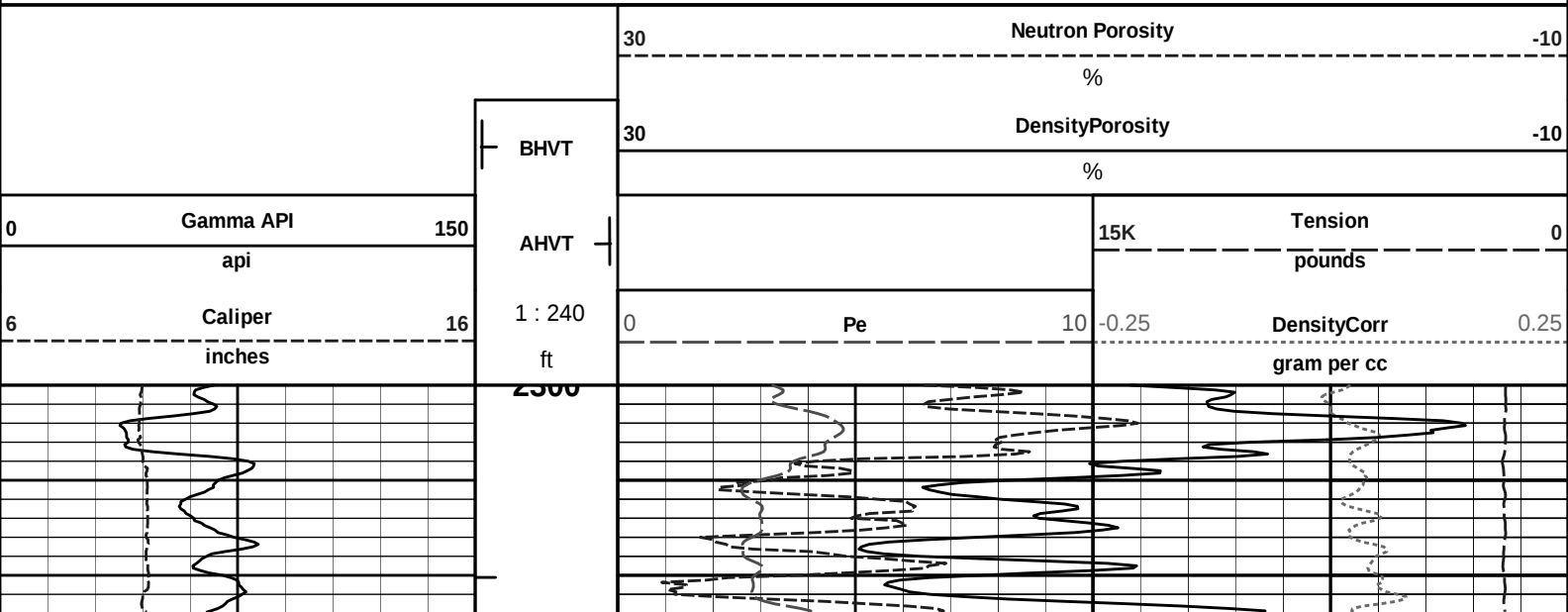
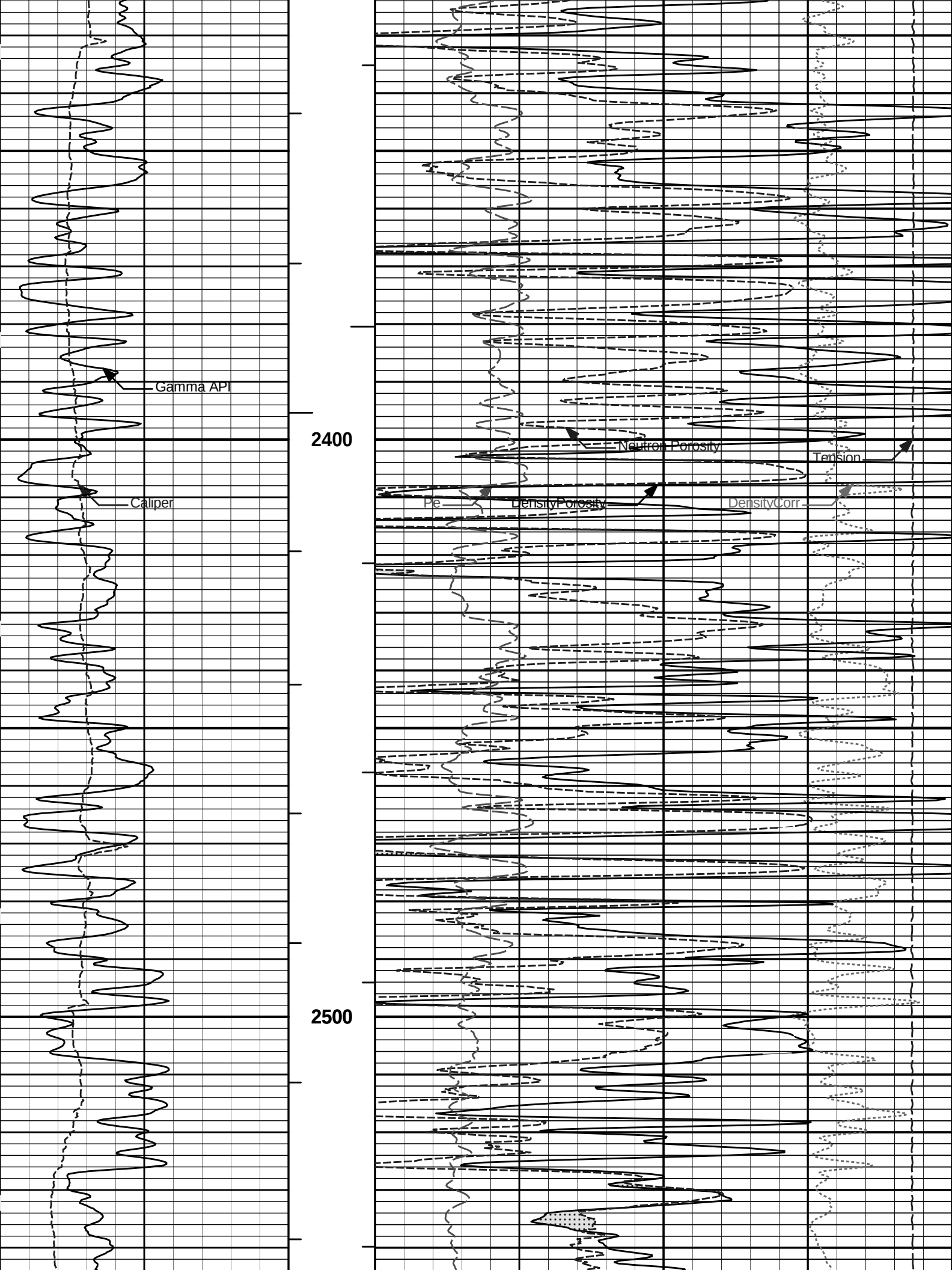


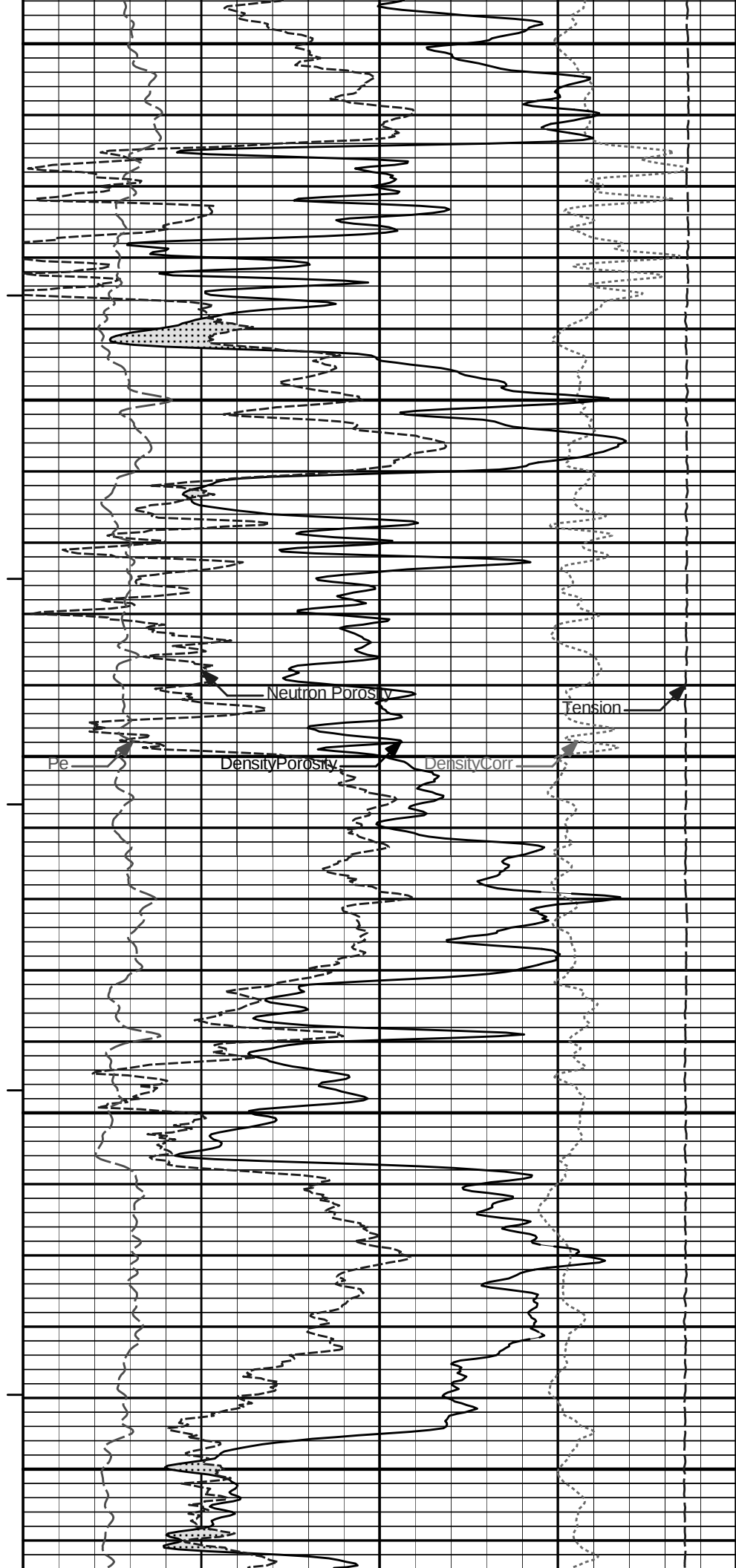
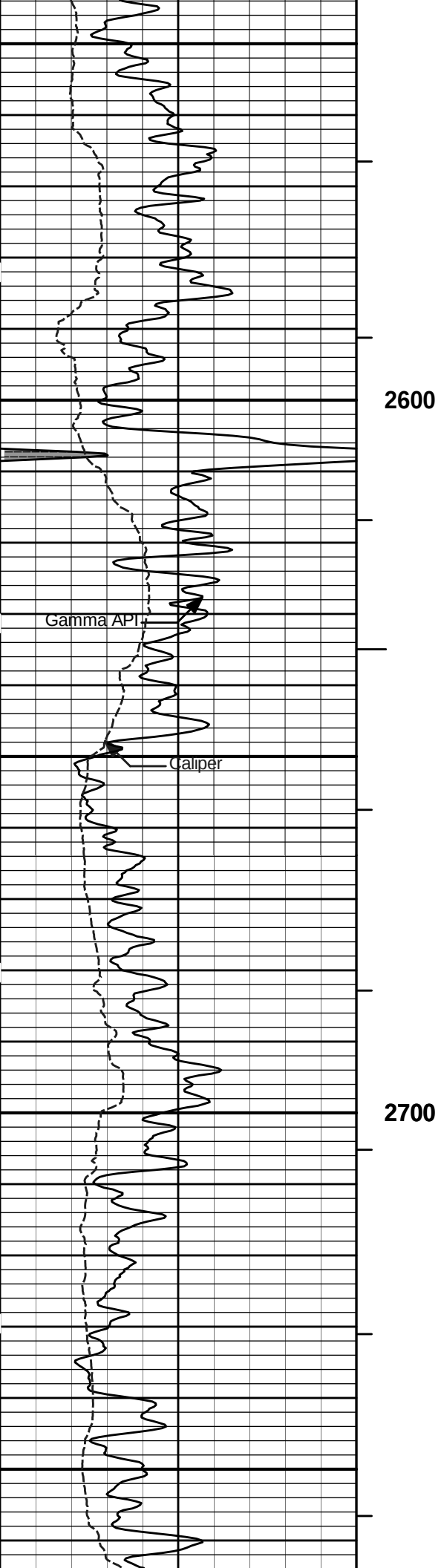
HALLIBURTON										SPECTRAL DENSITY DUAL SPACED NEUTRON LOG									
COMPANY HARTMAN OIL COMPANY										COMPANY HARTMAN OIL COMPANY									
WELL DAMME #46										WELL DAMME #46									
FIELD DAMME										FIELD DAMME									
COUNTY FINNEY										COUNTY FINNEY									
STATE KANSAS										STATE KANSAS									
Permanent Datum GL										API No. 15-055-22126									
Log measured from KB										Location (SHL) 1650' FNL & 990' FEL									
Drilling measured from KB										Other Services: ACRT DSN/SDL MICROLOG									
Date 13-Mar-12										Sect. 28 Twp. 22S Rge. 33W									
Run No. ONE										Elev. 2886.0 ft									
Depth - Driller										Elev. 2886.0 ft									
Depth - Logger										D.F. 2895.0 ft									
Bottom - Logged Interval										G.L. 2886.0 ft									
Top - Logged Interval																			
Casing - Driller																			
Casing - Logger																			
Bit Size																			
Type Fluid in Hole																			
Density																			
PH																			
Source of Sample																			
Rm @ Meas. Temperature																			
Rmf @ Meas. Temperature																			
Rmc @ Meas. Temperature																			
Source Rmf																			
Rm @ BHT																			
Time Since Circulation																			
Time on Bottom																			
Max. Rec. Temperature																			
Equipment																			
Recorded By																			
Witnessed By																			

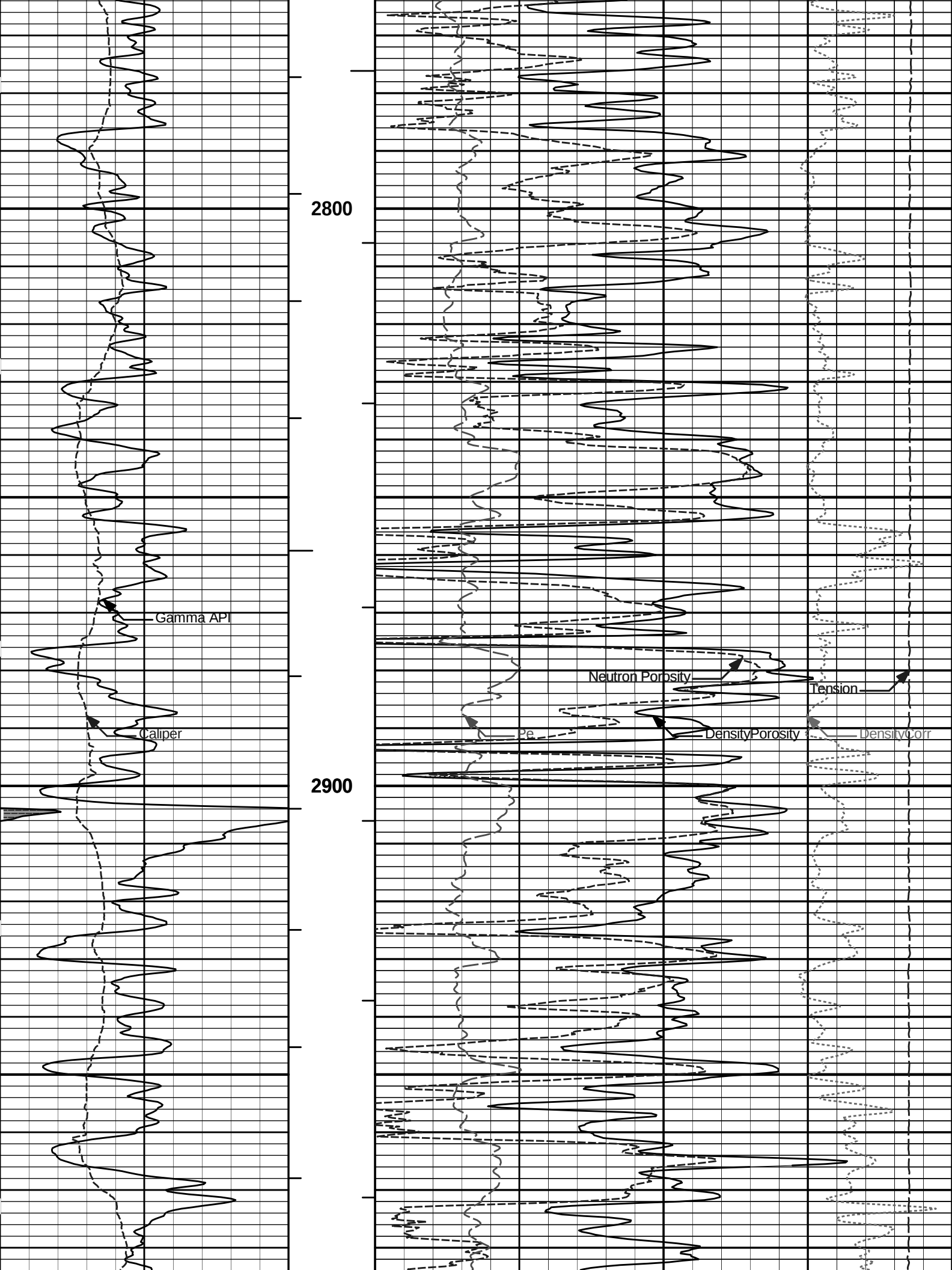
Fold here

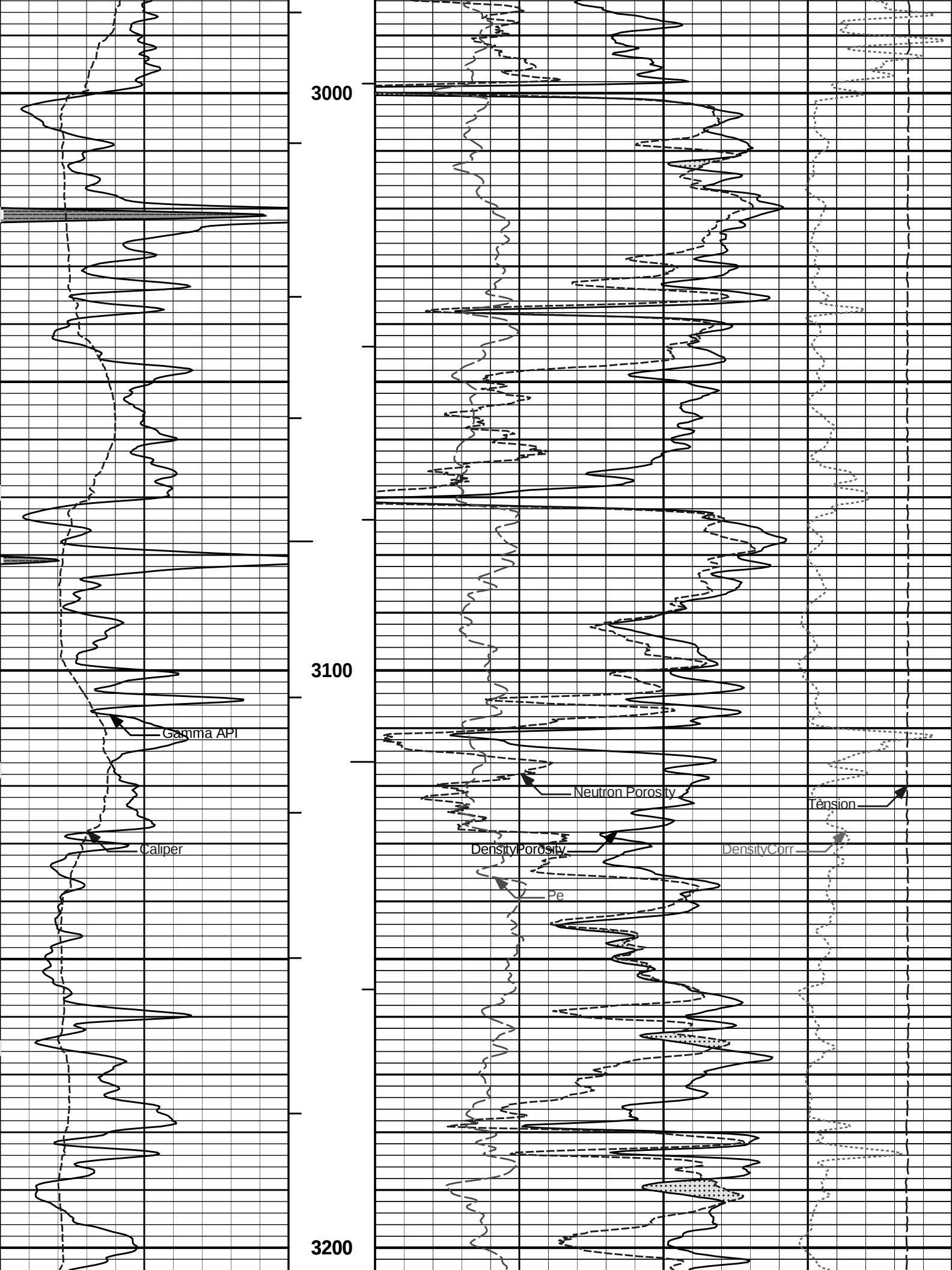
Service Ticket No.: 9355656										API Serial No.: 15-055-22126										PGM Version: WL INSITE R3.4.2 (Build 2)									
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE										RESISTIVITY SCALE CHANGES																			
Date		Sample No.								Type Log		Depth		Scale Up Hole		Scale Down Hole													
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				1.5" S.O.													
Rmc @ Meas. Temp.		@				@						I. I816S708																	
Source Rmf		Rmc										S. I816S708																	
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.		11091172			Serial No.					Serial No.		I378M477P870			Serial No.		10951378												
Model No.		GTET			Model No.					Model No.		SDLT			Model No.		DSNT												
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		CS-137			Source Type		AM241BE												
Length		8"			LSA [Y/N]					Serial No.		20784B			Serial No.		373												
Distance to Source		N/A			FWDA [Y/N]					Strength		1.5 CI			Strength		15 CI												
LOGGING DATA																													
GENERAL					GAMMA					ACOUSTIC					DENSITY					NEUTRON									

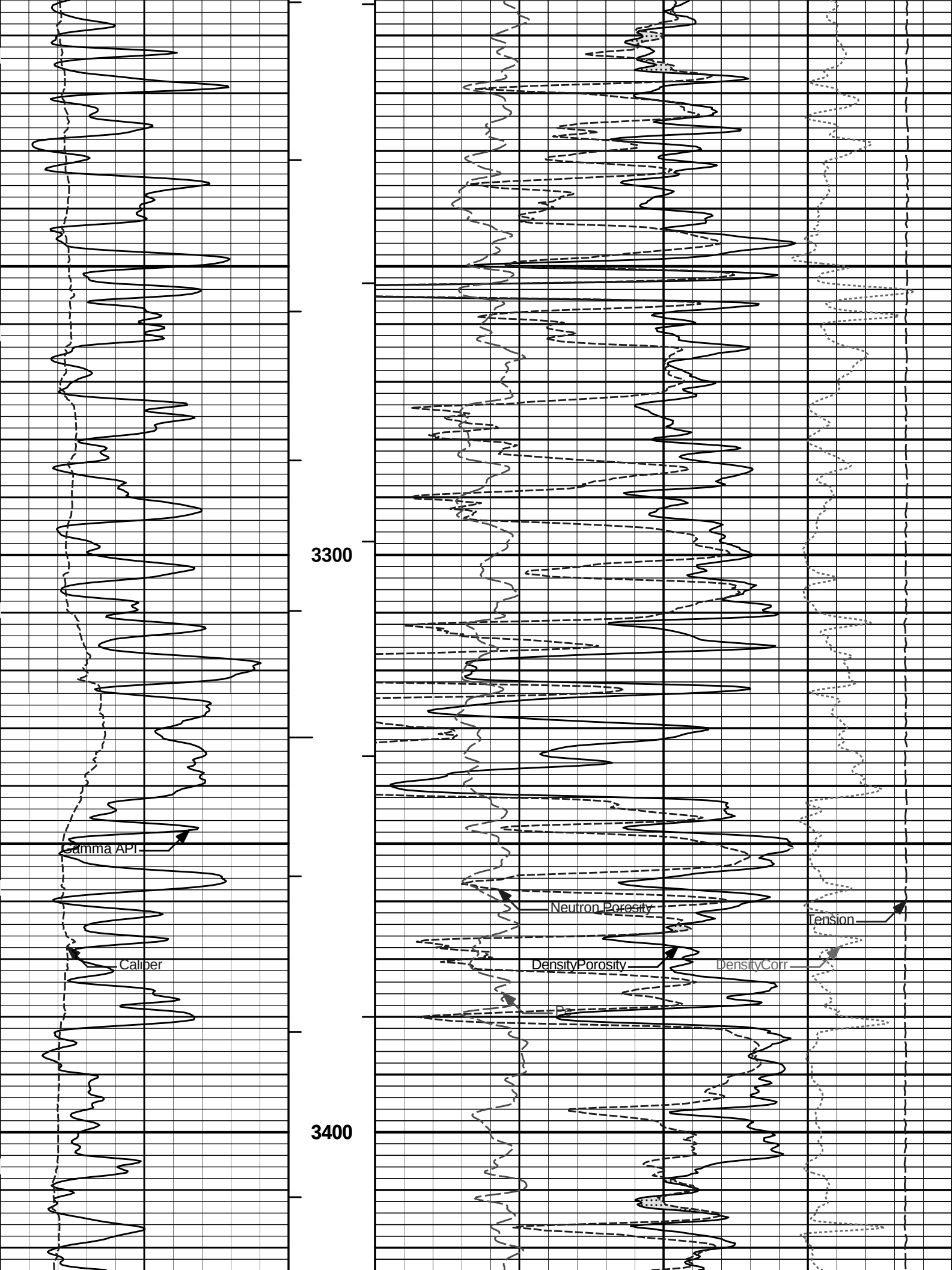


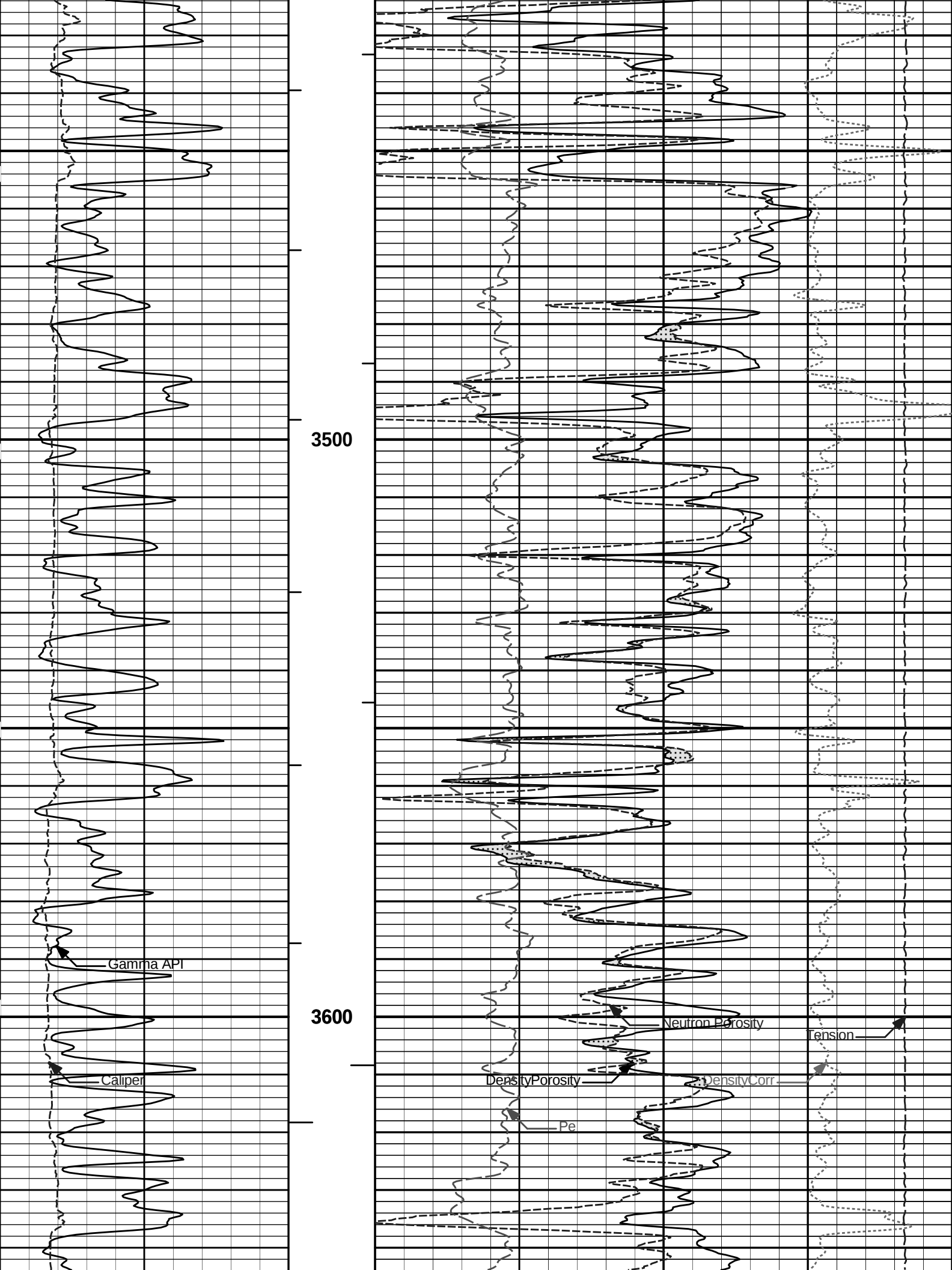


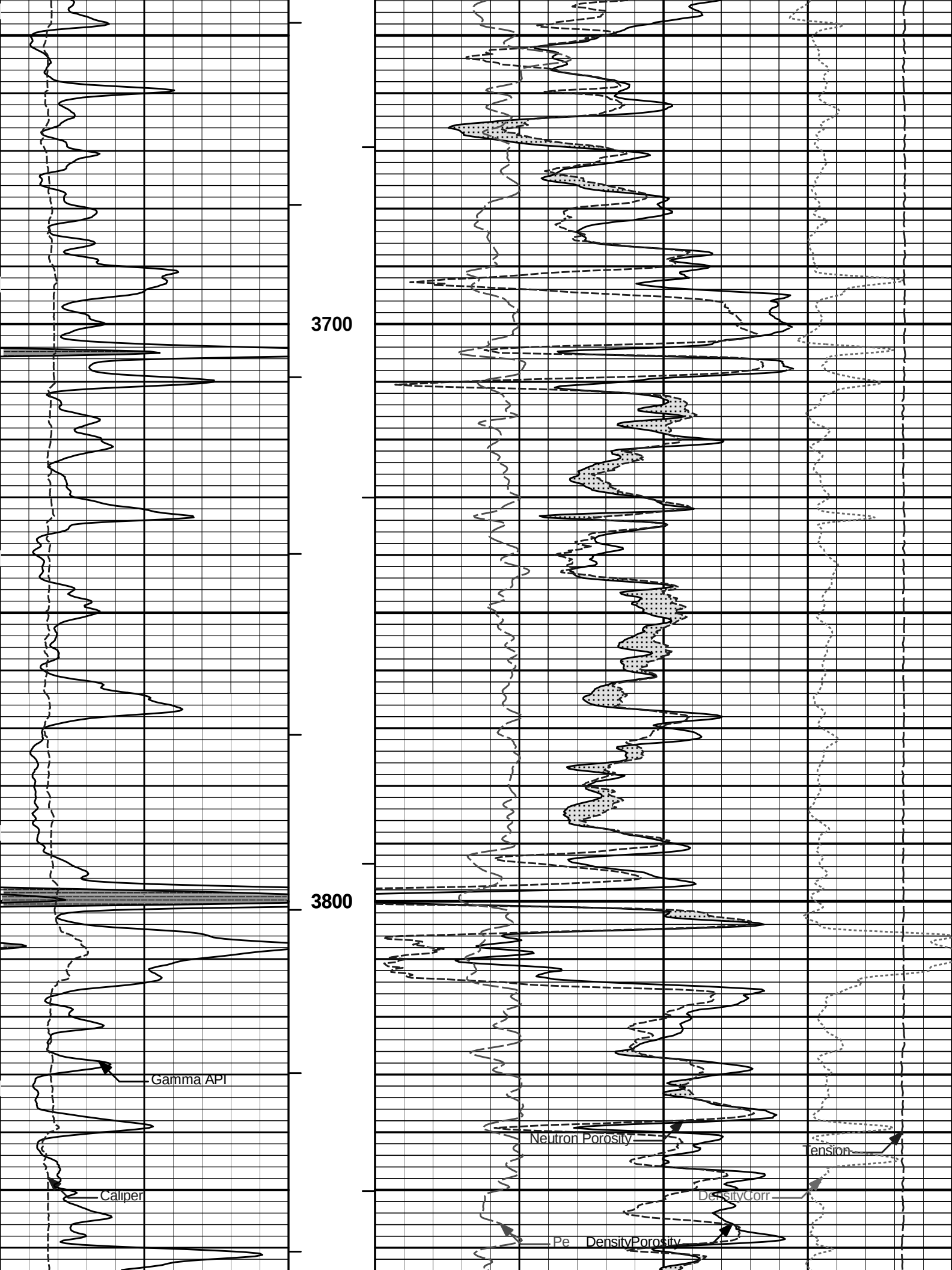


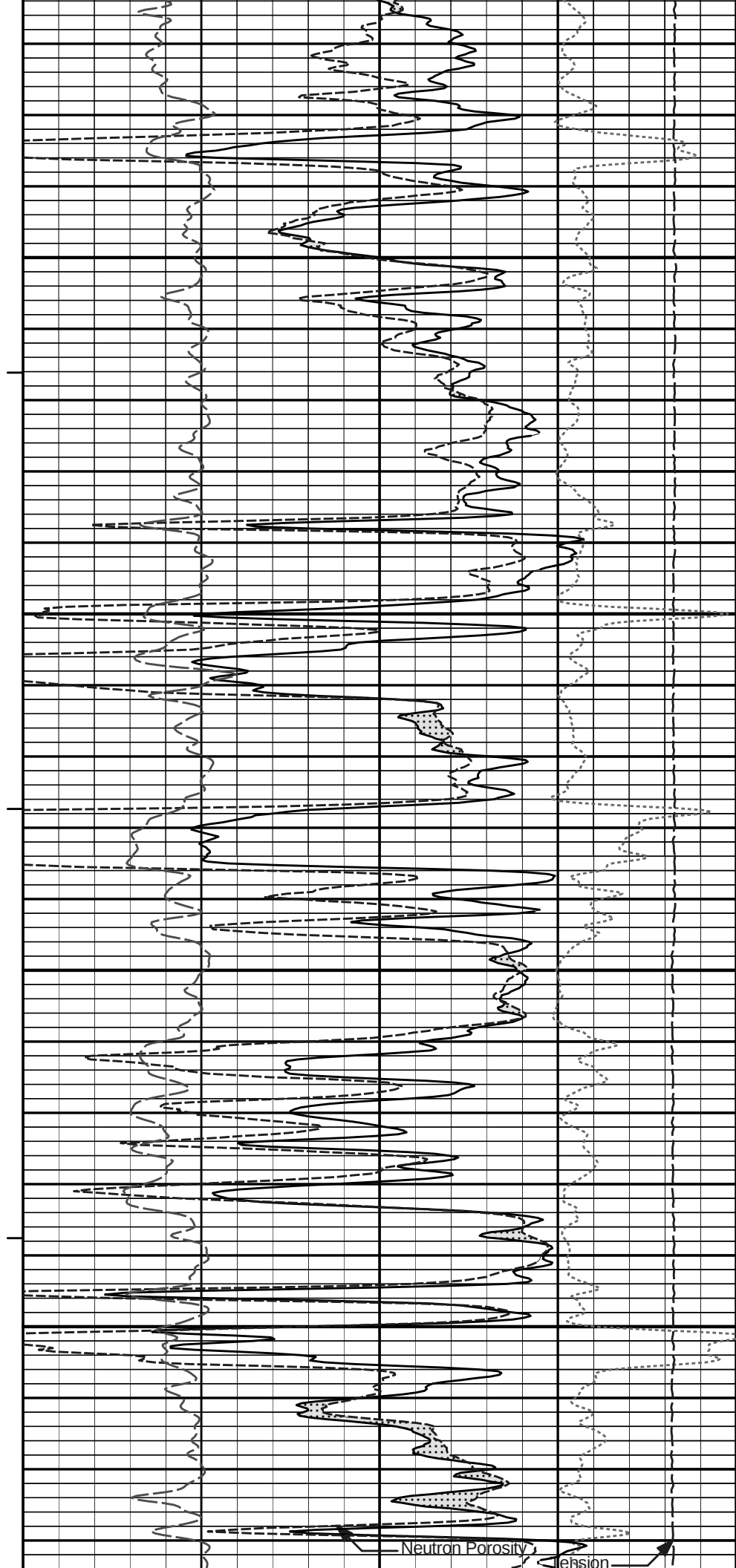
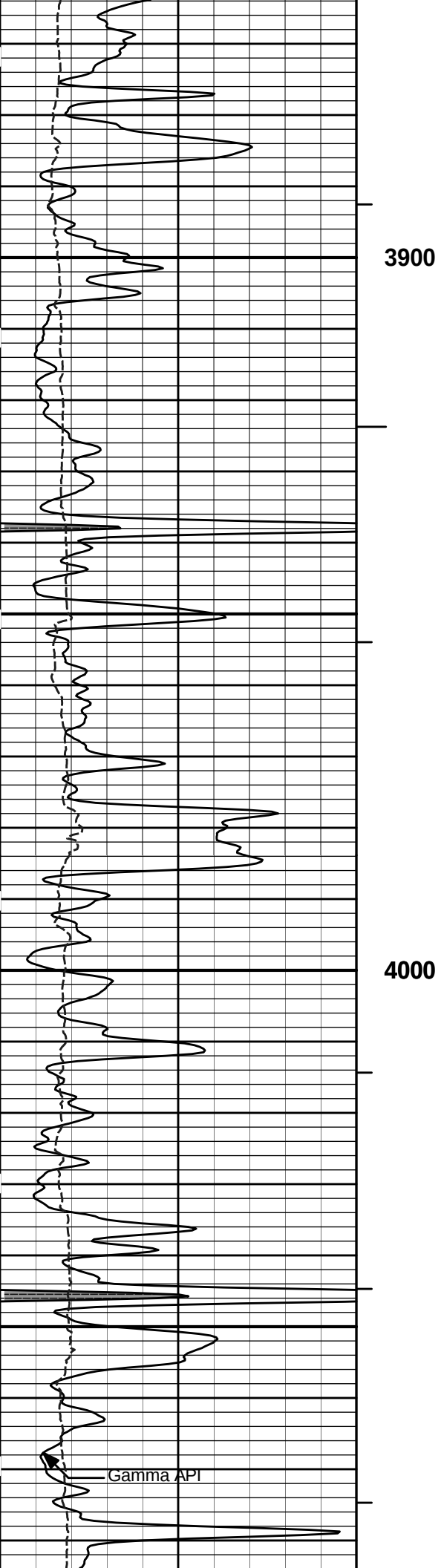


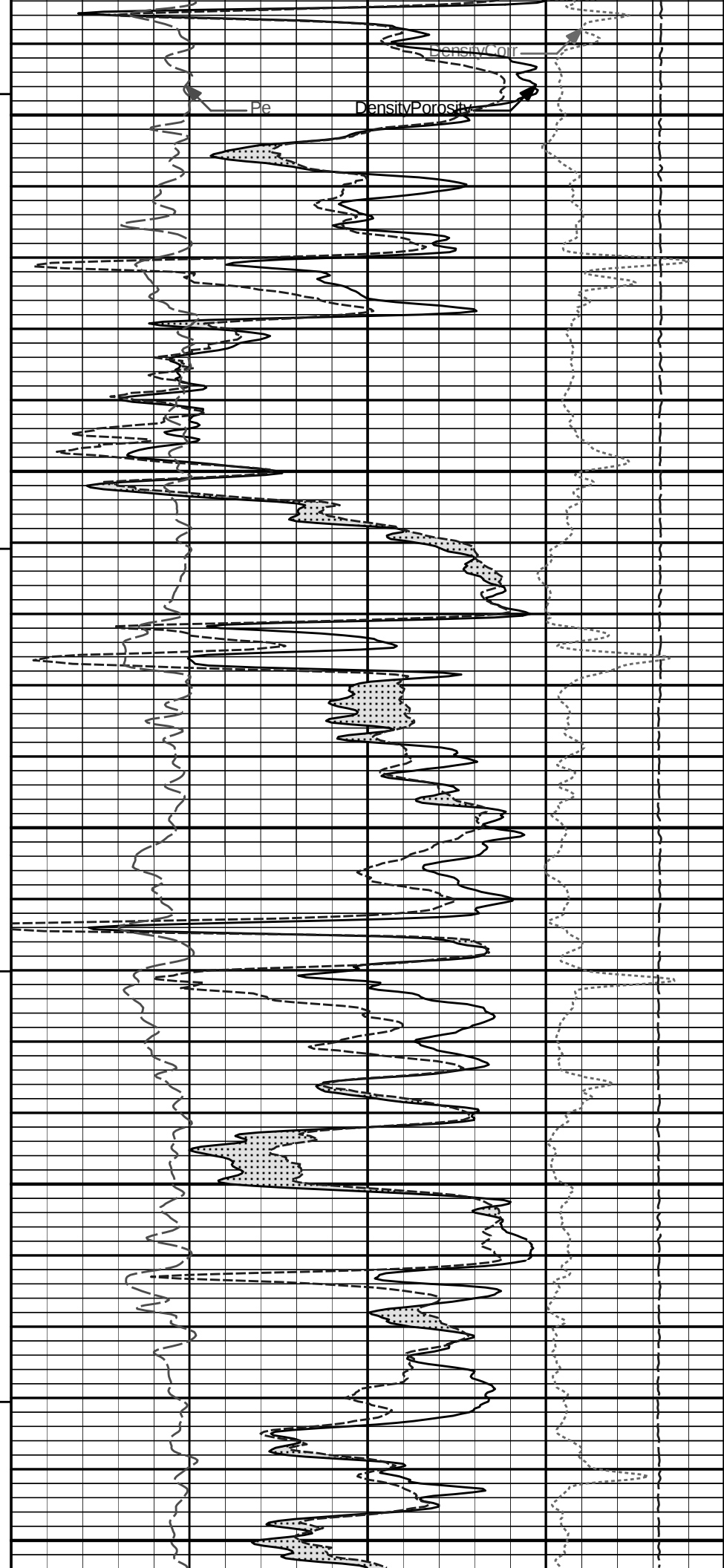
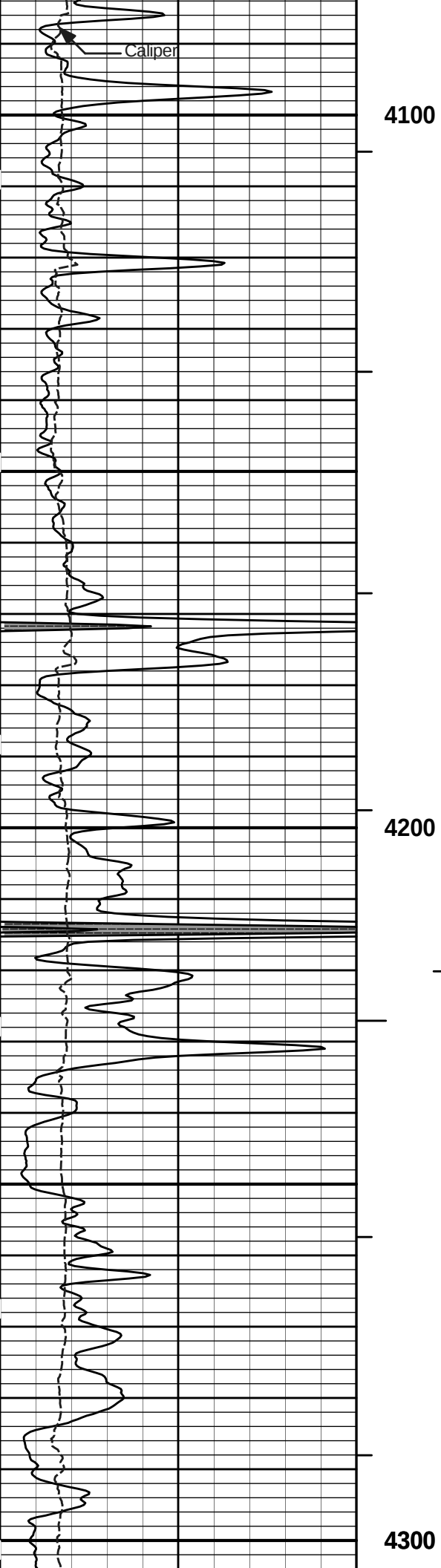


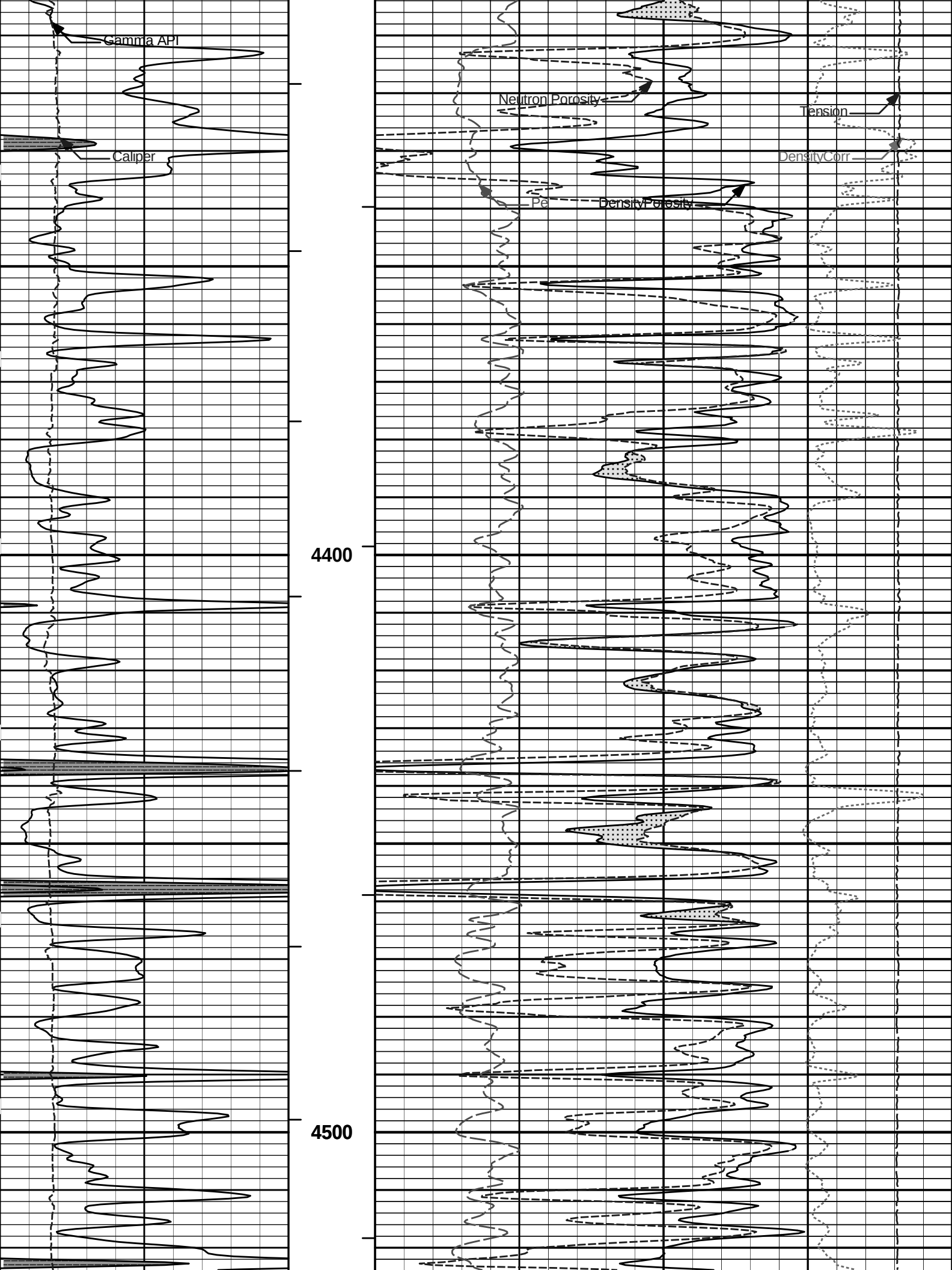


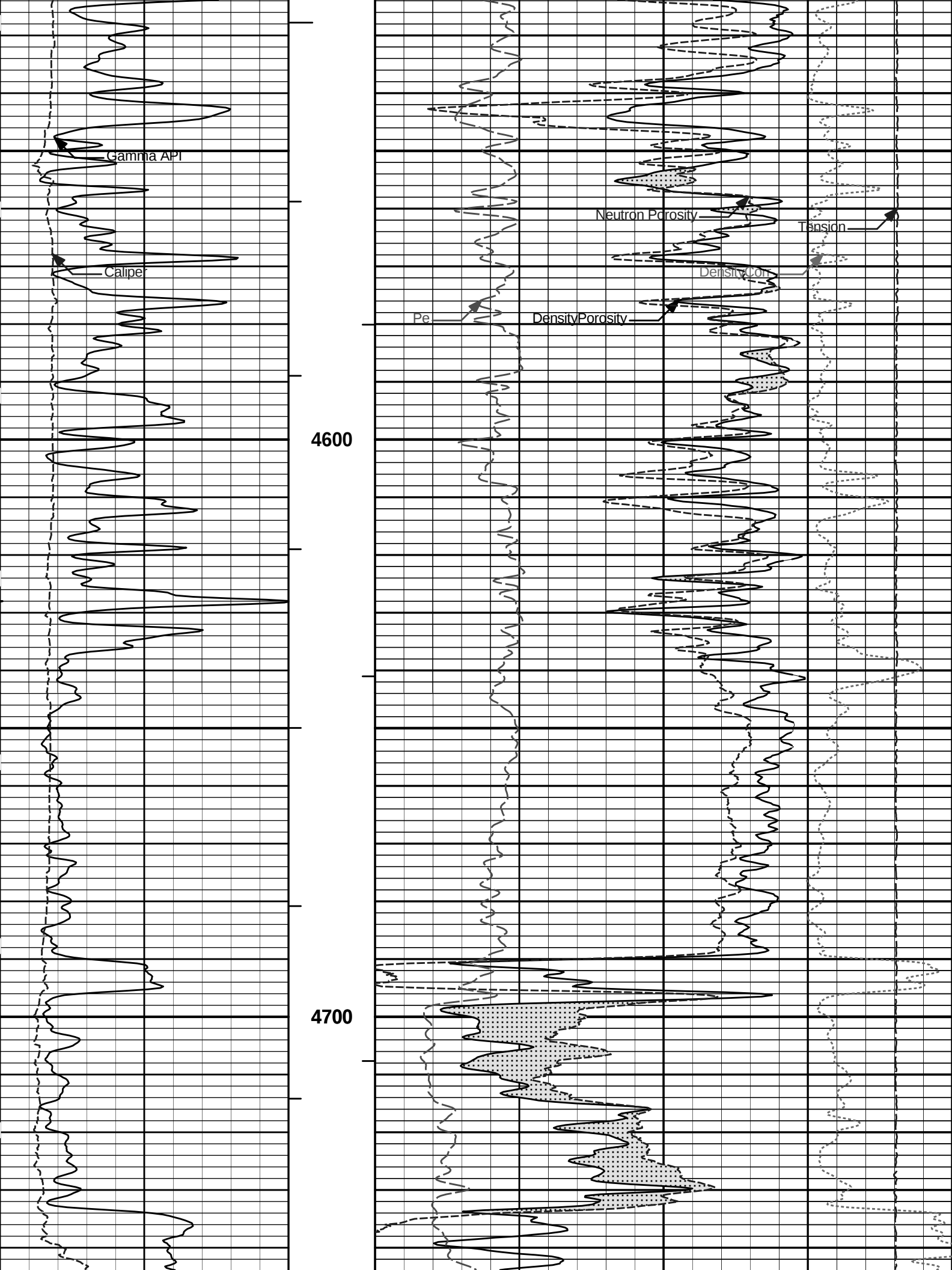




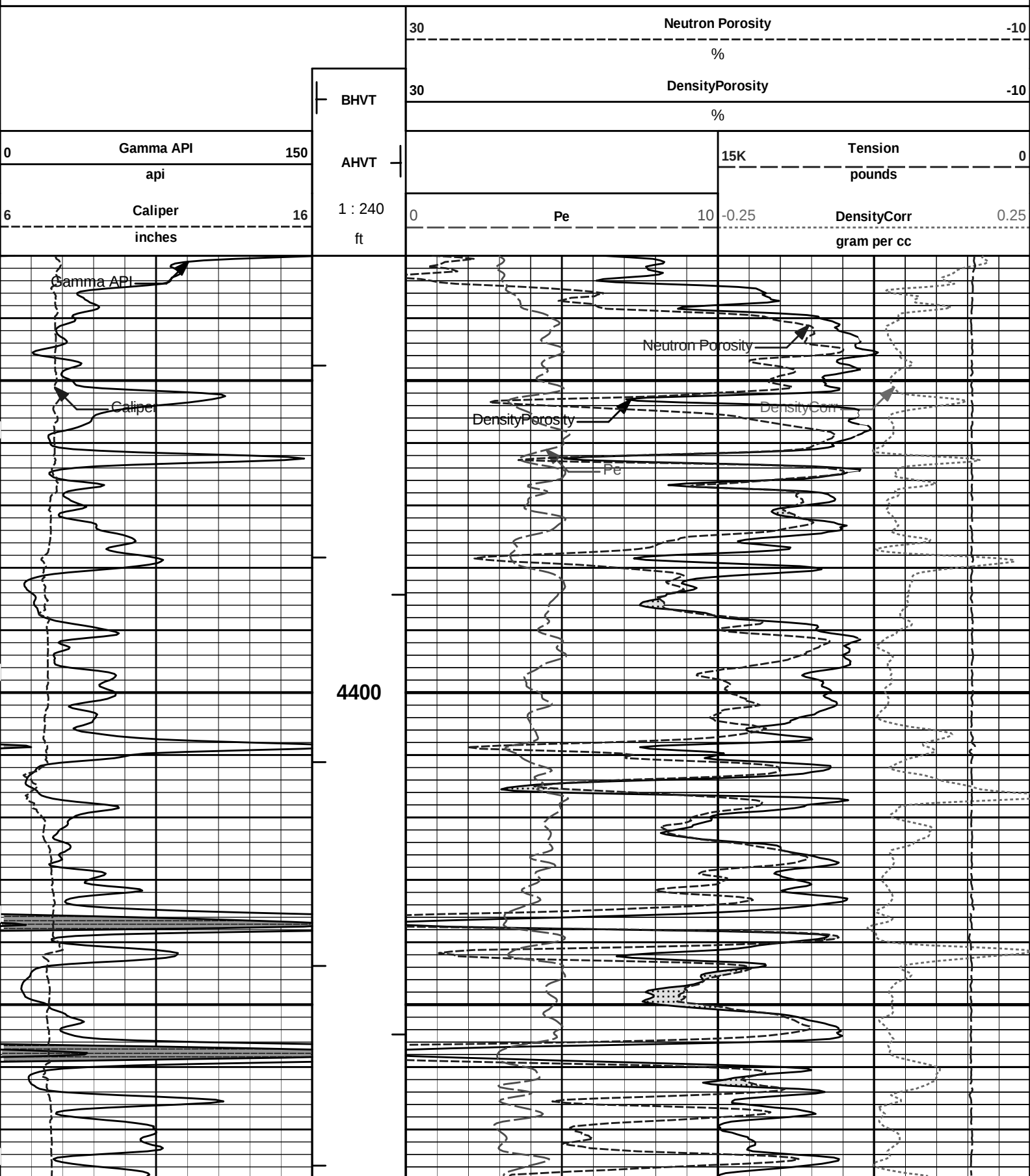


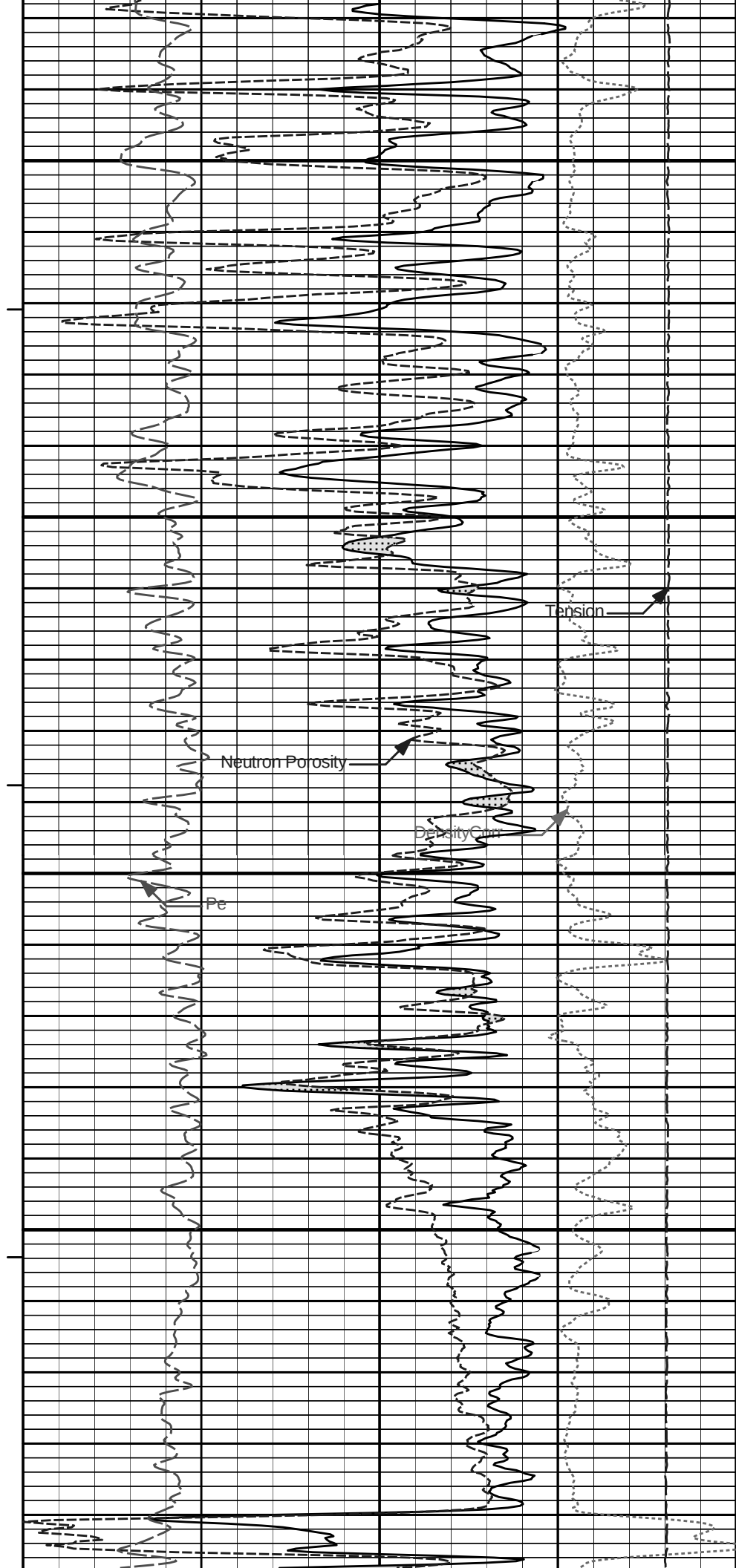
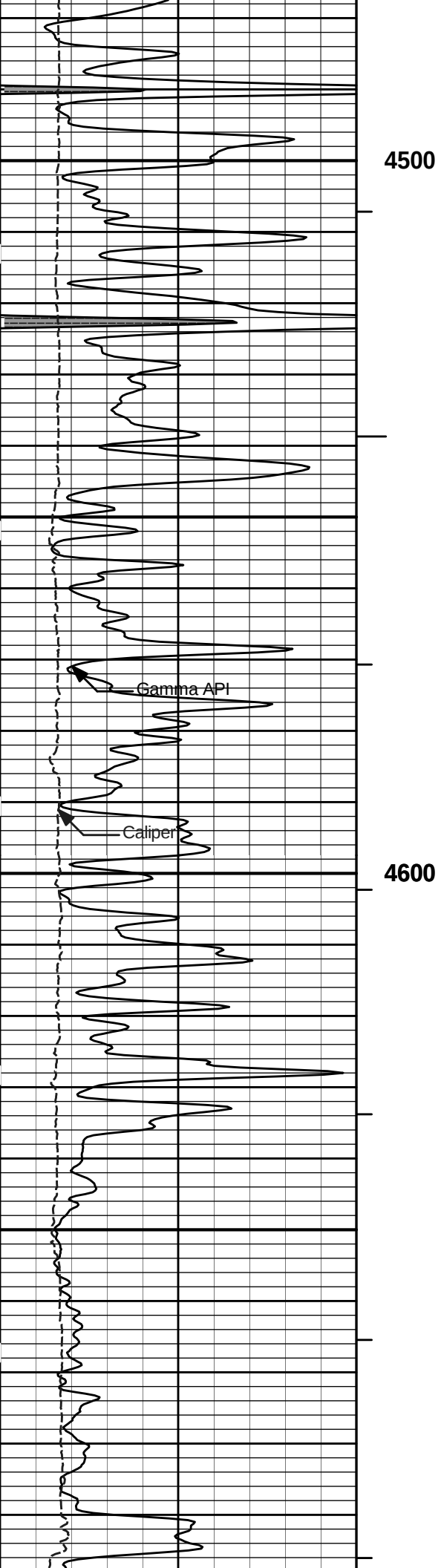


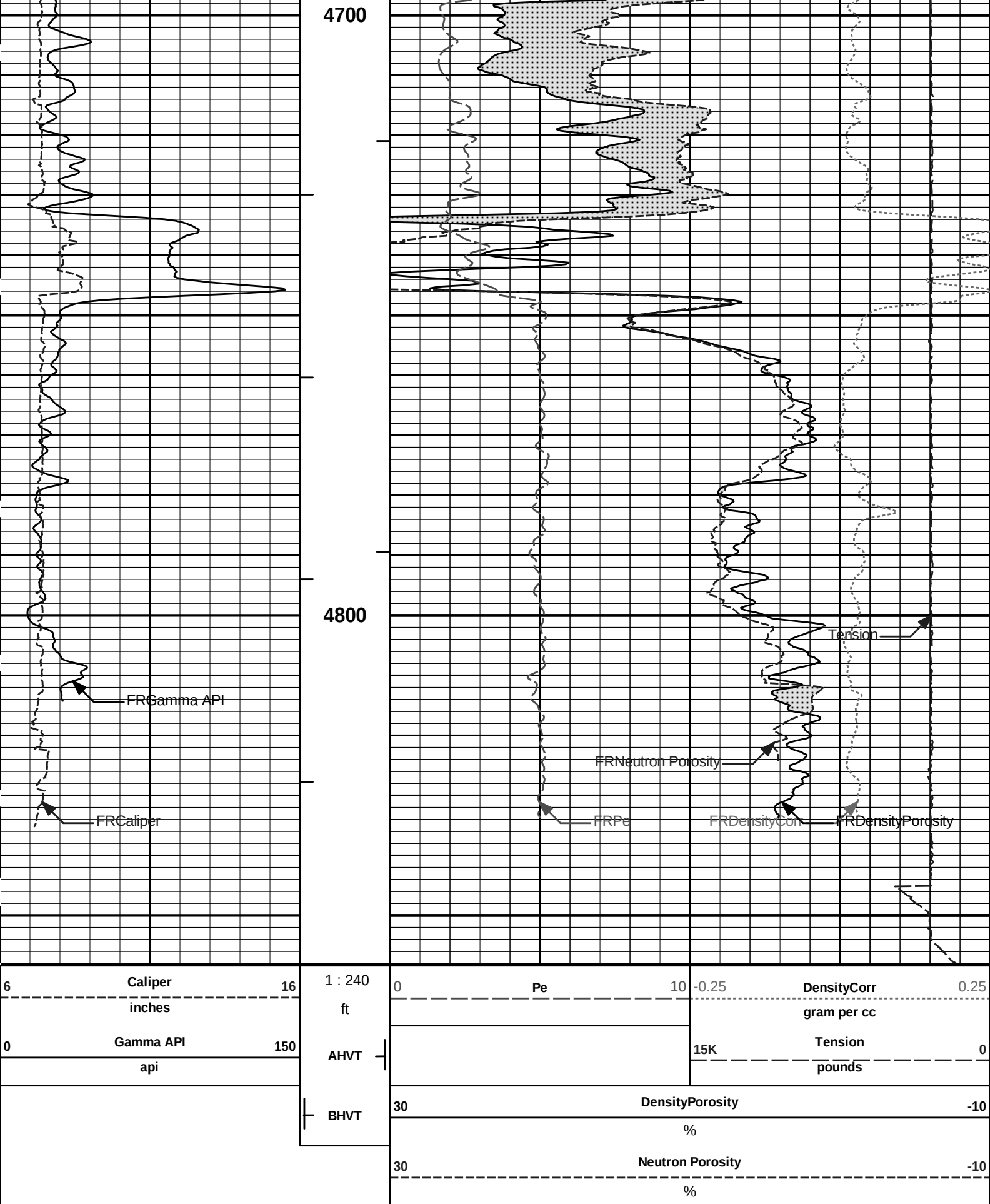




5" PER 100' REPEAT SECTION







HALLIBURTON

Plot Time: 13-Mar-12 18:58:19
Plot Range: 4330 ft to 4858.08 ft
Data: HART_DAMME_46\Well Based\DAQ-0001-006\
Plot File: \\POROSITY\Porosity_IQ_5_REP

5 INCH REPEAT SECTION

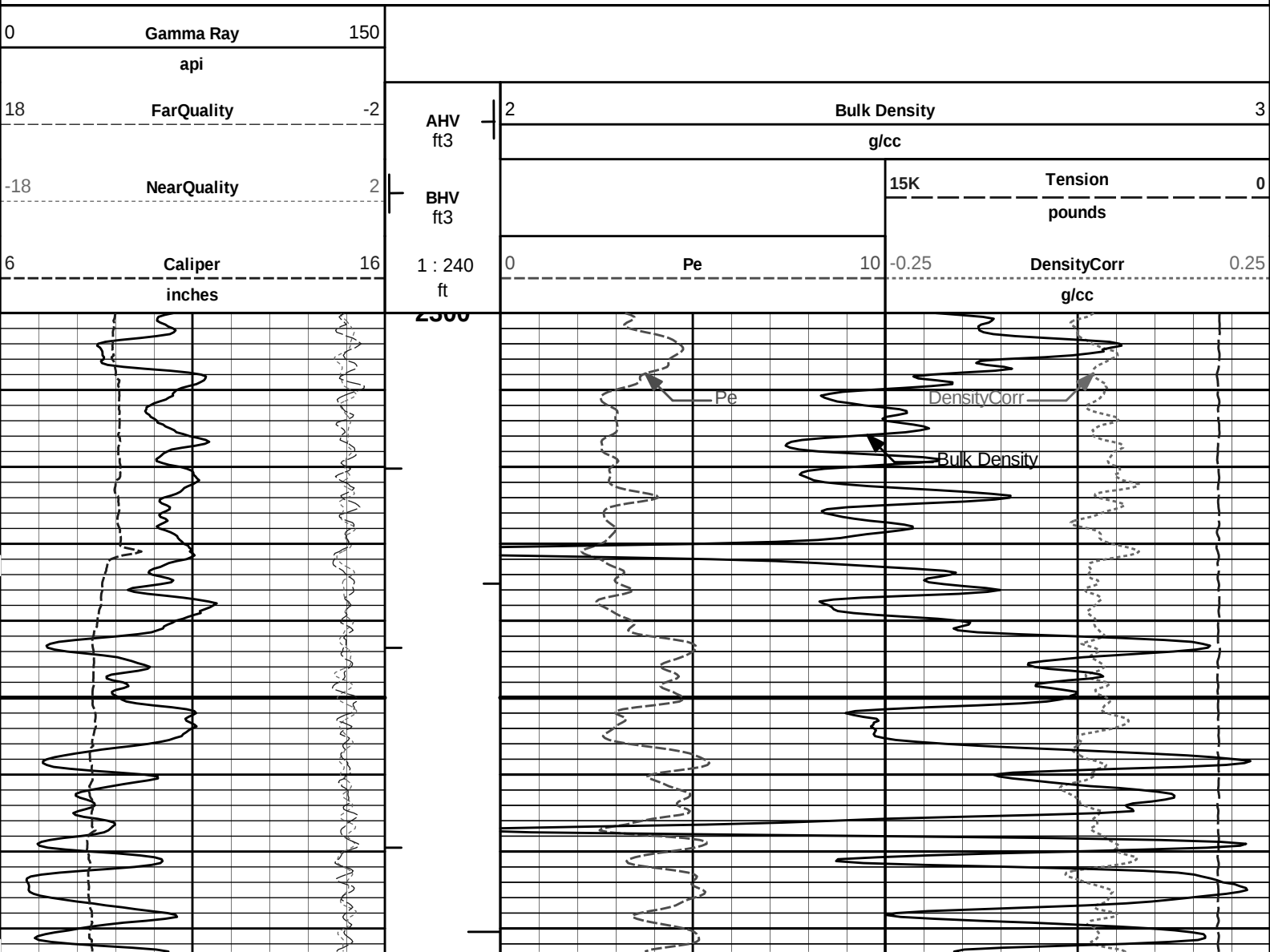
5" PER 100' REPEAT SECTION

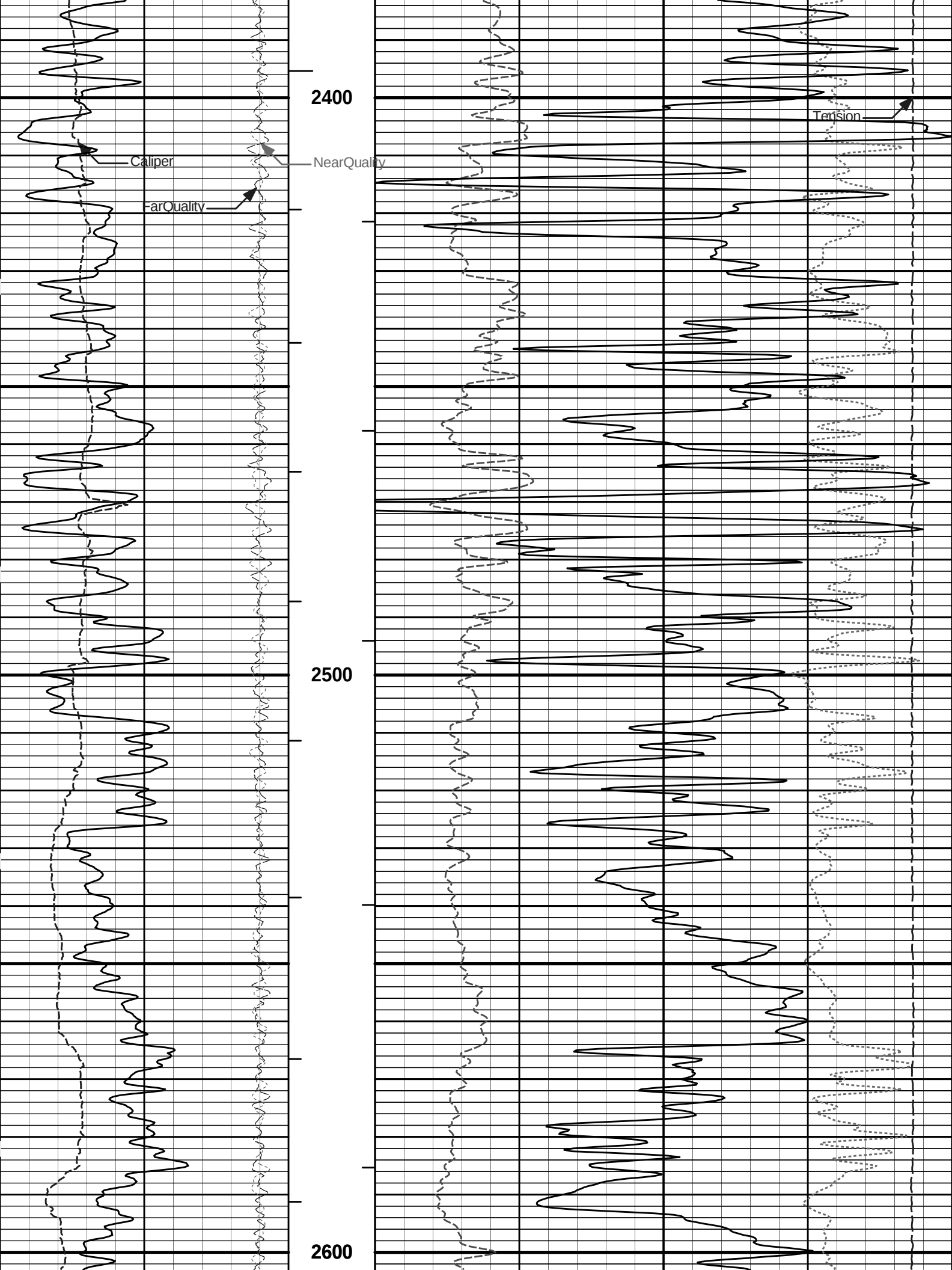
HALLIBURTON

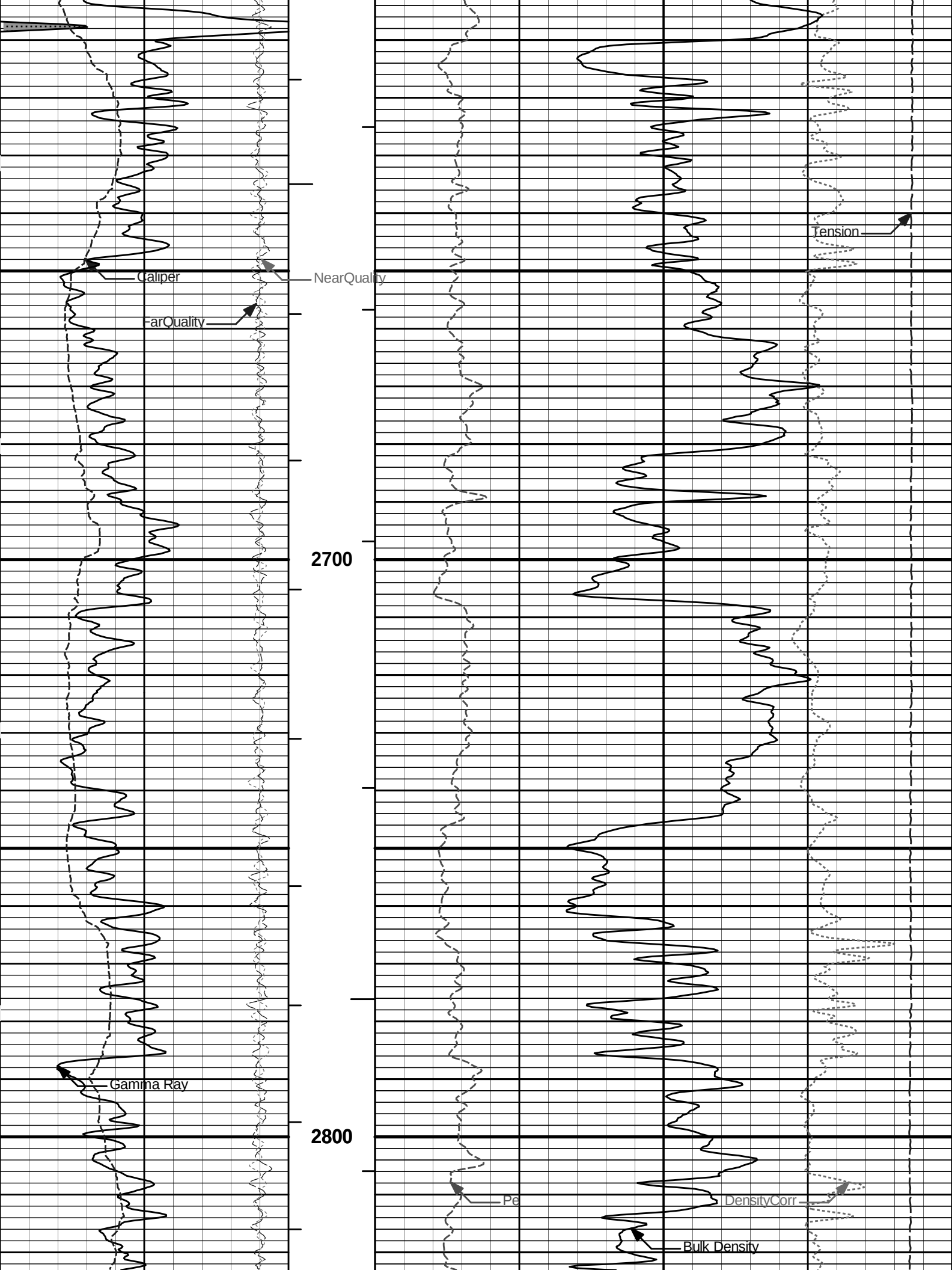
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Plot Range: 2300 ft to 4840.08 ft
Data: HART_DAMME_46\Well Based\DAQ-0001-007\
Plot File: \\-LOCAL-HART_DAMME_46\0001 BLACK-WBM-GTET-DSN-SDL-ACRT-CBHD\POROSITY\BULKD_5_MAIN_IQ

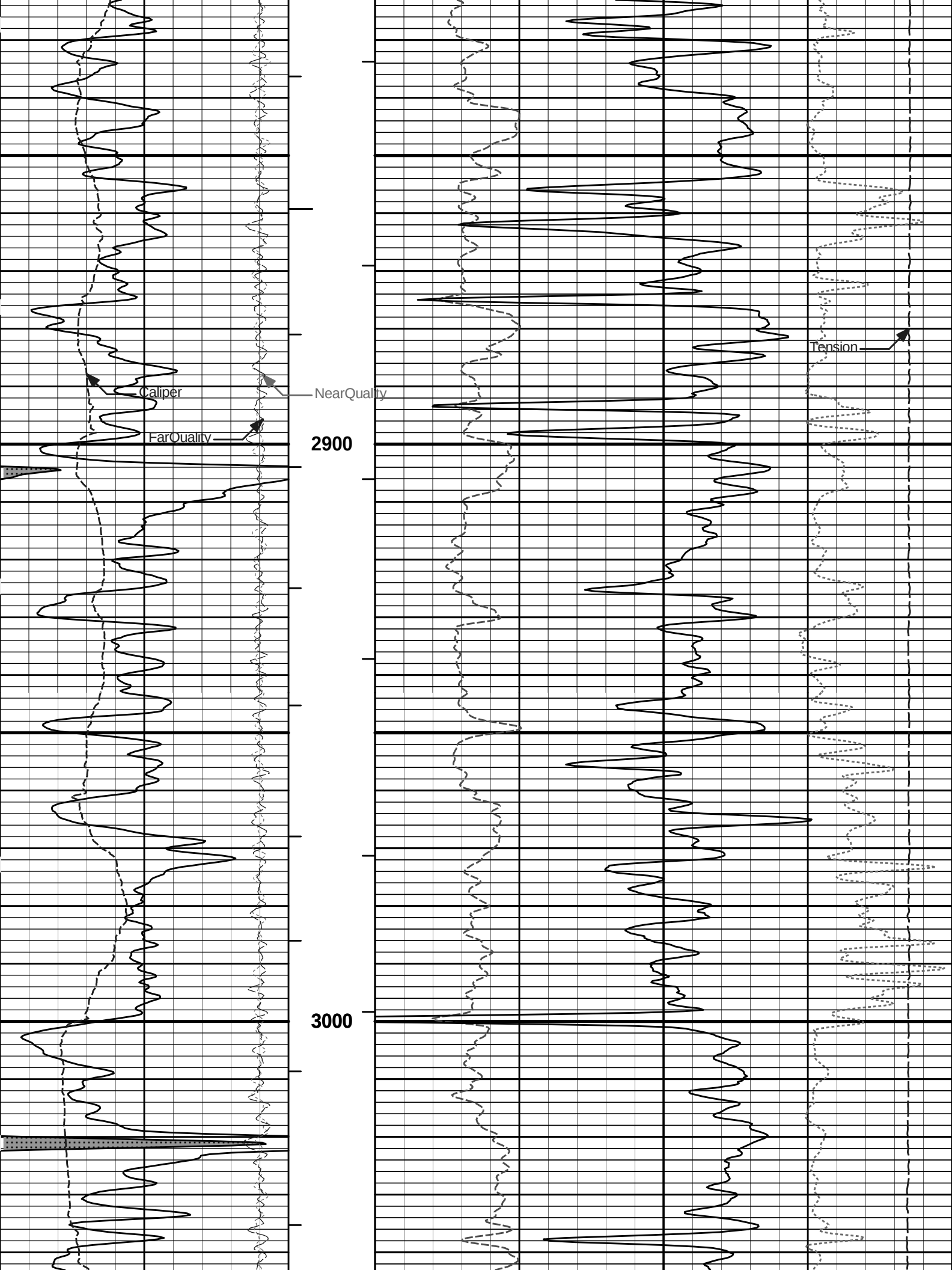
5 INCH MAIN LOG

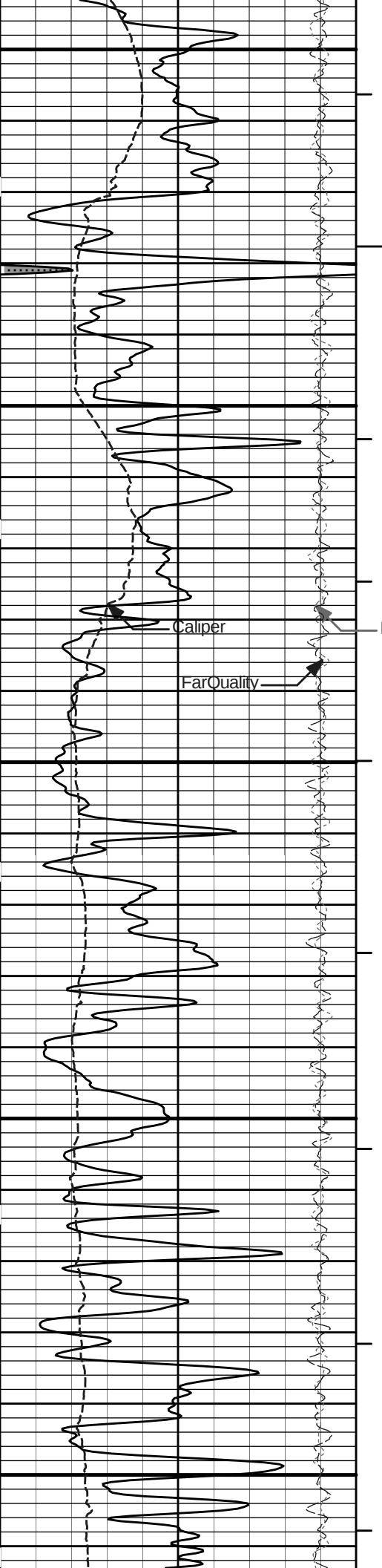
MAIN SECTION 5" PER 100'





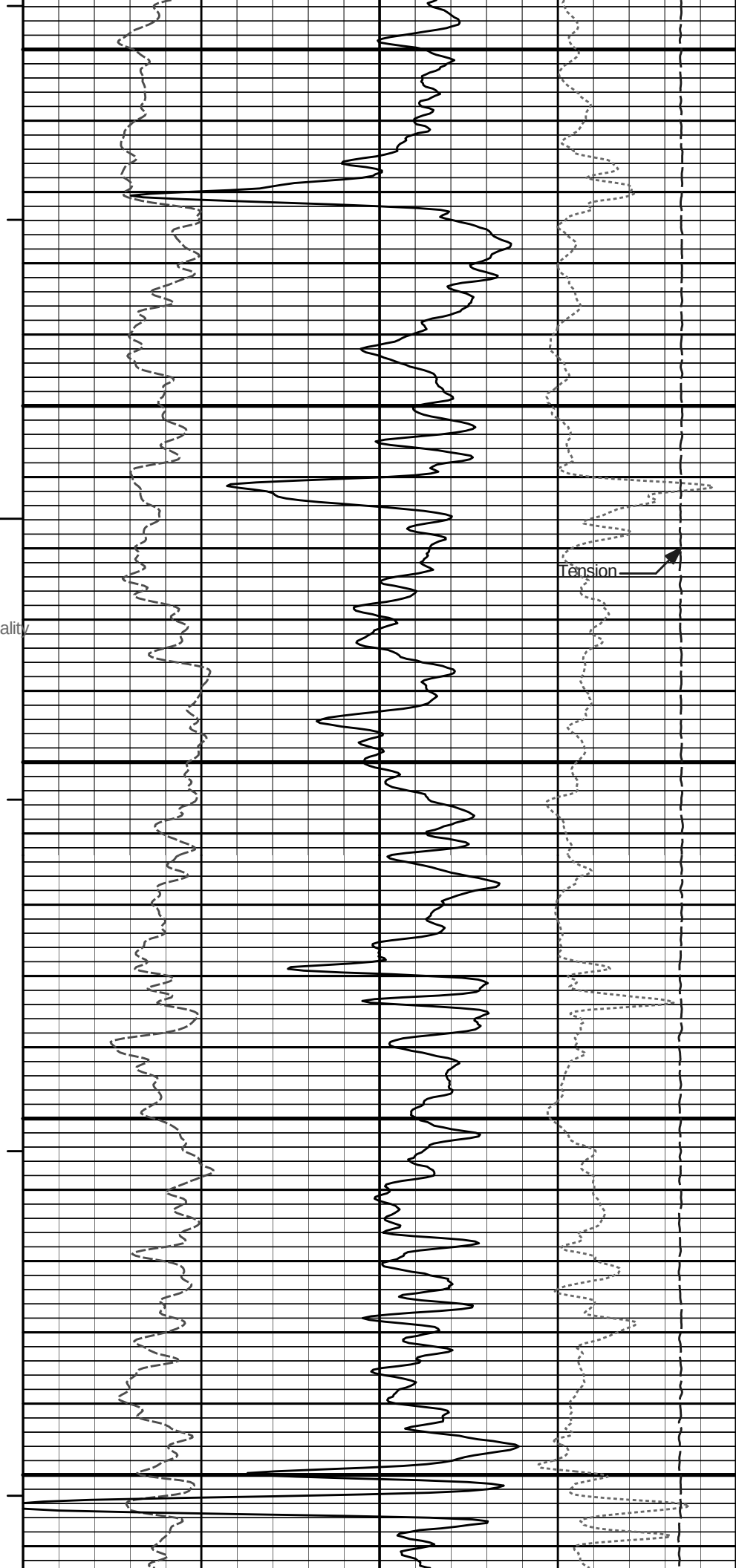


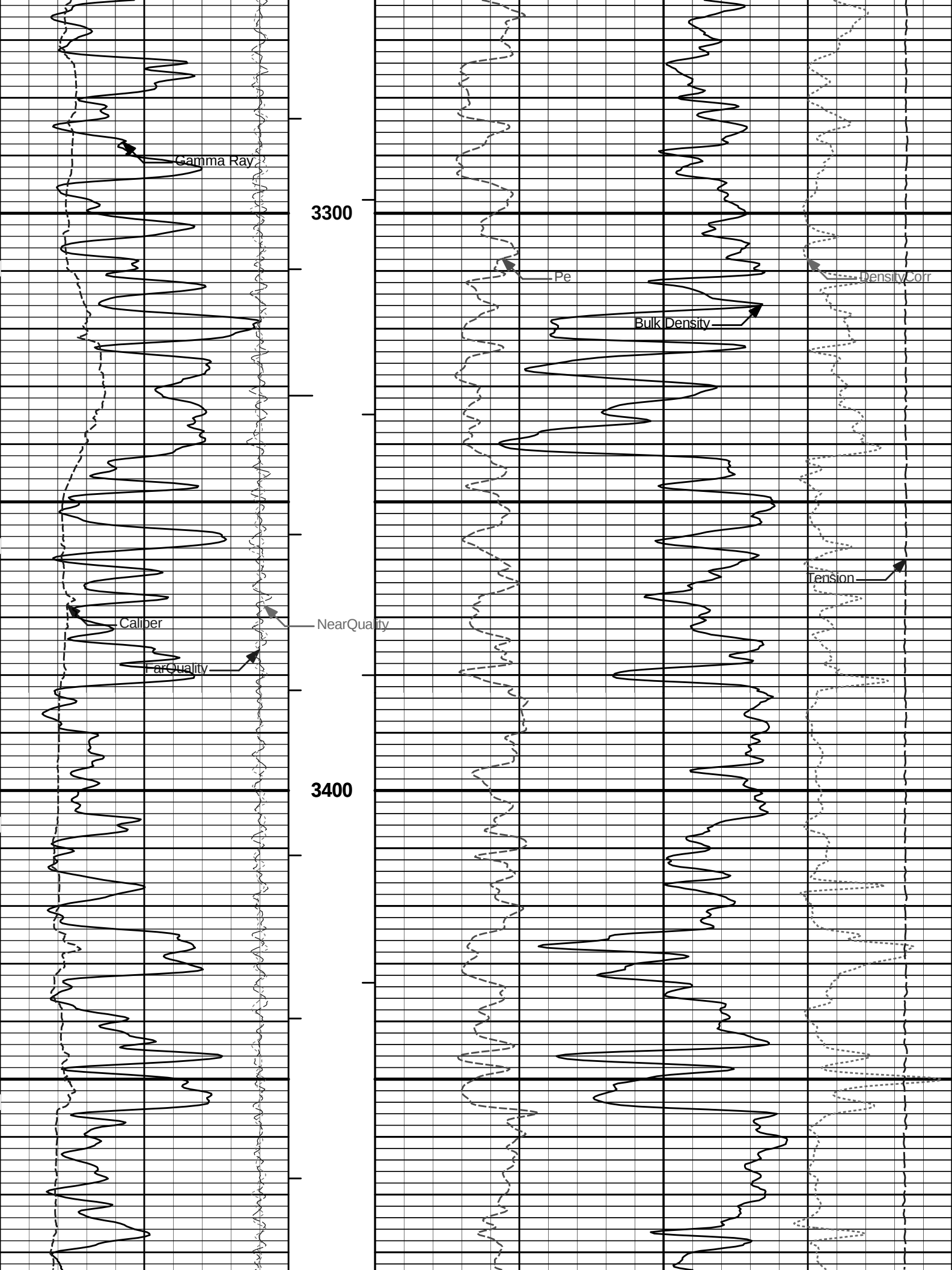


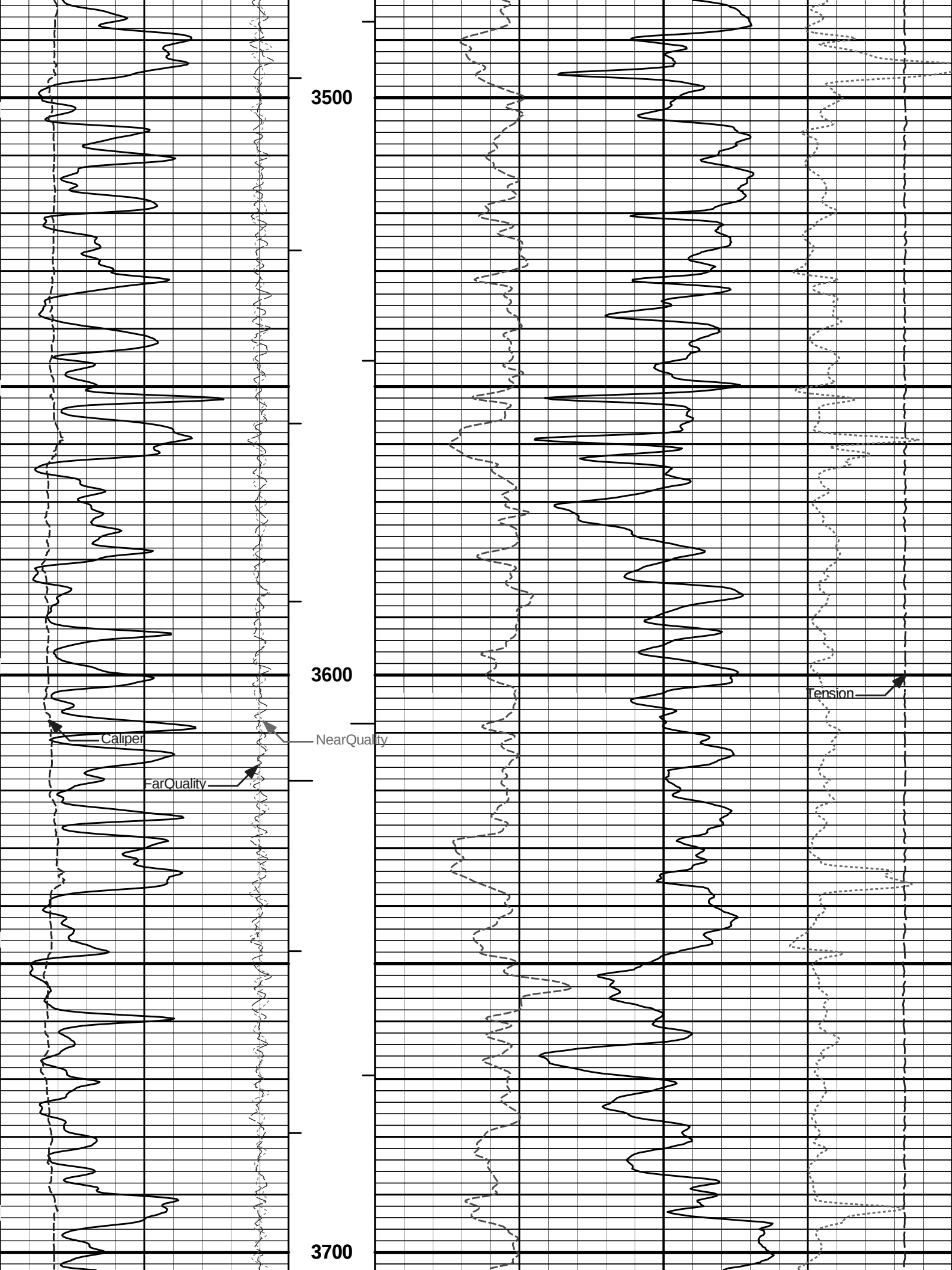


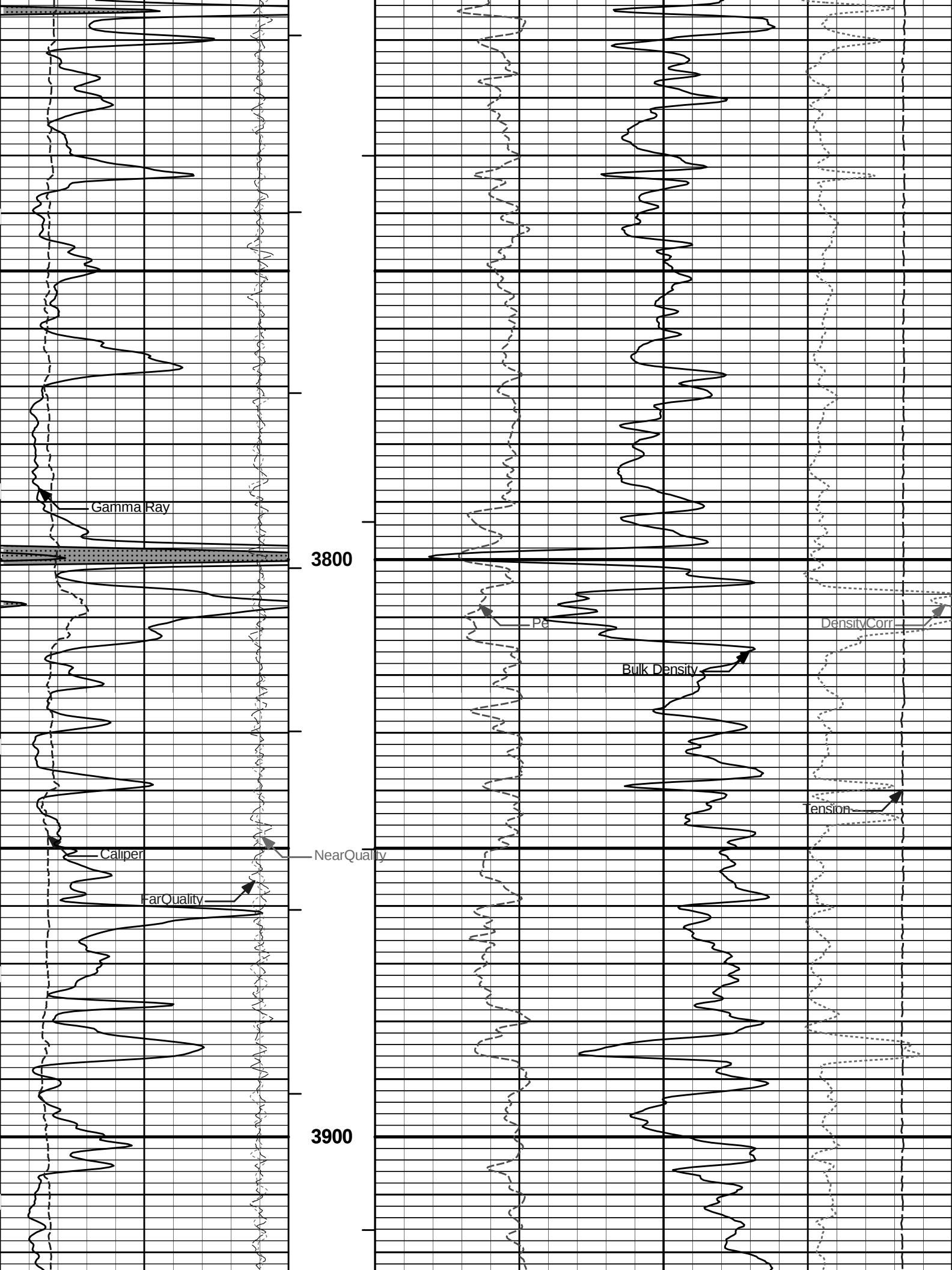
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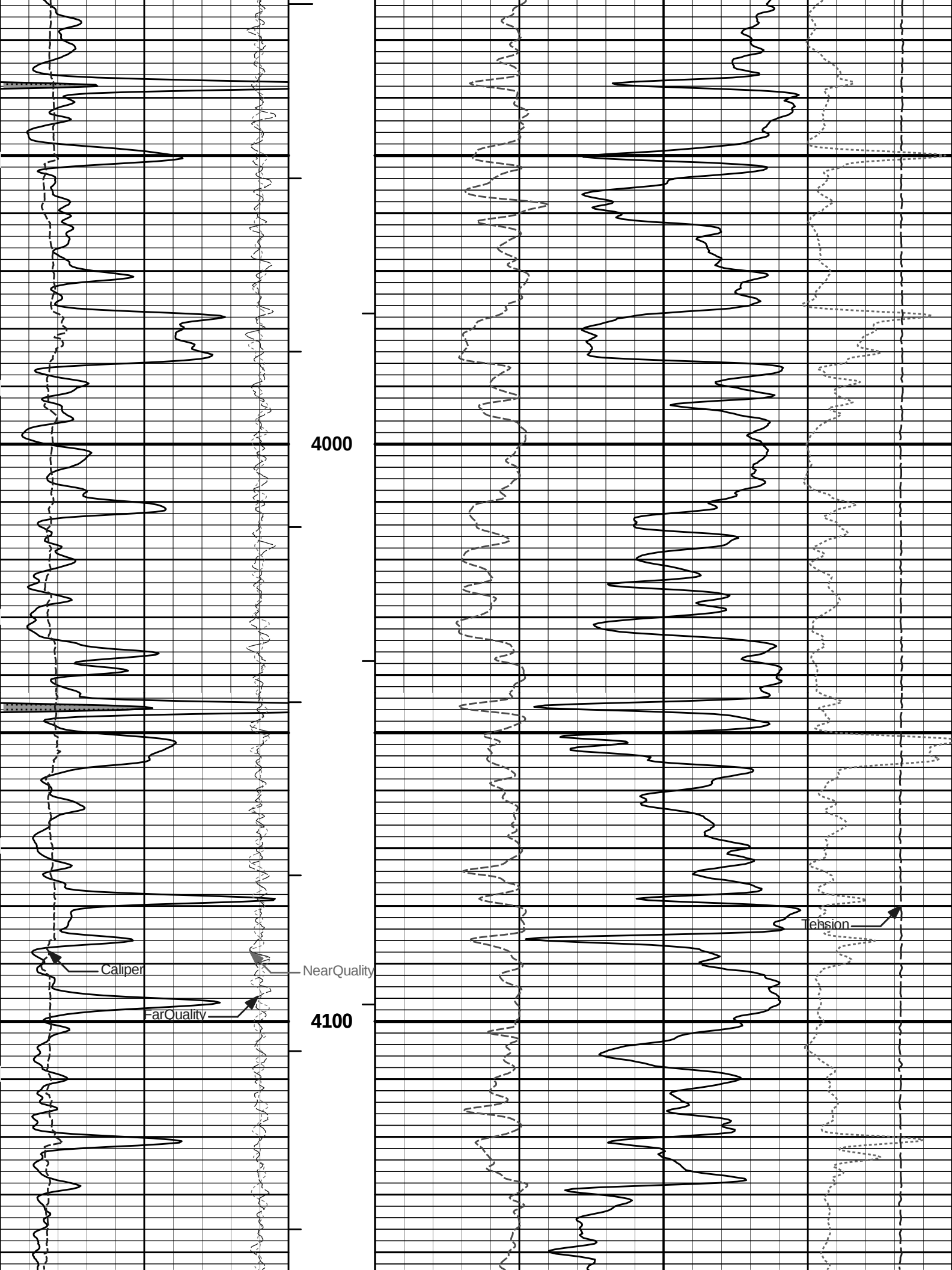
3200

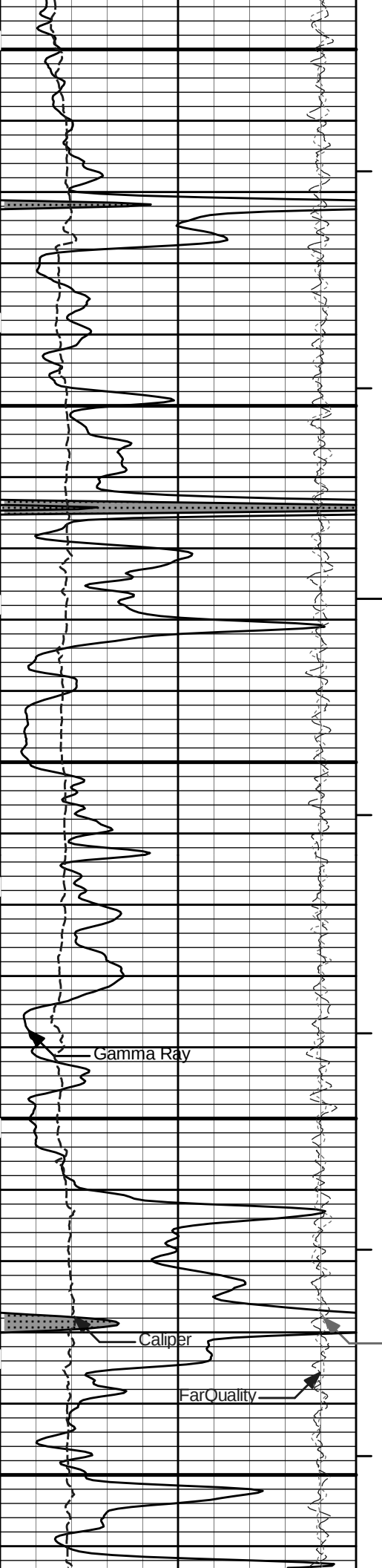






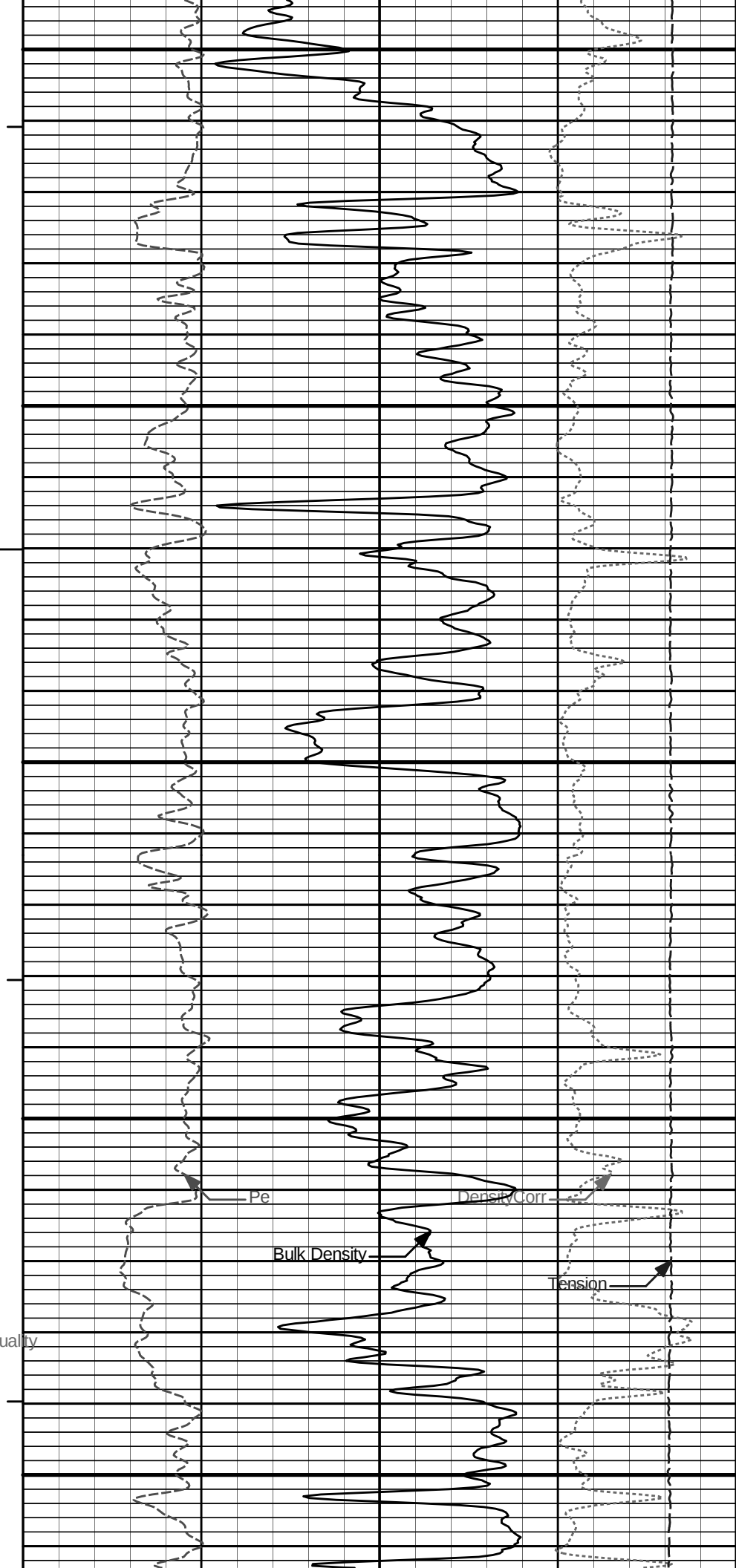


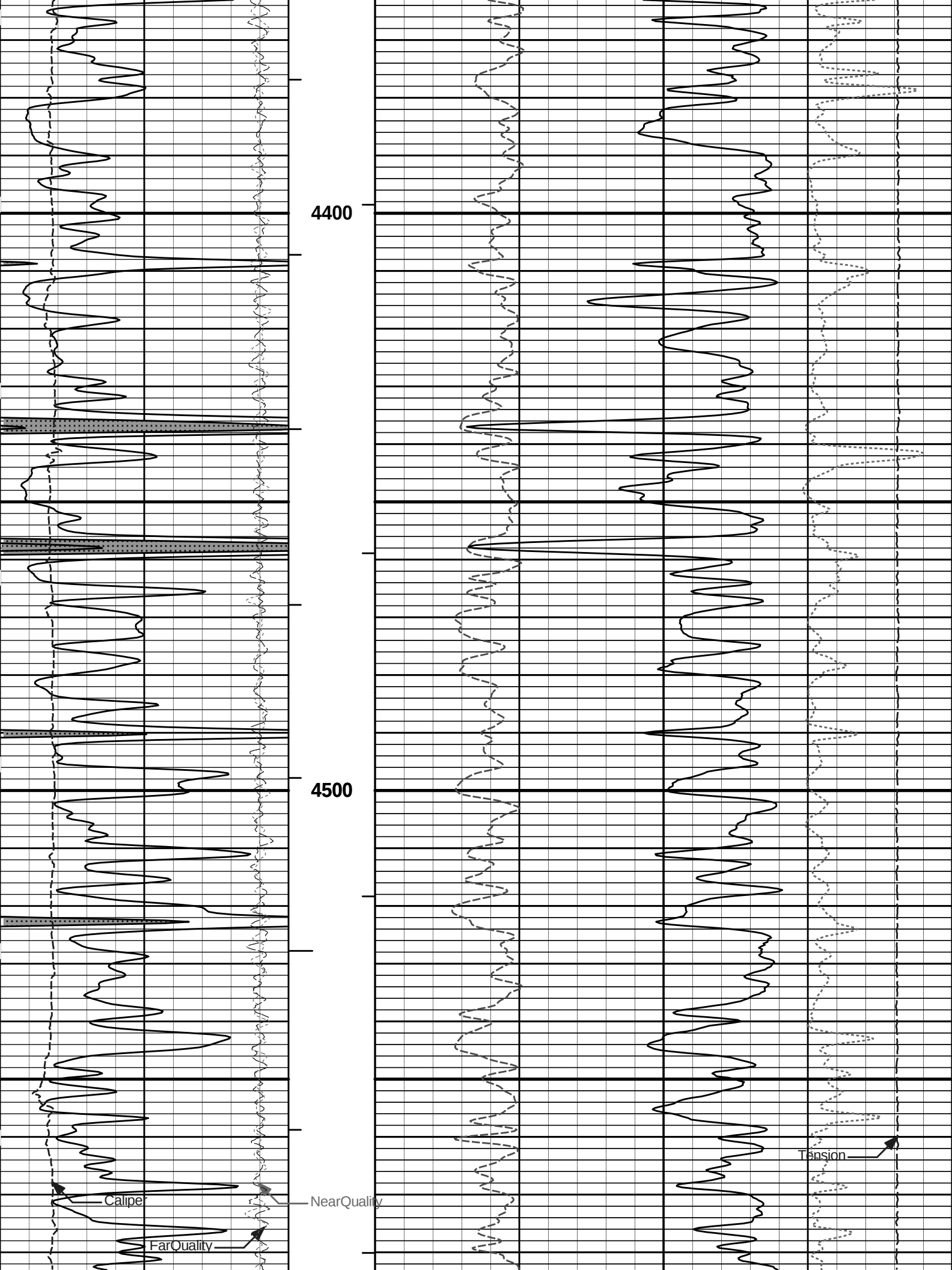


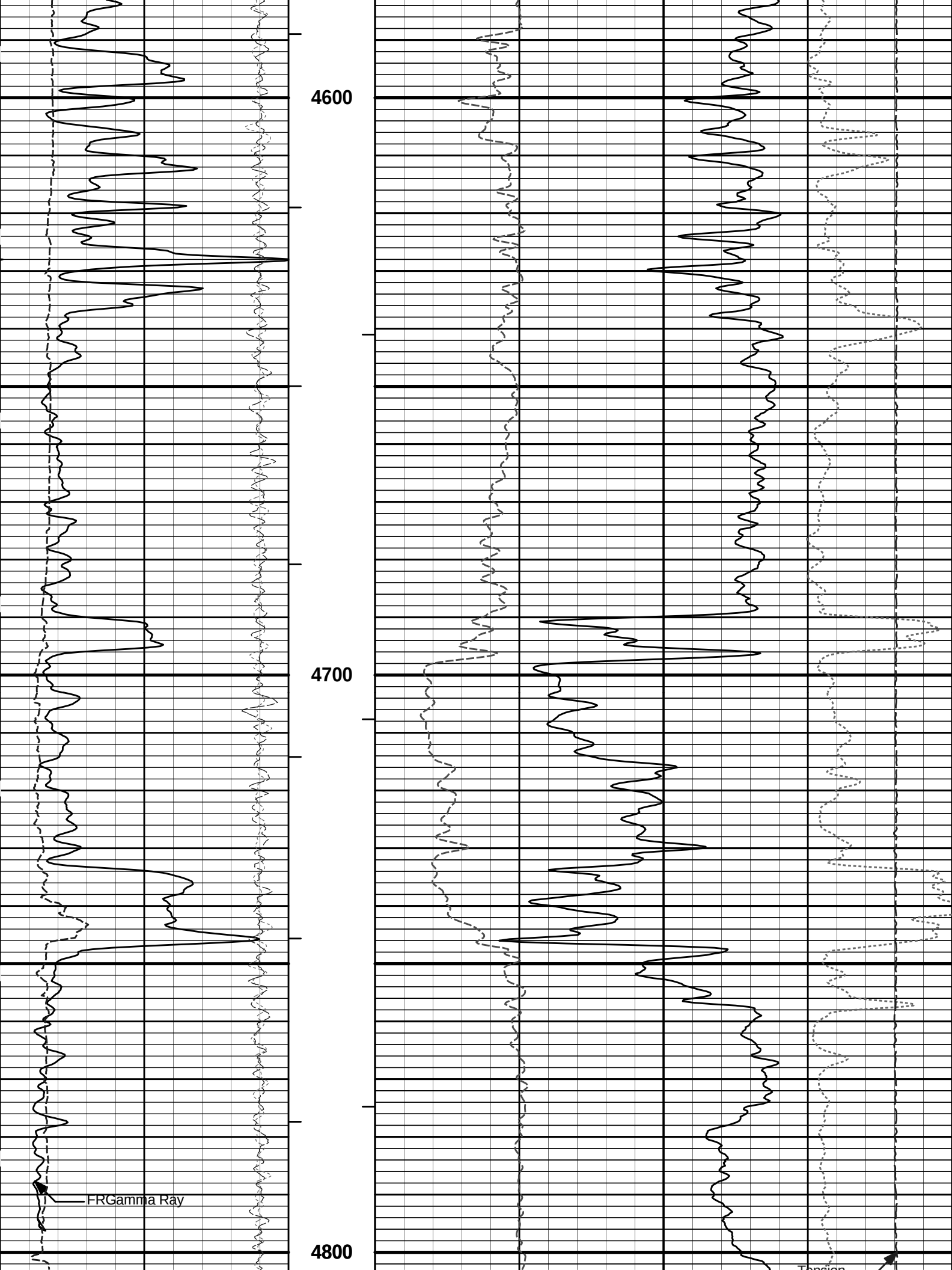


4200

4300





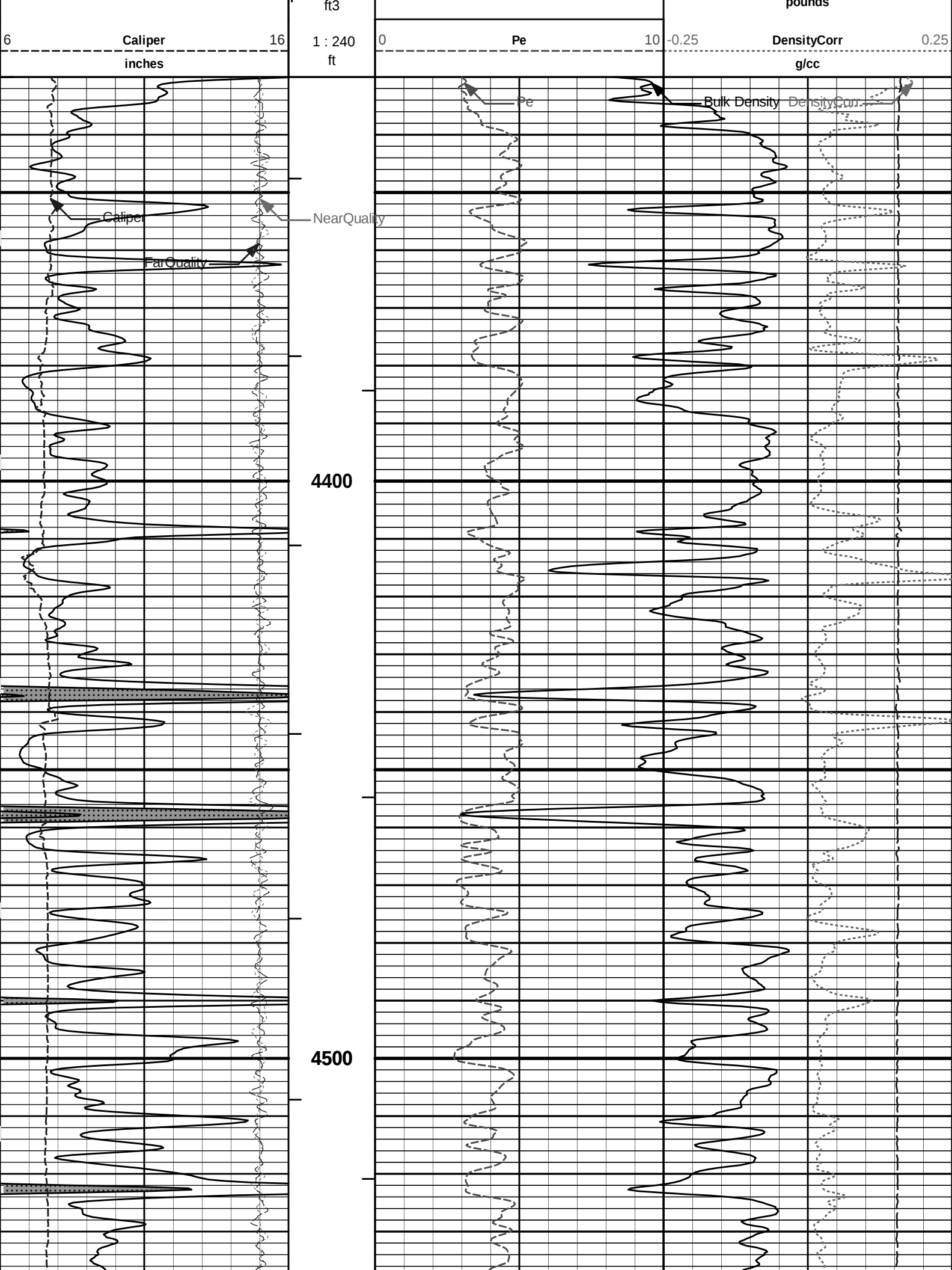


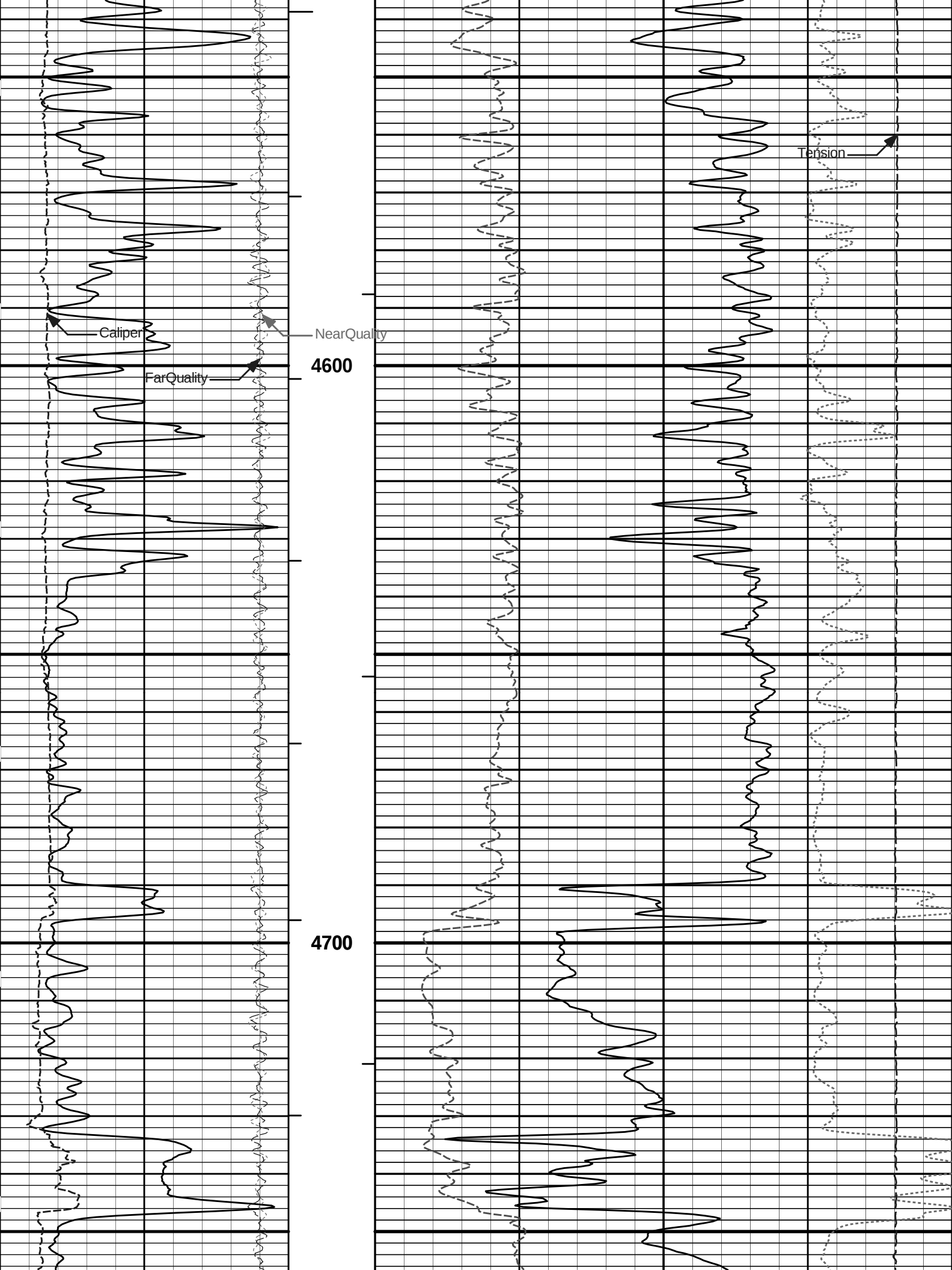
6	Caliper	16	1 : 240 ft	0	Pe	10	-0.25	DensityCorr	0.25	
	inches								g/cc	
-18	NearQuality	2		BHV ft3				15K	Tension	0
										pounds
18	FarQuality	-2	AHV ft3	2	Bulk Density					3
					g/cc					
0	Gamma Ray	150								
	api									

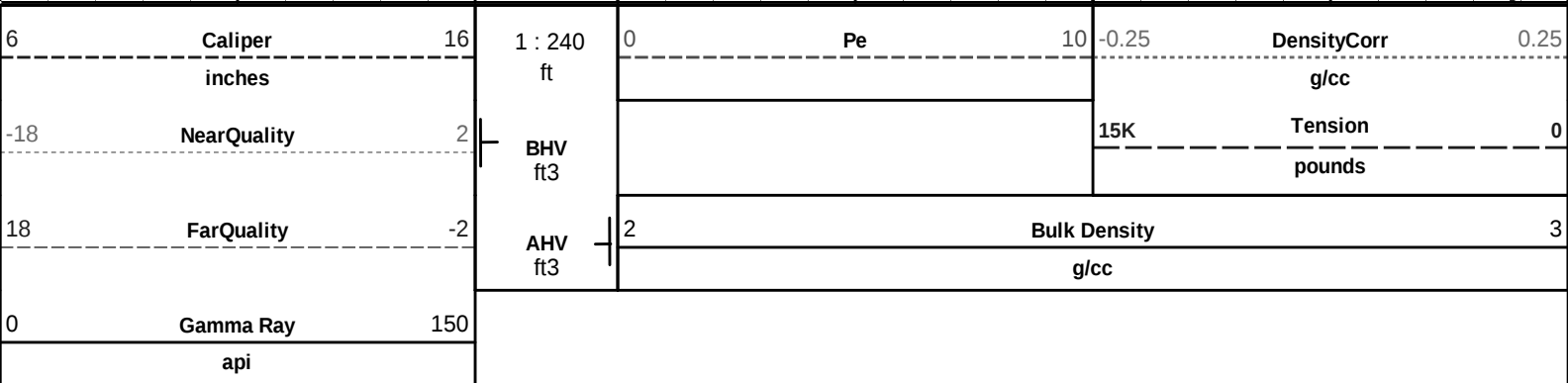
MAIN SECTION 5" PER 100'

5" PER 100' REPEAT SECTION

0		Gamma Ray		150														
		api																
18		FarQuality		-2		AHV ft3	2		Bulk Density						3			
							g/cc											
-18		NearQuality		2		BHV					15K		Tension				0	
											pounds							







Plot Time: 13-Mar-12 18:58:24
Plot Range: 4330 ft to 4858.08 ft
Data: HART_DAMME_46\Well Based\DAQ-0001-006\
Plot File: \\LOCAL\HART_DAMME_46\0001 BLACK-WBM-GTET-DSN-SDL-ACRT-CBHD\IPOROSITY\BULKD_5_REP_IQ

5 INCH REPEAT SECTION

5" PER 100' REPEAT SECTION

HALLIBURTON

CALIBRATION REPORT

SURFACE TENSION SHOP CALIBRATION

Tool Name: Depth Panel - PROT01		Reference Calibration Date: 13-Jan-08 19:31:38			
Engineer: WHITLOCK		Calibration Date: 26-Mar-09 09:42:21			
Software Version: WL INSITE R2.4 (Build 1)		Calibration Version: 1			
	SURFACE TENSION LOAD CELL				
	Measurement	Load Cell Value	Measurement	Calibrated	Units
	Low	9877.87	32908.03	0.00	lbs
	High	16448.28	55771.74	7800.00	lbs
DOWNHOLE TENSION SHOP CALIBRATION					
Tool Name: CH_HOS - CH_HOS_I		Reference Calibration Date: 07-Nov-11 21:53:28			
Engineer: WHITLOCK		Calibration Date: 10-Feb-12 05:29:34			
Software Version: WL INSITE R3.4.2 (Build 2)		Calibration Version: 1			
	DOWNHOLE LOAD CELL				
	Measurement	Tool Value	Measurement	Calibrated	Units
	Low	1695.54	-190.76	0.00	lbs
	High	9060.32	856.01	1076.00	lbs
NATURAL GAMMA RAY TOOL SHOP CALIBRATION					
Tool Name: GTET - 10971172		Reference Calibration Date: 07-Feb-12 10:09:50			
Engineer: WHITLOCK		Calibration Date: 27-Feb-12 09:55:44			
Software Version: WL INSITE R3.4.2 (Build 2)		Calibration Version: 1			
Calibrator Source S/N: TB-79					
Calibrator API Reference:222.00 api					
Equivalent Calibrator API Reference:225.9 api					
	Measurement		Measured	Calibrated	Units
	Background		34.1	34.3	api
	Background + Calibrator		258.2	260.2	api
	Calibrator		224.1	225.9	api
NATURAL GAMMA RAY TOOL FIELD CALIBRATION					
Tool Name: GTET - 10971172		Reference Calibration Date: 27-Feb-12 09:55:44			
Engineer: WHITLOCK		Calibration Date: 12-Mar-12 09:28:26			
Software Version: WL INSITE R3.4.2 (Build 2)		Calibration Version: 1			
Calibrator Source S/N: TB-79					
Calibrator API Reference:222.00 api					
Equivalent Calibrator API Reference:225.9 api					
	Field Verification		Shop	Field	Units
	Background		34.3	52.9	api
	Background + Calibrator		260.2	276.1	api
	Calibrator		225.9	223.2	api
	Shop		Field	Difference	Tolerance
	225.9		223.2	2.7	+/- 9.00
ACCELEROMETER SHOP CALIBRATION					
Tool Name: GTET - 10971172		Reference Calibration Date: 01-Jan-70 00:00:00			
Engineer: WHITLOCK		Calibration Date: 20-Oct-08 14:40:55			
Software Version: WL INSITE R2.2 (Build 2)		Calibration Version: 1			
	Horizontal-1 Telemetry		Horizontal-2 Telemetry	Vertical Telemetry	Units
	-85 64		-67 18	-16422 00	cnts

Coefficient	Coefficient Value	Tolerance
Gain	-0.000061	-----
Offset	-0.005	-----
Noise	0.0000	0.0000 - 0.0000

Orientation	Measured	Tolerance	Calibrated	Tolerance
Horizontal	-76.41	-0.10 - 0.10	0.00	-0.10 - 0.10
Vertical	-16422.00	0.90 - 1.10	1.00	0.90 - 1.10

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 10951378	Reference Calibration Date:	07-Feb-12 13:10:35
Engineer:	WHITLOCK	Calibration Date:	05-Mar-12 12:23:01
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Logging Source S/N: DSN-373
Tank Serial Number: FTSM HWT
Reference value assigned to Tank: 56.100
Snow Block S/N: 10975786
Calibration Tank Water Temperature: 75 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.009	1.006	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)				
Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2365	0.2358	0.0008	+/- 0.0020
Calibrated Ratio:	10.58	10.56	0.025	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0803	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name:	DSNT - 10951378	Reference Calibration Date:	05-Mar-12 12:23:01
Engineer:	WHITLOCK	Calibration Date:	12-Mar-12 09:32:51
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Logging Source S/N: DSN-373
Snow Block S/N: 10975786

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0803	0.0679	-0.0125	+/- 0.0150

PASS/FAIL SUMMARY			
Block Change Check:		Passed	
Snow Block Stat Check:		Passed	
Temperature Check:		Passed	

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - I378_M477_P870	Reference Calibration Date:	01-Nov-11 12:44:52
Engineer:	HOFKAMP	Calibration Date:	01-Nov-11 12:48:51
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1565.21	-1542.68	-7000.00 - -1000.00
Pad Gain	0.0003866	0.0003840	0.000200 - 0.000600
Arm Offset	-482.77	-456.98	-5000.00 - 3000.00
Arm Gain	0.0004767	0.0004734	0.000300 - 0.000700
Arm Power	-0.000002553	-0.000002353	-0.000010 - 0.000010

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)	3.77	3.75	-0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.49	6.50	0.01	+/- 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 - I378_M477_P870	Reference Calibration Date:	01-Nov-11 12:48:51
Engineer:	HOFKAMP	Calibration Date:	01-Nov-11 12:50:10
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.75	0.00	+/- 0.10
Ring Diameter	8.25	8.23	-0.02	+/- 0.15

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

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION			
Tool Name:	ACRt Sonde - I816_S708	Reference Calibration Date:	21-Sep-11 13:58:42
Engineer:	HOFKAMP	Calibration Date:	03-Jan-12 09:45:28

Software Version: WL INSITE R3.4.2 (Build 2)				Calibration Version: 1					
TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0353	1.05	0.95	1.0124	1.05	0.95	1.0031	1.05
A2 (50")	0.95	1.0437	1.05	0.95	1.0210	1.05	0.95	1.0094	1.05
A3 (29")	0.95	1.0354	1.05	0.95	1.0124	1.05	0.95	1.0009	1.05
A4 (17")	0.95	1.0255	1.05	0.95	1.0019	1.05	0.95	0.9959	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9971	1.05	0.95	0.9892	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9959	1.05	0.95	0.9887	1.05
TYPICAL SONDE OFFSET RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	0.928	2	-6	-4.573	-2	-8	-5.812	-2
A2 (50")	-7	0.314	-1	-6	-3.738	-2	-7	-5.333	-2
A3 (29")	-27	-12.244	-9	-9	-4.322	-3	-7	-4.343	-1
A4 (17")	-180	-99.972	-60	-45	-31.306	-15	-39	-24.956	-13
A5 (10")	N/A	N/A	N/A	-150	-99.875	-50	-80	-47.603	-10
A6 (6")	N/A	N/A	N/A	175	327.313	525	90	166.084	270
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
Signal	Lower		R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)	
12K		0.6	0.8154	1.3	Mud Cell	0.95	1.004	1.05	
36K		1.0	1.1504	2.0					
72K		1.0	1.3123	2.0					
SPECTRAL DENSITY SHOP CALIBRATION									
Tool Name:	SDLT Pad - I378_M477_P870				Reference Calibration Date:	07-Feb-12 10:44:34			
Engineer:	WHITLOCK				Calibration Date:	05-Mar-12 10:04:59			
Software Version:	WL INSITE R3.4.2 (Build 2)				Calibration Version:	1			
Logging Source S/N: 20784B									
Aluminum Block S/N: FTSM AL BLOCK				Density: 2.581g/cc				Pe: 3.170	
Magnesium Block S/N: FTSM MG BLOCK				Density: 1.687g/cc				Pe: 2.594	
DENSITY CALIBRATION SUMMARY									
Measurement		Previous Value		New Value		Control Limit			
Near Bar Gain		1.0295		1.0402		0.90 - 1.10			
Near Dens Gain		1.0210		1.0433		0.90 - 1.10			
Near Peak Gain		1.0285		1.0808		0.90 - 1.10			
Near Lith Gain		1.0504		1.0861		0.90 - 1.10			
Far Bar Gain		1.0096		1.0107		0.90 - 1.10			
Far Dens Gain		1.0022		1.0030		0.90 - 1.10			
Far Peak Gain		0.9978		0.9996		0.90 - 1.10			
Far Lith Gain		0.9872		0.9798		0.90 - 1.10			
Near Bar Offset		-0.0854		-0.1837		NONE			
Near Dens Offset		-0.0149		-0.2146		NONE			
Near Peak Offset		-0.0798		-0.5189		NONE			
Near Lith Offset		-0.2768		-0.5818		NONE			
Far Bar Offset		0.0320		0.0197		NONE			

Far Dens Offset	0.0782	0.0658	NONE
Far Peak Offset	0.0898	0.0656	NONE
Far Lith Offset	0.1440	0.1823	NONE
Near Bar Background	901.39	900.68	700 - 1450
Near Dens Background	295.56	293.31	230 - 480
Near Peak Background	128.95	128.47	100 - 210
Near Lith Background	158.39	157.51	125 - 260
Far Bar Background	543.29	546.24	450 - 900
Far Dens Background	211.48	212.31	175 - 345
Far Peak Background	83.59	84.47	70 - 140
Far Lith Background	87.68	87.24	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.682	1.687	0.005	+/- 0.015
Pe	2.541	2.554	0.013	+/- 0.150
ALUMINUM				
Density (g/cc)	2.579	2.581	0.002	+/- 0.01500
Pe	3.069	3.127	0.058	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0015	+/- 0.0110	-0.0027	+/- 0.0140
Magnesium Block	-0.0015	+/- 0.0110	0.0002	+/- 0.0140
Aluminum Block	-0.0007	+/- 0.0110	0.0002	+/- 0.0140
Resolution	9.12	6.00 - 11.50	8.62	6.00 - 11.50
Internal Verifier(B+D+P+L)	1480	1200 - 2700	930	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 - I378_M477_P870	Reference Calibration Date:	05-Mar-12 10:04:59
Engineer:	WHITLOCK	Calibration Date:	12-Mar-12 09:38:31
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Pad Temperature: 50.5 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1479.967	1477.747	-2.220	15.508

Far (B+D+P+L) cps	930.256	930.978	0.722	16.502
Near Resolution	9.12	9.26	0.140	0.50
Far Resolution	8.62	9.13	0.510	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 - I378_M477_P870	Reference Calibration Date:	15-Dec-11 10:52:18
Engineer:	WHITLOCK	Calibration Date:	16-Feb-12 13:59:17
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

CALIBRATION COEFFICIENT SUMMARY					
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.18	-0.14	-0.00	-0.00	ohmm
Calibration Point #1	-0.04	0.00	-0.00	0.00	ohmm
Calibration Point #2	19.96	20.00	19.99	20.00	ohmm
Internal Reference	19.81	19.86	19.99	20.00	ohmm
Measurement	Micro Log Normal Tool Value		Micro Log Lateral Tool Value		Units
Tool Zero	0.43		0.82		V
Calibration Point #1	37.45		1.94		V
Calibration Point #2	5295.78		6863.62		V
Internal Reference	5257.79		6861.95		V

MICRO LOG FIELD CHECK			
Tool Name:	Microlog Pad - I378_M477_P870	Reference Calibration Date:	16-Feb-12 13:59:17
Engineer:	WHITLOCK	Calibration Date:	12-Mar-12 09:38:40
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Shop	Field	Shop	Field	
Tool Zero	-0.14	-0.14	-0.00	-0.00	ohmm
Internal Reference	19.86	19.81	20.00	19.95	ohmm
Summary					
Signal	Shop	Field	Difference		Tolerance
Microlog Normal	19.86	19.81	0.05		+/- 0.80
Microlog Lateral	20.00	19.95	0.05		+/- 0.80

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
Depth Panel-PROT01						
Tension Zero	0.00	-----	-----	0.00	-----	lbs
Tension Cal	7800.00	-----	-----	0.00	-----	lbs
CH_HOS-CH_HOS_I						
DH Tension Zero	0.00	-----	-----	0.00	-----	lbs
DH Tension Cal	1076.00	-----	-----	0.00	-----	lbs
GTET-10971172						
Gamma Ray Calibrator	225.9	223.2	-----	2.7	+/- 9.00	api

DSNT-10951378						
Snow-Block Porosity	0.0803	0.0679	-----	0.0124	+/- 0.0150	decp
SDLT-I378_M477_P870						
Pad Extension	3.75	3.75	-----	0.00	+/-0.10	in
Ring Diameter	8.25	8.23	-----	0.020	+/-0.15	in
ACRt Sonde-I816_S708						
Mud Cell	1.004	-----	-----	0.000	-----	ohm-m
SDLT Pad-I378_M477_P870						
Near(B+D+P+L)	1479.967	1477.747	-----	2.220	+/-15.508	cps
Far(B+D+P+L)	930.256	930.978	-----	-0.722	+/-16.502	cps
Microlog Pad-I378_M477_P870						
MicroLog Normal	19.86	19.81	-----	0.05	+/-0.80	ohmm
MicroLog Lateral	20.00	19.95	-----	0.05	+/-0.80	ohmm
Data: HART_DAMME_46\0001 BLACK-WBM-GTET-DSN-SDL-ACRT-CBHD\IDLE					Date: 13-Mar-12 13:48:32	

HALLIBURTON

PARAMETERS REPORT

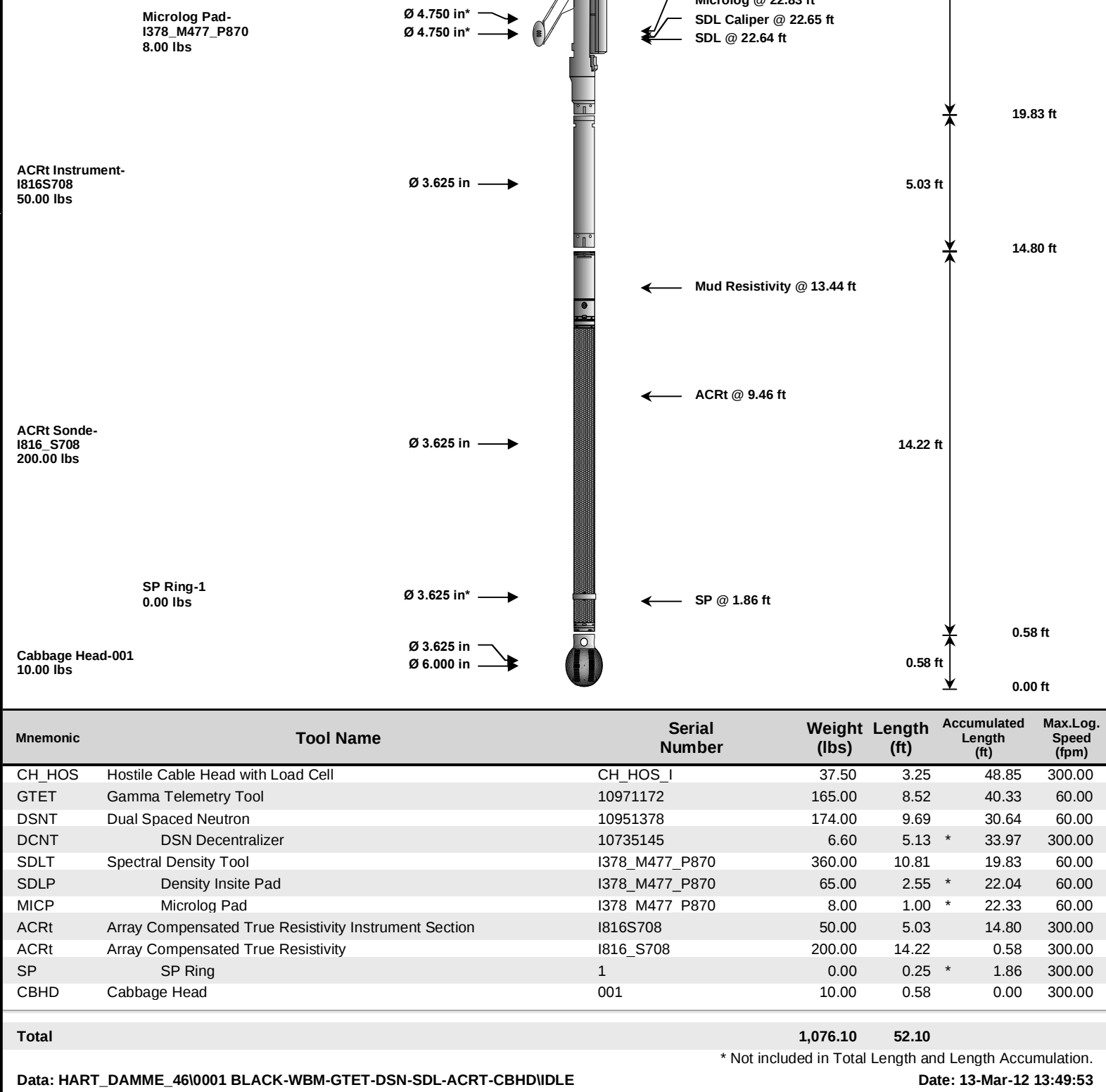
Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.200	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	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	0.850	ohmm
	SHARED	TRM	Temperature of Mud	85.0	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	4850.00	ft
	SHARED	BHT	Bottom Hole Temperature	125.0	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	
	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	0.200	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		
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		
BOTTOM					
Data: HART_DAMME_46\0001 BLACK-WBM-GTET-DSN-SDL-ACRT-CBHD\IDLE				Date: 13-Mar-12 13:49:28	

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TOOL STRING DIAGRAM REPORT

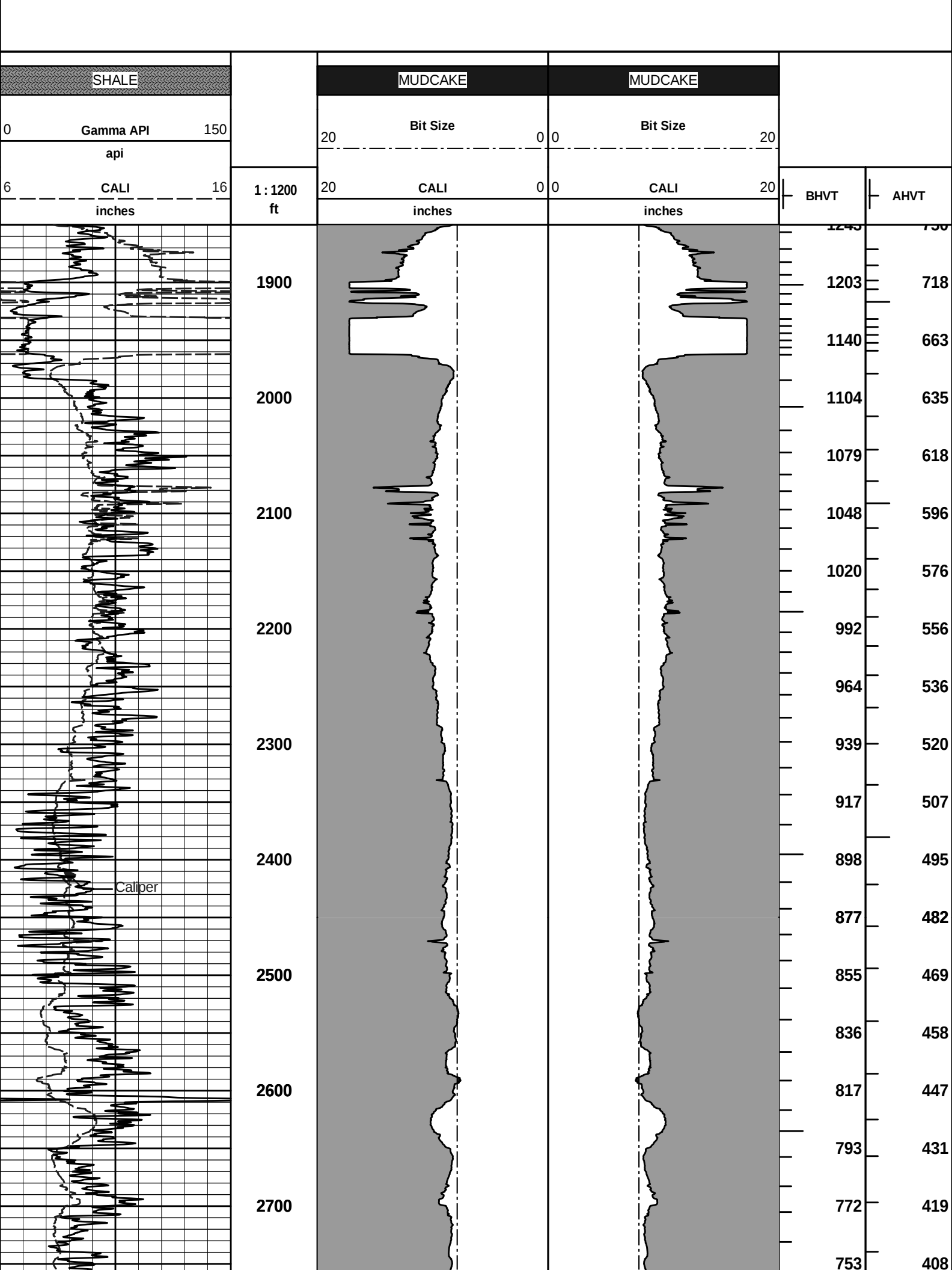
Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS_I 37.50 lbs		Ø 2.750 in →		← Temperature @ 50.85 ft	3.25 ft	52.10 ft
						48.85 ft
GTET-10971172 165.00 lbs		Ø 3.625 in →		← GammaRay @ 42.79 ft	8.52 ft	
						40.33 ft
DSNT-10951378 174.00 lbs	DSN Decentralizer- 10735145 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 33.39 ft ← DSN Near @ 32.64 ft	9.69 ft	
						30.64 ft
SDLT- I378_M477_P870 360.00 lbs	SDLT Pad- I378_M477_P870 65.00 lbs	Ø 4.500 in →		← Microlog @ 22.82 ft	10.81 ft	

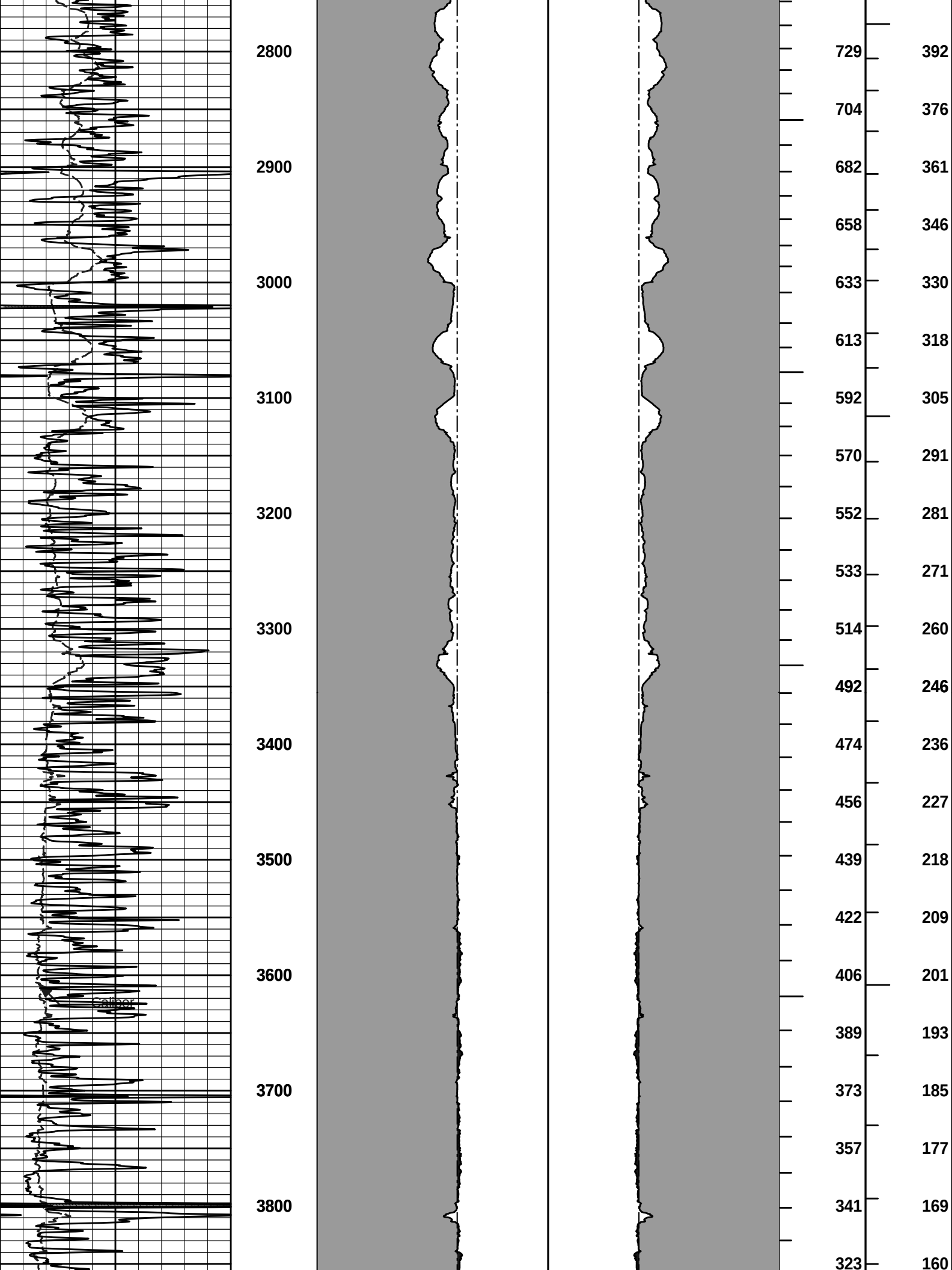


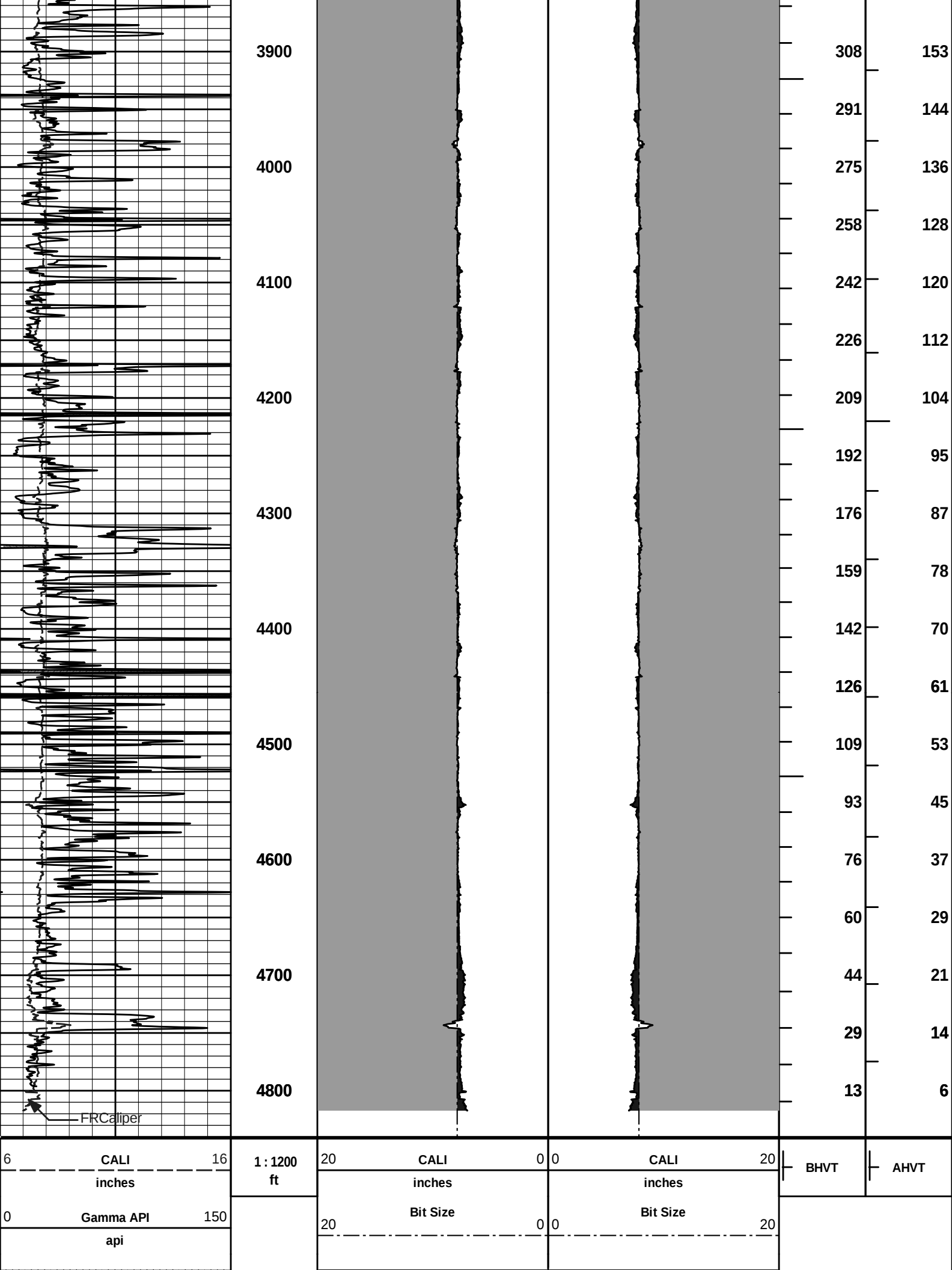
Plot Time: 13-Mar-12 18:58:26
Plot Range: 1850 ft to 4840.08 ft
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Plot File: \\LOCAL-I\HART_DAMME_46\0001 BLACK-WBM-GTET-DSN-SDL-ACRT-CBHD\POROSITY\AHV Plot_INSITE_IQ

ANNULAR HOLE VOLUME PLOT

AHV PLOT CALCULATED FOR 5.5" CASING







SHALE

MUDCAKE

MUDCAKE

HALLIBURTON

Plot Time: 13-Mar-12 18:58:28
Plot Range: 1850 ft to 4840.08 ft
Data: HART_DAMME_46\Well Based\DAQ-0001-007\
Plot File: \\-LOCAL-HART_DAMME_46\0001 BLACK-WBM-GTET-DSN-SDL-ACRT-CBHD\POROSITY\AHV Plot_INSITE_IQ

ANNULAR HOLE VOLUME PLOT

AHV PLOT CALCULATED FOR 5.5" CASING