

HALLIBURTON

ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY		KERR-MCGEE OIL & GAS ONSHORE LP	
WELL		NORTHGLENN STATE 19-36X	
FIELD		WATTENBERG	
COUNTY		STATE	
CO		CO	
COMPANY		KERR-MCGEE OIL & GAS ONSHORE LP	
WELL		NORTHGLENN STATE 19-36X	
FIELD		WATTENBERG	
COUNTY		STATE	
CO		CO	
API No.		05123344690100	
Location		SURFACE LOCATION: 1.289' FSL & 2.491' FEL SWSE BOTTOM LOCATION: 1.400' FSL & 1.648' FWL NESW LATITUDE: 40.003875° LONGITUDE: -104.951438°	
Other Services:		RWCH DSNT SDLT	
Sect. 36		Twp. 1N	
Rge. 68W			
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Elev. 5119.0 ft		Elev. K.B. 5134.0 ft	
15.0 ft above perm. Datum		D.F. 5133.0 ft	
		G.L. 5119.0 ft	
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	
Viscosity		50.00 s/qt	
PH		7.50 pH	
Fluid Loss			
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	
Rmc		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	
Location		BRIGHTON	
Recorded By		R. TWEETEN	
Witnessed By		B. BENJAMIN	
		T. GEDAMU	

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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.		Other			
Rmf @ Meas. Temp.						@				@				ONE		ACRt		N/A		FREE		N/A			
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																									

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

Data: NG_STATE_19-36\0001 ANADARKO\IDLE

Date: 27-Feb-12 13:27:15

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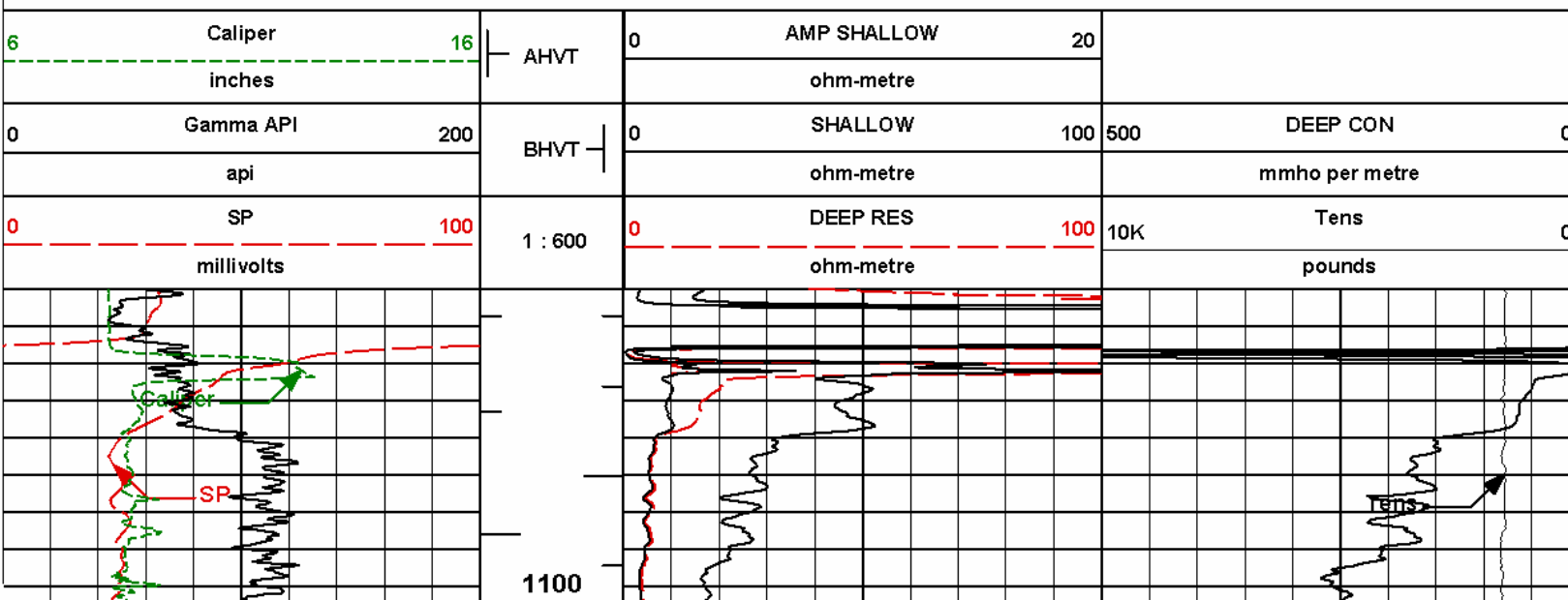
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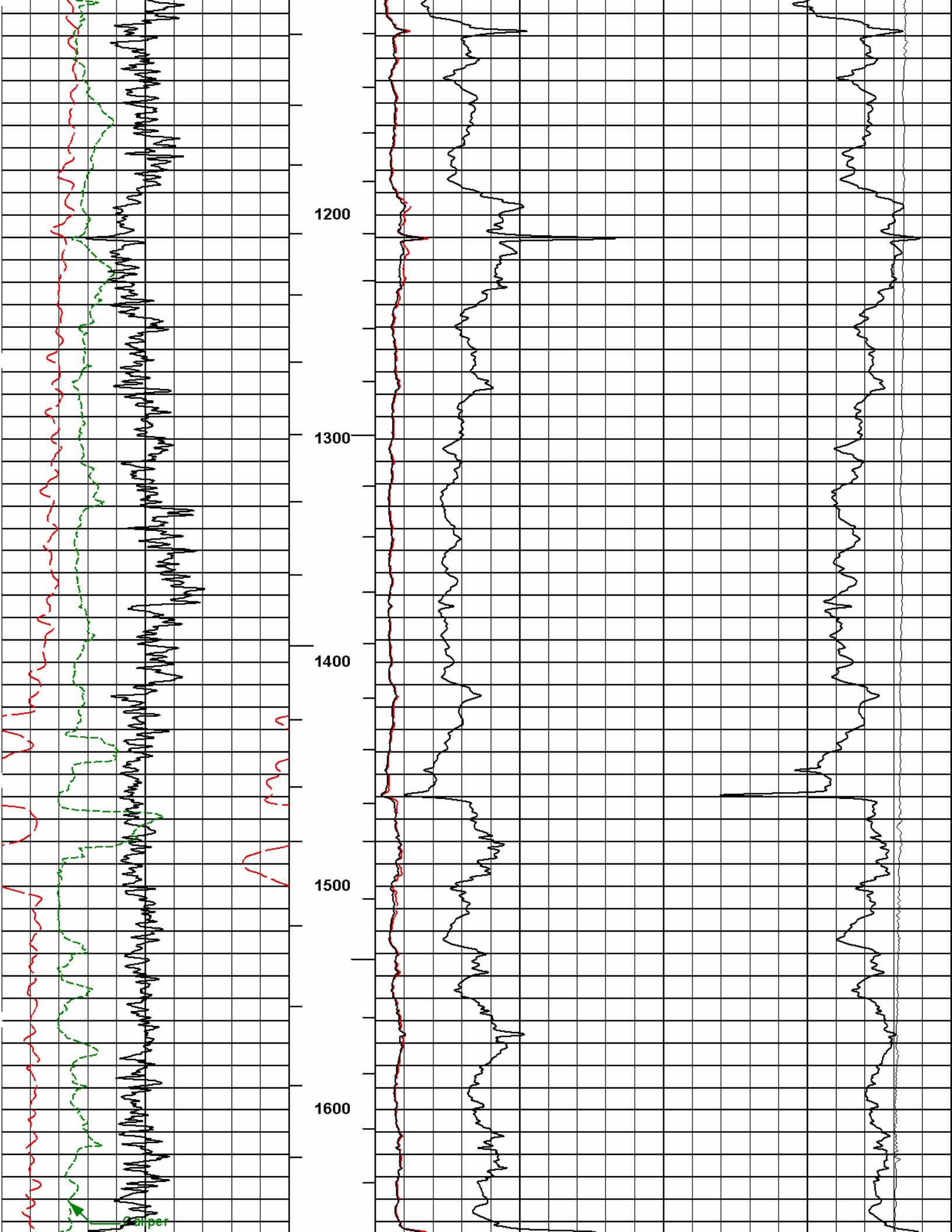
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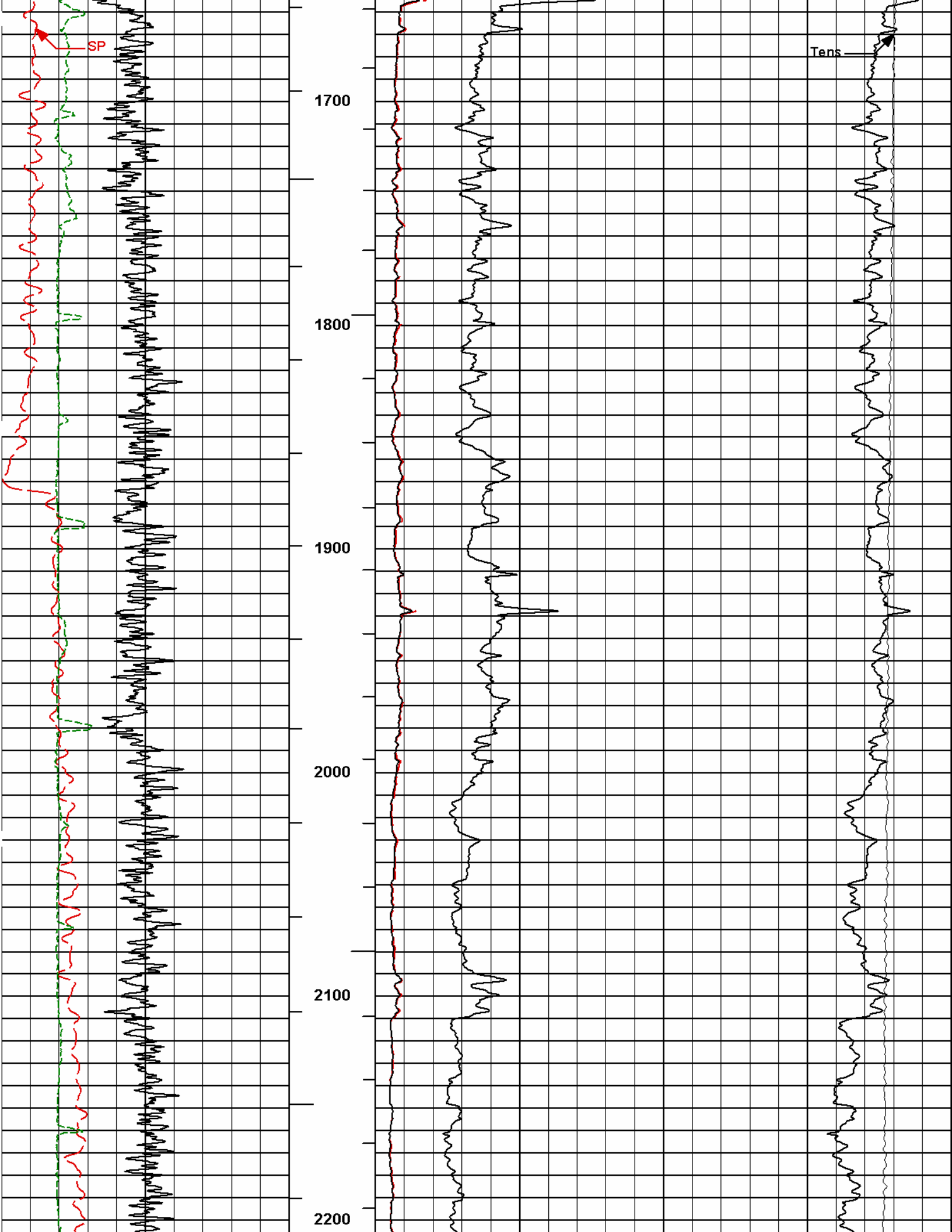
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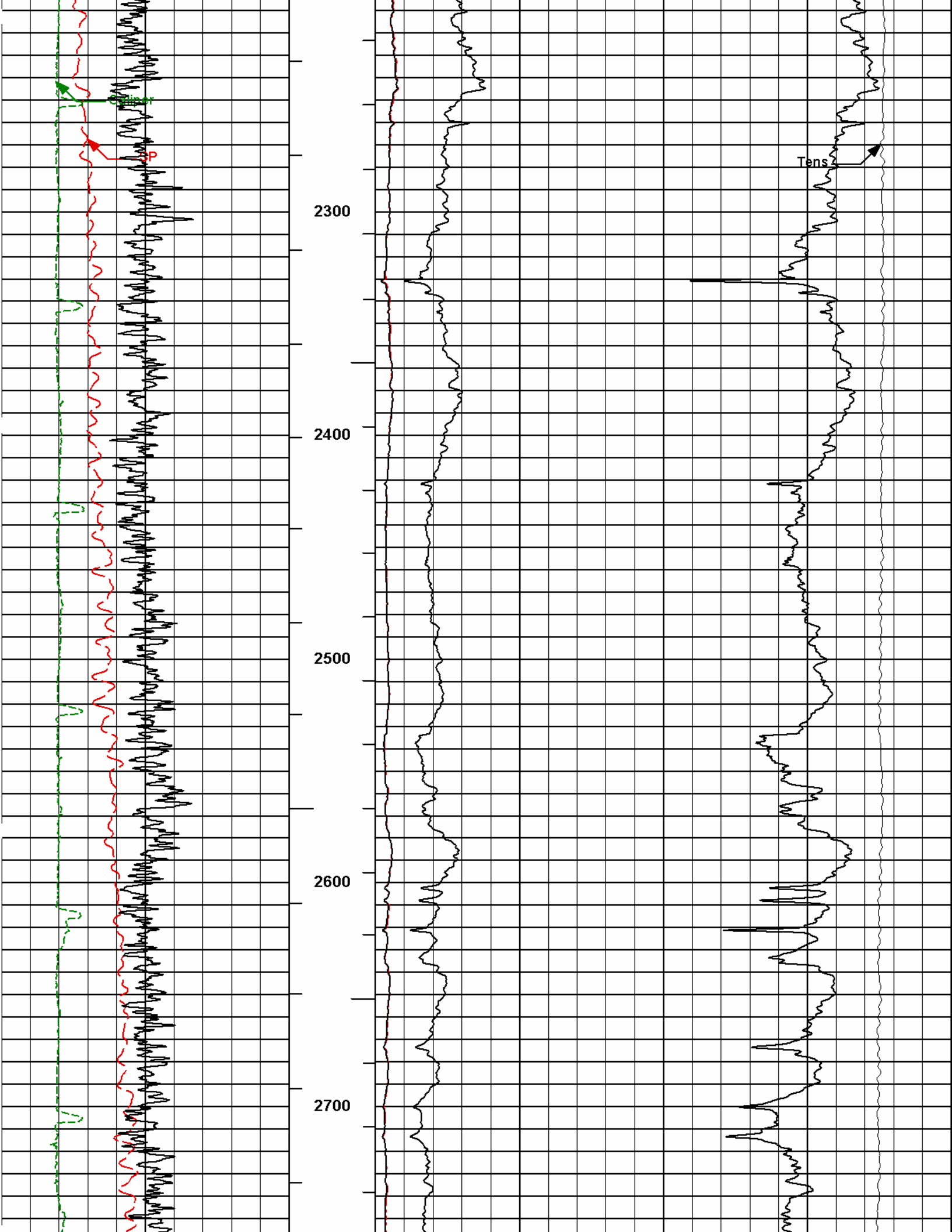
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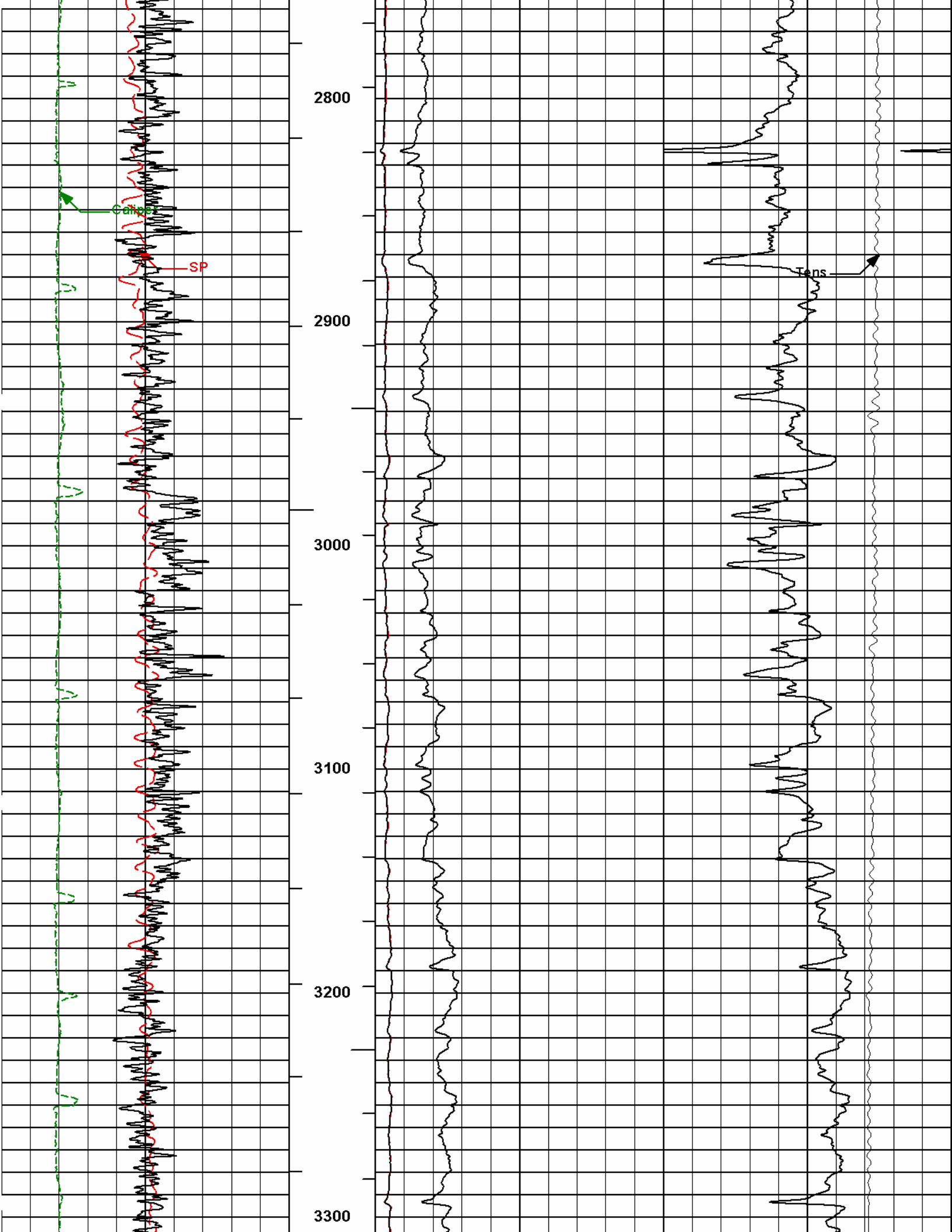
MAIN PASS 2" = 100'

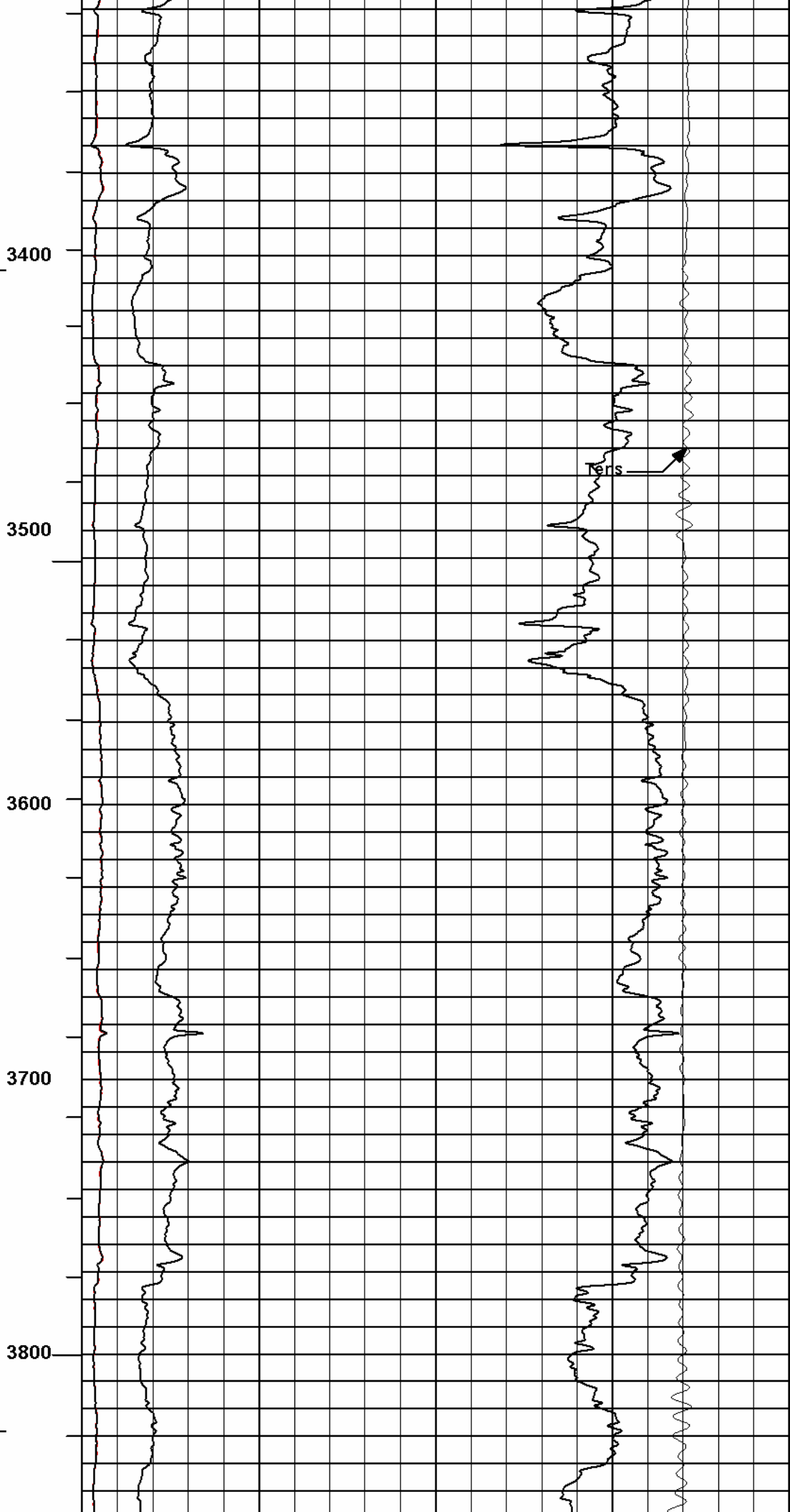
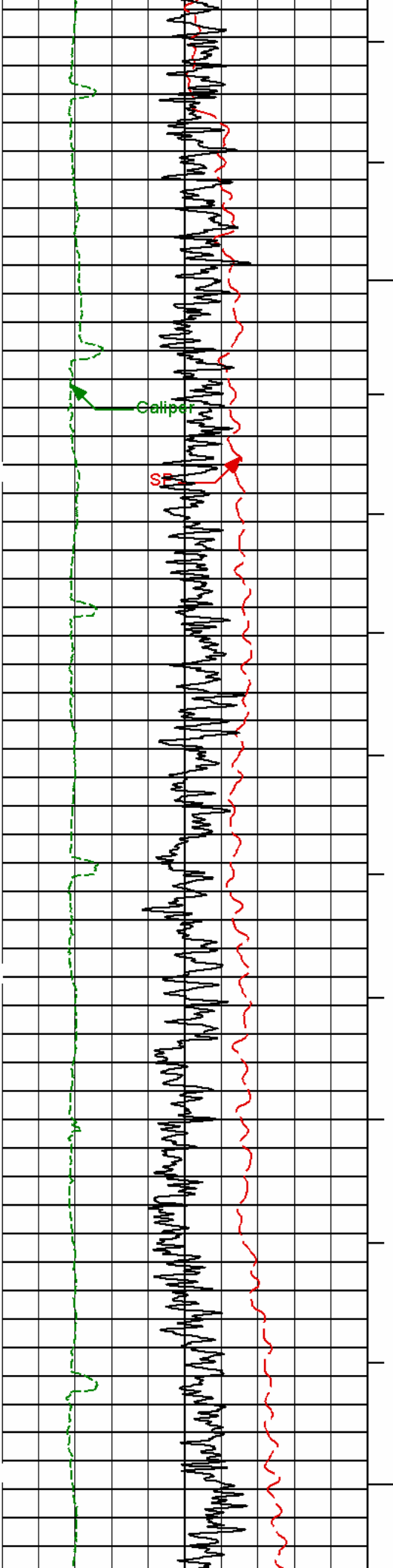


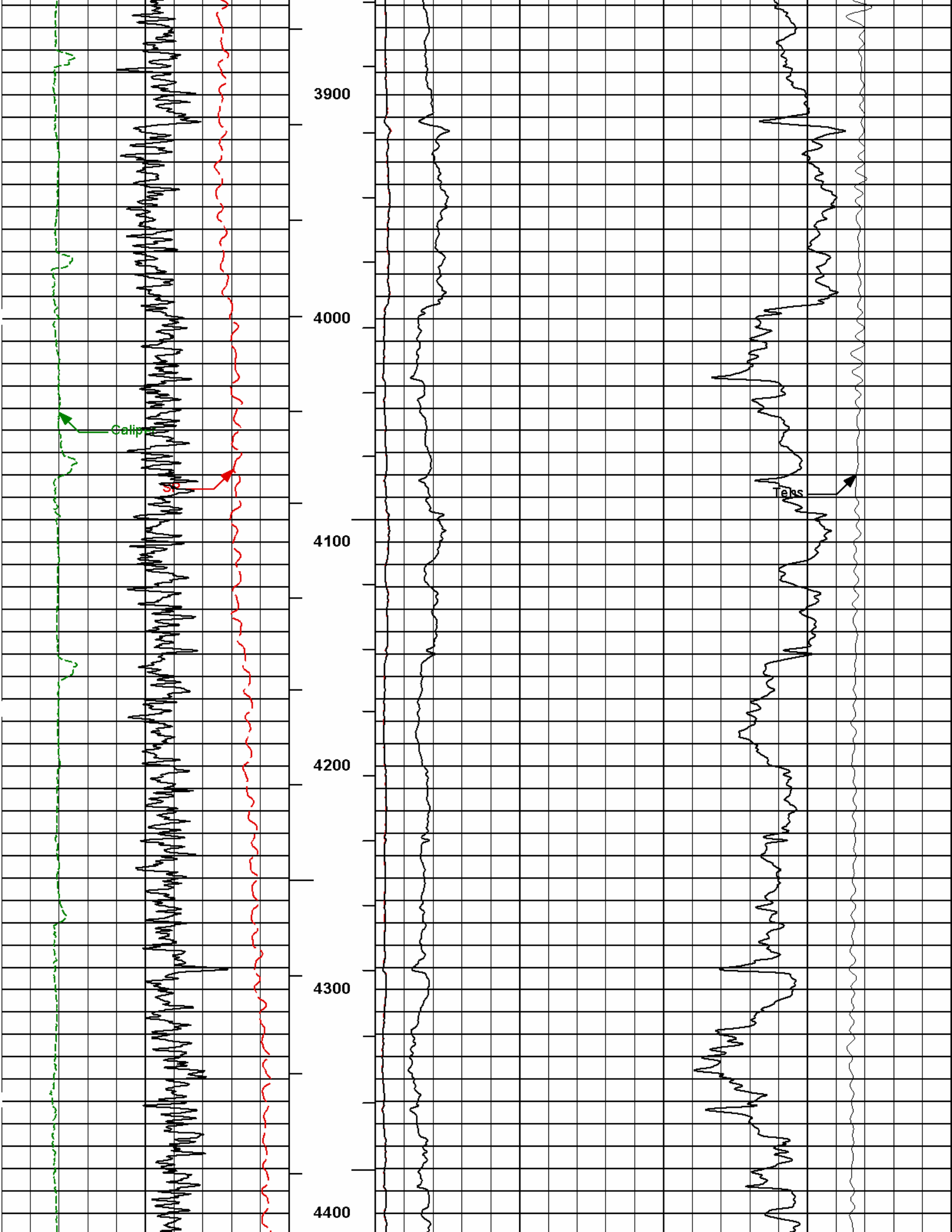


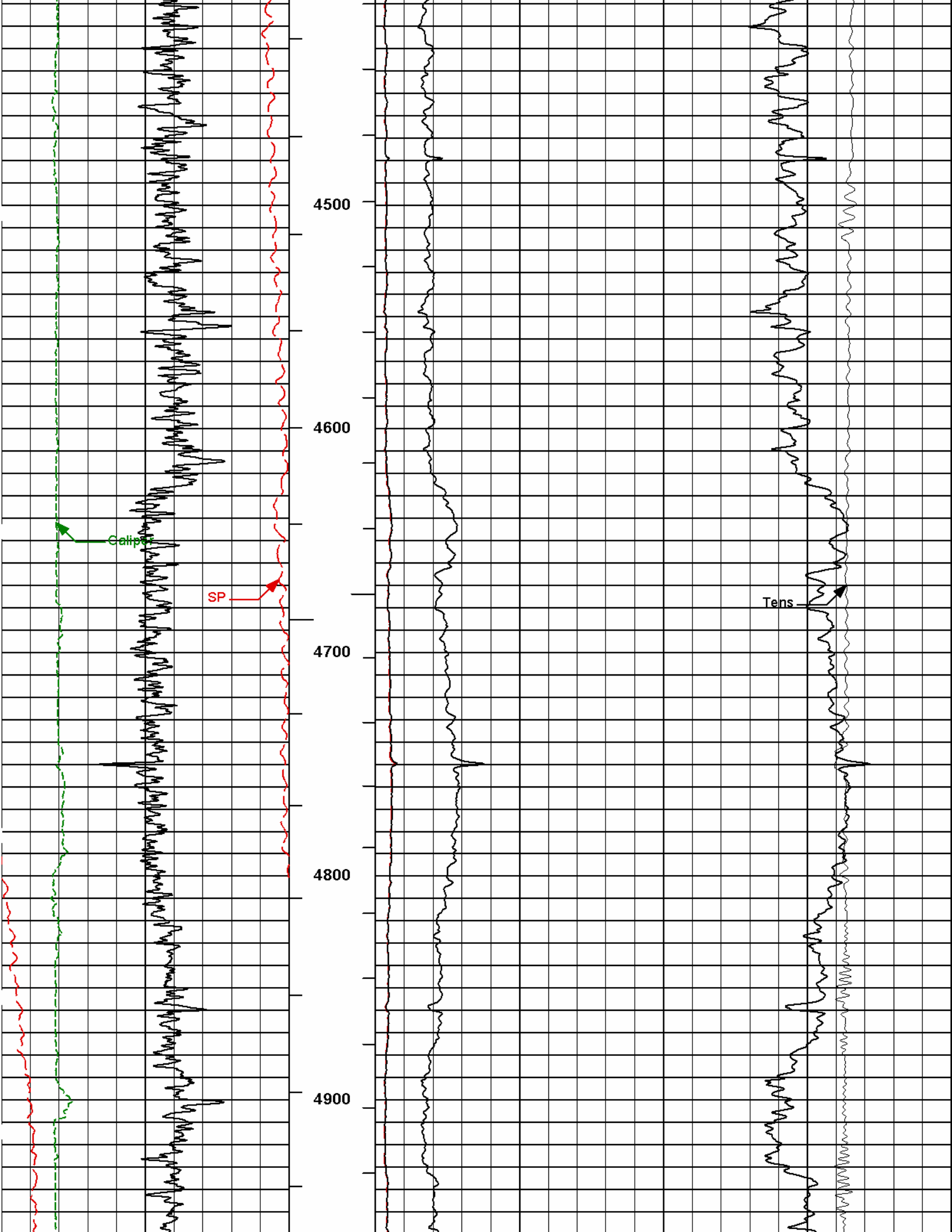


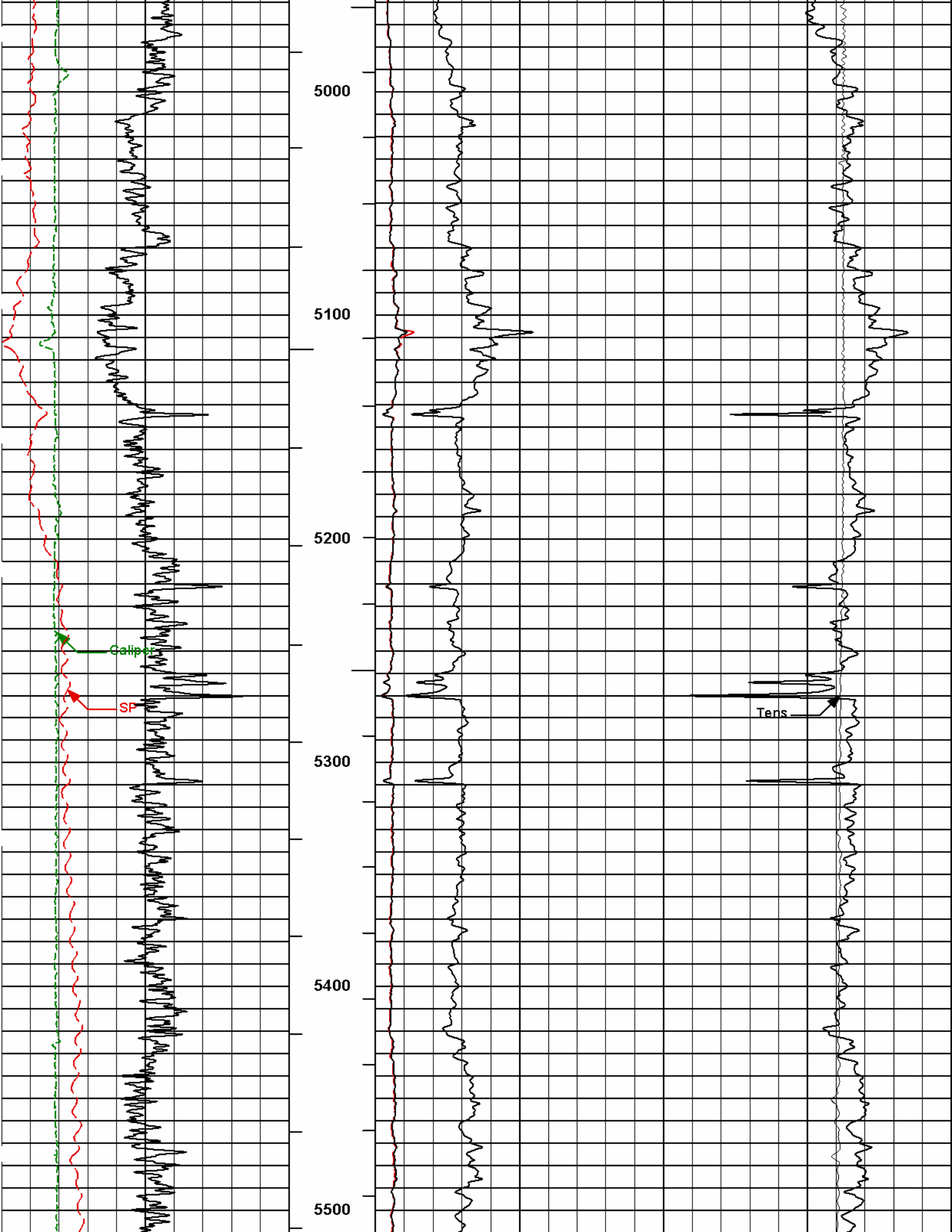


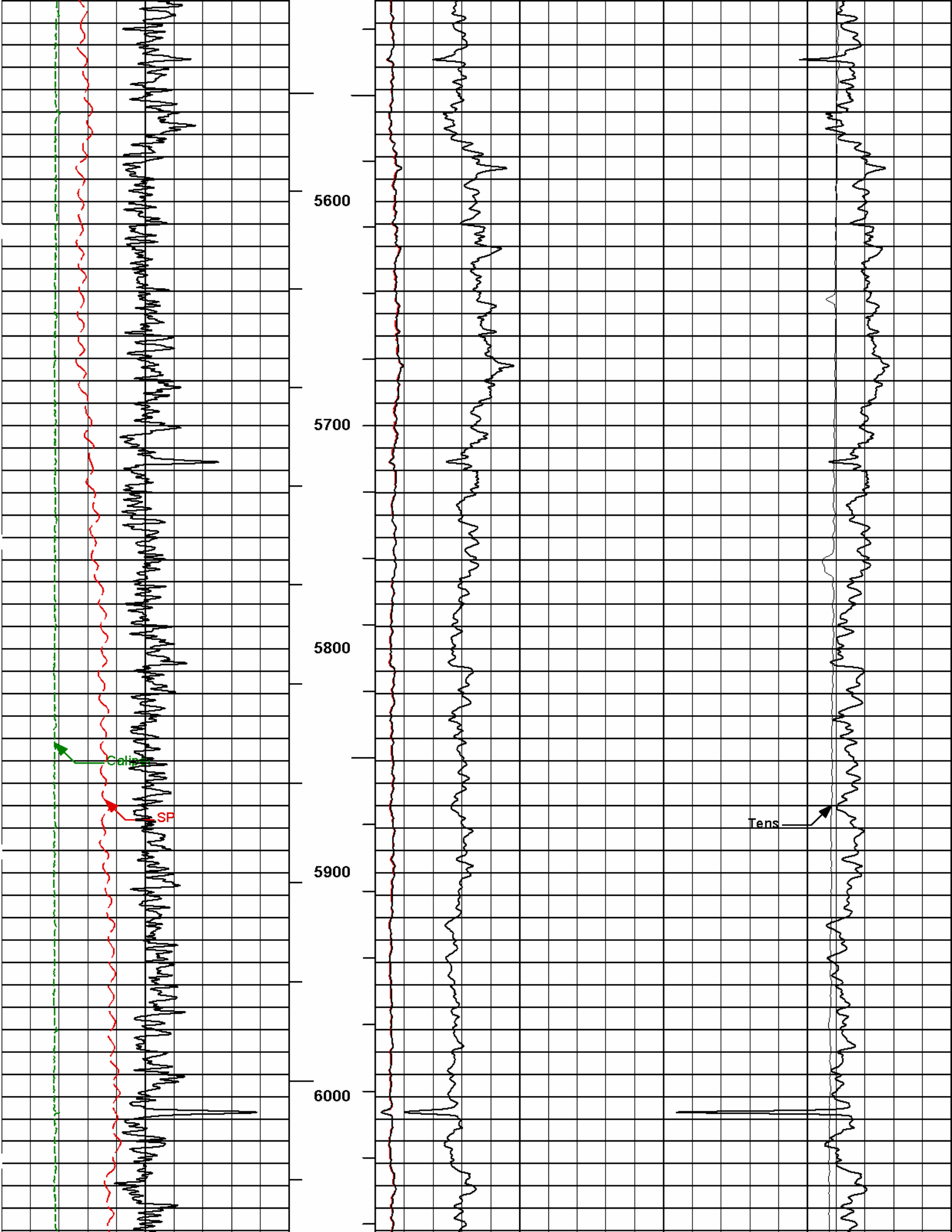


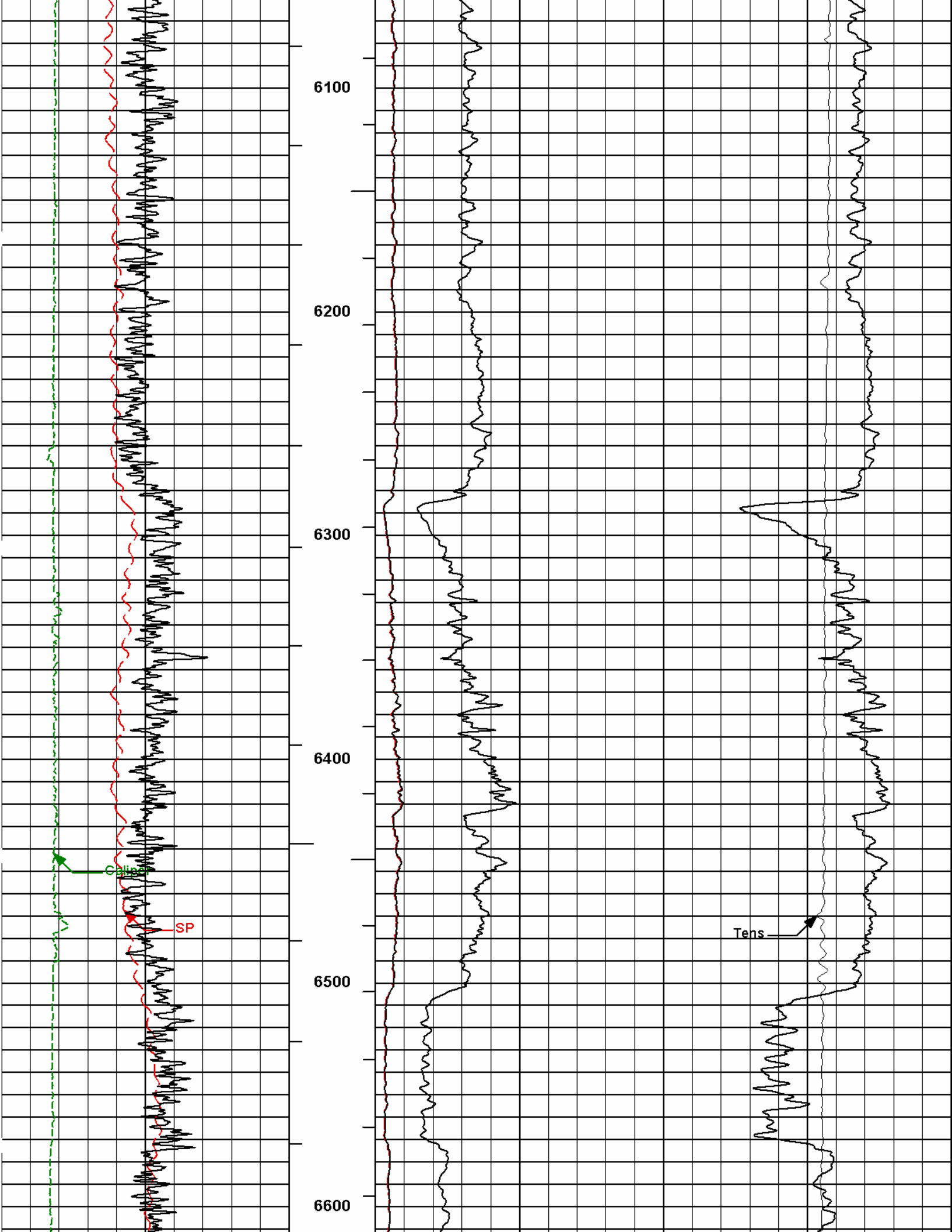


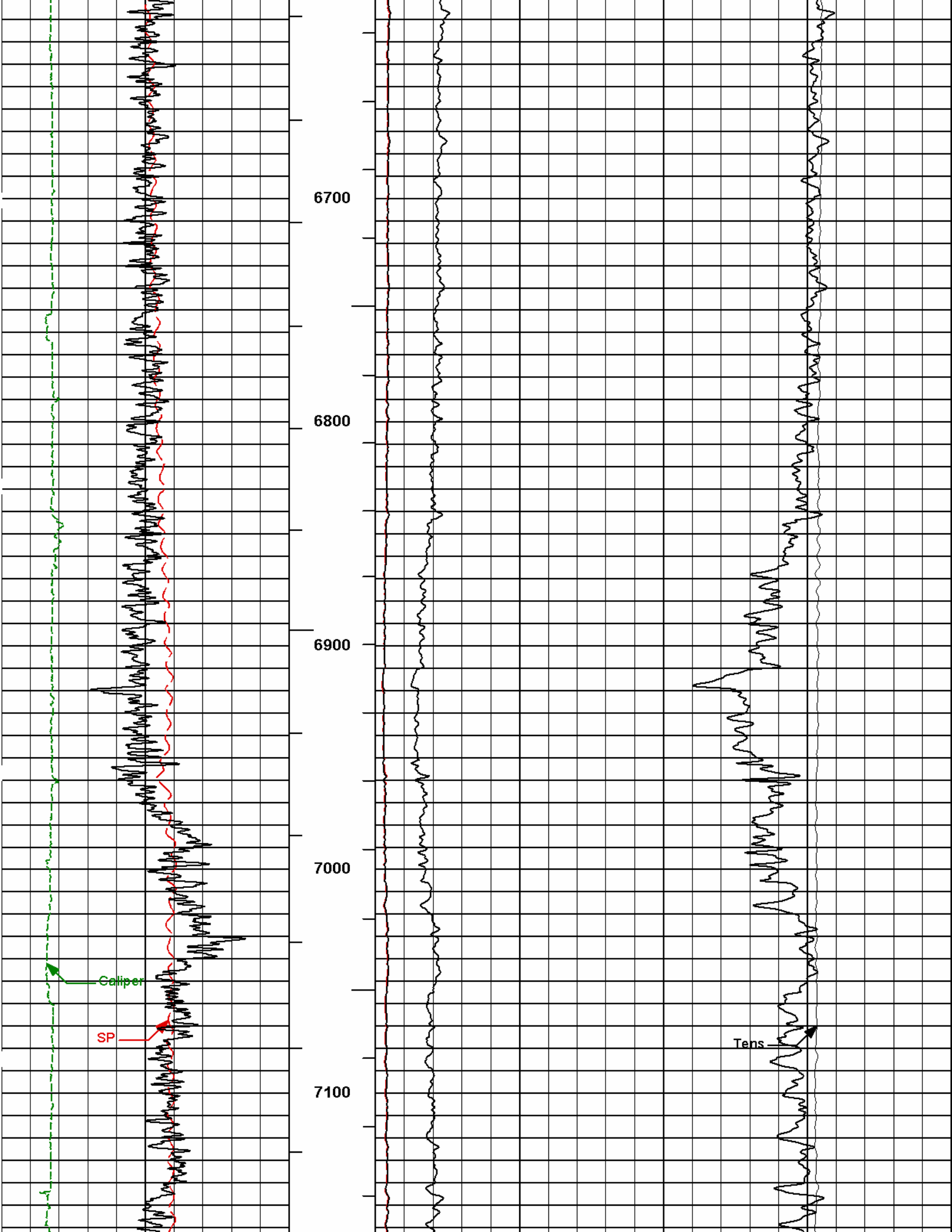


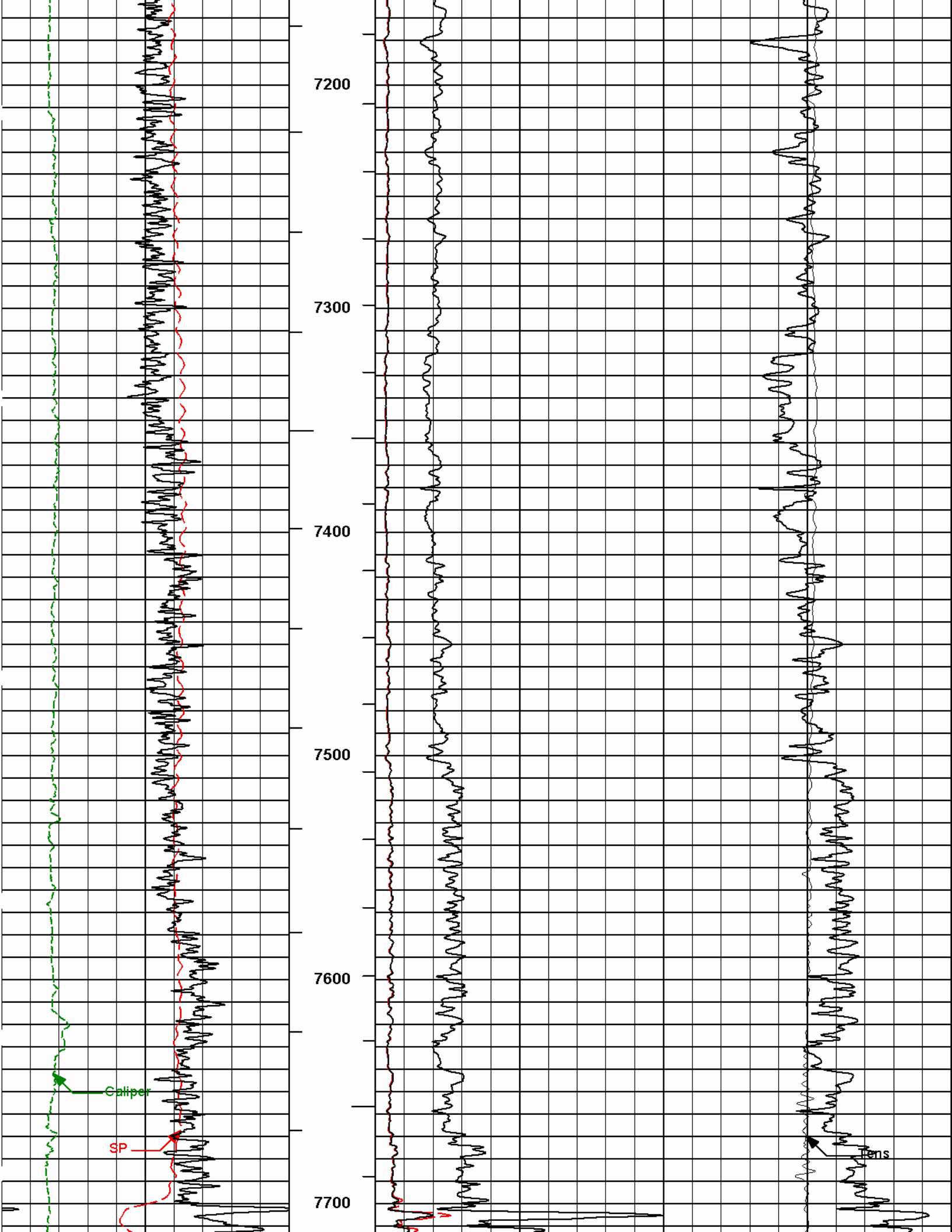


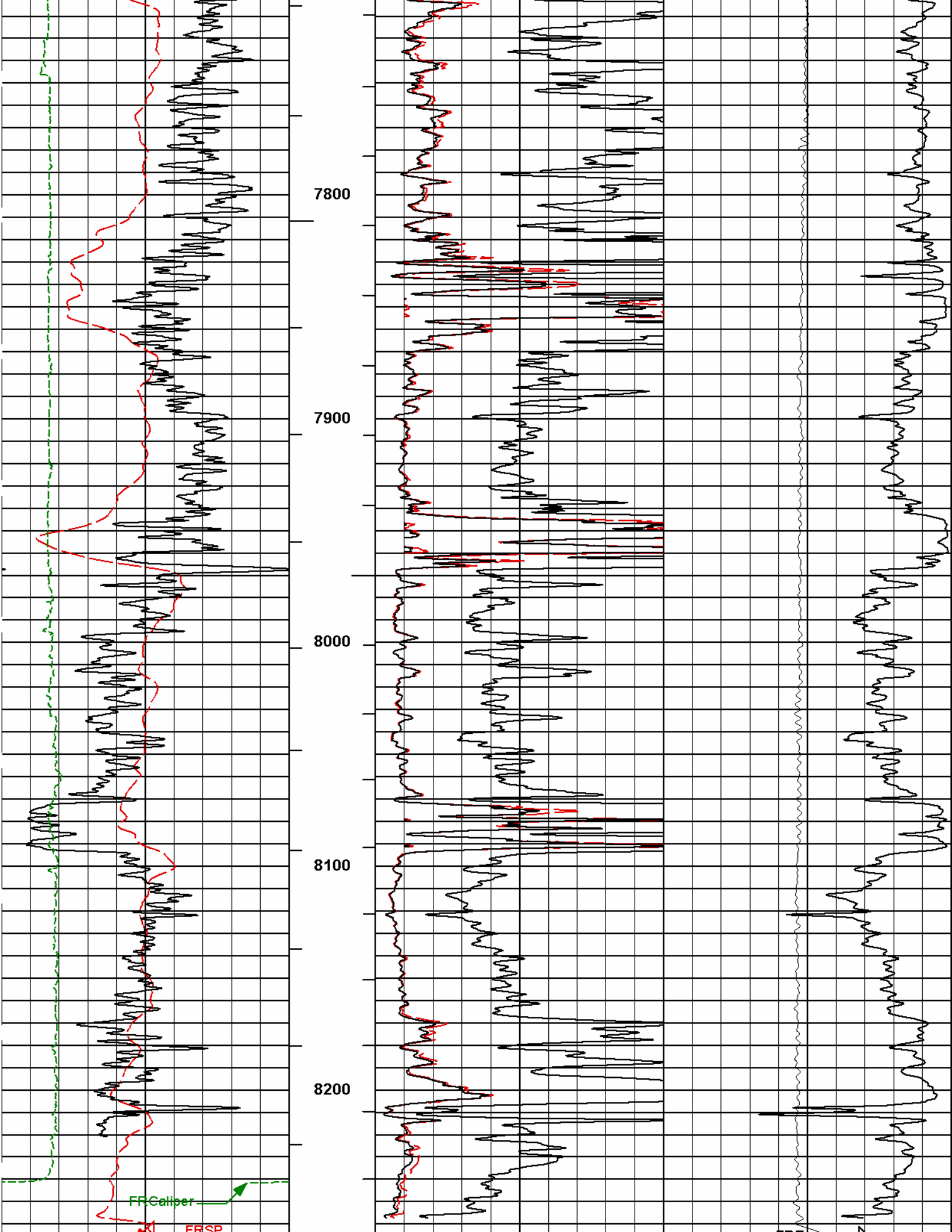












0	SP	100	1 : 600	0	DEEP RES	100	10K	Tens	0
	millivolts				ohm-metre			pounds	
0	Gamma API	200	BHVT	0	SHALLOW	100	500	DEEP CON	0
	api				ohm-metre			mmho per metre	
6	Caliper	16	AHVT	0	AMP SHALLOW	20			
	inches				ohm-metre				

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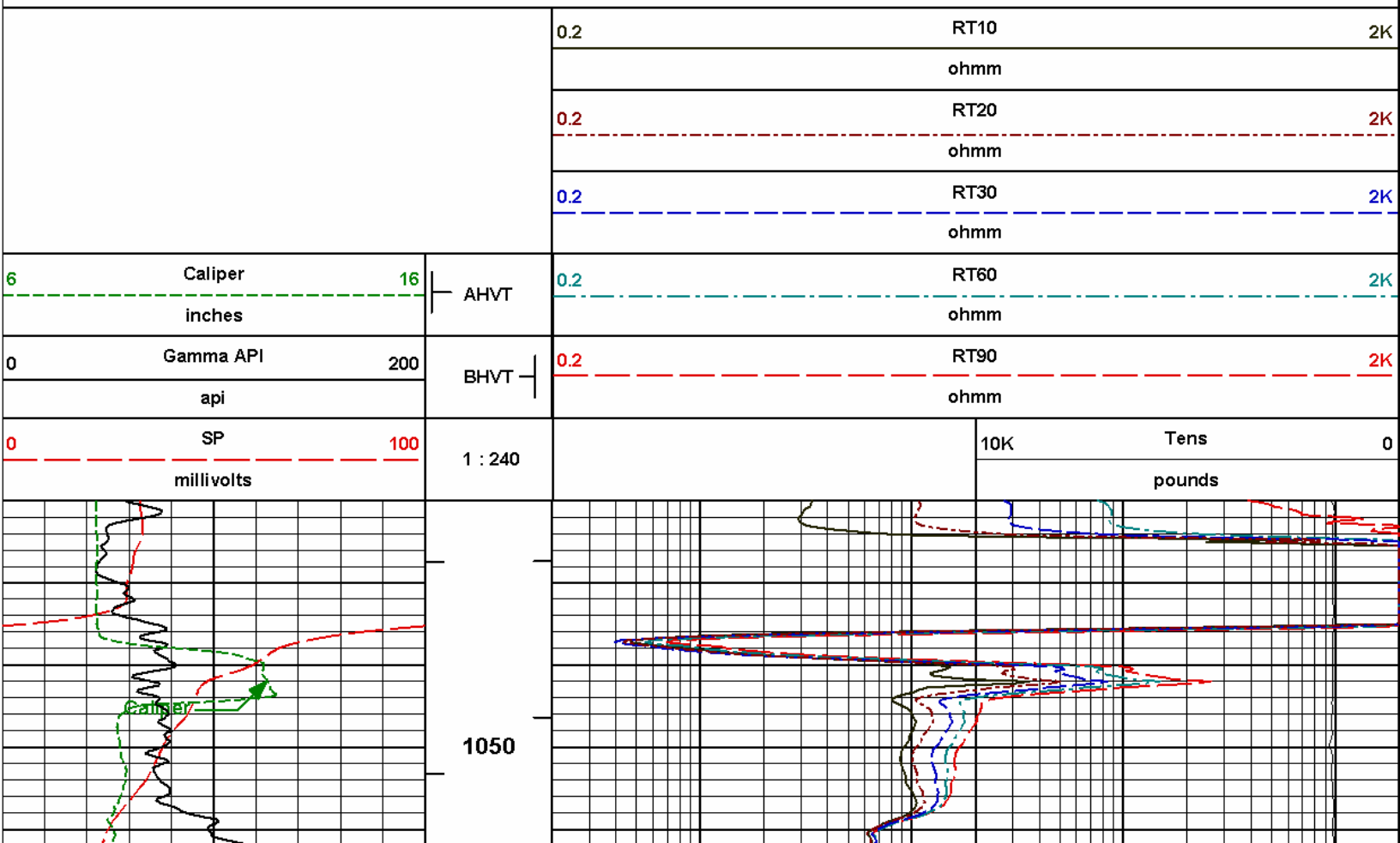
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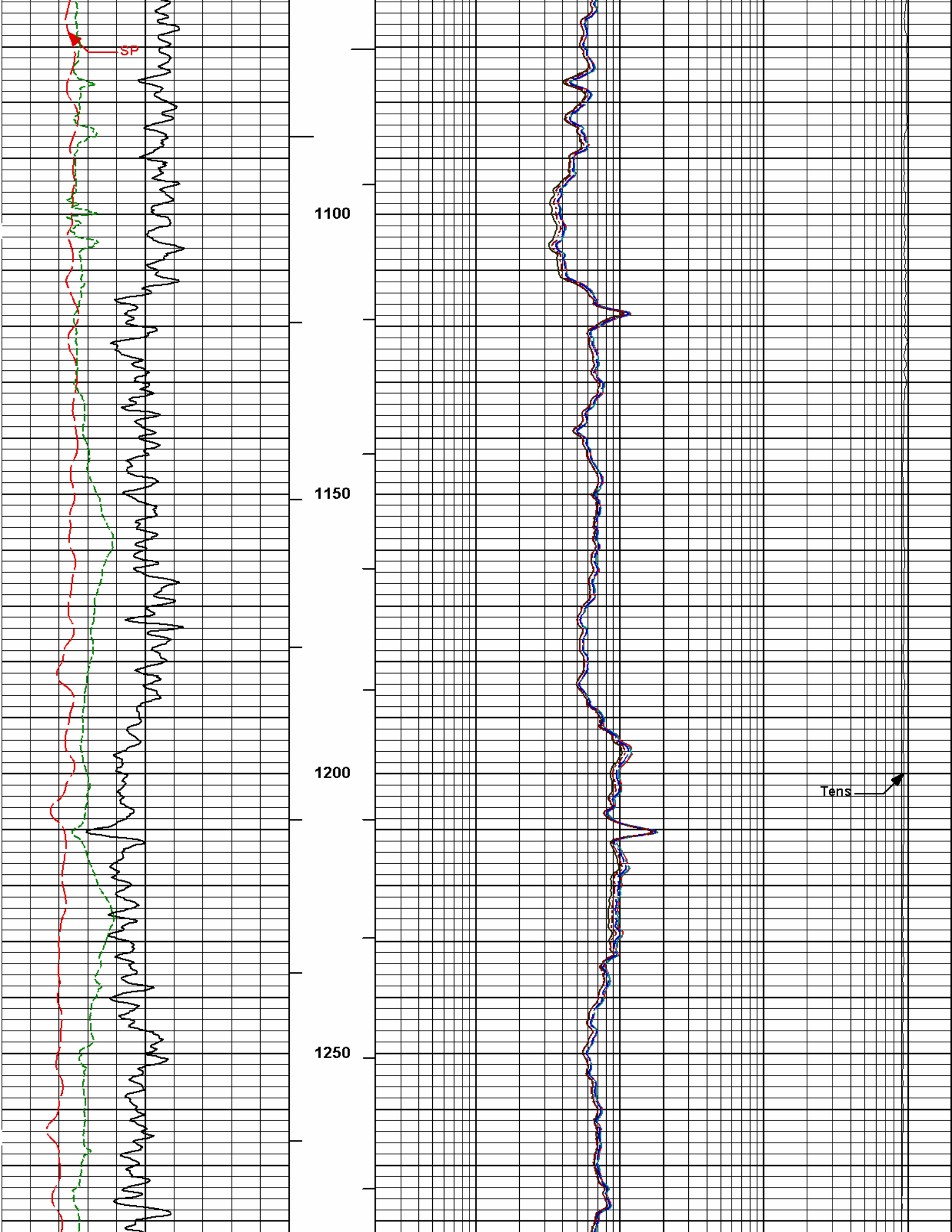
MAIN PASS 2" = 100'

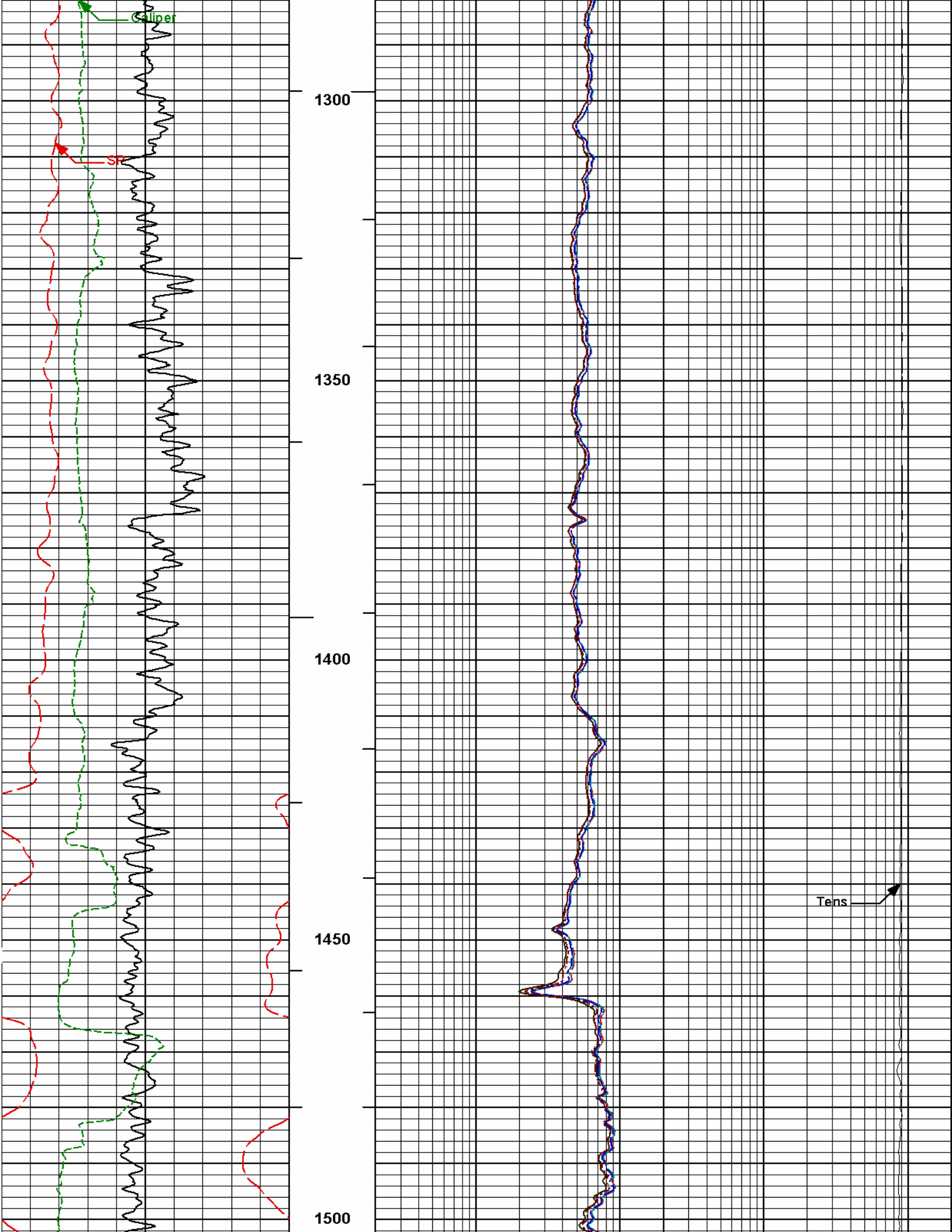
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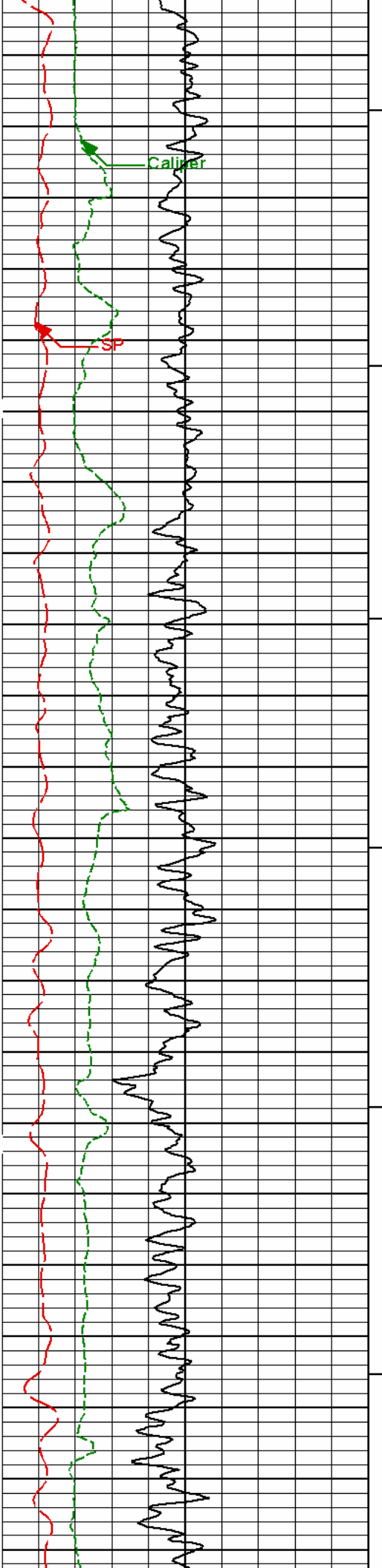
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 Plot File: \\ACRT\IQ_ACRT_5IN_RM

MAIN PASS 5" = 100'









Caliper

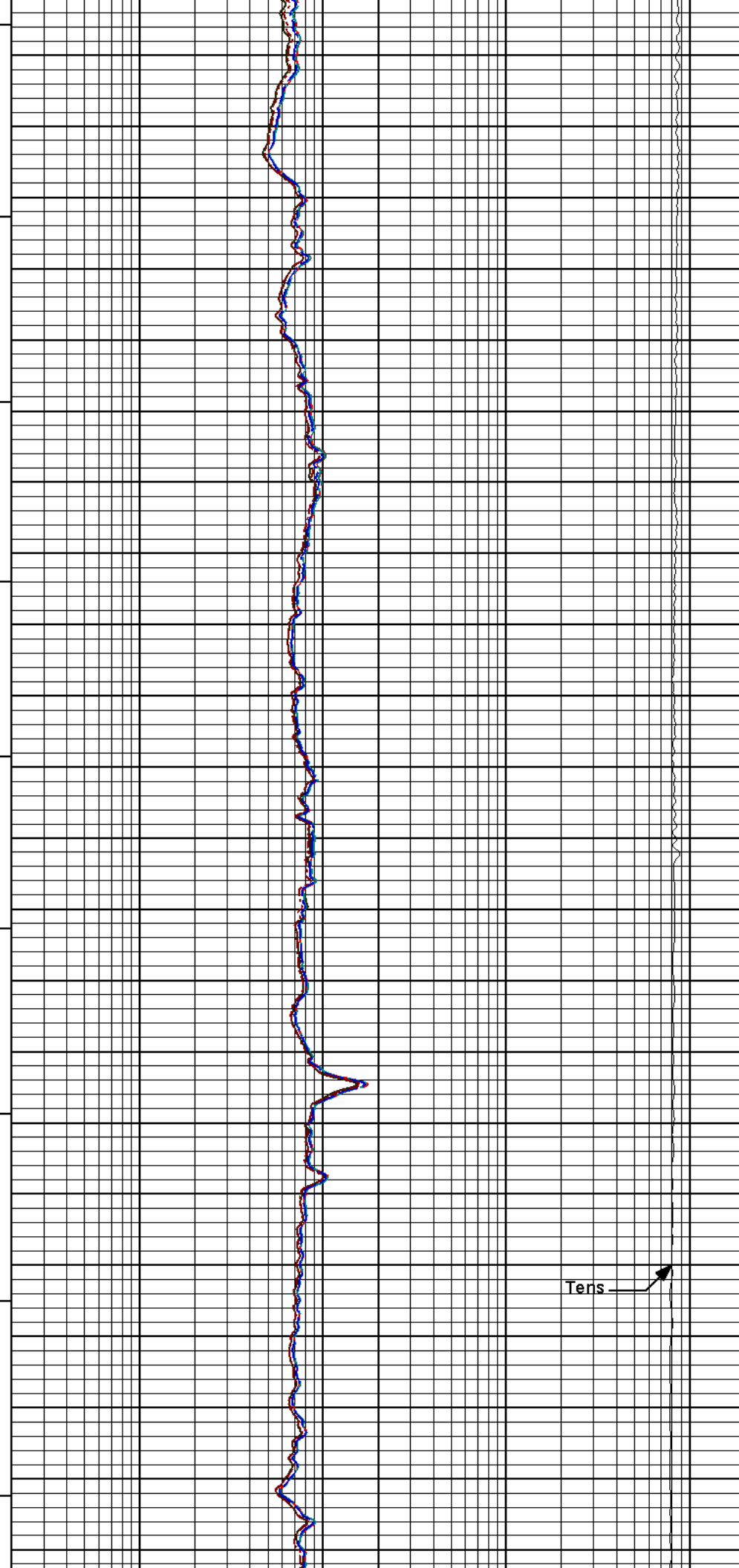
Sp

1550

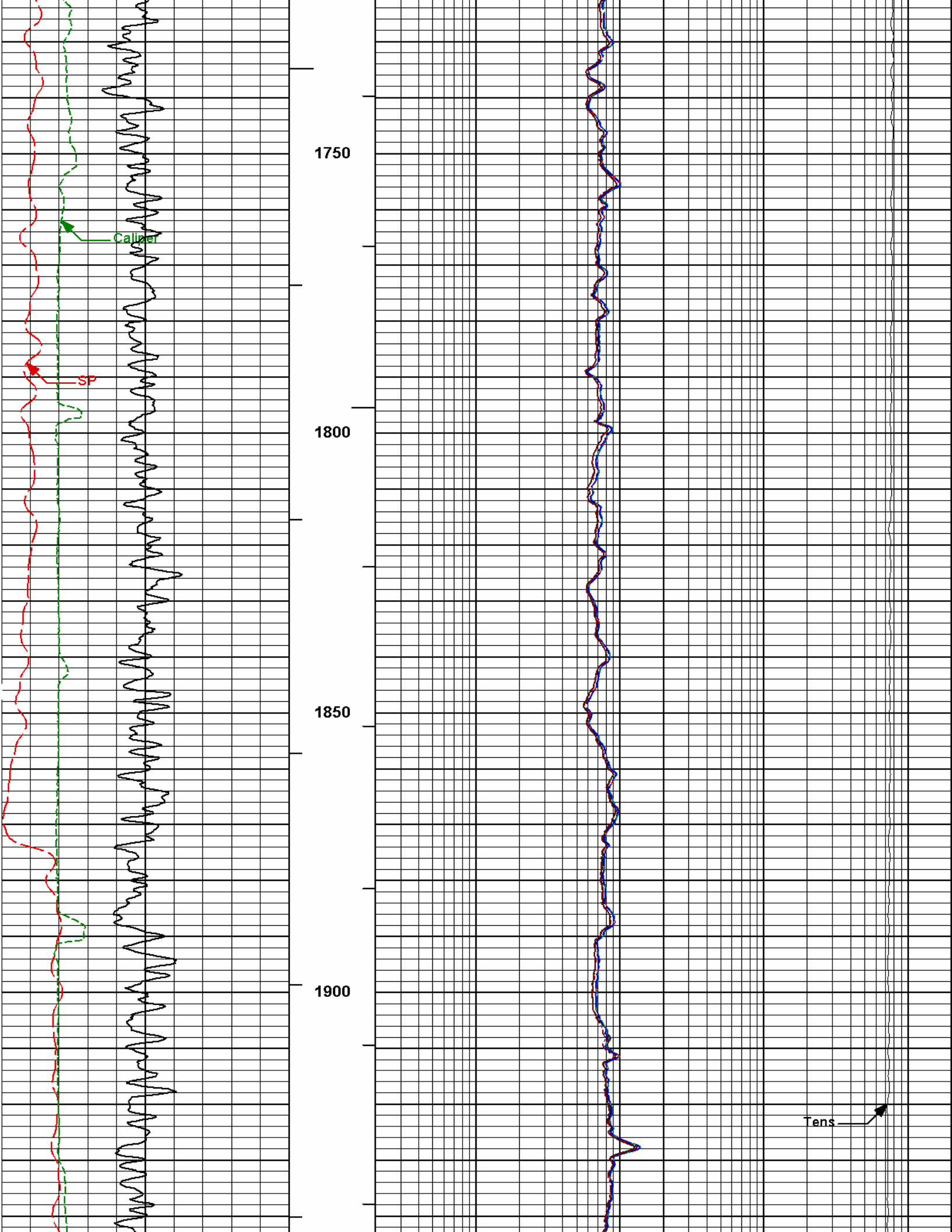
1600

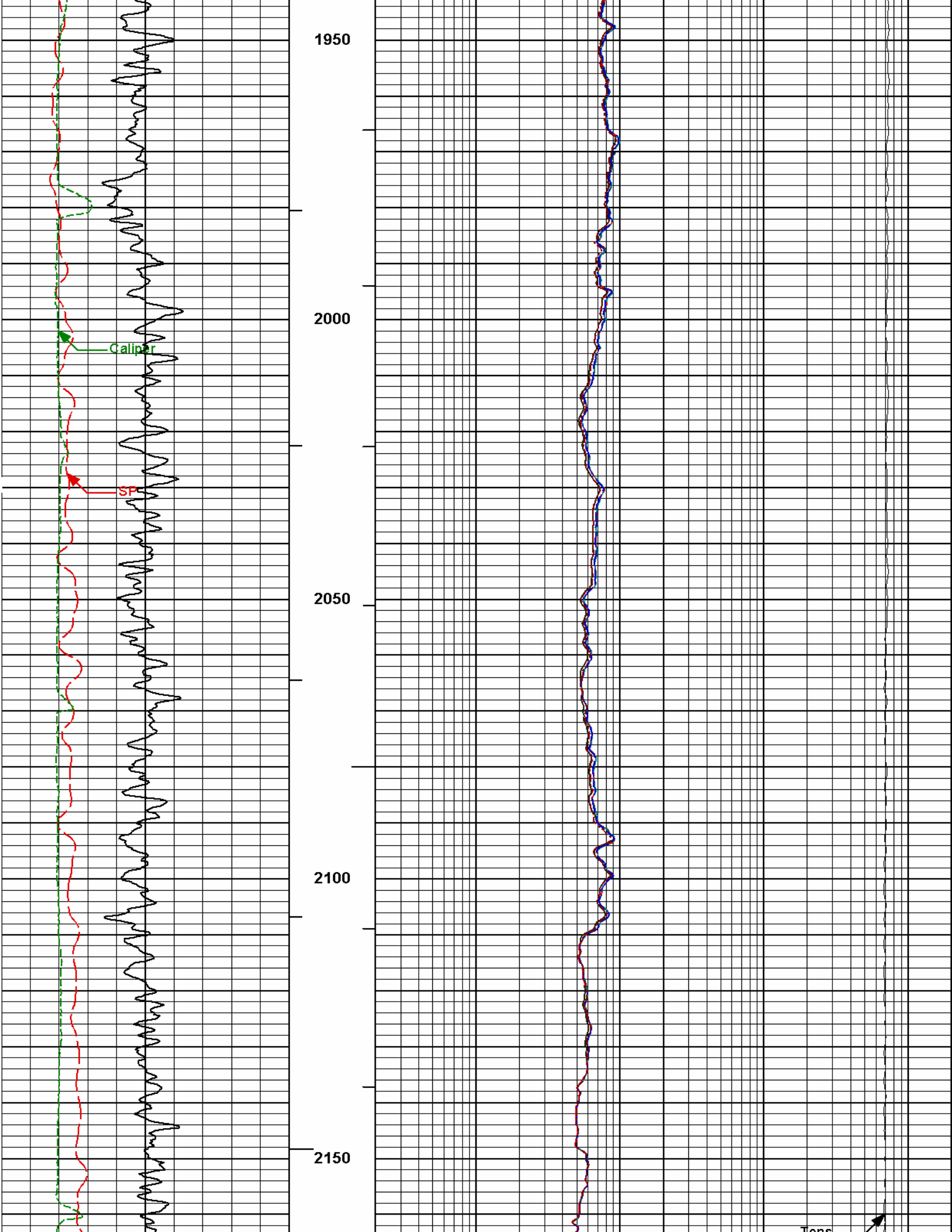
1650

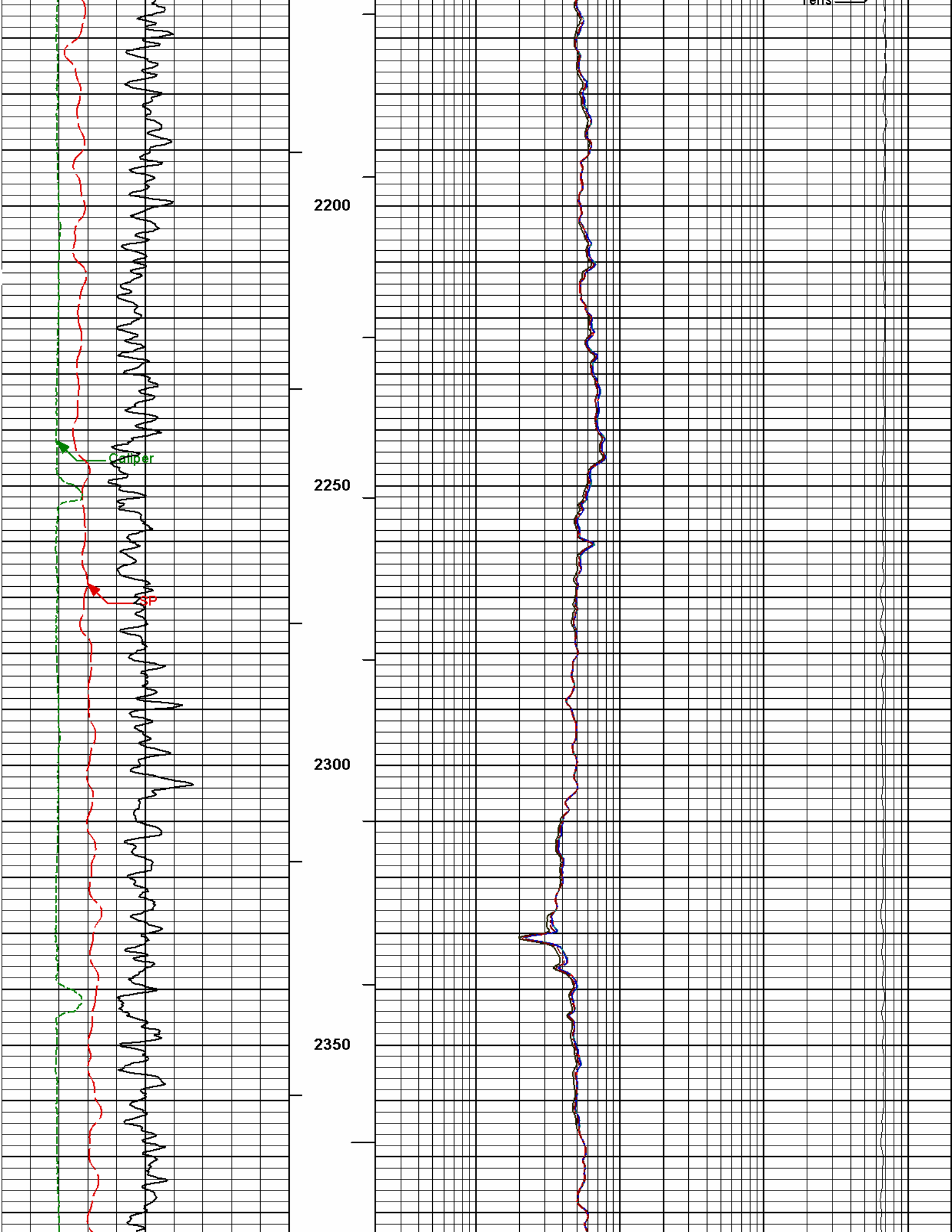
1700

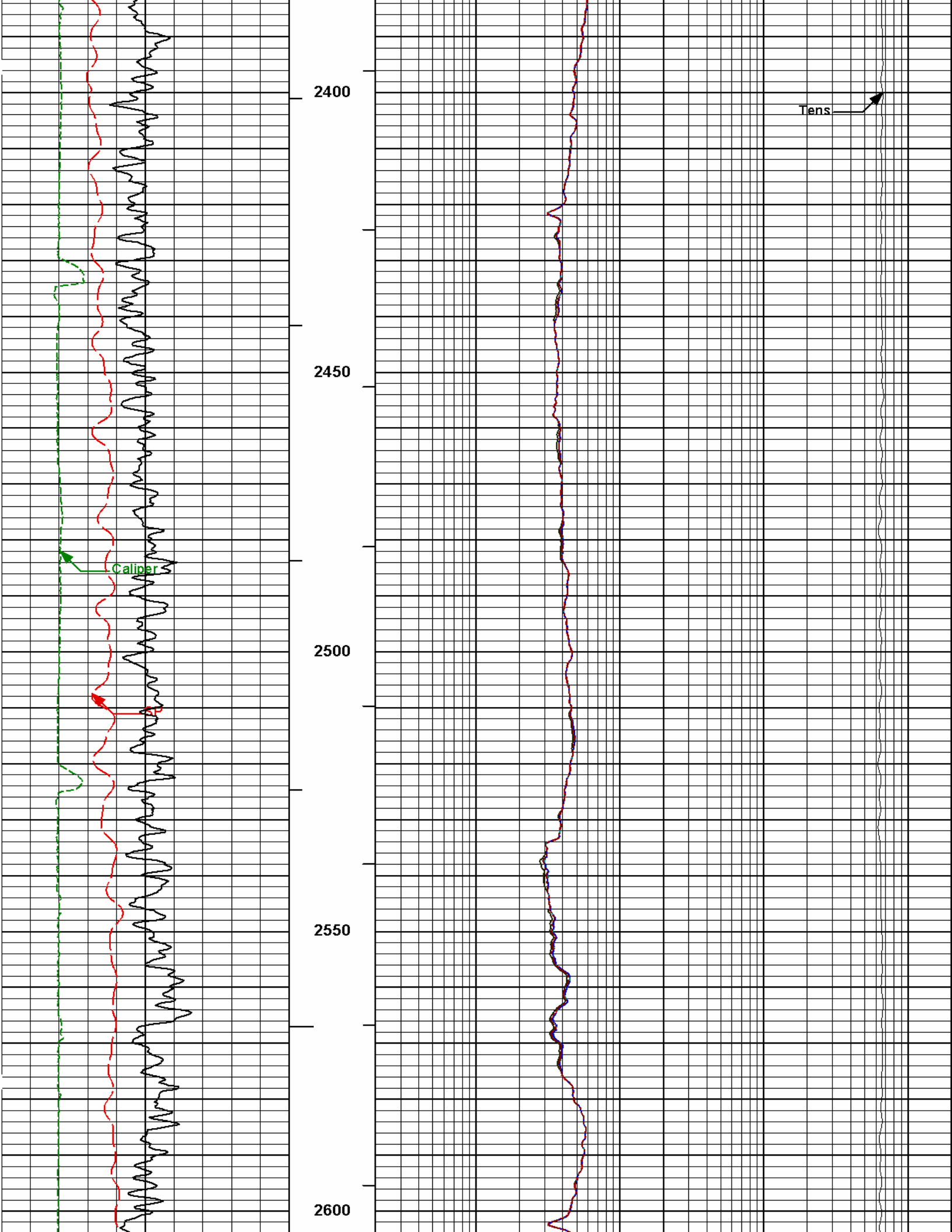


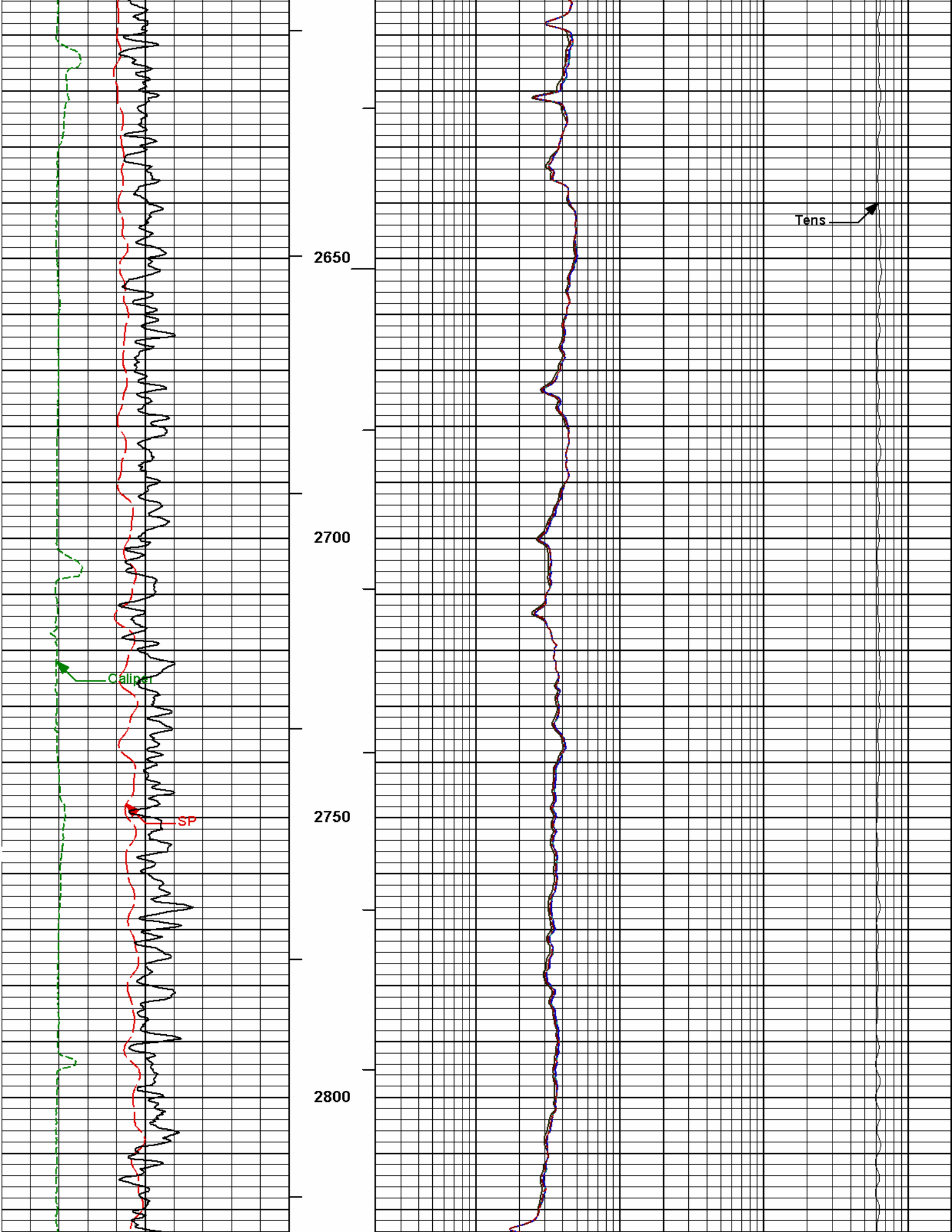
Tens

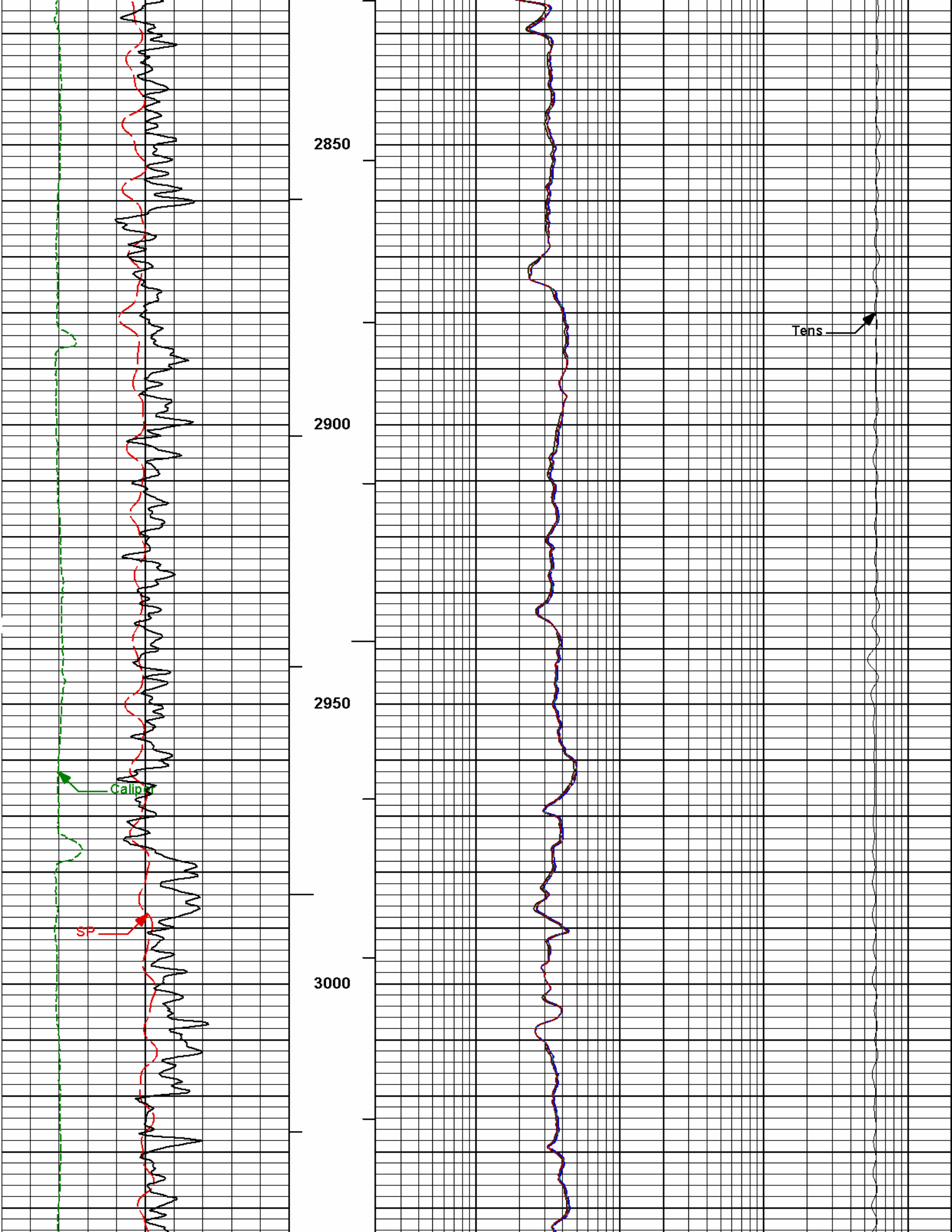


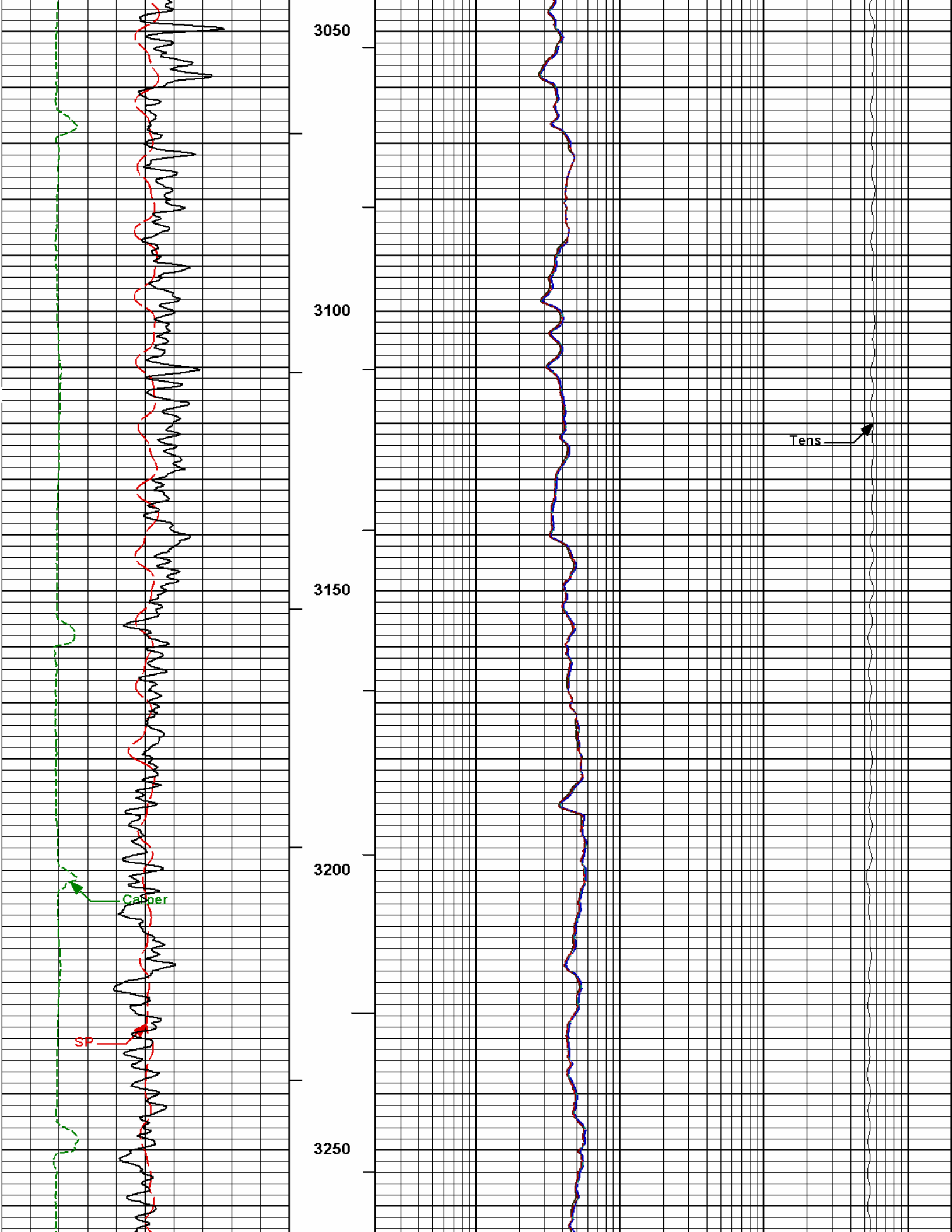


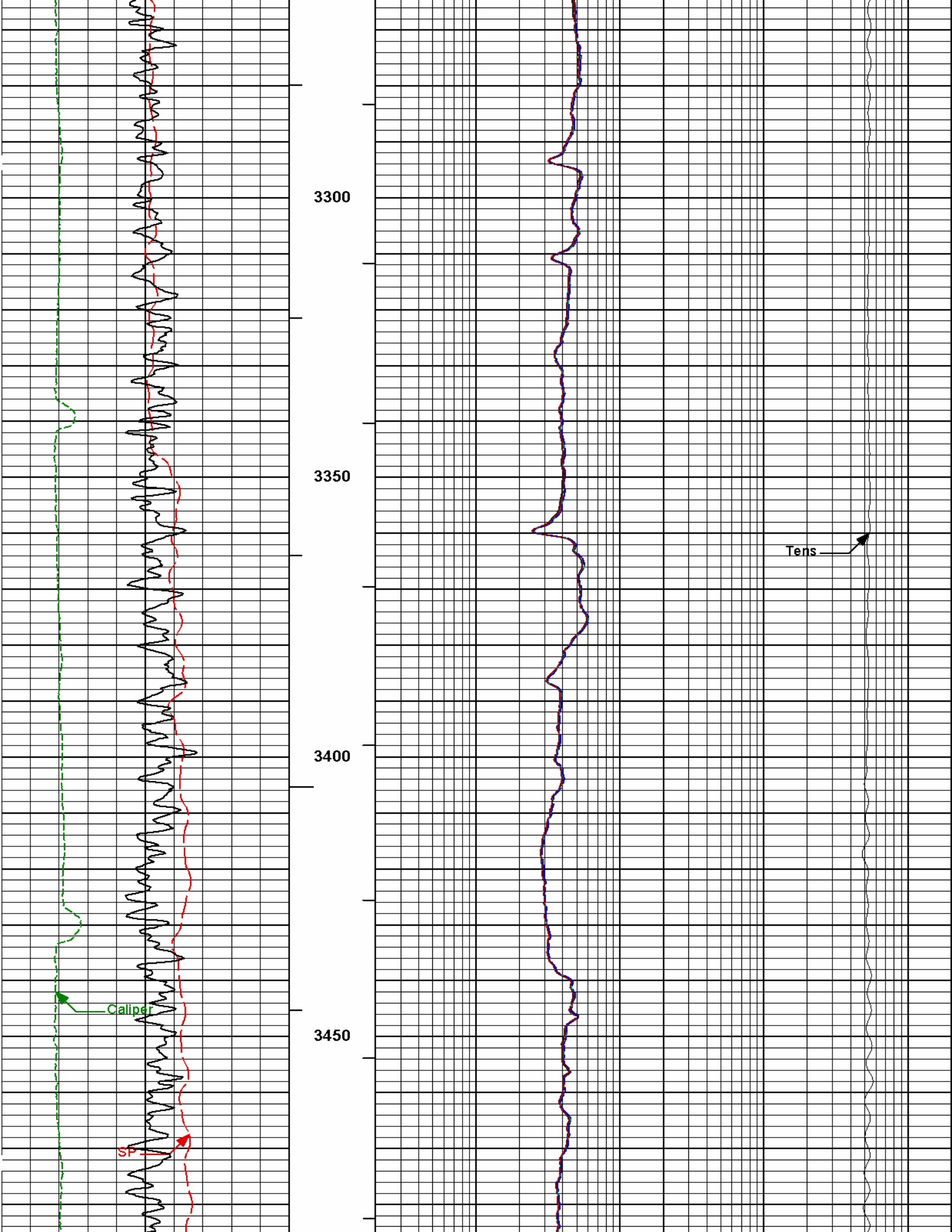


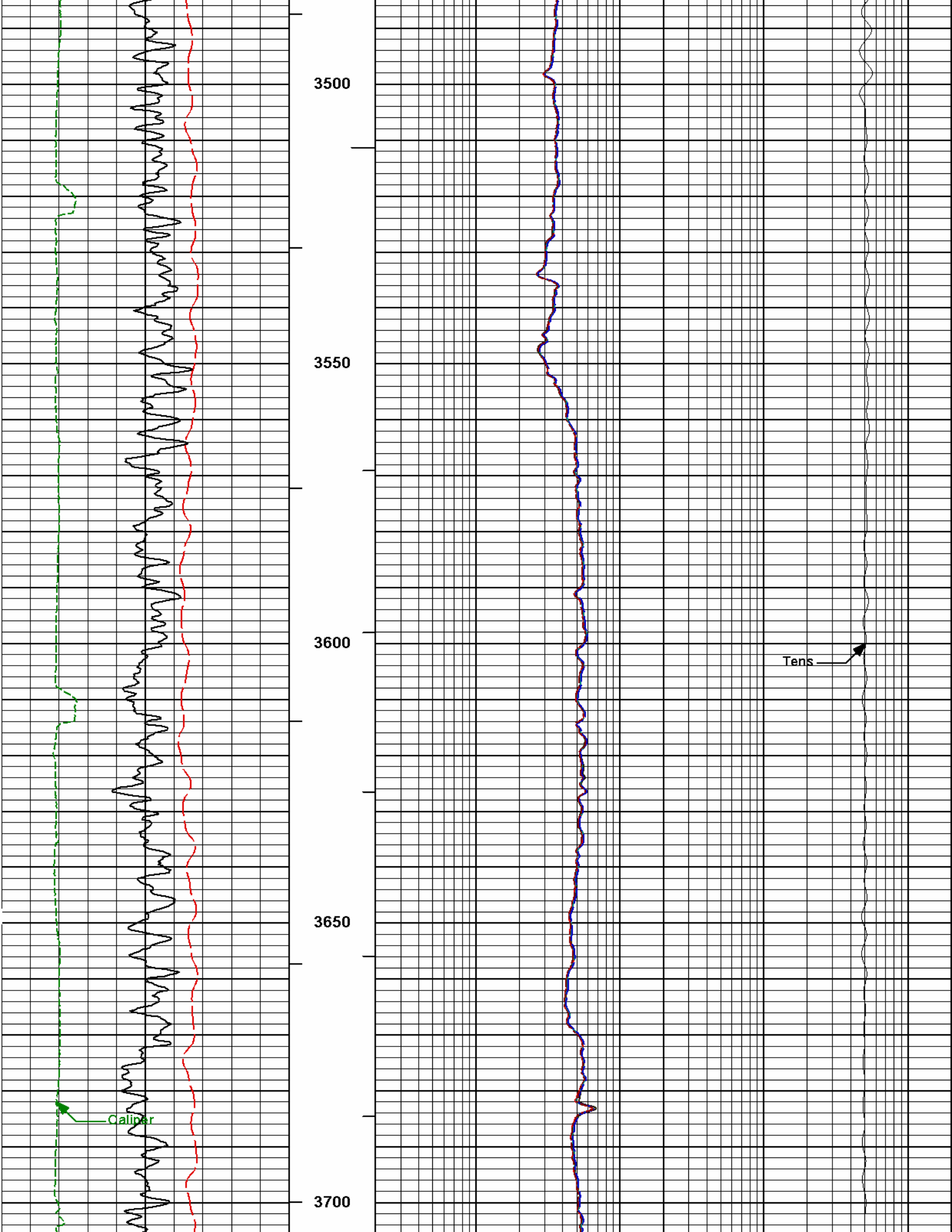


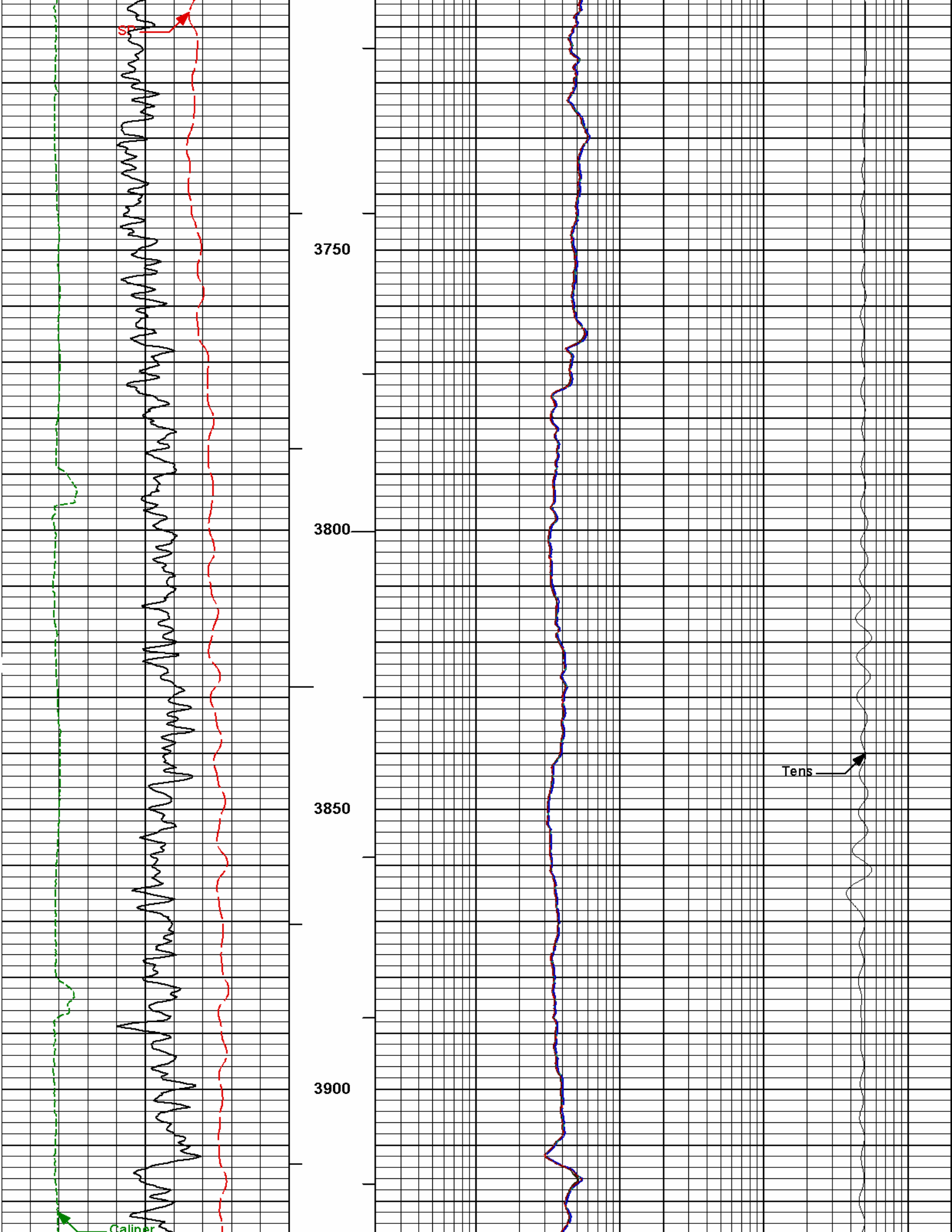


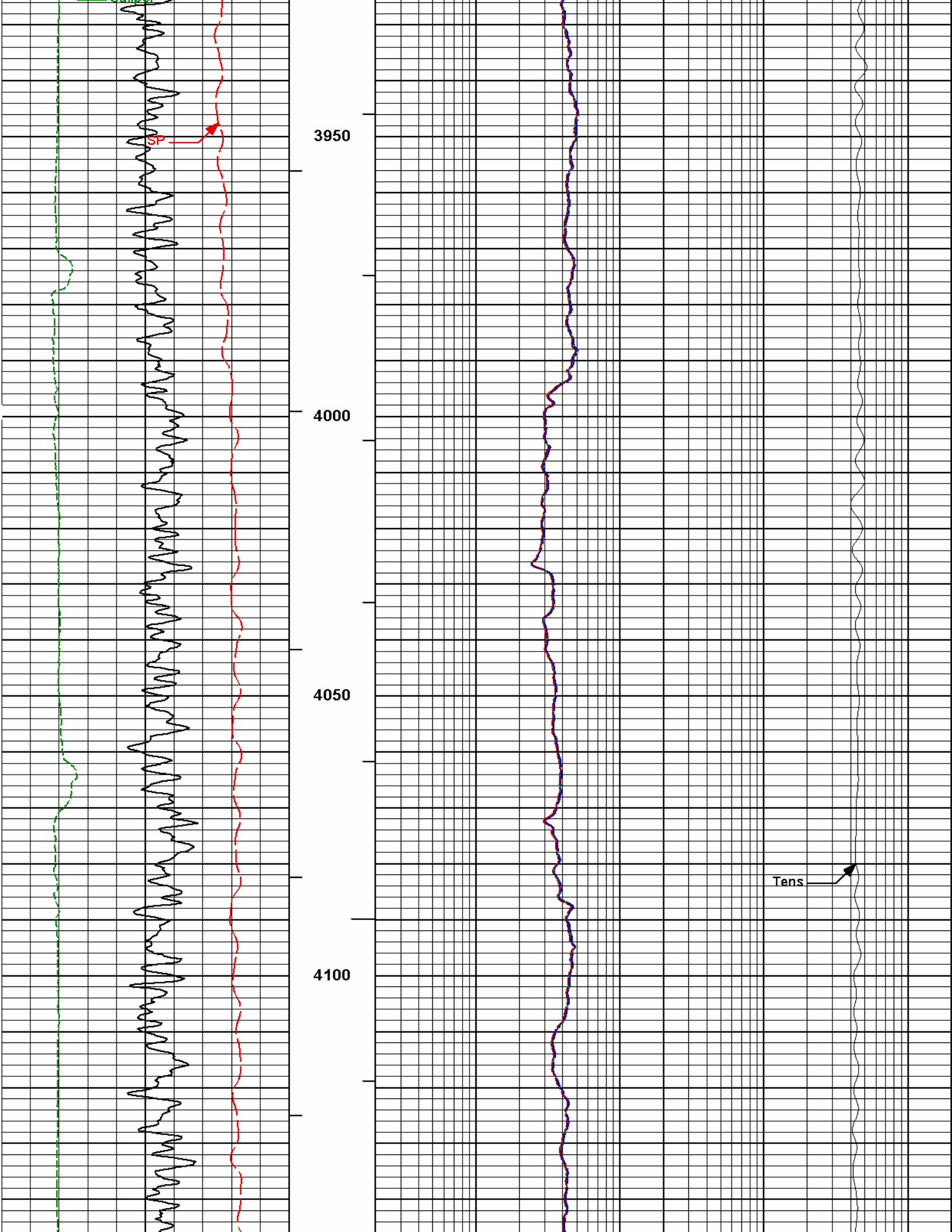


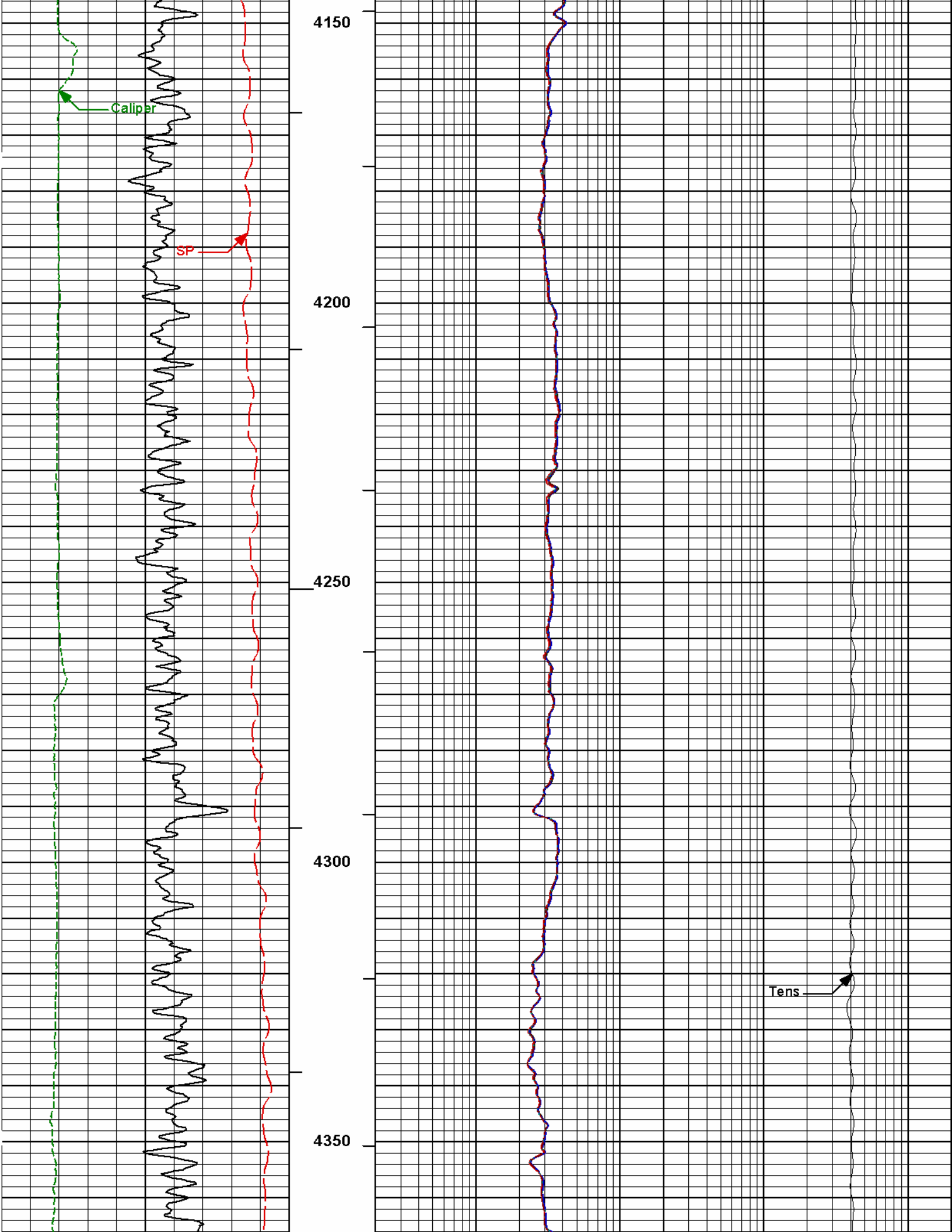


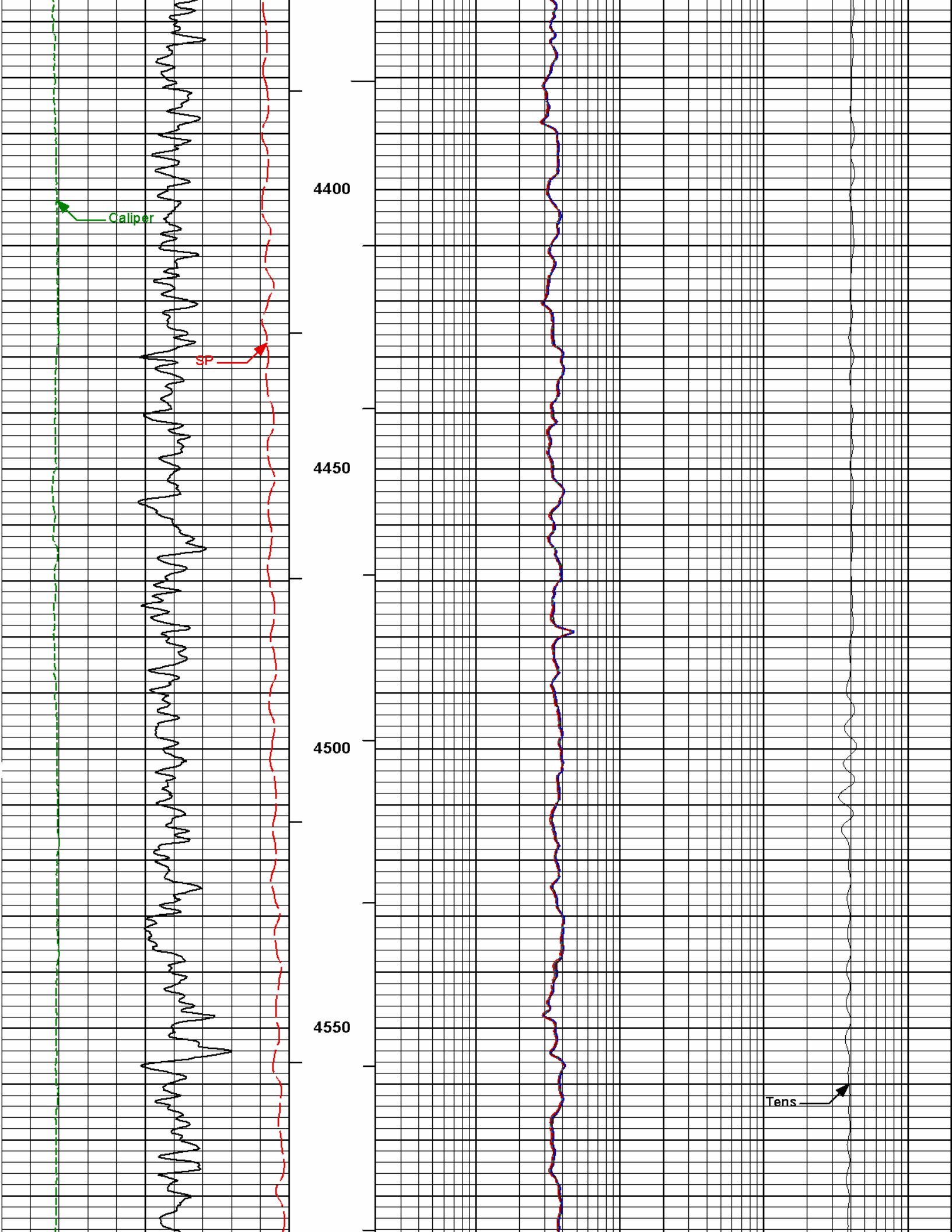


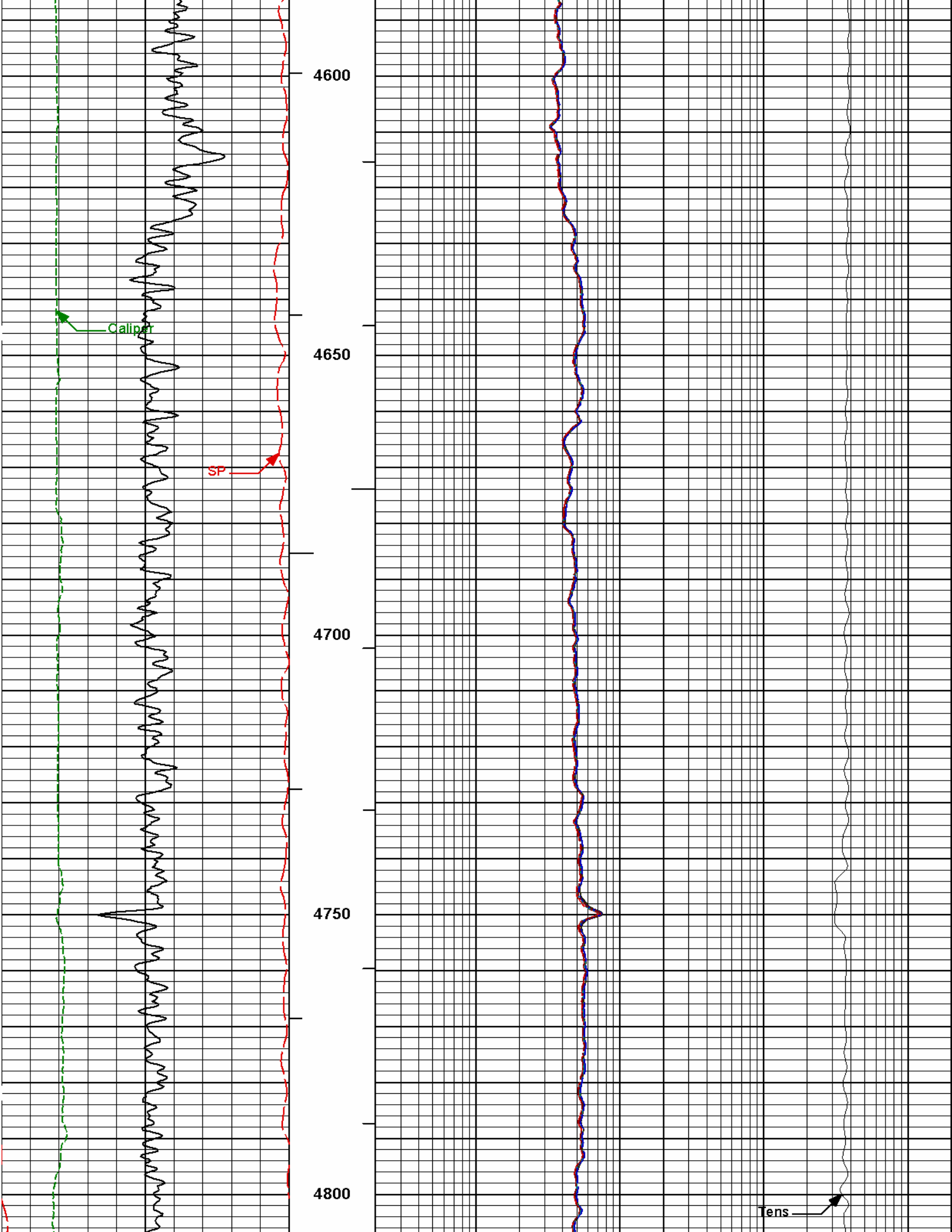


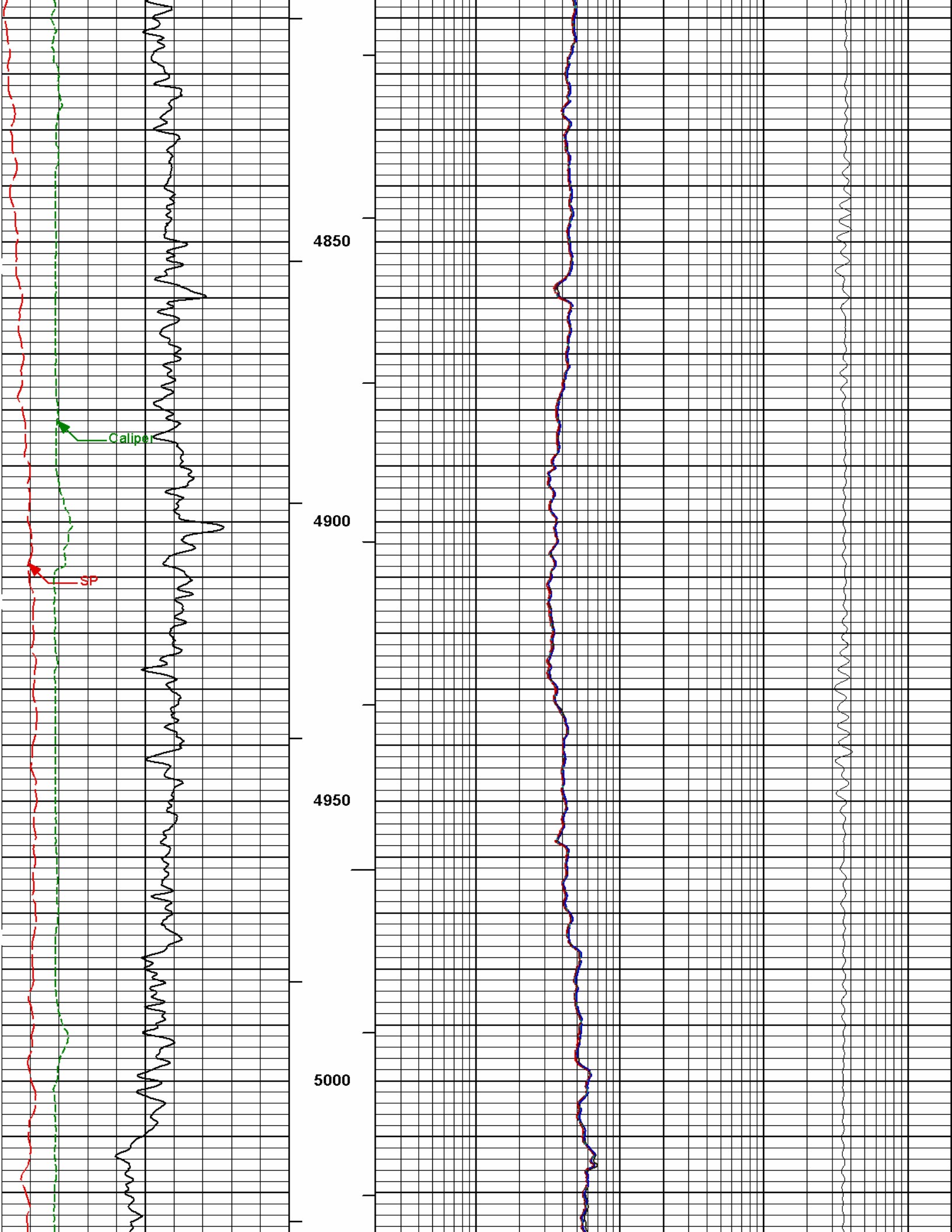


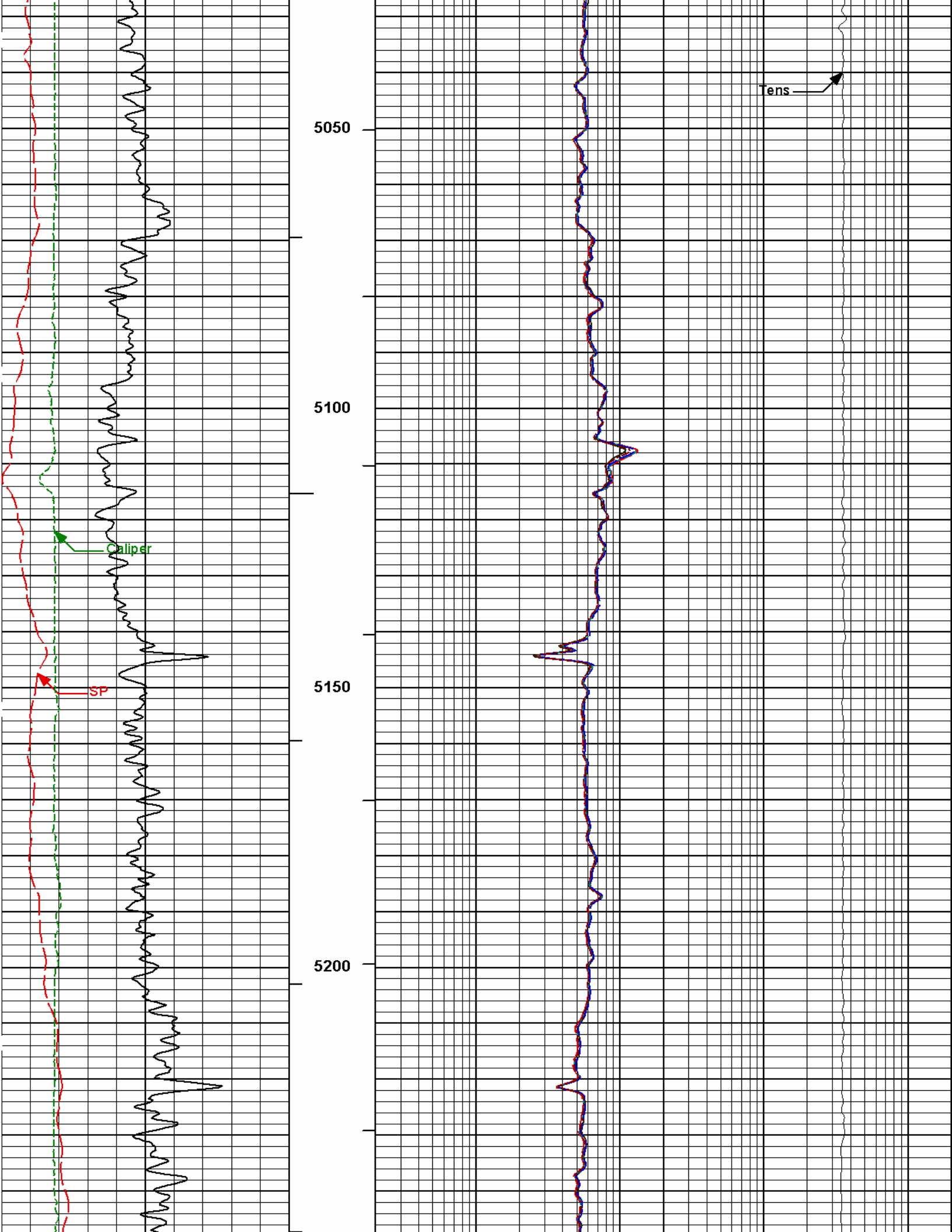


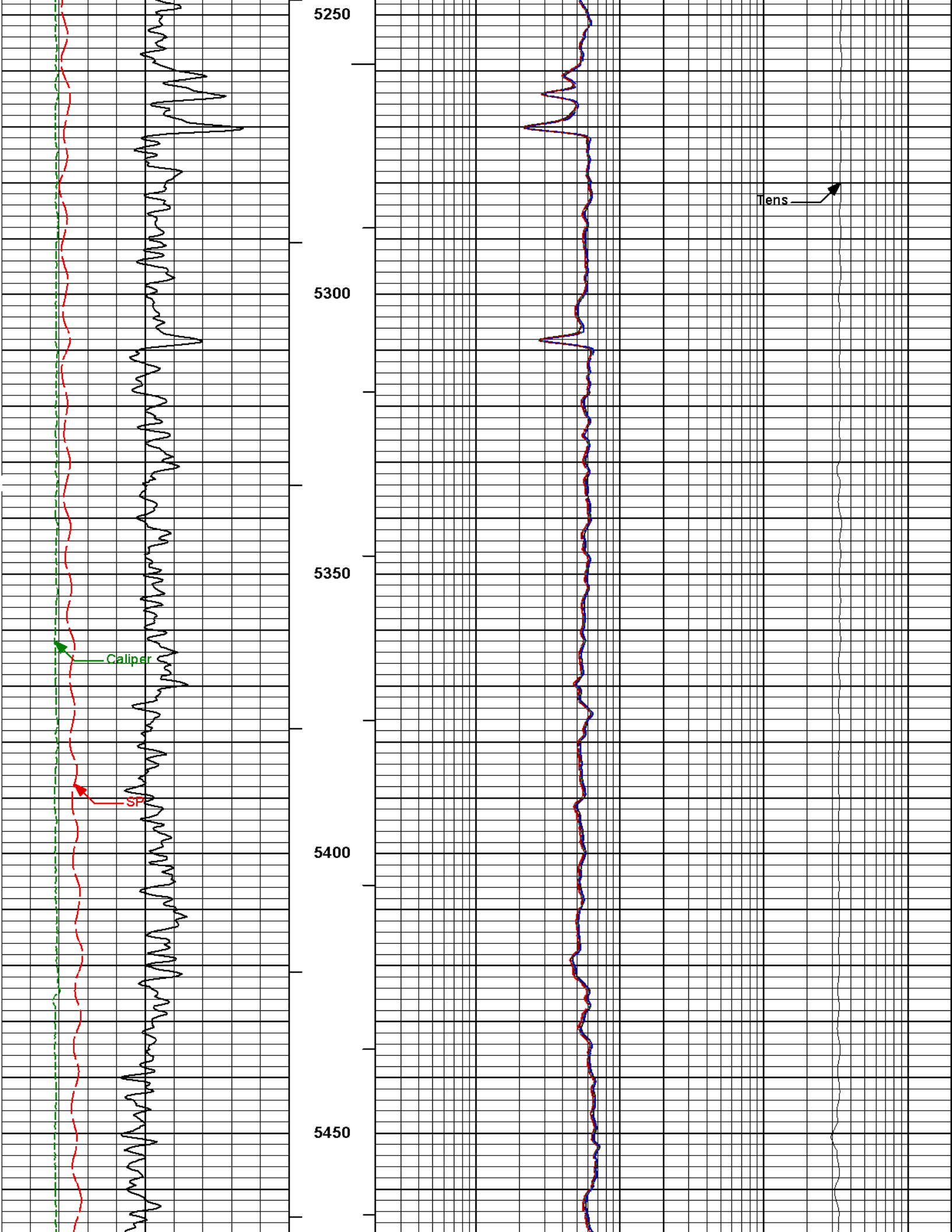


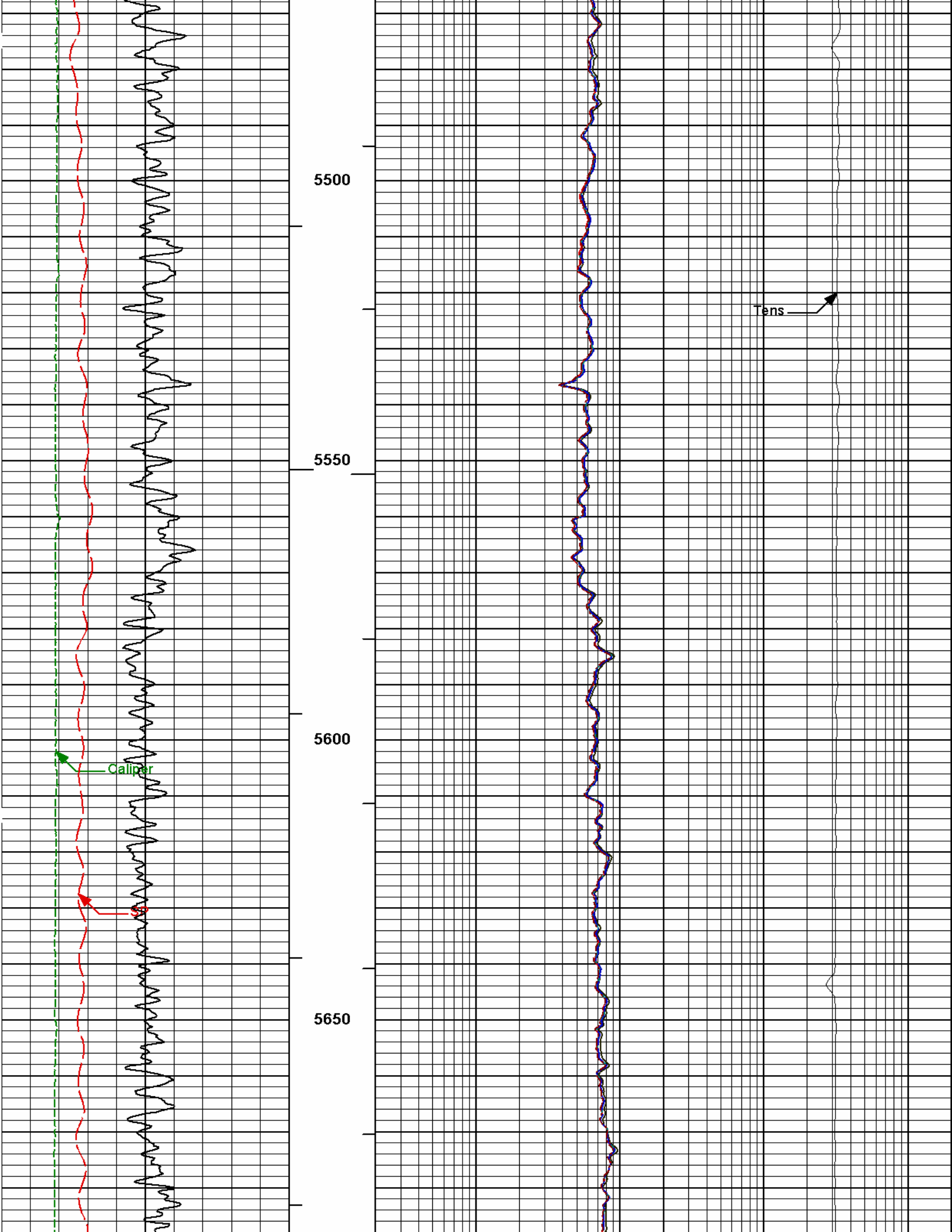


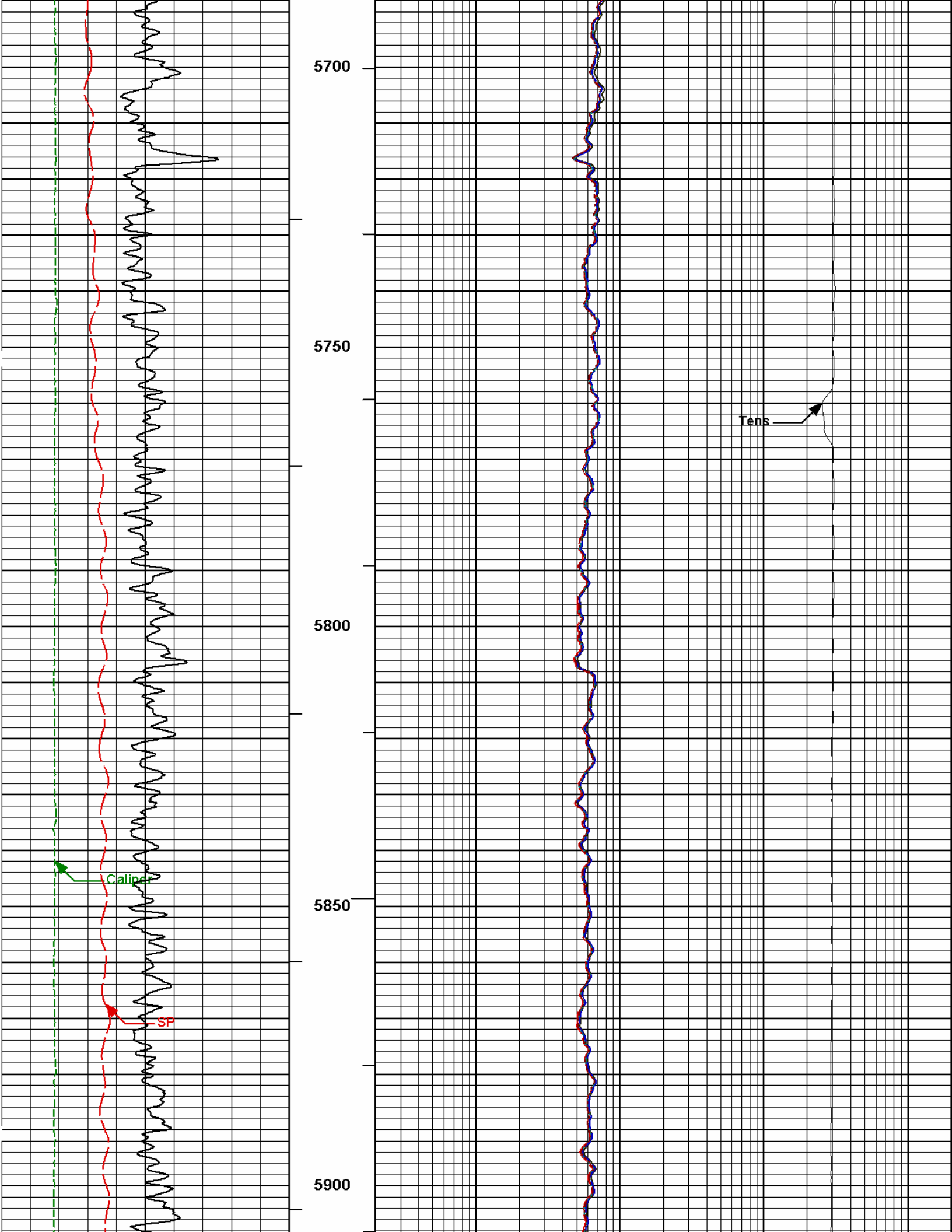


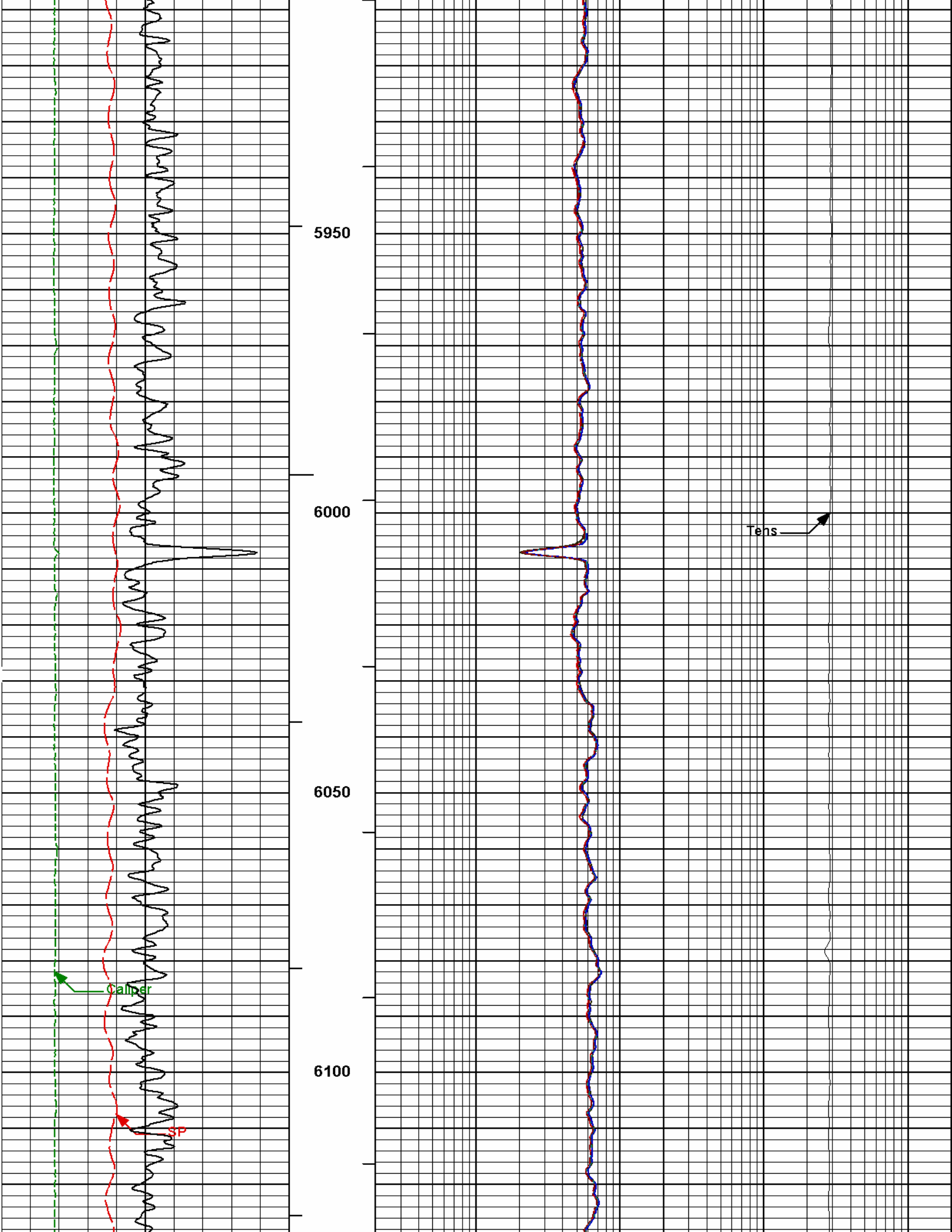


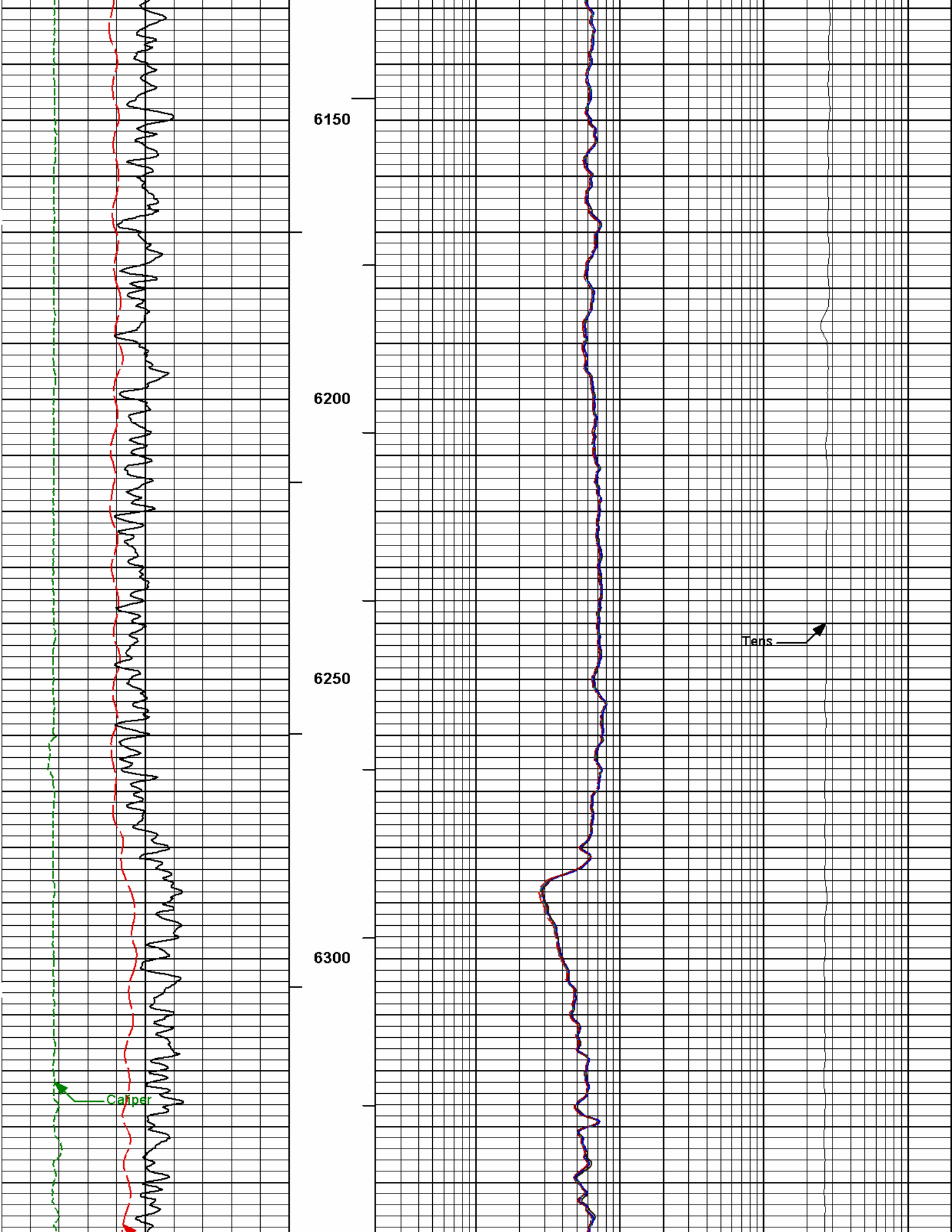


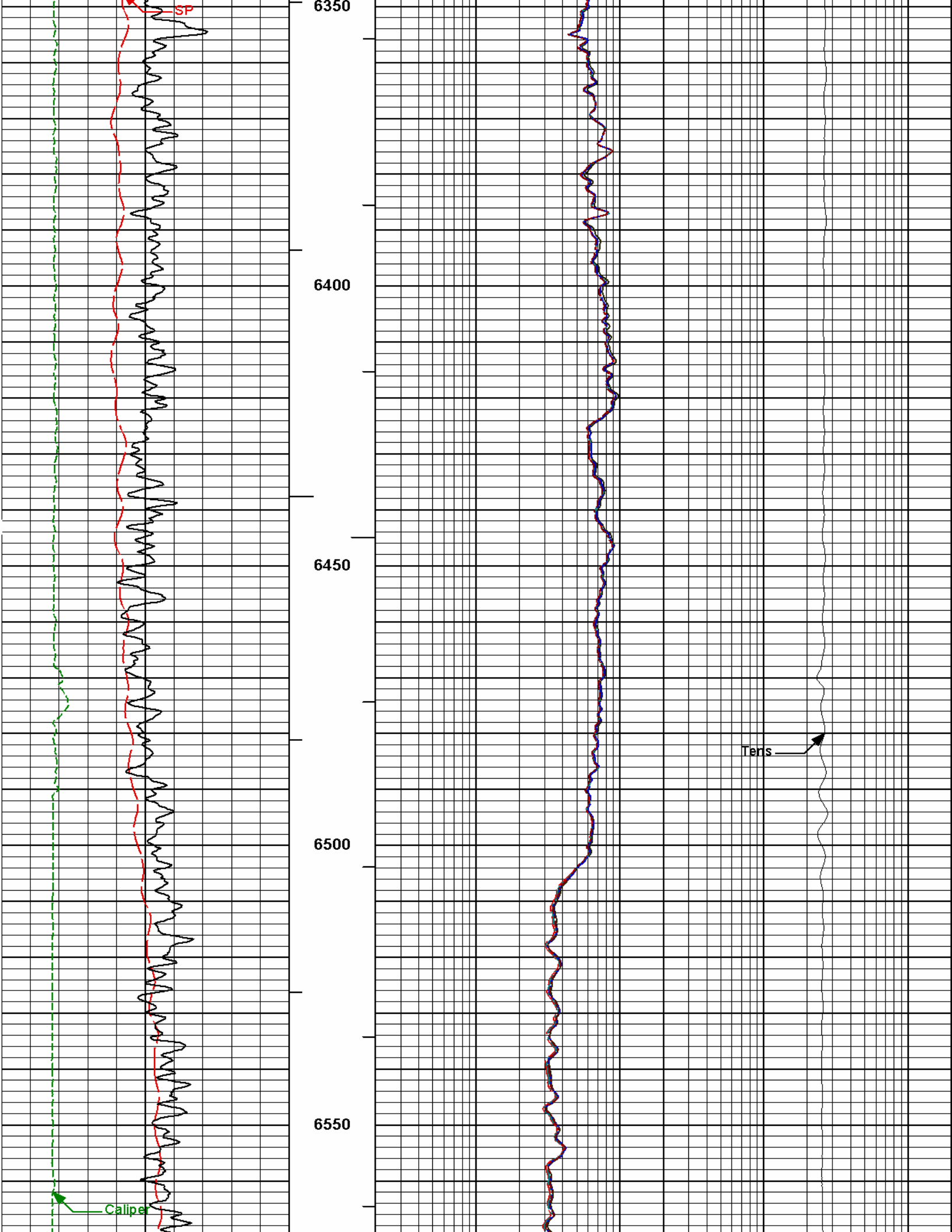


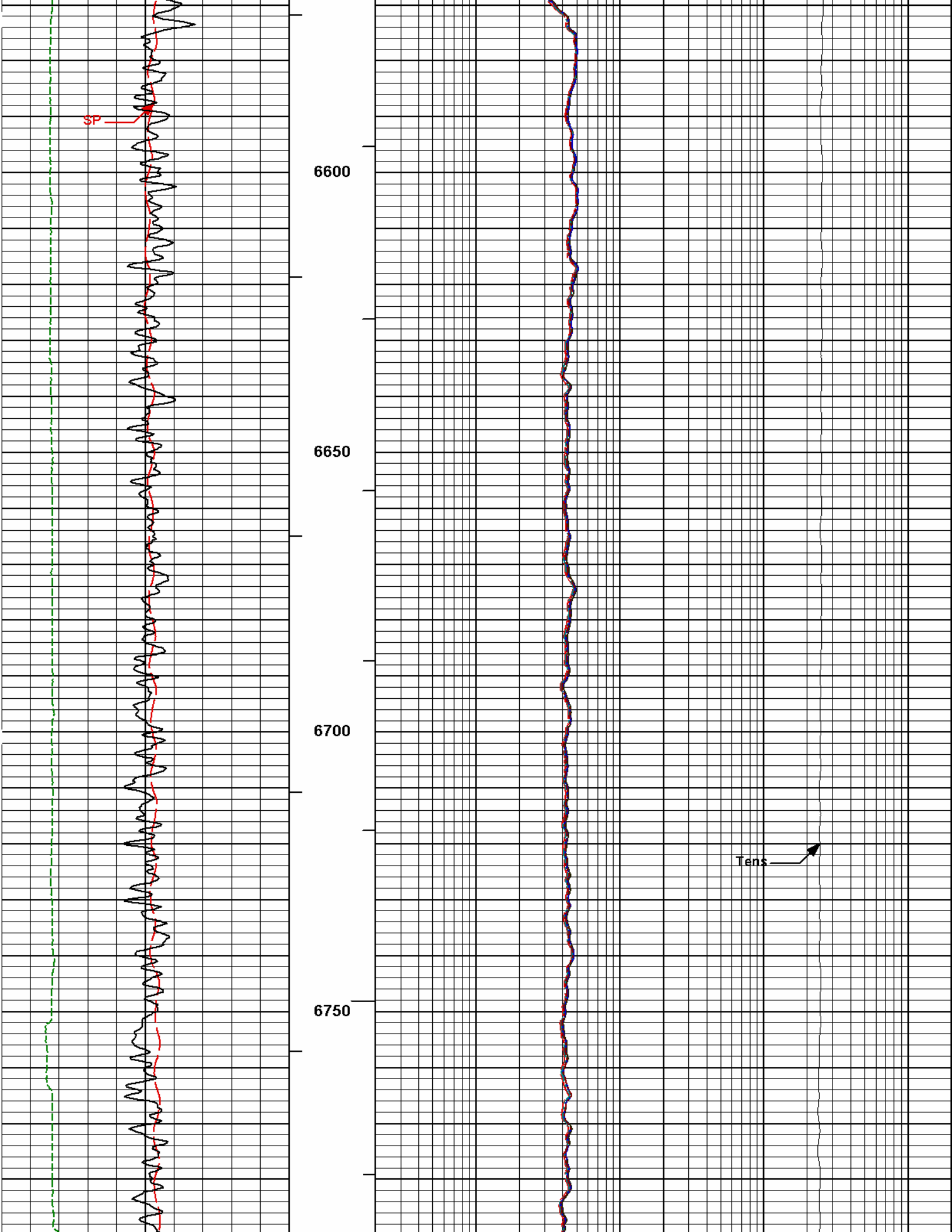


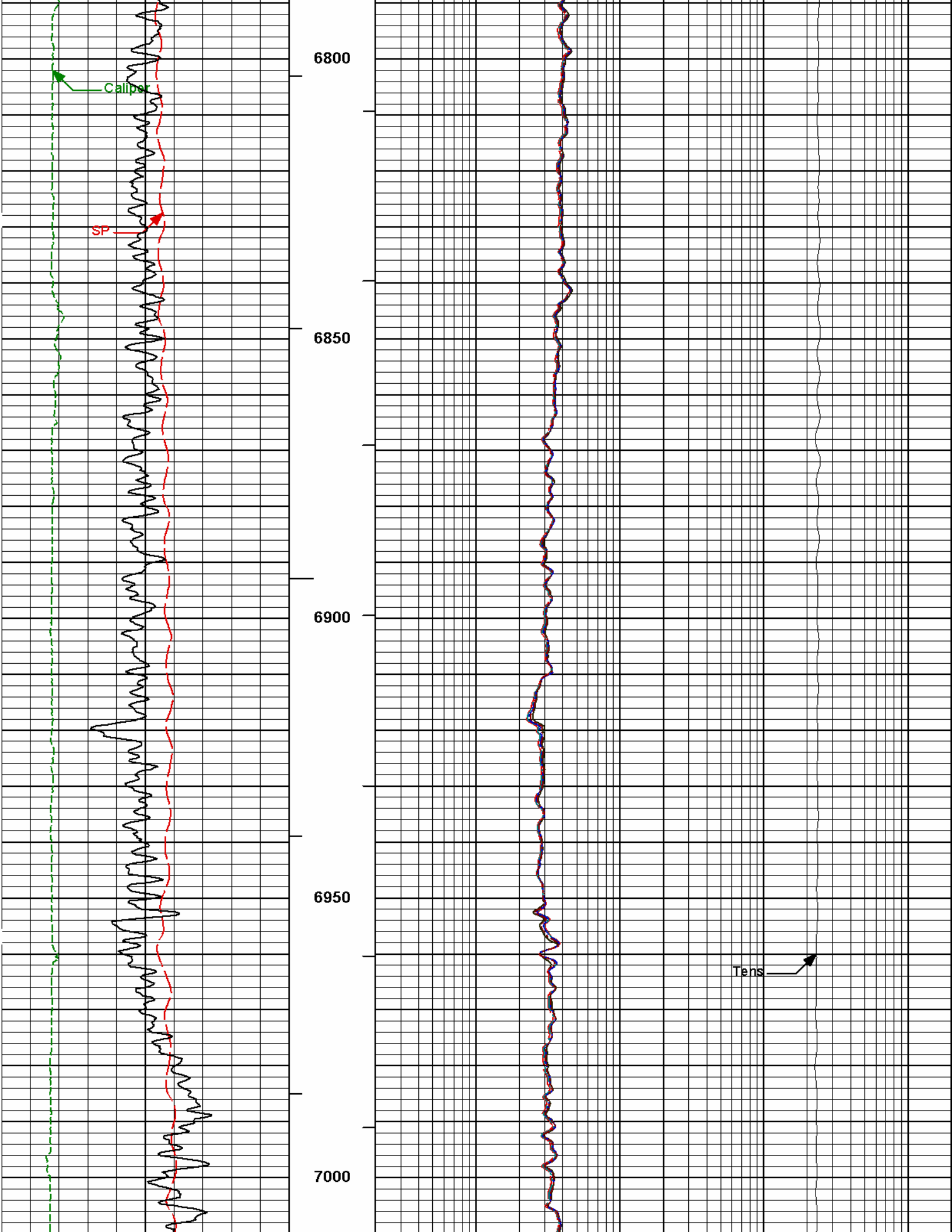


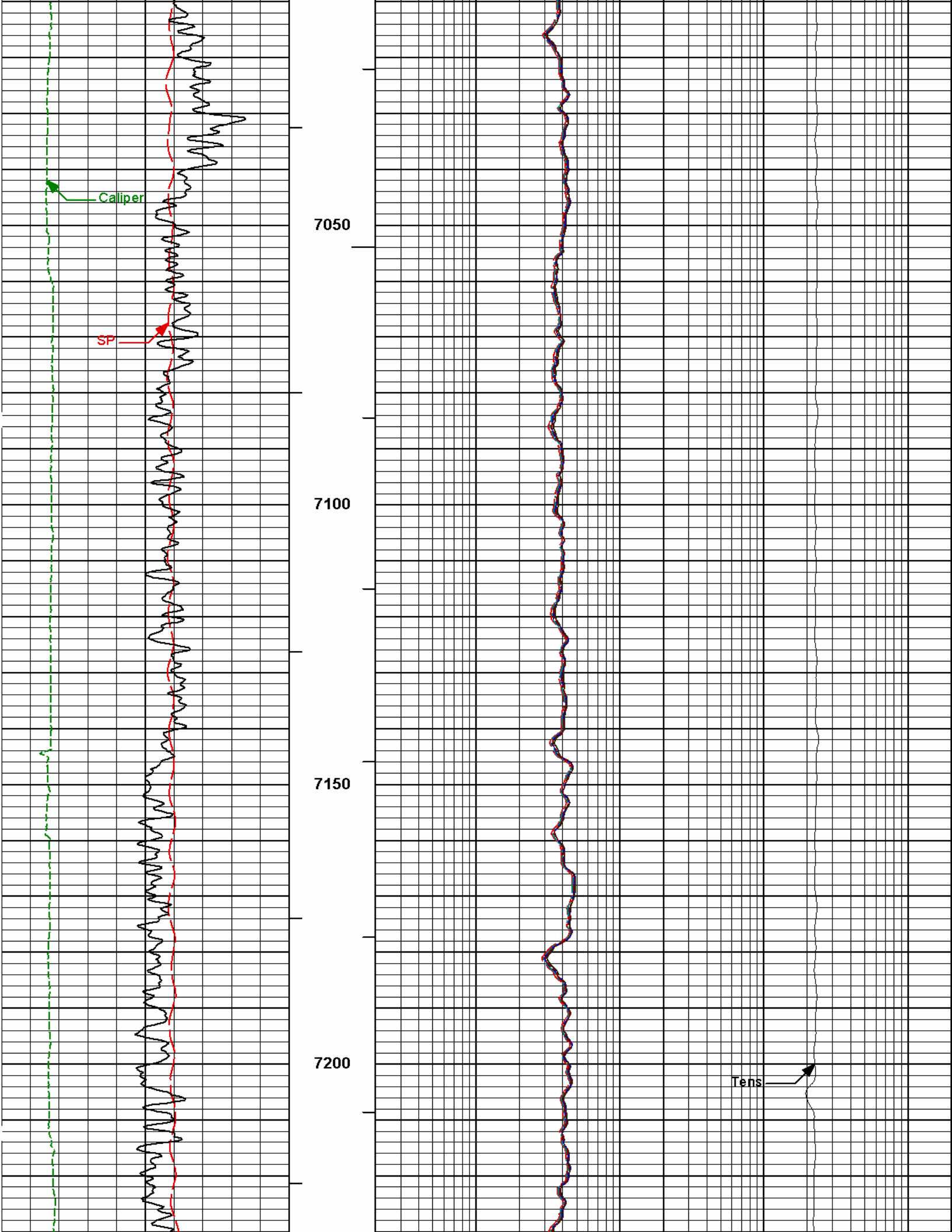


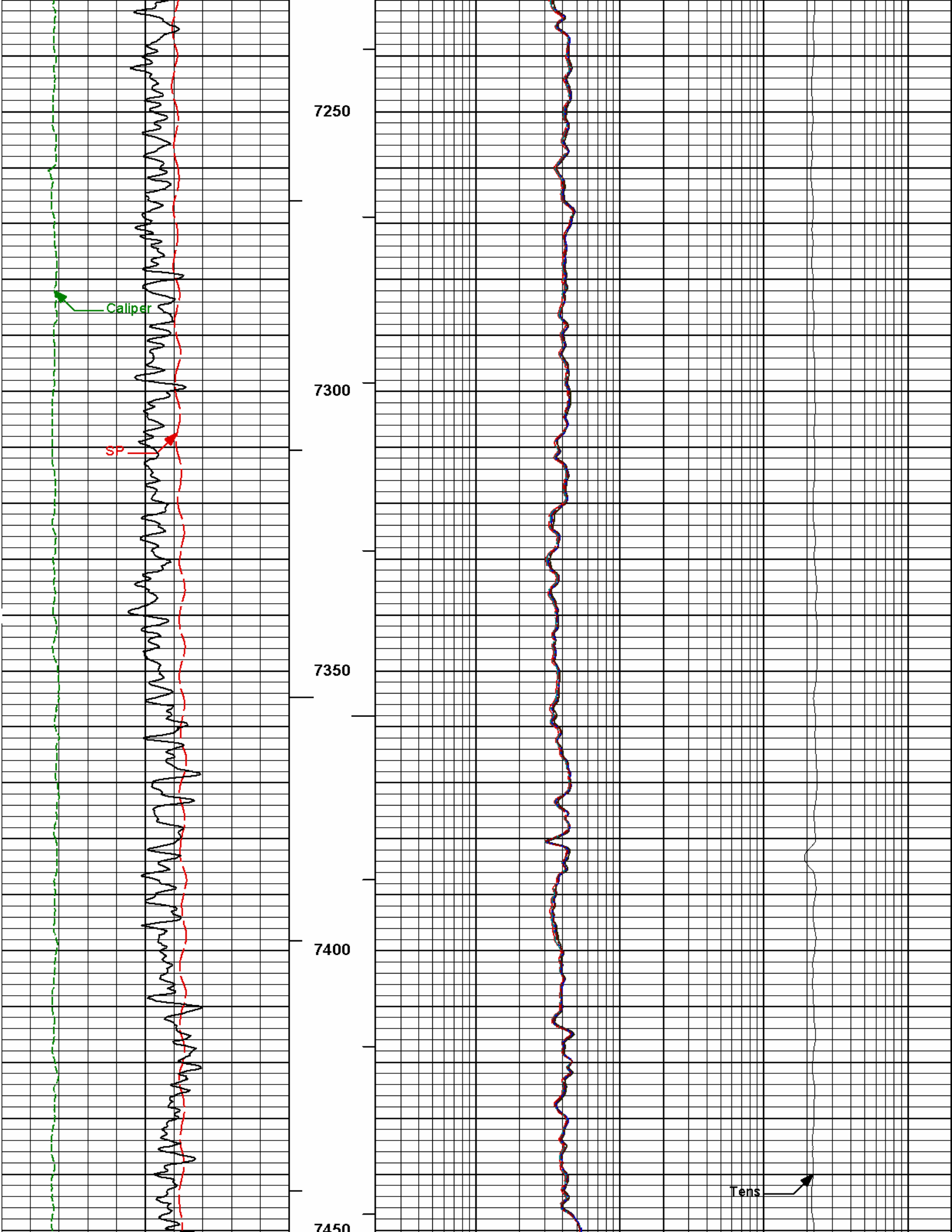


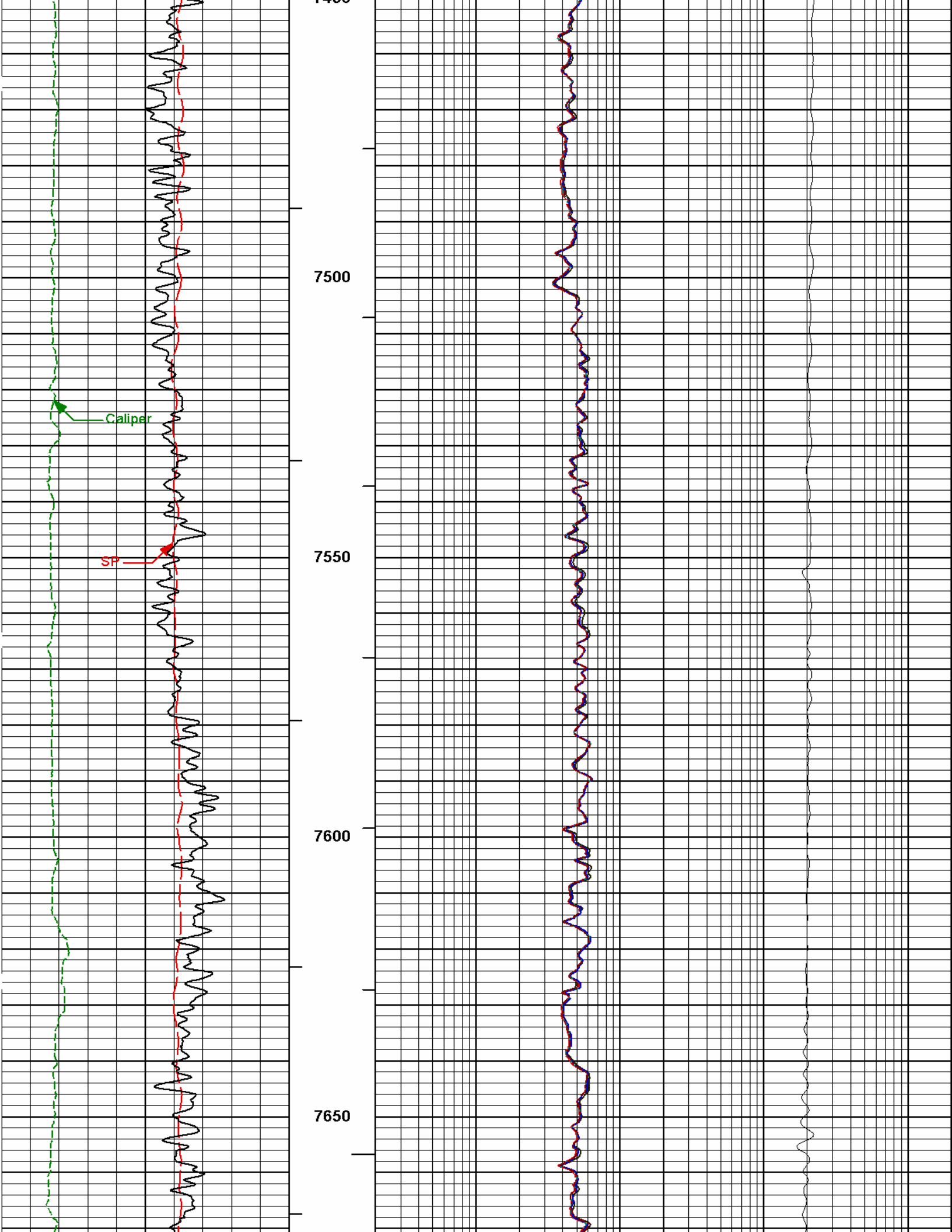


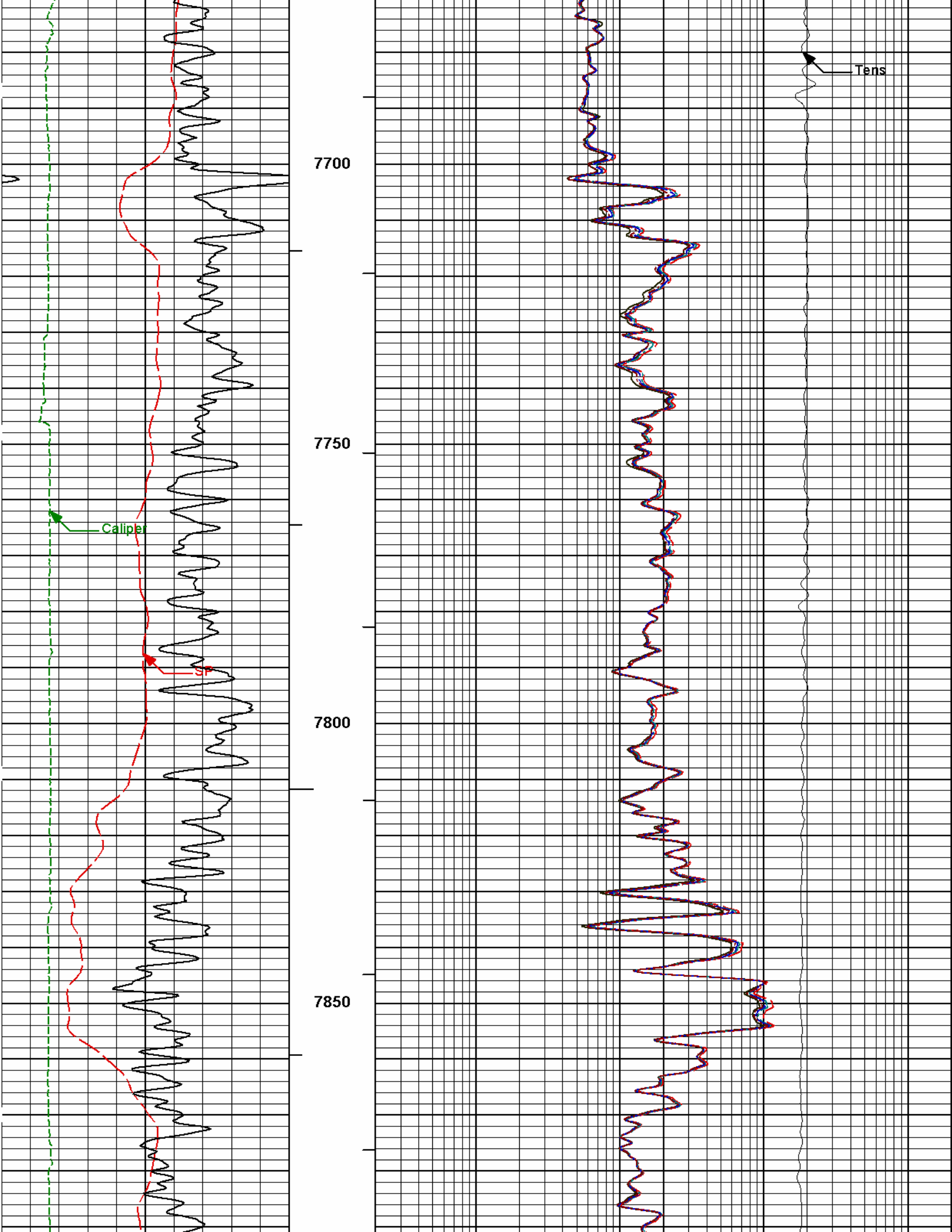


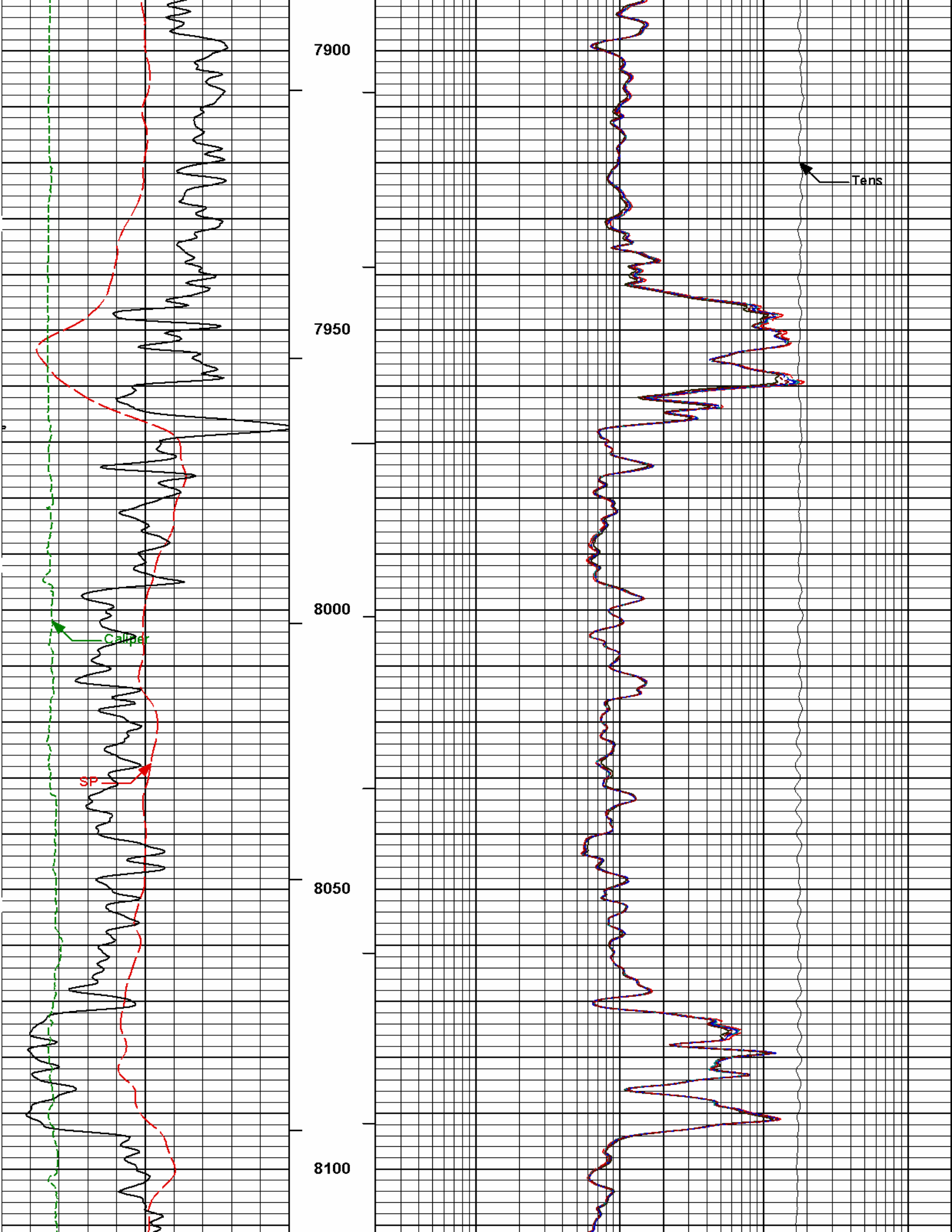


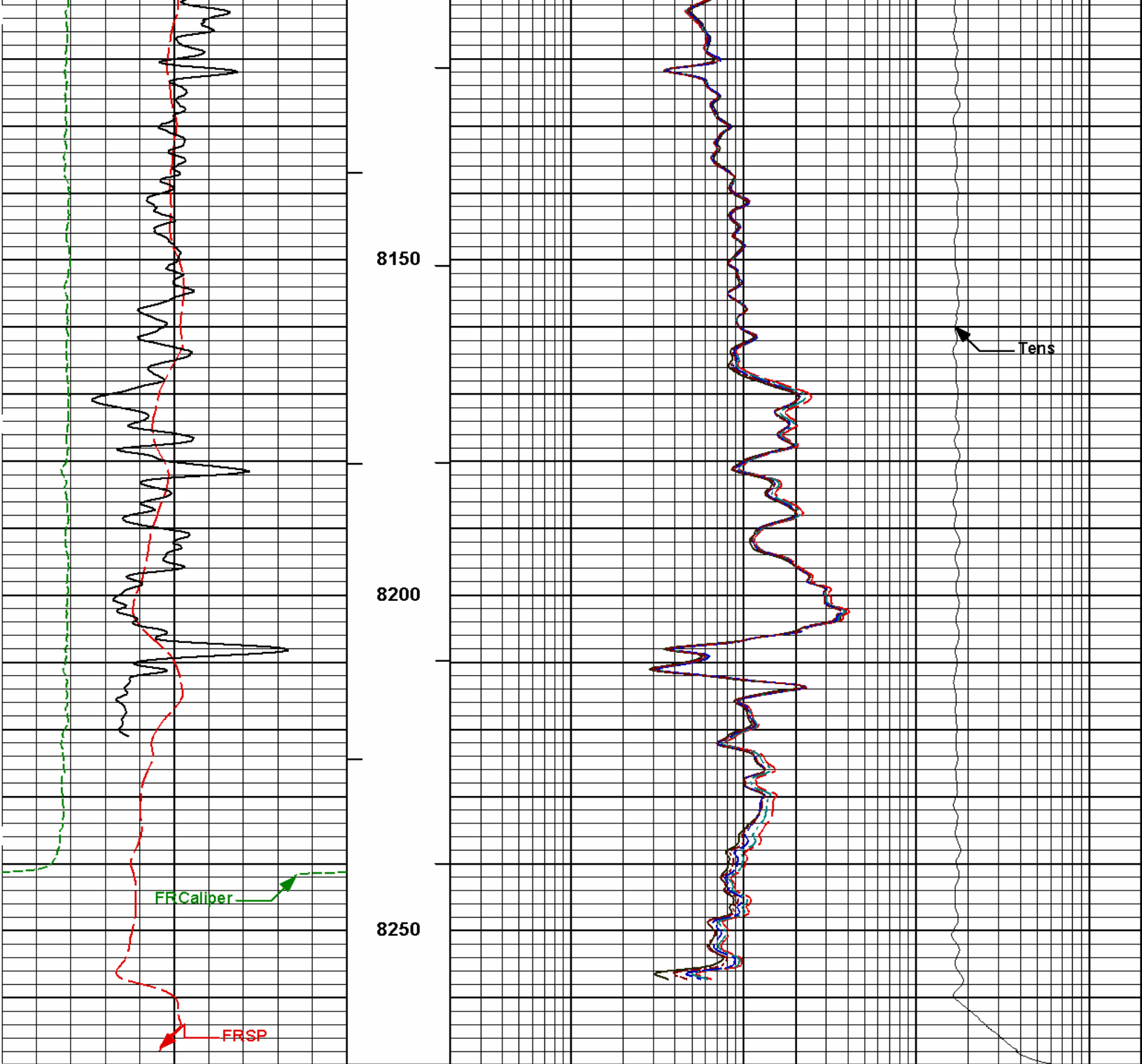












0	SP	100	1 : 240	10K	Tens	0
	millivolts				pounds	
0	Gamma API	200	BHVT	0.2	RT90	2K
	api				ohmm	
6	Caliper	16	AHVT	0.2	RT60	2K
	inches				ohmm	
				0.2	RT30	2K
					ohmm	
				0.2	RT20	2K
					ohmm	
				0.2	RT10	2K
					ohmm	

MAIN PASS 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
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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
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PASS/FAIL SUMMARY	
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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
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PASS/FAIL SUMMARY	
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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

		Previous Coeff.	New Coeff.	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					
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

Micro Log Normal	Micro Log Lateral
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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

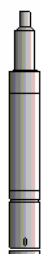
MICRO LOG FIELD CHECK			
Tool Name:	Microlog Pad - M335_P470_BLACK	Reference Calibration Date:	22-Feb-12 10:27:08
Engineer:	R. TWEETEN	Calibration Date:	27-Feb-12 05:59:52
Software Version:	WL INSITE R3.4.4 (Build 2)	Calibration Version:	1

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	decg
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 ANADARKOIDLE	Date: 27-Feb-12 11:56:33
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HALLIBURTON	
TOOL STRING DIAGRAM REPORT	

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-A094 135.00 lbs		Ø 3.625 in		Load Cell @ 56.84 ft BH Temperature @ 56.27 ft	6.25 ft	60.52 ft 54.27 ft

GTET-
11277436_BLACK
165.00 lbs

Ø 3.625 in →

8.52 ft

← GammaRay @ 48.21 ft

45.75 ft

DSNT-11812167
174.00 lbs

Ø 3.625 in →

9.69 ft

← DSN Far @ 38.82 ft
← DSN Near @ 38.07 ft

36.07 ft

SDLT-
M335_P470_BLACK
360.00 lbs
SDLT Pad-
M335_P470_BLACK
65.00 lbs
Microlog Pad-
M335_P470_BLACK
8.00 lbs

Ø 4.500 in →

Ø 4.750 in" →

Ø 4.750 in" →

10.81 ft

← Microlog @ 28.25 ft
← SDL Caliper @ 28.07 ft
← SDL @ 28.06 ft

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-
S4352_BLK
200.00 lbs

Ø 3.625 in →

14.22 ft

SP Ring-90199007_BLK
0.00 lbs

Ø 3.625 in" →

← SP @ 1.61 ft

Bull Nose-01
5.00 lbs

Ø 2.750 in →

0.33 ft

0.33 ft

					0.00 ft	
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
SDLP	Density Insite Pad	M335_P470_BLACK	65.00	2.55	*	27.46
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
RSOF	Regal Standoff 6.75in	01	20.00	0.52	*	13.24
BLNS	Bull Nose	01	5.00	0.33	0.00	300.00
Total			1,322.00	60.52		
* Not included in Total Length and Length Accumulation.						
Data: NG_STATE_19-36\0001 ANADARKO\IDLE					Date: 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			