

2015 Addendum Manual



The Intelligent Geological Software Solution

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Overview

Version 2015 Revisions

Added the ability to **Print out Striplogs and Core Logs to a continuous tiff file (no page breaks)** including Striplog headers, location maps, survey views, legends and formation tops.

Added an option on the View menu to extend the Curve display in the TVD and SS display in both Power*Log and Power*Core to display the curve data past the old limitations of 2 subsequent 90 degree or 1 survey greater than 90 degree that would cut the entire display off. The user now has the ability to keep the curve display going.

Bit Record Report - We have added the Additional fields required for the latest PDC and Roller Cone IADC Bit Classification as well as 2 more liner sizes (surface, intermediate and main) to the Pump data section. The printed reports also reflect these changes.

Added a 1:1 Depth Scale ratio to the log scale menu selection to see the core photos in real life scale.

Added a **Core Photo Cropping tool** to easily crop core photos from the core box pictures and add them to a core log for depth correction.

Added a **Core Photo Stacking layer / track** with the ability to crop photos, rotate photo, identify rubble or slough intervals, split and lock photos to a depth, shrink and stretch individual core sleeves or all sleeves between to lock points and move all cored intervals up or down. This layer should be able to depth correct core photos to log data quickly and easily.

Added a **Core # and Sleeve data layer / track** to display the data determined in the Core photo stacking layer and give the user the ability to export this data for Core Photo annotations.

Added an **Interpretive Facies layer / track** that mimics the Interpretive Lithology layer to handle all bed restricted layers so that when you change a facies interval all bed restricted layers will amend with those revisions. This layer also has the Dean Stark test intervals imbedded into them with a min / max test interval, and a maximum lost core interval to give the user the ability to automate the Dean Stark interval calculations so the test will never go over facies boundaries or areas of lost core too large.

Added an **Automated Dean Stark or NMR test intervals calculator layer / track** which enables the user to easily indicate the test intervals and export that data for the laboratory to perform their tests. The user also can modify this data if they so wish.

Added an **Automated Test Intervals calculator layer / track** which enables the user to easily indicate the other test intervals (PSD, MB, SI, Sieve, VOB, OB and Coulter) which can be locked to the Dean Stark intervals and export that data for the laboratory to perform their tests. The user also can modify this data if they so wish.

Added a **Single Test Intervals indicator layer** which enables the user to easily indicate the single point tests (XRD, SEM, Thin Sections) and export that data for the laboratory to perform their tests

Revised the **Percent layer / track** to add a manual keyboard entry to go along with the mouse pointer entry we had previously and import ASCII file data.

Added a **Ranged Data layer / track** to display this type of data (1212 – 1214m, 2.321 microns) and the ability to manually input data or import ASCII file data.

Added a **V Shale Gamma Ray (GR) layer / track** to calculate the volume of shale from a gamma ray curve in the various calculation methods (Index ratio, Steiber, Clavier, Tertiary Rocks and Older Rocks).

Added a **V Shale Porosity (POR) layer / track** to calculate the volume of shale from the Neutron Density Porosity curves.

Added a **V Shale Minimum (Min) layer / track** to calculate the volume of shale from the lesser of the two calculated curves Volume shale GR and Volume shale POR curves.

The user can now **control the Bed Restricted layers** with **either** an **Interpretive Facies Layer or an Interpretive Lithology Layer.** By doing so we have added another **system log for both Metric and Imperial for Interpretive Facies logs.**

Interpretive Lithology Layer / Track – We have added the ability to Insert a Lithology to a Facies. If an Interpretive Facies has been inserted the user can now **CTRL Key** depressed and **double click** with the mouse to fill in a selected rock type into the top and base depths of the preexisting Facies.

Interpretive Lithology Layer / Track – We have added the Ability to Delete Multiple Lithology or Bed Intervals.

Interpretive Lithology Layer / Track – We have added an Interval Button to the builder to enable the user to find any really small beds that are not discernable to the eye.

Print WE / AM and Reports to word. We have added subsea values to the Morning reports and the Survey Reports. We have also added the AER UWI requirements to all the reports as well as the Strip and Core log headers.

Revised **LAS Export Utility for Curve data** to include the TVD and Subsea Values to the export file data and included the AER board requirements from Directive 80.

Revised **LAS Export of Well data** to include only certain well log data including only relevant log data and creating a menu item to easily get to the LAS Well data file creation.

We have added to the Import Toolbar / Menu Item the ability to **Import Percent Data** (ie 1200-1202m, 34%), **Import Ranged data** (ie 1200-1202m, 3.24 microns) and **Import Core Photos** to the Core Photo stack layer.

We have added to the Export Toolbar / Menu Item the ability to **Export** the automated **Dean Stark** tests intervals, the **Interval test intervals**, the **single point test** points and **Core Sleeve data** including Slough and rubble zones.

Right Click menu options. We have added the Layers Organizer to the Edit Options selection.

We have added the ability to Export Power*Suite Data in Wellsight Format.

Reformatted the Import and Export File menu items to group them better.

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File Menu – Import Menu - Core Photos

This method will allow the user to import ASCII or csv file formats into our database. We cannot import xls or any other type of spreadsheet format. If the data comes that way you must resave it in another format before attempting to import the data. The actual core photos are not imported into the database. With MS Access the database is limited to 2GB and core photos can be up to 60MB each. This would seriously hinder the amount of data so we need to have the files stored on the hard drive of the computer. You will need a **photo cropping template and location**, **photo name and location**, **Core #, Core top, Core Base and Recovery** in a file.

How to Import Core Photos

1. To access the Core Photos Import window, click on **Import** under **File** to activate the pop-out menu and then select **Core Photos** or **click** on the **Import Core Photos Icon** on the **Import Toolbar**. This will activate the open Core Photo data file window as shown below.

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New	Ctrl+N						
Open Close	Ctrl+0		🐲 Op	en Core Photo Data File			×
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Exit Survey Viewer Core Photo Profile Tool		Percent (%) Ranged Data Slide Rotate Surveys	File name: core photo import file.csv Files of type: All Files (*.*)			Open Cancel	

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

name and **click** on the **Den button**. This will activate the **Set delimiter** window as shown below. N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

	Set Delimiter			Set Delimiter	×
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Example			Example		
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<	>		¢		>
	Finish			Finish	
Correct		Not Correct			

3. Highlight the correct corresponding 💿 button beside Comma, TAB or Space delimiter (if shown correctly the

Example should read <column-break> between the data columns. If you see this then **click** on the **button** to close this window and activate the Directional survey import window shown on the next page.



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			Exit

Overview of the window.

The **left hand side** of the **Core Photo Data Import window** allows the user to view the different data columns represented in the file numbered in ascending order.

The **right hand side** of the **Core Photo Data Import window** allows the user to see the data fields associated with the Core Plug Data Table supplied by Power*Suite.

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

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

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

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

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

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

Importing / Mapping of Core Photo data.

1. On the left side of the window Click and drag the data column you wish to import to the corresponding table

field on the right side and release it when the field becomes highlighted. If mapped the field a will turn green on the right and red on the left.

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

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

10	Core Phot	o Import	
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		Core Photo Group	2
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🗹 🎎 Column 2		😹 Graphic	Column 2
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🗹 🎇 Column 5		😹 Base	Column 5
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- 3. The user can save this mapping procedure at this time by **clicking** on the Save Mapping File **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.
- 4. Click on the <u>lmport</u> button. After the data has been imported you will be prompted with a system message.



5. Acknowledge the Import message. Click on the button and then click on the click on the button to close the Window.

How to Import Core Photo Data with an Existing mapping file.

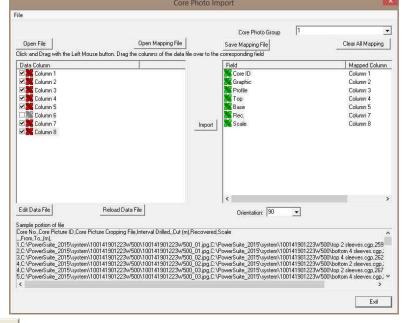
 To access the Core Plug Import window, click on Import under File to activate the pop-out menu and then select Core Photos or click on the Import Core Photo Icon on the Import Toolbar. This will activate the open Core Photo data file window as shown below.

2	Open Core Photo Data File				×
Look in: 🔒	Core Images JPEGS	• 🗢 🖆 🐨 •			
Name	*	Date	Туре	Size	~
bob 1.ex	p	2014-04-14 4:17 PM	EXP File		
Core pho	oto import file.csv	2014-07-09 1:03 PM	Microsoft Excel C		
Core pho	oto import file.xlsx	2014-07-09 10:59 AM	Microsoft Excel W		
Core Re	covery photo cropping.csv	2014-04-30 2:32 PM	Microsoft Excel C		
🔄 eight sle	eves.cgp	2013-10-11 12:13 PM	CGP File		Ŷ
<				>	
File name:	core photo import file.csv			Open	
Files of type:	All Files (*.*)		-	Cancel	Ĩ

- 2. Select the file from the folder or drive with the corresponding navigational tools provided and either double click on the file name or click once on the file name and click on the **Deen** button. This will activate the Set delimiter window as shown below.
- N.B. The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.
- 3. Highlight the correct corresponding button beside Comma, TAB or Space delimiter (if shown correctly the Example should read <column-break> between the data columns. If you see this then click on the button to close this window and activate the Directional survey import window shown on the next page.
- 4. In the upper portion of the window click on the Open Mapping File button. This will activate an open file window.
 - Core Photo Mapping File 20 Look in: 🎍 Core Images JPEGS - + 🖻 💣 💷+ Name Date Туре Size Altered 2014-02-25 10:40 AM File folder 2014-07-09 12:59 PM **CPM** File agat.cpm < File name: Open agat.cpm Files of type: Core Photo Map files (*.cpm) • Cancel
- 5. Select the mapping file with the ***.cpm** saved from previous imports of similar core data files to your core plug table by highlighting the file and **clicking** on the **button** or double clicking on the file name. Once the file has been opened it will refresh with the current mapping configuration as shown below.

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

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



7. Click on the **lmport** button. After the data has been imported you will be prompted with a system message.

Database Message	×
Imported Succes	sfully.
ОК	

8. Acknowledge the Import message. Click on the button and then click on the state to exit or click on the button to close the Window.

File Menu – Import Menu - Percent Data

This method will allow the user to import ASCII, space, comma or tab delimited file formats into our database. We cannot import EXCEL or any other type of spreadsheet format. If the data comes that way you must resave it in another format before attempting to import the data. Also a Percent Layer must be added to your log for you to be able to import data into the percent data tables.

Importing Percent Data

1. To access the Percent Data Import window, click on **Import** under **File** to activate the pop-out menu and then select **Percent (%)** or click on the **Minport Percent (%)** button on the **Import Toolbar**. This will activate the open Percent Data file window as shown below.

Connect Disconnect Access Registration					
New Open Close	Ctrl+N Ctrl+O				
Import	•	AGS Data	2 Open Percent Data File		>
Export Backup	٠	ASCII Core Data	Look in: Look in: Core Analysis Core Analysis Date modified Type	Size	
Print Log Print to TIFF Print Morning Report Print Well End Report Print Reports to Word® Print Setup	Ctrl+P	Core Photos Dip Meter INI Settings File LAS Log / Well MDT	Name Date modified Type □ 1AA020809512W400_12-1119_P5D.csv 2013-12-124.09 PM Microsoft Excel C □ 1AA020809512W400_12-1119_P5D.csv Shortcut Shortcut □ 1AA020809512W400_12-1119_P5D.xsv Shortcut Shortcut □ 1AA020809512W400_12-1119_P5D.xsv 2014-05-16102.6 Shortcut □ 1AA020809512W400_12-1119_SIA.csv 2014-05-02.334 PM Microsoft Excel G □ 1AA020809512W400_12-1119_SIA.csv 2014-05-161102.6 Shortcut	0	
Exit Survey Viewer Core Photo Profile Tool		Percent (%) Ranged Data Slide Rotate	File name: 1AA020809512W400_12-1119_PSD.csv Files of type: All Files (*.*)	Open Cancel	

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

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

© Comma (Example	TAB C Space		C Comma @ TAB C Space
43 <column-break>5</column-break>	2135-12-1421 <column-break>1AA020809512W400<column-break>C</column-break></column-break>		Example 43,52135-12-1421,1AA020809512W400,CS 43,90.30,91.25,0.95,6030,100.0,100.0,100
-break>			
<	>		< >>
	Finish		Finish
orrect		Not Correct	· · · · ·

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

Open File		apping File	Save Mapping File	Clear All Mapping
ck and Drag with the Left	Mouse button. Drag the columns	of the data file over		
ata Column	1	<u>^</u>	Field	Mapped Colum
🛛 🎆 Column 1			Top Depth	
Column 2			Base Depth	
🛛 🎆 Column 3			β% psd 250 μ	
🛛 🎆 Column 4			psd 125 μ	
📲 Column 5			psd 88.4 μ	
🛛 🎆 Column 6			β psd 62.5 μ	
Column 7		In	port 🛛 🌌 psd 44 μ	
📲 Column 8			🔜 🎉 psd 31 μ	
📲 Column 9			β% psd 22 μ	
📲 Column 10			🎢 psd 11 μ	
🛛 🎆 Column 11			🏙 psd 7.8 μ	
🛛 🎆 Column 12			psd 6.6 μ	
🛛 🎆 Column 13			🎥 psd 3.9 μ	
🛛 🎆 Column 14			psd 2.8 μ	
🛛 🎆 Column 15			🌌 psd 1.3 μ	
📲 Column 16		¥	<	
dit Data File	Reload Data File			
mple portion of file	~ 0			
	09512W400,CS 1,58.30,58.85.0.5	5,5030,100.0,100.0),100.0,99.9,99.4,97.3,87.4,60.9,44.7,39.	0,35.9,35.4,33.3,30.3,26.7,21.9.17.1
2135-12-1421,1AA0208	09512W400,CS 2,58.85,59.65,0.8	80,5050,100.0,100.0	1,100.0,100.0,99.9,99.7,99.1,81.9,35.9,2	9.8,28.1,26.9,23.6,19.6,16.0,12.2,9.0
),100.0,100.0,99.9,99.8,99.6,93.8,45.5,3),100.0,100.0,99.9,99.7,99.3,94.4,46.4,3	
2135-12-1421,1AA0208	09512W400,CS 5,61.25,62.00,0.7	75,5030,100.0,100.0),100.0,100.0,100.0,99.8,99.4,98.0,76.6,	65.1,62.2,60.8,56.5,50.7,44.1,35.9,2
2135-12-1421,1AA0208	09512W400,CS 6,62.00,62.75,0.7	75,5040,100.0,100.0),100.0,99.9,99.7,99.2,98.5,92.9,50.0,37.	6,34.7,33.8,31.2,27.9,24.5,20.4,16.2
),100.0,99.9,99.6,98.8,97.3,81.9,43.1,32.),100.0,100.0,99.9,99.5,98.8,91.9,52.0,3	
2133-12-1421,1440208	0001270400,000,000.40,04.20,0.1	0,0040,100.0,100.0	,100.0,100.0,33.3,33.3,30.0,31.3,02.0,3	0.4,00.2,04.0,01.0,20.7,20.3,22.0,10

Overview of the window.

The **left hand side** of the **Percent Data Import window** allows the user to view the different data columns represented in the file numbered in ascending order.

The **right hand side** of the **Percent Data Import window** allows the user to see the data fields associated with the Dip Meter Table supplied by Power*Suite.

Dpen File Button allows the user to open another Slide data file after the Import window has been opened.

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

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

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

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

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

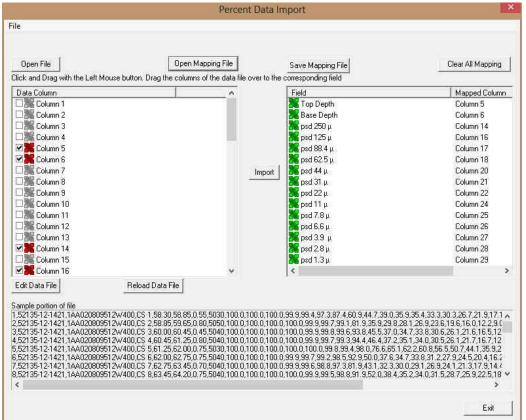
Importing / Mapping of Percent data.

A Percent Data Layer should already have been added through the Log configuration builder so that the user has a Percent Data type layer to import to. Otherwise it would be impossible to import any data.

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

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

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



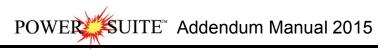
- 3. The user can save this mapping procedure at this time by **clicking** on the Save Mapping File **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.
- 4. **Click** on the **l**^{Import} **button**. After the data has been imported you will be prompted with a system message.



5. Acknowledge the Import message. Click on the button and then click on the to exit or click on the state of the state of

How to Import Percent Data with an Existing mapping file.

 To access the Percent Data Import window, click on Import under File to activate the pop-out menu and then select Percent (%) or click on the ⁵⁶ Import Percent data button on the Import Toolbar. This will activate the Open Percent Data file window as shown below.



2	Open Percent Data File					
Look in: 🚺	Core Analysis 👻 🔶	🗈 💣 💷 •				
Name	*	Date modified	Туре	Size	1	
1AA020	809512W400_12-1119_PSD.csv	2013-12-12 4:09 PM	Microsoft Excel C		T	
1AA020	809512W400_12-1119_PSD.csv - Shortcut	2014-05-16 10:26	Shortcut		1	
A 1AA020	809512W400_12-1119_PSD.xls	2014-07-24 12:33	Microsoft Excel 97		ļ	
AA020	809512W400_12-1119_SIA.csv	2014-05-02 3:34 PM	Microsoft Excel C			
1AA020	809512W400_12-1119_SIA.csv - Shortcut	2014-05-16 10:26	Shortcut			
<				>		
File name:	1AA020809512W400_12-1119_PSD.csv			Open		
Files of type:	All Files (*.*)		-	Cancel		

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

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

Set Delimite	r.	Set Delim	iter 💌
☞ Comma C TAB C Space		C Comma 🔹 TAB C Space	
Example		Example	
43 <column-break>52135-12-1421<column-break>1A -break></column-break></column-break>	A020809512W400 <column-break>C</column-break>	43,52135-12-1421,1AA020809512W400,CS 43,5	90.30,91.25,0.95,6030,100.0,100.0,100.
<	>	<	>
Finish		Finis	h
Correct	Not Cor	rect	

3. Highlight the correct corresponding Subtron beside Comma, TAB or Space delimiter (if shown correctly the

Example should read <column-break> between the data columns. If you see this then **click** on the **button** to close this window and activate the Percent Data Import window shown below.

rag the columns of the data file ove	Field	Mapped Colur
î	M Top Depth	mapped cold
	Base Depth	
	psd 250 u	
	2 psd 125 μ	
	β% psd 88.4 μ	
	psd 62.5 μ	
In		
	psd 31 μ	
*	<	
Data File	1	
Data Tile		
2,58,85,59,65,0,80,5050,100.0,100.	0,100.0,100.0,99.9,99.7,99.1,81.9,35.9,29.	8,28 1,26 9,23 6,19 6,16 0,12 2
4,60.45,61.25,0.80,5040,100.0,100.		
5.61.25.62.00.0.75.5030.100.0.100.	0,100,0,100,0,100,0,99,8,99,4,98,0,76,6,65 0,100,0,99,9,99,7,99,2,98,5,92,9,50,0,37,6	1,62.2,60.8,56.5,50.7,44.1,35.9,
	Data File 58: 30.58: 85.0.55.5030.100.0.100. 58: 85.59: 45.50.45.5040.0.100. 50: 00.050: 45.45.5040.00.0100.	Import ■ psd 88.4 μ psd 82.5 μ psd 44 μ psd 31 μ psd 72 μ psd 78 μ mport ■ psd 78 μ mpsd 78 μ mpsd 22 μ mpsd 78 μ mpsd 28 μ mpsd 3.9 μ mpsd 3.9 μ mpsd 2.8 μ mpsd 3.9 μ mp

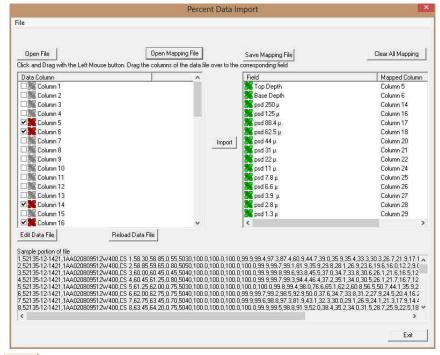
4. In the upper portion of the window **click** on the Open Mapping File **button**. This will activate an open file window.

2		Data M	apping File		×
Look in: 🔒	Core Analysis	• (n	🖻 💣 🗊 •		
Name			Date modified	Туре	Size
agat psd	mapping.pct		2014-07-24 12:36	PICT Image	
<					>
File name:	agat psd mapping.pct			[Open
Files of type:	Percent Data Map files (* pct	A.		-	Cancel

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

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

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



7. Click on the **button**. After the data has been imported you will be prompted with a system message.

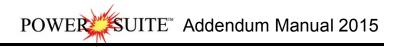


8. Acknowledge the Import message. Click on the button and then click on the to exit or click on the state button to close the Window.

File Menu – Import Menu - Ranged Data

This term may not mean much to you but it is similar to curve data but has a value over a range of depths. To successfully import Range Data you must first add a range data type layer or track to your log.

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



Connect				
Disconnect				
Access Registr	ation	+		
New	(Ctrl+N		
Open	(Ctrl+O		
Close				
Import		۲	AGS Data	
Export		*	ASCII	
Backup			Core Data	
Print Log		Ctrl+P	Core Photos	
Print to TIFF			Dip Meter	
Print Morning	Report		INI Settings File	
Print Well End	Report		LAS	
Print Reports t	o Word®		Log / Well	
Print Setup			MDT	
Fxit		-	Percent (%)	
Exit			Ranged Data	

¢	Open Range Data File				,
Look in: 🚺	Core Analysis 👻 🖛	🗈 📸 🎫			
Name	•	Date modified	Туре	Size	1
1AA020	809512W400_12-1119_PSD.csv	2013-12-12 4:09 PM	Microsoft Excel C		F.
1AA020	809512W400_12-1119_PSD.csv - Shortcut	2014-05-16 10:26	Shortcut		1
AA020	809512W400_12-1119_PSD.xls	2014-07-24 12:33	Microsoft Excel 97		-
1AA020	809512W400_12-1119_SIA.csv	2014-05-02 3:34 PM	Microsoft Excel C		
1AA020	809512W400_12-1119_SIA.csv - Shortcut	2014-05-16 10:26	Shortcut		÷
<				>	
File name:	1AA020809512W400_12-1119_PSD.csv				
Files of type:	All Files (*.*)		-	Cancel	

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

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

	Set Delimiter	Set Delimiter
@ (Comma C TAB C Space	C Comma 🕫 TAB C Space
Exar	ample	Example
	<column-break>52135-12-1421<column-break>1AA020809512W400<column-break>C eak></column-break></column-break></column-break>	43.52135-12-1421,1AA020809512W400,CS 43.90.30,91.25,0.95,6030,100.0,100.
<	>	x
	Finish	Finish
rect		Not Correct

3. Highlight the correct corresponding 🖸 button beside Comma, TAB or Space delimiter (if shown correctly the

Example should read <column-break> between the data columns. If you see this then **click** on the **button** to close this window and activate the Range Data Import window shown below.

	Range Da	ita Import	
ile			
Open File	Open Mapping File	Save Mapping File	Clear All Mapping
Data Column		Field	Mapped Column
Column 1 Column 2 Column 3 Column 4 Column 5 Column 5 Column 7 Column 7 Column 10 Column 10 Column 11 Column 12 Column 13 Column 14 Column 15	Im	port	
Edit Data File	Reload Data File		
1AA020809512W400,2,70.00,72, 1AA020809512W400,3,72,90,74, 1AA020809512W400,4,77,60,80, 1AA020809512W400,5,97,85,98,	20.2.20.5040.2.1.9.39.1.941.365.42.0.5.0.3.28 05.2.05.6010.11.4.9.16.0.705.135.9.9.0.5.0.3, 40.1.50.6010.11.1.9.12.0.678.130.9.4.0.5.0.3, 55.3.05.6010.6.7.9.44,1.62.344,17.05.0.3.36 90.1.05.6050.9.3.8.97.1.361.306.18.0.5.0.3.26 14.60.1.15.6010.6.7.9.46,2.045.513.16.0.5.0.3	139,3,3 133,2,6 19,5,6 14,4,5	
ć			5
2			
			Exit

Overview of the window.

The **left hand side** of the **Range Data Import window** allows the user to view the different data columns represented in the file numbered in ascending order.

The **right hand side** of the **Range Data Import window** allows the user to see the data fields associated with the Dip Meter Table supplied by Power*Suite.

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

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

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

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

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

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

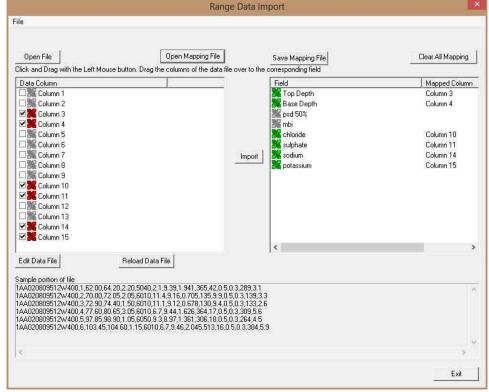
Importing / Mapping of Ranged data.

A Range Data Layer should already have been added through the Log configuration builder so that the user can see their imported Ranged data layer when you import the data. Otherwise you will not be able to import this data.

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

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

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



- 3. The user can save this mapping procedure at this time by **clicking** on the Save Mapping File **button** and giving this procedure a file name and folder to be used again at a later date when you would have to import this data again.
- 4. Click on the **button**. After the data has been imported you will be prompted with a system message.

	Database message
G	Imported Successfully.
U	, imported successionly.
	ок

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

How to Import Ranged Data with an Existing mapping file.

1. To access the Ranged Data Import window, click on **Import** under **File** to activate the pop-out menu and then select **Percent (%)** or **click** on the **Mimport Percent data button** on the **Import Toolbar**. This will activate the Open Percent Data file window as shown below.

2	Open Range Data File				>
Look in: 🚺	Core Analysis 🔹 🗲	€ 💣 💷			
Name	*	Date modified	Туре	Size	ė
1AA020	809512W400_12-1119_PSD.csv	2013-12-12 4:09 PM	Microsoft Excel C		ł.
1AA020	809512W400_12-1119_PSD.csv - Shortcut	2014-05-16 10:26	Shortcut		
AA020	809512W400_12-1119_PSD.xls	2014-07-24 12:33	Microsoft Excel 97		-
1AA020	809512W400_12-1119_SIA.csv	2014-05-02 3:34 PM	Microsoft Excel C		
1AA020	809512W400_12-1119_SIA.csv - Shortcut	2014-05-16 10:26	Shortcut		ÿ
<				>	
File name:	1AA020809512W400_12-1119_PSD.csv			Open	1
Files of type:	All Files (*.*)		-	Cancel	1

- 2. Select the file from the folder or drive with the corresponding navigational tools provided and either double click on the file name or click once and click on the **Den** button. This will activate the Set delimiter window as shown below.
- **N.B.** The one on the left the delimiter is set correctly the one on the right the delimiter is set incorrectly.

	Set Delimiter	Set Delimiter
		C Comma 🕫 TAB C Space
	Example	Example
	43 <column-break>52135-12-1421<column-break>1AA020809512W400<column-break>0 -break></column-break></column-break></column-break>	43.52135-12-1421,1AA020809512W400,C5 43.90.30,91.25,0.95,6030,100.0,100,0100.
	*	c >
	Finish	Finish
Correct		Not Correct

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

Open File	Open Mapping File	Save Mapping File	Clear All Mapping
ick and Drag with the Left Mouse	e button. Drag the columns of the data file ov	er to the corresponding field	
Data Column		Field	Mapped Column
🗆 🎆 Column 1		Top Depth	
🗆 🎆 Column 2		📲 Base Depth	
🗆 🎉 Column 3		36 psd 50%	
🗆 🎥 Column 4		3% mbi	
🗆 🎥 Column 5		📲 chloride	
🗆 🎥 Column 6		sulphate	
Column 7	1	mport 🛛 🎉 sodium	
Column 8	_	potassium	
Column 9			
Column 10			
Column 11			
Column 12			
Column 13			
Column 14			
19 Column 15		<	
and a second			
dit Data File	Reload Data File		
ample portion of file			
	20,2 20,5040,2 1,9 39,1 941,365,42,0 5,0 3,2	89.3.1	
	05,2.05,6010,11.4,9.16,0.705,135,9.9,0.5,0.3	139,3.3	
	40,1.50,6010,11.1,9.12,0.678,130,9.4,0.5,0.3	3,133,2.6	
A020809512W400,3,72.90,74		003,0.0	
A020809512W400,3,72,90,74 A020809512W400,4,77,60,80 A020809512W400,5,97,85,98	65,3.05,6010,6.7,9.44,1.626,364,17,0.5,0.3,3 90 1 05 6050 9 3 8 97 1 361 306 18 0 5 0 3 2	264.4.5	
A020809512W400,3,72,90,74 A020809512W400,4,77,60,80 A020809512W400,5,97,85,98	65,3 05,6010,6,7,9,44,1,626,364,17,0,5,0,3,3 90,1 05,6050,9,3,8,97,1,361,306,18,0,5,0,3,2 14,60,1 15,6010,6,7,9,46,2,045,513,16,0,5,0	264,4.5 3,384,5.9	
A020809512W400,3,72,90,74 A020809512W400,4,77,60,80 A020809512W400,5,97,85,98	90 1 05 6050 9 3 8 97 1 361 306 18 0 5 0 3 2	264,4,5 3,384,5.9	

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

2		Range Data	Mapping File		×	
Look in: 🎴 Co	ore Analysis	•	🖻 💣 📰 •			
Name	^		Date modified	Туре	Size	
🦉 50 % psd.m	ng		2014-07-24 3:25 PM	RNG File		1
2000 mesh	.rng		2014-05-01 2:06 PM	RNG File		1
soluble ion	is.mg		2014-07-24 3:31 PM	RNG File		1
<					>	
File name: s	soluble ions.mg					
Files of type: F	Range Data Map files (*.mg	g)		•	Cancel	1

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

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

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

	Kange D	ata Import	
e			
Open File	Open Mapping File	Save Mapping File	Clear All Mapping
lick and Drag with the Left Mouse	button. Drag the columns of the data file over	er to the corresponding field	
Data Column		Field	Mapped Colum
🗆 🎆 Column 1		Top Depth	Column 3
🗆 🌌 Column 2		Base Depth	Column 4
🗹 🇱 Column 3		psd 50%	
🗹 🌺 Column 4		😹 mbi	
🗆 🎇 Column 5		K chloride	Column 10
🗆 🎆 Column 6		🞇 sulphate	Column 11
🗆 🎆 Column 7	- Tr	mport 🛛 🎇 sodium	Column 14
🗆 🎇 Column 8		potassium	Column 15
🗆 🎆 Column 9			
🗹 🌺 Column 10			
🗹 🌉 Column 11			
🗆 🎇 Column 12			
🗆 🎀 Column 13			
🗹 🎇 Column 14			
🗹 🎇 Column 15			
		<	
Edit Data File	Reload Data File	A	
ample portion of file			
AA020809512W400,1,62,00,64.2	0,2.20,5040,2.1,9.39,1.941,365,42,0.5,0.3,2	89.3.1	
AAU20809512W400,2,70.00,72.0 AA020809512W400 3 72 90 74 4	5,2.05,6010,11,4,9.16,0.705,135,9.9,0.5,0.3 0,1.50,6010,11,1,9.12,0.678,130,9.4,0.5,0.3	,139,3.3 133,2.6	
AA020809512W400,4,77.60,80.6	5,3.05,6010,6.7,9.44,1.626,364,17,0.5,0.3,3	09,5.6	
AA020809512W400,5,97.85,98.9	0,1.05,6050,9.3,8.97,1.361,306,18,0.5,0.3,2	64,4.5	
AAU20809512W400,6,103.45,104	1.60,1.15,6010,6,7,9,46,2,045,513,16,0,5,0.3	3,384,5.9	
¢.			>
			Exit

7. Click on the **button**. After the data has been imported you will be prompted with a system message.



8. Acknowledge the Import message. Click on the button and then click on the to exit or click on the button to close the Window.

File Menu - Export Menu - Core Interval Test Data

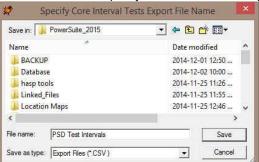
This utility exports your Core Interval Test data (that can be locked to the Dean Stark Intervals or can be random) to pass back to the Laboratory for different Test Intervals to be done on the core. The Core Interval Test data contains the Test #, Test Type (layer name) along with the top and bottom of each Test. This data can be exported into 3 file formats which can then be used by other applications.

Exporting Core Interval Test Data

To access the Core Test Interval Data export window, click on **Export** under **File** to activate the pop-out menu and then **select Core Interval Test**. You can also select the rest Intervals will activate the Export Core Test Intervals window.

Connect Disconnect Access Registration		
New Ctrl+N Open Ctrl+O Close		Export Core Test Intervals
Import +		Comma Separated Values (*.CSV)
Export Backup	ASCII Lithology Export ASE Format	C Tab Separated Values (*.TXT)
Print Log Ctrl+P Print to TIFF Print Morning Report Print Well End Report	Core Interval Tests Core Point Tests Core Sleeve Data Dean Starks	C Space Separated Values (*.TXT)
Print Reports to Word® Print Setup	INI Settings File LAS	Export Exit
Exit Survey Viewer Core Photo Profile Tool	Log / Well Side / Rotate Surveys Well as LAS WS format	

- 1. Click on the radio button next to the type of the file that you would like to create.
- 2. Click on the button. This will activate a Specify Core Interval Test Export File Name window.



3. Type in a file name and select the drive and directory you wish the survey to be exported to. Then, **click** on the **Save button**. This will activate the System Information window asking you if you wish to proceed.

System Information- Core Interval Tests Export

		A file PSD Test Intervals.CSV will be created in the C:\PowerSuite_2015\BACKUP\ directory. Do you wish to proceed?
		Yes No
4.	Click on the <u>Yes</u> button. Thi	s will activate the Core Interval Test Export File Created window.
		File C:\PowerSuite_2015\BACKUP\PSD Test Intervals.CSV created
		OK
5.	Click on the OK button to e	xit Export Interval Test window.

File Menu - Export Menu - Core Test Points Data

This utility exports your Core Point Test data to pass back to the Laboratory for different Test Points to be performed on the core. The Core Point Test data contains the Test #, Test Type (layer name) along with test point for each Test. This data can be exported into 3 file formats which can then be used by other applications.

Exporting Core Test Points Data

To access the Core Test Points Data export window, click on **Export** under **File** to activate the pop-out menu and then **select Core Point Tests**. You can also select the core Test Point toolbar. This will activate the Export Core Test Point window.



Connect Disconnect Access Registration		
New Ctrl+N Open Ctrl+O Close		Export Core Test Points
Import + Export + Backup	ASCII Lithology Export ASE Format	 Comma Separated Values (*.CSV)
Print Log Ctrl+P Print to TIFF	Core Interval Tests Core Point Tests	C Tab Separated Values (*.TXT)
Print Worning Report Print Well End Report Print Reports to Word® Print Setup	Core Sleeve Data Dean Starks INI Settings File LAS	C Space Separated Values (*.TXT)
Exit Survey Viewer Core Photo Profile Tool	Log / Well Slide / Rotate Surveys Well as LAS WS format	Export Exit

- 1. Click on the radio button next to the type of the file that you would like to create.
- 2. Click on the **Export** button. This will activate a Specify Core Point Tests Export File Name window.

? \$	Specify Core Point Test	s Export File Name	×
Save in: 🚺	BACKUP	💌 🕂 🖻 💣 🗉	•
Name		Date modified	
core sleeve data.CSV		2014-12-02 10:	52 M
PSD Test	t Intervals.csv	2014-12-02 10:4	46 M
۲.			>
File name:	Core Point test.csv	5	ave
Save as type:	Export Files (*.CSV.)	• C	ancel

3. Type in a file name and select the drive and directory you wish the survey to be exported to. Then, **click** on the **Save button**. This will activate the System Information window asking you if you wish to proceed.

i	A file Core Point test.csv will be created in the C:\PowerSuite_2015\BACKUP\ directory.
	Do you wish to proceed?
	Do you wish to proceed?
	Do you wish to proceed?

4. Click on the **Yes** button. This will activate the Core Point Tests Export File Created window.



5. Click on the **button** to exit **Export Point Tests** window.

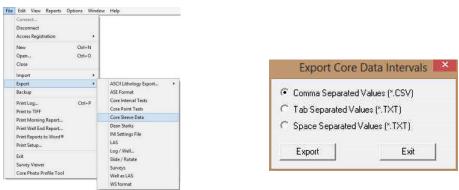
File Menu - Export Menu - Core Sleeve Data

This utility exports your (presumably) depth corrected Core Sleeve data after the Core Photos have been imported and cleaned up to pass back to the Laboratory label the core photos with the corrected depths. The Core sleeve data contains the Core #, Sleeve # along with the top and bottom of each sleeve. Also contained in this data are the core designation types for rubble and slough. This data can be exported into 3 file formats which can then be used by other applications.

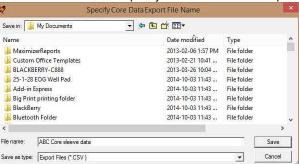
Exporting Core Sleeve Data

To access the Export Core Sleeve Data window, click on Export under File to activate the pop-out menu and then

select Export Core Sleeve data. You can also select the 🖭 Icon on the Export toolbar. This will activate the Export Core Sleeve Data Intervals window.



- 1. Click on the radio button next to the type of the file that you would like to create.
- 2. Click on the **Export** button. This will activate a Specify Core Sleeve Data Export File Name window.



3. Type in a file name and select the drive and directory you wish the survey to be exported to. Then, **click** on the **save button**. This will activate the System Information window asking you if you wish to proceed.

		System mornation- Core Data Export
		A file ABC Core sleeve data.CSV will be created in the C:\Users\Public\Documents\Documents\ directory. Do you wish to proceed?
		Yes No
4.	Click on the <u>Yes</u> button.	This will activate the Core Sleeve Data Export File Created window.
		Core Data Export File Created
		File C\Users\Public\Documents\Documents\ABC Core sleeve data.CSV created
		ОК
5.	Click on the button	to exit Export Core Sleeve Data window.

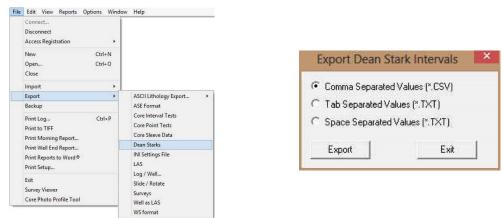
File Menu - Export Menu - Dean Starks Test Data

This utility exports your Calculated Dean Starks Intervals automated by the system with the help of the Interpretive Facies layer. This data will be pass back to the Laboratory for the Dean Stark intervals to be performed on the core. The data contains the Test Type (layer Name), Test #, along with the top and bottom of each test interval. This data can be exported into 3 file formats which can then be used by other applications.

Exporting Dean Starks Test Data

To access the Export Dean Starks Test Data window, click on Export under File to activate the pop-out menu and

then select Export Dean Starks Test Data. You can also select the Lon on the Export toolbar. This will activate the Export Dean Starks Test Data window.



- 1. Click on the radio button next to the type of the file that you would like to create.
- 2. Click on the **Export** button. This will activate a Specify Dean Stark Export File Name window.

2	Specify Dean Stark Exp	oort File Name	×
Save in: 🚺	BACKUP	• 🗄 🖆 💽 •	
Name	*	Date modified	ту
	int test.csv eve data.CSV t Intervals.csv	2014-12-02 11:06 . 2014-12-02 10:52 . 2014-12-02 10:46 .	M
<			>
File name:	dean stark intervals.csv	Save	•
Save as type:	Export Files (*.CSV.)	✓ Canc	el

3. Type in a file name and select the drive and directory you wish the survey to be exported to. Then, **click** on the **Save button**. This will activate the System Information window asking you if you wish to proceed.

		System monitation bear start export
		A file dean stark intervals.csv will be created in the C<\PowerSuite_2015\BACKUP\ directory. Do you wish to proceed?
		Yes No
4.	Click on the <u>Yes</u> button. This w	ill activate the Dean Stark Export File Created window.
		Dean Stark Export File Created
	File	C:\PowerSuite_2015\BACKUP\dean stark intervals.csv created
		ок
5.	Click on the button to exit I	Export Dean Stark Data window.

File Menu – Export - LAS Files (Curves)

The Power*Suite LAS Export Utility program can be accessed through the Power*Suite folder and facilitates the export of Power*Suite curve data into an LAS File.

1. Under the File menu selection, click on Export, click on LAS. You can also select the 💆 Icon on the Export toolbar. This will activate the LAS Export window.

File Edit View Reports Options Window	v Help	Total LAS Curve Export
Connect Disconnect Access Registration		From Well Chroose Well Well Description Storage Unit:
New Ctrl+N Open Ctrl+O Close		~
Import +		
Export +	ASCII Lithology Export +	
Backup	ASE Format	~
Print Log Ctrl+P Print to TIFF Print Morning Report Print Well End Report Print Reports to Word®	Core Interval Tests Core Point Tests Core Sleeve Data Dean Starks INI Settings File	To LAS File To LAS File Create File Create File LAS V2.0 Extract Options Filtract Internal File Not Value State Va
Print Setup	LAS	to to Extract Interval: All Null Value: -999.25 Set NULL Value
Exit Survey Viewer Core Photo Profile Tool	Log / Well Slide / Rotate Surveys Well as LAS	- Include Depth Column - Include Depth Column □ TVD □ SSL □ Curve Depths STEP Value: □
	WS format	Exit

- 2. Click on the Choose Well button. This will activate a list of all the wells in your Database.
- 3. Select the well you wish to export your LAS Curve data for by clicking on the well name and then clicking on the Select button or by double click on the well. You should now see your well name in the field beside the Choose Well button. Also, you should see a list of curves in the Curve List field. An example of this is shown on the next page.
- 4. Click on the button and type in a file name and path for that file in the window. Click on the button when you have done.
- 5. LAS V2.0 The user can export Version 2 (checked) or Version 3 file format (unchecked).
- Select the Curves you wish to create a file for by click on the curve name in the Curve name field or by clicking on the button to select all the curves.
- Select the step type you wish to use for the export.

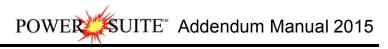
Extrapolate will give you the best incremental data utilizing a constant step extrapolating the data to replicate this constant step. The **Curve depths** selection will merge the curves (if more than one curve is selected) and will export the data as it has been collected into the database.

- 8. Type in an appropriate step (depth increment) or utilize the default 1 m depth increment.
- 9. **Optional** Type in an interval in the From and To fields and deselect the Extract Interval All check box if you wish to export just a portion of the curve data.
- 10. **Optional** If the user wishes to Change Null Value.
 - a. Click on the Set NULL Value... button. This will activate a Null Value window.

Enter LAS Hea	ader in 🔀
Null Value: 9	99.25
ОК	Cancel

- b. Type in another Null value if the default null value of –999.25 is not what you want for a null value and then **click** on the **button**.
- 11. Optional Select the reverse direction check box if you want the data in descending order.
- 12. Optional Select the other depth units other than (MD) Measured Depth (default) to be included with your LAS

file. Click on one or both of the check boxes *VD VD SSL* beside the other such selections as (TVD) True Vertical Depth or (SSL) Subsea Level.



From Well	r	Curves List	All	None
Choose Well: Anyone Enchant		AND	OHMM	1
Vell Description Storage Unit		AT 30.	DHMM	
Well Name : Anyone Enchant Location : 04-10-14-16 W4M Country : Canada Province / State : Alberta UWI : 100041001416W400 Licensee : Anyone Dil and Gas Co. Field : Big Dne Direction : Deviated Direction : Deviated Status : Potential Big One Gas well.	<	AT90 2AX Core Porosity. Core Porosity. Core Porosity. Drill Rate Drill Rate Jamma Ray. Samma Ray. Samma Ray. MINV. MNDR. VIPHI.	OHMM MM % units VV min/m US/M BAPI BAPI OHMM UNKN VV	
To LAS File Choose File: C:\Export Data\Anyone Enchant.las Extract Options		ireate File	♥ LAS V2.0	ř
0 to 0 Extract Interval: 🔽 All Reverse Direction	Null Va	lue: -999.25	SerNULL Value	
Include Depth Column	STEP © Extr STEP	apolate Value: .2	C Curve	Depths

13. **Click** on the **Create File button**. This will activate a LAS file generation window indicating which curves are being exported. Then the process amalgamates all the curve data into a single LAS File. When the file generation has been completed a System Message will be generated.

Note: There may be a message box encountered during this process indicating some of the curves selected have no data. You will have a choice of not including these curves in the LAS Export file.



14. Once the File has been created acknowledge the ensuing message by **clicking** on the **DK button**.

15. Click on the **Exit** button to Close the application or **repeat steps 2-13** to create more LAS Curve data files.

File Menu – Export Menu - Well Data as LAS Version 3.

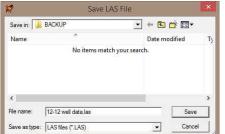
This utility exports all your well data including curve data from your database in LAS Version 3 format.

Exporting LAS Well Data

Click on Export under File to activate the pop-out menu and then select Well as LAS. You can also select the Icon on the Export toolbar. This will activate the Export Well LAS File.

Edit View Reports Options Windo	ow Help	Export Well LAS file	
Connect Disconnect Access Registration		Export Interval	
New Ctrl+N Open Ctrl+O Close		Step: 2 Select Categories	
Import •		Percentages	∧ All
Export Backup	ASCII Lithology Export ASE Format	Range Data Rock components	Clear
Print Log Ctrl+P Print to TIFF Print Morning Report Print Well End Report Print Reports to Word®	Core Interval Tests Core Point Tests Core Sleeve Data Dean Starks INI Settings File LAS	Rounding Sample Descriptions [Long Form] Sidewall Cores Stides Snieder's Permeability - Core Snieder's Permeability - Geo Sorting	
Print Setup	Log / Well	Visual Range Data Well Information	.
Exit Survey Viewer Core Photo Profile Tool	Slide / Rotate Surveys	Lavial sector	
	Well as LAS		OK Cancel
	WS format		

- 1. Click on the Data Types you want in the LAS File. The data types highlighted will be included. You can turn on / off the highlight by clicking on the data types.
- 2. The button will select all the data categories and the categories.
- 3. Define the Export Interval for your data.
- 4. **Define** the **step** interval for your data.
- 5. Click on the button. This will activate a Save LAS File Name window.



6. Type in a file name and select the drive and directory you wish the survey to be exported to. Then, **click** on the **survey button**. Your file name will be created in the folder you directed it to.

File Menu – Export Menu – WS Format (Wellsight file format)

This utility exports some of your well data including curve data from your database in Wellsight format.

Exporting Well Data

Click on Export under File to activate the pop-out menu and then select WS format. You can also select the
 Icon on the Export toolbar. This will activate the Alternate Format window.

Cores Curve Data Directional Surveys DST Fossils Geological Descriptions Grain Size Interpreted Lithology Minerals Mud Data Oli Shows	
DST Fossils Grain Size Interpreted Lithology Minerals Mud Data	100 March 100
Grain Size Interpreted Lithology Minerals Mud Data	Curve Step
Mud Data	1
THE STREET MISS	
Porosity Grade Porosity Type Rounding Sidewall Cores Sides Sorting Stringers Fext Layers Text Layers Textures	
Export Well	Exit
	Textures

- 2. Click on the Data Types you want in the WS Data File. The data types highlighted will be included. You can turn on / off the highlight by clicking on the data types.
- 3. The Select All button will select all the data categories and the Clear List button will deselect all the data categories.
- 4. **Define** the Curve Step you want for the curve data in the Curve step field. All other data will be exported with ½ meter step.
- 5. Click on the button. This will activate a Save Alternate format File Name window.
- 6. Type in a file name and select the drive and directory you wish the survey to be exported to. Then, **click** on the **save button**. Your file name will be created in the folder you directed it to.

File Menu - Print to TIFF (file format)

Prints all or part of your log/well along with the Title page, location map, legends, survey views, individualized cores and formation tops on a continuous basis in a tiff file format.

1. Under the File menu selection, click on Print to TIFF or click on the Selection on the Toolbar to activate the Print to TIFF window shown below:

Note: The depth views associated with the Print TIFF window are defaulted to the Depth View that Power*Log / Curve / Core is in at the time of the activation of the Print to TIFF window.

Edit View Reports C	ptions Wind	Title Page/Legend/Tops/Surveys legal landscape Page Ma Page Orientation: Page Ma	rgin: 0.25
Disconnect		- Options	T
Access Registration	*	Print Title Page Type: Standard Kocation Map	
New	Ctrl+N	C:\PowerSuite_V12\Location Maps\location map.bi Survey Views	
Open	Ctrl+O	Title Page Remarks.	
Close		Main log printed at 1:480	
Import / Export		Core logs on tail of striplog	1000
ASCII Export		I Print Legend I Use Dynamic Legend	Log Wid 10.53 "
Backup		Log Selection Print Scale: 480 ▼ ✓ Log Header and Footer	
Print Log	Ctrl+P		
Print to TIFF	i i i	User-defined Interval	
Print Morning Report		Today Section (0.00 to 0.00) Well Section (140.00 to 525.00)	
Print Well End Report		I iihologu Section (0.00 to 1047.00)	
Print Reports to Word®		User-defined Interval: 140 to 526	
Print Setup			
Exit		Print Scale: 120 V Core Header and Footer	
Survey Viewer		580.00 - 598.00 - 2 Mar 6, 2001	
Core Photo Profile Tool		1000.00 · 1012.00 1 Mar 7, 2001	
core r noto r tome root			0

2. Title Page/Legend/Tops Page Drientation: legal landscape Select the appropriate paper orientation from this drop box field and the Title Page, Legend, and Formation Tops will automatically conform to the selected orientation. There are four (6) types of paper orientation to choose from: letter (8.5"x11") portrait or landscape, legal (8.5"x14")portrait or landscape, tabloid (11"x15") portrait or landscape settings.

- 3.
 ☐ Print Title Page Activate this check box
 ☐, if you wish to printout a Title Page.
- 4. The Type (Title Page) drop box displayed on the right allow you to pick the appropriate title page format to print. The standard selection prints out our full blown title page with most of the Wells data. You can also select our abbreviated title pages that handle core and borehole logs

Туре:	standard	•
	standard	
	core title	1
	alt, core title	
	bore hole title	

5. AER UWI Format If you are printing the Standard Title page and you are in Alberta the AER format should be selected.

N.B. This format changes our UWI printout from 100121605812W500 to 00/12-16-058-12W5/0 only on Title page. All other UWI formats remain the same.	the Striplog
 C Logo 6. Activate this check box ♥, if you wish to printout a logo, and then select a logo drop box field. 	go from the
Note: The logo file format must be a bitmap image file (* bmp) if you want a logo printed out on the title	nage Also it

Note: The logo file format must be a bitmap image file (*.bmp) if you want a logo printed out on the title page. Also, it is recommended that the bitmap image should be a square image, because **Power*Suite** will shrink or expand the image to fit the logo space on the **Title Page**. This bitmap must be placed in the **Powersuite_2015\logo** directory for the application to find it.

7. Type any pertinent comments into the **Title Page Remarks** field and they will be displayed accordingly on the **Strip Log Title Page only**.

C.\PowerSuite_V13\Location Maps\location map.bmp

Note: The location map file format must be a bitmap image file (*.bmp) if you want a location map to be printed out. Also, the bitmap image must be a square image, because **Power*Suite** will shrink or expand the image to fit the location map space following the **Title Page**. This bitmap can be placed anywhere as the file location is saved within the Power*Suite ini file.

None

User-defined Interval Today Section (234.00 to 345.00) Well Section (200.00 to 1600.00)

User-defined Interval: 200

Lithology Section (315 50 to 1593 50

to 1600

- 9. Survey views PlanView Activate this check box , if you wish to have the plan view (view of the well bore from surface) printed out in the striplog header as captured in the Survey View application.
- 10. Survey views 🔽 User Defined Activate this check box 🗹, if you wish to have the user defined view (view of the well bore as manipulated by the user) printed out in the striplog header as captured in the Survey View application.
- 11. Survey views Azimuth View Activate this check box , if you wish to have the azimuth view (view of the well bore along the target azimuth) printed out in the striplog header as captured in the Survey View application.
- 12. Survey views Cross Section Activate this check box $\overline{\lor}$, if you wish to have the cross section view (view of the well bore at right angles to the target azimuth) printed out in the striplog header as captured in the Survey View application.
- 13. Survey views ✓ MultiViews Activate this check box ✓, if you wish to have all the views printed out in the striplog header as captured in the Survey View application.
- 14. ILegend Activate this check box Z, if you wish to have our entire legend printed out.
- 15. □ Use Dynamic Legend Activate this check box ♥, if you wish to have the legend reflect only the symbols printed on the log or core portions of the printed intervals defined in the log and core portions of the print log window.

In the Log portion of the Print Log window

16. Log Scale: 240 Select or type in the Scale for the main log to be printed out at, in the Scale drop box field.

<u>Note</u>: If you see 2" or some other inch related printing scale and you want to see a ratio type scale Change the System Options under the Options pull down menu and activate the Display Tab and Activate this check box \checkmark beside Use Metric Style Scales.

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

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

17. I Log Header and Footer Activate this check box I to have the track headers /footers printed out with the main log.

- 18. Core Accessories Activate this check box ✓ to have the core accessories printed out on the main log.
- Highlight the log printing options in the selection box. The user can select either None, User-defined Interval (requires that you manually enter the desired print interval depths), Today Section, Well Section, or Lithology Section.

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

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

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

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

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

In the Cores portion of the Print Log Window

- 21. If you are printing out a **Core** log on the tail of the striplog, select the **Cores** you wish to print by highlighting them.
- 22. CoresScale: ¹²⁰ Select or type in the Scale for the core log to be printed out at in the Scale drop box field.
- 23. Core Header and Footer Activate this check box 🔽 to have the track headers / footers printed out with the core log.

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

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

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

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

- 25. When you are ready to print your log, **click** on the **Print button**.
- 27. This will activate a file name window which should be filled in with your file name and location to where you can locate it for further reference.

<u>Note</u>: If you do **exit** from the **Print to TIFF 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 to TIFF** window and then will default to those settings the next time you enter the Print to TIFF window

View Menu - TVD Cut Off at 90°

When the user is in the TVD or SS depth mode this selection will either allow the curve data to extend past our basic cut off of angle of 90° or greater or not. This could help is figuring out where you could be in the section. This only applies to Curve data and applies to all curves in Power*Log or Power*Core applications that has the TVD module activated and has Directional Surveys.

View	Reports	Options	Window
	Depth View	Mode	,
	TVD Cut Off	@ 90*	
	Go to Depth		
	Log Scales		
	Screen Scale	Accuracy	
	Layers Orga	nizer	
	Show Active	e Layer	
	Show All Lay	yers	
	Show/Hide	Digits	
-	Show/Hide	Header	
~	Toolbar		
~	Selection Ba	ır	
~	Import Tool	bar	
4	Export Tools	bar	
	RTF Toolbar		
*	Status Bar		
	Mouse Cros	s hairs	
	Line Toolba	r	

Print Size: 11.00" X 86.46

OK

Automated Dean Stark Calculator Layer / Track

This layer allows the user to calculate Dean Stark Test Intervals automatically but this layer requires **Stacked Core Photos** and **Interpretive Facies Layers** data for this to work. This layer is only available with our Power*Core application Version 2015 and beyond. This automation will only be done if you have the Interpretive Facies filled along with the Core Photo's stacked. This should be the last thing you perform after the core has been depth corrected and the facies have been entered. The User can also enter in the data by mouse pointer or keypad methods.

How to Add a Dean Stark Test Intervals Track

 Click on Log Configuration Builder under the Options menu selection or click on the Log Configuration Builder button on the Toolbar to activate the Log Configuration Builder window:

Available	Logs	1		Active Log	
Log	SYSTEM	•	Log Config.	Log: test	
Tracks	8		AND CONTRACTOR	Tracks	Track Config
Ages	03	^	Add All >>>	Y 1.40 Resistivity	
	ns in Stark Calculati		Show All	Y 2.00 Vshale Y 1.00 Interpreted Fa Y 0.40 Depositional I	
Auto Test Bedding (Bioturbati		tor	Hide All	Y 0.55 Depth 3 Y 4.25 Image Logs Y 3.50 Core Photo S	100 Marco
Bit Recor Carbonate Casing	ds e Texture		Add >>>	Y 1.00 Core Box Slev Y 0.55 Depth	tack eve Information
Core Core Box Core Den		¥	Delete	Y 0.50 DS intervals Y 2.00 Core Porosity Y 1.40 Sat Bulk Mas	
		< >	Show/Hide	Track Width: 0.5	Log Width: 42.25
		×.	Move	C Layers	Layer Config
C Layers	n Stark Calculati	or <u>i</u>		Core Sample Code (te	ist)
			Exit	r .	

- On the left hand side of the Log configuration window scroll down the list of tracks and click on the Auto Dean Stark Calculator track. The track will become highlighted and the Tracks radio button • Tracks will become activated.
- On the right hand side of the Log configuration window click on the Track you want it to go above or to the left of. In this example we will be adding the Auto Dean Stark Calculator track to the left of the DS Intervals. The track will become highlighted and the Tracks radio button Tracks will become activated.
- 4. In the middle of the Log configuration window **click** on the **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"
- 5. Click on the **Yes** button. This will activate a Get Name window allowing the user to name the track.

Get N	lame 💦
New Track Name: 🗛	uto Dean Stark Calcu
ОК	Cancel

6. **Type in** a new Track name or keep the existing name and then **click** on the **DK button**. The track will be added above the **DS Intervals** Track or to the left on the log, and the Log Configuration Builder window will be shown.

Available Logs			Active Log	
Log SYSTEM	•	Log Config.	Log: test	Track Config
Ages	^	Add All >>>	Y 1.40 Neutron Density	
Annotation Annotations Auto Dean Stark Calcula		Show All	Y 1.40 Resistivity Y 2.00 Vshale Y 1.00 Interpreted Facie	
Auto Test Interval Calcul Bedding Contacts Bioturbation	ator	Hide All	Y 0.40 Depositional Env Y 0.55 Depth 3	
Bit Records Carbonate Texture Casing		Add >>>	Y 4.25 Image Logs Y 3.50 Core Photo Stac Y 1.00 Core Box Sleeve	
Core Core Box Data Core Bensitu	~	Delete	Y 0.55 Depth Y 1.00 Auto Dean Stark Y 0.50 DS intervals	Calculator
	~	Show/Hide		.og Width: 43.25
	Ψ.	Move	C Layers	Layer Config
C Layers Auto Dean Stark Calcula	or	-	Auto Dean Stark Calculat	or (test)

7. Click on the **Exit** button. This will activate the **Log** with the new track and you will then prompted with the Current Core Photo group that has been used for the Core Photo Stack layer. Drop the Group ID drop box and select the Photo Group for this layer.

Note: This Current core photo group is the same group that will be used in the Stacked Core Photo layer as well as the Core # and Sleeve data layer and the Automated Test Interval Calculator layers.



Automated Method

1. **Double click** on the **Auto Dean Stark Calculator track / layer** to activate the Dean Stark Test Intervals **Builder** window.

	Dean Stark Ir	ntervals	×
ID	Top	-	Base
Description	12		1
		🔽 Sr	nap to Interval
Save	Delete	New	Exit

2. Right click anywhere on the Auto Dean Stark Calculator track / layer to activate the pop-up menu.

Calculate Dean Stark Intervals	-
Renumber Intervals	
Delete	
Edit Options	
Add / Edit / Open Link	
Exit	

- 3. Click on the Calculate Dean Stark Intervals selection and the Intervals will be calculated for you. This will only be done if you have the Interpretive Facies filled along with the Core Photo's stacked. This should be the last thing you perform after the core has been depth corrected and the facies have been entered.
- 4. Press the Esc key on the keyboard to exit from the Dean Stark Interval Builder window.

Manually entering a Test Interval

1. **Double click** on the **Auto Dean Stark Calculator** track / layer to activate the **Dean Starks Intervals Builder** window.

ÍD	Тор	Base
	0	0
Description		
		🔽 Snap to Interval

Mouse Pointer Method

- 2. Click on the New Button to clear the data entry form.
- 3. Click and drag the Mouse Pointer within the Auto Dean Stark Calculator track / layer.
- 4. Release the mouse button and the interval will be drawn with a 9999.
- 5. Repeat Steps 2 4 for more intervals.
- 6. When all your intervals have been entered you will want to **Right Click** on the layer to activate the pop out menu and **select Renumber Intervals**

Calculate Dean Stark Intervals
Renumber Intervals
Delete
Edit Options
Add / Edit / Open Link
Exit

Or Keypad Method

- 3. Click on the Button to clear the data entry form.
- 4. Type in a Top and Base Depth into the builder and then click on the save button.
- 5. Repeat Steps 3-4 for more intervals.
- 6. When all your intervals have been entered you will want to **Right Click** on the layer to activate the pop out menu and **select Renumber Intervals**

Resizing an Interval

1. Double click on the Auto Dean Stark Calculator track / layer to activate the Dean Starks Intervals Builder window.

- 2. Move the mouse pointer over the interval to be resized and Click once. This will activate the interval with the selection resize boxes.
- 3. Hold the CTRL Key down and mouse over the edges and click and drag to a different interval.
- 4. OR type in a new top and / or base depth and click on the Save button.

Deleting a Single Interval

1. Double click on the Auto Dean Stark Calculator track / layer to activate the Dean Starks Intervals Builder window.

Dean Stark Intervals			Calculate Dean Stark Intervals		
ID	Тор	Base	Renumber Intervals		
-	0	0	Delete		
Description		-	Edit Options		
Save	Delete	Vew Exit	Add / Edit / Open Link Exit		

- 2. **Right click** anywhere <u>within</u> the interval you wish to delete to activate the pop-up menu.
- 3. Click on Delete option and the interval will be deleted accordingly.
- 4. Repeat Steps 2 and 3 to delete more Dean Stark intervals from the Dean Stark track / layer.
- 5. Once all your Dean Stark test intervals have been deleted, you will want them to come out sequentially by depth in the Export Utility you will want to **right click** on the track to activate the pop out menu and select **Renumber Tests.**
- 6. Click on the **Exit** button or Press the **Esc** key on the keyboard to exit from the **Dean Stark Builder** window.

Deleting Multiple Intervals

1. **Double click** on the **Auto Dean Stark Calculator** track / layer to activate the **Dean Stark Intervals Builder** window.

	Dean Stark	Intervals	×
ID	Top	_	Base 0
Description	lo.		10
		⊽ s	nap to Interval
Save	Delete	New	Exit

- 2. Press and Hold the SHIFT Key and then click and drag an area anywhere within the intervals you wish to delete.
- 3. Release the mouse button to activate a Confirm Multiple Delete message.

Do you wish to delete all Dean Stark Intervals between 14.53 and 16.9
Do you wish to delete all Dean stark intervals between 14.55 and 10.9
you wish to delete all Dean stark intervals between 14.55 and 10.9

- 4. Click on button and the Dean Stark intervals encompassed with your drag will be deleted accordingly.
- Once all your Dean Stark test intervals have been deleted, you will want them to come out sequentially by depth in the Export Utility you will want to right click on the track to activate the pop out menu and select Renumber Tests.

6.	Click on the	button or Press the Esc ke	y on the keyboard to	exit from the Dean	Stark Builder window.
----	--------------	----------------------------	----------------------	--------------------	-----------------------

Note: Every type of layer in Power*Log, Power*Core and Power*Curve has a Data Type classification. The default
settings for the Auto Dean Stark Selector layer are shown below. To access this window, click on the 📖 Layer
Configuration button on the Toolbar, when the layer is active.

ayer - Display Settings Curve Definitions Layer Sc	ales Data Group ID	s Formation and Age Displa	y Dip Meter Definitions
Save Undo Name: FAdo DS Selector: Image: Display Layer Name or Curve Scale on Track Image: Product Versite Orientation (Layer Name) Image: Display Scale Chango Line Indicator Image: Display Scale Chango Line Indicator Image: Display Scale on non-active layers Image: Display Full Logenthmic Scale	Data Type: UWI Foreground Color: Depth Offset: Display Scale Pla Every	Dean Stark	× •
☐ Display Depth-Avas Grid ☐ Display Data-Avia Grid		OK	Cancel Help

Automated Test Interval Calculator Layer / Track

This layer allows the user to calculate other Test Intervals automatically but this layer requires **Stacked Core Photos** and **Interpretive Facies Layers** data, and can be tied to the previously entered Dean Stark intervals test for this to work. This layer is only available with our Power*Core application Version 2015 and beyond. This automation will only be done if you have the Interpretive Facies filled along with the Core Photo's stacked. This should be the last thing you perform after the core has been depth corrected and the facies have been entered. The User can also enter in the data by mouse pointer or keypad methods.

Note: If the Intervals are **locked** to the Dean Stark Intervals and the check box is activated then the intervals will be drawn in **Pink** and the intervals **not locked** to Dean Stark Intervals will be in **Grey**. Also Vice Versa, if the Locked option is unchecked then the locked intervals will be drawn in grey and the unlocked intervals will be drawn in pink. The user can only work with the intervals that are pink.

How to Add an Auto Test Intervals Track

1. Click on Log Configuration Builder under the Options menu selection or click on the 🛄 Log Configuration Builder button on the Toolbar to activate the Log Configuration Builder window:

Available	Logs	2		Active Log	
Log	SYSTEM	•	Log Config.	Log: test	
Track:	1			Tracks	Track Config
Ages	22	^	Add All >>>	Y 1.40 Resistivity	
Annotations Annotations Auto Dean Stark Calculator Auto Dest Interval Calculator Bedding Contacts Bioturbation Bit Records Carbonate Texture Casing			Show All	Y 2.00 Vshale Y 1.00 Interpreted Fa Y 0.40 Depositional E	
		8 1 .	Hide All	Y 0.55 Depth 3 Y 4.25 Image Logs	
			Add>>>	Y 3.50 Core Photo St Y 1.00 Core Box Slee Y 0.55 Depth	ve Information
Core Core Box			Delete	Y 1.00 Auto Dean St. Y 0.50 DS intervals Y 2.00 Core Porosity	ark Calculator
Core Den	Fore Densitu	~	Show/Hide	Track Width: 0.5	Log Width: 43.25
		9	Move	C Layers	Layer Config
C Layers	t Interval Calculat	ór I		Core Sample Code (te:	at)
			Exit	~	

- On the left hand side of the Log configuration window scroll down the list of tracks and click on the Auto Test Interval Calculator track. The track will become highlighted and the Tracks radio button reacks will become activated.
- 3. On the right hand side of the Log configuration window **click** on the Track you want it to go above or to the left of. In this example we will be adding the Auto Test Interval Calculator track to the left of the DS Intervals. The track will become highlighted and the **Tracks** radio button **r**acks will become activated.

- 4. In the middle of the Log configuration window **click** on the **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"
- 5. Click on the **button**. This will activate a **Get Name** window allowing the user to name the track.

Get Name				
New Track Name:	Auto PSD Interval Calc			
ОК	Cancel			

6. **Type in** a new Track name or keep the existing name and then **click** on the **button**. The track will be added above the **DS Intervals** Track or to the left on the log, and the Log Configuration Builder window will be shown.

Available Logs			Active Log	
Log SYSTEM • Tracks	•	Log Config.	Log: test	Track Config
Ages Annotation	^	Add All >>>	Y 1.40 Resistivity	
Annotation Annotations Auto Dean Stark Calculator Auto Test Interval Calculator		Show All	Y 2.00 Vshale Y 1.00 Interpreted Fac Y 0.40 Depositional Er	
Bedding Contacts Bioturbation	8 00)	Hide All	Y 0.55 Depth 3 Y 4.25 Image Logs	
Bit Records Carbonate Texture Casing		Add >>>	Y 3.50 Core Photo Stack Y 1.00 Core Box Sleeve Information Y 0.55 Depth Y 1.00 Auto Dean Stark Calculator	
Core Core Box Data		Delete	Y 1.00 Auto Dean Sta Y 1.00 Auto PSD Inter Y 0.50 DS intervals	
Core Densitu	~	Show/Hide		Log Width: 44.25
	÷	Move	Track Width: 11.00	Log Width: 44.25 Layer Config
C Layers			Auto PSD Interval Calcu	lator (test)
Auto Test Interval Calculat	or			

7. Click on the **Exit** button. This will activate the Log with the new track and you will then prompted with the Current Core Photo group that has been used for the Core Photo Stack layer. Drop the Group ID drop box and select the Photo Group for this layer.

Note: This core photo group is the same group that will be used in the Stacked Core Photo layer as well as the Core # and Sleeve data layer and the Automated Dean Starks Calculator layers.

Group ID	OK.
Agat	Cancel

Automated Method

1. **Double click** on the **Auto Test Interval Calculator track / layer** to activate the **Core Interval Test Builder** window.

	Core Interval Test	×
Тор	Base	
13.05	13.85	
Top ID	Base ID	
4	4	
Save	Delete New E	ixit 📗

2. Right click anywhere on the Auto Test Interval Calculator track / layer to activate the pop-up menu.

Lock to Dean Stark Intervals
Delete
Fill Dean Stark Intervals
Renumber Intervals
Edit Options
Add / Edit / Open Link
Exit

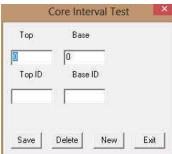
- 3. Click on the Lock to Dean Stark Intervals selection. This will lock the test intervals to the DS intervals previously entered.
- 4. Right click anywhere on the Auto Test Interval Calculator track / layer to activate the pop-up menu.

~	Lock to Dean Stark Intervals	
	Delete	
	Fill Dean Stark Intervals	
	Renumber Intervals	
	Edit Options	*
	Add / Edit / Open Link	
	Exit	

- 5. Click on the Fill Dean Stark Intervals selection. This will fill in the Test Intervals locked to the Dean Stark Intervals previously performed. This will only be done if you have the Dean Stark intervals were calculated.
- 6. Press the Esc key on the keyboard to exit from the Test Interval Builder window.

Manually entering a Test Interval

1. Double click on the Auto Test Interval Calculator track / layer to activate the Core Interval Test Builder window.



2. Right click anywhere on the Auto Test Interval Calculator track / layer to activate the pop-up menu.

i.	Lock to Dean Stark Intervals
	Delete
	Fill Dean Stark Intervals
	Renumber Intervals
	Edit Options
	Add / Edit / Open Link
	Exit

3. Click on the Lock to Dean Stark Intervals selection. This will lock the test intervals to the DS intervals.

Mouse Pointer Method

- 4. Click and drag the Mouse Pointer within the Core Test Interval Calculator track / layer.
- 5. **Release the mouse button** and the interval will be drawn with respect to the previously entered DS Interval and will be represented in pink.

Note: If the Intervals are **locked** to the Dean Stark Intervals and the check box is activated then the intervals will be drawn in **Pink** and the intervals **not locked** to Dean Stark Intervals will be in **Grey**. Also Vice Versa, if the Lock is unchecked then the intervals will be drawn in grey. Now if you uncheck the Lock to Dean Stark Intervals the reverse will happen. The user can only work with the intervals that are pink.

- 6. Repeat Steps 4 5 for more intervals.
- 7. Once all your test intervals are entered or you have added more test intervals, you want them to come out sequentially by depth in the Export Utility you will want to **right click** on the track to activate the pop out menu and select **Renumber Tests**.
- 8. Click on the **button** or Press the **Esc** key on the keyboard to exit from the **Core Point Test Builder** window.

Or Keypad Method

- 7. Click on the **Button** to clear the data entry form.
- 8. Type in a Top and Base Depth into the builder and then click on the save button.
- 9. Repeat Steps 7-8 for more intervals.
- 10. Once all your test intervals are entered or you have added more test intervals, you want them to come out sequentially by depth in the Export Utility you will want to **right click** on the track to activate the pop out menu and select **Renumber Tests.**
- 11. Click on the **button** or Press the **Esc** key on the keyboard to exit from the **Core Interval Test Builder** window.

Resizing an Interval

This is only available to Intervals that are not locked with the DS Intervals.

- 1. **Double click** on the **Auto Test Interval Calculator** track / layer to activate the **Core Interval Test Builder** window.
- 2. Move the mouse pointer over the interval to be resized and Click once. This will activate the Builder with the depths of the Selected Test Interval
- 3. Type in a new top and / or base depth and click on the save button.

Deleting a Single Interval

 Double click on the Auto Test Interval Calculator track / layer to activate the Core Interval Test Builder window. To delete an interval it must be pink. If it is grey you will have to change the Lock to Unlock or vice versa.

C	Core Interval Test	×		
Тор	Base		~	Lock to Dean Stark Interv
				Delete
13.05	13.85			Fill Dean Stark Intervals
Top ID	Base ID			Renumber Intervals
	4			Edit Options
				Add / Edit / Open Link
Save	Delete New	Exit		Exit

- 2. Right click anywhere within the interval you wish to delete to activate the pop-up menu.
- 3. Click on Delete and the interval will be deleted accordingly.
- 4. Repeat Steps 2 and 3 to delete more Core Interval Test from the layer.
- 5. Once all your test intervals have been deleted, you will want them to come out sequentially by depth in the Export Utility you will want to **right click** on the track to activate the pop out menu and select **Renumber Tests**.
- 6. Click on the button or Press the Esc key on the keyboard to exit from the Core Interval Test Builder window.

Deleting Multiple Intervals

Double click on the Core Test Interval track / layer to activate the Core Interval Test Builder window. To 1. delete an interval it must be pink. If it is grey you will have to change the Lock to Unlock or vice versa.

100		
Top ID	0 Base ID	

- 2. Press and Hold the SHIFT Key and then click and drag an area anywhere within the intervals you wish to delete.
- 3. Release the mouse button to activate a Confirm Multiple Delete message.

Do you wish to delete all	Core Interval Tests between 13.23 and 21	.097
bo you wish to utilite un		
Jou wish to delete an		

- Click on <u>Yes</u> button and the Core Interval Test encompassed with your drag will be deleted accordingly. Once all your test intervals have been deleted, you will want them to come out sequentially by depth in the Export 4. Click on
- 5. Utility you will want to right click on the track to activate the pop out menu and select Renumber Tests.
- Exit button or Press the Esc key on the keyboard to exit from the Core Interval Test Builder 6. Click on the window.

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

ave Undo Name: Auto PSD Interval Calculator I Display Layer Name or Curve Scale on Track	Data Type: Core Test Interval UWI
Show Layer on Track Display Vertical Orientation (Layer Name) Display Backup scales Display Scale Change Line Indicator Display scales on non-active layers Display scales on non-active layers Display Full Logarithmic Scale Display Depth-Axis Grid	Depth Offset: Display Scale Placements Every Start at:
Display Data-Axis Grīd	

Core Photo Magnifier Layer / Track

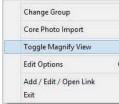
This layer enables the user to magnify what is being displayed in the Core Photo Stack layer / track. The Core photos are displayed on the stacked layer and the sleeve data can be viewed on the sleeve data display layer. This track is automatically added when you add the Core Photo Stack Layer / track and will give you a magnification for the core sleeves to zoom in on a particular contact or feature that you wish to magnify without having to change the log viewing scale. These photos can be added individually or can be imported by way of an ASCII file with the correct information. These layers are only available in Power*Core.

Right Click Menu Items

The user has the ability to magnify the Core Photos that are stacked in the Core Photo Stack layer / track at any given depth. If you select 1:1 to 1:5 you could also use the Log Scale drop box and select or type in the scale you pick from the right click option. The difference would be that you would see far less of the rest of your Core Log when you change the log scale.

How to Magnify the Core Photos.

 If the Core Photo Magnify Track is not being displayed Right Click on the Core Photo Stacking Layer and select the Toggle Magnify View. This will turn on the Core Photo Magnify Track.



- Magnify 1:5 @ 67.08

 Magnify 1:4 @ 67.08

 Magnify 1:3 @ 67.08

 Magnify 1:2 @ 67.08

 Magnify 1:1 @ 67.08

 Magnify x1.5 @ 67.08

 Magnify x2 @ 67.08

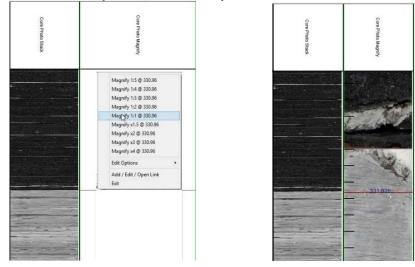
 Magnify x3 @ 67.08

 Magnify x4 @ 67.08

 Edit Options

 Add / Edit / Open Link

 Exit
- 2. **Right Click** on the **Core Photo Magnify** track at a specific depth and **select** one of the **magnify Views**. This will display the core photos at the scale you selected on this layer. These actions are shown below.



Note: You will see black ruler style lines on the magnify view. The ruler markings are 1cm divisions to allow the user to figure out at what depth the contact or physical structure you wish to identify is located. You will have to utilize the depth where you right clicked (red line with blue depth markings) at to help you figure out the location you wish to utilize.

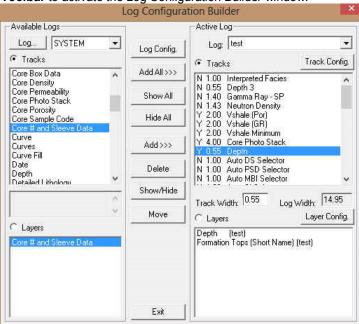
Note: You may want to turn on the Mouse Hair Option under the View menu Selection and change you mouse pointer accuracy to .05 or .01 to fine tune your right click.

Core # and Sleeve Data Layer / Track

This layer displays the Core Photo sleeve data that have been cropped from Core Box photos generated by a photographer. The Core photos are displayed on the Core Photo Stack layer and the sleeve data can be viewed on the Core # and sleeve data display layer. The layers data only reflects the Core Sleeve Number and whether the core is whole or rubble. This data can be exported in an ASCII format for ease of testing or formatting the core photos. This layer is only available in Power*Core.

How to Add a Core # and Sleeve Data Layer / Track

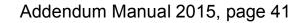
1. Click on Log Configuration Builder under the Options menu selection or click on the 🛄 Log Configuration Builder button on the Toolbar to activate the Log Configuration Builder window:



- 2. On the left hand side of the Log configuration window scroll down the list of tracks and click on the Core # and Sleeve Data track. The track will become highlighted and the Tracks radio button reactivated.
- 3. On the right hand side of the Log configuration window **click** on the Track you want it to go above or to the left of. In this example we will be adding the Core # and Sleeve Data track to the left of the Depth Track. The track will become highlighted and the **Tracks** radio button • Tracks will become activated.
- 4. In the middle of the Log configuration window **click** on the **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"
- 5. Click on the **button**. This will activate a **Get Name** window allowing the user to name the track.



6. **Type in** a new Track name or keep the existing name and then **click** on the **button**. The track will be added above the **Depth** Track or to the left on the log, and the Log Configuration Builder window will be shown.



Log	SYSTEM	•	Log Config.	Log: test	•
 Tracks 				Tracks	Track Config.
Core Box I		^	Add All >>>	N 1.00 Interpreted Facie	
Core Dens Core Perm Core Phot	neability o Stack		Show All	N 0.55 Depth 3 N 1.40 Gamma Ray - SF N 1.43 Neutron Density	
Core Poro Core Samj			Hide All	Y 2.00 Vshale (Por)	
Core # an	d Sleeve Data			Y 2.00 Vshale (GR) Y 2.00 Vshale Minimum	
Curve Curves			Add >>>	Y 4.00 Core Photo Stac Y 1.00 Core # and Stee	
Curve Fill Date			1308	Y 0.55 Depth	
Depth		*	Delete	N 1.00 Auto DS Selecto N 1.00 Auto PSD Select	
Netailed I	itholoau		Show/Hide	lin and a concert	
		~		Track Width: 1.00 L	.og Width: 15.95
		9	Move	C Layers	Layer Config.
Layers				Core # and Sleeve Data	(test)
Core # an	d Sleeve Data				0.11004
			Exit	p	

POWER

7. Click on the **Exit** button. This will activate the **Log** with the new track and you will then prompted with the Current Core Photo Group window for the Core Photo Stack layer. Drop the Group ID drop box and select an Existing Group or Type in a new Group ID for this layer.



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Note: This Core Photo group will be the same for this layer, as well as the Core Photo Stacked layer, Automated Dean Starks Calculator, Automated Test Interval Calculator and the Test Point Indictor layers.

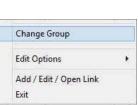
This Layer / Track is only a display layer for the Core sleeves that have been stacked in the Core Photo Stack layer. It displays the Core # along with the extents of the Core along with the sleeve # and the Rubble (green) / Core (blue) Indications.

Right Click Menu Selections

Change Group- This selection will allow the user to change the Photo Group associated with this layer. If you change it for this layer all the layers associated with this group must also be changed.

<u>Note</u>: When you add any layer to a log, it is always associated with a **Data Type**. Every data type in **Power*Log** / **Core & Curve** has a default setting. The default settings for a **Core # and Sleeve Data** layer are shown below. To

access this window, click on the Rayer Configuration button on the Toolbar, when the layer is active.



ve Undo	Data Type: UWI	Core Information	
Display Layer Name or Curve Scale on Track Show Layer on Track Display Vertical Orientation (Layer Name) Display Backup scales Display Scale Change Line Indicator Display scales on on-active layers Display Scale Change Line Indicator Display Depth-Axis Grid	Foreground Color: Depth Offset: Display Scale Pla Every	black cements Start at:	•
Display Data-Avis Grid			

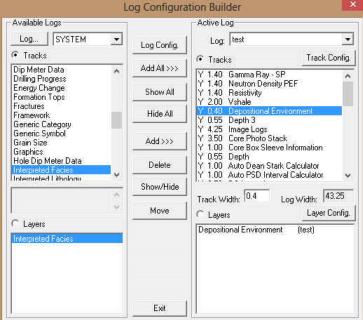
Interpreted Facies Layer - Facies Builder

This Builder will allow you to draft on the Interpreted Facies Layer. The user can utilize this layer if they have the Power*Core Module. In a **Facies Log** this layer will control the entry of all Bed Restricted Layers. If you do not have an interval of Interpretive Facies you cannot enter any bed restricted data. Consequently if you resize or delete a Facies all bed restricted data will also be affected.

How to Add an Interpretive Facies Track.

To fully utilize this track / layer the Log Format type must be Facies Log.

8. Click on Log Configuration Builder under the Options menu selection or click on the 🛄 Log Configuration Builder button on the Toolbar to activate the Log Configuration Builder window:



- On the left hand side of the Log configuration window scroll down the list of tracks and click on the Interpretive Facies track. The track will become highlighted and the Tracks radio button
 Tracks will become activated.
- 10. On the right hand side of the Log configuration window click on the Track you want it to go above or to the left of. In this example we will be adding the Interpretive Facies track to the left of the Depositional Environment Track. The track will become highlighted and the Tracks radio button creaks will become activated.
- 11. In the middle of the Log configuration window **click** on the **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"

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- 12. Click on the Yes button. This will activate a Get Name window allowing the user to name the track.



13. **Type in** a new Track name or keep the existing name and then **click** on the **DK button**. The track will be added above the **Depositional Environment** Track or to the left on the log, and the Log Configuration Builder window will be shown.

Available Logs			Active Log	
Log SYSTEM	•	Log Config.	Log: test	Track Config
Ages	~	Add All >>>	Tracks Y 1.40 Gamma Ray -	
Annotation Annotations Auto Dean Stark Calculator Auto Test Interval Calculator		Show All	Y 1.40 Neutron Dens Y 1.40 Resistivity Y 2.00 Vshale	
Bedding Contacts		Hide All	Y 0.40 Interpreted Fa Y 0.40 Depositional E	
Bioturbation Bit Records Carbonate Texture Casing	5	Add >>>	Y 0.55 Depth 3 Y 4.25 Image Logs Y 3.50 Core Photo Stack Y 1.00 Core Box Sleeve Information	
Core Core Box Data	Delete	Y 1.00 Core Box Sieeve Information Y 0.55 Depth Y 1.00 Auto Dean Stark Calculator		
Fore Densilu	~	Show/Hide	Track Width: 0	Log Width: 44.25
	Υ.	Move	C Layers	- Layer Config
C Layers	_			
Core				
		Exit	r	

14. Click on the **Exit** button. This will activate the **Log** with the new track and you will then prompted with the Enter New Group for the Interpretive Facies. Drop the Group ID drop box and select and Existing Group or Type in a new Group ID for this layer.

For Layer 'Inter	preted Facies'
Enter New Group ID	
Facies for Company ABC	
	Select Group
Cancel	<u> </u>

Overview of Facies Builder window.

		Facies Builder		×
Save Del		Facies	Intervals	
14.65	to 18.7		F1 (F1)	
🔽 Confirm Delete				
🔽 Snap to Facies	🔽 Display Text	Text Options		
	🔽 Display Fill	Vertical Alignment:	center 💌	
Add / Edit Fill	🔲 Display Long	Horizontal Alignment:	center 💌	
	🔲 Opaque Text	Orientation:	h 📕	Exit

Save Button The user can enter the depths into the two depth fields with Facies selected and then **click** on the **Save button**. Their interval will now be drawn on the Interpretive Facies Track.

Button: The user can click on an existing interpretive Facies interval and the

corresponding data will be shown in the builder. The user can then **click** on the **button** to delete the interval.

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

Snap to Facies This **Check box** when activated will not allow spaces between beds on the Interpretive Facies Layer when you are using the mouse (not the keypad) when entering Lithology Intervals. This function will work if you are within 1/2" of an existing Interval and will snap to the facies interval already drawn on your log.

Intervals... Button will activate a list of the Interpretive Facies Intervals in your active well. The user can select any interval from this list and can then modify or delete this interval.

Add / Edit Fill Button allows the user to Add, Change or Delete Existing Facies Fill Types.

Display Text check box allows the user to turn / off the Text in the drawn facies.

C Display Fill check box allows the user to turn / off the Color Fill in the drawn facies.

Display Long Check box allows the user to Display the Long Name of the drawn facies if the Text option is selected. Opaque Text Check box allows the user to Display the Name with an Opaque background of the drawn facies if the Text option is selected.

Vertical Alignment center drop box allows the user to Display the Name of the drawn facies if the Text option is selected at the top centre or bottom of the drawn interval.

Horizontal Alignment: center drop box allows the user to Display the Name of the drawn facies if the Text option is selected at the left centre or right of the drawn interval.

Orientation: h drop box allows the user to Display the Name of the drawn facies if the Text option is either vertically or horizontally within the facies.

Exit Button will close the Facies builder.

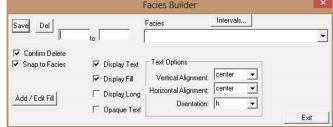
Right Click Menu Items

All these menu items are described above as they are part of the Facies Builder as well. Once the display is the way you prefer them you will find that every time you work with this layer the default will now be the same as when you left the builder. **Change Group Selection** allows the user to switch to a different FACIES group.

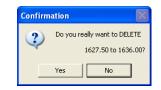
Change Group Selection allows the user to switch to a different FACIES group.

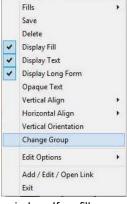
Adding Fill Types to the Interpretive Facies Builder

1) **Double click** anywhere within the **Interpretive Facies** track to activate the **Facies Builder** window. If no fills have been added skip to Step 3.



2) Click on the Add / Edit Fill button. This will activate the window show below. If the window has a fill already displayed and you want to start a new fill then click on the button to clear the window to add a new facies.





mpany ABC

nole Code

*

Lost Core Mar 20

Save Undo New Del First Prev ? Next Last Description	Color ? 🔀 Basic colors:	Save Undo New Del Fin Description F3401
▼ Short Name		F3401 Short Name F3401
Back Color		Back Color
Figradient Pattern:		Pattern:
Sampling Interval Sample Code		Sampling Interval
Sample Size Sample Min Sample Max Lost Core Max		Dense Sample Size Sample Min 50 30
	Define Custom Colors >> OK Cancel	190

- 3) Type the Facies long name into the Description field.
- 4) Type the Facies short name into the Short Name field.
- 5) Click on the Back Color button and select a color from the palette and then click on the or button.
- 6) Click on the **Fore Color** button and select a color from the palette and then click on the **DK** button.
 - 7) Click on the Gradient Gradient to activate a check mark if you want the gradient option.
 - 8) Click on the Pattern field box arrow to select a specific pattern type.
 - 9) Pick a sampling type from the drop box.
 - 10) Type in a Sample Code. This is a secondary display on the Name when displayed on the Facies Interval.
 - 11) Type in a Sample Size (optimum) Minimum and Maximum sample size in the fields provided for the Automated Dean Stark Calculator layer / track to work with in the automation process. These sizes are in cm's (1 meter = 100 cm).
 - 12) Type in the Lost Core Maximum Value for the Automation for sampling to be straddled over.
 - 13) Click on the Save button or press ALT-S. The Shortcut Options window will be shown.

Record saved successfully. Choose one of the following shortcuts.	Shortcut Options			×
Start New Becord Move to Next Becord Evit Cancel	Record saved succe	ssfully. Choose one of the	following sh	ortcuts.
	Start New Record	Move to Next Record	Exit	Cancel

- 14) To enter another Fill for Facies, click on the Start New Record button and repeat Steps 3 to 13 OR
- 15) Select from the ensuing Shortcut Options window. This will exit the window and the new Facies has been added.

Editing Interpretive Facies Fill Types

1. Double click anywhere within the Interpretive Facies track to activate the Facies Builder window.

		Facies Builder		
Save Del		Facies	Intervals	
Confirm Delete	to			-
Snap to Facies	🔽 Display Text	Text Options	[anniar	
	✓ Display Fill	Vertical Alignment: Horizontal Alignment:	center 💌	
Add / Edit Fill	Display Long	Orientation:	h 🔹	
	🗂 Opaque Text		1	Exit

- 2. Click on the Facies drop box and select the fill to be edited.
- 3. Click on the Add / Edit Fill button. Your selection will be shown in the Fill Type window.

Save Undo	New Del	First Prev ?	Next Last
Description			
F3401			×
Short Name			
F3401			
Back Color Fore Color Pattern:	Gradient		
Sampling Inte	l		<u> </u>
Dense	a voi	Sample Code] [TBX	
Sample Size	Sample Min	Sample Max	Lost Core Max
	30	90	20

4. Make the necessary changes and click on the Save button. The Shortcut Options window will be shown.

Shortcut Options			
Record saved succe	essfully. Choose one of the	e following sh	ortcuts.
Start New Record	Move to Next Record	Exit	Cancel

5. Select Exit from the ensuing Shortcut Options window. This will clear the window and allow the user to edit a new record.

Deleting Facies Fill Types

1. Double click anywhere within the Interpretive Facies track to activate the Facies Builder window.

Save Del		Facies	Intervals	
14.65	to 18.7		F1 (F1)	
Confirm Delete Snap to Facies	 ✓ Display Text ✓ Display Fill 	Text Options Vertical Alignment:	center 💌	
Add / Edit Fill	Display Long Opaque Text	Horizontal Alignment: Orientation:	center 💌	

- 2. Click on the drop box arrow in the Facies window and select any of the Facies from the resulting choice list that you would like to delete.
- 3. Click on the Add / Edit Fill button, and the Fills for 'Environment' window will be shown.

Save Undo	New Del	First Prev ?	Next Last
Description			direction of the
F3401			*
Short Name			
F3401			
Eack Color Fore Color Pattern: Sampling Int	Gradient		<u>·</u>
Dense	, vu	Sample Code	
Sample Size	Sample Min	Sample Max	Lost Core Max
50	30	90	20

Database Data Warning

POWER

4. Click on the button, and the Warning window will be activated.

	WARNING: This could affect other logs that may use this fill We recomend you ensure this fill is not used in other well before you delete this record Note: To restore a deleted fill, you must remake one with the same long name and short name. You may wish to record these for the record you are about to delete. Are you sure you want to continue to DELETE this record?
Click on the ves but	Yes No Cancel ton, and the Confirmation window will be activated Confirmation
	You are about to delete a record from the database. If you click Yes, you wont be able to undo this Delete operation. Are you sure you want to delete this record?

Drafting an Interpreted Facies Interval

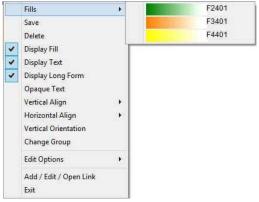
1. Double click anywhere within the Interpreted Facies track to activate the Facies Builder window.

	1	Facies Builder		×
Save Del	to	Facies	Intervals	×
 ✓ Confirm Delete ✓ Snap to Facies 	☞ Display Text ☞ Display Fill	Text Options Vertical Alignment:	center	
Add / Edit Fill	「 Display Long 「 Opaque Text	Horizontal Alignment: Orientation:	center <u>▼</u> h <u>▼</u>	Exit

2. Select a Facies. There are 3 ways to select a Facies Fill, some faster than others.

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- The user can **right click** anywhere within the **Interpretive Facies** track to activate the pop-up menu shown below. Then select by **clicking once** on the desired **Facies** from the pop-up menu.
- The user can select a Facies from the Facies field within the Facies Builder window.
- The user can also **click** on a **previously drawn Facies** that is the same as you wish to draw with. If done correctly the selected Facies will be automatically displayed in the **Facies** field within the **Facies Builder** window.



3. Click and drag up or down within a specific track to define the Facies interval. Or, If there is a Facies defined above and below (within 100 meters) and you want to fill in the interval simply **double click** in the interval and it will fill in.

Note: This can be done on any track but more often than not the Interpretive Lithology Track is the most convenient. With the Snap to Lithology activated the Facies being drawn will snap to the previous Facies either above or below depending on your drag if you are within 1/4" of already drawn lithology.

4. Release the mouse button and the interval will be drawn accordingly.

Inserting a Facies within an existing Facies

You are able to insert thinner Facies of a different **Facies Type** into an existing Facies. This prevents you from having to re-enter the properties of the main Facies above and beneath the inserted thinner Facies.

- 1. Double click anywhere within the Interpreted Facies track to activate the Facies Builder window.
- 2. Select a Facies type. There are 3 ways to select a Facies Fill.
 - The user can **right click** anywhere within the **Interpretive Facies** track to activate the pop-up menu and mouse over the Fills Menu item. Then select by **left clicking once** on the desired **Facies Fill** from the pop-up menu.
 - The user can select a Facies from the Facies field within the Facies Builder window.
 - The user can also click on a previously drawn Facies that is the same as you wish to draw with.
- 3. If done correctly the selected Facies will be automatically displayed in the **Facies** field within the **Facies Builder** window.
- 4. Click and drag the mouse button up or down within a specific track to define the Facies interval.
- 5. **Release** the mouse button, and you will be prompted with a message asking, "*Do you want to add an interbedded interval?*"
- 6. **Click** on the **ves button** and the thinner bed will be drawn accordingly.
- 7. Press the Esc key on the keyboard to exit from the Rock Type Builder window.

Resizing an Existing Facies Fill

- 1. Double click on the Interpreted Facies track to activate the Facies Builder window.
- 2. **Press and hold** the **Ctrl key** on the keyboard **down**, while moving the mouse pointer over the Facies Fill

boundary you wish to resize, the mouse pointer will turn into a resize \downarrow , (remember if two Fills are touching to look into the builder to see if you have the correct one selected)

3. Clicking and dragging the left mouse button up or down the Interpreted Facies track to either shrink or enlarge the selected interval.

<u>Note</u>: You are not allowed to overlap an existing facies <u>entirely</u> and if you attempt to do so, you will receive an "Unsupported Add Sequence" system message.

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

<u>Note</u>: Resizing a **Facies** will result in a resizing its associated bed restricted description category information, i.e. **Grain Size**, **Porosity Grade**, and so on.

5. Press the Esc key on the keyboard to exit from the Facies Builder window.

Deleting a Single Facies Fill.

- 1. Double click on the Interpreted Facies track to activate the Facies Builder window.
- 2. **Right click** anywhere within the **Interpreted Facies** track to activate the pop-up menu.
- 3. Click on Delete and the following system message will be activated, "Do you really

want to DELETE to ?" Click on the yes button to confirm the deletion.

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

4. Press the Esc key on the keyboard to exit from the Facies Builder window.

Deleting a Multiple Facies Fills

- 1. Double click on the Interpreted Facies track to activate the Facies Builder window.
- 2. Hold the SHIFT Key down and then click and drag anywhere within the Interpreted Facies track and then let go of the Shift Key and left mouse button. This will activate a Delete Intervals message box.

	Delete Intervals	200 C
Do you wish to delet	e all Intervals between 357.00	and 371.00?
	Vec	No

3. Click on button and the Intervals dragged over will be deleted.

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

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

Note: Every type of layer in Power*Log/Curve has a Data Type classification. The default settings for the

Interpreted Facies layer are shown below. To access this window, click on the Layer Configuration button on the Toolbar, when the Interpreted Lithology layer is active.

ave Undo ame: Interpreted Facies	Data Type: Interpreted Facies
Display Layer Name or Curve Scale on Track Show Layer on Track Display Vertical Orientation (Layer Name) Display Backup scales Display Scale Change Line Indicator Display Scale on non-active layers Display Full Logarithmic Scale Display Depth-Axis Grid	Foreground Color: black

	Fills	•
	Save	
	Delete	
-	Display Fill	
~	Display Text	
~	Display Long Form	
	Opaque Text	
	Vertical Align	
	Horizontal Align	
	Vertical Orientation	
	Change Group	
	Edit Options	,
	Add / Edit / Open Link	
	Exit	

Interpretive Lithology Layer / Track

Added the ability to Insert Lithology to a Facies. If an Interpretive Facies has been inserted the user can now **CTRL Key** depressed and **double click** with the mouse to fill in a selected rock type into the top and base depths of the preexisting Facies.

Added an **Intervals...** button into the builder to be able to select small beds that get entered and are not really visible. You can now select them from a list and delete them from the builder. Added the Ability to Delete Multiple Rock / Bed Intervals.

Save Del		ock Type	Intervals	Interbeds	Accessory
368	to 377.5	<mark>::::::::</mark> ss	[sandstone]		
🔽 Confirm Delete	Sample Quality:	•	No Data Descr	ption:	
Snap to Lithology	Base Contact: B	urrowed			

Deleting Multiple Rock Types or Beds

- 1. Double click on the Interpreted Lithology track to activate the Rock Type Builder window.
- 2. Hold the SHIFT Key down and then click and drag anywhere within the Interpreted Lithology track and then let go of the Shift Key and left mouse button. This will activate a Delete Intervals message box.

	Delete Intervals	
	all Intervals between 357.00	and 371 007
Do you wish to delete		
Do you wish to delete	an intervals between 557.00	and S7 hoors

3. Click on button and the Intervals dragged over will be deleted.

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

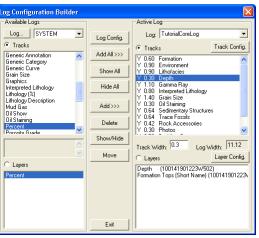
4. Press the Esc key on the keyboard to exit from the Rock Type Builder window.

Percent Layer

Percent can be added either as a track or a layer to your log. When you add a Percent as a layer to your log, you must assign it to a specific track.

How to Add a Percent Track / Layer

1. Click on Log Configuration Builder under the Options menu selection or click on the 🛄 Log Configuration Builder button on the Toolbar to activate the Log Configuration Builder window:



- 2. On the **left hand side of the Log configuration window** scroll down the list of tracks and **click** on the **Percent** track. The track will become highlighted and the **Tracks** radio button **Tracks** will become activated.
- 3. On the right hand side of the Log configuration window **click** on the **Track** you want it to go above or to the left of. In this example we will be adding the Percent track to the left of the Depth track or above the Depth track in the horizontal application. The track will become highlighted and the **Tracks** radio button **Tracks** will become activated.
- 4. 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?"
- 5. **Click** on the **button**. This will activate a **Get Name** window allowing the user to name the track.



6. **Type in** a percent name and then **click** on the **DK button**. The track will be added above the **Depth** Track or to the left on the log, and the Log Configuration Builder window will be shown.

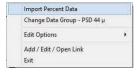
Log Configuration Builder		
Available Logs	1	Active Log
Log SYSTEM -	Log Config.	Log: TutorialCoreLog 🔹
Tracks Interpreted Lithology Lithology (%) Lithology (%) Lithology (%) Lithology (%) Lithology Description Mud Gas Di Show Di Show	Add All >>> Show All Hide All	
Rock Accessories Rounding Sedimentary Structures Sidewall Pore	Delete Show/Hide	Y 0.30 0il Staining Y 0.64 Sedimentay Structures Y 0.64 Trace Fossis Y 0.42 Rock Accessories ▼ Track Width: 1.00 Log Width: 12.12
C Layers Percent		C Layers Layer Config Percent Silica (100141901223W502)
	Exit	

7. Click on the **Exit** button. This will activate the **Log**, and the new track will be added to your log.



The User can now Import Percent data from an ASCII file. To access the import utility you can **right click** on the layer and select the **Import Percent Data** from the pop out menu or you can use the **File Menu** illustrated to the right or **click** on the **Import % Icon** on the Import Toolbar.

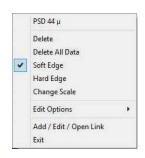
Right Click Menu Items



Import Percent Data Selection will open the Import Utility.

Scale Selection will activate the Scale and Units window to the user can change the scale.

Change Data Group Selection will allow the user to select a different data group to show on this layer.



Right Click Menu Items with the builder Open

Delete Selection will delete the data where the user

has right clicked. You can also delete the data in the Data Entry window.

Delete All Selection will allow the user to delete all the data. You will not be able to recover the data if you do select this option.

Scale Change Selection will activate the Layer Configuration window, Layer Scales Tab and fill in the left and right scales that fit your requirements.

Soft Edge Selection will change the fill from squared off blocks to wavy rounded blocks. **Hard Edge Selection** will change the fill from wavy rounded blocks to squared off blocks. **Line Width Selection** will allow the user to change the line width if Point to Point is activated.

Color

Drawing Percent Data (Mouse Pointer Method)

1. Double click on the Percent track to activate the Percent Layer window.

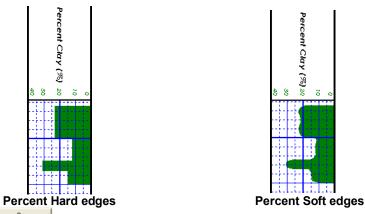
P	ercent Layer [PSD 2.8 µ]	
Back Color		
Fore Color		
STATE	🖵 Gradient	
^o attern:		Custom colors:
Snap to %	0.01	
Soft Edges		
	a	Define Custom Colors >>
Save	Edit Data Exit	OK Cancel

The default is a black histogram. The user has the ability to modify this.

- 2. Click on the Back Color button and select a color from the palette and then click on the OK button.
- 3. Click on the **Fore Color** button and select a color from the palette and then click on the
- 4. Click on the Gradient Gradient to activate a check mark if you want the gradient option.
- 5. Click on the Pattern field box arrow to select a specific pattern type.
- 6. Click on the Snap to field box arrow in the Fills for Environment window and select any of the percent from the resulting choice list. This allows the mouse to move or less precision when dragging in a percentage.
- 7. Soft Edges Soft Edges: When checked will round off the percent and will present the percent edges with sine wave lines instead of strain lines.

	Connect			
	Disconnect			
	Access Registration			
	New Ct	rl+N		
	Open Ct	o+h		
	Close			
	Import / Export	•	Import Log / Well	
	ASCII Export		Export Log / Well	
	Backup		Import / Export LAS	6
	Print Log C	trl+P	Import Surveys	
	Print to TIFF		Export Surveys	
	Print Morning Report		Import AGS Data	
	Print Well End Report		Import Core Data	
	Print Reports to Word®		Export Core Sleeve Data	
	Print Setup		Import Core Photos	
			ASCII Import	
	Exit		Import Dip Meter	
	Survey Viewer		Import MDT	
_	Core Photo Profile Tool		Import Slide Rotate	
			Export INI Settings File	
			Import INI Settings File	
			Import Percent (%)	
			Import Ranged Data	
			Export Dean Starks	

button.



- 8. Click on the Save button.
- 9. Define the desired interval by clicking and dragging the mouse pointer from a specific Measured Depth and Percent (%), as indicated within the mouse pointer display box to another Measured Depth on the Percent (%) track.
- 10. Release the mouse button and the percent interval will be drawn accordingly.
- 11. Repeat steps 8-9 to define more intervals.
- 12. **Click** on the **Exit button** to exit the window.

Drawing Percent Data (Keypad Method)

1. **Double click** on the **Percent track** to activate the Percent Layer window.

Back Color		
Fore Color		
	🖵 Gradient	
^o attern:	1	1
inap to %	0.01	
Soft Edges		
Save	Edit Data	Exit

2. Click on the Edit Data button. This will activate the Data Entry window.

Гор	Base	Value		
69.35	70	6		×
Top Depth	Base Dep	oth 🔏		~
58.3	58.85	6		
58.85	59.65			
60	60.45	3 4		
60.45	61.25	4 9 6 5		
61.25	62	9		
62	62.75	6		
62.75	63.45			
63.45	64.2	7		
64.2	64.8	15		
64.8	66.05	16		1000
66.05	67.05	21		
67.05	68.05	18		
68.05	68.7	12		
68.7	69.35	7	_	
69.35	70	6		
70	70.75	4 3 3 6 4 4		
70.75	71.35	3		
71.35 72.05	72.05 72.9	3		
72.05 72.9	72.9	2		
72.9 73.65	73.65	4		
73.60	74.4	11		
74.4 75.3	75.75	7		
75.75	76.45	5		
76.45	76.75	11		
76.75	77.6	9		
77.6	78.4	6		
78.4	79.15	8		
79.15	79.9	4		~
Confirm D	5N		Exit	1

- 3. Double Click in the Top Depth Field and type in a top depth. Depress the Tab Key.
- 4. Type in a base depth in the Base Depth Field. Depress the Tab Key.
- 5. Type in a percent Value in the Value field.
- 6. Click dutton or the Enter key on your keypad and the data will be entered.
- 7. Repeat Steps 3-6 to enter more percent data.
- 8. Click on the **DK** button to exit the data editor and **Save** the data.

Deleting Percent Entry (Mouse Pointer method)

1. Double click on the Percent track to activate the Percent Layer window.

Back Color		
Fore Color		
Pattern: ☐ Snap to % ☐0 IV Soft Edges	Gradient	
Save	Edit Data	Exit

2. **Right click on the interval** within the Percent track that you want to delete and **select Delete** from the pop out menu. The interval will be deleted. To delete all the intervals select **Delete All Data** instead.



	PSD 44 µ		PSD 44 µ
	Delete		Delete
	Delete All Data		Delete All Data
~	Soft Edge	4	Soft Edge
	Hard Edge		Hard Edge
	Change Scale		Change Scale
	Edit Options		Edit Options
	Add / Edit / Open Link		Add / Edit / Open Link
	Exit		Exit

3. Click on the **Exit** button and the **Percent Layer** window will be closed.

Deleting Percent Data (Keypad Method)

1. **Double click** on the **Percent track** to activate the Percent Layer window.

Back Color		
Fore Color		
useren.	🖵 Gradient	
Pattern:		
Snap to %	0.01 💽	
✓ Soft Edges		
Save	Edit Data	Exit

2. Click on the Edit Data button. This will activate the Data Entry window.

ID: PSD 2.8 µ			ID: PSD		ID: PSD 2.8 µ		×
Тор	Base	Value					
69.35	70	6		×			
	2	÷		-			
Top Depth	Base Dept	n %		^			
58.3	58.85	6					
58.85	59.65	6 3 4 9 6					
60	60.45	4					
60.45	61.25	4					
61.25	62	9					
62	62.75	6					
62.75	63.45	5					
63.45	64.2	7					
64.2	64.8	15					
64.8	66.05	16					
66.05	67.05	21					
67.05	68.05	18					
68.05	68.7	12					
68.7	69.35	7					
69.35	70	6					
70	70.75	4					
70.75	71.35	3					
71.35 72.05	72.05 72.9	3					
72.05	73.65	2					
73.65	74.4	4 3 6 4 4					
73.60	75.3	4 11					
74.4	75.75	7					
75.75	76.45	5					
76.45	76.75	11					
76.75	77.6	9					
77.6	78.4	9 6					
78.4	79.15	8					
79.15	79.9	4		~			
Confirm D	alata:		Exit				

- 3. Click the line of data you wish to delete. The user can use the SHIFT key to select a range of data and the CTRL key to pick more than one data line with the aid of the mouse click.
- 4. Click **S** button and the data will be deleted.
- 5. Repeat Steps 3-4 to delete more percent data.

6. Click on the

button to exit the data editor and **Save** the data.

Changing the Percent Scale

ΟK

Percent scale can be changed through the Layer Configuration window or the user can utilize the right click pop out menu item.

- 1. Click on the Layer Configuration button on the Toolbar, when the Percent layer is active. This will activate the Layer Configuration window.
- 2. Click on the Layer Scales Tab to show the window shown below.

yer - Display Settings Curve Definitions Layer Scales Data Group IDs Formatic Save Undo	on and Age Display Dip Meter Definition
orosity Grade Scale Percent Layer Scale Dip Meter Scale arain Size Scale Carbonate Texture Scale Left: 20 Right: 0 Verbal Settings	Depth-Axis Grid
Grain Size Scales	Data-Axis Grid Type: Linear Units: % in wt
Dip Meter Quality Scale Range From: 0 To: 1	Linear Cycles Major Minor Incremen 2 2 2 2 2 Log. Cycles:

- Notice that the default scale (when the percent was originally added to the log) was 0 to 100% as you would see in your window. To change the original scale from 0 100% to 0 20%, simply adjust the Left Scale value to 40 by double clicking in the Left Scale field and typing in a value of 420.
- 4. The user can also change the layer grid pattern by changing the Linear Cycles portion of the window.
- 5. Click on the **System Message** window to exit the Layer Configuration window.

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

Active Layer Cor	nfiguration [PSD 44 µ]	Active Layer Configuration [PSD 44 µ]	1
Save Undo Name: IPSD 44 µ IP Display Layer Name or Curve Scale on Track: IP Shoulay Earch Track: Foreprint Display Vestical Orientation (Layer Name) Display Backup scales Display Sackup scales	Data Group (De Formation and Age Dapley Dip Meter Definitions Data Type: Percent Wil ground Color: black: Depth Offset: phay Scale Placements very Start at:	Layer - Display Settings Curve Definitions Layer Scales Data Group IDs Formation and Save Undo Prorosty Grade Scale Percent Layer Scale Dp Meter Scale Grain Size Scale Carbonate Texture Scale Left: 20 Right: 0 Verbal Settings Grain Size Scales Grain Size Scales Do Meter Quality Scale Range From: 0 To: 1	Age Display Dip Meter Definitions Depth-Axis Grid Style: Data-Axis Grid Type: Linear • Units: 12 in wt Units: 12 in wt Units: Cycles: Log. Cycles: Log. Cycles:
	OK Cancel Help	ок	Cancel Help

Test Point Indicator Layer / Track

This layer allows the user to indicate other Test points. The layer is only available with our Power*Core application Version 2015 and beyond. The User can also enter in the data by mouse pointer or keypad methods.

How to Add a Test Point Track

1. Click on Log Configuration Builder under the Options menu selection or click on the 🛄 Log Configuration Builder button on the Toolbar to activate the Log Configuration Builder window:

Available Logs			Active Log	
Log SYSTE	м 💌	Log Config.	Log: Anybodies 0	il Sands Log 📃 💌
Tracks			Tracks	Track Config.
Sidewall Core	^	Add All >>>	N 0.60 Core Box Data	
Slide - Rotate Sneider Rock Type Sneider Rock Type		Show All	Y 0.50 Oilsands Form Y 0.54 Depth Y 0.90 Gamma Ray	
Sorting Surveys Test		Hide All	Y 0.35 Bitumen Stain Y 0.25 Facies N 0.25 SI Samples	ing
Test Point Indicator Trace Fossils	<u>.</u>	Add >>>	N 0.25 Core Samples Y 1.08 Grain Size	
Vshale (GR) Vshale Minimum Vshale (Por)	*	Delete	Y 0.80 Interpreted Lit Y 0.65 Graphics Core Y 1.20 Resistivity	
1	^	Show/Hide	Track Width: 1.08	Log Width: 22.91
	Ψ.	Move	C Layers	Layer Config.
C Layers			Grain Size (An	ybody Oil Sands)
Test Point Indicator	1			
		Exit	р. —	

- 2. On the **left hand side of the Log configuration window** scroll down the list of tracks and **click** on the **Test Point Indicator** track. The track will become highlighted and the **Tracks** radio button • **Tracks** will become activated.
- 3. On the right hand side of the Log configuration window **click** on the Track you want it to go above or to the left of. In this example we will be adding the Test Point Indicator track to the left of the Grains Size Track. The track will become highlighted and the **Tracks** radio button **Fracks** will become activated.
- 4. In the middle of the Log configuration window **click** on the **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"
- 5. Click on the **ves** button. This will activate a Get Name window allowing the user to name the track.

Get I	Name 🔼 🛕
New Track Name:	hin Sections
OK	Cancel

6. **Type in** a new Track name or keep the existing name and then **click** on the **button**. The track will be added above the **Grain Size** Track or to the left on the log, and the Log Configuration Builder window will be shown.

Available Logs			Active Log	
Log SYSTEM	•	Log Config.	Log: Anybodies Oil S	2000 (100m) - 60
Sidewall Core	~	Add All >>>	Tracks	Track Config
Slide - Rotate Sneider Rock Type (C) Sneider Rock Type (G)		Show All	N 0.60 Core Box Data Y 0.50 Oilsands Formati Y 0.54 Depth Y 0.90 Gamma Ray	ion
Sorting Surveys Test		Hide All	Y 0.35 Bitumen Staining Y 0.35 Bitumen Staining Y 0.25 Facies N 0.25 SI Samples	1
Test Point Indicator Trace Fossils		Add >>>	N 0.25 Core Samples	
Vshale (GR) Vshale Minimum Vshale (Por)	*	Delete	Y 1.00 Thin Sections Y 1.08 Grain Size Y 0.80 Interpreted Litho Y 0.65 Graphics Core Li	
	~	Show/Hide	Track Width: 1.00	ag1(64b) [23,91
	Ψ.	Move	C Layers	Log Width: [23.91 Layer Config.
C Layers			Thin Sections (Anyb	ody Oil Sands)
Test Point Indicator				
		Exit	n	

7. Click on the **Exit** button. This will activate the **Log** with the new track

Entering Test Points (Mouse Pointer Method)

1. Double click on the Test Point Indicator track / layer to activate the Core Point Test Builder window.

2. **Double Click** anywhere on the **Core Point Test Indicator** track / layer to initiate a test point. The test point will be drawn with a line the layer name and a depth.



- 3. Once all your test points are entered or you have added more test points, you want them to come out sequentially by depth in the Export Utility you will want to **right click** on the track to activate the pop out menu and select **Renumber Tests**.
- 4. Click on the button or Press the Esc key on the keyboard to exit from the Core Point Test Builder window.

Entering Test Points (Key Pad Method)

1. Double click on the Core Point Indicator track / layer to activate the Core Point Test Builder window.



- POWER SUITE Addendum Manual 2015
- 2. Click on the <u>New</u> button and Type in a Value in the Depth field.
- 3. Click on the Save button.
- 4. **Repeat Steps 2-3** to enter more Test point data.

90.55 <u>X- Thin Sections</u>	Renumber Tests Delete
	Edit Options
93.05	Add / Edit / Open Link Exit
X- Thin Sections	

- 5. Once all your test points are entered or you have added more test points, you want them to come out sequentially by depth in the Export Utility you will want to **right click** on the track to activate the pop out menu and select **Renumber Tests**.
- 6. Click on the button or Press the Esc key on the keyboard to exit from the Core Point Test Builder window.

Deleting a Single Interval

1. Double click on the Test Point Indicator track / layer to activate the Core Point Test Builder window

Core Point Test	Renumber Tests
Depth	Delete
2125	Edit Options
	Add / Edit / Open Link
Save Delete New Exit	Exit

- 2. Right click on the red X indicating the Test point to activate the Pop out menu and select Delete.
- 3. OR the User can also type in a corresponding value in the builder and click on the button.
- 4. Repeat Steps 2 to delete more Core Point Test from the layer.
- 5. Once all your test points are entered or you have added more test points, you want them to come out sequentially by depth in the Export Utility you will want to **right click** on the track to activate the pop out menu and select **Renumber Tests**.
- 6. Click on the button or Press the Esc key on the keyboard to exit from the Core Point Test Builder window.

Deleting Multiple Intervals

1. Double click on the Core Point Indicator track / layer to activate the Core Point Test Builder window.

Depth		
2125		

- 2. Press and Hold the SHIFT Key and then click and drag an area anywhere <u>within</u> the intervals you wish to delete.
- 3. Release the mouse button to activate a Confirm Multiple Delete message.

Do you wish to delete all Co	re Point Tests between 85 6	0 and 97 202
be jea man te actere an ee	ter onte rests between osto	o una prizor
	ier ome rests between osto	o una srizor

1. Click on

Ves button and the Core Point Test encompassed with your drag will be deleted accordingly.

- 5. Once all your test points are deleted, you want them to come out sequentially by depth in the Export Utility you will want to **right click** on the track to activate the pop out menu and select **Renumber Tests**.
- 6. Click on the button or Press the Esc key on the keyboard to exit from the Core Point Test Builder window.

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

Save Undo Name: Thin Sections	Data Type: Core Test Point
 ✓ Display Layer Name or Curve Scale on Track ✓ Show Layer on Track ✓ Display Vertical Orientation (Layer Name) ✓ Display Backup scales 	Foreground Color: black Depth Offset: Display Scale Placements
Display Scale Change Line Indicator Display scales on non-active layers Display Full Logarithmic Scale Display Depth-Axis Grid Display Depth-Code	Every Start at:
Display Data-Axis Grid	

V Shale GR Layer

V Shale GR layer will calculate the V shale from all the different calculation methods available if using a normal Gamma Ray curve. This will utilize an existing GR Curve that has to be available from preexisting data.

How to Add a V Shale (GR) Track / Layer

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

Available Logs			Active Log	
Log SYSTEM	•	Log Config.	Log: test	•
Tracks			Tracks	Track Config.
Sidewall Core Slide - Botate	^	Add All >>>	Y 1.00 Interpreted Facies	~
Slide - Hotate Sneider Rock Type (C) Sneider Rock Type (G) Sotting Surveys Test		Show All Y 0.55 Depth 3 Y 1.40 Gamma Ray - SP Y 4.00 Core Photo Stack		
		Hide All	Y 1.00 Core # and Sleeve I Y 0.55 Depth	Data
Test Point Calculator Trace Fossils /shale (GR)	_	Add >>>	Y 1.00 Auto DS Selector Y 1.00 Auto PSD Selector Y 1.00 Auto MBI Selector	
Vshale (Unit) Vshale Minimum Vshale (Por)		Delete	Y 1.00 Auto SI Selector Y 1.00 Test Point Selector Y 0.50 DS intervals	
	~	Show/Hide	b	Width: 38.3
	Ψ.	Move	C Layers	Layer Config.
C Layers			Core Photo Stack (test)	
Vshale (GR)				
		Exit		

On the **left hand side of the Log configuration window** scroll down the list of tracks and **click** on the **V Shale (GR)** track. The track will become highlighted and the **Tracks** radio button **racks** will become activated.

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 On the right hand side of the Log configuration window click on the Track you want it to go above or to the left of. In this example we will be adding the Vshale (GR) track to the left of the Core Photo Stack track. The track will become highlighted and the Tracks radio button • Tracks will become activated.

POWE

- 3. In the middle of the Log configuration window **click** on the **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"
- 4. Click on the **button**. This will activate a **Get Name** window allowing the user to name the track.

e (GR)
Cancel

5. **Type in** a new name **if you like** and then **click** on the **DK button.** The track will be added above the Core Photo Stack Track or to the left on the log, and the Log Configuration Builder window will be shown.

Available	Logs			Active Log	
Log	SYSTEM	•	Log Config.	Log: test	•
Track	s			Tracks	Track Config.
Sidewall		^	Add All >>>	Y 1.00 Interpreted Faci	
Sneider F	otate Rock Type (C) Rock Type (G)		Show All	Y 0.55 Depth 3 Y 1.40 Gamma Ray - S Y 2.00 Vshale (GR)	100
Sorting Surveys Test			Hide All	Y 4.00 Core Photo Stat Y 1.00 Core # and Slee Y 0.55 Depth	
Test Poir Trace Fo Vshale (U			Add>>>	Y 1.00 Auto DS Selecto Y 1.00 Auto PSD Select	tor
Vshale M Vshale (F		¥	Delete	Y 1.00 Auto MBI Selec Y 1.00 Auto SI Selecto Y 1.00 Test Point Selec	r
		1	Show/Hide	Track Width: 2.00	Log Width: 40.30
		Υ.	Move	C Layers	Layer Config.
C Layers Vshale (0				Vshale (GR) (test)	
			Exit	e l	

6. Click on the **Exit** button. This will activate the Log, and the new track will be added to your log and will also activate the Curve List Selection for V Shale calculations window. This will be a list of all the curves you have in your database under the wells UWI.

Gamma Ray (api)	Query
Deep Induction (ohmm) Density Porosity (%) Dill Rate (min/m)	Select
Gamma Ray (api)	Clear Field
Medium Induction (ohmm) Neutron Porosity (%) Porosity Calulated (%) Sat Bulk Mass - Oil (%) Sat Bulk Mass - Vater (%) Sat Pore Volume - Uil (%) Sat Pore Volume - Water (%) Shallow Induction (ohmm) SP (M∨) Total Gas (units) Vshale (%) Vshale (GR) (%)	▼ Cancel

7. **Highlight** the **GR** Curve you want to use and **click** on the Options Window.

button. This will activate the V Shale

amma Ray Clean	OK
20	Cancel
amma Ray Shale	
20	

8. **Type** in your appropriate **Values** and then **Click** on the **button** to finish adding the track.

Right Click Menu Items

Right click on the V Shale GR layer to activate the pop-out menu. The active layers Curve Name is displayed in the upper portion of the pop-out menu.

<u>Select Gamma Ray Source</u> Selection activates the Curve List Selection for V Shale Calculations and allows the user to select a different the GR Curve for the application to calculate from.

<u>V Shale Options</u> Selection activates the V Shale Options window so the user can see or change the Min and Max values for Clean GR and Shale GR counts.

<u>Calculation Method</u> Selection allows the user to Change the GR calculations. V Shale Formulas Show below.

$V_{sh} = I_{GR} = \frac{GR_{\rm log} - GR_{\rm min}}{GR_{\rm max} - GR_{\rm min}}$	$V_{sh} = \frac{I_{GR}}{3 - 2 \times I_{GR}}$	Larionov (1969) for Tertiary rocks $V_{sh}=0.083(2^{3.7I_{OR}}-1)$
	Clavier (1971)	Larionov (1969) for older rock
	$V_{sh} = 1.7 - [(3.38 - (I_{GR} + 0.7)^2]^{\frac{1}{2}}$	$V_{sh} = 0.33 \times (2^{2I_{GR}} - 1)$
Line Width Colection india	ataa tha width of the own o in niv	

Vshale Options			
Calculation Method	•	~	Index
Vshale (GR)			Tertiary
Line Width			Older Steiber
Line Pattern			Clavier
Line Style		-	Clavic
Line Color			
Scale			
Show Values			
Value orientation			
Import			
Point Indicators			
Offscale Numerics		Ŀ	
Edit Curve			
Open Curve Average Window		Ŀ	
Scale Change Line Color		L .	
Scale Change Line Thickness	•	Ŀ	
Scale Text Orientation	٠		
Edit Options	•		
Add / Edit / Open Link			
Exit			

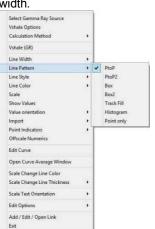
Select Gamma Ray Source

<u>Line Width</u> Selection indicates the width of the curve in pixels. To change the line width, **right click** on an active curve layer, move the mouse pointer over the Line Width selection and clicking on a new width.

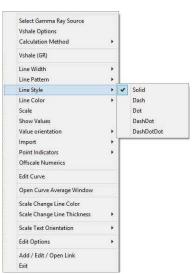
<u>Line Pattern</u> Selection indicates the pattern of the curve. To change the line pattern, right click on an active curve layer, move the mouse pointer over the Line Pattern selection and click on a new line pattern

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

<u>Line Style</u> Selection indicates the associated with the curve. This field is changed by right clicking on an active curve layer, moving the mouse pointer over the Line Style selection and clicking on a new Selection.







<u>Line Color</u> Selection indicates the line color associated with the curve. To change the line color **right click** on an active curve layer, move the mouse pointer over the Line Color selection and **click** on a new line color.

Select Gamma Ray Source Vshale Options Calculation Method			Select Gamma Ray Source Vshale Options Calculation Method
Vshale (GR) Line Width Line Pattern Line Style	*		Vshale (GR) Line Width Line Pattern Line Style
Line Color Scale	•	black	Line Color +
Scale Show Values Value orientation Import Point Indicators Offscale Numerics	•	brown dark green dark red gray green	Scale Show Values Value crientation Import Point Indicators Offscale Numerics
Edit Curve		greenly brown light blue	Edit Curve
Open Curve Average Window		light gray	Open Curve Average Window
Scale Change Line Color Scale Change Line Thickness	•	light yellow orange	Scale Change Line Color Scale Change Line Thickness
Scale Text Orientation	, ,	purple	Scale Text Orientation
Edit Options	•	violet	Edit Options +
Add / Edit / Open Link Exit		white yellow	Add / Edit / Open Link Exit

Scale Selection enables the user to get quickly at the curve scales for the active curve. Then, the user can change, add or delete existing scales in the Curve Scales window.

Save Undo N	ew Del	First Prev	? Next Last	
and a second sec	from	to	Left / Bottom	Right / Top
Depth Interval	0	0	Scale: 0	100

Notice that the **Depth Interval** (From) and **Interval** (To) values, respectively, have defaulted to "**0**" to "**0**" with the **Scale** (Left), **Scale** (Right), and **Backup Scale** defaulting to the values last entered by the user. An interval of 0 to 0 represents the entire Depth Interval for the curve.

Editing a Curve Scale

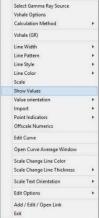
<u>Note</u>: There are many ways to access **Curve Scale** window, the user can right click on the active layer shown above, access it from the **Curve Editor** window, access it through the curve layer window, access it through the well window.

- 1. **Select** the appropriate **depth interval you wish to change** by scrolling through the records using the database navigational button or click on the Depth Interval Button and selecting the appropriate depth interval by double clicking on it.
- 2. Enter a new value into the Left / Bottom and or Right / Top scale values.

Click on the Save button or press ALT-S and select the **Exit** button from the ensuing Shortcut Options 3 window.

Click on the seven button or press ALT-S and then click on the appropriate button when prompted with the 4 Shortcut Options system window.

The **Show Values** Selection draws the values of the data points on the layer.



The Value Orientation Selection indicates where the values will be drawn on the layer

The **Point Indicators** Selection indicates where the data points on the curve are being drawn with. This field is changed by right clicking on an active curve layer, moving the mouse pointer over the Point Indicators selection and clicking on any of the pop out menu selections. If point indicators are turned on these will also presented in the Track header.

The Edit Curve Selection allows the user to view and change the digital Curve attributes as well as access the scale.

Select Gamma Ray Source Vshale Options Calculation Method	,						
Vshale (GR)							
Line Width Line Pattern Line Style Line Color Scale Show Values	> > > >						
Value orientation		~	Left	1			
Import Point Indicators Offiscale Numerics	;		Right Center				
Edit Curve							
Open Curve Average Window							
Scale Change Line Color Scale Change Line Thickness	,						
Scale Text Orientation							
Edit Options	÷						
Add / Edit / Open Link							
Select Gamma Ray Source Vshale Options			Í.				
Calculation Method		٠					
Vshale (GR)							
Line Width Line Pattern Line Style Line Color		* * * *					
Scale Show Values							
Value orientation Import		*					
Point Indicators			Square				
Offscale Numerics			Circle	•	solid		
Edit Curve			x		hollow	•	small
Open Curve Average Window		1	Triangle None	•]			large
Scale Change Line Color		-	None				
Scale Change Line Thickness		۲					
Scale Text Orientation		•					
Edit Options							
Add / Edit / Open Link							

Select Gamma Ray Source Vshale Options Calculation Method			
Vshale (GR)			
Line Width			
Line Pattern		2010.10	×
Line Style		Digital Curve	
Line Color			
Scale		Save Undo New Del First Prev ? Next Last	Scale
Show Values		Save Olido New Dei Trist Liev : Next Last	Scale
alue orientation	*	L THE TREE T	
nport	*	Name Vshale (GR)	
oint Indicators	*		
Offscale Numerics		Units: 🌾 💻	
dit Curve		and second the second sec	
Open Curve Average Window		Depth Units: 🕅 📩	
Scale Change Line Color		Null Value: -999.25	
icale Change Line Thickness	*		
Scale Text Orientation		Remark: N/A	l
Edit Options			
Add / Edit / Open Link			

Changing Digital Curve Attributes (Units / Null Value)

You can use the Layer Configuration window to edit Curve Units, Scales, Colors, and Styles. The User can also edit the Curve attributes in the Well Window. The User can also right click on the layer and select Edit Options.

- If the curve layer is active right click on the layer to activate the pop out menu and select Edit Curve. 1
- You can now select (or type in), new units, change the null value, or add/change the remarks. 2.
- Click on the save button or press ALT-S and then click on the Exit **button** when prompted with the 3. Shortcut Options system window.

Open Curve Average Window Selection allows the user to determine the curve average, median or mode over a depth interval.

1. If the curve layer is active **right click on the layer** to activate the pop out menu and **select Open Curve Average Window**. This will activate the window shown below.

	Gamma Kay							
	Line Width							
	Line Pattern Line Style Line Color	*	Select Gamma Ray Source Vshale Options Calculation Method					
	Scale		Vshale (GR)		Curve Avera	ide ×	Curve Av	erane X
	Show Values Value orientation		Line Width Line Pattern	*		ige mean		erage mean
			Line Style	*	Curve Average		Curve Average	
	Import Point Indicators		Line Color Scale		Vshale (GR)		Vshale (GR)	
10021			Show Values				200,550,550	
*	Offscale Numerics		Value orientation				26.05354	
	Edit Curve		Import Point Indicators		2.		2.	
	Open Curve Average Window		Offscale Numerics		Top Depth	Base Depth	Top Depth	Base Depth
	Scale Change Line Color		Edit Curve		21. 31		126.00	130.00
	Scale Change Line Thickness	,	Open Curve Average Window		2000 - 2000 - M	2000000	2010 2010 1	1 10000 C
	Scale Text Orientation	•	Scale Change Line Color Scale Change Line Thickness		📀 Average 🦵 Median	C Mode	Average C Med	ian <u>C Mode</u>
	Edit Options	•	Scale Text Orientation	•				
			Edit Options		Les III	L	[Jugongeneration]	- F
-	Add / Edit / Open Link Exit		Add / Edit / Open Link Exit		Calculate Clear	Exit	[Calculate] Clear	Exit

- 2. Click on the appropriate radio button Average C Median C Mode to determine what you want to calculate.
 - Average = is the quotient obtained by dividing the sum total of a set of figures by the number of figures.
 Median = applies to the value that represents the point at which there are as many instances above as there are below.
 - Mode = the most frequent value of a set of data.
- 3. Define the top and base depths by typing in their depths or clicking and dragging an interval on the log.
- 4. **Click** on the **Calculate button** and the result will be displayed under the Curve name field. If mode was selected then the mode is displayed and the frequency is displayed in the field under the mode radio button.

<u>Scale Text Orientation</u> Selection allows the user to change the scale text in the main body of the log from a Vertical Orientation to a Horizontal Orientation.

<u>Note</u>: Every type of layer in **Power*Log**, **Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Vshale (GR)** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Vshale (GR)** layer is active.

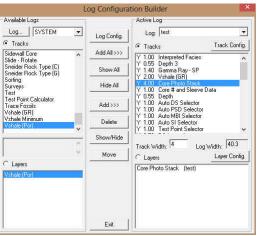
Save Undo Vame: Vshale (GR) Image: Display Layer Name or Curve Scale on Track Show Layer on Track Display Vertical Orientation (Layer Name) Display Vertical Orientation (Layer Name) Display Backup scales Display Scale Change Line Indicator Display scales on non-active layers Display Full Logarithmic Scale Display Equip Layer Axis Grid Image: Display Depth-Axis Grid	Data Type: Vshale UWI Foreground Color: black Depth Offset: Display Scale Placements Every 50 Start at: 0
I♥ Display Data-Axis Grid	

V Shale Porosity (Por) Layer

V Shale Porosity (Por) layer will calculate the V shale from the different calculation methods from the Neutron Density Cross plots. This will utilize the existing Neutron and Density log data that has to be available from preexisting data.

How to Add a V Shale Porosity (Por) Track / Layer

1. Click on Log Configuration Builder under the Options menu selection or click on the 🛄 Log Configuration Builder button on the Toolbar to activate the Log Configuration Builder window:



On the **left hand side of the Log configuration window** scroll down the list of tracks and **click** on the **V Shale** (**Por**) track. The track will become highlighted and the **Tracks** radio button reacts will become activated.

- On the right hand side of the Log configuration window click on the Track you want it to go above or to the left of. In this example we will be adding the Vshale (Por) track to the left of the Core Photo Stack track. The track will become highlighted and the Tracks radio button Tracks will become activated.
- 3. In the middle of the Log configuration window **click** on the **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"
- 4. Click on the **Ves** button. This will activate a Get Name window allowing the user to name the track.



5. **Type in** a new name **if you like** and then **click** on the **DK button.** The track will be added above the Core Photo Stack Track or to the left on the log, and the Log Configuration Builder window will be shown.



Available Logs	~		Active L	og			
Log SYSTEM	•	Log Config.	Log:	test			
Tracks			@ Track	s		Track C	onfig.
Sidewall Core Slide - Botate	^	Add All >>>	Y 1.00	Interpreted Fa	icies		~
Slide - Hotate Sneider Rock, Type (C) Sneider Rock, Type (G) Sorting		Show All	Y 0.55 Y 1.40				
Surveys Test		Hide All	Y 4.00	Vshale (Por) Core Photo SI Core # and SI		ata	
Test Point Calculator Trace Fossils Vshale (GR)		Add >>>	Y 0.55 Y 1.00	Depth Auto DS Sele Auto PSD Sel	ctor		
Vshale Minimum Vshale (Por)	v	Delete	Y 1.00	Auto MBI Sele Auto SI Selec	ector		~
1	0	Show/Hide	Track W	idth: 2.00	Log V	/idth: 42	2.30
	Υ.	Move	C Layer	s		Layer C	onfig.
C Layers Vshale (Por)			Vshale (I	Por) (te:	st)		
		Exit	r.				

6. Click on the **Exit** button. This will activate the **Log**, and the new track will be added to your log and will also activate the V Shale Porosity Options Window.

	VShale Porosity	×
Neutron Density	Porosity Porosity	 ✓ Fractional✓ Fractional
Apparer 0	t density porosity in shale (fractional) — Range Default -0.03 to +0.10 0.00	
Neutron	log reading in 100% shale (fractional) — Range Default 0.10 to 0.40 0.30	ОК
🔽 Outp	out in Percentage	Cancel

7. Click on the ____ buttons beside the Neutron Porosity and then Density Porosity display field to activate the Curve List Selection for V Shale Porosity calculations window. This will be a list of all the curves you have in your database under the wells UWI.

Curve List selection for V Shale Porisity calculations	Curve List selection for V Shale Porisity calculations	
Deep Induction (ohmm) Density Porosity (2) Drifi Rate (mrv/m) Gamma Ray (ap) Medium Induction (ohmm)	Query Select Dear Field Concel Dear Field Gamma Ray (op) Cancel Modum Inductori (ohmi) Dear Field Gamma Ray (op) Cancel Modum Inductori (ohmi) Set Buk Mass- OL (2) (2) Set Buk Mass- OL (2) (2) Set Buk Mass- OL (2) (2) Set Pore Volume - OL (2) (2) Set Pore Volume - OL (2) (2) Set Pore Volume - OL (2) (2) Set Pore Volume - OL (2) (2) Set Pore Volume - OL (2) (2) Vehale (2) Vehale (2) Vehale (2) (2) Vehale (2) (2)	Query Select Clear Field Cancel

- 8. **Highlight** the **Neutron** Curve you want to use and **click** on the **Select button**. **Repeat the steps to pick the Density Porosity Curve**. This will fill in the V Shale Options Window.
- 9. Determine if the values in the Neutron / Density Curves are fractional (0.231) or percentage (23.1) and uncheck the fractional check box if percentage data.

Neutron Porosity	Neutron Porosity	 ✓ Fractional
Density Porosity	Density Porosity	I Fractional
Rar	porosity in shale (fractional) Ige Default	
Rar		
0 -0.0 Neutron log readi	ige Default	DK

- 10. Type in your appropriate default Values.
- 11. Depending on your layers scales 0 to 100 you would check the output in percentage checkbox and if you scales are 0 to 1 then uncheck the output in Percentage check box.
- 12. Click on the **button t**o finish adding the track.

Right Click Menu Items

Right click on the V Shale Por layer to activate the pop-out menu. The active layers Name is displayed in the upper portion of the pop-out menu.

<u>V Shale Options</u> Selection activates the V Shale Porosity Options window so the user can see or change the curves and the density and neutron readings for shale shown above.

The Calculation Method V Shale Formulas Shown below.

Vshxnd = (PHIN - PHID) / (PHINSH - PHIDSH) where:

PHIN = Neutron log reading

PHID = Density log reading

PHINSH = Neutron log reading in 100% shale

PHIDSH = log reading in 100% shale

Line Width Selection indicates the width of the curve in pixels. To change the line width, **right click** on an active curve layer, move the mouse pointer over the Line Width selection and clicking on a new width.

Line Pattern Selection indicates the pattern of the curve. To change the line pattern, right click on an active curve layer, move the mouse pointer over the Line Pattern selection and click on a new line pattern

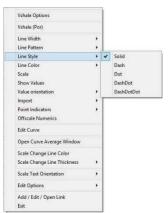
and cher on a r	
PtoP	point to point curve (stops curve at null values)
PtoP2	point to point curve (disregards null values [continuous curve])
Box	histogram or box curve (stops curve at null values)
Box2	histogram or box curve (disregard nulls values [continuous curve])
Track Fill	fills track with color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

<u>Line Style</u> Selection indicates the associated with the curve. This field is changed by right clicking on an active curve layer, moving the mouse pointer over the Line Style selection and clicking on a new Selection.

Vshale Options	
Vshale (Por)	
Line Width	
Line Pattern	
Line Style	,
Line Color	
Scale	
Show Values	
Value orientation	•
Import	
Point Indicators	
Offscale Numerics	
Edit Curve	
Open Curve Average Window	
Scale Change Line Color	
Scale Change Line Thickness	
Scale Text Orientation	•
Edit Options	,
Add / Edit / Open Link	
Exit	

Vshale Options			
Vshale (Por)			
Line Width			
Line Pattern		-	PtoP
Line Style			PtoP2
Line Color	+		Box
Scale			Box2
Show Values			Track Fill
Value orientation			Histogram
Import			Point only
Point Indicators		Г	
Offscale Numerics			
Edit Curve			
Open Curve Average Window			
Scale Change Line Color		1	
Scale Change Line Thickness			
Scale Text Orientation			
Edit Options			
Add / Edit / Open Link		L	
Exit			

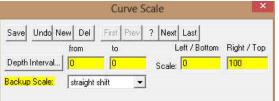




Line Color Selection indicates the line color associated with the curve. To change the line color **right click** on an active curve layer, move the mouse pointer over the Line Color selection and **click** on a new line color.

Vshale Options			Vshale Options		Vshale Options	
Vshale (Por)			Vshale (Por)		Vshale (Por)	
Line Width			Line Width		Line Width	•
Line Pattern			Line Pattern		Line Pattern	•
Line Style			Line Style		Line Style	
Line Color	•	black	Line Color		Line Color	
Scale		blue	Scale		Scale	
Show Values		brown	Show Values	1	Show Values	
Value orientation		dark green	Value orientation		Value orientation	
mport		dark red	Import		Import	
Point Indicators		gray	Point Indicators		Point Indicators	
Offscale Numerics		green	Offscale Numerics		Offscale Numerics	
Edit Curve		greenly brown light blue	Edit Curve		Edit Curve	
Open Curve Average Window		light gray	Open Curve Average Window		Open Curve Average Window	
Scale Change Line Color		light yellow	Scale Change Line Color	1	Scale Change Line Color	
Scale Change Line Thickness		orange	Scale Change Line Thickness		Scale Change Line Thickness	
Scale Text Orientation	٠	purple	Scale Text Orientation		Scale Text Orientation	
Edit Options	•	red violet	Edit Options		Edit Options	,
Add / Edit / Open Link		white	Add / Edit / Open Link		Add / Edit / Open Link	
Exit		vellow	Exit	1	Exit	

Scale Selection enables the user to get quickly at the curve scales for the active curve. Then, the user can change, add or delete existing scales in the Curve Scales window.



Notice that the **Depth Interval** (From) and **Interval** (To) values, respectively, have defaulted to "0" to "0" with the **Scale** (Left), **Scale** (Right), and **Backup Scale** defaulting to the values last entered by the user. An interval of 0 to 0 represents the entire Depth Interval for the curve.

Editing a Curve Scale

<u>Note</u>: There are many ways to access **Curve Scale** window, the user can right click on the active layer shown above, access it from the **Curve Editor** window, access it through the curve layer window, access it through the well window.

- Select the appropriate depth interval you wish to change by scrolling through the records using the database navigational button or click on the Depth Interval Button and selecting the appropriate depth interval by double clicking on it.
- 2. Enter a new value into the Left / Bottom and or Right / Top scale values.
- 3. Click on the **Save** button or press ALT-S and select the **button** from the ensuing Shortcut Options window.
- 4. Click on the Shortcut Options system window.



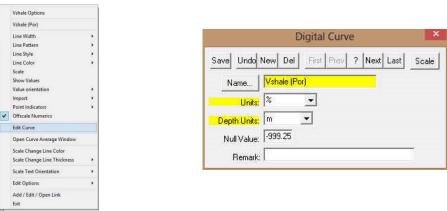
The **Show Values** Selection draws the values of the data points on the layer.

Vshale Options		Vshale Options				Vshale Options						
Vshale (Por)		Vshale (Por)				Vshale (Por)						
Line Width		Line Width	•			Line Width						
Line Pattern		Line Pattern	->			Line Pattern						
Line Style	*	Line Style				Line Style						
Line Color		Line Color				Line Color						
Scale		Scale				Scale						
Show Values		Show Values			1	Show Values						
Value orientation		Value orientation	*	*	Left	Value orientation						
Import	•	Import	•		Right	Import	•					
Point Indicators		Point Indicators			Center	Point Indicators		Square	+1			
Offscale Numerics		Offscale Numerics		Г		Offscale Numerics		Circle		solid	+1	
Edit Curve		Edit Curve				Edit Curve		X	•	hollow	,	small
Open Curve Average Windo	w	Open Curve Average Window				Open Curve Average Window		Triangle None	1			large
Scale Change Line Color		Scale Change Line Color				Scale Change Line Color	T					
Scale Change Line Thicknes	s 🕨	Scale Change Line Thickness	•			Scale Change Line Thickness	•					
Scale Text Orientation		Scale Text Orientation	•			Scale Text Orientation						
Edit Options		Edit Options	•			Edit Options						
Add / Edit / Open Link		Add / Edit / Open Link				Add / Edit / Open Link						
Exit		Exit				Exit						

The Value Orientation Selection indicates where the values will be drawn on the layer

The <u>Point Indicators</u> Selection indicates where the data points on the curve are being drawn with. This field is changed by right clicking on an active curve layer, moving the mouse pointer over the Point Indicators selection and clicking on any of the pop out menu selections. If point indicators are turned on these will also presented in the Track header.

The Edit Curve Selection allows the user to view and change the digital Curve attributes as well as access the scale.



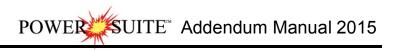
Changing Digital Curve Attributes (Units / Null Value)

You can use the Layer Configuration window to edit Curve Units, Scales, Colors, and Styles. The User can also edit the Curve attributes in the Well Window. The User can also right click on the layer and select Edit Options.

- 1. If the curve layer is active right click on the layer to activate the pop out menu and select Edit Curve.
- 2. You can now select (or type in), new units, change the null value, or add/change the remarks.
- 3. Click on the **Save** button or press ALT-S and then click on the **Shortcut Options** system window.

Open Curve Average Window Selection allows the user to determine the curve average, median or mode over a depth interval.

1. If the curve layer is active **right click on the layer** to activate the pop out menu and **select Open Curve Average Window**. This will activate the window shown below.



Vshale Options		
Vshale (Por)	C	- X
Line Width 🔸	Curve Average	e internet
Line Pattern Line Style Line Color Scale	Curve Average Vshale (Por)	-
Show Values Value orientation Import	46.19	
Point Indicators Offscale Numerics	A STATUTE AND A	lase Depth
Edit Curve Open Curve Average Window	45.00 60	0.00
Scale Change Line Color Scale Change Line Thickness	쟉 Average 🦳 Median	← Mode
Scale Text Orientation		
Edit Options	1	-
Add / Edit / Open Link Exit	Calculate Clear	Exít

- 2. Click on the appropriate radio button Average C Median C Mode to determine what you want to calculate.
 - Average = is the quotient obtained by dividing the sum total of a set of figures by the number of figures.
 - Median = applies to the value that represents the point at which there are as many instances above as there are below.
 - Mode = the most frequent value of a set of data.
- 3. Define the top and base depths by typing in their depths or clicking and dragging an interval on the log.
- 4. **Click** on the Calculate button and the result will be displayed under the Curve name field. If mode was selected then the mode is displayed and the frequency is displayed in the field under the mode radio button.

<u>Scale Text Orientation</u> Selection allows the user to change the scale text in the main body of the log from a Vertical Orientation to a Horizontal Orientation.

<u>Note</u>: Every type of layer in **Power*Log**, **Power*Core and Power*Curve** has a **Data Type** classification. The default settings for the **Vshale (Por)** layer are shown below. To access this window, **click** on the **Layer Configuration button** on the **Toolbar**, when the **Vshale (Por)** layer is active.

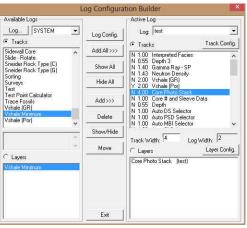
Save Undo Vame: Vshale (Por) Image: Display Layer Name or Curve Scale on Track Image: Display Layer on Track Image: Display Vertical Orientation (Layer Name) Display Vertical Orientation (Layer Name) Display Backup scales Image: Display Scale Change Line Indicator Display Scales on non-active layers Display Full Logarithmic Scale Image: Display Depth-Axis Grid Image: Display Data-Axis Grid	Data Type: Vshale (Por) UWI

V Shale Min Layer

V Shale Min layer will calculate the V shale minimum from the two different calculation methods from the V Shale Por from the Neutron Density Cross plots and the V Shale GR. This will utilize the existing V Shale GR (that you calculated) and the V Shale Por (that you calculated) that has to be available from preexisting data.

How to Add a V Shale (Min) Track / Layer

1. Click on Log Configuration Builder under the Options menu selection or click on the 🛄 Log Configuration Builder button on the Toolbar to activate the Log Configuration Builder window:



On the **left hand side of the Log configuration window** scroll down the list of tracks and **click** on the **V Shale Minimum** track. The track will become highlighted and the **Tracks** radio button **Tracks** will become activated.

- On the right hand side of the Log configuration window click on the Track you want it to go above or to the left of. In this example we will be adding the Vshale Minimum track to the left of the Core Photo Stack track. The track will become highlighted and the Tracks radio button Tracks will become activated.
- 3. In the middle of the Log configuration window **click** on the **button**. This will activate a System Message asking the user "Do you really want to ADD the selected (TRACK) from the available log to the active log?"
- 4. **Click** on the **button**. This will activate a **Get Name** window allowing the user to name the track.



5. **Type in** a new name **if you like** and then **click** on the **button**. The track will be added above the Core Photo Stack Track or to the left on the log, and the Log Configuration Builder window will be shown.

Available Logs			Active Log	
Log SYSTEM	•	Log Config.	Log: test	
Tracks			Tracks	Track Config.
Sidewall Core	^	Add All >>>	N 1.00 Interpreted Facies	
Slide - Rotate Sneider Rock, Type (C) Sneider Rock, Type (G)		Show All	N 0.55 Depth 3 N 1.40 Gamma Ray - SP N 1.43 Neutron Density	
Sorting Surveys Test		Hide All	N 2.00 Vshale (GR) Y 2.00 Vshale (Por)	
Test Point Calculator Trace Fossils Vshale (GR)		Add>>>	Y 2.00 Vshale Minimum N 4.00 Core Photo Stack N 1.00 Core # and Sleeve Dat	a
Vshale Minimum Vshale (Por)	v	Delete	N 0.55 Depth N 1.00 Auto DS Selector N 1.00 Auto PSD Selector	~
	~	Show/Hide	Track Width: 2.00 Log W	idth: 4.00
	Υ.	Move	C Layers	Layer Config.
C Layers Vshale Minimum			Vshale Minimum (test)	
		Exit		

6. Click on the **Exit** button. This will activate the Log, and the new track will be added to your log and will also activate the V Shale Minimum Options Window.

VShal	e Minimum	
VShale Gamma		OK
VShale Porosity		Cancel

7. Click on the button beside the V Shale Gamma and then the V Shale Porosity display field to activate the Curve List Selection for V Shale Minimum calculations window. This will be a list of all the curves you have in your database under the wells UWI.

Curve List selection for V Shale Porisity calculations		Curve List selection for V Shale Porisity of	alculations
District (diff) E Demulty Providy (3) Demulty Providy (3) Dati Rate (nov/h) Games Reg (set) Games Reg (set) Demulty Providy (2) Provady (2) Satisfies Satisfies Satisfies Values Satisfies Values Satisfies Values Satisfies Values Minums (1)	Query Select Clear Field Cancel	Validate (Not 10:5) Denigi Pravatily (\$1) Dali Rise (nin/ta) Samos Ray (\$20) Dali Rise (nin/ta) Samos Ray (\$20) Dali Rise (\$20) Samos Ray (\$20) Value (\$20) Value (\$20) Value (\$20)	Query Select Cew Field Carcet

8. Highlight the V Shale GR Curve you want to use and click on the Select button. Repeat the steps to pick the V Shale Por Curve. This will activate the V Shale Options Window.

VShale Gamma	Vshale (GR)	 ок
VShale Porosity	Vshale (Por)	Cance

9. Click on the **button t**o finish adding the track.

Right Click Menu Items

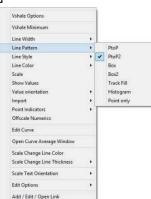
Right click on the V Shale Minimum layer to activate the pop-out menu. The active layers Name is displayed in the upper portion of the pop-out menu.

<u>V Shale Options</u> Selection activates the V Shale Minimum Options window so the user can see or change the curves for the Minimum values for V Shale shown above.

Line Width Selection indicates the width of the curve in pixels. To change the line width, **right** click on an active curve layer, move the mouse pointer over the Line Width selection and clicking on a new width.

<u>Line Pattern</u> Selection indicates the pattern of the curve. To change the line pattern, right click on an active curve layer, move the mouse pointer over the Line Pattern selection and click on a new line pattern

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



Vshale Options Vshale Minimum Line Width Line Pattern Line Style Line Color Scale Show Values Value orientation

Import Point Indicators Offscale Numeric

Edit Curve Open Curve

Scale Change Line Color Scale Change Line Thickr

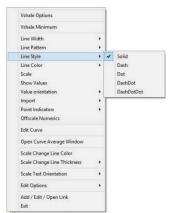
Scale Text Orientation

Add / Edit / Open Link

Edit Options

Exit

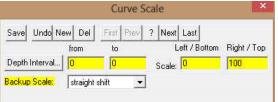
Line Style Selection indicates the associated with the curve. This field is changed by right clicking on an active curve layer, moving the mouse pointer over the Line Style selection and clicking on a new Selection.



Line Color Selection indicates the line color associated with the curve. To change the line color **right click** on an active curve layer, move the mouse pointer over the Line Color selection and **click** on a new line color.

Vshale Options	- 1		Vshale Options
Vshale Minimum			Vshale Minimum
Line Width Line Pattern Line Style	*		Line Width Line Pattern Line Style
Line Color	•	black	Line Color P
Scale		blue	Scale
Show Values		brown	Show Values
Value orientation		dark green	Value orientation
Import		dark red	Import
Point Indicators		gray	Point Indicators
Offscale Numerics		green	Offscale Numerics
Edit Curve		greenly brown light blue	Edit Curve
Open Curve Average Window		light gray	Open Curve Average Window
Scale Change Line Color		light yellow	Scale Change Line Color
Scale Change Line Thickness	•	orange	Scale Change Line Thickness
Scale Text Orientation		purple red	Scale Text Orientation
Edit Options	•	red violet	Edit Options
Add / Edit / Open Link Exit		white	Add / Edit / Open Link

Scale Selection enables the user to get quickly at the curve scales for the active curve. Then, the user can change, add or delete existing scales in the Curve Scales window.



Notice that the **Depth Interval** (From) and **Interval** (To) values, respectively, have defaulted to "0" to "0" with the **Scale** (Left), **Scale** (Right), and **Backup Scale** defaulting to the values last entered by the user. An interval of 0 to 0 represents the entire Depth Interval for the curve.

Editing a Curve Scale

<u>Note</u>: There are many ways to access **Curve Scale** window, the user can right click on the active layer shown above, access it from the **Curve Editor** window, access it through the curve layer window, access it through the well window.

- 1. Select the appropriate depth interval you wish to change by scrolling through the records using the database navigational button or click on the Depth Interval Button and selecting the appropriate depth interval by double clicking on it.
- 2. Enter a new value into the Left / Bottom and or Right / Top scale values.
- 3. Click on the **Save** button or press ALT-S and select the **button** from the ensuing Shortcut Options window.
- 4. Click on the shortcut Options system window.

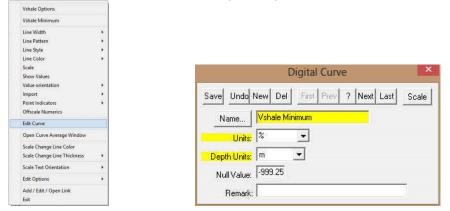
The Show Values Selection draws the values of the data po	points on the layer.
---	----------------------

Vshale Options		Vshale Options			Vshale Options						
Vshale Minimum		Vshale Minimum			Vshale Minimum						
Line Width		Line Width			Line Width						
Line Pattern		Line Pattern	•		Line Pattern	- 1					
Line Style		Line Style			Line Style	- 1					
Line Color		Line Color	•		Line Color						
Scale		Scale			Scale						
Show Values		Show Values			Show Values						
Value orientation		Value orientation	* *	Left	Value orientation	- 1					
Import		Import		Right	Import	- + L					
Point Indicators		Point Indicators	•	Center	Point Indicators	×	Square	•		-	
Offscale Numerics		Offscale Numerics			Offscale Numerics		Circle	•	solid		small
Edit Curve		Edit Curve			Edit Curve		X Triangle		hollow	•	large
Open Curve Average Window		Open Curve Average Window			Open Curve Average Window		None				
Scale Change Line Color		Scale Change Line Color			Scale Change Line Color	T		_			
Scale Change Line Thickness		Scale Change Line Thickness			Scale Change Line Thickness	•					
Scale Text Orientation	*	Scale Text Orientation	•		Scale Text Orientation	•					
Edit Options		Edit Options			Edit Options						
Add / Edit / Open Link		Add / Edit / Open Link			Add / Edit / Open Link						
Exit		Exit			Exit						

The Value Orientation Selection indicates where the values will be drawn on the layer

The <u>Point Indicators</u> Selection indicates where the data points on the curve are being drawn with. This field is changed by right clicking on an active curve layer, moving the mouse pointer over the Point Indicators selection and clicking on any of the pop out menu selections. If point indicators are turned on these will also presented in the Track header.

The Edit Curve Selection allows the user to view and change the digital Curve attributes as well as access the scale.



Changing Digital Curve Attributes (Units / Null Value)

You can use the Layer Configuration window to edit Curve Units, Scales, Colors, and Styles. The User can also edit the Curve attributes in the Well Window. The User can also right click on the layer and select Edit Options.

- 1. If the curve layer is active right click on the layer to activate the pop out menu and select Edit Curve.
- 2. You can now select (or type in), new units, change the null value, or add/change the remarks.
- 3. Click on the **Save** button or press ALT-S and then click on the **Exit** button when prompted with the Shortcut Options system window.

Open Curve Average Window Selection allows the user to determine the curve average, median or mode over a depth interval.

1. If the curve layer is active **right click on the layer** to activate the pop out menu and **select Open Curve Average Window.** This will activate the window shown below.

Vshale Options	
Vshale Minimum	
Line Width	Curve Average
Line Pattern +	
Line Style	Curve Average
Scale	Vshale Minimum
Show Values Value orientation Import	47.10973
Point Indicators Offscale Numerics	Top Depth Base Depth
Edit Curve	75.00 85.00
Open Curve Average Window	
Scale Change Line Color Scale Change Line Thickness	
Scale Text Orientation	
Edit Options	Calculate Clear Exit
Add / Edit / Open Link Evit	Clear Exit

- 2. Click on the appropriate radio button Average Median Mode to determine what you want to calculate.
 - Average = is the quotient obtained by dividing the sum total of a set of figures by the number of figures.
 - Median = applies to the value that represents the point at which there are as many instances above as there are below.
 - Mode = the most frequent value of a set of data.
- 3. Define the top and base depths by typing in their depths or clicking and dragging an interval on the log.
- 4. **Click** on the Calculate button and the result will be displayed under the Curve name field. If mode was selected then the mode is displayed and the frequency is displayed in the field under the mode radio button.

<u>Scale Text Orientation</u> Selection allows the user to change the scale text in the main body of the log from a Vertical Orientation to a Horizontal Orientation.

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

Save Undo _{Name:} <mark>Vshale Minimum</mark>	Data Type: UWI	Vshale Minimum	
 Display Layer Name or Curve Scale on Track Show Layer on Track Display Vertical Orientation (Layer Name) Display Backup scales Display Scale Change Line Indicator Display scales on non-active layers Display Full Logarithmic Scale 	Foreground Color: Depth Offset: Display Scale Pla Every	[black [cements Start at: [
 Display Depth-Axis Grid Display Data-Axis Grid 			

Core Photo Profile Tool Module

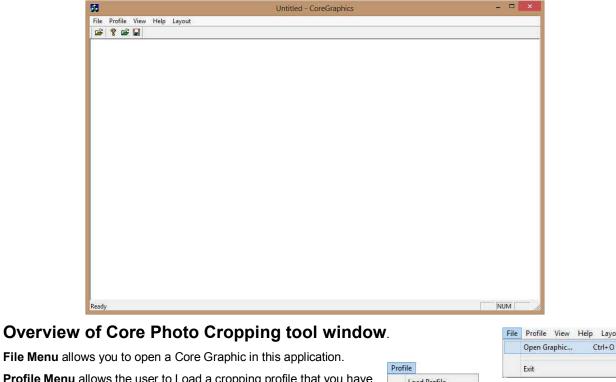
This module allows the user to specify the cropping area of a Core photo. This could be the upper 4 core sleeves in a set of 8 sleeves, the lower 4 core sleeves in a set of 8 or all 8 sleeves in the core photo. Once the core photo areas are profiled this information will be passed along with the Core photo, along with the top and base depths of the core and the core recovery to insert the cropped core photos into the Core Log in the Stacked Core Photo layer.

Operating Procedures

🛃 start Click on the button, select Programs, select POWER*SUITE_2015. Then, select Utilities and 1. click on the Core Photo Profile Tool selection, or if you are in the applications select Core Photo Profile Tool Licon on the Power*Core Toolbar OR go under the File Menu in Power*Core and select the Core Photo Profile Tool.

File	Edit View Reports	Options	Winc
	Connect		
	Disconnect		
	Access Registration		
	New	Ctrl	-N
	Open	Ctrl-	0
	Close		
	Import		,
	Export		
	Backup		
	Print Log	Ctrl	+P
	Print to TIFF		
	Print Morning Report		
	Print Well End Report		
	Print Reports to Word®		
	Print Setup		
	Exit		
	Survey Viewer		
	Core Photo Profile Tool		

1. This will activate the Core Photo Cropping tool window shown below.



Profile Menu allows the user to Load a cropping profile that you have already done or save one that you are presently doing.

^o rc	ofile	
	Load Profile	
	Save Profile	



View Menu allows the user to turn on / off the Toolbar and or Status bar.

out	
Make Same Size	Width
	Height
	Both

View Help Layout Toolbar Status Bar

Layout Menu allows the user to make all the cropping areas the same size as the highlighted rectangle when the make same size selection is activated.

Note: It is important to be aware of your picture size. Laboratory photos will be taken at a very high resolution (~25mb) and can slow down the performance of your computer. You may wish to resize these pictures to increase the screen refresh issues that may occur.

How to Create a Core Graphic profile.

1. Once the Core Photo Cropping tool window has been open (shown above). The user can now click on the Open Graphic E button on the toolbar or click on Open Graphic from the File menu selection to activate the Open Picture File window.

	58	Open Picture File		
		re Images JPEGS	• ← 🗈 💣 💷 •	
ile Profile View Help Layout	Name		Date	^
Open Graphic Ctrl+O	Altered		2014-02-25 10:40 AM	
	1AA020809	12W400_12-1119_IMG_000.jpg	2012-03-21 7:39 AM	
Exit	AA020809	12W400 12-1119 IMG F01.jpg	2008-11-25 10:33 AM	
	= 1AA020809	12W400 12-1119 IMG F02.jpg	2008-11-25 10:33 AM	
	1AA020809	12W400_12-1119_IMG_F03.jpg	2008-11-25 10:33 AM	
	<			>
	File name: 1	A020809512W400_12-1119_IMG_	F02.jpg Open	
	Files of type:	cture Files (*.bmp;*.dib;.*emf;*.gif;*.ic	co;*.jpg 👻 Cancel	

2. Locate your Core Photo and either double click on the file name or Click once on the file name and click on the **button**. This will open the core photo in the Cropping window.

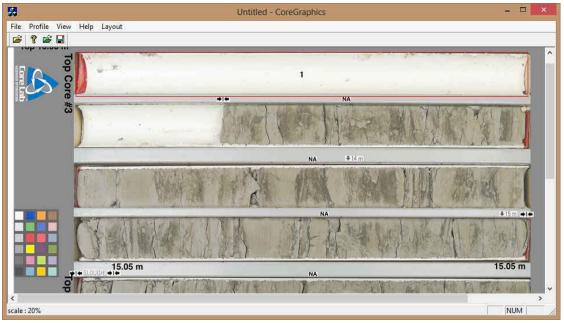
Note: The user can zoom in or out with their roller button on the mouse or right click on the image and select

to change the size of the photo. The user can also scroll the picture by using the scroll bars scale on the right and bottom of the application is the picture is bigger that the viewing area.

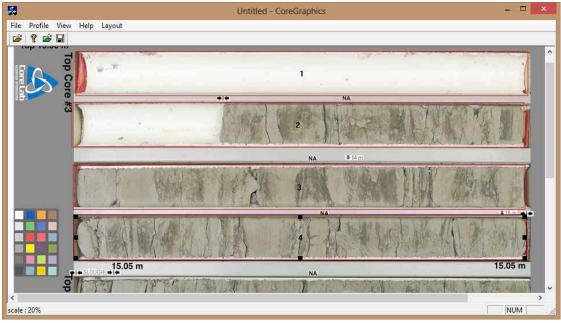


Now click and drag an area around the first core sleeve. You will notice an outline where you have dragged 3 following your mouse pointer. Let go your left mouse button and you will see a red outline around the area with a 1 in the middle of it. This is shown on the below.

Note: If you already have a profile and wish to modify the crops you can now open the cropping file by clicking on the **Profile Menu** and select **Load Profile** or the user can **click** on the **i loon** on the toolbar. You will be looking for a file with the *.cgp file extention.



4. Now you can **click and drag more outlines** for the cropping you wish to do. After each drag you will see a sequential number inside the red designated cropped areas. The illustration on the next page has four (4) cropped areas at the top of an eight (8) sleeve photo.



- 5. To **Resize or Move** you must first **click on the defined area** to activate it (area 4 shown above) and then you can move \bigoplus by moving inside the defined cropping area, or resize \ddagger by mousing over the corners or sides over the black boxes and then click and drag to perform the resize or move.
- 6. Once you have the right size (height and width) on one of your profiles (remains highlighted) you can then make all the other areas the same size by clicking on the **profile menu selection** and selecting height or width. This will activate the appropriate window and then **Click** on the **DK button**.

			Height	×		Width	×		Both	×
Layout		Heigh		ОК	Widh		ОК	Width		OK
Make Same Size 🕨	Width	130	Pixels	Cancel	3930	Pixels	Cancel	3928	Pixels	Cancel
	Height							Height 360		
	Both							Inne		

- 7. The user can also align all the cropping areas left or right with the CTRL and Left or Right arrow keys on your keypad.
- 8. The user can also **fine tune** the placements of the cropping areas by clicking on a cropping area and utilize the **Up / Down / Left / Right arrow keys** on your keypad.
- 9. Now, once you finalize the cropping regions the user must save the profile by clicking on the

Profile Menu selection and select Save Profile menu item OR click on the 📕 icon on the
toolbar. This will activate Save as window.

Profi	le
	Load Profile
	Save Profile

Save		s	
Save in: 🕌	Core Images JPEGS	• 🗧 🖆 📰 •	
Name	*	Date	_
Altered		2014-02-25 10:40 AM	
eight sleeves.cgp		2013-10-11 12:13 PM	
five sleeves.cgp		2013-10-22 10:44 AM	
lower core box crop.cgp		2013-10-04 1:15 PM	
upper core box crop.cgp		2013-10-04 1:12 PM	
<			>
File name:	upper 4 sleeves of ABC core box	Save	•
Save as type:	Core Graphic Profile (*.cgp)	Cance	e

- 10. **Type** in a **file name** and save in a location where you can access it later on the automated or manual import utility.
- 11. Click on the Save button.

You can save as many profiles as you wish. Upper four (4) sleeves, Lower four (4) sleeves or all eight (8) sleeves etc. You now have some profiles which you can crop your core photos and stack them in the Core Photo stacked layer.