

HALLIBURTON

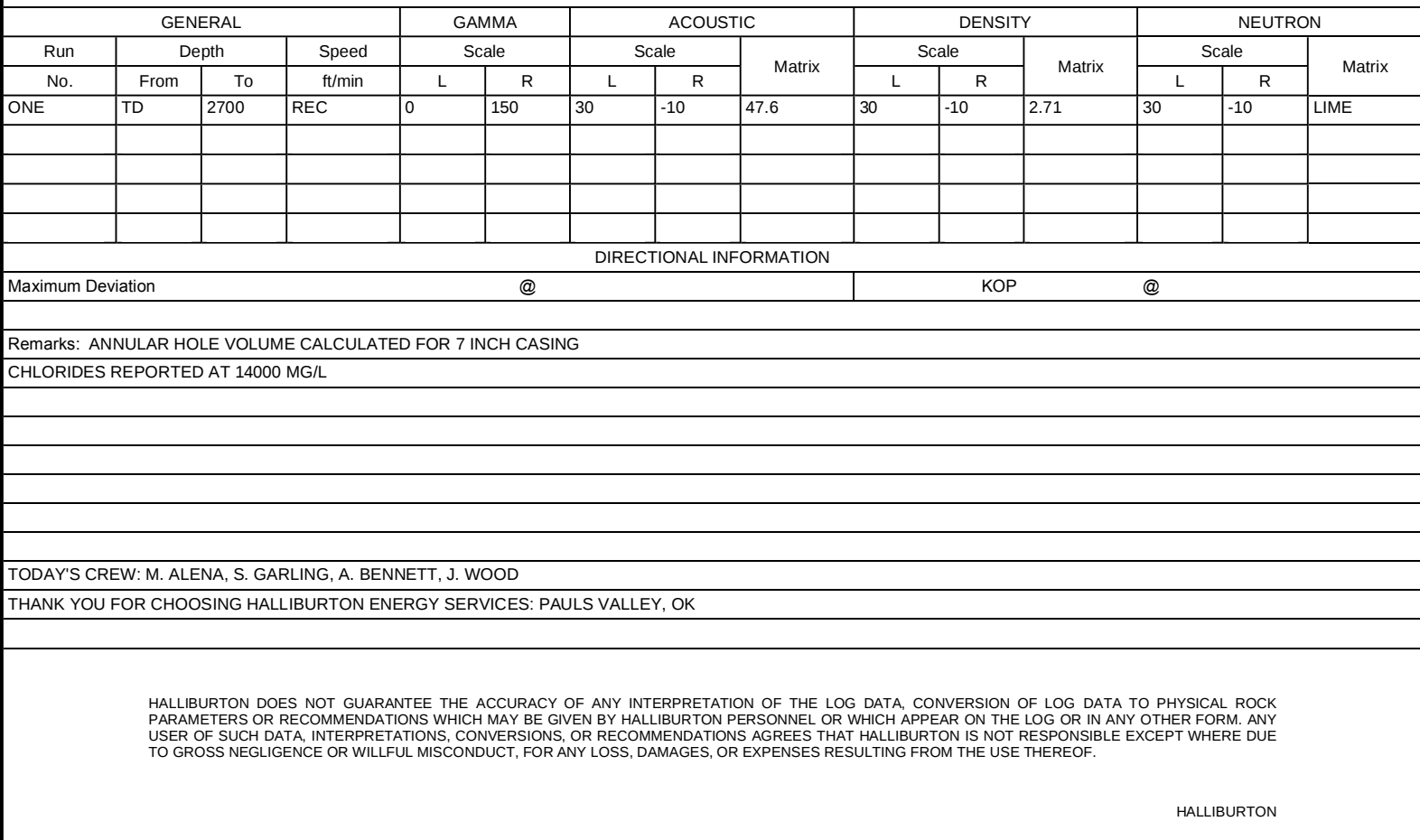
DUAL SPACED NEUTRON
SPECTRAL DENSITY
MICROLOG

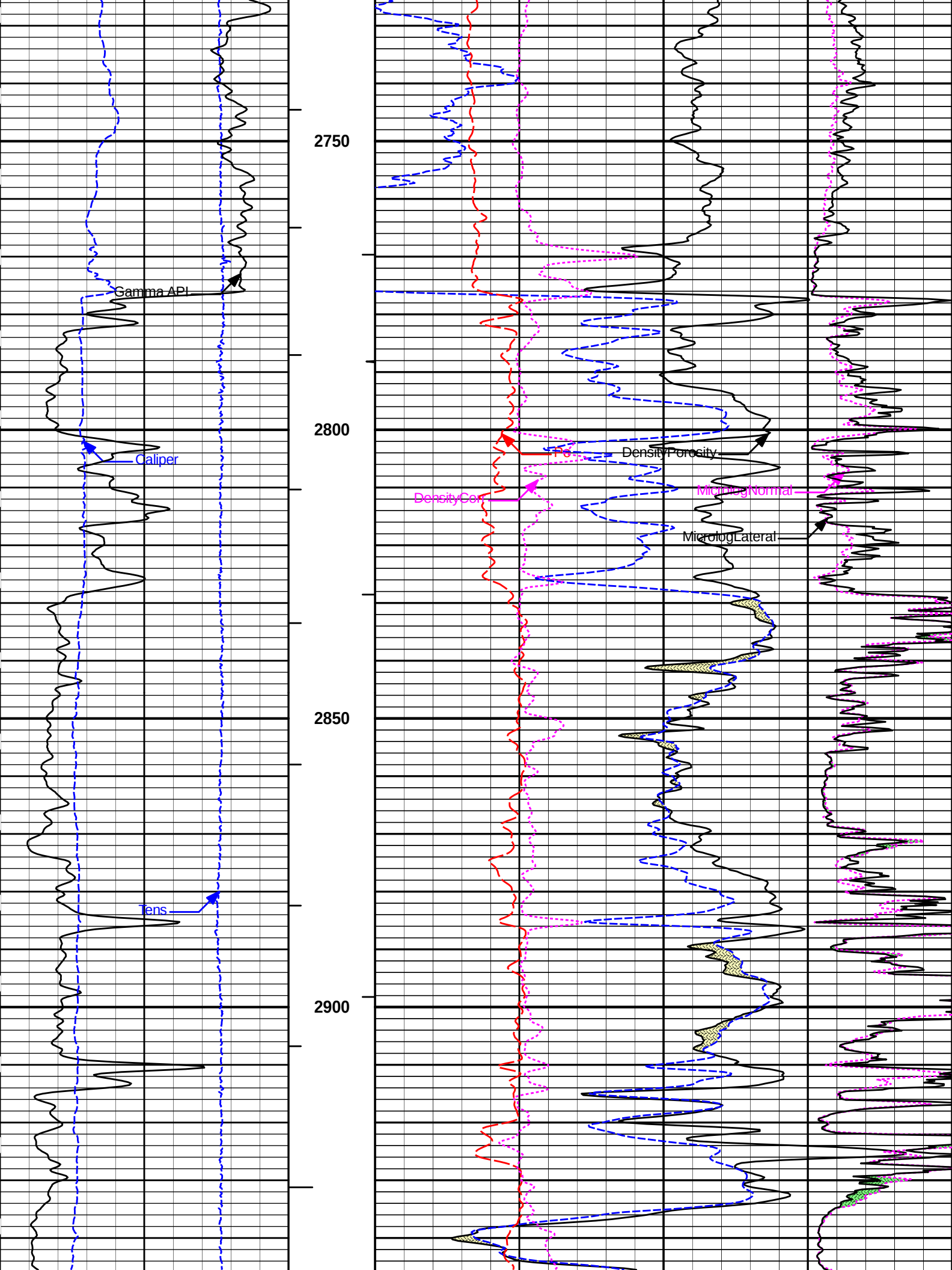
COMPANY		SANDRIDGE ENERGY INC			
WELL		SKYLER RAE SWD 3505 1-3			
FIELD/BLOCK		WILLTEX NORTH			
COUNTY		HARPER			
STATE		KS			
Permanent Datum Log measured from Drilling measured from	G.L.	Sect. 3	Twp. 35S	Rge. 5W	Elev. 1257.00 ft
	KB				
	KB				
	KB				
	KB				
Date		03-Dec-14			
Run No.		ONE			
Depth - Driller		5555.00 ft			
Depth - Logger		5528.00 ft			
Bottom - Logged Interval		5528.0 ft			
Top - Logged Interval		2700.0 ft			
Casing - Driller		9.625 in @ 680.00 ft			
Casing - Logger		680.00 ft			
Bit Size		8.750 in			
Type Fluid in Hole		Water Based Mud			
Density	Viscosity	9.1 ppg	42.00 s/qt		
PH	Fluid Loss	10.90 pH	4 cpm		
Source of Sample		FLOWLINE			
Rm @ Meas. Temperature		0.430 ohmm	@ 69.00 degF		@
Rmf @ Meas. Temperature		0.360 ohmm	@ 55.00 degF		@
Rmc @ Meas. Temperature		0.490 ohmm	@ 55.00 degF		@
Source Rmf	Rmc	MEASURED	MEASURED		
Rm @ BHT		0.21 ohmm	@ 145.0 degF		@
Time Since Circulation		5.0 hr			
Time on Bottom		04-Dec-14 03:31			
Max. Rec. Temperature		145.0 degF	@ 5528.0 ft		@
Equipment	Location	592	PVOK		
Recorded By		CHRIS MARLOWE			
Witnessed By		BILL TOMLINSON			

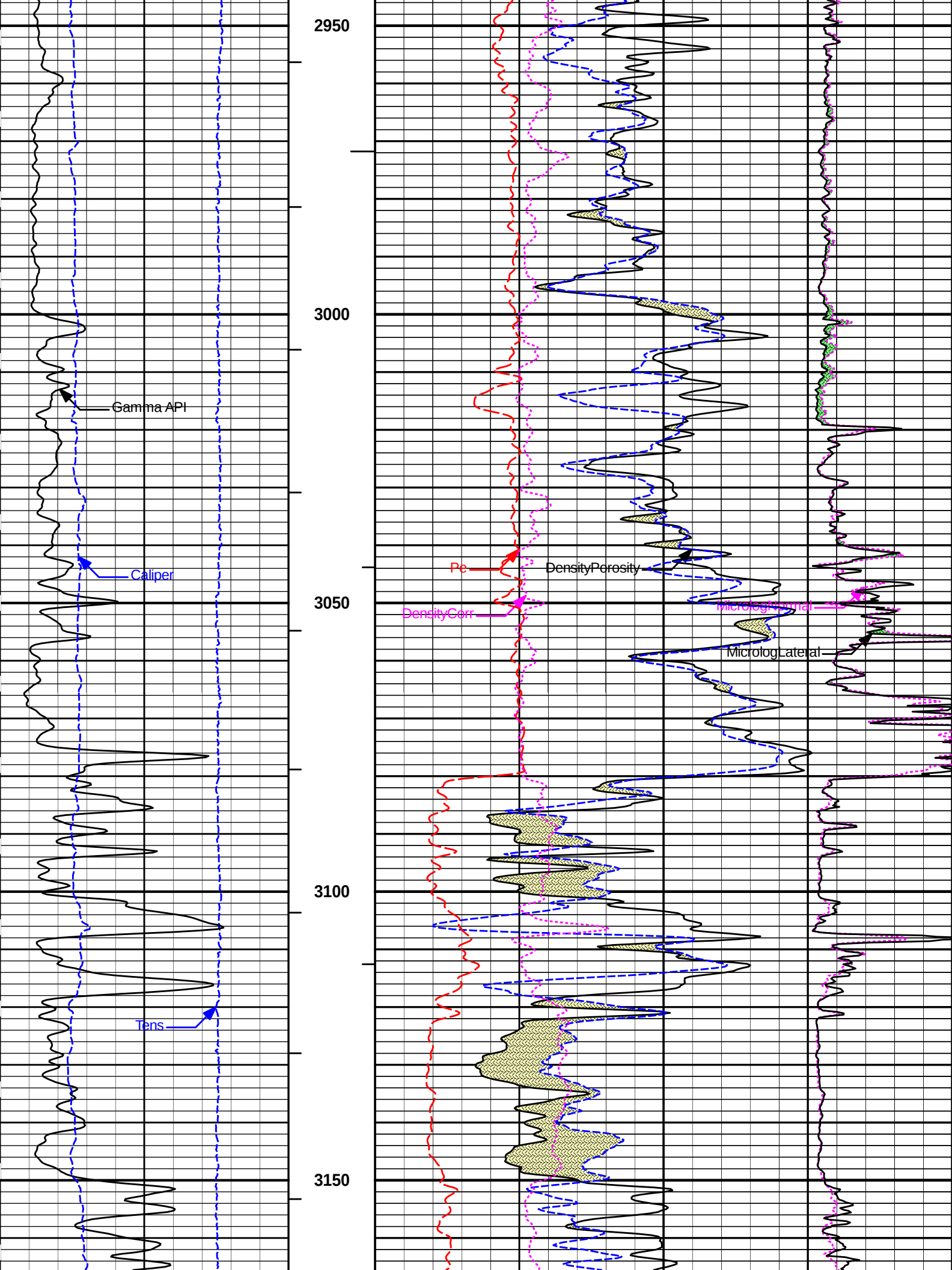
COMPANY	SANDRIDGE ENERGY INC
WELL	SKYLER RAE SWD 3505 1-3
FIELD/BLOCK	WILLTEX NORTH
COUNTY	HARPER
STATE	KS
API No.	15-077-22110-0000
Location	SE-NW-NW-NW 350' FNL & 650' FWL
Other Services:	ACRT WSTT XRMI MRIL CSNG

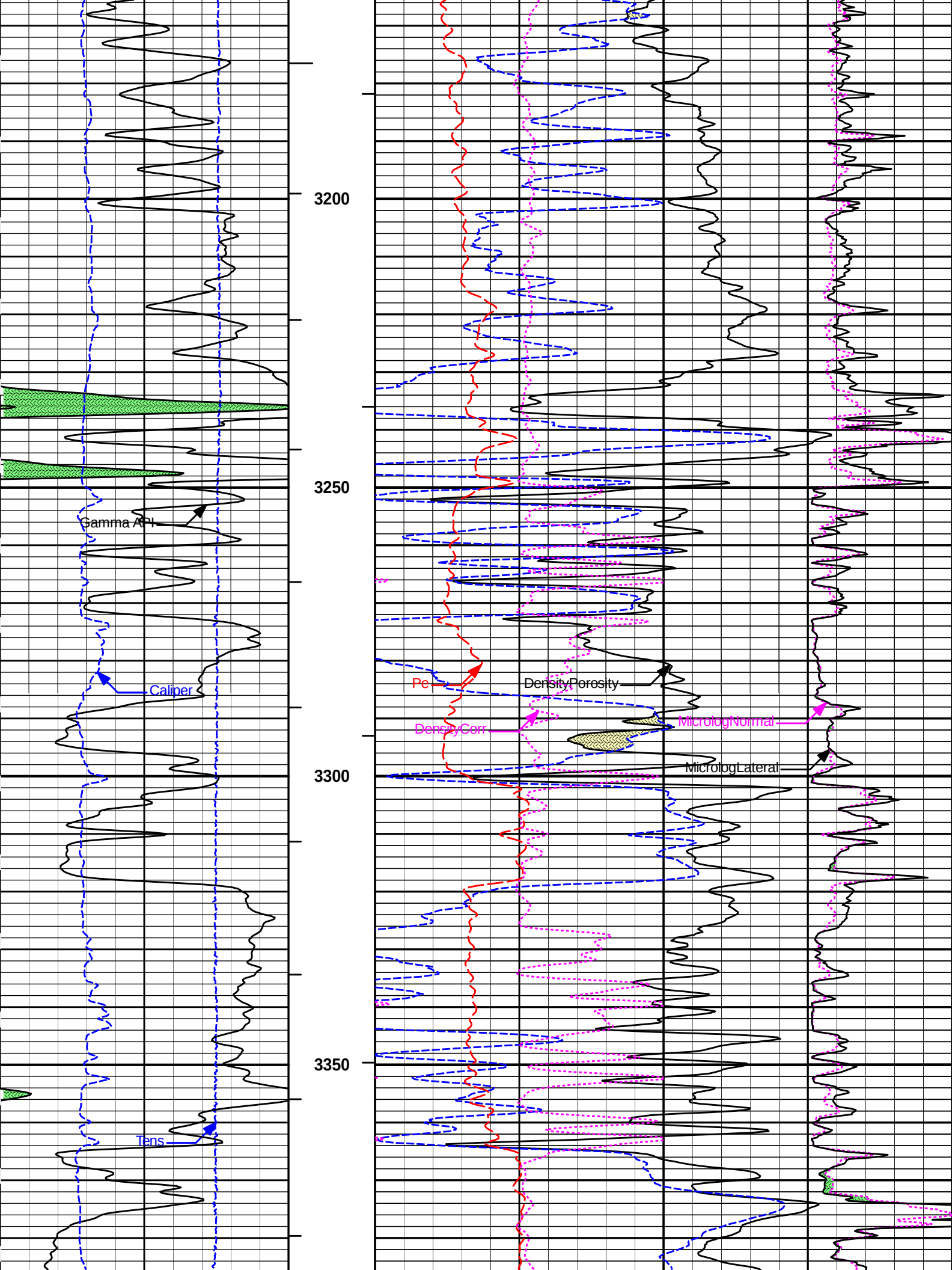
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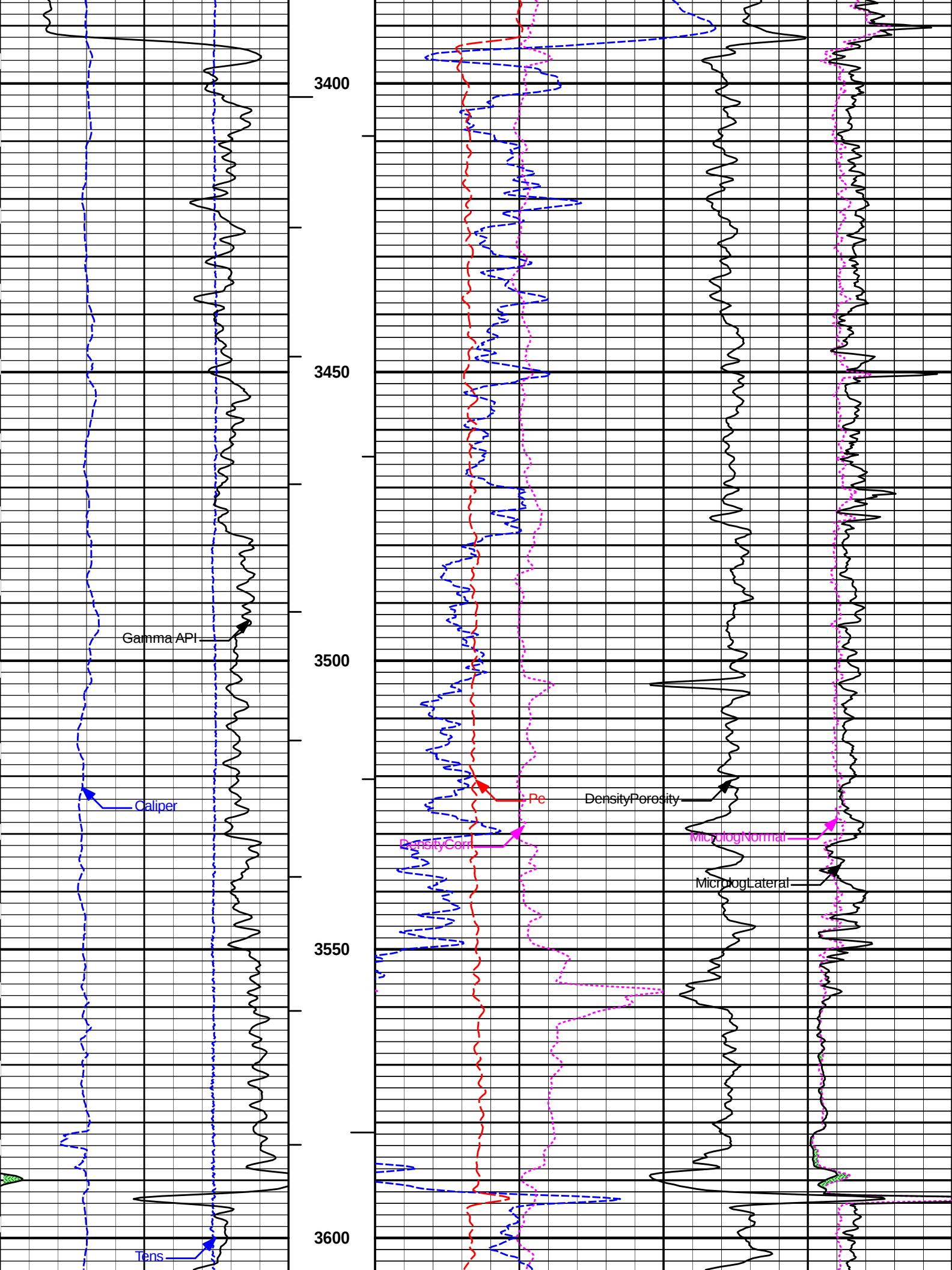
Service Ticket No.: 901879224				API Serial No.: 15-077-22110-0000				PGM Version: WL INSITE R4.2.0 (Build 2)			
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES					
Date	Sample No.					Type Log	Depth	Scale Up Hole	Scale Down Hole		
Depth-Driller											
Type Fluid in Hole											
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.		@			@	ONE	ACRT	NA	1.5" S.O.	NA	
Rmc @ Meas. Temp.		@			@		I822S202				
Source Rmf	Rmc										
Rm @ BHT		@			@						
Rmf @ BHT		@			@						
Rmc @ BHT		@			@						
EQUIPMENT DATA											
GAMMA			ACOUSTIC			DENSITY			NEUTRON		
Run No.	ONE		Run No.	ONE		Run No.	ONE		Run No.	ONE	
Serial No.	11021139		Serial No.	10650265		Serial No.	10960494		Serial No.	11020487	
Model No.	GTET		Model No.	WSTT		Model No.	SDLT		Model No.	DSNT	
Diameter	3.625"		No. of Cent.	2		Diameter	4.5"		Diameter	3.625"	
Detector Model No.	T-102		Spacing	0.5'		Log Type	GAM-GAM		Log Type	NEU-NEU	
Type	SCINT					Source Type	Cs137		Source Type	Am241Be	
Length	8"		LSA [Y/N]	Y		Serial No.	5155GW		Serial No.	DSN382	
Distance to Source	18'		FWDA [Y/N]	Y		Strength	1.5 Ci		Strength	15 Ci	
LOGGING DATA											

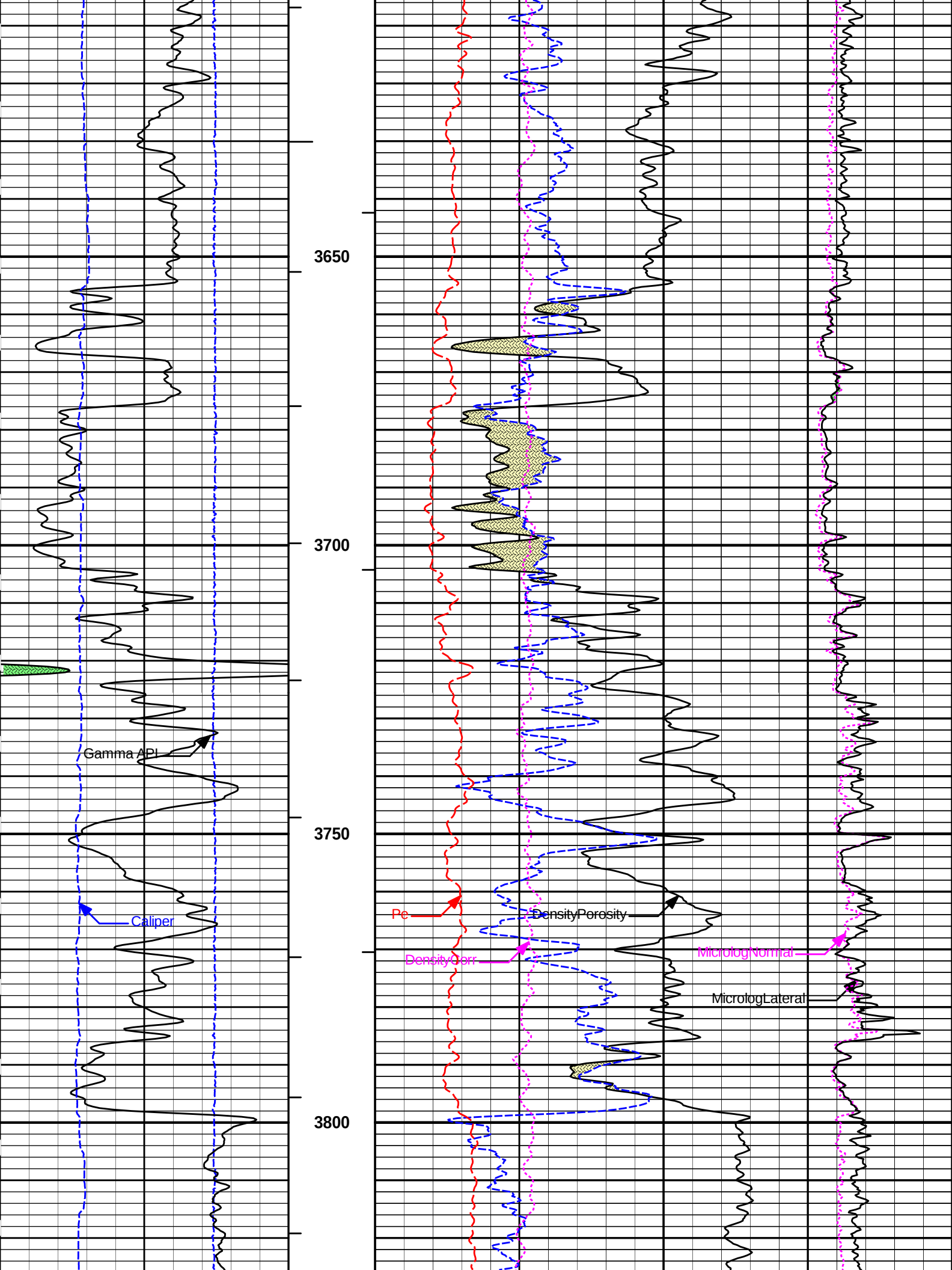


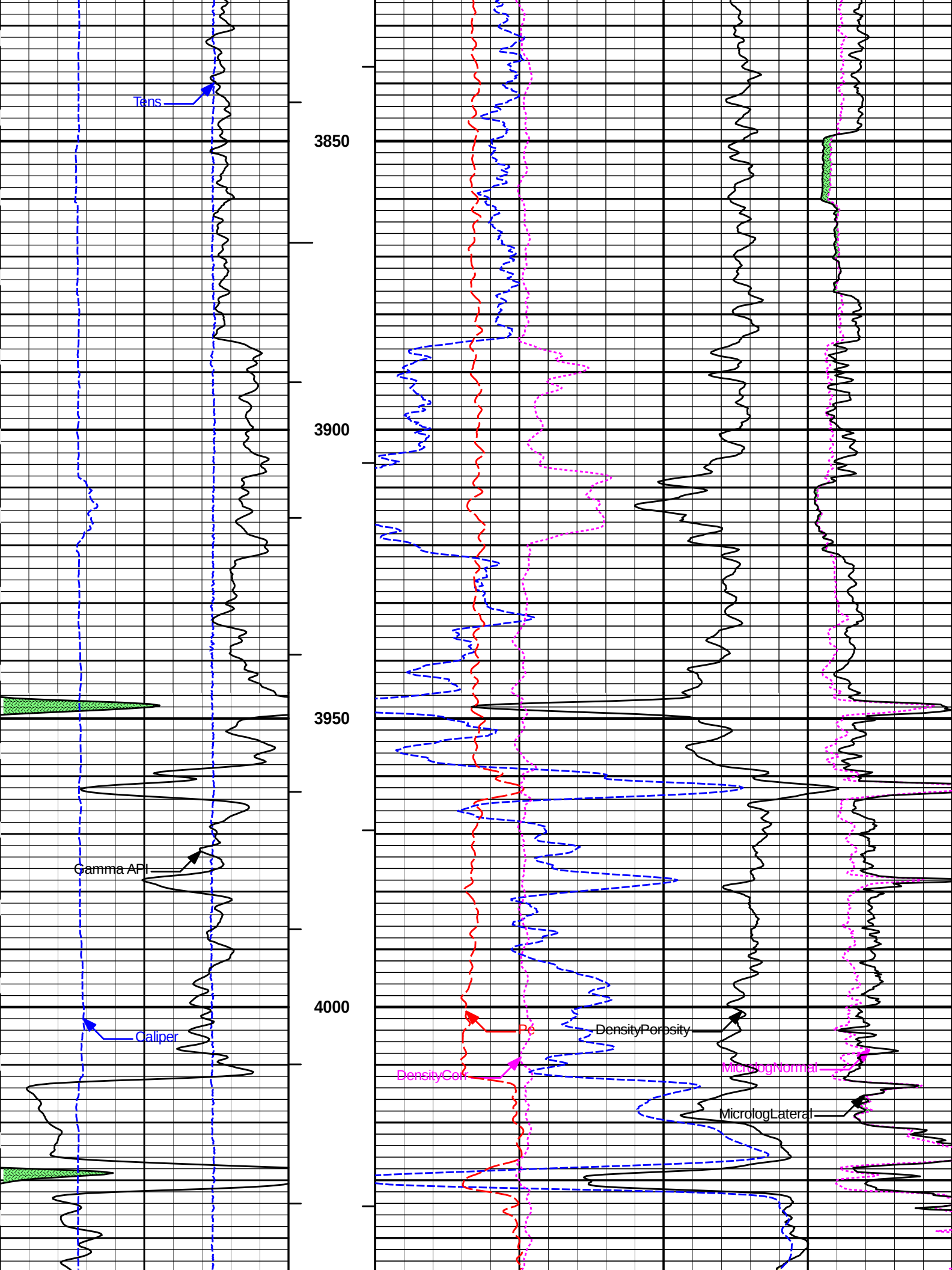


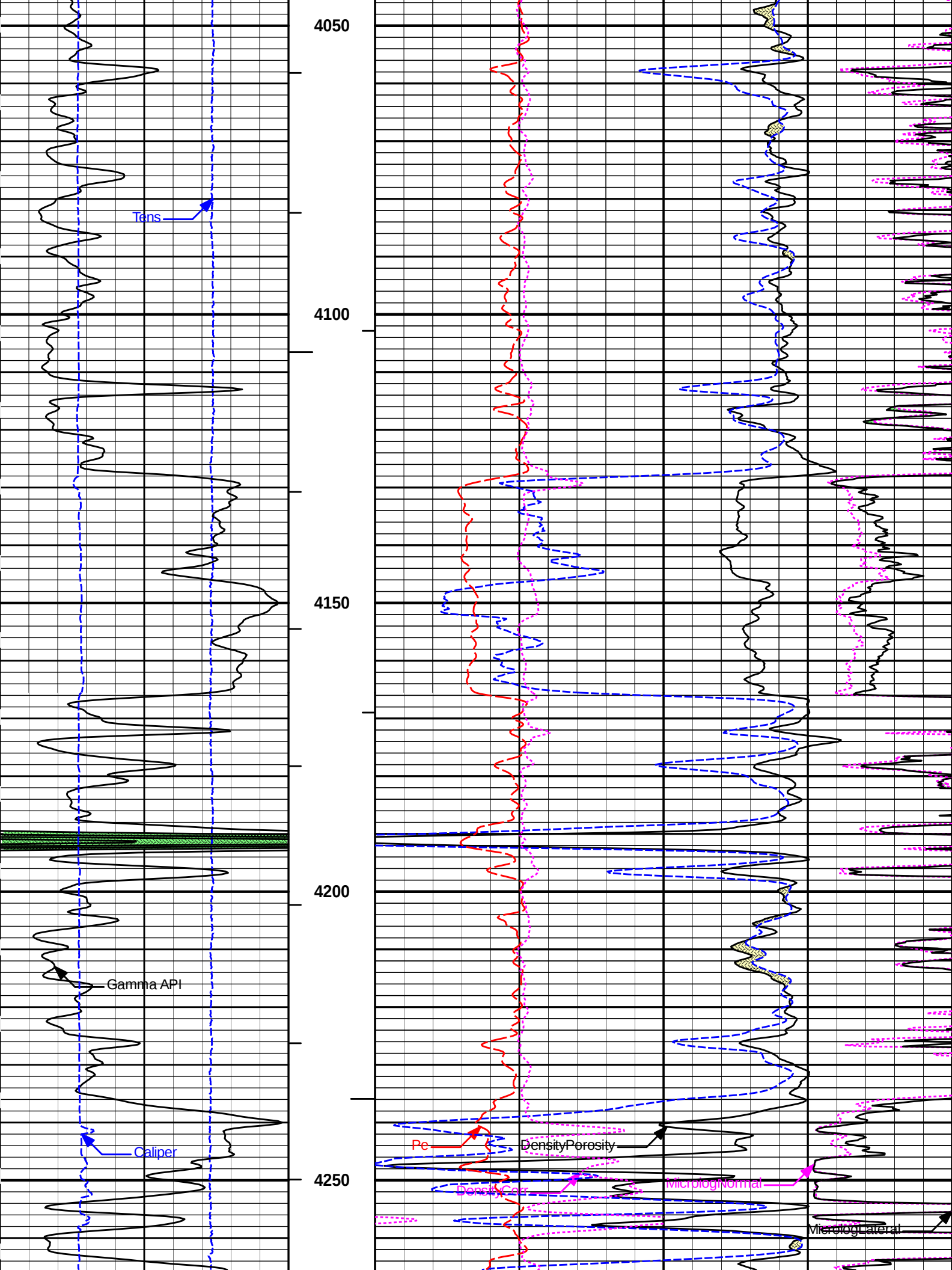


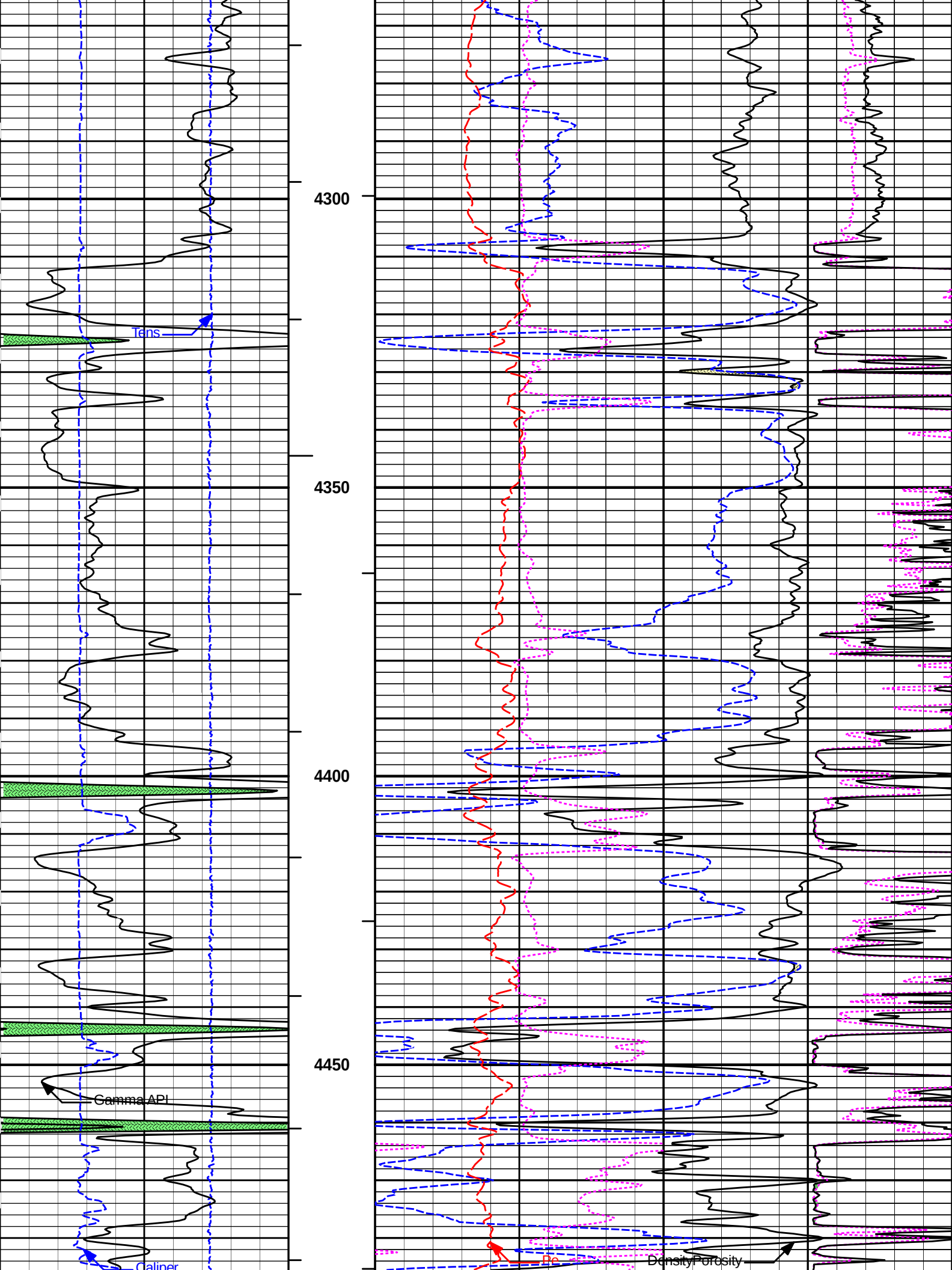


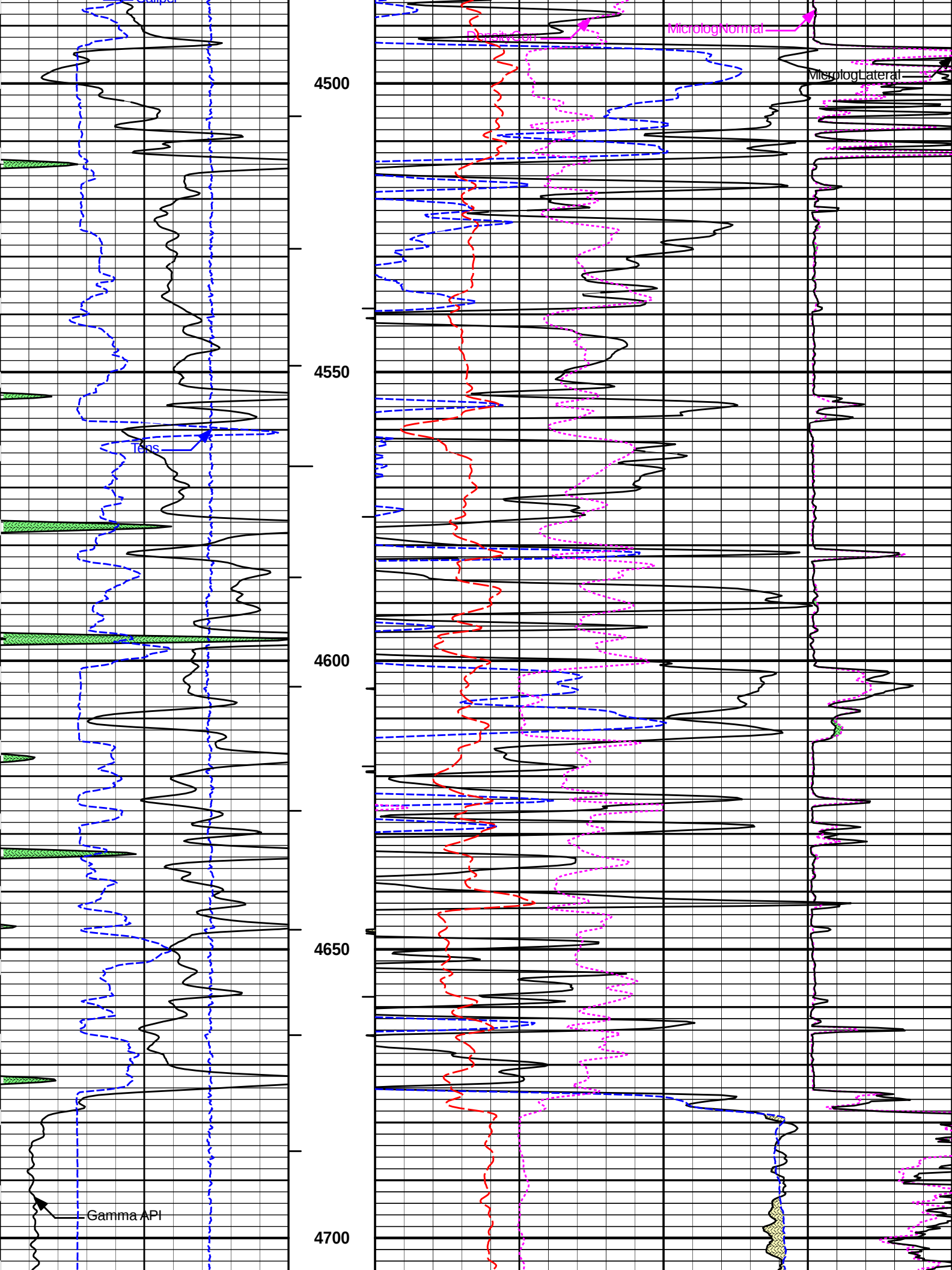


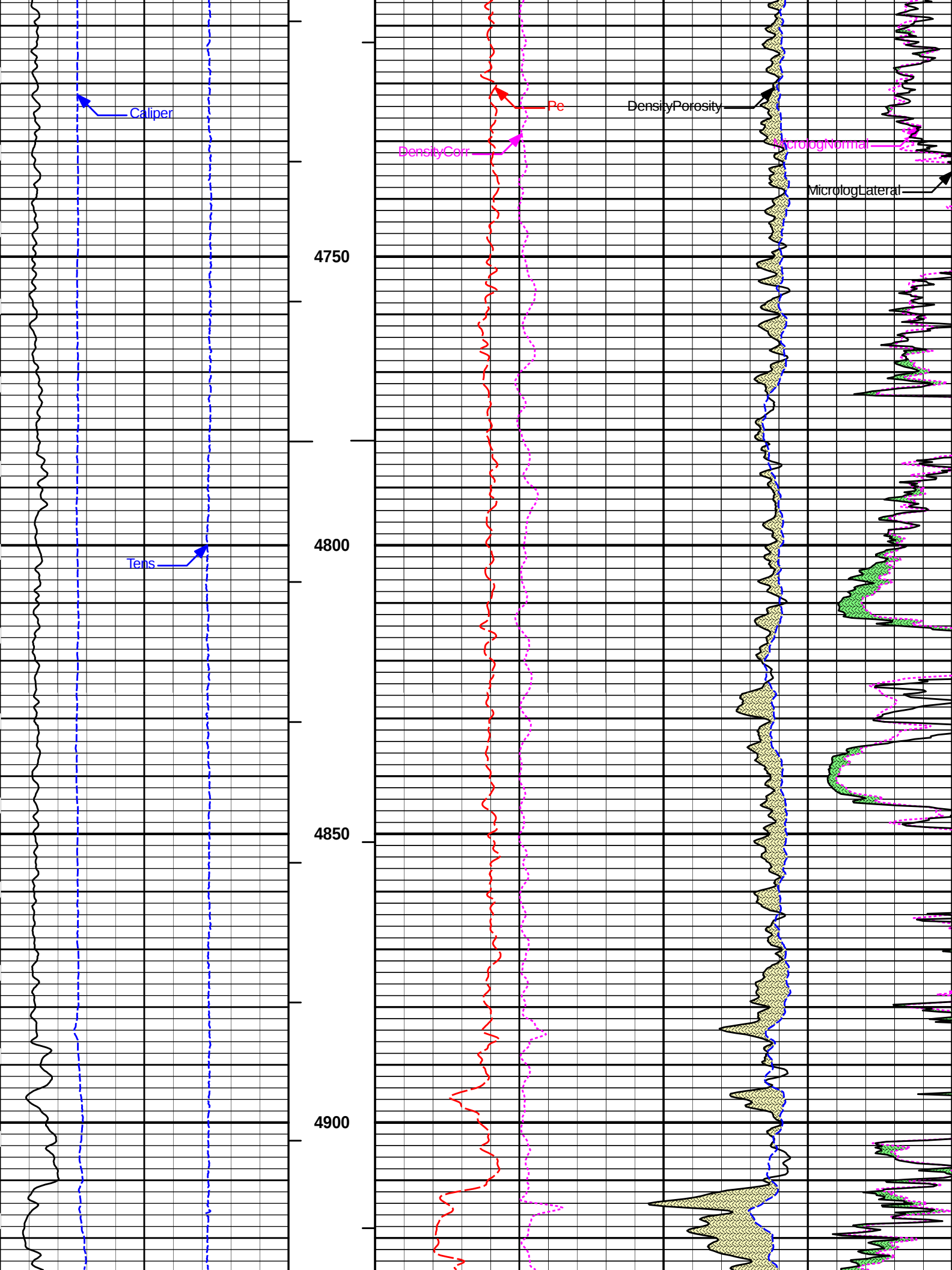


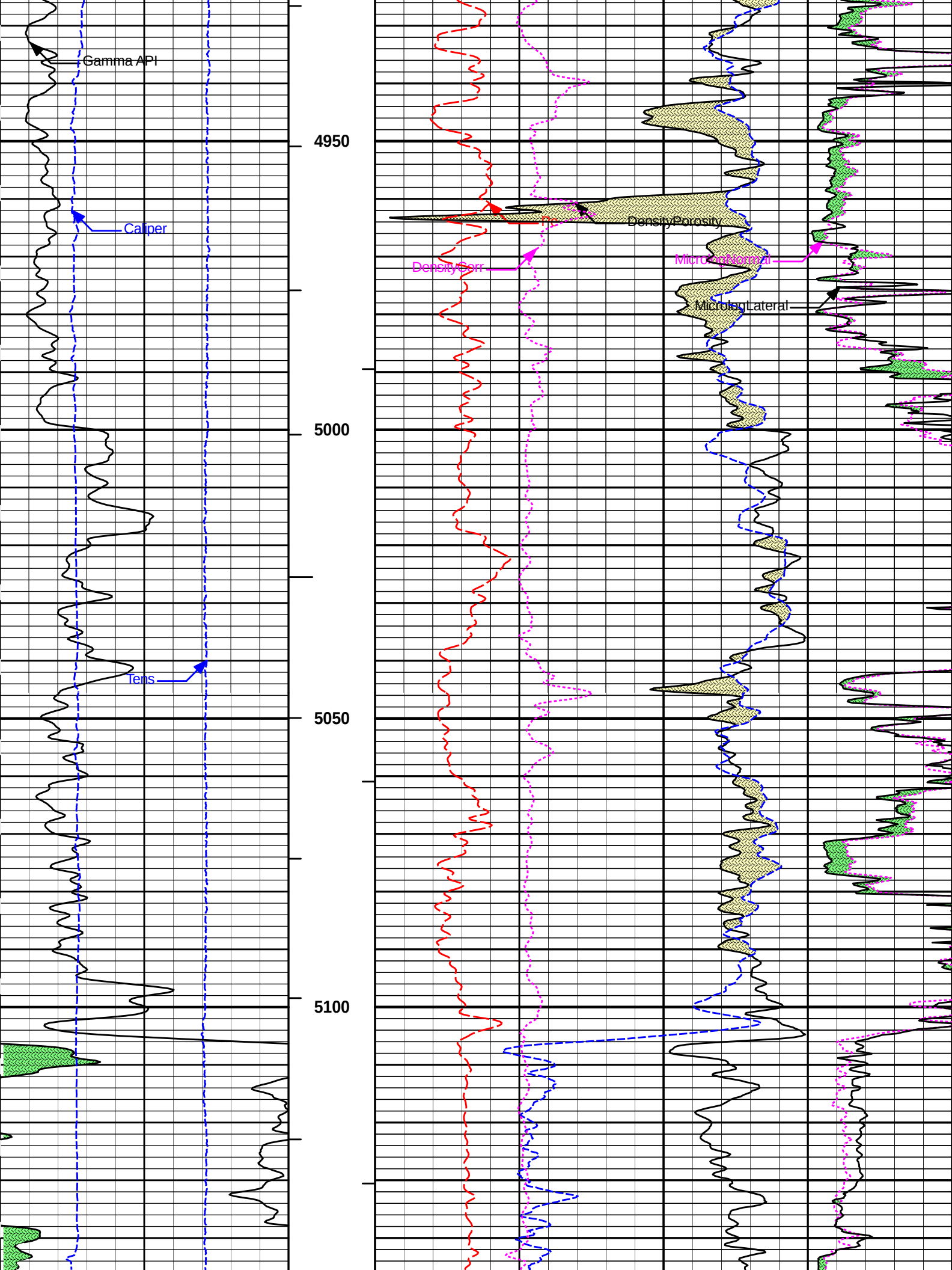


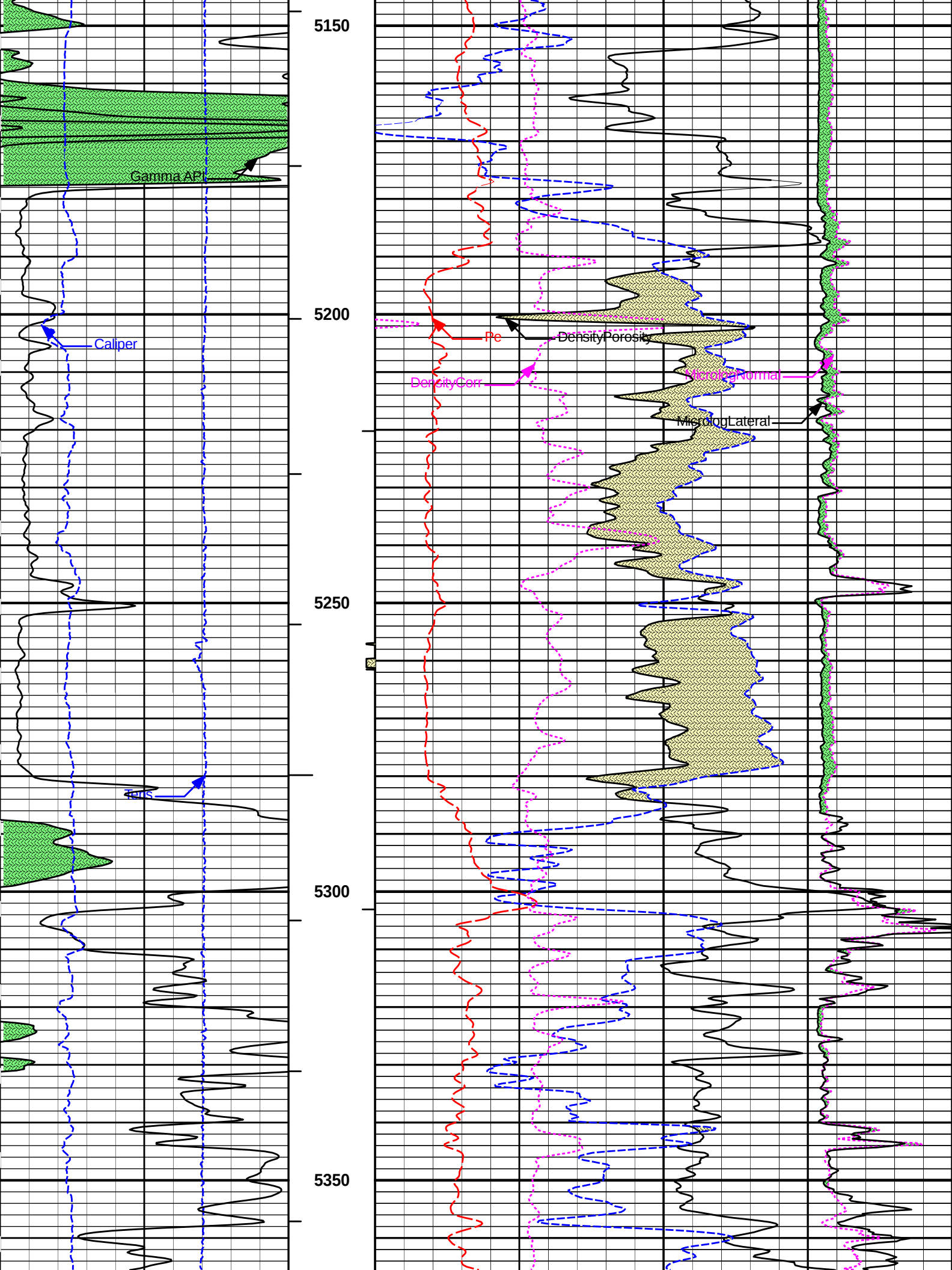


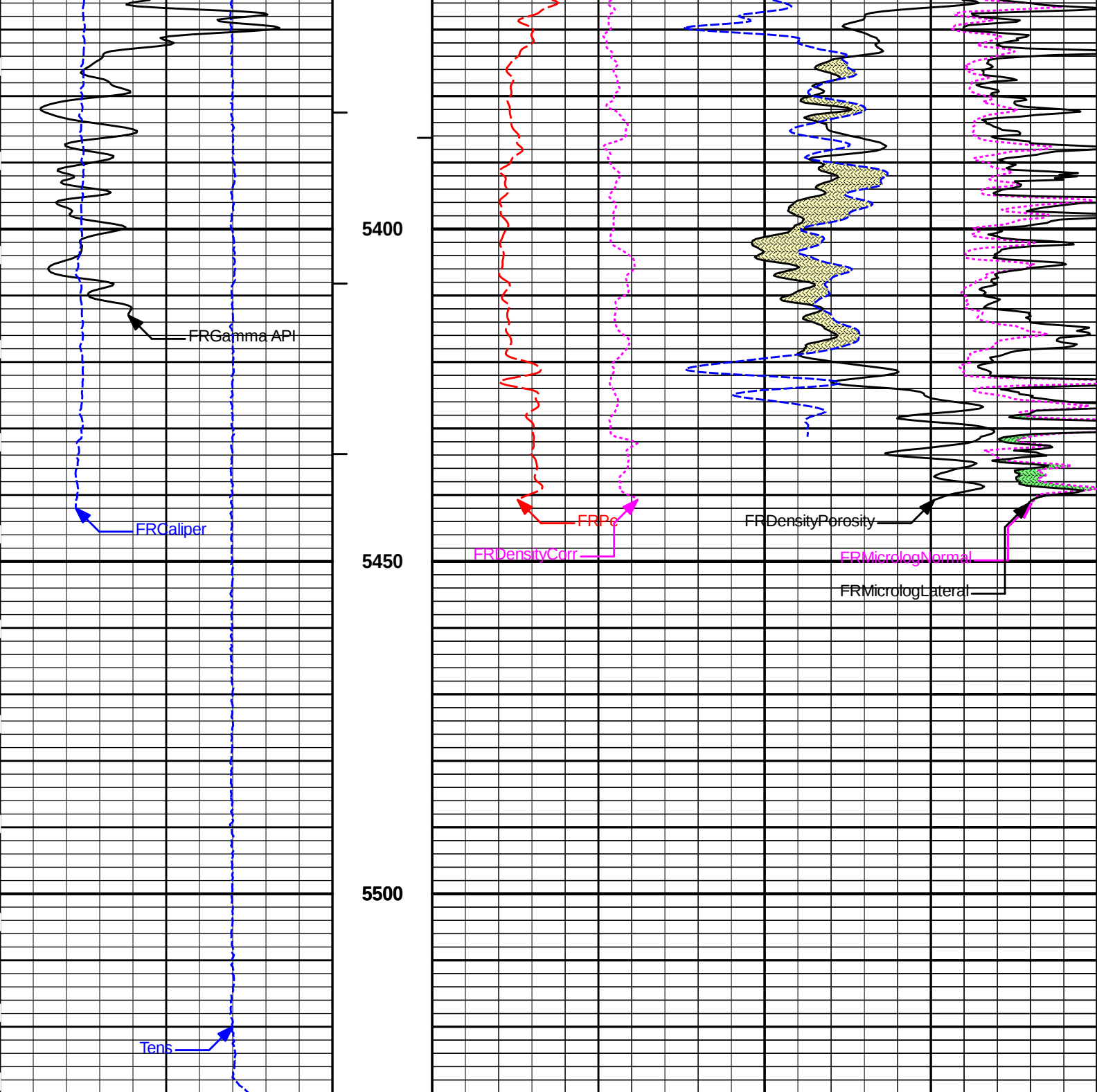












6	Caliper	16	1 : 240	0	Pe	10	0	MicrologLateral	20
	inches		ft					ohm-metre	
0	Gamma API	150	AHVT	-0.25	DensityCorr	0.25	0	MicrologNormal	20
	api				gram per cc			ohm-metre	
15K	Tens	0	BHVT	30	DensityPorosity				-10
	pounds				percent				
			Tension Pull	30	Neutron Porosity				-10
			10 0		percent				

HALLIBURTON

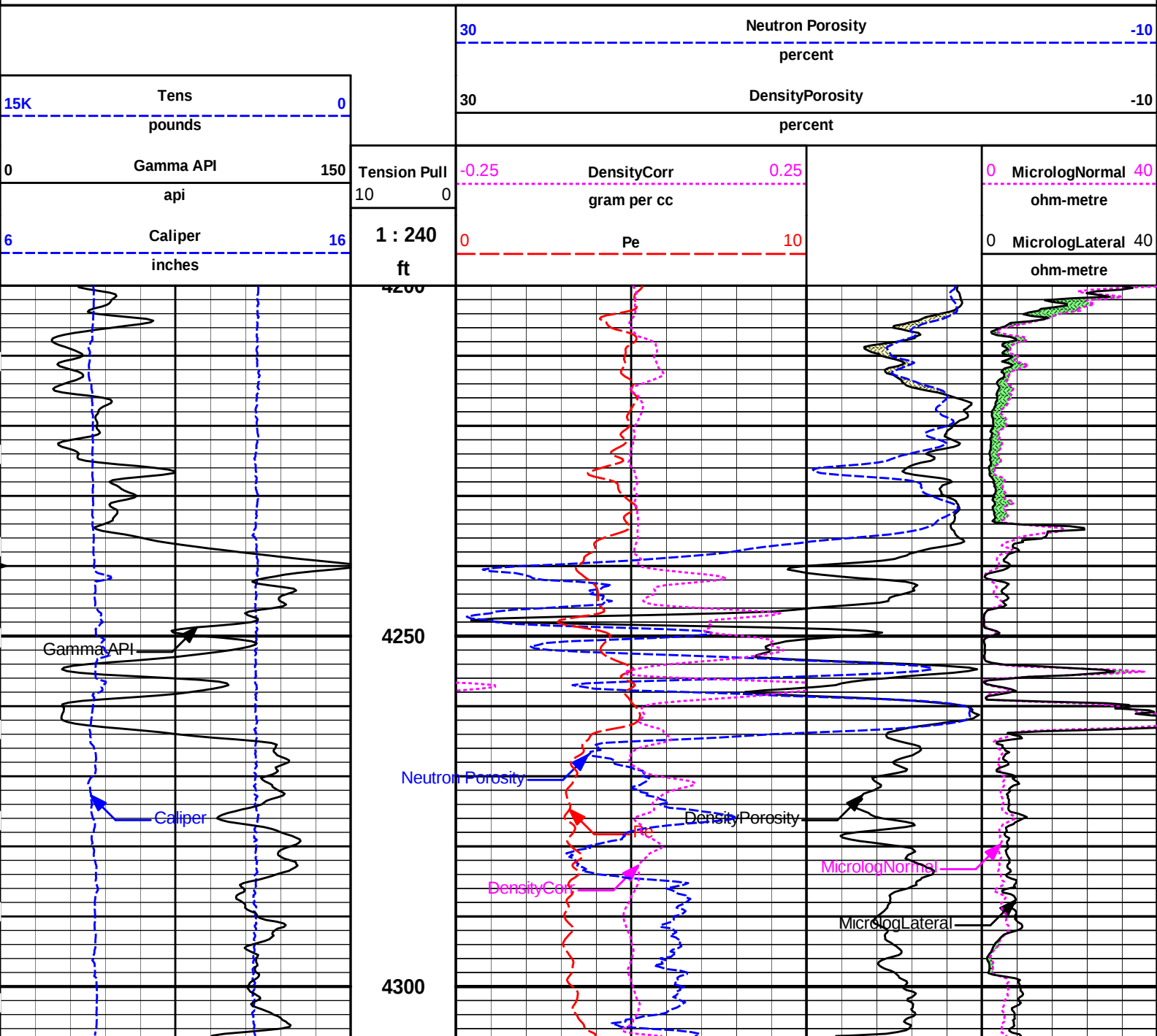
Plot Time: 08-Dec-14 12:38:51
 Plot Range: 2690 ft to 5530.17 ft
 Data: SKYLER_RAE_SWD_\Well Based\DAQ-0001-007\
 Plot File: \\POROML1_PoroMicro_5_mainx

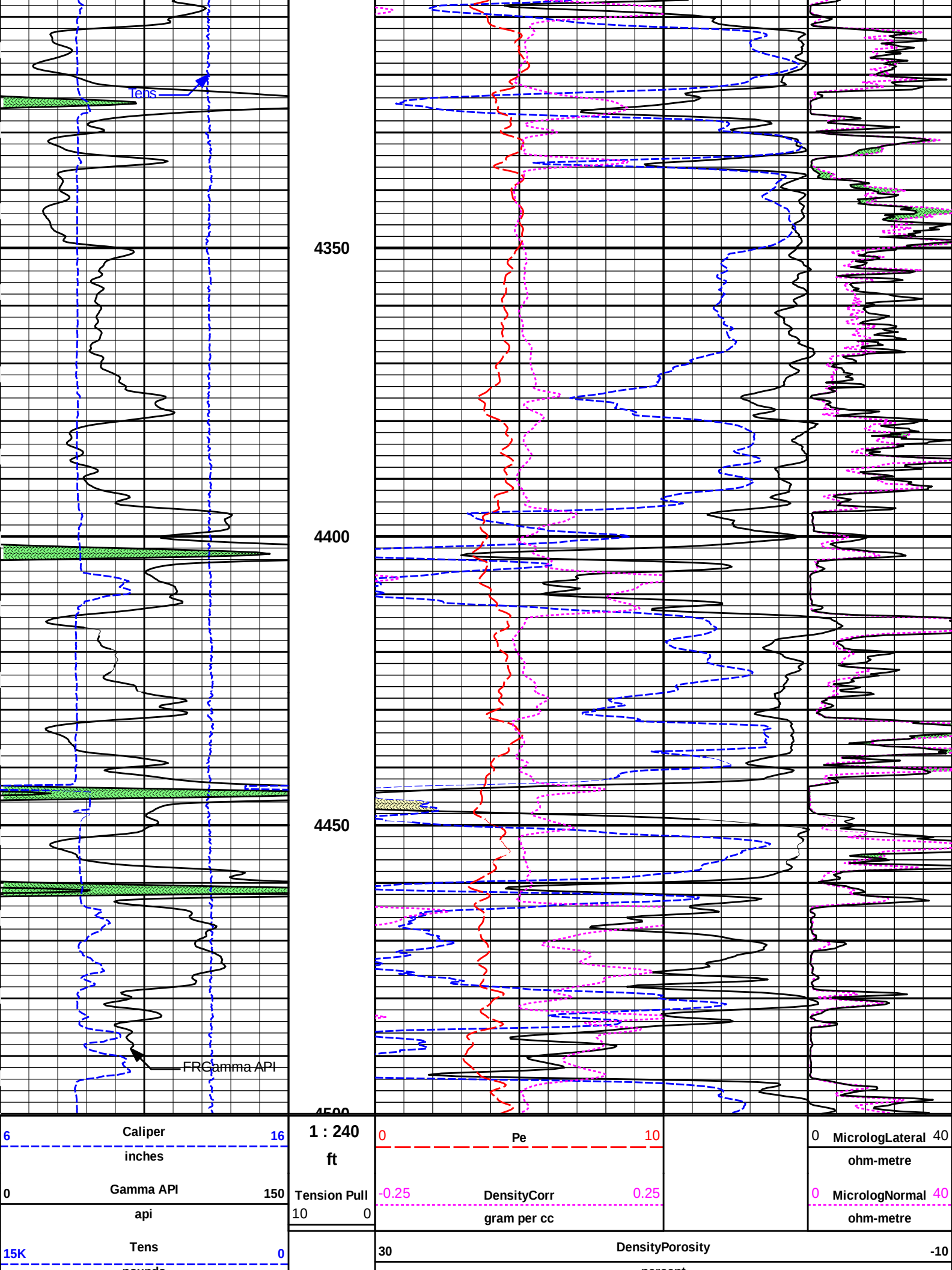
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 08-Dec-14 12:38:51
Plot Range: 4200 ft to 4500 ft
Data: SKYLER_RAE_SWD_\\Well Based\\DAQ-0001-004\
Plot File: \\POROML1_PoroMicro_5_rptx

REPEAT SECTION





pounds

percent

30

Neutron Porosity

-10

percent

HALLIBURTON

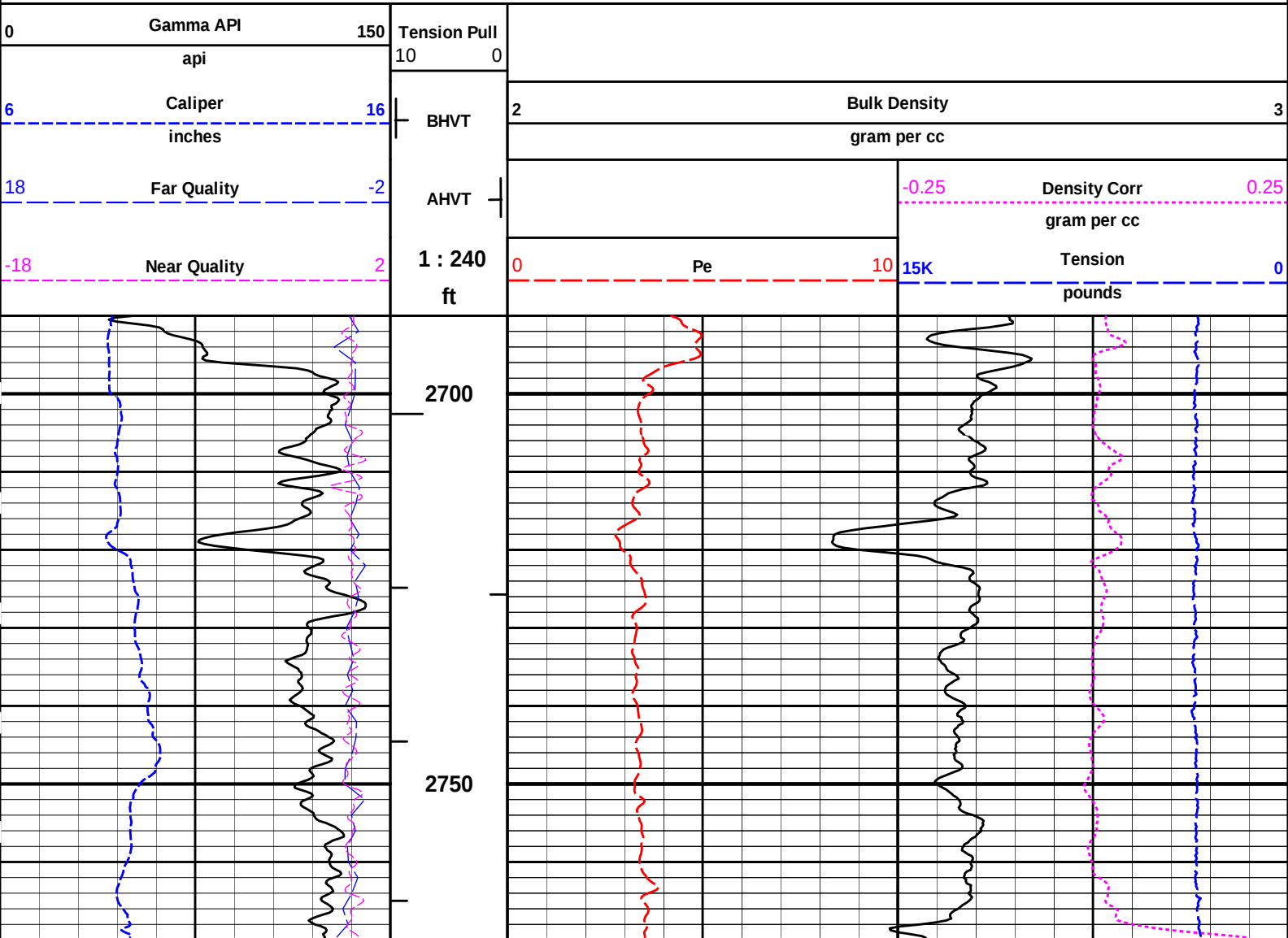
Plot Time: 08-Dec-14 12:38:53
Plot Range: 4200 ft to 4500 ft
Data: SKYLER_RAE_SWD_\\Well Based\DAQ-0001-004\
Plot File: \\POROML1_PoroMicro_5_rptx

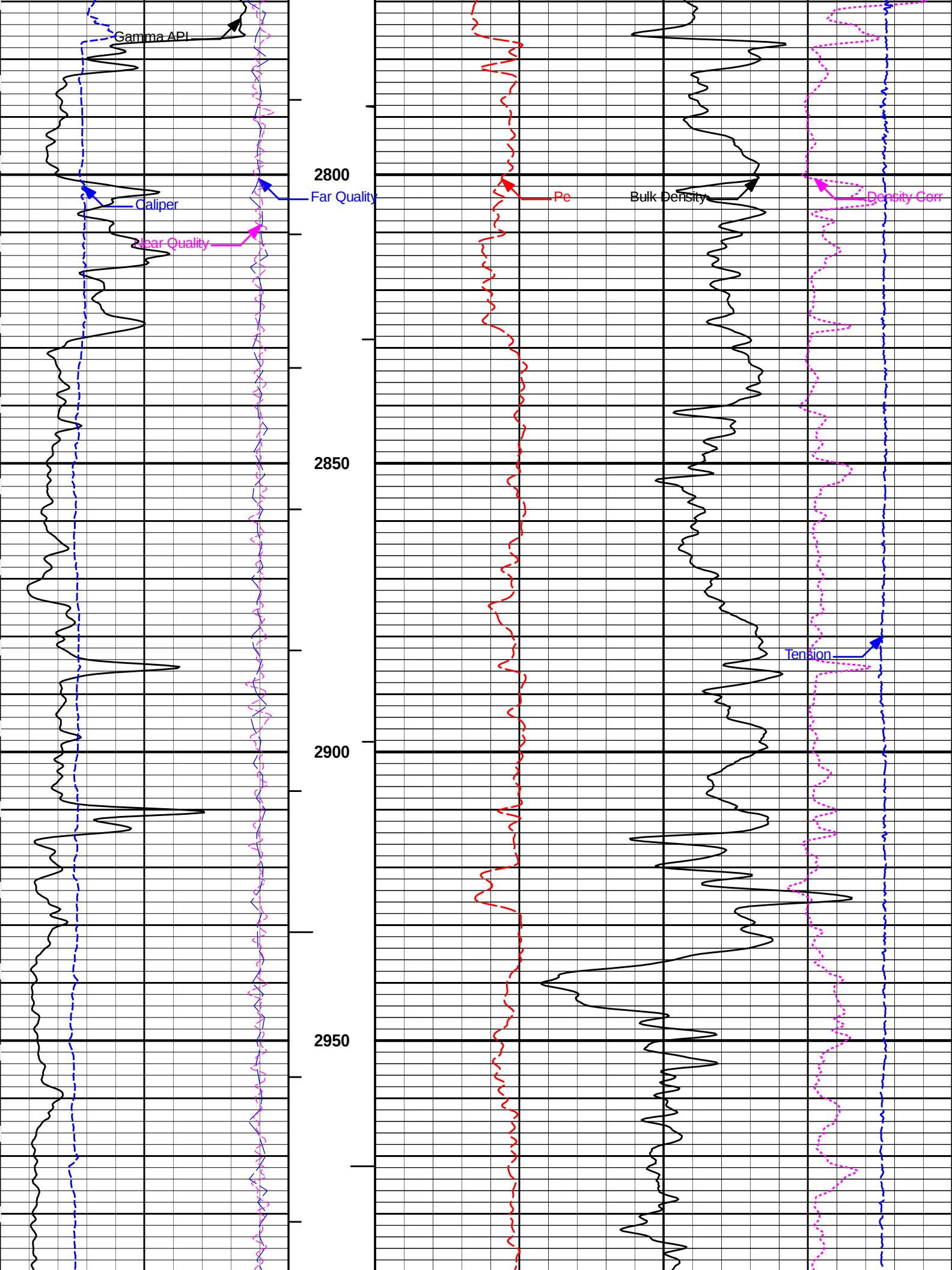
REPEAT SECTION

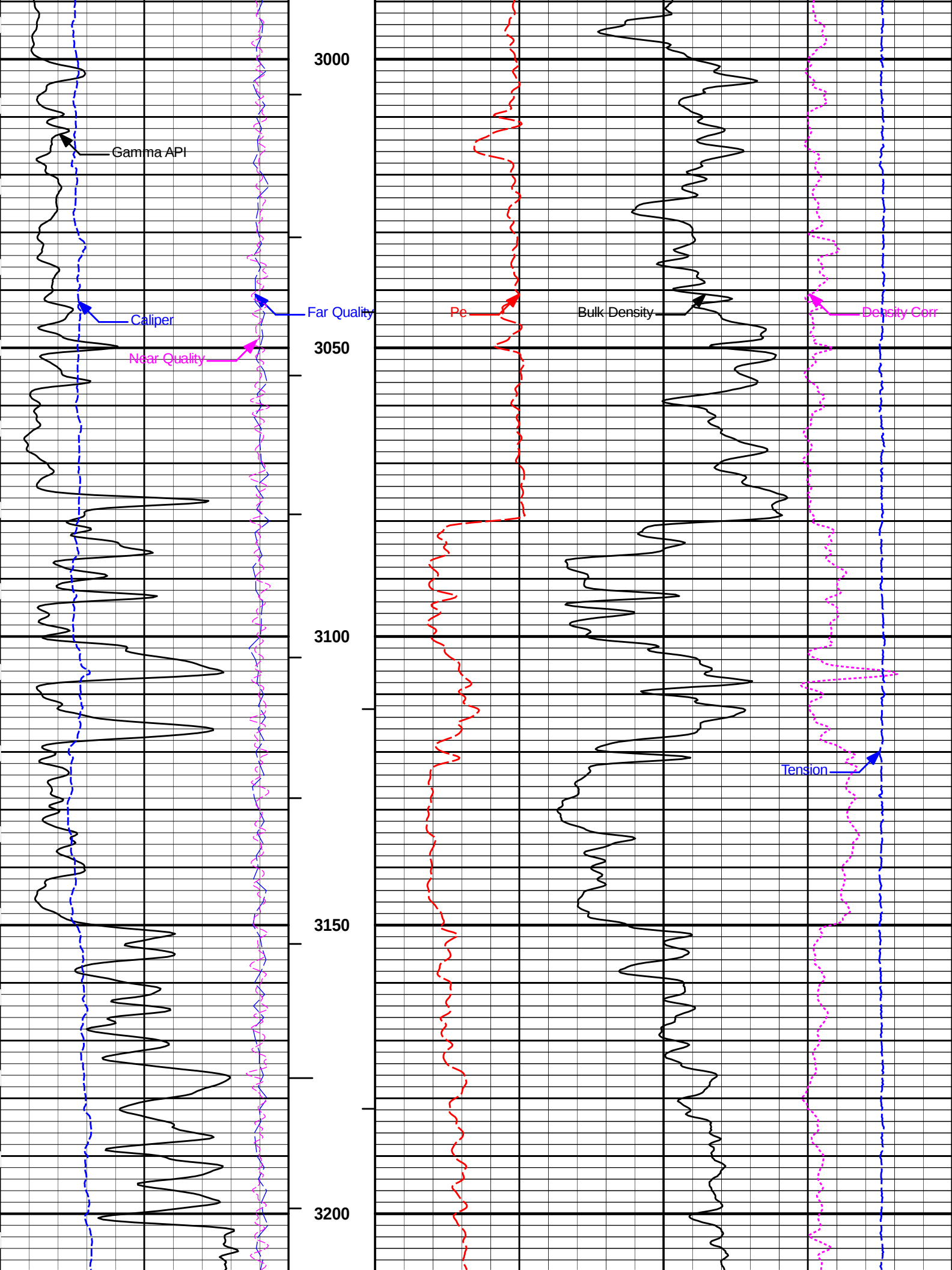
HALLIBURTON

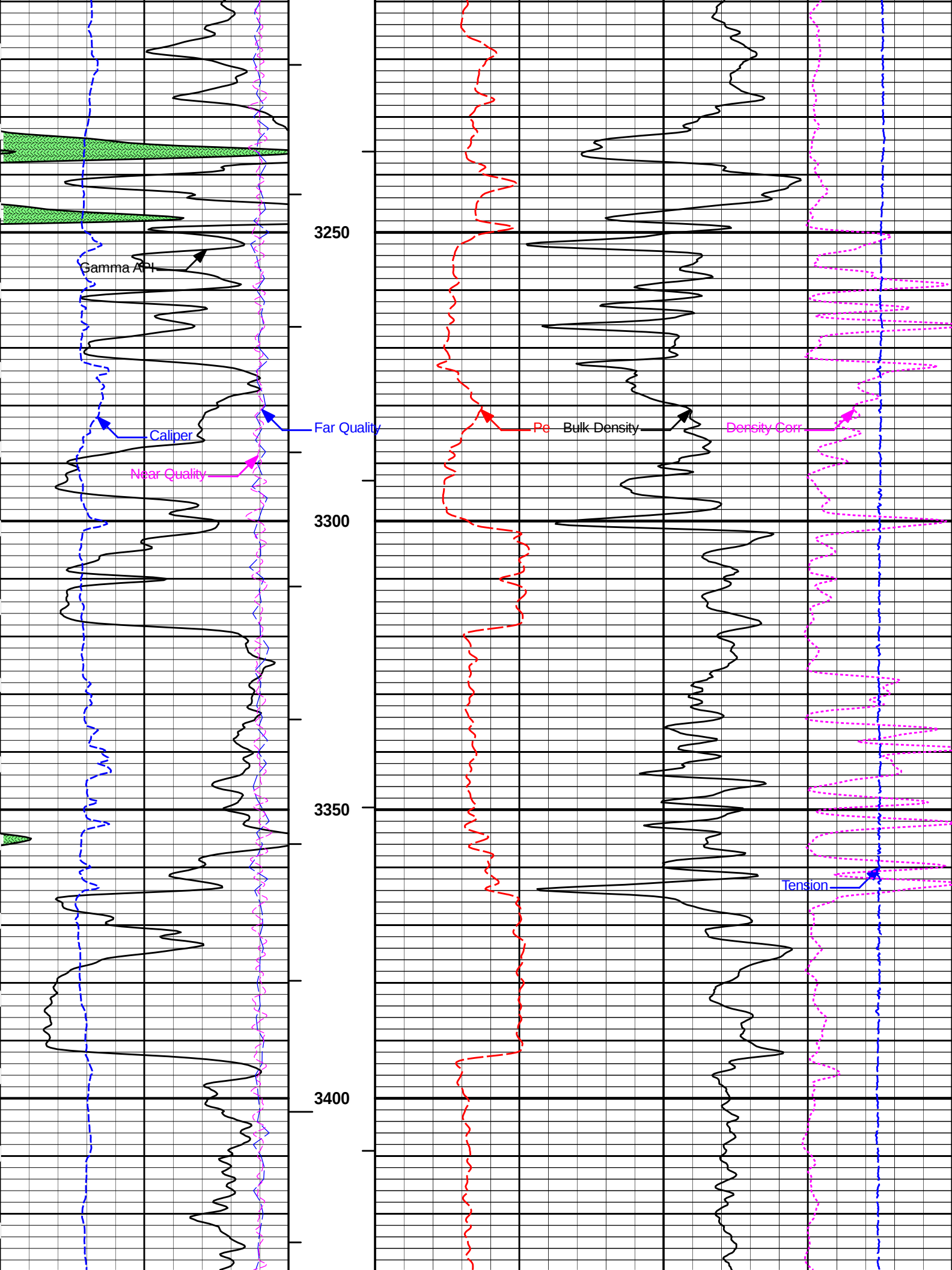
Plot Time: 08-Dec-14 12:38:53
Plot Range: 2690 ft to 5530.17 ft
Data: SKYLER_RAE_SWD_\\Well Based\DAQ-0001-007\
Plot File: \\POROML1_Bulk_5_mainx

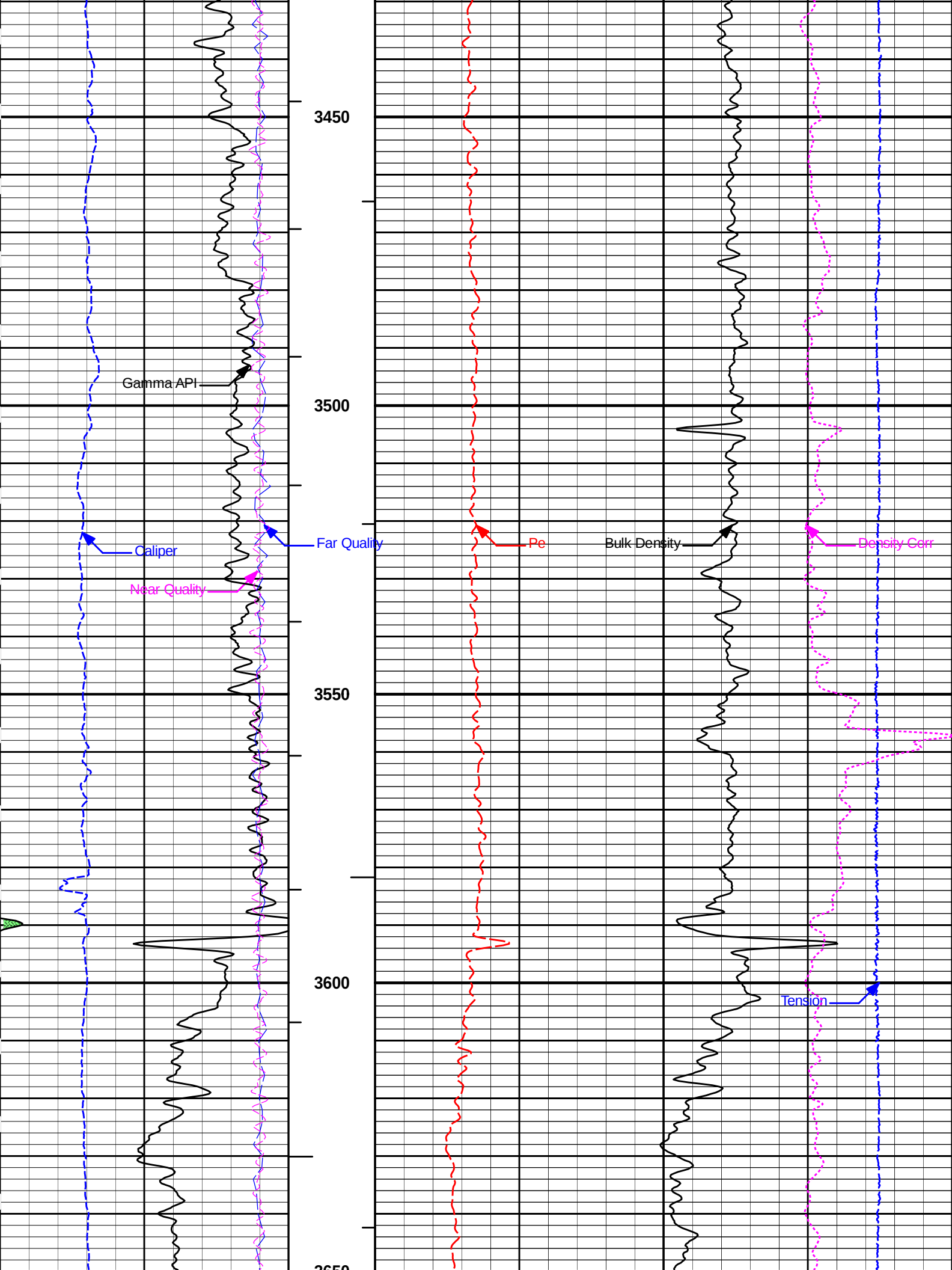
5 INCH MAIN LOG

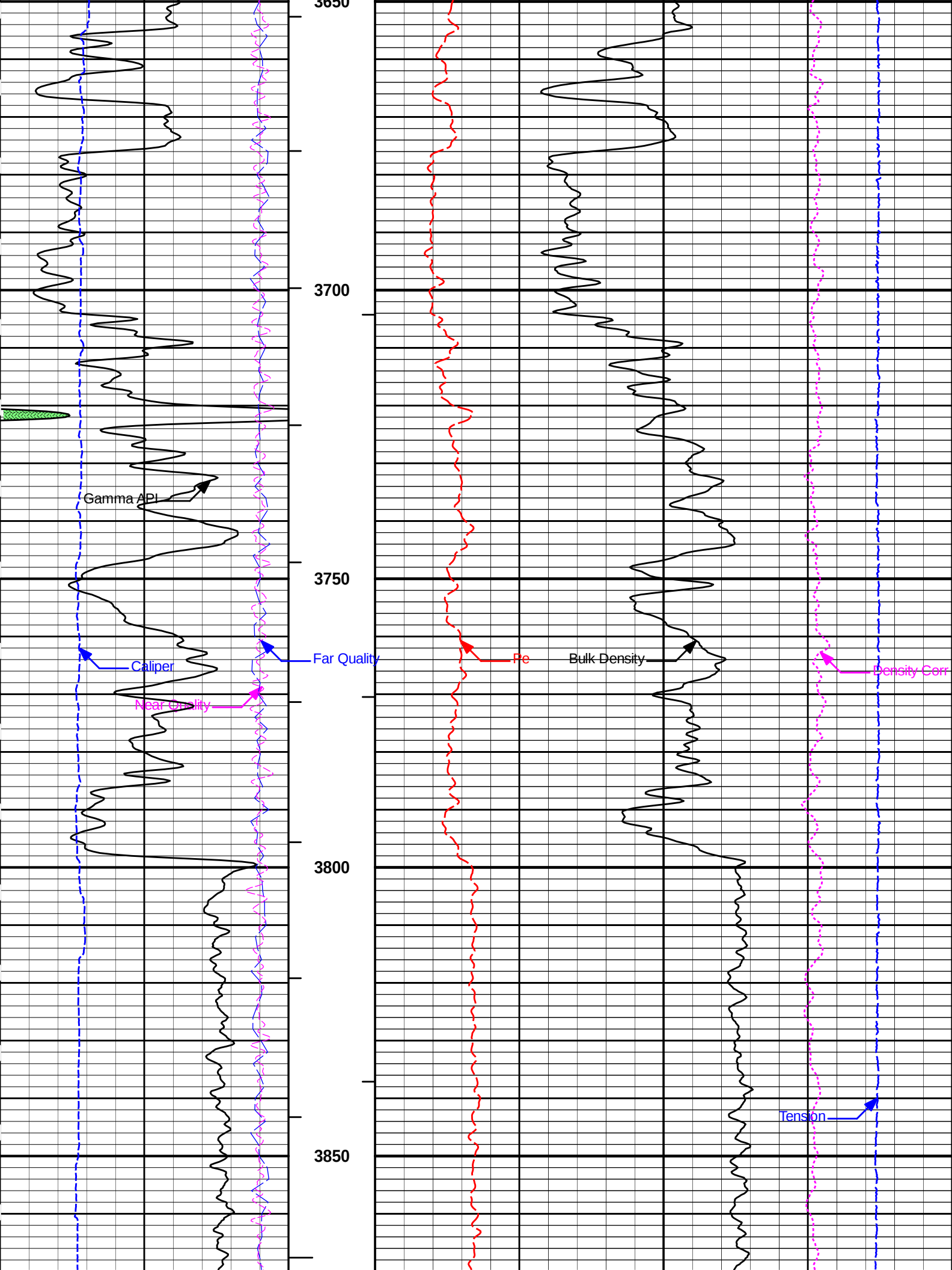


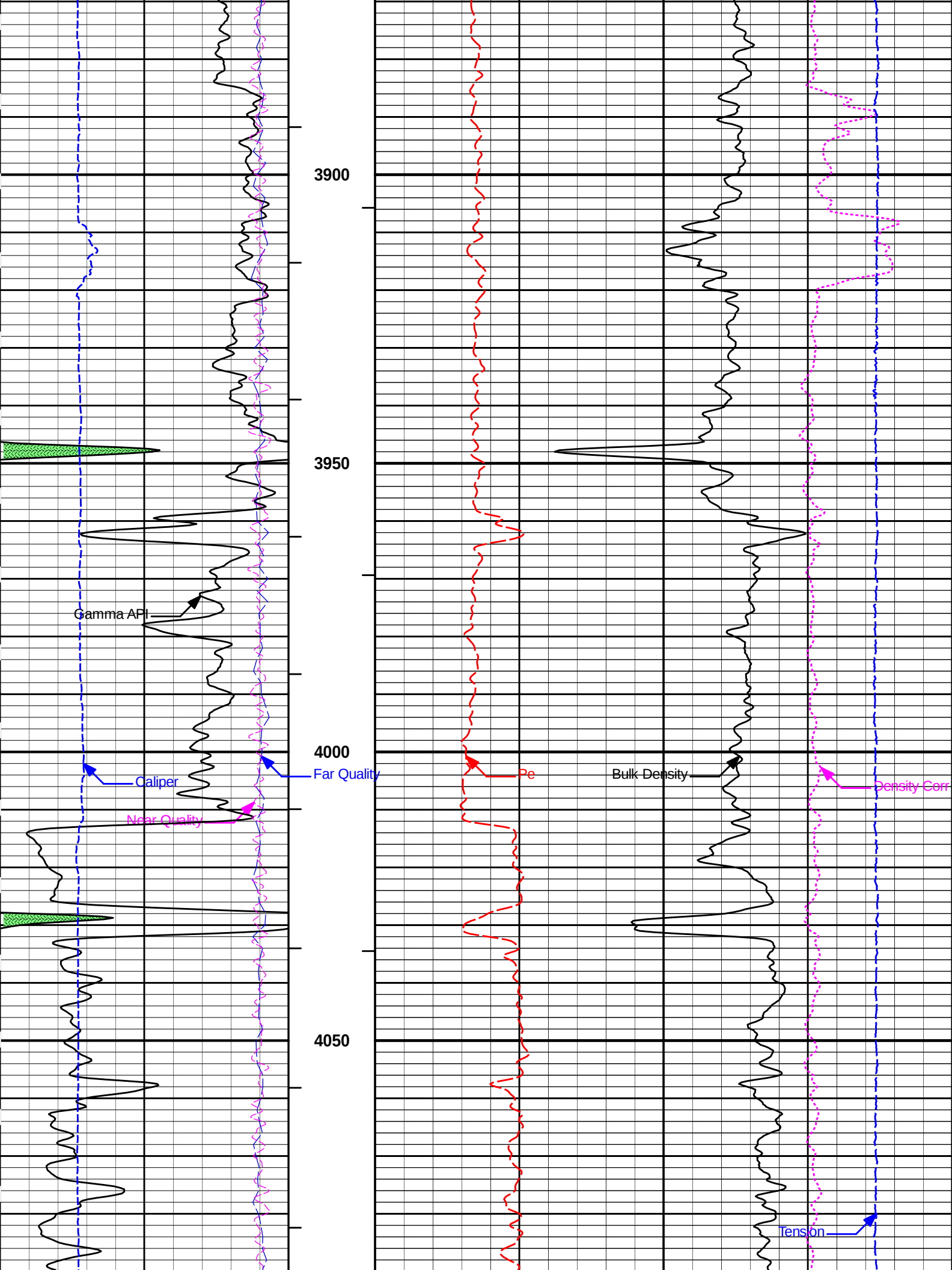


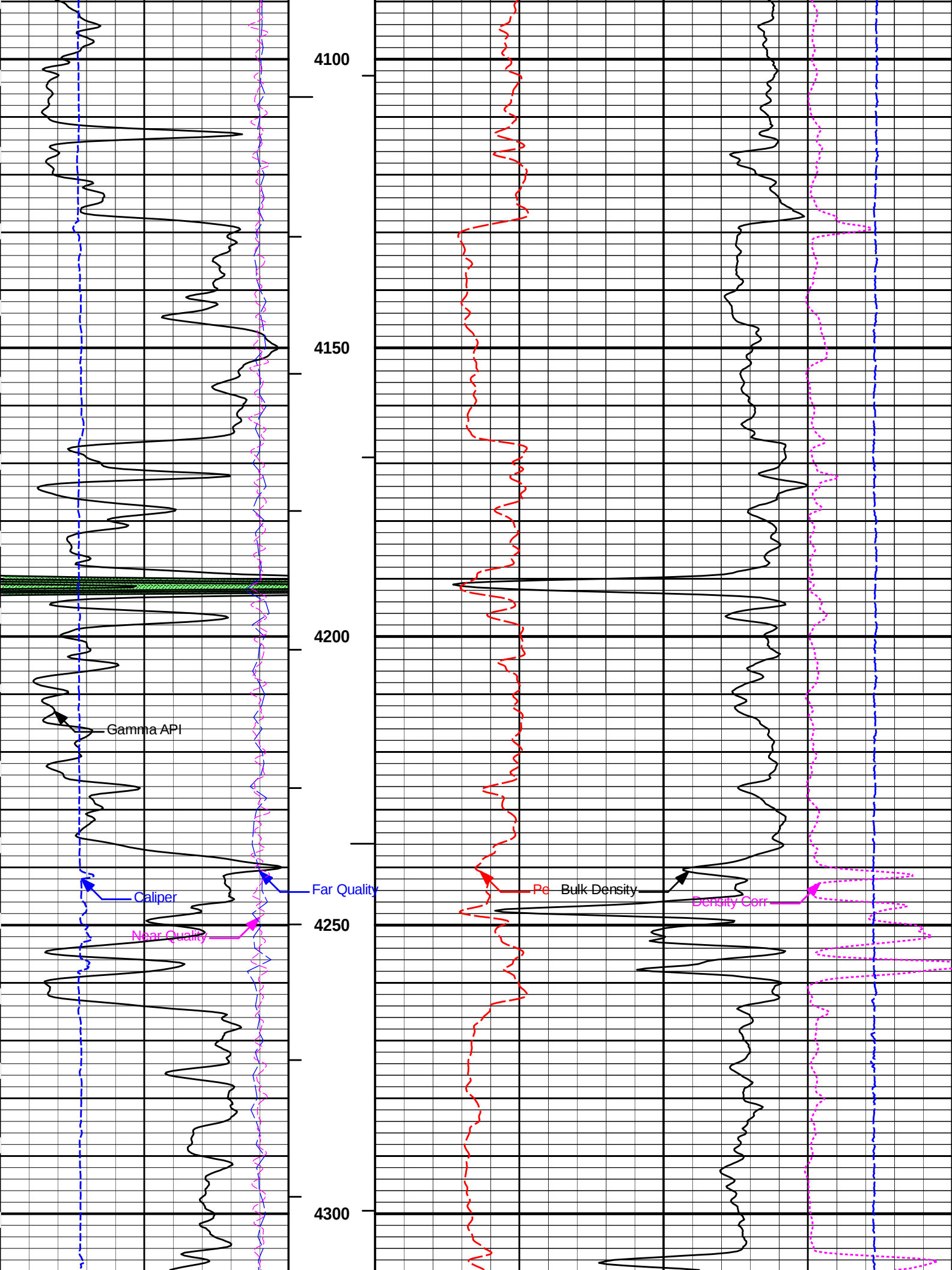


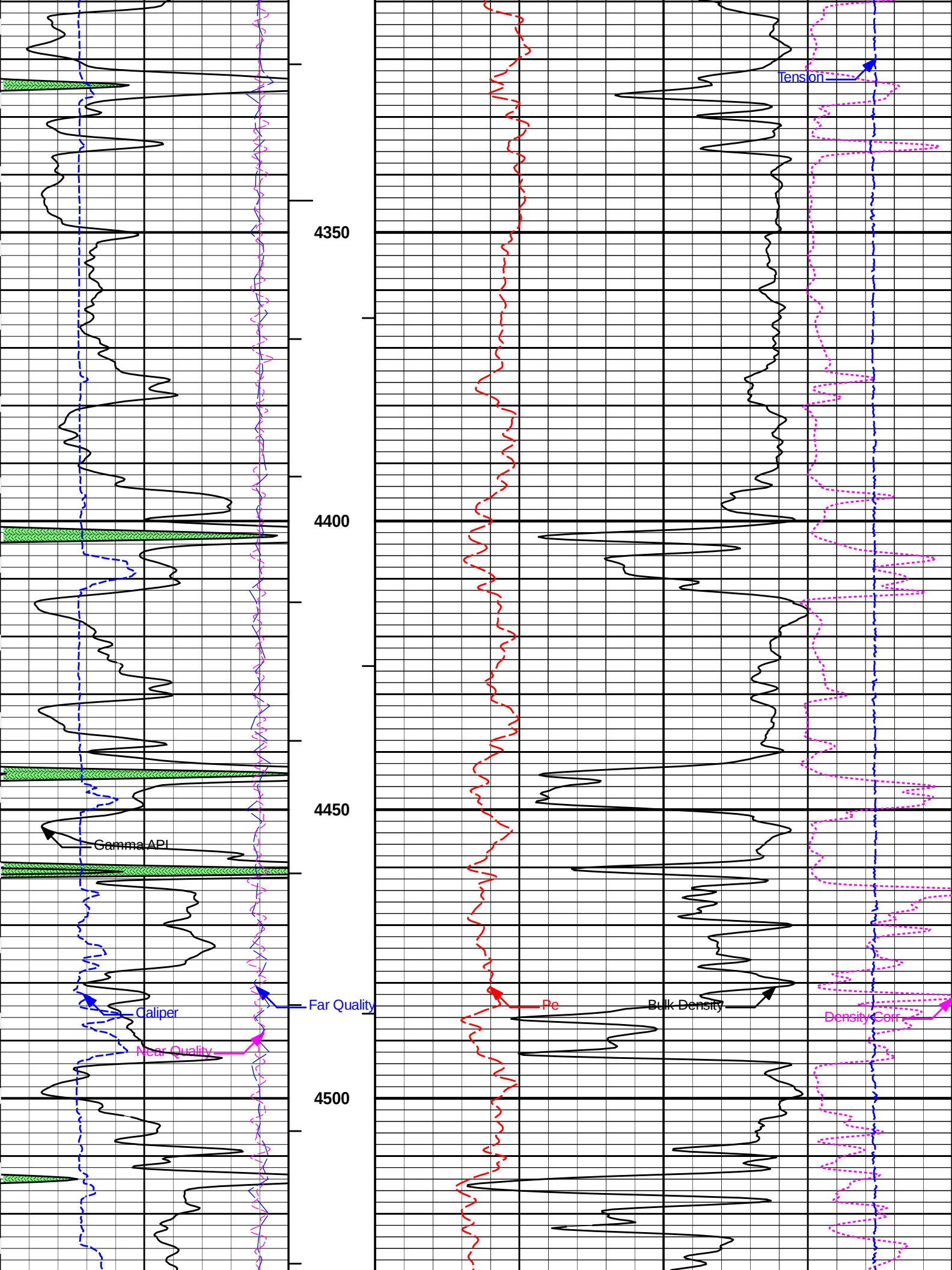


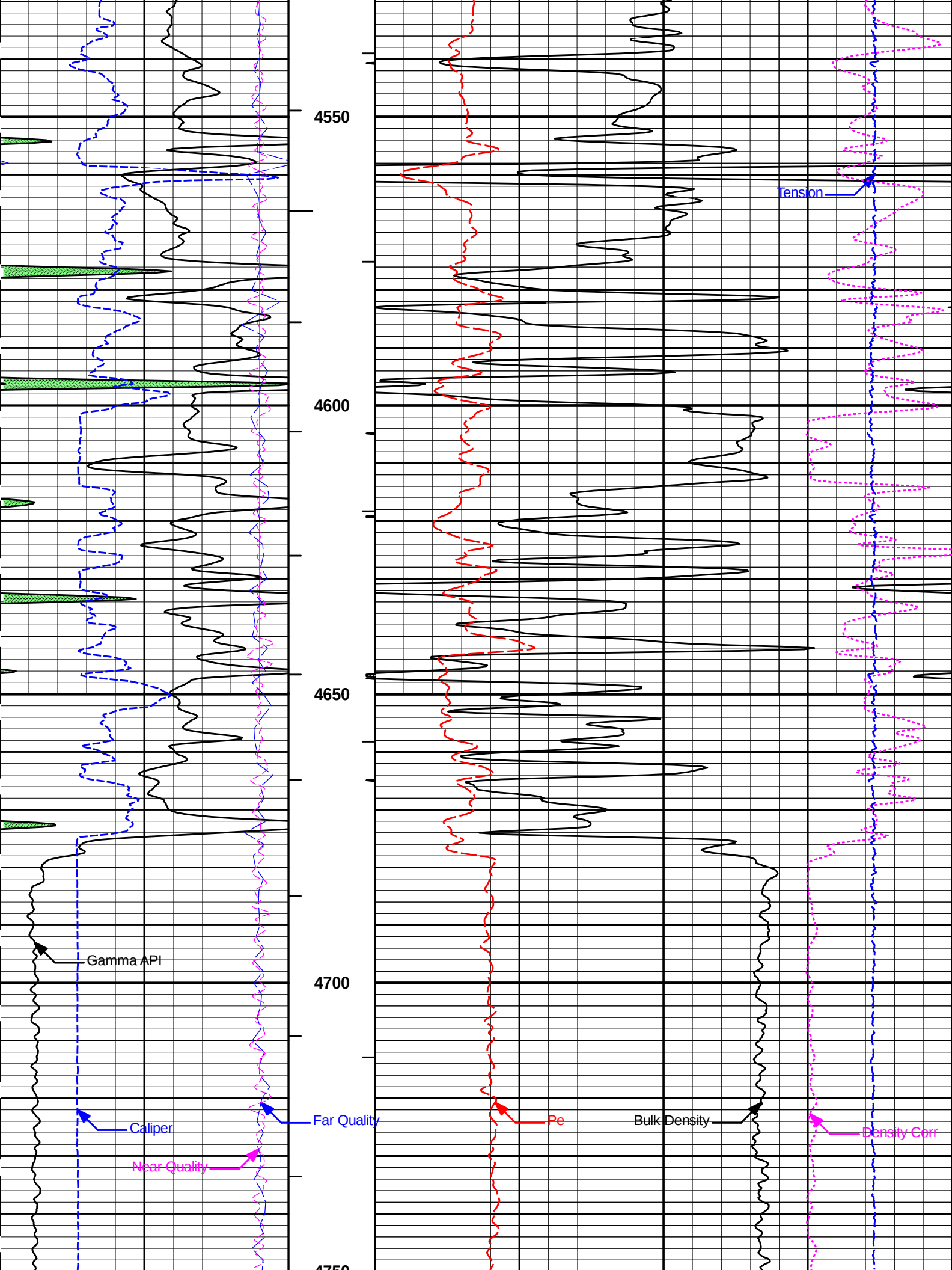


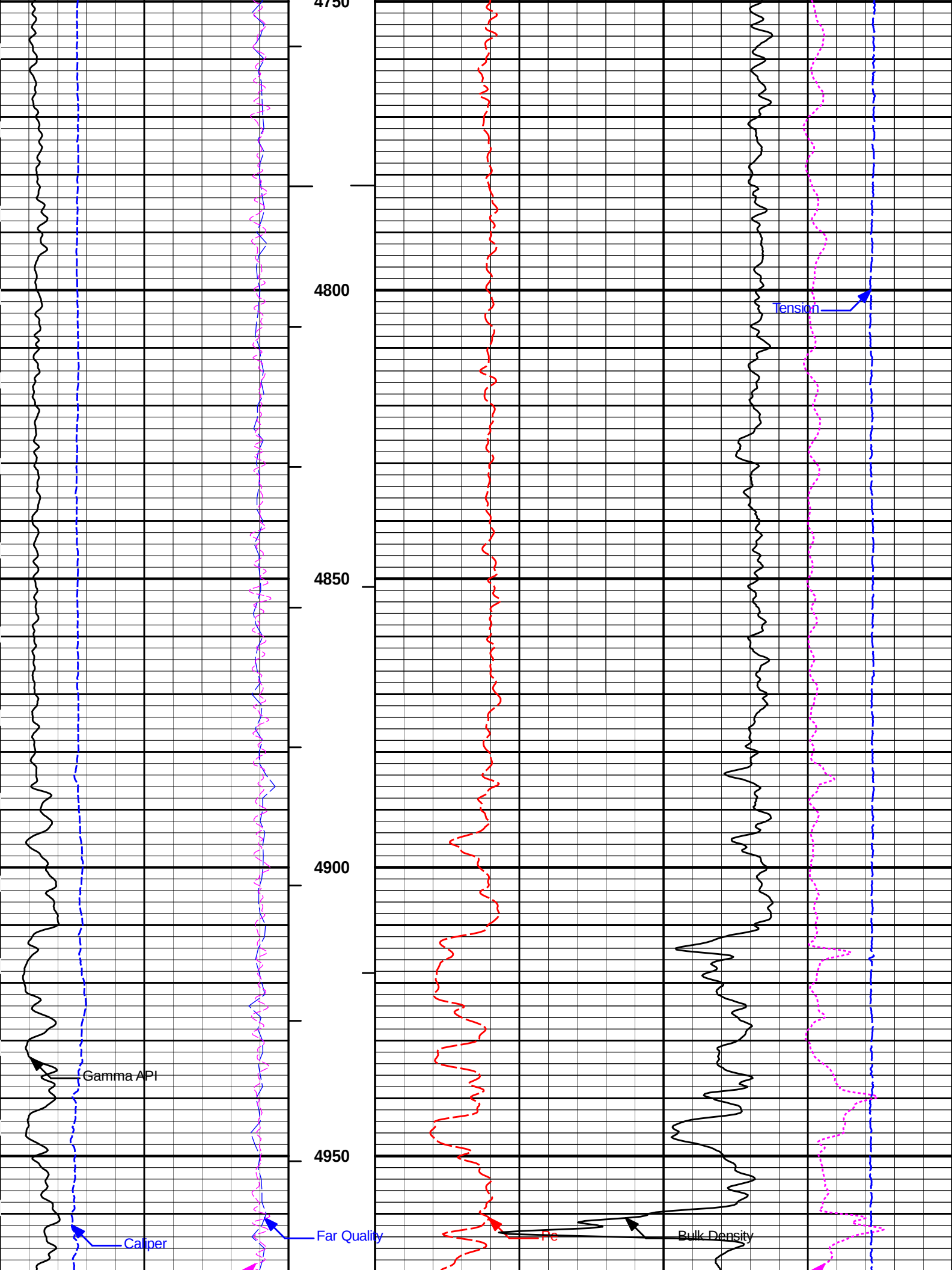


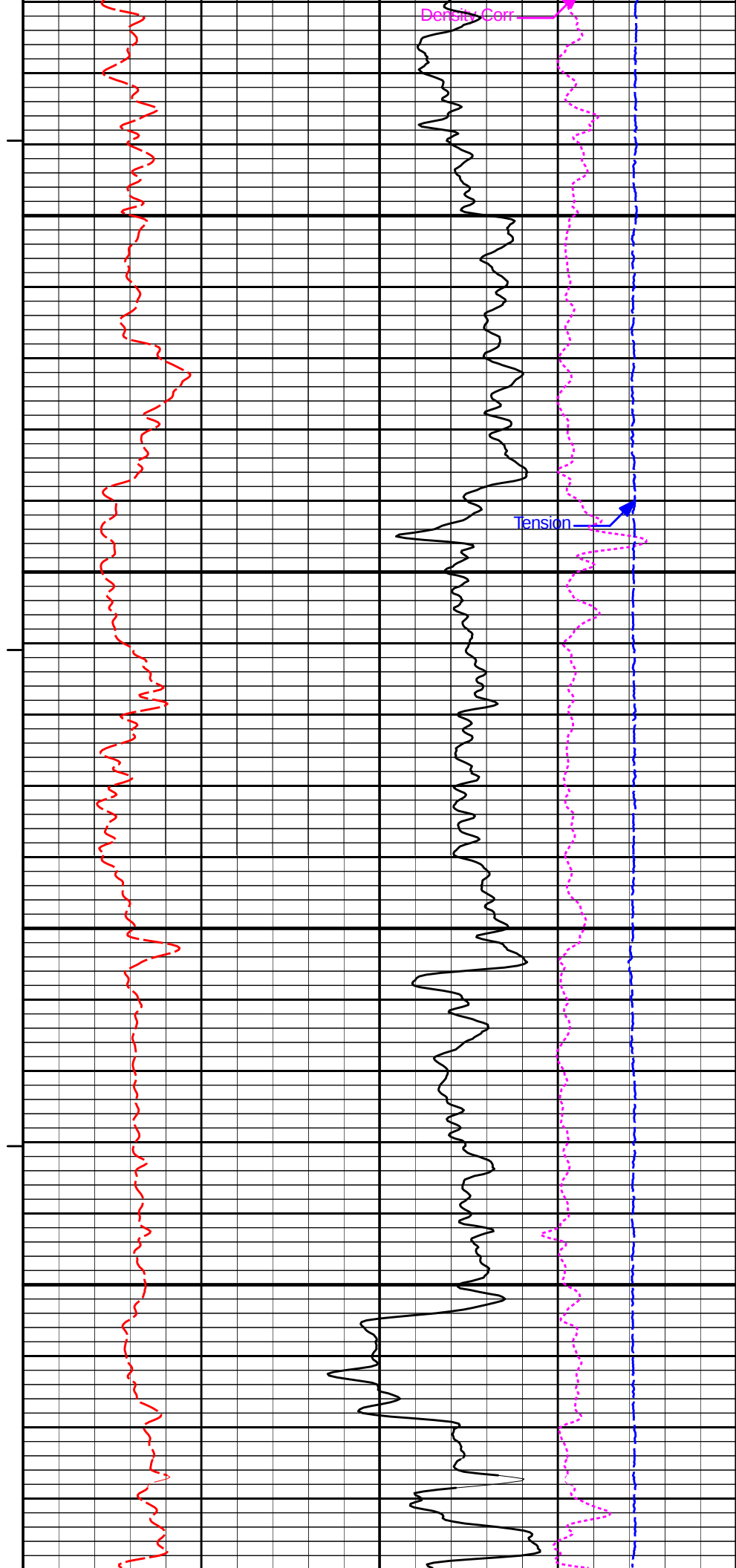
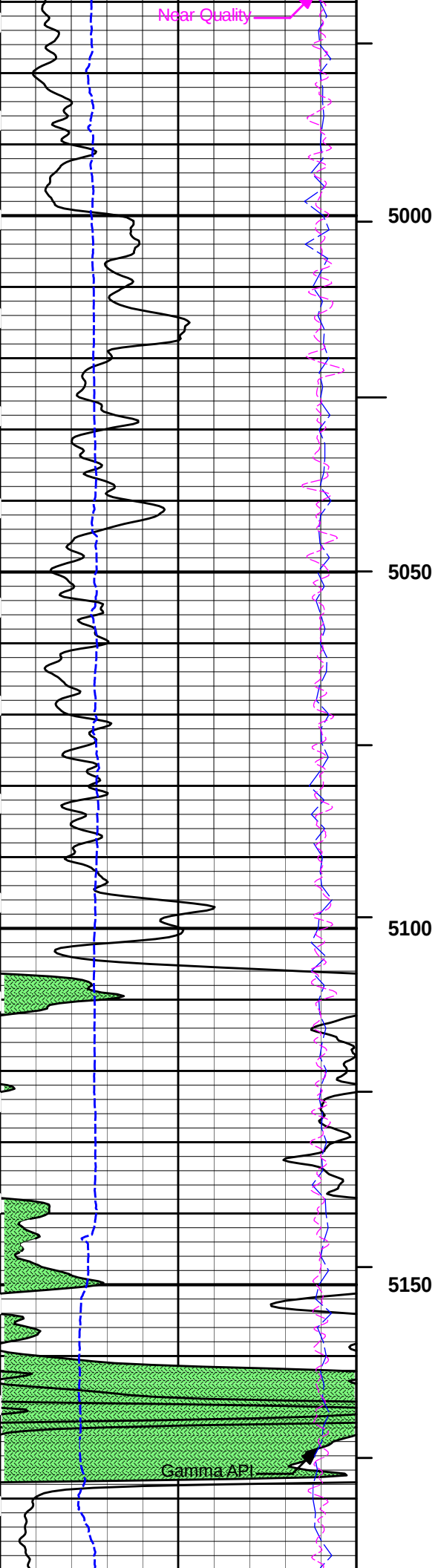


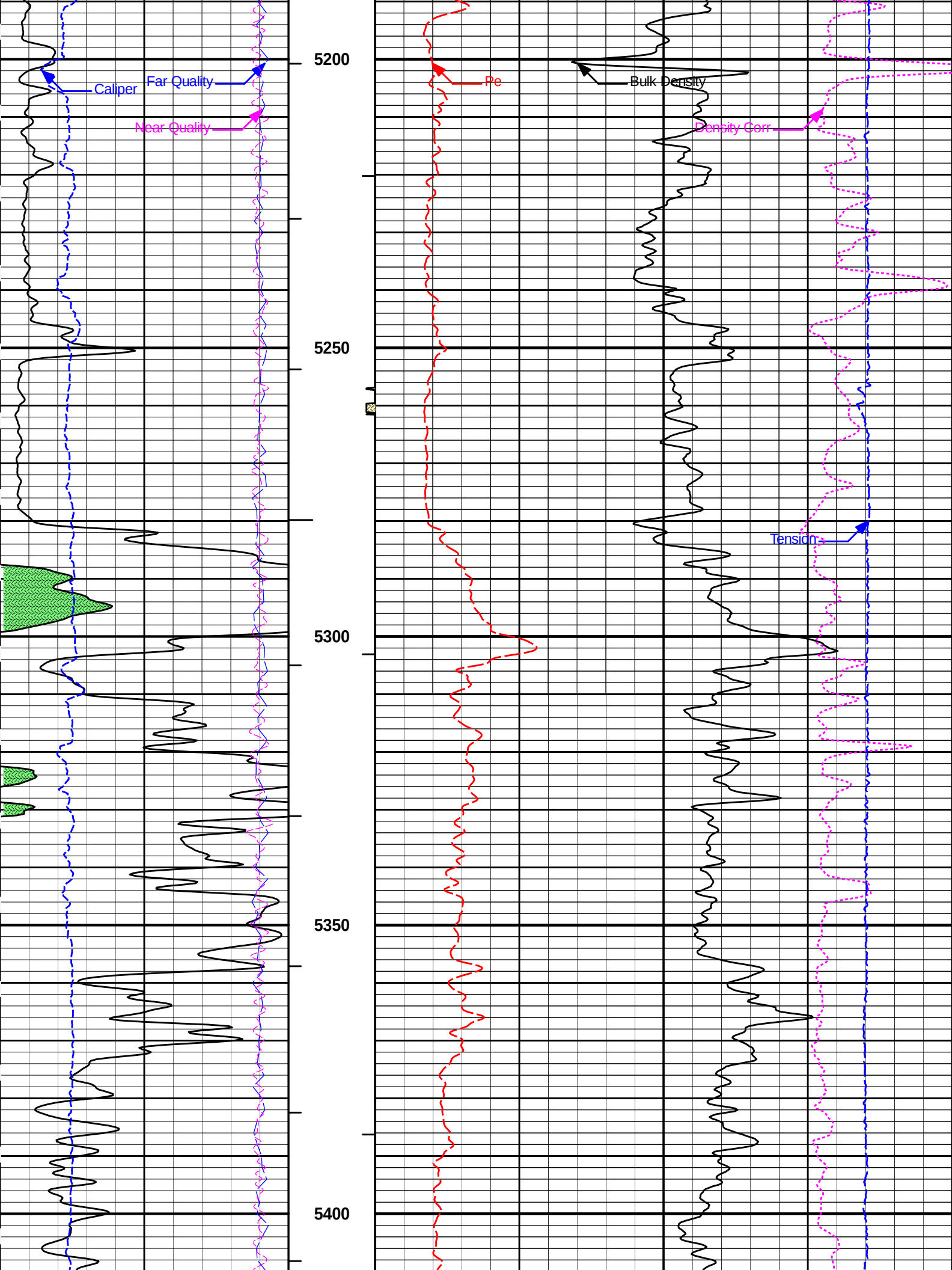


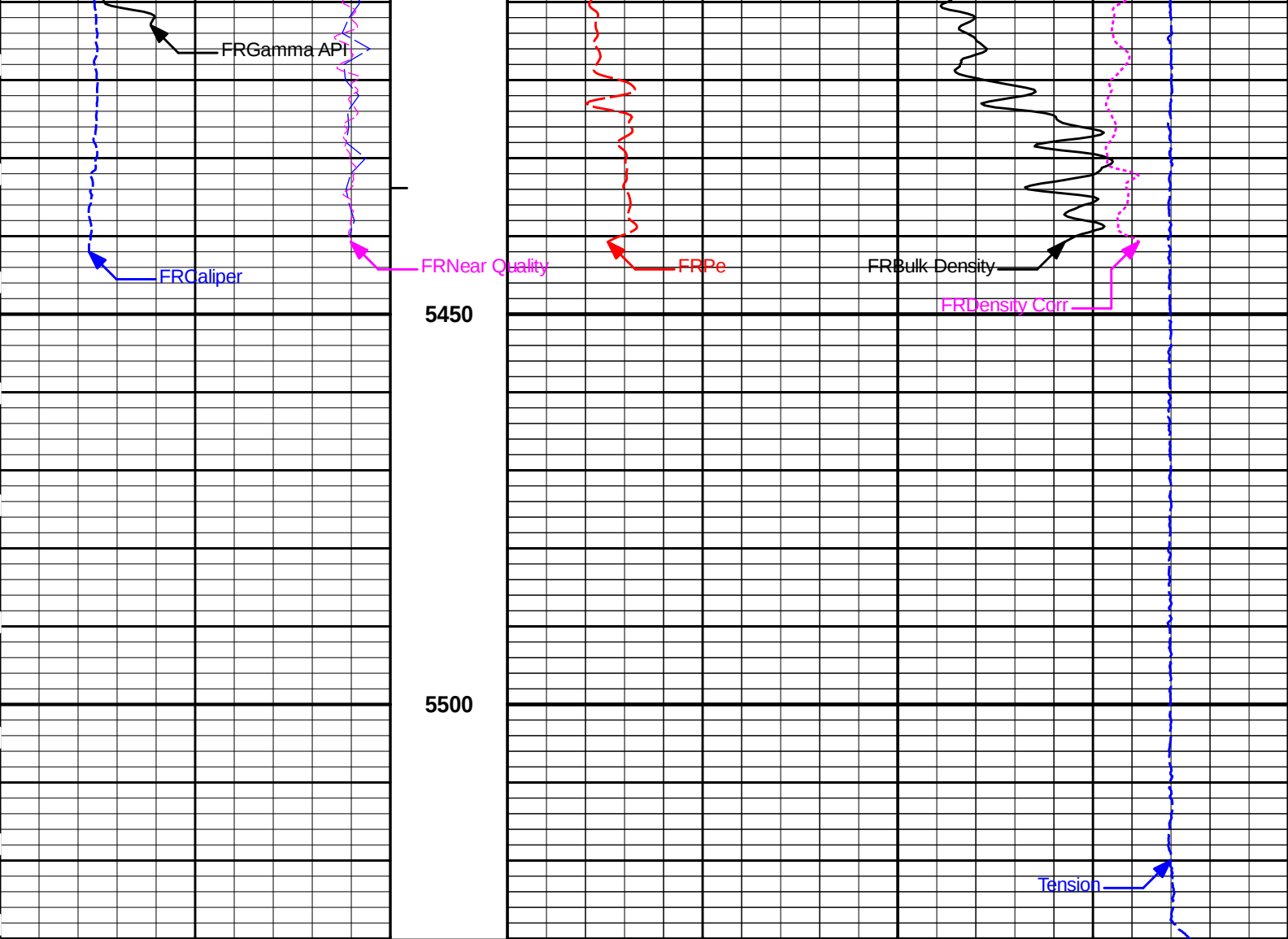












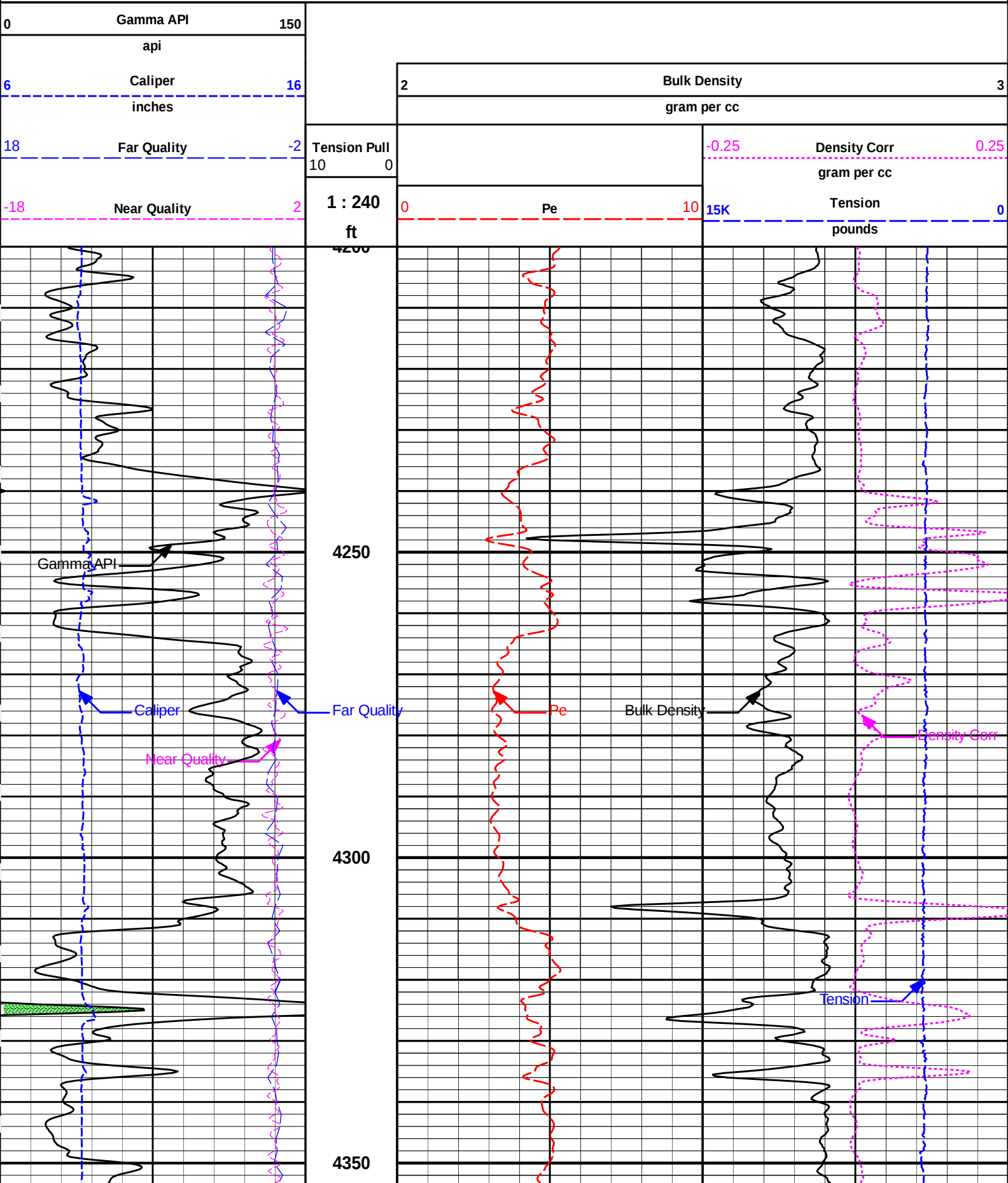
-18	Near Quality	2	1 : 240	0	Pe	10	15K	Tension	0
			ft					pounds	
18	Far Quality	-2	AHVT					-0.25	Density Corr
								gram per cc	0.25
6	Caliper	16	BHVT	2	Bulk Density			3	
	inches				gram per cc				
0	Gamma API	150	Tension Pull						
	api		10 0						

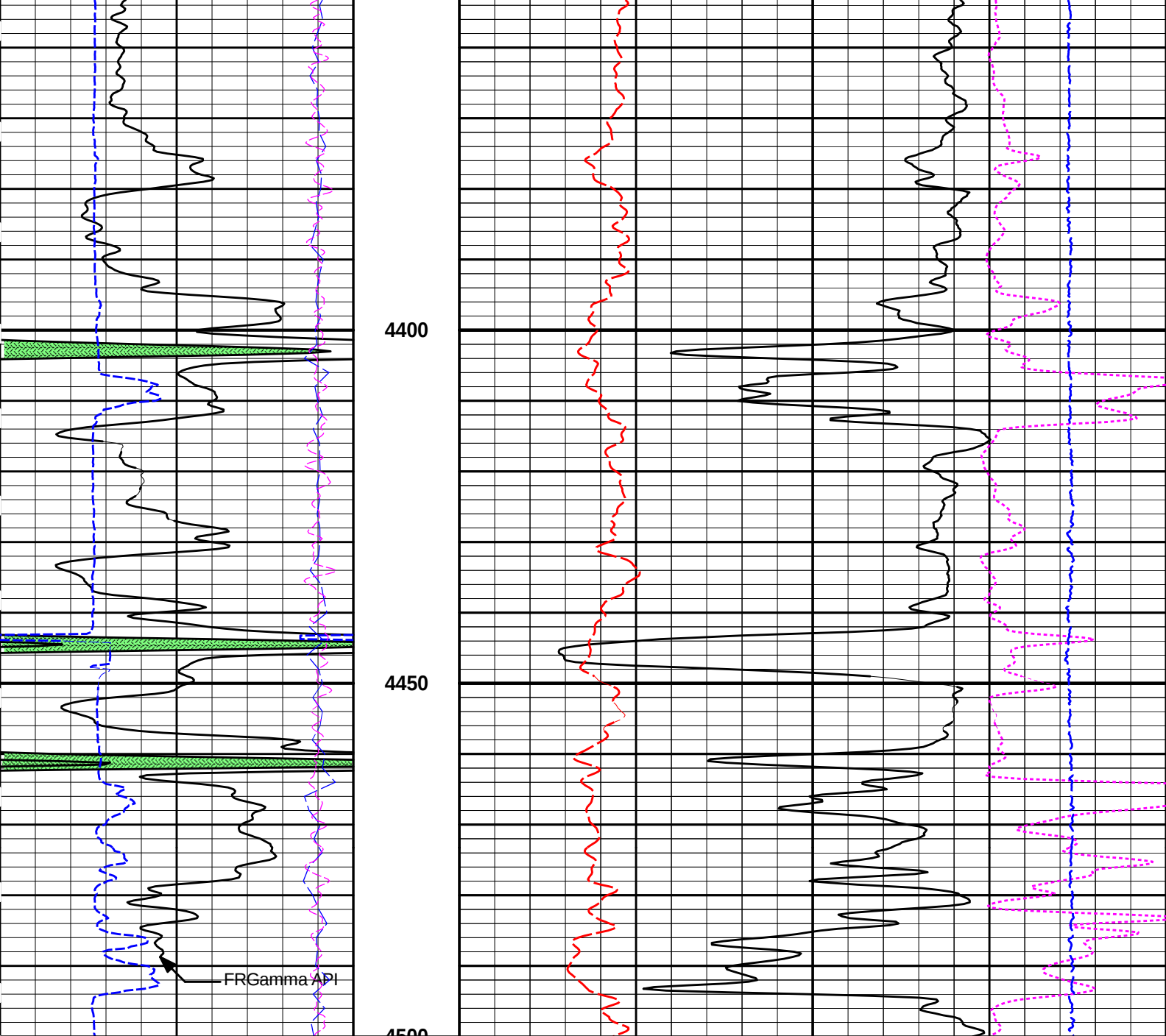
HALLIBURTON Plot Time: 08-Dec-14 12:38:58
Plot Range: 2690 ft to 5530.17 ft
Data: SKYLER_RAE_SWD_\\Well Based\DAQ-0001-007\
Plot File: \\POROML\1_Bulk_5_mainx

5 INCH MAIN LOG

HALLIBURTON Plot Time: 08-Dec-14 12:38:58
Plot Range: 4200 ft to 4500 ft
Data: SKYLER_RAE_SWD_\\Well Based\DAQ-0001-004\
Plot File: \\POROML\1_Bulk_5_rptx

REPEAT SECTION





-18	Near Quality	2	1 : 240	0	Pe	10	15K	Tension	0
			ft					pounds	
18	Far Quality	-2	Tension Pull					Density Corr	0.25
			10	0				gram per cc	
6	Caliper	16			2			Bulk Density	3
	inches							gram per cc	
0	Gamma API	150							
	api								

HALLIBURTON

Plot Time: 08-Dec-14 12:39:00
 Plot Range: 4200 ft to 4500 ft
 Data: SKYLER_RAE_SWD_\\Well Based\DAQ-0001-004\
 Plot File: \\POROML1_Bulk_5_rptx

REPEAT SECTION

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	8.750	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.100	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	0.430	ohmm
	SHARED	TRM	Temperature of Mud	69.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	7.000	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	5555.00	ft
	SHARED	BHT	Bottom Hole Temperature	125.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	XRMI-I Instrument	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	XRMI-I Instrument	
	SHARED	TEMM	Temperature 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	
	Rwa / CrossPlot	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
	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	
	GTET	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
	CSNG	CGOK	Process CSNG Data?	Yes	
	CSNG	CENT	Is Tool Centralized?	No	
	CSNG	GBOK	Gamma Enviromental Corrections?	Yes	
	CSNG	BARF	Barite Correction Factor	1.00	
	CSNG	ORDG	Use Fixed Gain	No	
	CSNG	ORDO	Use Fixed Offset	No	
	CSNG	ORDR	Use Fixed Resolution Degradation Factor	No	
	CSNG	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
	DSNT	DNOK	Process DSN?	Yes	

DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DSNO	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	
DSNT	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
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
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
WAVE Receivers	WSOK	Process WSTT?	Yes	
WAVE Receivers	AFIL	Adaptive Filtering?	No	
WAVE Receivers	PINT	Process 1 Sample and Skip	0	
WAVE Receivers	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4	4	
WAVE Receivers	DTSH	Delta -T Shale	100.00	uspf
WAVE Receivers	DTMT	Delta -T Matrix Type	User define	
WAVE Receivers	DTMA	Delta -T Matrix	47.60	uspf
WAVE Receivers	DTFL	Delta -T Fluid	189.00	uspf
WAVE Receivers	RHOM	Matrix Density	2.7100	g/cc
WAVE Receivers	RHOF	Fluid Density	1.0000	g/cc
WAVE Receivers	SMTH	Semblance Threshold	0.25	
WAVE Receivers	VPVS	VPVS Ratio for Porosity	1.40	
WAVE Receivers	APEQ	Acoustic Porosity Equation	Wylie	
WAVE Receivers	NAVS	Navigation Source Tool	XRMI-I Instrument	
XRMI-I Instrument	WRTI	Survey Writing Interval	30	ft
XRMI-I Instrument	SOPT	Smoothing Option	None	
XRMI-I Mandrel	DIMG	Process XRMI?	Yes	
XRMI-I Mandrel	ALMT	Image Alignment Method	AZIM	
XRMI-I Mandrel	AGN	Use Button Auto Gain?	Yes	
XRMI-I Mandrel	BCLR	Button Auto Gain Color	127	
XRMI-I Mandrel	BFIL	Button Auto Gain Filter	0.020	
XRMI-I Mandrel	BGAN	Button Gain Value	0.001	
XRMI-I Mandrel	BOFF	Button Offset	0	
XRMI-I Mandrel	DIPE	Process Dipmeter Calculations?	Yes	
XRMI-I Mandrel	BHCS	Process Borehole Corrections?	Yes	
XRMI-I Mandrel	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
XRMI-I Mandrel	CLOK	Process Caliper Outputs?	Yes	
XRMI-I Mandrel	CMAX	Caliner Maximum Limit	100.0	in

XRMI-I Mandrel	CMIN	Caliper Minimum Limit	3.5	in
XRMI-I Mandrel	NAVS	Navigation Source Tool	XRMI-I Instrument	
XRMI-I Mandrel	BHVC	Radius type for borehole volume calcuations	Elliptical	
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
ACRt Sonde	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
BOTTOM				
Data: SKYLER_RAE_SWD_I0001 RED_TRIPLE_CSNG_WSTT_XRMI007 04-Dec-14 03:30 Up @5530.3f				Date: 04-Dec-14 04:11:30

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:GTET - 11021139

Engineer:CHRIS MARLOWE

Software Version:WL INSITE R4.2.0 (Build 2)

Reference Calibration Date:01-Jan-70 00:00:00

Calibration Date:02-Dec-14 22:57:07

Calibration Version:1

Calibrator Source S/N: 181

Calibrator API Reference:234.00 api

Equivalent Calibrator API Reference:238.1 api

Measurement	Measured	Calibrated	Units
Background	33.7	33.7	api
Background + Calibrator	271.8	271.8	api
Calibrator	238.1	238.1	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:GTET - 11021139

Engineer:CHRIS MARLOWE

Software Version:WL INSITE R4.2.0 (Build 2)

Reference Calibration Date:02-Dec-14 22:57:07

Calibration Date:02-Dec-14 23:00:45

Calibration Version:1

Calibrator Source S/N: 181

Calibrator API Reference:234.00 api

Equivalent Calibrator API Reference:238.1 api

Field Verification	Shop	Field	Units
Background	33.7	33.1	api
Background + Calibrator	271.8	268.9	api
Calibrator	238.1	235.8	api

Shop	Field	Difference	Tolerance
238.1	235.8	2.3	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:DSNT - 11020487

Reference Calibration Date:30-Sep-14 12:48:26

Tool Name:	DSNT - 11020487	Reference Calibration Date:	10-Nov-14 11:02:49
Engineer:	JEREMY COTHREN	Calibration Date:	10-Nov-14 11:02:49
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1

Logging Source S/N: 382
Tank Serial Number: PVOK
Reference value assigned to Tank: 56.100
Snow Block S/N: 592
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:	1.003	1.003	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):	0.2357	0.2358	0.0000	+/- 0.0020
Calibrated Ratio:	10.56	10.56	0.001	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit

Snow-Block Porosity (decp):	0.0678	0.02000 - 0.09000
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PASS/FAIL SUMMARY	
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Background Check:	Passed
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Gain-Range Check:	Passed
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Snow-Block Check:	Passed
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DUAL SPACED NEUTRON FIELD CALIBRATION			
Tool Name:	DSNT - 11020487	Reference Calibration Date:	10-Nov-14 11:02:49
Engineer:	CHRIS MARLOWE	Calibration Date:	02-Dec-14 23:07:57
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1

Logging Source S/N: 382
Snow Block S/N: 592

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change

Snow-Block Porosity (decp):	0.0678	0.0532	-0.0146	+/- 0.0150
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PASS/FAIL SUMMARY	
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Block Change Check:	Passed
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Snow Block Stat Check:	Passed
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Temperature Check:	Passed
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DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10960494	Reference Calibration Date:	01-Jan-70 00:00:00
Engineer:	CHRIS MARLOWE	Calibration Date:	03-Nov-14 16:52:32
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 11020487		

CALIBRATION COEFFICIENTS			
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Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3105.89	-3105.89	-7000.00 - -1000.00
Pad Gain	0.0003820	0.0003820	0.000200 - 0.000600
Arm Offset	-1492.35	-1492.35	-5000.00 - 3000.00
Arm Gain	0.0005558	0.0005558	0.000300 - 0.000700
Arm Power	-0.000007714	-0.000007714	-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)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.50	6.50	0.00	+/- 0.20
Medium Ring (in)	8.25	8.25	0.00	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 0.20

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

SDLT CALIPER FIELD CALIBRATION			
Tool Name:	SDLT - 10960494	Reference Calibration Date:	03-Nov-14 16:52:32
Engineer:	CHRIS MARLOWE	Calibration Date:	02-Dec-14 23:04:48
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.67	-0.08	+/- 0.10
Ring Diameter	8.25	8.21	-0.04	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION			
Tool Name:	SDLT Pad - 10844774	Reference Calibration Date:	30-Sep-14 19:17:12
Engineer:	JEREMY COTHREN	Calibration Date:	10-Nov-14 12:37:38
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1

Logging Source S/N: 5155GW

Aluminum Block S/N: PVOK

Density: 2.585g/cc

Pe: 3.140

Magnesium Block S/N: PVOK

Density: 1.682g/cc

Pe: 2.594

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0300	1.0792	0.90 - 1.10
Near Dens Gain	1.0038	1.0388	0.90 - 1.10
Near Peak Gain	1.0101	1.0493	0.90 - 1.10

Near Peak Gain	1.0101	1.0450	0.90 - 1.10
Near Lith Gain	0.9982	1.0204	0.90 - 1.10
Far Bar Gain	1.0021	1.0162	0.90 - 1.10
Far Dens Gain	0.9896	1.0027	0.90 - 1.10
Far Peak Gain	0.9827	0.9951	0.90 - 1.10
Far Lith Gain	0.9593	0.9722	0.90 - 1.10
Near Bar Offset	-0.0083	-0.4534	NONE
Near Dens Offset	0.2245	-0.0817	NONE
Near Peak Offset	0.1535	-0.1727	NONE
Near Lith Offset	0.2265	0.0406	NONE
Far Bar Offset	0.1277	0.0043	NONE
Far Dens Offset	0.2266	0.1117	NONE
Far Peak Offset	0.2533	0.1505	NONE
Far Lith Offset	0.3887	0.2871	NONE
Near Bar Background	913.91	909.37	700 - 1450
Near Dens Background	298.29	298.54	230 - 480
Near Peak Background	132.43	130.99	100 - 210
Near Lith Background	159.24	160.37	125 - 260
Far Bar Background	497.76	498.02	450 - 900
Far Dens Background	194.57	193.29	175 - 345
Far Peak Background	77.52	77.19	70 - 140
Far Lith Background	79.81	79.50	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.683	1.682	-0.001	+/- 0.015
Pe	2.520	2.555	0.035	+/- 0.150
ALUMINUM				
Density (g/cc)	2.579	2.585	0.006	+/- 0.01500
Pe	3.082	3.099	0.017	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0016	+/- 0.0110	-0.0002	+/- 0.0140
Magnesium Block	-0.0002	+/- 0.0110	-0.0018	+/- 0.0140
Aluminum Block	-0.0014	+/- 0.0110	0.0009	+/- 0.0140
Resolution	9.45	6.00 - 11.50	9.09	6.00 - 11.50
Internal Verifier(B+D+P+L)	1499	1200 - 2700	848	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

SPECTRAL DENSITY FIELD CHECK					
Tool Name:	SDLT Pad - 10844774	Reference Calibration Date:	10-Nov-14 12:37:38		
Engineer:	CHRIS MARLOWE	Calibration Date:	02-Dec-14 22:57:58		
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1		

Pad Temperature: 73.4 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1499.271	1497.713	-1.558	15.602
Far (B+D+P+L) cps	847.989	842.392	-5.597	15.982
Near Resolution	9.45	9.65	0.200	0.50
Far Resolution	9.09	9.32	0.230	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

MICRO LOG SHOP CALIBRATION			
Tool Name:	Microlog Pad - 10960494	Reference Calibration Date:	03-Nov-14 16:59:45
Engineer:	JEREMY COTHREN	Calibration Date:	10-Nov-14 12:44:41
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 11020487		

CALIBRATION COEFFICIENT SUMMARY					
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.09	-0.09	0.00	0.00	ohmm
Calibration Point #1	-0.01	0.00	-0.00	0.00	ohmm
Calibration Point #2	20.05	20.00	20.05	20.00	ohmm
Internal Reference	19.96	19.91	20.07	20.02	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	-5.15	1.67	V
Calibration Point #1	17.99	1.35	V
Calibration Point #2	5376.27	6943.22	V
Internal Reference	5352.98	6949.96	V

MICRO LOG FIELD CHECK					
Tool Name:	Microlog Pad - 10960494	Reference Calibration Date:	10-Nov-14 12:44:41		
Engineer:	CHRIS MARLOWE	Calibration Date:	02-Dec-14 22:55:50		
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1		

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Shop	Field	Shop	Field	
Tool Zero	-0.09	-0.08	0.00	-0.00	ohmm
Internal Reference	19.91	19.68	20.02	19.77	ohmm

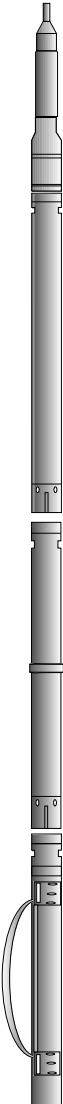
Summary				
Signal	Shop	Field	Difference	Tolerance
Microlog Normal	19.91	19.68	0.23	+/- 0.80

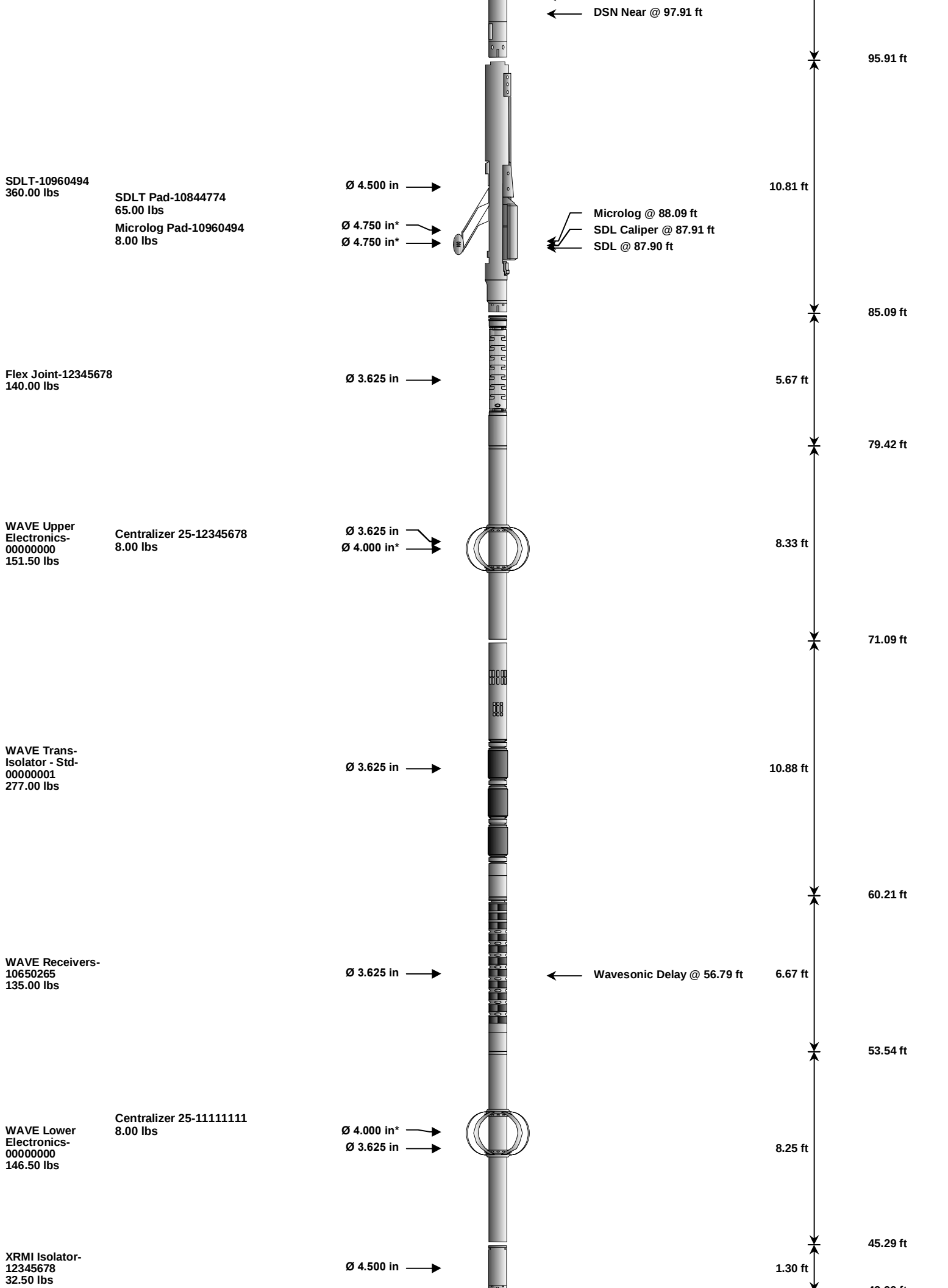
	Microlog Lateral	20.02	19.77	0.25	+/- 0.80
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CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11021139						
Gamma Ray Calibrator	238.1	235.8	-----	2.3	+/- 9.00	api
DSNT-11020487						
Snow-Block Porosity	0.0678	0.0532	-----	0.0146	+/- 0.0150	decp
SDLT-10960494						
Pad Extension	3.75	3.67	-----	0.08	+/-0.10	in
Ring Diameter	8.25	8.21	-----	0.04	+/-0.15	in
SDLT Pad-10844774						
Near(B+D+P+L)	1499.271	1497.713	-----	1.558	+/-15.602	cps
Far(B+D+P+L)	847.989	842.392	-----	5.597	+/-15.982	cps
Microlog Pad-10960494						
MicroLog Normal	19.91	19.68	-----	0.23	+/-0.80	ohmm
MicroLog Lateral	20.02	19.77	-----	0.25	+/-0.80	ohmm

Data: SKYLER RAE SWD \0001 RED TRIPLE CSNG WSTT XRM\007 04-Dec-14 03:30 Up @5530.3f	Date: 04-Dec-14 04:14:43
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HALLIBURTON TOOL STRING DIAGRAM REPORT	
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Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-RED 37.50 lbs		Ø 2.750 in →		← Temperature @ 125.23 ft	3.03 ft	126.26 ft
XOHD-12345678 20.00 lbs		Ø 2.750 in → Ø 3.625 in →			0.95 ft	123.23 ft
						122.28 ft
GTET-11021139 165.00 lbs		Ø 3.625 in →		← GammaRay @ 116.22 ft	8.52 ft	
						113.76 ft
CSNG-10836164 114.00 lbs	UnivWearRing3.6-10836164 5.00 lbs	Ø 4.200 in* → Ø 3.625 in →		← CSNG @ 108.13 ft	8.17 ft	
						105.59 ft
DSNT-11020487 174.00 lbs	DSN Decentralizer-11020487 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 98.66 ft	9.69 ft	



XRMI-I Instrument-
262-90296662
290.00 lbs

Ø 4.500 in →

13.00 ft

30.99 ft

XRMI-I Mandrel-
11838472
206.00 lbs

Ø 5.000 in →

Ø 4.500 in →

11.16 ft

Pads 2, 4, 6 @ 22.60 ft

Pads 1, 3, 5 @ 22.37 ft

19.83 ft

ACRt Instrument-
11302822
50.00 lbs

Ø 3.625 in →

5.03 ft

14.80 ft

← Mud Resistivity @ 13.44 ft

← ACRt @ 9.46 ft

ACRt Sonde-
11335202
200.00 lbs

Ø 3.625 in →

14.22 ft

SP Ring-11111111
0.00 lbs

Ø 3.625 in* →

← SP @ 1.86 ft

Cabbage Head-
12345678
10.00 lbs

Ø 3.625 in →

Ø 6.000 in →

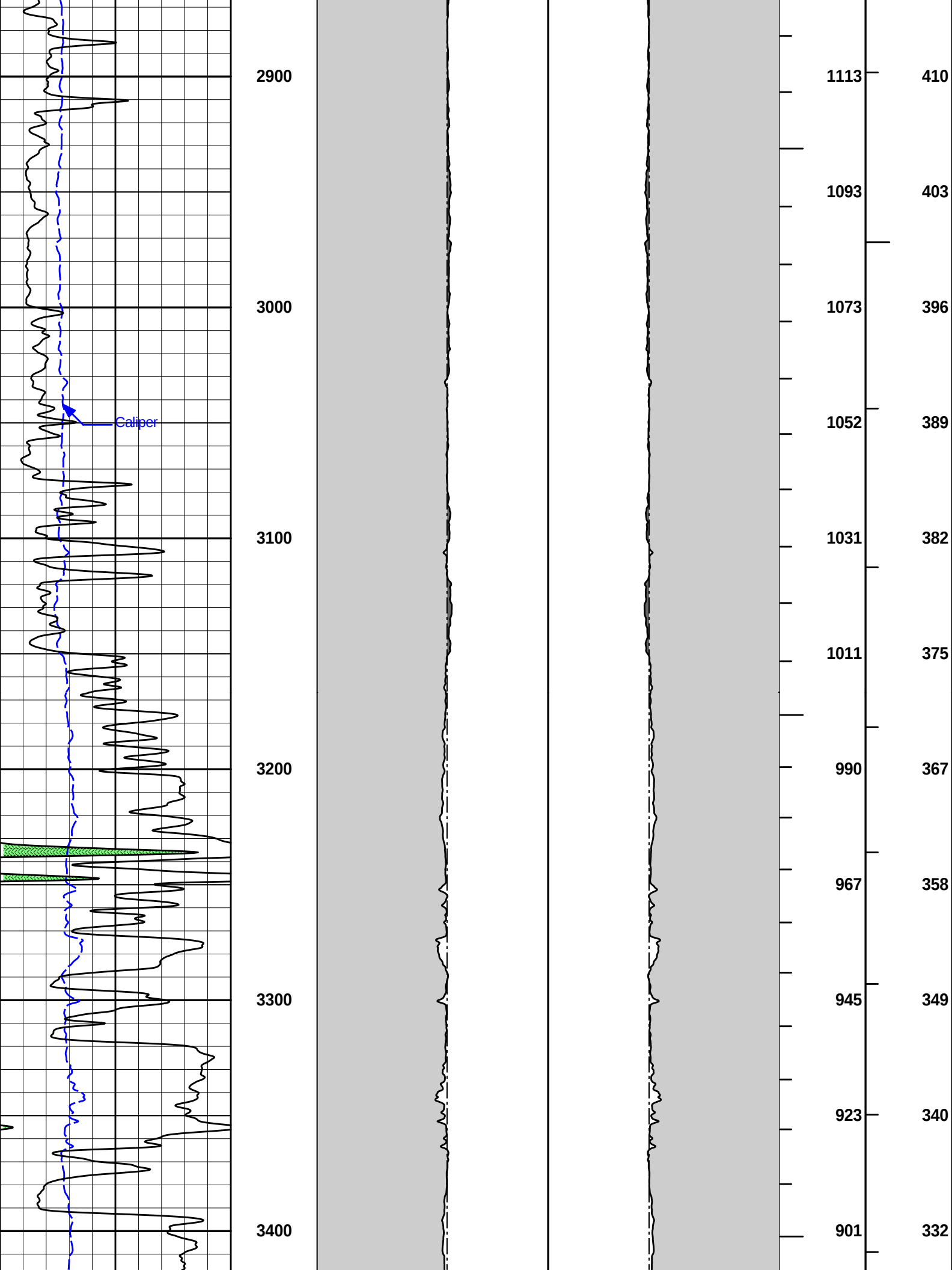
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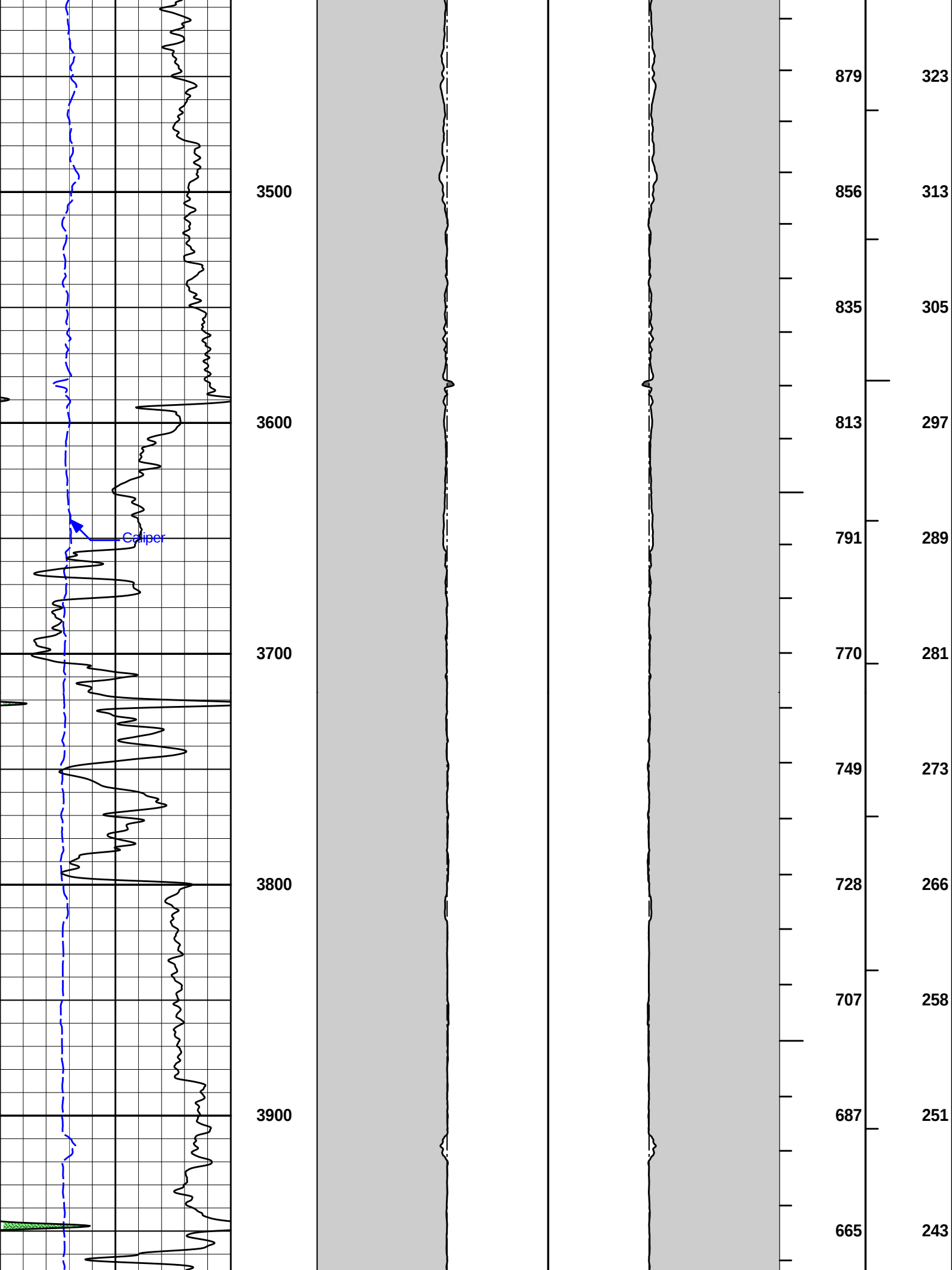
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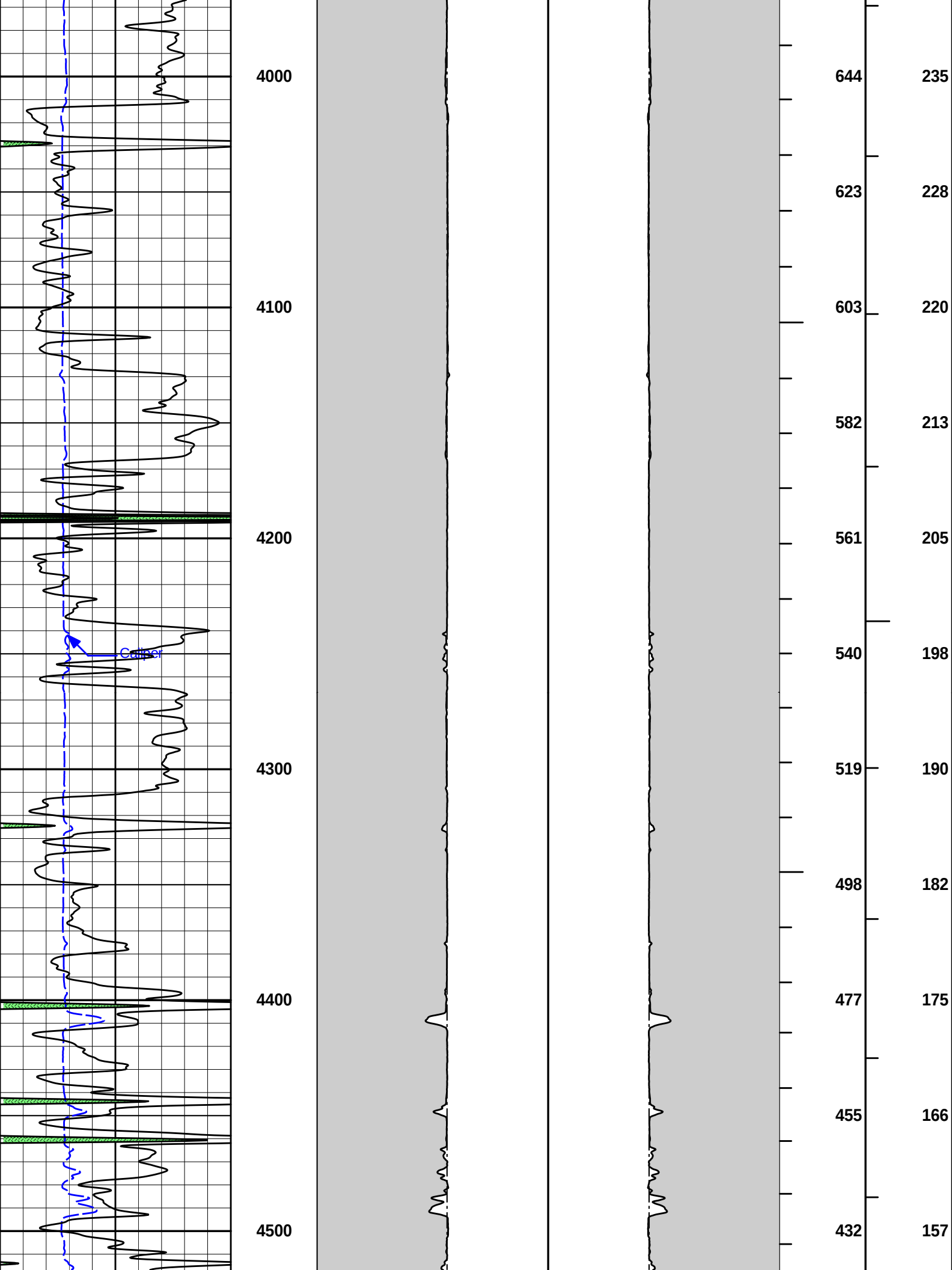
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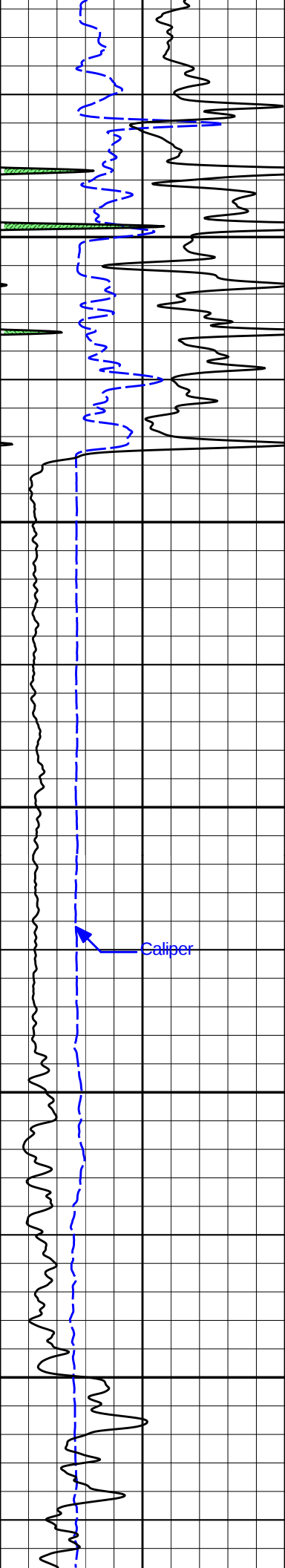
Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS		Hostile Cable Head with Load Cell	RED	37.50	3.03	123.23	300.00
XOHD		Hostile to Dits Cross Over	12345678	20.00	0.95	122.28	300.00
GTET		Gamma Telemetry Tool	11021139	165.00	8.52	113.76	60.00
CSNG		Compensated Spectral Natural Gamma	10836164	114.00	8.17	105.59	15.00
UWR3P6		Universal Wear Ring 3 5-8 inch	10836164	5.00	0.35	* 109.67	300.00
DSNT		Dual Spaced Neutron	11020487	174.00	9.69	95.91	60.00
DCNT		DSN Decentralizer	11020487	6.60	5.13	* 99.24	300.00
SDLT		Spectral Density Tool	10960494	360.00	10.81	85.09	60.00

SDLP	Density Insite Pad	10844774	65.00	2.55	*	87.30	60.00
MICP	Microlog Pad	10960494	8.00	1.00	*	87.59	60.00
FLEX	Flex Joint	12345678	140.00	5.67		79.42	300.00
WSTT	WAVE Transmitter Electronics - Insite	00000000	151.50	8.33		71.09	100.00
OBCEN	Centralizer - 25 in. Overbody	12345678	8.00	2.08	*	74.00	300.00
WTIS	WAVE Standard Transmitter - Standard Isolator	00000001	277.00	10.88		60.21	100.00
WSTT	WAVE Receiver Section - Offset Dipole	10650265	135.00	6.67		53.54	30.00
WSTT	WAVE Lower Electronics - Insite	00000000	146.50	8.25		45.29	100.00
OBCEN	Centralizer - 25 in. Overbody	11111111	8.00	2.08	*	49.00	300.00
	Isolator for the XRMI tool	12345678	32.50	1.30		43.99	300.00
XRMI	XRMI Navigation - Insite	262-90296662	290.00	13.00		30.99	30.00
XRMI-I	XRMI Imager - Insite	11838472	206.00	11.16		19.83	30.00
ACRt	Array Compensated True Resistivity Instrument Section	11302822	50.00	5.03		14.80	120.00
ACRt	Array Compensated True Resistivity Sonde Section	11335202	200.00	14.22		0.58	120.00
SP	SP Ring	11111111	0.00	0.25	*	1.86	300.00
CBHD	Cabbage Head	12345678	10.00	0.58		0.00	300.00
Total			2,609.60	126.26			
* Not included in Total Length and Length Accumulation.							
Data: SKYLER_RAE_SWD_I0001 RED_TRIPLE_CSNG_WSTT_XRMI007 04-Dec-14 03:30 Up @5530.3f							
Date: 04-Dec-14 04:11:58							









4600

4700

4800

4900

5000

Caliper



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382

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334

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272

251

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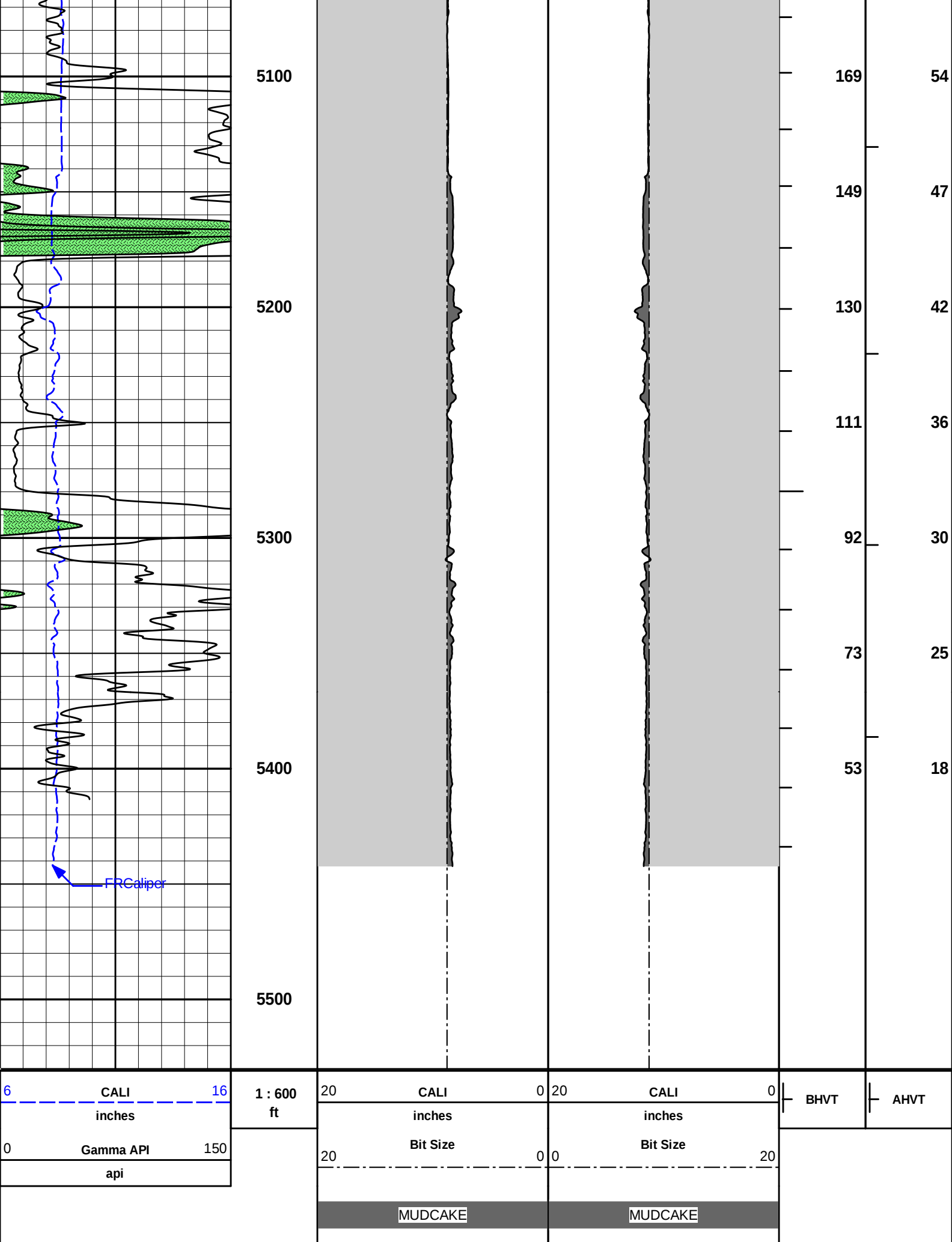
90

83

75

69

62



ANNULAR HOLE VOLUME PLOT

COMPANY	SANDRIDGE ENERGY INC		
WELL	SKYLER RAE SWD 3505 1-3		
FIELD	WILLTEX NORTH		
COUNTY	HARPER	STATE	KS

HALLIBURTON

DUAL SPACED NEUTRON
SPECTRAL DENSITY
MICROLOG