POWERCORE

Version 12 Metric Tutorial

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Introduction

Power*Core™ (**P**etrographical **O**ffice **W**ellsite **E**valuation and **R**eporting) is a chip and core logging management program that utilizes single-entry data capturing to produce geological striplogs. The geological data is entered into the system through the use of intuitive data entry forms to ensure standardization of data. This data is stored in an RDBMS(Relational Database Management System) to allow data manipulation using SQL access tools.

Power*Core™ software consists of four (4) main parts:

A log editor module that allows you to change the striplogs to suit your needs and preferences.
A data transfer module.
Report printing modules.
An on-line help system that is designed to familiarize you with the commands and functions available in **Power*Core™** and lead you through many of the processes involved in creating logs.

A note about navigating through Power*Core™:

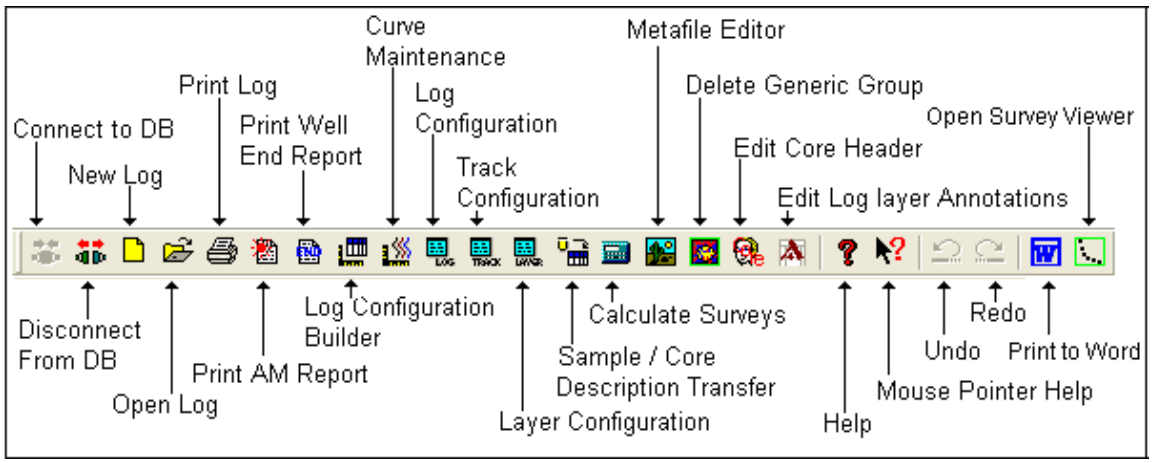
When you are entering information into data forms, you may move between boxes/fields by **pressing** the **Tab key** to go forward and **Shift +Tab keys** to move backwards. To exit forms that do not have an **Exit, OK,** or **Cancel** button, **press** the **Esc key** on the keyboard.

To access the On-line Help System in Power*Core™:

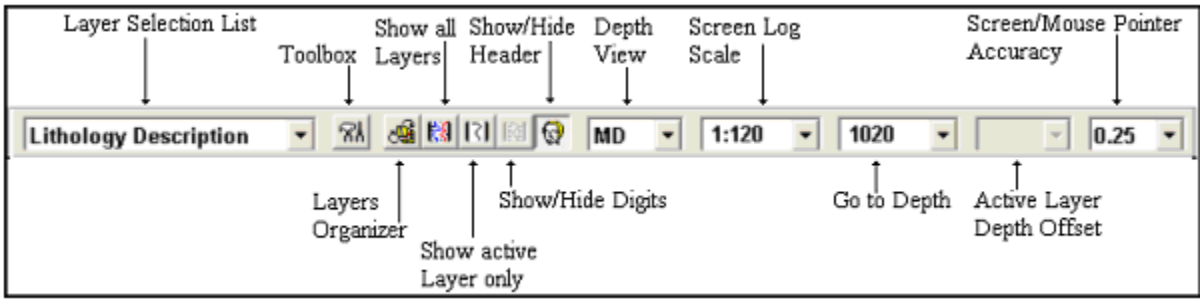
You can make use of the context sensitive help by **pressing** the **F1 key** when you are in a dialogue box. A pertinent help file will appear, opened to the topic relevant to the dialogue box you are in.

Below are some examples of common features within Power*Core™:

The Toolbar



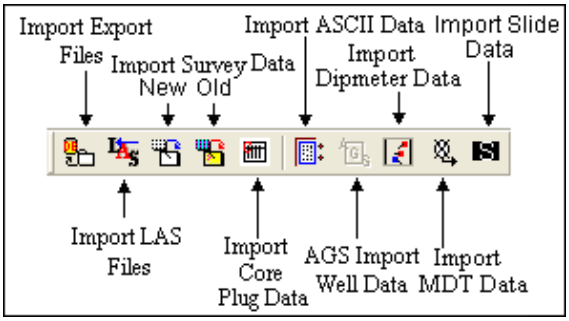
The Selection Bar…



Import Toolbar

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

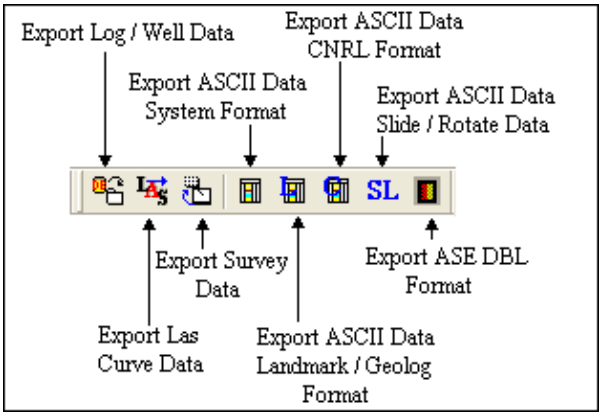
The Power*Log / Core & Curve™ Import Toolbar…



Export Toolbar

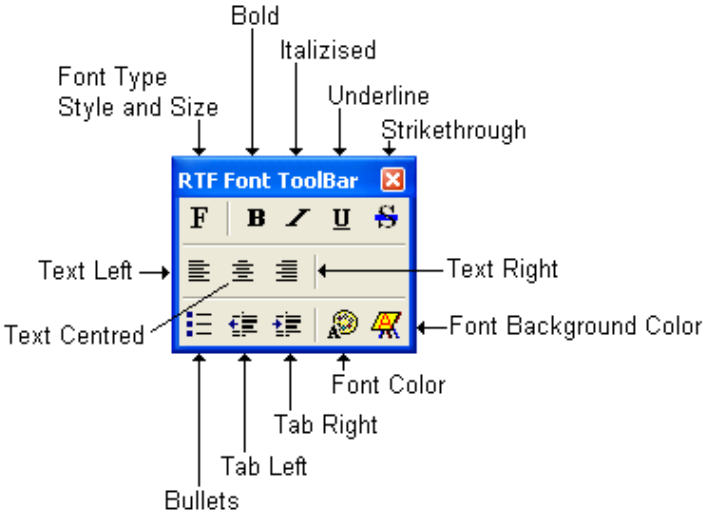
This toolbar is dock able and can be moved to different places on the screen.

The Power*Log / Core & Curve™ Export Toolbar…



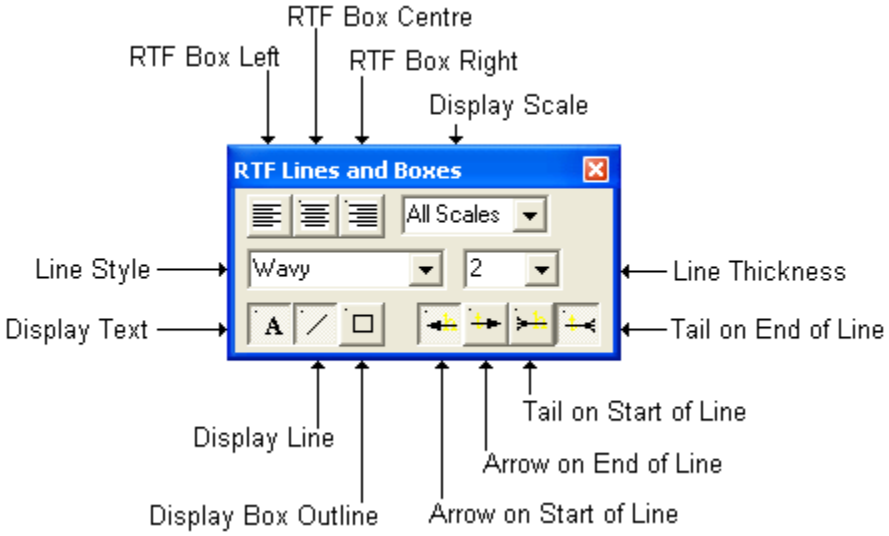
RTF Font Toolbar

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

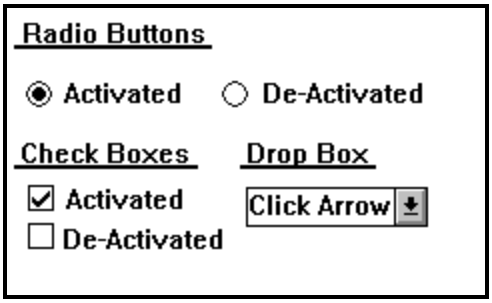
Turns the RTF Line and Boxes Toolbar on and off. This toolbar is dock able and can be moved to different places on the screen. This is used with the New RTF Annotations used on the Log.



Status Bar

Turns the Status Bar, located at the bottom of the Power*Log / Core & Curve™ screen, on and off.
This is the Power*Log / Core & Curve™ Status Bar…
The **Status Bar** displays system status and any error messages in the lower left corner of the screen. If there are no errors the status bar will indicate "For Help, press F1".

Note: The **KB Elevation** is displayed in the lower right corner of the **Status Bar**



<u>The On-line Help is divided into four(4) main categories</u>:

Commands - Descriptions of each menu command within **Power*Log™**.

Toolbar - Shortcuts to common commands are explained.

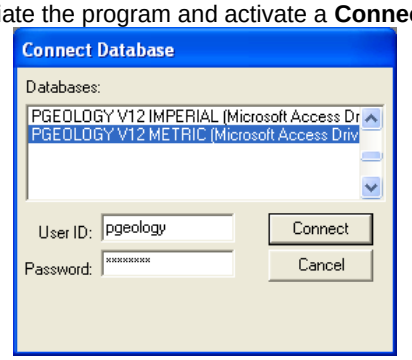
Database Table Operations - Commands/functions related to the Database Table are described.

Quick Reference Guide - The portion of the **On-line Help System**, that quickly refers you to some of the more commonly performed tasks.

This tutorial will guide you through the process of creating and editing a core log.

Connecting to the Database

1.) **Double click** on the PowerCore V12 **Icon**. Acknowledge the Security Information window by **clicking** on the OK **button**. This will initiate the program and activate a **Connect Database** window.



2.) Highlight the **PGEOLOGY V12 METRIC (Microsoft Access Driver[*.mbd]))** database.

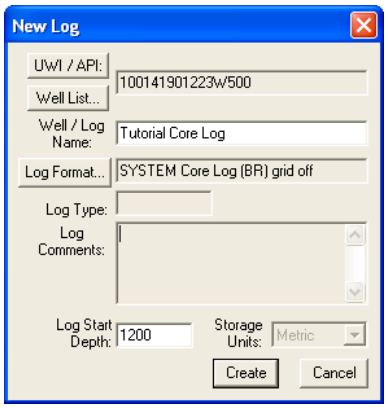
3.) Move your mouse pointer to the **User ID** field and **click**. This will activate a flashing cursor in the **User ID** field. **Type** "**pgeology"** in the **User ID** field. **Press** the **Tab key** on the keyboard to move to the **Password** field.

4.) **Type** "**pgeology"** in the **Password** field and then **click** on the Connect **button**. The program will now load various dictionaries and then activate an **Open Log** window.

Creating a New Well / Log

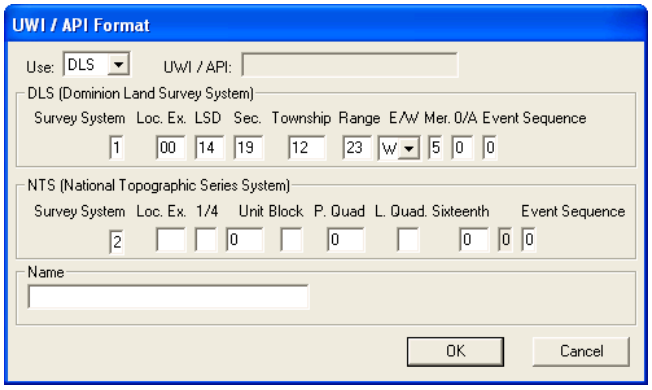
The first step in creating a new log is to **click** on the **New Log button** on the **Toolbar** or to **select New** under **File** on the **Selection Bar**. This will open the **New Log** window.

This more than likely will appear after connecting to the Database without you have to do the above procedure if this was the first time you have activated Power*Core.



1.) The **Well/Log Name** field is where you enter the name of the well (no more than 50 characters long). **Type** "**Tutorial Core Log"** into the **Well / Log Name** field.

2.) **Click** on the UWI / API: **button** to activate the **UWI / API Format** window.



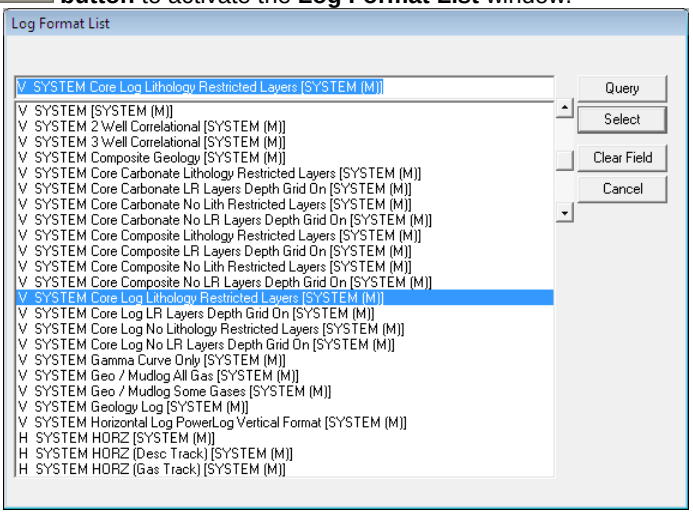
3.) You will be using the **DLS** (**Dominion Land Survey System**) format (for Alberta, Saskatchewan, Manitoba and some of BC). Enter the following information into the empty **DLS** fields and remember to **Tab** between fields.

Loc. Ex.: **00**(two zeros) LSD: **14** Sec.: **19** Township: **012** Range: **23**

E/W: **W** Mer.: **5** O/A: **0** (zero) Event Sequence: **0** (zero)

4.) **Click** on the OK **button** when you have finished entering the **UWI**. An extended **UWI** is created by **Power*Log** from the many small fields that you just filled in.

5.) **Click** on the Log Format... **button** to activate the **Log Format List** window.

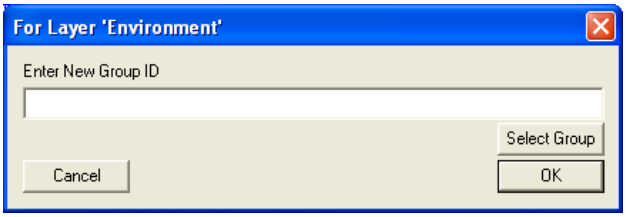


6.) **Click** on "**V SYSTEM Core Log (BR) grid off [SYSTEM (M)]"** to highlight it and then **click** on the Select **button.** You may also **double click** on "**V SYSTEM Core Log Lithology Rerstricted layers [SYSTEM (M)]"**

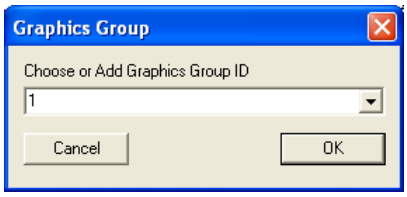
7.) Once you have been returned to the **New Log** window, **double click** in the **Log Start Depth** field. This will highlight the zero (**0**) and activate a flashing cursor. **Type 1200** in the **Log Start Depth** field.

8.) Once the information is entered, **click** on the Create **button**. This will initiate the **New Log** and activate a window named **For Layer 'Environment'**.

The log you have selected has **one generic fill categories** that can utilize existing groups (in your case none exist) or add new ones. These layers allow the user to define an interval with a color and/or pattern as well as a long name or short name displayed in various ways. These are catch all categories that can be used for all sorts of data types. The one that is associated with this core log is called Environments.

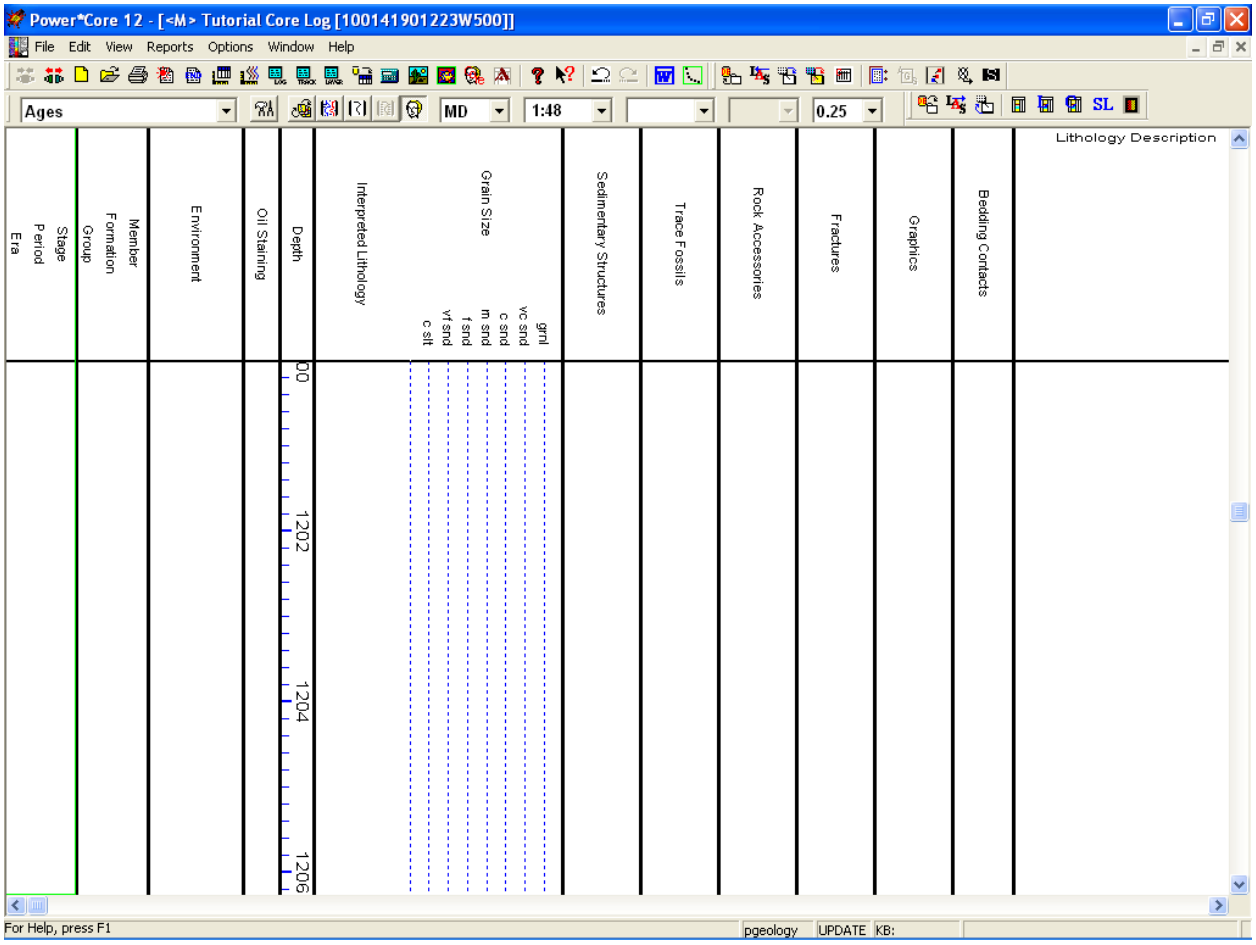


9.) **Click** on the Cancel **button**. We will add the Environment Group later on in this tutorial.

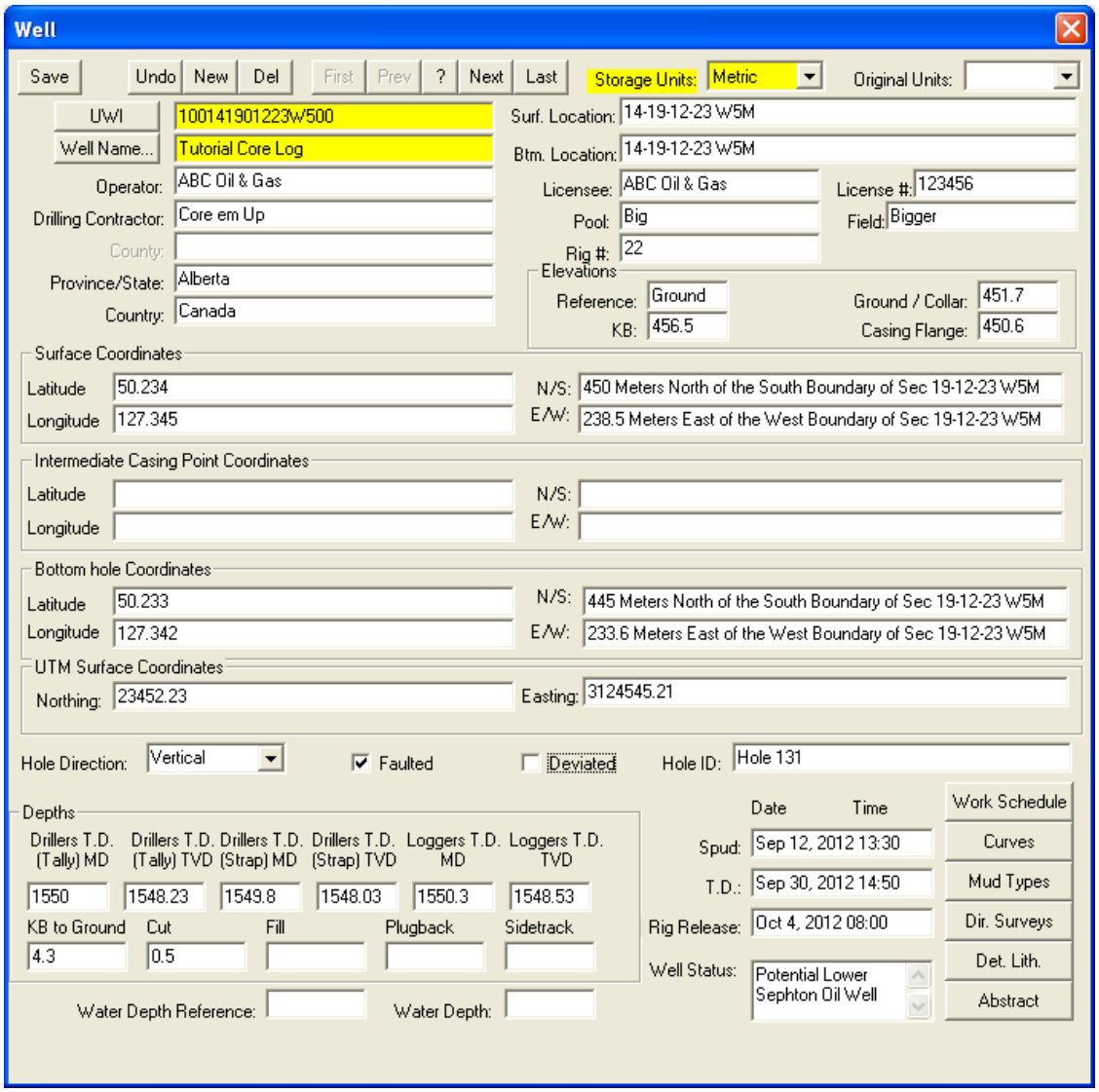


10.) **Type 1** into the drop box and **click** on the OK **button.** This will add a group of pictures to the log. If you wish to show another group call it 2 to be unique.

*****When the Core log opens, it should resemble this log.*****



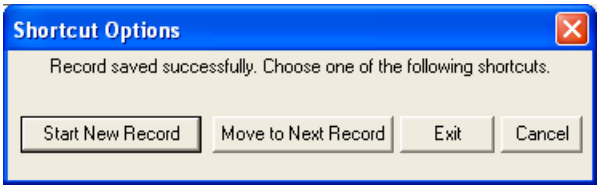
1.) You can now fill in your pertinent well information by selecting **Well** under **Edit** pull down menu on the **Selection Bar** to activate the **Well** window.



2.) Fill in the information you feel is necessary (The well window shown above has been filled in to give you an idea of how to complete the fields) and then **click** on the Save **button** to save any changes you have made to the database.

Note: Some of the fields in the **Well** window have character restrictions or mandatory requirements. Consequently, if any of these restrictions have been violated or if any requirements have not been met, the offending field will be highlighted. The nature of the problem will be displayed on the **Status Bar** (lower left corner of the screen), and you will be prompted with a system error message window.

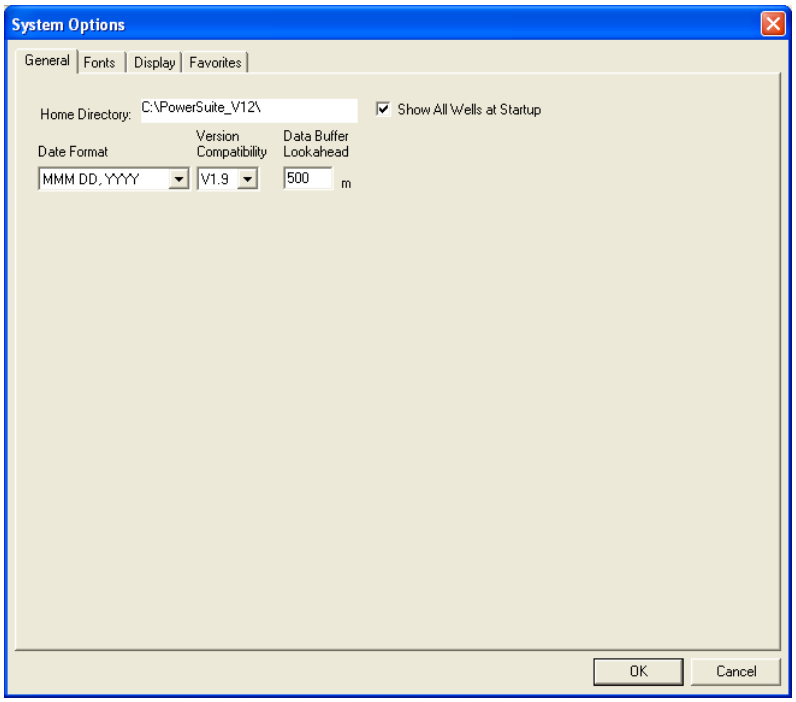
3.) If the record has been successfully saved, **click** on the Exit **button**, when prompted with the **Shortcut Options** window.



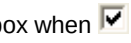
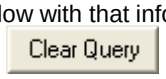
The System Options Window

To activate the System Options window **click** on the **Options selection** on the menu toolbar and then **select** the **System Options** selection to activate the System Options window.

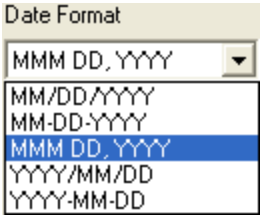
General Tab



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.

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 

button in the Open Log window to see all their wells if this option is deactivated.



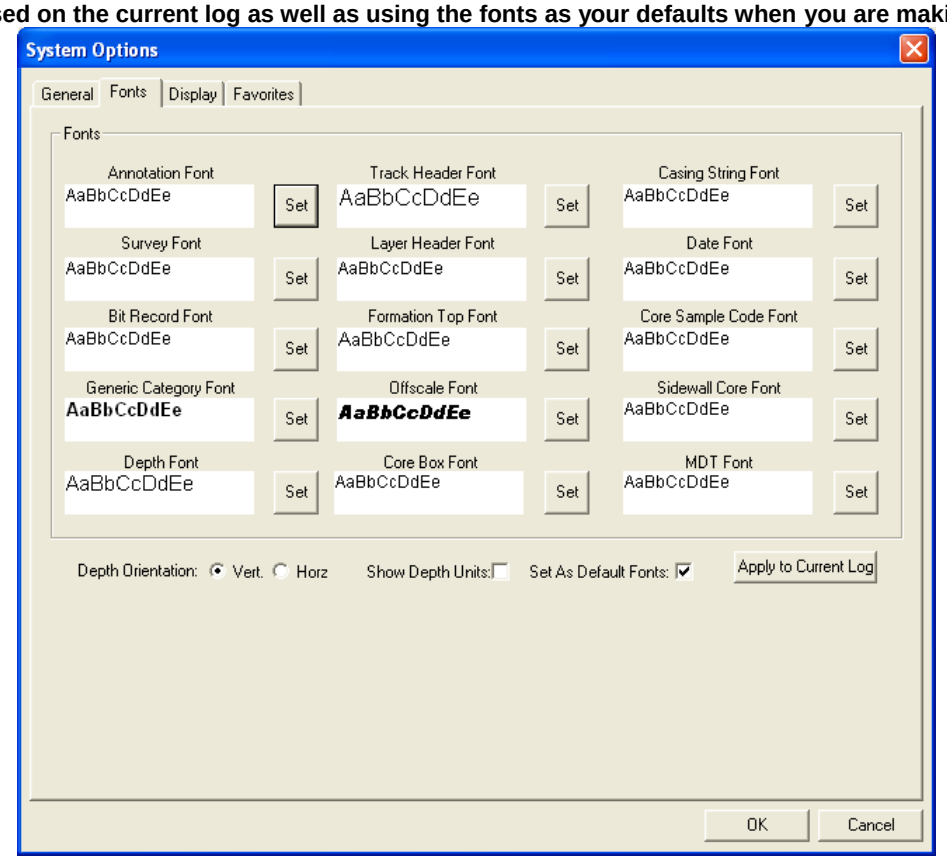
Date Format - From this drop box, you can select the date format. This selection determines how every date in **Power*Log / Core & Curve** will be entered and displayed. If you import a log with different date formats, **Power*Log / Core & Curve** will change the dates to comply with the format you've 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 if not all 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, color and size of your annotations on your log, Also this is the default when you use any of the Sample Description Transfer options.

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

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

Generic Category Font - Allows you to determine the font style, type, color and size of your Long or Short Name display option in all the Generic Category Layers displayed on your log.

Depth Font - This allows you to determine the font style, type, color 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

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

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

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

Offscale Font - Allows you to determine the font style, type, color and size of your curve values displayed when the curve pegs off scale.

Core Box Font - Allows you to determine the font style, type, color and size of your Core Box data entered in the Core Box layer.

Casing String Font - Allows you to determine the font style, type, color and size of your Casing string data displayed on the Casing String layer. This data is entered through the Casing String Report.

Date Font - Allows you to determine the font style, type, color and size of your Date data entered in the Date layer.

Core Sample Code Font - Allows you to determine the font style, type, color and size of your Core Plug data entered through the Core Plug Report. This font is displayed on the Core Sample Code layer.

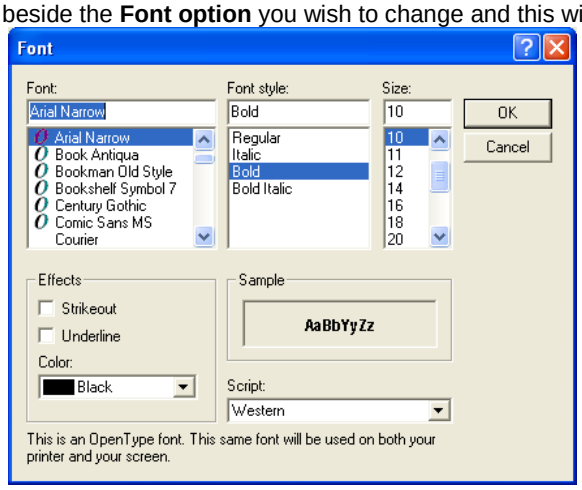
Sidewall Core Font - Allows you to determine the font style, type, color and size of your Sidewall Run and Sample Number data entered through the Sidewall Core Report. This font is displayed on the Sidewall Core layer.

MDT Font - Allows you to determine the font style, type, color and size of your MDT Run and Test Number data entered through the MDT Report. This font is displayed on the MDT layer.

☑ 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.

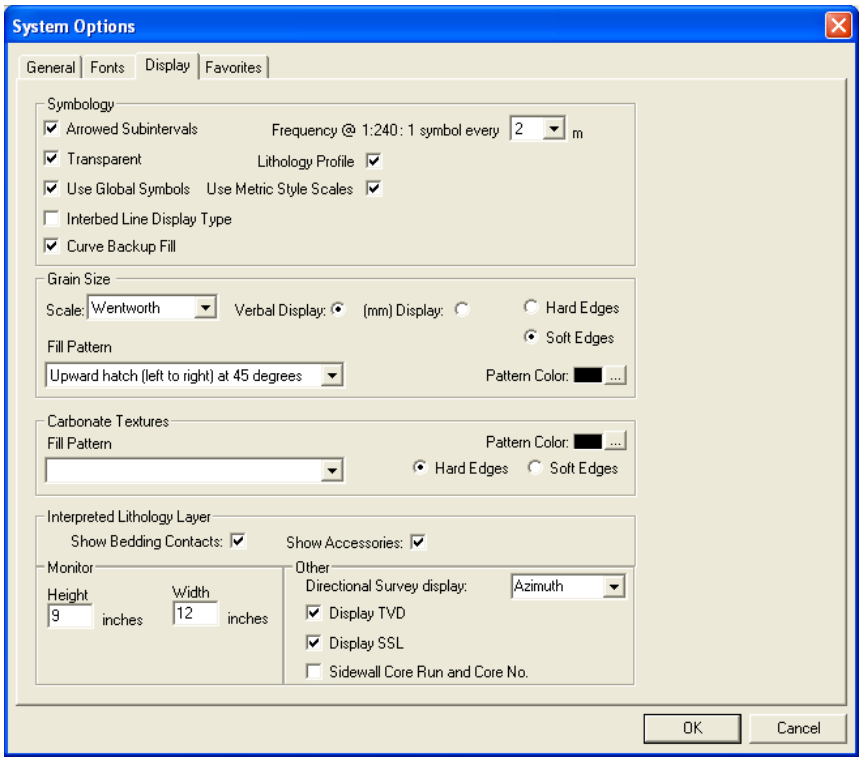
How to Set your Fonts.

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

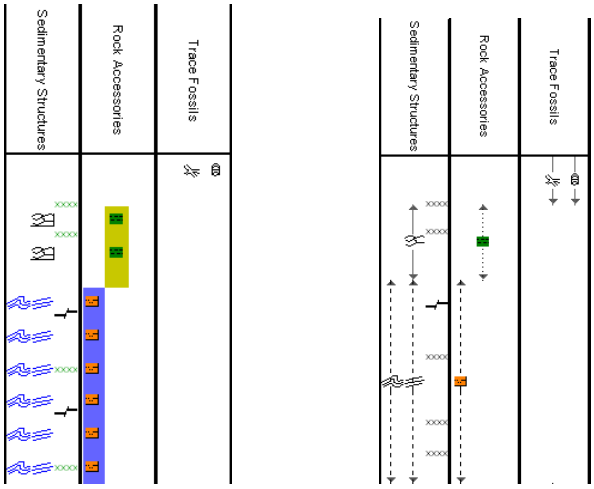


4. Select form the Font, Font Style, Size Effects and Color. When you are finished **click** on the [OK] **button**
5. Repeat steps 2-4 for all Font types.
6. **Click** on the [Apply to Current Log] **button.**
7. If you want to set these as your default Font settings **click** on the ☑ Set As Default Fonts **check box.**
8. **Click** on the [OK] **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.

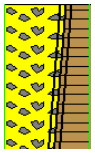


Normal Subintervals **Arrowed Subintervals**

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.

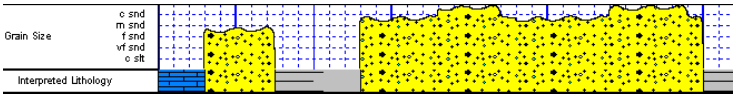


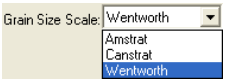
Curve Backup fill – This check box ☑ when activated will show a sideways hatching fill pattern when a curve goes off scale or in the backup mode. If unchecked there will be no hatching pattern when the curve goes off scale.

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.

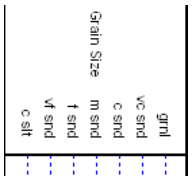
Note: The user may wish to turn off the track borders when this option is selected. You will see an example of this shown below.



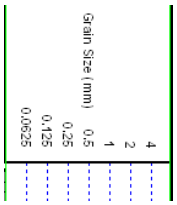


Grain Size Scale List box - You may choose between **Wentworth, Canstrat** or **Amstrat** scales, when using the **Grain Size Builder**. The Wentworth Grain size only allows full grain size while Canstrat / Amstrat allow half grain sizes when drafting in the Grain size and matrix layers.

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.



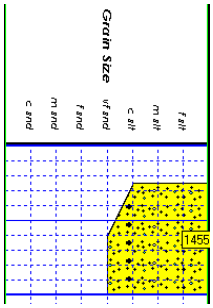
Verbal Scale



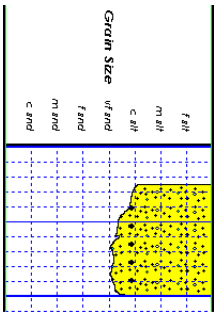
MM Scale

(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

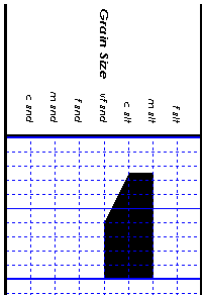


Soft Edges

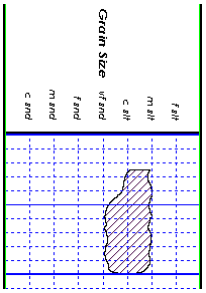
◉ Soft Edges This ◉ radio button will display the grain size with curved edges and rounded angles between the grain sizes.

Grain Size Fill Pattern Upward hatch (left to right) at 45 degrees 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 Pattern Color: ... 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 Fill Pattern Upward hatch (left to right) at 45 degrees 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 Pattern Color: ... 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 Hard Edges 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 Soft Edges This radio button will display the grain size with curved edges and rounded angles between the Carbonate Textures.

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

Interpreted Lithology Layer - Show Accessories: 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.

Directional Survey display: Azimuth / Azimuth / Quadrant 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)

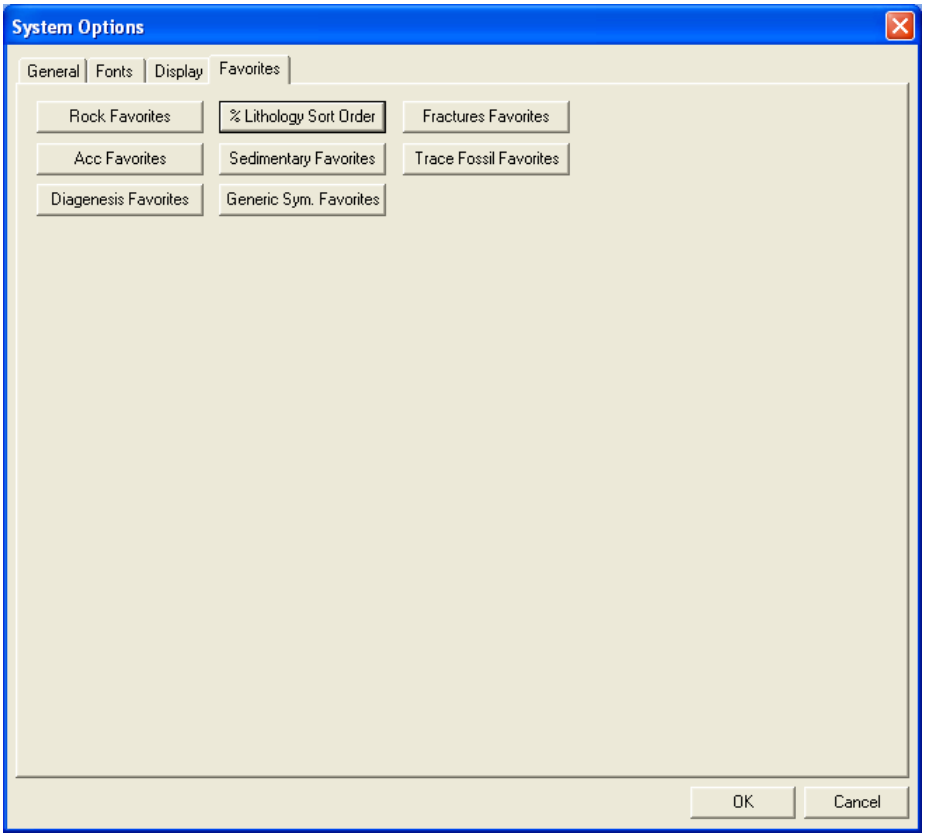
Display TVD check box when activated will display the survey with TVD values

Display SSL check box when activated will display the survey with SSL values

Sidewall Core Run and Core No. 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 - Allows the user to determine their favorite **Rock Types** and then displays them in a Toolbox menu generated by the activation of the **Rock Type Builder** window in the **Interpretive Lithology** track.

1.) **Click** on the Rock Favorites **button** in the **System Options** window, Favorites Tab.

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

3.) **Select** the following **Rock Types** from the **Rock Type Favorites** list window.

Note: Once the category has been highlighted you can start typing in the first and second letters to pinpoint to a specific portion of the list. List is activated by the short name spelling.

Cgl dk cht [Conglomerate dark chert]
Coal [Coal]
Mrlc [Marlstone calcareous]
Sh blk [Shale black]
Sh m gy [Shale medium gray]
Sh brn [Shale brown]
Ss [Sandstone]
Sltst [Siltstone] No maximum amount

4.) **Click** on the OK **button** to return to the System Options window.

Acc Favorites - Allows the user to determine their favorite **Accessories** and then displays them in a pop-up menu generated by the activation of the **Accessory Builder** window in the **Interpretive Lithology** track / layer as well as the Rock Accessories track / layer.

1.) **Click** on the Acc Favorites **button** in the System Options window.

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** the following **Accessories** from the **Thinbed**, **Components**, and **Cement** headings in the **Accessory Favorites** list window.

Note: Once the category has been highlighted you can start typing in the first and second letters to pinpoint to a specific portion of the list. List is activated by the short name spelling.

Thinbed
- **cht dk pebbles [chert dark pebbles]**
- **pyr nods [pyrite nodules]**
- **sh dk gy stringers [shale dark gray stringers]**
- **sltst stringers [siltstone stringers]**
- **ss stringers [sandstone stringers]**

Component
- **aren [arenaceous]**
- **arg [argillaceous]**
- **calcs [calcareous]**
- **carb [carbonaceous]**
- **foss [fossiliferous]**
- **glauic [glauconitic]**
- **pl rmns [plant remains]**
- **pyric [pyritic]**
- **micmica [micromicaceous]**
- **slty [silty]**

Matrix
- **arg [argillaceous]**
- **kao [kaolinite]**

Cement
- **calcs [calcareous]**
- **sils [siliceous] no maximum**

4.) **Click** on the OK **button** to return to the System Options window.

Trace Fossil Favorites - Allows the user to determine their favorite Trace Fossils and then displays them in a pop-up menu generated by the activation of the Trace Fossil Builder window in the Trace Fossil track/layer

1.) **Click** on the Trace Fossil Favorites **button** in the System Options window, Favorites Tab.

2.) **Click** on the Clear All **button** in the **Trace Fossil Favorites** list window to prepare it for the selection of your Favorites.

3.) **Select** the following Trace Fossils from the window.

Note: Once the category has been highlighted you can start typing in the first and second letters to pinpoint to a specific portion of the list. List is activated by the short name spelling.

Trace Fossils
- **Asterosoma**
- **Planolites**
- **Zoophycoes**

4.) **Click** on the [OK] **button** to return to the System Options window.

[Sedimentary Favorites] - Allows the user to determine their favorite Sedimentary Structures and then displays them in a pop-up menu generated by the activation of the **Sedimentary Structures Builder** window in the **Sedimentary Structure** track / layer.

1.) **Click** on the [Sedimentary Favorites] **button** in the System Options window, Favorites Tab.

2.) **Click** on the [Clear All] **button** in the **Favorites** list window to prepare it for the selection of your **Favorites**.

3.) **Select** the following **Sedimentary Structures** from the **Bedding / Cross Bedding**, **Laminations / Cross laminations**, and **Other** headings in the **Favorites** list window.

Note: Once the category has been highlighted you can start typing in the first and second letters to pinpoint to a specific portion of the list. List is activated by the short name spelling.

Bedding / Cross Bedding
- **massive [massive / homogenous bedding]**
- **normgrad [normal graded bedding]**

Laminations / Cross laminations
- **clmbrip [climbing ripple cross laminations]**
- **cppxlam[current ripple cross laminations]**
- **wavylam[wavy laminations]**

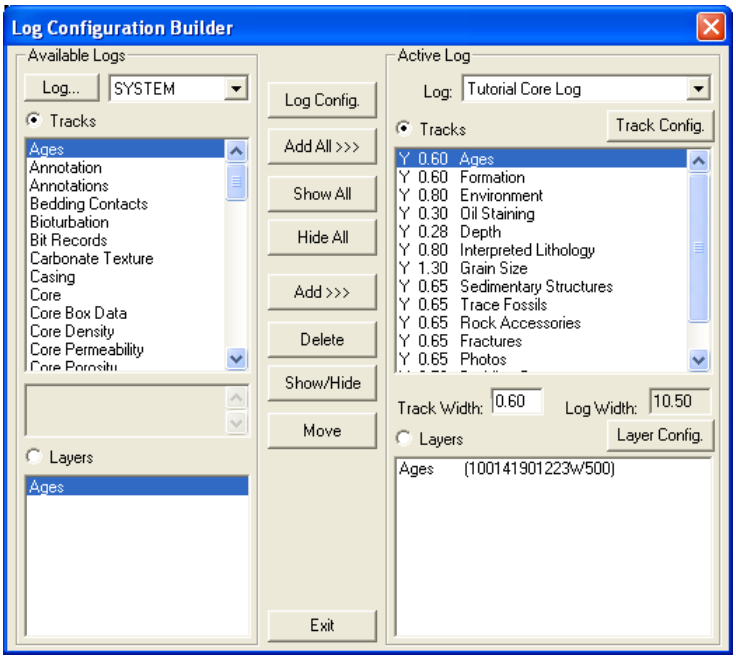
Other
- **mudchips [mud chips]**
- **root [roots / root trace]**

4.) **Click** on the [OK] **button** to return to the System Options window.

The Log Configuration Builder window

- This is the heart of the Log/Track/Layer configurations and controls the way your well's information is displayed on the log.
- The well may have a lot of information stored in the database, but that information cannot be shown graphically on the log until the necessary layers are built to illustrate that information.

1. **Click** on **Log Configuration Builder** under the **Options** menu on the **Selection Bar** or **click** on the **Log Configuration Builder** **button** on the **Toolbar** to activate window:



Fundamentals of the Log Configuration Builder Window

The left side of the Log Configuration Builder window: <u>Available Logs</u>

The **Available Logs** section or **<u>left</u>** side of the **Log Configuration Builder** window allows you to take any track or layer from **Available Logs** and add it to the log you are currently creating/building. On the **left** side of the window, below the **Tracks** radio button Tracks, is a list of the tracks available for adding to the **Active Log**.

The **Available Logs** section or left side of the window contains the track and layer configuration of the **SYSTEM [SYSTEM]** log, when the window first opens. You have the option of using any of the existing **<u>Tracks</u>** and their associated layers or any of the existing **<u>Layers</u>,** that are associated with any of the system logs in the log database. The user can click on the Log... SYSTEM **button** on the left side of the screen to activate a selection list of all log formats that are in your database. The list is comprised of two (2) names with the first name in the list being the system **Log Name** and the second name (in brackets), being the **UWI** of its primary well. **Double click** on the log format you wish to copy from.

Below the **Layers** radio button Layers, on the **left** side of the window, is a list of the layers available in the track highlighted above. They will be added all at once, if you add their parent track. However, they can also be added on an individual basis, if you only want to add one(1) layer to an existing **Active Log** track.

The right side of the Log Configuration Builder window: <u>Active Log</u>

The **Active Log** section or **<u>right</u>** side of the window displays the track and layer configuration of the **<u>Active Log</u>** (the log you are currently creating), in the main **Power*Log** window. The name of the log is viewed in the **Log** field. In this case, it will be "**Tutorial Well**." Below the **Tracks** radio button Tracks, on the **right** side of the window, is a list of the tracks that are currently found within the **Active Log.** The track at the top of this list is drawn on the left side of the log, while the track on the bottom of the list is drawn on the far right of the log with all of the other tracks drawn in

between, respectively. Below the **Layers** radio button Layers, on the **right** side of the window, is a list of the layers that are associated with the track highlighted above.

The middle of the Log Configuration Builder window: Selection Buttons

The **selection** buttons, found in the middle column of the window, are for adding layers or tracks from the **Available Logs** to the **Active Log**, activating/deactivating the **Active Log's** tracks, deleting active log tracks or layers, and moving tracks or layers within the **Active Log** itself. Step-by-step instructions for accomplishing these tasks are provided on the following pages.

Working with the Log Configuration Builder Window

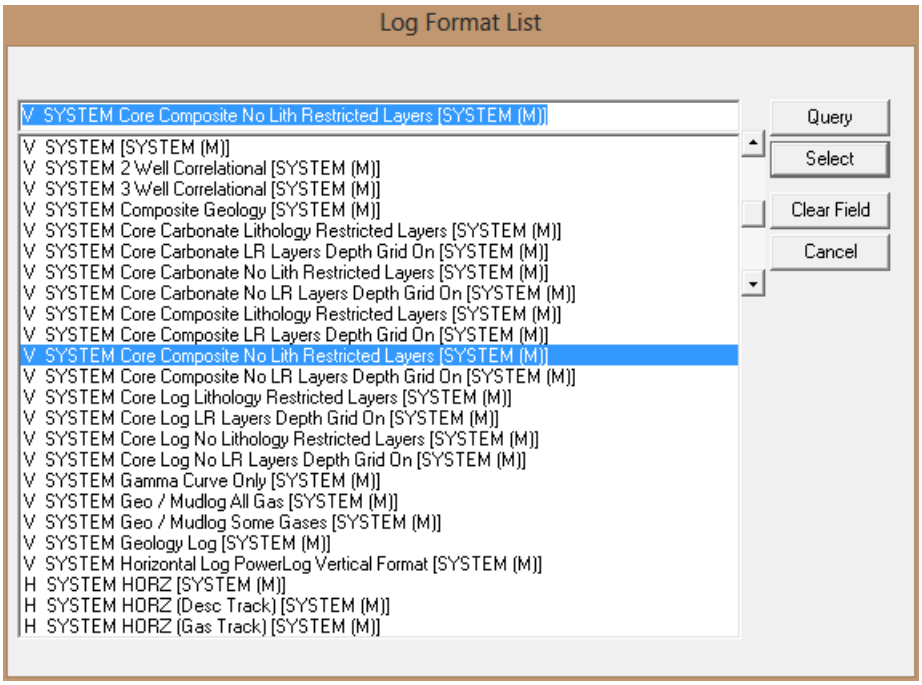
Deleting the Ages track on the Tutorial Core Log…

1.) **Highlight** the **Ages** track on the right hand side of the window by **clicking** on it **once**.

2.) **Click** on the Delete **button**. This action will prompt you with a system message, "***Do you want to delete the selected track in your log*?" **Click** on the Yes **button**. The **Ages** track has now been removed from the Tutorial Log.

Adding a Gamma Ray – SP Curve Track to the Tutorial Core Log

1.) On the left hand side of the Log configuration window in the Available Logs portion of the window near the top **click** on the Log... SYSTEM **button**. This will activate the Available Logs window.



2.) **Double Click** on the **V SYSTEM Core Composite No Lith Restricted Layers [SYSTEM (M)]** Log **or click on it once** and **click** on the Select **button**. This will insert its tracks and layers into the Available log portion of the Log configuration window.

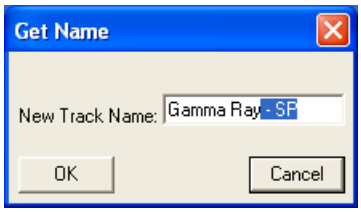
3.) On the left hand side of the Log configuration window scroll down the list of tracks and **click** on the **Gamma Ray – SP** track. The track will become highlighted and the Tracks radio button will become activated.

4.) On the right hand side of the Log configuration window **click** on the **Interpretive Lithology Track**. The track will become highlighted and the Tracks radio button will become activated.

5.) In the middle of the Log configuration window **click** on the Add >>> **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?"

6.) **Click** on the Yes **button.** This will activate a Get Name window asking the user to name the track.

7.) We will modify the Track name as we will only be utilizing the Gamma Ray layer. To change the name retype or delete the name to read, **Gamma Ray,** and then **click** on the OK **button** and the track will be added above the Interpretive Lithology Track or to the left on the log.



Deleting the SP layer from the Gamma Ray track…

1.) On the **right** side of the **Log Configuration Builder** window, **click** on the **Gamma Ray** track to highlight it. Notice that the layers associated with this track are displayed below, in the **Layers** list box.

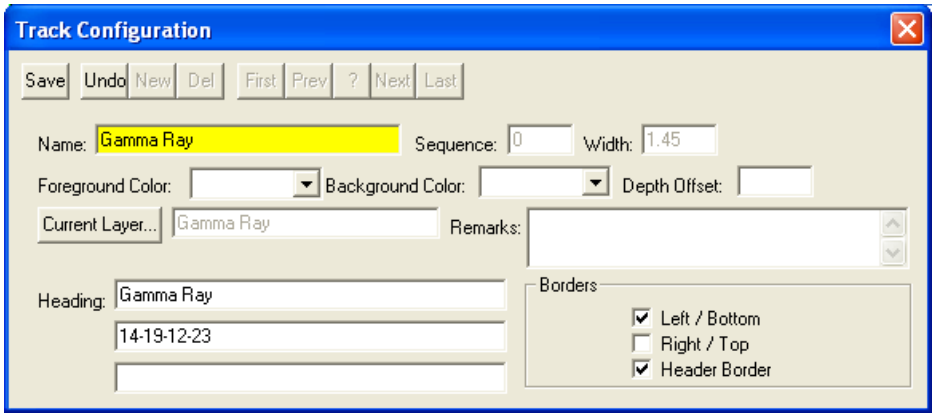
2.) Highlight the **SP** curve layer, in the **Layers** list box, by **clicking** on it **once**. Notice that the **Layers** radio button Layers is automatically activated by highlighting a given layer.

3.) **Click** on the Delete **button**. This action will prompt you with a system message, "***Do you want to delete the selected layer in your log***?" **Click** on the Yes **button**. The **SP** curve layer has now been removed from the log

Configuring the Gamma Ray track…

1.) On the **right** side of the **Log Configuration Builder** window, **click** on the **Gamma Ray** track to highlight it.

2.) On the **right** side of the **Log Configuration Builder** window, **click** on the Track Config. **button**. This will activate the Track Configuration window for the Gamma Ray Track.



3.) In the Heading Field **type Gamma Ray** to replace the GR – SP. In the second heading field, **type** in the location, "**14-19-12-23**". This would help identify the location of the well.

4.) **Click** on the **Right / Top border check box** to deactivate the check box.

5.) **Click** on the Save **button**. This action will prompt you with a system message, "***Record Saved successfully. Do you wish to exit***?" **Click** on the Yes **button.**

Configuring the Interpretive Lithology track…

1.) On the **right** side of the **Log Configuration Builder** window, **click** on the **Interpretive Lithology** track to highlight it.

2.) On the **right** side of the **Log Configuration Builder** window, **click** on the [Track Config.] **button**. This will activate the Track Configuration window for the Interpretive Lithology Track.

3.) **Deselect** the **Left / Bottom border** ☑ **check box**.

4.) **Click** on the [Save] **button**. This action will prompt you with a system message, "***Record Saved successfully. Do you wish to exit*?" **Click** on the [Yes] **button**.

Turning off a track…

1.) Scroll down the tracks list, on the **right** side of the **Log Configuration Builder** window, and **click** on the **Bedding Contacts** track.

2.) **Click** on the [Show/Hide] **button** to turn the "**Y**"(yes), to the left of the track name, to "**N**"(no), indicating that the track will not be shown on the log, until it is reactivated.

3.) Alternatively, you can simply **double click** on the **Bedding Contacts** to turn the "**Y**"(yes) to "**N**"(no). The user might notice the log width has now decrease in size from 11.32" to 10.82" wide.

Resizing some tracks…

1.) Scroll down the tracks list, on the **right** side of the **Log Configuration Builder** window and **click** on the **Lithology Description** track**.**

2.) **Double click** in the **Track Width** field and change the track width from 2.07 inches to a new width of **2.65** inches**.** Then, **press** the **Tab key** and the total width of the log itself will change to reflect the increase in the width of the **Lithology Description** track as well as the Log width field.

3.) Scroll up the tracks list, on the **right** side of the **Log Configuration Builder** window and **click** on the **Rock Accessories** track**.**

4.) **Double click** in the **Track Width** field and change the track width from 0.65 inches to a new width of **.42** inches**.**

5.) **Click** on the **Photos** track**. Double click** in the **Track Width** field and change the track width from 0.65 inches to a new width of **.3** inches**.**

6.) **Click** on the **Gamma Ray** track**. Double click** in the **Track Width** field and change the track width from 1.42 inches to a new width of **1.1** inches**.**

Note: For paper 11" x" 8.5" wide, 10.50" is the widest that you want your log to be, especially if you are printing out the log in the **Landscape** paper orientation.

Moving the Oil Staining track…

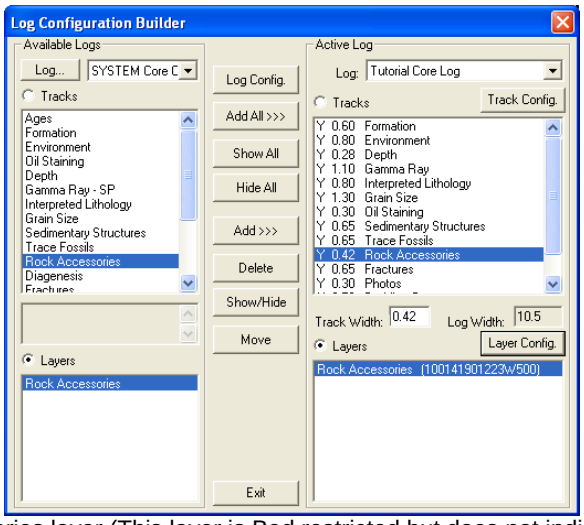
1.) On the **right** side of the **Log Configuration Builder** window, and **click** on the **Oil Staining** track to highlight it.

2.) **Click** on the [Move] **button** and it will change to [Move Start] **button**. Then, **click** on the **Sedimentary Structures** track. The **Oil Staining** track will then be placed above the **Sedimentary Structures** track (to the left of the **Sedimentary Structures** track on the log).

Deleting and adding a layer…

We will be adding two (2) non-bed restricted (NBR) layers to our log to show you the difference between a bed-restricted (BR) layer and a non bed restricted layer (NBR) layer. We are assuming that the log on the left side is still the log selected earlier in this session which would be the V SYSTEM Core Composite log grid off [SYSTEM (M)]. To reselect this log click on the [Log...] [SYSTEM] button and double click on it from the activated list.

1.) On the right side of the Log configuration window **click** on the **Rock Accessories Track**. The track will be highlighted and the Tracks radio button [Tracks] will be activated.



2.) **Click** on the Rock Accessories layer (This layer is Bed restricted but does not indicate it to be so with a (BR Label). The layer will be highlighted and the Layers radio button Layers will be activated.

3.) **Click** on the Delete **button** in the center portion of the Log Configuration builder. This will activate a system message asking the user **"Do you want to delete the selected layer in the active Log?" Click** on the Yes **button**. The layer will be deleted.

4.) On the left side of the Log configuration window scroll down the list of tracks and **click** on the **Rock Accessories** track. The track will be highlighted and the Tracks radio button Tracks will be activated.

5.) On the left side of the Log configuration window, **click** on the **Rock Accessories** Layer. The layer will be highlighted and the Layer radio button Layers will be activated.

6.) In the middle of the Log configuration window **click** on the Add >>> **button**. This will activate a System Message asking the user " Do you really want to ADD the selected (layer) from the available log to the active log?"

7.) **Click** on the Yes **button.** This will activate a Get Name window asking the user to name the track.

8.) This will activate a system Get Name window. **Click** on the OK **button** and the layer will be added into the Rock Accessories Track to the left side.

Adding the Second Layer

9.) On the right side of the Log configuration window **click** on the **Environment Track**. The track will be highlighted and the Tracks radio button Tracks will be activated.

10.) **Click** on the **Environment** layer (This layer is Bed restricted but does not indicate it to be so with a (BR Label). The layer will be highlighted and the Layers radio button Layers will be activated.

11.) **Click** on the Delete **button** in the center portion of the Log Configuration builder. This will activate a system message asking the user **"Do you want to delete the selected layer in the active Log?" Click** on the Yes **button**. The layer will be deleted.

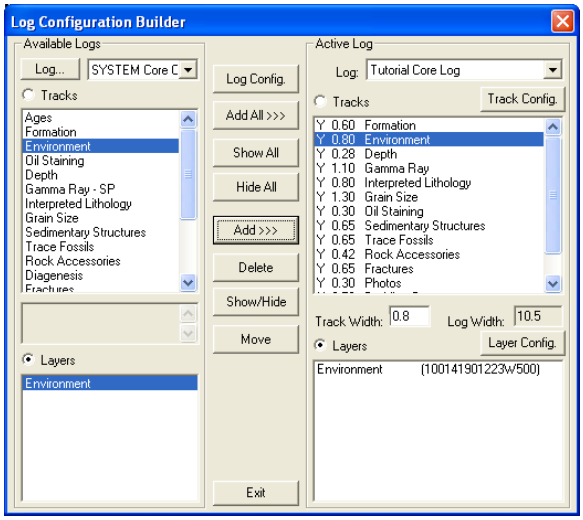
12.) On the left side of the Log configuration window scroll down the list of tracks and **click** on the **Environment track**. The track will be highlighted and the Tracks radio button Tracks will be activated.

13.) On the left side of the Log configuration window, **click** on the **Environment** Layer. The layer will be highlighted and the Layer radio button Layers will be activated.

14.) In the middle of the Log configuration window **click** on the Add >>> **button**. This will activate a System Message asking the user " Do you really want to ADD the selected (layer) from the available log to the active log?"

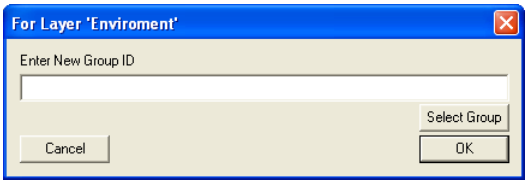
15.) **Click** on the Yes **button.** This will activate a Get Name window asking the user to name the track.

16.) This will activate a system Get Name window. **Click** on the OK **button** and the layer will be added into the Environment Track to the left side.

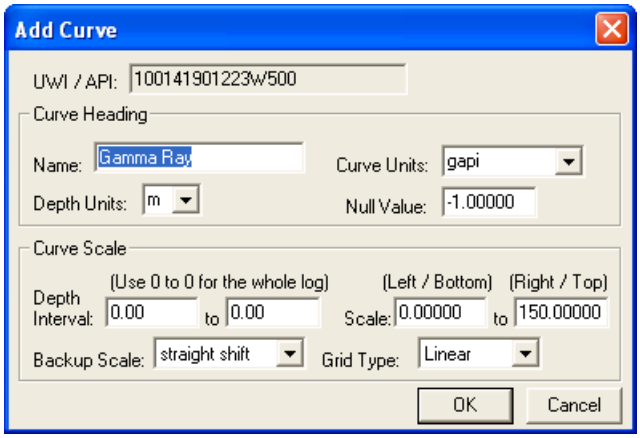


17.) **Click** on the Exit **button**. This will close the builder and the log will reflect all the changes you just made and initiate the. This will activate the Group Selector Window for the New Environment Layer.

18.) **Type Environment** in the Enter New Group ID field and **click** on the OK **button**.



19.) This will close the Group selector and initiate the ADD Curve window.



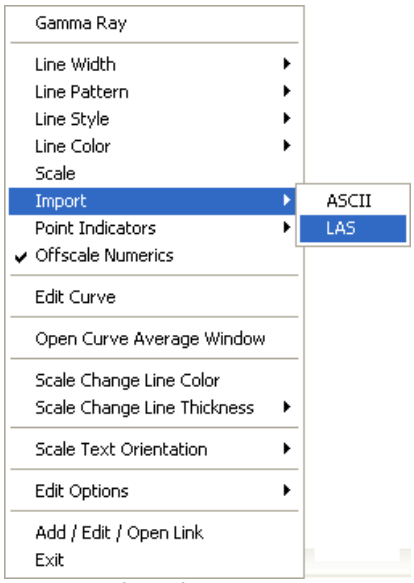
- **The Add Curve window…**

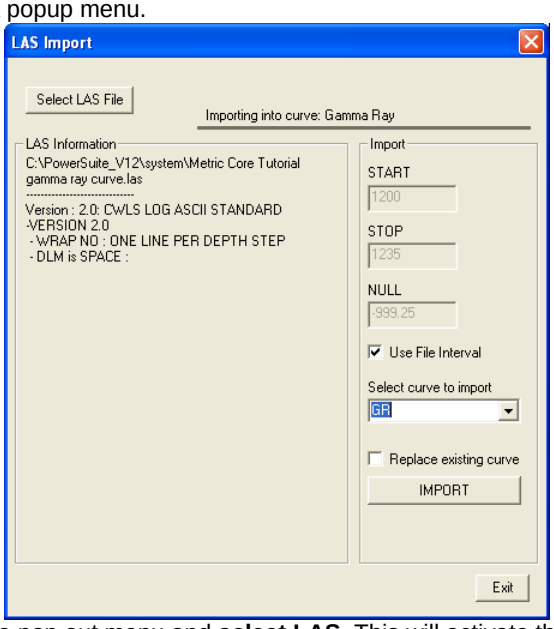
1.) Make sure the unit in the **Curve Units** field is correct (in this case it will be **gapi**). If not, then please **type** the correct units into this field.
2.) Make sure **m** is in the **Depth Units** drop box field.
3.) Make sure the **Null Value** field is **-1**.
4.) Make sure the Depth **Interval** is **0** and **0** indicating the present curve scale is applicable to any depth on the log.

5.) Make sure the **Curve Scale** field values (**Left** / Bottom and **Right / Top**) are **0** and **150**
6.) Make sure the **Backup Scale** drop box field is **Straight Shift**.
7.) Make sure the **Grid type** drop box field is **Linear**.
8.) **Click** on OK **button** to add the curve layer to the Gamma Ray Track.

Importing LAS Gamma Ray Curve Data

1.) **Click** on the Gamma Ray track to make it active. You will notice a green trace around the outside of the track if done correctly.
2.) Use the drop down arrow in the **Layer Selection List** field (located at the far left side of the **Selection bar**), to display a list of the layers in the **Gamma Ray** track.
3.) **Select** the **Gamma Ray** layer to make it the active layer and the **Layer Selection List** will close automatically after you have made your selection.
4.) **Right click** on the **Gamma Ray layer** to activate a popup menu.

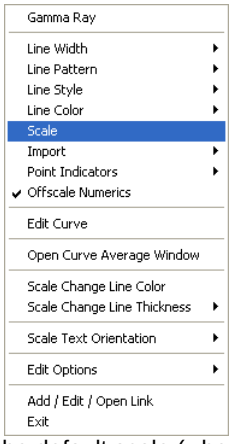


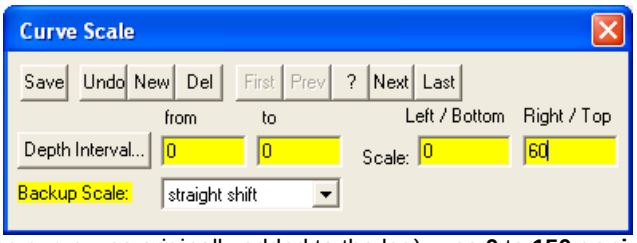


5.) **Select Import** from the pop-up menu to activate a pop out menu and **select LAS**. This will activate the LAS Import Window.
6.) **Click** on the Select LAS File **button**. This will activate the Open LAS File window and locate the **"Metric Core Tutorial gamma ray curve.las"** in the Powersuite_V12 / System folder.
7.) After locating the Drive and Directory where the "**Metric Core Tutorial gamma ray curve.las"** is the user must **select** the file by **double clicking on the file name**, or clicking on it once and **clicking on the** OK **button.** This will bring the file header into the LAS Import window.
8.) **Click** on the **Select Curve to Import drop box** and **select** the **GR** curve.
9.) **Click** on the IMPORT **button**. The curve will import and the window will disappear leaving the Gamma Ray curve data displayed on the layer.

Changing Curve Scales

1.) **Right click** anywhere within the **Gamma Ray** track (Gamma Ray Layer) to activate the pop-up menu.
2.) **Select Scale** from the pop-up menu to activate the **Curve Scale** window for the Gamma Ray curve. In this figure the user will notice the Scale has already been changed.

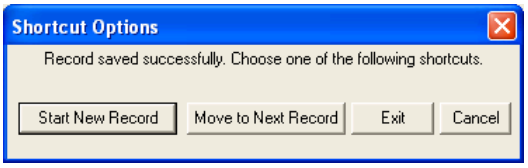




3.) Notice that the default scale (when the curve was originally added to the log), was **0** to **150 gapi**, as you would see in your window. To change the original scale from **0 – 150** to **0 – 60** simply adjust the **Right / Top Scale** value to **60** by **double clicking** in the **Right Scale** field and typing in a value of **60**.

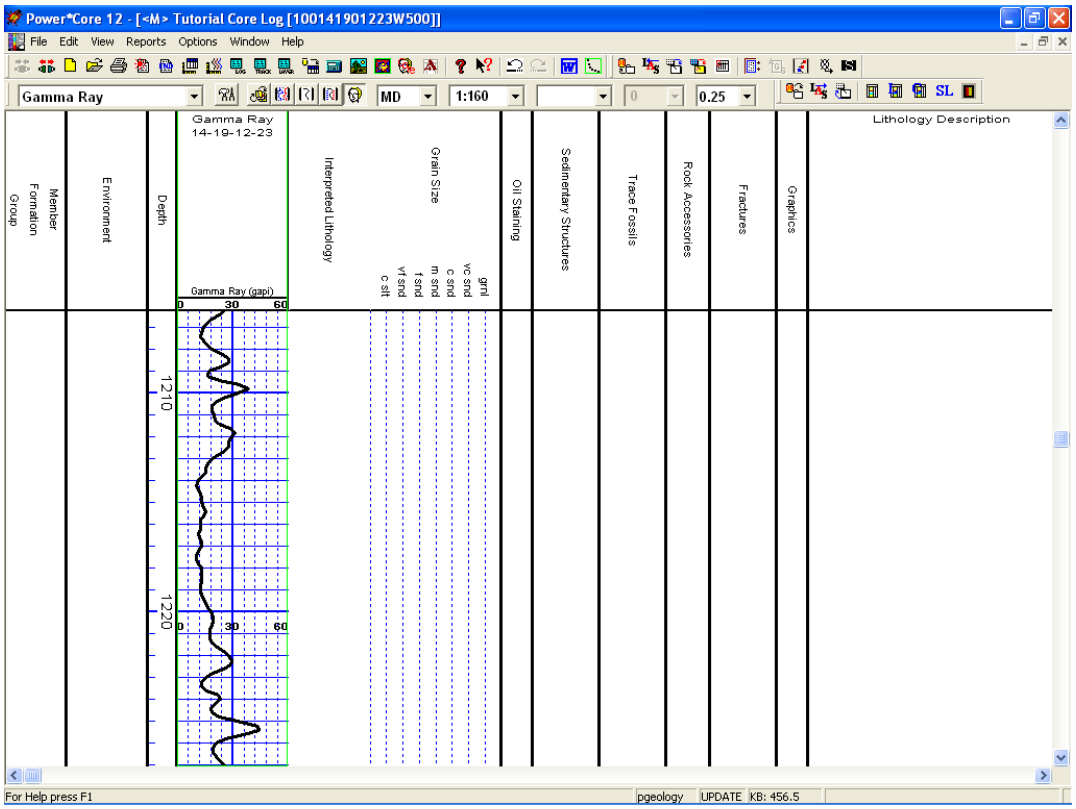
Note: The backup scale (in this case **straight shift**), is there in case the curve values go off-scale (more than **60 gapi**). A **straight shift** backup scale for an original scale of **0** to **60 gapi** would be **60** to **120 gapi** for **Left** and **Right Scale** values, respectively.

4.) **Click** on the Save **button.** This will activate the Shortcut Options window.

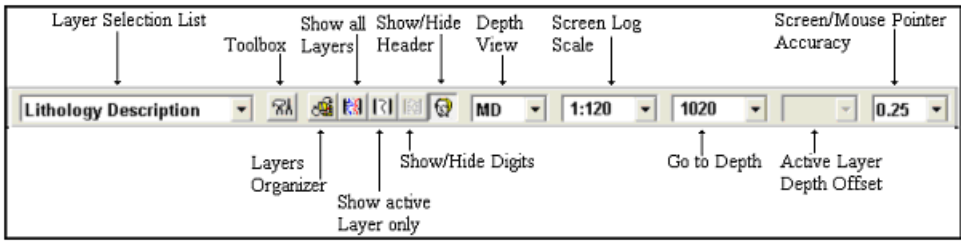


5.) **Click** on the Exit **button** from the ensuing **Shortcut Options** window.

*****Your log should now look like the log shown below*****



Changing the Log Scale and Mouse Pointer Accuracy



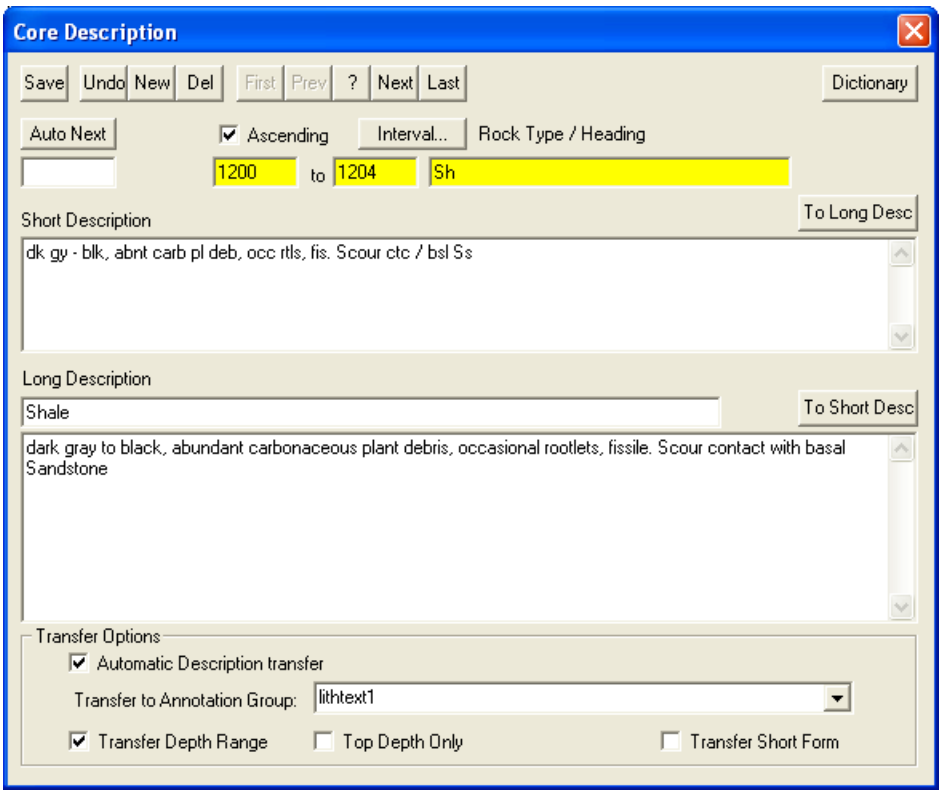
1.) **Click** on the **Screen Log Scales** drop box and **select 1:120**. This will make your screen or monitor log scale represent your log at a 1:160 depth scale.

2.) **Click** on the **Screen/Mouse Pointer Accuracy** drop box and **select 0.1**. This will make your mouse pointer accurate down to the decimeter.

Adding Core Descriptions

Under normal wellsite circumstances those users would use the Core Report then utilize the Core Description button within that window to enter their data. We are assuming that we will not be filling in the detailed Core Report header information usually gathered at the wellsight and that this information is not available. Therefore we will use the Core Description window to enter the core description data.

1.) **Click** on **Core Description**, under **Reports** on the **Power*Core**™ **Menu Bar** to open the **Core Description** window.



2.) **Type 1200** into the **Interval** (From) field and then **press** the **tab key**.

3.) **Type 1204** into the **Interval** (To) field and then **press** the **tab key**.

4.) **Type Sh** into the **Rock Type / Heading** field and then **press** the **tab key** to get to the short description field.

Note: The short descriptions have to be typed in correctly (according to our Geological Expansion Dictionary) in order for the Long Description fields to be expanded correctly. The Expansion dictionary is editable and can be viewed by clicking of the Dictionary **button**.

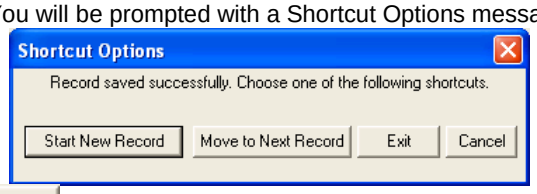
5.) **Type** the following description into the **Short Description** field, exactly as it appears below:

dk gy - blk, abnt carb pl deb, occ rtls, fis. Scour ctc / bsl Ss.

Note: The **Short or Long Descriptions** can be transferred to the **Lithology Description** layer and only the **Long Description** will be printed out in the **Sample Description Report.**

6.) **Select** the **Automatic Transfer and Transfer Depth Range** check boxes ☑, as shown in the preceding sample description window.

7.) **Click** on the Save **button**. You will be prompted with a Shortcut Options message



8.) **Click** on the Start New Record **button** from the **Shortcut Options** window. This will clear the core description window excluding the depth fields and enable the user to enter another record into the database.

You will now see your sample/core description on the log with the options selected in step 6 at the top depth of the Interval.

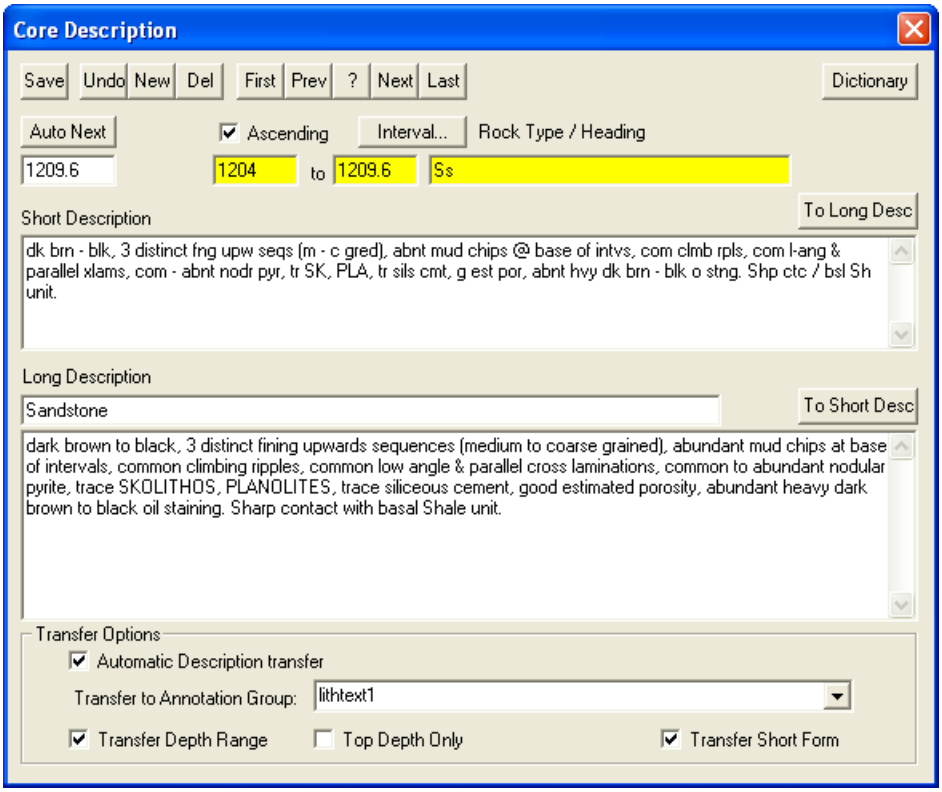
- **Adding a Sample Description to a new interval…**

1.) The depth **to field** will be highlighted. **Type** in a new depth of **1209.6** in the to depth field. **Press the tab key.** This will advance the cursor to the Rock Type / Heading field.

2.) **Type Ss** into the **Rock Type / Heading** field, **press** the **tab key**. This will advance the cursor to the **Short Description** field. **Type** the following description into this field **Short Description**:

dk brn - blk, 3 distinct fng upw seqs (m - c gred), abnt mud chips @ base of intvs, com clmb rpls, com l-ang & parallel xlams, com - abnt nodr pyr, tr SK, PLA, tr sils cmt, g est por, abnt hvy dk brn - blk o stng. Shp ctc / bsl Sh unit.

3.) **Select Transfer Short form** check box ☑.



4.) **Click** on the Save **button** and then **click** on the Start New Record **button** from the **Shortcut Options** window. You will see your description at 1204m

1.) **Type** in a new depth of **1213.1** in the to depth field**. Press the tab key.**

2.) **Type Intbd Sltst & Sh** into the **Rock Type / heading** field, **Press the tab key** and then **type** the following description into the **Short Description** field:

U sh m gy, slly calcs, fis. Mdl sltst lt brn grdg to vf gred, arg, tt, ns. L sh m brn, com sltst lams, predly tt, ns. Shp bsl ctc.

3.) **Click** on the Save **button** and then **click** on the Start New Record **button** from the **Shortcut Options** window. You will see your description at 1209.6m in the Lithology Description track.

4.) **Type** in a new depth of **1220** in the to depth field**. Press the tab key.**

5.) **Type Ss** into the **Rock Type / heading** field, **Press the tab key** and then **type** the following description into the **Short Description** field:

dk brn, predly vc gred @ base fng upw to m gred, com cur rpl xlams, slly bioturb, com AST & PLA, glauic thru, calcs cmt @ base, grdl ctc / basal cgl, abnt dk brn o stng.

6.) **Click** on the Save **button** and then **click** on the Start New Record **button** from the **Shortcut Options** window. You will see your description at 1213.1 in the Lithology Description track.

7.) **Type** in a new depth of **1221.4** in the to depth field**. Press the tab key.**

8.) **Type Cgl** into the **Rock Type / heading** field, **Press the tab key** and then **type** the following description into the **Short Description** field:

dk cht pbl, c - vc gred ss mtx, com dk brn o stng, occ lc / bsl sh, g est por 18-22%. Abnt mc.

9.) **Click** on the Save **button** and then **click** on the Start New Record **button** from the **Shortcut Options** window. You will see your description at 1220 in the Lithology Description track.

10.) **Type** in a new depth of **1225.6** in the to depth field**. Press the tab key.**

11.) **Type Ss / Sh** into the **Rock Type / heading** field, **Press the tab key** and then **type** the following description into the **Short Description** field:

Ss m brn, predly f gred, com arg & kaoic mtx, hom, scr & wvy ctcs, p por 8-12%.
Sh top m brn, bsl m gy, fis.

Note: The user can start a new lines or carriage returns in the Short Description field by simultaneous pressing the CTRL and ENTER Keys

12.) **Click** on the Save **button** and then **click** on the Start New Record **button** from the **Shortcut Options** window. You will see your description at 1221.4 in the Lithology Description track.

13.) **Type** in a new depth of **1231.2** in the to depth field**. Press the tab key.**

14.) **Type Ss** into the **Rock Type / heading** field, **Press the tab key** and then **type** the following description into the **Short Description** field:

crm - lt brn, f - m gred, nor grdg, occ bioturb (PLA), com wavy lams, fr est por (10-14%), apps to be wtr sat, inclined ctc.

15.) **Click** on the Save **button** and then **click** on the Start New Record **button** from the **Shortcut Options** window. You will see your description at 1225.6 in the Lithology Description track.

16.) **Type** in a new depth of **1232.2** in the to depth field**. Press the tab key.**

17.) **Type Coal** into the **Rock Type / heading** field, **Press the tab key** and then **type** the following description into the **Short Description** field:

bits, abnt carb fos deb, fracd, shp basal ctc.

18.) **Click** on the Save **button** and then **click** on the Start New Record **button** from the **Shortcut Options** window. You will see your description at 1231.2 in the Lithology Description track.

19.) **Type** in a new depth of **1234.4** in the to depth field**. Press the tab key.**

20.) **Type Ss** into the **Rock Type / heading** field, **Press the tab key** and then **type** the following description into the **Short Description** field:

crm lt brm, m gred, hom, fr est por, wtr sat, bioturb ctc, Z. Abnt sb vrtl fracs ptly flld / calc.

21.) **Click** on the Save **button** and then **click** on the Start New Record **button** from the **Shortcut Options** window. You will see your description at 1231.2 in the Lithology Description track.

22.) **Type** in a new depth of **1235** in the to depth field**. Press the tab key.**

23.) **Type Mrlst** into the **Rock Type / heading** field, **Press the tab key** and then **type** the following description into the **Short Description** field:

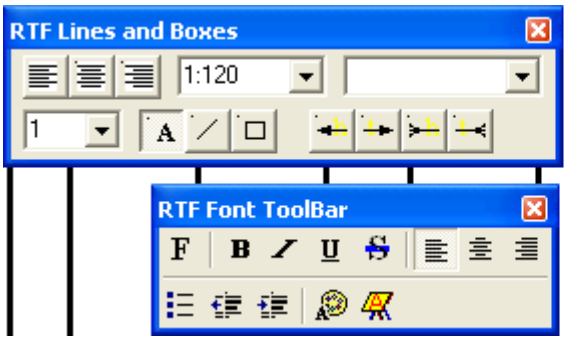
calcs, arg, dns, ns.

24.) **Click** on the Save **button** and then **click** on the Exit **button** from the **Shortcut Options** window. You will see your description at 1234.4 in the Lithology Description track and Close the Sample Description window.

Editing Lithology / Core Descriptions within the Annotation layer

In these examples we will start from the lower descriptions and work our way up the transferred descriptions. We will demonstrate to the user how to change the position, delete and modify transferred sample descriptions.

1.) Make the **Lithology Description** layer active (in the **Layer Selection List** field), by **clicking once** anywhere within the **Lithology Description** track to highlight the **Lithology Description** track in green.



Moving a Lithology / Core Description:

2.) **Click** on the **Core Description** drawn on the **Lithology Description** layer that you want to move. In our case click on the **Coal** description at **1231.2m.** This will activate a border around the description and activate the RTF Toolbars. You are now in the editing mode.

3.) **Move** your **mouse pointer onto the outline** and you will see the pointer turn into a ✥ **crosshair**. Then **click and drag your mouse up** 1.2 meters to move the description up to **1230m. Release your mouse pointer.**

4.) **Click** anywhere **outside the descriptions highlighted area** to save the new location.

5.) **Click** on the **Cgl** at **1220 m.** This action will activate a border.

6.) **Move** your **mouse pointer onto the outline** and you will see the pointer turn into a ✥ **crosshair**. Then **click and drag your mouse up** 1.2 meters to move the description up to **1218.8m. Release your mouse pointer.**

7.) **Click** anywhere **outside the descriptions highlighted area** to save the new location.

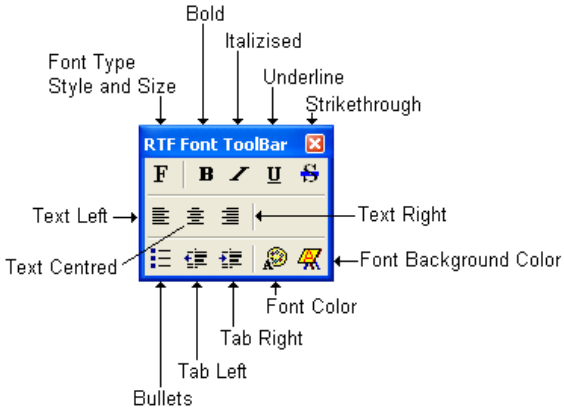
Editing a Lithology / Core Description

8.) Now we will edit the **Mrlst** description at 1234.4m. **Click** on the **Mrlst description at 1234.4m.** You will see the description become outlined on the log.

9.) **Move your mouse pointer** into the text field and **click and drag the mouse to highlight the depths. Press the BKSP (Backspace) Key to erase the depths.**

10.) **Click** anywhere **outside the descriptions highlighted area** to save the changes. Your log should look like the log shown on **page 34** at this point in time.

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 **click anywhere outside the highlighted area** to save the changes



Overview of RTF Font Toolbar buttons.

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

B 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.

U 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.

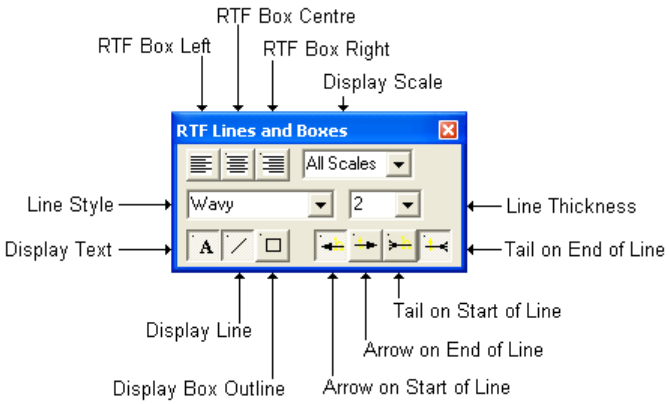
At the flashing cursor or with some text highlighted these buttons will orient the text line or paragraph left, centered or right within the box outline.

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.

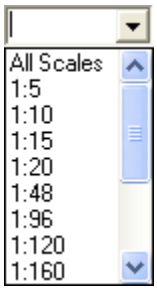
At the flashing cursor or with some text highlighted this button will activate a new Font color.

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

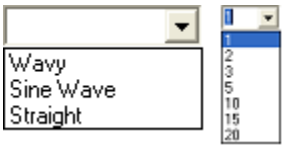


Overview of RTF Lines and Boxes Toolbar buttons.

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. The text will not hide itself until the annotation is clicked outside of or deselected.

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.

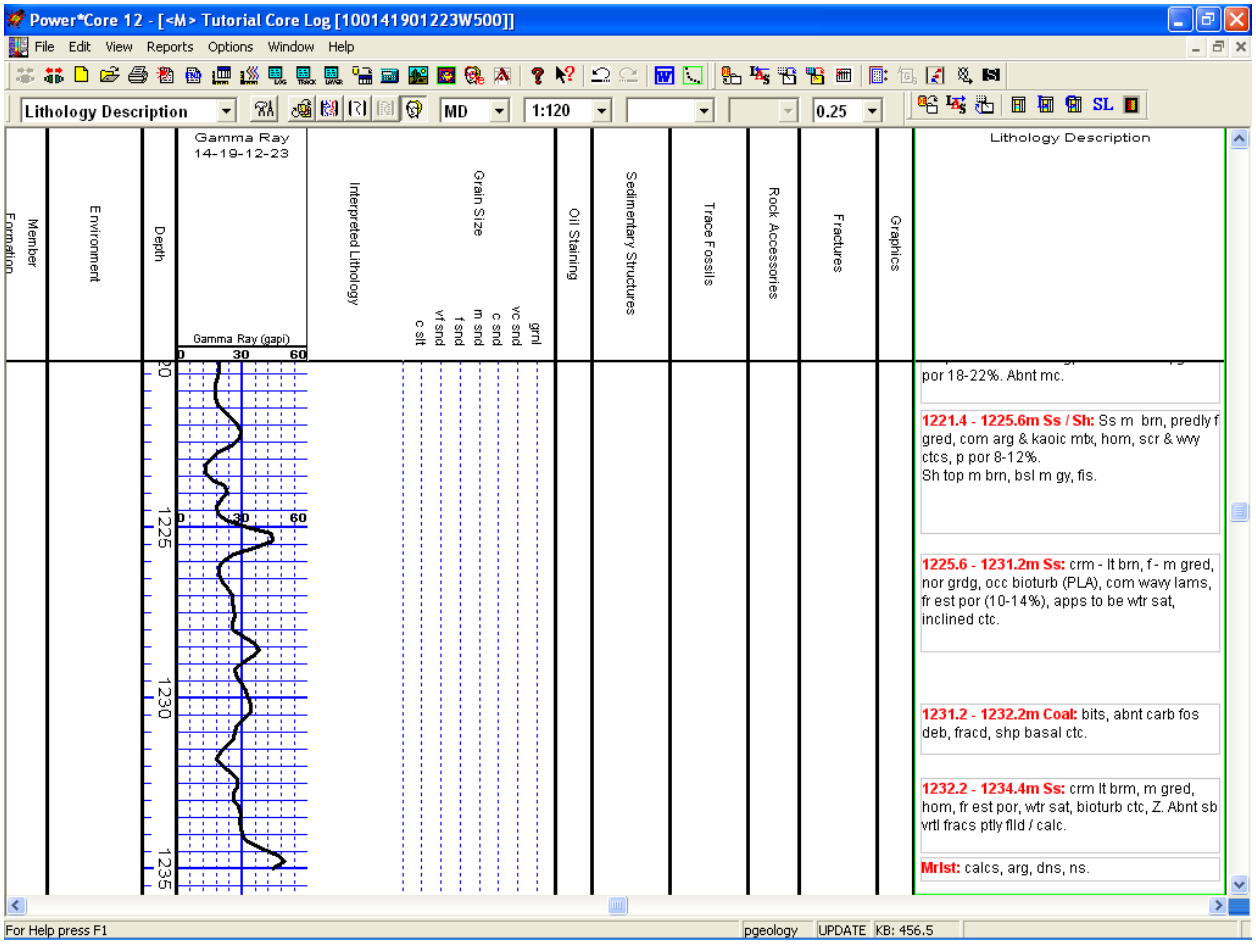
Will show / hide an arrow pointer at the end of a line draw.

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.

Your log should now look like the log shown below.



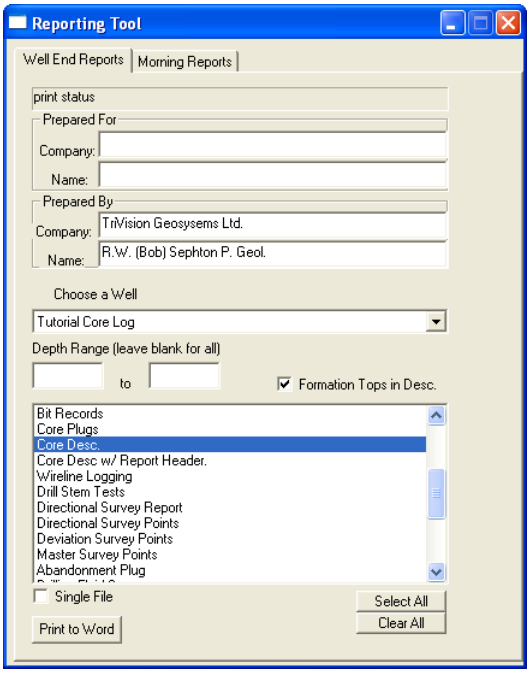
Printing out Sample Descriptions to Word. (Only if you have Word for Windows)

1.) **Click** on the  **Print Reports to Word button** on the **Toolbar** or **select Print Reports to Word Selection,** under the **File menu,** on the **Selection Bar** to activate the **Power*Log Report: Well End Report** window.

2.) The **Reporting Tool** print window will automatically default to the active **Well/Log Name.**: You will see **Tutorial Core Log** in the **Choose a Well** field If it is not the defaulted well then go to the Well list drop box and select it from the List.

3.) Highlight **Core Desc** in the **Reports** field by clicking on it once.

4.) Leave the Depth Range field blank to print all the descriptions.



5.) **Click** on the ☑ Formation Tops in Desc. **check box**

6.) **Click** on the Print to Word **button** in the **Well End Report** window to printout the **Sample Descriptions**. This will activate you word program and you will get the Sample descriptions and Formation tops that were input through the Reports window.

7.) When you are finished, **press** the **Esc** key on the keyboard to exit from the **Well End Report** window and to activate the following system message, "***Do you want to save the setup***" Clicking on the Yes button and the window selections you have just made will be remembered for the next time. Clicking on the No button will remember the default selections that were set for this window.

Printing out Core Descriptions (If you do not have Word for Windows)

In this particular case we entered our core descriptions into the core description report and we did not fill in the Core Header report. We did this as we did not supply you with the data.

1.) **Click** on the **Print Well End Report button** on the **Toolbar** or **select Print Well End Report,** under **File,** on the **Selection Bar** to activate the **Power*Log™ Report: Well End Report** window.

2.) The **Well End Report** print window will automatically default to the active **Well/Log Name** and its associated **UWI**: you will see **Tutorial Core Log (100141901223W500)** in the **Well List** field and it should be highlighted. If it is not highlighted, move the mouse pointer to the **Well List** field and **click** on the desired **Well / Log Name** to highlight the **Well** you wish to print information from.

3.) Highlight **Core Descriptions** in the **Reports** field by clicking on it once.

4.) **Select Printer** from the **Output** drop box field list.

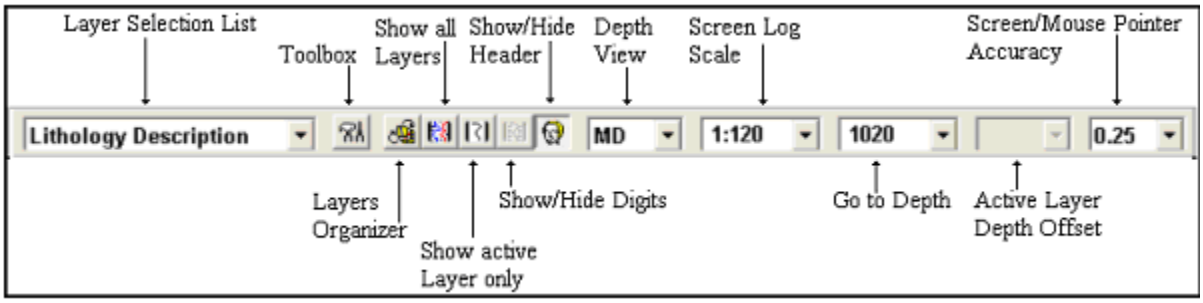
5.) **Click** on the Printer Setup... **button**, in the upper right corner of the **Well End Report** window, to activate the **Print Setup** window. Notice that the currently selected printer is listed beneath the **Default printer** radio button ◉, at the top left of the **Print Setup** window. Use the **Printer** section of the **Print Setup** window to specify the use of a printer other than the default printer.

Note: Power*Log™ automatically defaults to a **Paper Orientation** of **Portrait** and a **Paper Size** of **8 5 x 11**, as specified in the **Orientation** and **Paper** sections, respectively, of the **Print Setup** window. Please do **NOT** change these default settings.

6.) **Click** on the Print **button** in the **Well End Report** window to printout the **Sample Descriptions**.

7.) When you are finished, **press** the **Esc key** on the keyboard to exit from the **Well End Report** window and to activate the following system message, "***Do you want to save the setup configuration*?**" **Click** on the Yes **button** and all of the printer selection/settings information utilized in the **Well End Report** window will be saved to the database for any future **Well End Report** print jobs. **Clicking** on the Yes **button** will also return you to the main log window.

Changing the Log Scale



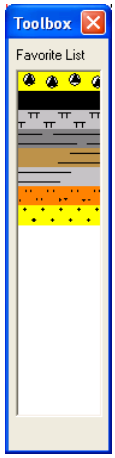
1.) **Click** on the **Screen Log Scales drop box** and **select 1:96**. This will make your Screen Log scale represent your log at a 1:120 depth scale.

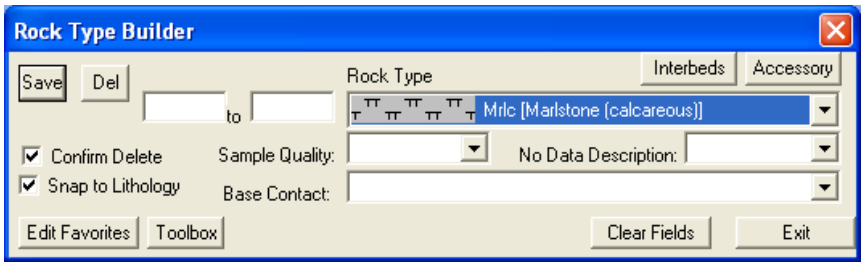
Drawing Interpreted Lithology

Note: To work on any layer in any track, simply **double click** on the track in which you wish to work with to activate the "**builder**" window for that particular layer. Once the "**builder**" window for a given layer is active, you are then able to access the pop-up menu [**right click**] associated with that "**builder**" window and may proceed to enter any necessary intervals and graphical descriptions for the given layer.

- **Drawing Rock Types…**

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





2.) The user can move the Tool Box to a position where it is out of the way by clicking and dragging the Tool Box menu bar**.**

Note: The Tool Box window represent specific **Rock Types** selected by the user in the **System Options** window (See **System Options** earlier in this tutorial).

3.) **Select** the **Rock Type** for **Marlstone (calcareous)** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

4.) Move your mouse pointer to 1235m within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1235.00 1234.40 to **1234.4m**. Finally, release the mouse button and the interval will be drawn accordingly.

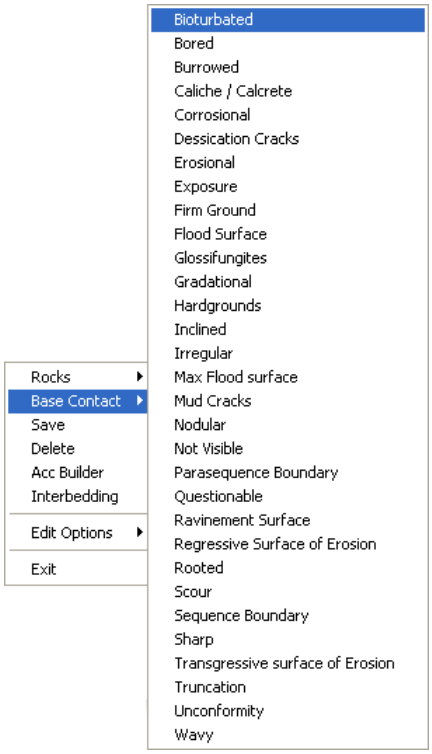
Note: While dragging the mouse the user must start and stay within the confines of the track / layer they are working on. If you stray outside the interval will start flickering and will not be drawn.

- **Drawing another Rock Type…**

1.) **Select Sandstone** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

2.) Move your mouse pointer to **1234.4m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1234.40 1232.20 to **1232.2m**. Finally, release the mouse button and the interval will be drawn accordingly.

3.) **Right Click** on the just drawn **Sandstone bed** to activate the pop out menu, **Select** the **Base Contact** option and **select Bioturbated** from the selection list.



4.) **Click** on the Clear Fields **button** to clear the depths and bedding contacts fields**.**

And many more...

1.) **Select Coal** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

2.) Move your mouse pointer to **1232.2m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1232.20 1231.20 to **1231.2m**. Finally, release the mouse button and the interval will be drawn accordingly.

3.) **Right Click** on the just drawn **Coal bed** to activate the pop out menu, **Select** the **Base Contact** option and **select Sharp** from the selection list.

4.) **Click** on the Clear Fields **button** to clear the depths and bedding contacts fields**.**

5.) **Select Sandstone** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

6.) Move your mouse pointer to **1231.2m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1231.20 1222.80 to **1222.8m**. Finally, release the mouse button and the interval will be drawn accordingly.

7.) **Right Click** on the just drawn **Sandstone bed** to activate the pop out menu, **Select** the **Base Contact** option and **select Inclined** from the selection list.

8.) **Click** on the Clear Fields **button** to clear the depths and bedding contacts fields**.**

9.) **Select Shale brown** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

10.) Move your mouse pointer to **1222.8m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1222.80 1221.40 to **1221.4m**. Finally, release the mouse button and the interval will be drawn accordingly.

11.) **Right Click** on the just drawn **Shale bed** to activate the pop out menu, **Select** the **Base Contact** option and **select Wavy** from the selection list.

12.) **Click** on the Clear Fields **button** to clear the depths and bedding contacts fields**.**

13.) **Select Conglomerate (dark chert)** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

14.) Move your mouse pointer to **1221.4m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1221.40 1220.00 to **1220m**. Finally, release the mouse button and the interval will be drawn accordingly.

15.) **Right Click** on the just drawn **Conglomerate bed** to activate the pop out menu, **Select** the **Base Contact** option and **select Mud Cracks** from the selection list.

16.) **Click** on the Clear Fields **button** to clear the depths and bedding contacts fields**.**

17.) **Select Sandstone** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

18.) Move your mouse pointer to **1220m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1220.00 1213.00 to **1213m**. Finally, release the mouse button and the interval will be drawn accordingly.

19.) **Right Click** on the just drawn **Sandstone bed** to activate the pop out menu, **Select** the **Base Contact** option and **select Gradational** from the selection list.

20.) **Click** on the Clear Fields **button** to clear the depths and bedding contacts fields**.**

21.) **Select Shale brown** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

22.) Move your mouse pointer to **1213m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1213.00 1211.40 to **1211.4m**. Finally, release the mouse button and the interval will be drawn accordingly.

23.) **Right Click** on the just drawn **Shale bed** to activate the pop out menu, **Select** the **Base Contact** option and **select Sharp** from the selection list.

24.) **Click** on the Clear Fields **button** to clear the depths and bedding contacts fields**.**

25.) **Select Siltstone** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

26.) Move your mouse pointer to **1211.4m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1211.40 1210.20 to **1210.2m**. Finally, release the mouse button and the interval will be drawn accordingly.

27.) **Select Shale medium gray** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

28.) Move your mouse pointer to **1210.2m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1210.20 1209.60 to **1209.6m**. Finally, release the mouse button and the interval will be drawn accordingly.

29.) **Select Sandstone** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

30.) Move your mouse pointer to **1209.6m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1209.60 1203.00 to **1203m**. Finally, release the mouse button and the interval will be drawn accordingly.

31.) **Right Click** on the just drawn **Sandstone bed** to activate the pop out menu, **Select** the **Base Contact** option and **select Sharp** from the selection list.

32.) **Click** on the Clear Fields **button** to clear the depths and bedding contacts fields**.**

33.) **Select Shale black** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

34.) Move your mouse pointer to **1203m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1203.00 1200.00 to **1200m**. Finally, release the mouse button and the interval will be drawn accordingly.

35.) **Right Click** on the just drawn **Shale** to activate the pop out menu, **Select** the **Base Contact** option and **select Scour** from the selection list.

Note: You may wish to resize a particular bed or lithologic interval, but remember that beds cannot completely overlap one another. Also, keep in mind that only the top or the bottom of a particular bed can be resized at any one time. Accordingly, if you wish to resize both, you will have to do it twice.

- **Resizing an interval…**

1.) **Press and hold** the **Ctrl key** on the keyboard **down**, while hovering over the bed boundary between the Shale and Sandstone bedding contact at **1203m**. You will view a mouse pointer turn into resize arrow and if the shale is viewed in the builder **click and drag** the **left** mouse button from **anywhere within the Shale bed** down one meter to **1204m** on the **Interpreted Lithology** track.

2.) Release the mouse button at **1204m**, followed by the release of the **Ctrl key** on the keyboard, and you will be prompted with the following system message, "***Do you really want to resize the interval from 1200.00 - 1203.00 to 1200.00 - 1204.00?***"

3.) **Click** on the Yes **button** to resize both the Shale and Sandstone beds.

Inserting a Lithology interbed into an exiting lithology interval…

1.) **Select Shale medium gray** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.

2.) Move your mouse pointer to **1224.8m** within the Interpretive Lithology Track and **Click and drag** the mouse pointer 1225.60 1224.80 to **1225.6m**. Finally, release the mouse button and the interval will be drawn accordingly. This will activate a system message ***"Do you want to Add an Interbedded Interval?"***

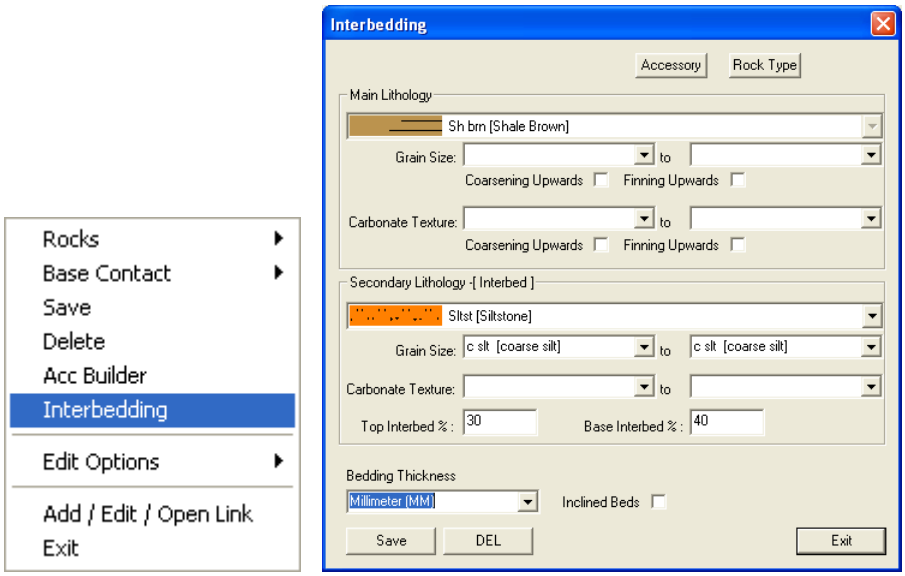
3.) **Click** on the Yes **button**.

4.) **Right Click** on the just redrawn **Sandstone bed (1222.8-1224.8)** to activate the pop out menu, **Select** the **Base Contact** option and **select Scour** from the selection list.

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

Inserting an Interbedding Lithology interval…

1.) **Right click** on the **Shale brown bed** that you drew from **2011.4m to 2013.1m.** This will activate a pop out menu and **select** the **Interbedding option.** This will activate the Interbedding window.

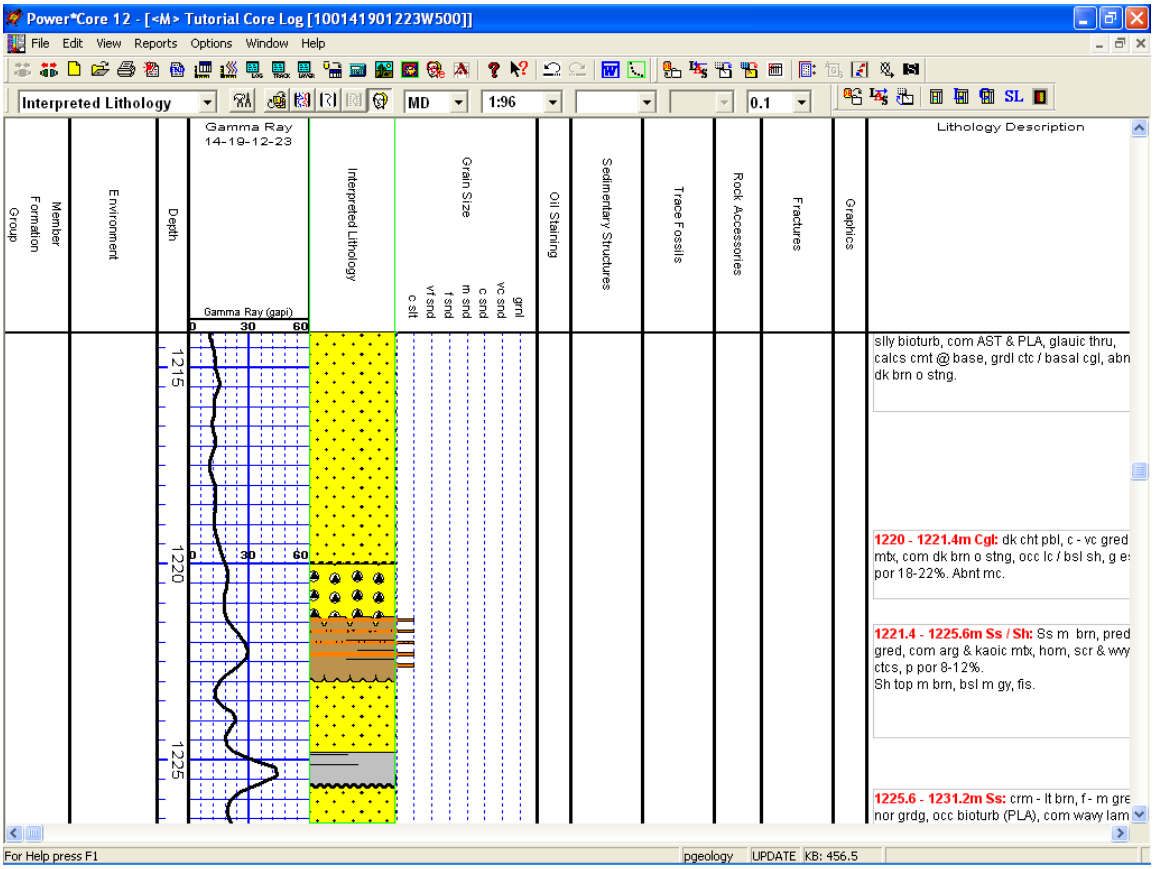


2.) **Select Siltstone** from the **Secondary lithology drop box**, **select c slt** from the **grain size from and to drop list**. **Type 30 and 40** in the **Top and Base Interbed % boxes** and **Select Millimeter (MM)** from the **bedding thickness drop box**.

3.) **Click** on the Save **button**.

4.) **Click** on the Exit **button**. You will view your interbedded interval on your log.

*****Your log should now look like the log shown below.*****

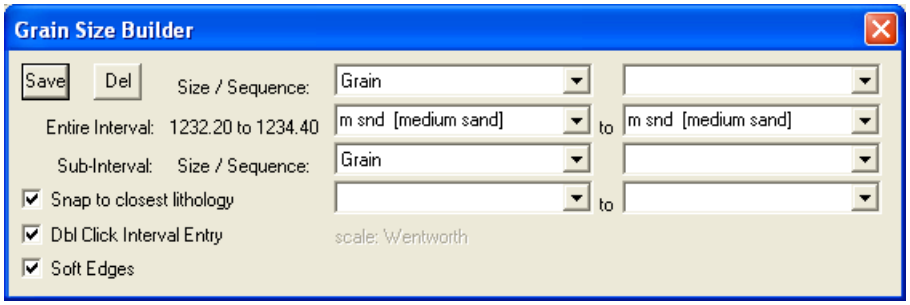


Drawing Grain Size

The Entire interval is applicable to the Interpretive Lithology interval. The entire interval would contain all of the drawn interpretive lithological interval. For the following entire intervals to work the Dbl Click Interval Entry, Snap to closest lithology and Soft Edges must be activated or checked as seen in the builder below.

1.) **Double click** on the **Grain Size** track to activate the **Grain Size Builder** window.

Make sure all 3 check boxes are activated as shown in the builder below.



2.) **Double click** the mouse pointer between the depths **1234.40** to **1232.20** 1233.10 [m snd] on the (m snd) in the **Grain Size** track. The entire **Grain Size** interval will be drawn in purple accordingly. (Purple to represent an entire interval.)

Note: Measured Depths and **Grain Sizes** can be viewed within the mouse pointer display box, situated to the right of the mouse pointer.

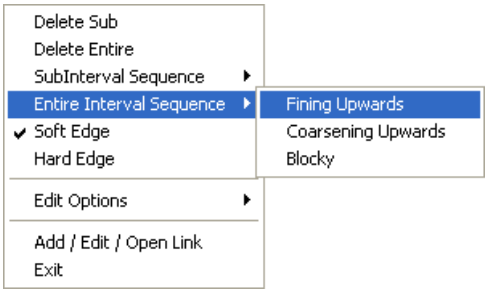
3.) **Click and drag** the mouse pointer from **1231.2 [f snd]** to **1225.60 [m snd]** 1231.20 [f snd] 1225.60 [m snd] in the **Grain Size** track. Then, release the mouse button and the entire **Grain Size** interval will be drawn in purple accordingly.

4.) **Click and drag** the mouse pointer from **1222.8 [f snd]** to **1224.8m [f snd]** 1222.80 [f snd] 1224.80 [f snd] on the **Grain Size** track. Then, release the mouse button and the entire **Grain Size** interval will be drawn accordingly.

5.) **Double click** the mouse pointer between the depths **1221.4** to **1220.00m** on the **(f pbl)** 1220.50 [f pbl] in the **Grain Size** track. The entire **Grain Size** interval will be drawn accordingly

6.) **Double click** the mouse pointer between the depths **1211.4** to **1210.20** on the **(c slt)** 1210.80 [c slt] in the **Grain Size** track. The entire **Grain Size** interval will be drawn accordingly.

7.) **Right click within the interval** (1225.6 – 1231.20) to activate the Grain size pop out menu. **Select Entire Interval Sequence** and then **Select Fining Upwards** from the ensuing pop-out menu. You should now see a fining upwards on your grain size.



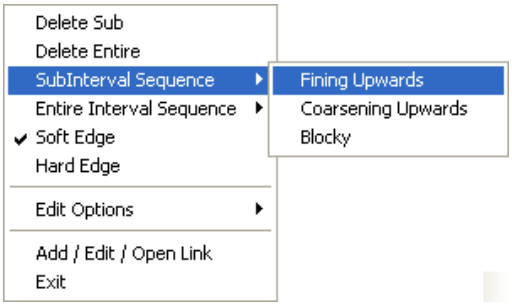
- **Drawing Sub-Interval of Grain Sizes…**

The sub interval is applicable to the Interpretive Lithology interval. A sub interval would consist of a part or portion of the lithological interval.

1.) **Click and drag** the mouse pointer from **1220.00 [vc snd]** to **1216.8 [vc snd]** 1220.00 [vc snd] 1216.80 [vc snd] on the **Grain Size** track. Release the mouse button and the **Grain Size** Sub-Interval will be drawn in green accordingly. (Green to represent a subinterval.)

2.) **Click and drag** the mouse pointer from **1216.8 [vc snd]** to **1213 [m snd]** 1216.80 [vc snd] 1213.00 [m snd] on the **Grain Size** track. Release the mouse button and the **Grain Size** Sub-Interval will be drawn accordingly.

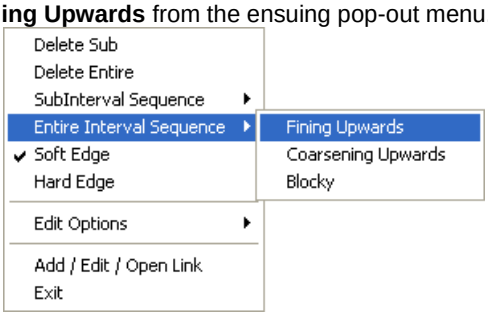
3.) **Right click within the interval** (1213 - 1216.8) to activate the Grain size pop out menu. **Select SubInterval Sequence** and then **Select Fining Upwards** from the ensuing pop-out menu.



Drawing both an Entire and a Sub-Interval of Grain Sizes…

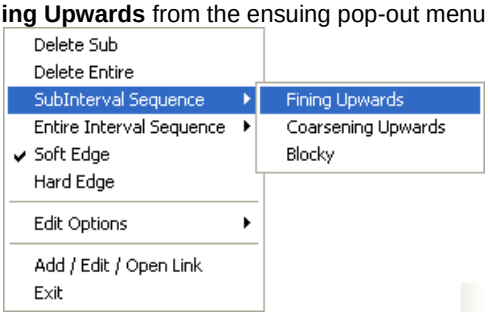
1.) **Click and drag** the mouse pointer from **1209.6 [c]** to **1204 [m]** 1209.60 [c snd] 1204.00 [m snd] on the **Grain Size** track. Then, release the mouse button and the entire **Grain Size** interval will be drawn accordingly.

2.) **Right click within the interval** (1204 – 1209.6) to activate the Grain size pop out menu. **Select Entire Interval Sequence** and then **Select Fining Upwards** from the ensuing pop-out menu.



3.) **Click and drag** the mouse pointer from **1208 [c]** to **1206 [m]** 1208.00 [c snd] 1206.00 [m snd] on the **Grain Size** track. Release the mouse button and the **Grain Size** Sub-Interval will be drawn accordingly.

4.) **Right click within the interval** (1206 - 1208) to activate the Grain size pop out menu. **Select SubInterval Sequence** and then **Select Fining Upwards** from the ensuing pop-out menu.

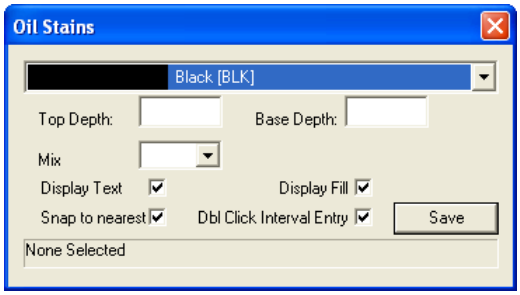


You now have one entire interval that defines the whole bed, with a sub interval that has divided the entire interval into an upper and lower.

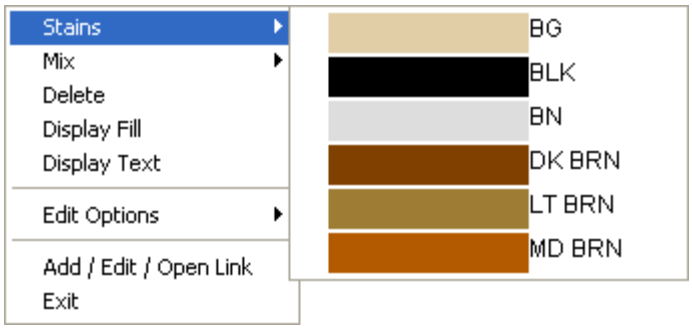
5.) To exit from the **Grain Size Builder** window and return to the log, **press** the **Esc key** on the keyboard once.

Drawing Oil Staining

1.) **Double click** on the **Oil Staining** track to activate the **Oil Stains Builder** window.



2.) **Right click** anywhere within the **Oil Staining** track / layer to activate the pop-up menu and **select intensity** and then **select BLK** from the pop-out menu selection.



3.) **Double Click** the mouse pointer between the depths **1204 to 1209.6m** within the Oil staining track layer. Your entire interval oil staining will be drawn.

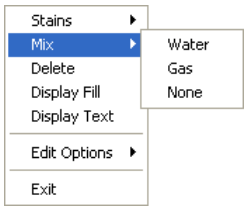
4.) **Right click** anywhere within the **Oil Staining** track / layer and not within another already drawn interval to activate the pop-up menu and **select intensity** and then **DK BRN** from the pop-out menu selection.

5.) **Click and drag** the mouse pointer from **1213 to 1221.4m** 1213.00 1221.40 within the Oil staining track layer. Release the mouse pointer button and your oil staining interval will be drawn.

6.) **Right click** anywhere within the **Oil Staining** track / layer and not within another already drawn interval to activate the pop-up menu and **select intensity** and then **MB BRN** from the pop-out menu selection.

7.) **Click and drag** the mouse pointer from **1222.8 to 1224.8m** 1222.80 1224.80 within the Oil staining track layer. Release the mouse pointer button and your oil staining interval will be drawn.

8.) **Right click** anywhere within the **Oil Staining** track / layer and not within another already drawn interval to activate the pop-up menu and **select mix** and then **Water** from the pop-out menu selection.



9.) **Right click** anywhere within the **Oil Staining** track / layer and not within another already drawn interval to activate the pop-up menu and **select intensity** and then **BG** from the pop-out menu selection.

10.) **Double Click** the mouse pointer between the depths **1225.6 to 1231.2m** within the Oil staining track layer. Release the mouse pointer button and your oil staining interval will be drawn.

11.) **Double Click** the mouse pointer between the depths **1232.2 to 1234.4m** within the Oil staining track layer. Your entire interval oil staining will be drawn.

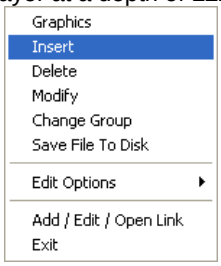
12.) **Click** on the OK **button** or **Press** the **Esc key** on you keypad to exit the Oil Stains window.

Inserting and modifying Graphics…

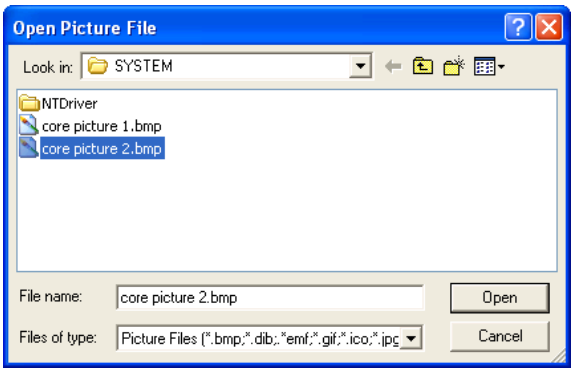
We are able to accept any graphical file format into our graphics layer.

1.) **Click** anywhere within the **Graphics** track / layer to highlight the Graphics Track in green.

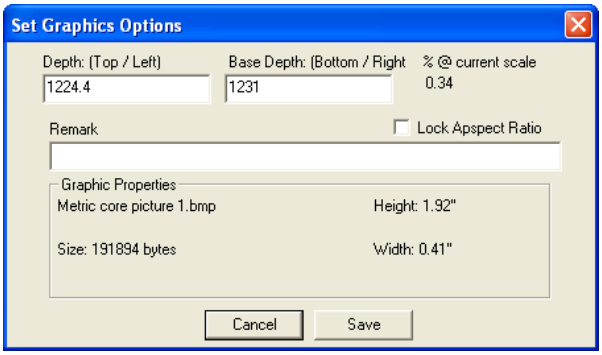
2.) **Right click** the mouse within the Graphics layer at a depth of **1224.4m**. This will activate the pop out menu.



3.) **Click** on the **Insert** Option. This will activate an Open Picture File window.



4.) Go to the Powersuite_V12 / System folder and **select** the **Metric Core picture 2.bmp** by **double clicking** on the file name. This will activate the Set Graphics Options window.



5.) **Type 1231** into the **Base Depth field** and the resulting % @ current scale should indicate 0.34 % if you are at a log screen scale of 1:120. You could deselect the Lock Aspect Ratio check box, which would make the picture fit into the width of the track (regardless of what log screen scale and would ultimately distort the picture depending on either the width of the track vs the width of the picture).

6.) **Click** on the Save **button.** This will insert your picture and close the window.

Inserting another Graphic.

1.) **Double click** the mouse within the Graphics layer at a depth of **1204m**. This will bypass the pop out menu and will activate an **Open Picture File window.**

2.) Select the **Core picture 1.bmp** by **double clicking** on the file name. This will activate the Set Graphics Options window.

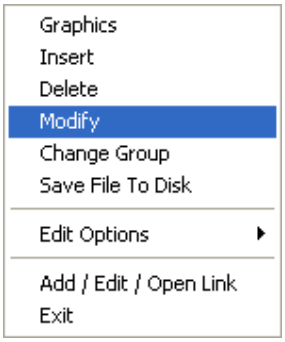
2.) **Type 1210.58** into the **Base Depth field** and the resulting Scale % should be 0.34% if you are at a log screen scale of 1:120.

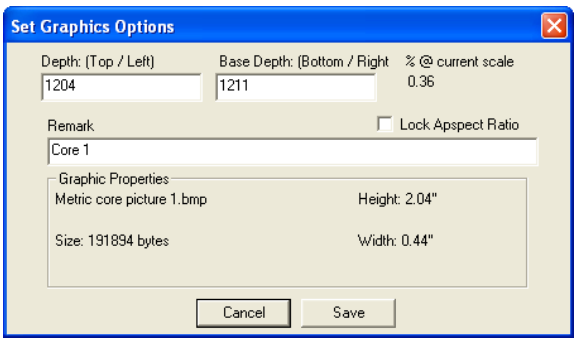
3.) **Click** on the Save **button.** This will insert your picture and close the window.

Modifying a Graphic…

1.) **Right click** the mouse within the Graphics layer on the Core picture 1 somewhere between the depths of 1204 and 1210.58m. This will activate the pop out menu.

2.) **Click** on the **Modify** Option. This will activate the Set Graphics Options window.

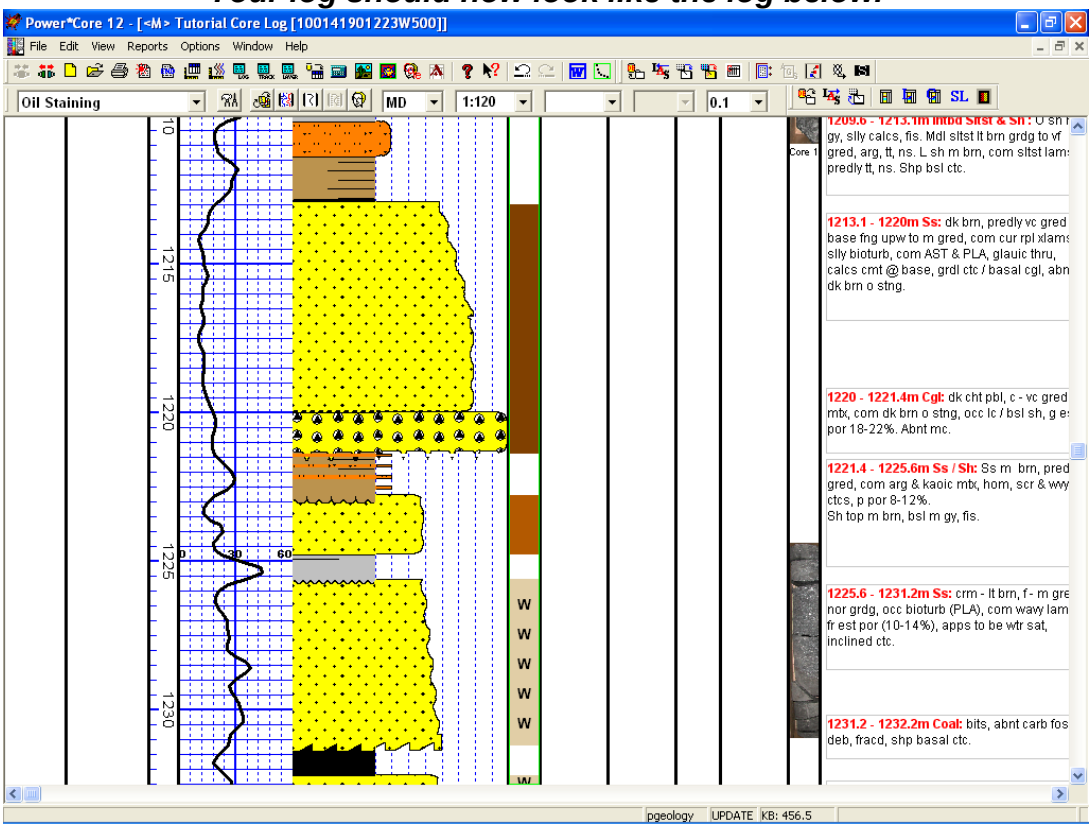




3.) **Type 1211** into the **Base Depth field** and the resulting Scale % should be 0.36% if you are at a log screen scale of 1:120. Also **type Core 1** in the Remark field.

4.) **Click** on the Save **button.** This will modify the size of the picture, insert a comment under your picture and close the window.

*****Your log should now look like the log below.*****



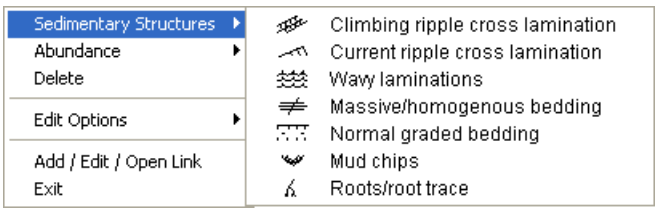
Drawing Sedimentary Structures (BR)

The BR is an acronym for Bed Restricted. You cannot enter a sedimentary structure without an associated Lithology in the Interpretive Lithology layer/ track. The top and bottom depths of the Lithology will restrict what data can be entered into an interval. With the BR in effect when you resize, delete or insert a lithology the Sedimentary structures interval will also be resized, deleted or modified by the lithology's interval.

1.) **Double click** anywhere within the **Sedimentary Structure** track to activate the **Sedimentary Structure Builder** window.

2.) **Right click** anywhere within the **Sedimentary Structure** track to activate the pop-up menu. **Select Sedimentary Structures** and then **select roots/root trace** from the pop-out menu. If it is not in your favorites list you would then select if from the Other drop box in the builder.

To add it to your favorites **Click** on the [Edit Favorites] **button**, this will activate the **System Options** Favorites Tab and then **click** on the [Sedimentary Favorites] **button** and add it from the **Other drop list**. Remember to [OK] on the way out of the System Options window to save your changes.



3.) **Double Click** ([Dbl Click Interval Entry] activated in the builder) the mouse pointer between **1200 to 1204m** within the Sedimentary Structure track / layer. The root structure interval will be drawn.

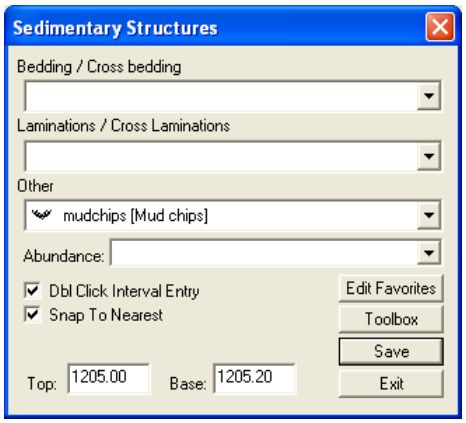
Note: There are two ways to represent this data. They are chosen under the Options pull down menu in the System Options window with the toggle on and off for the Arrow subintervals.

4.) **Right click** anywhere within the **Sedimentary Structure** track to activate the pop-up menu. **Select Sedimentary Structure** and then **select climbing ripple cross laminations** from the pop-out menu, or **click** on the **Laminations drop box** from the builder and **select climbing ripple cross laminations.**

5.) **Double Click** the mouse pointer between **1204 to 1209.6m** within the Sedimentary Structure track / layer. The climbing ripple cross laminations will be drawn within that rock interval.

6.) **Select** the **Other** drop list in the Sedimentary Structure Builder window and then **select mud chips.**

7.) **Click** the **mouse pointer** from **at 1205, 1206.6 and 1208.8m** within the Sedimentary Structure track / layer on a different grid plane. The mud chips selection has been entered as a subinterval of 0.2m or whatever has been selected in the Screen Scale accuracy selection on the selection bar.



8.) **Right click** anywhere within the **Sedimentary Structure** track to activate the pop-up menu. **Select Laminations / Cross Laminations** and then **select current ripple cross laminations** from the pop-out menu, or **click** on the **Laminations / Cross Laminations drop box** from the builder and **select current ripple cross laminations.**

9.) **Double Click** the mouse pointer between **1213 to 1220m** within the Sedimentary Structure track / layer. The current ripple cross laminations will be drawn within that rock interval.

10.) **Right click** anywhere within the **Sedimentary Structure** track to activate the pop-up menu. **Select** the **Sedimentary Structure** and then **select massive/homogenous bedding** from the pop-out menu, or **click** on the **Bedding / Cross bedding drop box** from the builder and **select massive/homogenous bedding.**

11.) **Click and drag** the mouse pointer from **1222.8 to 1224.8m** [1222.80 / 1224.80] within the Sedimentary Structure track / layer. Release the mouse pointer button and the massive/homogeneous bedding will be drawn.

12.) **Double click** the mouse pointer between **1232.2 to 1234.4m** within the Sedimentary Structure track / layer. The massive/homogeneous bedding interval will be drawn.

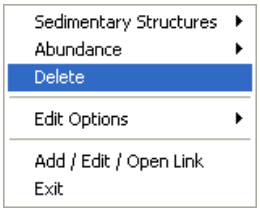
13.) **Right click** anywhere within the **Sedimentary Structure** track to activate the pop-up menu. **Select Sedimentary Structure** and then **select wavy laminations** from the pop-out menu, or **click** on the **Laminations / Cross laminations drop box** from the builder and **select wavy laminations.**

14.) **Click and drag** the mouse pointer from **1227.6 to 1231.2m** 1227.60 1231.20 within the Sedimentary Structure track / layer. Release the mouse pointer button and the wavy laminations will be drawn.

15.) **Right click** anywhere within the **Sedimentary Structure** track to activate the pop-up menu. **Select Bedding / Cross bedding** and then **select normal graded bedding** from the pop-out menu, or **click** on the **Bedding / Cross bedding drop box** from the builder and **select normal graded bedding.**

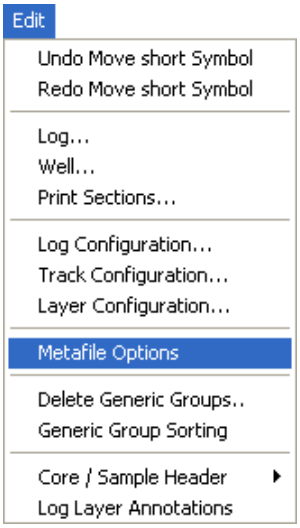
16.) **Click and drag** the mouse pointer from **1227.6 to 1231.2m** 1227.60 1231.20 within the Sedimentary Structure track / layer on a different grid plane. Release the mouse pointer button and the normal graded bedding will be drawn.

17.) If you wanted to **delete** a sedimentary structure, **right click on the interval to be deleted** and **select delete** from the pop-out menu. You can also delete more than one by holding the Shift key on the keypad and clicking and dragging an area

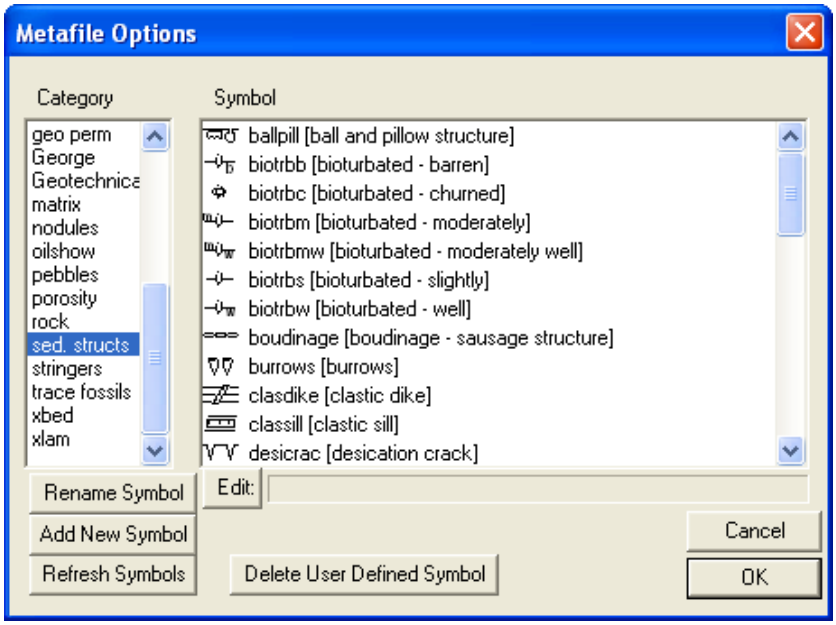


18.) **Click** on the Exit **button** or **Press** the **Esc key** on your **keypad** to close the window.

How to Add a New Sedimentary Structure Metafile…

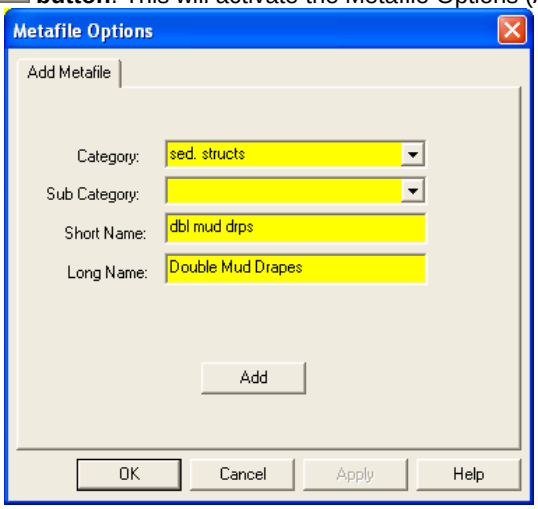


1.) **Click** on the **Metafile Options** selection located under the **Edit pull down menu or Click on the**  **Icon on the Toolbar**. This will activate the Metafile Options window.



2.) **Click** on the **sed. structs** category. This will activate a list of existing symbols shown on the right hand side of the window.

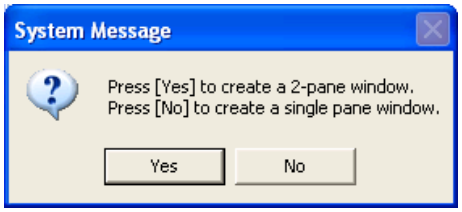
3.) **Click** on the Add New Symbol **button**. This will activate the Metafile Options (Add Metafile) window.



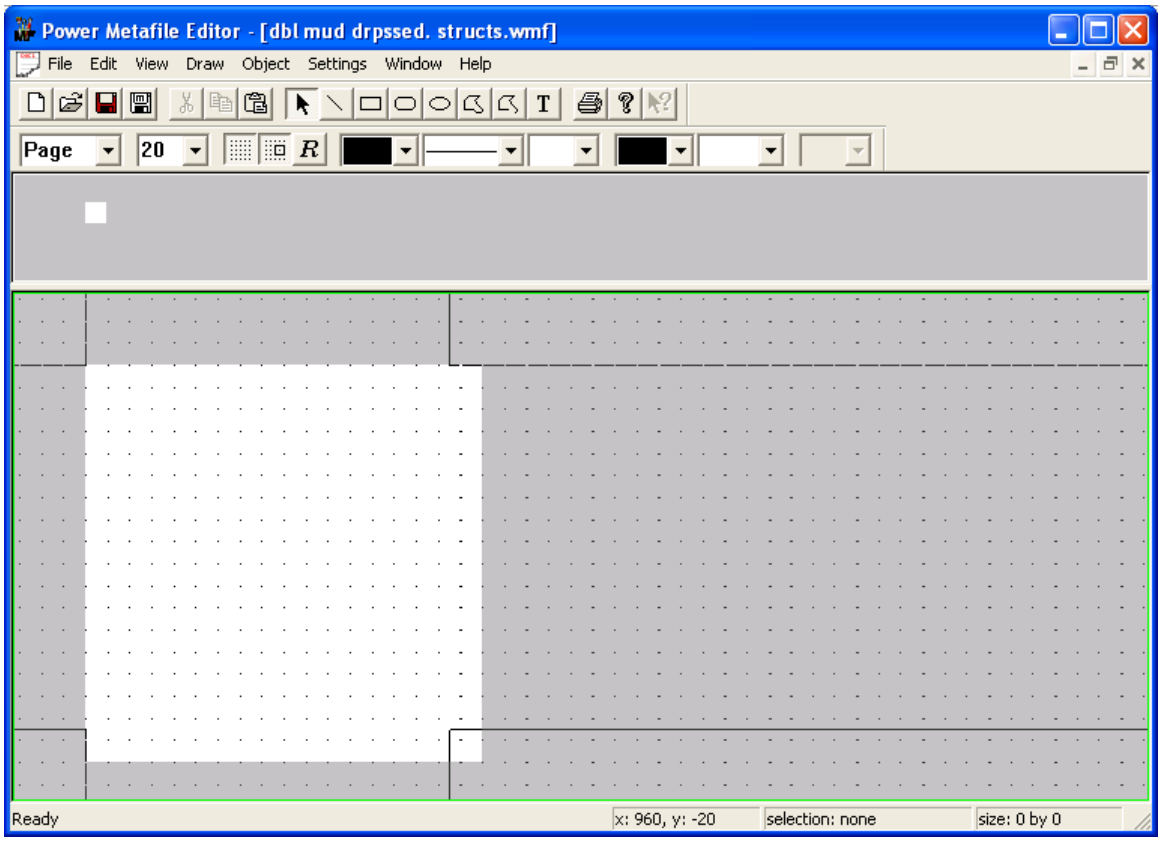
4.) **Type** in 'dbl mud drps' in the **short name field** and **type** in "Double Mud Drapes" in the **long name** fields. These will appear in the choice lists and will be exported in the ASCII Lithology export file.

5.) **Click** on the Add **button**. This will activate a System Message window if you have selected any other category other than rock.

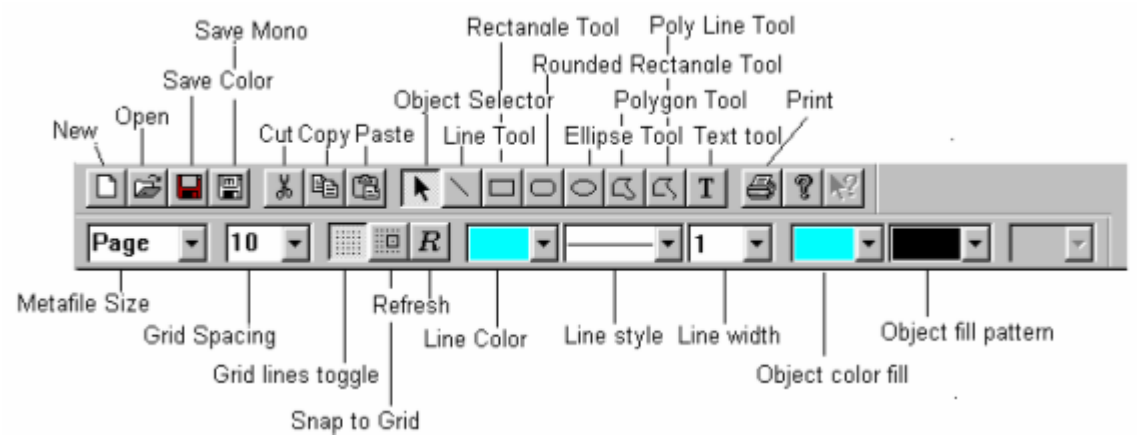
Note: A (two) **2-pane window** shows the metafile in regular and expanded views. A **single pane** window shows the metafile in an expanded view only.



6.) **Click** on either the Yes **button** and the Metafile editor will open a blank Power Metafile Editor window with a file name that is a combined short name and category name.

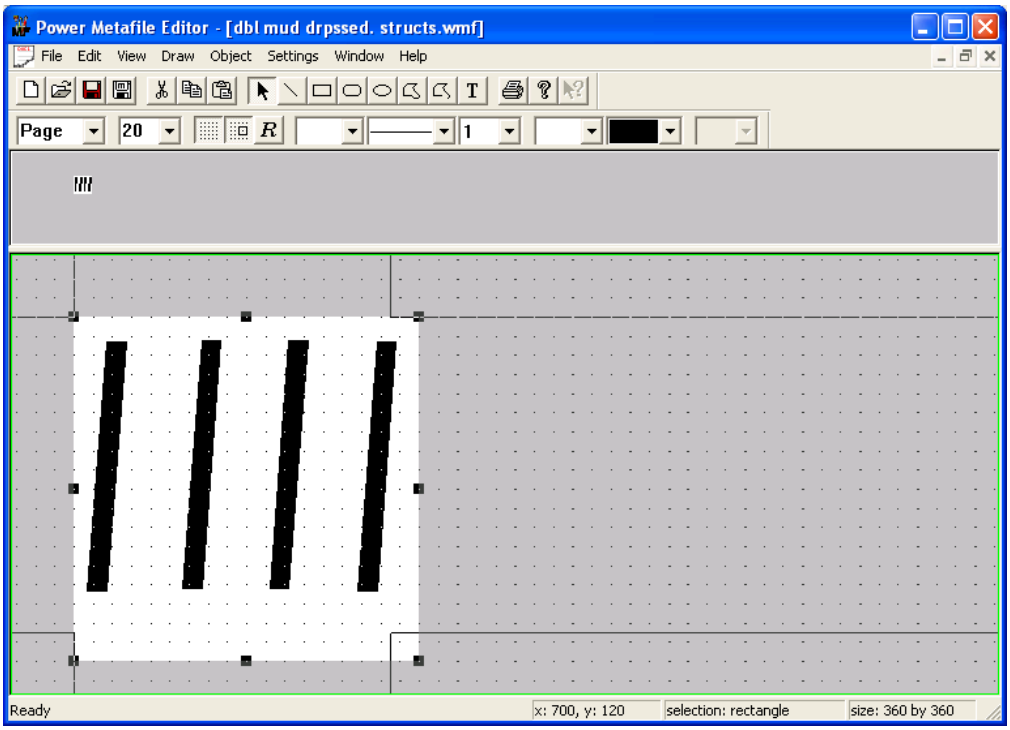


The toolbar functionality's are defined in the illustration shown below.



7.) The lower or expanded portion of the window is the editable portion. With the mouse you can select a line, rectangle, polyline or other shape tool and draw in this window. You can move the lines or shapes by dragging the shapes, copy or delete by using the toolbar or keyboard keys or buttons. Use the drop down menus or the toolbars to select the different options the user can utilize.

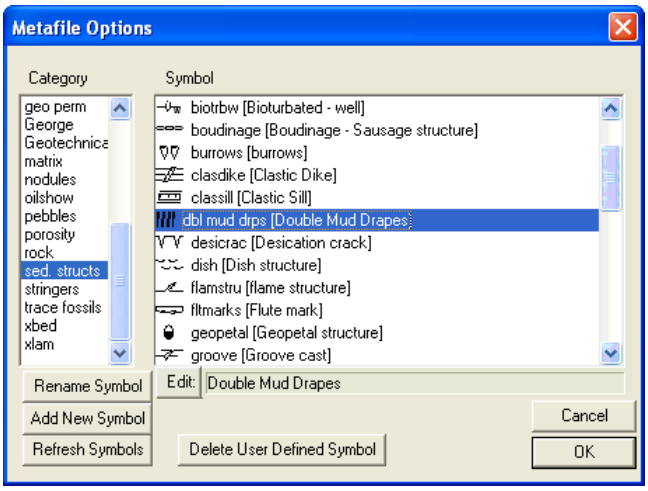
Note: The Polyline and Polygon drawing tools require a double click to finish the action. The text tool font size is determined by the height of the field. Once an action is performed the default reaction is to place the emphasis back on the select tool.



8.) Once the metafile has been designed to your specifications the user must **click** on the **Save button** on the toolbar or **click** on the file pull down menu and select **Save**.

Note: There are two save choices. The Save Mono is done automatically for you when you save the metafile. In other words the color metafiles are converted to black and white metafiles and saved to the Powersuite/symbolm folder. These mono metafiles come in useful when printing to a black and white printer. The color symbols are saved to Powersuite/symbol folder.

9.) Exit the Power Metafile Editor by **clicking on the** in the upper right hand corner of the window or **click** on the **Exit selection** located under the **File pull down menu**. This will put the user back into the PowerSuite Application Metafile options window. You will now view you new creation in the appropriate list.



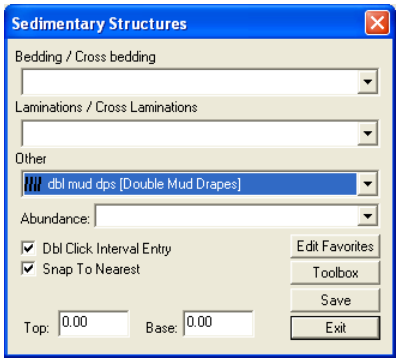
10.) **Repeat** steps **2-9** to add more metafiles.

11.) **Click** on the OK **button** in the Metafile Options window to exit this window. All the changes will be reflected in the Choice lists, printed dynamic legends and will be available to draw with on your existing, new or old logs.

Adding the New Sedimentary Structure to the log…

1.) **Double click** on the **Sedimentary Structures** track. This will activate the Sedimentary Structures Builder

2.) Click on the **Other drop box** from the builder and **select Double Mud Drapes.**



3.) **Click and drag** the mouse pointer from **1204 to 1209.6m** 1204.00 1209.60 within the Sedimentary Structure track / layer. Release the mouse pointer button and the double mud drapes will be drawn.

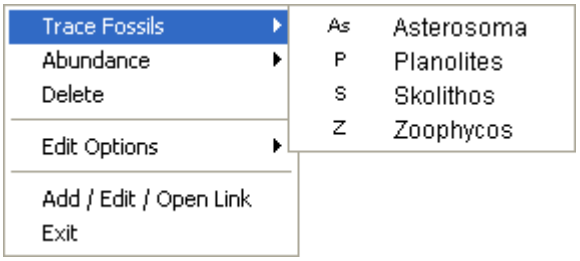
4.) **Click** on the Exit **button** or **Press** the **Esc key** on your **keypad** to close the window.

Drawing Trace Fossils (BR)

The BR is an acronym for Bed Restricted. You cannot enter a Trace Fossil without an associated Lithology in the Interpretive Lithology layer/ track. The top and bottom depths of the Lithology will restrict what data can be entered into an interval. With the BR in effect when you resize, delete or insert a lithology the Trace Fossils interval will also be resized, deleted or modified by the lithology's interval.

1.) **Double click** anywhere within the **Trace Fossils (BR)** track to activate the **Trace Fossils Builder** window.

2.) **Right click** anywhere within the **Trace Fossils** track to activate the pop-up menu and **Select Planolites** from the pop-out menu.



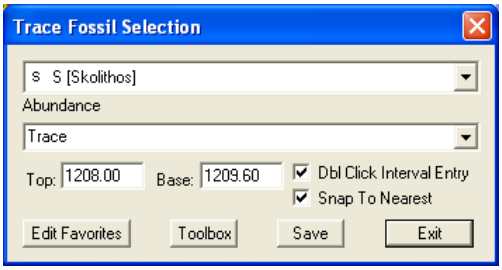
3.) **Click and drag** the mouse pointer from **1206 to 1208m** 1206.00 1208.00 within the Trace Fossils track / layer. Release the mouse pointer button and the symbol for Planolites and the interval will be drawn.

4.) **Click and drag** the mouse pointer from **1214.6 to 1220m** 1214.60 1220.00 within the Trace Fossils track / layer. Release the mouse pointer button and the symbol for Planolites and the interval will be drawn.

5.) **Double Click** the mouse pointer bewtween **1225.6 to 1231.2m** within the Trace Fossils track / layer and the symbol for Planolites for the interval will be drawn.

Note: There are two ways to represent this data. They are chosen under the Options pull down menu in the System Options window with the toggle on and off for the Arrow subintervals.

6.) **Right click** anywhere within the **Trace Fossils** track to activate the pop-up menu. **Select Zoophycos** from the pop-out menu, or **click** on the **Trace Fossil Selection drop box** and **select Zoophycos.**



7.) **Click and drag** the mouse pointer from **1233.4 to 1234.4m** 1233.40 1234.40 within the Trace Fossils track / layer. Release the mouse pointer button and the symbol for Zoophycos and the interval will be drawn.

8.) **Right click** anywhere within the **Trace Fossils** track to activate the pop-up menu. **Select Asterosoma** from the pop-out menu, or **click** on the **Trace Fossil Selection drop box** and **select Asterosoma.**

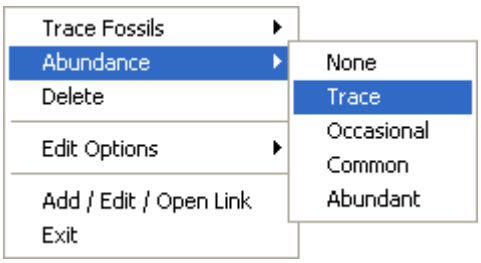
9.) **Click and drag** the mouse pointer from **1214.6 to 1213m** 1213.00 1214.60 within the Trace Fossils track / layer. Release the mouse pointer button and the symbol for Asterosoma and the interval will be drawn.

10.) **Right click** anywhere within the **Trace Fossils** track to activate the pop-up menu. **Select Skolithos** from the pop-out menu, or **click** on the **Trace Fossil Selection drop box** and **select Skolithos.**

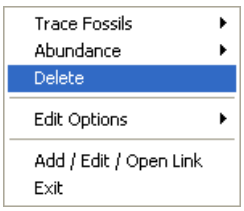
11.) **Click and drag** the mouse pointer from **1206 to 1204m** 1204.00 1206.00 within the Trace Fossils track / layer. Release the mouse pointer button and the symbol for **Skolithos** and the interval will be drawn.

12.) **Click and drag** the mouse pointer from **1209.6 to 1208m** 1208.00 1209.60 within the Trace Fossils track / layer. Release the mouse pointer button and the symbol for **Skolithos** and the interval will be drawn.

13.) **Right click** on the **1208 - 1209.6 Skolithos symbol interval** and **Select Abundance** and then **select Trace** from the ensuing pop out menu. This will change the grey line to a doted line to indicate an abundance of that trace fossil.



14.) If you wanted to **delete** a trace fossil, **right click on the interval to be deleted** and **select delete** from the pop-out menu. You can also delete more than one by holding the Shift key on the keypad and clicking and dragging an area.



15.) **Click** on the Exit **button** or **Press** the **Esc key** on your **keypad** to close the window.

Resize / Move Notes:

There are 2 ways to **resize** the interval.

A) **Click** on the **interval** to make it show up in the builder. **Type** in a new **top** or **base depth** and **click** on the Save button.

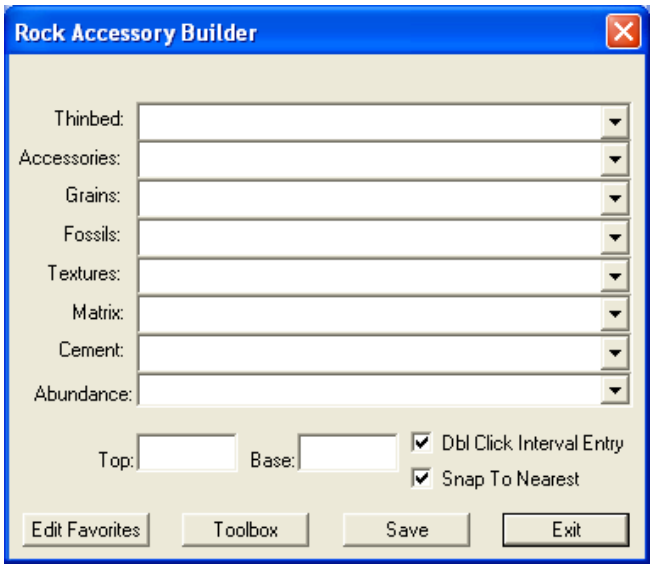
B) **Click** on the **interval** to make it show up in the builder **Hold down** your **CTRL Key** on the **keypad** and then **mouse over** the **end marking** of the interval and your mouse pointer will turn into a ↕ resize cursor. **Click and drag** the ends to a new depth. Release the mouse button first.

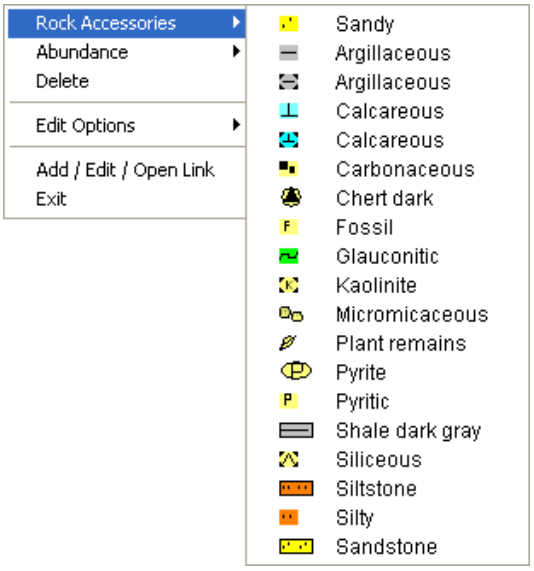
The user can **Move** Trace Fossil intervals by **clicking and dragging on the interval and moving it to a new location** when a cross hair is viewed. ✥ If the Trace Fossil is bed restricted then it will not move past the bed boundaries and will be truncated if moved up or down through a bed boundary.

Drawing Rock Accessories (NBR)

The NBR is an acronym for Non Bed Restricted. You can enter a Rock Accessory without an associated Lithology in the Interpretive Lithology layer/ track. The top and bottom depths of the Lithology will **not** restrict what data that can be entered into any interval. With the NBR in effect when you resize, delete or insert a lithology the Rock Accessories interval will **not** be resized, deleted or modified by the lithology's interval.

1.) **Double click** anywhere within the **Rock Accessories (NBR)** track to activate the **Rock Accessories Builder** window.

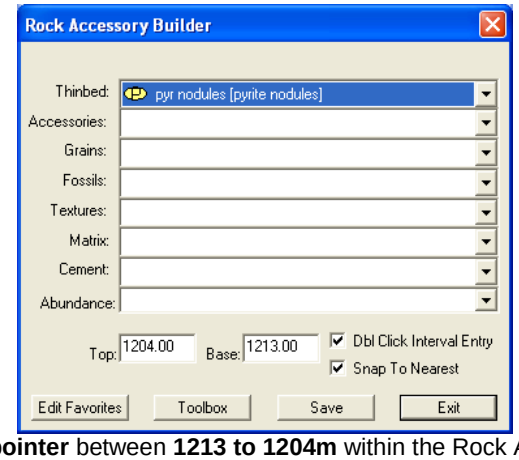




2.) **Right click** anywhere within the **Rock Accessories** track to activate the pop-up menu and **Select Rock Accessories and then select Plant remains** from the pop-out menu.

3.) **Double click** (with the ☑ Dbl Click Interval Entry activated within the builder) the mouse pointer between **1204 to 1200m** within the Rock Accessories track / layer. The symbol and interval for Plant remains will be drawn.

4.) **Right click** anywhere within the **Rock Accessories** track to activate the pop-up menu and **Select Rock Accessories and then select Pyrite (nodules)** from the pop-out menu or **click** on the **Thinbed drop box** and **select pyrite nodules.**



5.) **Clickand drag the mouse pointer** between **1213 to 1204m** within the Rock Accessories track / layer. The entire interval will be filled with Pyrite nodules.

6.) Resize the interval by clicking on the interval you just drew so that it goes into the builder and then **hold down the CTRL key** on keypad **and mousing over the lower interval of the Pyrite nodule ~1213m** and the arrow will turn into a ↕ resize arrow. **Click and drag** the interval up to **1212m** and let the mouse pointer go before the CTRL Key.

Note: There are two ways to represent this data. They are chosen under the Options pull down menu in the System Options window with the toggle on and off for the Arrow subintervals.

7.) **Right click** anywhere within the **Rock Accessories** track to activate the pop-up menu. **Select Glauconitic** from the pop-out menu, or **click** on the **Component drop box** and **select Glauconitic.**

8.) **Click and drag** the mouse pointer from **1213 to 1221.4m** 1213.00 1221.40 within the Rock Accessories track / layer. Release the mouse pointer button and the symbol for Glauconitic and the interval will be drawn.

9.) **Right click** anywhere within the **Rock Accessories** track to activate the pop-up menu. **Select Chert Dark pebble** from the pop-out menu, or **click** on the **Thinbed drop box** and **select Chert Dark pebbles.**

10.) **Double Click** the mouse pointer between **1221.4 to 1220m** within the Rock Accessories track / layer. The entire interval will be drawn with the symbol for Chert Dark pebbles.

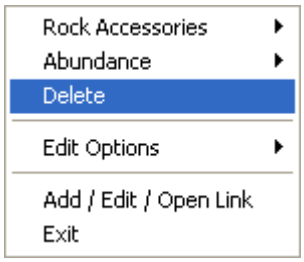
11.) **Right click** anywhere within the **Rock Accessories** track to activate the pop-up menu. **Select argillaceous** matrix from the pop-out menu, or **click** on the **Matrix drop box** and **select argillaceous.**

12.) **Click and drag** the mouse pointer from **1224.8 to 1222.8m** 1224.80 1222.80 within the Rock Accessories track / layer. Release the mouse pointer button and the symbol for **Argillaceous** matrix and the interval will be drawn.

13.) **Right click** anywhere within the **Rock Accessories** track to activate the pop-up menu. **Select fossiliferous** from the pop-out menu, or **click** on the **Components drop box** and **select fossiliferous.**

14.) **Click and drag** the mouse pointer from **1232.2 to 1231m** 1232.20 1231.00 within the Rock Accessories track / layer. Release the mouse pointer button and the symbol for **Fossiliferous** and the interval will be drawn.

15.) If you wanted to **delete** a Rock Accessory Symbol, **right click on the interval to be deleted** and **select delete** from the pop-out menu. You can also delete more than one by holding the Shift key on the keypad and clicking and dragging an area.



16.) **Click** on the Exit **button** or **Press** the **Esc key** on your **keypad** to close the window.

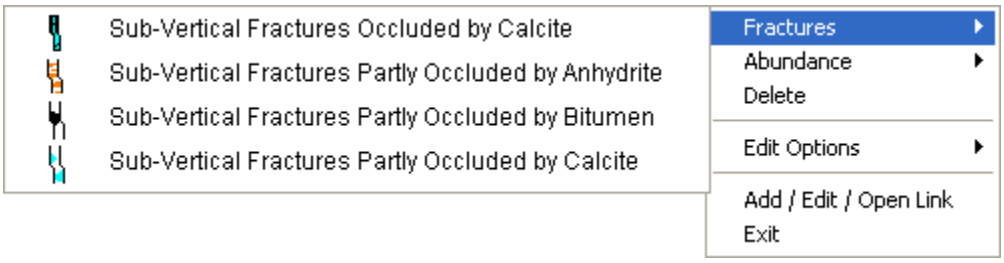
Drawing Fractures (BR)

The BR is an acronym for Bed Restricted. You cannot enter a Fracture without an associated Lithology in the Interpretive Lithology layer/ track. The top and bottom depths of the Lithology will restrict what data can be entered into an interval. With the BR in effect when you resize, delete or insert a lithology the Fractures interval will also be resized, deleted or modified by the lithology's interval.

1.) **Double click** anywhere within the **Fracture track** to activate the **Fracture Builder** window.

2.) **Right click** anywhere within the **Fracture track** to activate the pop-up menu. **Select Fractures** and then **Sub-Vertical Fractures partly occluded by Calcite** from the pop-out menu. If it is not in your favorites list you would then select if from the Fractures drop box in the builder.

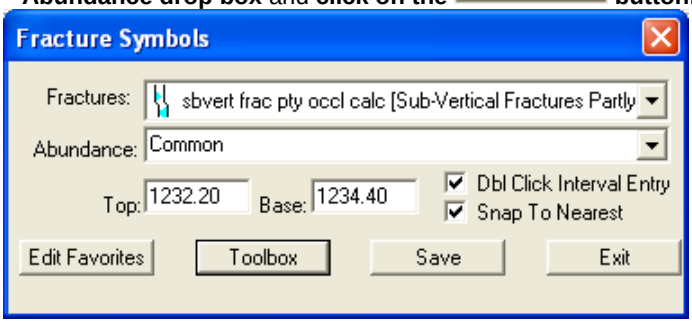
To add it to you favorites **Click** on the **Options pull down menu**, select **System Options** and then **click** on the [Fractures] **button** and add it from the **drop list**. Remember to [OK] on the way out of the System Options window.

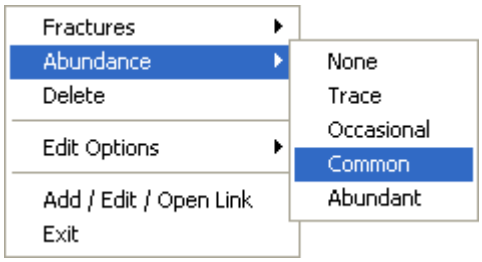


4.) **Double Click** ([✓ Dbl Click Interval Entry] activated in the builder) the mouse pointer between **1232.2 to 1234.4m** within the Fracture track / layer. The interval will be drawn.

Note: There are two ways to represent this data. They are chosen under the Options pull down menu in the System Options window with the toggle on and off for the Arrow subintervals.

5.) **Right click** anywhere within the interval drawn to activate the pop-up menu. **Select Abundance** and then **select** Common from the pop-out menu, **OR click** on the **Interval** to populate the builder and **select Common** from the **Abundance drop box** and **click on the** [Save] **button.**





Resize / Move Notes:

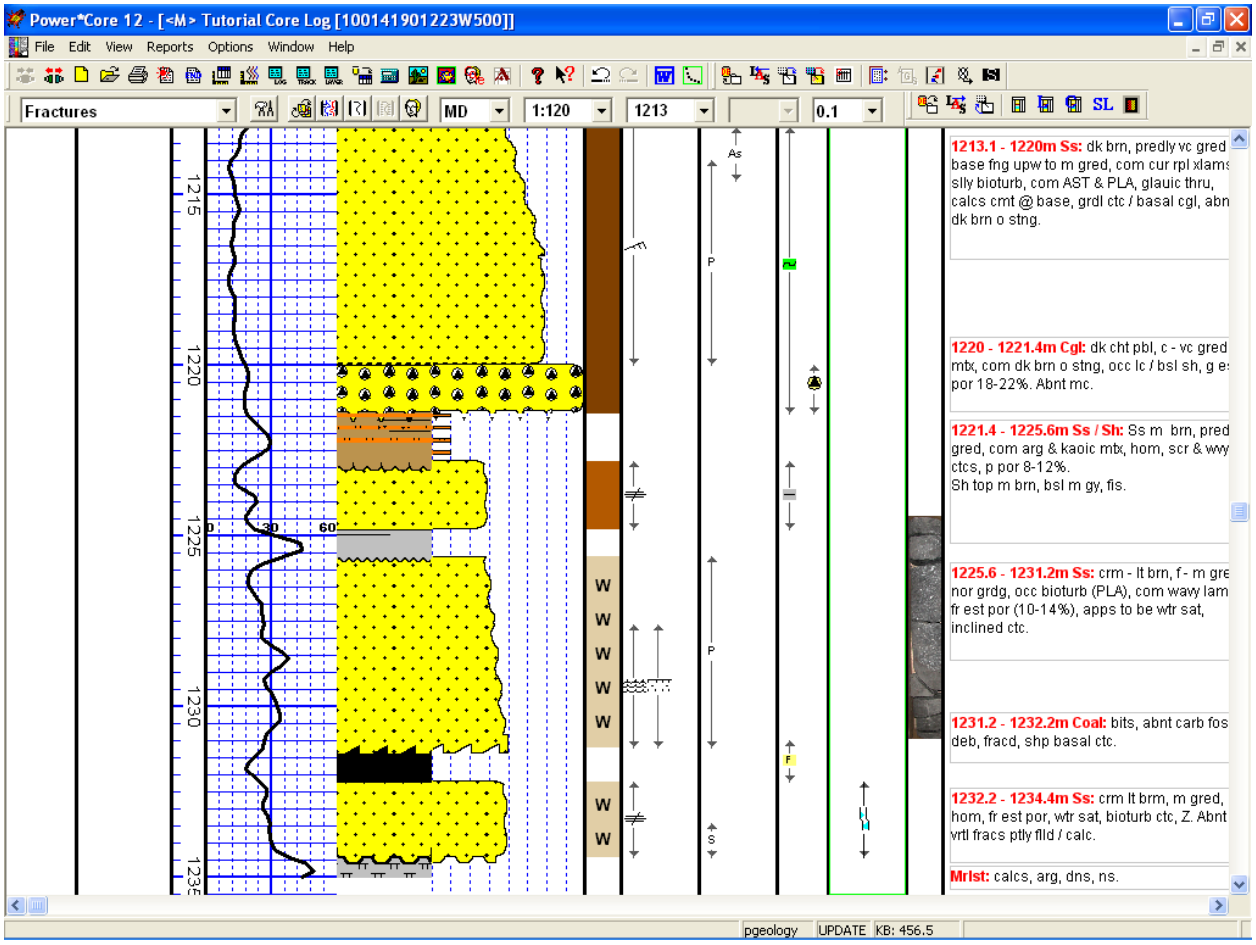
There are 2 ways to **resize** the interval.

A) **Click** on the **interval** to make it show up in the builder. **Type** in a new **top** or **base depth** and **click** on the [Save] button.

B) **Click** on the **interval** to make it show up in the builder and then **Hold down** your **CTRL Key** on the **keypad** and then **mouse over** the **end marking** of the interval and your mouse pointer will turn into a ↕ resize cursor. **Click and drag** the ends to a new depth. Release the mouse button first.

The user can **Move** fracture intervals by **clicking and dragging on the interval and moving it to a new location.** If the fracture is a bed restricted then it will not move past bed boundaries and will be tr uncated if moved up or down through a bed boundary.

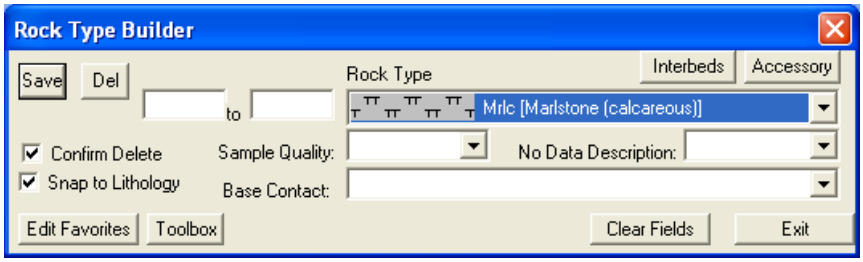
*****Your log should now look like the log below.*****



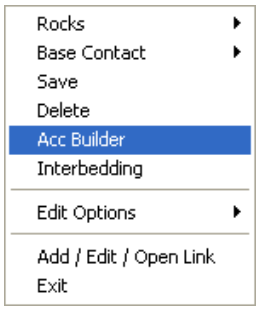
Adding Rock Accessories to the Interpretive Lithology Track

We will take some time to show the user the other way of adding accessories to the log.

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

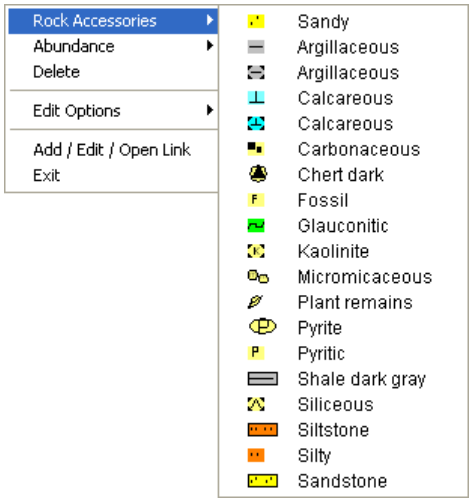


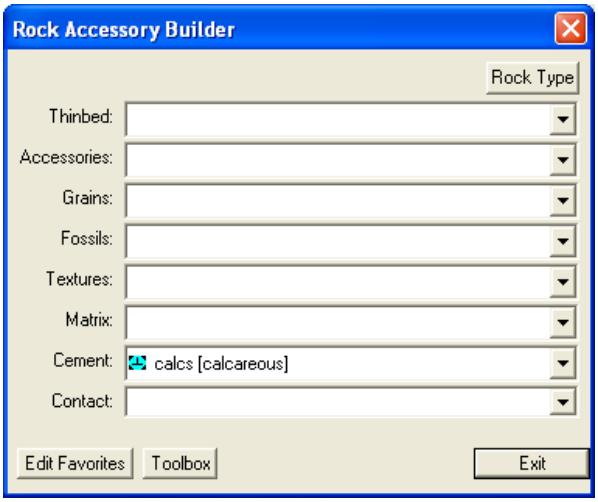
2.) **Click** on the Accessory **button** in the Rock type builder or **right click** on the interpretive lithology track to activate the pop up menu and **click** on the **Rock Builder** selection.



3.) This will activate the Accessory builder and its toolbox. There are many ways to **select** an accessory. 1) Favorites toolbox , 2) Favorites **right click** or 3) **Select** it from the Rock Accessory Symbols builder. Examples of each are shown below.

N.B. All clasts, nodules, breccias, stringers and pebbles for every rock type are found in the Thin bed drop list. All grains, fossils and accessories are found in the Components drop list. All pore filling matrix types and Dunham's rock modifiers are found in the Matrix drop list.





Adding a Cement…

1.) **Right click** anywhere within the **Interpretive Lithology** track to activate the pop-up menu. **Select calcareous** cement from the Accessories favorites pop-out menu, **OR click** on the **Cement drop box** and **select calcareous OR click** on the **calcareous symbol** in the **Favorites toolbox.** The 3 examples are shown above.

2.) **Click** the mouse pointer in the **Interpretive Lithology** track at **1219** and **1218.4m**. The calcareous symbol is place at those depths.

3.) **Right click** anywhere within the **Interpretive Lithology** track to activate the pop-up menu. **Select siliceous** cement from the **Accessories favorites** pop-out menu, **OR click** on the **Cement drop box** and **select siliceous OR click** on the **siliceous symbol** in the **Favorites toolbox.**

4.) **Click** anywhere within existing **Interpreted Lithology** to insert the selected **Accessory**/**Accessories**.

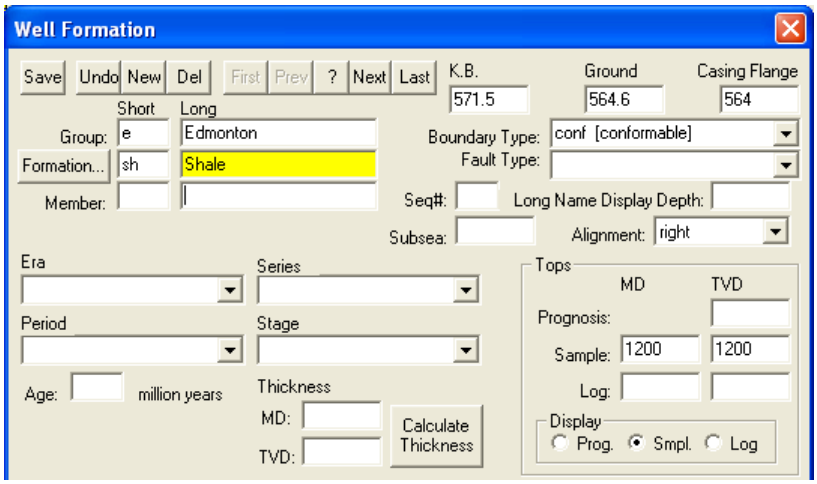
Note: To delete an **Accessory** symbol, activate the **Rock Accessory Builder** window, **right click** on the **Accessory** symbol you wish to delete, and then **select Delete** from the pop-up menu. You can also delete more than one by holding the Shift key on the keypad and clicking and dragging an area.

The user has the ability to **Move** an accessory **by clicking on the accessory symbol and dragging** the accessory to a new location. If done correctly you will see a red square following your mouse pointer.

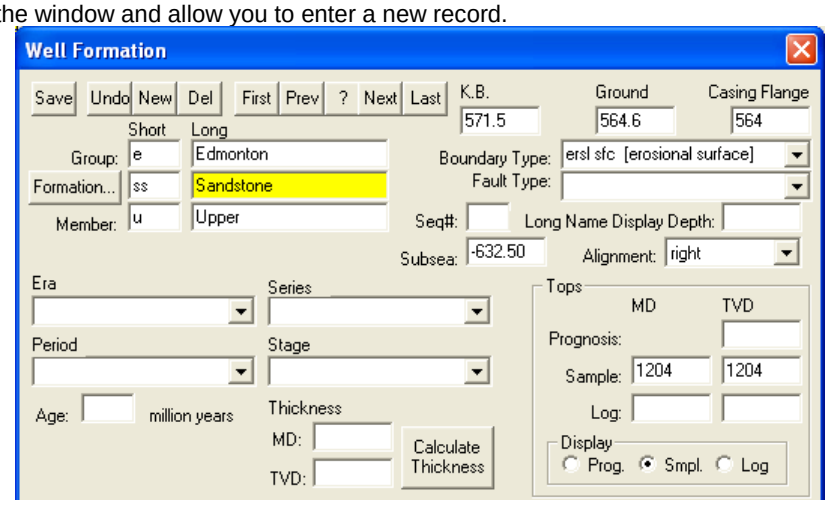
Adding Formation Tops

1) **Click** on **Formation**, under **Reports**, **OR** the user can double **click** on the Group Formation Member Track and this will activate the **Well Formation**. The user can also utilize this window to input data for an Ages layer / track,

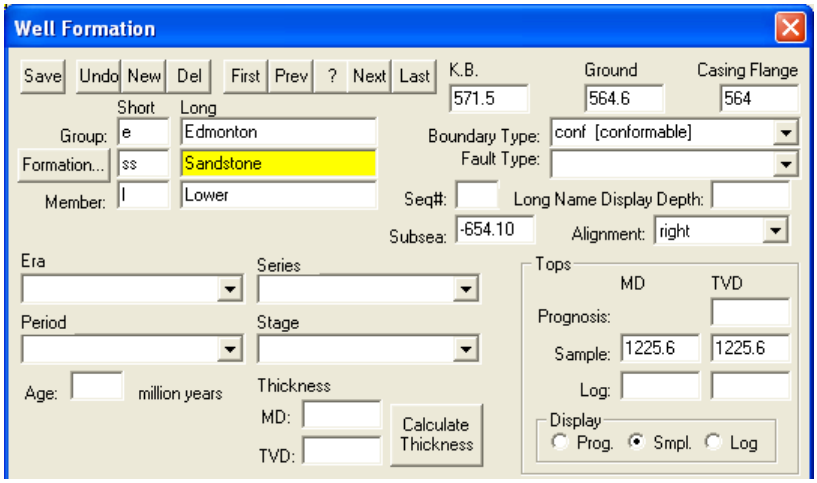
a Formation Long Name and a formation short name layers / track. Our log has a formation short name layer in the Depth track. A Formation Evaluation and a Tops report can also be generated from this data.



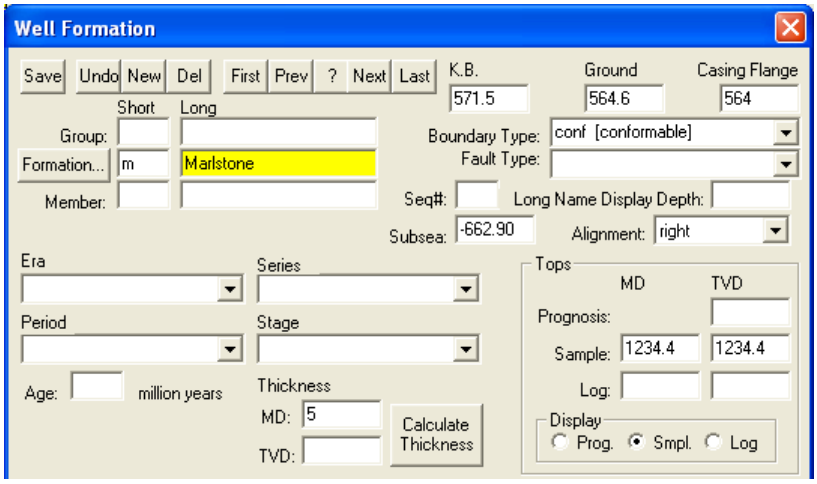
2) **Type e** into the **Group Short name** field, **tab**, **type Edmonton** into the **Group long name** field, **tab**, **type sh** into the **Formation Short name** field, **tab** and **type Shale** into the **Formation Long Name** field.
3) **Select conformable** from the **Boundary Type** drop box.
4) **Type** in **1200** in the **Sample Top (MD)** field, **tab** and **type 1200** in the **Sample Top (TVD)** field.
5) **Click** on the **Smpl radio button** is the Display portion of the window**.**
6) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. This will clear the window and allow you to enter a new record.



7) **Type e** into the **Group Short name** field, **tab**, **type Edmonton** into the **Group long name** field, **tab**, **type ss** into the **Formation Short name** field, **tab,** and **type Sandstone** into the **Formation Long Name** field, **tab**, **type u** into the **Member Short name** field, **tab,** and **type Upper** into the **Member Long Name** field
8) **Select erosional surface** from the **Boundary Type drop box**.
9) **Type** in **1204** in the **Sample Top (MD)** field, **tab** and **type 1204** in the **Sample Top (TVD)** field.
10) **Click** on the **Smpl radio button** is the Display portion of the window**.**
11) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. This will clear the window and allow the user to enter a new record.



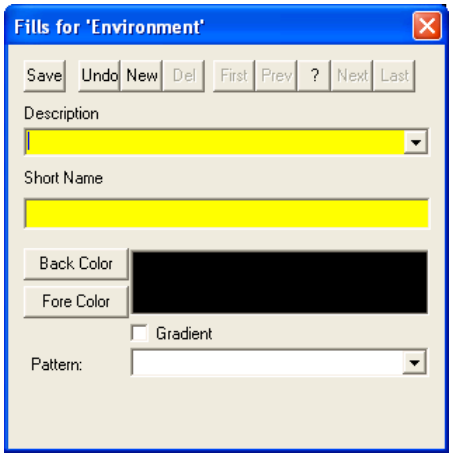
12) **Type e** into the **Group Short name** field, **tab**, **type Edmonton** into the **Group long name** field, **tab**, **type ss** into the **Formation Short name** field, **tab,** and **type Sandstone** into the **Formation Long Name** field, **tab**, **type l** into the **Member Short name** field, **tab,** and **type Lower** into the **Member Long Name** field
13) **Select conformable** from the **Boundary Type drop box**.
14) **Type** in **1225.6** in the **Sample Top (MD)** field, **tab** and **type 1225.6** in the **Sample Top (TVD)** field.
15) **Click** on the **Smpl radio button** is the Display portion of the window**.**
16) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. This will clear the window and allow the user to enter a new record.

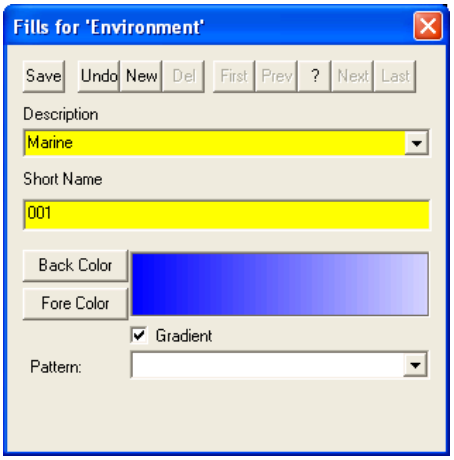


17) **Type m** into the **Formation Short name** field, **tab,** and **type Marlstone** into the **Formation Long Name** field.
18) **Select conformable** from the **Boundary Type drop box**.
19) **Type** in **1234.4** in the **Sample Top (MD)** field, **tab** and **type 1234.4** in the **Sample Top (TVD)** field.
20) **Click** on the **Smpl radio button** is the Display portion of the window**.**
21) **Click** on the Save **button** and then **select** Exit from the ensuing **Shortcut Options** window. This will close the window and allow you to view your data entries on the log.

Adding Environments to the Environment Track

1.) **Double click** anywhere within the **Environment** track to activate the **Fills for Environment** window.





2.) **Type Marine** into the Description field**.**

3.) **Type 001** into the Short name field.

4.) **Click** on the Back Color **button** and **select a blue color** from the palette and then **click** on the OK **button.**

5.) **Click** on the Fore Color **button** and **select a blue color** from the palette and then **click** on the OK **button.**

6.) **Click** on the **Gradient** ☑ Gradient to activate a check mark.

7.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. This will clear the window and allow the user to enter a new record.

Adding more environments to the Environment fill category…

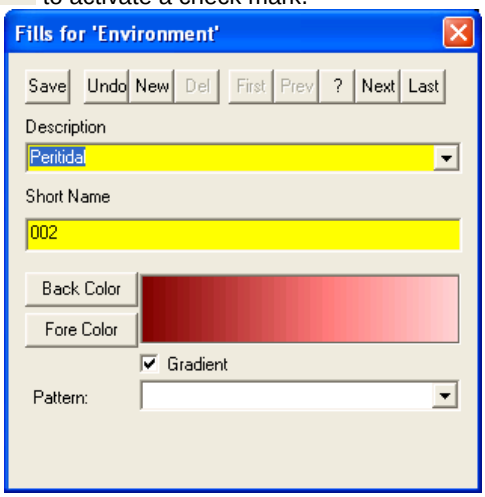
8.) **Type Peritidal** into the Description field**.**

9.) **Type 002** into the Short name field.

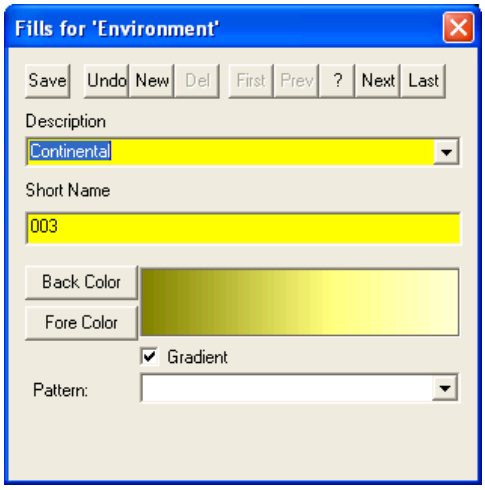
10.) **Click** on the Back Color **button** and **select a maroon color** from the palette and then **click** on the OK **button.**

11.) **Click** on the Fore Color **button** and **select a maroon color** from the palette and then **click** on the OK **button.**

12.) **Click** on the **Gradient** ☑ Gradient to activate a check mark.



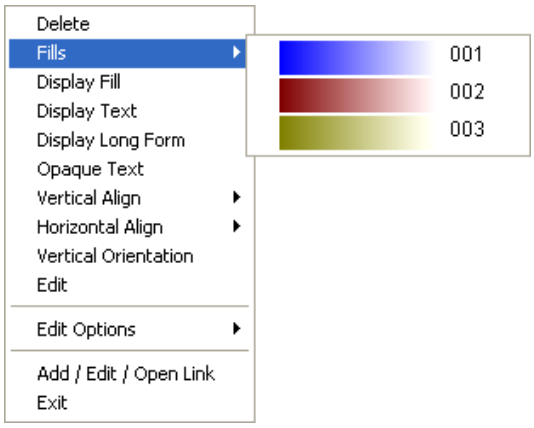
13.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. This will clear the window and allow the user to enter a new record.
14.) **Type Continental** into the Description field**.**
15.) **Type 003** into the Short name field.
16.) **Click** on the Back Color **button** and **select a brown color** from the palette and then **click** on the OK **button.**
17.) **Click** on the Fore Color **button** and **select a brown color** from the palette and then **click** on the OK **button.**
18.) **Click** on the **Gradient** ☑ Gradient to activate a check mark.

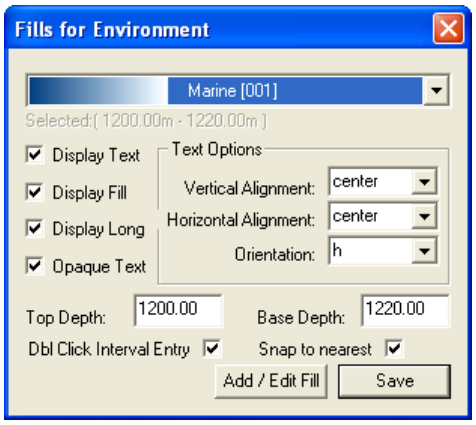


19.) **Click** on the Save **button** and then **select** Exit from the ensuing **Shortcut Options** window. This will clear the window and allow the user to enter a new record.

Drawing Environments onto the Environment Color Fill Track…

1.) **Double click** on the **Environment Track** to activate the window.
2.) **Right click** in the **Environment track** to activate the pop out window, **select fills** and **click** on the **001 selection. Or click** on the **builder drop box** and **select Marine [001].**





3.) Define the interval by **clicking and dragging** within the environment track from **1200 to 1220** 

. The Marine environment should be displayed in that interval. You may wish to change your screen log scale to 1:240 so you can see larger intervals.
4.) **Right click** on the **Marine Environment and Select opaque Text** and then **right click** on the **Marine interval** and **Select Vertical Orientation.**

5.) **Right click** on an empty area in the **Environment track** to activate the pop out window, **select fills** and **click** on the **002 selection.** Or **click** on the **builder drop box** and **select Peritidal [002].**

6.) Define the interval by **clicking and dragging** within the environment track from or close to (if the Snap to nearest ☑ is activated) **1220 to 1225.6** 1220.00 1225.60 **.** The Peritidal environment should be displayed in that interval.

7.) **Right click** on an empty area in the **Environment track** to activate the pop out window, **select fills** and **click** on the **003 selection.** Or **click** on the **builder drop box** and **select Continental [003].**

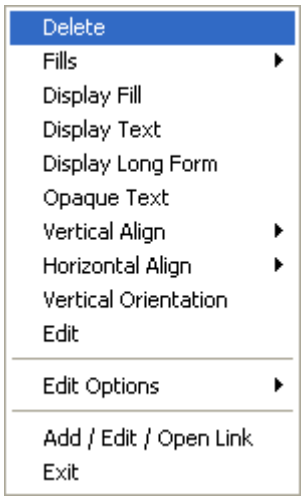
8.) Define the interval by **clicking and dragging** within the environment track from or close to **1225.6 to 1234.4** 1225.60 1234.40 **.** The Continental environment should be displayed in that interval.

9.) **Right click** on an empty area in the **Environment track** to activate the pop out window, **select fills** and **click** on the **001 selection.** Or **click** on the **builder drop box** and **select Marine [001].**

10.) Double Click the mouse pointer between **1234.4 to 1235 m .** The Marine environment should be displayed in that interval.

To **resize** an existing fills **hold your Ctrl Key down** on your keypad and **move mouse pointer over the end part of the interval until it turns into a resize cursor** ↕ **and then click and drag** to a new depth. Remember you cannot overwrite existing intervals.

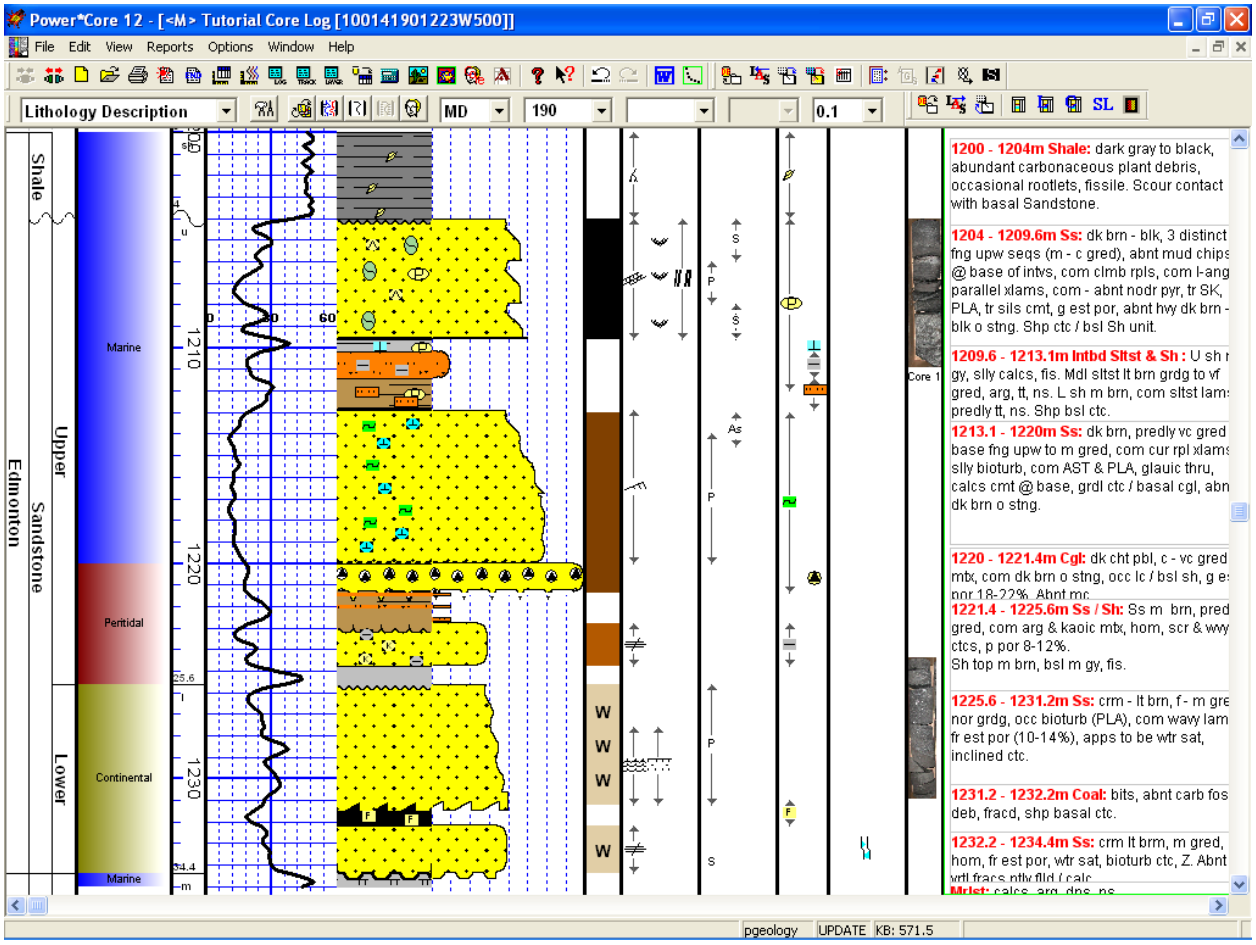
To **delete** an exiting interval **right click on the interval** and **select delete** from the pop out menu.



11.) Click on the ☒ close button in the upper right hand corner of the builder. This will close down the Environment builder window.

*****Your log should now look like the log below.*****

Screen capture of the log has been taken @ a screen scale of 1:190 and the track header turned off.



Setting up a Curve Fill layer with its options.

1.) To set the Curve Fill Options the user must first make the Curve Fill Layer active. To do so the user must **Click** on the **Gamma Ray Track** containing the Curve Fill layer and then selecting the **Curve Fill** layer from the **Layer Selection List** field at the far left of the **Selection Bar**.

2.) **Double click** anywhere within the **Curve Fill or** layer to activate the **Curve Fill Options** window. An example is shown on the next page.

3.) **Click** on the [Set Main Curve] **button**. This will activate a list of curves associated with this well.

4.) **Click** on the **Gamma Ray** and then **click** on the [Select] **button** or **double click** on the **Gamma Ray Curve**. You will view the curve name below the [Set Main Curve] button.

Curve Options Portion of the Window.

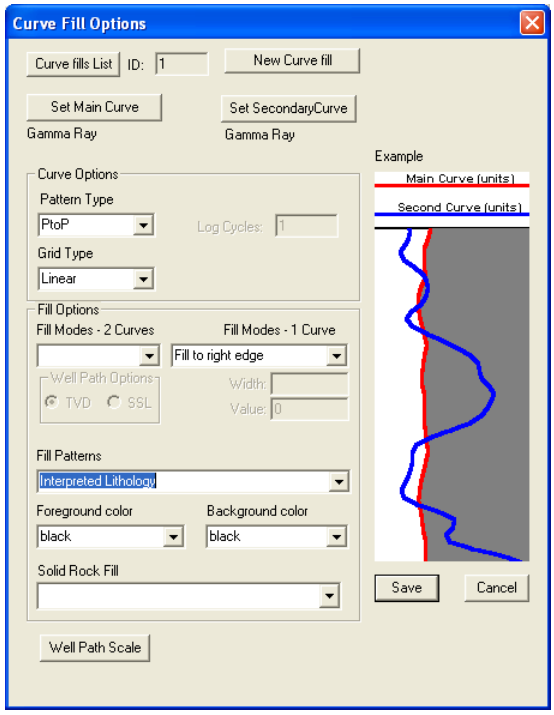
5.) **Click** on the **Pattern Type down arrow** and **select** the correct **curve pattern** for the main curve. The Gamma Ray Curve is defaulted to PtoP (Point to Point).

6.) **Click** on the **Grid Type down arrow** and **select** the correct **curve grid type** for the main curve. The Gamma Ray Curve is defaulted to Linear.

Fill Options 1 (One) Curve Portion of the Window.

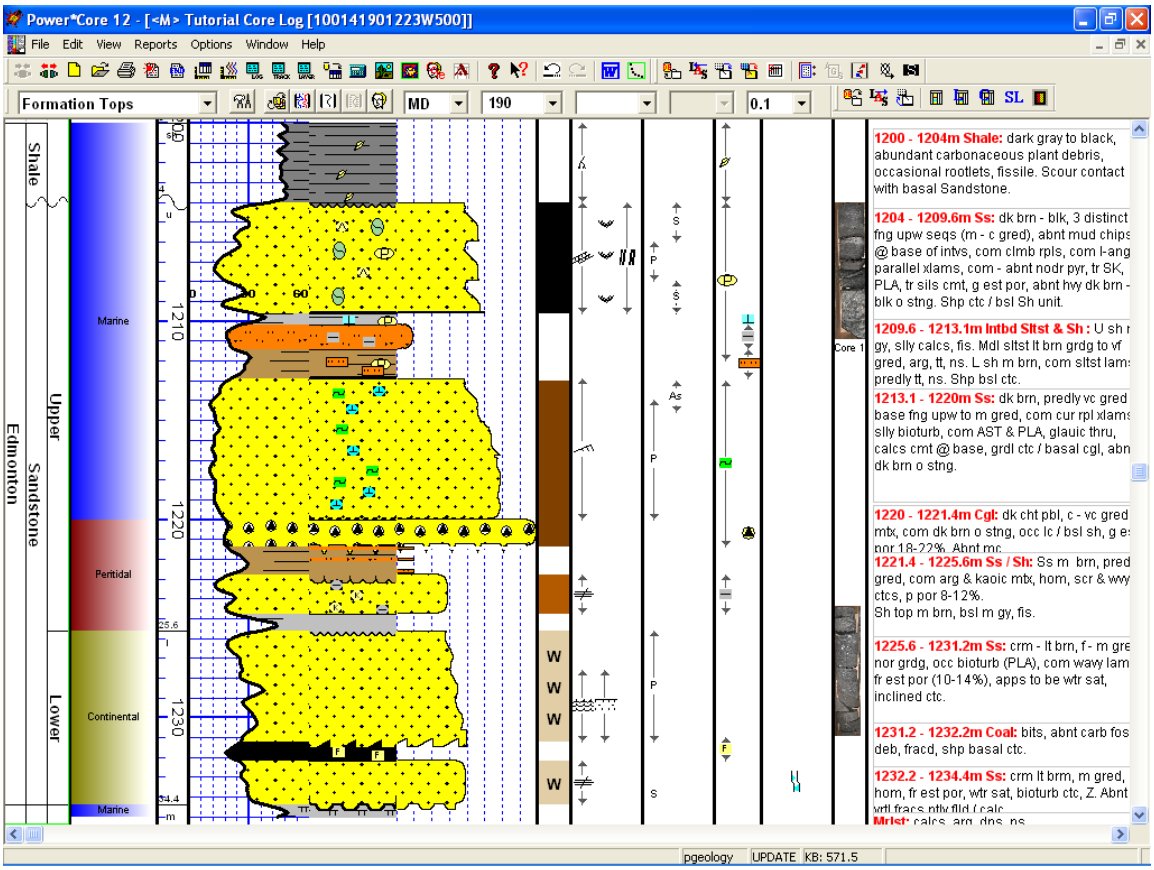
7.) **Click** on the **Fill Modes – 1 Curve down arrow** and **select** the **Fill to right edge**.

8.) **Click** on the **Fill Patterns** down arrow and **select Interpretive Lithology**.



9.) **Click** on the Save **button.** The Curve Fill Options window will close and the changes you have made will be shown on the layer.

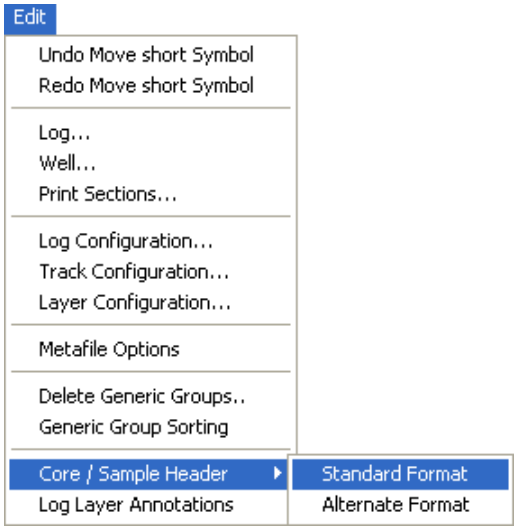
****** Your Log should now look like the picture shown below******

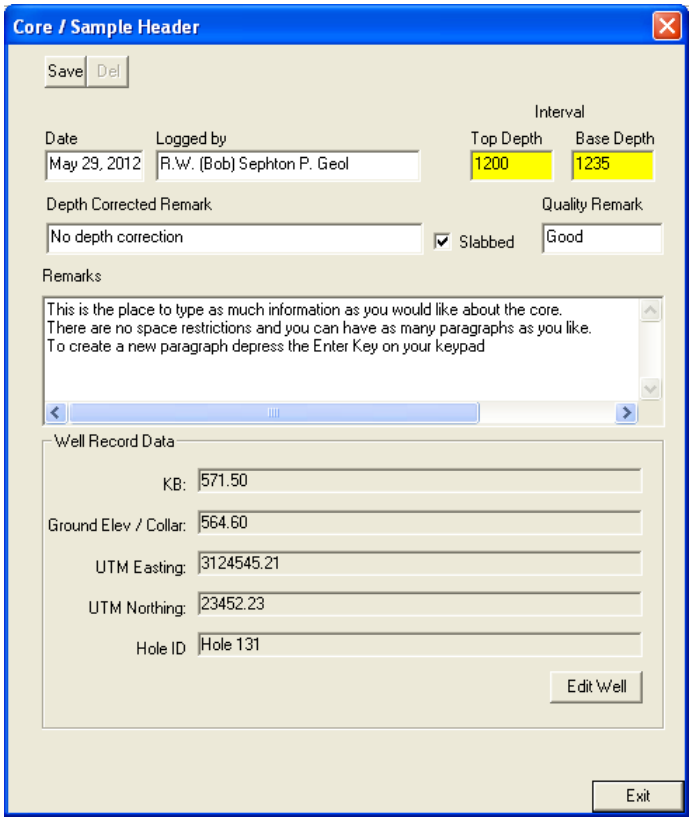


Adding a Core Log header

This will fill in information for the printing of a Core Log Header / title page instead of a Striplog header / title page. The striplog header / title page is built around our wellsite application where a lot of the information would not be known about a core by itself.

1.) **Click** on the **Core / Sample header** option under the **Edit** pull down menu and select the **Standard format** from the pop out menu.. This will activate the Core header window.





2.) **Type** in the **Top** and **base** depths (numbers only) as well as any other particulars you may wish to add.

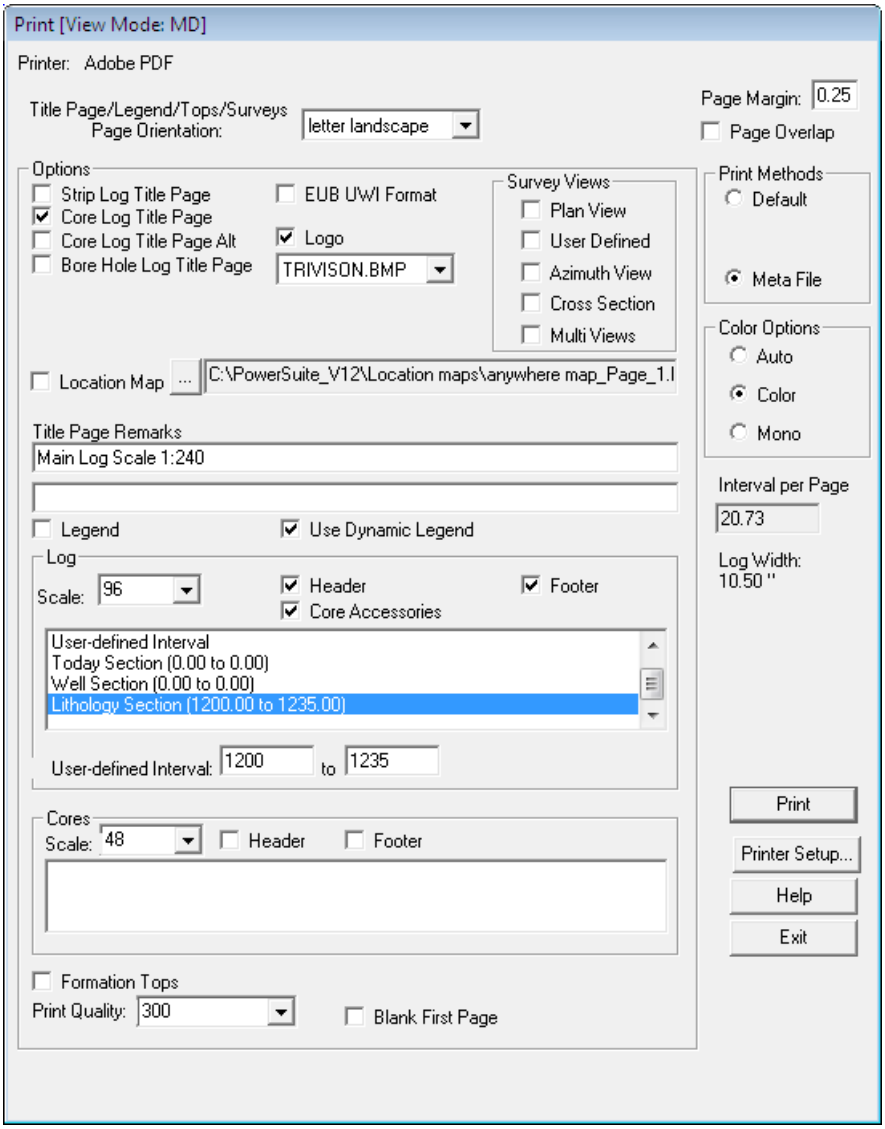
3.) You may want to change or add info from the Well Record. **Click** on the Edit Well **button** and make changes to the well record and then **click** on the Save **button** and then **click** on the **Exit option** form the record saved successfully.

4.) **Click** on the Save **button** to exit the window

Print the Core Log

1.) Under the **File** menu, **click** on **Print Log** or **click** on the **Print** **button** on the **Toolbar** to activate the **Print Log** window.

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



2.) **Select** the **Core Log Title page and Logo (**if you have one to use in the logo directory/folder of our application**)** **Check boxes** to print out a core log header (which you filled out above).

3.) **Select** the **letter landscape** paper orientation from the **Page Orientation drop box field** and the **Dynamic Legend**, and **Formation Tops** will automatically conform to the selected orientation.

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.

4.) Activate the **Use Dynamic Legend** ☑ 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

5.) **Select 1:96** from the **scale drop box** for the log to be printed out at.

6.) **Click** to activate the **Header and Footer** ☑ to print the track headers and footers on the log.

7.) **Click** on **Lithology Section** to highlight it in the printing options selection box.

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.

Page Margin 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 the **Page Overlap** ☑ 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.

Print Methods…

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

Meta File Activating the **Meta File** radio button forces Power*Log / Curve / Core 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.

Color Options…

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

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

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

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.

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

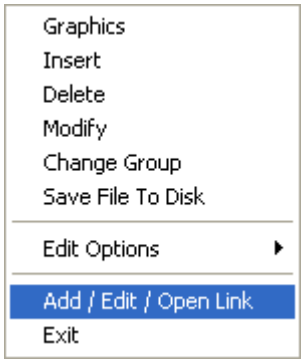
Note: If you are printing out logs in color, you must activate the **Diffusion** or **Error Diffusion** option normally found under **Graphics** in the **Properties** window for most printers.

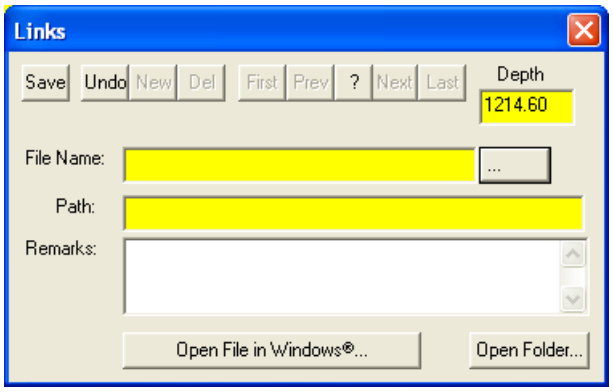
9.) When you are ready to print your log, **click** on the [Print] **button**.

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 the [Yes] **button,** 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.

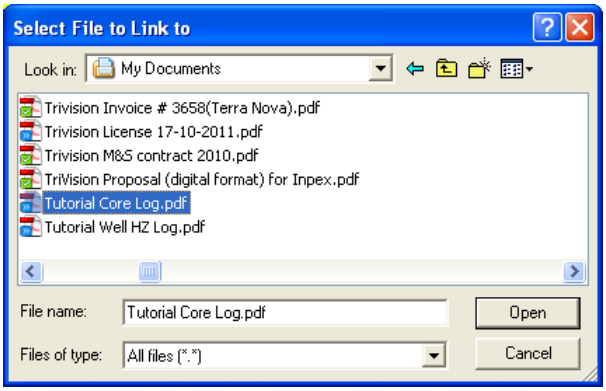
Adding a Link (Attachment) to your Log

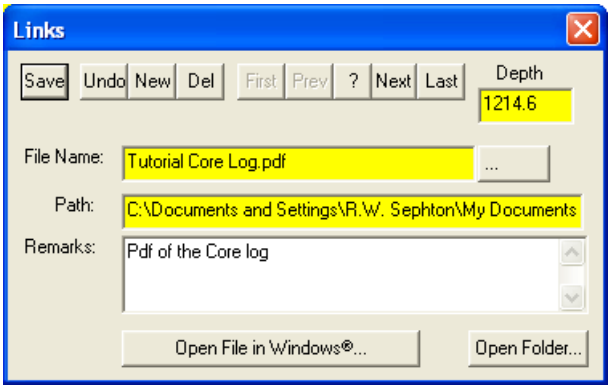
1.) In our case **Right Click** on the **Graphics** track / layer to activate the pop out menu. **Select Add / Edit / Open Link** from the pop out menu. This will activate a blank Links window with the depth you right clicked at.



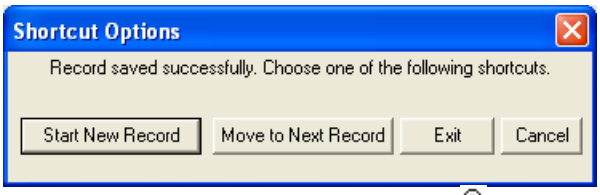


2.) **Click** on the ... **button** in the Links window and you can now pick any windows compatible file. In our case I am linking the printed well file from the next section of the tutorial printed to my backup folder and then **click** on the Open **button**. This will fill in in the details of the File Name and location in this window.





3.) Now the user can **Type** in some **remarks** to tell the viewer what the file is (if the user wishes to identify the file they have attached) and then **click** on the Save **button**. This will activate the Shortcut Options Window.



4.) **Click** on the Exit **button**. This will insert the paperclip symbol where you originally right clicked and link the file to the log.

This concludes the Power*Core Tutorial. If you need help with specific functions or operations, please use the Table of Contents in the Power*Log / Core User Manual to find the desired topic or use the Search function built into the On-line Help.