

## PD-Plot 7.0.134 Release Notes

PD-Plot 7 is standalone PC software developed by DCS Calgary and BGC to support Schlumberger Formation Testing Services:

- Supports Wireline tools (MDT, XPT, CHDT, RFT, SRFT) and D&M tools (SRFT and Stethoscope)
- Used for Real-Time job monitoring for interpretation and reporting
- Single well and multi well capabilities
- DFA (Downhole Fluid Analysis) and OCM (Oil Base Mud Contamination Monitoring) analysis

### 1. What's New in PD-Plot 7.0.134 (since 7.0.91)

Main modifications were listed as below. For detail information, please read appendix.

- Fix wrong algorithm of computing spherical and radial flow buildup mobility
- Add liquid fraction and gas detector tracks of AFA to DFA presentation and print. Also, show 10 AFA OD channels instead of basic 3
- Add new feature to create free data functions on the Test point table.
- Compute log curve value to test point table
- Improve operations of PDF Creator used in PD-Plot
- New PDF Assembler exe is now included in the latest kit. It has important fixes. The version is 2.0.17
- Add a new test point table column with name start buildup pressure
- Add function to P vs T Preview window (Make Report) that shows a table of PTI files for the current test/file.
- Fix broken CFA2 plotting and printing. GOR and Wt% tracks were not plotting correctly for CFA2.
- Fix problem with scaling of Map View on Well Inclination plot.
- Fix bug with gradient line "Select Point" function that will not show all test points (just first gauge) when more than one gauge type is included in selected points.
- Add and improve excess pressure computation functions

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- Tool String now prints a report page. Just click 'Make Report Page' when the Tool string tab is current to generate the preview, and then save a PTI as expected
- Add new Detail plot specification to pressure versus time window.
- Add Default Template tool bar and tools to Pressure Interpretation window.
- Add simple data file (pder.csv) of pressure derivative plot points. It is written every time derivative plot is re-drawn to current project folder.
- Mud Cake Break down pick now shows on Pressure time plot on-screen.
- LFA/CFA averaging now removes negative data values from averaging summation.
- Add a More Info button to the Well Edit window, Time Index tab. It brings up a dialog better explaining how to handle situations with D&M time depth data files.
- Change to test point table storage and usage of "Test Type" column

## 2. What's New in PD-Plot 7.0.91

- PD-Plot Drawdown Mobility Adjusted to better Match OP/WFTI

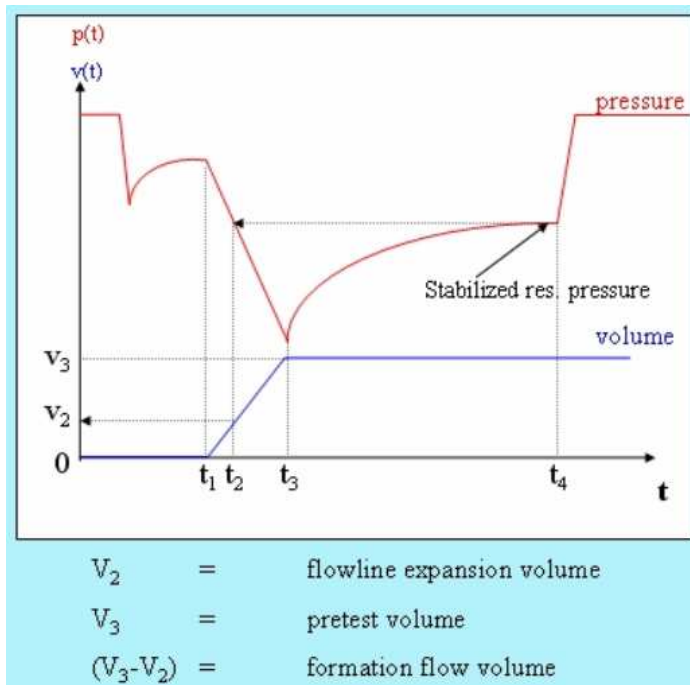
The algorithm that PD-Plot uses for Drawdown Mobility has changed in three important ways. Please read each section carefully.

1. MDT now shares the flow line decompression corrected pretest volume rules that XPT uses.

### Discussion

XPT interpretation attempts to correct for flowline expansion by excluding the pretest piston volume recorded before the last read pressure is first reached during the initial drop from mud pressure (see figure below)

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The drawdown region included in the drawdown mobility computation now starts at  $t_2$  rather than  $t_1$  for MDT as well as XPT. This was an engineering change common to PD-Plot and WFTI/OP/Horizon. The total pretest volume is reduced by the volume noted at  $t_2$ .

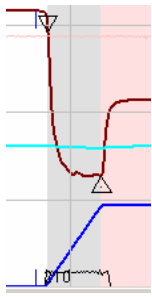
2. PD-Plot now computes a pretest volume using the Start Buildup pick locations rather than using the total pretest volume. Users should also attempt to place the events carefully.

### Discussion

For most pretests where the drawdown and buildup are of good quality, it is important that user picks do not have too much effect on the drawdown mobility. To help with this, PD-Plot always used the full drawdown volume as read from the Pretest Volume channel, even if the user picks are slightly (or largely) placed in the wrong position.

This was intended to minimize the effects of individual user pick preferences.

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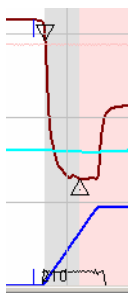


With the picks placed at the “correct” positions, the total volume reported

Pretest Vol (cc)	10.19
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is the total volume that the pretest volume suggests was pumped.  
Drawdown mobility is 5.51.

DrawDown Mob (md/cp)	5.51
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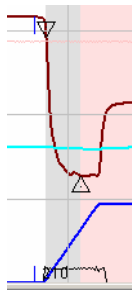
Even when the user moves the “Start Buildup” pick well into the drawdown interval, the volume is still the total for the pretest.

Pretest Vol (cc)	10.19
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and the drawdown mobility is still correct.

DrawDown Mob (md/cp)	5.51
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This behavior does not match OP/WFTI, which reduces the pretest volume to that read from the pretest volume channel using the exact event pick locations.



In this example, we see that PD-Plot now reduces the volume.

Pretest Vol (cc)	6.05
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The drawdown mobility is adjusted accordingly.

DrawDown Mob (md/cp)	3.11
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This functionality will help in the case where the drawdown is affected by leaks, plugging or other noise where the user has valid reason to reduce the pretest volume to reflect the actual volume taken from the formation.

But in the majority of cases, the users must now place the picks in such a way as to ensure the maximum pretest volume is attained.

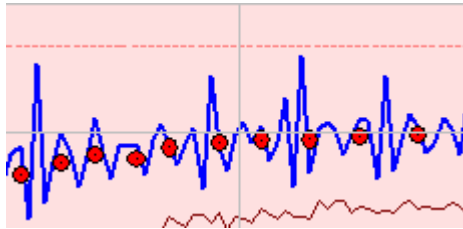
## PD-Plot 7

3. PD-Plot corrects a previous bug with pretest buildups that have significant sections of “falling” pressures.

### Discussion

PD-Plot now improves the accuracy of drawdown mobility in cases where the buildup has significant regions where the pressure rises and falls many times during a buildup.

This is most often seen on tests where the buildup has considerable electronic noise, such as most Stethoscope jobs,



or during high permeability tests where the buildup pressure changes are close to the gauge resolution.



PD-Plot was mistakenly removing intervals where the pressure was falling during the buildup, but still less than the last read pressure.

In cases such as those above, this resulted in drawdown mobility would be over-estimated quite considerably as the “falling” portions represent a large portion of the total buildup time.

Now all samples are included as long as the buildup pressure is less than the last read pressure and matches OP/WFTI results more closely.

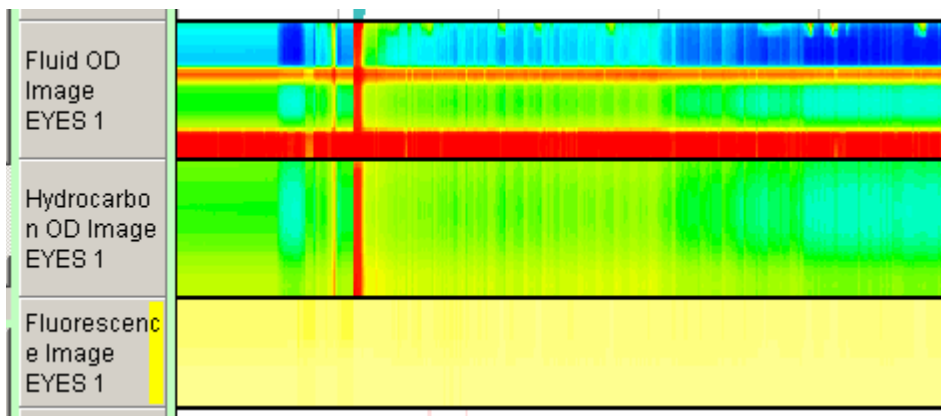
## PD-Plot 7

- PD-Plot 7 supports the coming **TALN EYES 1A** module including data loading, presentation, oil base mud contamination modeling and report creation. Only SLB users can access these functions.

PD-Plot 7 supports the following new EYES 1A plots including the new image based tracks.

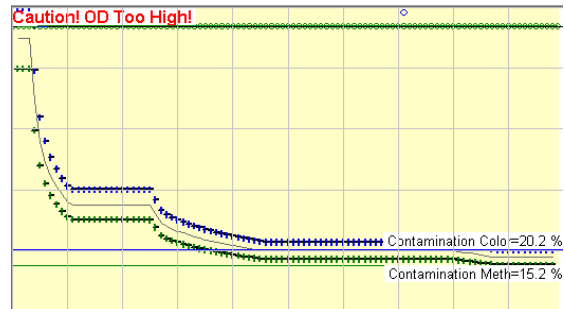
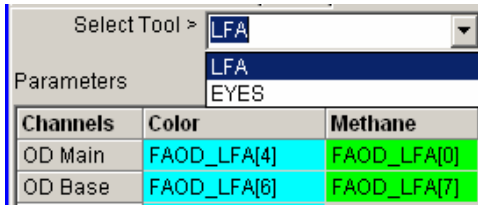
Plot Type
EYES Optical Density Plot
EYES Density, Viscosity Plot
EYES Composition, Water Fraction and GOR
EYES Fluorescence and Fluid Color Plot
EYES pH Plot

User must not provide EYES data to the client in the LAS or DLIS without express written consent.

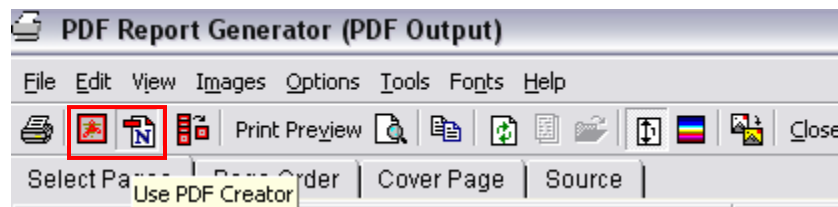


## PD-Plot 7

EYES or LFA OCM analysis is supported.

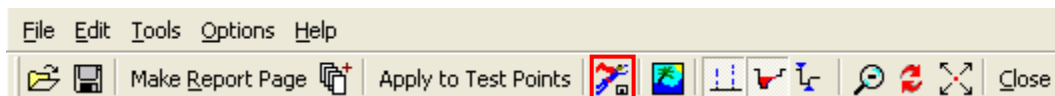


- PD-Plot 7 supports two LFA and two CFA modules, and the new Quicksilver probe.
- PD-Plot 7 supports **double-click** to open PD-Plot application with PDP file.
- PD-Plot 7 supports **PDF Creator** as well as Adobe Acrobat to generate PDF field and final report. This represents significant cost savings and efficiency.



- PD-Plot 7 adds **Super Save** function to perform a series of common tasks in one click. It does “Save current data file”, “Make report page” and “Apply to test points table” in one click.

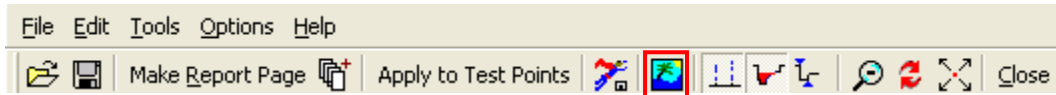
PD-Plot 7 (Supports the Super Save function with new button):



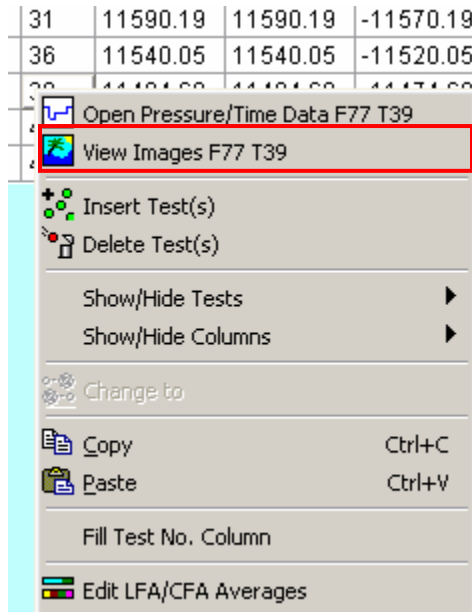
- PD-Plot 7 adds **View Image** function to view related graphic files (pds, tif, or generated PTI file) in Pressure Time interpretation and results quickly.

There are two kinds of methods to invoke the View Image function. One is from Pressure Interpretation form:

PD-Plot 7 (Supports the View Image function with new button):



The other one is from Test Point Table by right-click on a test point.



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- PD-Plot 7 adds new depth display function to show auxiliary depth numbers in a more convenient fashion. Dual depth indexes (any mix of MD, TVD and SS) depths are placed in track definition table are shown. This provides a more natural depth number appearance.

Track 4	
1:209 ft	
TVD	MD
3420	
3430	3430
3440	3440
3450	3450
3460	3460
3470	3470

This new feature is available as new selections on the Track table of the Template editing window.

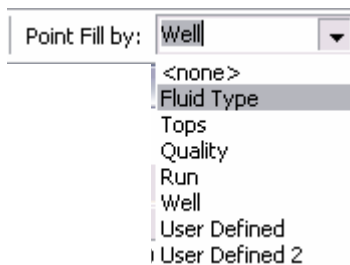


## PD-Plot 7

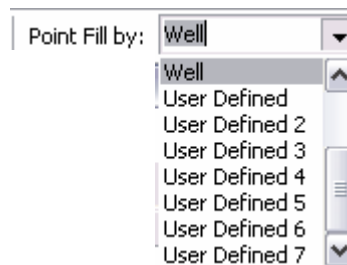
Track 3	5.000	0.800		<input checked="" type="checkbox"/>	TVD
Track 4	5.800	1.500		<input type="checkbox"/>	<Hide>
Track 5	7.300	1.700	10	<input type="checkbox"/>	(MD)
					(TVD)
					(SS)
					MD
					TVD
					SS

The (MD), (TVD) or (SS) give the same display as with Version 6. The three new selections produce the new display.

- PD-Plot 7 modifies Color Preference setting error and adds selections for Dry Test, Lost Seal and No Seal colors settings for the tick marks.
- PD-Plot 7 supports on-line updating by downloading latest exe file via the Help menu for SLB users.
- PD-Plot 7 supports more User Defined columns (7) than previous version (2).



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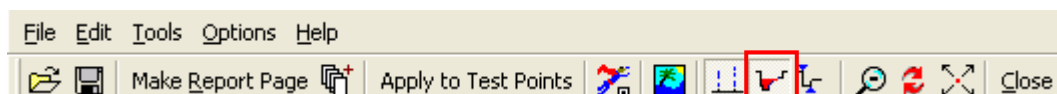


PD-Plot 7

- PD-Plot 7 adds new option **Steady State** method to calculate drawdown mobility.

When this button is on, it will calculate drawdown mobility with normal method.

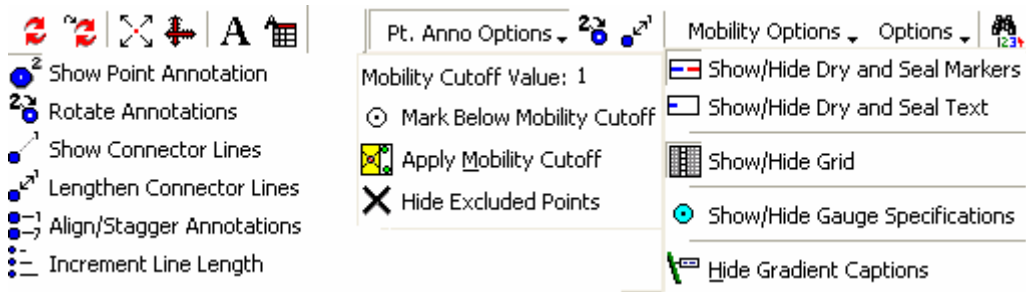
If the button is off, it will calculate with Steady State method. This is old method used for RFT. It may be helpful for very noisy types of tests. Please use with discretion.



- PD-Plot 7 re-arranges and adds some new functions in Pressure VS Depth option menus.

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- PD-Plot 7 supports new operation to gradient line

Click on line to select it. Boxes or handles appear on the end. Hold **Ctrl** key while dragging either box to move in any direction. No key held just moves that line end. Hold **Shift** to extend and contract length of line while keeping slope as you drag either end.

### 3. Upgrading from previous versions

- **If user has installed PD-Plot commercial kit 7.0.91, please uninstall it firstly before installing 7.0.134.**
- PD-Plot 7.0.134 will install in same folder with previous kit 7.0.91. Please copy all template files to other folder before install 7.0.134. After installing PD-Plot 7.0.134, please copy all template files back to PD-Plot 7 folder to continue access to your personal templates.
- If user did not install previous commercial kit 7.0.91, after installing PD-Plot 7.0.134, the user should copy all template files (\*.grd) stored with previous versions to the new folder that contains pdplot7.exe file to continue access to your personal templates.
- If user did not install previous commercial kit 7.0.91, after installing PD-Plot 7.0.134, the user should copy the **lists.ini** file stored with previous versions to the new folder that contains pdplot7.exe file to continue access to your edited list of test types.
- As PD-Plot 7.0.134 installs in a new and different folder than previous versions PD-Plot 6 (C:\Program Files\Schlumberger\PD-Plot7), there is no need to remove previous versions before installing PD-Plot 7 if you did not install PD-Plot 7.0.91 before.

### 4. Technology Support

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There are three methods for getting help. They are as follows:

- Submit SMR to SWIFT

SMRs are the appropriate way to submit software issues and requests for improvements to the development team.

Go to <https://swift.slb.com/> and enter your LDAP user name and password to log in.

- Product Line: Wireline and WCP
- Product Name: PDPlot
- Product Version: PDPlot 7.0

- Submit questions to InTouch Support

Go to <http://intouchsupport.com/> and enter LDAP Alias and Password.

Move mouse to *Submit* and click Ticket. Input the specific items and submit.

- Segment: DCS-Data & Consulting Services
- Related To: Software-PDPlot
- Issue Type: Interpretation, Customer Service, Software, Hardware/Equipment, Documentation or Chemistry
- Ticket Type: Problem, Question or Request

- Submit questions to PDPlot-BB

Send e-mail to [pdplot-bb@slb.com](mailto:pdplot-bb@slb.com). Or add pdplot-bb to directory subscriptions.

If there are any questions, contact Jim Karst [karst@slb.com](mailto:karst@slb.com) or Sun Mao You [msun@slb.com](mailto:msun@slb.com) for more details.

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## 5. Documentation

Documentation is in the form of an Acrobat PDF file. It can be accessed from the Help menu from within PD-Plot 7.

The user needs Acrobat Reader installed to have access to the documentation. Acrobat Reader is available at the following link: <http://www.adobe.com>

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## 6. Licensing

- PDPlot licensing is handled through FLEXLM.

- For Schlumberger users, no license is needed if using a PC with standard image. In

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other cases, contact your CRM administrator (same as for client licenses)

- For non-Schlumberger users, a license is needed to access functionality beyond viewer mode (temporary licenses are not available). Check Intouch content on **PDPlot for Clients: version, support, licenses etc** about procedure to follow, and contact your CRM administrator to obtain a license:

<http://intouchsupport.com/intouch/methodinvokerpage.cfm?caseid=4171909>

## 7. Known Issues

- PD-Plot 7 may have problems loading previously save DFA data sets due to channel naming upgrades of certain channels. This table gives the expected names.

	DLIS	PD-Plot required names	PD-Plot required names	DLIS	PD-Plot required names	PD-Plot required names
	LFA	LFA	LFA2	CFA	CFA	CFA2
Fluid Fractions	HAFF_LFA OILF_LFA WATF_LFA	HAFF OILF WATF	HAFF2 OILF2 WATF2	HAFF_CGA OILF_CGA WATF_CGA	HAFF_CFA OILF_CFA WATF_CFA	HAFF_CFA2 OILF_CFA2 WATF_CFA2
Optical Density	FAOD_LFA[0]	FAOD[0]	FAOD2[0]	FAOD_CGA[0]	FAOD_CFA[0]	FAOD_CFA2[0]
Gas Detector	GASD_LFA[0]	GASD[0]	GASD2[0]	GASD_CGA[0]	GASD_CFA[0]	GASD_CFA2[0]
GOR	GOR_LFA	GOR_LFA	GOR_LFA2	GOR_CGA	GOR_CFA	GOR_CFA2

Other channels are not affected.

If differences are found, manual renaming is required by editing of the LAS files.

- **PD-Plot 7.0.134 full install kit is mandatory update to all internal users.**
- **IFA (InSitu Fluid Analysis) still use word EYES in presentation and print window at current version.**
- PD-Plot 6 cannot open the PDP file created with PD-Plot 7. It is possible by changing the version number in the project file, but some data associated with newer functions may not load correctly.
- PDF Creator only helps in generating PDF documents. If you need to edit embedded text in your PDF Documents or perform any such PDF editing, you will still need Acrobat Writer Standard or Professional version.

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- When scanning DLIS files to generate a test point table, the depths read from some DLIS files may produce a list of depths rather than single depth. This will happen when the cable is moved after a test has started or if gauge selected was disabled during acquisition. The correct depth is usually the first depth on the list.
- When doing Real time viewing and watching LFA or CFA or Oil Base mud contamination plots, the user should turn on the “Pause” button to prevent annoying updates while viewing these plots.
- If the user does not have the right access to the folder where the PD-Plot 7 executable file is installed, some functions may not work.
- PD-Plot 7 is designed to work on “local” single user installations only. Network access and licensing is not supported at this time.
- PD-Plot 7 may un-expected show black color on some pressure Interpretation plots (Flow Regime Identification and OCM) if the user Window’s Color Scheme is not as expected. Try other settings from your Display Appearances selections.
- **PD-Plot 7 will write several register keys to registry to track product usage via PUC (Product Usage Control) client on all SLB standard image PC’s. No user interaction is required.**
- Non-SLB user does not have access to IFA data presentation and report.
- When building reports with PDF Assembler and Acrobat 6, bookmark creation is not available.

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Appendix: Modification History (Since last PD-Plot commercial kit 7.0.91)

**7.0.134 June 11, 2007**

-Fix the bug about PDF Creator auto-save folder event. PD-Plot will not remember the initial settings of PDF Creator when user generates PDF in pretest preview window in previous version. Now it was fixed,

-Fix the bug where PD-Plot will plot wrong value when they fill area shading in logarithmic track.

-Change the algorithm about radial flow mobility computation.

**7.0.133 June 8, 2007**

-Make enhancement about PDF Creator auto-save folder. From now on, PD-Plot will remember the initial settings of PDF Creator before generating PDF report. The default folder will be changed to current project \B-Final Report Documents\pdf sections. After user exits PDF report generator window, PD-Plot will save all the initial PDF Creator settings back to registry.

-Add liquid fraction and gas detector tracks of AFA to DFA presentation. Now, user can plot and print these two tracks as well as other previous defined tracks which related with pH measurement.

-Change the algorithm about spherical flow mobility computation. Now, the result from PD-Plot is same to that from OP.

**7.0.132 June 5, 2007**

-One improvement on compute log curve value. Now, user can select one column to fill porosity value instead filling to porosity column automatically without request.

-Change the computation method to compute Excess Pressure to make it consistent with paper by A. Brown.

**7.0.131 June 4, 2007**

-There is one menu item in Compute which called Compute Porosity in previous version. With this function, we can get porosity value based on Log curve data. From version 131, we begin to support all the log curve value computation and fill it to TPT. The caption of Compute Porosity was changed to Log Curve Value. If user selects porosity channels from the channel list, it will be filled to porosity column on default. If the selected channel is not porosity one, user need to select one of seven users defined column. Pd-Plot will change user define column title and unit to current selected channel parameters.

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-If user merges one project to existed project, the LFA/CFA plots of second well will shift a lot of depth which make user get wrong result. There is wrong check to compute TVD SS when PD-Plot draws DFA curves. Bug was fixed from version 7.0.131.

### 7.0.130 June 1, 2007

-Test point table tool bar list that shows columns that are currently hiding has a new functionality. It now has a complete list of all columns, and they are alphabetical. It now functions more like a show or goto function. When any column is chosen, the table is scrolled to show that column, and it becomes un-hidden if it was hidden.

-The list of recently opened project files on the main File menu is improved. There is now a new item called "Recently Opened Projects" which in turn opens a new sub menu, where the full path and name of the last 4 projects is displayed.

-The file scan window's table of scanned results (Scan Table) now behaves better when you right click on it to select Check All or Check None.

### 7.0.129 May 29, 2007

-Fix the bug where PD-Plot can not recognize SRFT tools from DLIS file. With previous version, PD-Plot will recognize some SRFT DLIS file as RFT. With version 129 and later, it was solved.

-Fix the bug that PD-Plot can not plot smooth pressure properly in detail plot. Also, fix the bug where there is connected line between investigation and final pretest in Stethoscope job in Pressure VS Time form.

### 7.0.128 May 25, 2007

-Add a new test point table column. It contains "Pressure at Start of Buildup". The column is called "Start BU Pres."

Please note that it will be the last column on the test point table when you next open a project, **and will be visible**. This data is filled in only when you interpret a Pressure Vs Time test when the Start Buildup pick is made or changed.

### 7.0.127 May 17, 2007

-PD-Plot will force PDF creator to save PDF file in the pdf sections folder of the job you are working. It will stay to last job folder when user exits PD-Plot. Now it was fixed. PD-Plot will use current job folder when converting to PDF file. After PD-Plot was exited, it will release the PDF creator setting to initial state.

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-TIF files in G-API header and tool sketches folder are not shown up in the PD-Plot print window. Now it shows up after we add a filter with TIF.

-In formation pressure insert, it only shows Lost Seal without No Seal. Now, it will show titles depending on the real data and display different color to distinguish. By default, blue is for no seal and red for lost seal. Of course, you can change the default color with changing the reference items.

### **7.0.126 May 16, 2007**

-Opening a View changes the Equivalent Formation and Mud Density/Gradient column title and units to gradient units which it should not do. It no longer does.

### **7.0.125 May 15, 2007**

-Inserts text for Lost and No Seal markers now says Lost Seal, No Seal or Lost/No Seal depending on what is found.

-Problem with Internal Mud Density units is fixed.

-D&M Time/Depth data plotting was decimated on screen to decrease plotting time, but all points are printed. This may be misleading when comparing the two plots, especially when test points are plotted with Time/Depth curve. Now screen decimation is improved. All points are plotted until a threshold maximum amount will be plotted, and then it is decimated. This should keep performance high for most scaling. Remember printed page always prints all data points.

### **7.0.124 May 11, 2007**

-Fix the bug that user can not change Mud Density unit. Refer to InTouch ticket 4324583. Now user can select the unit needed. Note: User should check mud density unit carefully when he uses current version.

-Fix bug while pd-plot can not display solid line in detail plot when user select code as solid line in Stethoscope. Now, PD-Plot will draw solid line when user select smooth pressure code as solid, dash, dot, dash-dot.

### **7.0.123 May 9, 2007**

-Fix bug that PD-Plot can not compute mobility with old PFTV channel.

-Fix bug while showing PRES\_SMO curve in Stethoscope job. While select Triangle, it shows the solid line. Now it shows triangle as well as circle.

### **7.0.122 May 7, 2007**



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-Fix bug where PD-Plot will lock up when user try to make PDF file in Print Preview. Now user can generate PDF in print preview window and save PDF file to current PTI folder.

-Fix bug where user can not make pdf with TIF file since version 113 to 121.

-Fix bug where there are two copies of tool string in print window.

### **7.0.121 April 26, 2007**

-Add function to P vs T Preview window (Make Report) that shows a table of pti files for the current test/file. This allows the user who makes several PTI files for each test to increase efficiency immensely. The following actions are supported.

- 1) Preview any pti
- 2) Select specific ones and
- 3) Set the order of the files on the table, because,
- 4) You can print the selected pti files as a single pdf document with user entered name!

-Fix bug where Fluid Type, when plotted as a "test point" data item that plots a colored bar in the track, did not print the same way as it plotted.

### **7.0.120 April 25, 2007**

-Pressure Time plot Flow Regime ID plot. The shape of the derivative curves was seen to not match older versions. Tracked down to difference in quartz gauge resolution values, which are used as a parameter in the derivative smoothing. Resolution of 0.003 was used, now is 0.01. Change it back to 0.003 to remain consistent with older versions. Gauge specs will still show the 0.01 specification.

-Compute Porosity from Logs option improved. Values are interpolated between log data points now to exact test point depth. Also a bug is fixed where, if the LAS logs are loaded deep to shallow, the computation resulted in the porosity value of the deepest depth. Now correct values result regardless of loaded data direction.

-Fix broken CFA2 plotting and printing. GOR and Wt% tracks were not plotting correctly for CFA2. Now fixed.

-Problem picking up correct depth from default probe when first loading MDT PvsT data is now fixed.

### **7.0.119 April 24, 2007**

-Fix various display problems where when DFA toolstring consists of IFA and any one of LFA or CFA, where that tool gets named LFA2 or CFA2, even though there is only one of them in the string. Now PD-Plot handles this situation fine. Note that you must re-convert DLIS to LAS to handle associated channel naming errors.

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- Fix again problem with XPT mud after auto-pick not always working well.
- Fix problem with scaling of Map View on Well Inclination plot. New scales that were entered were not being accepted.

As well, the user can now enter any map view scales they wish. Prior, the scales of both N/S and E/W were changed to be the same relative distance as the other axis scales were changed, to maintain "squareness" in a map view. This was judged awkward for some users. Users will now have to watch this for themselves, as it is natural to assume that map does not have distorted N/S and E/W axis.

**7.0.118 April 23, 2007**

- Improve XPT ability to auto-pick mud after pick.
- Fix bug with gradient line "Select Point" function that will not show all test points (just first gauge) when more than one gauge type is included in selected points.
- Fix bug with display of certain FPWD projects with Time-Depth data and display tracks causing a lock up.
- Fix bug with template editing window when setting Plottable data item 'source' to any gauge, units are defaulted empty, which results in depth units showing in inserts

**7.0.117 April 19, 2007**

- Fix bugs for IFA jobs where if IFA is only DFA module, DFA Tab is not shown. Now it shows and IFA data can be plotted and reported.
- Fix bug and behavior for Gradient lines.
- When user boxes pressure points, and then chooses "Select Points" from menu, then chooses to cancel, new gradient line is left, not removed. Also line drawn is not fit line, but corner to corner line when selection area was made.
- When open "Select Points" window from Gradient lines window, then make changes to test points selected, but then cancel, now the gradient line changes are cancelled.
- Adjust behavior of Excess Pressure window. When user selects an existing gradient line to use for reference data, the reference depth and pressure are changed even if they are currently specified. Also current depth index (TVD is preferred of course) is used rather than always MD when the software fills in a test point ref. depth.

**7.0.116 April 18, 2007**

- Fix PTIM plot report page printing where Quality and Remarks comments may print "Quality" text when no quality information is present.
- User units system bug that brought up warnings when user opened a project with a unit system not yet on his system is fixed.
- Well symbol fill color wrong in Printed P vs D plot legend for multi-well projects (2252580)

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### **7.0.115 April 17, 2007**

-Fix formatting problem with small numbers. When DD mobility for example is small, less than 0.01 for example, but the format for DD Mob is set to 2 decimal places, what you see on the interface or report is 0.00 rather than the correct small value. Now a better test for this situation is made, and these small numbers will be shown in exponential notation 0.00E+00. This 0.00193 will show as 1.93 E-03

-Tool String now prints a report page. Just click 'Make Report Page' when the Tool string tab is current to generate the preview, and then save a pti as expected.

-When on print preview window (P vs Time 'Make Report Page' preview), clicking Print Preview button will re-generate the correct plot (DFA, CFA Averages, OCM etc) rather than always preview the Pretest Interpretation plot! Imagine that!

### **7.0.114 April 17, 2007**

-Add new Detail plot specification to PvsT window. "Detail Plot Last Read". Now user can save time wasted on manual scaling. This is used for special comparison plot of all last read pressures on high res pressure scale for files with more than test. Detail plot is scaled from 5 sec before 1st test 'Start DD' pick to 5 sec after last tests Last Read BU pick. The pressure scales locate the last read pressure at 70% of the plot scales. The total pressure delta on the Y scale can set by the user with a second new Detail plot menu item ('Delta P') to control the sensitivity of the pressure scale.

-Fix a bug with appending two PvsT files together (File > Open Append). Files with the same channels were rejected.

### **7.0.113 April 9, 2007**

-Fix bug where DD mobility goes empty after doing 'Make Report' for some tests.

-Add Default Template tool bar and tools to Pressure Interpretation window. Now user can specify a specific template that will be used for all tests as they are loaded. There is a check button to select to use the template or not. Note that if you have an MDT template as default, but load a different type of job, you need to change the template!

### **7.0.112 April 9, 2007**

-Fix type of TST625 replace with TST675

### **7.0.111 April 5, 2007**

-Fix multi-well bug where pressure symbols were not using the template symbol, rather the well symbol.

-Add simple data file (pder.csv) of pressure derivative plot points. It is written every time derivative plot is re-drawn for Intouch issue 4312440

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### 7.0.110 April 5, 2007

- Show 10 AFA OD channels instead of basic 3
- Fix bug with printing that causes error
- Allow Apply to Test Points button when only Stethoscope RT Las is loaded
- Fix default probe type set to TST Probe instead of one of the newer TST675 Probe options

### 7.0.109 March 28, 2007

- Convert Quality numeric data from DLL to correct corresponding text message (when ST6F present) on FWPD PTIM report page. User can also change the text of the Quality item on the parameter table if not suitable.
- Remove last occurrences of RFP tool items from code, specifically from list of available tools on Print window Cover Page tab table.

### 7.0.108 March 27, 2007

- Mud Cake Break down pick now shows on Pressure time plot on-screen.
- Mud Cake Break down pick now separate from DD mobility diagnostic display pick that shows location of downward crossing of last read pressure during initial drawdown.
- Auto pick for RM LAS files without ST6F status channel now works again. Message about absence of ST6F modified to 1. Only appear once. 2. Re-worded to warn that since ST6F status, pick locations may need refining.
- Add PUC tracking for specific functions

### 7.0.107 March 20, 2007

- Save detail plots scales and gridding type selection
- Problem when change gridding type selection. Preview not always update.
- Add quality flags determined from stethoscope smoothing DLL to data.

### 7.0.106 March 20, 2007

- Problem loading old RM LAS with no ST6F status or PTVOL channel. Caused crash when calling smoothing dll. Now improved (no crash), user is informed of no status channel, and must make picks manually. In these rare cases, user must also rename PFTV channel to PTVOL.
- Detail plot 'Make Report Page' new functions to control scales and gridding are working, but option on "Make Report Page" table to turn off Detail plot was not. Now it works again.

### 7.0.105 March 19, 2007

- LFA/CFA averaging now removes negative data values from averaging summation. All channels.
- Fixed bug that prevents viewing the LFA/CFA averaging window from being available from the test point table via right click. "Edit LFA/CFA Averages" menu item may be

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disabled depending on last operation on P vs T window.

-CQG gauge specifications changed to reflect document "Modular Formation Dynamics Tester (MDT) WL EQUIPMENT GUIDELINES MDT" Oct 2006. Accuracy is now +/- 2% +/- 0.01% of reading.

-Fix bug where user clicked main windows "Restored down" control menu caused window minimize instead, and similarly where Image View window would open but not appear. This was occurring due to windows being positioned off-window due to screen resolution change, that VB6 window handling in XP was not handling. XP caused window to minimize. Window locations are always checked to be on current desktop now, and moved in view if not. SMR 2250090

-Add ability to control Detail PTIM plot scales to Make Report page window.

### 7.0.103 March 7, 2007

-Add ability to load old OFA DLIS.

### 7.0.102 March 7, 2007

-Fix to error on start up "ActiveX Component Can't Create Object". Call to PUC component was not error protected.

-Fix to DFA pump out volume function that determines "valid" time intervals for OCM table to better handle continuous and Volume "PO" channels

### 7.0.101 March 5, 2007

-Major improvement in loading RM LAS files. The events are now picked with the TstRted.DLL, and will be much more consistent than previous event picks. As well, a bug with some RM LAS crashing PD-Plot on load is far less likely to happen.

-Error reading WFI files is fixed

-Small mod to opening PDF Assembler to ensure complete path is passed

-New PDF Assembler exe is now included in the latest download. It has important fixes. Please replace your current pdfass.exe in the same folder as your pdplot7.exe. Version is 2.0.17

### 7.0.100 March 2, 2007

-Superflow bugs worked out.

- Report page now has permeability and max flow values listed, and pick markers are both in the right place!
- Problem with units when pressures not in psi fixed.

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-Pressure vs Depth plots, where well trajectory cross section is plotted in a track, test points symbols plotted on the well path to mark test locations not always appearing. Printing only on-screen was fine.

### **7.0.99 March 1, 2007**

- Fix annoying creation of "~" folder in standard folder chain.
- Disable some File menu items on Pressure time plot when no data is loaded
- Remove duplicate Make Report Page item from Tools menu (PvsT)

### **7.0.98 February 27, 2007**

- Further refinements to the DD Mobility for XPT

### **7.0.97 February 26, 2007**

- Problem with XPT pretest volumes fixed.
- Test point table, when right clicking the menu for "Edit LFA/CFA Averages" will now be disabled if the Pressure vs Time interpretation window is open. There is a conflict that will invalidate the LFA/CFA current averages stored on the pressure time window.
- Add a More Info button to the Well Edit window, Time Index tab. It brings up a dialog better explaining how to handle situations with D&M time depth data files.

### **7.0.96 February 22, 2007**

Fix interface problem with window appearance when using "Export Test Point table data" function.

### **7.0.95 February 20, 2007**

Fix multi-well problem where CFA/LFA graphics on pressure depth plots would not print when more than one well was selected.

### **7.0.94 February 16, 2007**

#### **Test Point Table Functions**

Add new feature to create free data functions on the Test point table.  $(FORM\_COL - 14.7) / (TVD\_COL * 0.052 * 8.33)$

This new function (on new Tools menu on Test Point table), allows the user to create a math function using one or more the test point table columns.

The user can create the functions and test it using real values. The results can be written

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to any test point table column, although User Defined columns will be the usual target. Errors in the functions are presented with the reason.

Common math functions including ( ) ^ \* / + - = \ % **Abs Log Log10 Exp Sqr** , and trig functions(**Sin Cos Cos Tan Atn**) and logicals (=> <= <> etc) are available.

Formula refers to test point columns by internal names. There is a list to choose from.

Formulas are saved for later use.

### Change Test Point Table tool bar.

Add Tools menu, move **Export, Fill Files, Make Sample Table Entry** and add new **Create Data Function** item.

### 7.0.93 February 16, 2007

Fix a bug where the screen P vs D plot would throw an error and stop plotting some elements of the plot. Only happened when some CFA plotted.  
Bug introduced in 92. Does not exist in 91.

### 7.0.92 February 14, 2007

#### - Change to Test Point table storage and usage of the "Test Type" column

The test point item "Test Type" has a rarely seen problem.

Users can add custom user-defined test types by editing the lists.ini file and adding items to the [ttypeList] section. These would then become available on the internal lists of test types on the Test Point table and on the P vs T window.

Since these custom types are referenced to the users local lists.ini file, if this file becomes missing or changes, or the project is opened on a different PC, projects when opened may not restore the test point table "Test Type" column correctly. Items where a matching index cannot be found would be set to "Normal Pretest".

This problem appeared when the new version is installed in the new default install folder (pdplot7). This leaves a previously created and edited lists.ini no longer available to the new version. Most users can just move their old lists.ini file to the new pdplot7.exe folder and successfully open old projects.

A move forward solution now appears in 7.0.92 and later.

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- The Test Type is stored in the project file as the actual text, rather than an index to the lists.ini file list. Projects saved with 7.0.92 and opened with 7.0.92 and later will always restore all test types correctly regardless of their local list of test types.
- There is now an editable table in the Preferences window where custom "Test Type"s can be added. Custom Test types can be specified as certain internal types so that they will behave as those specific types.
- The lists.ini file is now only used to store the user added test types.
- The first 25 items in the lists.ini are the internal standard list of test types. These are now hard wired into the code. Any of these will restore correctly from old projects. Your user defined types will appear at the end of the list.
- Please don't use this as wholesale way to build your own list of test types. Use it sparingly please. Think of the customer who may get successive reports with "Normal Pretest", "Normal Test" and "Test that is Just Great" all meaning the same thing from several different interpreter's with a flair for originality.
- Ultimately the custom Test Types need to be stored in the project so anyone can open them and get correct behavior.

### - Addition of new and better "Excess Pressure" functions

The Excess pressure functions are made actually usable in this version.

- Open the "Compute" menu; select the new "Excess Pressure" item at the bottom.
- If you don't have an Excess Pressure item in the display template, you will be asked if you want PD-Plot to add one for you! The scales will be auto scaled with 0 in the center. You may want to adjust symbols or the track they appear in.
- Fill in the Reference Depth, Pressure and Gradient rows of the table (top 3 rows)
- If you want to select a current test point to use its depth and pressure value as the reference, click <Click Here> next to the "Select a Test Point" cell and from the list, select one of the test points.
- If you want to select a current gradient line to use its gradient value, click <Click Here> next to the "Select a Gradient Line" cell and from the list, select one of the current gradient lines.
- Click "Apply". The plot will show the excess pressures. You may have to rescale if things are outside the scales. Go ahead, change them, I won't change them back...
- The Pressure/Depth and Gradient Reference values are saved in the project, as are the excess pressure values for each data point. No need to re-compute after you open a previously saved project.