

Company **Savia Perú S.A.**

Well **LO6-27D**

Field **Lobitos**

Country **Perú**

Engineer **G. Tejada**

Logging date **11 February, 2013**

Report date **19 February, 2013**

Analyst **W. Pérez**

Schlumberger

PressureXpress



XPT Interpretation Report

PTS

**Innovations in Formation
Testing**

InSitu Pro* 3.0.0

* Mark of Schlumberger

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Section 1

Written Comments

1. Logging Objective

Deploy into the well the PressureXpress (XPT) tool in order to take pressure points at the selected depths in the 8.5 in. section.

2. Log Analyst Remarks

- Pressure log acquired on February 11 of 2013.
- XPT tool equipped with Conventional Probe.
- For tool string details, please refer to the Appendix at the end of this report.
- Data processed using software InSitu Pro 3.0.
- Deviation survey provided by field engineer used for TVD calculations. Maximum well deviation: 49.2 DEG.
- Pressure data recorded using quartz gauge (QCP).
- Quartz gauge accuracy is 2.0 psi and resolution is 0.01 psi at 1 Hz of acquisition frequency.
- 15 pressure points in DLIS format were received in the computer center.
- All depths in these written comments are measured depths (MD) unless otherwise specified.
- For field engineer remarks please refer to the Appendix at the end of this report.

3. Summary of Results

XPT tool was deployed into the well along the 8.5 in. section between 3822-5015 ft MD, in presence of water base mud with a reported density of 11.2 lb/gal. A total of 15 pressure points were analyzed along the selected interval.

At only one of the pressure tests it was possible to obtain measurements of formation pressure and drawdown mobility. However, such measurements are considered as questionable since no pressure stabilization was observed during the buildup. Additionally, there is no pressure repeatability between pretests and there is pressure building down which could indicate the presence of supercharging effect at this test.

Therefore, no fluid gradients were possible to identify from the results of the XPT pressure points.

Other 4 tests were considered as tight tests where a very slow buildup profile without stabilization to formation pressure is observed. Such kind of tests is commonly found in low permeability formations. Formation pressure and drawdown mobility measurements for these tests are not reported.

For the other 10 tests that were performed, 9 resulted no seal and 1 lost seal as can be seen in the pressure vs. time plots for such tests. These results could be attributed to the washout conditions found along the logged interval.

Final results of the XPT pressure points can be seen in figure 1.

4. Hydrostatic Pressure Gradient

According to the hydrostatic pressure readings, a well fluid density was determined. The obtained fluid density corresponds to 13.124 and 13.103 lb/gal for measurements before and after each pretest, respectively. The difference with the reported density (11.2 lb/gal), may be attributed to solids settling during log acquisition and change in the level of hydrostatic column as a consequence of tool movement into the hole.

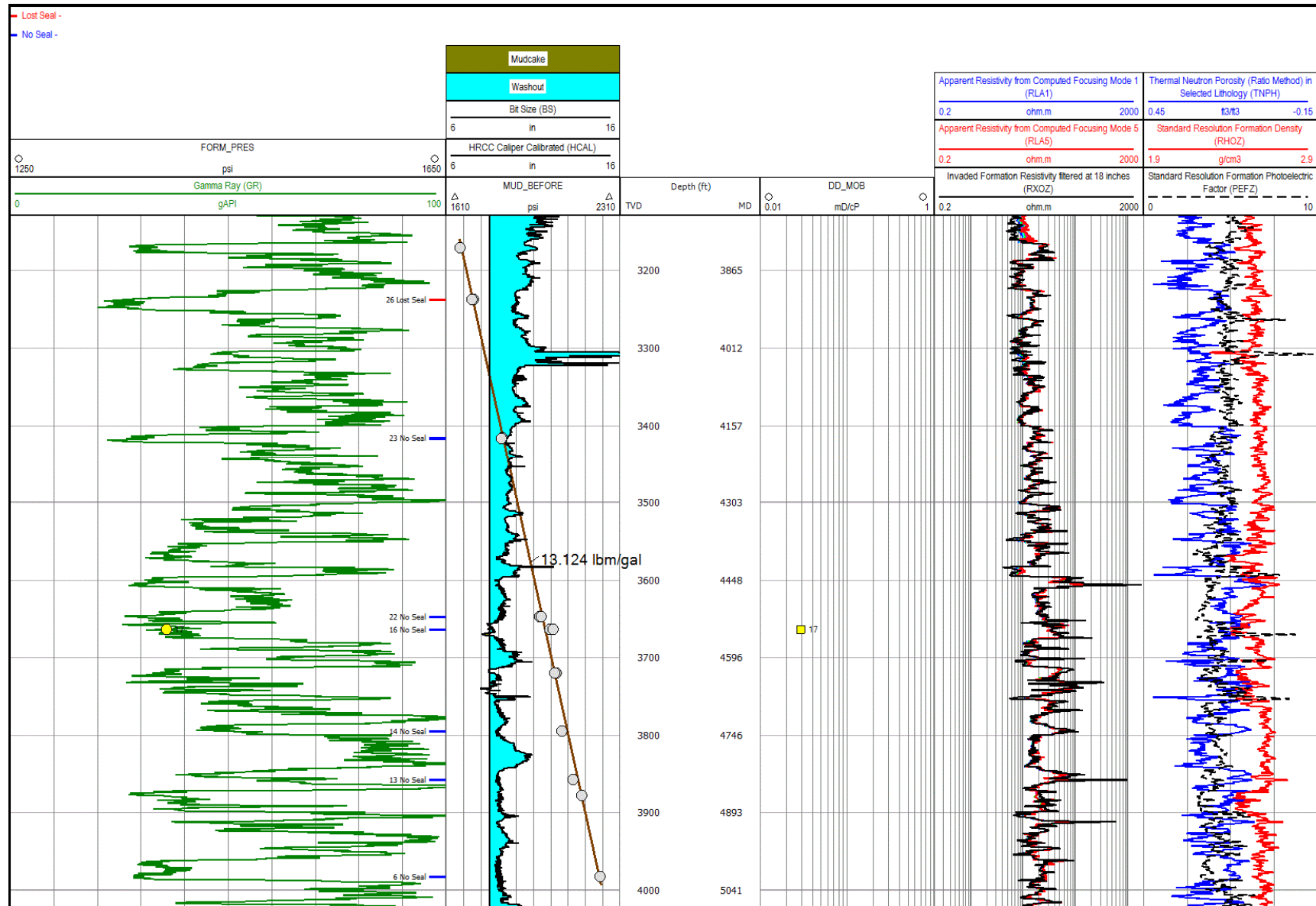


Figure 1. Complete Interval

Section 2

Test Point Table

1 Test Point Table

File No.	Test No.	Probe MD	Probe TVD	TVD Subsea	Formation Pres.		Last BU Pres.	DD Mobility		Pretest Status	Comments
		ft	ft	ft	psi	Qual.	psi	mD/cP	Qual.		
16	28	3822.01	3170.81	-3116.81			1340.577			Tight Test	No confirmation pretest
15	27	3920.99	3237.74	-3183.74			1298.954			Tight Test	No confirmation pretest
14	26	3920	3237.07	-3183.07			1718.672			Lost Seal	
13	24	4181	3416.46	-3362.46			1832.322			No Seal	
12	23	4179.98	3415.76	-3361.76			1836.754			No Seal	
11	22	4517.99	3647.24	-3593.24			1985.372			No Seal	
10	21	4518.98	3647.91	-3593.91			1991.31			No Seal	
8	17	4542.48	3663.70	-3609.70	1393.789		1393.789	0.03		Unstabilized	No pressure repeatability. Pressure slightly building down. Likely supercharged
7	16	4543.02	3664.06	-3610.06			2037.952			No Seal	
9	19	4627.00	3720.54	-3666.54			978.273			Tight Test	No confirmation pretest
4	11	4626.04	3719.89	-3665.89			1127.429			Tight Test	No pressure repeatability
6	14	4738.01	3794.93	-3740.93			2074.867			No Seal	
5	13	4830	3857.29	-3803.29			2118.229			No Seal	
3	9	4861	3878.37	-3824.37			2154.973			No Seal	
2	6	5015	3982.42	-3928.42			2224.138			No Seal	

File No.	Test No.	Mud Pres. Before	Mud Pres. After	Pretest Type	Packer/Probe Type	Gauge Type	Temp. Before	Pretest Volume	Pretest Duration	Pretest Flowrate	Date Time
		psi	psi				degF	cm3	s	cm3/s	
16	28	1667.342	1661.012	Volumetric Drawdown	Conventional	CP_SAP	96.28	0.49	0.9	0.54	2/12/2013 2:01:48 AM
15	27	1716.516	1710.117	Volumetric Drawdown	Conventional	CP_SAP	96.29	0.13	0.9	0.14	2/12/2013 2:01:33 AM
14	26	1720.365	1718.624	Volumetric Drawdown	Conventional	CP_SAP	96.71	4.59	5.4	0.85	2/12/2013 2:01:23 AM
13	24	1833.299	1832.417	Volumetric Drawdown	Conventional	CP_SAP	97.24	9.5	10.8	0.88	2/12/2013 2:01:14 AM
12	23	1837.711	1836.603	Volumetric Drawdown	Conventional	CP_SAP	97.67	9.46	10.8	0.88	2/12/2013 2:01:01 AM
11	22	1986.336	1984.988	Volumetric Drawdown	Conventional	CP_SAP	98.4	9.85	10.8	0.91	2/12/2013 2:00:49 AM
10	21	1992.926	1991.197	Volumetric Drawdown	Conventional	CP_SAP	98.69	14.04	8.7	1.61	2/12/2013 2:00:37 AM
8	17	2029.604	2016.738	Volumetric Drawdown	Conventional	CP_SAP	99.08	0.16	0.9	0.18	2/12/2013 2:00:03 AM
7	16	2041.251	2036.978	Volumetric Drawdown	Conventional	CP_SAP	100.15	9.56	10.5	0.91	2/12/2013 1:59:50 AM
9	19	2046.171	2041.893	Volumetric Drawdown	Conventional	CP_SAP	98.68	0.13	0.3	0.44	2/12/2013 2:00:21 AM
4	11	2055.286	2046.032	Volumetric Drawdown	Conventional	CP_SAP	100.68	0.18	0.9	0.20	2/12/2013 1:59:10 AM
6	14	2076.197	2074.779	Volumetric Drawdown	Conventional	CP_SAP	100.46	9.27	6.3	1.47	2/12/2013 1:59:38 AM
5	13	2121.468	2117.47	Volumetric Drawdown	Conventional	CP_SAP	100.07	9.71	10.5	0.93	2/12/2013 1:59:26 AM
3	9	2156.959	2154.886	Volumetric Drawdown	Conventional	CP_SAP	100.88	8.73	6.3	1.39	2/12/2013 1:58:58 AM
2	6	2229.357	2222.836	Volumetric Drawdown	Conventional	CP_SAP	100.57	2.57	3.3	0.78	2/12/2013 1:58:39 AM

Pretest Summary Table

LO6-27D		Total
Pretest Type		
Volumetric Drawdown Pretest		15
Pretest Status		
Tight Test		4
Unstabilized		1
Lost Seal		1
No Seal		9
Gauge		
CP_SAP		15
Formation Pressure Quality	Color	
NA		14
Medium		1
Drawdown Mobility Quality	Color	
NA		14
Medium		1

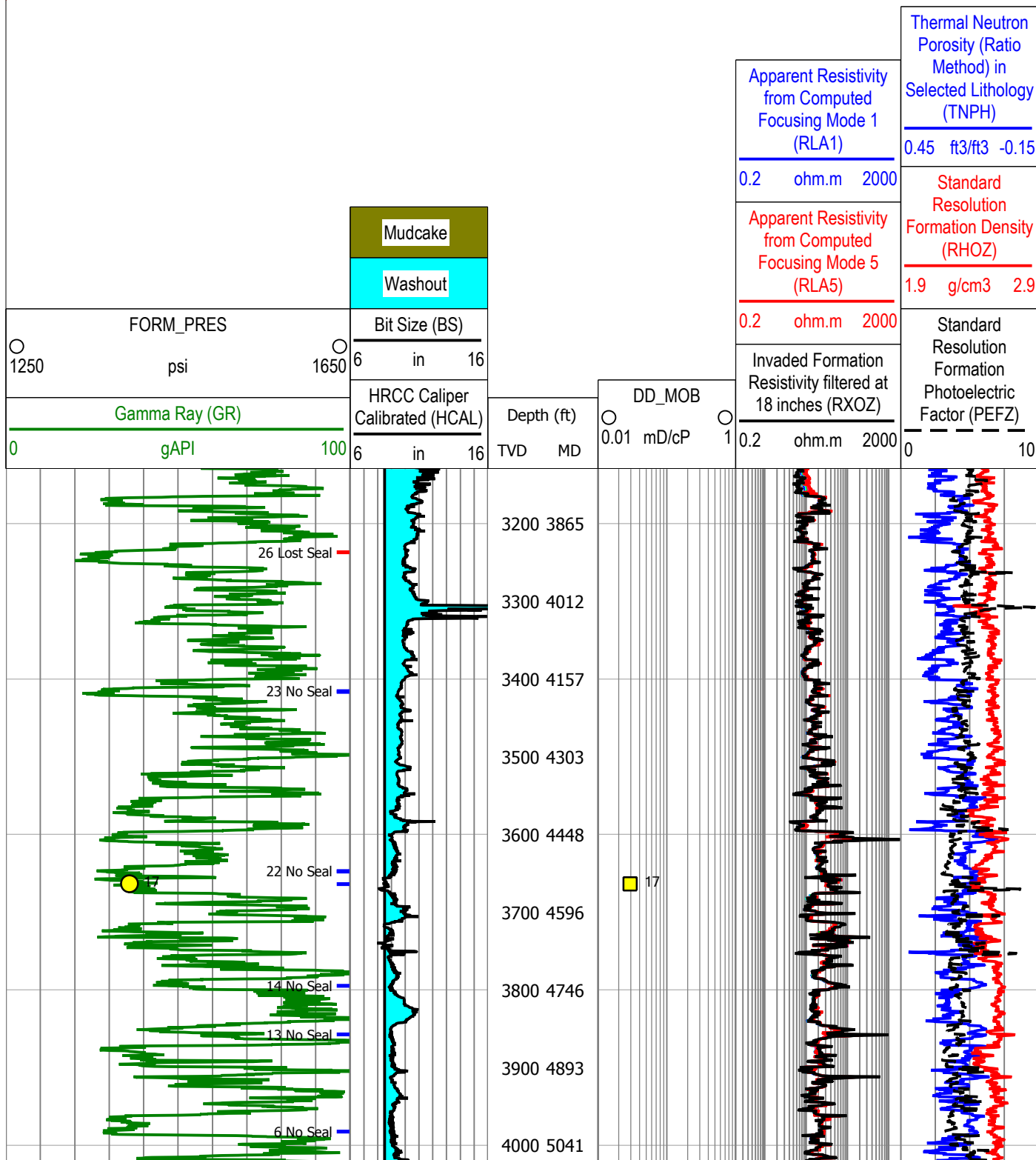
Section 3

Pressure vs. Depth Displays

Description: Pressure vs. Depth View Format: TVD Index Scale: 1:2196 Index Unit: ft Index Type: TVD Creation Date: 19-Feb-2013 19:00:15

— No Seal -

— Lost Seal -



Section 4

Pressure vs. Time Plots

1 Stations

1.1 MaxWell_16Dlis

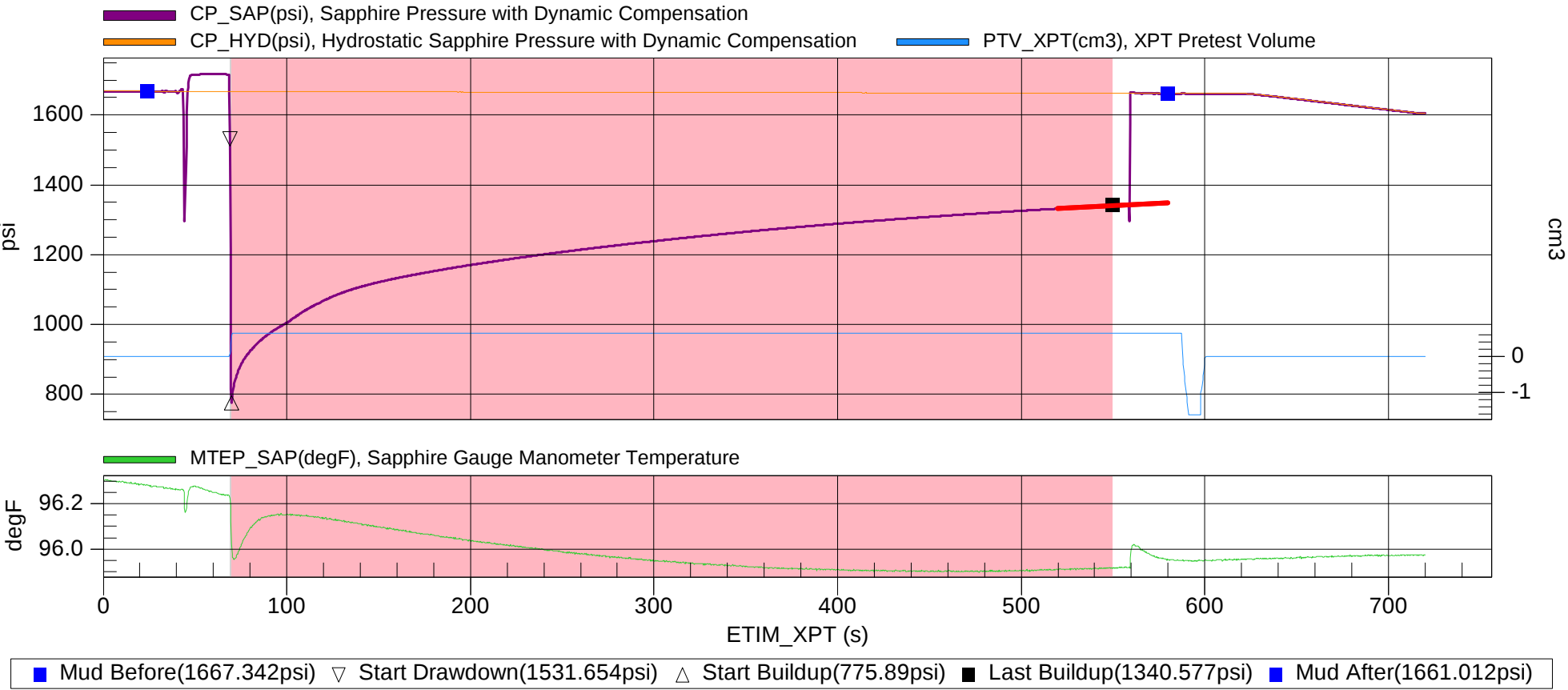
1.1.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:28 Probe MD:3822.01ft Probe TVD:3170.81ft
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MaxWell_16Dlis

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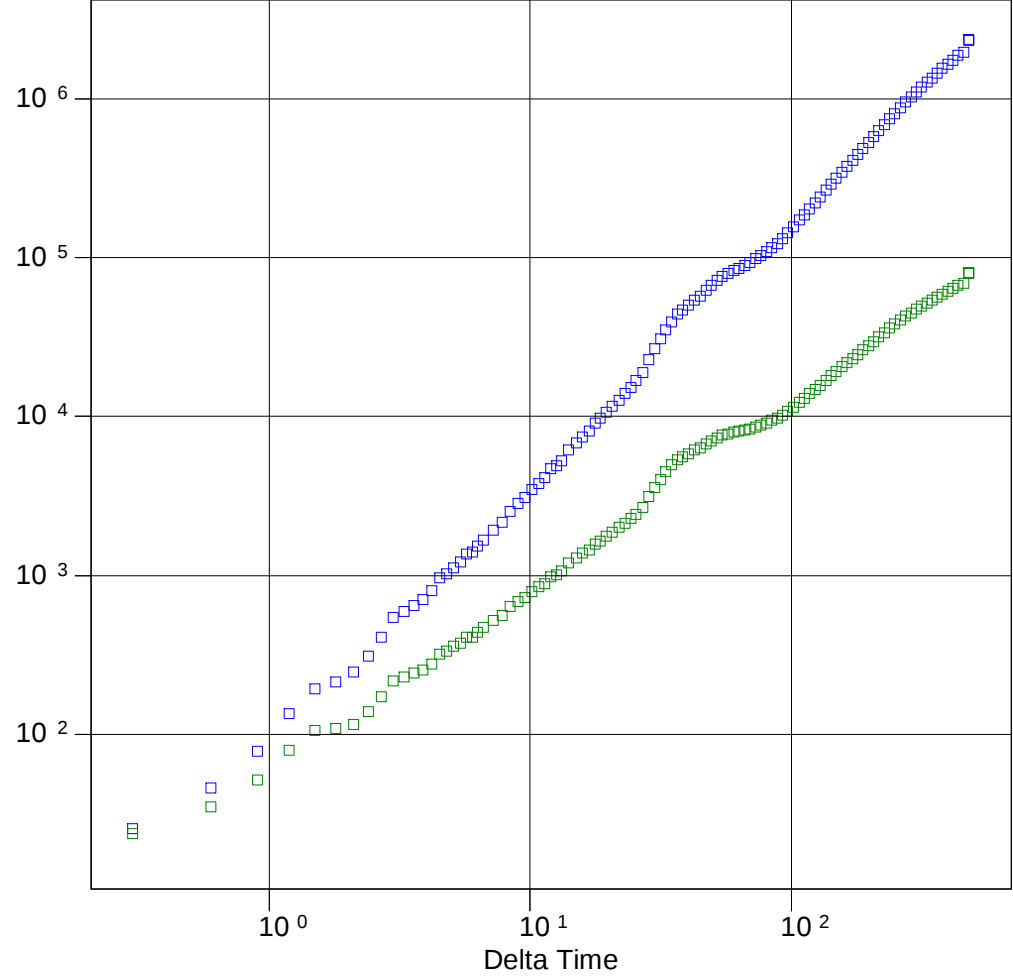


Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	Tight Test
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	1340.577 (psi)	Drawdown Mobility:		Mud Pressure Before:	1667.342 (psi)
Mud Pressure After:	1661.012 (psi)	Temperature Before:	96.28 (degF)	Temperature After:	95.95 (degF)
Pretest Rate:	0.54 (cm3/s)	Pretest Volume:	0.49 (cm3)	Comments:	

Flow Regime ID Plot

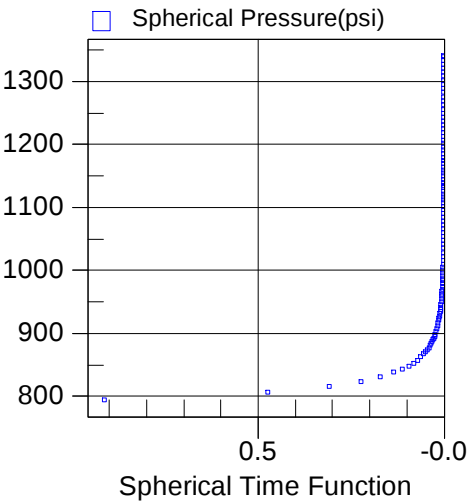
Run No:4 Test No:28 Probe MD:3822.01ft Probe TVD:3170.81ft

□ Spherical Derivative(psi√s) □ Radial Derivative(psi)



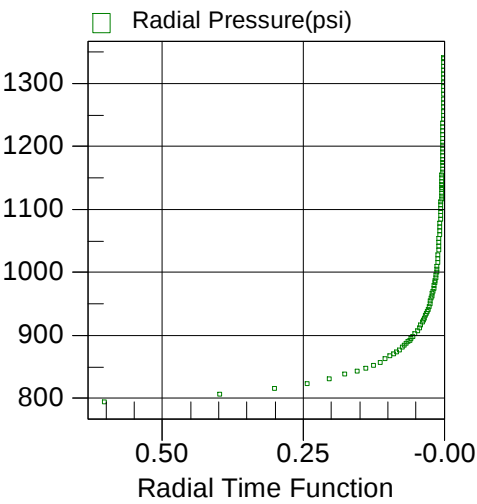
Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Last Buildup Pressure: 1340.577 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure: 1340.577 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

1.2 MaxWell_14Dlis

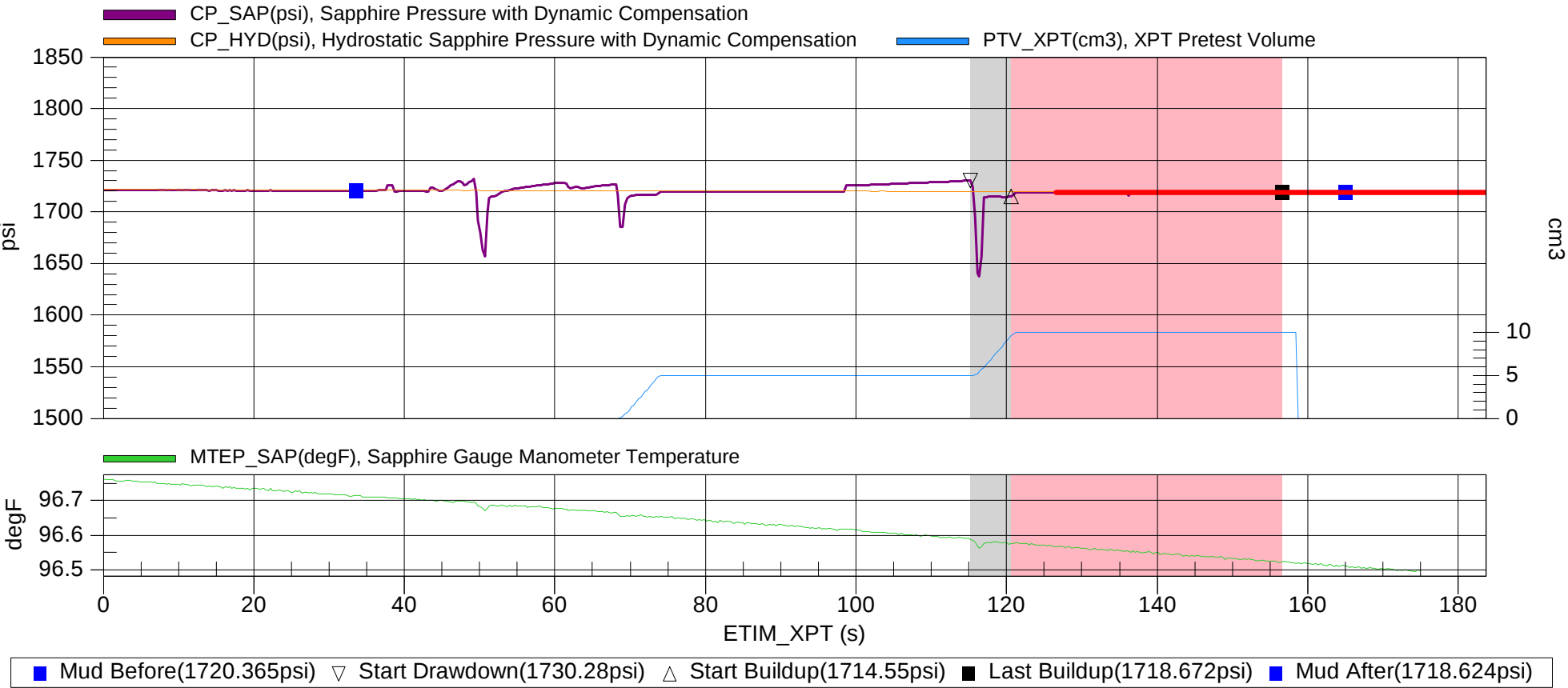
1.2.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:26 Probe MD:3920ft Probe TVD:3237.07ft
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MaxWell_14Dlis

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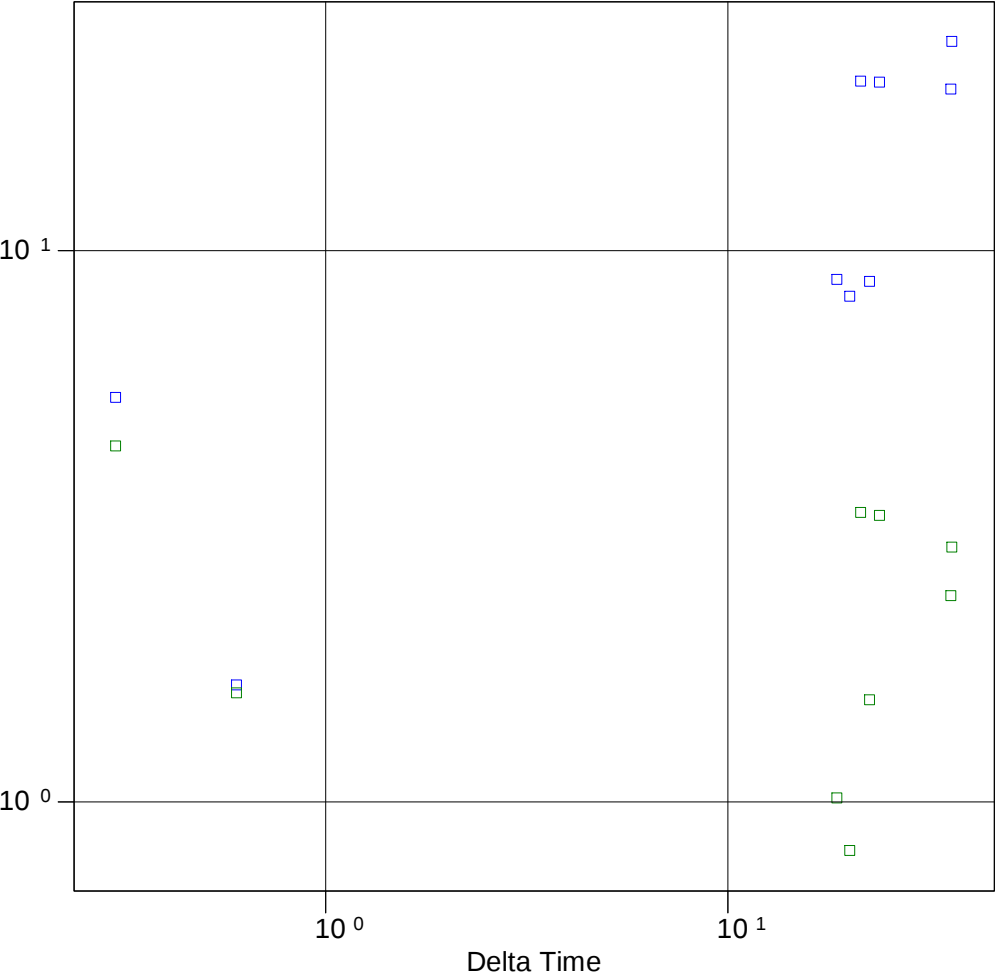


Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	Lost Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	1718.672 (psi)	Drawdown Mobility:		Mud Pressure Before:	1720.365 (psi)
Mud Pressure After:	1718.624 (psi)	Temperature Before:	96.71 (degF)	Temperature After:	96.51 (degF)
Pretest Rate:	0.85 (cm3/s)	Pretest Volume:	4.59 (cm3)	Comments:	

Flow Regime ID Plot

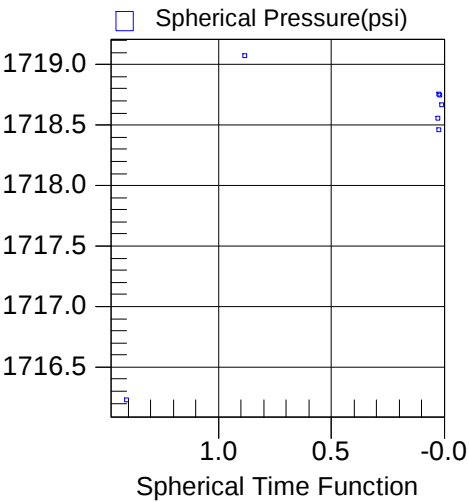
Run No:4 Test No:26 Probe MD:3920ft Probe TVD:3237.07ft

□ Spherical Derivative(psi√s)(psi) □ Radial Derivative(psi)



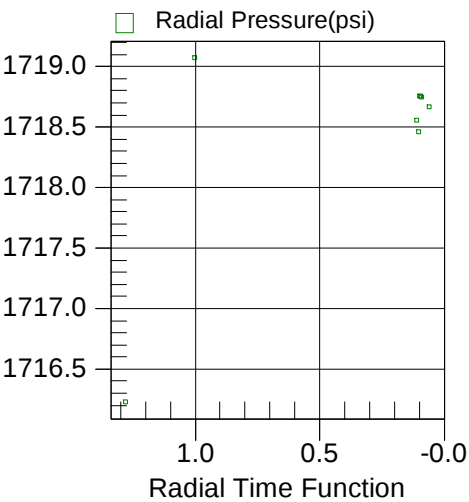
Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Last Buildup Pressure: 1718.672 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure: 1718.672 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

1.3 MaxWell_15Dlis

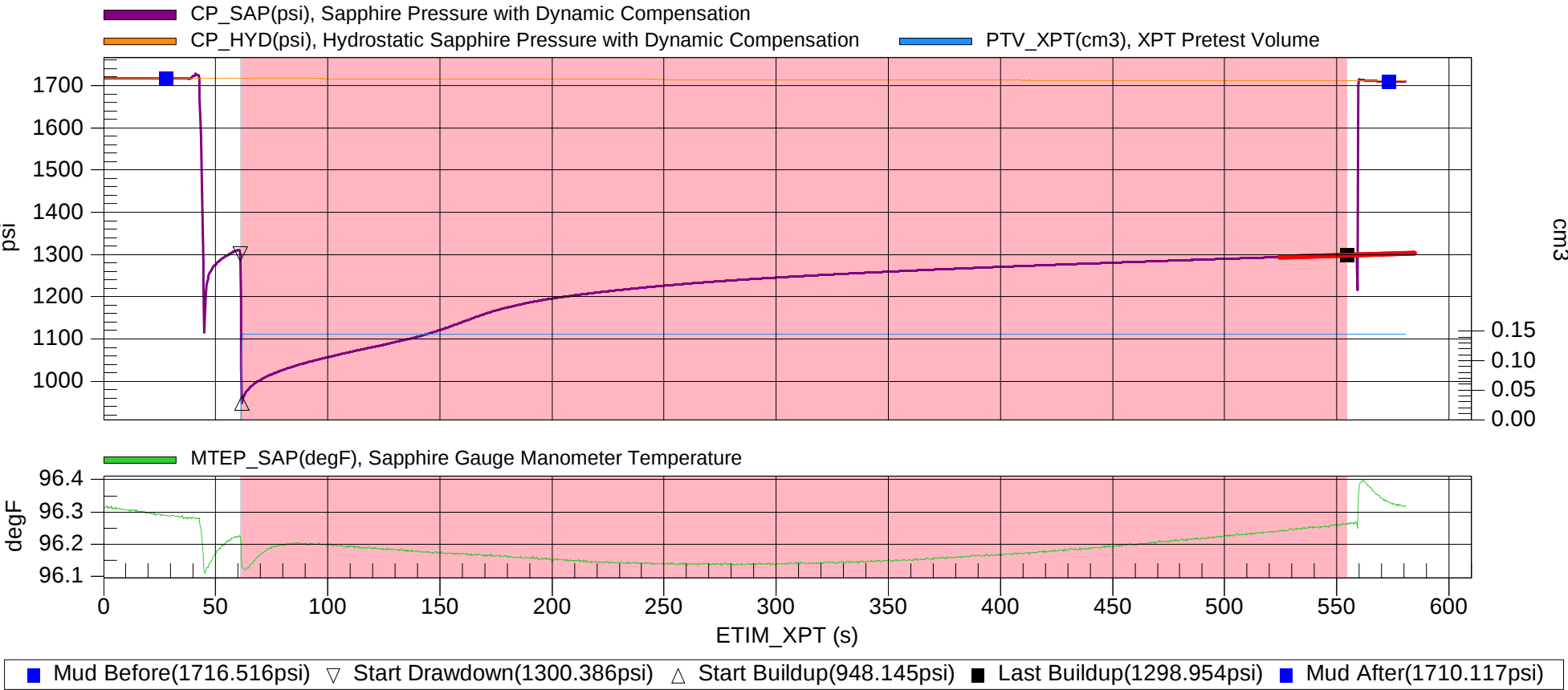
1.3.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:27 Probe MD:3920.99ft Probe TVD:3237.74ft
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12-FEB-2013
MaxWell_15Dlis

LOBITOS
LO6-27D

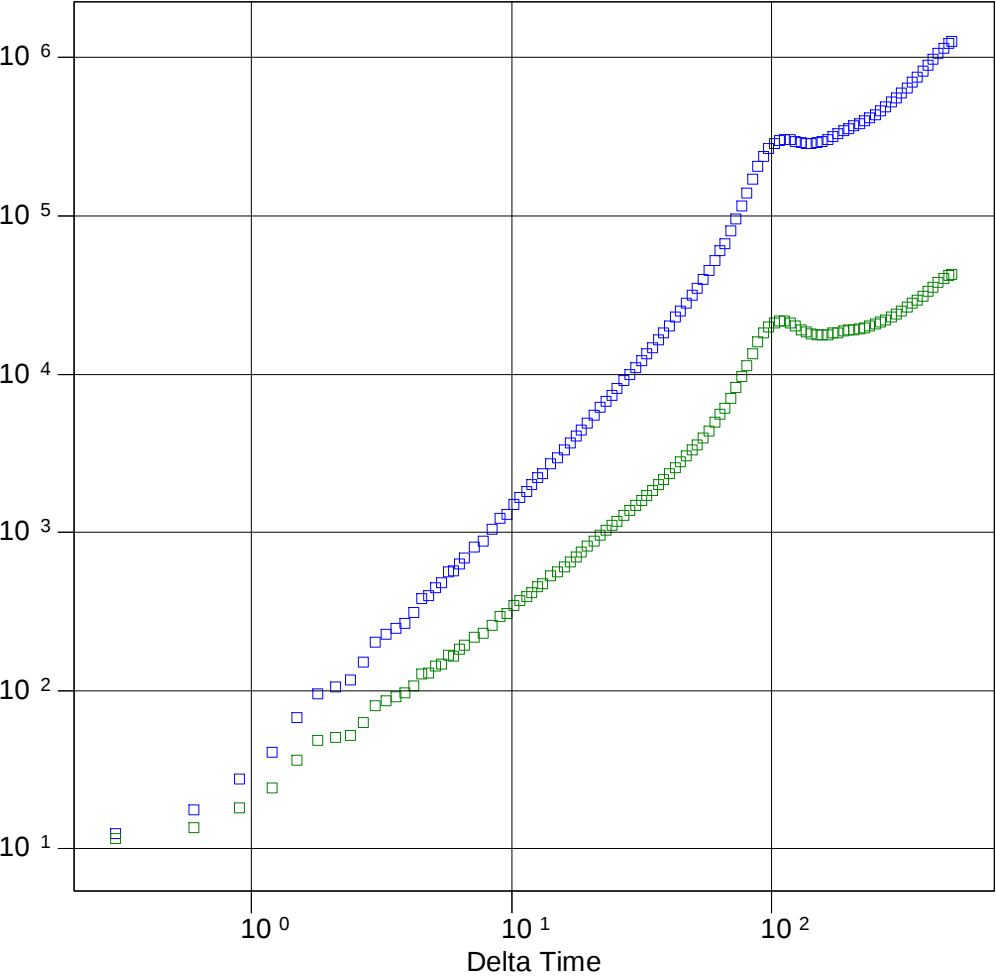


Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	Tight Test
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	1298.954 (psi)	Drawdown Mobility:		Mud Pressure Before:	1716.516 (psi)
Mud Pressure After:	1710.117 (psi)	Temperature Before:	96.29 (degF)	Temperature After:	96.33 (degF)
Pretest Rate:	0.14 (cm3/s)	Pretest Volume:	0.13 (cm3)	Comments:	

Flow Regime ID Plot

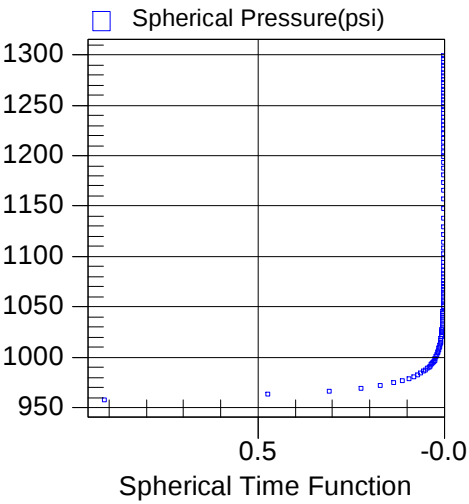
Run No:4 Test No:27 Probe MD:3920.99ft Probe TVD:3237.74ft

□ Spherical Derivative(psi√s) □ Radial Derivative(psi)



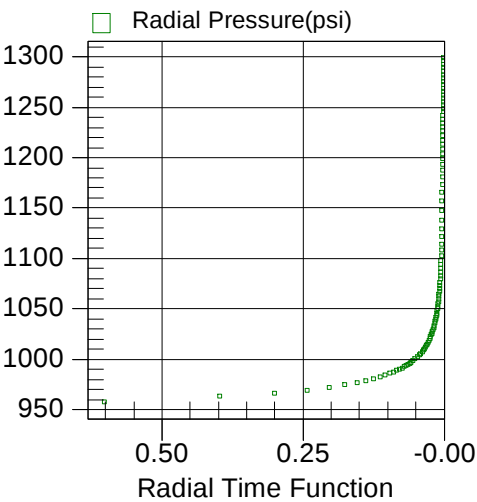
Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Last Buildup Pressure: 1298.954 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure: 1298.954 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

1.4 MaxWell_12Dlis

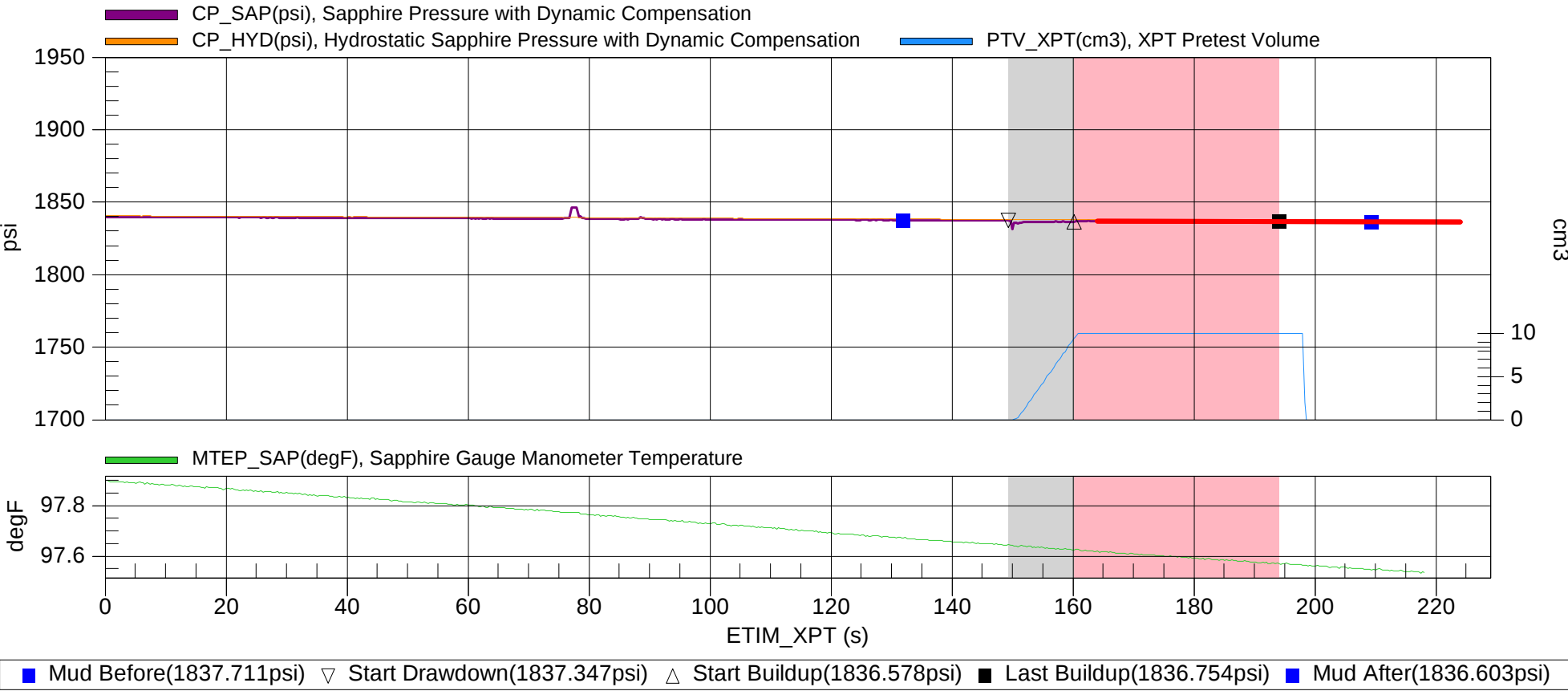
1.4.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:23 Probe MD:4179.98ft Probe TVD:3415.76ft
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MaxWell_12Dlis

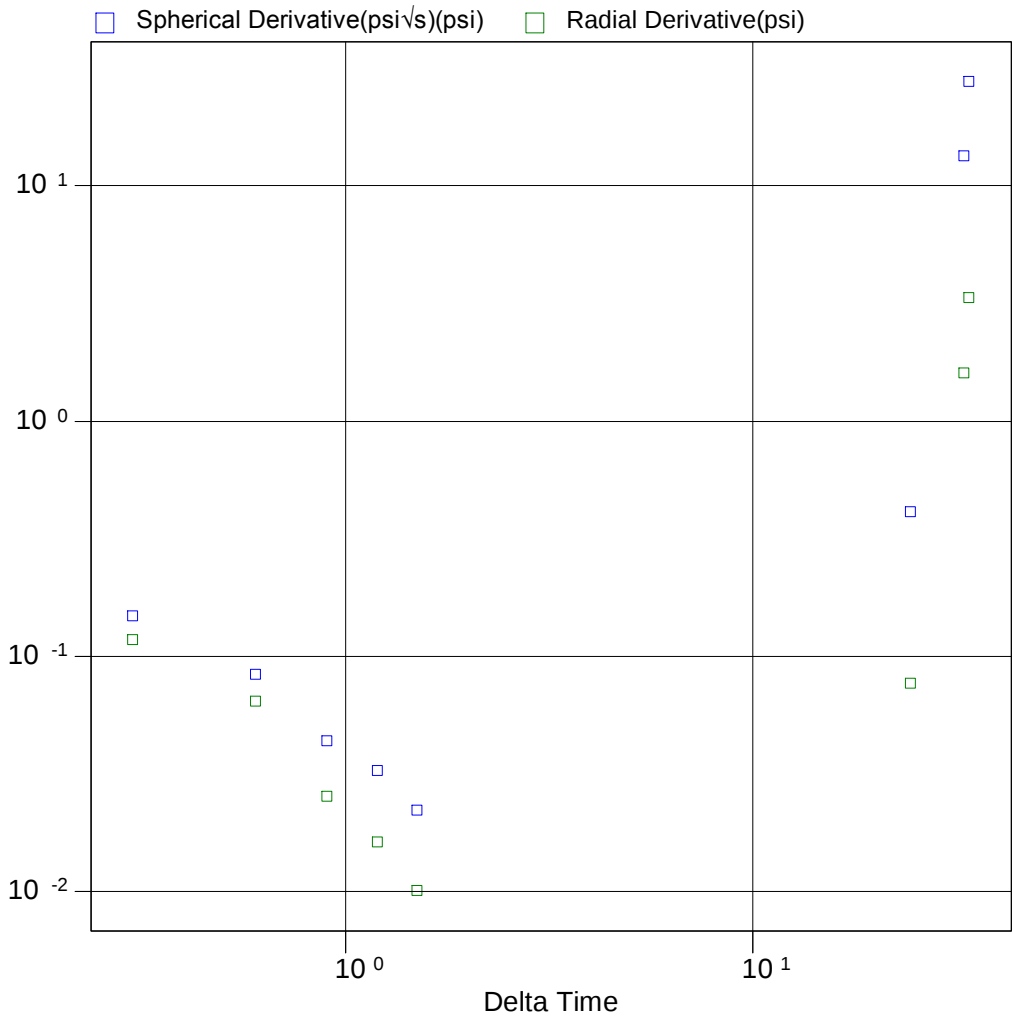
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LO6-27D



Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	No Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	1836.754 (psi)	Drawdown Mobility:		Mud Pressure Before:	1837.711 (psi)
Mud Pressure After:	1836.603 (psi)	Temperature Before:	97.67 (degF)	Temperature After:	97.55 (degF)
Pretest Rate:	0.88 (cm3/s)	Pretest Volume:	9.46 (cm3)	Comments:	

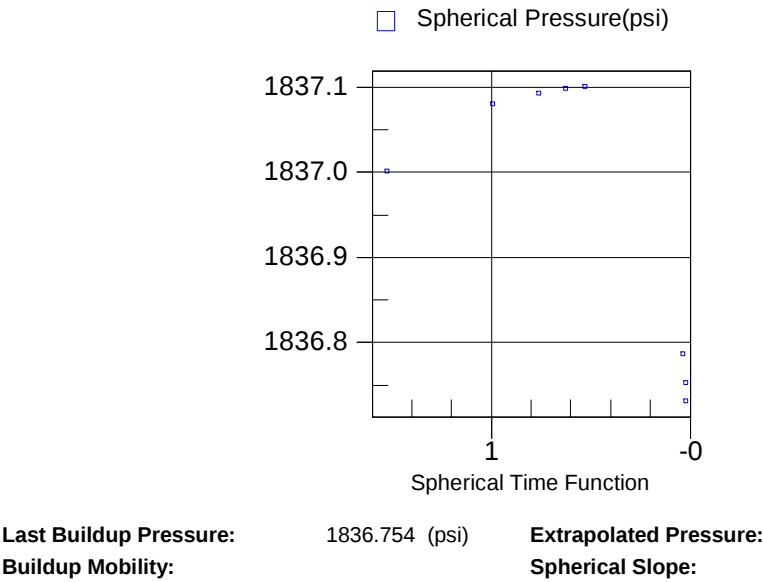
Flow Regime ID Plot

Run No:4 Test No:23 Probe MD:4179.98ft Probe TVD:3415.76ft

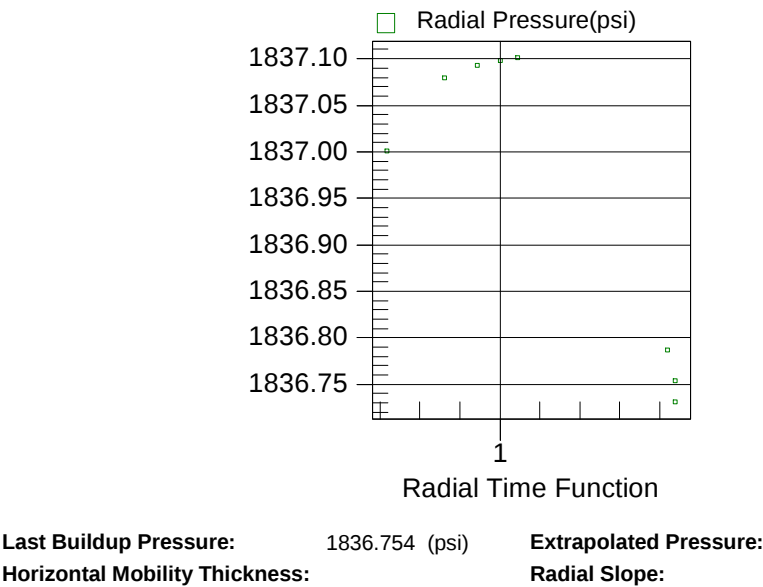


Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Radial Specialized Plot



1.5 MaxWell_13Dis

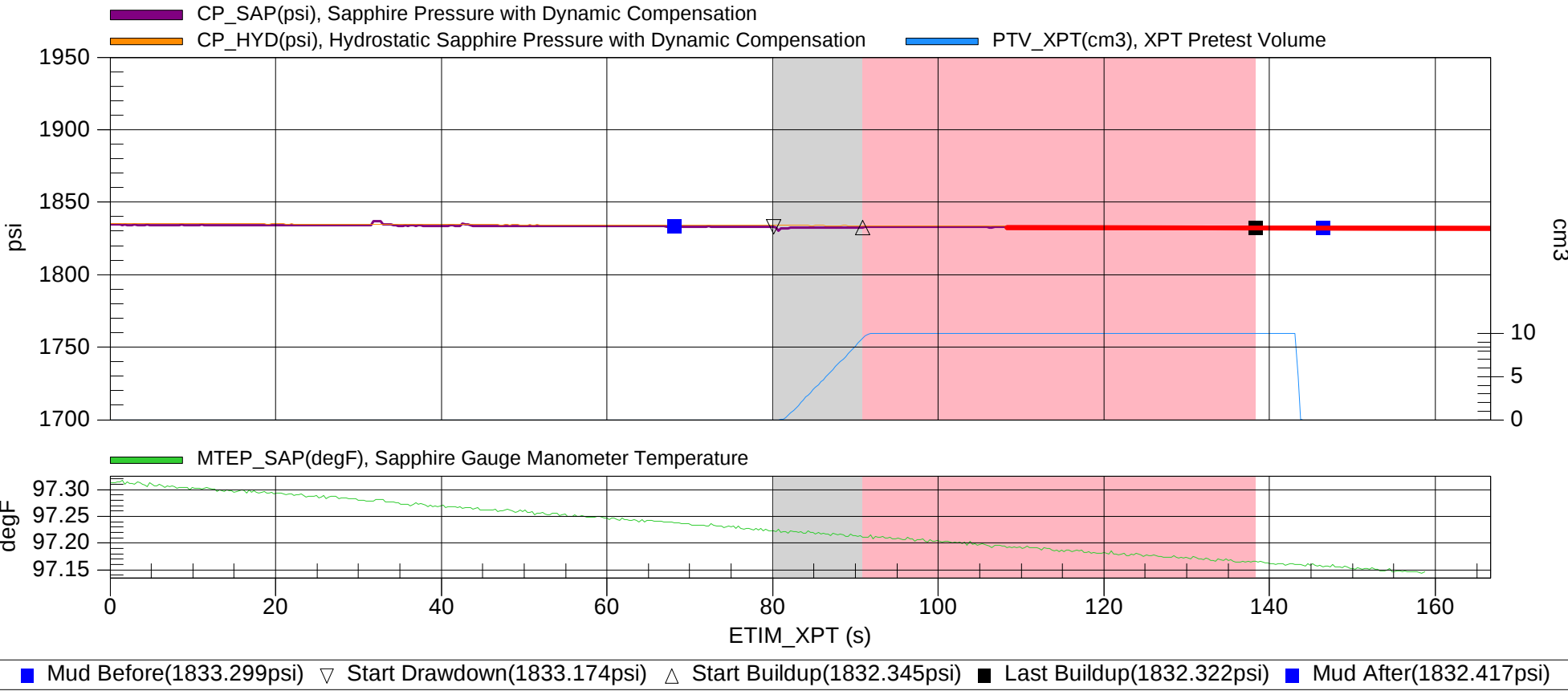
1.5.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:24 Probe MD:4181ft Probe TVD:3416.46ft
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12-FEB-2013
MaxWell_13Dis

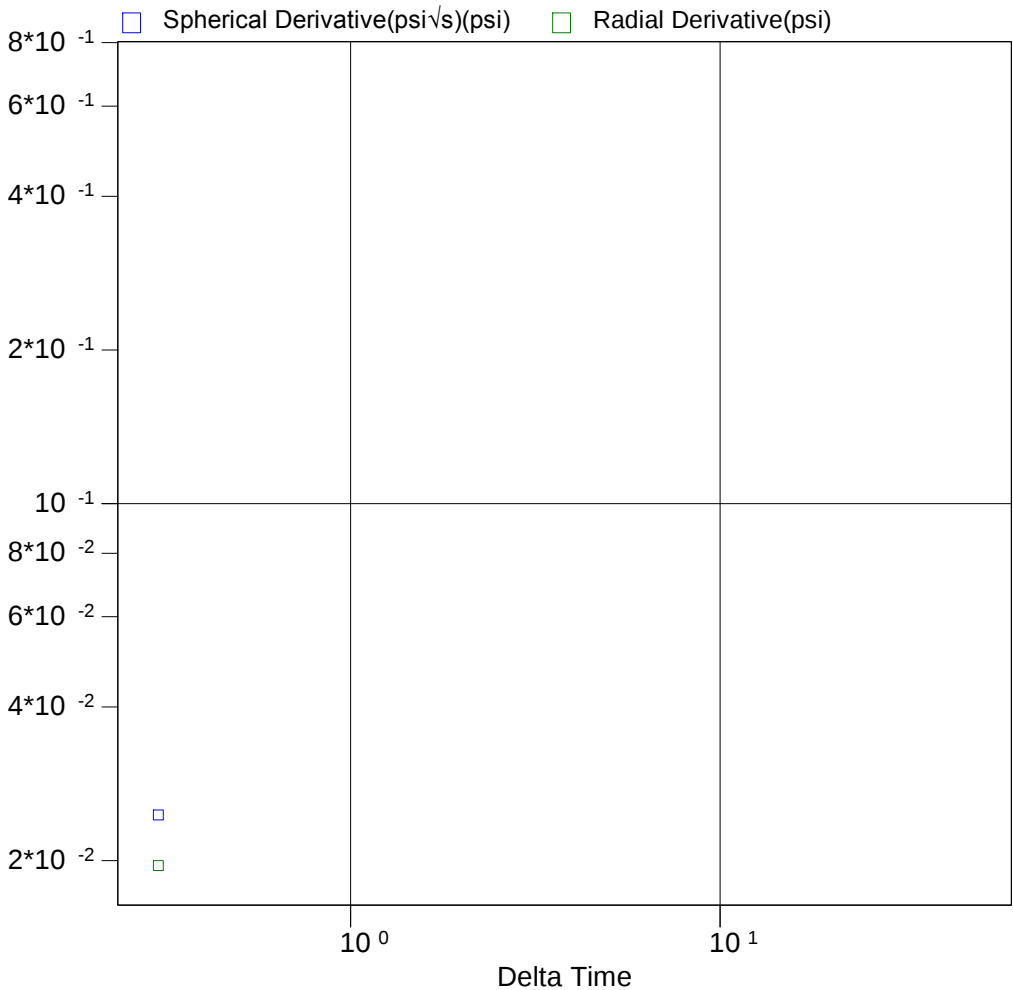
LOBITOS
LO6-27D



Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	No Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	1832.322 (psi)	Drawdown Mobility:		Mud Pressure Before:	1833.299 (psi)
Mud Pressure After:	1832.417 (psi)	Temperature Before:	97.24 (degF)	Temperature After:	97.16 (degF)
Pretest Rate:	0.88 (cm3/s)	Pretest Volume:	9.5 (cm3)	Comments:	

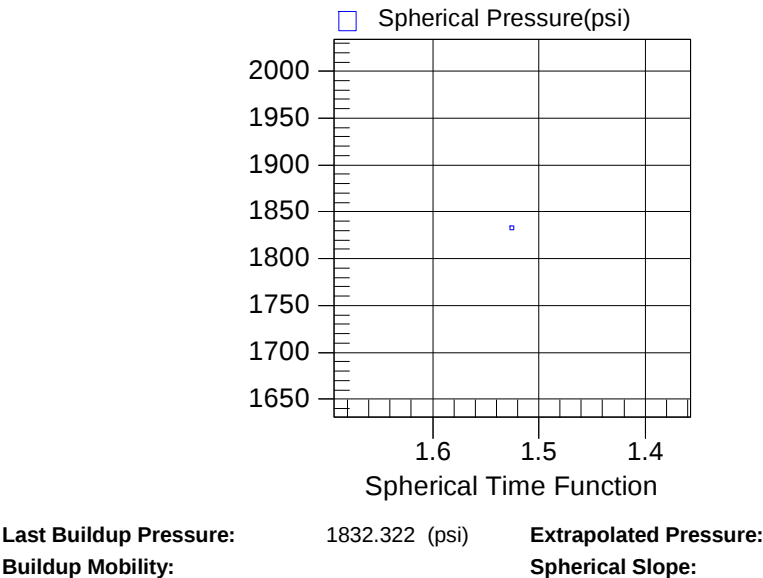
Flow Regime ID Plot

Run No:4 Test No:24 Probe MD:4181ft Probe TVD:3416.46ft

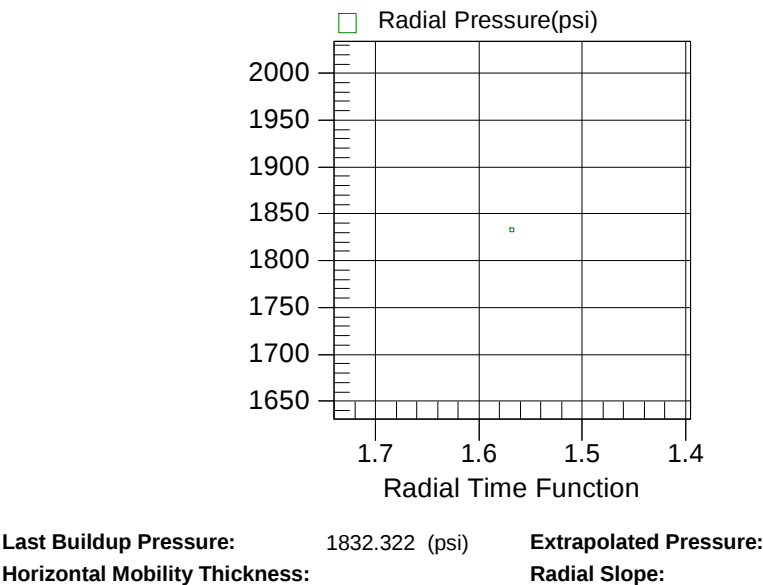


Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Radial Specialized Plot



1.6 MaxWell_11Dis

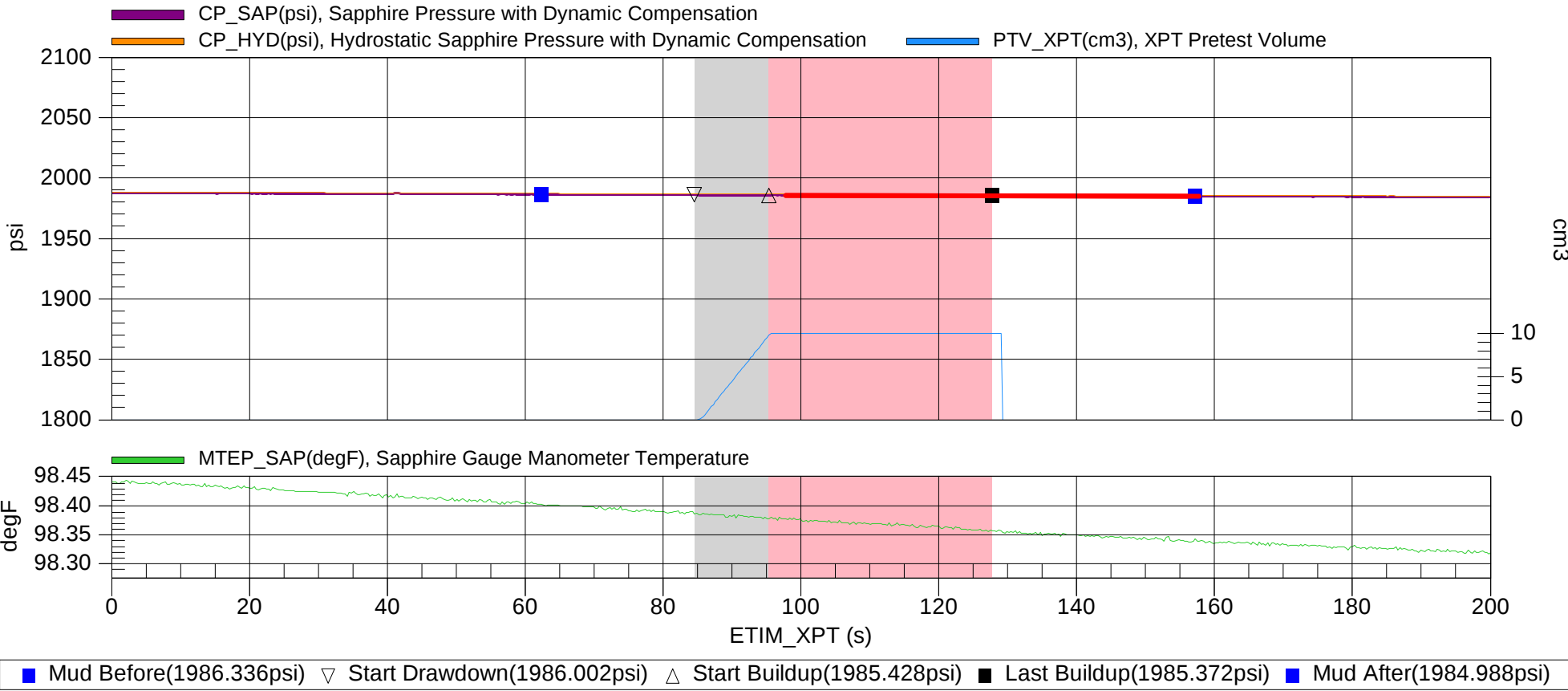
1.6.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:22 Probe MD:4517.99ft Probe TVD:3647.24ft
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12-FEB-2013
MaxWell_11Dis

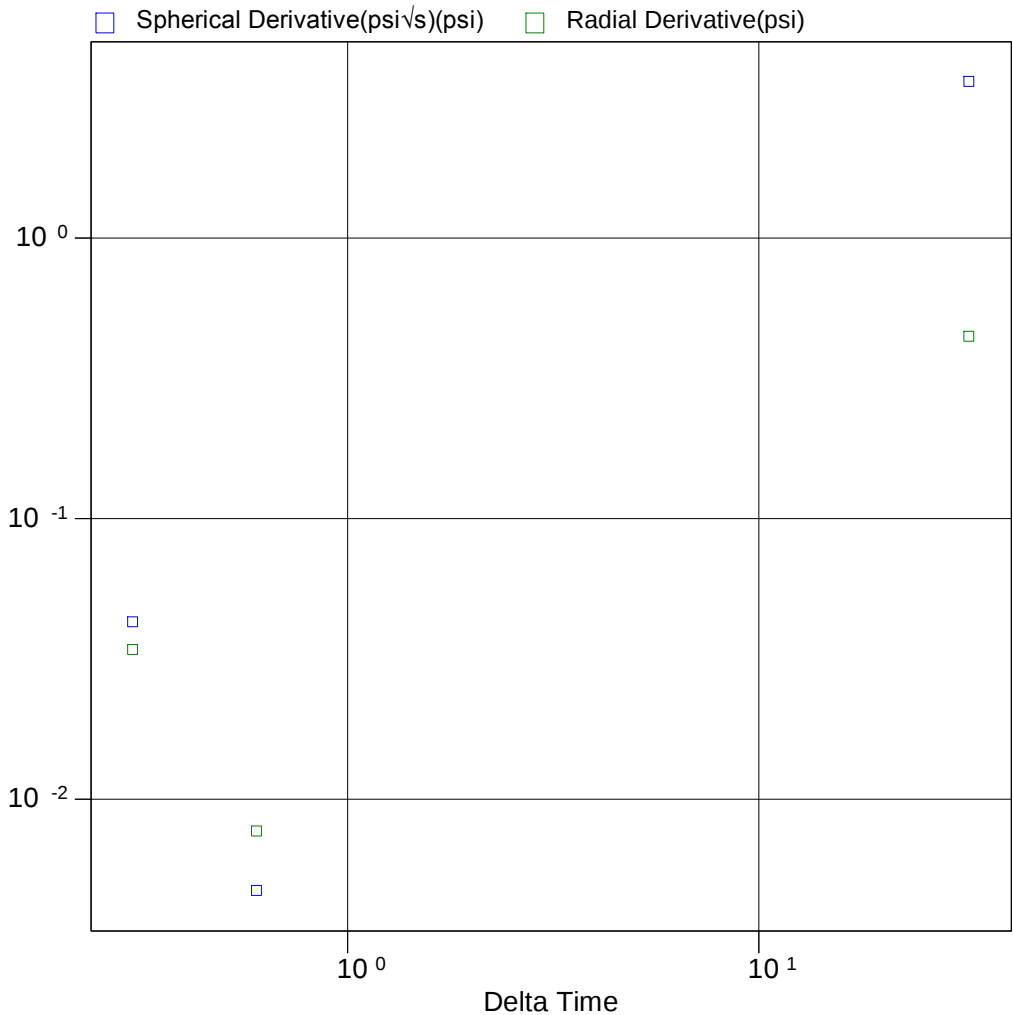
LOBITOS
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Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	No Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	1985.372 (psi)	Drawdown Mobility:		Mud Pressure Before:	1986.336 (psi)
Mud Pressure After:	1984.988 (psi)	Temperature Before:	98.4 (degF)	Temperature After:	98.34 (degF)
Pretest Rate:	0.91 (cm3/s)	Pretest Volume:	9.85 (cm3)	Comments:	

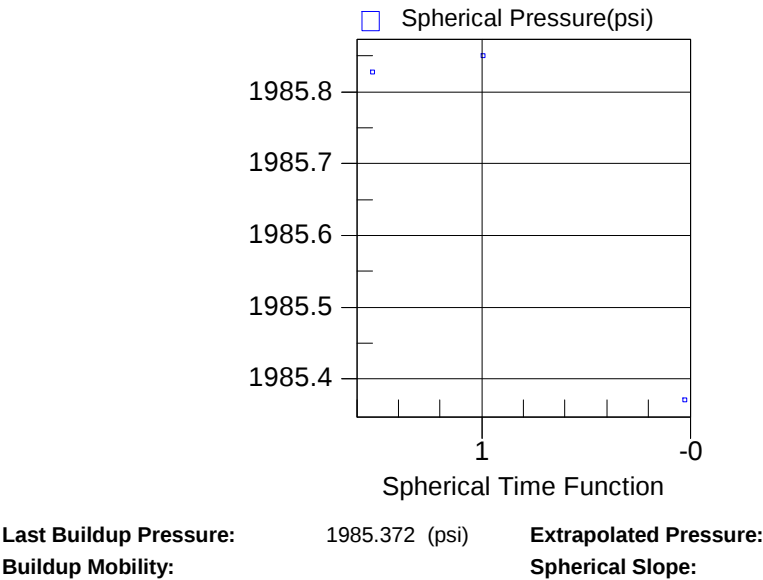
Flow Regime ID Plot

Run No:4 Test No:22 Probe MD:4517.99ft Probe TVD:3647.24ft

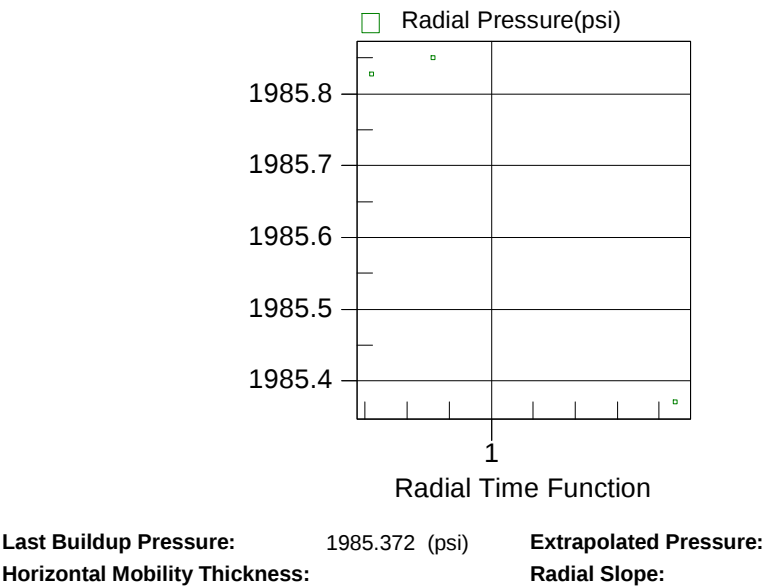


Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Radial Specialized Plot



1.7 MaxWell_10Dlis

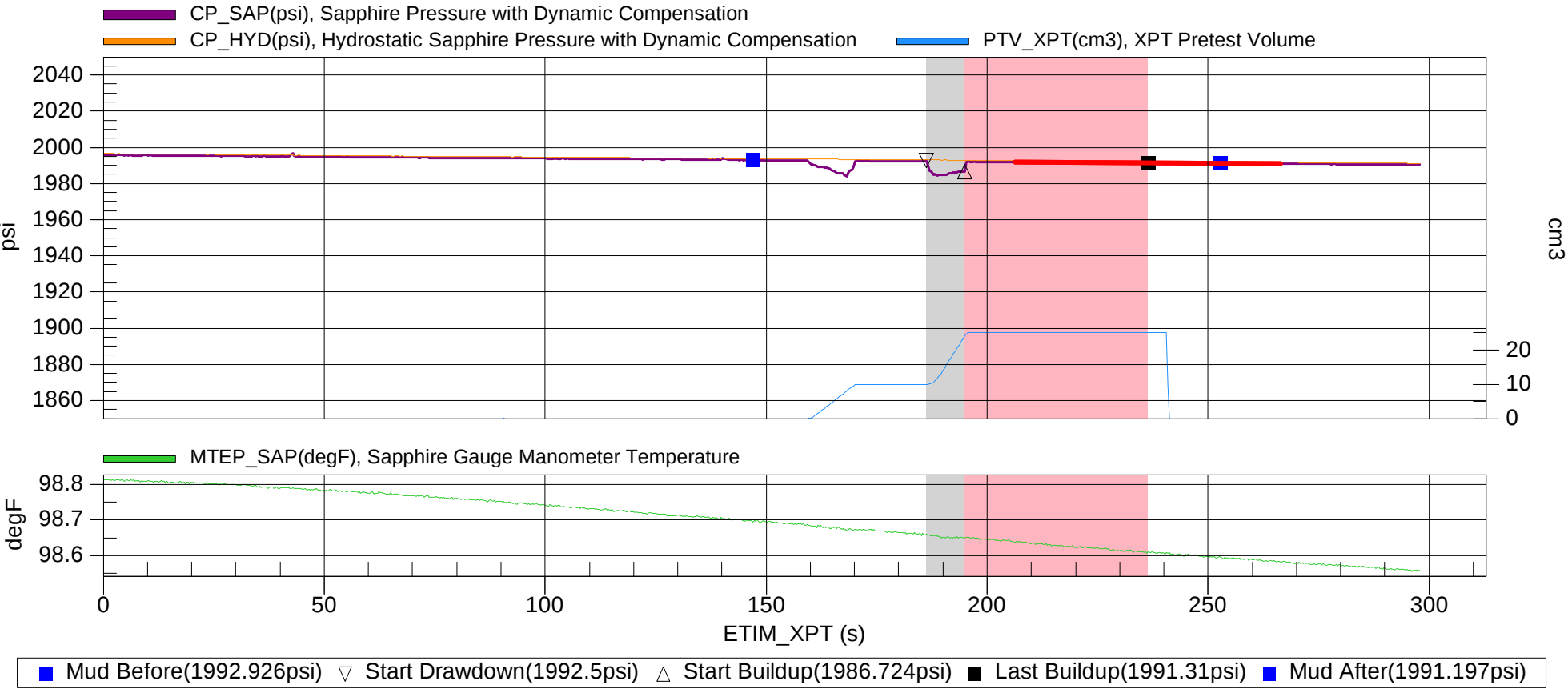
1.7.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:21 Probe MD:4518.98ft Probe TVD:3647.91ft
SAVIA PERU S.A.

12-FEB-2013
MaxWell_10Dlis

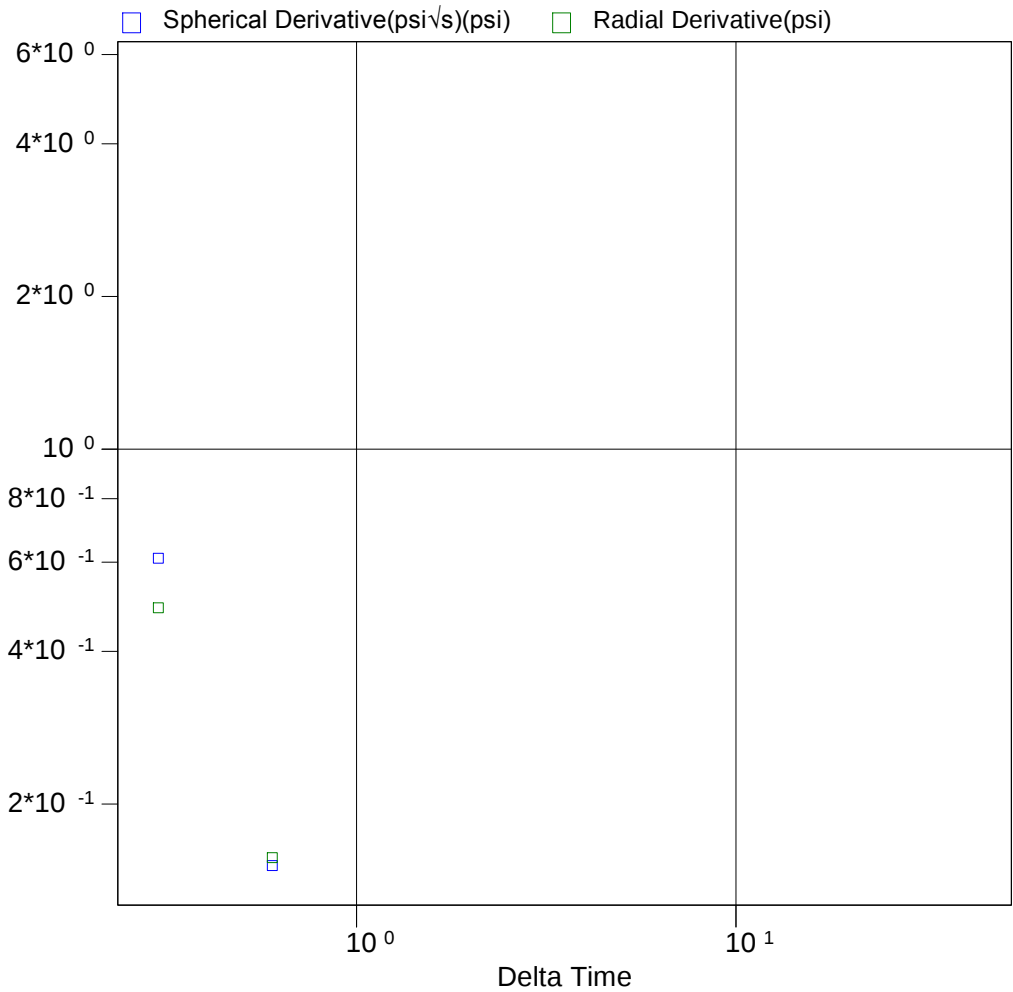
LOBITOS
LO6-27D



Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	No Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	1991.31 (psi)	Drawdown Mobility:		Mud Pressure Before:	1992.926 (psi)
Mud Pressure After:	1991.197 (psi)	Temperature Before:	98.69 (degF)	Temperature After:	98.6 (degF)
Pretest Rate:	1.61 (cm3/s)	Pretest Volume:	14.04 (cm3)	Comments:	

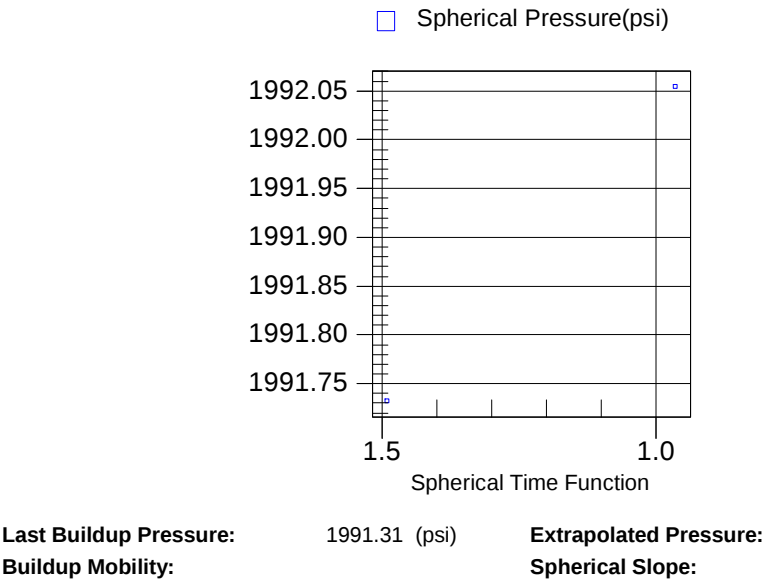
Flow Regime ID Plot

Run No:4 Test No:21 Probe MD:4518.98ft Probe TVD:3647.91ft

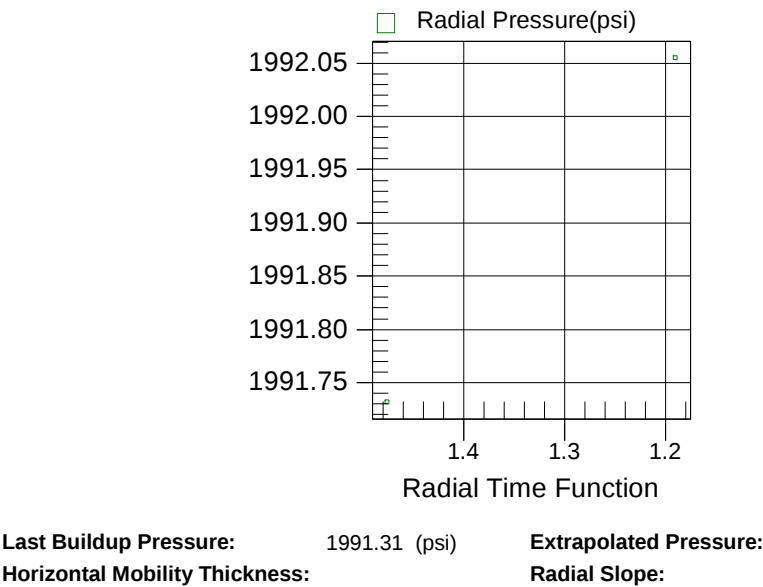


Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Radial Specialized Plot



1.8 MaxWell_8Dlis

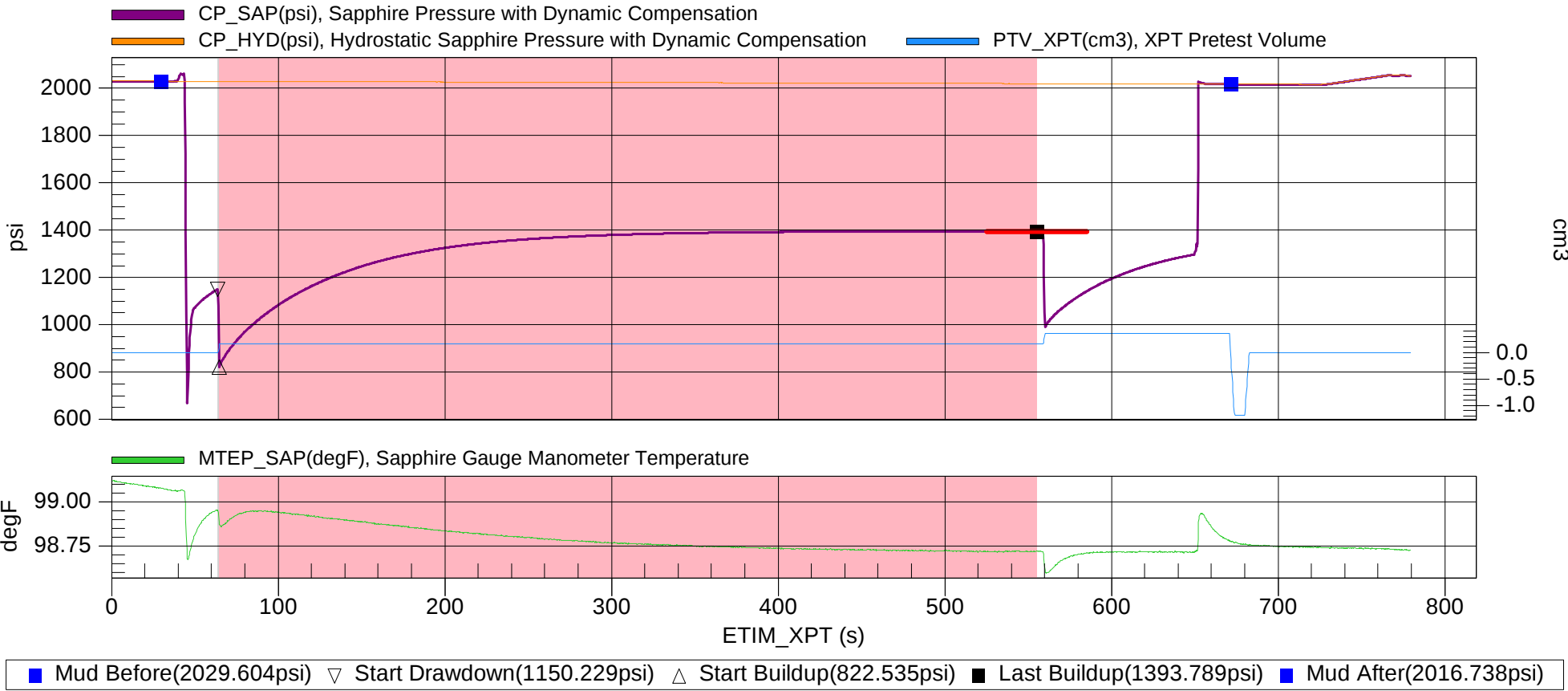
1.8.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:17 Probe MD:4542.48ft Probe TVD:3663.7ft
SAVIA PERU S.A.

12-FEB-2013
MaxWell_8Dlis

LOBITOS
LO6-27D

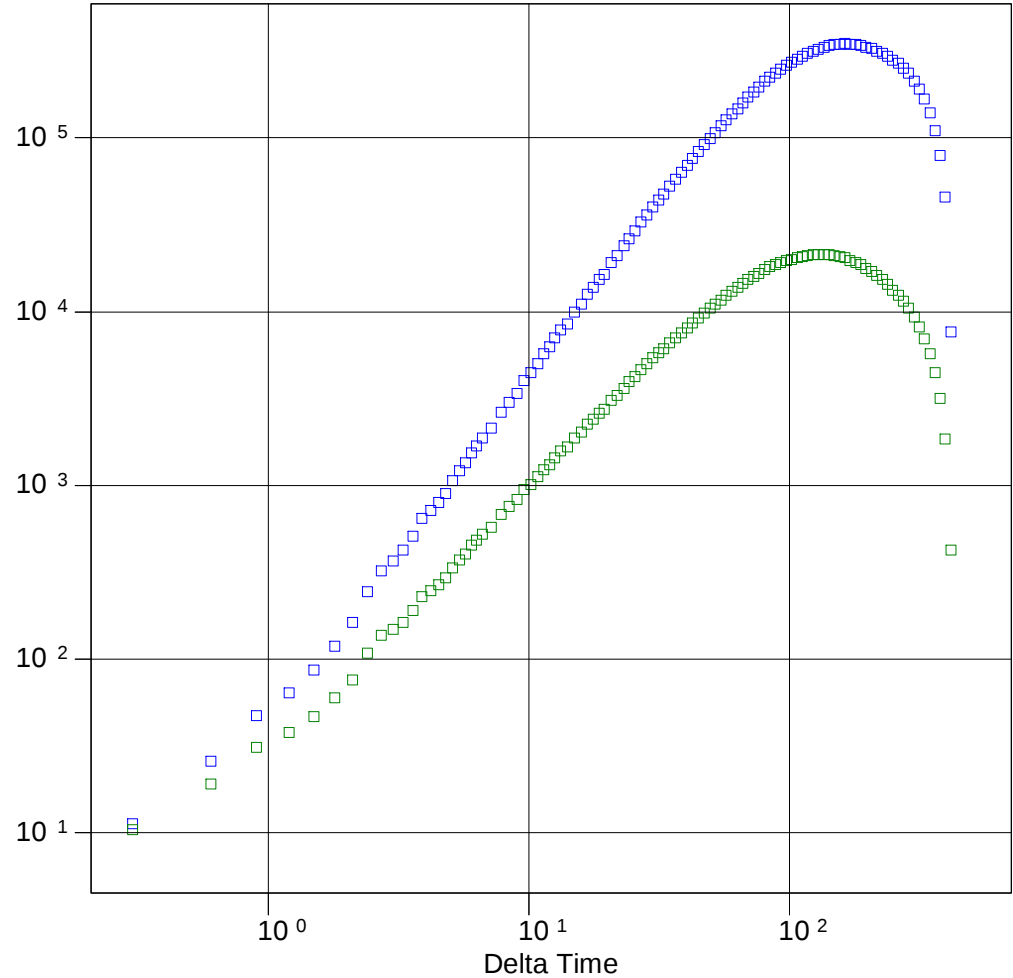


Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	Unstabilized
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	1393.789 (psi)
Last Read Buildup Pressure :	1393.789 (psi)	Drawdown Mobility:	0.03 (mD/cP)	Mud Pressure Before:	2029.604 (psi)
Mud Pressure After:	2016.738 (psi)	Temperature Before:	99.08 (degF)	Temperature After:	98.78 (degF)
Pretest Rate:	0.18 (cm3/s)	Pretest Volume:	0.16 (cm3)	Comments:	

Flow Regime ID Plot

Run No:4 Test No:17 Probe MD:4542.48ft Probe TVD:3663.7ft

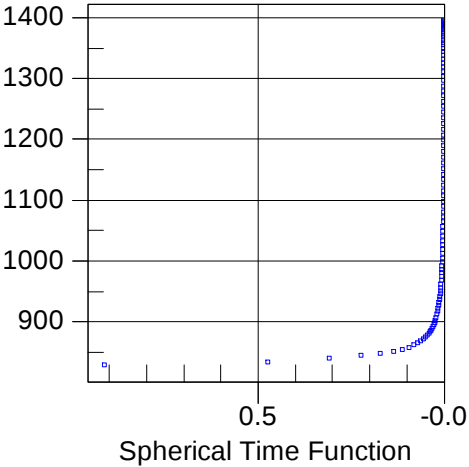
□ Spherical Derivative(psi√s)(psi) □ Radial Derivative(psi)



Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot

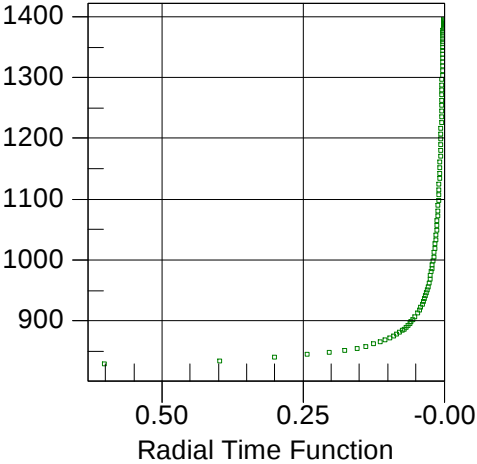
□ Spherical Pressure(psi)



Last Buildup Pressure: 1393.789 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot

□ Radial Pressure(psi)



Last Buildup Pressure: 1393.789 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

1.9 MaxWell_7Dis

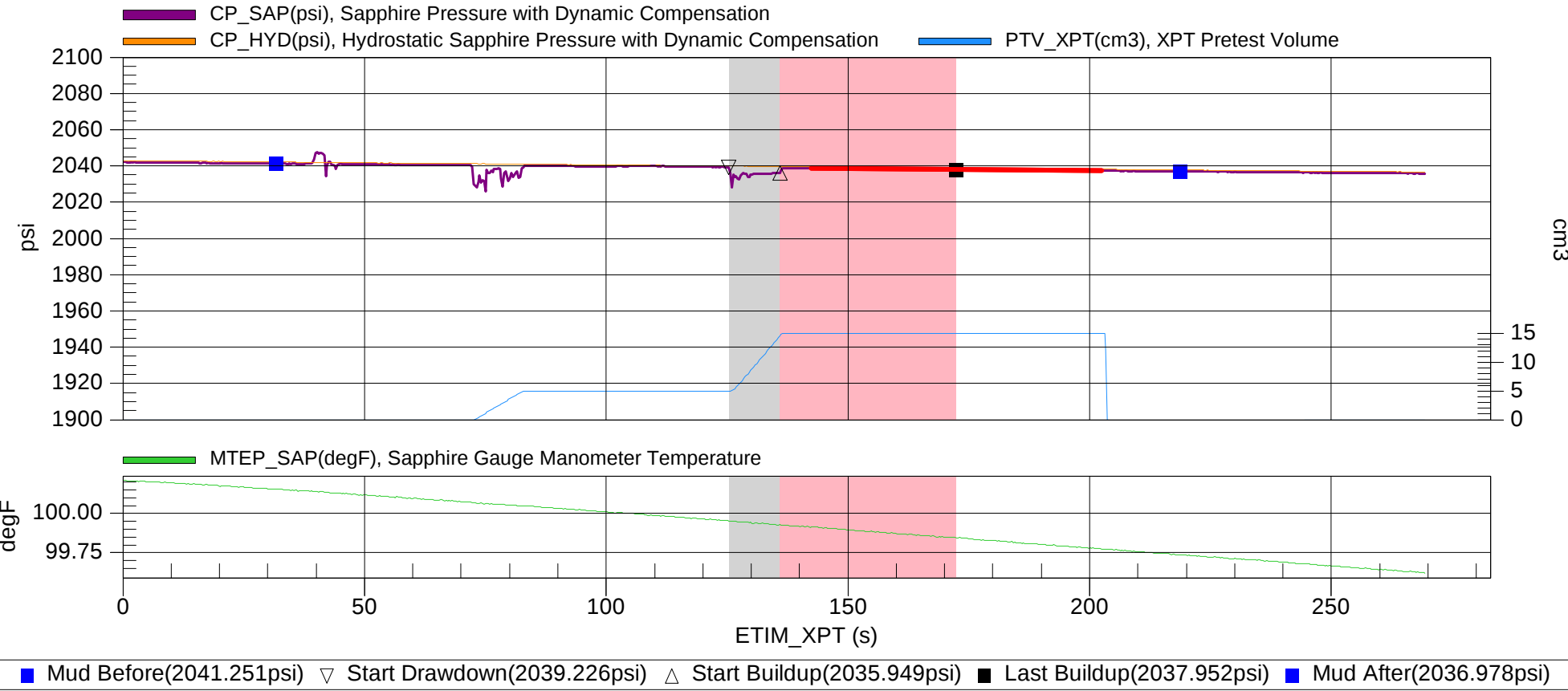
1.9.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:16 Probe MD:4543.02ft Probe TVD:3664.06ft
SAVIA PERU S.A.

12-FEB-2013
MaxWell_7Dis

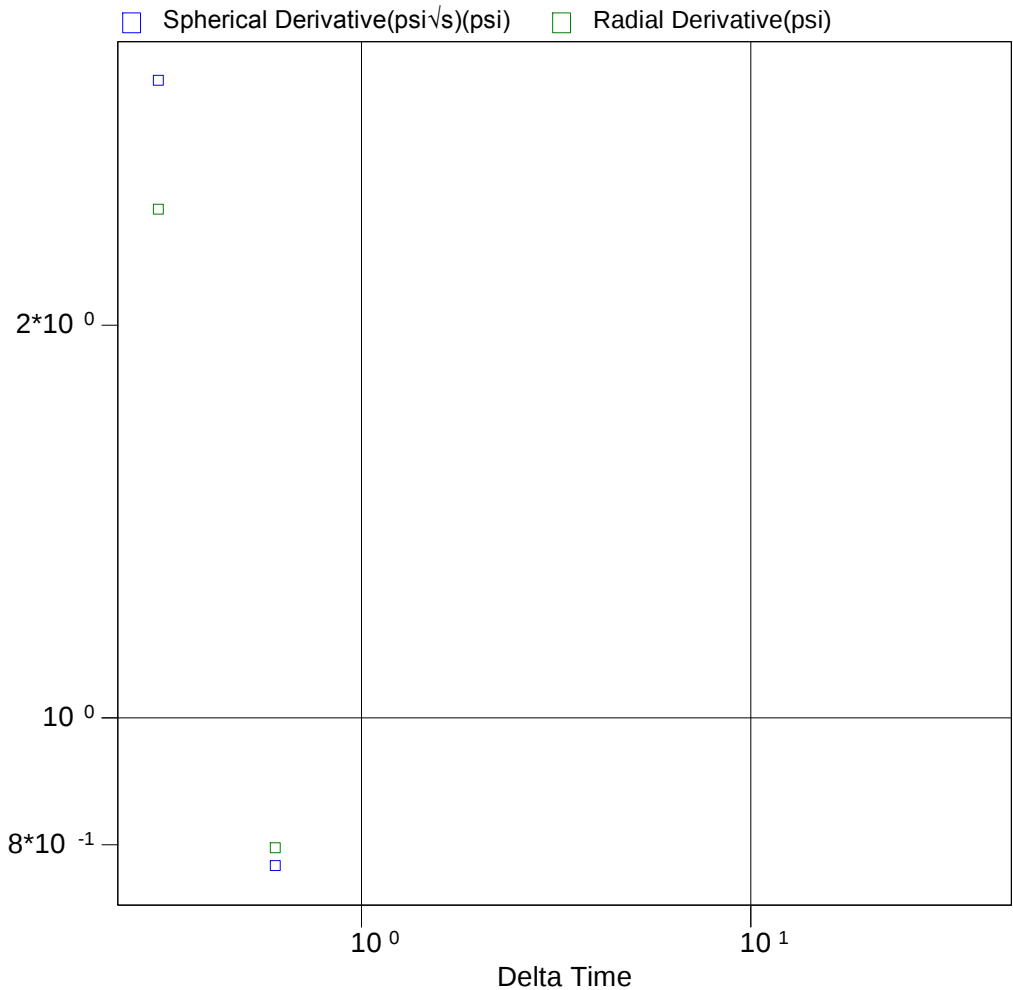
LOBITOS
LO6-27D



Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	No Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	2037.952 (psi)	Drawdown Mobility:		Mud Pressure Before:	2041.251 (psi)
Mud Pressure After:	2036.978 (psi)	Temperature Before:	100.15 (degF)	Temperature After:	99.74 (degF)
Pretest Rate:	0.91 (cm3/s)	Pretest Volume:	9.56 (cm3)	Comments:	

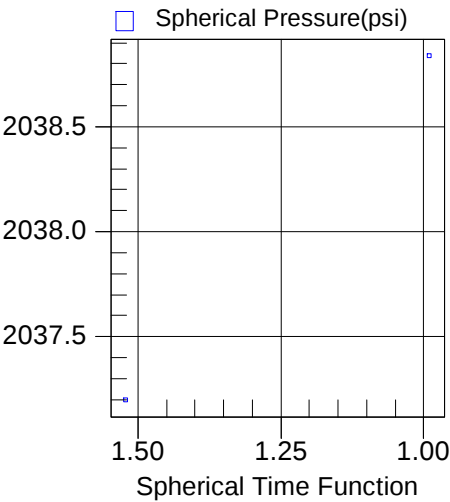
Flow Regime ID Plot

Run No:4 Test No:16 Probe MD:4543.02ft Probe TVD:3664.06ft



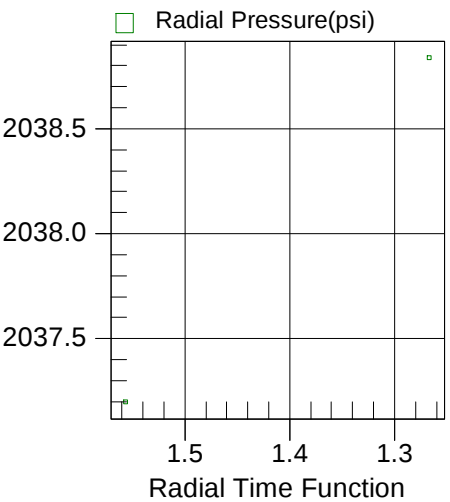
Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Last Buildup Pressure: 2037.952 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure: 2037.952 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

1.10 MaxWell_4Dlis

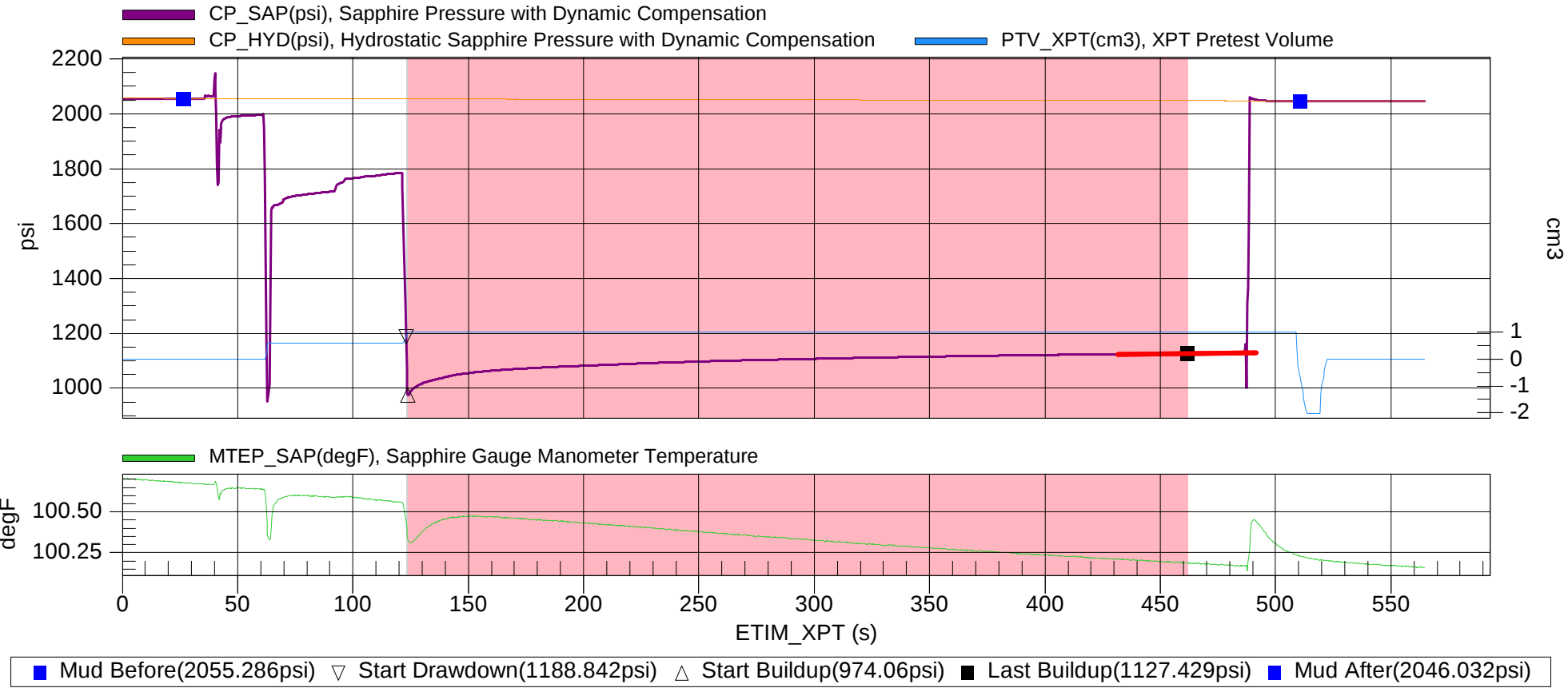
1.10.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:11 Probe MD:4626.04ft Probe TVD:3719.89ft
SAVIA PERU S.A.

12-FEB-2013
MaxWell_4Dlis

LOBITOS
LO6-27D

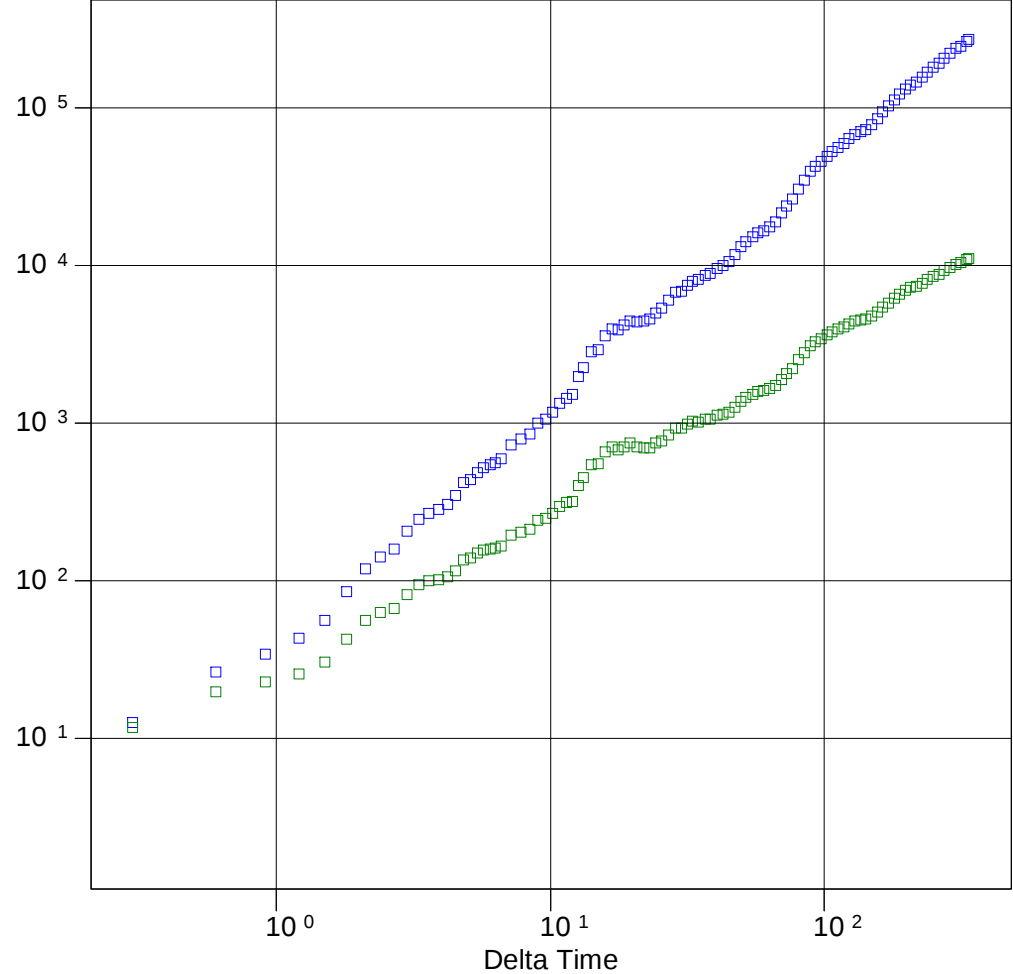


Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	Tight Test
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	1127.429 (psi)	Drawdown Mobility:		Mud Pressure Before:	2055.286 (psi)
Mud Pressure After:	2046.032 (psi)	Temperature Before:	100.68 (degF)	Temperature After:	100.23 (degF)
Pretest Rate:	0.2 (cm3/s)	Pretest Volume:	0.18 (cm3)	Comments:	

Flow Regime ID Plot

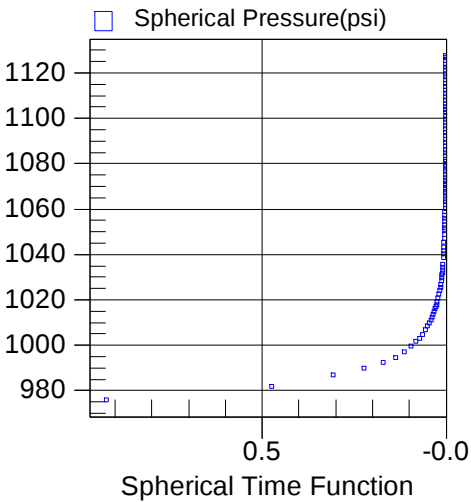
Run No:4 Test No:11 Probe MD:4626.04ft Probe TVD:3719.89ft

□ Spherical Derivative(psi√s) □ Radial Derivative(psi)



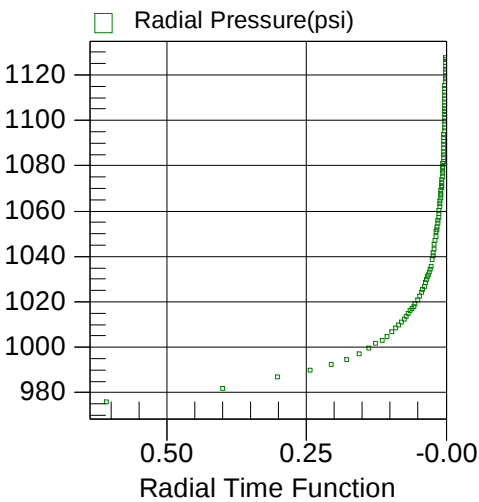
Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Last Buildup Pressure: 1127.429 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure: 1127.429 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

1.11 MaxWell_9Dlis

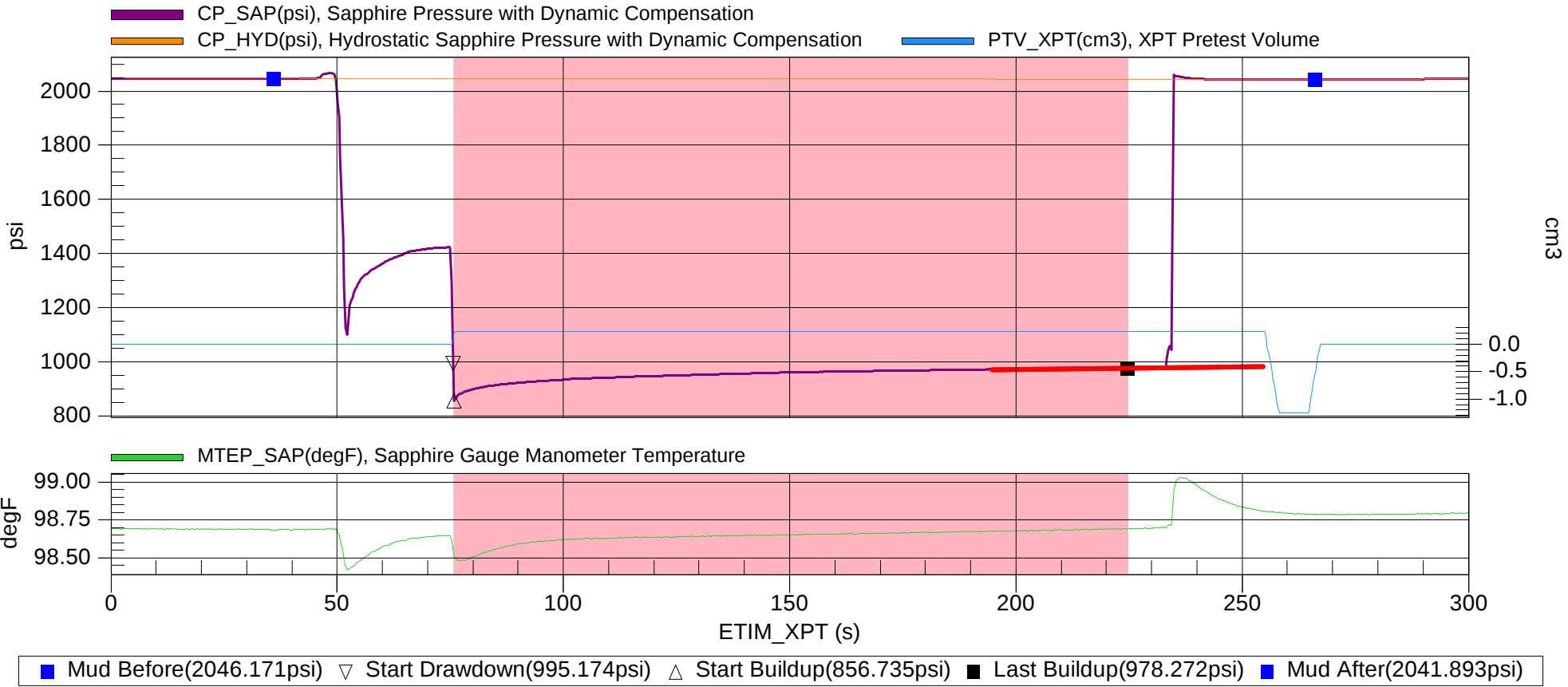
1.11.1 Pressure vs. Time Plot

Pressure vs. Time Plot

12-FEB-2013
MaxWell_9Dlis

Run No:4 Test No:19 Probe MD:4627ft Probe TVD:3720.54ft
SAVIA PERU S.A.

LOBITOS
LO6-27D

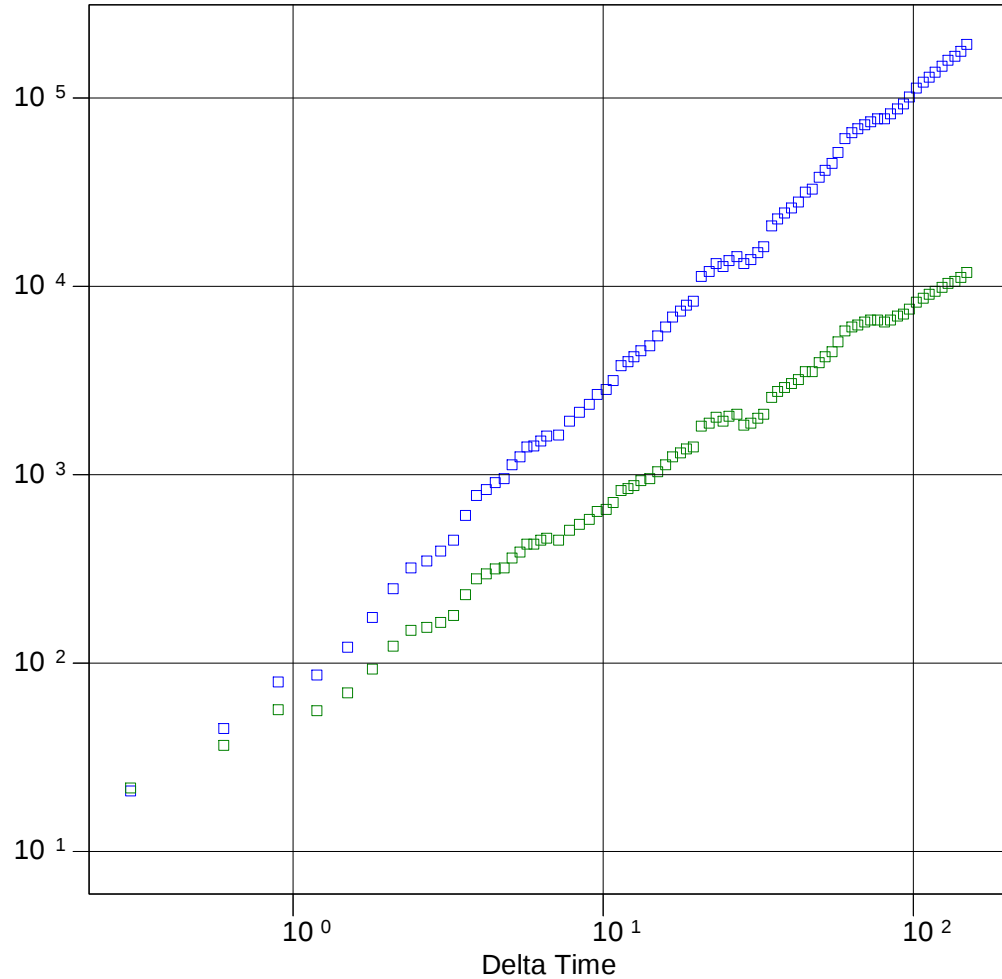


Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	Tight Test
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	978.273 (psi)	Drawdown Mobility:		Mud Pressure Before:	2046.171 (psi)
Mud Pressure After:	2041.893 (psi)	Temperature Before:	98.68 (degF)	Temperature After:	98.79 (degF)
Pretest Rate:	0.44 (cm3/s)	Pretest Volume:	0.13 (cm3)	Comments:	

Flow Regime ID Plot

Run No:4 Test No:19 Probe MD:4627ft Probe TVD:3720.54ft

☐ Spherical Derivative(psi/s) ☐ Radial Derivative(psi)



Actual Spherical Slope on Spherical Derivative:

Ideal Slope	0
-------------	---

Actual Spherical Slope on Radial Derivative:

Ideal Slope	-0.5
-------------	------

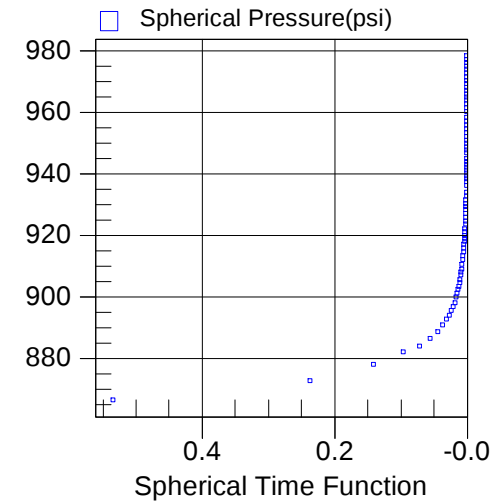
Actual Radial Slope on Spherical Derivative

Ideal Slope	0.5
-------------	-----

Actual Radial Slope on Radial Derivative:

Ideal Slope	0
-------------	---

Spherical Specialized Plot



Last Buildup Pressure:

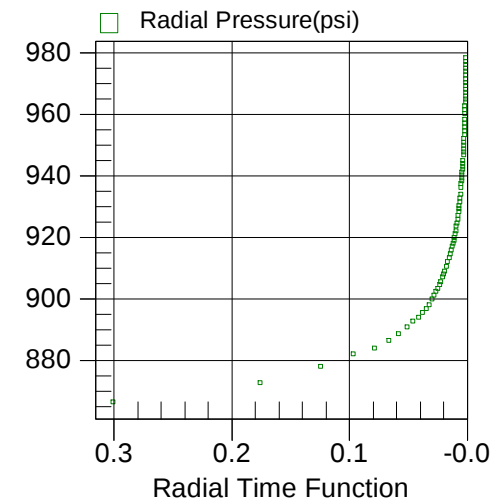
978.273 (psi)

Extrapolated Pressure:

Buildup Mobility:

Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure:

978.273 (psi)

Extrapolated Pressure:

Horizontal Mobility Thickness:

Radial Slope:

1.12 MaxWell_6Dlis

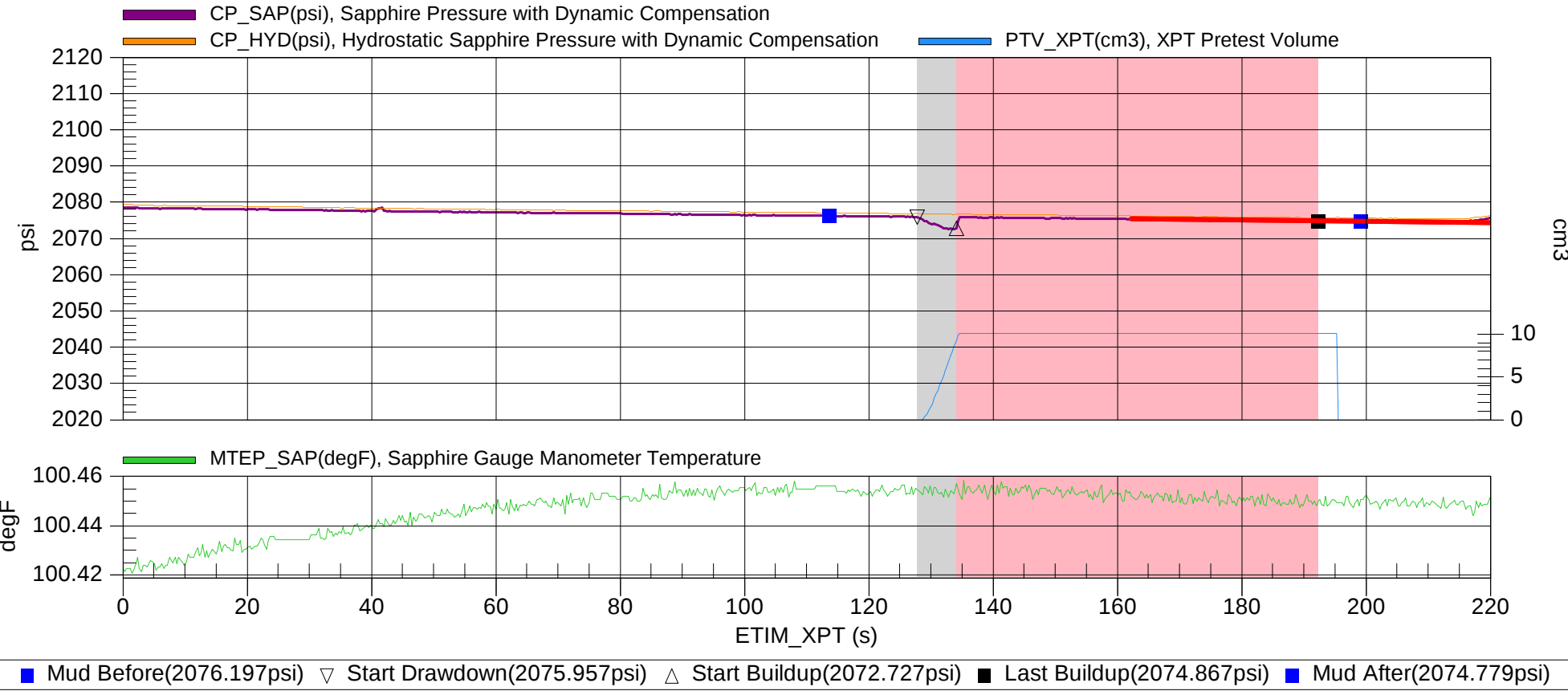
1.12.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:14 Probe MD:4738.01ft Probe TVD:3794.93ft
SAVIA PERU S.A.

12-FEB-2013
MaxWell_6Dlis

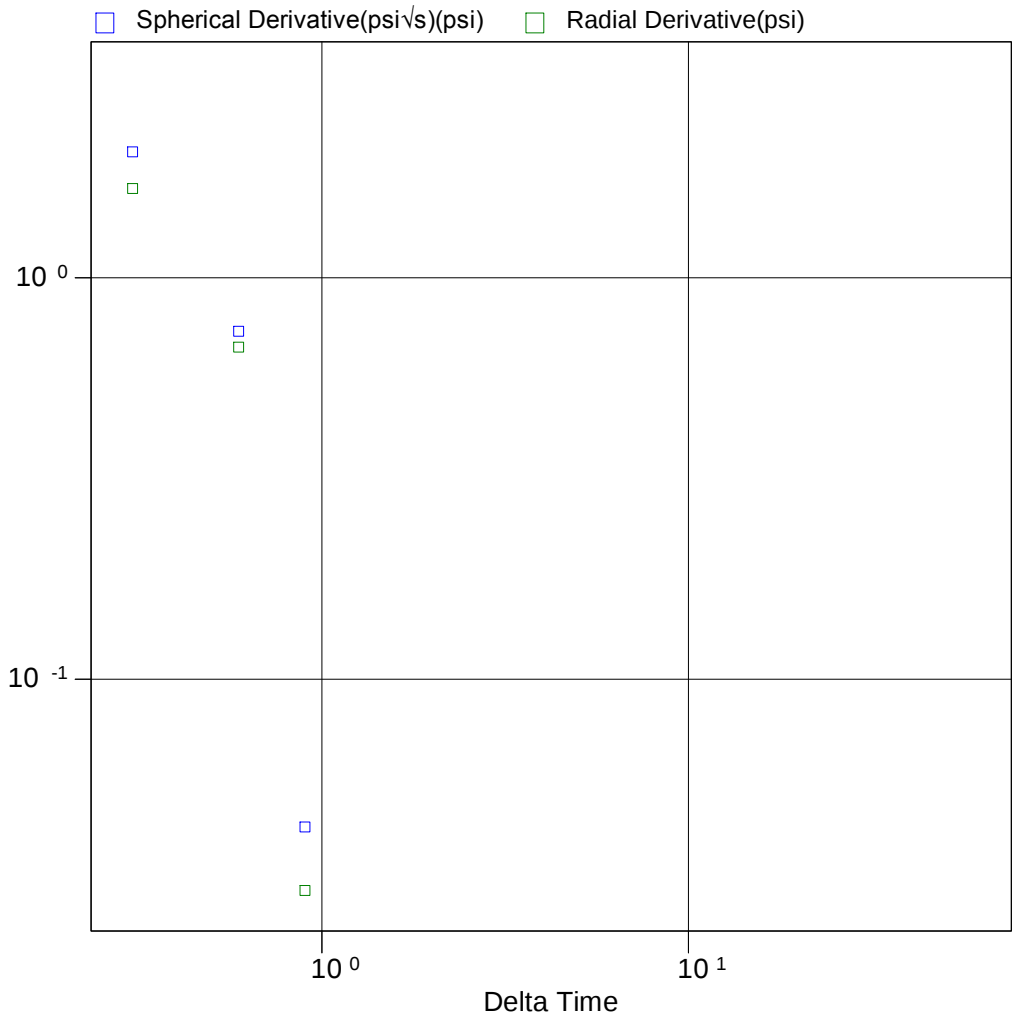
LOBITOS
LO6-27D



Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	No Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	2074.867 (psi)	Drawdown Mobility:		Mud Pressure Before:	2076.197 (psi)
Mud Pressure After:	2074.779 (psi)	Temperature Before:	100.46 (degF)	Temperature After:	100.45 (degF)
Pretest Rate:	1.47 (cm3/s)	Pretest Volume:	9.27 (cm3)	Comments:	

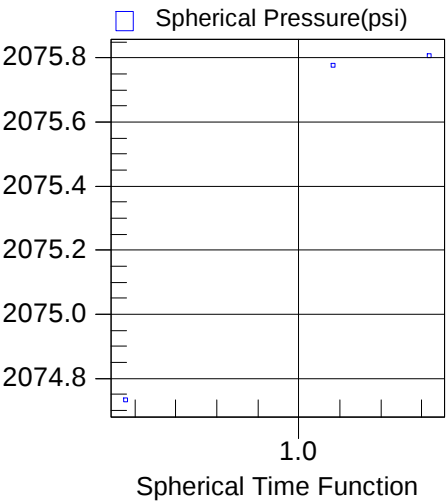
Flow Regime ID Plot

Run No:4 Test No:14 Probe MD:4738.01ft Probe TVD:3794.93ft



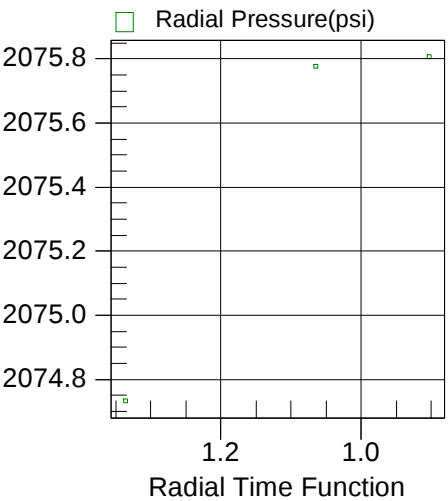
Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Last Buildup Pressure: 2074.867 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure: 2074.867 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

1.13 MaxWell_5Dlis

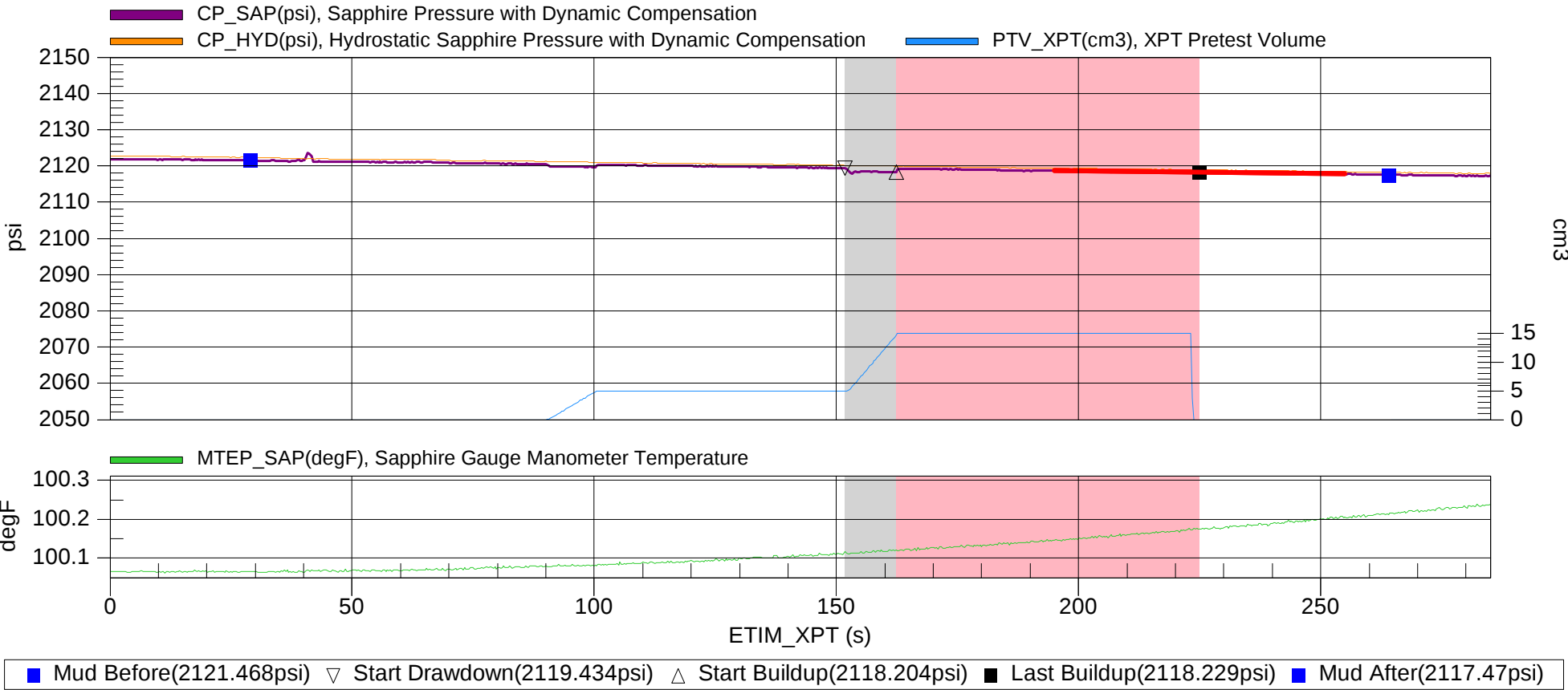
1.13.1 Pressure vs. Time Plot

Pressure vs. Time Plot

Run No:4 Test No:13 Probe MD:4830ft Probe TVD:3857.29ft
SAVIA PERU S.A.

12-FEB-2013
MaxWell_5Dlis

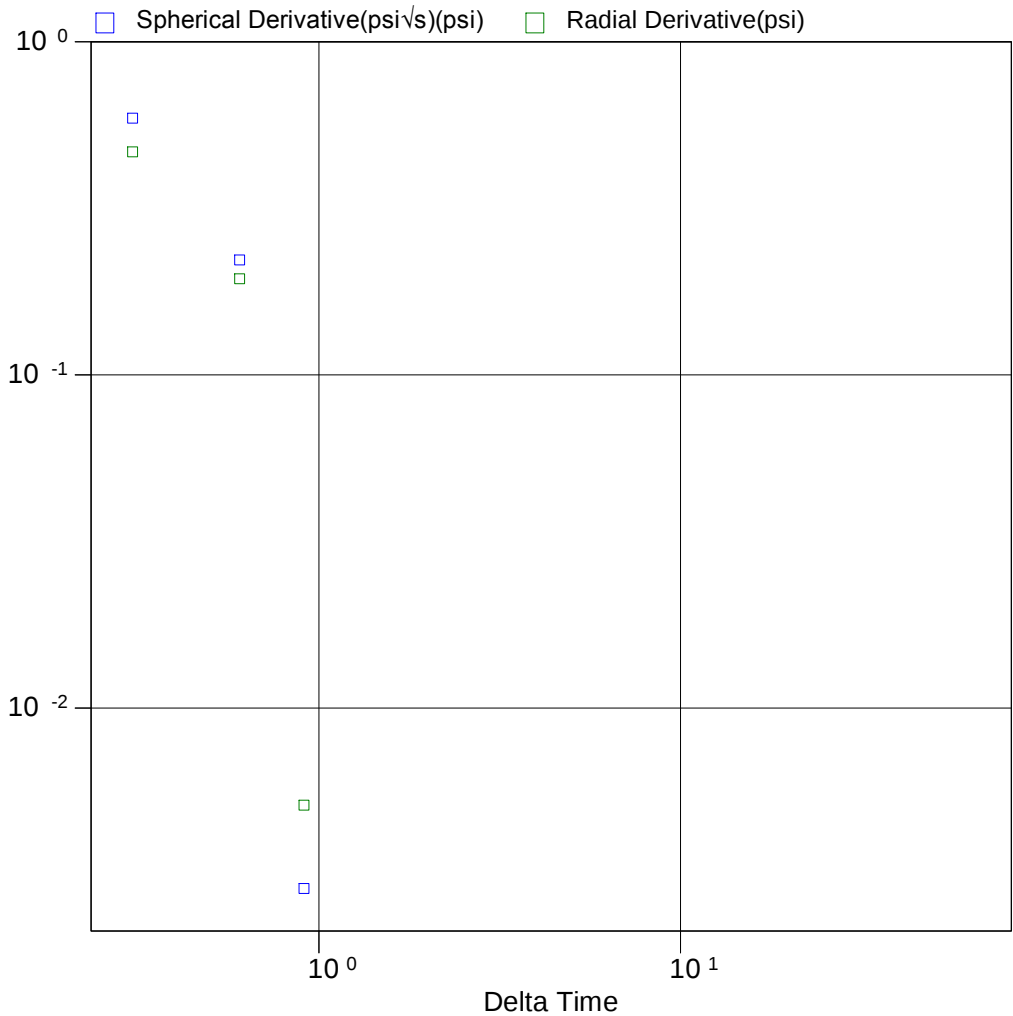
LOBITOS
LO6-27D



Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	No Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	2118.229 (psi)	Drawdown Mobility:		Mud Pressure Before:	2121.468 (psi)
Mud Pressure After:	2117.47 (psi)	Temperature Before:	100.07 (degF)	Temperature After:	100.21 (degF)
Pretest Rate:	0.93 (cm3/s)	Pretest Volume:	9.71 (cm3)	Comments:	

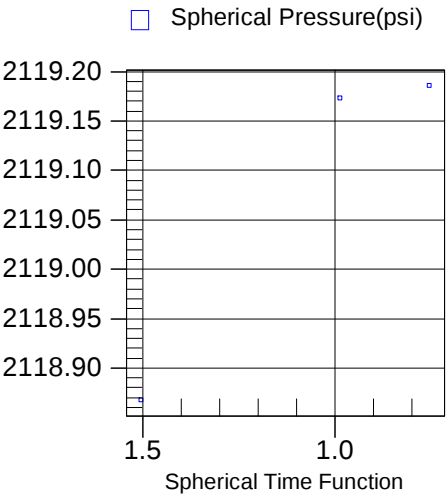
Flow Regime ID Plot

Run No:4 Test No:13 Probe MD:4830ft Probe TVD:3857.29ft



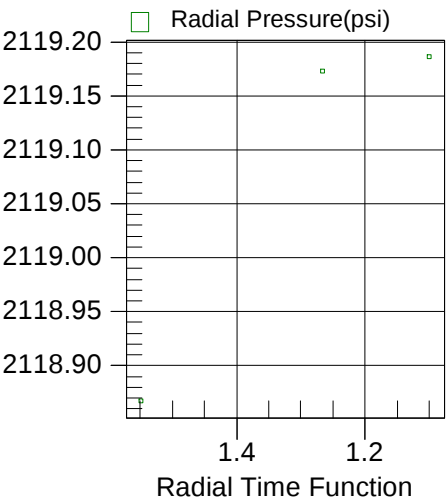
Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Last Buildup Pressure: 2118.229 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure: 2118.229 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

1.14 MaxWell_3Dis

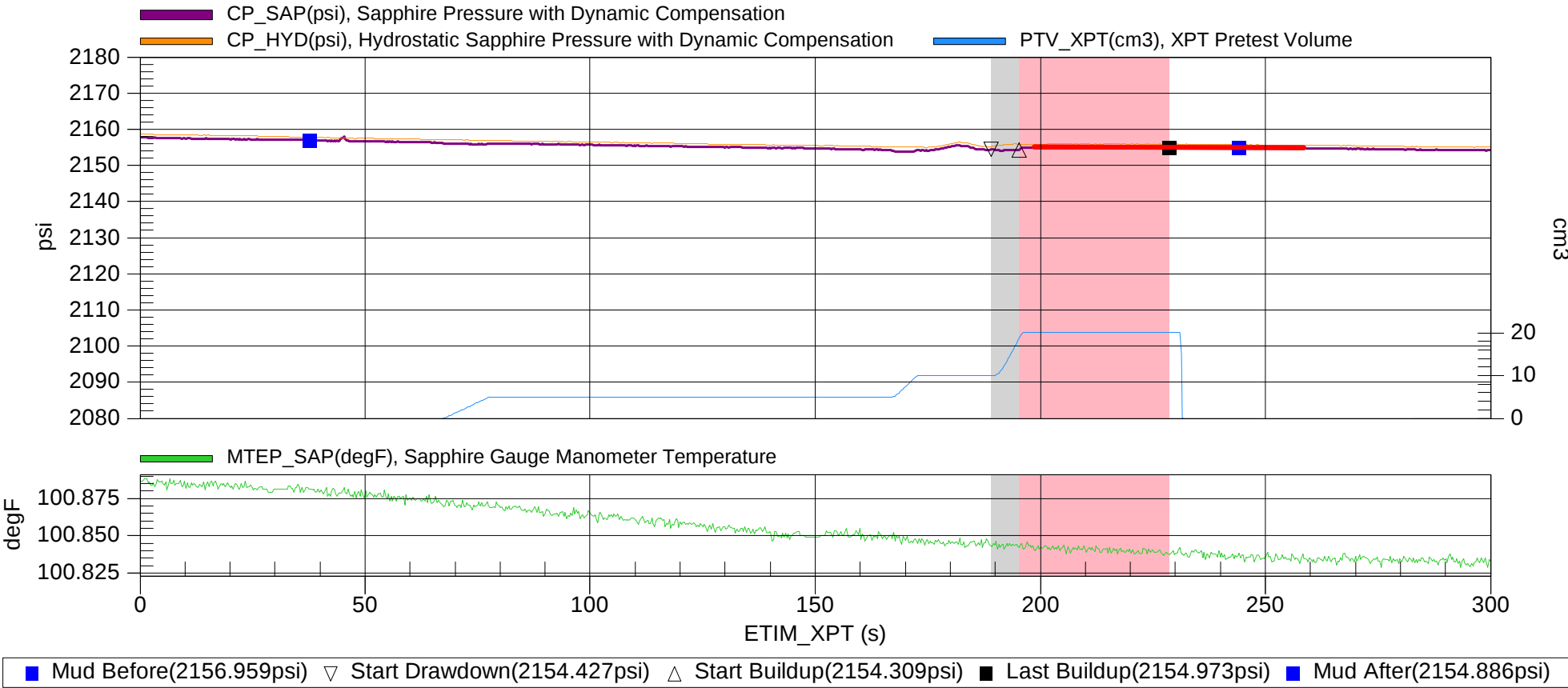
1.14.1 Pressure vs. Time Plot

Pressure vs. Time Plot

12-FEB-2013
MaxWell_3Dis

Run No:4 Test No:9 Probe MD:4861ft Probe TVD:3878.37ft
SAVIA PERU S.A.

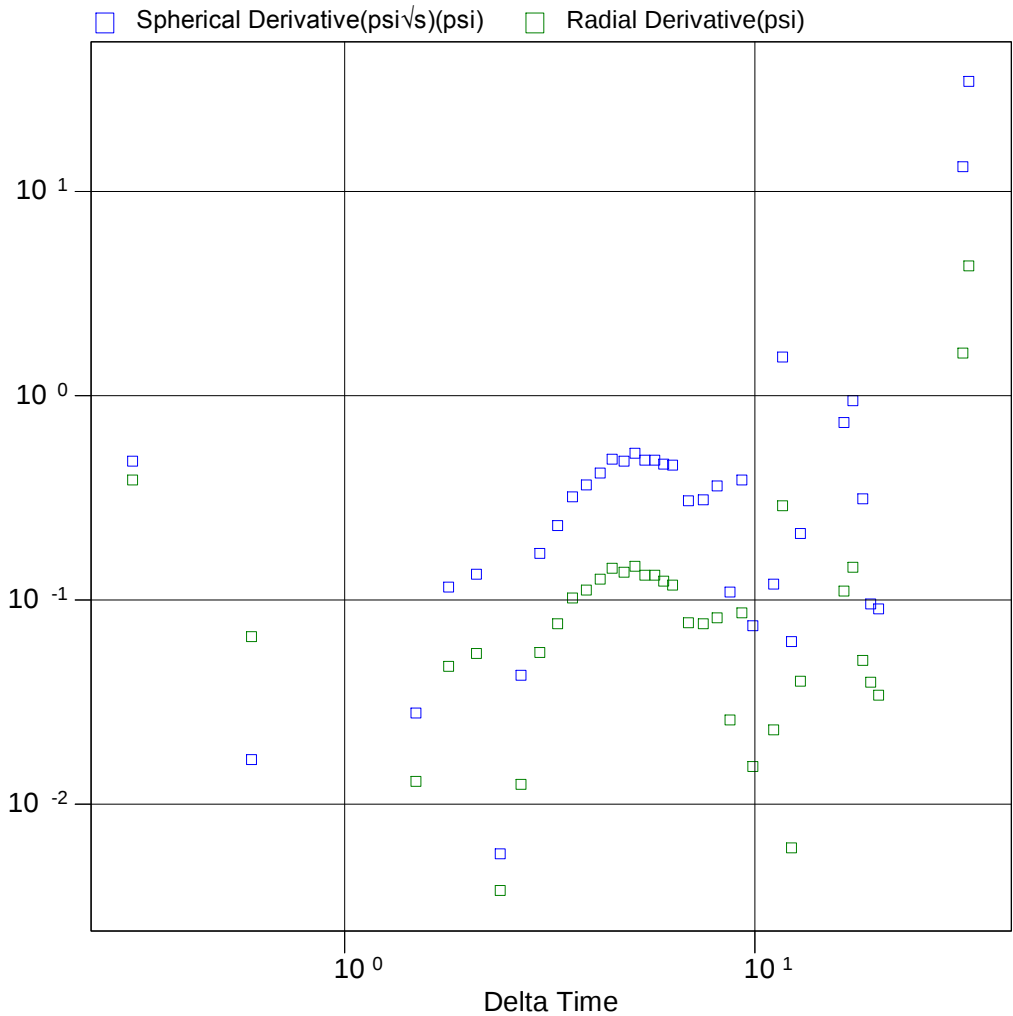
LOBITOS
LO6-27D



Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	No Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	2154.973 (psi)	Drawdown Mobility:		Mud Pressure Before:	2156.959 (psi)
Mud Pressure After:	2154.886 (psi)	Temperature Before:	100.88 (degF)	Temperature After:	100.84 (degF)
Pretest Rate:	1.39 (cm3/s)	Pretest Volume:	8.73 (cm3)	Comments:	

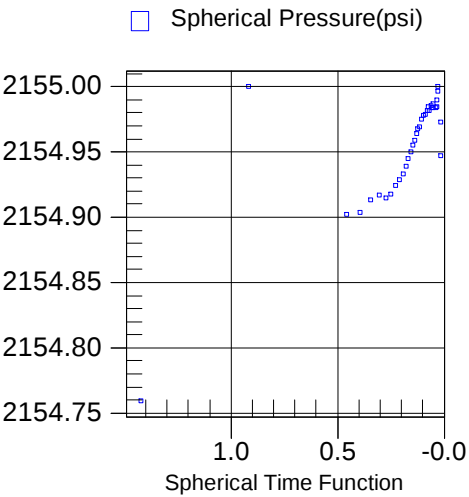
Flow Regime ID Plot

Run No:4 Test No:9 Probe MD:4861ft Probe TVD:3878.37ft



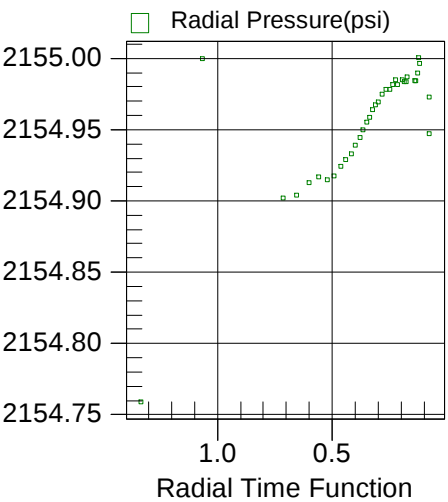
Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Last Buildup Pressure: 2154.973 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure: 2154.973 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

1.15 MaxWell_2Dis

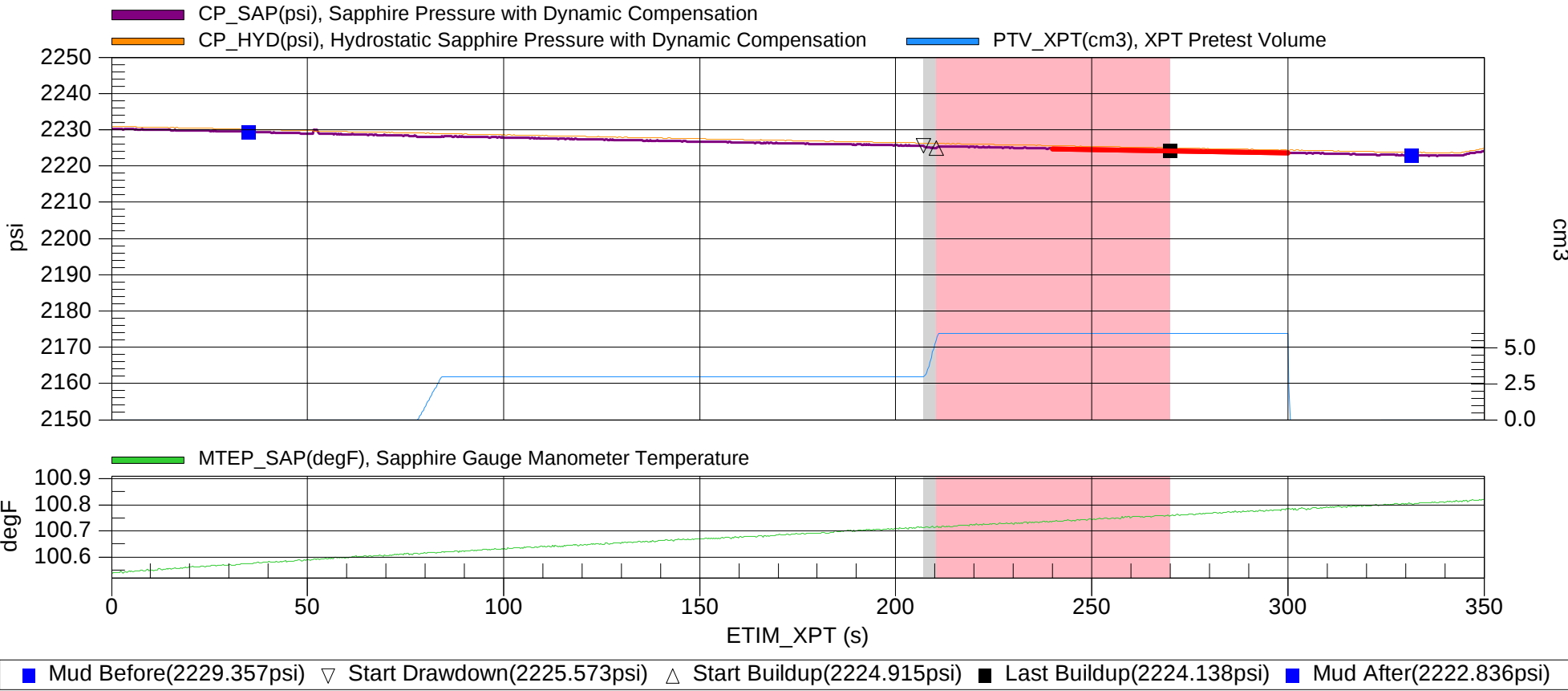
1.15.1 Pressure vs. Time Plot

Pressure vs. Time Plot

12-FEB-2013
MaxWell_2Dis

Run No:4 Test No:6 Probe MD:5015ft Probe TVD:3982.42ft
SAVIA PERU S.A.

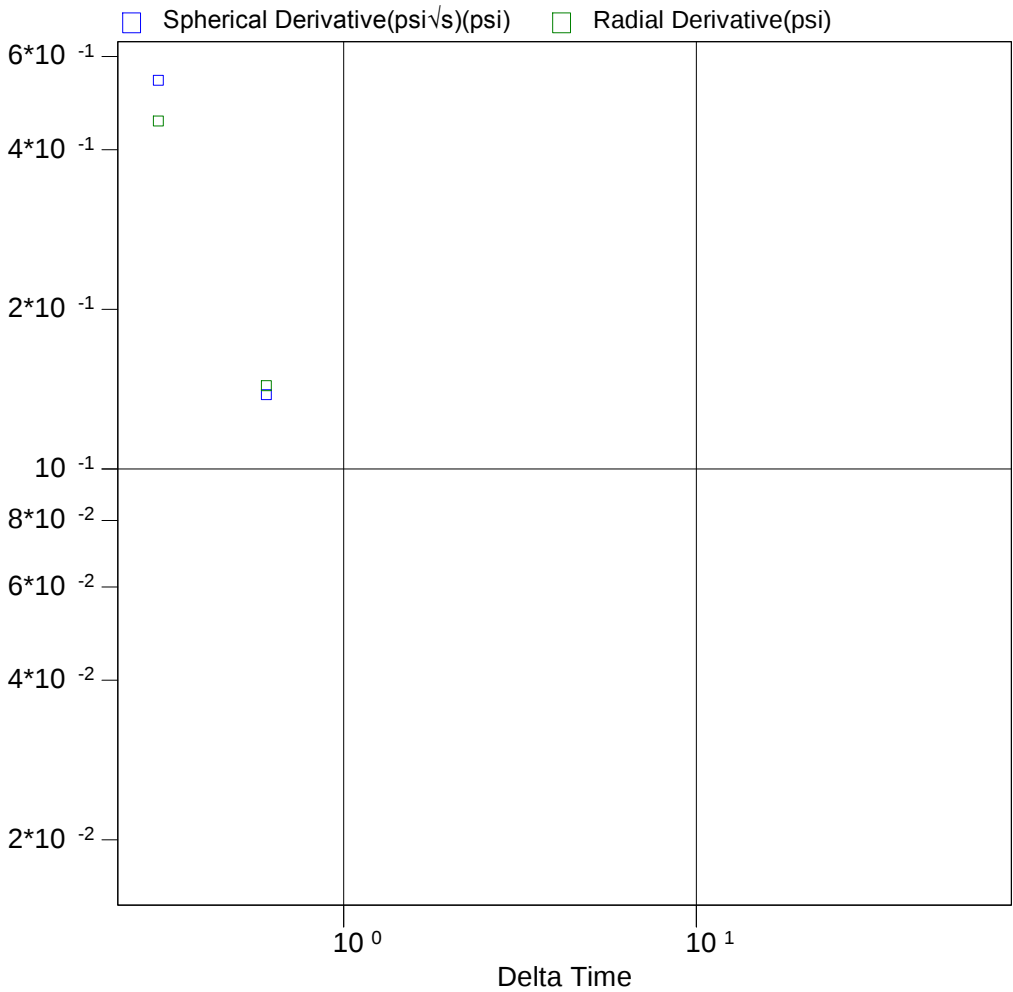
LOBITOS
LO6-27D



Tool Type:	XPT	Pretest Type:	Volumetric Drawdown Pretest	Pretest Status:	No Seal
Packer/Probe Type:	Conventional probe	Primary Gauge:	CP_SAP	Formation Pressure:	
Last Read Buildup Pressure :	2224.138 (psi)	Drawdown Mobility:		Mud Pressure Before:	2229.357 (psi)
Mud Pressure After:	2222.836 (psi)	Temperature Before:	100.57 (degF)	Temperature After:	100.8 (degF)
Pretest Rate:	0.78 (cm3/s)	Pretest Volume:	2.57 (cm3)	Comments:	

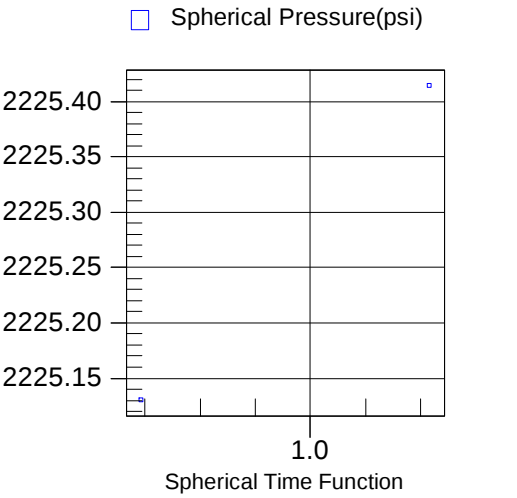
Flow Regime ID Plot

Run No:4 Test No:6 Probe MD:5015ft Probe TVD:3982.42ft



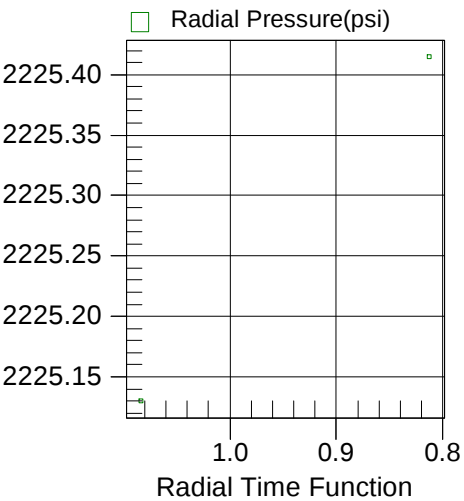
Actual Spherical Slope on Spherical Derivative:	Ideal Slope	0
Actual Spherical Slope on Radial Derivative:	Ideal Slope	-0.5
Actual Radial Slope on Spherical Derivative	Ideal Slope	0.5
Actual Radial Slope on Radial Derivative:	Ideal Slope	0

Spherical Specialized Plot



Last Buildup Pressure: 2224.138 (psi) Extrapolated Pressure:
Buildup Mobility: Spherical Slope:

Radial Specialized Plot



Last Buildup Pressure: 2224.138 (psi) Extrapolated Pressure:
Horizontal Mobility Thickness: Radial Slope:

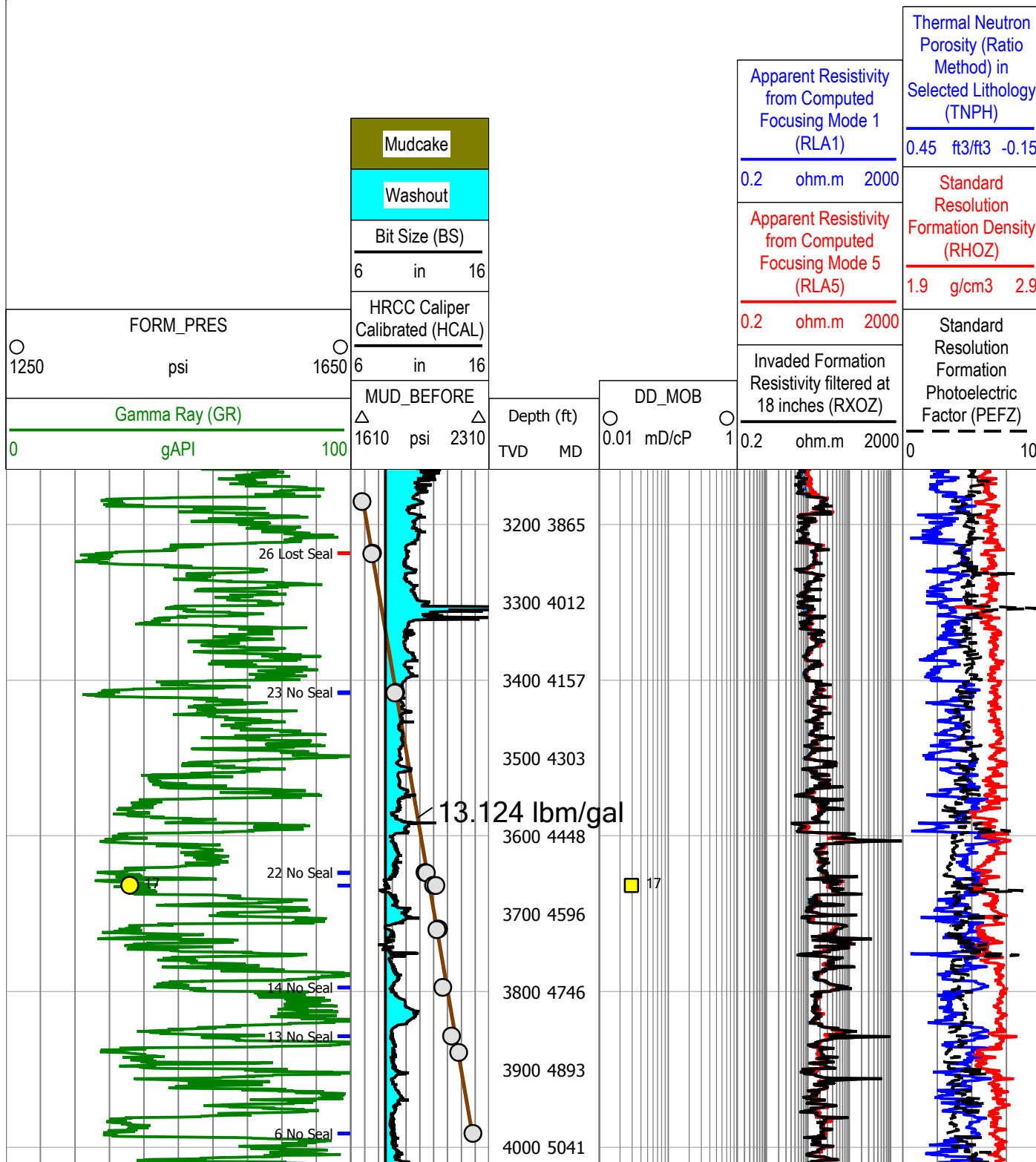
Section 5

Appendix

Description: Pressure vs. Depth View Format: TVD Index Scale: 1:2196 Index Unit: ft Index Type: TVD Creation Date: 19-Feb-2013 18:56:56

— Lost Seal -

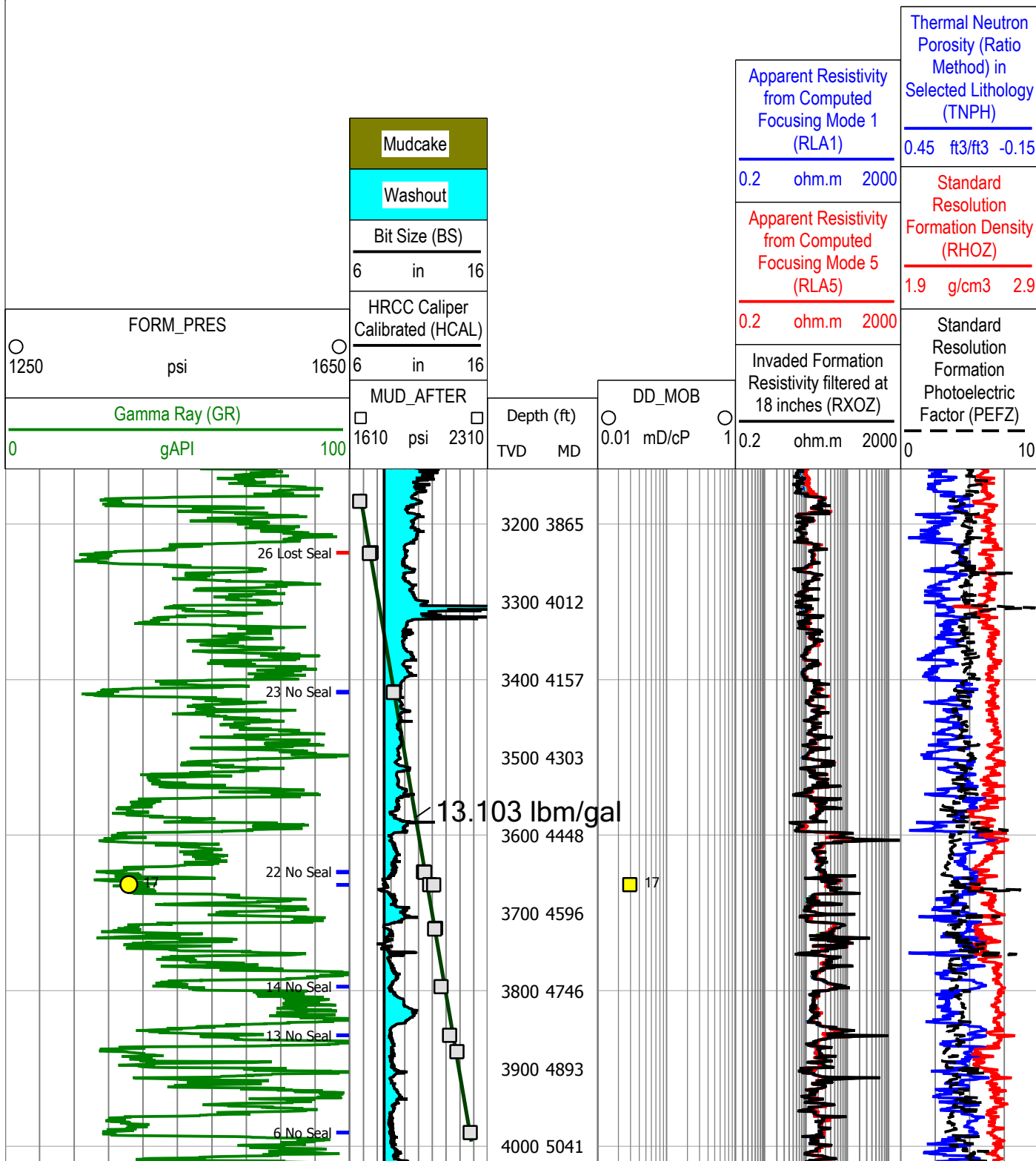
— No Seal -



Description: Pressure vs. Depth View Format: TVD Index Scale: 1:2196 Index Unit: ft Index Type: TVD Creation Date: 19-Feb-2013 18:59:13

— Lost Seal -

— No Seal -

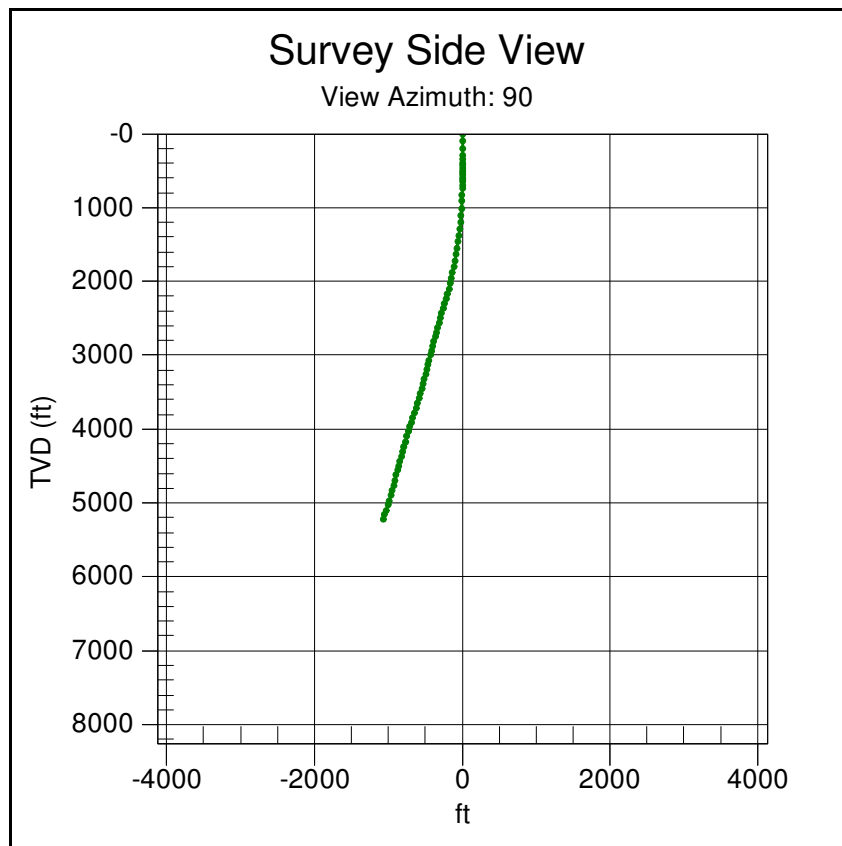
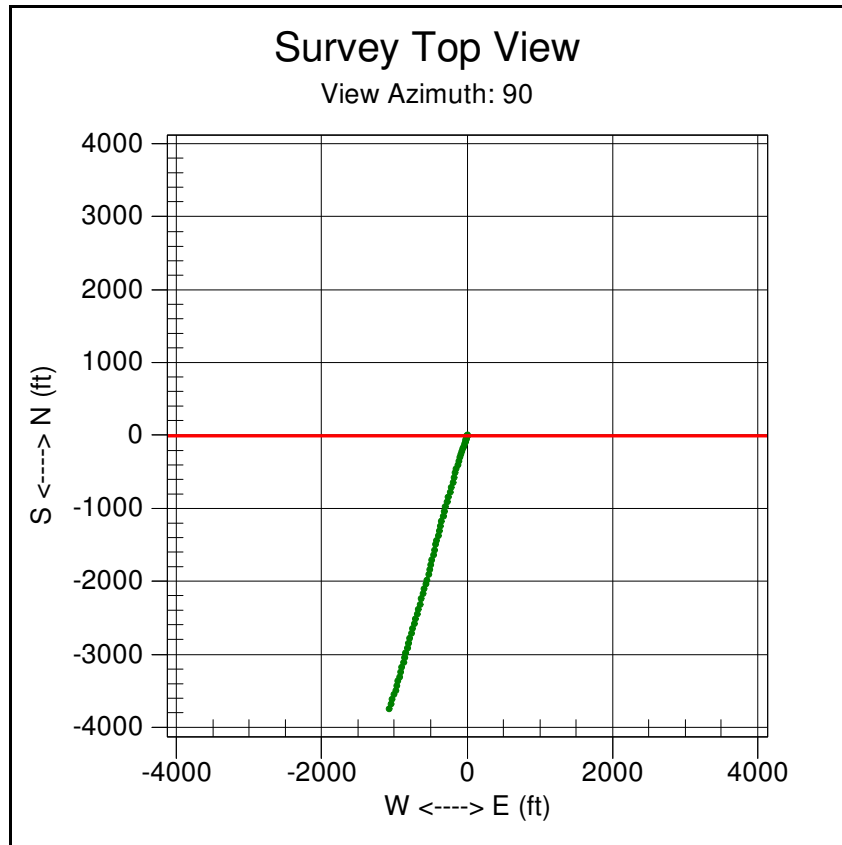


Gradient Table

Mud Before Formation Gradient Summary												
Well Name	Gradient	Top TVD	Bottom TVD	Top TVDSS	Bottom TVDSS	Density	Color	Density Statistical Error	Density Theoretical Error	R2	Chi2 Probability	STD
	psi/ft	ft	ft	ft	ft	lbm/gal		lbm/gal	lbm/gal			psi
LO6-27D	0.681	3159.79	3993.88	-3105.79	-3939.88	13.124		0.632	-0.057	0.99358	0	14.287

Mud After Formation Gradient Summary												
Well Name	Gradient	Top TVD	Bottom TVD	Top TVDSS	Bottom TVDSS	Density	Color	Density Statistical Error	Density Theoretical Error	R2	Chi2 Probability	STD
	psi/ft	ft	ft	ft	ft	lbm/gal		lbm/gal	lbm/gal			psi
LO6-27D	0.68	3160.89	3993.88	-3106.89	-3939.88	13.103		0.566	-0.057	0.99483	0	12.796

Well Survey Table



#	MD (ft)	Incl (deg)	Azim (deg)	TVD (ft)	North (ft)	East (ft)	Dep.Azim. (deg)	Dog Leg Sev. (deg/100ft)
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
3	100	0.52	146.17	100	-0.38	0.25	146.17	0.52
4	200	0.27	78.01	200	-0.7	0.74	133.78	0.49
5	300	0.44	200.82	300	-1.01	0.83	140.73	0.63
6	350	0.78	43.16	349.99	-0.95	0.99	133.58	2.4
7	400	1.11	112.06	399.99	-0.88	1.68	117.7	2.21
8	431	1.34	359.11	430.99	-0.63	1.95	107.92	6.6
9	465	1.73	7.93	464.97	0.28	2.01	82.2	1.34
10	500	1.7	14.48	499.96	1.3	2.22	59.57	0.57
11	531	0.96	3.96	530.95	2.01	2.35	49.5	2.5
12	562	0.4	0.66	561.95	2.37	2.37	44.94	1.81
13	594	0.56	247.14	593.95	2.42	2.23	42.55	2.52
14	624	1.25	211.59	623.94	2.09	1.92	42.57	2.86
15	654	1.82	204.71	653.93	1.38	1.55	48.35	1.99
16	699	2.96	196.17	698.89	-0.39	0.93	112.74	2.65
17	744	4.32	196.46	743.8	-3.13	0.12	177.77	3.02
18	839	7.81	196.62	838.25	-12.75	-2.74	192.12	3.67
19	914	9.82	190.73	912.37	-23.92	-5.39	192.69	2.93
20	1019	11.7	194.9	1015.52	-43.01	-9.79	192.83	1.94
21	1114	15.4	199.7	1107.86	-64.2	-16.52	194.43	4.07
22	1209	17.1	199.7	1199.06	-89.22	-25.48	195.94	1.79
23	1304	18.3	199.5	1289.56	-116.43	-35.17	196.81	1.26
24	1399	20.2	197.6	1379.25	-146.13	-45.11	197.16	2.11
25	1493	23.1	196.9	1466.61	-179.25	-55.38	197.17	3.1
26	1588	26.2	199.2	1552.94	-216.9	-67.7	197.33	3.42
27	1682	29.1	200.1	1636.2	-257.97	-82.38	197.71	3.12
28	1778	31.5	199.9	1719.08	-303.48	-98.94	198.06	2.5
29	1873	33.9	198.8	1799.02	-351.9	-115.93	198.23	2.6
30	1968	36.2	195.4	1876.79	-404.04	-131.92	198.08	3.18
31	2063	38.1	194.6	1952.51	-459.45	-146.76	197.71	2.06
32	2158	40.2	194.8	2026.17	-517.47	-161.98	197.38	2.21
33	2254	43	196.1	2097.96	-578.89	-178.98	197.18	3.05
34	2348	45.6	196.9	2165.23	-641.82	-197.63	197.11	2.83
35	2444	45.9	197.1	2232.22	-707.58	-217.74	197.1	0.35
36	2539	45.8	196.9	2298.39	-772.77	-237.67	197.1	0.18
37	2634	46.9	195.6	2363.96	-838.76	-256.9	197.03	1.52
38	2729	47.3	195	2428.63	-905.89	-275.26	196.9	0.63
39	2823	47.2	195	2492.44	-972.56	-293.12	196.77	0.11
40	2919	47	195	2557.79	-1040.49	-311.32	196.66	0.21
41	3013	47	195	2621.89	-1106.89	-329.12	196.56	0
42	3107	46.6	194.7	2686.24	-1173.13	-346.68	196.46	0.48
43	3201	46	194.1	2751.18	-1238.95	-363.58	196.35	0.79
44	3295	46.3	194.3	2816.3	-1304.67	-380.21	196.25	0.35
45	3391	48.4	194.6	2881.34	-1373.04	-397.83	196.16	2.2
46	3486	48.4	194.1	2944.42	-1441.86	-415.44	196.07	0.39

47	3558	47.7	193.7	2992.55	-1493.84	-428.3	196	1.06
48	3670	47.3	193.1	3068.21	-1574.17	-447.44	195.87	0.53
49	3763	47.7	193.2	3131.04	-1640.93	-463.04	195.76	0.44
50	3858	47.5	194.1	3195.1	-1709.1	-479.59	195.67	0.73
51	3953	47.2	194.1	3259.47	-1776.87	-496.62	195.62	0.32
52	4048	46.1	193.8	3324.68	-1843.92	-513.27	195.56	1.18
53	4143	46.5	193.4	3390.31	-1910.67	-529.42	195.49	0.52
54	4238	46.6	195.6	3455.65	-1977.43	-546.69	195.45	1.68
55	4333	46.5	197	3520.99	-2043.63	-566.04	195.48	1.08
56	4427	46.8	197.5	3585.51	-2108.91	-586.31	195.54	0.5
57	4522	47.8	196.4	3649.94	-2175.69	-606.66	195.58	1.35
58	4616	47.7	197.7	3713.14	-2242.21	-627.06	195.62	1.03
59	4711	48.1	197.4	3776.83	-2309.41	-648.32	195.68	0.48
60	4807	47	197.6	3841.63	-2376.97	-669.62	195.73	1.16
61	4901	47.4	197.1	3905.49	-2442.8	-690.18	195.78	0.58
62	4996	47.7	196.1	3969.61	-2509.98	-710.21	195.8	0.84
63	5092	47	196.3	4034.66	-2577.78	-729.9	195.81	0.75
64	5187	46.5	196.1	4099.75	-2644.23	-749.21	195.82	0.55
65	5284	46.3	195.6	4166.64	-2711.8	-768.4	195.82	0.43
66	5379	46	195.8	4232.45	-2777.76	-786.93	195.82	0.35
67	5475	45.9	195.6	4299.2	-2844.18	-805.6	195.81	0.18
68	5570	46	195.5	4365.25	-2909.96	-823.91	195.81	0.13
69	5664	46.9	195.4	4430.02	-2975.63	-842.06	195.8	0.96
70	5758	47.2	194.5	4494.07	-3042.1	-859.81	195.78	0.77
71	5854	47.7	194.2	4558.98	-3110.62	-877.33	195.75	0.57
72	5949	45.7	193.3	4624.13	-3177.77	-893.77	195.71	2.22
73	6043	43.9	194.6	4690.83	-3242.05	-909.73	195.67	2.15
74	6137	43.3	196.3	4758.91	-3304.52	-926.99	195.67	1.4
75	6232	43.3	197	4828.05	-3366.94	-945.66	195.69	0.51
76	6327	43.1	197.7	4897.3	-3429.02	-965.05	195.72	0.55
77	6422	44.7	197.7	4965.75	-3491.77	-985.08	195.75	1.68
78	6515	45.9	198.6	5031.16	-3554.58	-1005.67	195.8	1.46
79	6610	46.7	199.2	5096.8	-3619.56	-1027.92	195.85	0.96
80	6705	46.9	198.8	5161.83	-3685.04	-1050.47	195.91	0.37
81	6800	49.2	198.5	5225.33	-3751.98	-1073.06	195.96	2.43

Log Header

Schlumberger

Company: SAVIA PERU S.A.

Well: LO6-27D

Field: LOBITOS

Rig Name: PEPESA-40 Country: PERU

Rig Name: PEPESA-40 Field: LOBITOS Location: LOBITOS Well: LO6-27D Company: SAVIA PERU S.A.	XPT PRESSURE POINTS LOG				
	XPT-GR				
	SCALE 1in/60sec				
	Location:	LOBITOS N: 9508655.23 E: 459043.07		Elev. K.B. 50.00 ft G.L. -335.00 ft D.F. 50.00 ft	
		Permanent Datum: Mean Sea Level		Elev.: 0.00 ft	
		Log Measured From: Drill Floor		50.00 ft above Perm.Datum	
Drilling Measured From: Drill Floor					
State: PIURA		Max.Hole Deviation 49.2 deg	Longitude: 81° 22' 9.012" W	Latitude: 4° 26' 42.606" S	
Logging Date		11-Feb-2013			
Run Number		2			
Depth Driller		8008.00 ft			
Schlumberger Depth		8008.00 ft			
Bottom Log Interval		5015.00 ft			
Top Log Interval		3822.00 ft			
Casing Driller Size @ Depth		9.625 in @ 3614.00 ft			
Casing Schlumberger		3614 ft			
Bit Size		8.5 in			
Type Fluid In Hole		Water			
MUD	Density	Viscosity	11.2 lbm/gal	46 s	
	Fluid Loss	PH	4 cm3	9.5	
	Source of Sample		Mud Pit		
RM @ Meas Temp		2.6 ohm.m @ 88.3 degF			
RMF @ Meas Temp		2.48 ohm.m @ 91 degF			
RMC @ Meas Temp		6.04 ohm.m @ 83.8 degF			
Source RMF		RMC	Pressed	Pressed	
RM @ BHT		RMF @ BHT	1.13 @ 212	1.11 @ 212	
Max Recorded Temperatures		114 degF			
Circulation Stopped Time		11-Feb-2013 13:00:00			
Logger on Bottom Time		11-Feb-2013 22:05:00			
Unit Number	Location:	826	PETA		
Recorded By		S. Roman / G. Tejada			
Witnessed By		Jose Coronado			

Remarks & Tool Sketch

2: Toolstring				2: Remarks
Equip name LEH-QT LEH-QT	Length 40.21	MP name	Offset	1. Objective: Perform Pressure Points in well LO6-27D.
				2. Tool ran as per tool sketch. Distance from XPT probe to bottom of tool 5.7ft.
				3. Total depth not reached.
DTC-H:8280 ECH-KC DTC-H:8280	37.29	CTEM HV	36.39 0.00	4. A total of 15 points were attempted as per client request.
		TelStatus ToolStatus	34.29 34.29	5. Total of 5 good seals and 10 lost seals.
SA H-E:918	34.29			6. XPT configuration with Quartz Gauge and Sapphire Gauge pressure sensors.
HGNS-H:4750 HGNH:3842 NSR-F:5167 NPV-N HACCZ-H:5287 HGNS-H:4750 HMCA-H	31.42	Temperature GR	31.39 30.68	
		CNL Porosity HGNS	24.34 22.01	
		HMCA Accelerometer	22.01 0.00	
XPT-C ECH-MKA:4731 XPCC-C:918 XPS-C:778 XPAM-BA:836 MEDIUM_KIT HYDRO20K PROBE SAPP20K XPMH-BA XPMC-BA	22.01	Motors	19.26	
		Probes	5.75	
		Hydrostatic Sapphire	4.08 4.08	
BNS-STD	0.46	Cartridge Head Tension TOOL_ZERO	0.46	
Lengths are in ft Maximum Outer Diameter = 5.430 in Line: Sensor Location, Value: Gating Offset All measurements are relative to TOOL_ZERO				

Well Sketch

