HALLIBURTON

DUAL SPACED NEUTRON SPECTRAL DENSITY LOG

COMPANY **SANDRIDGE ENERGY**

WELL **SHELBY 1-3 SWD**

FIELD **WHARTON SOUTH**

COUNTY **HARPER** STATE **KANSAS**

COMPANY	SANDRIDGE ENERGY
WELL	SHELBY 1-3 SWD
FIELD	WHARTON SOUTH
COUNTY	HARPER
STATE	KANSAS

API No. 15-077-21839

Location 285 FSL & 180' FWL

Sect. 3 Twp. 35S Rge. 7W

Other Services:
ML
ACRT
WSTT

Permanent Datum	GL	Elev. 1315.0 ft	Elev.: K.B. 1335.0 ft
Log measured from	KB	, 20.0 ft above perm. Datum	D.F. 1335.0 ft
Drilling measured from	KB		G.L. 1315.0 ft

Date		18-May-12					
Run No.		ONE					
Depth - Driller		5699.00 ft					
Depth - Logger		5692.0 ft					
Bottom - Logged Interval		5610 ft					
Top - Logged Interval		3000 ft					
Casing - Driller		13.375 in @ 706.0 ft		@		@	
Casing - Logger		706.0 ft					
Bit Size		12.250 in		@		@	
Type Fluid in Hole		WATER					
Density	Viscosity	9.4 ppg	46.00 s/qt				
PH	Fluid Loss	10.00 pH	60.0 cptm				
Source of Sample		FLOWLINE					
Rm @ Meas. Temperature		0.560 ohmm @ 110.00 degF		@		@	
Rmf @ Meas. Temperature		0.48 ohmm @ 100.00 degF		@		@	
Rmc @ Meas. Temperature		0.650 ohmm @ 100.00 degF		@		@	
Source Rmf	Rmc	MEAS	MEAS				
Rm @ BHT		0.45 ohmm @ 140.0 degF		@		@	
Time Since Circulation		8.0 hr					
Time on Bottom		18-May-12 11:26					
Max. Rec. Temperature		140.0 degF @ 5692.0 ft		@		@	
Equipment	Location	336	LIBERAL				
Recorded By		C. MARLOWE					
Witnessed By		J. SCHAFER					

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PGM Version: WL INSITE R3.4.2 (Build 2)

Service Ticket No.: 9505733 API Serial No.: 15-077-21839

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

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
Rm @ Meas. Temp	@	@	@	@	
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.	11021039	Serial No.		Serial No.	I947M315P774	Serial No.	11023947	
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.	5155GW	Serial No.	DSN 439	
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI	

LOGGING DATA

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	
ONE	TD	3000'	REC	0	150				30	-10	2.71	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: GTET-DSNT-SDLT-IDT-ICT-WSTT-ACRT RUN IN COMBINATION

ANNULAR HOLE VOLUME CALCULATED FOR 9.625 INCH CASING

CHLORIDES REPORTED AT 7000 MG/L

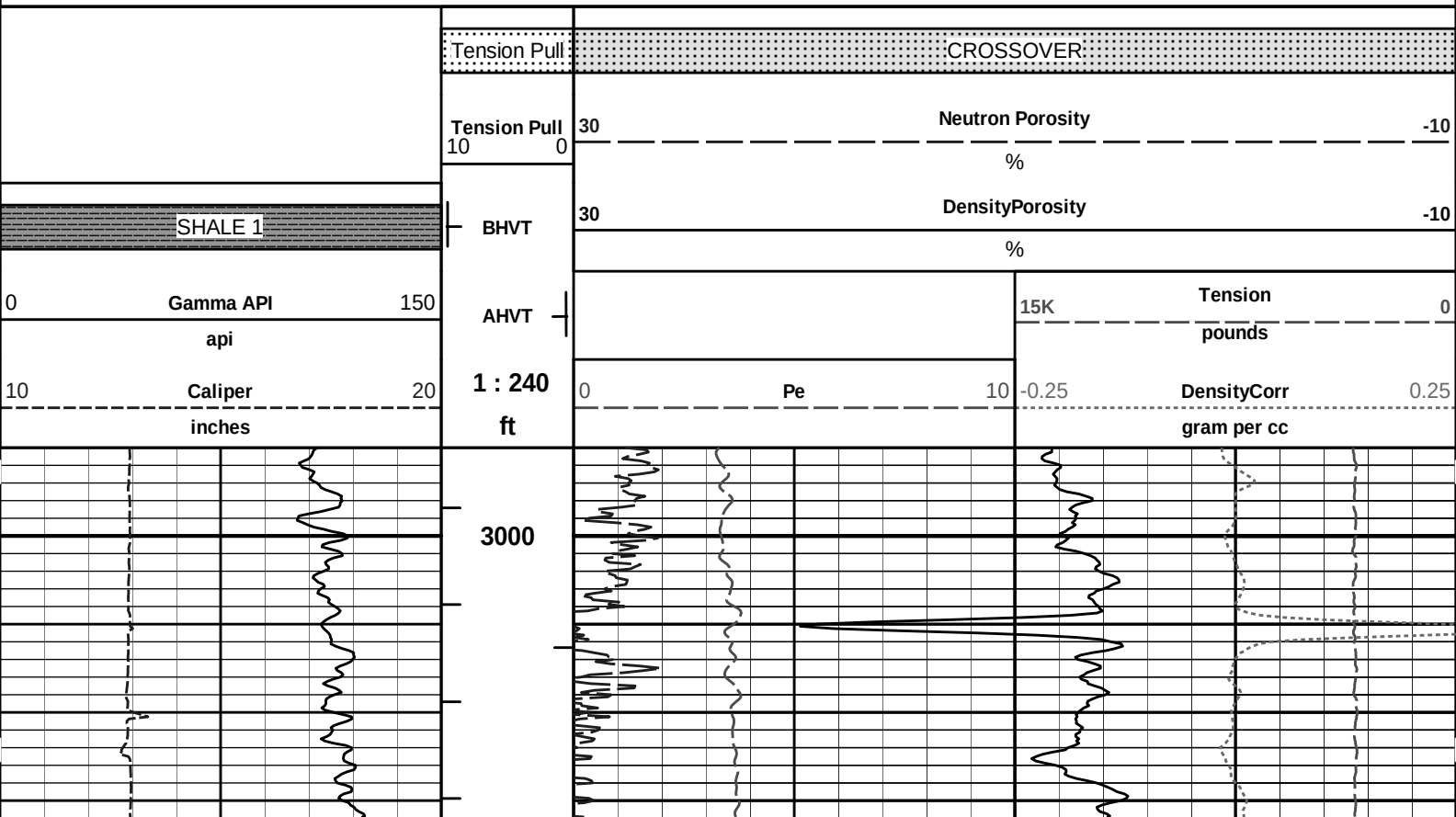
TODAY'S CREW: F. VILLA, M. DUNAWAY

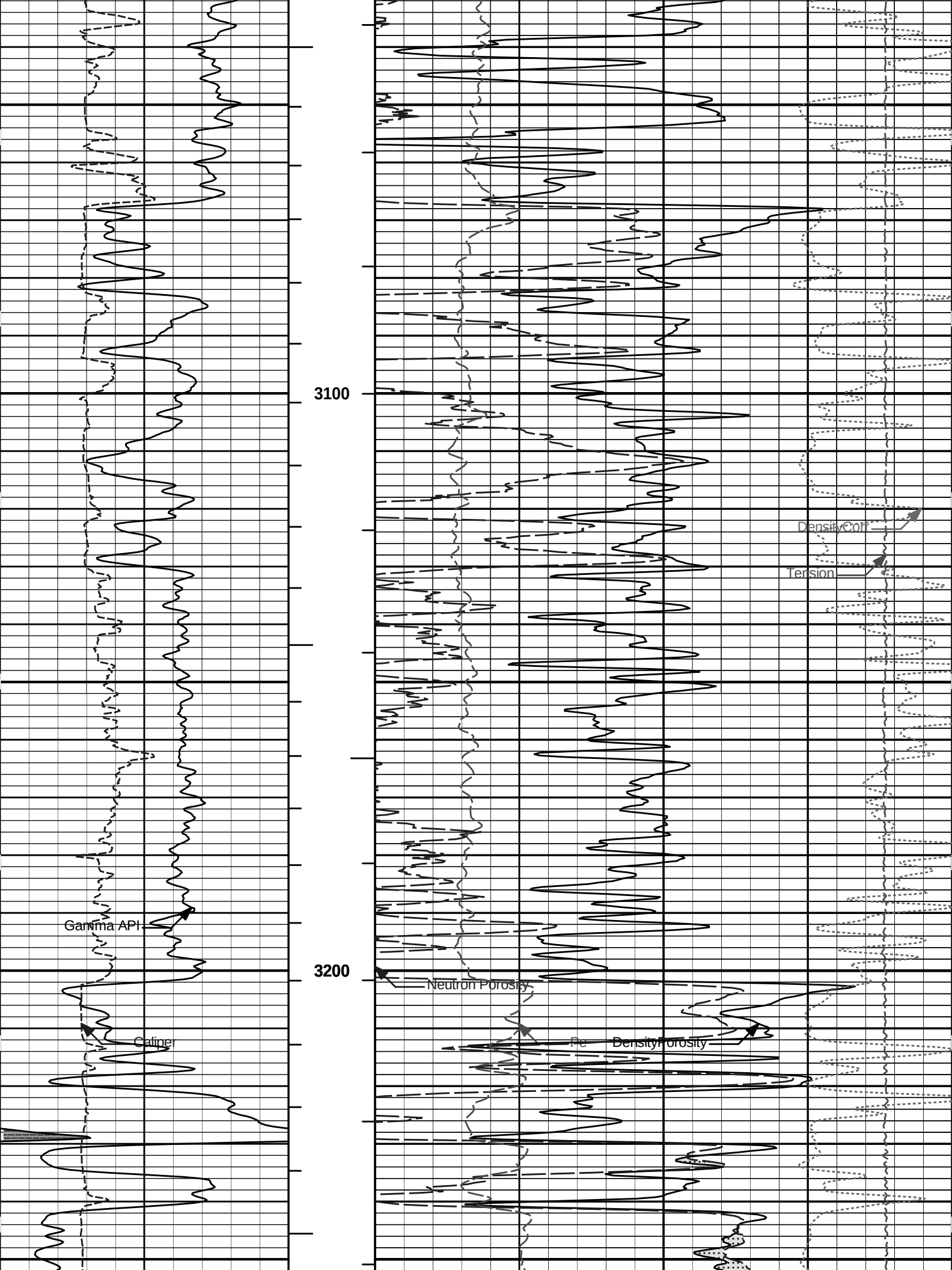
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES: LIBERAL, KS 620-624-8123

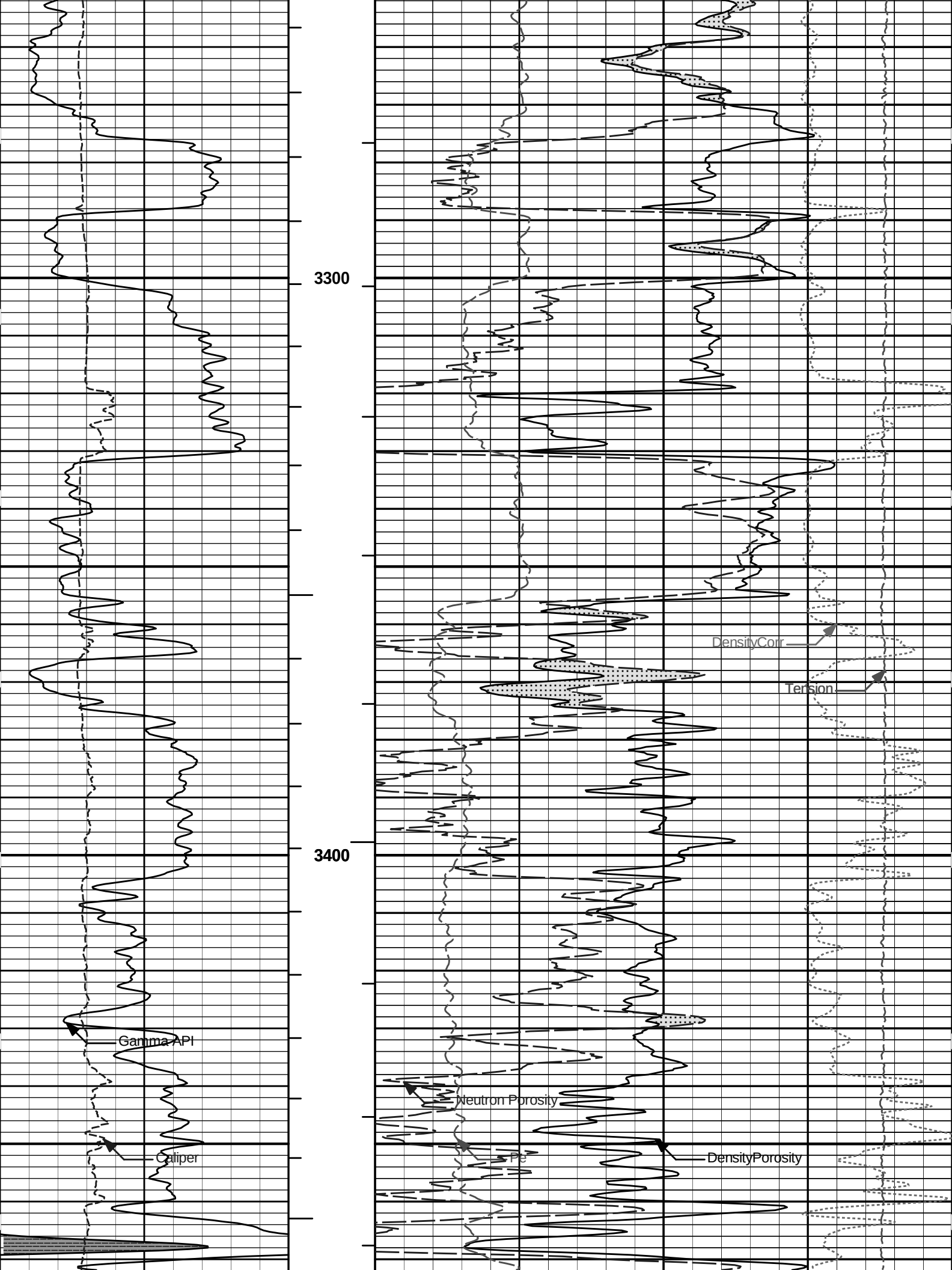
HALLIBURTON

Plot Time: 18-May-12 13:31:35
Plot Range: 2990 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\DETAIL
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

5 INCH MAIN LOG




3100
3200
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity
DensityCorr
Tension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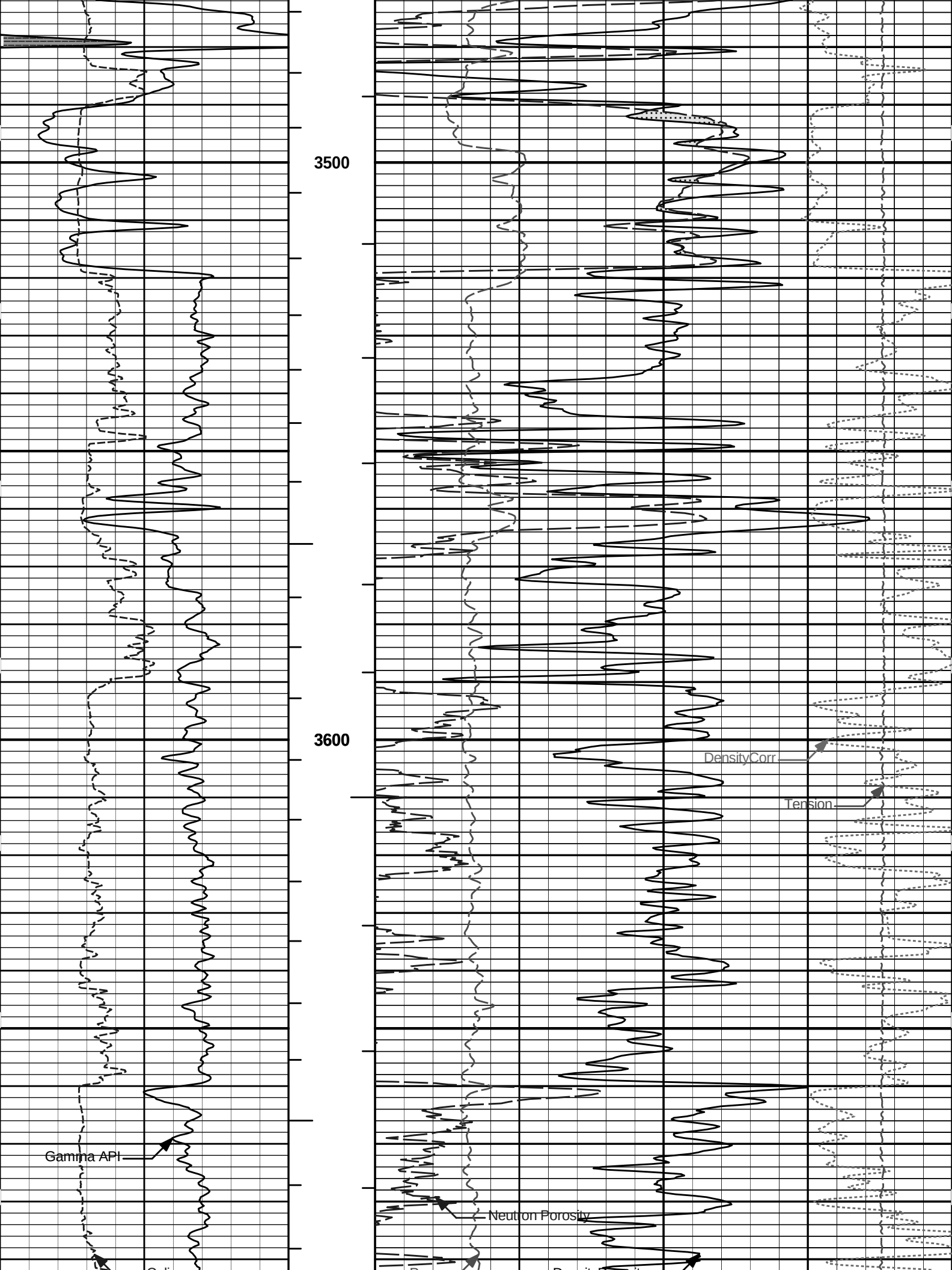
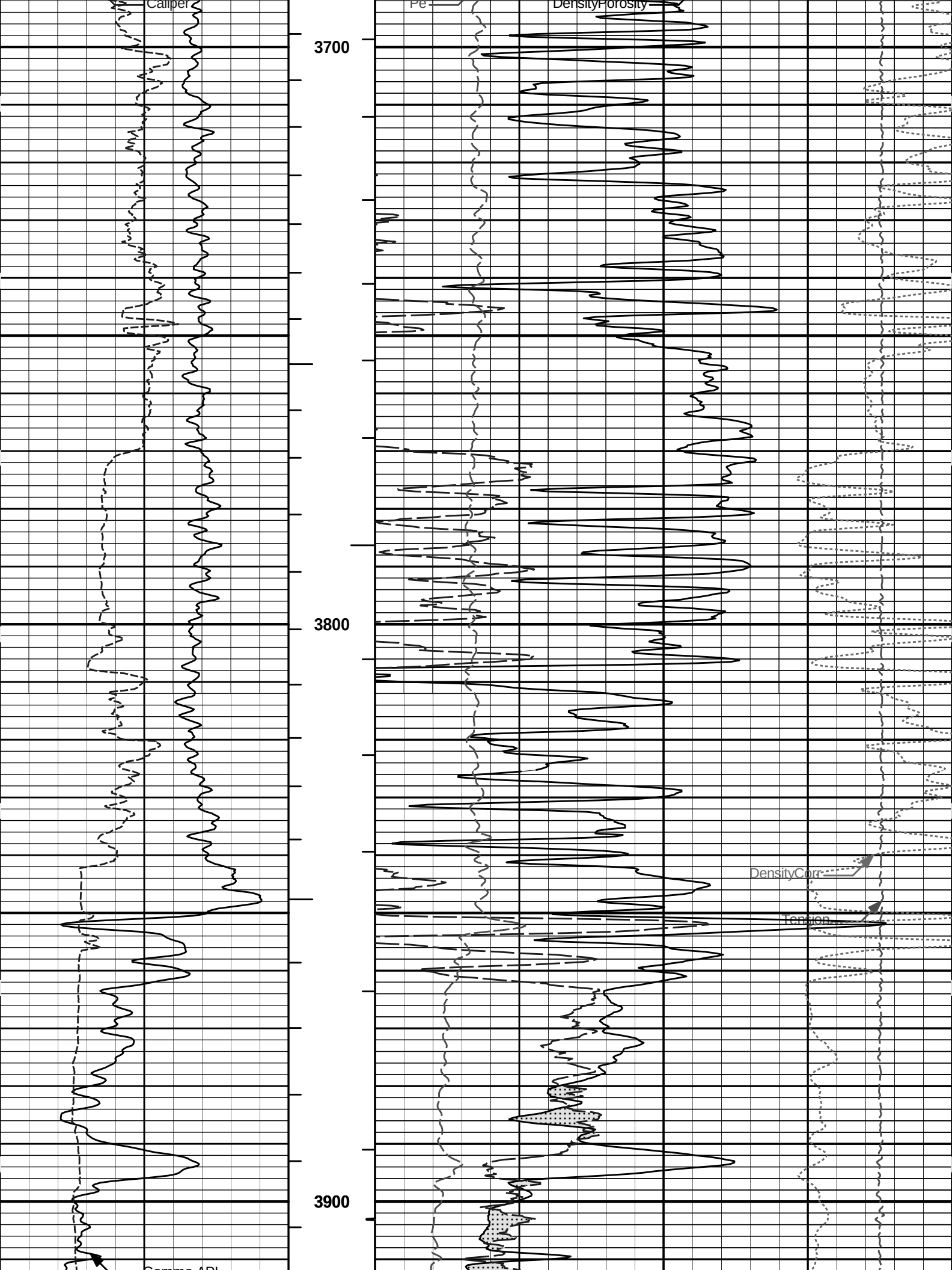
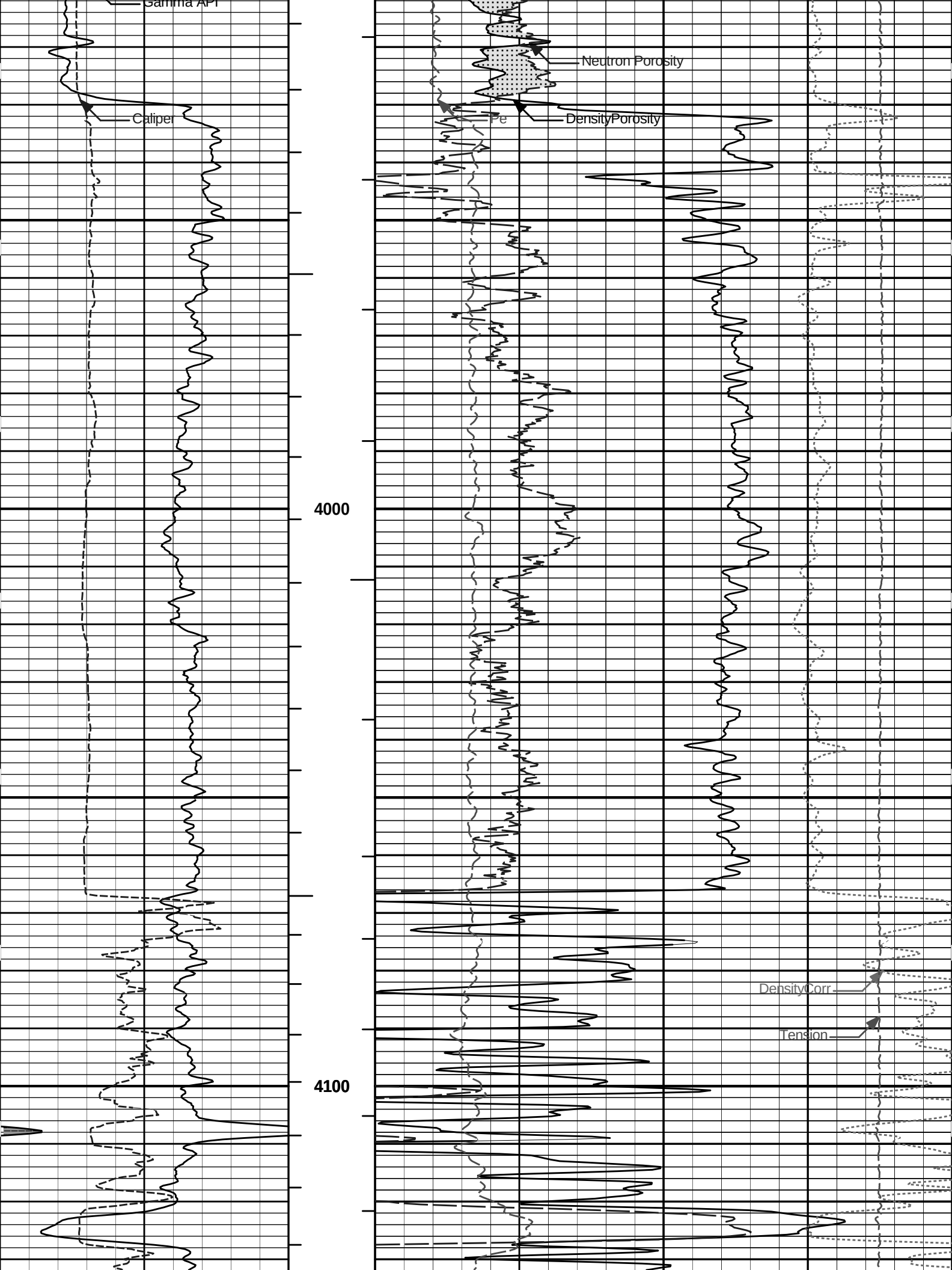
3400
DensityCorr
Tension
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity


3500
3600
DensityCorr
Tension
Gamma API
Neutron Porosity


Caliper
Pe
DensityPorosity
3700
3800
3900
DensityCorr
Tension
Gamma API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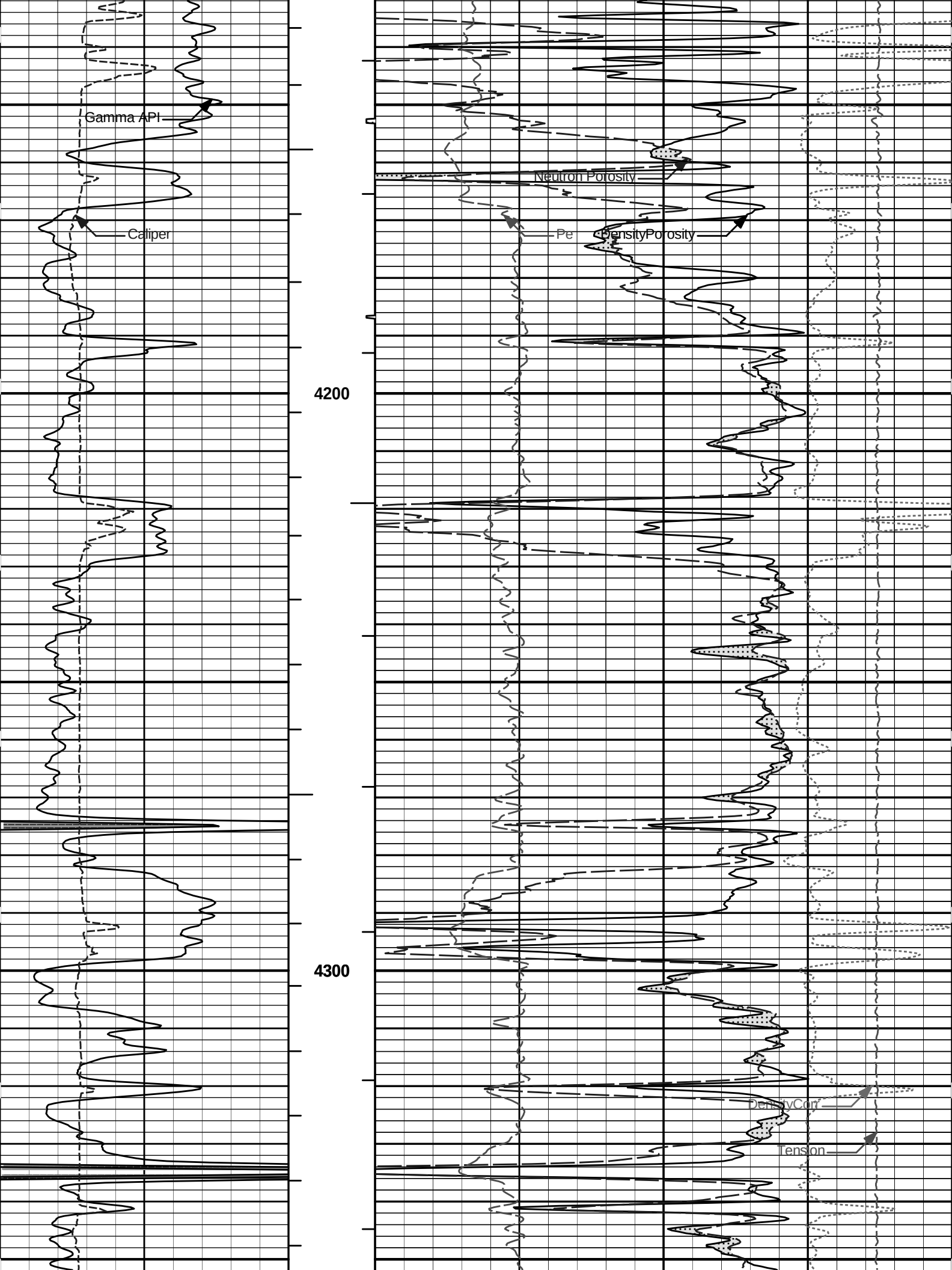
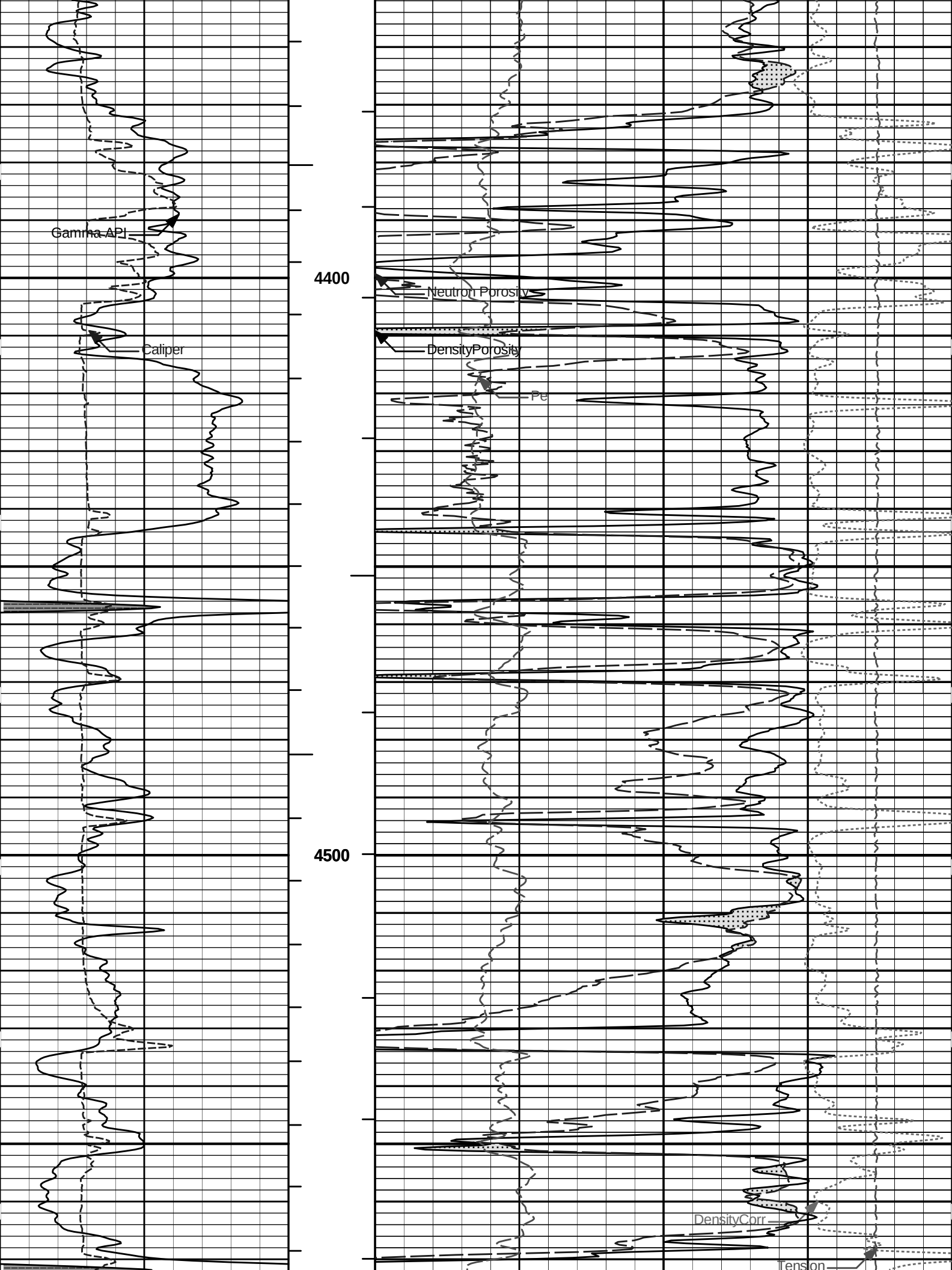
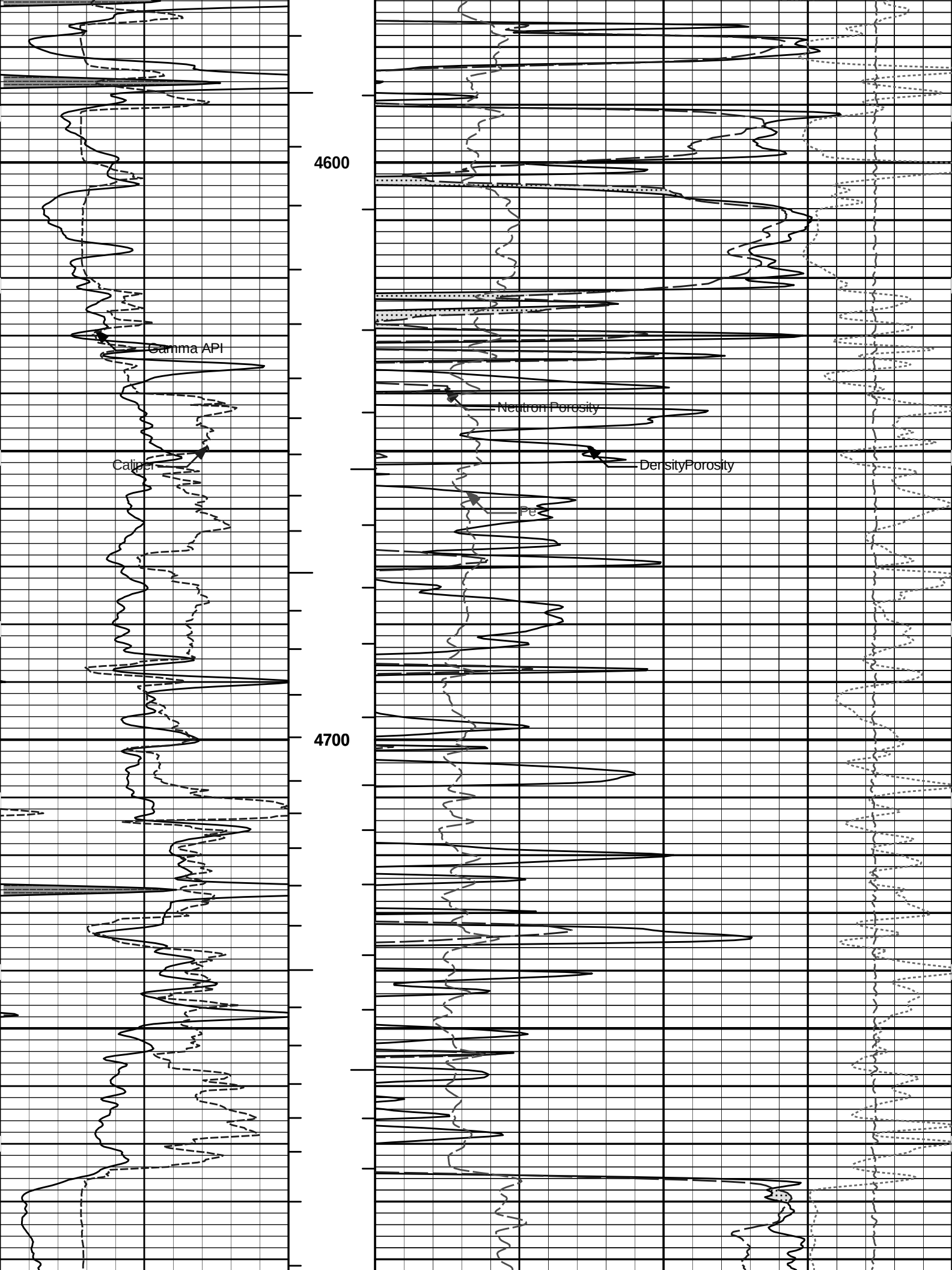
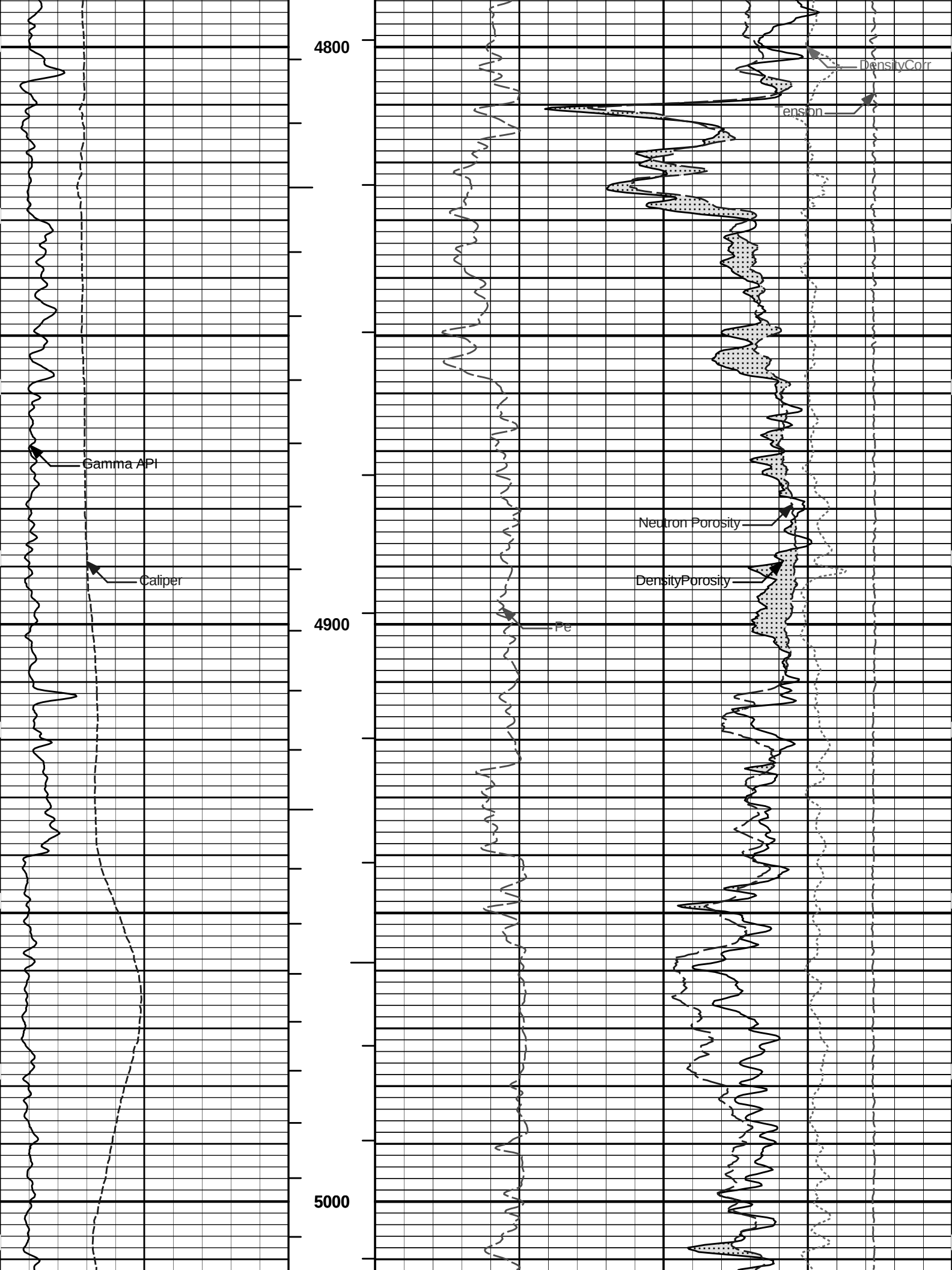
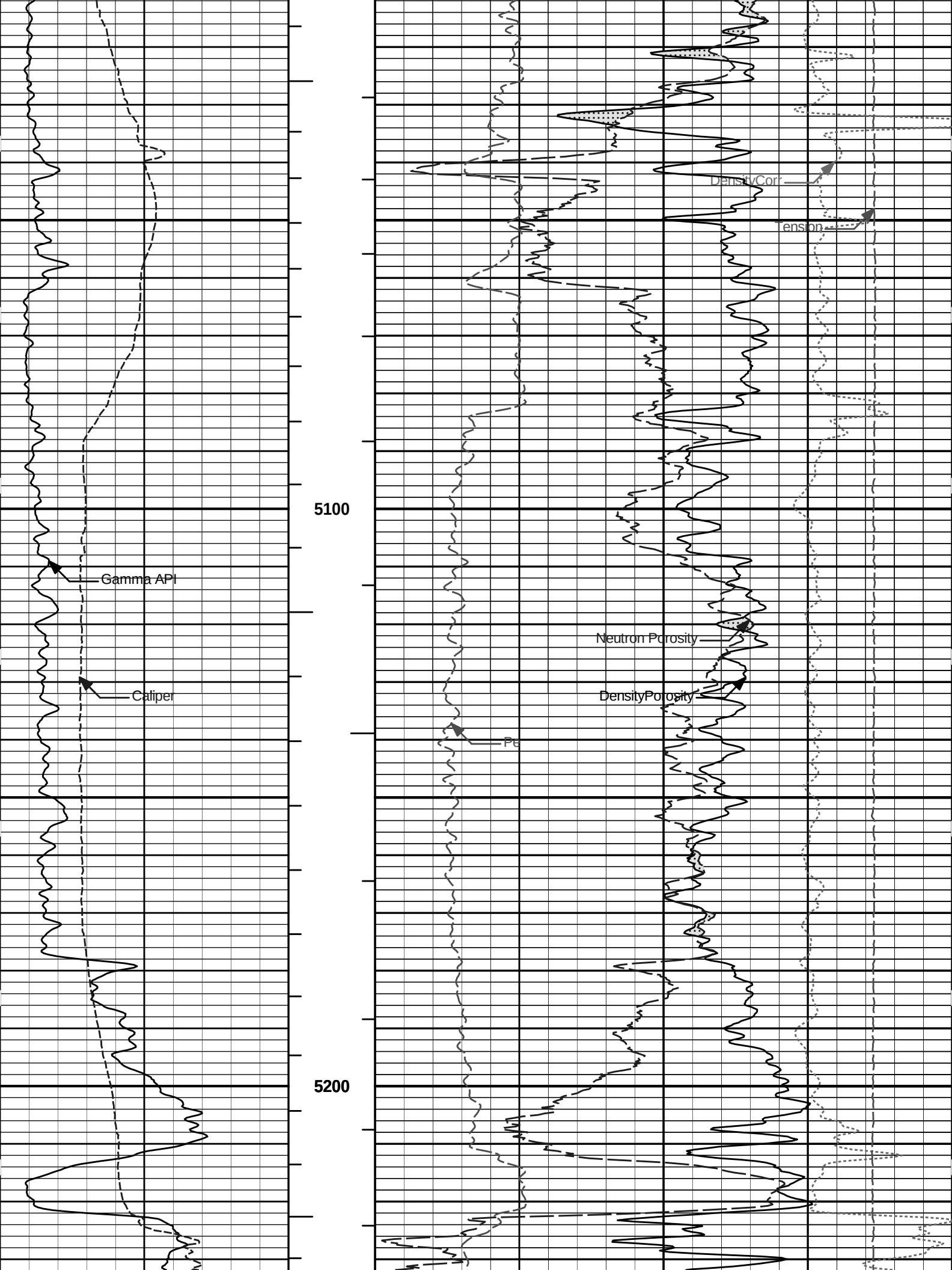
Caliper
Neutron Porosity
Pe
DensityPorosity
4000
DensityCorr
Tension
4100

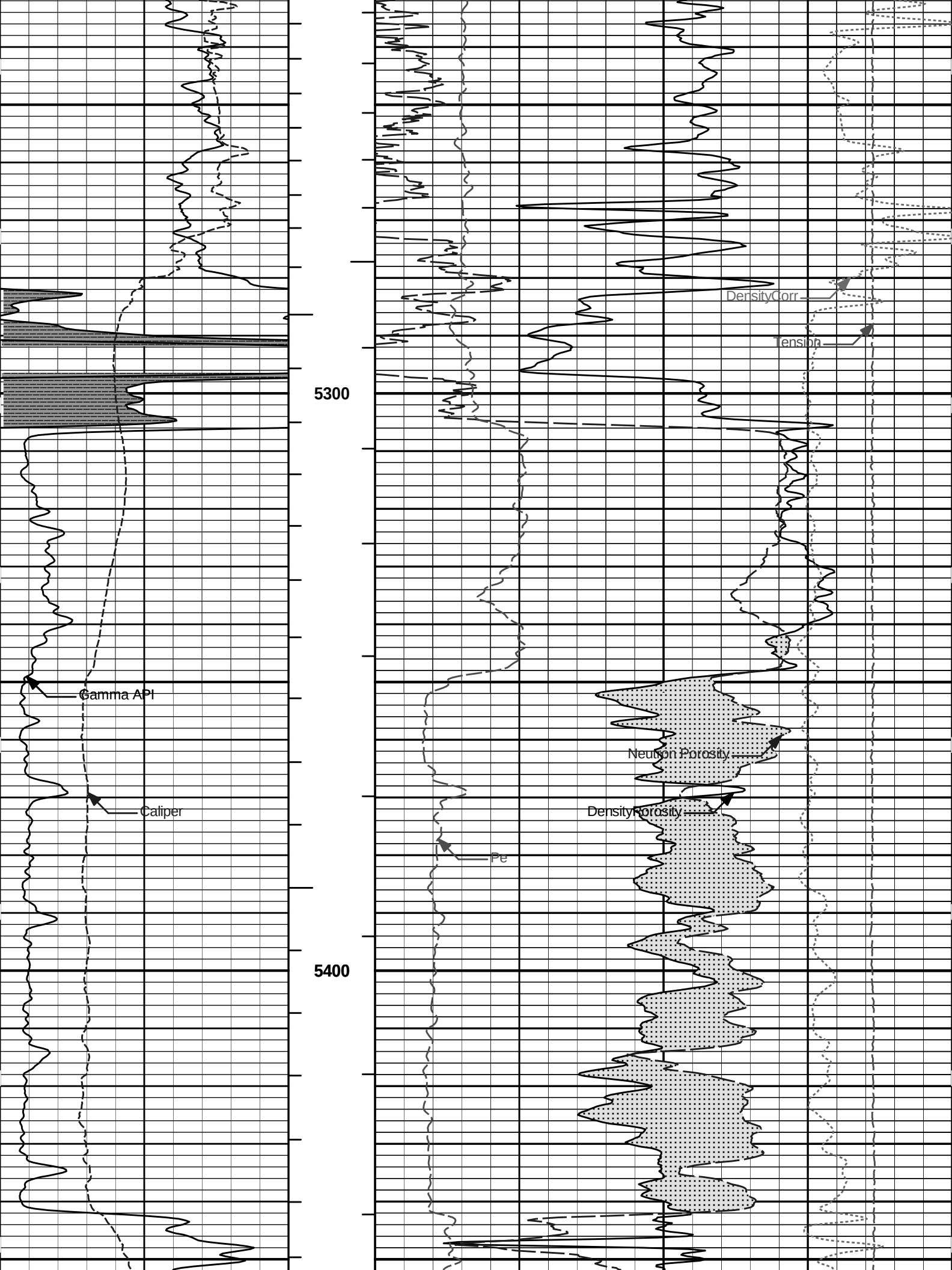

Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity
4200
4300
DensityCorr
Tension

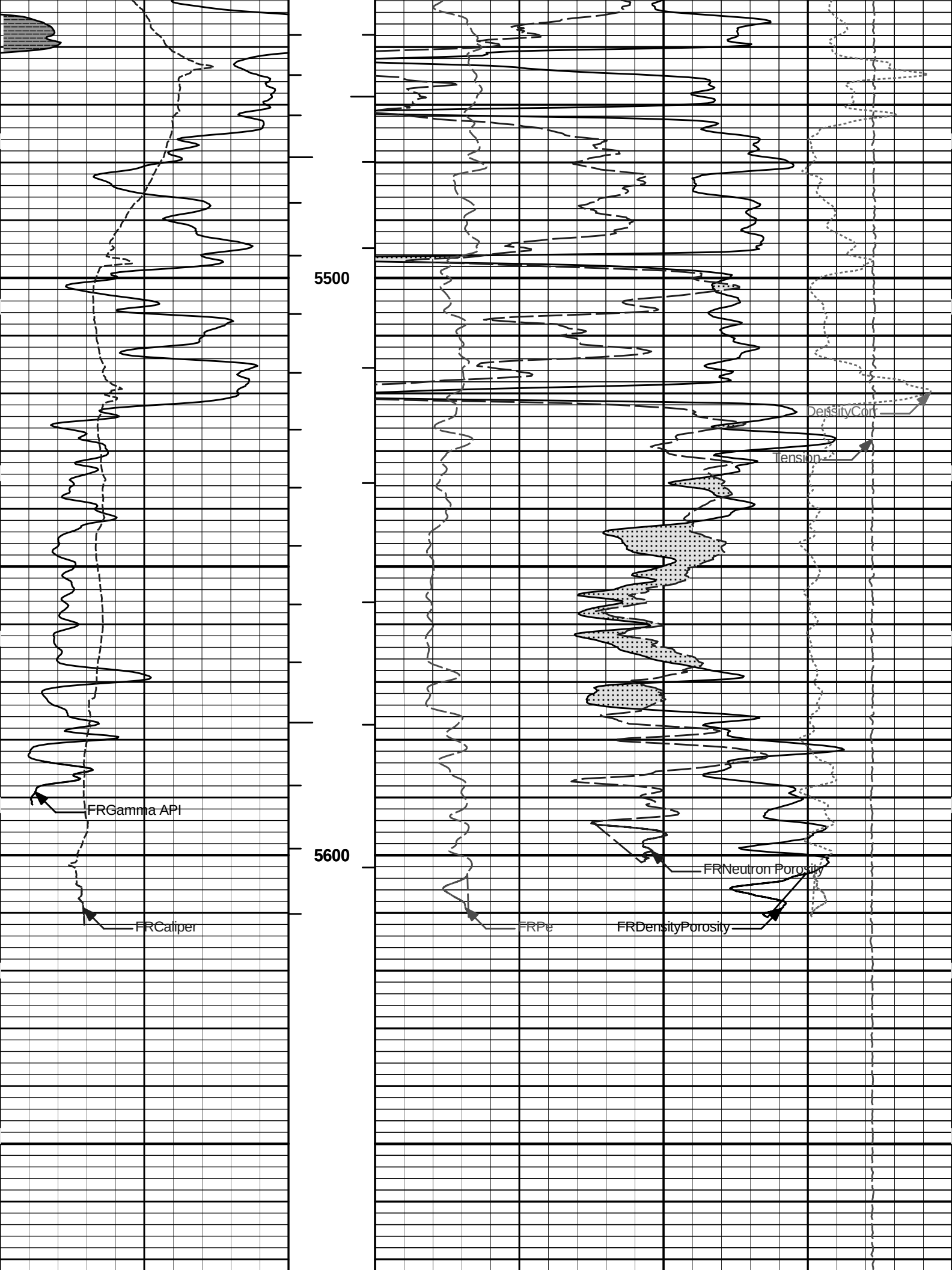

Gamma API
Caliper
4400
Neutron Porosity
DensityPorosity
Pe
4500
DensityCorr
Tension

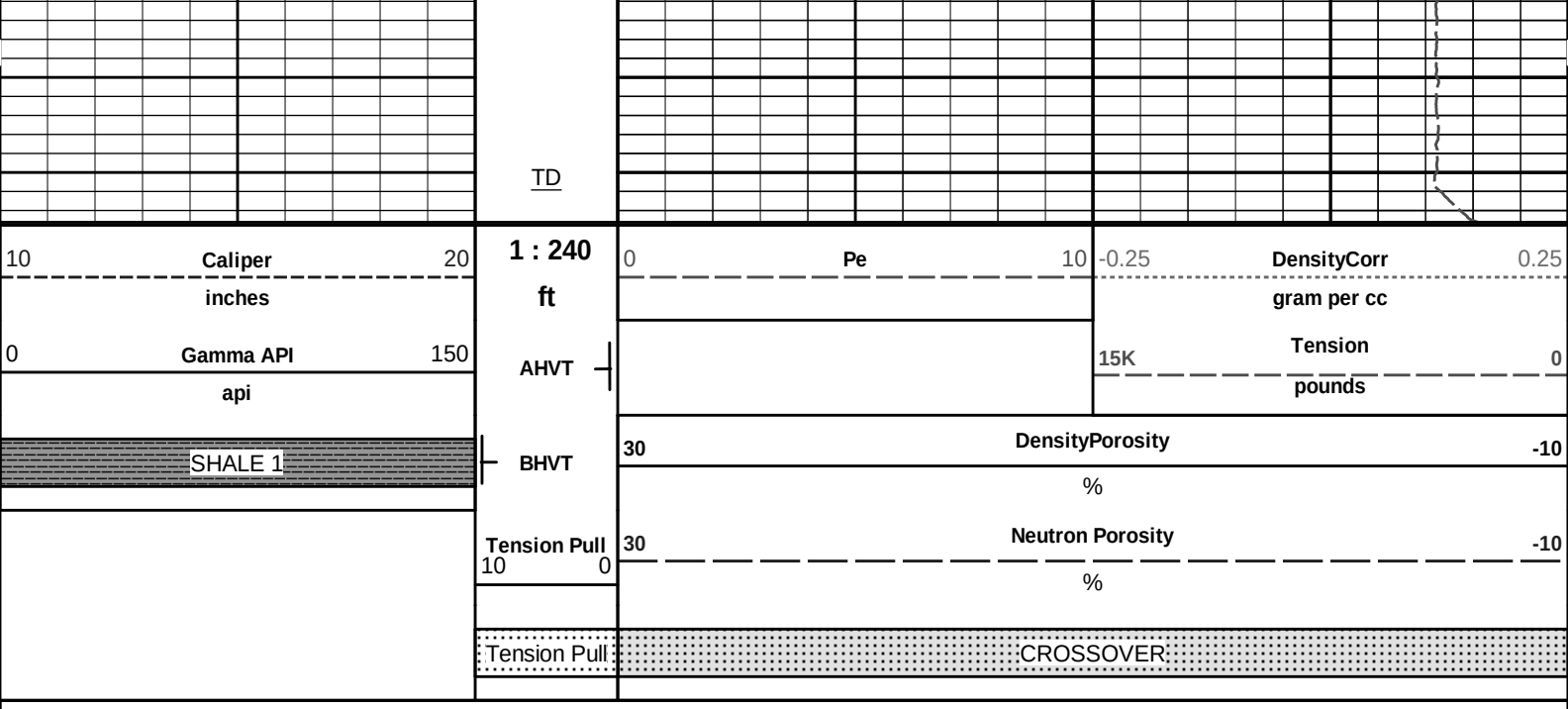

4600
4700
Gamma API
Caliper
Neutron Porosity
DensityPorosity
Pe


4800
4900
5000
Gamma API
Caliper
DensityCorr
Tension
Neutron Porosity
DensityPorosity
Pe


5100
5200
Gamma API
Caliper
DensityCorr
Tension
Neutron Porosity
DensityPorosity
Pe


DensityCorr
Tension
5300
Gamma API
Caliper
Neutron Porosity
DensityPorosity
Pe
5400


5500
5600
FRGamma API
FRCaliper
FRPe
FRNeutron Porosity
FRDensityPorosity
DensityCorr
Tension



HALLIBURTON

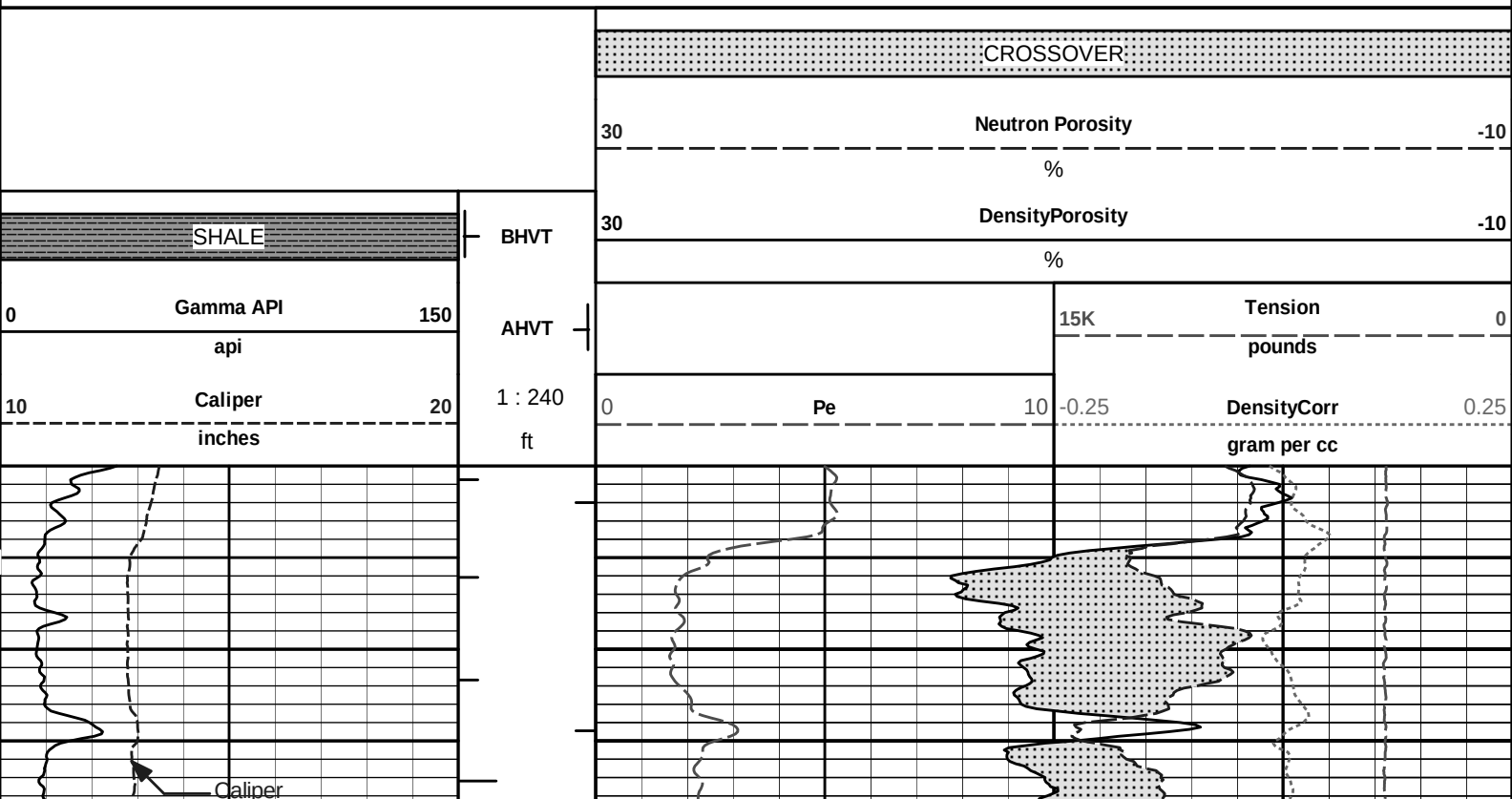
Plot Time: 18-May-12 13:31:53
Plot Range: 2990 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\DETAIL
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

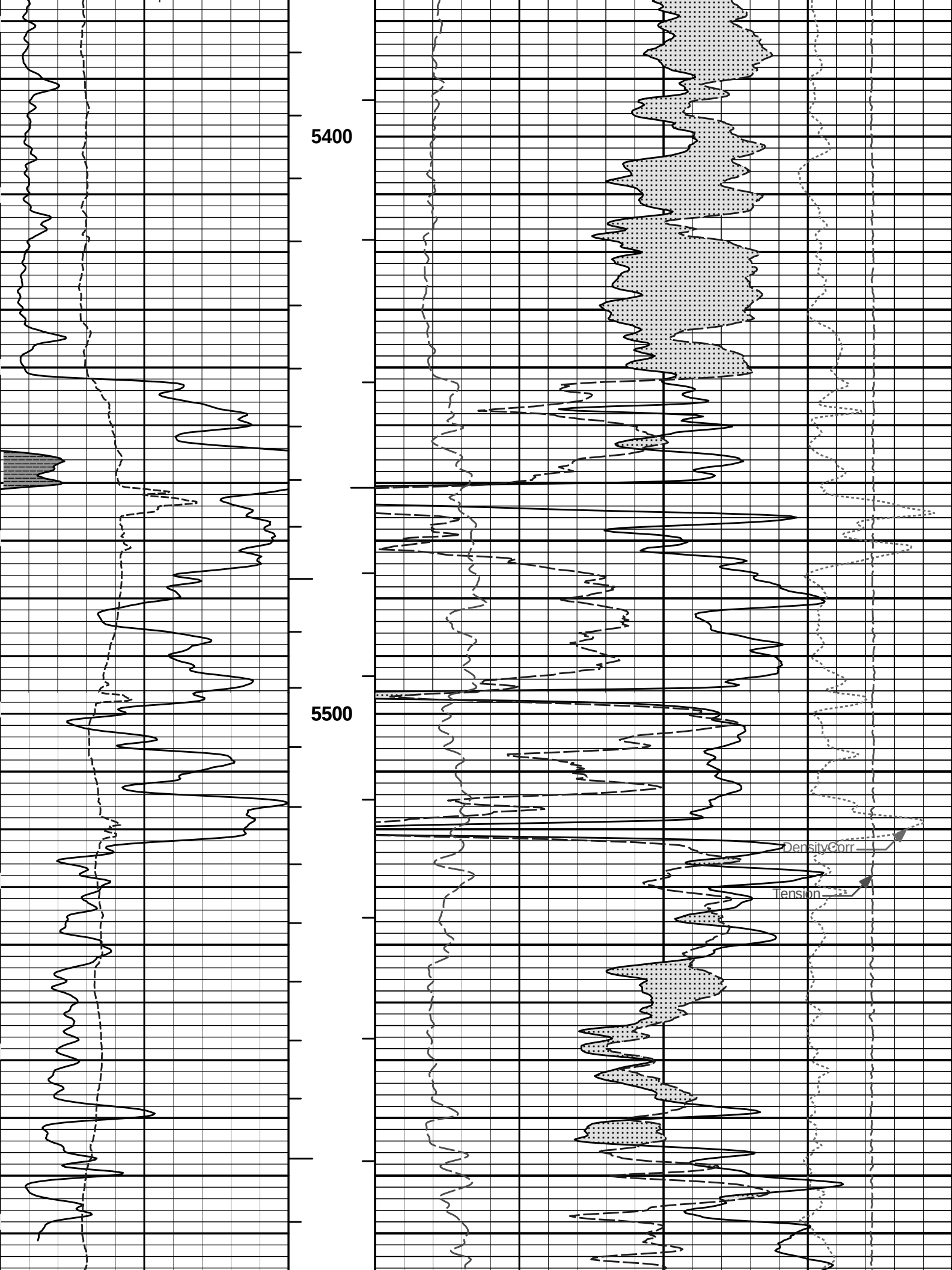
5 INCH MAIN LOG

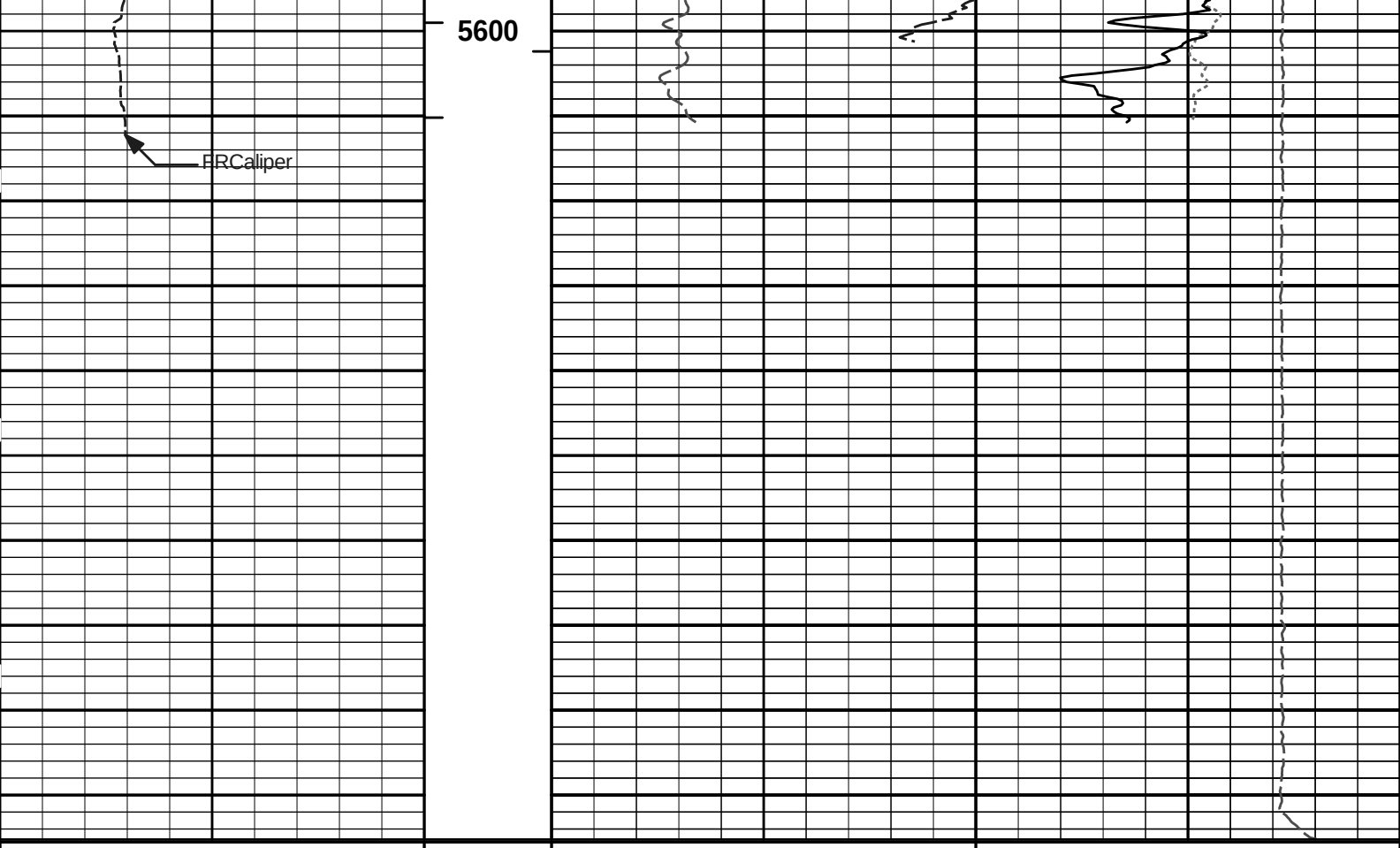
HALLIBURTON

Plot Time: 18-May-12 13:31:53
Plot Range: 5340 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\REPEAT
Plot File: \\PORO\Poro_IQ_5_REP_LIB

REPEAT SECTION




5400
5500
DensityCorr
Tension



10 Caliper 20	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
		%
		30 Neutron Porosity -10
		%
		CROSSOVER

HALLIBURTON

Plot Time: 18-May-12 13:31:57
Plot Range: 5340 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\REPEAT\
Plot File: \\PORO\Poro_IQ_5_REP_LIB

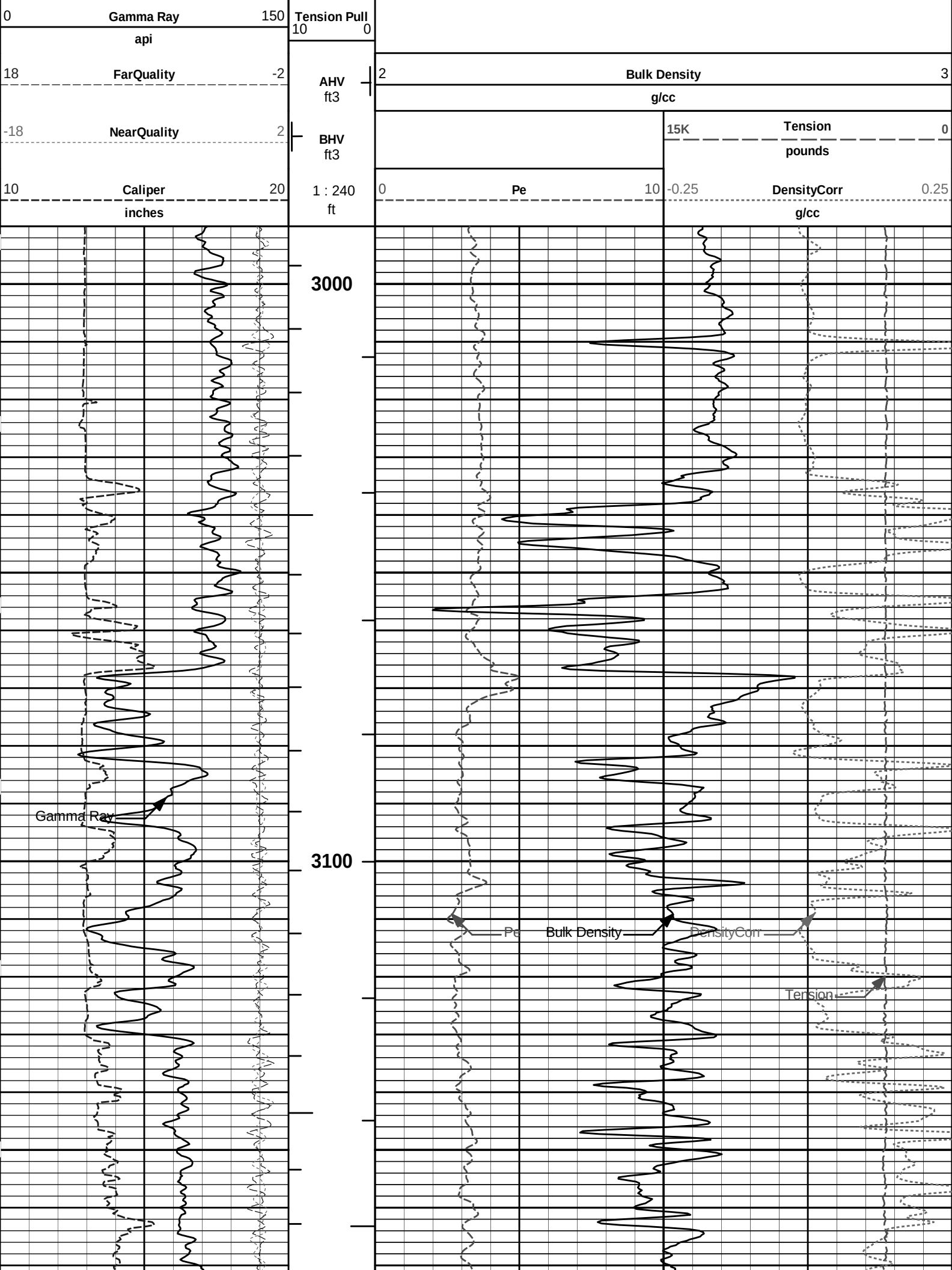
REPEAT SECTION

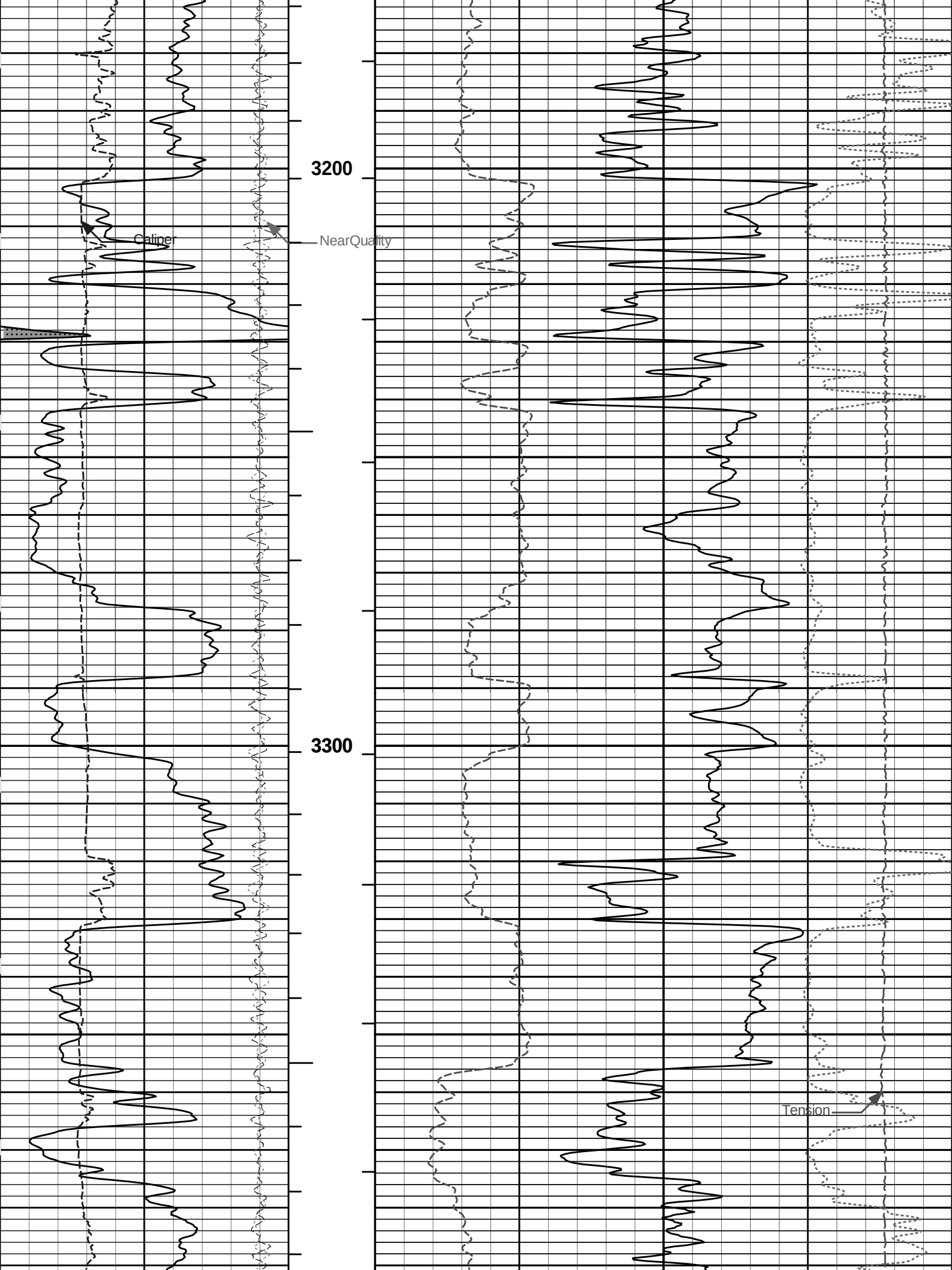
HALLIBURTON

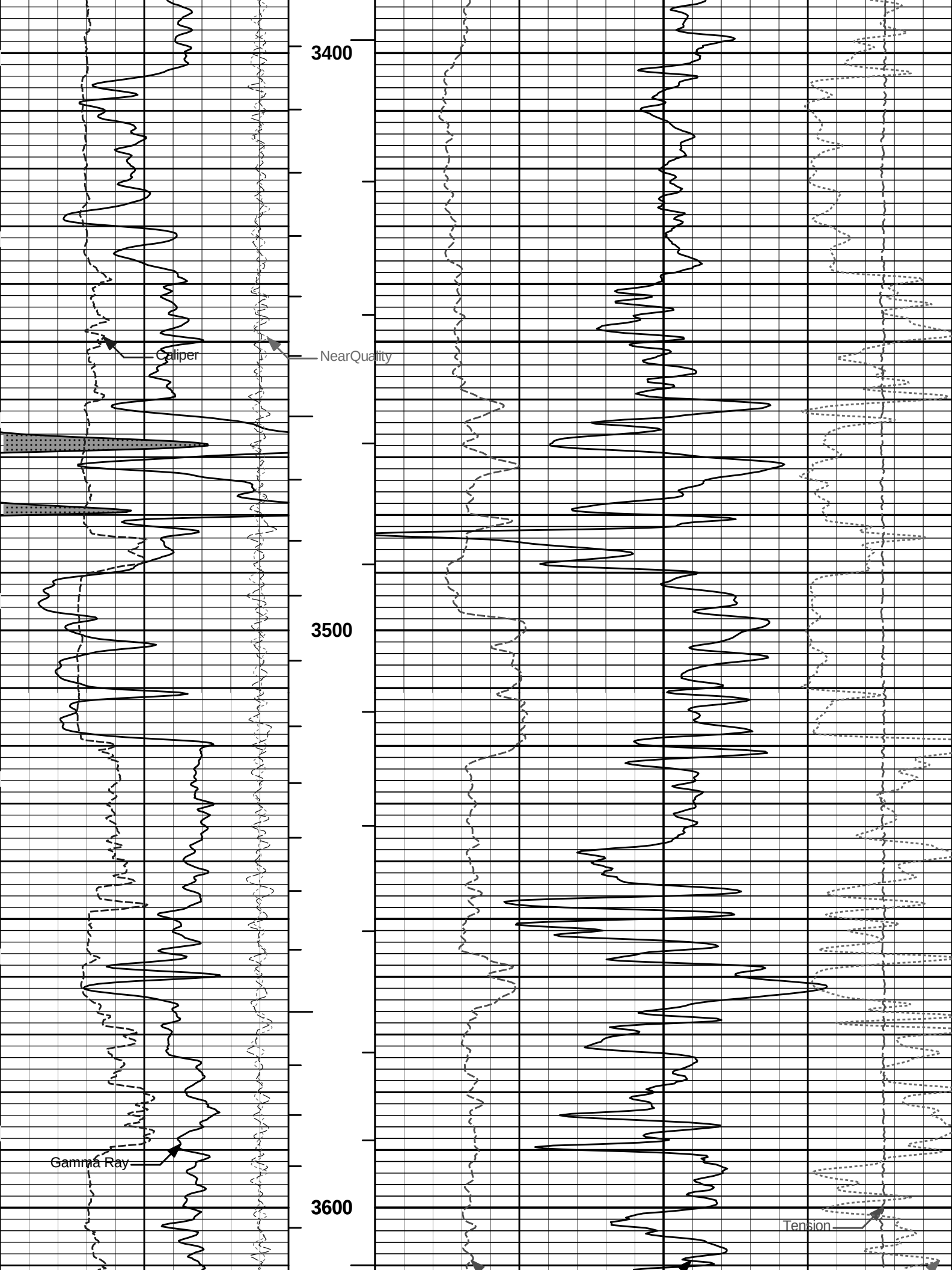
Plot Time: 18-May-12 13:31:57
Plot Range: 2990 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\DETAIL\
Plot File: \\-LOCAL-\SHELBY_1_3_SWD\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\PORO\BULKD_5_MAIN_LIB

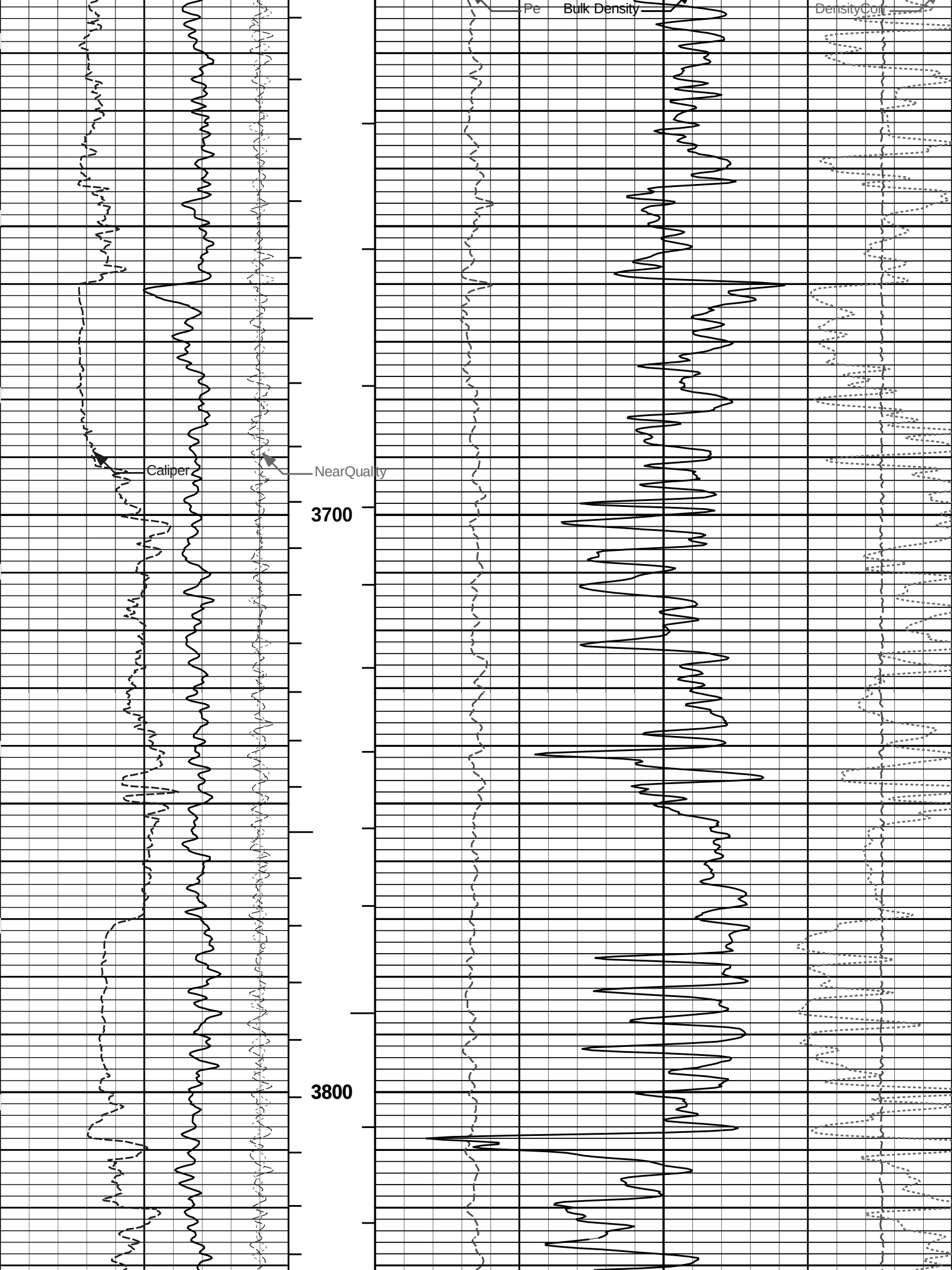
5 INCH MAIN LOG

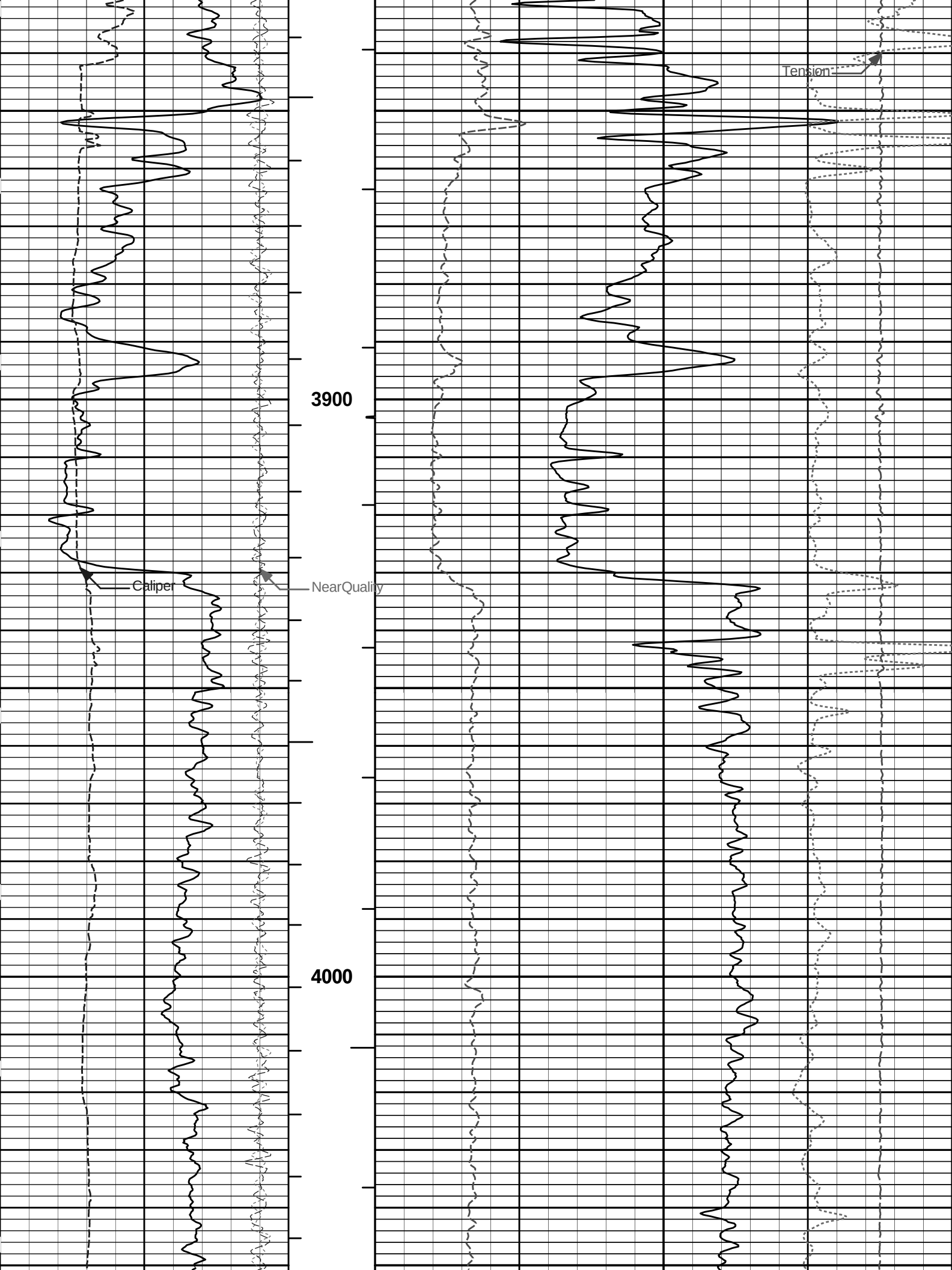
SHALE	Tension Pull

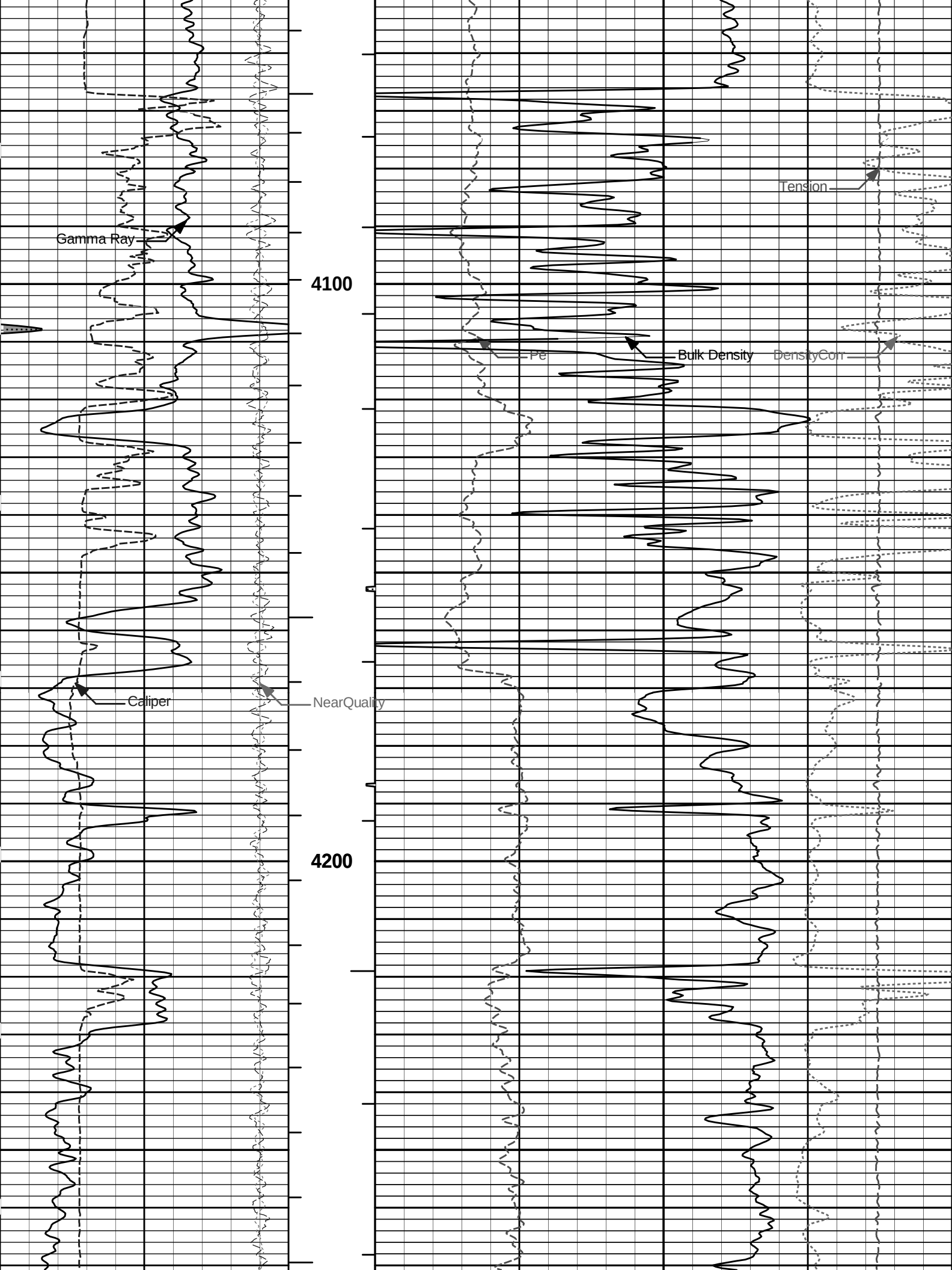

0
Gamma Ray
150
api
18
FarQuality
-2
-18
NearQuality
2
10
Caliper
20
inches
Tension Pull
10
0
AHV
ft3
BHV
ft3
1 : 240
ft
2
Bulk Density
3
g/cc
15K
Tension
0
pounds
0
Pe
10
-0.25
DensityCorr
0.25
g/cc
3000
3100
Gamma Ray
Pe
Bulk Density
DensityCorr
Tension

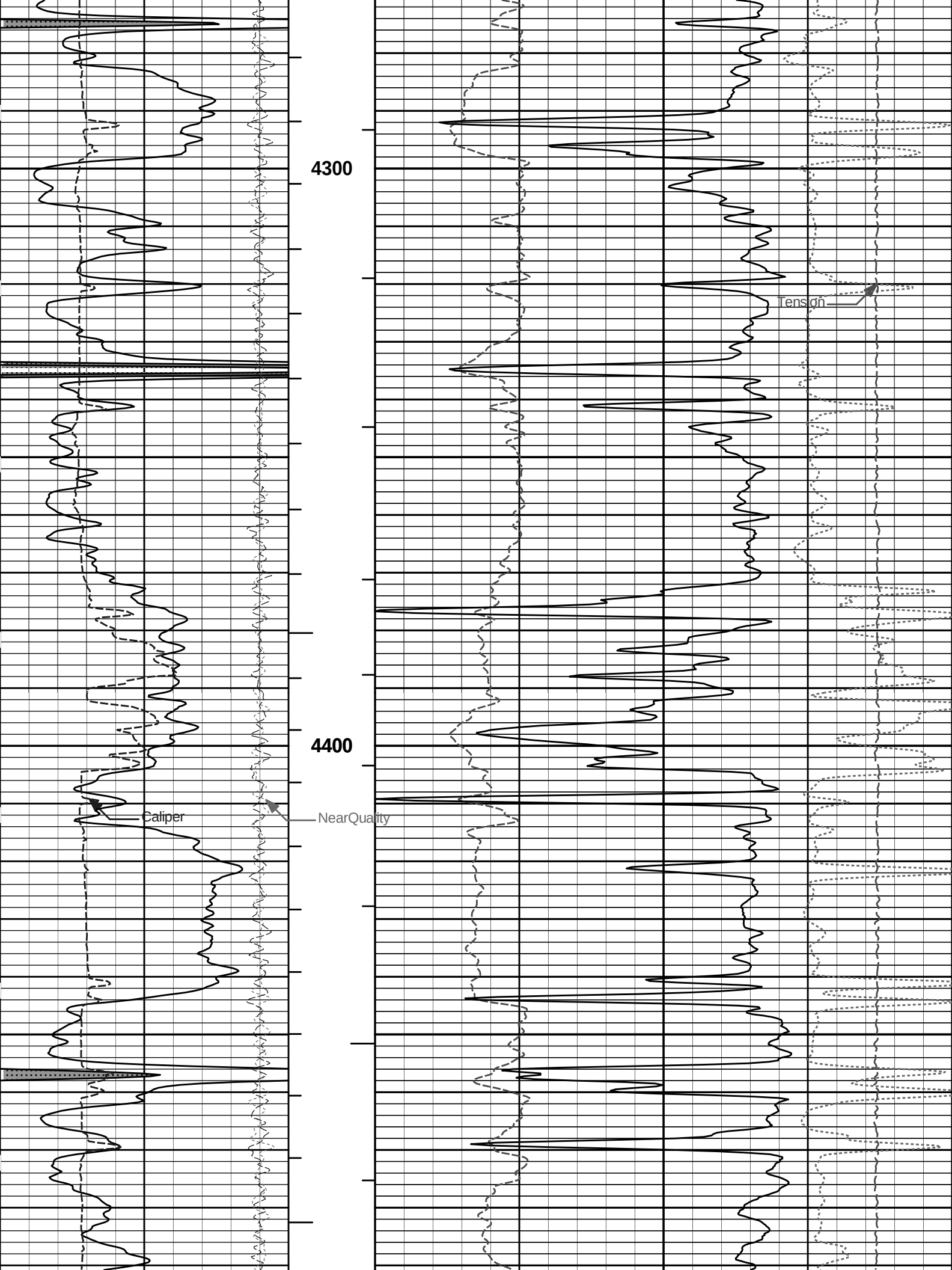

3200
3300
Caliper
NearQuality
Tension

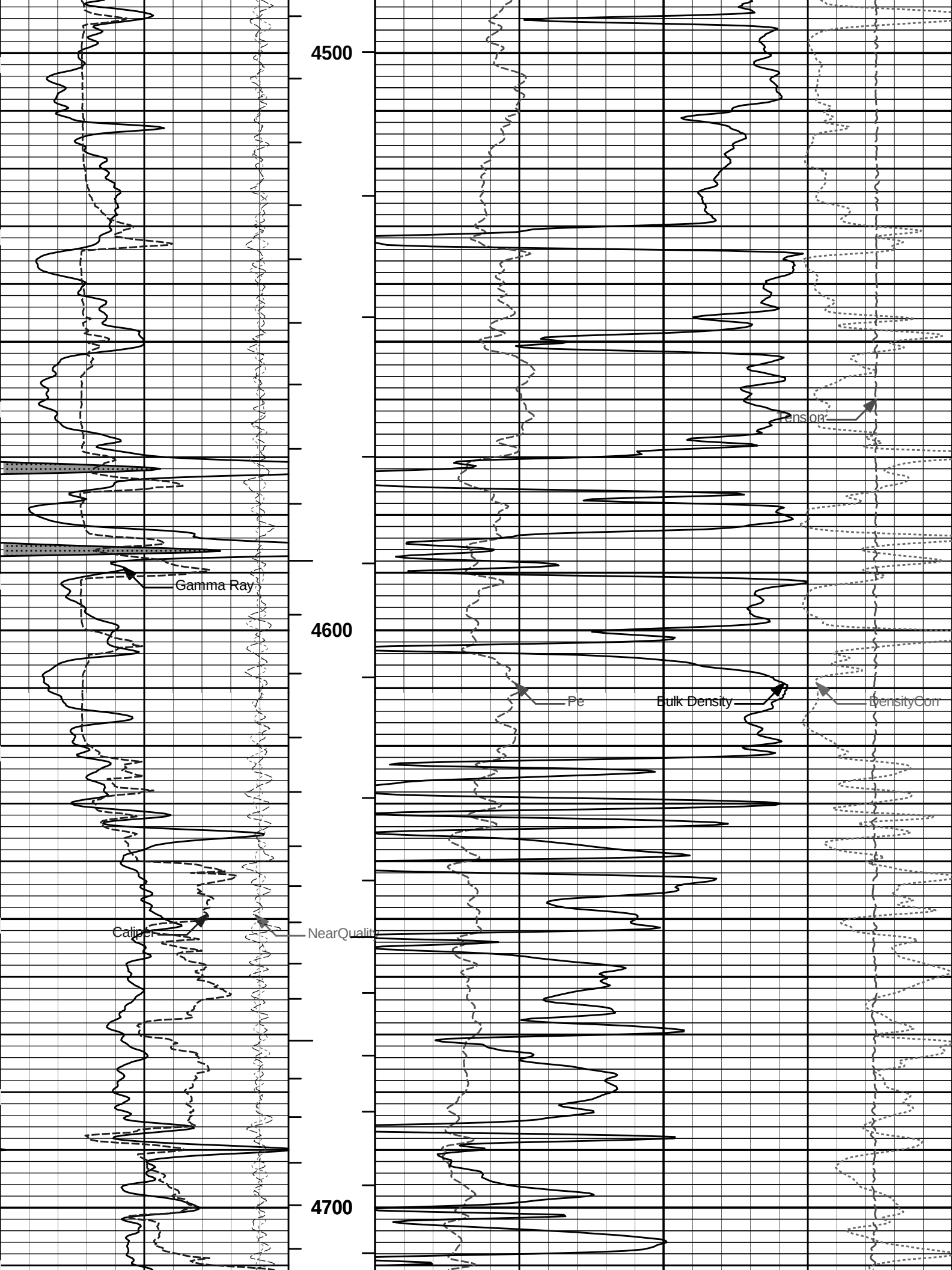

3400
3500
3600
Caliper
NearQuality
Gamma Ray
Tension

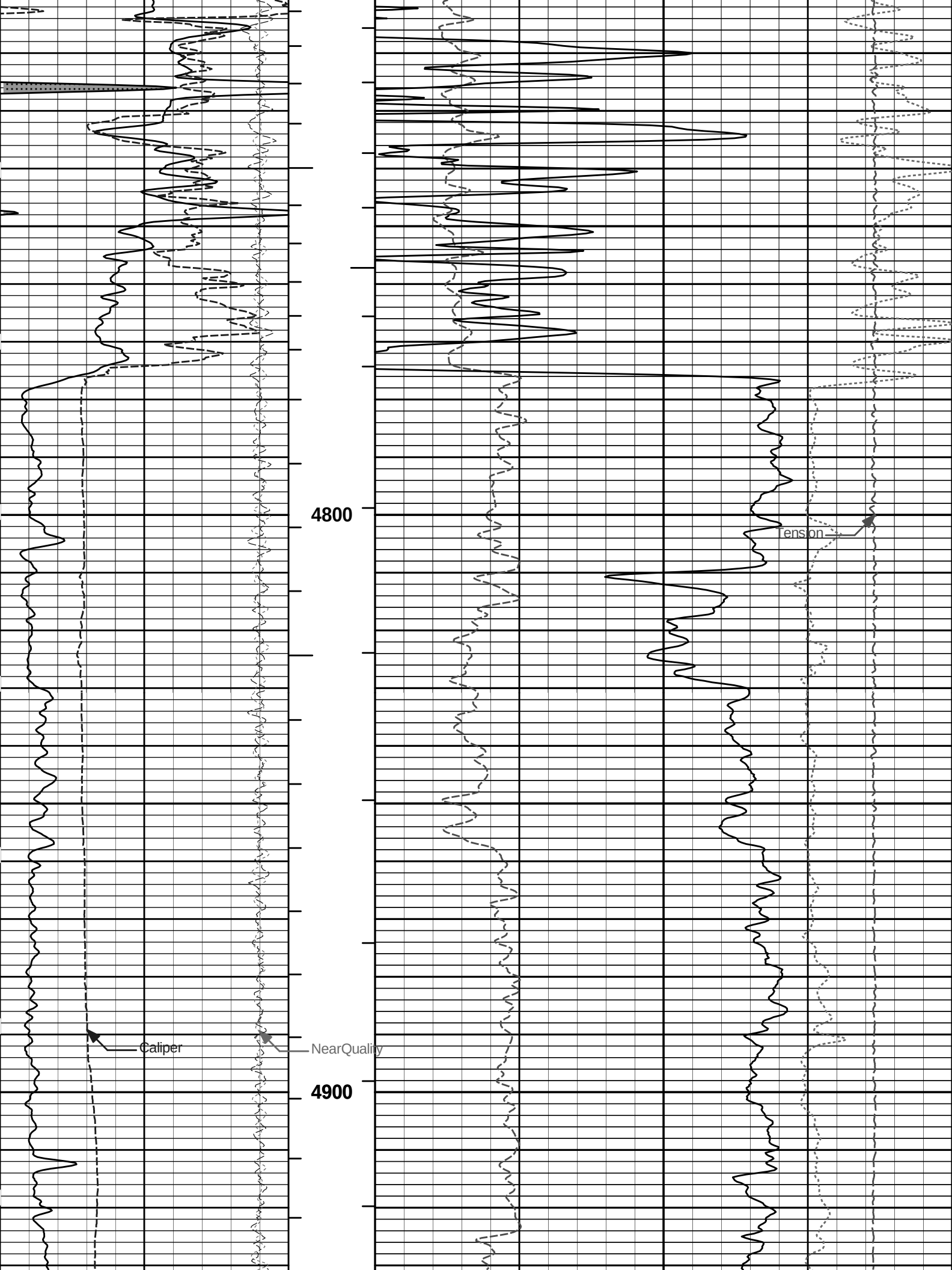

Pe
Bulk Density
DensityCorr
Caliper
NearQuality
3700
3800

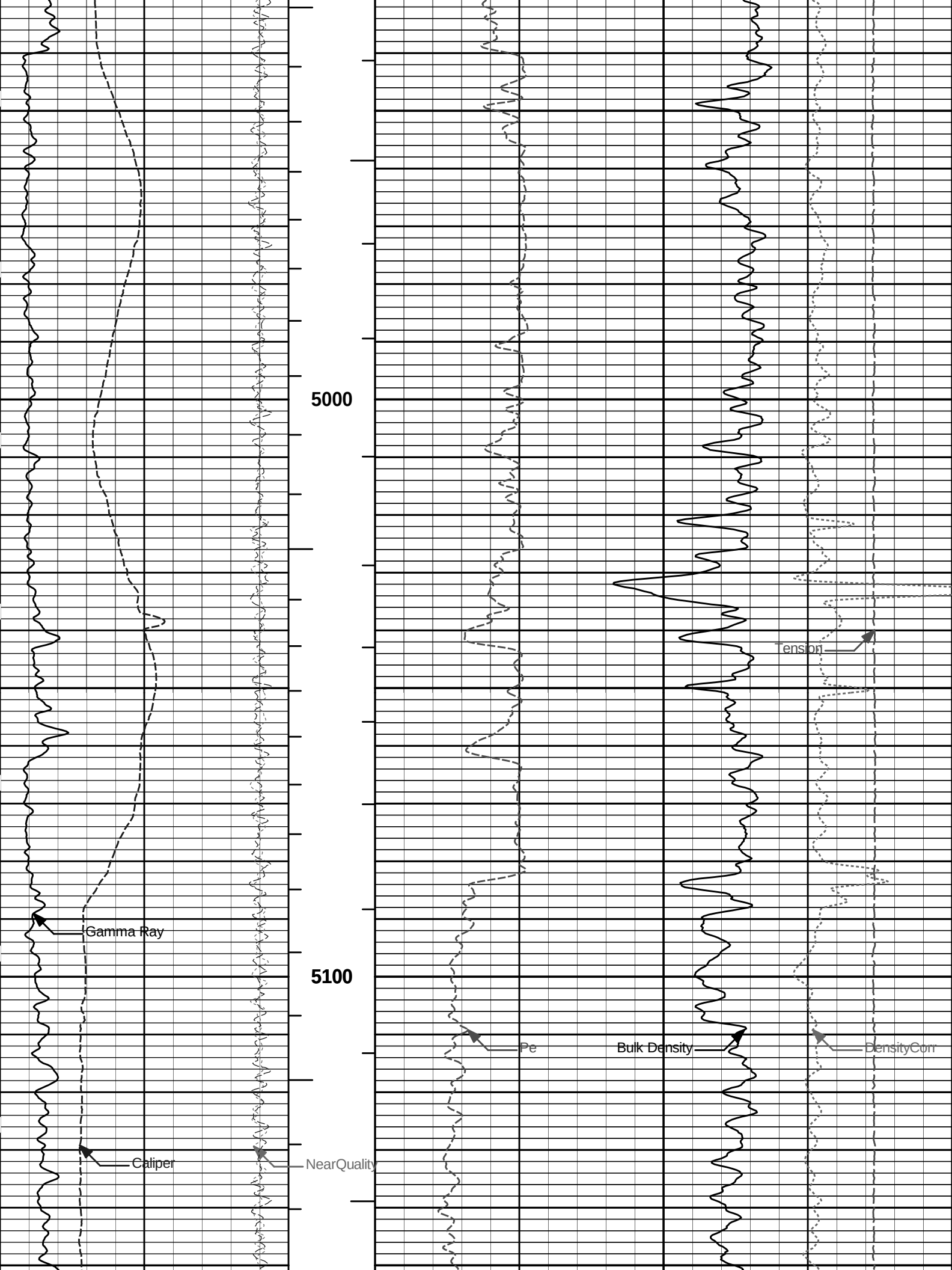

Tension
3900
Caliper
NearQuality
4000

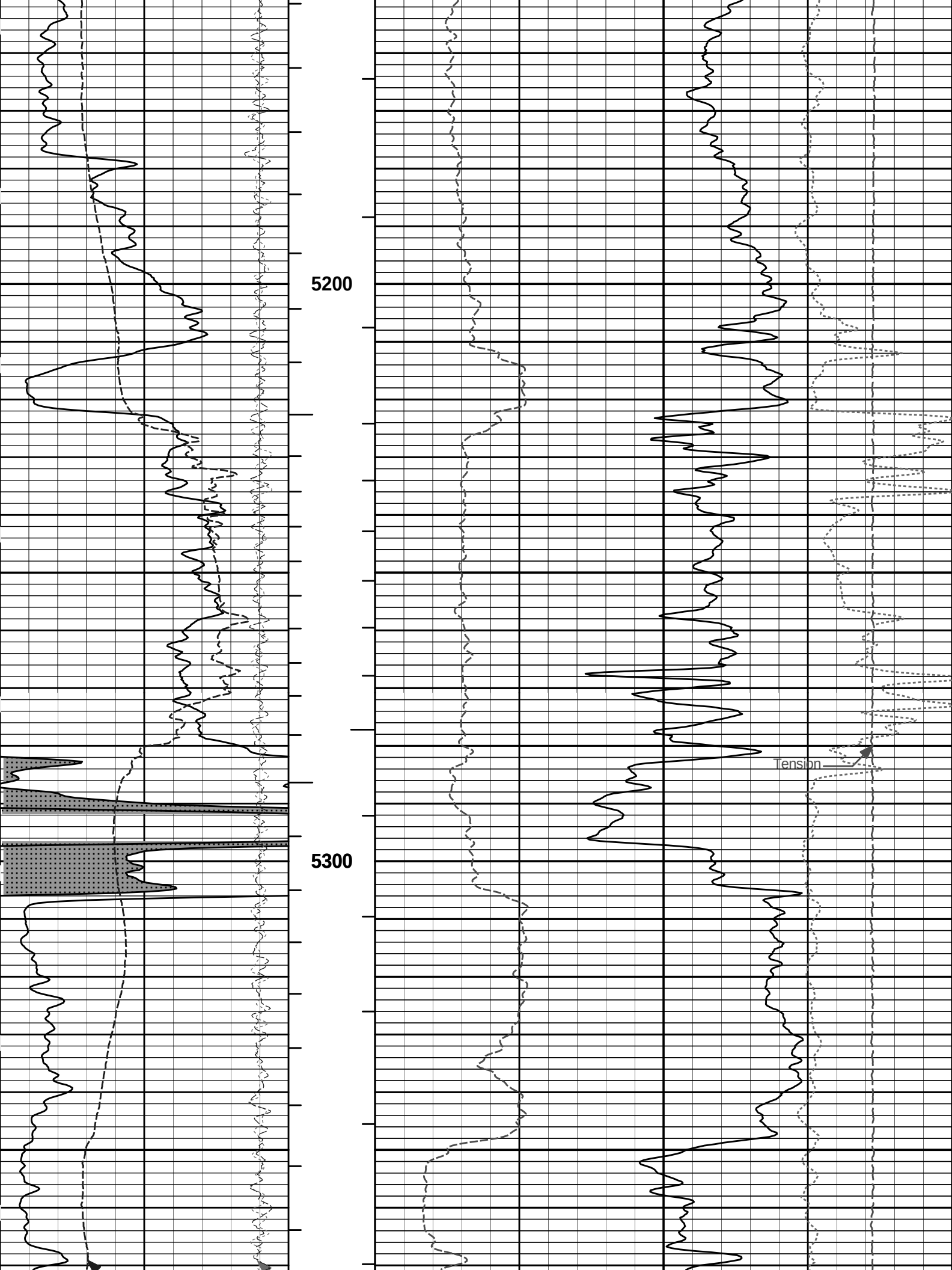

Gamma Ray
4100
Tension
Pe
Bulk Density
DensityCorr
Caliper
NearQuality
4200

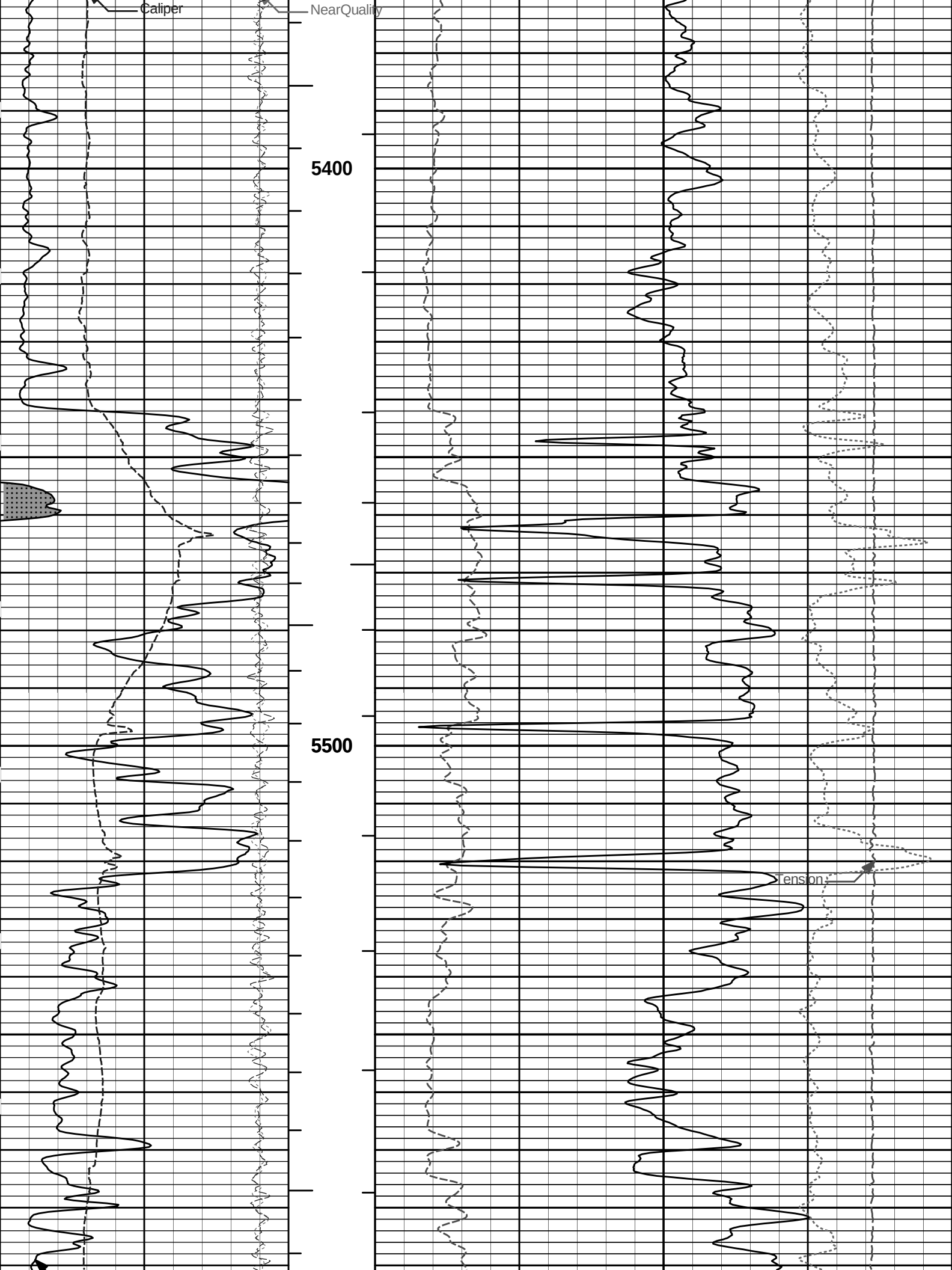

4300
4400
Tension
Caliper
NearQuality

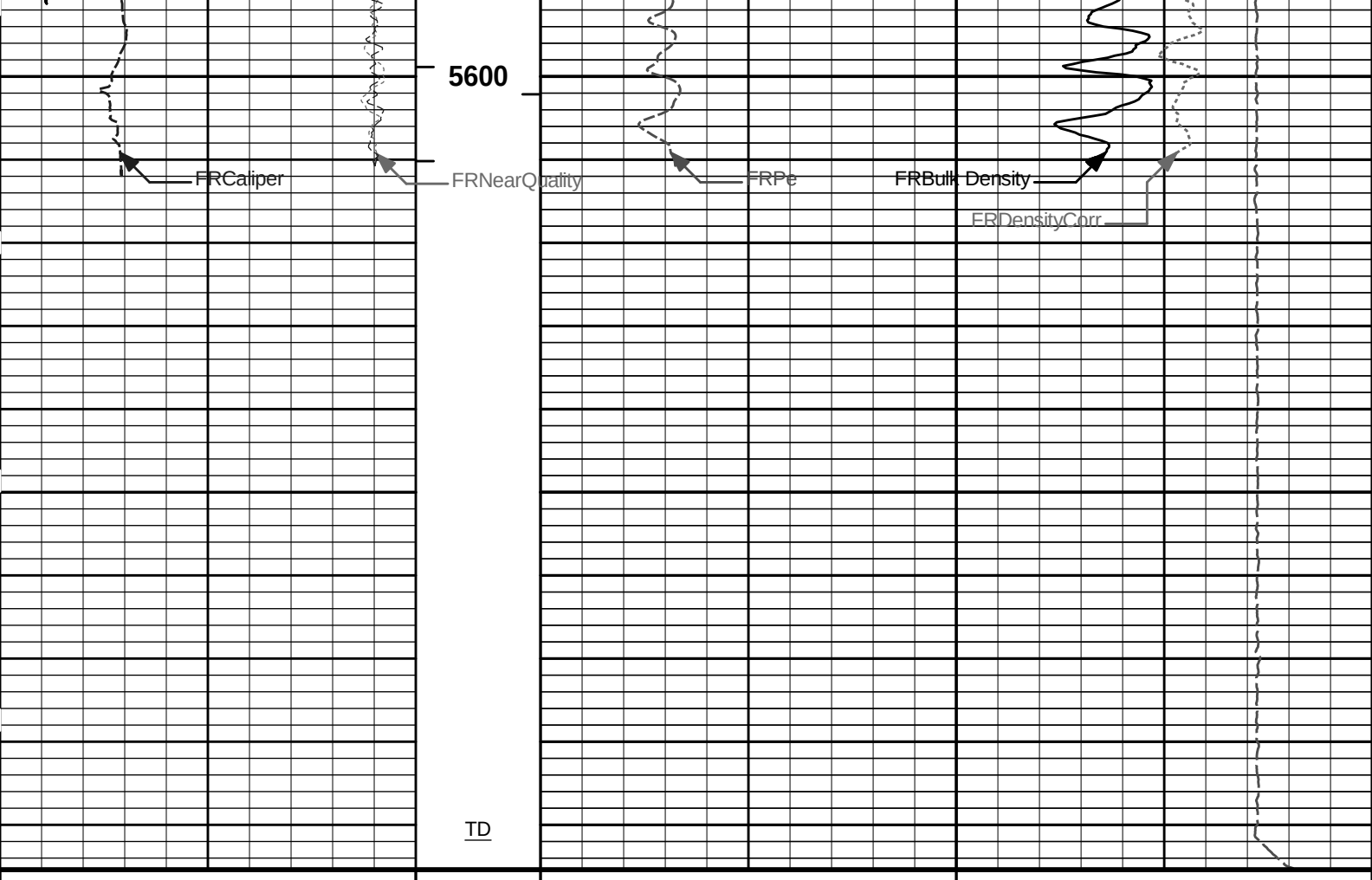

4500
4600
4700
Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr
Tension


4800
4900
Tension
Caliper
NearQuality


5000
5100
Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr
Tension


5200
5300
Tension


Caliper
NearQuality
5400
5500
Tension



10 Caliper 20 (inches)	1 : 240 ft	0 Pe 10
-18 NearQuality 2	BHV ft3	-0.25 DensityCorr 0.25 (g/cc)
18 FarQuality -2	AHV ft3	15K Tension 0 (pounds)
0 Gamma Ray 150 (api)	Tension Pull 10 0	2 Bulk Density 3 (g/cc)
SHALE	Tension Pull	

HALLIBURTON

Plot Time: 18-May-12 13:32:01
Plot Range: 2990 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\DETAIL
Plot File: \\-LOCAL-\SHELBY_1_3_SWD\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\PORO\BULKD_5_MAIN_LIB

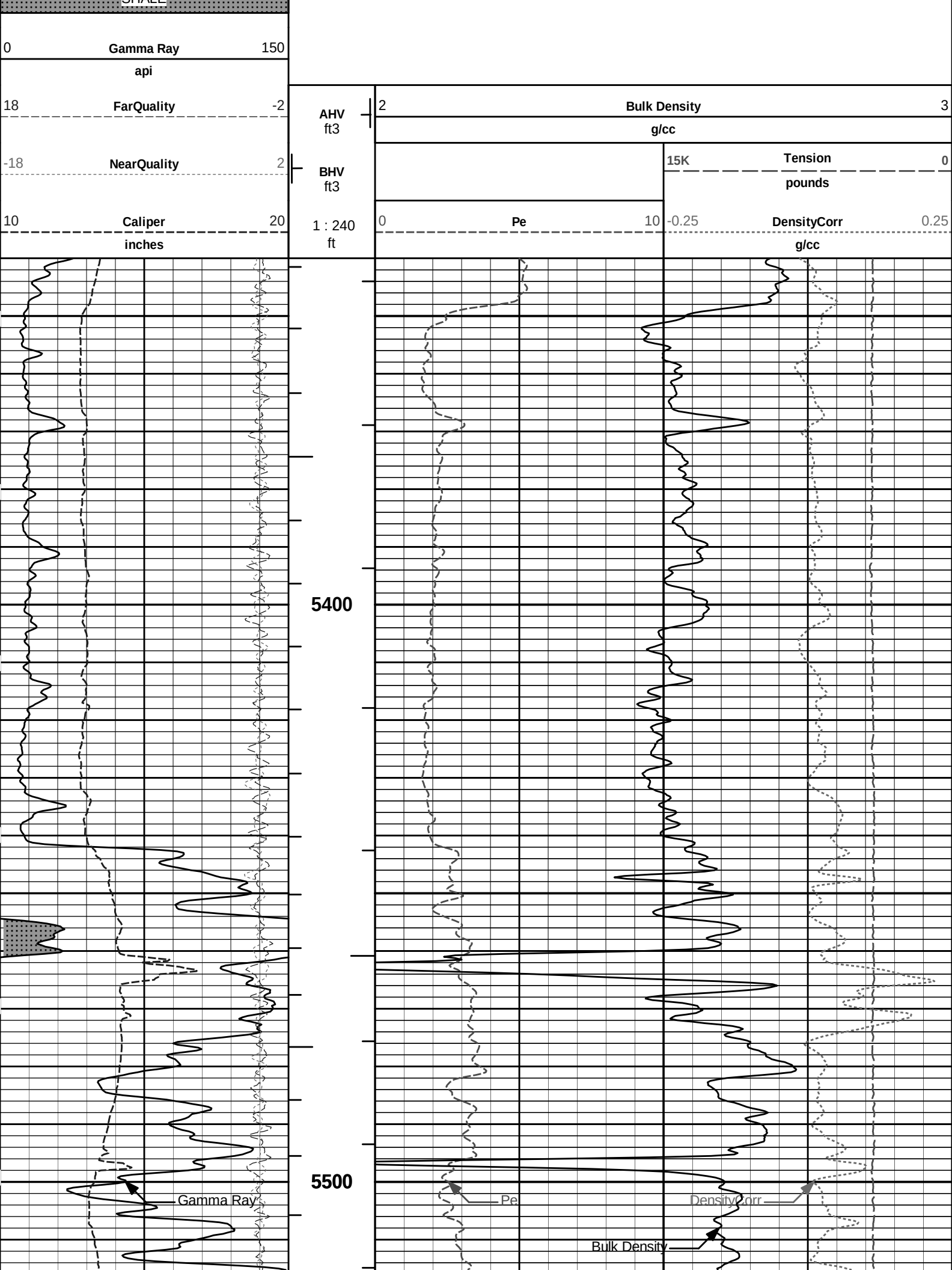
5 INCH MAIN LOG

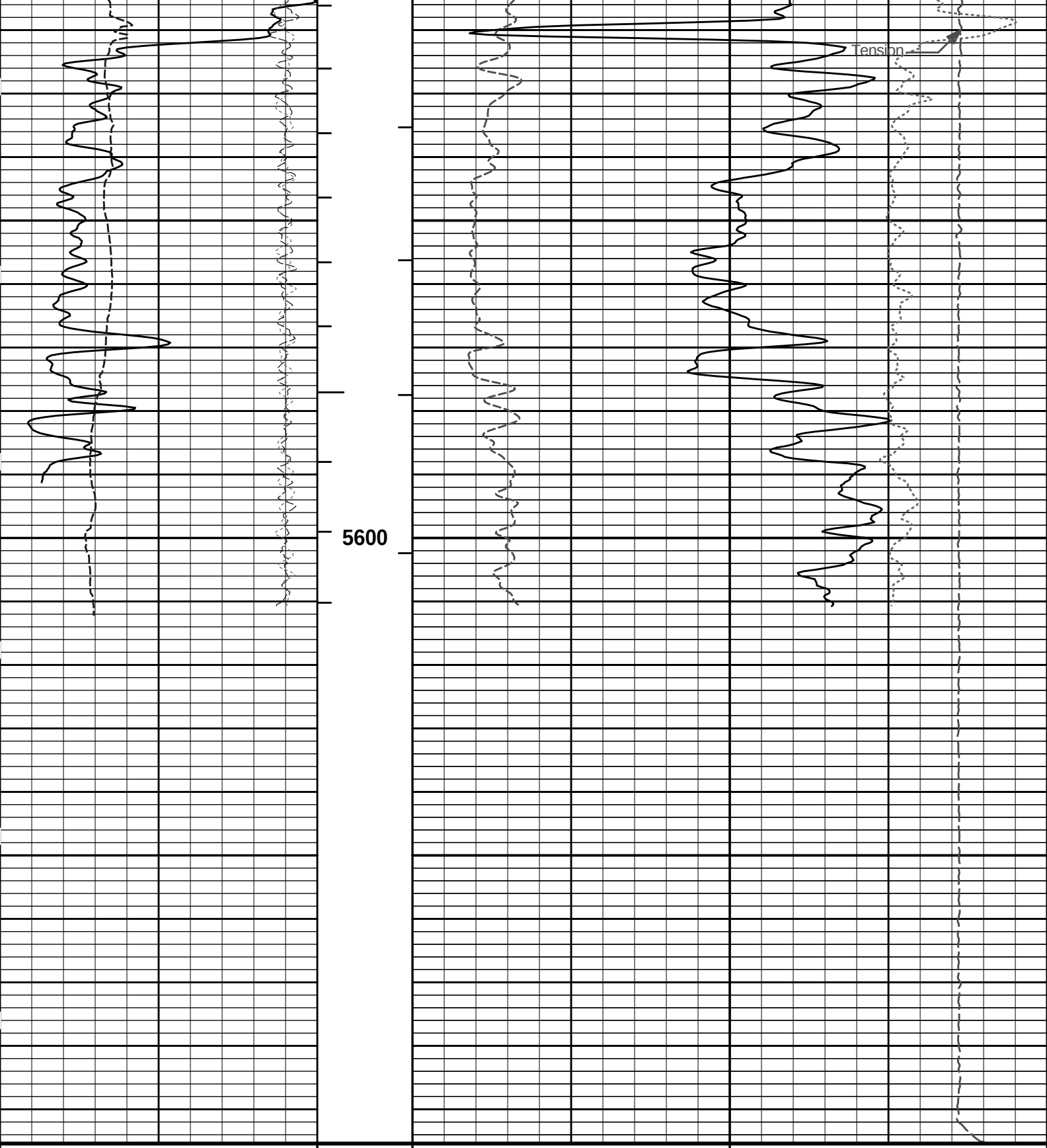
HALLIBURTON

Plot Time: 18-May-12 13:32:01
Plot Range: 5340 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\REPEAT
Plot File: \\-LOCAL-\SHELBY_1_3_SWD\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\PORO\BULKD_5_REP_LIB

REPEAT SECTION

SHALE


SHALE
0
Gamma Ray
150
api
18
FarQuality
-2
-18
NearQuality
2
10
Caliper
20
inches
AHV
ft3
BHV
ft3
1 : 240
ft
2
Bulk Density
3
g/cc
15K
Tension
0
pounds
0
Pe
10
-0.25
DensityCorr
0.25
g/cc
5400
5500
Gamma Ray
Pe
DensityCorr
Bulk Density



10 Caliper 20 inches	1 : 240 ft	0 Pe 10
-18 NearQuality 2	BHV ft3	
18 FarQuality -2	AHV ft3	2 Bulk Density 3 g/cc
0 Gamma Ray 150 api		

-0.25 DensityCorr 0.25 g/cc	
15K Tension 0 pounds	

SHALE

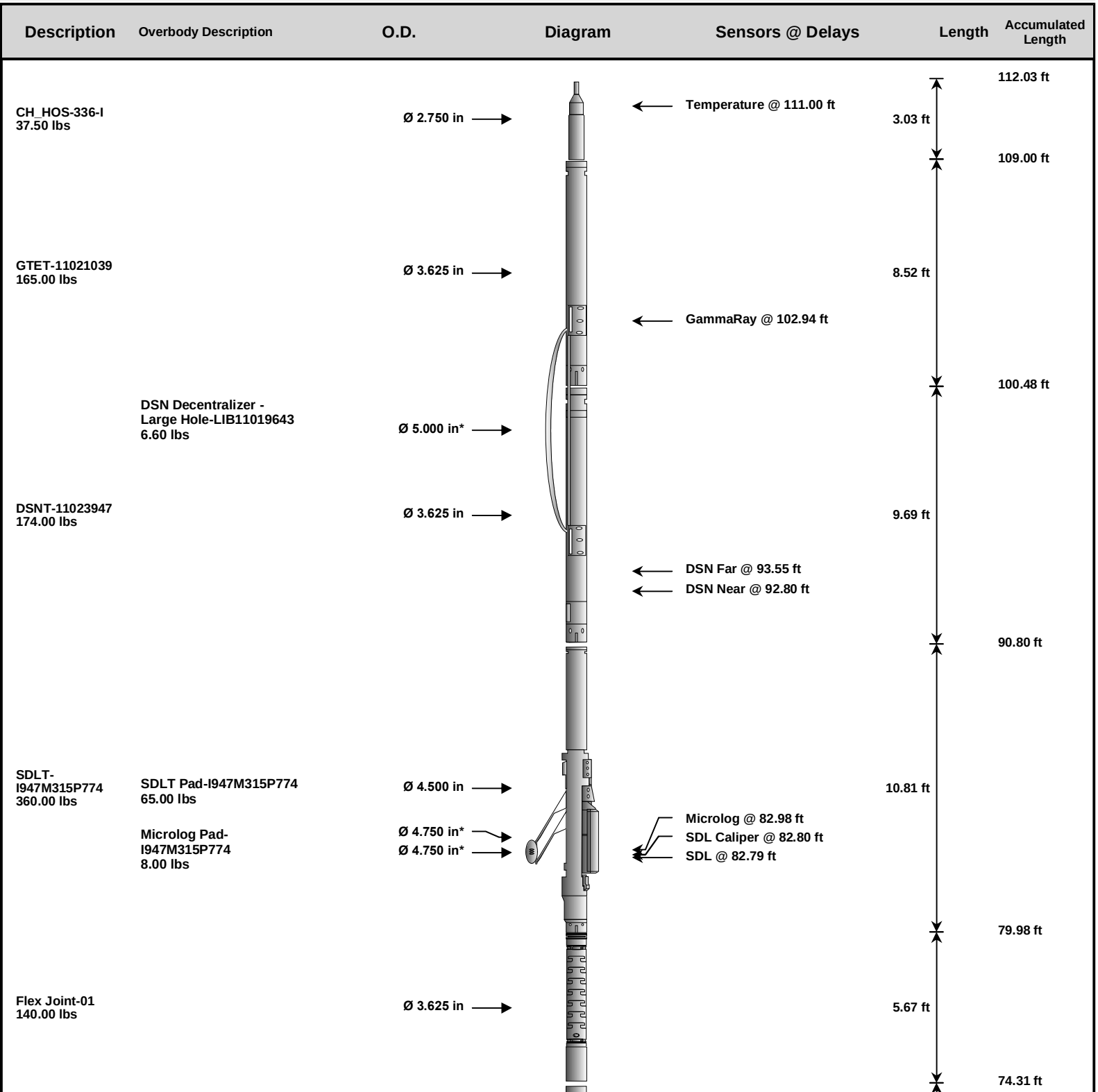
HALLIBURTON

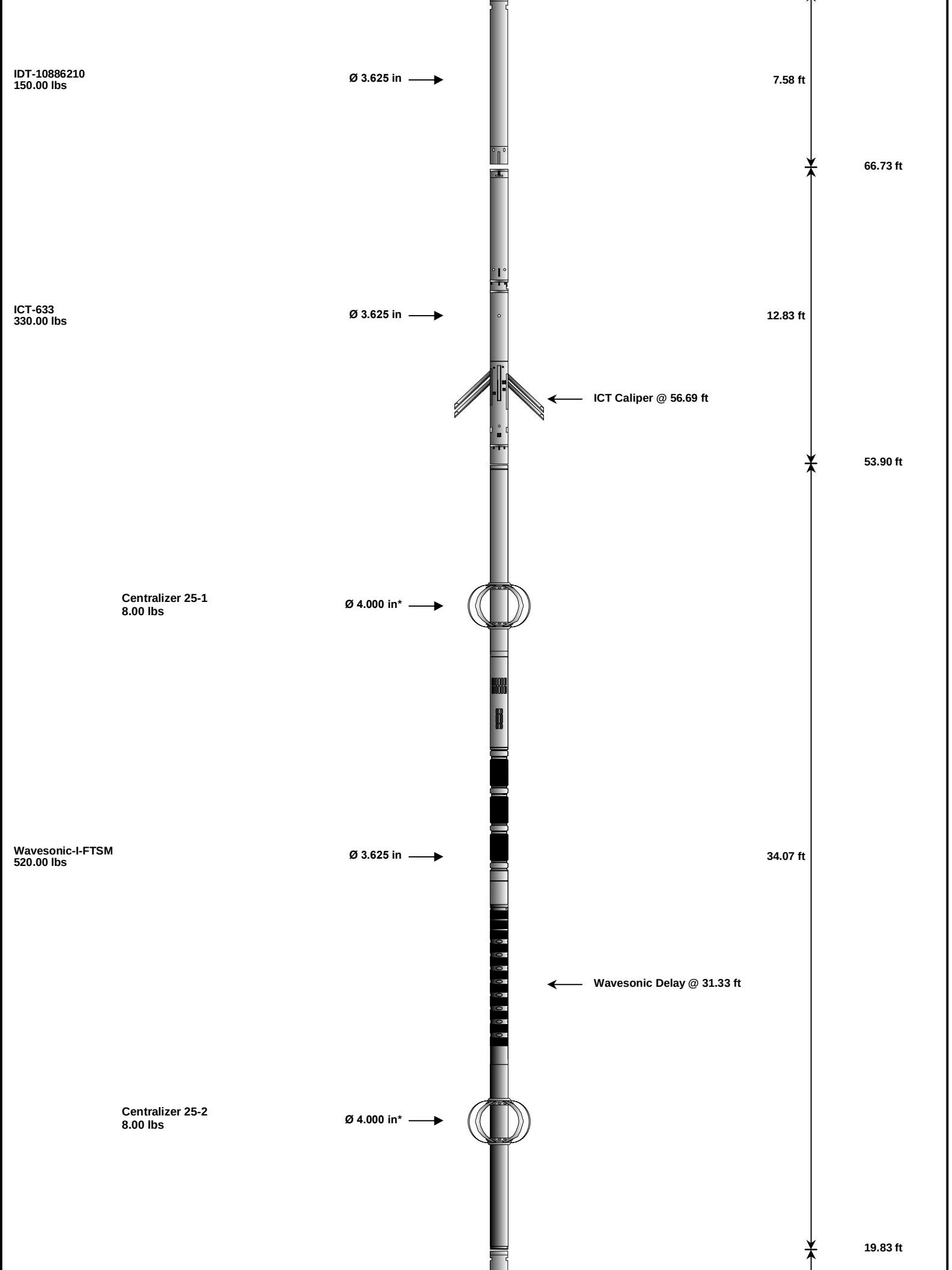
Plot Time: 18-May-12 13:32:02
Plot Range: 5340 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\REPEAT\
Plot File: \\-LOCAL-\SHELBY_1_3_SWD\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\PORO\BULKD_5_REP_LIB

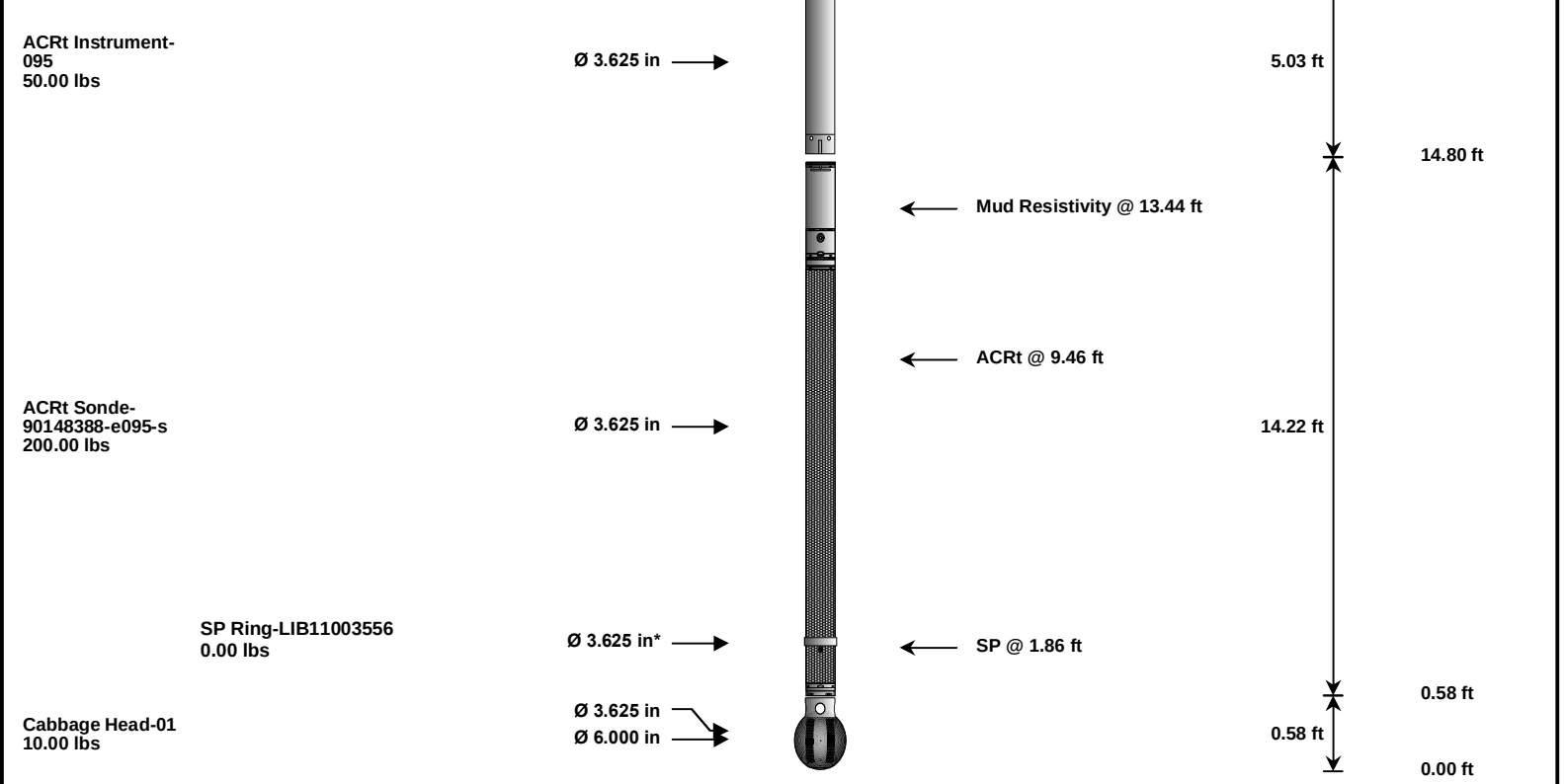
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT




IDT-10886210
150.00 lbs
Ø 3.625 in
7.58 ft
66.73 ft
ICT-633
330.00 lbs
Ø 3.625 in
12.83 ft
ICT Caliper @ 56.69 ft
53.90 ft
Centralizer 25-1
8.00 lbs
Ø 4.000 in*
Wavesonic-I-FTSM
520.00 lbs
Ø 3.625 in
34.07 ft
Wavesonic Delay @ 31.33 ft
Centralizer 25-2
8.00 lbs
Ø 4.000 in*
19.83 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	336-I	37.50	3.03		109.00	300.00
GTET	Gamma Telemetry Tool	11021039	165.00	8.52		100.48	60.00
DSNT	Dual Spaced Neutron	11023947	174.00	9.69		90.80	60.00
DCNT	DSN Decentralizer Large Hole	LIB11019643	6.60	9.42	*	94.13	300.00
SDLT	Spectral Density Tool	I947M315P774	360.00	10.81		79.98	60.00
MICP	Microlog Pad	I947M315P774	8.00	1.00	*	82.48	60.00
SDLP	Density Insite Pad	I947M315P774	65.00	2.55	*	82.19	60.00
FLEX	Flex Joint	01	140.00	5.67		74.31	300.00
IDT	Insite Directional Tool	10886210	150.00	7.58		66.73	30.00
ICT	Six Independent Arm Caliper	633	330.00	12.83		53.90	30.00
WSTT	WaveSonic Insite	FTSM	520.00	34.07		19.83	30.00
OBCEN	Centralizer - 25 in. Overbody	2	8.00	2.08	*	24.39	300.00
OBCEN	Centralizer - 25 in. Overbody	1	8.00	2.08	*	46.68	300.00
ACRt	Array Compensated True Resistivity Instrument Section	095	50.00	5.03		14.80	300.00
ACRt	Array Compensated True Resistivity	90148388-e095-s	200.00	14.22		0.58	300.00
SP	SP Ring	LIB11003556	0.00	0.25	*	1.86	300.00
CBHD	Cabbage Head	01	10.00	0.58		0.00	300.00
Total			**2,232.10**	**112.03**			

* Not included in Total Length and Length Accumulation.

Data: SHELBY_1_3_SWD\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\IDLE **Date: 18-May-12 09:35:05**

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CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 11021039**	**Reference Calibration Date:**	**05-Apr-12 15:06:59**
Engineer:	**C. HAVERKAMP**	**Calibration Date:**	**13-May-12 04:36:18**
Software Version:	**WL INSITE R3.4.2 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: MP051807-02

Calibrator API Reference:234.00 api

Equivalent Calibrator API Reference:238.1 api

Measurement	Measured	Calibrated	Units
Background	25.5	25.3	api
Background + Calibrator	265.2	263.4	api
Calibrator	239.7	238.1	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11021039 **Reference Calibration Date:** 13-May-12 04:36:18

Engineer: C. HAVERKAMP **Calibration Date:** 18-May-12 09:09:58

Software Version: WL INSITE R3.4.2 (Build 2) **Calibration Version:** 1

Calibrator Source S/N: MP051807-02

Calibrator API Reference:234.00 api

Equivalent Calibrator API Reference:238.1 api

Field Verification	Shop	Field	Units
Background	25.3	19.8	api
Background + Calibrator	263.4	259.7	api
Calibrator	238.1	240.0	api

Shop	Field	Difference	Tolerance
238.1	240.0	-1.9	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11023947 **Reference Calibration Date:** 29-Mar-12 10:32:54

Engineer: BOMAR **Calibration Date:** 27-Apr-12 10:28:11

Software Version: WL INSITE R3.4.2 (Build 2) **Calibration Version:** 1

Logging Source S/N: DSN_439

Tank Serial Number: FTSM

Reference value assigned to Tank: 56.100

Snow Block S/N: 336

Calibration Tank Water Temperature: 65 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.998	1.002	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):	0.2346	0.2358	0.0011	+/- 0.0020
Calibrated Ratio:	10.52	10.56	0.038	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0835	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 - 11023947**	**Reference Calibration Date:**	**27-Apr-12 10:28:11**
Engineer:	**C. HAVERKAMP**	**Calibration Date:**	**18-May-12 09:12:55**
Software Version:	**WL INSITE R3.4.2 (Build 2)**	**Calibration Version:**	**1**

Logging Source S/N: DSN_439

Snow Block S/N: 336

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0835	0.0945	0.0109	+/- 0.0150

PASS/FAIL SUMMARY

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	**SDLT - I947M315P774**	**Reference Calibration Date:**	**22-Apr-12 22:04:02**
Engineer:	**BOMAR**	**Calibration Date:**	**22-Apr-12 22:09:21**
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	-1841.81	-1782.38	-7000.00 - -1000.00
Pad Gain	0.0003752	0.0003738	0.000200 - 0.000600
Arm Offset	-801.46	-810.35	-5000.00 - 3000.00
Arm Gain	0.0005124	0.0005071	0.000300 - 0.000700
Arm Power	-0.000004895	-0.000004564	-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)	1.99	2.00	0.01	+/- 0.20
Medium Ring (in)	3.74	3.75	0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.50	6.50	0.00	+/- 0.20
Medium Ring (in)	8.26	8.25	-0.01	+/- 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 - I947M315P774**	**Reference Calibration Date:**	**22-Apr-12 22:09:21**
Engineer:	**C. HAVERKAMP**	**Calibration Date:**	**18-May-12 09:17:49**
Software Version:	**WL INSITE R3.4.2 (Build 2)**	**Calibration Version:**	**1**

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value

				New Value
Pad Extension	3.75	3.74	-0.01	+/- 0.10
Ring Diameter	8.25	8.34	0.09	+/- 0.15

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

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - I947M315P774 **Reference Calibration Date:** 22-Apr-12 21:22:42

Engineer: BOMAR **Calibration Date:** 22-Apr-12 21:41:22

Software Version: WL INSITE R3.4.2 (Build 2) **Calibration Version:** 1

Logging Source S/N: 5155GW

Aluminum Block S/N: FTSM Density: 2.581g/cc Pe: 3.170

Magnesium Block S/N: FTSM Density: 1.687g/cc Pe: 2.594

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0272	1.0694	0.90 - 1.10
Near Dens Gain	1.0112	1.0392	0.90 - 1.10
Near Peak Gain	1.0148	1.0759	0.90 - 1.10
Near Lith Gain	1.0312	1.0696	0.90 - 1.10
Far Bar Gain	1.0071	1.0141	0.90 - 1.10
Far Dens Gain	0.9946	1.0004	0.90 - 1.10
Far Peak Gain	0.9935	0.9968	0.90 - 1.10
Far Lith Gain	0.9769	0.9832	0.90 - 1.10
Near Bar Offset	-0.0345	-0.4249	NONE
Near Dens Offset	0.1079	-0.1425	NONE
Near Peak Offset	0.0659	-0.4461	NONE
Near Lith Offset	-0.0848	-0.4076	NONE
Far Bar Offset	0.0469	-0.0184	NONE
Far Dens Offset	0.1515	0.0965	NONE
Far Peak Offset	0.1480	0.1189	NONE
Far Lith Offset	0.2684	0.2153	NONE
Near Bar Background	965.72	965.05	700 - 1450
Near Dens Background	317.86	316.79	230 - 480
Near Peak Background	139.53	138.63	100 - 210
Near Lith Background	167.79	170.51	125 - 260
Far Bar Background	522.89	523.46	450 - 900
Far Dens Background	204.89	202.03	175 - 345
Far Peak Background	80.59	80.91	70 - 140
Far Lith Background	84.14	83.68	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.687	1.687	0.000	+/- 0.015
Pe	2.553	2.553	0.000	+/- 0.150
ALUMINUM				
Density (g/cc)	2.580	2.581	0.001	+/- 0.01500
Pe	3.117	3.125	0.008	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0005	+/- 0.0110	0.0001	+/- 0.0140
Magnesium Block	0.0001	+/- 0.0110	0.0009	+/- 0.0140
Aluminum Block	0.0004	+/- 0.0110	0.0008	+/- 0.0140
Resolution	9.34	6.00 - 11.50	9.11	6.00 - 11.50
Internal Verifier(B+D+P+L)	1591	1200 - 2700	890	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 - I947M315P774
Reference Calibration Date: 22-Apr-12 21:41:22
Engineer: C. HAVERKAMP
Calibration Date: 18-May-12 09:10:07
Software Version: WL INSITE R3.4.2 (Build 2)
Calibration Version: 1

Pad Temperature: 78.8 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1590.987	1591.669	0.682	16.042
Far (B+D+P+L) cps	890.080	886.729	-3.351	16.251
Near Resolution	9.34	9.37	0.030	0.50
Far Resolution	9.11	9.06	-0.050	1.00

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

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11021039						
Gamma Ray Calibrator	238.1	240.0	----------	-1.9	+/- 9.00	api
DSNT-11023947						
Snow-Block Porosity	0.0835	0.0945	----------	-0.0110	+/- 0.0150	decp
SDLT-I947M315P774						
Pad Extension	3.75	3.74	----------	0.01	+/-0.10	in
Ring Diameter	8.25	8.34	----------	-0.090	+/-0.15	in
SDLT Pad-I947M315P774						
Near(B+D+P+L)	1590.987	1591.669	----------	-0.682	+/-16.042	cps
Far(B+D+P+L)	890.080	886.729	----------	3.351	+/-16.251	cps

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	12.250	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.400	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	0.560	ohmm
	SHARED	TRM	Temperature of Mud	110.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	9.625	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	5699.00	ft
	SHARED	BHT	Bottom Hole Temperature	140.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	IDT	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	IDT	
	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	0.48	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	100.00	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	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	
IDT	WRTI	Survey Writing Interval	30	ft
IDT	SOPT	Smoothing Option	None	
ICT	CLOK	Process Caliper Outputs?	Yes	
ICT	NAVS	Navigation Source Tool	IDT	
Wavesonic-I	WSOK	Process WSTT?	Yes	
Wavesonic-I	MSWN	Monopole Sliding Window Length	-1.00	us
Wavesonic-I	DSWN	Dipole Sliding Window Length	-1.00	us
Wavesonic-I	PINT	Process 1 Sample and Skip	0	
Wavesonic-I	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4	4	
Wavesonic-I	SMTH	Semblance Smoothing	-2.00	
Wavesonic-I	DTSH	Delta -T Shale	100.00	uspf
Wavesonic-I	DTMT	Delta -T Matrix Type	User define	
Wavesonic-I	DTMA	Delta -T Matrix	47.60	uspf
Wavesonic-I	DTFL	Delta -T Fluid	189.00	uspf
Wavesonic-I	RHOM	Matrix Density	2.7100	g/cc
Wavesonic-I	RHOF	Fluid Density	1.0000	g/cc
Wavesonic-I	STOL	Slow Tolerance	40.00	
Wavesonic-I	SMTL	Semblance Tolerance	0.25	
Wavesonic-I	SMTL	Semblance Threshold	0.25	
Wavesonic-I	VPVS	VPVS Ratio for Porosity	1.40	
Wavesonic-I	APEQ	Acoustic Porosity Equation	Wylie	
Wavesonic-I	SHAO	Show Advanced Options?	Yes	
Wavesonic-I	WRNM	Wavesonic Receiver Normalization Method	None	
Wavesonic-I	DTRM	Transmitter to First Receiver Distance - Monopole	10.24	ft
Wavesonic-I	DTRX	Transmitter to First Receiver Distance Dipole X	9.24	ft
Wavesonic-I	DTRY	Transmitter to First Receiver Distance Dipole Y	9.24	ft
Wavesonic-I	DIRM	Receiver Spacing	0.50	ft
Wavesonic-I	NRAM	Number of Receivers in Array	8	
Wavesonic-I	DWCM	Digitizer Word Count Monopole	400	
Wavesonic-I	DSIM	Digital Sample Interval - Monopole	20.3174	us
Wavesonic-I	WDDM	Waveform Recording Delay Monopole	-304.761	us
Wavesonic-I	DWCX	Digitizer Word Count Dipole X	400	
Wavesonic-I	DSIX	Digital Sample Interval Dipole X	40.635	us
Wavesonic-I	WDDX	Waveform Digitization Delay Dipole X	-304.761	us
Wavesonic-I	DWCY	Digitizer Word Count Dipole Y	400	
Wavesonic-I	DSIY	Digital Sample Interval Dipole Y	40.635	us
Wavesonic-I	WDDY	Waveform Digitization Delay Dipole Y	-304.761	us
Wavesonic-I	NAVS	Navigation Source Tool	IDT	
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	

BOTTOM

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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
	GTET			
TPUL	Tension Pull	102.94	NO	
GR	Natural Gamma Ray API	102.94	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	102.94	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	102.94	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	DSNT			
TPUL	Tension Pull	92.70	NO	
RNDS	Near Detector Telemetry Counts	92.80	BLK	1.417
RFDS	Far Detector Telemetry Counts	93.55	TRI	0.583
DNTT	DSN Tool Temperature	92.80	NO	
DSNS	DSN Tool Status	92.70	NO	
ERND	Near Detector Telemetry Counts EVR	92.80	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	93.55	BLK	0.000
ENTM	DSN Tool Temperature EVR	92.80	NO	
	SDLT			
TPUL	Tension Pull	82.80	NO	
PCAL	Pad Caliper	82.80	TRI	0.250
ACAL	Arm Caliper	82.80	TRI	0.250
	IDT			
TPUL	Tension Pull	67.73	NO	
ACCX	Accelerometer X	67.73	NO	
ACCY	Accelerometer Y	67.73	NO	
ACCZ	Accelerometer Z	67.73	NO	
MAGX	magnetometer x with unit	67.73	NO	
MAGY	Magnetometer Y with unit	67.73	NO	
MAGZ	magnetometer z with unit	67.73	NO	
IAMP	Accelerometer Temperature	67.73	NO	
MTMP	Magnetometer Temperature	67.73	NO	
	ICT			
TPUL	Tension Pull	56.69	NO	
	Arm Potentiometer excitation V	53.90	NO	
	Caliper 1 measurement	56.69	BLK	1.250
	Caliper 2 measurement	56.69	BLK	1.250
	Caliper 3 measurement	56.69	BLK	1.250
	Caliper 4 measurement	56.69	BLK	1.250
	Caliper 5 measurement	56.69	BLK	1.250
	Caliper 6 measurement	56.69	BLK	1.250

	Caliper Global measurement	56.69	BLK	1.250
MOTI	Motor Current	53.90	NO	
MOT1	Motor Voltage Monitor 1	53.90	NO	
STA1	Status word #1	53.90	NO	
STA2	Status word #2	53.90	NO	
PRES	Caliper percentage of total compression of the spring	53.90	NO	
HAZI	Hole Azimuth	56.69	NO	
RB	Relative Bearing	56.69	NO	
AZI1	PAD1 Azimuth	56.69	NO	
DEVI	Inclination	56.69	NO	

Wavesonic-I				
TPUL	Tension Pull	31.33	NO	
DPSX	Dipole Source X Structurel	19.83	NO	
DPSY	Dipole Source Y Structurel	19.83	NO	
DPSM	Monopole Source Structure	19.83	NO	
WVST	Wavesonic Compressed Data	31.33	NO	
TPUL	Tension Pull	31.33	NO	
XMS1	Wave Sonic Status Word 1	19.83	NO	
XMS2	Wave Sonic Status Word 2	19.83	NO	
XMS1	Wave Sonic XMITStatus Word 1	19.83	NO	
XMS1	Wave Sonic XMITStatus Word 2	19.83	NO	
F1HA	Dipole 1 HV After	19.83	NO	
F1HB	Dipole 1 HV Before	19.83	NO	
F2HA	Dipole 2 HV After	19.83	NO	
F2HB	Dipole 2 HV Before	19.83	NO	
F3HA	Monopole HV After	19.83	NO	
F3HB	Monopole HV Before	19.83	NO	
INVT	Input Voltage	19.83	NO	
5VOL	5 Volts	19.83	NO	
MI5A	Minus 5 Volts Analog	19.83	NO	
ITMP	Instrument Temperature	19.83	NO	
PL5A	Plus 5 Volts Analog	19.83	NO	
5VD	Plus 5 Volts Digital	19.83	NO	
TCUR	Tool Current	19.83	NO	
SUPV	Supply Voltage	19.83	NO	
PRVT	Preregulated voltage	19.83	NO	
PRVT	Pre-regulated voltage Xmter	19.83	NO	
TEMP	Temperature	19.83	NO	
ACQN	Acquisition Number	19.83	NO	
XDP	Delay Reference	31.33	NO	
MITM	MIT Mode	31.33	NO	
VERS	Version	19.83	NO	
D1CT	Dipole 1 Compressed Word Count	31.33	NO	
D2CT	Dipole 2 Compressed Word Count	31.33	NO	
MCNT	Monopole Compressed Word Count	31.33	NO	
SEQN	Sequence Number	19.83	NO	
FREV	Firmware Revision	19.83	NO	
MSMP	Monopole Sample Rate	19.83	NO	
MSMP	Dipole Sample Rate	19.83	NO	
MFWF	Monopole Firing Waveform	19.83	NO	
MFRQ	Monopole Frequency	19.83	NO	
MDLY	Monopole Delay	19.83	NO	
DXWF	Dipole X Firing Waveform	19.83	NO	
XFRQ	Dipole X Frequency	19.83	NO	

XDLY	Dipole X Delay	19.83	NO	
DYWF	Dipole Y Firing Waveform	19.83	NO	
YFRQ	Dipole Y Frequency	19.83	NO	
YDLY	Dipole Y Delay	19.83	NO	
DPSX	Dipole Source X Structurel	19.83	NO	
DPSY	Dipole Source Y Structurel	19.83	NO	
DPSM	Monopole Source Structure	19.83	NO	
WVST	Wavesonic Compressed Data	31.33	NO	
AUTM	Auto Mode	19.83	NO	
SONM	tool mode for sonic - 0 for normal or 3 for calibration	19.83	NO	
MSL	Monopole Lower Travel Time	31.33	NO	
MSH	Monopole Upper Travel Time	31.33	NO	
MLFC	Monopole-1 Lower Filter Bandpass Frequency Cut-off	19.83	NO	
MUFC	Monopole-1 Upper Filter Bandpass Frequency Cut-off	19.83	NO	
DLTT	Dipole Lower Travel Time	19.83	NO	
DUTT	Dipole Upper Travel Time	19.83	NO	
DLFC	Dipole Lower Filter Bandpass Frequency Cut-off	19.83	NO	
DUFC	Dipole Upper Filter Bandpass Frequency Cut-off	19.83	NO	
MUTE	WaveSonic Mute/Enable Channels and Sides map	19.83	NO	
MUTS	Mute/Enable Sides	19.83	NO	
WSRB	Relative Bearing	31.33	NO	
WSAZ	WSX Azimuth Pad 1	31.33	NO	
TPUL	Tension Pull	31.33	NO	
WMP	Summed array of Monopole for SIDES - A,B,C,D	31.33	NO	
WXX	Dipole X for SIDES - A-C	31.33	NO	
WYY	Dipole Y for SIDES - B-D	31.33	NO	
WXY	Dipole X for SIDES - B-D	31.33	NO	
WYX	Dipole Y for SIDES - A-C	31.33	NO	
TPUL	Tension Pull	31.33	NO	
WMA	Monopole Waveform Side A - Channel 1 to Channel 8 Receivers	31.33	NO	
WMB	Monopole Waveform Side B - Channel 1 to Channel 8 Receivers	31.33	NO	
WMC	Monopole Waveform Side C - Channel 1 to Channel 8 Receivers	31.33	NO	
WMD	Monopole Waveform Side D - Channel 1 to Channel 8 Receivers	31.33	NO	
WXA	Dipole X Waveform Side A - Channel 1 to Channel 8 Receivers	31.33	NO	
WXB	Dipole X Waveform Side B - Channel 1 to Channel 8 Receivers	31.33	NO	
WXC	Dipole X Waveform Side C - Channel 1 to Channel 8 Receivers	31.33	NO	
WXD	Dipole X Waveform Side D - Channel 1 to Channel 8 Receivers	31.33	NO	
WYA	Dipole Y Waveform Side A - Channel 1 to Channel 8 Receivers	31.33	NO	
WYB	Dipole Y Waveform Side B - Channel 1 to Channel 8 Receivers	31.33	NO	
WYC	Dipole Y Waveform Side C - Channel 1 to Channel 8 Receivers	31.33	NO	
WYD	Dipole Y Waveform Side D - Channel 1 to Channel 8 Receivers	31.33	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

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	

SDLT Pad				
TPUL	Tension Pull	82.79	NO	
NAB	Near Above	82.61	BLK	0.920
NHI	Near Cesium High	82.61	BLK	0.920
NLO	Near Cesium Low	82.61	BLK	0.920
NVA	Near Valley	82.61	BLK	0.920
NBA	Near Barite	82.61	BLK	0.920
NDE	Near Density	82.61	BLK	0.920
NPK	Near Peak	82.61	BLK	0.920

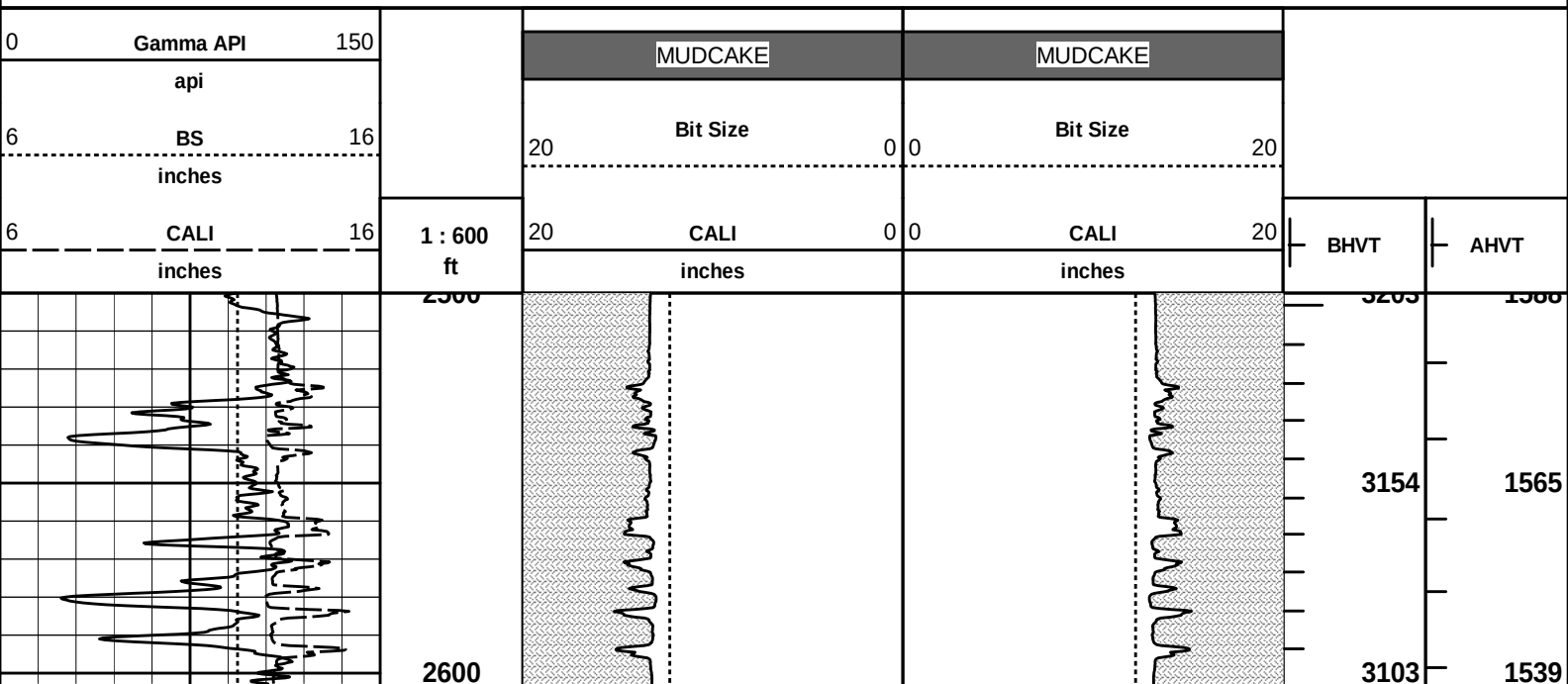
NLI	Near Lithology	82.61	BLK	0.920
NBAU	Near Barite Unfiltered	82.61	BLK	0.250
NLIU	Near Lithology Unfiltered	82.61	BLK	0.250
FAB	Far Above	82.96	BLK	0.250
FHI	Far Cesium High	82.96	BLK	0.250
FLO	Far Cesium Low	82.96	BLK	0.250
FVA	Far Valley	82.96	BLK	0.250
FBA	Far Barite	82.96	BLK	0.250
FDE	Far Density	82.96	BLK	0.250
FPK	Far Peak	82.96	BLK	0.250
FLI	Far Lithology	82.96	BLK	0.250
PTMP	Pad Temperature	82.80	BLK	0.920
NHV	Near Detector High Voltage	82.19	NO	
FHV	Far Detector High Voltage	82.19	NO	
ITMP	Instrument Temperature	82.19	NO	
DDHV	Detector High Voltage	82.19	NO	
	Microlog Pad			
TPUL	Tension Pull	82.98	NO	
MINV	Microlog Lateral	82.98	BLK	0.750
MNOR	Microlog Normal	82.98	BLK	0.750
	SP Ring			
PLTC	Plot Control Mask	1.86	NO	
SP	Spontaneous Potential	1.86	BLK	1.250
SPR	Raw Spontaneous Potential	1.86	NO	
SPO	Spontaneous Potential Offset	1.86	NO	

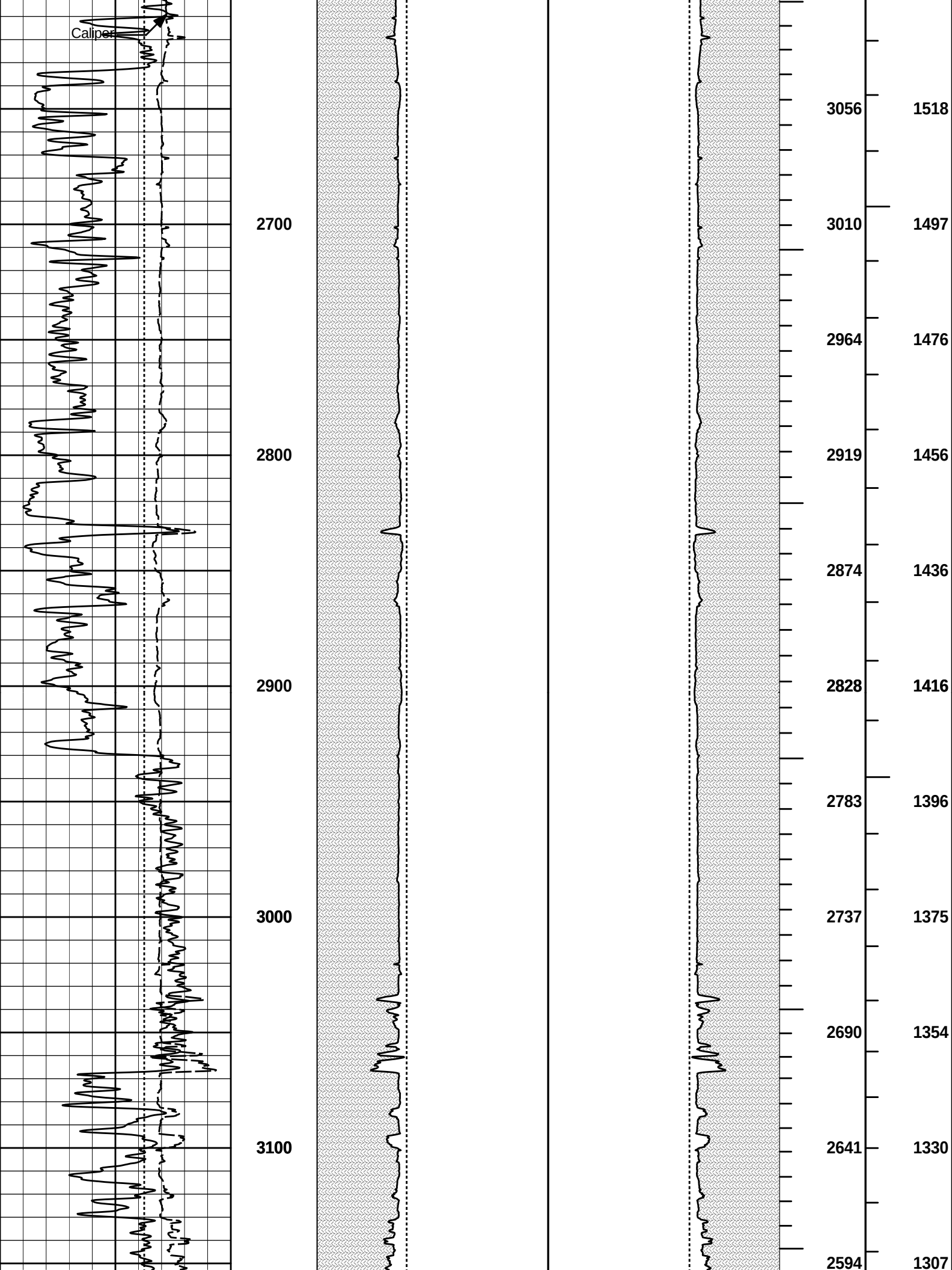
Data: SHELBY_1_3_SWD\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\IDLE **Date: 18-May-12 11:22:13**

HALLIBURTON

Plot Time: 18-May-12 13:32:03
Plot Range: 2500 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\DAQ-0001-004
Plot File: \\-LOCAL-\SHELBY_1_3_SWD\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\PORO\AHV_2_SDL_IQ_LIB

ANNULAR HOLE VOLUME PLOT




Caliper
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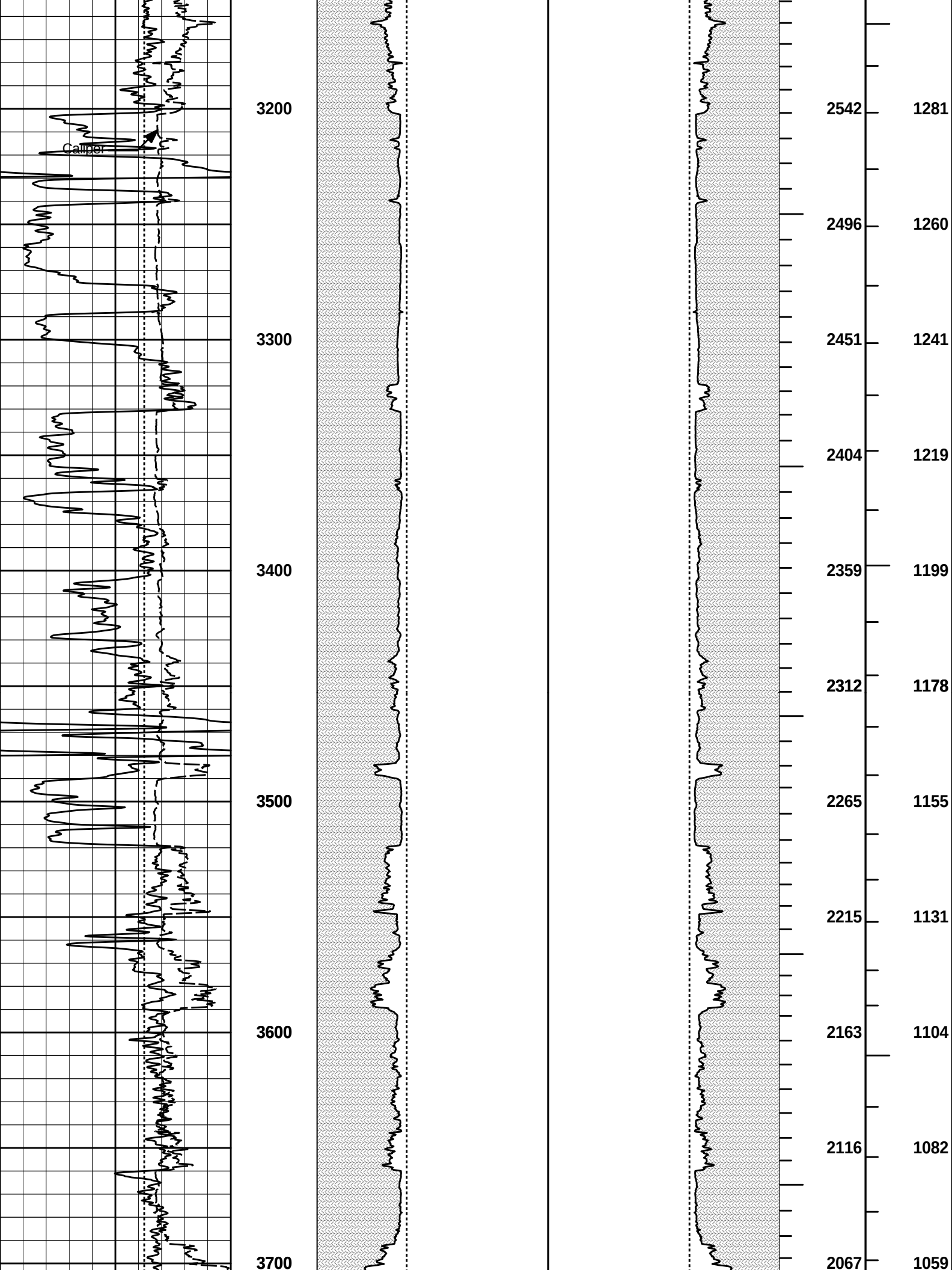
2800
2900
3000
3100
3056
3010
2964
2919
2874
2828
2783
2737
2690
2641
2594
1518
1497
1476
1456
1436
1416
1396
1375
1354
1330
1307


Caliper
3200
3300
3400
3500
3600
3700
2542
2496
2451
2404
2359
2312
2265
2215
2163
2116
2067
1281
1260
1241
1219
1199
1178
1155
1131
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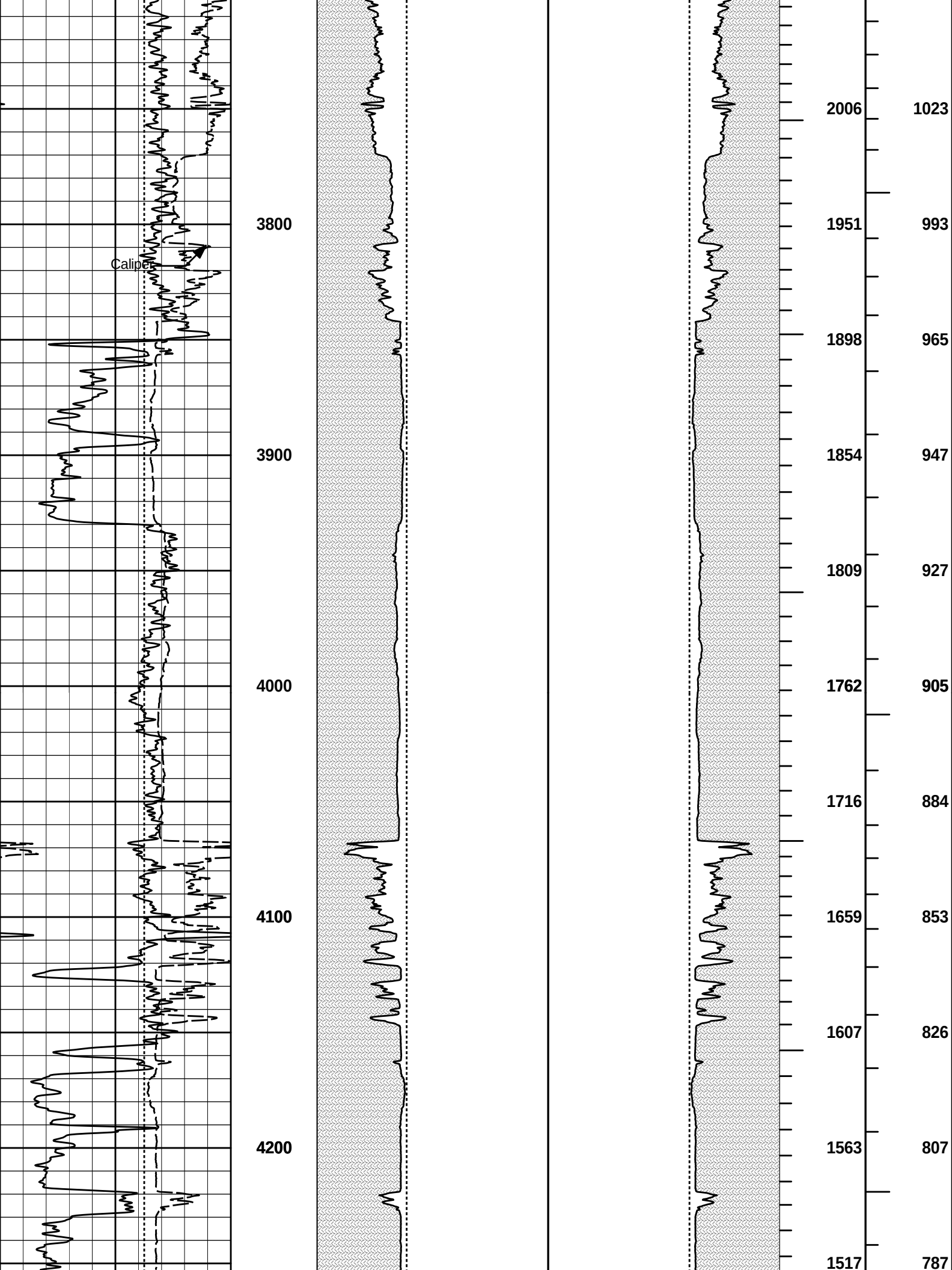
1082
1059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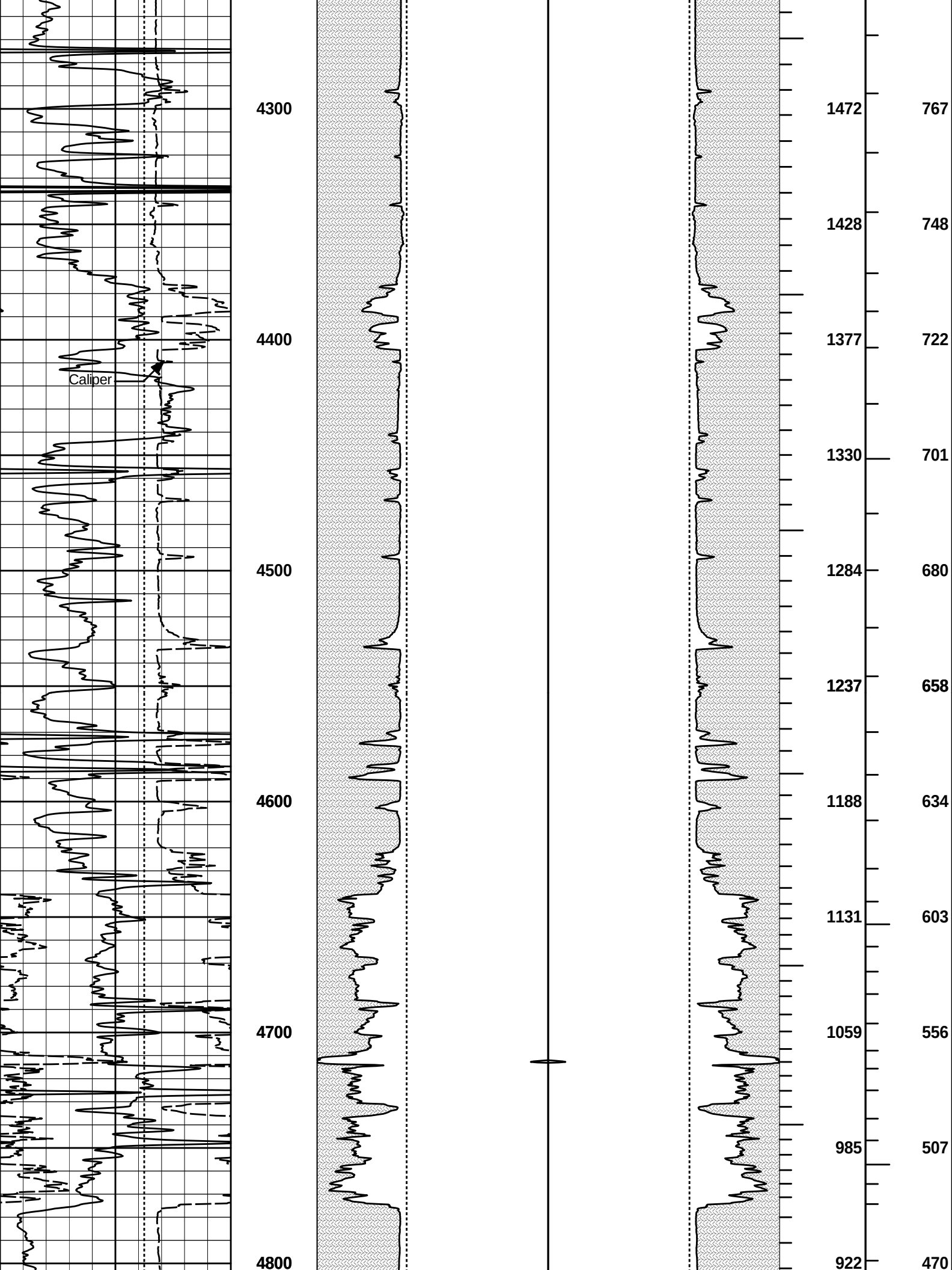
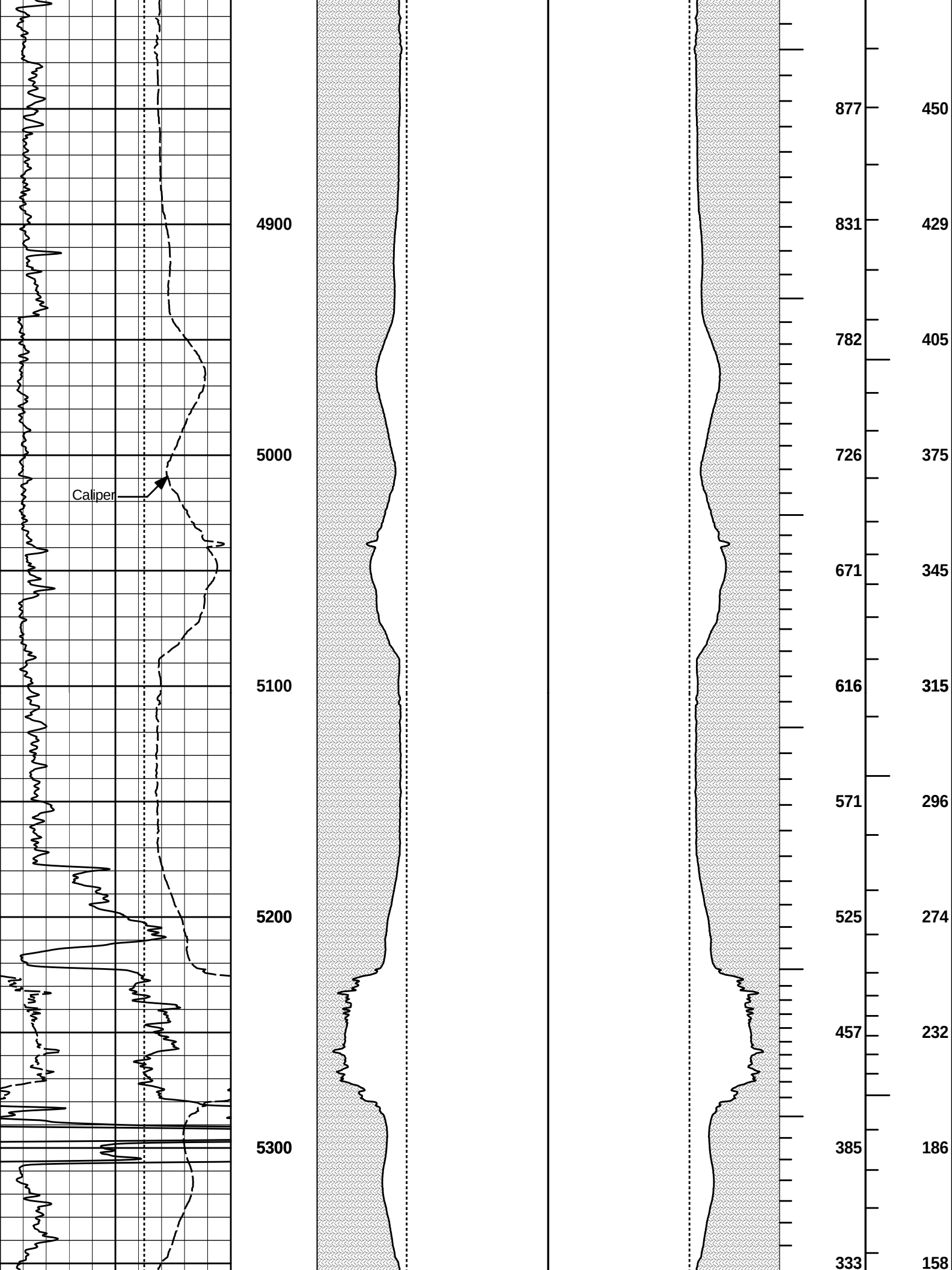
3900
4000
4100
4200
2006
1951
1898
1854
1809
1762
1716
1659
1607
1563
1517
1023
993
965
947
927
905
884
853
826
807
787


4300
4400
4500
4600
4700
4800
Caliper
1472
1428
1377
1330
1284
1237
1188
1131
1059
985
922
767
748
722
701
680
658
634
603
556
507
470


Caliper
4900
5000
5100
5200
5300
877
831
782
726
671
616
571
525
457
385
333
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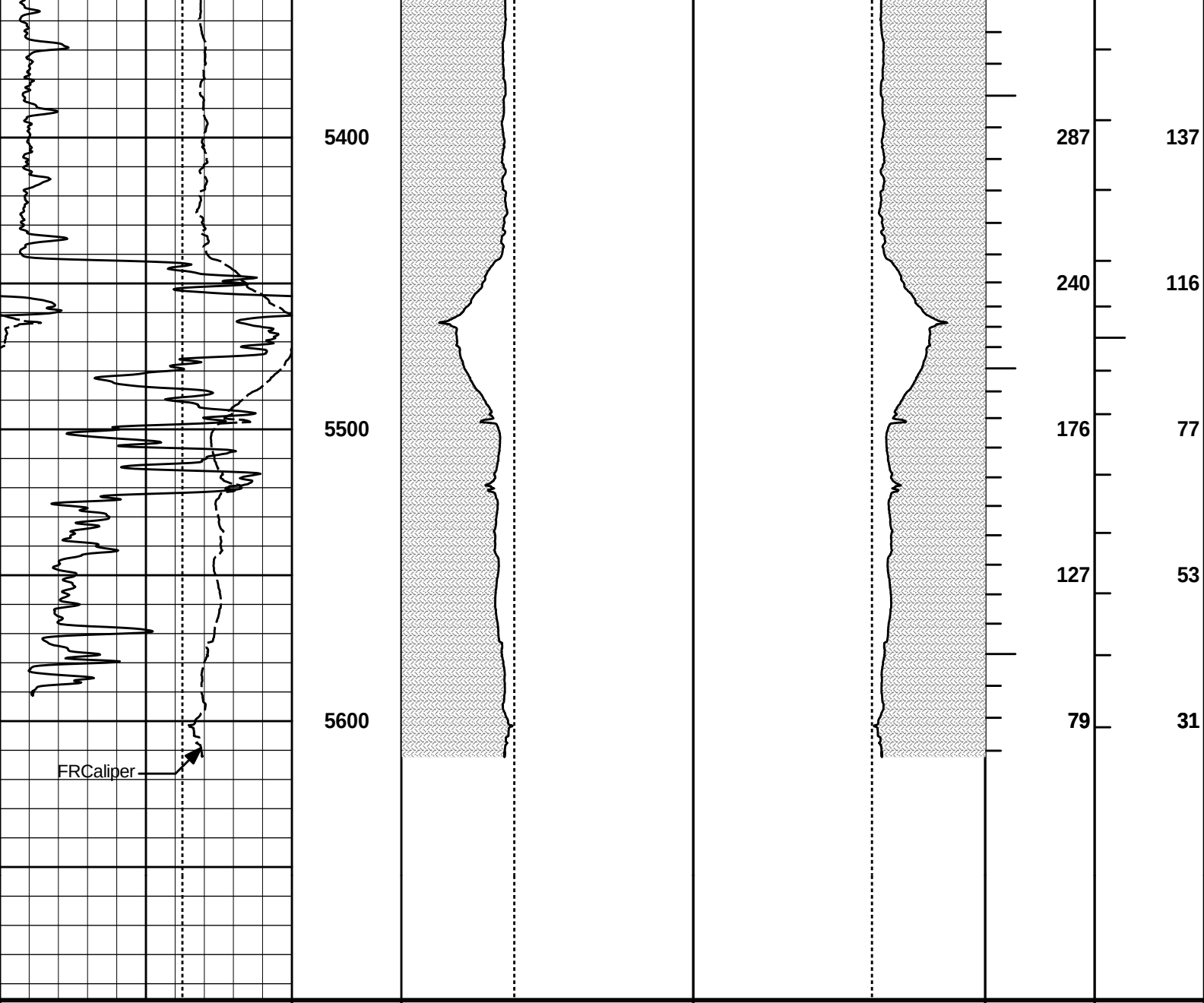
429
405
375
345
315
296
274
232
186
158



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

HALLIBURTON

Plot Time: 18-May-12 13:32:10
Plot Range: 2500 ft to 5695.25 ft
Data: SHELBY_1_3_SWD\Well Based\DAQ-0001-004
Plot File: \\-LOCAL-\SHELBY_1_3_SWD\0001 GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT\PORO\AHV_2_SDL_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	**SANDRIDGE ENERGY**
WELL	**SHELBY 1-3 SWD**
FIELD	**WHARTON SOUTH**

COUNTY	**HARPER**	STATE	**KANSAS**

HALLIBURTON

DUAL SPACED NEUTRON
SPECTRAL DENSITY
LOG