HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

COMPANY	**BEREXCO INC.**
WELL	**WELLINGTON KGS #1-32**
FIELD	**WELLINGTON**
COUNTY	**SUMNER**
STATE	**KANSAS**

COMPANY **BEREXCO INC.**
WELL **WELLINGTON KGS #1-32**
FIELD **WELLINGTON**
COUNTY **SUMNER** STATE **KANSAS**

API No. 15-191-22591
Location 955' FNL & 877' FEL
Sect. 32 Twp. 31S Rge. 1W

Other Services:
ACRT
MICRO
CSNG
GEM
WSTT
XRMI
MRIL

Permanent Datum	GROUND LEVEL	Elev. 1259.0 ft	
Log measured from	KELLY BUSHING	13.0 ft above perm. Datum	Elev.: K.B. 1272.0 ft
Drilling measured from	KELLY BUSHING		D.F. 1271.0 ft
			G.L. 1259.0 ft

Date	09-Feb-11		
Run No.	2		
Depth - Driller	5240.00 ft		
Depth - Logger	5240.0 ft		
Bottom - Logged Interval	5217.0 ft		
Top - Logged Interval	607.0 ft		
Casing - Driller	9.625 in @ 607.0 ft	@	
Casing - Logger	607.0 ft		
Bit Size	7.875 in	@	
Type Fluid in Hole	WATER BASED MUD		
Density / Viscosity	9.0 ppg / 48.00 s/qt		
PH / Fluid Loss	10.00 pH / 9.2 cptm		
Source of Sample	FLOW LINE		
Rm @ Meas. Temperature	0.650 ohmm @ 58.00 degF	@	
Rmf @ Meas. Temperature	0.55 ohmm @ 58.00 degF	@	
Rmc @ Meas. Temperature	0.750 ohmm @ 58.00 degF	@	
Source Rmf / Rmc	MEAS / MEAS		
Rm @ BHT	0.26 ohmm @ 125.0 degF	@	
Max. Rec. Temperature	125.0 degF @ 5240.0 ft	@	
Equipment / Location	10546696 / LIBERAL		
Time Since Circulation	4.0 hr		
Time on Bottom	09-Feb-11 04:46		
Recorded By	J. BOSH	K. CRISLER	G. KORALEGEDARA
Witnessed By	L. WATNEY		

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Service Ticket No.: 7942786 | API Serial No.: 15-191-22591 | PGM Version: WL INSITE R3.2.0 (Build 7)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

Date / Sample No.			
Depth-Driller			
Type Fluid in Hole			
Density / Viscosity			
Ph / Fluid Loss			
Source of Sample			
Rm @ Meas. Temp	@	@	
Rmf @ Meas. Temp.	@	@	
Rmc @ Meas. Temp.	@	@	
Source Rmf / Rmc			
Rm @ BHT	@	@	
Rmf @ BHT	@	@	
Rmc @ BHT	@	@	

RESISTIVITY SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	TWO	Run No.		Run No.	TWO	Run No.	TWO
Serial No.	11039640	Serial No.		Serial No.	I43_M69_P81	Serial No.	11019643
Model No.	GTET	Model No.		Model No.	SDLT-I	Model No.	DSNT-I
Diameter	3.625	No. of Cent.		Diameter	4.5	Diameter	3.625
Detector Model No.	T-102	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS 137	Source Type	AM 241 BE
Length	8"	LSA [Y/N]		Serial No.	5168 GW	Serial No.	DSN-424
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI

LOGGING DATA

GENERAL		GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Logging Unit No.	10546696	Logging Unit No.	10546696	Logging Unit No.	10546696	Logging Unit No.	10546696	Logging Unit No.	10546696
Logging Unit Location	LIBERAL	Logging Unit Location	LIBERAL	Logging Unit Location	LIBERAL	Logging Unit Location	LIBERAL	Logging Unit Location	LIBERAL
Recorded By	J. BOSH	Recorded By	J. BOSH	Recorded By	J. BOSH	Recorded By	J. BOSH	Recorded By	J. BOSH
Witnessed By	L. WATNEY	Witnessed By	L. WATNEY	Witnessed By	L. WATNEY	Witnessed By	L. WATNEY	Witnessed By	L. WATNEY
Time Logger on Bottom	09-Feb-11 04:46	Time Logger on Bottom	09-Feb-11 04:46	Time Logger on Bottom	09-Feb-11 04:46	Time Logger on Bottom	09-Feb-11 04:46	Time Logger on Bottom	09-Feb-11 04:46
Max Rec Temp	125.0 degF	Max Rec Temp	125.0 degF	Max Rec Temp	125.0 degF	Max Rec Temp	125.0 degF	Max Rec Temp	125.0 degF
Equipment Number	10546696	Equipment Number	10546696	Equipment Number	10546696	Equipment Number	10546696	Equipment Number	10546696
Location	LIBERAL	Location	LIBERAL	Location	LIBERAL	Location	LIBERAL	Location	LIBERAL
Recorded By	J. BOSH	Recorded By	J. BOSH	Recorded By	J. BOSH	Recorded By	J. BOSH	Recorded By	J. BOSH
Witnessed By	L. WATNEY	Witnessed By	L. WATNEY	Witnessed By	L. WATNEY	Witnessed By	L. WATNEY	Witnessed By	L. WATNEY

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
TWO	607	5217	REC	0	150				30%	-10%	2.71	30%	-10%	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CHLORIDES: 11,000 PPM LCM: 10 LB/BBL

GPS COORDINATES: LAT: 37.30 N LONG: 97.43 W

GTET/CSNG/GEM/DSN/SDL/ACRT RAN IN COMBINATION

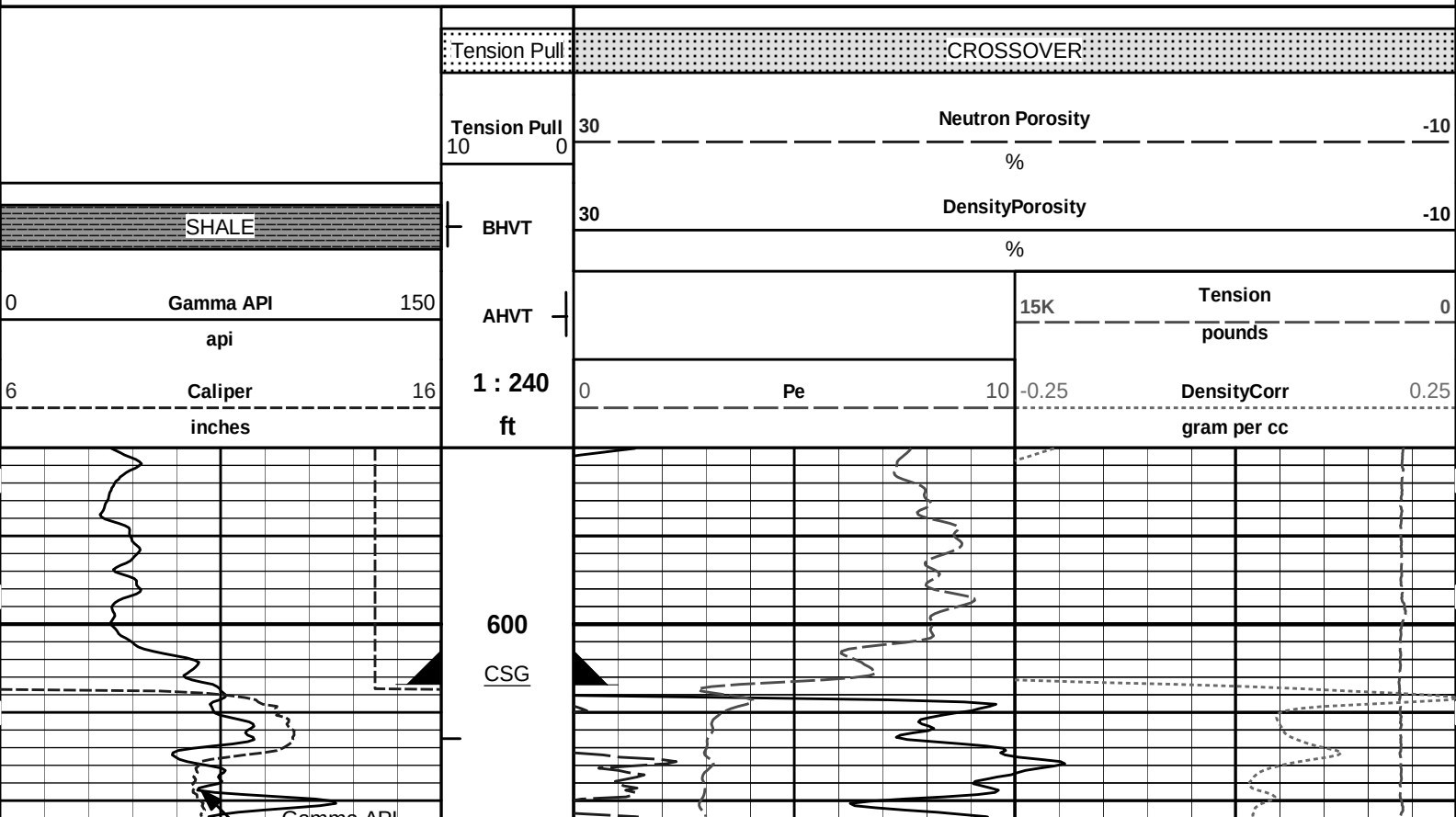
TODAY'S CREW: K. KELLY, K. KING

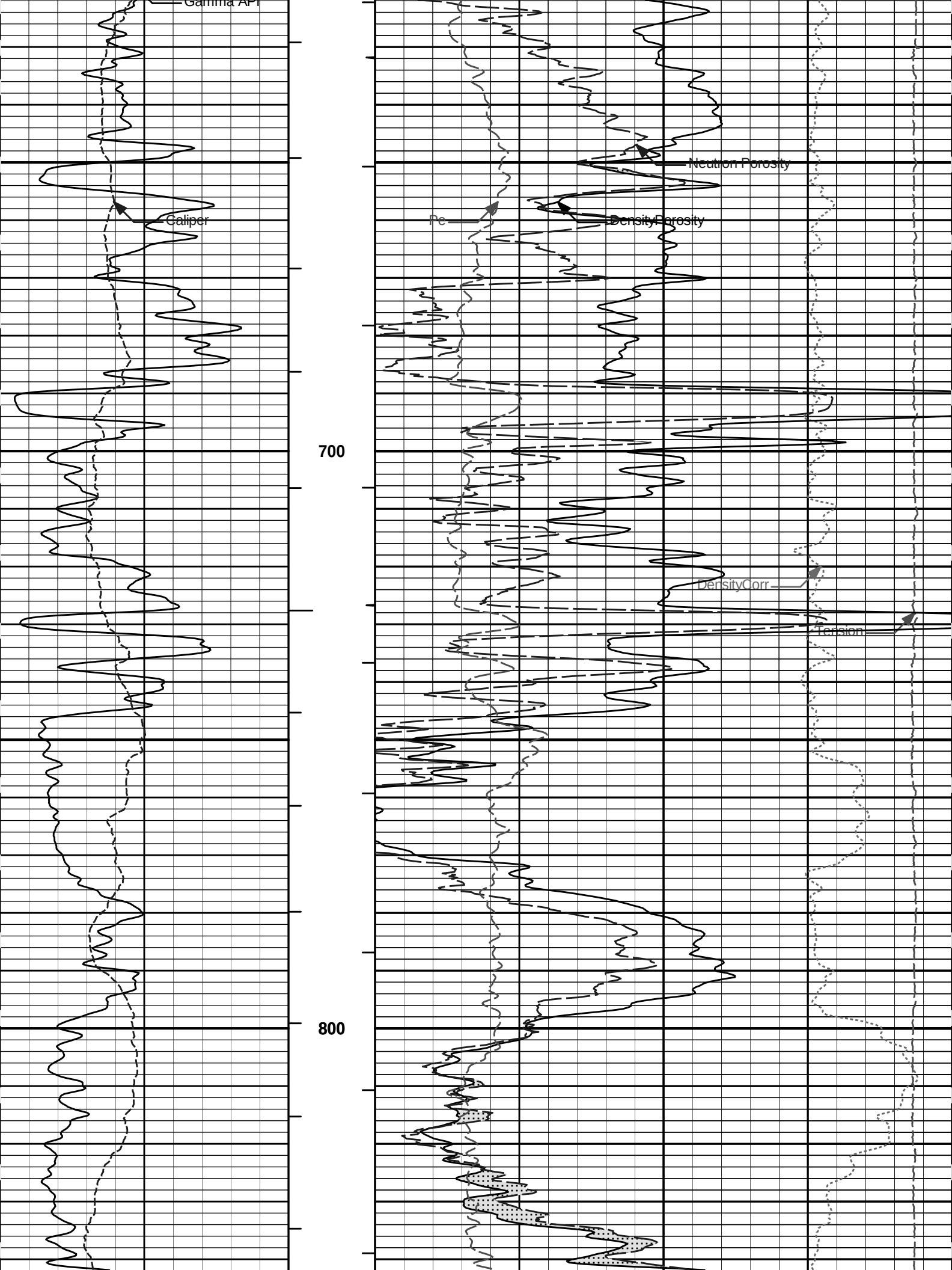
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES, LIBERAL, KS 620-624-8123

HALLIBURTON

Plot Time: 09-Feb-11 17:36:12
Plot Range: 580 ft to 5250.25 ft
Data: WELINGTN_KGS_R2\Well Based\DAQ-0001-002
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

5 INCH MAIN LOG

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Pe
DensityPorosity
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DensityCorr
Tension
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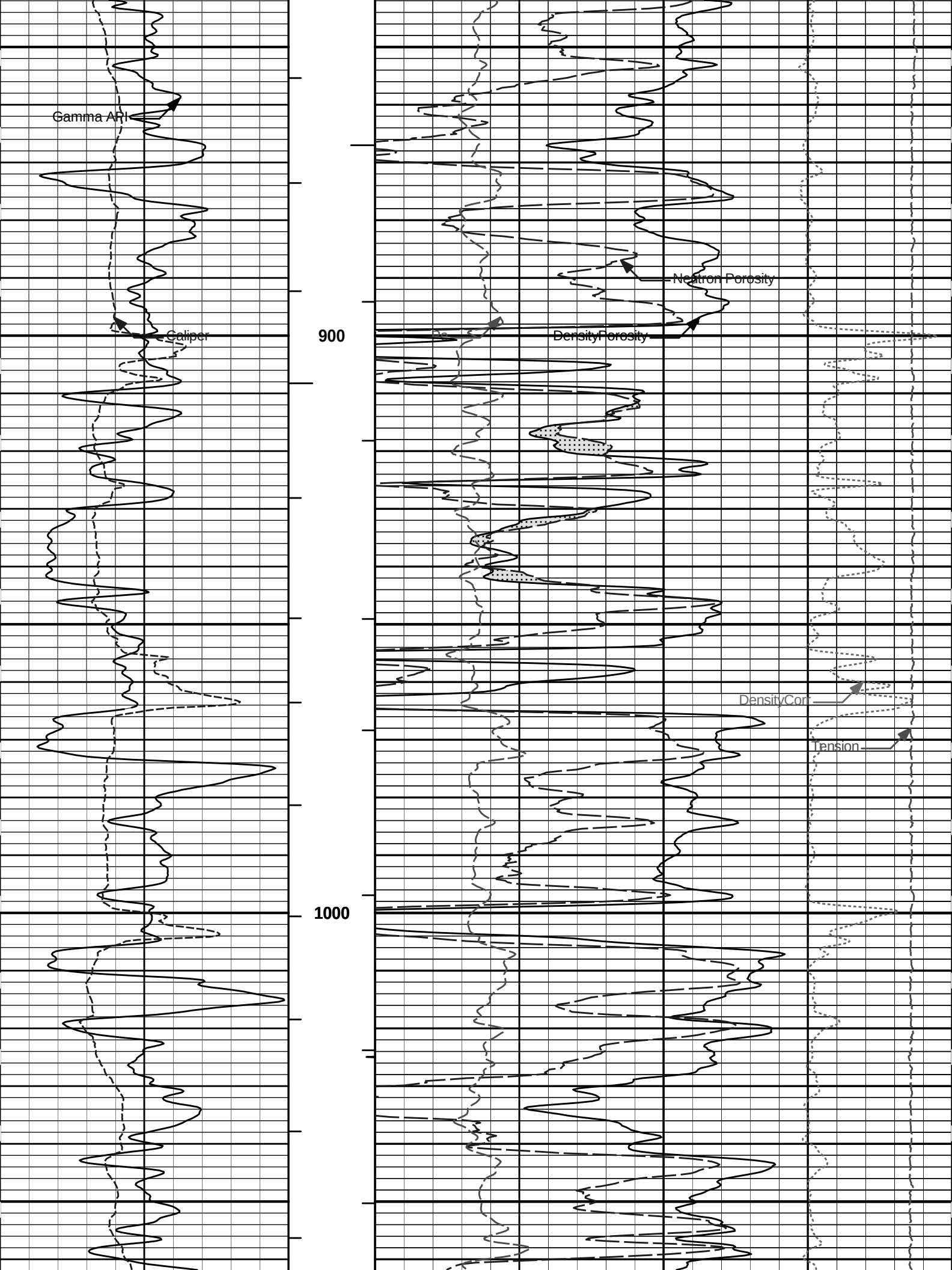
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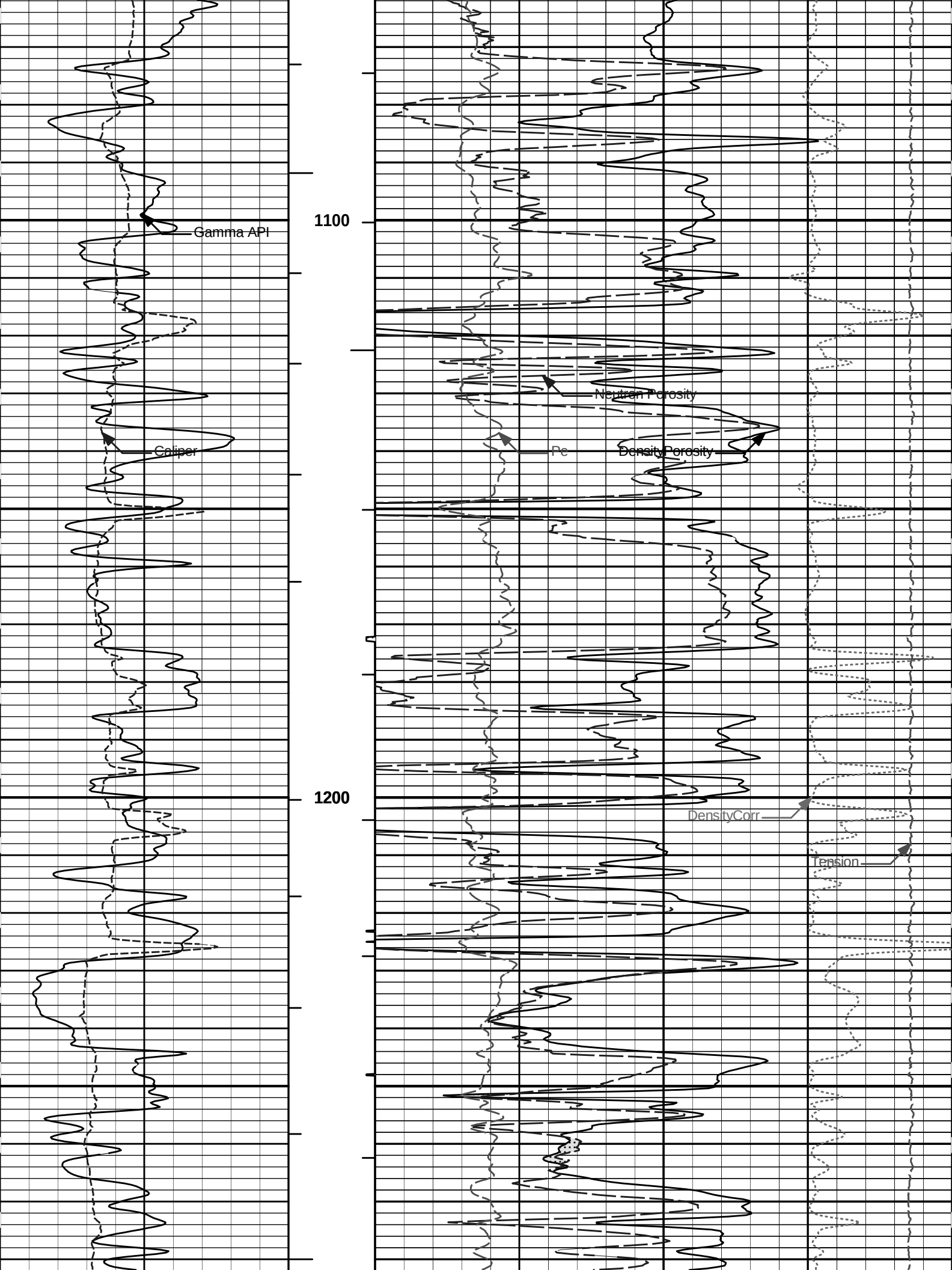
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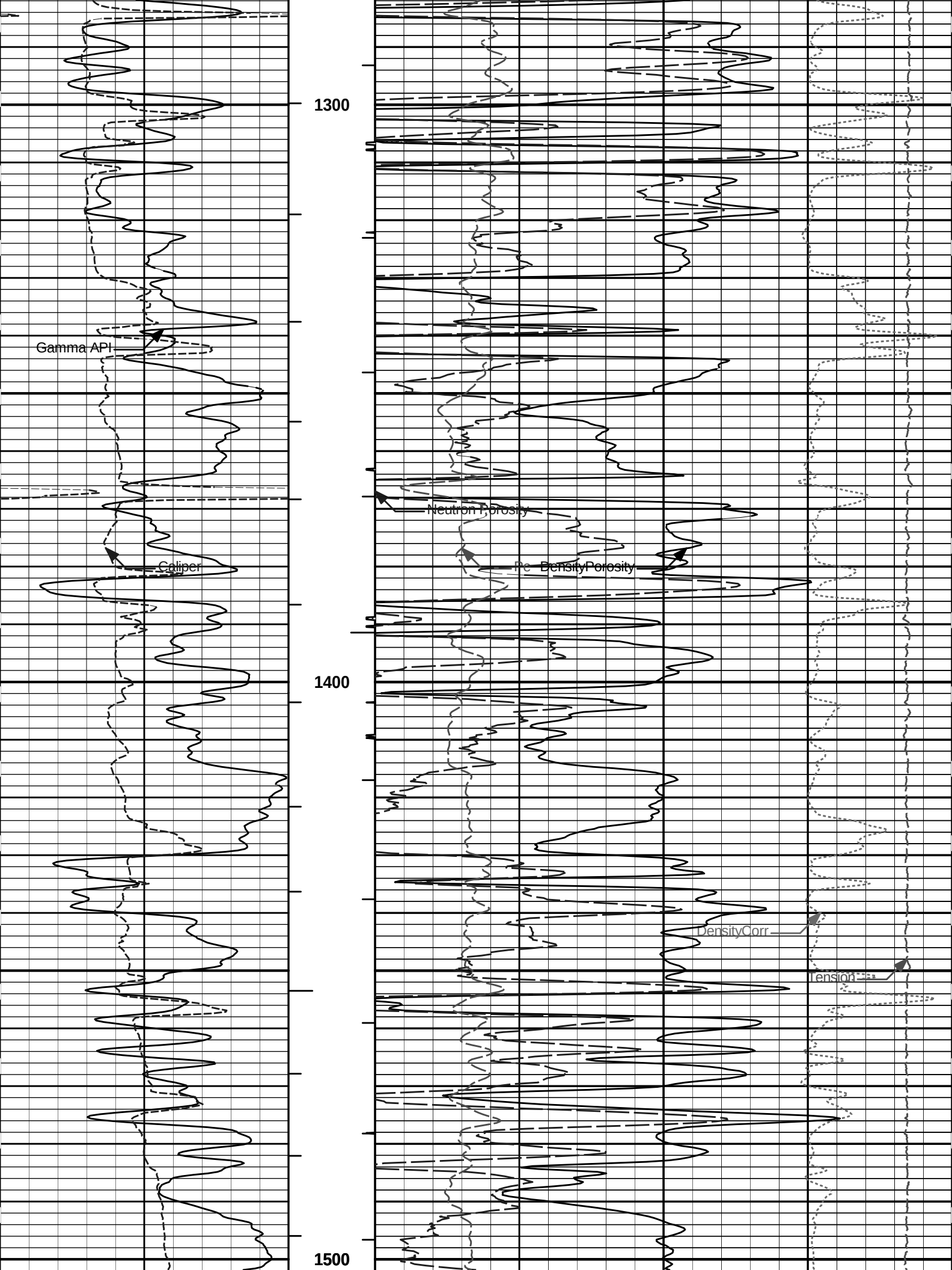
Tension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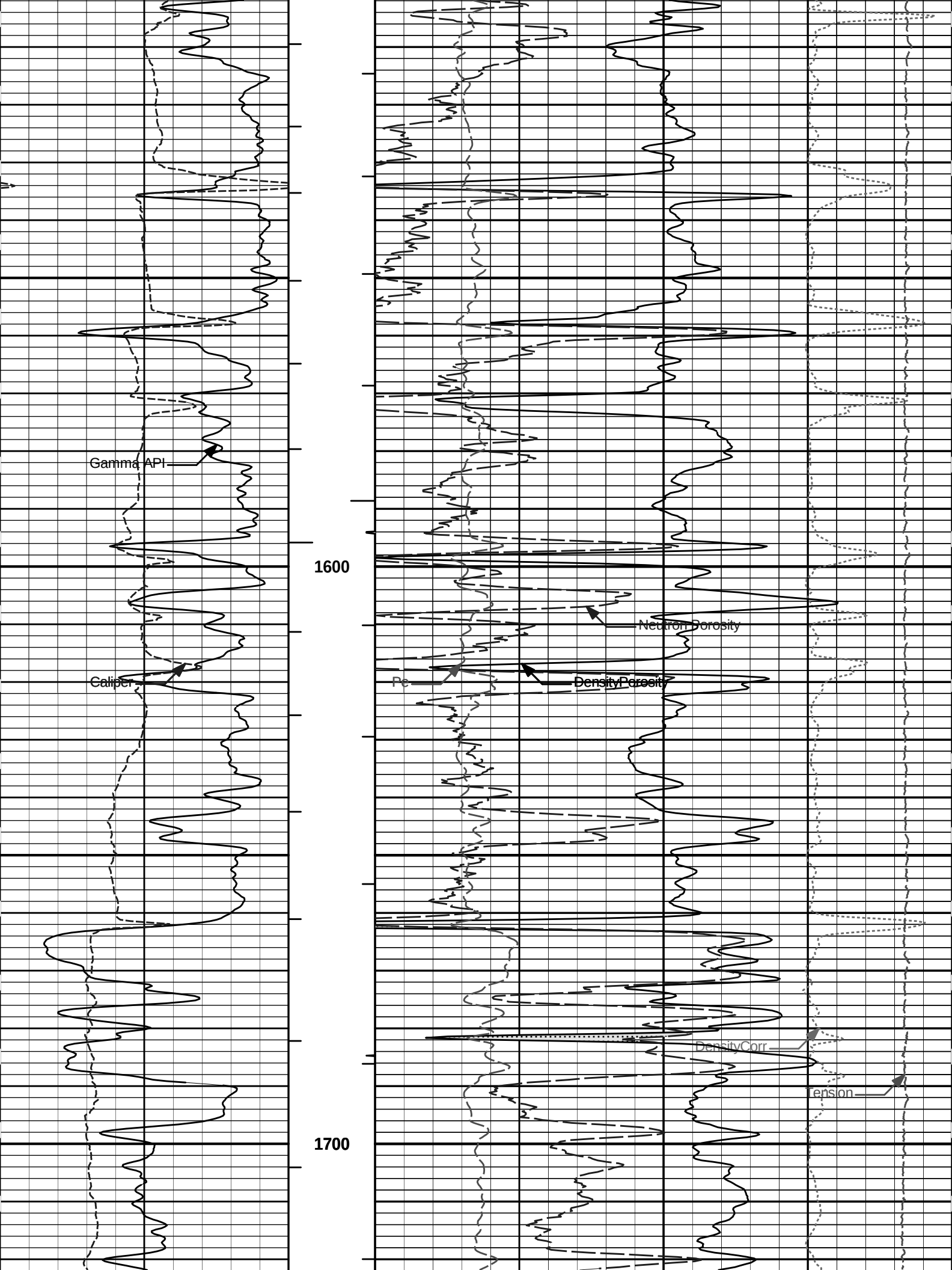
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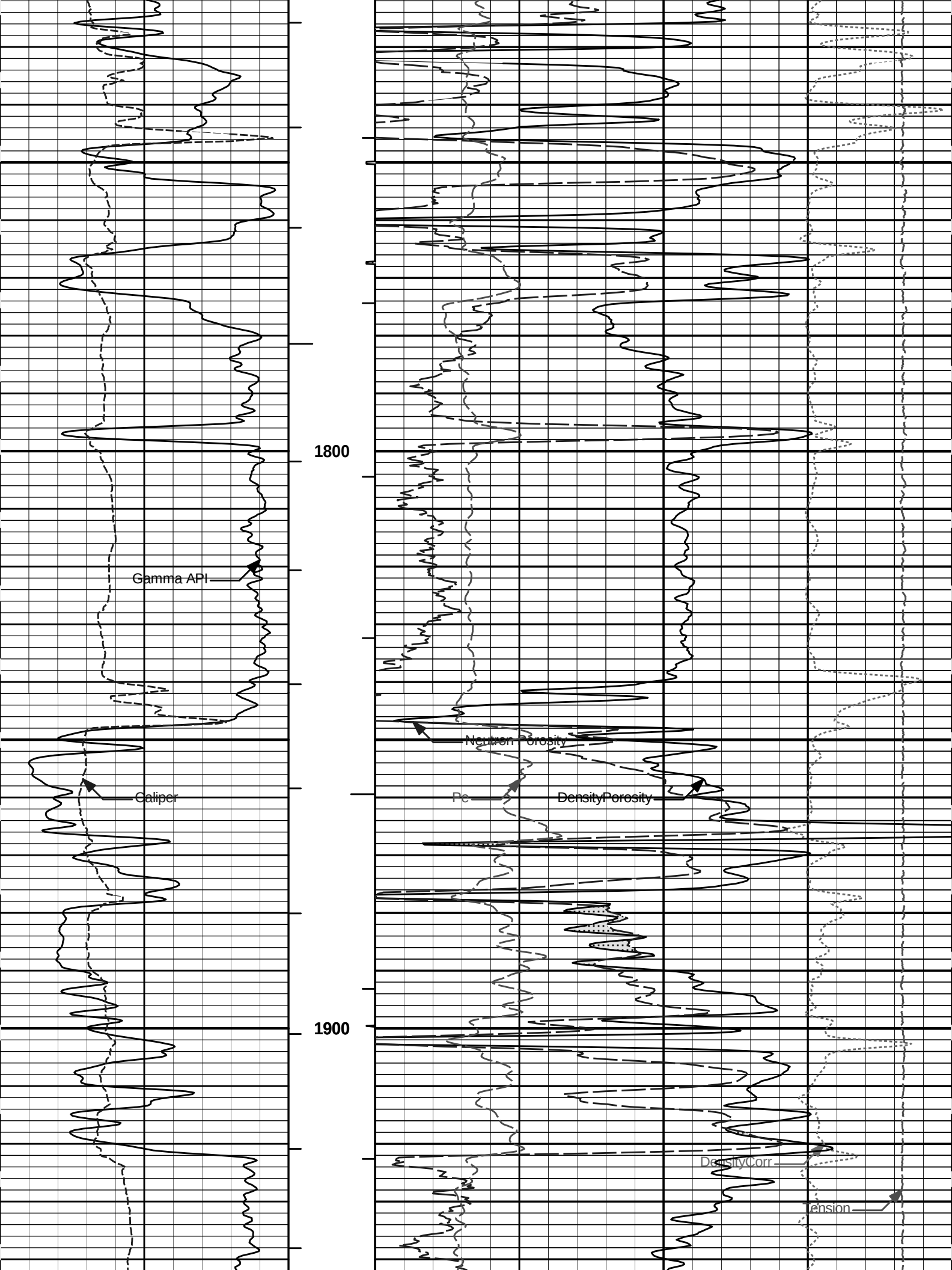
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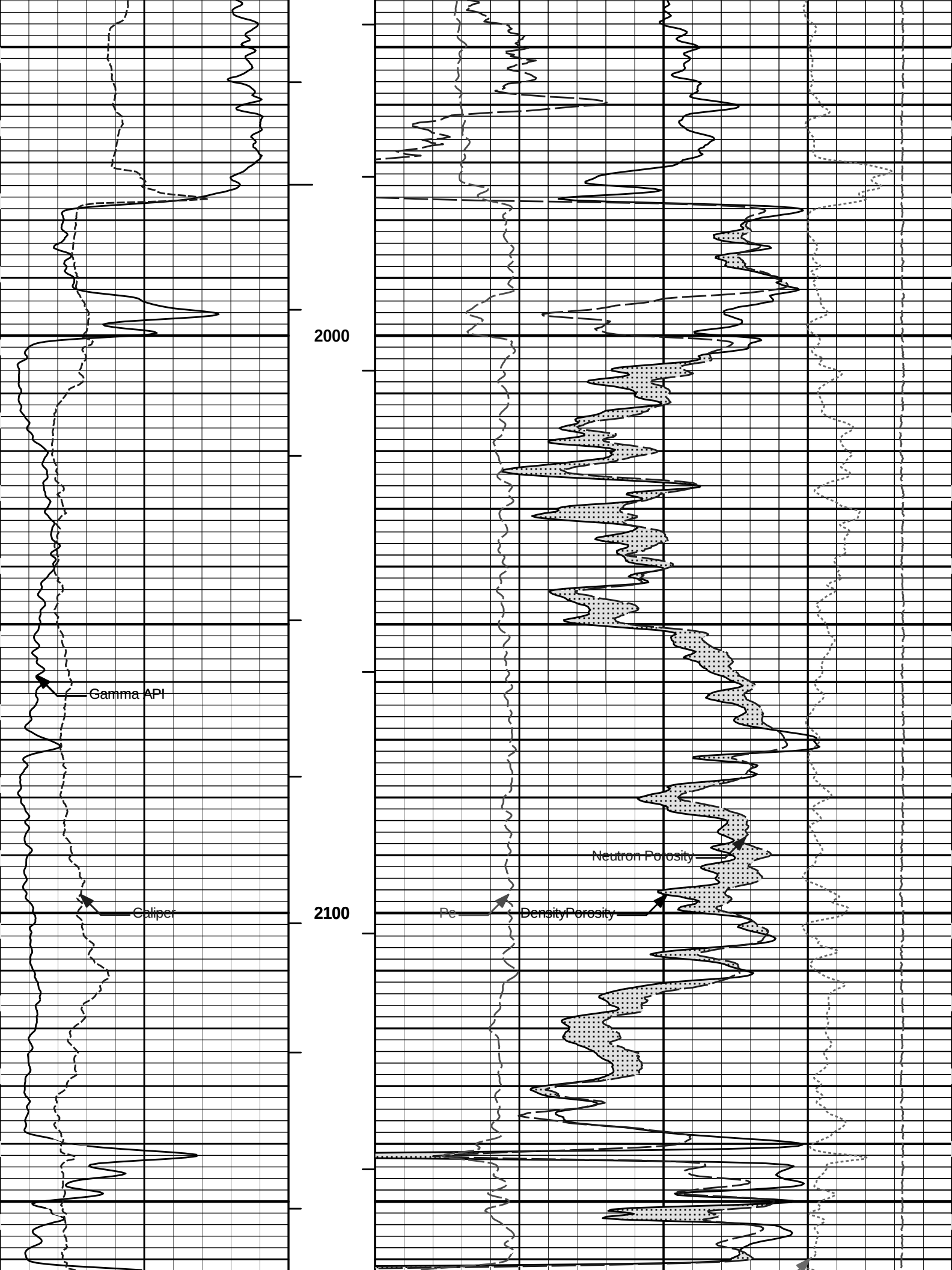
DensityCorr
Tension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Neutron Porosity
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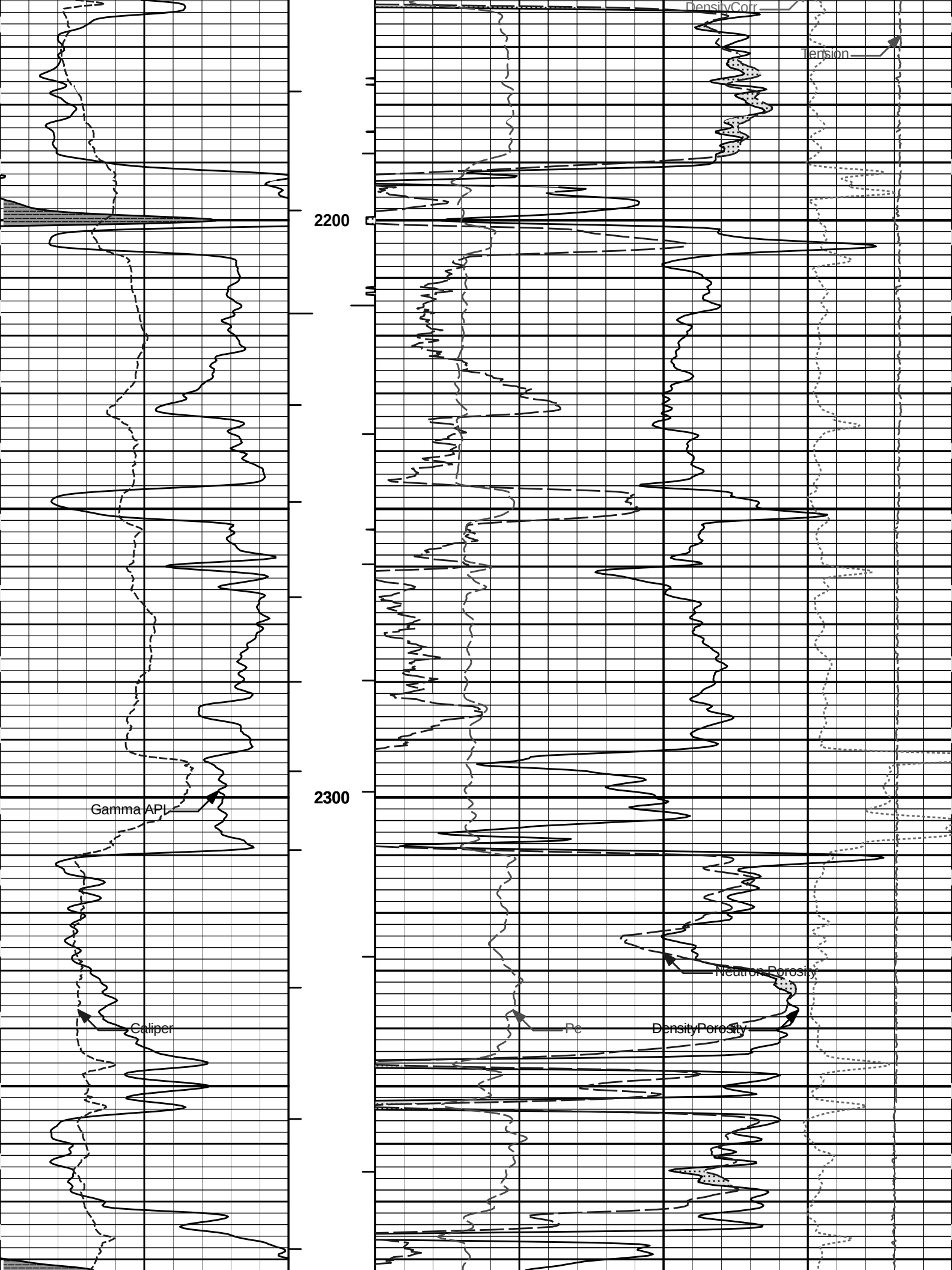
DensityPorosity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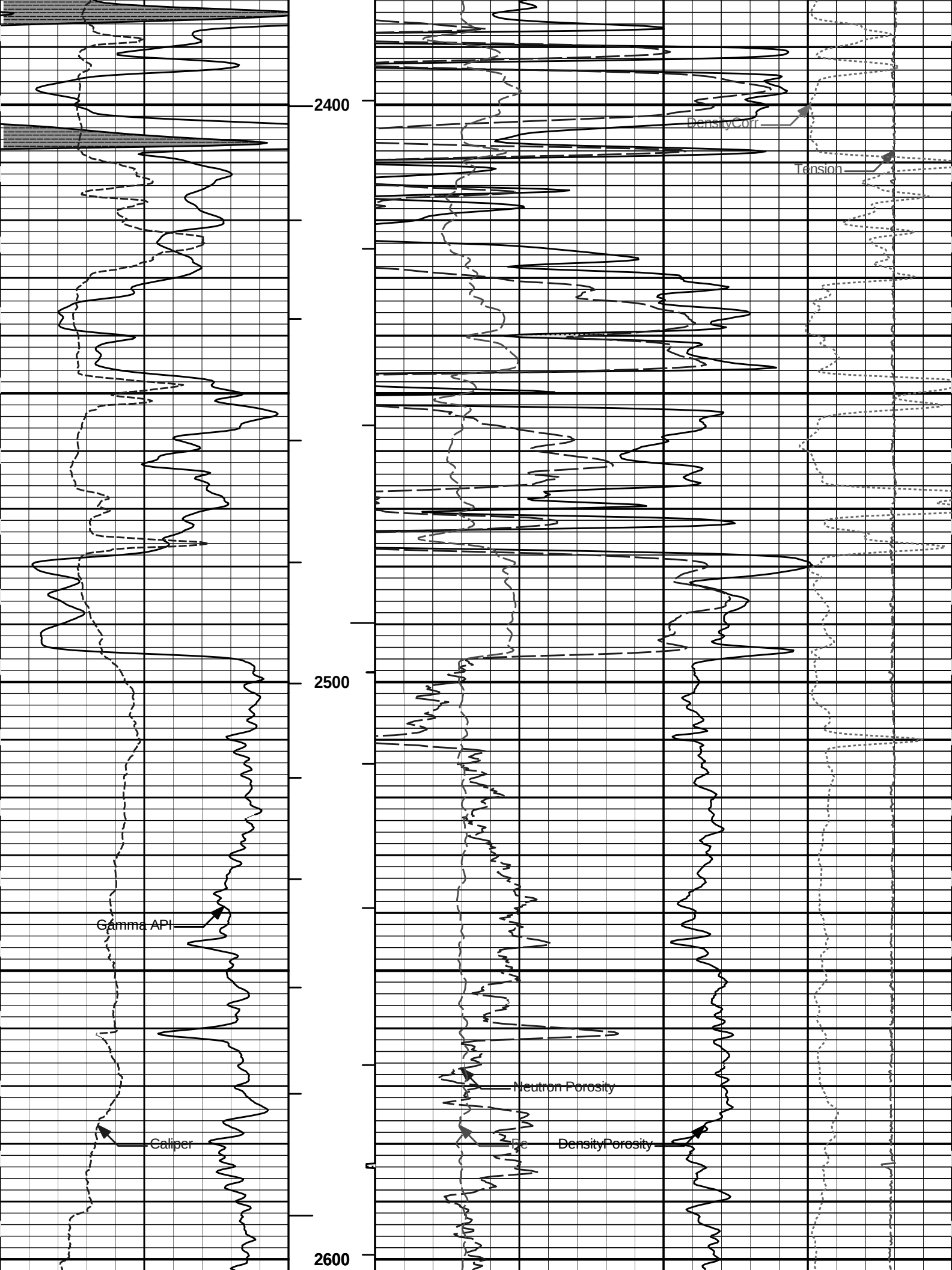
DensityPorosity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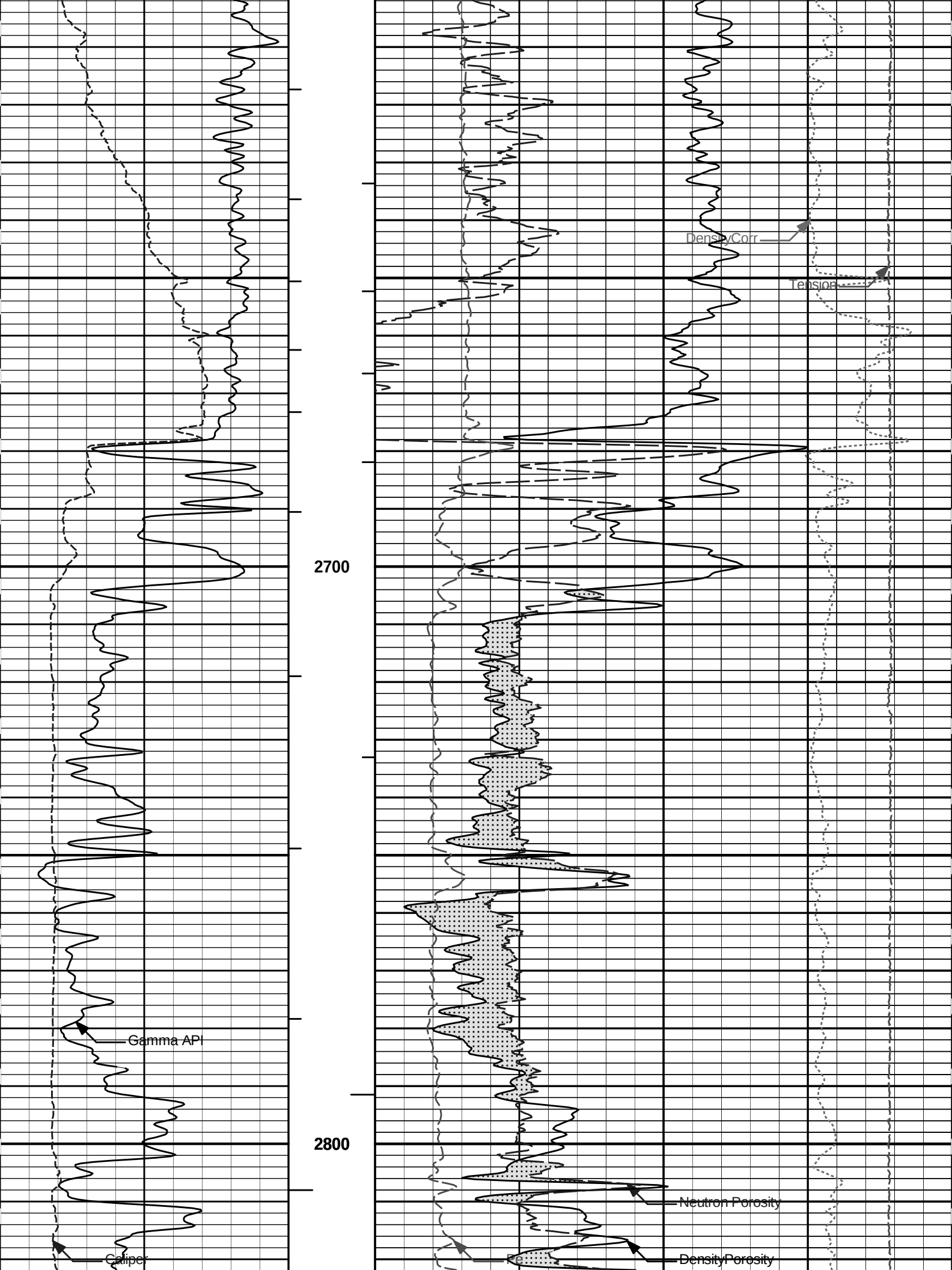
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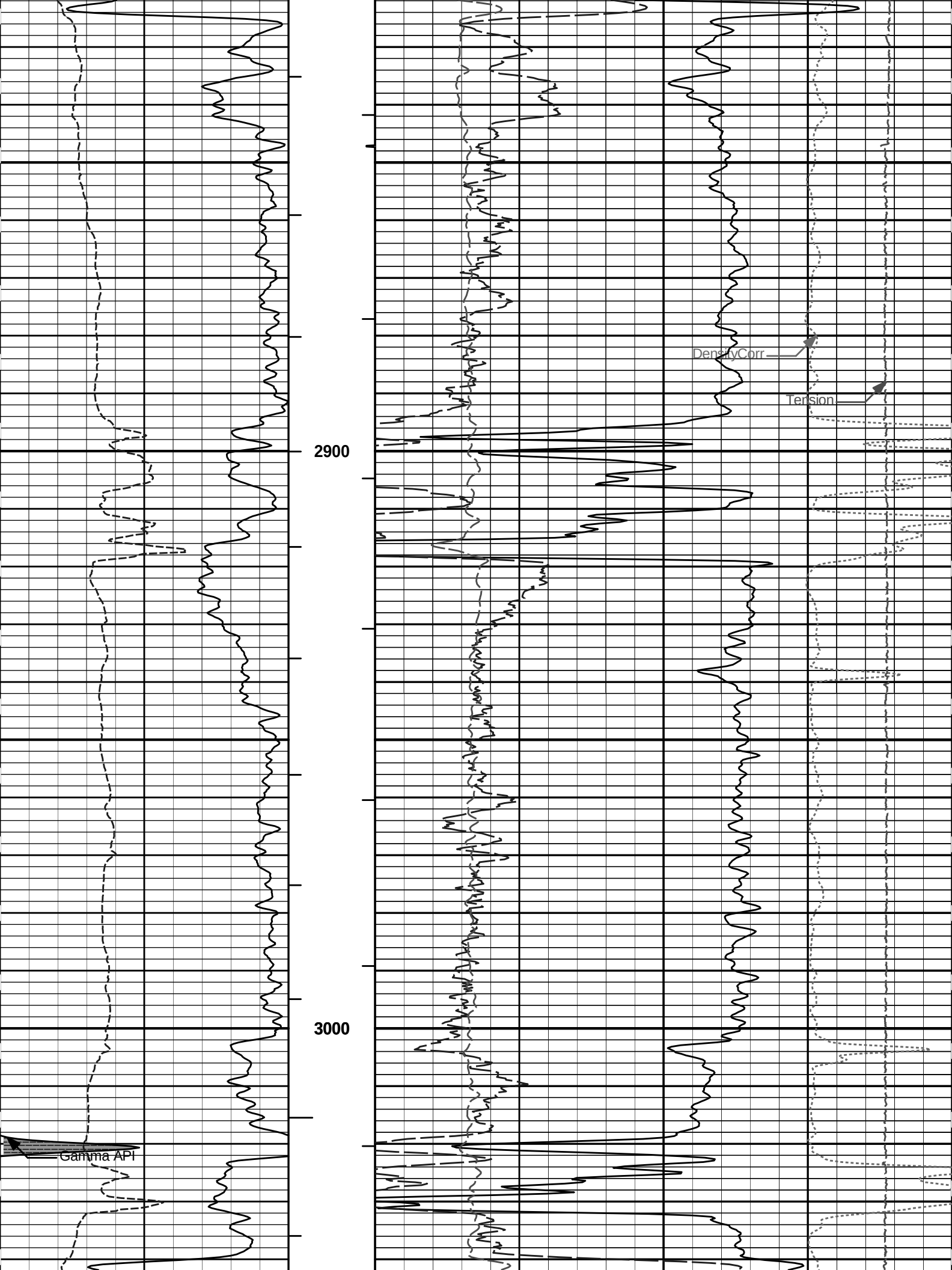
DensityPorosity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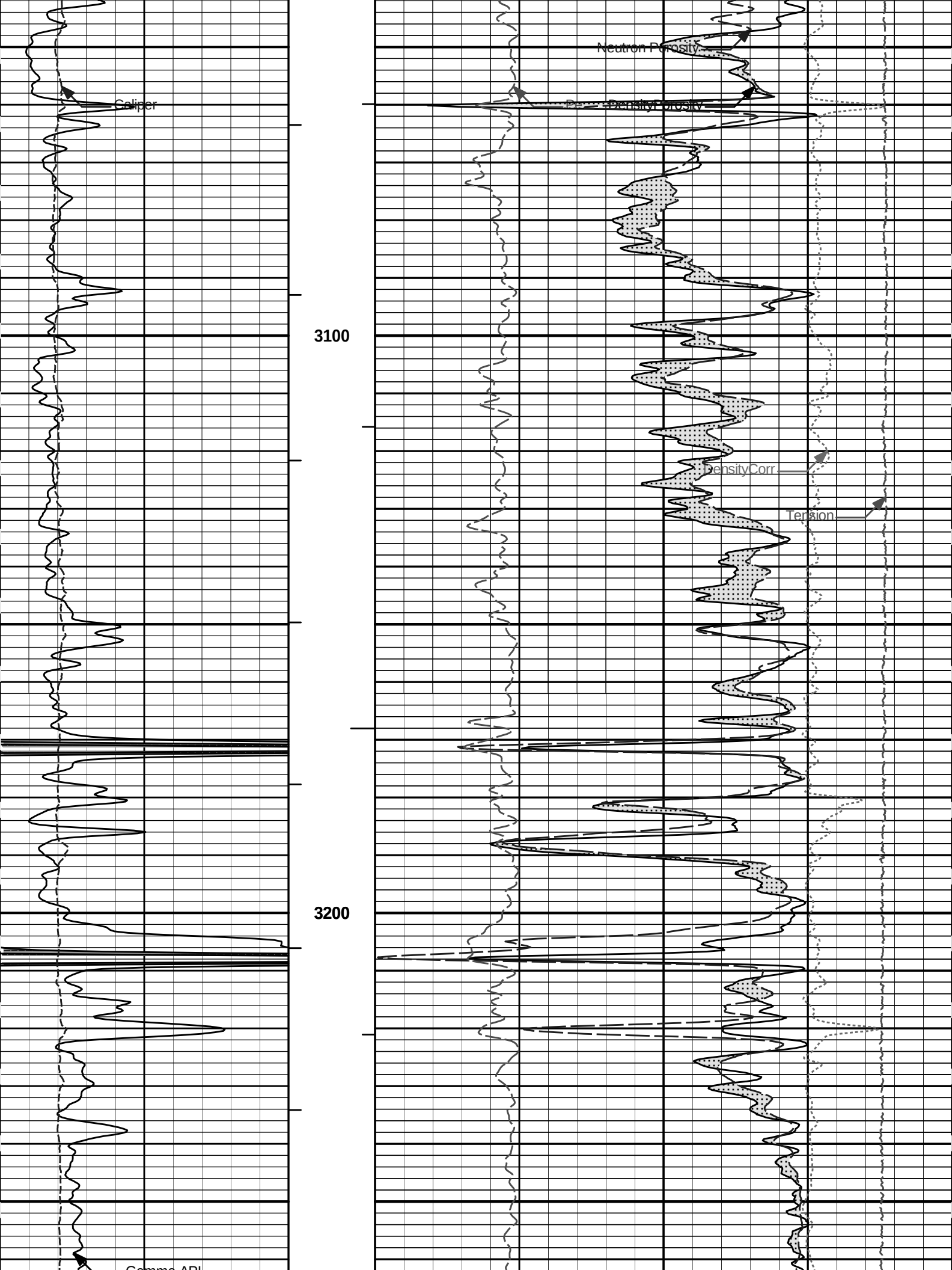
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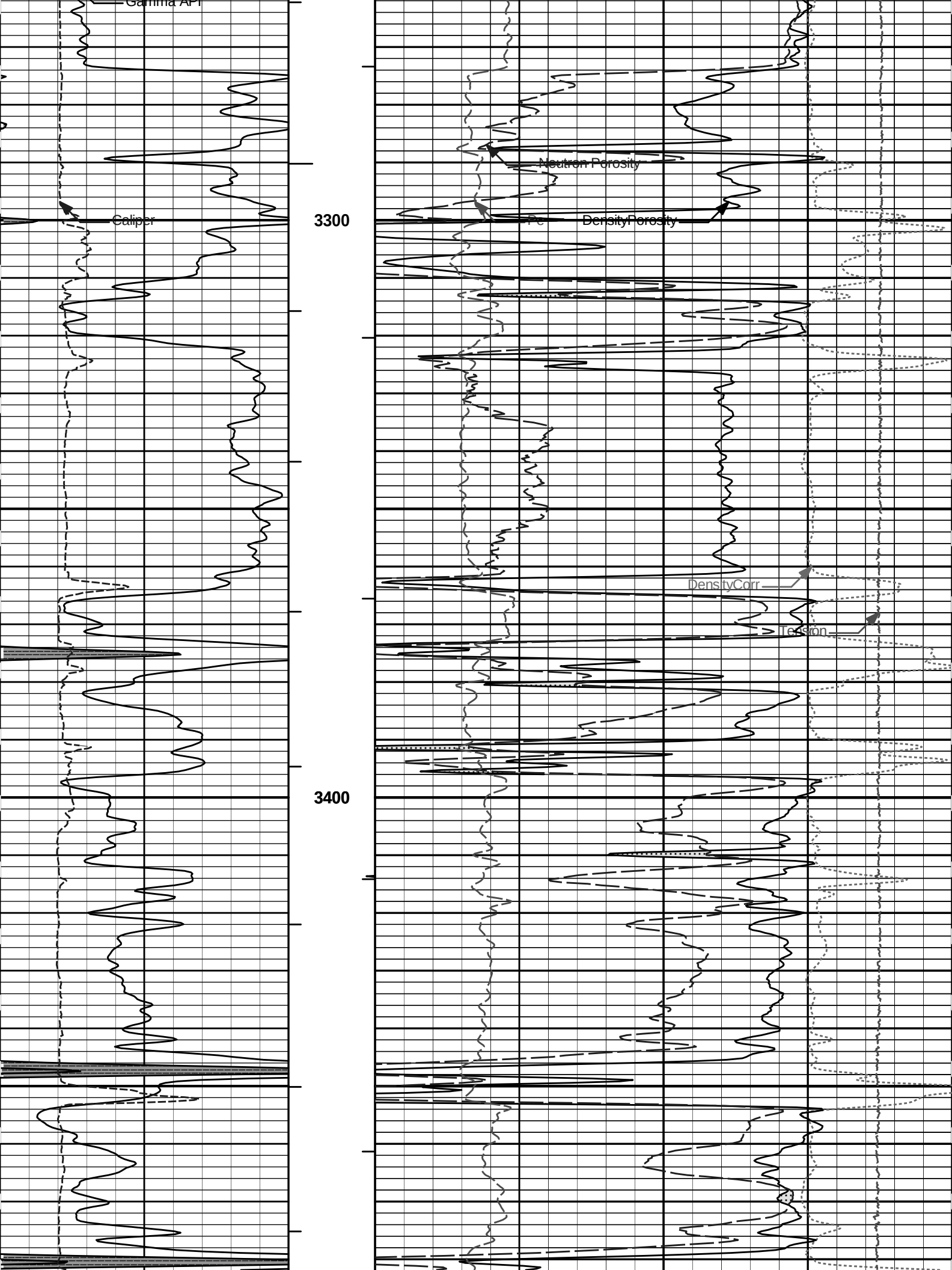
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Tension
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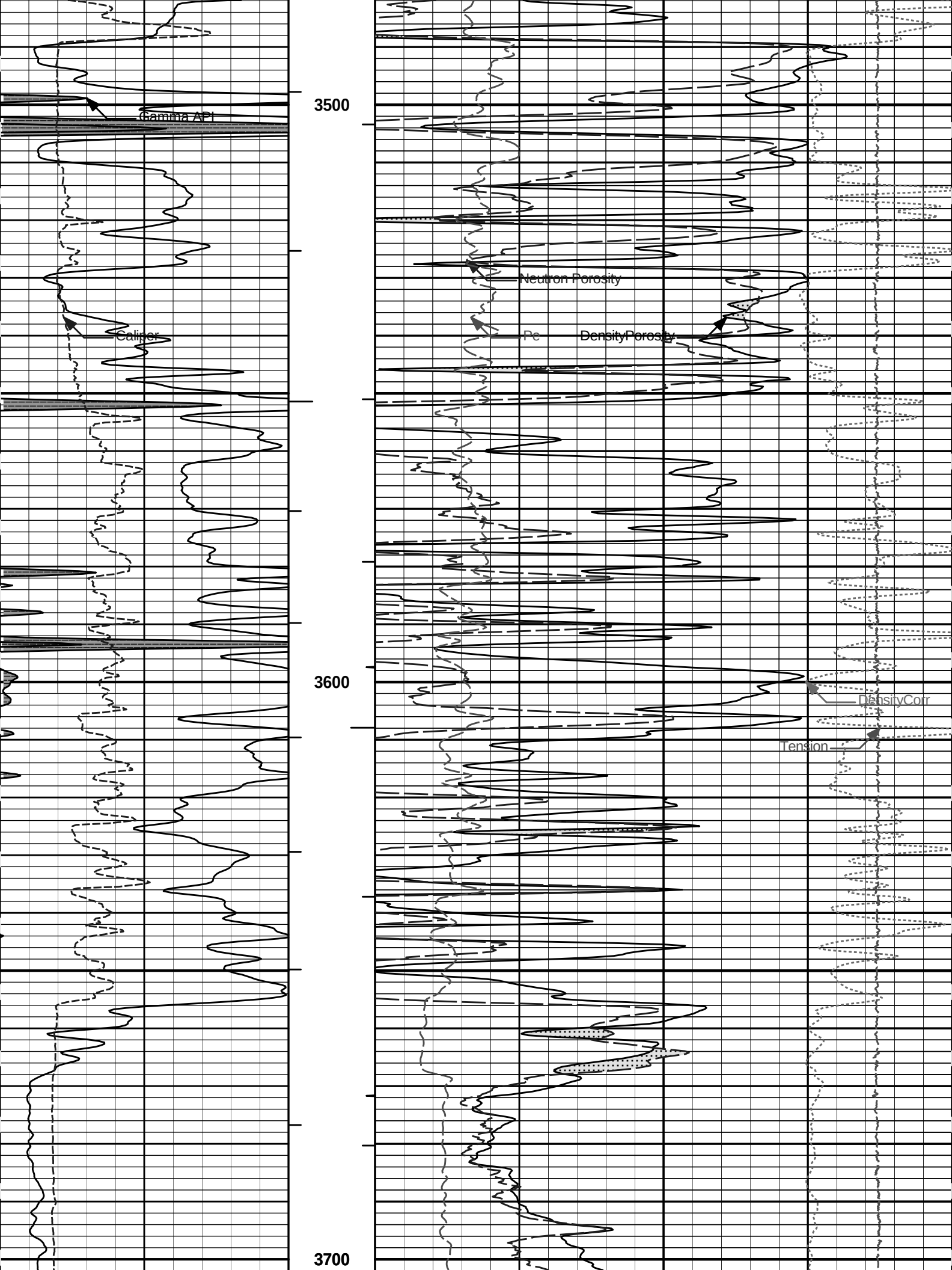
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Caliper
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Pe
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DensityCorr
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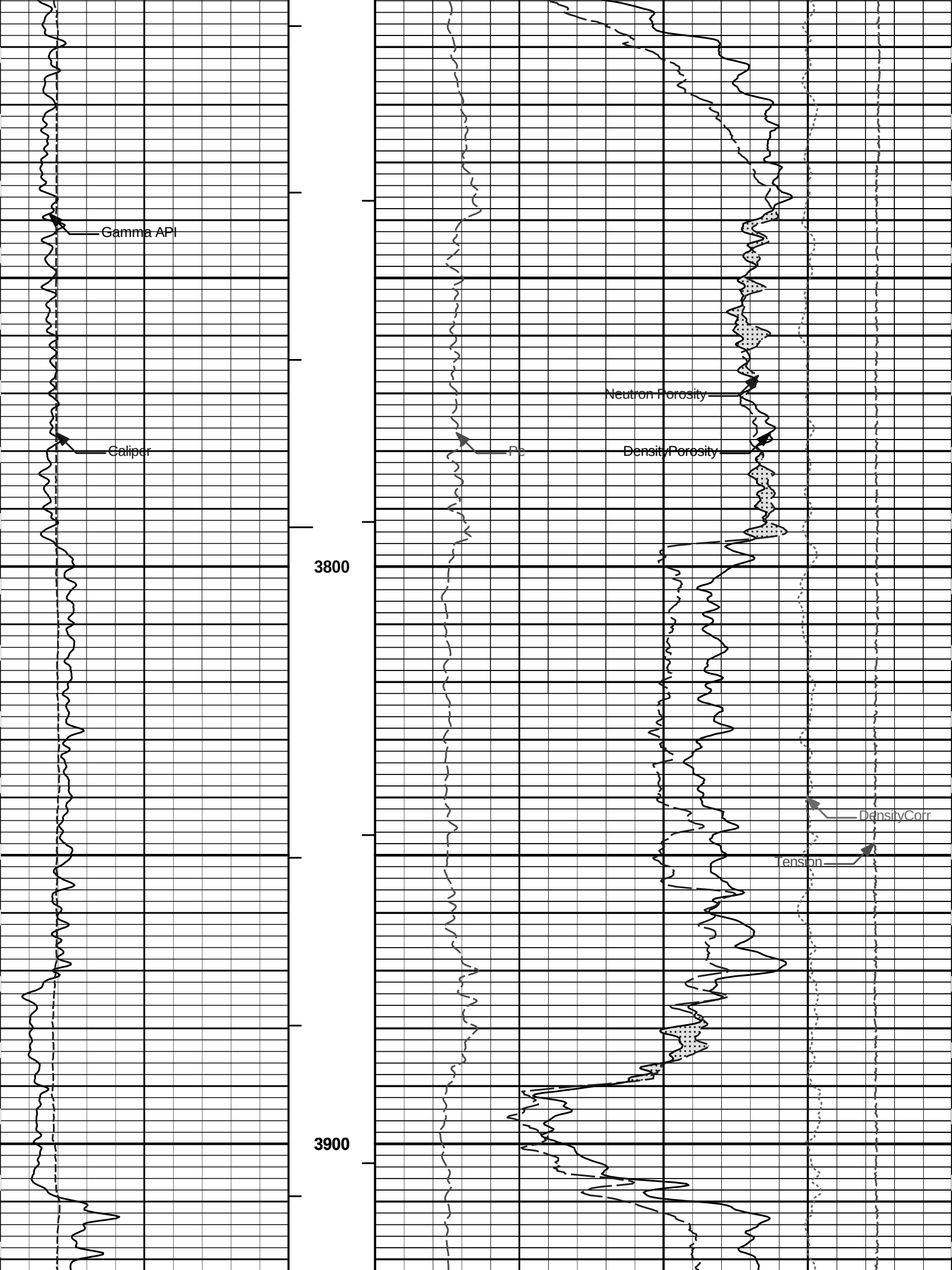
3600
3700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Pe
Density Porosity
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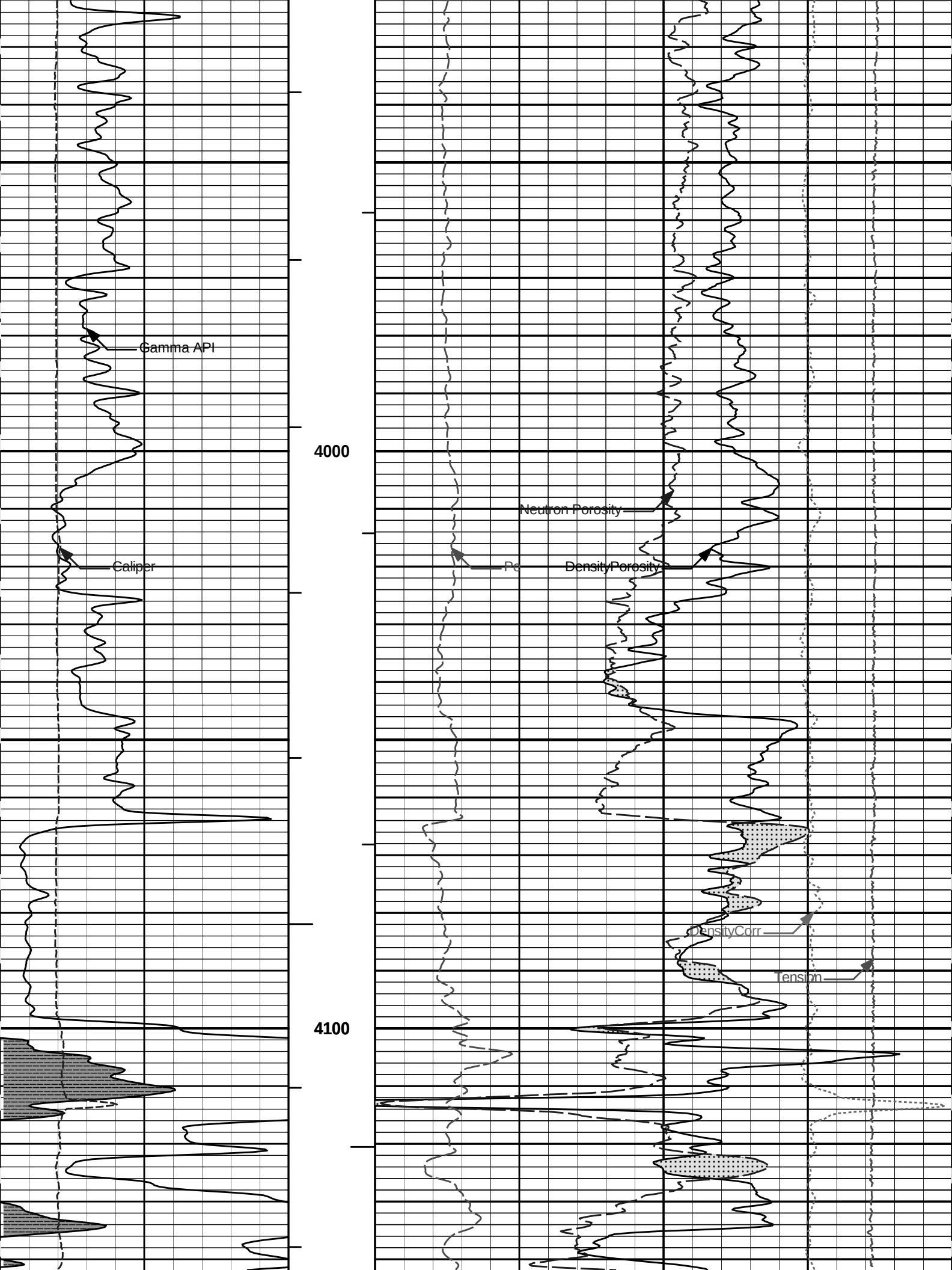
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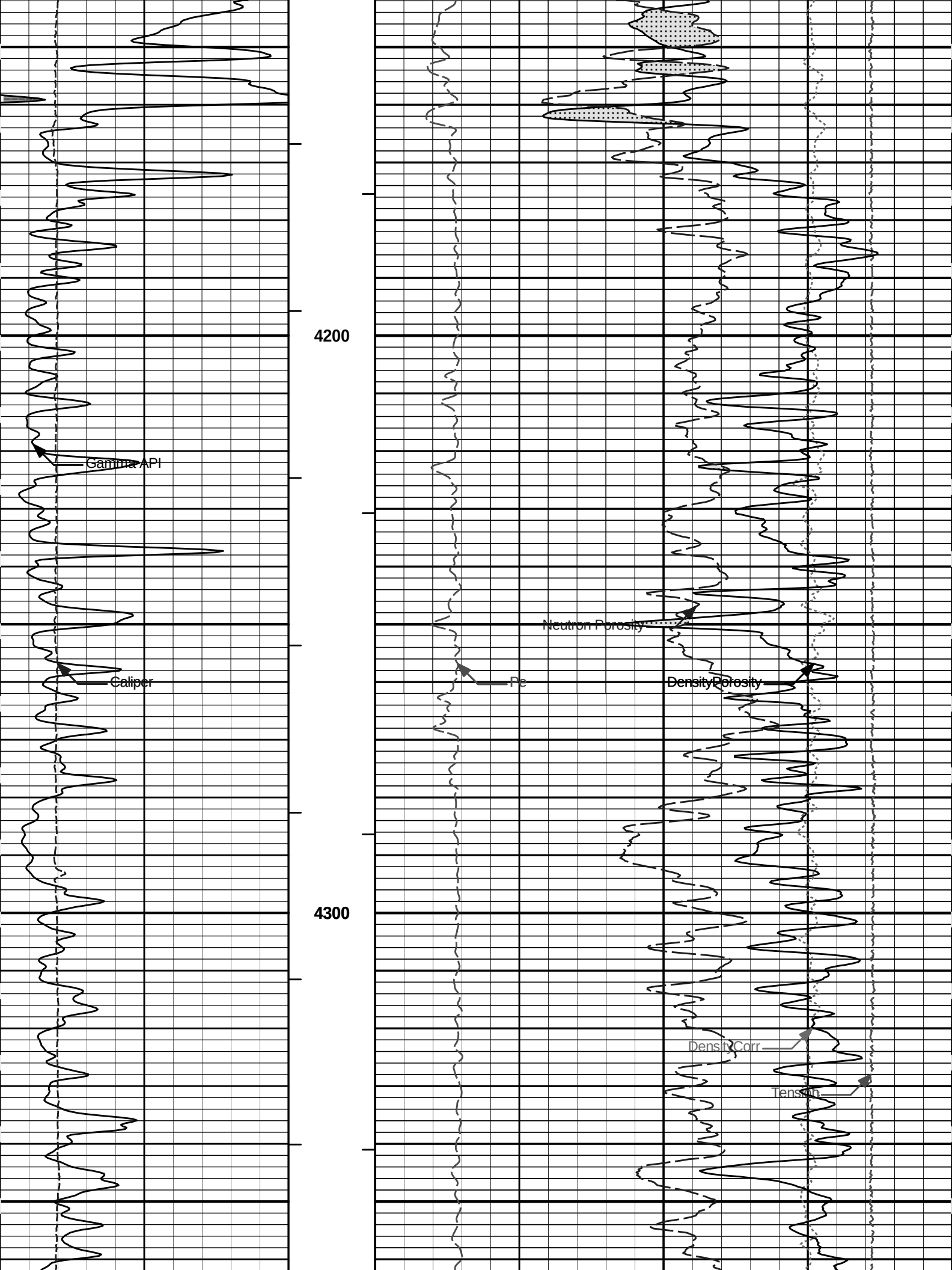
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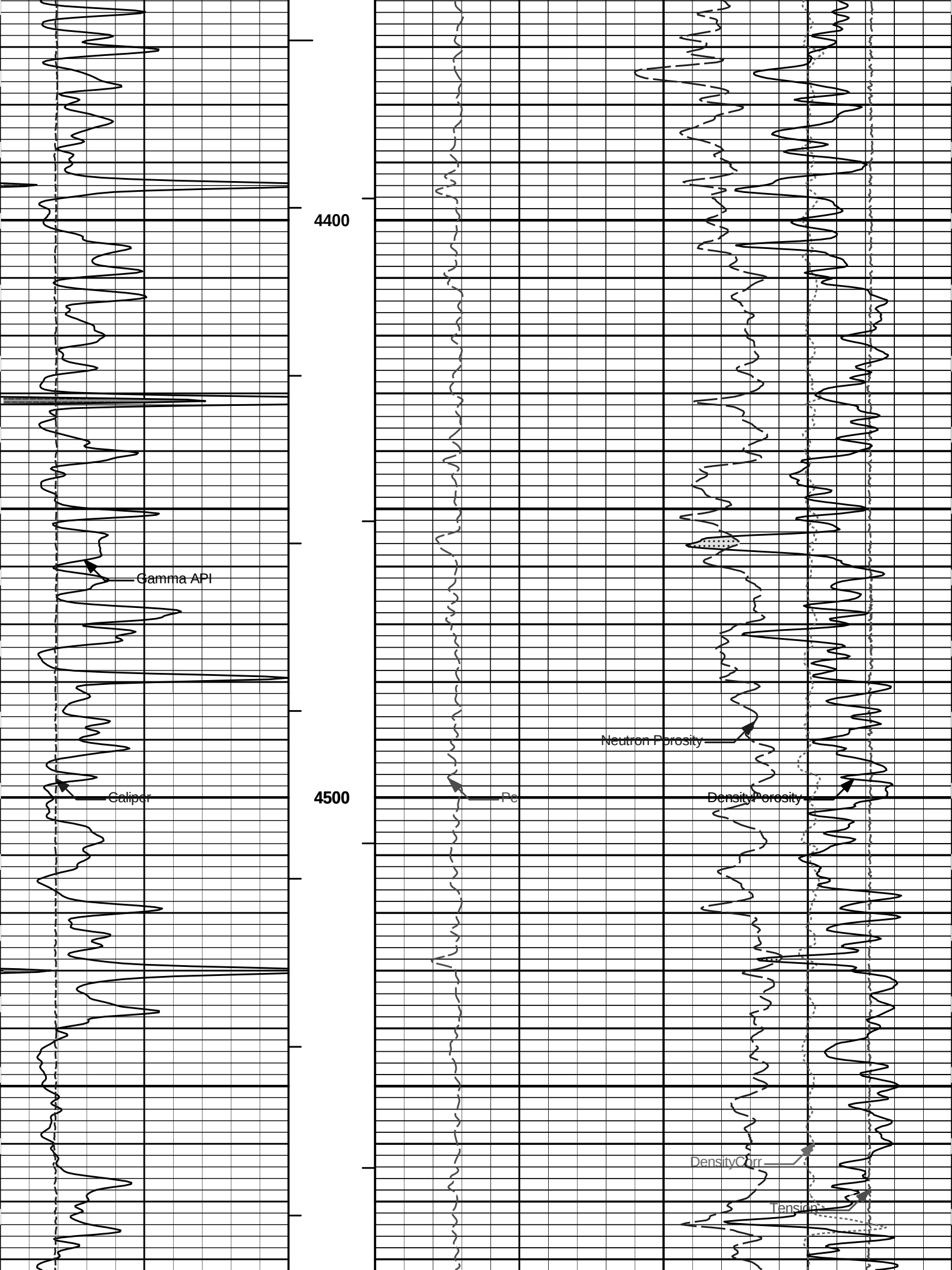
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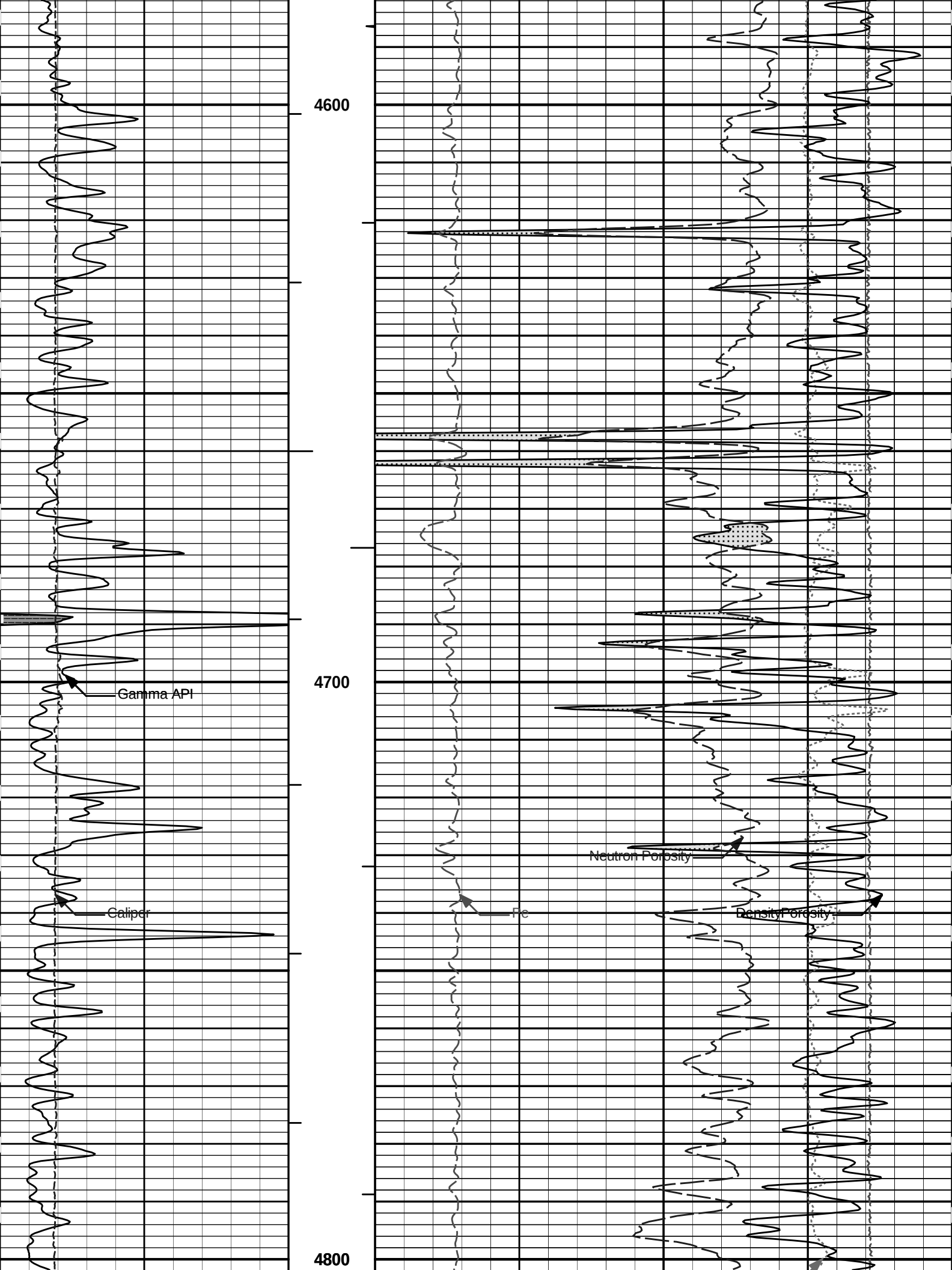
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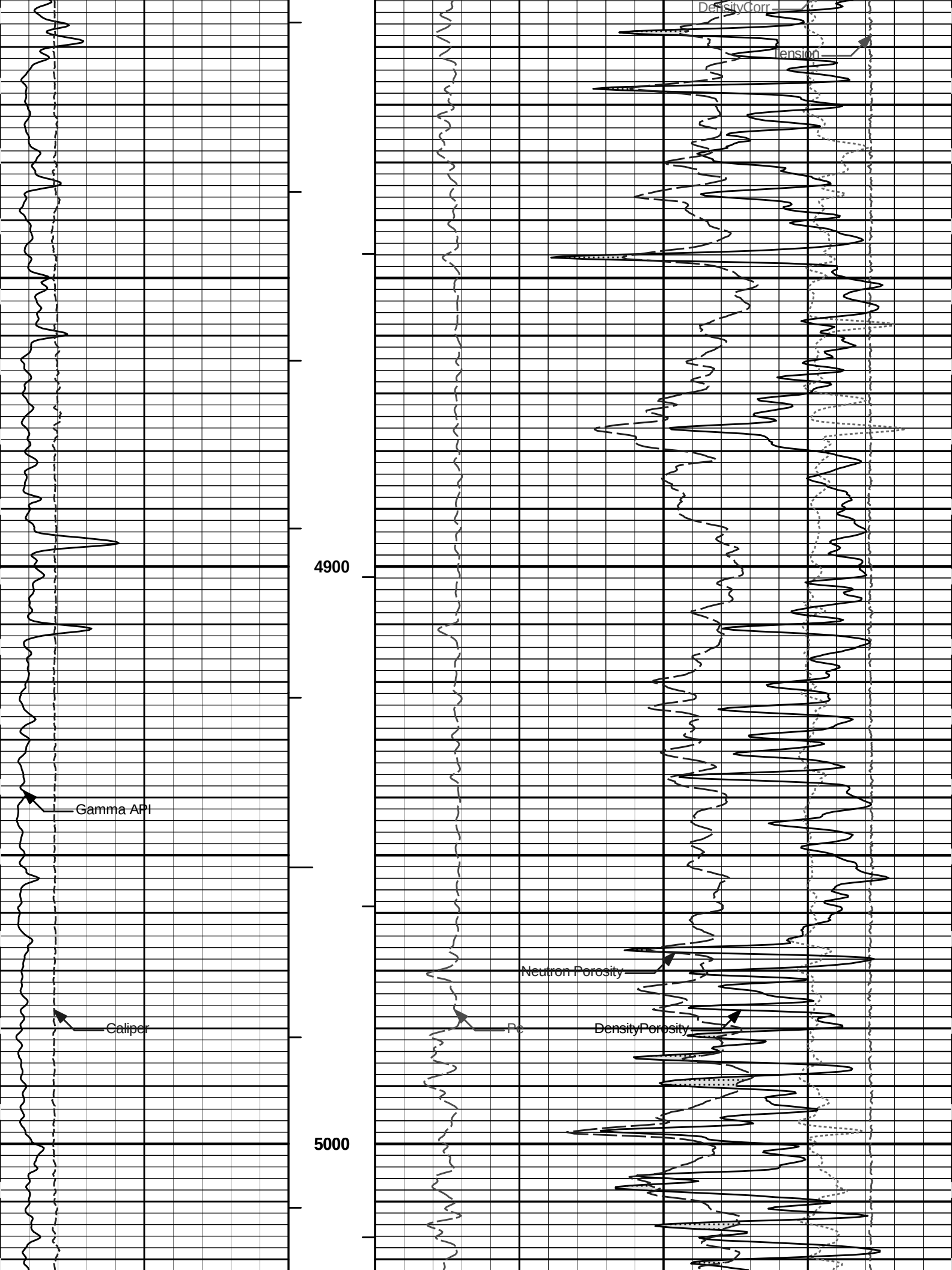
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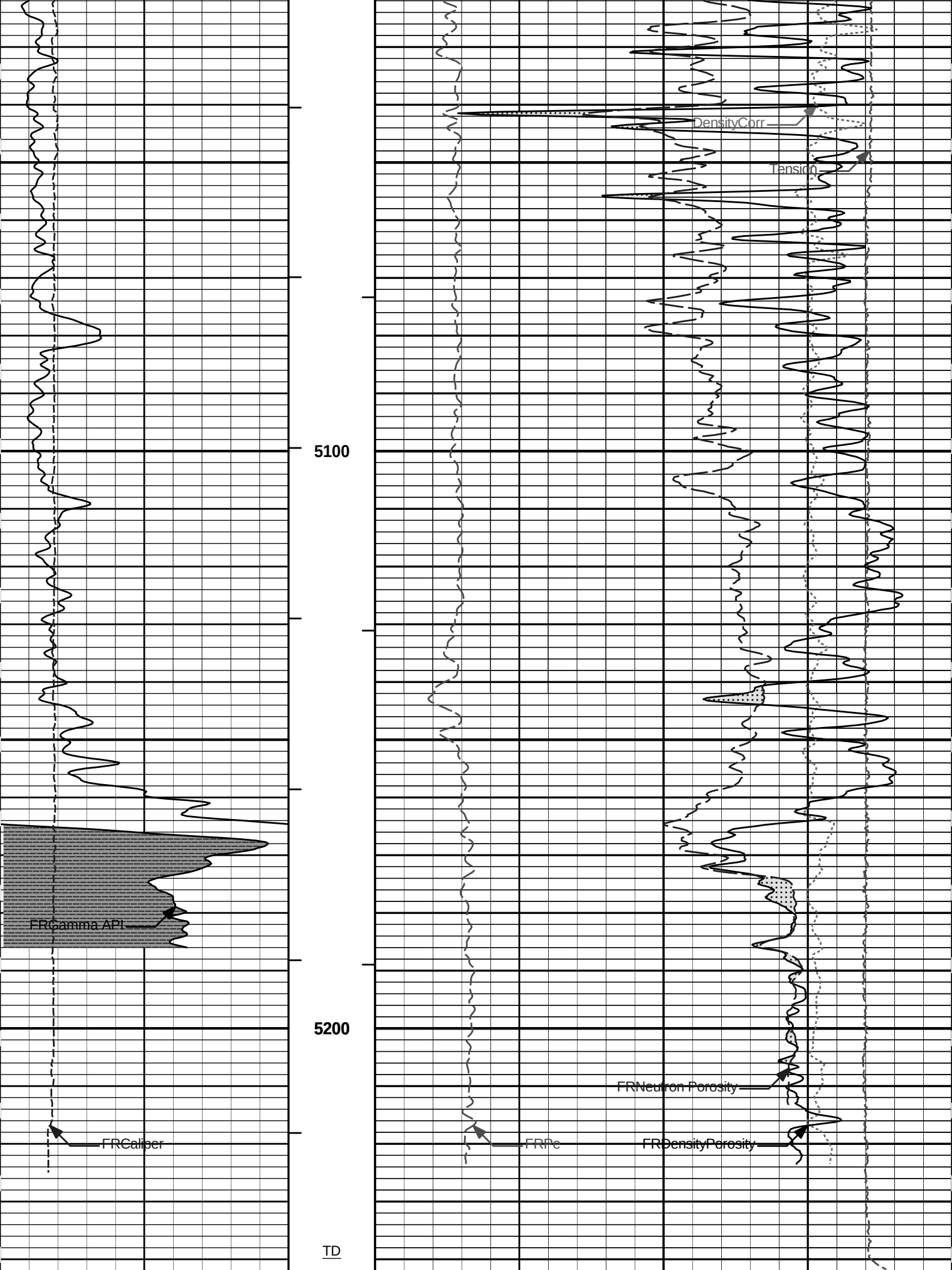
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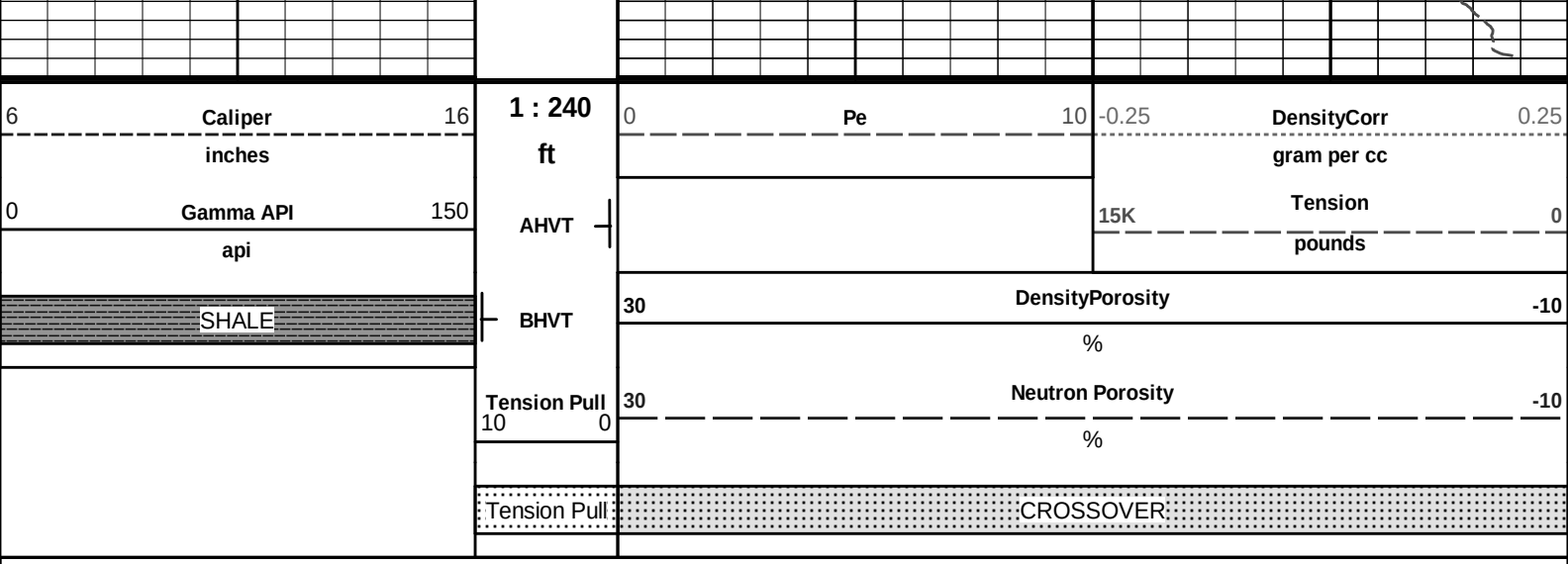

HALLIBURTON

Plot Time: 09-Feb-11 17:36:48
Plot Range: 580 ft to 5250.25 ft
Data: WELINGTN_KGS_R2\Well Based\DAQ-0001-002\
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 09-Feb-11 17:36:48
Plot Range: 4750 ft to 5250.17 ft
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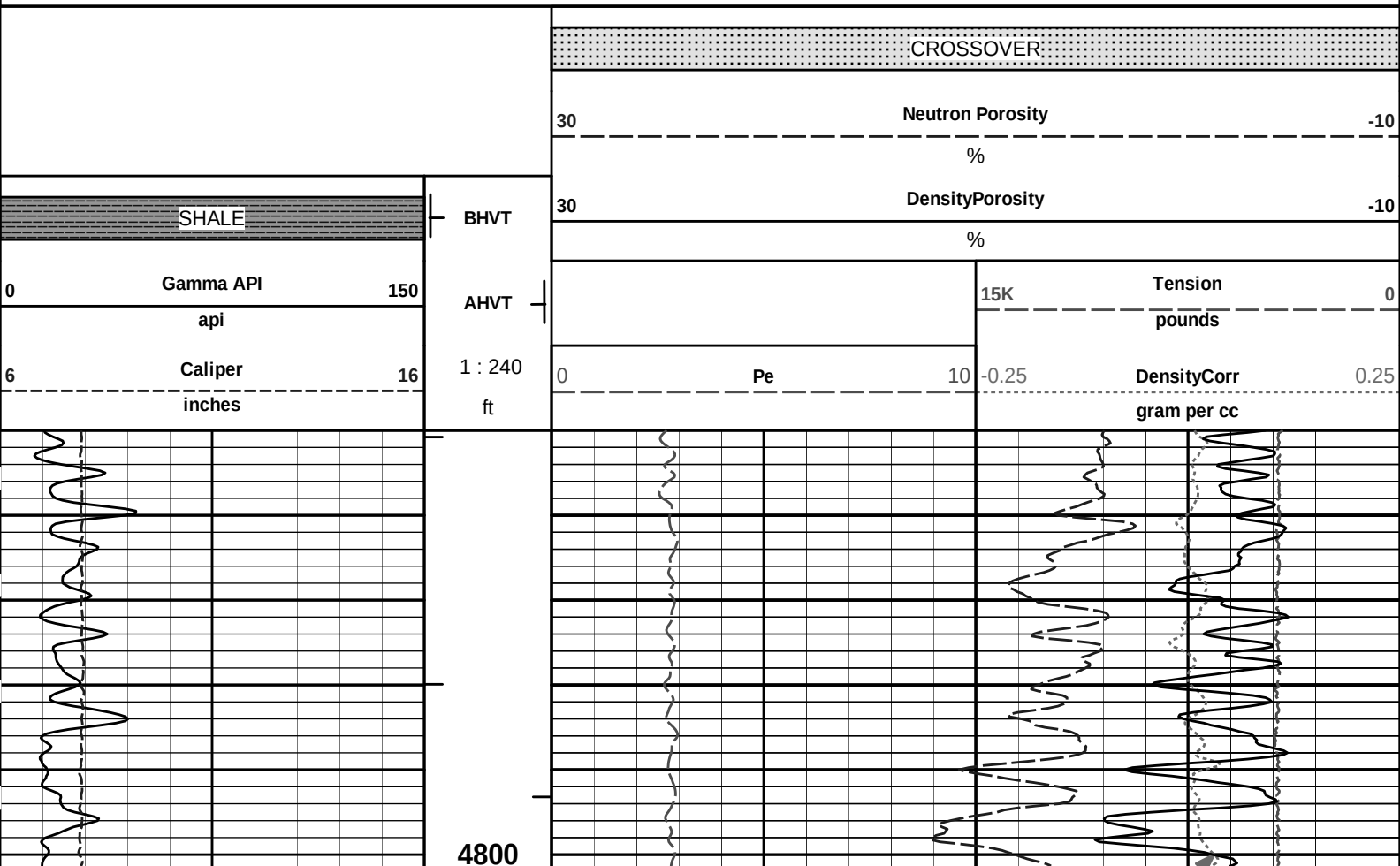
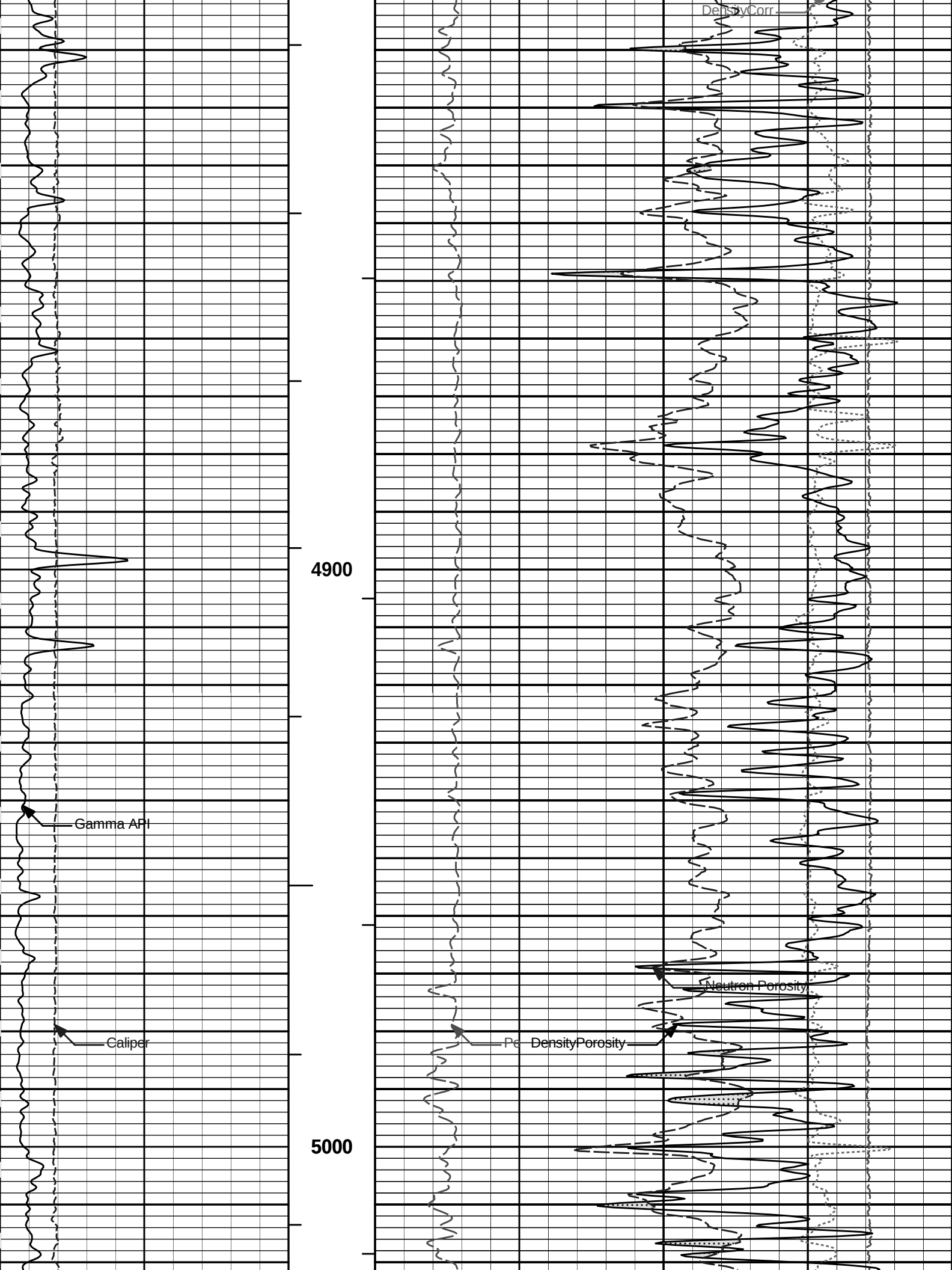
REPEAT SECTION

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Caliper
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DensityPorosity
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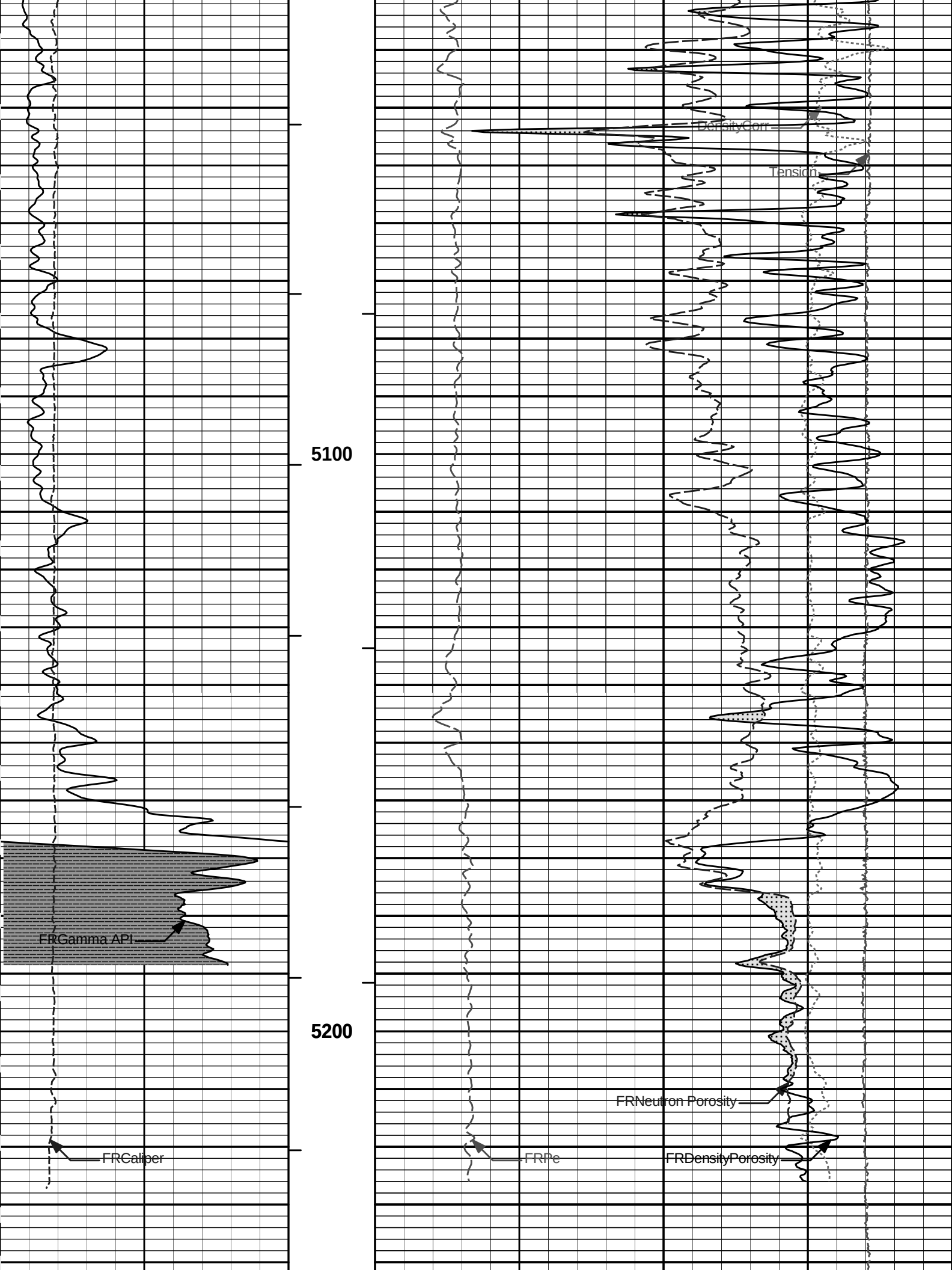
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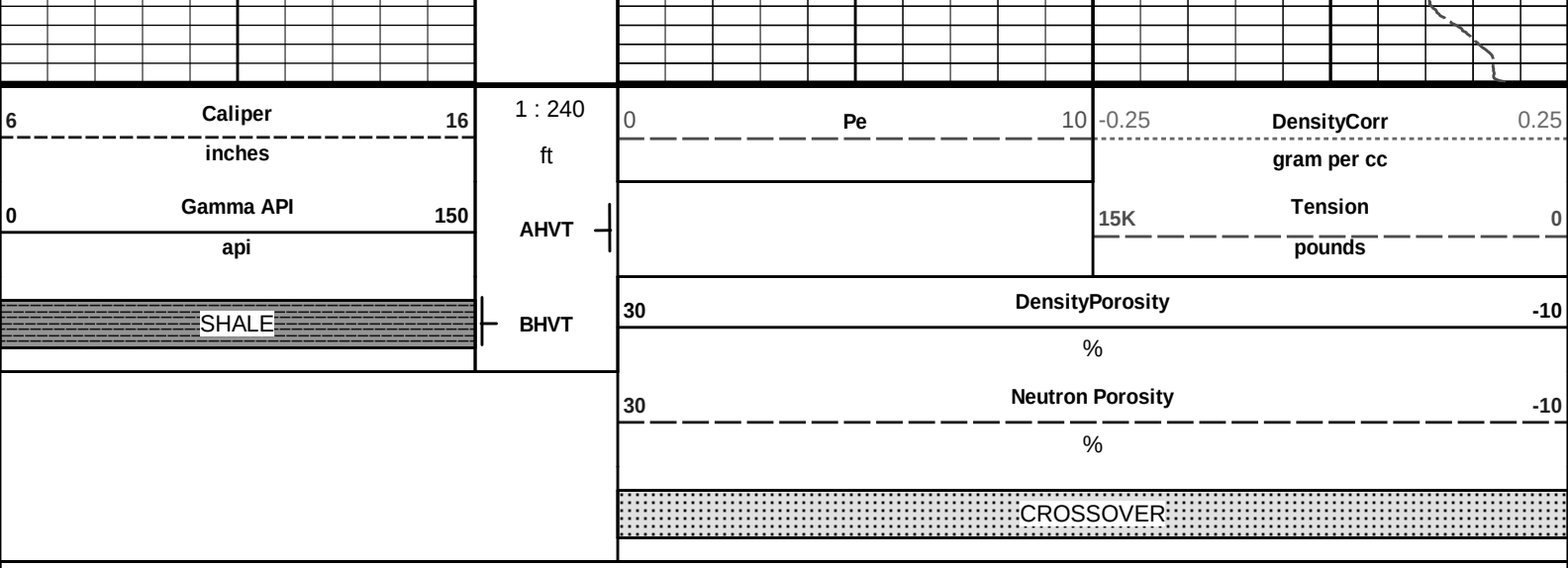

HALLIBURTON

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REPEAT SECTION

HALLIBURTON

Plot Time: 09-Feb-11 17:37:03
Plot Range: 580 ft to 5250.25 ft
Data: WELINGTN_KGS_R2\Well Based\DAQ-0001-002
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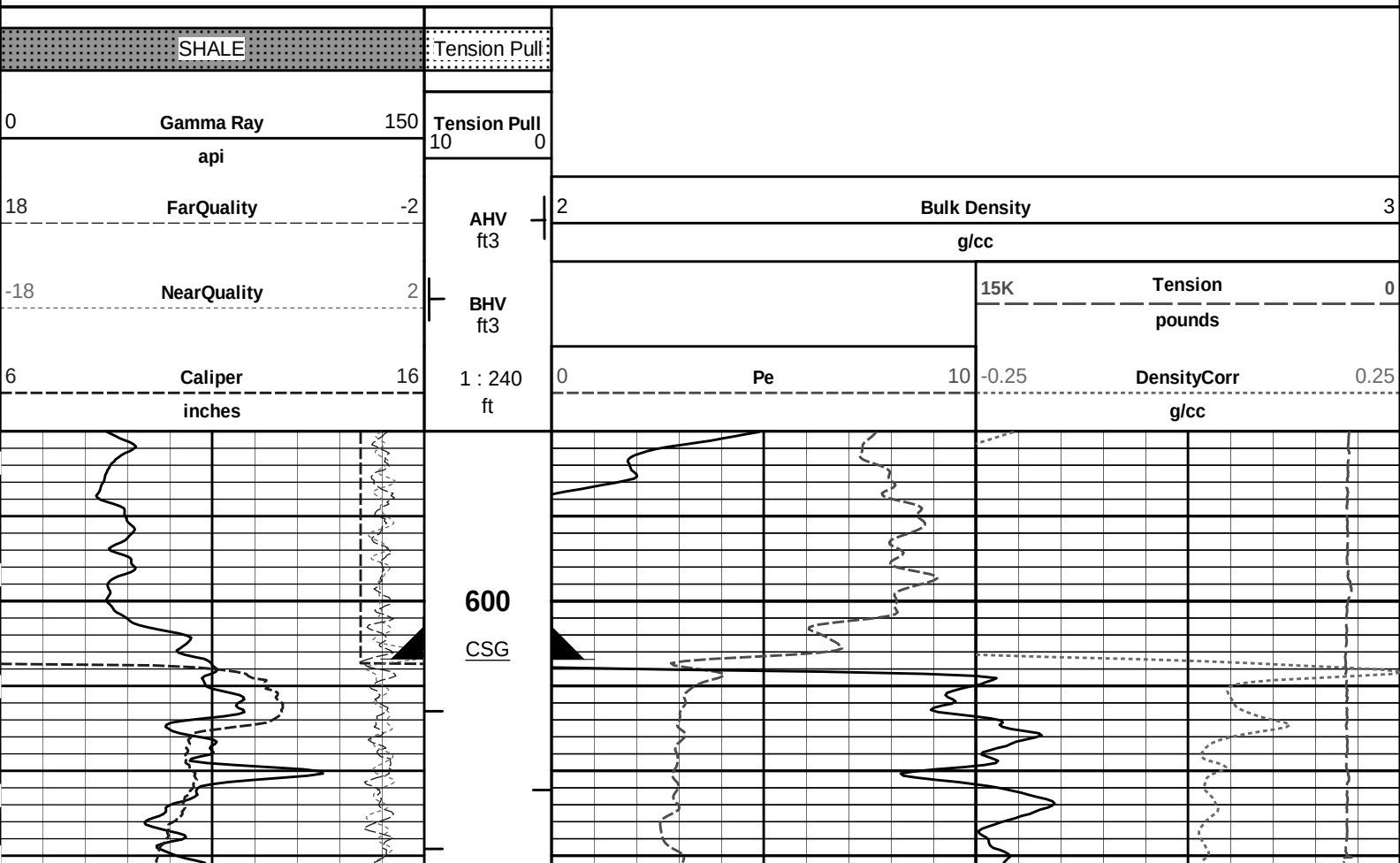
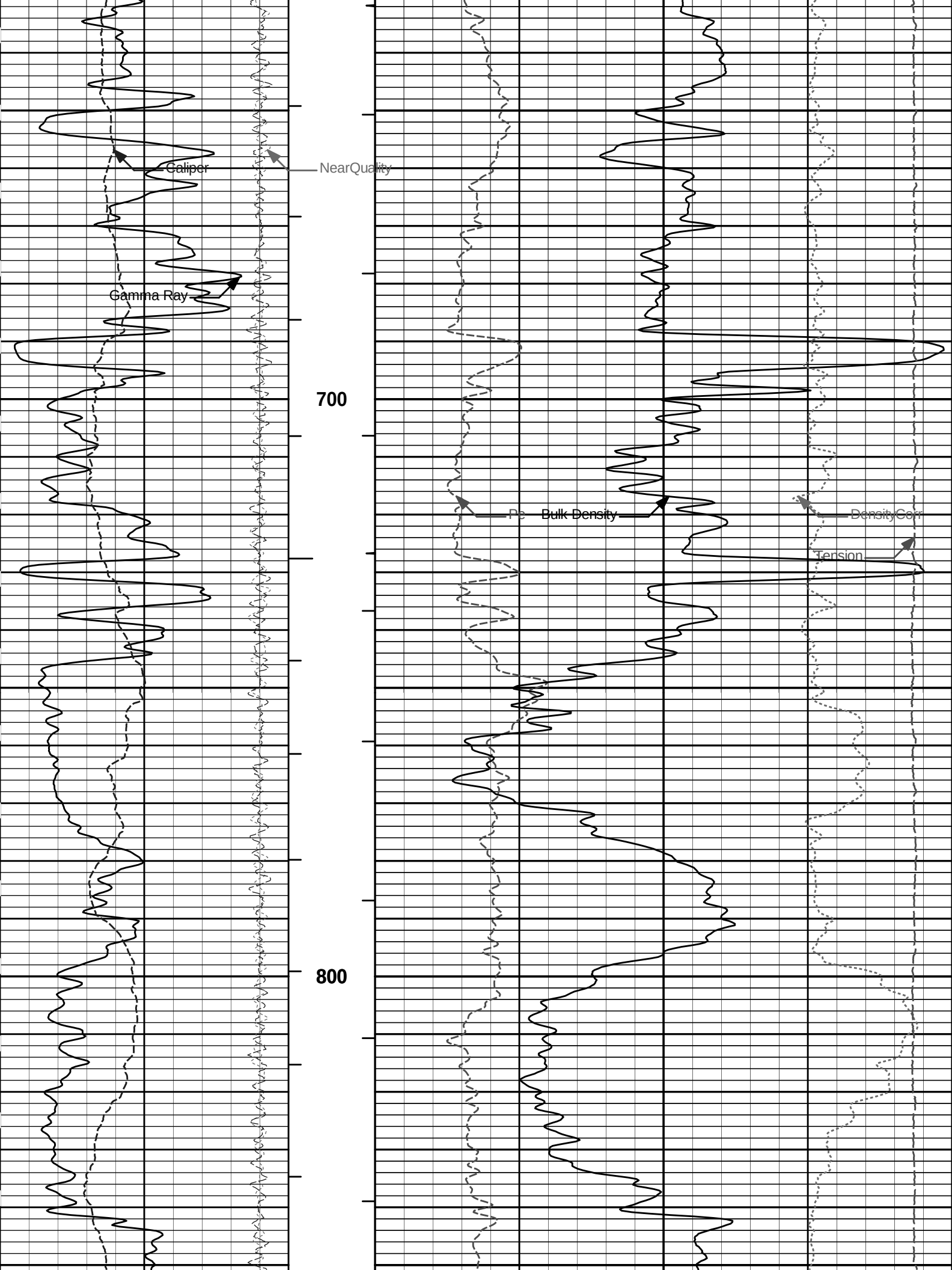
5 INCH MAIN LOG

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NearQuality
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Pe
Bulk Density
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Tension
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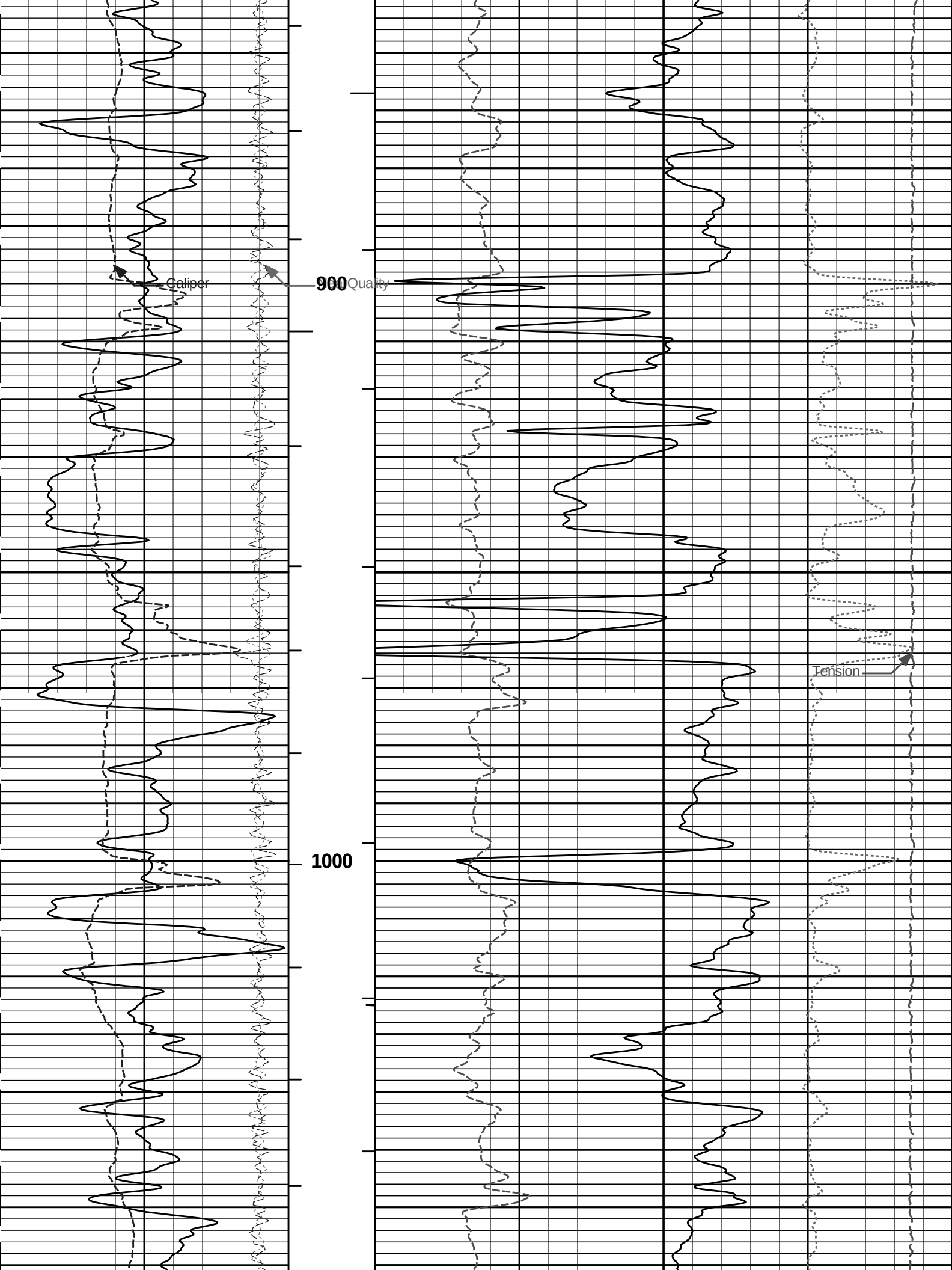
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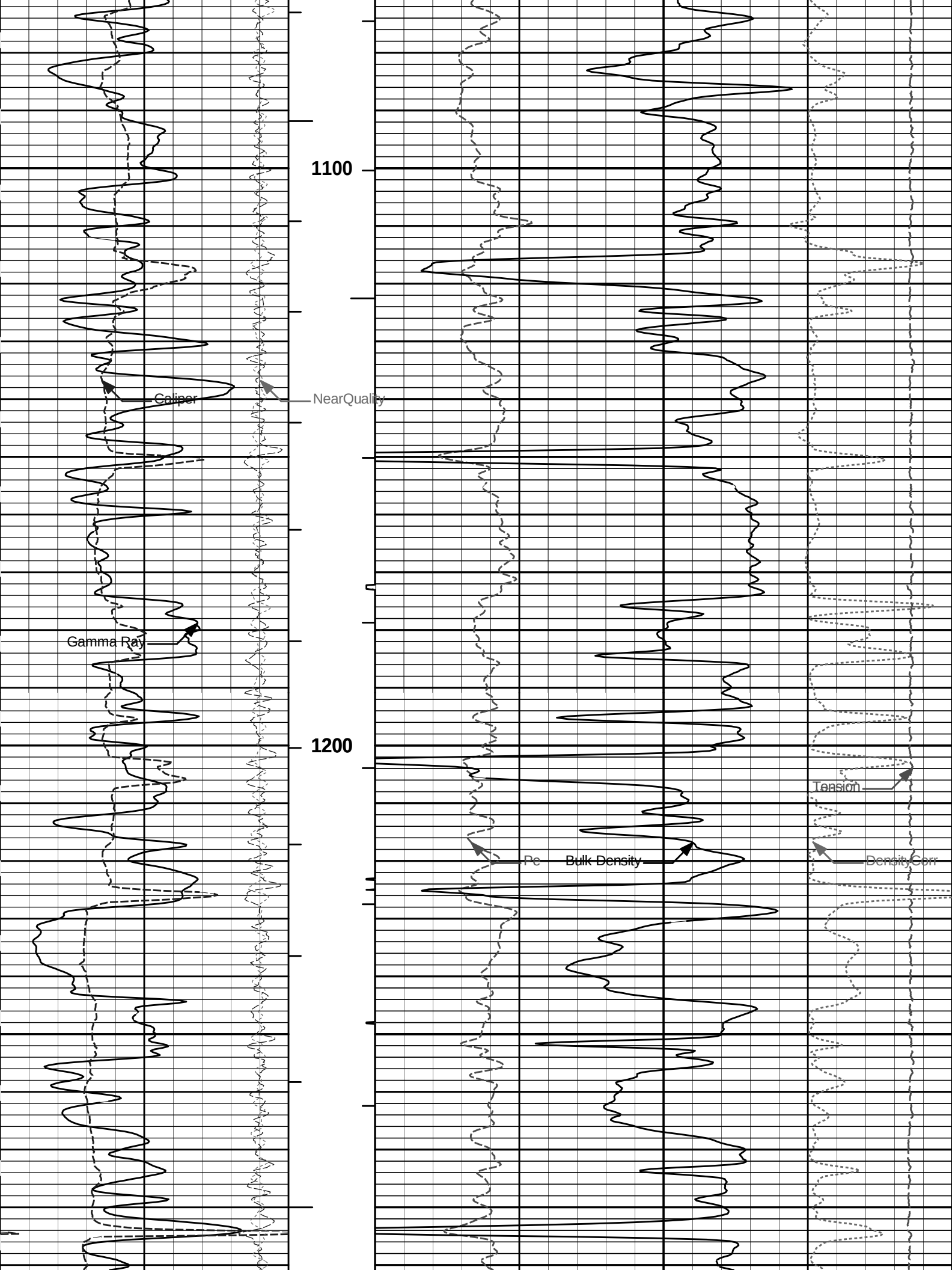
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Caliper
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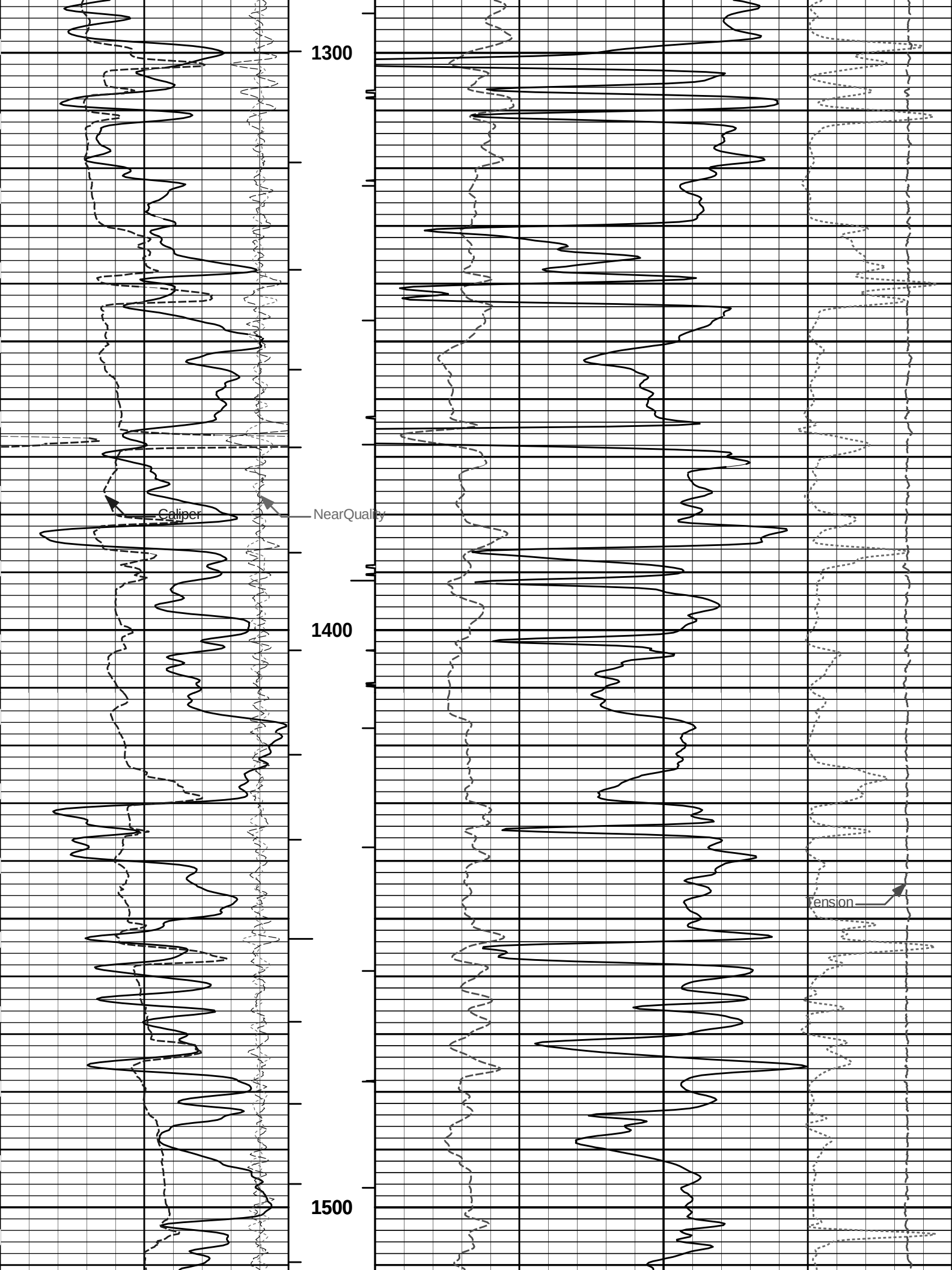
Bulk Density
DensityCorr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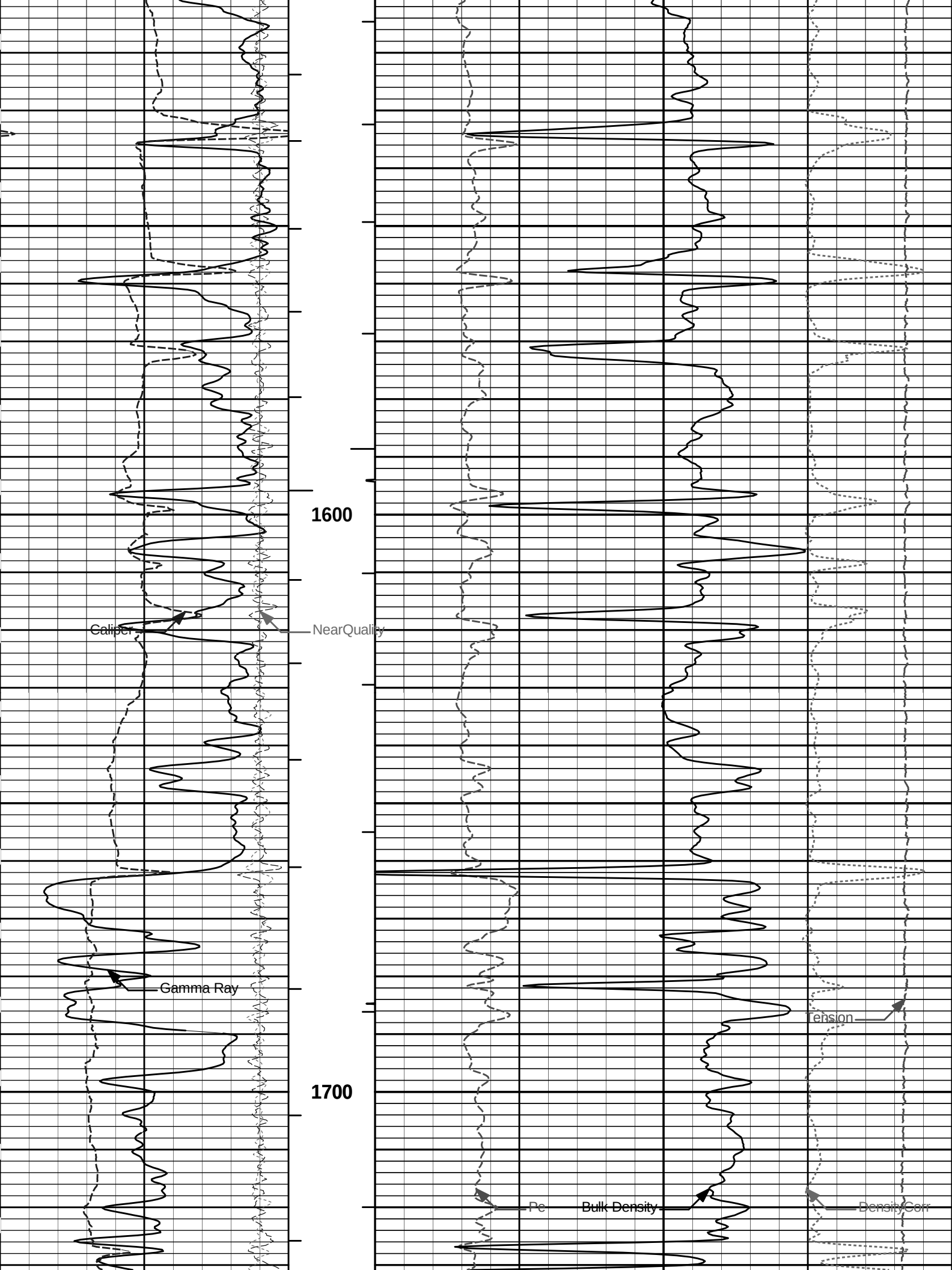
Caliper
NearQuality
Tension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1700
Tension
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Bulk Density
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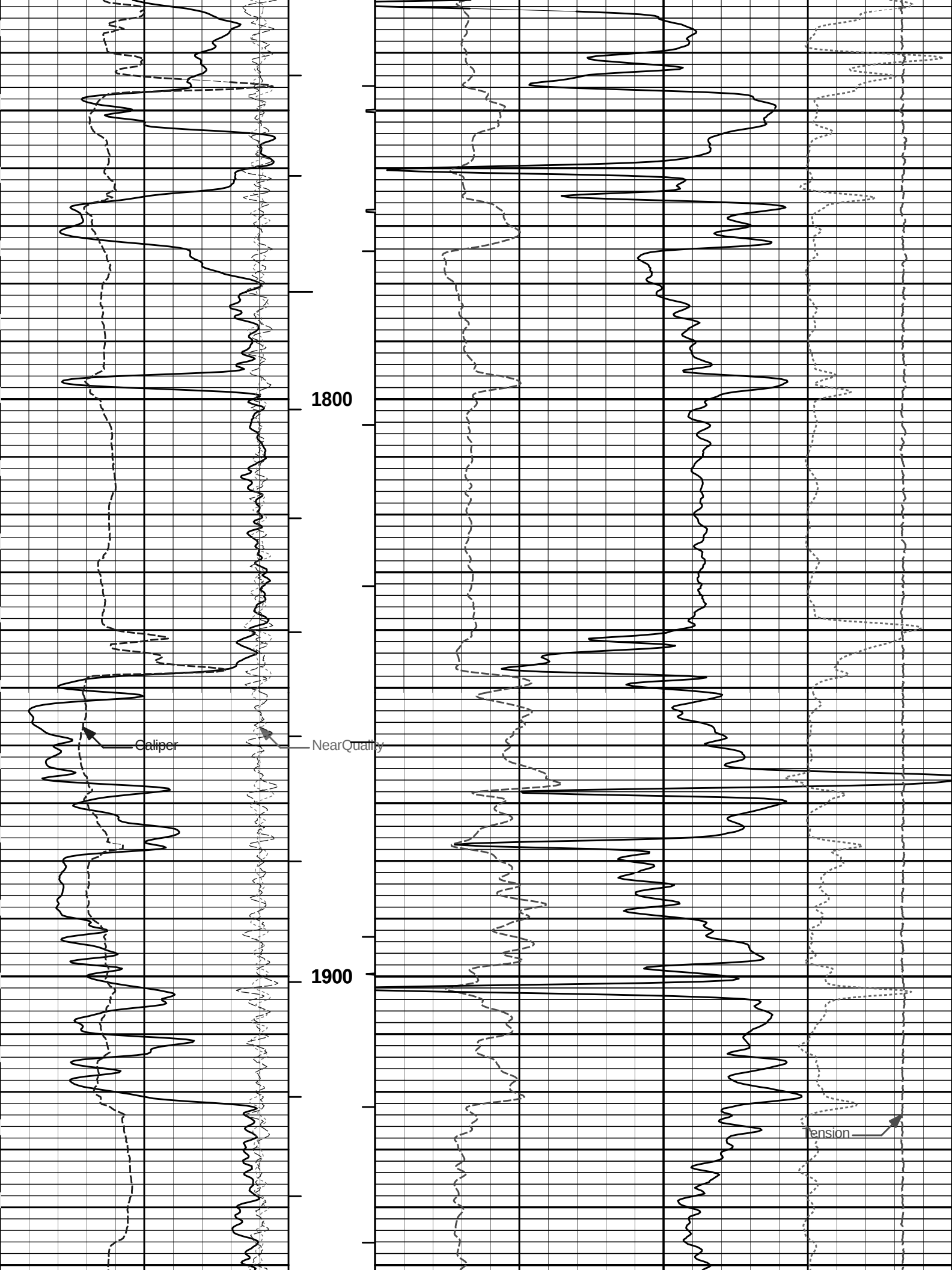
1800
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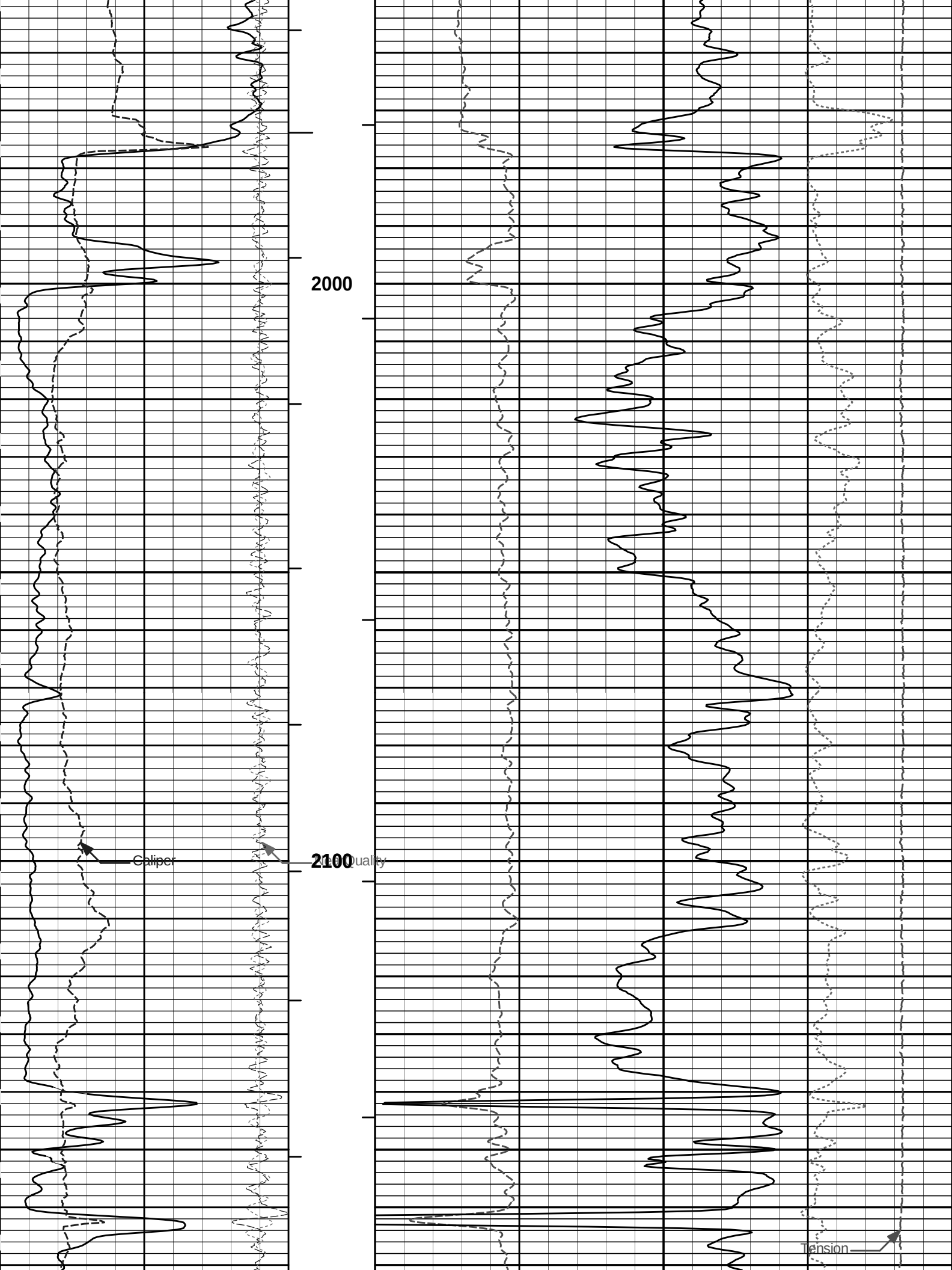
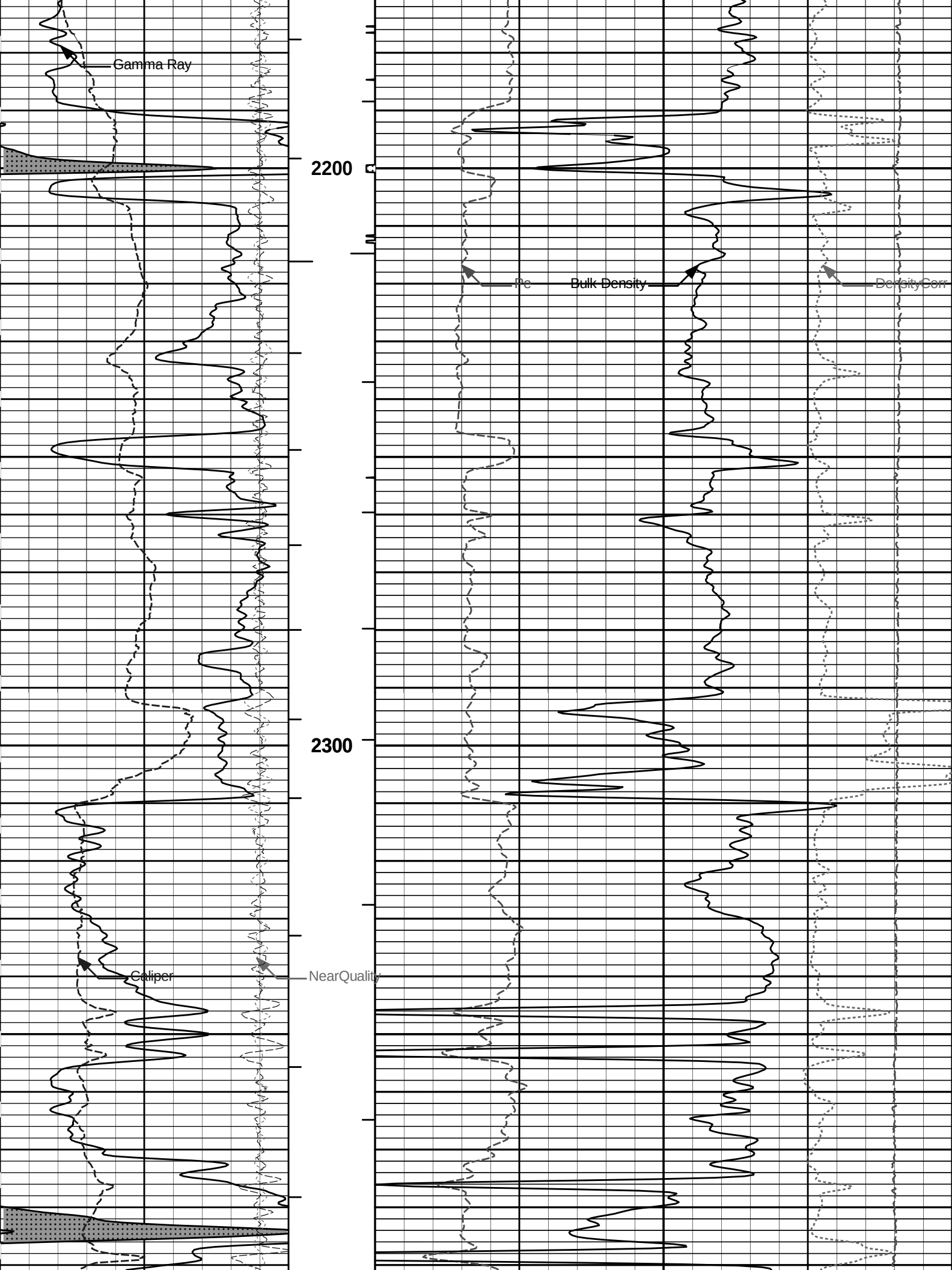
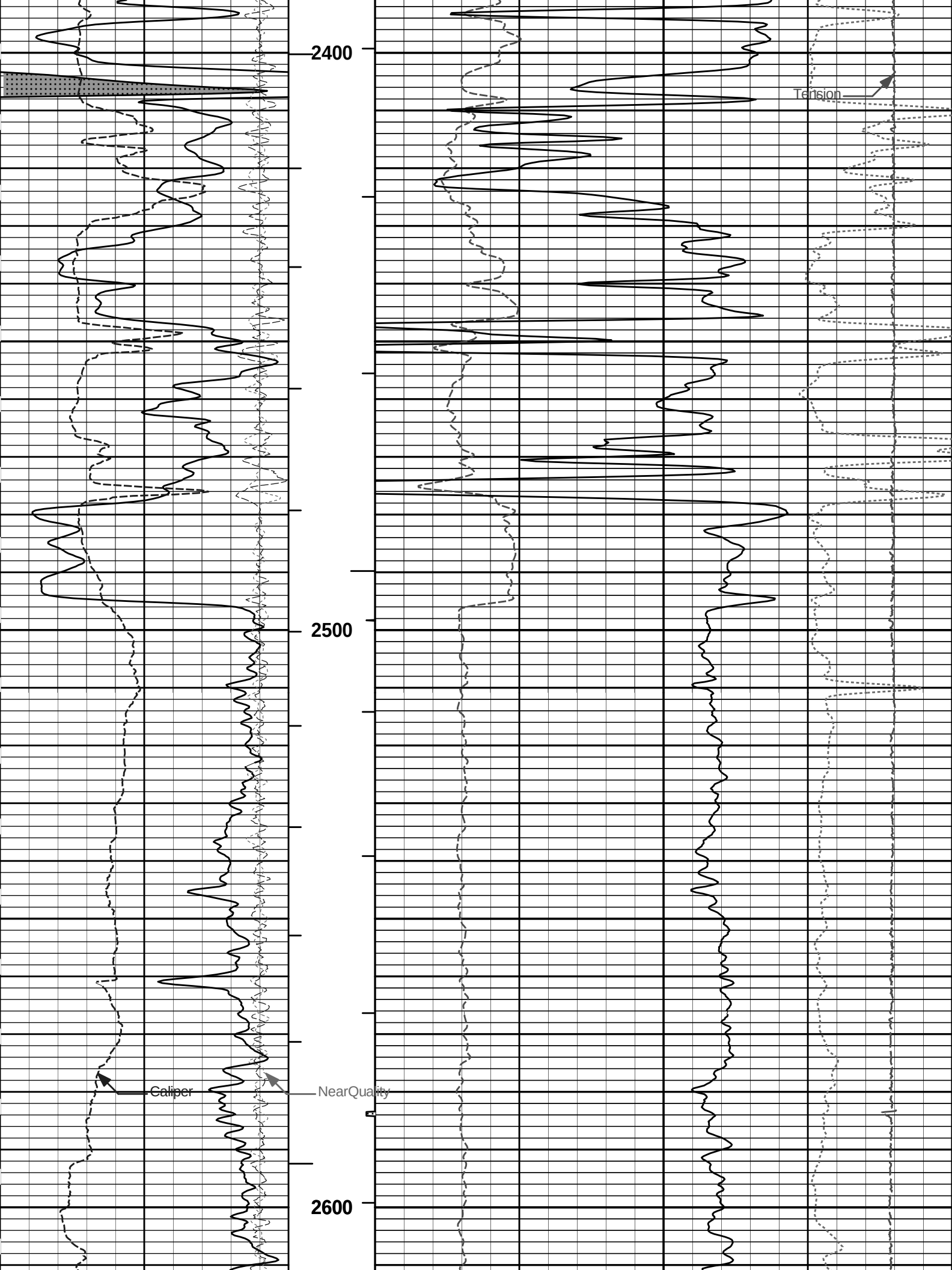
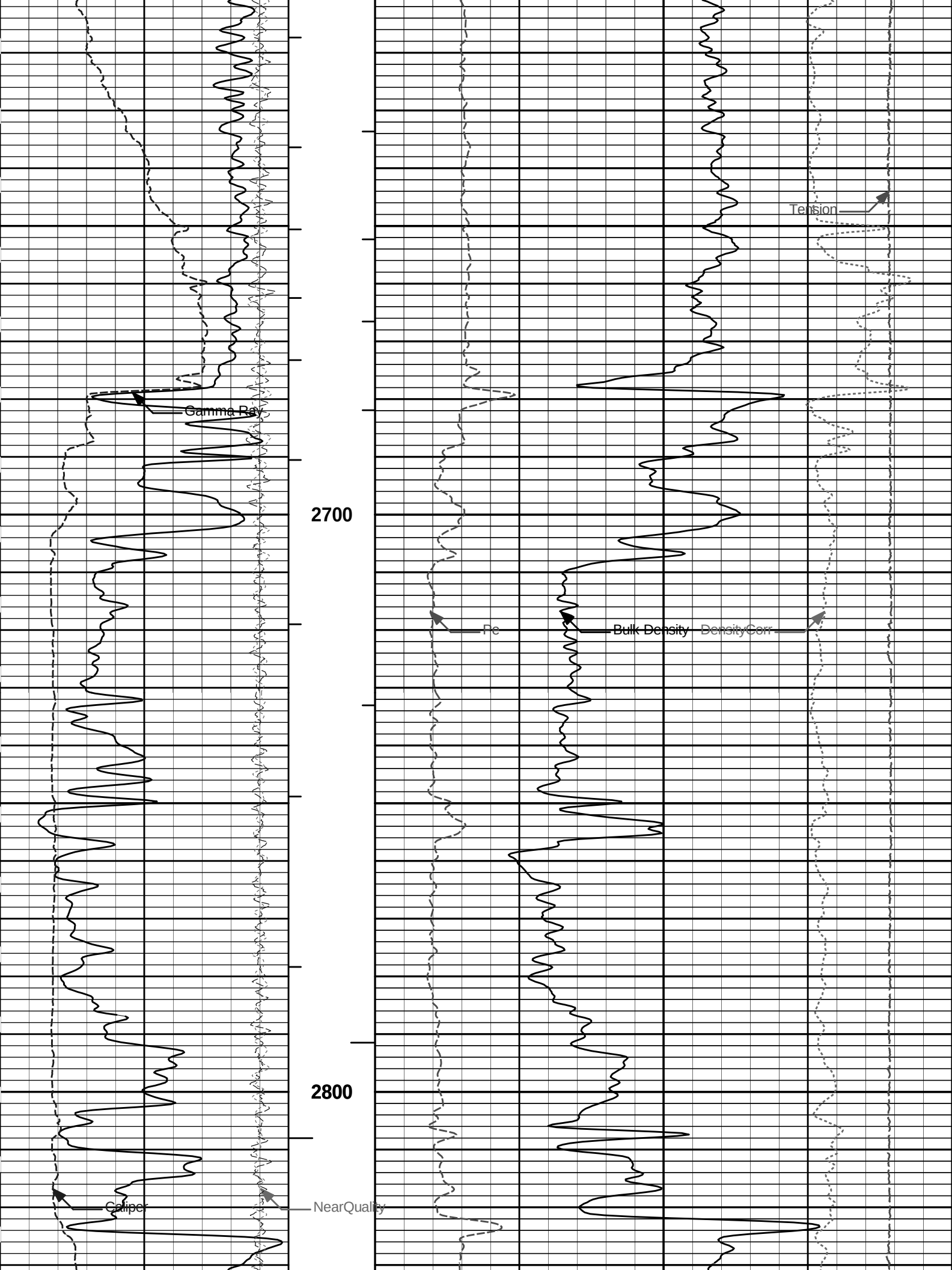
Caliper
NearQuality
Tension


2000
2100
Caliper
Tension


Gamma Ray
2200
Pe
Bulk Density
DensityCorr
2300
Caliper
NearQuality


2400
2500
2600
Tension
Caliper
NearQuality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Pe
Bulk Density
DensityCorr
Tension
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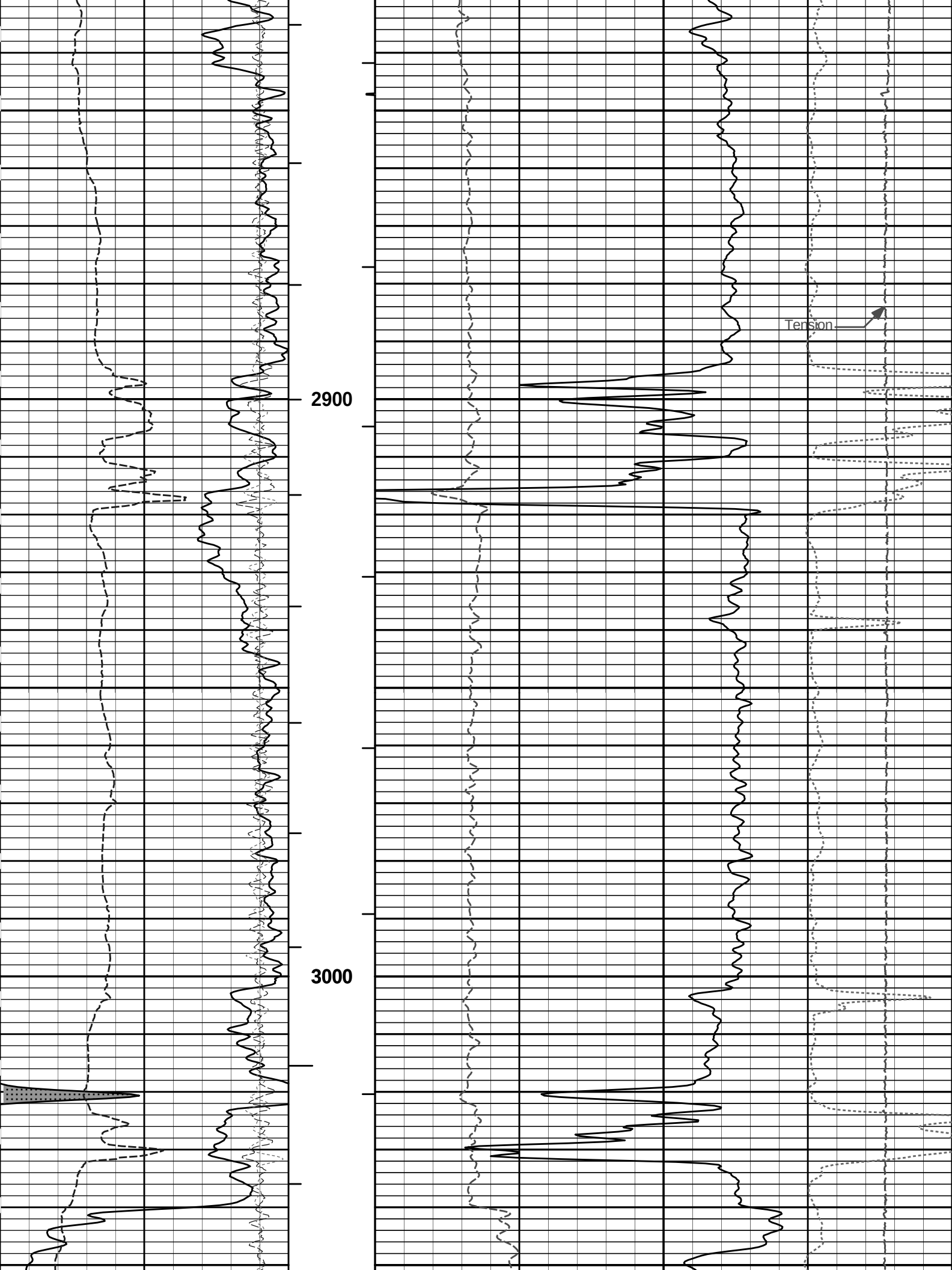
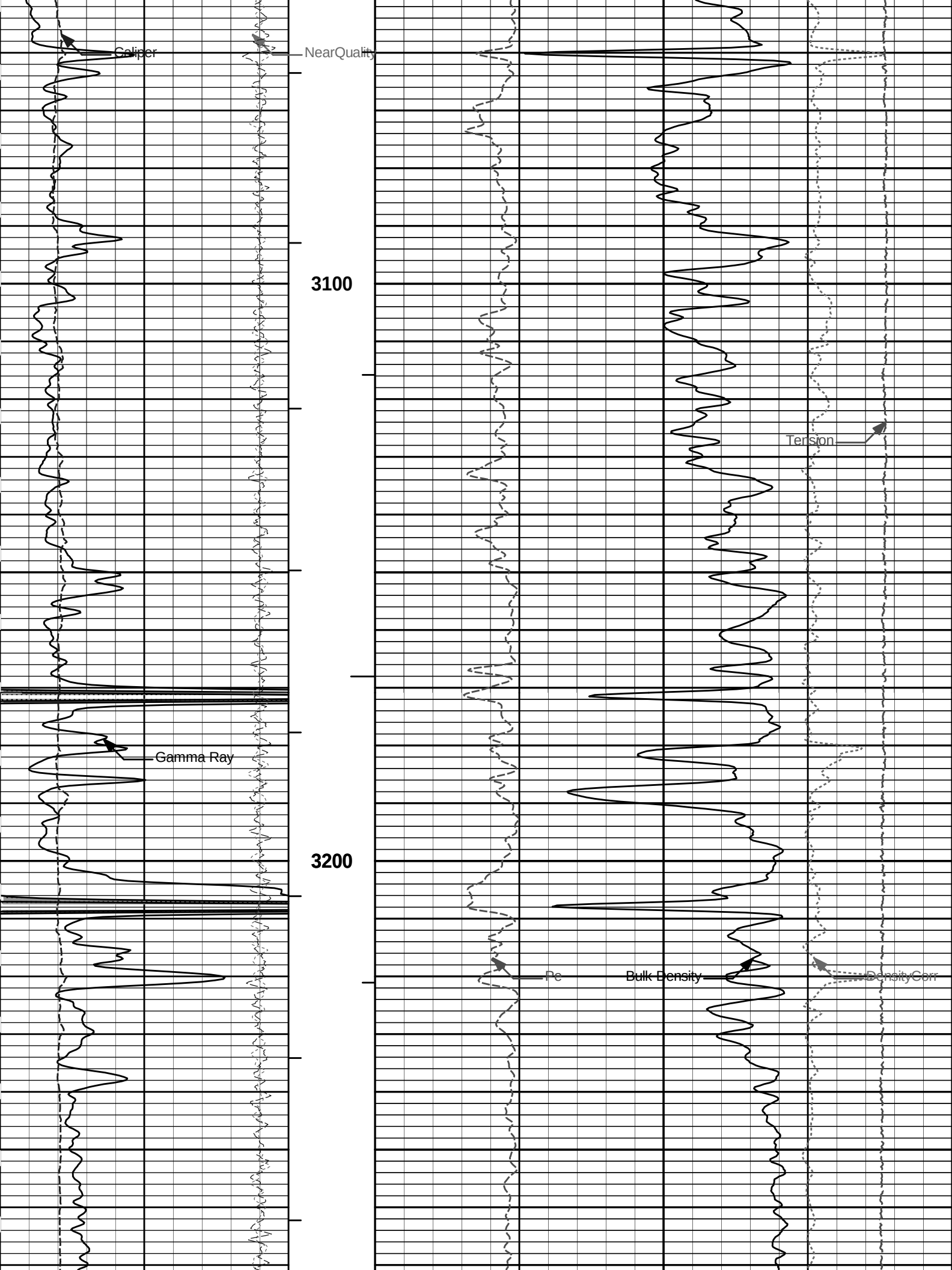
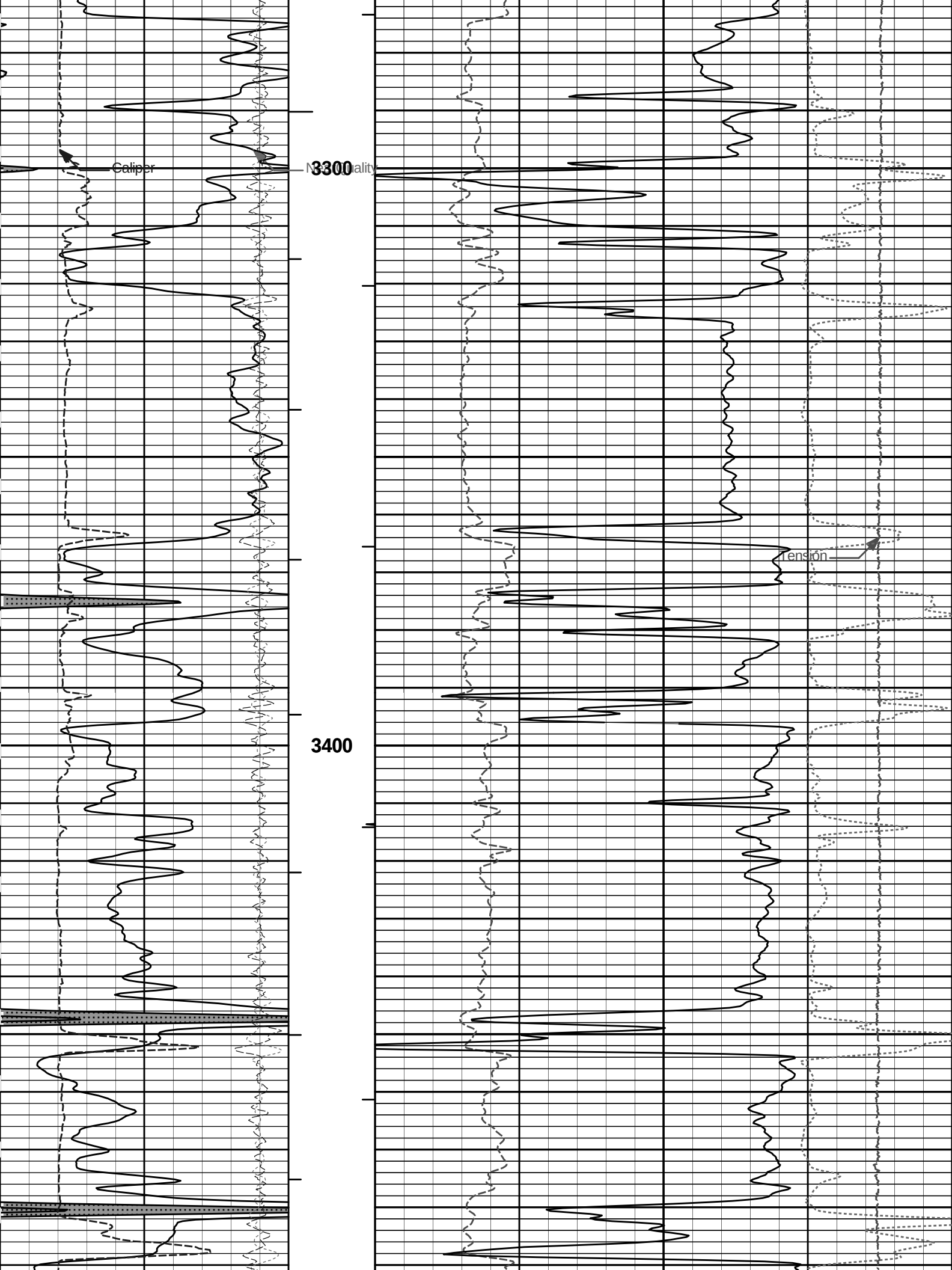
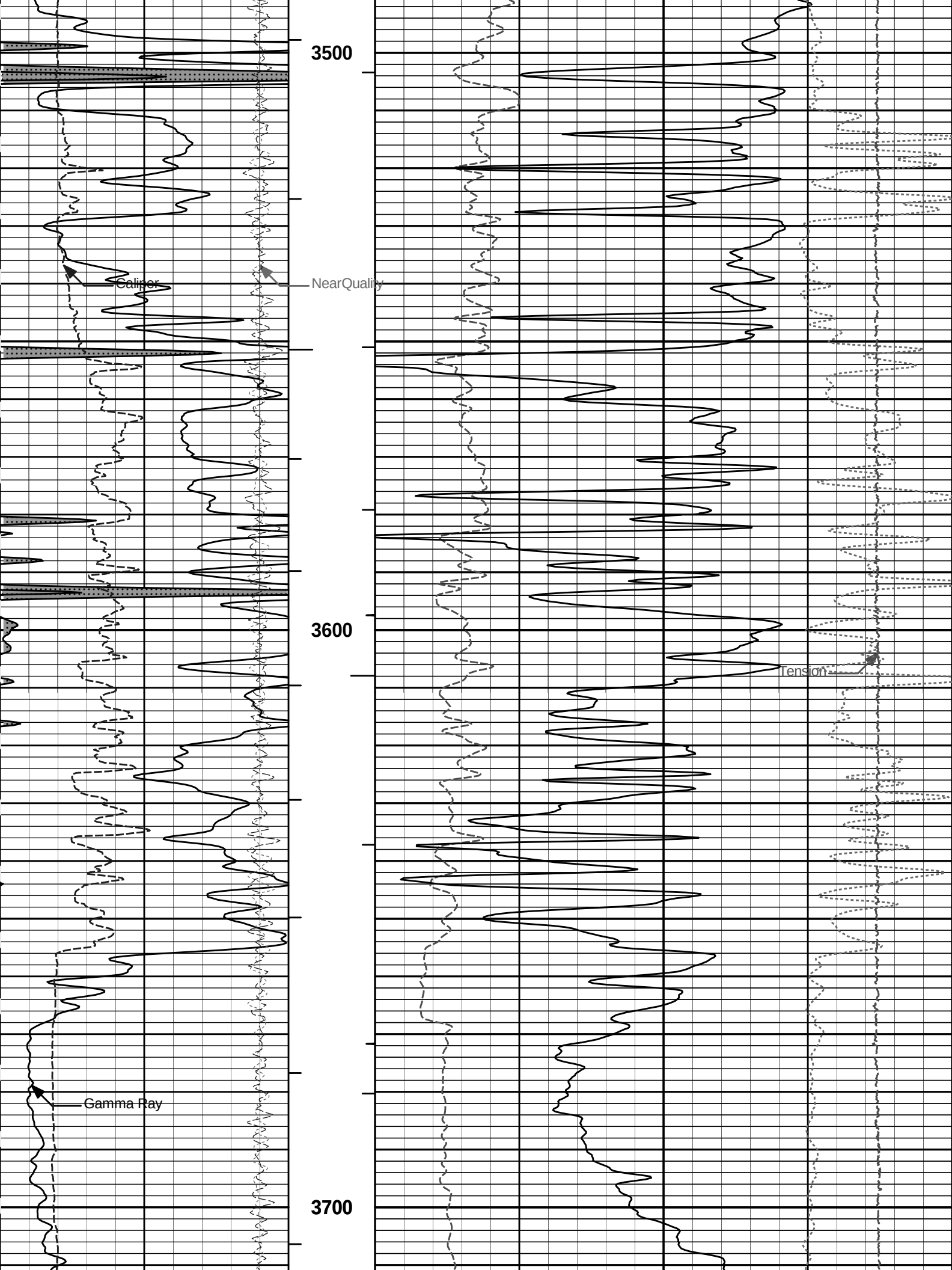
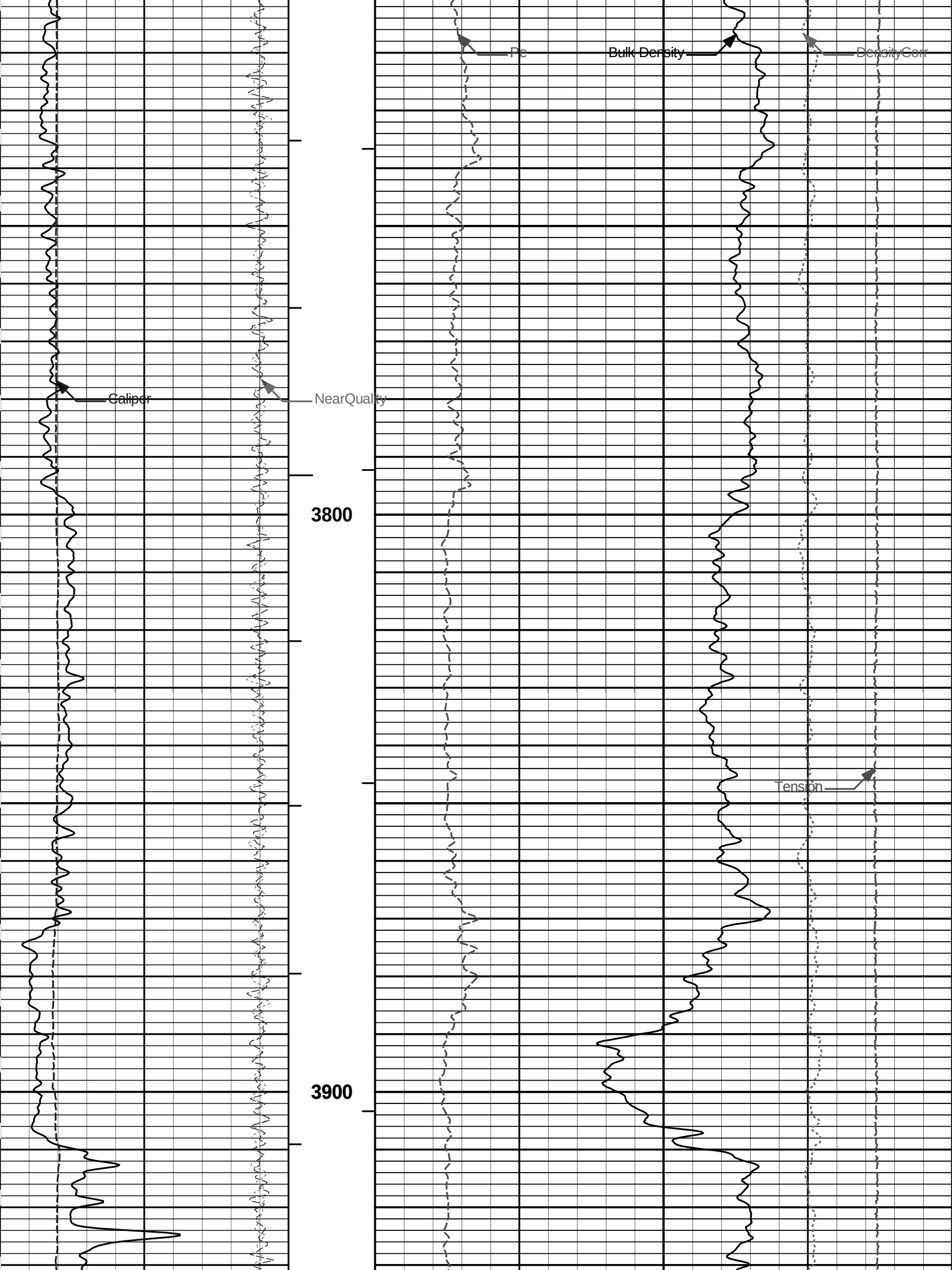
Caliper
NearQuality

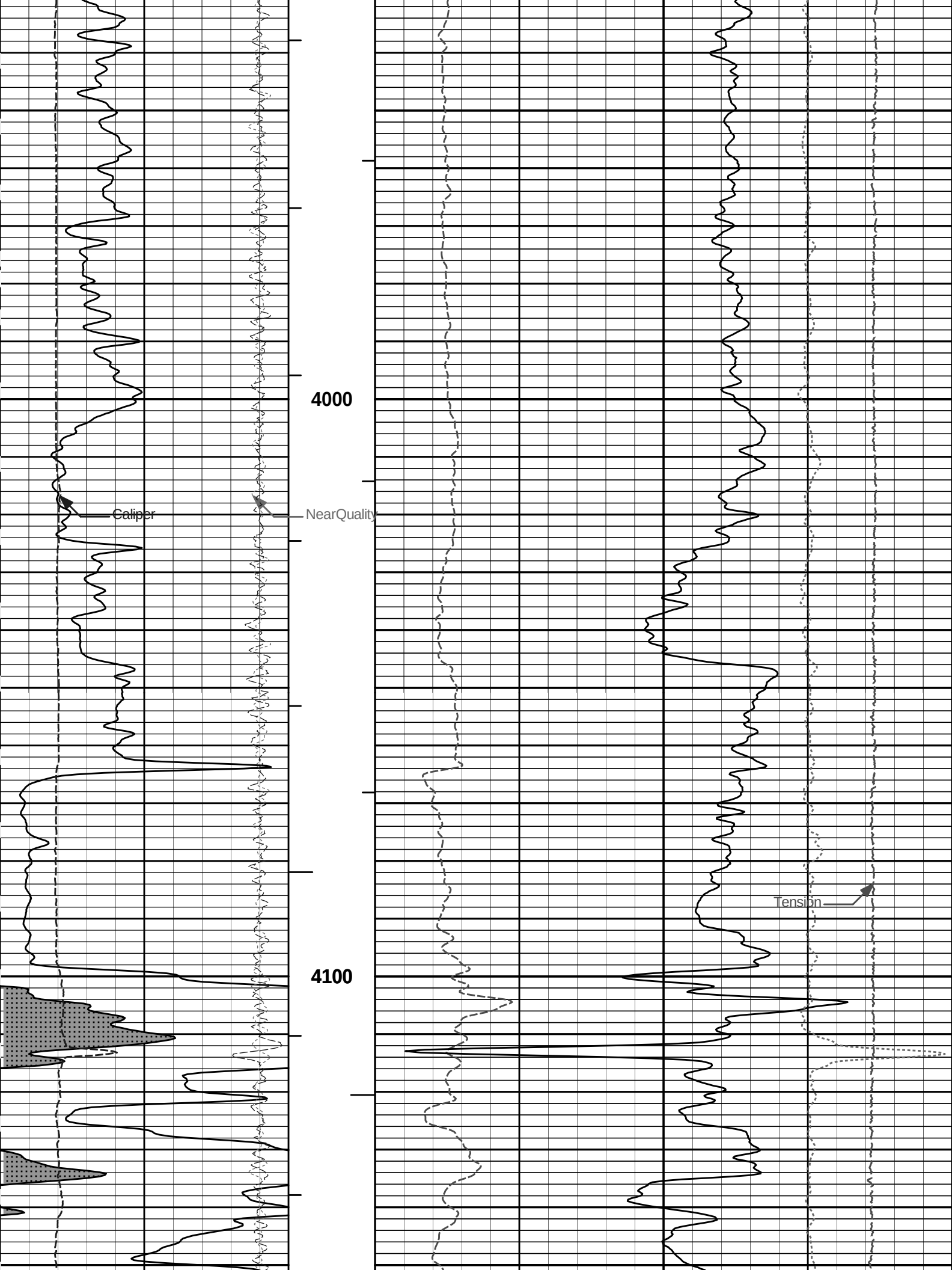

Tension
2900
3000

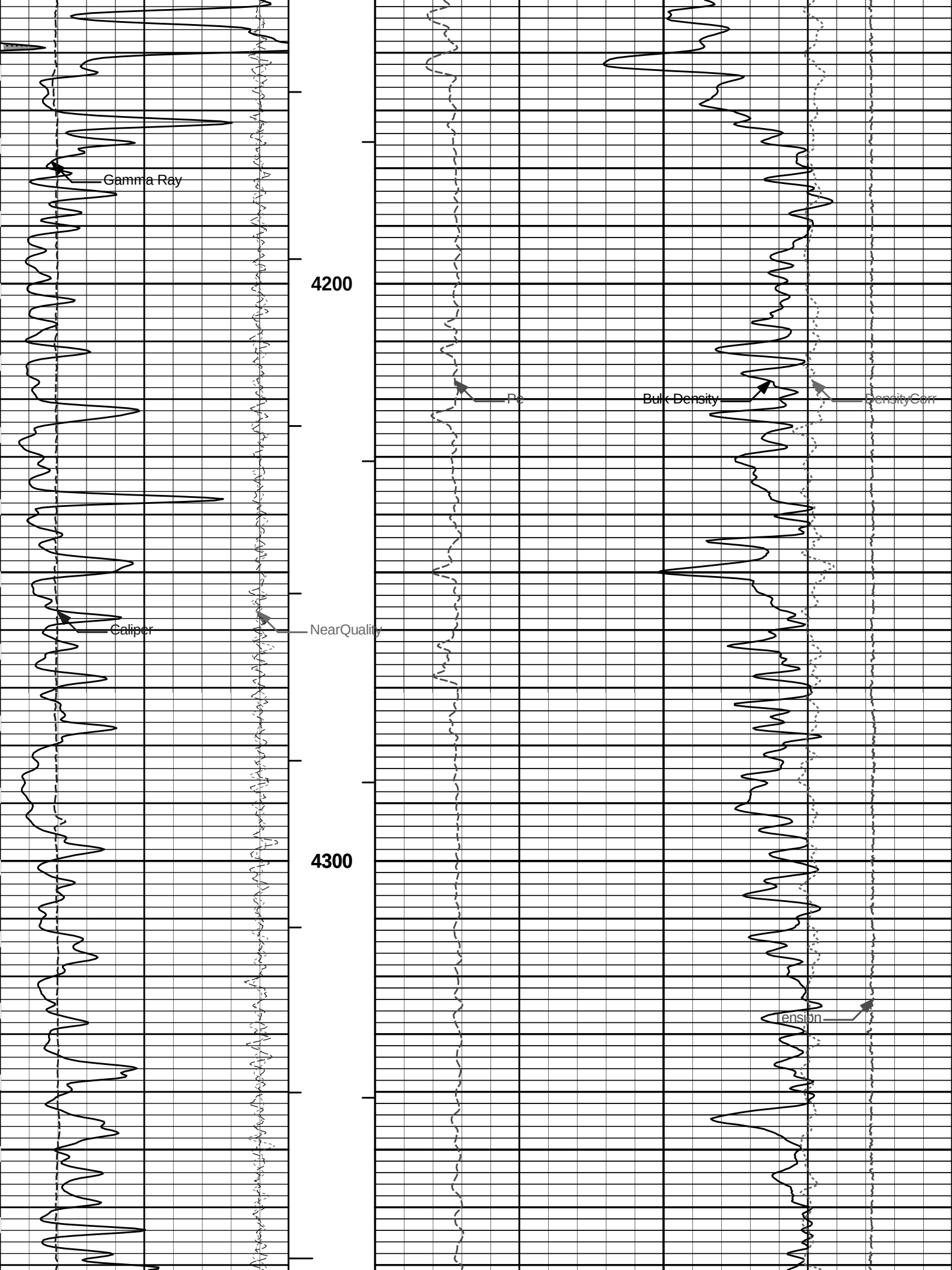

Caliper
NearQuality
3100
Tension
Gamma Ray
3200
Pe
Bulk Density
DensityCorr

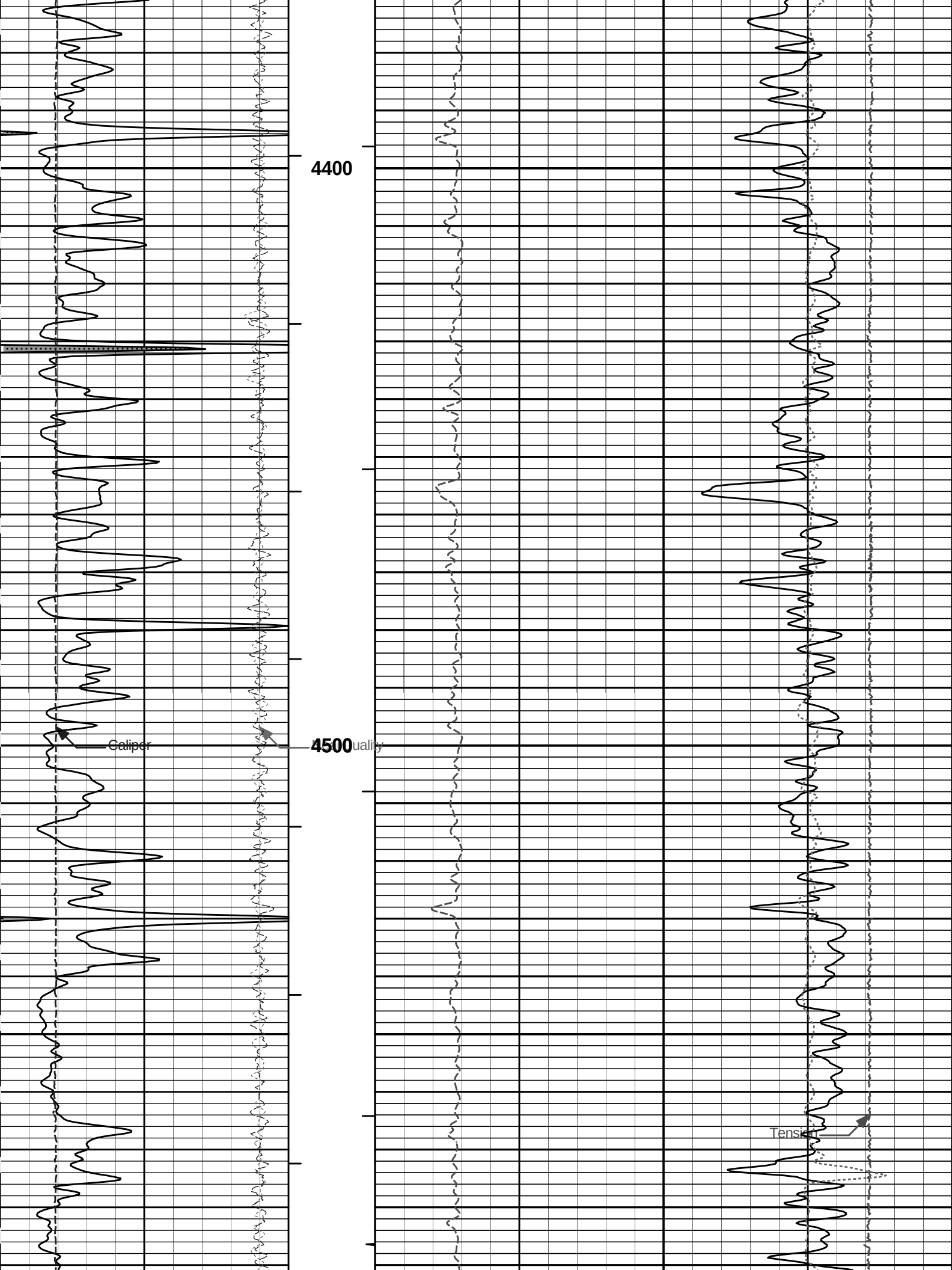

Caliper
3300
Tension
3400

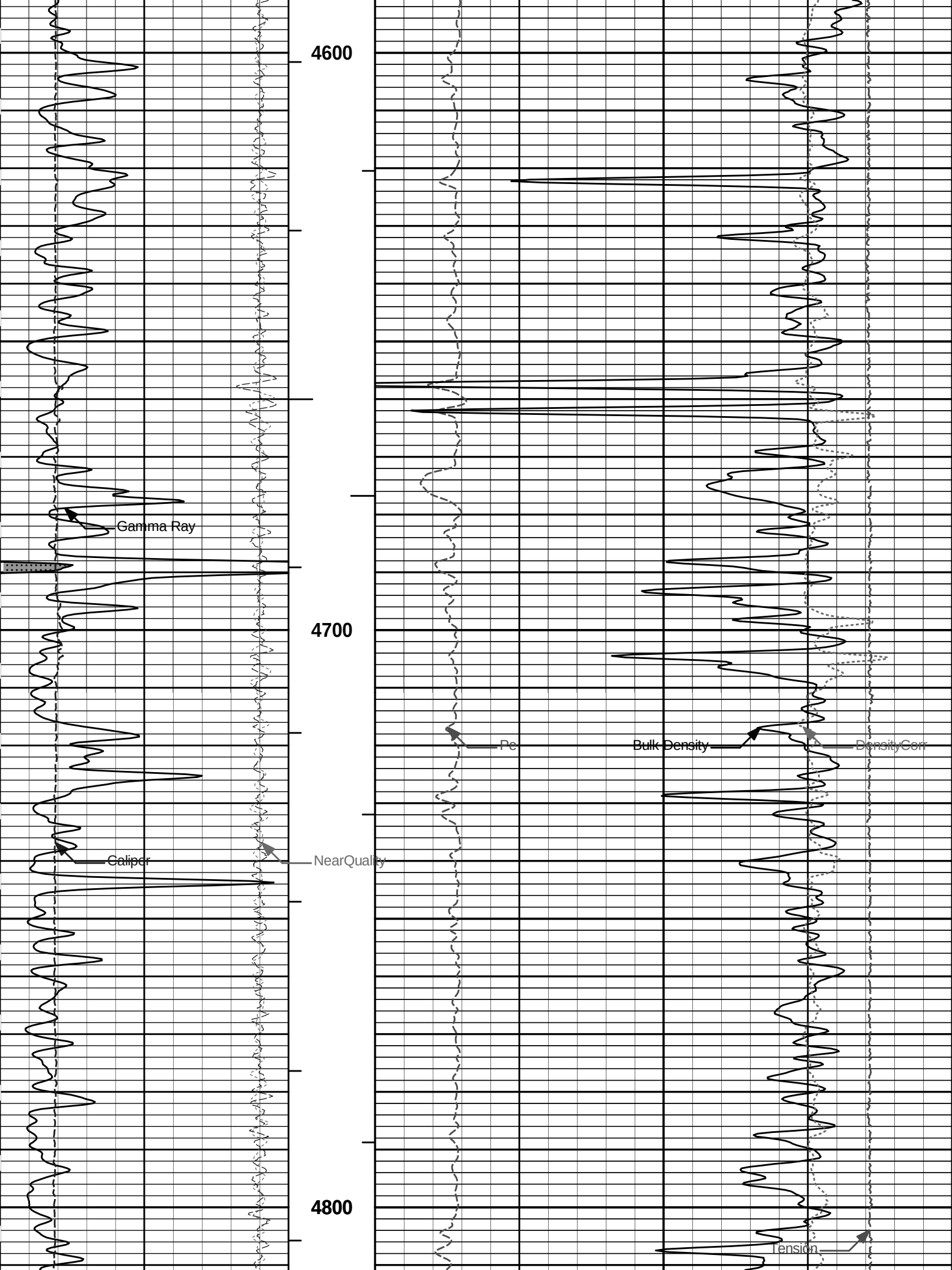

3500
3600
3700
Caliper
NearQuality
Tension
Gamma Ray

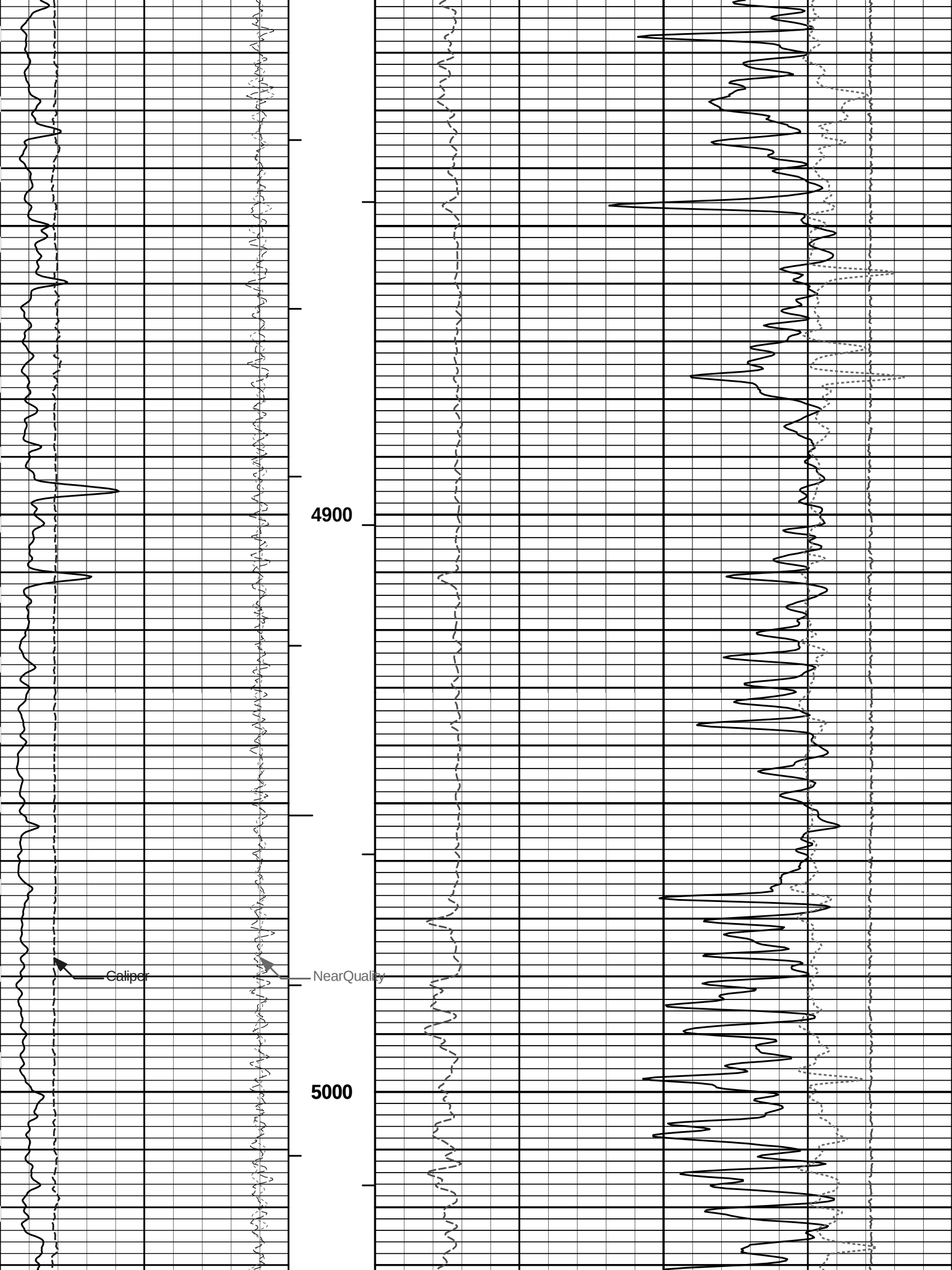

Pe
Bulk Density
DensityCorr
Caliper
NearQuality
Tension
3800
3900

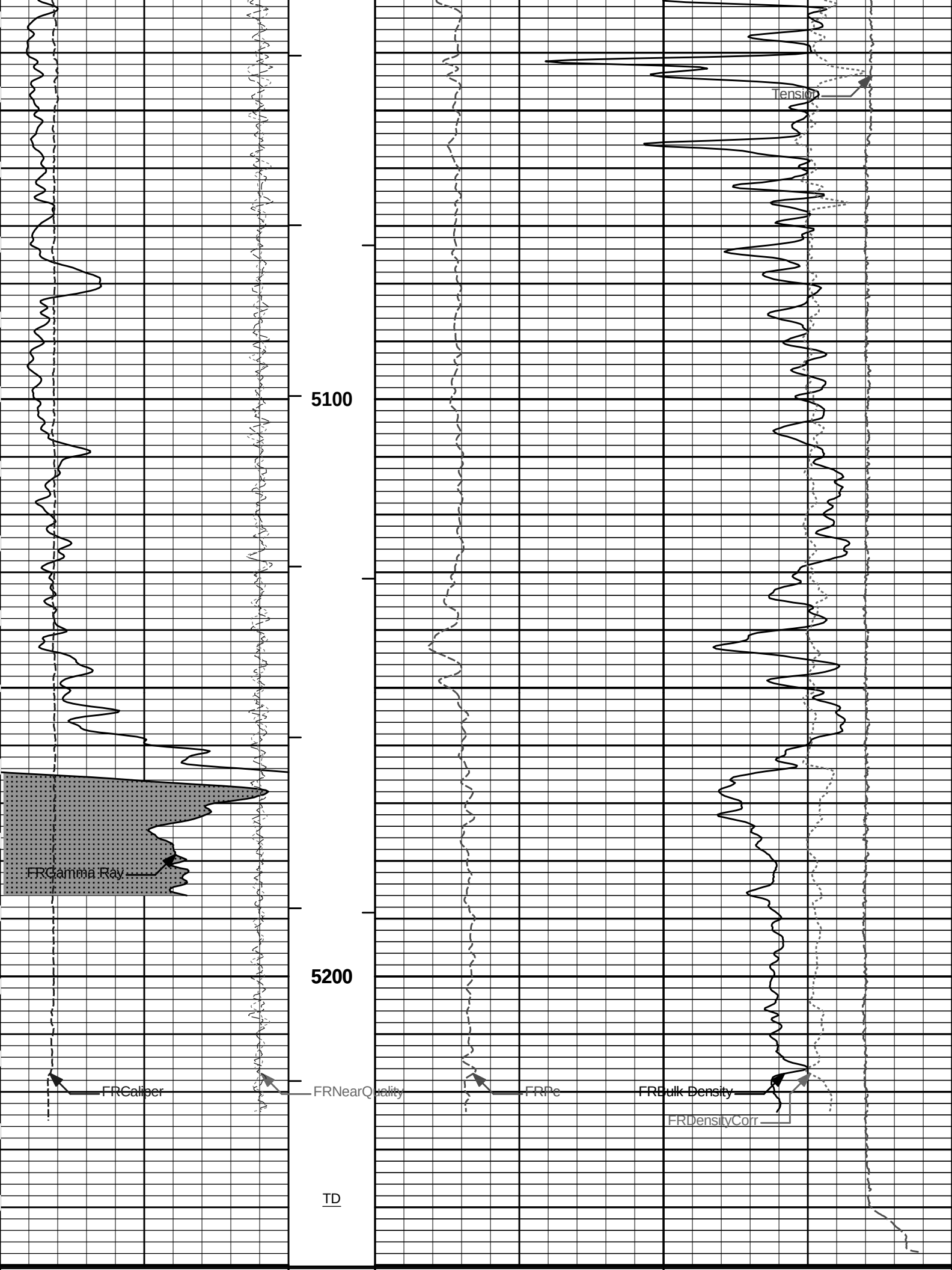

4000
Caliper
NearQuality
Tension
4100

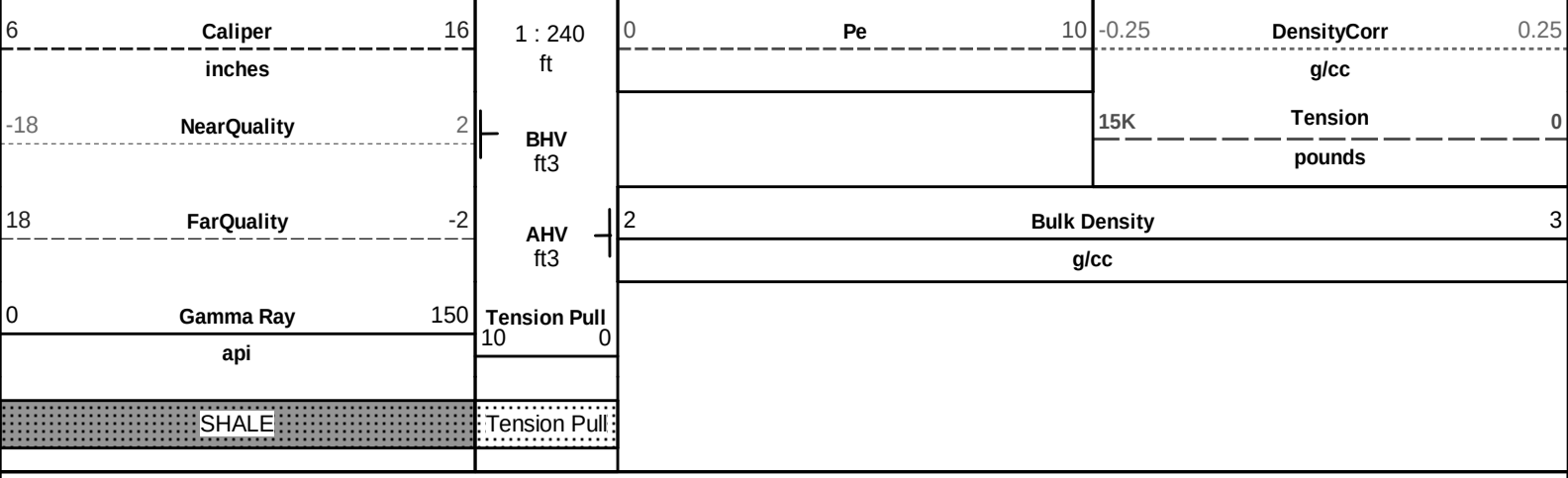

Gamma Ray
4200
Pe
Bulk Density
DensityCorr
Caliper
NearQuality
4300
Tension


4400
4500
Caliper
uality
Tension


4600
4700
4800
Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr
Tension


4900
5000
Caliper
NearQuality


Tension
5100
FRGamma Ray
5200
FRCaliber
FRNearQuality
FRPe
FRBulk Density
FRDensityCorr
TD



HALLIBURTON

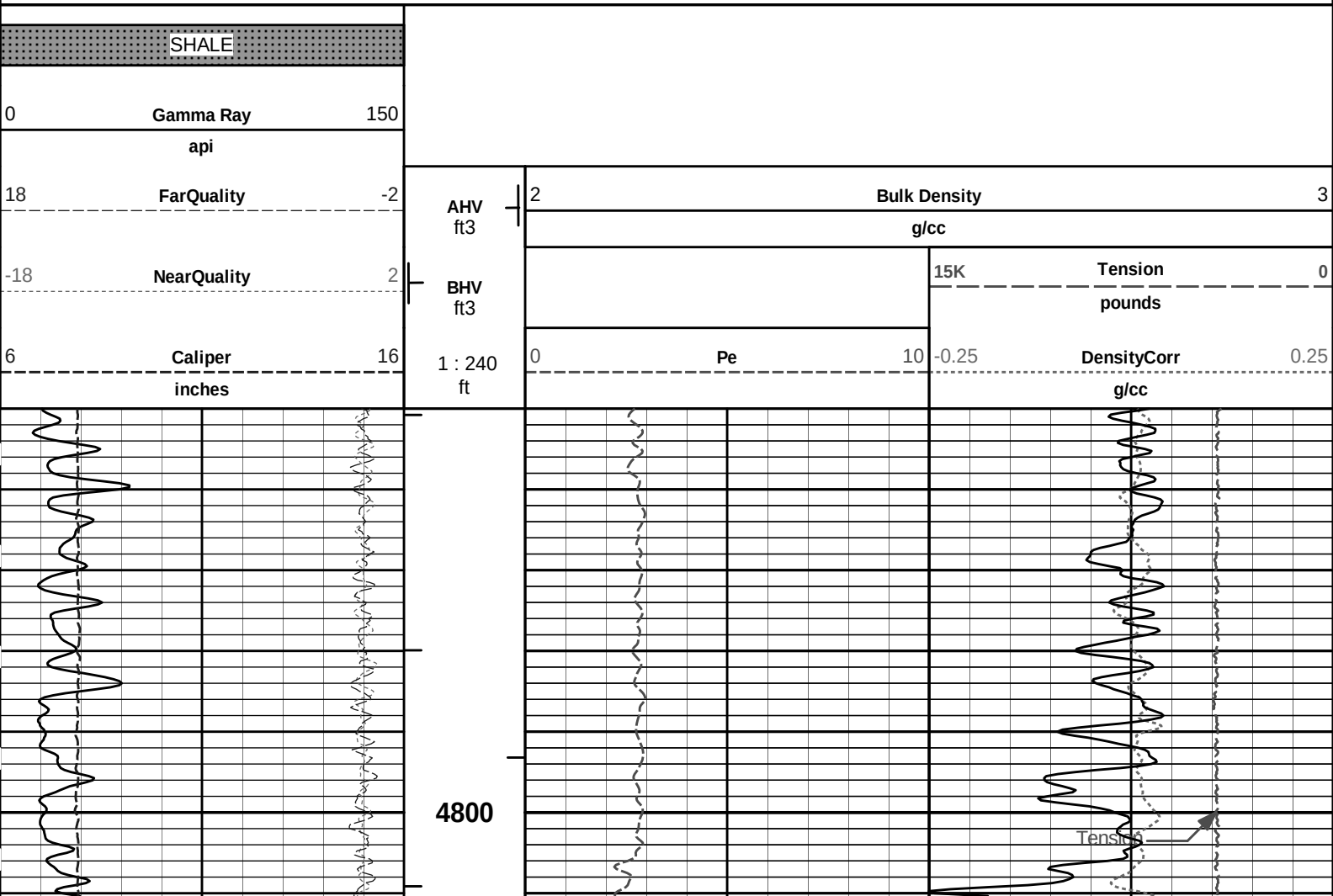
Plot Time: 09-Feb-11 17:37:35
Plot Range: 580 ft to 5250.25 ft
Data: WELINGTN_KGS_R2\Well Based\DAQ-0001-002
Plot File: \\-LOCAL-\WELINGTN_KGS_R2\Well Based\PORO\BULKD_5_MAIN_LIB

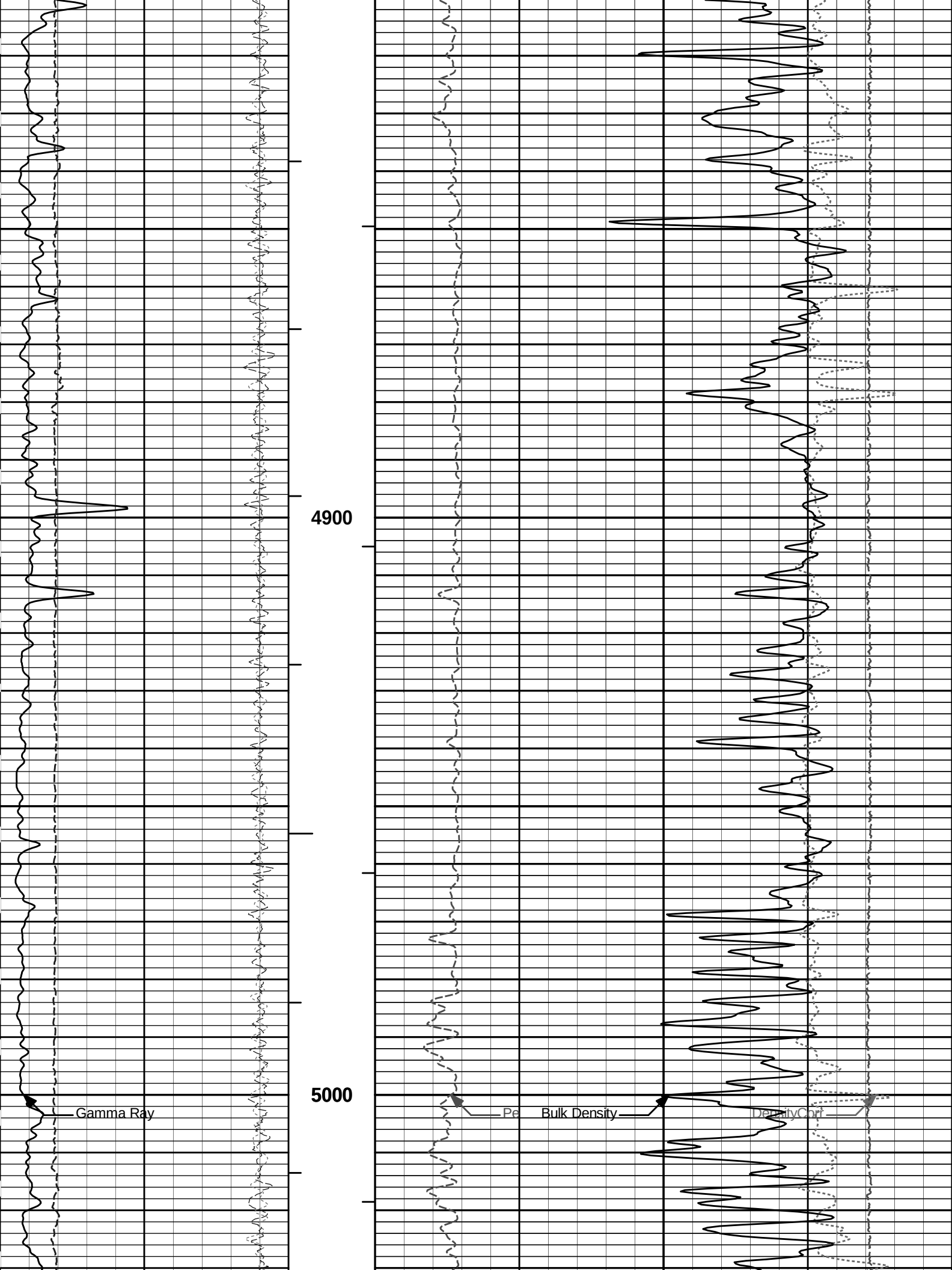
5 INCH MAIN LOG

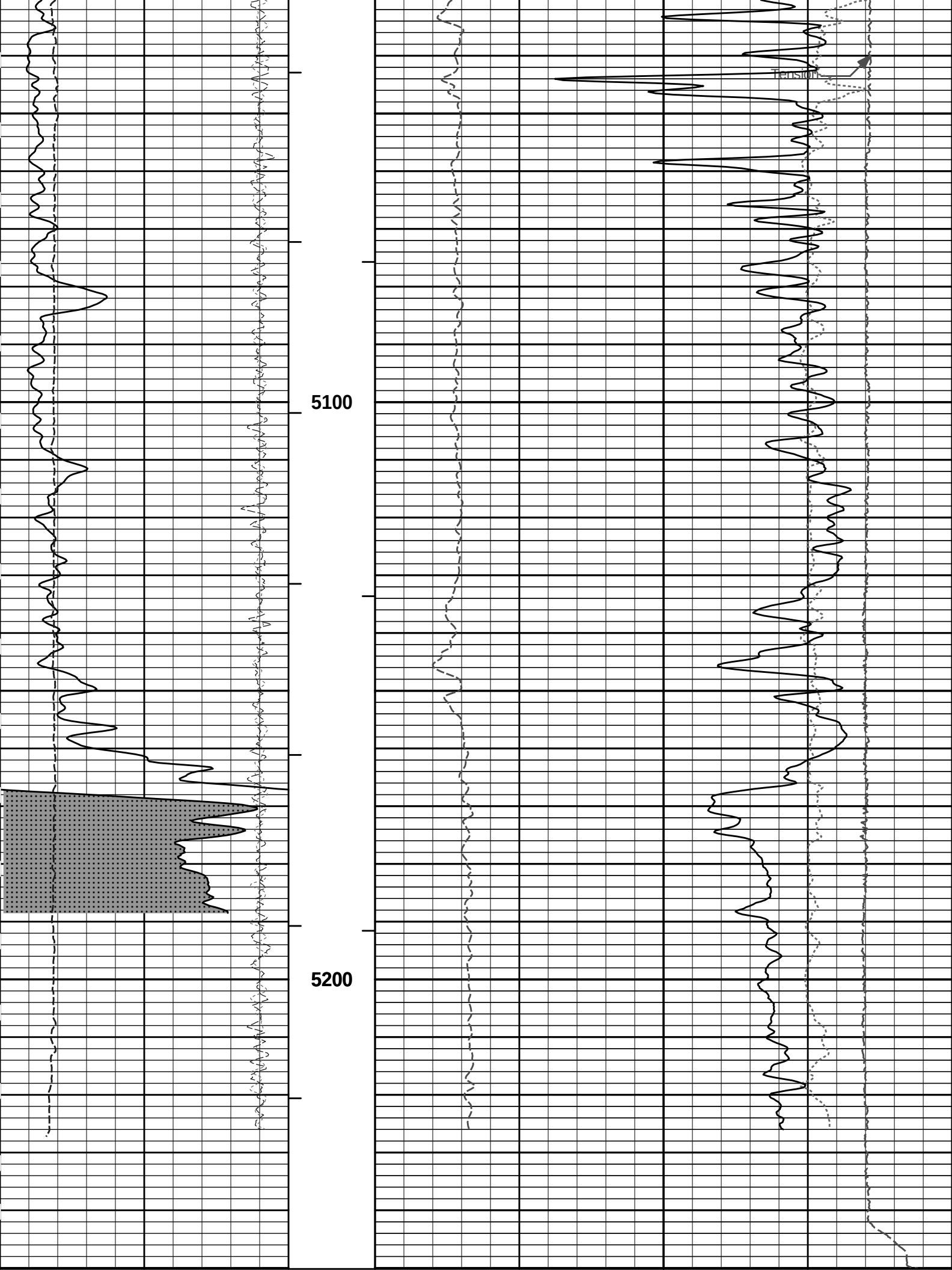
HALLIBURTON

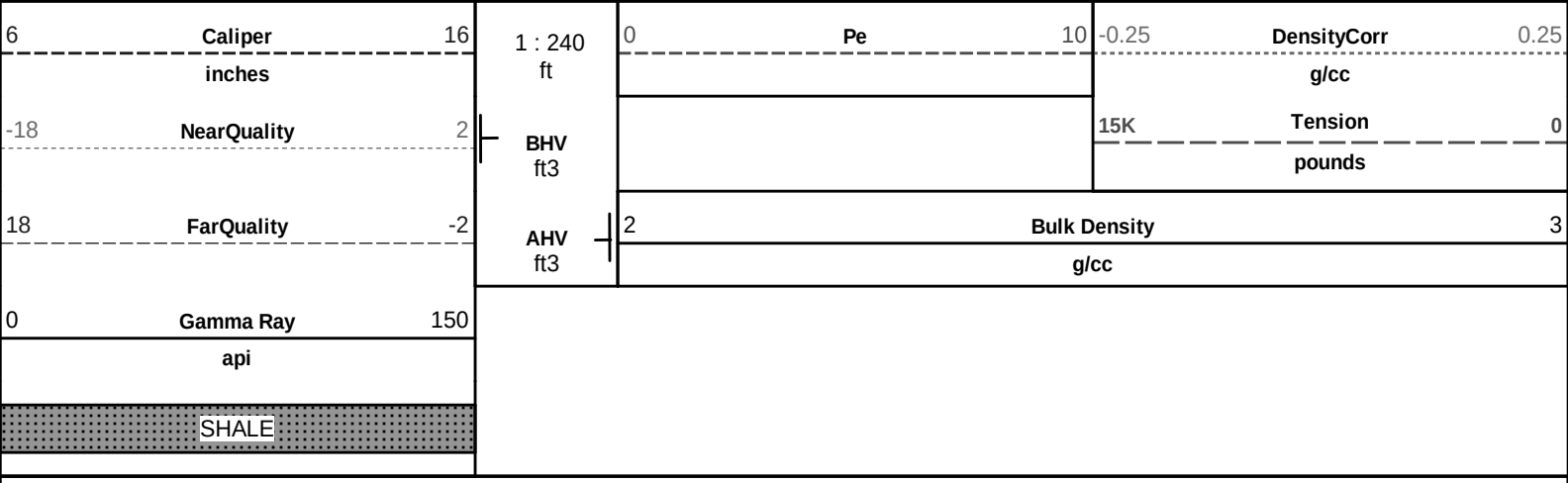
Plot Time: 09-Feb-11 17:37:35
Plot Range: 4750 ft to 5250.17 ft
Data: WELINGTN_KGS_R2\Well Based\DAQ-0001-001
Plot File: \\-LOCAL-\WELINGTN_KGS_R2\Well Based\PORO\BULKD_5_REP_LIB

REPEAT SECTION




4900
5000
Gamma Ray
Pe
Bulk Density
DensityCorr


Tension
5100
5200



HALLIBURTON

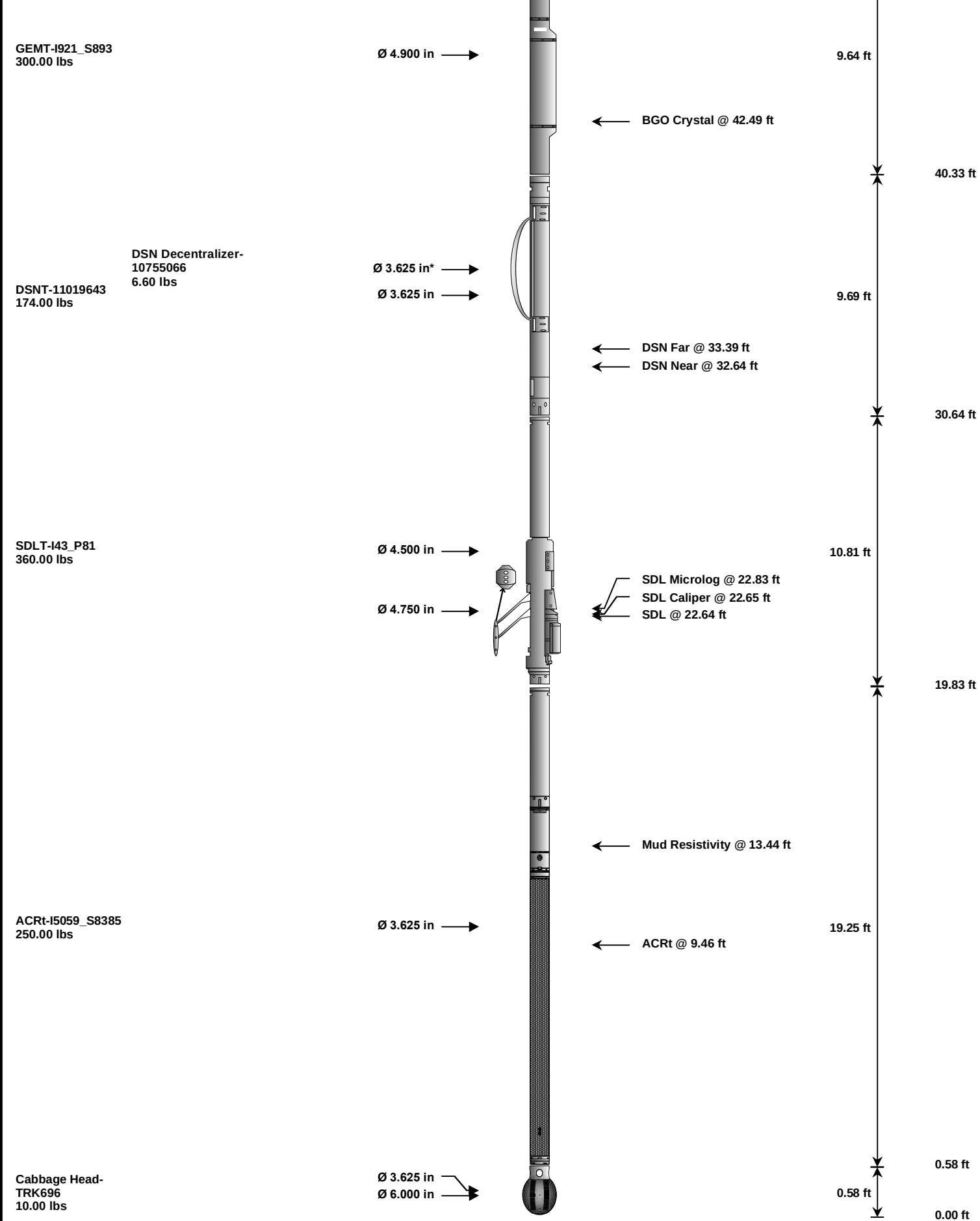
Plot Time: 09-Feb-11 17:37:41
Plot Range: 4750 ft to 5250.17 ft
Data: WELINGTN_KGS_R2\Well Based\DAQ-0001-001\
Plot File: \\-LOCAL-\WELINGTN_KGS_R2\Well Based\PORO\BULKD_5_REP_LIB

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						74.37 ft
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in		Temperature @ 73.35 ft	3.03 ft	
						71.35 ft
XOHD-TRK696 20.00 lbs		Ø 2.750 in Ø 3.625 in			0.95 ft	
						70.40 ft
SP Sub-PROT01 60.00 lbs		Ø 3.625 in		SP @ 68.62 ft	3.74 ft	
						66.66 ft
GTET-11039640 165.00 lbs		Ø 3.625 in		GammaRay @ 60.59 ft	8.52 ft	
						58.14 ft
CSNG-10727964 114.00 lbs		Ø 3.625 in		CSNG @ 52.51 ft	8.17 ft	
						49.97 ft
		Ø 3.625 in				



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH HOS	Hostile Cable Head with Load Cell	CH 696	37.50	3.03	71.35	300.00
XOHD	Hostile to Dits Cross Over	TRK696	20.00	0.95	70.40	300.00
SP	SP Sub	PROT01	60.00	3.74	66.66	300.00
GTET	Gamma Telemetry Tool	11039640	165.00	8.52	58.14	60.00

CSNG	Compensated Spectral Natural Gamma	10727964	114.00	8.17	49.97	15.00
GEMT	Gamma, Elements and Minerals Tool	I921_S893	300.00	9.64	40.33	15.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69	30.64	60.00
DCNT	DSN Decentralizer	10755066	6.60	5.13 *	33.97	300.00
SDLT	Spectral Density Tool	I43_P81	360.00	10.81	19.83	60.00
ACRt	Array Compensated True Resistivity	I5059_S8385	250.00	19.25	0.58	300.00
CBHD	Cabbage Head	TRK696	10.00	0.58	0.00	300.00
Total			**1,497.10**	**74.37**		

* Not included in Total Length and Length Accumulation.

Data: WELINGTN_KGS_R2\0001 SP-GTET-CSNG-GEM-DSN-SDL-ACRT-CH\IDLE **Date: 09-Feb-11 04:08:06**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 11039640**	**Reference Calibration Date:**	**30-Nov-10 05:13:19**
Engineer:	**J. BOSH**	**Calibration Date:**	**02-Jan-11 11:57:38**
Software Version:	**WL INSITE R3.2.0 (Build 7)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB 146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	51.8	52.8	api
Background + Calibrator	316.7	322.4	api
Calibrator	270.6	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 11039640**	**Reference Calibration Date:**	**02-Jan-11 11:57:38**
Engineer:	**J. BOSH**	**Calibration Date:**	**07-Feb-11 22:58:00**
Software Version:	**WL INSITE R3.2.0 (Build 7)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB 146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	52.8	26.1	api
Background + Calibrator	322.4	294.0	api
Calibrator	269.6	267.9	api

Shop	Field	Difference	Tolerance
269.6	267.9	1.7	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 11019643**	**Reference Calibration Date:**	**11-Dec-10 12:13:51**
Engineer:	**J. BOSH**	**Calibration Date:**	**20-Jan-11 15:50:05**
Software Version:	**WL INSITE R3.2.0 (Build 7)**	**Calibration Version:**	**1**

Logging Source S/N: DSN-424

Tank Serial Number: LIB-105060

Reference value assigned to Tank: 51.680

Snow Block S/N: 696 BLOCK

Calibration Tank Water Temperature: 65 degF

Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.949	0.944	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):	0.2121	0.2106	0.0015	+/- 0.0020
Calibrated Ratio:	9.77	9.72	0.050	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0625	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 - 11019643 **Reference Calibration Date:** 20-Jan-11 15:50:05

Engineer: J. BOSH **Calibration Date:** 07-Feb-11 23:00:38

Software Version: WL INSITE R3.2.0 (Build 7) **Calibration Version:** 1

Logging Source S/N: DSN-424

Snow Block S/N: 696 BLOCK

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0625	0.0534	-0.0091	+/- 0.0150

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

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT - I43_P81 **Reference Calibration Date:** 21-Dec-10 15:10:55

Engineer: J. BOSH **Calibration Date:** 20-Jan-11 14:12:19

Software Version: WL INSITE R3.2.0 (Build 7) **Calibration Version:** 1

Logging Source S/N: 5168GW

Aluminum Block S/N: LIBERAL Density: 2.598g/cc Pe: 3.170

Magnesium Block S/N: LIBERAL Density: 1.684g/cc Pe: 2.594

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0171	1.0689	0.90 - 1.10
Near Dens Gain	1.0159	1.0363	0.90 - 1.10
Near Peak Gain	1.0166	1.0351	0.90 - 1.10
Near Lith Gain	0.9947	1.0202	0.90 - 1.10
Far Bar Gain	1.0156	1.0170	0.90 - 1.10
Far Dens Gain	1.0057	1.0059	0.90 - 1.10

Far Dens Gain	1.0057	1.0059	0.90 - 1.10
Far Peak Gain	1.0010	0.9992	0.90 - 1.10
Far Lith Gain	0.9815	0.9859	0.90 - 1.10
Near Bar Offset	-0.0061	-0.4849	NONE
Near Dens Offset	-0.0093	-0.1904	NONE
Near Peak Offset	-0.0109	-0.1651	NONE
Near Lith Offset	0.1744	-0.0352	NONE
Far Bar Offset	-0.0576	-0.0709	NONE
Far Dens Offset	0.0264	0.0218	NONE
Far Peak Offset	0.0515	0.0641	NONE
Far Lith Offset	0.2022	0.1651	NONE
Near Bar Background	847.55	844.59	700 - 1450
Near Dens Background	277.60	277.38	230 - 480
Near Peak Background	121.10	120.71	100 - 210
Near Lith Background	148.87	148.64	125 - 260
Far Bar Background	551.60	549.97	450 - 900
Far Dens Background	216.71	215.77	175 - 345
Far Peak Background	87.46	86.26	70 - 140
Far Lith Background	89.43	89.02	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.680	1.684	0.004	+/- 0.015
Pe	2.579	2.547	-0.032	+/- 0.150
ALUMINUM				
Density (g/cc)	2.599	2.598	-0.001	+/- 0.01500
Pe	3.170	3.118	-0.052	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0000	+/- 0.0110	-0.0019	+/- 0.0140
Magnesium Block	-0.0005	+/- 0.0110	-0.0009	+/- 0.0140
Aluminum Block	0.0000	+/- 0.0110	-0.0000	+/- 0.0140
Resolution	9.36	6.00 - 11.50	8.89	6.00 - 11.50
Internal Verifier(B+D+P+L)	1391	1200 - 2700	941	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 - I43_P81**	**Reference Calibration Date:**	**20-Jan-11 14:12:19**
Engineer:	**J. BOSH**	**Calibration Date:**	**07-Feb-11 22:54:48**
Software Version:	**WL INSITE R3.2.0 (Build 7)**	**Calibration Version:**	**1**

Pad Temperature: 43.5 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1391.322	1391.058	-0.264	15.067
Far (B+D+P+L) cps	941.013	943.945	2.932	16.569
Near Resolution	9.36	9.67	0.310	0.50
Far Resolution	8.89	9.19	0.300	1.00

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	**SDLT - I43_P81**	**Reference Calibration Date:**	**20-Jan-11 14:50:50**
Engineer:	**J. BOSH**	**Calibration Date:**	**20-Jan-11 14:56:29**
Software Version:	**WL INSITE R3.2.0 (Build 7)**	**Calibration Version:**	**1**

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1741.53	-1826.97	-7000.00 - -1000.00
Pad Gain	0.0003895	0.0003917	0.000200 - 0.000600
Arm Offset	-502.76	169.01	-5000.00 - 3000.00
Arm Gain	0.0005636	0.0004929	0.000300 - 0.000700
Arm Power	-0.000008569	-0.000004363	-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)	2.02	2.00	-0.02	+/- 0.20
Medium Ring (in)	3.76	3.75	-0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.42	6.50	0.08	+/- 0.20
Medium Ring (in)	8.34	8.25	-0.09	+/- 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 - I43_P81**	**Reference Calibration Date:**	**20-Jan-11 14:56:29**
Engineer:	**J. BOSH**	**Calibration Date:**	**07-Feb-11 23:05:35**
Software Version:	**WL INSITE R3.2.0 (Build 7)**	**Calibration Version:**	**1**

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.79	0.04	+/- 0.10
Ring Diameter	8.25	8.24	-0.01	+/- 0.15

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

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11039640						
Gamma Ray Calibrator	269.6	267.9	----------	1.7	+/- 9.00	api
DSNT-11019643						
Snow-Block Porosity	0.0625	0.0534	----------	0.0091	+/- 0.0150	decp
SDLT-I43_P81						
Near(B+D+P+L)	1391.322	1391.058	----------	0.264	+/-15.067	cps
Far(B+D+P+L)	941.013	943.945	----------	-2.932	+/-16.569	cps
Pad Extension	3.75	3.79	----------	-0.04	+/-0.10	in
Ring Diameter	8.25	8.24	----------	0.010	+/-0.15	in

Data: WELINGTN_KGS_R2\0001 SP-GTET-CSNG-GEM-DSN-SDL-ACRT-CH\IDLE **Date: 09-Feb-11 06:02:53**

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	9.000	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	0.650	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	5242.00	ft
	SHARED	BHT	Bottom Hole Temperature	120.0	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	

CrossPlot	MFAC	Archie M Factor	2.1300	
Rwa / CrossPlot	RMFR	Rmf Reference	0.55	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	Centered	
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	
GEMT	GMOK	Compute GEMT Results?	Yes	
GEMT	FTAL	Fit Chemical Element Al	Yes	
GEMT	FTBA	Fit Chemical Element Ba	No	
GEMT	FITC	Fit Chemical Element C	Yes	
GEMT	FTCA	Fit Chemical Element Ca	Yes	
GEMT	FTCL	Fit Chemical Element Cl	Yes	
GEMT	FTFE	Fit Chemical Element Fe	Yes	
GEMT	FTGD	Fit Chemical Element Gd	Yes	
GEMT	FITH	Fit Chemical Element H	Yes	
GEMT	FTK	Fit Chemical Element K	Yes	
GEMT	FTMG	Fit Chemical Element Mg	Yes	
GEMT	FTMN	Fit Chemical Element Mn	Yes	
GEMT	FTNA	Fit Chemical Element Na	No	
GEMT	FITO	Fit Chemical Element O	Yes	
GEMT	FTS	Fit Chemical Element S	Yes	
GEMT	FTSI	Fit Chemical Element SI	Yes	
GEMT	FTTI	Fit Chemical Element Ti	Yes	
GEMT	KFIT	Potassium constraint flag (No = don't fit,Yes = fit)	Yes	
GEMT	UFDF	Use Fix Resolution Degradation Factor	No	
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	0.300	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	DNOK	Process Density?	Yes	
SDLT	DNOK	Process Density EVR?	No	
SDLT	CB	Logging Calibration Blocks?	No	
SDLT	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT	DTWN	Disable temperature warning	No	
SDLT	DMA	Formation Density Matrix	2.710	g/cc
SDLT	DFL	Formation Density Fluid	1.000	g/cc
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT	MLOK	Process MicroLog Outputs?	Yes	
ACRt	RTOK	Process ACRt?	Yes	
ACRt	MNSO	Minimum Tool Standoff	1.50	in
ACRt	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt	TPOS	Tool Position	Free Hanging	

	ACRt	RMOP	Rmud Source	Mud Cell	
	ACRt	RMIN	Minimum Resistivity for MAP	0.20	ohmm
	ACRt	RMIN	Maximum Resistivity for MAP	200.00	ohmm
	ACRt	THQY	Threshold Quality	0.50	
BOTTOM					

Data: WELINGTN_KGS_R2\0001 SP-GTET-CSNG-GEM-DSN-SDL-ACRT-CH\IDLE **Date: 09-Feb-11 06:07:06**

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
	Depth Panel			
TENS	Tension	0.00	NO	
	CH_HOS			
DHTN	DownholeTension	0.00	BLK	0.000
	SP Sub			
PLTC	Plot Control Mask	68.62	NO	
SP	Spontaneous Potential	68.62	BLK	1.250
SPR	Raw Spontaneous Potential	68.62	NO	
SPO	Spontaneous Potential Offset	68.62	NO	
	GTET			
TPUL	Tension Pull	60.59	NO	
GR	Natural Gamma Ray API	60.59	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	60.59	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	60.59	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	CSNG			
TPUL	Tension Pull	52.51	NO	
STAT	Status	52.51	NO	
FRMC	Tool Frame Count	52.51	BLK	0.250
TFRM	Total Frames	52.51	NO	
LSPD	Line Speed	52.51	BLK	0.250
CTIM	Accumulation time for sample	52.51	BLK	0.250
NOIS	Spectral Noise	52.51	BLK	0.250
STAB	Stabilizer Voltage in mv	52.51	BLK	0.250
STBP	Stabilizer 60 KEV Peak	52.51	BLK	0.250
AMER	Americium	52.51	BLK	0.250
FTMP	Flask PCB Temperature	52.51	BLK	0.250
SPEL	Low Energy Spectrum	52.51	BLK	0.250
SPEH	High Energy Spectrum	52.51	BLK	0.250
SSP	Stabilization Energy Spectrum	52.51	BLK	0.250
CSPC	CSNG Lo Hi Spectrum Data	52.51	NO	
	GEMT			
TPUL	Tension Pull	42.49	NO	
FRMC	Tool Frame Count	42.49	NO	
TFRM	Total Frames	42.49	NO	
LSPD	Line Speed	42.49	NO	

ATIM	Accumulation time for sample	42.49	NO	
CTIM	Accumulation time for single frame	42.49	NO	
STAT	Status	42.49	NO	
PHMI	Photomultiplier Current	42.49	NO	
PHVT	Photomultiplier Voltage	42.49	NO	
FTMP	Flask PCB Temperature	42.49	NO	
GSP	GEMT Spectrum	42.49	NO	
	DSNT			
TPUL	Tension Pull	32.54	NO	
RNDS	Near Detector Telemetry Counts	32.64	BLK	1.417
RFDS	Far Detector Telemetry Counts	33.39	TRI	0.583
DNTT	DSN Tool Temperature	32.64	NO	
DSNS	DSN Tool Status	32.54	NO	
ERND	Near Detector Telemetry Counts EVR	32.64	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	33.39	BLK	0.000
ENTM	DSN Tool Temperature EVR	32.64	NO	
	SDLT			
TPUL	Tension Pull	22.64	NO	
NAB	Near Above	22.46	BLK	0.920
NHI	Near Cesium High	22.46	BLK	0.920
NLO	Near Cesium Low	22.46	BLK	0.920
NVA	Near Valley	22.46	BLK	0.920
NBA	Near Barite	22.46	BLK	0.920
NDE	Near Density	22.46	BLK	0.920
NPK	Near Peak	22.46	BLK	0.920
NLI	Near Lithology	22.46	BLK	0.920
NBAU	Near Barite Unfiltered	22.46	BLK	0.250
NLIU	Near Lithology Unfiltered	22.46	BLK	0.250
FAB	Far Above	22.81	BLK	0.250
FHI	Far Cesium High	22.81	BLK	0.250
FLO	Far Cesium Low	22.81	BLK	0.250
FVA	Far Valley	22.81	BLK	0.250
FBA	Far Barite	22.81	BLK	0.250
FDE	Far Density	22.81	BLK	0.250
FPK	Far Peak	22.81	BLK	0.250
FLI	Far Lithology	22.81	BLK	0.250
PTMP	Pad Temperature	22.65	BLK	0.920
NHV	Near Detector High Voltage	19.83	NO	
FHV	Far Detector High Voltage	19.83	NO	
ITMP	Instrument Temperature	19.83	NO	
DDHV	Detector High Voltage	19.83	NO	
TPUL	Tension Pull	22.65	NO	
PCAL	Pad Caliper	22.65	TRI	0.250
ACAL	Arm Caliper	22.65	TRI	0.250
TPUL	Tension Pull	22.83	NO	
MINV	Microlog Lateral	22.83	BLK	0.750
MNOR	Microlog Normal	22.83	BLK	0.750
	ACRt			
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000

F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter 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	

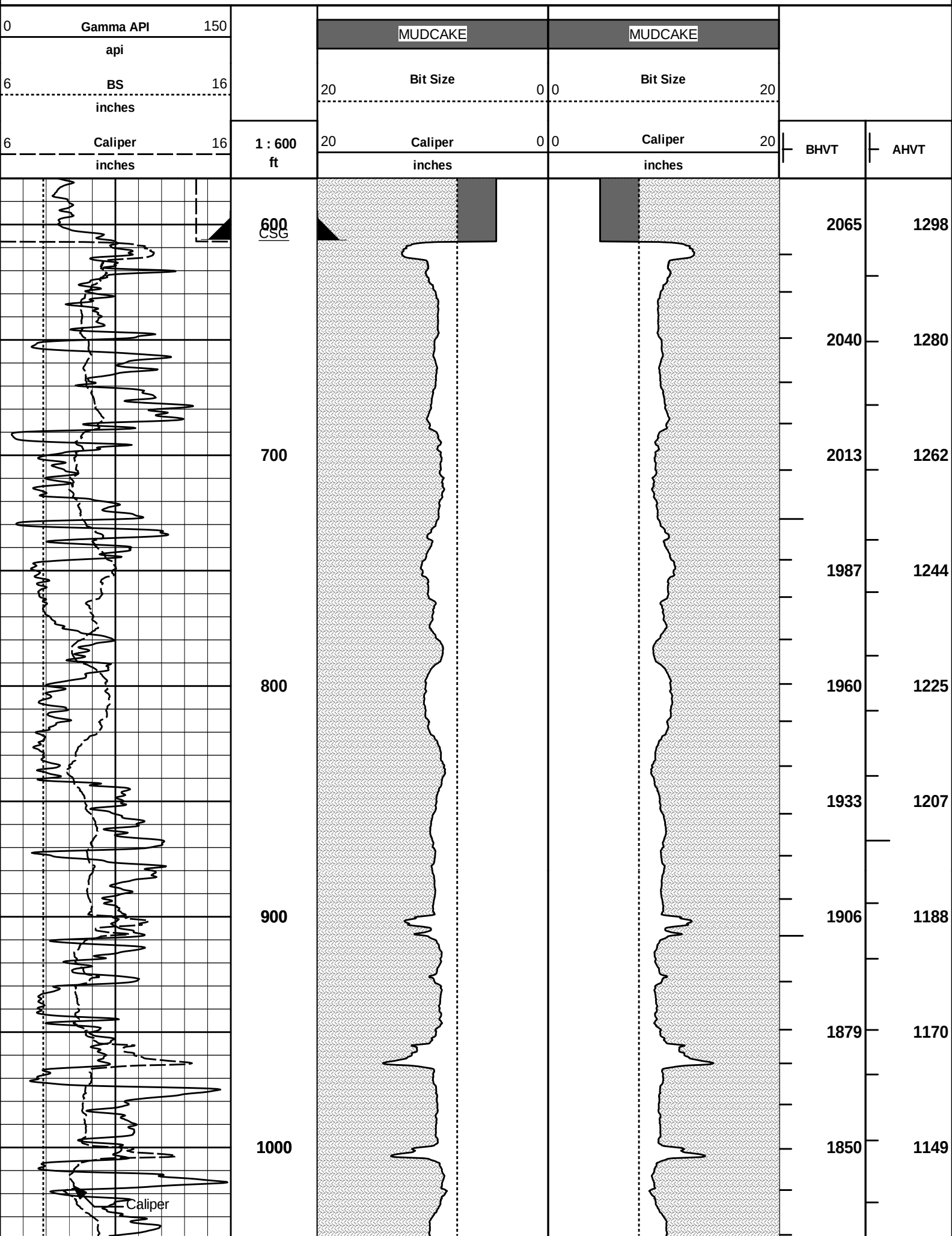
Data: WELINGTN_KGS_R2\0001 SP-GTET-CSNG-GEM-DSN-SDL-ACRT-CH\IDLE **Date: 09-Feb-11 06:05:25**

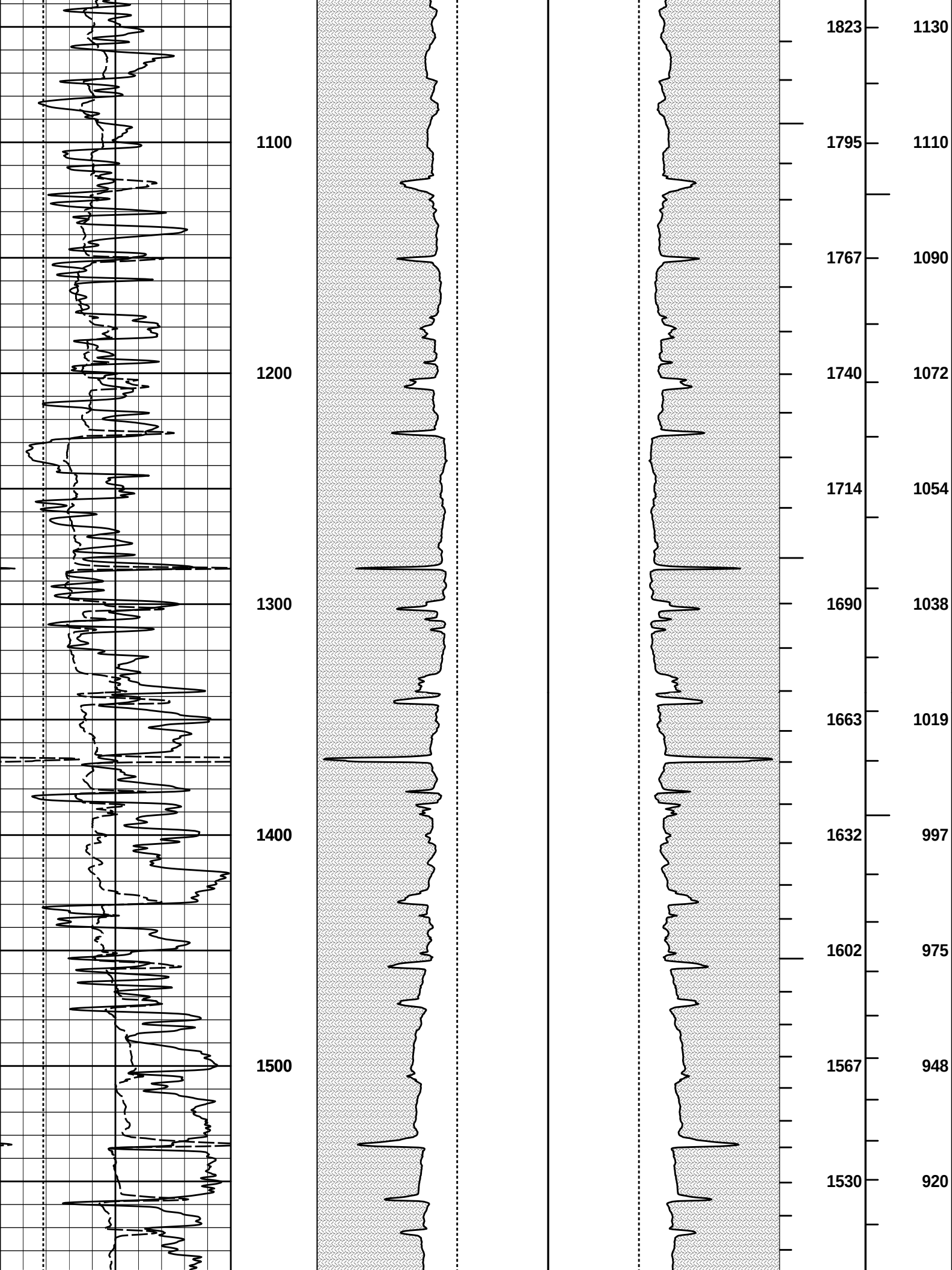
HALLIBURTON

Plot Time: 09-Feb-11 17:37:48
Plot Range: 580 ft to 5250.25 ft
Data: WELINGTN_KGS_R2\Well Based\DAQ-0001-002
Plot File: \\-LOCAL-\WELINGTN_KGS_R2\Well Based\PORO\AHV_5_5_INCH_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT (5.5 INCH)

ANNULAR HOLE VOLUME PLOT (8.5 INCH)

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975
948
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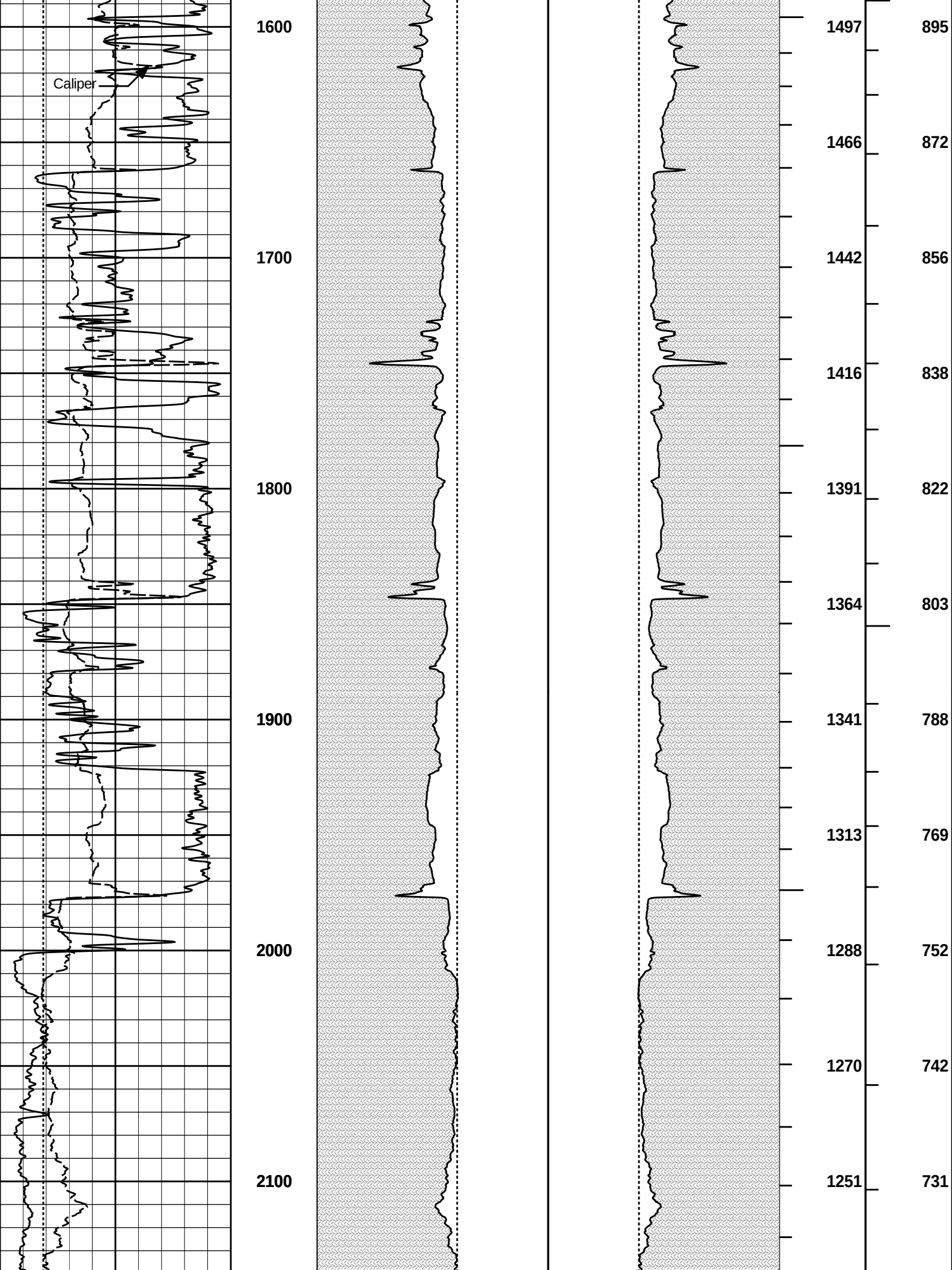
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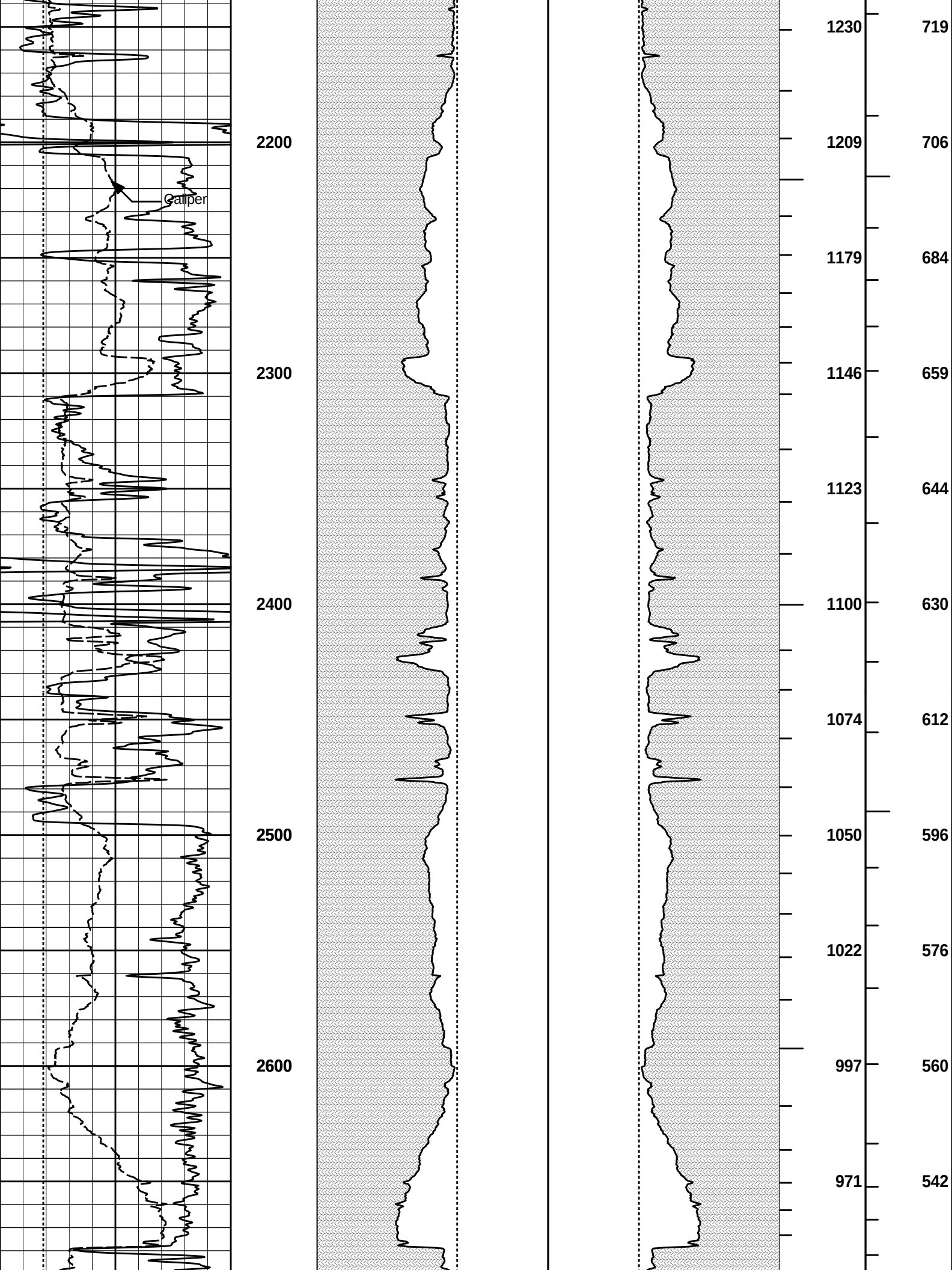
1700
1800
1900
2000
2100
1497
1466
1442
1416
1391
1364
1341
1313
1288
1270
1251
895
872
856
838
822
803
788
769
752
742
731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2400
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2600
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1209
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1146
1123
1100
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1022
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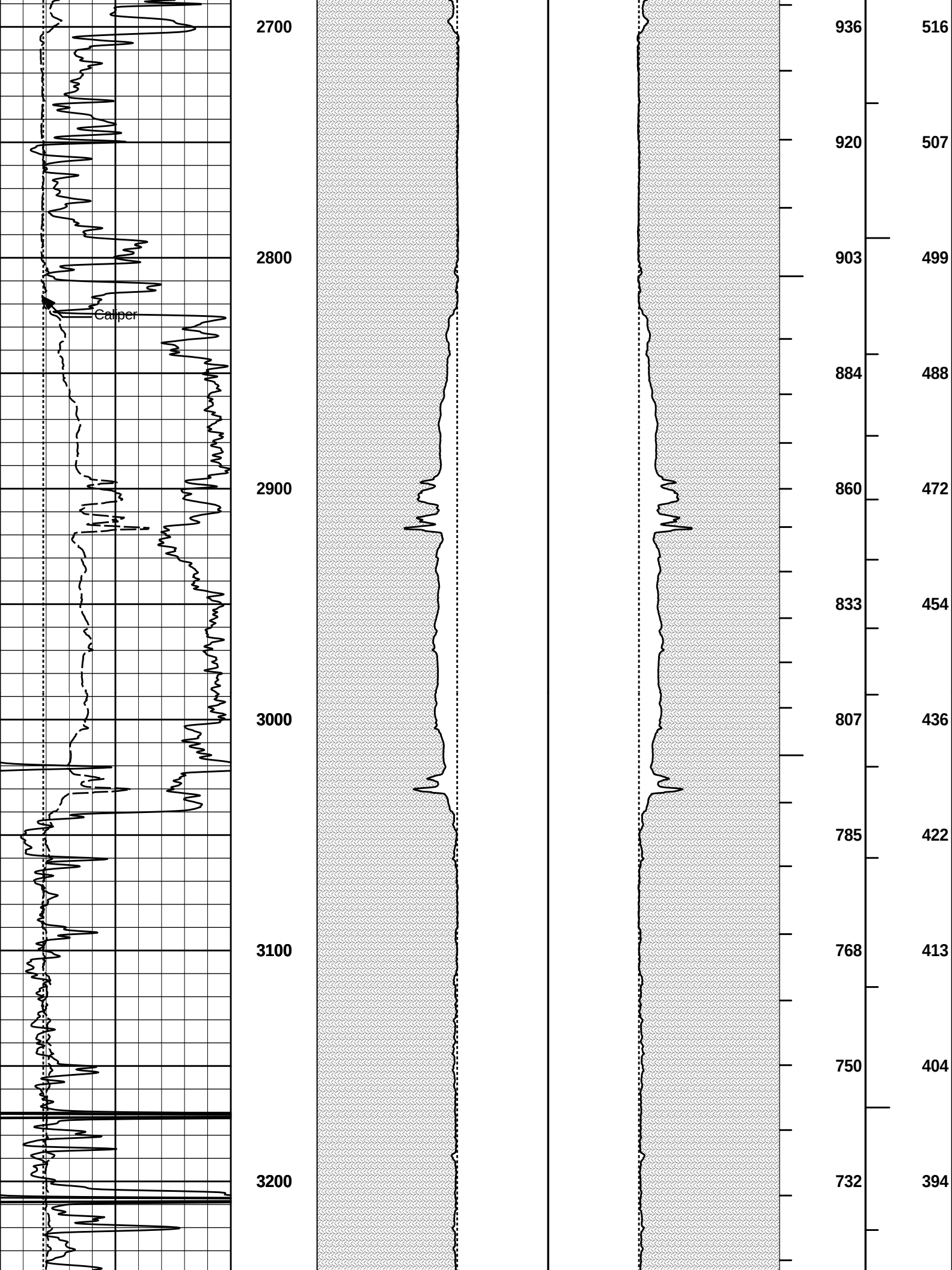
560
542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2900
3000
3100
3200
936
920
903
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860
833
807
785
768
750
732
516
507
499
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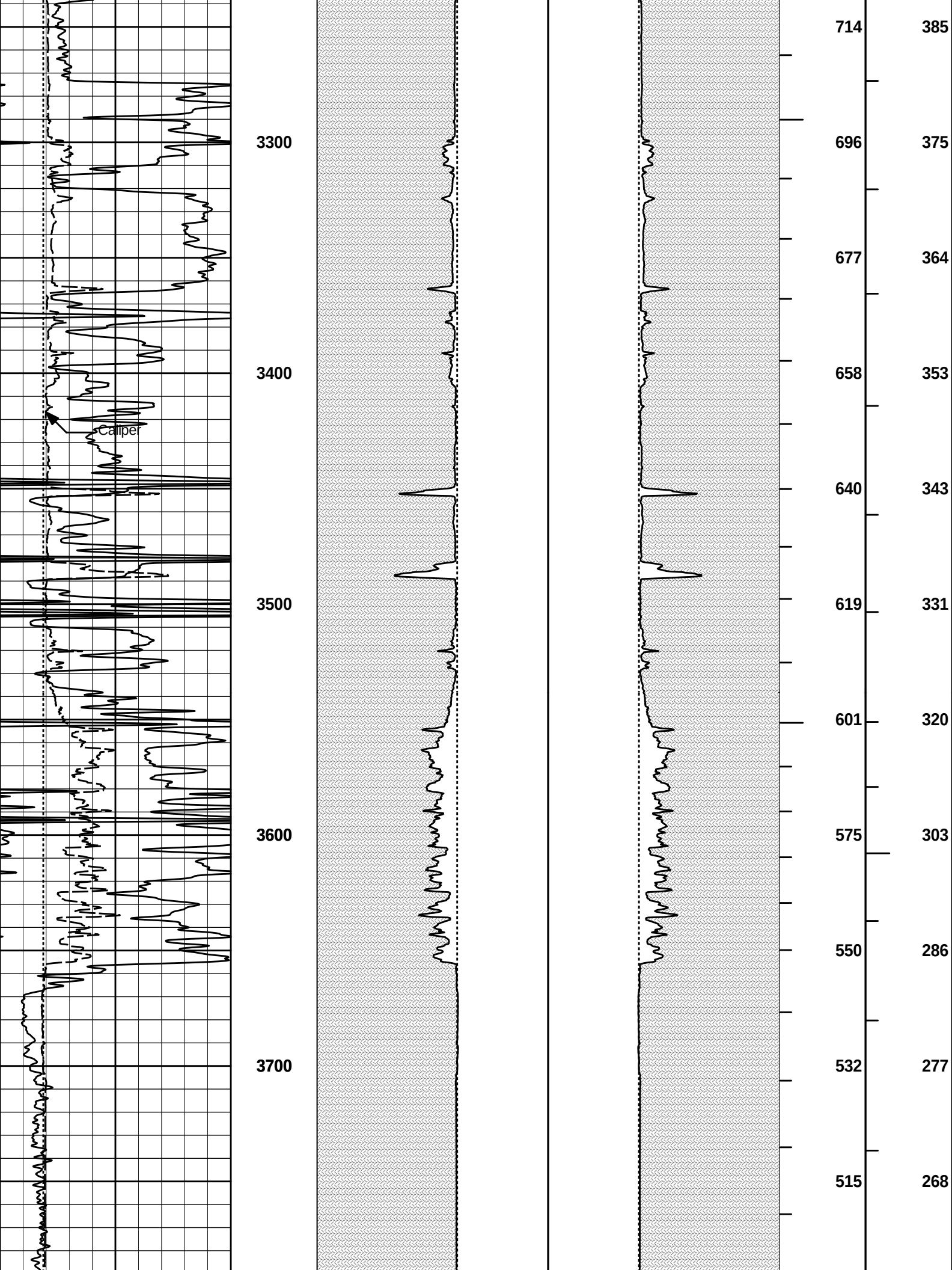
413
404
394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3600
3700
Caliper
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696
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640
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277
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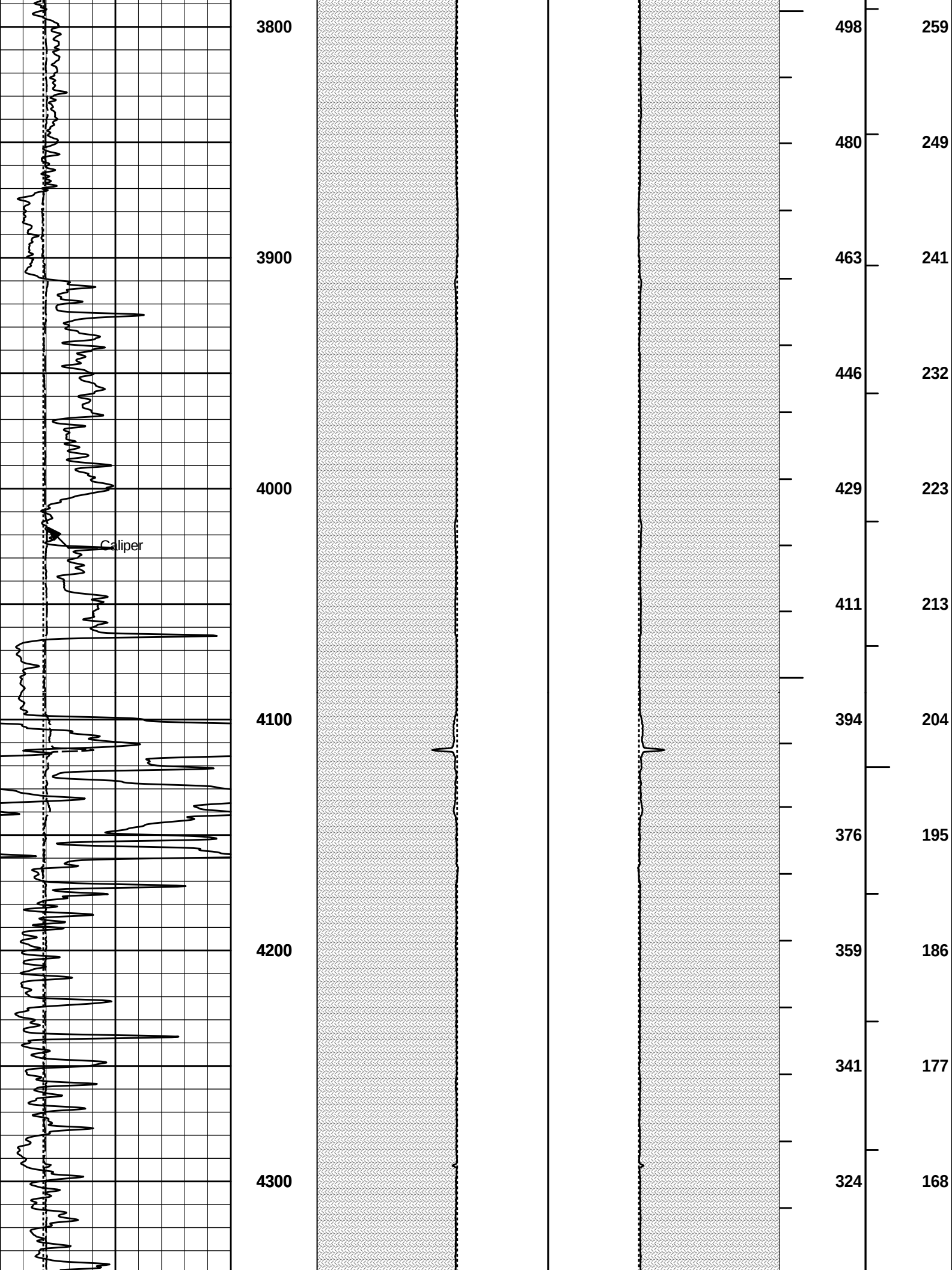
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4300
Caliper
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177
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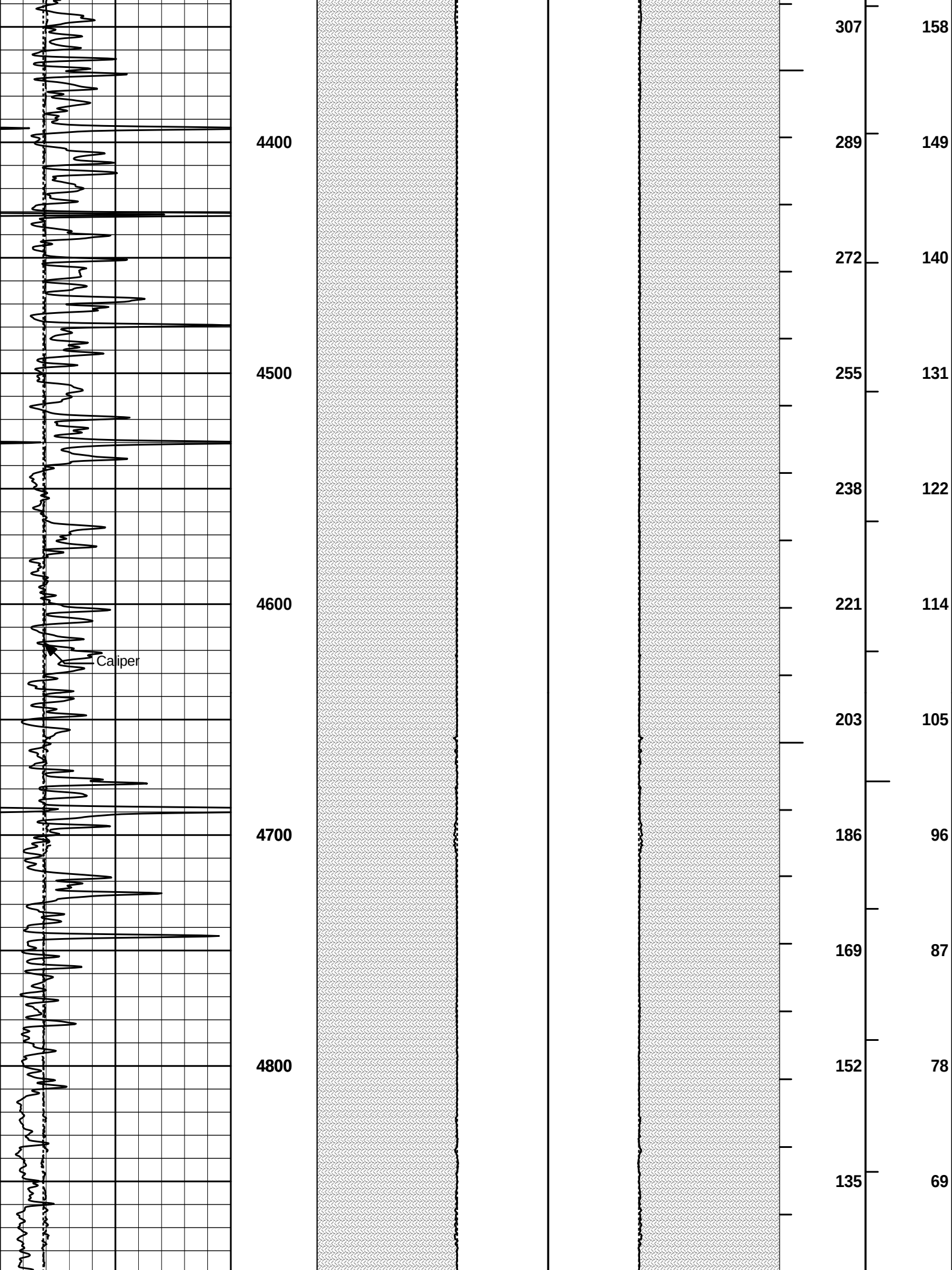
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4800
Caliper
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203
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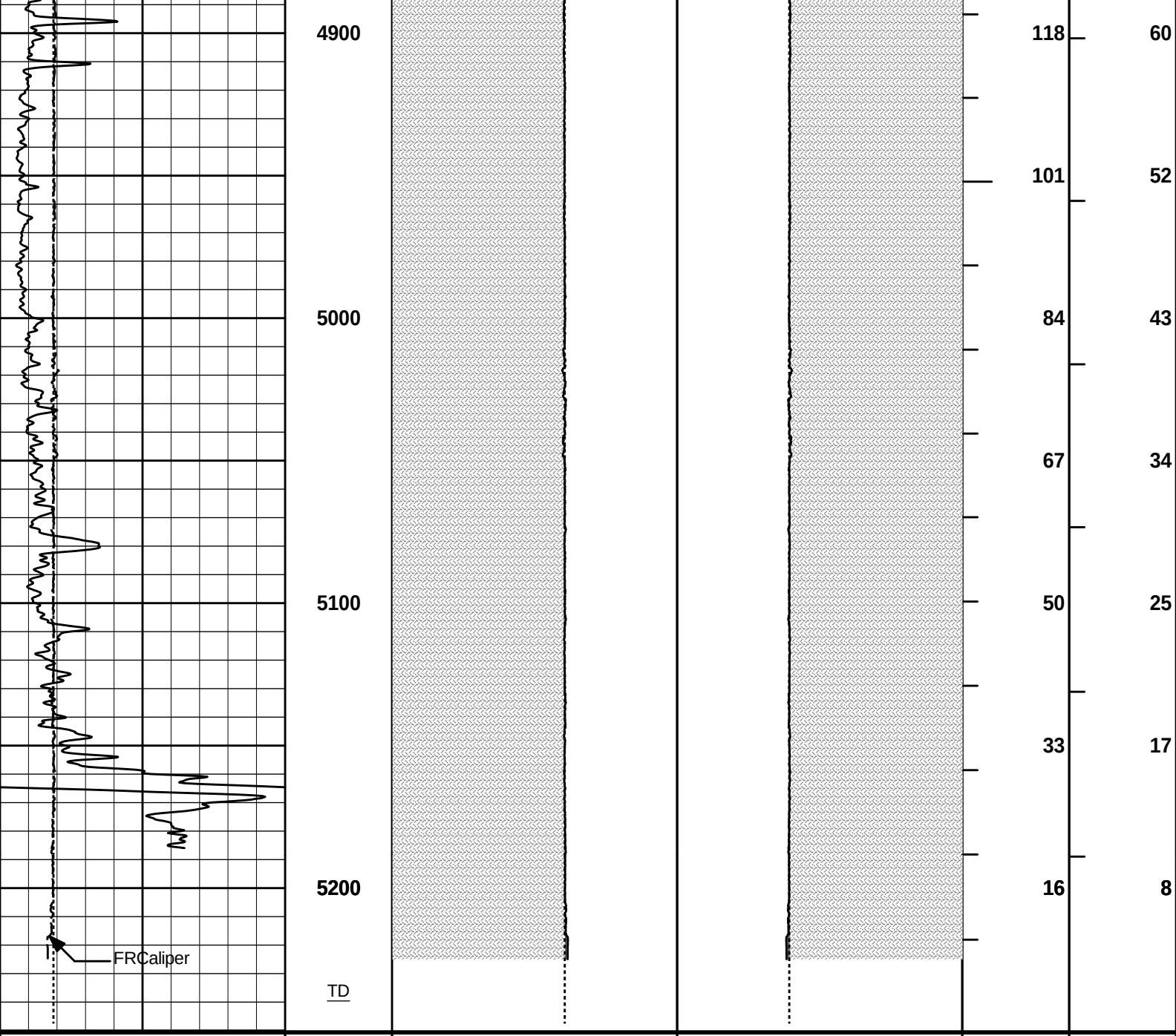

HALLIBURTON

Plot Time: 09-Feb-11 17:38:06
Plot Range: 580 ft to 5250.25 ft
Data: WELINGTN_KGS_R2\Well Based\DAQ-0001-002
Plot File: \\-LOCAL-\WELINGTN_KGS_R2\Well Based\PORO\AHV_5_5_INCH_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT (5.5 INCH)

COMPANY	**BEREXCO INC.**
WELL	**WELLINGTON KGS #1-32**

FIELD	**WELLINGTON**		
COUNTY	**SUMNER**	STATE	**KANSAS**

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG