

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG

COMPANY		OXY USA INC.	
WELL		GARDEN CITY V-4	
FIELD		GARDEN CITY	
COUNTY		FINNEY	
STATE		KANSAS	
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Date		02-Jan-13	
Run No.		ONE	
Depth - Driller		5128.00 ft	
Depth - Logger		5112.0 ft	
Bottom - Logged Interval		5068.0 ft	
Top - Logged Interval		3650.0 ft	
Casing - Driller		8.625 in @ 1833.0 ft	
Casing - Logger		1831.0 ft	
Bit Size		7.875 in @	
Type Fluid in Hole		WATER BASED MUD	
Density		9.1 ppg	
Viscosity		53.00 s/qt	
PH		11.10 pH	
Fluid Loss		8.4 cpm	
Source of Sample		MUD PIT	
Rm @ Meas. Temperature		0.600 ohmm @ 75.00 degF	
Rmf @ Meas. Temperature		0.52 ohmm @ 75.00 degF	
Rmc @ Meas. Temperature		0.780 ohmm @ 75.00 degF	
Source Rmf		MEASURED	
Rmc		MEASURED	
Rm @ BHT		0.60 ohmm @ 75.0 degF	
Time Since Circulation		5.0 hr	
Time on Bottom		02-Jan-13 11:30	
Max. Rec. Temperature		110.0 degF @ 5112.0 ft	
Equipment		10546696 LIBERAL	
Recorded By		J. BOLLOM	
Witnessed By		A. GARNER	

COMPANY	OXY USA INC.
WELL	GARDEN CITY V-4
FIELD	GARDEN CITY
COUNTY	FINNEY
STATE	KANSAS
API No.	15055221760000
Location	2140' FNL & 1810' FWL NE SW SE NW
Other Services:	MICROLOG ACRT BSAT
Sect.	27
Twp.	23S
Rge.	34W
Elev.	2977.0 ft
D.F.	2976.0 ft
G.L.	2963.0 ft

Fold here

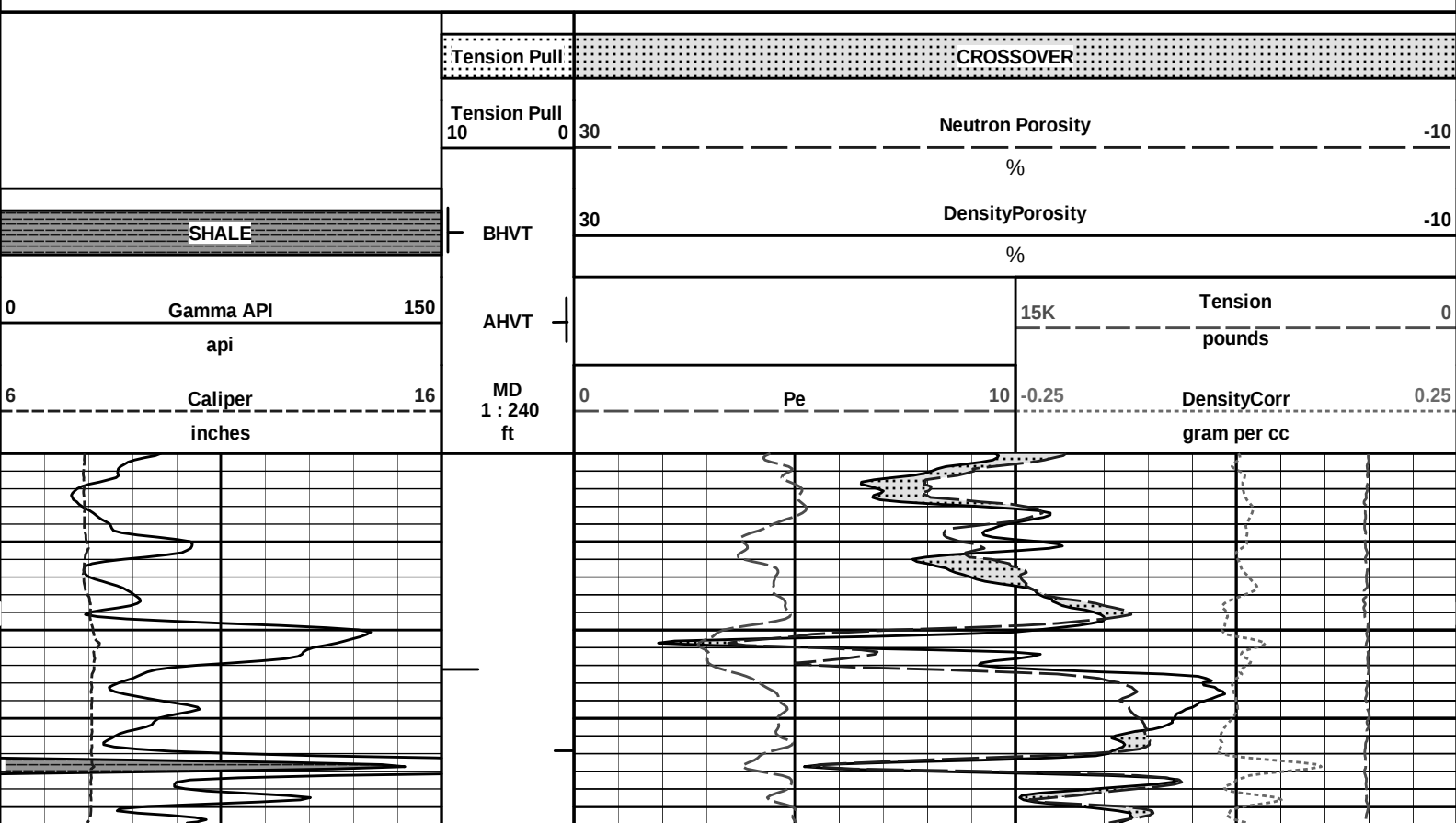
Service Ticket No.: 900096201						API Serial No.: 15055221760000						PGM Version: WL INSITE R3.6.0 (Build 3)																	
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE												RESISTIVITY SCALE CHANGES																	
Date		Sample No.										Type Log		Depth		Scale Up Hole				Scale Down Hole									
Depth-Driller																													
Type Fluid in Hole																													
Density		Viscosity																											
Ph		Fluid Loss																											
Source of Sample												RESISTIVITY EQUIPMENT DATA																	
Rm @ Meas. Temp				@				@				Run No.		Tool Type & No.				Pad Type				Tool Pos.				Other			
Rmf @ Meas. Temp.				@				@																					
Rmc @ Meas. Temp.				@				@																					
Source Rmf		Rmc																											
Rm @ BHT				@				@																					
Rmf @ BHT				@				@																					
Rmc @ BHT				@				@																					
EQUIPMENT DATA																													
GAMMA						ACOUSTIC						DENSITY						NEUTRON											
Run No.		ONE				Run No.						Run No.		ONE				Run No.		ONE									
Serial No.		11048627				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									

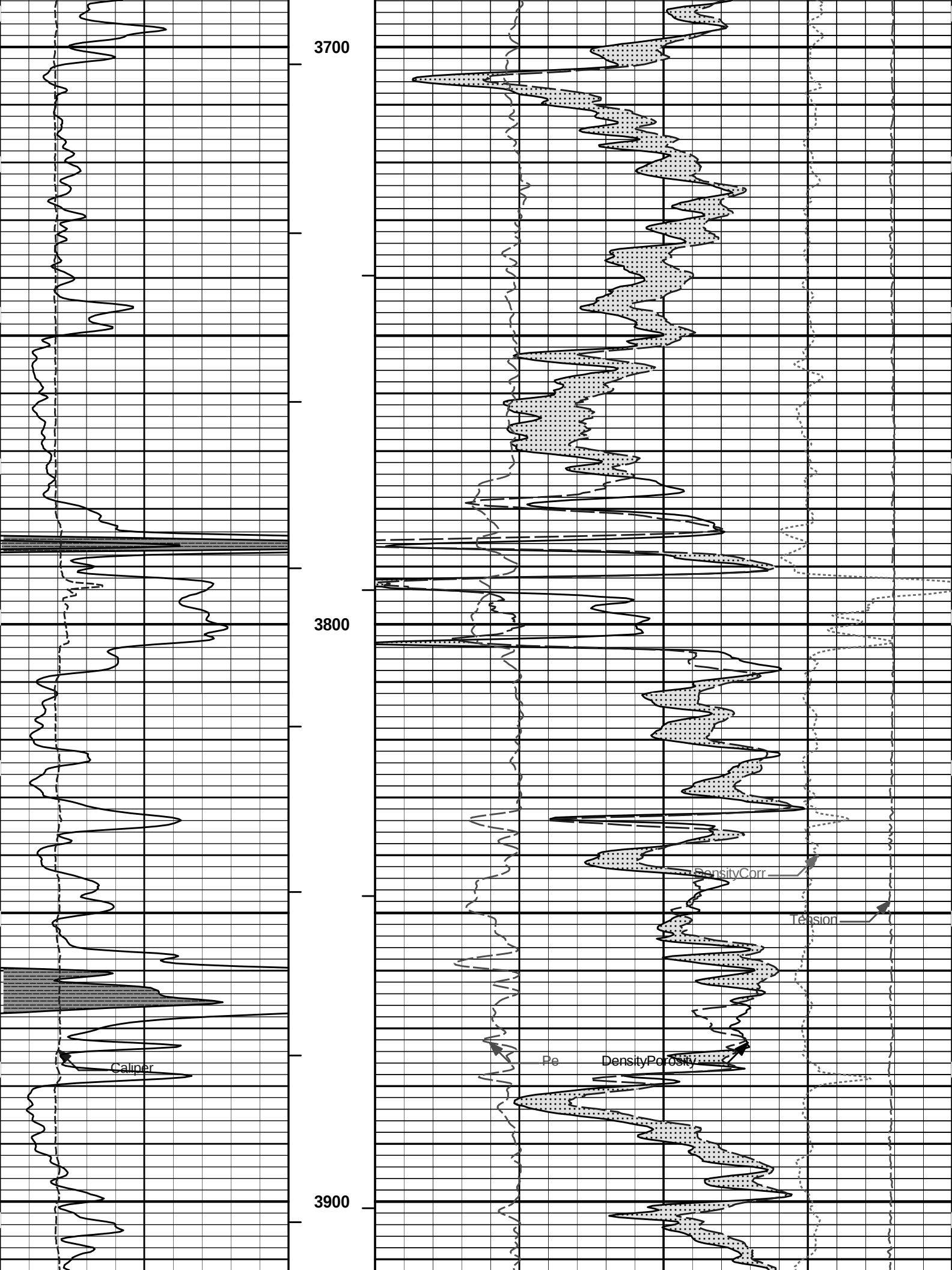
GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON					
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	5112	3650	REC	0	150				30	-10	2.71	30	-10	LIME
DIRECTIONAL INFORMATION														
Maximum Deviation @									KOP @					
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING														
CHLORIDES REPORTED AT 5000 MG/L														
GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION														
PRE-CALIBRATIONS NOT PERFORMED DUE TO EXTREME WEATHER CONDITION														
TODAY'S CREW: B. TERRELL & F. VILLA														
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KS. 620-624-8123														
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.														
HALLIBURTON														

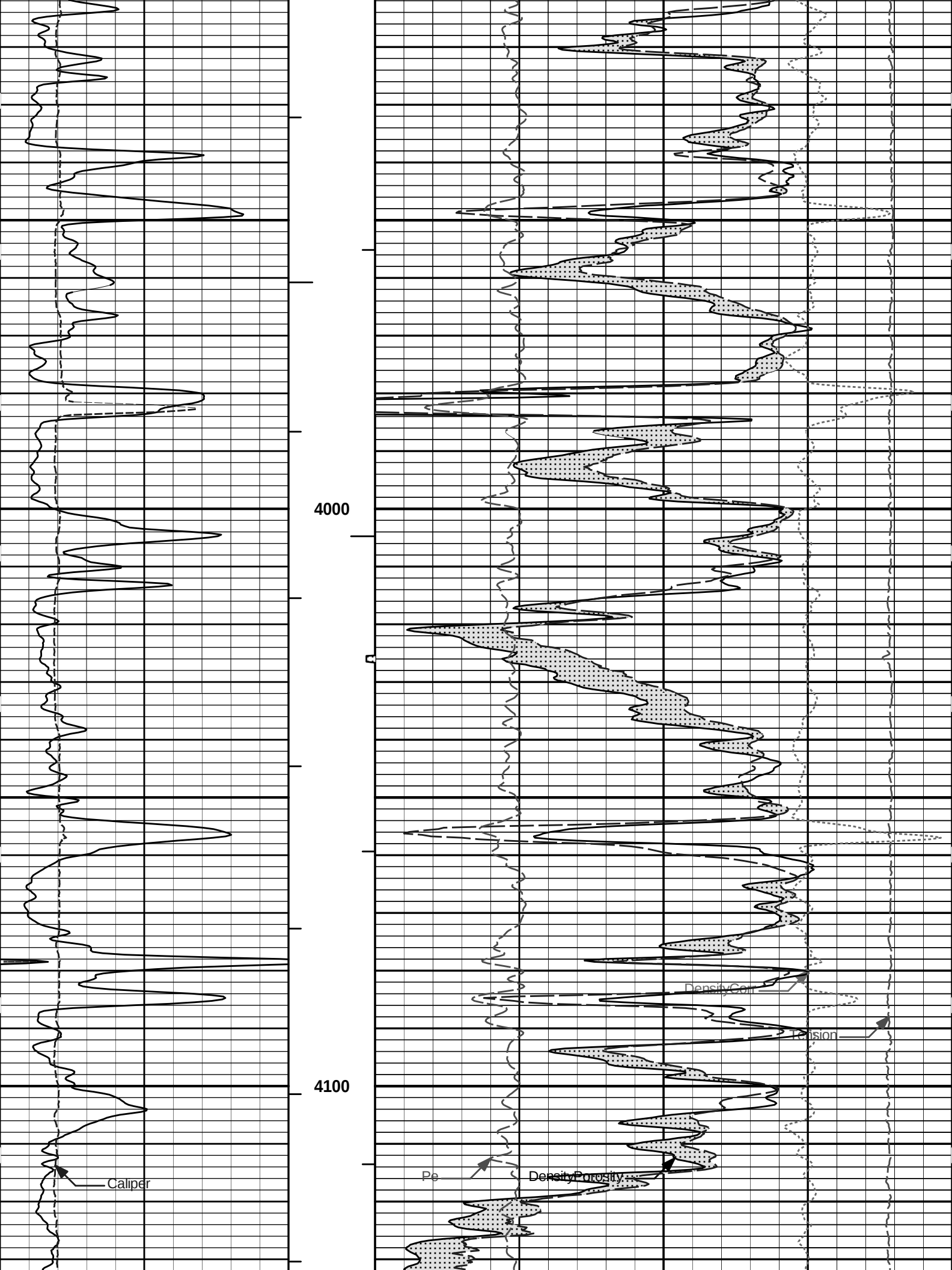
HALLIBURTON

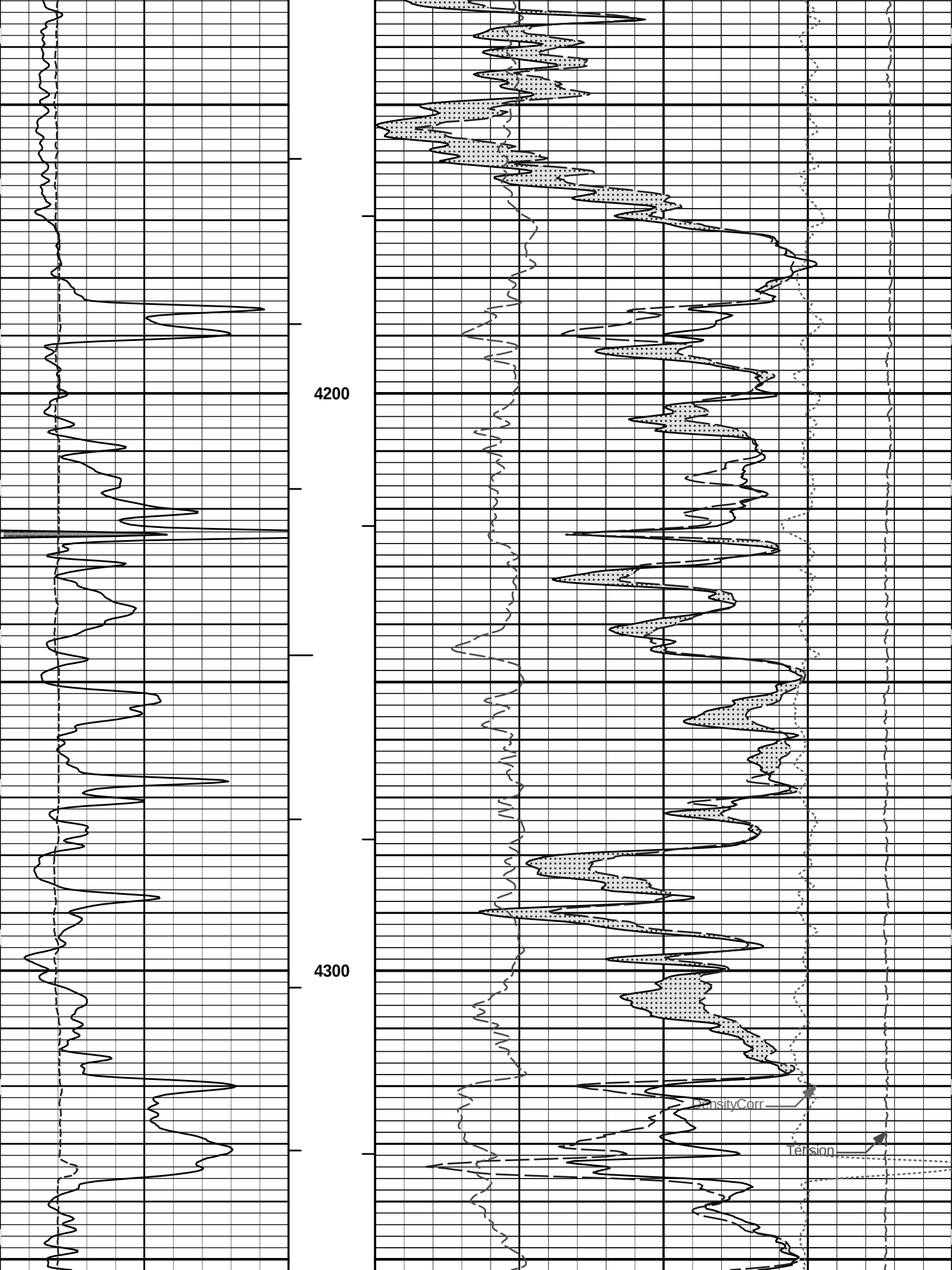
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Plot Range: 3650 ft to 5118 ft
Data: GARDEN_CITY_V_4\Well Based\DETAIL\
Plot File: \\PORO\Poro IQ 5 MAIN LIB

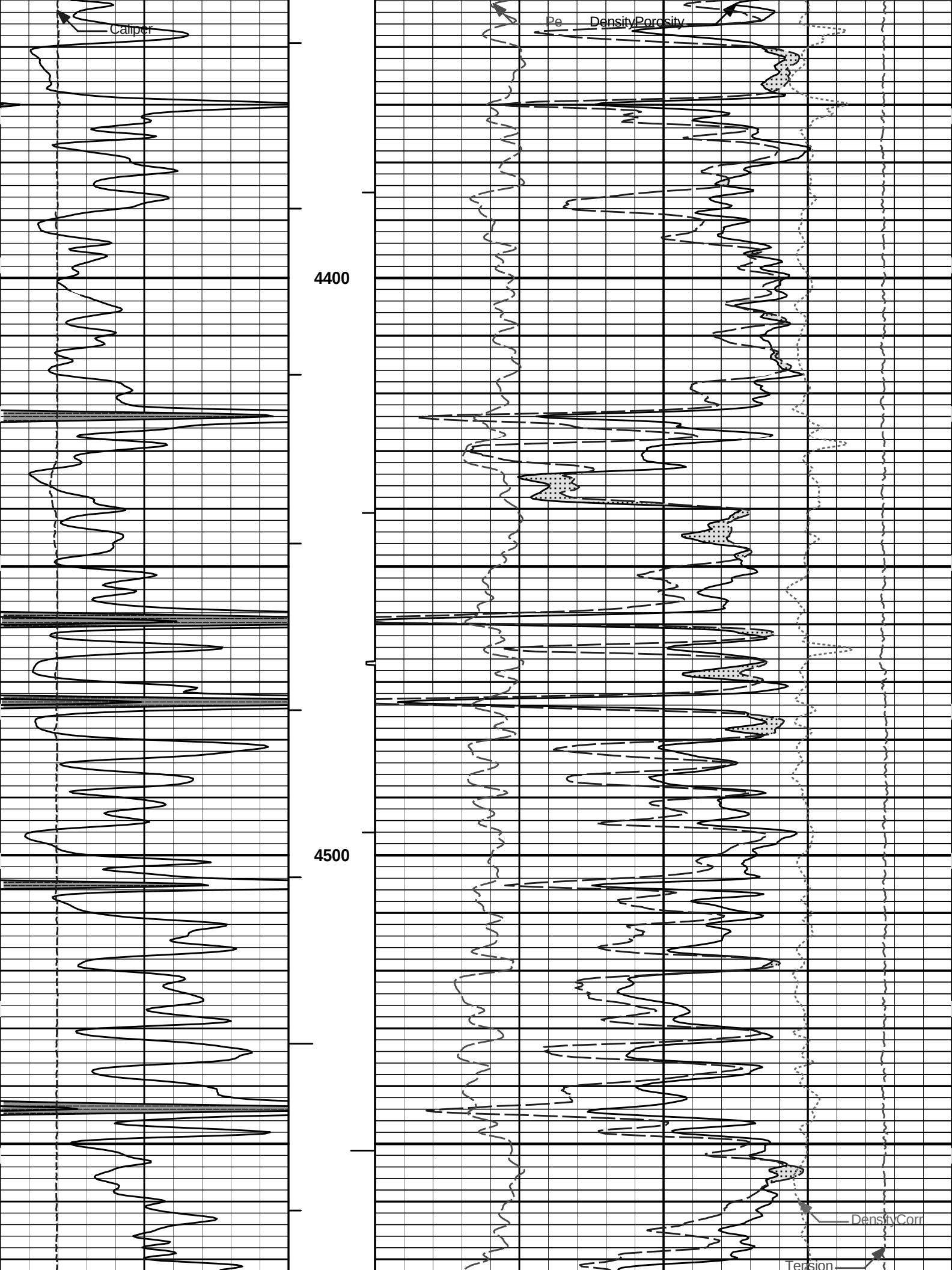
5 INCH MAIN LOG

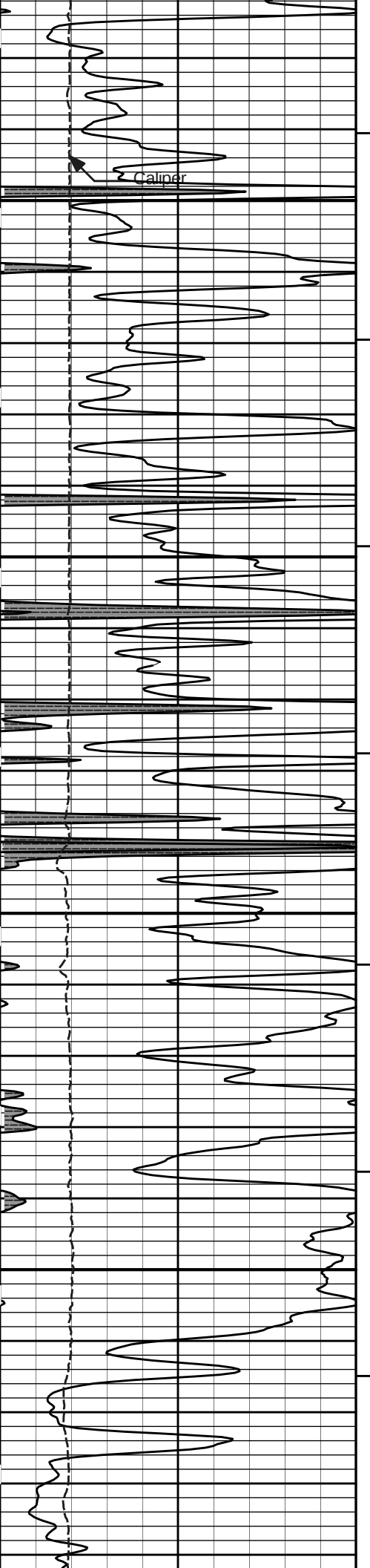






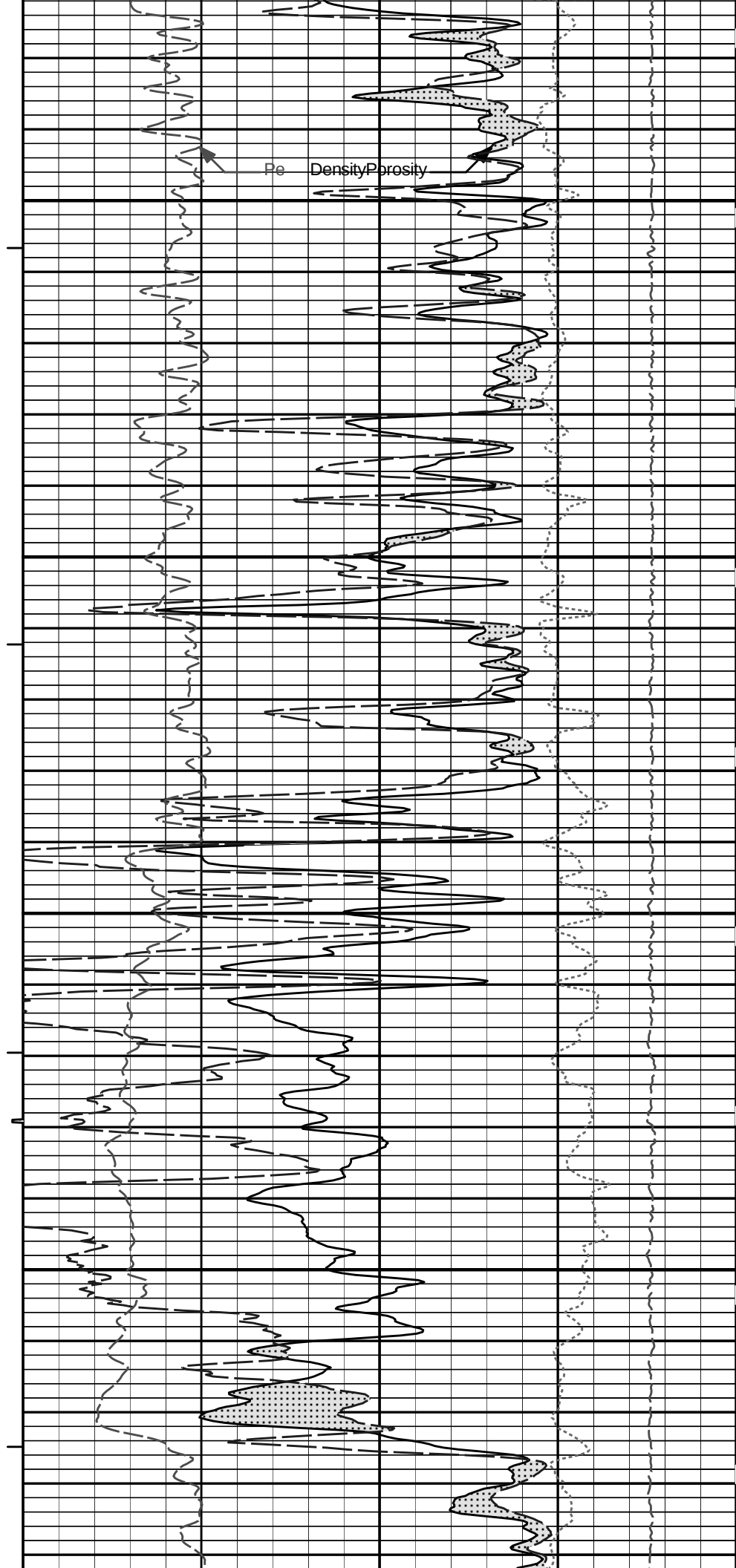


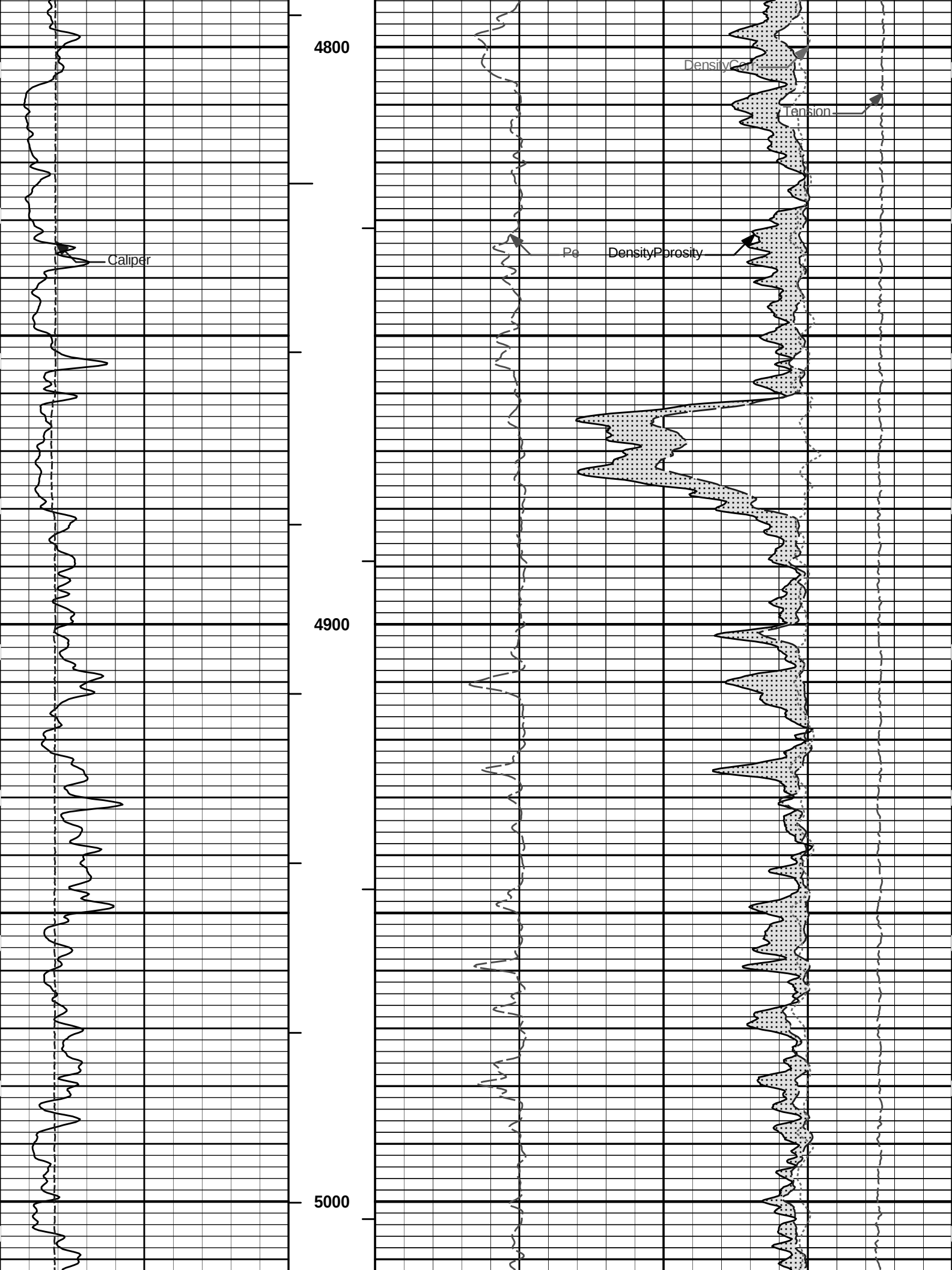


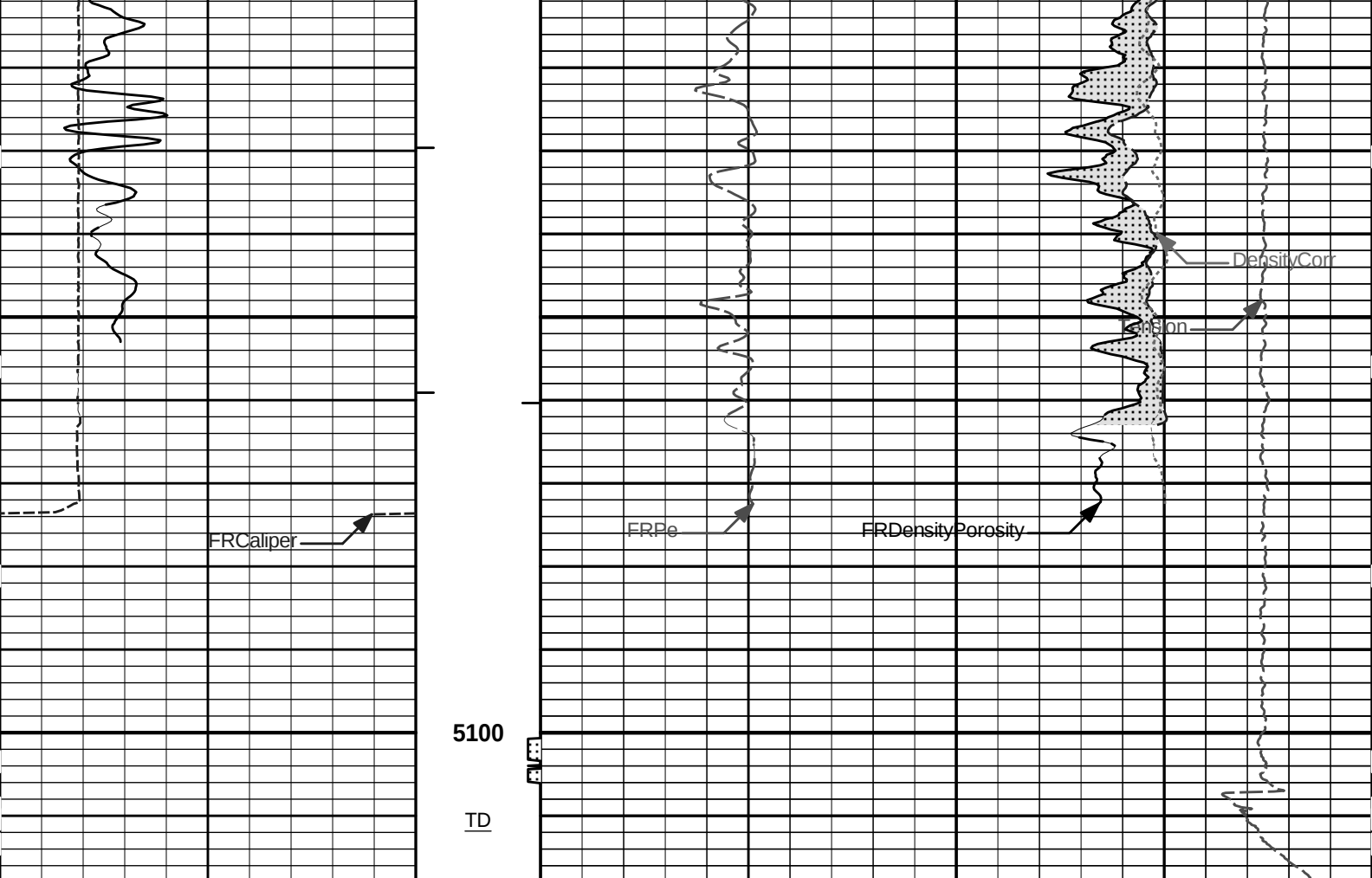


4600

4700







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

HALLIBURTON

Plot Time: 02-Jan-13 13:48:17
 Plot Range: 3650 ft to 5118 ft
 Data: GARDEN_CITY_V_4\Well Based\DETAIL\
 Plot File: \\POROI\Porosity_IQ_5_MAIN_LIB

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 02-Jan-13 13:48:17
 Plot Range: 4650 ft to 5116.42 ft
 Data: GARDEN_CITY_V_4\Well Based\REPEAT_GARDEN_CITY_V_4\
 Plot File: \\POROI\Porosity_IQ_5_REP_LIB

REPEAT SECTION

CROSSOVER

30 Neutron Porosity -10

%

30 DensityPorosity -10

	%
--	---

	15K	Tension	0
--	-----	---------	---

	pounds
--	--------

	gram per cc
--	-------------

[illegible]

SHALE

 BHVT

0 Gamma API 150

api

AHVT

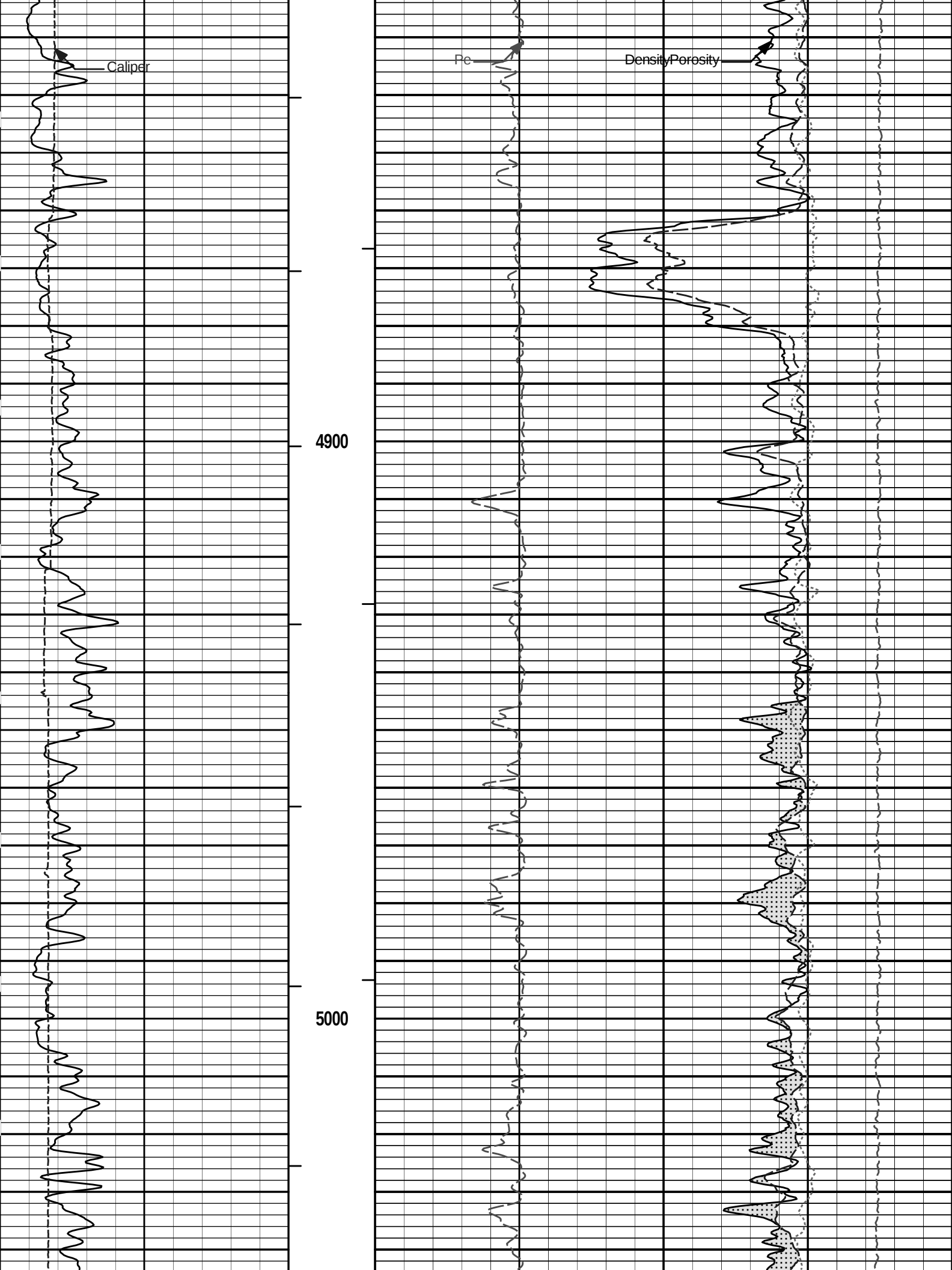
A horizontal number line with a solid vertical line at the left end and a dashed vertical line at the right end. The number 6 is written at the left end, and the number 16 is written at the right end. A single tick mark is present on the line between 6 and 16. The word "Caliper" is written above the line, and the word "inches" is written below the line.

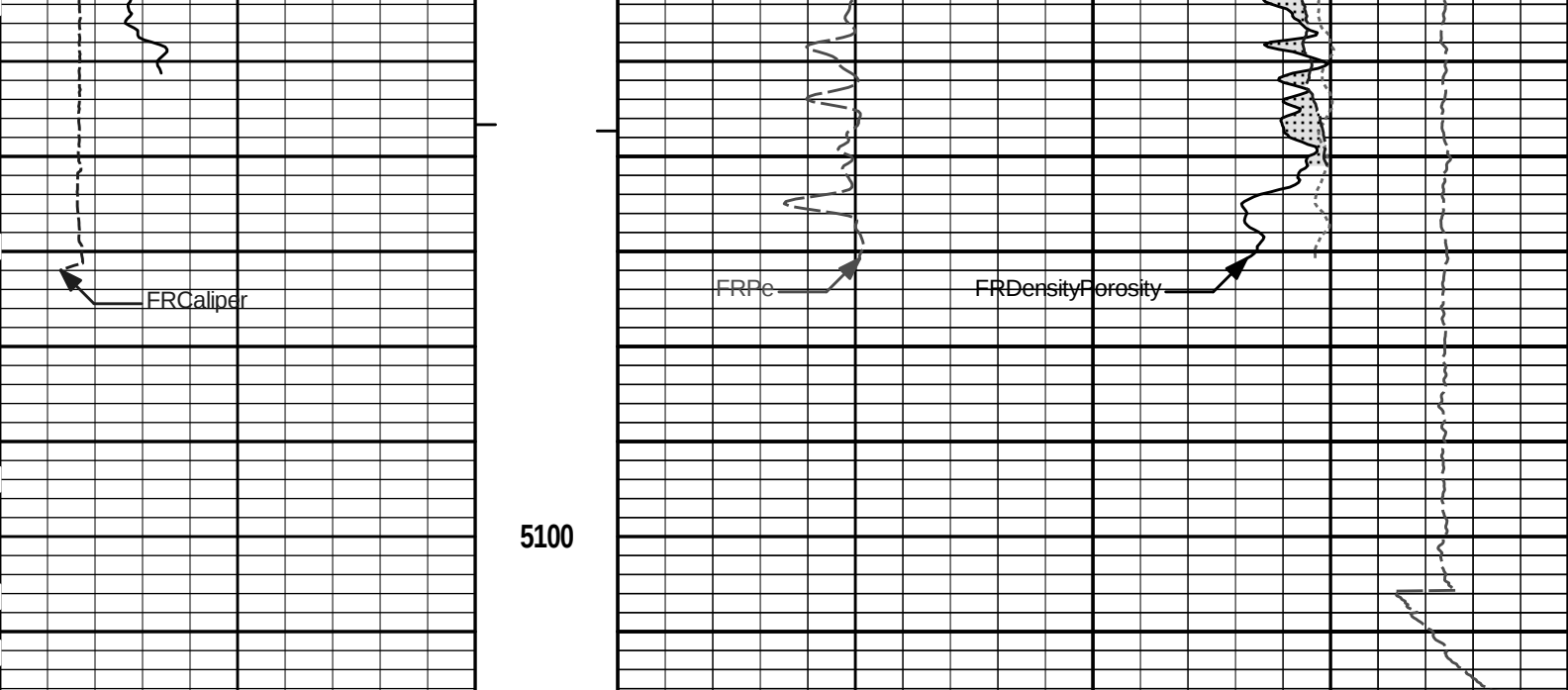
MD
1 : 240
ft

0	Pe	10	-0.25	DensityCorr	0.25
			gram per cc		

[illegible]

A hand-drawn diagram of a neuron on graph paper. The cell body (soma) is on the left, containing a nucleus. A long dendrite extends to the left, and a long axon extends to the right, ending in a terminal button. The axon is covered by a myelin sheath, represented by a dashed line. The diagram is labeled with 'Dendrit', 'Zellkörper', 'Axonhügel', 'Myelinscheiden', and 'Endknöpfchen'.





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

HALLIBURTON

Plot Time: 02-Jan-13 13:48:19
Plot Range: 4650 ft to 5116.42 ft
Data: GARDEN_CITY_V_4\Well Based\REPEAT_GARDEN_CITY_V_4\
Plot File: \\PORO\Porosity_IQ_5_REP_LIB

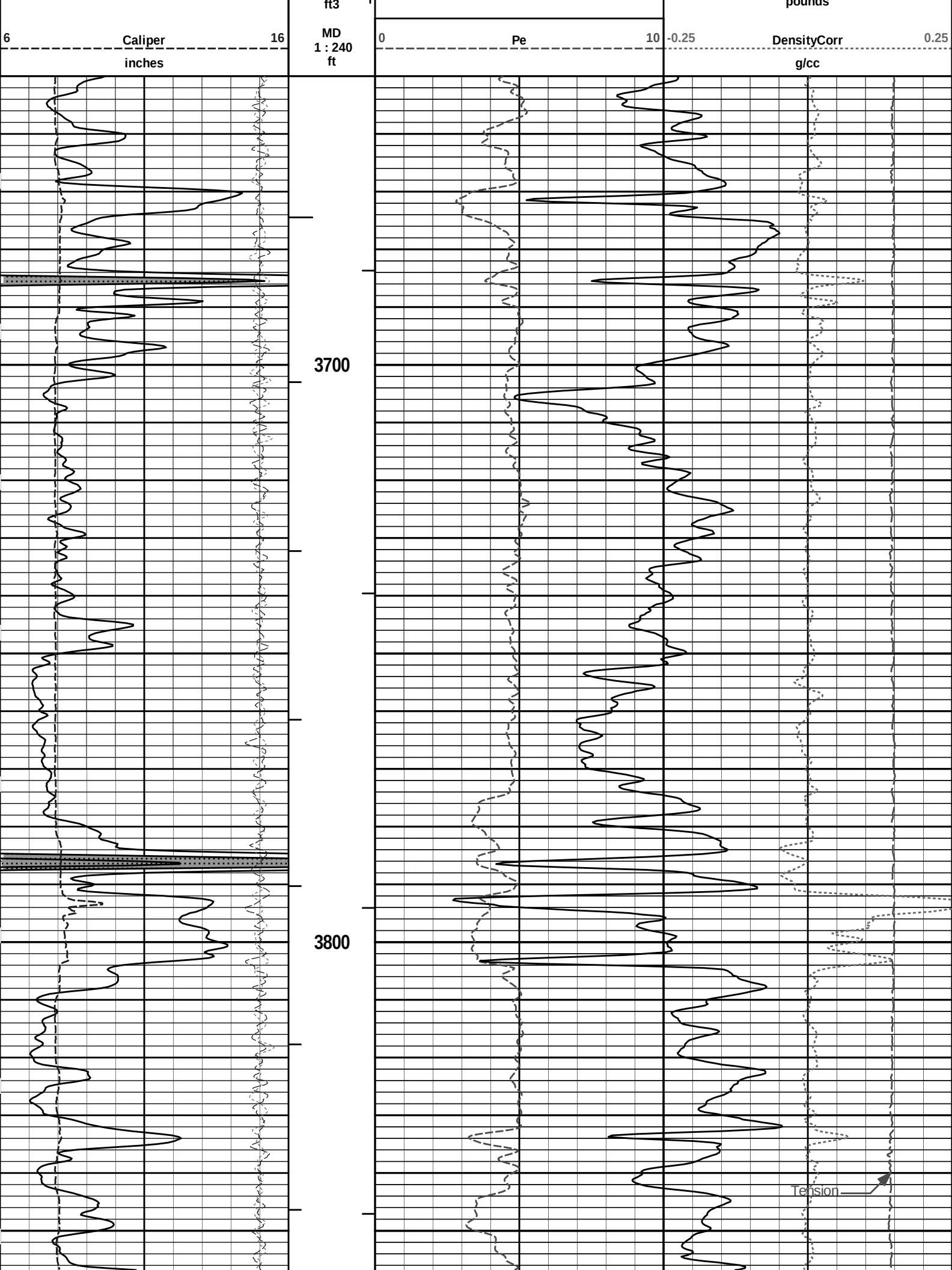
REPEAT SECTION

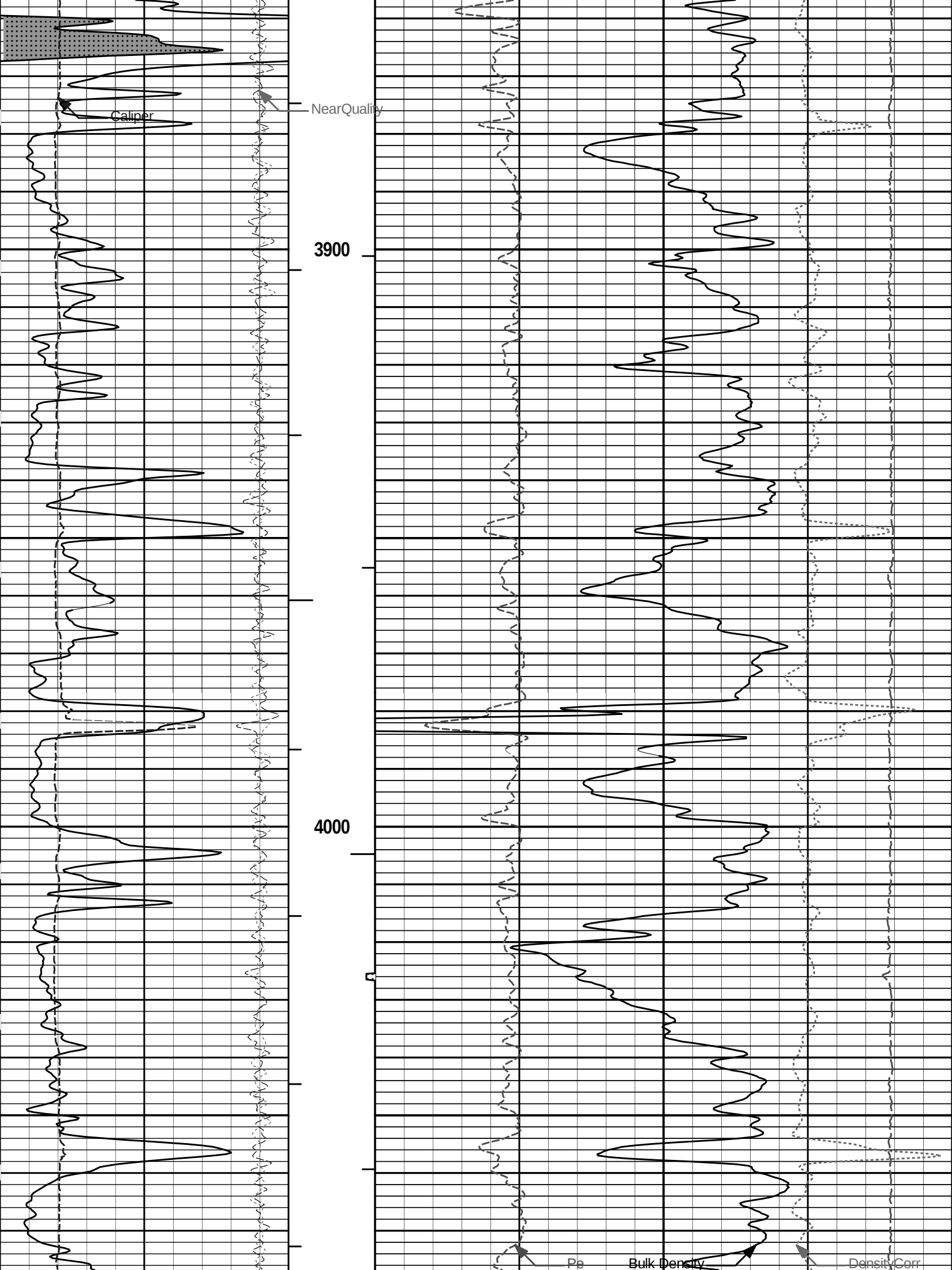
HALLIBURTON

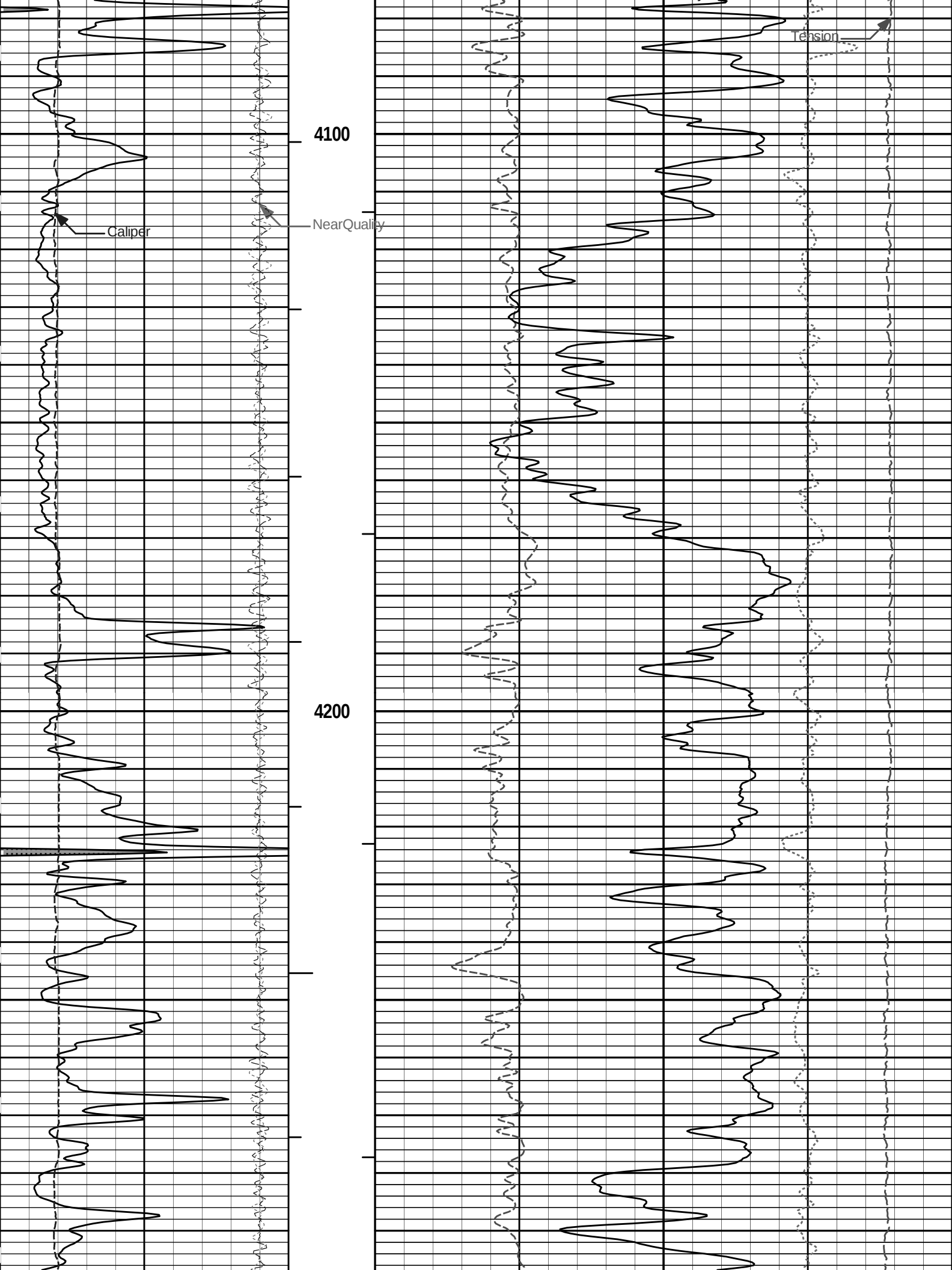
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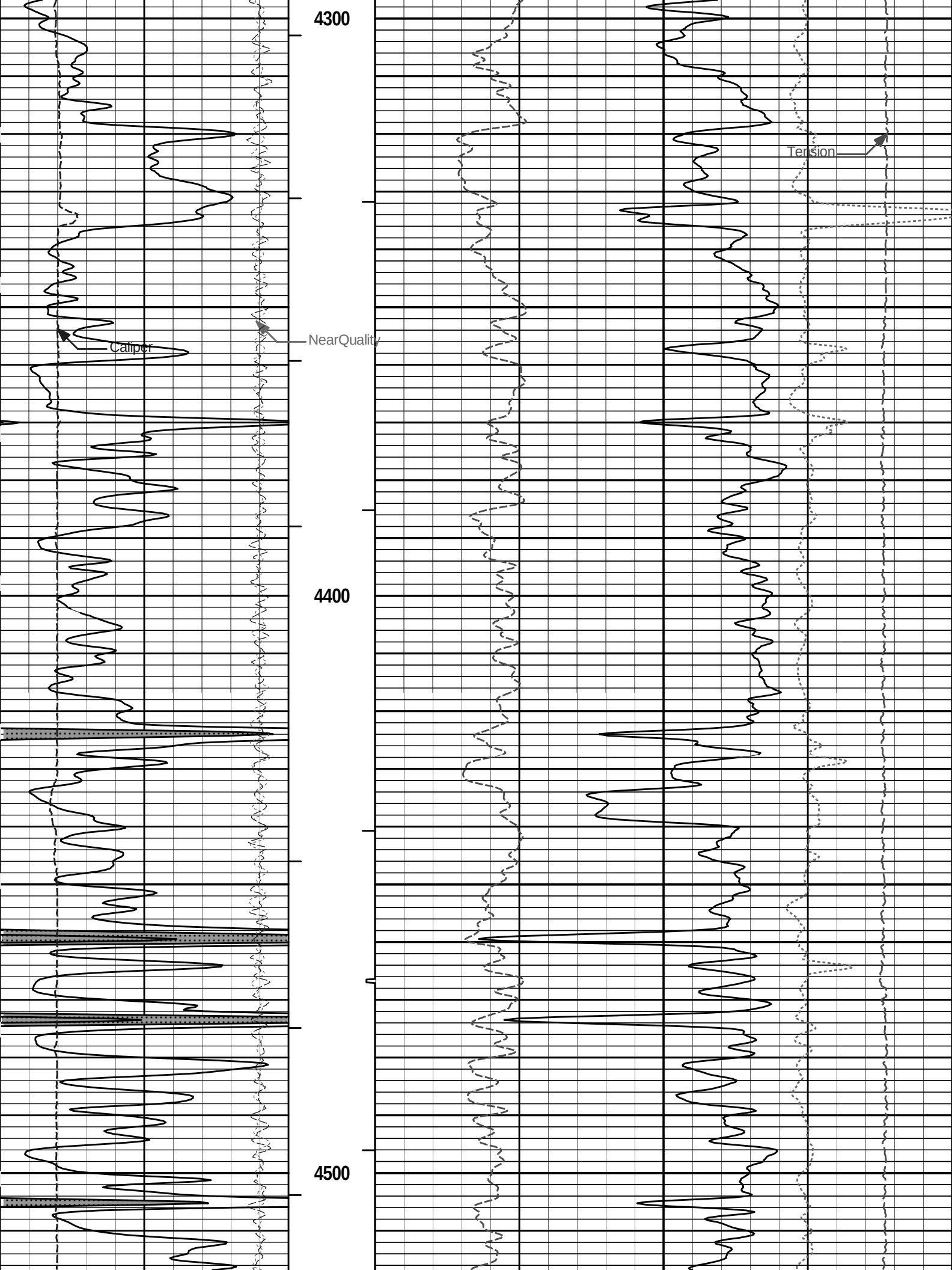
5 INCH MAIN LOG

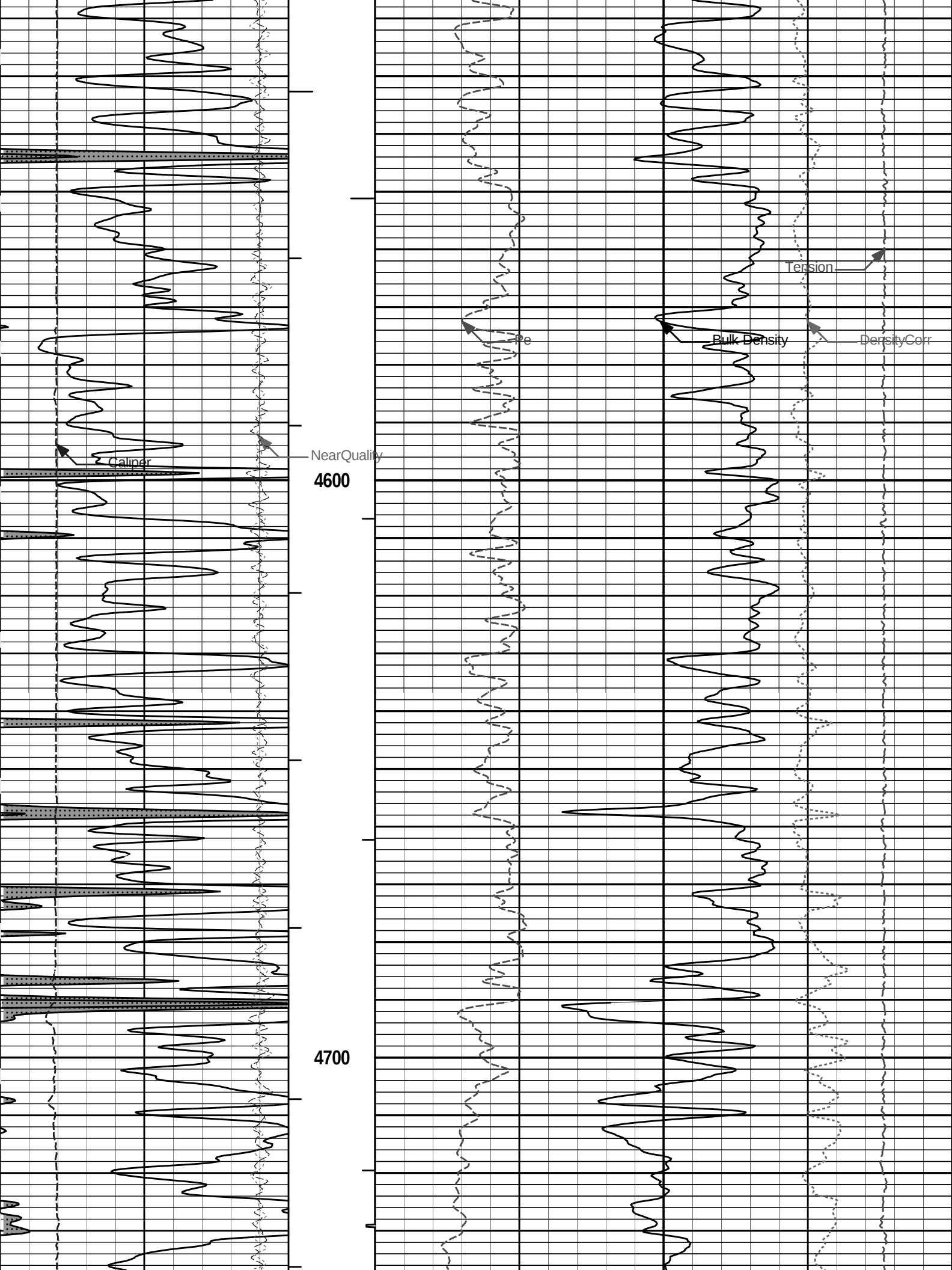
	SHALE		Tension Pull	
0	Gamma Ray	150	Tension Pull	0
	api		10	
18	FarQuality	-2	BHV	2
			ft3	
-18	NearQuality	2	AHV	3
			Bulk Density	3
			g/cc	
			15K	Tension
				pounds

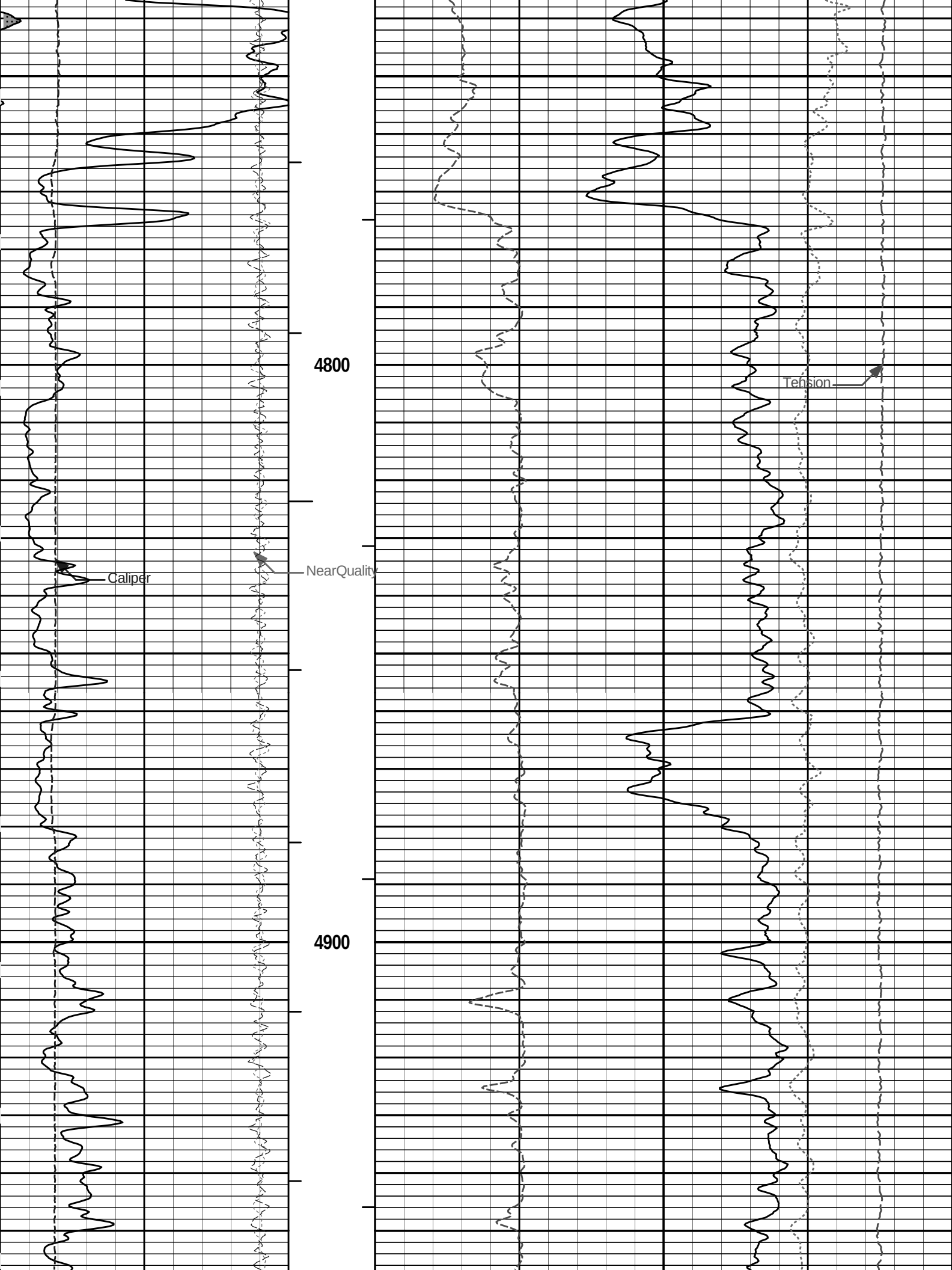


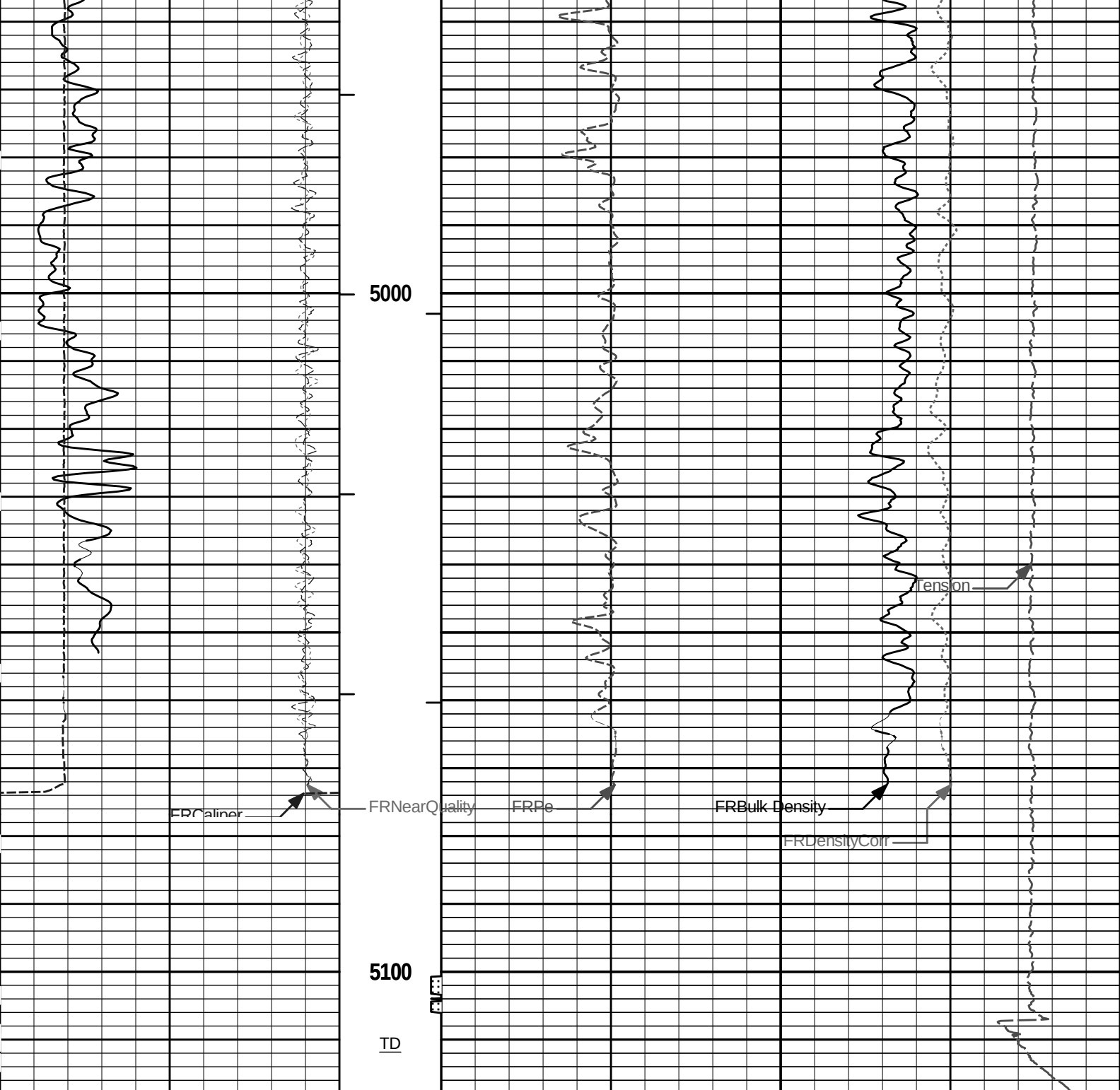












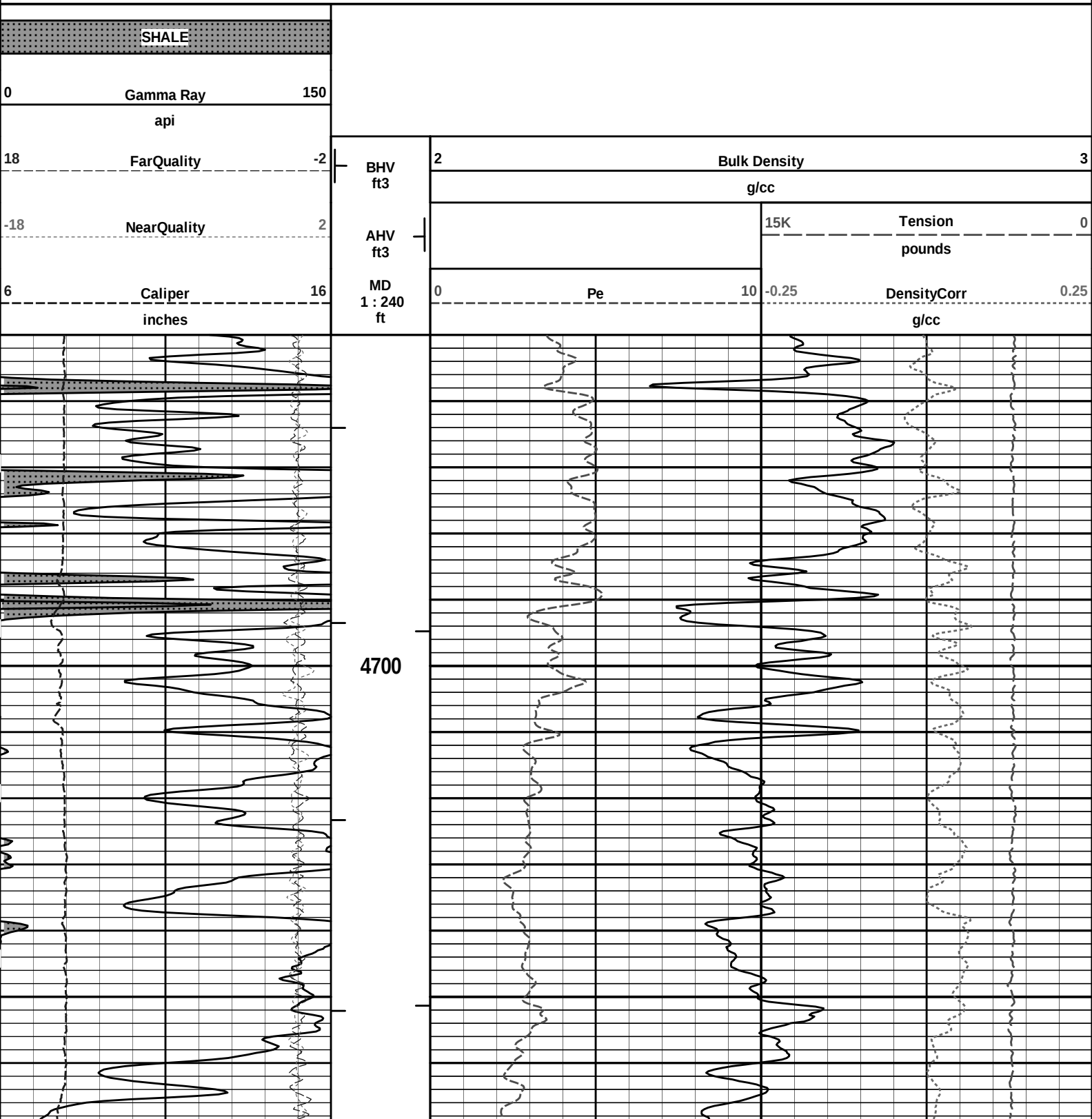
6		Caliper	16	MD 1 : 240 ft	0	Pe	10	-0.25	DensityCorr	0.25	
		inches							g/cc		
-18		NearQuality	2		AHV ft3				15K	Tension	0
											pounds
18		FarQuality	-2	BHV ft3		2 Bulk Density 3					
						g/cc					
0		Gamma Ray	150	Tension Pull		10 0					
		api									
		SHALE		Tension Pull							

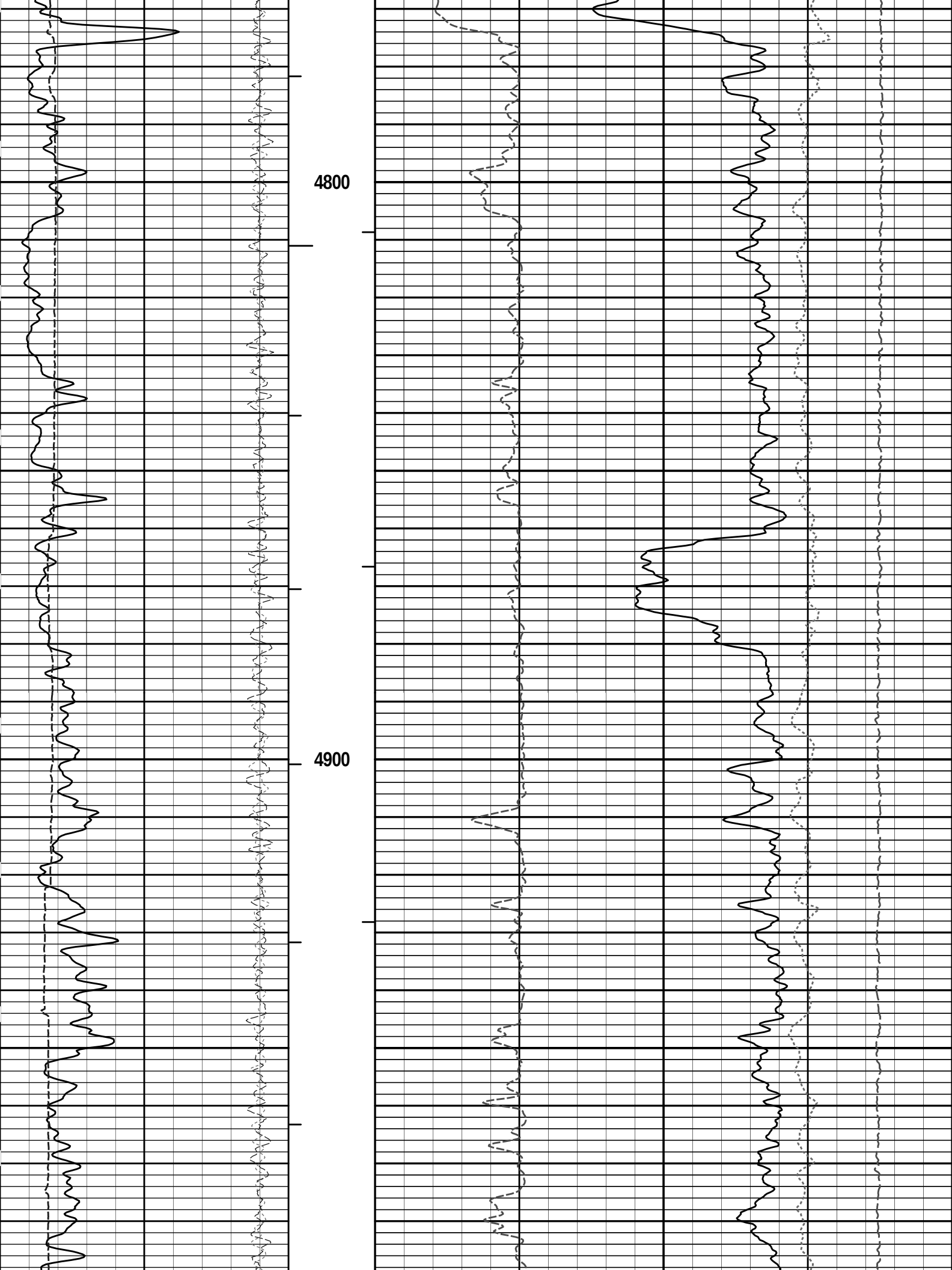
5 INCH MAIN LOG

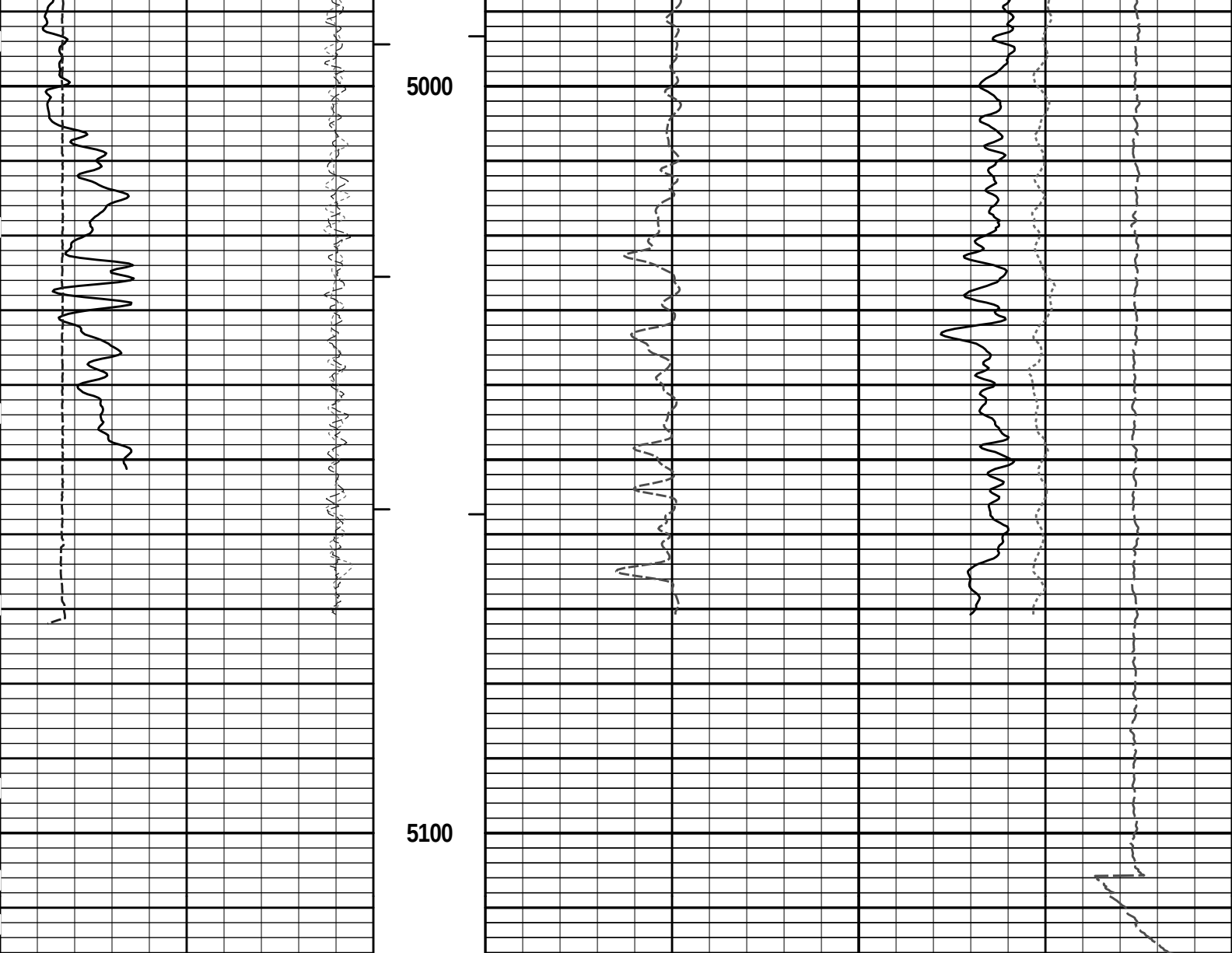
HALLIBURTON

Plot Time: 02-Jan-13 13:48:22
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Plot File: \\LOCAL-IGARDEN_CITY_V_4\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIPORO\BULKD_5_REP_LIB

REPEAT SECTION







5000

5100

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

HALLIBURTON

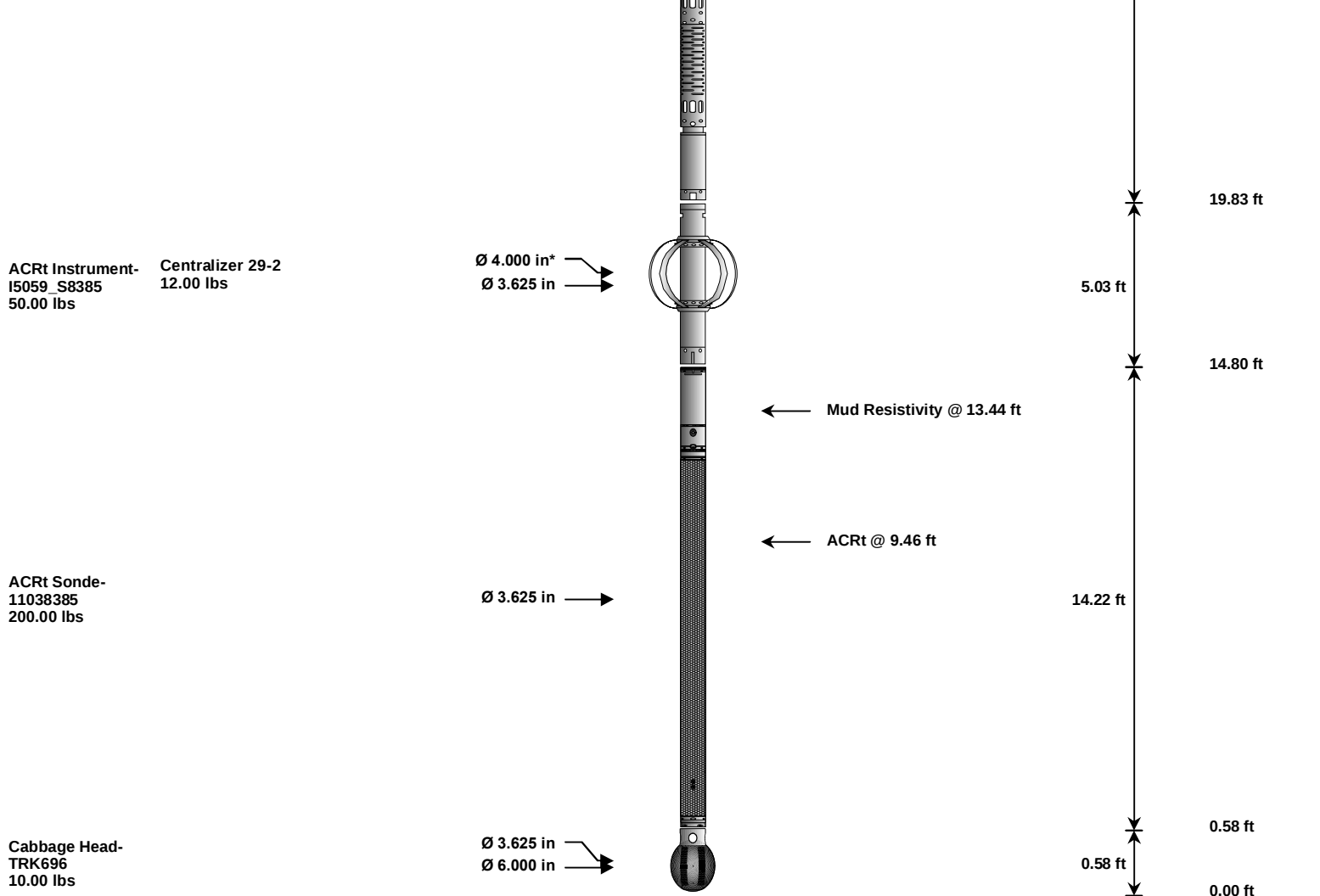
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Data: GARDEN_CITY_V_4\Well Based\REPEAT_GARDEN_CITY_V_4\
Plot File: \\LOCAL-IGARDEN_CITY_V_4\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIPORO\BULKD_5_REP_LIB

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in →		← Temperature @ 76.03 ft	3.03 ft	77.06 ft
SP Sub-11441455 60.00 lbs		Ø 3.625 in →		← SP @ 72.26 ft	3.74 ft	74.03 ft
GTET-11048627 165.00 lbs		Ø 3.625 in →		← GammaRay @ 64.23 ft	8.52 ft	70.30 ft
DSN Decentralizer-11019643 6.60 lbs		Ø 5.000 in* →				61.78 ft
DSNT-11019643 174.00 lbs		Ø 3.625 in →		← DSN Far @ 54.84 ft ← DSN Near @ 54.09 ft	9.69 ft	52.09 ft
SDLT-10950489 360.00 lbs	SDLT Pad-10844781 65.00 lbs Microlog Pad-10950489 8.00 lbs	Ø 4.500 in → Ø 4.750 in* → Ø 4.750 in* →		Microlog @ 44.28 ft SDL Caliper @ 44.09 ft SDL @ 44.08 ft	10.81 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* →				
BSAT-10747684 300.00 lbs		Ø 3.625 in →		← Sonic Receivers @ 27.09 ft	15.77 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	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	11048627	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	10747684	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.						Date: 02-Jan-13 10:56:00
Data: GARDEN_CITY_V_4\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\IDLE						

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	GTET - 11048627	Reference Calibration Date:	15-Oct-12 10:58:20
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Engineer:	S. INGERSOLL	Calibration Date:	20-Dec-12 17:00:35	
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	51.6	51.2	api
	Background + Calibrator	323.1	320.9	api
	Calibrator	271.5	269.6	api

DUAL SPACED NEUTRON SHOP CALIBRATION			
Tool Name:	DSNT - 11019643	Reference Calibration Date:	01-Jan-70 00:00:00
Engineer:	J. BOLLLOM	Calibration Date:	12-Dec-12 16:42:45
Software Version:	WL INSITE R3.6.0 (Build 3)	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: 3.625 in			

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.950	0.950	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):	0.2110	0.2110	0.0000	+/- 0.0020
Calibrated Ratio:	9.73	9.73	0.000	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0568	0.02000 - 0.09000

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

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10950489	Reference Calibration Date:	12-Dec-12 14:21:16
Engineer:	J. BOLLLOM	Calibration Date:	12-Dec-12 14:25:29
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1
Host Tool Name:	DSNT - 11019643		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1756.11	-1728.05	-7000.00 - -1000.00
Pad Gain	0.0004006	0.0003977	0.000200 - 0.000600
Arm Offset	-1967.48	-1544.78	-5000.00 - 3000.00

Arm Gain0.00058940.00054150.000300 - 0.000700

Arm Power-0.000009816-0.000006672-0.000010000 - 0.000010000

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.39	6.50	0.11	+/- 0.20
Medium Ring (in)	8.25	8.25	0.00	+/- 0.20
Large Ring (in)	14.83	15.00	0.17	+/- 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:	19-Nov-12 15:27:03
Engineer:	S. INGERSOLL	Calibration Date:	19-Dec-12 18:03:45
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Logging Source S/N: 5168GW

Aluminum Block S/N: LIBERALDensity: 2.598g/ccPe: 3.170

Magnesium Block S/N: LIBERALDensity: 1.684g/ccPe: 2.598

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0289	1.0447	0.90 - 1.10
Near Dens Gain	1.0211	1.0198	0.90 - 1.10
Near Peak Gain	1.0191	1.0144	0.90 - 1.10
Near Lith Gain	1.0080	1.0044	0.90 - 1.10
Far Bar Gain	1.0134	1.0157	0.90 - 1.10
Far Dens Gain	1.0005	1.0034	0.90 - 1.10
Far Peak Gain	0.9970	0.9983	0.90 - 1.10
Far Lith Gain	0.9763	0.9769	0.90 - 1.10
Near Bar Offset	-0.0666	-0.2161	NONE
Near Dens Offset	-0.0031	-0.0010	NONE
Near Peak Offset	0.0181	0.0442	NONE
Near Lith Offset	0.1033	0.1184	NONE
Far Bar Offset	0.0149	-0.0049	NONE
Far Dens Offset	0.1185	0.0916	NONE
Far Peak Offset	0.1199	0.1075	NONE
Far Lith Offset	0.2603	0.2491	NONE
Near Bar Background	808.86	808.41	700 - 1450
Near Dens Background	265.41	263.67	230 - 480
Near Peak Background	115.66	116.13	100 - 210
Near Lith Background	143.86	143.73	125 - 260
Far Bar Background	526.45	528.52	450 - 900

Far Dens Background	208.46	207.26	175 - 345
Far Peak Background	82.80	81.89	70 - 140
Far Lith Background	85.51	84.92	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.692	1.684	-0.008	+/- 0.015
Pe	2.462	2.555	0.093	+/- 0.150
ALUMINUM				
Density (g/cc)	2.601	2.598	-0.003	+/- 0.01500
Pe	3.068	3.123	0.055	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0005	+/- 0.0110	-0.0009	+/- 0.0140
Magnesium Block	-0.0004	+/- 0.0110	-0.0024	+/- 0.0140
Aluminum Block	-0.0006	+/- 0.0110	-0.0009	+/- 0.0140
Resolution	9.48	6.00 - 11.50	9.23	6.00 - 11.50
Internal Verifier(B+D+P+L)	1332	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

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	-----	-----	0.0	+/- 9.00	api
DSNT-11019643						
Snow-Block Porosity	0.0568	-----	-----	0.0000	+/- .--	decg
SDLT-10950489						
Pad Extension	3.75	-----	-----	0.00	+/-0.20	in
Ring Diameter	8.25	-----	-----	0.00	+/-0.20	in
SDLT Pad-10844781						
Near(B+D+P+L)	1331.934	-----	-----	0.000	+/-12.919	cps
Far(B+D+P+L)	902.585	-----	-----	0.000	+/-14.812	cps

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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	9.100	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	5128.00	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	DFE	Formation Density Fluid	1.000	g/cc
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	User define	
BSAT	DTMA	Delta -T Matrix	47.60	uspf
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
ACRt Sonde	RTOK	Process ACRT?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
BOTTOM_____				
Data: GARDEN_CITY_V_4I0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIDLE			Date: 02-Jan-13 11:01:37	

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 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	

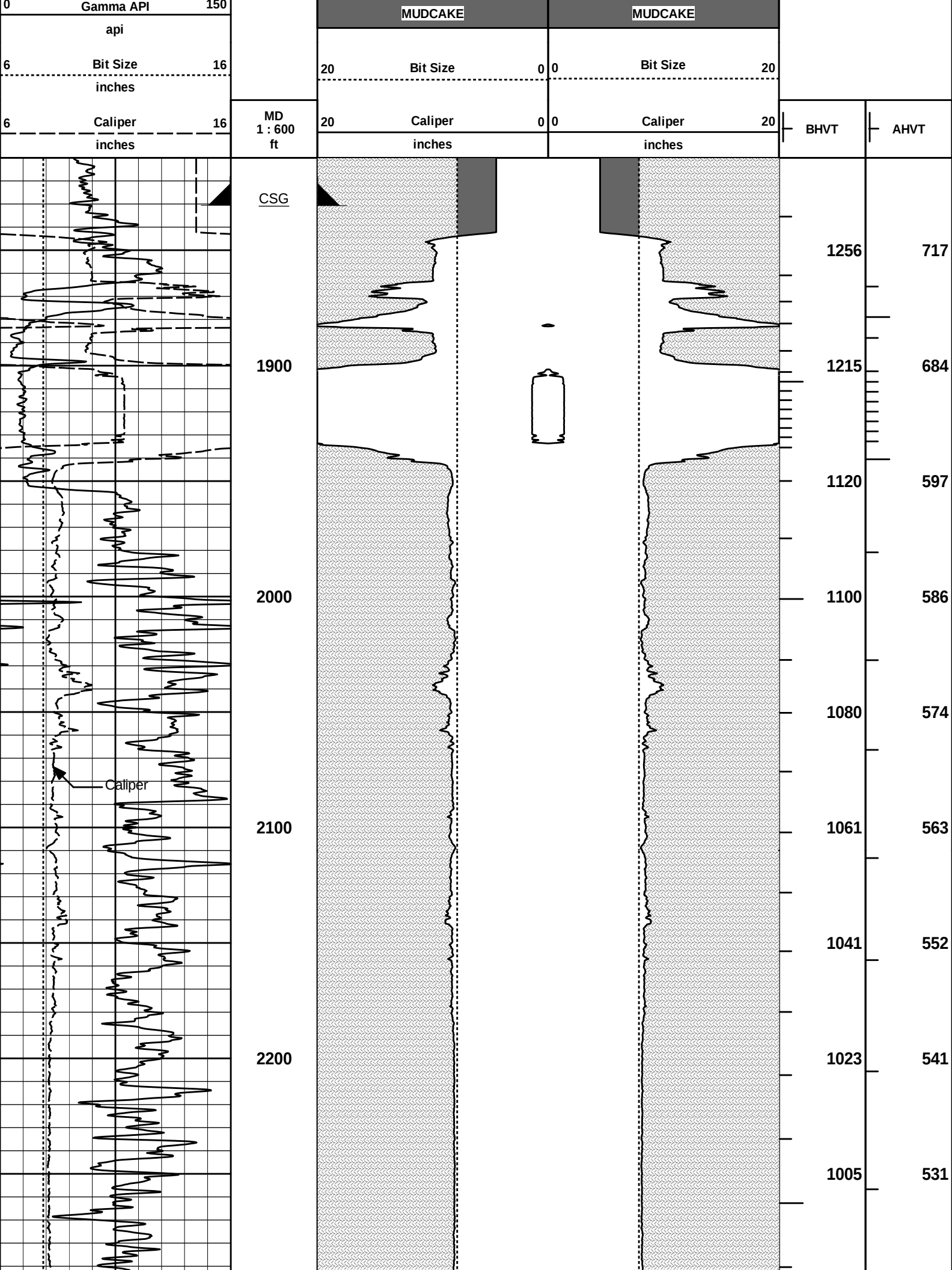
SDLT Pad				
TPUL	Tension Pull	44.08	NO	
NAB	Near Above	43.90	BLK	0.920
NHI	Near Cesium High	43.90	BLK	0.920
NLO	Near Cesium Low	43.90	BLK	0.920
NVA	Near Valley	43.90	BLK	0.920
NBA	Near Barite	43.90	BLK	0.920
NDE	Near Density	43.90	BLK	0.920
NPk	Near Peak	43.90	BLK	0.920
NLI	Near Lithology	43.90	BLK	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	

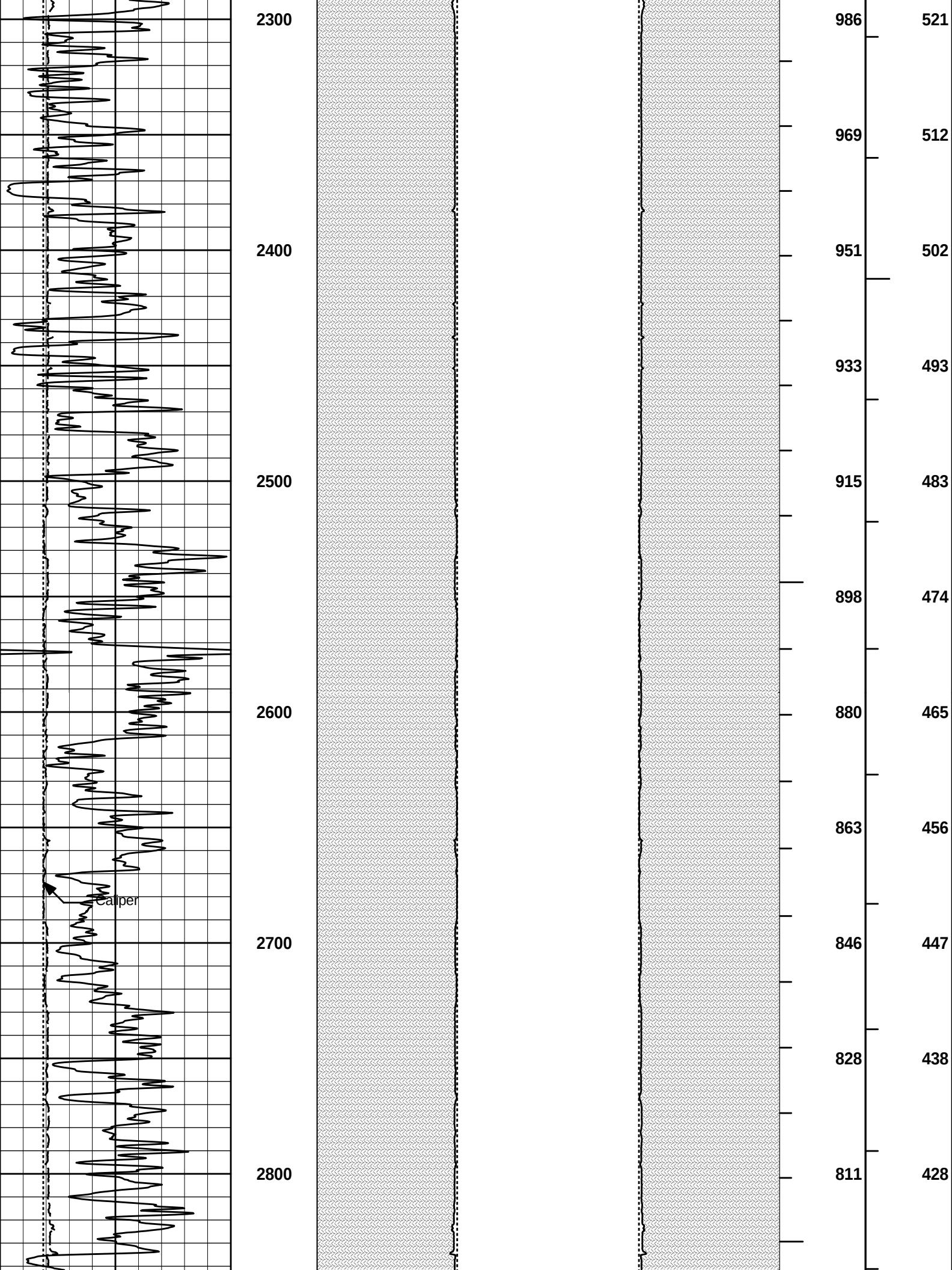
Microlog Pad				
TPUL	Tension Pull	44.28	NO	
MINV	Microlog Lateral	44.28	BLK	0.750
MNOR	Microlog Normal	44.28	BLK	0.750
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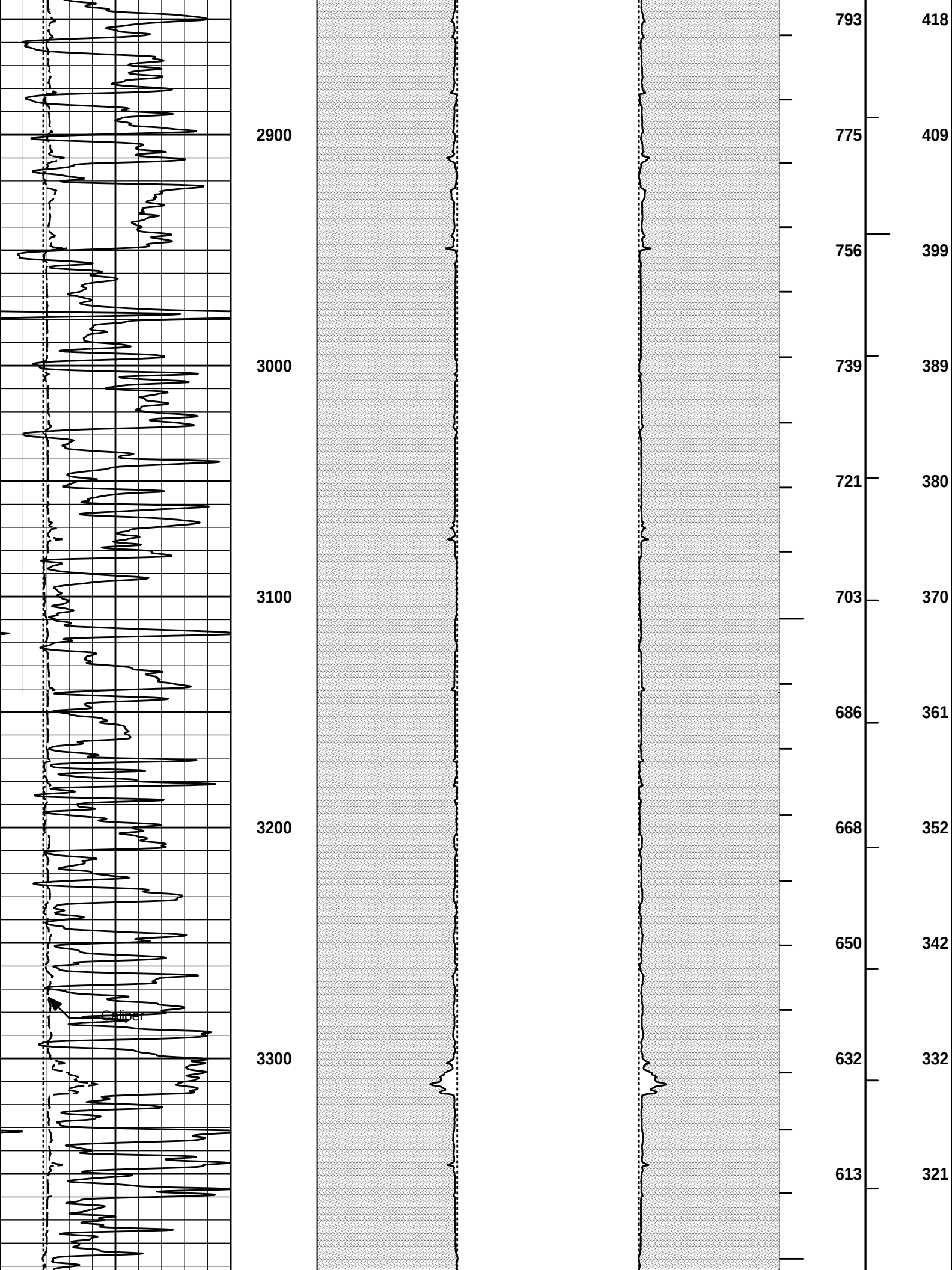


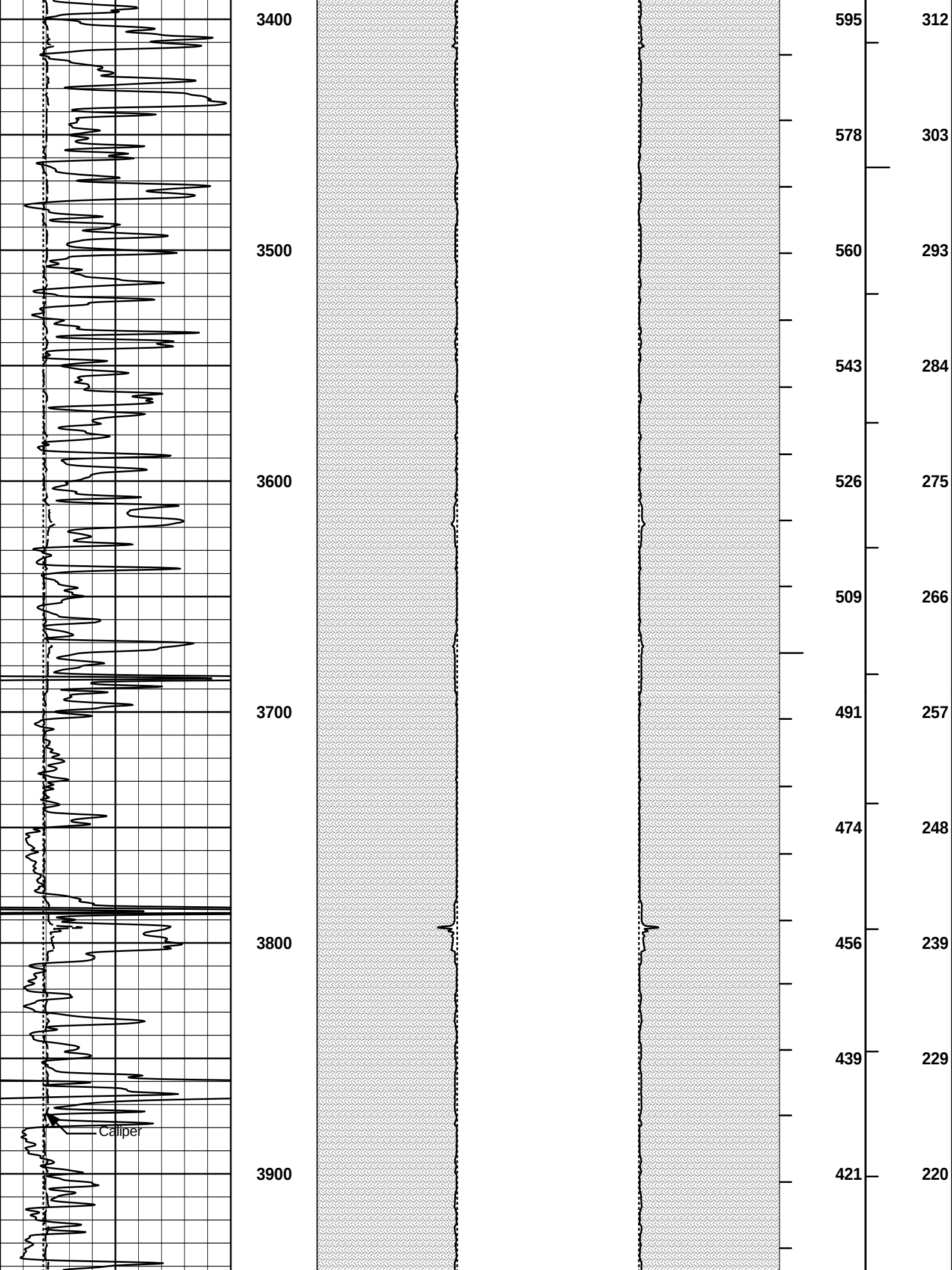
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Plot Range: 1810 ft to 5118 ft
Data: GARDEN_CITY_V_4IWell Based\CASING\
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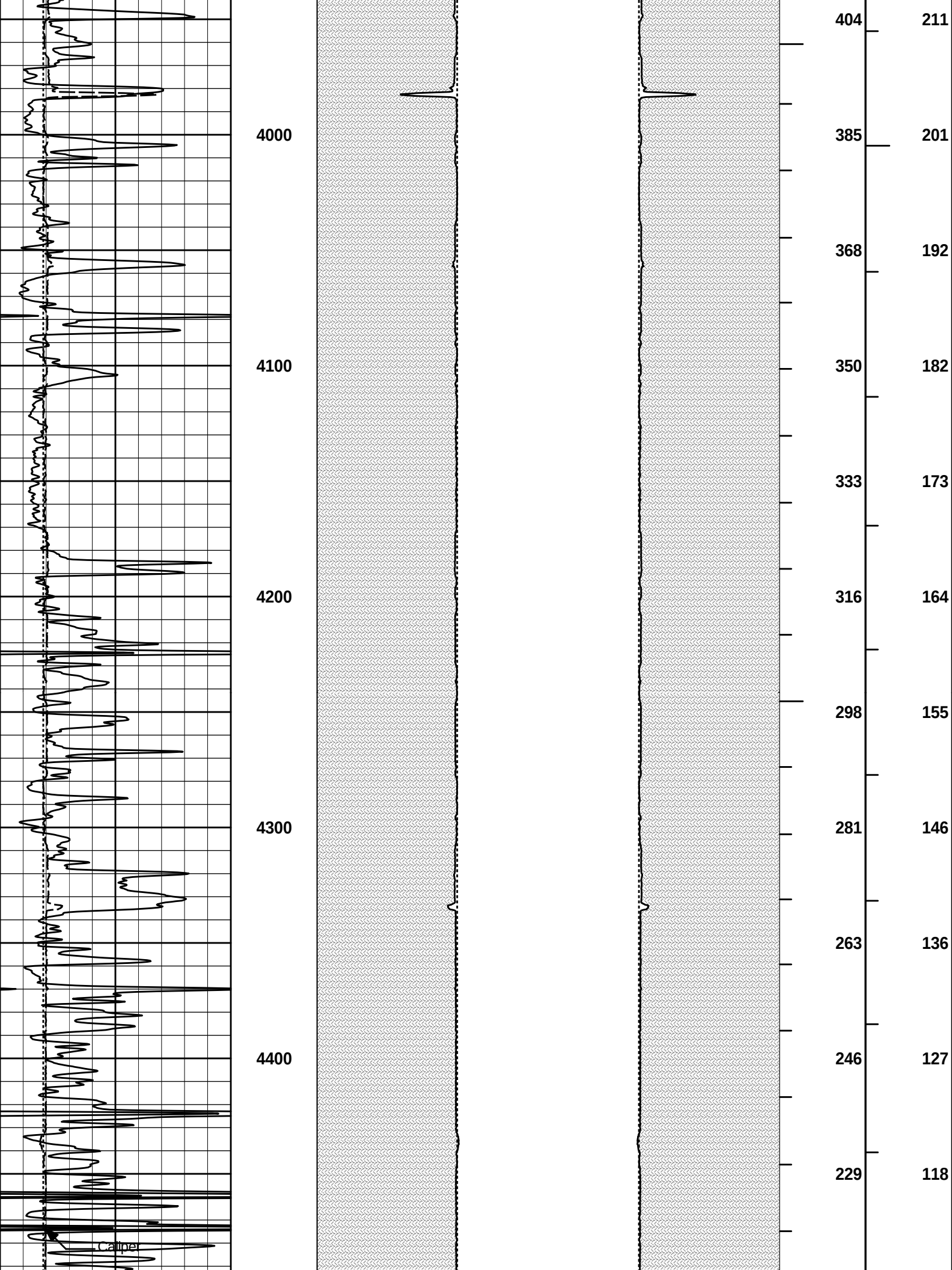
ANNULAR HOLE VOLUME PLOT

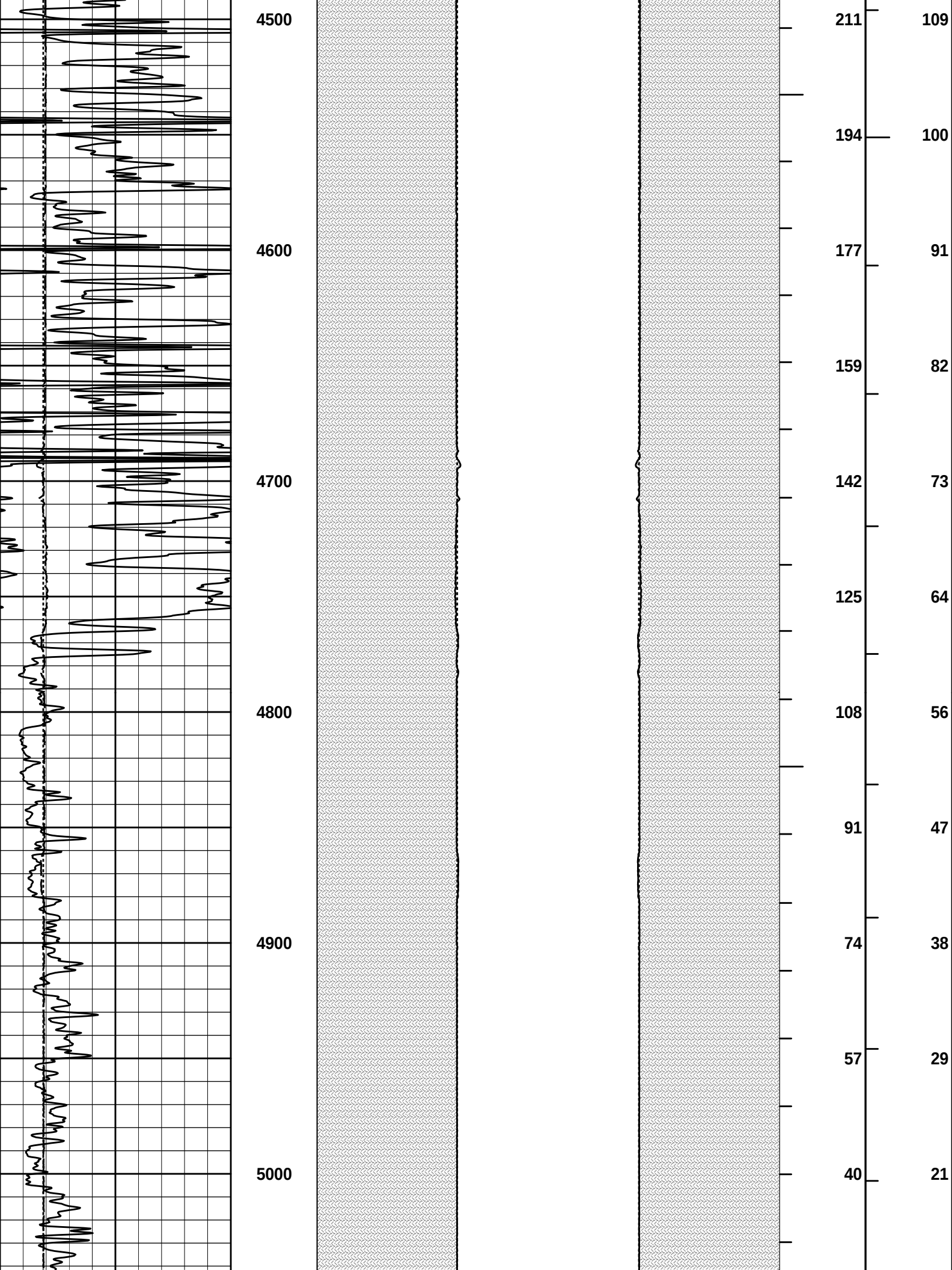


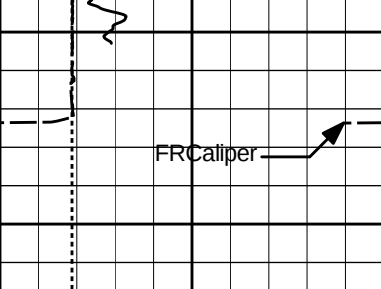












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HALLIBURTON

Plot Time: 02-Jan-13 13:48:28

Plot Range: 1810 ft to 5118 ft

Data: GARDEN_CITY_V_4\Well Based\CASING\

Plot File: \\-LOCAL-\\GARDEN_CITY_V_4\\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\\PORO\\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	OXY USA INC.		
WELL	GARDEN CITY V-4		
FIELD	GARDEN CITY		
COUNTY	FINNEY	STATE	KANSAS
HALLIBURTON		SPECTRAL DENSITY DUAL SPACED NEUTRON LOG	