HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

COMPANY	OXY USA INC
WELL	BIRNEY TRUST B-2
FIELD/BLOCK	LEMON NORTHEAST
COUNTY	HASKELL
STATE	KANSAS

COMPANY OXY USA INC
WELL BIRNEY TRUST B-2
FIELD/BLOCK LEMON NORTHEAST
COUNTY HASKELL STATE KANSAS

API No. 15081220080000

Location 1860' FSL & 2120' FWL NW SE NE SW

Other Services: MICROLOG ACRT BSAT

Sect. 24 Twp. 29S Rge. 33W

Permanent Datum	GL	Elev. 2924.0 ft	Elev.: K.B.	2938.0 ft
Log measured from	KB	14.0 ft above perm. Datum	D.F.	2937.0 ft
Drilling measured from	KB		G.L.	2924.0 ft

Date	29-Jan-13					
Run No.	ONE					
Depth - Driller	5829.00 ft					
Depth - Logger	5828.0 ft					
Bottom - Logged Interval	5786.0 ft					
Top - Logged Interval	4000.0 ft					
Casing - Driller	8.625 in	@ 1841.0 ft		@		@
Casing - Logger	1839.0 ft					
Bit Size	7.875 in			@		@
Type Fluid in Hole	WATER BASED MUD					
Density / Viscosity	9.3 ppg	50.00 s/qt				
PH / Fluid Loss	9.00 pH	8.4 cptm				
Source of Sample	MUD PIT					
Rm @ Meas. Temperature	0.370 ohmm	@ 75.00 degF		@		@
Rmf @ Meas. Temperature	0.30 ohmm	@ 75.00 degF		@		@
Rmc @ Meas. Temperature	0.550 ohmm	@ 75.00 degF		@		@
Source Rmf / Rmc	MEASURED	MEASURED				
Rm @ BHT	0.22 ohmm	@ 130.0 degF		@		@
Time Since Circulation	10.0 hr					
Time on Bottom	29-Jan-13 17:19					
Max. Rec. Temperature	130.0 degF	@ 5828.0 ft		@		@
Equipment / Location	10546696	LIBERAL				
Recorded By	J. BOLLOM					
Witnessed By	E. ZION					

Fold here

Service Ticket No.: 900161102 API Serial No.: 15081220080000 PGM Version: WL INSITE R3.8.0 (Build 2)

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.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	11039640	Serial No.		Serial No.	10844781	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.	GTET	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS137	Source Type	AM241BE
Length	8'	LSA [Y/N]		Serial No.	5168GW	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		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	5828	4000	REC	0	150				30	-10	2.71	30	-1O	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING

CHLORIDES REPORTED AT 8000 MG/L

LCM REPORTED AT 4 LB/BBL

GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION

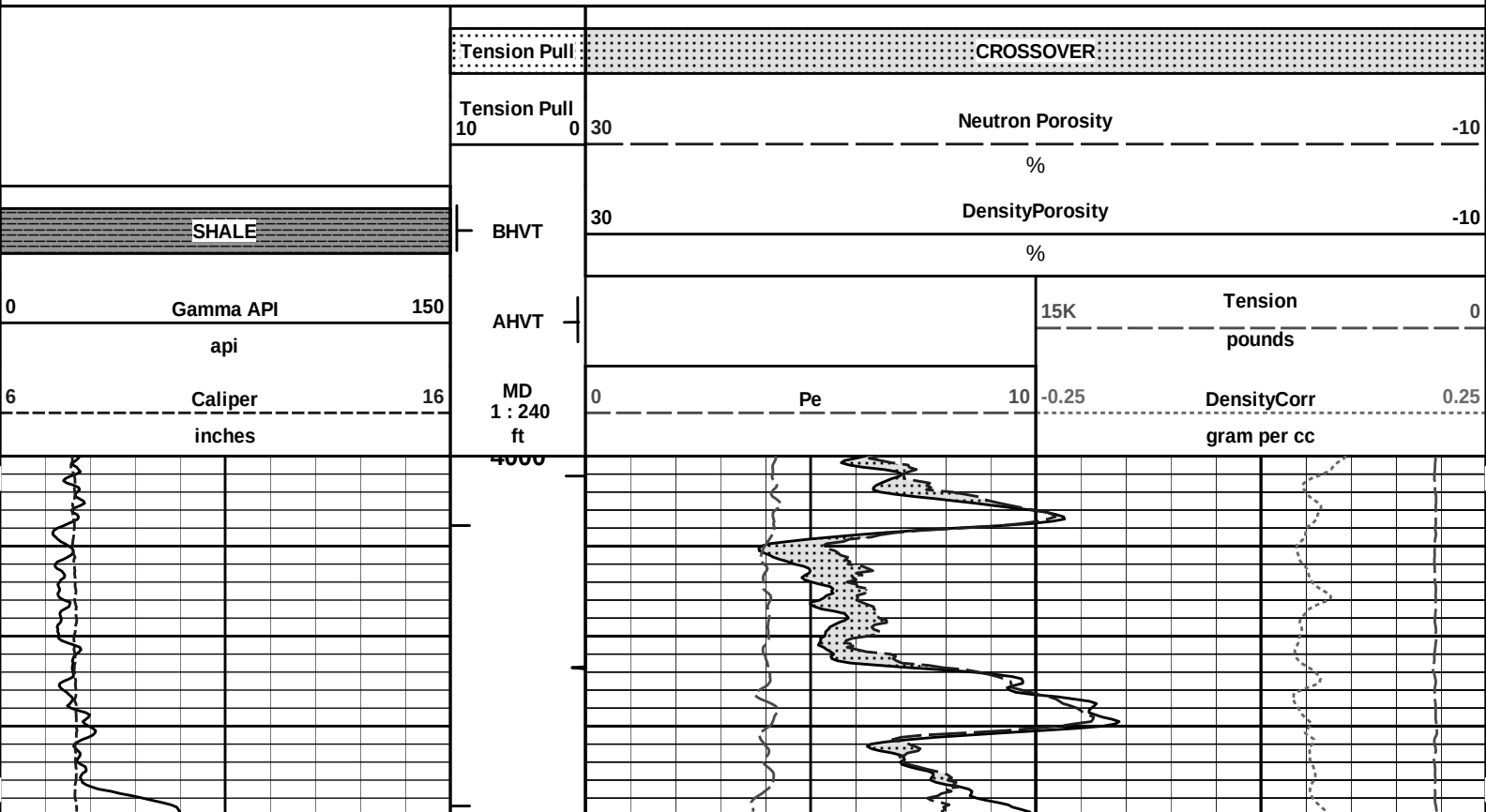
TODAY'S CREW: F. VILLA & B. TERRELL

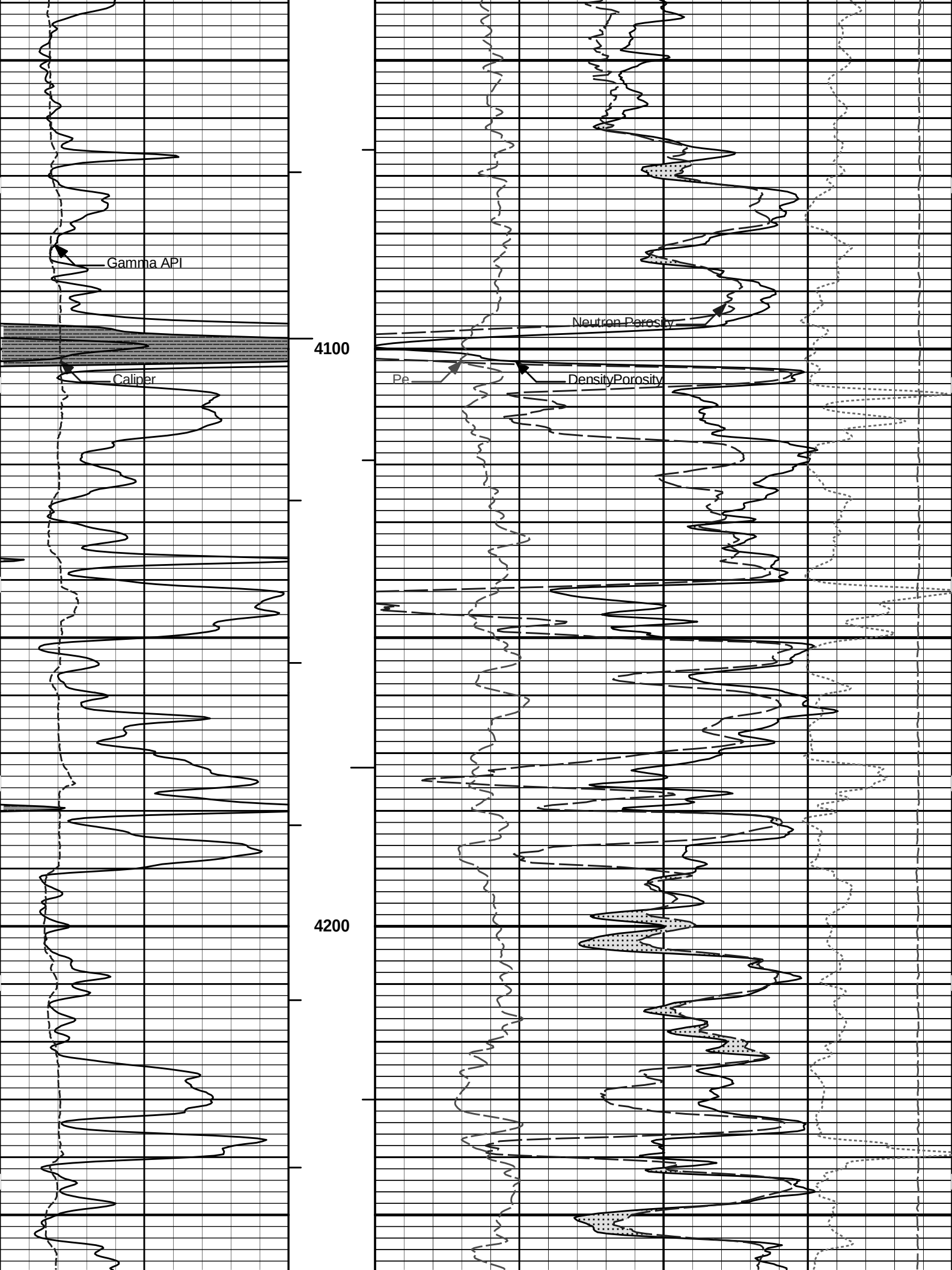
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KS. 620-624-8123

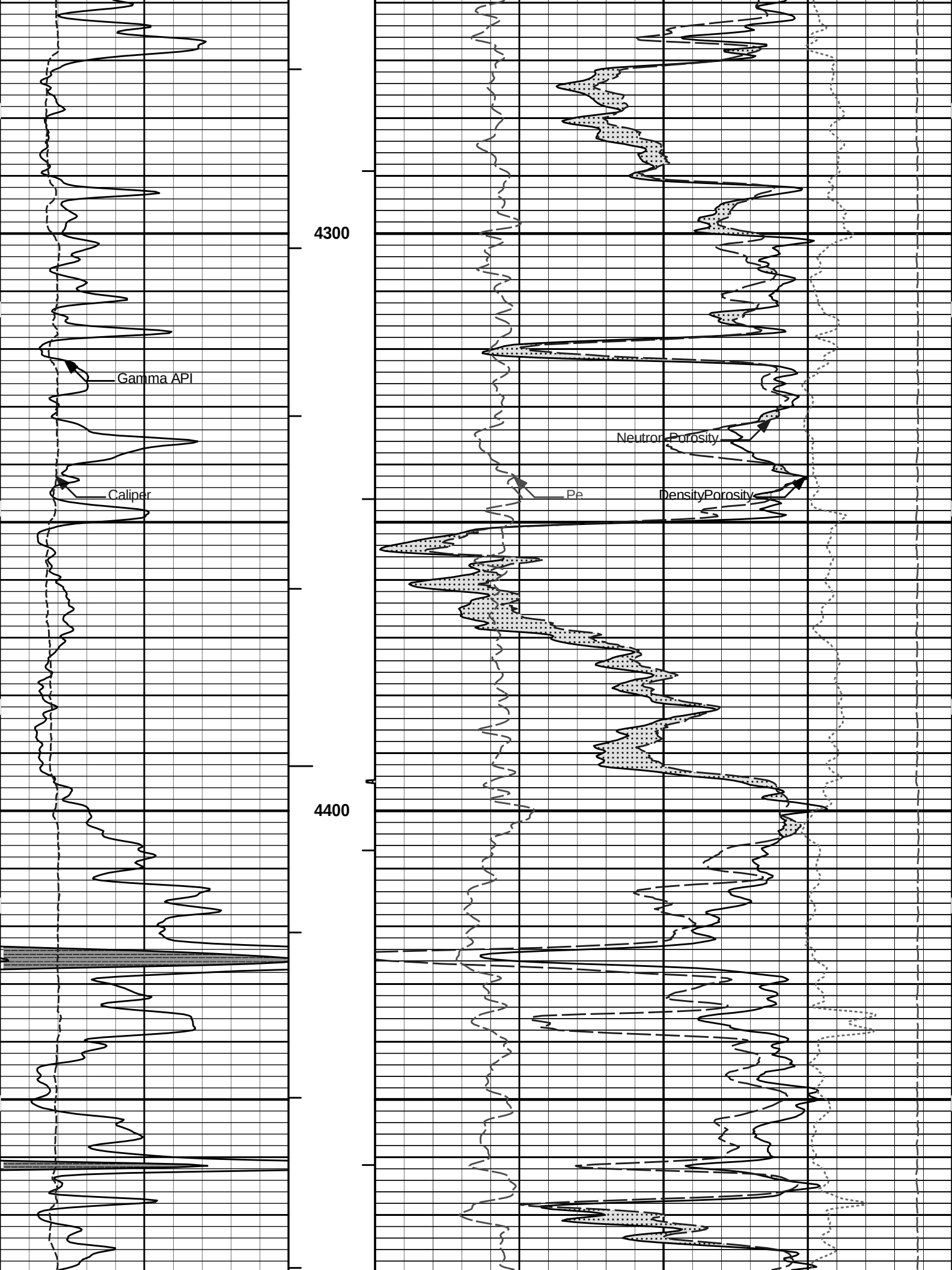
HALLIBURTON

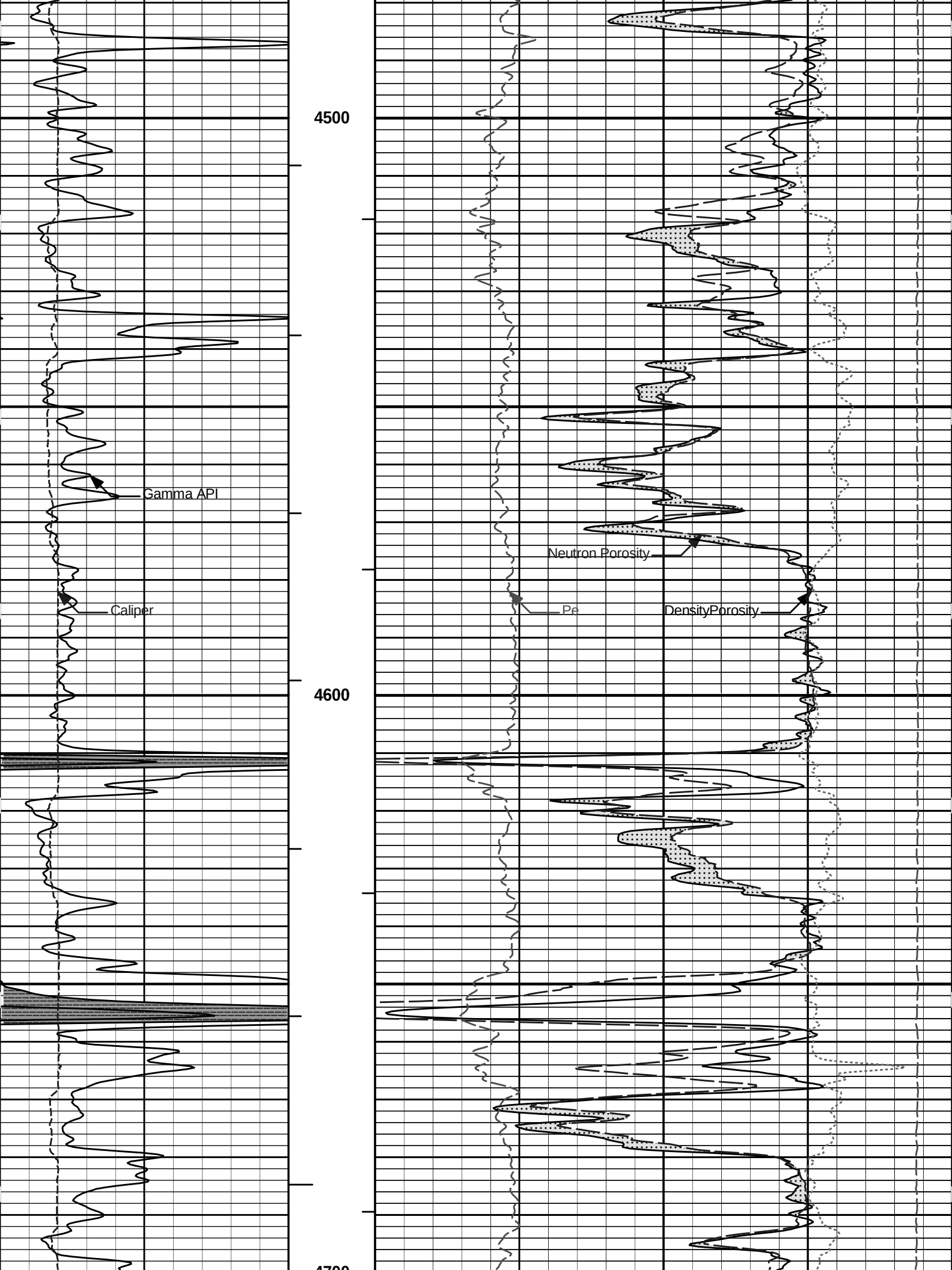
Plot Time: 29-Jan-13 20:07:11
Plot Range: 4000 ft to 5830.92 ft
Data: BIRNEY_TRUST\Well Based\DETAIL
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

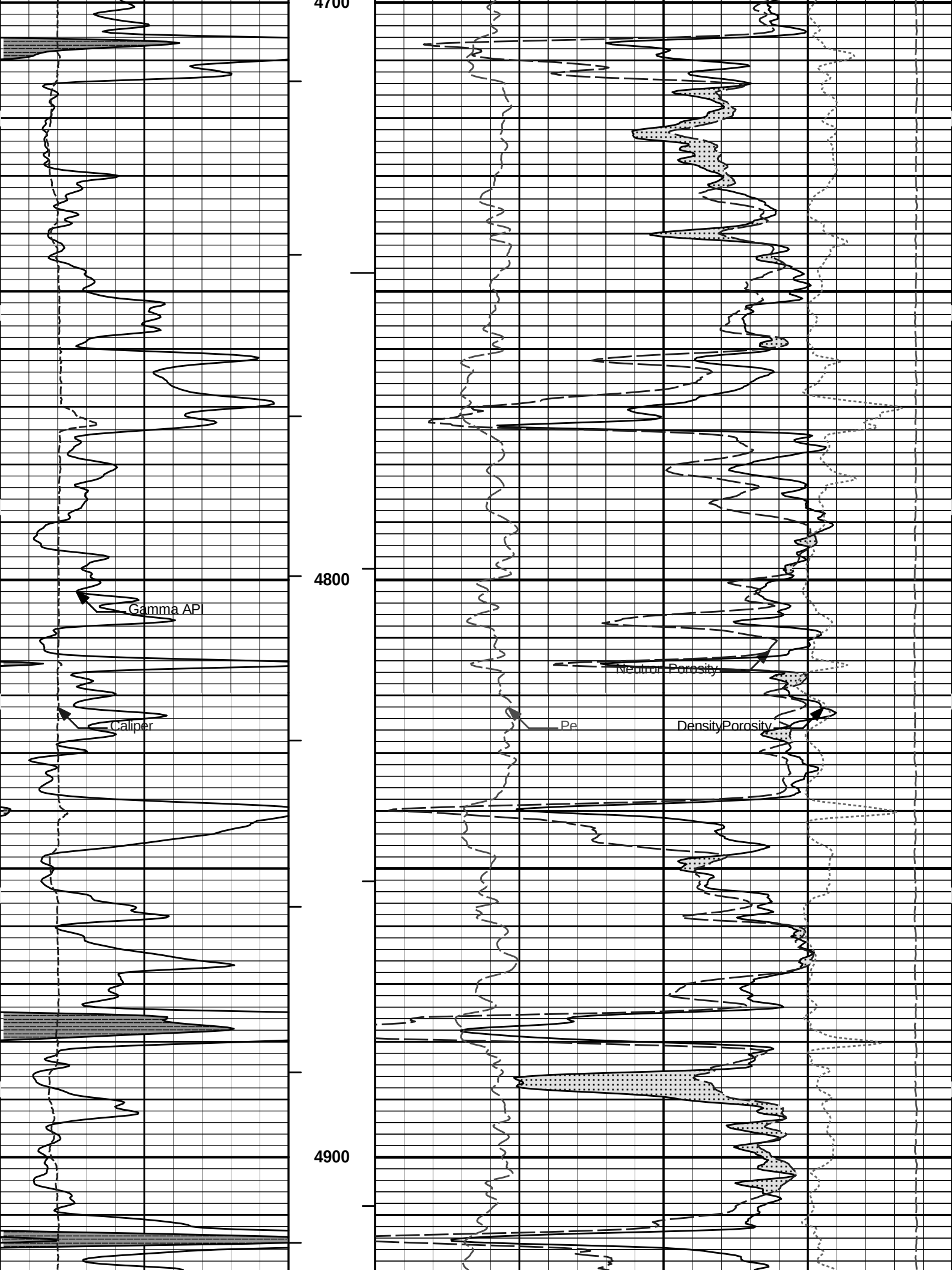
5 INCH MAIN LOG

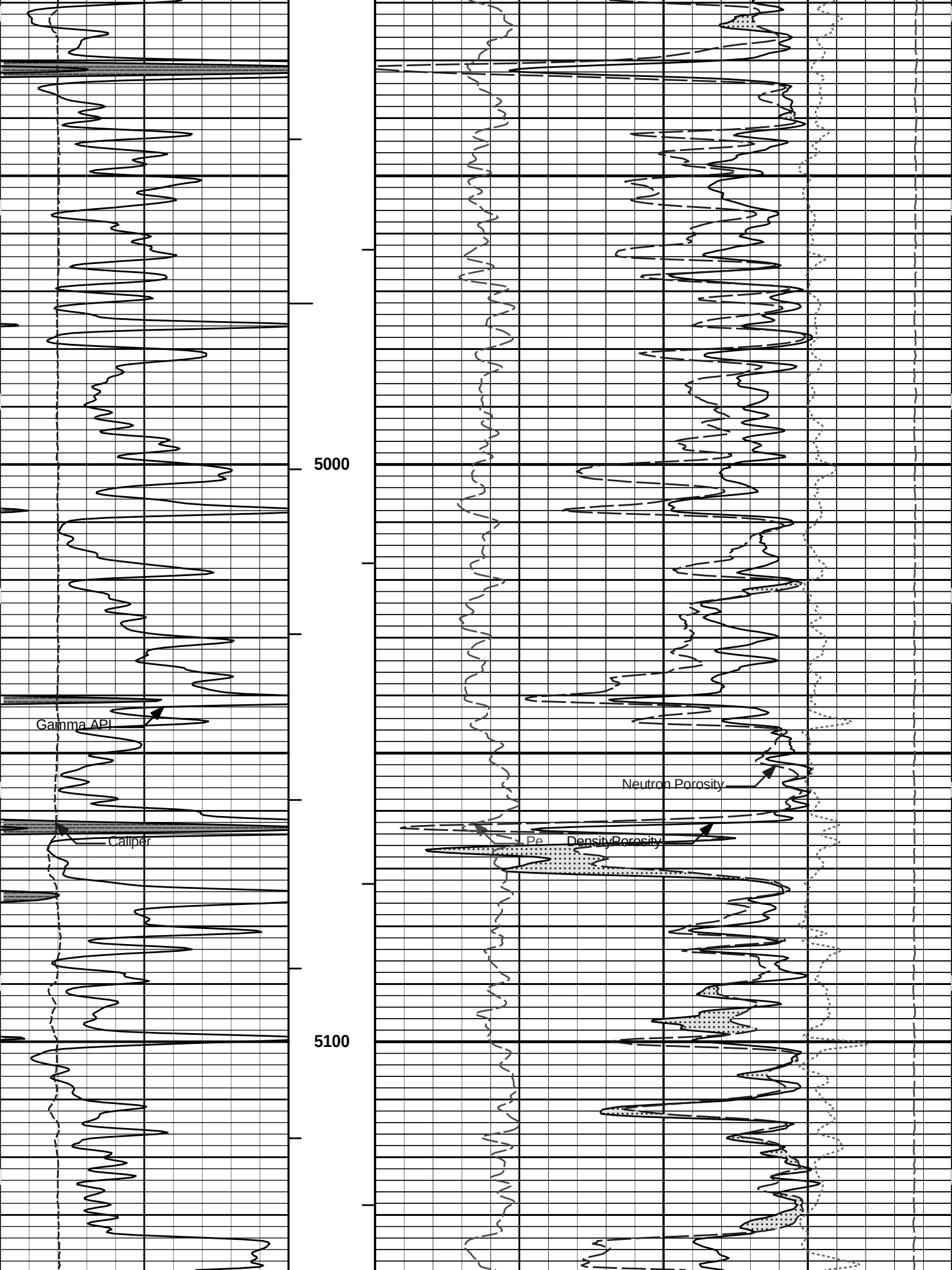


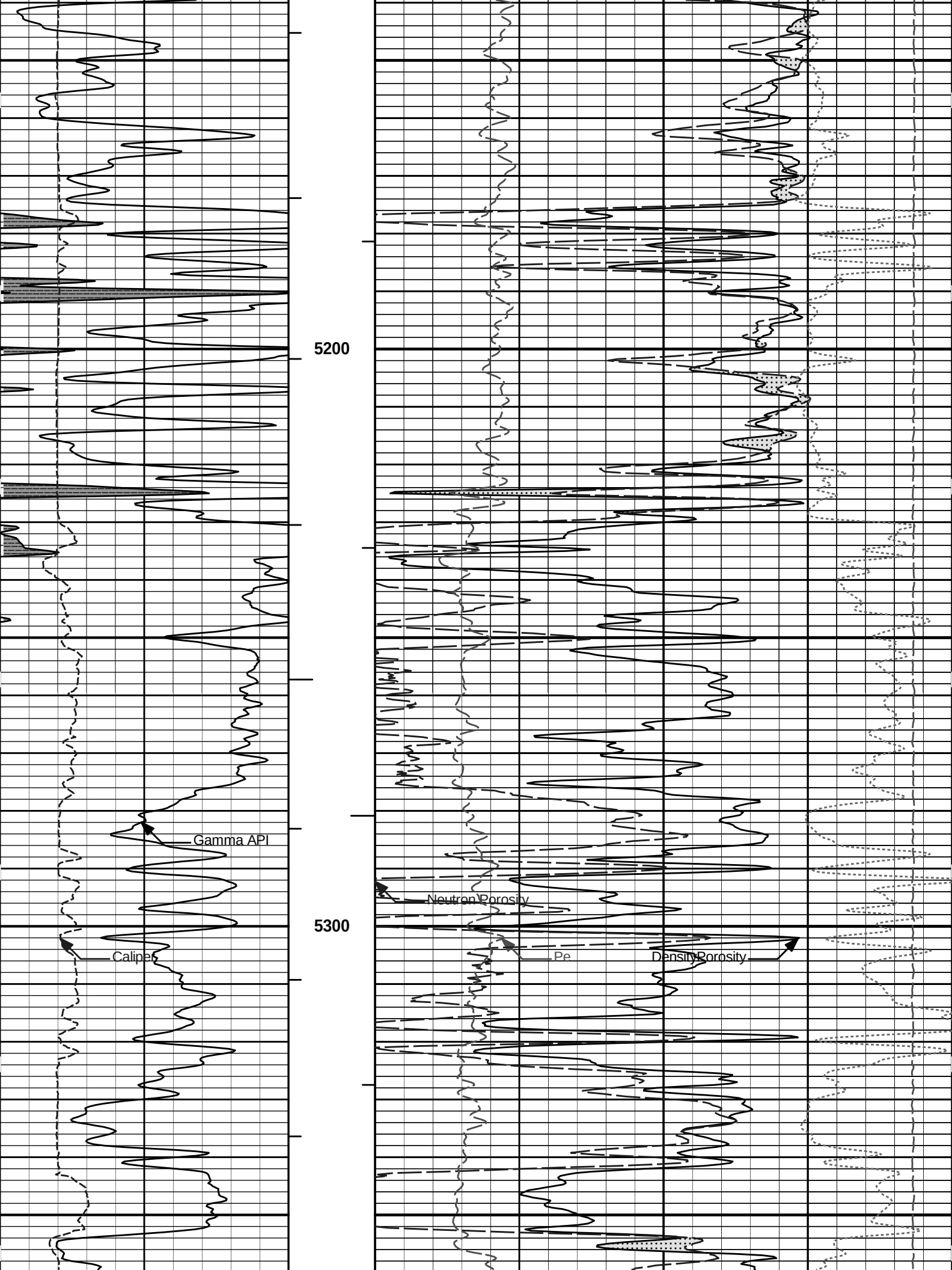

Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity
4100
4200

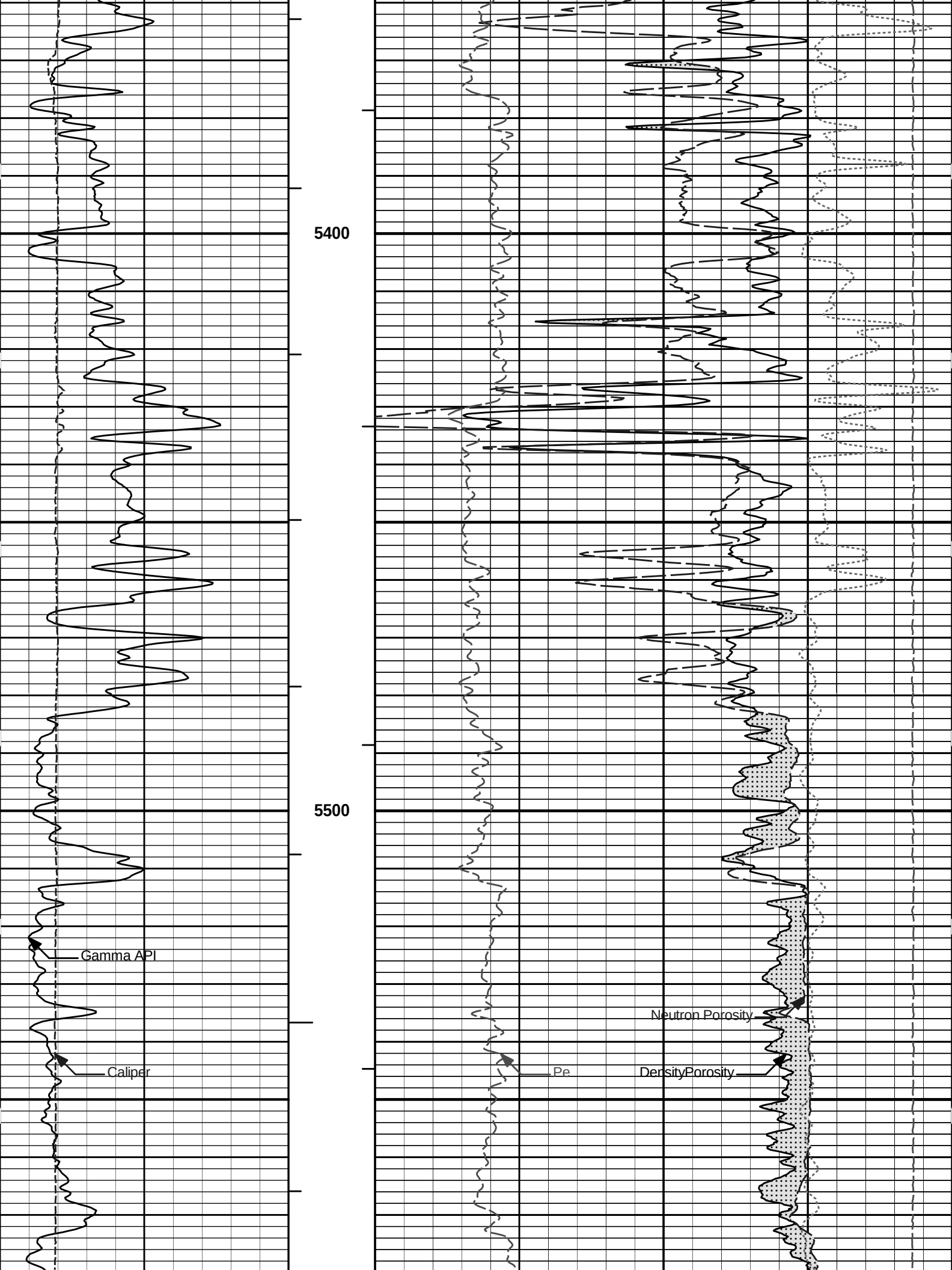

4300
4400
Gamma API
Caliper
Pe
Neutron Porosity
DensityPorosity

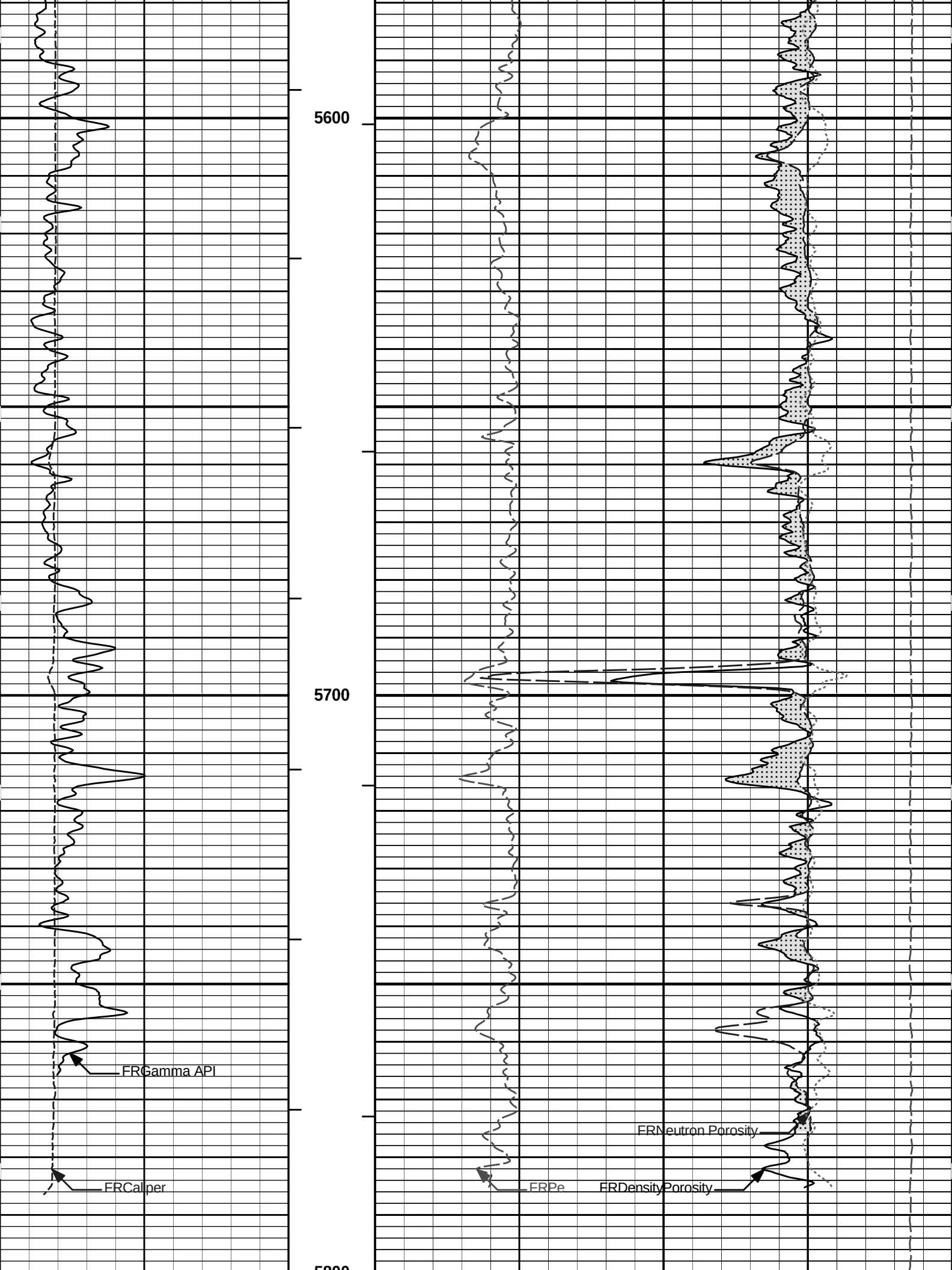

4500
4600
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity

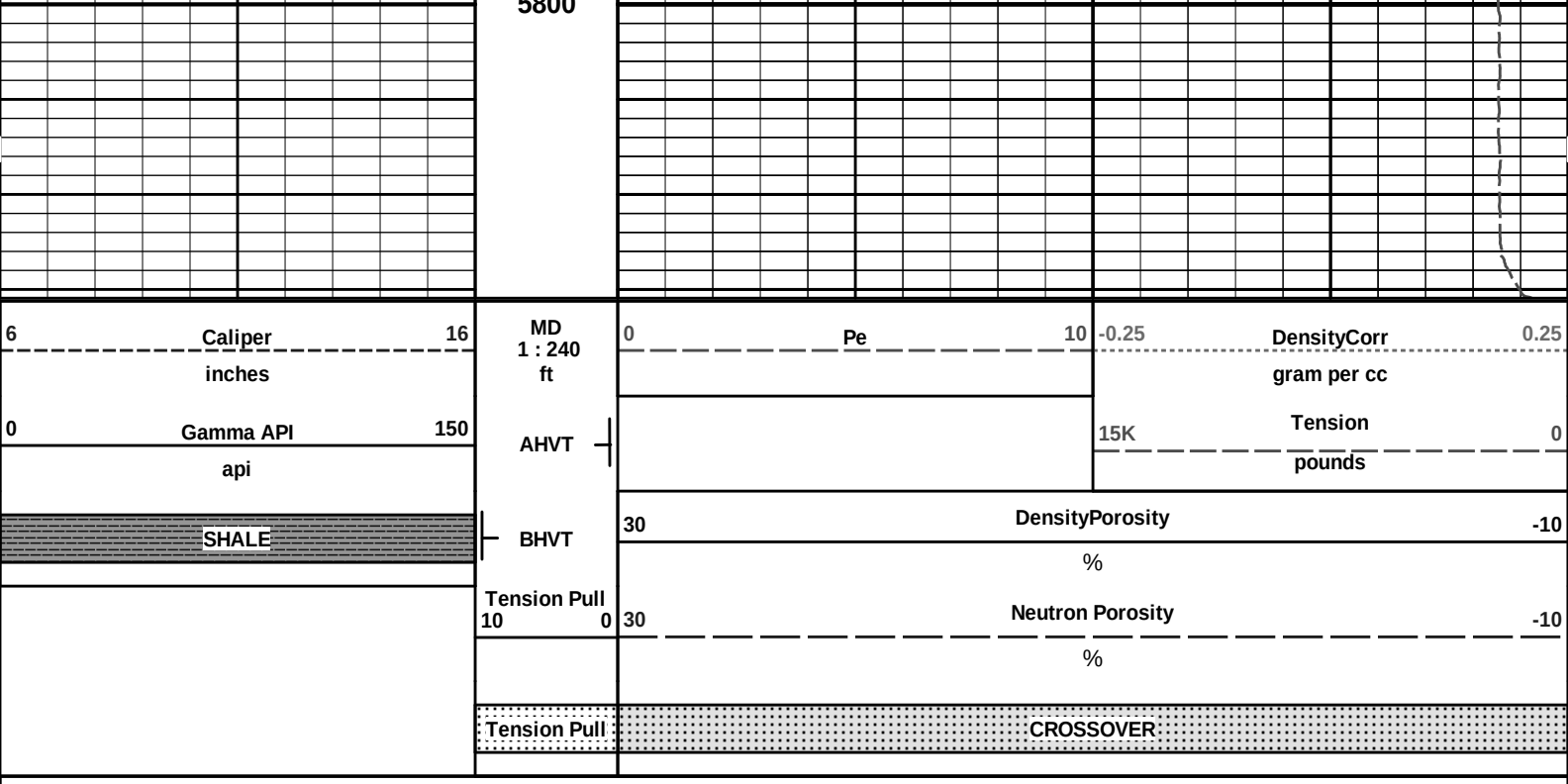

4700
4800
4900
Gamma API
Caliper
Pe
Neutron Porosity
DensityPorosity


5000
5100
Gamma API
Caliper
Neutron Porosity
Pe
Density Porosity


5200
5300
Gamma API
Caliper
Neutron Porosity
Pe
Density Porosity


5400
5500
Gamma API
Caliper
Pe
Neutron Porosity
DensityPorosity


5600
5700
FRGamma API
FRCaliper
FRPe
FRNeutron Porosity
FRDensity Porosity



HALLIBURTON

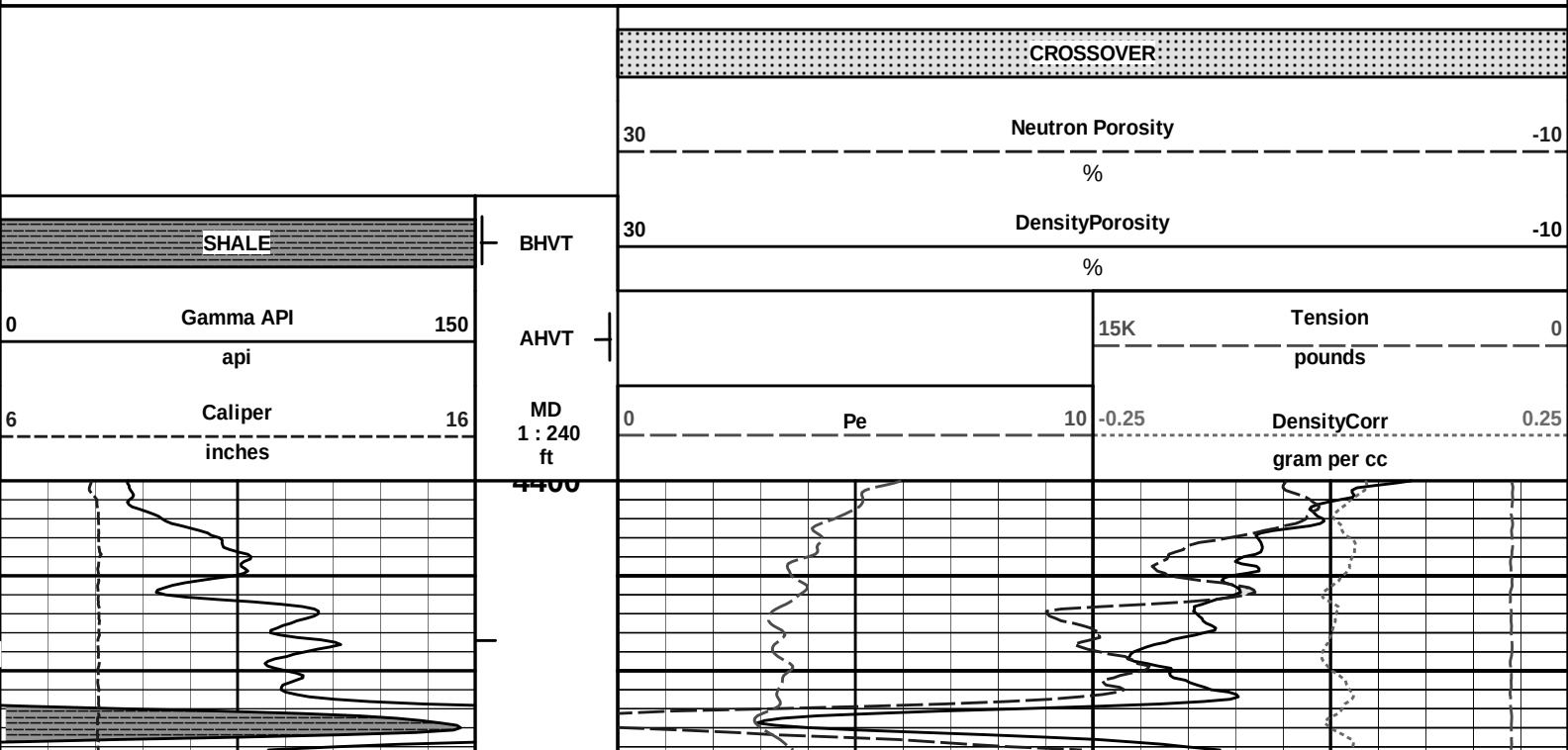
Plot Time: 29-Jan-13 20:07:13
Plot Range: 4000 ft to 5830.92 ft
Data: BIRNEY_TRUST\Well Based\DETAIL\
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

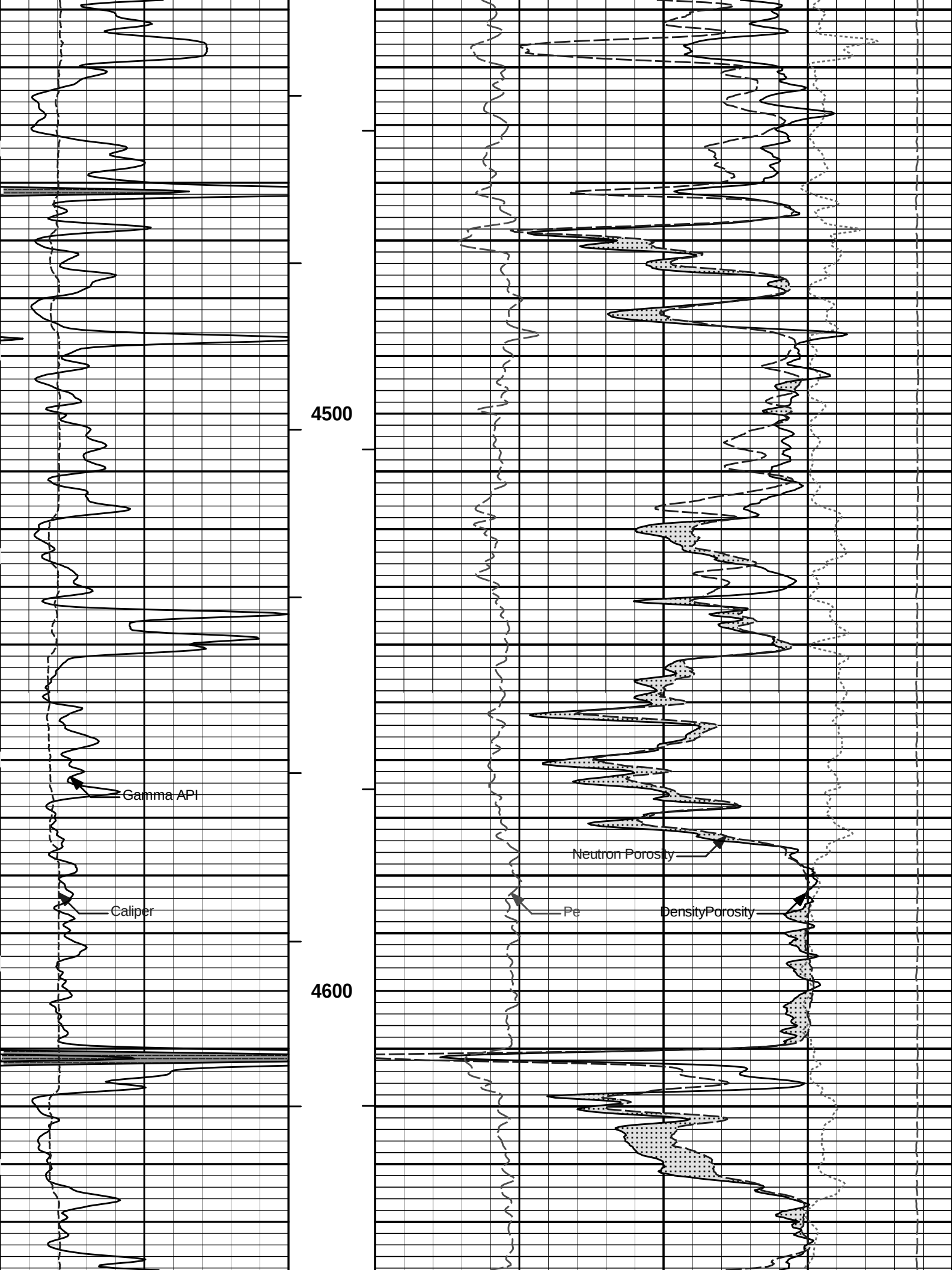
5 INCH MAIN LOG

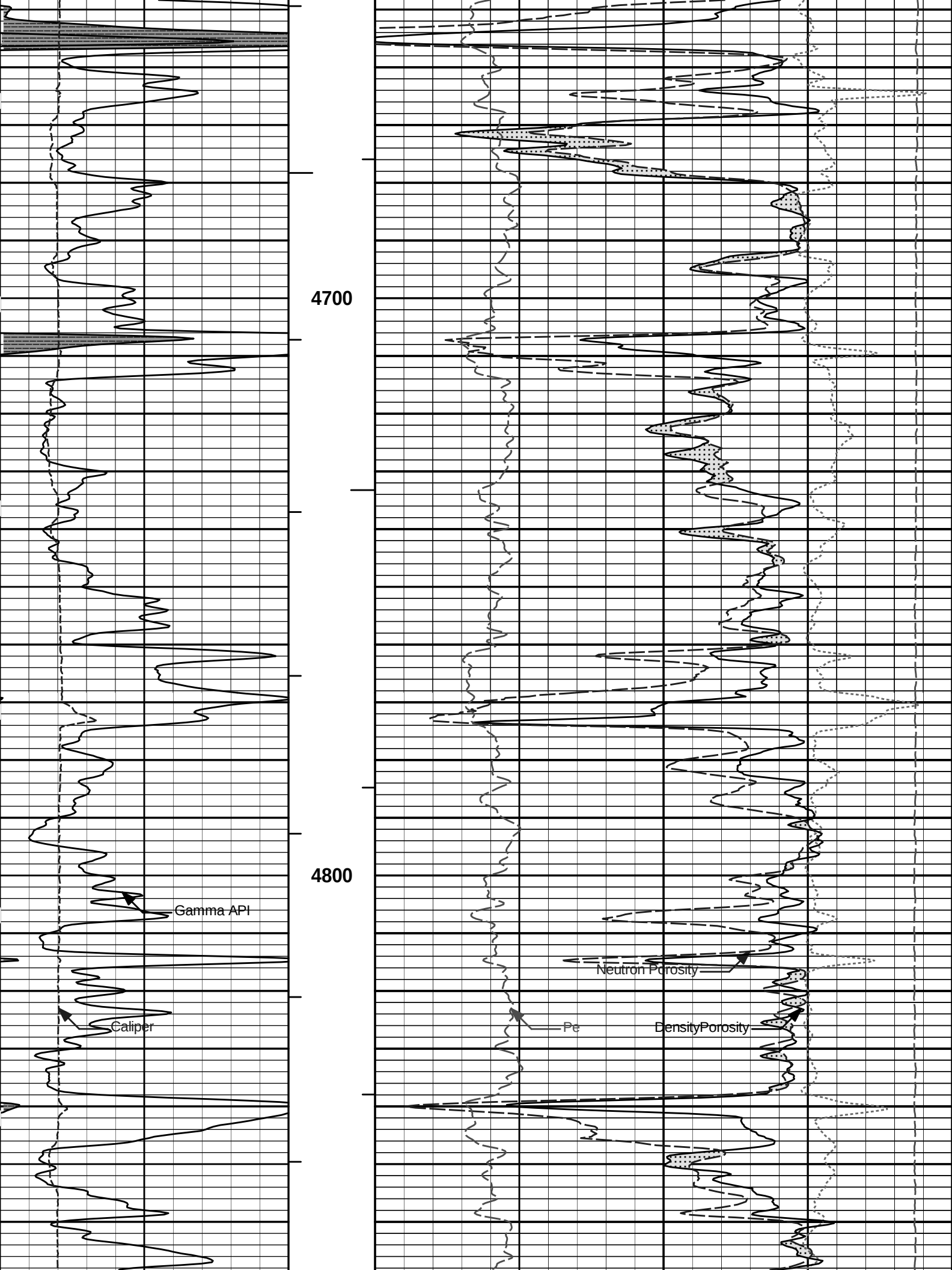
HALLIBURTON

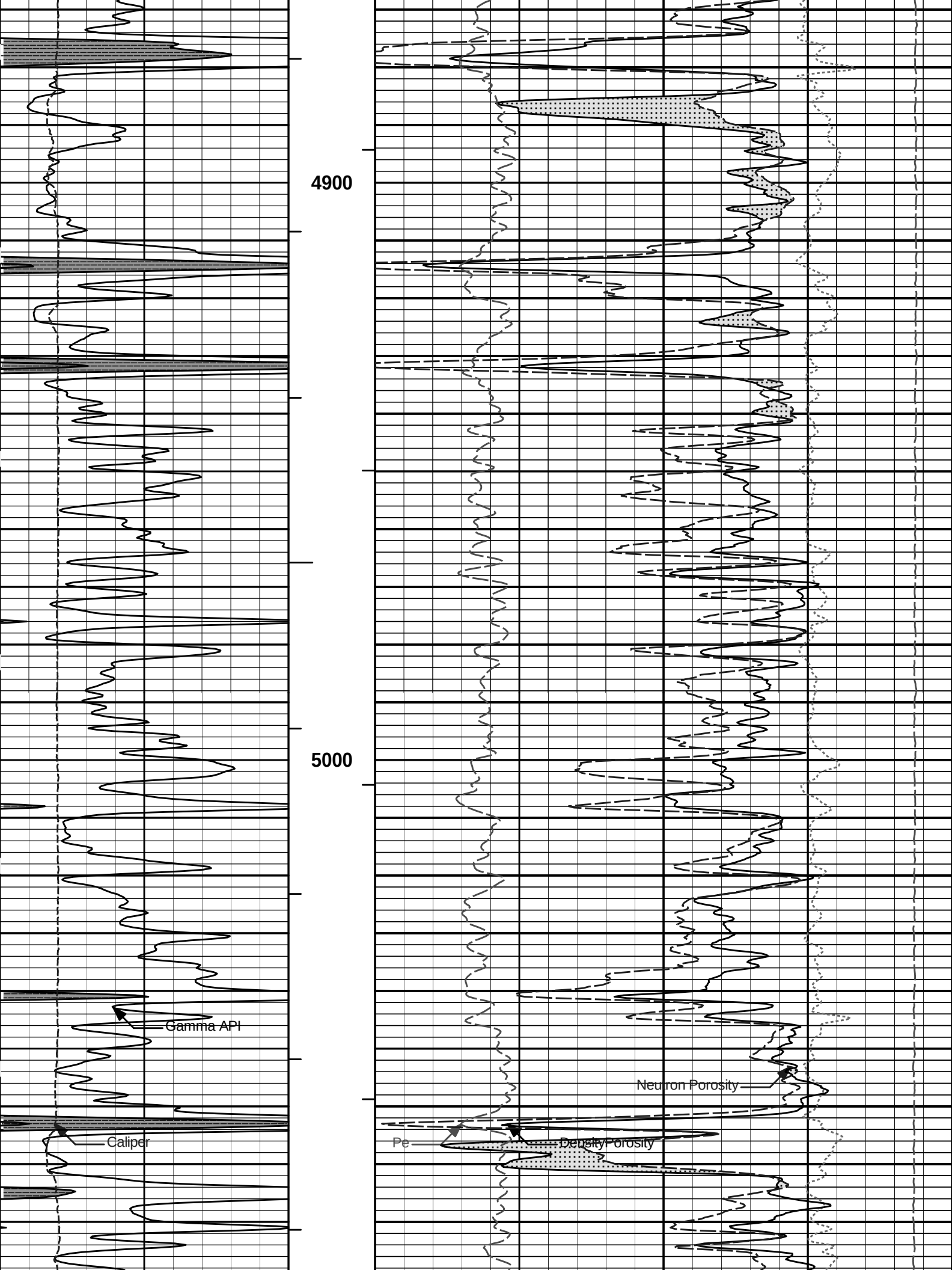
Plot Time: 29-Jan-13 20:07:14
Plot Range: 4400 ft to 5832 ft
Data: BIRNEY_TRUST\Well Based\REPEAT_BIRNEY_TRUST\
Plot File: \\PORO\Poro_IQ_5_REP_LIB

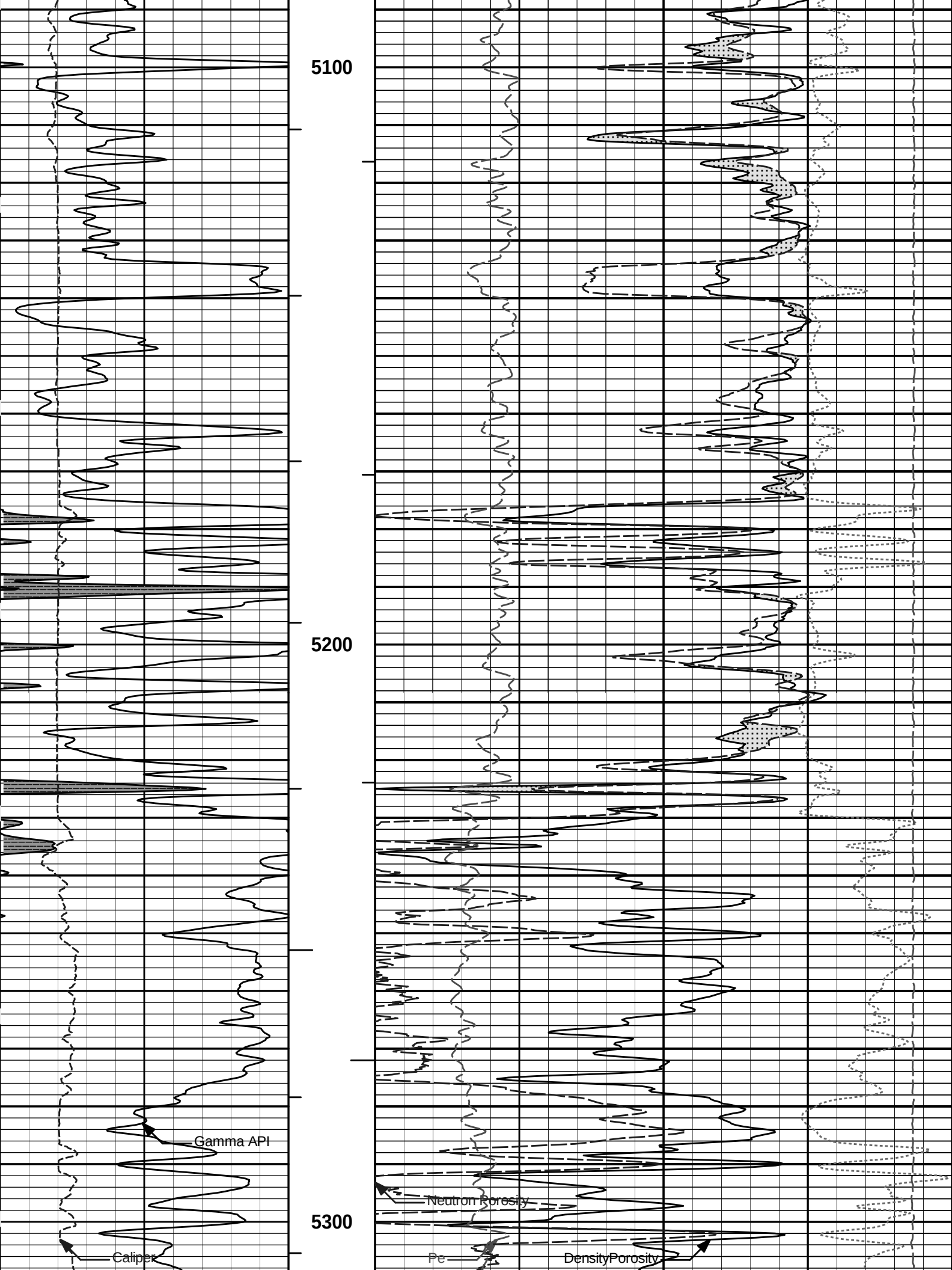
REPEAT SECTION

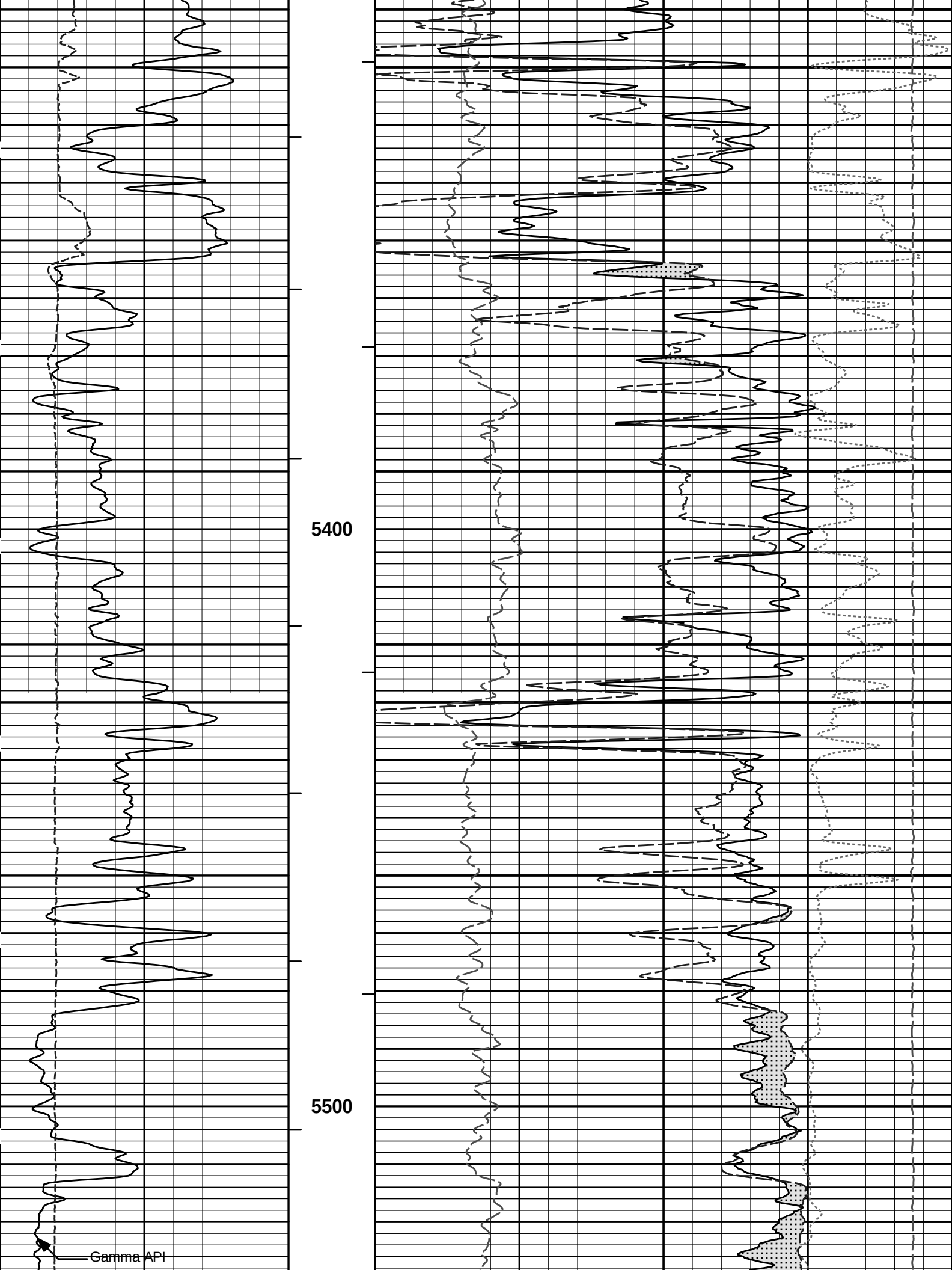


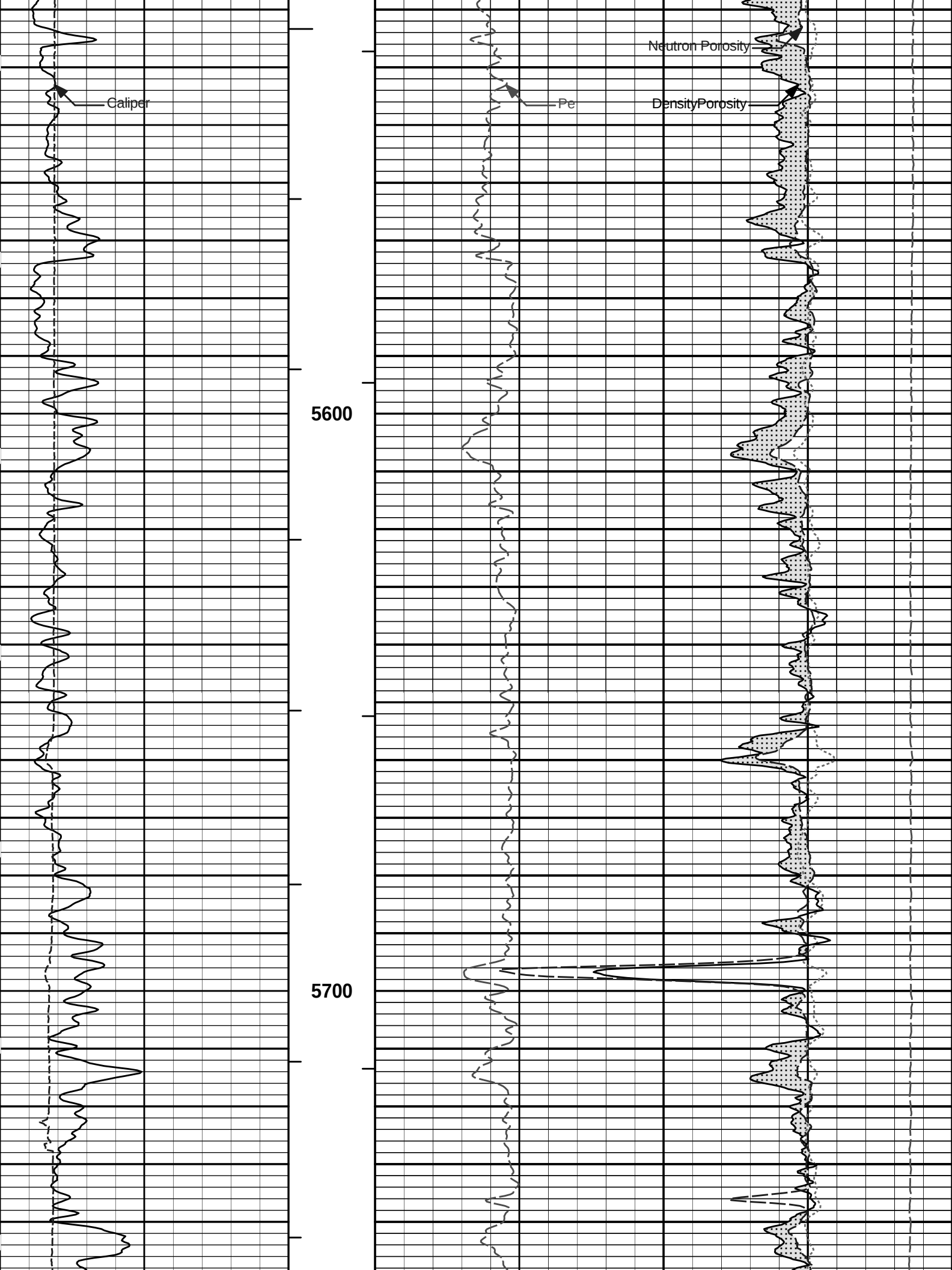

4500
4600
Gamma API
Caliper
Pe
Neutron Porosity
DensityPorosity

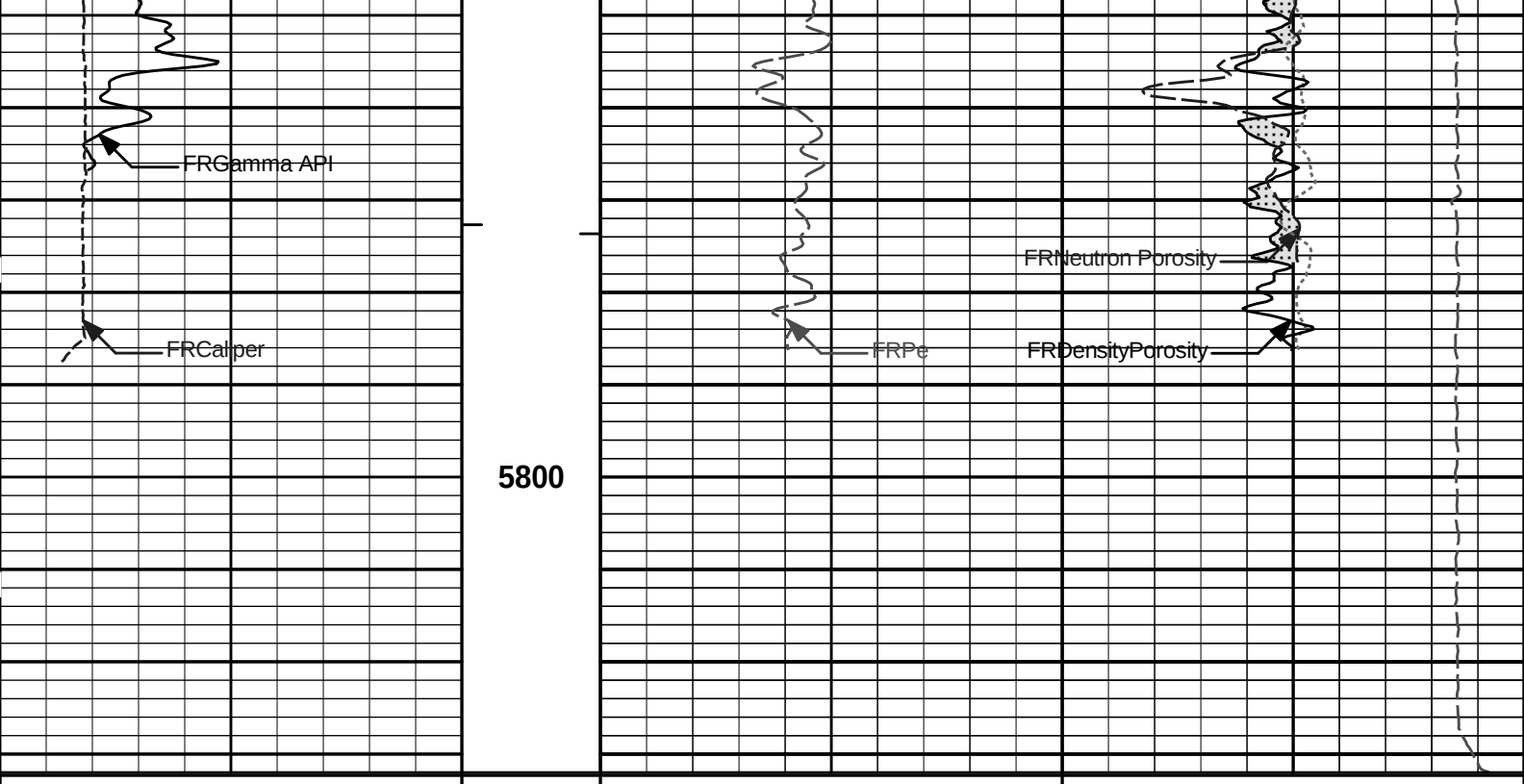

4700
4800
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity


4900
5000
Gamma API
Caliper
Pe
Density Porosity
Neutron Porosity


5100
5200
5300
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity


5400
5500
Gamma API


Caliper
Pe
Neutron Porosity
DensityPorosity
5600
5700



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

HALLIBURTON

Plot Time: 29-Jan-13 20:07:15
Plot Range: 4400 ft to 5832 ft
Data: BIRNEY_TRUST\Well Based\REPEAT_BIRNEY_TRUST\
Plot File: \\PORO\Poro_IQ_5_REP_LIB

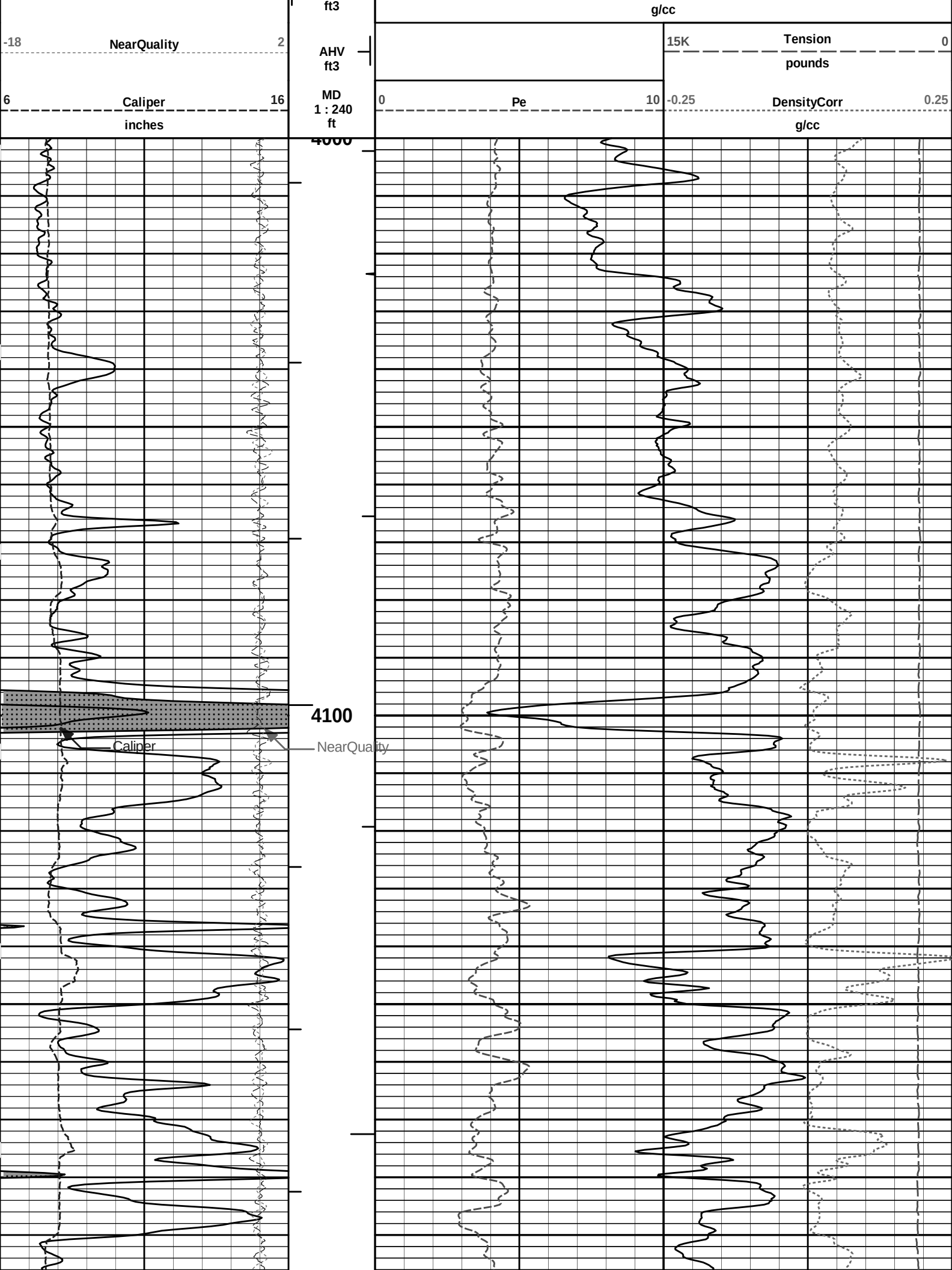
REPEAT SECTION

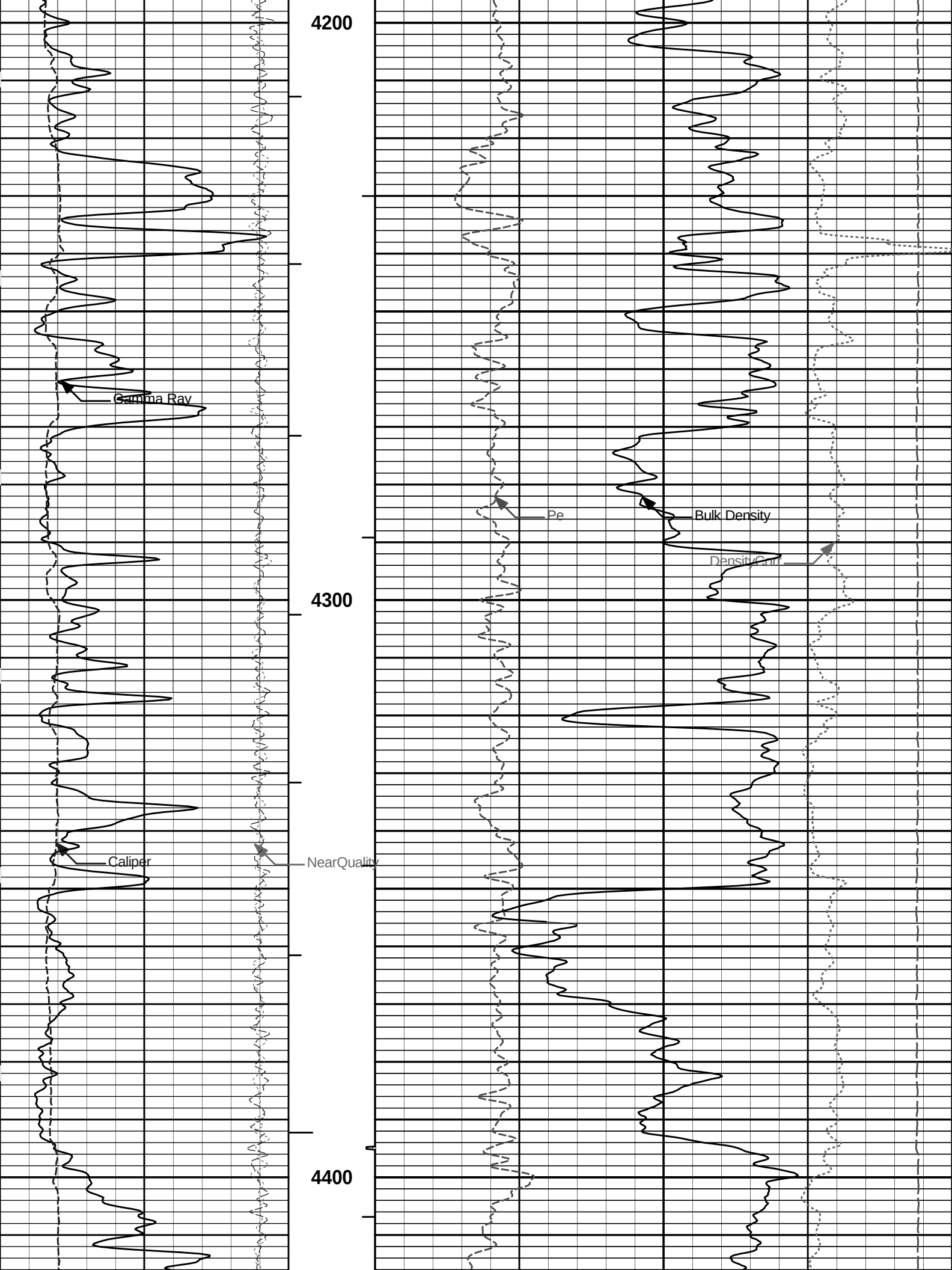
HALLIBURTON

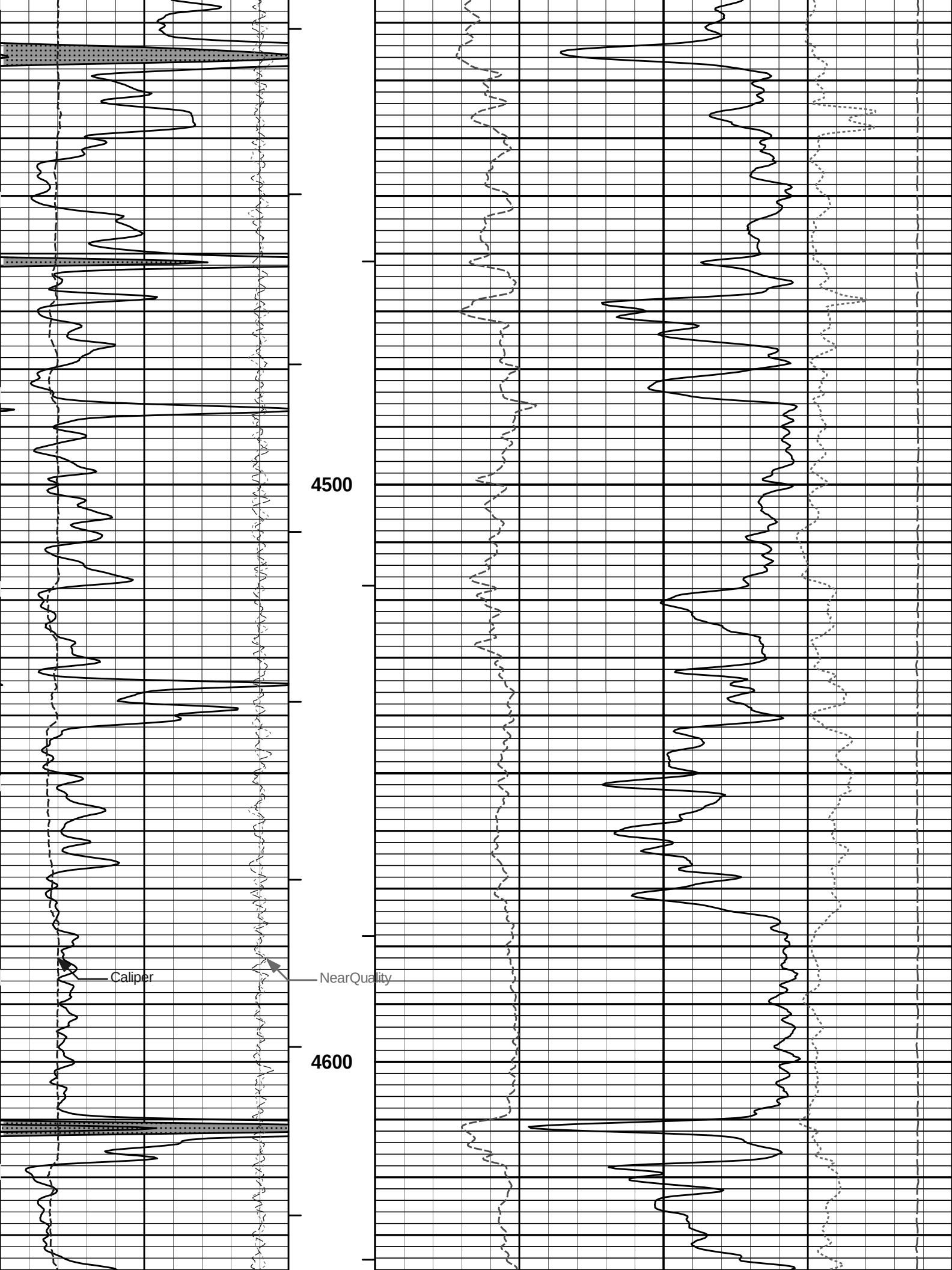
Plot Time: 29-Jan-13 20:07:16
Plot Range: 4000 ft to 5830.92 ft
Data: BIRNEY_TRUST\Well Based\DETAIL\
Plot File: \\-LOCAL-\BIRNEY_TRUST\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\PORO\BULKD_5_MAIN_LIB

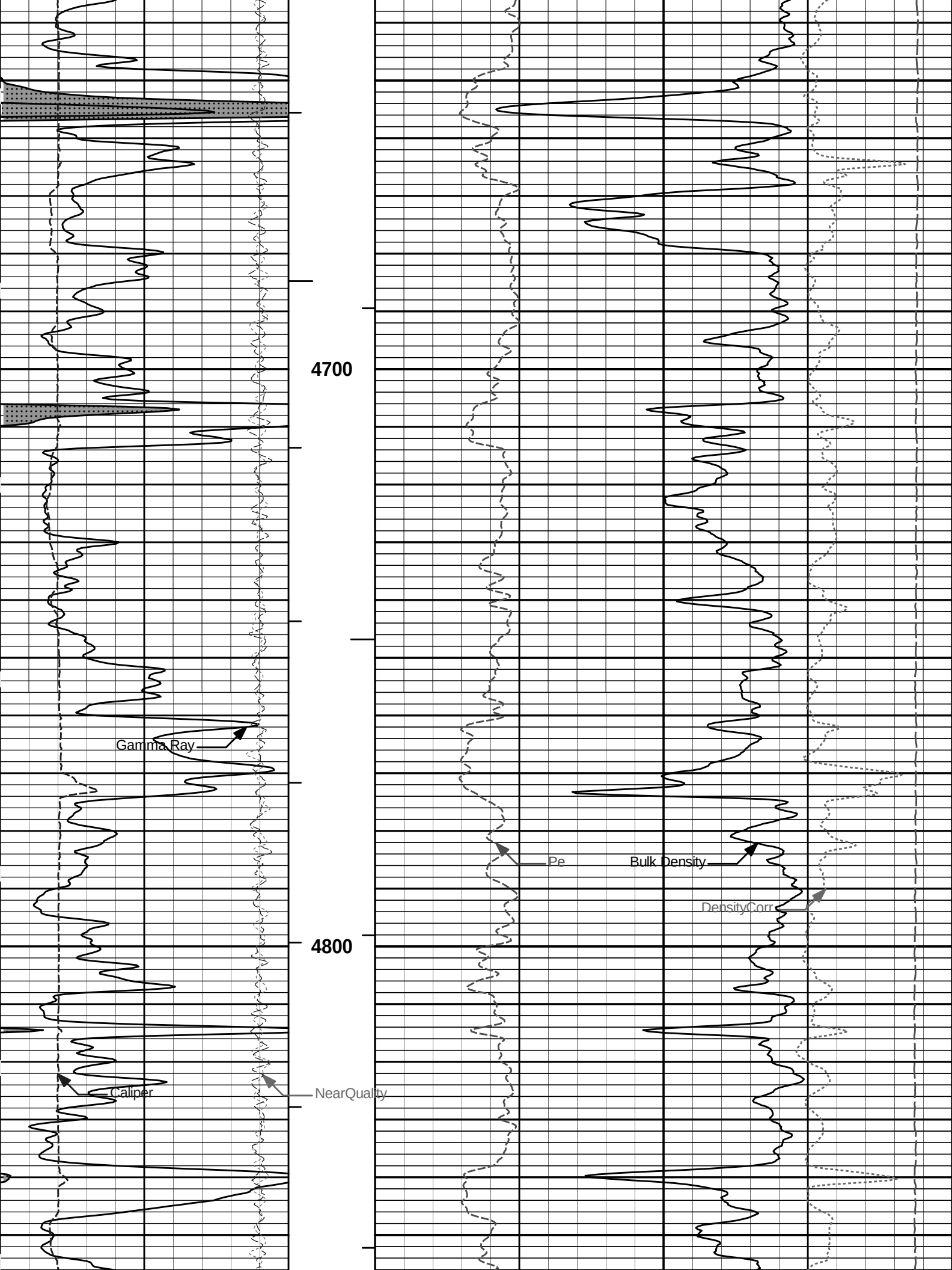
5 INCH MAIN LOG

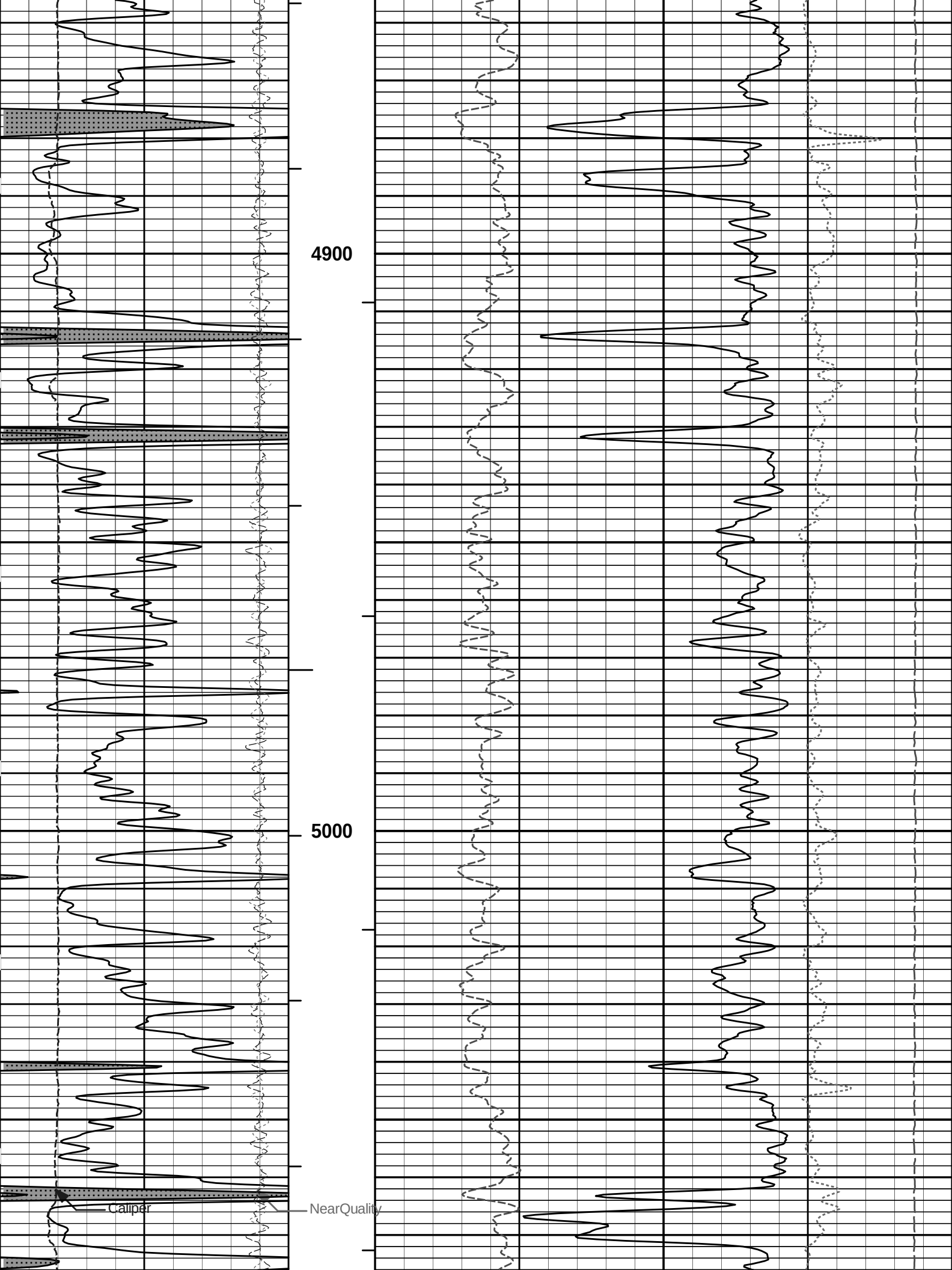
SHALE	Tension Pull	
0 Gamma Ray 150 api	Tension Pull 10 0	
18 FarQuality -2	BHV	2 Bulk Density 3

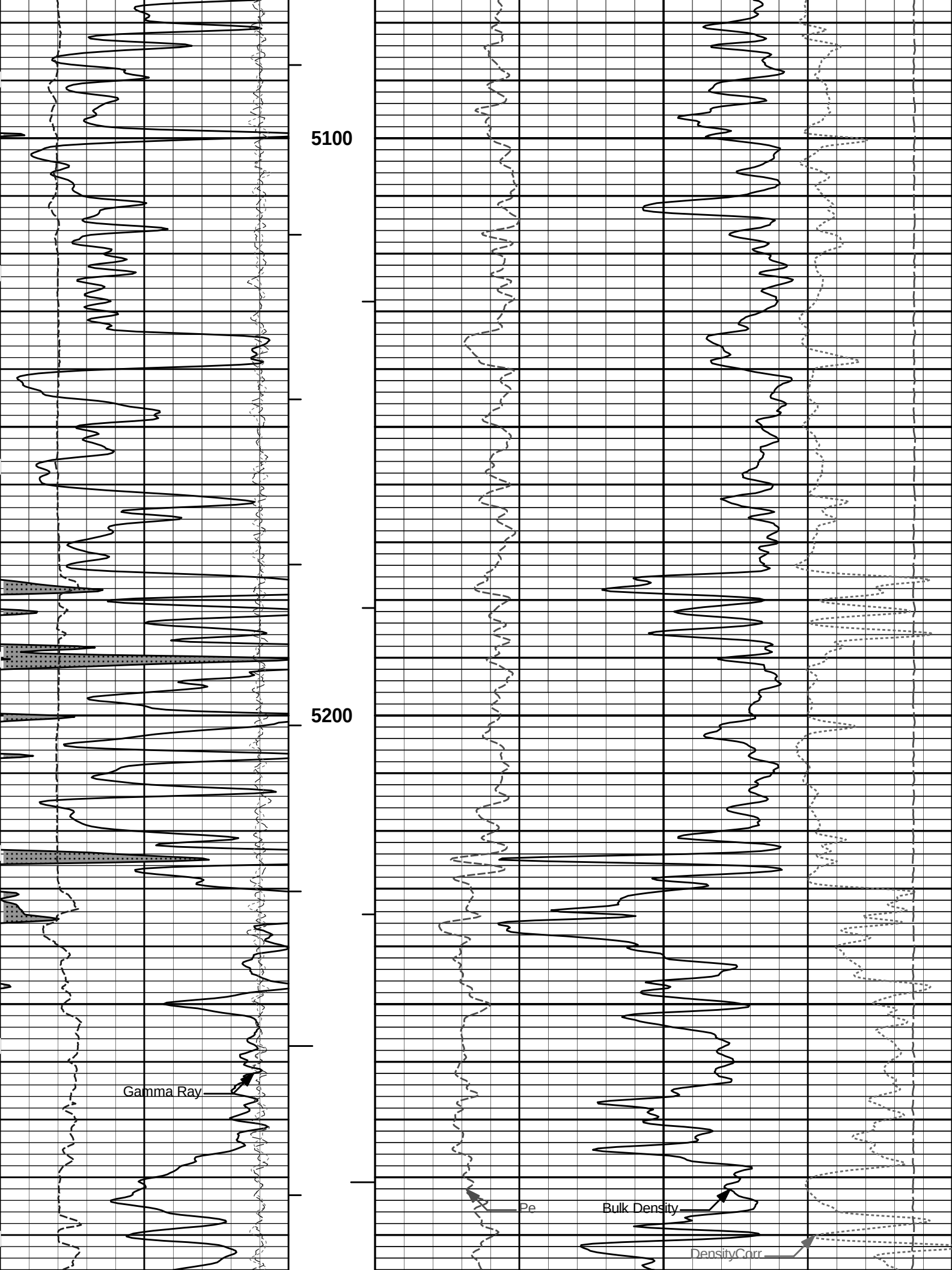

ft3
g/cc
-18
NearQuality
2
AHV
ft3
15K
Tension
0
pounds
6
Caliper
16
MD
1 : 240
ft
0
Pe
10
-0.25
DensityCorr
0.25
inches
g/cc
4100
Caliper
NearQuality

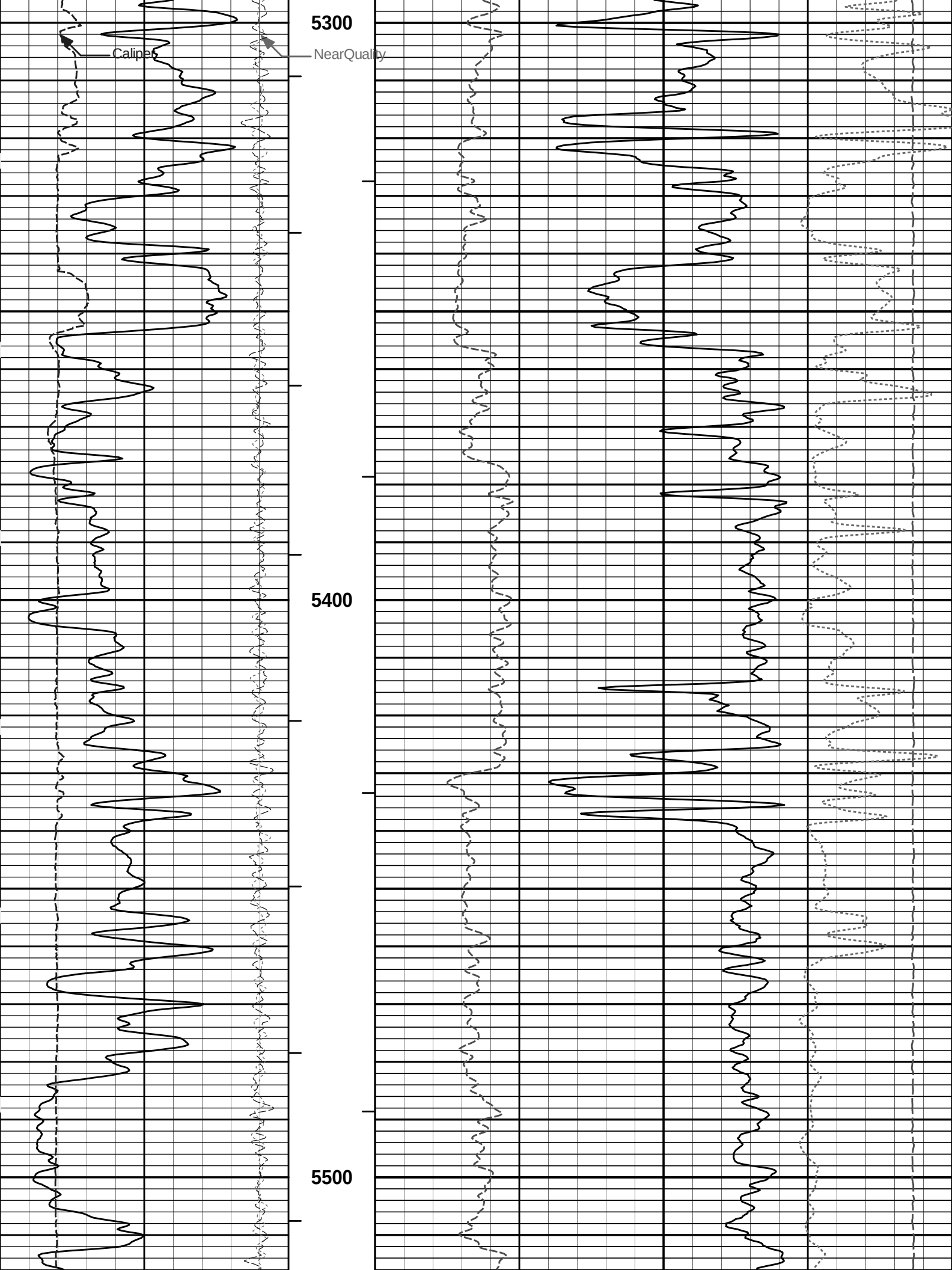

4200
4300
4400
Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr

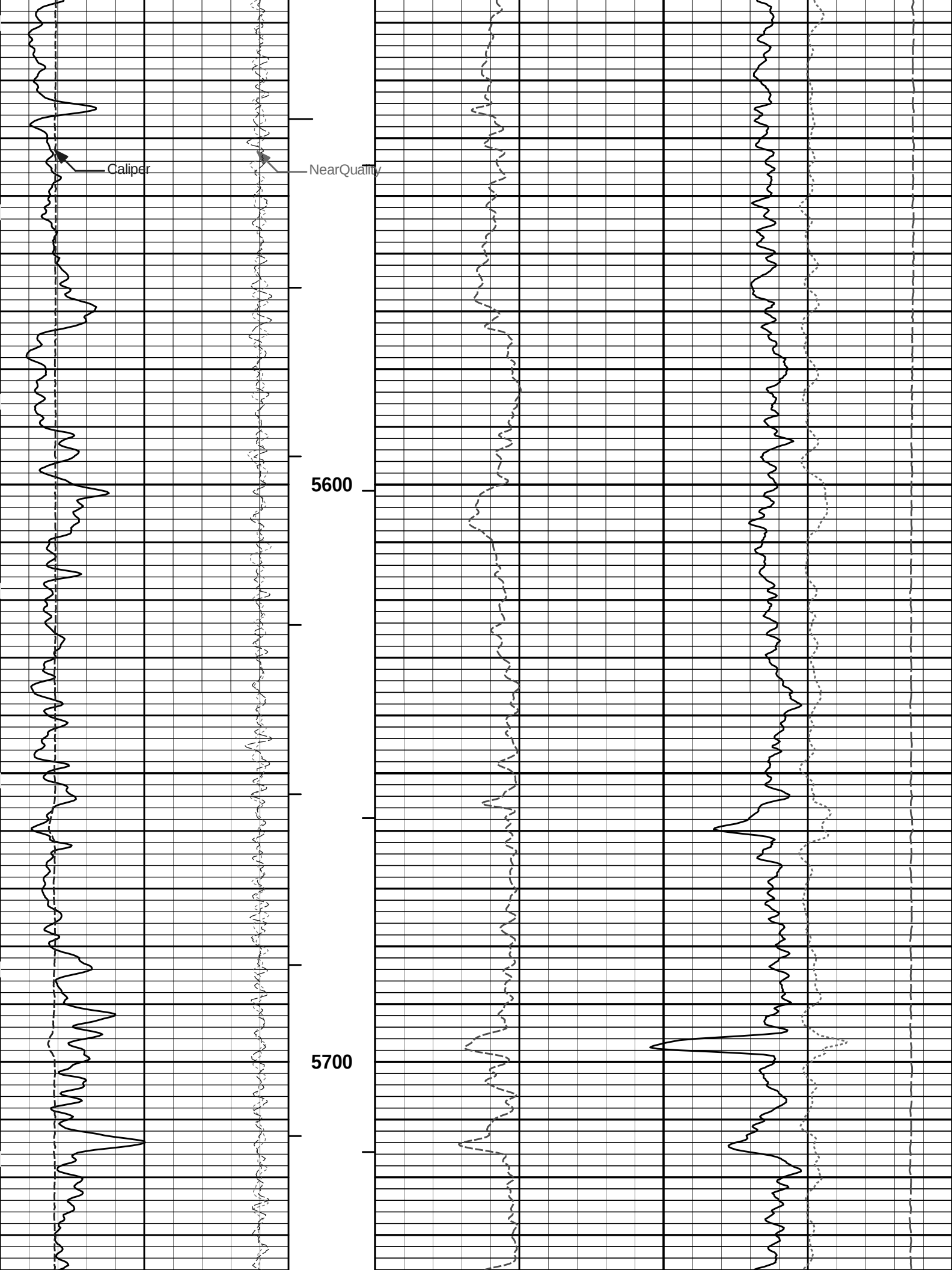

4500
4600
Caliper
NearQuality

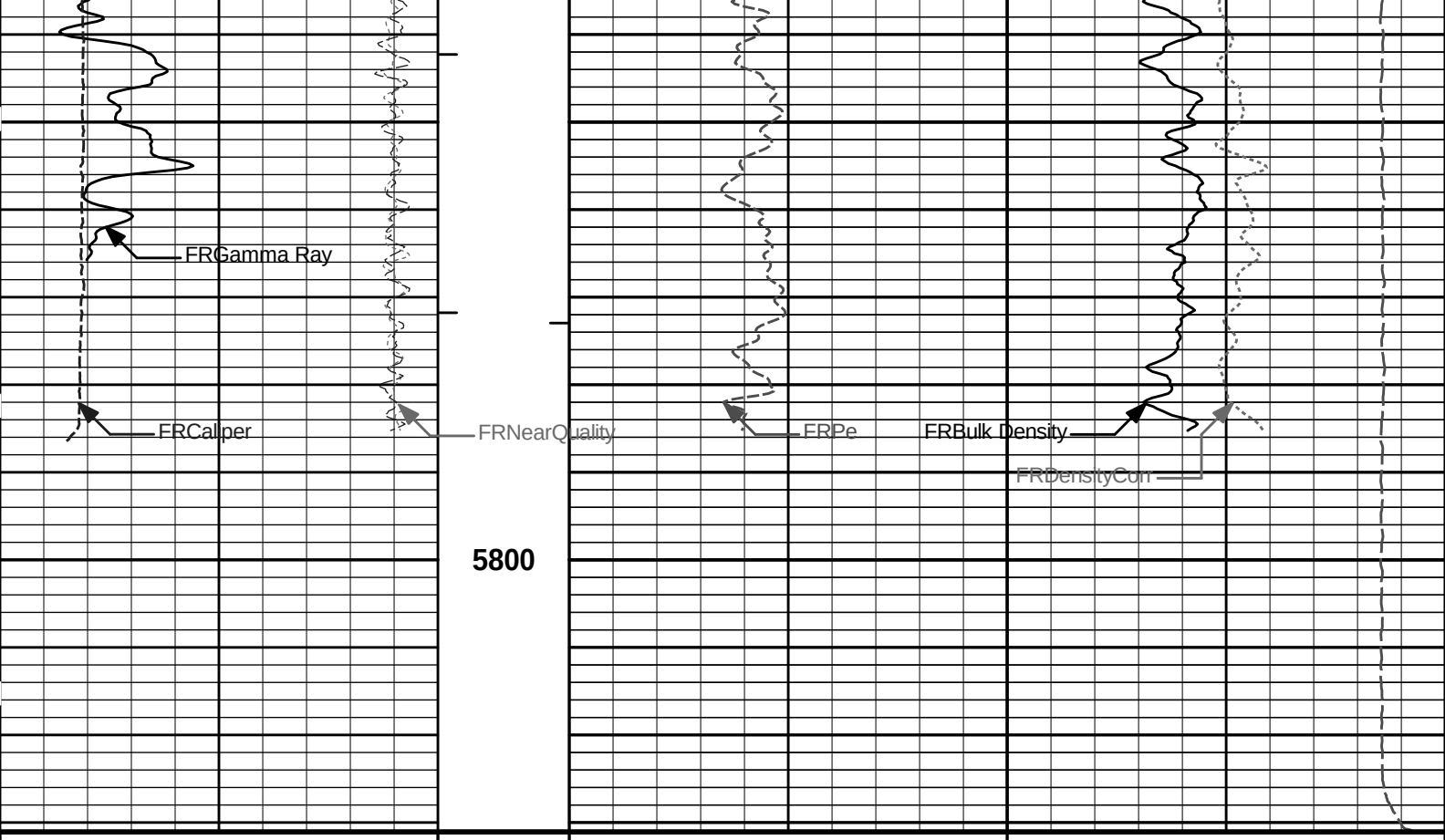

4700
4800
Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr


4900
5000
Caliper
NearQuality


5100
5200
Gamma Ray
Pe
Bulk Density
DensityCorr


Caliper
NearQuality
5300
5400
5500


Caliper
NearQuality
5600
5700



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

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

HALLIBURTON

Plot Time: 29-Jan-13 20:07:18
Plot Range: 4000 ft to 5830.92 ft
Data: BIRNEY_TRUST\Well Based\DETAIL\
Plot File: \\-LOCAL-\BIRNEY_TRUST\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\PORO\BULKD_5_MAIN_LIB

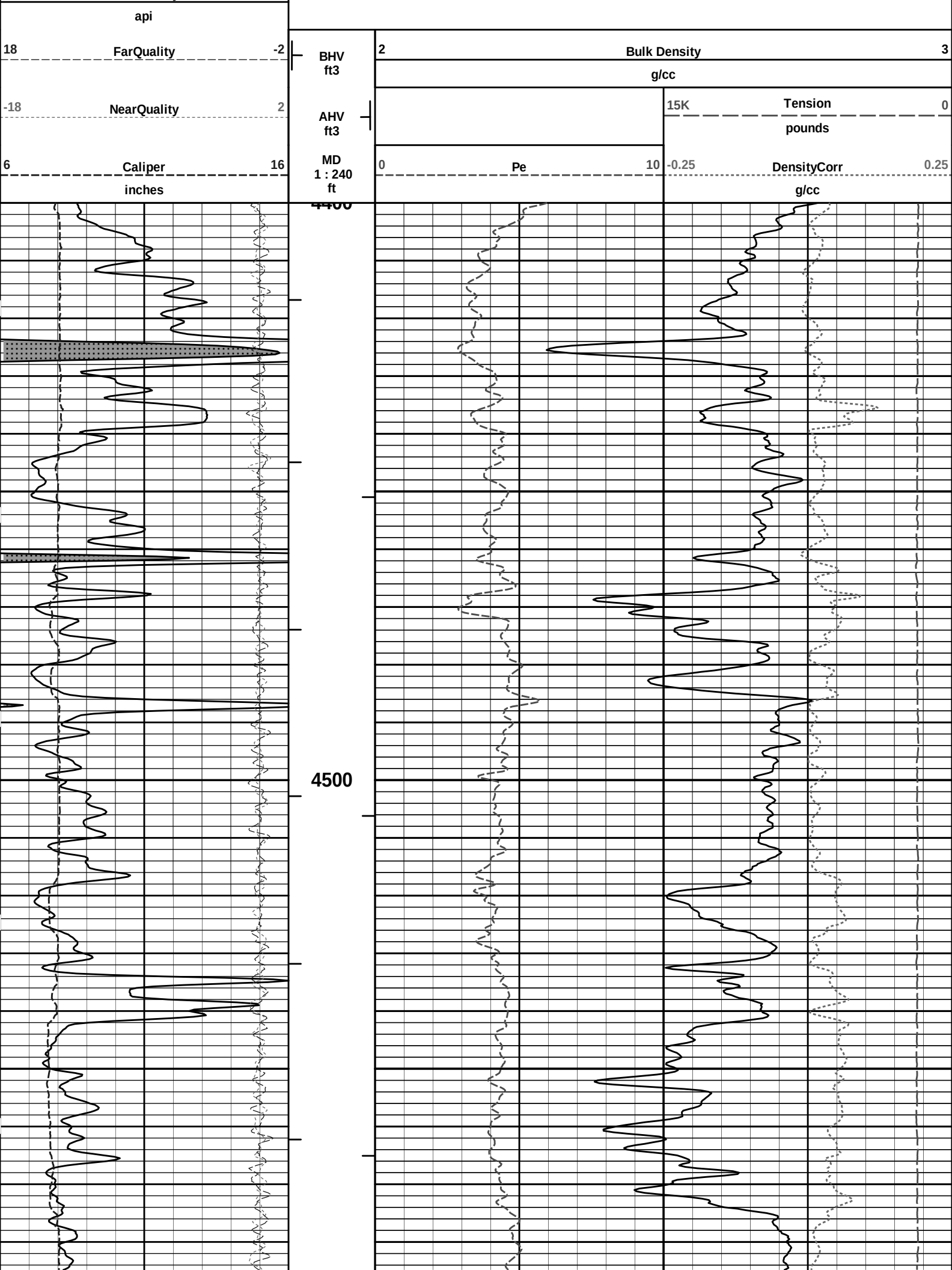
5 INCH MAIN LOG

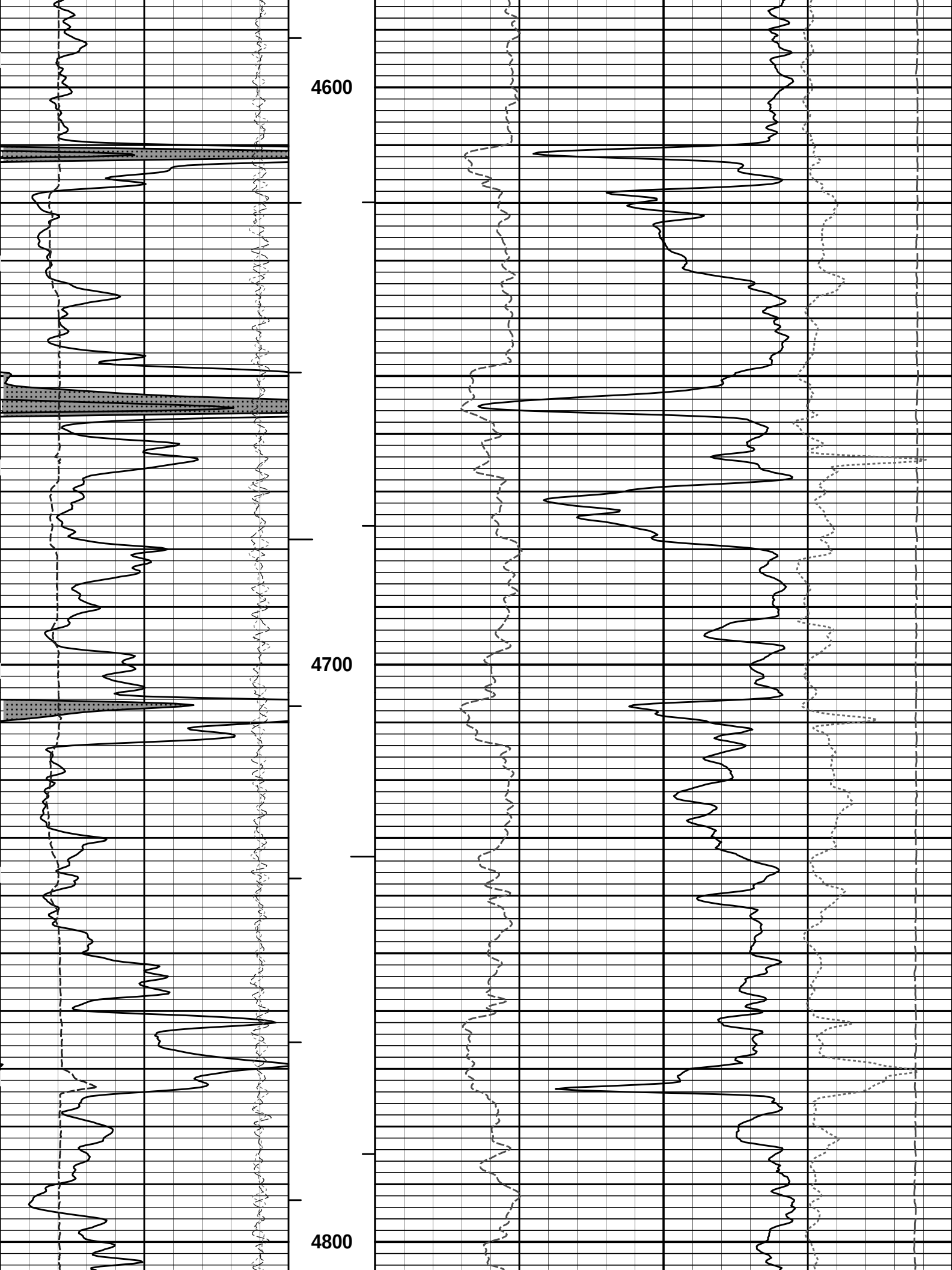
HALLIBURTON

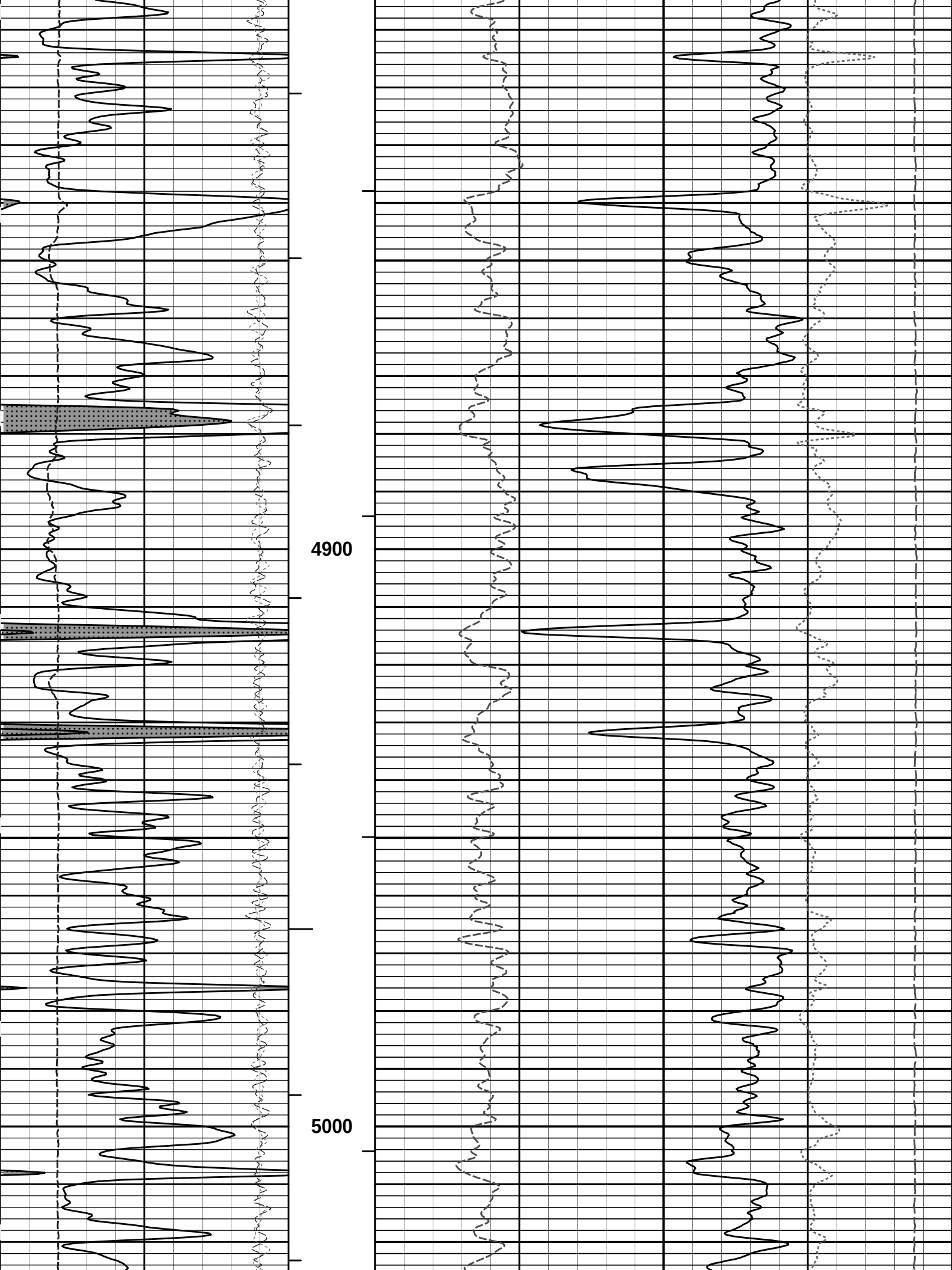
Plot Time: 29-Jan-13 20:07:18
Plot Range: 4400 ft to 5832 ft
Data: BIRNEY_TRUST\Well Based\REPEAT_BIRNEY_TRUST\
Plot File: \\-LOCAL-\BIRNEY_TRUST\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\PORO\BULKD_5_REP_LIB

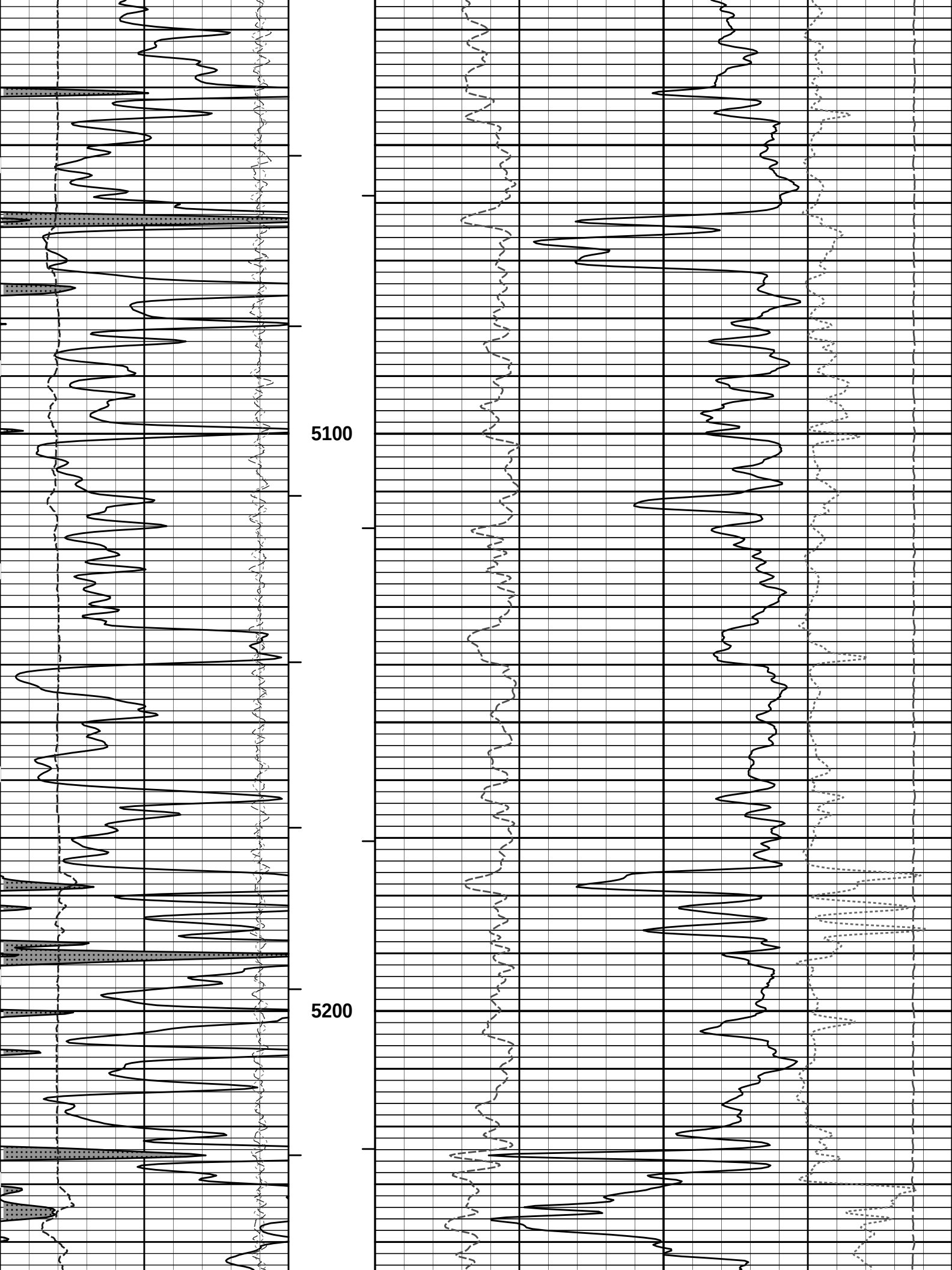
REPEAT SECTION

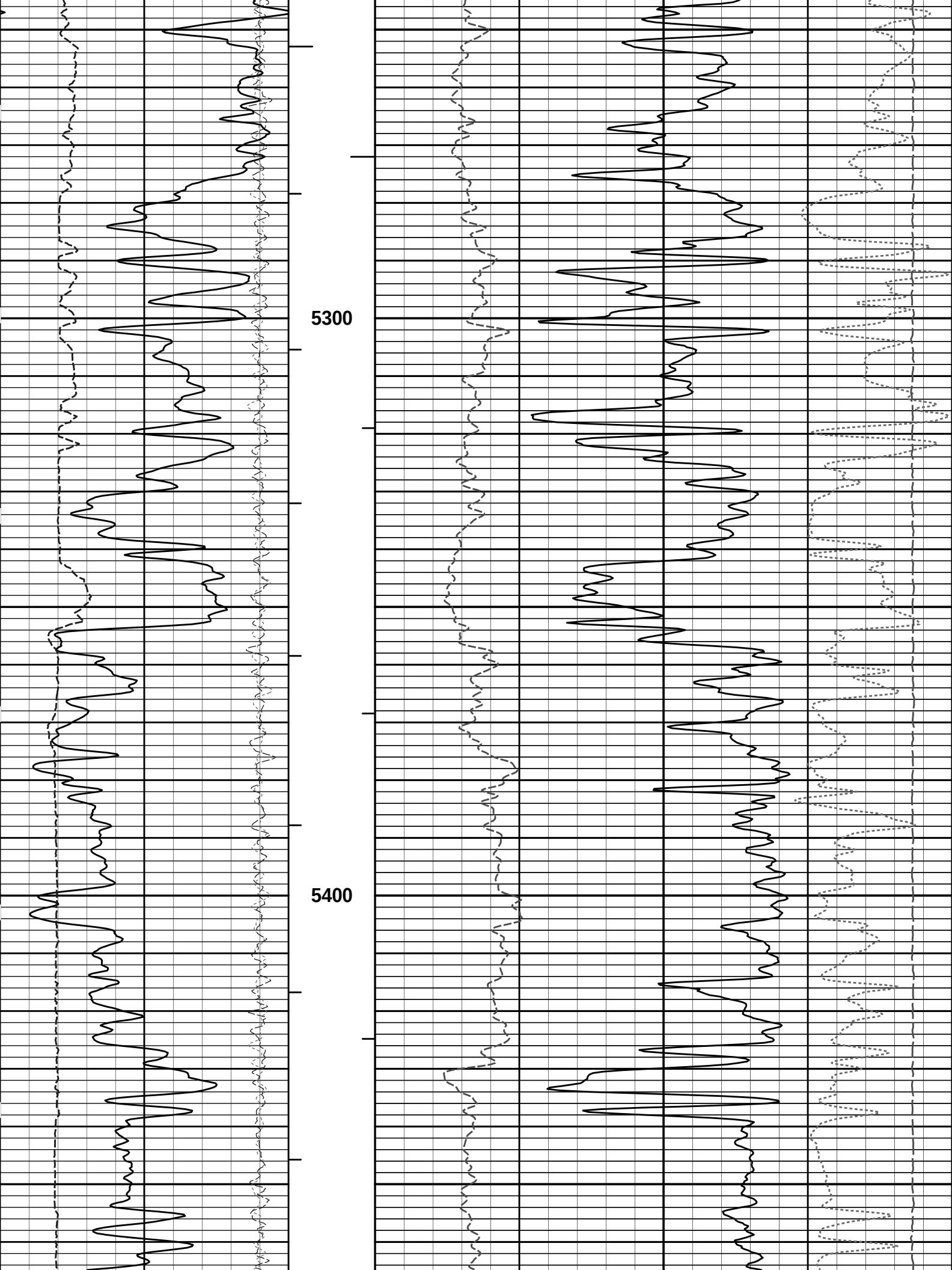
SHALE
0 Gamma Ray 150

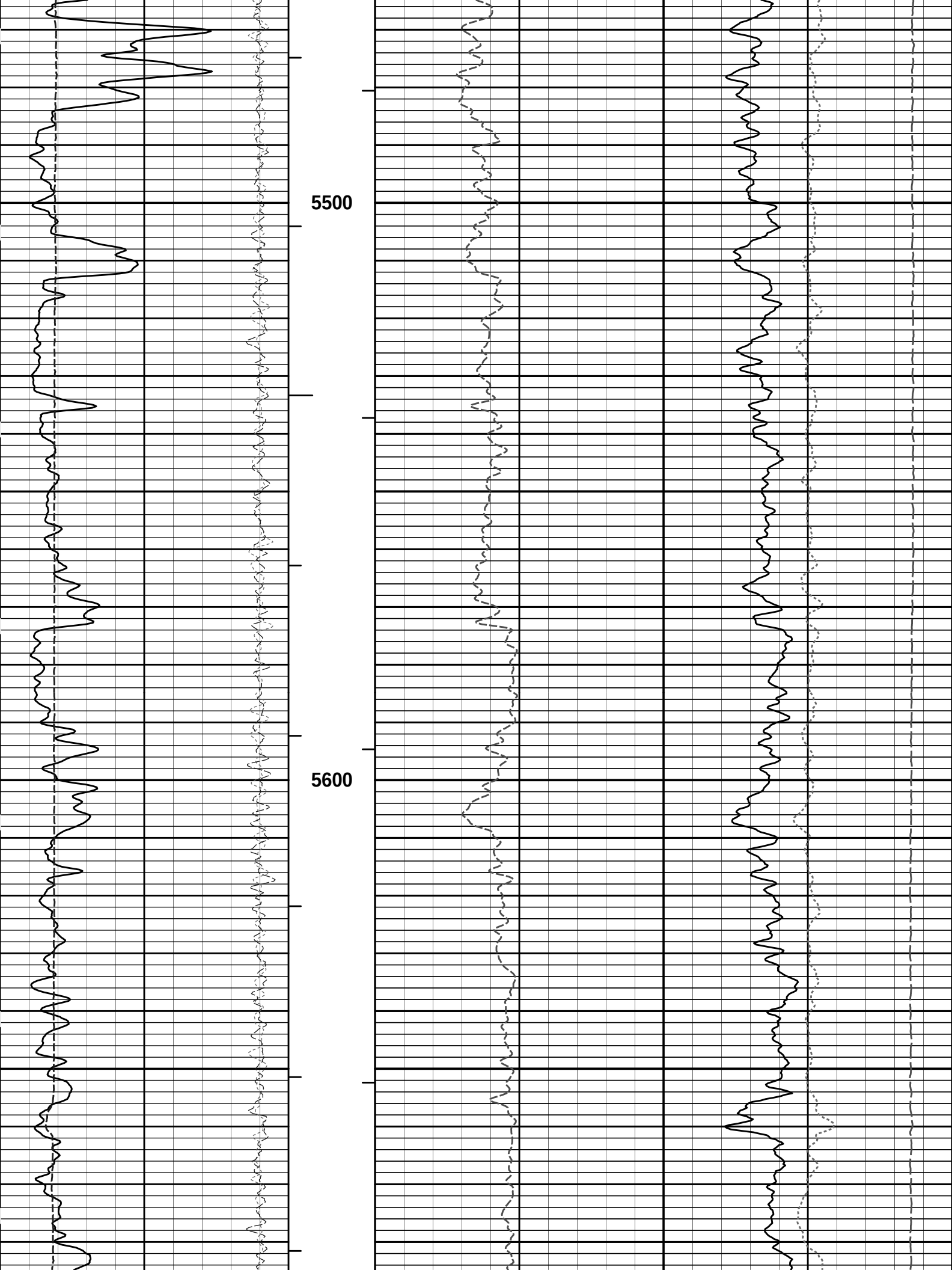

api
18
FarQuality
-2
-18
NearQuality
2
6
Caliper
16
inches
BHV
ft3
AHV
ft3
MD
1 : 240
ft
2
Bulk Density
3
g/cc
15K
Tension
0
pounds
0
Pe
10
-0.25
DensityCorr
0.25
g/cc
4500

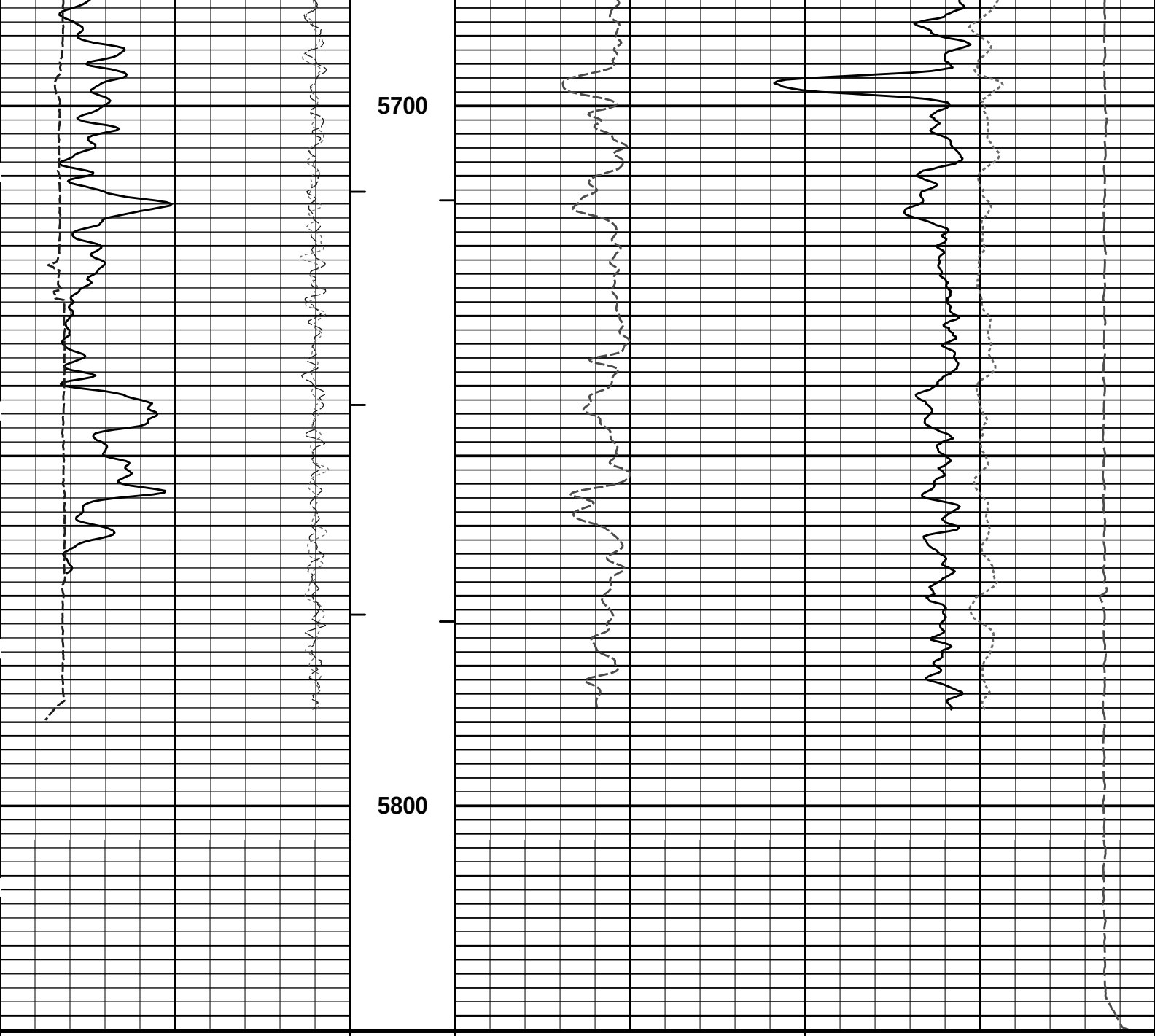

4600
4700
4800


4900
5000


5100
5200


5300
5400


5500
5600



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

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

HALLIBURTON

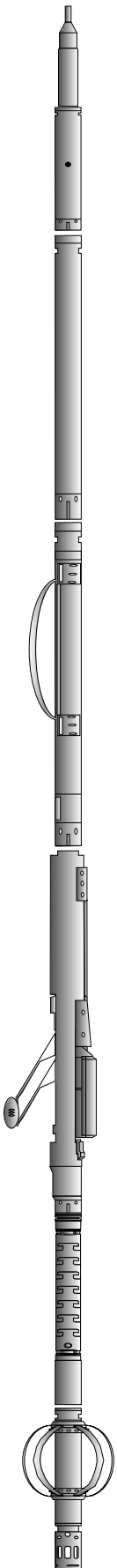
Plot Time: 29-Jan-13 20:07:20
Plot Range: 4400 ft to 5832 ft
Data: BIRNEY_TRUST\Well Based\REPEAT_BIRNEY_TRUST\
Plot File: \\-LOCAL-\BIRNEY_TRUST\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\PORO\BULKD_5_REP_LIB

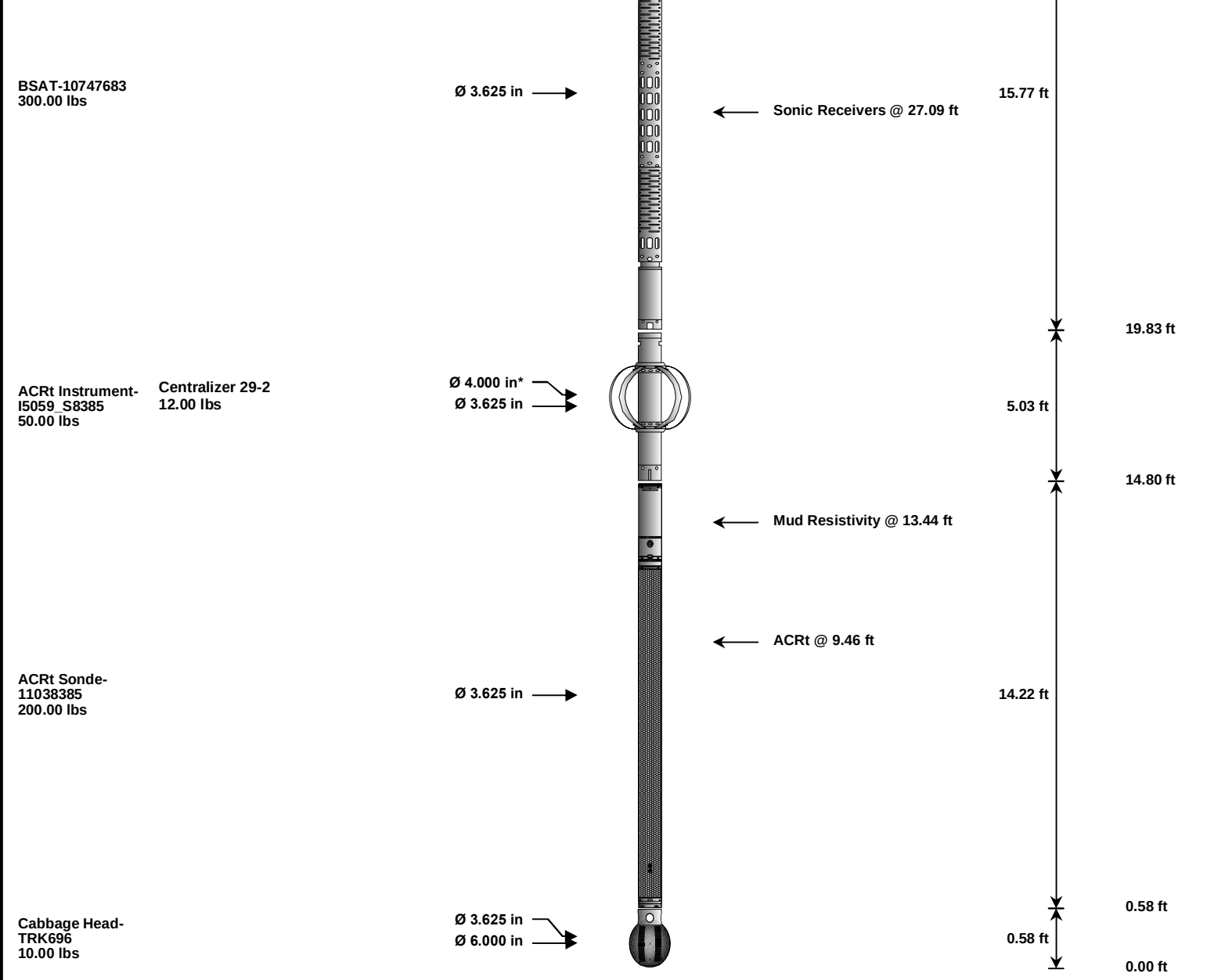
REPEAT SECTION

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						77.06 ft
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in		Temperature @ 76.03 ft	3.03 ft	
						74.03 ft
SP Sub-11441455 60.00 lbs		Ø 3.625 in		SP @ 72.26 ft	3.74 ft	
						70.30 ft
GTET-11039640 165.00 lbs		Ø 3.625 in			8.52 ft	
				GammaRay @ 64.23 ft		
						61.78 ft
	DSN Decentralizer-11019643 6.60 lbs	Ø 5.000 in*				
DSNT-11019643 174.00 lbs		Ø 3.625 in			9.69 ft	
				DSN Far @ 54.84 ft DSN Near @ 54.09 ft		
						52.09 ft
SDLT-10950489 360.00 lbs		Ø 4.500 in			10.81 ft	
	SDLT Pad-10844781 65.00 lbs			Microlog @ 44.28 ft		
	Microlog Pad-10950489 8.00 lbs	Ø 4.750 in*		SDL Caliper @ 44.09 ft		
		Ø 4.750 in*		SDL @ 44.08 ft		
						41.28 ft
Flex Joint-001 140.00 lbs		Ø 3.625 in			5.67 ft	
						35.61 ft
	Centralizer 29-1 12.00 lbs	Ø 4.000 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		74.03	300.00
SP	SP Sub	11441455	60.00	3.74		70.30	300.00
GTET	Gamma Telemetry Tool	11039640	165.00	8.52		61.78	60.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69		52.09	60.00
DCNT	DSN Decentralizer	11019643	6.60	5.13	*	55.42	300.00
SDLT	Spectral Density Tool	10950489	360.00	10.81		41.28	60.00
MICP	Microlog Pad	10950489	8.00	1.00	*	43.78	60.00
SDLP	Density Insite Pad	10844781	65.00	2.55	*	43.49	60.00
FLEX	Flex Joint	001	140.00	5.67		35.61	300.00
BSAT	Borehole Sonic Array Tool	10747683	300.00	15.77		19.83	60.00
OBCEN	Centralizer - 29 in.Overbody	1	12.00	2.42	*	32.77	300.00
ACRt	Array Compensated True Resistivity Instrument Section	I5059_S8385	50.00	5.03		14.80	300.00
OBCEN	Centralizer - 29 in.Overbody	2	12.00	2.42	*	16.39	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11038385	200.00	14.22		0.58	300.00
CBHD	Cabbage Head	TRK696	10.00	0.58		0.00	300.00
Total			**1,600.10**	**77.06**			

* Not included in Total Length and Length Accumulation.

Data: BIRNEY_TRUST\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\IDLE **Date: 29-Jan-13 16:38:06**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 11039640**	**Reference Calibration Date:**	**14-Jan-13 11:36:05**
Engineer:	**T. HYDE**	**Calibration Date:**	**14-Jan-13 11:39:27**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	53.1	52.2	api
Background + Calibrator	327.8	321.8	api
Calibrator	274.6	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 11039640**	**Reference Calibration Date:**	**14-Jan-13 11:39:27**
Engineer:	**T. HYDE**	**Calibration Date:**	**27-Jan-13 21:17:26**
Software Version:	**WL INSITE R3.8.0 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	52.2	52.4	api
Background + Calibrator	321.8	322.9	api
Calibrator	269.6	270.5	api

Shop	Field	Difference	Tolerance
269.6	270.5	-0.9	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 11019643**	**Reference Calibration Date:**	**14-Jan-13 08:39:07**
Engineer:	**J. BOLLOM**	**Calibration Date:**	**17-Jan-13 14:59:55**
Software Version:	**WL INSITE R3.8.0 (Build 2)**	**Calibration Version:**	**1**

Logging Source S/N: 696

Tank Serial Number: LIBERAL_NEUTRON

Reference value assigned to Tank: 51.680

Snow Block S/N: 696

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:	0.951	0.948	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	0.2106	0.0008	+/- 0.0020
Calibrated Ratio:	9.74	9.72	0.026	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0650	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:** 17-Jan-13 14:59:55

Engineer: T. HYDE **Calibration Date:** 27-Jan-13 21:23:01

Software Version: WL INSITE R3.8.0 (Build 2) **Calibration Version:** 1

Logging Source S/N: 696

Snow Block S/N: 696

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0650	0.0790	0.0141	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 10950489 **Reference Calibration Date:** 14-Jan-13 11:29:43

Engineer: J. BOLLOM **Calibration Date:** 17-Jan-13 13:44:39

Software Version: WL INSITE R3.8.0 (Build 2) **Calibration Version:** 1

Host Tool Name: DSNT - 11019643

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1852.38	-1798.97	-7000.00 - -1000.00
Pad Gain	0.0003983	0.0003951	0.000200 - 0.000600
Arm Offset	-1310.21	-1120.95	-5000.00 - 3000.00
Arm Gain	0.0005071	0.0004874	0.000300 - 0.000700
Arm Power	-0.000004986	-0.000004236	-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)	1.99	2.00	0.01	+/- 0.20
Medium Ring (in)	3.76	3.75	-0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.46	6.50	0.04	+/- 0.20
Medium Ring (in)	8.26	8.25	-0.01	+/- 0.20
Large Ring (in)	15.12	15.00	-0.12	+/- 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 - 10844781**	**Reference Calibration Date:**	**14-Jan-13 10:03:40**
Engineer:	**J. BOLLOM**	**Calibration Date:**	**17-Jan-13 14:21:35**
Software Version:	**WL INSITE R3.8.0 (Build 2)**	**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: 2.598

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0395	1.0434	0.90 - 1.10
Near Dens Gain	1.0230	1.0101	0.90 - 1.10
Near Peak Gain	1.0127	1.0002	0.90 - 1.10
Near Lith Gain	1.0077	0.9736	0.90 - 1.10
Far Bar Gain	1.0107	1.0096	0.90 - 1.10
Far Dens Gain	0.9997	0.9991	0.90 - 1.10
Far Peak Gain	0.9962	0.9920	0.90 - 1.10
Far Lith Gain	0.9725	0.9714	0.90 - 1.10
Near Bar Offset	-0.1530	-0.1830	NONE
Near Dens Offset	-0.0114	0.1114	NONE
Near Peak Offset	0.0804	0.2008	NONE
Near Lith Offset	0.1137	0.4173	NONE
Far Bar Offset	0.0443	0.0534	NONE
Far Dens Offset	0.1311	0.1337	NONE
Far Peak Offset	0.1288	0.1632	NONE
Far Lith Offset	0.2911	0.2973	NONE
Near Bar Background	808.59	809.28	700 - 1450
Near Dens Background	263.24	265.36	230 - 480
Near Peak Background	115.70	115.37	100 - 210
Near Lith Background	143.81	142.88	125 - 260
Far Bar Background	526.68	526.94	450 - 900
Far Dens Background	206.11	207.77	175 - 345
Far Peak Background	83.40	82.16	70 - 140
Far Lith Background	85.54	86.57	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.673	1.684	0.011	+/- 0.015
Pe	2.633	2.555	-0.078	+/- 0.150
ALUMINUM				
Density (g/cc)	2.586	2.598	0.012	+/- 0.01500
Pe	3.251	3.124	-0.127	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector	Far Detector

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0006	+/- 0.0110	-0.0007	+/- 0.0140
Magnesium Block	-0.0008	+/- 0.0110	-0.0029	+/- 0.0140
Aluminum Block	-0.0001	+/- 0.0110	-0.0003	+/- 0.0140
Resolution	9.38	6.00 - 11.50	8.88	6.00 - 11.50
Internal Verifier(B+D+P+L)	1333	1200 - 2700	903	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 - 10844781 **Reference Calibration Date:** 17-Jan-13 14:21:35

Engineer: T. HYDE **Calibration Date:** 27-Jan-13 21:17:24

Software Version: WL INSITE R3.8.0 (Build 2) **Calibration Version:** 1

Pad Temperature: 74.7 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1332.885	1330.107	-2.778	14.768
Far (B+D+P+L) cps	903.439	900.868	-2.571	16.335
Near Resolution	9.38	9.38	0.000	0.50
Far Resolution	8.88	9.04	0.160	1.00

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

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - 10950489 **Reference Calibration Date:** 17-Jan-13 13:44:39

Engineer: T. HYDE **Calibration Date:** 27-Jan-13 21:27:53

Software Version: WL INSITE R3.8.0 (Build 2) **Calibration Version:** 1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.65	-0.10	+/- 0.10
Ring Diameter	8.25	8.13	-0.12	+/- 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	270.5	----------	-0.9	+/- 9.00	api
DSNT-11019643						
Snow-Block Porosity	0.0650	0.0790	----------	-0.0140	+/- 0.0150	decp
SDLT-10950489						
Pad Extension	3.75	3.65	----------	0.10	+/-0.10	in
Ring Diameter	8.25	8.13	----------	0.12	+/-0.15	in
SDLT Pad-10844781						
Near(B+D+P+L)	1332.885	1330.107	----------	2.778	+/-14.768	cps
Far(B+D+P+L)	903.439	900.868	----------	2.571	+/-16.335	cps

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	9.300	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	2.000	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	5829.00	ft
	SHARED	BHT	Bottom Hole Temperature	200.0	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

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	72.25	NO	
SP	Spontaneous Potential	72.25	BLK	1.250
SPR	Raw Spontaneous Potential	72.25	NO	

SPO	Spontaneous Potential Offset	72.25	NO	
	GTET			
TPUL	Tension Pull	64.23	NO	
GR	Natural Gamma Ray API	64.23	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	64.23	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	64.23	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	DSNT			
TPUL	Tension Pull	53.99	NO	
RNDS	Near Detector Telemetry Counts	54.09	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.84	TRI	0.583
DNTT	DSN Tool Temperature	54.09	NO	
DSNS	DSN Tool Status	53.99	NO	
ERND	Near Detector Telemetry Counts EVR	54.09	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.84	BLK	0.000
ENTM	DSN Tool Temperature EVR	54.09	NO	
	SDLT			
TPUL	Tension Pull	44.09	NO	
PCAL	Pad Caliper	44.09	TRI	0.250
ACAL	Arm Caliper	44.09	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
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 Current Raw 12K X Receiver	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	44.08	NO	
NAB	Near Above	43.90	BLK	0.920
NHI	Near Cesium High	43.90	BLK	0.920
NLO	Near Cesium Low	43.90	BLK	0.920
NVA	Near Valley	43.90	BLK	0.920
NBA	Near Barite	43.90	BLK	0.920
NDE	Near Density	43.90	BLK	0.920
NPK	Near Peak	43.90	BLK	0.920
NLI	Near Lithology	43.90	BLK	0.920
NBAU	Near Barite Unfiltered	43.90	BLK	0.250
NLIU	Near Lithology Unfiltered	43.90	BLK	0.250
FAB	Far Above	44.26	BLK	0.250
FHI	Far Cesium High	44.26	BLK	0.250
FLO	Far Cesium Low	44.26	BLK	0.250
FVA	Far Valley	44.26	BLK	0.250
FBA	Far Barite	44.26	BLK	0.250
FDE	Far Density	44.26	BLK	0.250
FPK	Far Peak	44.26	BLK	0.250
FLI	Far Lithology	44.26	BLK	0.250
PTMP	Pad Temperature	44.09	BLK	0.920
NHV	Near Detector High Voltage	43.49	NO	
FHV	Far Detector High Voltage	43.49	NO	
ITMP	Instrument Temperature	43.49	NO	

DDHV	Detector High Voltage	43.49	NO	

Microlog Pad

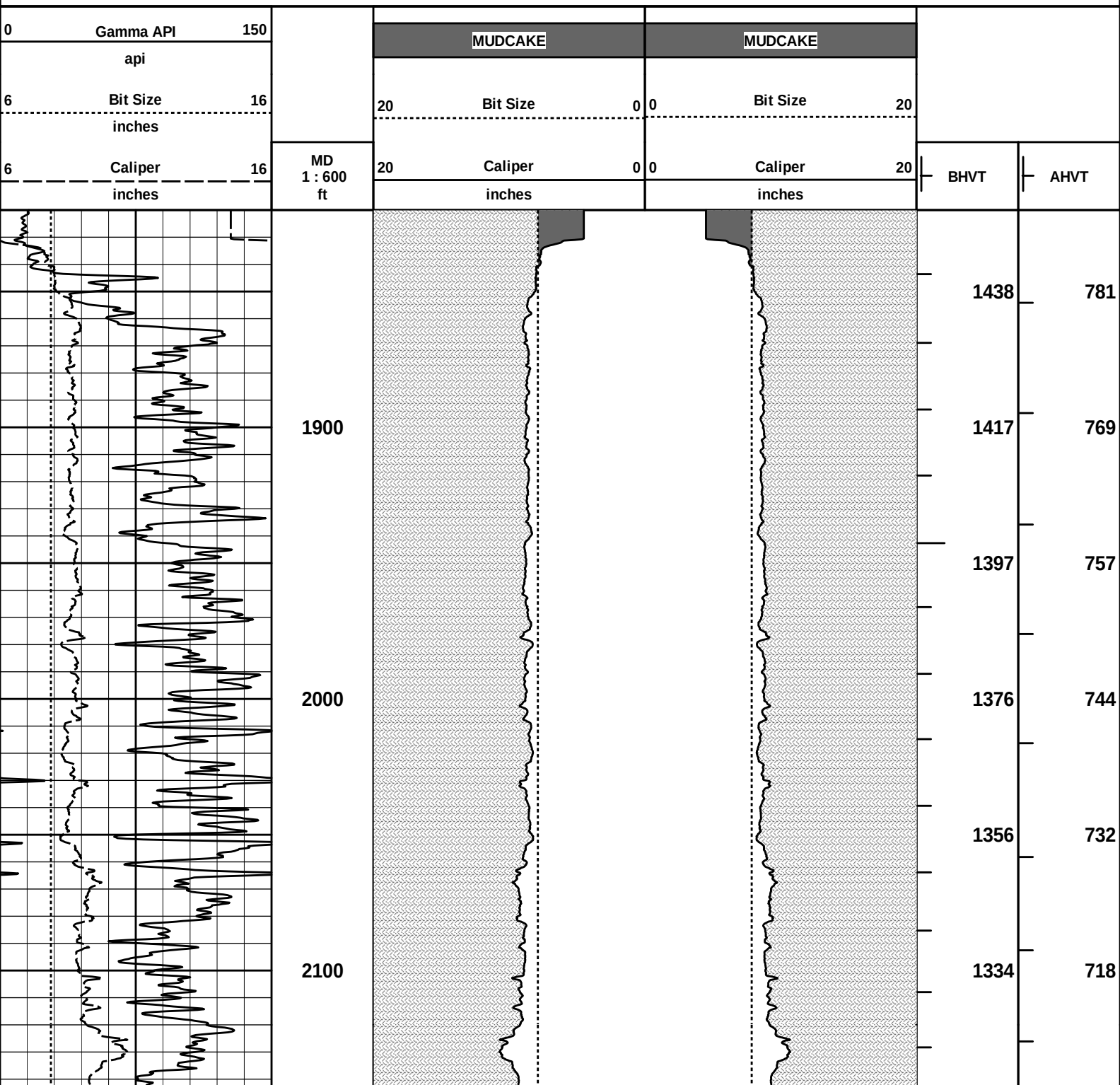
TPUL	Tension Pull	44.28	NO	
MINV	Microlog Lateral	44.28	BLK	0.750
MNOR	Microlog Normal	44.28	BLK	0.750

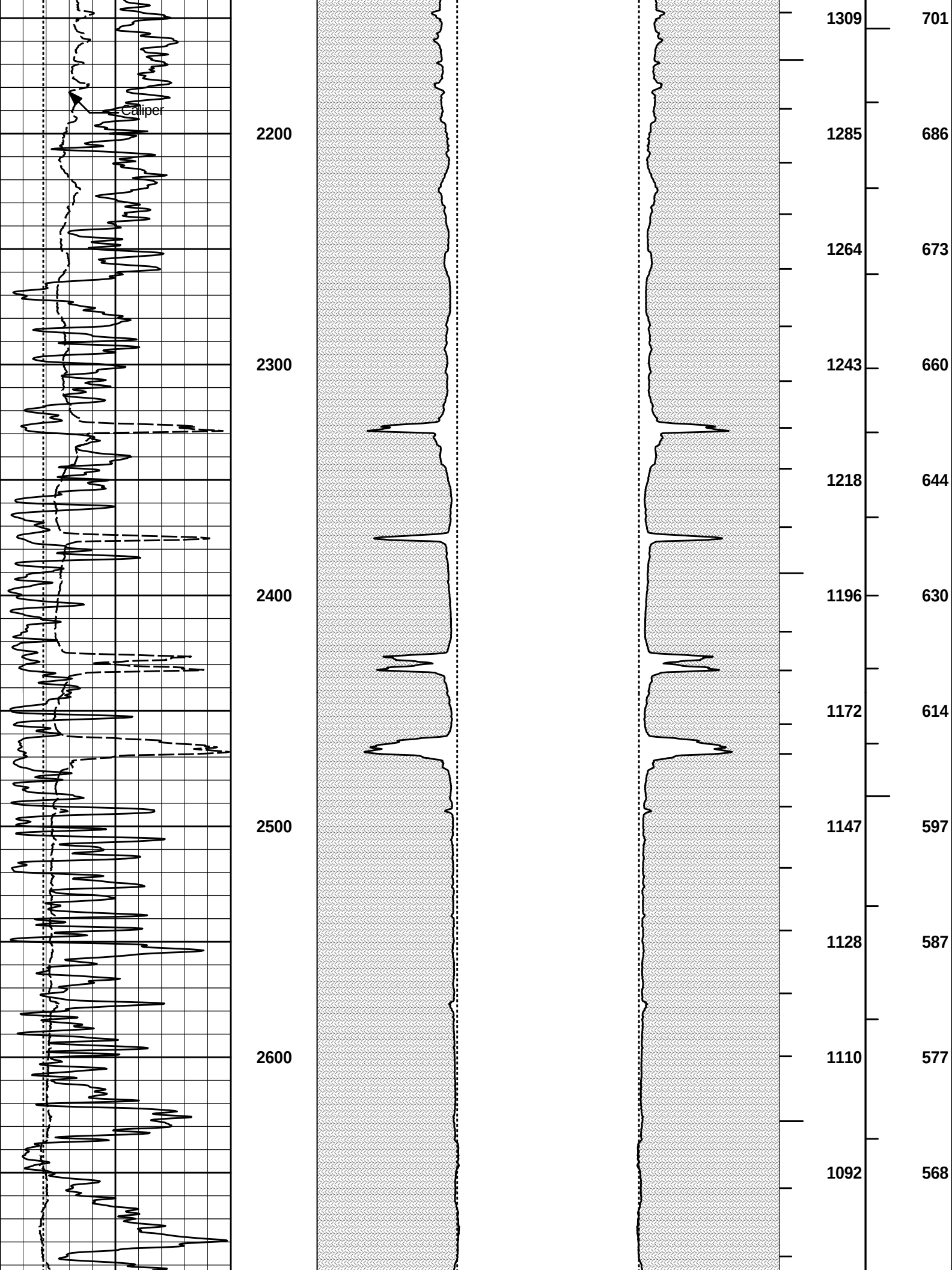
Data: BIRNEY_TRUST\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\IDLE **Date: 29-Jan-13 16:40:53**

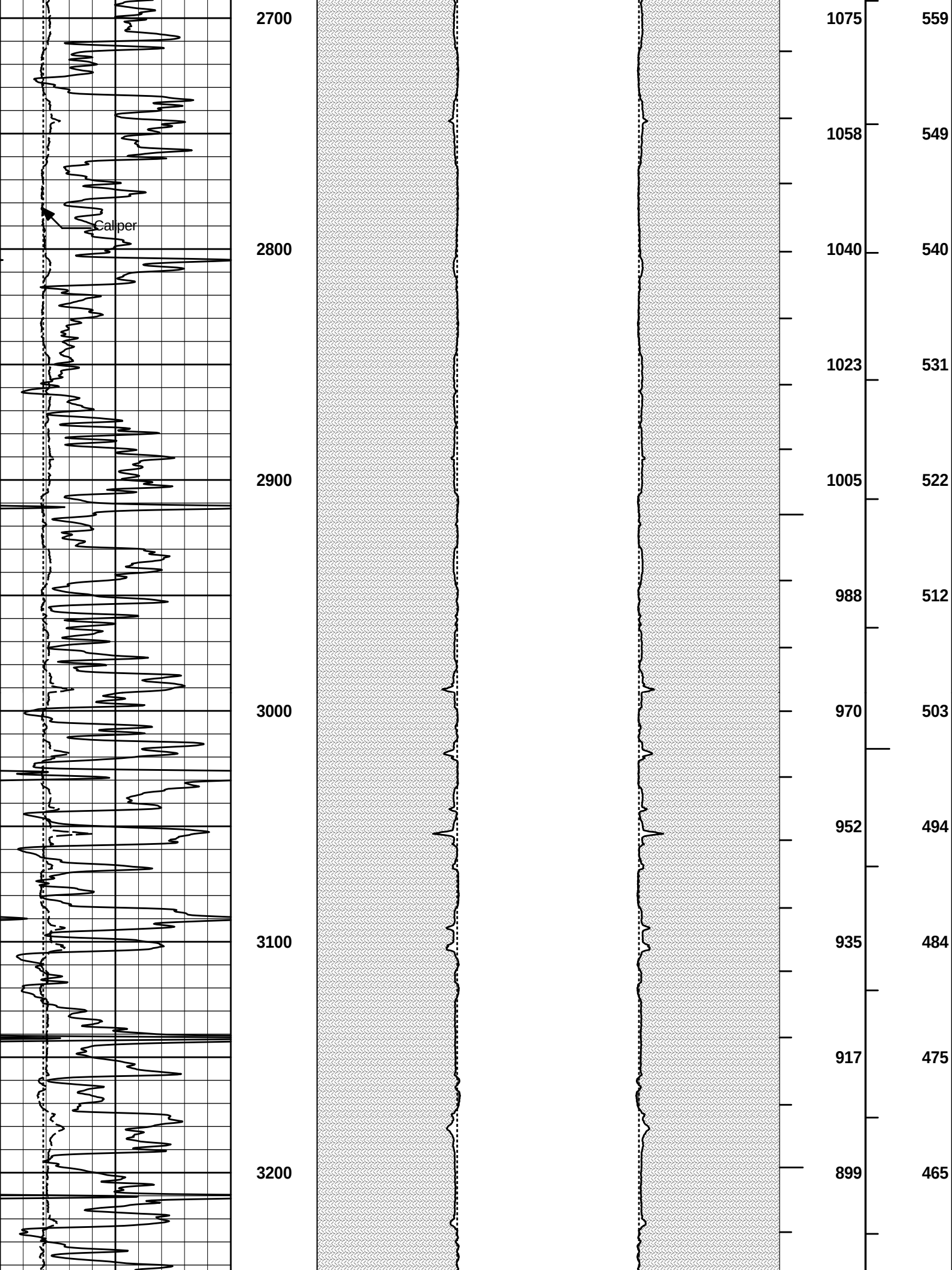
HALLIBURTON

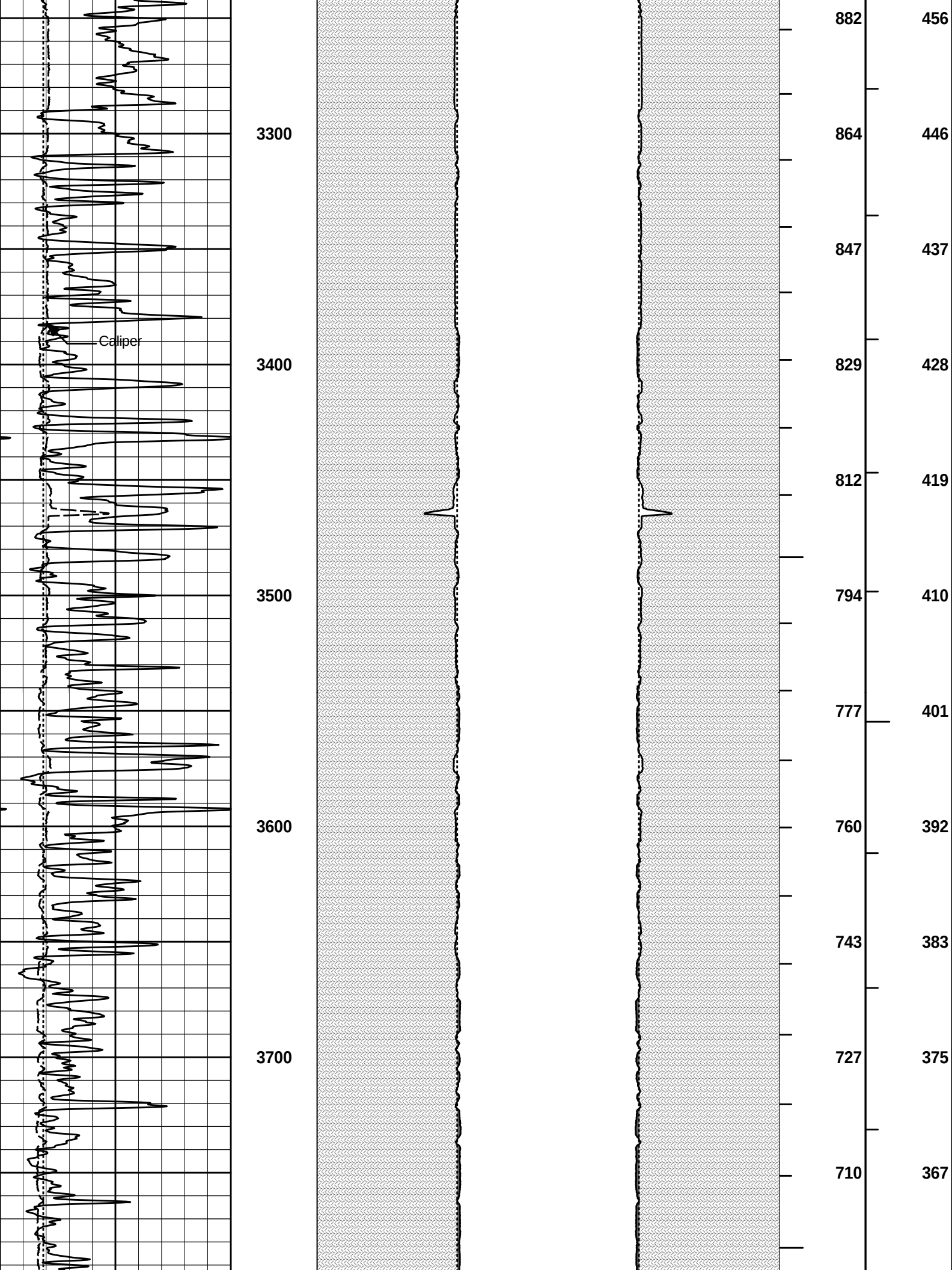
Plot Time: 29-Jan-13 20:07:20
Plot Range: 1820 ft to 5830.92 ft
Data: BIRNEY_TRUST\Well Based\CASING
Plot File: \\-LOCAL-\BIRNEY_TRUST\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\PORO\AHV_2_IQ_LIB

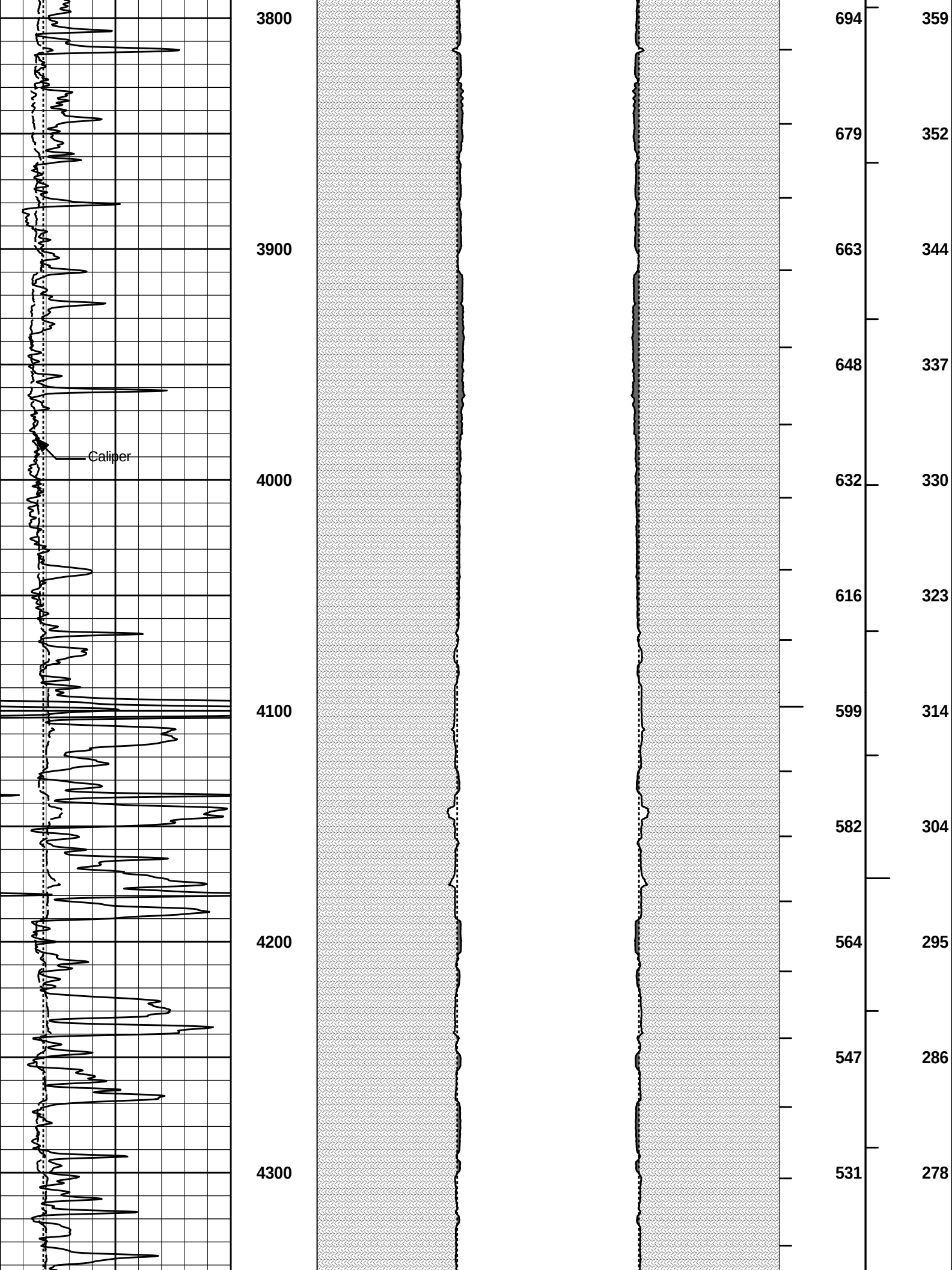
ANNULAR HOLE VOLUME PLOT

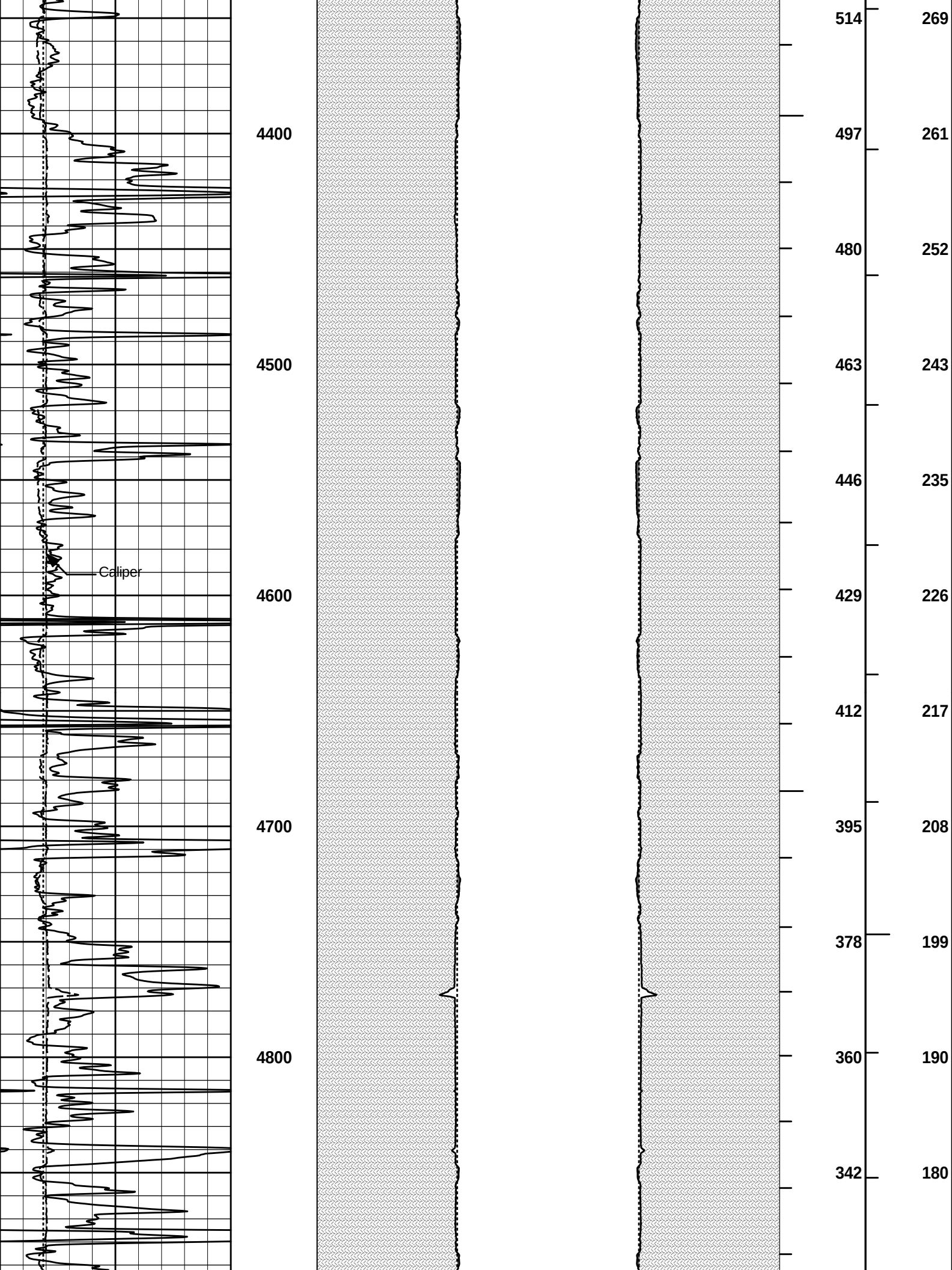


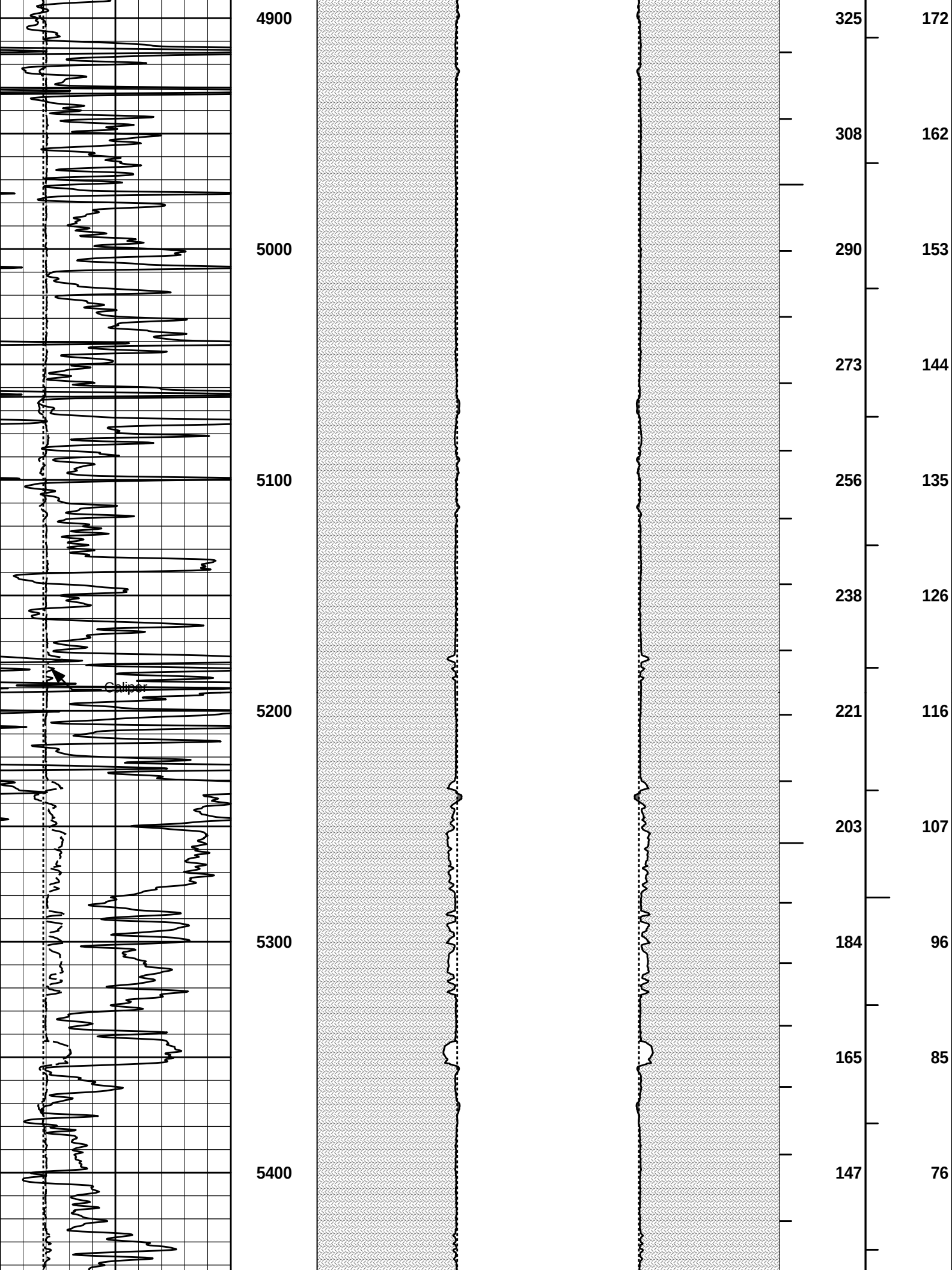

Caliper
2200
2300
2400
2500
2600
1309
1285
1264
1243
1218
1196
1172
1147
1128
1110
1092
701
686
673
660
644
630
614
597
587
577
568

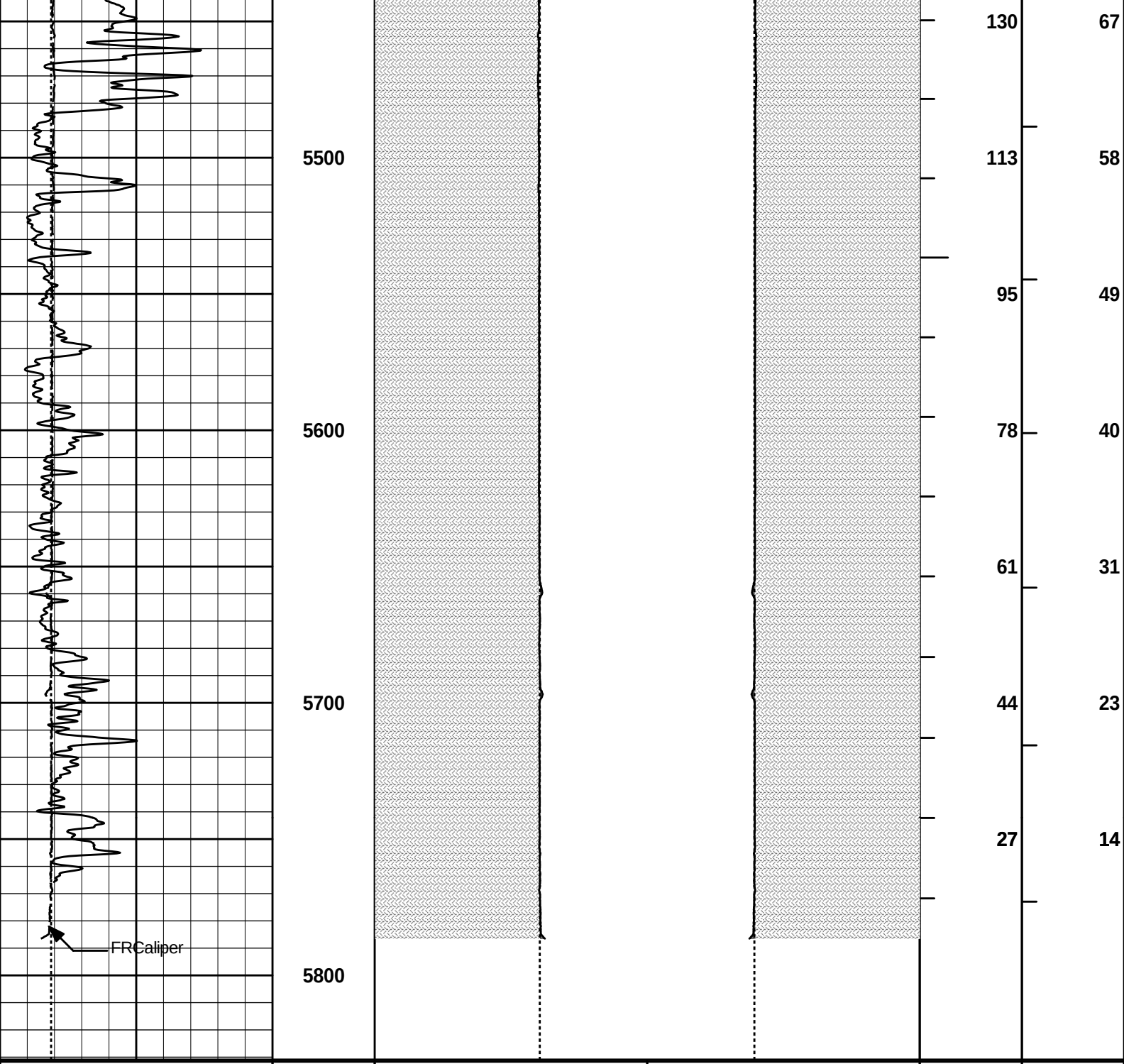

Caliper
2700
2800
2900
3000
3100
3200
1075
1058
1040
1023
1005
988
970
952
935
917
899
559
549
540
531
522
512
503
494
484
475
465


Caliper
3300
3400
3500
3600
3700
882
864
847
829
812
794
777
760
743
727
710
456
446
437
428
419
410
401
392
383
375
367


Caliper
3800
3900
4000
4100
4200
4300
694
679
663
648
632
616
599
582
564
547
531
359
352
344
337
330
323
314
304
295
286
278


Caliper
4400
4500
4600
4700
4800
514
497
480
463
446
429
412
395
378
360
342
269
261
252
243
235
226
217
208
199
190
180


4900
5000
5100
5200
5300
5400
Caliper
325
308
290
273
256
238
221
203
184
165
147
172
162
153
144
135
126
116
107
96
85
76



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

HALLIBURTON

Plot Time: 29-Jan-13 20:07:24
Plot Range: 1820 ft to 5830.92 ft
Data: BIRNEY_TRUST\Well Based\CASING\
Plot File: \\-LOCAL-\BIRNEY_TRUST\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\PORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	**OXY USA INC**		
WELL	**BIRNEY TRUST B-2**		
FIELD	**LEMON NORTHEAST**		
COUNTY	**HASKELL**	STATE	**KANSAS**

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG