

HALLIBURTON

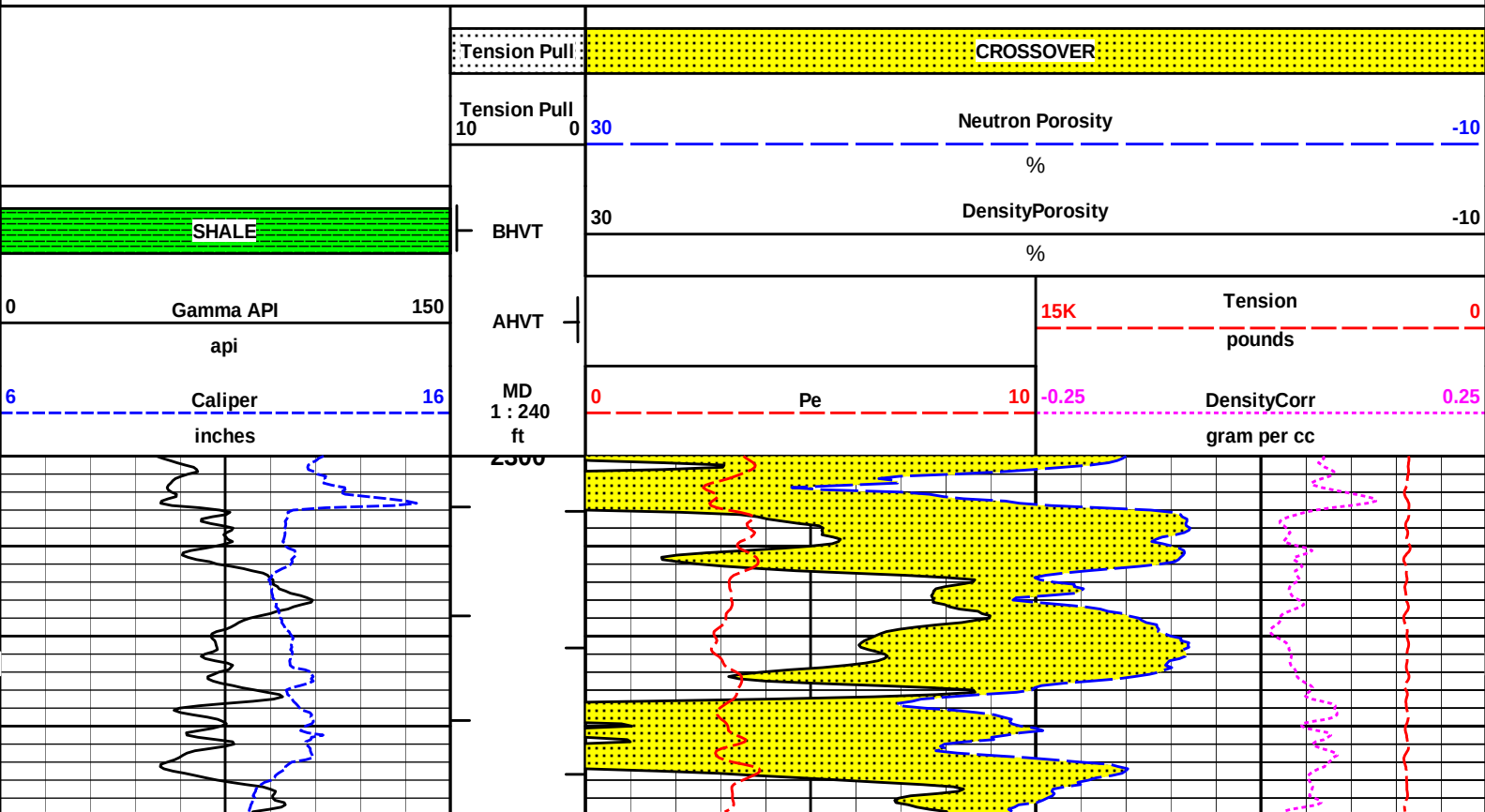
SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG

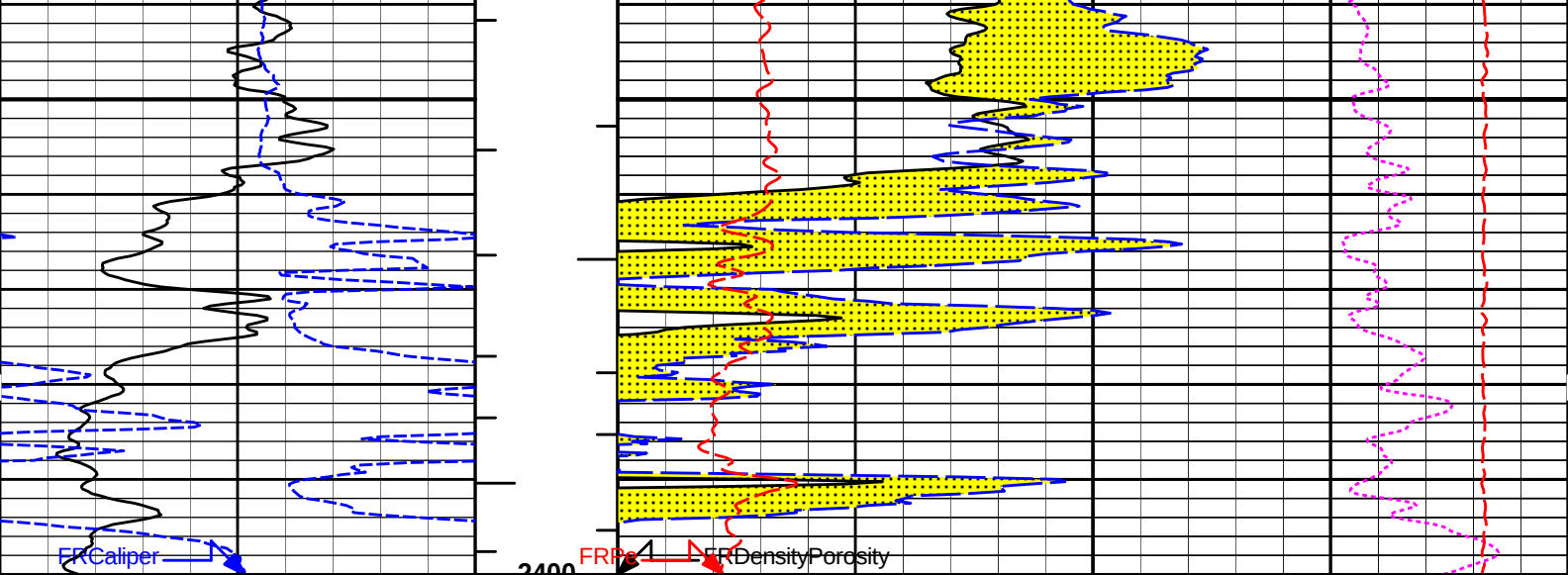
COMPANY		HARTMAN OIL CO., INC.	
WELL		WILKINSON #2-22	
FIELD/BLOCK		WILDCAT	
COUNTY		SCOTT	
STATE		KANSAS	
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Date		20-Mar-13	
Run No.		ONE	
Depth - Driller		4970.00 ft	
Depth - Logger		4966.0 ft	
Bottom - Logged Interval		4922.0 ft	
Top - Logged Interval		2300.0 ft	
Casing - Driller		8.625 in @ 338.0 ft	
Casing - Logger		336.0 ft	
Bit Size		7.875 in @	
Type Fluid in Hole		WATER BASED MUD	
Density		9.5 ppg 49.00 s/qt	
PH		10.50 pH 10.4 cpm	
Source of Sample		MUD PIT	
Rm @ Meas. Temperature		0.480 ohmm @ 75.00 degF @	
Rmf @ Meas. Temperature		0.40 ohmm @ 75.00 degF @	
Rmc @ Meas. Temperature		0.590 ohmm @ 75.00 degF @	
Source Rmf		Rmc MEASURED	
Rm @ BHT		0.31 ohmm @ 120.0 degF @	
Time Since Circulation		5.0 hr	
Time on Bottom		20-Mar-13 18:50	
Max. Rec. Temperature		120.0 degF @ 4966.0 ft @	
Equipment		10546696 LIBERAL	
Recorded By		J. BOLLOW	
Witnessed By		K. NOAH	

COMPANY	HARTMAN OIL CO., INC.
WELL	WILKINSON #2-22
FIELD/BLOCK	WILDCAT
COUNTY	SCOTT
STATE	KANSAS
API No.	15-171-20933-00-00
Location	755' FSL & 371' FEL NW SE SE SE
Sect. 22	Twp. 17S Rge. 34W
Other Services:	MICROLOG BSAT ACRT

Fold here

Service Ticket No.: 9000299657				API Serial No.: 15-171-20933-00-00				PGM Version: WL INSITE R3.8.0 (Build 2)							
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES									
Date		Sample No.				Type Log		Depth		Scale Up Hole		Scale Down Hole			
Depth-Driller															
Type Fluid in Hole															
Density		Viscosity													
Ph		Fluid Loss													
Source of Sample						RESISTIVITY EQUIPMENT DATA									
Rm @ Meas. Temp		@		@		Run No.		Tool Type & No.		Pad Type		Tool Pos.		Other	
Rmf @ Meas. Temp.		@		@											
Rmc @ Meas. Temp.		@		@											
Source Rmf		Rmc													
Rm @ BHT		@		@											
Rmf @ BHT		@		@											
Rmc @ BHT		@		@											
EQUIPMENT DATA															
GAMMA				ACOUSTIC				DENSITY				NEUTRON			
Run No.		ONE		Run No.				Run No.		ONE		Run No.		ONE	
Serial No.		11048627		Serial No.				Serial No.		10844781		Serial No.		11019643	
Model No.		GTET		Model No.				Model No.		SDLT-I		Model No.		DSNT-I	
Diameter		3.625"		No. of Cent.				Diameter		4.5"		Diameter		3.625"	
Detector Model No.		GTET		Spacing				Log Type		GAM-GAM		Log Type		NEU-NEU	
Type		SCINT						Source Type		CS137		Source Type		AM241BE	
Length		8'		LSA [Y/N]				Serial No.		5168GW		Serial No.		DSN-424	
Distance to Source		10'		FWDA [Y/N]				Strength		1.5 CI		Strength		15 CI	
LOGGING DATA															

[illegible]



6	Caliper	16	MD	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft						gram per cc	
0	Gamma API	150	AHVT					15K	Tension	0
	api								pounds	
	SHALE		BHVT	30					DensityPorosity	-10
									%	
			Tension Pull	10	0	30			Neutron Porosity	-10
									%	
			Tension Pull						CROSSOVER	

HALLIBURTON

Plot Time: 20-Mar-13 20:50:41
Plot Range: 2300 ft to 2400 ft
Data: WILKINSON_2_22\Well Based\DETAIL_2300-2400\
Plot File: \\PORO\Porosity_IQ_5_MAIN_LIB

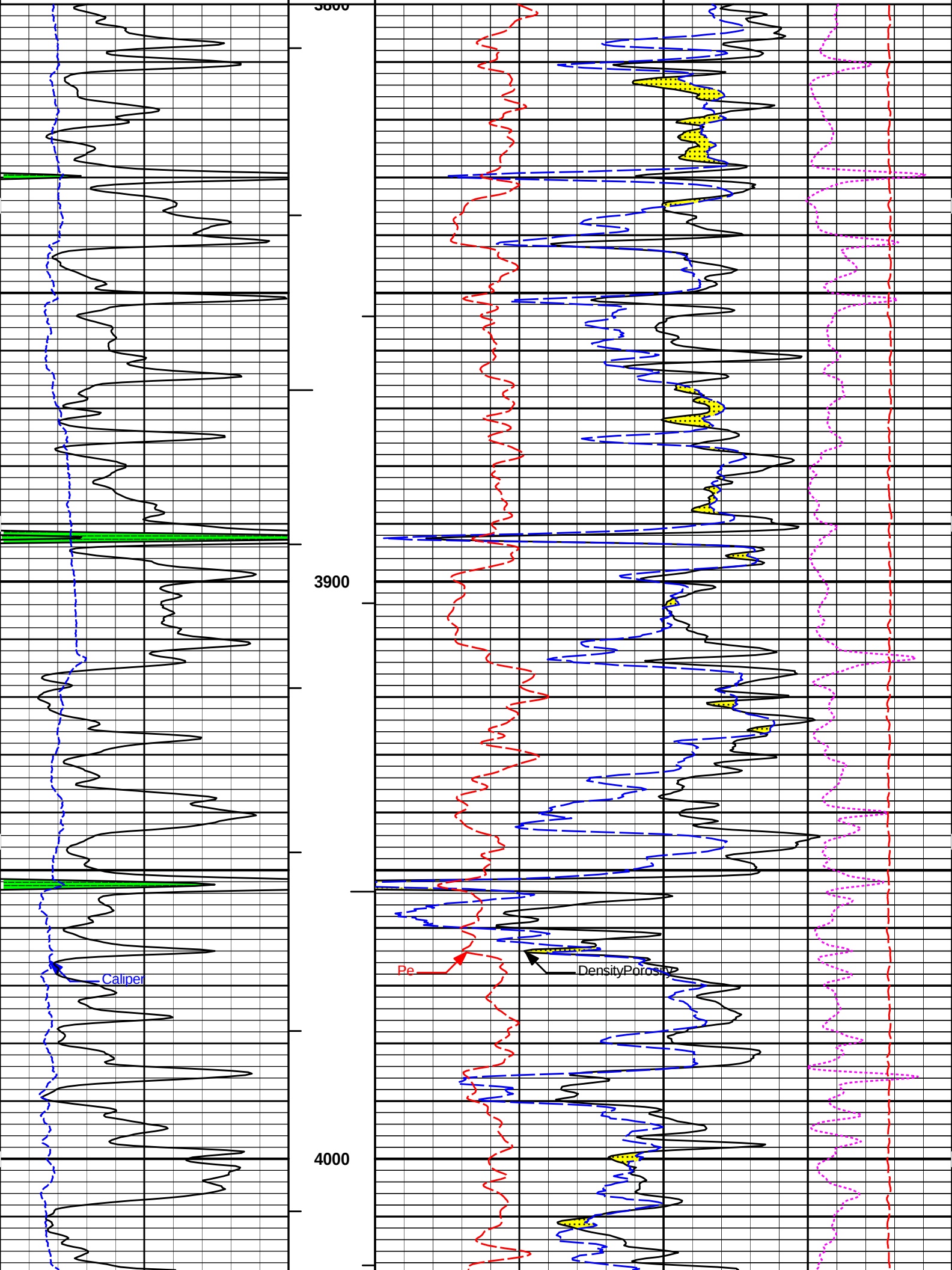
5 INCH MAIN LOG

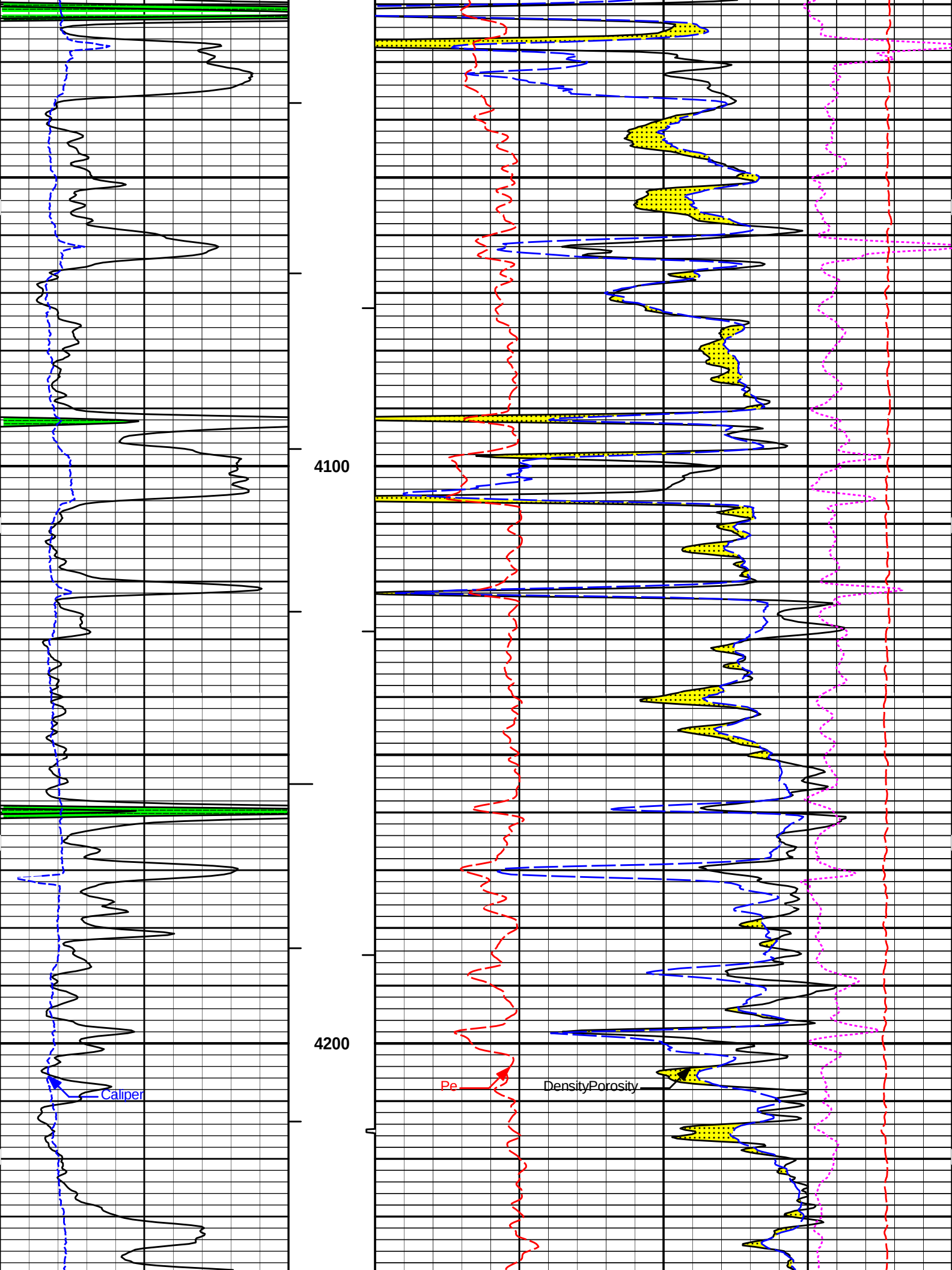
HALLIBURTON

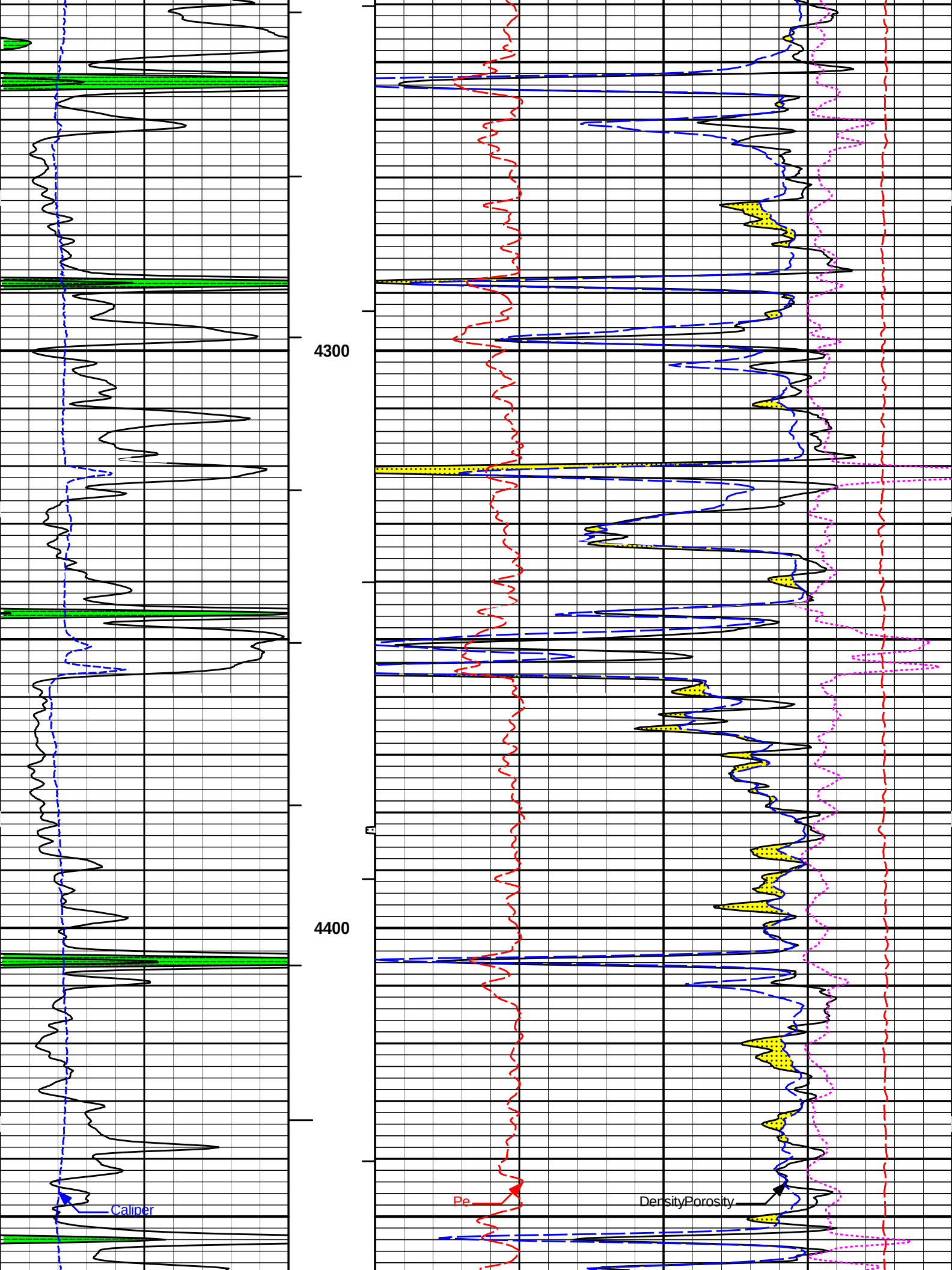
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Plot Range: 3800 ft to 4969.75 ft
Data: WILKINSON_2_22\Well Based\DETAIL_TD-3800\
Plot File: \\PORO\Porosity_IQ_5_MAIN_LIB

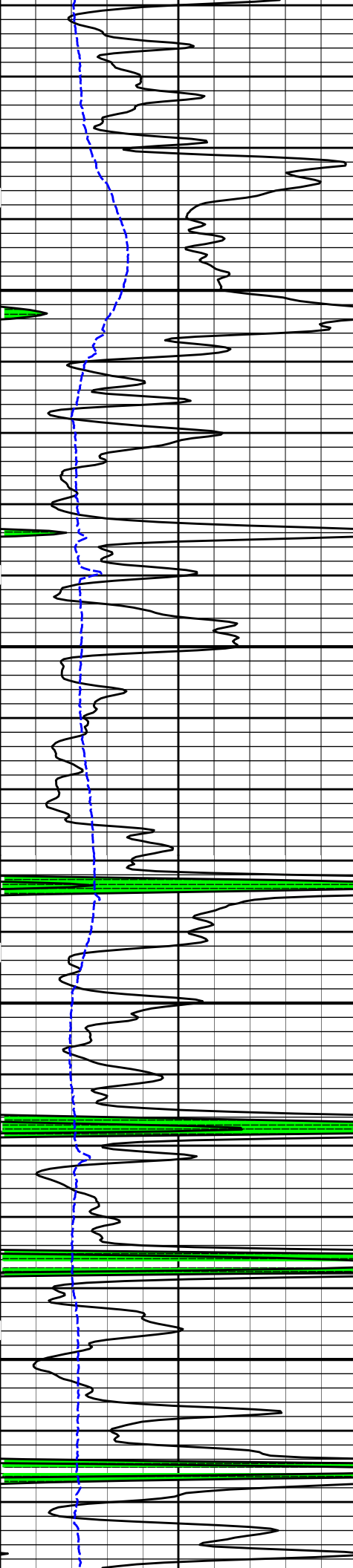
5 INCH MAIN LOG

			Tension Pull						CROSSOVER	
			Tension Pull	10	0	30			Neutron Porosity	-10
									%	
			BHVT	30					DensityPorosity	-10
									%	
0	Gamma API	150	AHVT					15K	Tension	0
	api								pounds	
6	Caliper	16	MD	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft						gram per cc	



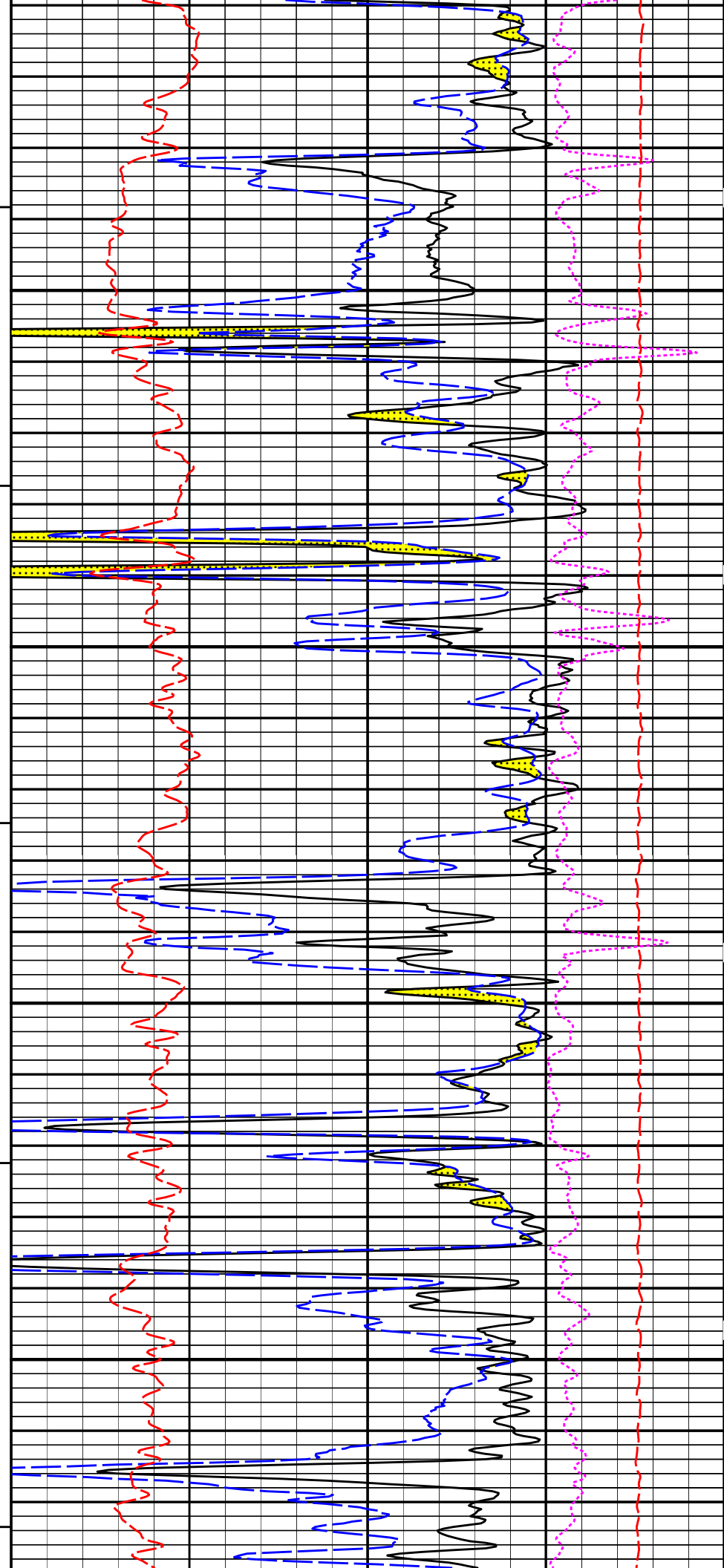


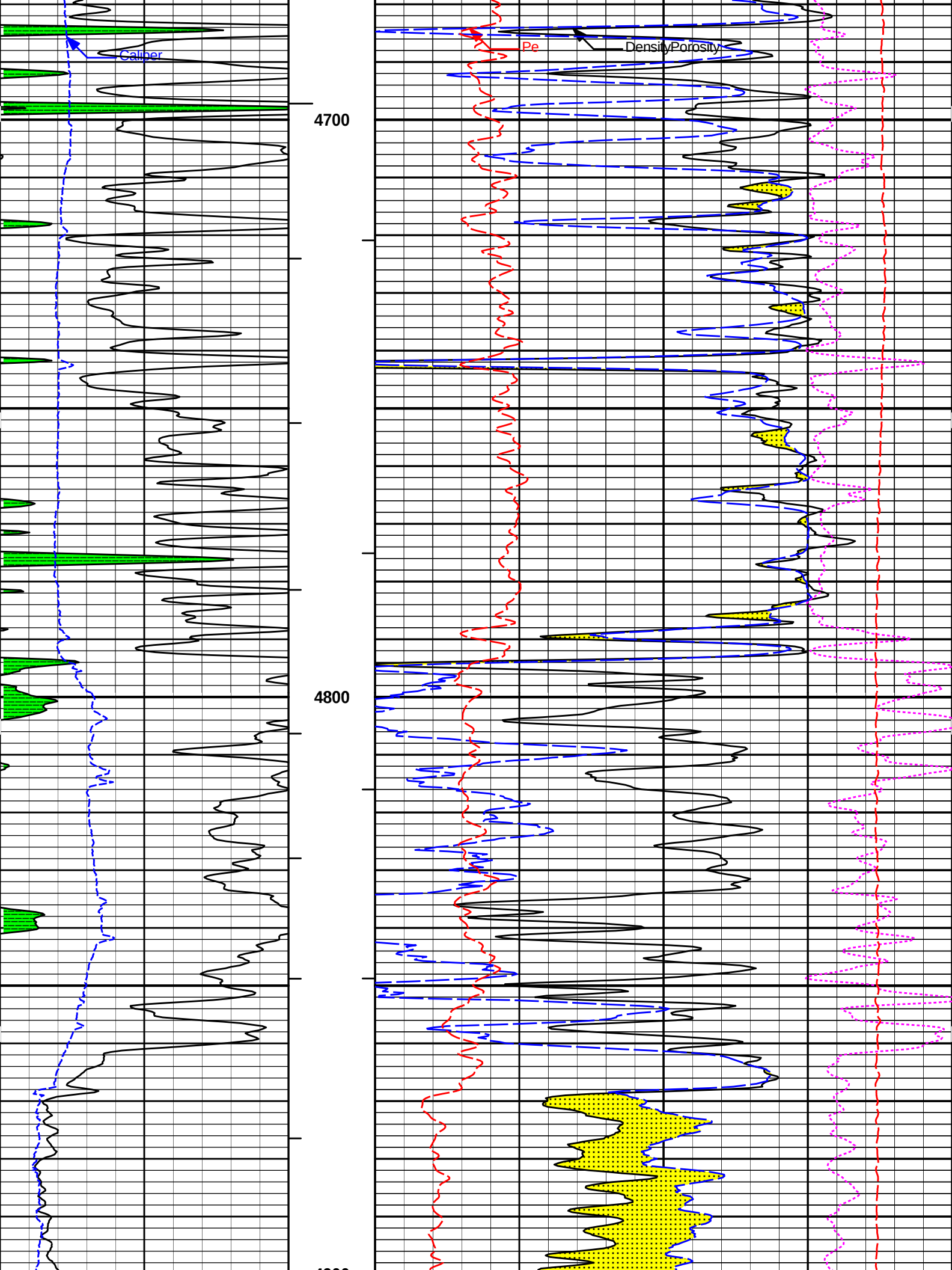


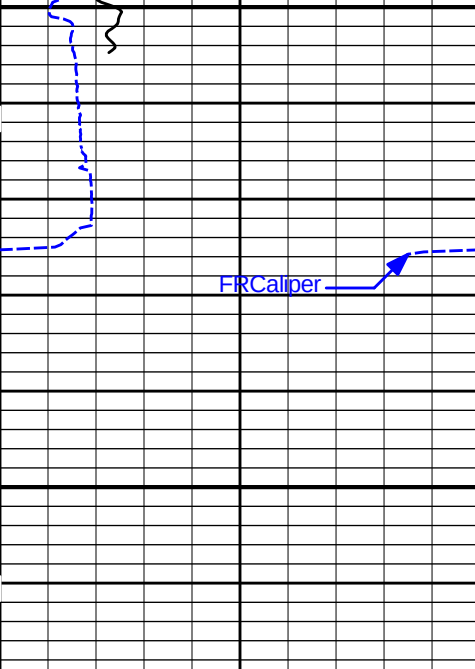


4500

4600





[illegible]

HALLIBURTON

Plot Time: 20-Mar-13 20:50:44
Plot Range: 3800 ft to 4969.75 ft
Data: WILKINSON_2_22\Well Based\DETAIL_TD-3800\
Plot File: \\PORA\PorO IO 5 MAIN LIB

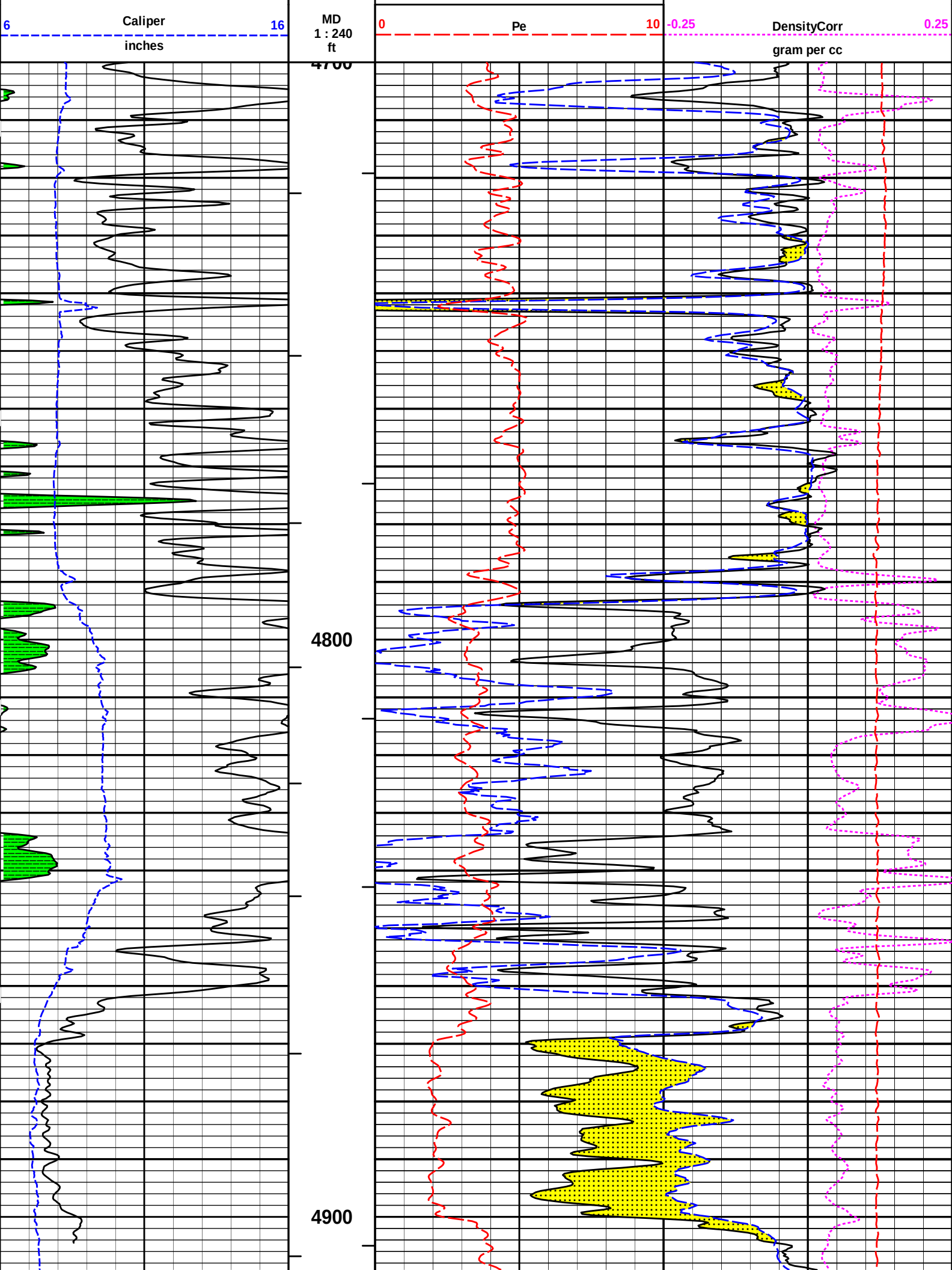
5 INCH MAIN LOG

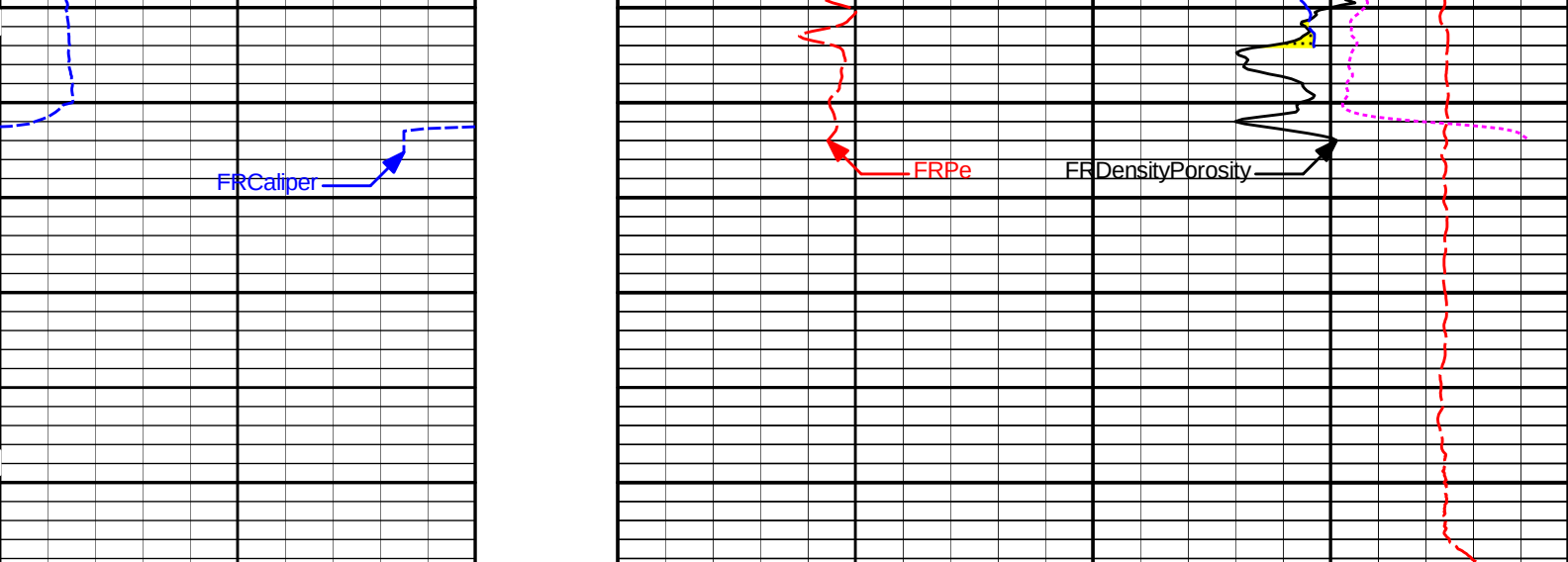
HALLIBURTON

Plot Time: 20-Mar-13 20:50:44
Plot Range: 4700 ft to 4968.92 ft
Data: WILKINSON_2_22\Well Based\REPEAT_WILKINSON_2_22
Plot File: \\PORA\Porosity\IQ_5_REP_LIB

REPEAT SECTION

			CROSSOVER			
			30	Neutron Porosity	-10	
			%			
SHALE		BHVT	30	DensityPorosity	-10	
			%			
0	Gamma API	150	AHVT	15K	Tension	0
api				pounds		





6	Caliper	16	MD 1 : 240 ft	0	Pe	10	-0.25	DensityCorr	0.25
	inches							gram per cc	
0	Gamma API	150	AHVT				15K	Tension	0
	api							pounds	
	SHALE		BHVT	30	DensityPorosity				-10
					%				
				30	Neutron Porosity				-10
					%				
					CROSSOVER				

HALLIBURTON

Plot Time: 20-Mar-13 20:50:46
Plot Range: 4700 ft to 4968.92 ft
Data: WILKINSON_2_22\Well Based\REPEAT_WILK\
Plot File: \\PORO\Porosity_Q_5_REP_LIB

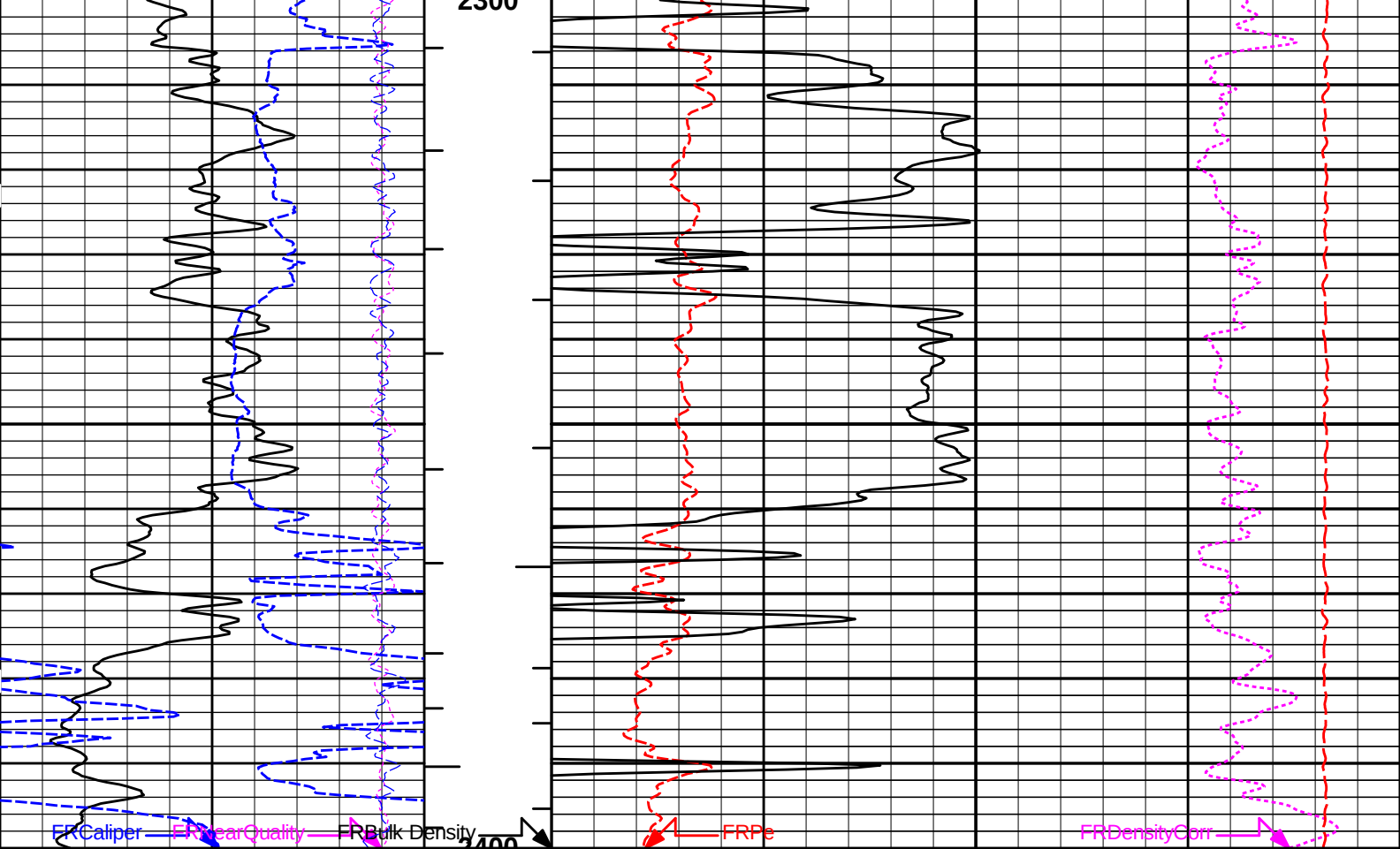
REPEAT SECTION

HALLIBURTON

Plot Time: 20-Mar-13 20:50:46
Plot Range: 2300 ft to 2400 ft
Data: WILKINSON_2_22\Well Based\DETAIL_2300-2400\
Plot File: \\LOCAL\WILKINSON_2_22\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIPORO\BULKD_5_MAIN_LIB

5 INCH MAIN LOG

	SHALE		Tension Pull						
0	Gamma Ray	150	Tension Pull	0					
	api								
18	FarQuality	-2	BHV ft3	2	Bulk Density				3
					g/cc				
-18	NearQuality	2	AHV ft3			15K	Tension		0
							pounds		
6	Caliper	16	MD 1 : 240 ft	0	Pe	10	-0.25	DensityCorr	0.25
	inches							g/cc	



6	Caliper	16	MD	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft						g/cc	
-18	NearQuality	2	AHV	ft3				15K	Tension	0
									pounds	
18	FarQuality	-2	BHV	ft3	2	Bulk Density				3
						g/cc				
0	Gamma Ray	150	Tension Pull	10						
	api									
	SHALE		Tension Pull							

HALLIBURTON

Plot Time: 20-Mar-13 20:50:48
Plot Range: 2300 ft to 2400 ft
Data: WILKINSON_2_22\Well Based\DETAIL_2300-2400\
Plot File: \\LOCAL-WILKINSON_2_22\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIPORO\BULKD_5_MAIN_LIB

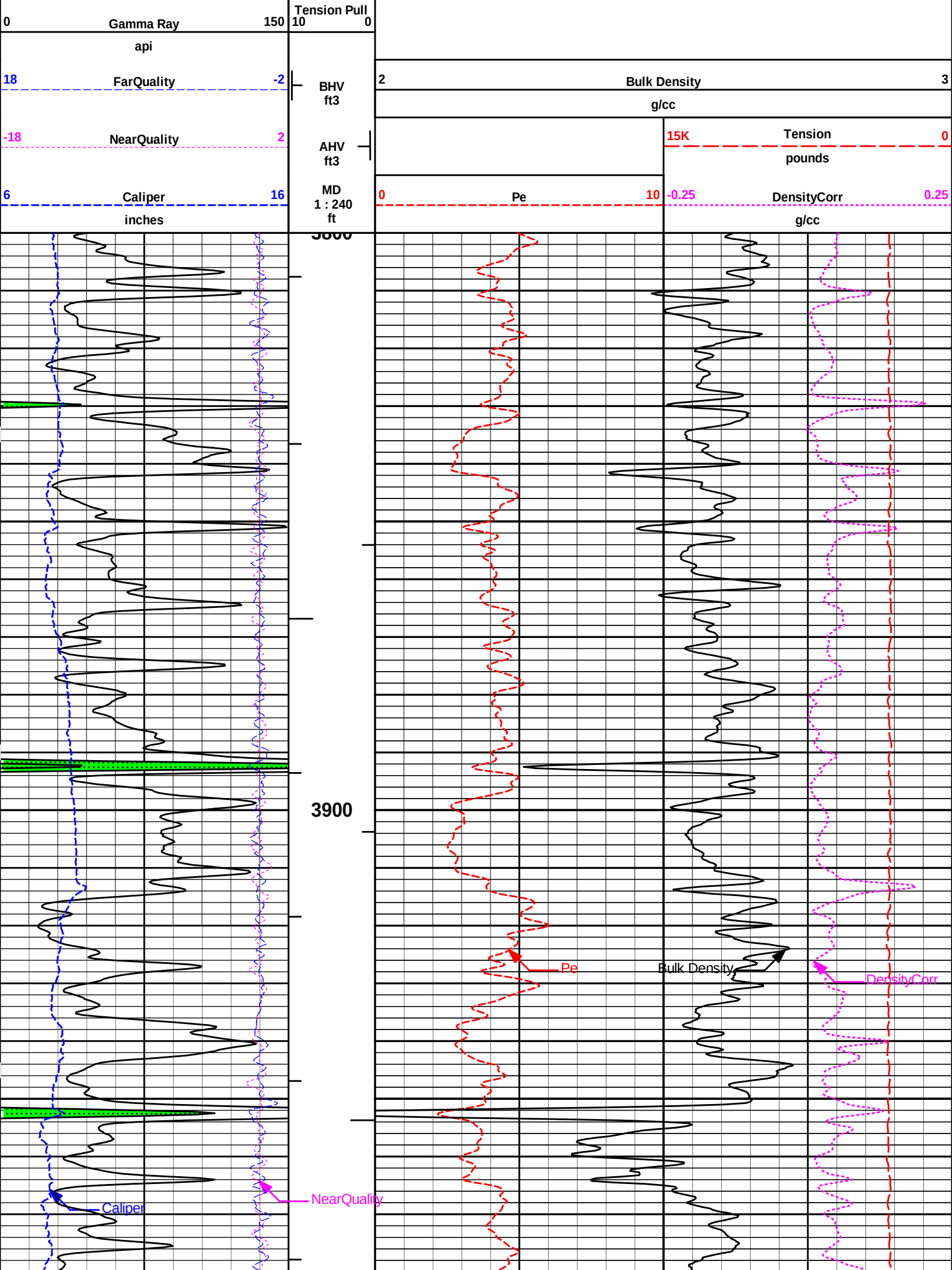
5 INCH MAIN LOG

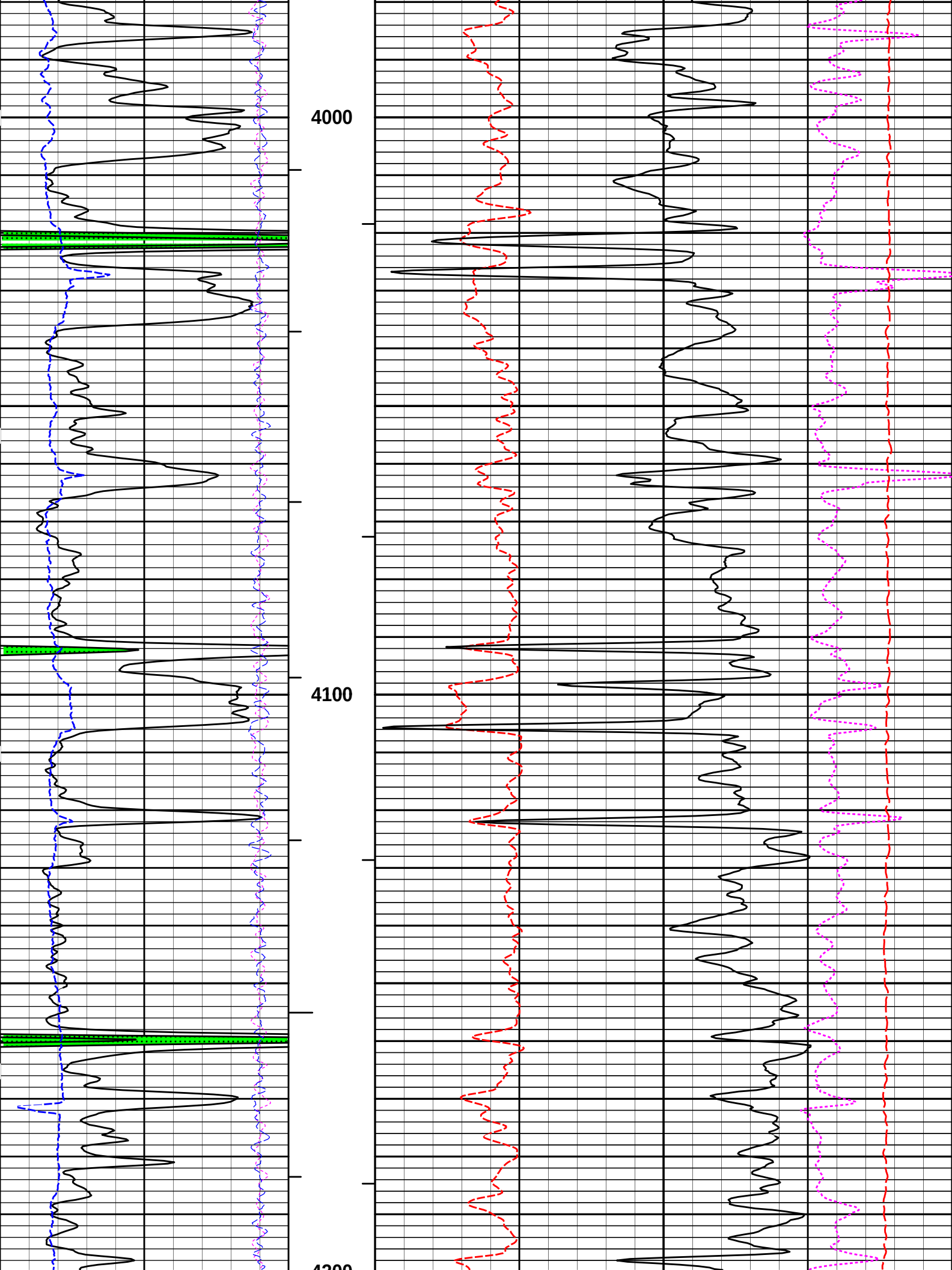
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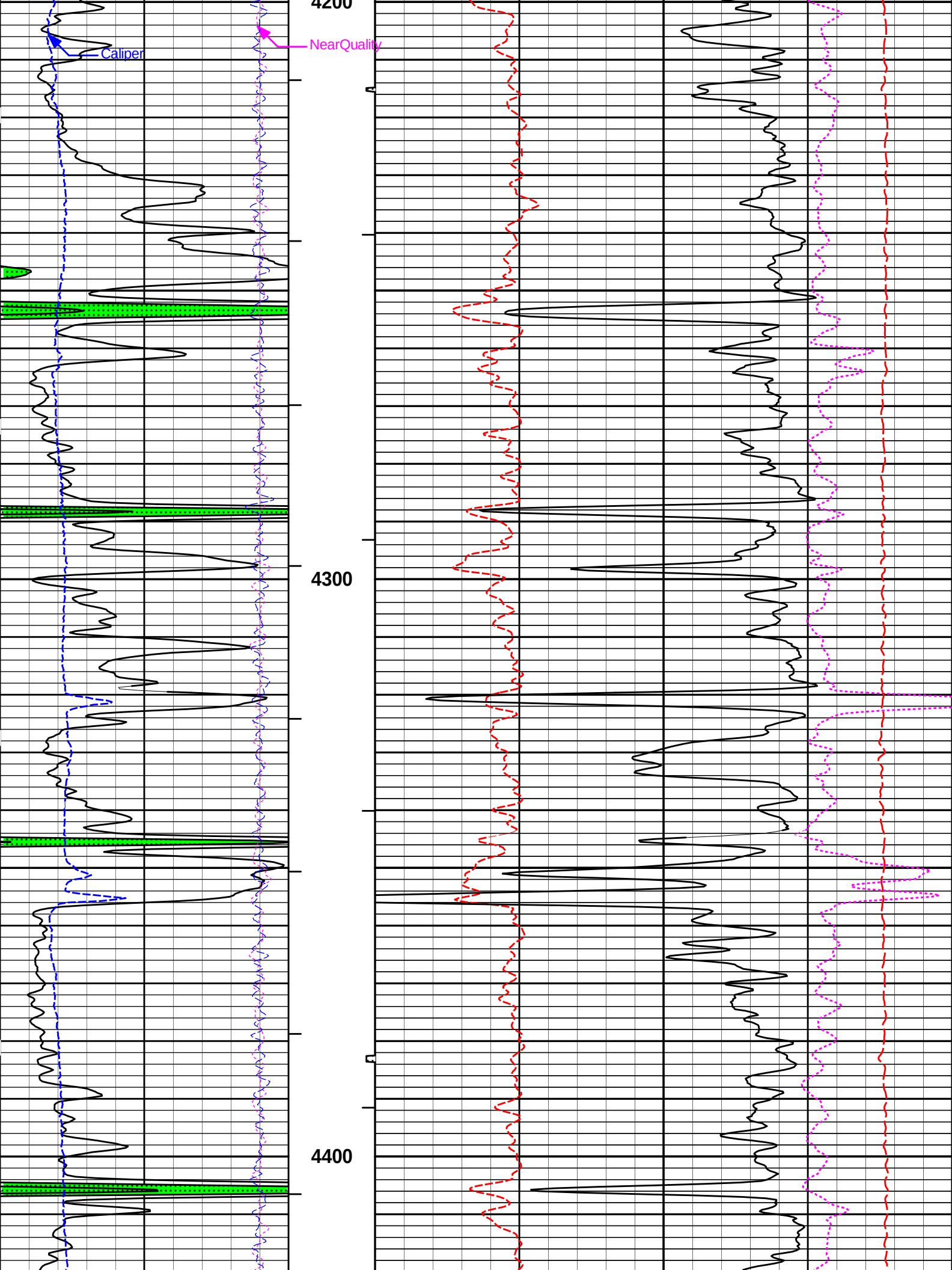
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Plot Range: 3800 ft to 4969.75 ft
Data: WILKINSON_2_22\Well Based\DETAIL_TD-3800\
Plot File: \\LOCAL-WILKINSON_2_22\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIPORO\BULKD_5_MAIN_LIB

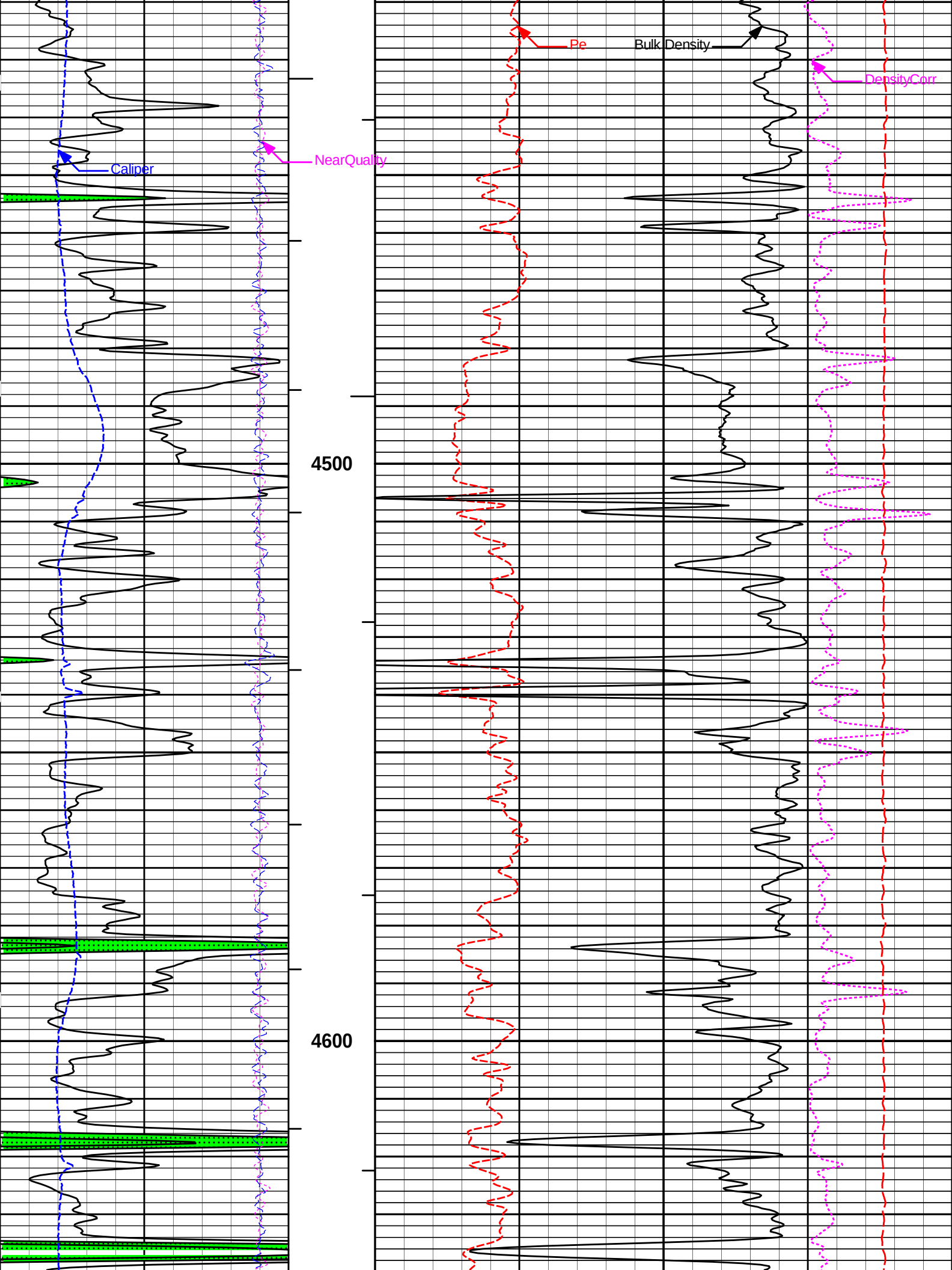
5 INCH MAIN LOG

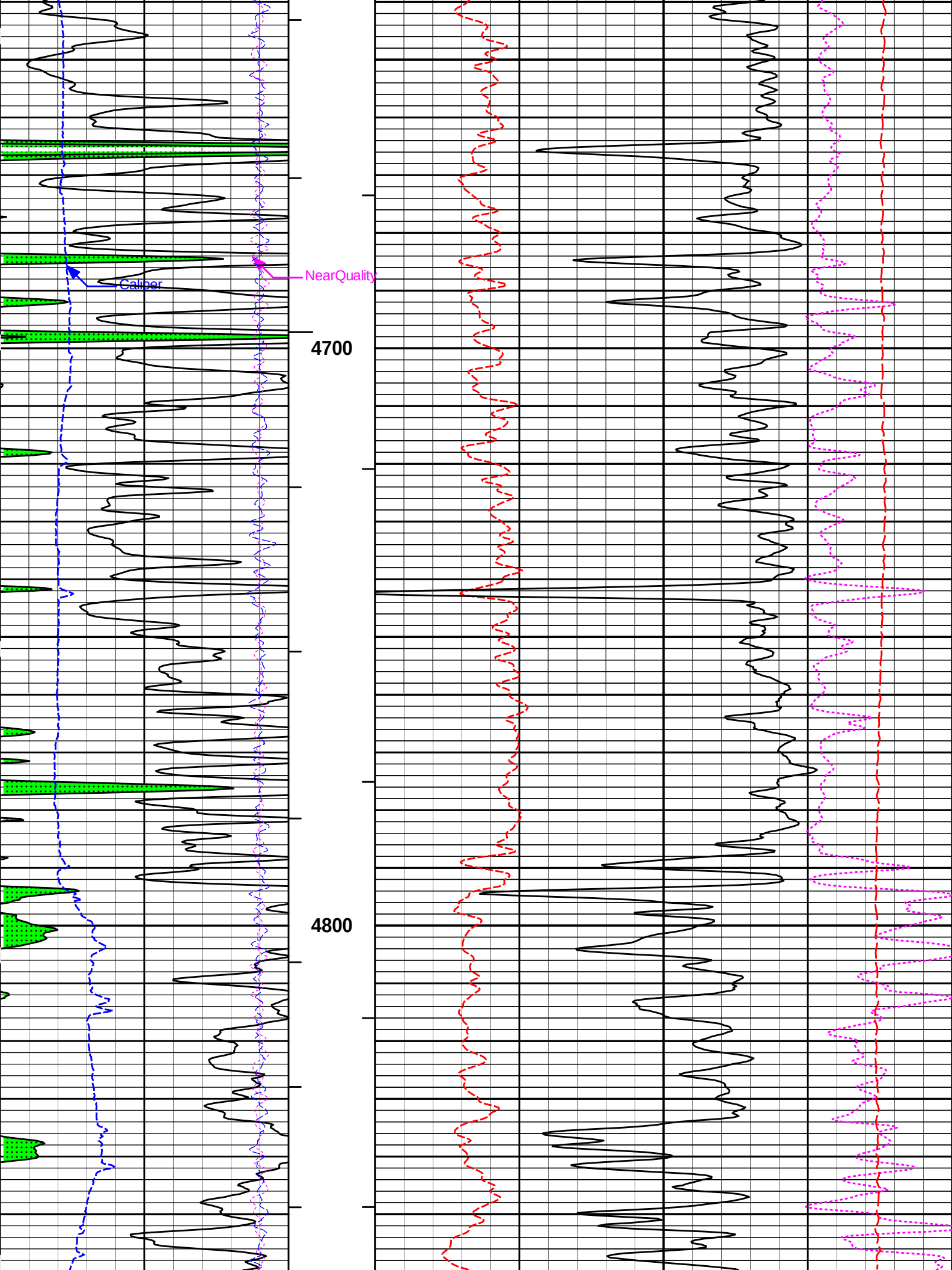
SHALE	Tension Pull
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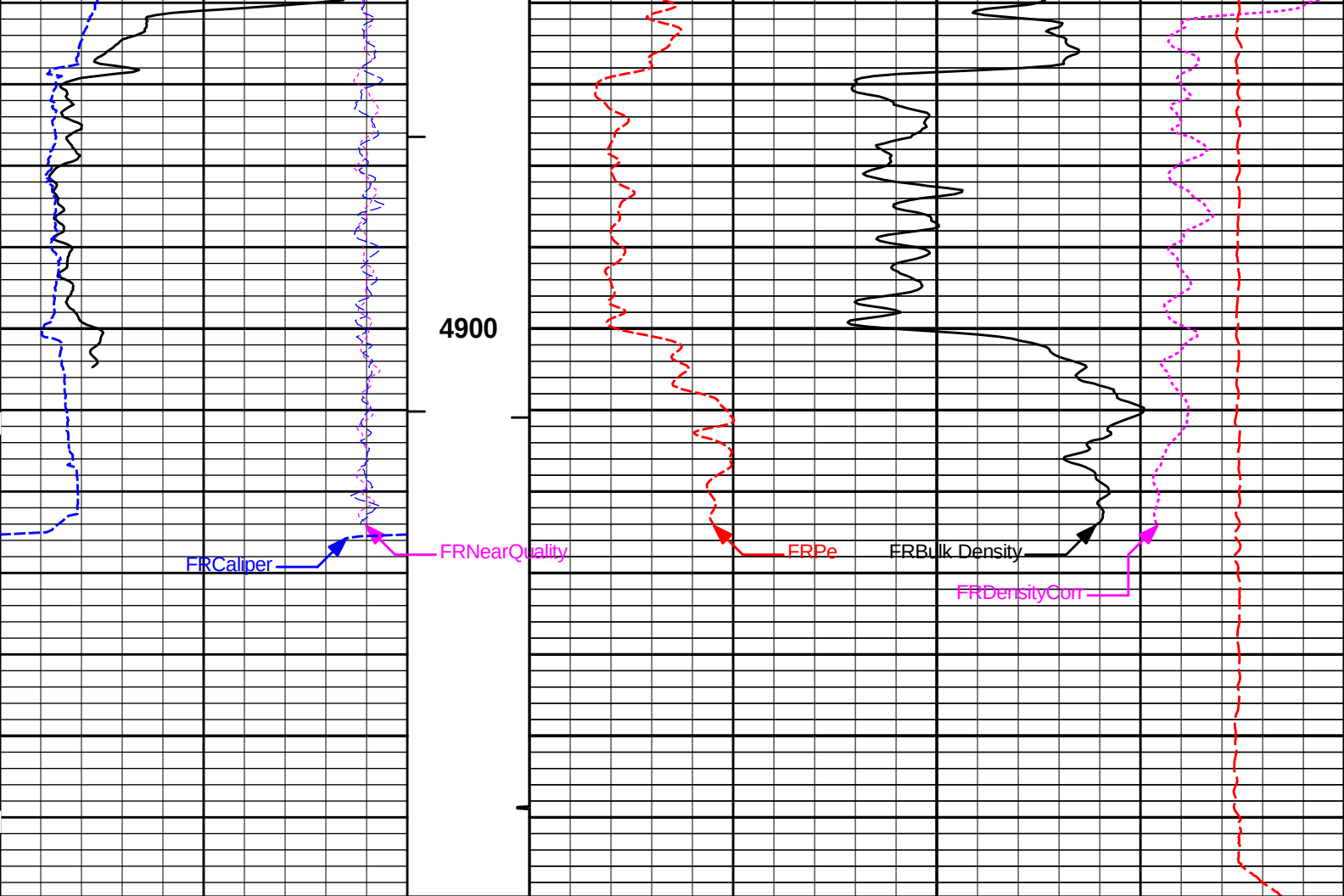












6	Caliper	16	MD	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft						g/cc	
-18	NearQuality	2	AHV	ft3				15K	Tension	0
									pounds	
18	FarQuality	-2	BHV	ft3	2	Bulk Density			3	
						g/cc				
0	Gamma Ray	150	Tension Pull	10						
	api									
	SHALE		Tension Pull							

HALLIBURTON

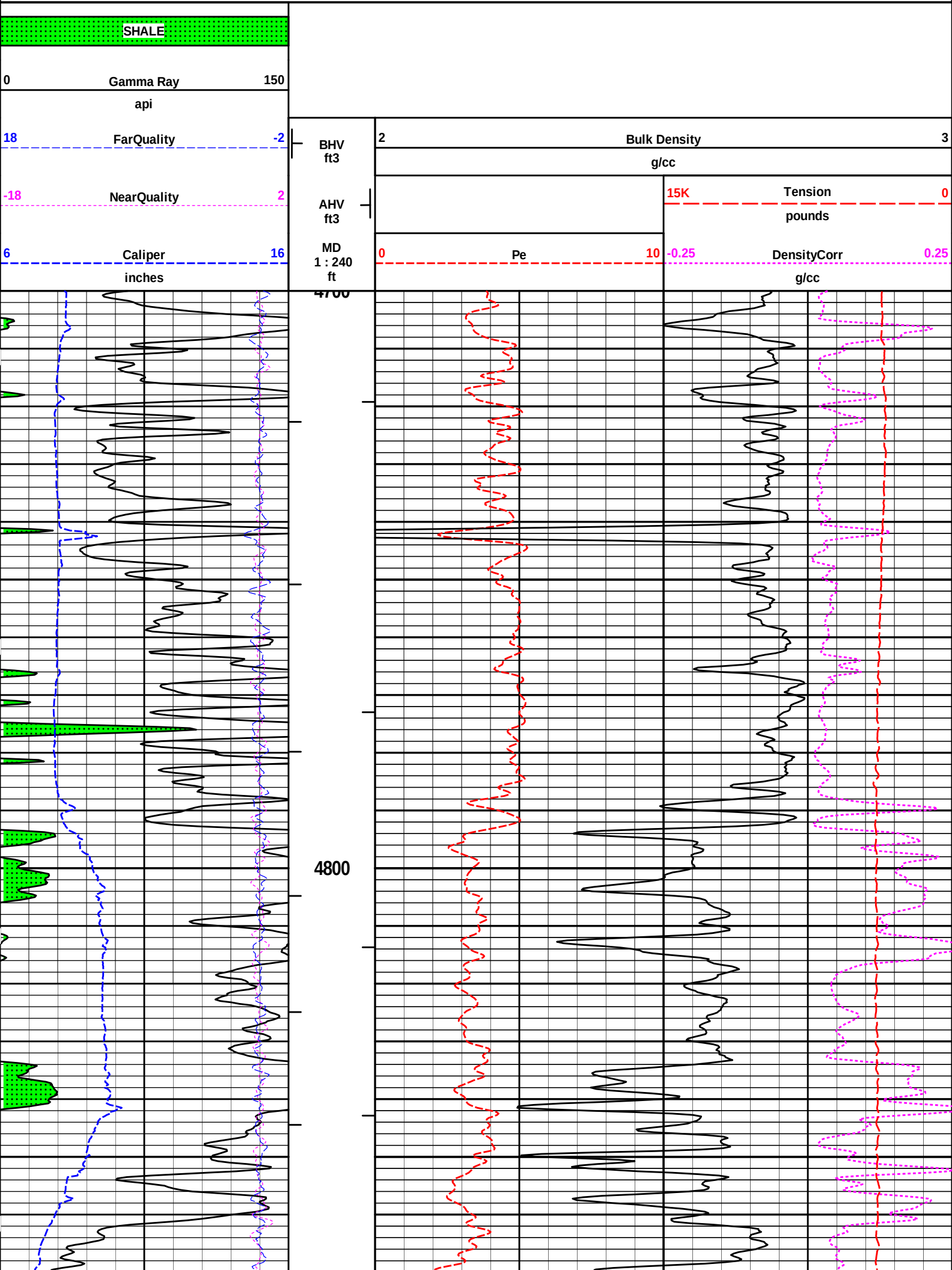
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Plot File: \\LOCAL-WILKINSON_2_22\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\PORO\BULKD_5_MAIN_LIB

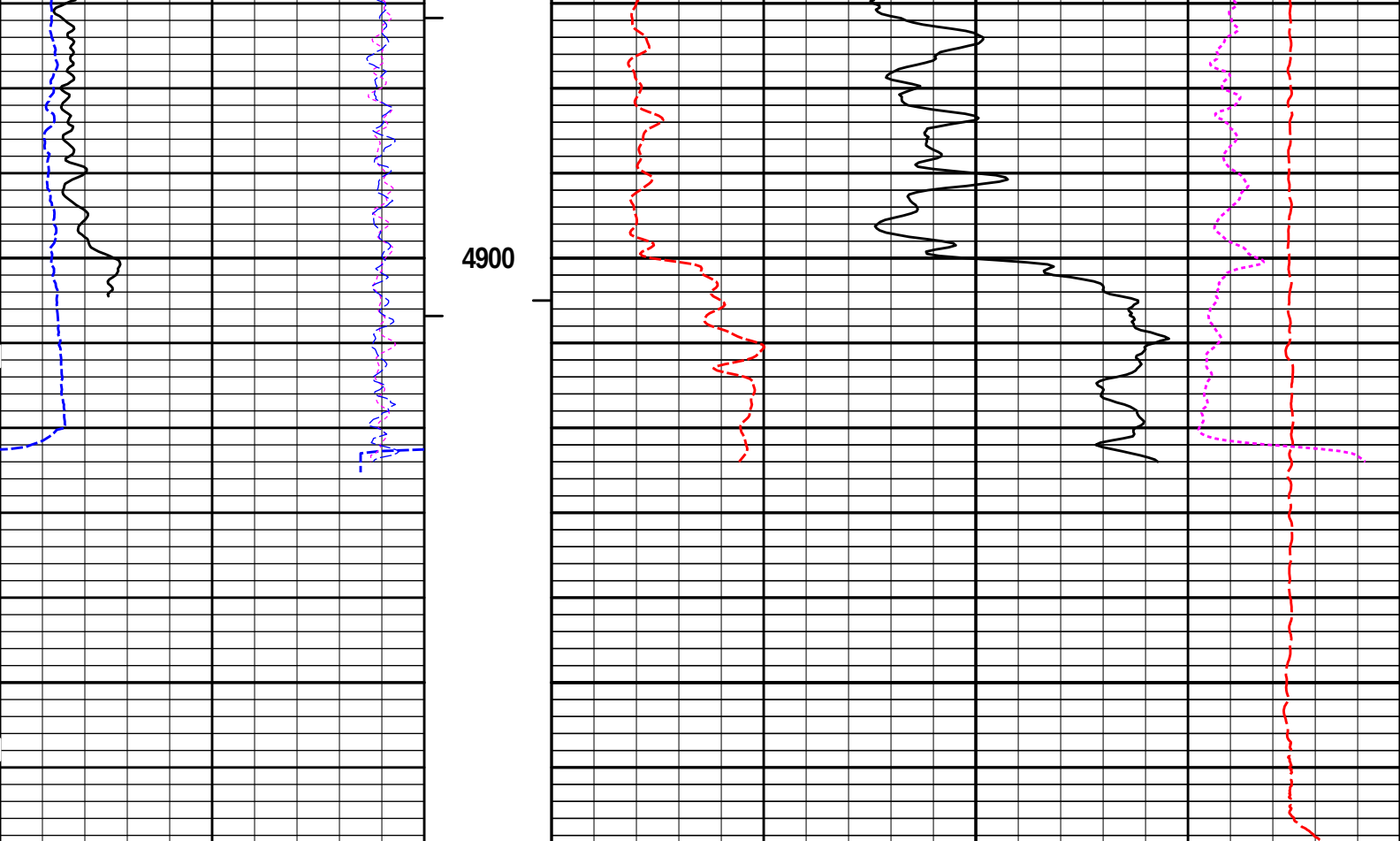
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 20-Mar-13 20:50:52
Plot Range: 4700 ft to 4968.92 ft
Data: WILKINSON_2_22\Well Based\REPEAT_WILK\
Plot File: \\LOCAL-WILKINSON_2_22\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\PORO\BULKD_5_REP_LIB

REPEAT SECTION





6	Caliper inches	16	MD 1 : 240 ft	0	Pe	10	-0.25	DensityCorr g/cc	0.25
-18	NearQuality	2	AHV ft3				15K	Tension pounds	0
18	FarQuality	-2	BHV ft3	2		Bulk Density		3	
						g/cc			
0	Gamma Ray	150							
api									
SHALE									

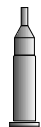
HALLIBURTON

Plot Time: 20-Mar-13 20:50:53
Plot Range: 4700 ft to 4968.92 ft
Data: WILKINSON_2_22\Well Based\REPEAT_WILK1
Plot File: \\LOCAL\WILKINSON_2_22\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIPORO\BULKD_5_REP_LIB

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in		Temperature @ 76.03 ft	3.03 ft	77.06 ft 74.03 ft

SP Sub-11441455
60.00 lbs

Ø 3.625 in →

← SP @ 72.26 ft

3.74 ft

70.30 ft

GTET-11048627
165.00 lbs

Ø 3.625 in →

8.52 ft

← GammaRay @ 64.23 ft

61.78 ft

DSNT-11019643
174.00 lbs

DSN Decentralizer-
11019643
6.60 lbs

Ø 5.000 in* →

Ø 3.625 in →

9.69 ft

← DSN Far @ 54.84 ft

← DSN Near @ 54.09 ft

52.09 ft

SDLT-10950489
360.00 lbs

SDLT Pad-10844781
65.00 lbs
Microlog Pad-10950489
8.00 lbs

Ø 4.500 in →

Ø 4.750 in* →

Ø 4.750 in* →

10.81 ft

Microlog @ 44.28 ft
SDL Caliper @ 44.09 ft
SDL @ 44.08 ft

41.28 ft

Flex Joint-001
140.00 lbs

Ø 3.625 in →

5.67 ft

35.61 ft

Centralizer 29-1
12.00 lbs

Ø 4.000 in* →

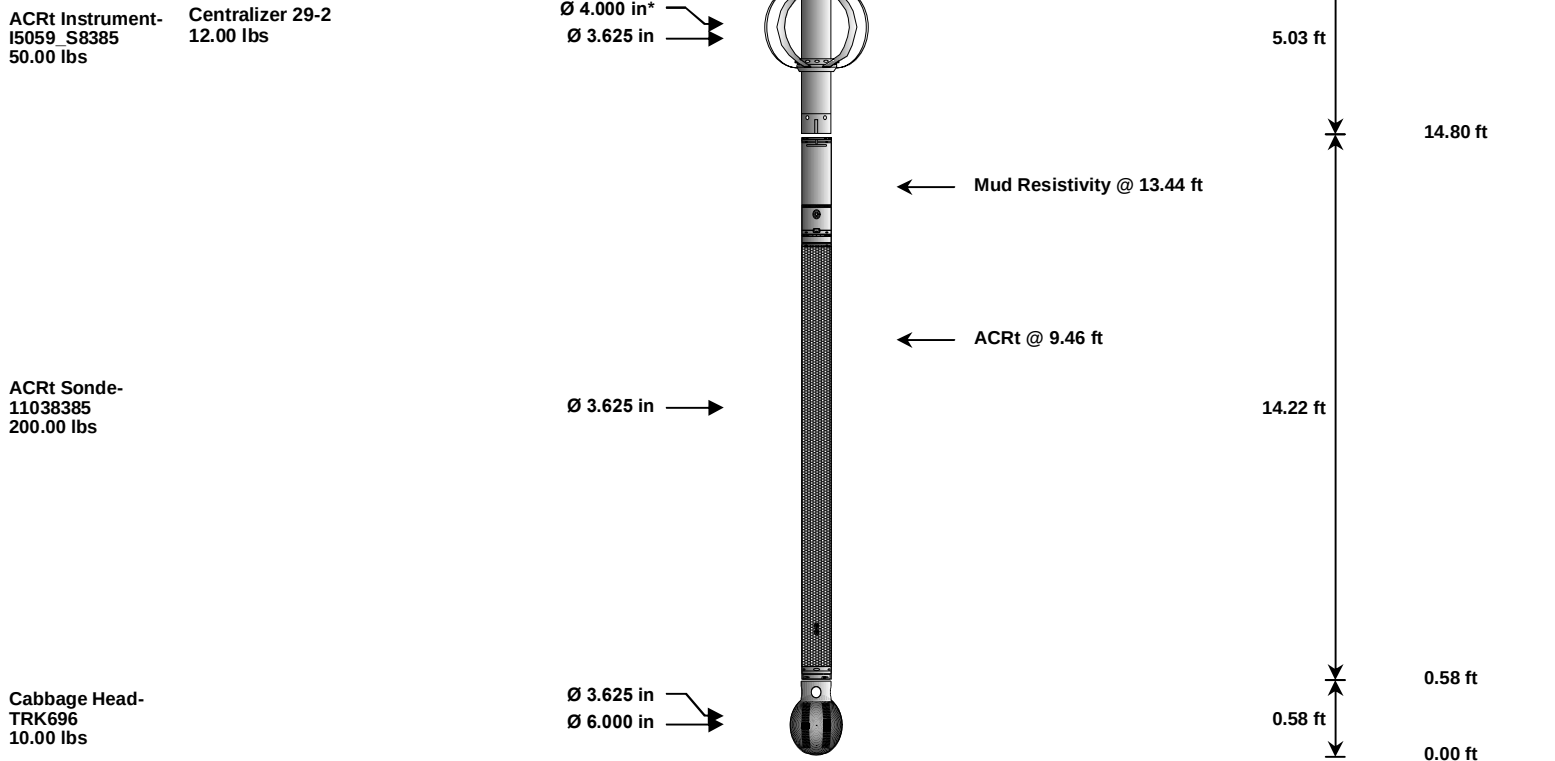
BSAT-10747683
300.00 lbs

Ø 3.625 in →

← Sonic Receivers @ 27.09 ft

15.77 ft

19.83 ft



HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11048627

Reference Calibration Date: 13-Feb-13 14:00:35

Engineer: J. BOLLLOM

Calibration Date: 05-Mar-13 09:33:28

Software Version: WL INSITE R3.8.0 (Build 2)

Calibration Version: 1

Calibrator Source S/N: TB146			
Calibrator API Reference:265.00 api			
Equivalent Calibrator API Reference:269.6 api			
Measurement	Measured	Calibrated	Units
Background	50.6	51.6	api

Background	30.6	31.6	api
Background + Calibrator	315.2	321.3	api
Calibrator	264.6	269.6	api

DUAL SPACED NEUTRON SHOP CALIBRATION			
Tool Name:	DSNT - 11019643	Reference Calibration Date:	05-Mar-13 09:55:34
Engineer:	J. BOLLLOM	Calibration Date:	05-Mar-13 10:09:49
Software Version:	WL INSITE R3.8.0 (Build 2)	Calibration Version:	1

Logging Source S/N: 696

Tank Serial Number: LIBERAL_NEUTRON

Reference value assigned to Tank: 51.680

Snow Block S/N: 696

Calibration Tank Water Temperature: 65 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value

Gain:	0.945	0.949	0.900 - 1.100
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WATER TANK SUMMARY (Horizontal Water Tank)				
Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2098	0.2110	0.0012	+/- 0.0020
Calibrated Ratio:	9.69	9.73	0.039	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit

Snow-Block Porosity (decp):	0.0573	0.02000 - 0.09000
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PASS/FAIL SUMMARY	
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Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10950489	Reference Calibration Date:	07-Mar-13 09:55:09
Engineer:	J. BOLLLOM	Calibration Date:	07-Mar-13 10:03:24
Software Version:	WL INSITE R3.8.0 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 11019643		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value

Pad Offset	-1782.49	-1752.48	-7000.00 - -1000.00
Pad Gain	0.0003933	0.0003885	0.000200 - 0.000600
Arm Offset	-1168.26	-1689.88	-5000.00 - 3000.00
Arm Gain	0.0004633	0.0005298	0.000300 - 0.000700
Arm Power	-0.000001258	-0.000005780	-0.000010000 - 0.000010000

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value

PAD EXTENSION:				
Small Ring (in)	2.01	2.00	-0.01	+/- 0.20
Medium Ring (in)	3.78	3.75	-0.03	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.54	6.50	-0.04	+/- 0.20
Medium Ring (in)	8.14	8.25	0.11	+/- 0.20
Large Ring (in)	14.97	15.00	0.03	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed
PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION			
Tool Name:	SDLT Pad - 10844781	Reference Calibration Date:	17-Jan-13 14:21:35
Engineer:	J. BOLLUM	Calibration Date:	05-Mar-13 11:01:55
Software Version:	WL INSITE R3.8.0 (Build 2)	Calibration Version:	1

Logging Source S/N: 5168GW		
Aluminum Block S/N: LIBERAL	Density: 2.598g/cc	Pe: 3.170
Magnesium Block S/N: LIBERAL	Density: 1.684g/cc	Pe: 2.598

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0434	1.0190	0.90 - 1.10
Near Dens Gain	1.0101	1.0001	0.90 - 1.10
Near Peak Gain	1.0002	0.9771	0.90 - 1.10
Near Lith Gain	0.9736	0.9818	0.90 - 1.10
Far Bar Gain	1.0096	1.0161	0.90 - 1.10
Far Dens Gain	0.9991	1.0035	0.90 - 1.10
Far Peak Gain	0.9920	0.9974	0.90 - 1.10
Far Lith Gain	0.9714	0.9744	0.90 - 1.10
Near Bar Offset	-0.1830	0.0500	NONE
Near Dens Offset	0.1114	0.2016	NONE
Near Peak Offset	0.2008	0.3863	NONE
Near Lith Offset	0.4173	0.3415	NONE
Far Bar Offset	0.0534	0.0099	NONE
Far Dens Offset	0.1337	0.1093	NONE
Far Peak Offset	0.1632	0.1328	NONE
Far Lith Offset	0.2973	0.2908	NONE
Near Bar Background	809.28	804.29	700 - 1450
Near Dens Background	265.36	265.46	230 - 480
Near Peak Background	115.37	115.14	100 - 210
Near Lith Background	142.88	142.71	125 - 260
Far Bar Background	526.94	523.45	450 - 900
Far Dens Background	207.77	206.08	175 - 345
Far Peak Background	82.16	82.40	70 - 140
Far Lith Background	86.57	85.02	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading	Calibrated	Change	Control Limit

Measurement	Reading (Previous Coef)	(New Coef)	Change	On Change
MAGNESIUM				
Density (g/cc)	1.695	1.684	-0.011	+/- 0.015
Pe	2.462	2.552	0.090	+/- 0.150
ALUMINUM				
Density (g/cc)	2.597	2.598	0.001	+/- 0.01500
Pe	2.977	3.120	0.143	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0009	+/- 0.0110	-0.0026	+/- 0.0140
Magnesium Block	-0.0007	+/- 0.0110	-0.0020	+/- 0.0140
Aluminum Block	-0.0013	+/- 0.0110	-0.0013	+/- 0.0140
Resolution	9.48	6.00 - 11.50	8.88	6.00 - 11.50
Internal Verifier(B+D+P+L)	1328	1200 - 2700	897	800 - 1700

PASS/FAIL SUMMARY	
Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	-----	-----	0.0	+/- 9.00	api
DSNT-11019643						
Snow-Block Porosity	0.0573	-----	-----	0.0000	+/- -,-	decp
SDLT-10950489						
Pad Extension	3.75	-----	-----	0.00	+/-0.20	in
Ring Diameter	8.25	-----	-----	0.00	+/-0.20	in
SDLT Pad-10844781						
Near(B+D+P+L)	1327.598	-----	-----	0.000	+/-12.900	cps
Far(B+D+P+L)	896.943	-----	-----	0.000	+/-14.781	cps

Data: WIL KINSON 2 2210001 SP-GTET-DSN-SDI -FLEX-BSAT-ACRT-CHI001 20-Mar-13 18:44 Dn @215.3f

Date: 20-Mar-13 18:57:23

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	

SHARED	MDWT	Borehole Fluid Weight	9.500	ppg
SHARED	WAGT	Weighting Agent	Natural	
SHARED	BSAL	Borehole salinity	0.00	ppm
SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
SHARED	RMUD	Mud Resistivity	2.000	ohmm
SHARED	TRM	Temperature of Mud	75.0	degF
SHARED	CSD	Logging Interval is Cased?	No	
SHARED	ICOD	AHV Casing OD	5.500	in
SHARED	ST	Surface Temperature	75.0	degF
SHARED	TD	Total Well Depth	4970.00	ft
SHARED	BHT	Bottom Hole Temperature	200.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	Temperature Master Tool	NONE	
SHARED	BHSM	Borehole Size Master Tool	NONE	
Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	User define	

BSAT	DTMA	Delta -T Matrix	47.60	uspf
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
BOTTOM_____				
Data: WILKINSON_2_22\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHI002 20-Mar-13 18:55 Dn @1846.3f			Date: 20-Mar-13 18:56:01	

HALLIBURTON INPUTS, DELAYS AND FILTERS TABLE				
Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
CH_HOS				
DHTN	DownholeTension	0.00	BLK	0.000
SP Sub				
PLTC	Plot Control Mask	72.25	NO	
SP	Spontaneous Potential	72.25	BLK	1.250
SPR	Raw Spontaneous Potential	72.25	NO	
SPO	Spontaneous Potential Offset	72.25	NO	
GTET				
TPUL	Tension Pull	64.23	NO	
GR	Natural Gamma Ray API	64.23	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	64.23	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	64.23	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	53.99	NO	
RNDS	Near Detector Telemetry Counts	54.09	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.84	TRI	0.583
DNTT	DSN Tool Temperature	54.09	NO	
DSNS	DSN Tool Status	53.99	NO	
ERND	Near Detector Telemetry Counts EVR	54.09	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.84	BLK	0.000
ENTM	DSN Tool Temperature EVR	54.09	NO	
SDLT				
TPUL	Tension Pull	44.09	NO	
PCAL	Pad Caliper	44.09	TRI	0.250
ACAL	Arm Caliper	44.09	TRI	0.250

BSAT				
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	NO	
GMOD	Gain processing mode	19.83	NO	
ACRt Sonde				
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Current Raw 12K X Receiver	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TEMPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000

TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	

SDLT Pad				
TPUL	Tension Pull	44.08	NO	
NAB	Near Above	43.90	BLK	0.920
NHI	Near Cesium High	43.90	BLK	0.920
NLO	Near Cesium Low	43.90	BLK	0.920
NVA	Near Valley	43.90	BLK	0.920
NBA	Near Barite	43.90	BLK	0.920
NDE	Near Density	43.90	BLK	0.920
NPK	Near Peak	43.90	BLK	0.920
NLI	Near Lithology	43.90	BLK	0.920
NBAU	Near Barite Unfiltered	43.90	BLK	0.250
NLIU	Near Lithology Unfiltered	43.90	BLK	0.250
FAB	Far Above	44.26	BLK	0.250
FHI	Far Cesium High	44.26	BLK	0.250
FLO	Far Cesium Low	44.26	BLK	0.250
FVA	Far Valley	44.26	BLK	0.250
FBA	Far Barite	44.26	BLK	0.250
FDE	Far Density	44.26	BLK	0.250
FPK	Far Peak	44.26	BLK	0.250
FLI	Far Lithology	44.26	BLK	0.250
PTMP	Pad Temperature	44.09	BLK	0.920
NHV	Near Detector High Voltage	43.49	NO	
FHV	Far Detector High Voltage	43.49	NO	
ITMP	Instrument Temperature	43.49	NO	
DDHV	Detector High Voltage	43.49	NO	

Microlog Pad				
TPUL	Tension Pull	44.28	NO	
MINV	Microlog Lateral	44.28	BLK	0.750
MNOR	Microlog Normal	44.28	BLK	0.750

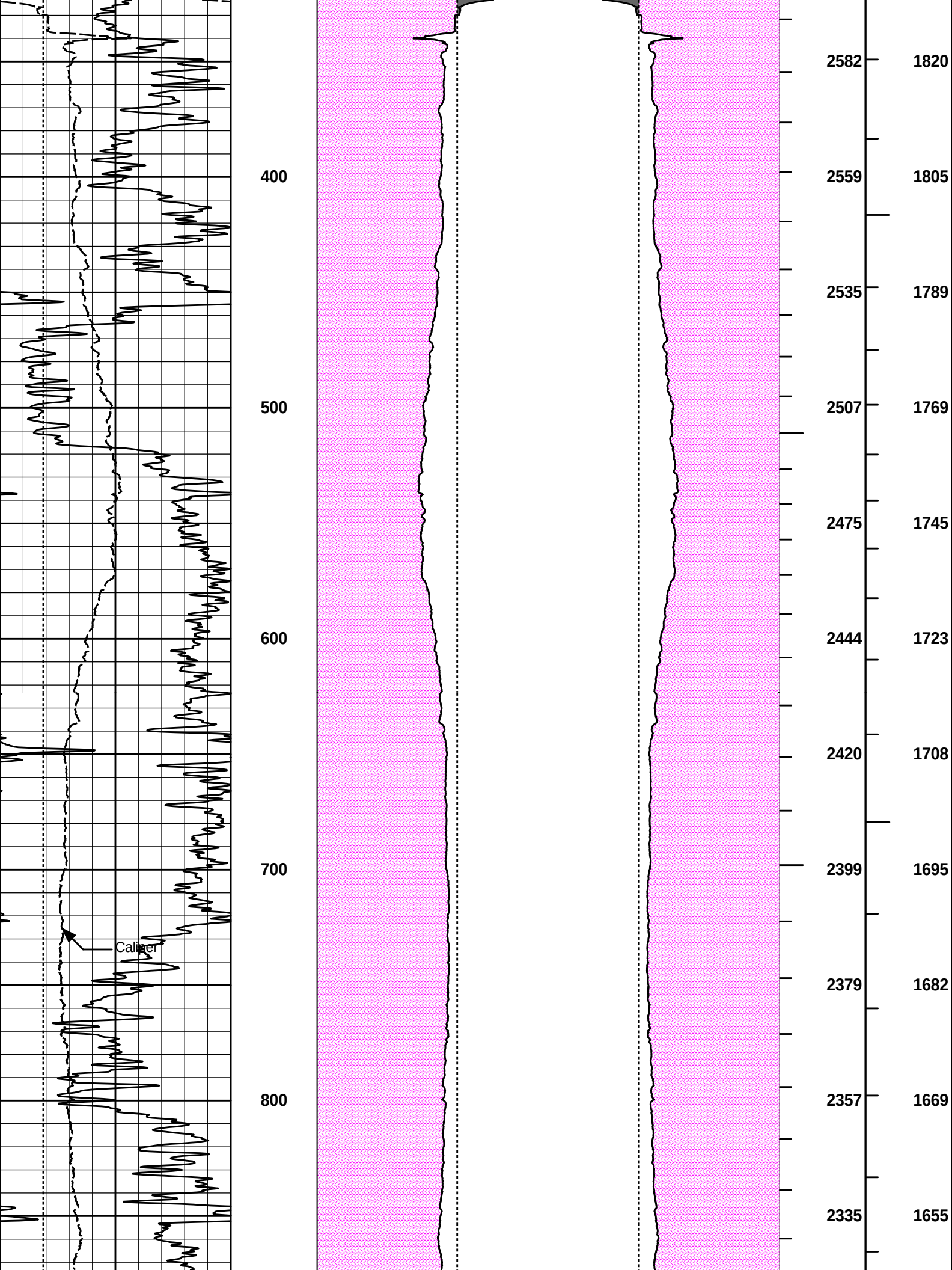
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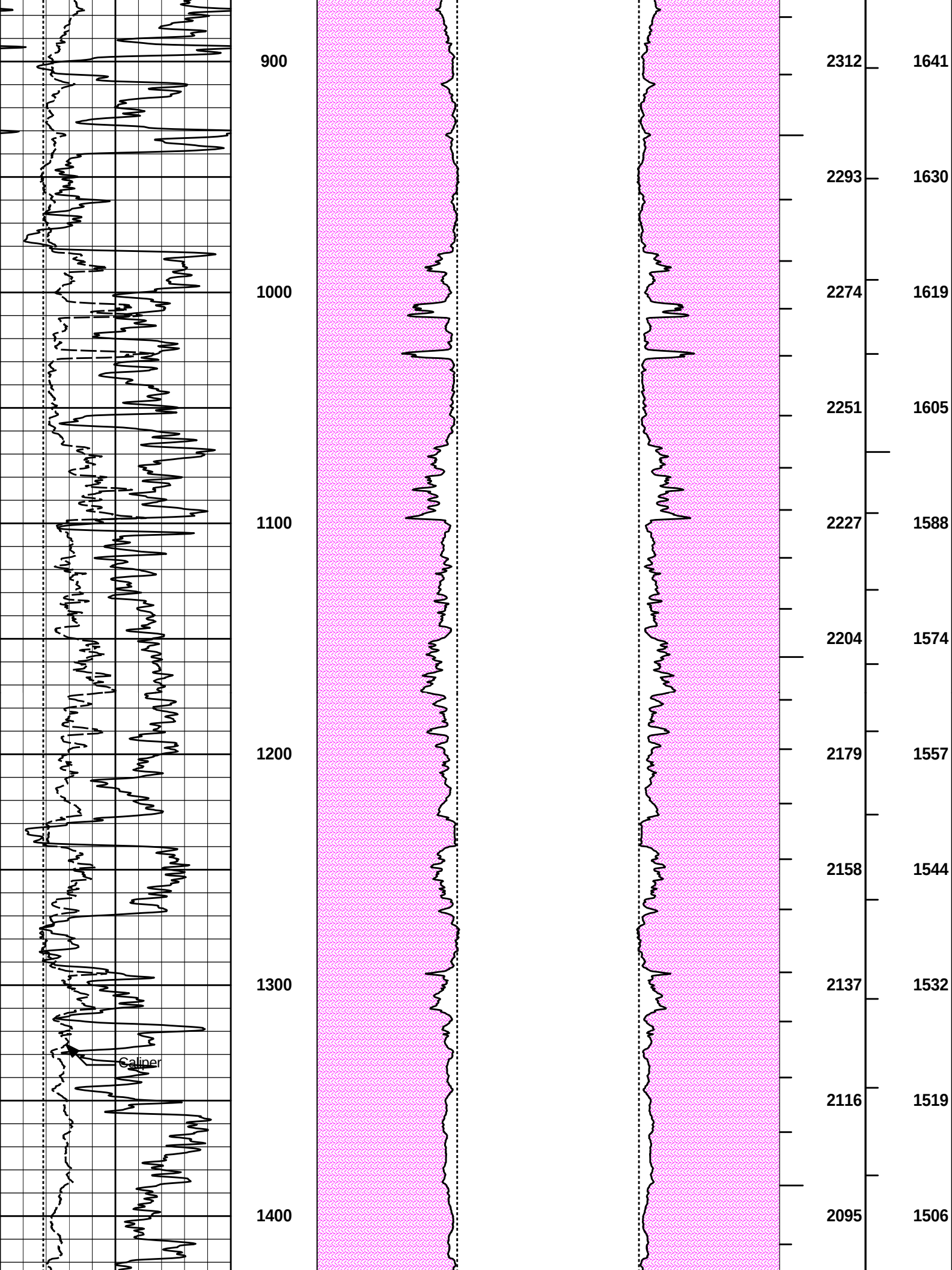


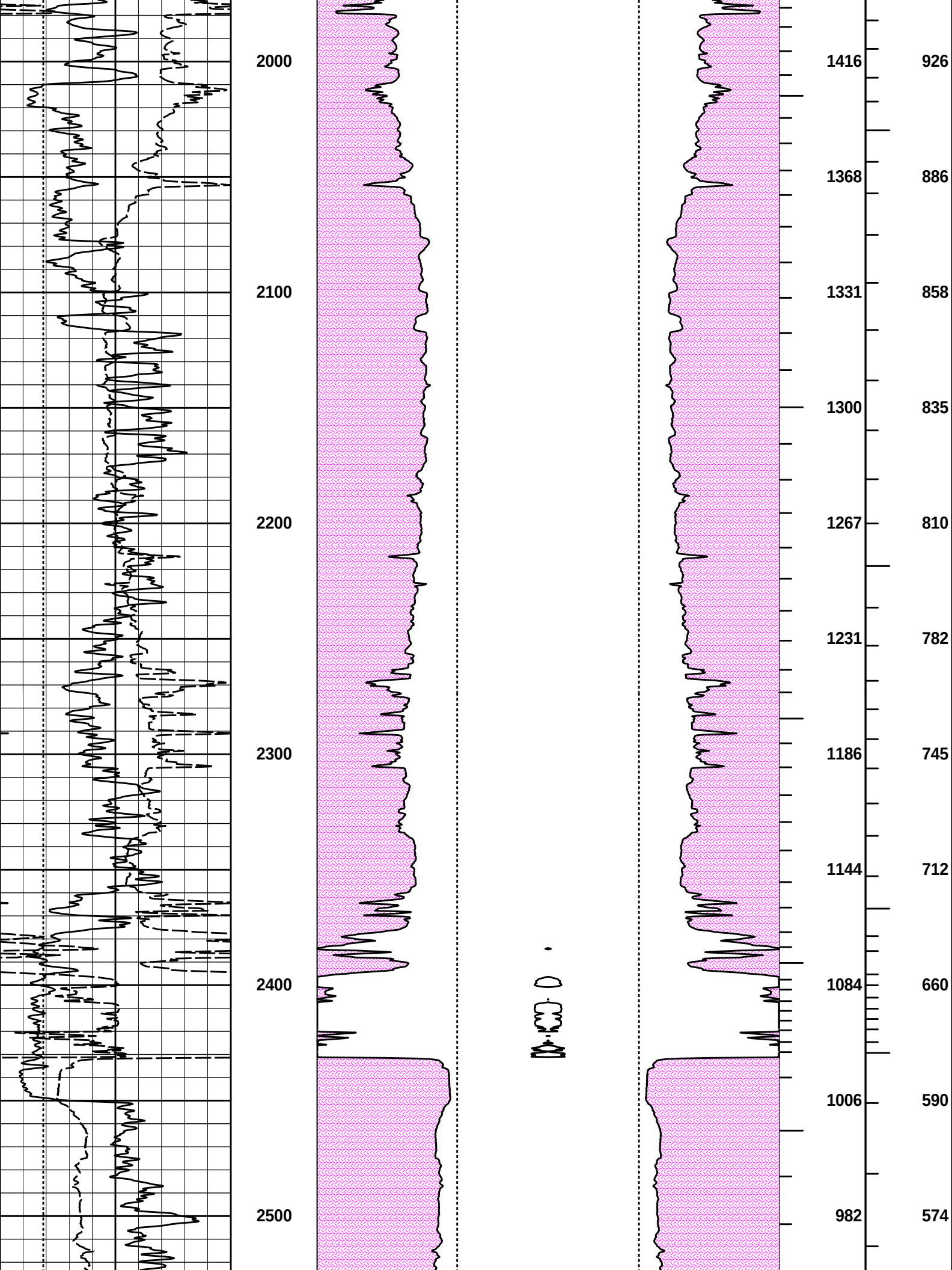
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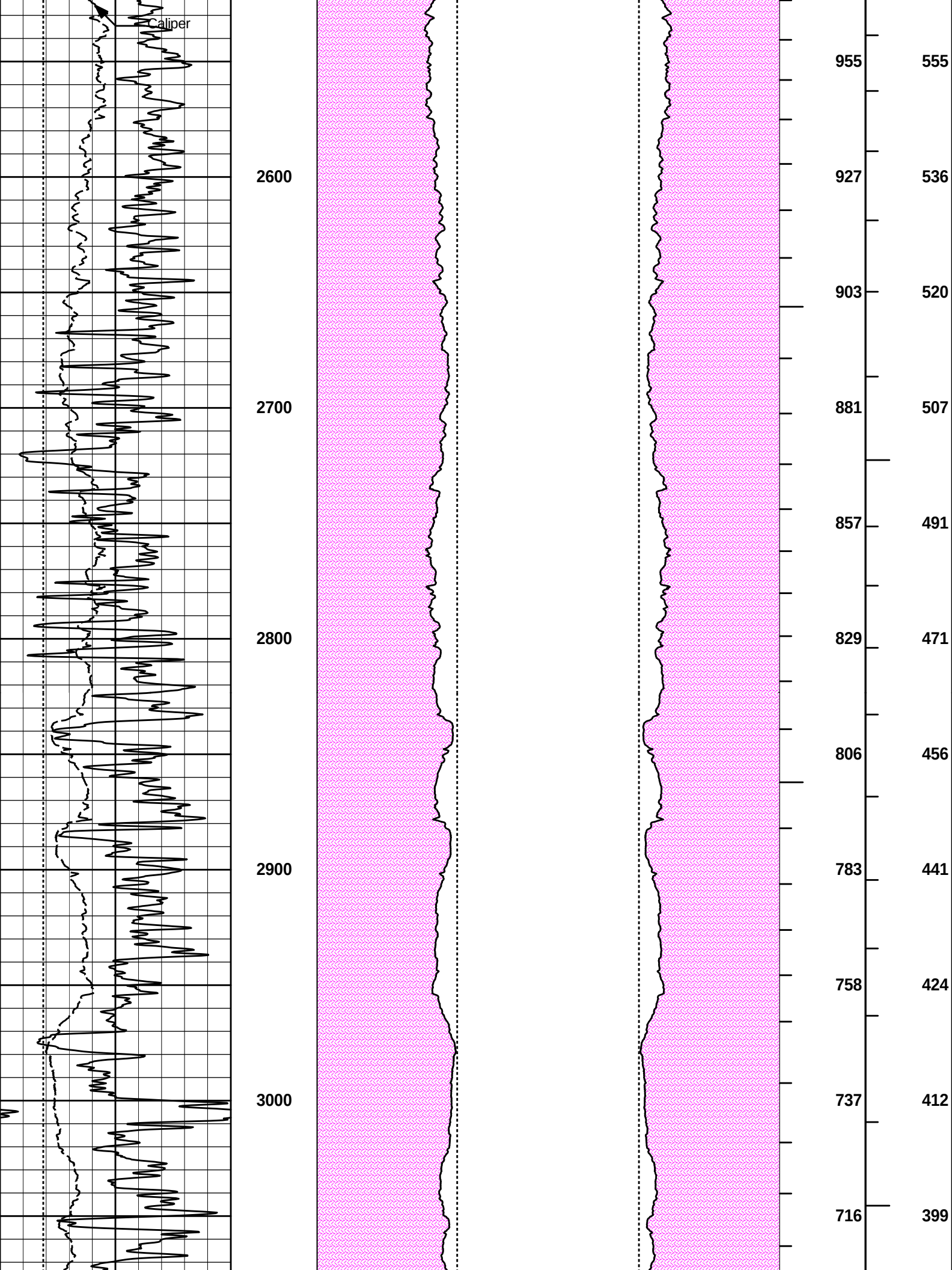
ANNULAR HOLE VOLUME PLOT

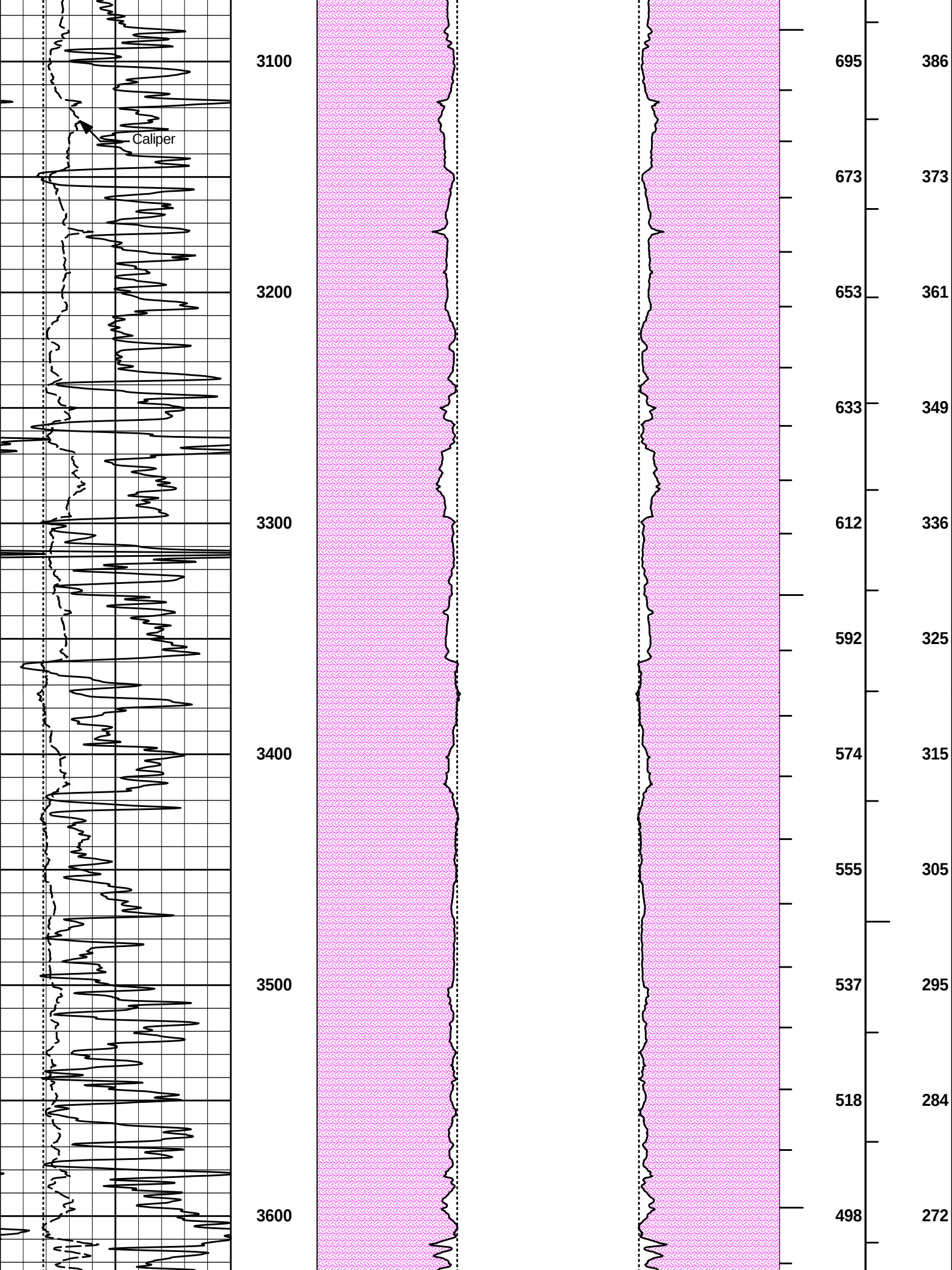
0Gamma API150										
api				MUDCAKE		MUDCAKE				
6Bit Size16				20Bit Size00		20Bit Size20				
inches										
6Caliper16			MD 1 : 600 ft	20Caliper00		20Caliper20		BHVT	AHVT	
inches				inches		inches				

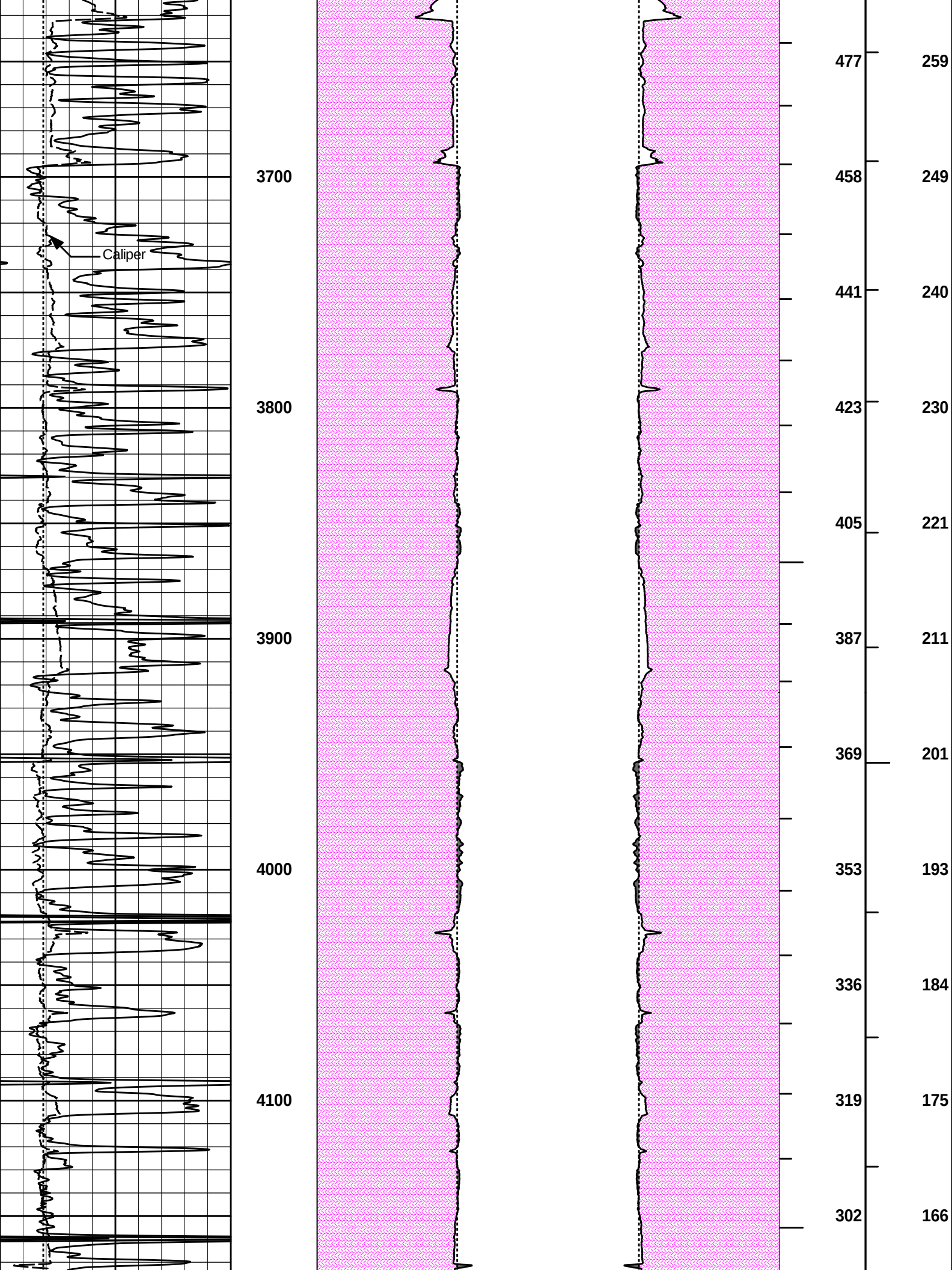


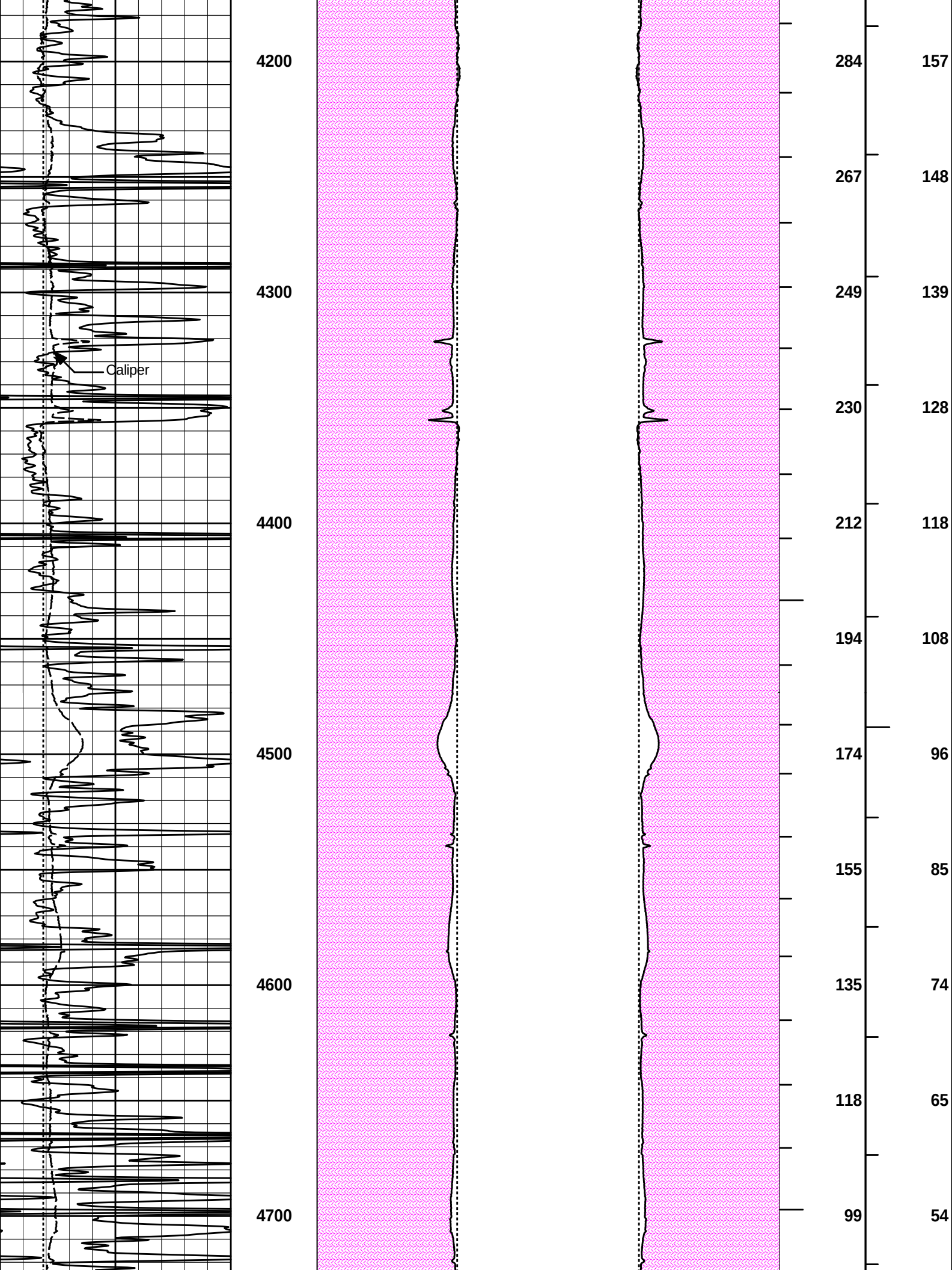


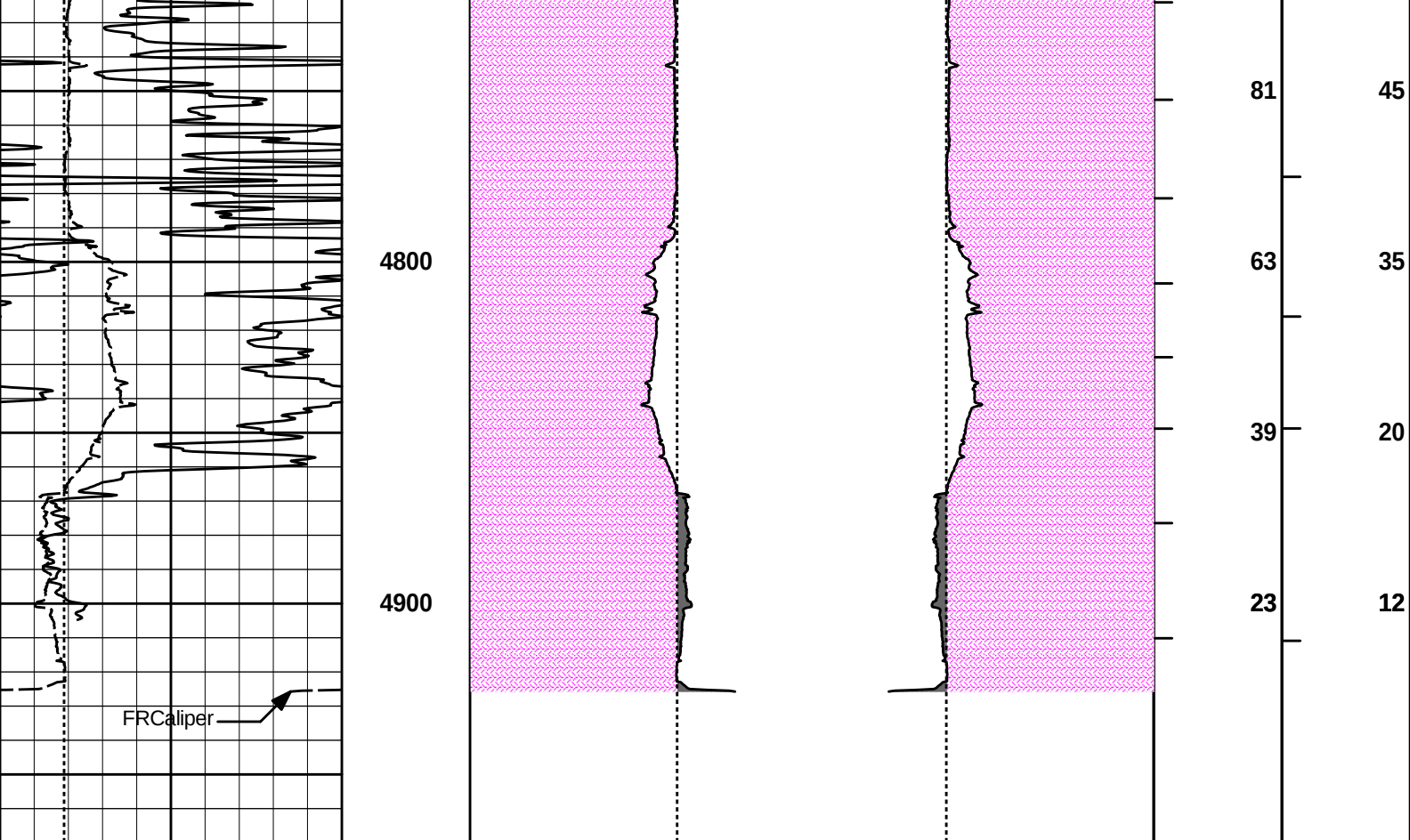












6	Caliper	16	MD	20	Caliper	0 0	Caliper	20	BHVT	AHVT
	inches		1 : 600		inches		inches			
6	Bit Size	16		20	Bit Size	0 0	Bit Size	20		
	inches									
0	Gamma API	150								
	api									

HALLIBURTON

Plot Time: 20-Mar-13 20:51:03
Plot Range: 320 ft to 4969.75 ft
Data: WILKINSON_2_22\Well Based\CASING\
Plot File: \\LOCAL-WILKINSON_2_22\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIPORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	HARTMAN OIL CO., INC.		
WELL	WILKINSON #2-22		
FIELD	WILDCAT		
COUNTY	SCOTT	STATE	KANSAS
HALLIBURTON		SPECTRAL DENSITY DUAL SPACED NEUTRON LOG	