

HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

COMPANY	OXY USA INC
WELL	FEIGHT A-7
FIELD	VICTORY
COUNTY	HASKELL
STATE	KANSAS
COMPANY	OXY USA INC
WELL	FEIGHT A-7
FIELD	VICTORY
COUNTY	HASKELL
STATE	KANSAS
API No.	15-081-21984
Location	660' FNL & 1980' FEL
Other Services:	MICRO BSAT ACRT
Secl.	27
Twp.	29S
Rge.	33W
Permanent Datum	GL
Log measured from	KB
Drilling measured from	KB
Elev.	2940.0 ft
Elev. K.B.	2955.0 ft
D.F.	2954.0 ft
G.L.	2940.0 ft

Date	03-Jul-12
Run No.	ONE
Depth - Driller	5659.00 ft
Depth - Logger	5645.0 ft
Bottom - Logged Interval	5607.0 ft
Top - Logged Interval	4000.0 ft
Casing - Driller	8.625 in @ 1824.0 ft
Casing - Logger	1820.0 ft
Bit Size	7.875 in @
Type Fluid in Hole	WATER BASED MUD
Density	9.2 ppg 58.00 s/qt
PH	9.40 pH 7.8 cp/m
Source of Sample	FLOWLINE
Rm @ Meas. Temperature	0.860 ohmm @ 80.00 degF @
Rmf @ Meas. Temperature	0.85 ohmm @ 72.00 degF @
Rmc @ Meas. Temperature	1.100 ohmm @ 72.00 degF @
Source Rmf	MEASURED MEASURED
Rm @ BHT	0.59 ohmm @ 146.0 degF @
Time Since Circulation	15.1 hr
Time on Bottom	03-Jul-12 07:35
Max. Rec. Temperature	146.0 degF @ 0.6 ft @
Equipment	10782954 LIBERAL
Recorded By	C. HAVERKAMP
Witnessed By	D. PRATT

Fold here

Service Ticket No.: 9626301		API Serial No.: 15-081-21984		PGM Version: WL INSITE R3.6.0 (Build 3)					
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.	10811258	Serial No.		Serial No.	90	Serial No.	10735145		
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.	T-102	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU		
Type	SCINT			Source Type	CS137	Source Type	AM241BE		
Length	8"	LSA [Y/N]		Serial No.	5073GW	Serial No.	DSN-436		
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI		
LOGGING DATA									
GENERAL		GAMMA		ACOUSTIC		DENSITY		NEUTRON	

Run No.	GENERAL		Speed ft/min	GAMMA		ACOUSTIC		Matrix	DENSITY		NEUTRON		Matrix	
	Depth			L	R	L	R		Scale		L	R		
	From	To							L	R				
ONE	TD	4000'	REC	0	150				30	-10	2.71	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @ _____ KOP @ _____

Remarks: SP-GTET-DSNT-SDLT-BSAT-ACRT RAN IN COMBINATION.

ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

CHLORIDES REPORTED AT 4000 MG/L.

LCM REPORTED AT 3 LB/BBL.

YOUR CREW: F. VILLA, B. TERRELL

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES. LIBERAL, KS 620-624-8123

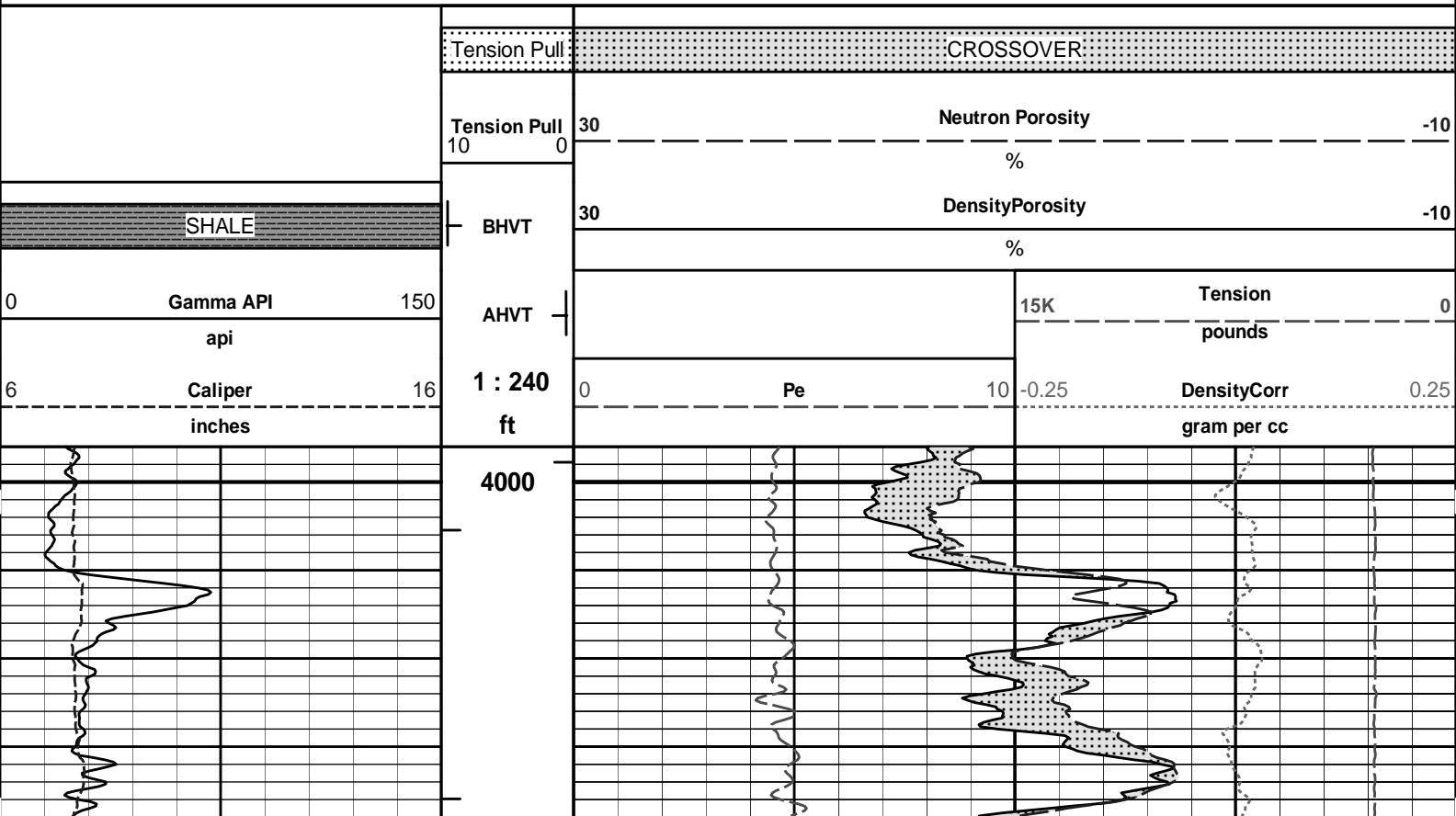
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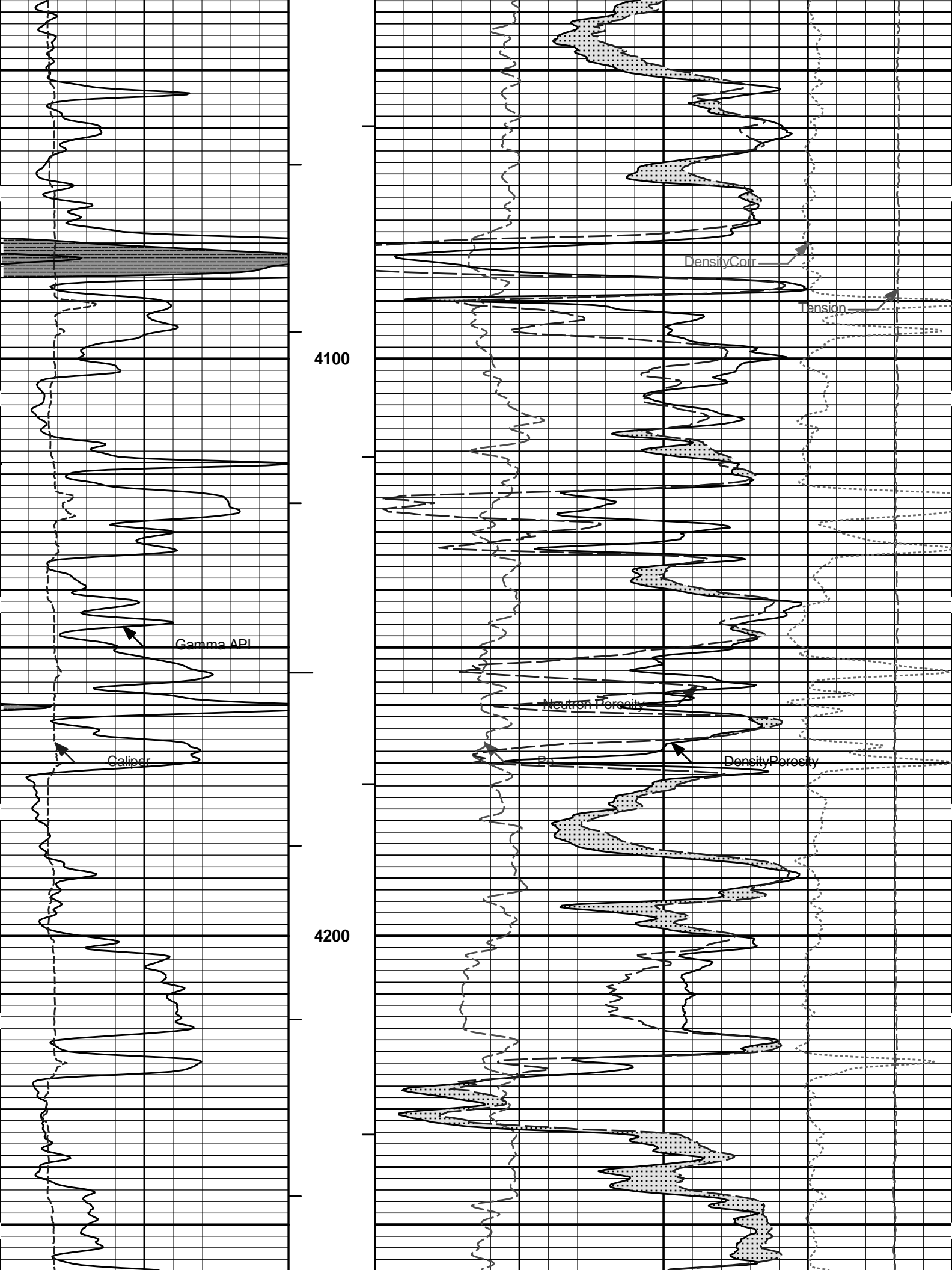
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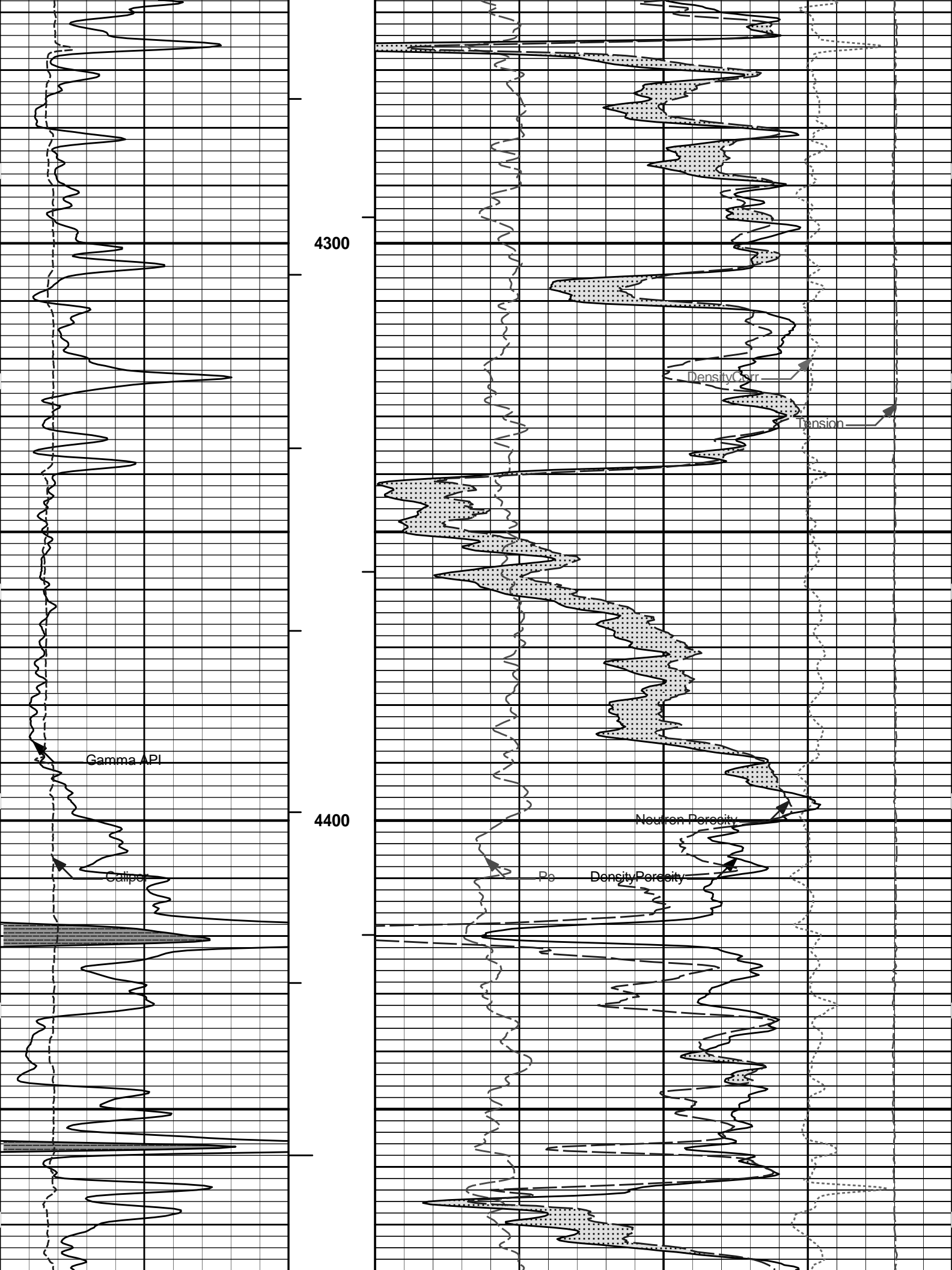


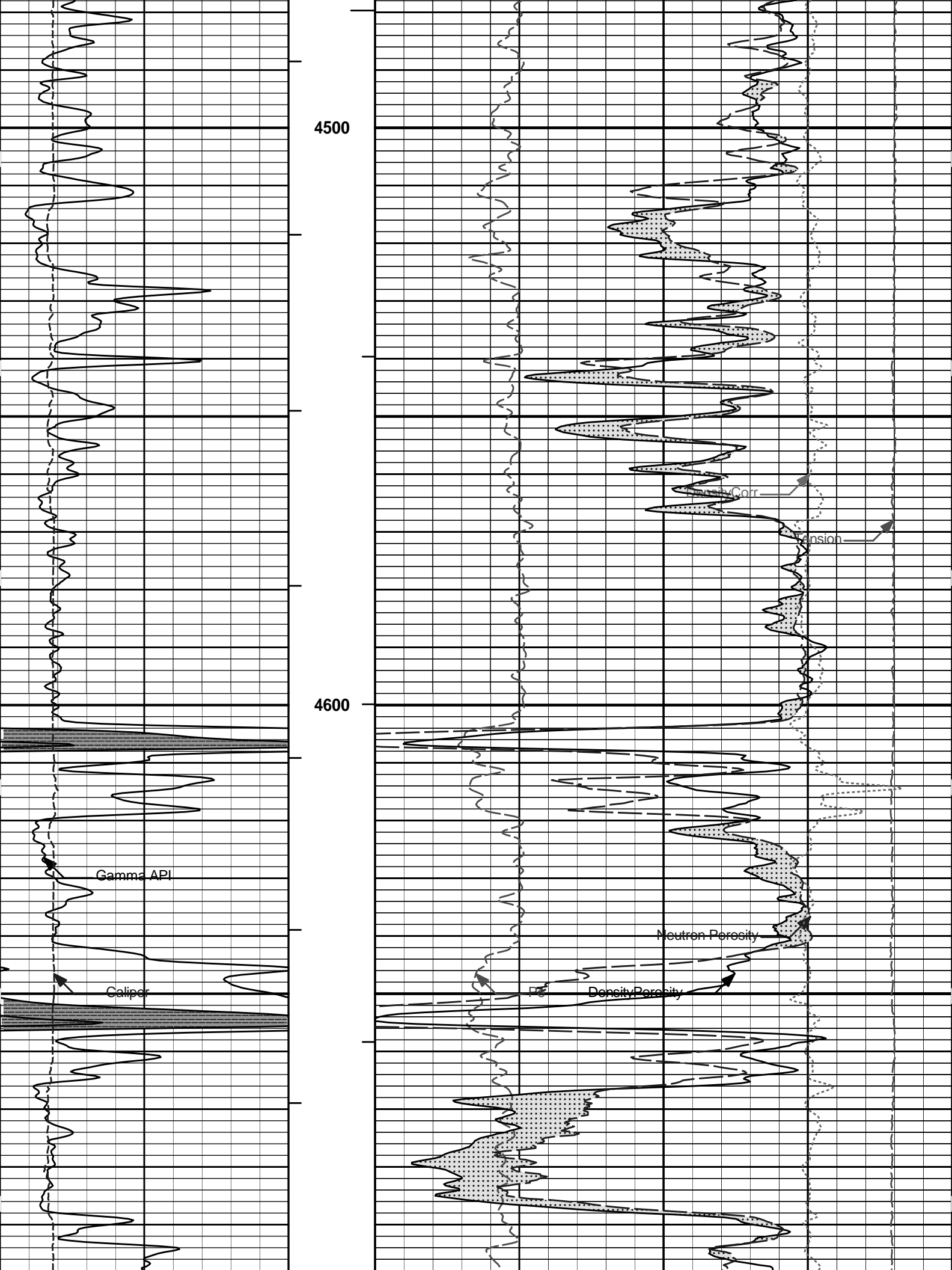
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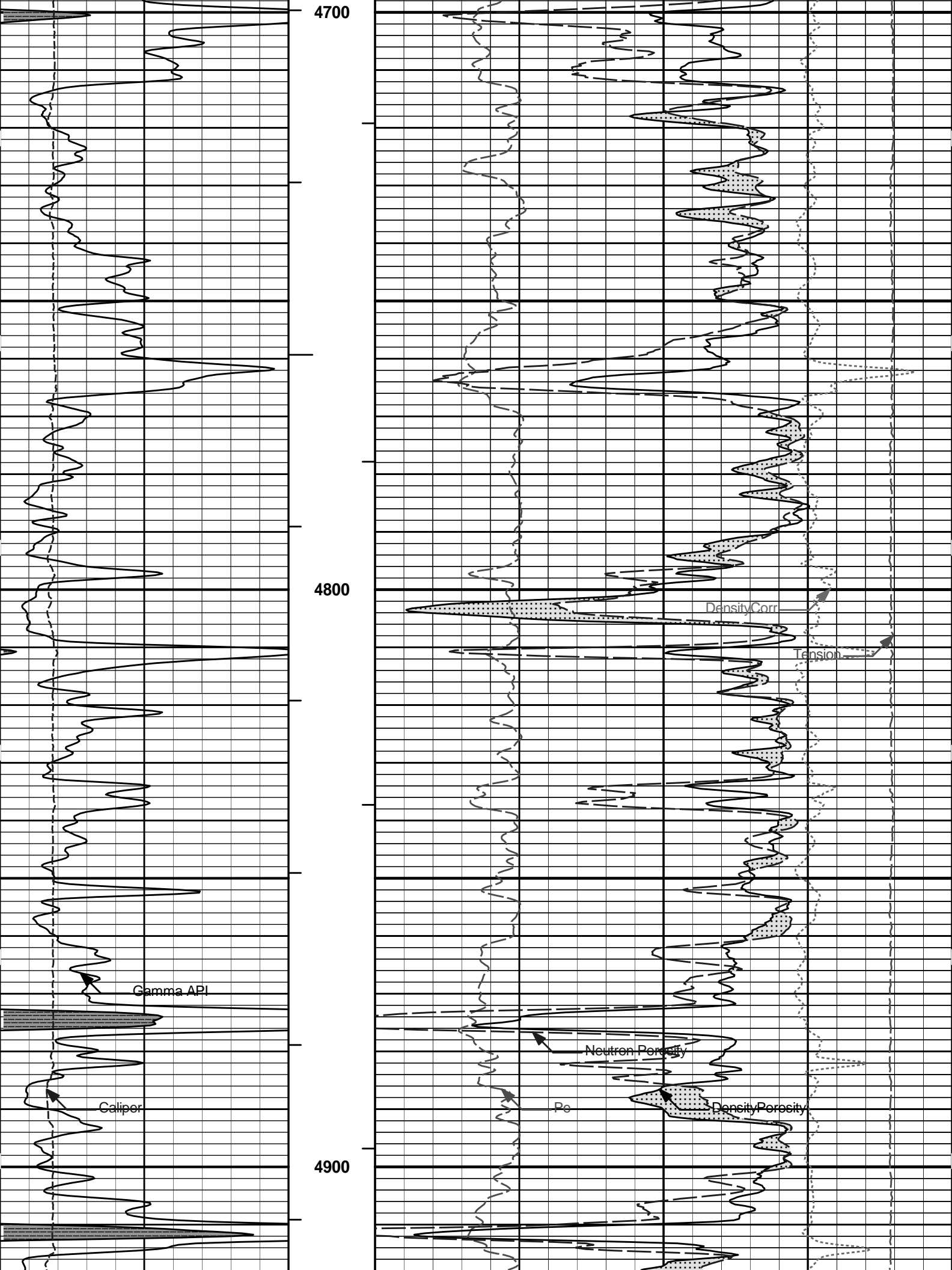
5 INCH MAIN LOG

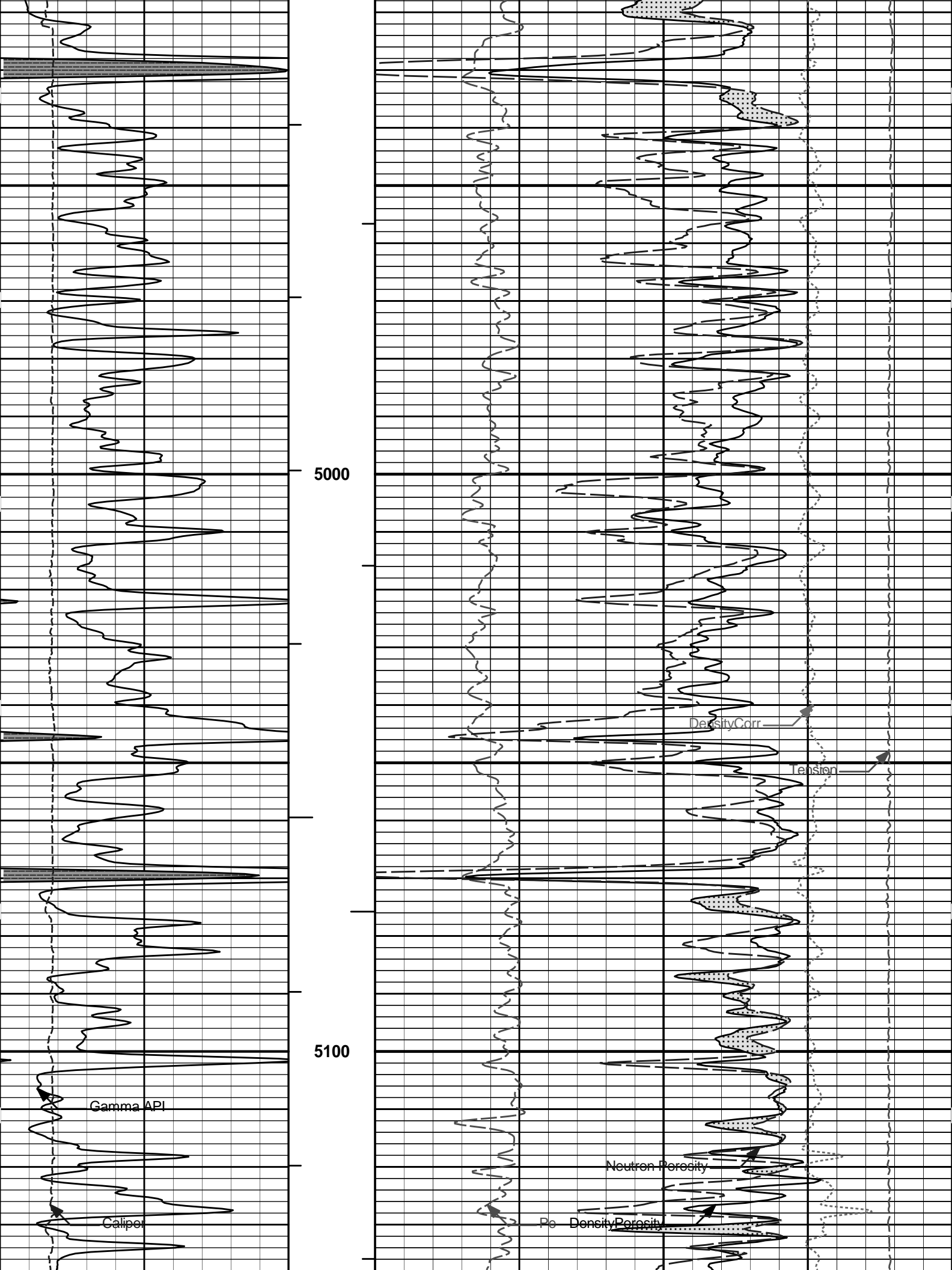


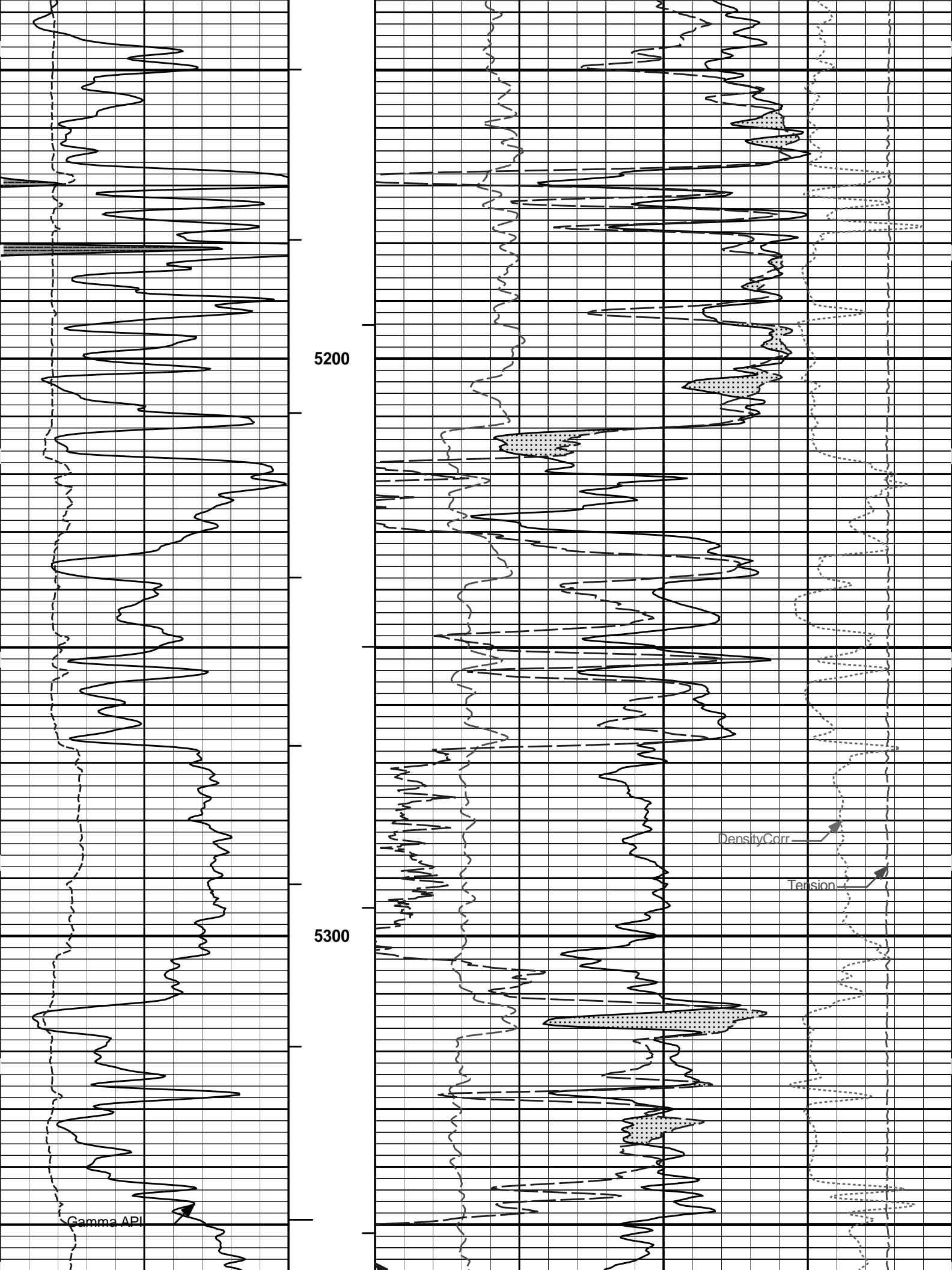


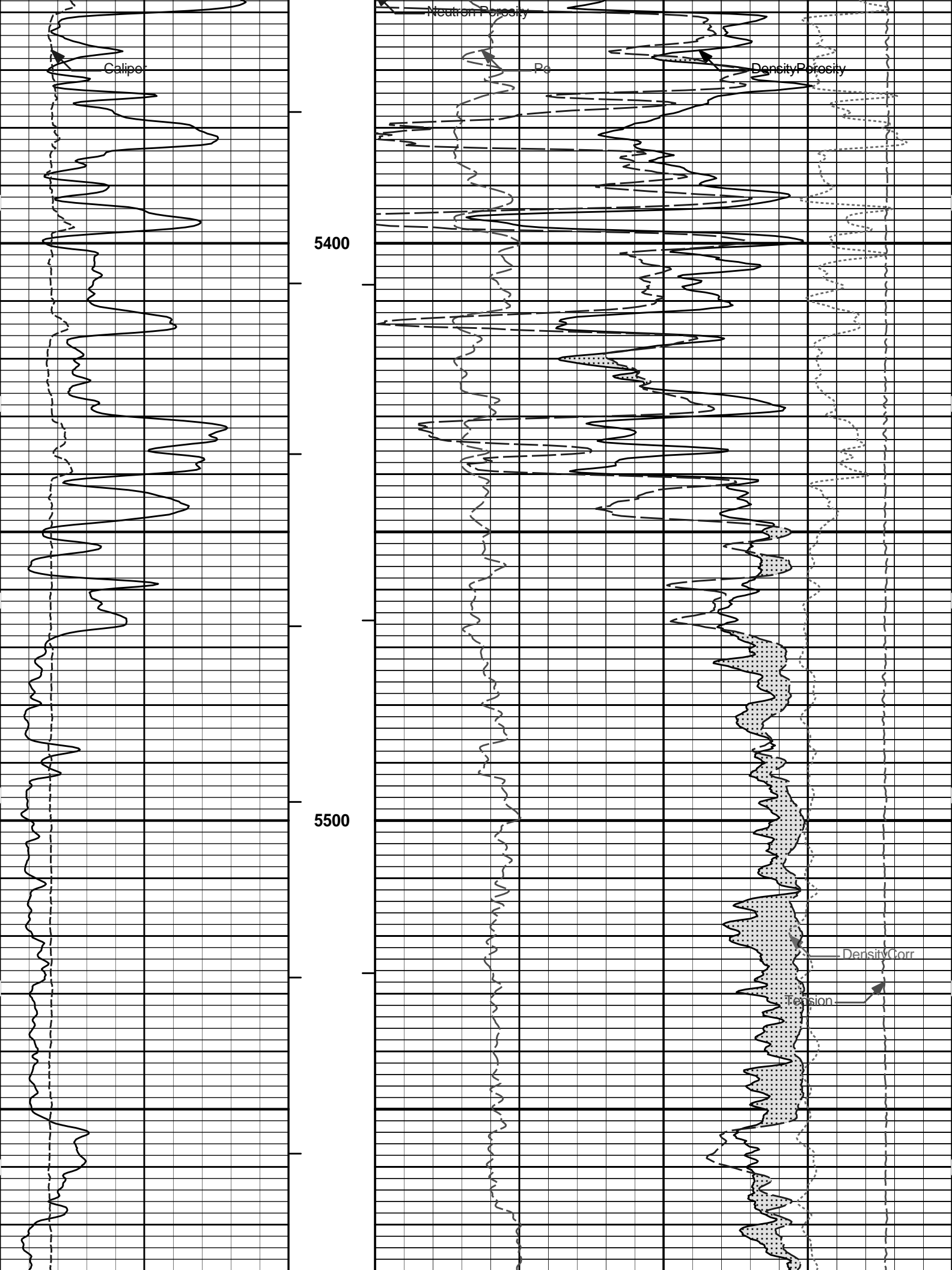


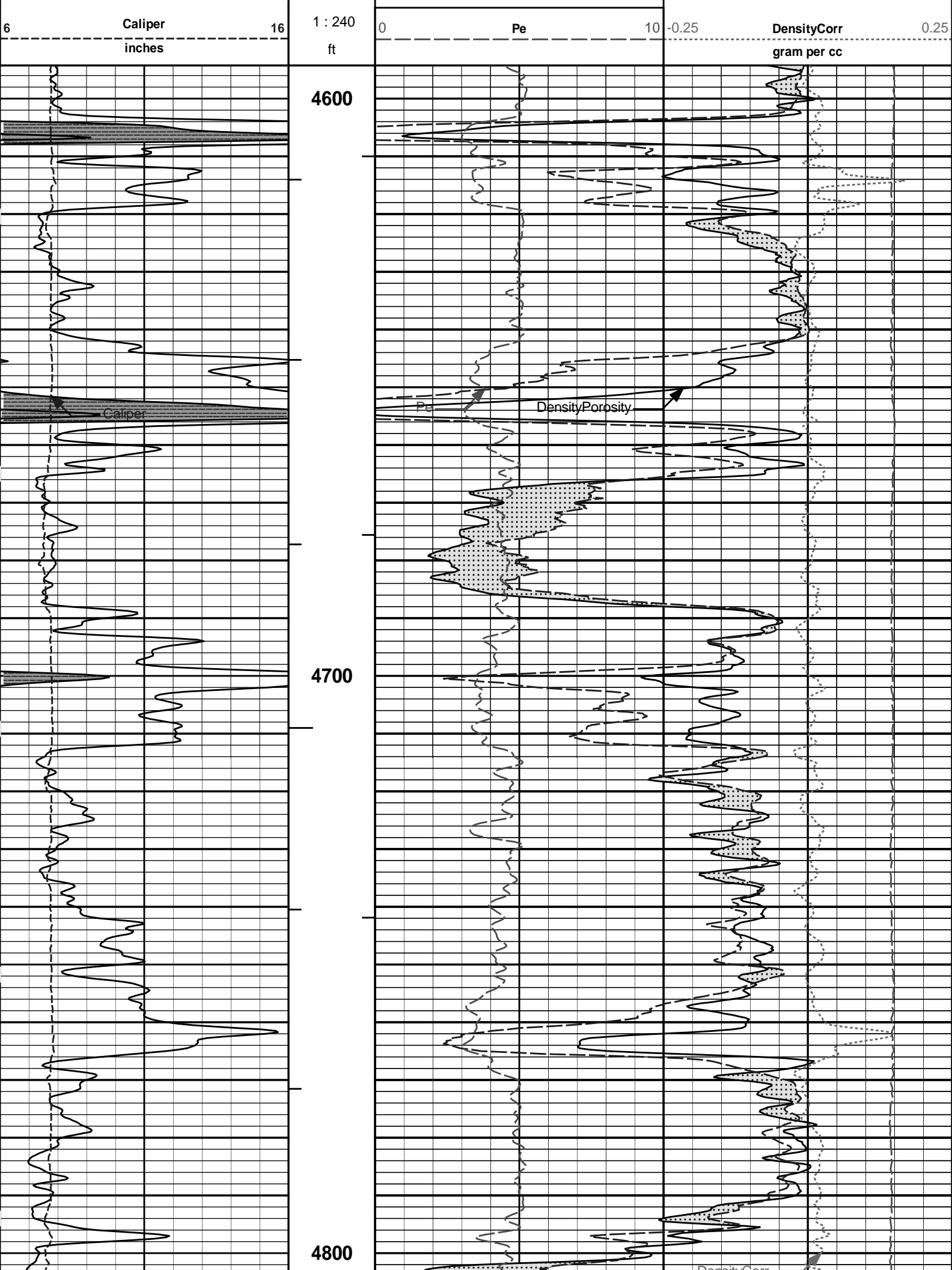


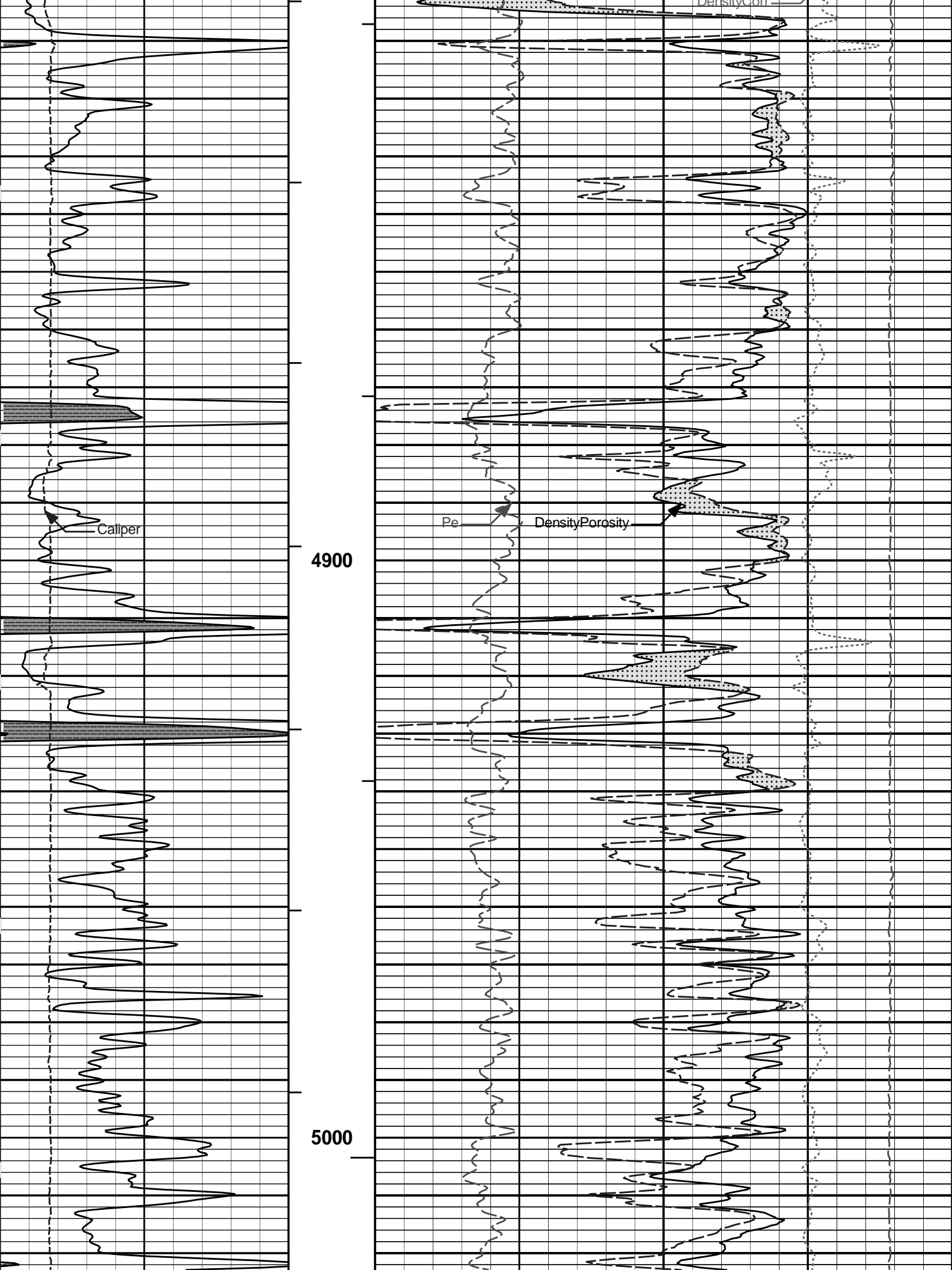


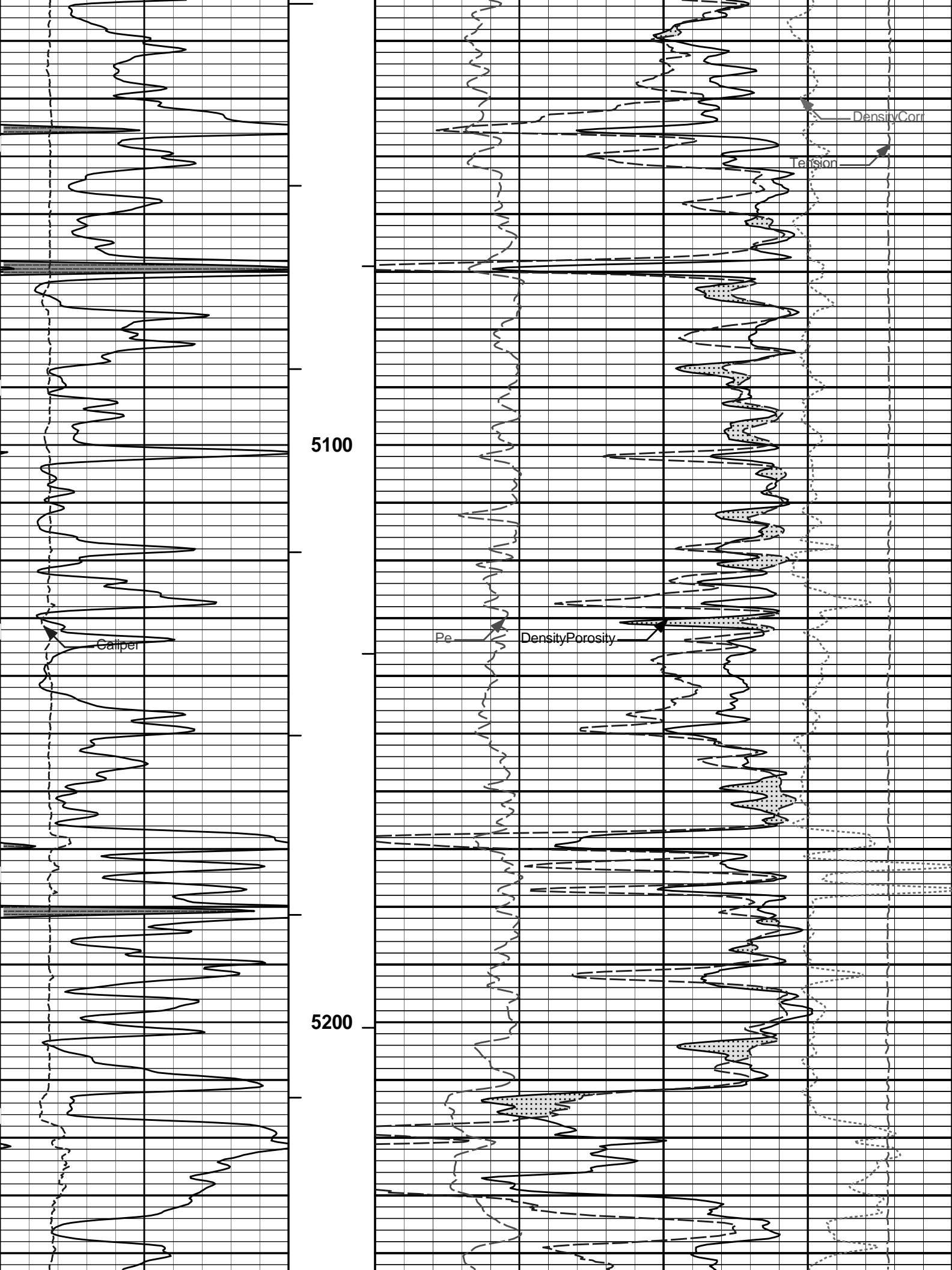


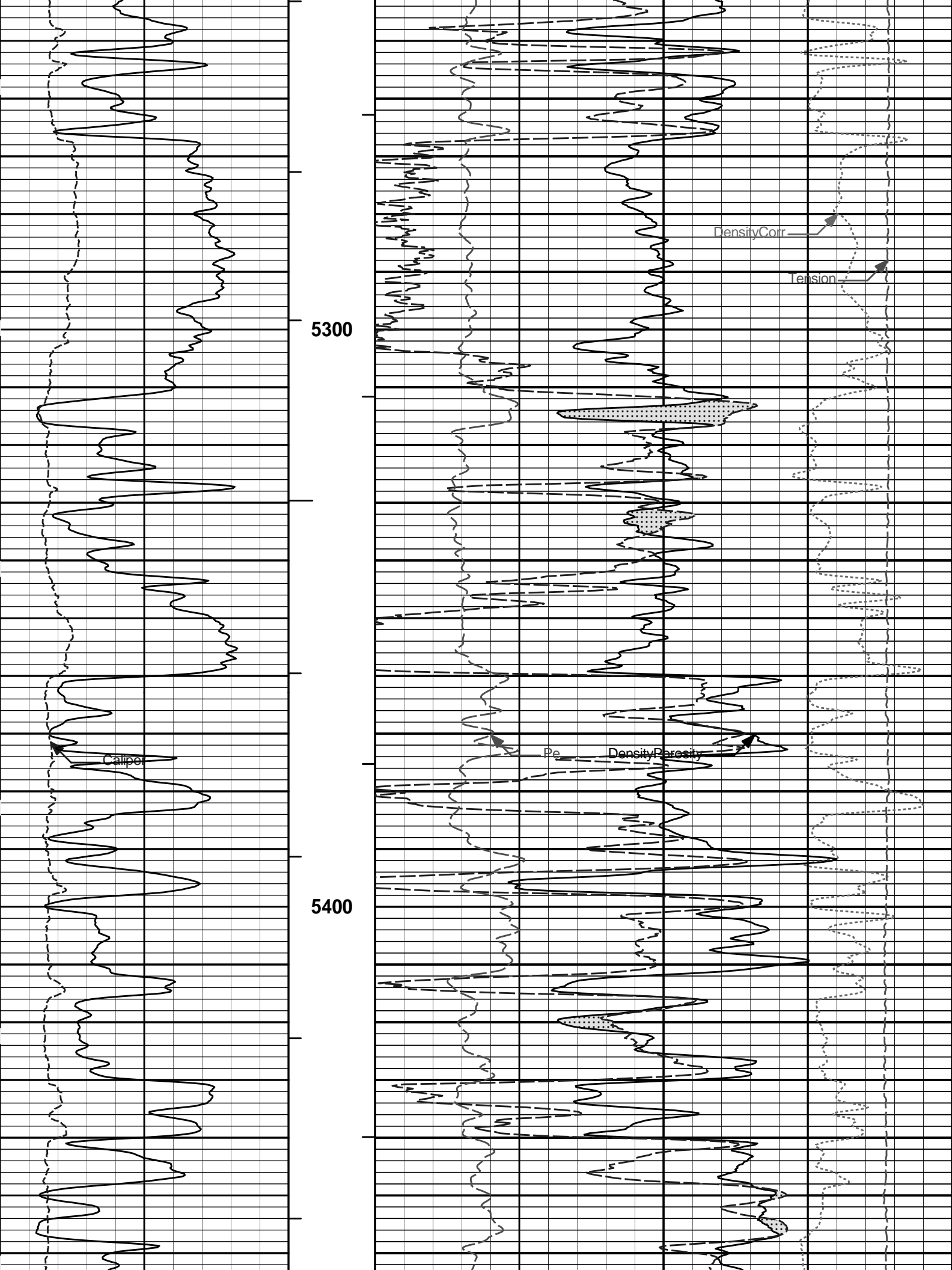


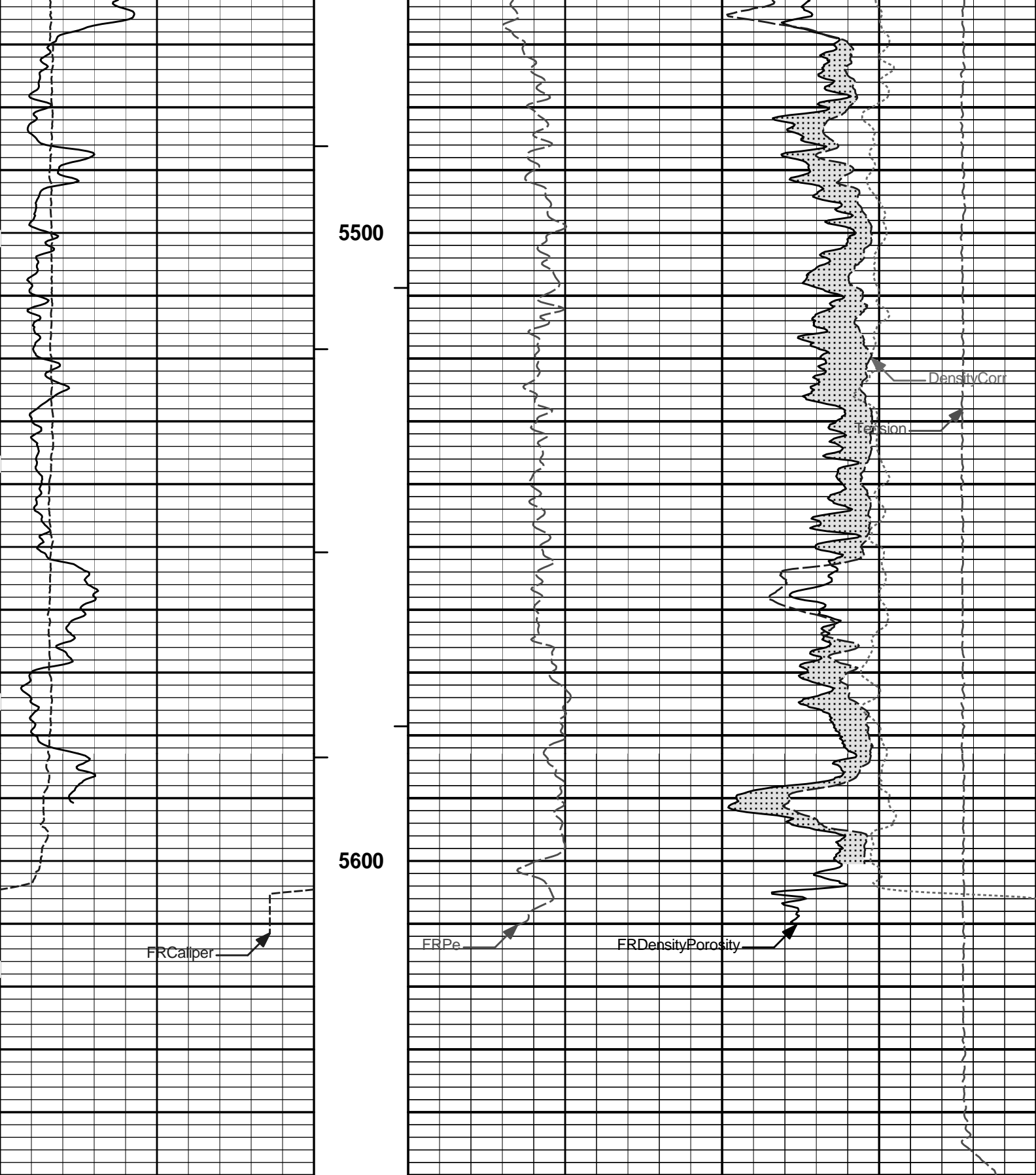












6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					gram per cc	
0	Gamma API	150	AHVT	15K				Tension	0
	api							pounds	
	SHALE		BHVT	30	DensityPorosity				-10
					%				
					Neutron Porosity				

%

CROSSOVER

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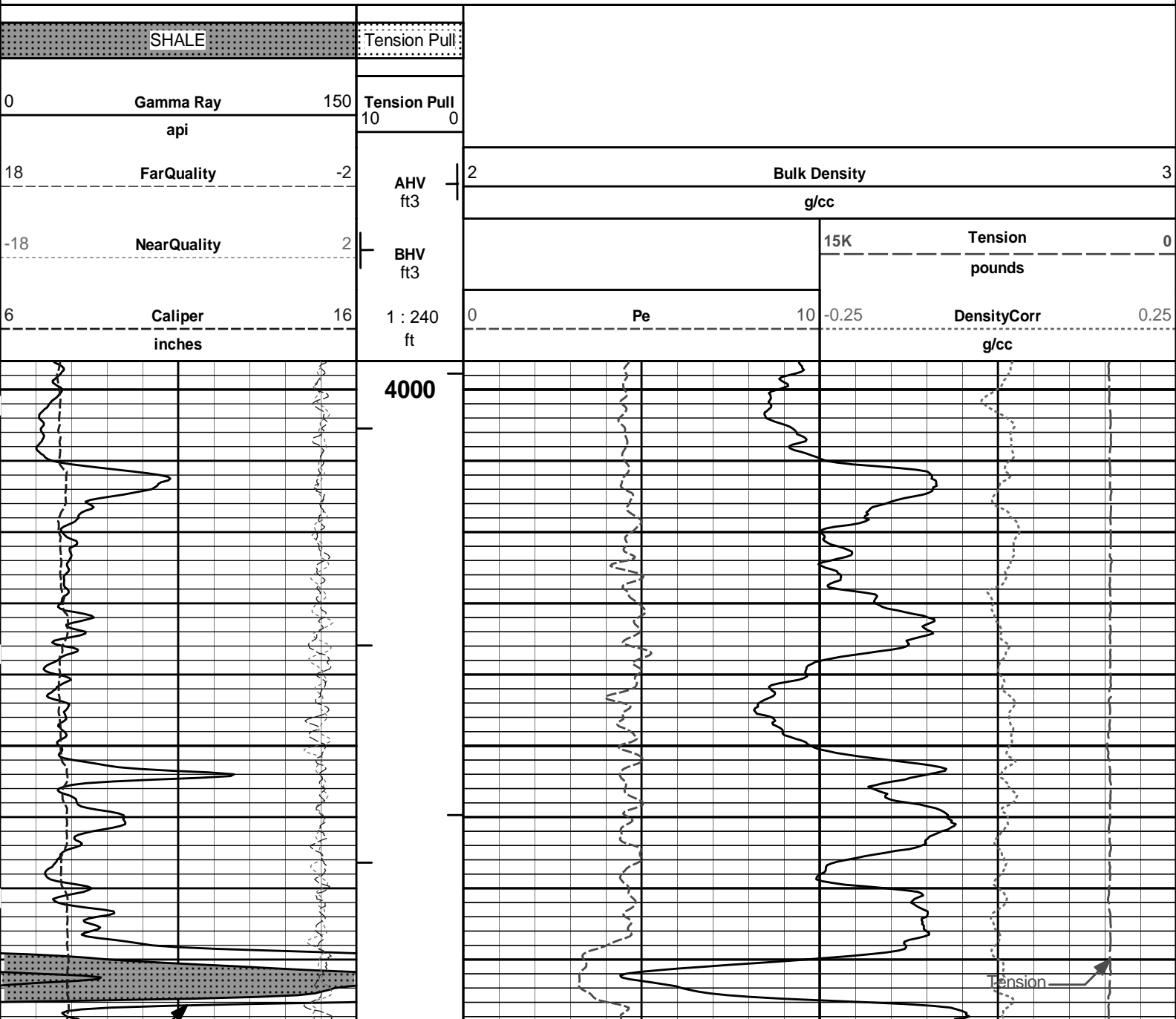
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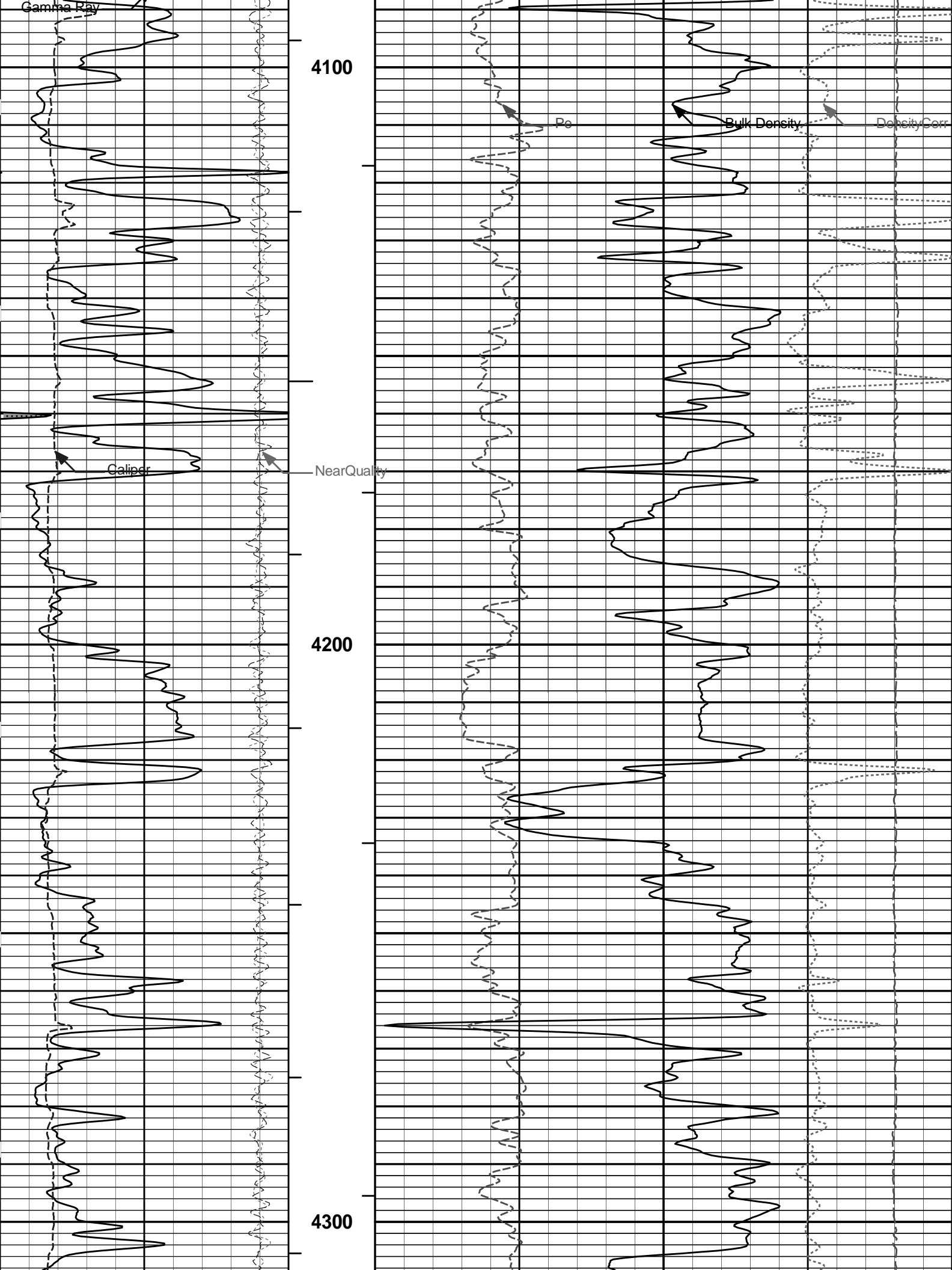
REPEAT SECTION

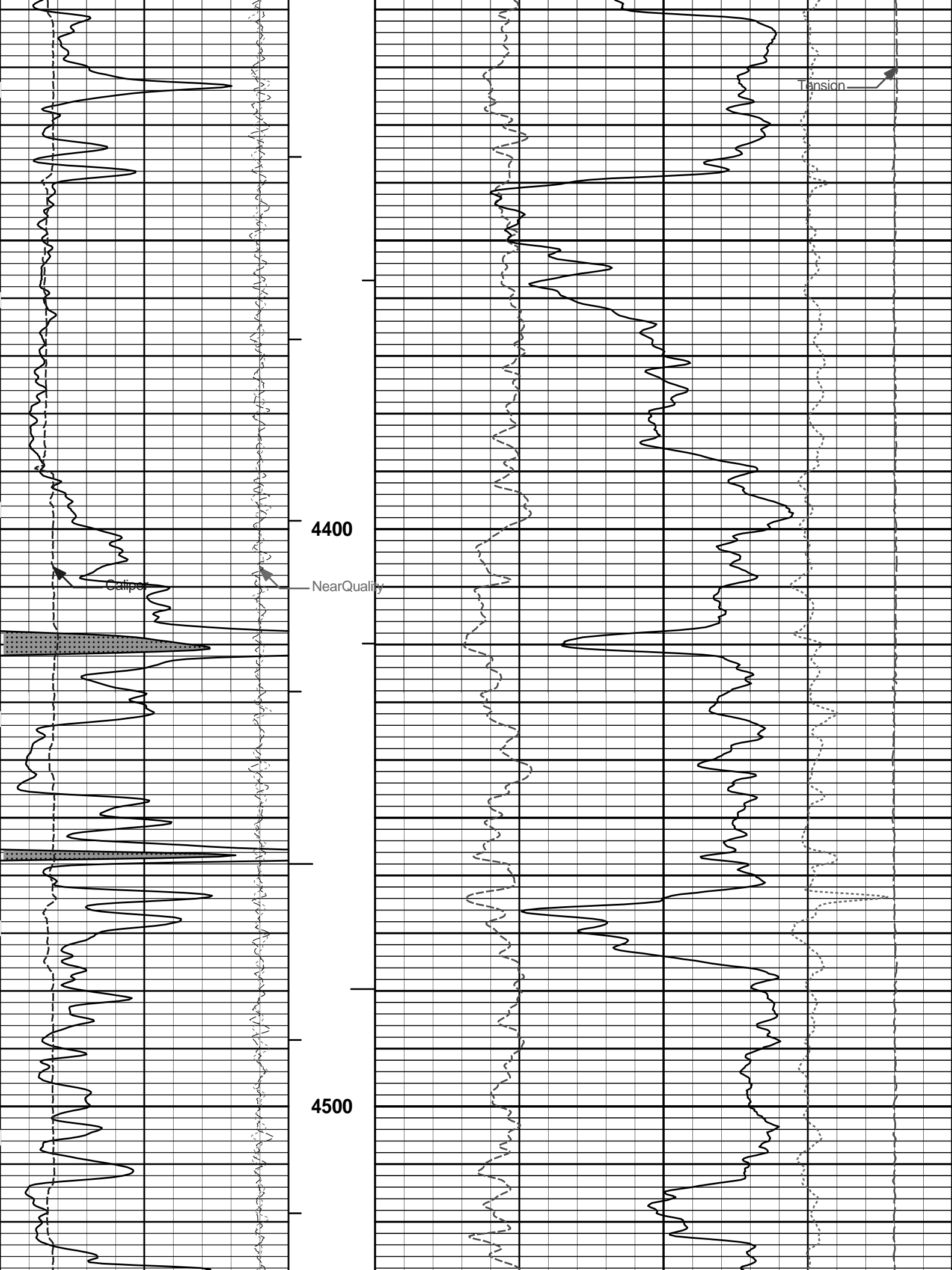
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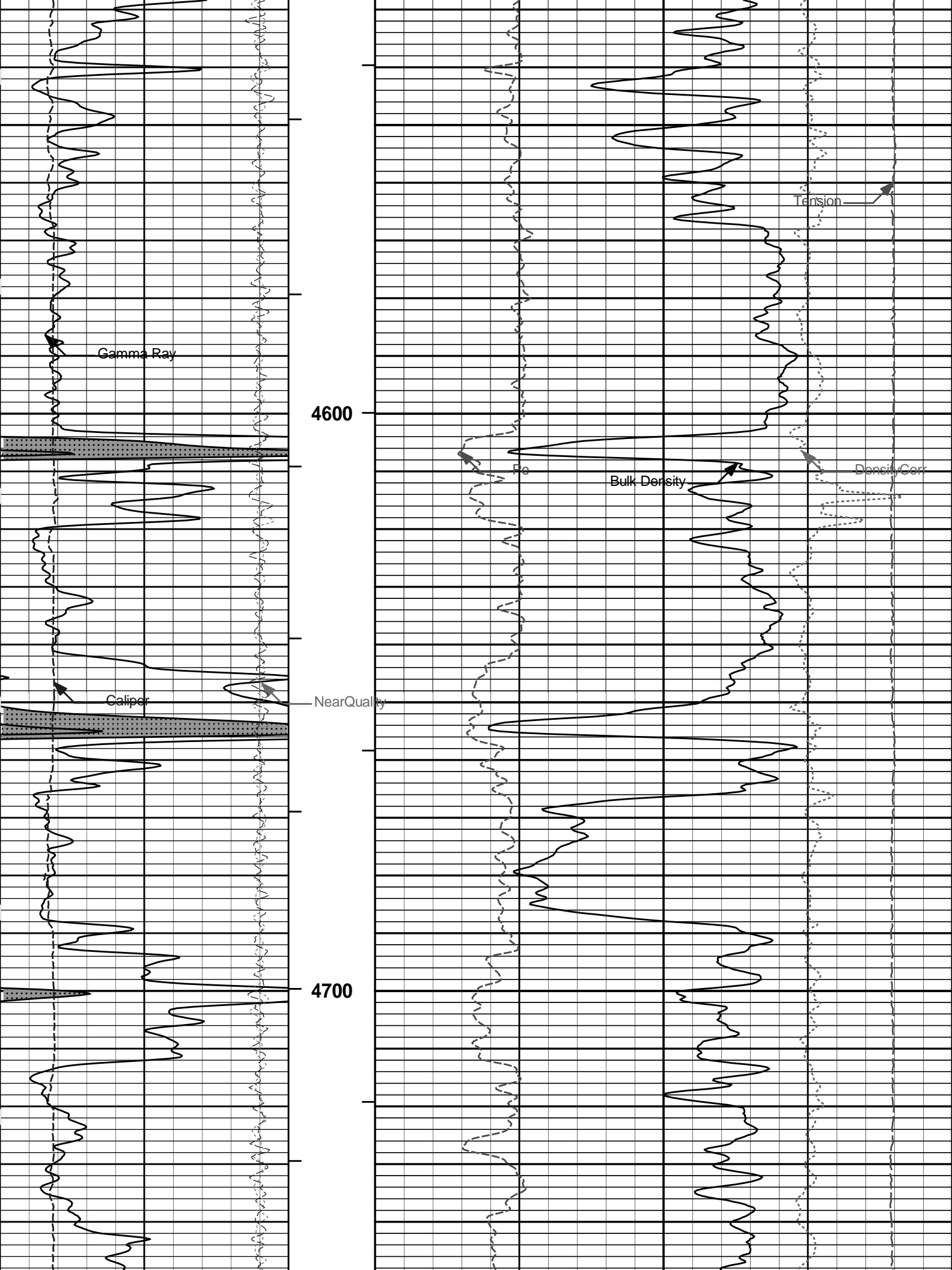
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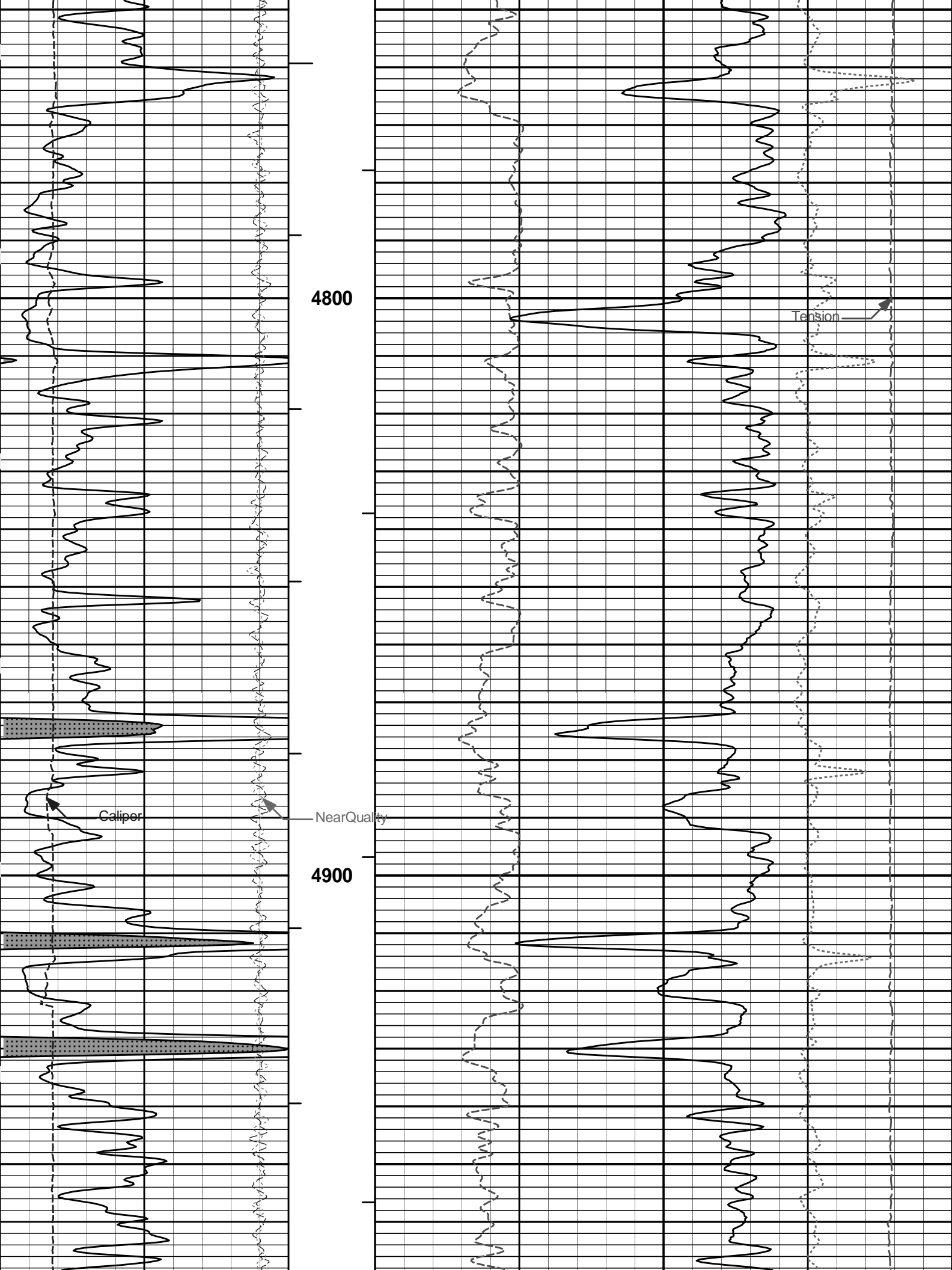
5 INCH MAIN LOG

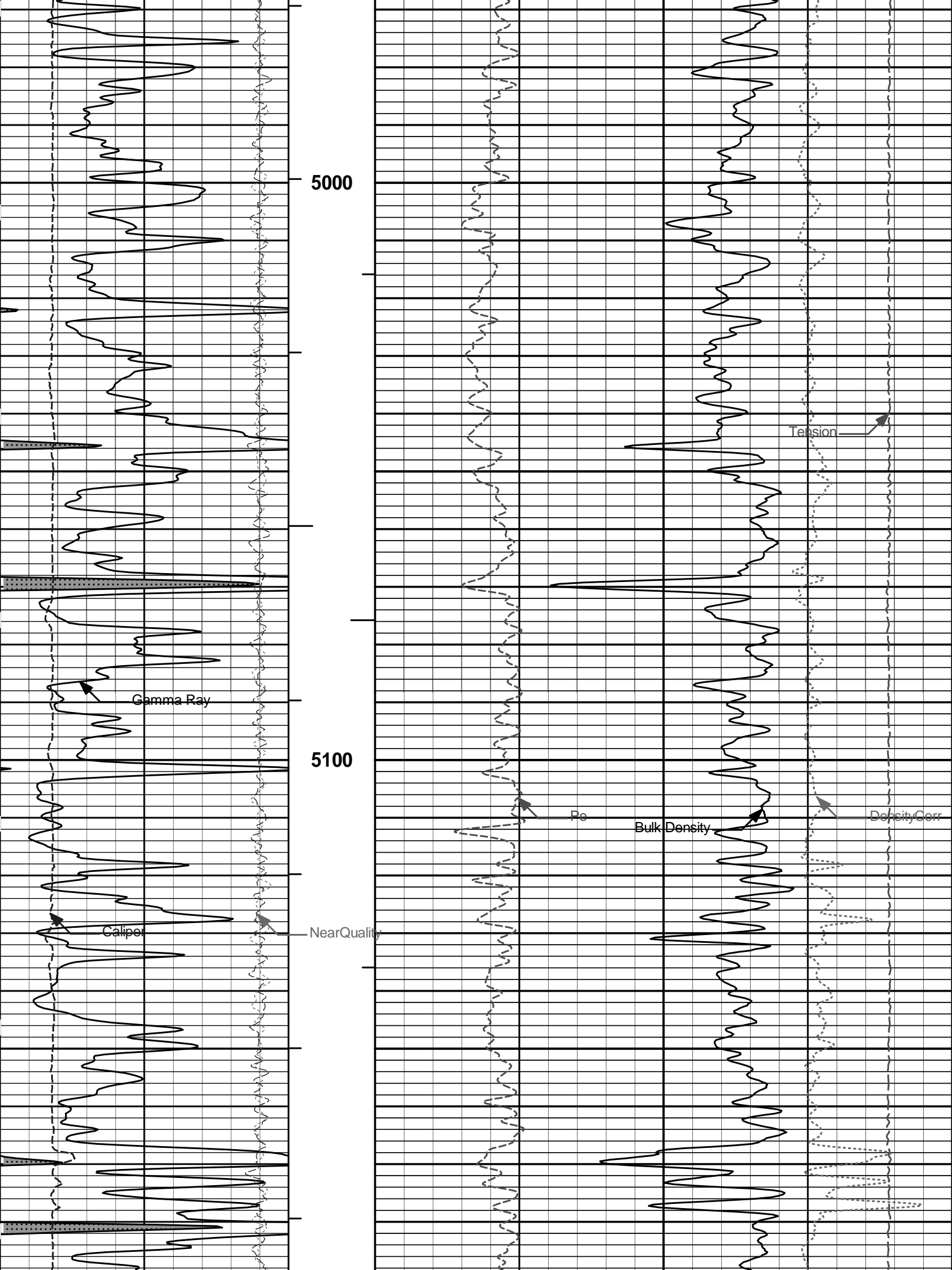


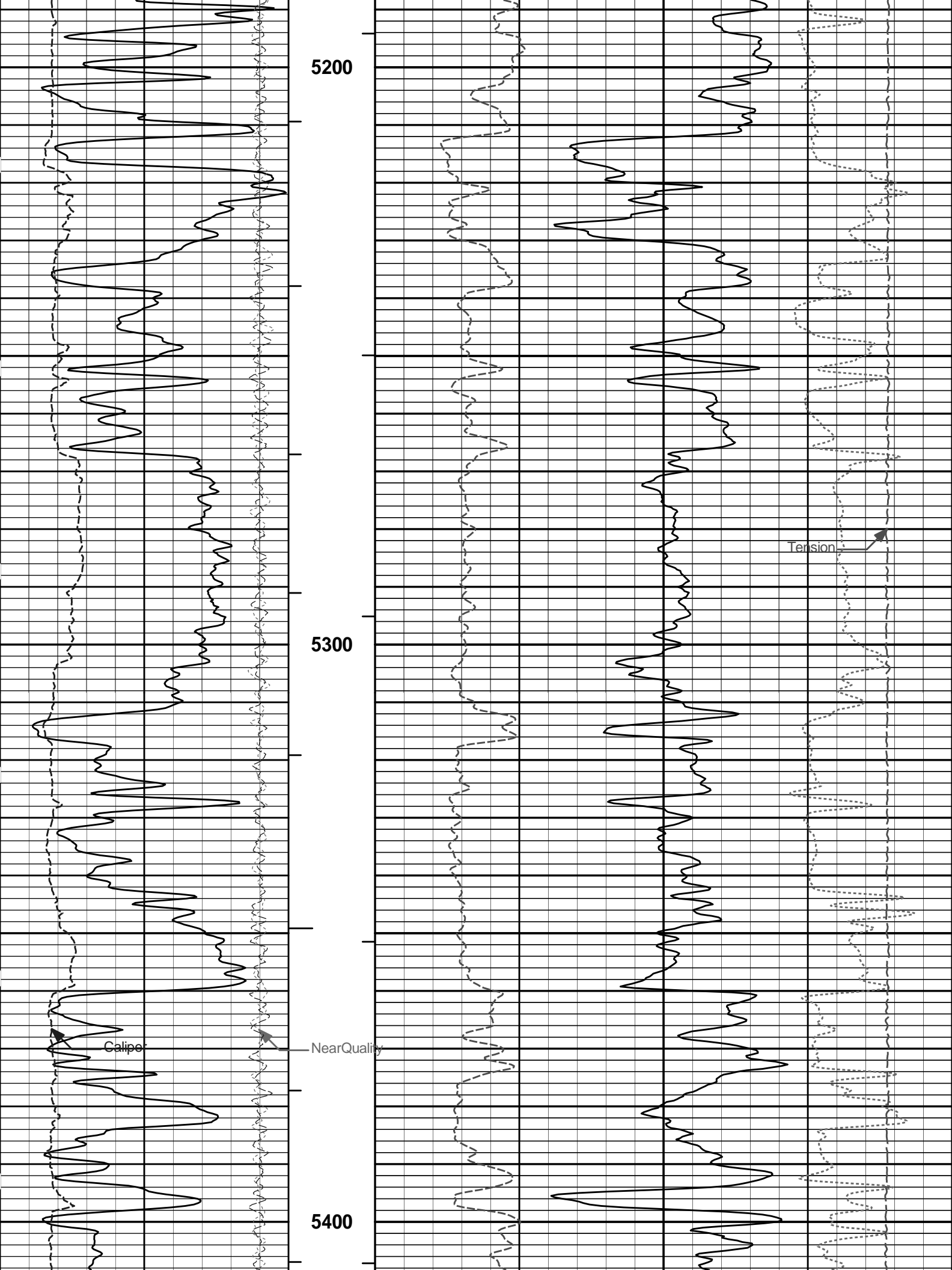


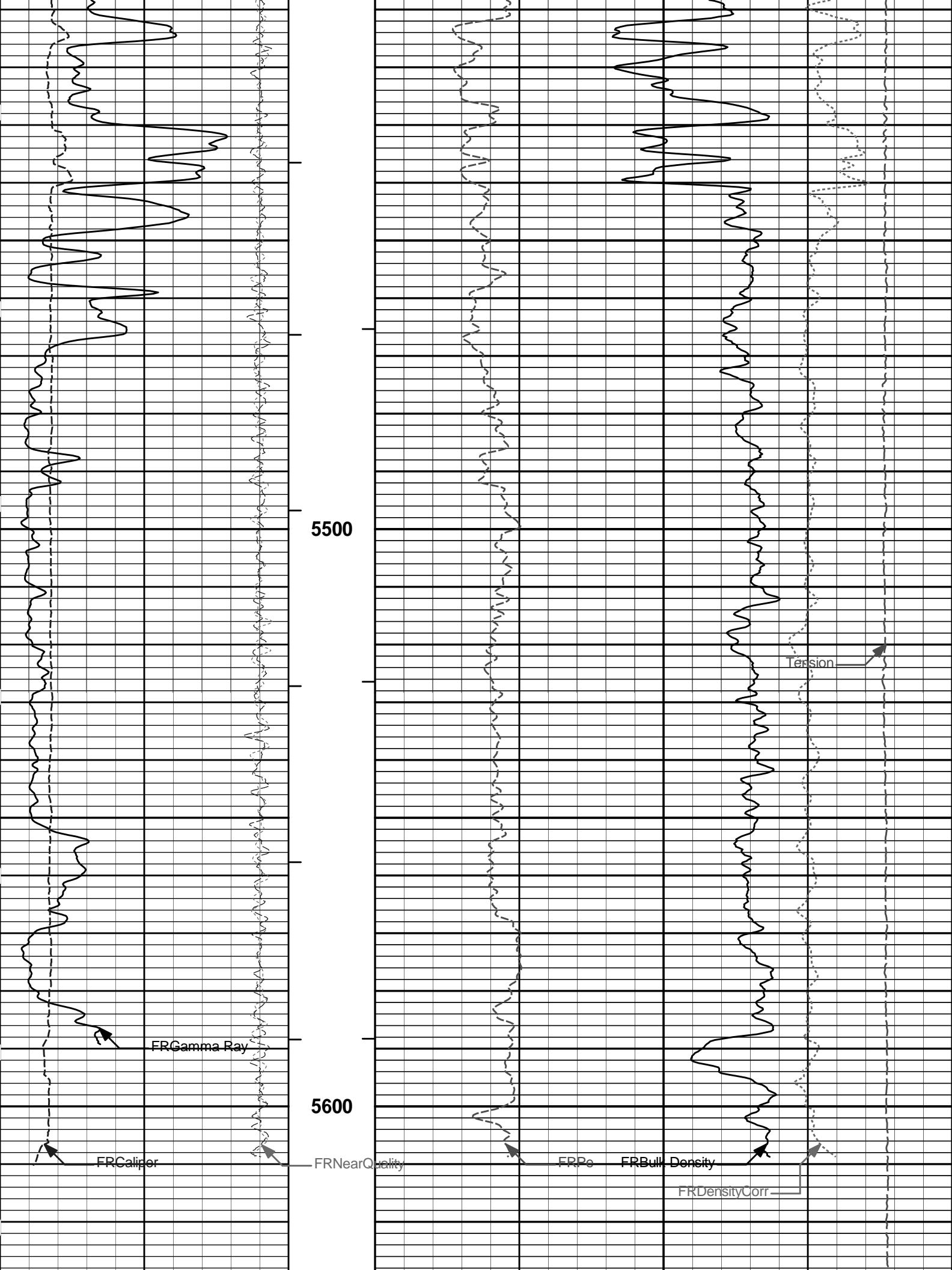


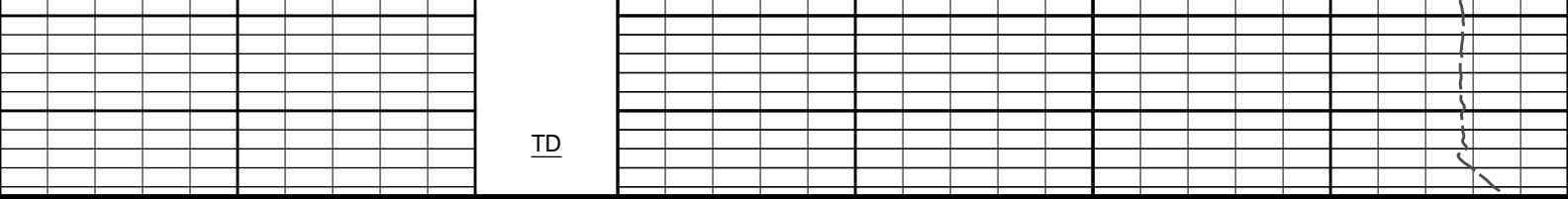












6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					g/cc	
-18	NearQuality	2	BHV			15K		Tension	0
			ft3					pounds	
18	FarQuality	-2	AHV	2	Bulk Density				3
			ft3		g/cc				
0	Gamma Ray	150	Tension Pull						
	api		10	0					
SHALE			Tension Pull						

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Plot Time: 03-Jul-12 10:30:56
 Plot Range: 3996 ft to 5648.92 ft
 Data: FEIGHT_A_7Well BasedR1_DETAIL\
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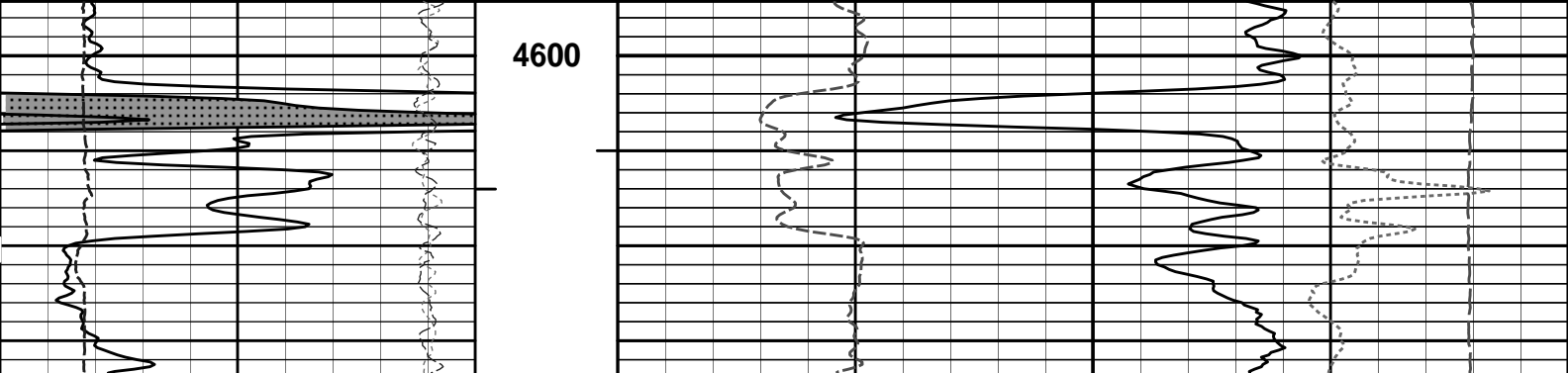
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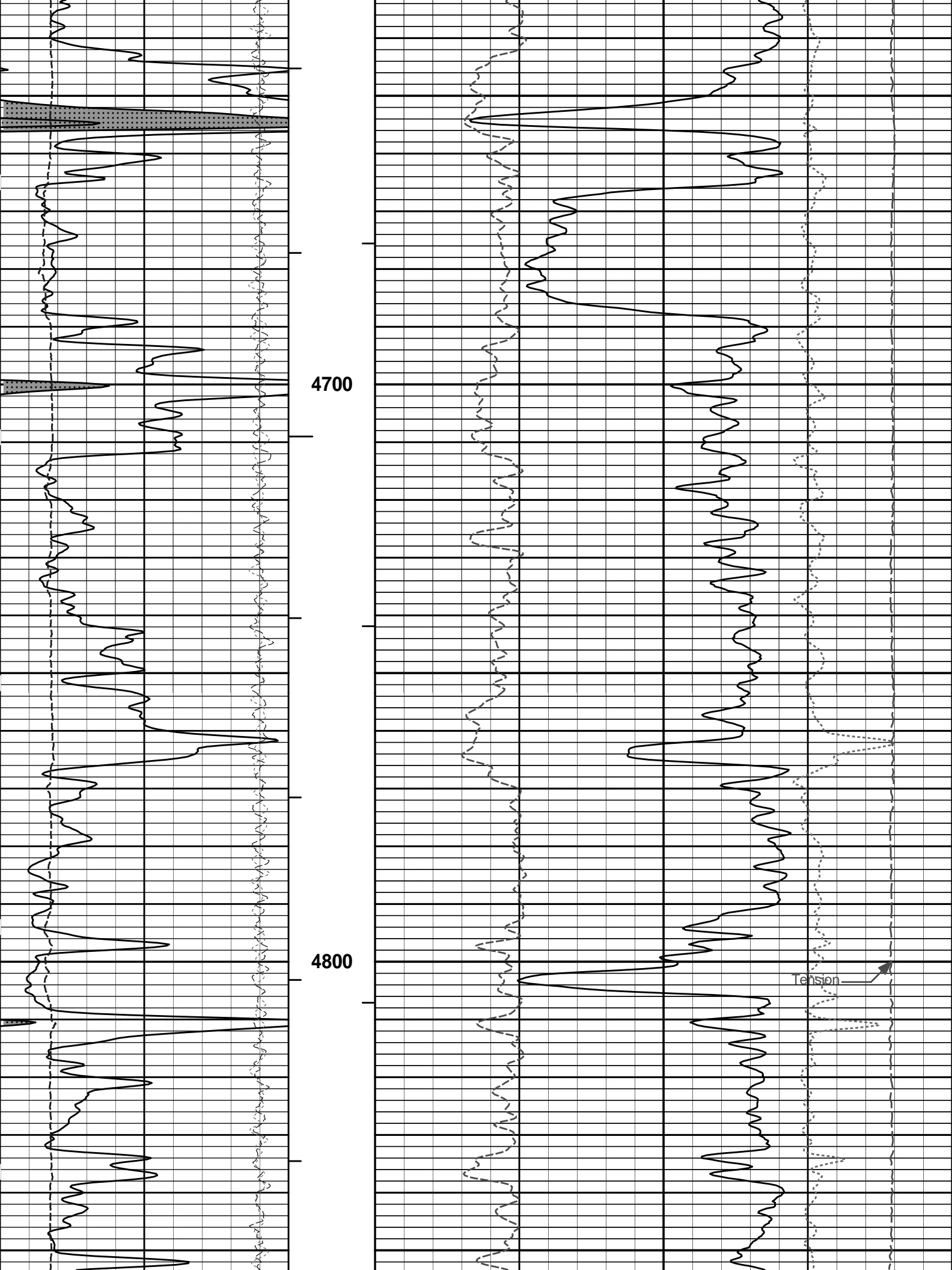
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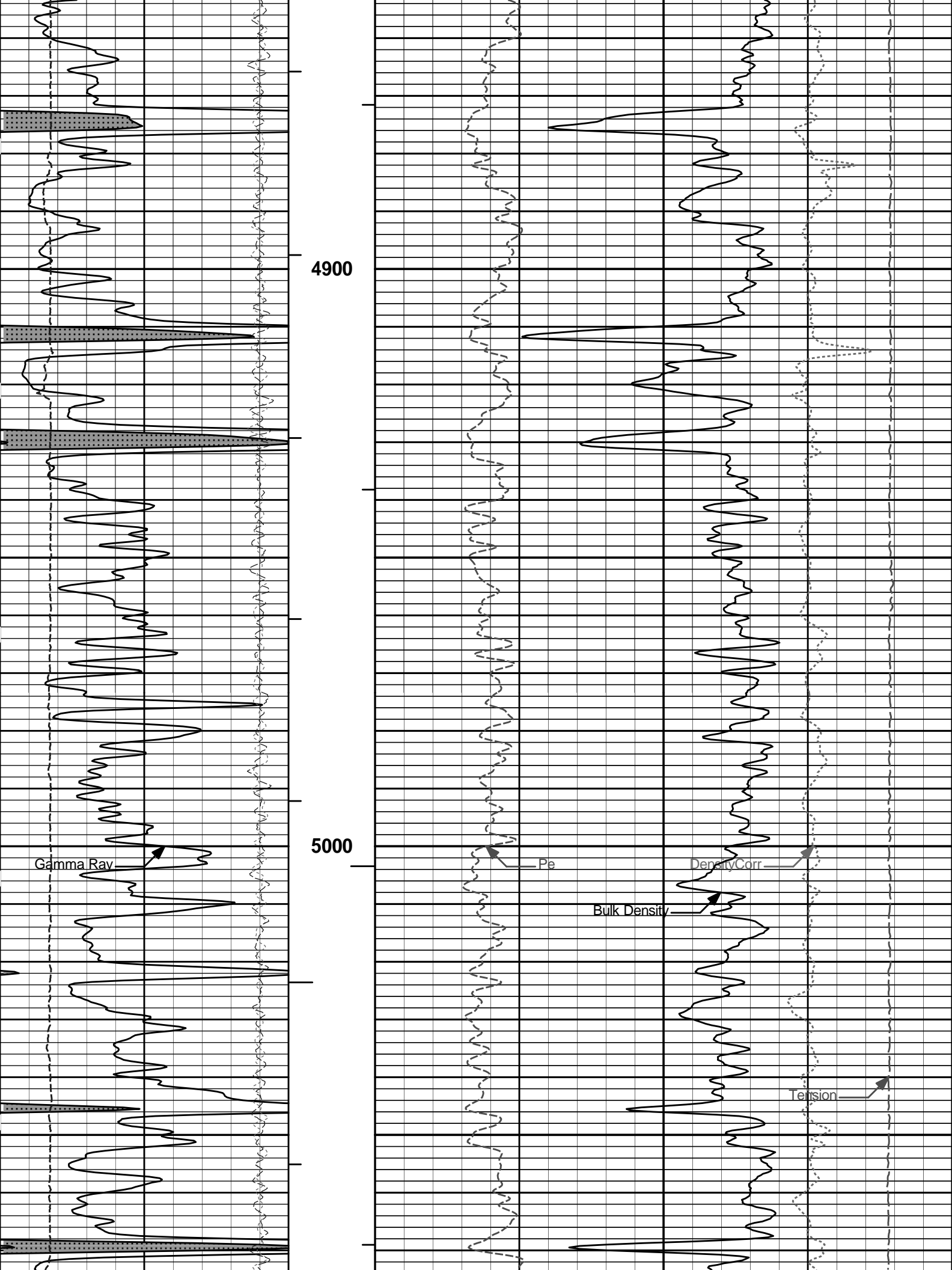
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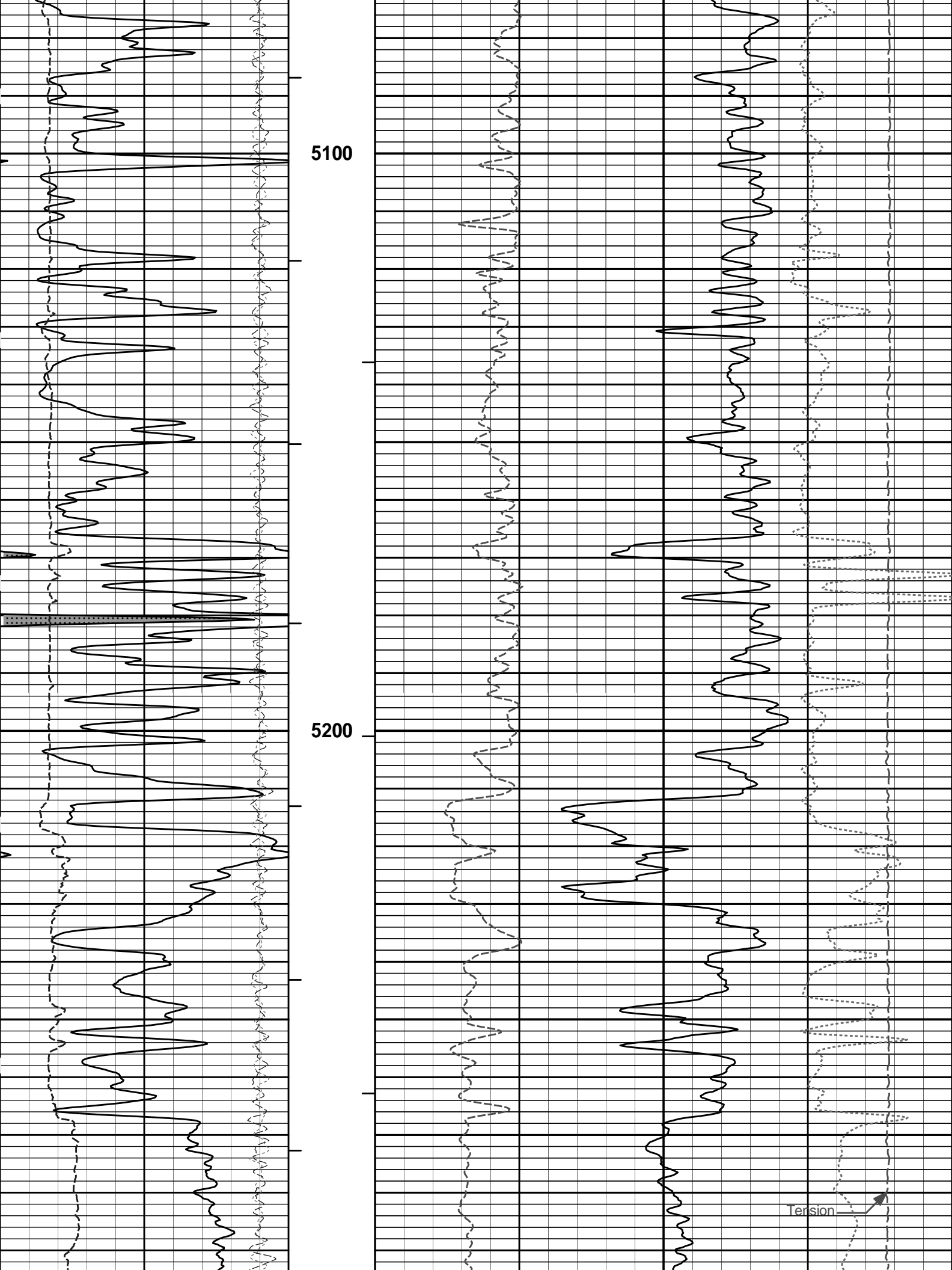
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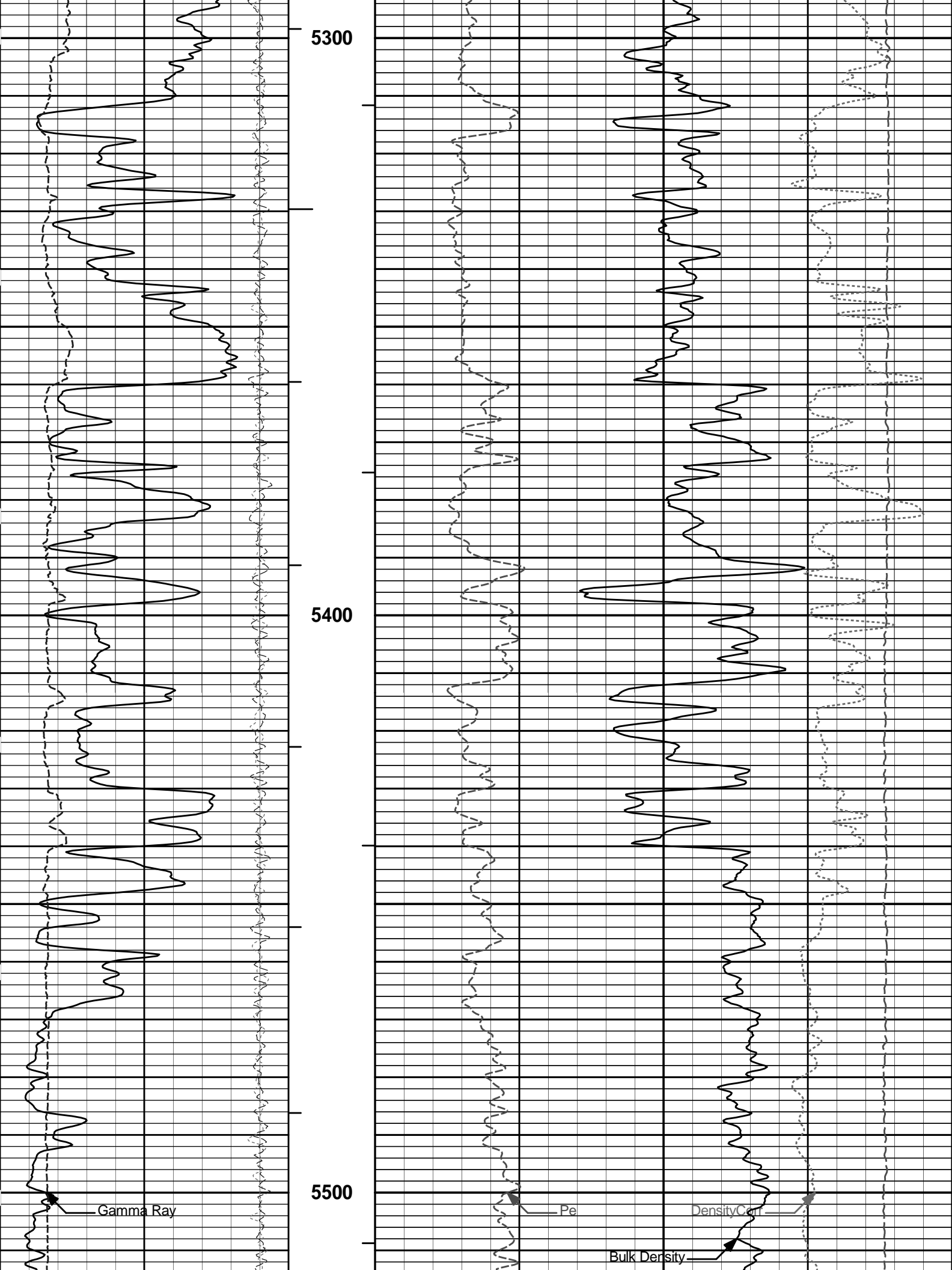
SHALE									
0	Gamma Ray	150							
	api								
18	FarQuality	-2	AHV	2	Bulk Density				3
			ft3		g/cc				
-18	NearQuality	2	BHV			15K		Tension	0
			ft3					pounds	
6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					g/cc	

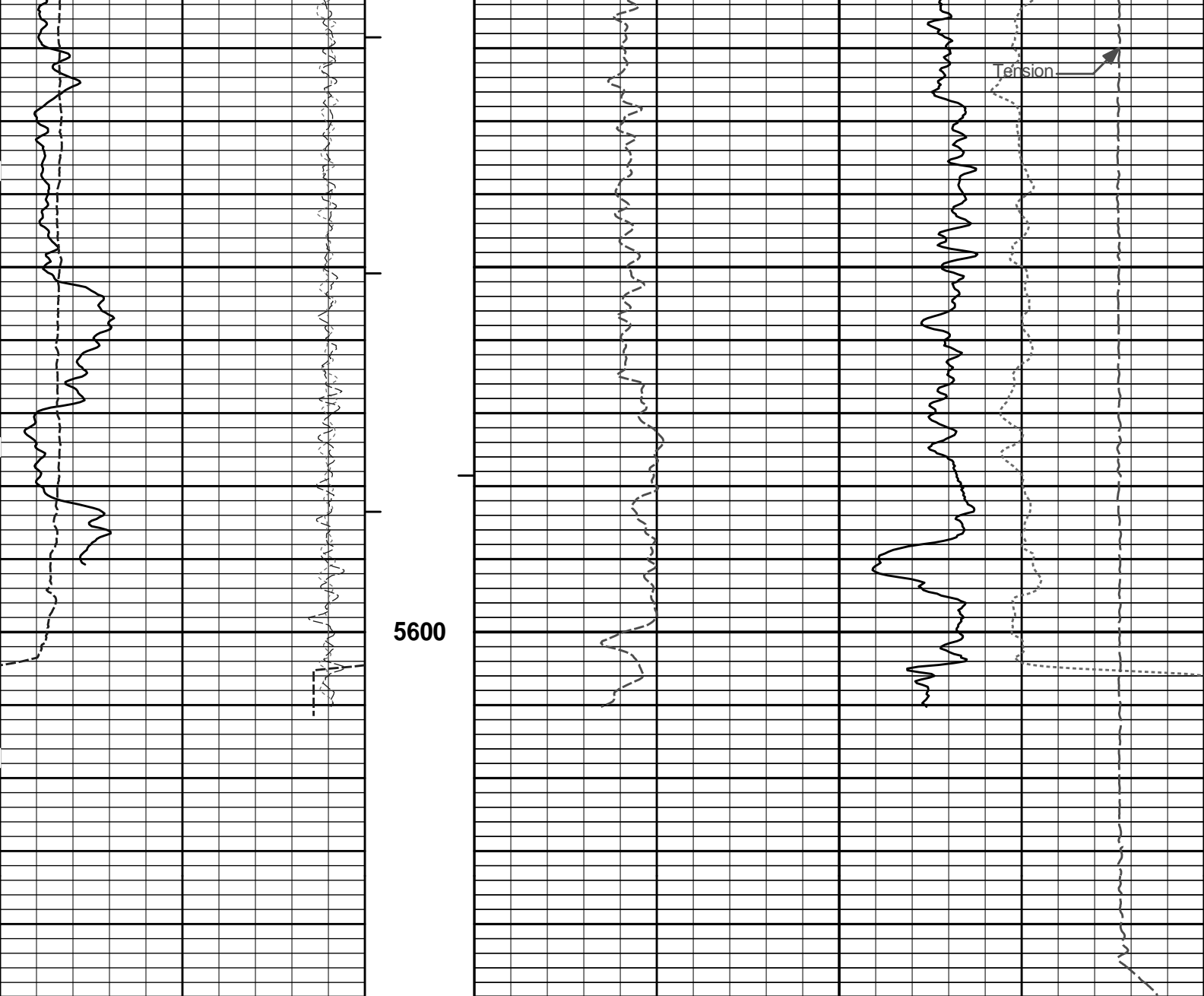












5600

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

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Plot Time: 03-Jul-12 10:30:58
 Plot Range: 4594.25 ft to 5650.25 ft
 Data: FEIGHT_A_7Well BasedR1_REPEAT\
 Plot File: \\-LOCAL-\\FEIGHT_A_7\\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CHIPORO\\BULKD_5_REP_LIB

REPEAT SECTION

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head- PROT01 30.00 lbs		Ø 3.625 in →			1.92 ft	70.28 ft
SP Sub-11441709 60.00 lbs		Ø 3.625 in →		← SP @ 66.59 ft	3.74 ft	68.36 ft
GTET-10811258 165.00 lbs		Ø 3.625 in →		← GammaRay @ 58.56 ft	8.52 ft	64.63 ft
DSNT-10735145 174.00 lbs		Ø 3.625 in →		← DSN Far @ 49.17 ft ← DSN Near @ 48.42 ft	9.69 ft	56.11 ft
SDLT- I145_M73803_P90 360.00 lbs	SDLT Pad-90 65.00 lbs Microlog Pad- I145_M73803_P90 8.00 lbs	Ø 4.500 in → Ø 4.750 in* → Ø 4.750 in* →		Microlog @ 38.61 ft SDL Caliper @ 38.42 ft SDL @ 38.41 ft	10.81 ft	46.42 ft
BSAT-10747683 300.00 lbs		Ø 3.625 in →		← Sonic Receivers @ 27.09 ft	15.77 ft	35.61 ft

ACRt Instrument-
I776
50.00 lbs

Regal Standoff 6_75-01
20.00 lbs

ACRt Sonde-
I776_S775
200.00 lbs

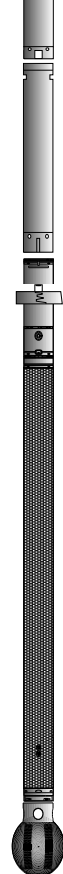
Cabbage Head-
TRK954
10.00 lbs

Ø 3.625 in →

Ø 6.750 in* →

Ø 3.625 in →

Ø 3.625 in ↘
Ø 6.000 in →



19.83 ft
5.03 ft
14.80 ft
14.22 ft
0.58 ft
0.58 ft
0.00 ft

← Mud Resistivity @ 13.44 ft

← ACRt @ 9.46 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH	Standard OH Cable Head	PROT01	30.00	1.92	68.36	300.00
SP	SP Sub	11441709	60.00	3.74	64.63	300.00
GTET	Gamma Telemetry Tool	10811258	165.00	8.52	56.11	60.00
DSNT	Dual Spaced Neutron	10735145	174.00	9.69	46.42	60.00
SDLT	Spectral Density Tool	I145_M73803_P90	360.00	10.81	35.61	60.00
MICP	Microlog Pad	I145_M73803_P90	8.00	1.00 *	38.11	60.00
SDLP	Density Insite Pad	90	65.00	2.55 *	37.82	60.00
BSAT	Borehole Sonic Array Tool	10747683	300.00	15.77	19.83	60.00
ACRt	Array Compensated True Resistivity Instrument Section	I776	50.00	5.03	14.80	300.00
ACRt	Array Compensated True Resistivity Sonde Section	I776_S775	200.00	14.22	0.58	300.00
RSOF	Regal Standoff 6.75in	01	20.00	0.52 *	13.53	300.00
CBHD	Cabbage Head	TRK954	10.00	0.58	0.00	300.00

Total **1,442.00** **70.28**

* Not included in Total Length and Length Accumulation.

Data: FEIGHT_A_7\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CHVDLE Date: 03-Jul-12 06:00:41

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CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 10811258	Reference Calibration Date: 29-Jun-12 10:45:01
Engineer: T. HYDE	Calibration Date: 29-Jun-12 10:47:38
Software Version: WL INSITE R3.6.0 (Build 3)	Calibration Version: 1

Calibrator Source S/N: TB-185
Calibrator API Reference:228.00 api
Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units

Background	46.1	47.6	api
Background + Calibrator	270.8	279.6	api
Calibrator	224.7	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 10811258 **Reference Calibration Date:** 29-Jun-12 10:47:38
Engineer: C. HAVERKAMP **Calibration Date:** 03-Jul-12 05:31:38
Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

Calibrator Source S/N: TB-185
Calibrator API Reference:228.00 api
Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	47.6	35.8	api
Background + Calibrator	279.6	275.5	api
Calibrator	232.0	239.8	api

Shop	Field	Difference	Tolerance
232.0	239.8	-7.8	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION

Tool Name: GTET - 10811258 **Reference Calibration Date:** 03-Jul-12 05:31:38
Engineer: C. HAVERKAMP **Calibration Date:** 03-Jul-12 10:16:42
Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

Calibrator Source S/N: TB-185
Calibrator API Reference:228.00 api
Calibrator API Reference:232.0 api

Post Verification	Field	Post	Units
Background	35.8	31.6	api
Background + Calibrator	275.5	270.0	api
Calibrator	239.8	238.4	api

Shop	Field	Post	Difference	Tolerance
232.0	239.8	238.4	1.4	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 10735145 **Reference Calibration Date:** 25-May-12 10:08:36
Engineer: C. HAVERKAMP **Calibration Date:** 27-Jun-12 11:14:40
Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

Logging Source S/N: DSN-436
Tank Serial Number: 105060
Reference value assigned to Tank: 51.680
Snow Block S/N: TRK_954
Calibration Tank Water Temperature: 88 degF
Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.944	0.942	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):	0.2114	0.2107	0.0007	+/- 0.0020
Calibrated Ratio:	9.74	9.72	0.024	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0775	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 - 10735145	Reference Calibration Date: 27-Jun-12 11:14:40
Engineer: C. HAVERKAMP	Calibration Date: 03-Jul-12 05:41:42
Software Version: WL INSITE R3.6.0 (Build 3)	Calibration Version: 1

Logging Source S/N: DSN-436
Snow Block S/N: TRK_954

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0775	0.0734	-0.0042	+/- 0.0150

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

DUAL SPACED NEUTRON POST CALIBRATION

Tool Name: DSNT - 10735145	Reference Calibration Date: 03-Jul-12 05:41:42
Engineer: C. HAVERKAMP	Calibration Date: 03-Jul-12 10:21:50
Software Version: WL INSITE R3.6.0 (Build 3)	Calibration Version: 1

Logging Source S/N: DSN-436
Snow Block S/N: TRK_954

NEUTRON POST-CHECK SUMMARY				
	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0734	0.0736	0.0002	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - I145_M73803_P90	Reference Calibration Date: 29-Jun-12 09:34:50
Engineer: T. HYDE	Calibration Date: 29-Jun-12 09:41:43
Software Version: WL INSITE R3.6.0 (Build 3)	Calibration Version: 1
Host Tool Name: DSNT - 10735145	

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

Pad Offset	-2408.28	-2553.52	-7000.00 - -1000.00
Pad Gain	0.0003918	0.0004023	0.000200 - 0.000600
Arm Offset	-2190.57	-2328.96	-5000.00 - 3000.00
Arm Gain	0.0005204	0.0005521	0.000300 - 0.000700
Arm Power	-0.000005393	-0.000007249	-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)	3.71	3.75	0.04	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.53	6.50	-0.03	+/- 0.20
Medium Ring (in)	8.21	8.25	0.04	+/- 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

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 90	Reference Calibration Date: 02-Jun-12 11:09:43
Engineer: T. HYDE	Calibration Date: 29-Jun-12 09:04:02
Software Version: WL INSITE R3.6.0 (Build 3)	Calibration Version: 1

Logging Source S/N: 5073GW

Aluminum Block S/N: 63061

Density: 2.591g/cc

Pe: 3.170

Magnesium Block S/N: 63393

Density: 1.690g/cc

Pe: 2.594

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0158	1.0464	0.90 - 1.10
Near Dens Gain	0.9886	1.0230	0.90 - 1.10
Near Peak Gain	0.9621	1.0156	0.90 - 1.10
Near Lith Gain	0.9402	0.9939	0.90 - 1.10
Far Bar Gain	0.9946	0.9998	0.90 - 1.10
Far Dens Gain	0.9848	0.9867	0.90 - 1.10
Far Peak Gain	0.9815	0.9785	0.90 - 1.10
Far Lith Gain	0.9534	0.9526	0.90 - 1.10
Near Bar Offset	0.0988	-0.1830	NONE
Near Dens Offset	0.3336	0.0256	NONE
Near Peak Offset	0.5531	0.1012	NONE
Near Lith Offset	0.7154	0.2570	NONE
Far Bar Offset	0.1961	0.1499	NONE
Far Dens Offset	0.2634	0.2476	NONE
Far Peak Offset	0.2602	0.2849	NONE
Far Lith Offset	0.4226	0.4216	NONE
Near Bar Background	877.65	877.55	700 - 1450
Near Dens Background	291.96	292.38	230 - 480

Near Peak Background	129.15	128.10	100 - 210
Near Lith Background	157.44	157.52	125 - 260
Far Bar Background	591.72	591.36	450 - 900
Far Dens Background	232.70	231.62	175 - 345
Far Peak Background	92.68	92.15	70 - 140
Far Lith Background	96.01	96.30	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.692	1.690	-0.002	+/- 0.015
Pe	2.517	2.562	0.045	+/- 0.150
ALUMINUM				
Density (g/cc)	2.595	2.590	-0.005	+/- 0.01500
Pe	3.042	3.136	0.094	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0006	+/- 0.0110	-0.0014	+/- 0.0140
Magnesium Block	0.0002	+/- 0.0110	-0.0009	+/- 0.0140
Aluminum Block	0.0001	+/- 0.0110	0.0002	+/- 0.0140
Resolution	8.86	6.00 - 11.50	8.91	6.00 - 11.50
Internal Verifier(B+D+P+L)	1456	1200 - 2700	1011	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 - 90	Reference Calibration Date:	29-Jun-12 09:04:02
Engineer:	C. HAVERKAMP	Calibration Date:	03-Jul-12 05:31:29
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Pad Temperature: 82.3 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1455.558	1461.177	5.619	15.388
Far (B+D+P+L) cps	1011.439	1014.022	2.583	16.994
Near Resolution	8.86	8.92	0.060	0.50
Far Resolution	8.91	9.45	0.540	1.00

PASS/FAIL SUMMARY	
Dens Quality Check:	Passed

Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

SPECTRAL DENSITY POST CHECK

Tool Name: SDLT Pad - 90	Reference Calibration Date: 03-Jul-12 05:31:29
Engineer: C. HAVERKAMP	Calibration Date: 03-Jul-12 10:17:09
Software Version: WL INSITE R3.6.0 (Build 3)	Calibration Version: 1

Pad Temperature: 85.8 degF

DENSITY POST CALIBRATION SUMMARY

Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1461.177	1454.680	-6.497	15.388
Far (B+D+P+L) cps	1014.022	1018.495	4.473	16.994
Near Resolution	8.92	9.00	0.080	0.50
Far Resolution	9.45	9.36	-0.090	1.00

PASS/FAIL SUMMARY

Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - I145_M73803_P90	Reference Calibration Date: 29-Jun-12 09:41:43
Engineer: C. HAVERKAMP	Calibration Date: 03-Jul-12 05:45:08
Software Version: WL INSITE R3.6.0 (Build 3)	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	8.17	-0.08	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

SDLT CALIPER POST CALIBRATION

Tool Name: SDLT - I145_M73803_P90	Reference Calibration Date: 03-Jul-12 05:45:08
Engineer: C. HAVERKAMP	Calibration Date: 03-Jul-12 10:25:32
Software Version: WL INSITE R3.6.0 (Build 3)	Calibration Version: 1

MEASURED CALIPER VALUES

Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.75	3.82	0.07	+/- 0.10
Ring Diameter	8.17	8.08	-0.09	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
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Gamma Ray Calibrator	232.0	239.8	238.4	1.4	+/- 9.00	api
DSNT-10735145						
Snow-Block Porosity	0.0775	0.0734	0.0736	-0.0002	+/- 0.0150	decp
SDLT-I145_M73803_P90						
Pad Extension	3.75	3.75	3.82	-0.07	+/-0.10	in
Ring Diameter	8.25	8.17	8.08	0.09	+/-0.15	in
SDLT Pad-90						
Near(B+D+P+L)	1455.558	1461.177	1454.680	6.497	+/-15.388	cps
Far(B+D+P+L)	1011.439	1014.022	1018.495	-4.473	+/-16.994	cps

Data: FEIGHT_A_710001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CHUIDLE Date: 03-Jul-12 10:26:00

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	Natural	
	SHARED	BSAL	Borehole salinity	4000.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	0.860	ohmm
	SHARED	TRM	Temperature of Mud	80.0	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	5659.00	ft
	SHARED	BHT	Bottom Hole Temperature	126.0	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 Upr	
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: FEIGHT_A_710001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CHNDLE

Date: 03-Jul-12 06:29:07

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
SP Sub				
PLTC	Plot Control Mask	66.58	NO	
SP	Spontaneous Potential	66.58	BLK	1.250
SPR	Raw Spontaneous Potential	66.58	NO	
SPO	Spontaneous Potential Offset	66.58	NO	
GTET				
TPUL	Tension Pull	58.56	NO	

GR	Natural Gamma Ray API	58.56	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	58.56	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	58.56	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	48.32	NO	
RNDS	Near Detector Telemetry Counts	48.42	BLK	1.417
RFDS	Far Detector Telemetry Counts	49.17	TRI	0.583
DNTT	DSN Tool Temperature	48.42	NO	
DSNS	DSN Tool Status	48.32	NO	
ERND	Near Detector Telemetry Counts EVR	48.42	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	49.17	BLK	0.000
ENTM	DSN Tool Temperature EVR	48.42	NO	
SDLT				
TPUL	Tension Pull	38.42	NO	
PCAL	Pad Caliper	38.42	TRI	0.250
ACAL	Arm Caliper	38.42	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

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 Reference 12 KHz Real Signal	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
TFPU	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	38.41	NO	
NAB	Near Above	38.24	BLK	0.920
NHI	Near Cesium High	38.24	BLK	0.920
NLO	Near Cesium Low	38.24	BLK	0.920
NVA	Near Valley	38.24	BLK	0.920
NBA	Near Barite	38.24	BLK	0.920
NDE	Near Density	38.24	BLK	0.920
NPK	Near Peak	38.24	BLK	0.920
NLI	Near Lithology	38.24	BLK	0.920
NBAU	Near Barite Unfiltered	38.24	BLK	0.250
NLIU	Near Lithology Unfiltered	38.24	BLK	0.250
FAB	Far Above	38.58	BLK	0.250
FHI	Far Cesium High	38.58	BLK	0.250
FLO	Far Cesium Low	38.58	BLK	0.250
FVA	Far Valley	38.58	BLK	0.250
FBA	Far Barite	38.58	BLK	0.250
FDE	Far Density	38.58	BLK	0.250
FPK	Far Peak	38.58	BLK	0.250
FLI	Far Lithology	38.58	BLK	0.250
PTMP	Pad Temperature	38.42	BLK	0.920
NHV	Near Detector High Voltage	37.81	NO	
FHV	Far Detector High Voltage	37.81	NO	
ITMP	Instrument Temperature	37.81	NO	
DDHV	Detector High Voltage	37.81	NO	

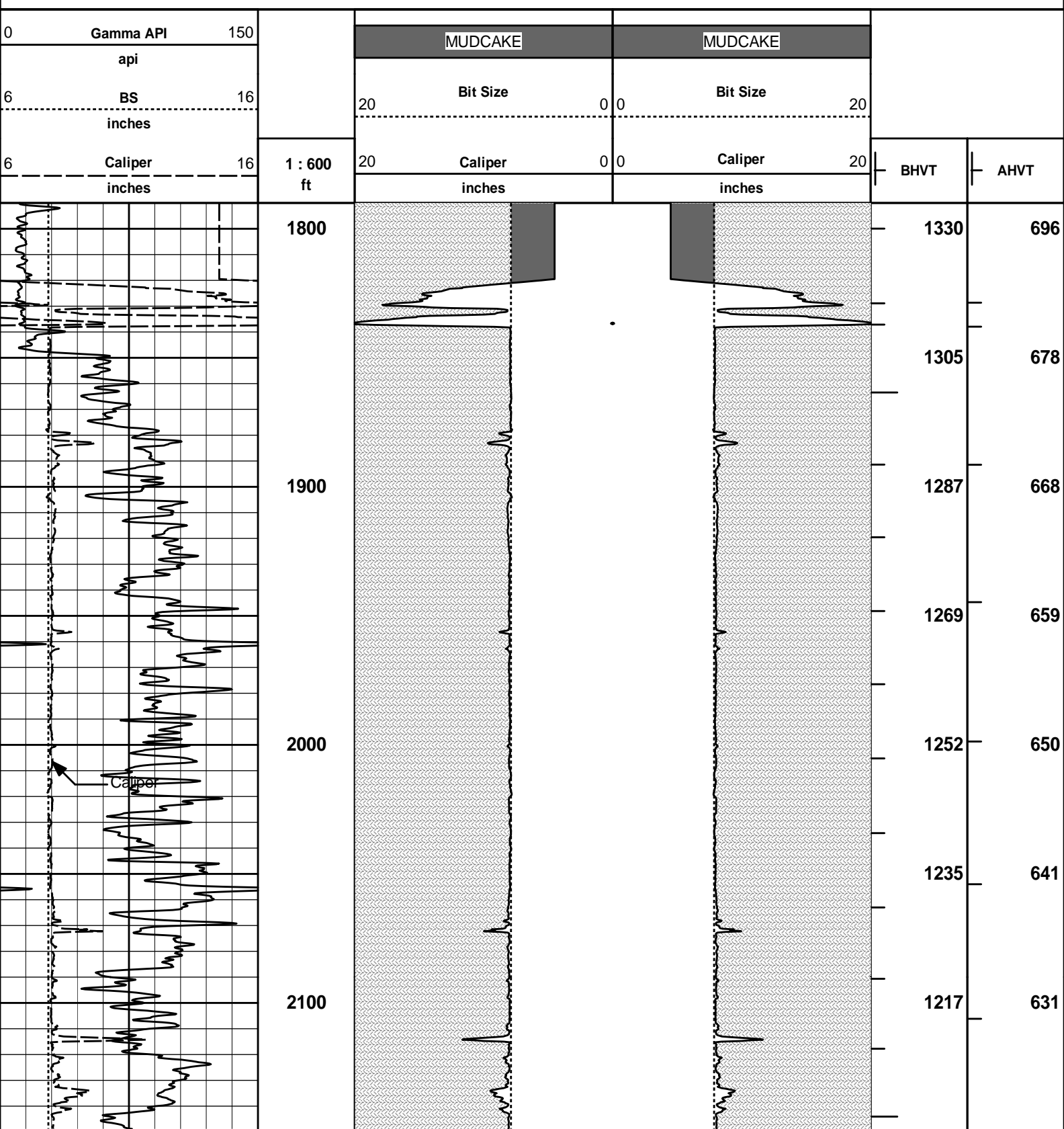
Microlog Pad

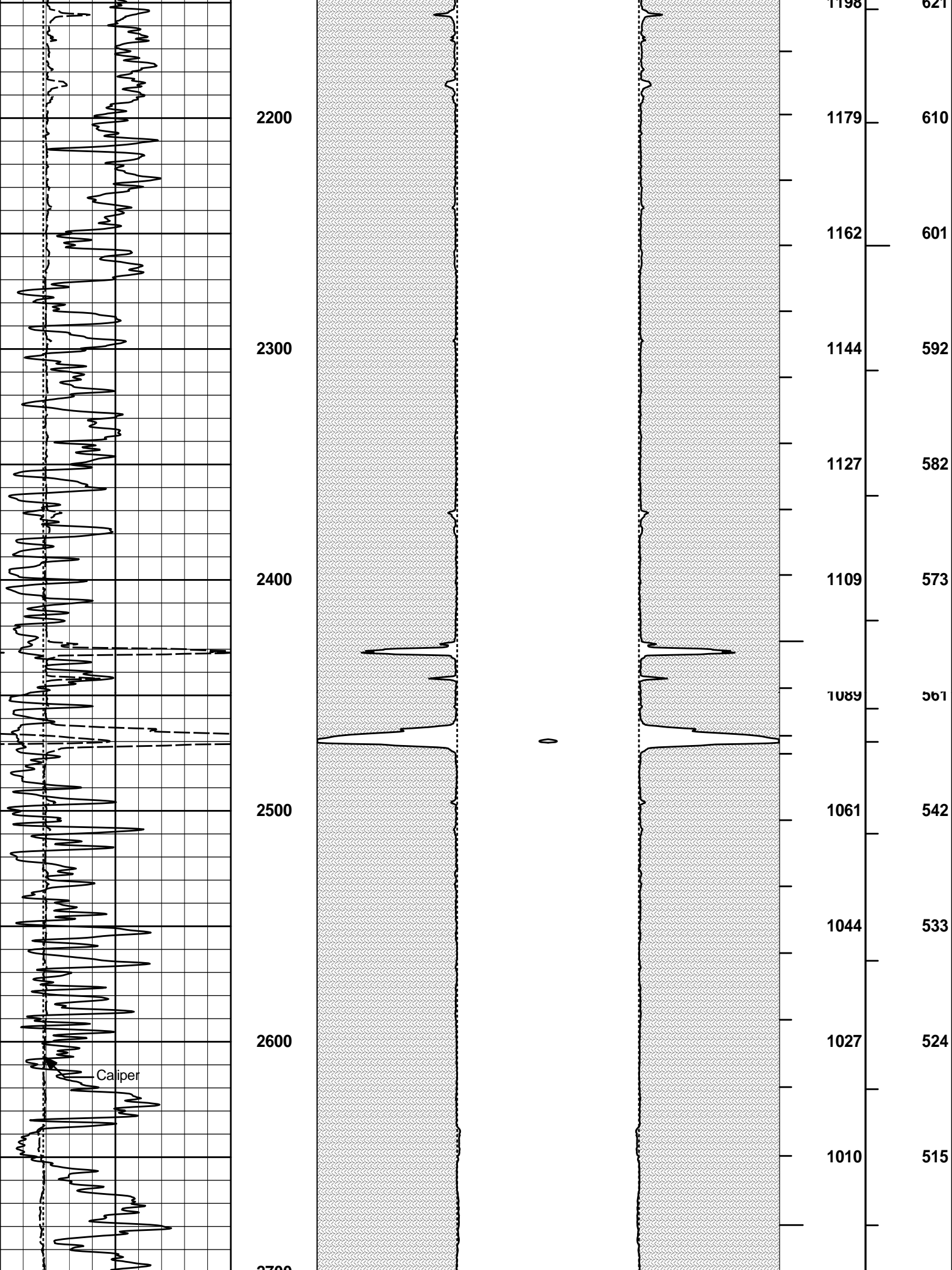
TPUL	Tension Pull	38.60	NO	
MINV	Microlog Lateral	38.60	BLK	0.750



Plot Time: 03-Jul-12 10:30:59
 Plot Range: 1790 ft to 5648.92 ft
 Data: FEIGHT_A_7\Well Based\R1_CASING\
 Plot File: \\-LOCAL-\\FEIGHT_A_7\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CH\PORO\AHV_5_5_INCH_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT (5.5 INCH)





2200

2300

2400

2500

2600

2700

1179

1162

1144

1127

1109

1089

1061

1044

1027

1010

1198

610

601

592

582

573

561

542

533

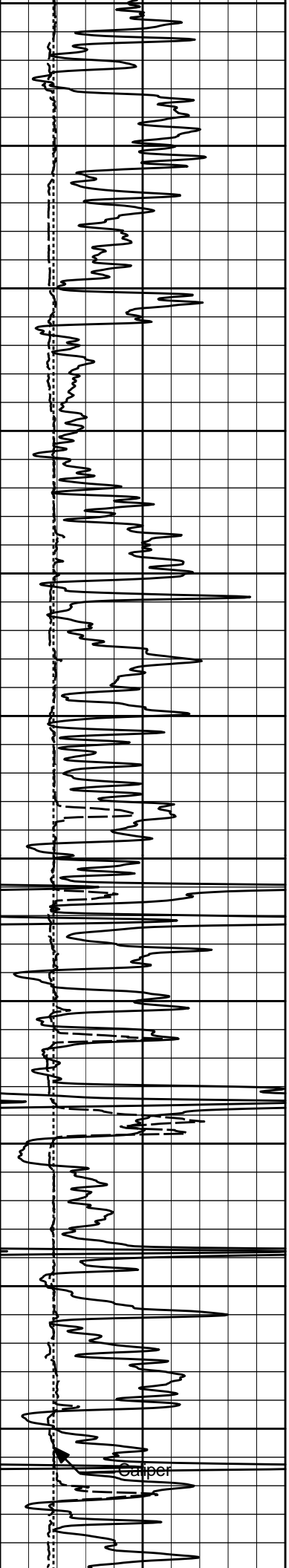
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515

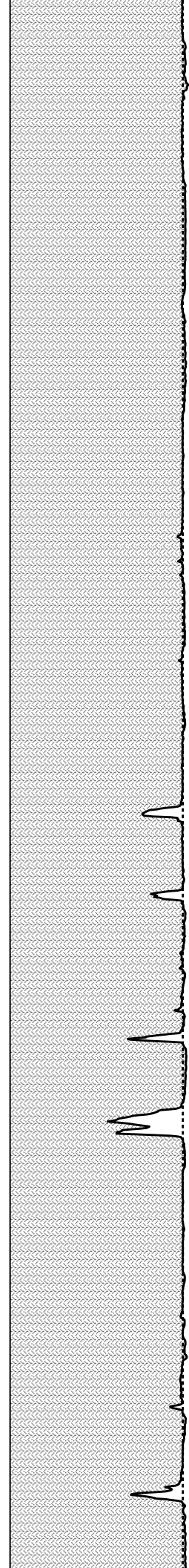
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Caliper

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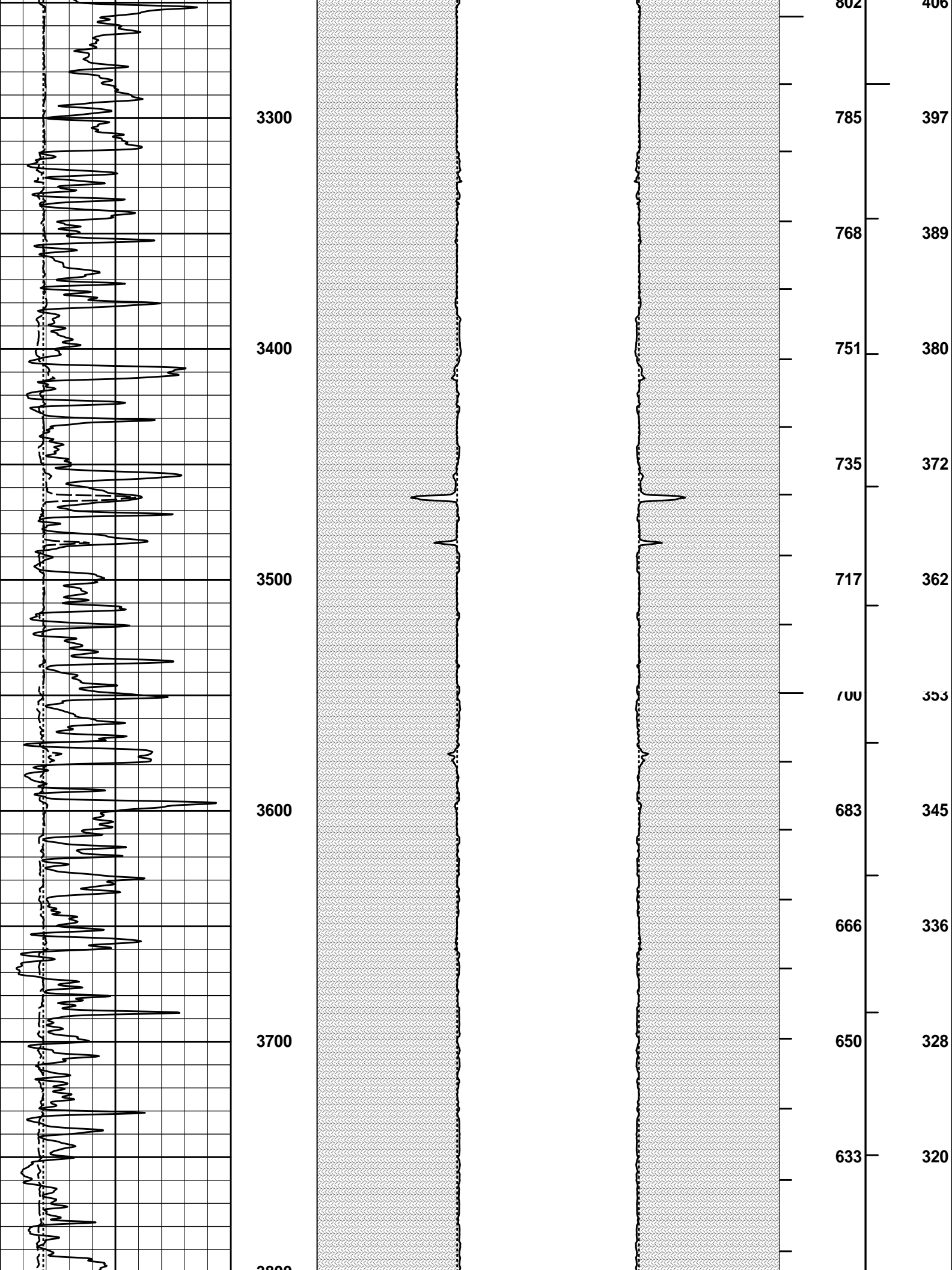


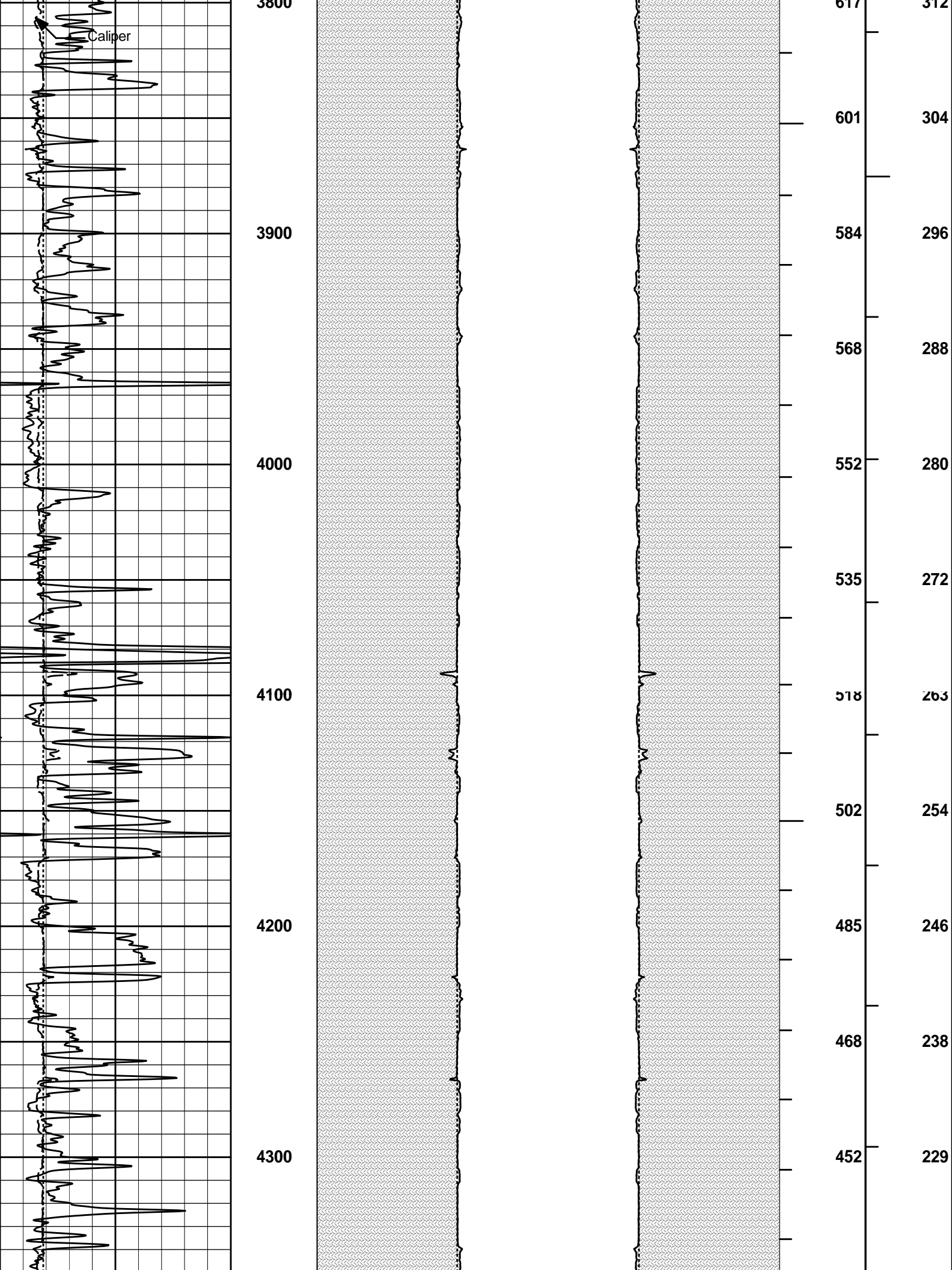
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2900
3000
3100
3200

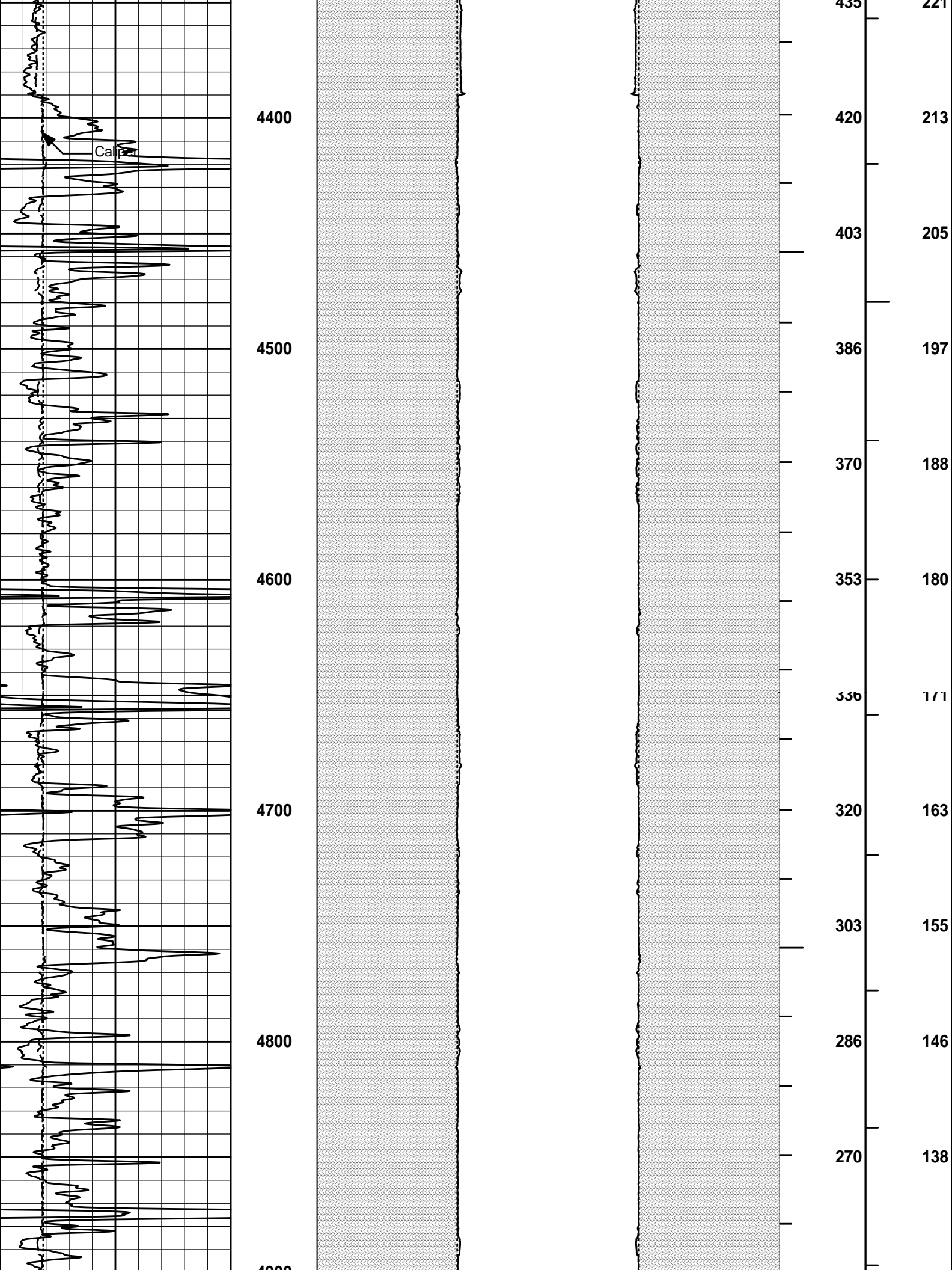


993
976
960
943
926
909
892
874
853
837
820

507
498
490
482
473
464
455
445
433
424
416







4400

4500

4600

4700

4800

4900

420

403

386

370

353

336

320

303

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270

213

205

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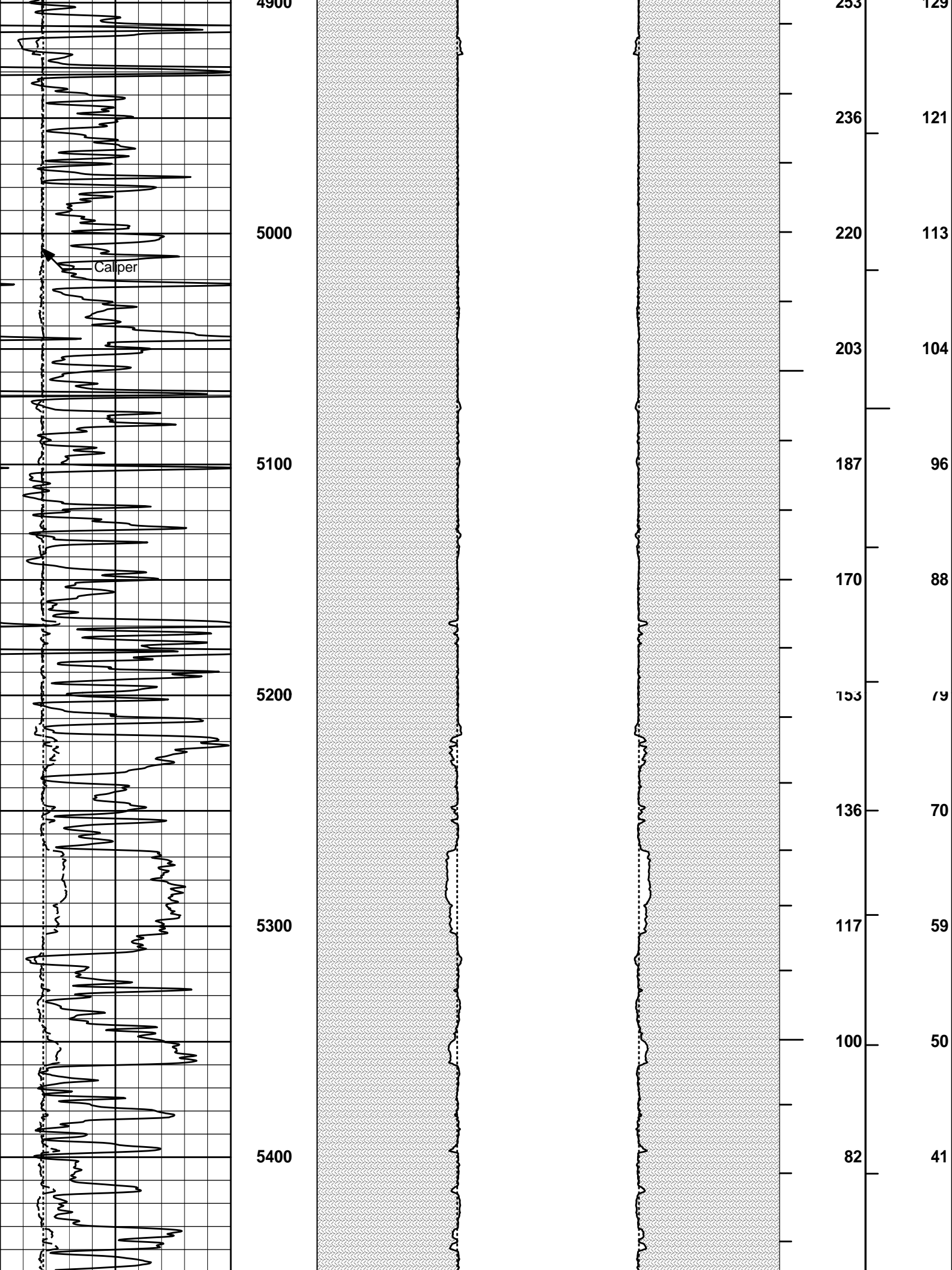
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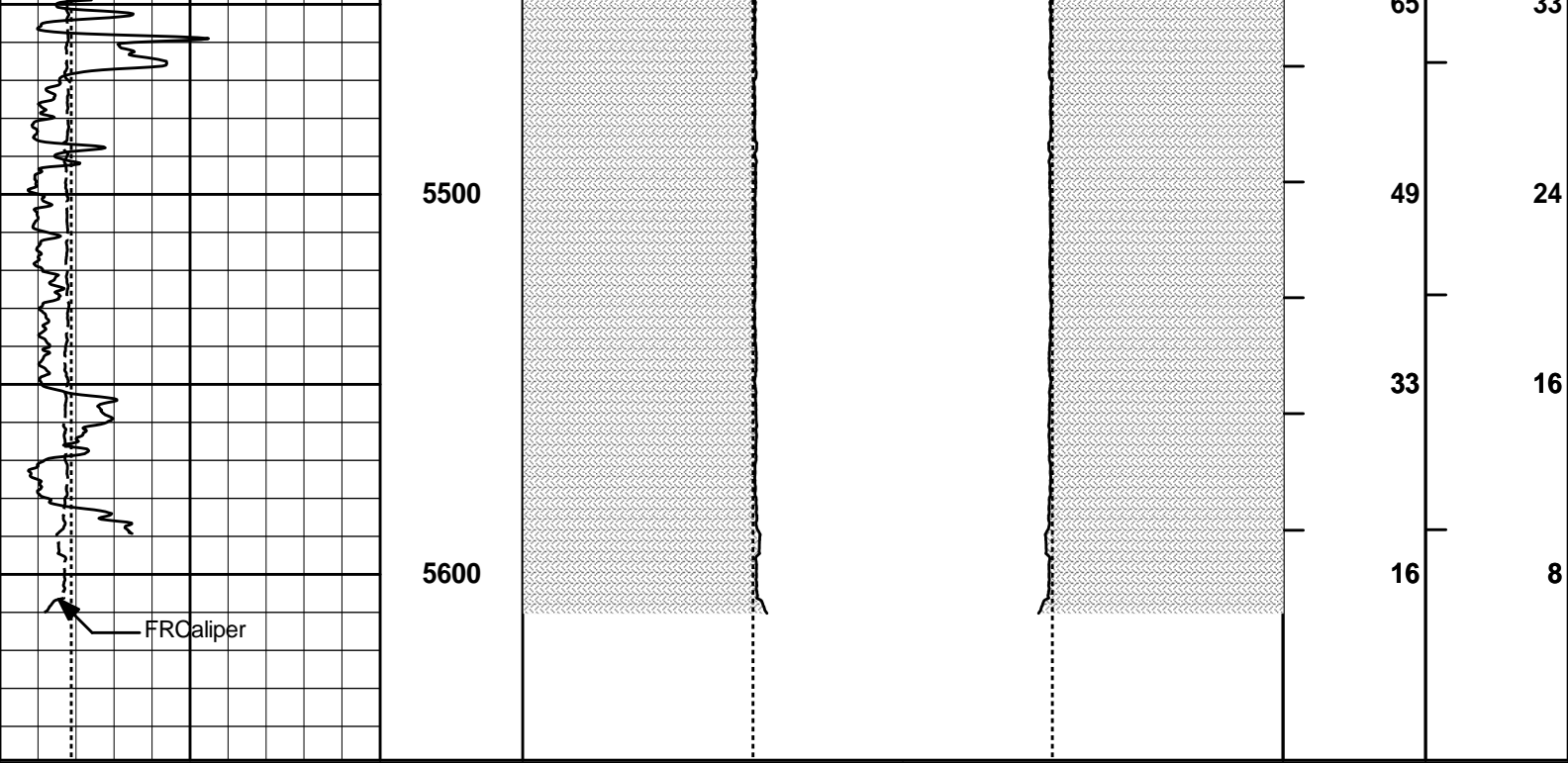
155

146

138

Calc





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

HALLIBURTON Plot Time: 03-Jul-12 10:31:14
 Plot Range: 1790 ft to 5648.92 ft
 Data: FEIGHT_A_7\Well Based\R1_CASING\
 Plot File: \\-LOCAL-\\FEIGHT_A_7\0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CHPOROAHV_5_5_INCH_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT (5.5 INCH)

COMPANY	OXY USA INC		
WELL	FEIGHT A-7		
FIELD	VICTORY		
COUNTY	HASKELL	STATE	KANSAS

HALLIBURTON	SPECTRAL DENSITY DUAL SPACED NEUTRON LOG
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