builder window



Save Button The user can enter the depths into the two depth fields with either a rock type or no data fields filled in and then **click** on the Save **button**. Their interval will now be drawn on the Interpretive Lithology Track.

Del Button: The user can click on an existing interpretive lithology interval and the corresponding data will be shown in the builder. The user can then **click** on the Del **button** to delete the interval.



Confirm Delete: This Check box when activated will prompt the user with a Confirmation window Do you really want to delete? If this Confirm Delete is unchecked the Lithology Interval will be deleted without any system message.

Snap to Lithology This check box when activated will not allow spaces between beds on the Interpretive Lithology Layer when you are using the mouse (not the keypad) when entering Lithology Intervals. This function utilizes the Mouse / Screen Pointer Accuracy on the Selection bar and it you are within 10 times the accuracy the Interval will snap to the lithology already drawn on your log.

Edit Favorites This button allows the user to get to the **System Options Favorites Tab**. The user would go into the Rock Favorites make their changes and then **click** on the OK **button** in the System Options window.

Toolbox This button allows the user to Turn on or off the Toolbox.

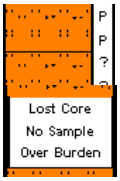
Interbeds Once a Lithology interval has been defined or selected and can be viewed in the builder the user can **click** on Interbeds **button** to activate the Interbeds builder.

Accessory This button allows the user to switch to the Accessory builder so they can add accessories to the Rock type intervals they have defined in the Rock type builder.

1644 to 1653.5 ss cg [sand cg] The from and to fields are entered manually through the key board or can be activated through a mouse drag. The rock type drop box will have all the rock types that are in the system.

Sample Quality: Poor Questionable The Sample quality further defines the lithology interval with either Questionable or Poor sample quality symbols as shown on the right.

No Data Description: Lost Core No Sample Over Burden This selection allows the user to define a Lithology interval on the with a no data description as shown on the right.



log

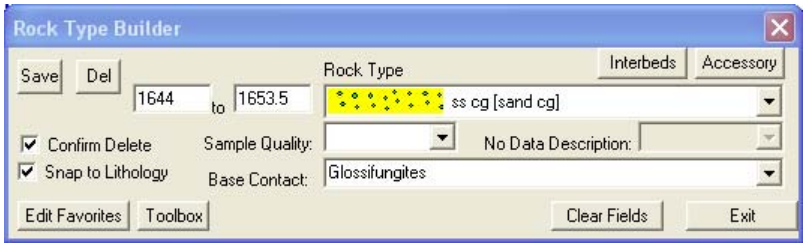
Base Contact: Glossifungites Once a Lithology interval has been defined or selected and can be viewed in the builder the user can **click** drop box and add a basal contact.

Clear Fields This button will clear all the fields in the Rock Type builder. The user can then start fresh.

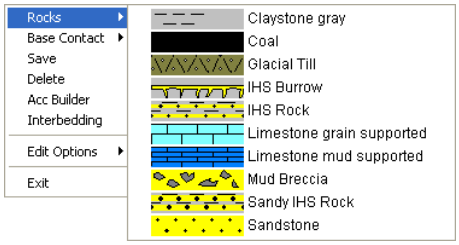
Exit This button will close down the Rock Type builder

Drafting an Interpreted Lithology Interval

1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window as well as your Favorites List Toolbox.



2. **Select a rock type.** There are 4 ways to select a rock type, some faster than others.
   - The user can **click** on the desired **Rock Type** from the Favorites Toolbox shown to the right.
   - The user can **right click** anywhere within the **Interpretive Lithology** track to activate the pop-up menu shown below. Then select by **clicking once** on the desired **Rock Type** from the pop-up menu.
   - The user can select a **Rock Type** from the **Rock Type** field within the **Rock Type Builder** window, if the desired **Rock Type** is <u>not</u> displayed in the pop-up menu or Toolbox.
   - The user can also **click** on a **previously drawn lithology** that is the same as you wish to draw with. If done correctly the selected rock type will be automatically displayed in the **Rock Type** field within the **Rock Type Builder** window.



<u>Note</u>: The graphical images utilized in the pop-up menu represent specific **Rock Types** that can be edited by clicking on the Edit Favorites button by the user in the **System Options** window (See the **System Options** section).

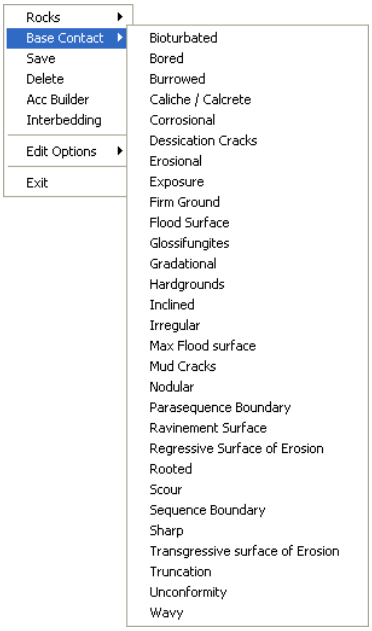
3. The user can then select either a questionable interpretation or a poor sample quality from the Sample quality pull down menu.

<u>Note</u>: Once activated it must be deactivated by selecting the blank selection from the list.

4. **Click and drag** up or down within a specific track to define the lithology interval. **Or**, If there is a rock type defined above and below (within 100 meters) and you want to fill in the interval simply **double click** in the interval and it will fill in with the No data or Rock type selected.

<u>Note</u>: This can be done on any track but more often than not the Interpretive Lithology Track is the most convenient. With the ☑ Snap to Lithology activated the lithology being drawn will snap to the previous lithology either above or below depending on your drag if you are within 10 times the mouse pointer or screen accuracy of the already drawn lithology.

5. **Release** the **mouse button** and the interval will be drawn accordingly.
6. The user can now define the base contact type by right clicking on the drawn interpretive lithology interval and selecting the desired basal contact type from the ensuing pop out menu.

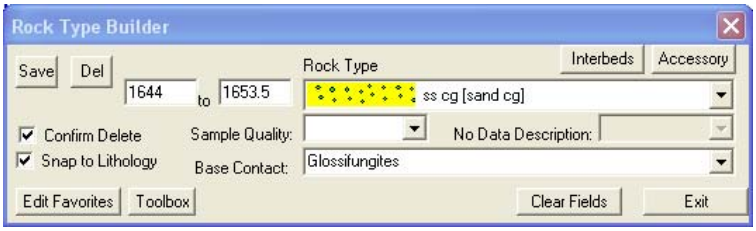


7. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

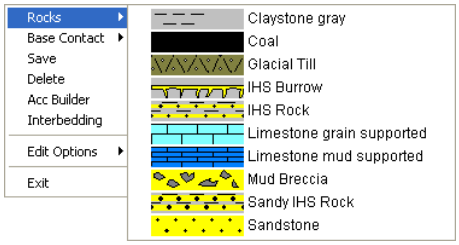
Note: The Toolbox can be activated or deactivated by clicking on the Toolbox **button**.

Drafting an Interpreted Lithology Interval with Interbedding.

1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window as well as your Favorites List Toolbox.

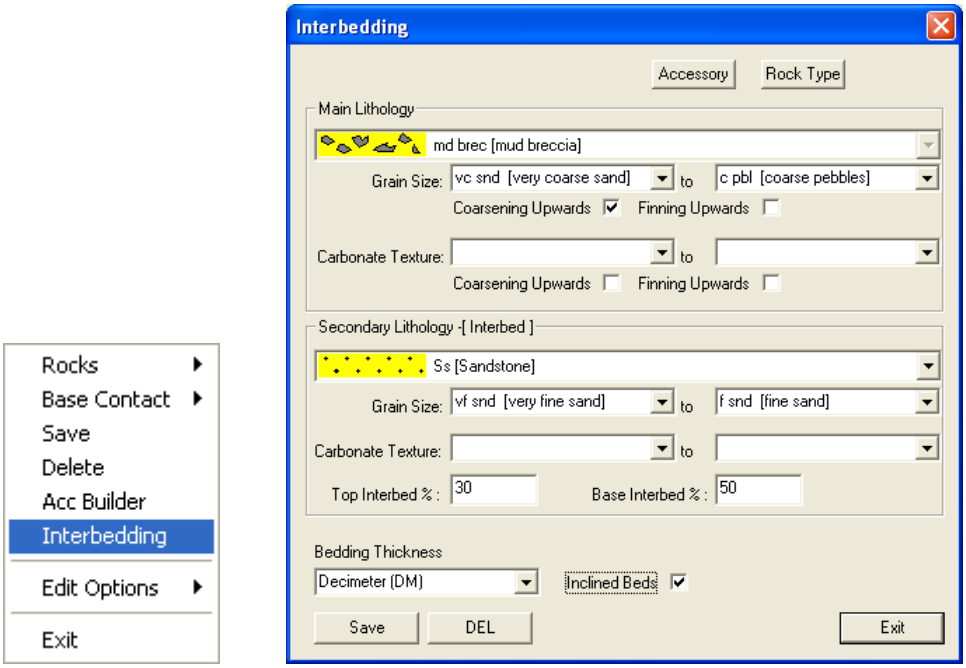


2. **Select a rock type.** There are 4 ways to select a rock type, some faster than others.
   - The user can **click** on the desired **Rock Type** from the Favorites Toolbox shown to the right.
   - The user can **right click** anywhere within the **Interpretive Lithology** track to activate the pop-up menu shown below. Then select by **clicking once** on the desired **Rock Type** from the pop-up menu.
   - The user can select a **Rock Type** from the **Rock Type** field within the **Rock Type Builder** window, if the desired **Rock Type** is not displayed in the pop-up menu or Toolbox.
   - The user can also **click** on a **previously drawn lithology** that is the same as you wish to draw with. If done correctly the selected rock type will be automatically displayed in the **Rock Type** field within the **Rock Type Builder** window.



3. **Click and drag** up or down within a specific track to define the lithology interval.

4. **Release** the mouse button and the interval will be drawn accordingly.
5. **Right Click** on the drawn **lithology** and **select Interbedding** from the pop out menu as shown below or **Click** on the **lithology** and **Click** on the Interbeds **button** in the Rock Type Builder. This will activate the Interbed window also shown below.



1. **Select** the Main Lithology **Grain Size or Carbonate Texture** from and to from their respective drop boxes. If the Grain Size or Carbonate Texture is already filled in you can change it here or leave it as is.
2. In the Main Lithology section **select Coarsening** or **Fining Upwards** check boxes if you wish.
3. **Select** the **Secondary Lithology** (Interbed) from the **drop box**.
4. Fill in the Secondary Lithology Grain Size **or** Carbonate Texture from and to from their respective drop boxes if you wish.
5. Fill in the **Percentage** of Interbeds at the top of the interval and the base of the interval by typing in their respective percentages.
6. **Select** a bedding thickness from the **Bedding Thickness drop box**.
7. **Select** if the interbeds are inclined or not from the check box.
8. **Click** on the Save **button**
9. The user can now go back to the Rock type builder by **clicking** on the Rock Type **button**. Also the user can go to the accessory builder by **clicking** on the Accessory **button**. Or the user can exit the builder altogether by **clicking** on the Exit **button**.
10. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

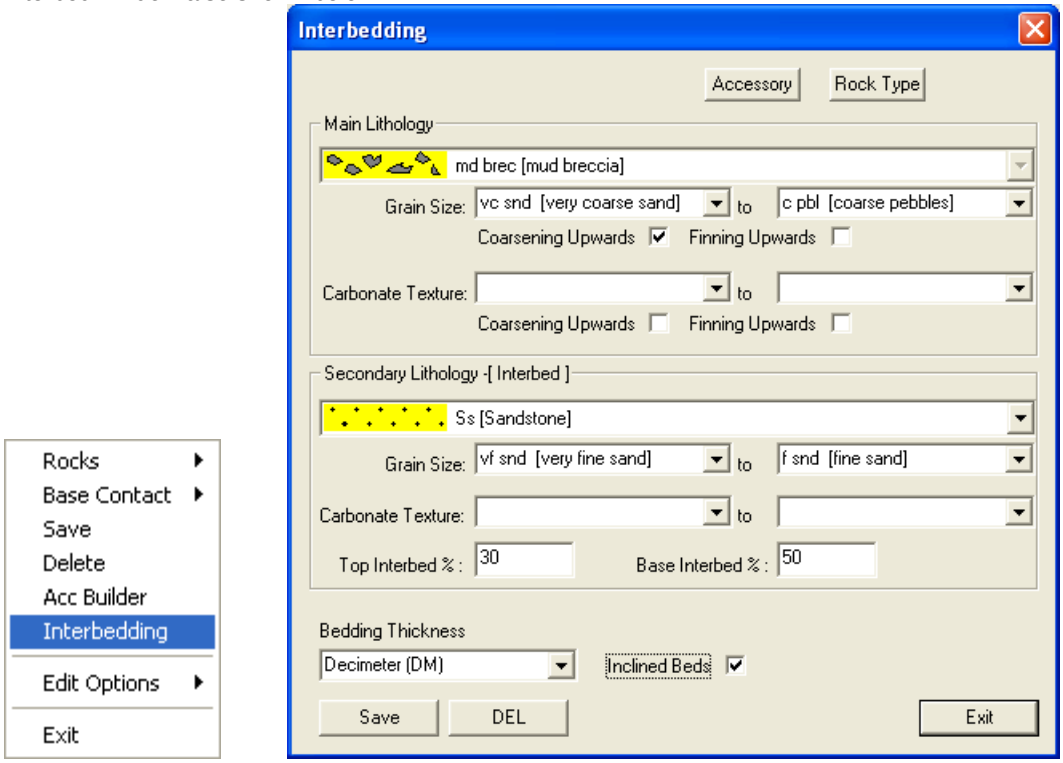
How to Draw with an already drawn Interbedded Interval.

1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window as well as your Favorites List Toolbox.
2. **Click on an already drawn Interbedded Interval.**
3. **Click and drag** up or down within a specific track to define a new interbedded lithology interval.
4. **Release** the mouse button and the interval will be drawn accordingly.
5. **If you wish to change some of the attributes Right Click** on the drawn **lithology** and **select Interbedding** from the pop out menu or **Click** on the **lithology** and **Click** on the Interbeds **button** in the Rock Type Builder.

Deleting the Interbedded portion of an Interpreted Lithology Interval.

The following procedure will delete the Interbedding only. If you wish to delete the entire lithology delete the Lithology from the Rock type builder.

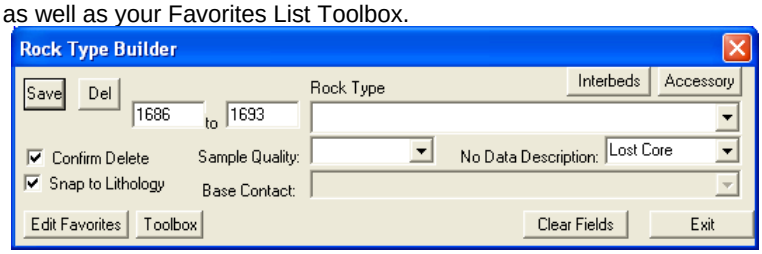
1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window as well as your Favorites List Toolbox.
2. **Right Click** on the drawn **lithology** and **select Interbedding** from the pop out menu as shown below or **Click** on the **lithology** and **Click** on the Interbeds **button** in the Rock Type Builder. This will activate the Interbed window also shown below.



3. **Click** on the DEL **button**
4. The user can now go back to the Rock type builder by clicking on the Rock Type button. Also the user can go to the accessory builder by clicking on the Accessory button. Or the user can exit the builder altogether by clicking on the Exit button.
5. Press the **Esc** key on the keyboard to exit from the **Interbedding** window.

Drafting a Lithology Interval with Lost Core, No Sample or Overburden

1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window shown below as well as your Favorites List Toolbox.



2. **Select** either **Lost Core, No Sample or Overburden** from the No Data Description drop box**.**

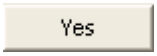
3. **Click and drag** the mouse button up or down within a specific track to define the **No Data** interval. **Or**, If there is a rock type defined above and below (within 100 meters) and you want to fill in the interval simply **double click** in the interval and it will fill in with the No data type selected.
4. **Release** the mouse button, and the interval will be drawn accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

Inserting Thin beds

You are able to insert thinner beds of a different **Rock Type** into an existing bed. This prevents you from having to re-enter the properties of the main bed above and beneath the inserted thinner bed. The **Rock Accessories** (**Thin beds**, **Components**, **Matrix** and **Cement**) are the only properties that are not retained from the existing bed.

1. **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window previously shown as well as your Favorites List Toolbox.
2. **Select a rock type.** There are 4 ways to select a rock type.
   - The user can **click** on the desired **Rock Type** from the Favorites Toolbox.
   - The user can **right click** anywhere within the **Interpretive Lithology** track to activate the pop-up menu shown below. Then select by **left clicking once** on the desired **Rock Type** from the pop-up menu.
   - The user can select a **Rock Type** from the **Rock Type** field within the **Rock Type Builder** window, if the desired **Rock Type** is not displayed in the pop-up menu or Toolbox.
   - The user can also **click** on a **previously drawn lithology** that is the same as you wish to draw with.
3. If done correctly the selected rock type will be automatically displayed in the **Rock Type** field within the **Rock Type Builder** window.
4. **Click and drag** the mouse button up or down within a specific track to define the **Lithology** interval.

Note: This can be done on any track but more often than not the Interpretive Lithology Track is the most convenient.

5. **Release** the mouse button, and you will be prompted with a message asking, "***Do you want to add an interbedded interval?***"
6. **Click** on the 

button and the thinner bed will be drawn accordingly.
7. The user can now define the base contact type by **right clicking on the drawn interpretive lithology interval** and **selecting the desired basal contact type.**
8. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

Resizing an Existing Rock Type or Bed

1. **Double click** on the **Interpreted Lithology** track to activate the **Rock Type Builder** window.
2. **Press and hold** the **Ctrl key** on the keyboard **down**, while moving the mouse pointer over the lithology bed boundary you wish to resize, the mouse pointer will turn into a resize ↕, (remember if two beds are touching to look into the builder to see if you have the correct one selected)
3. **Clicking and dragging** the **left** mouse button up or down the **Interpreted Lithology** track to either shrink or enlarge the selected interval.

Note: You are not allowed to overlap an existing bed (lithology) entirely and if you attempt to do so, you will receive an **"*Unsupported Add Sequence*"** system message.

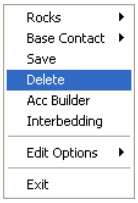
4. **Release** the mouse button at the desired depth, followed by the release of the **Ctrl** key on the keyboard, and the following system message will be activated, "***Do you really want to RESIZE the interval from _ to _ ?***"

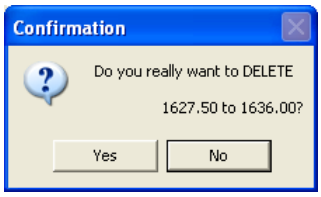
Note: Resizing a **Rock Type** will result in a resizing its associated bed restricted description category information, i.e. **Grain Size**, **Porosity Grade**, and so on.

5. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

Deleting an Existing Rock Type or Bed

1. **Double click** on the **Interpreted Lithology** track to activate the **Rock Type Builder** window.
2. **Right click** anywhere within the **Interpreted Lithology** track to activate the pop-up menu.





3. **Click** on **Delete selection.** This will activate a confirmation window shown above. **Click** on the Yes **button** to confirm the deletion.

Note: When you delete a **Rock Type**, you will also delete its associated bed restricted rock description information, i.e. **Grain Size**, **Porosity Grade**, **Type**, **Oil Show** and all other bed restricted data.

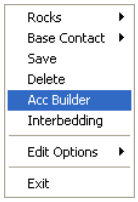
4. Press the **Esc** key on the keyboard to exit from the **Rock Type Builder** window.

Interpreted Lithology Layer - Rock Accessory Builder

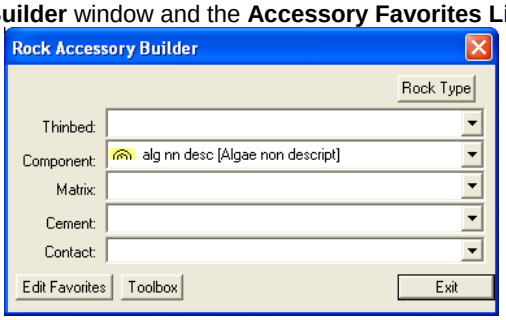
The Rock Accessory Builder allows you to add accessories to a Rock Type in the Interpretive Lithology layer.

Drawing Accessories

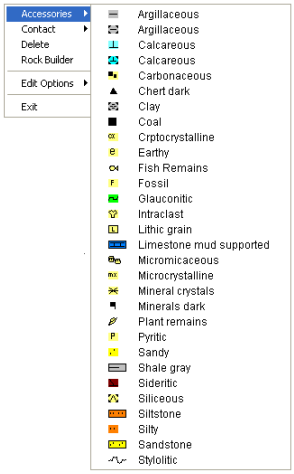
1. **Double click** anywhere within the **Interpretive Lithology** layer to activate the **Rock Type Builder.**
2. **Right click** anywhere within the **Interpretive Lithology** layer to activate the pop-up menu shown below, or **click** on the Accessory **button** in the **Rock Type Builder** window:



3. Select **Acc Builder** selection from the pop-up menu to activate the **Rock Accessory Builder** window and the **Accessory Favorites List Toolbox**.



4. **Select an Accessory.** There are 3 ways to select an accessory, some faster than others.
   - The user can **click** on the desired **Accessory Symbol** from the Favorites Toolbox.
   - The user can **right click** anywhere within the **Interpretive Lithology** track to activate the pop-out menu. Then **select accessories** to initiate the favorite's list pop out menu and **click** on the desired **Accessory Symbol** from the pop-out menu.
   - The user can **select** an **Accessory Symbol** from the appropriate **Accessory Type** fields within the **Accessory Type Builder** window, if the desired **Accessory Type** is not displayed in the favorite's list pop-up menu or Toolbox.



Note: The user can get easily to the first letter of the Accessory they wish to select by clicking once in the appropriate field in the Rock Accessory builder to highlight a selection and then typing in the first letter of the component they wish to choose. This will refresh the list with the first letter and then the user can scroll through the selection until they see their selection and **click** to select.

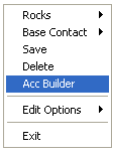
5. **Click** anywhere within the **Interpretive Lithology** track to insert the selected **Accessory**.

The Toolbox can be activated or deactivated by **clicking** on the Toolbox **button** within the Rock Accessory Builder Window.

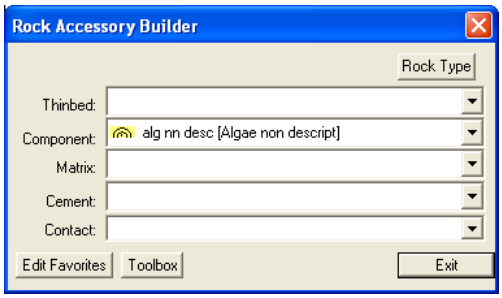
Drawing an Internal Bedding Contact

This selection is only available to the users who have the Power*Core Module

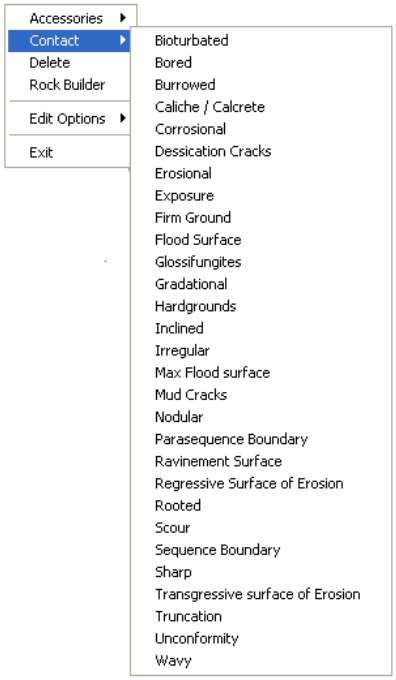
1. **Double click** anywhere within the **Interpretive Lithology** layer to activate the **Rock Type Builder.**
2. **Right click** anywhere within the **Interpretive Lithology** layer to activate the pop-up menu shown below, or **click** on the Accessory **button** in the **Rock Type Builder** window:



3. **Click** on the **Acc Builder selection** from the pop-up menu to activate the **Rock Accessory Builder** window and the **Accessory Favorites List Toolbox**.
4. The user has 2 ways to choose an internal bedding contact.
   - The user can **select** a **Contact Symbol** from the **Contact Type** fields within the **Accessory Type Builder** window.



   - **Right click** anywhere within the **Interpretive Lithology** track to activate the pop- out menu. Then **click** on the **Contact** selection to initiate the pop out menu and **click** on the desired **Internal Contact** from the pop-out menu.



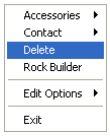
5. **Click** anywhere within the **Interpretive Lithology** track to insert the selected **Accessory**.

Moving a Thinbed, Components, Internal Contact, Matrix, or Cement

1. With the **Rock Accessory Builder** window activated **click and drag** the **Accessory symbol** you wish to move and drag the red box to the new location.
2. **Release the mouse button** and the accessory or internal contact will be redrawn at the new position.

Deleting a single Thin bed, Components, Internal Contact, Matrix, or Cement

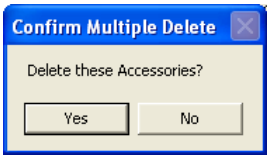
1. With the **Rock Accessory Builder** window activated **right click** (in the upper right corner) of the **Accessory** symbol you wish to delete and the pop-out menu will be activated.

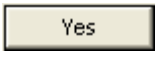


2. **Click** on the **Delete** selection from the pop-out menu and the selected **Accessory** symbol will be deleted.
3. Press the **Esc** key on the keyboard to exit from the **Rock Accessory Builder** window.

Deleting Multiple Thin beds, Components, Internal Contacts, Matrix, or Cements

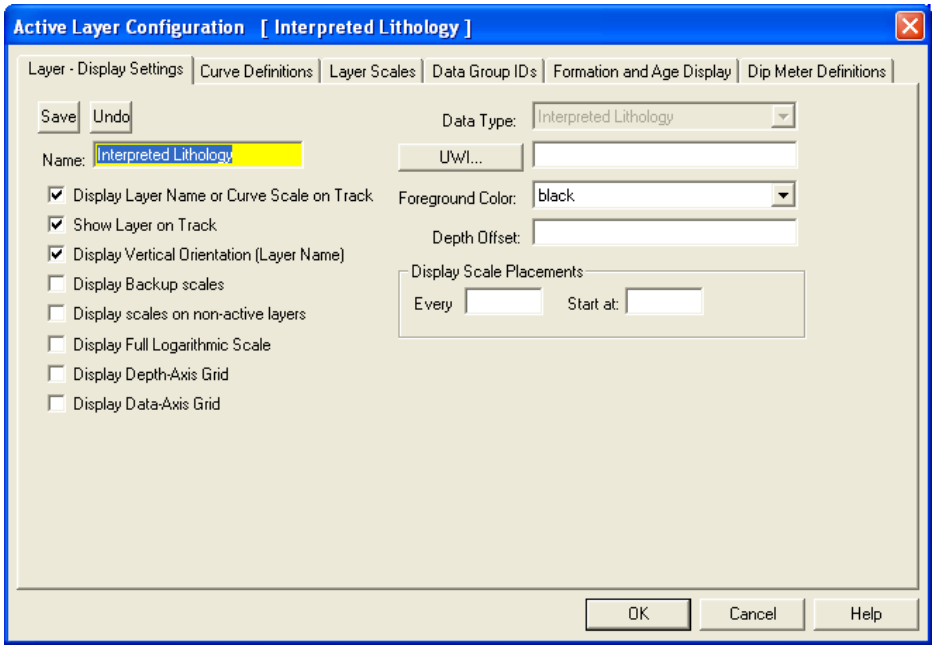
1. With the **Rock Accessory Builder** window activated **Press and Hold the SHIFT Key** and then **click and drag an area** where the symbols are that you want to delete.
2. **Release** the **mouse button** and this will activate a message.



3. **Click** on the 

button. The accessories that were covered by your drag will be deleted.

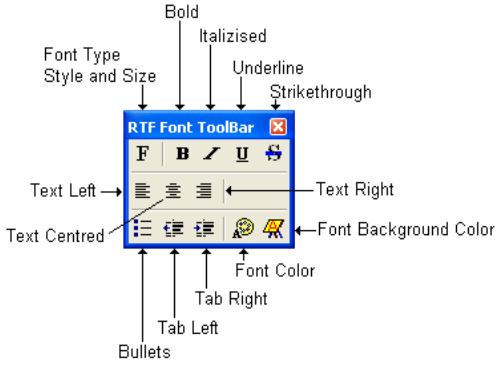
Note: Every type of layer in **Power*Log/Curve** has a **Data Type** classification. The default settings for the **Interpreted Lithology** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the **Interpreted Lithology** layer is active.



Annotation Builder

These toolbars allow you to add, edit, move or delete Annotations / Lithology Descriptions in an Annotation or Lithology Description track.

Note: There is an annotation layer available throughout the whole log that allows you to add, edit and delete an annotation anywhere within the log. Refer to the Log Layer section within chapter 2.



Overview of RTF Font Toolbar buttons.

 At the flashing cursor or with some text highlighted this button will activate a Font Dialogue window to change Font Type, style, size etc.

 At the flashing cursor or with some text highlighted this button will activate a Bold Font style.

 At the flashing cursor or with some text highlighted this button will activate an Italic Font style.

 At the flashing cursor or with some text highlighted this button will activate an Underline Font style.

 At the flashing cursor or with some text highlighted this button will activate an Strikethrough Font style.

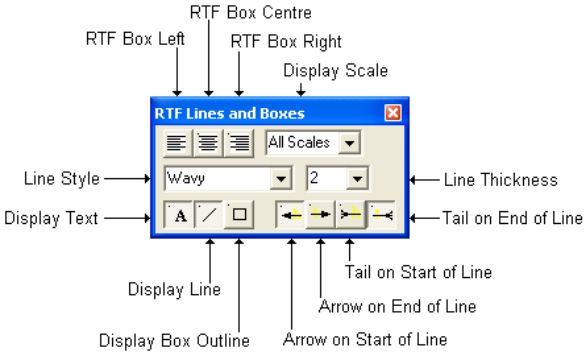
 At the flashing cursor or with some text highlighted these buttons will orient the text line or paragraph left, centered or right within the box outline.

 At the flashing cursor or with some text highlighted this button will place a bullet at the start of the text line or paragraph.

 At the flashing cursor or with some text highlighted these buttons will indent or tab the text line or paragraph either left or right.

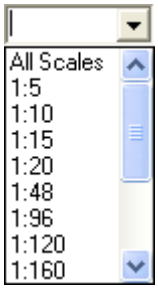
 At the flashing cursor or with some text highlighted this button will activate a new Font color.

 At the flashing cursor or with some text highlighted this button will activate a Font background color.

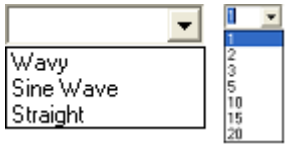


Overview of RTF Lines and Boxes Toolbar buttons.

Left Right Centered Text boxes: With the text box or annotations outline activated these buttons will orient the text box left, centered or right within the track borders. The user can also click and drag on the box outline to any orientation on the track which will override these buttons.



Display scale drop box: This allows the user to change the display scale for each annotation to adapt to the printed or viewing scale of the log. The All Scales selection will display the annotation at all viewing and printing scales from 1:5 to 1:5000. If you select a different display scale then the annotation will be viewed at that viewing and printing scale and smaller. Anything larger than the display scale and the annotation will not be viewed or printed. This should alleviate the annotations overlapping each other when printed out on different scales. For example if the user were to choose 1:120 the annotation would show up on viewing / printing scales from 1:120 to 1:5 and not show up on scales from 1:121 to 1:5000.



Line Style Selector and Line Thickness drop boxes: These drop boxes allow the user to select a different line style for their drawn line as well as the line thickness for the line that is associated with each individual annotation. You can only have one line per annotation. The line can only be redrawn and not moved.


This button will show / hide the text for a particular annotation.


This button will show / hide the line for a particular annotation.


This button will show / hide an outline around the annotation. The grey box you see around all annotations will not be printed. Only when this button is activated will the box be printed.


Will show / hide an arrow pointer at the end of a line draw.

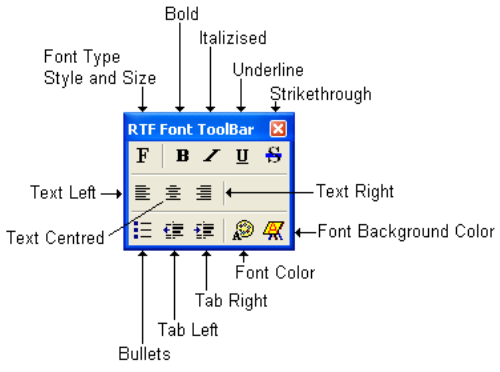

Will show / hide an arrow pointer at the start of a line draw.

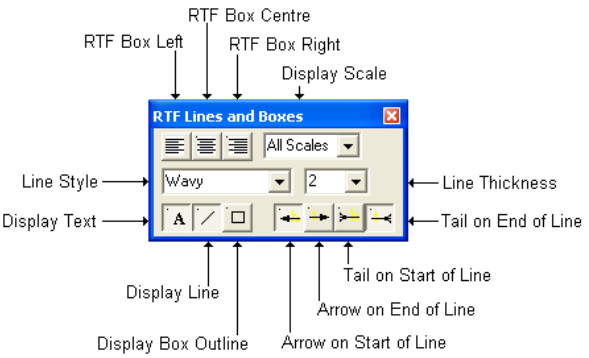

Will show / hide an tail at the end of a line draw.


Will show / hide an tail at the start of a line draw.

Adding Annotations / Lithology Descriptions…

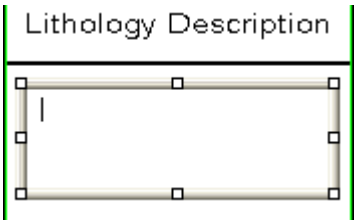
1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Define an area or box outline** by **clicking and dragging** the **left** mouse button from the upper left corner to the lower right corner of the desired area to form a rectangular shape and then releasing the **left** mouse button on an **Annotation** layer to activate the RTF Font and RTF Lines and Boxes toolbars shown below.





3. **Click** once more **in the drawn area** and you will get a flashing cursor.
4. **Type in your annotation.**

5. Utilize the options in the **RTF Font** and **RFT line and box toolbars** to get the desired effect on your annotation.
6. **Click anywhere outside** the **annotation box** to close the toolbars. **Repeat** steps **2-6** for more annotations.

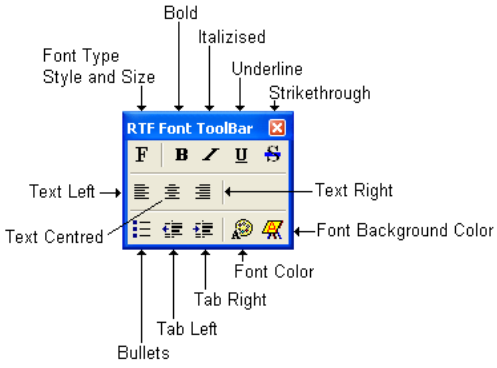


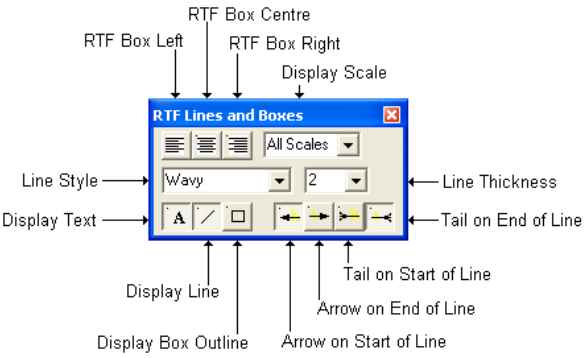
Drawing a Line…

A Line can be associated with an existing Annotation/Lithology Description or it can exist on its own.*

How to Draw a line in the Annotations / Lithology Descriptions…

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Define an area or box outline** by **clicking and dragging** the **left** mouse button from the upper left corner to the lower right corner of the desired area to form a rectangular shape and then releasing the **left** mouse button on an **Annotation** layer to activate the RTF Font and RTF Lines and Boxes toolbars shown below. **Or** just **click on** an **existing** annotation that does not have a line associated with it.





3. **Click** and **drag the mouse** and a line will be drawn. The drag must start anywhere outside the highlighted or drawn area of your highlighted annotation and inside the confines of the track and remain inside the track boundaries.
4. **Release the mouse** and the line will be drawn. Utilize the  buttons for arrow heads and tails. Also line style and thickness drop boxes can be used to further define your drawn line.
5. **Repeat step 3** to redraw the line**.**
6. **Click anywhere outside** the **annotation box** to close the toolbars. **Repeat** steps **2-6** for more annotations.

Editing Annotations/Lithology Descriptions…

1. Make the Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Click** in **annotation field box** to highlight the field and activate the RTF Toolbars.
3. Edit this field as you normally would utilizing the keypad, mouse and toolbars to edit anything inside this annotation field or add a line.
4. **Click outside** of the highlighted text field to close the toolbars.

Resizing Annotations/Lithology Descriptions…

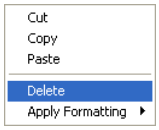
1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Click** in **annotation field box** to highlight the field and activate the RTF Toolbars.
3. Place the mouse pointer over one of small boxes (☐) used to define the outline around the **Annotation/Lithology Description** and the mouse pointer will transform into a double arrow(⇳).
4. **Click** and **drag** the mouse pointer to define the new size for the **Annotation**.
5. **Release** the **mouse button**, and the Annotation/Lithology Description will be redrawn within its newly defined area.
6. **Click outside** of the highlighted text field to close the toolbars.

Moving Annotations/Lithology Descriptions…

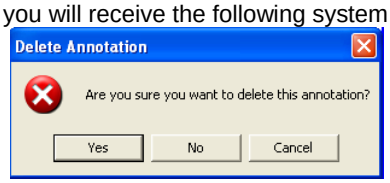
1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Click** on **annotation field box** to highlight the field and activate the RTF Toolbars.
3. **Move** the mouse pointer on the highlight surrounding the selected **Annotation/Lithology Description** and the mouse pointer will transform into the shape of a cross with four  arrows.
4. **Click and drag** the mouse pointer to the **Annotation's/Lithology Description's** new position.
5. **Release** the mouse button, and the **Annotation/Lithology Description** will be redrawn at its new location.
6. **Click outside** of the highlighted text field to close the toolbars.

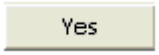
Deleting Annotations/Lithology Descriptions…

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Click** in **annotation field box outline** to highlight the field and activate the RTF Toolbars.
3. **Right Click** anywhere **within the Annotation field** that is highlighted to activate the pop-up menu.



4. **Click** on **Delete selection** and you will receive the following system message.

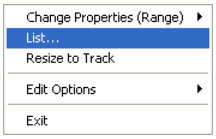


5. **Click** on  **button** and the selected Annotation/Lithology Description will be deleted accordingly.

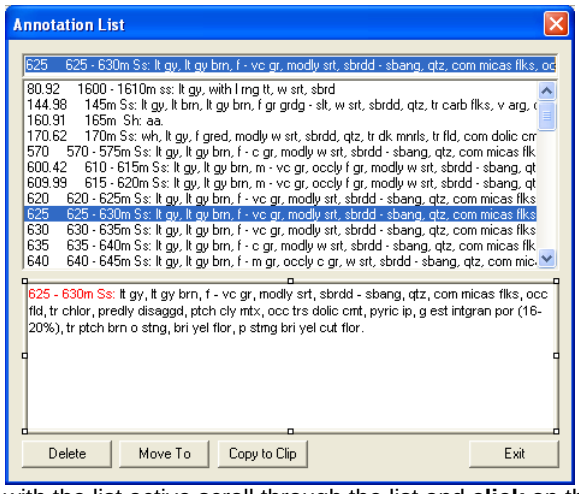
6. **Click outside** of the highlighted text field to close the toolbars.

Using the List functionality to copy, move to and delete annotations.

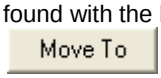
1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.

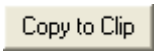


3. **Click** on the **List Selection**. This will activate a List box shown below.

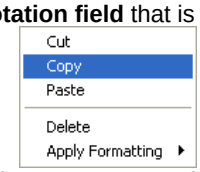


4. To **delete** an Annotation with the list active scroll through the list and **click** on the **annotation** you wan to delete. **Click** on the 

button. This will delete the annotation.
5. To **Move to** a depth where an Annotation can be found with the list active scroll through the list and **click** on the **annotation** you wan to move to. **Click** on the 

button. This will move you to see the annotation on the log.
6. To **Copy** an Annotation with the list active scroll through the list and **click** on the **annotation** you wan to move to. **Click** on the 

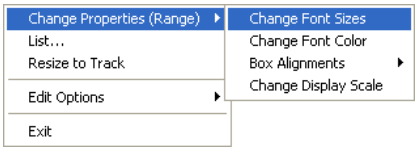
button.
7. **Define an area or box outline** by **clicking and dragging** the **left** mouse button from the upper left corner to the lower right corner of the desired area to form a rectangular shape and then releasing the **left** mouse button on an **Annotation** layer to activate the RTF Font and RTF Lines and Boxes.
7. **Click** once more **in the drawn area** and you will get a flashing cursor.
8. **Right Click** anywhere **within the Annotation field** that is highlighted to activate the pop-up menu.

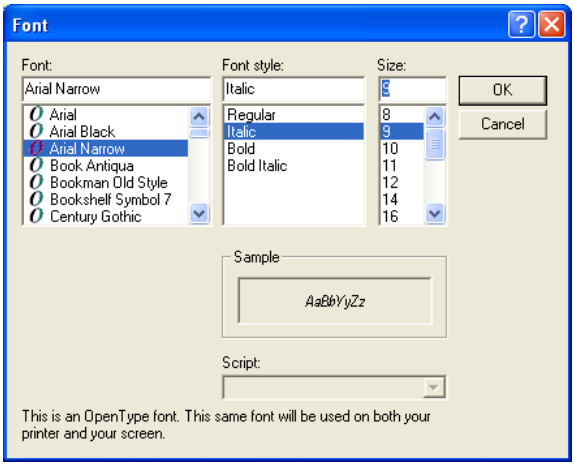


8. Click on the Copy Selection and you will see your annotation refreshed from what was copied to the clipboard in step 6.

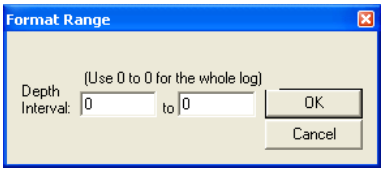
Globally Change the Annotation Font Properties.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.





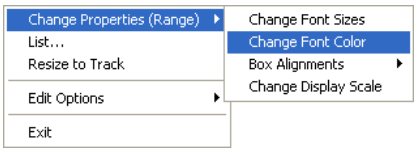
3. **Click** on the **Change Properties (Range)** selection and this will activate another pop out menu.
4. **Click** on the **Change Font Sizes selection** to activate the Font Window shown above.
5. **Select** the **appropriate Font, Font Style and Size** from their **drop boxes**.
6. **Click** on the OK **button**. This will activate the Format range window.



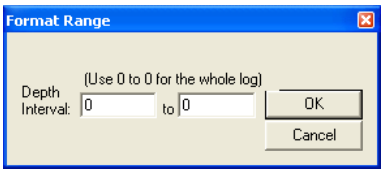
7. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.
8. **Click** on the OK **Button**. This will change the annotations over the interval specified in the range window for that annotation layer.

Globally Change the Annotation Font Color.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.



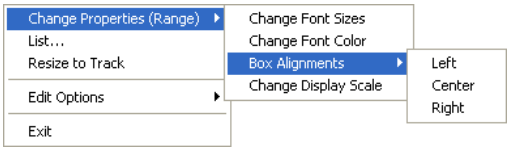
3. **Click** on the **Change Properties (Range)** selection and this will activate another pop out menu.
4. **Click** on the **Change Font Color selection** to activate the Color Window shown above.
5. **Select** the **Color** from the Color palette or define a custom color.
6. **Click** on the OK **button**. This will activate the Format range window.



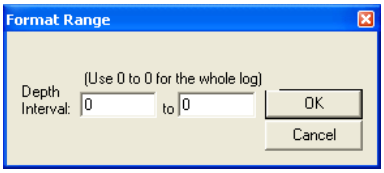
7. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.
8. **Click** on the OK **Button**. This will change the annotations over the interval specified in the range window for that annotation layer.

Globally Change the Annotation Box Alignments.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.



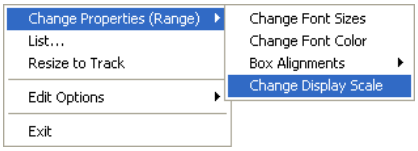
3. **Click** on the **Change Properties (Range)** selection and this will activate another pop out menu.
4. **Click** on the **Box Alignments selection** to activate another pop out menu.
5. **Select** either **left Center or** Right from the pop out menu. This will activate the Format range window.



6. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.
7. **Click** on the OK **Button**. This will change the annotations over the interval specified in the range window for that annotation layer.

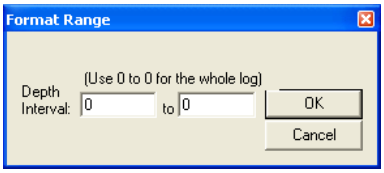
Globally Change the Annotation Display Scale.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.



3. **Click** on the **Change Properties (Range)** selection and this will activate another pop out menu.
4. **Click** on the **Change Display Scale selection** to activate the Select Scale Window.

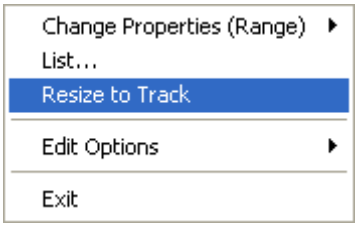
5. **Choose** the **appropriate scale** from the **drop box.**
6. **Click** on the OK **button**. This will activate the Format range window.



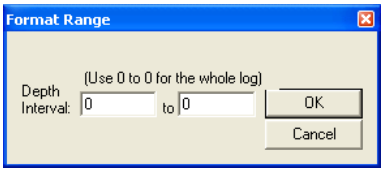
7. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.
8. **Click** on the OK **Button**. This will change the annotations over the interval specified in the range window for that annotation layer.

Globally Change the Box placements to fit in the Track width.

1. Make a Lithology Description or Annotation layer active by **clicking** on the **track** that has an Annotation layer on it and then **selecting** that annotation layer you want to work with from the **Layer Section list** on the **Selection Toolbar**.
2. **Right Click** anywhere within the track borders (not inside an active annotation) to activate the pop out menu shown below.



3. **Click** on the **Resize to track selection**. This will activate the Format range window.



4. Enter specific values into the **Interval** (From) and **Interval** (To) fields, if you are changing the font size for a specific interval of **Annotations**. Otherwise, leave the **Interval** (From) and **Interval** (To) fields defaulted to the numeral zero (0) for every **Annotation** on the log.
5. **Click** on the OK **Button**. This will change the annotations over the interval specified in the range window for that annotation layer.

Carbonate Texture Layer

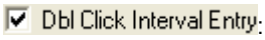
This layer gives the user the ability to add, delete, or change Entire Intervals and/or Sub-intervals of Carbonate Textures for any given Interpreted Lithology (Rock) Interval.

Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.
Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

Snap to Closest Lithology 

: When checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.

Double Click Interval Entry 

: When checked will allow the user to enter a Carbonate Texture over an entire interval with a double click on the left mouse button.

Soft Edges 

: When checked will round off the Carbonate Textures and will present the Carbonate Texture edges with sine wave lines instead of strain lines.

Carbonate Texture No Pattern Hard edges

Carbonate Texture Pattern Soft edges

Note: If the Grain Size track contains two headings that overlap, **click** on **Layer Configuration** under the **Options** menu selection and **uncheck** the

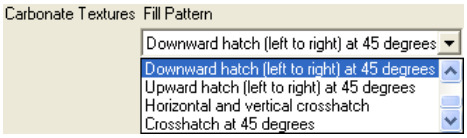
check box . Then **click** on the 

button.

How to Change the Carbonate Texture Pattern from a Solid Color to a Hatching Pattern on your log.

This can only be represented with the Lithology Profile deactivated 

in the System Options Display Tab dialogue window. This will also change all the carbonate texture and matrix layers on all logs.

1. **Click** on **System Options selection** under the **Options** menu selection. This will activate the System Options tab dialogue window.
2. **Click** on the **Display Tab**
3. Then **select** the **Carbonate Texture pattern** 

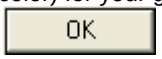
from the **Fill pattern** list drop box.
4. Select the Foreground Color (Line Color) from the 

selector 

button.
5. **Click** on the 

button after you have changed your selection.
6. You may also have to change the background color of the Carbonate Texture as well. To do this **click** on the **Carbonate Texture layer**.

7. **Click** on the **Layer configuration** selection under the **Edit** pull down menu. This will activate the Layer configuration tab dialogue window.
8. **Click** on the 

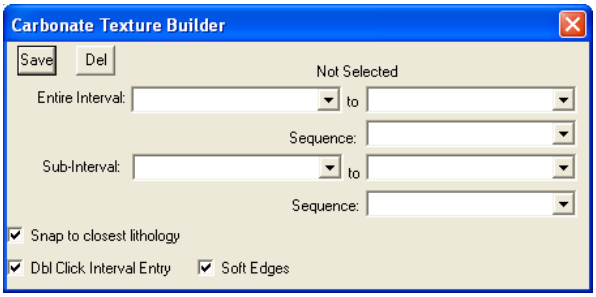
drop box and **select** (in this case a background color) for your grain size**.**
9. **Click** on the 

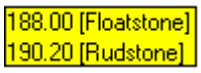
button.

Adding an Entire Interval

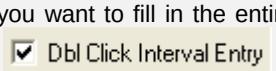
Note: All description categories, such as **Carbonate Texture**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Carbonate Texture**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Carbonate Texture** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Builder** window.



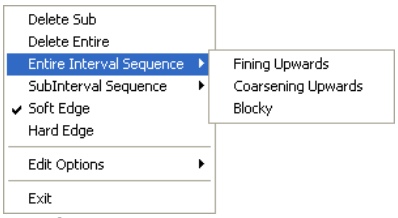
2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Carbonate Texture**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Carbonate Texture**, e.g. **188.00 [floatstone]** to **190.20 [rudstone]**, on the **Carbonate Texture** track. 

3. **Release** the mouse button and the entire **Carbonate Texture** interval will be drawn accordingly.

Note: If you want to fill in the entire interval with only one Carbonate Texture and not a range of textures and you have the 

selected in the builder simply double click in the interval the carbonate texture you wish to enter and it will fill in the entire interval with your selection.

4. If you wish to see a different type of sequence and the user has previously dragged the entire interval, **right click within the interval** to be changed and **select** the **Entire Interval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.



5. Repeat **Steps 2** - **4** to add more **Carbonate Textures**.
6. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Note: If you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

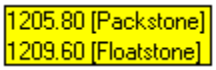
Deleting an Entire Interval

1. **Double click** on the **Carbonate Texture** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Builder** window.
2. On the **Carbonate Texture** layer, **right click** anywhere within the interval that you wish to delete to activate the pop-up menu.

3. **Click** on **Delete Entire** and the **Carbonate Texture** will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

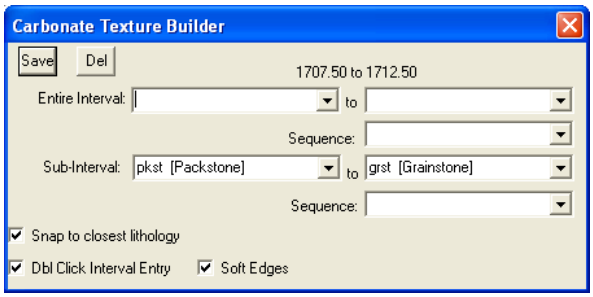
Adding a Sub-Interval

1. **Double click** on the **Carbonate Texture** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Builder** window.
2. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Carbonate Texture**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Carbonate Texture** within an entire **Carbonate Texture** interval.

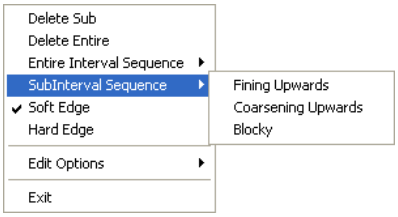


Note: You can drag the pointer to the left or right of the **Grain Size** track to more accurately describe your grain size range.

3. **Release the mouse button** and the **Carbonate Texture** sub-interval will be drawn.



4. If you wish to see a different type of sequence and the user has previously dragged a subinterval, **right click within the subinterval** to be changed and **select** the **SubInterval Sequence** selection and select one of the appropriate selections. The grain size appearance will be redrawn to reflect the newly selected criteria.



5. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Deleting a Sub-Interval

1. **Double click** on the **Carbonate Texture** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Builder** window.
2. On the **Carbonate Texture** layer, **right click** anywhere within the sub-interval that you wish to delete to activate the pop-up menu.

3. **Click** on **Delete Sub** and the **Carbonate Texture** sub-interval will be deleted accordingly.
4. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification, so the system knows what default settings to use when adding the layer to the log. The Layer Configuration window shows the default settings for the **Carbonate Texture** layer.

1. **Select** the left and right carbonate texture scales from the Carbonate Texture Scale drop boxes.
2. **Click** on the Save **button** and **select** Yes from the **System Message** window to exit the Layer Configuration window.

Carbonate Texture Matrix Layer

This layer allows the user to log two carbonate textures (bimodal carbonate texture) at the same depth. The layer gives the user the ability to add, delete, or change Entire Intervals and/or Sub-intervals of Carbonate Textures for any given Interpreted Lithology (Rock) Interval.
Definitions of an Entire Interval and a Sub-interval will help you to visualize how the system handles data on an interval basis.

Entire Interval: An entire interval is one that is pertinent to an entire rock unit or bed. An entire interval cannot be added until a bed exists.

Sub-interval: A sub-interval can be of any thickness (less than the entire rock unit or bed) and can rest within an entire interval or can stand alone as a sub-interval without being part of an entire interval. You can have as many sub-intervals as you wish. If you enter a sub-interval equal to the rock unit or bed, the sub-interval will become an entire interval.

Snap to Closest Lithology ☑ Snap to closest lithology**:** When checked allows the user to find the top or bottom of an interval easily with the mouse pointer as you have to be within 10 times the mouse pointer or screen accuracy of the interval to catch the top or bottom with a drag.

Double Click Interval Entry ☑ Dbl Click Interval Entry: When checked will allow the user to enter a Carbonate Texture over an entire interval with a double click on the left mouse button.

Soft Edges ☑ Soft Edges: When checked will round off the Carbonate Textures and will present the Carbonate Texture edges with sine wave lines instead of strain lines.

Carbonate Texture No Pattern Hard edges

Carbonate Texture Pattern Soft edges

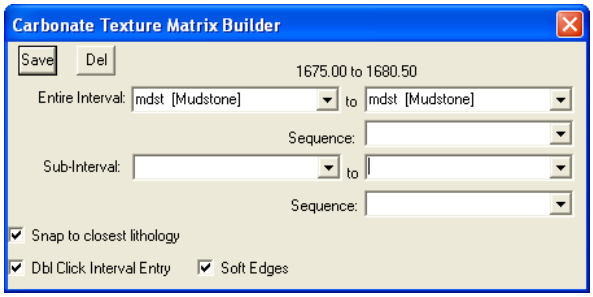
If the user has the Carbonate Texture Matrix layer added to the Carbonate Texture track, the user should verify that the Lithology Profile check box is not activated. **Click** on **System Options (Display Tab)**, under the **Options** menu selection, and then **uncheck** the Lithology Profile check box. Then **click** on the Save **button**.

Note: If the Carbonate Texture track contains two headings that overlap, **click** on the **Edit** pull down menu, **select Layer Configuration** and **uncheck** the Display Layer Name or Curve Scale on Track. Then **click** on the Save **button**.

Adding an Entire Interval

Note: All description categories, such as **Carbonate Texture Matrix**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add an entire interval or sub-interval of **Carbonate Texture Matrix**, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

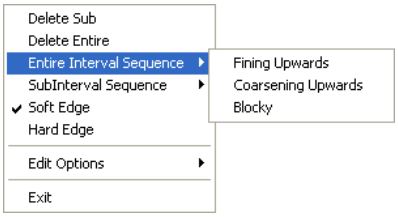
1. Make the **Carbonate Texture Matrix** layer active within the **Carbonate Texture** track by clicking on the track and then selecting the **Grain Size Matrix** layer from the **Layer Selection List** field
2. **Double click** on the **Carbonate Texture Matrix** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Matrix Builder** window.



3. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Carbonate Texture**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Carbonate Texture**, e.g. **1204.00 [floatstone]** to **1209.60 [rudstone]**, on the **Carbonate Texture** track. 1204.00 [Floatstone] 1209.60 [Rudstone]
4. **Release** the mouse button and the entire **Carbonate Texture Matrix** interval will be drawn accordingly.

Note: If you want to fill in the entire interval with only one Carbonate Texture and not a range of textures and you have the Dbl Click Interval Entry selected in the builder simply double click in the interval the carbonate texture you wish to enter and it will fill in the entire interval with your selection.

5. If you wish to see a different type of sequence and the user has previously dragged the entire interval, **right click within the interval** to be changed and **select** the **Entire Interval Sequence** selection and select one of the appropriate selections. The carbonate texture matrix appearance will be redrawn to reflect the newly selected criteria.



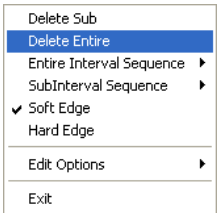
6. Repeat **Steps 2** - **4** to add more **Carbonate Texture Matrixes**.

Note: The intervals that belong to the active layer are purple. The non active layers data are black, e.g. the intervals within the Carbonate Texture Matrix layer are purple while the intervals within the Carbonate Texture layer are black. Also, if you have already added a sub-interval and are now adding an entire interval, the sub-interval will now take priority.

7. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Deleting an Entire Interval

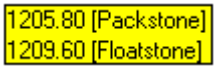
1. Make the **Carbonate Texture Matrix** layer active within the **Carbonate Texture** track by clicking on the track and then selecting the **Carbonate Texture Matrix** layer from the **Layer Selection List** field
2. **Double click** on the **Carbonate Texture Matrix** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Matrix Builder** window.
3. On the **Carbonate Texture Matrix** layer, **right click** anywhere <u>within</u> the interval that you wish to delete to activate the pop-up menu.



4. **Click** on **Delete Entire** and the **Carbonate Texture Matrix** will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Matrix Builder** window.

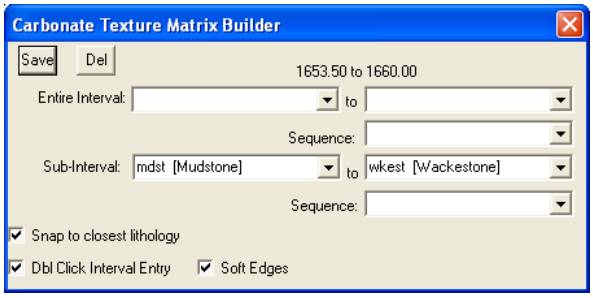
Adding a Sub-Interval

1. Make the **Carbonate Texture Matrix** layer active within the **Carbonate Texture** track by clicking on the track and then selecting the **Carbonate Texture Matrix** layer from the **Layer Selection List** field
2. **Double click** on the **Carbonate Texture Matrix** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Matrix Builder** window.
3. **Click and drag** the mouse pointer from a specific **Measured Depth** and **Carbonate Texture**, as indicated within the mouse pointer display box, to another **Measured Depth** and **Carbonate Texture** within an entire **Carbonate Texture Matrix** interval.

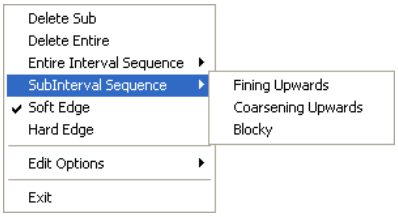


<u>Note</u>: You can drag the pointer to the left or right of the **Carbonate Texture** track to more accurately describe your carbonate texture range.

4. **Release the mouse button** and the **Carbonate Texture Matrix** sub-interval will be drawn.



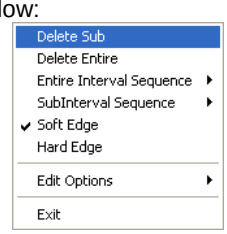
5. If you wish to see a different type of sequence and the user has previously dragged a subinterval, **right click within the subinterval** to be changed and **select** the **Subinterval Sequence** selection and select one of the appropriate selections. The carbonate texture appearance will be redrawn to reflect the newly selected criteria.



6. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Builder** window.

Deleting a Sub-Interval

1. Make the **Carbonate Texture Matrix** layer active within the **Carbonate Texture** track by clicking on the track and then selecting the **Carbonate Texture Matrix** layer from the **Layer Selection List** field.
2. **Double click** on the **Carbonate Texture Matrix** layer to expand the **Carbonate Texture** track and to activate the **Carbonate Texture Matrix Builder** window.
3. On the **Carbonate Texture Matrix** layer, **right click** anywhere within the sub-interval that you wish to delete to activate the pop-up menu shown below:

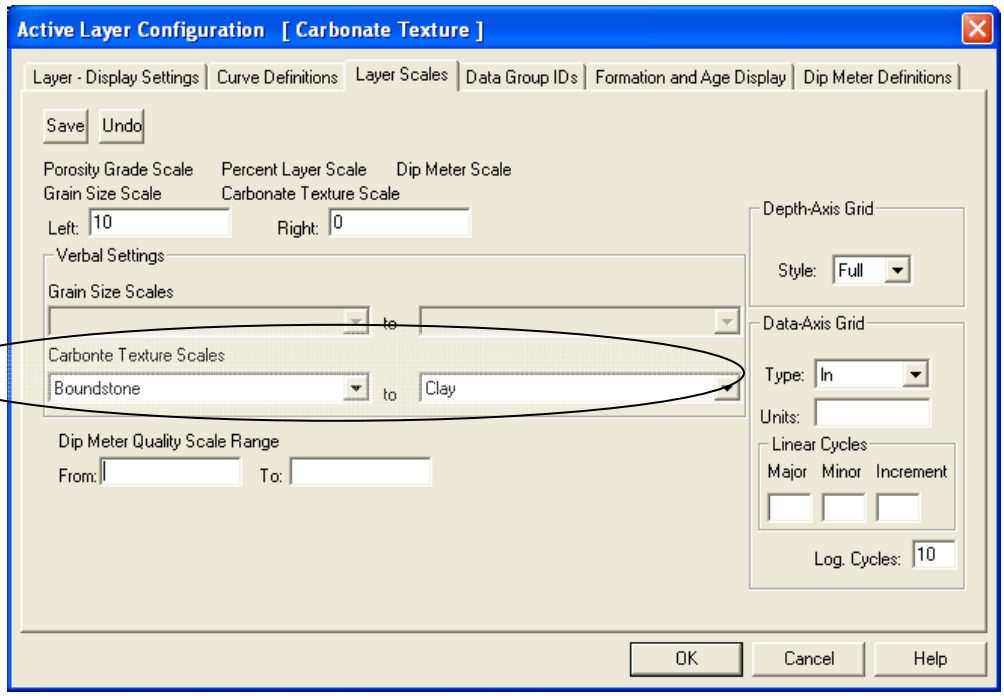


4. **Click** on **Delete Sub** and the **Carbonate Texture Matrix** sub-interval will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Carbonate Texture Matrix Builder** window.

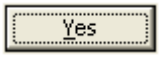
How to Change the Carbonate Texture or Carbonate Texture Matrix Scales

Carbonate Texture scales can be changed through the **Layer Configuration** window.

1. **Click** on the  **Layer Configuration button** on the **Toolbar**, when the **Carbonate Texture or Carbonate Texture Matrix** layer is active. This will activate the **Layer Configuration** window tab dialogue window
2. **Click** on the **Layer Scales** tab shown below.



Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification, so the system knows what default settings to use when adding the layer to the log. The Layer Configuration window shows the default settings for the **Carbonate Texture** layer.

3. **Select** the left and right carbonate texture scales from the Carbonate Texture Scale drop boxes.
4. **Click** on the  **button** and **select**  from the **System Message** window to exit the Layer Configuration window.

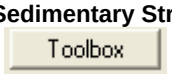
Sedimentary Structures Layer

This layer allows you to add or delete sedimentary structures in the Power*Core application. There are two types of sedimentary structure layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.
The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter a sedimentary structure. The sedimentary structure is also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the sedimentary structure may be also resized or deleted if the sedimentary structures interval coincides with the beds resized or deleted interval.

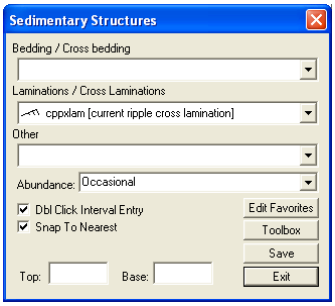
The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere within the track edges the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Sedimentary Structure

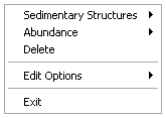
Note: All bed restricted description categories, such as **sedimentary structures (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a sedimentary structure, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Sedimentary Structure track / layer** to activate the **Sedimentary Structures Builder** window and toolbox. The toolbox can be turned on or off by clicking on the 

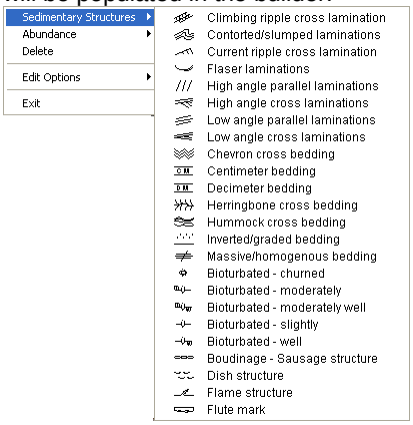
button in the builder.



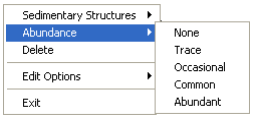
2. **Right click** anywhere on the **Sedimentary Structure** track / layer to activate the pop-up menu.



3. **Click** on the **Sedimentary Structures** favorites list to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.



4. If an abundance is required, **right click** on the existing sedimentary structure, **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The sedimentary structure interval will be drawn accordingly.
6. **Double Click** within an existing rock type interval in the Sedimentary Structure layer with the ☑ Dbl Click Interval Entry activated and the entire interval will be filled in with the attributes that have been entered into the Sedimentary Structures window.
7. **Click and drag** the mouse on the track / layer close to an existing sedimentary structure (either above or below in the same column) with the ☑ Snap To Nearest activated and there will be no spaces between the sedimentary structures. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

Note: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.
Tip: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **7** to add more sedimentary structures to the track.

Note: There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Sedimentary Structure Builder** window.

Resizing an Interval

1. **Double click** on the **Sedimentary Structure** track / layer to activate the **Sedimentary Structure Builder** window.

Mouse Pointer Method

2. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends**. If done correctly the mouse pointer will turn into a resize cursor ↕.
3. **Click and drag the mouse** to the new desired top or bottom depth. **Release the mouse button** and the interval will be resized.

Keypad Method

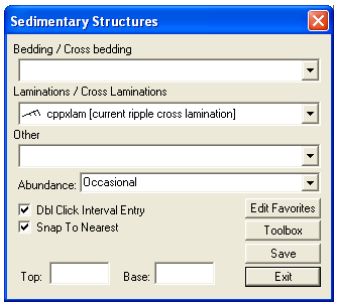
1. **Click once** on the Sedimentary Structure you want to resize to bring it into the builder and change the from or to depth and / or abundance and click on the Save button. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

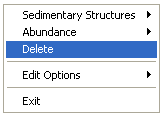
1. **Double click** on the **Sedimentary Structure** track / layer to activate the **Sedimentary Structure Builder** window.
2. **Move the mouse pointer over the interval** to be moved. **Click and drag** the interval to a new position. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Sedimentary Structure** track / layer to activate the **Sedimentary Structure Builder** window.



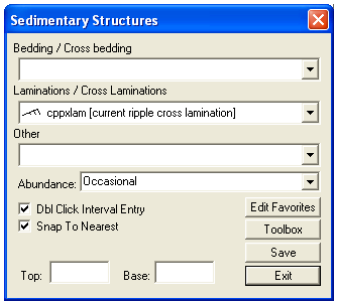
2. **Right click** anywhere within the interval you wish to delete to activate the pop-up menu.



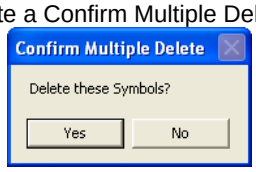
3. **Click** on **Delete** and the **Sedimentary Structure** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Sedimentary Structure** intervals from the **Sedimentary Structure** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Sedimentary Structure Builder** window.

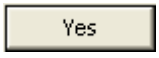
Deleting Multiple Intervals

1. **Double click** on the **Sedimentary Structure** track / layer to activate the **Sedimentary Structure Builder** window.



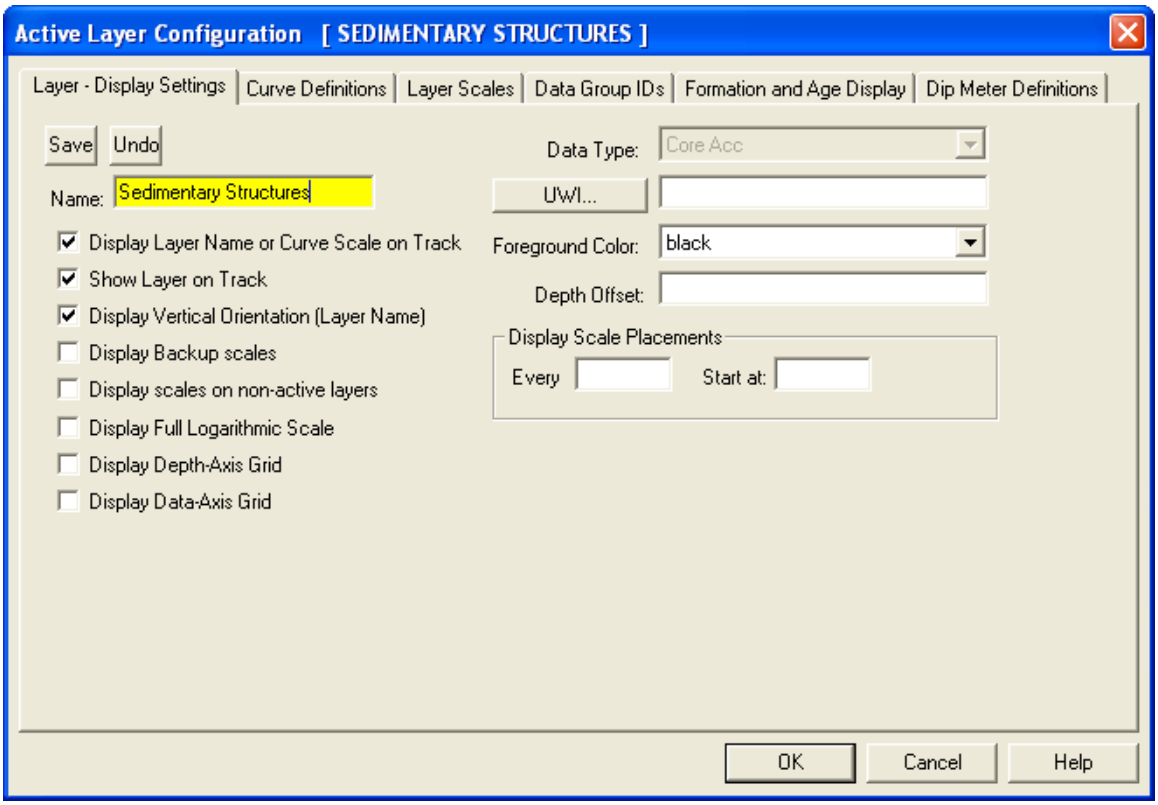
2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere within the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



4. **Click** on 

button and the **Sedimentary Structure** interval encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Sedimentary Structure Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Sedimentary Structures** layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Sedimentary Structures** layer is active.



Bioturbation Layer

This layer allows you to add or delete Degrees or intensities of Bioturbation in the Power*Core application. There are two types of Bioturbation layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.

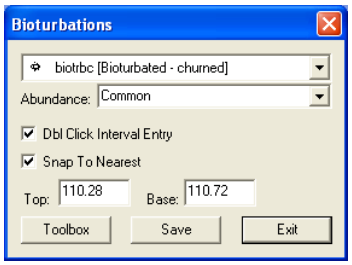
The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter a degree of **Bioturbation**. The Degrees of Bioturbation are also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the Degree of Bioturbation may be also resized or deleted if the trace fossils interval coincides with the beds resized or deleted interval.

The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Degree of Bioturbation

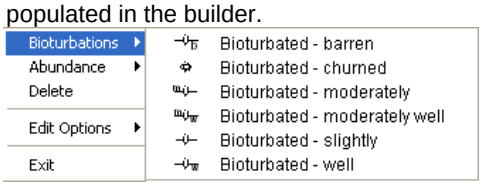
Note: All bed restricted description categories, such as Degree of Bioturbation **(BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a Degree of Bioturbation, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Bioturbation track / layer** to activate the **Bioturbations** window.

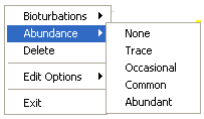


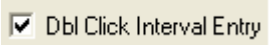
2. **Right click** anywhere on the **Bioturbation** track / layer to activate the pop-up menu.

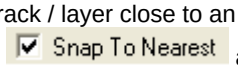
3. **Click** on the **Bioturbation** selection to activate the pop out menu and then select from the pop out list or **click in the builder drop down menu** selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.



4. **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 with the abundance that has been selected in step 4 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The bioturbation interval will be drawn accordingly.
6. **Double Click** within an existing rock type interval in the Bioturbation layer with the 

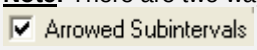
activated and the entire interval will be filled in with the attributes that have been entered into the **Bioturbation** window.
7. **Click and drag** the mouse on the track / layer close to an existing Bioturbation Symbol (either above or below in the same column) with the 

activated and there will be no spaces between the

bioturbations. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

Note: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.
Tip: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under **Options**. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **5** to add more degrees of Bioturbation to the track.

Note: There are two ways how abundance can be shown. If in the System Options window you have checked 

option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Bioturbation Builder** window.

Resizing an Interval

4. **Double click** on the **Bioturbation** track / layer to activate the **Bioturbations** window.

Mouse Pointer Method

5. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends**. If done correctly the mouse pointer will turn into a resize cursor  .
6. **Click and drag the mouse** to the new desired top or bottom depth. **Release the mouse button** and the interval will be resized.

Keypad Method

2. **Click once** on the Bioturbation Symbol you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the 

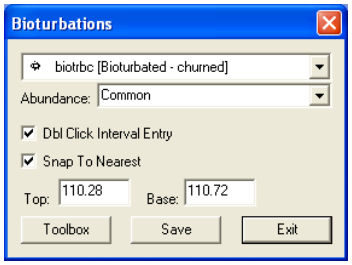
button. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

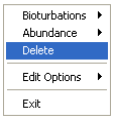
1. **Double click** on the **Bioturbation** track / layer to activate the **Bioturbations** window.
2. **Move the mouse pointer over the interval** to be moved. **Click and drag** the interval to a new position. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.

Deleting a Single Interval

1. **Double click** on the **Bioturbation** track / layer to activate the **Bioturbations** window.



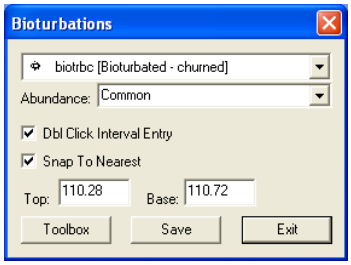
2. **Right click** anywhere within the interval you wish to delete to activate the pop-up menu.



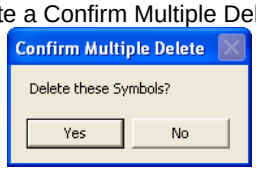
3. **Click** on **Delete** and the **Degree of Bioturbation** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Degree of Bioturbation** intervals from the **Bioturbation** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Bioturbations Builder** window.

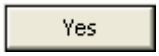
Deleting Multiple Intervals

1. **Double click** on the **Bioturbation** track / layer to activate the **Bioturbations Builder** window.



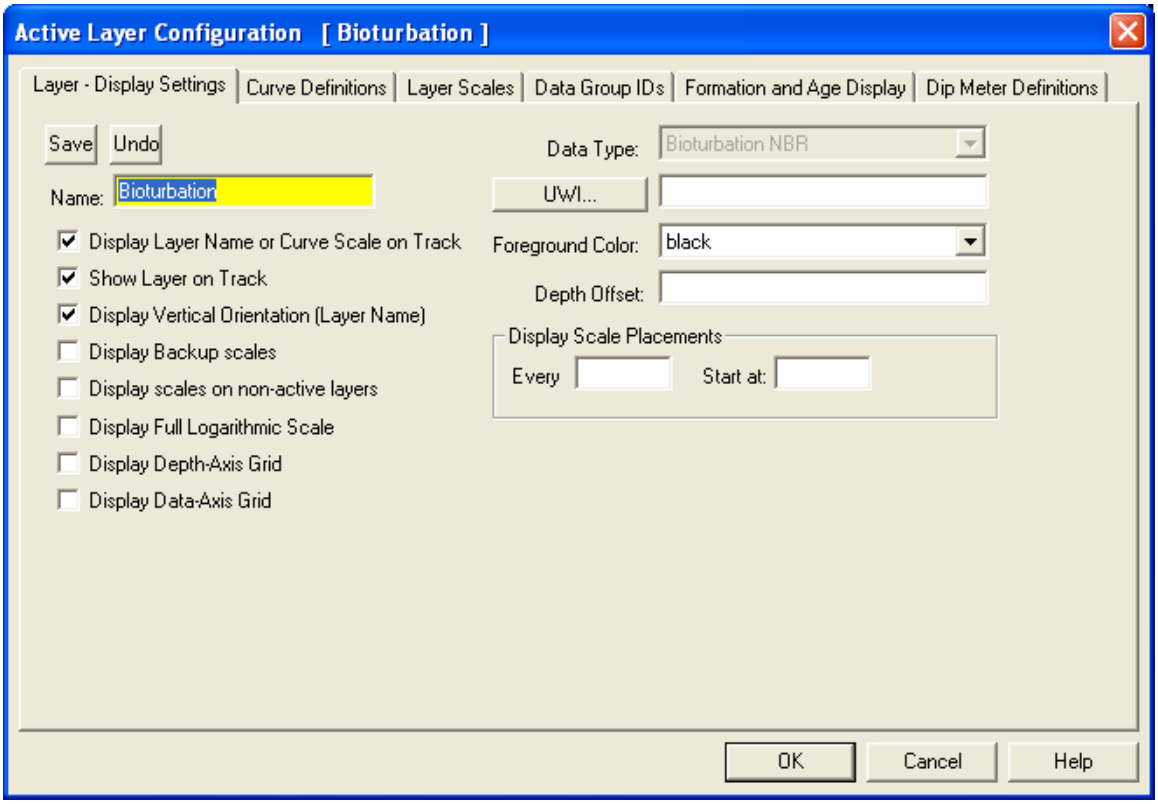
2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere within the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



4. **Click** on 

button and the **Bioturbation** interval encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Bioturbation Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Bioturbation** layer are shown below. To access this window, click on the **Layer Configuration**  **button** on the **Toolbar**, when the **Bioturbation** layer is active.



Trace Fossils Layer

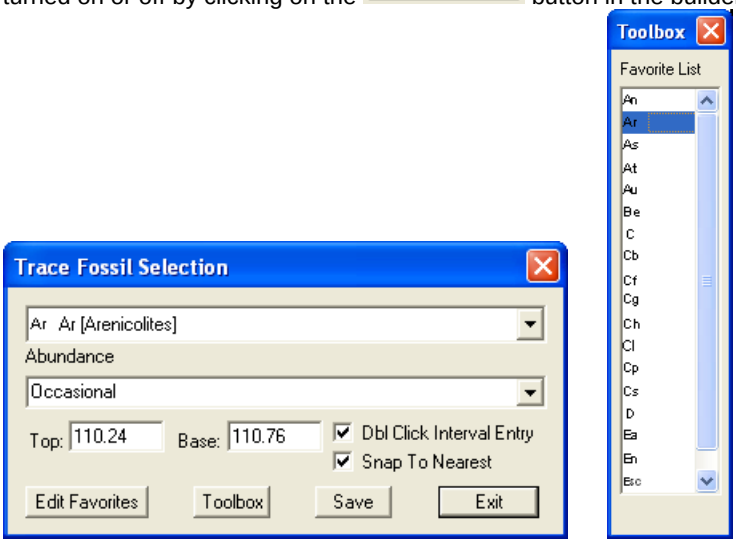
This layer allows you to add or delete trace fossils in the Power*Core application. There are two types of trace fossils layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.
The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding grain size) where you have to have a rock type in order to enter a trace fossil. The trace fossils are also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the trace fossils may be also resized or deleted if the trace fossils interval coincides with the beds resized or deleted interval.
The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Trace Fossil

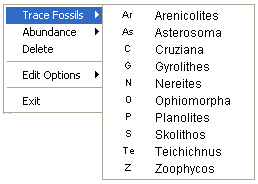
Note: All bed restricted description categories, such as **Trace Fossils (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a trace fossil, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double click** on the **Trace Fossils** track / layer to activate the **Trace Fossils Selection** window. The toolbox can be turned on or off by clicking on the 

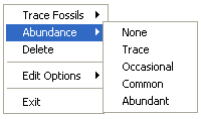
button in the builder.



2. **Right click** anywhere on the **Trace Fossils** track / layer to activate the pop-up menu.



3. **Click** on **Trace Fossils selection** to activate the pop out menu and then select from the pop out favorites list or **click in the builder drop down menu** selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.
4. **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The sedimentary structure interval will be drawn accordingly.

6. **Double Click** within an existing rock type interval in the Trace Fossil layer with the ☑ Dbl Click Interval Entry activated and the entire interval will be filled in with the attributes that have been entered into the Trace Fossil window.
7. **Click and drag** the mouse on the track / layer close to an existing trace fossil (either above or below in the same column) with the ☑ Snap To Nearest activated and there will be no spaces between the sedimentary structures. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

Note: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.
Tip: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **5** to add more trace fossils to the track.

Note: There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Trace Fossil selection** window.

Resizing an Interval

7. **Double click** on the **Trace Fossil** track / layer to activate the **Trace Fossil Builder** window.

Mouse Pointer Method

8. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends**. If done correctly the mouse pointer will turn into a resize cursor ↕.
9. **Click and drag the mouse** to the new desired top or bottom depth. **Release the mouse button** and the interval will be resized.

Keypad Method

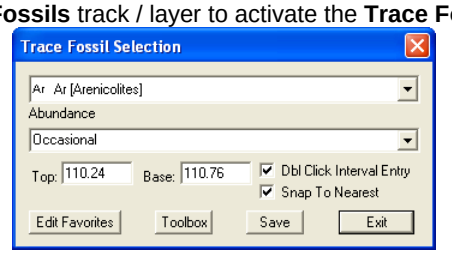
1. **Click once** on the Trace Fossil you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent

Moving an Interval

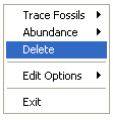
1. **Double click** on the **Trace Fossils** track / layer to activate the **Trace Fossils selection** window.
2. **Move the mouse pointer over the interval** to be moved. **Click and drag** the interval to a new position. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a Single Interval

1. **Double click** on the **Trace Fossils** track / layer to activate the **Trace Fossils Selection** window.



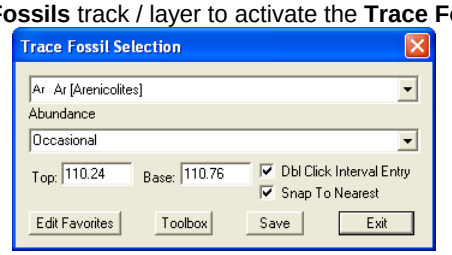
2. **Right click** anywhere within the interval you wish to delete to activate the pop-up menu.



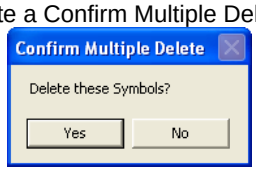
3. **Click** on **Delete** and the **Trace Fossil** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Trace Fossil** intervals from the **Trace Fossils** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Trace Fossils Builder** window

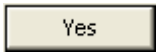
Deleting Multiple Intervals

1. **Double click** on the **Trace Fossils** track / layer to activate the **Trace Fossils Builder** window.



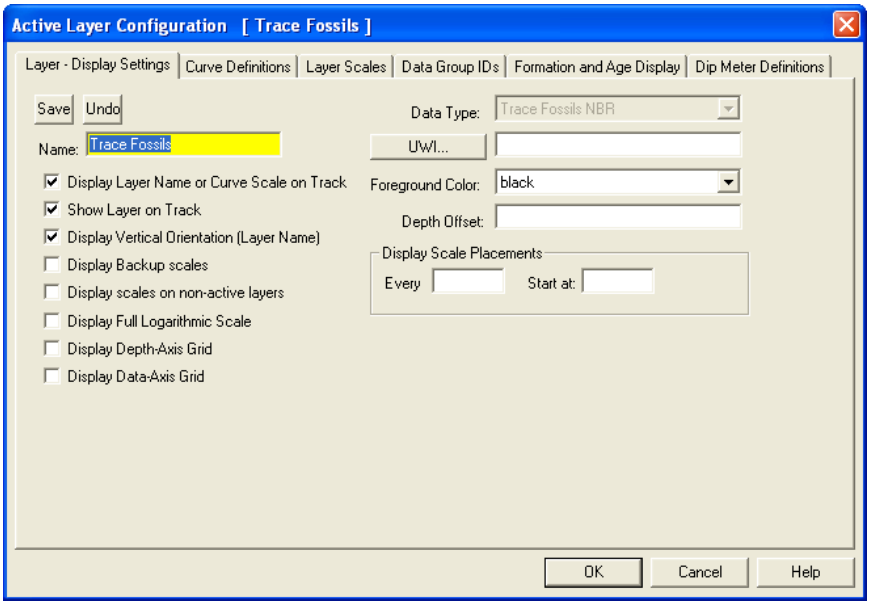
2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



4. **Click** on 

button and the **Trace Fossils** interval encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Trace Fossils Builder** window.

<u>Note</u>: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Trace Fossils** layer are shown below. To access this window, **click** on the  **Layer Configuration button** on the **Toolbar**, when the **Trace Fossils** layer is active.



Rock Accessories Layer

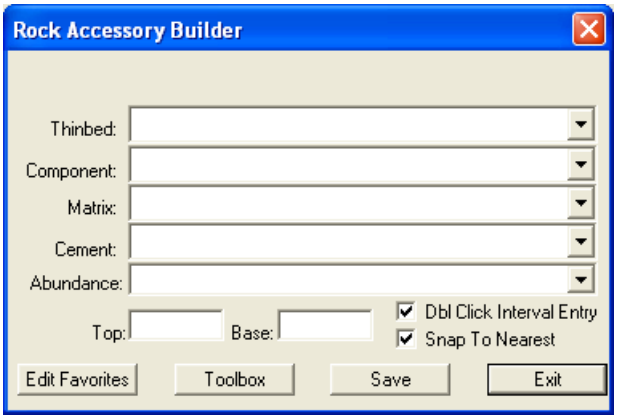
This layer allows you to add or delete rock accessories in the Power*Core application. There are two types of rock accessories layers. There is a **Bed Restricted (BR)** and a **Non-Bed Restricted (NBR)** layer types.
The **bed restricted (BR)** layer type is like a typical rock property layer (sorting, rounding, grain size) where you have to have a rock type in order to enter a rock accessory. The rock accessories are also restricted to the bed you are drawing in. Also, when the bed is resized or deleted the rock accessories may be also resized or deleted if the rock accessories interval coincides with the beds resized or deleted interval.
The **non-bed restricted (NBR)** layer type is not associated with any rock type or bed and can be entered anywhere the user wishes and will not be affected by the resizing or deleting of a bed.

Adding a Rock Accessory

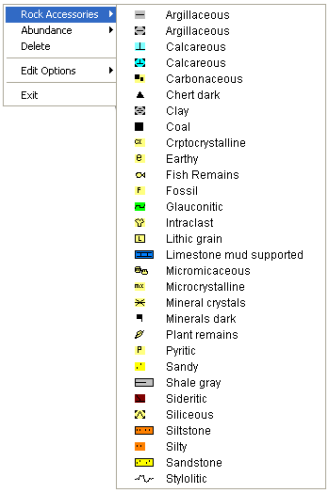
Note: All bed restricted description categories, such as **Rock Accessories (BR)**, are associated with a **Rock Type** and must have a **Rock Type** in order to be saved to the database. Therefore, you cannot add a sedimentary structure, until there is a rock unit or bed interval added to the **Interpreted Lithology Layer** for that interval.

1. **Double** click on the **Rock Accessory** track / layer to activate the **Rock Accessory Symbol window**. The toolbox can be turned on or off by clicking on the 

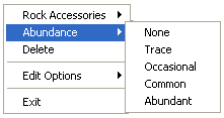
button in the builder.



2. **Right click** anywhere on the **Rock accessories** track / layer to activate the pop-up menu shown on the next page.
3. **Click** on **Rock accessories selection** to activate the pop out favorites list menu and then select from the list or **click in the builder drop down menu** selections to access the list provided in them. Either way once you have selected one it will be populated in the builder.



4. **Click** on the **Abundance** selection to activate the pop out menu and then select from the pop out list or click in the builders drop down menu selections to access the list provided in them. Either way once you have selected one, it will be populated in the builder.



5. **Click and drag** the mouse on the track / layer over the desired interval. **Or** If you just **click your mouse** on the track / layer. This will insert a subinterval of whatever was selected in step 3 and will be added to the layer / track at the depth you clicked at. The interval size is defaulted to the screen scale accuracy setting. The sedimentary structure interval will be drawn accordingly.
6. **Double Click** within an existing rock type interval in the Bioturbation layer with the ☑ Dbl Click Interval Entry activated and the entire interval will be filled in with the attributes that have been entered into the **Bioturbation** window.
7. **Click and drag** the mouse on the track / layer close to an existing Bioturbation Symbol (either above or below in the same column) with the ☑ Snap To Nearest activated and there will be no spaces between the bioturbations. **Remember** you have to be within 10 times of the mouse pointer or screen accuracy from the previous symbol to have the snap to take effect.

Note: Regardless of the thickness of the interval that you have added to the log, **at least one symbol will be drawn in the middle of the interval**.
Tip: The **frequency of symbols** (if not utilizing the arrows subintervals) at any given scale is handled in the **Systems Options** window, under the **Options** menu selection. If you have selected 1 symbol every 2m at the **1:240** scale, you will get 1 symbol every 1m at the **1:120** scale, 1 symbol every 4m at the **1:480** scale, and so on.

8. Repeat **Steps 3** - **5** to add more rock accessories to the track.

Note: There are two ways how abundance can be shown. If in the System Options window you have checked ☑ Arrowed Subintervals option, each interval will be displayed with a different line style which specifies the abundance you have selected. E.g. if occasional, an interval arrow will be displayed as a dashed line, while if abundant, an interval arrow will be displayed as a thick solid line. Otherwise, all symbols within an interval will be displayed in the certain color which specifies the abundance you have selected. E.g. if occasional, symbols will be blue, on the other hand if abundant, symbols will be red.

9. Press the **Esc** key on the keyboard to exit from the **Rock Accessory Symbol** window.

Resizing an Interval

1. **Double click** on the **Rock Accessory** track / layer to activate the **Rock Accessory** window.

Mouse Pointer Method

2. **Press** the **Ctrl key down** on the keypad and **move the mouse pointer over the interval ends**. If done correctly the mouse pointer will turn into a resize cursor ↕.
3. **Click and drag the mouse** to the new desired top or bottom depth. **Release the mouse button** and the interval will be resized.

Keypad Method

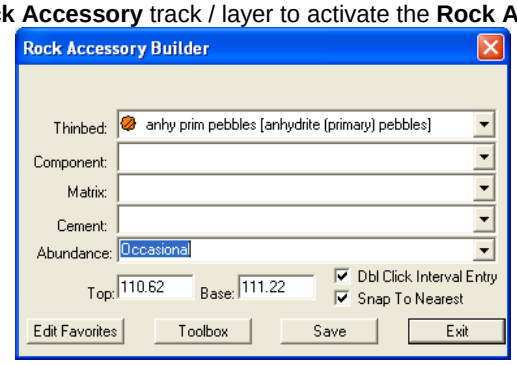
3. **Click once** on the Rock Accessory Symbol you want to resize to bring it into the builder and change the from or to depth and / or abundance and **click** on the Save **button**. Remember if it is a bed restricted layer that the top or bottom of the Lithology interval will take precedent.

Moving an Interval

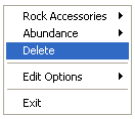
1. **Double click** on the **Rock Accessory** track / layer to activate the **Rock Accessory Symbols** window.
2. **Move the mouse pointer over the interval** to be moved. **Click and drag** the interval to a new position. (The bed-restricted interval will not be allowed to move outside the interval of the lithology it is associated with.)

Deleting a single Interval

1. **Double click** on the **Rock Accessory** track / layer to activate the **Rock Accessory Symbols** window.



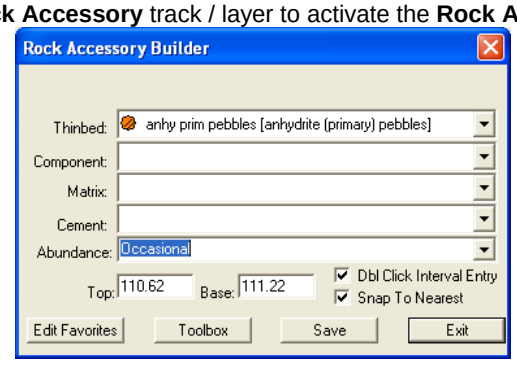
2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.



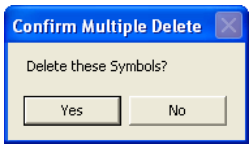
3. **Click** on **Delete** and the **Rock Accessory** interval will be deleted accordingly.
4. Repeat **Steps 2** and **3** to delete more **Rock Accessory** intervals from the **Rock accessories** track / layer.
5. Press the **Esc** key on the keyboard to exit from the **Rock Accessory Symbol** window.

Deleting Multiple Intervals

1. **Double click** on the **Rock Accessory** track / layer to activate the **Rock Accessory Builder** window.

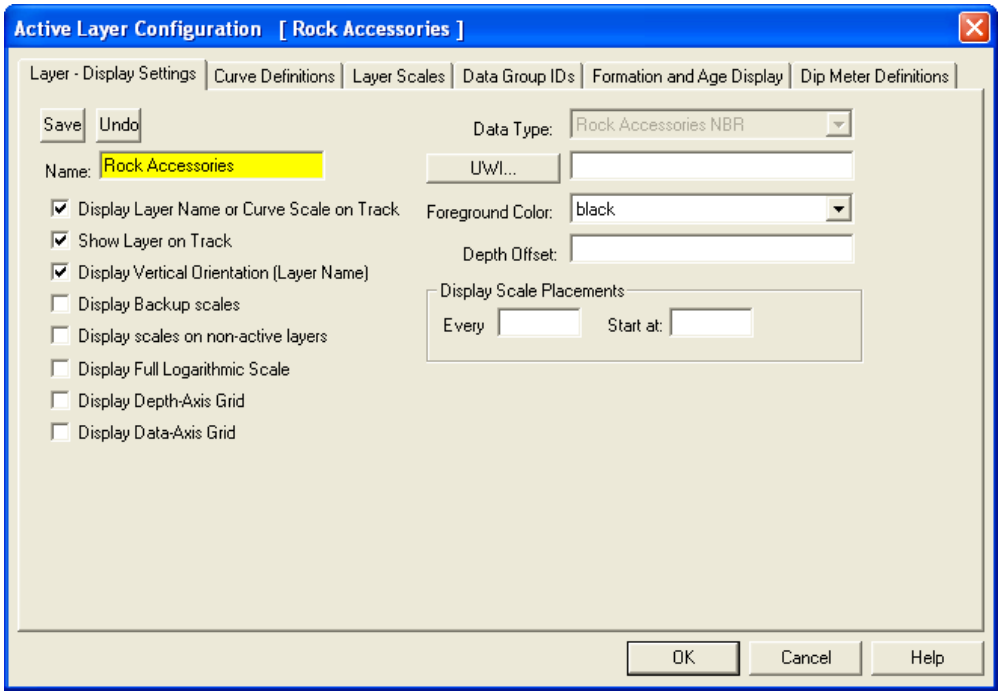


2. **Press and Hold the SHIFT Key** and then **click and drag an area** anywhere <u>within</u> the intervals you wish to delete.
3. **Release the mouse button** to activate a Confirm Multiple Delete message.



4. **Click** on Yes **button** and the **Rock Accessory** interval encompassed with your drag will be deleted accordingly.
5. Press the **Esc** key on the keyboard to exit from the **Trace Fossils Builder** window.

Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Rock accessories** layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Rock Accessories** layer is active.



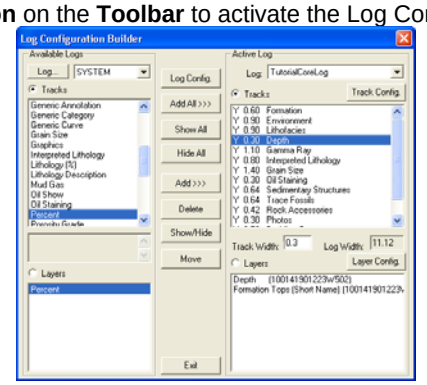
Percent Layer

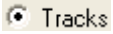
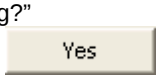
Adding a Percent Track / Layer

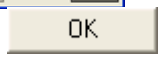
Percent can be added either as a track or a layer to your log. When you add a Percent as a layer to your log, you must assign it to a specific track.

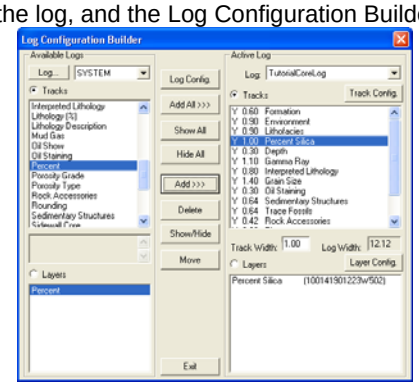
Adding a Percent Track

1. **Click** on **Log Configuration Builder** under the **Options** menu selection or **click** on the  **Log Configuration Builder button** on the **Toolbar** to activate the Log Configuration Builder window:



2. On the left hand side of the Log configuration window scroll down the list of tracks and **click** on the **Percent** track. The track will become highlighted and the **Tracks** radio button  will become activated.
3. On the right hand side of the Log configuration window **click** on the **Depth Track**. In this example we will be adding the Percent track to the left of the Depth track or above the Depth track in the horizontal application. The track will become highlighted and the **Tracks** radio button  will become activated.
4. In the middle of the Log configuration window **click** on the  **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"
5. **Click** on the  **button.** This will activate a **Get Name** window allowing the user to name the track.

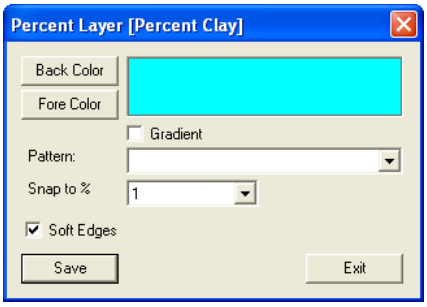
6. **Type in** a percent name and then **click** on the  **button.** The track will be added above the **Depth** Track or to the left on the log, and the Log Configuration Builder window will be shown.



7. **Click** on the  **button**. This will activate the **Log**, and the new track will be added to your log.

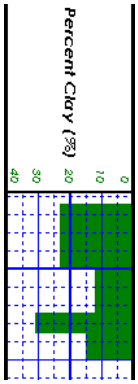
Drawing Percents

1. **Double click** on the **Percent track** to activate the Percent Layer window.

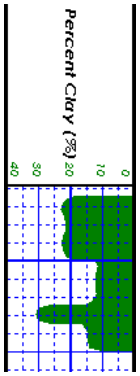


The default is a black histogram. The user has the ability to modify this.

2. **Click** on the Back Color **button** and **select a color** from the palette and then **click** on the OK **button**.
3. **Click** on the Fore Color **button** and **select a color** from the palette and then **click** on the OK **button**.
4. **Click** on the **Gradient** Gradient to activate a check mark if you want the gradient option.
5. **Click** on the **Pattern** field box arrow to select a specific pattern type.
6. **Click** on the **Snap to** field box arrow in the **Fills for Environment** window and select any of the percents from the resulting choice list. This allows the mouse to move or less precision when dragging in a percentage.
7. **Soft Edges** Soft Edges: When checked will round off the percent and will present the percent edges with sine wave lines instead of strain lines.



Percent Hard edges

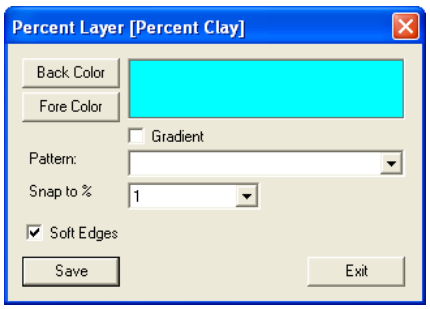


Percent Soft edges

8. **Click** on the Save **button**.
9. **Define** the desired interval by **clicking and dragging** the mouse pointer from a specific **Measured Depth** and **Percent (%)**, as indicated within the mouse pointer display box to another **Measured Depth** on the **Percent (%)** track.
10. **Release** the **mouse button** and the percent interval will be drawn accordingly.
11. **Repeat** steps **8-9** to define more intervals.
12. **Click** on the Exit **button** to exit the window.

Deleting Percents

1. **Double click** on the **Percent track** to activate the Percent Layer window.



2. **Right click on the interval** within the Percent track that you want to delete and **select Delete** from the pop out menu. The interval will be deleted. To delete all the intervals select **Delete All Data** instead.

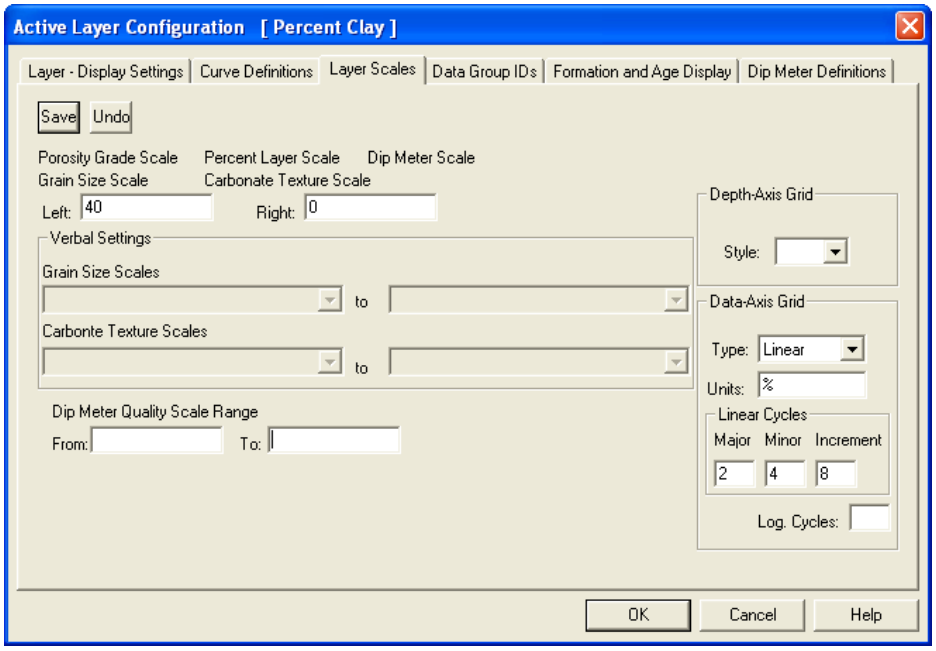
3. **Click** on the  **button** and the **Percent Layer** window will be closed.

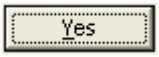
Changing the Percent Scale

Percent scale can be changed through the **Layer Configuration** window.

1. **Click** on the  **Layer Configuration button** on the **Toolbar**, when the **Percent** layer is active. This will activate the **Layer Configuration** window.

2. **Click** on the **Layer Scales Tab** to show the window shown below.



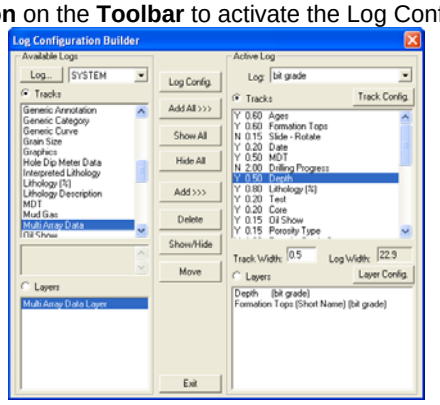
3. Notice that the default scale (when the percent was originally added to the log) was **0** to **100%** as you would see in your window. To change the original scale from **0** – **100%** to **0** – **20%**, simply adjust the **Left Scale** value to **40** by **double clicking** in the **Left Scale** field and typing in a value of **420**.
4. The user can also change the **layer grid pattern** by changing the Linear Cycles portion of the window.
5. **Click** on the  **button** and **select**  from the **System Message** window to exit the Layer Configuration window.

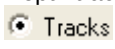
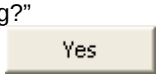
Multi Array Data Layer

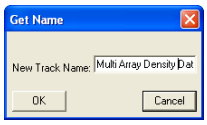
The Multi Array Data Track can be added either as a track or a layer to your log. When you add a Multi Array as a layer to your log, you must assign it to a specific track.

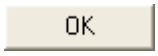
How to Add a Multi Array Track

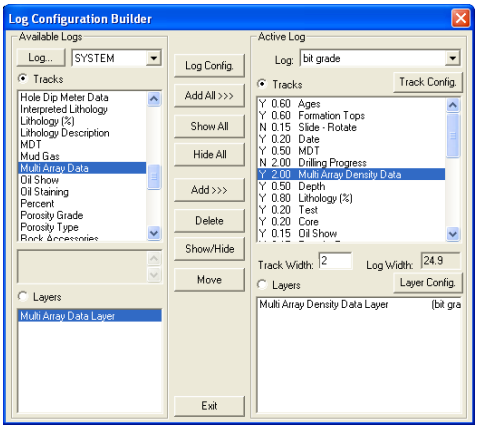
1. **Click** on **Log Configuration Builder** under the **Options** menu selection or **click** on the  **Log Configuration Builder button** on the **Toolbar** to activate the Log Configuration Builder window:



2. On the **left hand side of the Log configuration window** scroll down the list of tracks and **click** on the **Multi Array Data Layer** track. The track will become highlighted and the **Tracks** radio button  will become activated.
3. On the right hand side of the Log configuration window **click** on the Track you want it to go above or to the right of. In this example we will be adding the Multi Array track to the left of the Depth track or above the Depth track in the horizontal application. The track will become highlighted and the **Tracks** radio button  will become activated.
4. In the middle of the Log configuration window **click** on the  **button**. This will activate a System Message asking the user “Do you really want to ADD the selected (TRACK) from the available log to the active log?”
5. **Click** on the  **button.** This will activate a **Get Name** window allowing the user to name the track.



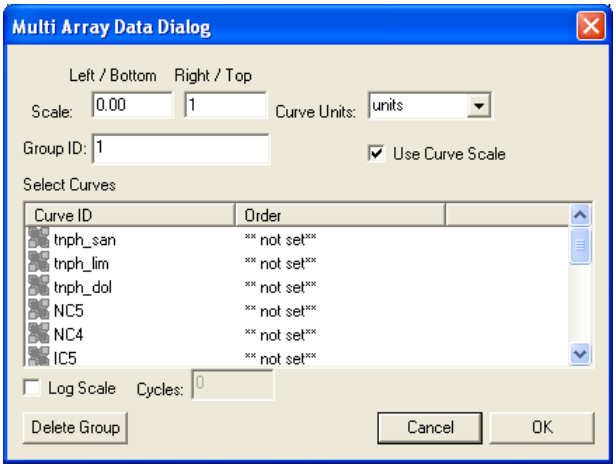
6. **Type in** a Track name (Multi Array Density Data Layer) and then **click** on the  **button.** The track will be added above the **Depth** Track or to the left on the log, and the Log Configuration Builder window will be shown.



7. **Click** on the Exit **button**. This will activate the **Log**, and the new track will be added to your log.

Setting up the Layer using the Dialogue Window

1. **Double click** on the Multi Array Data Layer to activate the Multi Array Data Dialogue window.



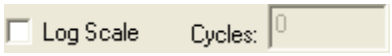
2. **Click** on the **curves** you want in this layer in the Select Curves portion of the window. (You can have as many as you like). As you highlight the curve names they indicate which channel or ordering they will be displayed on the layer.

N.B. The curve list is provided from the curves that have been added through the log builder or have been imported through the ASCII or LAS Import utilities.

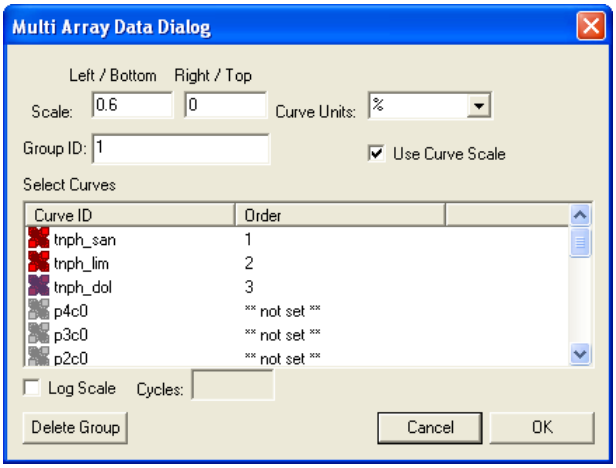
3. Type in or define or type in the left and right scales for your curve set.

4. Select or type in the curve units represented on this layer.

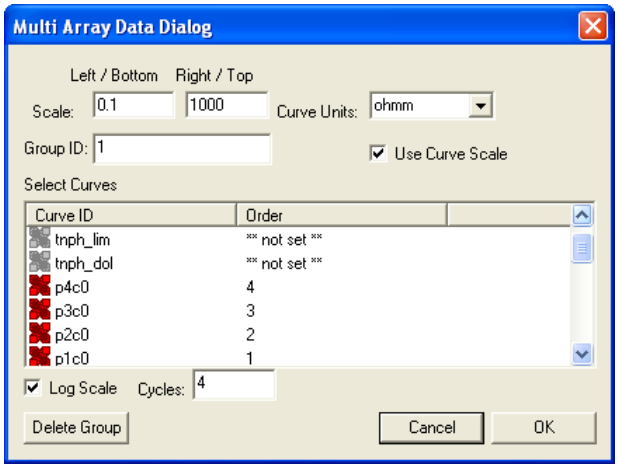
5. If the curves are logarithmic select the Log scale check box.



6. If the curves are logarithmic then the user must indicate how many log cycles you wish to display.
7. **Click** on the OK **button**.

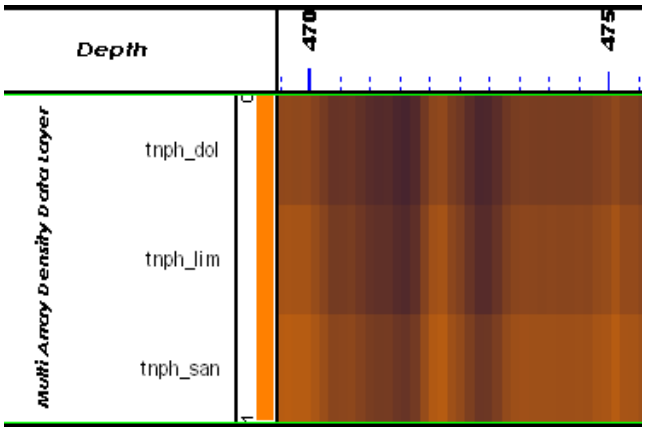


Linear Curve Data



Logarithmic Curve Data

Below is an example of the Multi Array data layer illustrating Linear Data.



Note: Every type of layer in **Power*Log, Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the Multi Array Data layer are shown below. To access this window, click on the **Layer Configuration button** on the **Toolbar**, when the **Rock Accessories** layer is active.