

HALLIBURTON

ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY				BAYHORSE PETROLEUM, LLC			
WELL				TRES HOMBRES 1-22			
FIELD/BLOCK				LEFT HAND			
COUNTY				KIOWA			
STATE				CO			
Permanent Datum		GL		Location		Other Services:	
Log measured from		KB		SURFACE HOLE LOCATION:		RWCH	
Drilling measured from		KB		1738' FNL & 987' FWL		BSAT	
				LATITUDE: 38.479180		MEL	
				LONGITUDE: -102.671940		DSNT	
				Sect. 22		SDLT	
				Twp. 18S			
				Rge. 47W			
Date		22-Mar-15		Elev. 4129.0 ft		Elev.: K.B.	
Run No.		ONE				D.F.	
Depth - Driller		4497.00 ft				4140.0 ft	
Depth - Logger		4497.0 ft				4140.0 ft	
Bottom - Logged Interval		4497.0 ft				4129.0 ft	
Top - Logged Interval		75.0 ft					
Casing - Driller		8.625 in		@ 436.0 ft		@	
Casing - Logger		436.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		Water Based Mud					
Density		9.2 ppg					
PH		9.50 pH		7.6 cptom			
Source of Sample		MUD TANK					
Rm @ Meas. Temperature		0.898 ohmm		@ 68.60 degF		@	
Rmf @ Meas. Temperature		1.45 ohmm		@ 67.00 degF		@	
Rmc @ Meas. Temperature		1.450 ohmm		@ 67.10 degF		@	
Source Rmf		Rmc		MEASURED			
Rm @ BHT		0.49 ohmm		@ 131.0 degF		@	
Time Since Circulation		4.0 hr					
Time on Bottom		22-Mar-15 11:02:20.000					
Max. Rec. Temperature		131.0 degF		@ 4497.0 ft		@	
Equipment		Location		11871076		GJ CO	
Recorded By		P. DIMPLE					
Witnessed By		J. KLIJESSEN					

Service Ticket No.: 902244334				API Serial No.: 05061068940000				PGM Version: WL INSITE R4.6.0 (Build 4)							
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		CENT		N/A	
Rmc @ Meas. Temp.		@		@				I: 11585787							
Source Rmf		Rmc						S: 11585797							
Rm @ BHT		@		@		ONE		MICROLOG		MICRO		PAD		N/A	
Rmf @ BHT		@		@				10951300							
Rmc @ BHT		@		@											
EQUIPMENT DATA															
GAMMA				ACOUSTIC				DENSITY				NEUTRON			
Run No.		ONE		Run No.		ONE		Run No.		ONE		Run No.		ONE	
Serial No.		11958949		Serial No.		10930054		Serial No.		10865876		Serial No.		10993888	
Model No.		GTET		Model No.		BSAT-I		Model No.		SDLT-I		Model No.		DSNT-I	
Diameter		3.625"		No. of Cent.		2		Diameter		4.5"		Diameter		3.625"	
Detector Model No.		GTET		Spacing		0.5'		Log Type		GAMMA-GAMMA		Log Type		NEU-THERM	
Type		SCINT						Source Type		Cs137		Source Type		Am241Be	
Length		8"		LSA [Y/N]		N		Serial No.		5153GW		Serial No.		DSN-388	
Distance to Source		9'		FWDA [Y/N]		N		Strength		1.5 Ci		Strength		15 Ci	
LOGGING DATA															

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON			
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	4497	436	REC	0 API	200 API	30 %	-10 %	47.5 us/ft	30 %	-10 %	2.71 g/cc	30 %	-10 %	LIME
ONE	436	75	REC											
DIRECTIONAL INFORMATION														
Maximum Deviation @								KOP @						
Remarks: RUN ONE: RWCH/GTET/DSNT/SDLT/FLEX/BSAT/ACRT/BN														
BORHOLE RUGOSITY, TENSION PULLS, LCM ADDITIVE, AND WASHOUTS MAY EFFECT LOG QUALITY AND REPEATABILITY														
CHLORIDES REPORTED TO BE 1800 ppm														
ANNULAR HOLE VOLUME CALCULATED USING 4.5-INCH CASING.														
YOU CREW TODAY: J. VIGIL, B. CALDWELL, A. KOBE RIG: H2 1														
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES, GRAND JUNCTION, CO (970) 523-3600														
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.														
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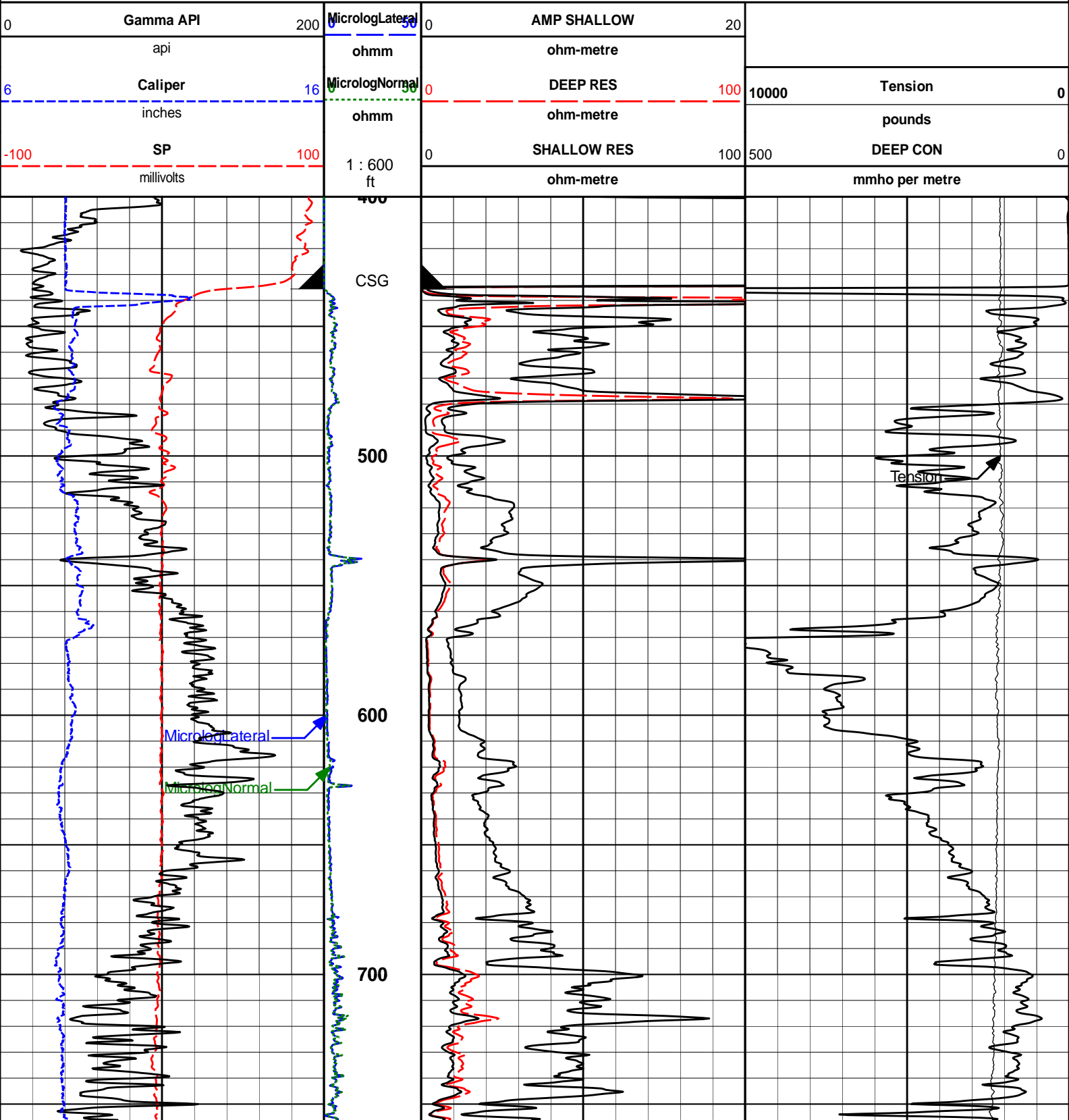
PARAMETERS REPORT

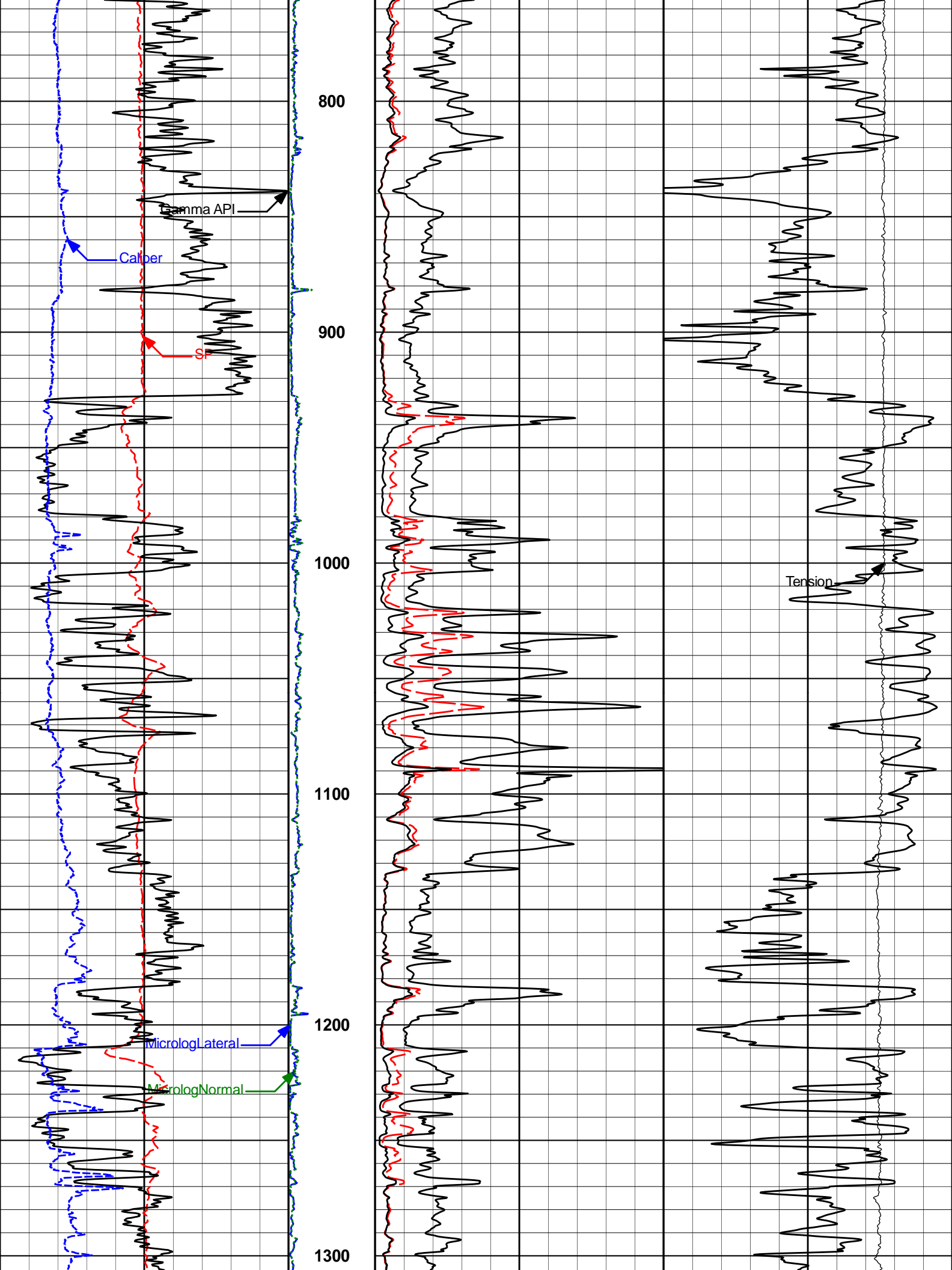
Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.200	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	2400.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	0.898	ohmm
	SHARED	TRM	Temperature of Mud	68.6	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	4.500	in
	SHARED	ST	Surface Temperature	60.0	degF
	SHARED	TD	Total Well Depth	4497.00	ft
	SHARED	BHT	Bottom Hole Temperature	150.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	

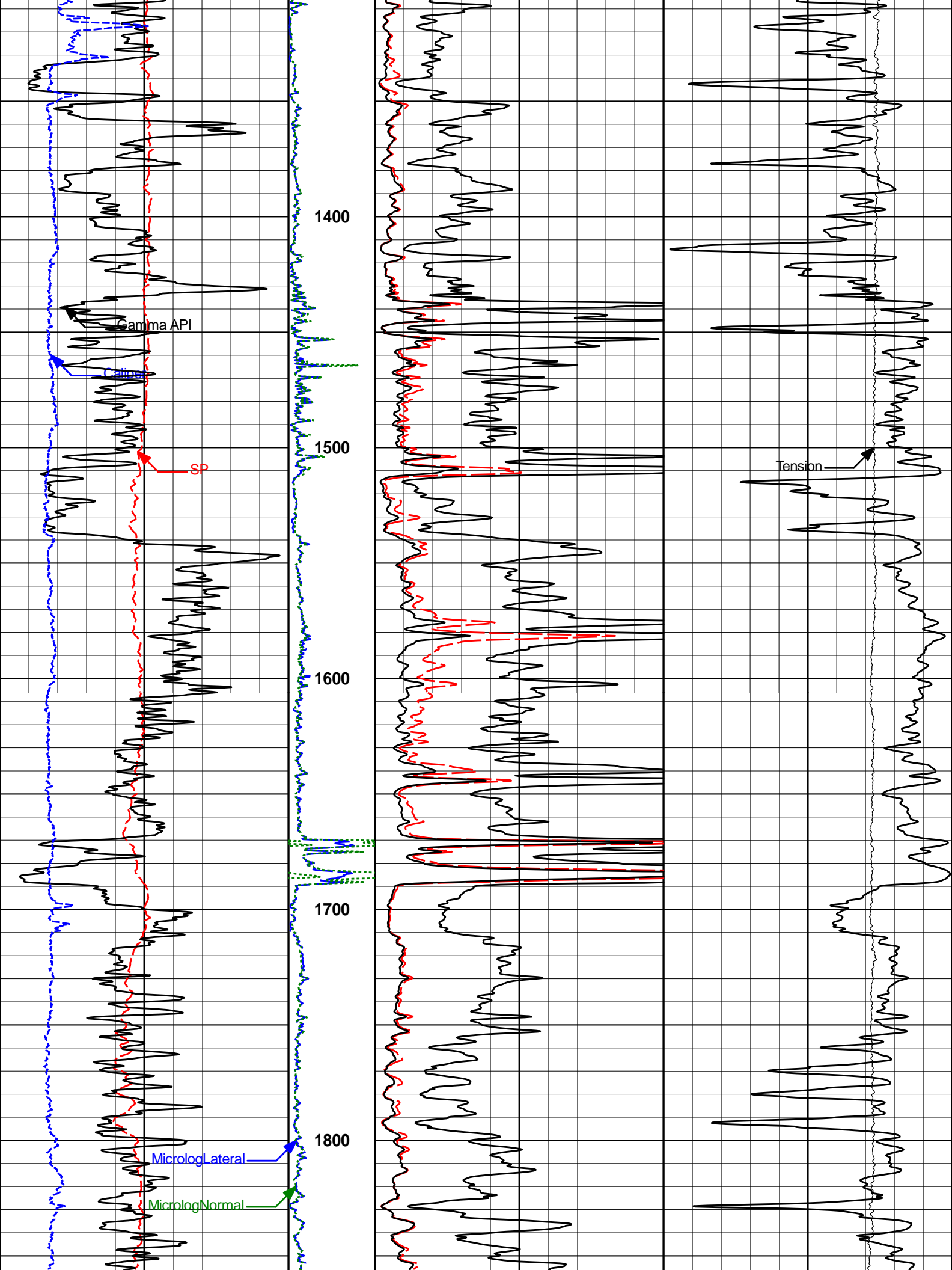
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
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	
GTET	BHSM	Borehole Size Source Tool	SDLT	
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	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
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
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
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	Limestone 47.5	
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	Centered	
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
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	

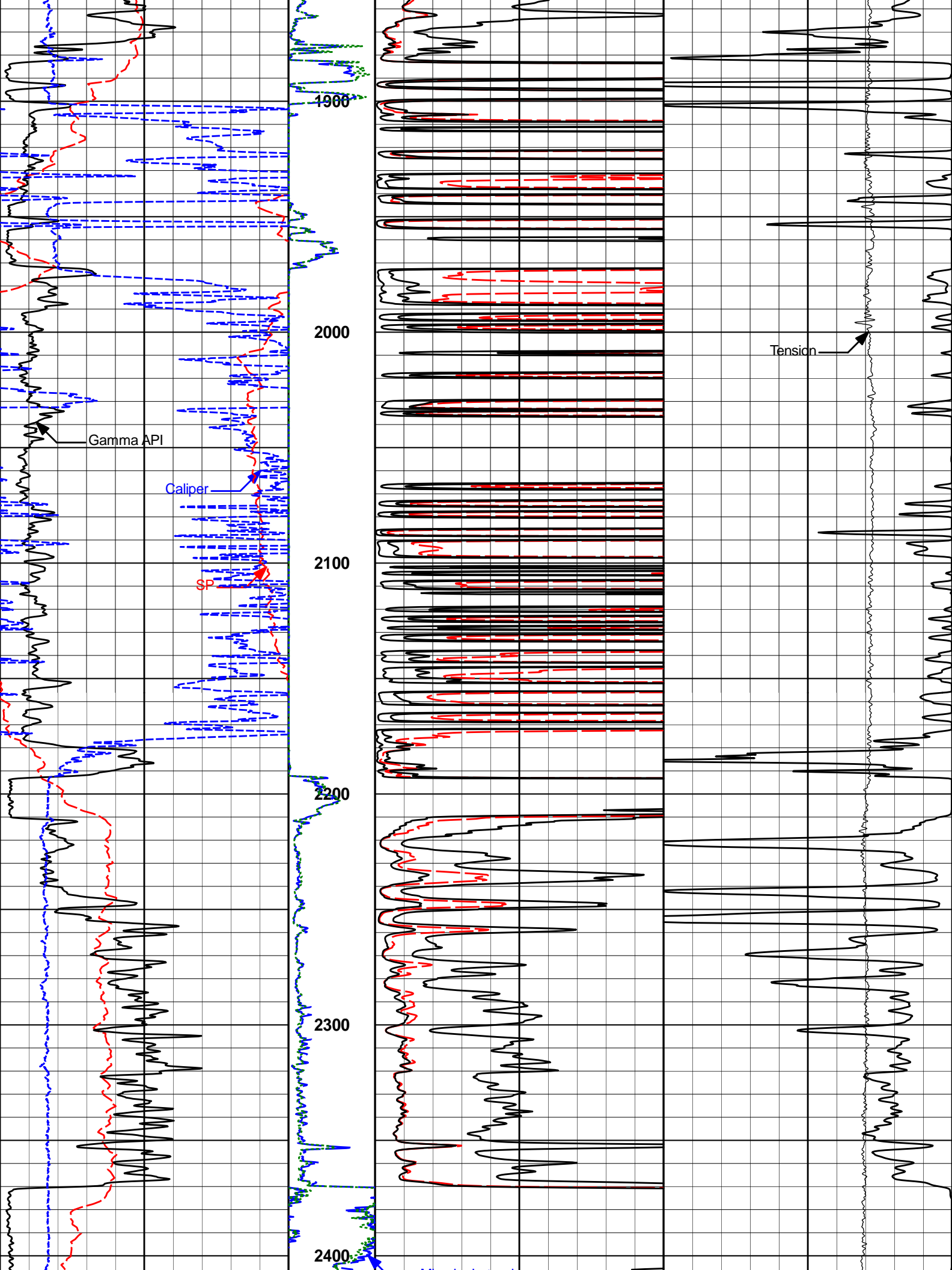
BOTTOM

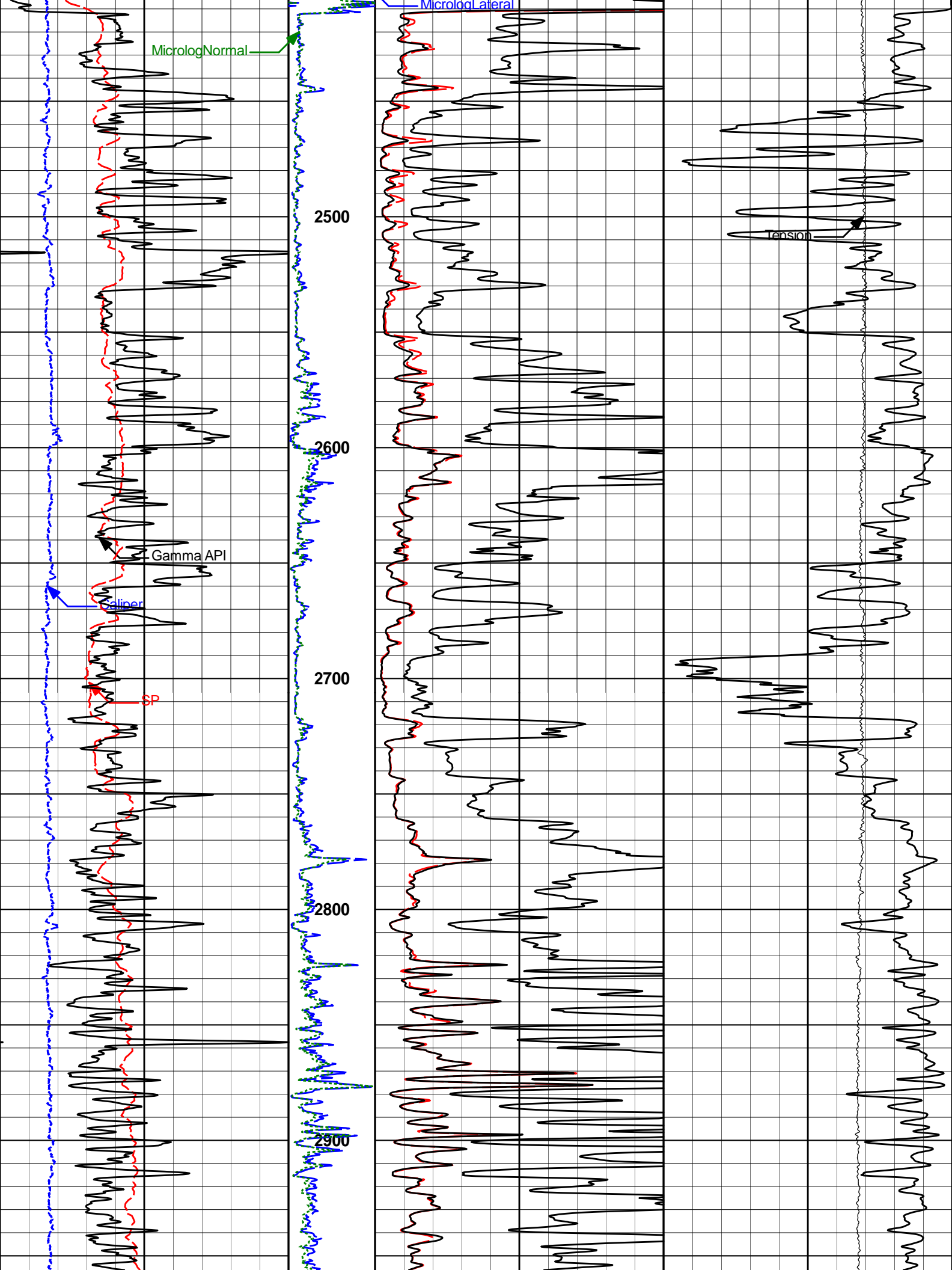
MAIN PASS 2" = 100'

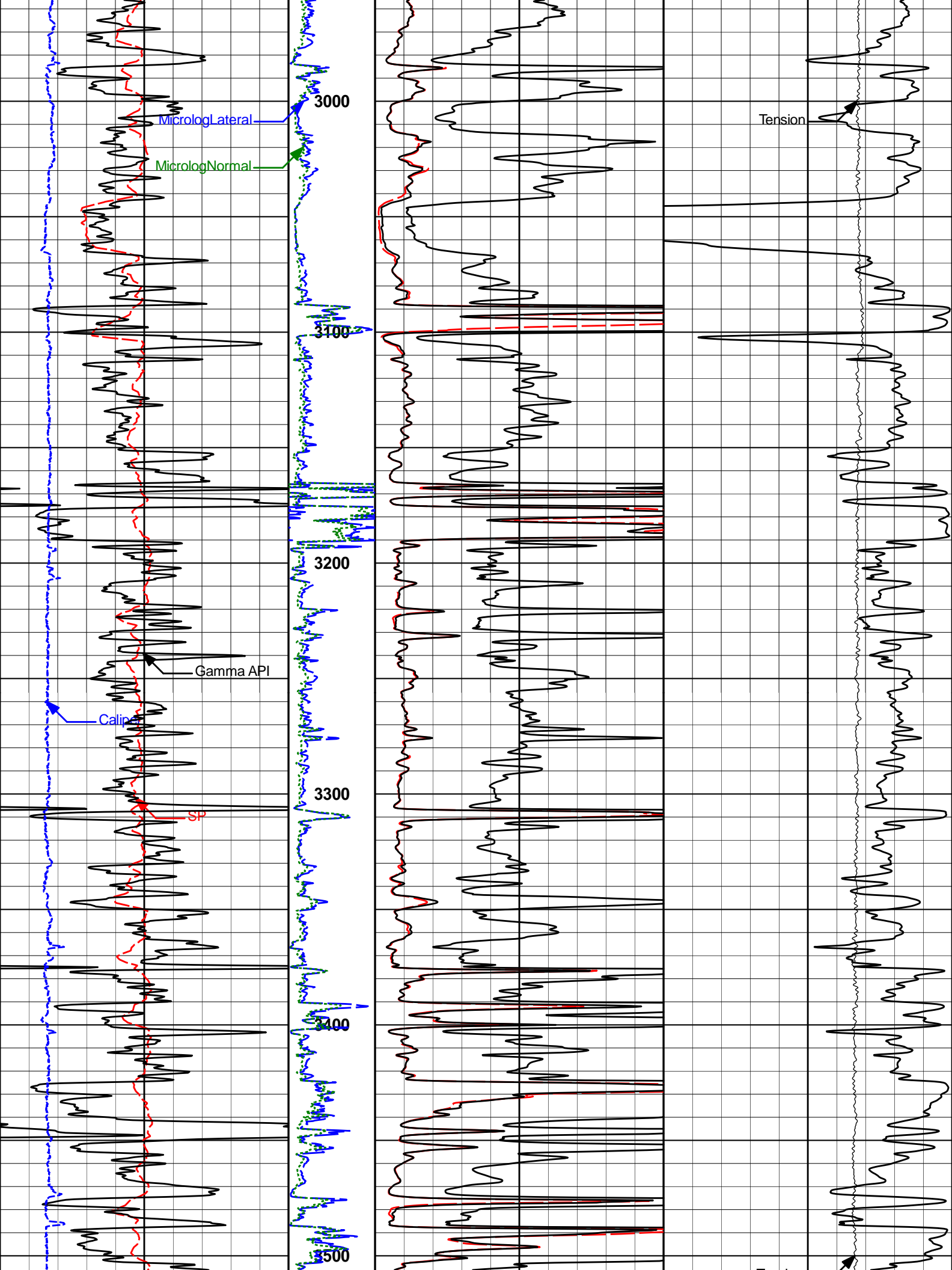


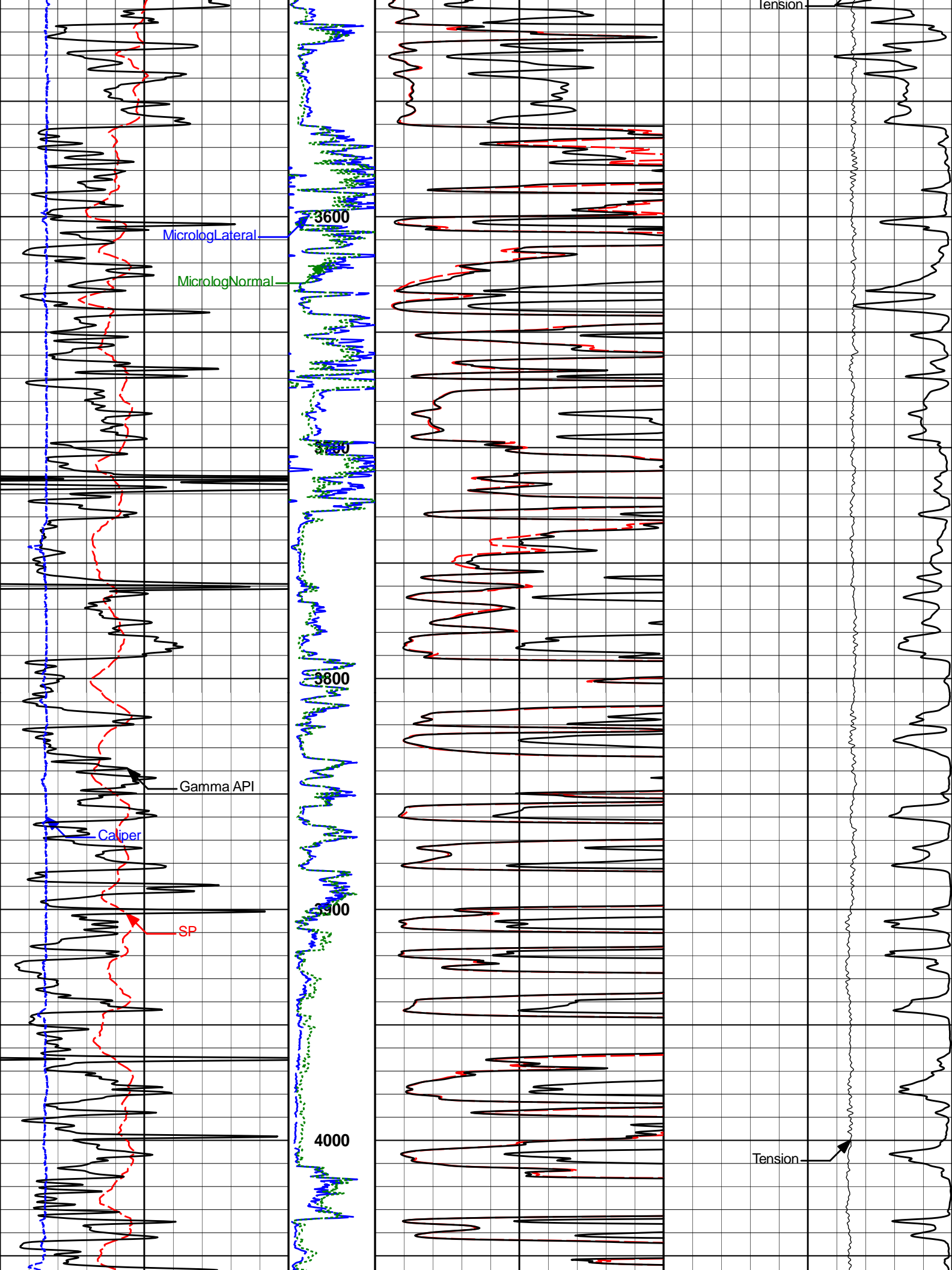


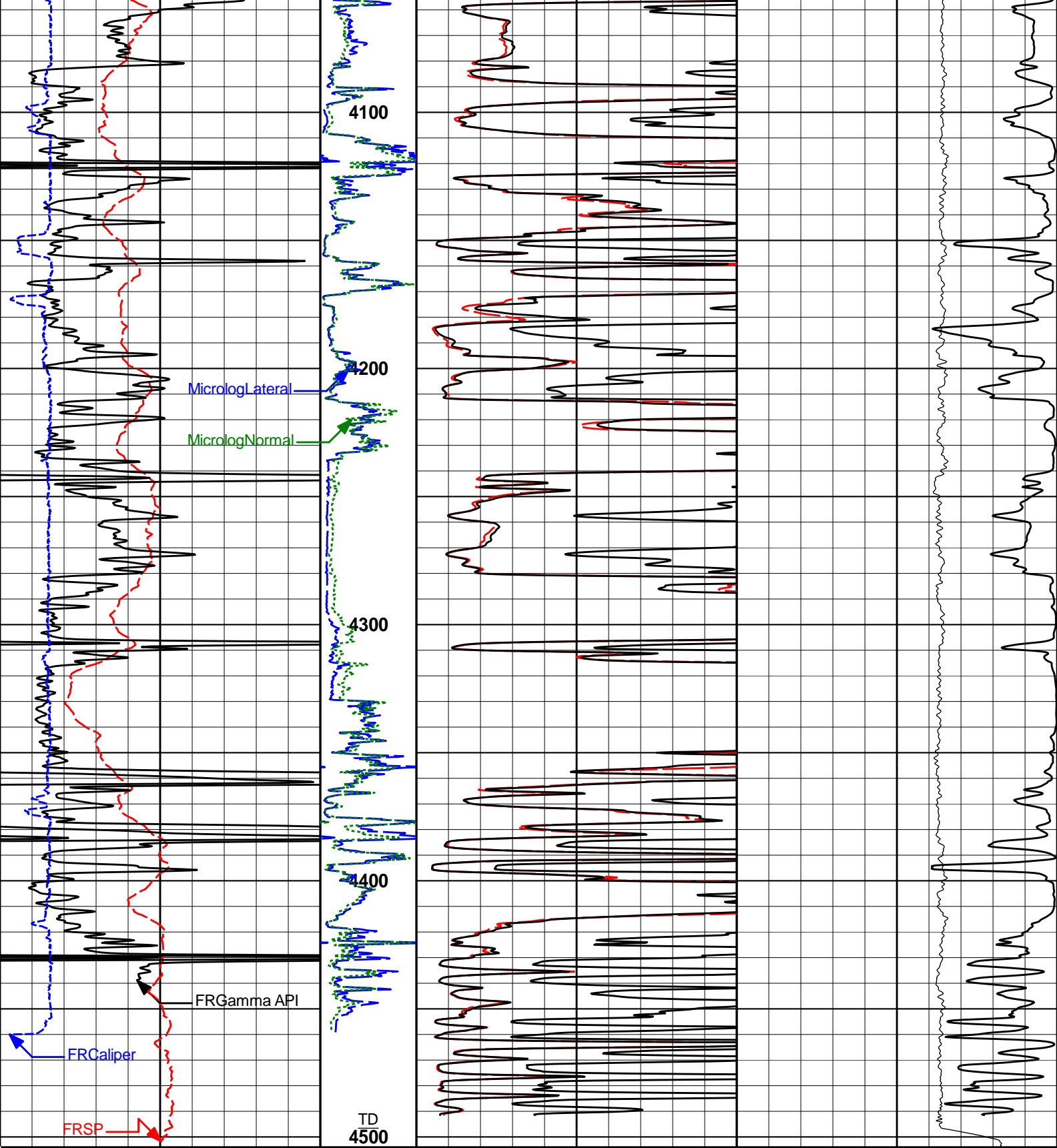












<div><div>-100</div><div>SP</div><div>100</div></div>		1 : 600 ft	<div><div>0</div><div>SHALLOW RES</div><div>100</div></div>		<div><div>500</div><div>DEEP CON</div><div>0</div></div>	
millivolts			ohm-metre		mmho per metre	
<div><div>6</div><div>Caliper</div><div>16</div></div>	MicrologNormal	ohmm	<div><div>0</div><div>DEEP RES</div><div>100</div></div>	10000	Tension	0
inches			ohm-metre		pounds	
<div><div>0</div><div>Gamma API</div><div>200</div></div>	MicrologLateral	ohmm	<div><div>0</div><div>AMP SHALLOW</div><div>20</div></div>			
api			ohm-metre			

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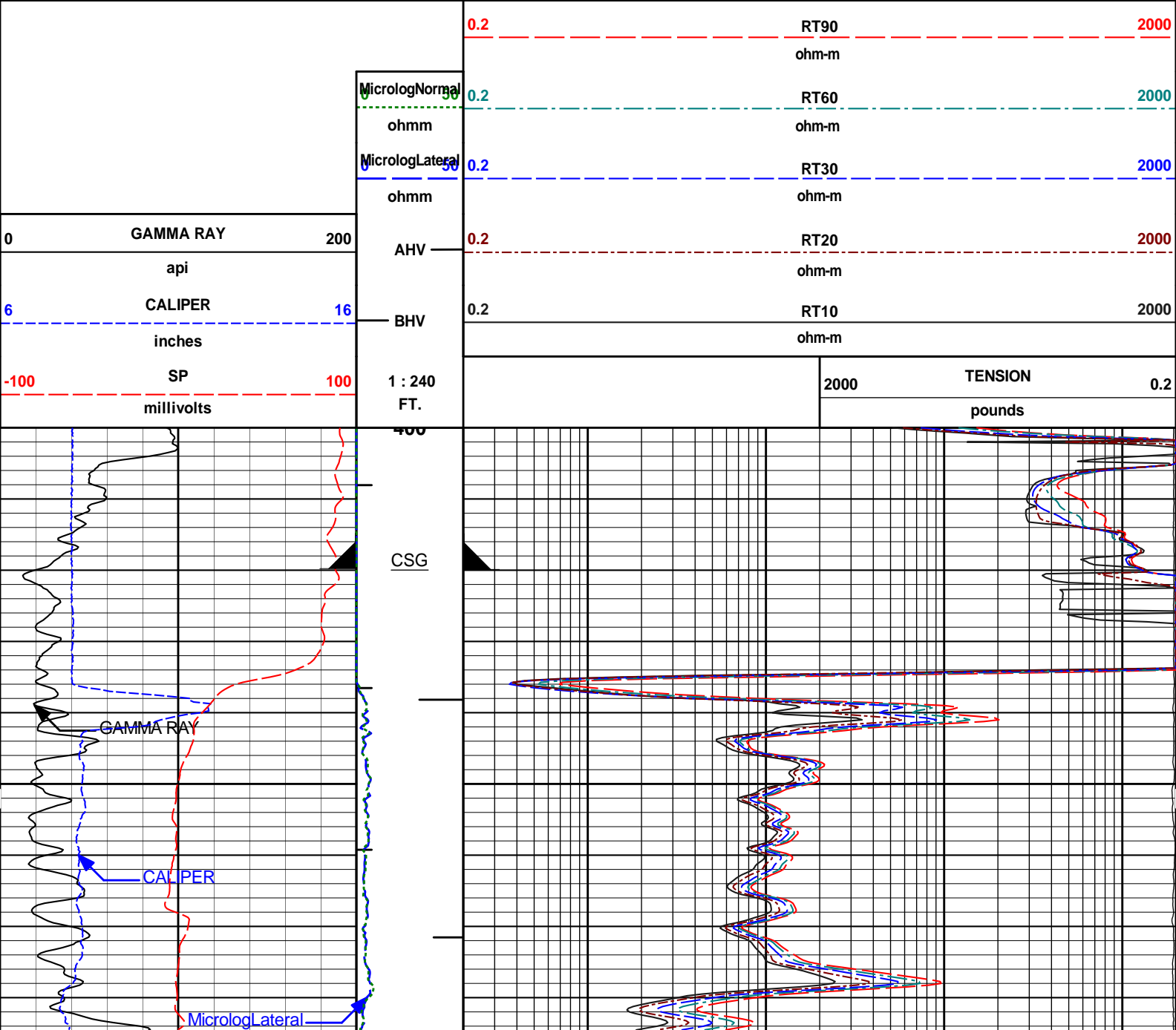
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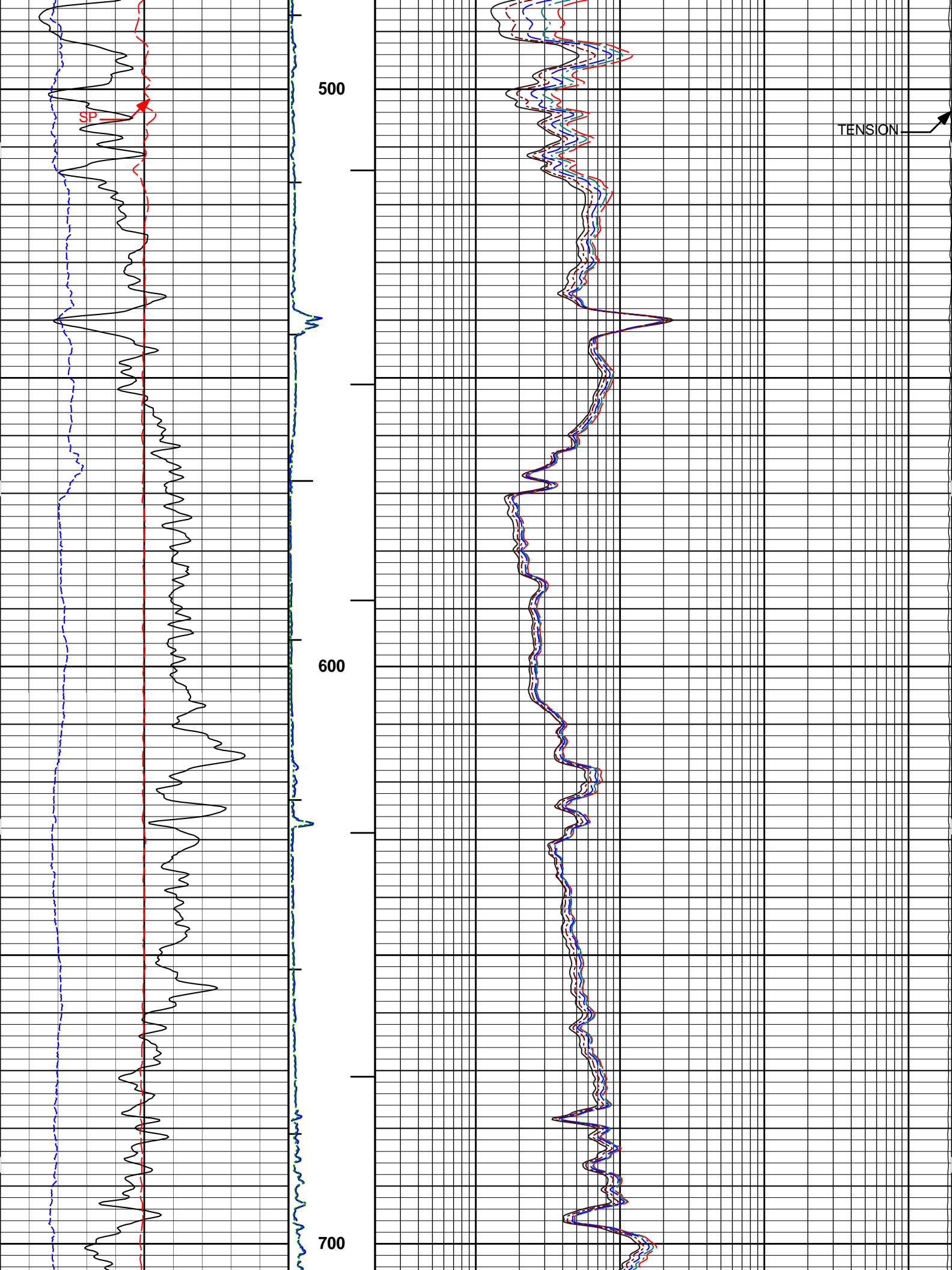
MAIN PASS 2" = 100'

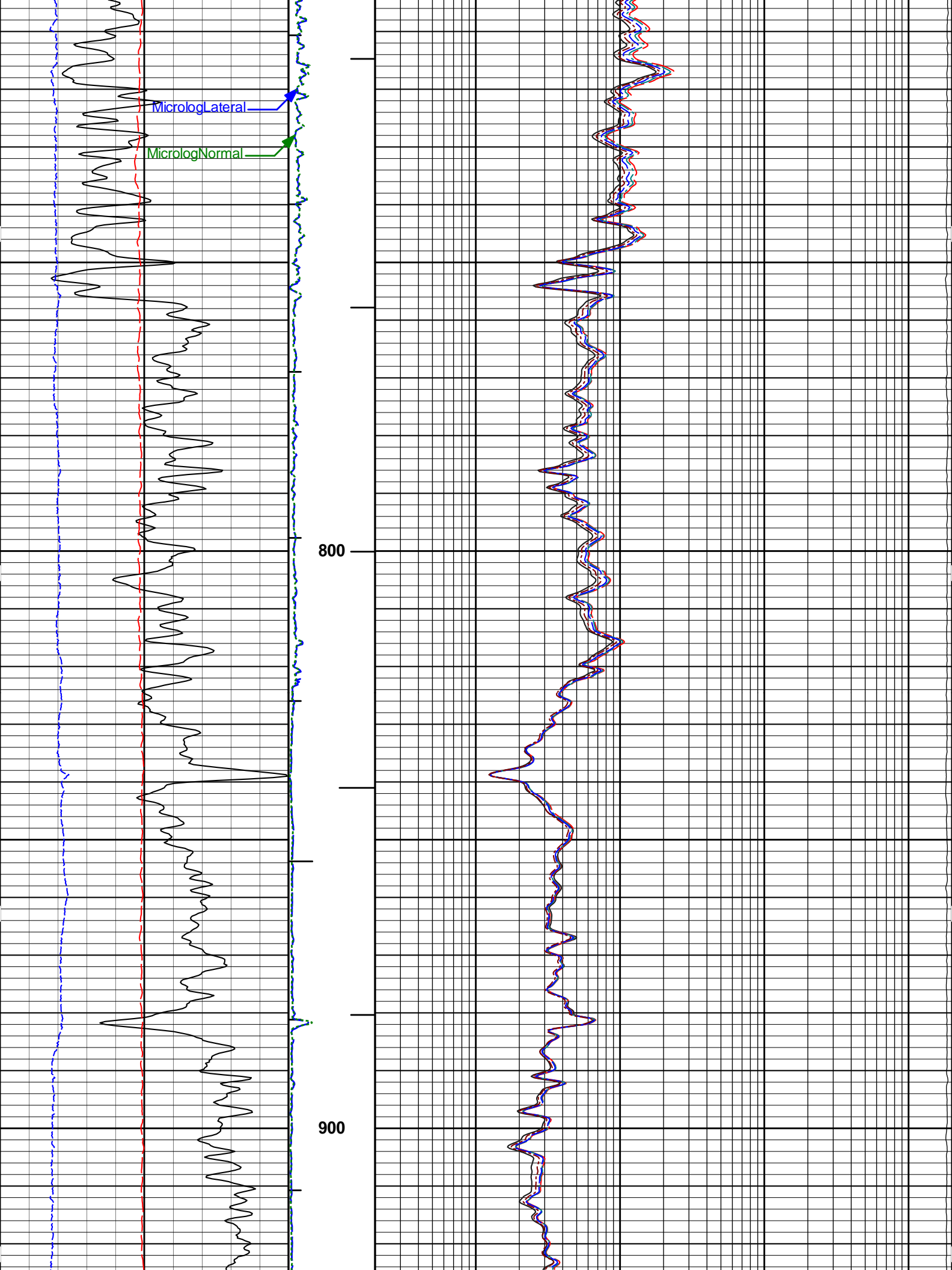
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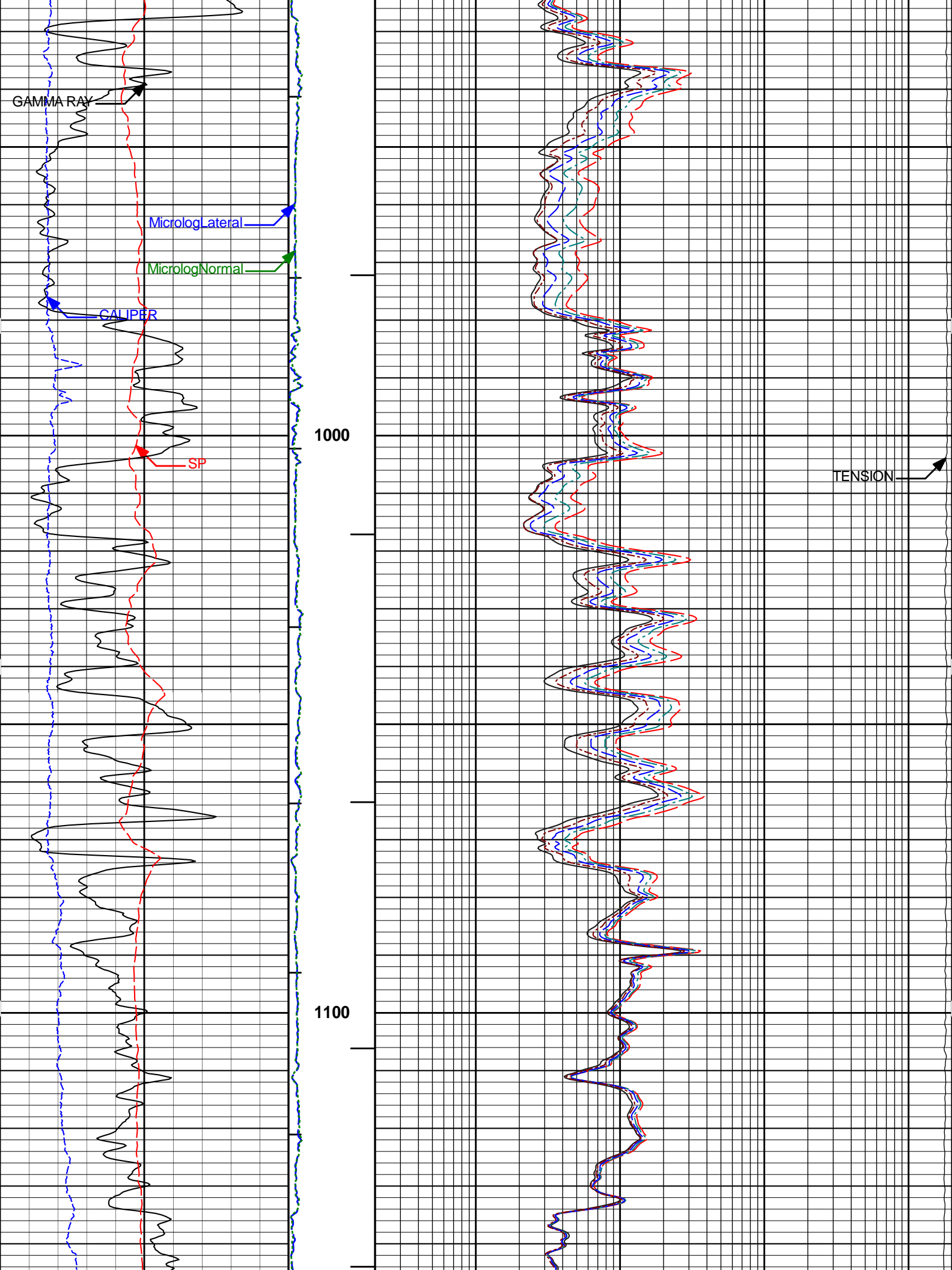
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 Plot File: \\ACRT_ACRT_M

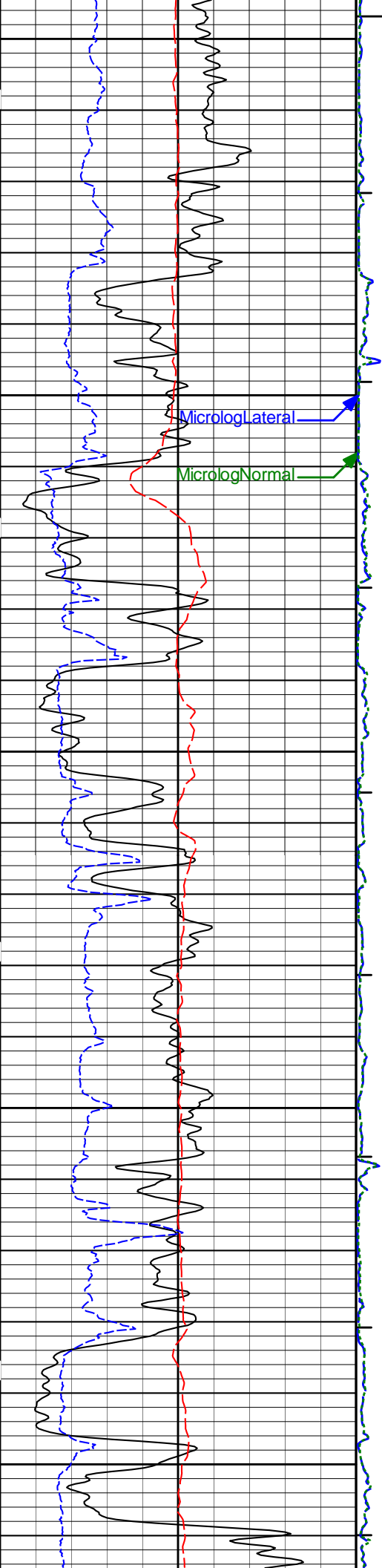
MAIN PASS 5" = 100'





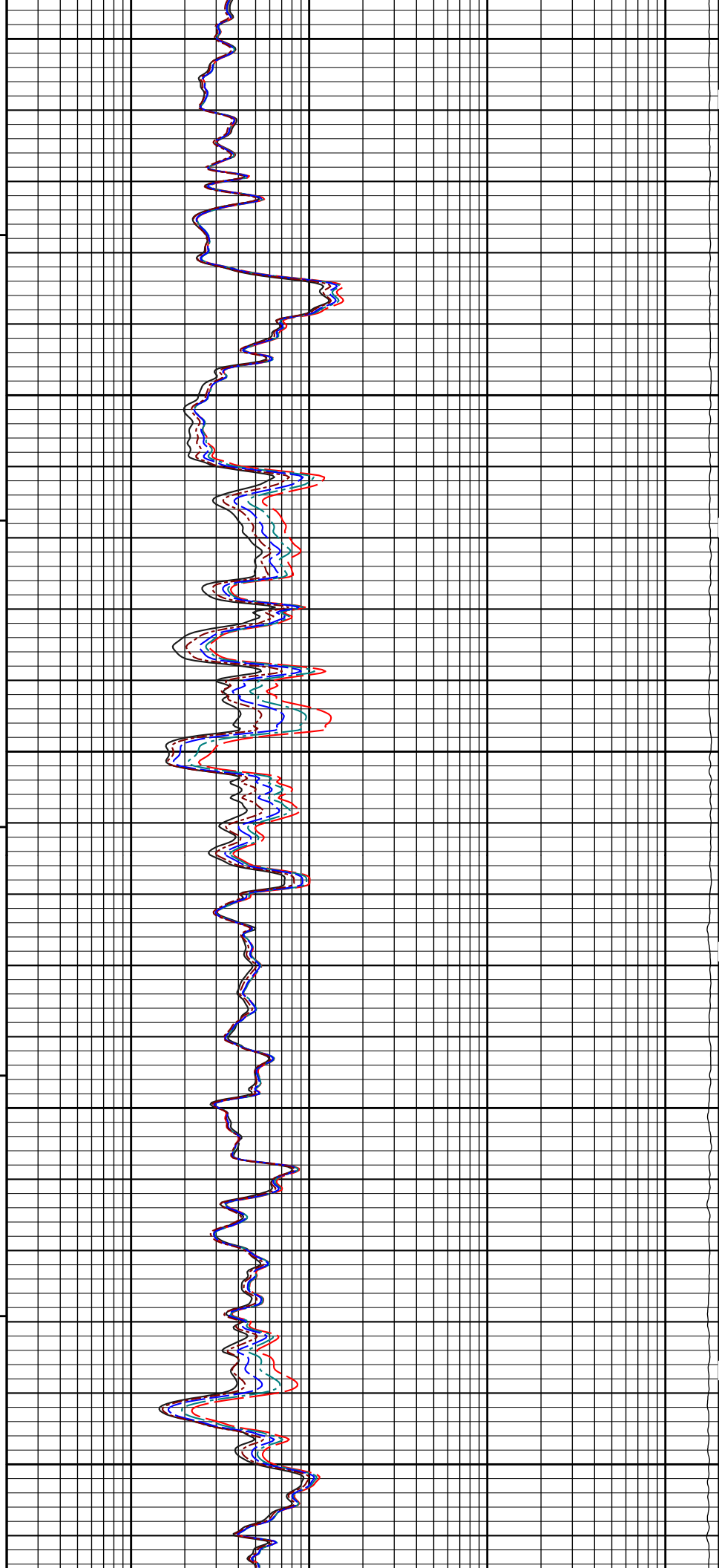


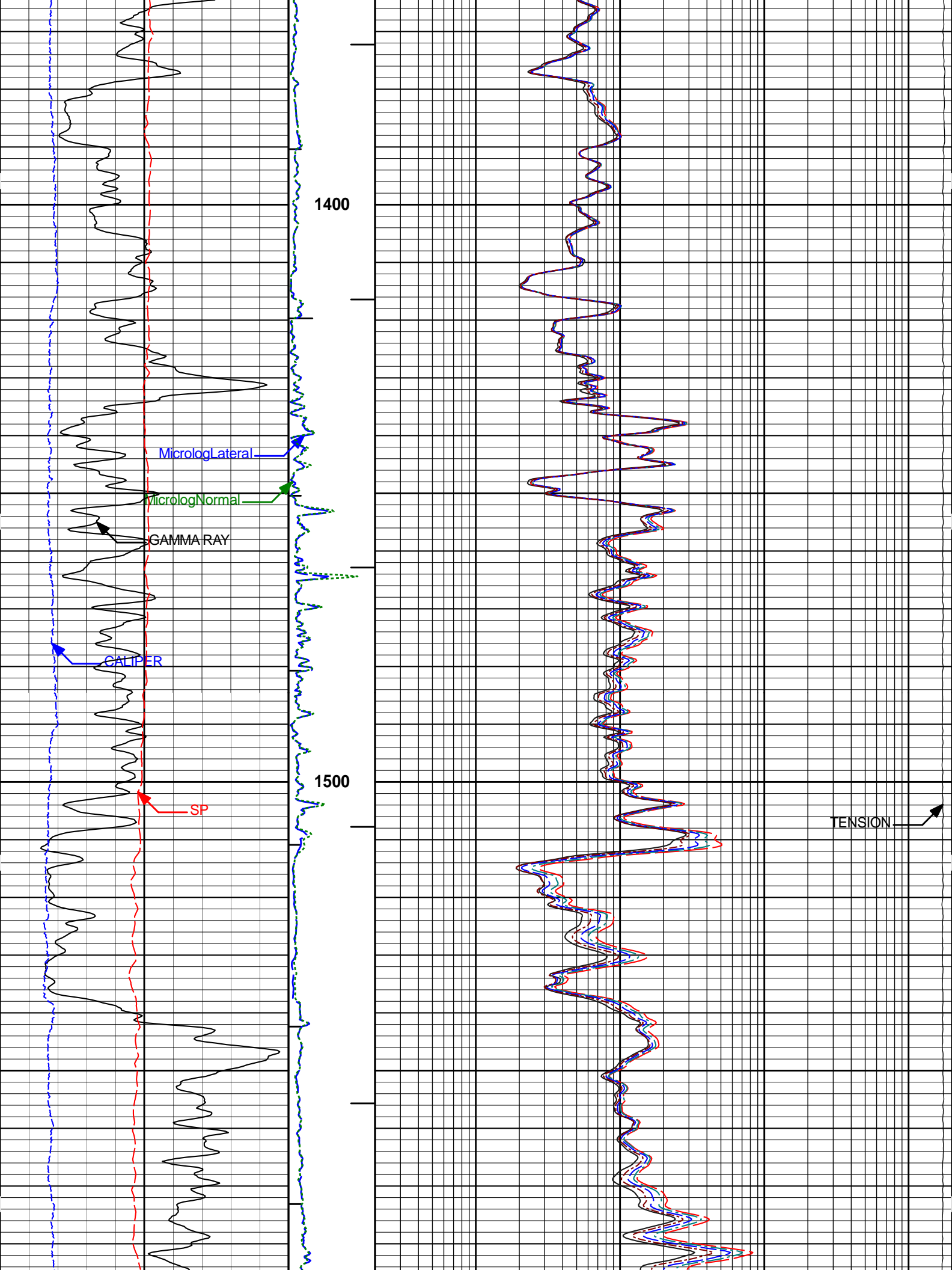


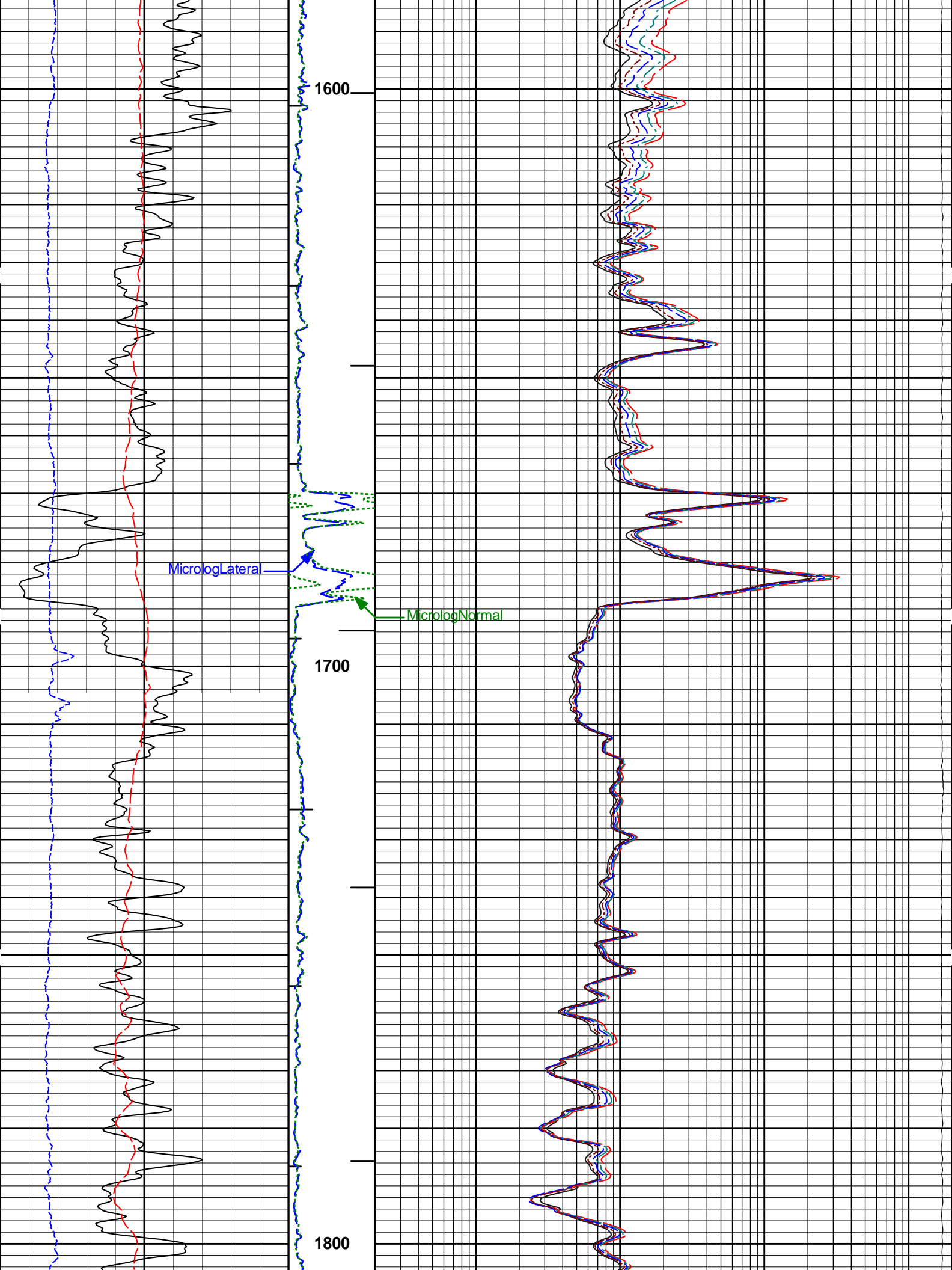


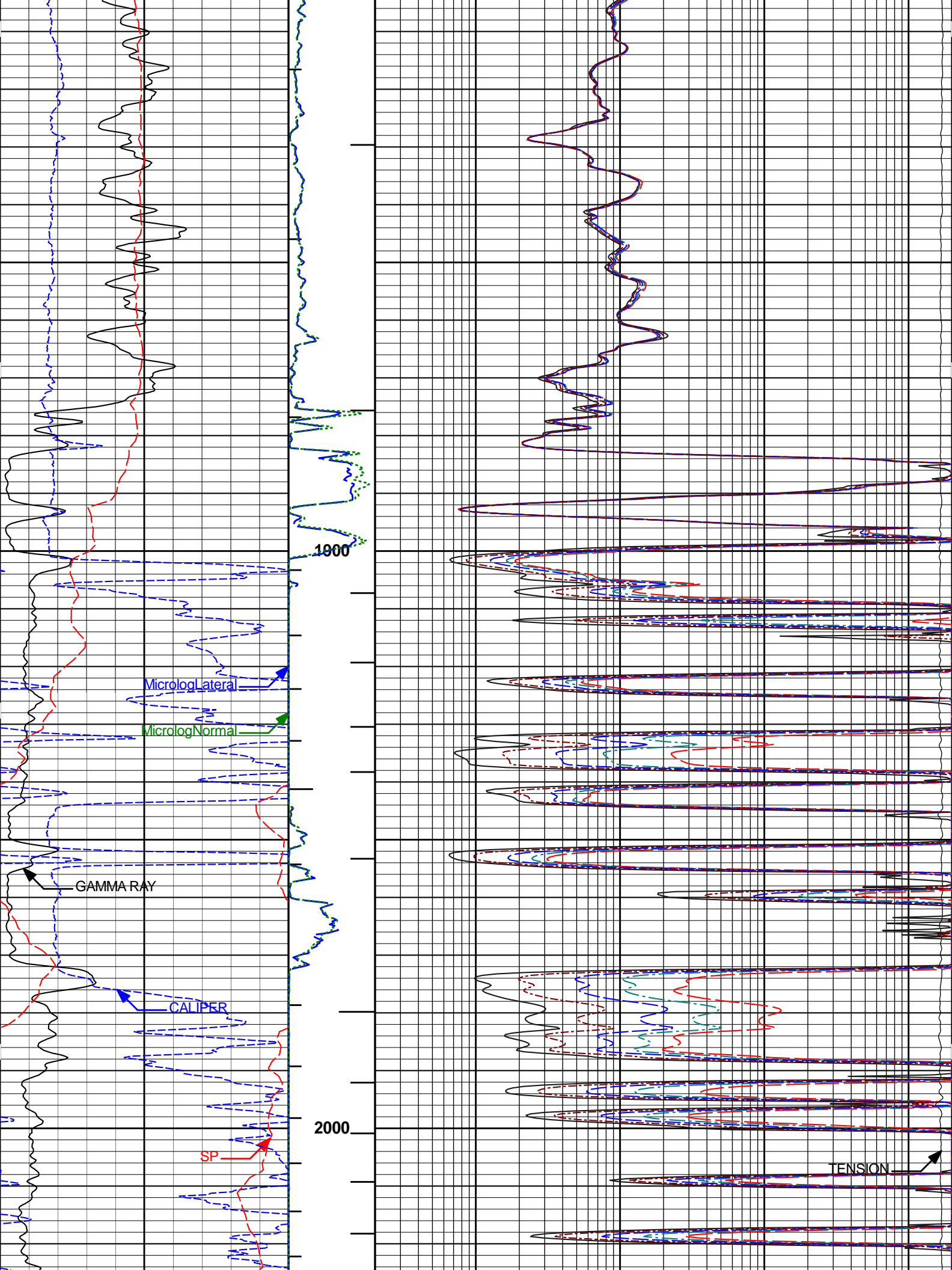
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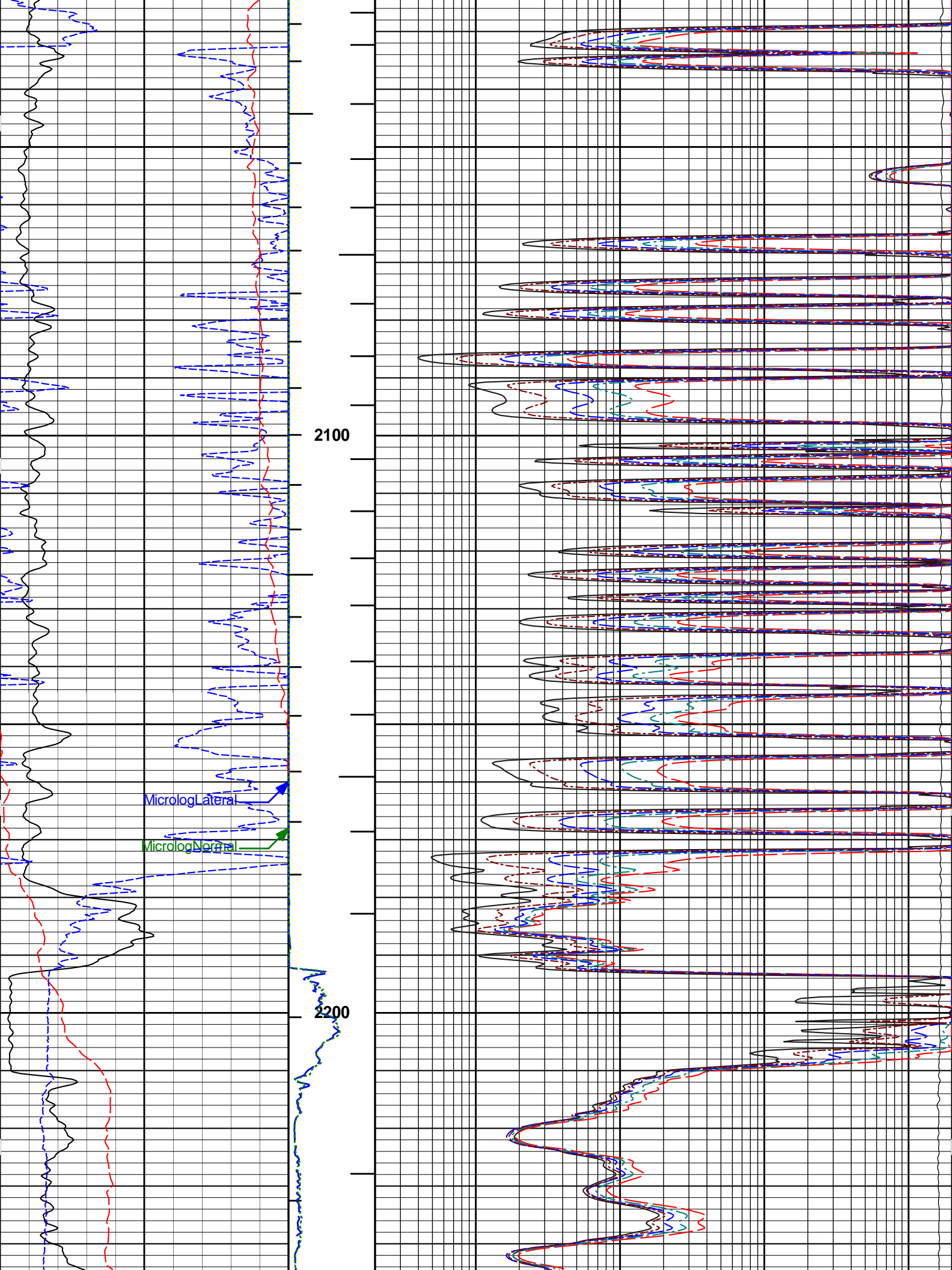
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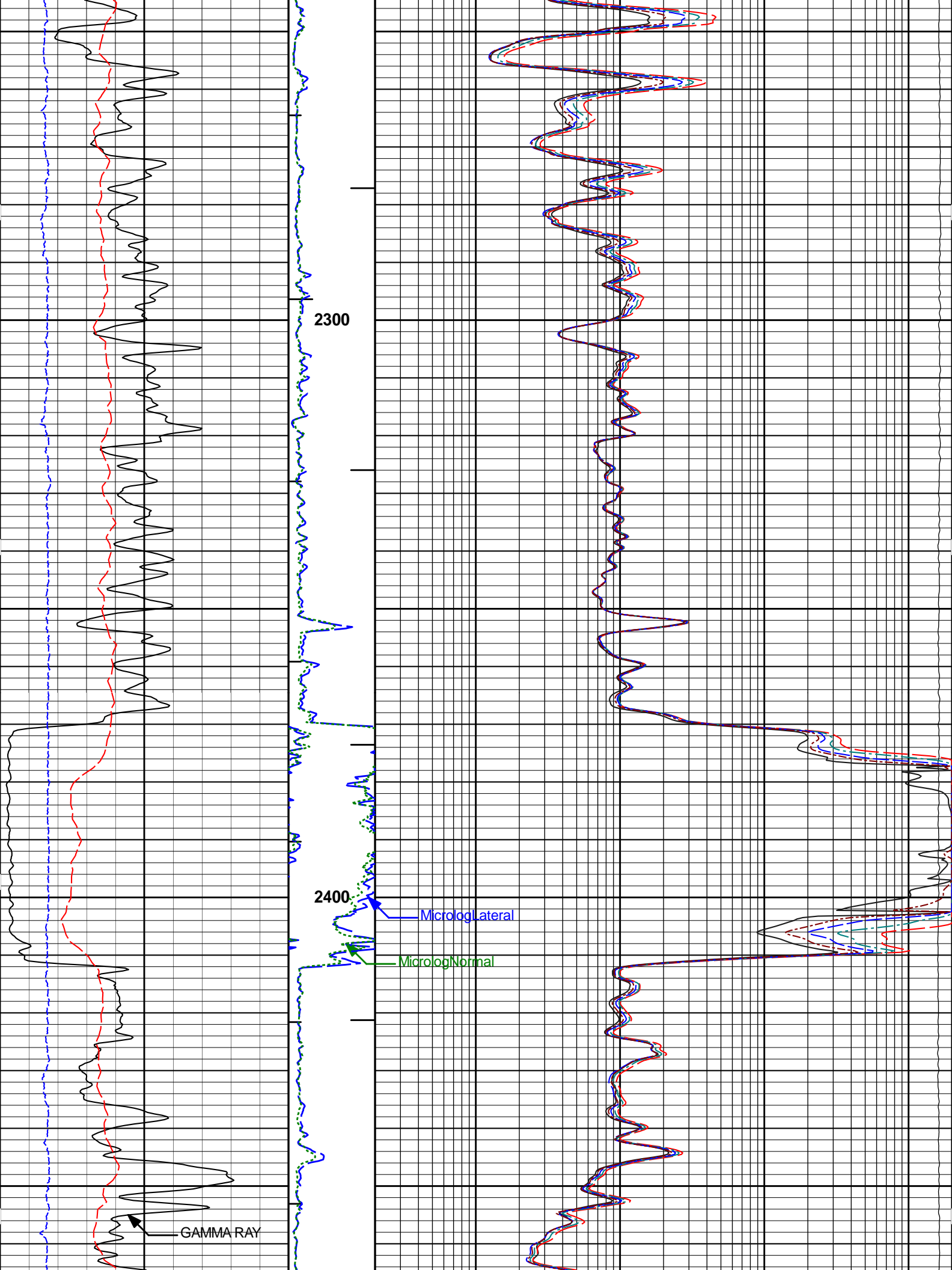


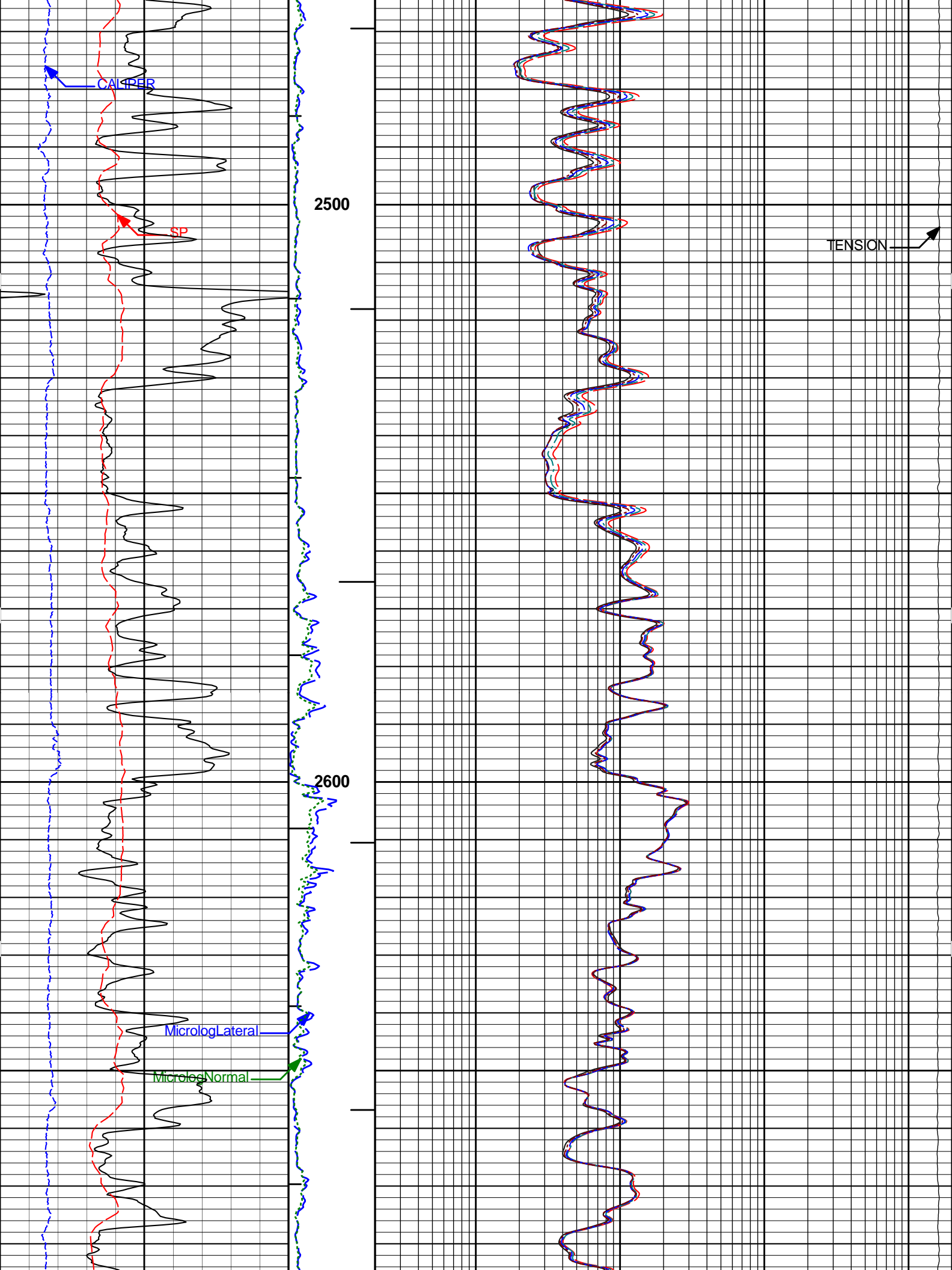


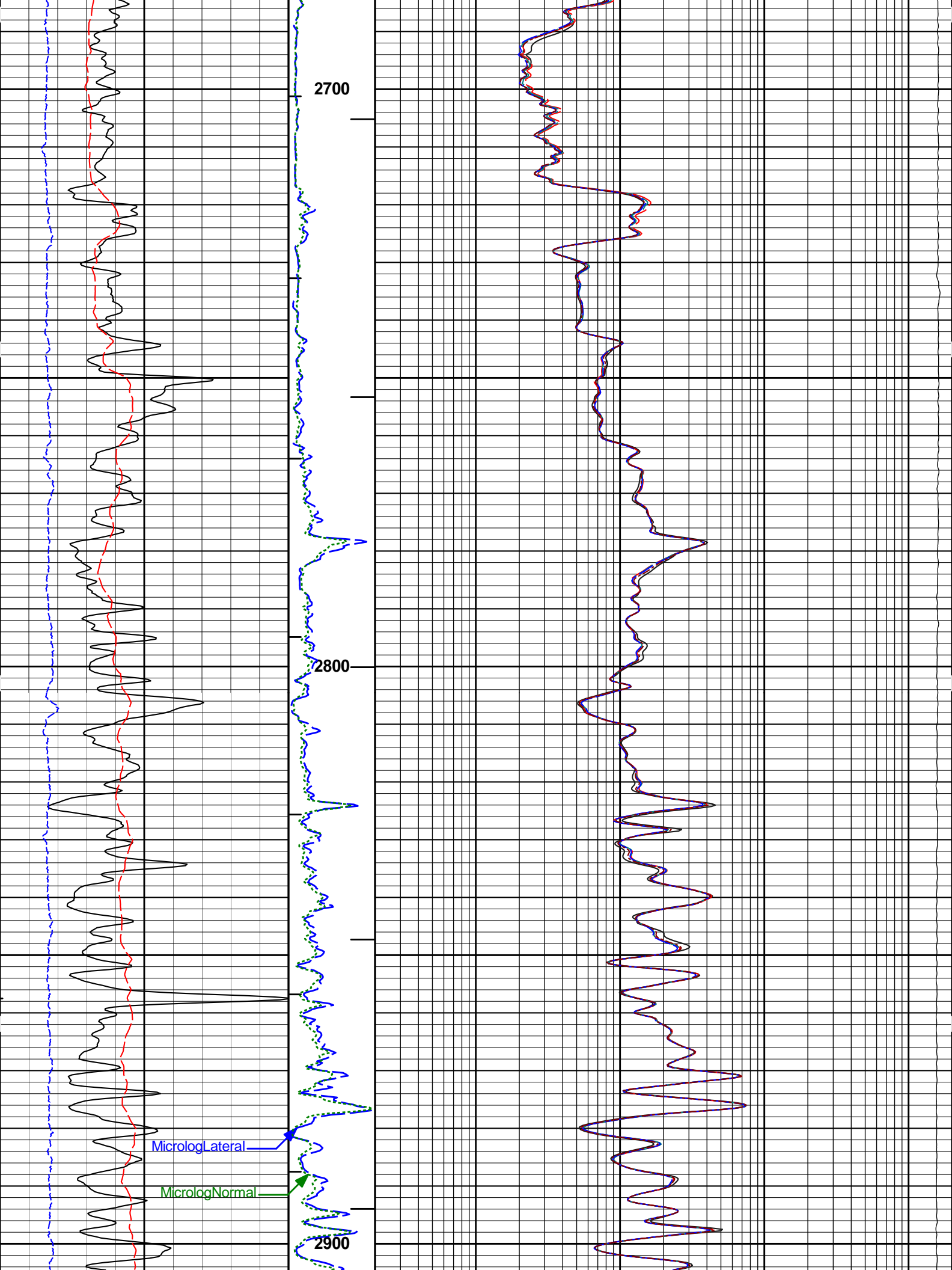


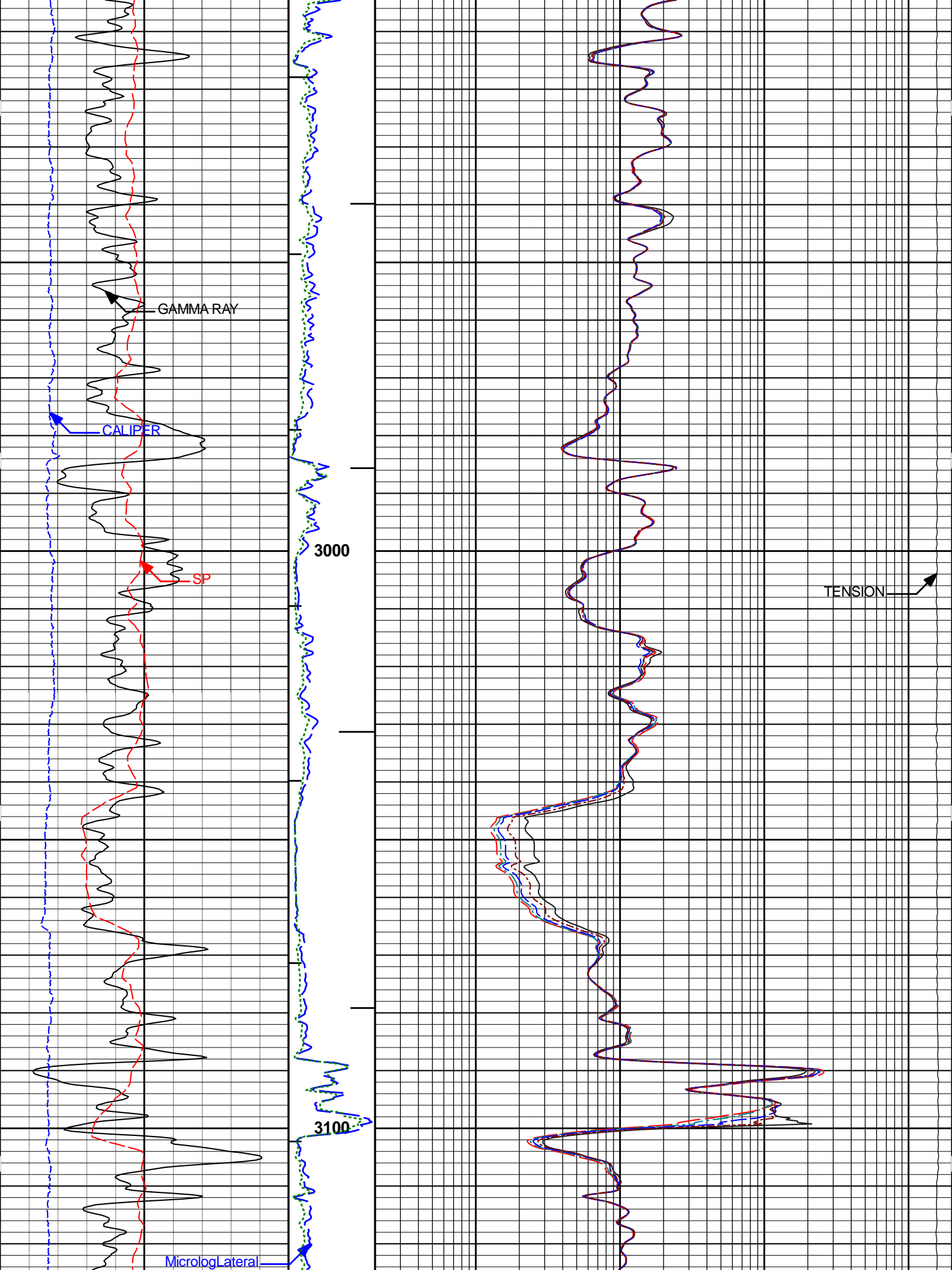


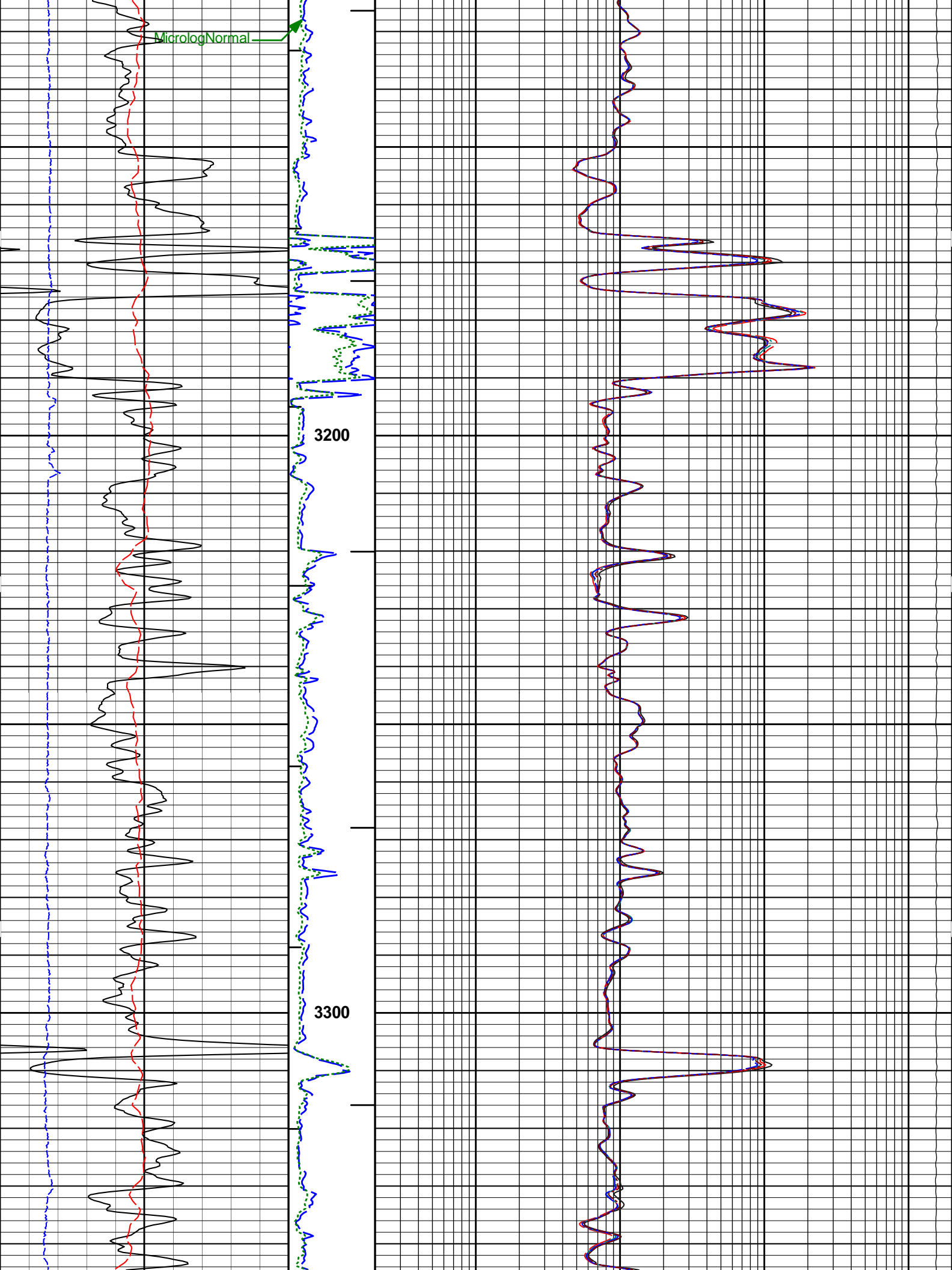


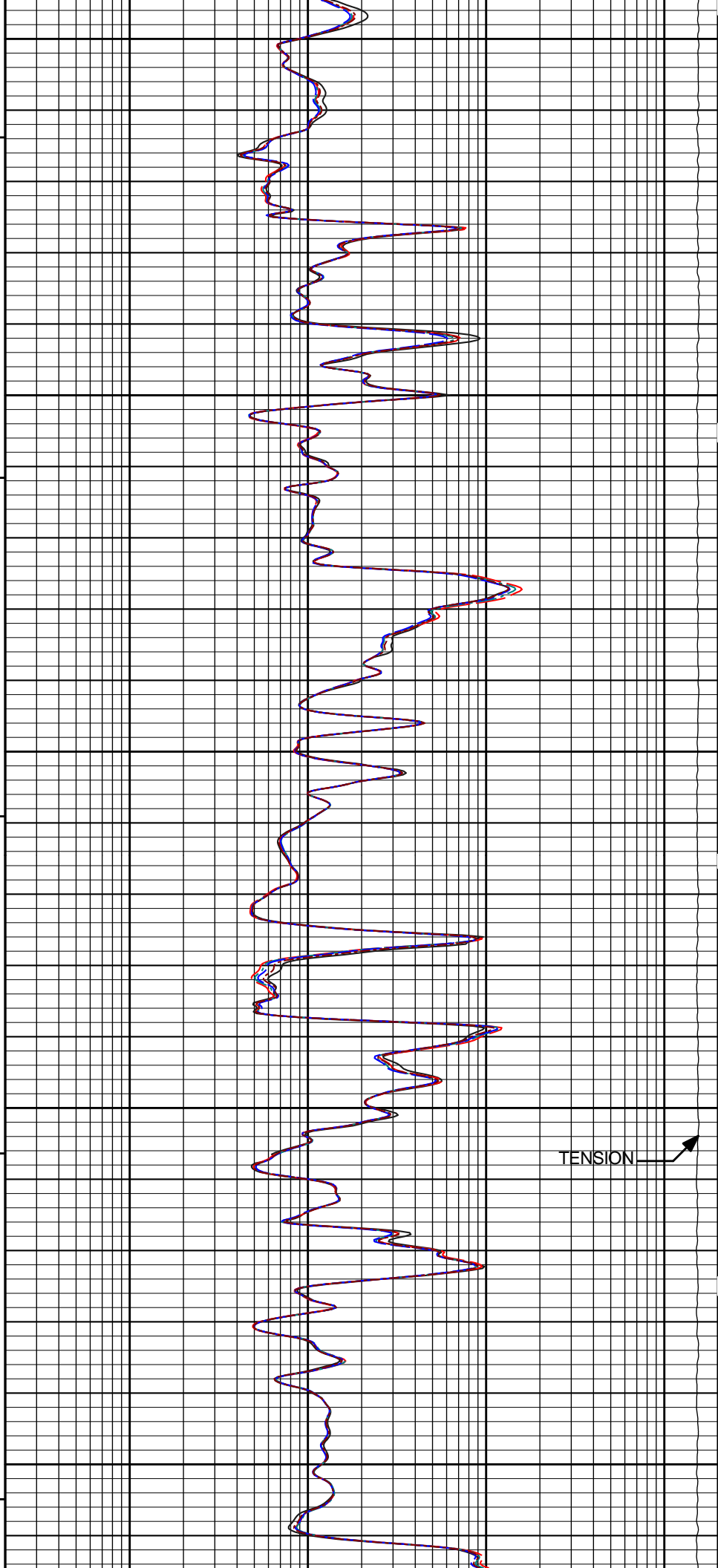
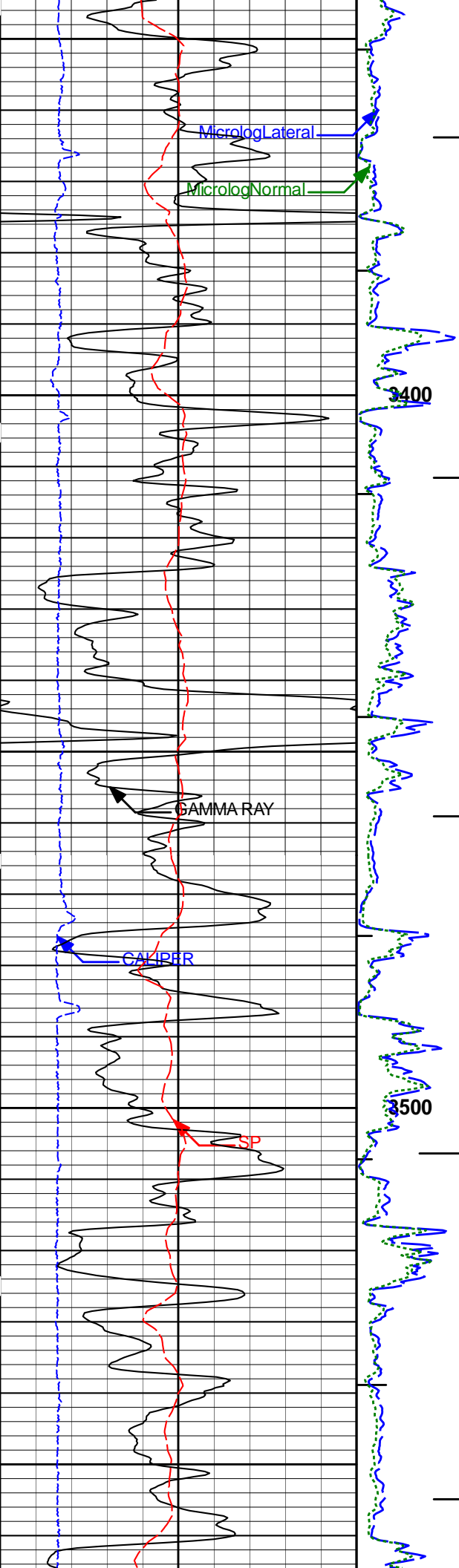


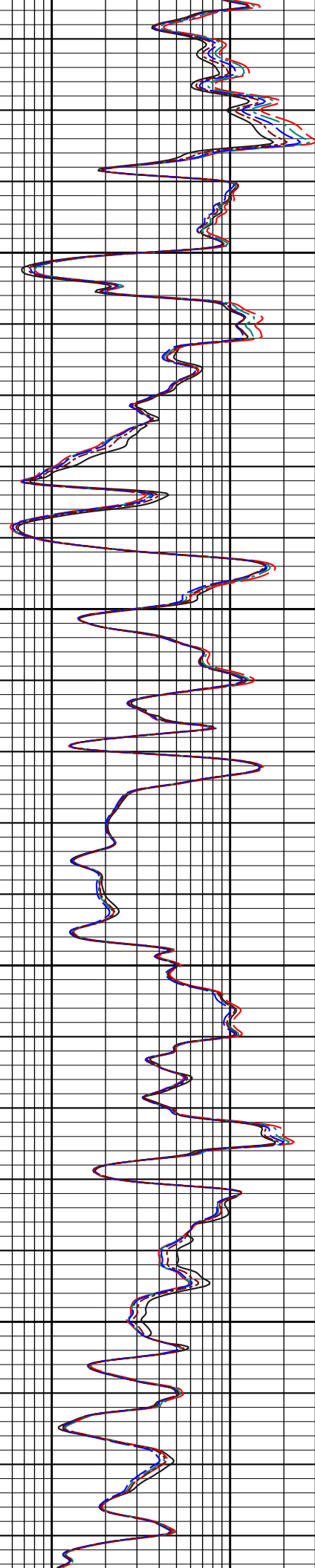
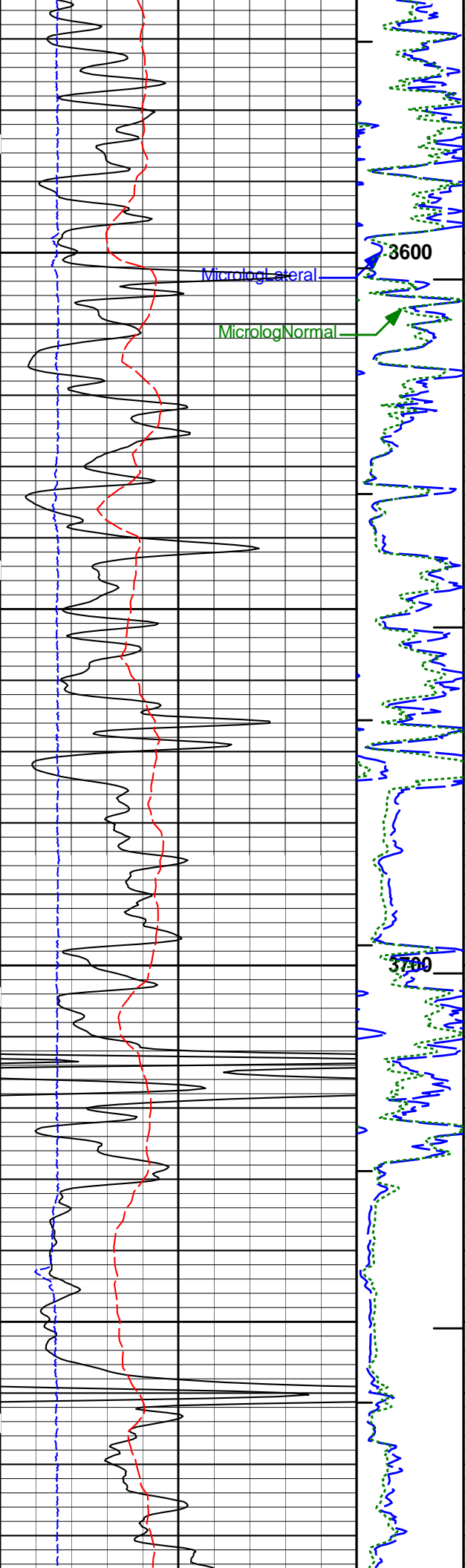


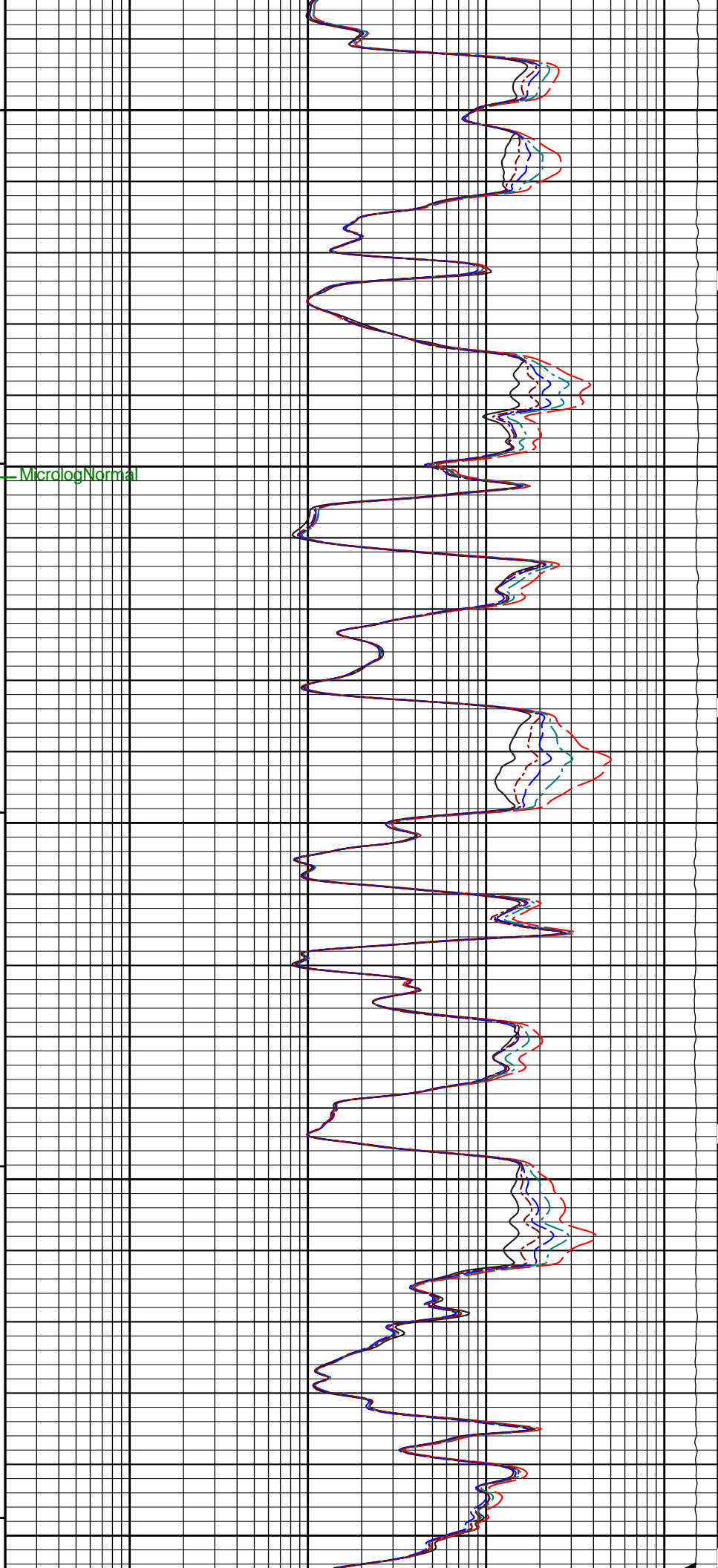
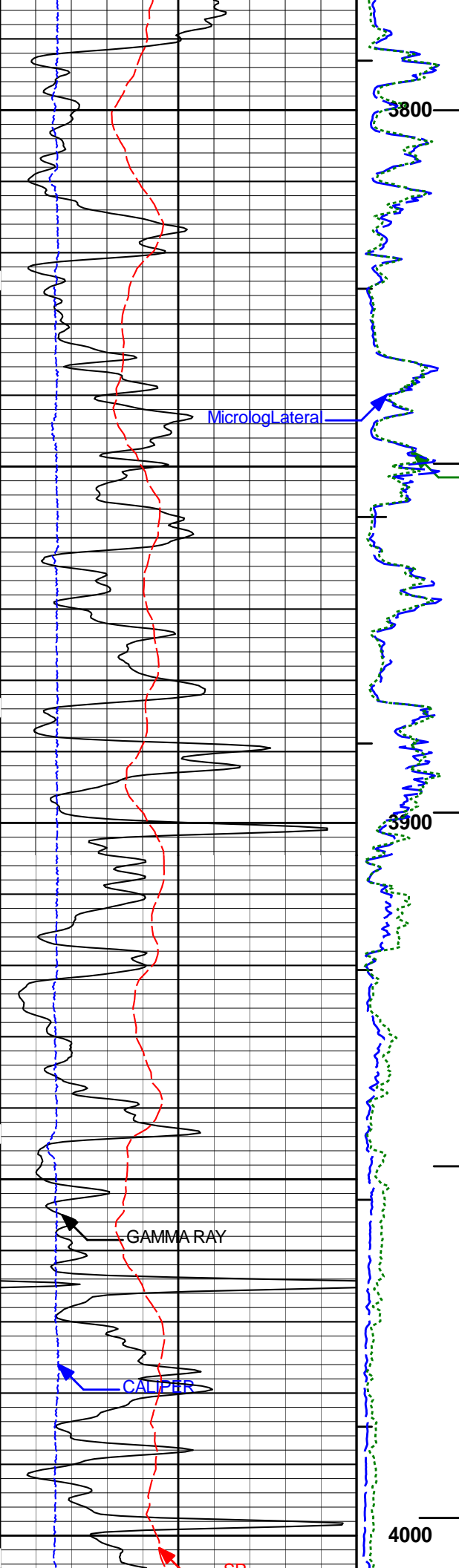


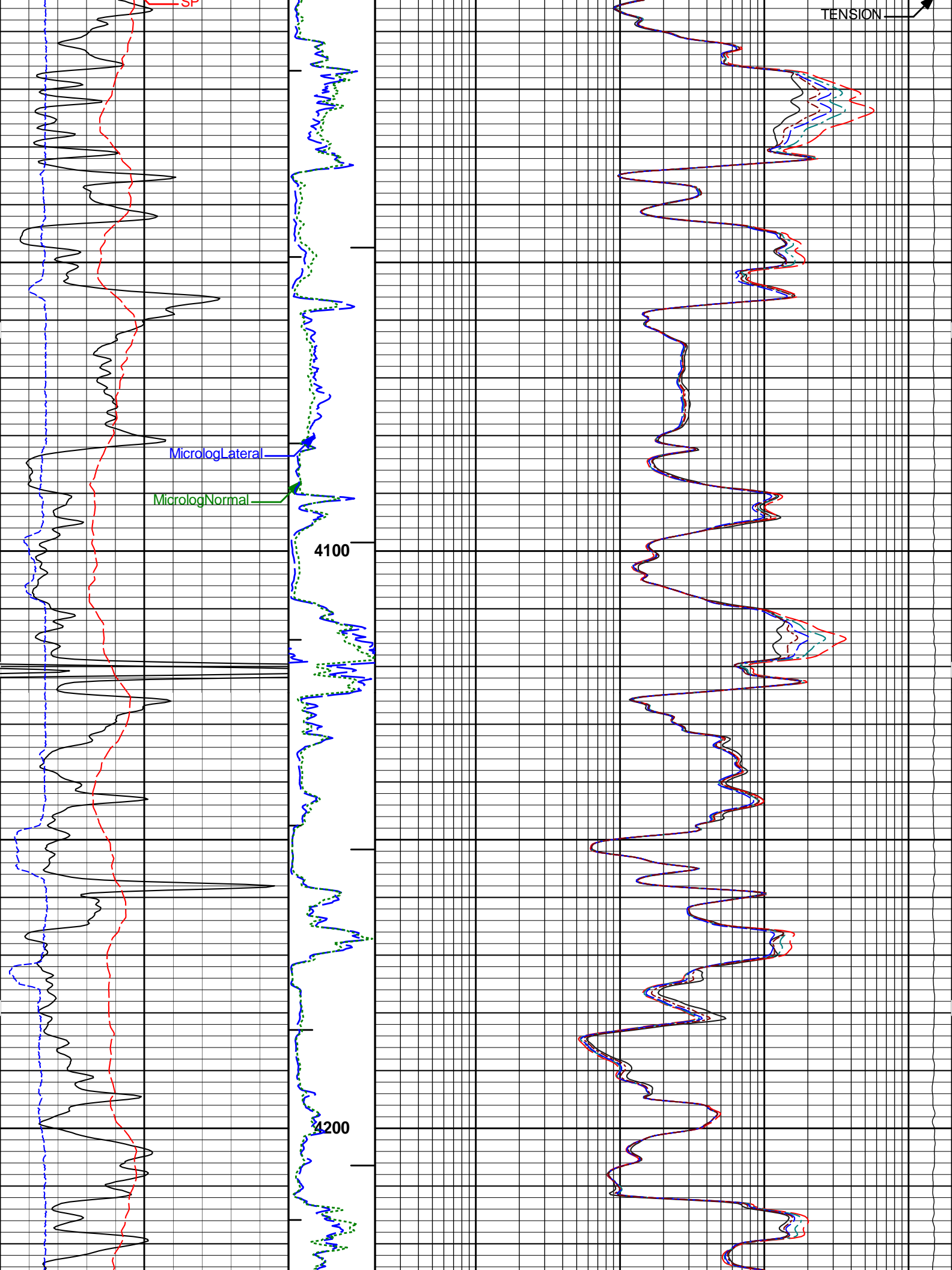


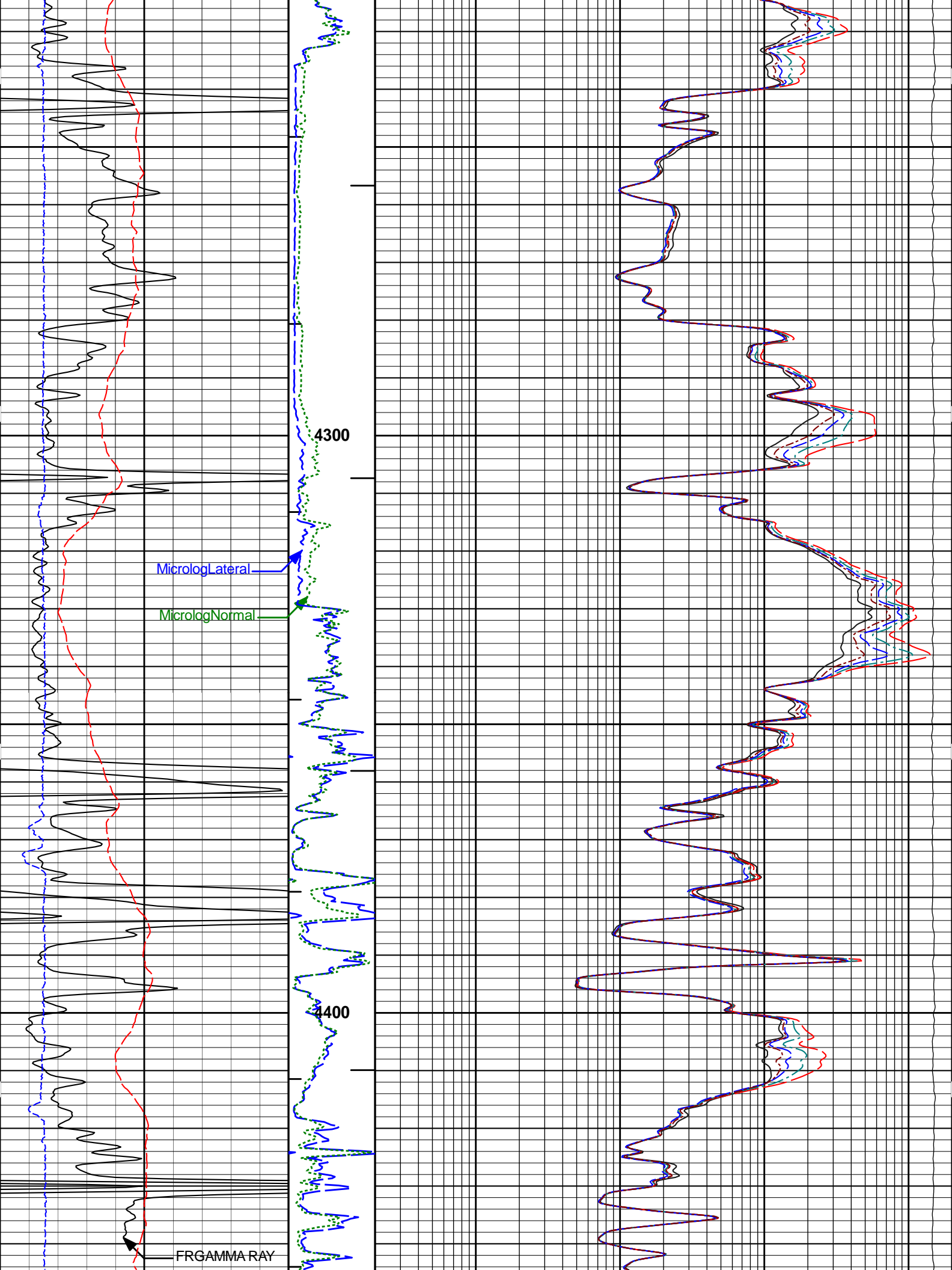


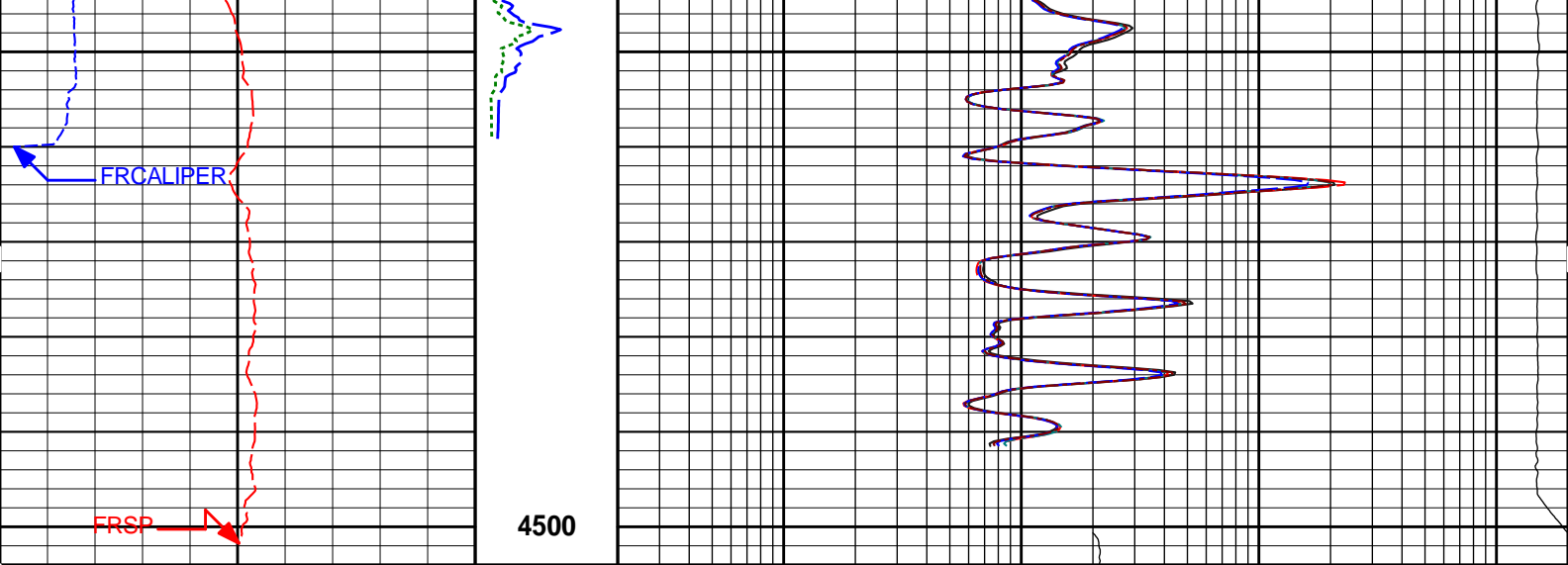












-100 SP 100		1 : 240 FT.		2000 TENSION 0.2	
millivolts				pounds	
6 CALIPER 16	BHV	0.2	RT10 2000		
inches			ohm-m		
0 GAMMA RAY 200	AHV	0.2	RT20 2000		
api			ohm-m		
	MicrologLateral	0.2	RT30 2000		
	ohmm		ohm-m		
	MicrologNormal	0.2	RT60 2000		
	ohmm		ohm-m		
		0.2	RT90 2000		
			ohm-m		

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Plot Time: 22-Mar-15 13:08:06
Plot Range: 400 ft to 4504 ft
Data: TRESHOMBRES1_22\Well Based\MAIN
Plot File: \ACRT_ACRT_M

MAIN PASS 5" = 100'

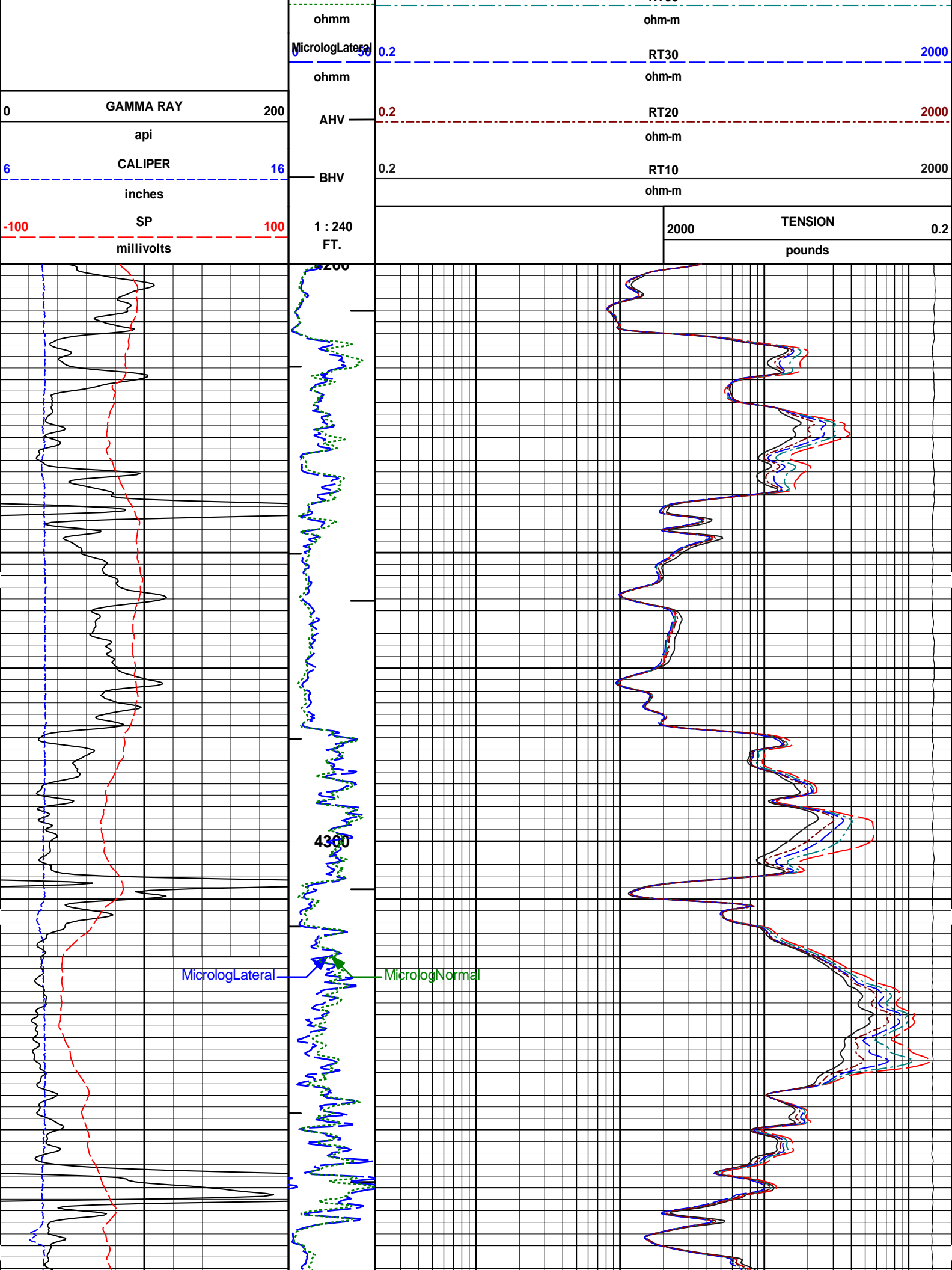
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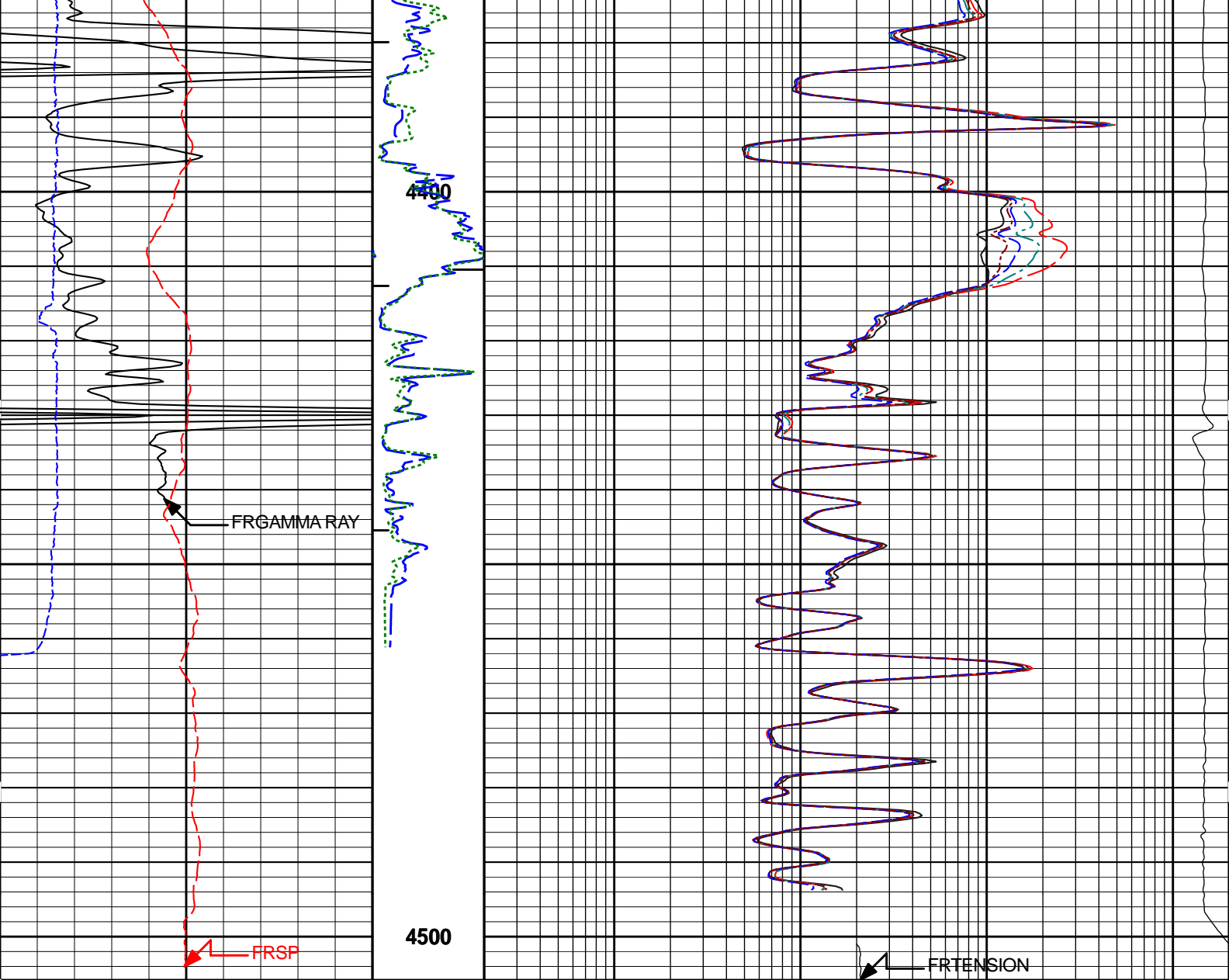
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Plot Range: 4200 ft to 4505.83 ft
Data: TRESHOMBRES1_22\Well Based\REPEAT\
Plot File: \ACRT_ACRT_R

REPEAT PASS 5" = 100'

DOLOMITE MATRIX

	0.2	RT90	2000
		ohm-m	
Microlog Normal	0.2	RT60	2000





-100SP100		1 : 240 FT.		2000TENSION0.2	
millivolts				pounds	
6CALIPER16	BHV	0.2	RT102000		
inches			ohm-m		
0GAMMA RAY200	AHV	0.2	RT202000		
api			ohm-m		
	MicrologLateral	0.2	RT302000		
	ohmm		ohm-m		
	MicrologNormal	0.2	RT602000		
	ohmm		ohm-m		
		0.2	RT902000		
			ohm-m		

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Plot Time: 22-Mar-15 13:08:09
 Plot Range: 4200 ft to 4505.83 ft
 Data: TRESHOMBRES1_22\Well Based\REPEAT\
 Plot File: \ACRT\ACRT_R

REPEAT PASS 5" = 100'

DOLOMITE MATRIX

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11958949

Reference Calibration Date: 04-Feb-15 14:17:19

Engineer: P. DIMPFL

Calibration Date: 22-Mar-15 09:28:34

Software Version: WL INSITE R4.6.0 (Build 4)

Calibration Version: 1

Calibrator Source S/N: MP051807-04
Calibrator API Reference:239.00 api
Equivalent Calibrator API Reference:243.2 api

Measurement	Measured	Calibrated	Units
Background	42.1	43.9	api
Background + Calibrator	275.6	287.1	api
Calibrator	233.5	243.2	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11958949

Reference Calibration Date: 22-Mar-15 09:28:34

Engineer: P. DIMPFL

Calibration Date: 22-Mar-15 09:31:15

Software Version: WL INSITE R4.6.0 (Build 4)

Calibration Version: 1

Calibrator Source S/N: MP051807-04
Calibrator API Reference:239.00 api
Equivalent Calibrator API Reference:243.2 api

Field Verification	Shop	Field	Units
Background	43.9	44.4	api
Background + Calibrator	287.1	290.0	api
Calibrator	243.2	245.7	api

Shop	Field	Difference	Tolerance
243.2	245.7	-2.5	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 10993888

Reference Calibration Date: 29-Jan-15 10:21:15

Engineer: B. RIDDEL

Calibration Date: 05-Mar-15 14:06:08

Software Version: WL INSITE R4.6.0 (Build 4)

Calibration Version: 1

Logging Source S/N: DSN-388
Tank Serial Number: GJ WATER TANK
Reference value assigned to Tank: 52.750
Snow Block S/N: GJ SNOW BLOCK
Calibration Tank Water Temperature: 66 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.993	0.998	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decg):	0.2157	0.2169	0.0013	+/- 0.0020
Calibrated Ratio:	9.89	9.93	0.043	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decg):	0.0691	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 - 10993888	Reference Calibration Date:	05-Mar-15 14:06:08
Engineer:	P. DIMPFL	Calibration Date:	22-Mar-15 09:34:21
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

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

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decg):	0.0691	0.0709	0.0019	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10951300	Reference Calibration Date:	19-Feb-15 10:11:47
Engineer:	B. RIDDEL	Calibration Date:	19-Feb-15 10:15:26
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 10993888		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3445.21	-3550.63	-7000.00 - -1000.00
Pad Gain	0.0003644	0.0003685	0.000200 - 0.000600
Arm Offset	-1416.13	-1695.85	-5000.00 - 3000.00
Arm Gain	0.0004667	0.0005038	0.000300 - 0.000700
Arm Power	-0.000001974	-0.000004478	-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)	2.02	2.00	-0.02	+/- 0.20
Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	2.55	2.55	0.00	+/- 0.20

Small Ring (in)	6.55	6.50	-0.05	+/- 0.20
Medium Ring (in)	8.21	8.25	0.04	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 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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SDLT CALIPER FIELD CALIBRATION

Tool Name:	SDLT - 10951300	Reference Calibration Date:	19-Feb-15 10:15:26
Engineer:	P. DIMPFL	Calibration Date:	22-Mar-15 09:31:28
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.71	-0.04	+/- 0.10
Ring Diameter	8.25	8.17	-0.08	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	SDLT Pad - 10865876	Reference Calibration Date:	16-Feb-15 12:04:38
Engineer:	B. RIDDEL	Calibration Date:	05-Mar-15 09:54:34
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

Logging Source S/N: 5153 GW		
Aluminum Block S/N: GJ ALUMINUM BLOCK	Density: 2.608g/cc	Pe: 3.230
Magnesium Block S/N: GJ MAG BLOCK	Density: 1.681g/cc	Pe: 2.600

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0255	1.0249	0.90 - 1.10
Near Dens Gain	1.0142	1.0101	0.90 - 1.10
Near Peak Gain	1.0006	1.0022	0.90 - 1.10
Near Lith Gain	0.9771	0.9813	0.90 - 1.10
Far Bar Gain	1.0131	1.0118	0.90 - 1.10
Far Dens Gain	1.0010	1.0016	0.90 - 1.10
Far Peak Gain	0.9950	0.9932	0.90 - 1.10
Far Lith Gain	0.9729	0.9727	0.90 - 1.10
Near Bar Offset	-0.0252	-0.0232	NONE
Near Dens Offset	0.0817	0.1143	NONE
Near Peak Offset	0.1903	0.1710	NONE
Near Lith Offset	0.3704	0.3293	NONE
Far Bar Offset	0.0212	0.0272	NONE
Far Dens Offset	0.1081	0.0978	NONE
Far Peak Offset	0.1359	0.1479	NONE
Far Lith Offset	0.2750	0.2725	NONE
Near Bar Background	857.39	857.08	700 - 1450

Near Dens Background	285.49	286.70	230 - 480
Near Peak Background	128.01	127.29	100 - 210
Near Lith Background	155.13	154.92	125 - 260
Far Bar Background	529.31	526.12	450 - 900
Far Dens Background	206.13	204.04	175 - 345
Far Peak Background	80.69	80.77	70 - 140
Far Lith Background	86.11	85.27	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.681	1.681	-0.000	+/- 0.015
Pe	2.536	2.558	0.022	+/- 0.150
ALUMINUM				
Density (g/cc)	2.609	2.608	-0.001	+/- 0.01500
Pe	3.157	3.179	0.022	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0018	+/- 0.0110	0.0000	+/- 0.0140
Magnesium Block	-0.0005	+/- 0.0110	-0.0021	+/- 0.0140
Aluminum Block	-0.0011	+/- 0.0110	0.0013	+/- 0.0140
Resolution	8.96	6.00 - 11.50	9.64	6.00 - 11.50
Internal Verifier(B+D+P+L)	1426	1200 - 2700	896	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 - 10865876	Reference Calibration Date:	05-Mar-15 09:54:34
Engineer:	P. DIMPFL	Calibration Date:	22-Mar-15 09:28:59
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

Pad Temperature: 45.8 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1425.983	1417.139	-8.844	15.241
Far (B+D+P+L) cps	896.206	893.990	-2.216	16.290
Near Resolution	8.96	9.19	0.230	0.50
Far Resolution	9.64	9.70	0.060	1.00

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

MICRO LOG SHOP CALIBRATION			
Tool Name:	Microlog Pad - 10951300	Reference Calibration Date:	17-Jan-15 11:47:55
Engineer:	B. RIDDEL	Calibration Date:	05-Mar-15 11:19:23
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1
Host Tool Name:	DSNT - 10993888		

Reference Calibration Date: 17-Jan-15 11:47:55

Calibration Date: 05-Mar-15 11:19:23

Calibration Version: 1

Host Tool Name: DSNT - 10993888

CALIBRATION COEFFICIENT SUMMARY					
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.04	-0.04	0.01	0.01	ohmm
Calibration Point #1	0.00	0.00	-0.00	0.00	ohmm
Calibration Point #2	19.70	20.00	19.72	20.00	ohmm
Internal Reference	19.91	20.21	19.97	20.25	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	6.11	6.17	V
Calibration Point #1	17.37	2.30	V
Calibration Point #2	5224.88	6862.02	V
Internal Reference	5280.52	6946.90	V

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION			
Tool Name:	ACRt Sonde - 11585797	Reference Calibration Date:	27-Jan-15 15:50:02
Engineer:	P. DIMPFL	Calibration Date:	27-Jan-15 16:03:38
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1
Host Tool Name:	ACRt Instrument - 11585787		

Reference Calibration Date: 27-Jan-15 15:50:02

Calibration Date: 27-Jan-15 16:03:38

Calibration Version: 1

Host Tool Name: ACRt Instrument - 11585787

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0234	1.05	0.95	1.0213	1.05	0.95	1.0201	1.05
A2 (50")	0.95	1.0120	1.05	0.95	1.0125	1.05	0.95	1.0133	1.05
A3 (29")	0.95	1.0058	1.05	0.95	1.0054	1.05	0.95	1.0047	1.05
A4 (17")	0.95	1.0036	1.05	0.95	1.0005	1.05	0.95	1.0023	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0075	1.05	0.95	1.0083	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9861	1.05	0.95	0.9861	1.05

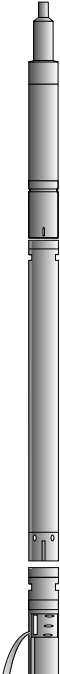
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0234	1.05	0.95	1.0213	1.05	0.95	1.0201	1.05
A2 (50")	0.95	1.0120	1.05	0.95	1.0125	1.05	0.95	1.0133	1.05
A3 (29")	0.95	1.0058	1.05	0.95	1.0054	1.05	0.95	1.0047	1.05
A4 (17")	0.95	1.0036	1.05	0.95	1.0005	1.05	0.95	1.0023	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0075	1.05	0.95	1.0083	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9861	1.05	0.95	0.9861	1.05

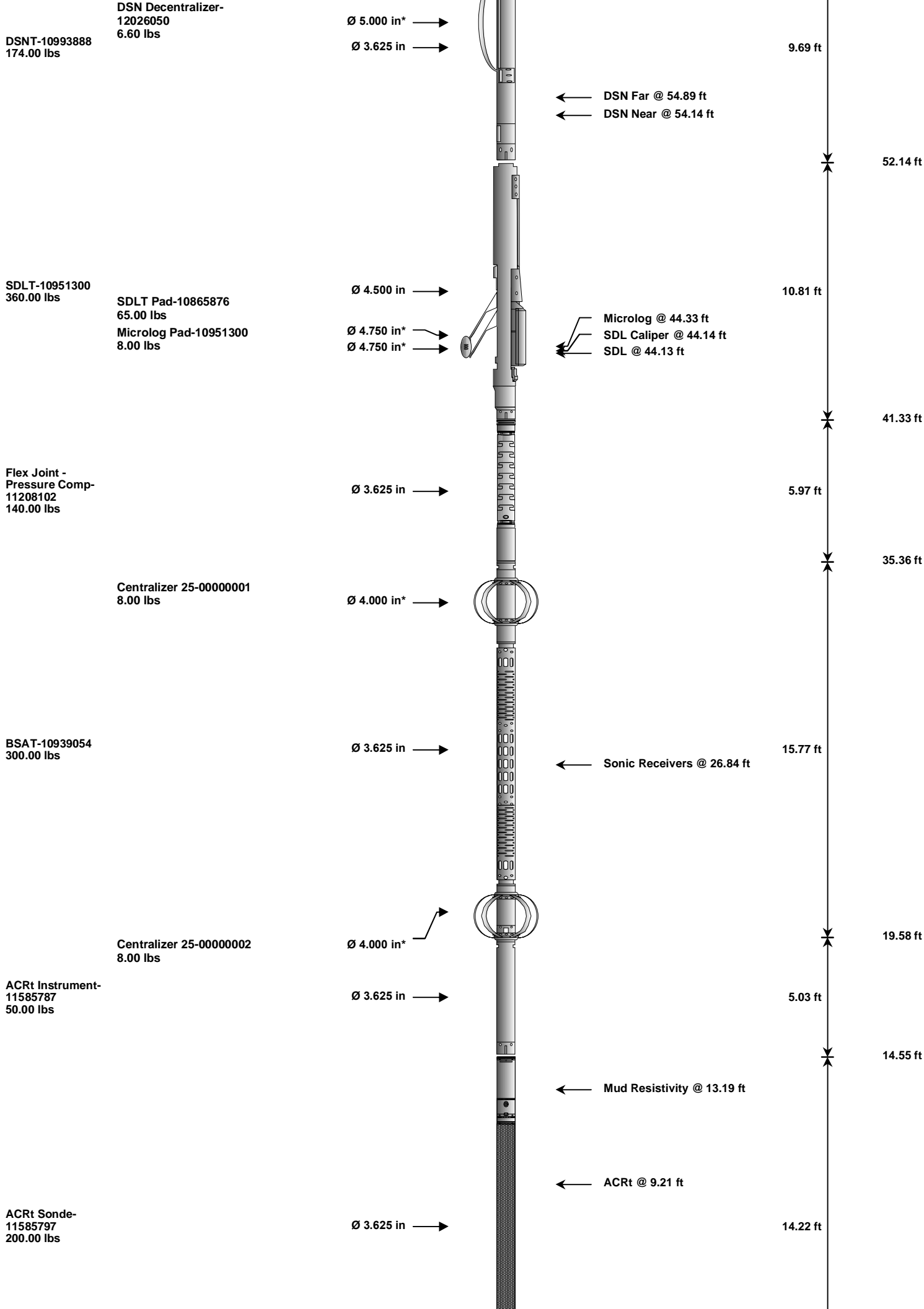
SONDE OFFSET			
Subarray	R12KHz	R36KHz	R72KHz
	(mmho/m)	(mmho/m)	(mmho/m)
A1 (80")	-1.400	-4.436	-5.489
A2 (50")	-1.992	-3.255	-4.694
A3 (29")	-15.645	-4.528	-3.257
A4 (17")	-119.763	-35.638	-27.444
A5 (10")	N/A	-97.013	-50.120
A6 (6")	N/A	312.823	158.068

Subarray	R12KHz	R36KHz	R72KHz
	(mmho/m)	(mmho/m)	(mmho/m)
A1 (80")	-1.400	-4.436	-5.489
A2 (50")	-1.992	-3.255	-4.694
A3 (29")	-15.645	-4.528	-3.257
A4 (17")	-119.763	-35.638	-27.444
A5 (10")	N/A	-97.013	-50.120
A6 (6")	N/A	312.823	158.068

TRANSMITTER CURRENT GAIN			
Class	Frequency	Power	Efficiency
A	100 Hz	100 W	50%
B	100 Hz	100 W	70%
C	100 Hz	100 W	80%
D	100 Hz	100 W	90%
E	100 Hz	100 W	95%
F	100 Hz	100 W	98%
G	100 Hz	100 W	99%
H	100 Hz	100 W	100%
I	100 Hz	100 W	100%
J	100 Hz	100 W	100%
K	100 Hz	100 W	100%
L	100 Hz	100 W	100%
M	100 Hz	100 W	100%
N	100 Hz	100 W	100%
O	100 Hz	100 W	100%
P	100 Hz	100 W	100%
Q	100 Hz	100 W	100%
R	100 Hz	100 W	100%
S	100 Hz	100 W	100%
T	100 Hz	100 W	100%
U	100 Hz	100 W	100%
V	100 Hz	100 W	100%
W	100 Hz	100 W	100%
X	100 Hz	100 W	100%
Y	100 Hz	100 W	100%
Z	100 Hz	100 W	100%

R-MUD VERIFICATION			
Class	Lower	Measured	Upper

Signal	Lower	R	Upper	Signal	Lower	Upper
12K	0.6	0.85	1.3	Mud Cell	0.95	1.00
36K	1.0	1.83	2.0			1.05
72K	1.0	1.10	2.0			
<div>PASS/FAIL SUMMARY</div> <div>GAIN RANGE CHKPASS</div> <div>SONDE OFFSET CHKPASS</div> <div>TOOL OK TO LOG</div>						
CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11958949						
Gamma Ray Calibrator	243.2	245.7	-----	-2.5	+/- 9.00	api
DSNT-10993888						
Snow-Block Porosity	0.0691	0.0709	-----	-0.0018	+/- 0.0150	decp
SDLT-10951300						
Pad Extension	3.75	3.71	-----	0.04	+/-0.10	in
Ring Diameter	8.25	8.17	-----	0.08	+/-0.15	in
SDLT Pad-10865876						
Near(B+D+P+L)	1425.983	1417.139	-----	8.844	+/-15.241	cps
Far(B+D+P+L)	896.206	893.990	-----	2.216	+/-16.290	cps
Microlog Pad-10951300						
MicroLog Normal	20.21	-----	-----	0.00	-----	ohmm
MicroLog Lateral	20.25	-----	-----	0.00	-----	ohmm
ACRt Sonde-11585797						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m
<div>Data: TRESHOMBRES1 22\0001 QUAD\004 22-Mar-15 11:10 Up @4502.5f</div> <div>Date: 22-Mar-15 11:51:33</div>						
<div>HALLIBURTON</div> <div>TOOL STRING DIAGRAM REPORT</div>						
Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-A032 135.00 lbs		Ø 3.625 in →		← Load Cell @ 72.91 ft ← BH Temperature @ 72.35 ft	6.25 ft	76.60 ft
						70.35 ft
GTET-11958949 165.00 lbs		Ø 3.625 in →		← GammaRay @ 64.29 ft	8.52 ft	
						61.83 ft



SP Ring-12345671
0.00 lbs

Ø 3.625 in* →

← SP @ 1.61 ft

Bull Nose-00000001
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	A032	135.00	6.25	70.35	300.00
GTET	Gamma Telemetry Tool	11958949	165.00	8.52	61.83	60.00
DSNT	Dual Spaced Neutron	10993888	174.00	9.69	52.14	60.00
DCNT	DSN Decentralizer	12026050	6.60	5.13	* 55.47	300.00
SDLT	Spectral Density Tool	10951300	360.00	10.81	41.33	60.00
SDLP	Density Insite Pad	10865876	65.00	2.55	* 43.54	60.00
MICP	Microlog Pad	10951300	8.00	1.00	* 43.83	60.00
FLEX	Flex Joint - Pressure Compensated	11208102	140.00	5.97	35.36	300.00
BSAT	Borehole Sonic Array Tool	10939054	300.00	15.77	19.58	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	* 32.62	300.00
ACRt	Array Compensated True Resistivity Instrument Section	11585787	50.00	5.03	14.55	120.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	* 19.36	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11585797	200.00	14.22	0.33	120.00
SP	SP Ring	12345671	0.00	0.25	* 1.61	300.00
BLNS	Bull Nose	00000001	5.00	0.33	0.00	300.00

Total			1,624.60	76.60		
						* Not included in Total Length and Length Accumulation.
Data: TRESHOMBRES1_22\0001 QUAD\004 22-Mar-15 11:10 Up @4502.5f					Date: 22-Mar-15 11:49:52	

COMPANY BAYHORSE PETROLEUM, LLC

WELL TRES HOMBRES 1-22

FIELD LEFT HAND

COUNTY KIOWA STATE CO

HALLIBURTON

ARRAY COMPENSATED
TRUE RESISTIVITY