

HALLIBURTON

SPECTRAL DENSITY
DUAL SAGED NEURTON
ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY		LARAMIE ENERGY	
WELL		HAWXHURST 25-01B	
FIELD		BUZZARD CREEK	
COUNTY		MESA	
STATE		CO	
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Date		23-Sep-11	
Run No.		ONE	
Depth - Driller		6665.00 ft	
Depth - Logger		6654.0 ft	
Bottom - Logged Interval		6652.0 ft	
Top - Logged Interval		1593.0 ft	
Casing - Driller		8.625 in @ 1594.0 ft	
Casing - Logger		1593.0 ft	
Bit Size		7.875 in	
Type Fluid in Hole		WBM	
Density		9.6 ppg	
Viscosity		50.00 s/qt	
PH		8.90 pH	
Fluid Loss		7.2 cpm	
Source of Sample		MUD TANK	
Rm @ Meas. Temperature		1.800 ohmm @ 65.70 degF	
Rmf @ Meas. Temperature		1.37 ohmm @ 75.00 degF	
Rmc @ Meas. Temperature		1.400 ohmm @ 75.00 degF	
Source Rmf		CHART	
Rmc		CHART	
Rm @ BHT		0.71 ohmm @ 178.0 degF	
Time Since Circulation		10.0 hr	
Time on Bottom		23-Sep-11 03:10	
Max. Rec. Temperature		178.0 degF @ 6654.0 ft	
Equipment		11014853	
Location		GJ, CO	
Recorded By		J. KRONABLE	
Witnessed By		KELLY CLAUSEN	

COMPANY	LARAMIE ENERGY
WELL	HAWXHURST 25-01B
FIELD	BUZZARD CREEK
COUNTY	MESA
STATE	CO
API No.	05077101640000
Location	SHL: 1344' FSL & 616' FEL BHL: 657' FNL & 644' FEL
Other Services:	RWCH

Elev. 6354.0 ft
D.F. 6375.0 ft
G.L. 6354.0 ft
21.0 ft above perm. Datum

Fold here

Service Ticket No.: 8478435										API Serial No.: 05077101640000										PGM Version: WL INSITE R3.4.2 (Build 2)									
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.		@				@				ONE		ACRT		N/A		1.5" S.O.		N/A											
Rmc @ Meas. Temp.		@				@						90194258E7486																	
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.		11005602			Serial No.					Serial No.		10951314			Serial No.		10846353												
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.		102A			Spacing					Log Type		GAMMA-GAMMA			Log Type		THERMAL												
Type		SCINT								Source Type		Cs-137			Source Type		Am241Be												
Length		8"			LSA [Y/N]					Serial No.		5153GW			Serial No.		DSN-388												
Distance to Source		10'			FWDA [Y/N]					Strength		1.5 Ci			Strength		15 Ci												
LOGGING DATA																													
GENERAL					GAMMA					ACOUSTIC					DENSITY					NEUTRON									

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	9.600	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	2.000	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	4.500	in
	SHARED	ST	Surface Temperature	56.0	degF
	SHARED	TD	Total Well Depth	6665.00	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	0.250	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	Sandstone	
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	2.680	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
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_____				

Data: LARA_HAWX25_01B\0001 TRIPLE\IDLE

Date: 23-Sep-11 04:11:03

HALLIBURTON

Plot Time: 23-Sep-11 05:34:25

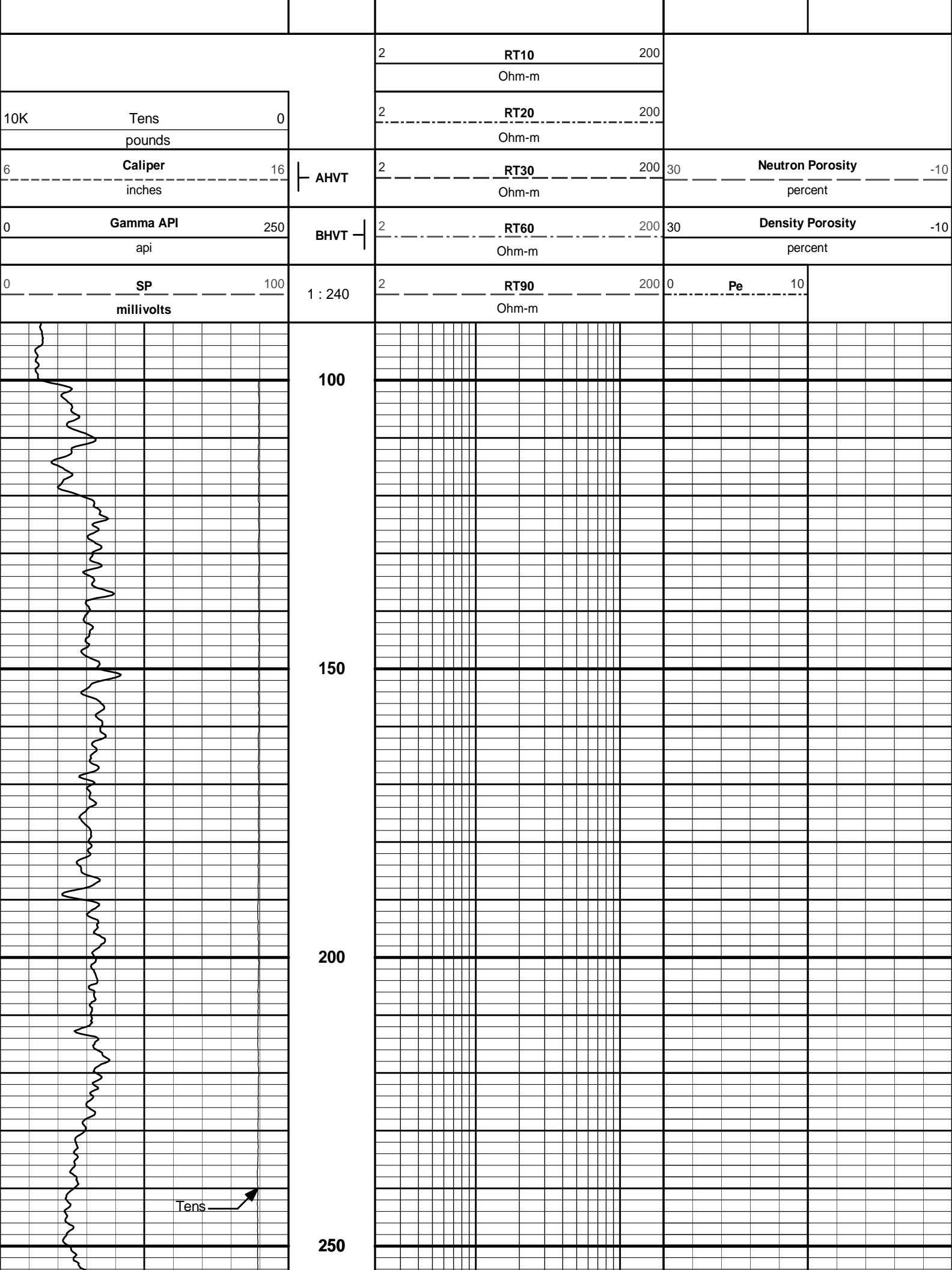
Plot Range: 90 ft to 6664.42 ft

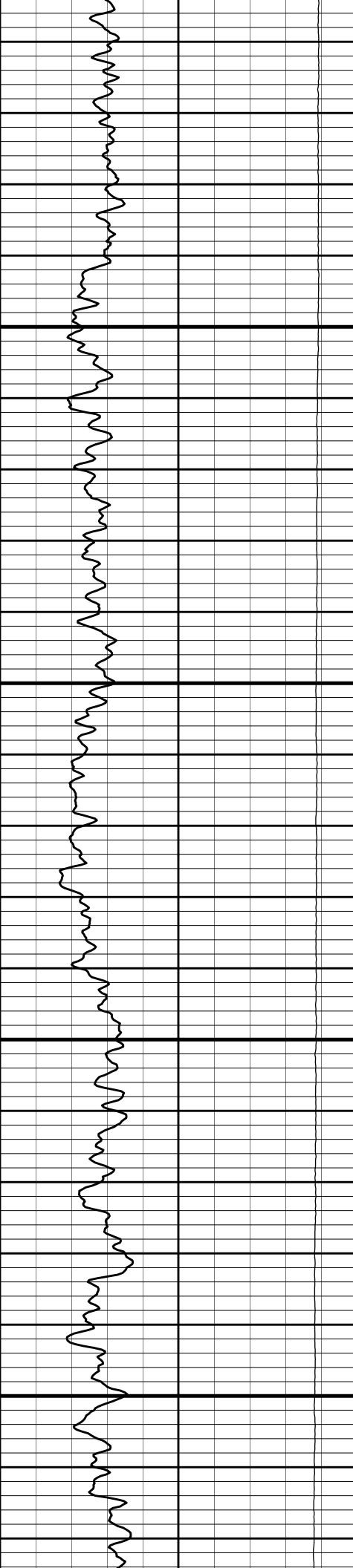
Data: LARA_HAWX25_01B\Well Based*

Plot File: \\COMPIQ_COMPOSITE_5IN_RM_NOBLE

2150 TO 2500 5" = 100'

Track 1	Depth Track	Track 2	Track 5	Track 3
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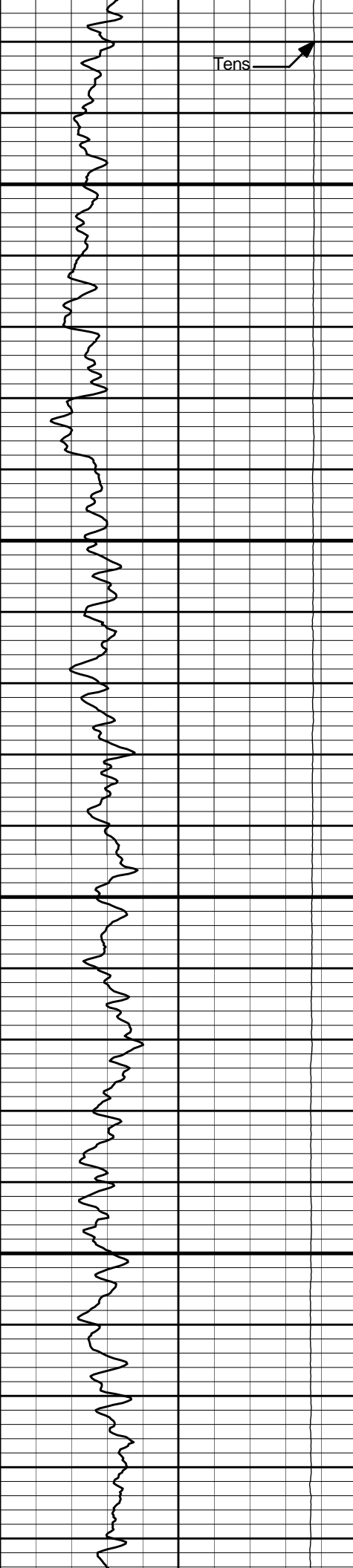


300

350

400

450

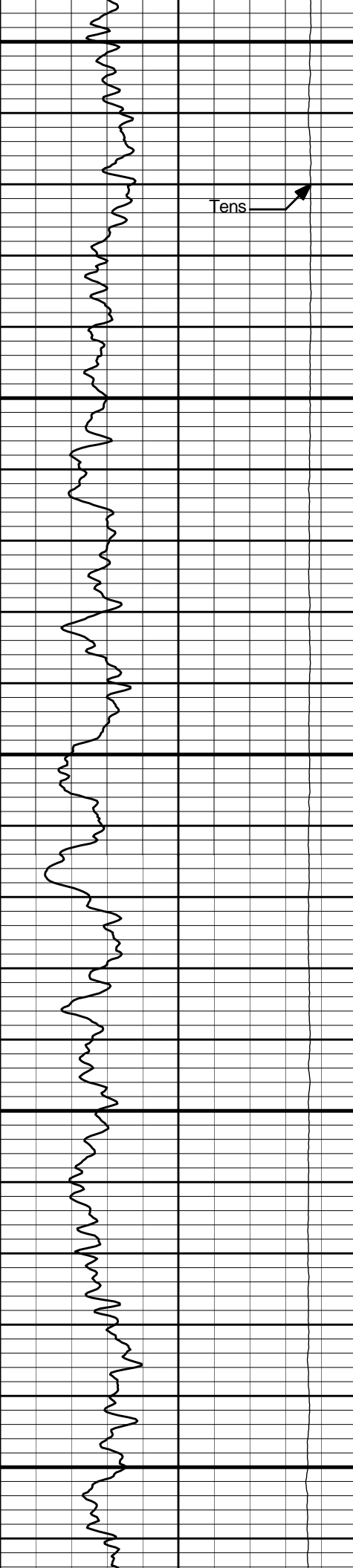


500

550

600

650



700

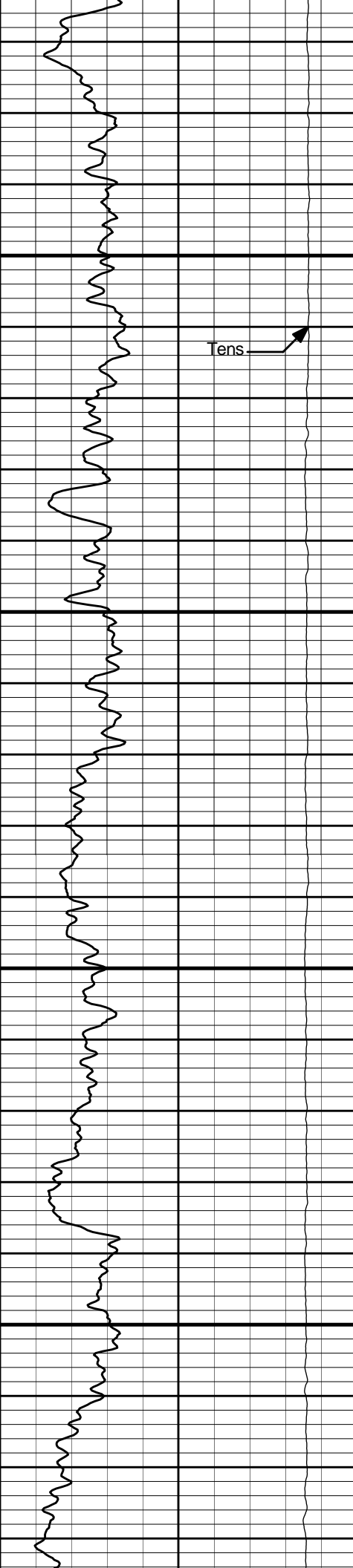
750

800

850

900

Tens

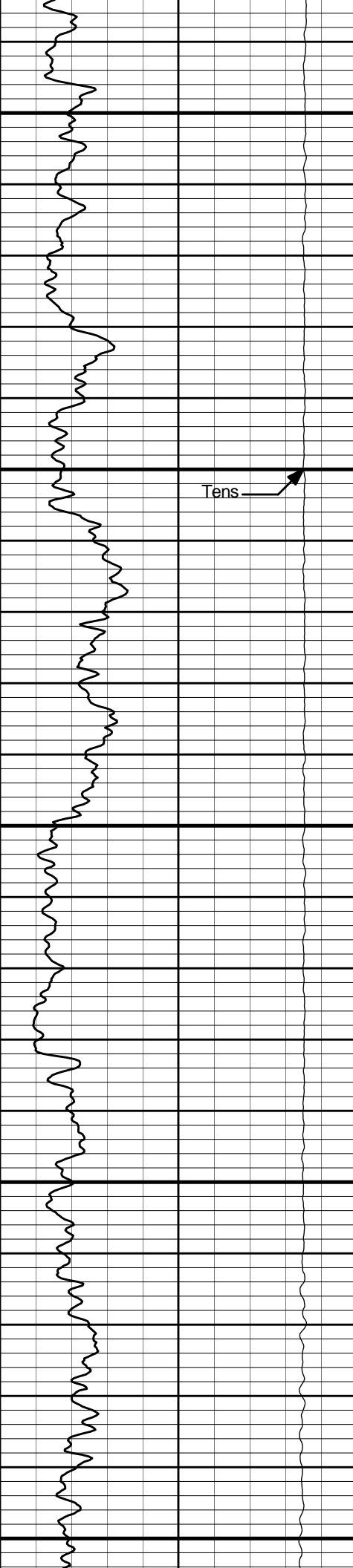


950

1000

1050

1100



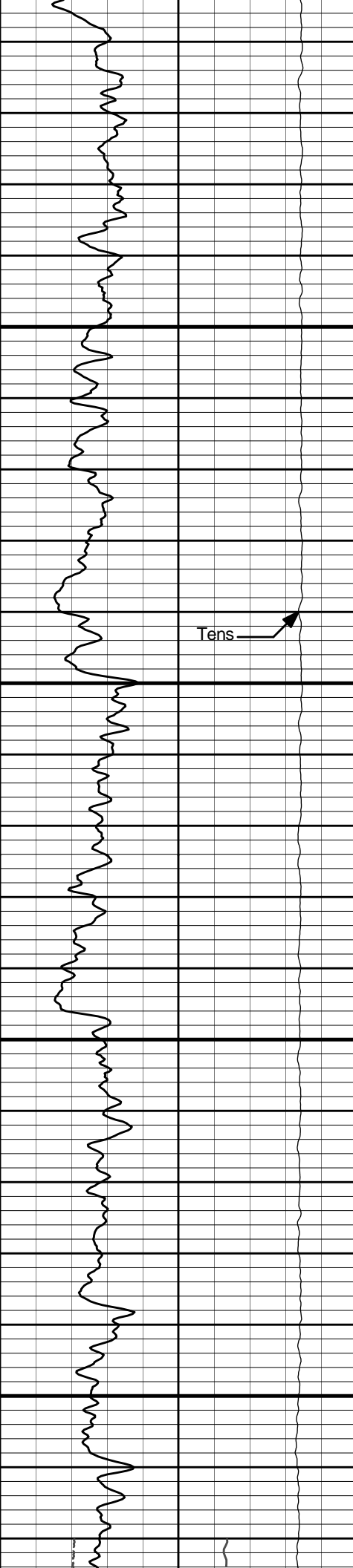
1150

1200

1250

1300

1350

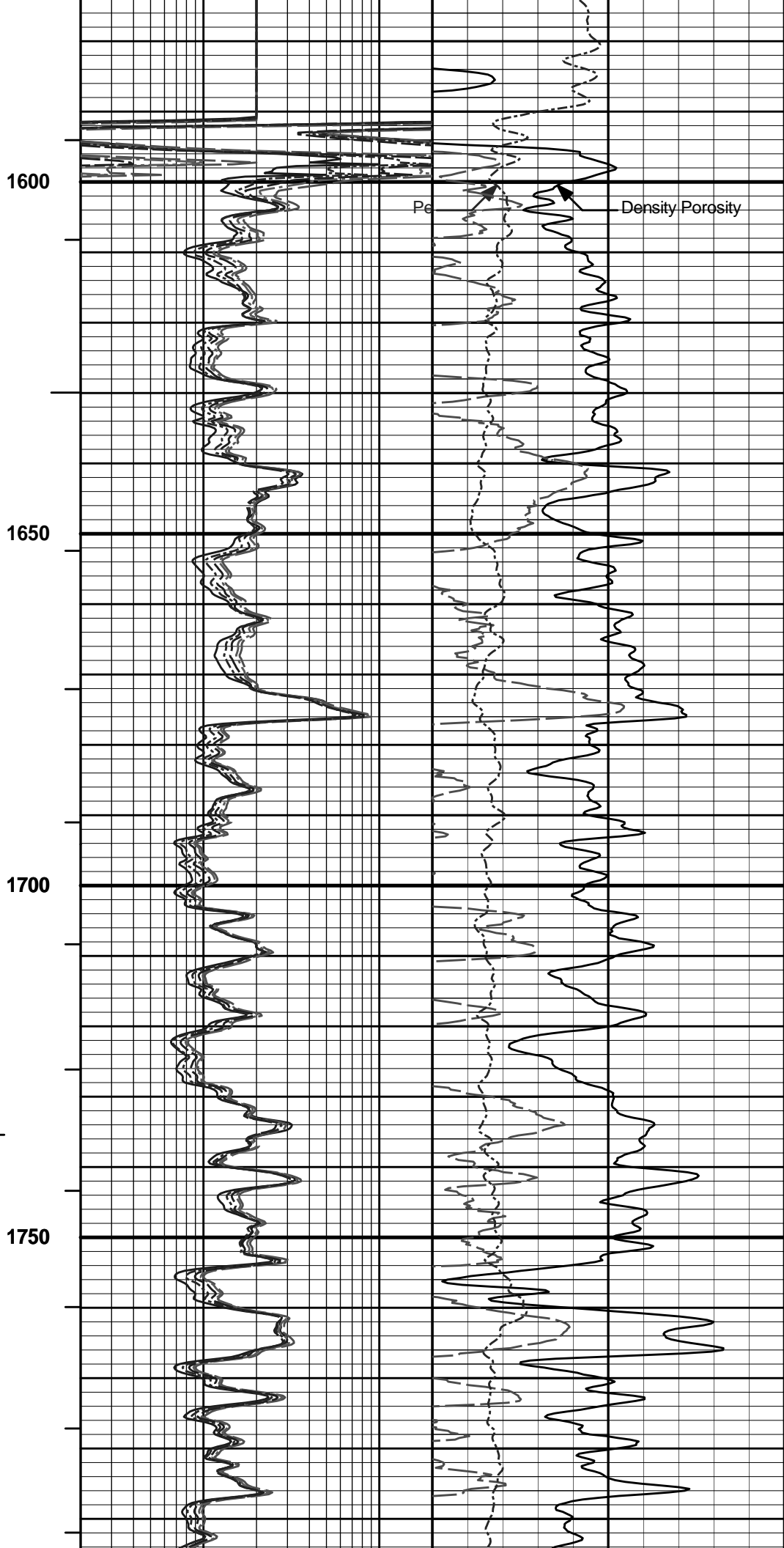
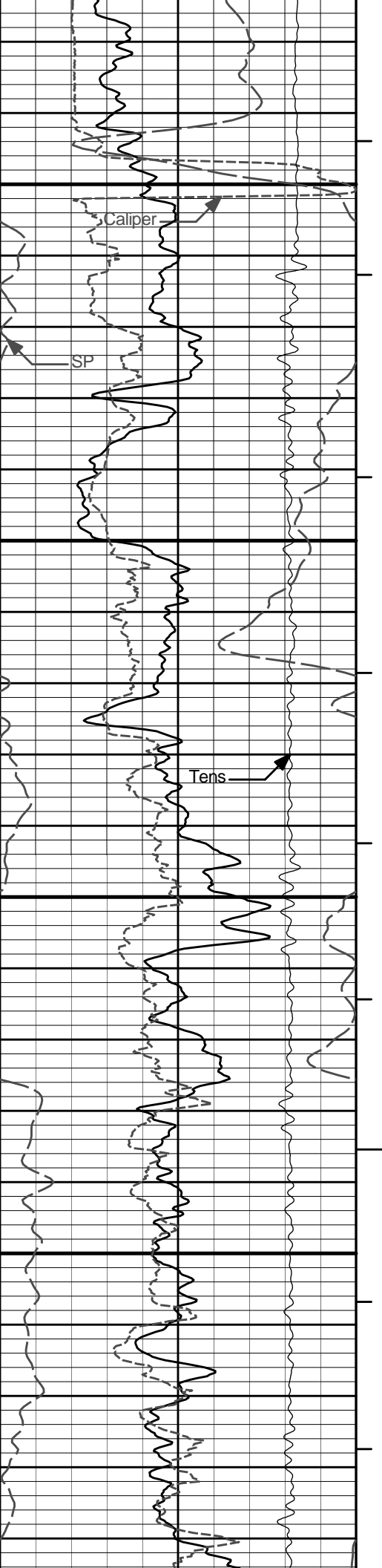


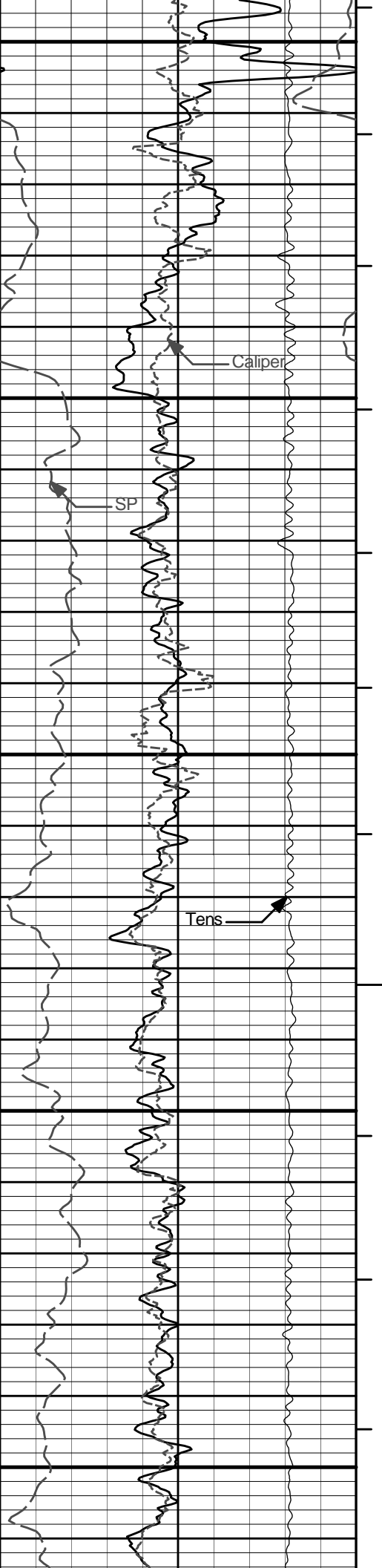
1400

1450

1500

1550





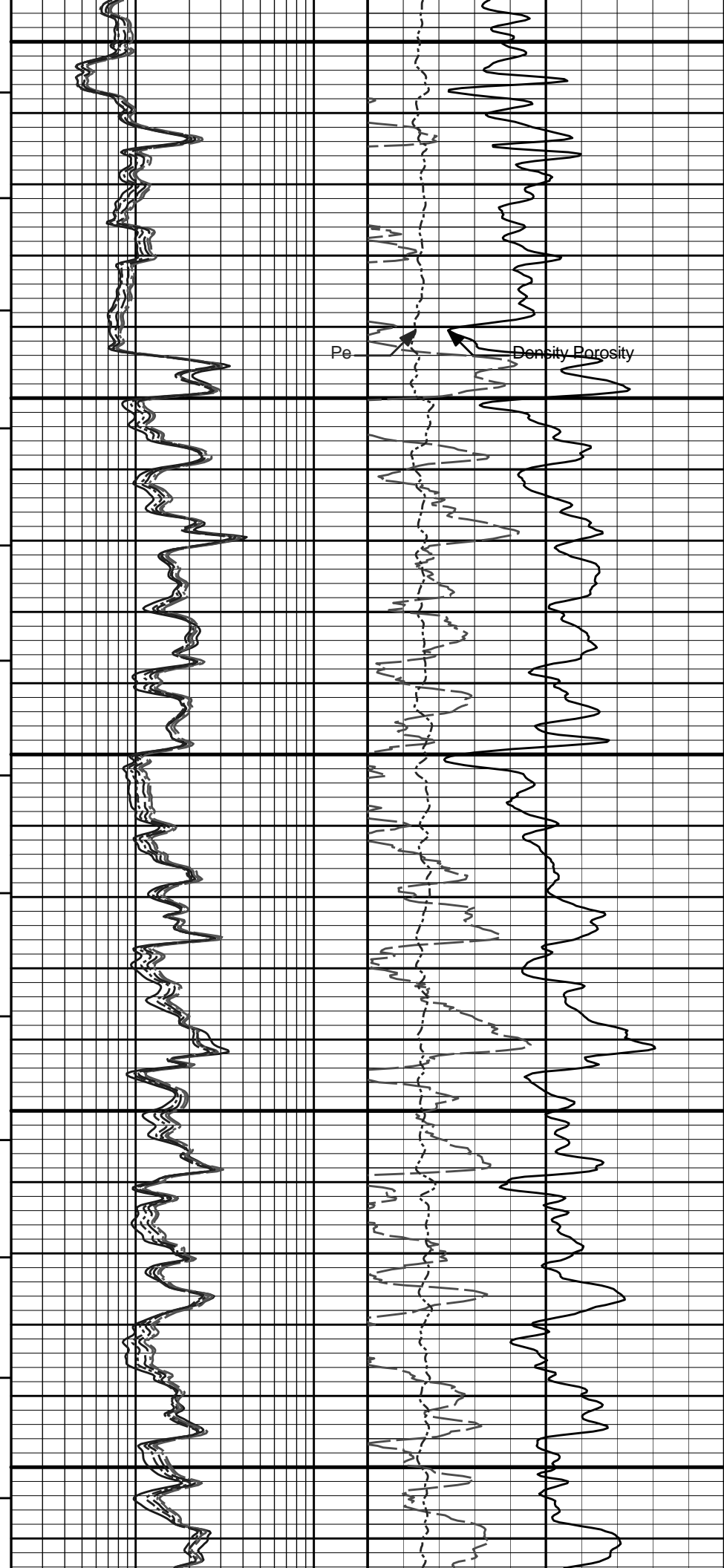
1800

1850

1900

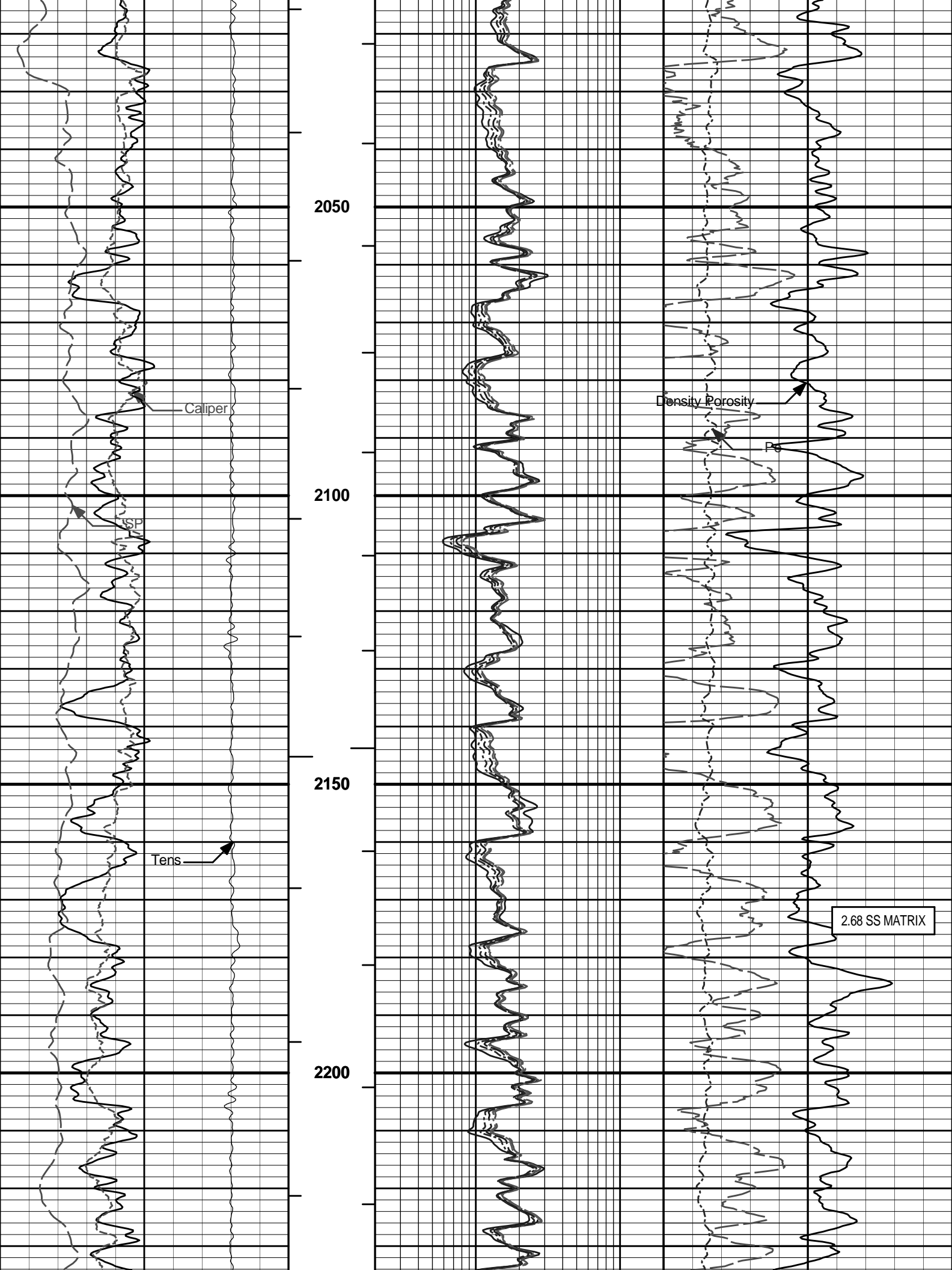
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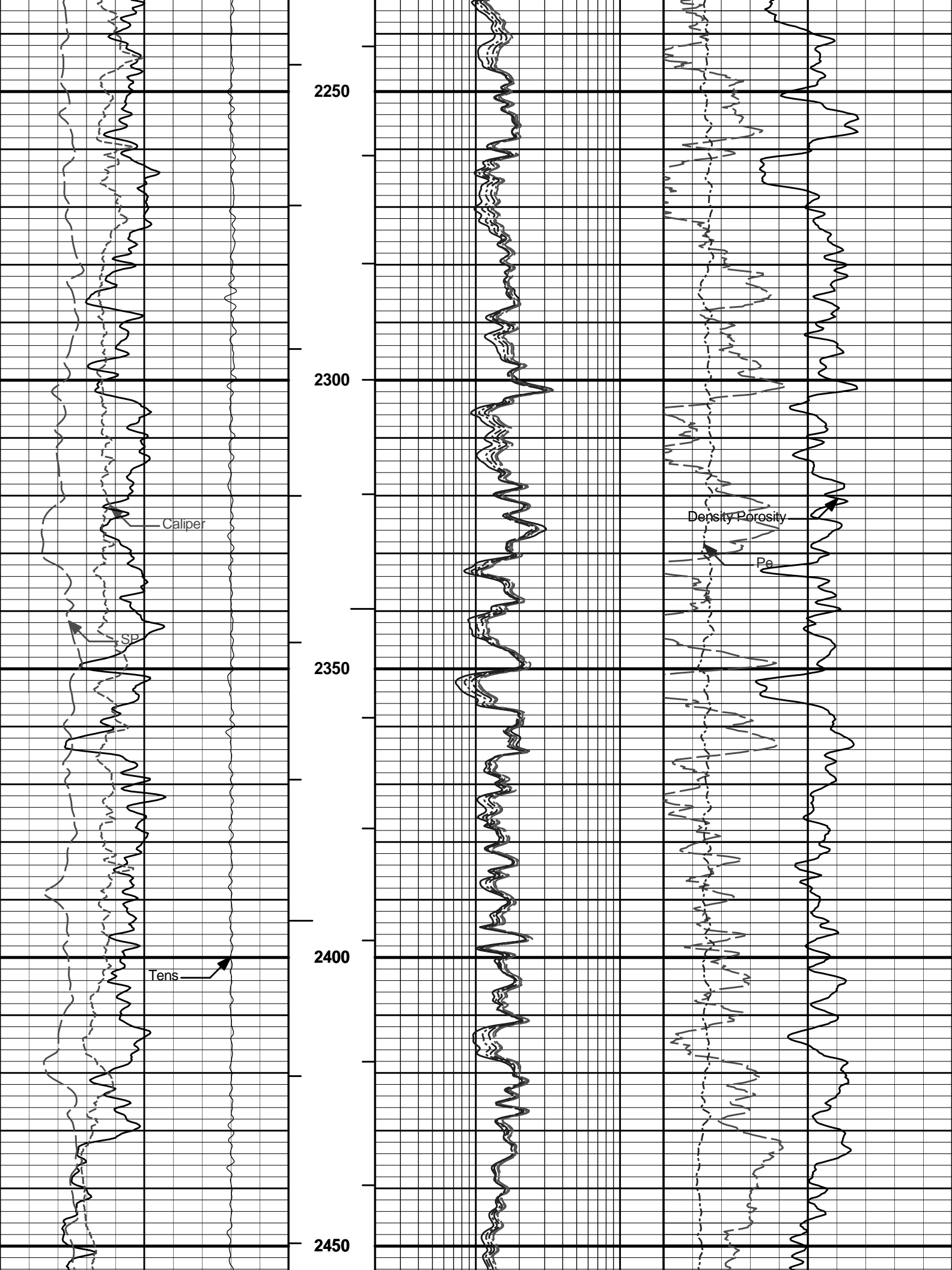
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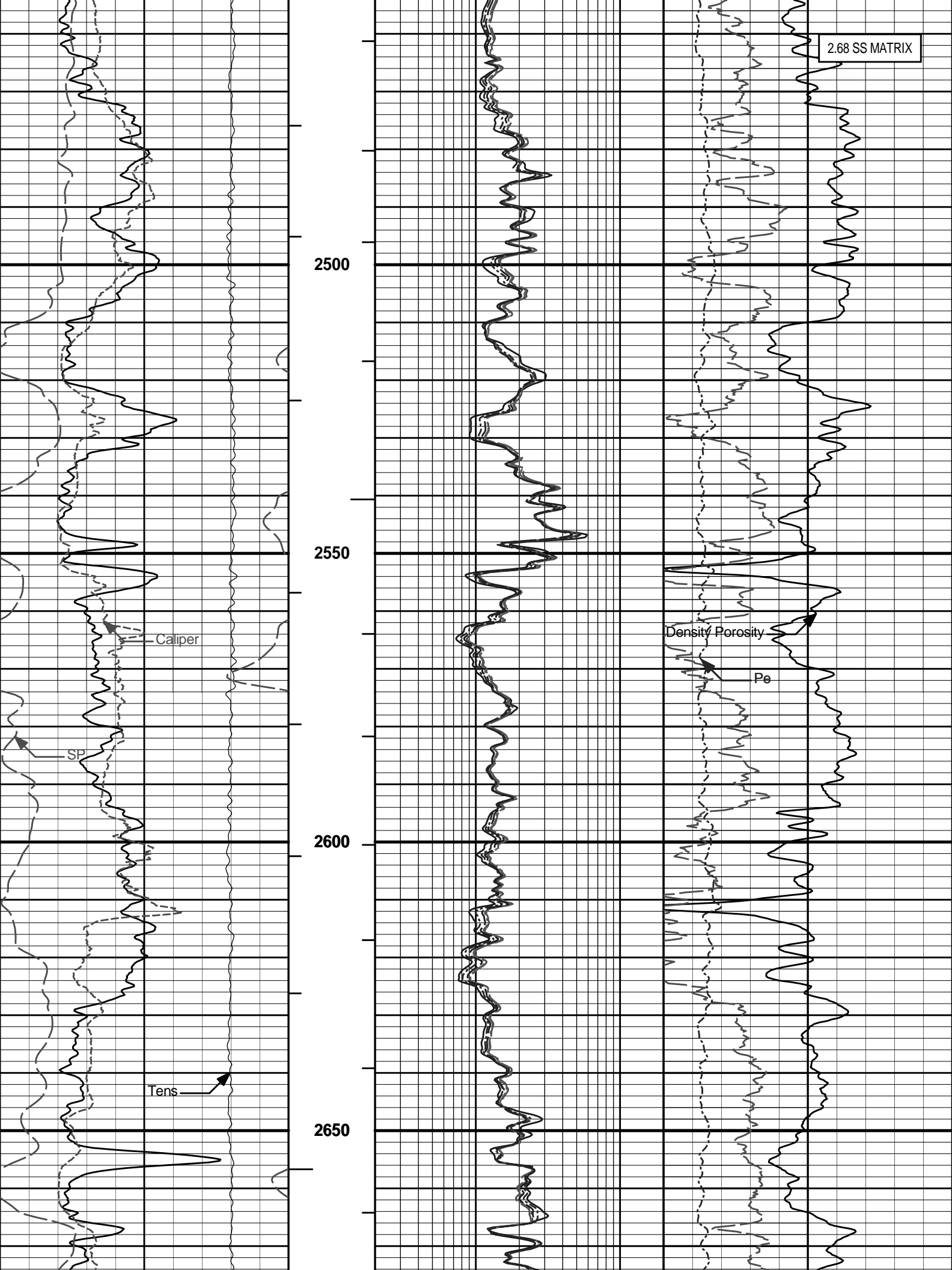


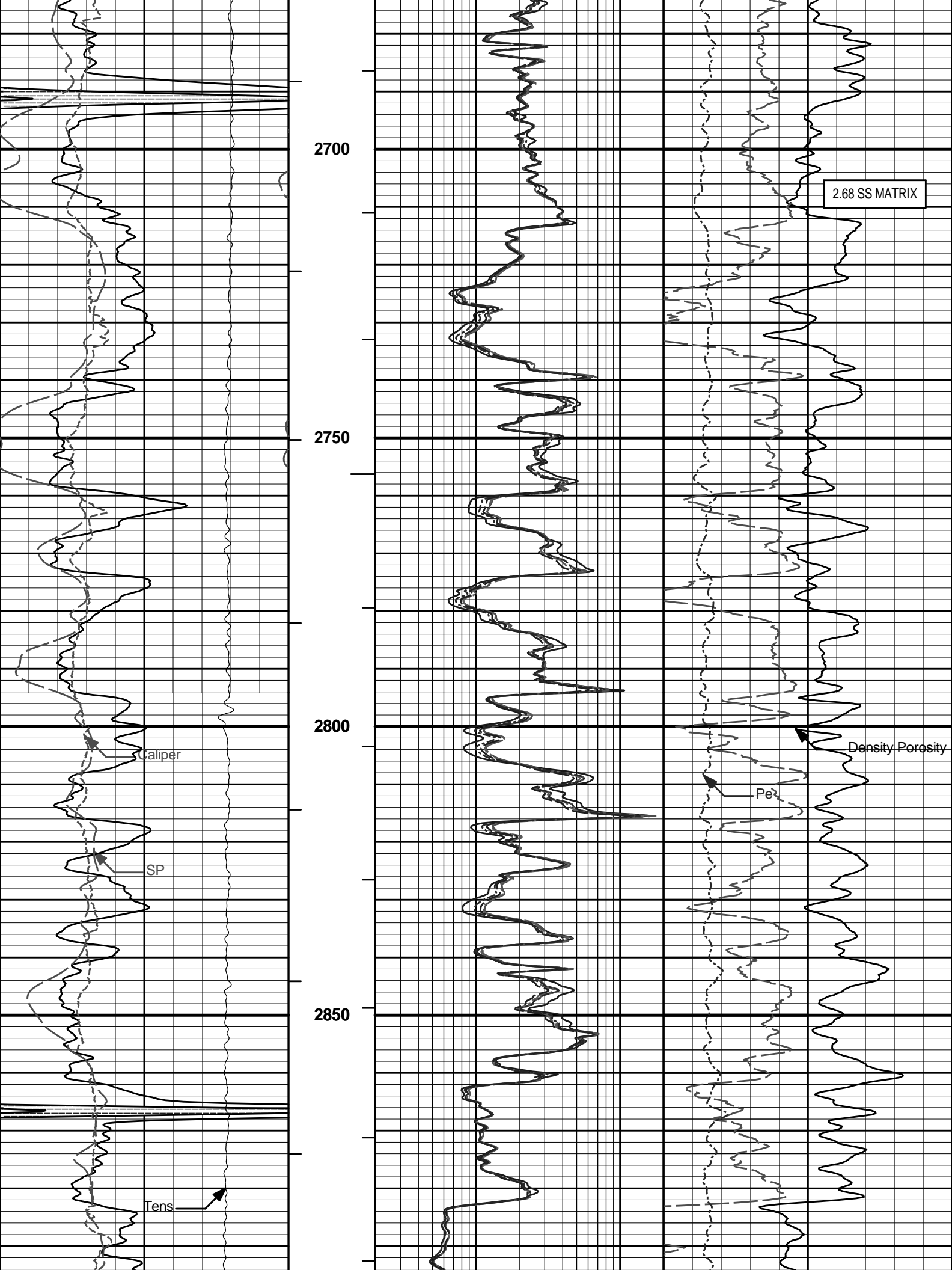
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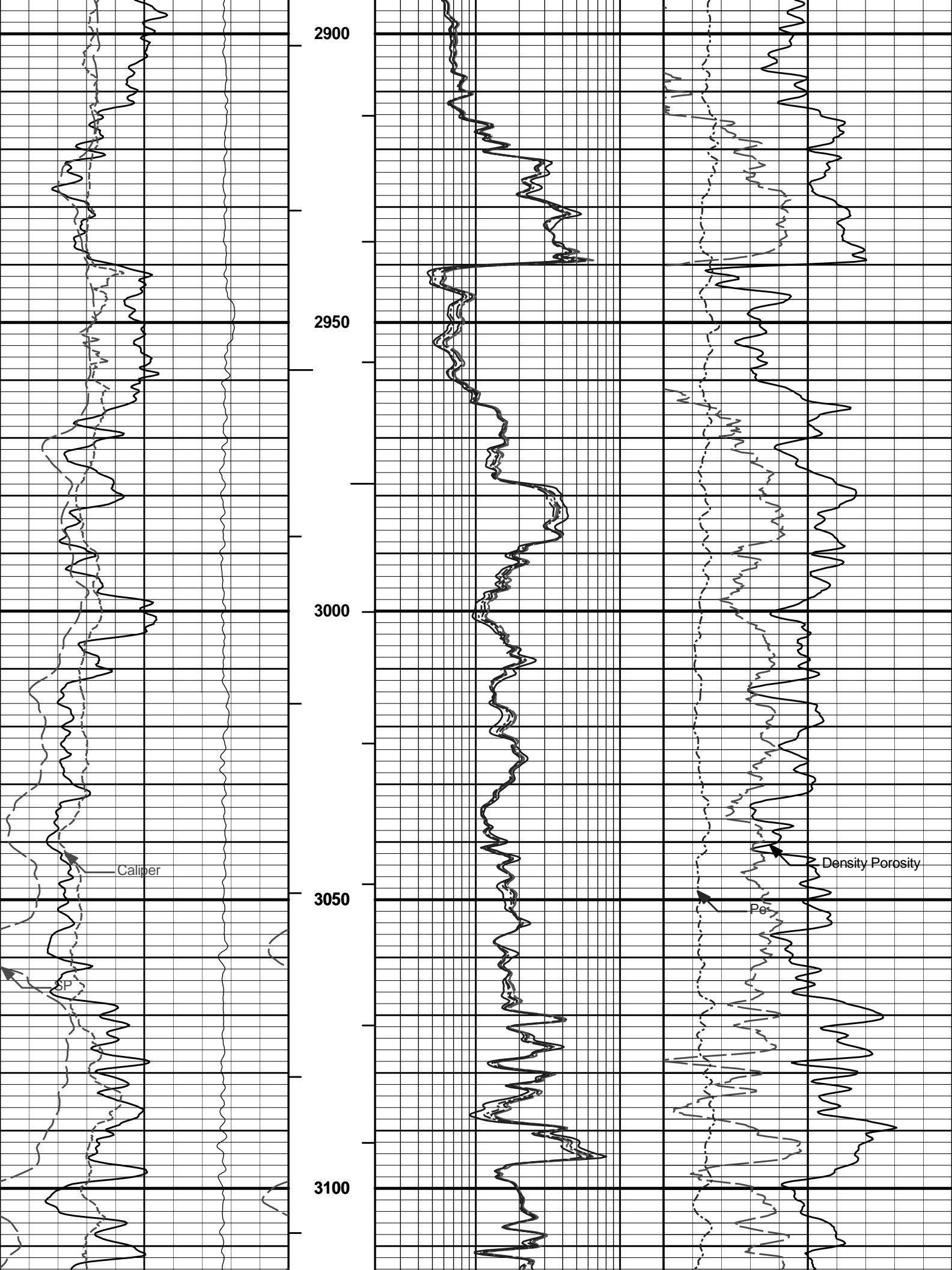
Density Porosity

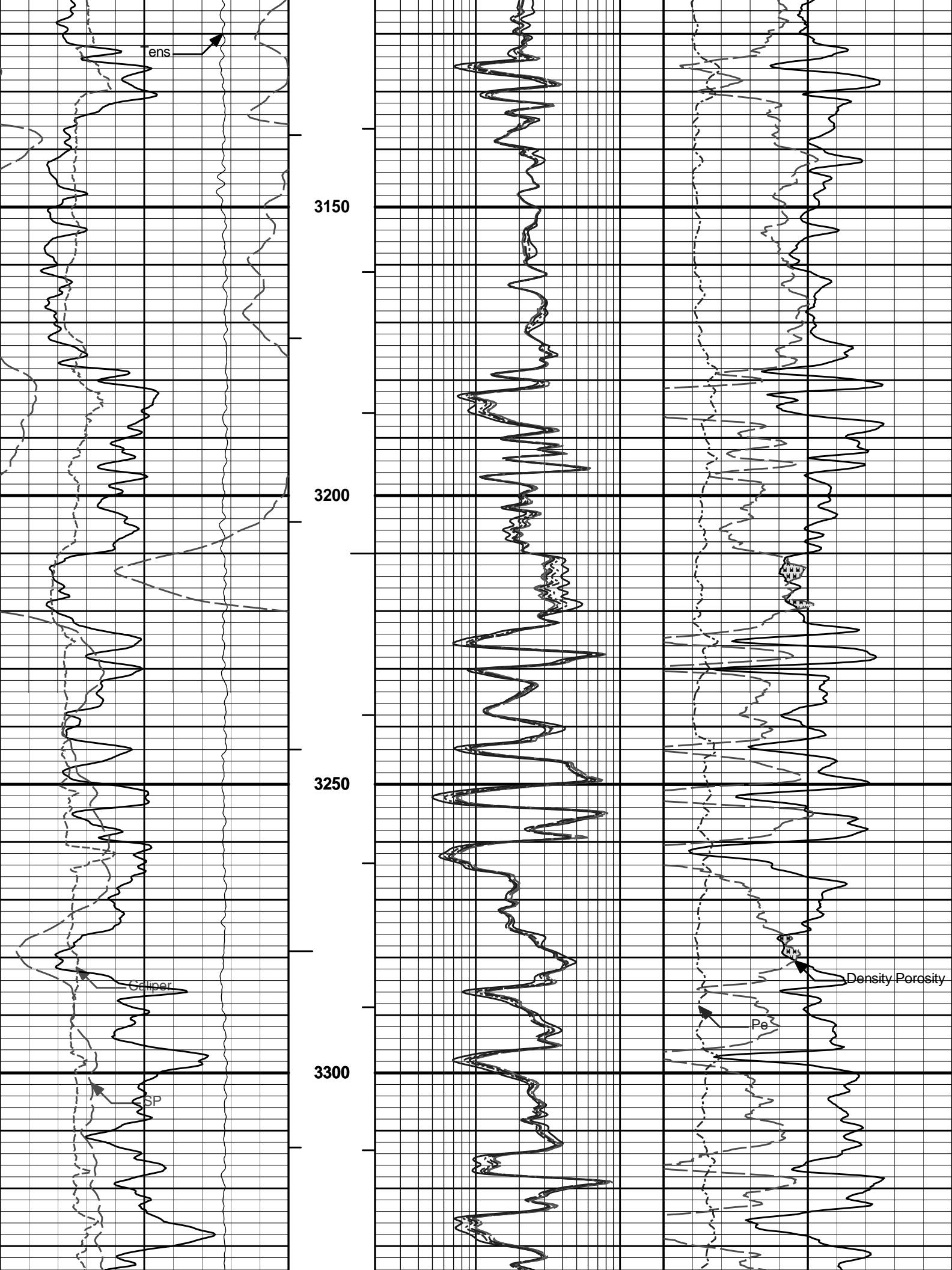


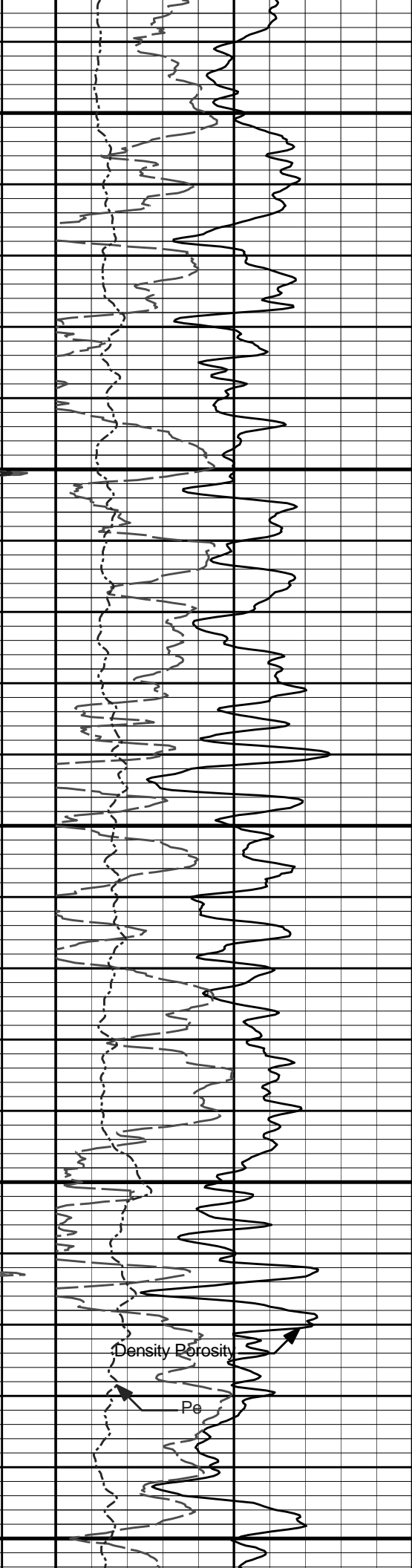
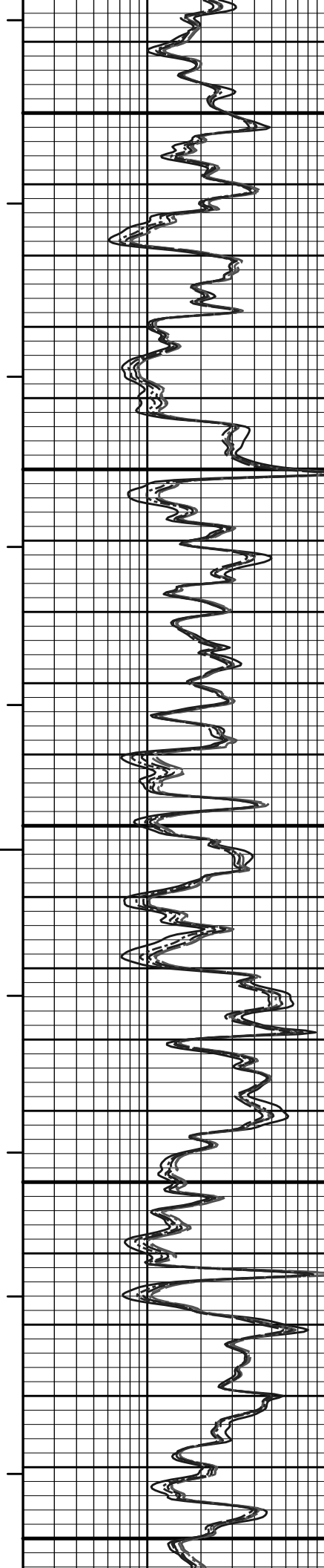
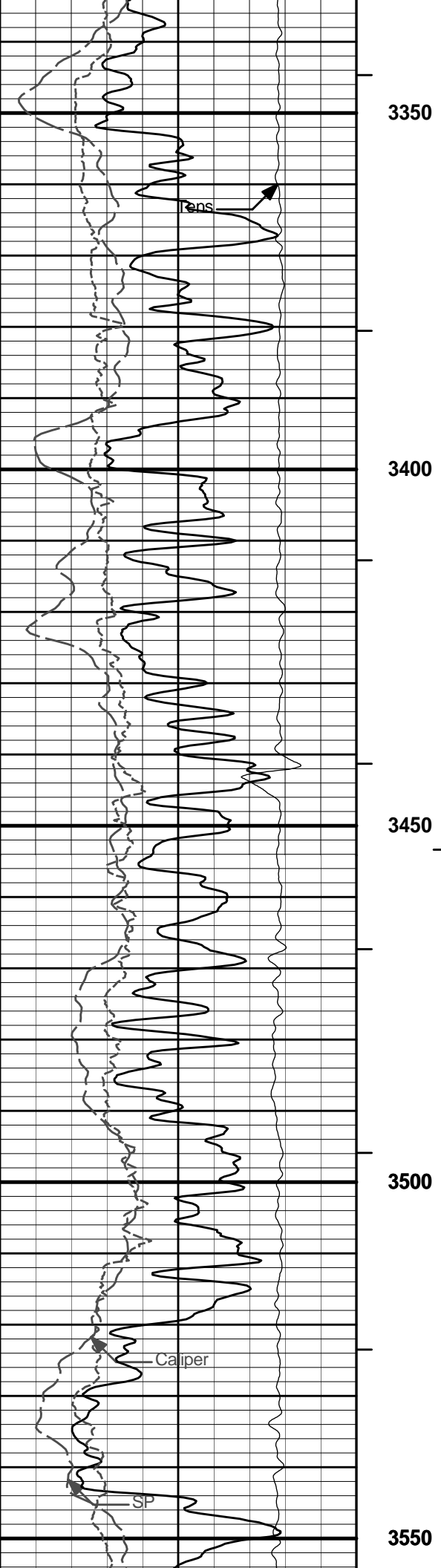


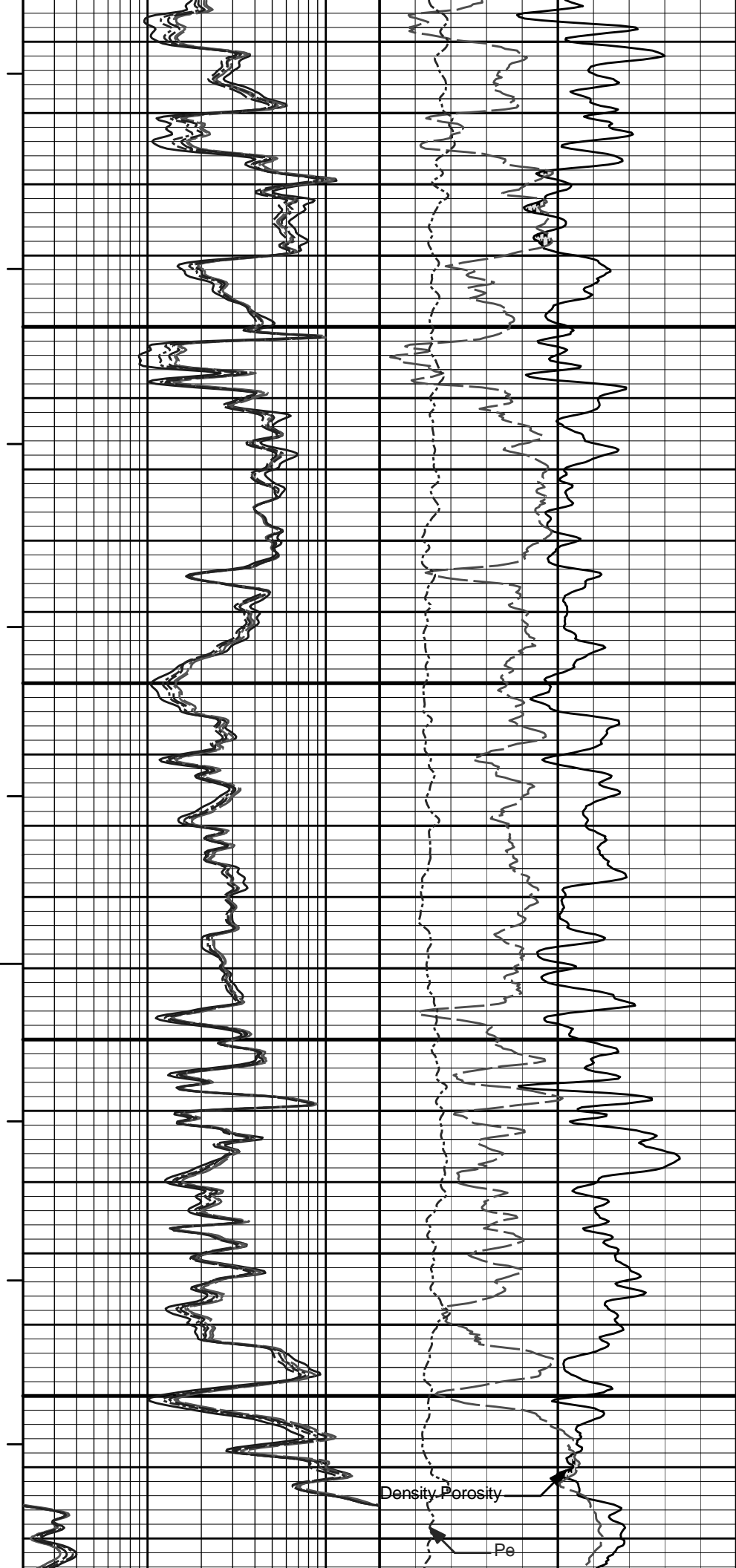
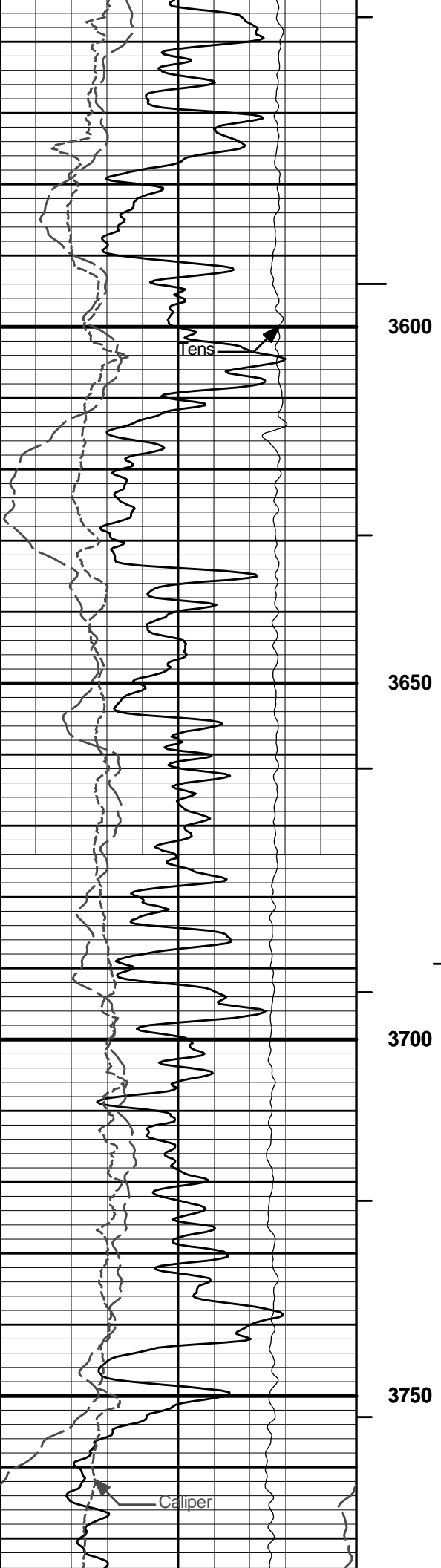


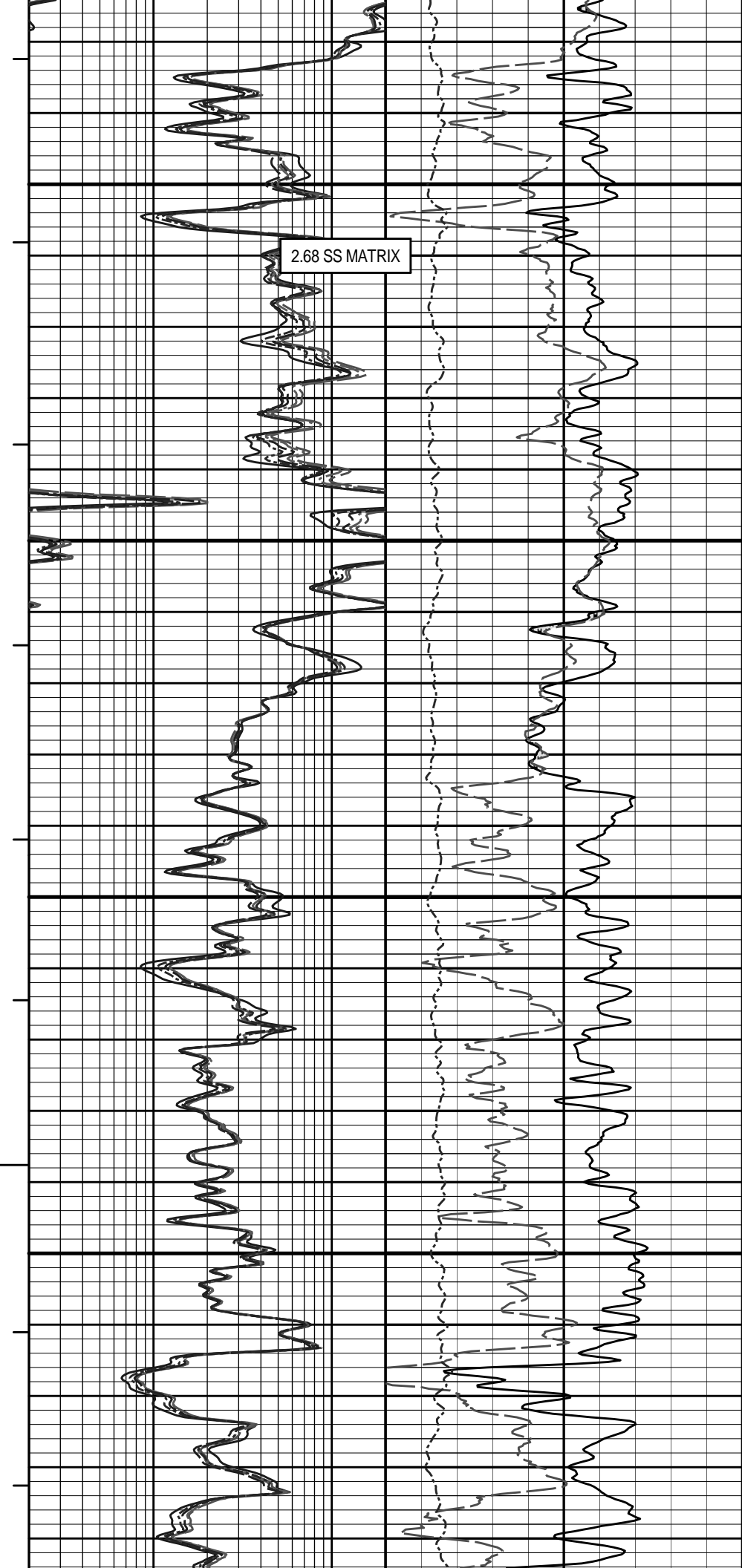
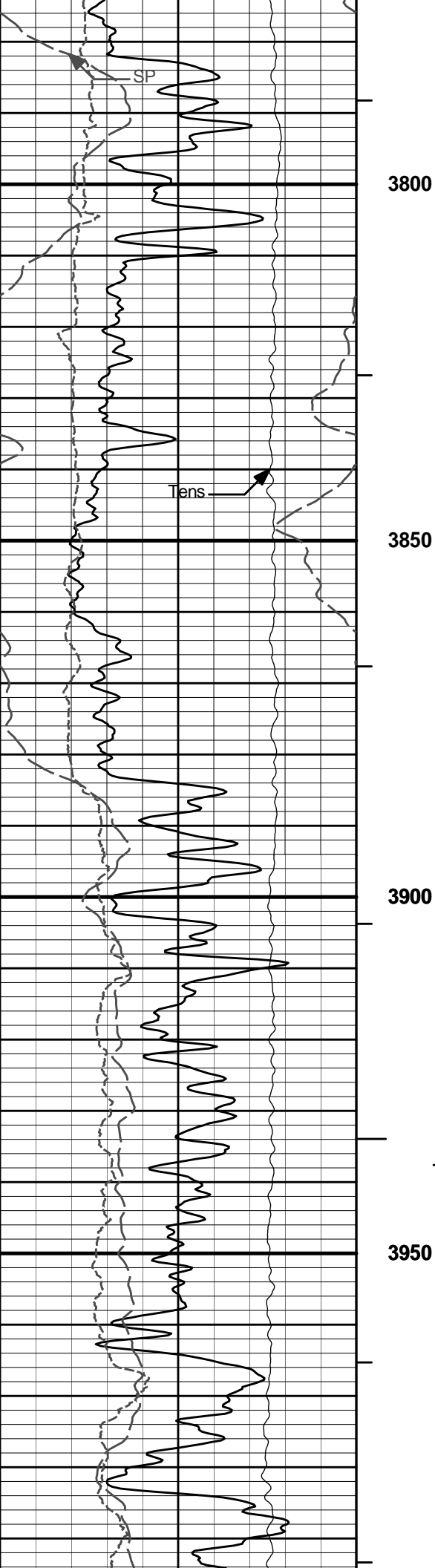


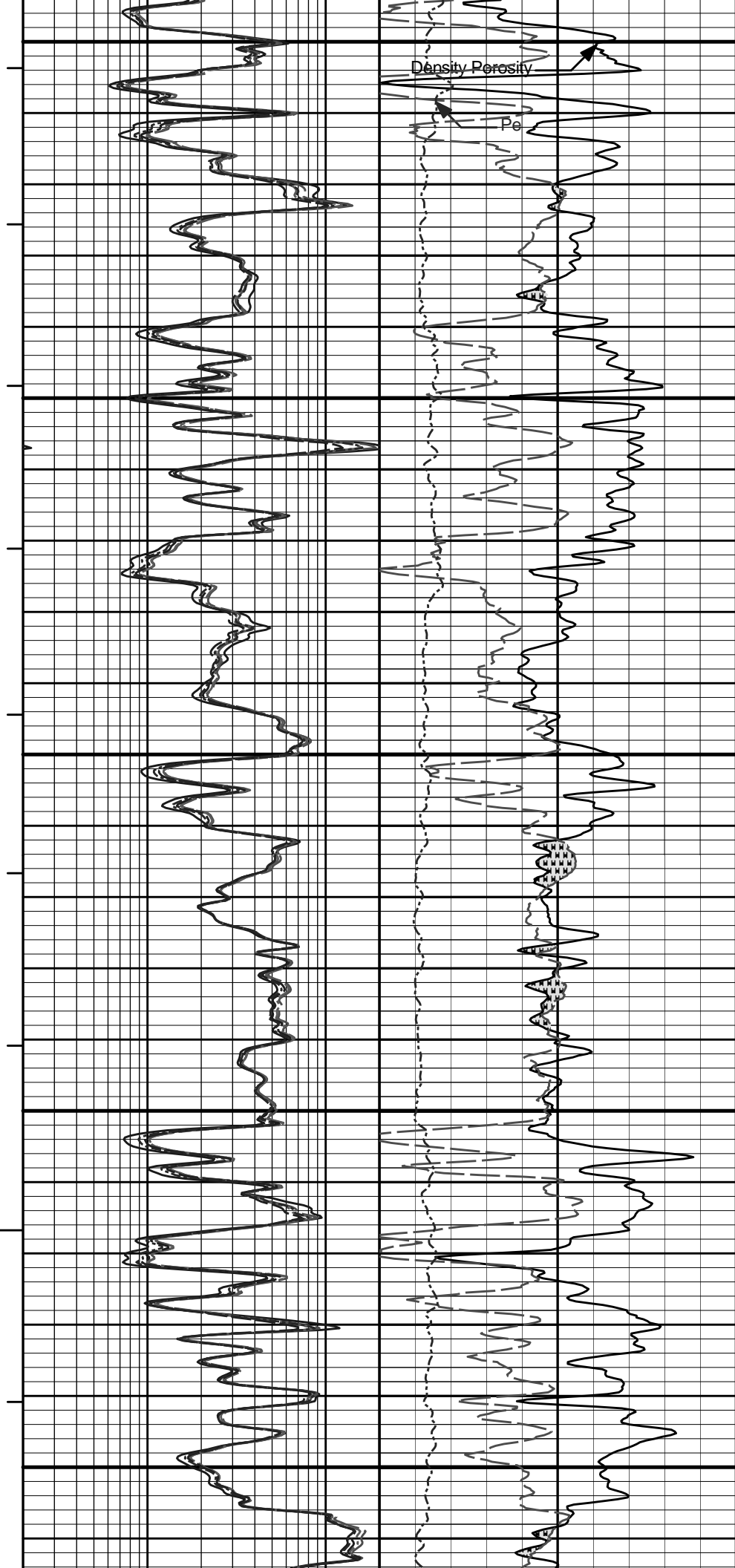
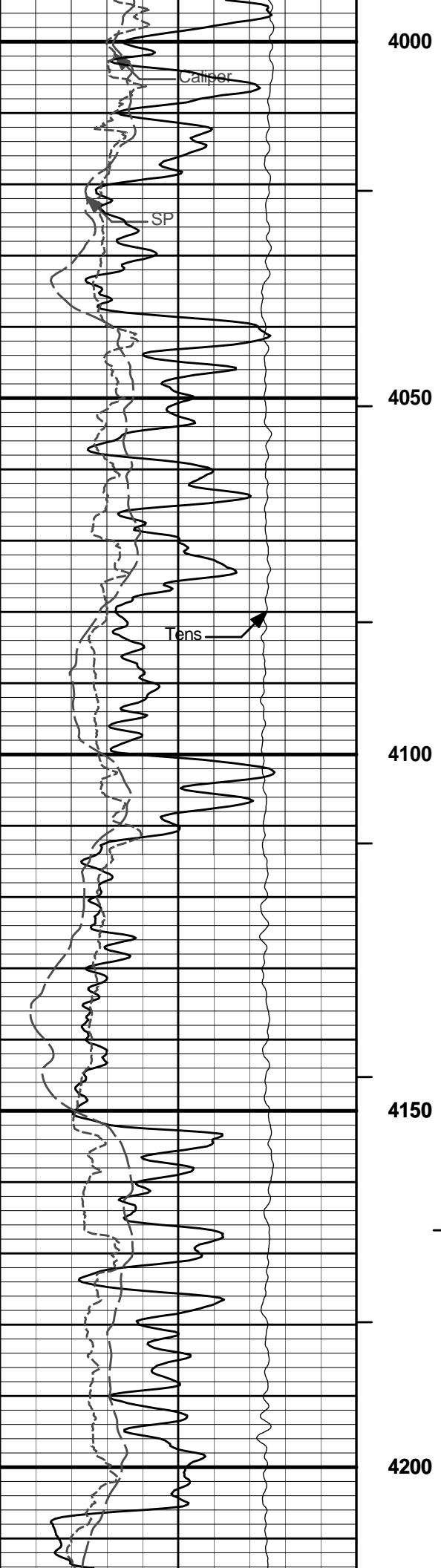


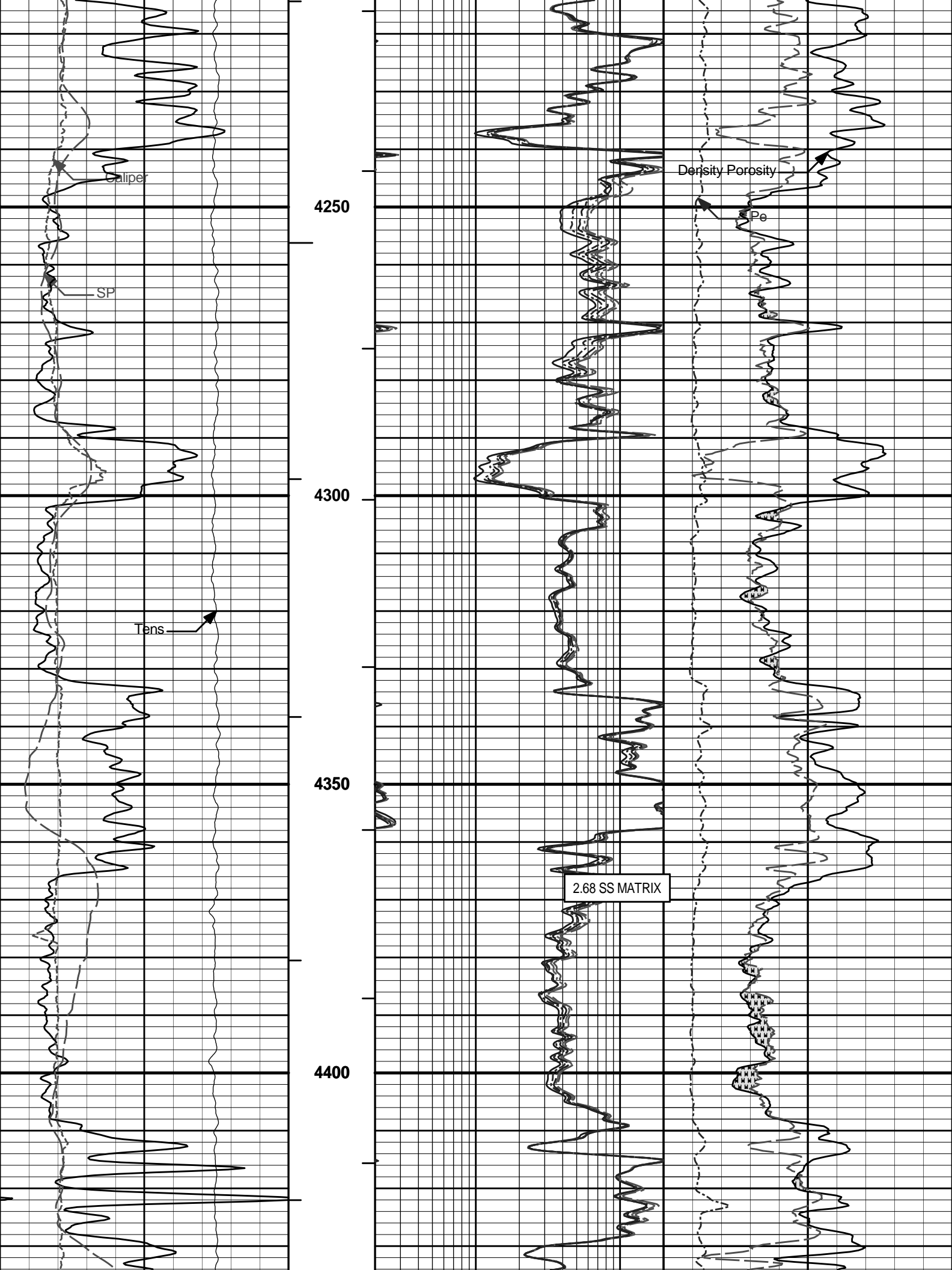


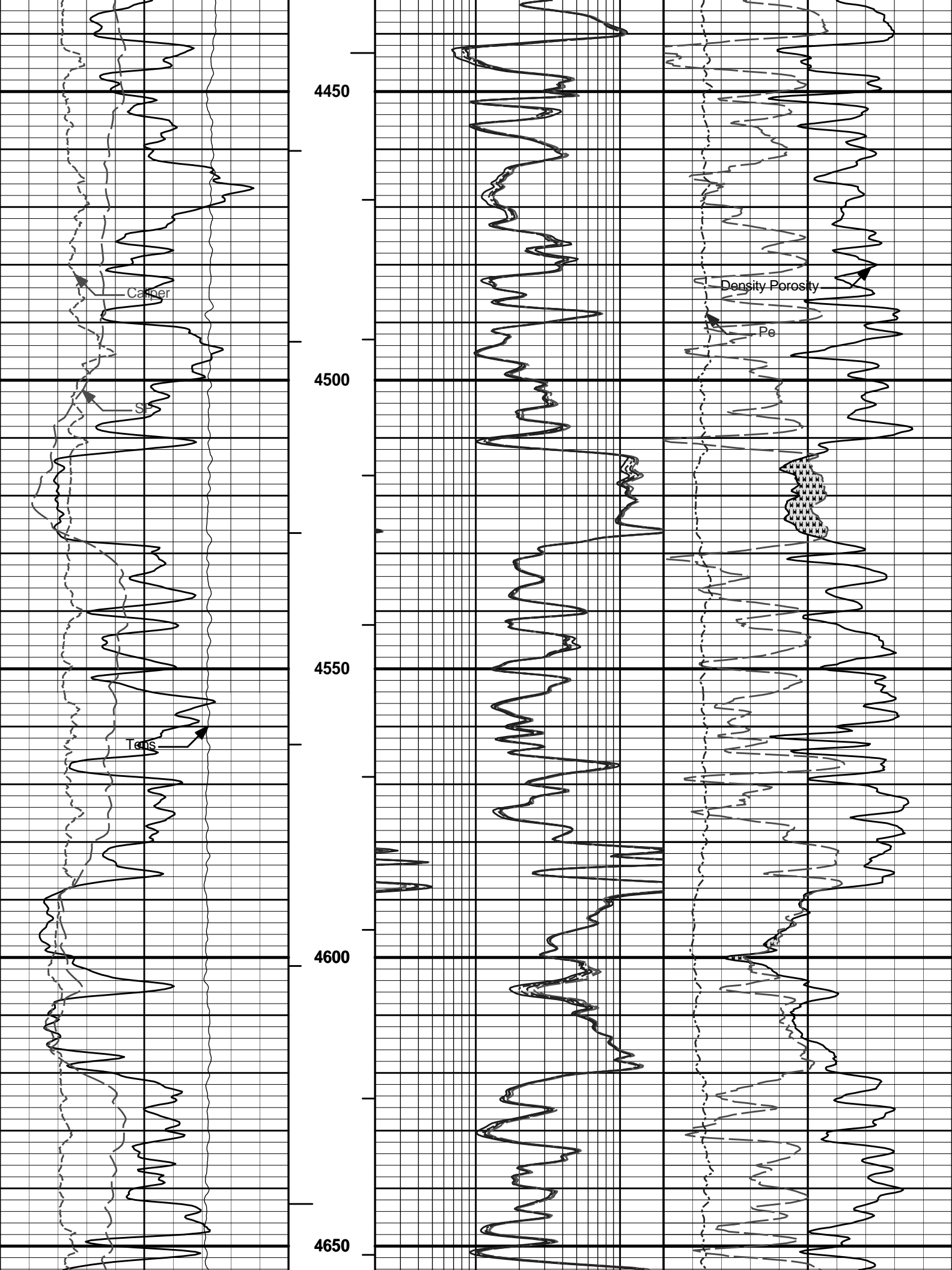


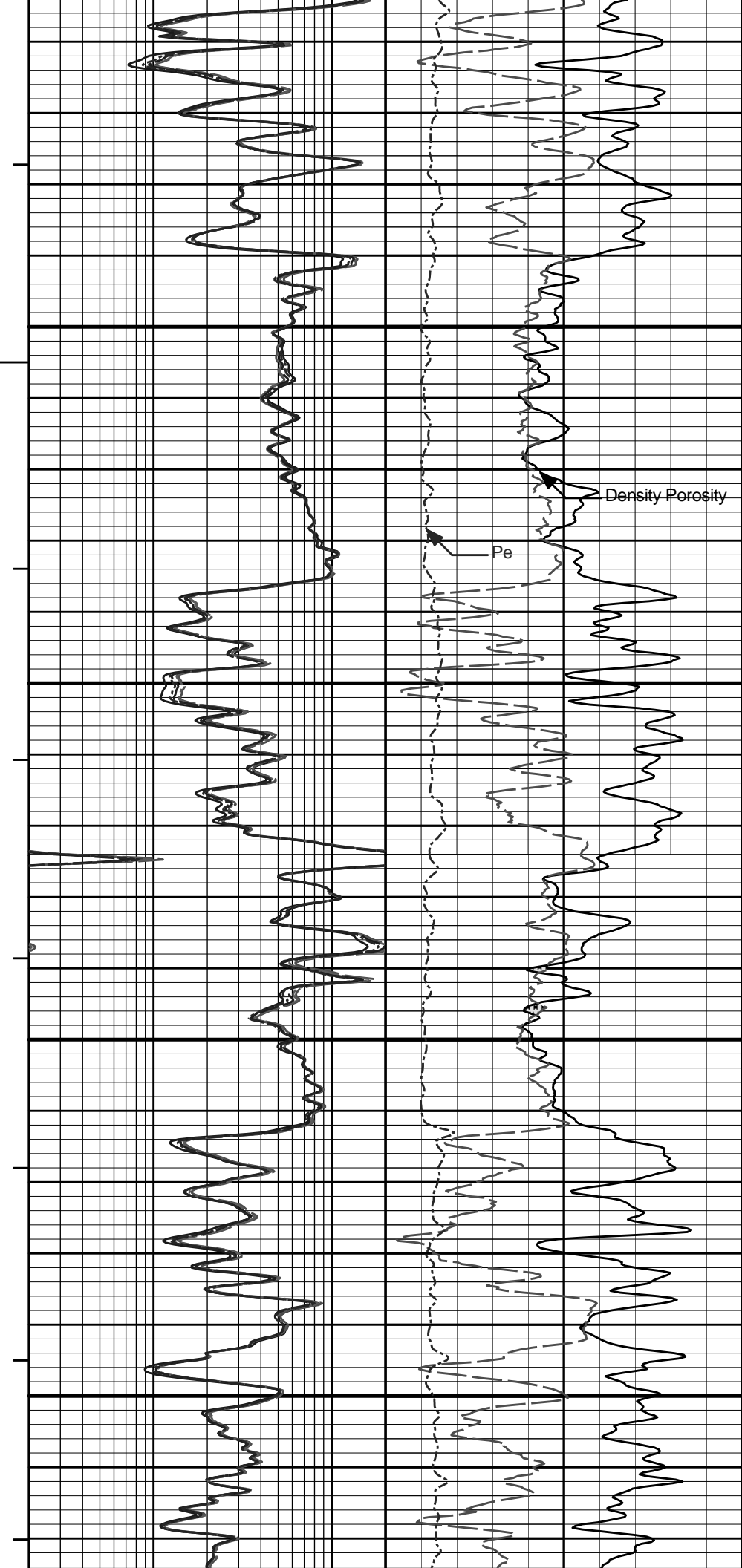
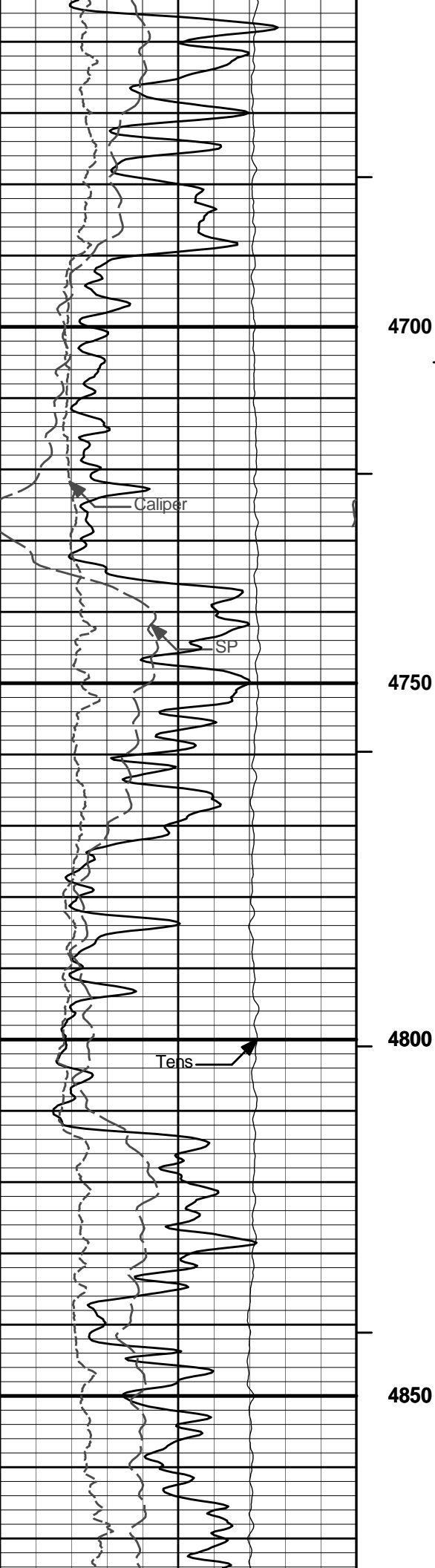


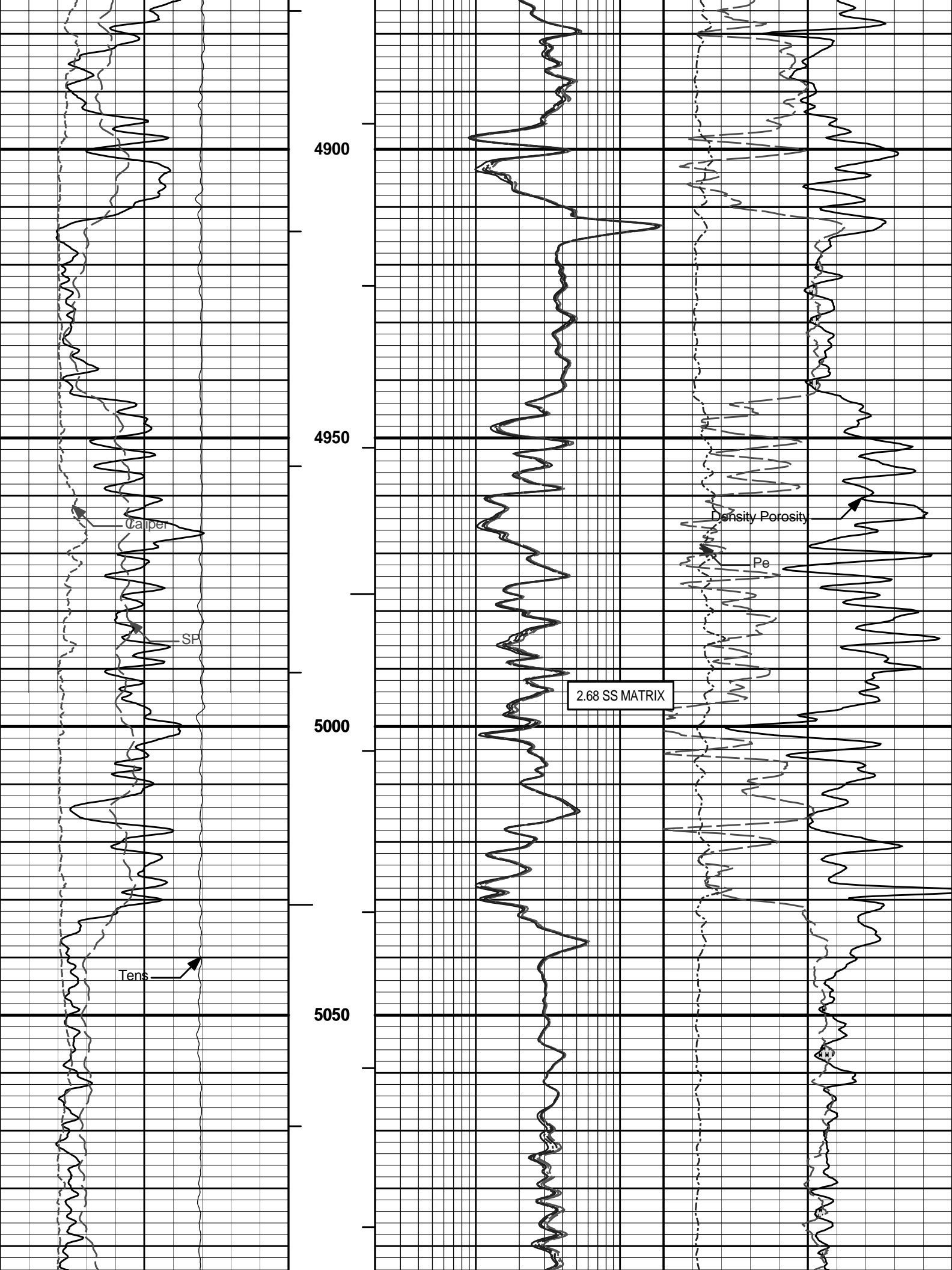


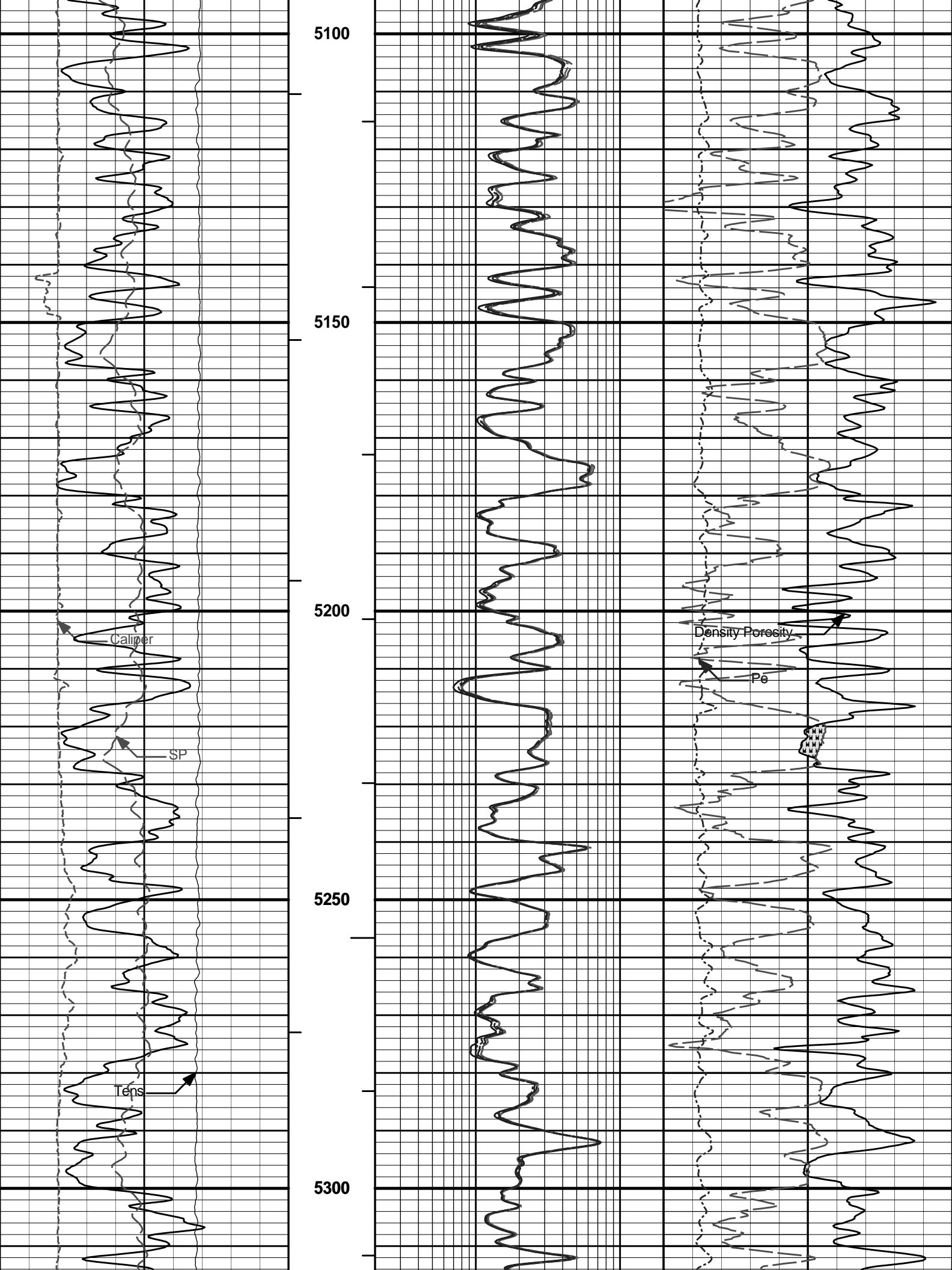


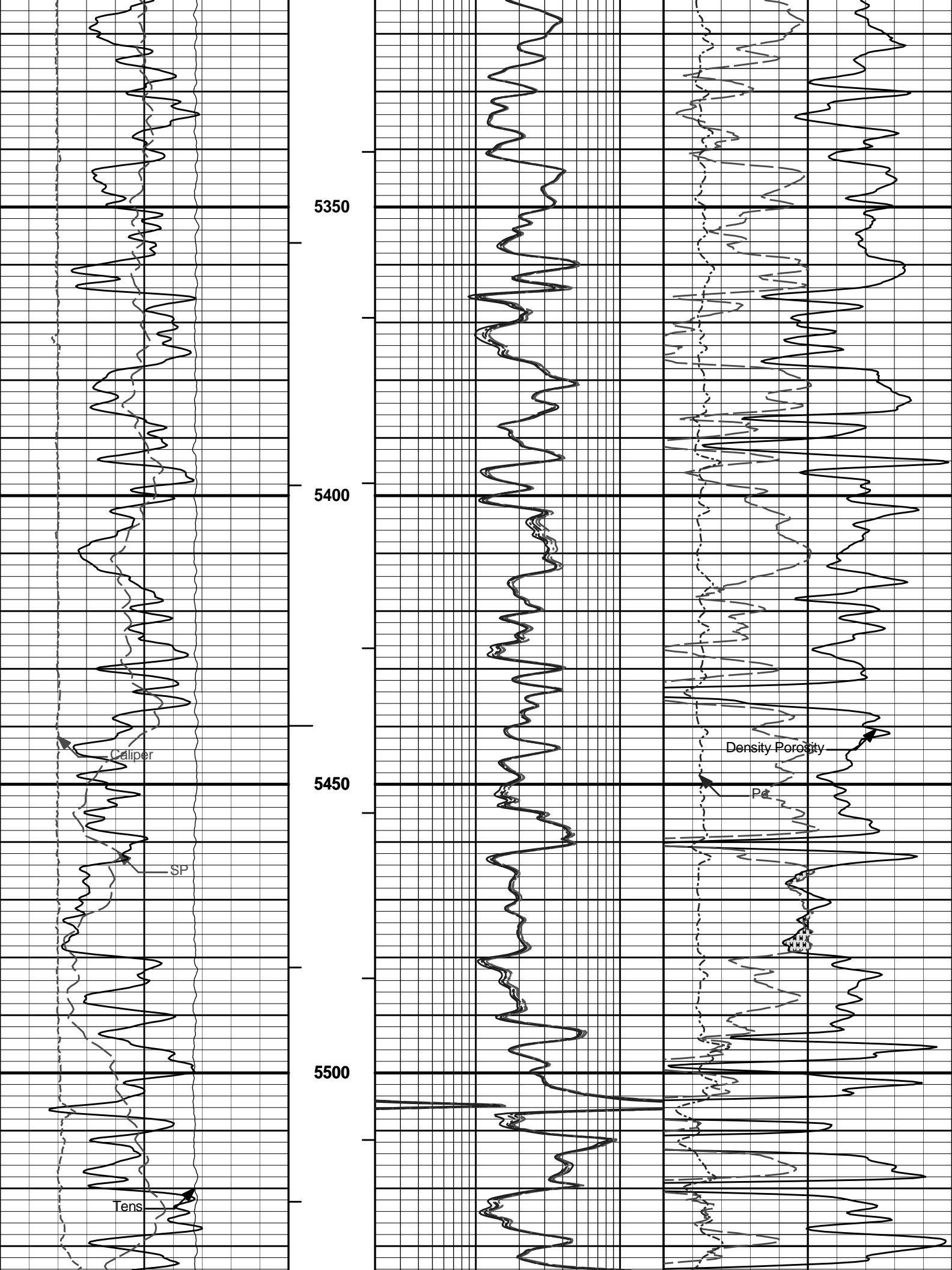


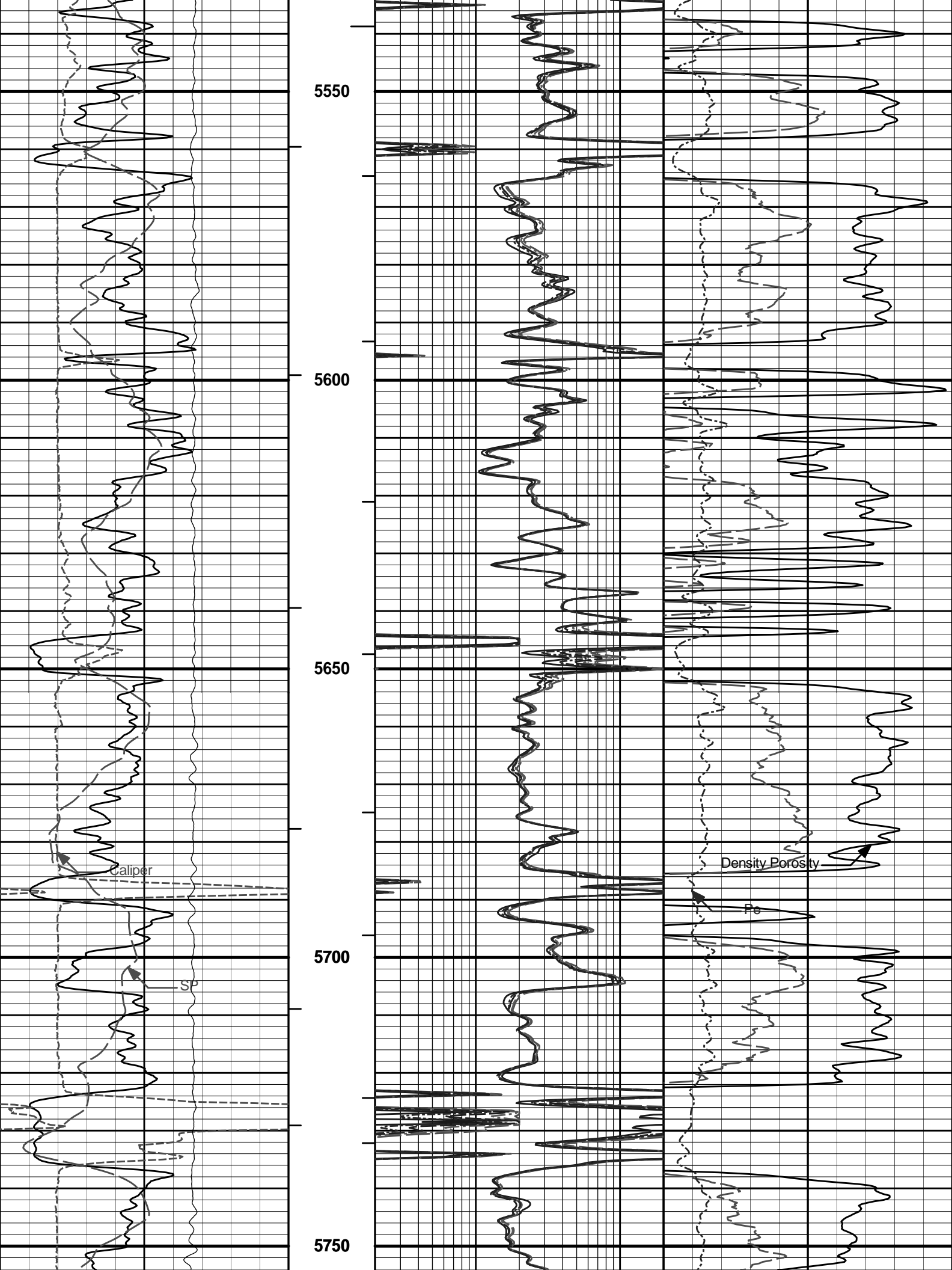


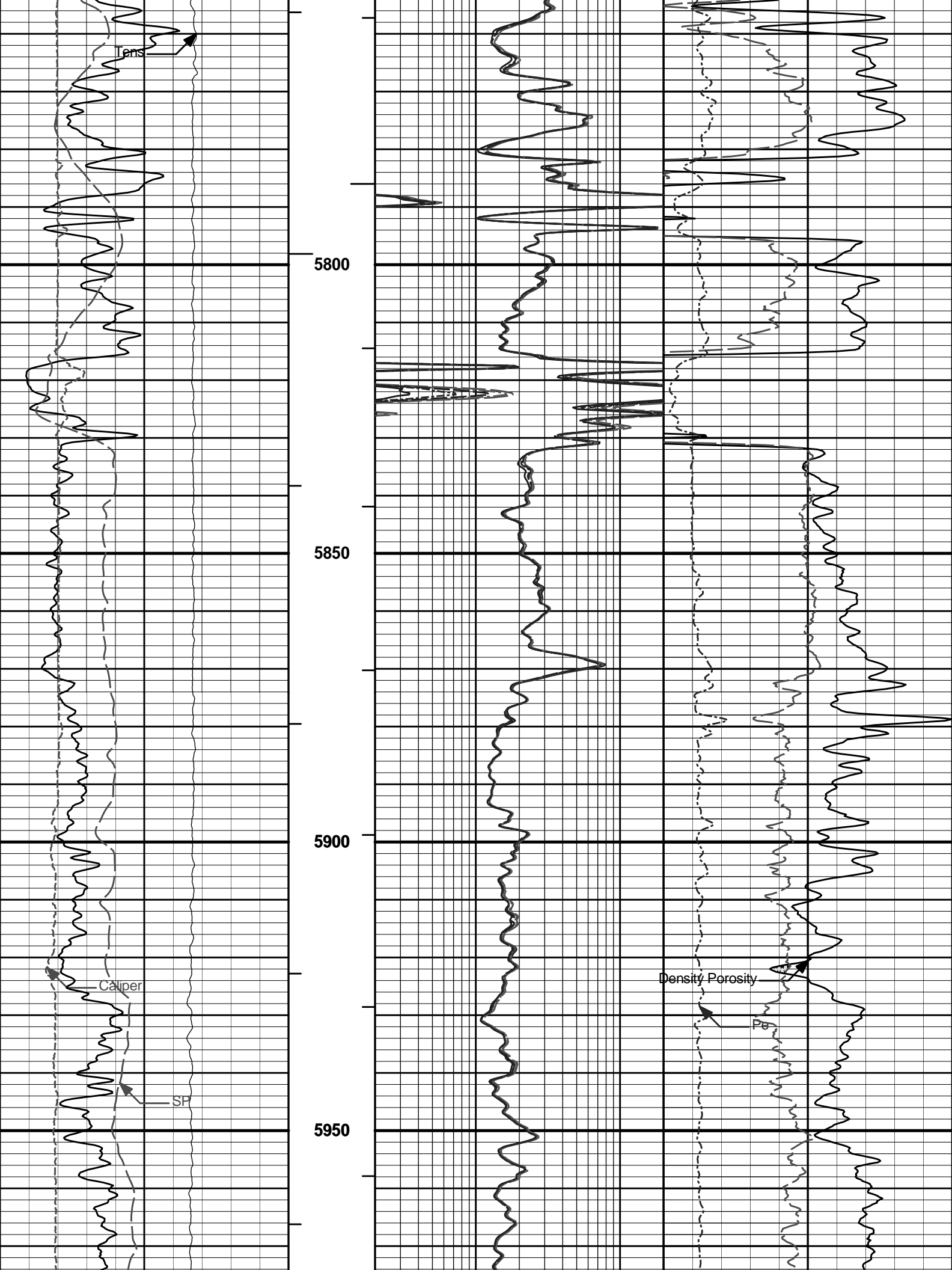


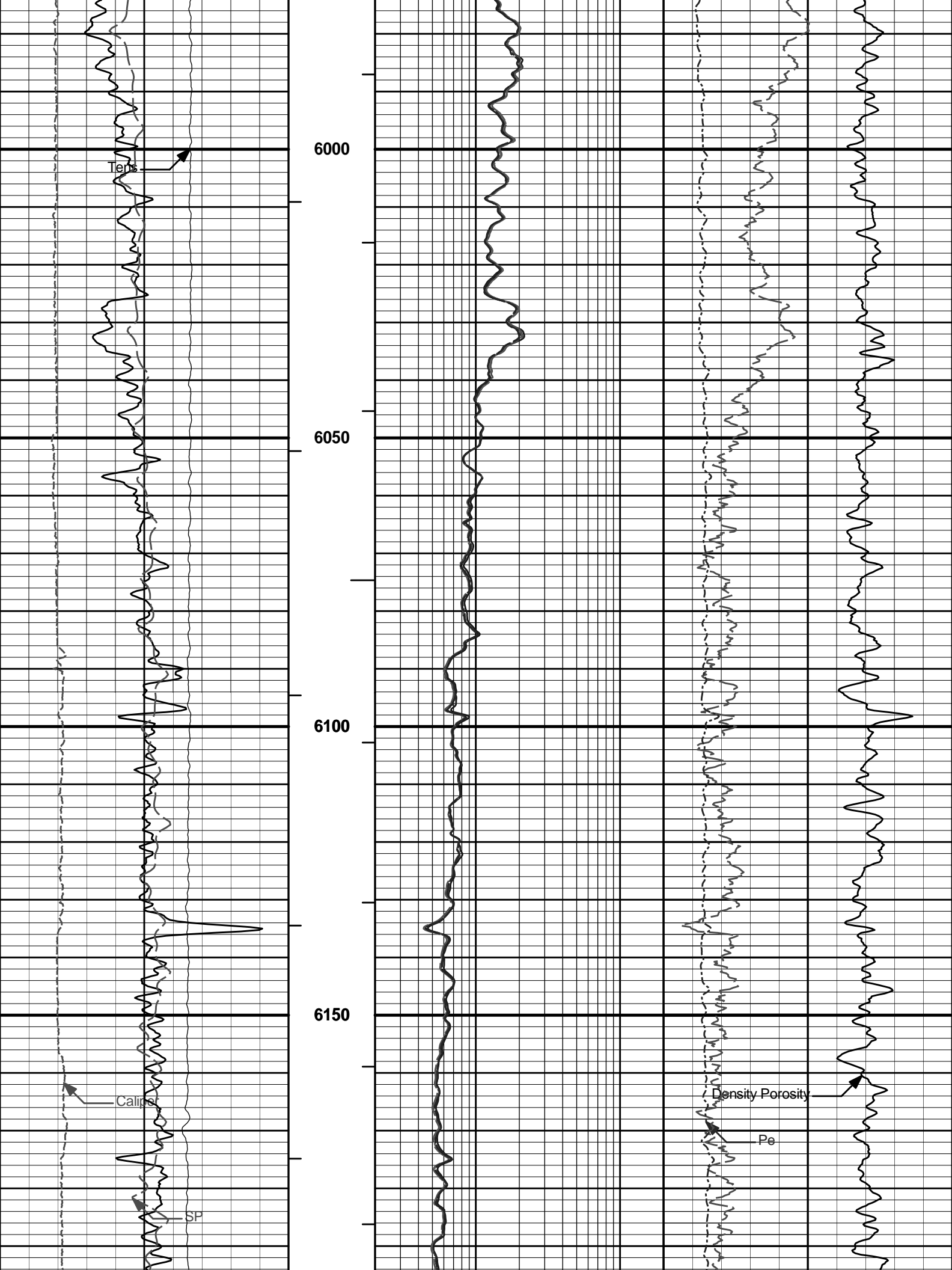


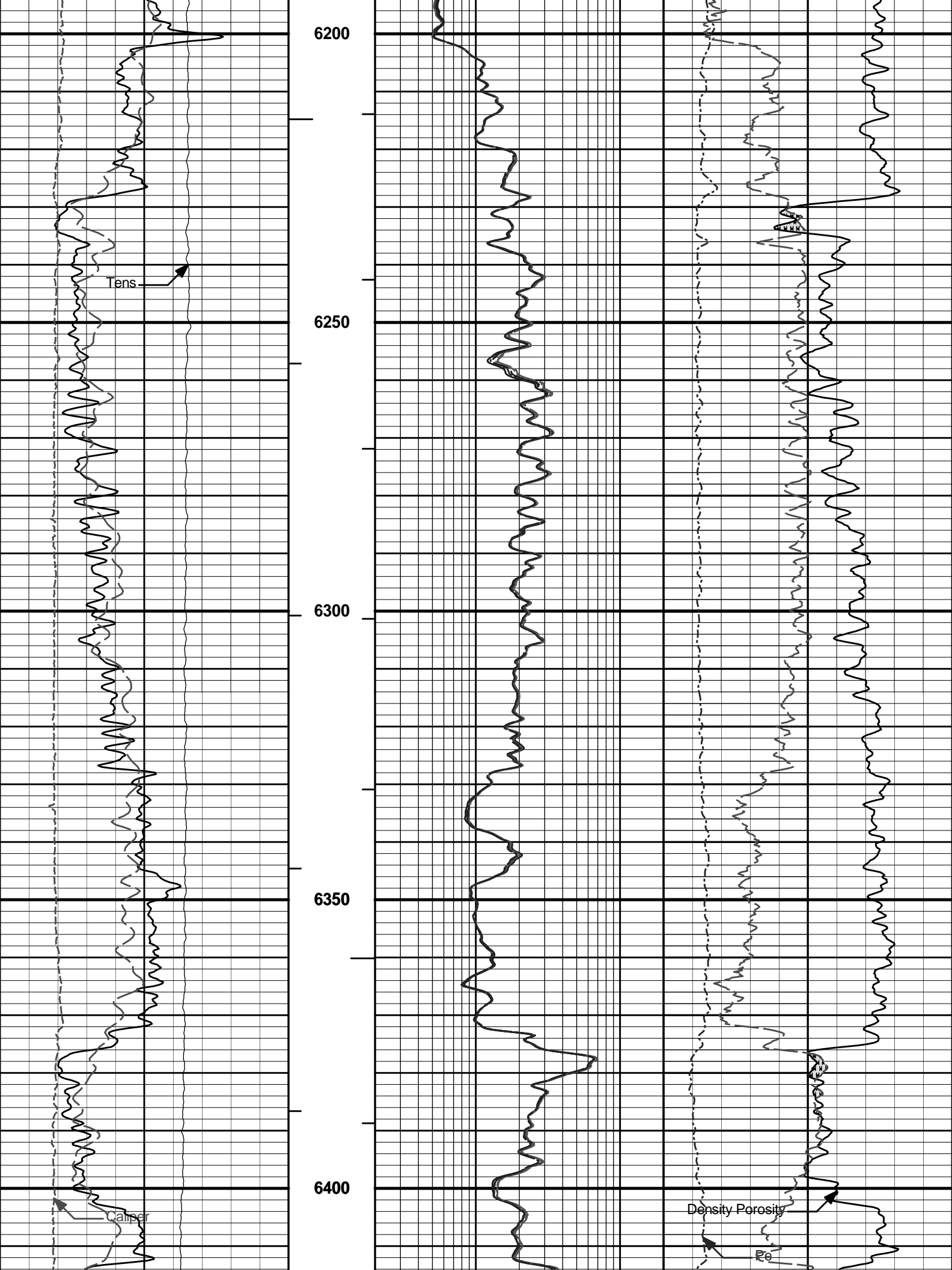


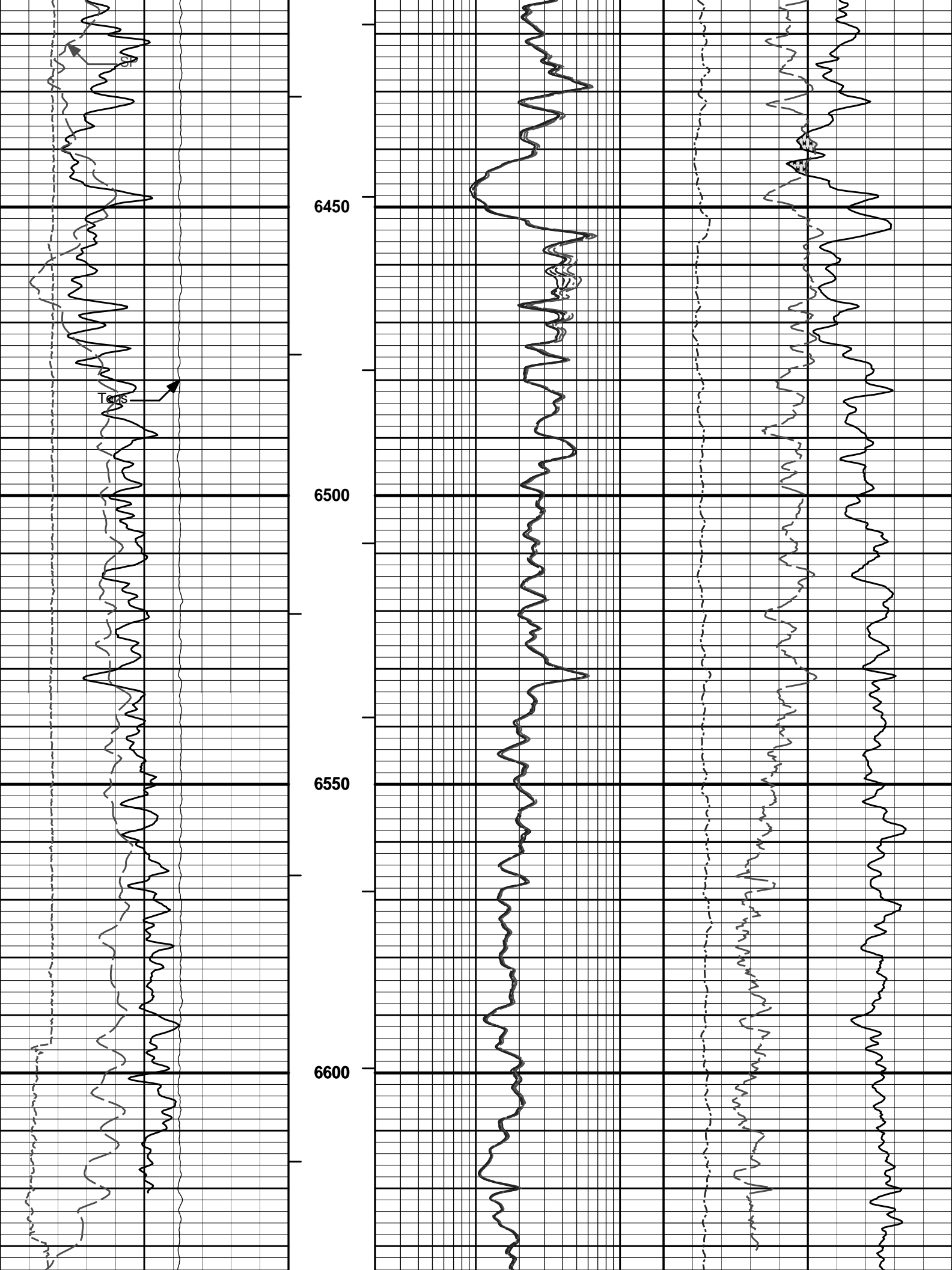


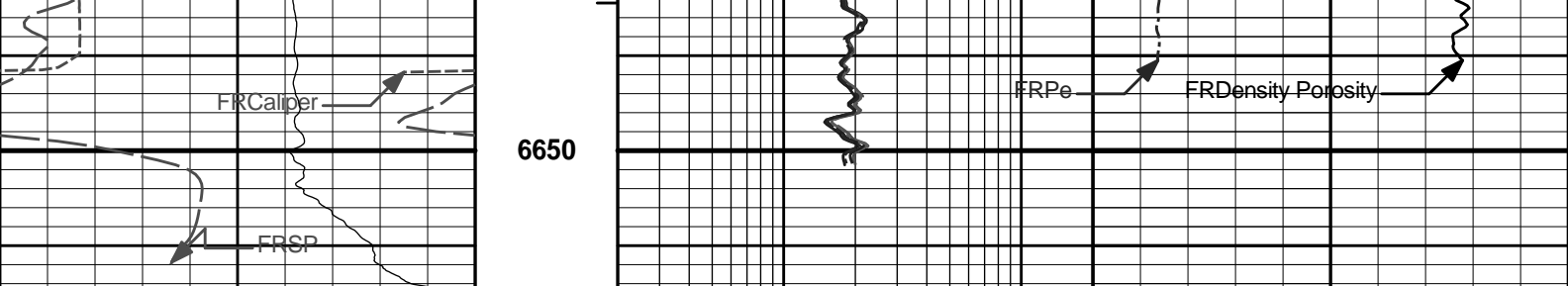












0	SP	100	1 : 240	2	RT90	200	0	Pe	10
	millivolts				Ohm-m				
0	Gamma API	250	BHVT	2	RT60	200	30	Density Porosity	-10
	api				Ohm-m			percent	
6	Caliper	16	AHVT	2	RT30	200	30	Neutron Porosity	-10
	inches				Ohm-m			percent	
10K	Tens	0		2	RT20	200			
	pounds				Ohm-m				
				2	RT10	200			
					Ohm-m				

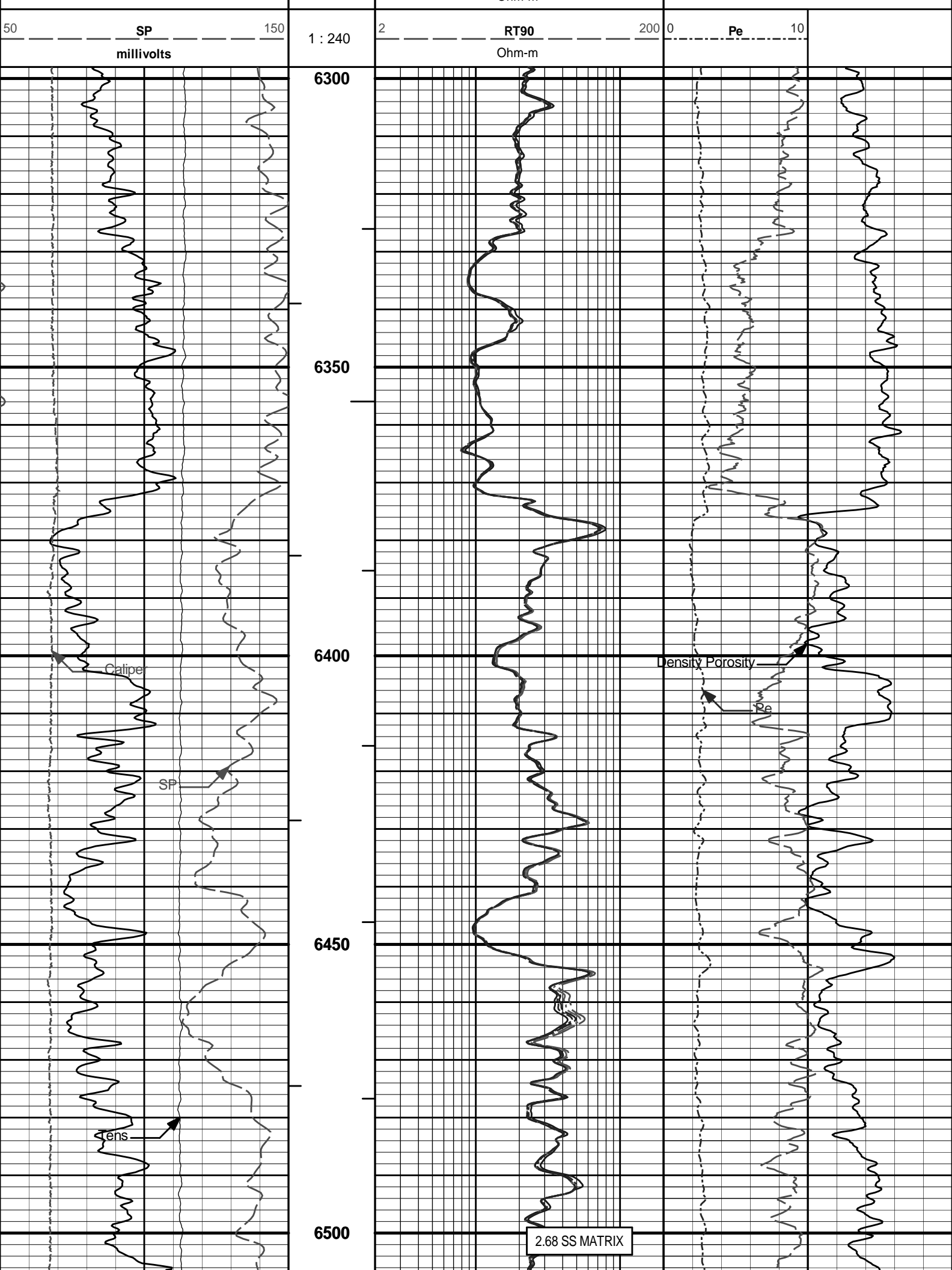
HALLIBURTON Plot Time: 23-Sep-11 05:35:03
 Plot Range: 90 ft to 6664.42 ft
 Data: LARA_HAWX25_01B\Well Based**
 Plot File: \\COMP\IQ_COMPOSITE_5IN_RM_NOBLE

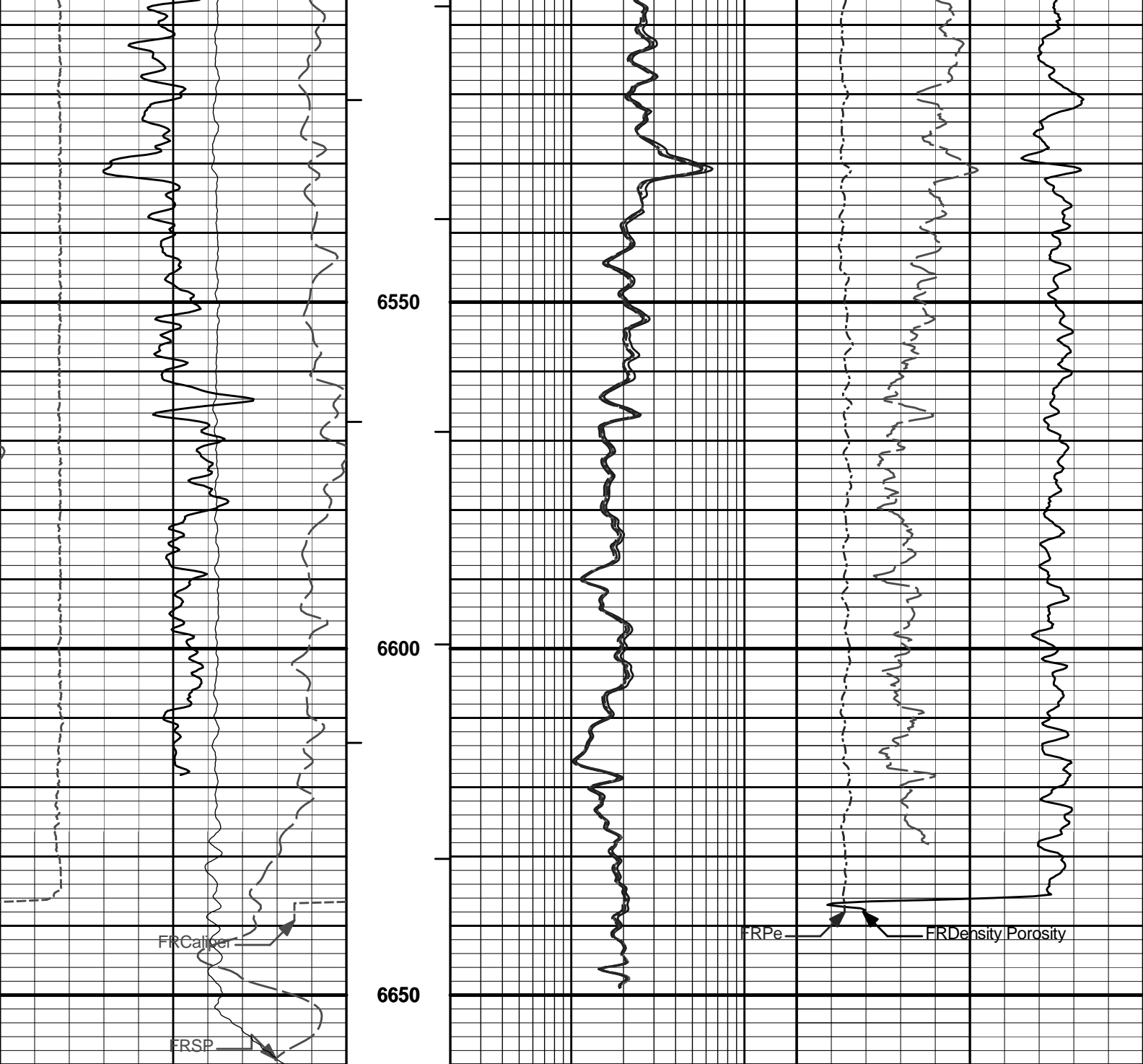
2150 TO 2500 5" = 100'

HALLIBURTON Plot Time: 23-Sep-11 05:35:03
 Plot Range: 6298 ft to 6660.17 ft
 Data: LARA_HAWX25_01B\Well Based\REPEAT*
 Plot File: \\COMP\IQ_COMPOSITE_5IN_RM_NOBLE

3500 TO 4480 5" = 100'

Track 1	Depth Track	Track 2	Track 5	Track 3
		2	RT10	200
			Ohm-m	
10K	Tens	2	RT20	200
	pounds		Ohm-m	
6	Caliper	2	RT30	200
	inches		Ohm-m	
		30	Neutron Porosity	-10
			percent	
0	Gamma API	2	RT60	200
	api		Ohm-m	
		30	Density Porosity	-10
			percent	





50	SP	150	1 : 240	2	RT90	200	0	Pe	10	
millivolts				Ohm-m						
0	Gamma API	250	BHVT	2	RT60	200	Density Porosity			-10
api				Ohm-m			percent			
6	Caliper	16	AHVT	2	RT30	200	Neutron Porosity			-10
inches				Ohm-m			percent			
10K	Tens	0		2	RT20	200				
pounds				Ohm-m						
				2	RT10	200				
				Ohm-m						

HALLIBURTON

Plot Time: 23-Sep-11 05:35:09
Plot Range: 6298 ft to 6660.17 ft
Data: LARA_HAWX25_01B\Well Based\REPEAT*
Plot File: \COMP\IQ_COMPOSITE_5IN_RM_NOBLE

3500 TO 4480 5" = 100'

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	GTET - 11005602	Reference Calibration Date:	20-Aug-11 04:20:38
Engineer:	W. MATSON	Calibration Date:	17-Sep-11 05:47:29
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Calibrator Source S/N: MPO51807-04
Calibrator API Reference:239.00 api
Equivalent Calibrator API Reference:243.2 api

Measurement	Measured	Calibrated	Units
Background	51.9	54.0	api
Background + Calibrator	281.7	293.0	api
Calibrator	241.1	239.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 11005602	Reference Calibration Date:	17-Sep-11 05:47:29
Engineer:	J. KRONABLE	Calibration Date:	23-Sep-11 00:15:56
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Calibrator Source S/N: MPO51807-04
Calibrator API Reference:239.00 api
Equivalent Calibrator API Reference:243.2 api

Field Verification	Shop	Field	Units
Background	54.0	38.4	api
Background + Calibrator	293.0	276.1	api
Calibrator	239.0	237.7	api

Shop	Field	Difference	Tolerance
239.0	237.7	1.3	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 10846353	Reference Calibration Date:	24-Aug-11 21:16:52
Engineer:	W. MATSON	Calibration Date:	24-Aug-11 21:29:15
Software Version:	WL INSITE R3.2.1 (Build 7)	Calibration Version:	1

Logging Source S/N: DSN-388
Tank Serial Number: GJWATERTANK
Reference value assigned to Tank: 52.750
Snow Block S/N: GJ
Calibration Tank Water Temperature: 73 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.997	0.996	0.990 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)				
Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2174	0.2169	0.0005	+/- 0.0020
Calibrated Ratio:	9.95	9.93	0.017	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0736	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 - 10846353	Reference Calibration Date:	24-Aug-11 21:29:15
Engineer:	J. KRONABLE	Calibration Date:	23-Sep-11 00:47:48
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Logging Source S/N: DSN-388
Snow Block S/N: GJ

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0736	0.0673	-0.0063	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10951314	Reference Calibration Date:	30-Aug-11 16:19:50
Engineer:	J. KRONABLE	Calibration Date:	30-Aug-11 16:25:29
Software Version:	WL INSITE R3.2.1 (Build 7)	Calibration Version:	1

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1545.33	-1495.98	-7000.00 - -1000.00
Pad Gain	0.0003807	0.0003772	0.000200 - 0.000600
Arm Offset	-2691.31	-2776.82	-5000.00 - 3000.00
Arm Gain	0.0005196	0.0005258	0.000300 - 0.000700
Arm Power	-0.000005708	-0.000005892	-0.000010 - 0.000010

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER
Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20

RING DIAMETER:

Small Ring (in)	6.50	6.50	0.00	+/- 0.20
Medium Ring (in)	8.23	8.25	0.02	+/- 0.20
Large Ring (in)	14.94	15.00	0.06	+/- 0.20

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check:	Passed
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ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	ACRt Sonde - 90194258-E7486-	Reference Calibration Date:	16-Sep-11 09:56:06
Engineer:	W. MATSON	Calibration Date:	16-Sep-11 10:05:53
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	0.9990	1.05	0.95	1.0010	1.05	0.95	0.9984	1.05
A2 (50")	0.95	1.0079	1.05	0.95	1.0098	1.05	0.95	1.0084	1.05
A3 (29")	0.95	1.0070	1.05	0.95	1.0079	1.05	0.95	1.0046	1.05
A4 (17")	0.95	1.0002	1.05	0.95	1.0003	1.05	0.95	0.9980	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9960	1.05	0.95	0.9921	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9864	1.05	0.95	0.9822	1.05

TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-0.227	2	-6	-3.962	-2	-8	-5.147	-2
A2 (50")	-7	-1.967	-1	-6	-3.725	-2	-7	-4.690	-2
A3 (29")	-27	-11.435	-9	-9	-3.493	-3	-7	-2.946	-1
A4 (17")	-180	-102.277	-60	-45	-32.251	-15	-39	-25.909	-13
A5 (10")	N/A	N/A	N/A	-150	-68.582	-50	-80	-35.110	-10
A6 (6")	N/A	N/A	N/A	175	273.528	525	90	141.684	270

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.8631	1.3
36K	1.0	1.7921	2.0
72K	1.0	1.1061	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	1.004	1.05

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	SDLT Pad - 10951314	Reference Calibration Date:	03-Aug-11 10:14:31
Engineer:	W. MATSON	Calibration Date:	30-Aug-11 14:40:36
Software Version:	WL INSITE R3.2.1 (Build 7)	Calibration Version:	1

Logging Source S/N: 5153GW		
Aluminum Block S/N: 63094	Density: 2.610g/cc	Pe: 3.100
Magnesium Block S/N: 63387	Density: 1.685g/cc	Pe: 2.594

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
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Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0478	1.0345	0.90 - 1.10
Near Dens Gain	1.0029	0.9973	0.90 - 1.10
Near Peak Gain	0.9736	0.9669	0.90 - 1.10
Near Lith Gain	0.9271	0.9178	0.90 - 1.10
Far Bar Gain	1.0112	1.0103	0.90 - 1.10
Far Dens Gain	0.9997	0.9977	0.90 - 1.10
Far Peak Gain	0.9891	0.9857	0.90 - 1.10
Far Lith Gain	0.9629	0.9603	0.90 - 1.10
Near Bar Offset	-0.3188	-0.1961	NONE
Near Dens Offset	0.0967	0.1438	NONE
Near Peak Offset	0.3487	0.4016	NONE
Near Lith Offset	0.7111	0.7838	NONE
Far Bar Offset	-0.0319	-0.0303	NONE
Far Dens Offset	0.0591	0.0701	NONE
Far Peak Offset	0.1318	0.1543	NONE
Far Lith Offset	0.3030	0.3117	NONE
Near Bar Background	941.58	933.25	700 - 1450
Near Dens Background	312.16	309.42	230 - 480
Near Peak Background	136.41	136.67	100 - 210
Near Lith Background	166.16	166.22	125 - 260
Far Bar Background	567.11	563.13	450 - 900
Far Dens Background	218.51	220.66	175 - 345
Far Peak Background	86.18	87.32	70 - 140
Far Lith Background	91.21	90.43	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.682	1.685	0.003	+/- 0.015
Pe	2.521	2.558	0.037	+/- 0.150
ALUMINUM				
Density (g/cc)	2.607	2.610	0.003	+/- 0.01500
Pe	3.029	3.068	0.039	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0025	+/- 0.0110	-0.0008	+/- 0.0140
Magnesium Block	-0.0007	+/- 0.0110	-0.0030	+/- 0.0140
Aluminum Block	-0.0002	+/- 0.0110	-0.0011	+/- 0.0140
Resolution	9.55	6.00 - 11.50	9.45	6.00 - 11.50
Internal Verifier(B+D+P+L)	1546	1200 - 2700	962	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

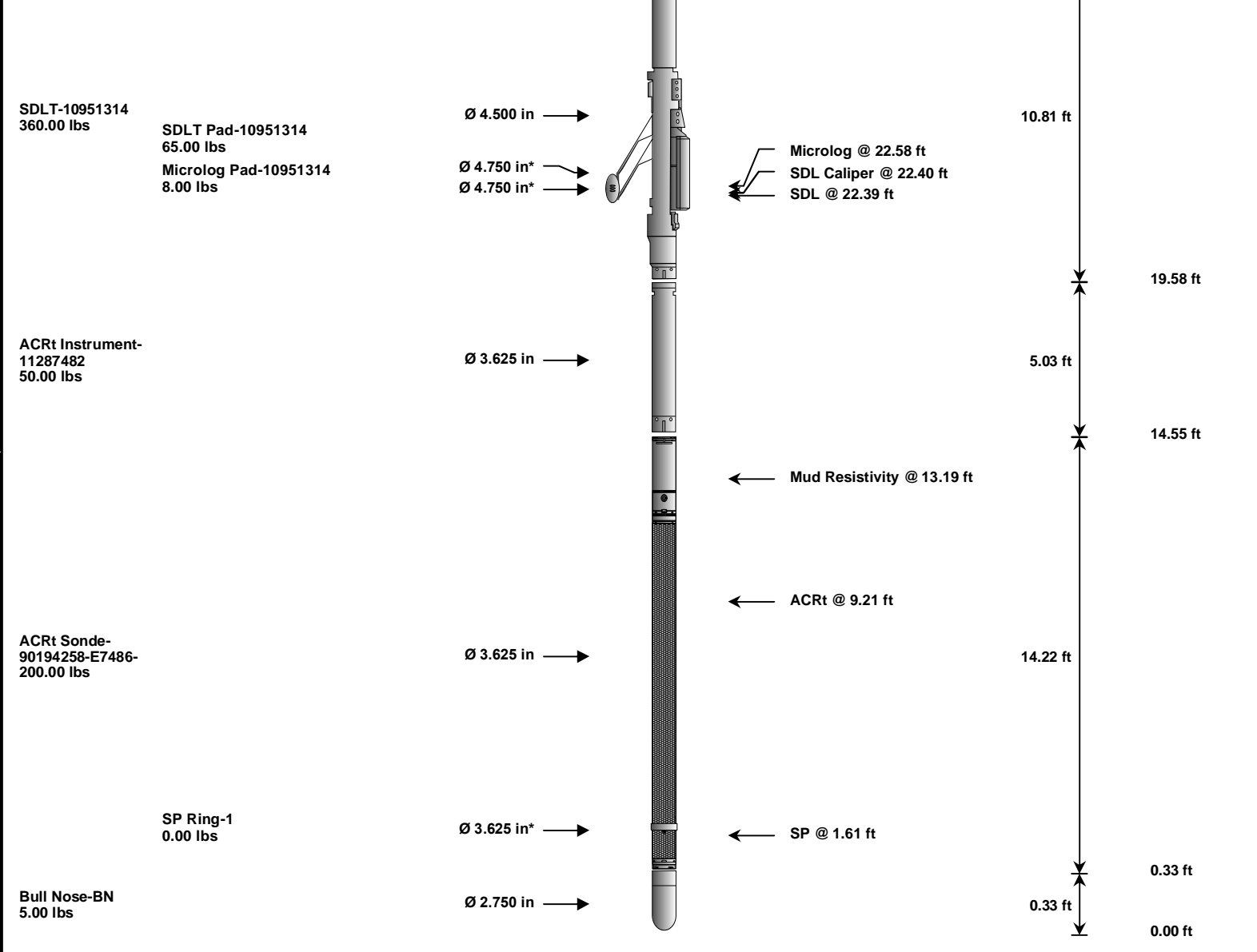
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11005602						
Gamma Ray Calibrator	239.0	237.7	-----	1.3	+/- 9.00	api
DSNT-10846353						
Snow-Block Porosity	0.0736	0.0673	-----	0.0063	+/- 0.0150	decp
SDLT-10951314						
Pad Extension	3.75	-----	-----	0.00	+/-0.20	in
Ring Diameter	8.25	-----	-----	0.00	+/-0.20	in
ACRt Sonde-90194258-E7486-						
Mud Cell	1.004	-----	-----	0.000	-----	ohm-m
SDLT Pad-10951314						
Near(B+D+P+L)	1545.563	-----	-----	0.000	+/-13.840	cps
Far(B+D+P+L)	961.538	-----	-----	0.000	+/-15.127	cps
Data: LARA_HAWX25_01B\0001 TRIPLE\IDLE					Date: 23-Sep-11 04:10:31	

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-10763226 135.00 lbs		Ø 3.625 in →		← Load Cell @ 51.17 ft ← BH Temperature @ 50.60 ft	6.25 ft	54.85 ft
GTET-11005602 165.00 lbs		Ø 3.625 in →		← GammaRay @ 42.54 ft	8.52 ft	48.60 ft
DSN Decentralizer-10839203 6.60 lbs		Ø 5.000 in* →				40.08 ft
DSNT-10846353 174.00 lbs		Ø 3.625 in →		← DSN Far @ 33.15 ft ← DSN Near @ 32.40 ft	9.69 ft	30.40 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	10763226	135.00	6.25	48.60	300.00
GTET	Gamma Telemetry Tool	11005602	165.00	8.52	40.08	60.00
DSNT	Dual Spaced Neutron	10846353	174.00	9.69	30.40	60.00
DCNT	DSN Decentralizer	10839203	6.60	5.13	33.73	300.00
SDLT	Spectral Density Tool	10951314	360.00	10.81	19.58	60.00
SDLP	Density Insite Pad	10951314	65.00	2.55	21.79	60.00
MICP	Microlog Pad	10951314	8.00	1.00	22.08	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11287482	50.00	5.03	14.55	300.00
ACRt	Array Compensated True Resistivity	90194258-E7486-	200.00	14.22	0.33	300.00
SP	SP Ring	1	0.00	0.25	1.61	300.00
BLNS	Bull Nose	BN	5.00	0.33	0.00	300.00
Total			1,168.60	54.85		

* Not included in Total Length and Length Accumulation.

Data: LARA_HAWX25_01B\0001 TRIPLEIDLE Date: 23-Sep-11 05:17:21

COMPANY	LARAMIE ENERGY
WELL	HAWXHURST 25-01B
FIELD	BUZZARD CREEK
COUNTY	MESA
STATE	CO

HALLIBURTON

SPECTRAL DENSITY
DUAL SATED NEURTON
ARRAY COMPENSATED
TRUE RESISTIVITY