

**DUAL SPACED NEUTRON
SPECTRAL DENSITY
ARRAY COMPENSATED
TRUE RESISTIVITY**

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Service Ticket No.: 7062608				API Serial No.: 050451885000				PGM Version: WL INSITE R2.4 (Build 20)			
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES					
Date	Sample No.					Type Log	Depth	Scale Up Hole		Scale Down Hole	
Depth-Driller											
Type Fluid in Hole											
Density	Viscosity										
Ph	Fluid Loss										
Source of Sample						RESISTIVITY EQUIPMENT DATA					
Rm @ Meas. Temp		@		@		Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other	
Rmf @ Meas. Temp.		@		@		ONE	ACRT	N/A	1.5" S.O.	N/A	
Rmc @ Meas. Temp.		@		@			90194258-				
Source Rmf	Rmc	CALC.	CALC.				E7486-				
Rm @ BHT		0.95 ohmm @ 150.41°F		@							
Rmf @ BHT		0.78 ohmm @ 150.41°F		@							
Rmc @ BHT		1.09 ohmm @ 150.41°F		@							
EQUIPMENT DATA											
GAMMA				ACOUSTIC		DENSITY			NEUTRON		
Run No.	ONE	Run No.				Run No.	ONE	Run No.	ONE		
Serial No.	11004661	Serial No.				Serial No.	10951300	Serial No.	10993887		
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	THERMAL		
Type	SCINT.					Source Type	CS137	Source Type	AM241BE		
Length	8"	LSA [Y/N]				Serial No.	20785B	Serial No.	DSN-388		
Distance to Source	10'	FWDA [Y/N]				Strength	1.5 CI	Strength	15 CI		
LOGGING DATA											

GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON					
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	TD	CSG	REC	0	200					30%		-10%	2.68 g/cc	
ONE	CSG	SURF	REC	0	200									
DIRECTIONAL INFORMATION														
Maximum Deviation			28.00 deg		@		KOP @							
Remarks: RWCH-GTET-DSNT-SDLT-ACRT WERE RUN IN COMBINATION.														
HOLE RUGOSITY AND TENSION PULLS MAY AFFECT LOG QUALITY.														
AHV CALCULATED FOR 4.5" CASING.														
CHLORIDES REPORTED AT 1050 mg/L.														
THE THERMOMETER IN THE TOOL STRING READ 149°F														
LATITUDE: 39.381° N // LONGITUDE: 108.088° W.														
YOUR CREW TODAY: J. WILKERSON AND E. GREENLEE. RIG: PRECISION 706.														
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	MDWT	Borehole Fluid Weight	9.500	ppg
	SHARED	RMUD	Mud Resistivity	2.100	ohmm
	SHARED	TRM	Temperature of Mud	64.0	degF
	SHARED	OBM	Oil Based Mud System?	No	
	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	5495.00	ft
	SHARED	BHT	Bottom Hole Temperature	150.4	degF
	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
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in

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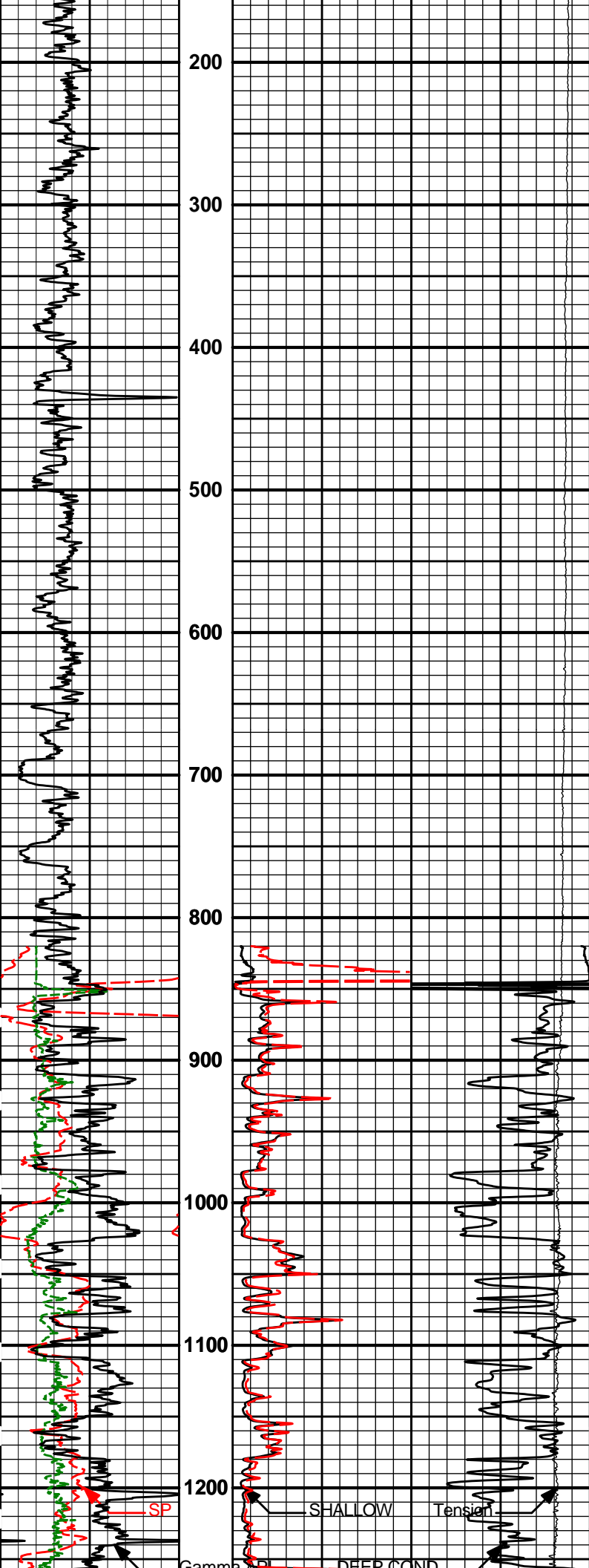
Plot Time: 15-Dec-09 02:48:04
 Plot Range: 68 ft to 5126.92 ft
 Data: LE_KNOX_03_07C\Well Based\4\
 Plot File: \\TRIPLE\IQ_ACRt_1IN_WILLIAMS

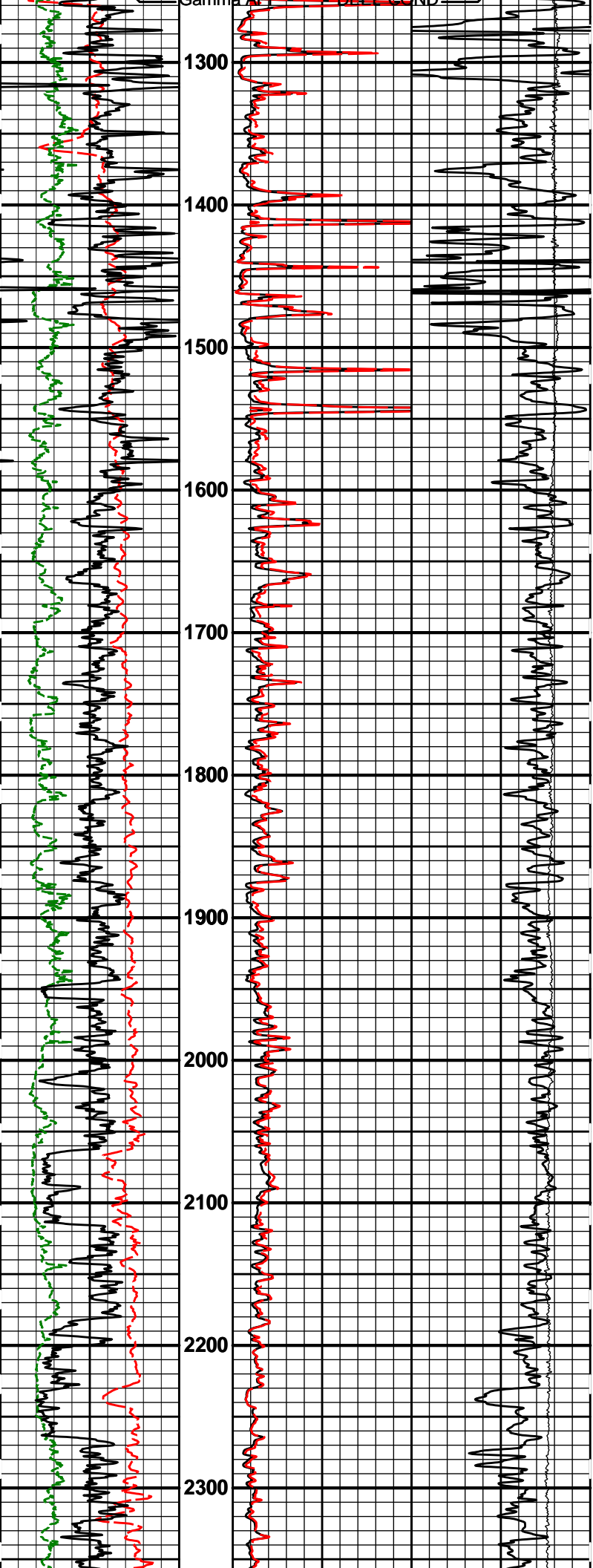
MAIN PASS 1" = 100' (HALF SCALE)

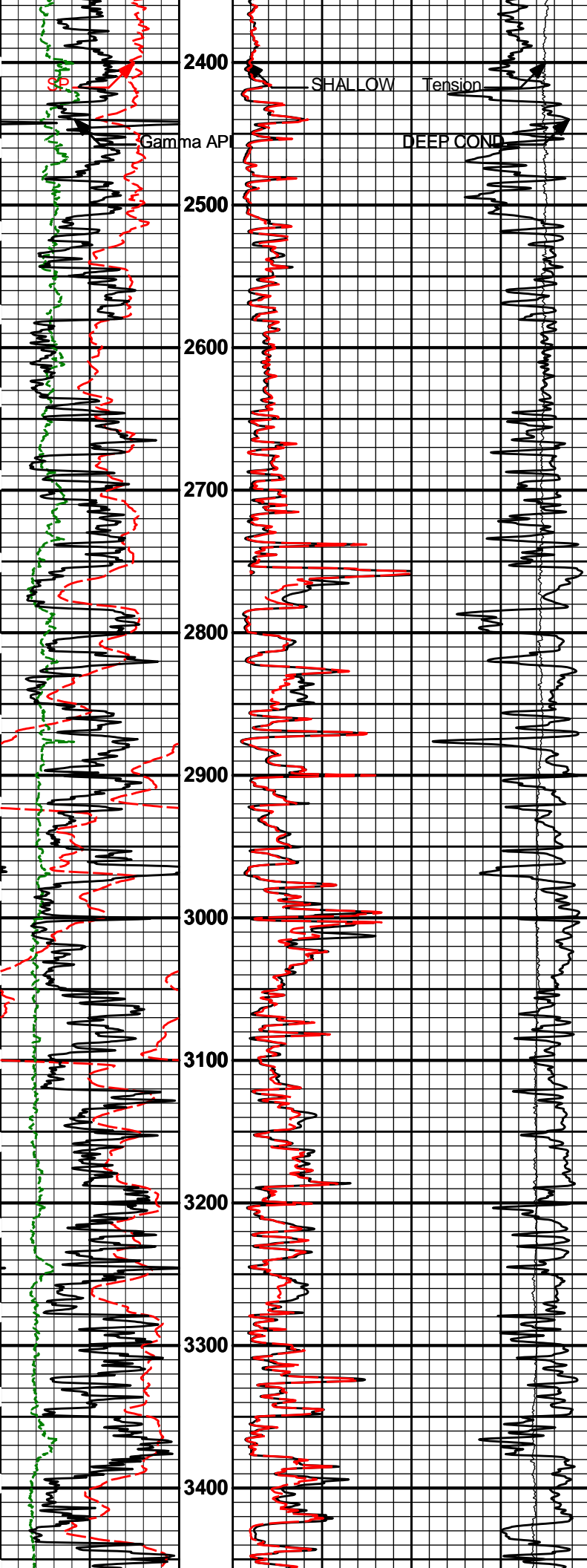
Caliper	Gamma API	DEEP RES	SHALLOW	DEEP COND	Tension
6	0	0	0	200	10K
16	200	100	100	0	0
inches	api	ohm-metre	ohm-metre	mmho per metre	pounds
	SP				
	-]10[+				

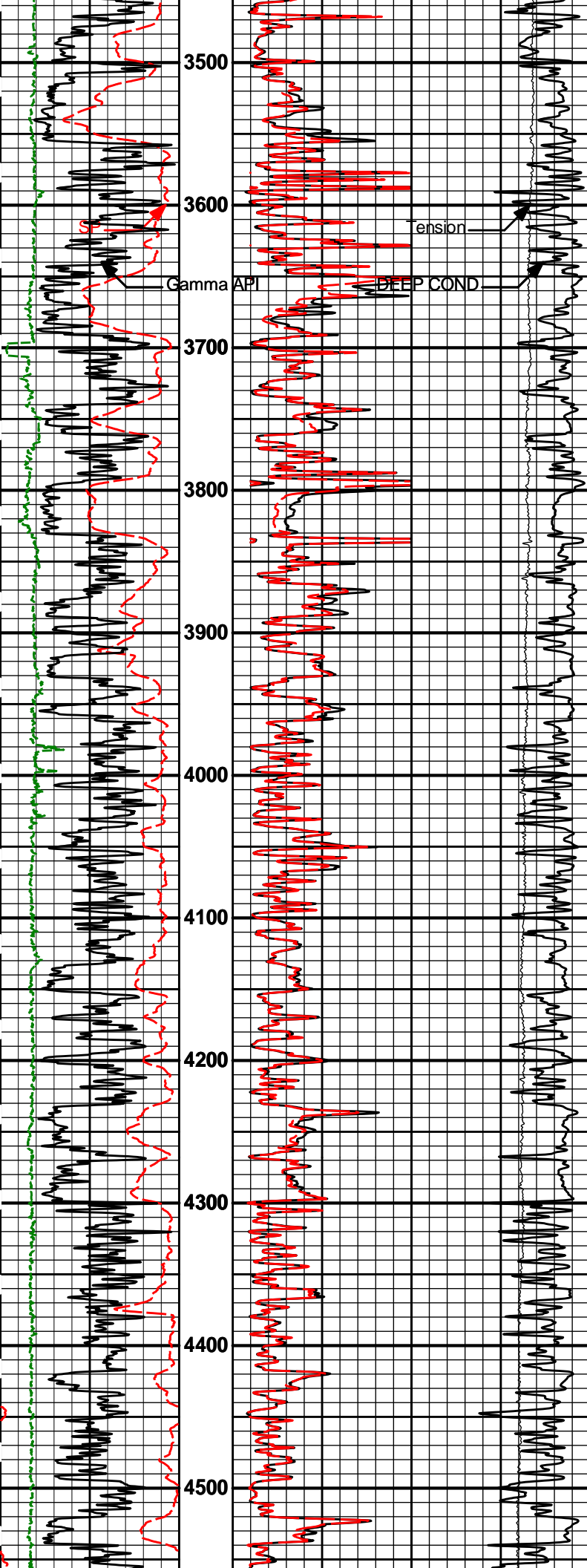
1:1200 ft MD

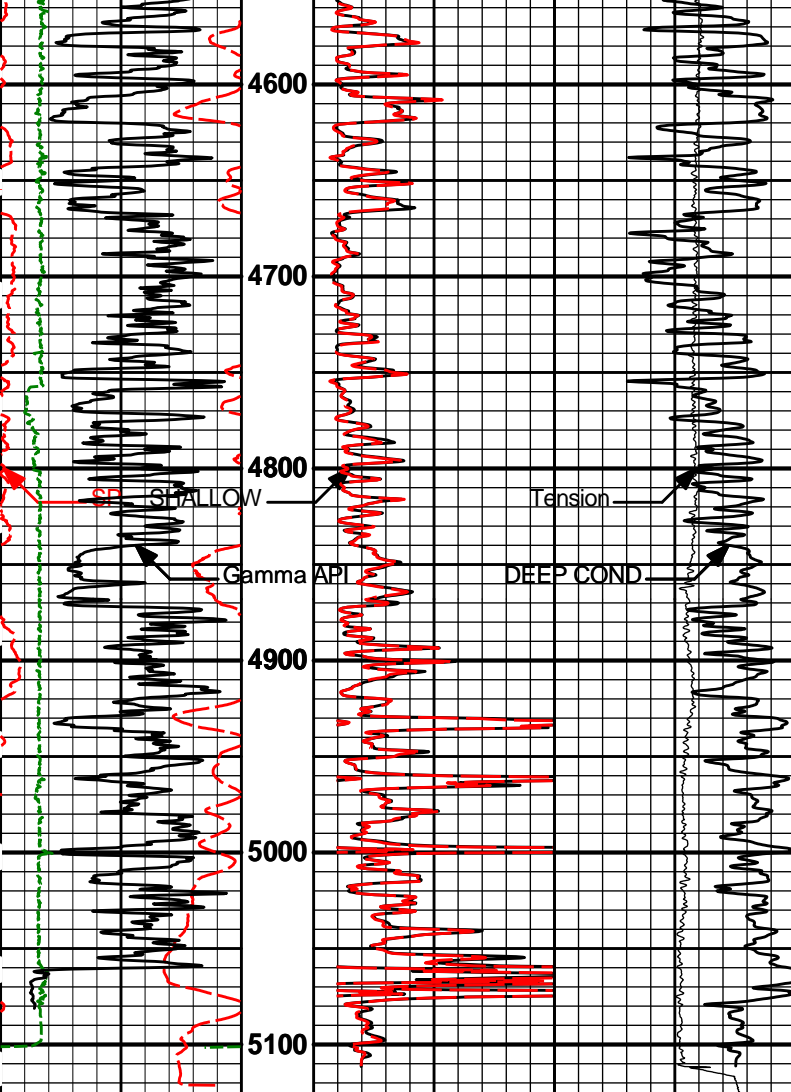
100











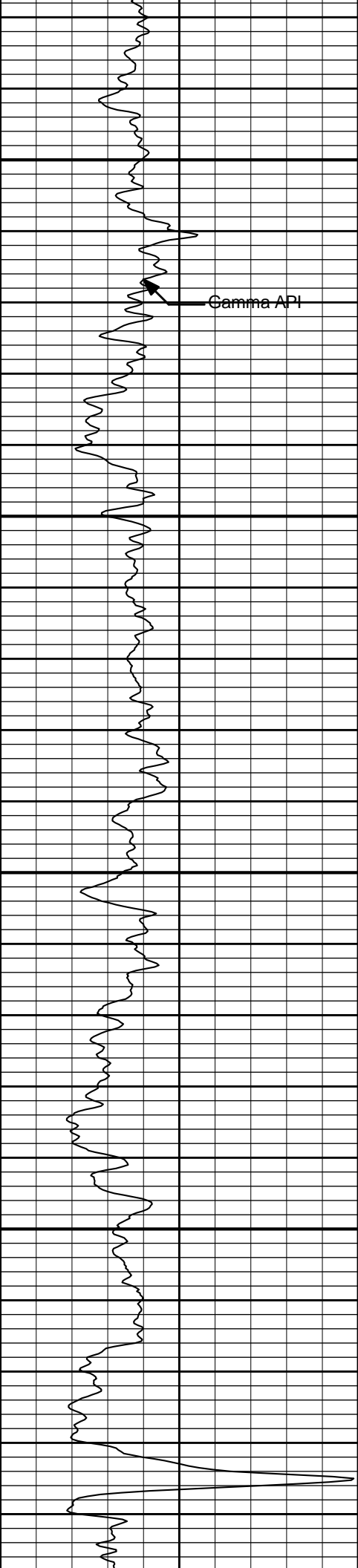
SP	1:1200 ft MD	0	SHALLOW	100	10K	Tension	0
-]10[+			ohm-metre			pounds	
0	Gamma API	200	0	DEEP RES	100	DEEP COND	0
api			ohm-metre		200	mmho per metre	
6	Caliper	16					
	inches						

HALLIBURTON Plot Time: 15-Dec-09 02:48:06
 Plot Range: 68 ft to 5126.92 ft
 Data: LE_KNOX_03_07C\Well Based*\n
 Plot File: \\TRIPLE\IQ_ACRt_11N_WILLIAMS

MAIN PASS 1" = 100' (HALF SCALE)

HALLIBURTON Plot Time: 15-Dec-09 02:48:06
 Plot Range: 68 ft to 5126.92 ft
 Data: LE_KNOX_03_07C\Well Based*\n
 Plot File: \\TRIPLE\IA-Triple-IQ

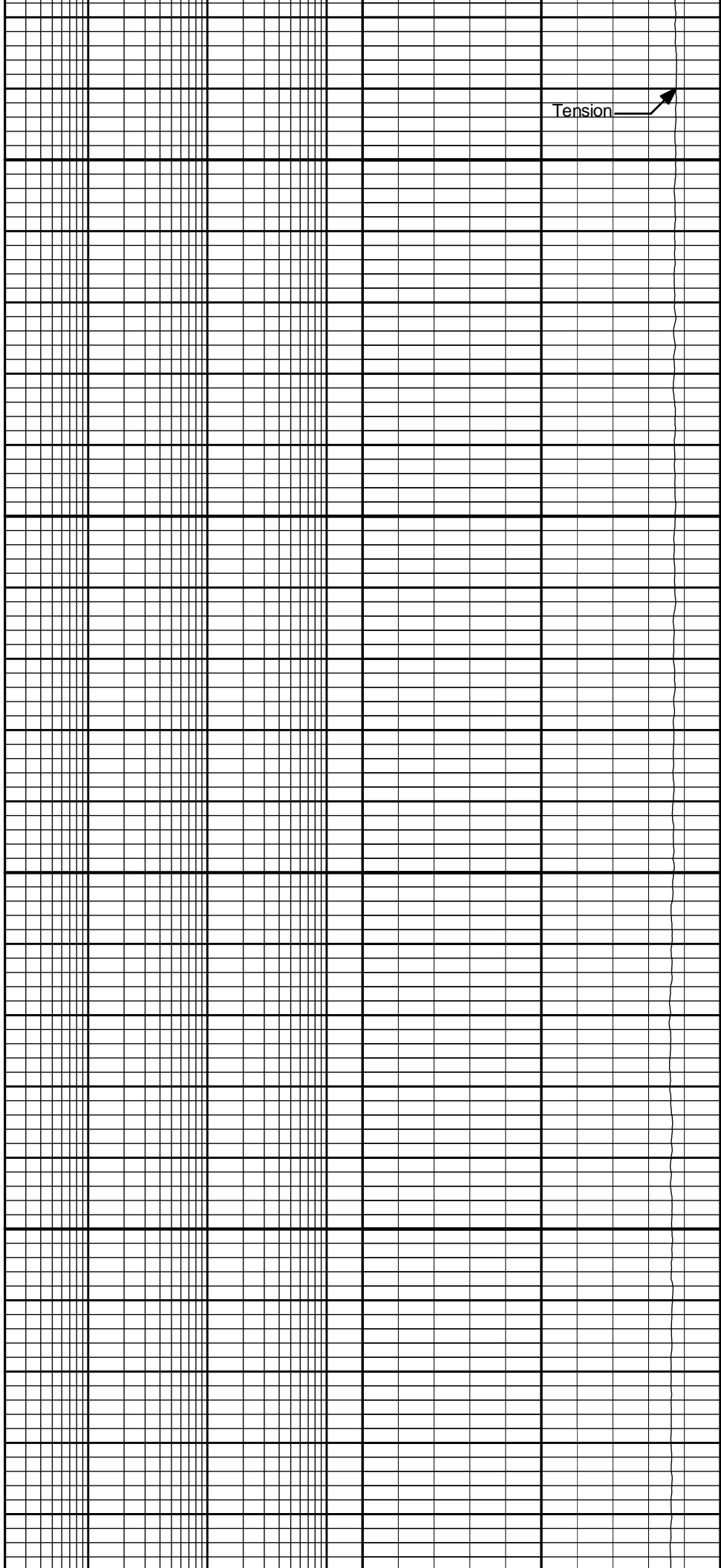
MAIN PASS 5" = 100'



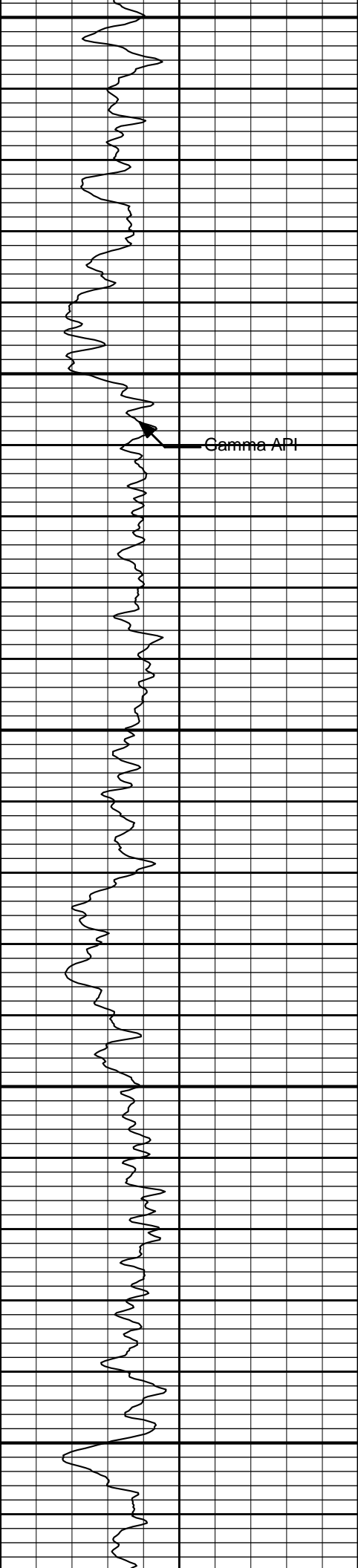
Gamma API

300

400



Tension

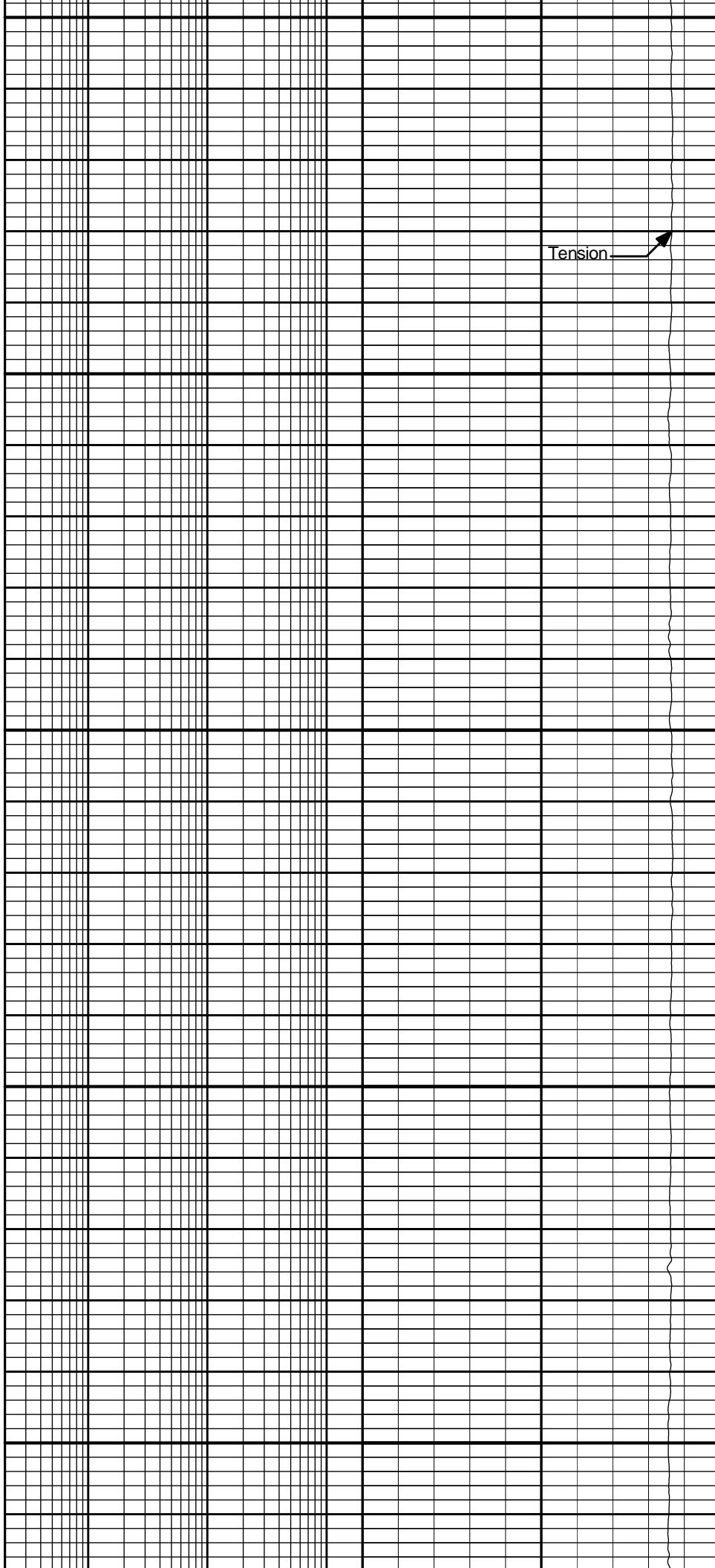


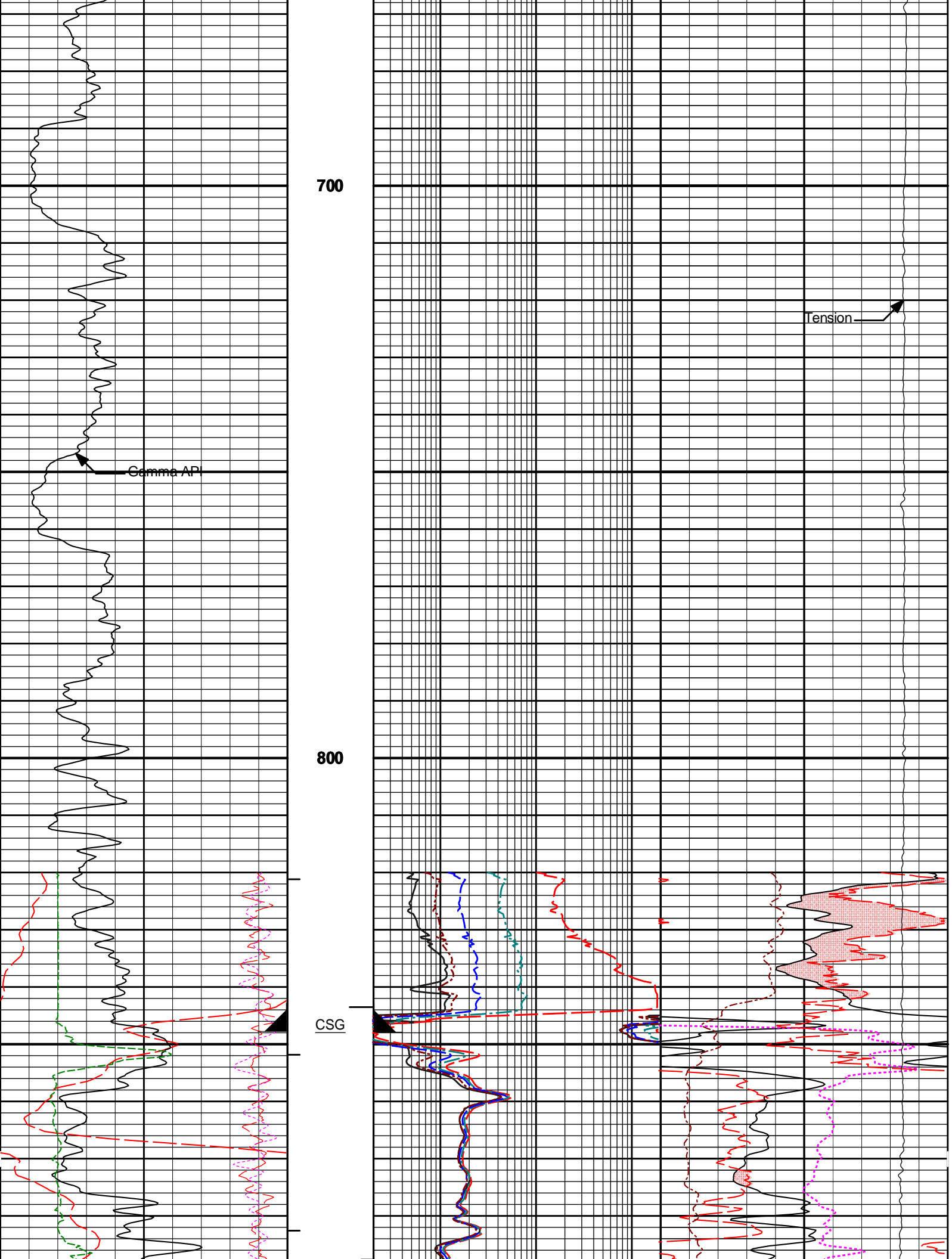
500

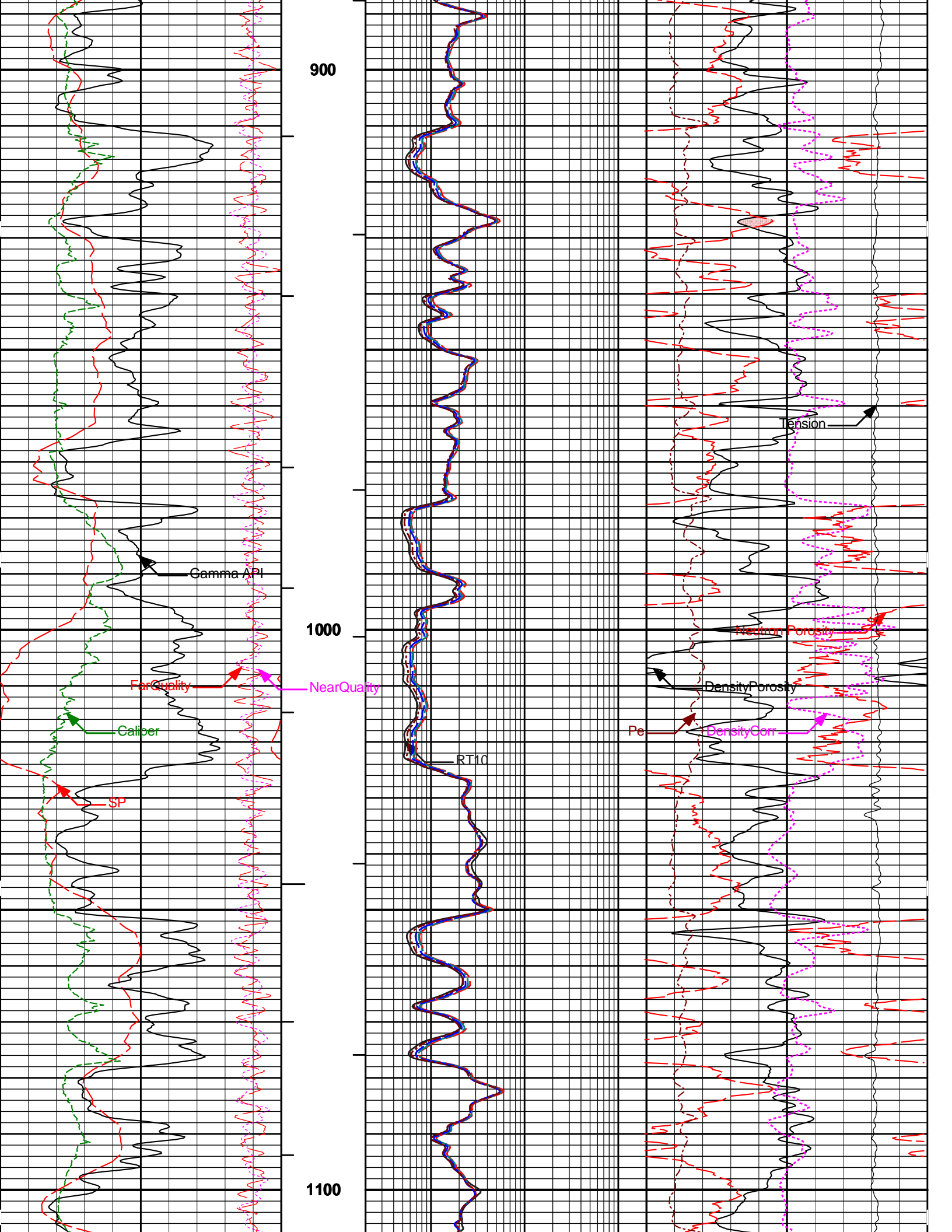
600

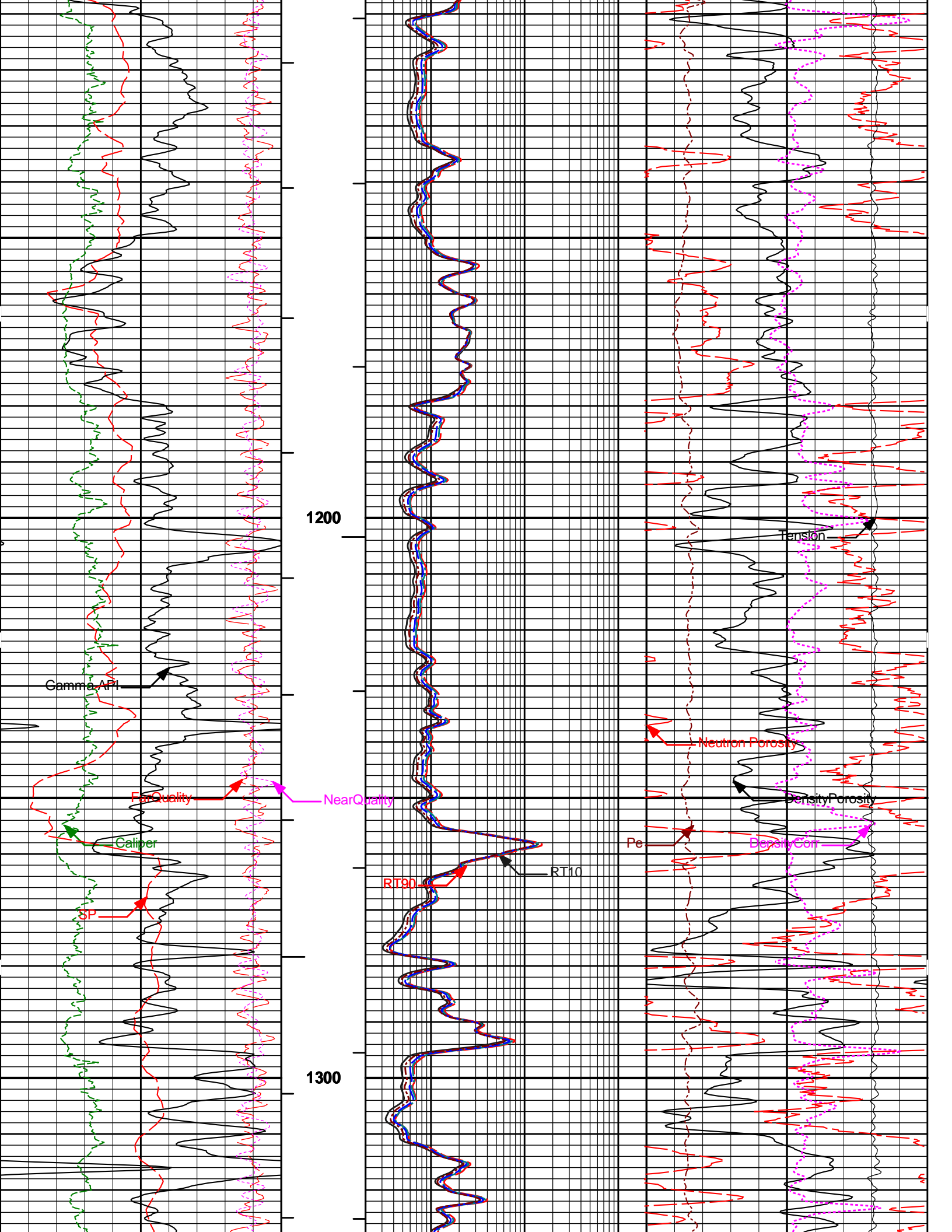
Gamma API

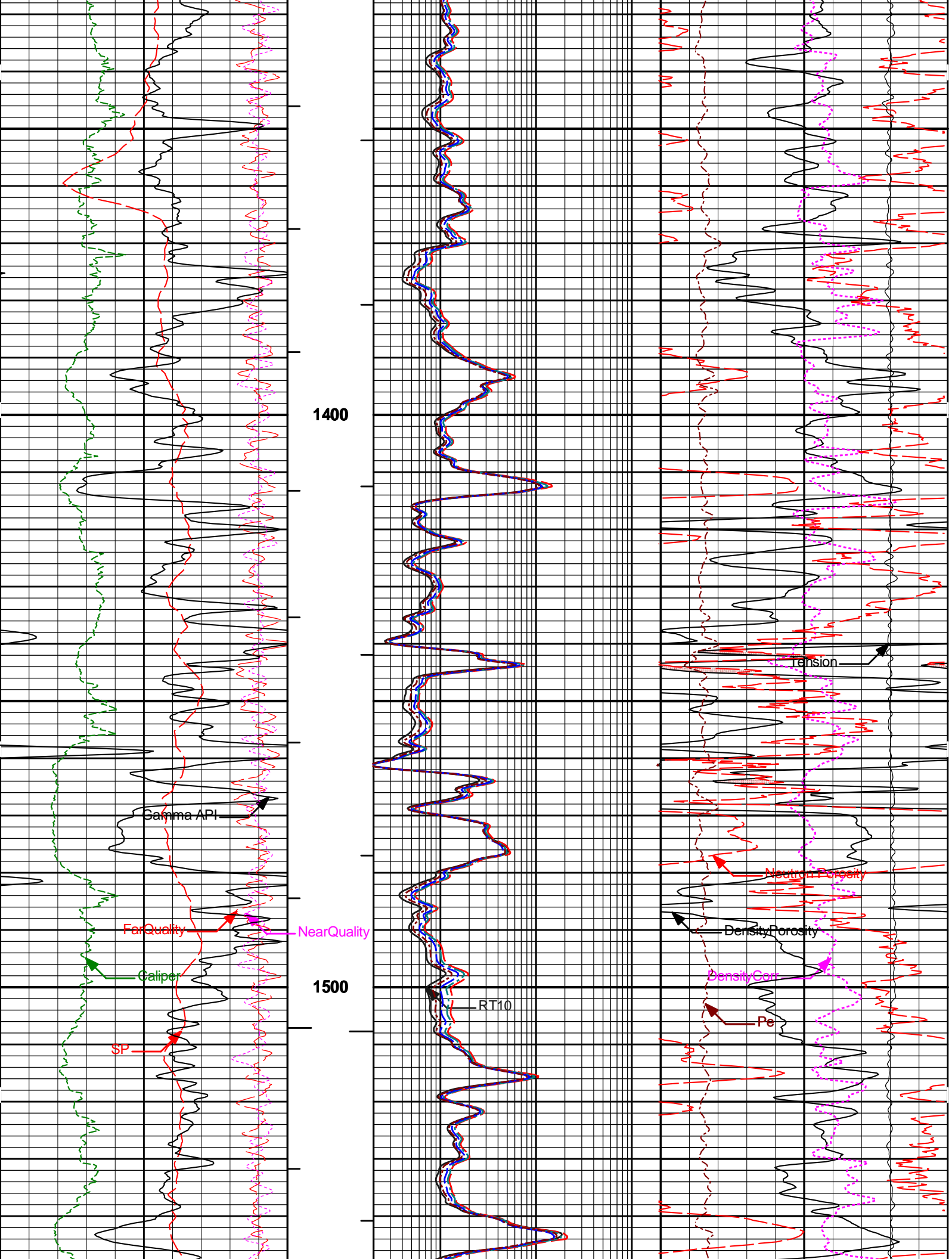
Tension

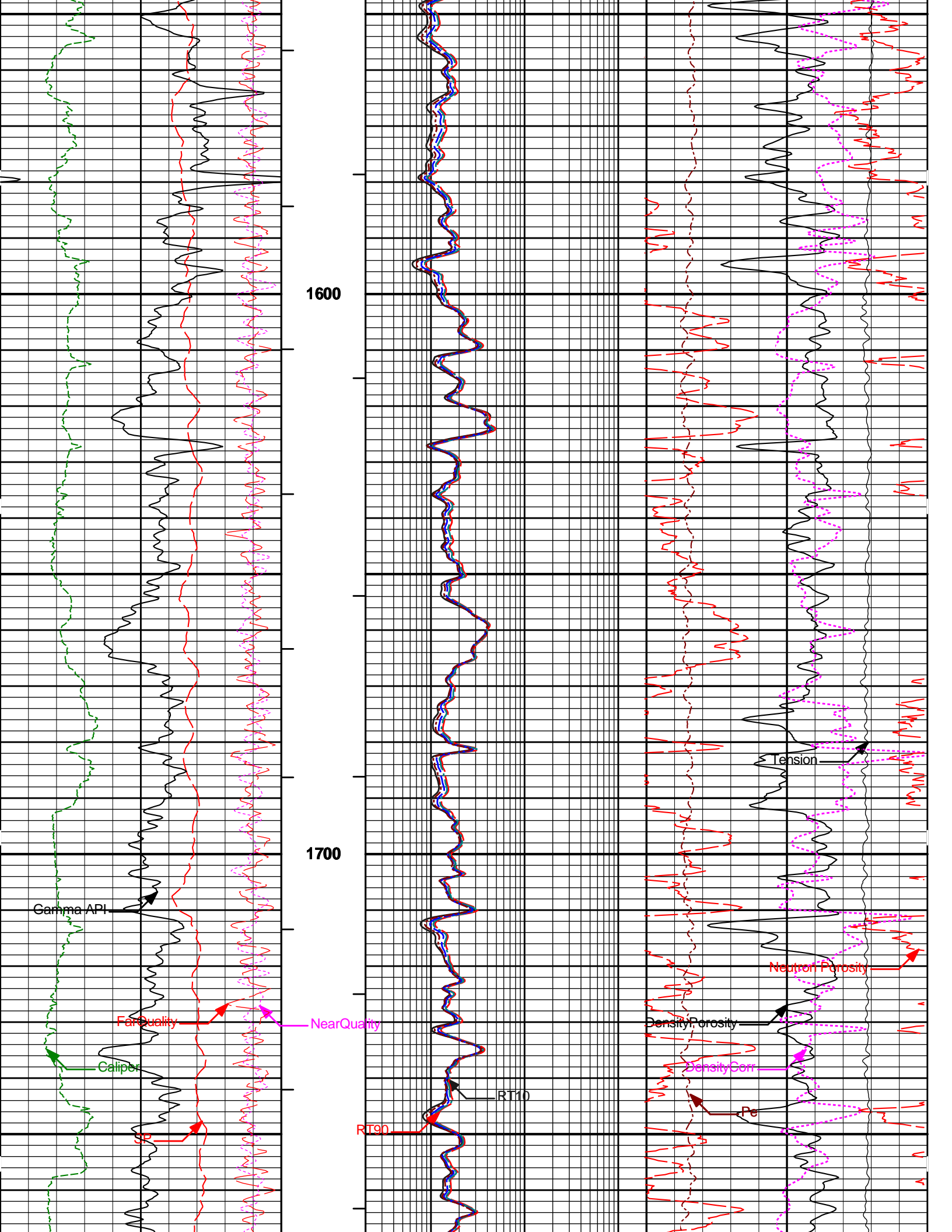


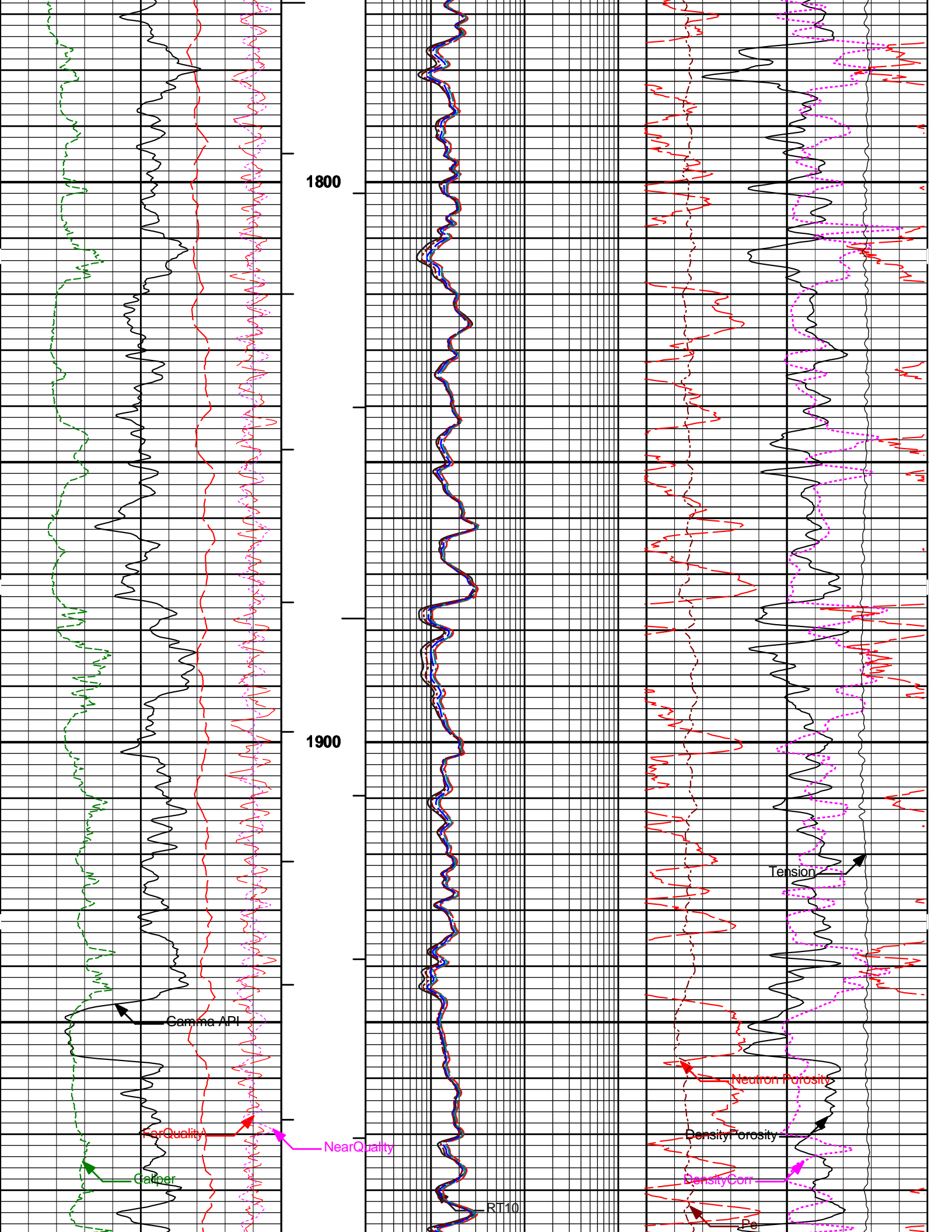


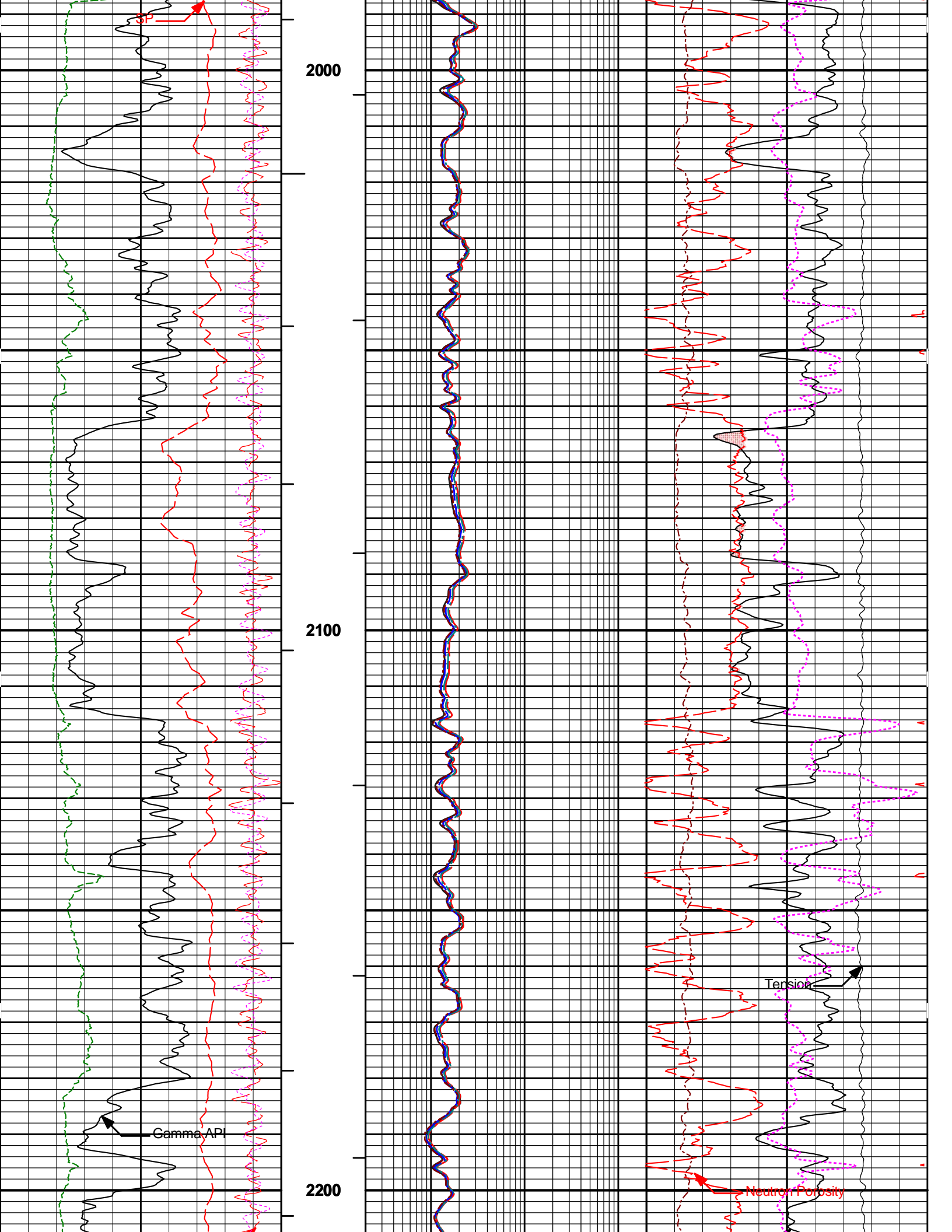


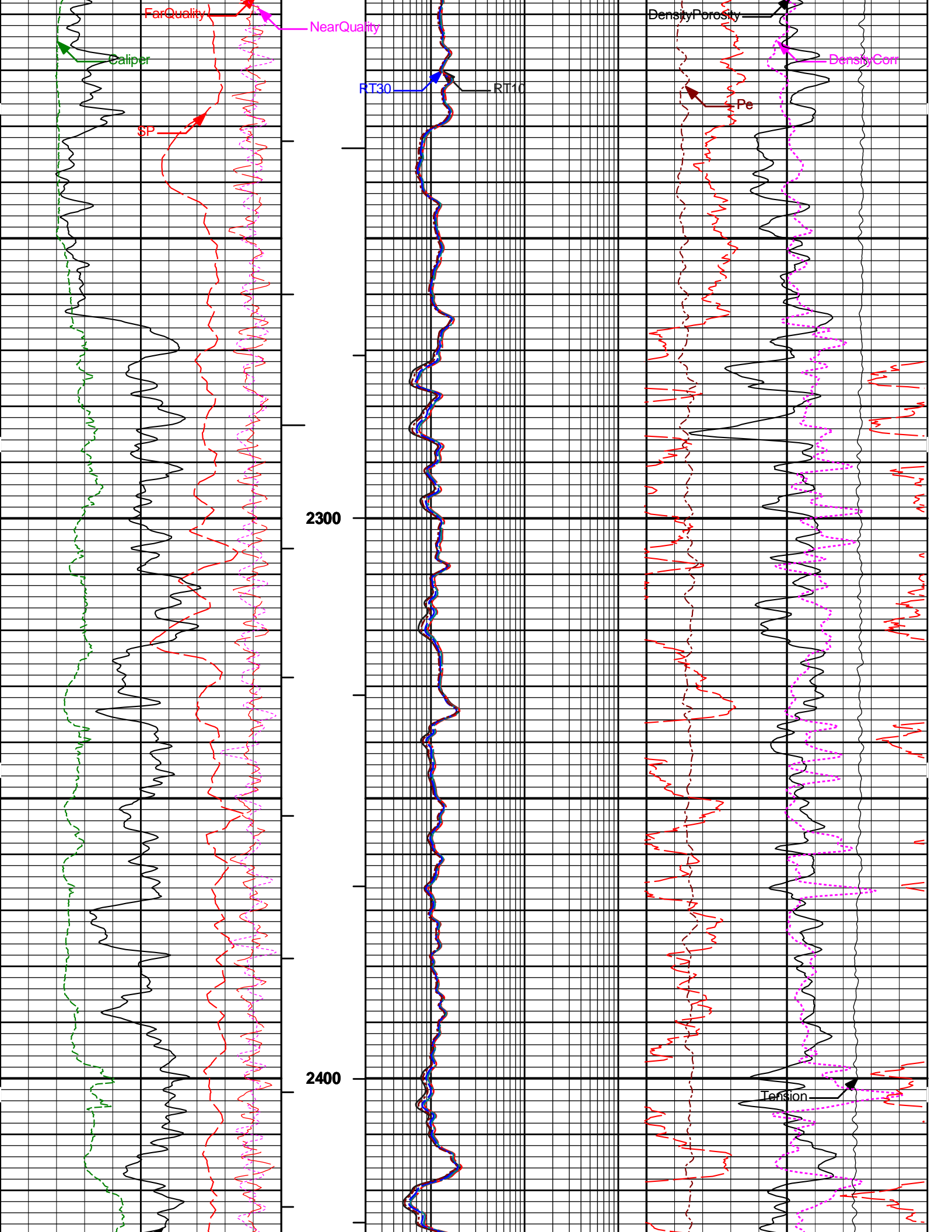


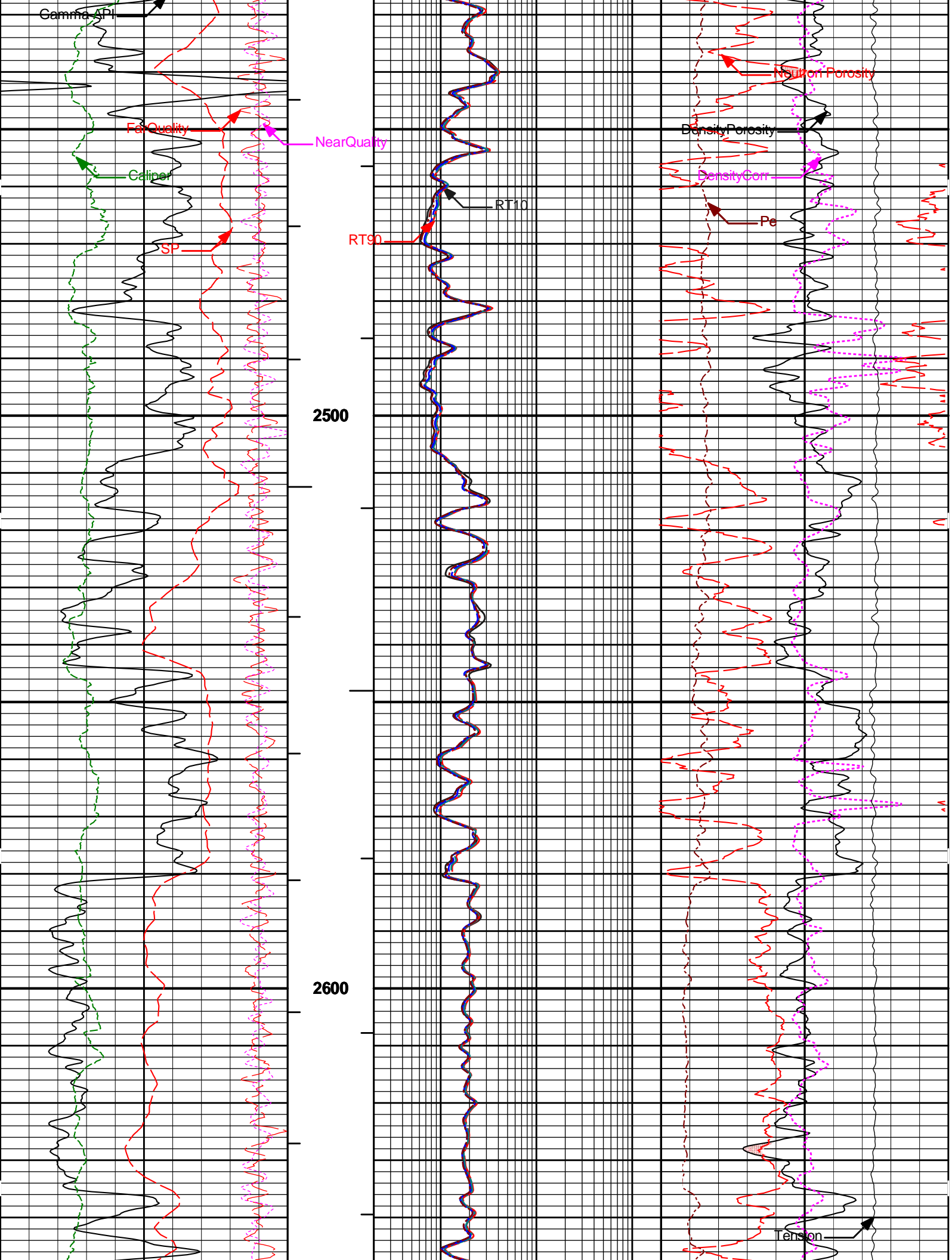


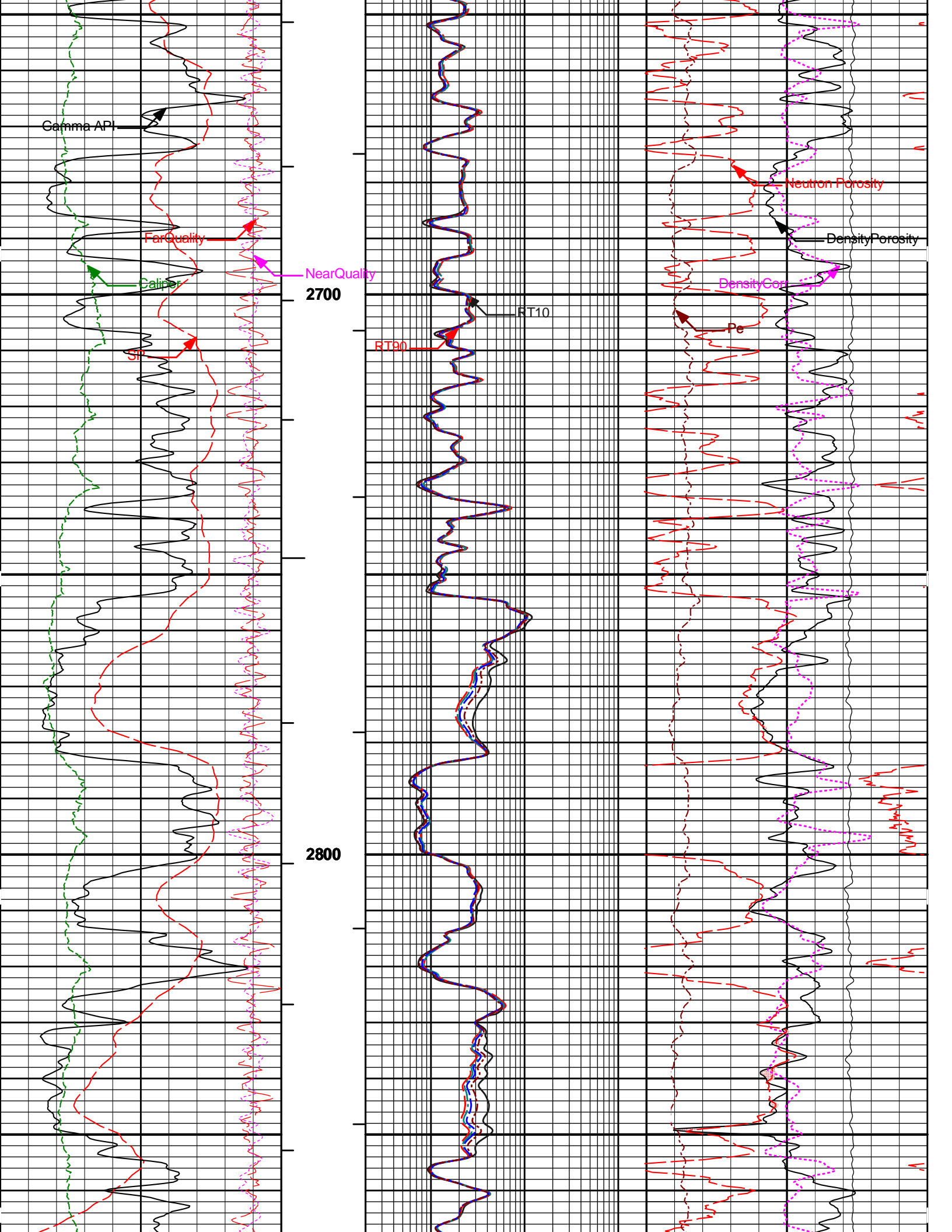


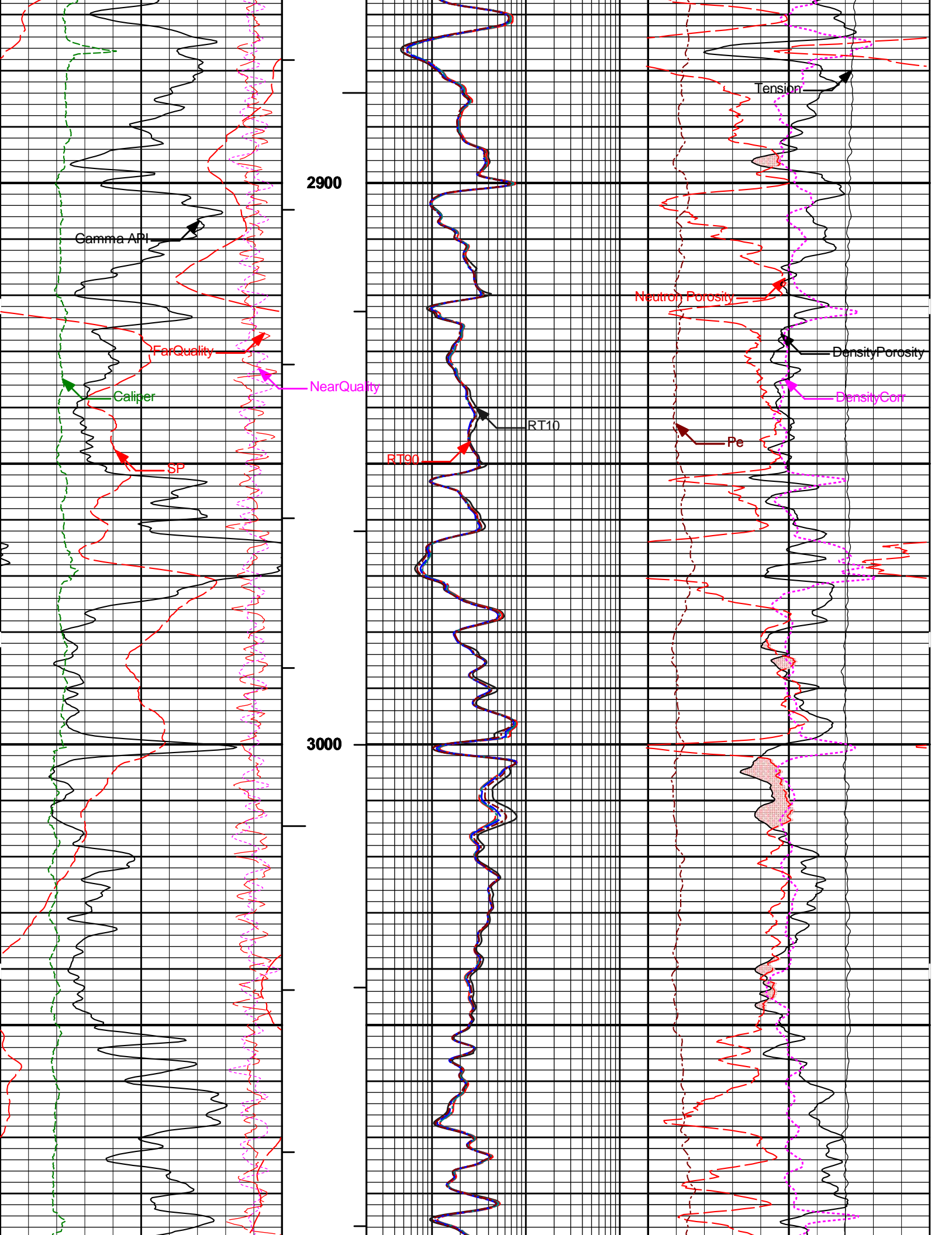


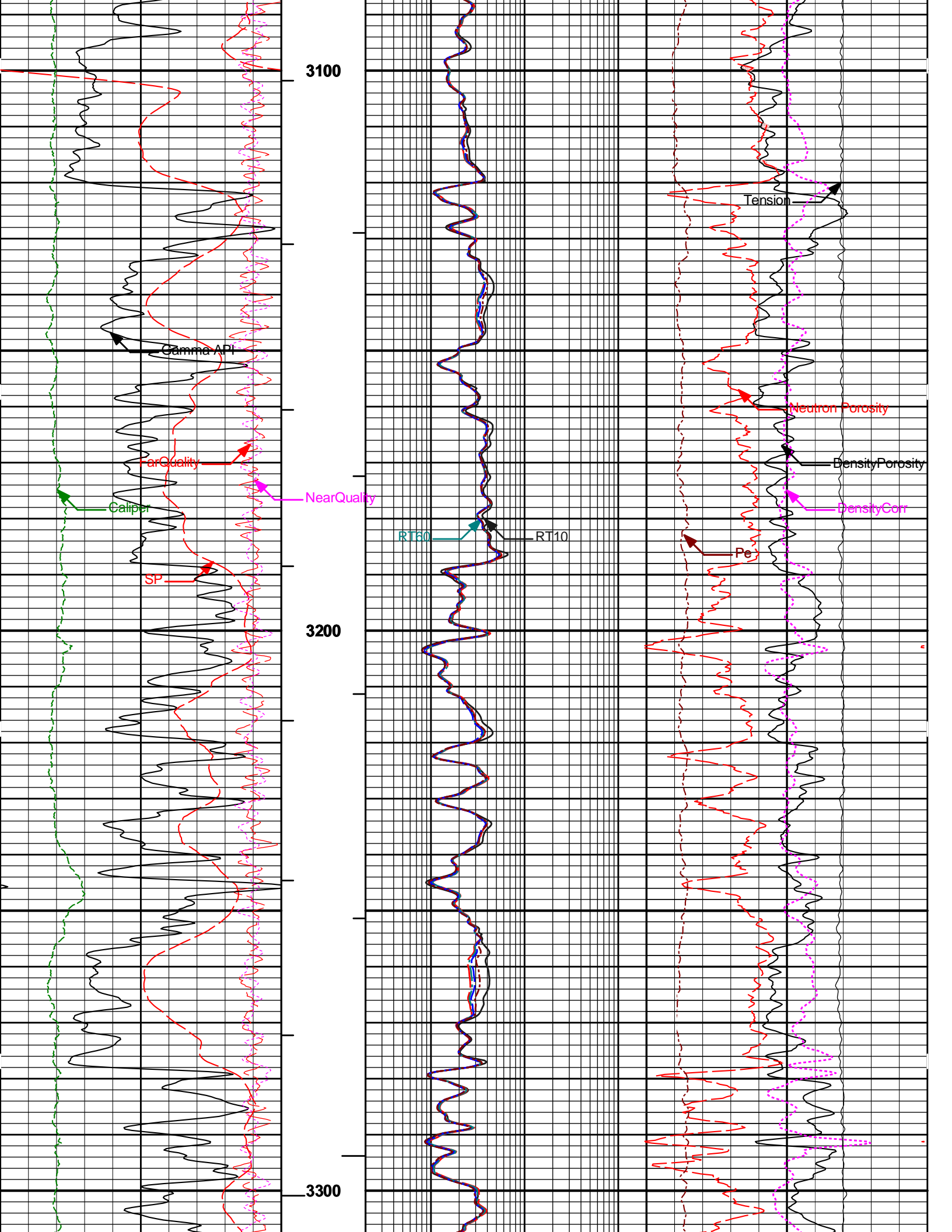


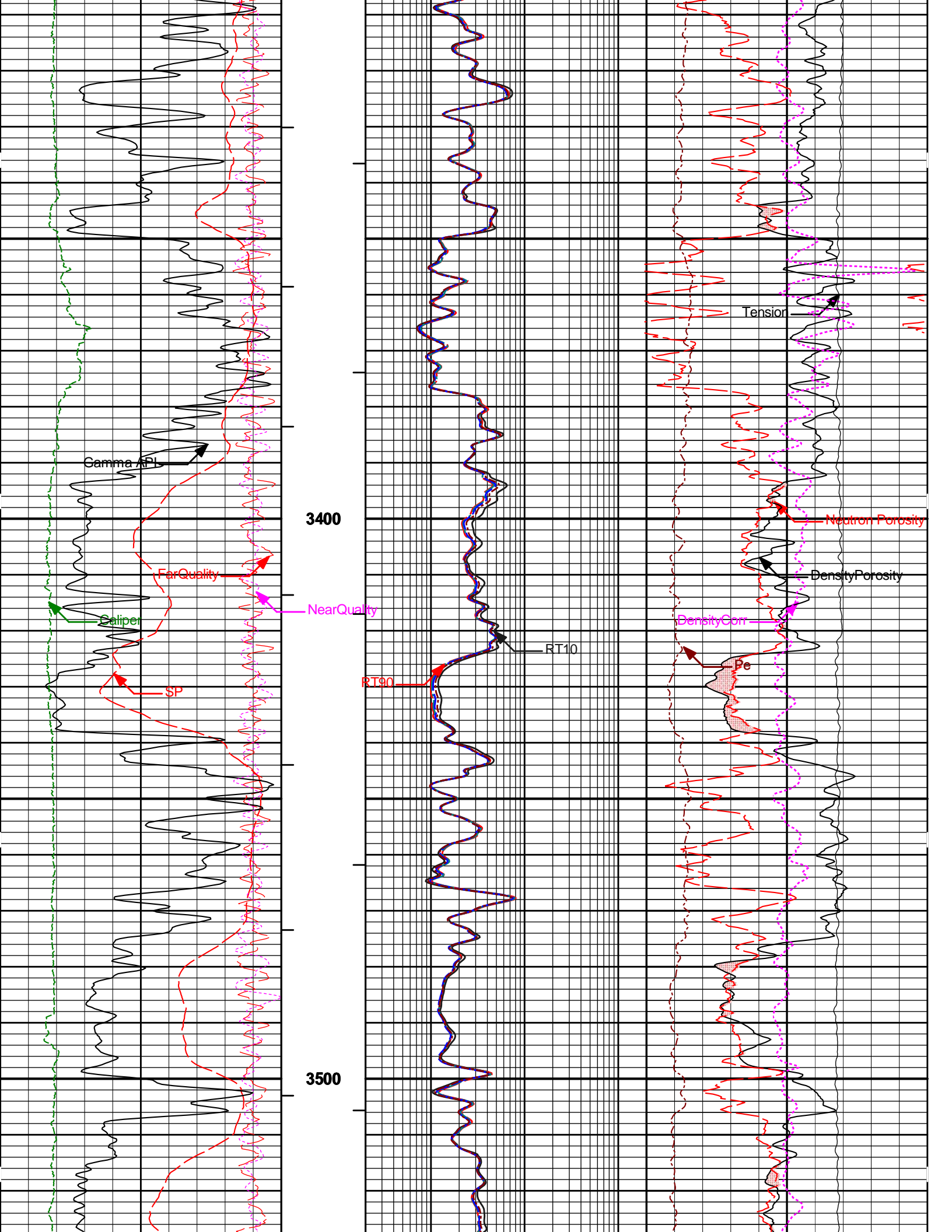


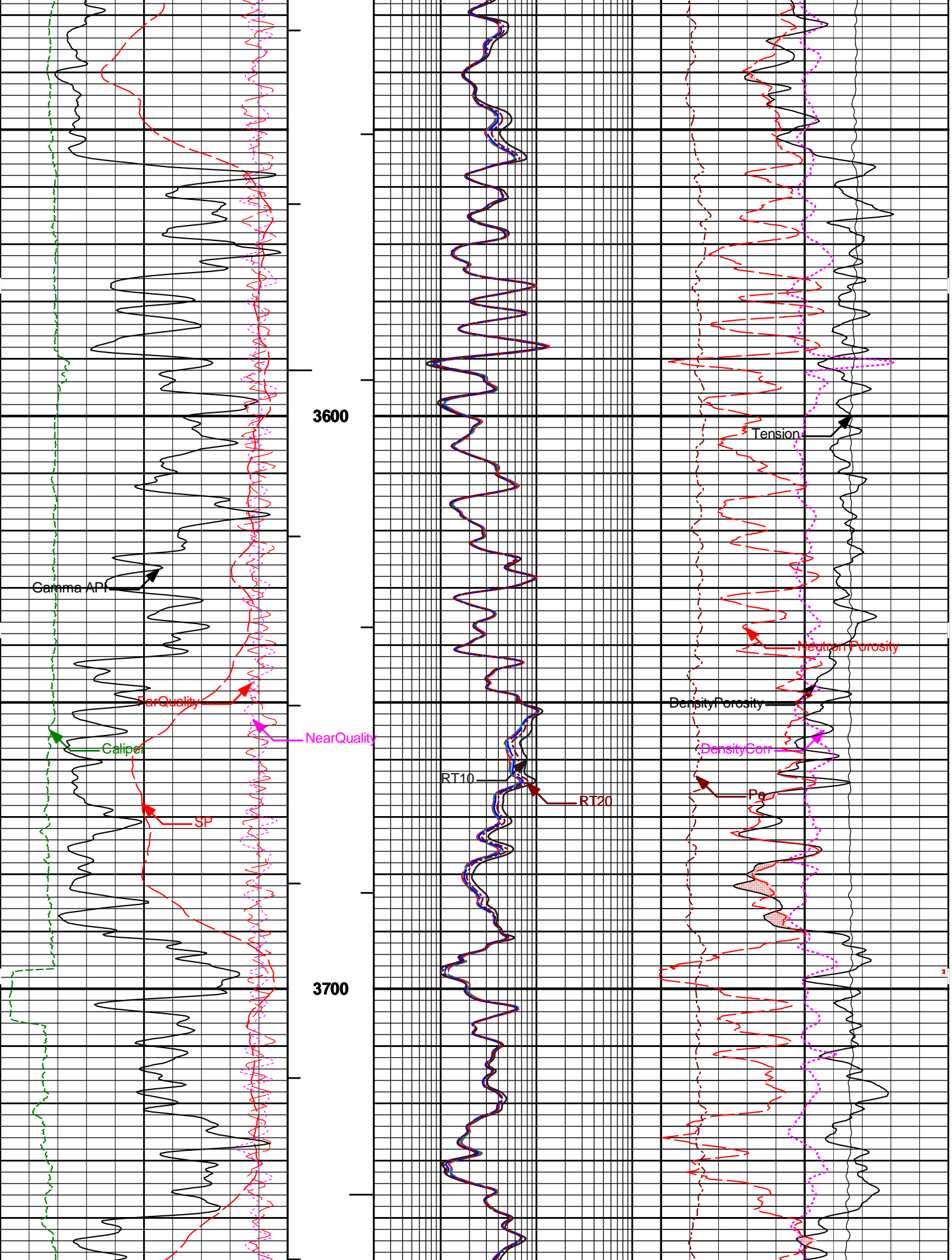


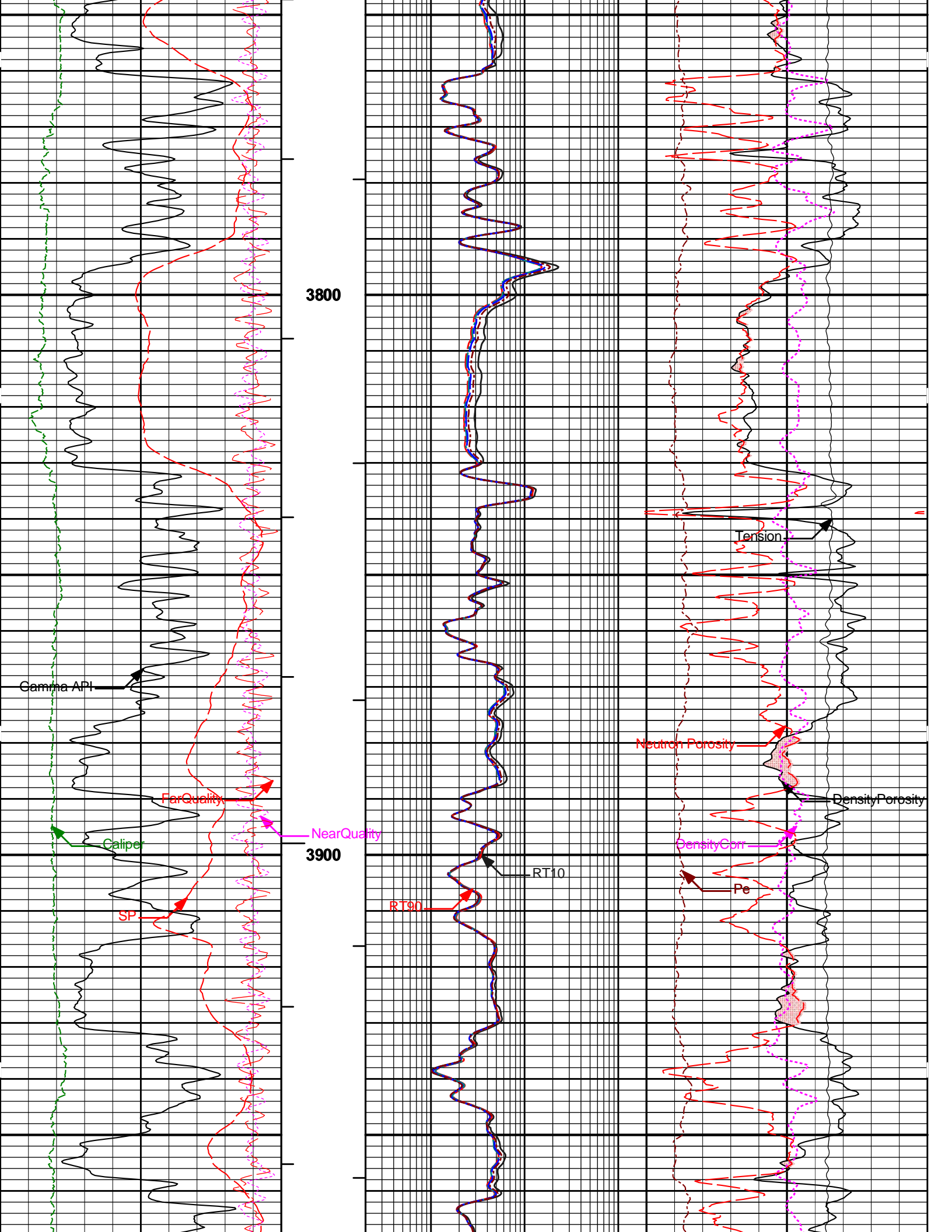


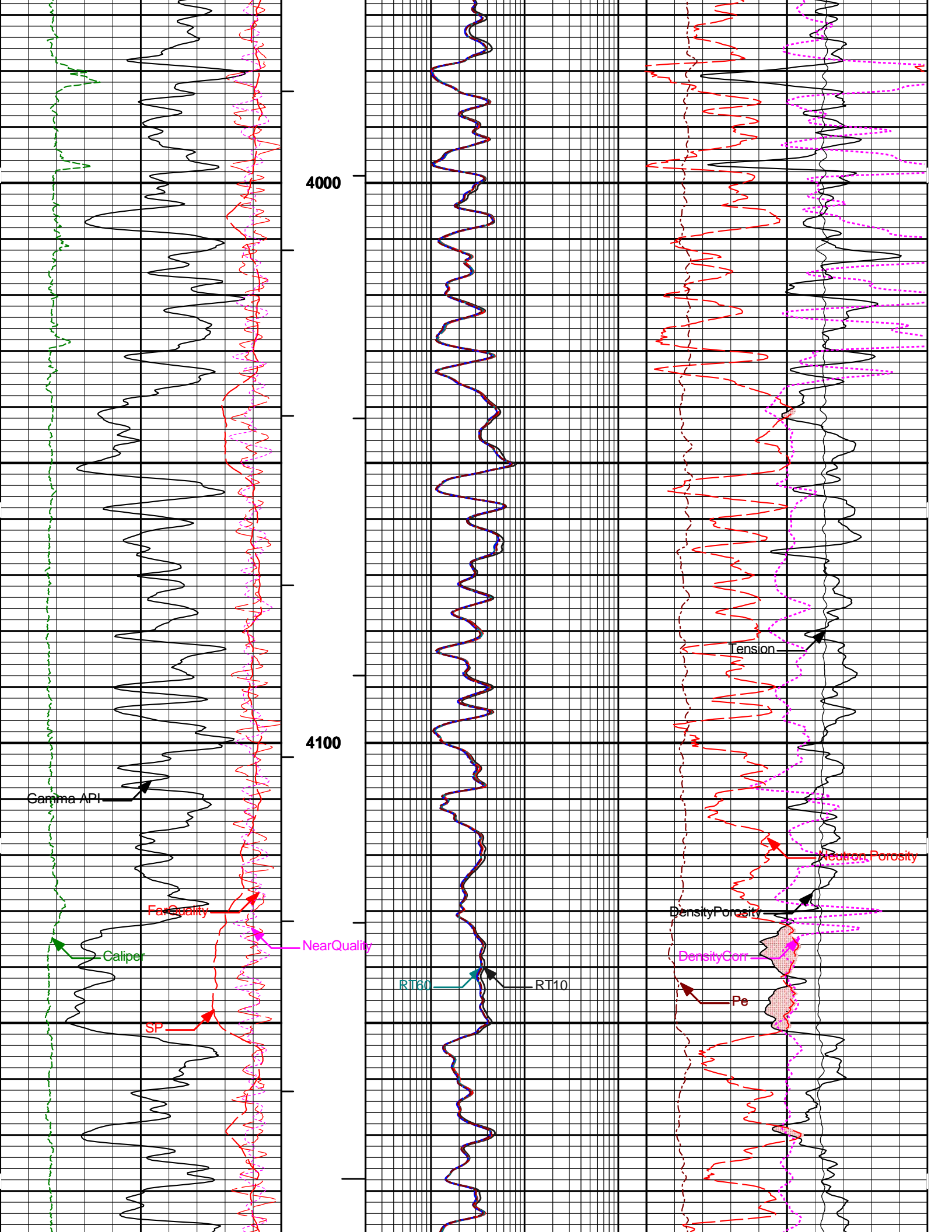


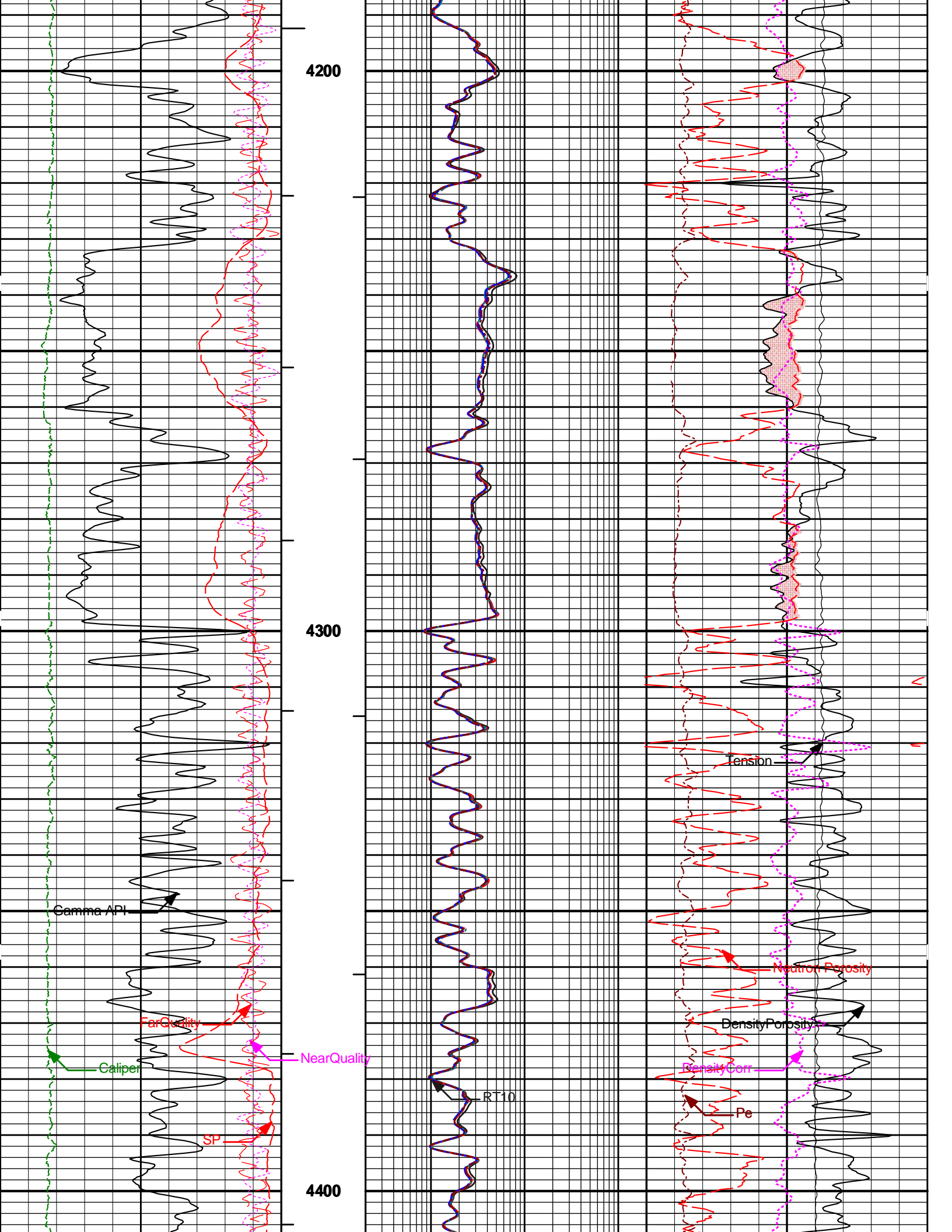


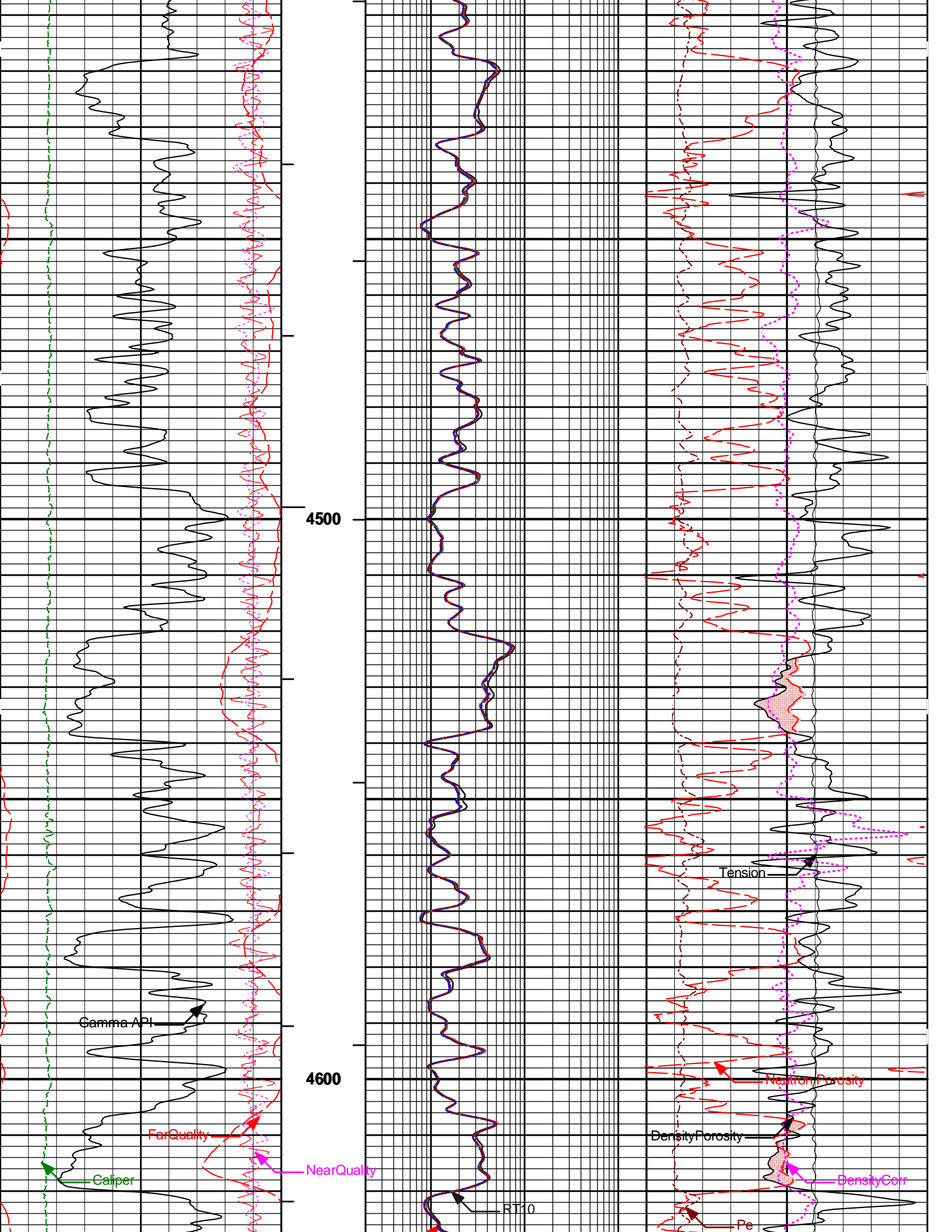


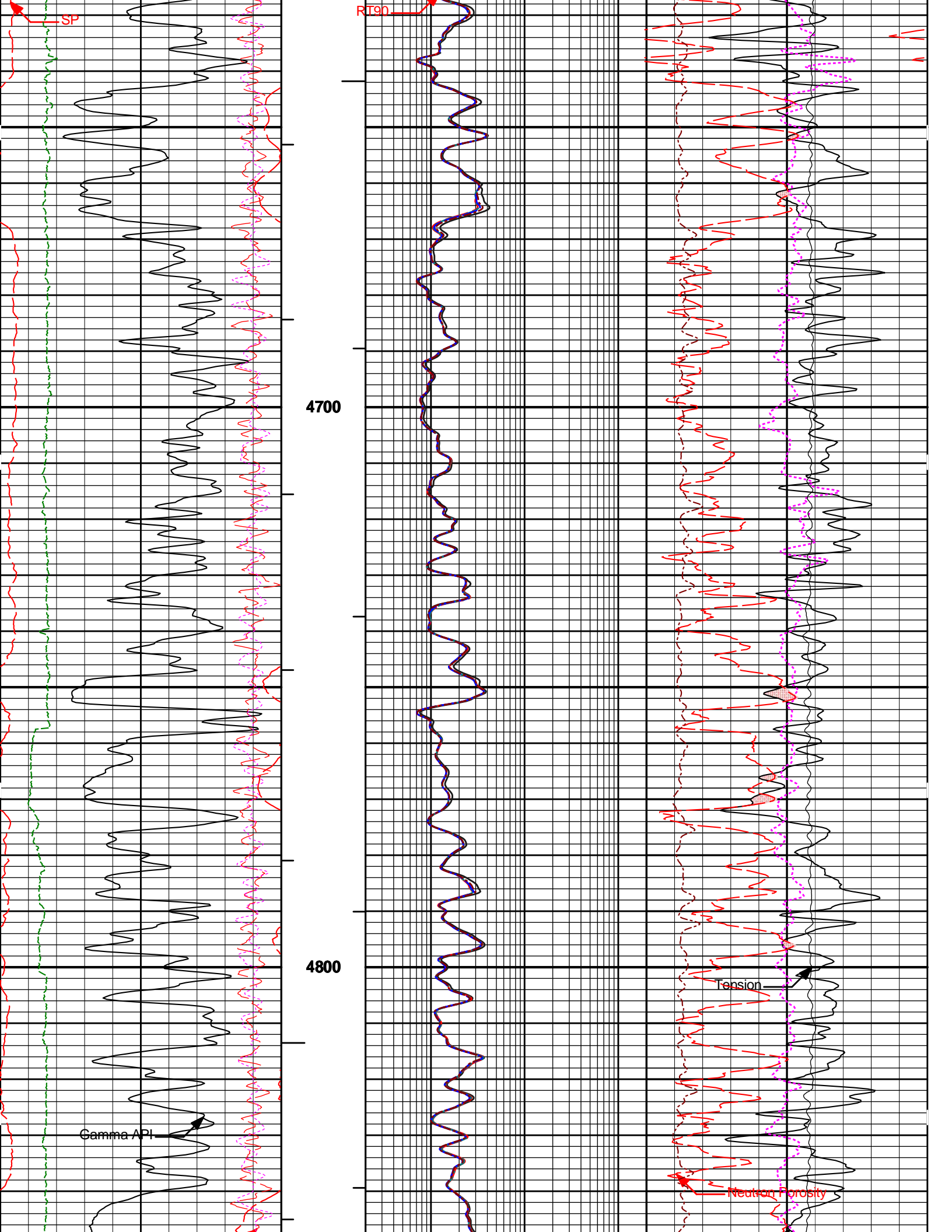


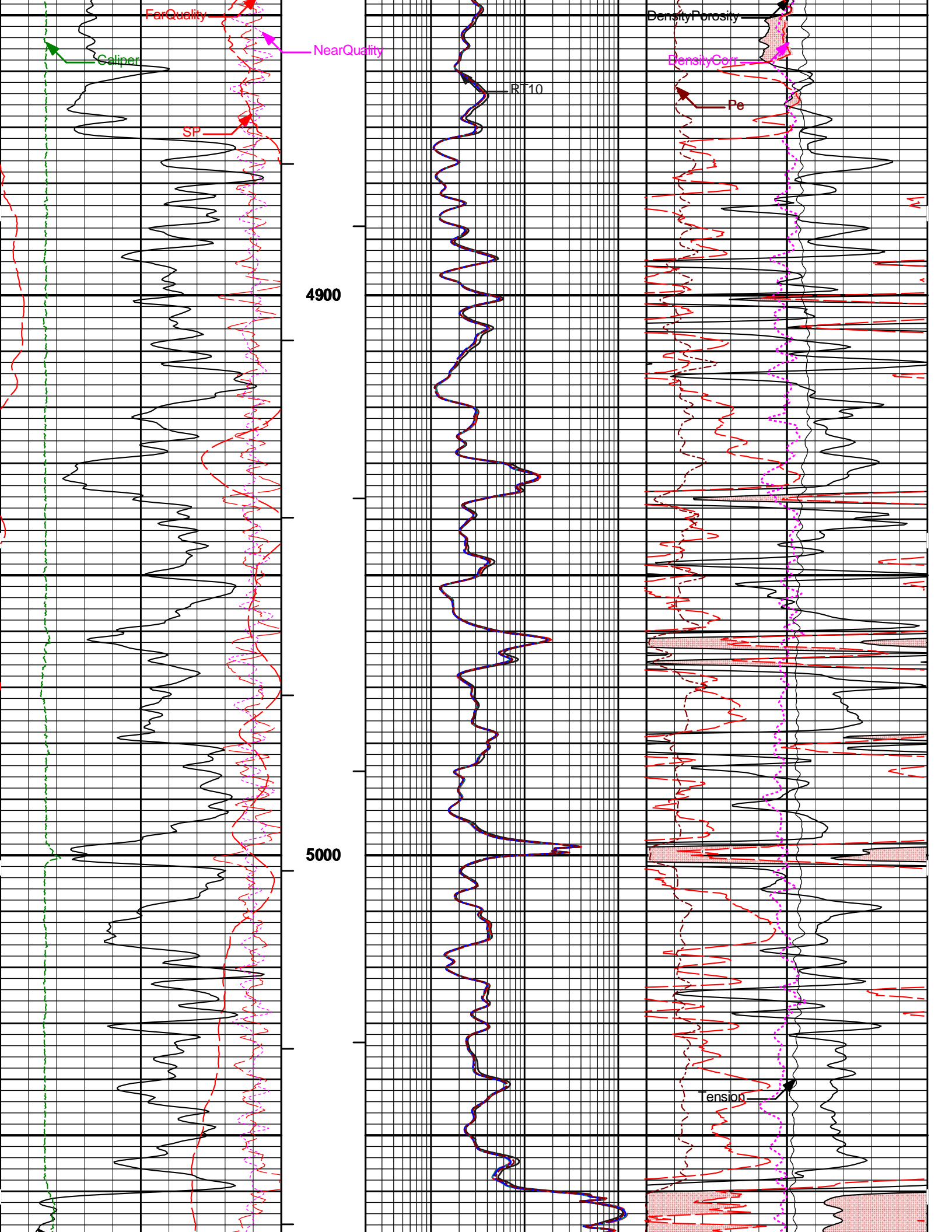


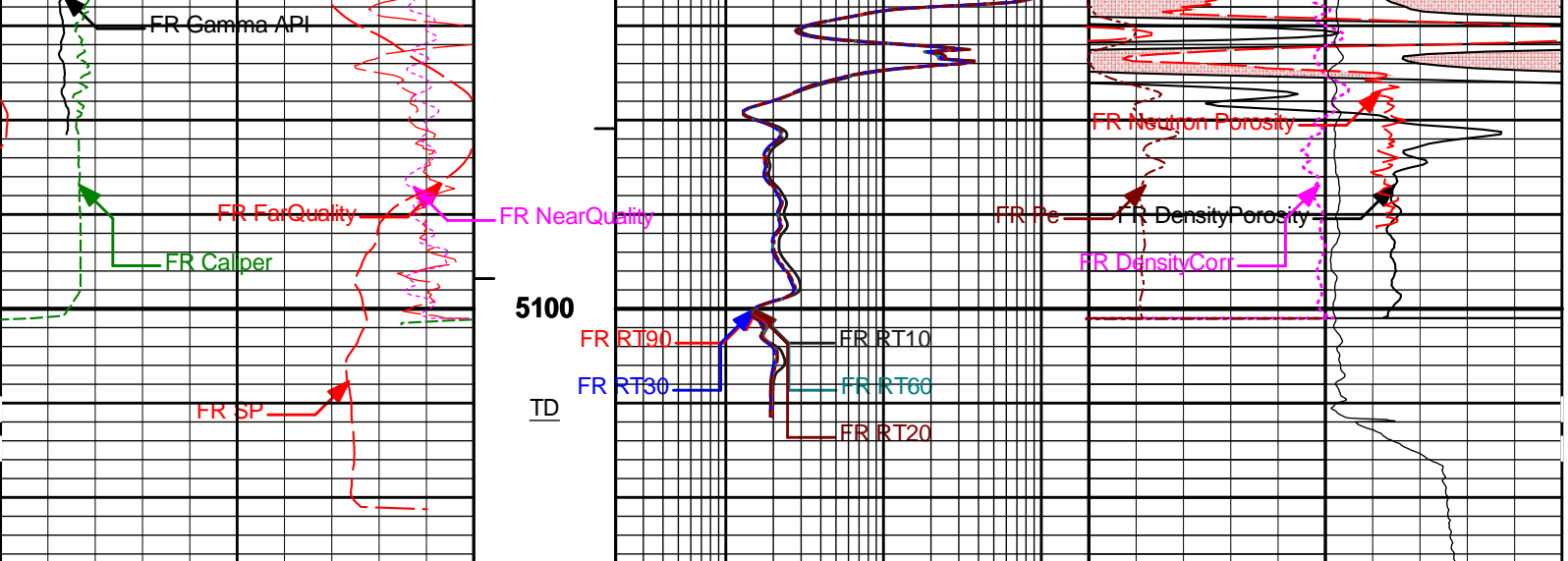












9	NearQuality	-1	1 : 240 ft MD	2	RT10	2K	0	Pe	10
9	FarQuality	-1	AHV ft3	2	RT20	2K	30	DensityPorosity	-10
0	Gamma API	200	BHV ft3	2	RT30	2K	30	Neutron Porosity	-10
6	Caliper	16		2	RT60	2K	-0.25	DensityCorr	0.25
	SP			2	RT90	2K	10000	Tension	0
	-110[+				Ohm-m			pounds	

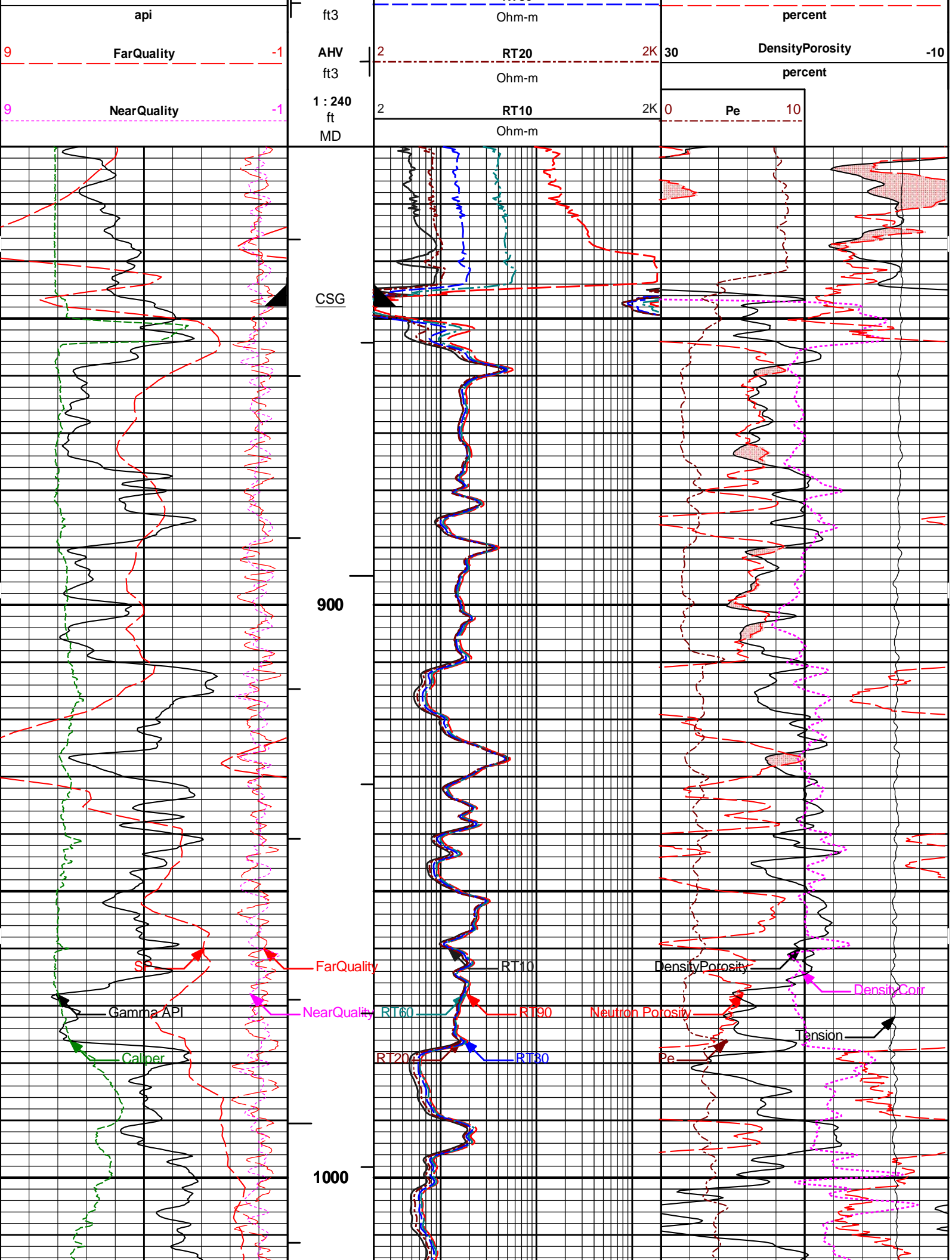
HALLIBURTON Plot Time: 15-Dec-09 02:48:11
 Plot Range: 68 ft to 5126.92 ft
 Data: LE_KNOX_03_07C\Well Based*
 Plot File: \TRIPLEA-Triple-IQ

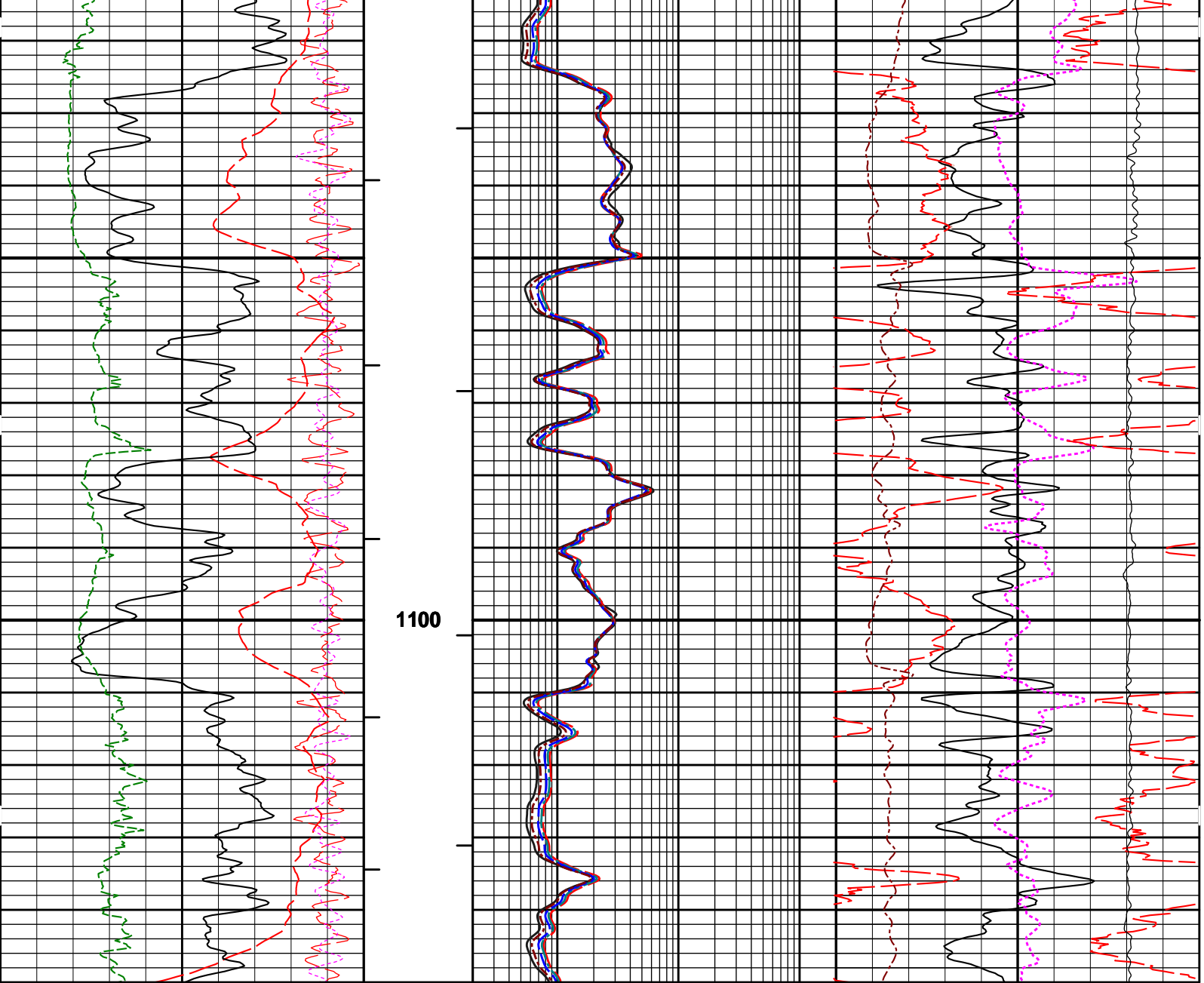
MAIN PASS 5" = 100'

HALLIBURTON Plot Time: 15-Dec-09 02:48:11
 Plot Range: 820 ft to 1150 ft
 Data: LE_KNOX_03_07C\Well Based\DAQ-REPEAT
 Plot File: \TRIPLE\REPEAT

REPEAT PASS 5" = 100'

6	SP		2	RT90	2K	10000	Tension	0
	-110[+			Ohm-m			pounds	
6	Caliper	16	2	RT60	2K	-0.25	DensityCorr	0.25
	inches			Ohm-m			gram per cc	
0	Gamma API	200	2	RT30	2K	30	Neutron Porosity	-10
		BHV						





9	NearQuality	-1	1 : 240 ft MD	2	RT10	2K	0	Pe	10
9	FarQuality	-1	AHV ft3	2	RT20	2K	30	DensityPorosity	-10
0	Gamma API	200	BHV ft3	2	RT30	2K	30	Neutron Porosity	-10
6	Caliper	16		2	RT60	2K	-0.25	DensityCorr	0.25
	SP	-110[+		2	RT90	2K	10000	Tension	0
								pounds	

HALLIBURTON

Plot Time: 15-Dec-09 02:48:12
Plot Range: 820 ft to 1150 ft
Data: LE_KNOX_03_07C\Well Based\DAQ-REPEAT\
Plot File: \TRIPLE\REPEAT

REPEAT PASS 5" = 100'

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	GTET - 11004661	Reference Calibration Date:	03-Nov-09 17:53:48
Engineer:	K. WOOD	Calibration Date:	03-Dec-09 12:31:40
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Calibrator Source S/N: 110
Calibrator API Reference:239.00 api

Measurement	Measured	Calibrated	Units
Background	53.4	55.5	api
Background + Calibrator	283.5	294.5	api
Calibrator	241.1	239.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 11004661	Reference Calibration Date:	03-Dec-09 12:31:40
Engineer:	M. HUNT	Calibration Date:	14-Dec-09 10:40:58
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Calibrator Source S/N: 110
Calibrator API Reference:239.00 api

Field Verification	Shop	Field	Units
Background	55.5	48.1	api
Background + Calibrator	294.5	286.2	api
Calibrator	239.0	238.2	api

Shop	Field	Difference	Tolerance
239.0	238.2	0.8	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION

Tool Name:	GTET - 11004661	Reference Calibration Date:	14-Dec-09 10:40:58
Engineer:	K. WOOD	Calibration Date:	15-Dec-09 02:29:54
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Calibrator Source S/N: 110
Calibrator API Reference:239.00 api

Post Verification	Field	Post	Units
Background	48.1	39.7	api
Background + Calibrator	286.2	279.6	api
Calibrator	238.2	239.9	api

Shop	Field	Post	Difference	Tolerance
239.0	238.2	239.9	-1.7	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 10993887	Reference Calibration Date:	21-Nov-09 17:13:24
Engineer:	K. WOOD	Calibration Date:	21-Nov-09 17:27:32
Software Version:	WL INSITE R2.4 (Build 20)	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-110
Calibration Tank Water Temperature: 65 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value

Gain:	0.960	0.958	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):	0.2176	0.2169	0.0007	+/- 0.0020
Calibrated Ratio:	9.95	9.93	0.022	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit

Snow-Block Porosity (decp):	0.0766	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 - 10993887	Reference Calibration Date:	21-Nov-09 17:27:32
Engineer:	M. HUNT	Calibration Date:	14-Dec-09 10:49:05
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Logging Source S/N: DSN-388
Snow Block S/N: GJ-110

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change

Snow-Block Porosity (decp):	0.0766	0.0790	0.0024	+/- 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

DUAL SPACED NEUTRON POST CALIBRATION

Tool Name:	DSNT - 10993887	Reference Calibration Date:	14-Dec-09 10:49:05
Engineer:	K. WOOD	Calibration Date:	15-Dec-09 02:45:55
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Logging Source S/N: DSN-388
Snow Block S/N: GJ-110

NEUTRON POST-CHECK SUMMARY				
	Field Value	Post Value	Difference	Control Limit On Change

Snow-Block Porosity (decp):	0.0790	0.0831	0.0041	+/- 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

SPECTRAL DENSITY SHOP CALIBRATION			
Tool Name:	SDLT - 10951300	Reference Calibration Date:	21-Nov-09 15:46:32
Engineer:	K. WOOD	Calibration Date:	21-Nov-09 16:04:53
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Logging Source S/N: 20785B

Aluminum Block S/N: 63094

Density: 2.610g/cc

Magnesium Block S/N: 63387

Density: 1.685g/cc

Density Calibration Summary			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0961	1.0802	0.90 - 1.10
Near Dens Gain	1.0351	1.0360	0.90 - 1.10
Near Peak Gain	0.9959	0.9953	0.90 - 1.10
Near Lith Gain	0.9446	0.9458	0.90 - 1.10
Far Bar Gain	1.0164	1.0132	0.90 - 1.10
Far Dens Gain	1.0030	1.0036	0.90 - 1.10
Far Peak Gain	0.9951	0.9944	0.90 - 1.10
Far Lith Gain	0.9683	0.9685	0.90 - 1.10
Near Bar Offset	-0.7999	-0.6516	NONE
Near Dens Offset	-0.2053	-0.2149	NONE
Near Peak Offset	0.1416	0.1453	NONE
Near Lith Offset	0.5578	0.5476	NONE
Far Bar Offset	-0.1223	-0.0941	NONE
Far Dens Offset	-0.0140	-0.0201	NONE
Far Peak Offset	0.0164	0.0224	NONE
Far Lith Offset	0.1991	0.1959	NONE
Near Bar Background	990.90	993.60	700 - 1450
Near Dens Background	326.41	326.46	230 - 480
Near Peak Background	142.64	144.22	100 - 210
Near Lith Background	175.55	175.66	125 - 260
Far Bar Background	582.31	581.98	450 - 900
Far Dens Background	228.34	228.71	175 - 345
Far Peak Background	91.42	91.76	70 - 140
Far Lith Background	93.74	93.82	75 - 145

Calibration Block Summary				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.686	1.685	-0.001	+/- 0.015
Pe	2.592	2.594	0.002	+/- 0.150
ALUMINUM				
Density (g/cc)	2.610	2.610	0.000	+/- 0.01500
Pe	3.079	3.100	0.021	+/- 0.150

Tool Summary		
Measurement	Near Detector	Far Detector

	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0003	+/- 0.0110	0.0013	+/- 0.0140
Magnesium Block	-0.0004	+/- 0.0110	-0.0001	+/- 0.0140
Aluminum Block	-0.0004	+/- 0.0110	0.0002	+/- 0.0140
Resolution	9.87	6.00 - 11.50	8.97	6.00 - 11.50
Internal Verifier(B+D+P+L)	1640	1200 - 2700	996	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 - 10951300	Reference Calibration Date:	21-Nov-09 16:04:53
Engineer:	M. HUNT	Calibration Date:	14-Dec-09 10:38:59
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Aluminum Block S/N: 63094 Density: 2.610g/cc
 Magnesium Block S/N: 63387 Density: 1.685g/cc
 Pad Temperature: 68.2 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1639.938	1633.497	-6.441	16.272
Far (B+D+P+L) cps	996.268	997.823	1.555	16.903
Near Resolution	9.87	9.71	-0.160	0.50
Far Resolution	8.97	9.04	0.070	1.00

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

SPECTRAL DENSITY POST CHECK

Tool Name:	SDLT - 10951300	Reference Calibration Date:	14-Dec-09 10:38:59
Engineer:	K. WOOD	Calibration Date:	15-Dec-09 02:29:04
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

Aluminum Block S/N: 63094 Density: 2.610g/cc
 Magnesium Block S/N: 63387 Density: 1.685g/cc
 Pad Temperature: 68.2 degF

DENSITY POST CALIBRATION SUMMARY				
Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1633.497	1637.613	4.116	16.272
Far (B+D+P+L) cps	997.823	996.696	-1.127	16.903
Near Resolution	9.71	9.69	-0.020	0.50
Far Resolution	9.04	9.08	0.040	1.00

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

DENSITY CALIPER SHOP CALIBRATION			
Tool Name: SDLT - 10951300		Reference Calibration Date: 24-Nov-09 12:16:51	
Engineer: K. WOOD		Calibration Date: 24-Nov-09 12:20:59	
Software Version: WL INSITE R2.4 (Build 20)		Calibration Version: 1	

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1515.64	-1634.09	-7000.00 - -1000.00
Pad Gain	0.0003739	0.0003787	0.000200 - 0.000600
Arm Offset	-3146.75	-2765.18	-5000.00 - 3000.00
Arm Gain	0.0005916	0.0005299	0.000300 - 0.000700
Arm Power	-0.000007595	-0.000003323	-0.000010 - 0.000010

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.02	2.00	-0.02	+/- 0.20
Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.49	6.50	0.01	+/- 0.20
Medium Ring (in)	8.37	8.25	-0.12	+/- 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: 24-Nov-09 12:20:59		
Engineer: M. HUNT		Calibration Date: 14-Dec-09 10:45:04		
Software Version: WL INSITE R2.4 (Build 20)		Calibration Version: 1		

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.85	0.10	+/- 0.10
Ring Diameter	8.25	8.26	0.01	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

SDLT CALIPER POST CALIBRATION			
Tool Name: SDLT - 10951300		Reference Calibration Date: 14-Dec-09 10:45:04	
Engineer: K. WOOD		Calibration Date: 15-Dec-09 00:00:00	
Software Version: WL INSITE R2.4 (Build 20)		Calibration Version: 1	

Engineer:	K. WOOD	Calibration Date:	15-Dec-09 02:32:08
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.85	3.91	0.06	+/- 0.10
Ring Diameter	8.26	8.24	-0.01	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION			
Tool Name:	ACRt - 90194258-E7486-	Reference Calibration Date:	19-Sep-09 09:46:29
Engineer:	K. WOOD	Calibration Date:	19-Sep-09 09:58:31
Software Version:	WL INSITE R2.4 (Build 20)	Calibration Version:	1

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	0.9904	1.05	0.95	0.9954	1.05	0.95	0.9948	1.05
A2 (50")	0.95	0.9954	1.05	0.95	1.0000	1.05	0.95	1.0002	1.05
A3 (29")	0.95	0.9969	1.05	0.95	1.0001	1.05	0.95	0.9984	1.05
A4 (17")	0.95	0.9904	1.05	0.95	0.9930	1.05	0.95	0.9917	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9850	1.05	0.95	0.9824	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9806	1.05	0.95	0.9775	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	-0.325	2	-6	-3.808	-2	-8	-4.774	-2
A2 (50")	-7	-2.478	-2	-6	-3.770	-2	-7	-4.404	-2
A3 (29")	-27	-11.229	-9	-9	-3.373	-3	-7	-2.779	-1
A4 (17")	-180	-103.924	-60	-45	-32.826	-15	-39	-25.988	-13
A5 (10")	N/A	N/A	N/A	-150	-66.686	-50	-80	-34.642	-10
A6 (6")	N/A	N/A	N/A	175	263.458	525	90	137.288	270

TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION			
Signal	Lower	R	Upper		Signal	Lower (ohm-m)	Measured (ohmm)	Upper (ohm-m)
12K	0.6	0.8688	1.3		Mud Cell	0.95	1.004	1.05
36K	1.0	1.8009	2.0					
72K	1.0	1.1091	2.0					

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11004661						
Gamma Ray Calibrator	239.0	238.2	239.9	-1.7	+/- 9.00	api
DSNT-10993887						
Snow-Block Porosity	0.0766	0.0790	0.0831	-0.0041	+/- 0.0150	decp
SDLT-10951300						
Near(B+D+P+L)	1639.938	1633.497	1637.613	-4.116	+/-16.272	cps
Far(B+D+P+L)	996 268	997 823	996 696	1 127	+/-16 903	cps

Pad Extension	3.75	3.85	3.91	-0.06	+/-0.10	in
Ring Diameter	8.25	8.26	8.24	0.020	+/-0.15	in
ACRt-90194258-E7486-						
Mud Cell	1.004	-----	-----	0.000	-----	ohmm
Data: LE_KNOX_03_07C\0001 IQ-TRIPLE-STRING2\IDLE						
Date: 15-Dec-09 02:46:31						


HALLIBURTON

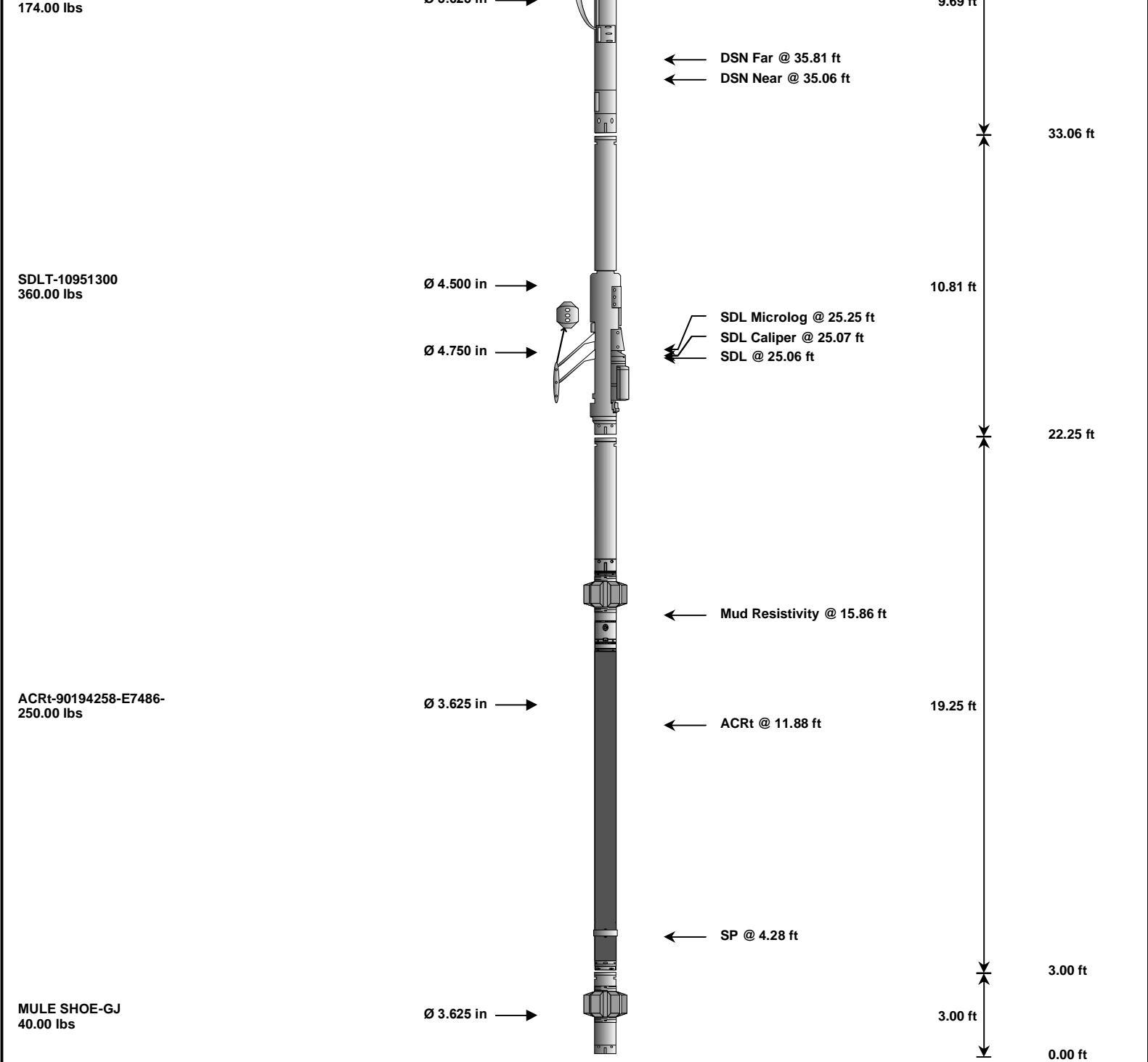
CUSTOMER EVENT LOG

Event Type	Time & Date	Depth (ft)	Event Description
	14-Dec-09 23:20:50	148.00	Logging 001 14-Dec-09 23:20 Dn @148.0f
	14-Dec-09 23:29:49	843.95	Halting 001 14-Dec-09 23:20 Dn @148.0f
	14-Dec-09 23:35:30	866.25	Logging 002 14-Dec-09 23:35 Dn @866.3f
	14-Dec-09 23:36:17	1041.59	Halting 002 14-Dec-09 23:35 Dn @866.3f
	14-Dec-09 23:36:45	1077.25	Logging 003 14-Dec-09 23:36 Dn @1077.3f
	14-Dec-09 23:37:15	1244.19	Halting 003 14-Dec-09 23:36 Dn @1077.3f
	14-Dec-09 23:37:29	1237.50	Logging 004 14-Dec-09 23:37 Up @1237.5f
	14-Dec-09 23:45:59	747.20	Halting 004 14-Dec-09 23:37 Up @1237.5f
	14-Dec-09 23:47:40	790.00	Logging 005 14-Dec-09 23:47 Dn @790.0f
	15-Dec-09 00:00:36	3653.82	Halting 005 14-Dec-09 23:47 Dn @790.0f
	15-Dec-09 00:02:04	3907.00	Logging 006 15-Dec-09 00:02 Dn @3907.0f
	15-Dec-09 00:21:05	5129.69	Halting 006 15-Dec-09 00:02 Dn @3907.0f
	15-Dec-09 00:21:16	5128.00	Logging 007 15-Dec-09 00:21 Up @5128.0f
	15-Dec-09 01:47:20	67.70	Halting 007 15-Dec-09 00:21 Up @5128.0f
Data: LE_KNOX_03_07C\0001 IQ-TRIPLE-STRING2\HW11256			Date: 15-Dec-09 02:15:20

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-C11013846 135.00 lbs	Ø 3.625 in →		← Load Cell @ 53.84 ft ← BH Temperature @ 53.27 ft	6.25 ft	57.52 ft
GTET-11004661 165.00 lbs	Ø 3.625 in →		← GammaRay @ 45.21 ft	8.52 ft	51.27 ft
DSNT-10993887	Ø 3.625 in →			42.75 ft	



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)	
RWCH	Releasable Wireline Cable Head	C11013846	135.00	6.25	51.27	300.00	
GTET	Natural Gamma Ray Tool	11004661	165.00	8.52	42.75	60.00	
DSNT	Dual Spaced Neutron	10993887	174.00	9.69	33.06	60.00	
DCNT	DSN Decentralizer	10917119	50.00	5.13	*	36.39	300.00
SDLT	Spectral Density Tool	10951300	360.00	10.81	22.25	60.00	
ACRt	Array Compensated True Resistivity	90194258-E7486-	250.00	19.25	3.00	300.00	
SP	SP Ring	PROTO1	0.00	0.25	*	4.28	300.00
HFCS	Hostile Full Wave Sonic Caged Metal and Rubber Standoff	01	7.94	1.33	*	15.92	300.00
MUSH	MULE SHOE	GJ	40.00	3.00	0.00	100.00	
HFCS	Hostile Full Wave Sonic Caged Metal and Rubber Standoff	02	7.94	1.33	*	1.20	300.00
Total			1,189.88	57.52			
* Not included in Total Length and Length Accumulation.							
Data: LE_KNOX_03_07C\0001 IQ-TRIPLE-STRING2\IDLE					Date: 15-Dec-09 02:14:32		

COMPANY	LARAMIE ENERGY		
WELL	KNOX 03-07C		
FIELD	RULISON		
COUNTY	GARFIELD	STATE	CO
HALLIBURTON		DUAL SPACED NEUTRON SPECTRAL DENSITY ARRAY COMPENSATED TRUE RESISTIVITY	