

HALLIBURTON

ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY		BAYHORSE PETROLEUM, LLC	
WELL		TRADE WINDS 5-21	
FIELD/BLOCK		LEFT HAND	
COUNTY		KIOWA	
STATE		CO	
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Date		12-Mar-15	
Run No.		ONE	
Depth - Driller		5210.00 ft	
Depth - Logger		5209.0 ft	
Bottom - Logged Interval		5207.0 ft	
Top - Logged Interval		50.0 ft	
Casing - Driller		8.625 in @ 422.0 ft	
Casing - Logger		420.0 ft	
Bit Size		7.875 in	
Type Fluid in Hole		Water Based Mud	
Density		9.2 ppg	
Viscosity		57.00 s/qt	
PH		10.00 pH	
Fluid Loss		8.0 cpm	
Source of Sample		MUD TANK	
Rm @ Meas. Temperature		1.300 ohmm @ 69.70 degF	
Rmf @ Meas. Temperature		0.80 ohmm @ 66.80 degF	
Rmc @ Meas. Temperature		1.780 ohmm @ 65.20 degF	
Source Rmf		MEASURED	
Rmc		MEASURED	
Rm @ BHT		0.63 ohmm @ 151.0 degF	
Time Since Circulation		5.0 hr	
Time on Bottom		12-Mar-15 14:58:09.000	
Max. Rec. Temperature		151.0 degF @ 5209.0 ft	
Equipment		Location	
Recorded By		B. RIDDEL	
Witnessed By		J. KLIJSEN	

COMPANY		BAYHORSE PETROLEUM, LLC	
WELL		TRADE WINDS 5-21	
FIELD/BLOCK		LEFT HAND	
COUNTY		KIOWA	
STATE		CO	
API No.		05061068950000	
Location		SURFACE HOLE LOCATION: 2276 FNL & 1293 FEL	
Sect.		21	
Twp.		18S	
Rge.		47W	
Elev.		4148.0 ft	
D.F.		4159.0 ft	
G.L.		4148.0 ft	
Other Services:		RWCH BSAT SDLT DSNT	

Fold here

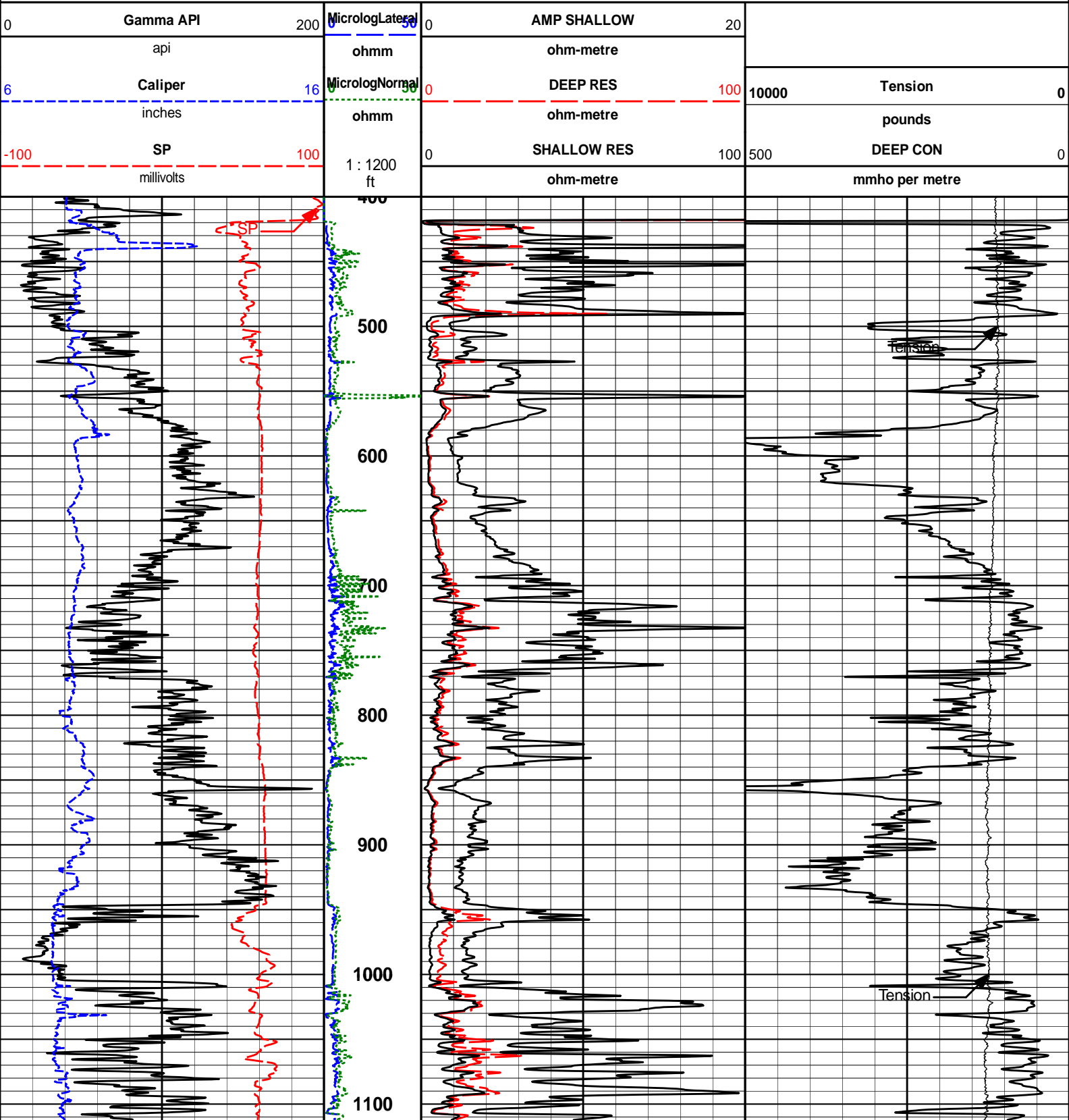
Service Ticket No.: 902218154				API Serial No.: 05061068950000				PGM Version: WL INSITE R4.6.0 (Build 4)							
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES									
Date		Sample No.				Type Log		Depth		Scale Up Hole		Scale Down Hole			
Depth-Driller															
Type Fluid 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		ECCENTERED		N/A	
Rmc @ Meas. Temp.		@		@				I-11585787							
Source Rmf		Rmc						S-11585797							
Rm @ BHT		@		@											
Rmf @ BHT		@		@											
Rmc @ BHT		@		@											
EQUIPMENT DATA															
GAMMA				ACOUSTIC				DENSITY				NEUTRON			
Run No.		ONE		Run No.		ONE		Run No.		ONE		Run No.		ONE	
Serial No.		11005602		Serial No.		10939054		Serial No.		10951300		Serial No.		10993888	
Model No.		GTET		Model No.		BSAT		Model No.		SDLT		Model No.		DSNT	
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		1.5Ci		Strength		15Ci	
LOGGING DATA															

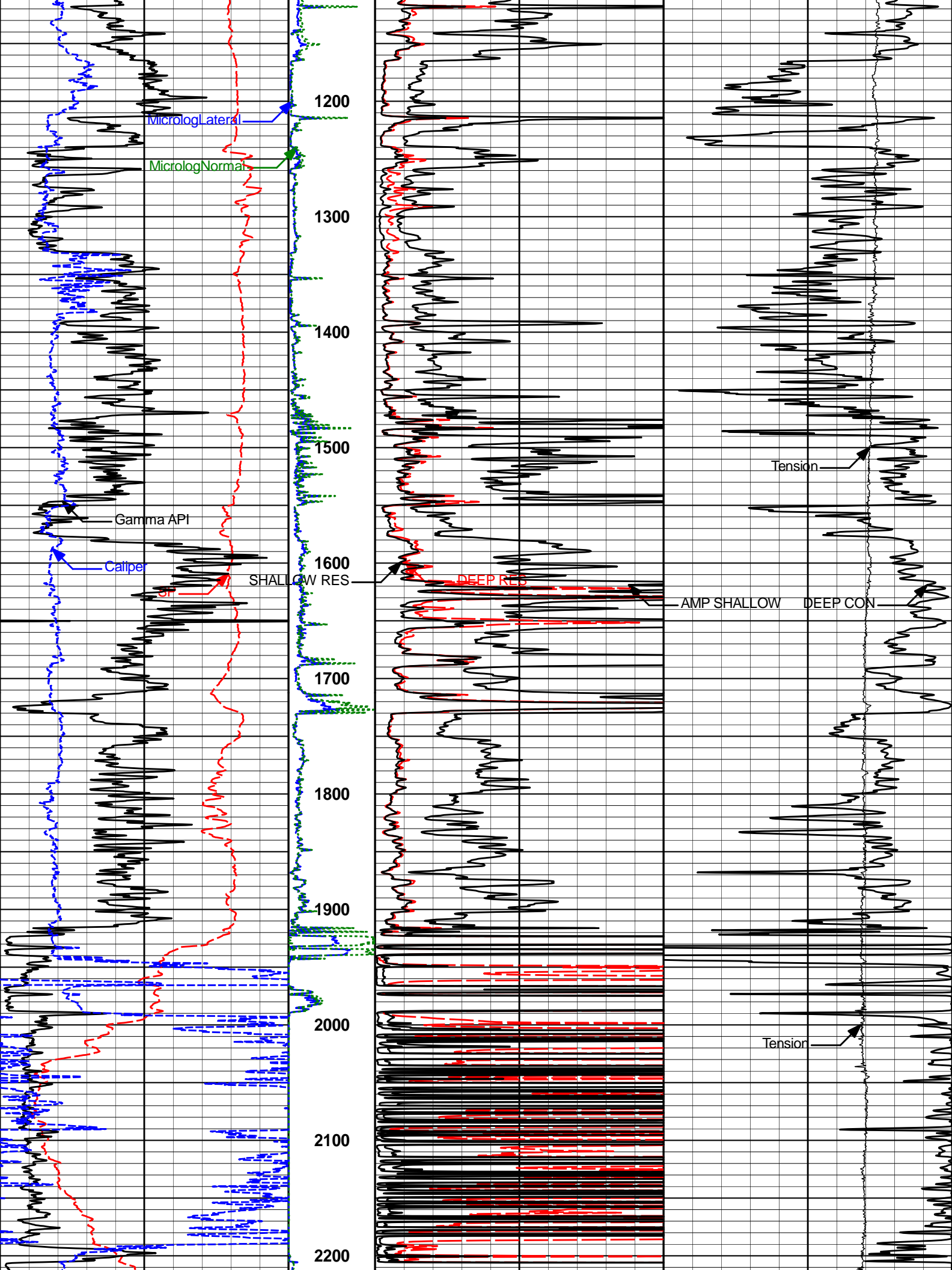
Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.200	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	3000.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.300	ohmm
	SHARED	TRM	Temperature of Mud	69.7	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	5209.00	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	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	

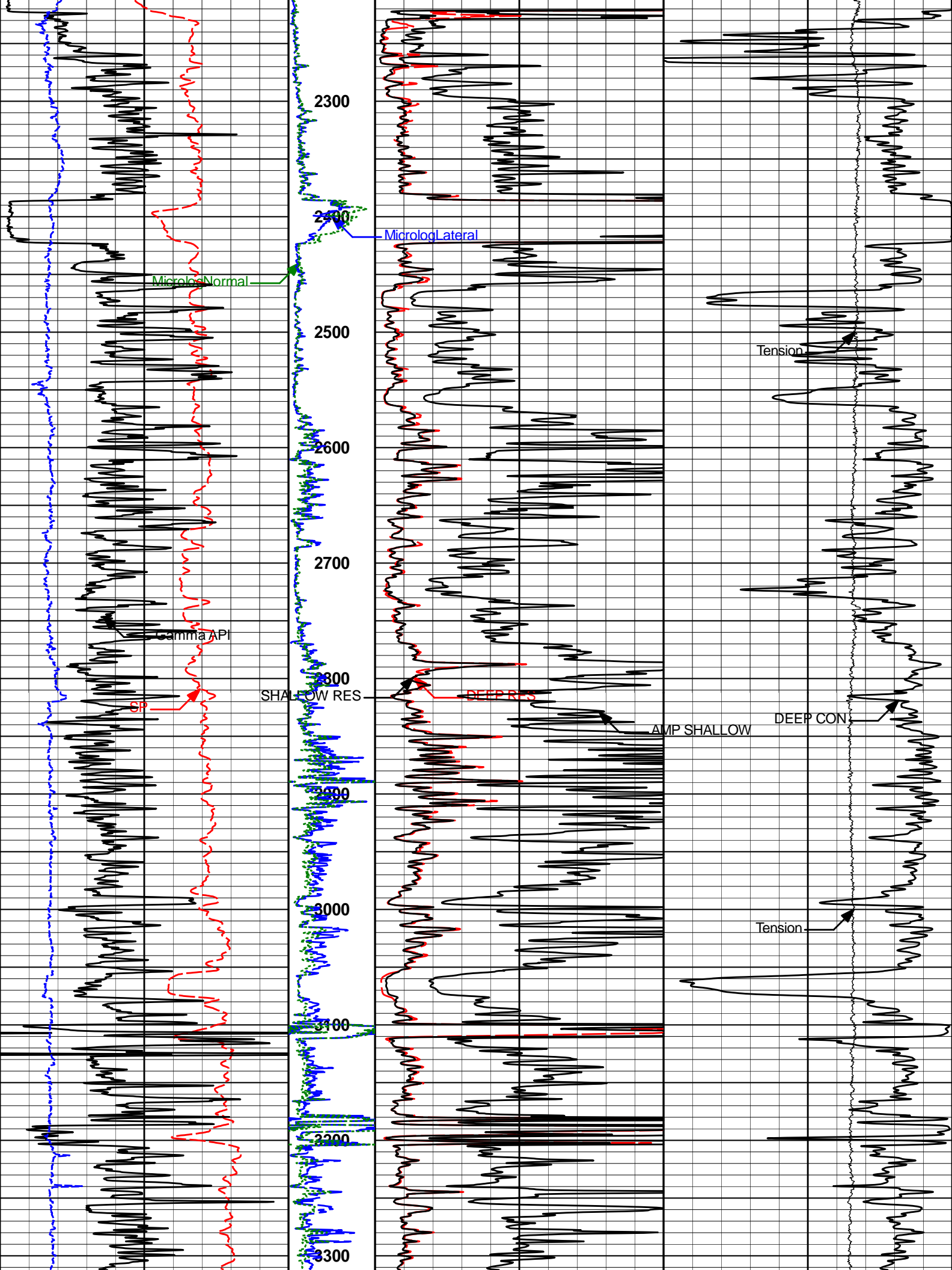
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.250	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	Wyllie	
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	

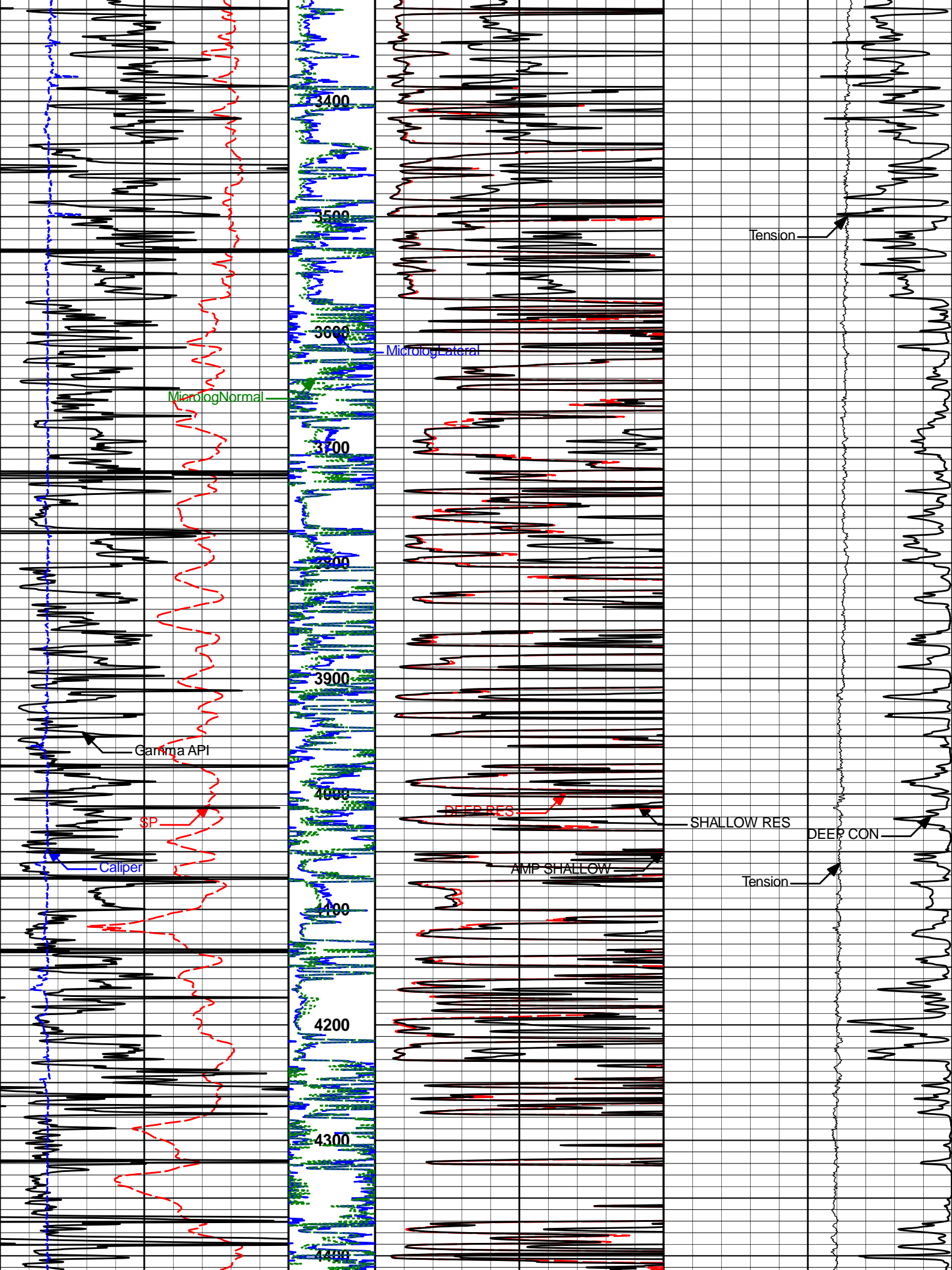
BOTTOM

MAIN PASS 1" = 100'



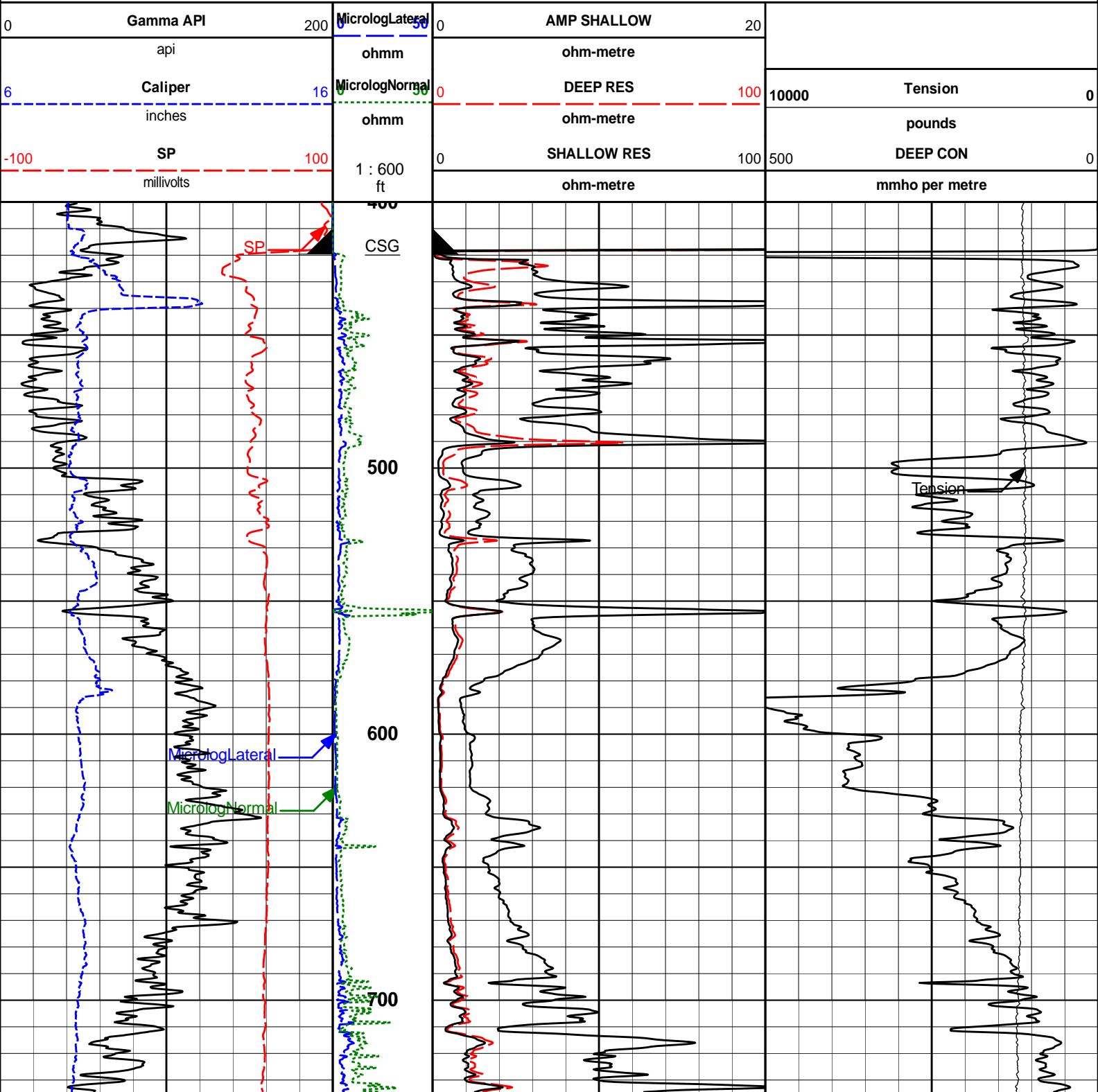


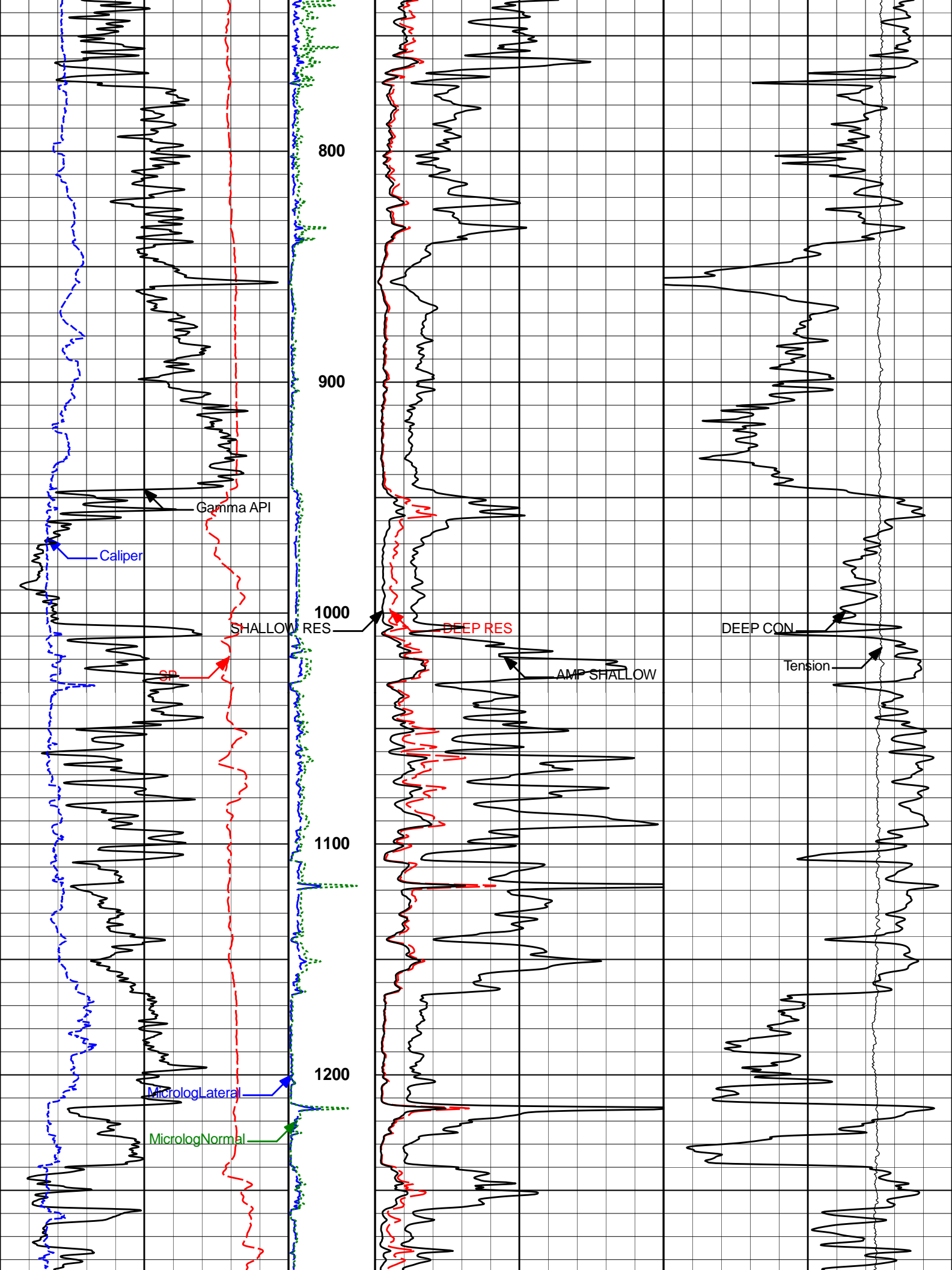


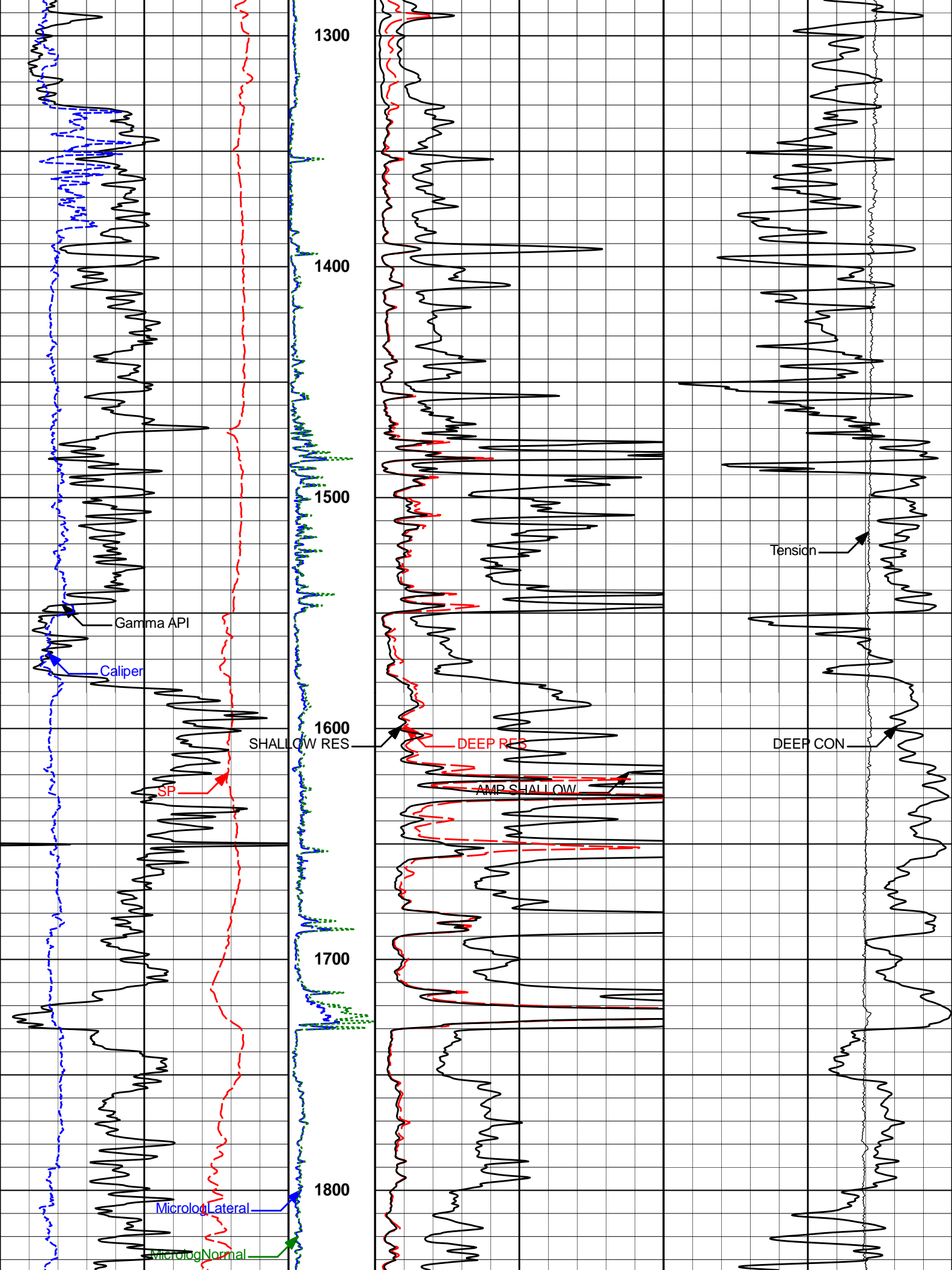


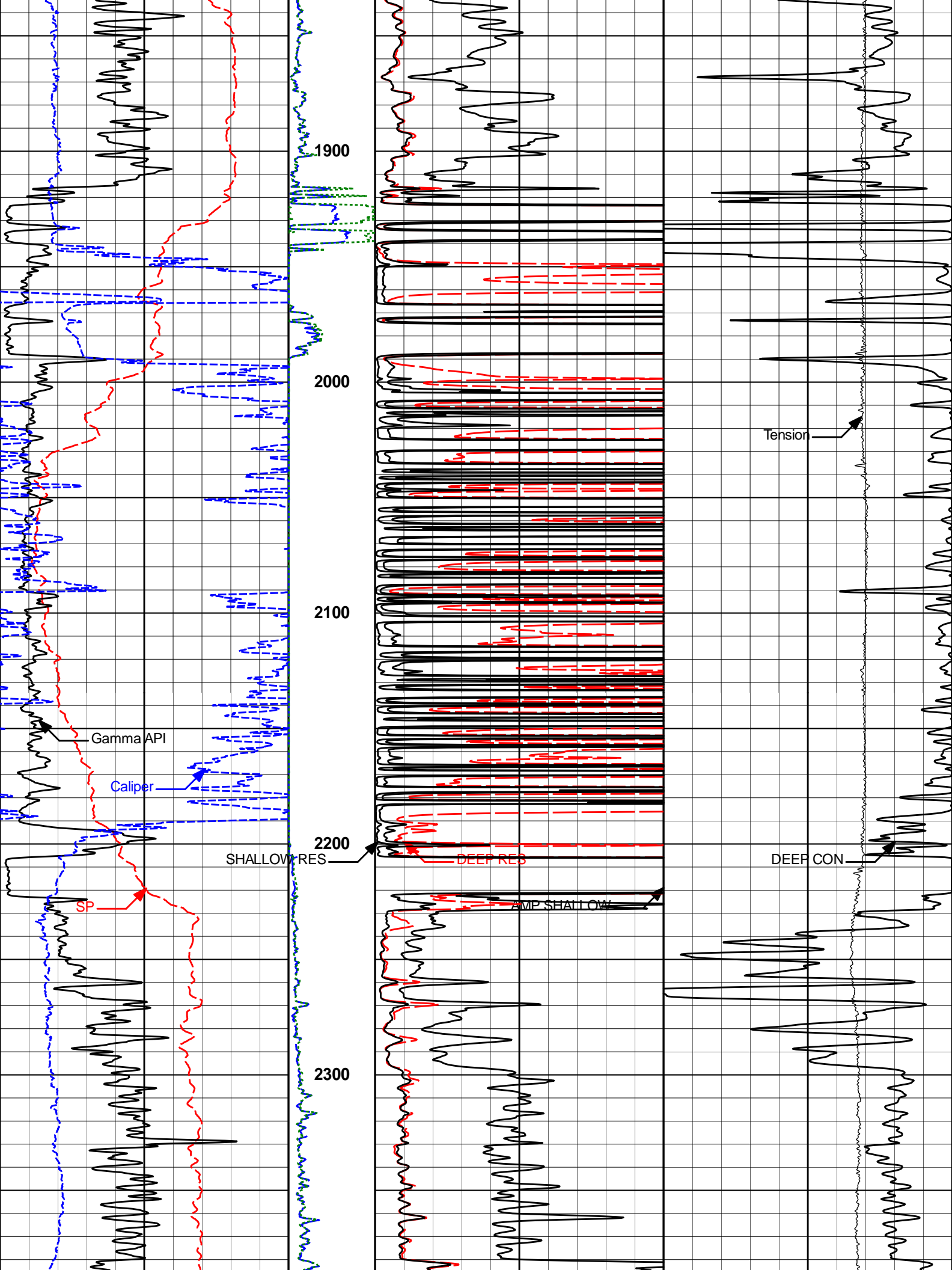
MAIN PASS 1" = 100'

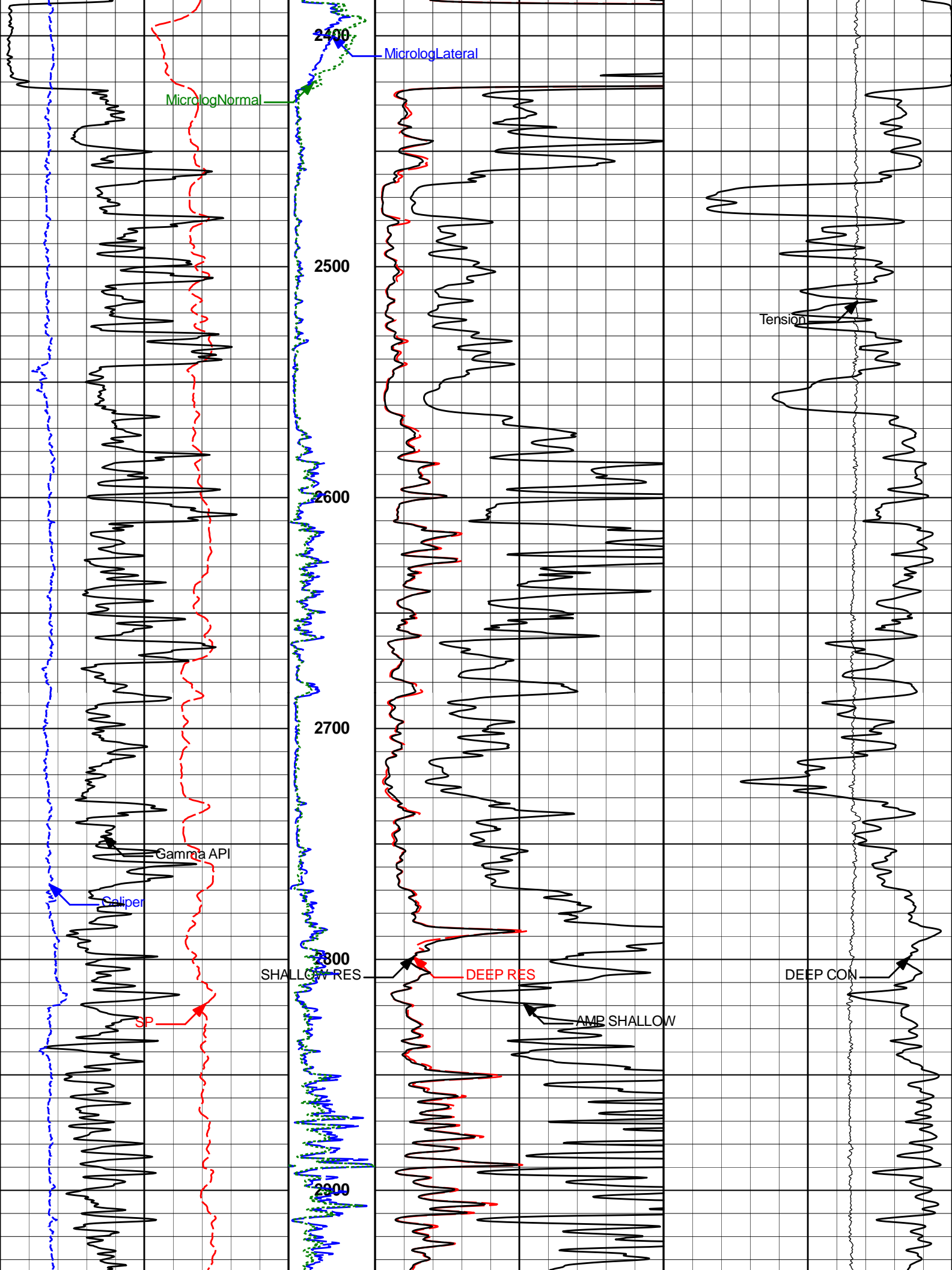
MAIN PASS 2" = 100'

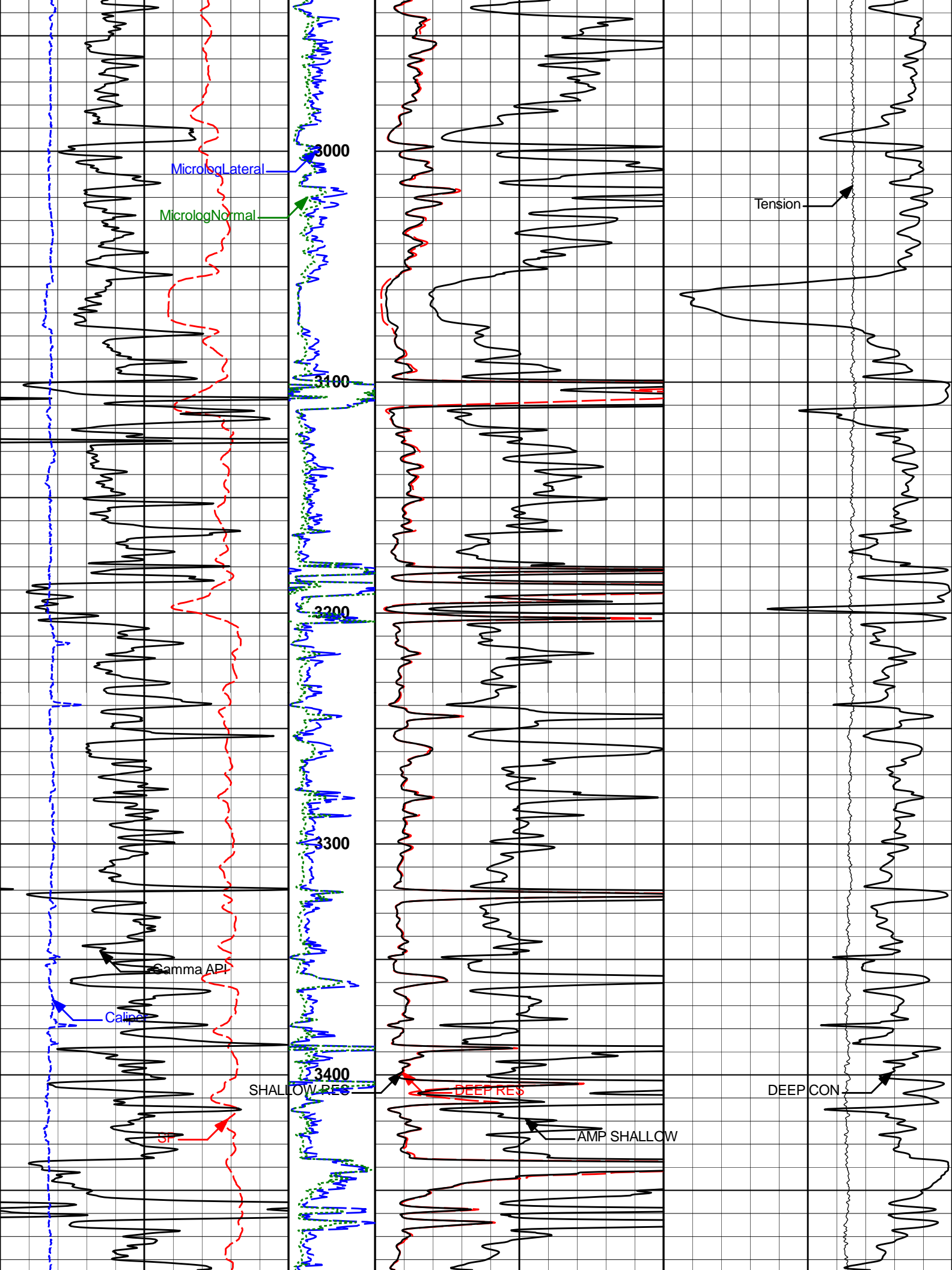


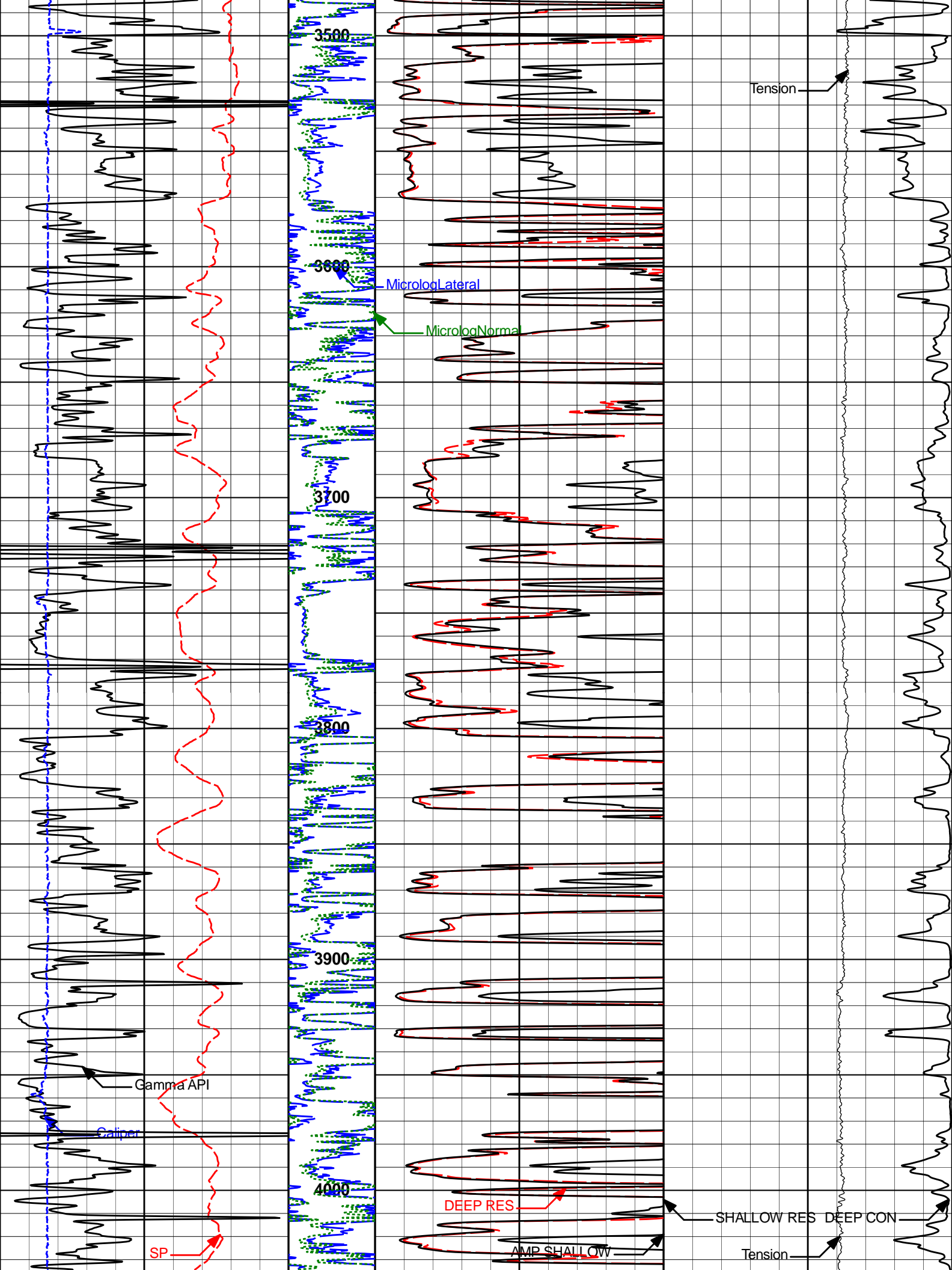


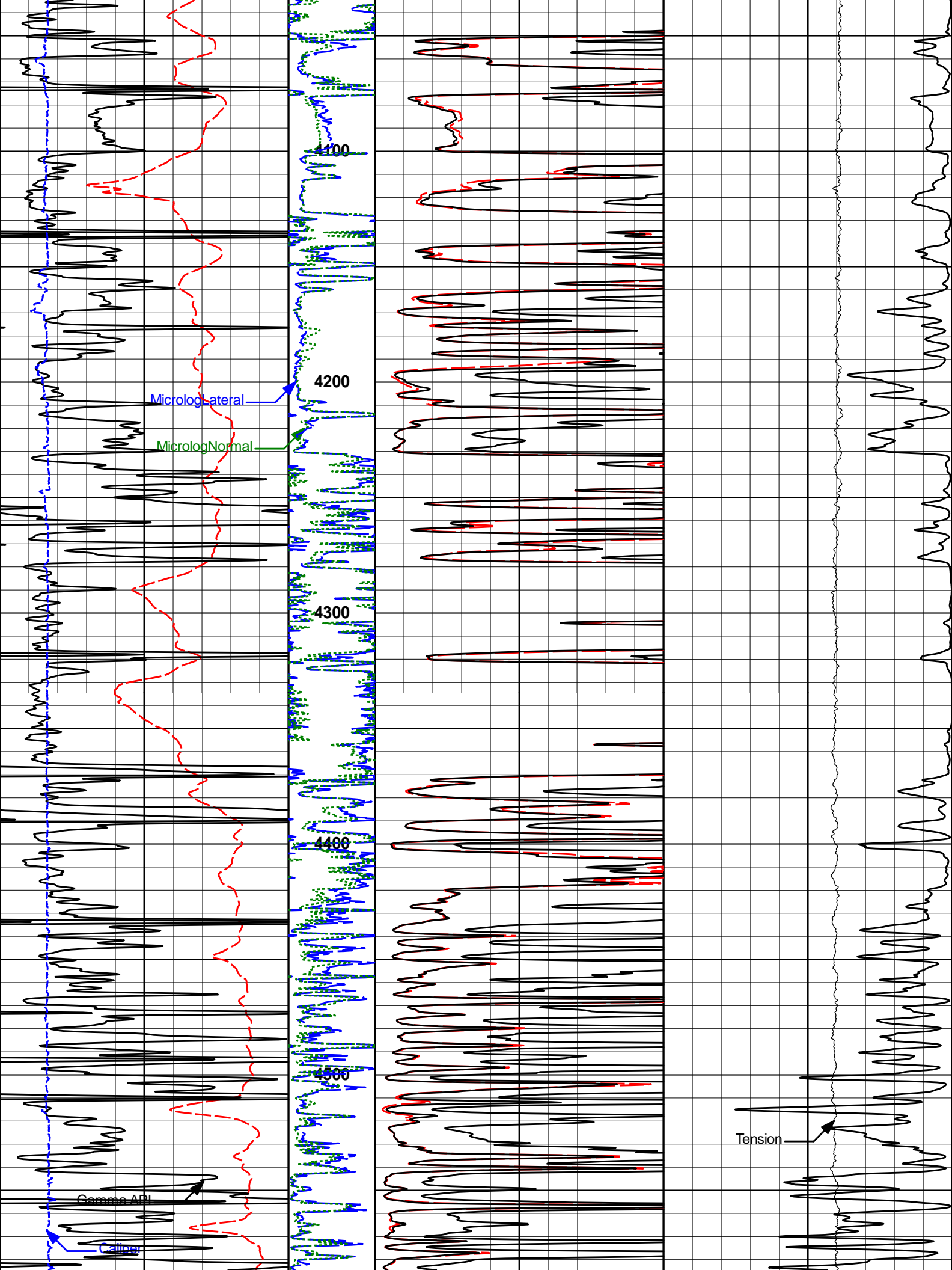


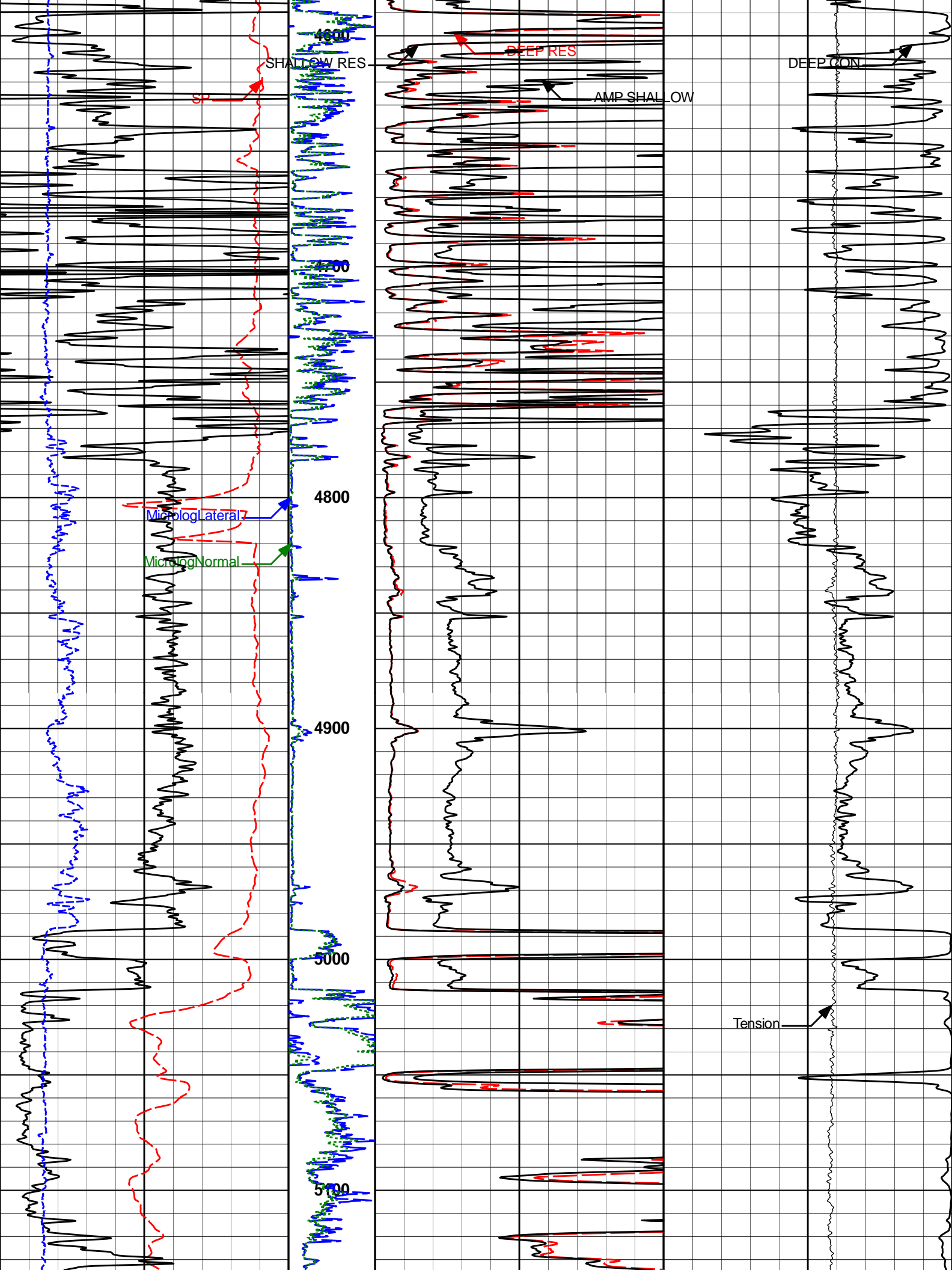


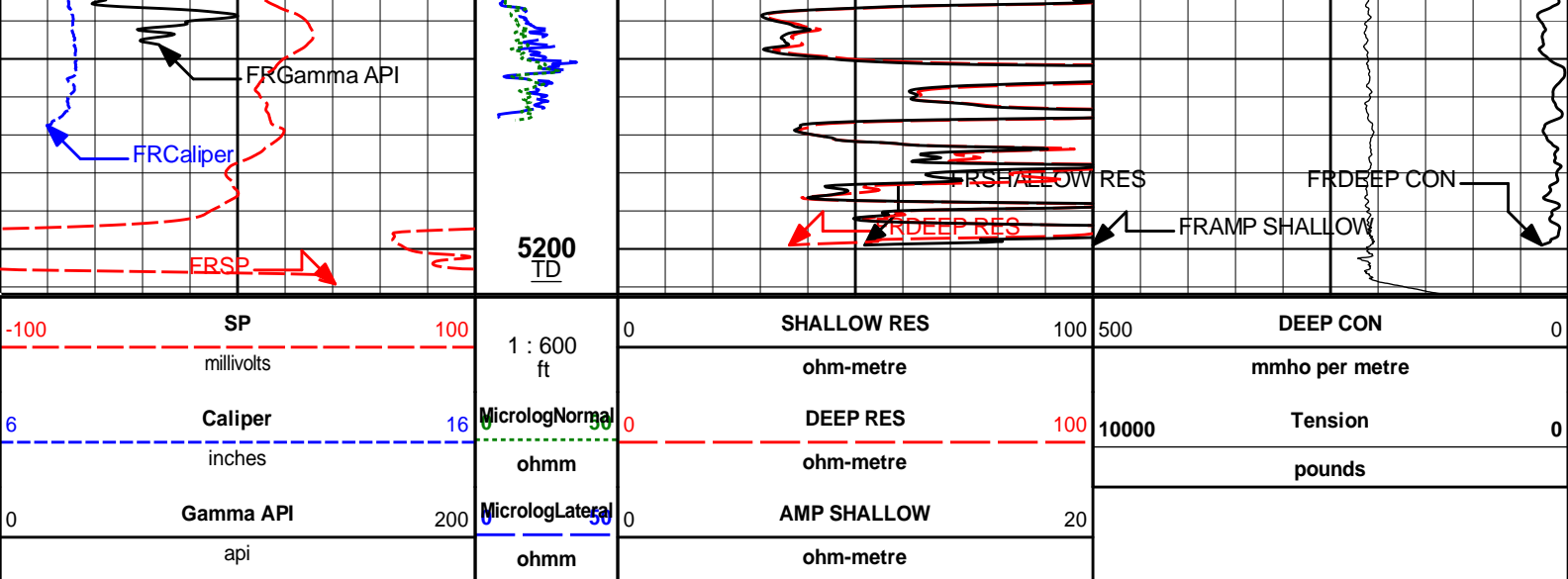










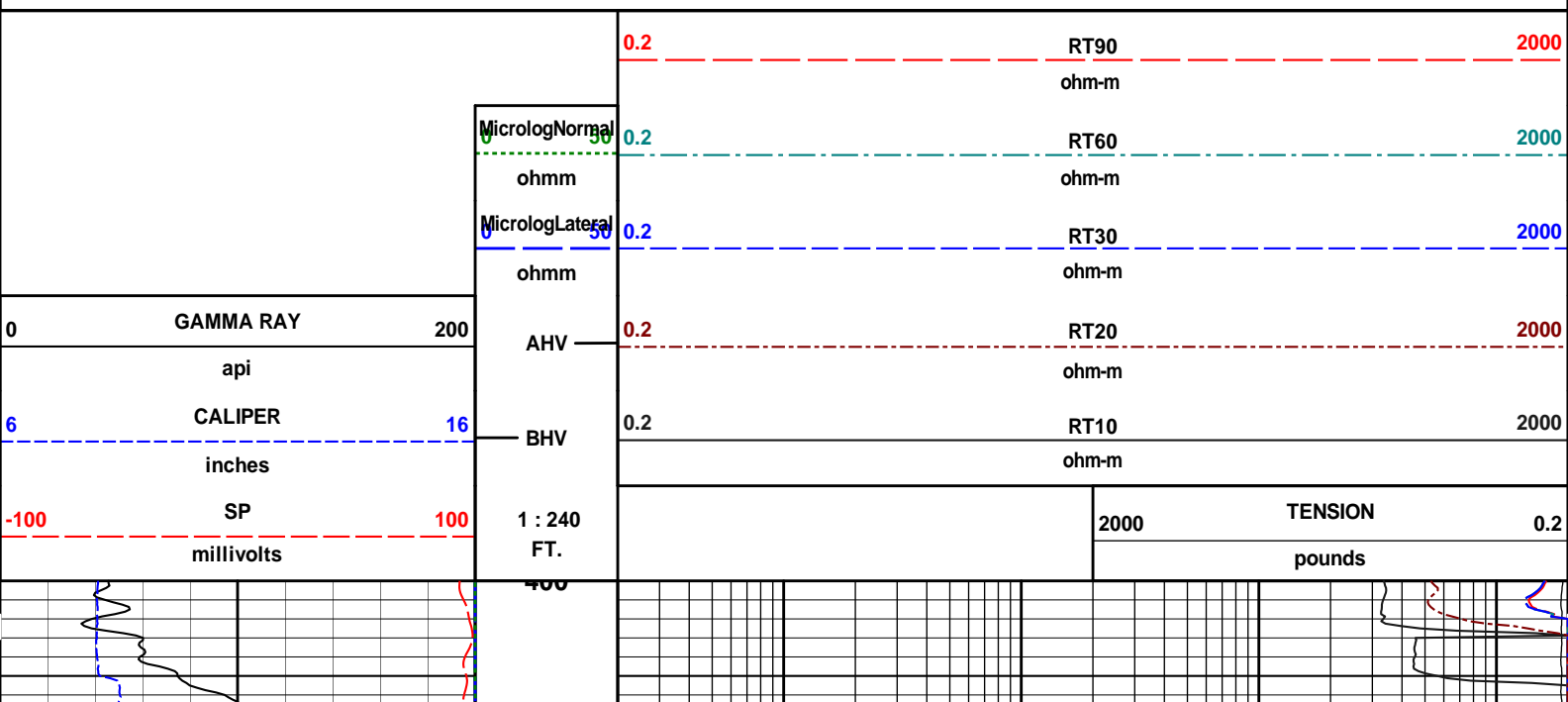


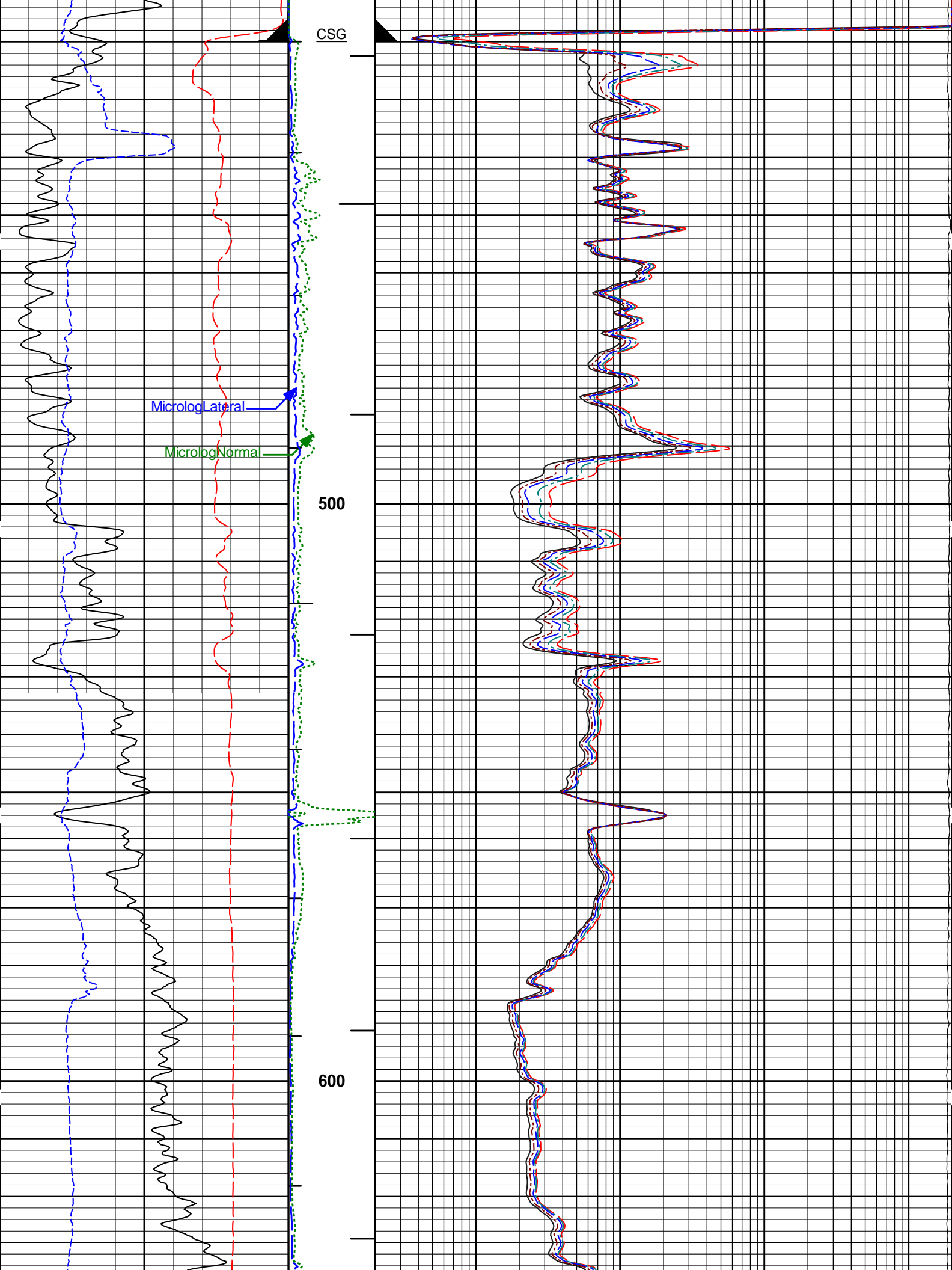
HALLIBURTON Plot Time: 16-Mar-15 09:29:16
Plot Range: 400 ft to 5211.92 ft
Data: BHORSE_T_W_5_21Well Based\MAIN
Plot File: \ACRT\2" RESISITIVITY

MAIN PASS 2" = 100'

HALLIBURTON Plot Time: 16-Mar-15 09:29:16
Plot Range: 400 ft to 5211.92 ft
Data: BHORSE_T_W_5_21Well Based\MAIN
Plot File: \ACRT\ACRT_M

MAIN PASS 5" = 100'





GAMMA RAY

CALIPER

SP

MicrologLateral

MicrologNormal

700

800

RT90

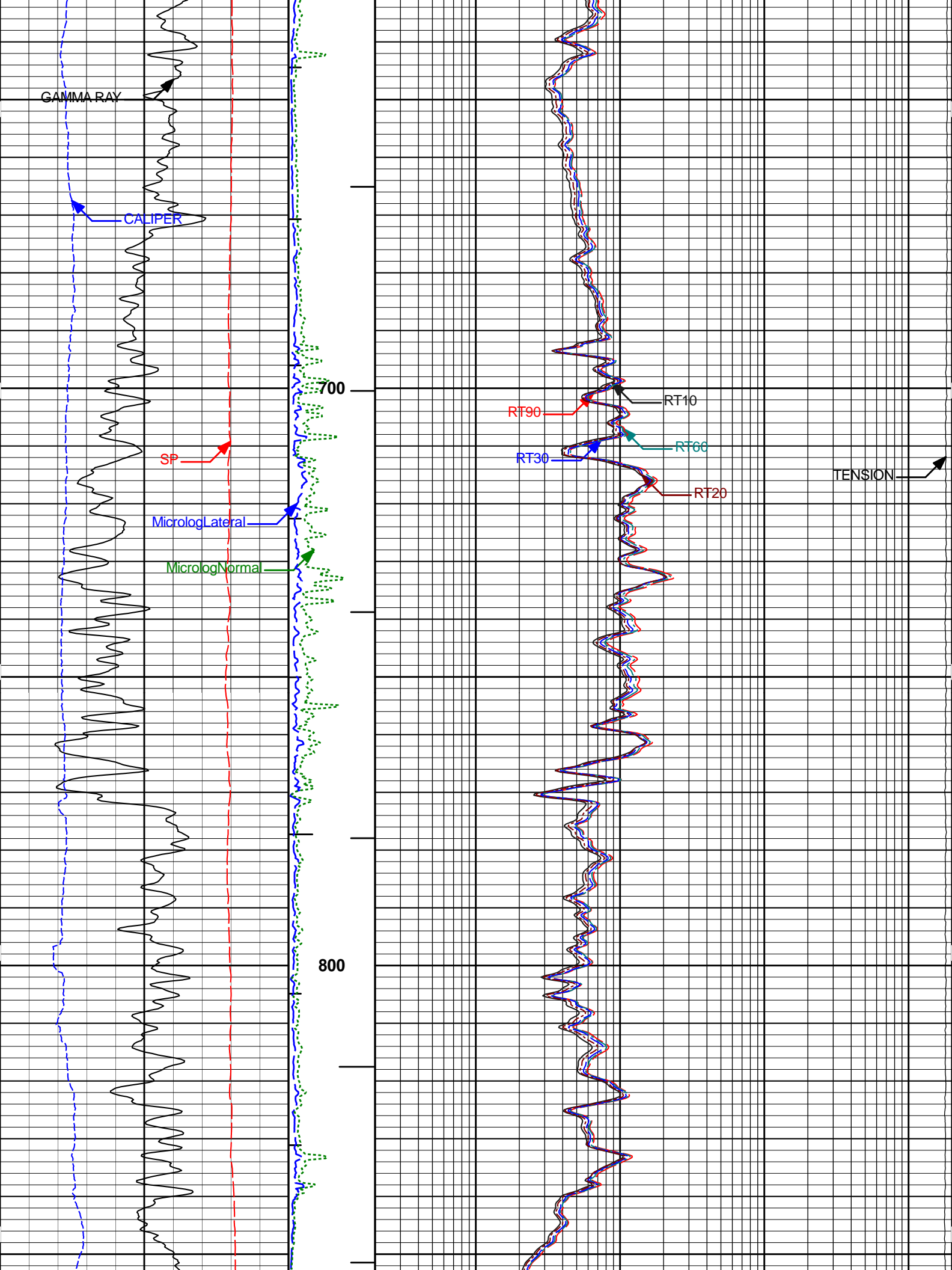
RT30

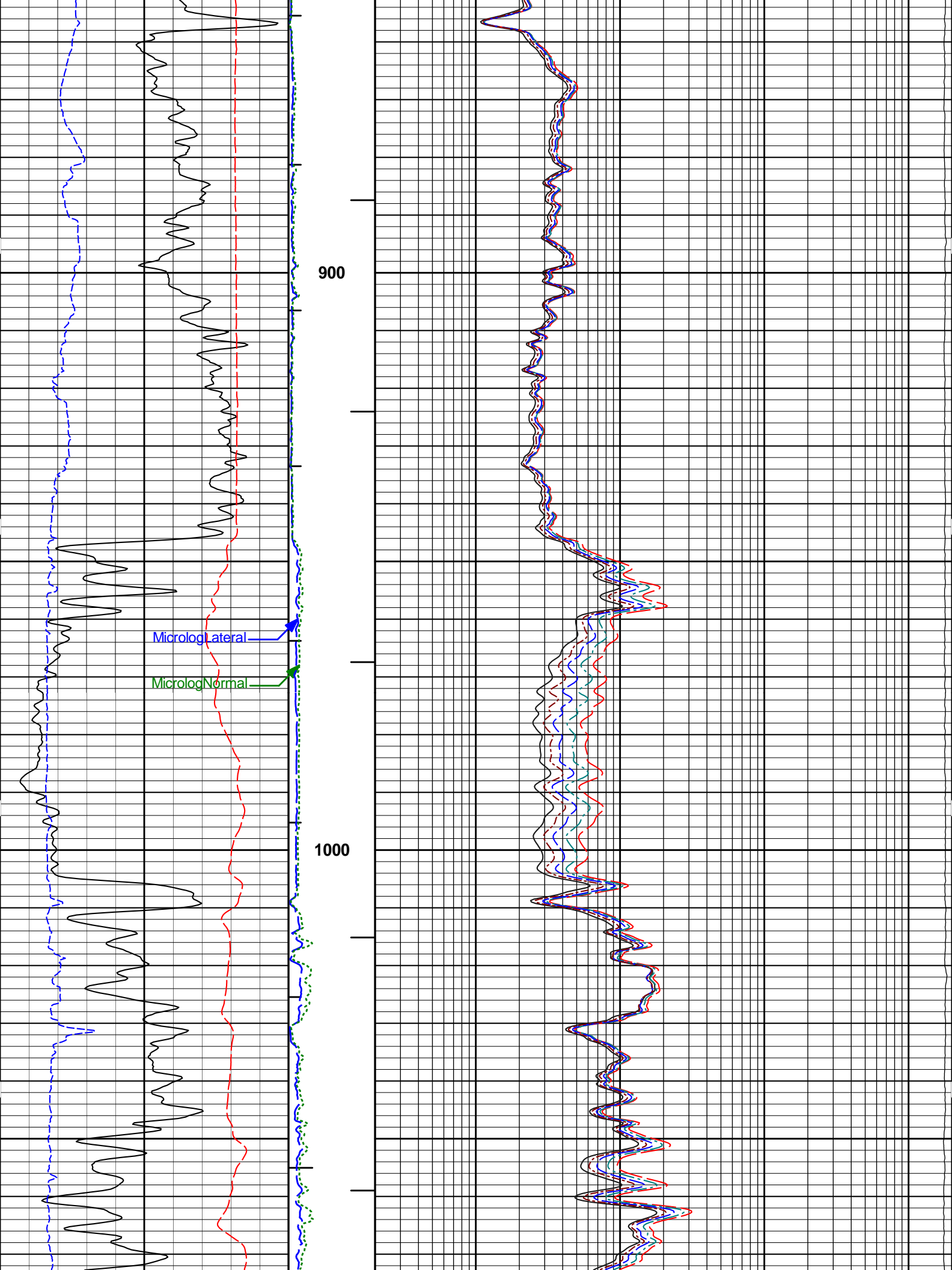
RT10

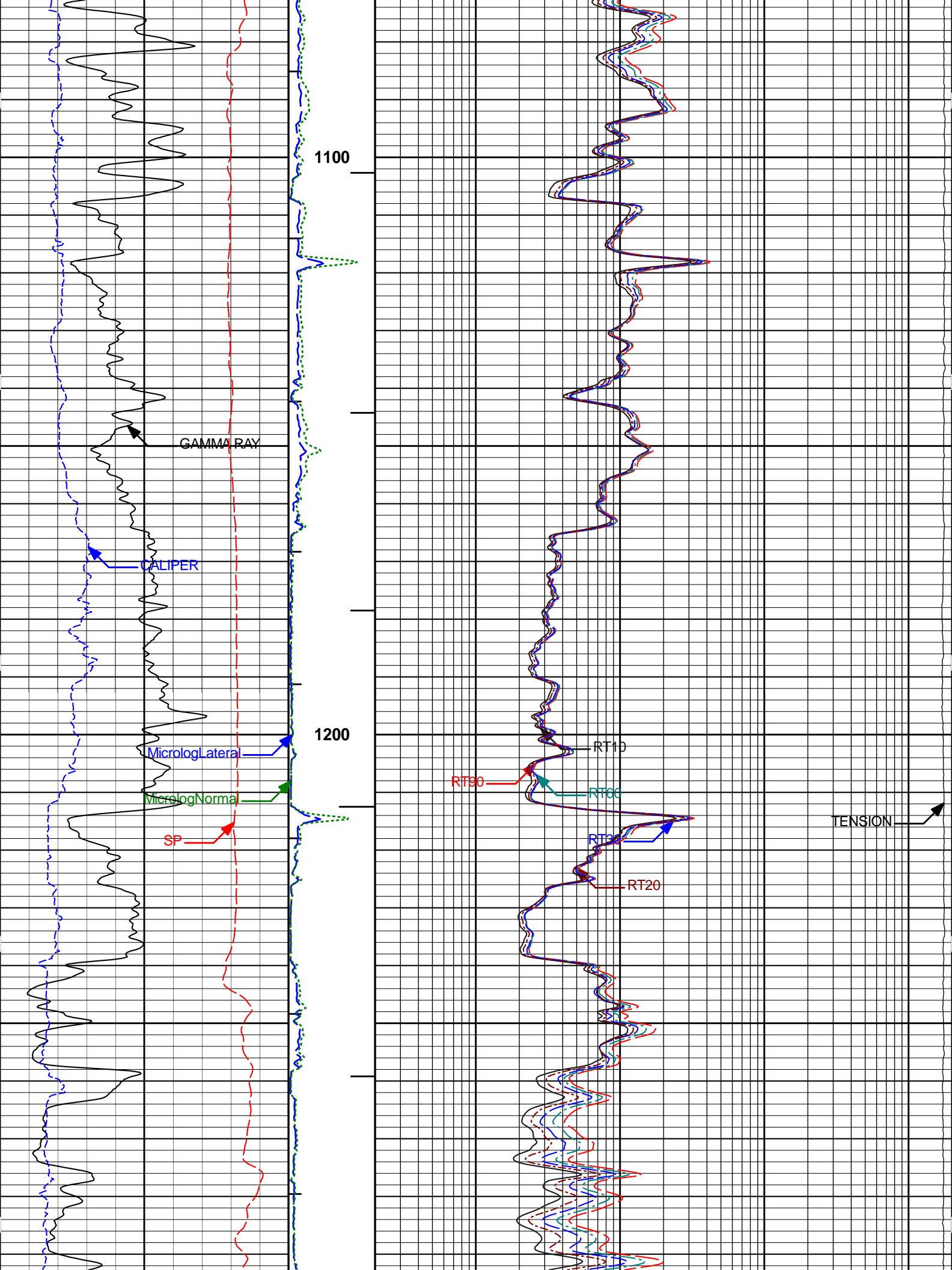
RT66

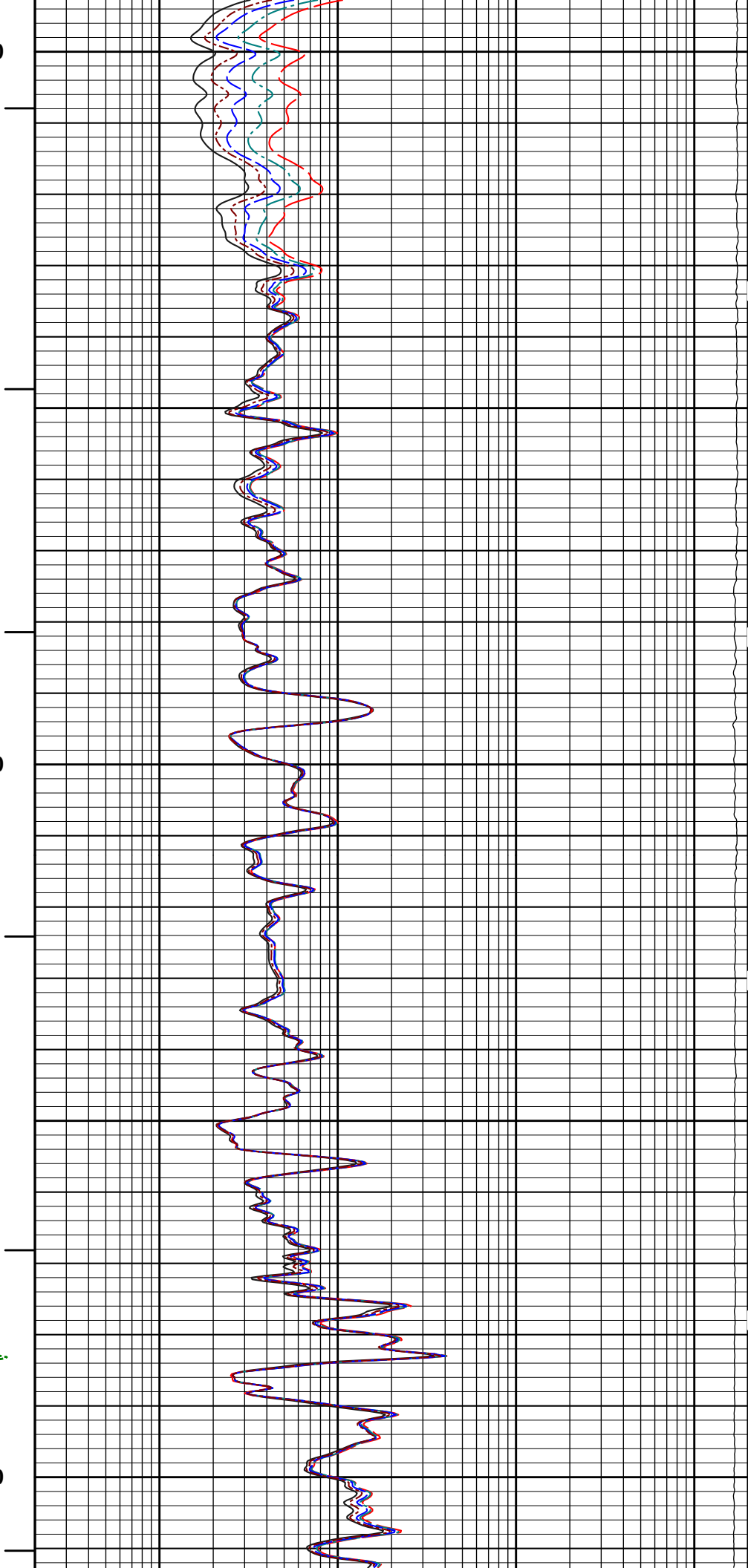
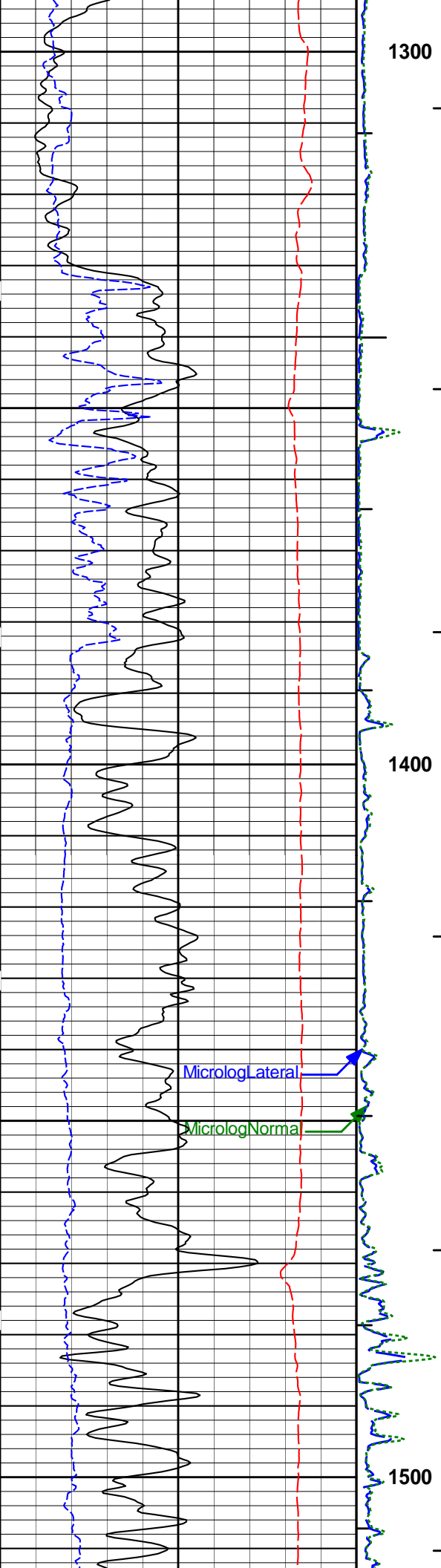
RT20

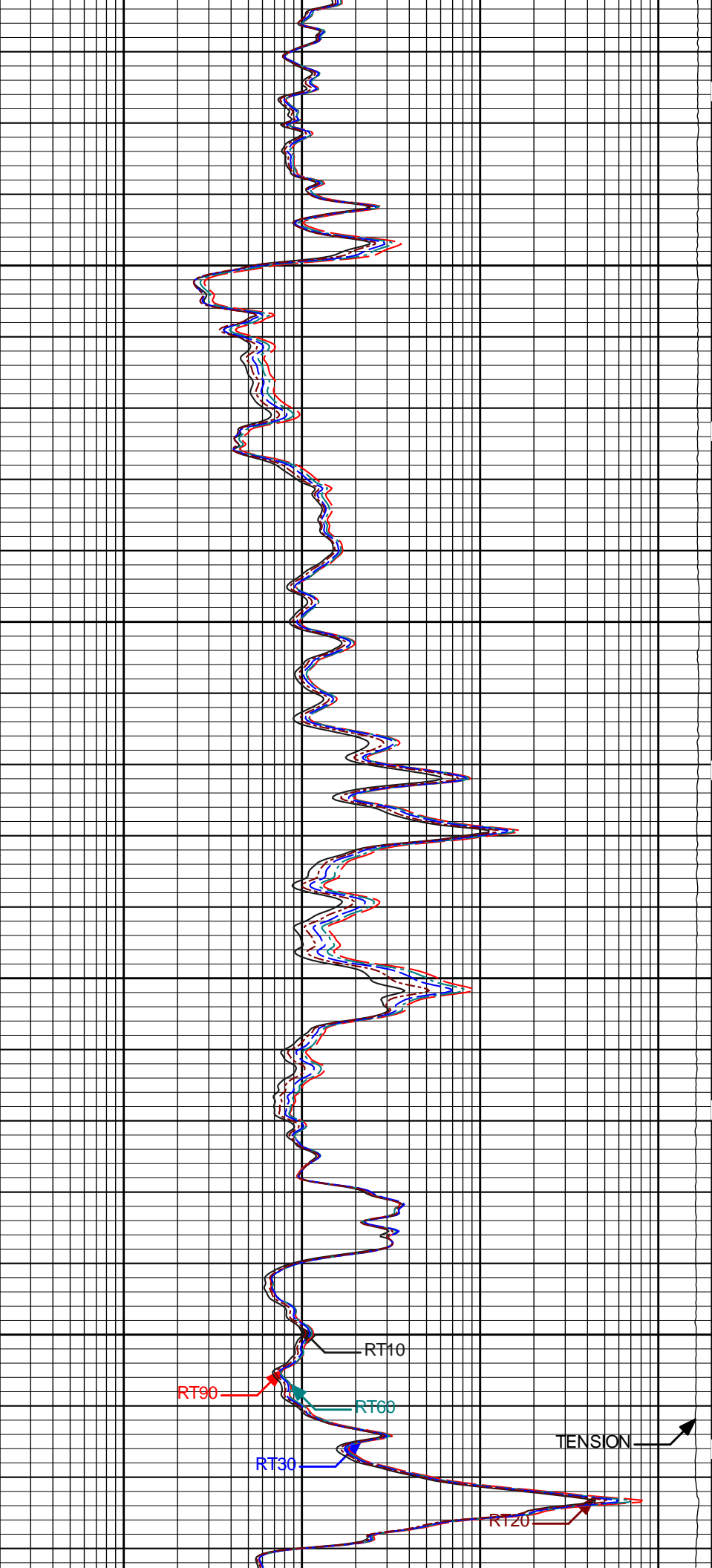
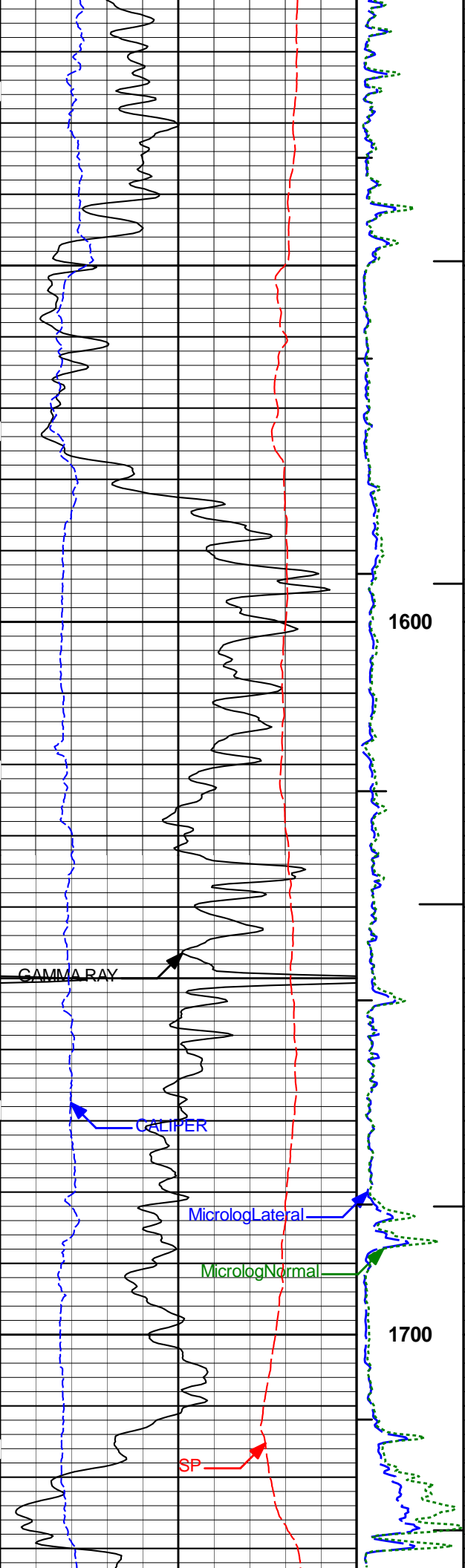
TENSION

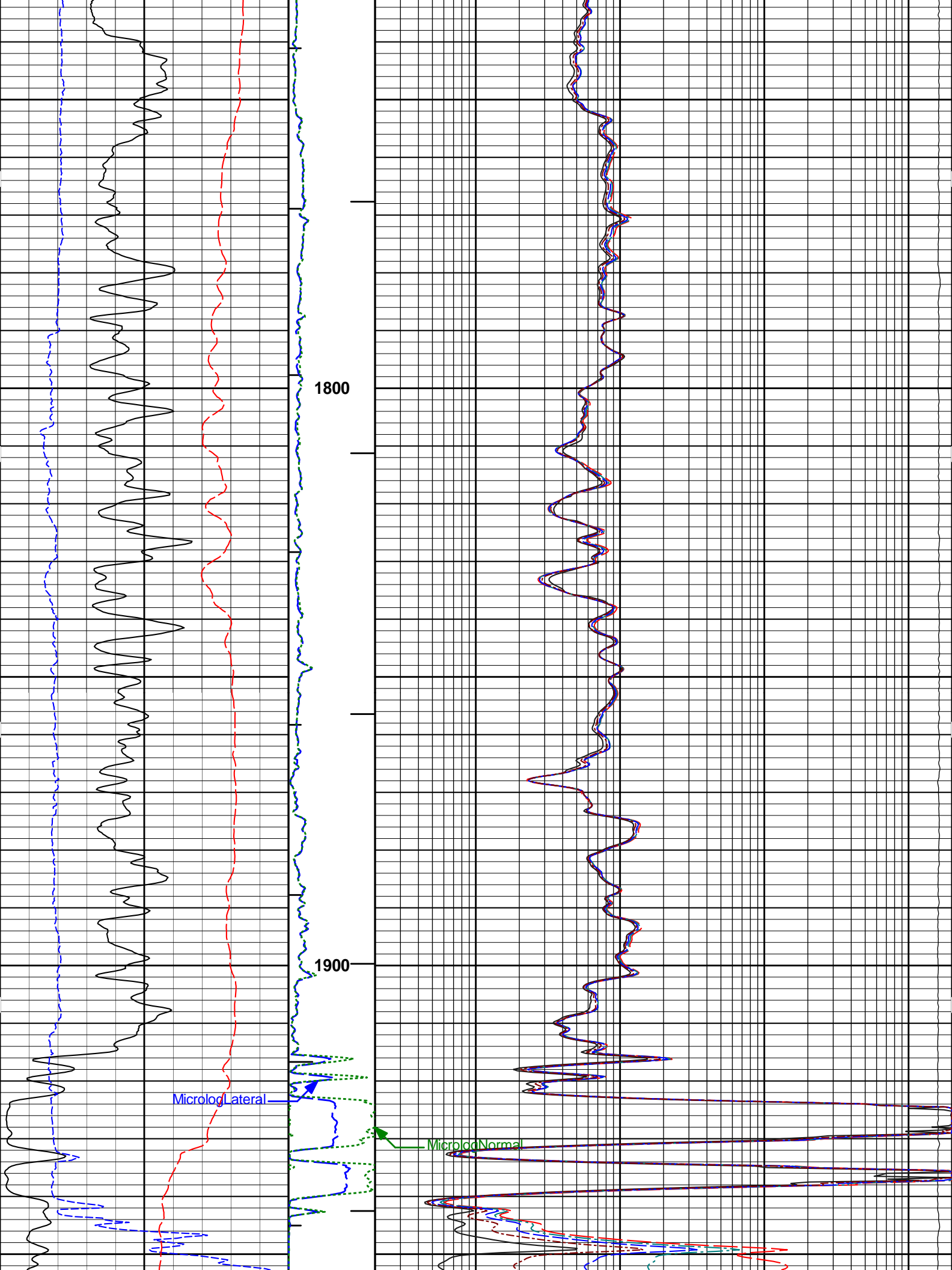


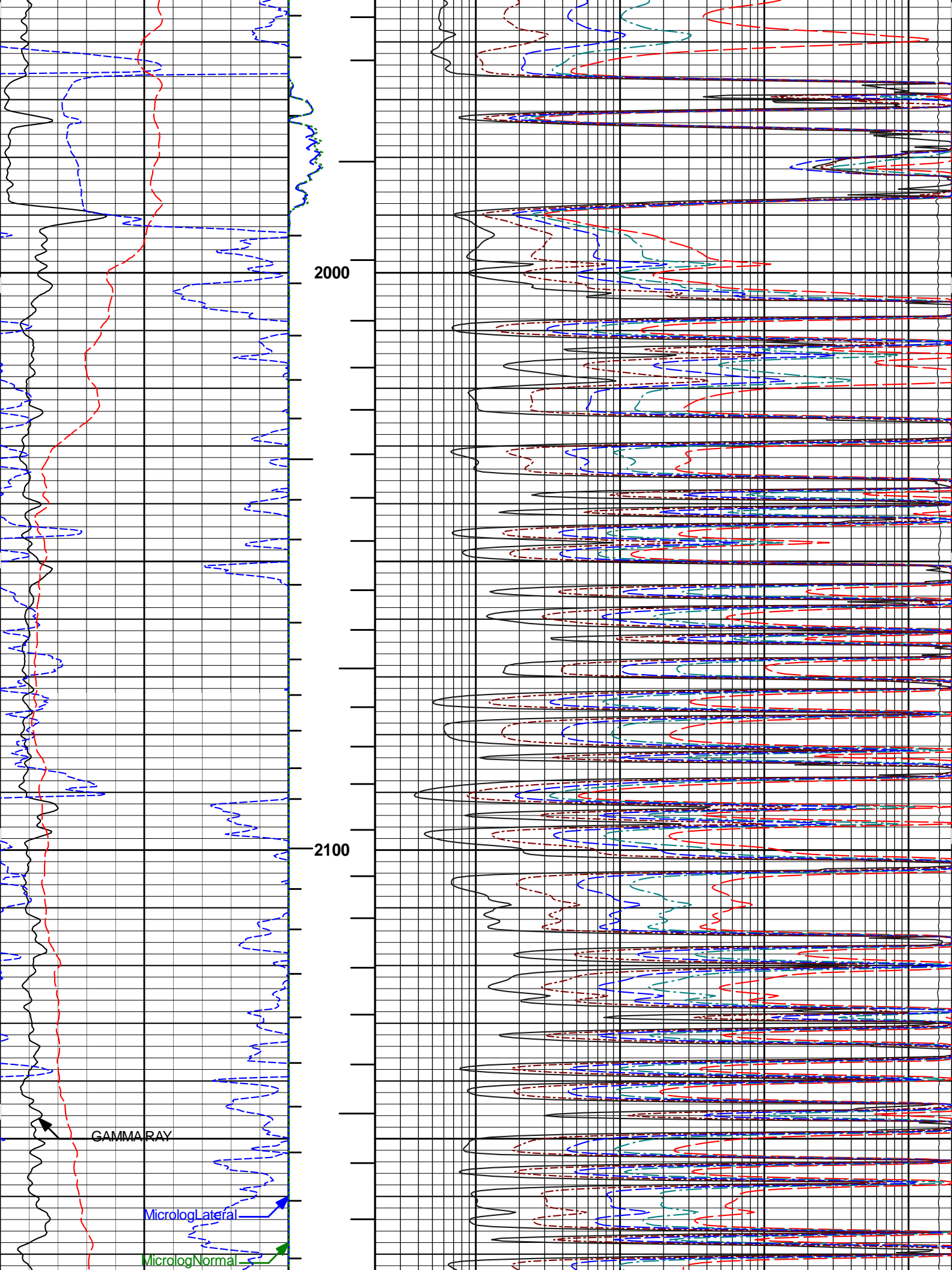


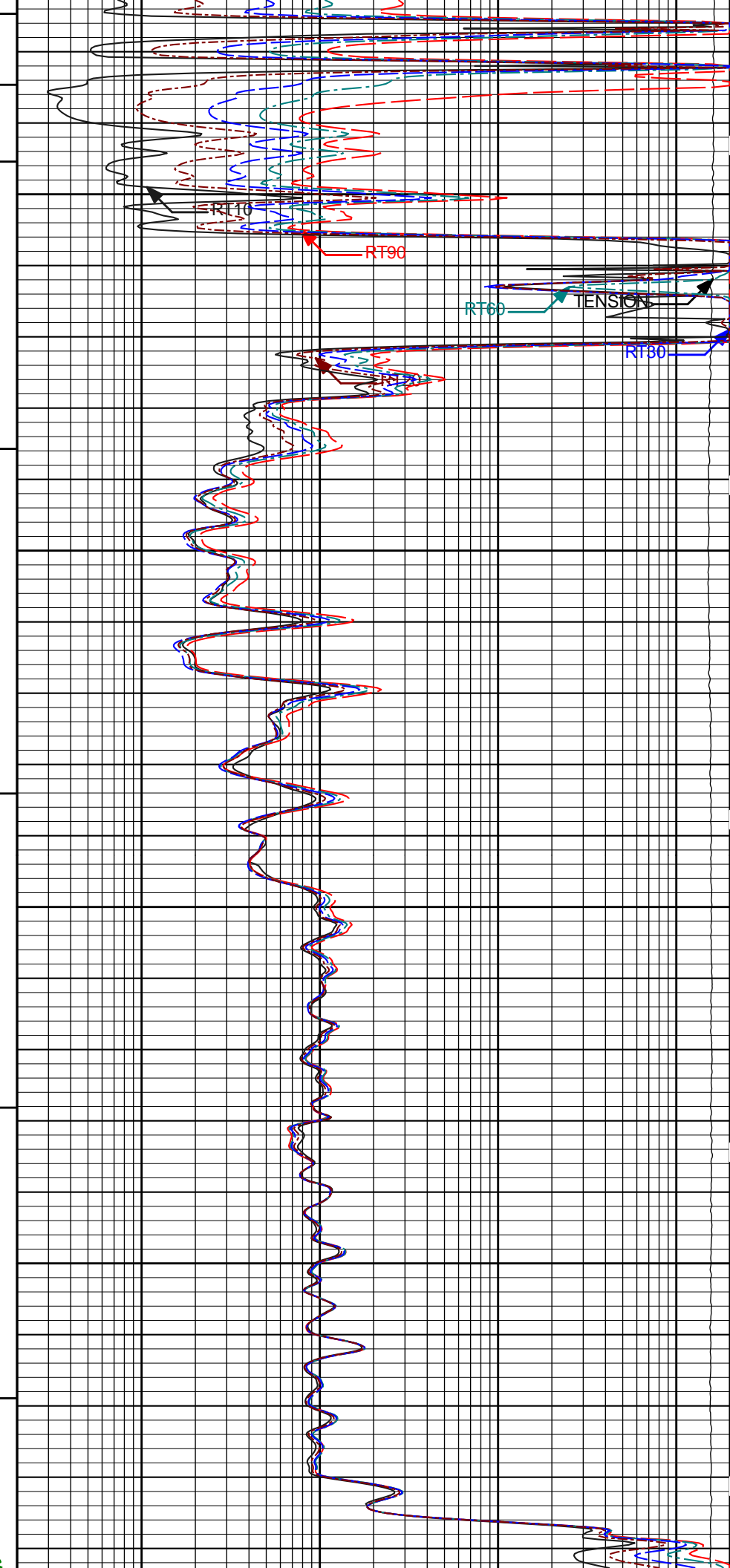
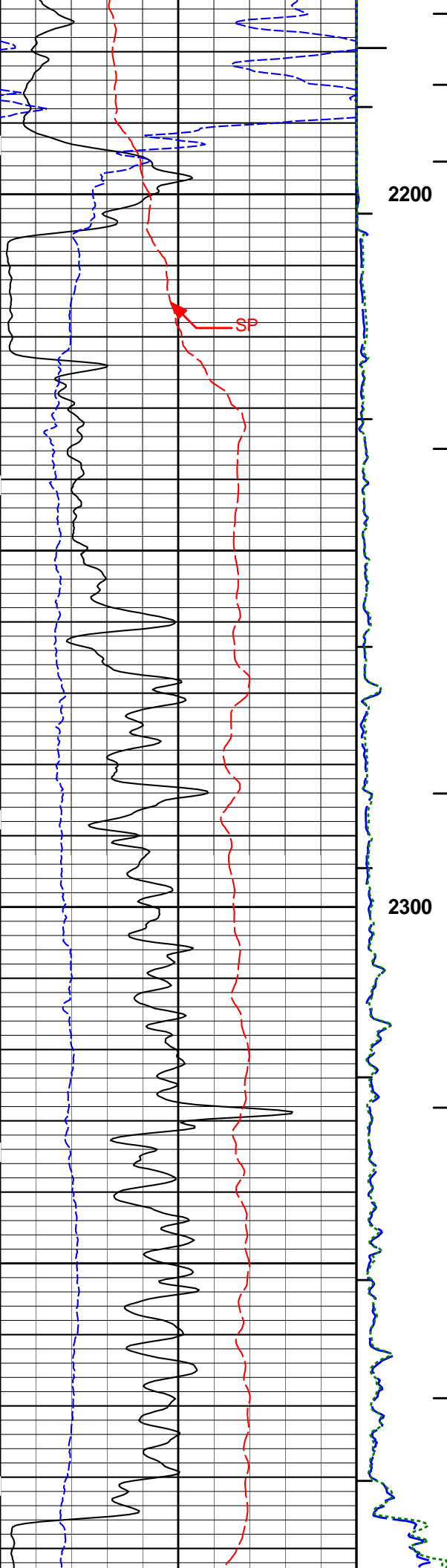


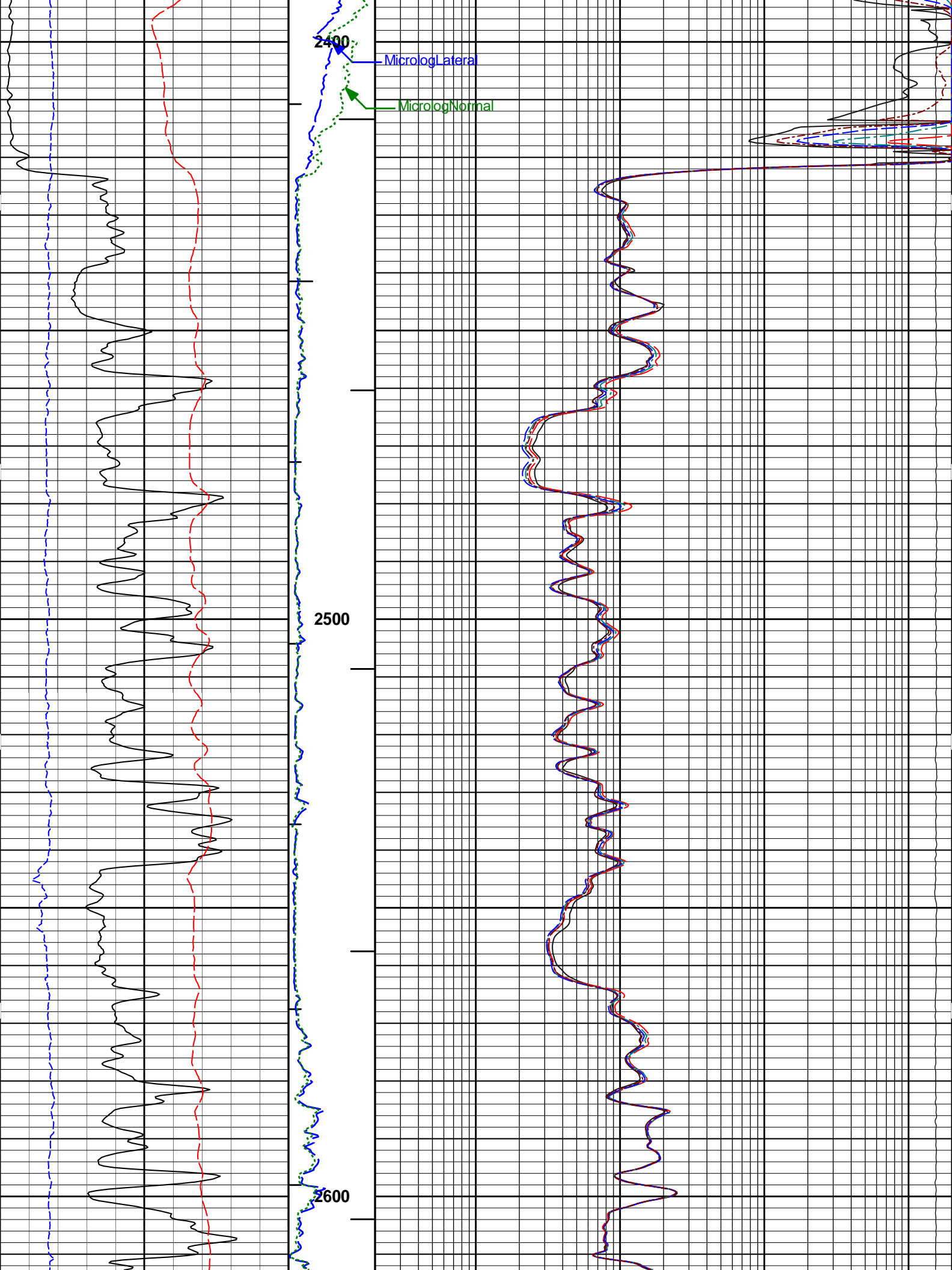


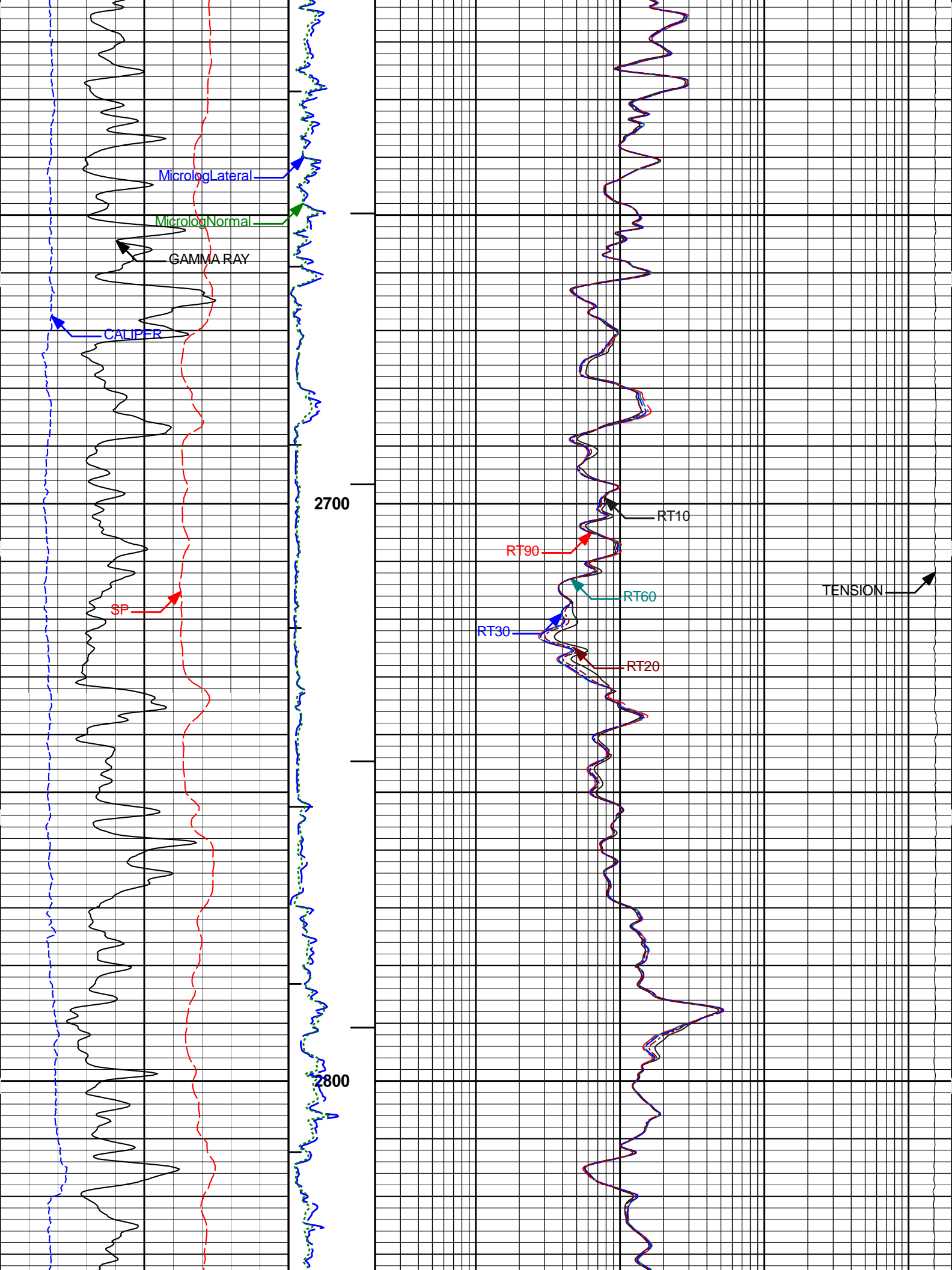


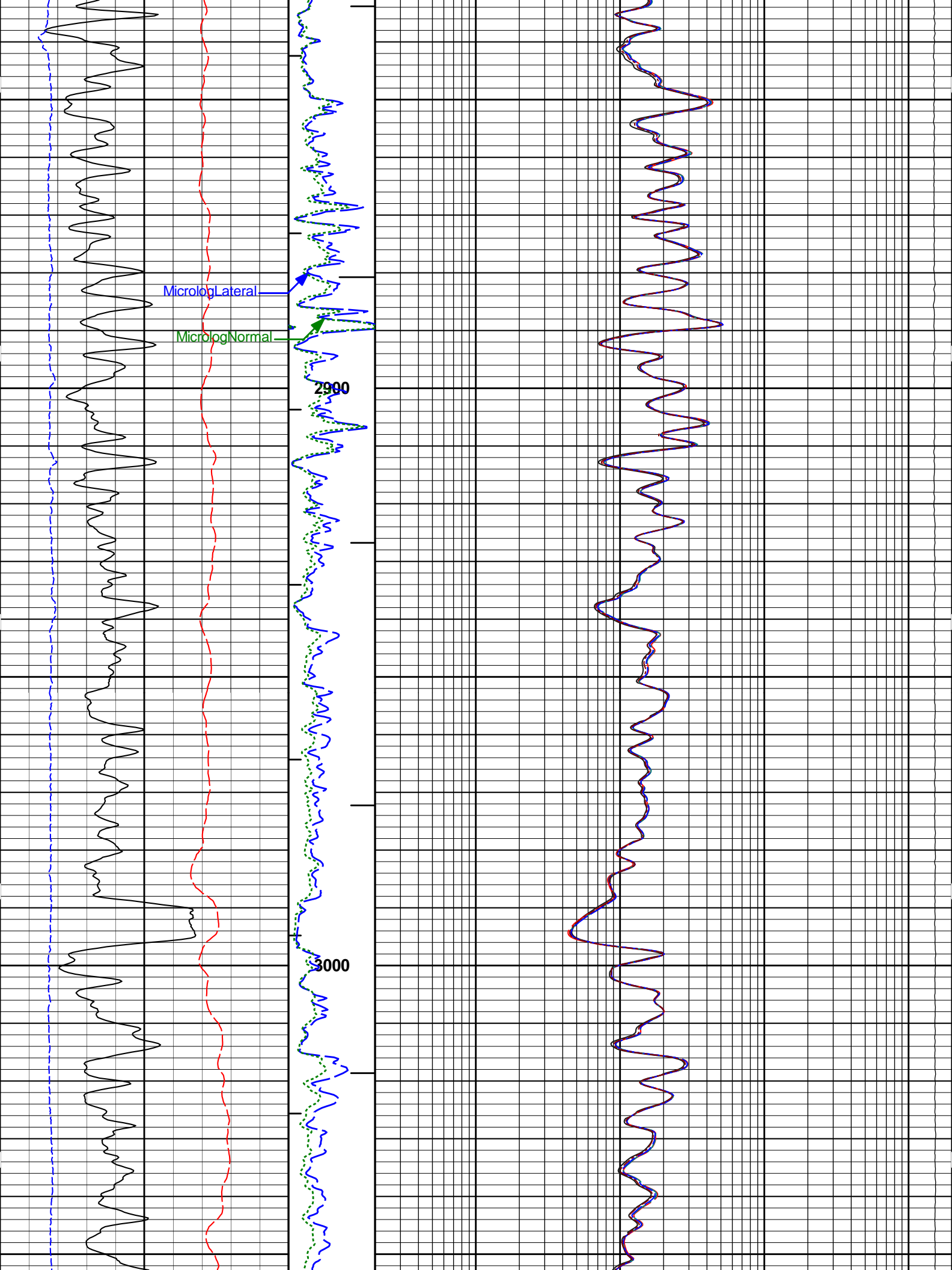


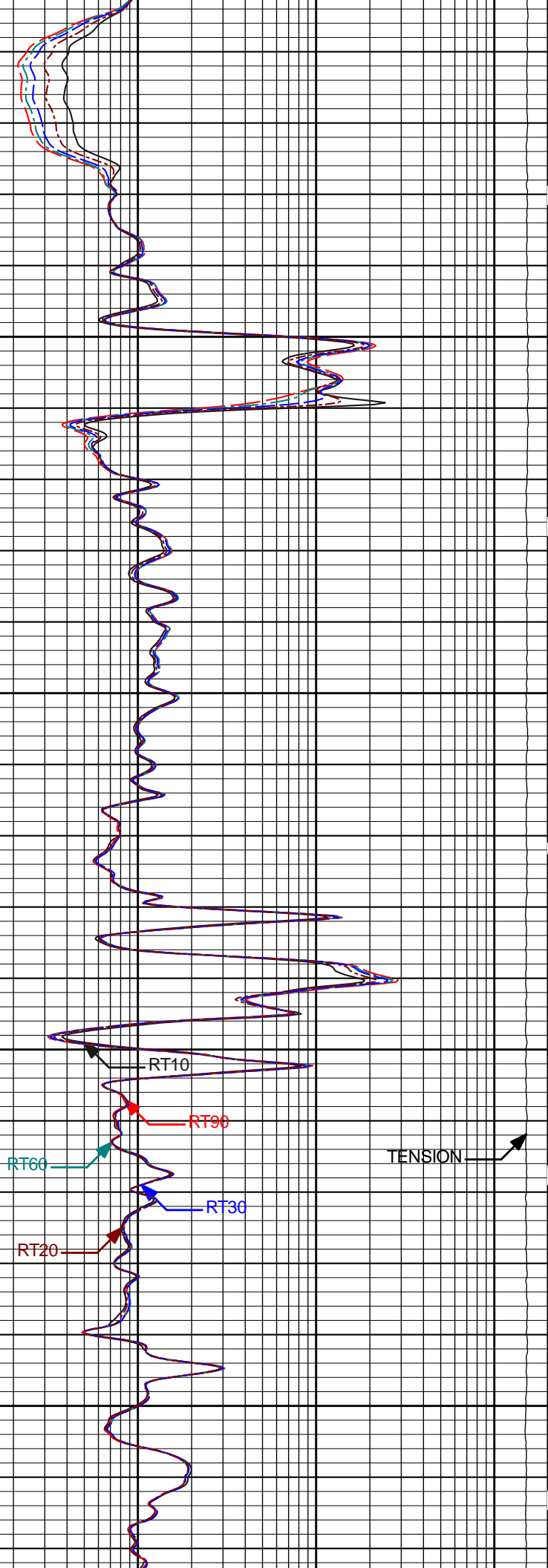
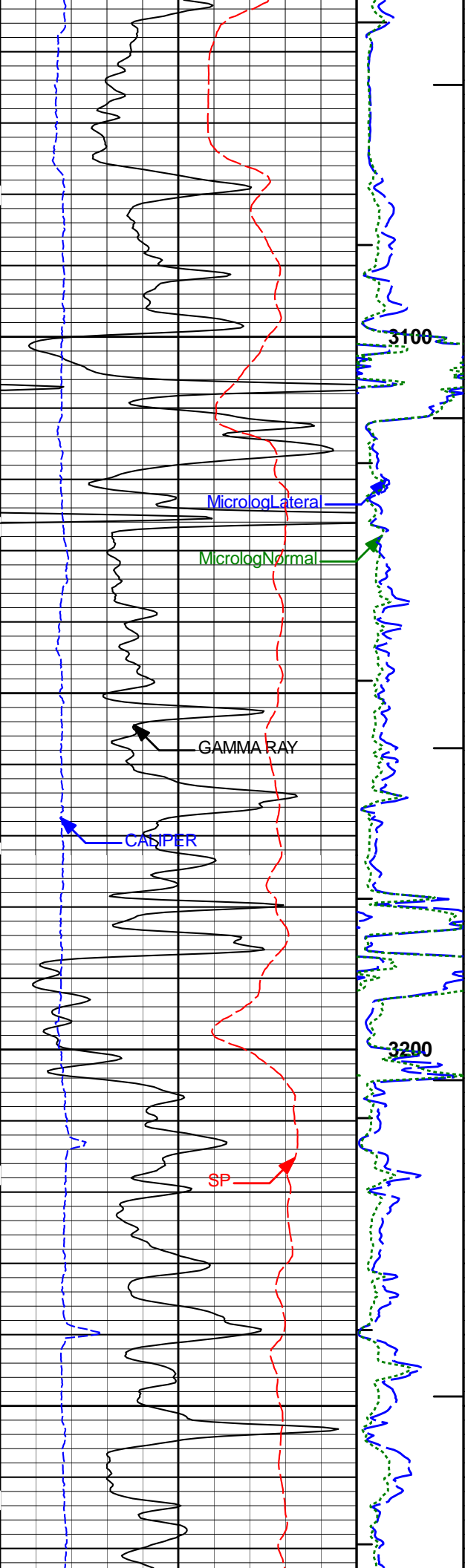


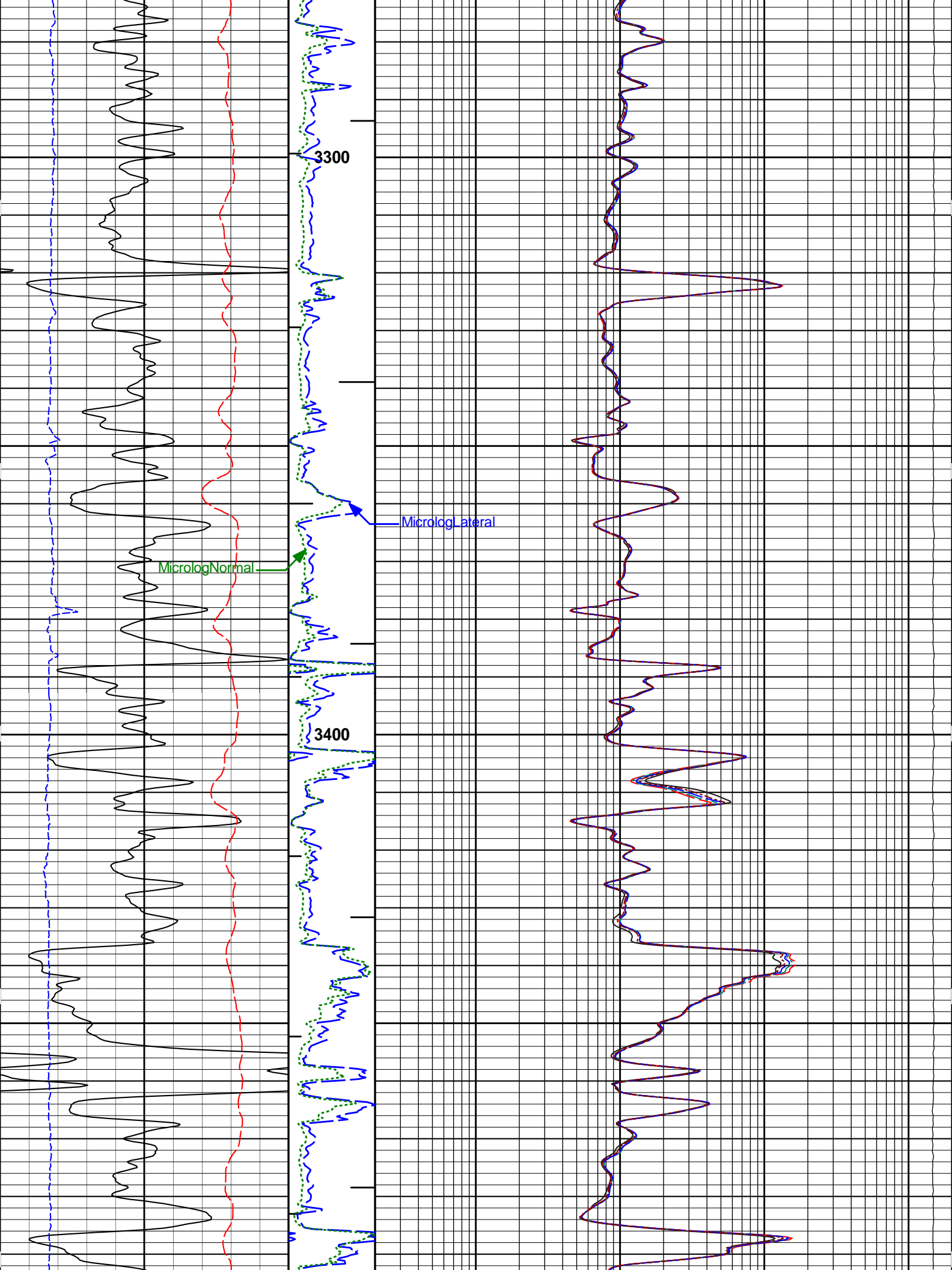


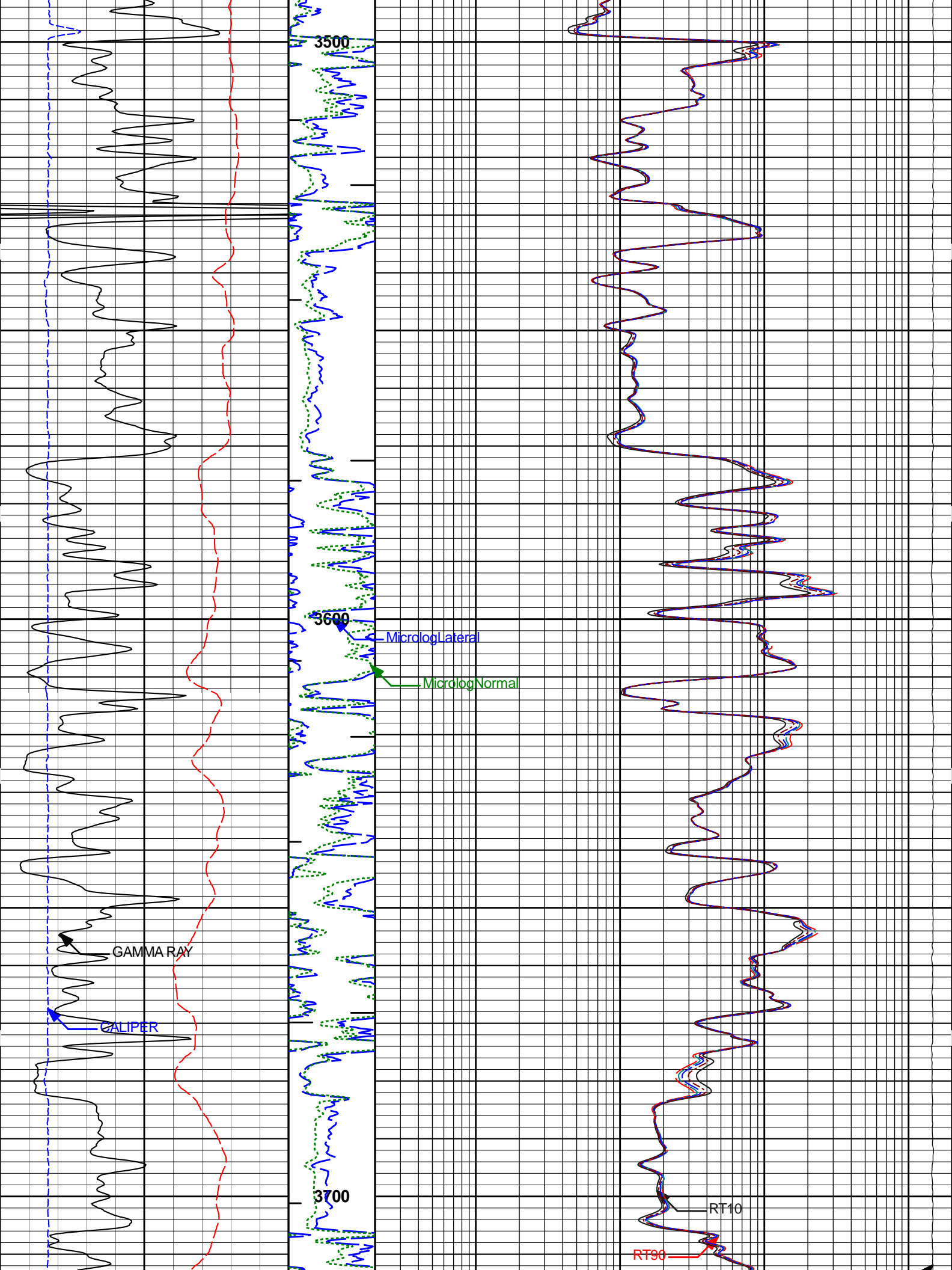


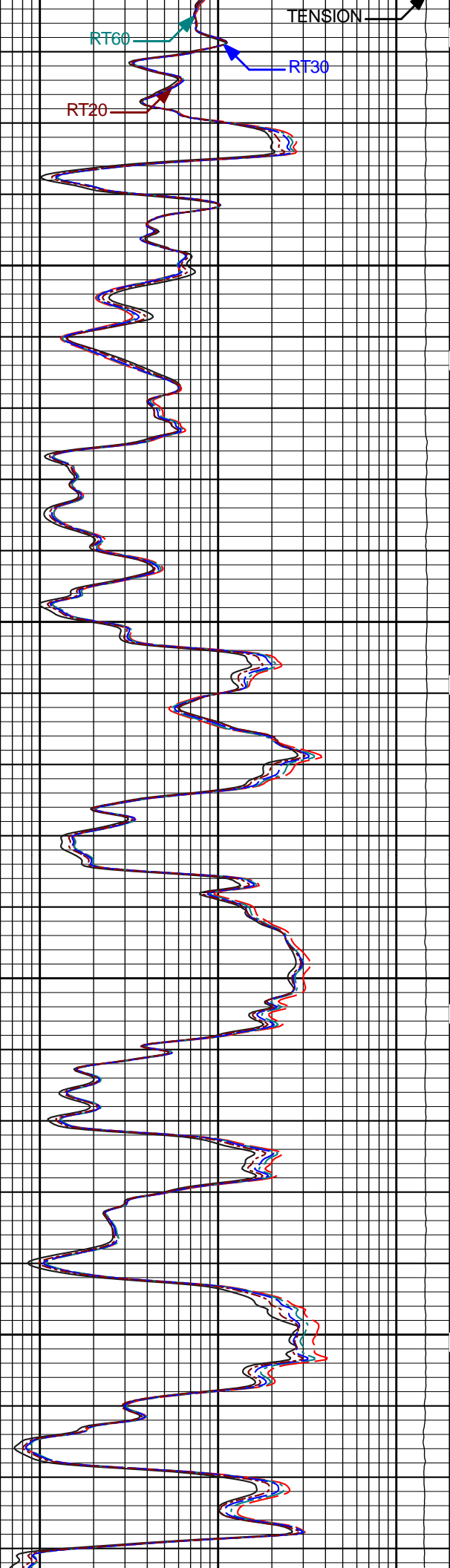
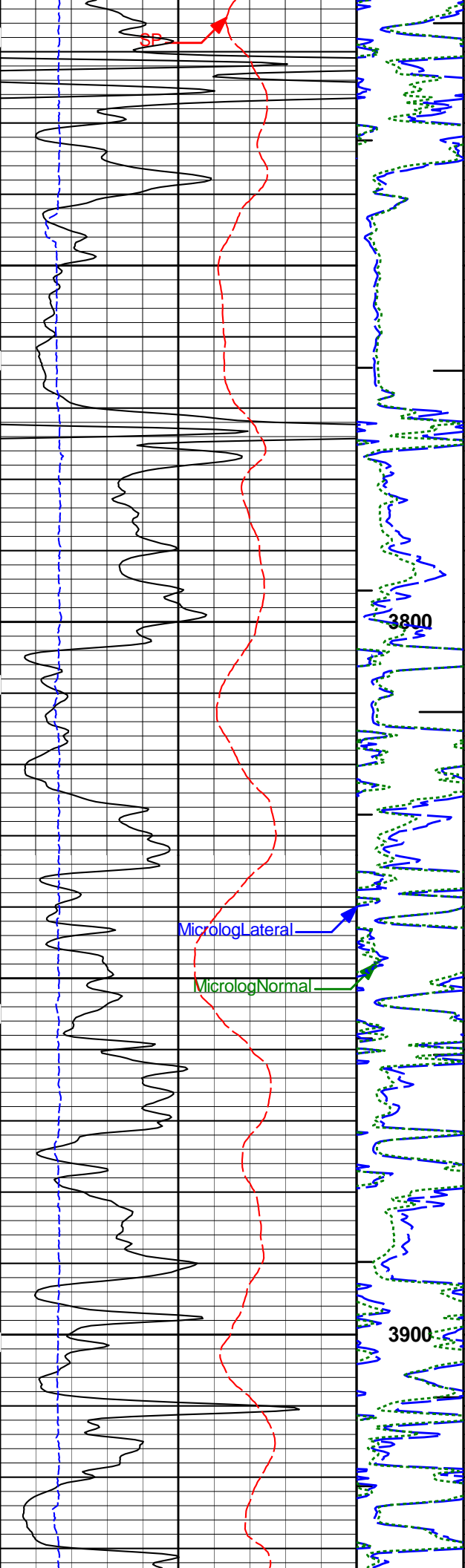


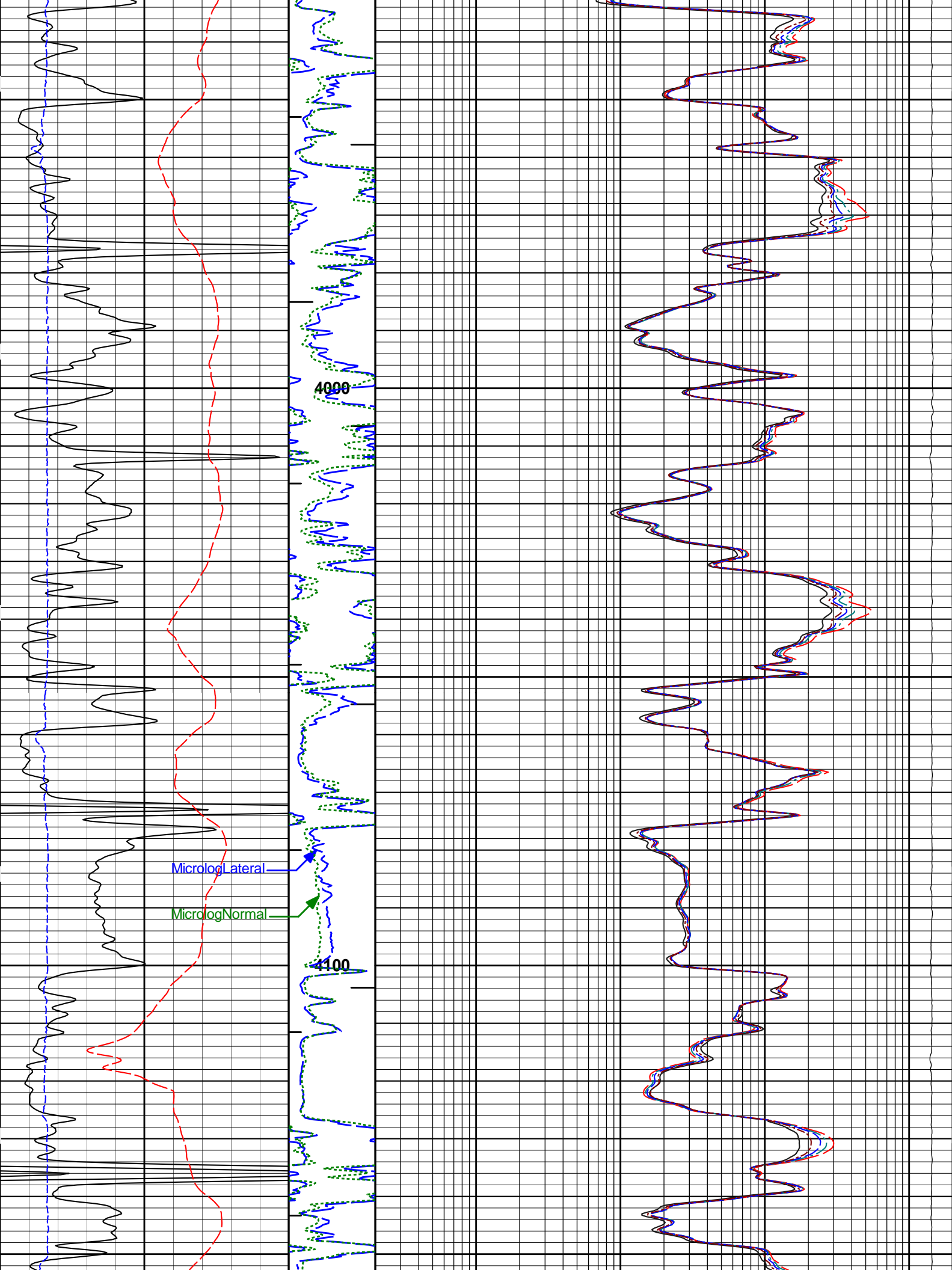


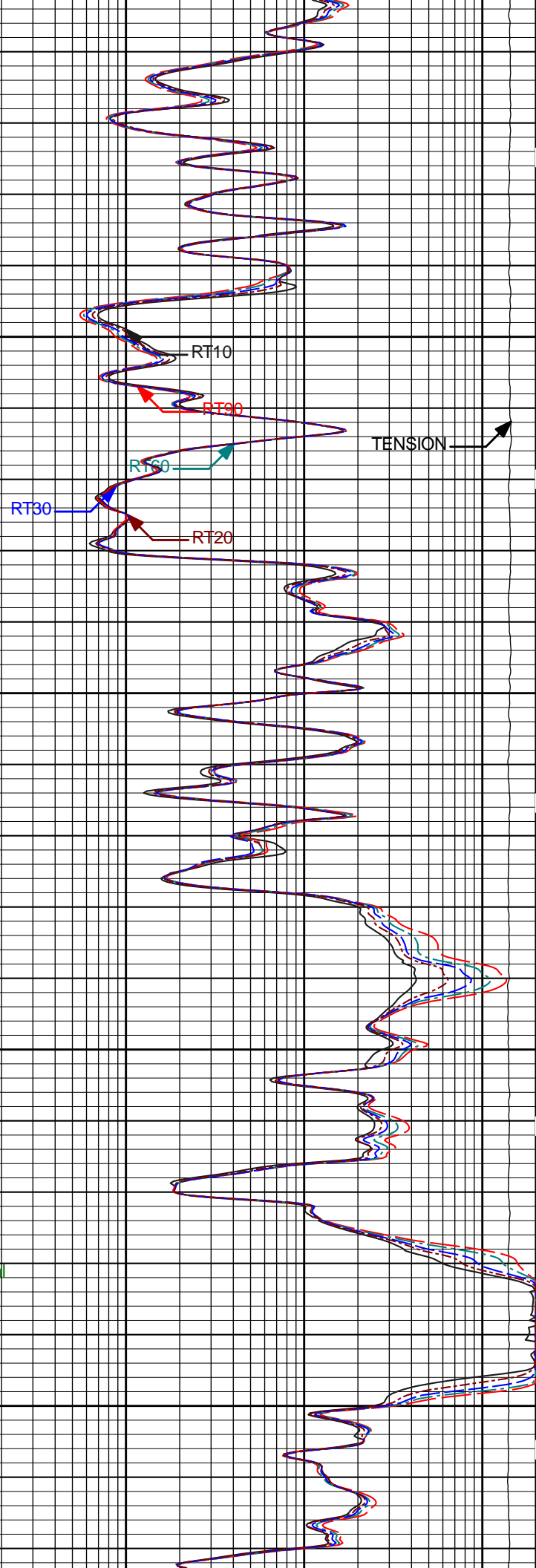
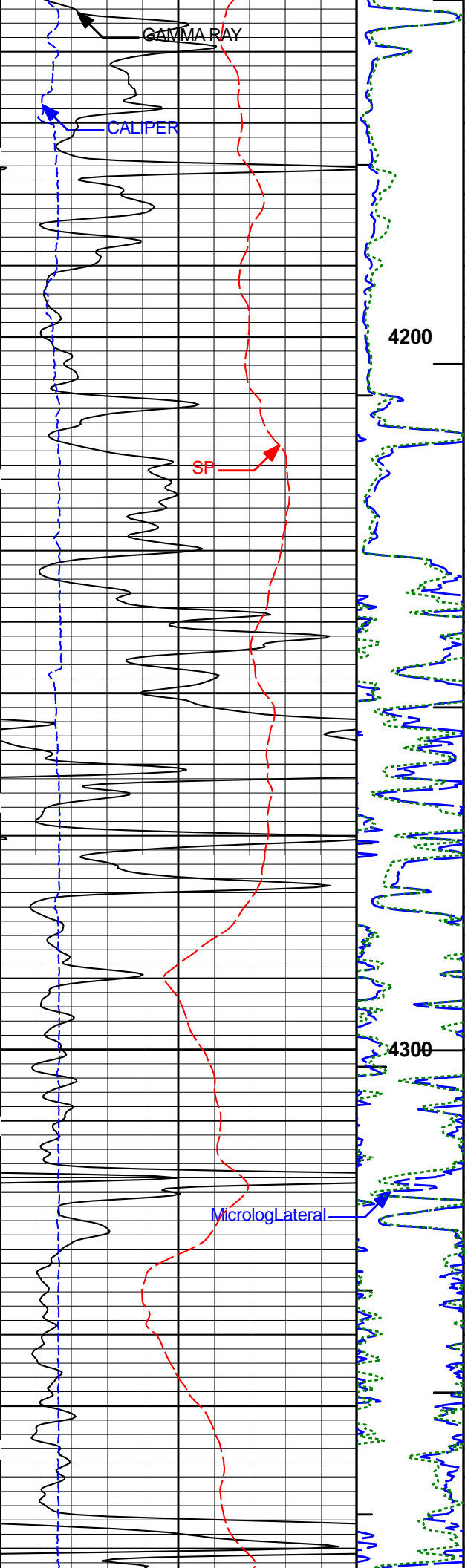


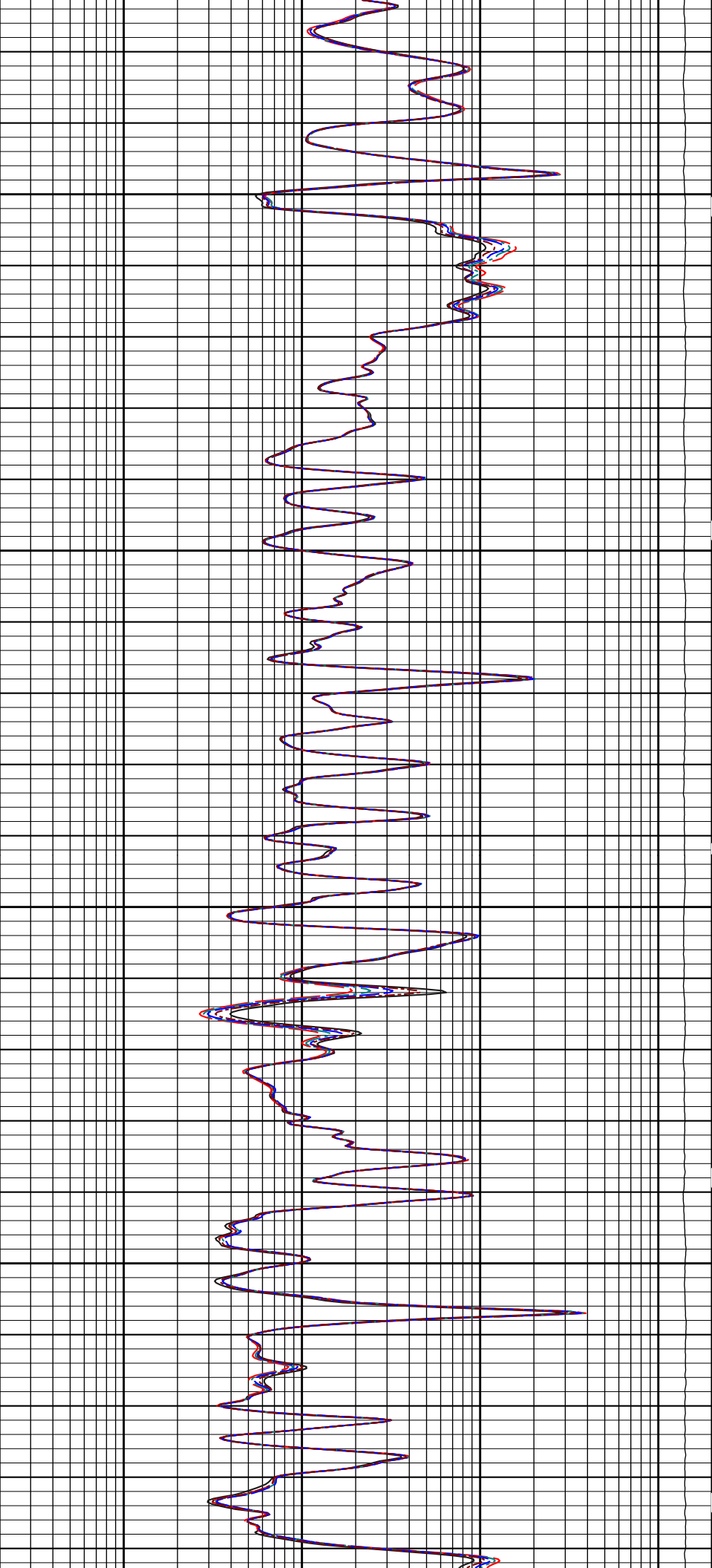
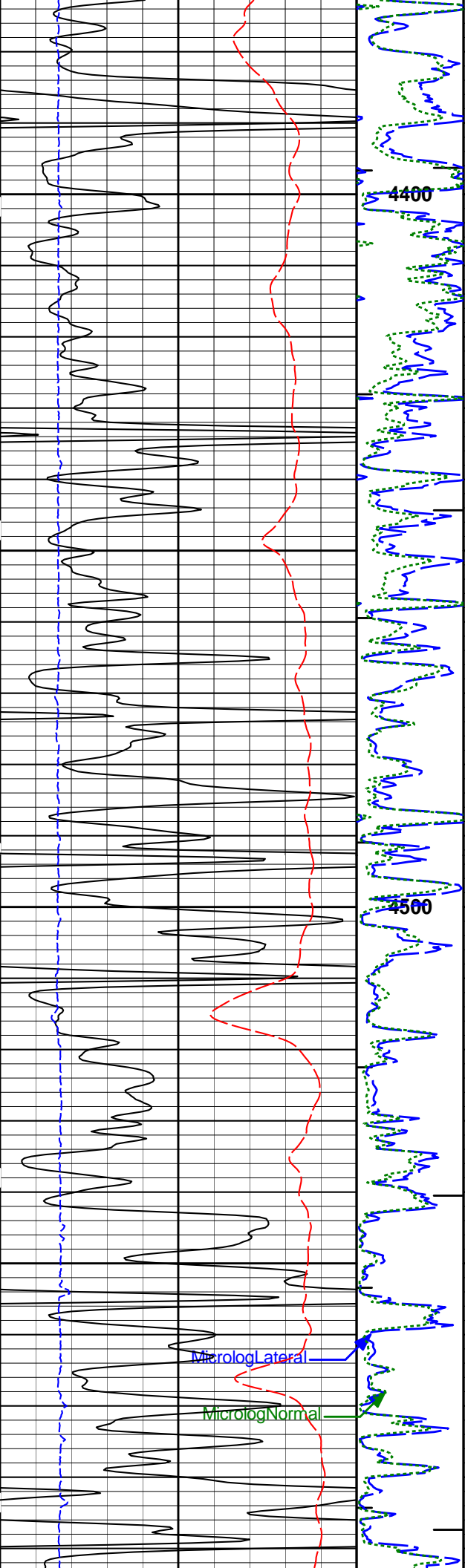


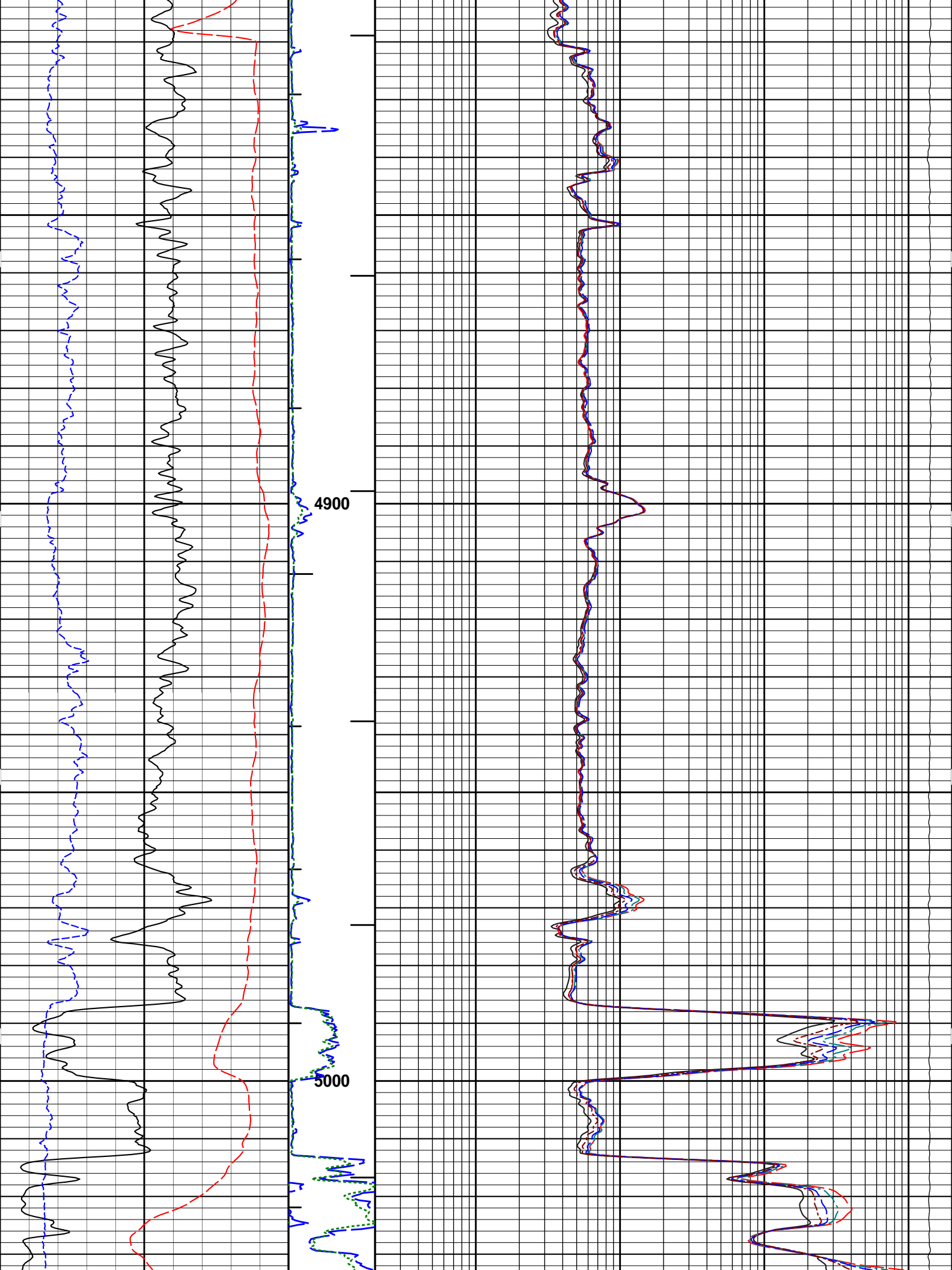


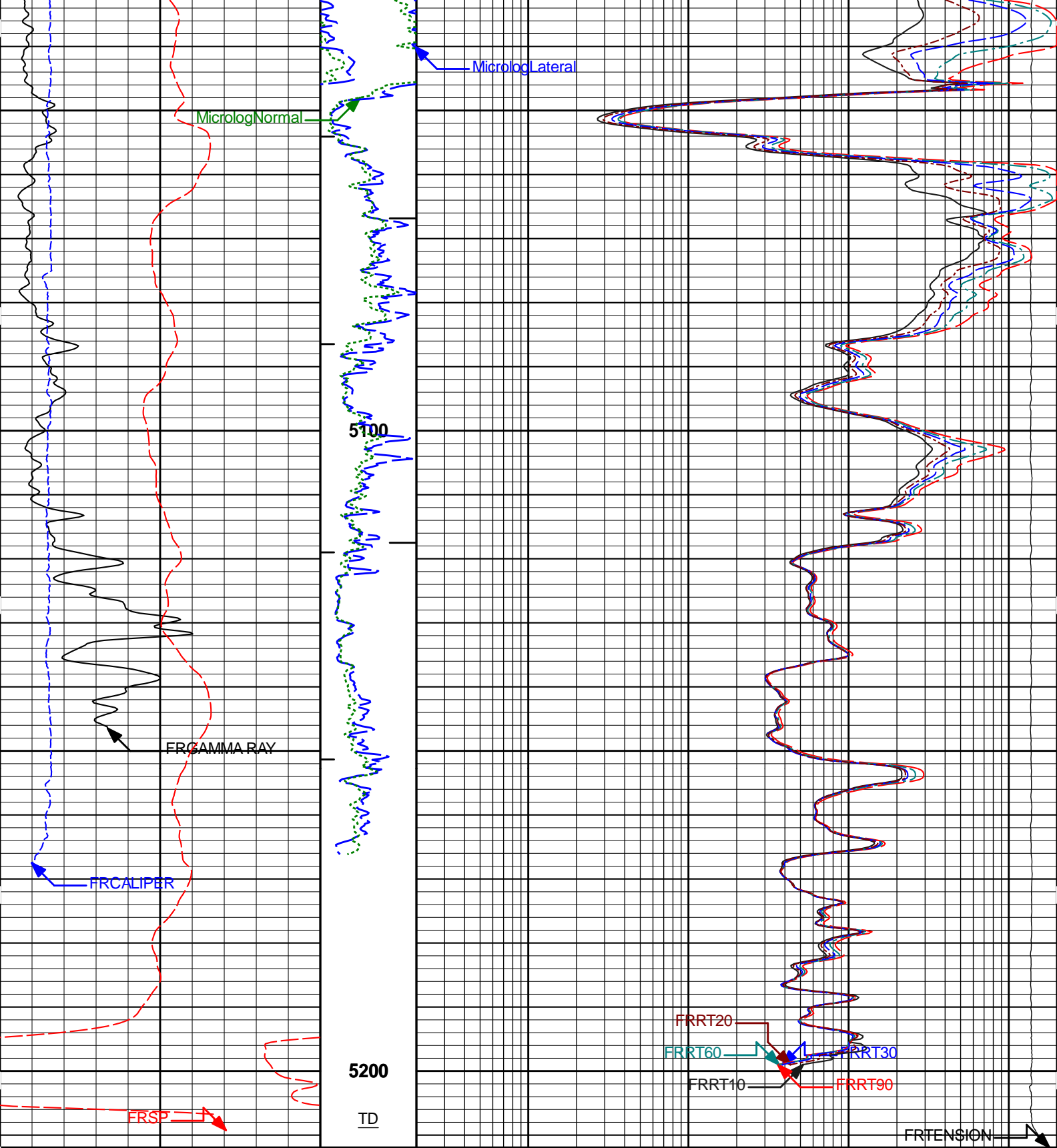




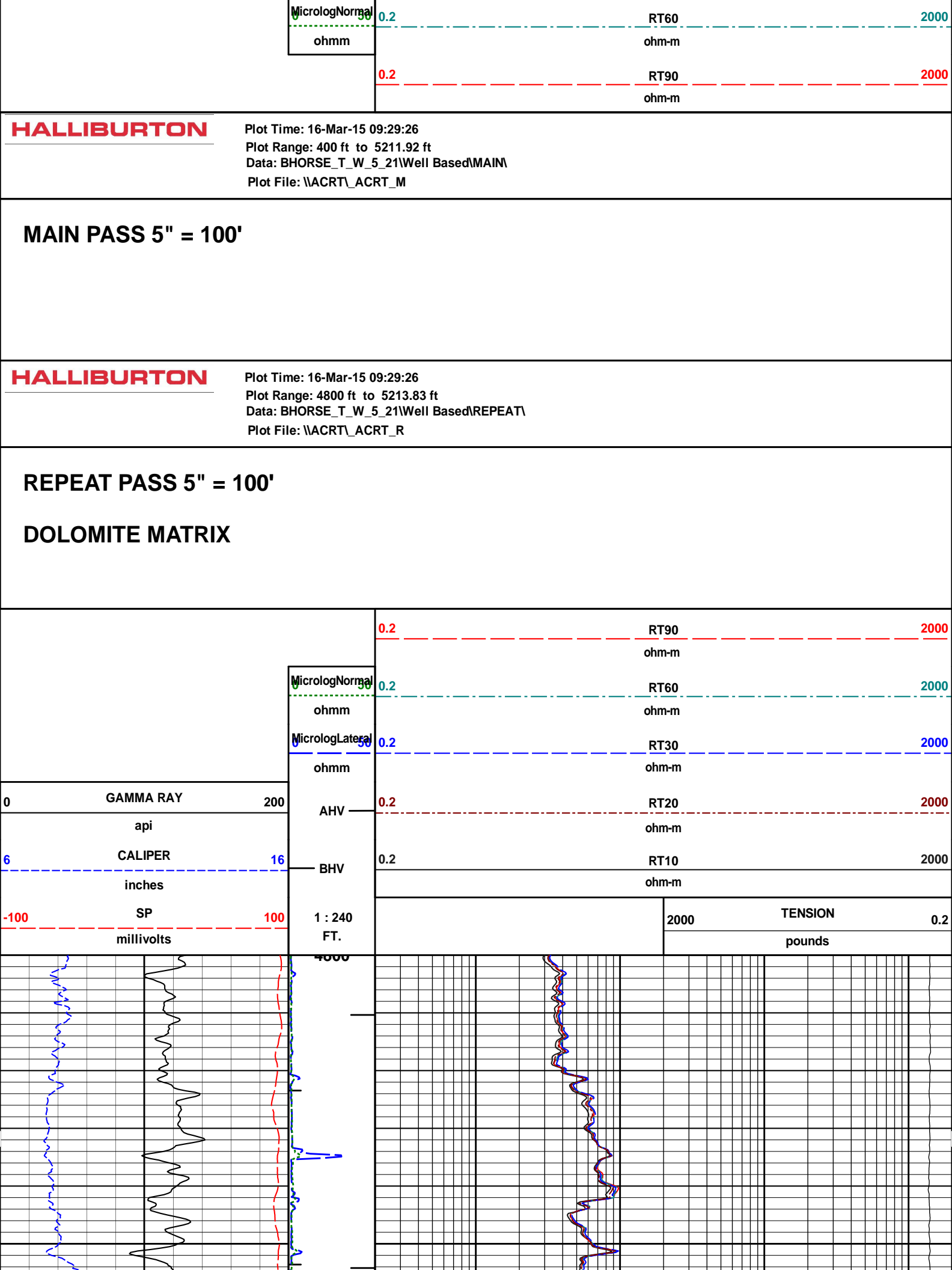


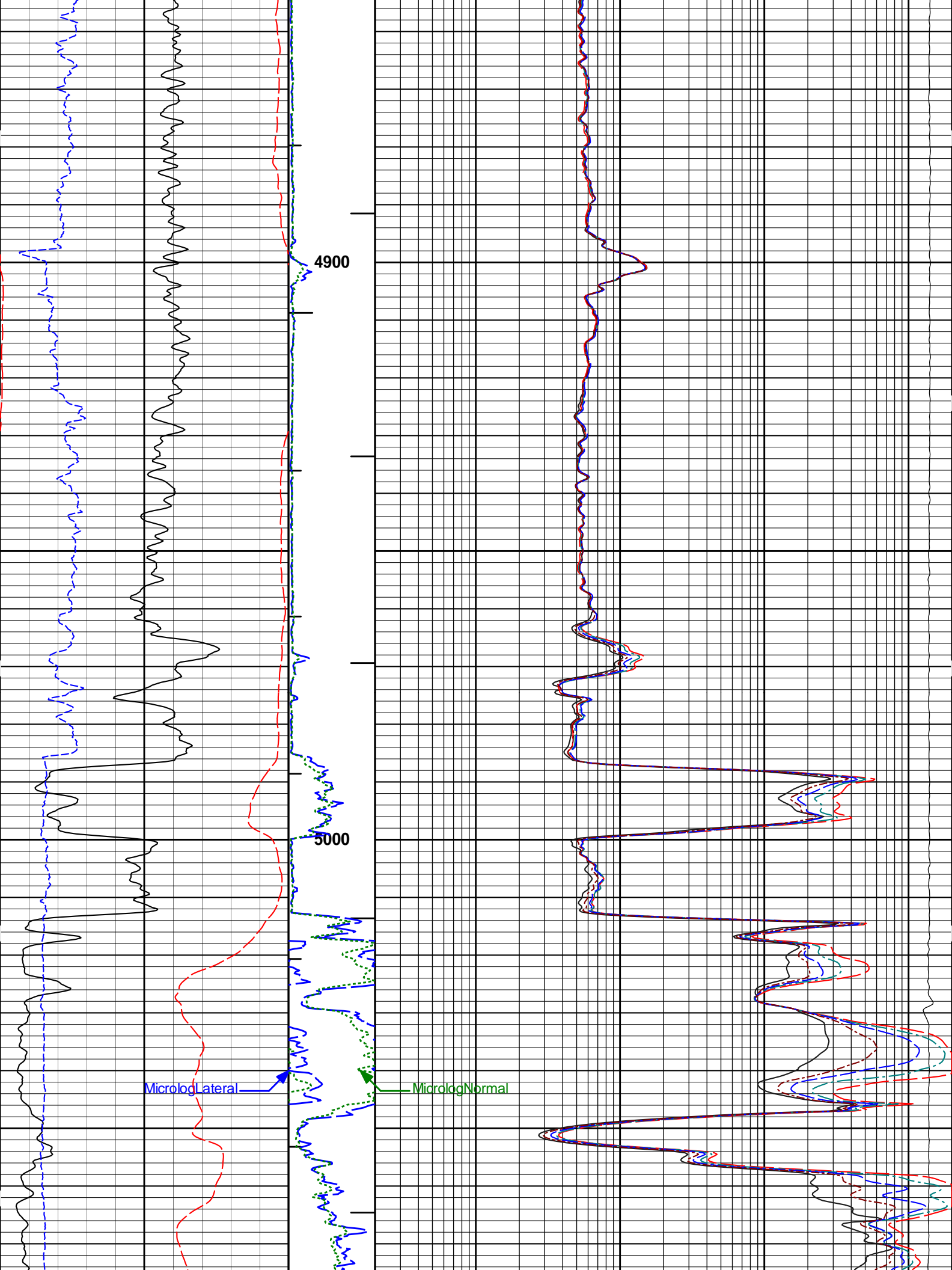


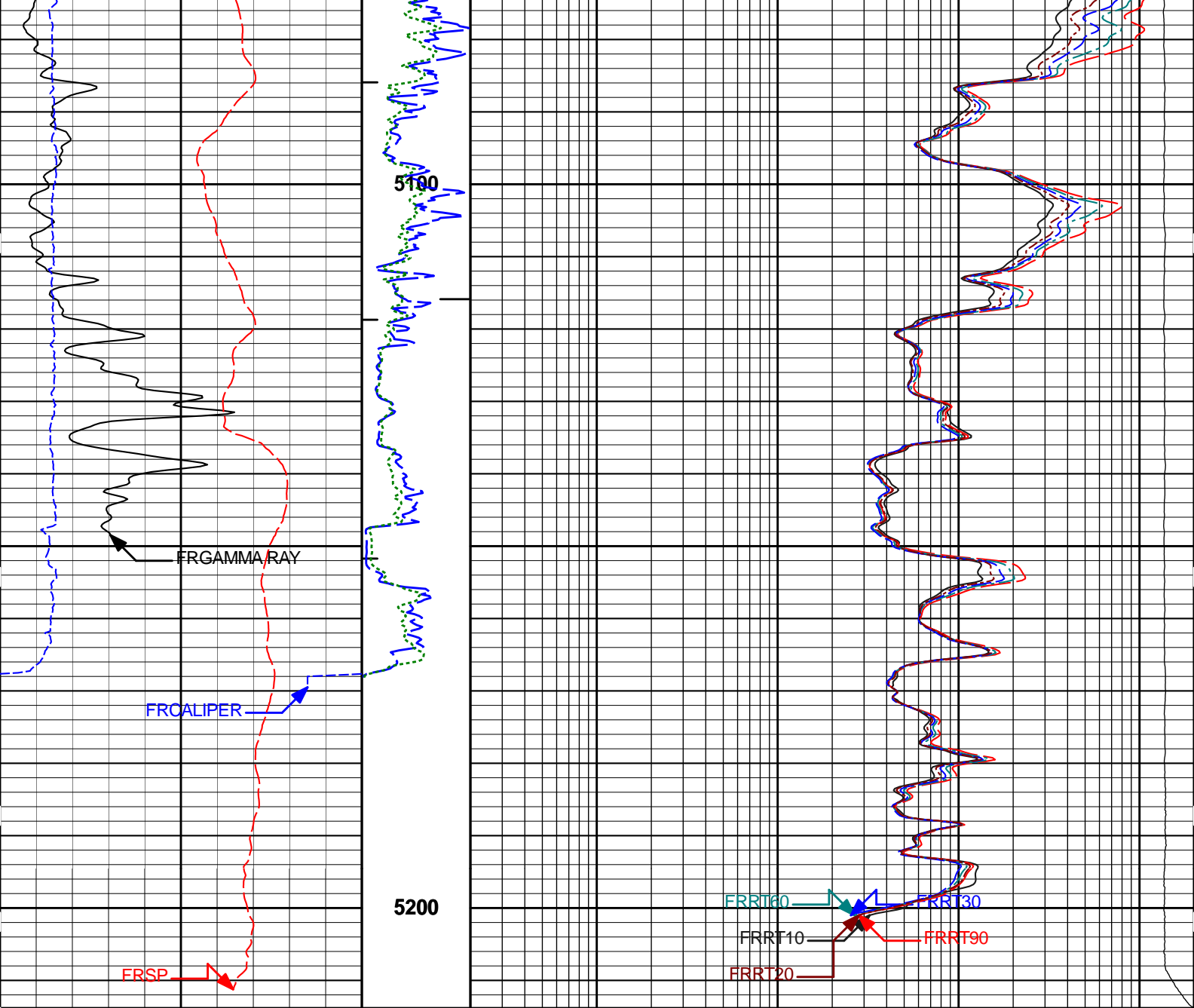




<div>-100<div>SP</div>100</div>		1 : 240 FT.		2000 <div>TENSION</div> 0.2	
millivolts				pounds	
6 <div>CALIPER</div> 16	BHV	0.2	RT102000		
inches			ohm-m		
0 <div>GAMMA RAY</div> 200	AHV	0.2	RT202000		
api			ohm-m		
	MicrologLateral	0.2	RT302000		
	ohmm		ohm-m		







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

HALLIBURTON

Plot Time: 16-Mar-15 09:29:30
 Plot Range: 4800 ft to 5213.83 ft
 Data: BHORSE_T_W_5_21Well Based\REPEAT\
 Plot File: \ACRT_ACRT_R

DOLOMITE MATRIX

HALLIBURTON**CALIBRATION REPORT****NATURAL GAMMA RAY TOOL SHOP CALIBRATION****Tool Name:** GTET - 11005602**Reference Calibration Date:** 09-Mar-15 02:01:28**Engineer:** B. RIDDEL**Calibration Date:** 12-Mar-15 12:19:27**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	39.5	37.1	api
Background + Calibrator	293.7	276.1	api
Calibrator	236.6	239.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION**Tool Name:** GTET - 11005602**Reference Calibration Date:** 12-Mar-15 12:19:27**Engineer:** B. RIDDEL**Calibration Date:** 12-Mar-15 12:24:05**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	37.1	37.1	api
Background + Calibrator	276.1	272.0	api
Calibrator	239.0	234.9	api

Shop	Field	Difference	Tolerance
239.0	234.9	4.1	+/- 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 (decp):	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 (decp):	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:	B. RIDDEL	Calibration Date:	12-Mar-15 12:26:13
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 (decp):	0.0691	0.0738	0.0047	+/- 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: $\text{DIAMETER} = \text{PAD EXTENSION} + \text{ARM EXTENSION} + \text{TOOL DIAMETER}$
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)	2.75	2.75	0.00	+/- 0.20

	Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:					
	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	

SDLT CALIPER FIELD CALIBRATION					
Tool Name:	SDLT - 10951300		Reference Calibration Date:	19-Feb-15 10:15:26	
Engineer:	B. RIDDEL		Calibration Date:	12-Mar-15 12:22:32	
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	3.69	-0.06	+/- 0.10
	Ring Diameter	8.25	8.11	-0.14	+/- 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:	B. RIDDEL	Calibration Date:	12-Mar-15 12:19:42
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

Pad Temperature: 72.4 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1425.983	1422.641	-3.342	15.241
Far (B+D+P+L) cps	896.206	895.431	-0.775	16.290
Near Resolution	8.96	9.03	0.070	0.50
Far Resolution	9.64	9.64	0.000	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 - 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								
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				
MICRO LOG FIELD CHECK									
Tool Name:	Microlog Pad - 10951300		Reference Calibration Date:	05-Mar-15 11:19:23					
Engineer:	B. RIDDEL		Calibration Date:	12-Mar-15 12:23:47					
Software Version:	WL INSITE R4.6.0 (Build 4)		Calibration Version:	1					
Measurement	Micro Log Normal		Micro Log Lateral		Units				
	Shop	Field	Shop	Field					
Tool Zero	-0.04	-0.07	0.01	-0.01	ohmm				
Internal Reference	20.21	20.28	20.25	20.31	ohmm				
Summary									
Signal	Shop	Field	Difference	Tolerance					
Microlog Normal	20.21	20.28	-0.07	+/- 0.80					
Microlog Lateral	20.25	20.31	-0.06	+/- 0.80					
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								
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

SONDE OFFSET

Subarray	R12KHz (mmho/m)	R36KHz (mmho/m)	R72KHz (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

R-MUD VERIFICATION

Signal	Lower	R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6	0.85	1.3	Mud Cell	0.95	1.00	1.05
36K	1.0	1.83	2.0				
72K	1.0	1.10	2.0				

PASS/FAIL SUMMARY

GAIN RANGE CHK	PASS
SONDE OFFSET CHK	PASS
TOOL OK TO LOG	

CALIBRATION SUMMARY

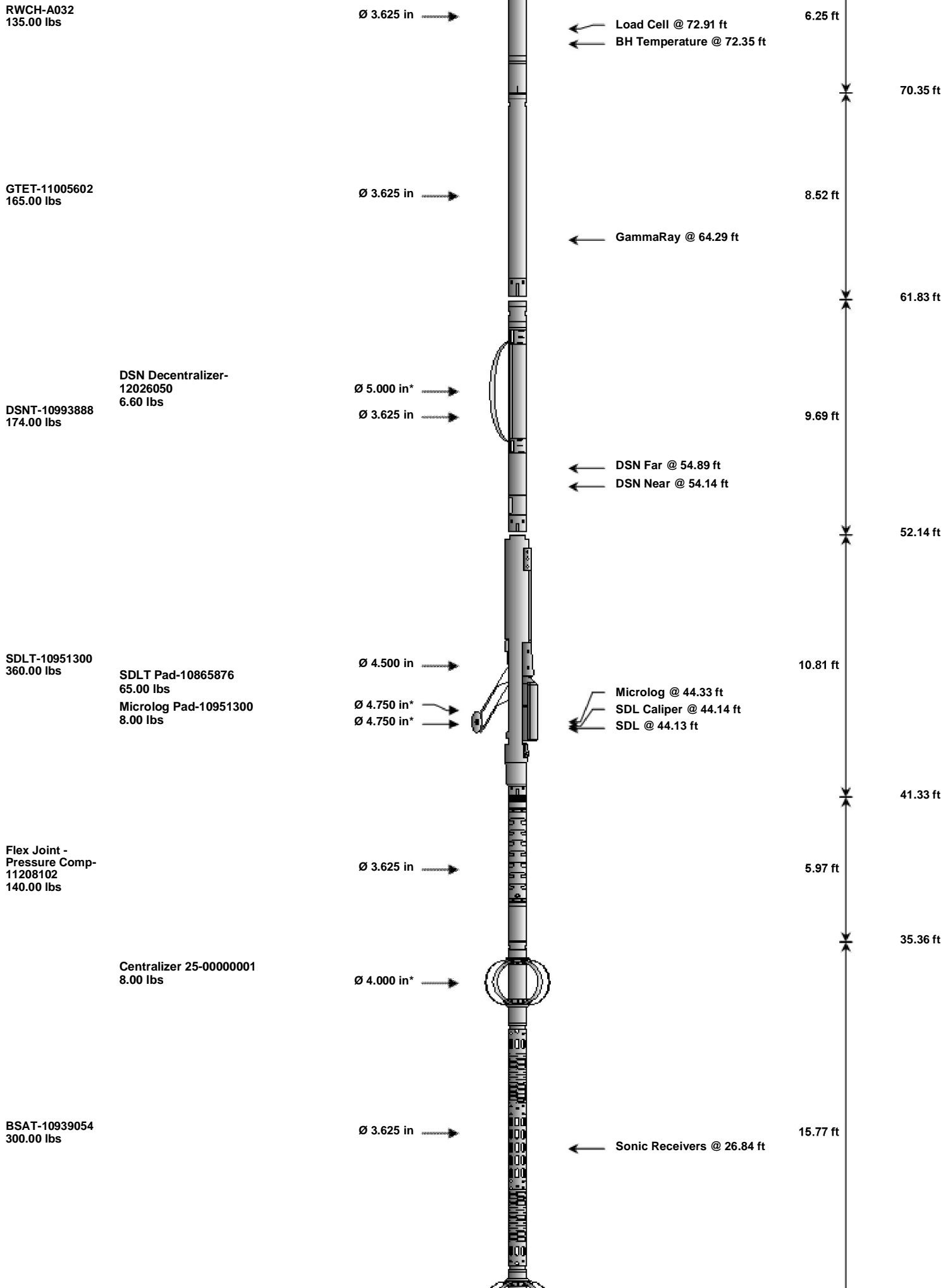
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11005602						
Gamma Ray Calibrator	239.0	234.9	-----	4.1	+/- 9.00	api
DSNT-10993888						
Snow-Block Porosity	0.0691	0.0738	-----	-0.0047	+/- 0.0150	decp
SDLT-10951300						
Pad Extension	3.75	3.69	-----	0.06	+/-0.10	in
Ring Diameter	8.25	8.11	-----	0.14	+/-0.15	in
SDLT Pad-10865876						
Near(B+D+P+L)	1425.983	1422.641	-----	3.342	+/-15.241	cps
Far(B+D+P+L)	896.206	895.431	-----	0.775	+/-16.290	cps
Microlog Pad-10951300						
MicroLog Normal	20.21	20.28	-----	-0.07	+/-0.80	ohmm
MicroLog Lateral	20.25	20.31	-----	-0.06	+/-0.80	ohmm
ACRt Sonde-11585797						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m

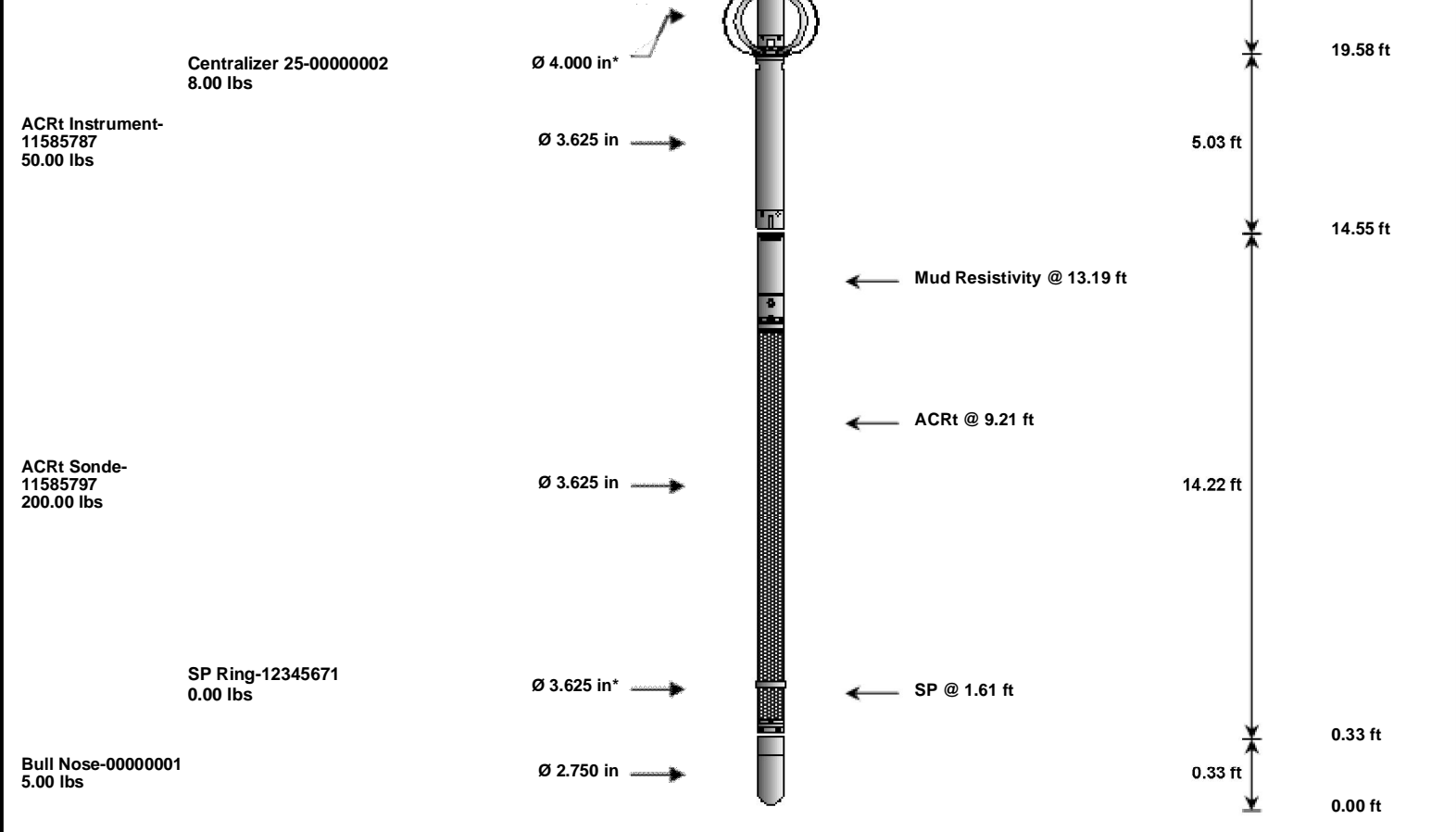
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HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						76.60 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	11005602	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.							
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COMPANY	BAYHORSE PETROLEUM, LLC		
WELL	TRADE WINDS 5-21		
FIELD	LEFT HAND		
COUNTY	KIOWA	STATE	CO
HALLIBURTON		ARRAY COMPENSATED TRUE RESISTIVITY	

