

2018 Metric Tutorial



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If you have followed through the Tutorials (Power*Log Metric Tutorial followed by the Power*Curve Metric Tutorial) we will now have to add the Type Well Curve data to the Tutorial Wells Data. If you have not done the Tutorials you will skip ahead to page 7 to import the Power*Curve Tutorial Well. Before we get started, we have to add the Type Well Curve to the previously done Power*Curve Tutorial Well.

Adding the Type Well Curve

Congratulations on completing the tutorials. If that is the case then you will have to add the Type Well TVD Curve layer to this log and then import the Las file to get the Type Well GR Curve into your well data.



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

) atabases:		
PGEOLOGY 20) 18 IMPERIAL ((Microsoft Access D 🖉
PGEOLOGY 20	018 METRIC (M	licrosoft Access Dri
		×
User ID: pge	ology	Connect
assword; 🔤	****	Cancel

- 1.) Highlight the **PGEOLOGY 2018 METRIC (Microsoft Access Driver[*.mbd]))** database by **clicking** on it once.
- 2.) 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.
- 3.) **Type "pgeology"** in the **Password** field and then **click** on the **button**. The program will now load various dictionaries and then activate an **Open Log** window.

		Oper	n Well ? 💽 🗴
Most Recently Opened Logs H Tutorial Well Horz Log V Tutorial Well			Search Wells by Field or DLS/NTS Field Note: Wildcards : % = any range, _ = single character Choose field to search
Well Name	UWI	Spud Date	
Tutorial Well	100143206323w/500	Jan 3, 2015	Enter Search String DLS (Dominion Land Survey System) Survey System Loc. Ex. LSD. Sec. Township Range E/W Mer. 0/A E.S. NTS (National Topographic Series System)
<		>	Survey System Loc, Ex. 1/4 Unit Block P. Quad L. Quad. Sixteenth E.S.
Available Logs			Search & By Field C By DLS/NTS Clear Query
H Tutorial Well Horz Log			
			Open 2 Cancel



- Open 8.) Select the Tutorial Well from the List and then click on the button. This will open your Tutorial Well Horz Log.
- 9.) 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.



- 10.) On the left side of the Log configuration builder scroll down and highlight or click on the Curve track.
- 11.) Click on the Curve layer in the layers portion of the window on the lower left side of the builder to highlight it. In addition, notice the Layers Radio button <a>[6] on the left side is activated.
- 12.) On the right side (Active Log) of the Log Configuration Builder window, click on the Drilling Progress track to highlight it. This is the track we want to add the Type Well Curve layer to.
- 13.) Click on the **button** and you will be prompted with the following system message, "Do you want to

Yes ADD the selected (layer) from the available log to the active log?" Click on the button.

Get N	ame 🛛 🗙
New Layer Name: Ty	ipe Well Curve
ок Ы	Cancel

14.) This will activate a Get Name window with "Type Well Curve" as the name in the New Layer Name field. Click on the

button and the Type Well Curve layer will then be added to the Drilling Progress track.

Available Logs			Active Log	
Log SYSTEM	•	Log Config.	Log: Tutorial Well Horz I	.og 💌
C Tracks			C Tracks	Track Config.
Core Porosity	^	Add All >>>	Y 3.30 Detailed Lithology	
Core # and Sleeve Data		Show All	Y 0.15 Slide - Rotate Y 0.20 Reservoir Quality	
Curves Curve Fill Date		Hide All	Y 0.20 Sorting Y 0.50 Grain Size	
Depth Detailed Lithology Diagenesis		Add >>>	Y 0.20 Interpreted Lithology Y 0.50 Porosity Grade N 0.15 Porosity Type	ί.
Dip Meter Data Drilling Progress		Delete	Y 0.15 Oil Show Y 0.30 Depth 1	
Energy Change	~	Show/Hide	Tunck Hüddler 2	VIGAL: 8
C (199	4	Move	Layers	Layer Config.
 Layers 	_		Type Well Curve (1001432	206323W500)
Curve Comments			Drill Rate (100143206323W5 Gamma Ray (1001432 Total Gas (1001432 Engineering Parameters Mud Parameters (1001432 Gas Annotations (1001432 Bit Record (1001432	00) 206323W500) 206323W500) 206323W500) 206323W500) 206323W500) 206323W500)
		Exit 🔓	1	

<u>Note</u>: The *Type Well Curve* has not yet been associated with the *Type Well Curve* layer. This will be done when the **Add Curve** window has been correctly filled in when you exit the Log Configuration Builder window.

15.) **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.

The Add Curve window...

- 1.) Type gapi in the Curve Units field.
- 2.) Make sure **m** is in the **Depth Units** drop box field.
- 3.) Make sure the Null Value field is -999.25.
- 4.) Make sure the Depth **Interval** is **0** and **0** indicating the present curve scale is applicable to any depth on the log.
- 5.) Make sure the **Curve Scale** field values (**Left** / Bottom and **Right / Top**) to **0** and **150**
- 6.) Make sure the **Backup Scale** drop box field is **Straight Shift**.
- 7.) Make sure the **Grid type** drop box field is **Linear**.
- 8.) **Click** on the **button** to add the Type Well Curve layer to the Drilling Progress Track.

Importing the LAS Type Well Curve

1. Click on the File pull down menu selection and click on Import and then click on LAS from the pop out-menu or simply click on the LAS button, on the Import Toolbar, to activate the LAS Reader window.

Connect		Open Open	
Disconnect Access Registration		Look in: SYSTEM	
New Ctrl+N Open Ctrl+O Close		Name	Date modified
mport xport ackup	AGS Data ASCII Core Data	Imperial Horizontal Gamma Ray Curv Metric Core Rate Curve.las	e.las 8/30/2012 12:55 PM 8/17/2012 3:06 PM
Print Log Ctrl+P Print to TIFF Print Morning Report	Core Photos Dip Meter INI Settings File	Metric Horizontal Gamma Ray Curve.	las 4/30/2012 3:38 PM
Print Well End Report Print Reports to Word® Print Setup	LAS Cog / Well	<	× , , , , , , , , , , , , , , , , , , ,
Exit Survey Viewer Core Photo Profile Tool	Percent (%) Perforations Ranged Data Slide Rotate	Files of type: LAS (* Jas)	Vell Jas Open Cancel

2. This will then activate the Open window which allows the user to select the LAS file you wish to import the data from. You can find the file in the PowerSuite_2018\System\PowerSteer Gamma Ray

type well.las and highlight the file by **clicking** on it **once** and then **click** on the **button**. You will see the window shown below. It will default to the importing of Curve data.

3. On the lower left side of the window **Click and drag** the **Type Well curve** to the **Type Well Curve layer** on the lower right side and release it when the layer name becomes highlighted.

UWI / API: 100143206323W500			
Curve Heading			
Name: Type Well Curve	Curve Units:	gapi	•
Depth Units: 🔤 💌	Null Value:	-999.25000	
Curve Scale			
Depth (Use 0 to 0 for the whole lo	g) (Left /	Bottom) (Rig	ht / Top
Interval: 0.00 to 0.00	Scale: 0	to 15	2
Photon Contor Straight shift 🔫	Grid Tupe:	inear 💌	



8			- LasReade	er				- 0	×
File View Help									
🖻 🖬 📽 🖬 🤶									
LAS PowerSteer Gamma Ray type	DEPT	Type_Well							^
version	1222.4699	57.4635							
well	1222.6699	57.5926							
e curve	1222.8699	57.7216							
🔴 ascii	1223.0699	57.4779							
	1223.2099	56.2402							
	1225.4099	55.0624							
	1223.0099	55 6786							
	1224.0699	56.5786							
	1224,2699	58.6495							
	1224.4699	60.7069							
						1			
					Choose Da	ta Type: Curves		•	
		Danite Caluma DEPT		-					
	Click and Drage	Uppin Column: (************************************	alumna of the d	initia Inter files estrer tes these e	narrownonding field	L. Ann	and Data Ta C		
	Name	Deno	Linite		Currue Lewer ID	Evisting ID	Mananad ID	Action	
		1 Depths are in Mean red Dept	M M	Top	Proposed Wall P	Proposed Well P	I mapped to	Append	
		2	GAPL	1222.4699	Wall Path (SS)	Wall Path (SS)		Append	
			General Street	Race	Well Path (TVD)	Well Path (TVD)		Append	
				2438.8699	Drill Bate	Drill Bate		Append	
				12400.0000	Gamma Bau	Gamma Bau		Annend	
				Step	Total Gas	Total Gas		Annend	
				0.2	Tune Well Curve	Tune Well Curve	Tune Well	Annend	
					i jpo nor cano	Type the carte	1990_1100	rippond	
				Import					
>	1.1				1				
utorial Well Horz Log								NUM	

N.B. The user can **Right click** on the **Curve Layer ID** to remove the mapping or switch the action from append to replace. The Symbol color will either be purple for replace or blue for append.

4. **Click** on the **button**. You will then be prompted with a system message after the import has finished.



5. Acknowledge the Finished Import message. Click on the button and then click on the **button** to exit or click on the **File menu** and select the Exit option to close the LAS Reader Window.

Removing the Type Well Curve Layer from the Tutorial Well HZ log.

This does not delete the type well curve but removes it from the log display.

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.

Available Logs	~		Active Log	
Log SYSTEM	-	Log Config.	Log: Tutorial Well Horz L	.og 💌
Tracks	_		C Tracks	Track Config.
Ages Apportation	^	Add All >>>	Y 3.30 Detailed Lithology	^
Annotations Auto Dean Stark Calculator	-	Show All	Y 0.15 Slide - Rotate Y 0.20 Reservoir Quality Y 0.20 Rounding	
Auto Test Interval Laicualtor Bedding Contacts Bioturbation		Hide All	Y 0.20 Sorting Y 0.50 Grain Size	
Bit Records Carbonate Texture Casing		Add >>>	Y 0.20 Interpreted Lithology Y 0.50 Porosity Grade N 0.15 Porosity Type	
Core Core Box Data	¥	Delete 😡	Y 0.15 Oil Show Y 0.30 Depth 1 Y 2.00 Drilling Progress	~
	^	Show/Hide	Track Width: 2 Log	Width: 8
	Υ.	Move	F Lavers	Layer Config.
C Layers			Type Well Curve (1001432	06323W5001
Ages			Drill Pate (100143206323W5 Gamma Ray (1001432 Total Gas (1001432 Engineering Parameters (1001432 Mud Parameters (1001432 Gas Arnotations (1001432 Bit Record (1001432	00) 06323W500) 06323W500) (100143206323V 06323W500) 06323W500) 06323W500)
		Exit	28	

- 2.) On the **right side of the Log configuration builder** scroll down and highlight or **click** on the **Drilling Progress** track.
- 3.) Click on the Type Well Curve layer in the layers portion of the window on the lower right side of the builder to highlight it. In addition, notice the Layers Radio button in on the left side is activated.
- 4.) **Click** on the **Delete button** and you will be prompted with the following system message.



<u>Note</u>: The *Type Well Curve* data will not be deleted from the database. You are just deleting a layer that shows the Type Well Curve data from the Tutorial Well HZ log.

- 5.) Click on the Yes button.
- 6.) **Click** on the **button** to return to the log and the log will be initialized with this layer now deleted.

Power*Steer

Now we will start up the Power*Steer Portion of this Tutorial.

Connecting to the Database



1.) **Double click** on the **Power*Steer Icon**. This will initiate the program and activate a **Connect Database** window.

Databases:	
PGEOLOGY 2018 IMPERIAL	_ (Microsoft Access D ,
PGEOLOGY 2018 METRIC (Microsoft Access Dri
User ID: pgeology	_ Connect
User ID: pgeology	Connect S

- 4.) Highlight the **PGEOLOGY 2018 METRIC (Microsoft Access Driver[*.mbd]))** database by **clicking** on it once.
- 5.) 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.
- 6.) **Type "pgeology"** in the **Password** field and then **click** on the **button**. The program will now load various dictionaries and then activate a Well List window.

Import Log / Well Data.

If you have followed all the tutorials you can skip ahead to page 10. If you have not done the Metric Power*Log Tutorial followed by the Metric Power*Curve Tutorial you will have no data available to you to do this Power*Steer tutorial. We will make this easy and have you import the Metric Tutorial Horizontal Well. This will have the majority of the data all the data you need. If you have followed along with the tutorials skip ahead to page .



1. Select Import under the File menu selection, and then select Log/Well from the sub-menu. This will activate the Import window.

				Power*Log Data Transfer: Import V2018	
				Files	Go to Export
				Time of Export File Name All None	
File Edit View Help W	indow			2016/11/24 11:54 c:\powersuite_2018\system\metric tutorial horizontal log.exp	Delete Files
Open	Ctrl+0				Exclude Files
Close					Start Import
Refresh Data				File Header:	-
Background Graphic	•			Time of Export: 2016/11/24 11:54 Product: POWER*SUITE Visiting: 2016 0.20	č.
Import	•	Log / Well	N	Description: horz Log: Tutorial Well Horz Log	
Export		Zones/Tops	hs	Well Name: Tutorial Well UVW: 100143206323W500 Ann Ver: 2116 0.1.0	
Print	Ctrl+P			Storage Units: Metric [EXPORT OPTIONS]	
Print Preview				Entire Well: Yes Entire Well: Yes Today's Interval No	
Print Setup				0.00 to 0.00 Morning Report	
Exit				Interval Data:	Exit

2.) Click on the **Files.** button. This will activate the Import from window and now you will have to browse to find the folder C:\POWERSUITE_2018\SYSTEM and then the file name you want to import is Metric Tutorial Horizontal Log.exp.

Import From	n	×
Look in: 🔒 SYSTEM	• 🔁 🖆 💌	
Name	Date modified	^
MTDriver	2/18/2016 9:57 AM	1
Imperial Vertical Tutorial Well.exp	1/28/2015 4:30 PM	
Metric Tutorial Core Log Facies Well.exp	9/14/2015 9:45 AM	
Metric Tutorial Horizontal Log.exp	1/20/2015 10:15 AM	
Metric Tutorial Vertical Well.exp	1/20/2015 10:15 AM	÷
< .	>	
File name: Metric Tutorial Horizontal Log.exp	Open	
Files of type: Export files (*.exp)	Cancel	1

Note that files available for importing will have an **.EXP** file extension. Any of the files that you select will then be added to the **File** list. Please make sure that the files you wish to import are highlighted (selected), in the list prior to importing.

- 3.) Highlight the file name and click on the ______ button.
- 4.) The Import Log/Well window will now be displayed with the details of the file to be imported. **Select/highlight the file** to be imported.
- 5.) Click on the stat Import button to activate the following system message, "Do you really want to IMPORT the highlighted files?"
- 6.) **Click** on the **Yes button** to proceed with the import.

<u>Note</u>: If you click on the "*Yes*" button, and the file you are importing contains the information from an **Entire Well**, the following system message will be activated, "*About to IMPORT ENTIRE WELL data. All information associated with this well in the database will be OVERWRITTEN. Continue*?"

- 7.) **Click** on the <u>Yes</u> **button**.
- 8.) Upon completion of the import, the following system message will then be activated, "Data has been imported successfully."
- 9.) **Click** on the **button** to confirm the successful import of the data.
- 10.)Close the Data Transfer window by **clicking** on the **button** or by **clicking** on the **clicking** on



Cho	oose Well	
Recently Opened		
Name	UWI	
PowerSteer Example	PowerSteer Example	11
ABC OI Anywhere 12-25	ABC 0712-25	
Tutorial Well	35-139-23155	Ŷ
<		>
None	UWI	^
Ultrands 3 PowerSteer Example PowerSteer Example 2	PowerSteer Example PowerSteer Example 2	
PowerSteer Exanctle 3 5V2 1031-25-128 WFM 5V2 1031-25-128 WFM 5V3 1031-25-128 WFM 5V3 1031-25-128 WFM 5V5 1031-26-128 WFM 5V5 1031-26-128 WFM 5V5 1031-26-128 WFM 5V5 1031-26-128 WFM 5V5 1031-26-128 WFM 5V5 1041-26-128 WFM 1041-26-128 WFM	PowerSites (Example 3 1031 ±250128/r100 1031 ±250128/r100 1031 ±250128/r100 1021 ±250128/r100 1021 ±250128/r100 5/r5TEM (M) 1001 ±50128/r500 1001 ±150122/r500 1001 ±1501228/r500 1001 ±1501228/r500	

7.) **Double Click** on the **Tutorial Well or Highlight** the **Tutorial well** and then **click** on the **Select button**. Because this is the first time the Tutorial Well has been opened it will be a blank template starting at zero depths with no scales.

If you have not done the Power*Log and or Power*Curve tutorials this Well will not be in the list. Then we must import The Tutorial Well. If you have done the tutorials then skip ahead to page 11 Set Well path.

Refresh Data

If the well was opened and you have imported a newer file the Power*Steer application must be refreshed to see the new data that has been imported. Because we did not have the well opened at this time you would not have to do this step. To refresh the data you would.

 Click on the File Menu to activate the drop down list and Click on the Refresh Data Selection to refresh the well's data you have open in Power*Steer.



Open Well

Now you have imported the Tutorial Well we now have to open the well.

1.) Click on the File Menu to activate the drop down list and click on the Open Selection to activate the Well List.



				Choose a Log	×
			Recently Opened		
			Name Tutorial Well <	UWI 100143206323W5	00 >
			Choose a well Name Choose IVell	UWI 100143206323W5	<u>~</u> ^
File	View Hel	p			
	Open Print Setup.		¢		, ×
	Exit			OK D	Cancel

2.) Select the Tutorial Well by double clicking on the well name or highlighting once and click on the ok button.

This will open the Power*Steer with 2 panes and no data shown with the depths defaulted to zero (0).



Power*Steer Well data needed from Power*Log / Power*Curve.

- A Well Path (TVD units) Curve has to be added and then calculated from the survey data.
- Survey data must also be up to date to display the information on the Power*Steer application.
- A measured depth Gamma Ray Curve must exist for the well being steered.
- A Type Well Gamma Ray Curve (TVD {True Vertical Depth} / RSD {Relative Stratagraphic Depth}) must exist for the well to be steered.
- Zone of interest must be known and identified on the Type well.
- Formation Tops may be added and also have to have the thickness calculated in order to show up in the list to be drawn in Power*Steer.

Set Well Path

- 1. Right click on the Well Path pane (right side) to activate the pop out menu
- 2. Select Set Well Path. This will activate a Select Curve Window.

	Add Segment Delete Segment Change Azimuth	
	Set Well Path	
-	Set Gamma	
	Overlay Curves	Select Curve
	Segment Properties	
	General Properties	Well Path (TVD)
	Show/Hide Tops	[noncourt(199)
	Show/Hide Zones	
	Show/Hide Perforations	Lancel UK
	Show/Hide Zone Fill	

- 3. Select the steered Well Path Curve in TVD units from the drop down list by clicking on the down arrow and selecting it from your curve list for this well from your database.
- 4. **Click** on the **OK button**.

Set the Gamma Curve

- 1. Right click on the Well Path pane (right side) to activate the pop out menu
- 2. Select Set Gamma. This will activate a Select Curve Window.



3. Select the steered wells Gamma Ray curve in measured depth units from the drop down list by clicking on the down arrow and selecting it from your curve list for this well from your database.

Note: This Gamma Ray curve will be displayed on the lower portion of the well path and will either be displayed in MD or VS depth units depending on the view. This is the curve that you will be attempting to correlate to the Type Well Curve. It doesn't necessarily have to be the Gamma Curve but this tool is by far the most common tools to be run downhole while drilling.

4. **Click** on the ok button.

Set the Overlay Curves

If the user wishes to have more curves displayed on the Segment portion of the window the user can also display those curves in either MD or vertical section depth display. These are only for display purposes and will not be used to correlate to the Type Wells data.

1. Right click on the Well Path pane (right side) to activate the pop out menu



2. Select Overlay Curves. This will activate an Overlay Curves list.



3. **Select** the **Total Gas curve** from the list and you may display other curves captured in your wells database. Display these curves data by activating the check box beside the curves.

Note: These Overlay curves will be displayed on the lower portion of the well path and will either be displayed in MD or VS depth units depending on the view. These curves are for display purposes only.

4. **Click** on the **OK button**.

Set Type Well Curve

- 1. Right click on the Type Well portion of the screen (left side)
- 2. Select Set Type Well Curve from the pop out menu list. This will activate a Select Curve list.



- 3. Select the Type Well Curve that you will be steering to. This is Type Well GR curve you imported into your steered well in Power*Curve.
- 4. **Click** on the **OK button**.

Type Well Depth Manipulation

Go To Depth (Type Well)

- 1. Click on the Type Well Portion of the window.
- 2. Click on the View Menu to activate the drop down list.
- 3. Click on Go To Depth (Type Well) selection to activate the Goto Window.



Type Well Depth 2395

DK.

Cancel

- 4. **Type** a **2395** in the Type Well Depth Field.
- 5. **Click** on the **OK button**. This will change the depth view from 0 to 2395 at the top of the type well.

Type Well Track Depth Scrolling

Once the Type Well curve has been added to this track the user has the ability to scroll up and down the curve depth display.

Mouse Pointer Controls

The user can **click** on the **up / down arrows** on the right side of the track pane to move up or down a bit or **click on the space between the thumb and arrows** to move up or down 1/4 page.

Mouse Roller Ball Control

Click on the **Type Well pane** and then **roll the roller ball away** from you to scroll up the view.

Click on the **Type Well pane** and then **roll the roller ball towards** you to scroll down the view.

Type Well Display Scale Manipulation

Click on the **Type Well pane**, **hold the CTRL Key down** on the keypad and then **roll the roller ball away** from you to decrease the scale so that you can see less data in the Type Well.

Click on the **Type Well pane**, **hold the CTRL Key down** on the keypad and then **roll the roller ball towards** you to increase the scale so that you can see more data in the Type Well.

Go To Depth (Well Path)

- 1. Click on the Well Path Portion of the window.
- 2. **Click** on the **View Menu** to activate the drop down list.
- 3. Click on Go To Depth (Well Path) selection to activate the Goto Window.
- 4. **Type** a **200** in the Well Path Depth Field.
- 5. Click on the **OK** button.

Well Path MD/VS Gamma Ray Depth Scale Display Manipulation

Click on the Well Path pane, hold the CTRL Key down on the keypad and then

roll the roller ball away from you to decrease the scale so that you can see less data in the Well Path and MD / VS Gamma Ray.

Click on the **Well Path pane**, **hold the CTRL Key down** on the keypad and then **roll the roller ball towards** you to increase the scale so that you can see more data in the Well Path and MD / VS Gamma Ray.

	Scroll thume does nothing
. VWV	Click here to scrott down a 1/4 page
	Click here to

315

316

<

Viev	V Help Window
	Measured Depth View
~	Toolbar
~	Status Bar
	Goto Depth (Type Well)
	Goto Depth (Well Path)
	Goto
	√ell Path Depth
	200
Ĩ	OK Cancel
18	





Well Path TVD Scale manipulation

Mouse Pointer Controls

The user can **click** on the **up / down arrows** on the right side of the track pane to move up or down a bit or **click on the space between the thumb and arrows** to move up or down 1/4 page. This will move all the scales (both top and bottom scales simultaneously).

Mouse Roller Ball Control

Click on the **Well Path pane**, **hold the Shift Key down** on the keypad and then **roll the roller ball towards** you will move the TVD scale down (both top and bottom scales simultaneously).

Click on the **Well Path pane**, **hold the Shift Key down** on the keypad and then **roll the roller ball away from** you will move the TVD scale up (both top and bottom scales simultaneously).

Click and drag up on the Well Path portion of the pane to see a more detailed view or less TVD range. This action will not move the bottom TVD scale.

Click and drag down on the Well Path portion of the pane to see a less detailed view or more TVD range. This action will not move the bottom TVD scale.

Well Path MD/VS Gamma Ray Depth Manipulation

Once the Well Path TVD curve, Measured Depth Gamma Ray curve has been added to these track the user has the ability to scroll left and right to change the curve depth display.

Mouse Pointer Controls

The user can **click** on the **left / right arrows** on the bottom side of the track pane to move left or right a bit or **click on the space between the thumb and arrows** to go left or right 1/4 page.

Mouse Roller Ball Control

Click on the Well Path pane and then roll the roller ball away from you to scroll left or back.

Click on the Well Path pane and then roll the roller ball towards you to scroll right or forward.

Curve Display and Grid Pattern Manipulation

- 1. Right Click anywhere in either pane to activate the pop out menu.
- 2. Select General Properties. This will activate the General Properties window.

Set Type Well Curve	Add Segment	General
Mapped Offset	Change Azimuth	Curve Settings Formations Zones
Add Segment	Set Well Path	↓ Ignore NU
Set Reference Point	Set Gamma	Display Scale
Edit Reference Offset	Overlay Curves	Left/Btm: U
Delete Reference Point	Segment Properties	Right/Top: 0
Add Zone	General Properties	Line Size: I' Grid
Delete Zone	Show/Hide Tops	Line Style: I* Major 1
Show All	Show/Hide Perforations	
General Properties	Show/Hide Zone Fill	

Right Click Type Well Pane Right Click Well path Pane

3. The default Tab selection is the Curve Setting tab. So now **Click** on the **drop arrow** and **select** the **Type Well curve** to change the display for.

rve Settings Formations	Zones Screen Format
Type Well	✓ Ignore NULL
Line Style: 0	Scale Left/Btm: 0 Right/Top: 150 -Grid Major 2 Inc: 10

- 4. Line Size portion of the window will change the line thickness from 1 to 20 (pixels wide). You have to **type a number** in the **size field** and your input will be automatically displayed by the curve.
- Line Style portion of the window will change the line style. You have to type a number in the style field from 0 to 3 and your input will be automatically displayed by the curve. 0=Solid line, 1=Dashed Line, 2=Dotted Line, 3=Dash Dot Line

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- 6. **Scale Portion of window** allows the user to change scales for the selected curve. Type a value in the appropriate fields to change the scales. The scales will change as you type.
- 7. **Grid Portion of window** allows the user to change the grid pattern for the selected curve. Type a value in the appropriate fields to change the grids. The grids will change as you type. Major Grids will indicate a value. The minor grids will divide the whole track and not the majors.
- 8. **Ignore NULL's check box** when activated will join curve values ignoring the null values. When deactivated the curve will only draw when there are two consecutive data points.
- 9. Repeat Steps 6-8 to change the appearance of the other curves presented in Power*Steer.
- 10. **Click** on the **I** in the upper right hand corner to **exit** this window.

Adding Zones

We will now add some Zones to the Type Well. They could be formation tops or other indicators that you wish to mark on your Type Well and will be transposed and manipulated by your segment movements in the Well Path pane.

- 1. Right Click at 2405.5 on your Type Well pane to activate the pop out menu.
- 2. Select Add Zone from the pop out menu list. This will activate the Add Label window.

Set Type Well Curve Mapped Offset	Add Label
Add Segment Set Reference Point	1
Edit Reference Offset	Red Sky
Delete Reference Point	C Top C Base
Add Zone	t top - base
Delete Zone	
Show All	Cancel OK
General Properties	

- 3. Type in a Red Sky in the field provided.
- 4. Click on the button. This will close the window and add the Red Sky Zone Label to the Type Well pane.

Note: The label will only be seen on the Well Path Pane after you have added a Reference Point

- 5. Right Click at 2409.8 on your Type Well pane to activate the pop out menu.
- 6. **Select Add Zone** from the pop out menu list. This will activate the Add Label window.

Set Type Well Curve	
Mapped Offset	Add Label
Add Segment	
Set Reference Point	and the second s
Edit Reference Offset	Red Sky Main Sand
Delete Reference Point	C Top C Base
Add Zone	t top 3 base
Delete Zone	
Show All	Cancel OK
General Properties	

- 7. Type in a Red Sky Main Sand in the field provided.
- 8. Click on the button. This will close the window and add the Red Sky Main Sand Zone Label to both the Type Well pane.

- 9. Right Click at the 2429 on your Type Well pane to activate the pop out menu.
- 10. Select Add Zone from the pop out menu list. This will activate the Add Label window.

Set Type Well Curve	
Mapped Offset	Add Label
Add Segment	a find conser
Set Reference Point	the second se
Edit Reference Offset	ZOI (Top)
Delete Reference Point	G Tan C Pass
Add Zone	te tup s base
Delete Zone	
Show All	Cancel OK
General Properties	

11. **Type** in a **ZOI (Top)** {ZOI is an acronym for Zone of Interest} in the field provided.

This is a **zone marker** that indicates that you are **inside the designated target** and you would like to calculate the percentage of the well's path that is inside the target boundaries then you must indicate whether this label is the **top or base of the Zone**. The user can only have one label designated at top and one zone label that is designated as base.

- 12. This is the primary target label indicator then you must click on the [•] Top [•] Base button.
- 13. Click on the button. This will close the window and add the ZOI (Top) label to the Type Well pane.
- 14. Right Click at the 2430.5 on your Type Well pane to activate the pop out menu.
- 15. Select Add Zone from the pop out menu list. This will activate the Add Label window.

Set Type Well Curve Mapped Offset	Add Label
Add Segment Set Reference Point Edit Reference Offset Delete Reference Point	ZOI (Base)
Add Zone	Cancel OK

16. Type in a ZOI (Base) {ZOI is an acronym for Zone of Interest} in the field provided.

This is a **zone marker** that indicates that you are **inside the designated target** and you would like to calculate the percentage of the well's path that is inside the target boundaries then you must indicate whether this label is the **top or base of the Zone**. The user can only have one label designated at top and one zone label that is designated as base.

- 17. This is a primary target label indicator then you must click on the C Top C Base button.
- 18. **Click** on the **button**. This will close the window and add the ZOI (Base) to the Type Well pane.
- 19. Right Click at 2435.5 on your Type Well pane to activate the pop out menu.
- 20. Select Add Zone from the pop out menu list. This will activate the Add Label window.



Set Type Well Curve	
Mapped Offset	Add Label
Add Segment	
Set Reference Point	a second second second
Edit Reference Offset	Red Sky Basal Shale
Delete Reference Point	C Top C Base
Add Zone	t top - base
Delete Zone	
Show All	Cancel OK
General Properties	

- 21. Type in a Red Sky Basal Shale in the field provided.
- 22. Click on the button. This will close the window and add the Red Sky Basal Shale Zone Label to the Type Well pane.

The zone labels will be added to the Well Path Pane after you put in a reference point and then add the first segment.



Zones Display Properties

1. Right Click anywhere in either pane to activate the pop out menu.



		General
Set Type Well Curve Mapped Offset Add Segment Set Reference Point Edit Reference Offset	Add Segment Delete Segment Change Azimuth Set Well Path Set Gamma Overlay Curves Segment Properties	Curve Settings Formations Zones Screen Format Curve Settings Formations Zones Screen Format Display Scale Line Size: 1 Curve Size: 1 C
Delete Reference Point	General Properties	Line Style: 10 Major 1
Delete Zone	Show/Hide Tops Show/Hide Zones	inc: 1
Show All General Properties	Show/Hide Perforations Show/Hide Zone Fill	

- 2. Select General Properties. This will activate the General Properties window.
- 3. Click on the Zones Tab to activate the Zones display properties.

Note: Zones will only appear in this list if they been entered in the **Type Well Portion** (left side) of the Geo*Steer application.

4. **Click** on the **drop arrow** and **select** the **zone** you wish to change the display for.

You can change the display name if you wish by typing in a new Zone name. These can be tops or any other indicators you wish to display in the Well Path Section of the Geo*Steer application.

(Beneral	
Curve Settings Formations Zones	Screen Format	Color
Red Sky Basal Shale 💌	Color	Basic colors:
Text	Line Size: 2	
Red Sky Basal Shale	Line Style:	
Type Well Depth 2435.5	C Top C Base Reset	
		Custom colors:
		Define Custom Colors >>
		OK Cancel

- 5. If you wish to change the **color of the Zone line** then you can **click** on the **Color button** to activate the Color pallet. **Select** a new **color** and then **click** on the **OK button**.
- 6. Line Size portion of the window will change the line thickness from 1 to 9 (pixels wide). You have to **type a number** in the **size field** and your input will be automatically displayed by the curve.
- Line Style portion of the window will change the line style. You have to type a number in the style field from 0 to 3 and your input will be automatically displayed by the curve. 0=Solid line, 1=Dashed Line, 2=Dotted Line, 3=Dash Dot Line.
- 8. If you choose to change the **Type Well depth** and or the **Top •** Base Base or Top of zone then you must **click** on the Reset **button**
- 9. Repeat steps 4-8 for changes to other zone lines.
- 10. **Click** on the **I** in the upper right hand corner to **exit** this window.



Set Reference Point

First thing you have to do is set up a reference point. You will need to know the general strike and dip of the formation you wish to steer this well for and the depth offset so that you can move the steered wells curve data up or down to match near the zone of interest. **This offset is critical for display purposes and should be correlated to the last Formation top encountered before the zone of interest to be drilled along is encountered.** This can be changed after the fact but will affect the segments that have been manipulated if done after the fact. The Strike and Dip will not be allowed to change. If you do want to change the strike and dip then you will have to delete the Reference point and that will delete all the segments that have been entered so you will be starting anew.

So it is quite important not to set up this reference point too soon as the segment manipulation is quite dependent on dip and if your well bore is less than 80 degrees inclination then you are manipulating bed thickness and not bedding dip, azimuth and or faulting.

1. **Right Click** on the **Type Well Pane** at **2360** which is a little above the depth that we wish to start our correlations and **select Set Reference Point** from the pop out menu. This will activate the **Reference Point window**.



Note: The Reference Points Dip and Azimuth refers to the regional Strike and Dip in the area for your drilled zone of interest. The **Type Well Offset** moves your steered well up or down to match with the Type well. A negative number will move your steered well being drilled up and a positive number in this field will move your correlatable well down. This offset and steering should really be done when you are near your zone of interest.

- 2. In the Reference Point window the default Dip and Azimuth are **OK** for this tutorial. Normally the user will fill in the Regional strike and dip. The defaults are (1 degree) and strike azimuth (315 degrees) for our intended formation or zone you wish to steer.
- 3. Tab key to advance and highlight to the Type Well Offset field and type -0.5 in the Type well offset.
- 4. **Click** on the **button**. Once the reference point has been set you will see a pink line in both the Type Well and your correlating well as shown above





Segments

This is the nuts and bolts of the Power*Steer application and we should spend some time explaining what a segment does for you. A segment consists of various integral pieces of data that has Vertical Section depths from and to, Measured Depths from and to, True Vertical Depths from and to along with Dip angle, Azimuths and throws. All the Segment data is manipulated on the type well by shrinking and extending the **VS start** and **VS end** points, moving the entire segment to create a throw (indicated by a fault on the Well Path Pane) or changing the Segment Azimuth.

Segment Definition

A segment is a depth range on the Gamma Ray trace (either MD or VS depth range) that is then converted to TVD depth on the Trace Well. To select a segment you will have to **click** on the **segment marker** (arbitrary color) which is defined below the Vertical Section / Measured Depth Gamma Ray trace from the active well. Once the segment is clicked on you will see the Steered Well Gamma Ray curve (turns red) to make it active on the Type well and it will have a **VS start line** and **VS finish line** on both the Type Well and Well Path Panes. The Gamma Ray trace may go down or up or both depending on the well path over the segment interval. The segment trace on the Type well will appear red when going down and black when going up.

Add the first Segment

(First one is different than all the rest) The top of this segment cannot be refined with a change of dip or azimuth. It is just a starting point. The rest of the segments after the first can be redefined on both the VS Start and VS End or create some faulting.

1. **Right Click** @ 2362 (somewhere near but deeper than your reference point) and **Select Add Segment** from the pop out menu.



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The first segments Gamma Ray data will be displayed on your Type Well as a red curve and will be placed at the offset depth that was entered into your Set Reference Point. The display depths for the Gamma Ray curve on the Type Well pane have been recalculated from its Measured Depth / Vertical Section Depths to True Vertical Depth so the user can attempt to correlate to the type Well. The first segment will extend to the end depth of your current Survey data and will omit any Gamma Ray Curve data beyond that as it does not have any TVD depths associated to represent that data.

Note: You can only manipulate the bottom of this first segment (VS End).

Adding more Segments.

- 1. Right Click @ 235 VS on the Well Path / Gamma Ray Pane and Select Add Segment from the pop out menu.
- 2. Right Click @ 240 VS on the Well Path / Gamma Ray Pane and Select Add Segment from the pop out menu.
- Click on the segment just created from 235 to 240 VS to highlight the Gamma Ray section (Red (Well bore heading down) / Black (Well Bore heading up) and you will see VS Start and VS end indicators.



Changing the bedding angle of a Segment

- 1. **Click once** on the **Segment Marker** below the Gamma Ray curve (shown below) to highlight the segment on the Type Well.
- 2. If you were to move the mouse pointer to hover over the VS End marker (blue line above and right) the cursor will turn into a \uparrow as shown above.
- 3. **Click and drag** the **VS End down** to match the GR peak in the type well. This will change the bedding angle from 0.42 to approximately 7.33 degrees.





Extending the Segment

- 1. Then **hold the Shift key down** and **roll** the **scroll button** on your mouse **towards you** and **stop** when it gets to **2369**. This is where the GR Segment changes and does not perfectly match the Type well.
- You can also hold the Shift key down and Mouse over the end of the segment on the Well Path pane and when it turns into an ++ arrow click and drag left or right to shrink or extend the segment.
- 3. You will want to **double click** on the **Red Segment** from **235-242.6** and this will keep the segment visible on the Type Well after you initiate the next segment.

- 1. Right Click @ 253 VS on the Well Path / Gamma Ray Pane and Select Add Segment from the pop out menu.
- Click on the segment just created from 244.5 to 253 VS to highlight the Gamma Ray section (Red (Well bore heading down) / Black (Well Bore heading up) and you will see VS Start and VS end indicators.





- 4. **Click once** on the **Segment Marker** below the Gamma Ray curve (shown below) to highlight the segment on the Type Well.
- 5. If you were to move the mouse pointer to hover over the VS End marker (purple line above and right) the cursor will turn into a \uparrow as shown above.
- 4. **Click and drag** the **VS End up** to match the GR peak in the type well. This will change the bedding angle from 0.34 to approximately -2.65 degrees.
- 5. You will want to **double click** on the **Red Segment** from **244.5-253** and this will keep the segment visible on the Type Well after you initiate the next segment.



Adding another Segment

- 3. Right Click @ 300 VS on the Well Path / Gamma Ray Pane and Select Add Segment from the pop out menu.
- Click on the segment just created from 253 to 300 VS to highlight the Gamma Ray section (Red (Well bore heading down) / Black (Well Bore heading up) and you will see VS Start and VS end indicators.



Changing the bedding angle of a Segment

- 6. **Click once** on the **Segment Marker** below the Gamma Ray curve (shown below) to highlight the segment on the Type Well.
- 7. If you were to move the mouse pointer to hover over the VS End marker (greed line above and right) the cursor will turn into a \ddagger as shown above.
- 6. **Click and drag** the **VS End up** to match the GR peak in the type well. This will change the bedding angle from 0.39 to approximately 0.11 degrees.
- 7. You will want to **double click** on the **Red Segment** from **252-300** and this will keep the segment visible on the Type Well after you initiate the next segment.





- 1. Scroll down (deeper) on the Type Well pane and scroll right (deeper) on the Well Path pane.
- 2. Right Click @ 350 VS on the Well Path / Gamma Ray Pane and Select Add Segment from the pop out menu.
- 3. Click on the segment just created from 300 to 350 VS to highlight the Gamma Ray section (Red (Well bore heading down) / Black (Well Bore heading up) and you will see VS Start and VS end indicators.



- 4. **Click once** on the **Segment Marker** below the Gamma Ray curve (shown below) to highlight the segment on the Type Well.
- 5. If you were to move the mouse pointer to hover over the VS End marker (purple line above and right) the cursor will turn into a \uparrow as shown above.
- 6. **Click and drag** the **VS End up** to match the GR peak in the type well. This will change the bedding angle from 0.41 to approximately -0.04 degrees.

Extending the Segment

- 1. Then **hold the Shift key down** and **roll** the **scroll button** on your mouse **towards you** and **stop** when it gets to **2424.5**. This is where the GR Segment changes and gets a little off below this depth.
- You can also hold the Shift key down and Mouse over the end of the segment on the Well Path pane and when it turns into an ++ arrow click and drag to the right to extend the segment to 493 Vertical Section.
- 3. You will want to **double click** on the **Red Segment** from **300-493** and this will keep the segment visible on the Type Well after you initiate the next segment.



- 1. Scroll down (deeper) on the Type Well pane and scroll right (deeper) on the Well Path pane.
- 2. Right Click @ 520 VS on the Well Path / Gamma Ray Pane and Select Add Segment from the pop out menu.
- 3. Click on the segment just created from 493 to 520 VS to highlight the Gamma Ray section (Red (Well bore heading down) / Black (Well Bore heading up) and you will see VS Start and VS end indicators.





- 4. **Click once** on the **Segment Marker** below the Gamma Ray curve (shown below) to highlight the segment on the Type Well.
- 5. If you were to move the mouse pointer to hover over the VS End marker (purple line above and right) the cursor will turn into a \downarrow up/down arrow.
- 6. **Click and drag** the **VS End down** to match the GR peak in the type well. This will change the bedding angle from 0.59 to approximately 1.11 degrees.
- 7. You will want to **double click** on the **Red Segment** from **493 to 520 VS** and this will keep the segment visible on the Type Well after you initiate the next segment.

- 1. Scroll down (deeper) on the Type Well pane and scroll right (deeper) on the Well Path pane.
- 2. Right Click @ 565 VS on the Well Path / Gamma Ray Pane and Select Add Segment from the pop out menu.
- Click on the segment just created from 520 to 565 VS to highlight the Gamma Ray section (Red (Well bore heading down) / Black (Well Bore heading up) and you will see VS Start and VS end indicators.



- 4. **Click once** on the **Segment Marker** below the Gamma Ray curve (shown below) to highlight the segment on the Type Well.
- If you were to move the mouse pointer to hover over the VS End marker (blue line above and right) the cursor will turn into a [↓] up/down arrow.
- 6. **Click and drag** the **VS End up** to match the GR peak in the type well. This will change the bedding angle from 0.04 to approximately -0.59 degrees.
- 8. You will want to **double click** on the **Red Segment** from **520 to 565 VS** and this will keep the segment visible on the Type Well after you initiate the next segment.



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Adding another Segment

- 1. Scroll down (deeper) on the Type Well pane and scroll right (deeper) on the Well Path pane.
- 2. Right Click @ 700 VS on the Well Path / Gamma Ray Pane and Select Add Segment from the pop out menu.
- Click on the segment just created from 565 to 700 VS to highlight the Gamma Ray section (Red (Well bore heading down) / Black (Well Bore heading up) and you will see VS Start and VS end indicators.



Changing the bedding angle of a Segment

- 1. **Click once** on the **Segment Marker** below the Gamma Ray curve (shown below) to highlight the segment on the Type Well.
- 2. If you were to move the mouse pointer to hover over the VS End marker (blue line above and right) the cursor will turn into a \downarrow up/down arrow.
- 3. **Click and drag** the **VS End up** to match the GR peak in the type well. This will change the bedding angle from 0.55 to approximately 0.59 degrees.
- 4. You will want to **double click** on the **Red Segment** from **565 to 700 VS** and this will keep the segment visible on the Type Well after you initiate the next segment.



- 1. Scroll down (deeper) on the Type Well pane and scroll right (deeper) on the Well Path pane.
- You will now want to expand the Type Well Scale by Clicking on this pane and holding the CTRL Key down and rolling the roller ball on your mouse away from you to increase the scale.
- 3. Right Click @ 806 VS on the Well Path / Gamma Ray Pane and Select Add Segment from the pop out menu.
- 4. **Click** on the **segment** just created from **700 to 806 VS** to highlight the Gamma Ray section (Red (Well bore heading down) / Black (Well Bore heading up) and you will see VS Start and VS end indicators.



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- 1. **Click once** on the **Segment Marker** below the Gamma Ray curve (shown on previous page) to highlight the segment on the Type Well.
- 2. If you were to move the mouse pointer to hover over the VS End marker (blue line above and right) the cursor will turn into a \uparrow up/down arrow.
- 3. **Click and drag** the **VS End up** to match the GR peak in the type well. This will change the bedding angle from 0.52 to approximately 0.76 degrees.
- 4. You will want to **double click** on the **Red Segment** from **700 to 806 VS** and this will keep the segment visible on the Type Well after you initiate the next segment.



The Last Segment

- 1. Scroll right (deeper) on the Well Path pane.
- 2. **Click** on the **segment** from **806 to 907 VS** to highlight the Gamma Ray section (Red (Well bore heading down) / Black (Well Bore heading up) and you will see VS Start and VS end indicators.
- 3. As far As I can tell they are lined up over each other so you are now done with the Power*Steer portion of the tutorial.



Delete Segment Change Azimuth

Set Well Path Set Gamma Overlay Curves

Segment Properties

General Properties Show/Hide Tops

Show/Hide Zones



Zone Fills

The zone fills option adds some color to the final product.

- 1. Right Click on the Well Path / GR Panes to activate the pop out menu.
- 2. Select Show/Hide Zone Fill. This will turn on the Zone fill color scheme shown below.





Calculate In / Out

This menu selection works with the zones that were added and where the zones were indicated as the top and base. When those are defined the user can select this Edit menu selection and it will calculate the amount of well path that is in the zone and the amount of well path that is out of the zone. This calculation is started when the well path first encounters the top of your zone of interest.

1. Click on the File Menu to activate the drop down list and select Calculate In / Out.

This will be printed in the output as well as displayed in the Status bar when your mouse pointer is focused in the Well Path portion of the window.

ZOI	•	Color
Text		Line Size: 2
ZOI	Ī	Line Style:
Type Well Depth 24	29	

File Edit View Help Window

Background Graphic Import

Ctrl+P

Open

Close Refresh Data

Export

Print... Print Preview

Print Setup...

Well Path: VS 567.91, MD 2901.72, TVD 2419.41 In/Out: 322.46/0.00 (100.00%)

Print

- 1. Click on the File Menu to activate the drop down list.
- 2. Click on Print selection or click on the Print button on the Toolbar to activate the Print Options window shown below.
- 3. VS / MD Range portion of the window indicates the Vertical Section depth range or Measured Depth Range you wish to print. **Type** in the **depth range** in the **fields provided**.

(Your Power*Steer application may be in Measured Depth [MD Range] units.)

- Well Path Scale portion of the window indicates the TVD depth range you wish to print. Type in the TVD depth range in the fields provided.
- Type Well Width field is how wide you want to print this portion of the Power*Steer window. Type in a width in Inches in the field.

The depth scale interval and scale of the Type well will be determined by what is viewed on your screen and the paper size an orientation.

 Border field is how much border you wish to have around the top, bottom, and left edges of your print. Type in a border width in inches in the field.

ONS Service Co. Logo
Header Service Co. Logo TRIVISON.BMP
Type Well Somewhere Close Interpreter R.W. (Bob) Sephton

Cancel

- Print field drop box is the VS Depth Scale of your print. Click on the drop box and select from the List or the user can also Type a VS depth scale in the field.
- 8. **Click** on the Service Company logo **button** to search your computer for a logo to put in your header.
- 9. **Type** in the **Type Well Name / Location** is the Type Well field. Depress the tab key on your keypad to advance the cursor to the Interpreter field.
- 10. Type in the Interpreters name who created the interpretation in the Interpreter field.

Printer Setup button allows the user to setup the printer for the Power*Steer output

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

Power*Curve / Power*Steer display

This is another way to display the lithology in the Power*Curve module in the detailed lithology track of our default logs. The normal curve fill would be the well path but we will now show you a Power*Steer curve fill layer.

Connecting to the Database



1.) **Double click** on the **Icon**. Acknowledge the Security Information window by **clicking** on the

button. This will initiate the program and activate a **Connect Database** window.

)atabases		
GEOLOC	AY 2018 IMPERIAL	[Microsoft Access D ficrosoft Access Drift
and the second		
User ID:	pgeology	Connect

- 2.) Highlight the **PGEOLOGY 2018 METRIC (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 **button**. The program will now load various dictionaries and then activate an **Open Log** window.

Most Becently Opened Logs		Ope	n vve	
H Tutorial Well Horz Log V Tutorial Well	Tutorial Well Horz Log Tutorial Well		`	Search Wells by Field or DLS/NTS Field Note: Wildcards : % = any range, _ = single character Choose field to search
Well Name	UWI	Spud Date	~	UWI ▼
Tutorial Well	100143206323w5	00 Jan 3, 2015		Enter Search String DLS (Dominion Land Survey System) Survey System Loc. Ex. LSD. Sec. Township Range E/W Mer. 0/A E.S. NTS (National Topographic Series System)
<		د	•	Survey System Loc. Ex. 1/4 Unit Block P. Quad L. Quad. Sixteenth E.S.
vailable Logs			_	Search 🕫 By Field C By DLS/NTS Clear Query
n Tutonarwell Hotz Log				Open 💫 Cancel



5.) Select the Tutorial Well from the List and then click on the Open bu Tutorial Well Horz Log.

button. This will open your



- 6.) Click on the Detailed lithology track once to highlight the track in green.
- 7.) Click on the layer Selection list and click on or select the Curve fill layer. This will make active the Curve fill layer.
- 8.) **Double click** anywhere within the **Curve Fill layer** to activate the Curve Fill Options window. This will activate the Choose Curve Editor shown below._____



9.) **Click** on the Curve Fill Options button to activate the Curve Fill Options window.

Curve Fill Options	Curve Fill Options	×
Curve fills List ID: 2 New Curve fill Set Main Curve Set SecondaryCurve Well Path (TVD) Well Path (TVD) Curve Options Example Pattern Type Log Cycles: Fill Options T	Curve fills List ID: 2 New Curve fill Set Main Curve Well Path (TVD) Well Path (TVD) Curve Options Patern Type PtoP Log Cycles: 1 Gid Type Linear Fill Options	nple
Fill Modes - 2 Curves Fill Modes - 1 Curve Vell Path Vell Path Vell Path Vell Path Fill Patterns Interpreted Lithology	Fill Modes - 2 Curves Fill Modes - 1 Durve ▼ PowerSteerΦ ▼ ↓ Veil Path Options V/dtrc 1 © TVD <c< td=""> SSL Value: ↓ Fill Patterns Integreted Lithology</c<>	
Foreground color black black black black Cancel Cancel Cancel	Fill Modes - 1 Curve Foreground color Background color Weil Path Solid Rock Fill Fill from Value to Curve Fill from Curve to Value Weil Path Solid Rock Fill	ave Cancel

- 10.) Click on the Fill Modes 1 Curve drop box and Select Power*Steer.
- 11.)**Click** on the Save button in the Curve fill Options window. The window will close and the changes you have made will be reflected on the layer.



This concludes your Power*Steer Tutorial.