

HALLIBURTON

ARRAY COMPENSATED
TRUE RESISTIVITY
SPECTRAL DENSITY
DUAL SPACED NEUTRON

COMPANY		ENCANA OIL & GAS (USA) INC				
WELL		MELBON RANCH 4-6-17				
FIELD		WATTENBERG				
COUNTY		WELD				
STATE		CO				
Permanent Datum Log measured from Drilling measured from	GL KB KB	Sect. 17 Twp. 2N Rge. 65W	Elev. 4918.0 ft D.F. G.L. 4918.0 ft	COMPANY		ENCANA OIL & GAS (USA) INC
	WELL			MELBON RANCH 4-6-17		
				FIELD		WATTENBERG
				COUNTY		WELD
				STATE		CO
Date		29-Mar-12		API No.		05123345840000
Run No.		ONE		Location		SURFACE LOCATION: 209' FSL & 2,595' FWL SESW BOTTOM LOCATION: 1,350' FSL & 2,590' FWL NESW LATITUDE: 40.132010° LONGITUDE: -104.688130°
Depth - Driller		8040.00 ft		Other Services:		RWCH
Depth - Logger		8038.0 ft				
Bottom - Logged Interval		8034 ft				
Top - Logged Interval		CASING				
Casing - Driller		8.625 in @ 860.0 ft				
Casing - Logger		876.0 ft				
Bit Size		7.875 in	@			
Type Fluid in Hole		WATER BASED MUD				
Density	Viscosity	9.6 ppq	51.00 s/qt			
PH	Fluid Loss	8.00 pH	11.6 cpm			
Source of Sample		MUD CELL				
Rm @ Meas. Temperature		1.330 ohmm @ 93.10 degF	@			
Rmf @ Meas. Temperature		1.42 ohmm @ 75.00 degF	@			
Rmc @ Meas. Temperature		1.394 ohmm @ 75.00 degF	@			
Source Rmf	Rmc	CHART	CHART			
Rm @ BHT		0.64 ohmm @ 202.0 degF	@			
Time Since Circulation		7.0 hr				
Time on Bottom		29-Mar-12 13:29				
Max. Rec. Temperature		202.0 degF @ 8036.0 ft	@			
Equipment	Location	11454566	BRIGHTON			
Recorded By		R. TWEETEN				
Witnessed By		R. BENGE				

Fold here

Service Ticket No.: 9392514				API Serial No.: 05123345840000				PGM Version: WL INSITE 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		1.25" S.O.		N/A			
Rmc @ Meas. Temp.		@		@						E2817-S4353									
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.		11812883		Serial No.				Serial No.		11795867		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.		2770GW		Serial No.		DSN434					
Distance to Source		10'		FWDA [Y/N]				Strength		1.5 Ci		Strength		15 Ci					
LOGGING DATA																			
GENERAL				GAMMA				ACOUSTIC				DENSITY				NEUTRON			

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	7819	REC	0	200				30	-10	2.65	30	-10	SAND					
ONE	7819	CSG	REC	0	200				30	-10	2.68	30	-10	SAND					
DIRECTIONAL INFORMATION																			
Maximum Deviation									@	KOP						@			
Remarks: RWCH-GTET-DSNT-SDLT-ACRt RUN IN COMBINATION.																			
ANNULAR HOLE VOLUME CALCULATED USING 4.5-INCH PRODUCTION CASING.																			
TENSION PULLS, WASHOUTS AND BOREHOLE RUGOSITY AFFECT LOG RESPONSE.																			
YOUR CREW TODAY: A. DUNCAN, R. PERSHALL, C. CRADDOCK, T. BAKER															RIG: ENSIGN 17				
THANK YOU FOR USING HALLIBURTON LOGGING SERVICES - BRIGHTON, CO - (303) 825-4346																			
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.																			
HALLIBURTON																			

HALLIBURTON

PARAMETERS REPORT

Depth (ft))	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SDLT Pad	DMA	Formation Density Matrix	2.680	g/cc
7819.00					
	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	9.600	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	870.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.330	ohmm
	SHARED	TRM	Temperature of Mud	93.1	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	8036.00	ft
	SHARED	BHT	Bottom Hole Temperature	202.0	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	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Sandstone	
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	
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	2.650	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
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	Eccentered	
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	
BOTTOM				

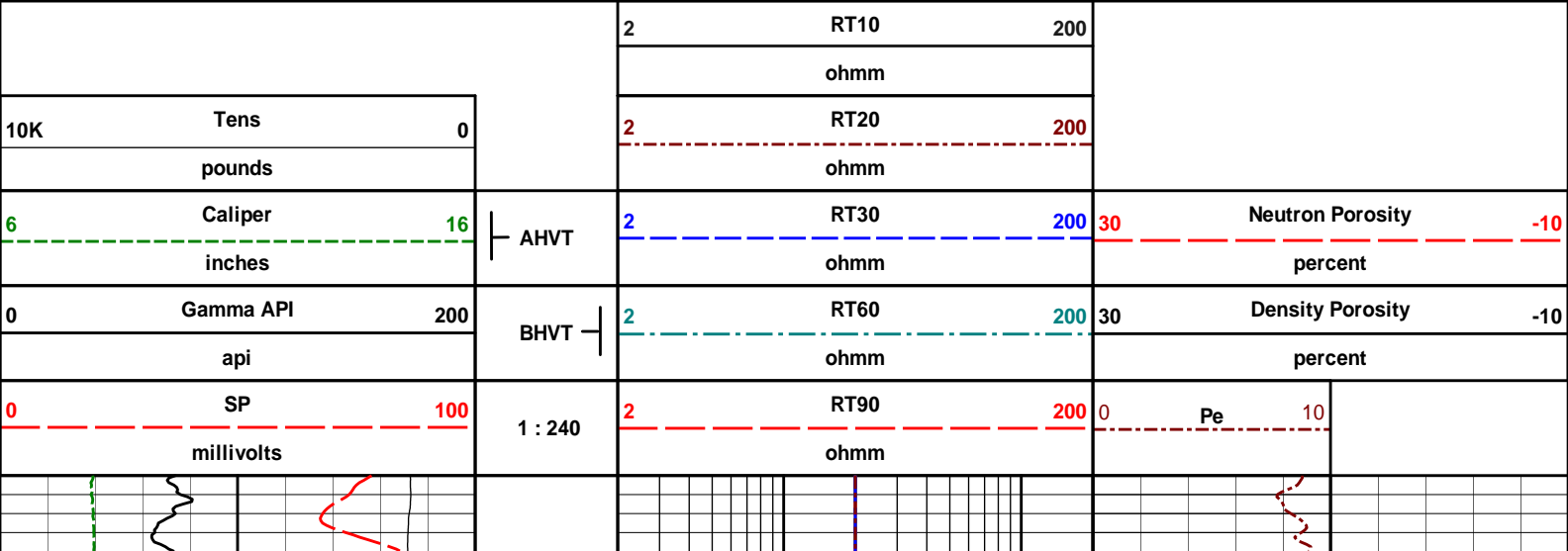
Data: ME_RANCH_4-6-17\0001 ENCANA\003.02 29-Mar-12 14:02 Up

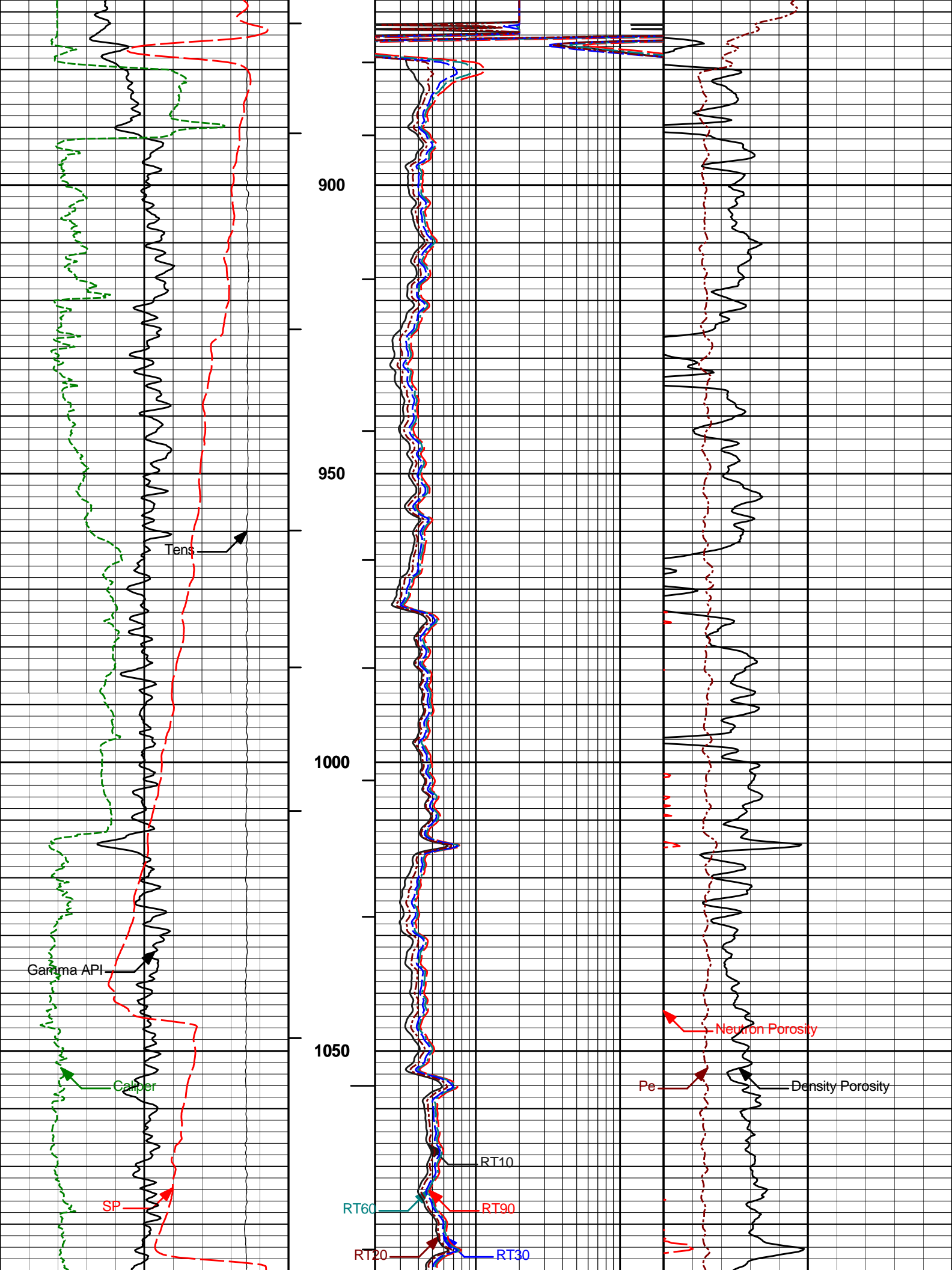
Date: 29-Mar-12 14:03:00

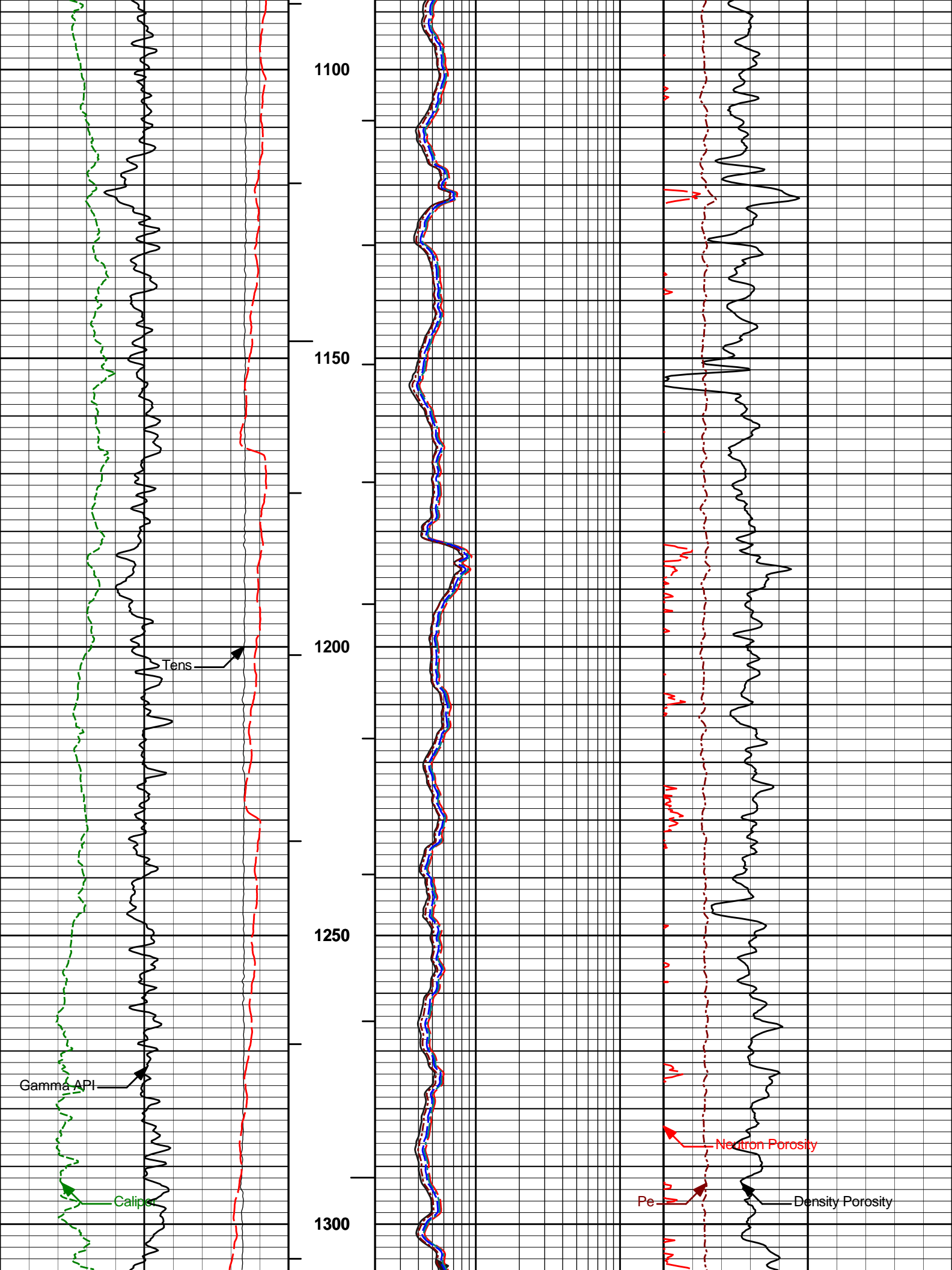
HALLIBURTON

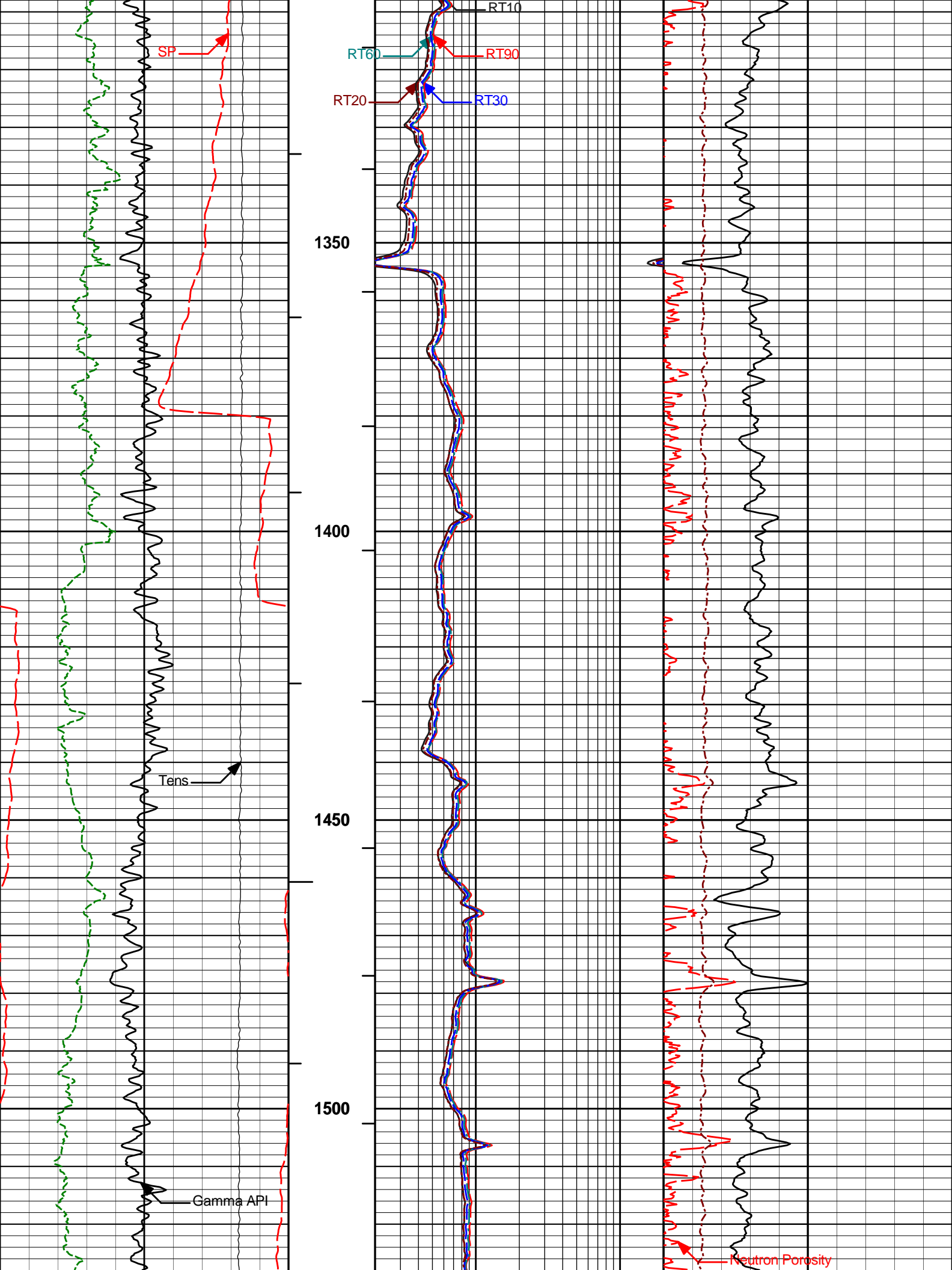
Plot Time: 29-Mar-12 15:27:21
Plot Range: 860 ft to 8046.58 ft
Data: ME_RANCH_4-6-17\Well Based\MAIN*
Plot File: \COMP\MAIN

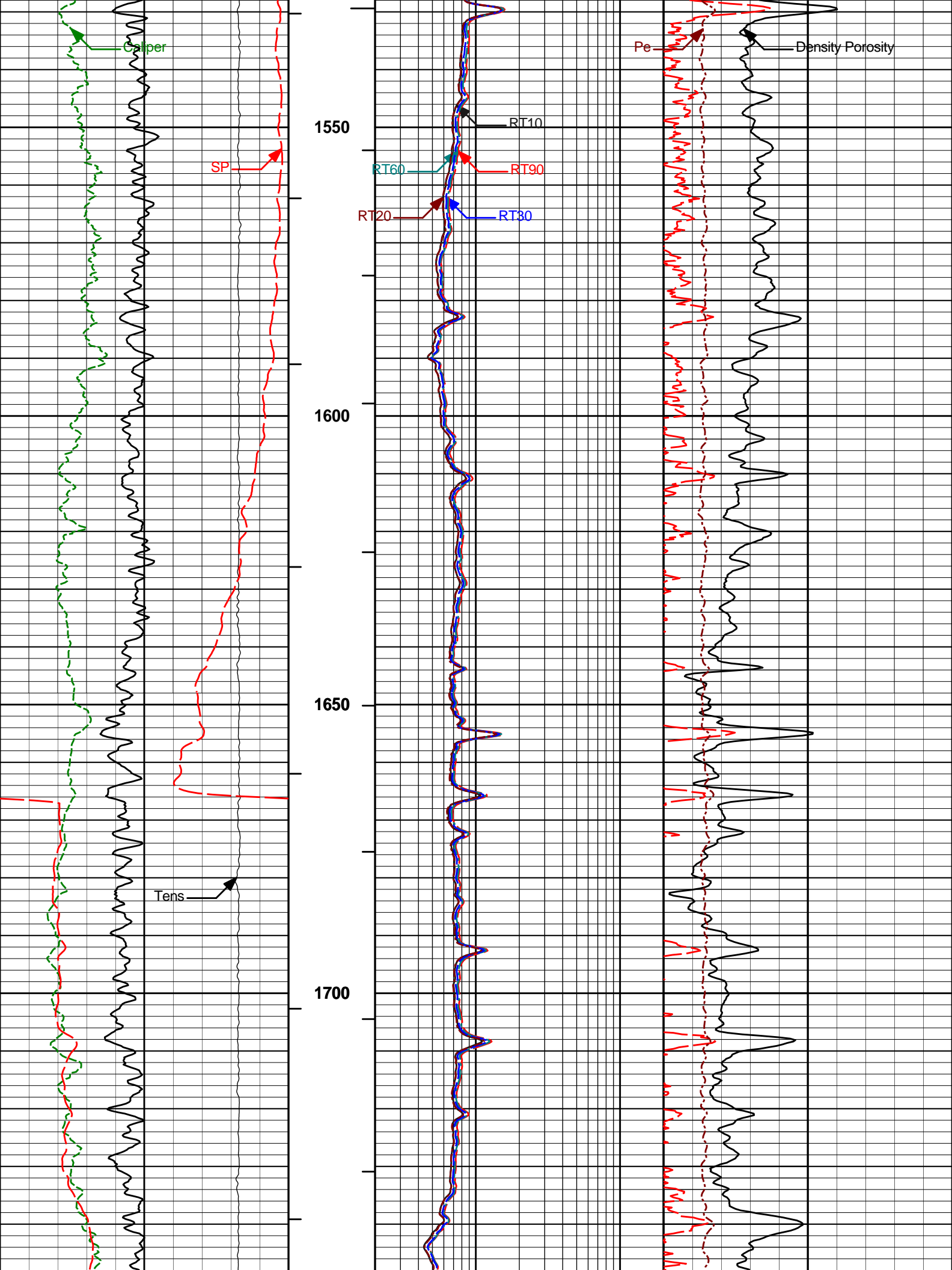
MAIN PASS 5" = 100'

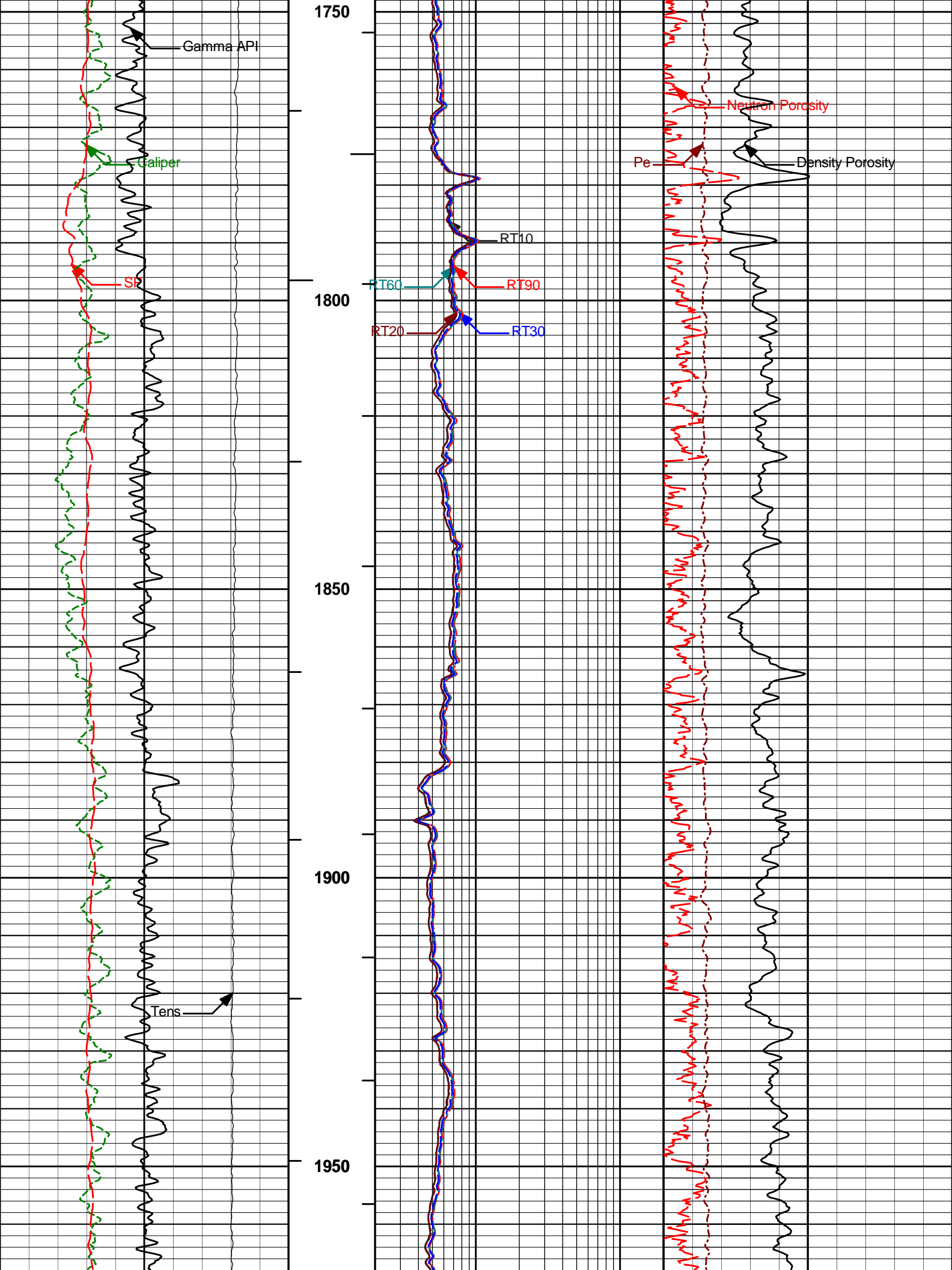


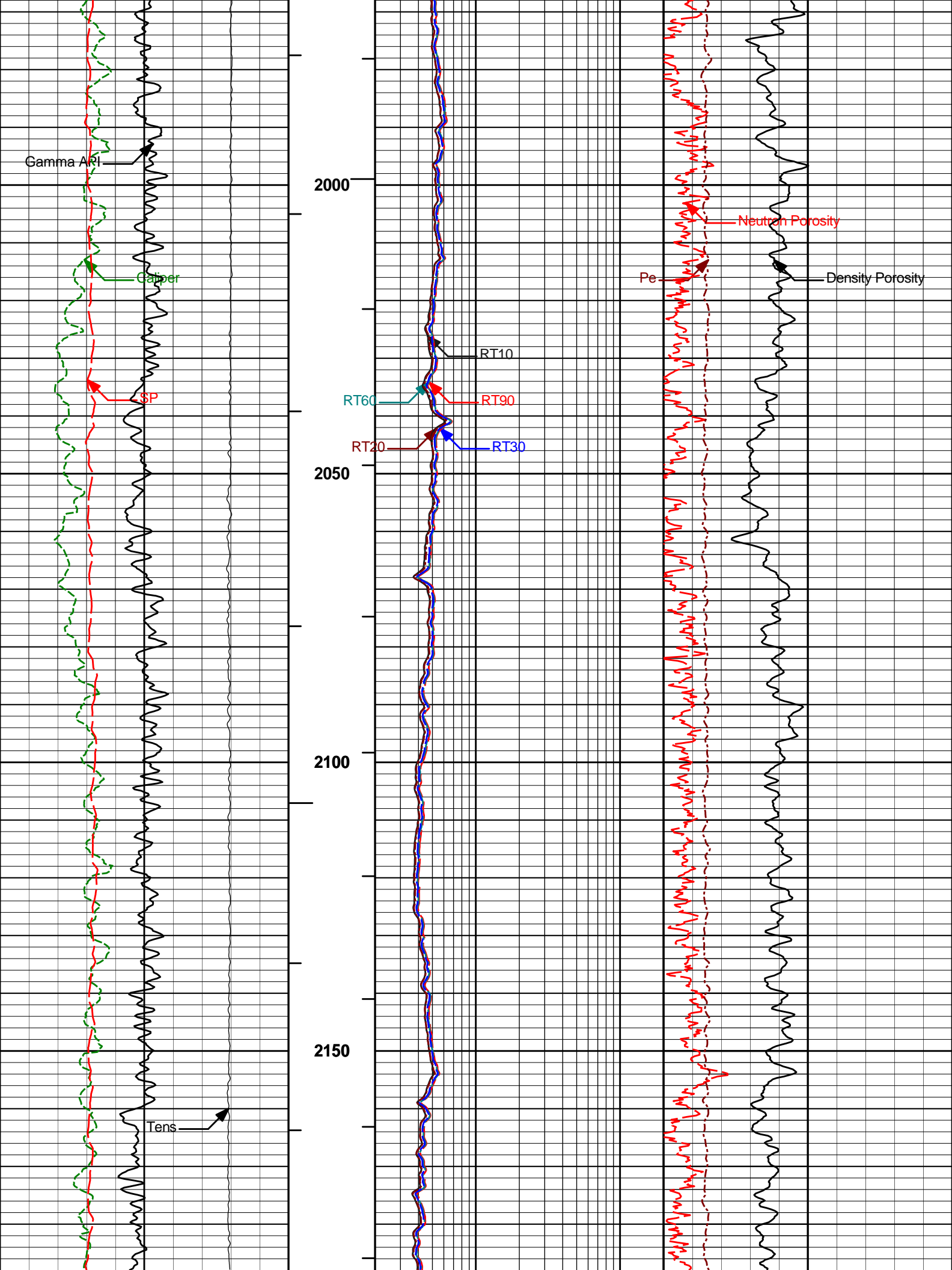


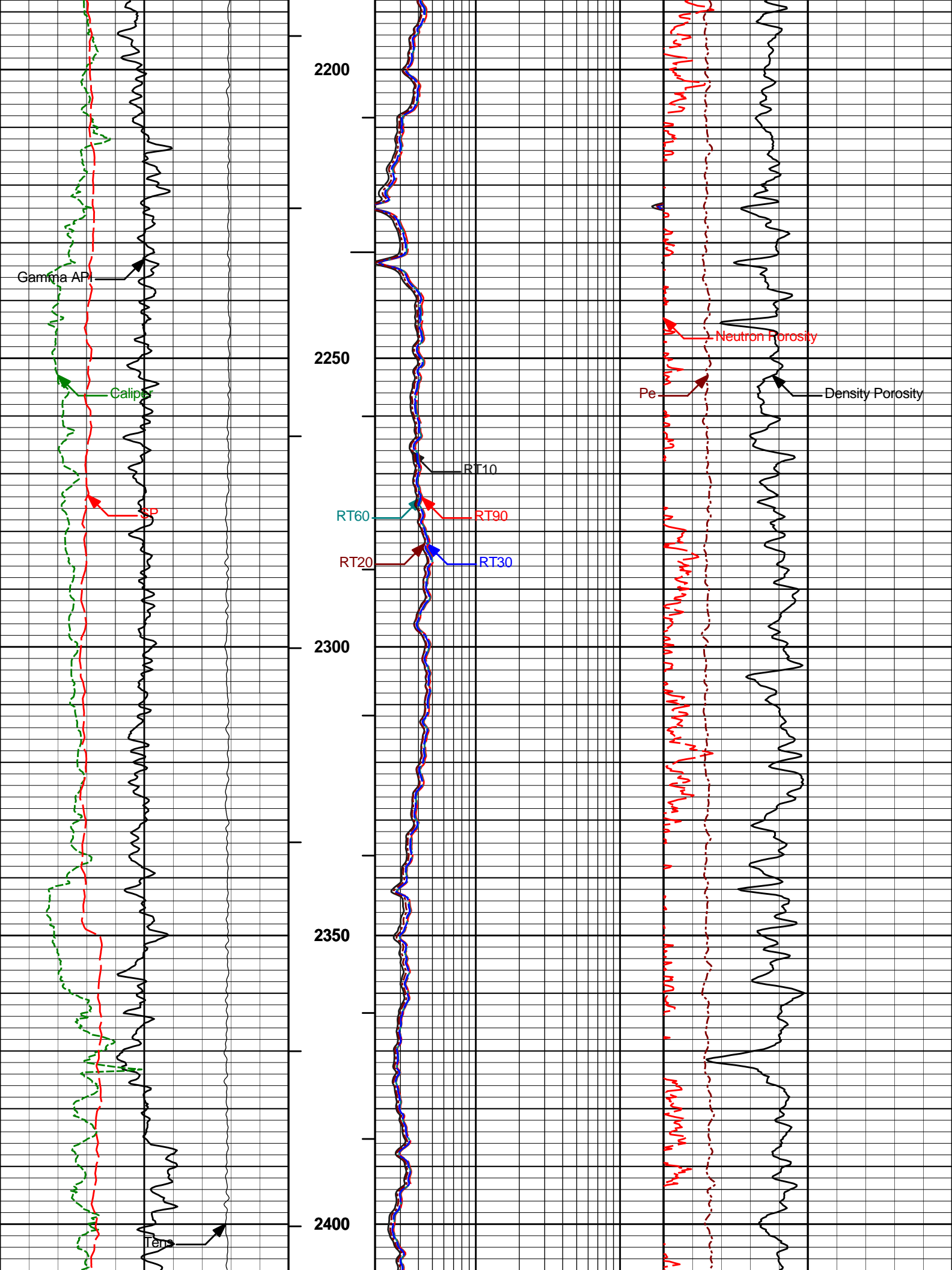


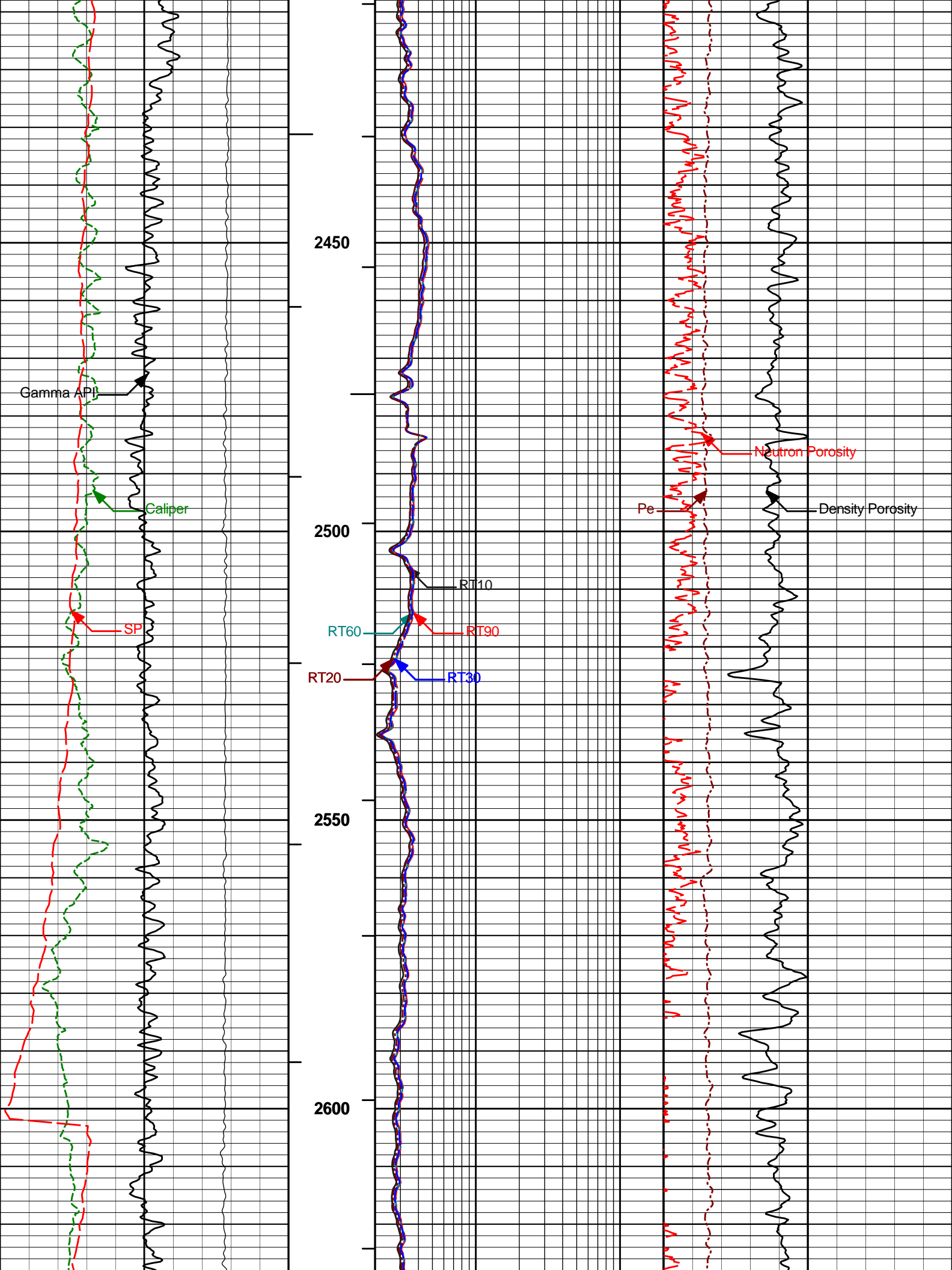


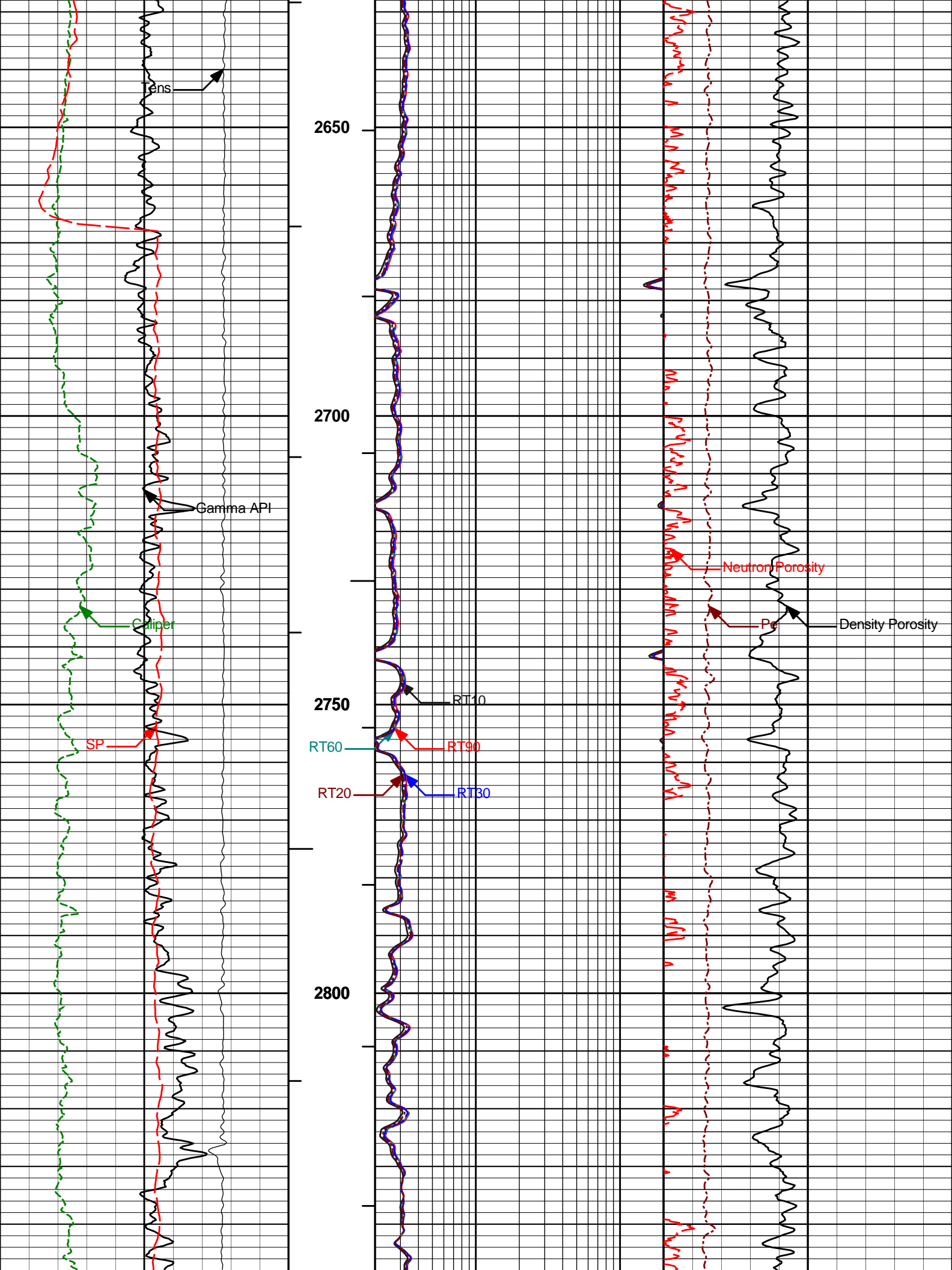


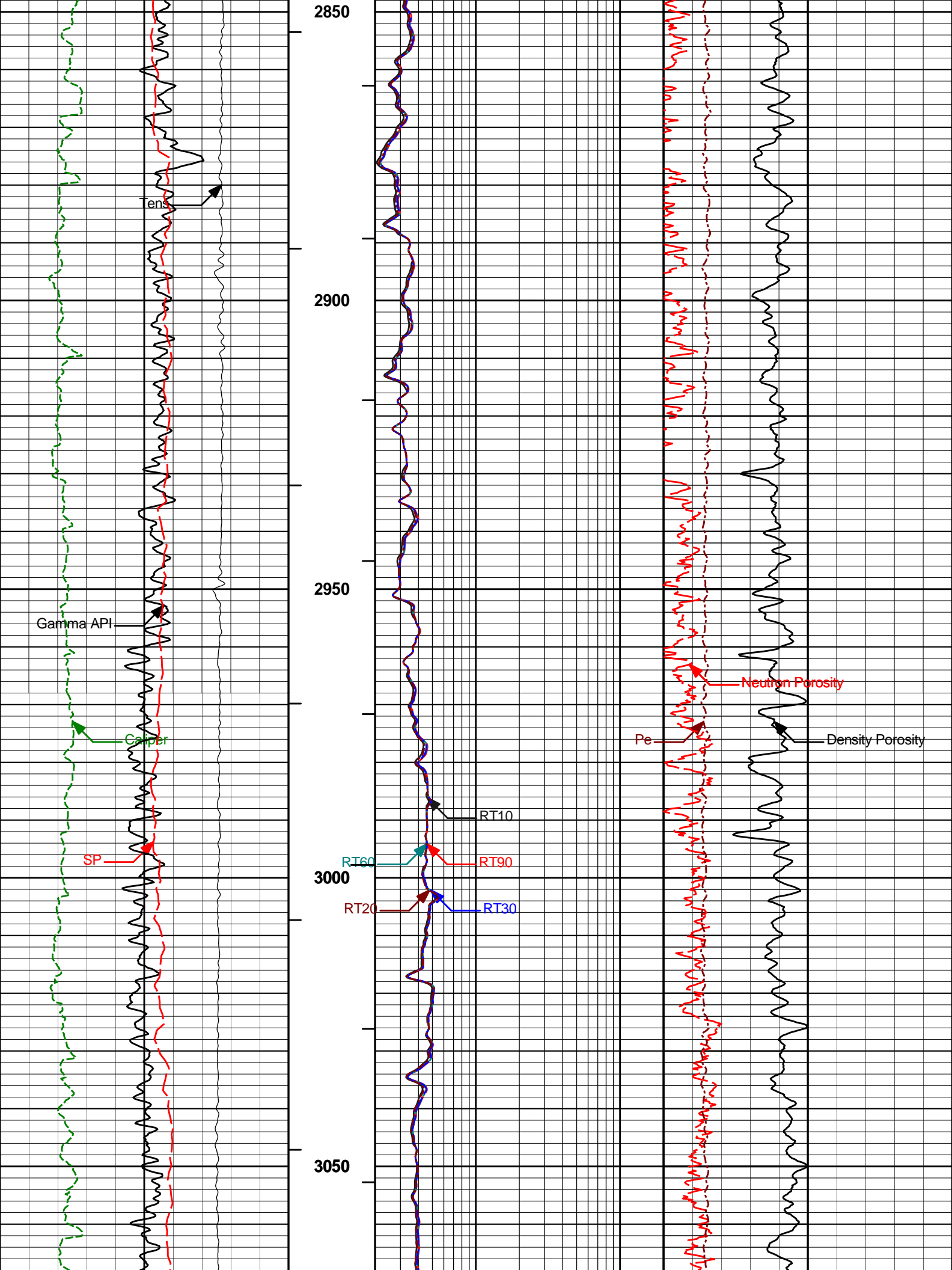


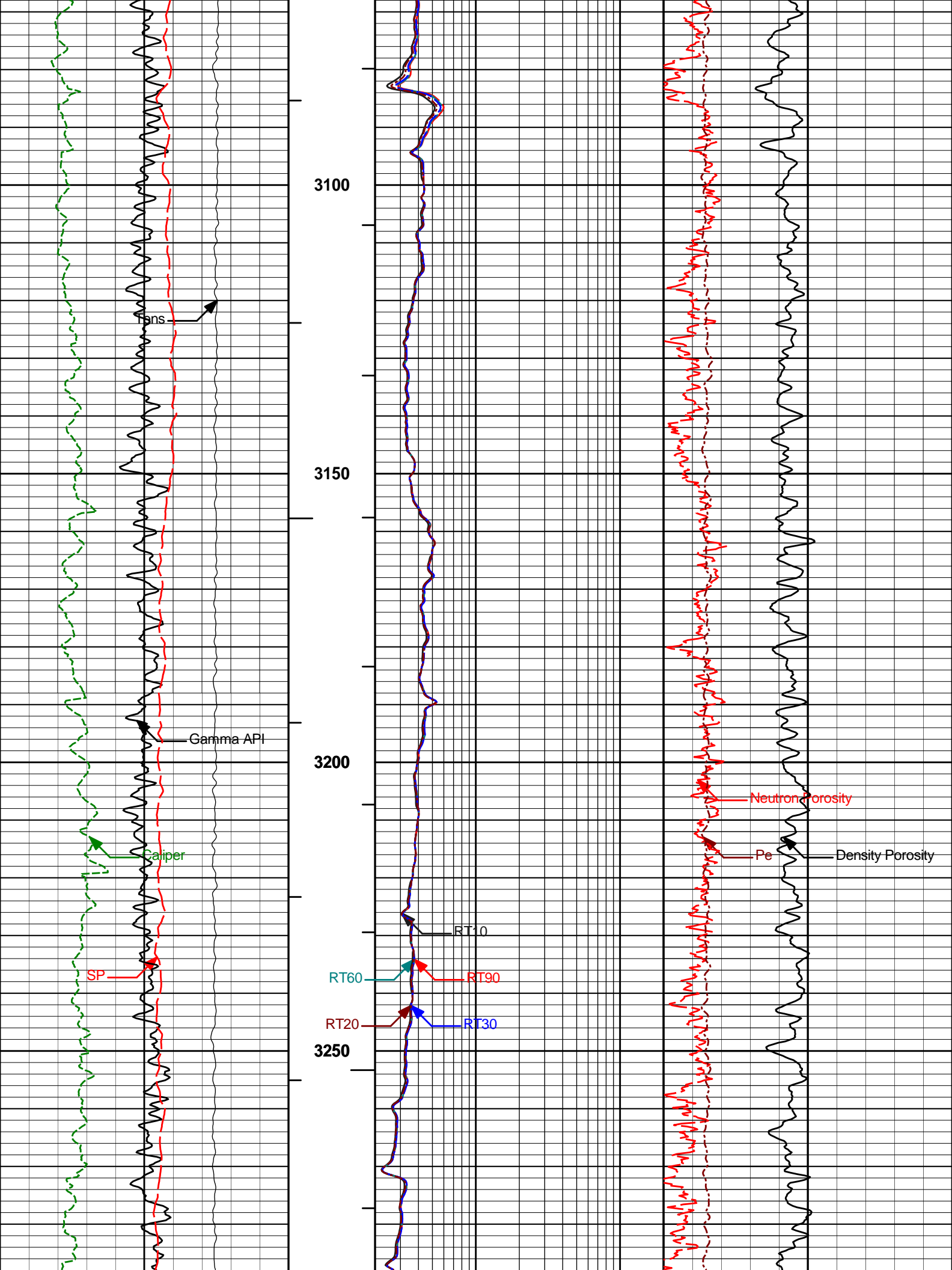


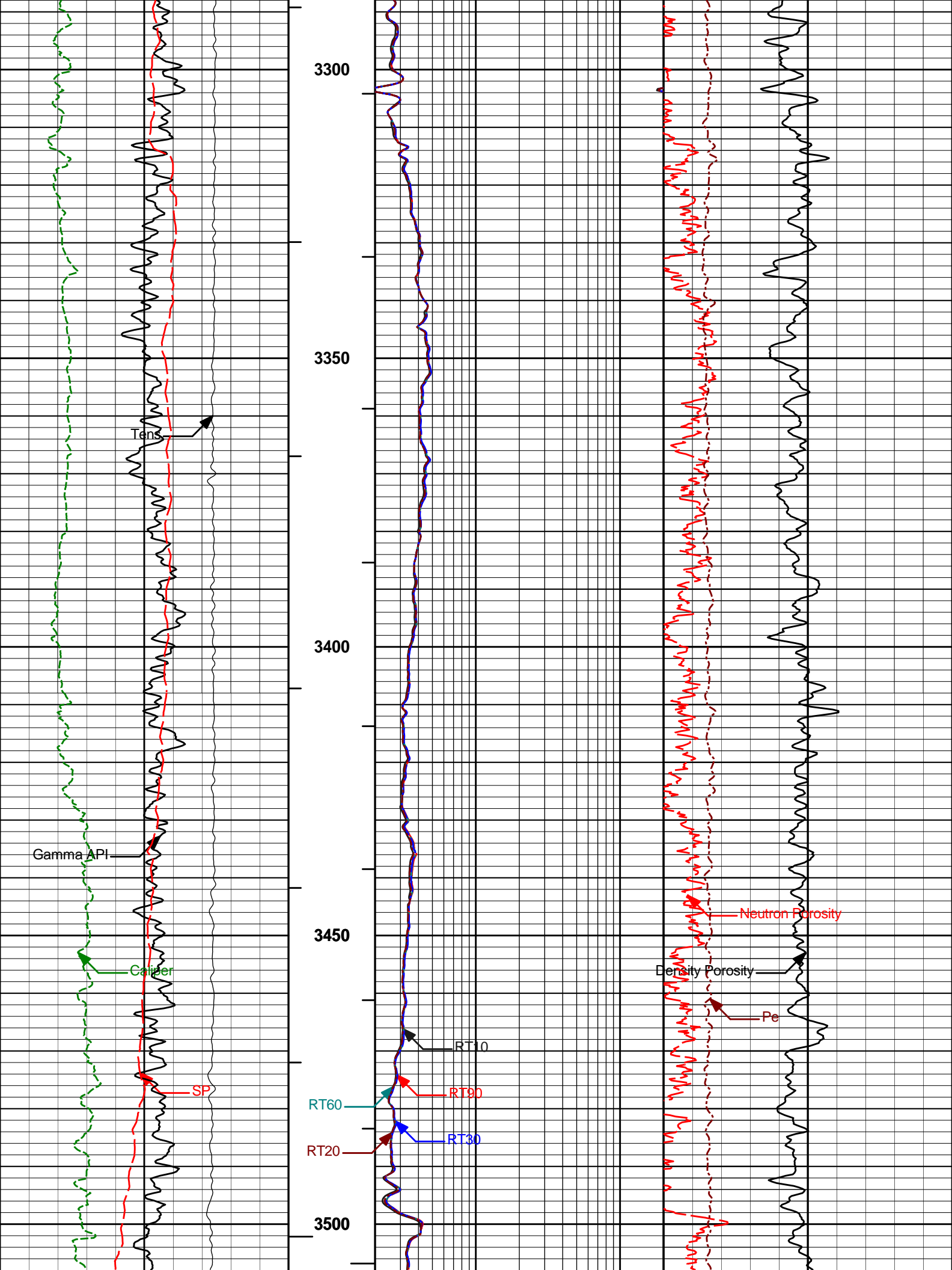


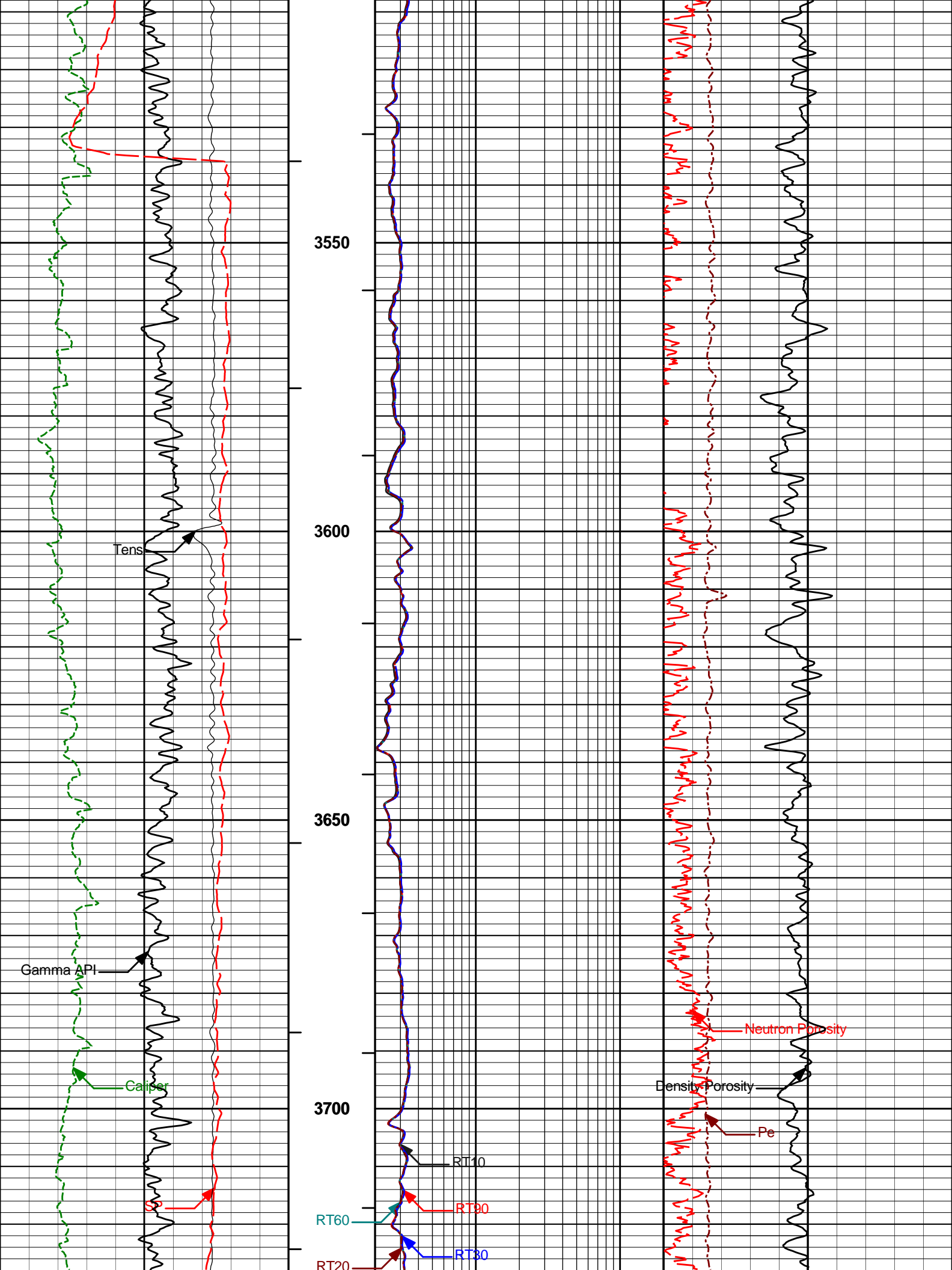


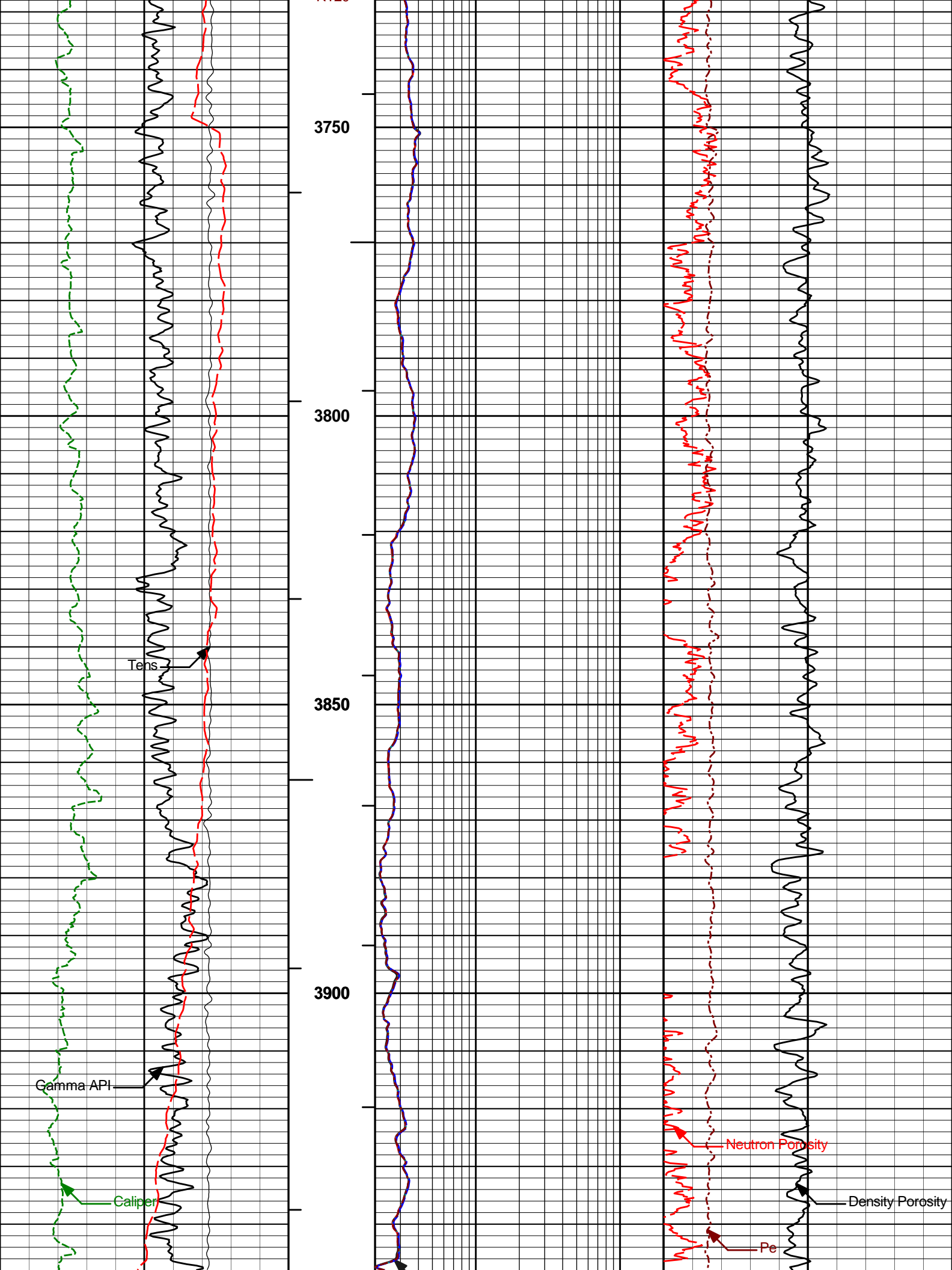


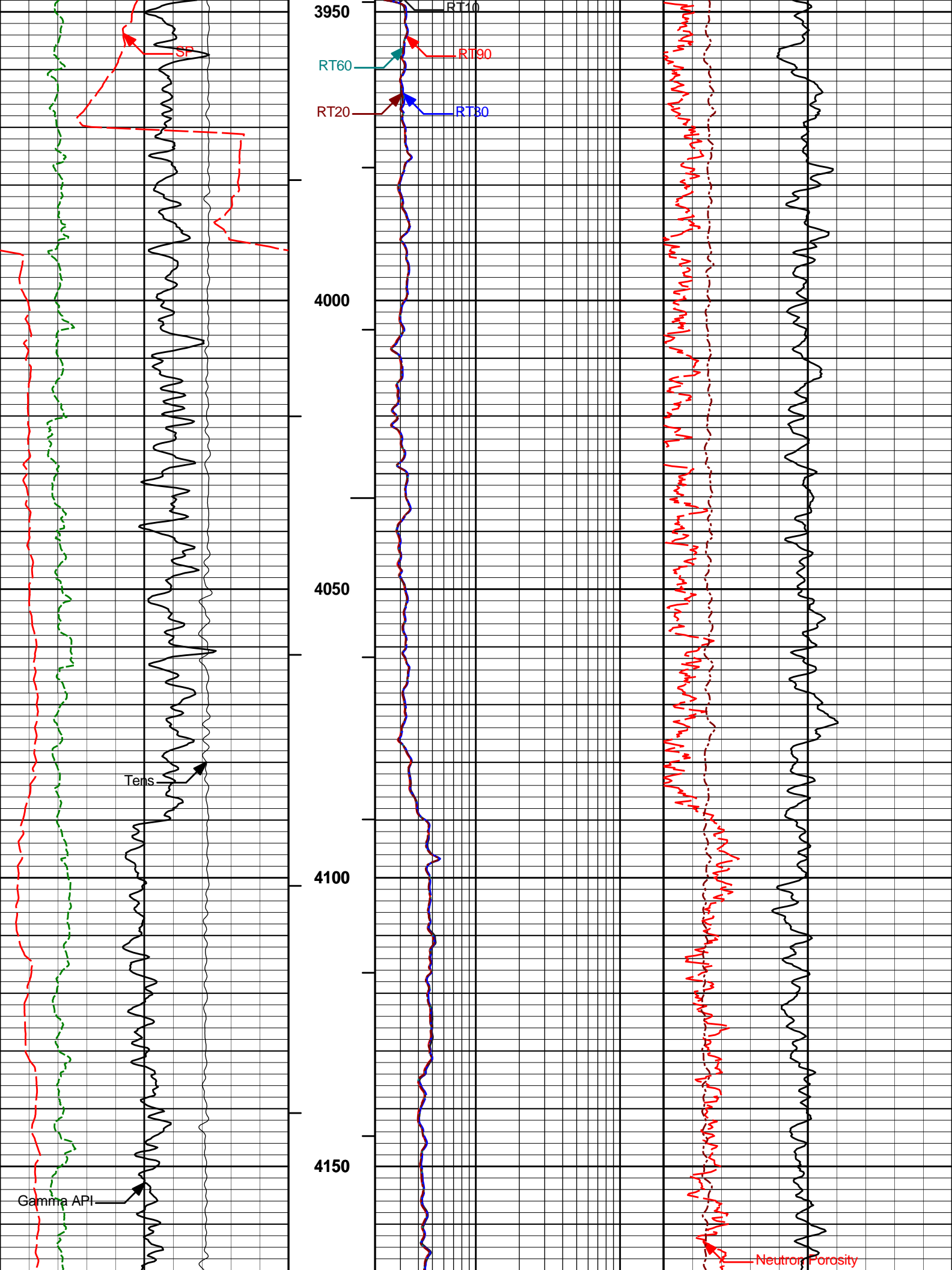


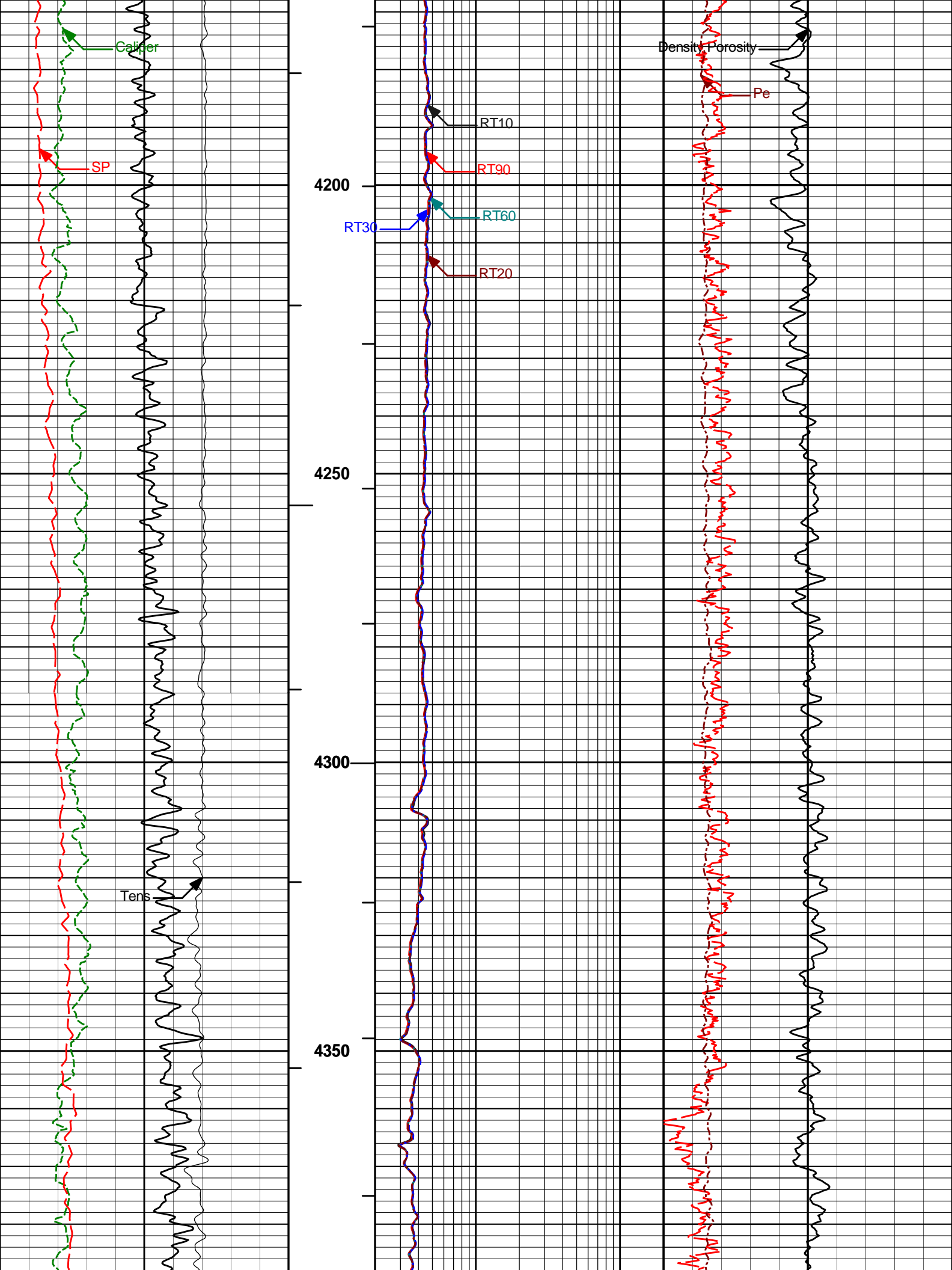


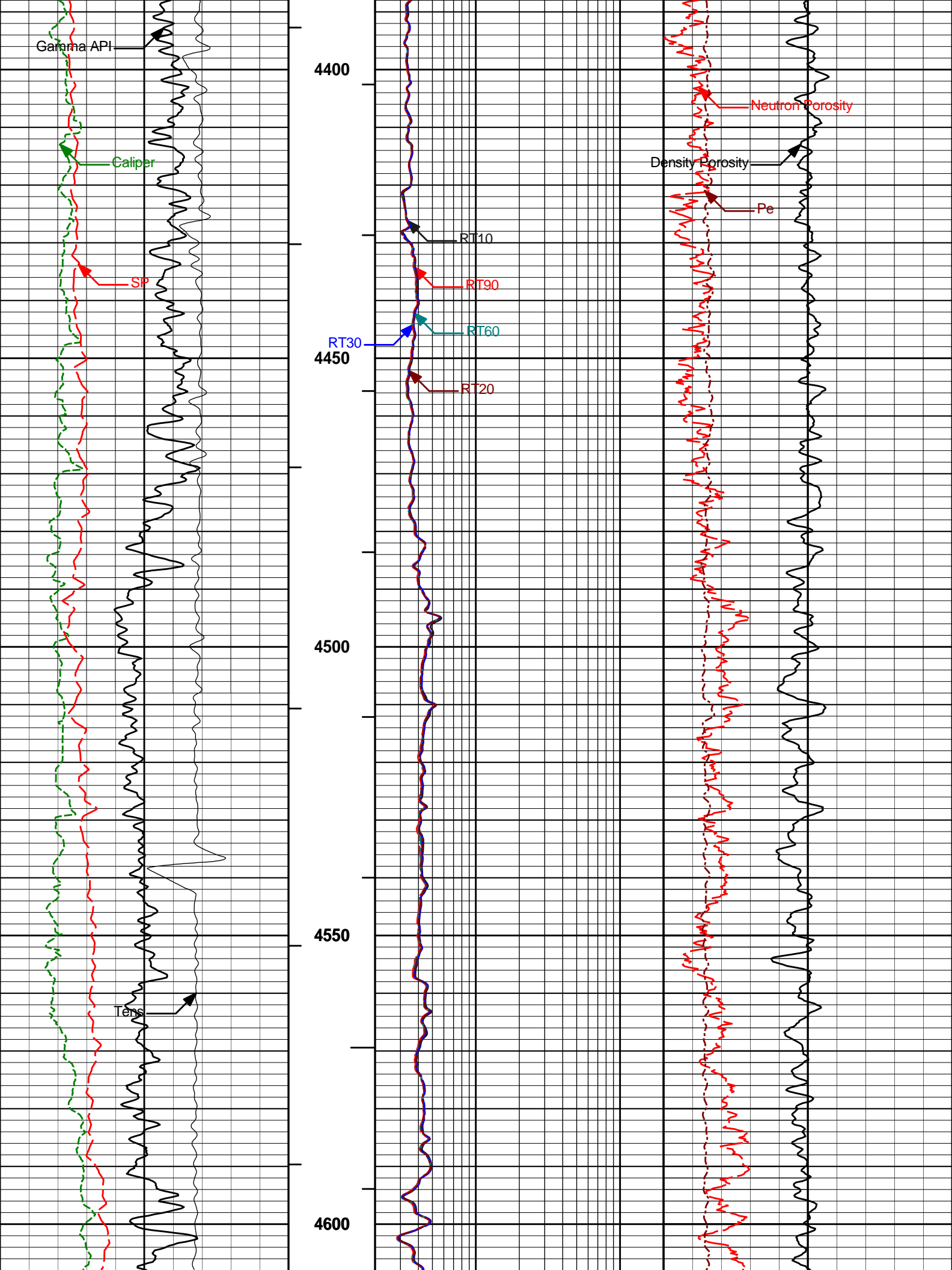


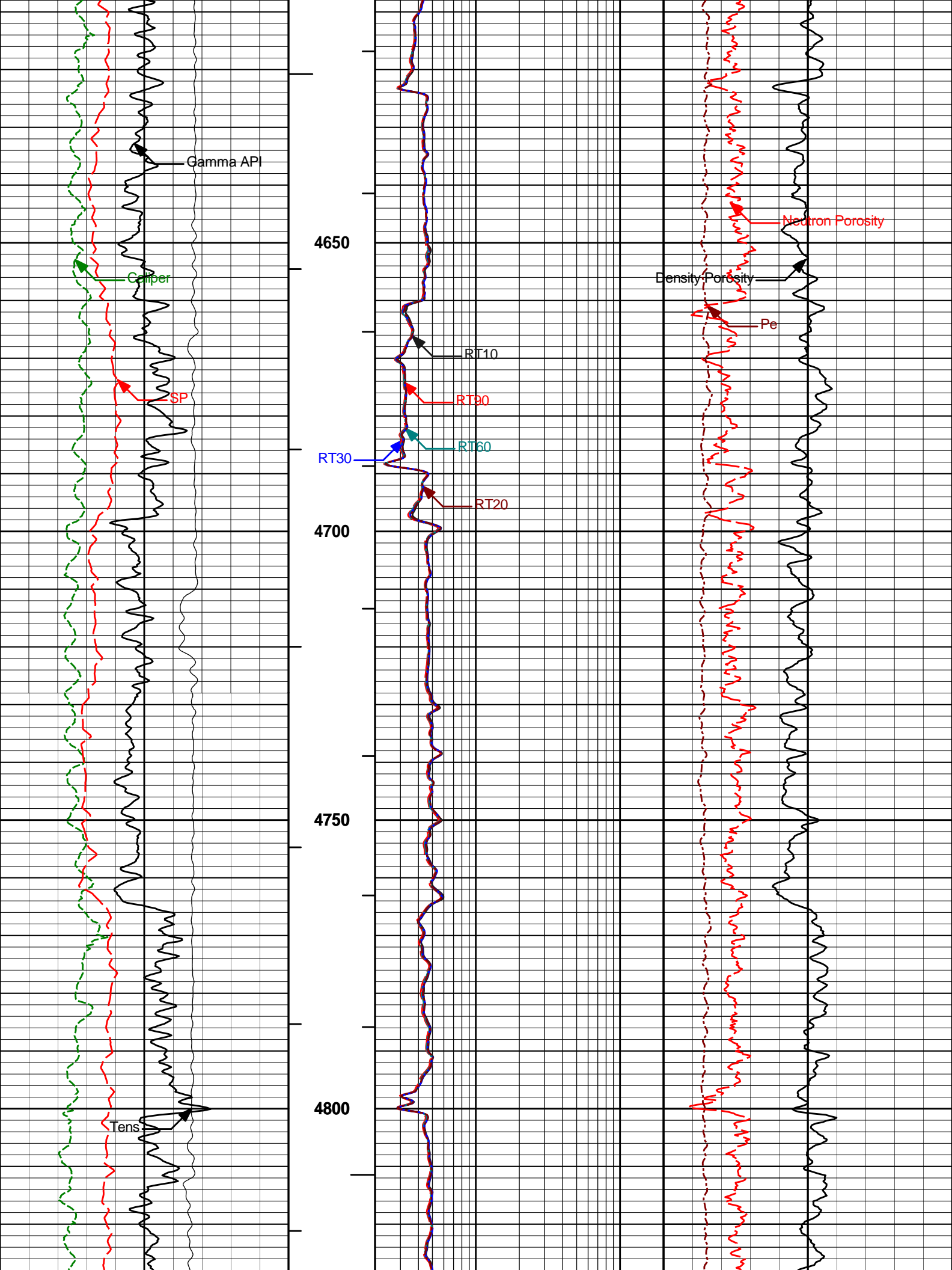


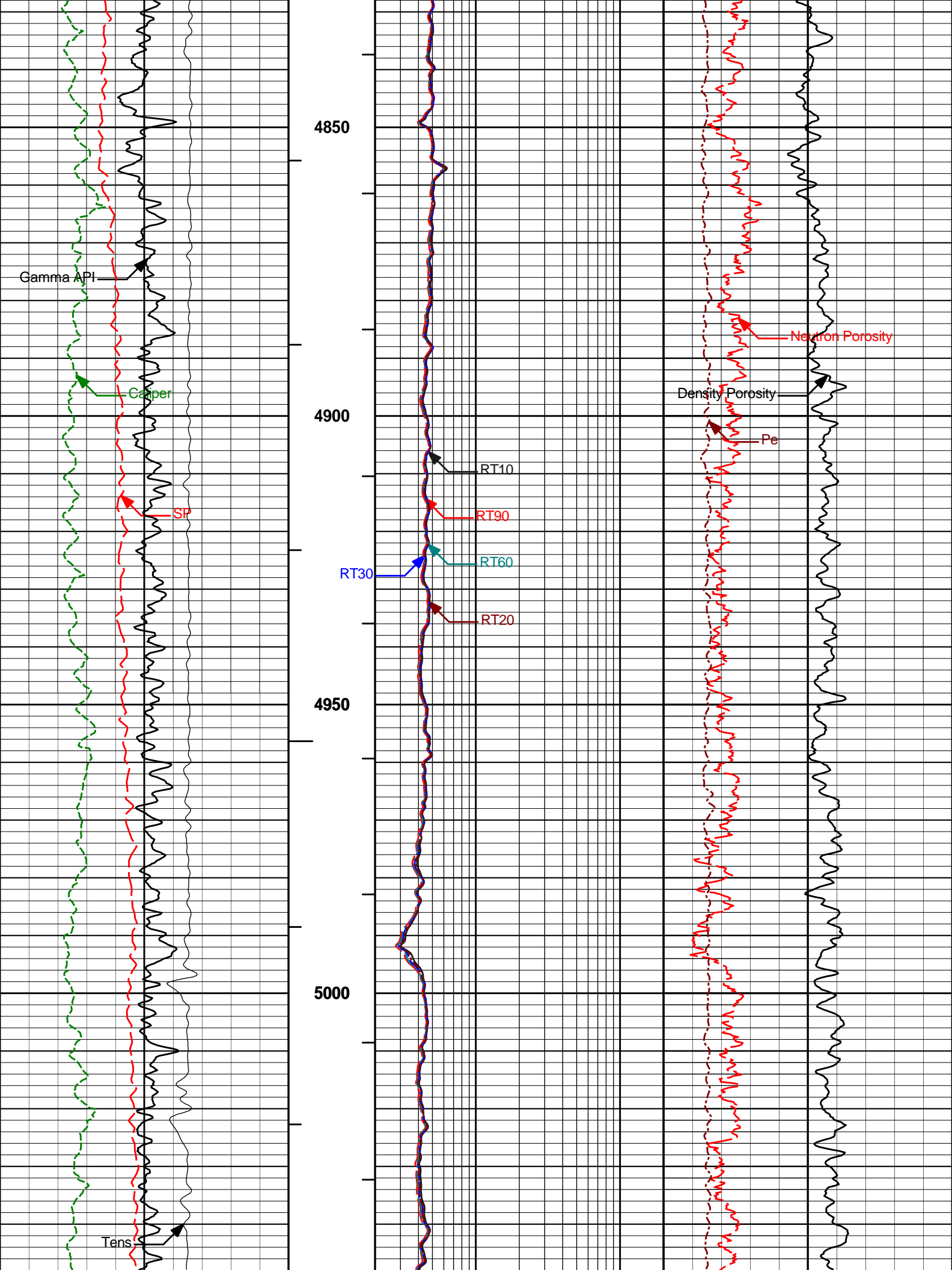


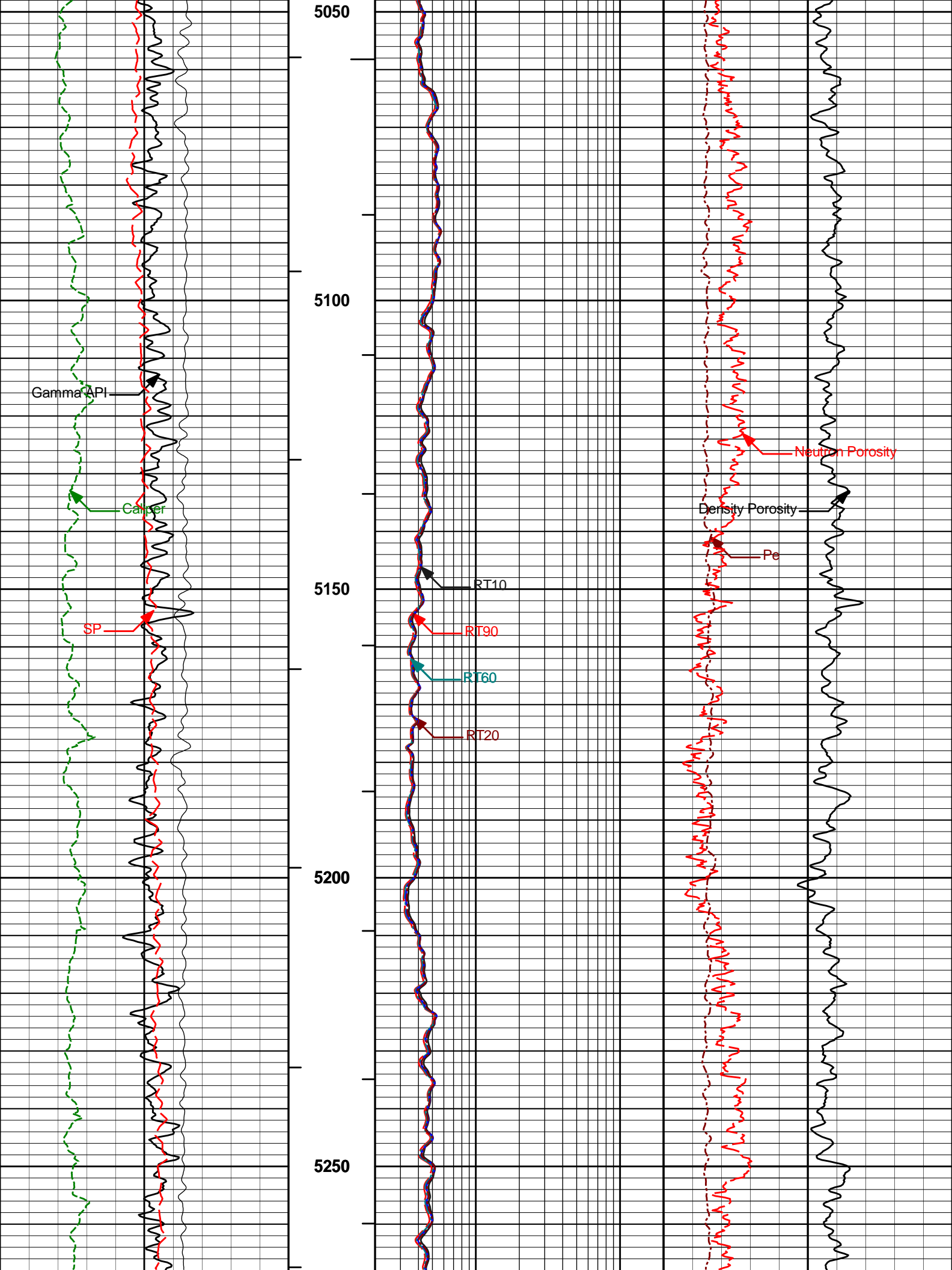


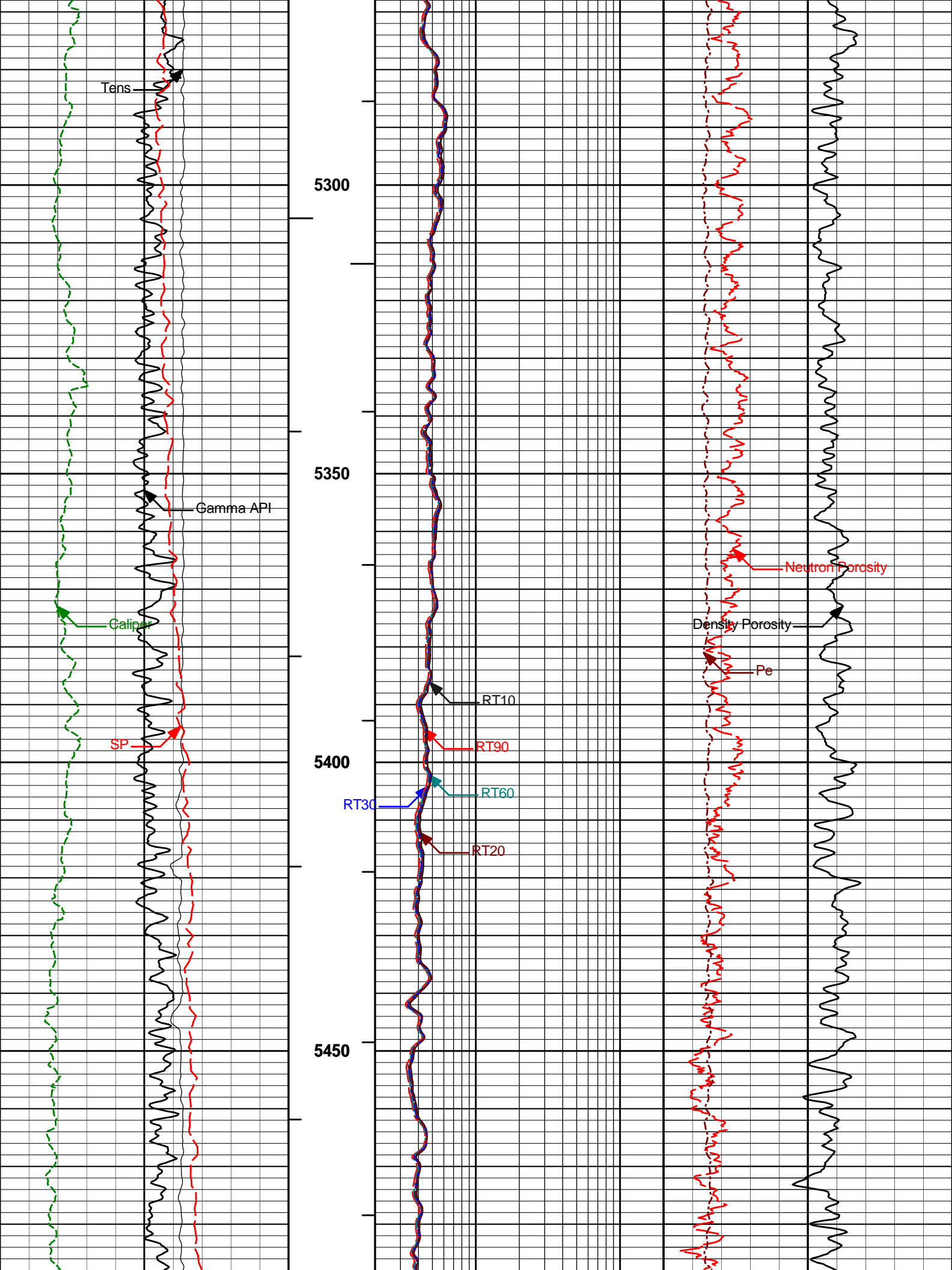


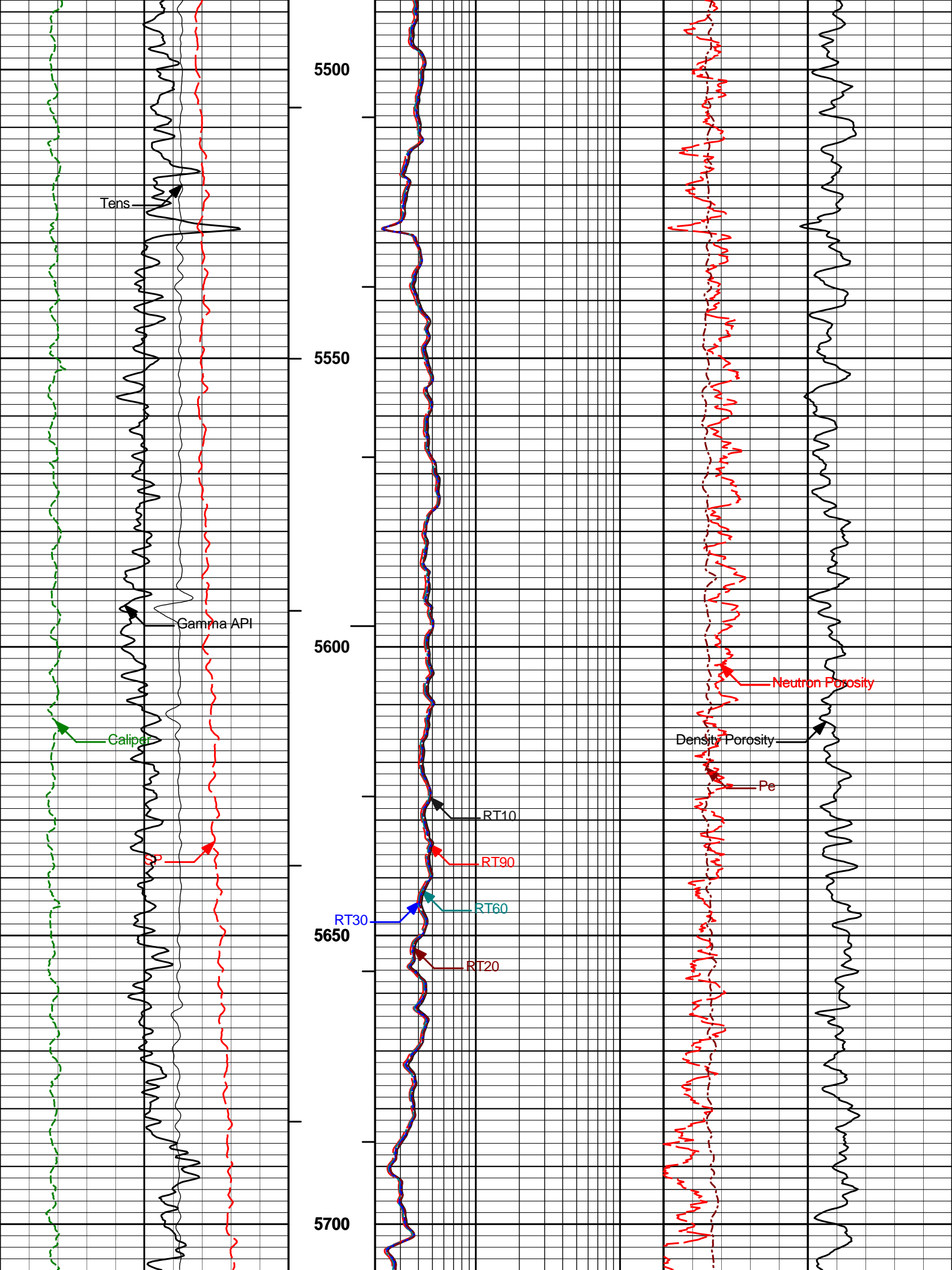


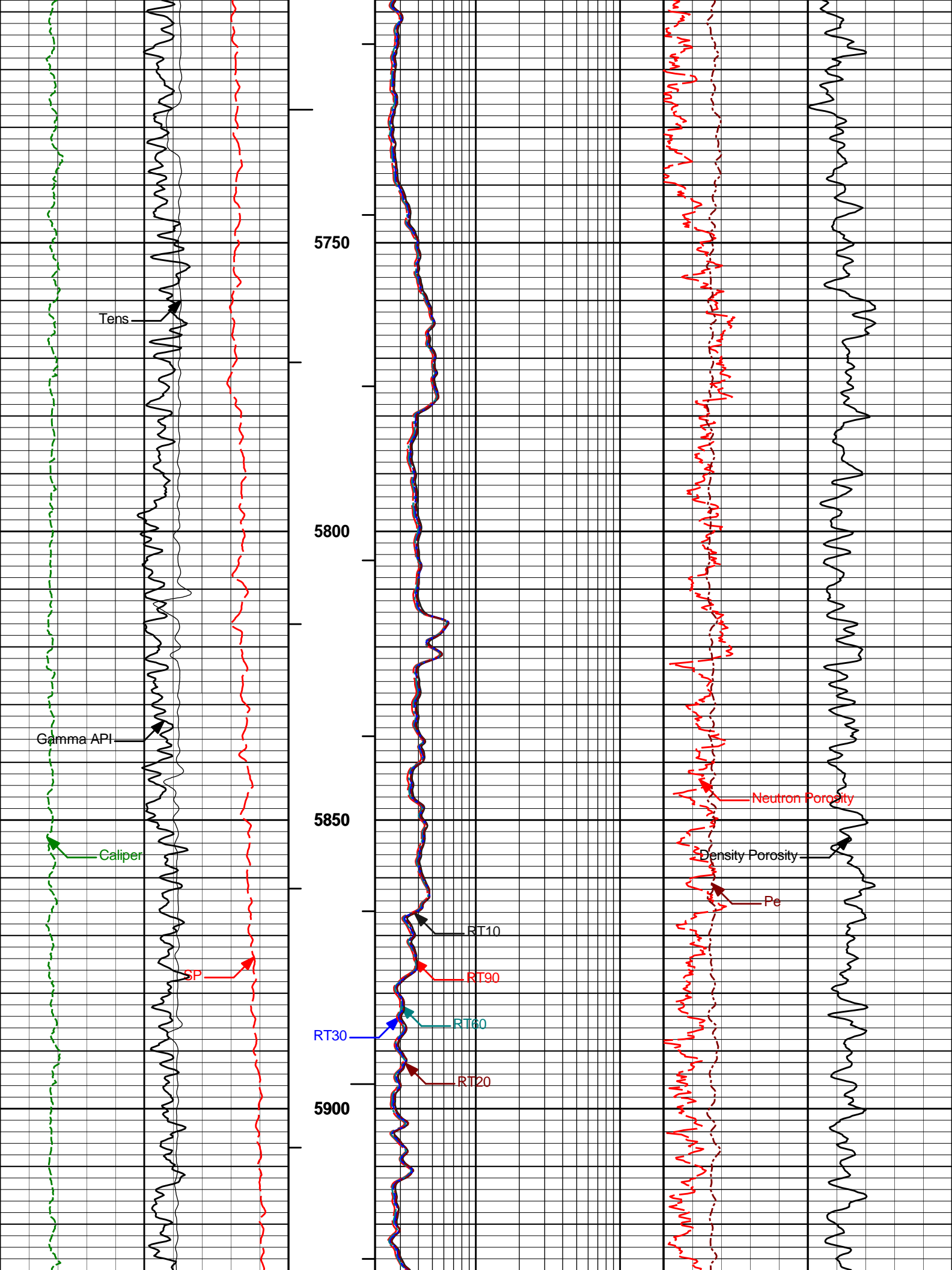


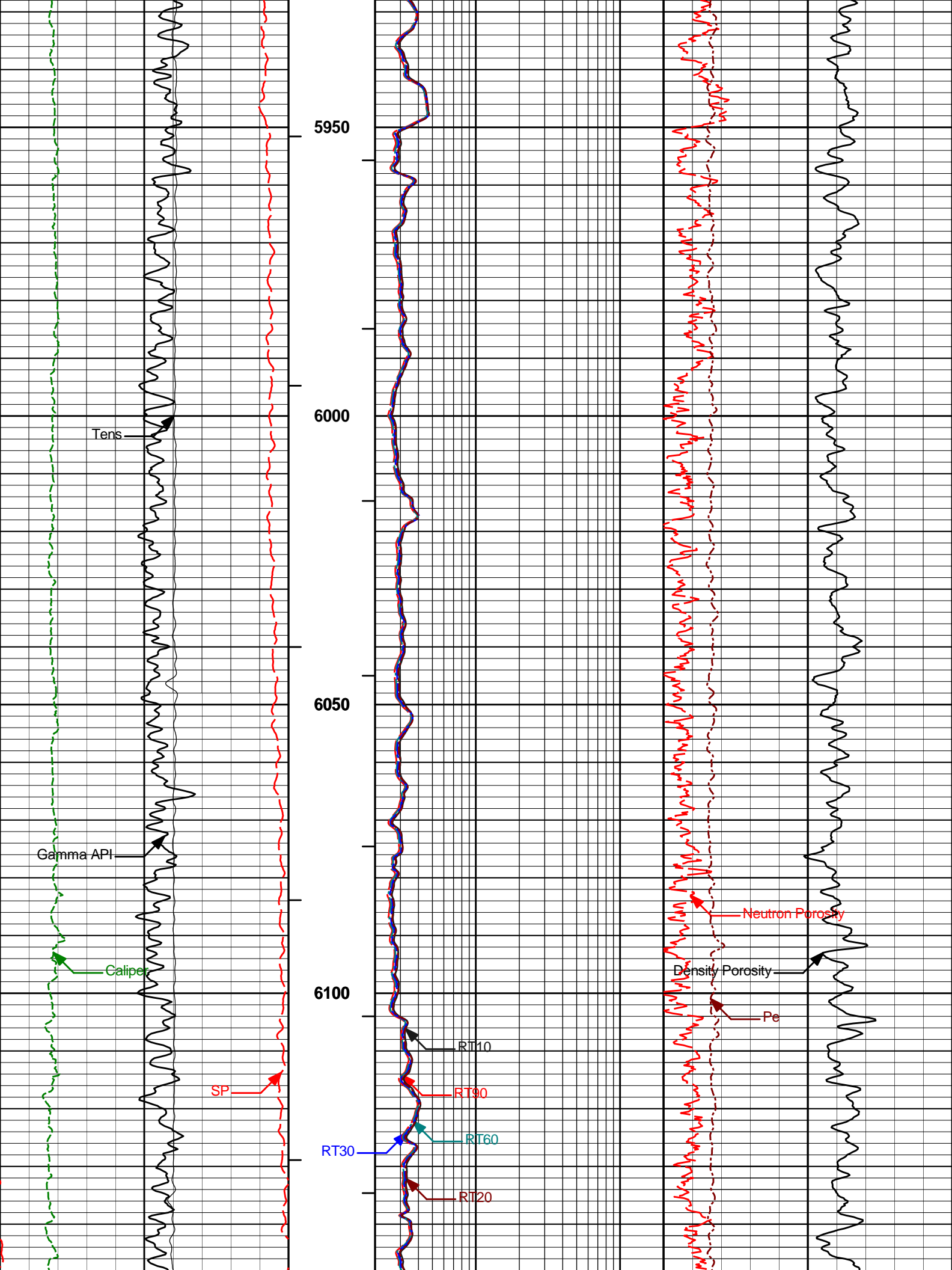


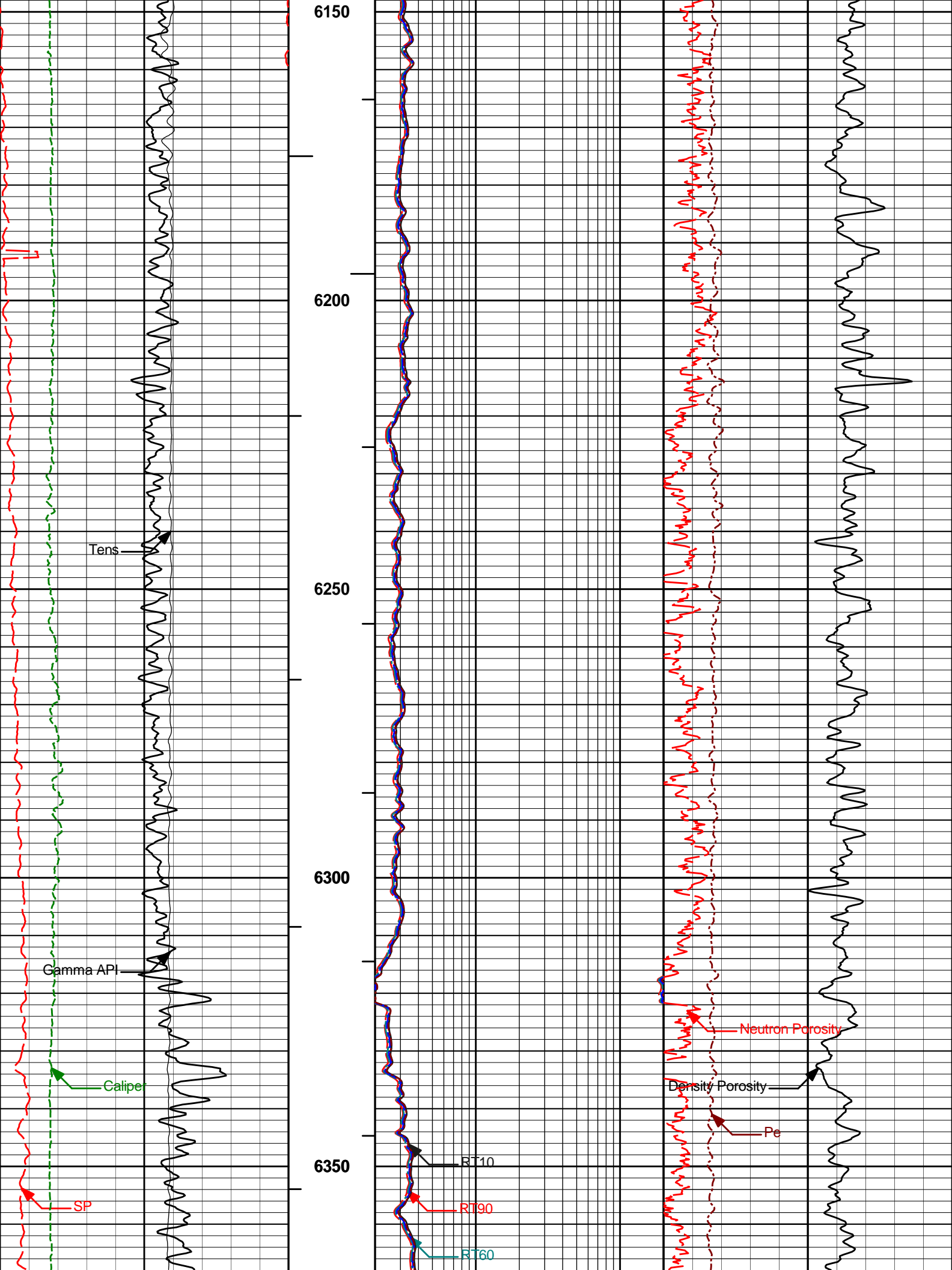


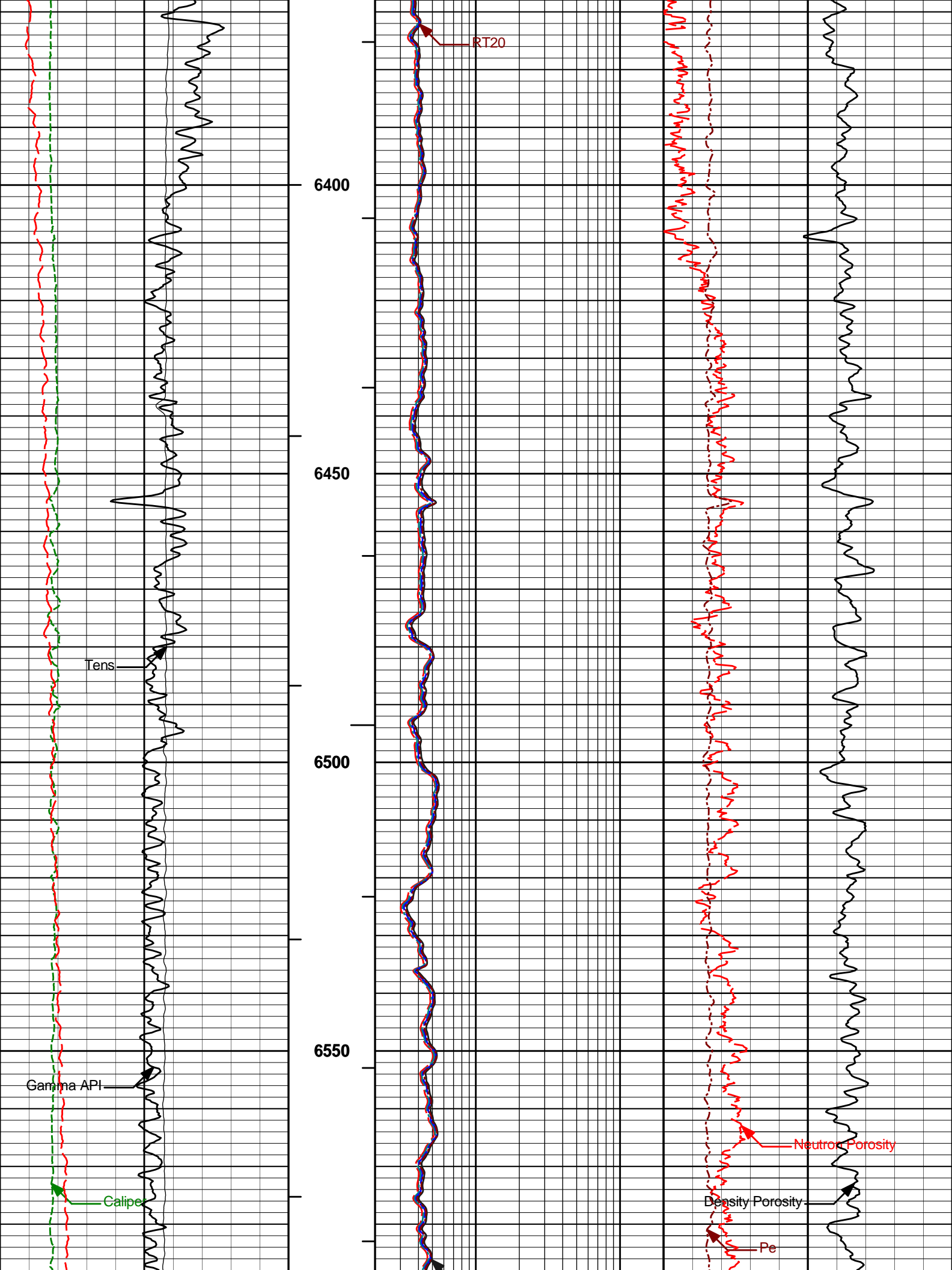


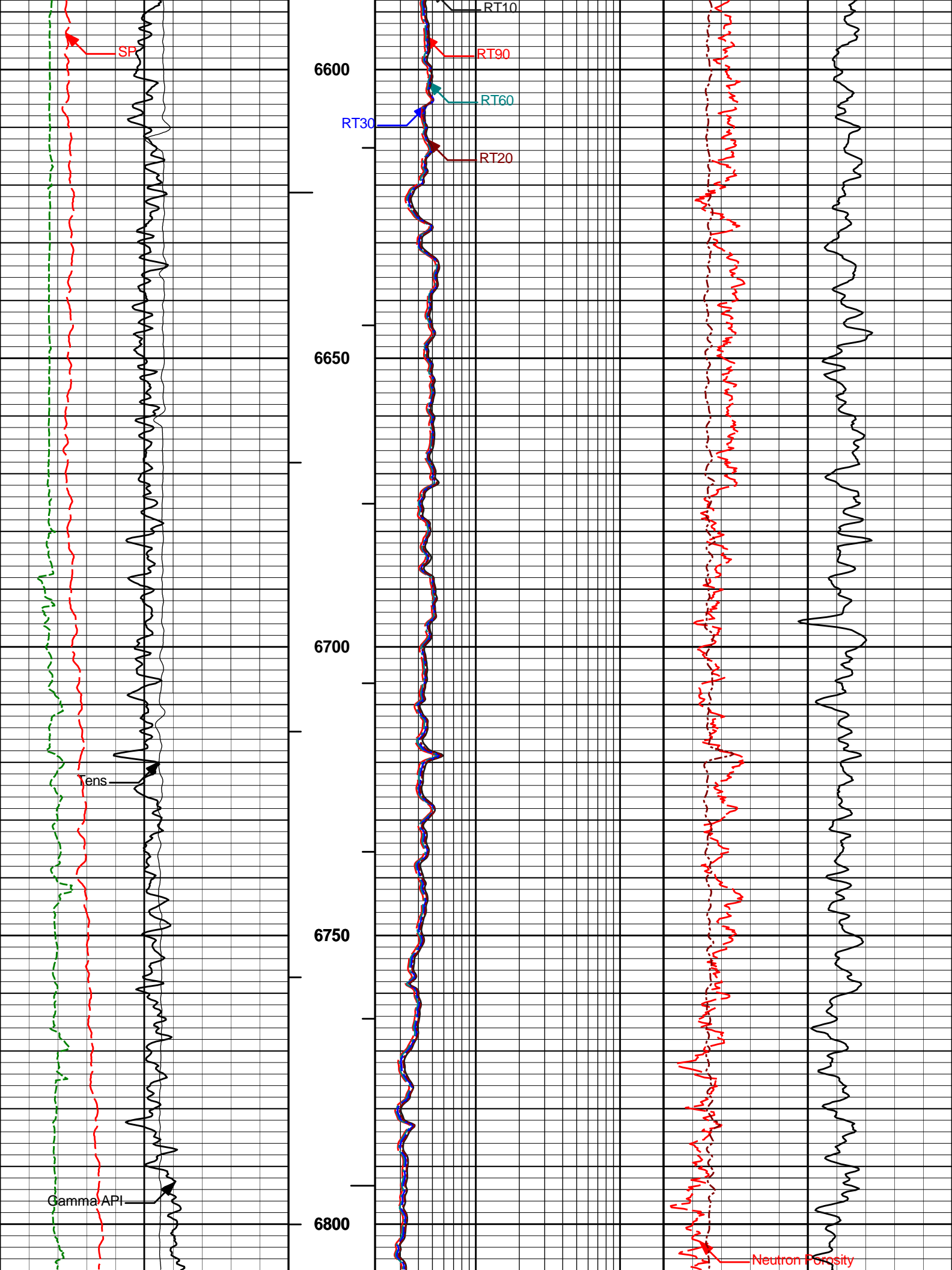


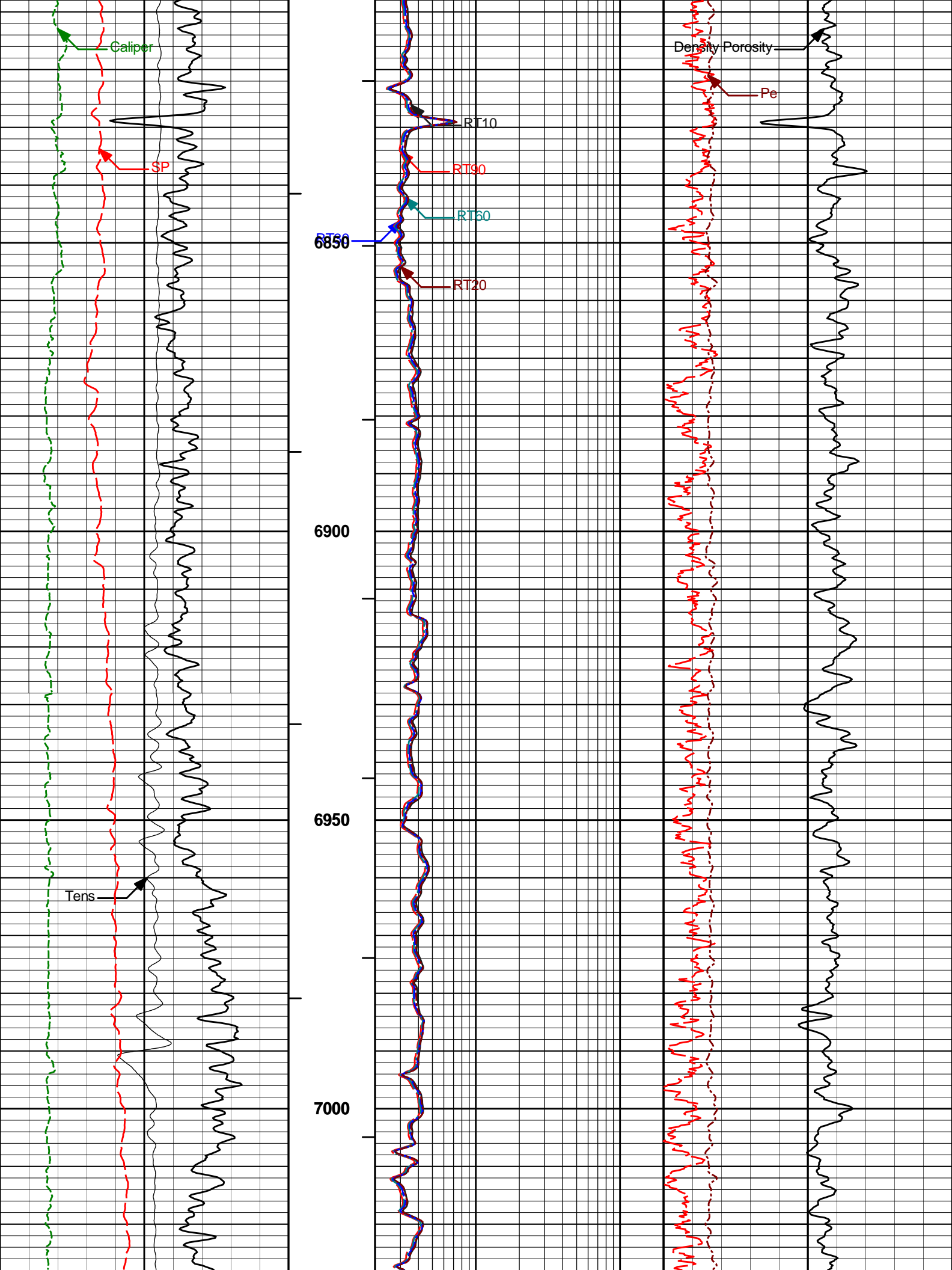


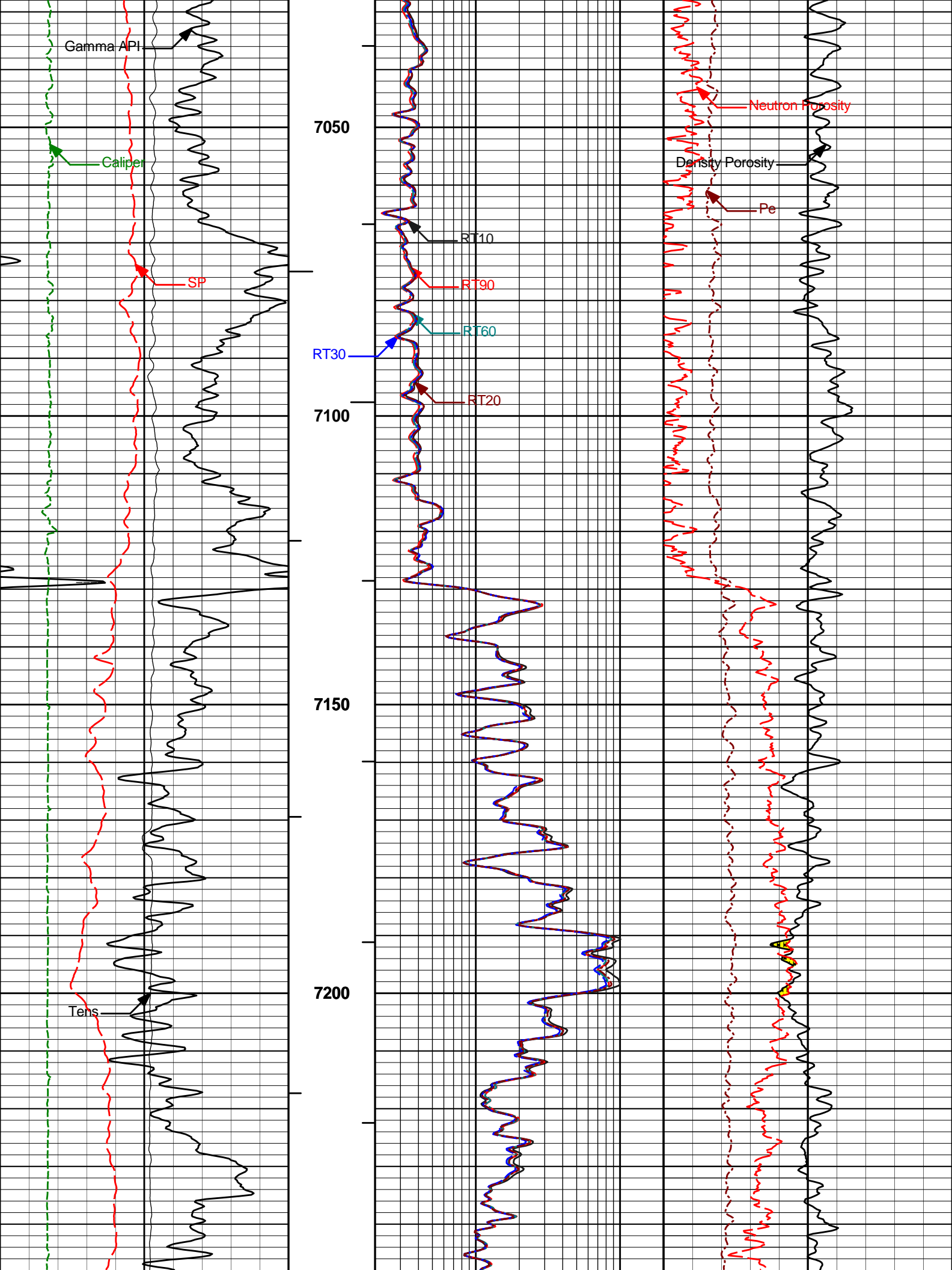


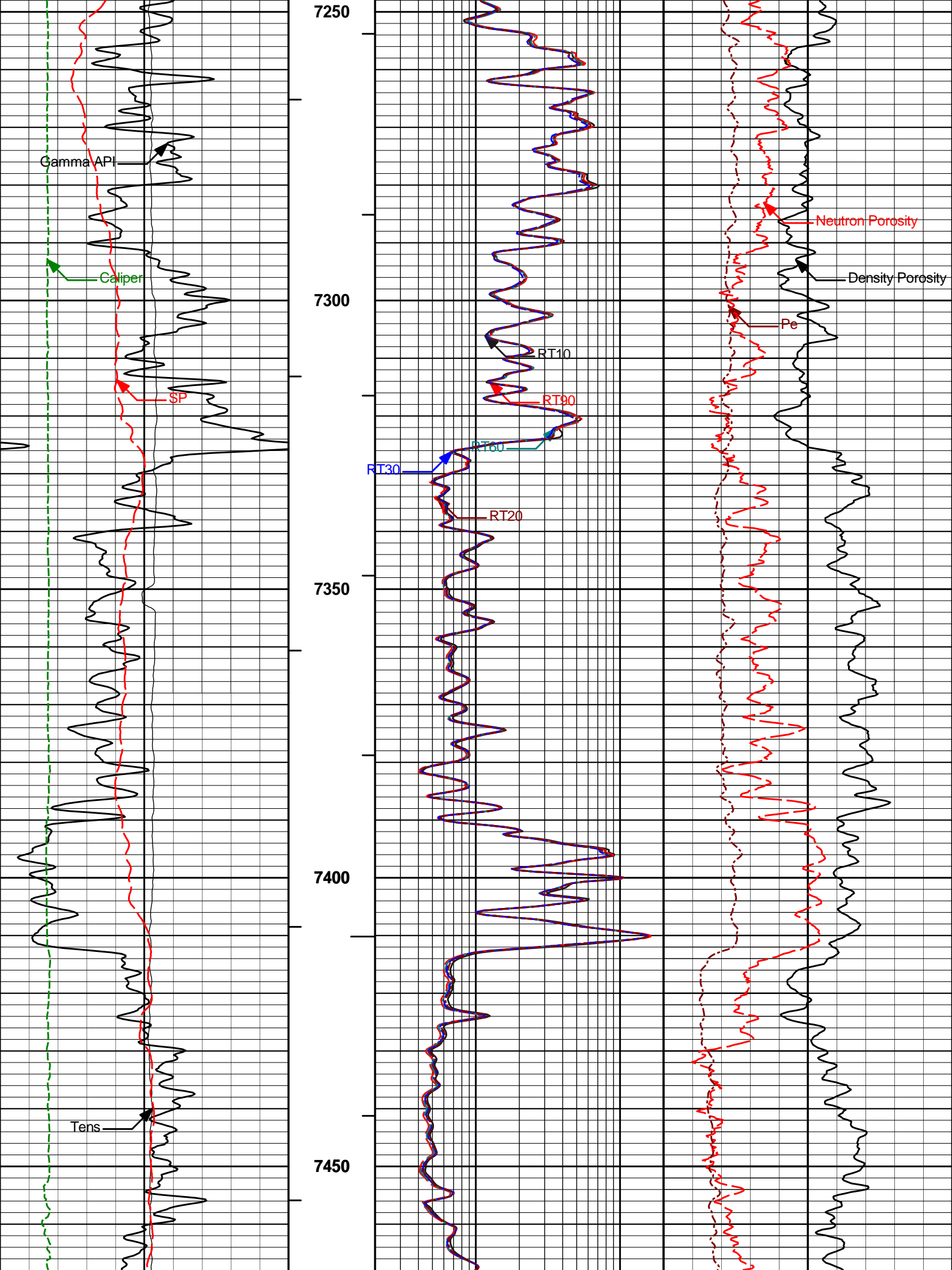


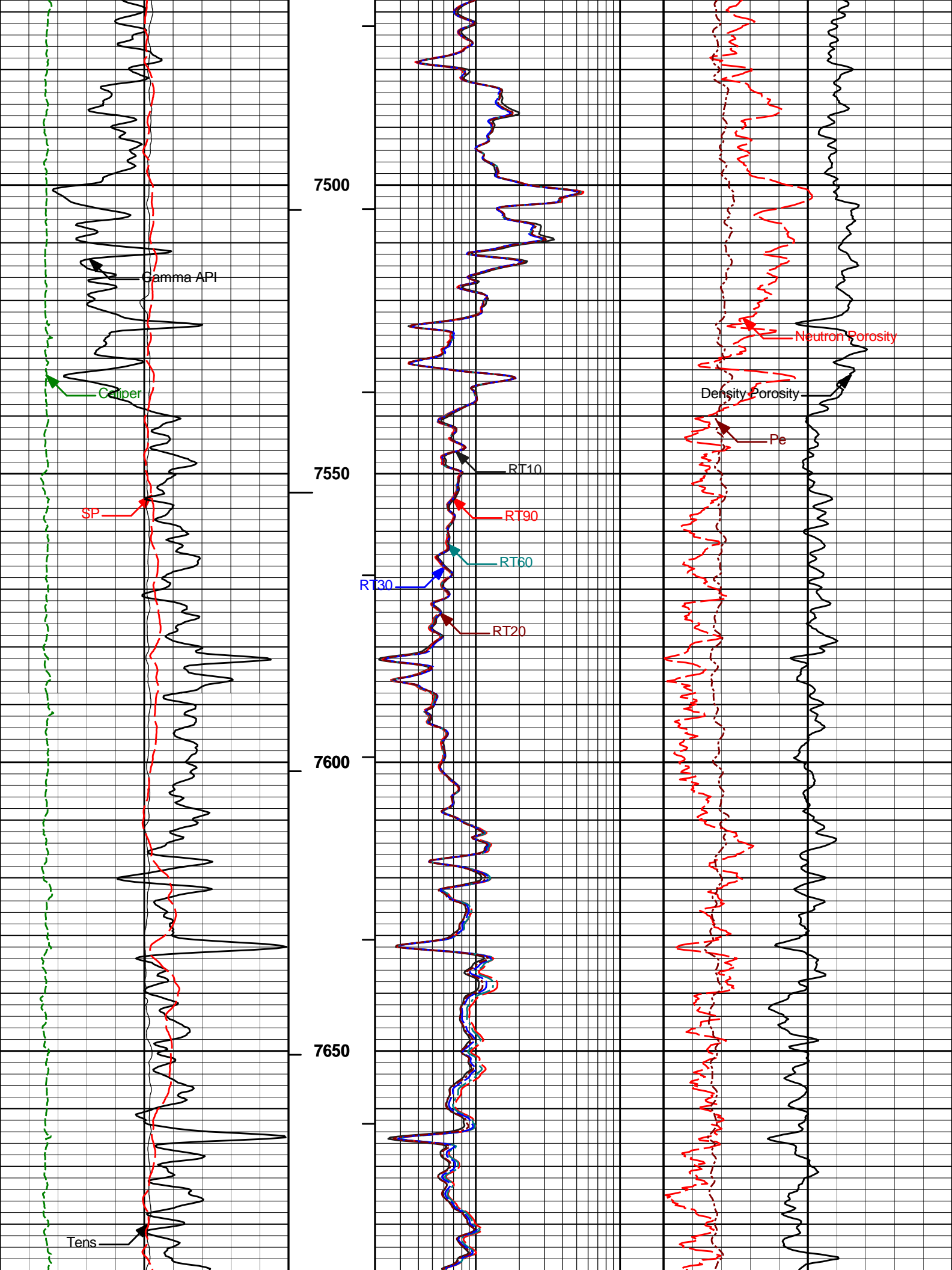


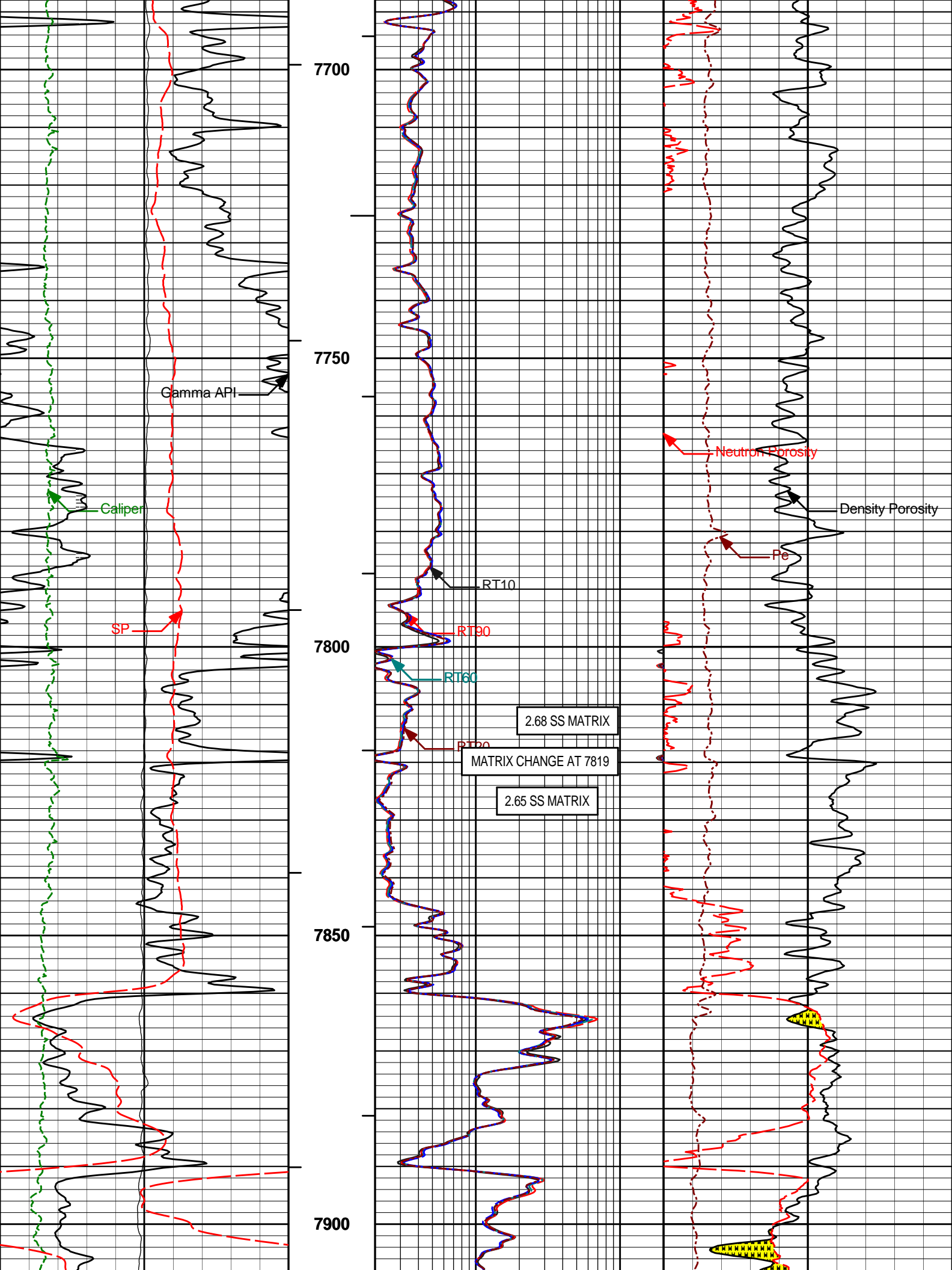


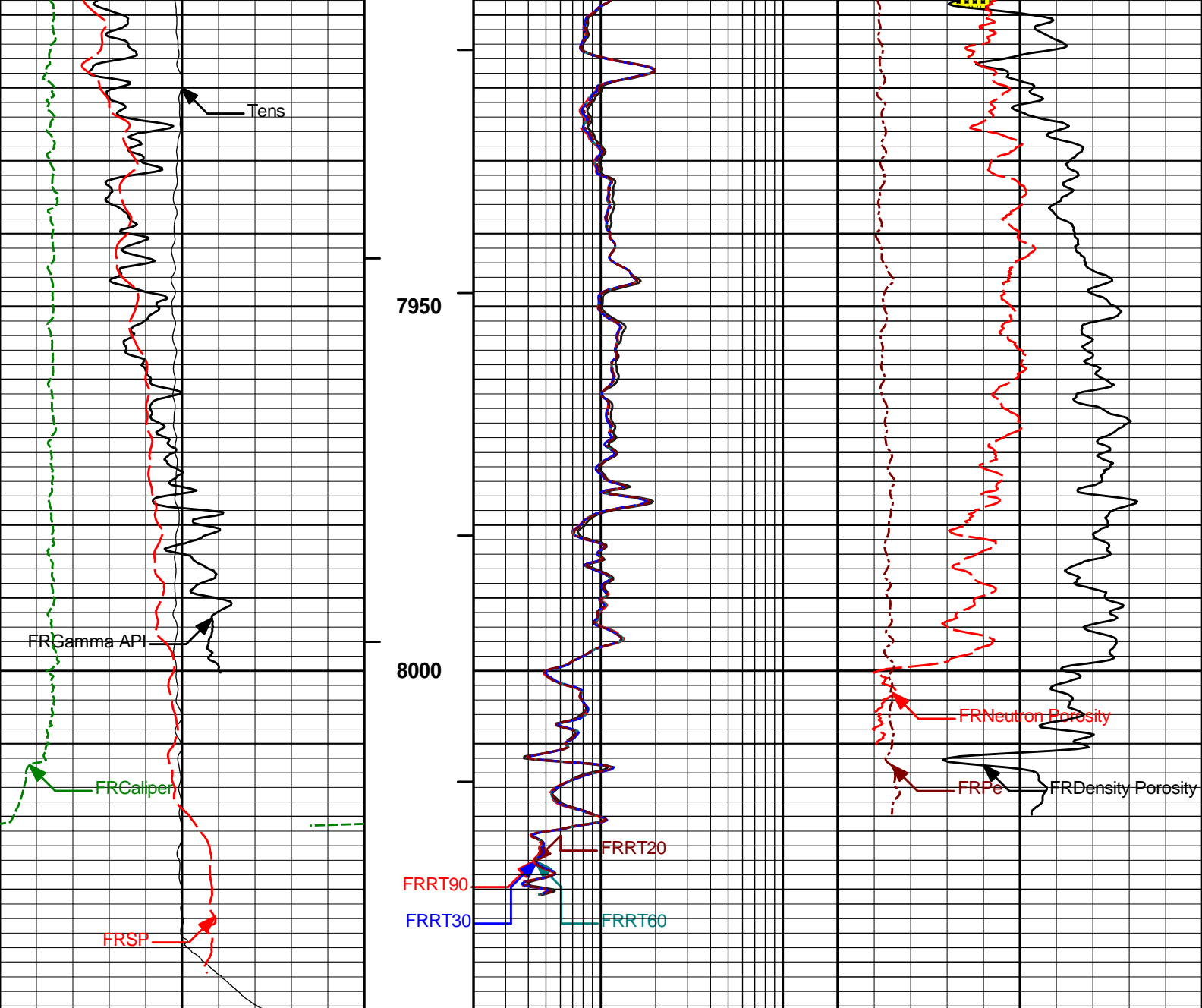












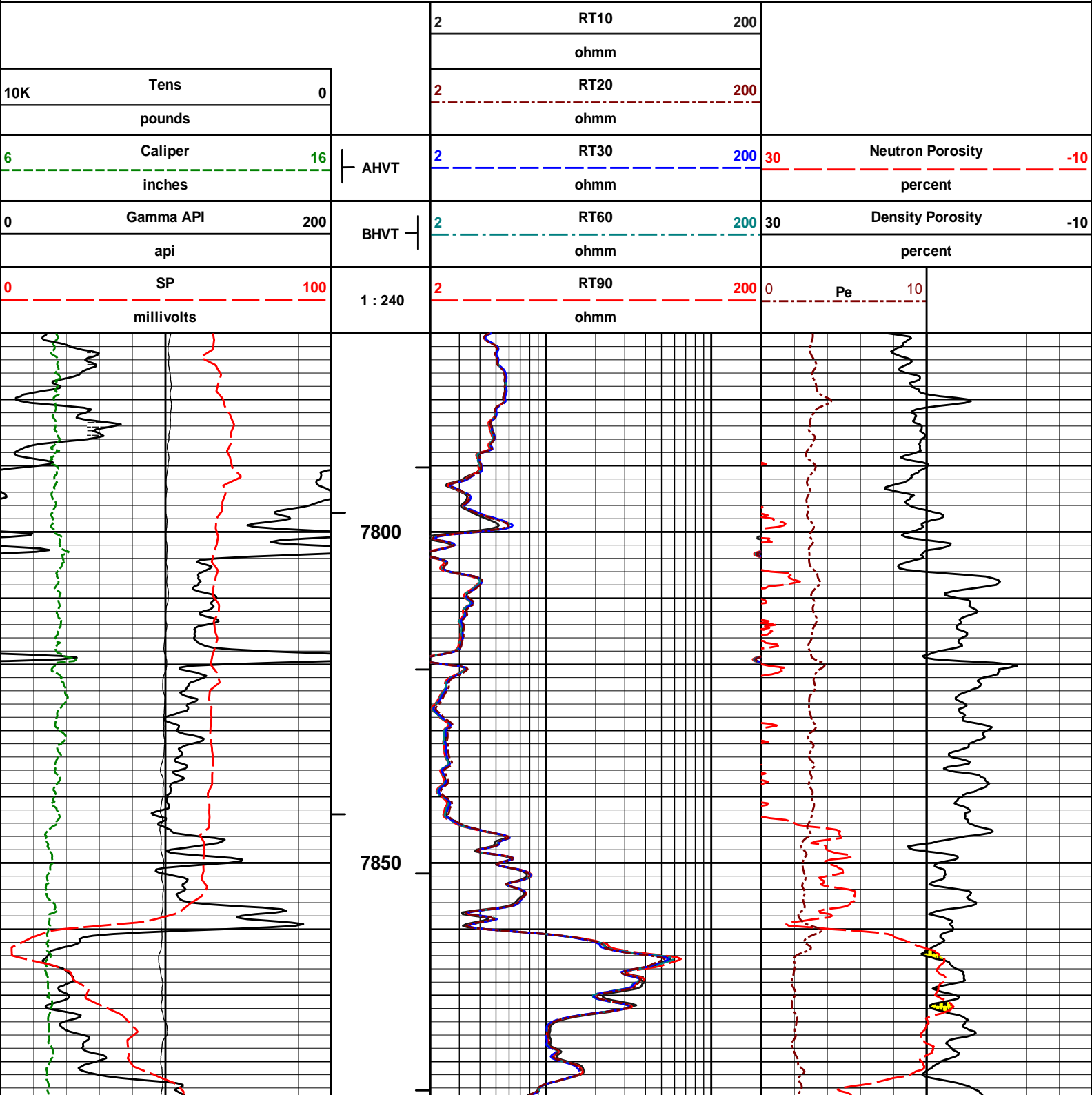
0	SP	100	1 : 240	2	RT90	200	0	Pe	10
	millivolts				ohmm				
0	Gamma API	200	BHVT	2	RT60	200	30	Density Porosity	-10
	api				ohmm			percent	
6	Caliper	16	AHVT	2	RT30	200	30	Neutron Porosity	-10
	inches				ohmm			percent	
10K	Tens	0		2	RT20	200			
	pounds				ohmm				
				2	RT10	200			
					ohmm				

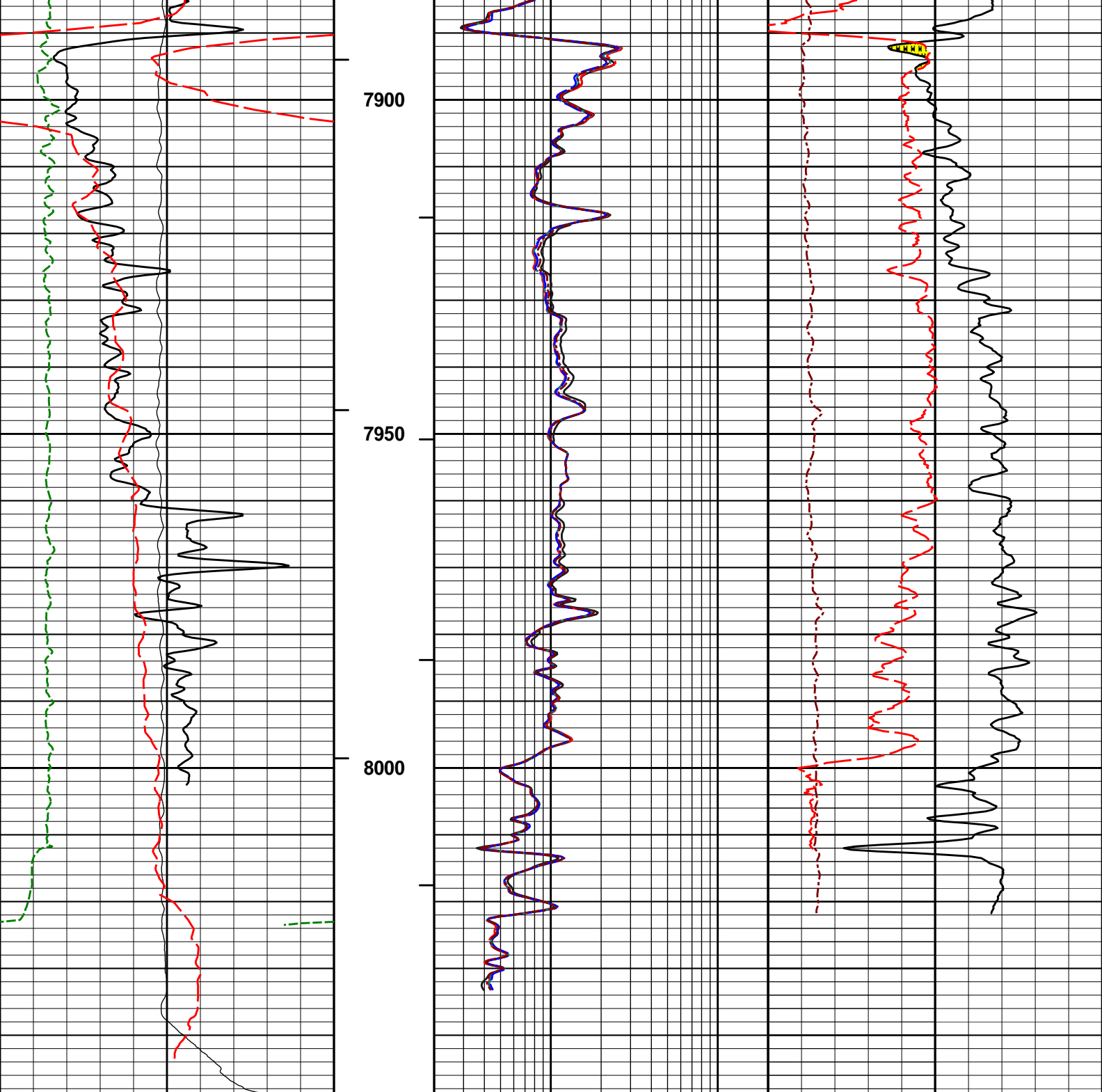
HALLIBURTON

Plot Time: 29-Mar-12 15:27:27
 Plot Range: 860 ft to 8046.58 ft
 Data: ME_RANCH_4-6-17\Well Based\MAIN*
 Plot File: \\COMP\MAIN

MAIN PASS 5" = 100'

REPEAT SECTION 5" = 100'





0	SP	100	1 : 240	2	RT90	200	0	Pe	10
	millivolts				ohmm				
0	Gamma API	200	BHVT	2	RT60	200	30	Density Porosity	-10
	api				ohmm			percent	
6	Caliper	16	AHVT	2	RT30	200	30	Neutron Porosity	-10
	inches				ohmm			percent	
10K	Tens	0		2	RT20	200			
	pounds				ohmm				
				2	RT10	200			
					ohmm				

REPEAT SECTION 5" = 100'

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11812883

Reference Calibration Date: 23-Mar-12 16:08:15

Engineer: R. TWEETEN

Calibration Date: 23-Mar-12 16:11:01

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

Measurement	Measured	Calibrated	Units
Background	69.8	69.2	api
Background + Calibrator	319.2	316.4	api
Calibrator	249.4	247.3	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11812883

Reference Calibration Date: 23-Mar-12 16:11:01

Engineer: R. TWEETEN

Calibration Date: 29-Mar-12 08:19:34

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	69.2	71.4	api
Background + Calibrator	316.4	318.8	api
Calibrator	247.3	247.5	api

Shop	Field	Difference	Tolerance
247.3	247.5	-0.2	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11812167

Reference Calibration Date: 14-Feb-12 09:14:17

Engineer: R. TWEETEN

Calibration Date: 19-Mar-12 08:14:24

Software Version: WL INSITE R3.4.4 (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:	0.995	0.996	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):	0.2222	0.2224	0.0001	+/- 0.0020
Calibrated Ratio:	10.11	10.11	0.005	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0813	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION			
Tool Name:	DSNT - 11812167	Reference Calibration Date:	19-Mar-12 08:14:24
Engineer:	R. TWEETEN	Calibration Date:	29-Mar-12 08:31:46
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):	0.0813	0.0795	-0.0018	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 11812177	Reference Calibration Date:	28-Mar-12 17:17:02
Engineer:	R. TWEETEN	Calibration Date:	28-Mar-12 17:24:25
Software Version:	WL INSITE R3.4.4 (Build 2)	Calibration Version:	1

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3526.45	-3450.88	-7000.00 - -1000.00
Pad Gain	0.0003849	0.0003812	0.000200 - 0.000600
Arm Offset	-4491.09	-4543.97	-5000.00 - 3000.00
Arm Gain	0.0005611	0.0005586	0.000300 - 0.000700
Arm Power	-0.000004941	-0.000004779	-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:				

PAD EXTENSION:				
Small Ring (in)	1.99	2.00	0.01	+/- 0.20
Medium Ring (in)	3.76	3.75	-0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.51	6.50	-0.01	+/- 0.20
Medium Ring (in)	8.26	8.25	-0.01	+/- 0.20
Large Ring (in)	15.01	15.00	-0.01	+/- 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 - 11812177		Reference Calibration Date:	28-Mar-12 17:24:25
Engineer:	R. TWEETEN		Calibration Date:	29-Mar-12 08:27:15
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	3.82	0.07	+/- 0.10
	Ring Diameter	8.25	8.39	0.14	+/- 0.15
PASS/FAIL SUMMARY					
Pad Extension Check:				Passed	
Diameter Check:				Passed	

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION				
Tool Name:	ACRt Sonde - E2817-S4353_RED		Reference Calibration Date:	24-Jan-12 12:50:02
Engineer:	P. DIMPFL		Calibration Date:	24-Jan-12 13:01:08
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	1.0079	1.05	0.95	1.0088	1.05	0.95	1.0051	1.05
A2 (50")	0.95	1.0134	1.05	0.95	1.0162	1.05	0.95	1.0152	1.05
A3 (29")	0.95	1.0073	1.05	0.95	1.0096	1.05	0.95	1.0068	1.05
A4 (17")	0.95	1.0110	1.05	0.95	1.0108	1.05	0.95	1.0108	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0090	1.05	0.95	1.0070	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9969	1.05	0.95	0.9952	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	-0.598	2	-6	-4.362	-2	-8	-4.801	-2
A2 (50")	-7	-1.706	-1	-6	-2.982	-2	-7	-4.717	-2
A3 (29")	-27	-12.943	-9	-9	-3.481	-3	-7	-3.493	-1
A4 (17")	-180	-91.114	-60	-45	-29.339	-15	-39	-25.011	-13
A5 (10")	N/A	N/A	N/A	-150	-92.347	-50	-80	-44.780	-10
A6 (6")	N/A	N/A	N/A	175	335.018	525	90	167.676	270

TRANSMITTER CURRENT GAIN				R-MUD VERIFICATION			
Signal	Lower	R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6	0.8693	1.3	Mud Cell	0.95	0.997	1.05
36K	1.0	1.8356	2.0				
72K	1.0	1.1121	2.0				

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 11795867

Engineer: R. TWEETEN

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

Reference Calibration Date: 28-Mar-12 16:30:28

Calibration Date: 28-Mar-12 16:52:37

Calibration Version: 1

Logging Source S/N: 2770GW

Aluminum Block S/N: 63066

Magnesium Block S/N: 12345

Density: 2.602g/cc

Density: 1.690g/cc

Pe: 3.100

Pe: 2.650

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0418	1.0478	0.90 - 1.10
Near Dens Gain	1.0127	1.0217	0.90 - 1.10
Near Peak Gain	0.9976	1.0028	0.90 - 1.10
Near Lith Gain	0.9474	0.9469	0.90 - 1.10
Far Bar Gain	1.0132	1.0142	0.90 - 1.10
Far Dens Gain	0.9955	0.9949	0.90 - 1.10
Far Peak Gain	0.9874	0.9844	0.90 - 1.10
Far Lith Gain	0.9605	0.9611	0.90 - 1.10
Near Bar Offset	-0.1002	-0.1555	NONE
Near Dens Offset	0.1672	0.0877	NONE
Near Peak Offset	0.2951	0.2532	NONE
Near Lith Offset	0.6781	0.6828	NONE
Far Bar Offset	0.1359	0.1291	NONE
Far Dens Offset	0.2842	0.2898	NONE
Far Peak Offset	0.3322	0.3585	NONE
Far Lith Offset	0.5330	0.5252	NONE
Near Bar Background	856.12	859.43	700 - 1450
Near Dens Background	284.80	284.05	230 - 480
Near Peak Background	123.07	124.02	100 - 210
Near Lith Background	151.88	152.85	125 - 260
Far Bar Background	667.47	667.44	450 - 900
Far Dens Background	262.58	262.31	175 - 345
Far Peak Background	105.22	104.54	70 - 140
Far Lith Background	107.69	107.48	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.691	1.690	-0.001	+/- 0.015
Pe	2.610	2.605	-0.005	+/- 0.150
ALUMINUM				
Density (g/cc)	2.604	2.602	-0.002	+/- 0.01500
Pe	3.075	3.064	-0.011	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0008	+/- 0.0110	0.0016	+/- 0.0140
Magnesium Block	-0.0005	+/- 0.0110	-0.0004	+/- 0.0140
Aluminum Block	-0.0002	+/- 0.0110	-0.0004	+/- 0.0140
Resolution	8.65	6.00 - 11.50	8.90	6.00 - 11.50
Internal Verifier(B+D+P+L)	1420	1200 - 2700	1142	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 - 11795867	Reference Calibration Date:	28-Mar-12 16:52:37
Engineer:	R. TWEETEN	Calibration Date:	29-Mar-12 08:19:59
Software Version:	WL INSITE R3.4.4 (Build 2)	Calibration Version:	1

Pad Temperature: 64.7 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1420.341	1416.779	-3.562	15.213
Far (B+D+P+L) cps	1141.777	1147.099	5.322	17.743
Near Resolution	8.65	8.64	-0.010	0.50
Far Resolution	8.90	9.01	0.110	1.00

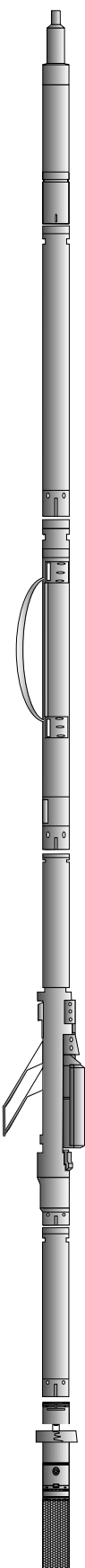
PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11812883						
Gamma Ray Calibrator	247.3	247.5	-----	-0.2	+/- 9.00	api
DSNT-11812167						
Snow-Block Porosity	0.0813	0.0795	-----	0.0018	+/- 0.0150	decP
SDLT-11812177						
Pad Extension	3.75	3.82	-----	-0.07	+/-0.10	in
Ring Diameter	8.25	8.39	-----	-0.140	+/-0.15	in
ACRt Sonde-E2817-S4353_RED						
Mud Cell	0.997	-----	-----	0.000	-----	ohm-m
SDLT Pad-11795867						
Near(B+D+P+L)	1420.341	1416.779	-----	3.562	+/-15.213	cps
Far(B+D+P+L)	1141.777	1147.099	-----	5.322	+/-17.743	cps

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-11830866 135.00 lbs		Ø 3.625 in →		← Load Cell @ 53.80 ft ← BH Temperature @ 53.23 ft	6.25 ft	57.48 ft
GTET-11812883 165.00 lbs		Ø 3.625 in →		← GammaRay @ 45.17 ft	8.52 ft	51.23 ft
DSNT-11812167 174.00 lbs	DSN Decentralizer- 11812167 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 35.77 ft ← DSN Near @ 35.02 ft	9.69 ft	42.71 ft
SDLT-11812177 360.00 lbs	SDLT Pad-11795867 65.00 lbs	Ø 4.500 in → Ø 4.750 in* →		← SDL Caliper @ 25.03 ft ← SDL @ 25.02 ft	10.81 ft	33.02 ft
ACRt Instrument- E2817-S4353_RED 50.00 lbs		Ø 3.625 in →			5.03 ft	22.21 ft
Regal Standoff 6_75-01 20.00 lbs		Ø 6.750 in* →		← Mud Resistivity @ 15.82 ft		17.18 ft

ACRt Sonde-E2817-S4353_RED
200.00 lbs

Ø 3.625 in →

← ACRt @ 11.84 ft

14.22 ft

SP Ring-E2817-S4353_RED
0.00 lbs

Ø 3.625 in* →

← SP @ 4.24 ft

2.96 ft

Mule Shoe-01
35.00 lbs

Ø 3.625 in →

2.96 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	11830866	135.00	6.25	51.23	300.00
GTET	Gamma Telemetry Tool	11812883	165.00	8.52	42.71	60.00
DSNT	Dual Spaced Neutron	11812167	174.00	9.69	33.02	60.00
DCNT	DSN Decentralizer	11812167	6.60	5.13	*	36.35
SDLT	Spectral Density Tool	11812177	360.00	10.81	22.21	60.00
SDLP	Density Insite Pad	11795867	65.00	2.55	*	24.42
ACRt	Array Compensated True Resistivity Instrument Section	E2817-S4353_RED	50.00	5.03	17.18	300.00
ACRt	Array Compensated True Resistivity	E2817-S4353_RED	200.00	14.22	2.96	300.00
SP	SP Ring	E2817-S4353_RED	0.00	0.25	*	4.24
RSOF	Regal Standoff 6.75in	01	20.00	0.52	*	15.94
MS	MS	01	35.00	2.96	0.00	300.00
Total			1,210.60	57.48		
						* Not included in Total Length and Length Accumulation.
Data: ME_RANCH_4-6-17\0001 ENCANAIDLE					Date: 29-Mar-12 12:41:52	

COMPANY	ENCANA OIL & GAS (USA) INC		
WELL	MELBON RANCH 4-6-17		
FIELD	WATTENBERG		
COUNTY	WELD	STATE	CO
HALLIBURTON		ARRAY COMPENSATED TRUE RESISTIVITY SPECTRAL DENSITY DUAL SPACED NEUTRON	