

KERR-MCGEE OIL & GAS ONSHORE LP			
NORTHGLENN STATE 19-36X			
WATTENBERG			
WELD			
CO			
COMPANY	KERR-MCGEE OIL & GAS ONSHORE LP		
WELL	NORTHGLENN STATE 19-36X		
FIELD	WATTENBERG		
COUNTY	WELD	STATE CO	
API No.	05123344690100		Other Services: RWCH
Location	SURFACE LOCATION: 1,289' FSL & 2,491' FEL SWSE BOTTOM LOCATION: 1,400' FSL & 1,648' FWL NESW		
LATITUDE: 40.008875°			
LONGITUDE: -104.951438°			
Permanent Datum	GL	Elev: 5119.0 ft	Elev: K.B.
Log measured from	KB	15.0 ft above perm. Datum	D.F.
Drilling measured from	KB		G.L.
Date	27-Feb-12		
Run No.	ONE		
Depth - Driller	8270.00 ft		
Depth - Logger	8262.0 ft		
Bottom - Logged Interval	8260 ft		
Top - Logged Interval	CASING		
Casing - Driller	8.625 in @ 1037.0 ft		
Casing - Logger	1037.0 ft		
Bit Size	7.875 in @		
Type Fluid in Hole	WATER BASED MUD		
Density	9.0 ppq	50.00 s/qt	
PH	7.50 pH		
Source of Sample	MUD CELL		
Rm @ Meas. Temperature	1.140 ohmm @ 70.70 degF	@	@
Rmf @ Meas. Temperature	0.92 ohmm @ 75.00 degF	@	@
Rmc @ Meas. Temperature	0.971 ohmm @ 75.00 degF	@	@
Source Rmf	CHART	CHART	
Rm @ BHT	0.38 ohmm @ 228.0 degF	@	@
Time Since Circulation	11.0 hr		
Time on Bottom	27-Feb-12 12:34		
Max. Rec. Temperature	228.0 degF @ 8262.0 ft	@	@
Equipment	11454566	BRIGHTON	
Recorded By	R. TWEETEN		
Witnessed By	B. BENJAMIN		
T. GEDAMU			

Fold here

Service Ticket No.: 9302989		API Serial No.: 05123344690100		PGM Version: WLINSITE R3.4.4 (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.
Rmf @ Meas. Temp.	@	@		ONE	ACrt	N/A	FREE
Rmc @ Meas. Temp.	@	@			E6758-S4352		
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.	11277436	Serial No.		Serial No.	M335_P470	Serial No.	11812167
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.	GTET	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS-137	Source Type	AM241BE
Length	8"	LSA [Y/N]		Serial No.	GAM-GAM	Serial No.	NEU-NEU
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	9.000	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	650.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.140	ohmm
	SHARED	TRM	Temperature of Mud	70.7	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	4.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	8262.00	ft
	SHARED	BHT	Bottom Hole Temperature	228.0	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	
	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	

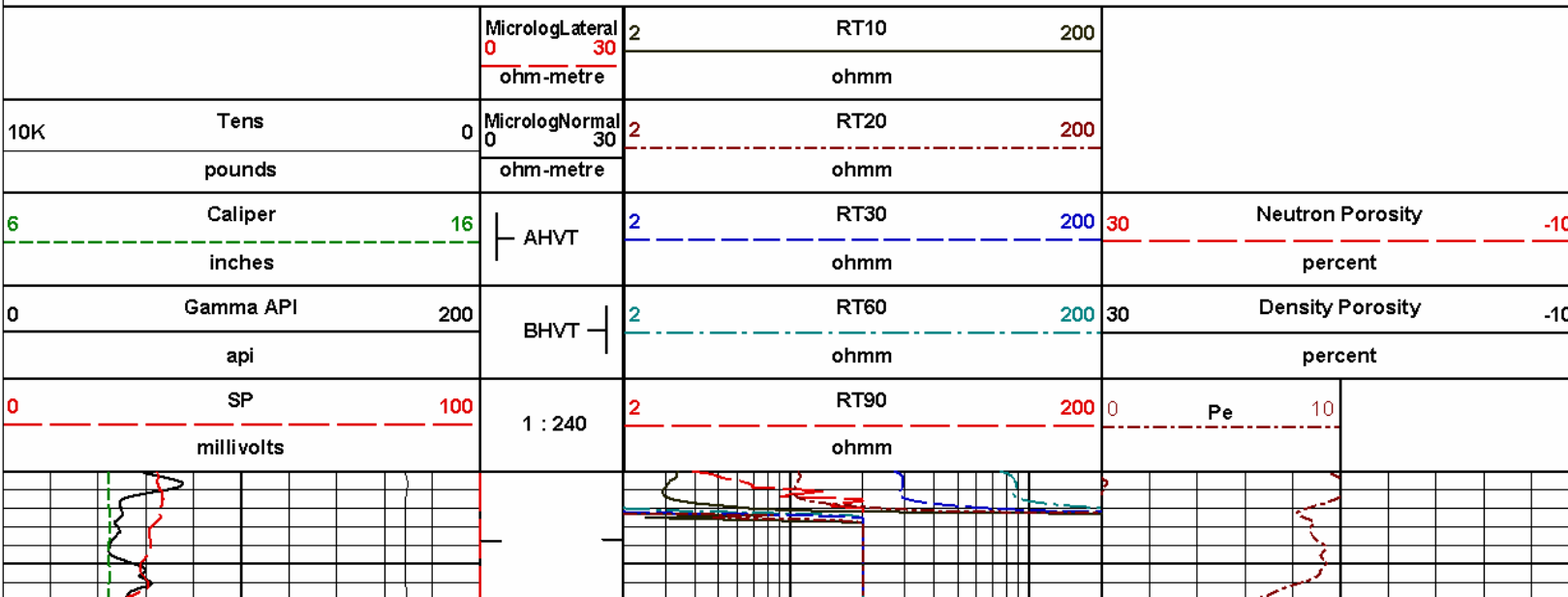
DSNT	DNOK	Process DSN?	Yes	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DNOS	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	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	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.25	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	ohm m
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohm m
ACRt Sonde	THQY	Threshold Quality	0.50	

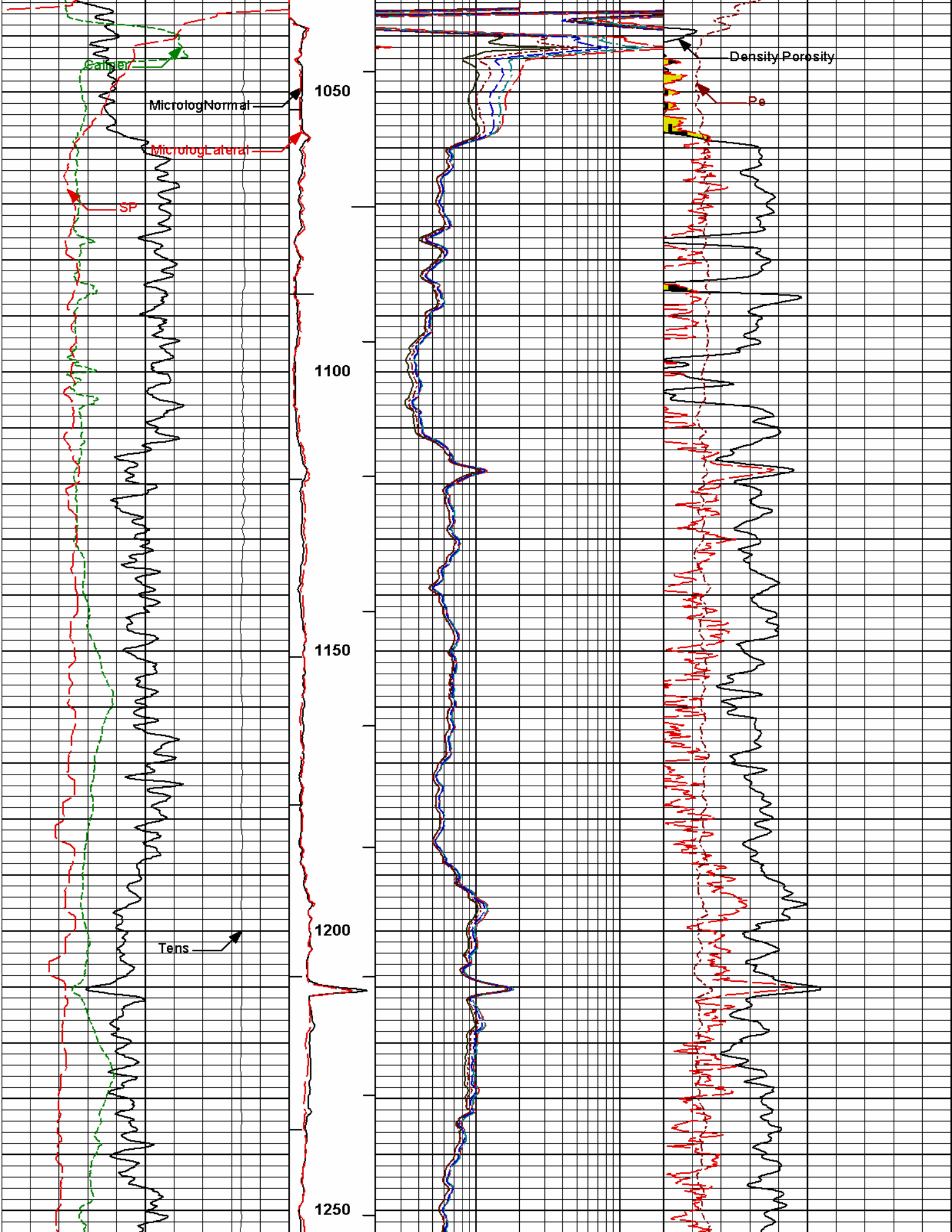
BOTTOM

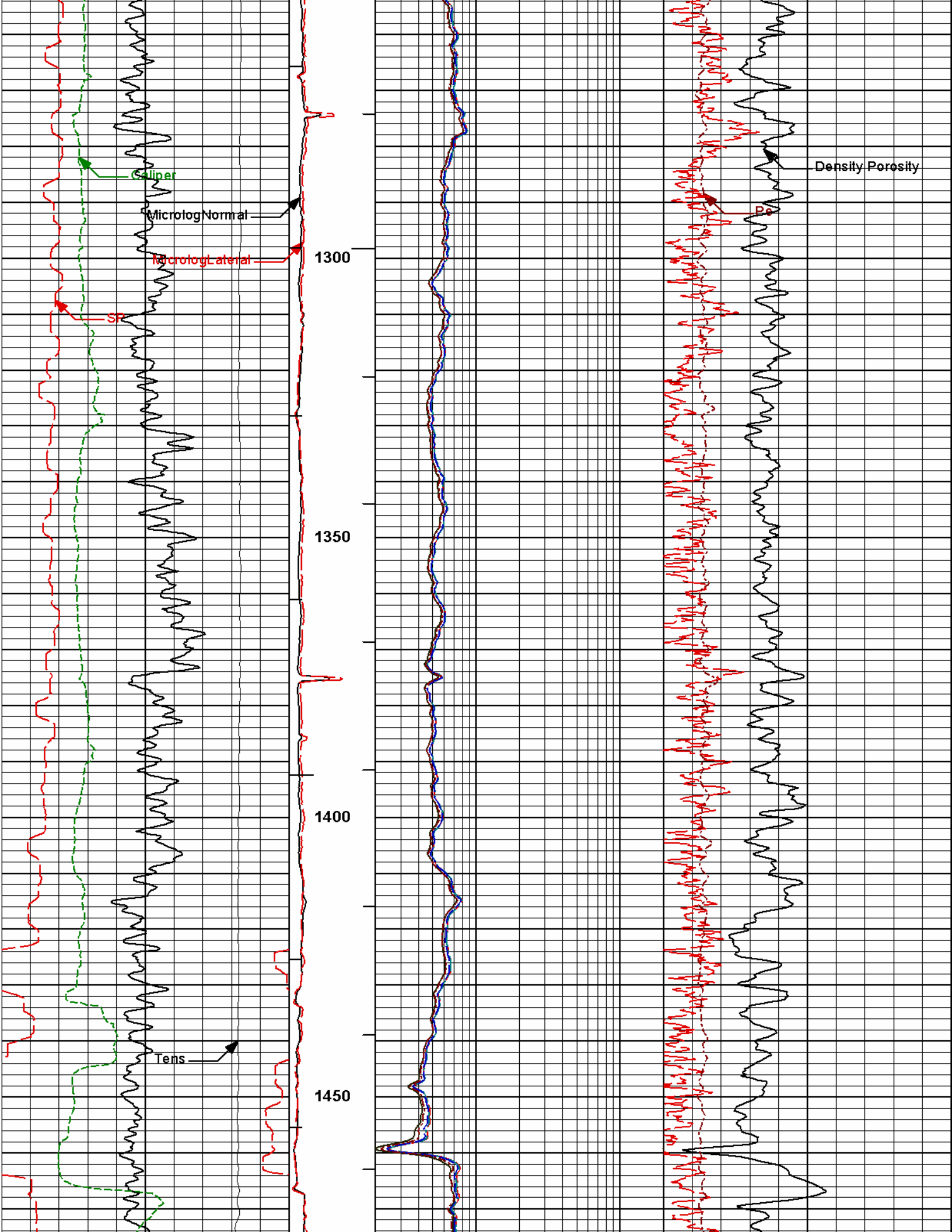


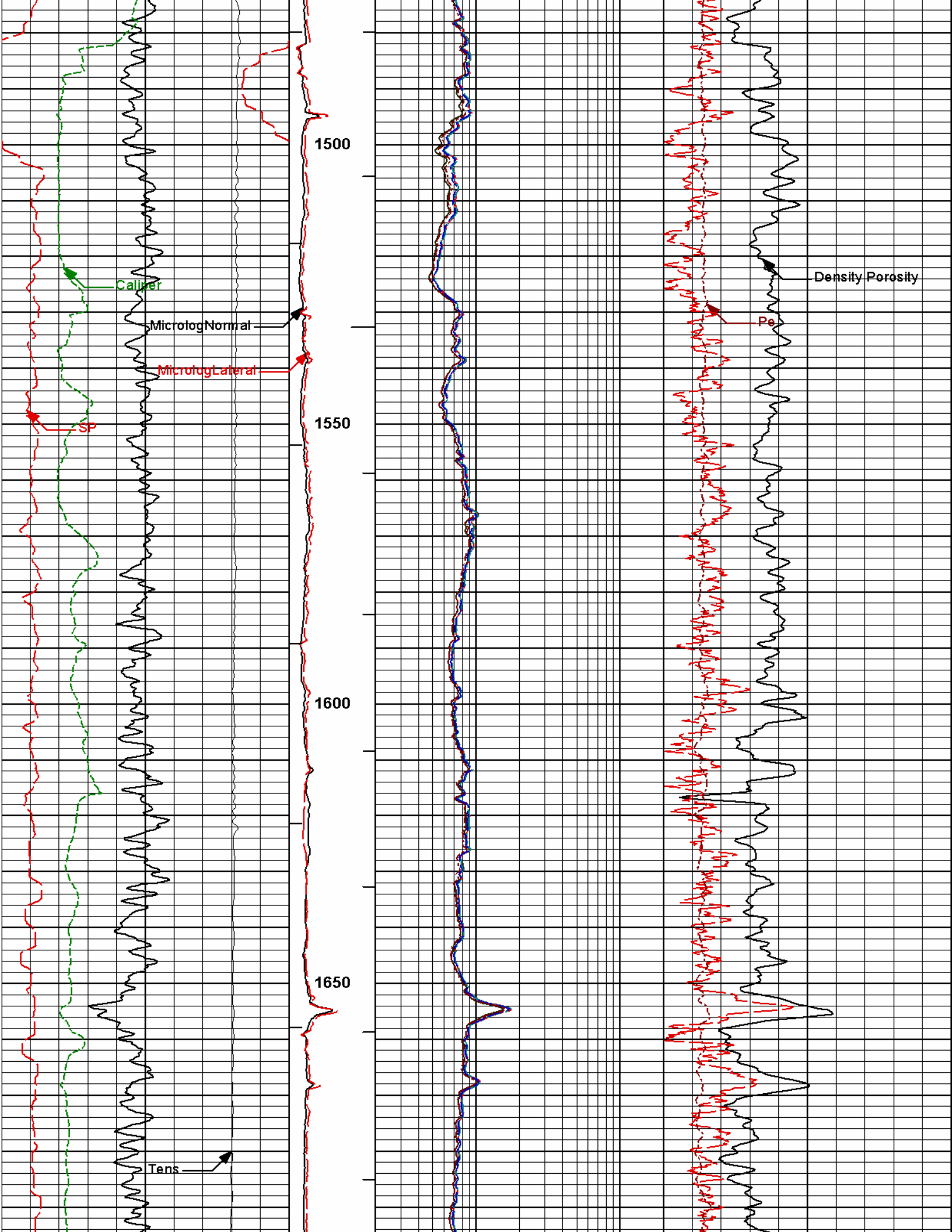
Plot Time: 28-Feb-12 17:10:41
Plot Range: 1020 ft to 8269.92 ft
Data: NG_STATE_19-36\Well Based\MAIN"
Plot File: \COMP\MAIN

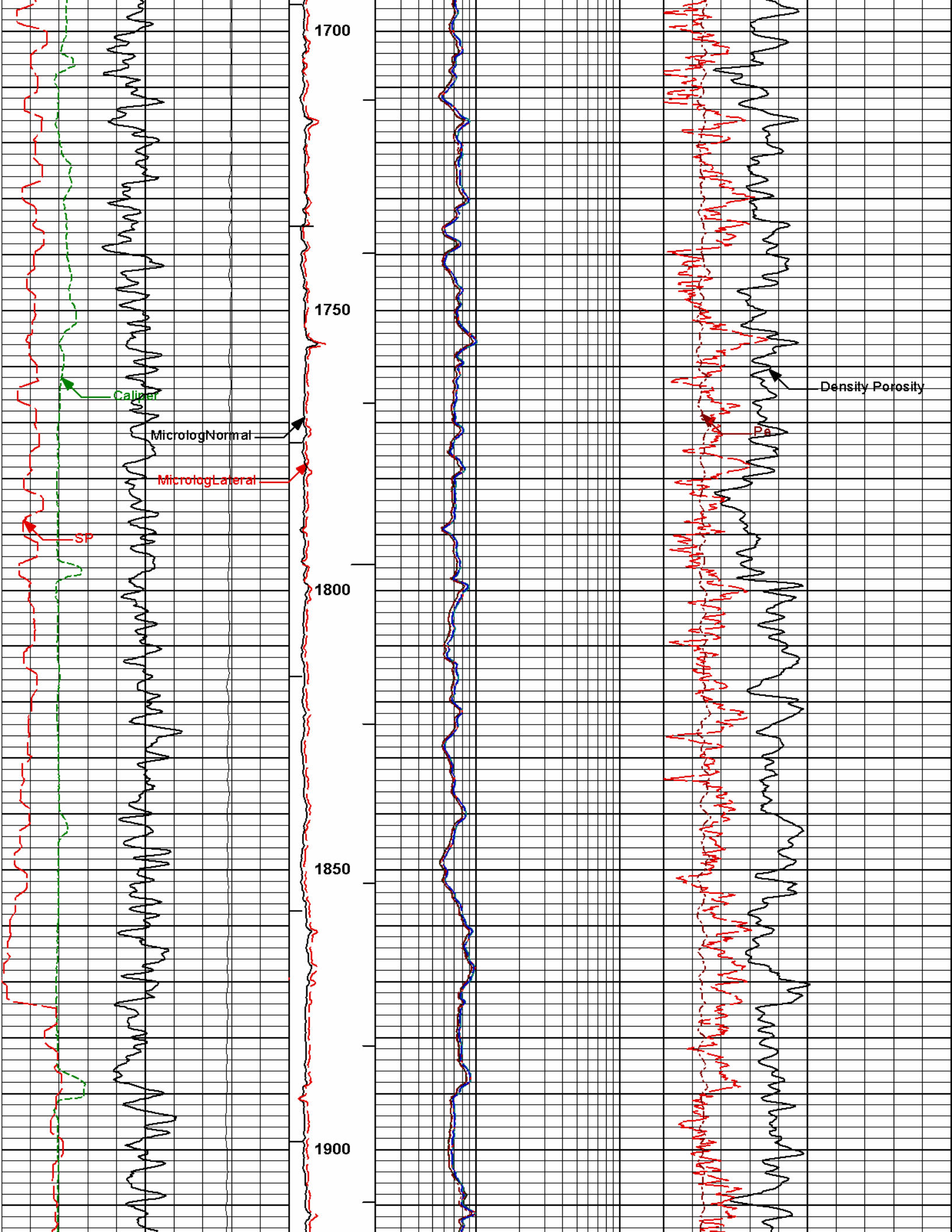
MAIN PASS 5" = 100'

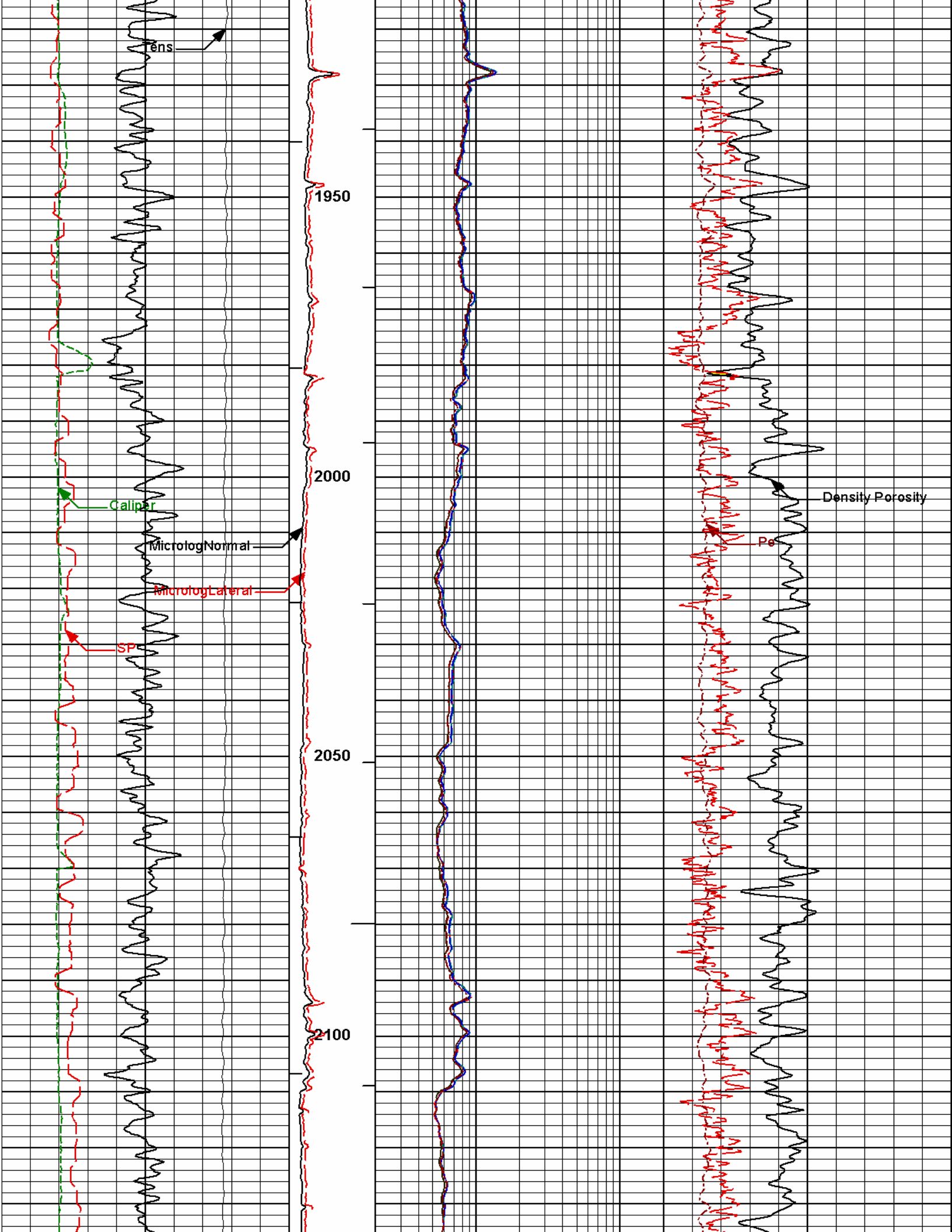


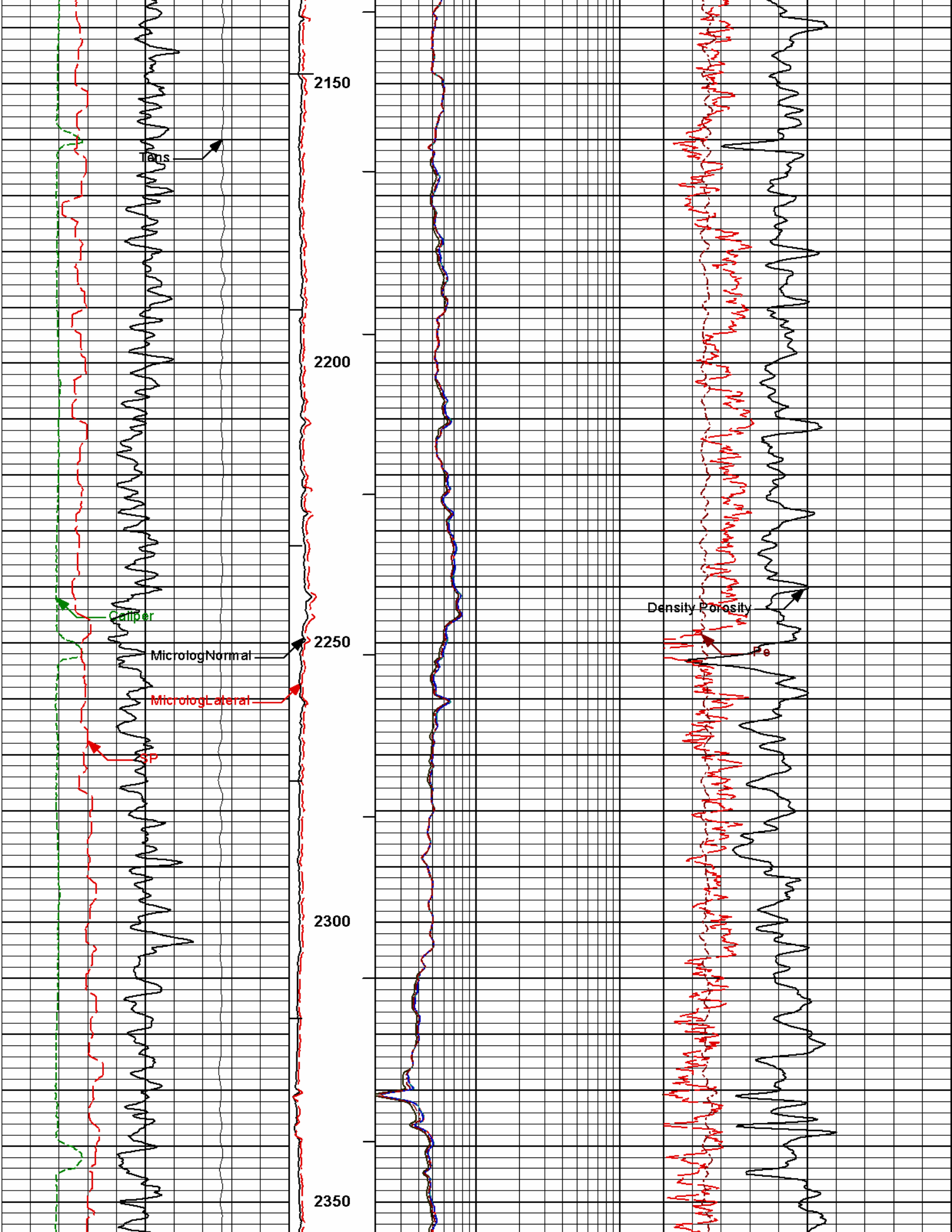


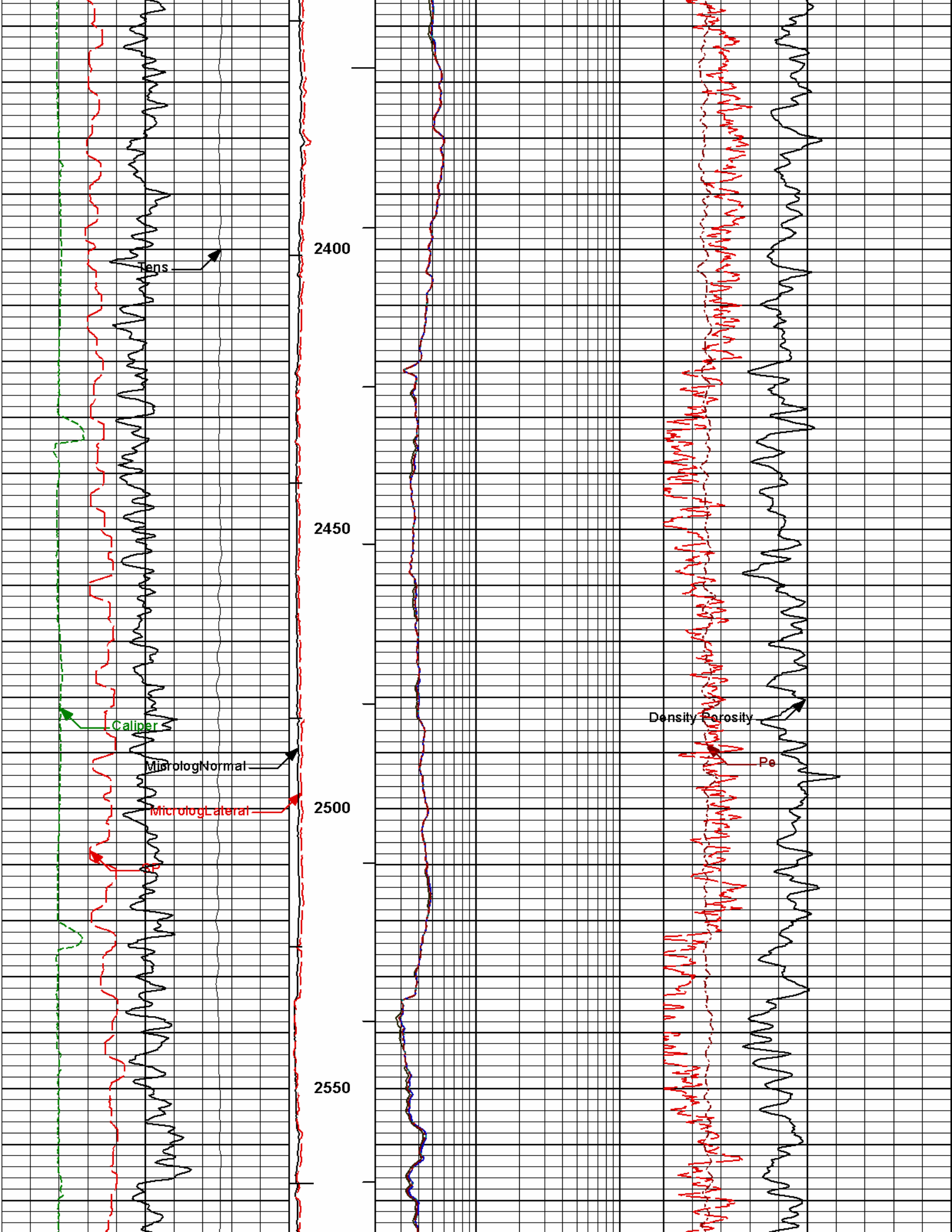


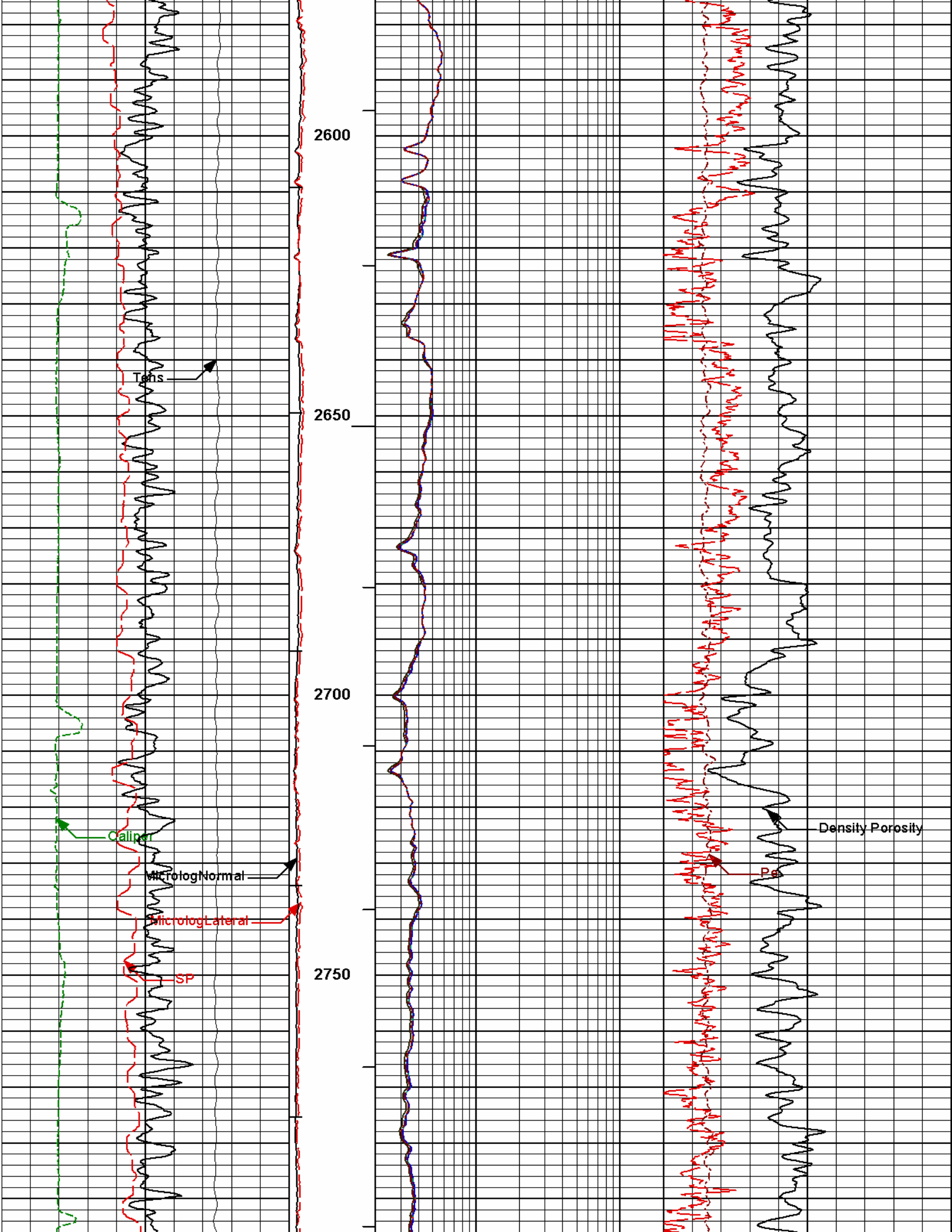


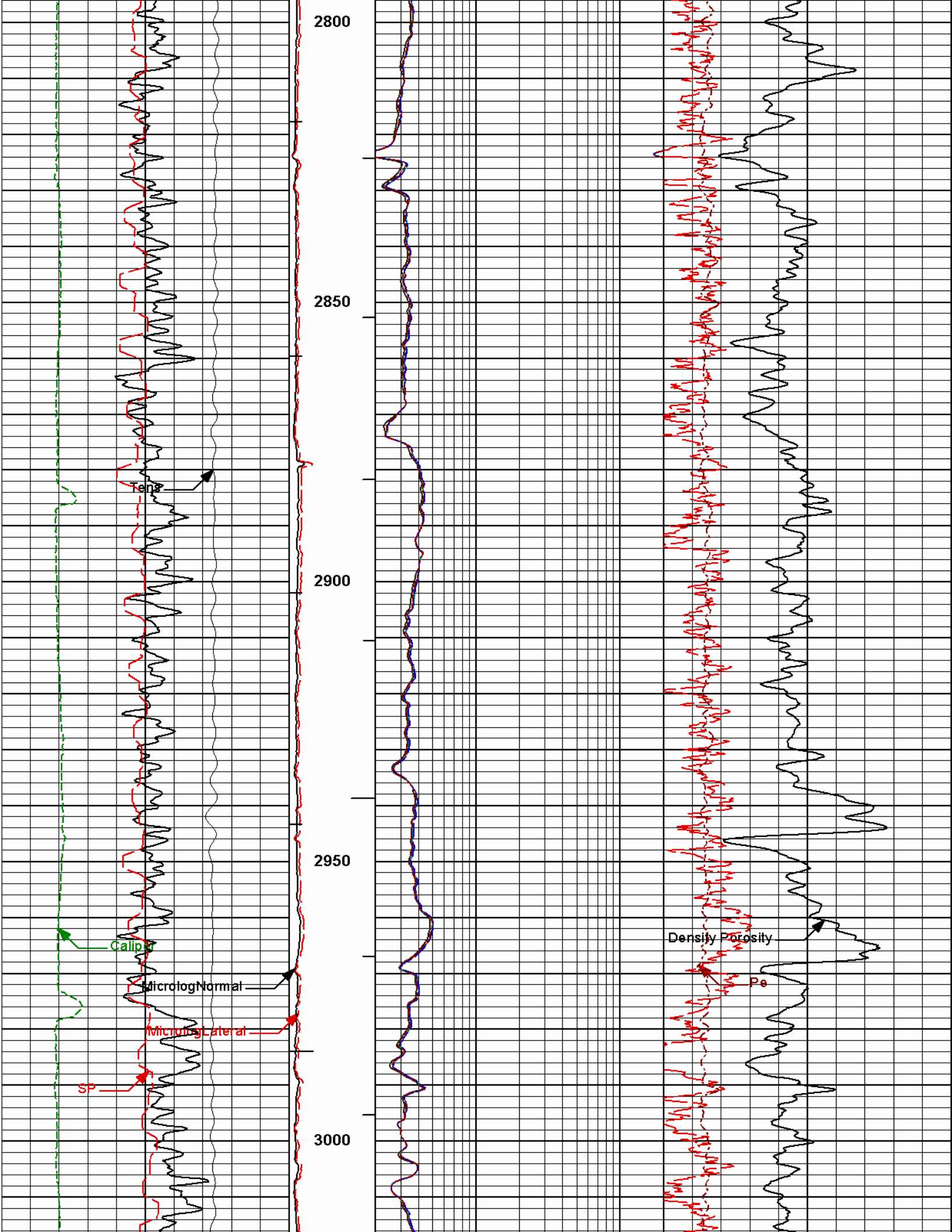


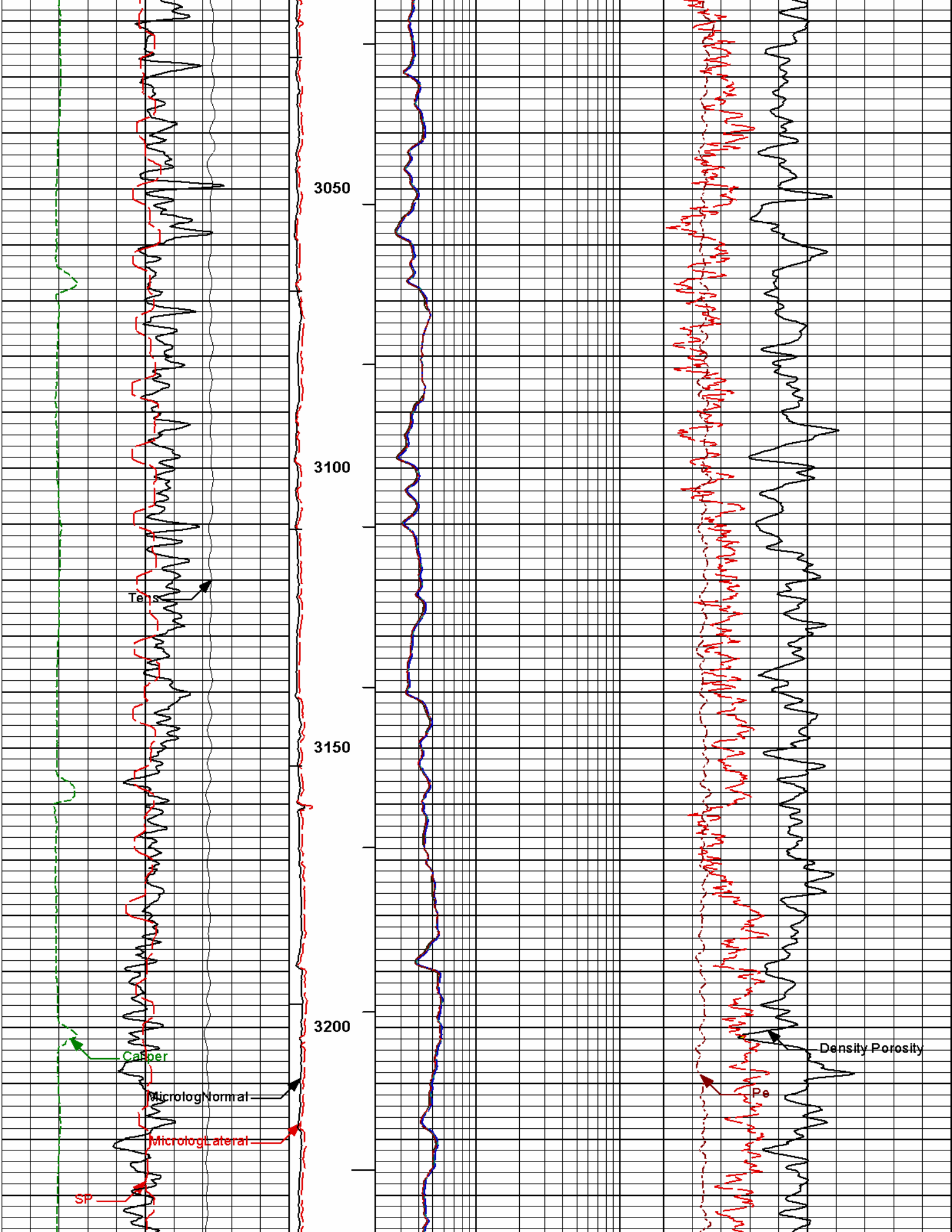


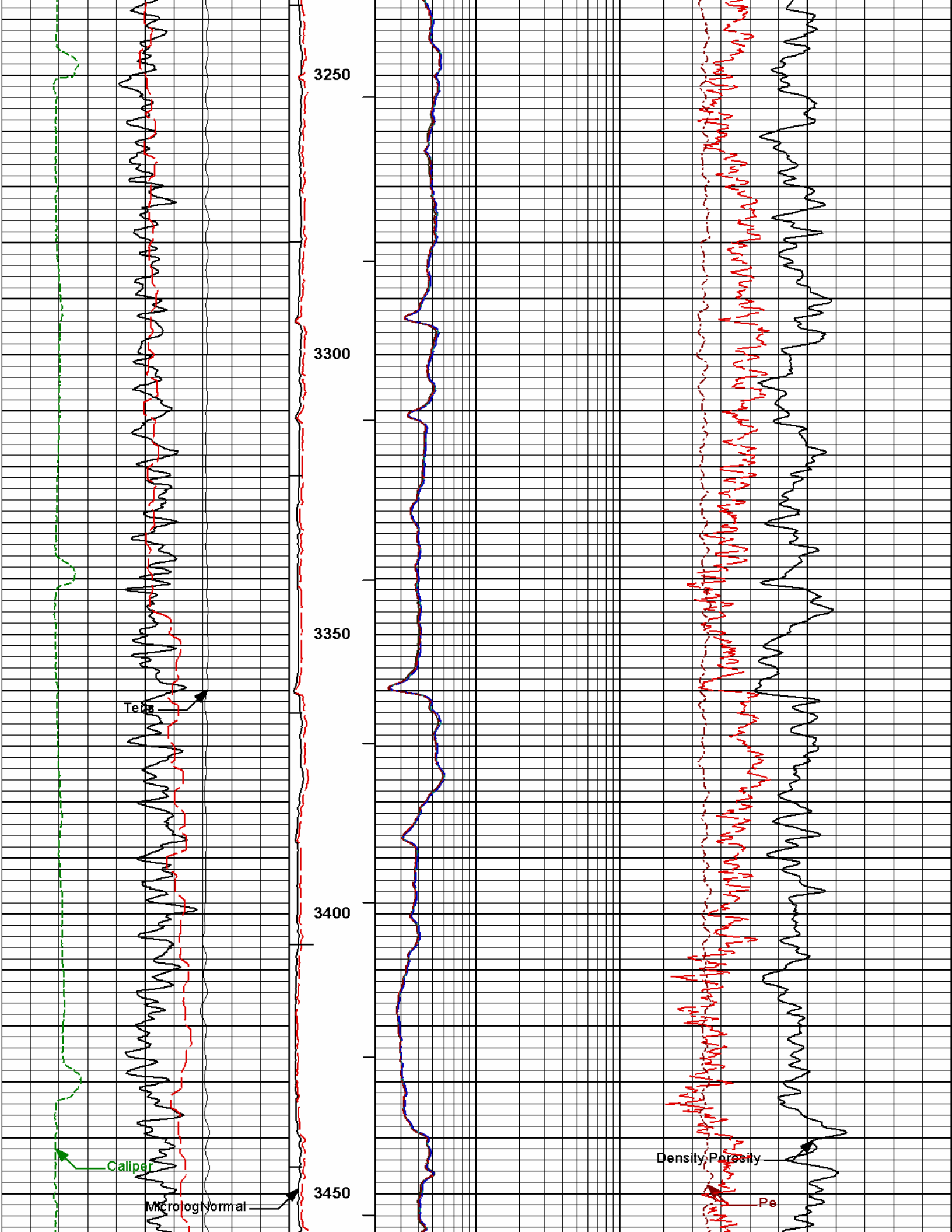


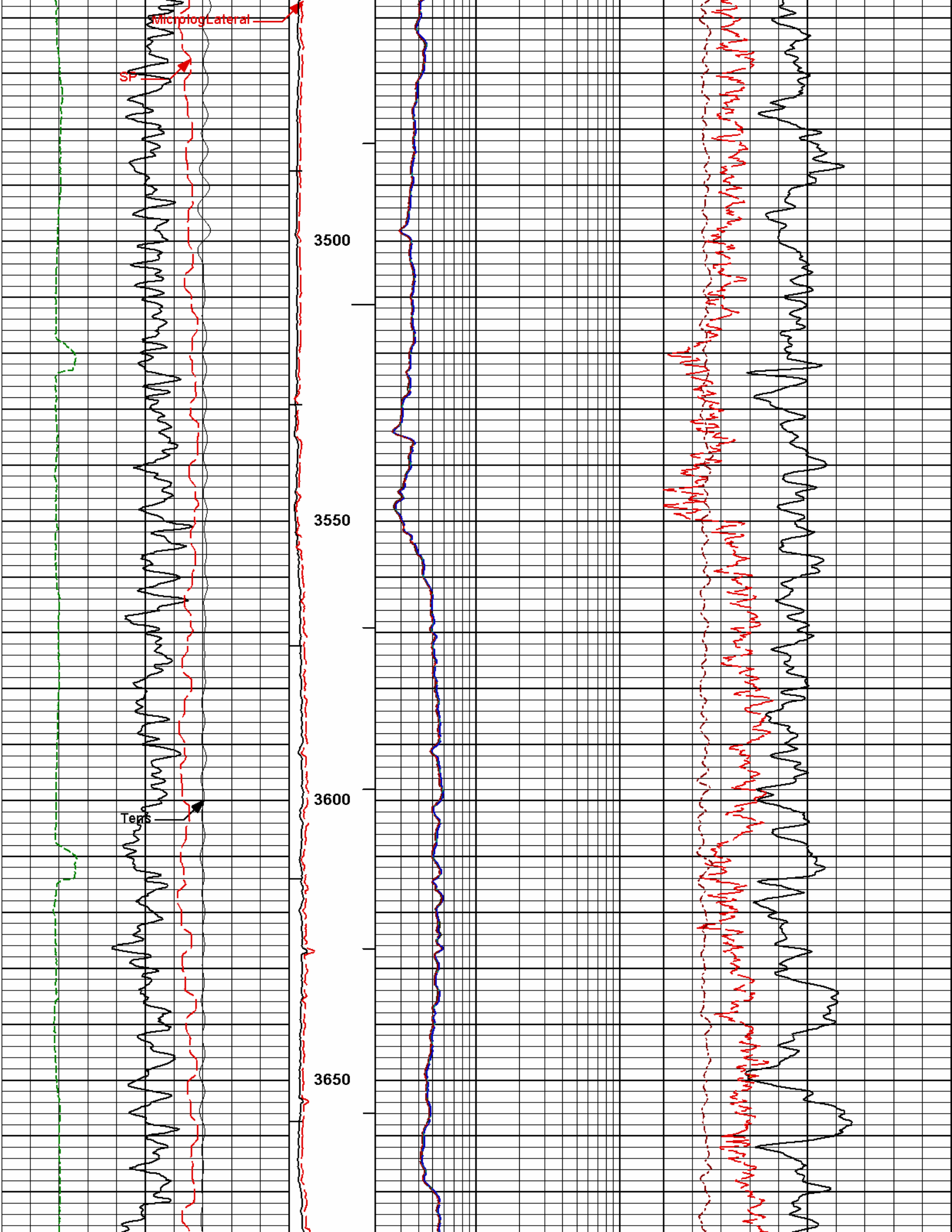


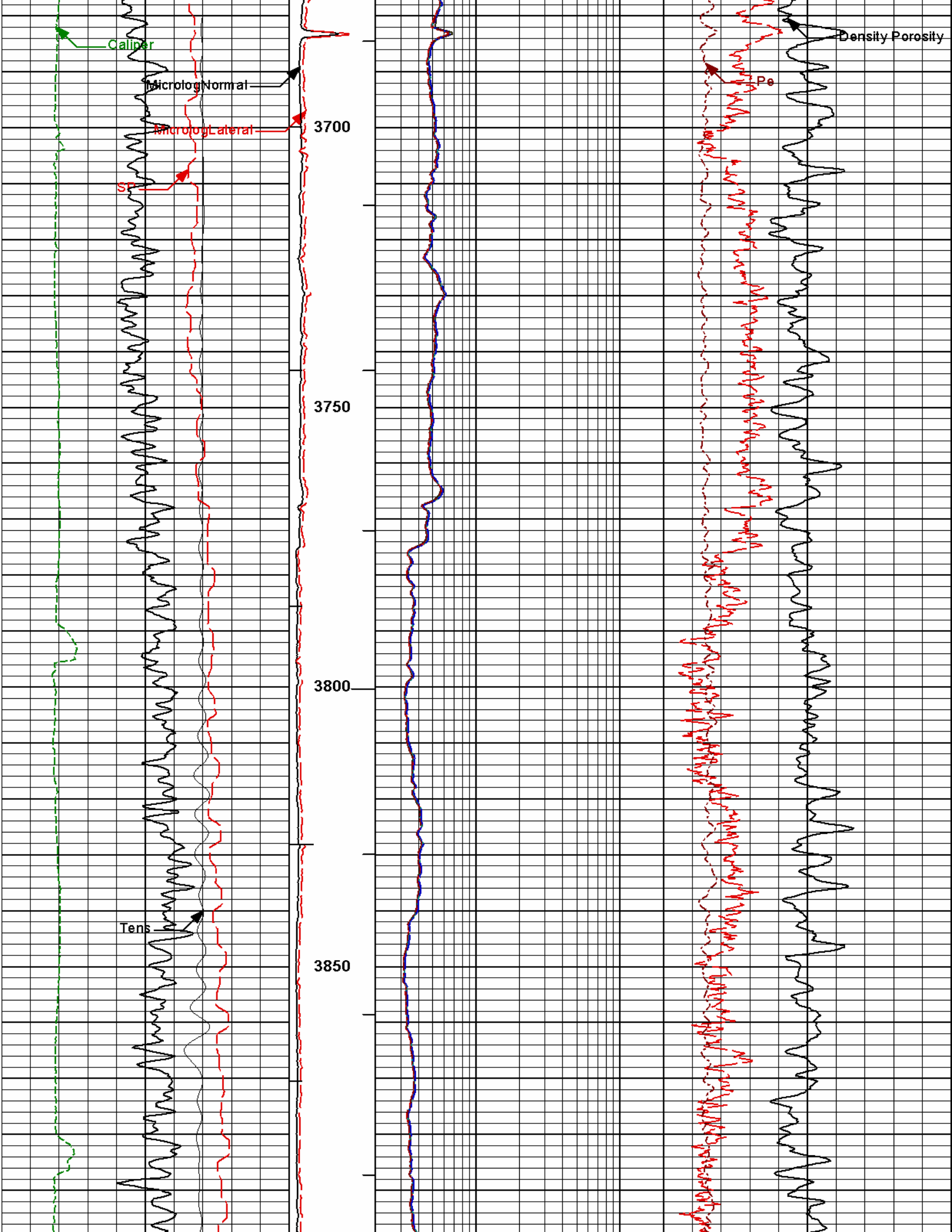


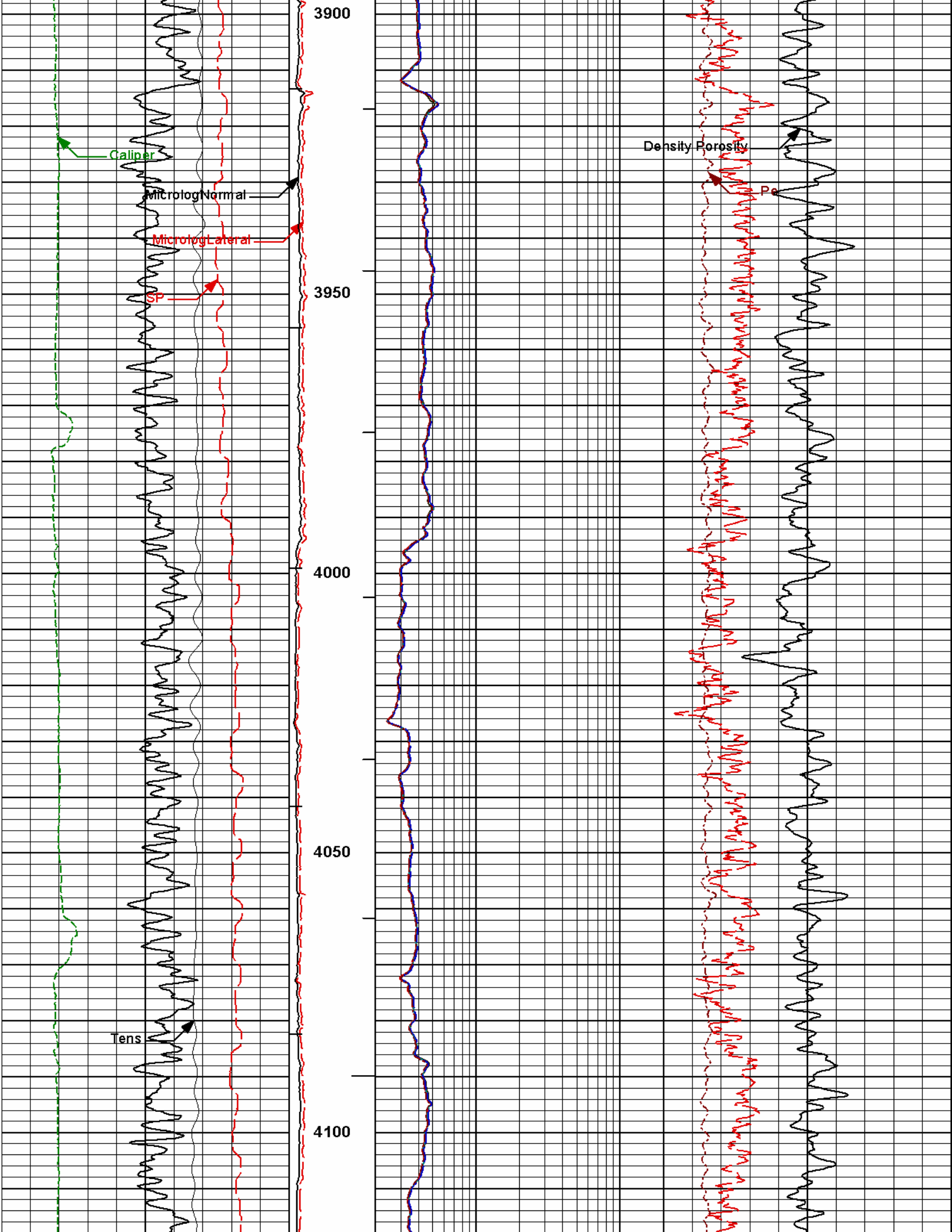


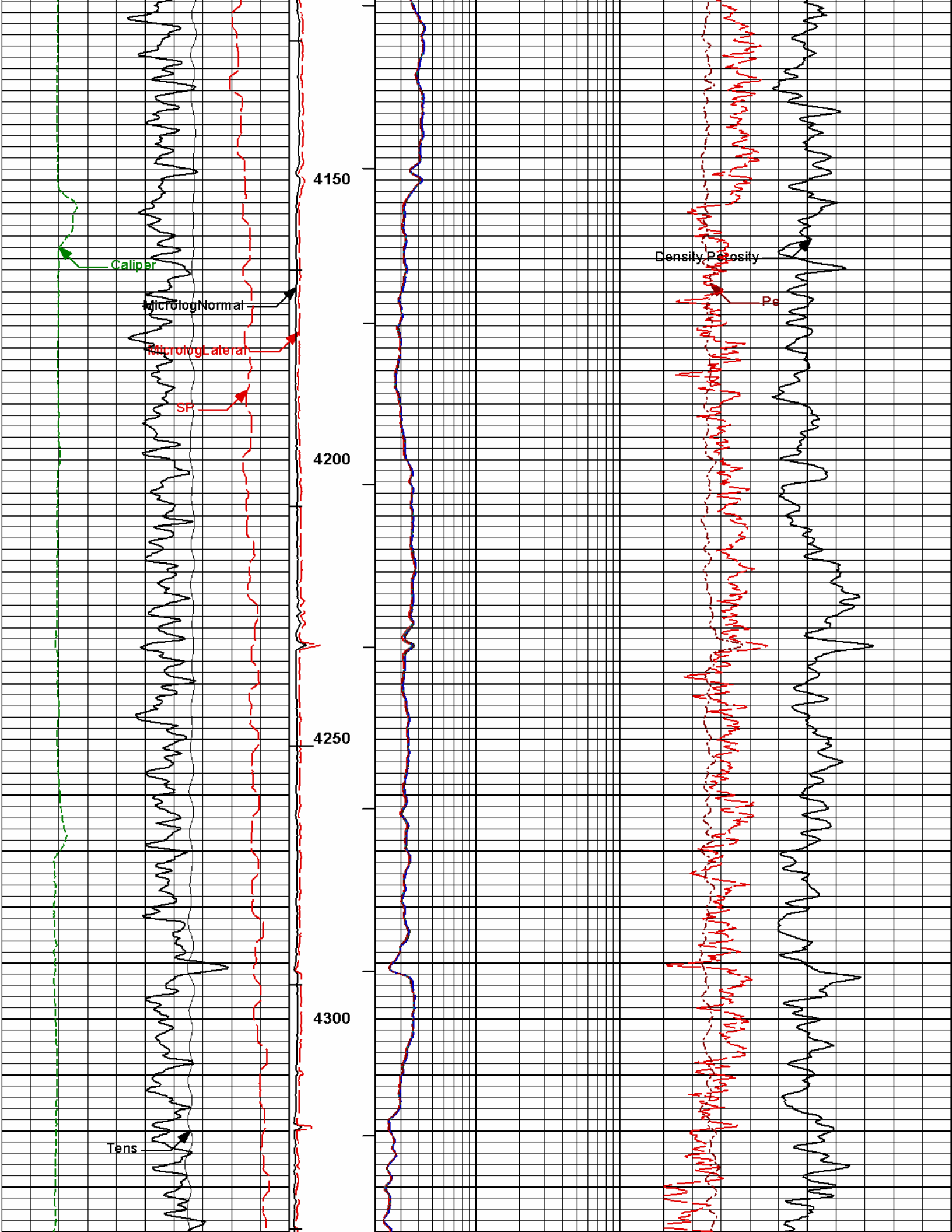


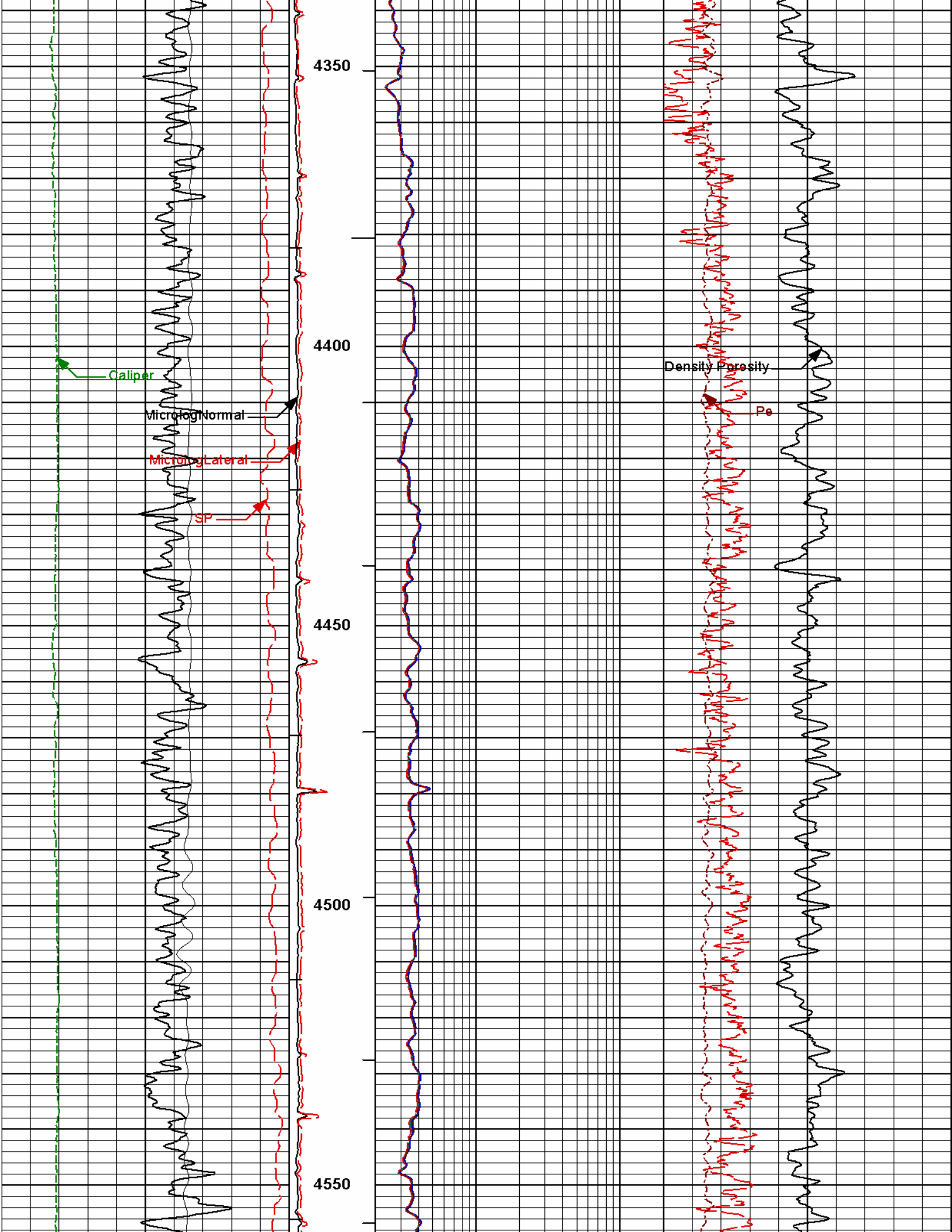


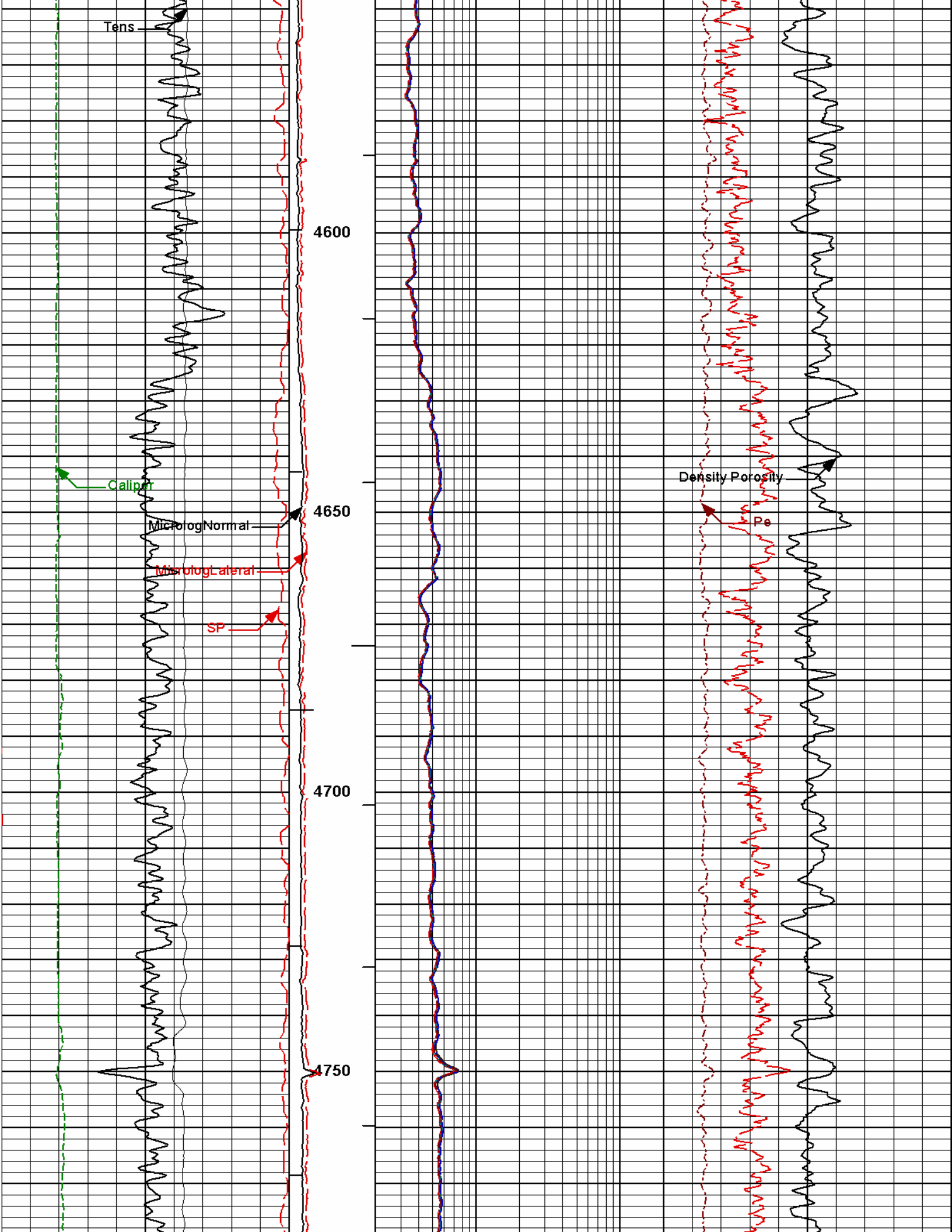


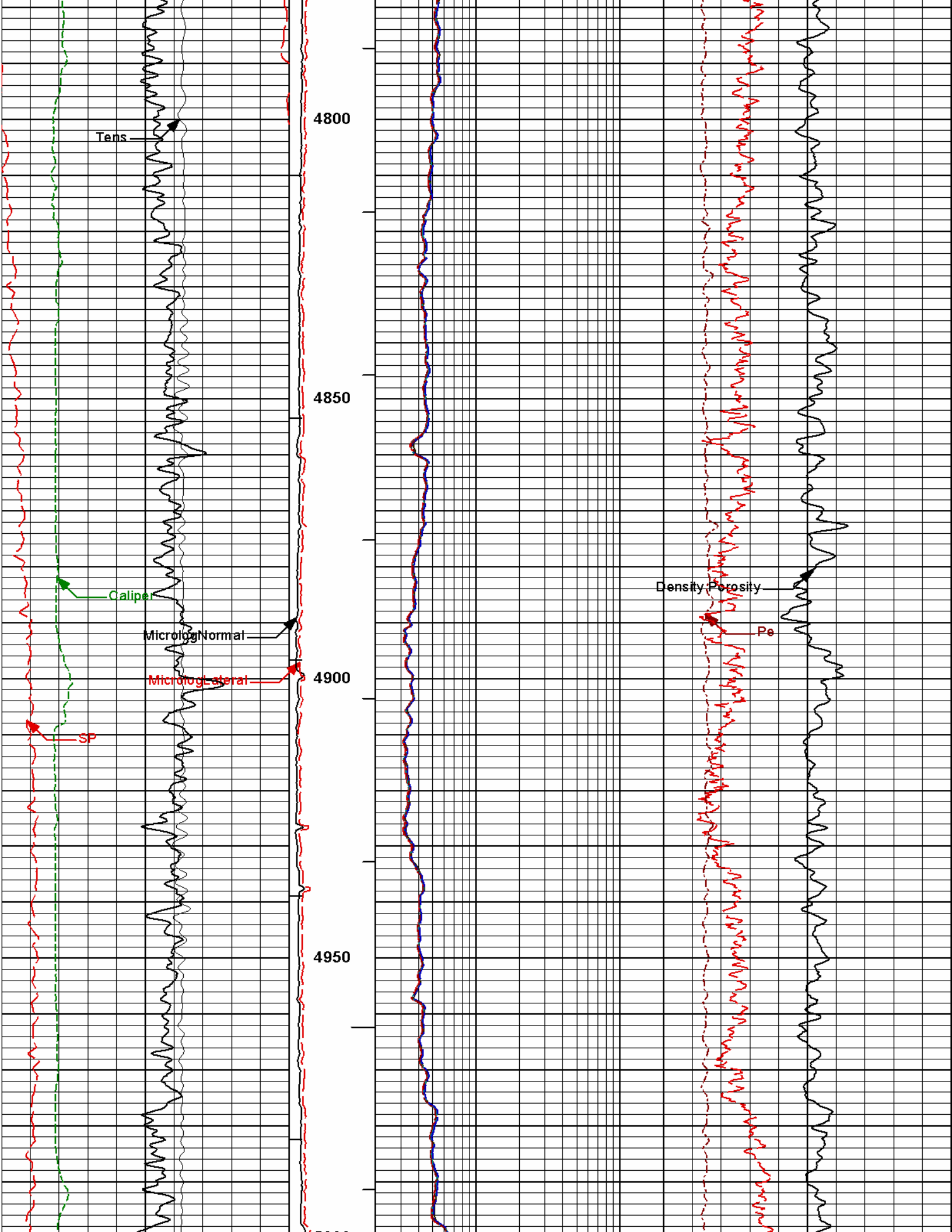


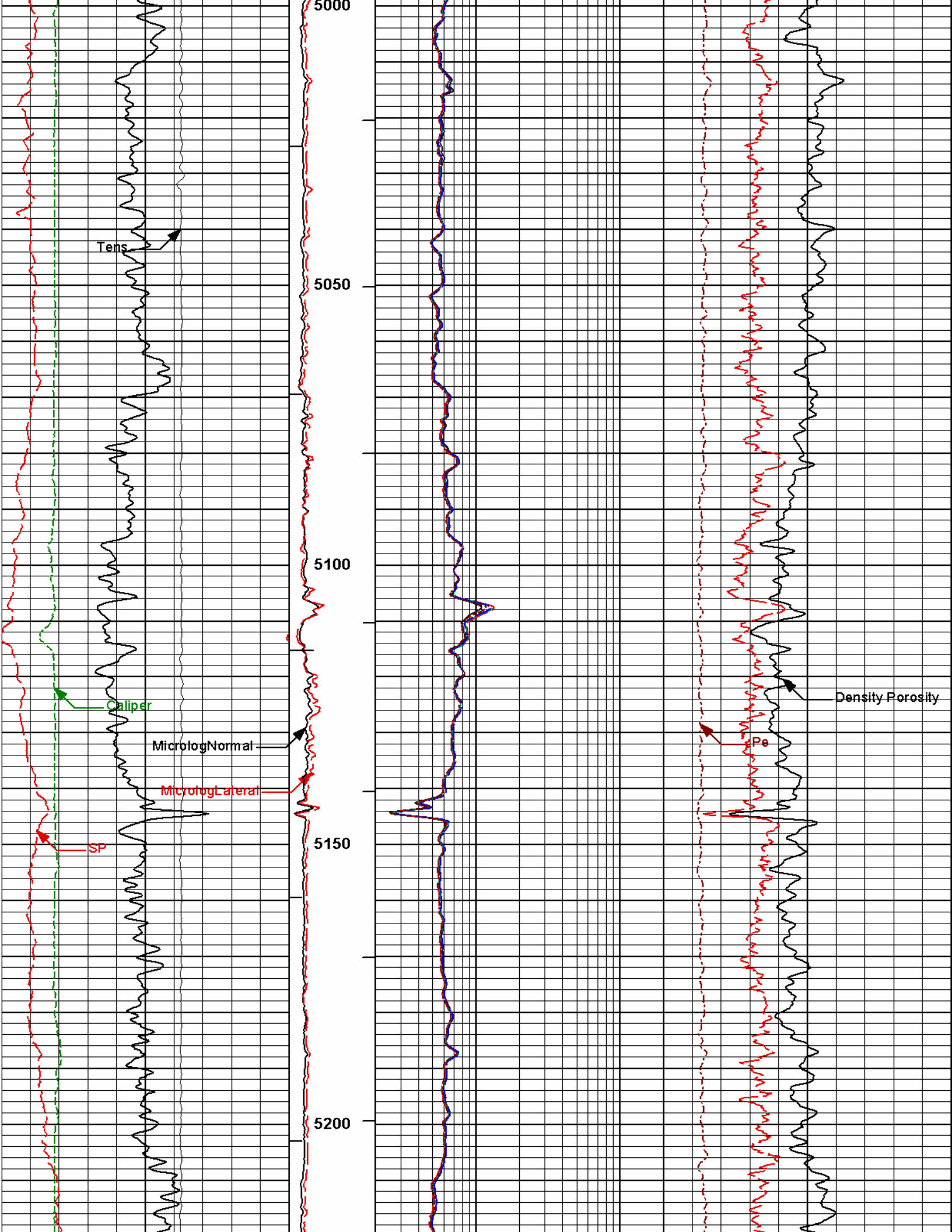


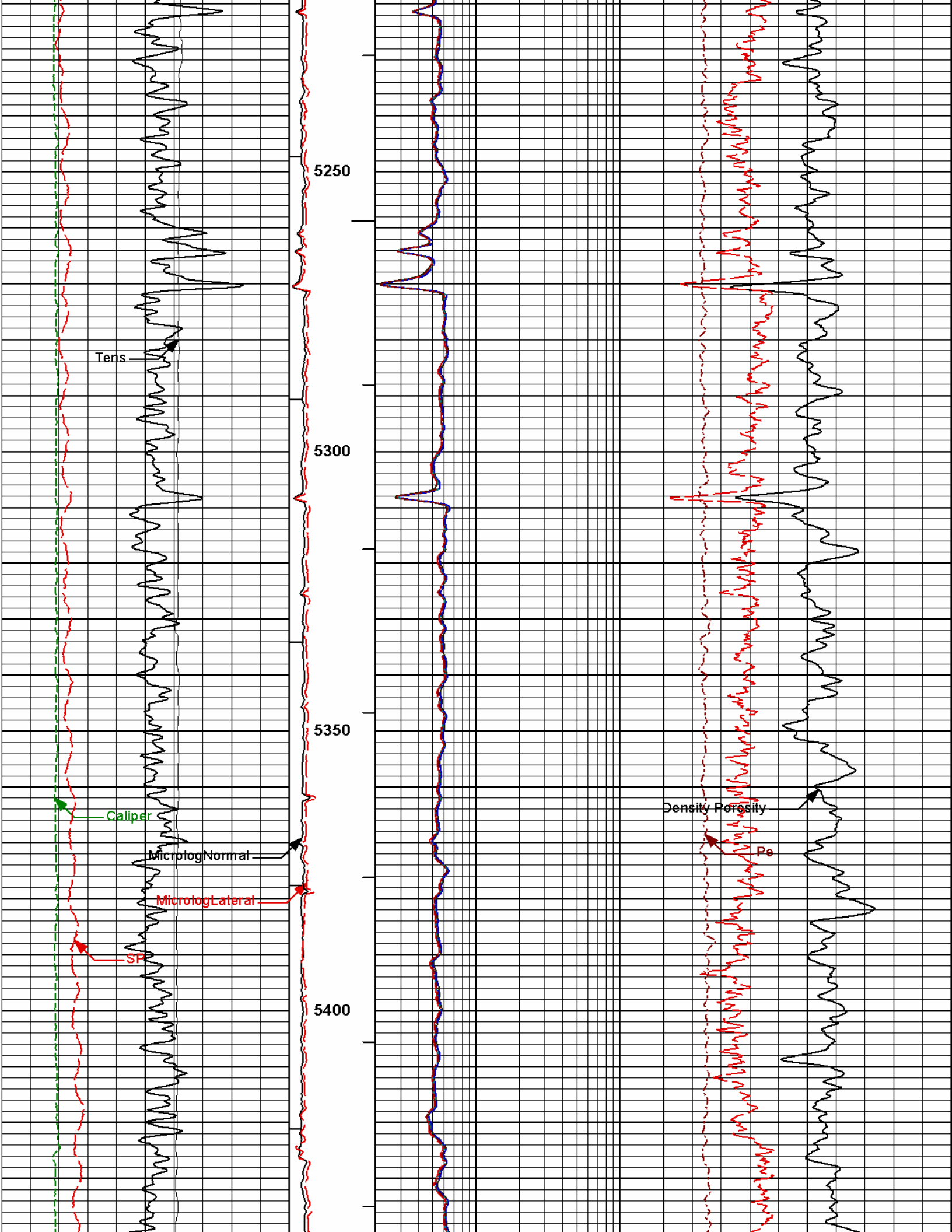


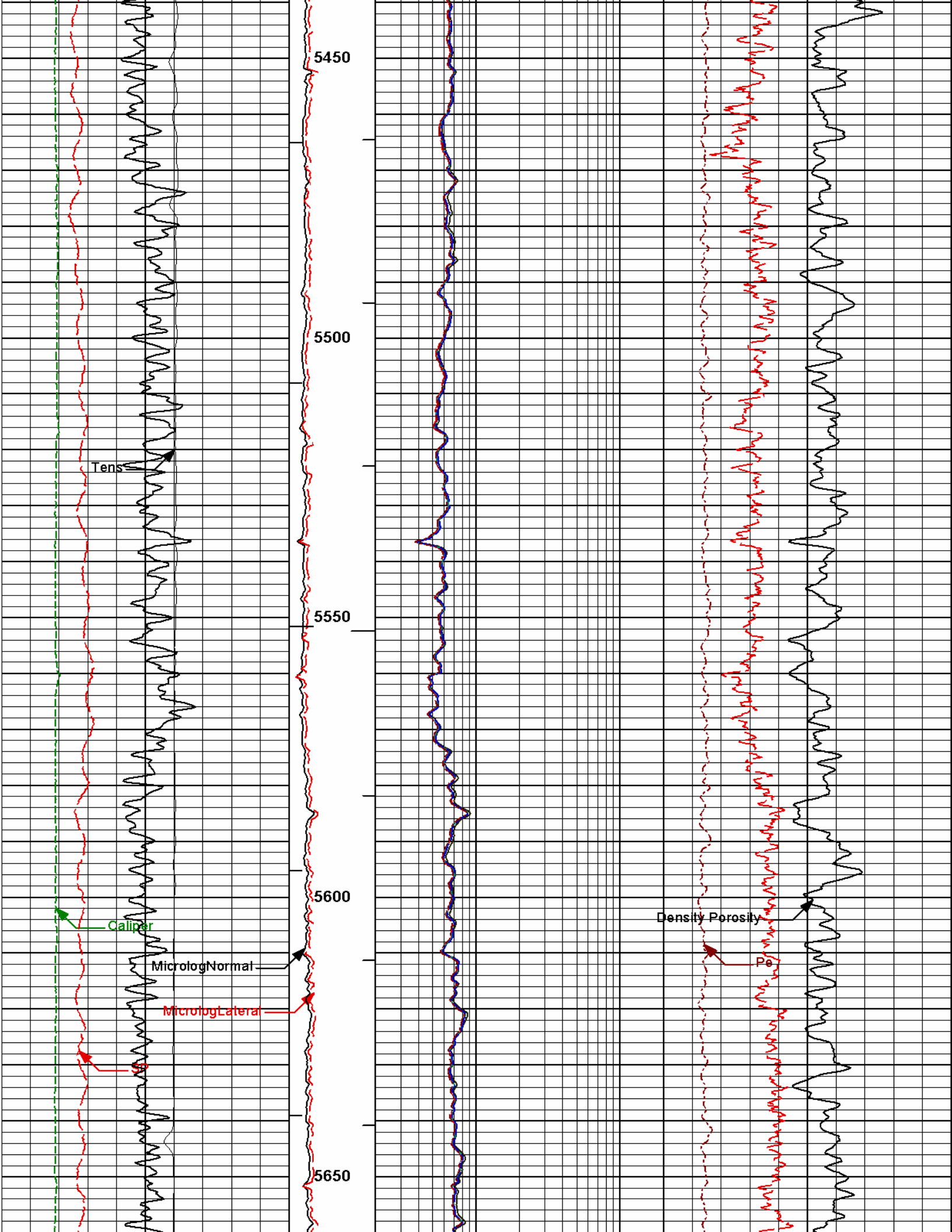


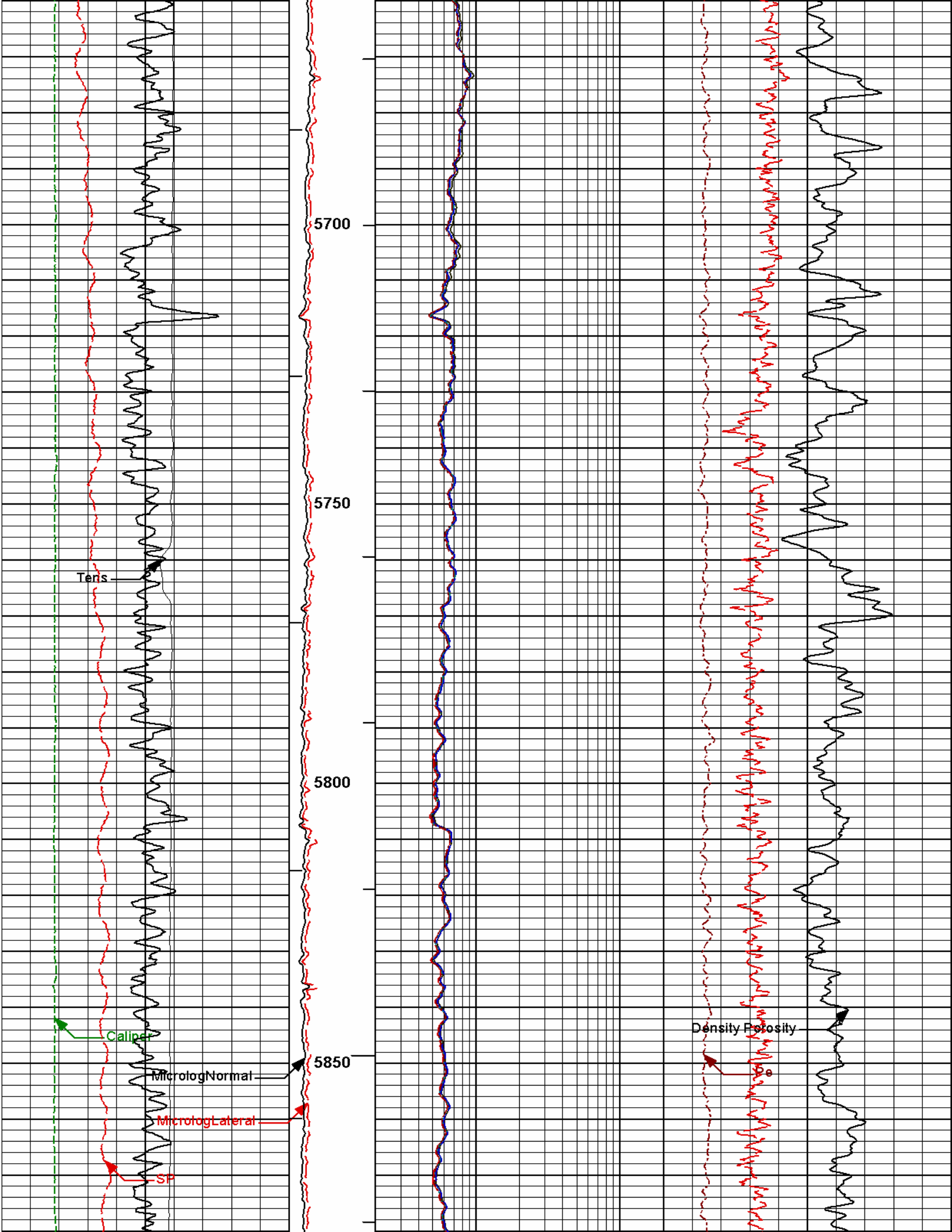


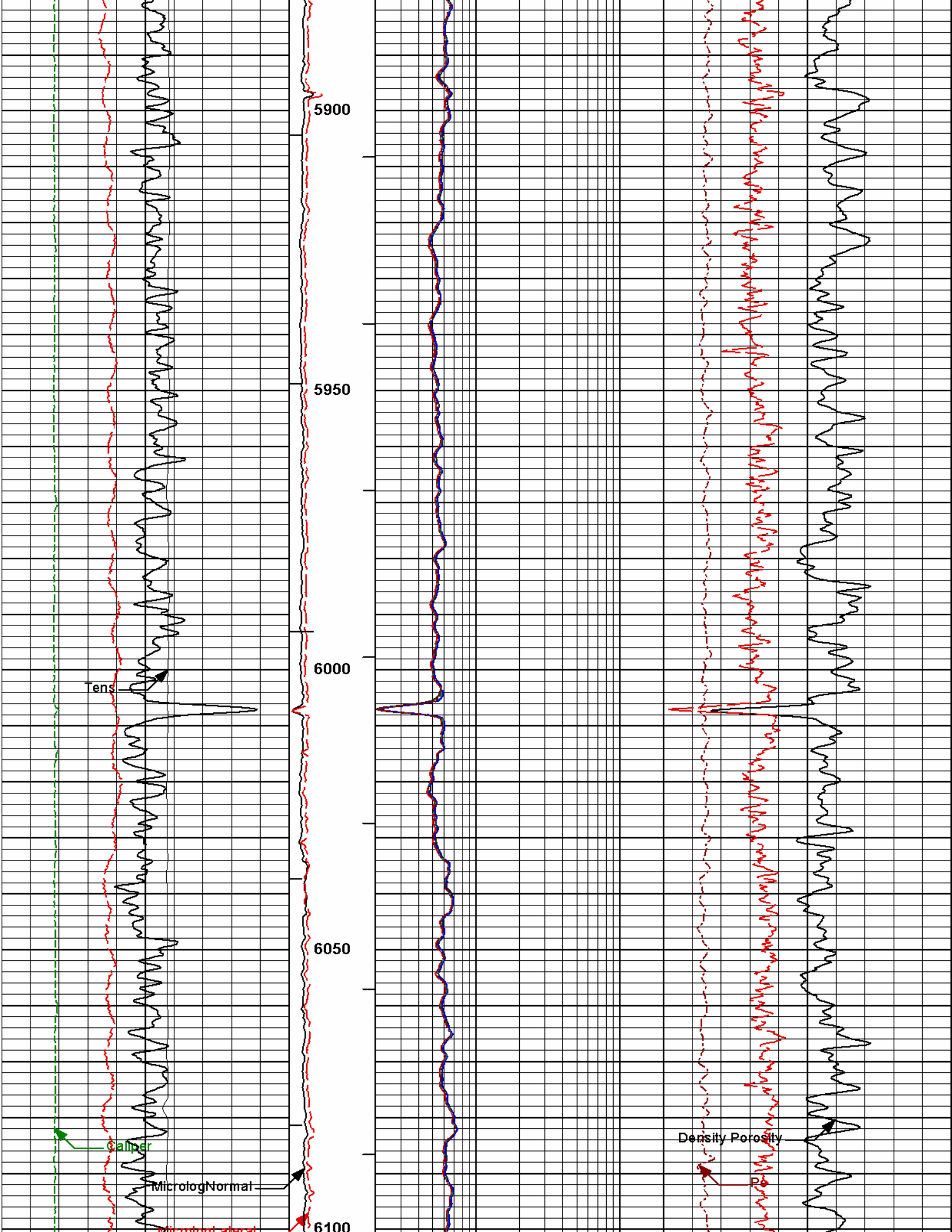


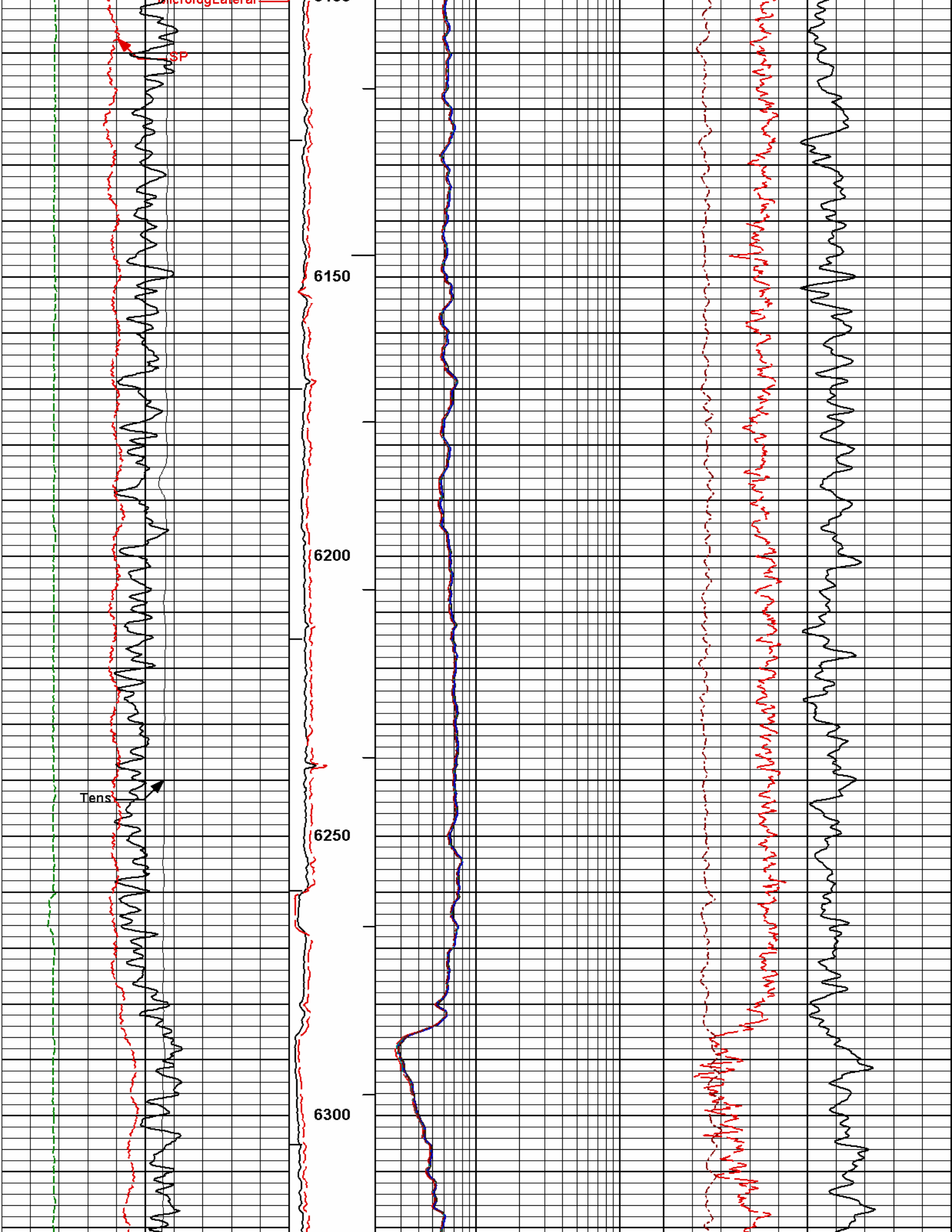


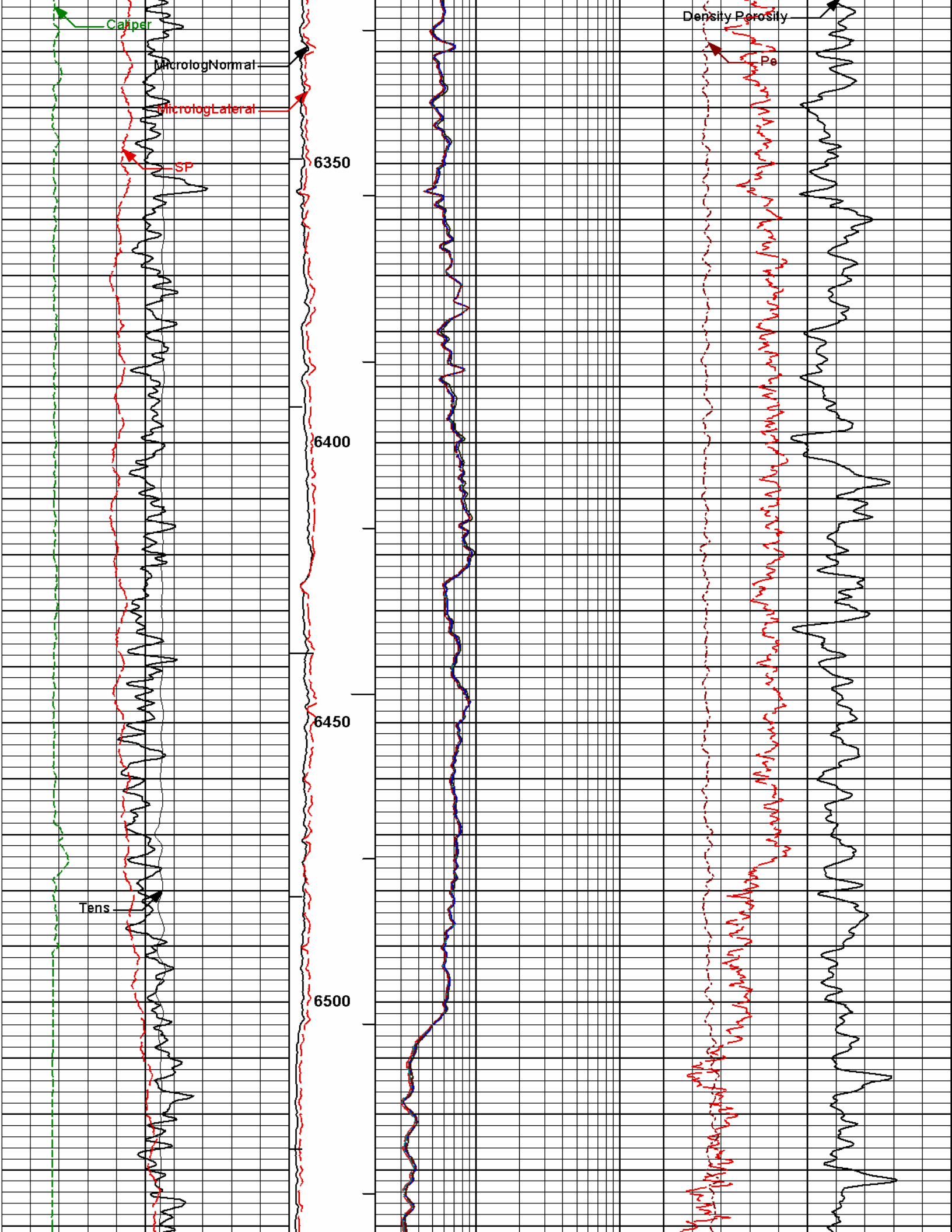


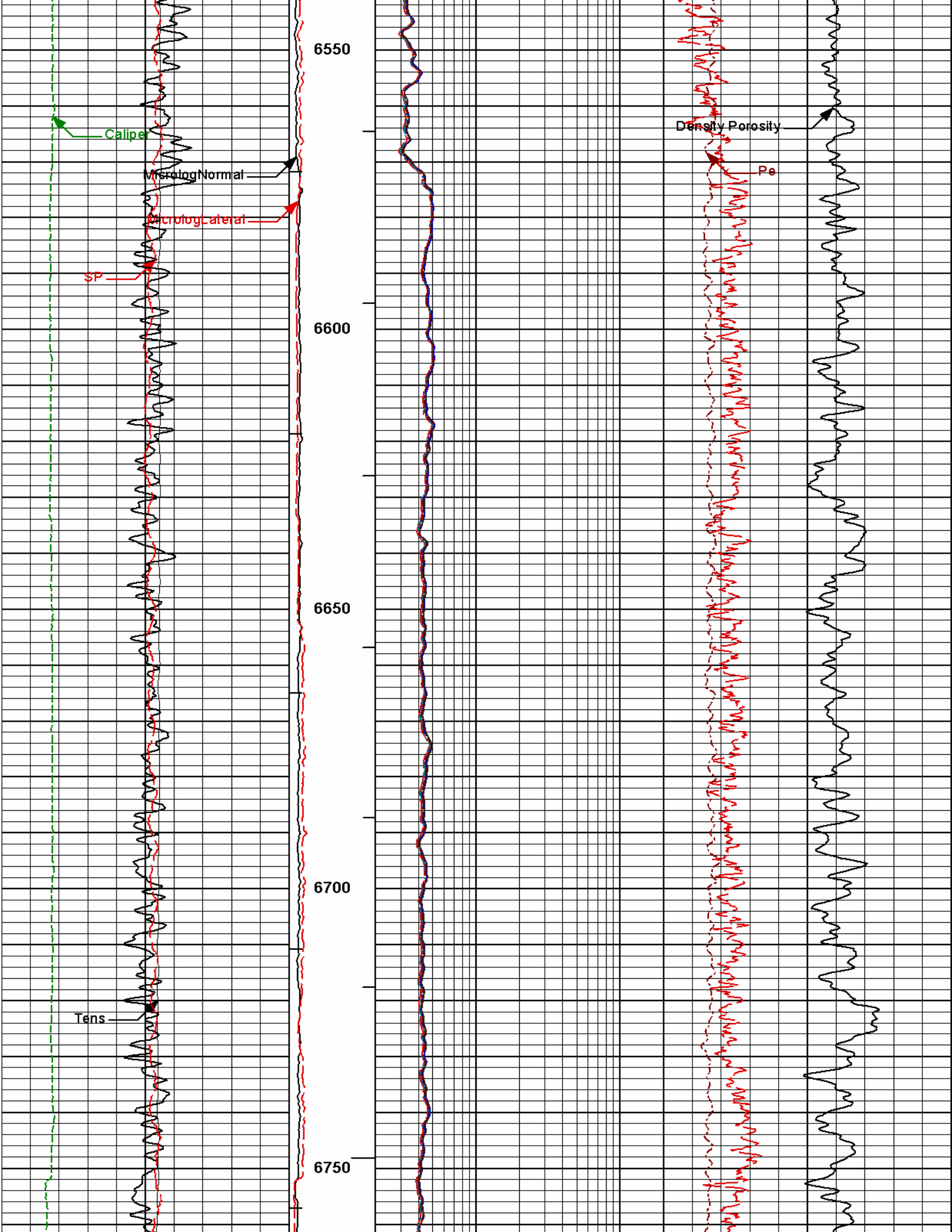


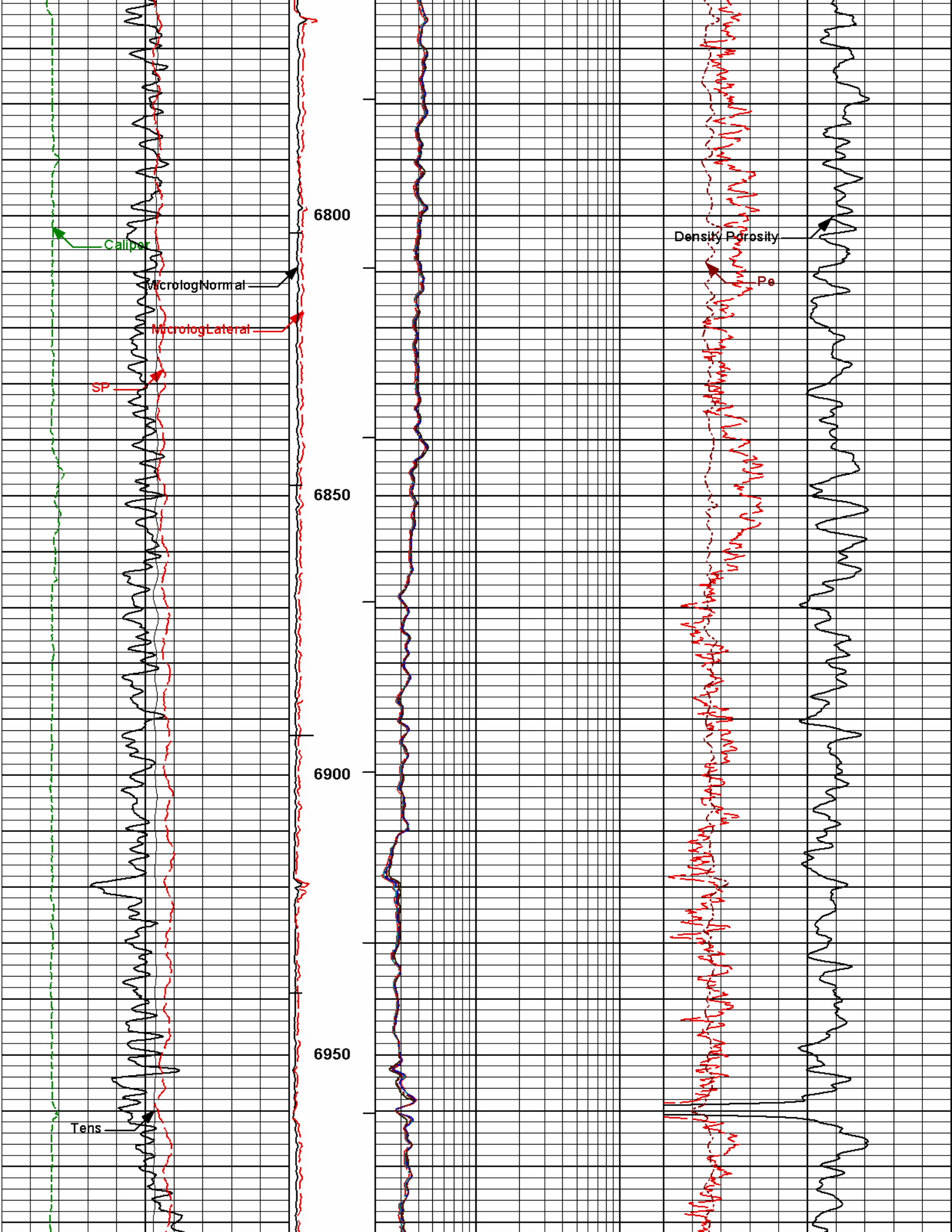


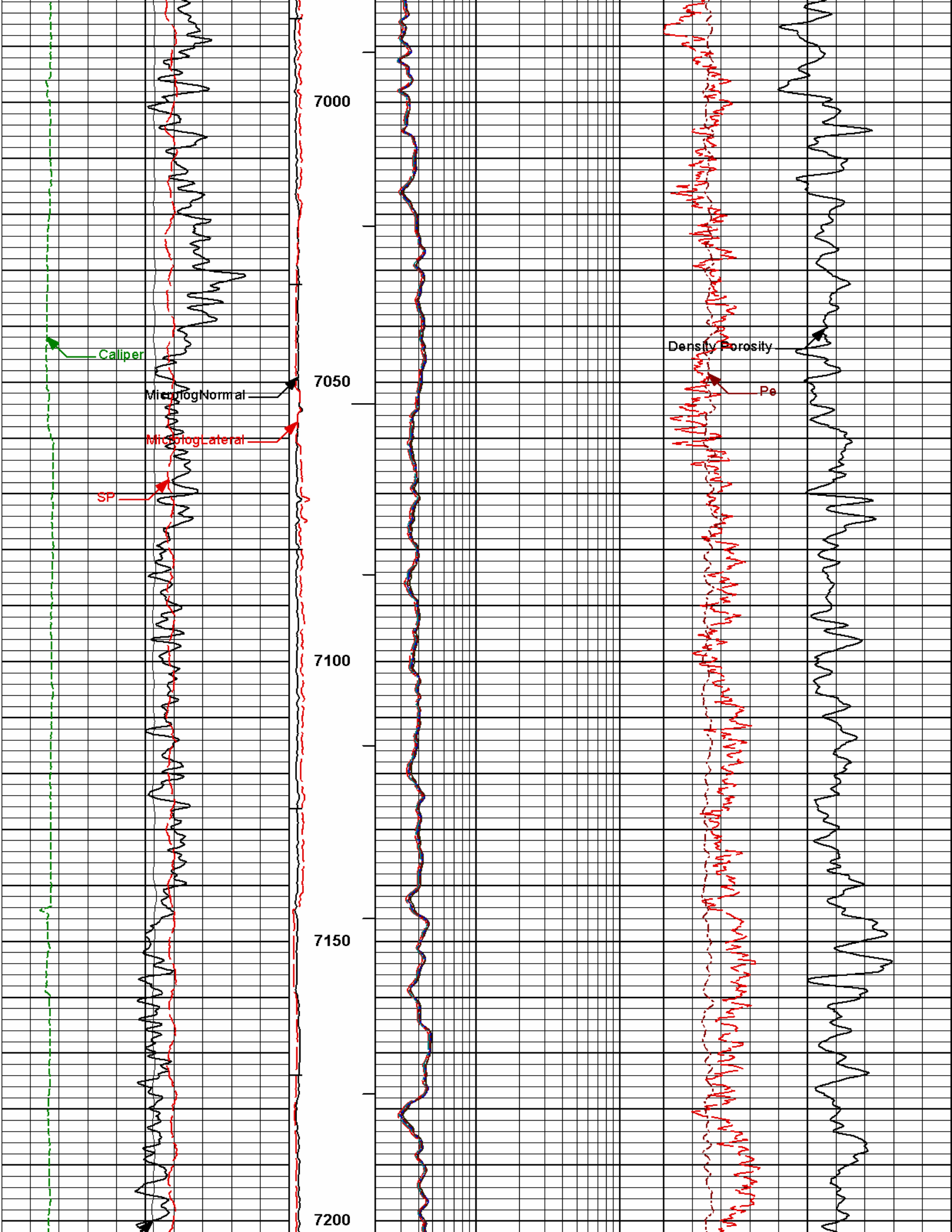


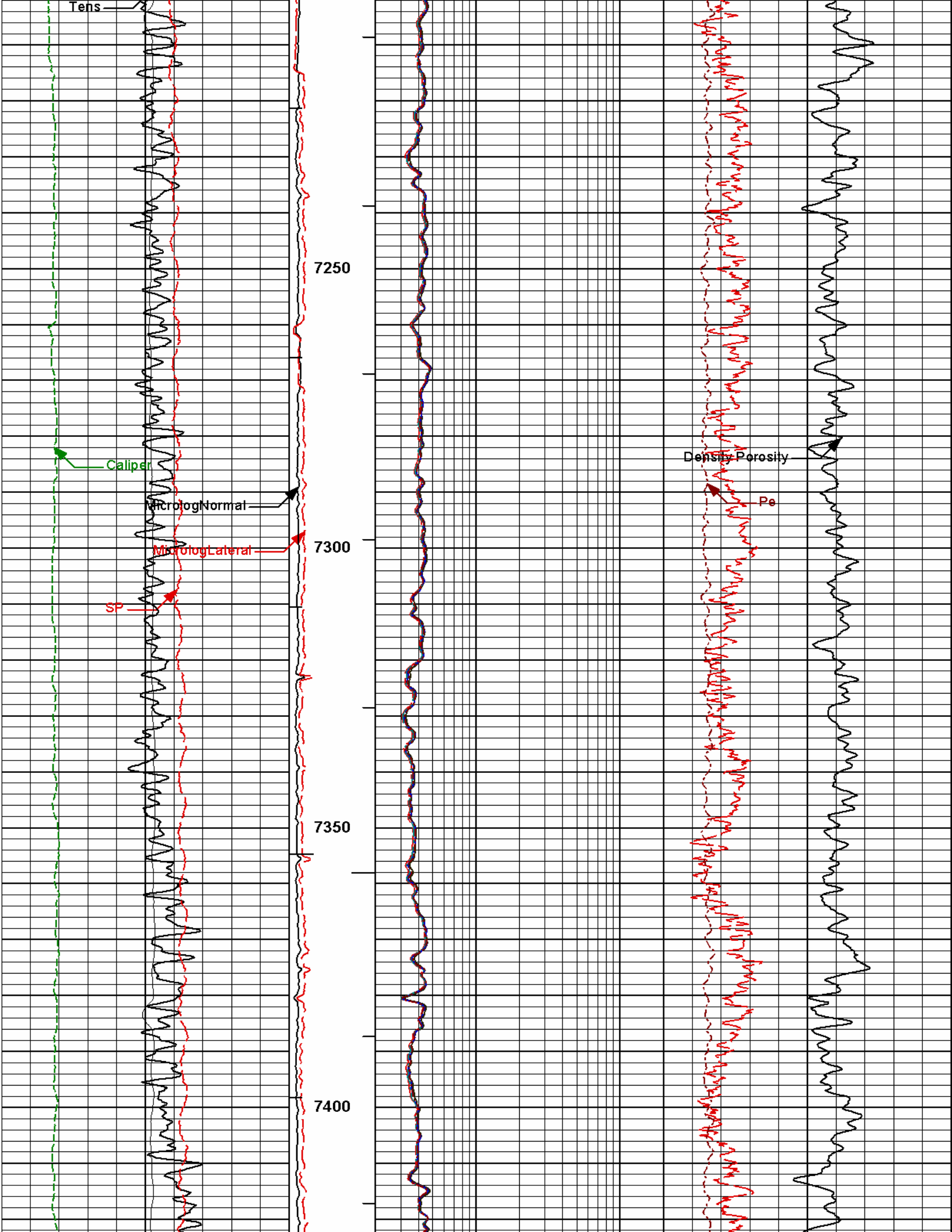


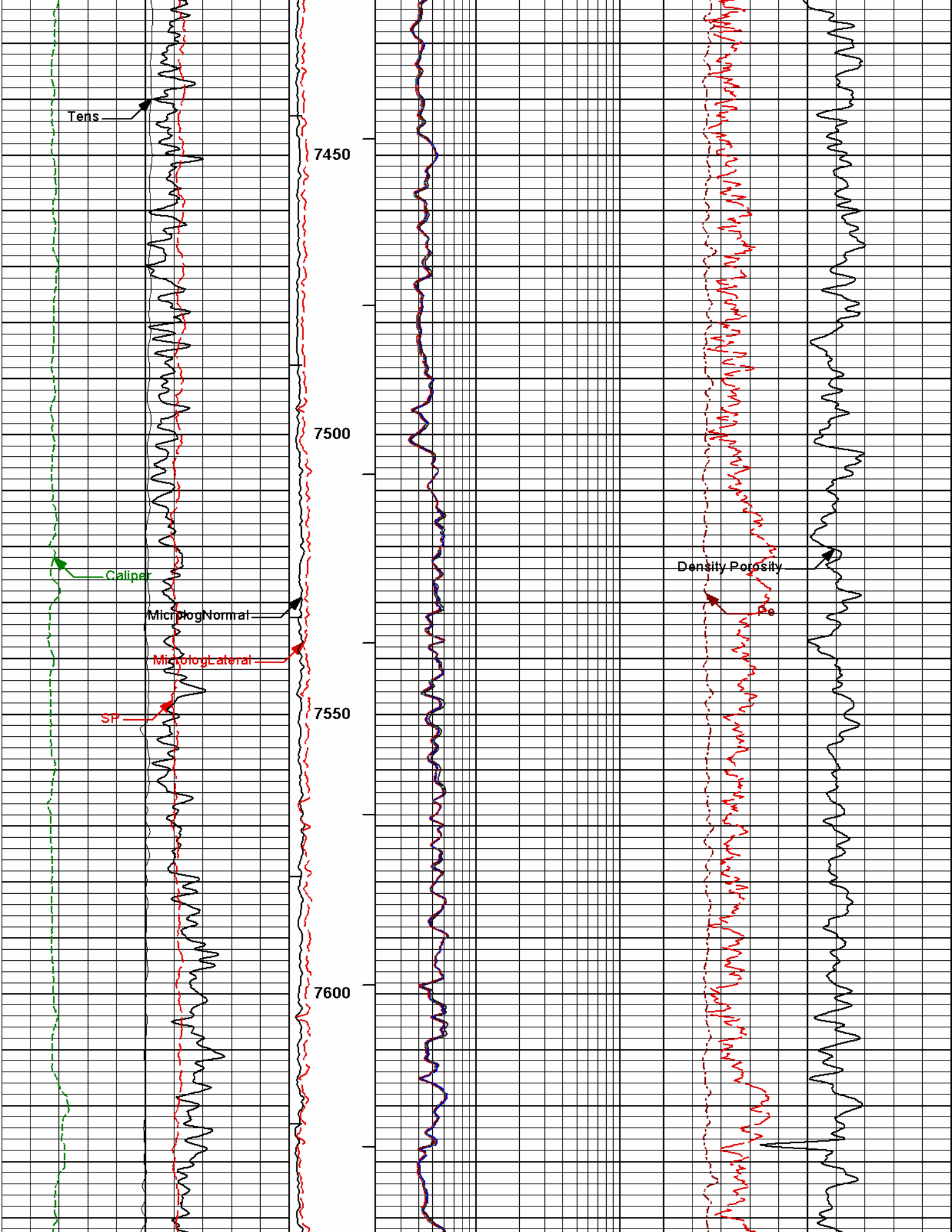


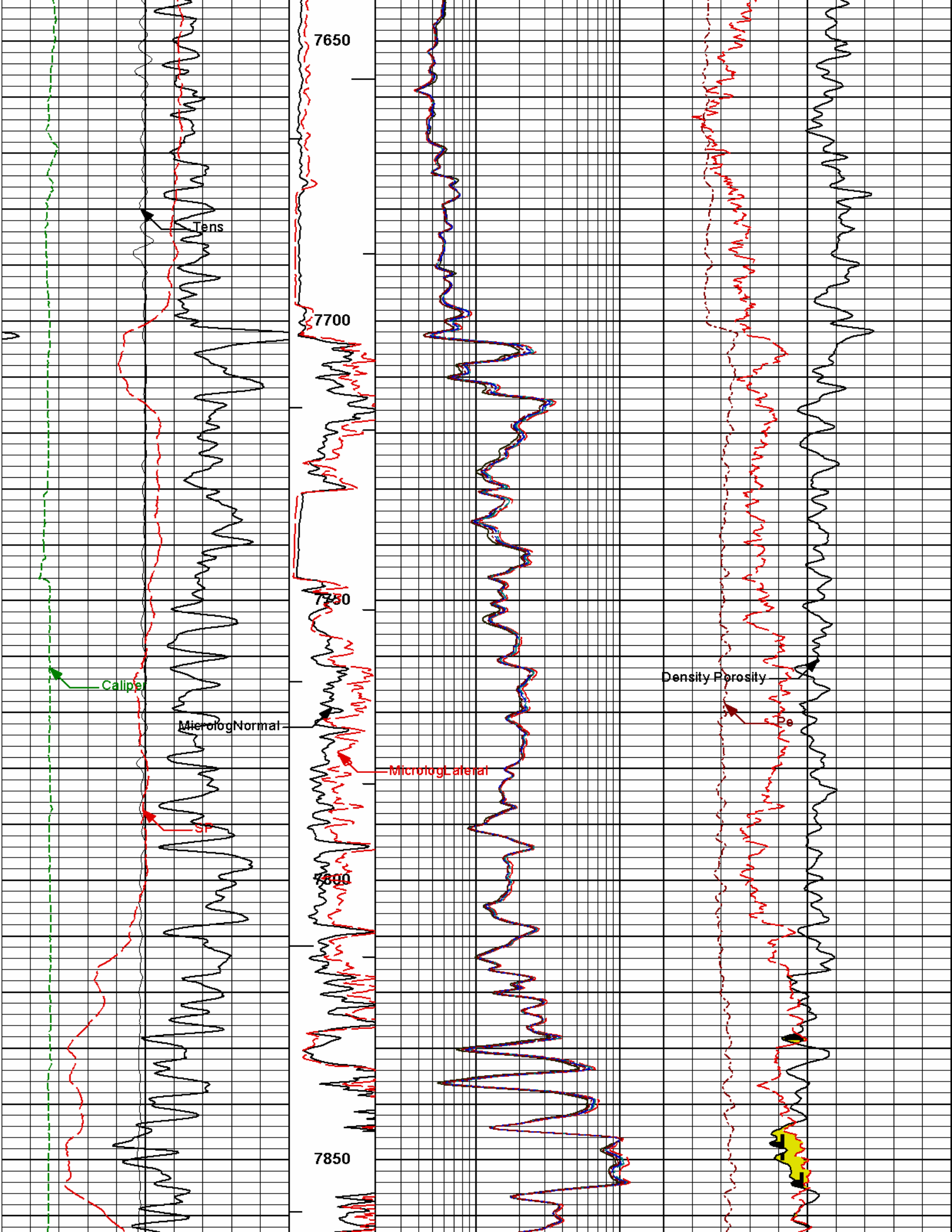


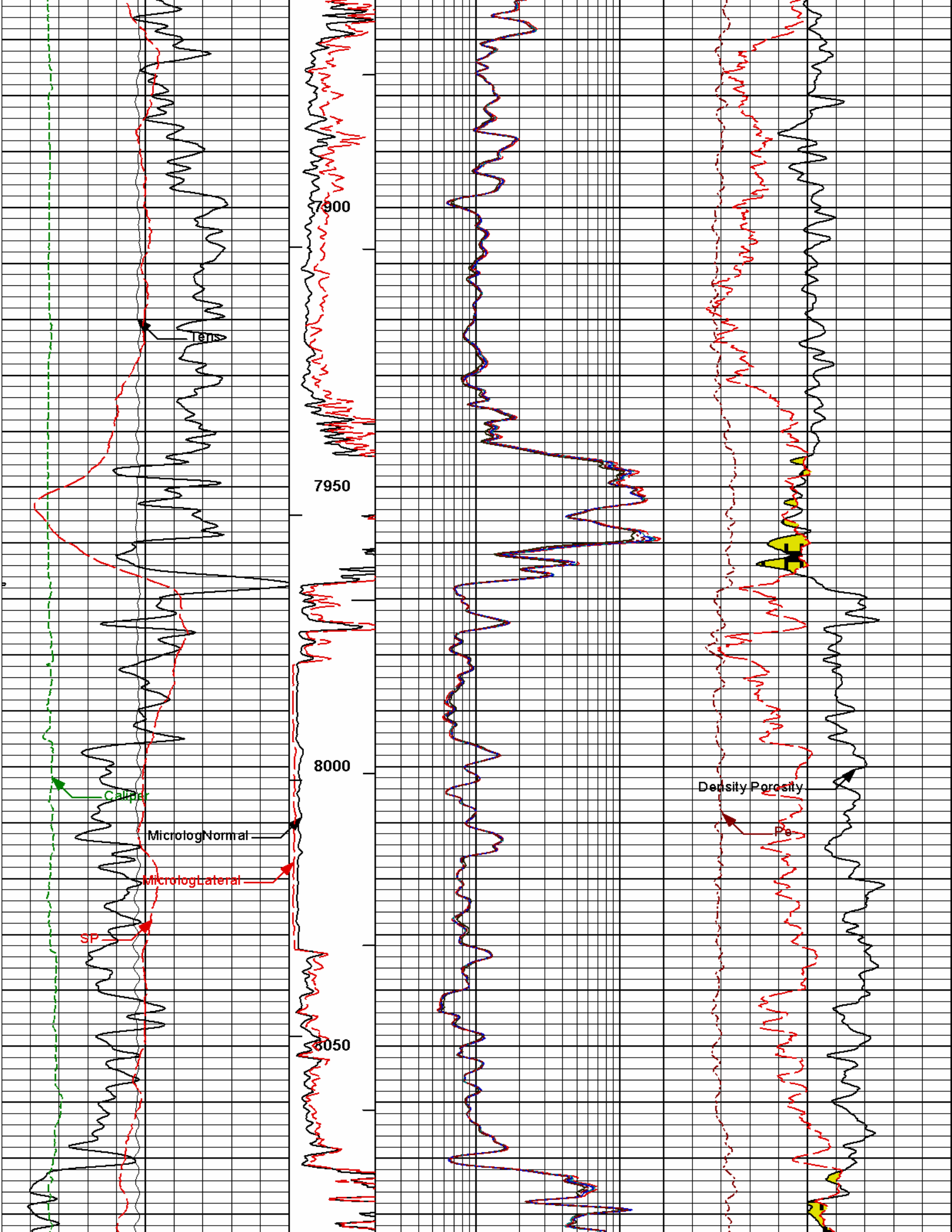


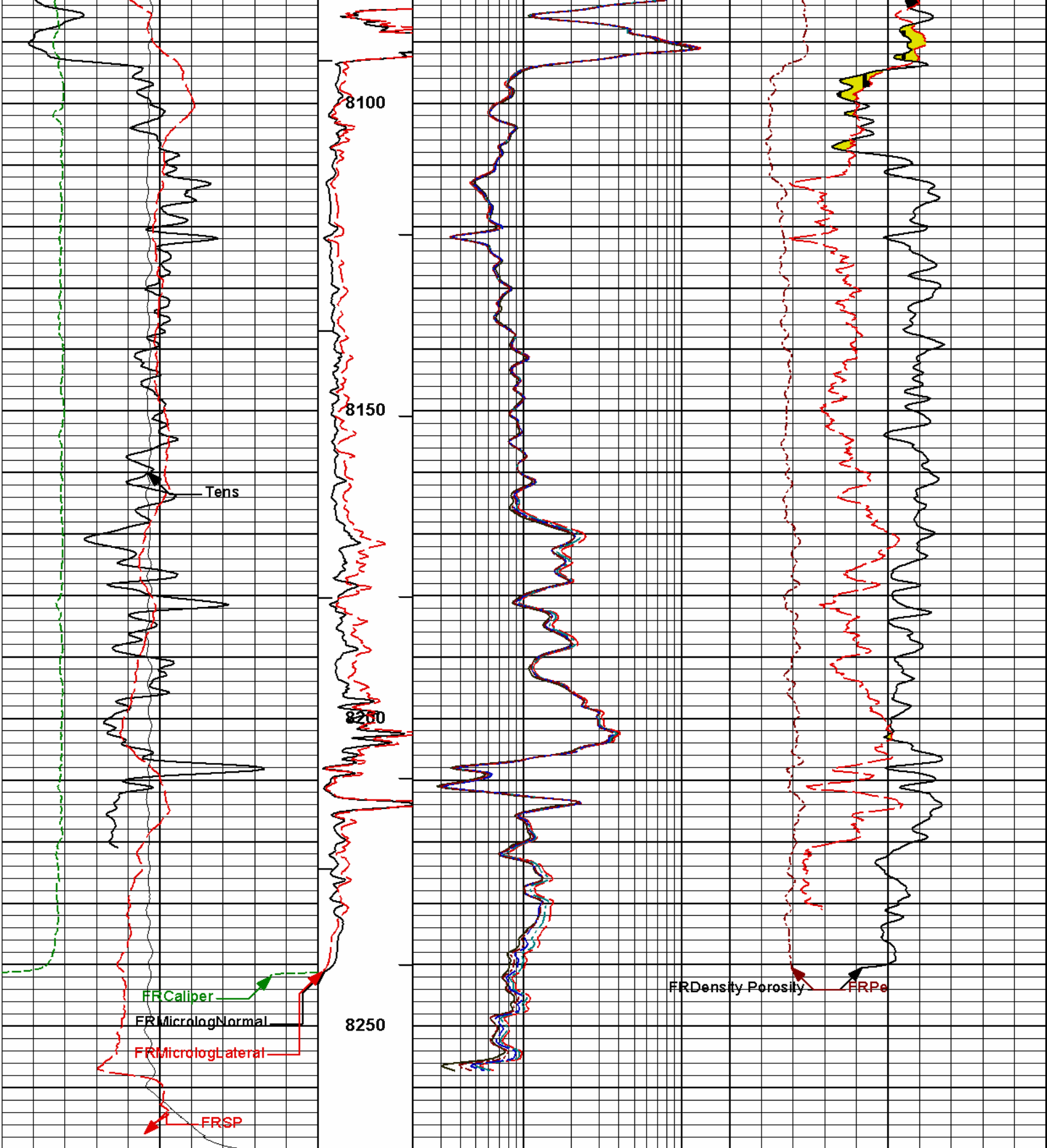












0	SP	100	1 : 240	2	RT90	200	0	Pe	10
	millivolts				ohmm				
0	Gamma API	200	BHVT	2	RT60	200	30	Density Porosity	-10
	api				ohmm			percent	
6	Caliper	16	AHVT	2	RT30	200	30	Neutron Porosity	-10
	inches				ohmm			percent	
100	Tens		MicrologNormal	2	RT20	200			

0	0	30	2	200
pounds	ohm-metre		ohmm	
	MicrologLateral	2	RT10	200
0	0	30		
	ohm-metre		ohmm	

HALLIBURTON

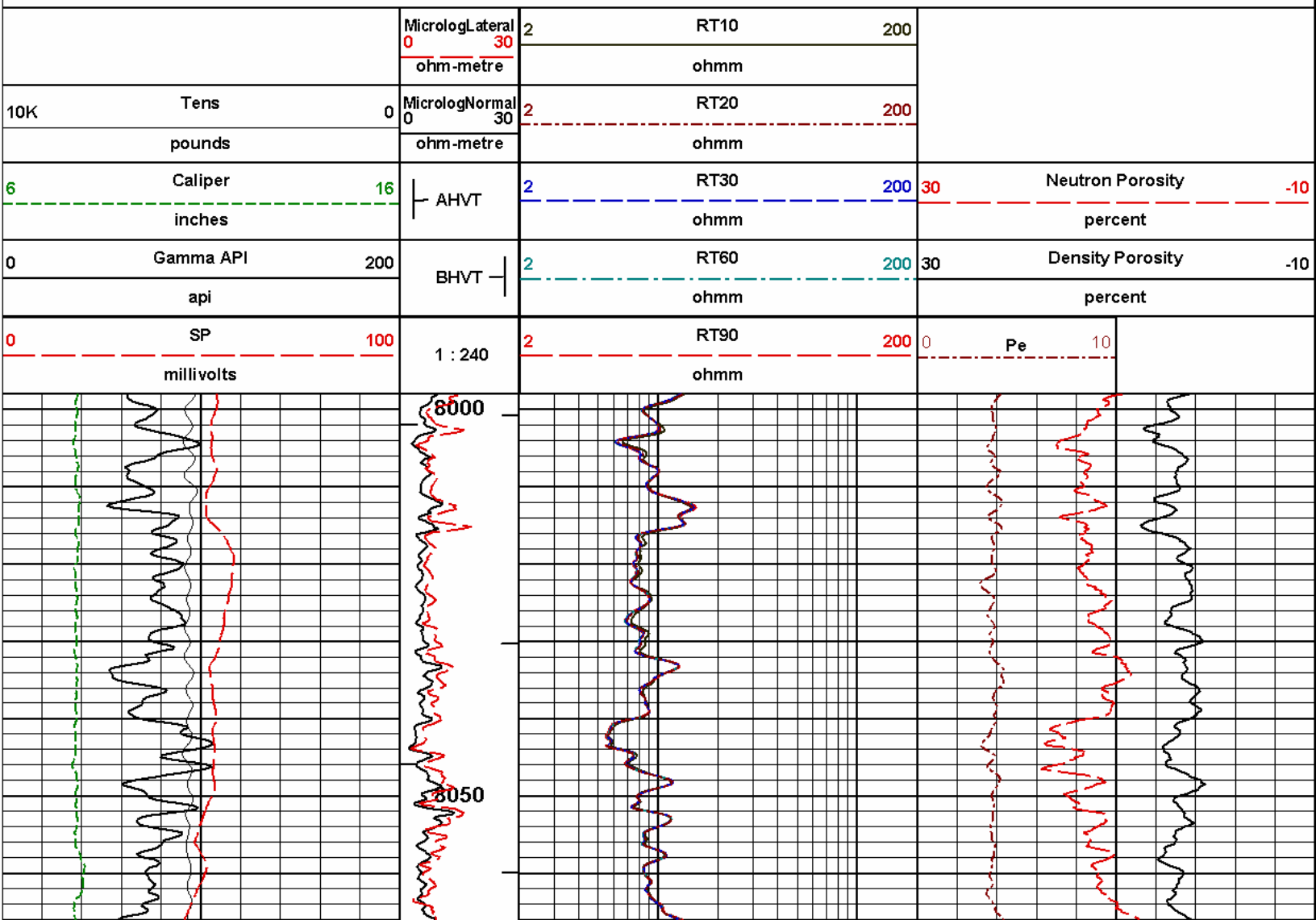
Plot Time: 28-Feb-12 17:10:52
 Plot Range: 1020 ft to 8269.92 ft
 Data: NG_STATE_19-36\Well Based\MAIN"
 Plot File: \\COMP\MAIN

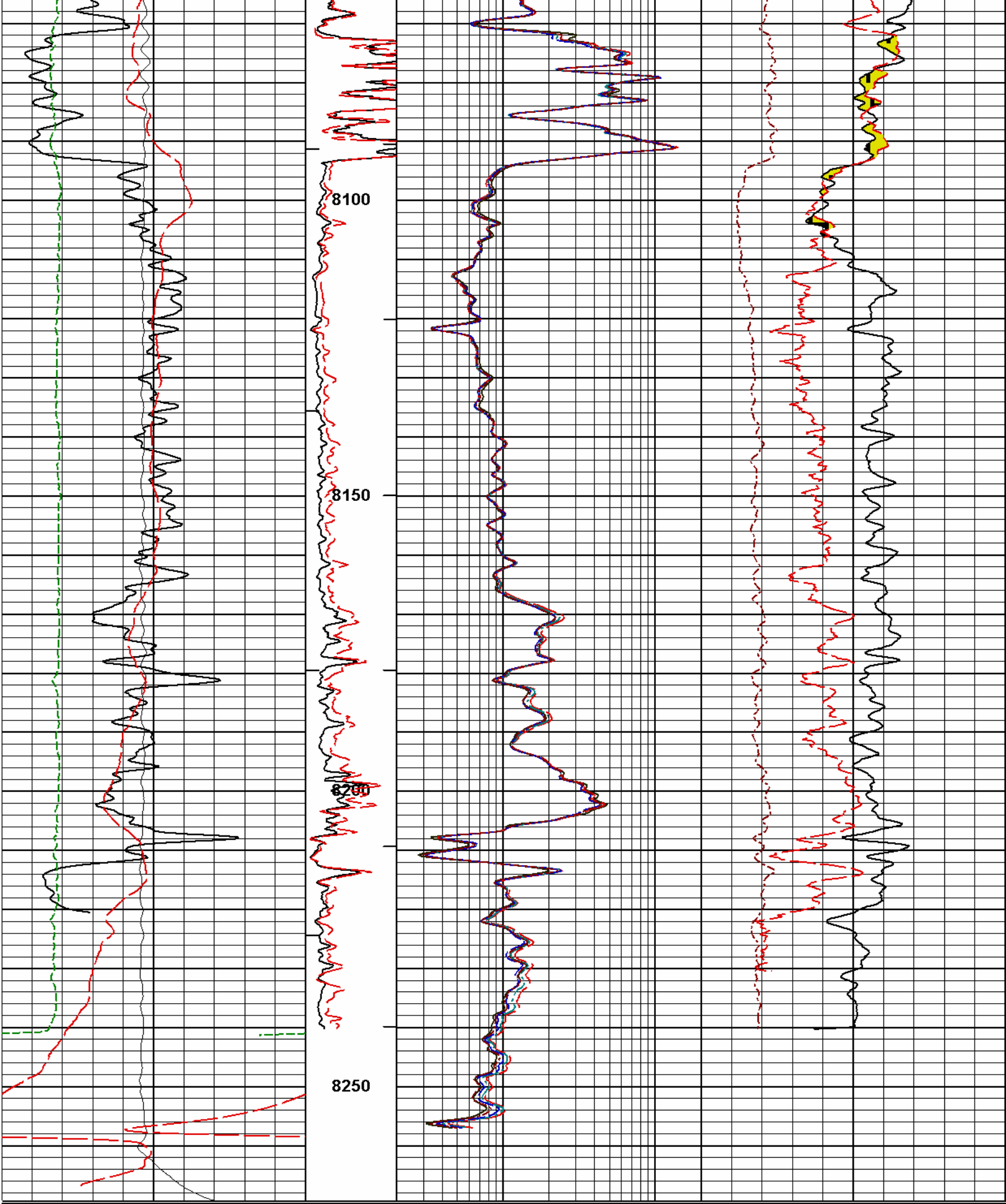
MAIN PASS 5" = 100'

HALLIBURTON

Plot Time: 28-Feb-12 17:10:53
 Plot Range: 7998 ft to 8269.42 ft
 Data: NG_STATE_19-36\Well Based\REPEAT"
 Plot File: \\COMP\REPEAT

REPEAT SECTION 5" = 100'





0 SP 100 millivolts	1 : 240	2 RT90 200 ohmm	0 Pe 10	
0 Gamma API 200	BHVT	2 RT60 200	30 Density Porosity	-10

	api		ohmm		percent
6	Caliper	16	2	RT30	200
	inches	— AHVT		ohmm	30
					Neutron Porosity
					percent
10K	Tens	0	2	RT20	200
		MicrologNormal			
	pounds	0		ohmm	
		ohm-metre			
		MicrologLateral	2	RT10	200
		0			
		ohm-metre		ohmm	

HALLIBURTON

Plot Time: 28-Feb-12 17:10:54
Plot Range: 7998 ft to 8269.42 ft
Data: NG_STATE_19-36Well Based\REPEAT*
Plot File: \\COMP\REPEAT

REPEAT SECTION 5" = 100'

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	GTET - 11277436_BLACK	Reference Calibration Date:	14-Jan-12 14:01:24
Engineer:	R. TWEETEN	Calibration Date:	14-Feb-12 10:36:36
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Calibrator Source S/N: TB-289
Calibrator API Reference:243.00 api
Equivalent Calibrator API Reference:247.3 api

Measurement	Measured	Calibrated	Units
Background	69.4	68.6	api
Background + Calibrator	319.5	315.9	api
Calibrator	250.1	247.3	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 11277436_BLACK	Reference Calibration Date:	14-Feb-12 10:36:36
Engineer:	R. TWEETEN	Calibration Date:	27-Feb-12 06:03:39
Software Version:	WL INSITE R3.4.4 (Build 2)	Calibration Version:	1

Calibrator Source S/N: TB-289
Calibrator API Reference:243.00 api
Equivalent Calibrator API Reference:247.3 api

Field Verification	Shop	Field	Units
Background	68.6	65.3	api
Background + Calibrator	315.9	313.1	api
Calibrator	247.3	247.9	api
Shop	Field	Difference	Tolerance
247.3	247.9	-0.6	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 11812167	Reference Calibration Date:	16-Jan-12 11:10:08
Engineer:	R. TWEETEN	Calibration Date:	14-Feb-12 09:14:17

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

Calibration Version: 1

Logging Source S/N: DSN434
 Tank Serial Number: 11068236
 Reference value assigned to Tank: 53.720
 Snow Block S/N: BRIGHTON
 Calibration Tank Water Temperature: 68 degF
 Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.993	0.995	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):	0.2218	0.2224	0.0005	+/- 0.0020
Calibrated Ratio:	10.09	10.11	0.018	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0788	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 - 11812167 Reference Calibration Date: 14-Feb-12 09:14:17
 Engineer: R. TWEETEN Calibration Date: 27-Feb-12 06:17:04
 Software Version: WL INSITE R3.4.4 (Build 2) Calibration Version: 1

Logging Source S/N: DSN434
 Snow Block S/N: BRIGHTON

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0788	0.0788	-0.0000	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - M335_P470_BLACK Reference Calibration Date: 01-Feb-12 13:59:10
 Engineer: R. TWEETEN Calibration Date: 14-Feb-12 10:17:04
 Software Version: WL INSITE R3.4.2 (Build 2) Calibration Version: 1

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3204.97	-3216.38	-7000.00 - -1000.00

Pad Gain	0.0003880	0.0003872	0.000200 - 0.000600
Arm Offset	-2220.57	-2197.02	-5000.00 - 3000.00
Arm Gain	0.0005459	0.0005359	0.000300 - 0.000700
Arm Power	-0.000007203	-0.000006463	-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)	2.01	2.00	-0.01	+/- 0.20
Medium Ring (in)	3.76	3.75	-0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.52	6.50	-0.02	+/- 0.20
Medium Ring (in)	8.29	8.25	-0.04	+/- 0.20
Large Ring (in)	14.98	15.00	0.02	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed
PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name:	SDLT - M335_P470_BLACK	Reference Calibration Date:	14-Feb-12 10:17:04
Engineer:	R. TWEETEN	Calibration Date:	27-Feb-12 06:11:55
Software Version:	WL INSITE R3.4.4 (Build 2)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.81	0.06	+/- 0.10
Ring Diameter	8.25	8.23	-0.02	+/- 0.15
PASS/FAIL SUMMARY				
Pad Extension Check:			Passed	
Diameter Check:			Passed	

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	ACRt Sonde - E6758-S4352_BLK	Reference Calibration Date:	24-Jan-12 11:40:30
Engineer:	J. KRONABLE	Calibration Date:	24-Jan-12 11:57:14
Software Version:	WL INSITE R3.4.4 (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	1.0029	1.05	0.95	1.0038	1.05	0.95	0.9979	1.05
A2 (50")	0.95	1.0015	1.05	0.95	1.0022	1.05	0.95	0.9991	1.05
A3 (29")	0.95	0.9967	1.05	0.95	0.9980	1.05	0.95	0.9936	1.05
A4 (17")	0.95	1.0038	1.05	0.95	1.0025	1.05	0.95	0.9995	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9936	1.05	0.95	0.9901	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9795	1.05	0.95	0.9748	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	-0.767	2	-6	-4.087	-2	-8	-5.057	-2
A2 (50")	-7	-2.627	-1	-6	-3.859	-2	-7	-4.491	-2
A3 (29")	-27	-13.119	-9	-9	-3.690	-3	-7	-3.216	-1
A4 (17")	-180	-97.003	-60	-45	-31.655	-15	-39	-25.306	-13
A5 (10")	N/A	N/A	N/A	-150	-94.346	-50	-80	-45.505	-10
A6 (6")	N/A	N/A	N/A	175	301.498	525	90	153.429	270

TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION			
Signal	Lower	R	Upper		Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6	0.8707	1.3		Mud Cell	0.95	1.009	1.05
36K	1.0	1.8867	2.0					
72K	1.0	1.1107	2.0					

SPECTRAL DENSITY SHOP CALIBRATION			
Tool Name:	SDLT Pad - M335_P470_BLACK	Reference Calibration Date:	16-Jan-12 11:44:34
Engineer:	R. TWEETEN	Calibration Date:	14-Feb-12 09:53:43
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Logging Source S/N: 2770GW		
Aluminum Block S/N: 63066	Density: 2.602g/cc	Pe: 3.100
Magnesium Block S/N: 12345	Density: 1.690g/cc	Pe: 2.650

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0824	1.0241	0.90 - 1.10
Near Dens Gain	1.0376	1.0071	0.90 - 1.10
Near Peak Gain	1.0258	0.9727	0.90 - 1.10
Near Lith Gain	0.9874	0.9658	0.90 - 1.10
Far Bar Gain	1.0141	1.0113	0.90 - 1.10
Far Dens Gain	1.0012	0.9953	0.90 - 1.10
Far Peak Gain	0.9904	0.9904	0.90 - 1.10
Far Lith Gain	0.9648	0.9632	0.90 - 1.10
Near Bar Offset	-0.5015	0.0269	NONE
Near Dens Offset	-0.0600	0.2075	NONE
Near Peak Offset	0.0500	0.4894	NONE
Near Lith Offset	0.3477	0.5387	NONE
Far Bar Offset	0.0910	0.1146	NONE
Far Dens Offset	0.1792	0.2328	NONE
Far Peak Offset	0.2501	0.2547	NONE
Far Lith Offset	0.4086	0.4261	NONE
Near Bar Background	1045.54	1043.19	700 - 1450
Near Dens Background	343.13	342.59	230 - 480
Near Peak Background	149.37	148.52	100 - 210
Near Lith Background	182.65	180.31	125 - 260
Far Bar Background	545.30	546.12	450 - 900
Far Dens Background	213.27	213.37	175 - 345
Far Peak Background	82.98	81.49	70 - 140
Far Lith Background	88.21	87.85	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.695	1.690	-0.005	+/- 0.015
Pe	2.690	2.593	-0.097	+/- 0.150
ALUMINUM				
Density (g/cc)	2.598	2.602	0.004	+/- 0.01500
Pe	3.114	3.052	-0.062	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0003	+/- 0.0110	0.0002	+/- 0.0140
Magnesium Block	0.0003	+/- 0.0110	0.0046	+/- 0.0140
Aluminum Block	0.0004	+/- 0.0110	0.0026	+/- 0.0140
Resolution	9.19	6.00 - 11.50	9.97	6.00 - 11.50
Internal Verifier(B+D+P+L)	1715	1200 - 2700	929	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 - M335_P470_BLACK

Reference Calibration Date: 14-Feb-12 09:53:43

Engineer: R. TWEETEN

Calibration Date: 27-Feb-12 06:03:09

Software Version: WL INSITE R3.4.4 (Build 2)

Calibration Version: 1

Pad Temperature: 47.9 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1714.615	1717.619	3.004	16.616
Far (B+D+P+L) cps	928.838	926.818	-2.020	16.494
Near Resolution	9.19	9.16	-0.030	0.50
Far Resolution	9.97	10.05	0.080	1.00

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

MICRO LOG SHOP CALIBRATION

Tool Name: Microlog Pad - M335_P470_BLACK

Reference Calibration Date: 14-Feb-12 10:27:23

Engineer: R. TWEETEN

Calibration Date: 22-Feb-12 10:27:08

Software Version: WL INSITE R3.4.4 (Build 2)

Calibration Version: 1

CALIBRATION COEFFICIENT SUMMARY

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.06	-0.07	-0.00	-0.00	ohmm
Calibration Point #1	0.01	0.00	0.00	0.00	ohmm
Calibration Point #2	20.06	20.00	20.07	20.00	ohmm
Internal Reference	19.99	19.93	20.05	19.99	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	0.01	0.21	V
Calibration Point #1	17.65	1.63	V
Calibration Point #2	5308.53	6923.25	V
Internal Reference	5290.19	6918.23	V

MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - M335_P470_BLACK

Reference Calibration Date: 22-Feb-12 10:27:08

Engineer: R. TWEETEN

Calibration Date: 27-Feb-12 05:59:52

Software Version: WL INSITE R3.4.4 (Build 2)

Calibration Version: 1

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Shop	Field	Shop	Field	
Tool Zero	-0.07	-0.07	-0.00	-0.00	ohmm
Internal Reference	19.93	19.85	19.99	19.90	ohmm

Summary				
Signal	Shop	Field	Difference	Tolerance
Microlog Normal	19.93	19.85	0.08	+/- 0.80
Microlog Lateral	19.99	19.90	0.09	+/- 0.80

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11277436_BLACK						
Gamma Ray Calibrator	247.3	247.9	-----	-0.6	+/- 9.00	api
DSNT-11812167						
Snow-Block Porosity	0.0788	0.0788	-----	0.0000	+/- 0.0150	decP
SDLT-M335_P470_BLACK						
Pad Extension	3.75	3.81	-----	-0.06	+/-0.10	in
Ring Diameter	8.25	8.23	-----	0.020	+/-0.15	in
ACRt Sonde-E6758-S4352_BLK						
Mud Cell	1.009	-----	-----	0.000	-----	ohm-m
SDLT Pad-M335_P470_BLACK						
Near(B+D+P+L)	1714.615	1717.619	-----	-3.004	+/-16.616	cps
Far(B+D+P+L)	928.838	926.818	-----	2.020	+/-16.494	cps
Microlog Pad-M335_P470_BLACK						
MicroLog Normal	19.93	19.85	-----	0.08	+/-0.80	ohmm
MicroLog Lateral	19.99	19.90	-----	0.09	+/-0.80	ohmm

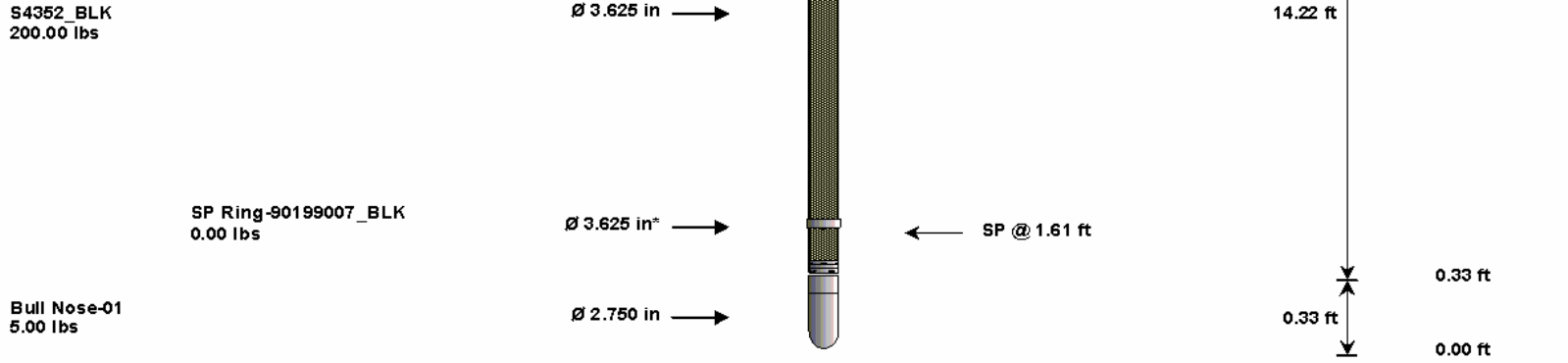
Data: NG_STATE_19-3610001 ANADARKO IDLE

Date: 27-Feb-12 11:56:33

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						60.52 ft
RWCH-A094 135.00 lbs		Ø 3.625 in →		← Load Cell @ 56.84 ft ← BH Temperature @ 56.27 ft	6.25 ft	
						54.27 ft
GTET- 11277436_BLACK 165.00 lbs		Ø 3.625 in →		← GammaRay @ 48.21 ft	8.52 ft	
						45.75 ft
DSNT-11812167 174.00 lbs		Ø 3.625 in →		← DSN Far @ 38.82 ft ← DSN Near @ 38.07 ft	9.69 ft	
						36.07 ft
SDLT- M335_P470_BLACK 360.00 lbs	SDLT Pad- M335_P470_BLACK 65.00 lbs	Ø 4.500 in →		← Microlog @ 28.25 ft ← SDL Caliper @ 28.07 ft ← SDL @ 28.06 ft	10.81 ft	
	Microlog Pad- M335_P470_BLACK 8.00 lbs	Ø 4.750 in" → Ø 4.750 in" →				25.25 ft
Flex Joint- 11005586 140.00 lbs		Ø 3.625 in →			5.67 ft	
						19.58 ft
ACRt Instrument- 90199007_BLK 50.00 lbs		Ø 3.625 in →			5.03 ft	
						14.55 ft
	Regal Standoff 6_75-01 20.00 lbs	Ø 6.750 in" →		← Mud Resistivity @ 13.19 ft		
				← ACRt @ 9.21 ft		
ACRt Sonde-E6758-						



Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max. Log. Speed (fpm)
RWCH		Releasable Wireline Cable Head	A094	135.00	6.25	54.27	300.00
GTET		Gamma Telemetry Tool	11277436_BLACK	165.00	8.52	45.75	60.00
DSNT		Dual Spaced Neutron	11812167	174.00	9.69	36.07	60.00
SDLT		Spectral Density Tool	M335_P470_BLACK	360.00	10.81	25.25	60.00
MICP		Microlog Pad	M335_P470_BLACK	8.00	1.00	* 27.75	60.00
SDLP		Density Insite Pad	M335_P470_BLACK	65.00	2.55	* 27.46	60.00
FLEX		Flex Joint	11005586	140.00	5.67	19.58	300.00
ACRt		Array Compensated True Resistivity Instrument Section	90199007_BLK	50.00	5.03	14.55	300.00
ACRt		Array Compensated True Resistivity	E6758-S4352_BLK	200.00	14.22	0.33	300.00
SP		SP Ring	90199007_BLK	0.00	0.25	* 1.61	300.00
RSOF		Regal Standoff 6.75in	01	20.00	0.52	* 13.24	300.00
BLNS		Bull Nose	01	5.00	0.33	0.00	300.00

Total1,322.0060.52

* Not included in Total Length and Length Accumulation.

Data: NG_STATE_19-36\0001 ANADARKO\IDLEDate: 27-Feb-12 11:48:00

COMPANY	KERR-MCGEE OIL & GAS ONSHORE LP		
WELL	NORTHGLENN STATE 19-36X		
FIELD	WATTENBERG		
COUNTY	WELD	STATE	CO
HALLIBURTON		ARRAY COMPENSATED TRUE RESISTIVITY SPECTRAL DENSITY DUAL SPACED NEUTRON	