# POWERLOG

# Version 12 Imperial Tutorial

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

## Table of Contents

## Introduction

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

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

**A note about navigating through Power*Log™ Reports:**

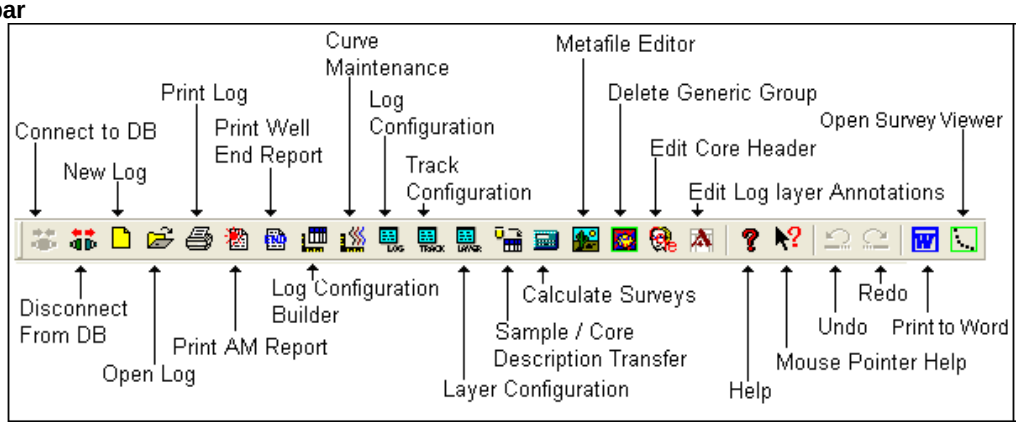
When you are entering information into data forms, you may move between boxes/fields by **pressing** the **Tab key** to go forward and **Shift +Tab keys** to move backwards. To exit forms that do not have an **Exit, OK,** or **Cancel** button, **press** the **Esc key** on the keyboard.

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

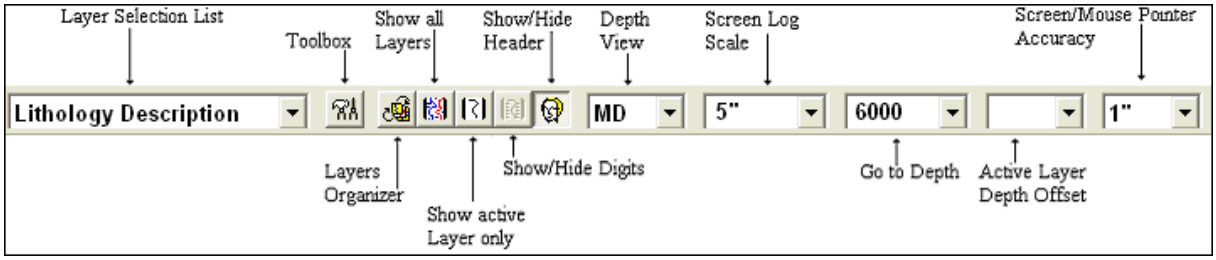
You can make use of the context sensitive help by **pressing** the **F1 key** when you are in a dialogue box. A pertinent help file will appear, opened to the topic relevant to the dialogue box you are in.

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

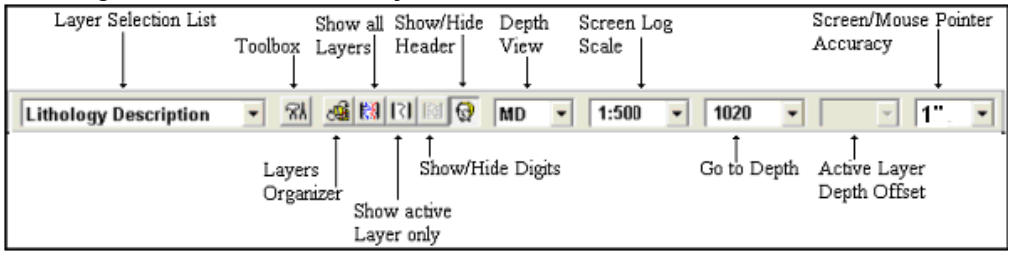
**The Toolbar**




**The Selection Bar…**

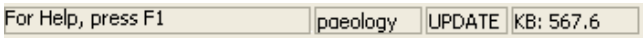



**Selection Bar Using the Default American Style Inches Screen Scale**




**Selection Bar Using the Ratio Style Selection for Screen Scale**

**The Status Bar…**

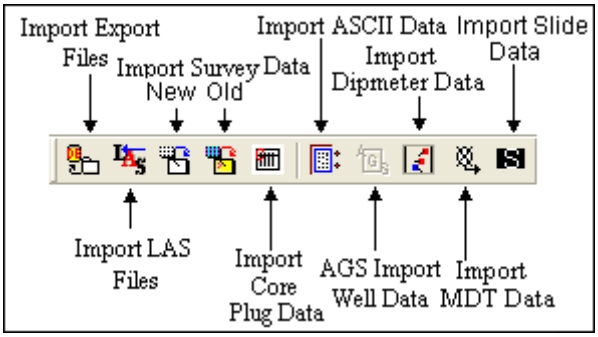



The **Status Bar** displays system status messages and any error message (associated with a field entry), in the far left corner. The KB elevation is displayed in the lower right corner of the **Status Bar**.

**The Import Toolbar**

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

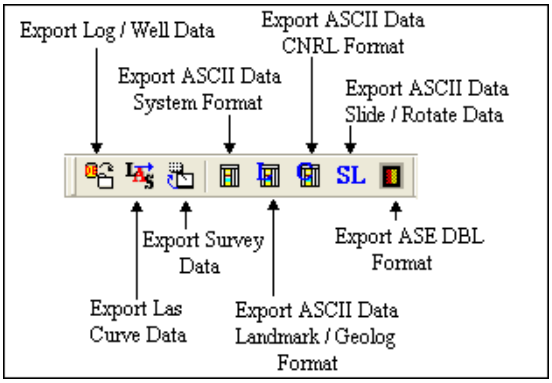
**The Power*Log / Core & Curve™ Import Toolbar…**



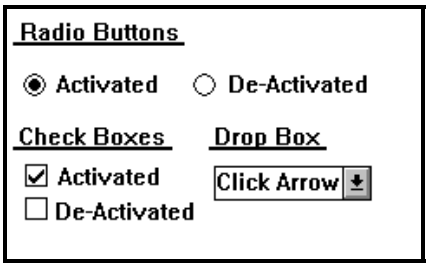

**The Export Toolbar**

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

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




**Button, Check box and drop box types.**



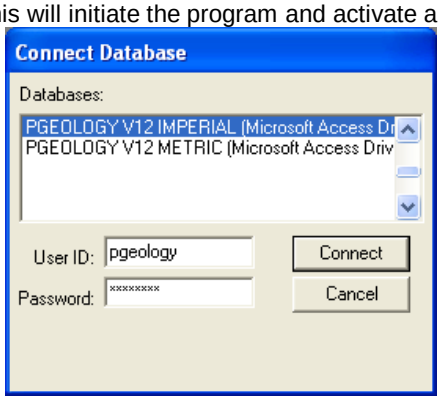

**The Four (4) Main On-line Help System Categories:**

**Commands** - Descriptions of each menu command within Power*Log / Core & Curve™.
**Toolbar** - Shortcuts to common commands are explained.
**Database Table Operations** - Commands or 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 new striplog (hereafter referred to simply as a log), with curves and interpreted lithology.**

## Connecting to the Database

1.) **Double click** on the **Power*Log** PowerLog 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 IMPERIAL (Microsoft Access Driver[*.mbd]))** database by **clicking** on it once.

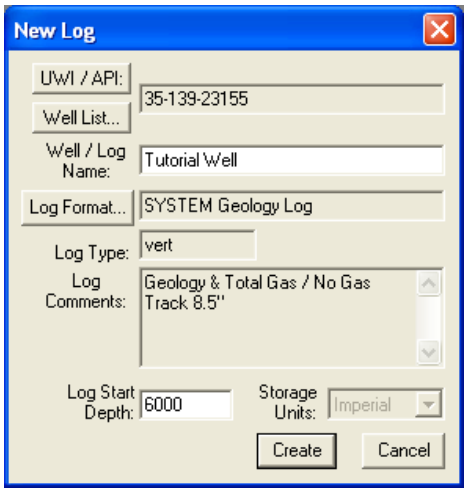
3.) Move your mouse pointer to the **User ID** field and **click**. This will activate a flashing cursor in the **User ID** field. **Type** "**pgeology"** in the **User ID** field. **Press** the **Tab** key on the keyboard to move to the **Password** field.

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

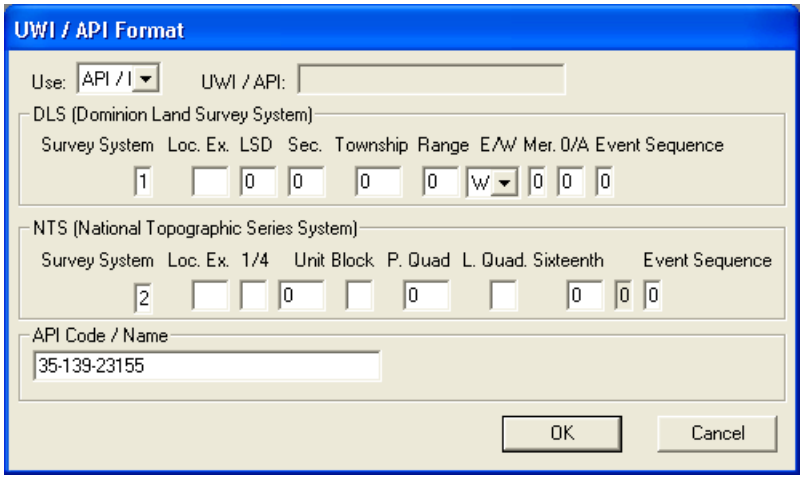
The first step in creating a new log is to **click** on the  **New Log button** on the **Toolbar** or to **select New** under **File** on the **Selection Bar**. This will open the **New Log** window on the next page.

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*Log.




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

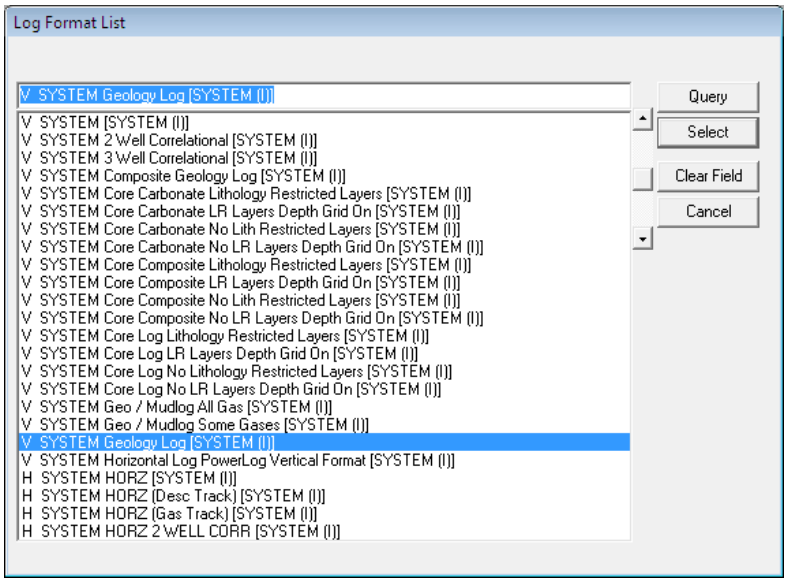
2.) **Click** on the UWI / API: **button** to activate the **UWI Format** window.




4.) The default or flashing caret is in the API Code / Name field. **Type** in **"35-139-23155"**. The 23 is a State Code, the 139 is a County Code, the 20130 is the Unique Well ID.

5.) **Click** on the OK **button** when you have finished entering the **API Code**. You will notice that the API / UWI field will be filled in the New Log window.

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

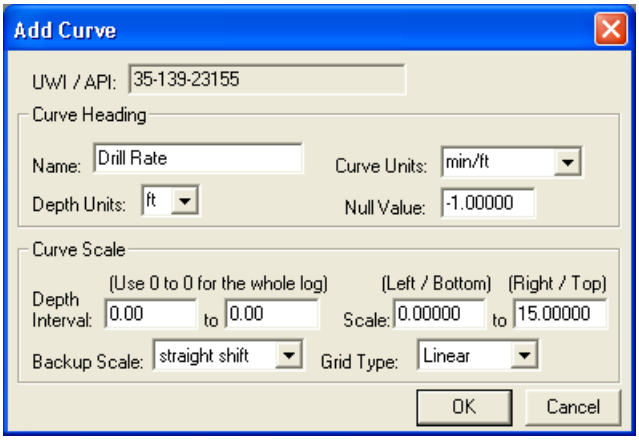



6.) **Click** on "**V SYSTEM Geology Log [SYSTEM (I)]"** to highlight it and then **click** on the Select **button.** You may also **double click** on "**V SYSTEM Geology Log [SYSTEM (I)]."**

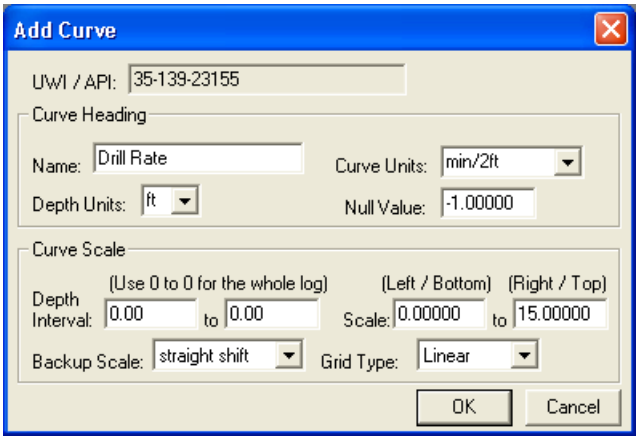
7.) Once you have been returned to the **New Log** window, **double click** in the **Log Start Depth** field. This will highlight the zero (**0**) and activate a flashing cursor. **Type 6000** in the **Log Start Depth** field.

8.) Once the information is entered, **click** on the Create **button**.

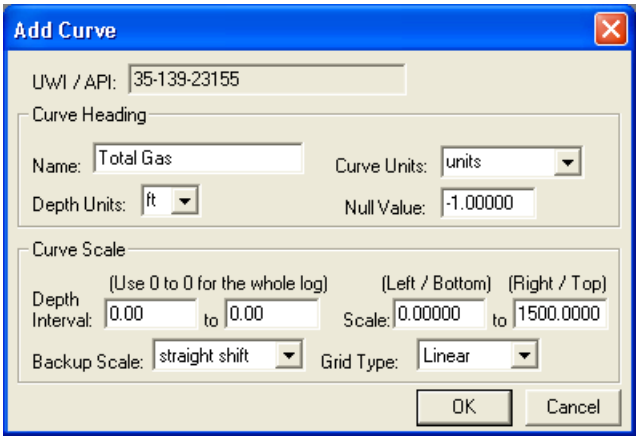
9.) This will initiate a **New Log**. During this process, the curves associated with the selected log format will be added. **Drill Rate** will be the first Add curve window.




10.) **Select min/2ft** from the **Curve Units drop down box**. If done correctly it will look like Figure below.



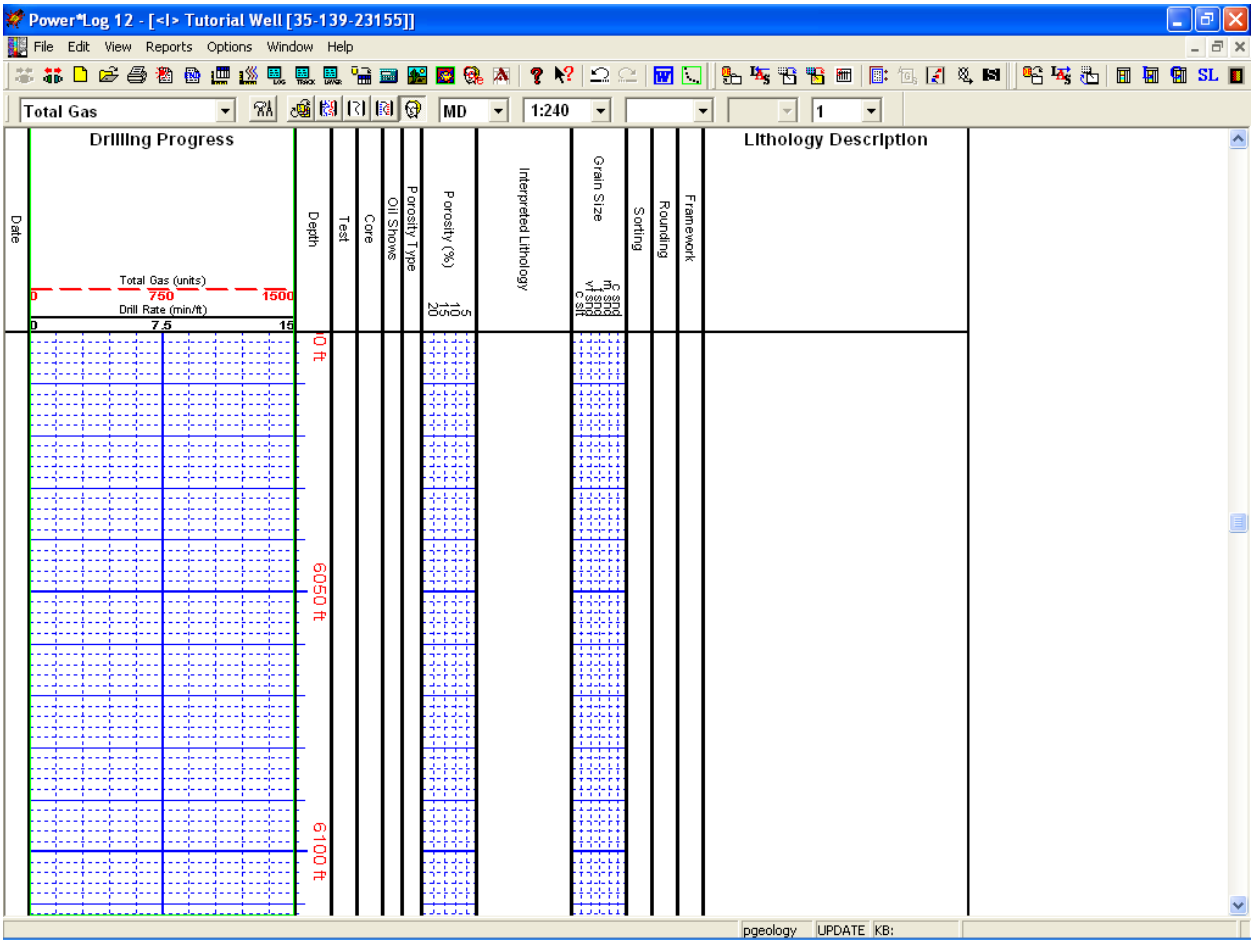

11.) **Click** on the OK **button** in the **Add Curve** window for **Drill Rate.** This will activate the second Add Curve window for **Total Gas** shown below.



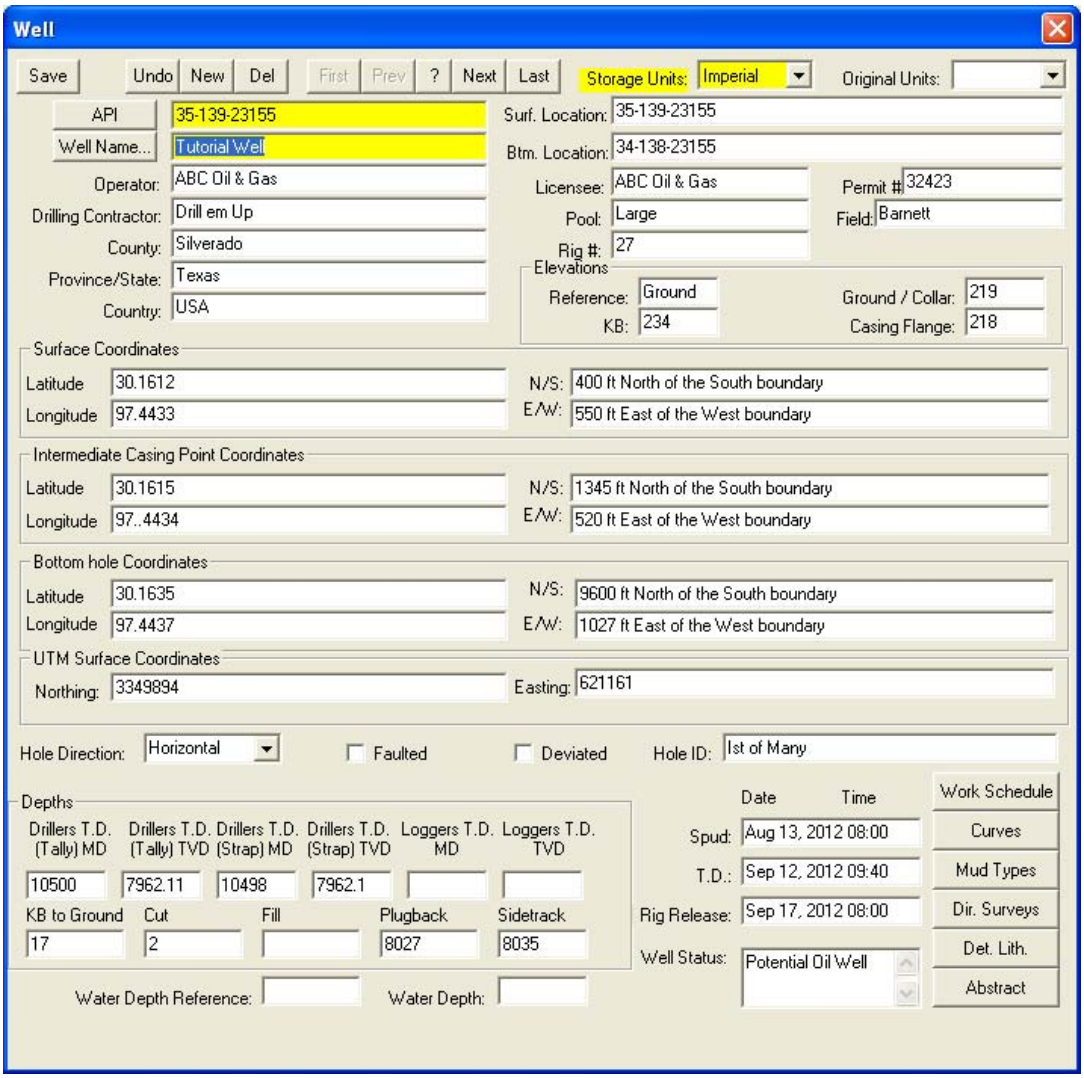

12.) **Click** on the OK **button** in the **Add Curve** window for **Total Gas.** This will activate well and it's log layout

- **You have just added two curves to the database that will be displayed as curve layers in the Drilling Progress track on the new Tutorial log showing the Tutorial Wells information.**

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



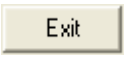
1.) You can now fill in your pertinent well information by selecting **Well** under **Edit** pull down menu on the **Selection Bar** to activate the **Well** window.



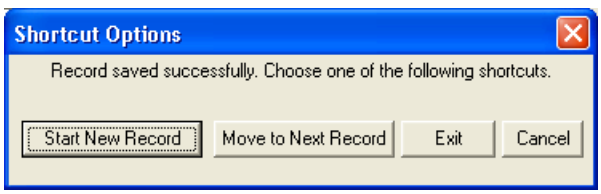

2.) Fill in the information you feel is necessary (The well window shown above has been filled in to give you an idea of how to complete the fields) and then **click** on the  **button** to save any changes you have made to the database.



**Note:** Some of the fields in the **Edit 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  **button**, when prompted with the **Shortcut Options** system window.

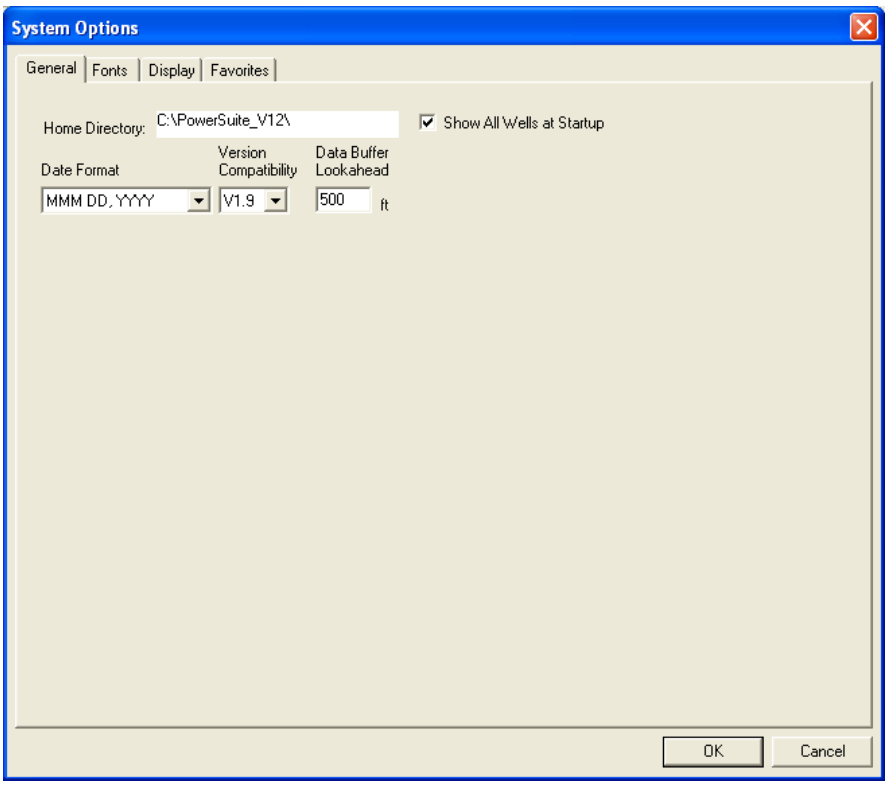




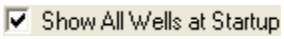
## The System Options Window

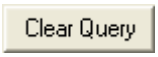
To activate the System Options window **click** on **System Options** under the **Options** menu selection.

**General Tab**

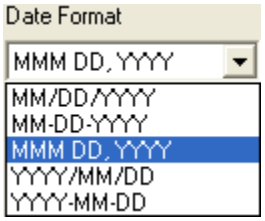



**Home Directory -** This is the directory on your hard drive where **Power*Log, Power*Core and Power*Curve** is being executed. The user will not see any symbols on their log or print out any of our reports it you have the wrong home directory.




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.



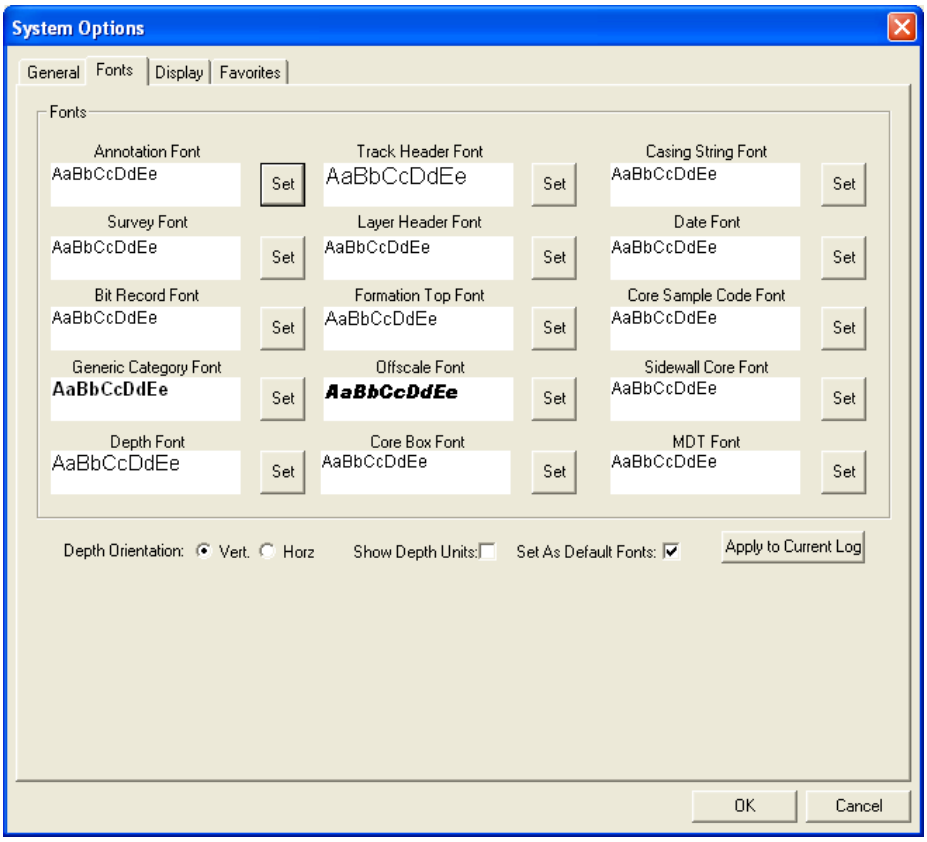

**Date Format** - From this drop box, you can select the date format. This selection determines how every date in **Power*Log / Core & Curve** will be entered and displayed. If you import a log with different date formats, **Power*Log / Core & Curve** will change the dates to comply with the format you've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

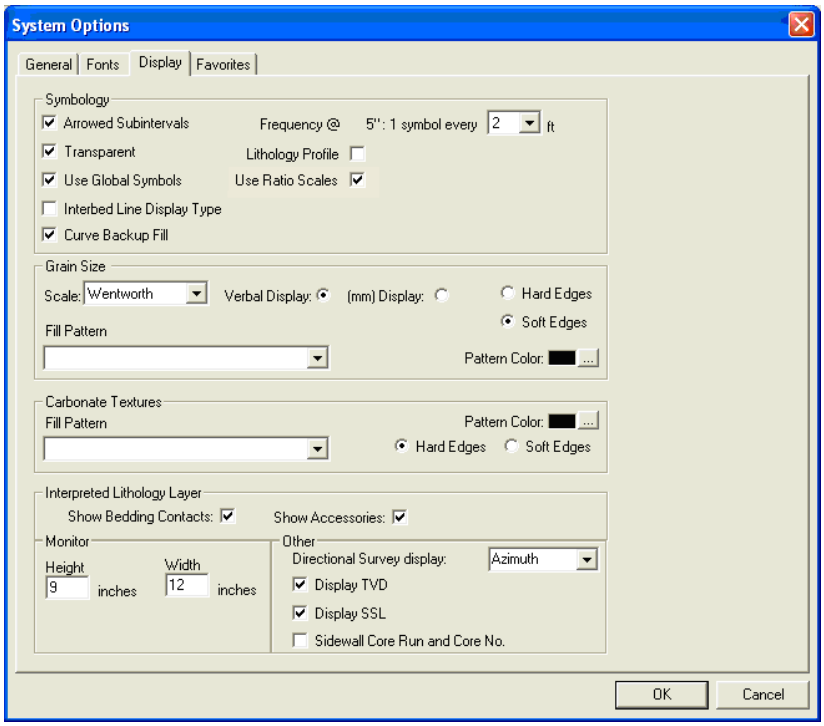
**Core Sample Code Font -** Allows you to determine the font style, type, color and size of your Core Plug data entered through the Core Plug Report. This font is displayed on the Core Sample Code layer.

**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.

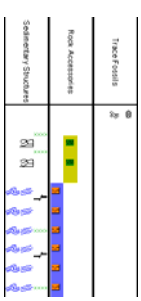
**MDT Font -** Allows you to determine the font style, type, color and size of your MDT Run and Test Number data entered through the MDT Report. This font is displayed on the MDT layer.

☑ 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.

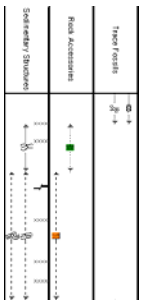
**Display Tab**




**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.

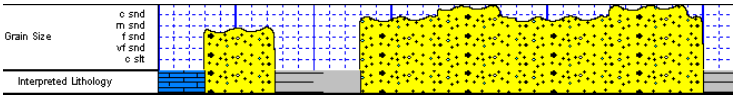
**Interbed Line Display Type -** This check box when activated will display the interbed data with a line display splitting the two lithology types or when unchecked will display the lithology in an interbed fashion as displayed below.

**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.

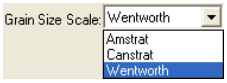
**Frequency @ 1:240 –** This drop box determines how often symbols are drawn on a **Lithology Layer**, with the scale of 1:240. For example: 1 symbol every 1 meter at 1:240, 2 symbols every 1 meter at 1:120, 1 symbol every 2 meters at 1:480, and so on. These frequencies are only in effect if you utilize 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.

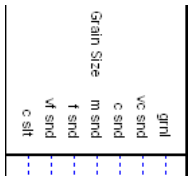



**Use Ratio Scales:** This option allows the Imperial Users to utilize a ratio 1:200 or 1:500 rather than 2" or 5" which would be standard selections in the United States.

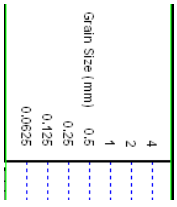



**Grain Size Scale List box -** You may choose between **Wentworth, Canstrat** or **Amstrat** scales, when using the **Grain Size Builder**. The Wentworth Grain size only allows full grain size while Canstrat / Amstrat allow half grain sizes when drafting in the Grain size and matrix layers.

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.



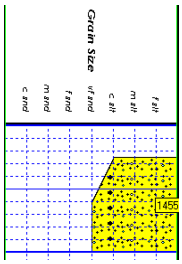

**Verbal Scale**



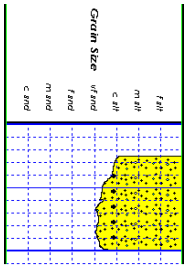

**MM Scale**

(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**

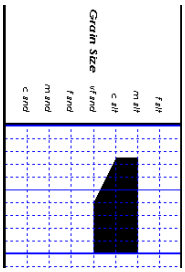



**Soft Edges**

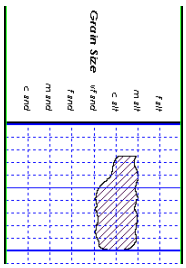
Soft Edges This radio button will display the grain size with curved edges and rounded angles between the grain sizes.

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.

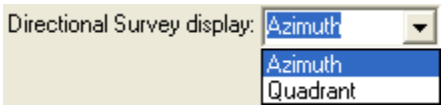
Interpreted Lithology Layer - Show Bedding Contacts: -When this check box is activated the bedding contacts (lines) between the drawn lithology types in the Interpretive Lithology Layer will be shown.

Interpreted Lithology Layer - Show Accessories: When this check box is activated it will turn on the accessories in the Interpretive Lithology Layer.

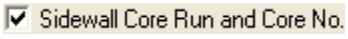
**Monitor Height -** This option allows you to scale your monitor for Power*Log / Core so you may correlate on-screen wells with hard copy logs that you may have. It is recommended that you take an opportunity to measure the vertical viewing area of your monitor in inches and then insert that value in 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.



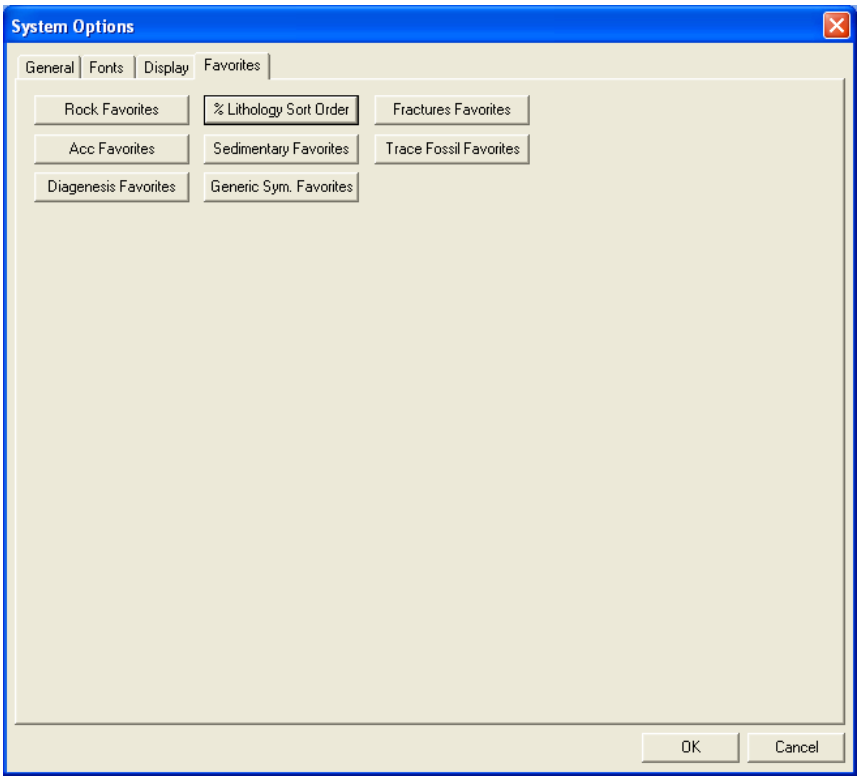

This drop box option will display your directional surveys on your log in either Quadrant format N 62 º W) or Azimuth format (AZ 298 º)


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

**Favorites Tab**

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




**Rock Favorites** - The 

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

1.) **Click** on the 

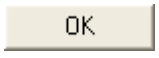
**button** in the **System Options** window.

2.) **Click** on the 

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

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

**Anhy (prim) [Anhydrite (primary)]**
**Sh m gy [Shale medium gray]**
**Ss [Sandstone]**
**Plus any other rock types you would use a lot.**

4.) **Click** on the 

**button** to return to the **System Options** window.

**Accessory 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.

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:

**Thinbed**
- **cht dk pebbles [chert dark pebbles]**
- **sh gy stringers [shale gray stringers]**

**Component**
- **aren [arenaceous]**
- **fld grs [feldspar grains]**
- **pyric [pyritic]**
- **sac [salt casts]**
- **slty [silty]**

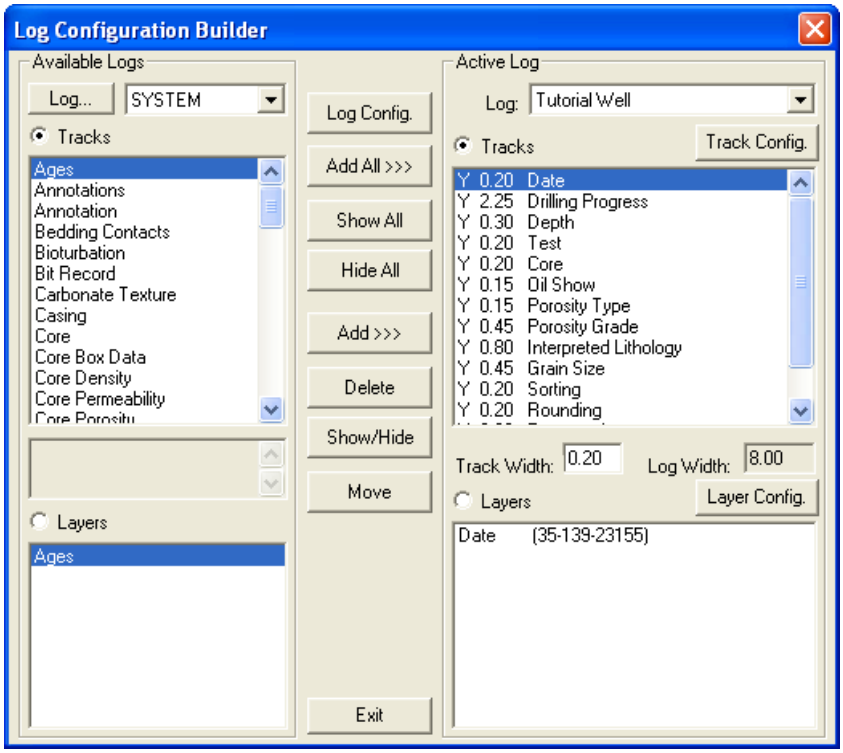
**Cement**
- **sils [siliceous]**
- **Plus other components that you would use a lot.**

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: Available Logs

The **Available Logs** section or **left** 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** 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 **Tracks** and their associated layers or any of the existing **Layers** 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**, 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: Active Log

The **Active Log** section or the **right** side of the window displays the track and layer configuration of the **Active Log** (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** 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** 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 Date and the Framework tracks on the Tutorial Log…

1.) **Highlight** the **Date** track on the right side of the window by **clicking on it**.

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 **Date** track has now been removed from the Tutorial Log.

3.) **Highlight** the **Framework** track by clicking on it once.

4.) **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 **Framework** track has now been removed from the Tutorial Log.

## Adding a Slide - Rotate Track to the Tutorial Log

1.) On the left side of the Log configuration window scroll down the list of tracks and **click** on the **Slide - Rotate** track. The track will become highlighted and the Tracks **radio button** will become activated.

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

3.) 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?"

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

5.) The user may change the name or accept the Slide - Rotate as a name by **clicking** on the OK **button** and the track will be added above the Depth Track or to the left on the vertical log.

## Resizing a track…

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 **Type** in the value of **2.5** 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.

**Note:** For paper 8.5" wide, 8.00" is the widest that you want your log to be, especially if you are printing out the log in the **Portrait** paper orientation.

## Moving the Oil Show track…

1.) Scroll down the tracks list, on the **right** side of the **Log Configuration Builder** window, and **click** on the **Oil Show** track to highlight it.

2.) **Click** on the Move **button** and it will change to "Move Start." Then, **click** on the **Lithology Description** track. The **Oil Show** track will then be placed above the **Lithology Description** track (to the left of the **Lithology Description** track on the actual log).

## Deleting the Gas Annotations layer from the Drilling Progress track…

1.) Scroll up through the tracks list, on the **right** side of the **Log Configuration Builder** window, and **click** on the **Drilling Progress** track to highlight it. Notice that the layers associated with this track are displayed below, in the **Layers** list box.

2.) Highlight the **Gas Annotations** layer, in the **Layers** list box, by clicking on it once. Notice that the Layers **radio button** 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 **Bit Record** layer has now been removed from the log

## Turning off a track…

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

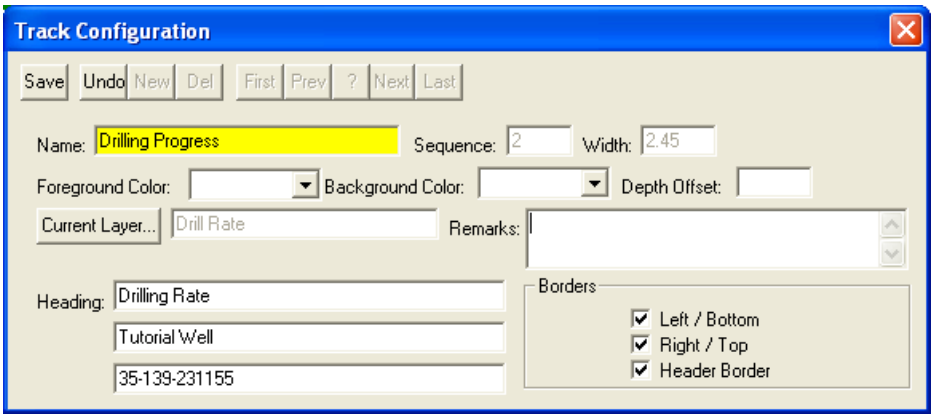
3.) Alternatively, you can simply **double click** on the **Test track** to turn the "**Y**"(yes) to "**N**"(no). The user will notice the log width has now decrease in size from 8" to 7.8" wide.

## Resizing and Configuring the Drilling Progress Track

1.) Scroll up the tracks list, on the right side of the Log Configuration Builder window, and then highlight or **click** on the **Drilling Progress Track**.

2.) **Double click** in the **Track Width** field and **Type** in the value of **2.45**. Then, **press** the **Tab** key and the total width of the log itself will change to reflect the increase in the width of the **Drilling Progress Track** as well as increase the Log width field to 8".

3.) Then, **click** on the Track Config. **button** (to the right of tracks), to activate the Track Configuration window. The changes in step four have already been done in this example.




4.) Currently, the name of the track is **Drilling Progress**. To change the track name, **Type** "**Drilling Rate**" in the **Name** field. Then, change the **Heading** name by typing "**Drilling Rate**" into the first **Heading** field. In the second heading field, **Type** in the well name "**Tutorial Well**." In the third heading field, **Type** in the location for the Tutorial Well, "**35-139-23155**." This would be beneficial if you were faxing or printing to Adobe the log only. It would identify to the client the location of the well data that is being transmitted.

5.) **Click** on the Save **button** to save your changes

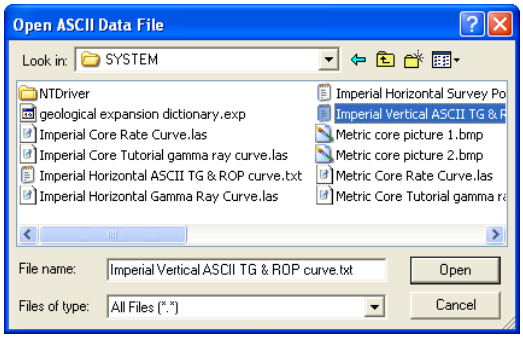
6.) A system message will appear asking the User. "Record saved successfully. Do you wish to exit?" **Click** on the Yes **button**. This action will return you to the **Log Configuration Builder** window, where you will see the new name of your track displayed on the log you are creating. Later, when you exit from the **Log Configuration Builder** window**,** you will notice that the track headings have conformed to your changes.

7.) **Press** the **Esc** key on the keyboard or **click** on the Exit **button** to exit from the **Log Configuration Builder** window. You will be returned to the main log window, where you will see the changes you have made to the new log.

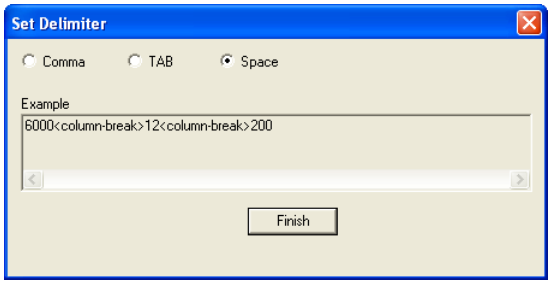
## Importing ASCII File Data into the Drill Rate & Total Gas curve layers:

You will be able to do this import only if you have the LAS / ASCII Import Utility.

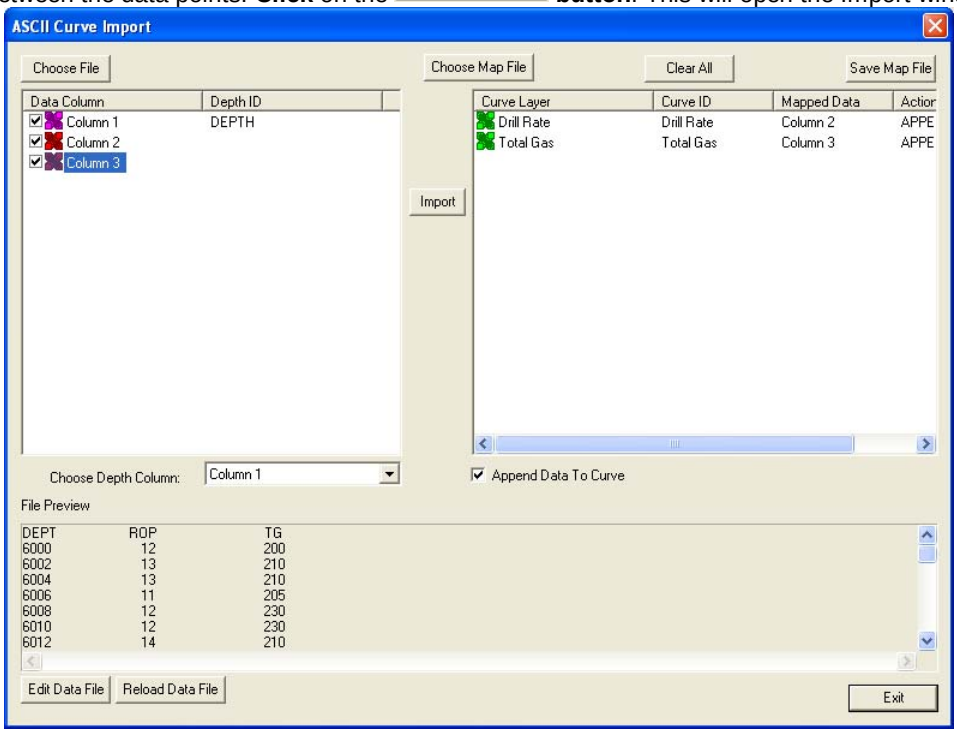
1.) **Click** on the **File** pull down menu, **select Import / Export** and then **select ASCII Import** from the pop out menu. OR the user can **select** the  Icon from the Import Tool Bar. This will activate an Open ASCII Data File window.




2.) Navigate to the **C:\Powersuite_V12\system folder** and **select** the **Imperial Vertical ASCII TG & ROP curve.txt** file. **Click** on the Open **button**. Once the file has been selected the Set delimiter window will be activated.




3.) This file is a Space delimited file and the default on this window is space delimited. You will see <column break> between the data points. **Click** on the Finish **button**. This will open the Import window.




4.) The default on the Depth column is Column 1 which is indicated by the purple X**. In our case the depth is the first column so we do not have to change the depth column indicator.**

5.) **Click** on the **Column 2** on the left side and **drag it to the Total Gas Curve layer** on the right side of the window. You will see Column 2 in the mapped Data field and an APPEND in the action field.

6.) **Click** on the **Column 3** on the left side and **drag it to the Drill Rate Curve layer** on the right side of the window. You will see Column 3 in the mapped Data field and an APPEND in the action field.

7.) **Click** on the Import **Button**. This will import the curve data and prompt you with a database message saying Imported successfully.

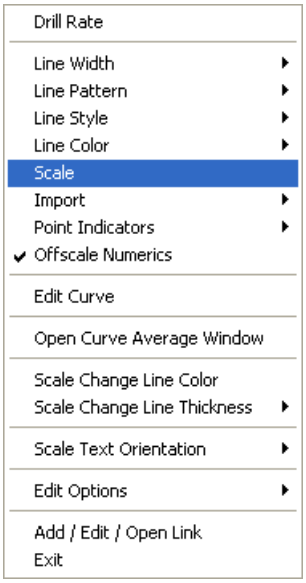

8.) **Click** on the OK **button** to close the window.

9.) **Click** on the Exit **button** to close the ASCII Import window.

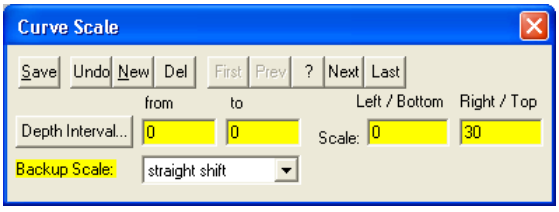
## Changing Curve Scales

1.) **Click** anywhere in **the Drilling progress track** to make it active. It will have a green outline. Go to the **layer selection list** and select **drill rate layer** from the list to make it the active layer.

2.) **Right click** anywhere within the **Drilling Rate** track (Drill Rate Layer) to activate the pop-up menu.




3.) **Select Scale** from the pop-up menu to activate the **Curve Scale** window for the **Drill Rate** curve. In this figure the user will notice the Scale has already been changed.

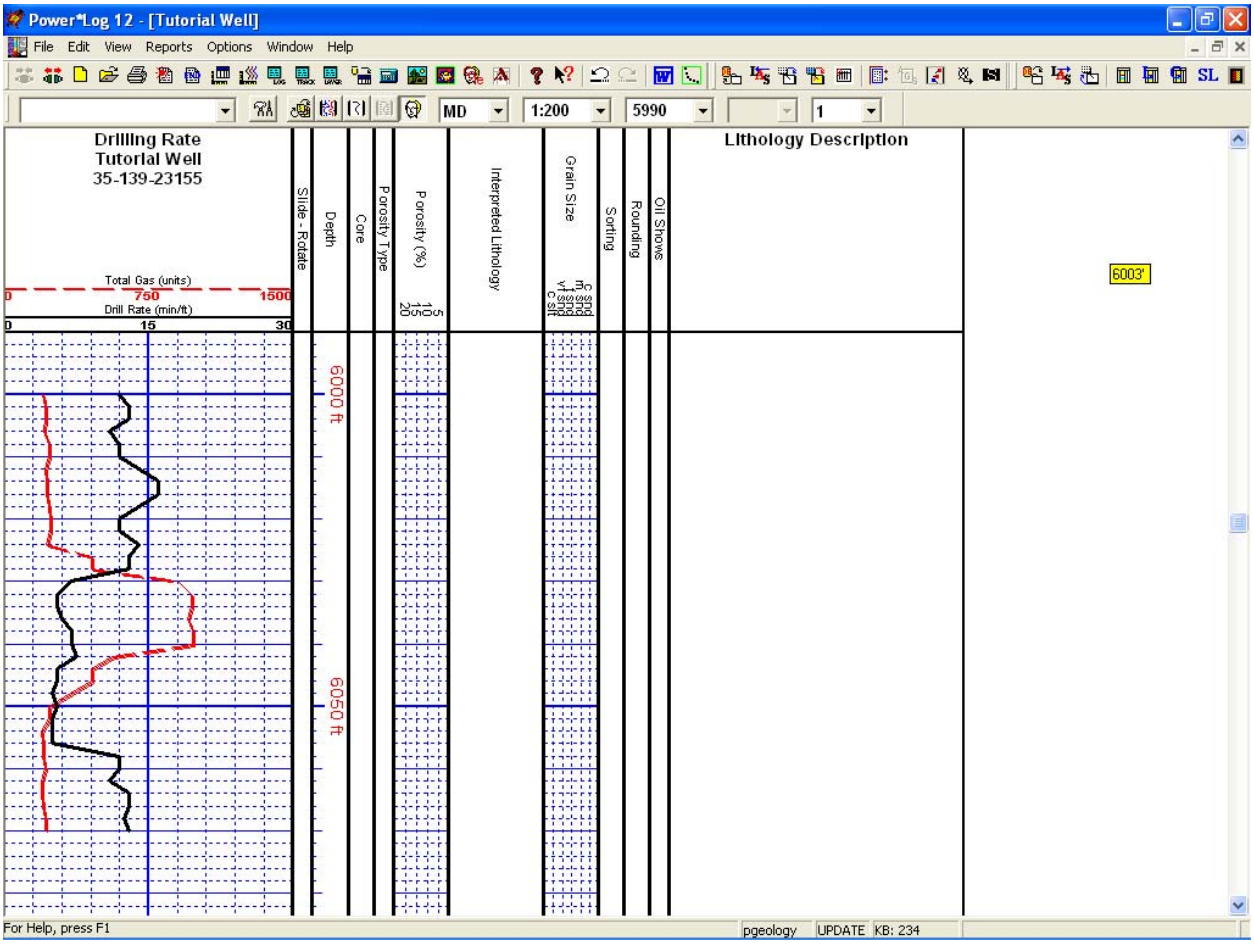



4.) Notice that the default scale (when the curve was originally added to the log), was **0** to **15 min/m**, as you would see in your window. To change the original scale from **0** – **15 min/2ft** to **0 – 30 min/2ft** , simply adjust the **Right / Top Scale** value to **30** by **double clicking** in the **Right Scale** field and typing in a value of **30**.

**Note:** The backup scale (in this case **straight shift**), is there in case the curve values go off-scale (more than **30 min/2ft**). A **straight shift** backup scale for an original scale of **0** to **30min/ 2ft** would be **30** to **60 min/2ft** for **Left** and **Right Scale** values, respectively.

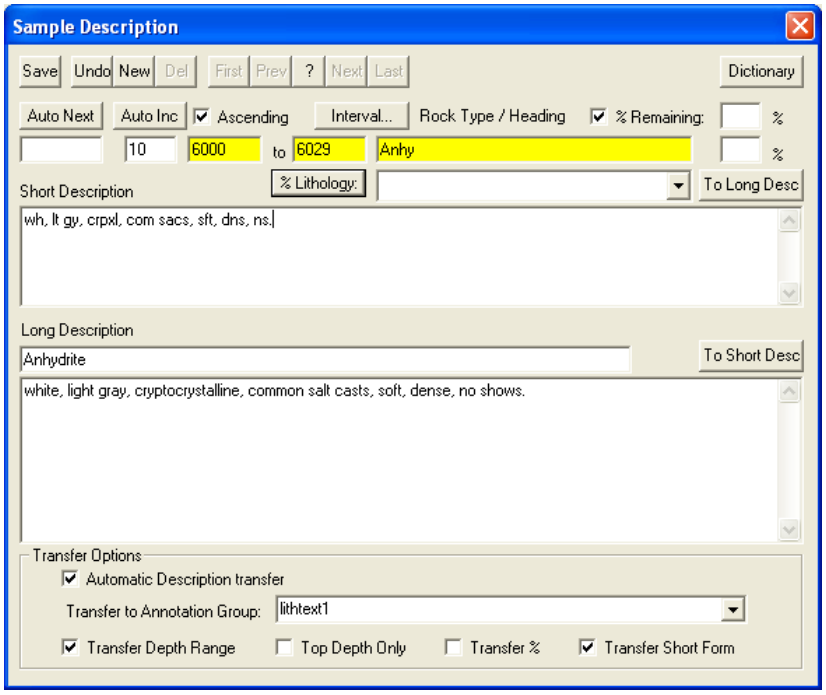
5.) **Click** on the Save **button** and **select** Exit from the ensuing **Shortcut Options** window.

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



## Adding Sample Descriptions

1.) **Click** on **Sample Description**, under **Reports** on the **Power*Log™ Selection Bar** to open the **Sample Description** window.




2.) **Type 6000** into the **Interval** (From) field and then **press** the **Tab key**

3.) **Type 6029** into the **Interval** (To) field and then **press** the **Tab key**

4.) **Type Anhy** into the **Rock Type / Heading** field and then **press** the **Tab key 4 times** to get to the short description field.

**Note:** The rock types have to be typed in correctly in the Short form field (according to our Geological Expansion Dictionary) in order for the Rock Type to be filled in when the **Enter key** is depressed.

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

***wh, lt gy, crpxl, com sacs, sft, dns, ns.***

**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.**

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

7.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. You will see your sample description on the log at 6000 ft with the options selected in step 6.

- **Adding another Sample Description to the same interval…**

1.) **Type Sh** into the **Rock Type** field, **tab 4 times** and **Type** the following description into the **Short Description** field:

***lt gy, wxy, bentic, occly slty, tr aren grs, sft, blky.***

2.) **Deselect Transfer Depth Range** check box ( ).

3.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. Your description will now be viewed at 6002 ft.

**Note:** If you have made any typing errors the user can **click** on the Cancel **button**, then you can make any necessary corrections and then Save the record once again to replace the old record with the new one.

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

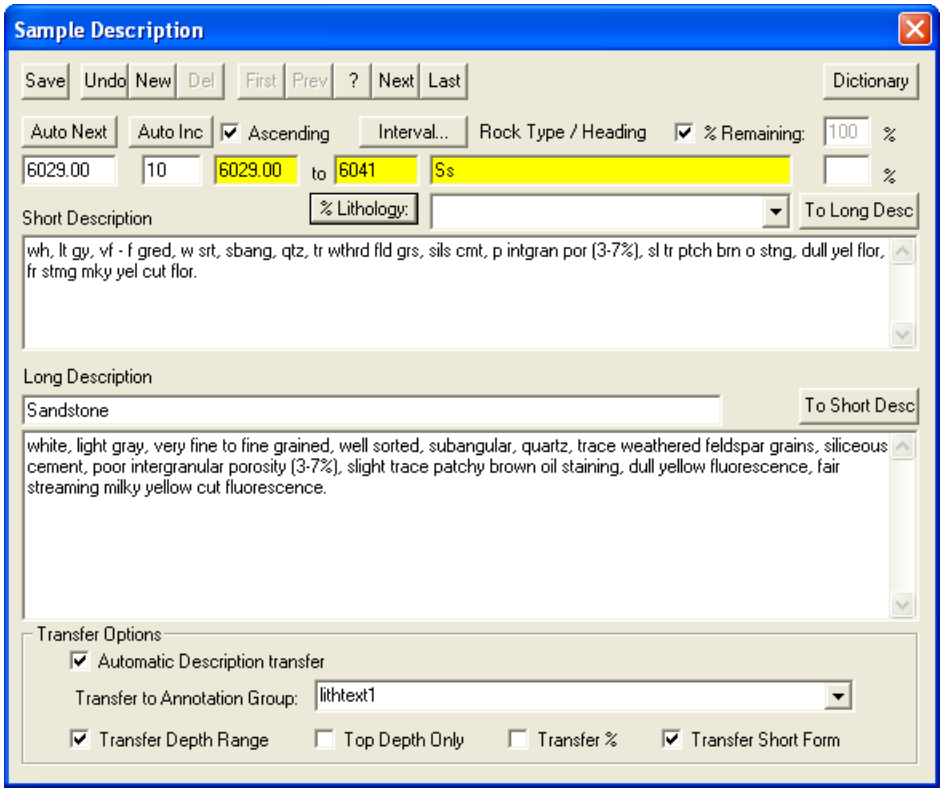
1.) **Click** on the Auto Next **button** to advance the description interval **from depth to 6029**. **Type** in a new depth to **6041**.

2.) **Type Ss** into the **Rock Type** field, **tab 4 times** and then **Type** the following description into the **Short Description** field:

***wh, lt gy, vf - f gred, w srt, sbang, qtz, tr wthrd fld grs, sils cmt, p intgran por (3-7%), sl tr ptch brn o stng, dull yel flor, fr stmg mky yel cut flor.***

3.) **Select Transfer Depth Range** check box ( ☑ ).

4.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. You will see your description at 6029 ft.




- **Adding more Sample Descriptions to a new interval…**

1.) **Click** on the Auto Next **button** to advance the description interval **from depth to 6041**. **Type** in a new depth to **6056**.

2.) **Type Ss** into the **Rock Type** field, **tab 4 times** and then **Type** the following description into the **Short Description** field:

***wh, lt gy, vf - m gred, modly w srt, sbang, qtz, tr wthrd fld grs, tr dk cht pbls, sils cmt, fr intgran por (6-10%), q brn o stng, no cut flor.***

3.) **Deselect** the **Transfer Depth Range** check box ( ☑ ).

4.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. You will see your description at 6041 ft.

- **Adding our Last Sample Descriptions utilizing the Auto Next button…**

1.) **Click** on the Auto Next **button** to advance the description interval **from depth to 6056**. **Type** in a new depth to **6070**

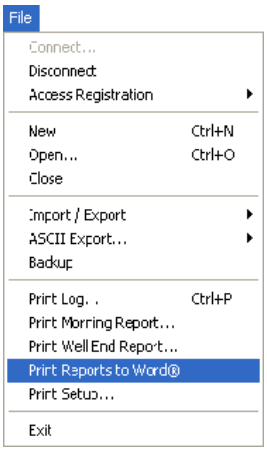
2.) **Type Sh** into the **Rock Type** field, **tab 4 times** and then **Type** the following description into the **Short Description** field:

***m - dk gy, micmica, v carb, calcs, fis.***

3.) **Deselect** the **Transfer Short Form** check box ( ☑ ).

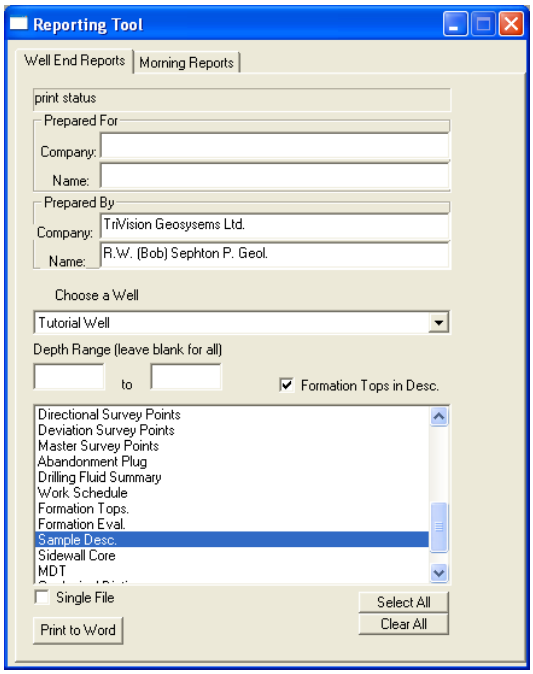
4.) **Click** on the Save **button** and then **select** Exit from the ensuing **Shortcut Options** window. You will see your description at 6056 ft.

## 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 Well** 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 **Sample 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**

7.) **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.

8.) 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 Sample Descriptions (If you do not have Word for Windows)

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 **API**: you will see **Tutorial Well (35-139-23155)** 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 **Sample 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.) Make sure that the **All** check box ( ), in the **Sample Description** section at the lower right of the **Well End Report** window, is activated.

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

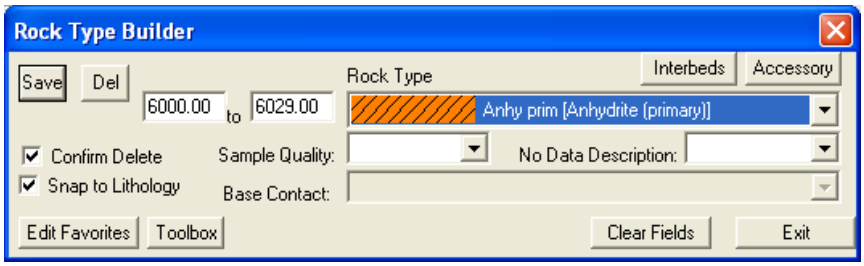
10.) When you are finished, **press** the **Esc** key on the keyboard to exit from the **Well End Report** window and to activate the following system message, "***Do you want to save the setup configuration***?" **Click** on the Yes **button** and all of the printer selection/settings information utilized 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.

## Drawing Interpreted Lithology

**Note:** To work on any layer in any track, simply **double click** on the track in which you wish to work 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 graphical images utilized in the Tool Box window represent specific **Rock Types** selected by the user in the **System Options, Favorites Tab** window (See **System Options** earlier in this tutorial). The written descriptions of the **Rock Types** illustrated in the above diagram were included as a visual aid and do not normally accompany a pop-up menu.

3.) **Select** the **Rock Type** for **Anhydrite (primary)** from the Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.
4.) Define the top interval by **clicking and holding** the **left** mouse button at **6000'** on the **Interpreted Lithology** track.
5.) Define the bottom interval by **dragging** the mouse pointer to **6029'** 

on the **Interpreted Lithology** track.
6.) **Release** the **mouse button** and the interval will be drawn accordingly.

- **Drawing another Rock Type…**

1.) **Select** the **Rock Type** for **Sandstone** from Tool Box window and it will automatically be displayed in the **Rock Type** field within the **Rock Type Builder** window.
2.) Define the top interval by **clicking and holding** the **left** mouse button at **6029'** on the **Interpreted Lithology** track.
3.) Define the bottom interval by **dragging** the mouse pointer to **6058'** 

on the **Interpreted Lithology** track.
4.) Release the mouse button and the interval will be drawn accordingly.

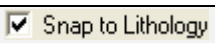
**And another...**

1.) **Select** the **Rock Type** for **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.) Define the top interval by **clicking and holding** the **left mouse button** at **6058'** on the **Interpreted Lithology** track.
3.) Define the bottom interval by **dragging** the mouse pointer to **6070'** 

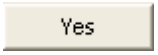
on the **Interpreted Lithology** track.
4.) Release the mouse button and the interval will be drawn accordingly.

**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…**

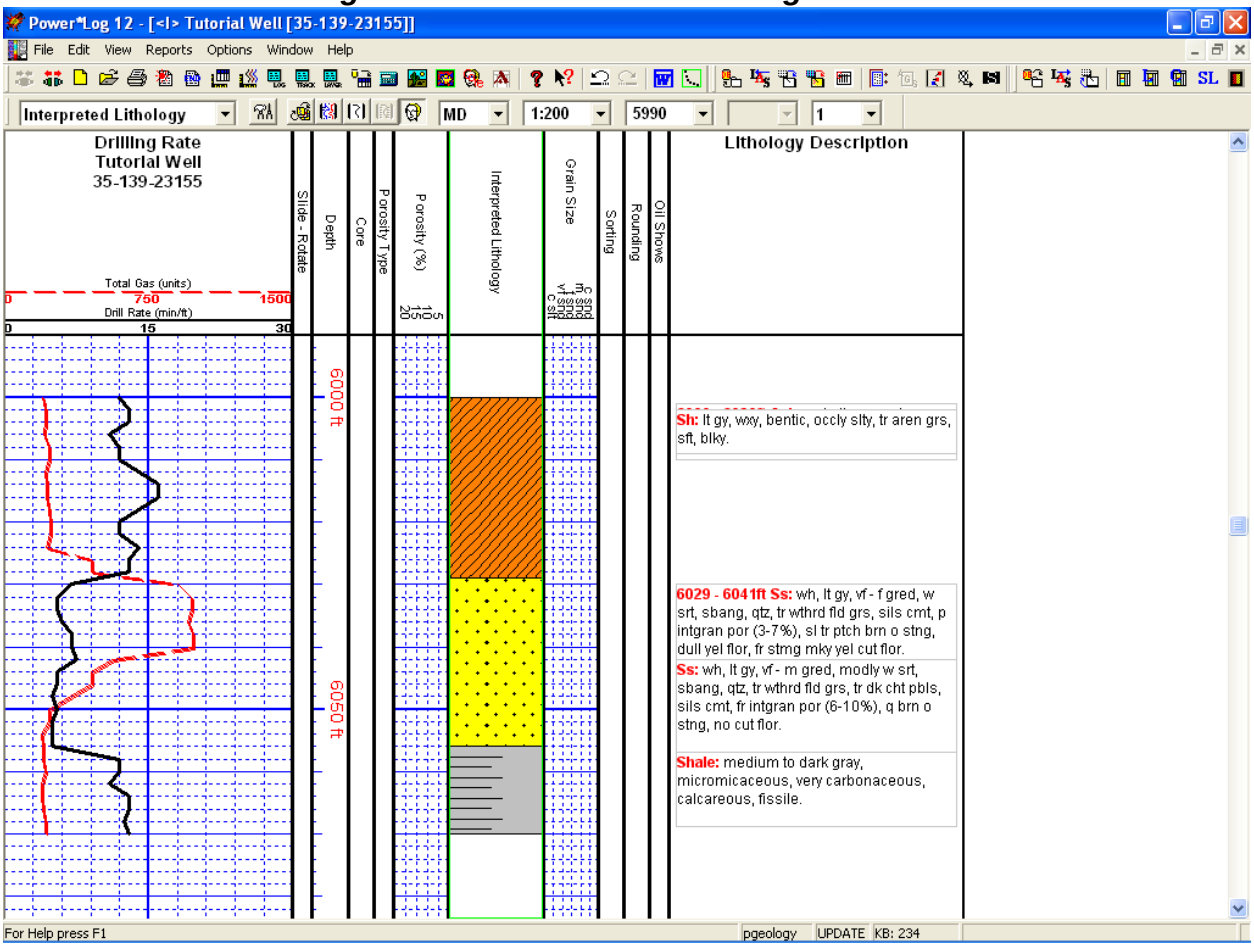
N.B. If you have the 

checked and your mouse pointer accuracy is 1 you must uncheck the check box to resize the following bed or decrease the mouse pointer accuaracy.

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 **6058 ft**. 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 up two feet to **6056 ft** on the **Interpreted Lithology** track.
2.) Release the mouse button at **6056 ft**, 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 6058.00 – 6070.00 to 6056.00 - 6070.00?***"
3.) **Click** on the 

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

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

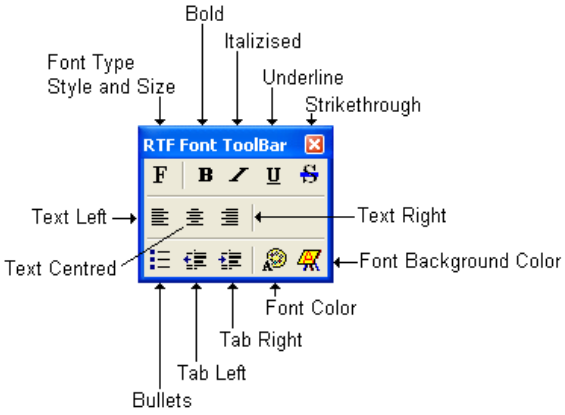



## Editing Lithology Descriptions

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.

**Overview of RTF Font Toolbar buttons.**



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

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

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

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

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

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

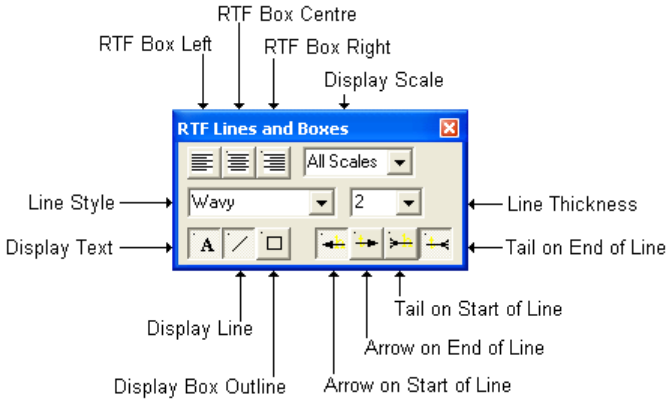
 At the flashing cursor or with some text highlighted this button will place a bullet at the start of the text line or paragraph.

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

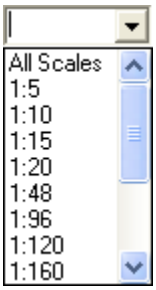
 At the flashing cursor or with some text highlighted this button will activate a new Font color.

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

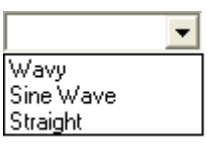
**Overview of RTF Lines and Boxes Toolbar buttons.**




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




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




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

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

**Moving a Lithology Description:**

1.) **Click** anywhere within the **Shale description that is viewed on your log at 6060 ft** to activate the **RTF Font and RTF Line and Boxes toolbars** and highlight the text.

2.) **Move** the **mouse pointer to the outline** and you will see the pointer turn into a  **crosshair**. **Click and drag your mouse** to move the description down 4 feet to **6064 ft.**

3.) **Click outside the annotation** to save your annotations**.**

**Editing Sample Descriptions**

1.) Now we will edit the Shale description at 6001 ft. **Click in** the **Sh description at 6001 ft.** You will see the description outlined on the log.

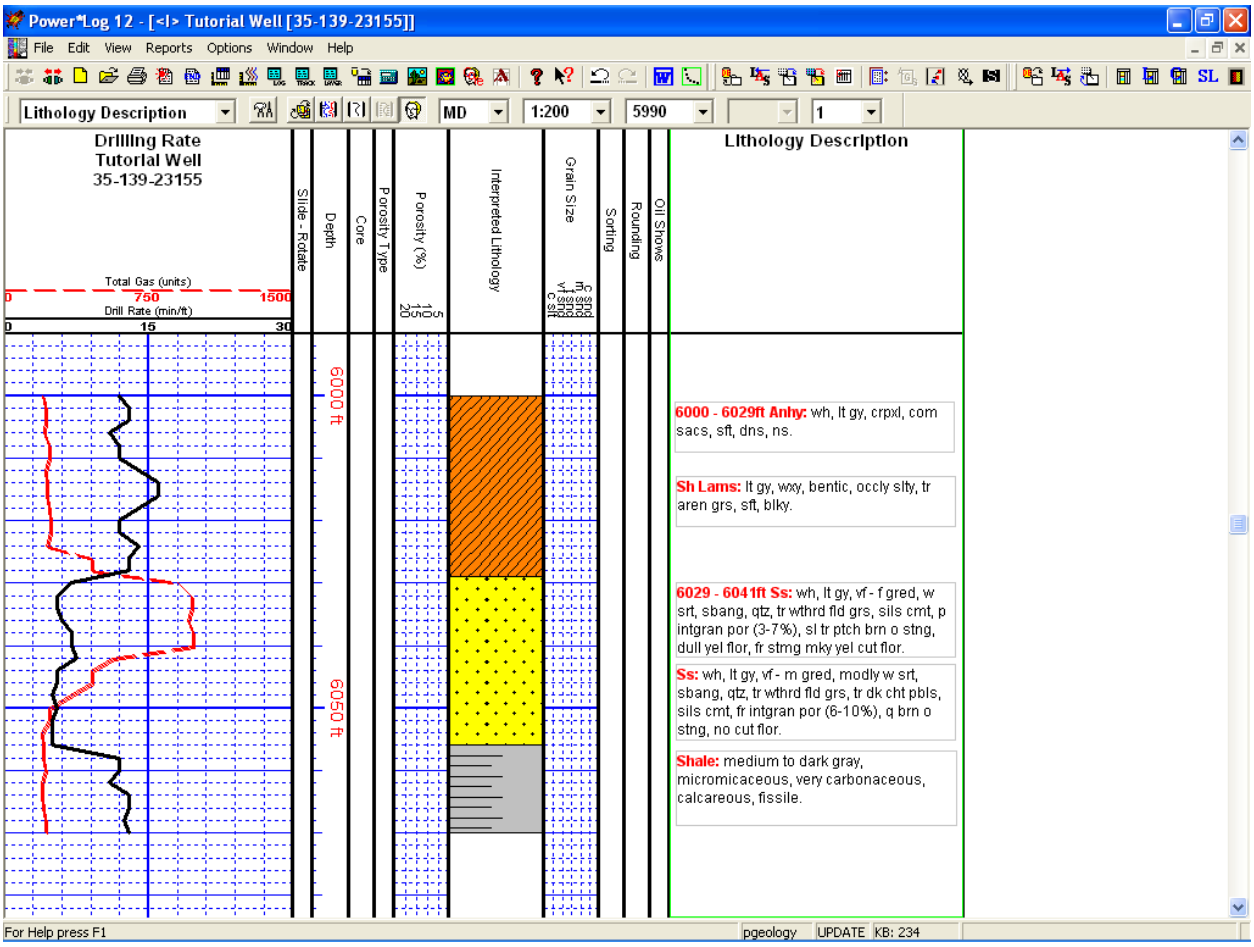
2.) **Move** the **mouse pointer to the outline** and you will see the pointer turn into a  **crosshair**. **Click and drag your mouse** to move the description down 11 feet to **6012 ft.**

3.) **Move your mouse pointer** in the text field and **click between the Sh and the (:) colon** and **Type** in **lam.**

4.) **Click outside the annotation** to save your annotations**.**

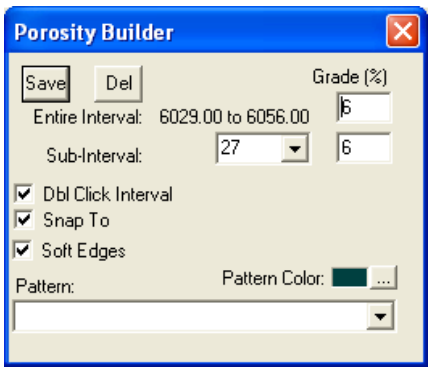
5.) Move the other annotations so that fit on the layer without overlapping each other and then **Click outside the highlighted annotation** to save your changes. Follow the example below.

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

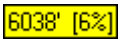



## Drawing Porosity (%)

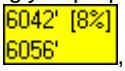
1.) **Double click** on the **Porosity (%)** track to activate the **Porosity Builder** window.




2.) **Double Click** the mouse pointer (with the 

check box activated) between **6029'** and **6056'** @ **[6%]** 

and the entire interval will be drawn accordingly in purple to represent an entire interval.

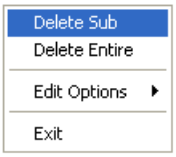
3.) **Click and drag** the mouse pointer from **6042' [8%]** to **6056'** 

, release the mouse button, and the desired **Porosity Grade** wIll be drawn accordingly in green to represent a subinterval.

**Note:** The mouse pointer does NOT have to be dragged to the same percentage (%) point at the bottom of the interval, as you selected at the top of the interval: the mouse pointer needs only to be dragged to the desired depth.

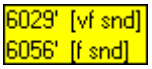
- **Deleting Porosity (%) Entire or Subinterval…**

If you wish to delete a **Porosity (%)** subinterval or entire interval, while the **Porosity Builder** window is open, **right click** within the interval slated for deletion to activate a pop-up menu, and then left or **right click** on the appropriate selection.




## Drawing Grain Size

1.) **Double click** on the **Grain Size** track between **6029 ft** and **6056 ft** to activate the **Grain Size Builder** window.

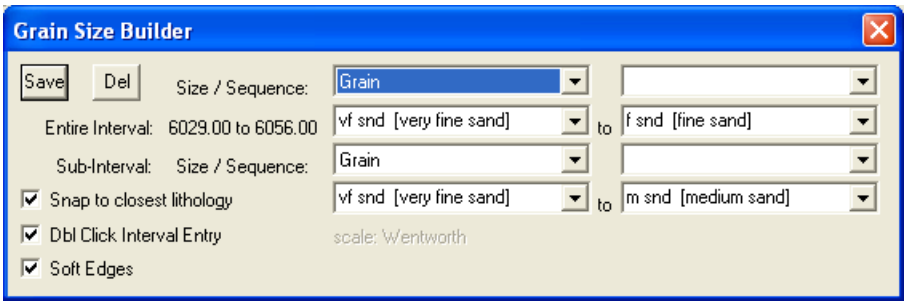

2.) **Click and drag** the mouse pointer from **6029' [vf snd]** to **6056' [f snd]** 

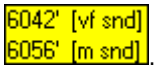
on the **Grain Size** track.

**Note: Measured Depths** and **Grain Sizes**, like **6029' [vf snd]**, can be viewed within the mouse pointer display box, situated just to the right of the mouse pointer.

3.) **Release** the **mouse button** and the entire **Grain Size** interval will be drawn in purple to represent the entire interval accordingly.

- **Drawing a Grain Size Sub-Interval…**




1.) **Click and drag** the mouse pointer from **6042' [vf snd]** to **6056' [m snd]** 

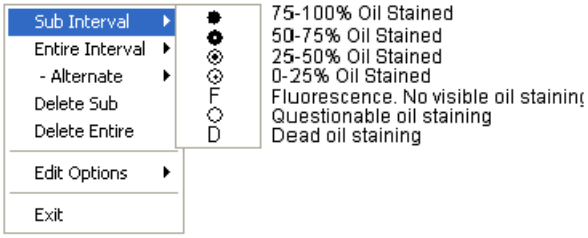
.
2.) Release the mouse button and the **Grain Size** Sub-Interval will be drawn accordingly.

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

## Drawing Oil Shows

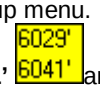
1.) **Double click** on the **Oil Show** track between to activate the **Oil Show Builder** window.


2.) **Right click** anywhere within the depth interval of **6029' to 6056' on the Oil Show** layer to activate the pop-up menu.




**Note:** The symbols utilized in the pop-up menu, represent a specific percentage (**%**) or amount of oil staining, as illustrated in the above diagram.

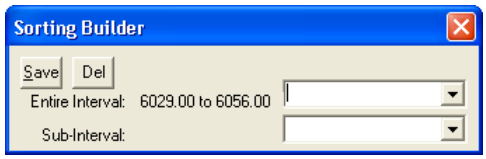
3.) **Select 50-75%** oil staining from the **Sub Interval** pop-up menu.

4.) **Click and drag** your mouse pointer from **6029'** to **6041'** 

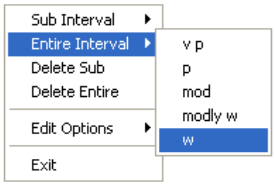
and release the mouse button and this **12 ft** sub-interval will be populated with the **50-75%** oil staining symbol ( ).

## Drawing Sorting

1.) **Double click** on the **Sorting** track between **6029'** and **6056'** to activate the **Sorting Builder** window.




2.) **Right click** anywhere within the **6029'** and **6056' Sorting** interval to activate the pop-up menu.




**Note:** Each of the abbreviations utilized in the pop-up menu represent a specific degree of **Sorting**.

3.) **Select w** for the **Entire Interval** from the pop-up menu and the entire bed will be populated with the "**W**" symbol.

- **Drawing a Sorting sub-interval…**

1.) **Right click** anywhere within the **Sorting Track** to activate the pop-up menu.

2.) **Select modly w** from the **Sub Interval** pop-out menu.

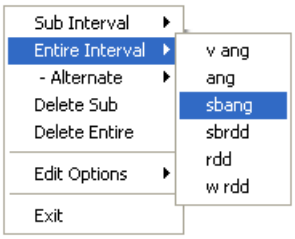
3.) **Click and drag** your mouse **from 6041'** to **6056'** 

and one **15'** sub-interval will be populated with the "**mW**" symbol.

## Drawing Rounding

1.) **Double click** on the **Rounding** track between **6029'** and **6056'** to activate the **Rounding Builder** window.

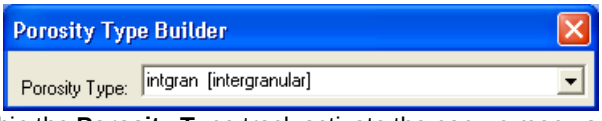

2.) **Right click** anywhere within the **6029'** and **6056' Rounding** interval to activate the pop-up menu



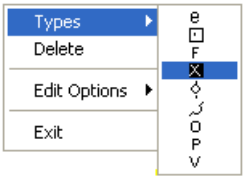

3.) **Select sbang** for the **Entire Interval** from the pop-up menu and the entire bed will be populated with the "**a**" symbol.

## Drawing Porosity Type

1.) **Double click** on the **Porosity Type Track** to activate the **Porosity Type Builder** window




2.) **Right click** anywhere within the **Porosity Type** track activate the pop-up menu and then **select** types to activate the pop-out menu.

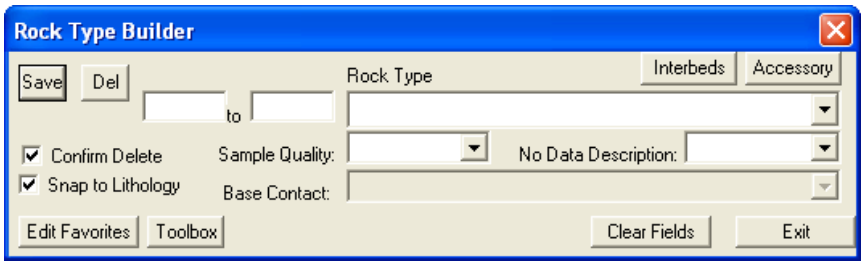



3.) **Select x** from the pop-up menu and **click at 6029', 6035', 6041', 6047' and 6053'** and "x's will appear at those depths.

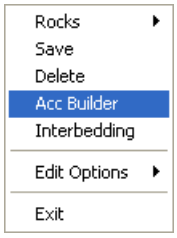
## Drawing Accessories

Using **the log on page 36** as a guideline, add some **Accessories** to the log at your discretion. Listed below are the steps for adding **Accessories**:

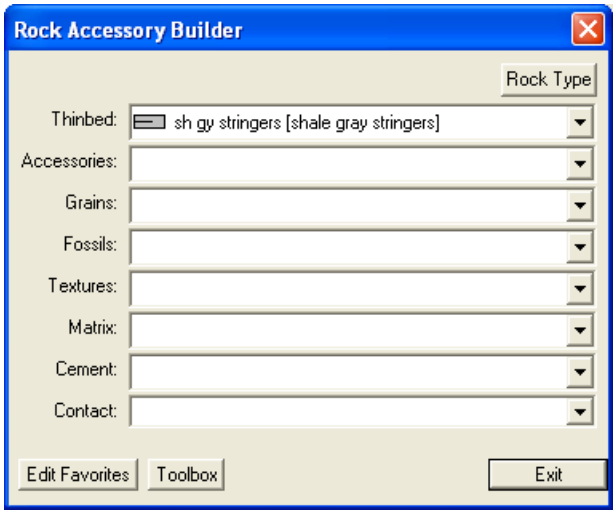
1.) **Double click** anywhere within the **Interpreted Lithology** track to activate the **Rock Type Builder** window.




2.) **Right click** anywhere within the **Interpreted Lithology** track to activate the pop-up menu.




3.) **Select Acc Builder** from the pop-up menu to activate the **Rock Accessory Builder** window or **click** on the Accessory **button** in the Rock Type builder.




4.) Now the user can move the Toolbox Favorite List by clicking and dragging the menu bar to a convenient location.

**…Adding a Thinbed…**

5.) **Click** on the symbol for **Shale Gray Stringers** from the Tool Box Favorites List and the **Thinbed** field in the **Rock Accessory Builder** window will be filled in with **sh gy stringer [shale gray stringers]**.

6.) **Click** anywhere within existing **Interpreted Lithology** to insert the desired **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.

**Adding another Thinbed…**

1.) **Click** on the symbol for **Chert Dark Pebbles** from the Tool Box Favorites List and the **Thinbed** field in the **Rock Accessory Builder** window will be filled in with **cht dk pebbles [chert dark pebbles]**.

2.) **Click** along the bottom of the **Sandstone** interval to insert the desired **Accessory**.

**Note:** When placing **Accessories** on the log, you may wish to increase the mouse accuracy from the default of **1** to **0.1**. This selection box is located to the left of the **LAS** button on the **Toolbar**.

- **Adding an Accessory…**

1.) **Click** on the symbol for **Salt Casts** from the Tool Box Favorites List and the **Component** field in the **Rock Accessory Builder** window will be filled in with **sac [salt casts]**.

2.) **Click** anywhere within the **Anhy(prim)** interval to insert the desired **Accessory**.

**Adding another Accessory…**

1.) **Click** on the symbol for **Silty** from the Tool Box Favorites List and the **Component** field in the **Rock Accessory Builder** window will be filled in with **slty [silty]**.

2.) **Click** within the **Anhy (prim)** interval to insert the desired **Accessory/Accessories**.

- **Add the following Accessory and Grain…**

**Arenaceous** **Feldspar Grains**

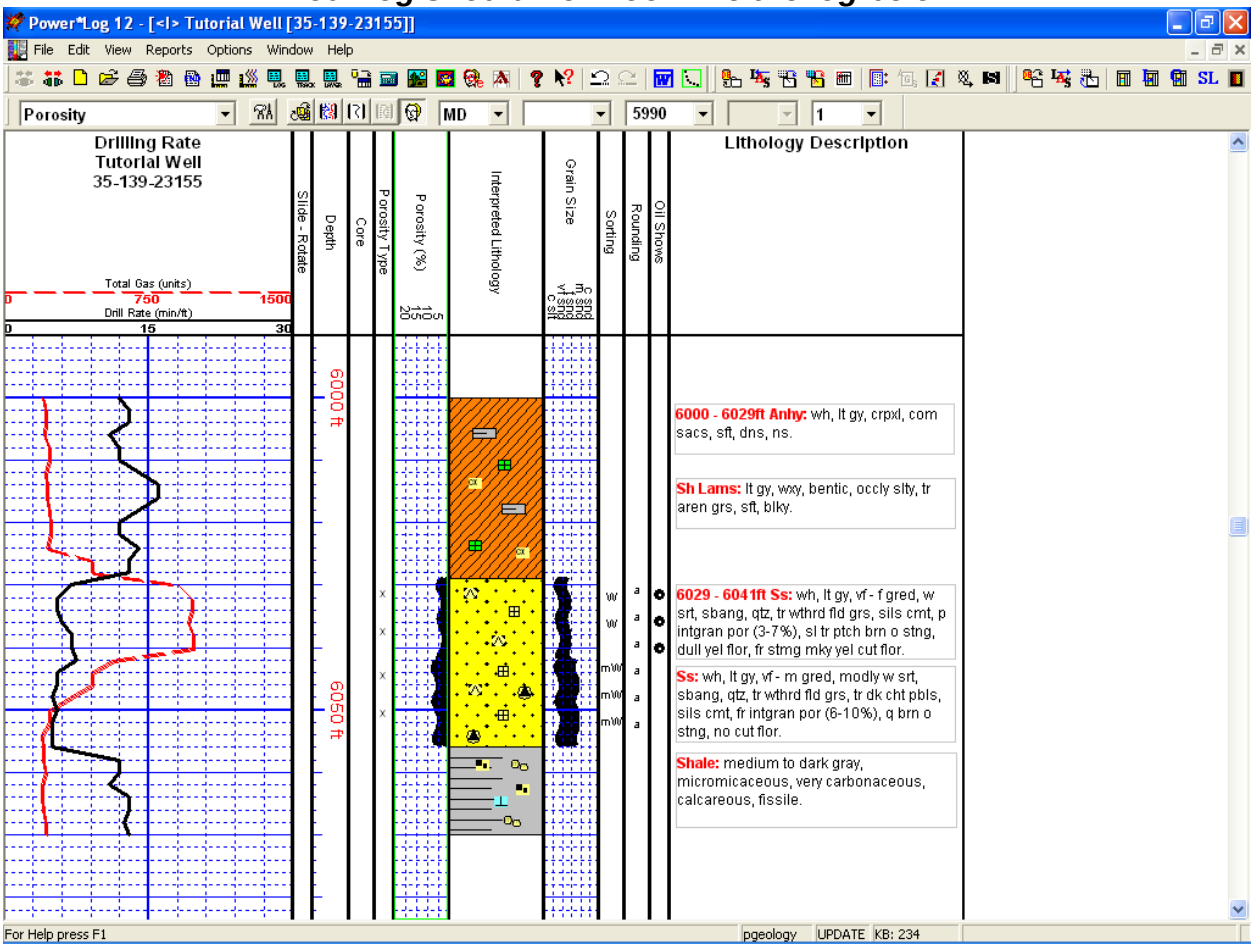
- **Adding Cement…**

1.) **Click** on the symbol for **Siliceous** from the Tool Box Favorites List and the **Cement** field in the **Rock Accessory Builder** window will be filled in with **sils [siliceous]**.

2.) **Click** anywhere within the existing **Interpreted Lithology** intervals, that you wish to insert the desired **Accessory/Accessories.**

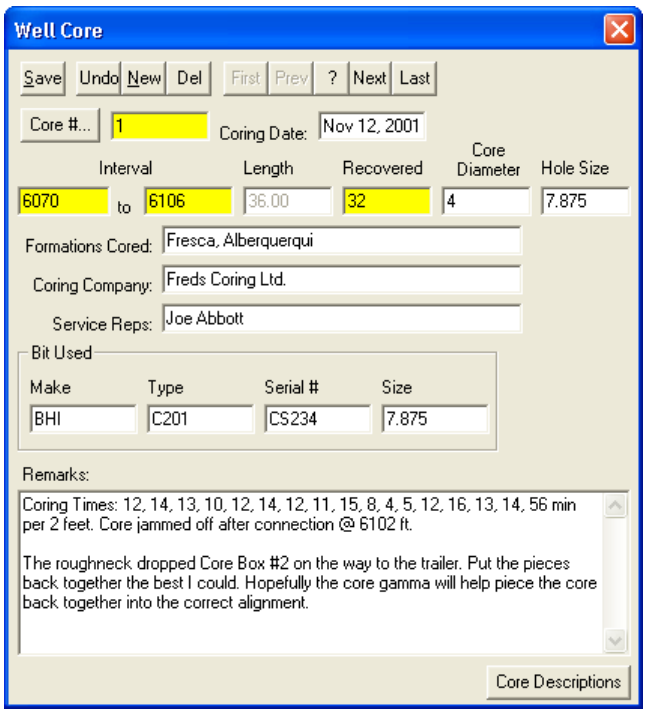
3.) **Press** the **Esc** key on the keyboard to exit from the **Rock Accessory Builder** window.

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



## Adding a Cored Interval to the log

1.) **Double click** on the **Core** track to activate the **Well Core** report window.



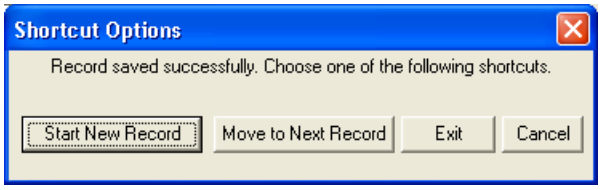

2.) **Type 1** into the **Core #** field. **Tab key**.

3.) **Type** today's date into the **Coring Date** field, using the **Date Format** (**MMM DD, YYYY**), selected in the **System Options** window at the beginning of this tutorial. **Tab key**.

4.) **Type 6070** into the **Interval** (From) field, **Press** the **Tab key**, **Type 6106** into the **Interval** (To) field, **Press** the **Tab key** and **Type 32** into the **Recovered** field.

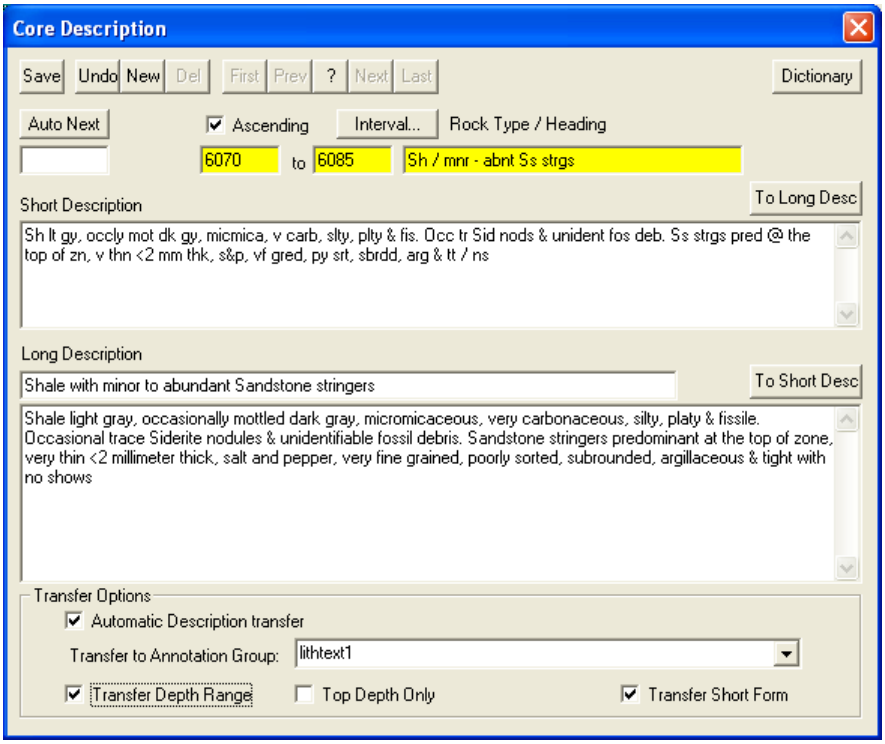
5.) The rest of the fields can be filled in. Only the yellow fields are mandatory. Remember to Tab between fields.

6.) **Click** on the Save **button** and **select** Cancel from the ensuing **Shortcut Options** window.




## Adding Core Descriptions

1.) **Click** on the Core Descriptions **button**, in the Well Core window to activate the **Core Description** window.




2.) **Type 6070** into the **Interval** (From) field, **tab** and **Type 6085** into the **Interval** (To) field, **tab** and then **Type Sh / mnr – abnt Ss strgs** into the **Rock Type** field. **Tab** to get to the short description field.

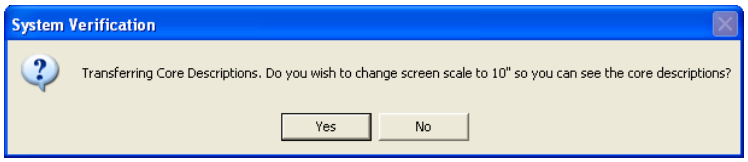
3.) **Type** the following Core Description into the Short Description field, exactly as is:

***Sh lt gy, occly mot dk gy, micmica, v carb, slty, plty & fis. Occ tr Sid nods & unident fos deb. Ss strgs pred @ the top of zn, v thn <2 mm thk, s&p, vf gred, py srt, sbrdd, arg & tt / ns.***

**Note:** The **Short or Long Descriptions** can be added to the **Lithology Description** layer (in the **Lithology Description** track and only the **Long Description** will still be printed out in the **Core Description Report** in the **Well End Report** window.

4.) **Select** the **Automatic Transfer, Transfer Depth Range** and **Transfer Short Form** check boxes ( ), as shown in the preceding sample description window.

5.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window. This will activate a System Verification Window asking you if you want to change your screen scale to 10" so you can see your description. Otherwise, it will not be shown.




6.) **Click** on the Yes **button.** You will see your sample description on the log at 6070 ft with the options selected in step 4.

- **Adding another Core Description to a new interval…**

1.) **Type 6090** into the **Interval** (To) field, **tab** and then **Type Ss** into the **Rock Type** field. **Tab** to get to the short description field.

2.) **Type** the following **Core Description** into the **Short Description** field, exactly as is:

***s&p, m gred, w srt, sbrdd, qtz, cht, sils cmt, fr – g intgran por (16% - 18%), abnt brn o stng, bri yel flor, ex stmg yel cut flor.***

3.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window.

**Note:** If you made any typing errors, you can make any necessary corrections now and then **Save** the record once again to overwrite the old record. You must first delete the description from the Lithology Description Layer.

- **Adding yet another Core Description to a new interval…**

1.) **Type 6096** into the **Interval** (To) field, **tab** and then **Type Sh** into the **Rock Type** field. **Tab** to get to the short description field.

2.) **Type** the following **Core Description** into the **Short Description** field, exactly as is:

***lt gy, occly mot dk gy, micmica, v carb, slty, plty & fis.***

3.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window.

- **Adding yet another Core Description to a new interval…**

1.) **Type 6102** into the **Interval** (To) field, **tab** and then **Type Ss** into the **Rock Type** field. **Tab** to get to the short description field.

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

***s&p, m - vc gred, m srt, sbrdd - rdd, qtz, cht, tr sils cmt, g - ex intgran por (20% - 24%), v fri, v abnt brn o stng, bri yel flor, ex stmg yel cut flor.***

3.) **Click** on the Save **button** and then **select** Start New Record from the ensuing **Shortcut Options** window.

- **Adding the last Core Description to a new interval…**

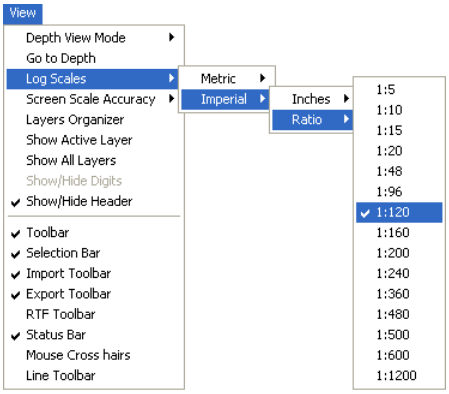
1.) **Type 6106** into the **Interval** (To) field, **tab** and then **Type No Recy** into the **Rock Type** field. **Click** on the To Long Desc **button**. This will expand the abbreviated Rock type into the Long name Rock type field.

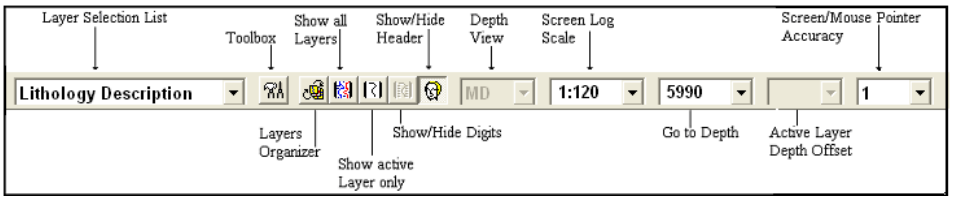
2.) **Click** on the Save **button** and then **select** Exit from the ensuing **Shortcut Options** window.

## Editing Core Descriptions

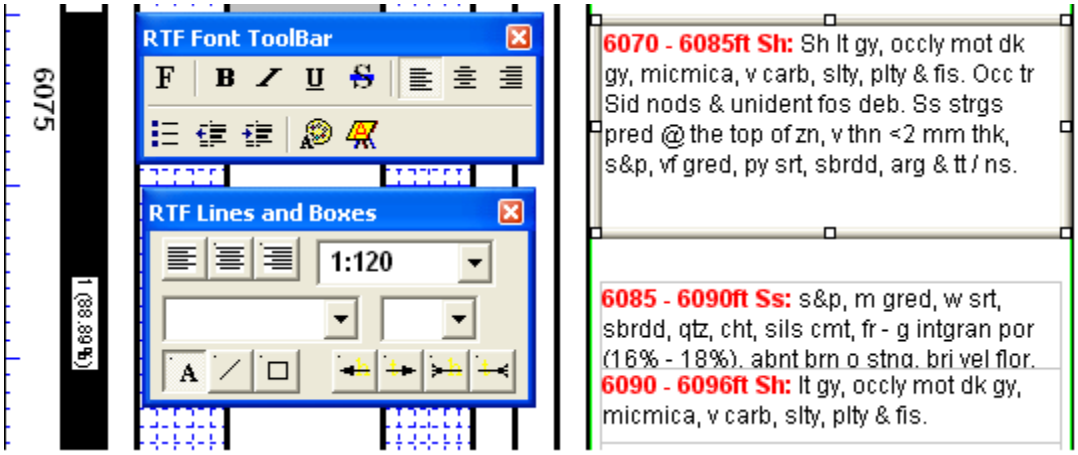
Before we start editing the Core Descriptions on the Log we must first change our Screen scale from 10” to 25” so that all the descriptions will not be overlapping each other. This will make selecting them much easier.

1.) **Click** on **Log Scales**, under the **View** menu selection, to activate the **pop out menu** and then **click** on **Imperial** then **click** on the **25”**. This will refresh your log with the new Scale. **Or Click** in the **Log Scales** field drop box and select 25”.

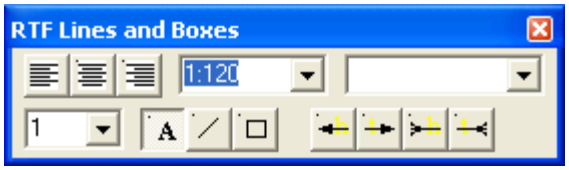



## Moving and changing the Display Scale options




## Changing the Display Scale options





1.) **Click** on the **6096-6102 ft Core Description**. This will activate the RFT Font and Lines and Boxes toolbars and show a highlight around the selected annotations borders.
2.) To change the **Display Scale** of the **Core Description** now highlighted, simply **select All Scales** from the **display scale drop box** to replace the 120 in the RFT Lines and Boxes Toolbar. (When this is done the core description will display at all log viewing and printing scales.)
3.) **Move your mouse pointer** onto the bordered area on the lithology description track and so that the mouse pointer turns into cross hairs and **click** and drag to move this description so that it can be read easily.
4.) **Click anywhere outside** the annotation to close down the RFT Builders.

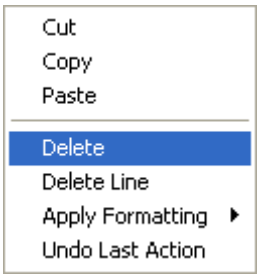
## Moving Core descriptions

1.) **Click** on the **Core Description you wish to move**.
2.) **Move your mouse pointer** onto the bordered area on the lithology description track and so that the mouse pointer turns into cross hairs and **click** and drag to move this description so that it can be read easily. Release the mouse button, and the **Core Description** will be redrawn at its new location.

**For a general guideline refer to the log example on page 45.**

## Deleting Core Descriptions

1.) **Click** on the **Core Description** you wish to delete to highlight it.
2.) **Right Click** anywhere inside the annotation to activate the pop up menu shown below.

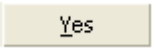



3.) **Click** on the **Delete** selection.
4.) **Click anywhere outside** the annotation to close down the RFT Builders**.**

## Adding a Core Rate curve layer to the log

1.) Under the **Options** menu, **click** on **Log Configuration Builder** or **click** on the  **Log Configuration Builder button** on the **Toolbar** to activate the **Log Configuration Builder** window.
2.) On the left side **scroll down in the tracks portion** of the window until you can highlight the **Curves Track by slicking on it**.
3.) **Click** on the **Core Rate** layer in the layers portion of the window on the lower left side of the builder to highlight it. Also notice the 

radio button on the left side gets activated.
4.) On the **right** side (**Active Log**) of the **Log Configuration Builder** window, **click** on the **Drilling Rate** track to highlight it. This is the track we want to add the Core Rate layer to.
5.) **Click** on the 

**button** and you will be prompted with the following system message, "***Do you want to ADD the selected (layer) from the available log to the active log?"*** **Click** on the 

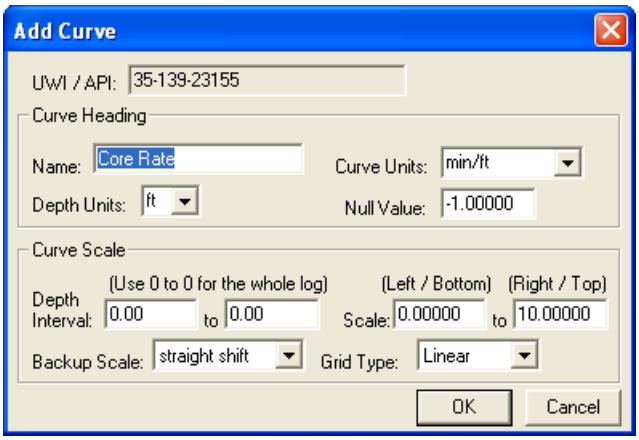
**button**.
6.) This will activate a **Get Name** window with "***Core Rate***" as the name in the **New Layer Name** field. **Click** on the 

**button** and the **Core Rate** layer will then be added to the **Drilling Rate** track.

**Note:** The **Core Rate** curve has not yet been associated with the **Core Rate** layer. This will be done when the **Add Curve** window has been correctly filled in.

7.) **Click** on the 

**button** to return to the log and the log will be initialized with the new layer, which in turn will generate an **Add Curve** window.

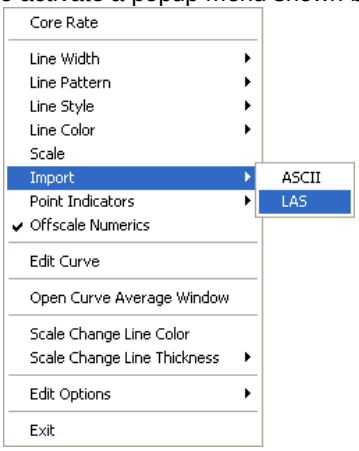



7.) **Click** on  **button** to add the curve layer to the Drill Rate Track.

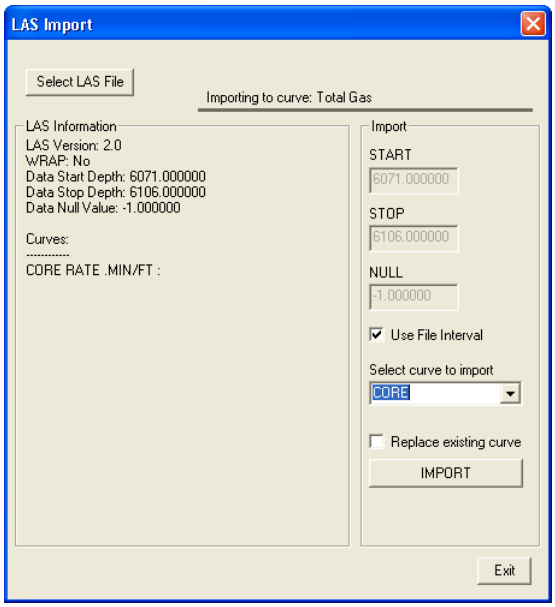


## Importing an LAS Core Rate Curve data file

1.) **Click** on the Drilling Rate 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 **Drilling Rate** track.
3.) **Select** the **Core Rate** layer to make it the <u>active</u> layer and the **Layer Selection List** will close automatically after you have made your selection.
4.) **Right click** on the **Core Rate layer** to activate a popup menu shown below for the Core Rate Curve layer.




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 **"Imperial Core Rate Curve.las"** in the Powersuite_V12 / System directory.

7.) After locating the Drive and Directory where the **Imperial Core Rate Curve.las** file 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 **Core curve**.

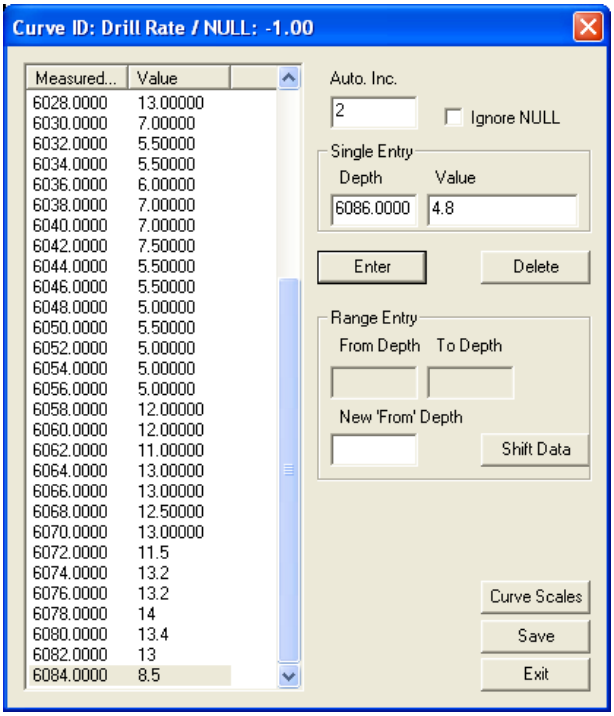
9.) **Click** on the IMPORT **button**. The curve will import and the window will disappear leaving the core rate curve on the layer.

**Adding Coring Times to the existing Drill Rate curve…**

1.) **Select** the **Drill Rate** curve layer from the **Layer Selection List** field to make **Drill Rate** the active layer.
2.) Then, **Double click** on the **Drilling Rate** track to bring up the **Curve Editor** window for the **Drill Rate** curve layer.
3.) Change the **Auto Depth Increment** from one (1) to **two** (2) and then enter the following values into the **Curve Editor** window.

| | | | | | |
|---|---|---|---|---|---|
| 6072 | 13.0 | 6084 | 13.0 | 6096 | 10.0 |
| 6074 | 11.5 | 6086 | 8.5 | 6098 | 6.0 |
| 6076 | 13.2 | 6088 | 4.8 | 6100 | 5.0 |
| 6078 | 13.2 | 6090 | 4.4 | 6102 | 4.0 |
| 6080 | 14.0 | 6092 | 11.0 | 6104 | 12.0 |
| 6082 | 13.4 | 6094 | 12.5 | 6106 | 28.0 |

4.) **Click** on the Save **button** to save your Drill Rate (Core Rate in min/m).

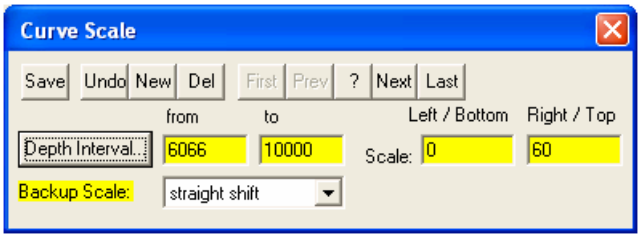



- **Changing Curve Scales in the Curve Editor window.**

1.) **Click** on the Curve Scales **button** in the Curve Editor window. This will activate a Curve Scale window. **We will be changing scales in our case at 6066'**


2.) **Type** in a different from Depth Interval changing the 0 to **6066** and then **click** on the Save **Button.** This will activate a System message stating Record Saved Successfully.

3.) **Click** on the Start New Record **button**. This will clear the window.

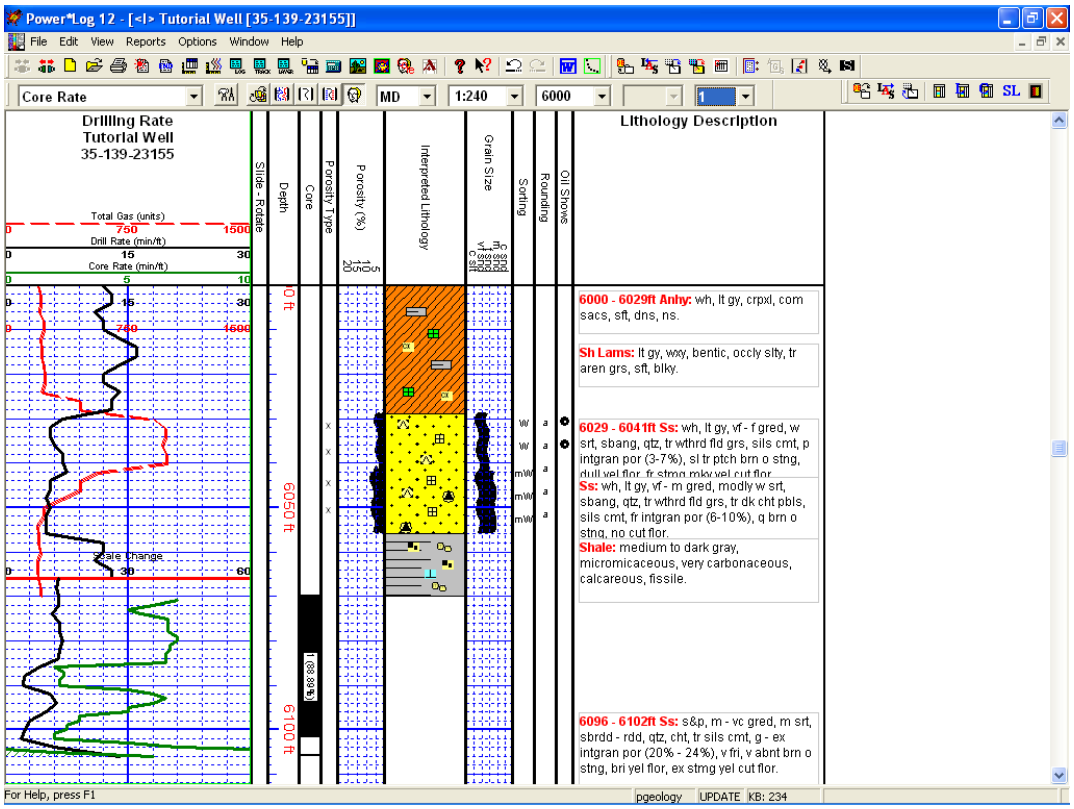



4.) **Type** in **6066** in the **from depth** interval field, **tab**, **Type 10000** in the **to depth** interval field, **tab**, **Type** in **0** in the **left / bottom scale** field, **Type** in **60** in the **right / top scale** field, **select strait shift** from the **Backup Scale** drop box.

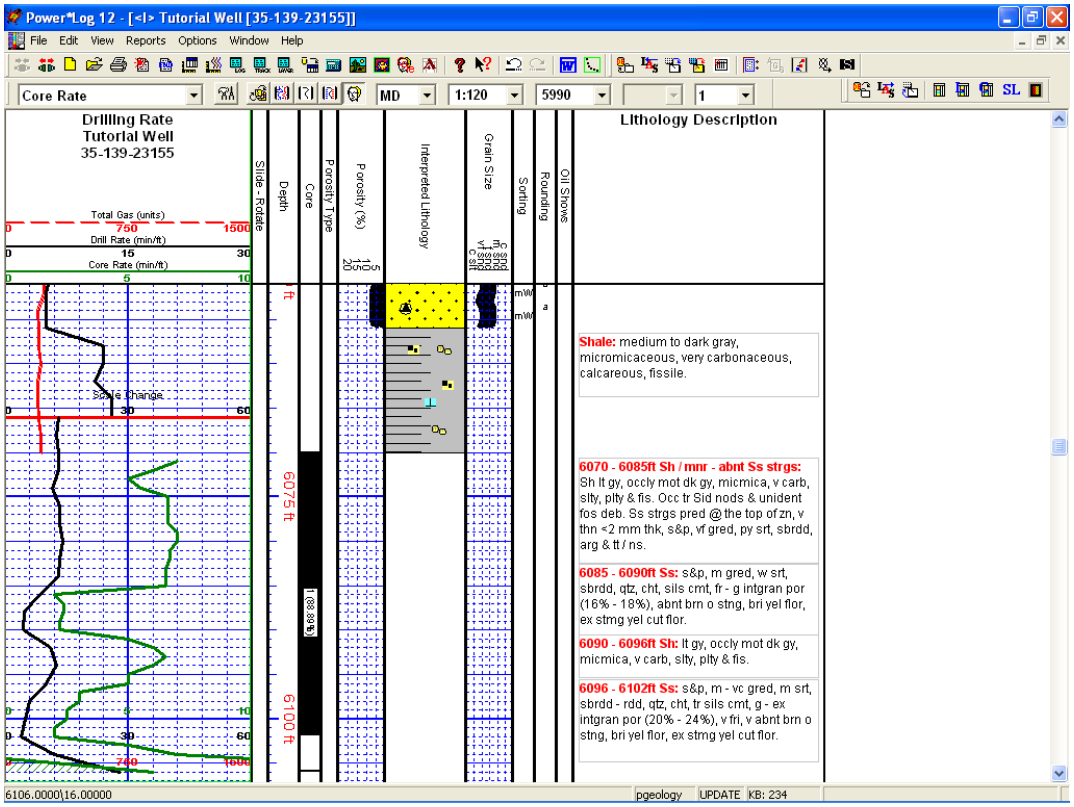
5.) **Click** on the Save **button** and then **select** Exit from the ensuing Record Saved Successfully message box.

6.) **Press** the **Esc key** on the keyboard or **Click** on the Exit **button** in the Curve Editor window to exit from the **Curve Editor** window. This will return you to the main log and you will now be able to view your drill rate additions and the change of scale.

***Your log should now look like the log below at 1:240 or 5" scale.***

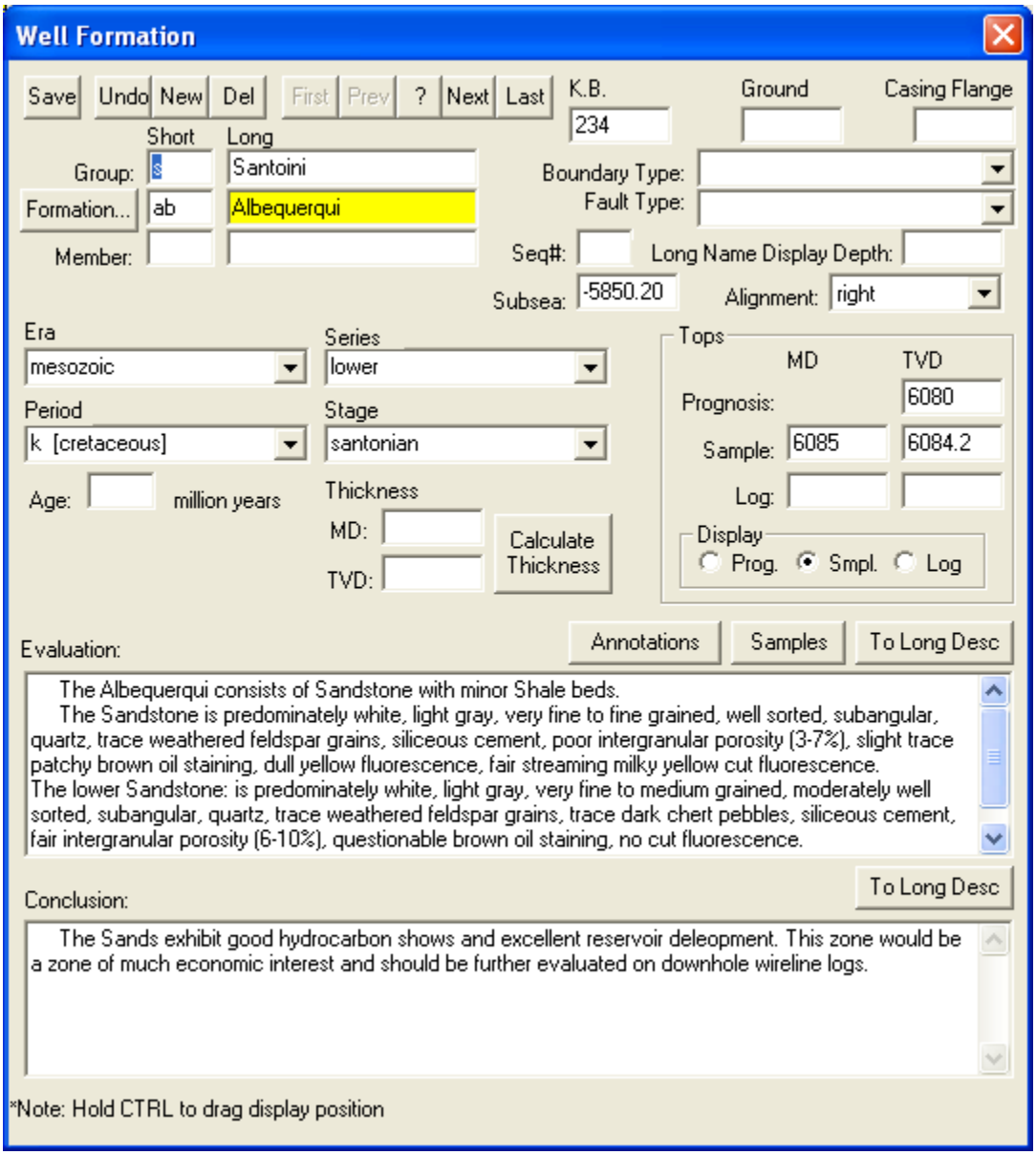



***Your log should now look like the log below at 1:120 or 10" scale.***

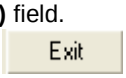


## Adding a Formation Top

1.) **Click** on **Formation**, under **Reports**, to activate the **Well Formation** window.

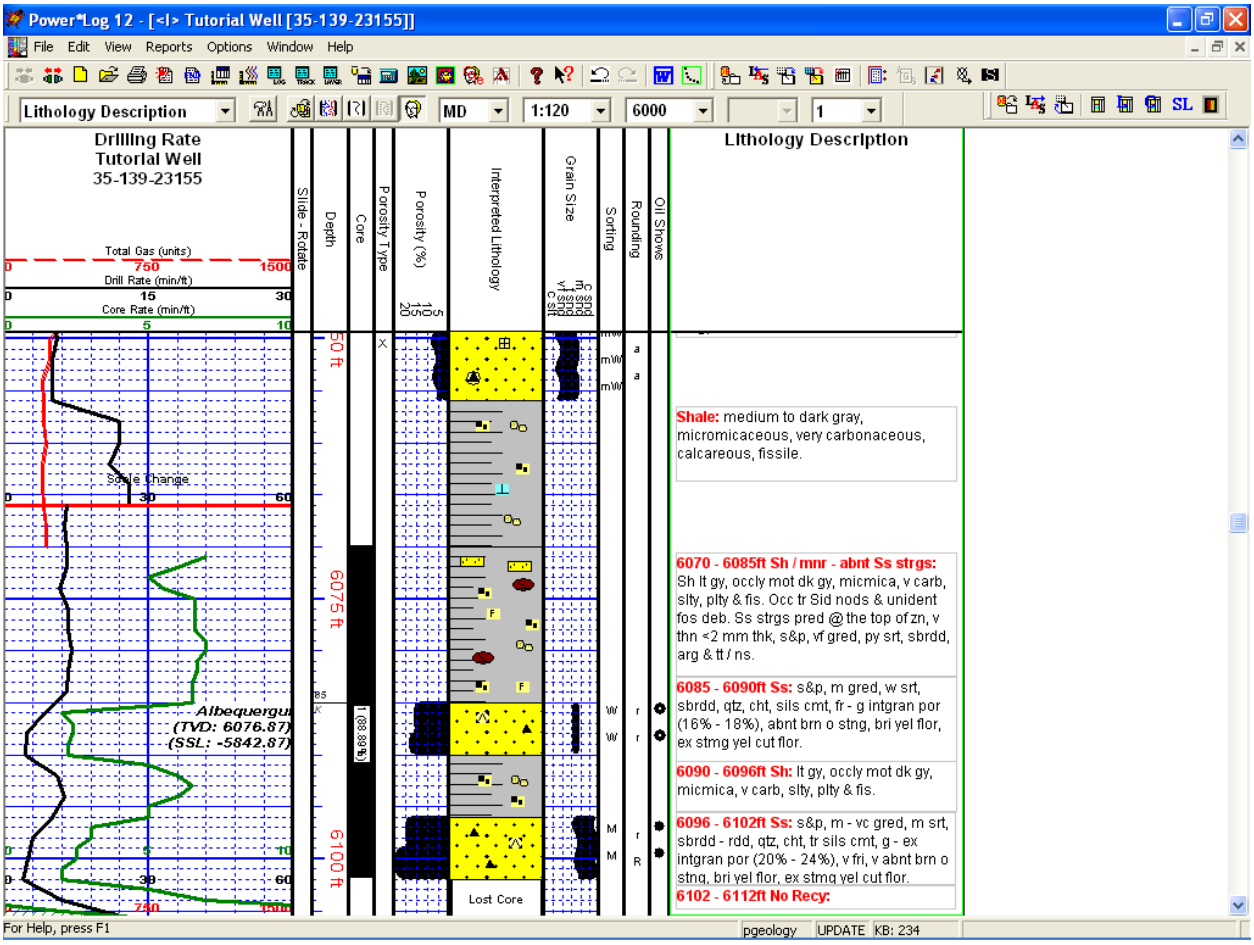



2.) **Type ab** into the **Formation Short name** field, **tab** and **Type Albequerqui** into the **Formation Long Name** field, **select Mesozoic** from the **Era Drop down box, select Lower** from the **Series Drop down box, select K [Cretaceous]** from the **Period Drop down box,** and **select Santonian** from the **Stage Drop down box.**
3.) **Move the mouse pointer to the Prognosis TVD field and click.** This will activate a cursor and **type** in **6080** in the **Prognosis TVD Top** field and **press** the **tab** key
4.) **Type 6085** in the **Sample Top (MD)** field and **press** the **tab** key
5.) **Type 6084.2** in the **Sample Top (TVD)** field.
6.) **Click** on the 

**button** and **select** 

from the ensuing **Shortcut Options** window.

**Draw the Interpreted Lithology (Please refer to the section on Drawing Interpreted Lithology earlier in this tutorial), for the Core Descriptions, that you have already created. Your Log should look fairly similar to the log illustrated below. To draw Lithology with more accuracy you may want to change the accuracy of your mouse pointer or the screen scale accuracy to from 1 foot (default) to a more detail mouse pointer. To do this click on View menu selection, select screen scale accuracy and select from the pop-out menu.**

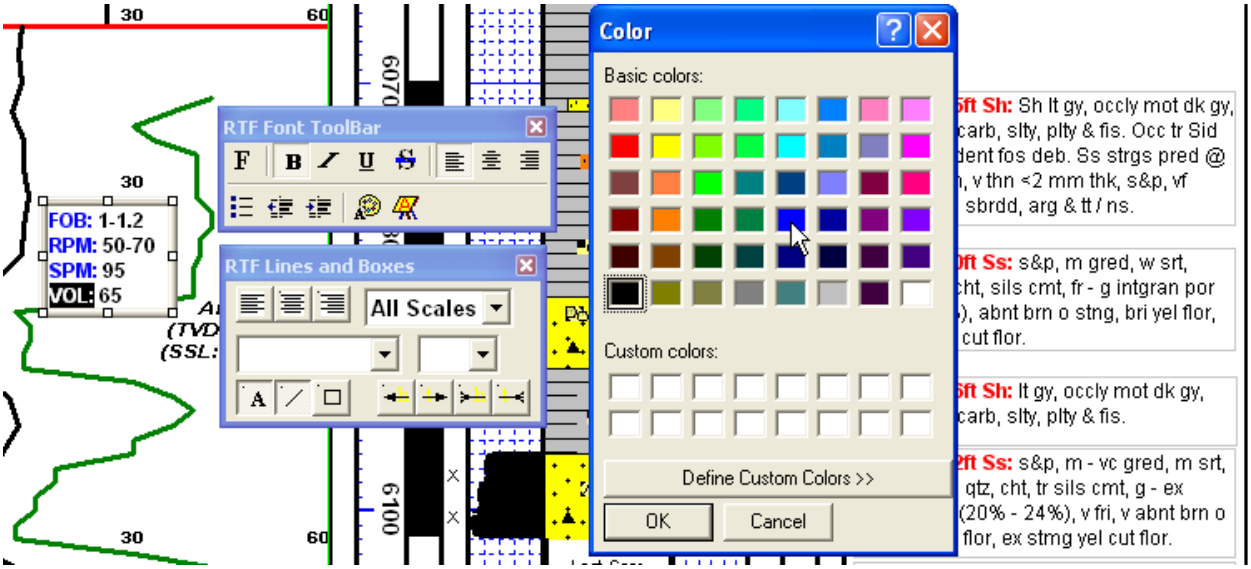



## Adding Annotations

1.) **Click** on the **Drilling Rate** track to make it active (highlighted in green).

2.) **Select Eng - Mud Parameters**, as your active layer, from the **Layer Selection List** field.

3.) **Click and drag an area** within the **Drilling Rate** track **with the left mouse button depressed on the layer** to define where the annotation will be viewed which will activate the RTF Toolbars.




4.) **Type** the following into the text field in the annotation layer:

**FOB: 1-1.2**
**RPM: 50-70**
**SPM: 95**
**VOL: 65**

5.) To change the Font Color **Highlight the Text you want to change by dragging the Mouse over the text** to highlight the letters.

6.) **Click** on the  **button** in the RFT Font toolbar. This will activate the color palette.

7.) **Click** on the **new color** and then **click** on the  **button**.

8.) **Click anywhere outside the text box** to save your annotation.

## Adding a Curve Fill layer to an existing log

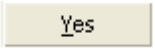
1.) **Click** on **Log Configuration Builder**, under **Options**, or use the **Log Configuration Builder**  **button** on the **Toolbar** to activate the **Log Configuration Builder** window.

2.) On the left side of the window, **click** on the **Curve fill track** containing the Curve fill layer.

3.) **Click** on the **Curve Fill Layer**, that you wish to add to your log, within the **Layers** section on the left side of the **Log Configuration Builder** window. You should notice the  **radio button** become activated

4.) On the right side of the window, **highlight** the **Drill Rate** track so that you add the selected Curve Fill layer to this track.

5.) **Click** on the  **button** to add the selected layer to the track on your log and the following system message will be activated, "***Do you want to ADD the selected <LAYER> from the available log to the active log?***"

6.) **Click** on the  **button** to activate the **Get Name** window.

7.) You now have the option of either renaming the layer or simply leaving it with its original name. **Type** in **ROP/TG Curve Fill**.

**Note:** Two layers cannot share the same name. Accordingly, no layer will be added to your track if they share the same name as a layer that already exists on the active(your) track.

8.) **Click** on the 

**button** to add the layer to your log and place its name in the active **Layers** list on the right side of the **Log Configuration Builder** window.

9.) **Click** on the 

**button** to get out of the Log Configuration Builder Window. . This should activate the Curve fill option window. If so skip to step 3 in the setup directions.

## Setting up the (2) Two Curve Fill options

Once the layer has been added to your log the user can now utilize the curve fill layer.

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 **Drill Rate Track** containing the Curve Fill layer and then selecting the **ROP/TG 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 

**button**. This will activate a list of curves associated with this well.

4.) **Click** on the **Drill Rate** and then **click** on the 

**button** or **double click** on the **Drill Rate Curve**. You will now view the curve name below the 

**button**.

5.) **Click** on the 

**button**. This will activate a list of curves associated with this well.

6.) **Click** on the **Total Gas Curve** and then **click** on the 

**button** or **double click** on the **Total Gas Curve**. You will now view the curve name below the 

**button**.

**Curve Options** Portion of the Window. This information is pertaining to the Main Curve and its Curve attributes.

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

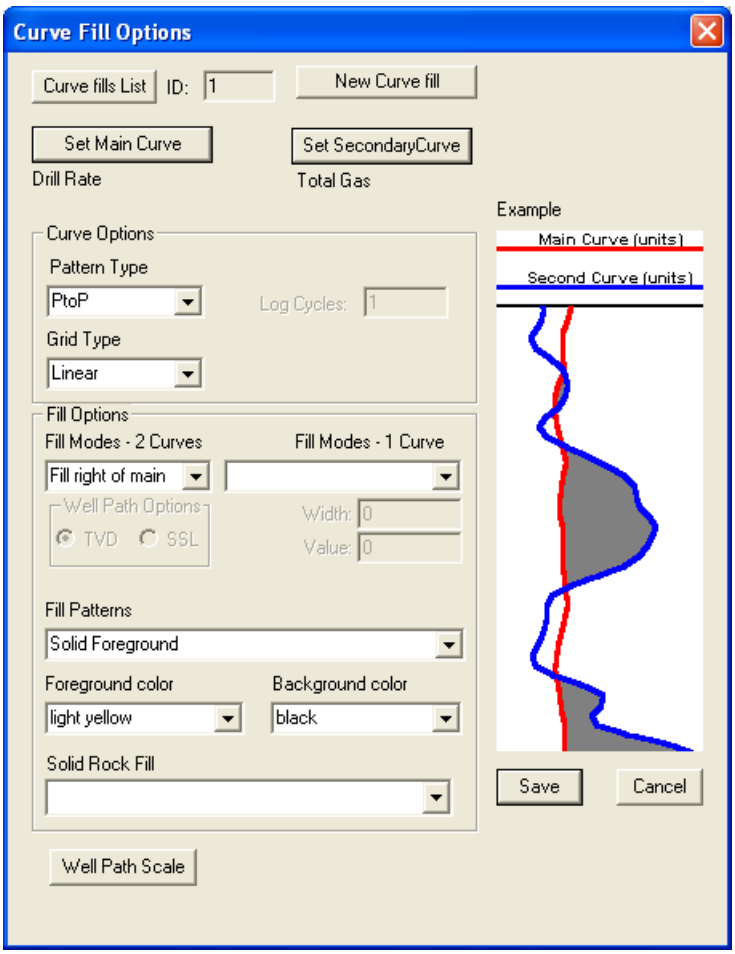
8.) **Click** on the **Grid Type down arrow** and **select** the correct **curve grid type** for the main curve. The Drill Rate Curve is defaulted to Linear.

**Fill Options** Portion of the Window (2-Two Curves)

9.) **Click** on the **Fill Modes – 2 Curve down arrow** and **select** the **Fill Right of Main**.

10.) **Click** on the **Fill Patterns** down arrow and **select solid foreground**.

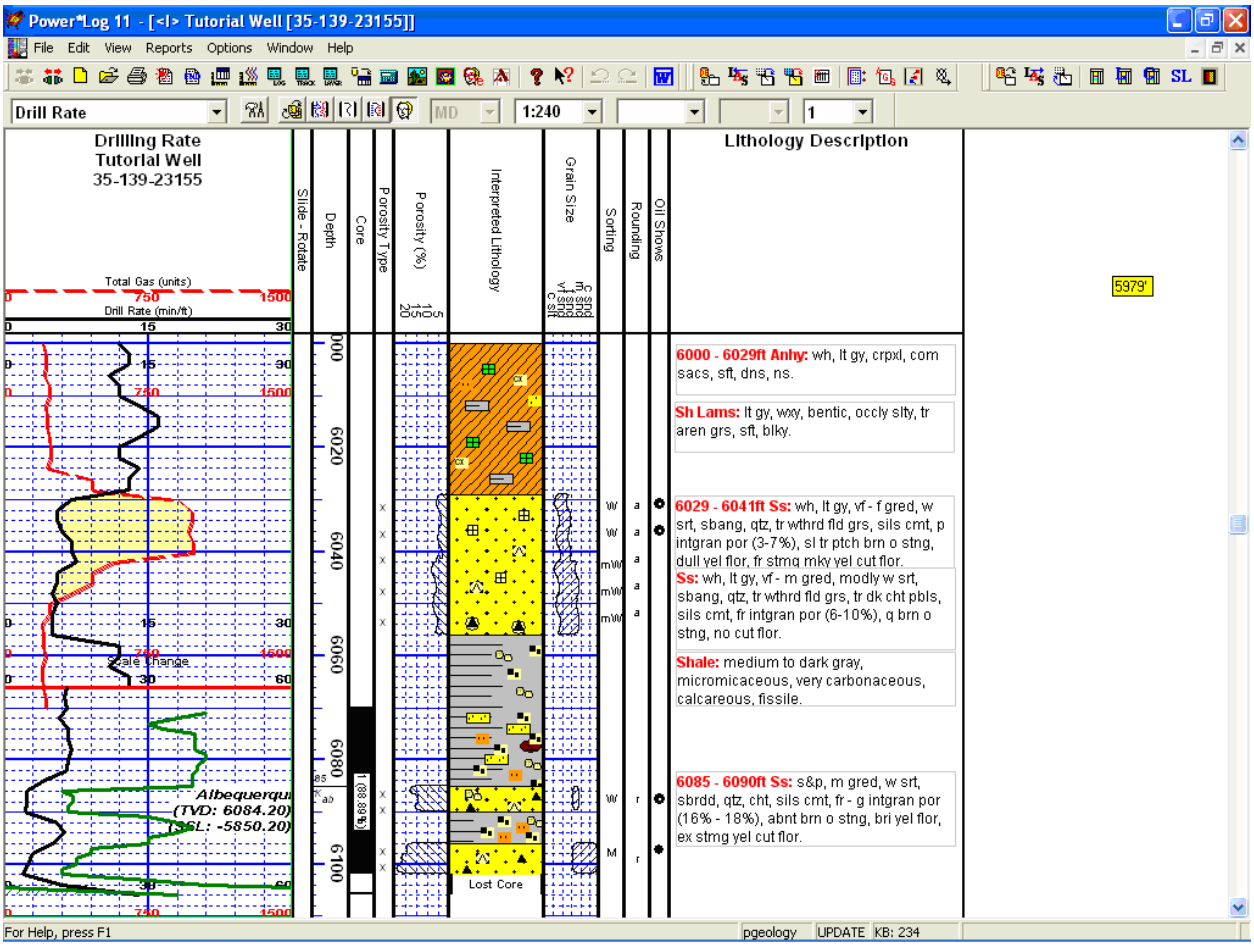
11.) **Click** on the **Foreground Color** down arrow and **select yellow.**




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

You should now have a black hatching pattern with a white foreground and the Grid showing through as seen on the log on page 52.

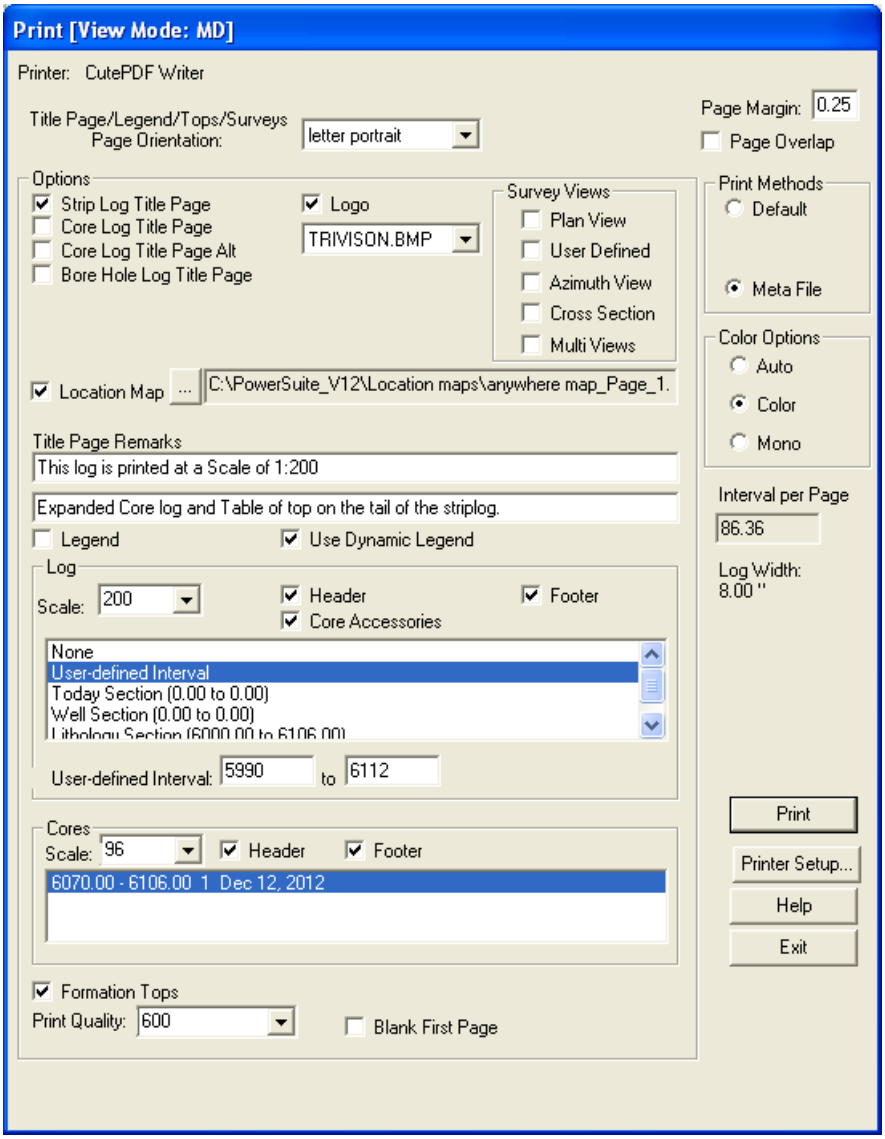
****** Your Log should now look like the picture shown below******




## How to Print the 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 are in at the time of the activation of the Print Log window.




2.) **Select** the **letter portrait** paper orientation from the **Page Orientation drop box field** and the **Title Page**, **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.

3.) Activate the **use Dynamic Legend** check box (☑), if you wish to have the legend reflect only the symbols printed on the log or core portions of the printed intervals defined in the log and core portions of the print log window.

**In the Log portion of the Print Log window**

5.) **Select 200** from the scale drop box for the log to be printed out at.

6.) **Click** to activate the **Header** and **Footer** check box (☑) to print the track headers 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** check box( ) if you are printing on single sheets. This will force the printer to include an additional 1/4 inch of the log at the top and bottom of each page, so that you can cut-and-paste pages manually, if you so desire.

**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 Core Section **6070-6106** to highlight it.

9.) **Select** the Core log scale of **1:48** and the Core Header check box ( ).

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

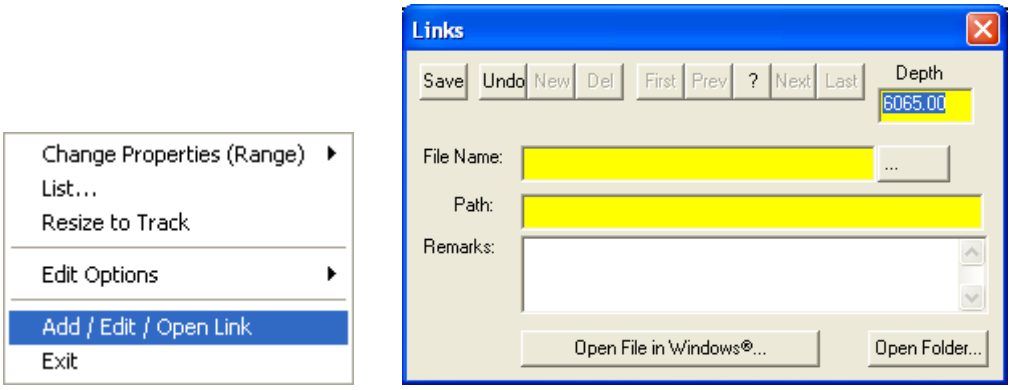
**Note:** If you are printing out logs in color, you must activate the **Diffusion** or **Error Diffusion** option normally found under **Graphics** in the **Properties** window for most printers.

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

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

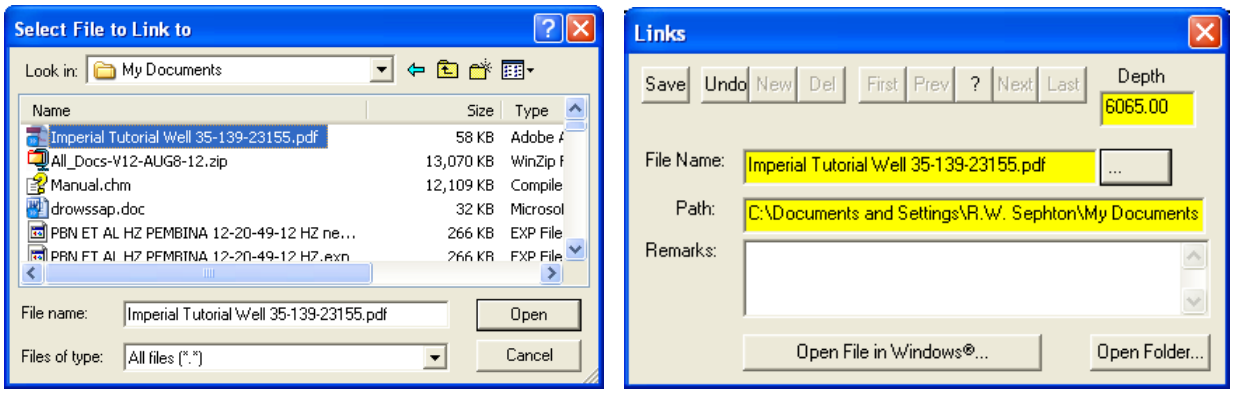
## Adding a Link (Attachment) to your Log

1.) In our case **Right Click** on the **Lithology Description** layer to activate the pop out menu.

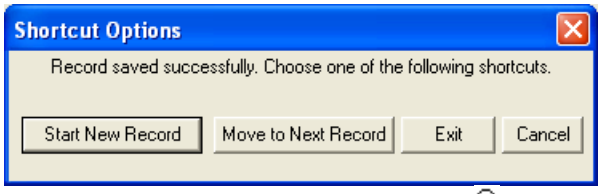



2.) **Select Add / Edit / Open Link** from the pop out menu. This will activate a blank Links window with the depth you right clicked at.

3.) **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.




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




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