

HALLIBURTON

DUAL SPACED NEUTRON
SPECTRAL DENSITY
ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY				BAYS WATER EXPLORATION AND PRODUCTION			
WELL				RIVER BLUFFS 10-13			
FIELD/BLOCK				WATTENBERG			
COUNTY				WELD			
STATE				CO			
Permanent Datum				GL			
Log measured from				KB			
Drilling measured from				KB			
Date				22-Mar-13			
Run No.				ONE			
Depth - Driller				7380.00 ft			
Depth - Logger				7382.0 ft			
Bottom - Logged Interval				7380 ft			
Top - Logged Interval				CASING			
Casing - Driller				8.625 in @ 757.0 ft			
Casing - Logger				758.0 ft			
Bit Size				7.875 in @			
Type Fluid in Hole				WATER BASED MUD			
Density				9.3 ppq			
Viscosity				55.00 s/qt			
PH				8.00 pH			
Source of Sample				MUD CELL			
Rm @ Meas. Temperature				1.280 ohmm @ 80.85 degF			
Rmf @ Meas. Temperature				1.19 ohmm @ 75.00 degF			
Rmc @ Meas. Temperature				1.200 ohmm @ 75.00 degF			
Source Rmf				CHART			
Rm @ BHT				0.57 ohmm @ 191.0 degF			
Time Since Circulation				8.0 hr			
Time on Bottom				22-Mar-13 14:33			
Max. Rec. Temperature				191.0 degF @ 7382.0 ft			
Equipment				11072147 BRIGHTON			
Recorded By				J. PINKETT			
Witnessed By				C. WEITZEL			

COMPANY		BAYS WATER EXPLORATION AND PRODUCTION	
WELL		RIVER BLUFFS 10-13	
FIELD/BLOCK		WATTENBERG	
COUNTY		WELD	
STATE		CO	
API No.		05069064520000	
Location		SHL: 1774' FNL & 1452' FEL	
LAT: 40.489053°		LONG: -104.949351°	
Sect. 13		Twp. 6N	
Rge. 68W		Elev. 4802.0 ft	
D.F.		0.0 ft	
G.L.		0.0 ft	

Fold here

Service Ticket No.:				API Serial No.: 05069064520000				PGM Version: WL INSITE R3.8.4 (Build 5)							
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.		@		@				11800421							
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.		11294346		Serial No.				Serial No.		11816600		Serial No.		11219332	
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.		5256GW		Serial No.		DSN-430	
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	7204	REC	0	200				20	0	2.68	20	0	SAND
ONE	7204	6998	REC	0	200				20	0	2.71	20	0	LIME
ONE	6998	CSG	REC	0	200				20	0	2.68	20	0	SAND
DIRECTIONAL INFORMATION														
Maximum Deviation @									KOP @					
Remarks: RWCH/GTET/DSNT/SDLT/ACRT RAN IN COMBINATION														
TENSION PULLS. WASHOUTS, AND BOREHOLE RUGOSITY CAN AFFECT TOOL RESPONSE														
ANNULAR HOLE VOLUME CALCULATED FOR 4.5-INCH CASING														
YOUR CREW: T. PIETRAS, J. BYRGE														
RIG: ENSIGN 7														
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES - BRIGHTON, CO - (303) 425-4346														
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														

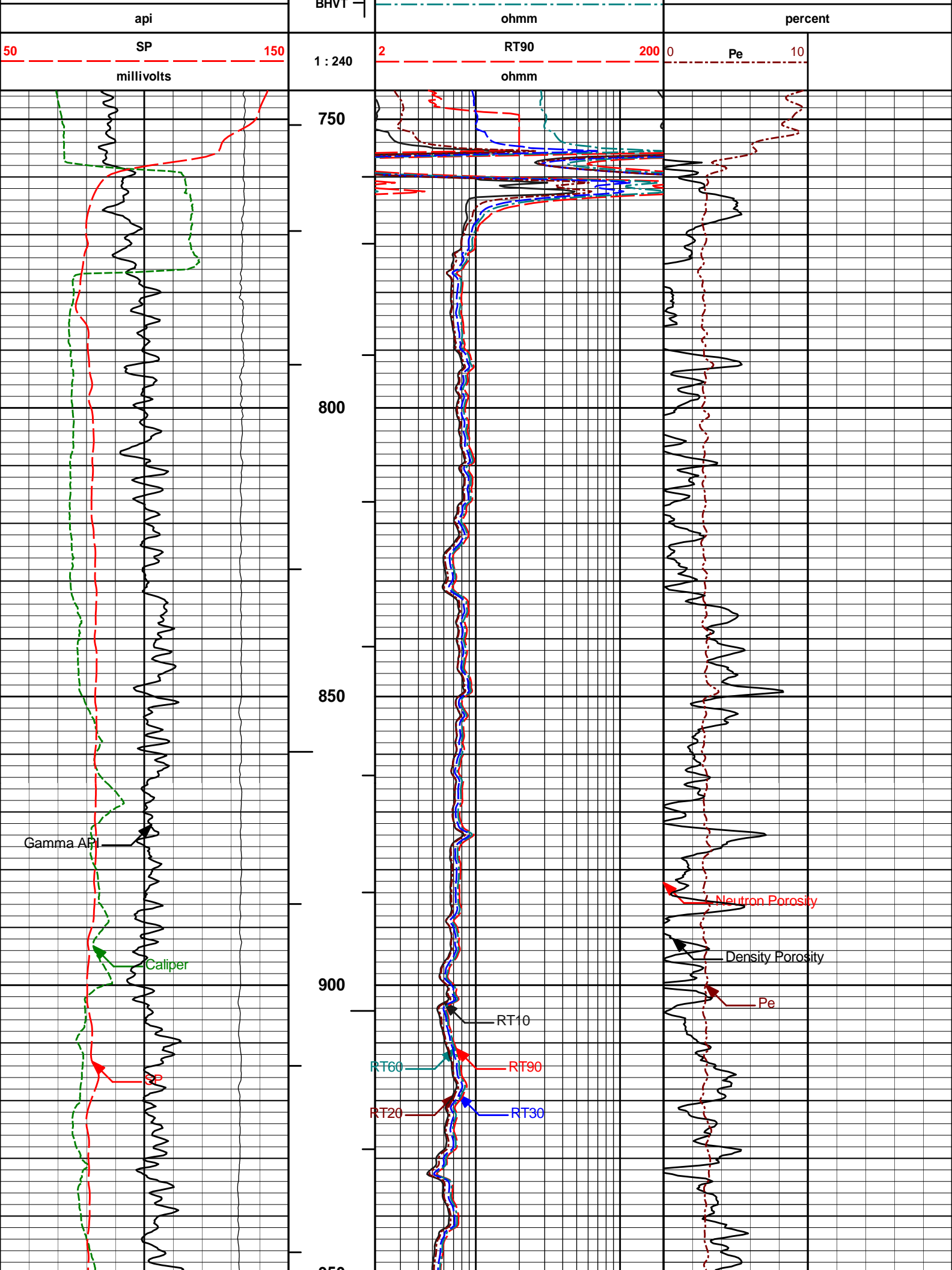
HALLIBURTON

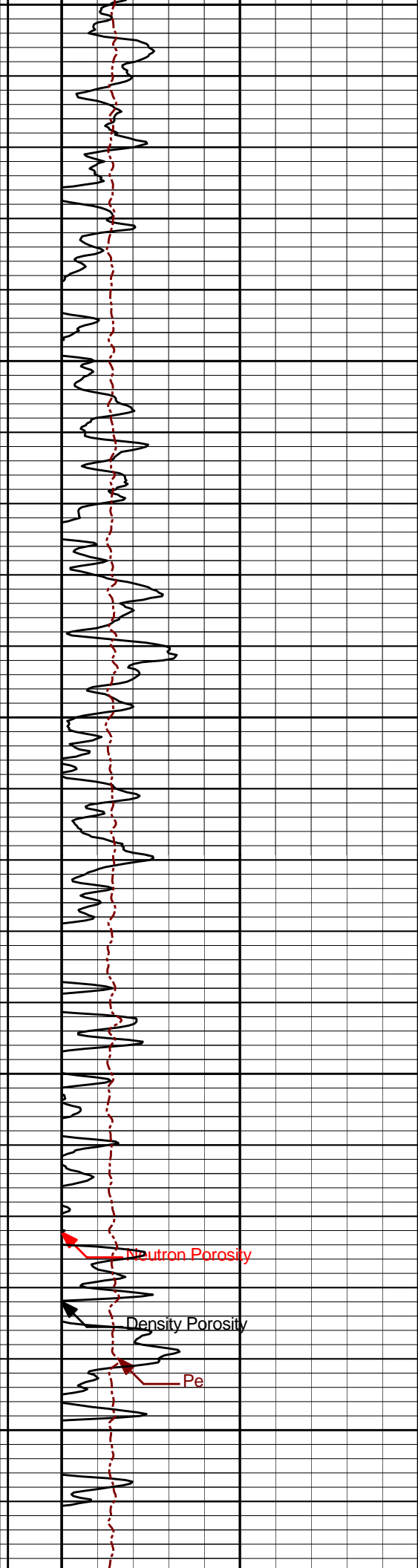
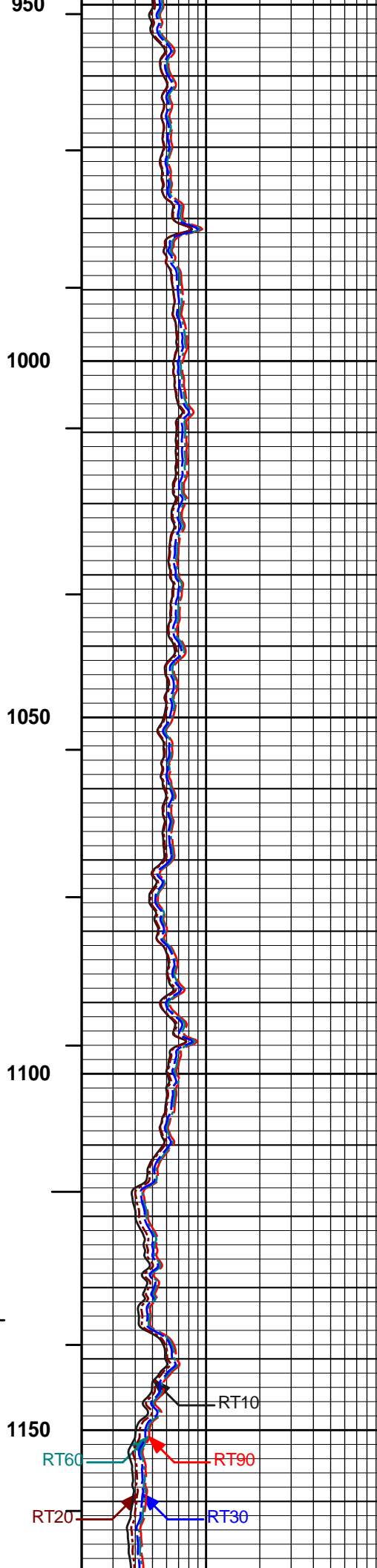
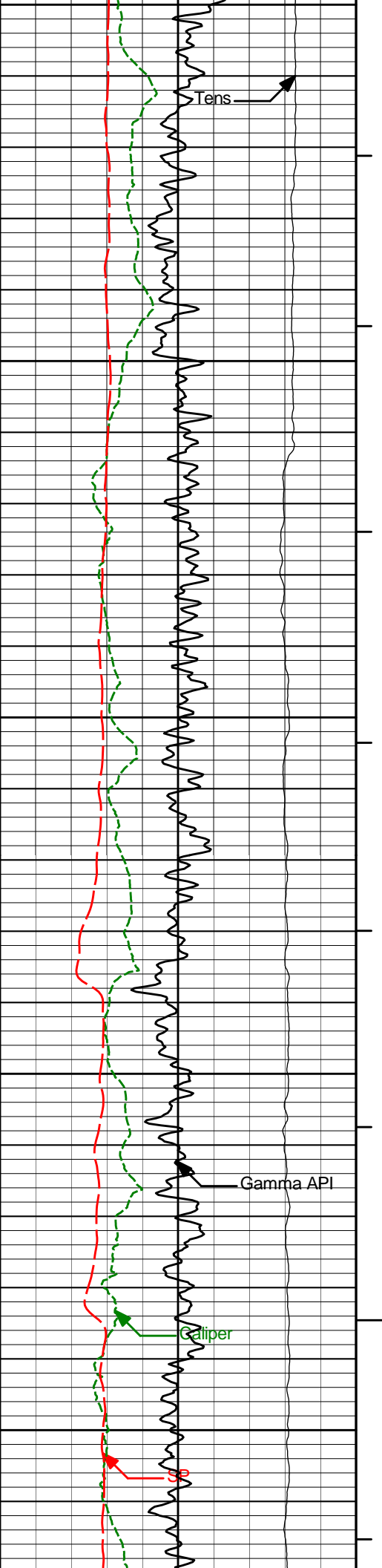
PARAMETERS REPORT

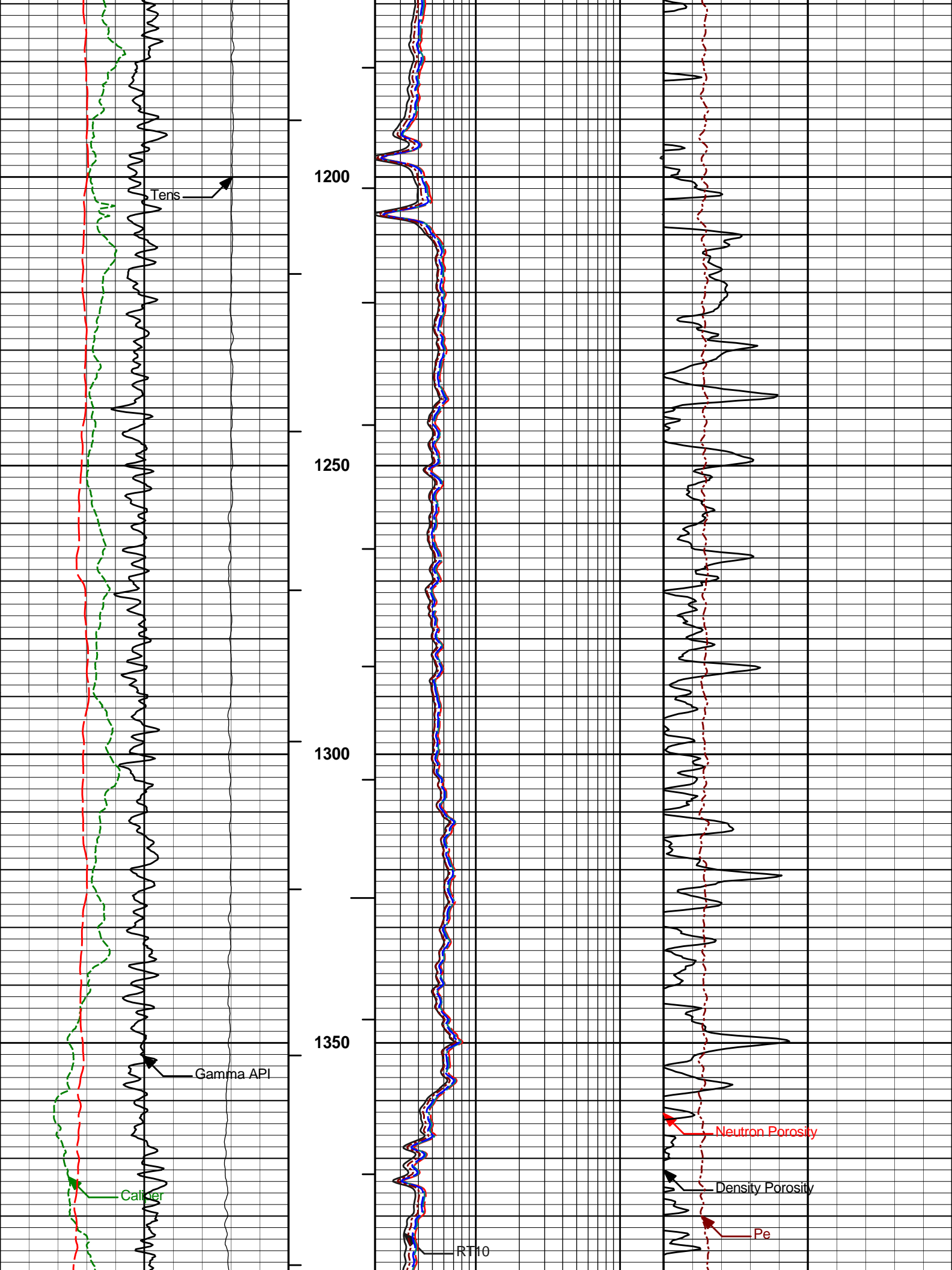
Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	DSNT	NLIT	Neutron Lithology	Sandstone	
	SDLT Pad	DMA	Formation Density Matrix	2.680	g/cc
6998.00					
	DSNT	NLIT	Neutron Lithology	Limestone	
	SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
7204.00					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.300	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	800.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.280	ohmm
	SHARED	TRM	Temperature of Mud	80.8	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	7382.00	ft
	SHARED	BHT	Bottom Hole Temperature	191.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	

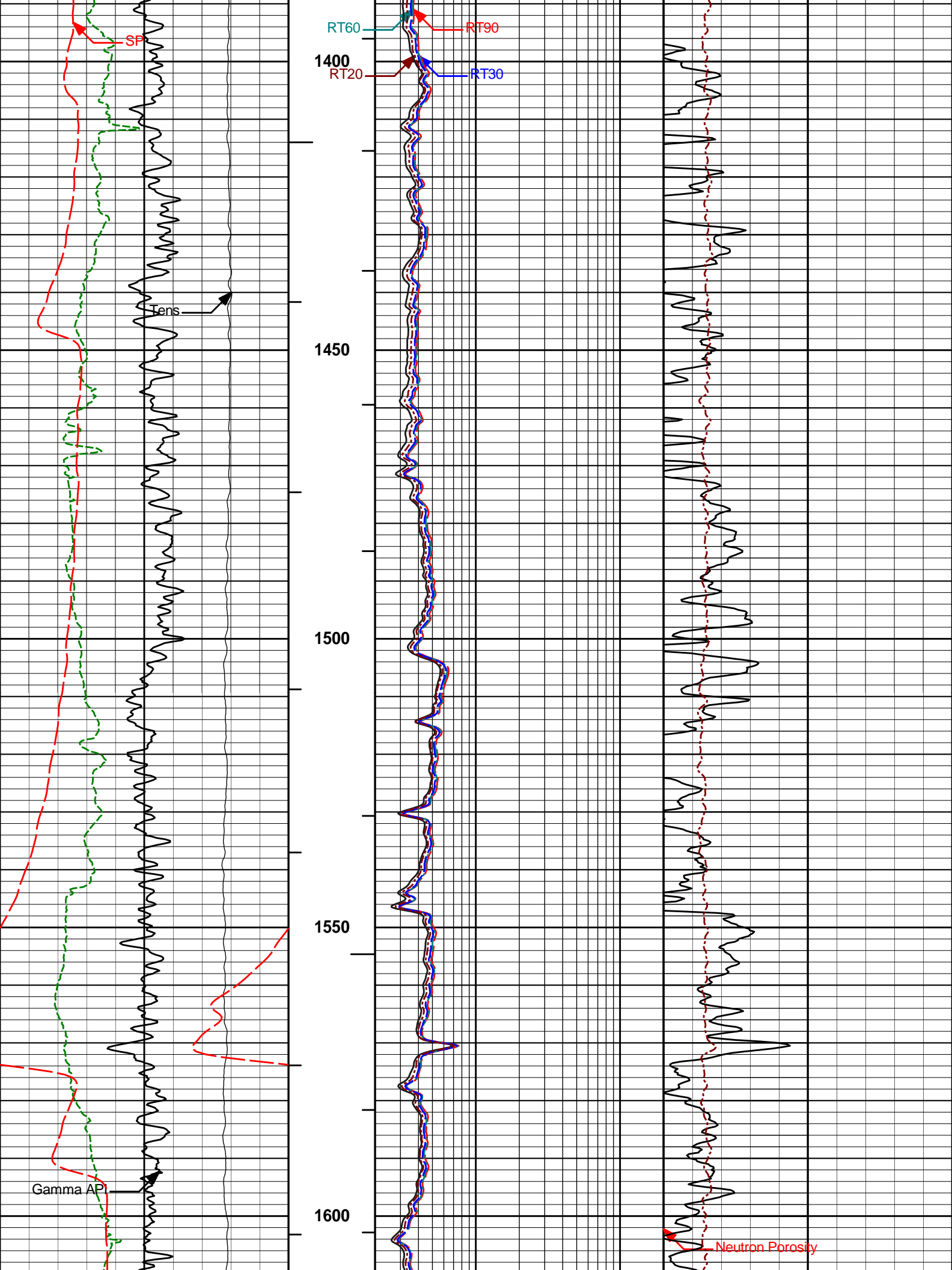
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	Temperature Master Tool	NONE	
SHARED	BHSM	Borehole Size Master Tool	NONE	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
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	2.680	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	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
BOTTOM_____				
Data: RVR_BLUFF_10-13\0001 TRIPLE_WHITE_SLICK\003.01 22-Mar-13 14:54 Up				Date: 22-Mar-13 15:05:06

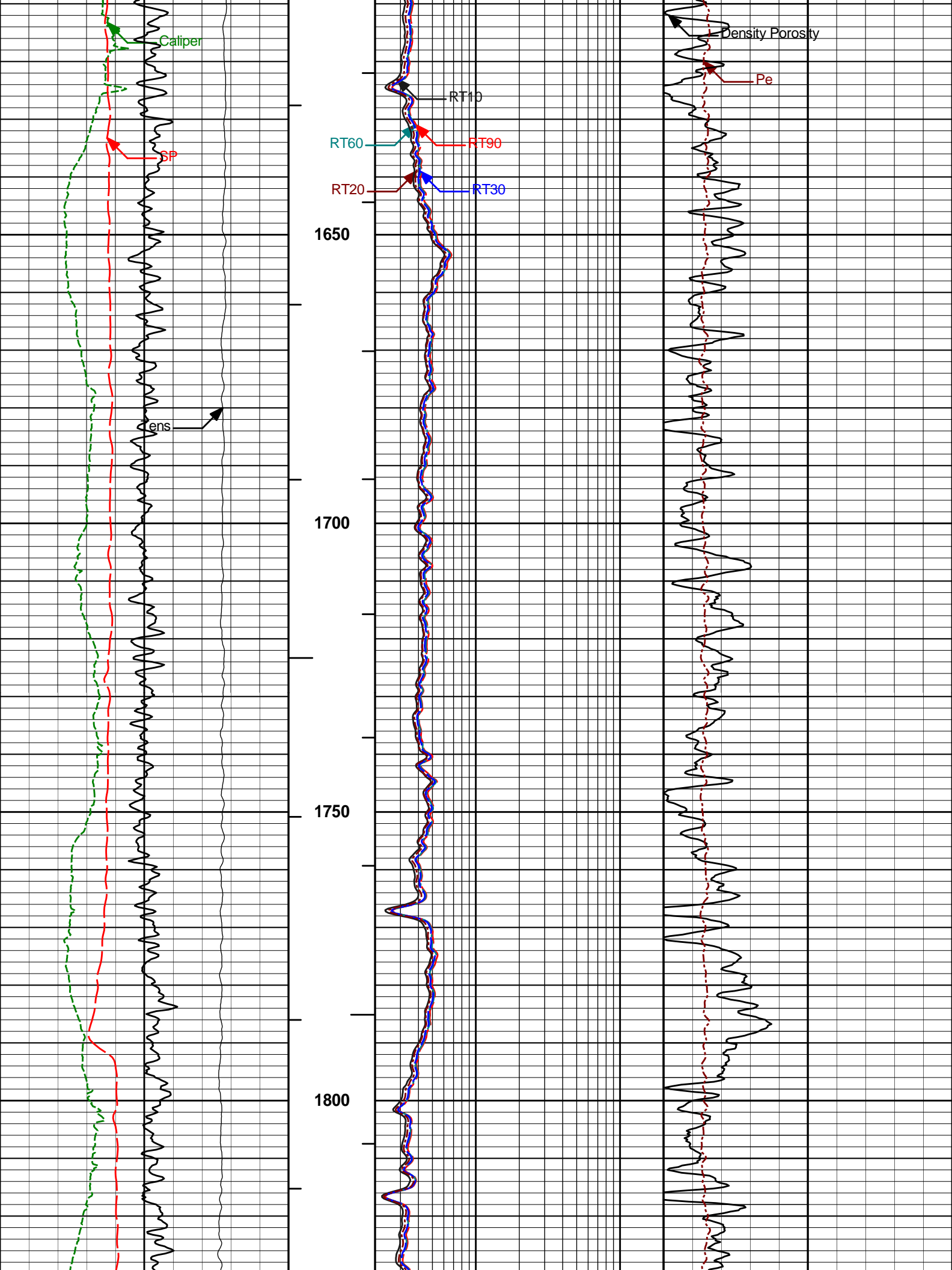
HALLIBURTON					Plot Time: 22-Mar-13 16:11:47 Plot Range: 745 ft to 7395.92 ft Data: RVR_BLUFF_10-13\Well Based\MAIN* Plot File: \\COMP\MAIN				
MAIN PASS 5" = 100'									
<div>10K</div> <div>Tens</div> <div>0</div>			<div>2</div> <div>RT10</div> <div>200</div>						
<div>pounds</div>			<div>2</div> <div>RT20</div> <div>200</div>						
			<div>ohmm</div>						
<div>6</div> <div>Caliper</div> <div>16</div>			<div>2</div> <div>RT30</div> <div>200</div>			<div>20</div> <div>Neutron Porosity</div> <div>0</div>			
<div>inches</div>						<div>percent</div>			
<div>0</div> <div>Gamma API</div> <div>200</div>			<div>2</div> <div>RT60</div> <div>200</div>			<div>20</div> <div>Density Porosity</div> <div>0</div>			

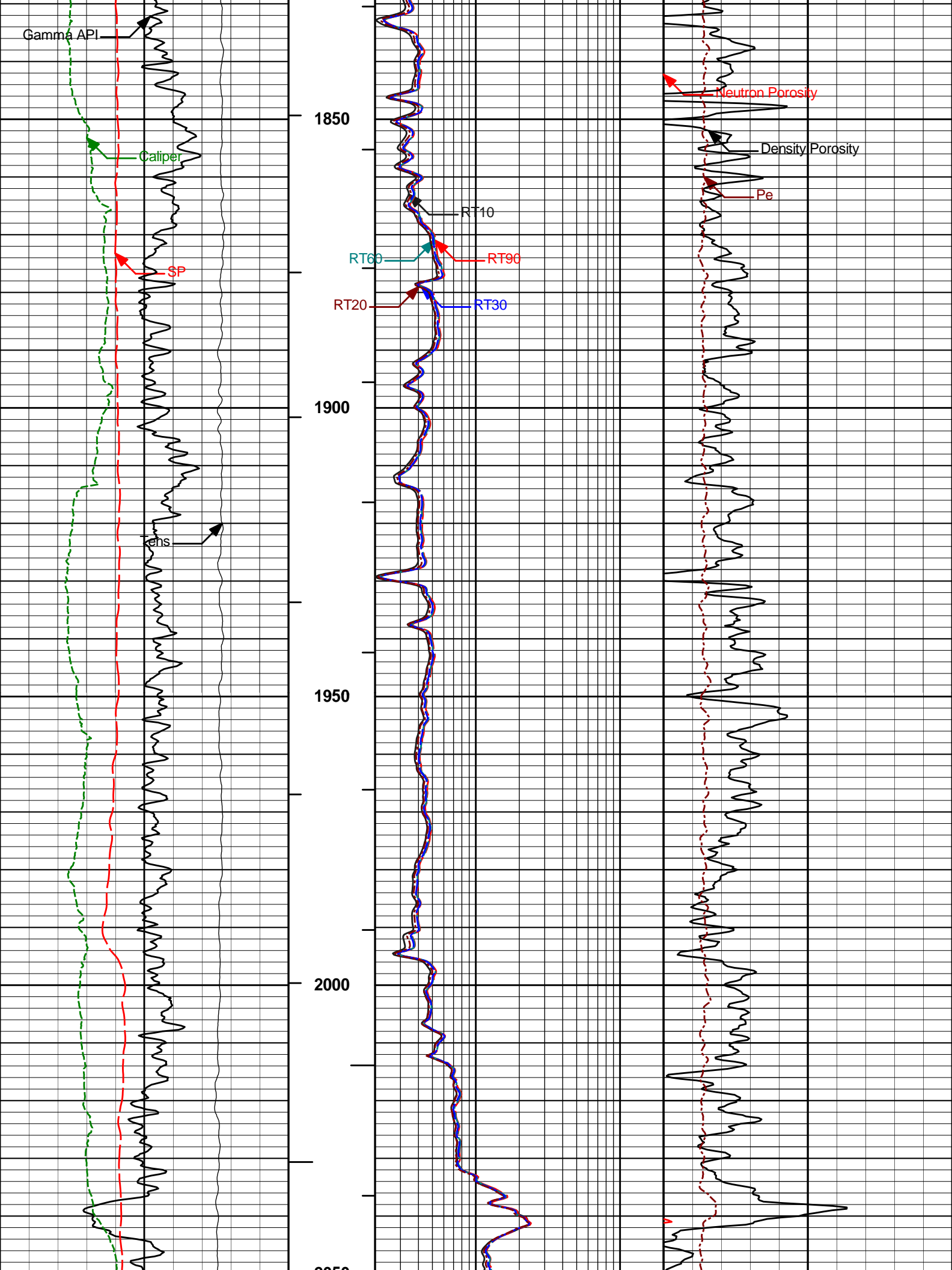


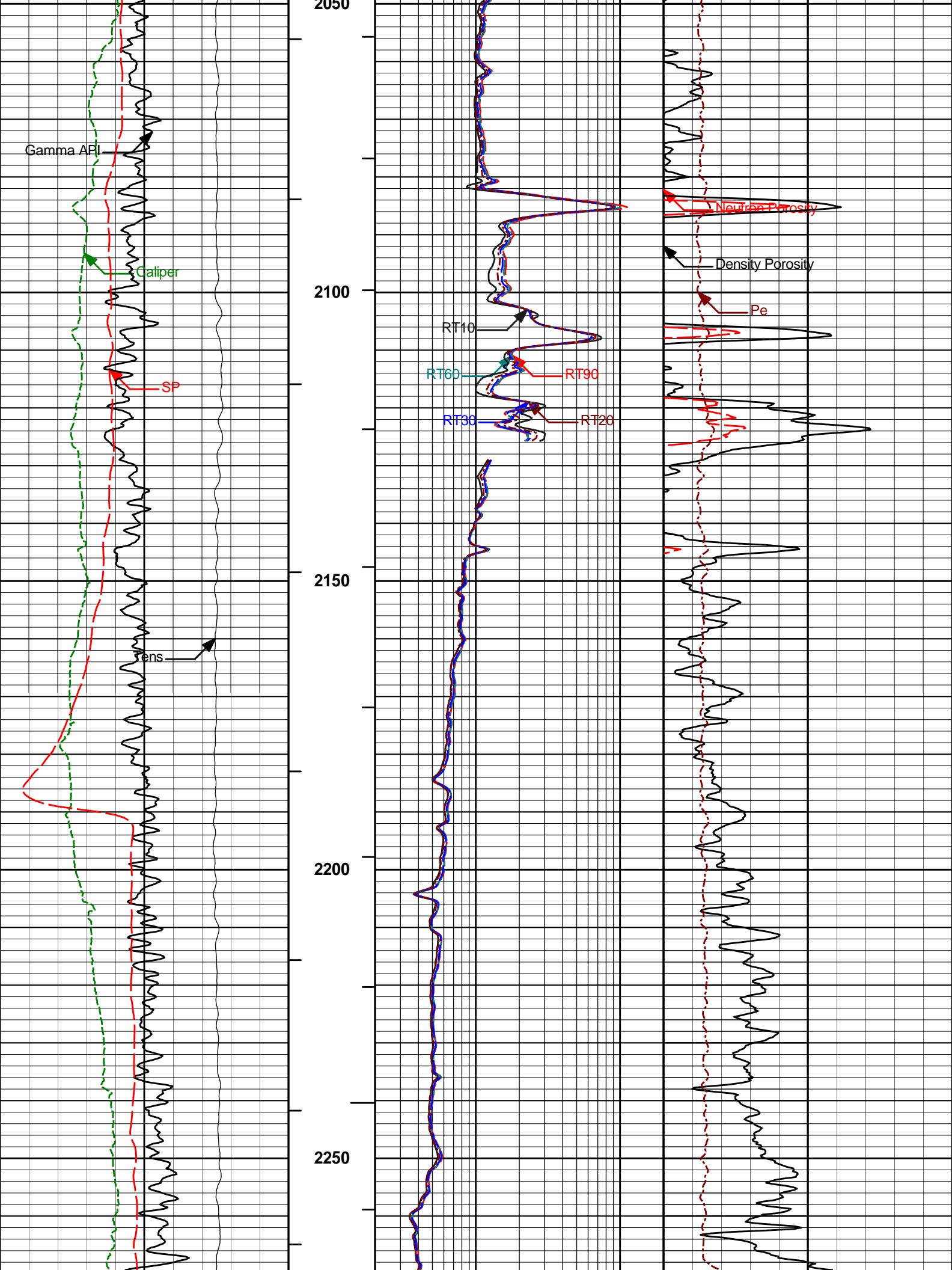


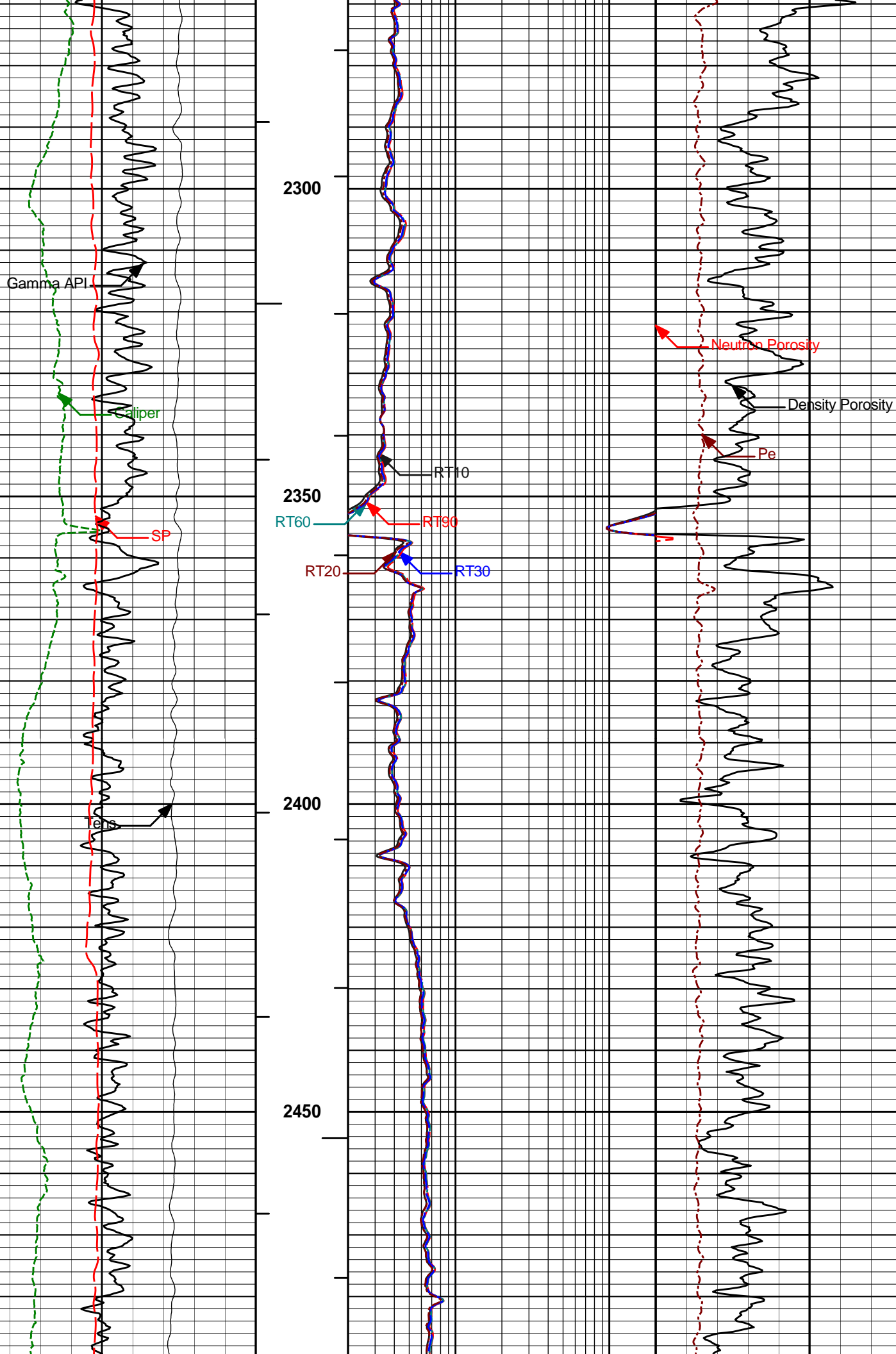


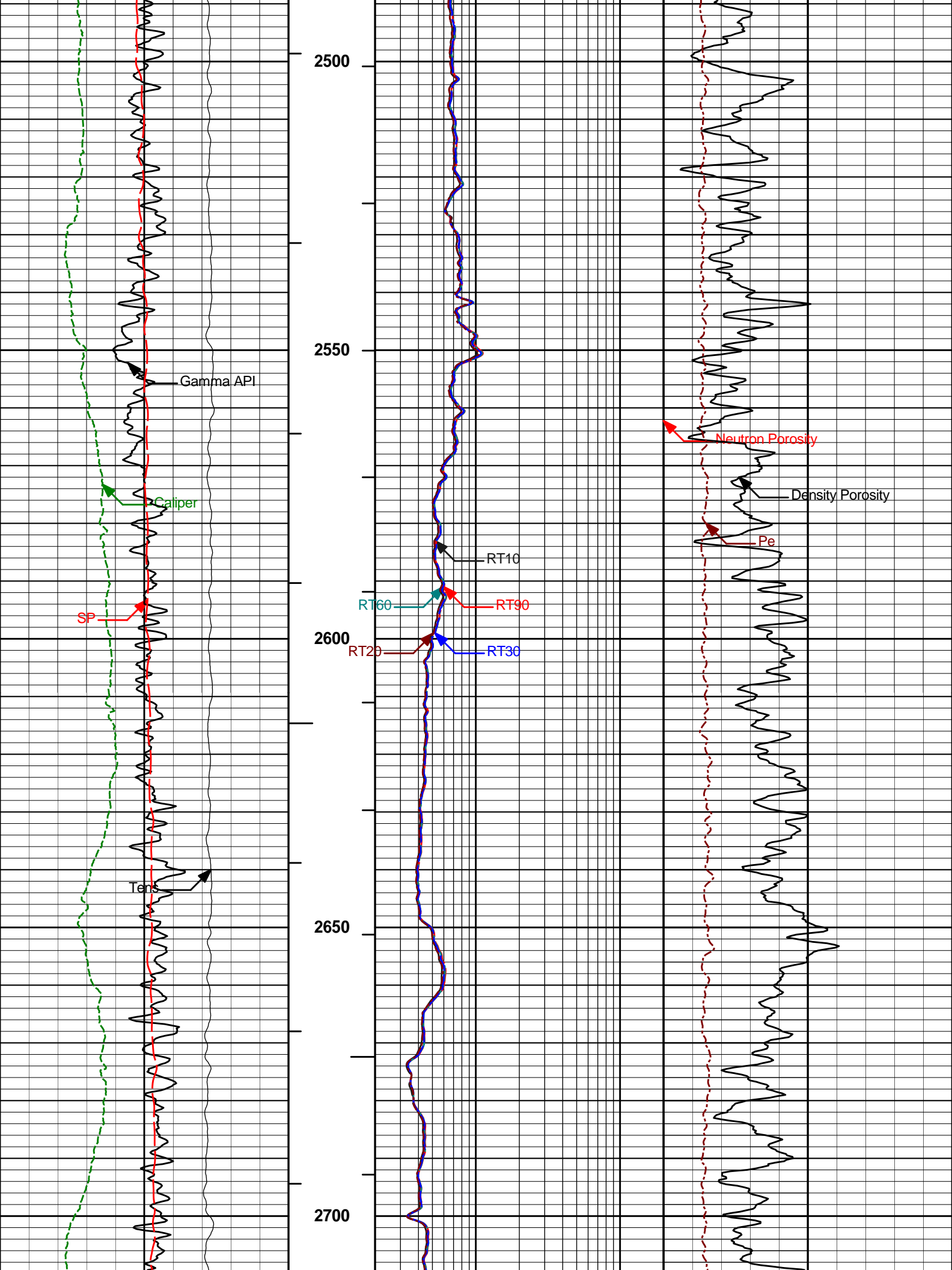


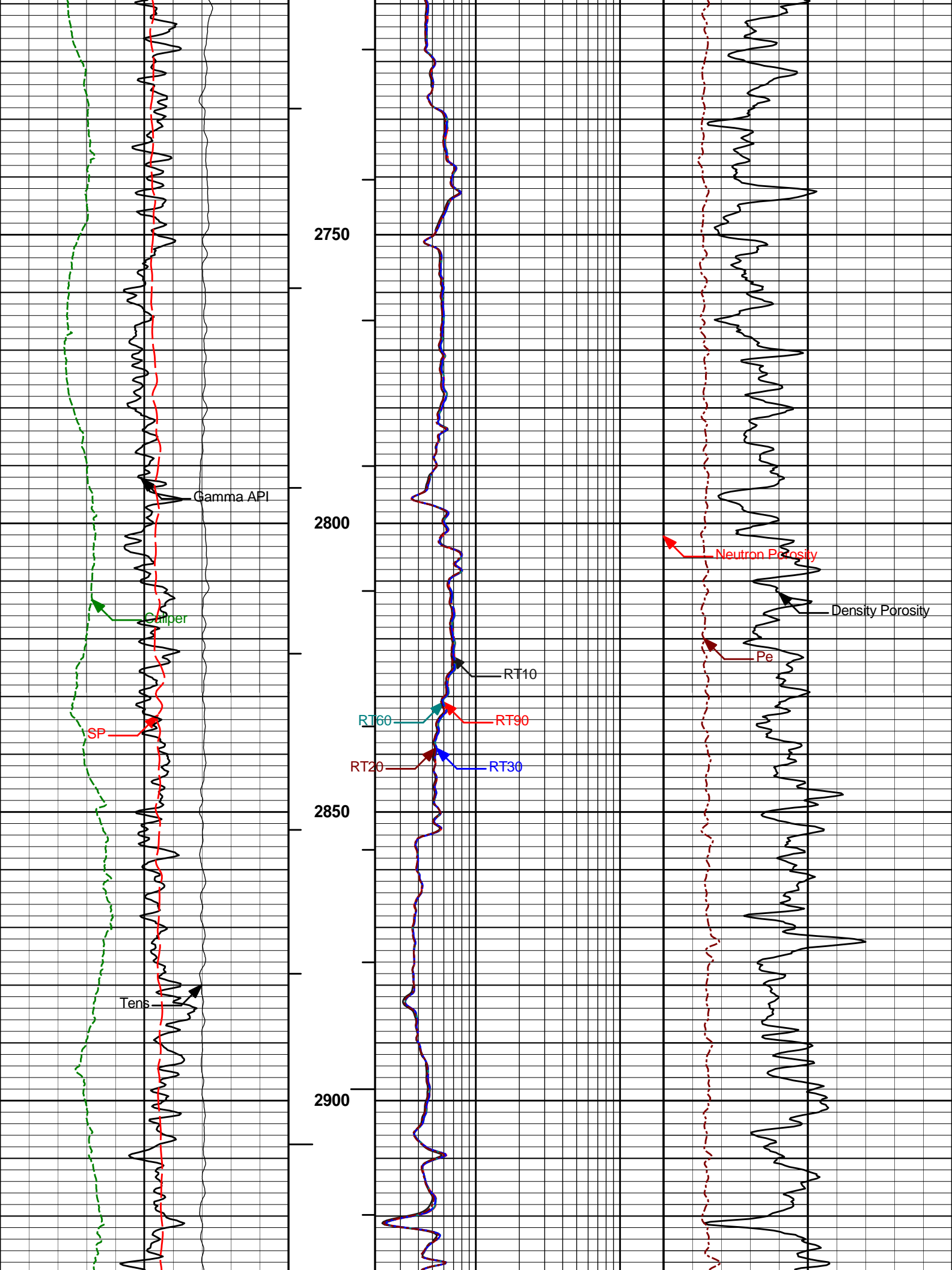


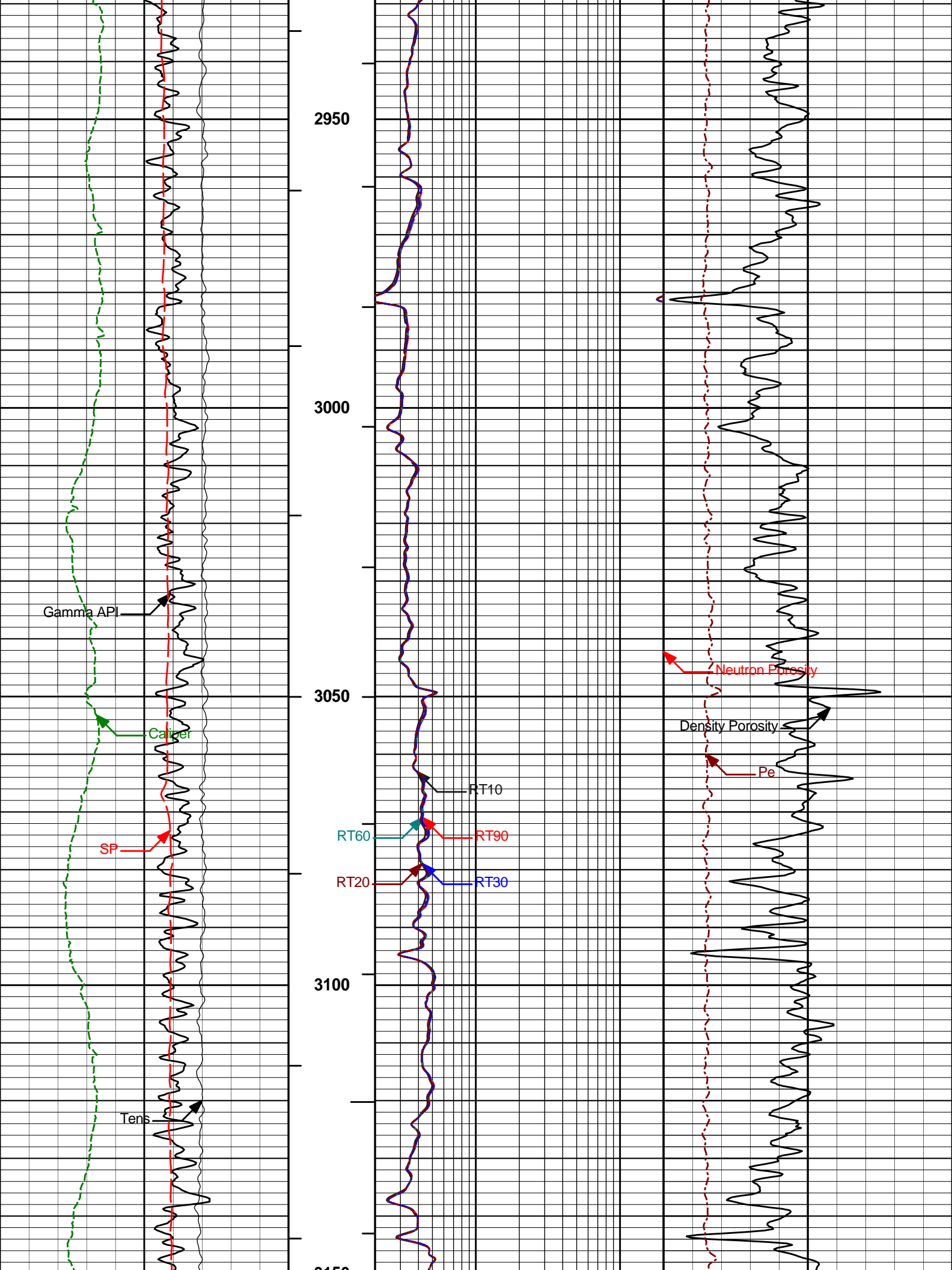


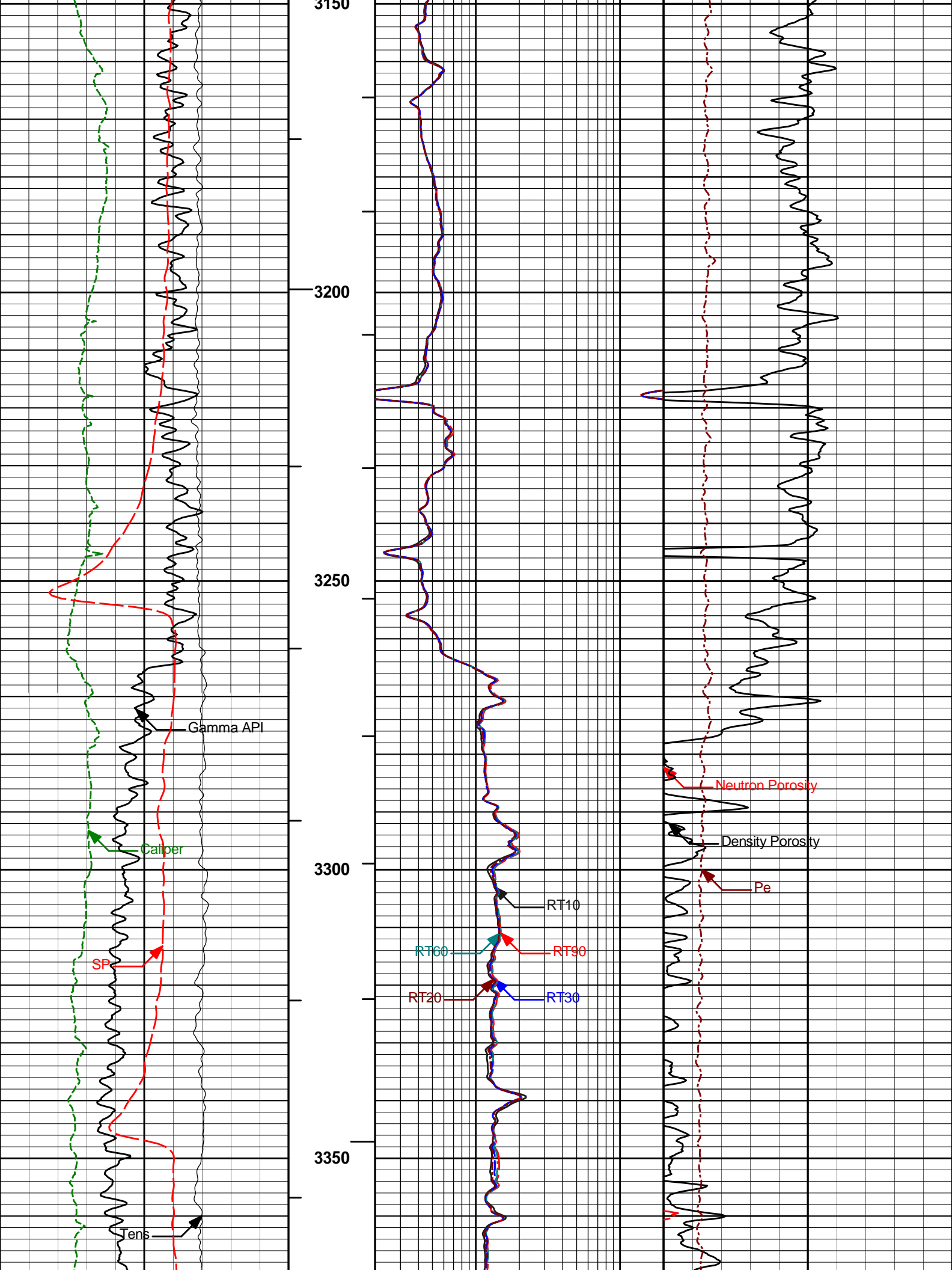


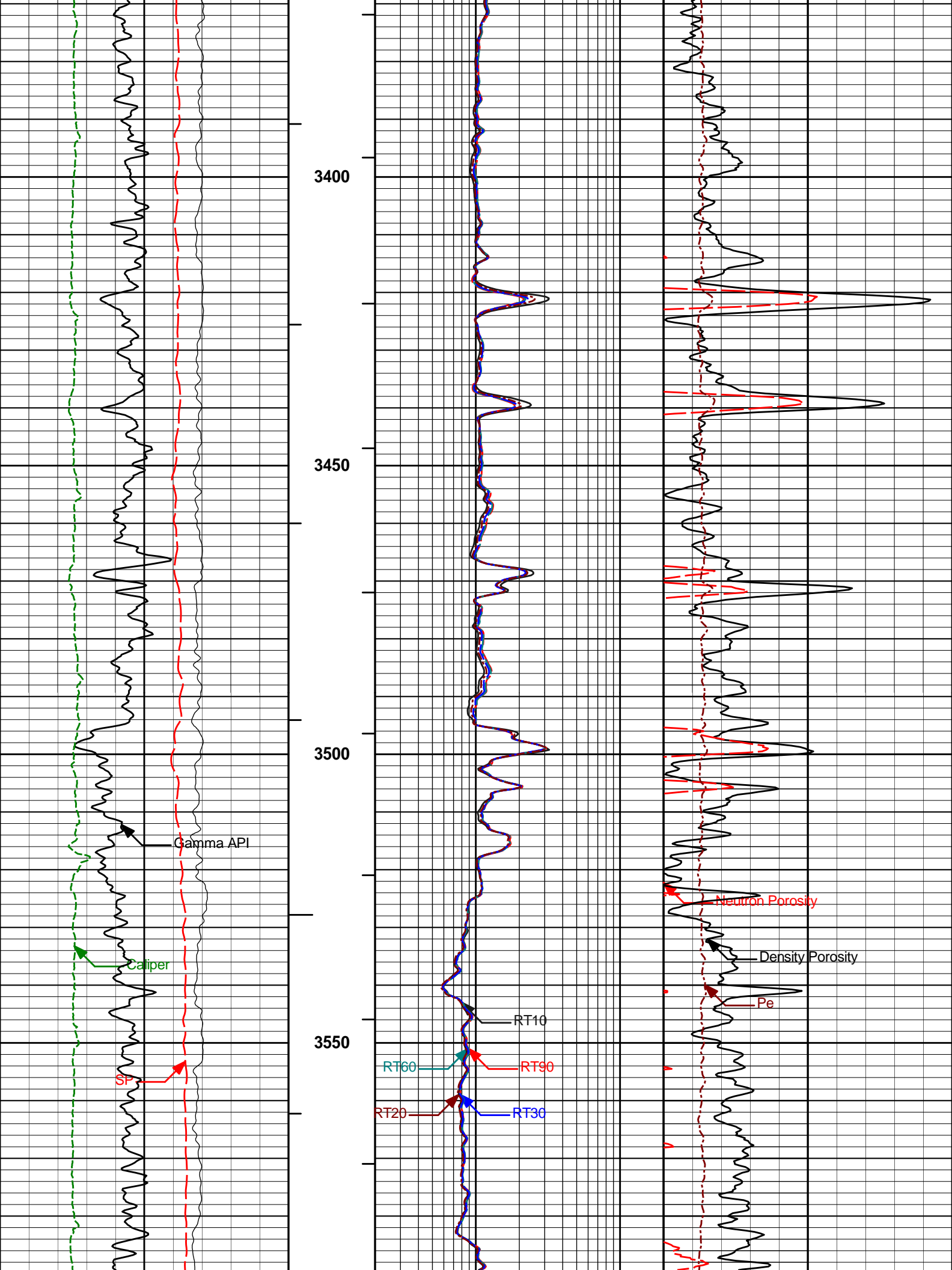


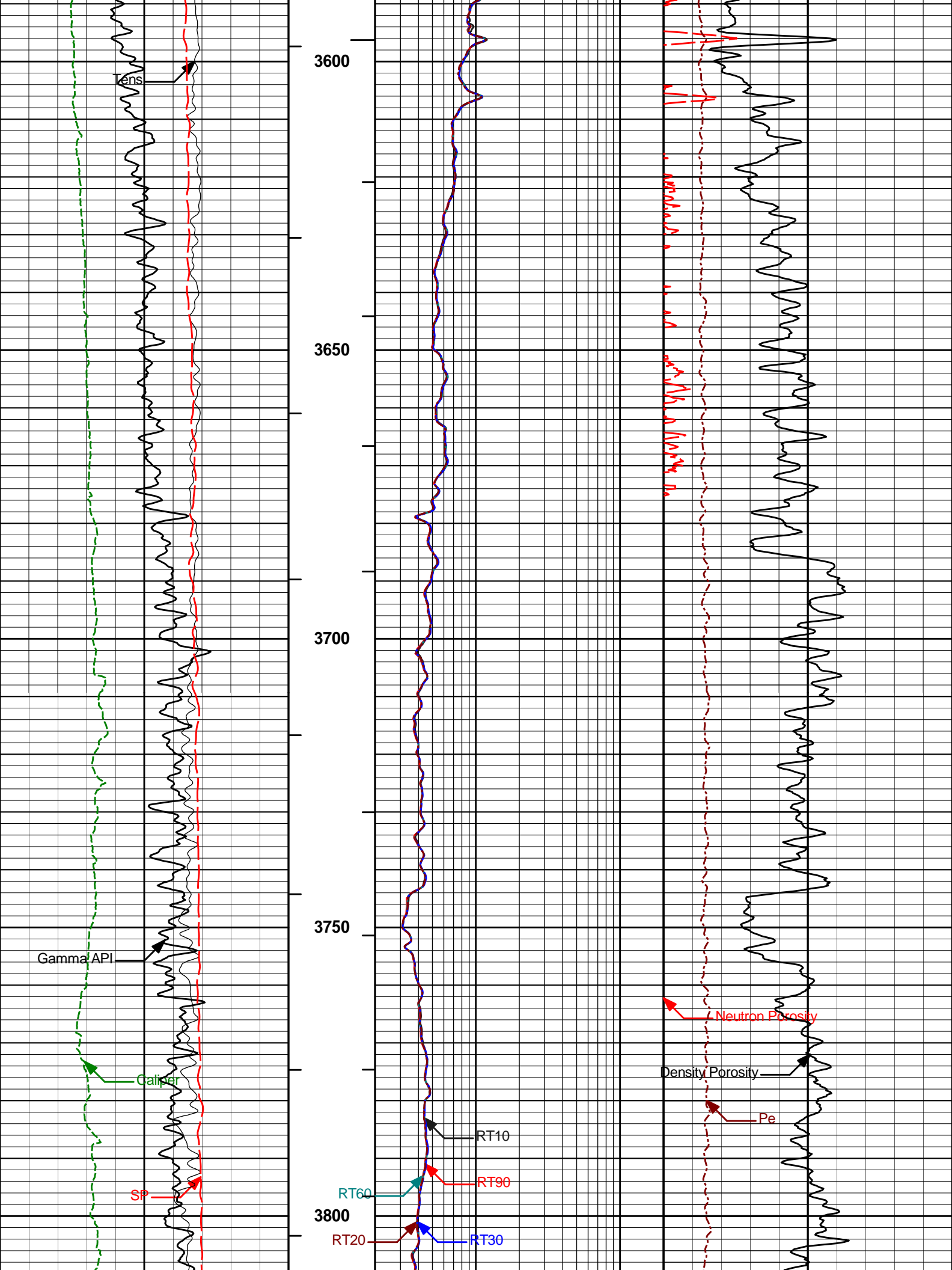


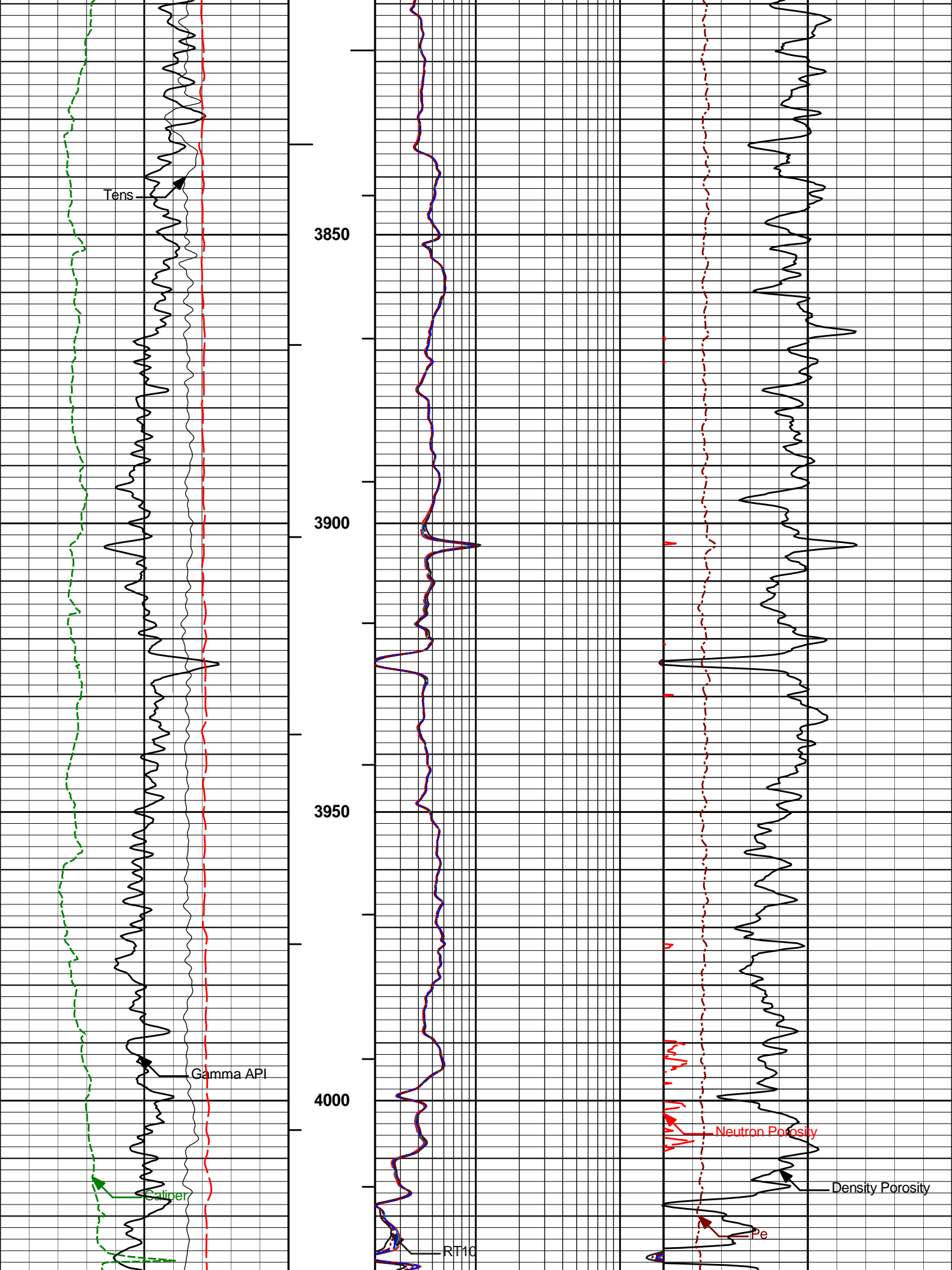


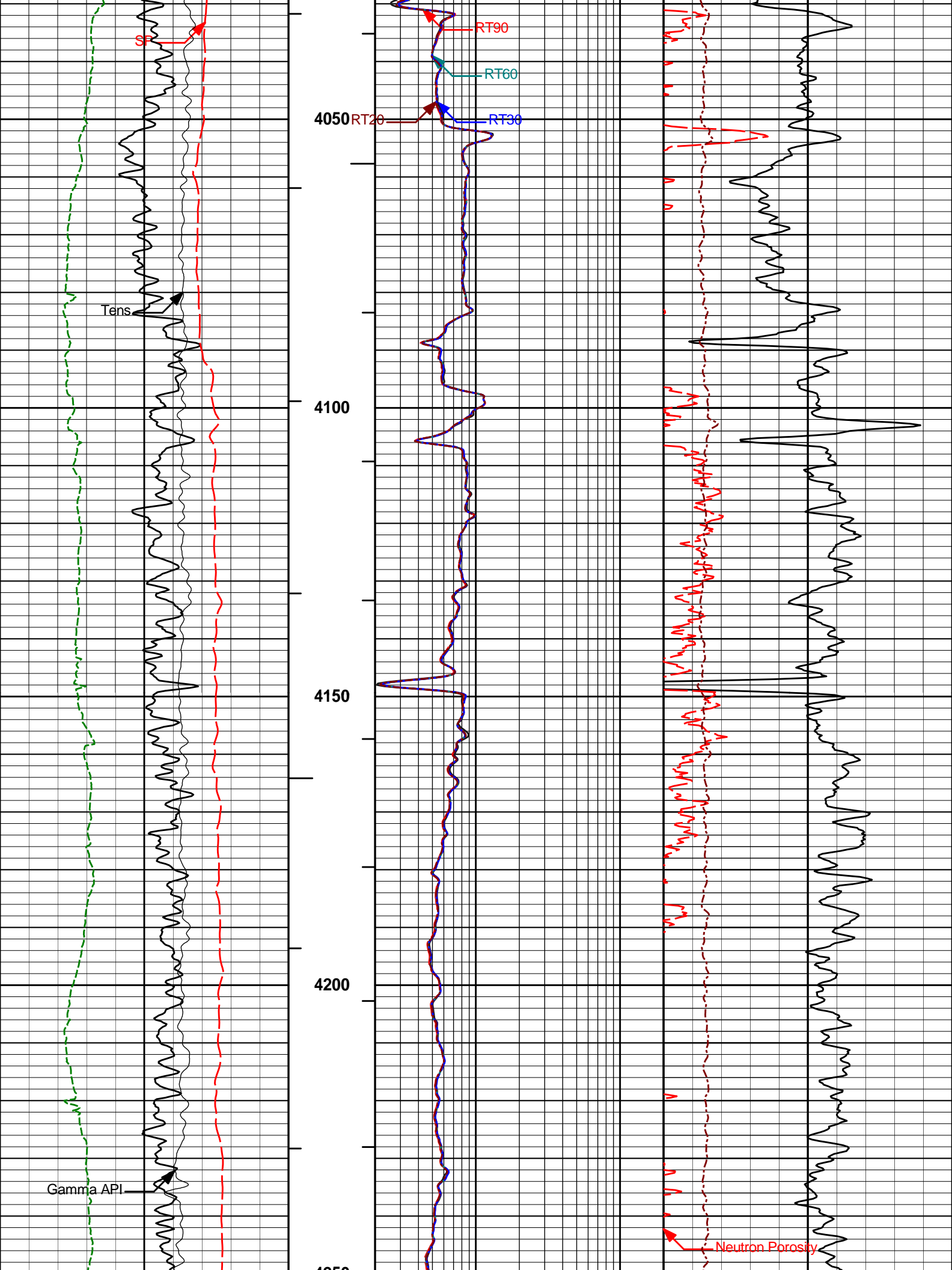


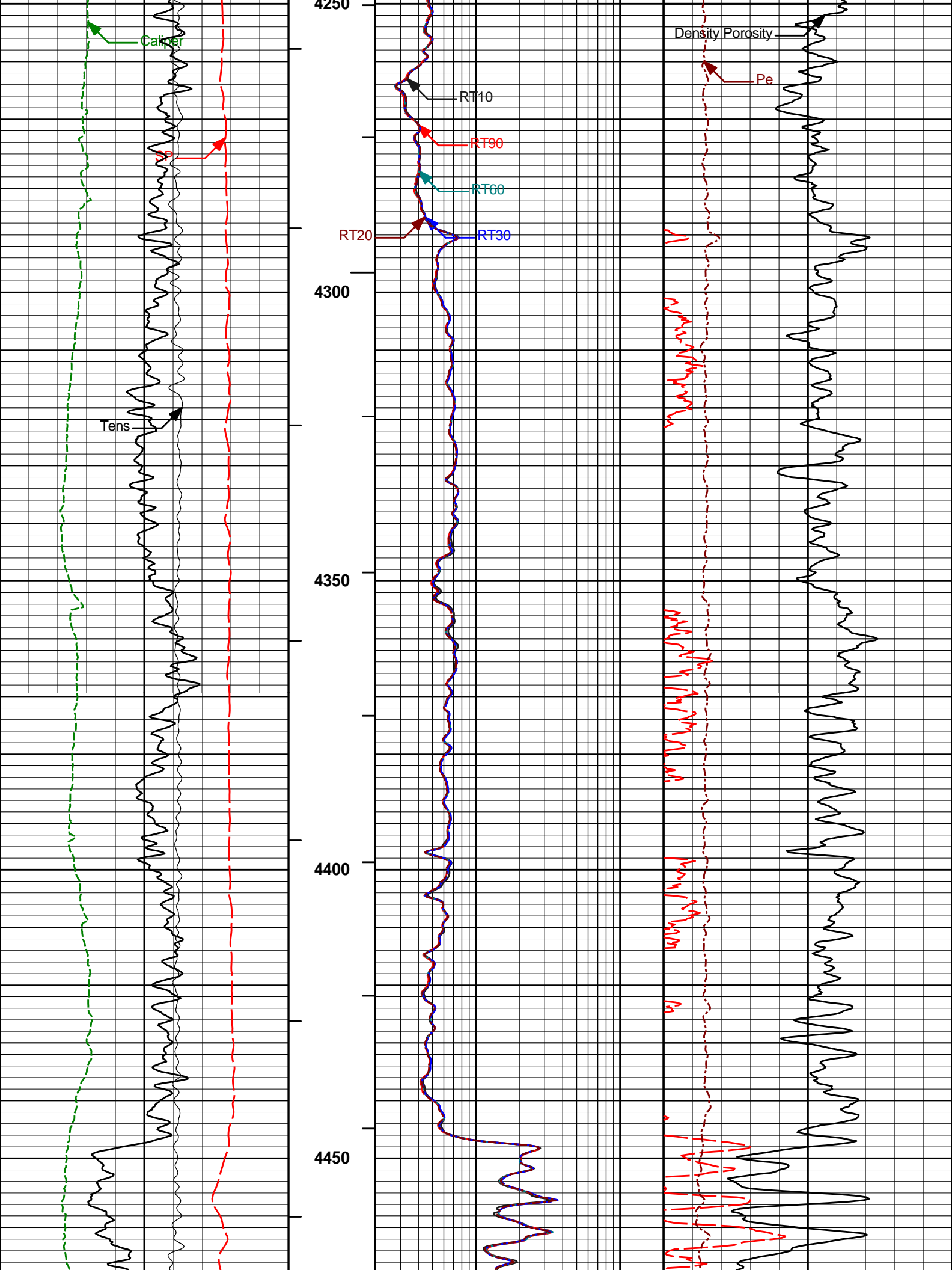


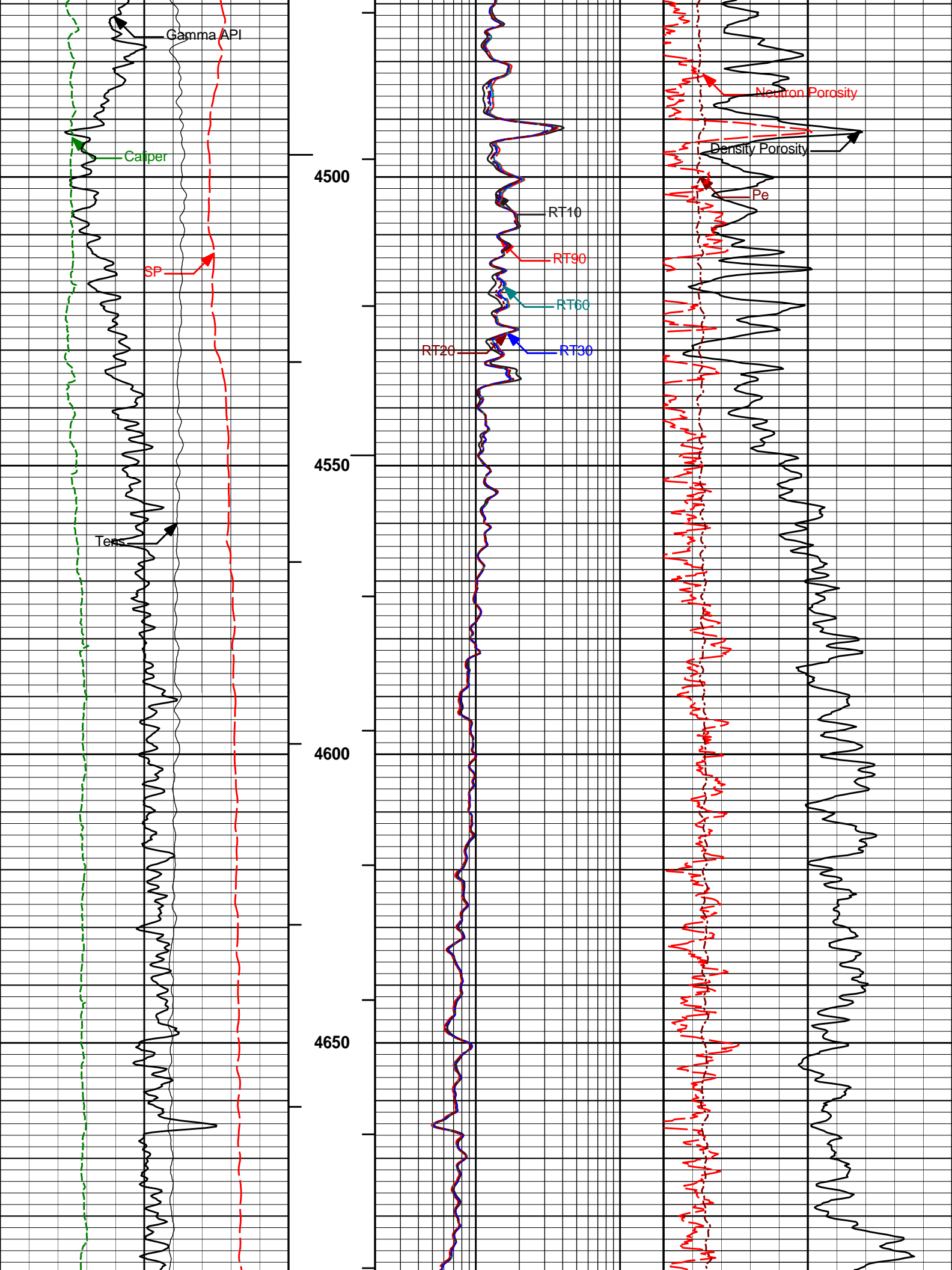


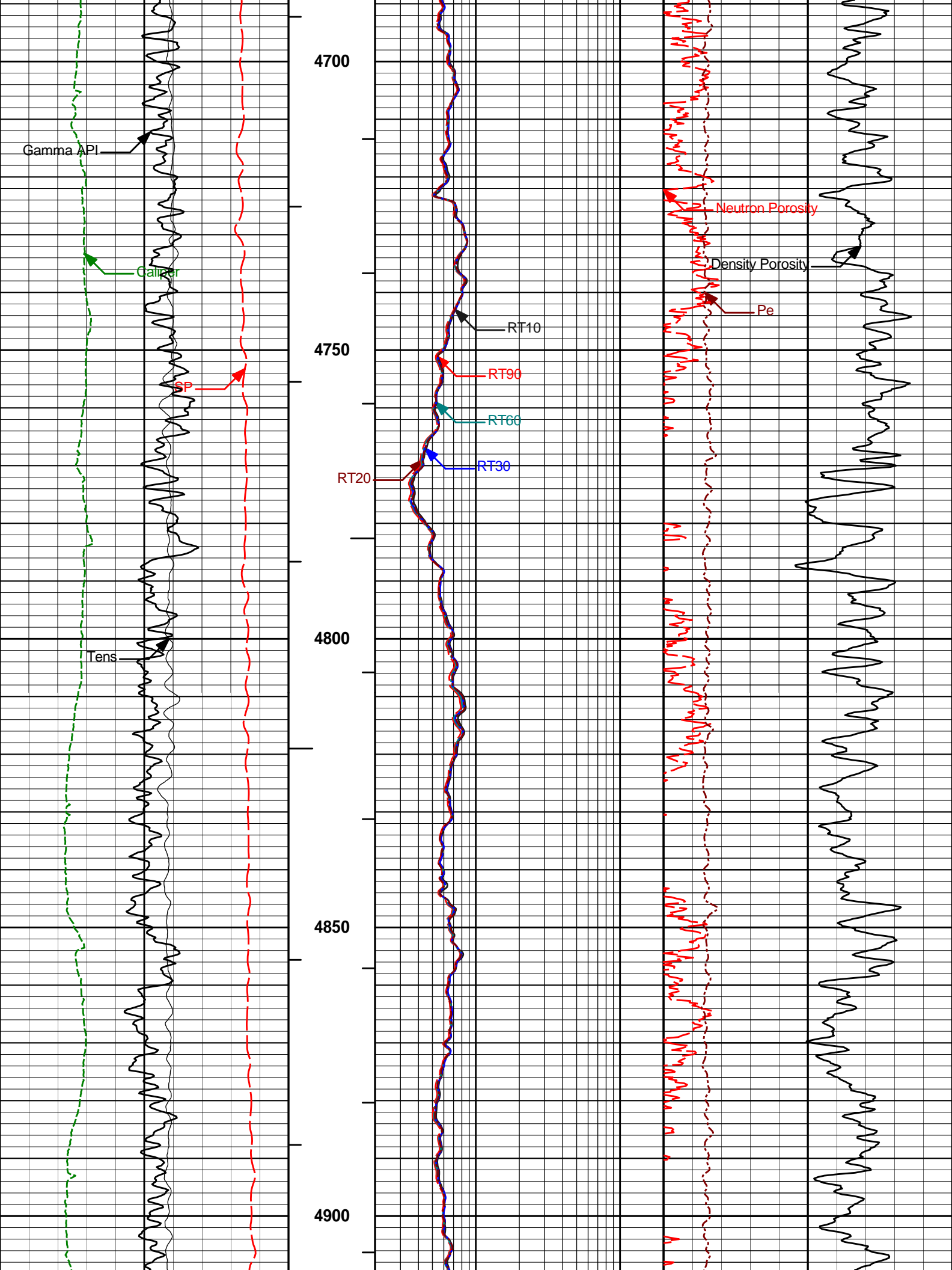


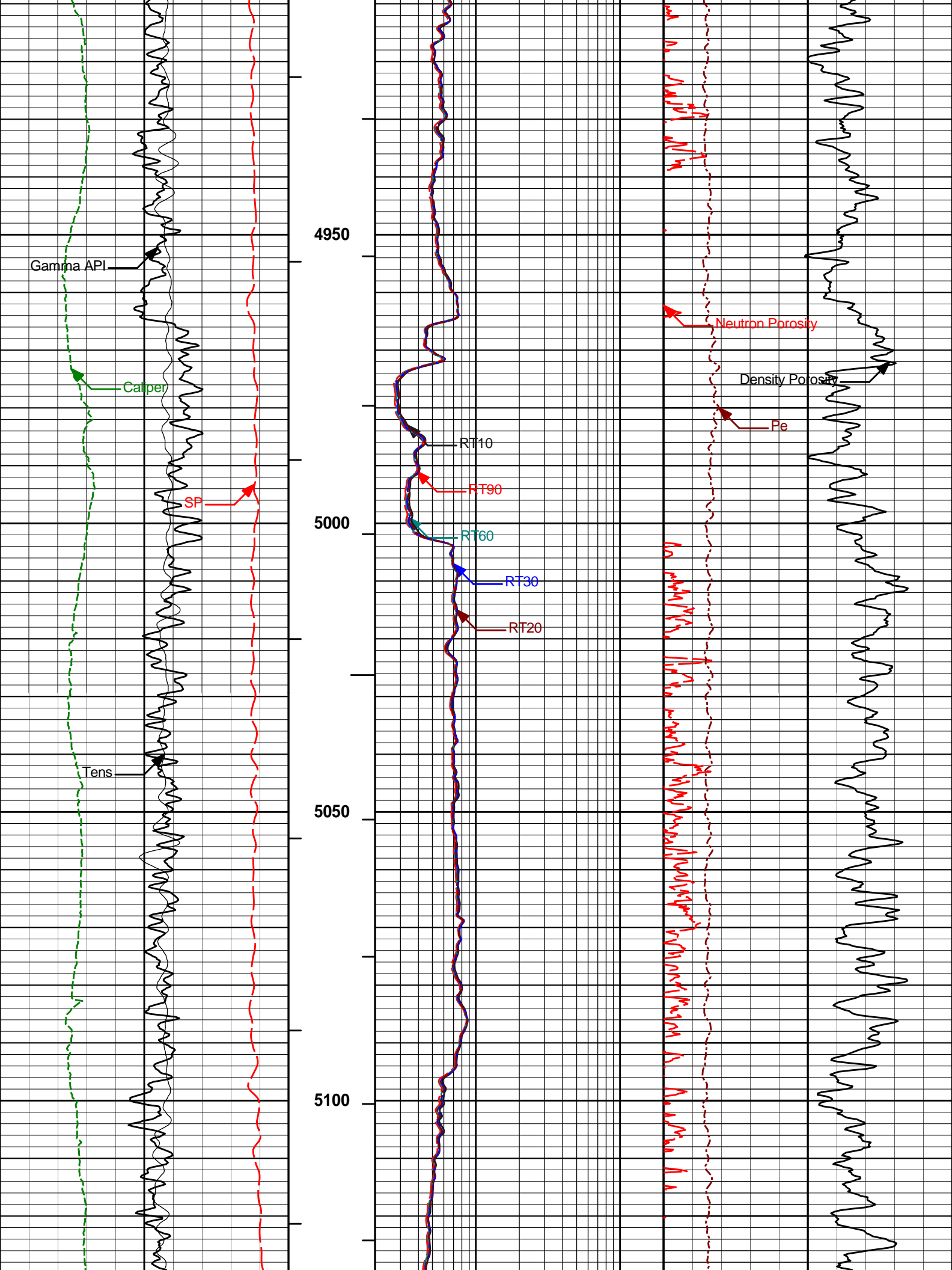


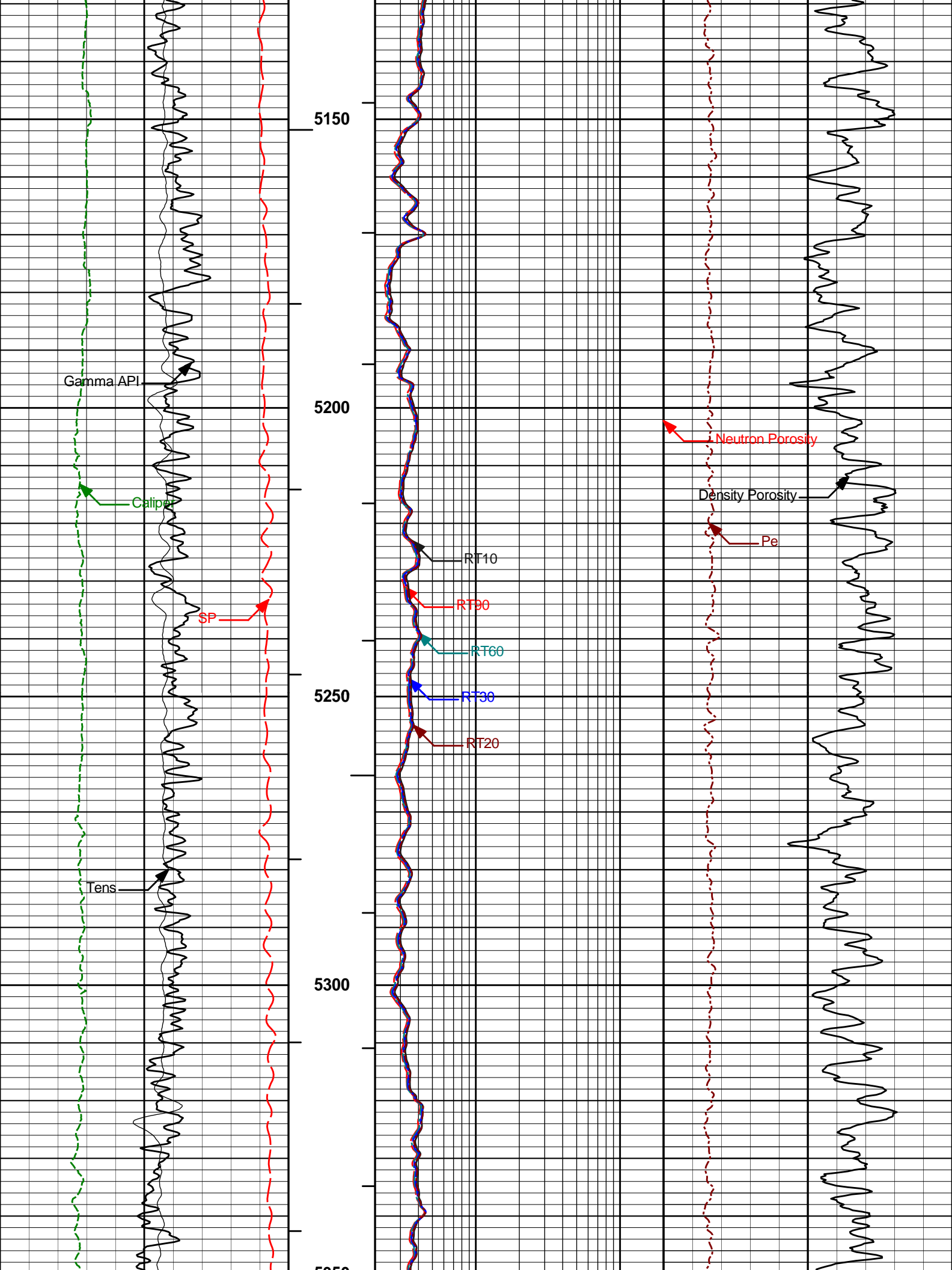


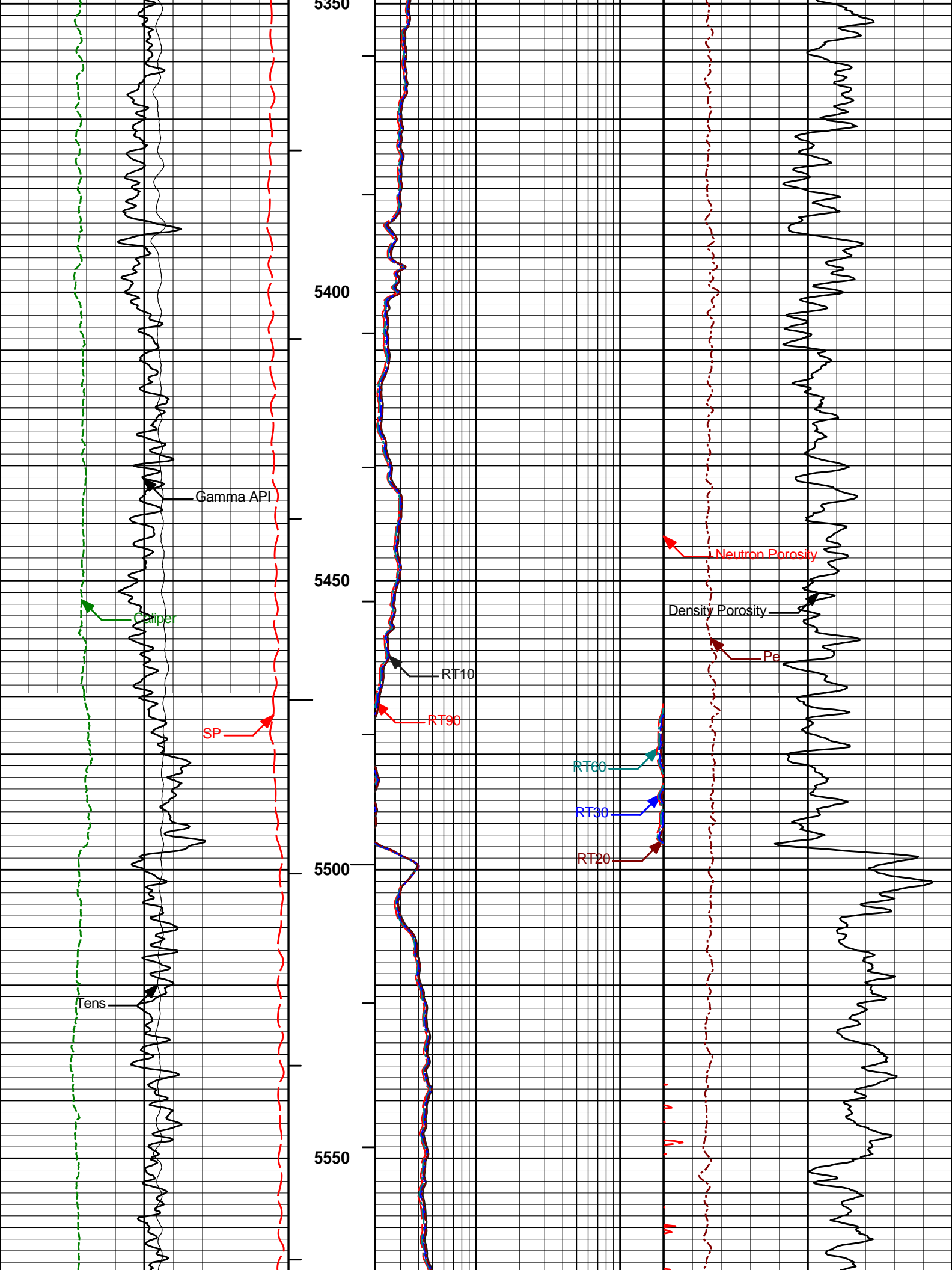


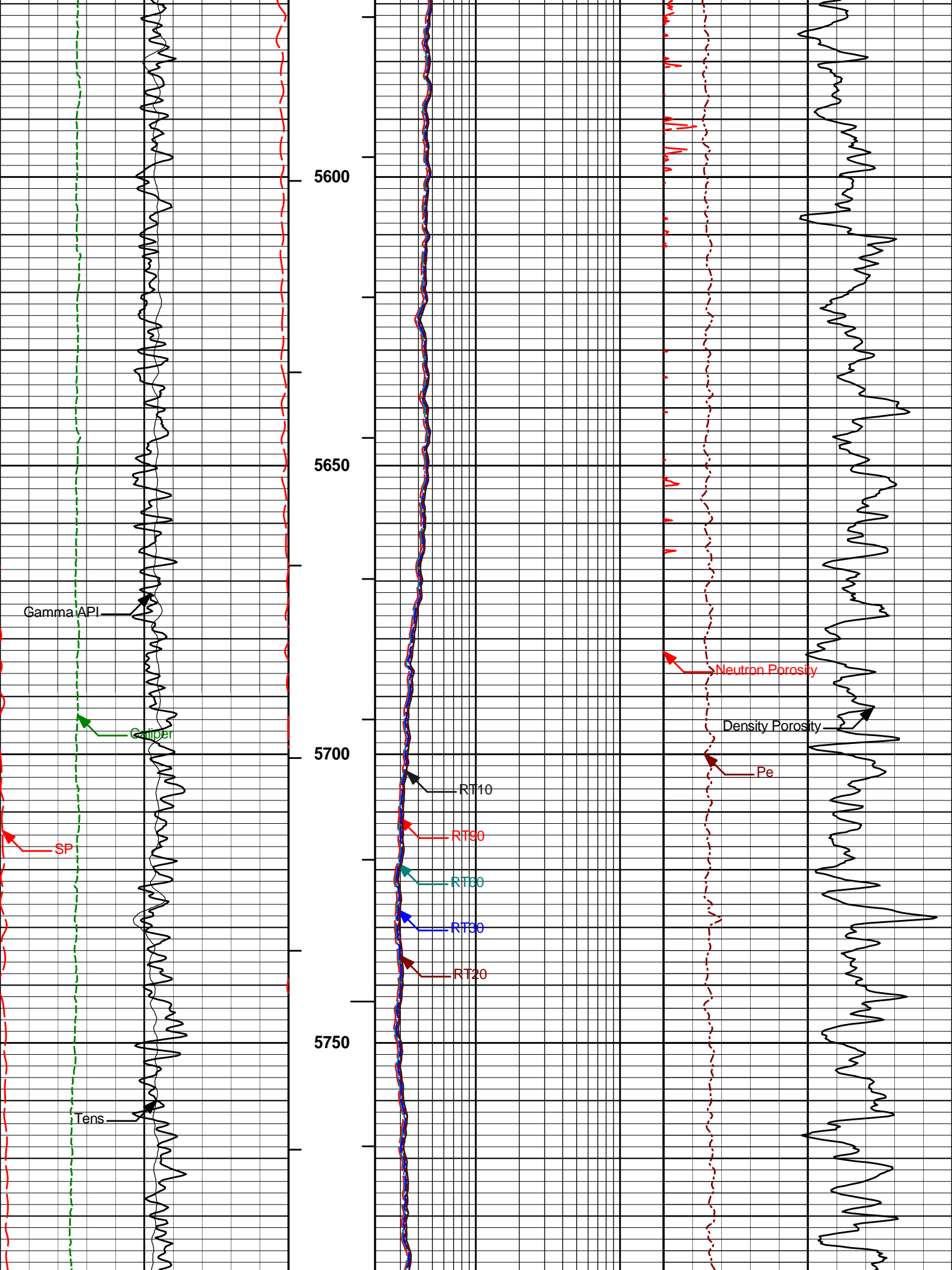


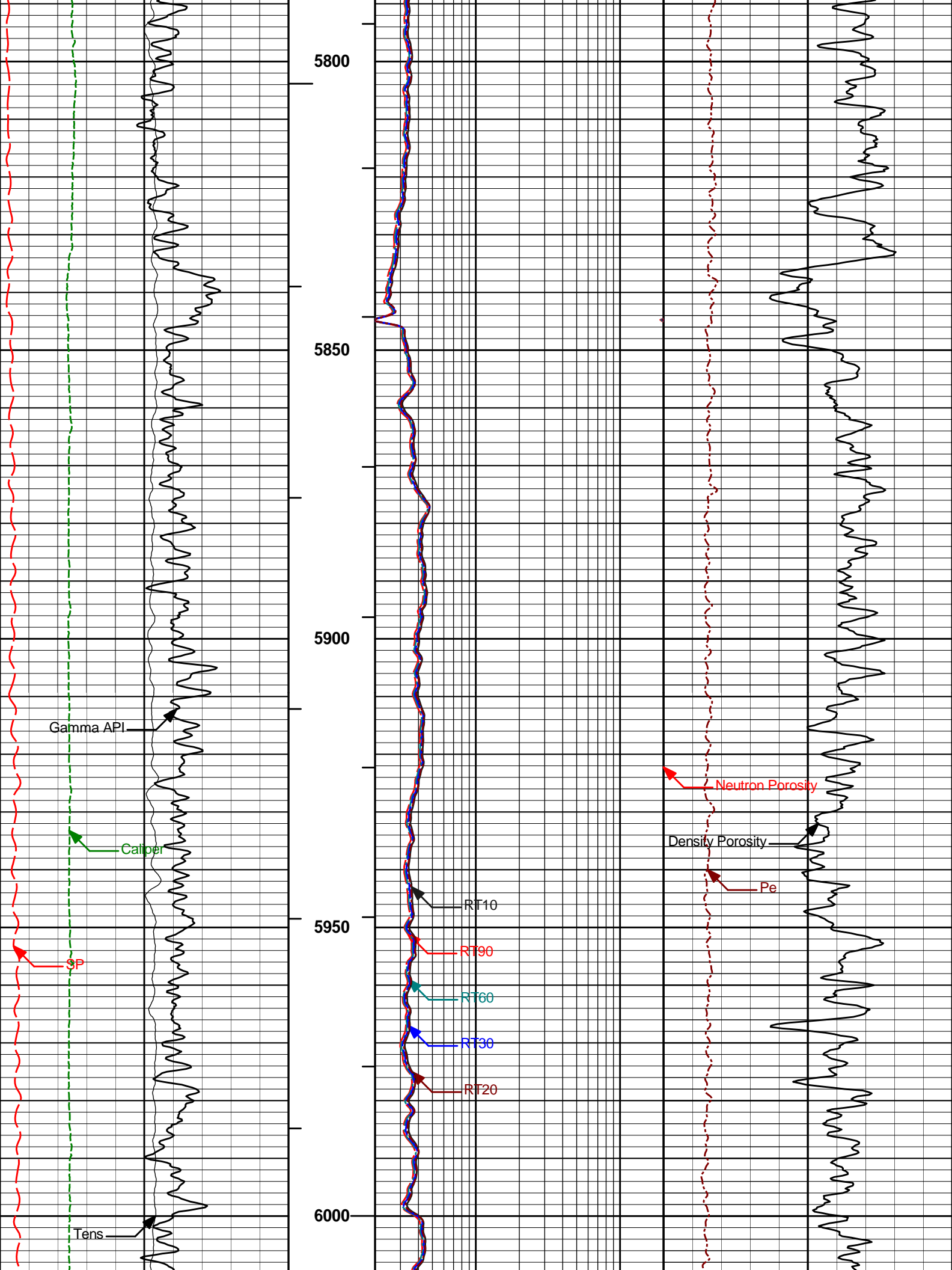


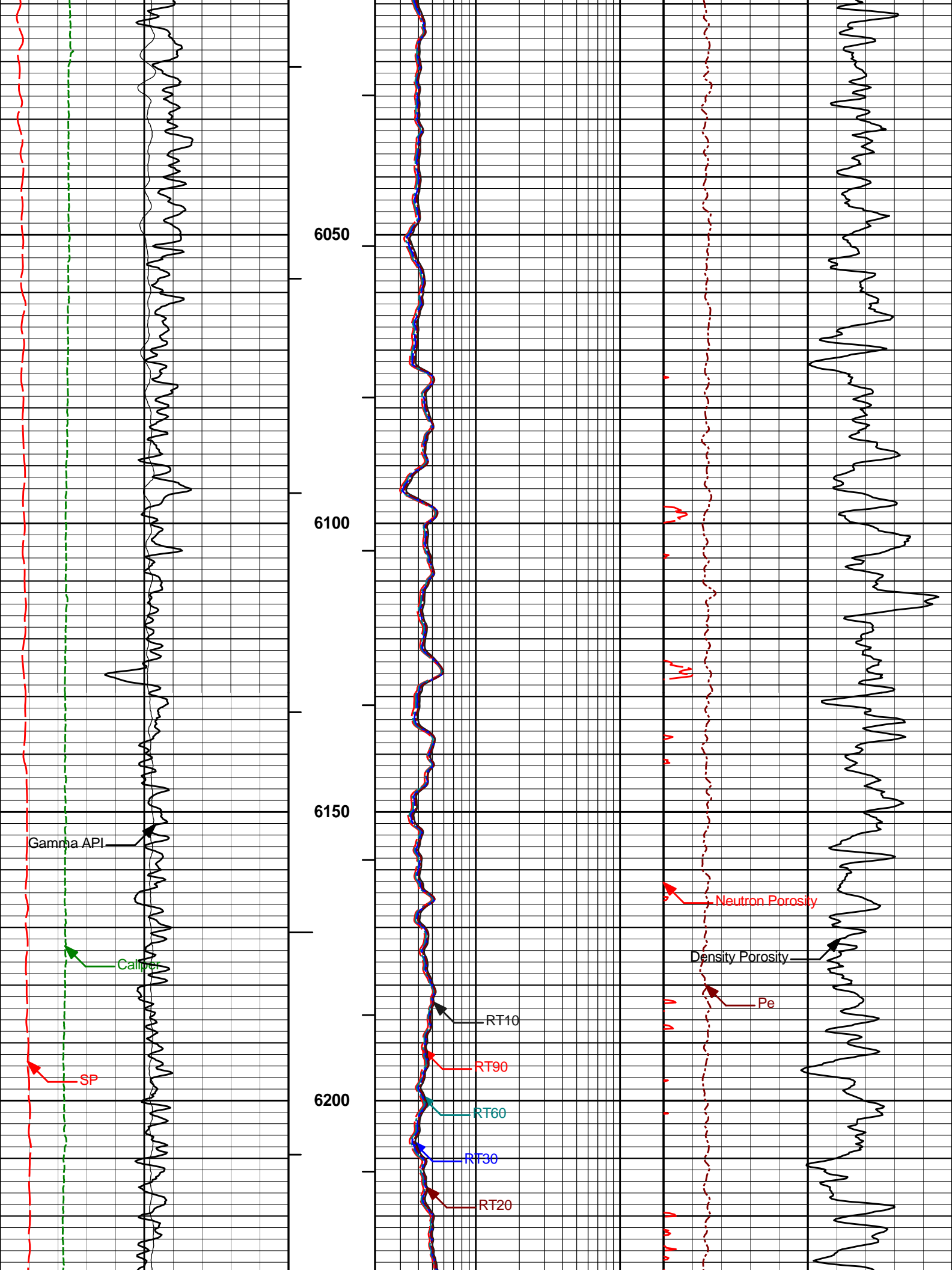


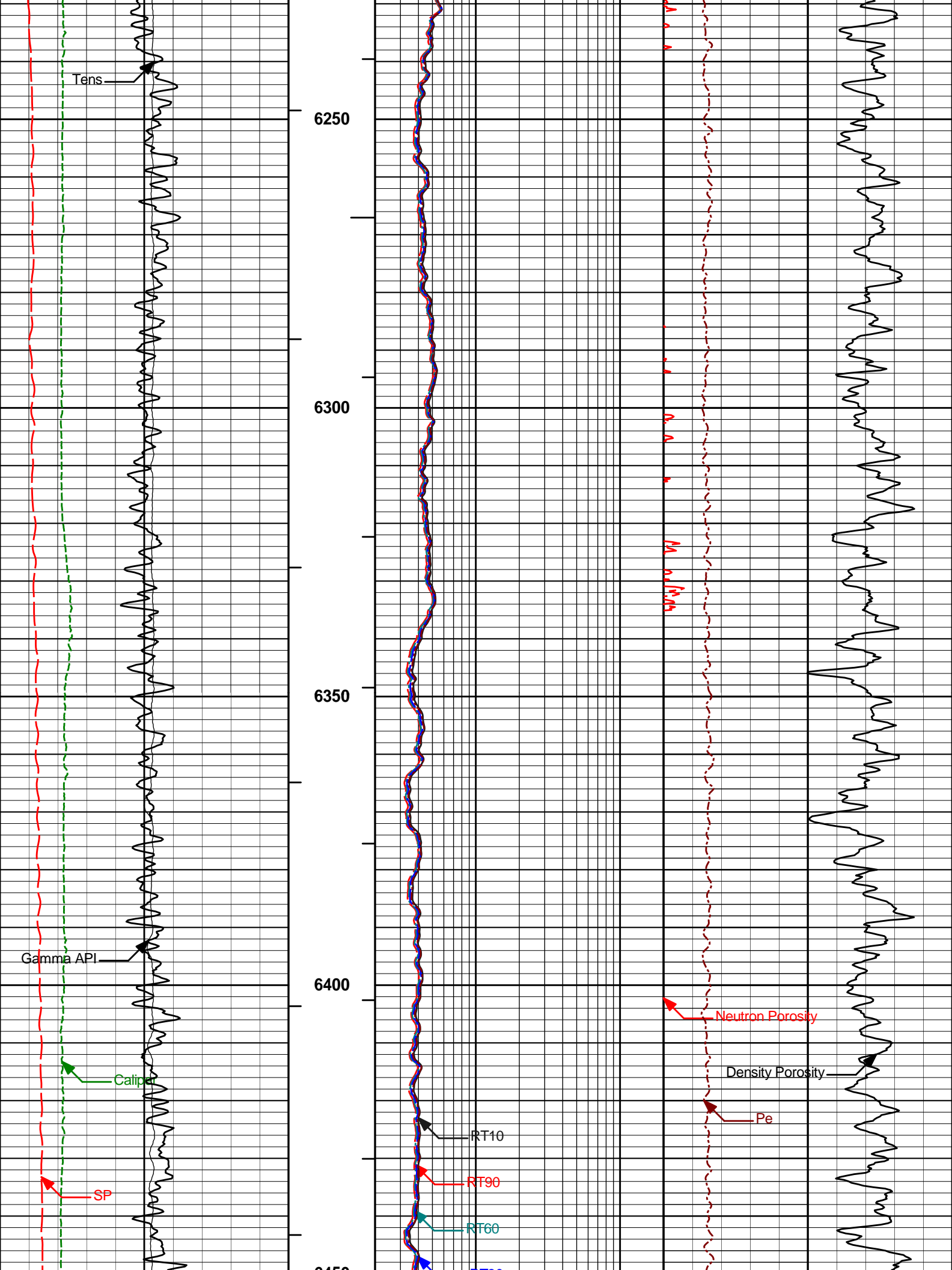


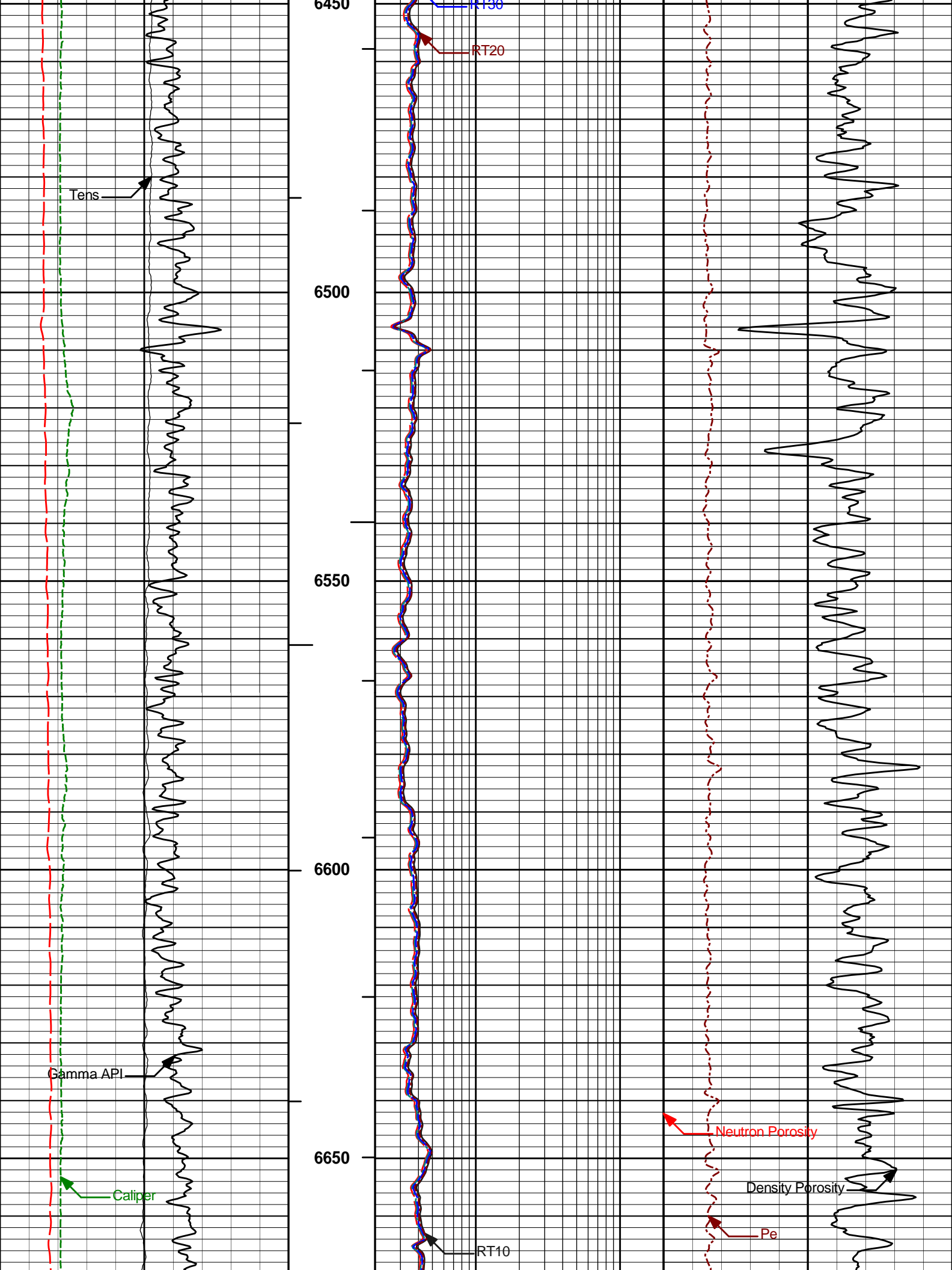


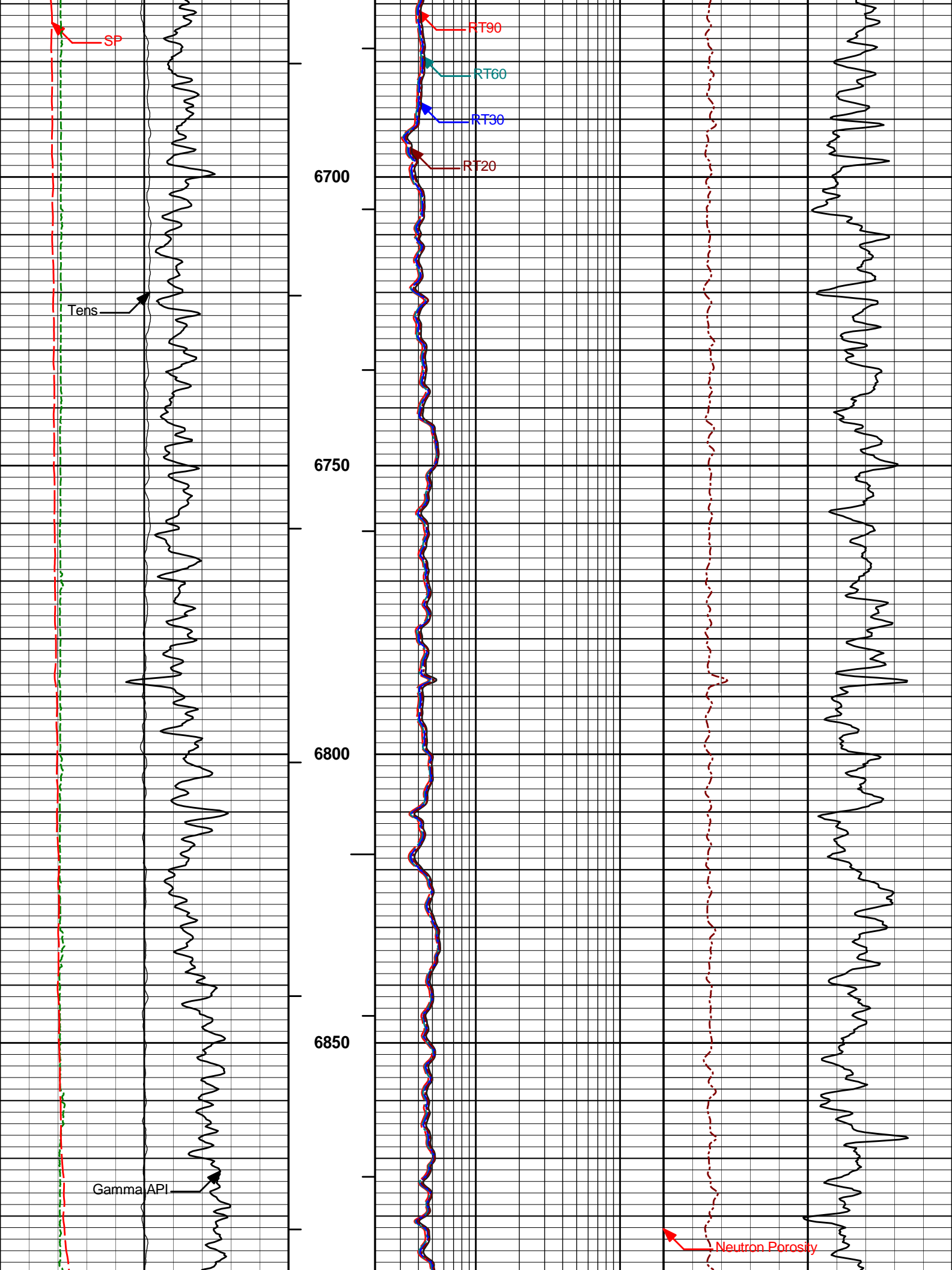


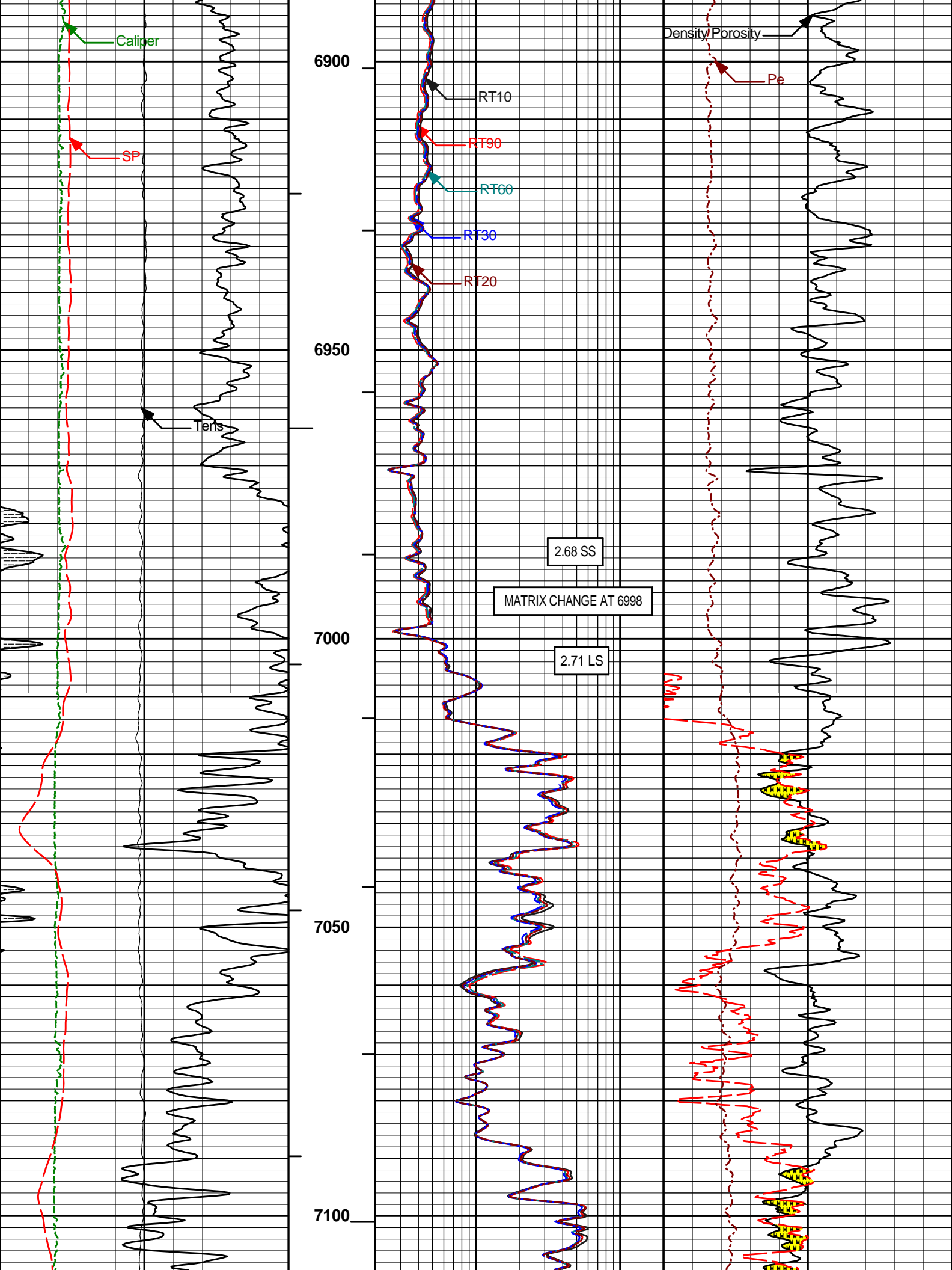


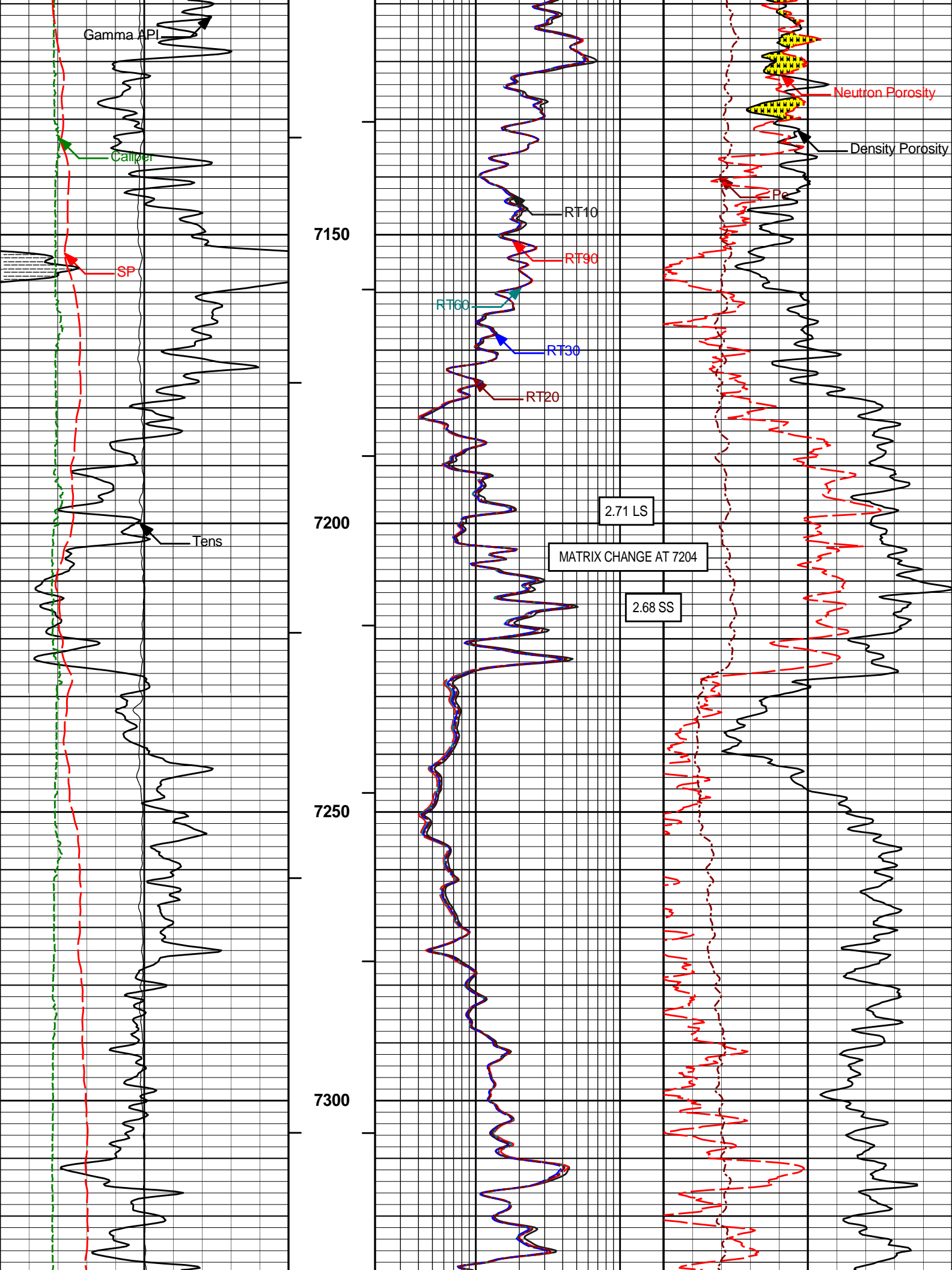


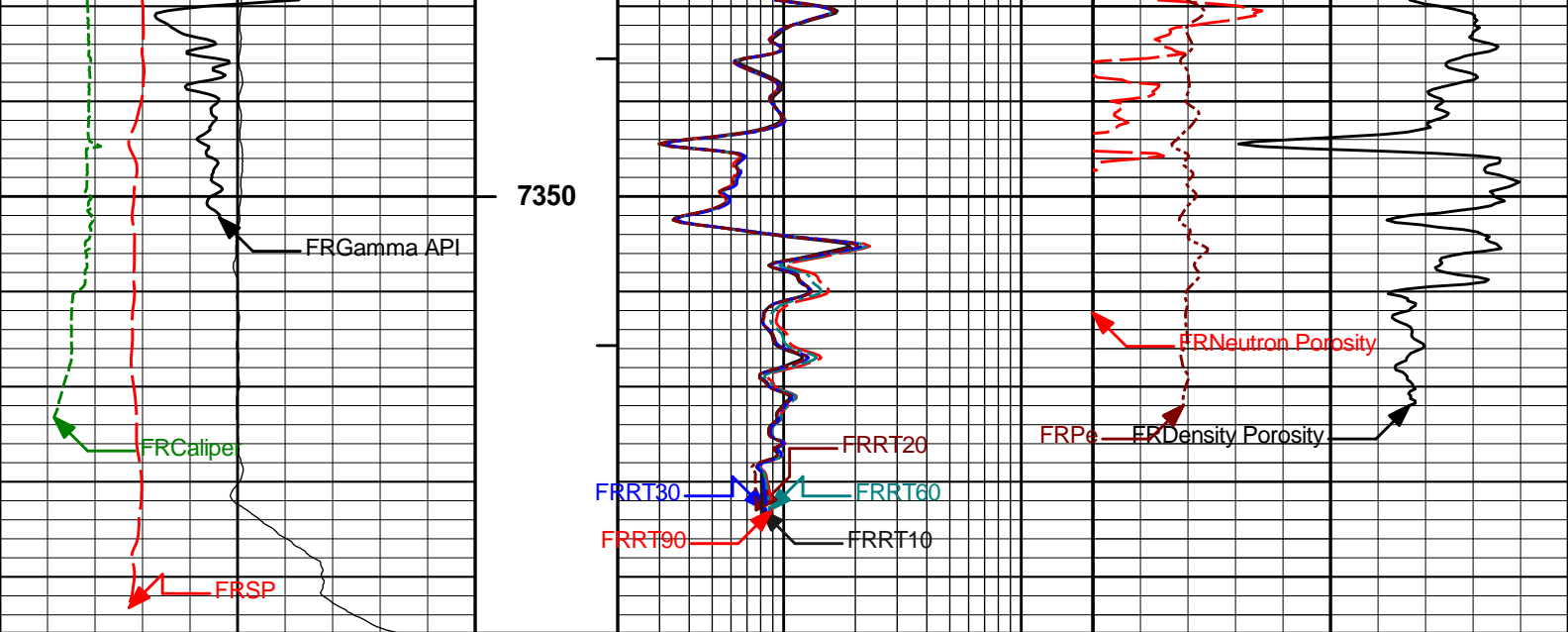












50	SP	150	1 : 240	2	RT90	200	0	Pe	10
	millivolts				ohmm				
0	Gamma API	200	BHVT	2	RT60	200	20	Density Porosity	0
	api				ohmm			percent	
6	Caliper	16	AHVT	2	RT30	200	20	Neutron Porosity	0
	inches				ohmm			percent	
10K	Tens	0		2	RT20	200			
	pounds				ohmm				
				2	RT10	200			
					ohmm				

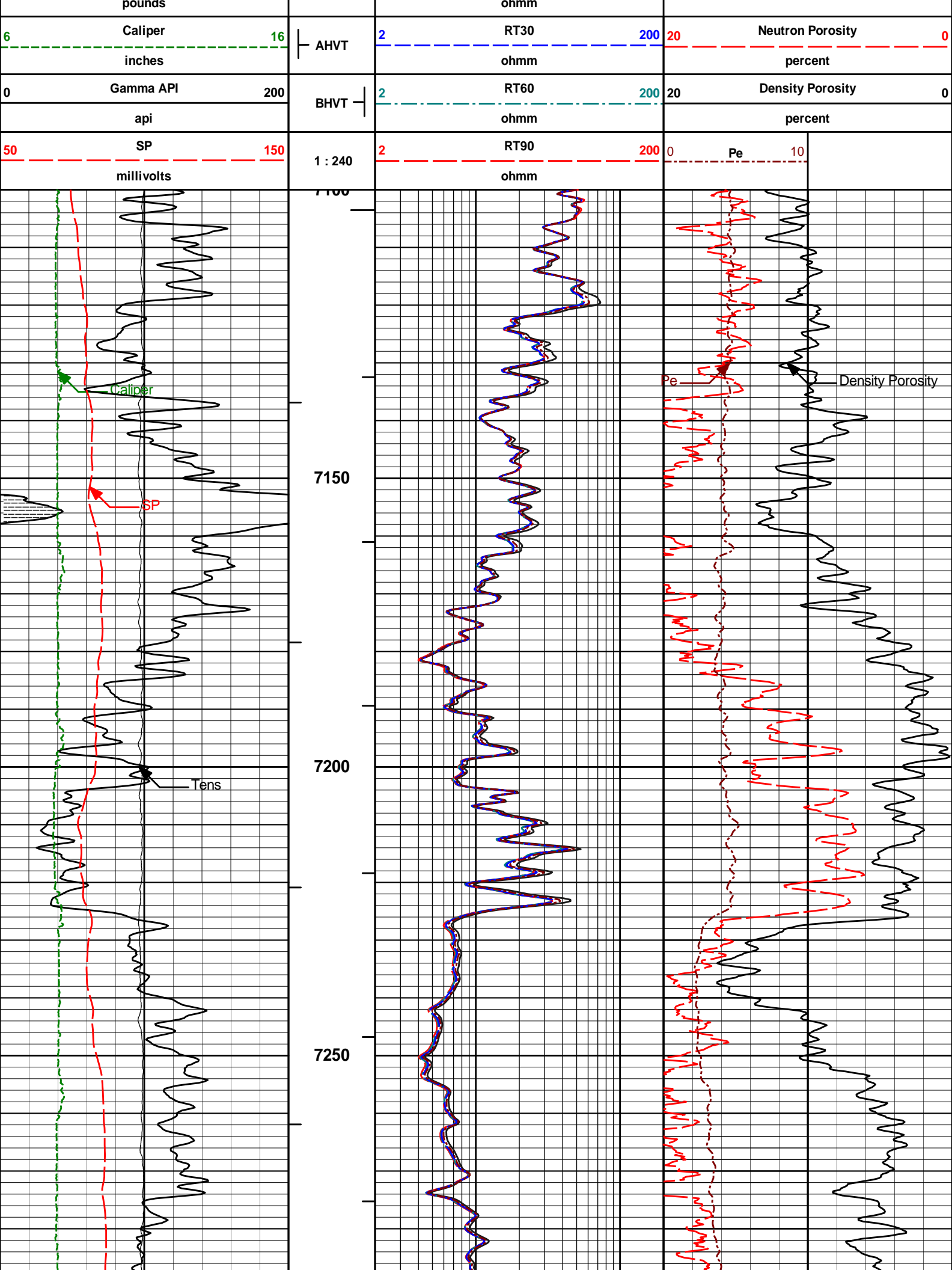
HALLIBURTON Plot Time: 22-Mar-13 16:12:24
Plot Range: 745 ft to 7395.92 ft
Data: RVR_BLUFF_10-13\Well Based\MAIN*
Plot File: \\COMP\MAIN

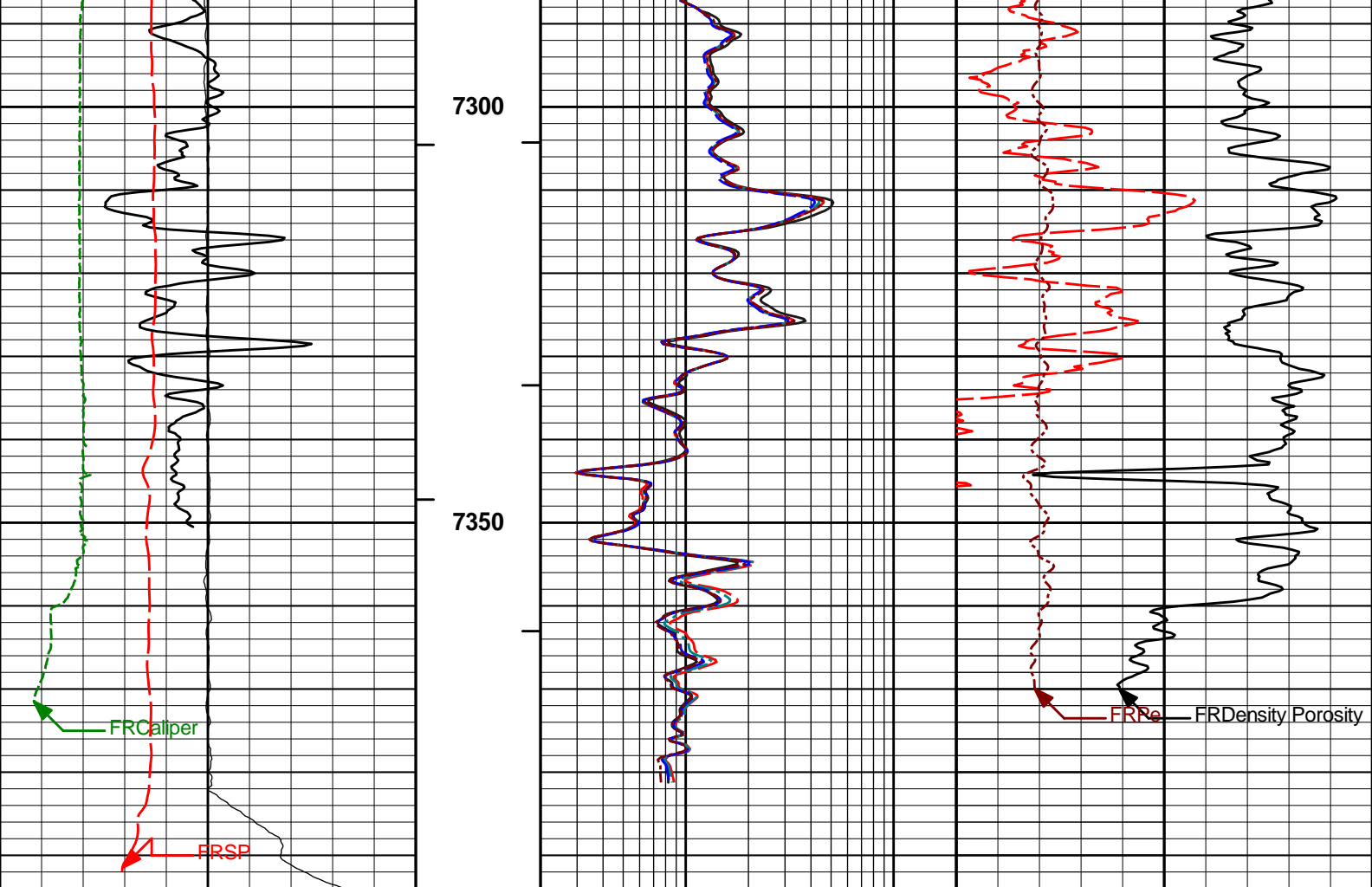
MAIN PASS 5" = 100'

HALLIBURTON Plot Time: 22-Mar-13 16:12:24
Plot Range: 7100 ft to 7394 ft
Data: RVR_BLUFF_10-13\Well Based\REPEAT*
Plot File: \\COMP\REPEAT

REPEAT SECTION 5" = 100'

		2	RT10	200	
			ohmm		
10K	Tens	0	2	RT20	200





50	SP	150	1 : 240	2	RT90	200	0	Pe	10
	millivolts				ohmm				
0	Gamma API	200	BHVT	2	RT60	200	20	Density Porosity	0
	api				ohmm			percent	
6	Caliper	16	AHVT	2	RT30	200	20	Neutron Porosity	0
	inches				ohmm			percent	
10K	Tens	0		2	RT20	200			
	pounds				ohmm				
				2	RT10	200			
					ohmm				

HALLIBURTON Plot Time: 22-Mar-13 16:12:28
Plot Range: 7100 ft to 7394 ft
Data: RVR_BLUFF_10-13\Well Based\REPEAT*
Plot File: \\COMP\REPEAT

REPEAT SECTION 5" = 100'

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11294346

Reference Calibration Date: 15-Feb-13 09:43:52

Engineer: J. PINKETT

Calibration Date: 22-Mar-13 08:13:40

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Calibrator Source S/N: TB-290
Calibrator API Reference:230.00 api
Equivalent Calibrator API Reference:234.0 api

Measurement	Measured	Calibrated	Units
Background	72.9	72.0	api
Background + Calibrator	309.8	306.0	api
Calibrator	236.9	234.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11294346

Reference Calibration Date: 22-Mar-13 08:13:40

Engineer: J. PINKETT

Calibration Date: 22-Mar-13 08:19:37

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Calibrator Source S/N: TB-290
Calibrator API Reference:230.00 api
Equivalent Calibrator API Reference:234.0 api

Field Verification	Shop	Field	Units
Background	72.0	74.6	api
Background + Calibrator	306.0	303.7	api
Calibrator	234.0	229.2	api

Shop	Field	Difference	Tolerance
234.0	229.2	4.8	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11219332

Reference Calibration Date: 22-Mar-13 09:59:10

Engineer: J. PINKETT

Calibration Date: 22-Mar-13 10:13:07

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Logging Source S/N: DSN-430
Tank Serial Number: 11068236
Reference value assigned to Tank: 53.720
Snow Block S/N: 37526
Calibration Tank Water Temperature: 58 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.977	0.974	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):	0.2232	0.2223	0.0008	+/- 0.0020
Calibrated Ratio:	10.14	10.11	0.028	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0789	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 - 11219332	Reference Calibration Date:	22-Mar-13 10:13:07
Engineer:	J. PINKETT	Calibration Date:	22-Mar-13 10:18:07
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1

Logging Source S/N: DSN-430

Snow Block S/N: 37526

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0789	0.0789	-0.0000	+/- 0.0150

PASS/FAIL SUMMARY

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	SDLT - 11014271	Reference Calibration Date:	15-Feb-13 11:59:38
Engineer:	J. PINKETT	Calibration Date:	22-Mar-13 09:30:44
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1
Host Tool Name:	DSNT - 11219332		

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3507.56	-3144.06	-7000.00 - -1000.00
Pad Gain	0.0003719	0.0003662	0.000200 - 0.000600
Arm Offset	-3785.84	-3975.62	-5000.00 - 3000.00
Arm Gain	0.0005246	0.0005314	0.000300 - 0.000700
Arm Power	-0.000002091	-0.000002693	-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)	1.90	2.00	0.10	+/- 0.20
Medium Ring (in)	3.67	3.75	0.08	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.44	6.50	0.06	+/- 0.20
Medium Ring (in)	8.18	8.25	0.07	+/- 0.20
Large Ring (in)	14.96	15.00	0.04	+/- 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 - 11014271Reference Calibration Date: 22-Mar-13 09:30:44

Engineer: J. PINKETTCalibration Date: 22-Mar-13 09:35:03

Software Version: WL INSITE R3.8.4 (Build 5)Calibration Version: 1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.78	0.03	+/- 0.10
Ring Diameter	8.25	8.27	0.02	+/- 0.15

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

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 11816600Reference Calibration Date: 22-Mar-13 08:31:23

Engineer: J. PINKETTCalibration Date: 22-Mar-13 08:52:14

Software Version: WL INSITE R3.8.4 (Build 5)Calibration Version: 1

Logging Source S/N: 5256GW

Aluminum Block S/N: 63066Density: 2.590g/ccPe: 3.120

Magnesium Block S/N: 12345Density: 1.691g/ccPe: 2.650

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0817	1.0616	0.90 - 1.10
Near Dens Gain	1.0322	1.0096	0.90 - 1.10
Near Peak Gain	1.0162	0.9973	0.90 - 1.10
Near Lith Gain	0.9845	0.9727	0.90 - 1.10
Far Bar Gain	0.9992	0.9979	0.90 - 1.10
Far Dens Gain	0.9867	0.9839	0.90 - 1.10
Far Peak Gain	0.9808	0.9800	0.90 - 1.10
Far Lith Gain	0.9657	0.9648	0.90 - 1.10
Near Bar Offset	-0.6723	-0.4869	NONE
Near Dens Offset	-0.1843	0.0157	NONE
Near Peak Offset	-0.0261	0.1320	NONE
Near Lith Offset	0.2283	0.3255	NONE
Far Bar Offset	0.0508	0.0621	NONE
Far Dens Offset	0.1655	0.1900	NONE
Far Peak Offset	0.1991	0.2057	NONE
Far Lith Offset	0.2998	0.3070	NONE
Near Bar Background	1025.20	1024.21	700 - 1450
Near Dens Background	340.91	342.18	230 - 480
Near Peak Background	149.51	149.06	100 - 210
Near Lith Background	182.61	183.23	125 - 260
Far Bar Background	655.86	656.41	450 - 900
Far Dens Background	256.28	256.53	175 - 345
Far Peak Background	101.89	102.23	70 - 140
Far Lith Background	105.45	104.74	75 - 145

CALIBRATION BLOCK SUMMARY	
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Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.693	1.691	-0.002	+/- 0.015
Pe	2.592	2.600	0.008	+/- 0.150
ALUMINUM				
Density (g/cc)	2.588	2.590	0.002	+/- 0.01500
Pe	3.066	3.077	0.011	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0005	+/- 0.0110	0.0004	+/- 0.0140
Magnesium Block	-0.0002	+/- 0.0110	-0.0018	+/- 0.0140
Aluminum Block	-0.0007	+/- 0.0110	0.0001	+/- 0.0140
Resolution	8.58	6.00 - 11.50	8.79	6.00 - 11.50
Internal Verifier(B+D+P+L)	1699	1200 - 2700	1120	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 - 11816600	Reference Calibration Date:	22-Mar-13 08:52:14
Engineer:	J. PINKETT	Calibration Date:	22-Mar-13 08:55:32
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1

Pad Temperature: 64.7 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1698.671	1692.348	-6.323	16.543
Far (B+D+P+L) cps	1119.907	1117.569	-2.338	17.620
Near Resolution	8.58	8.59	0.010	0.50
Far Resolution	8.79	8.80	0.010	1.00

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

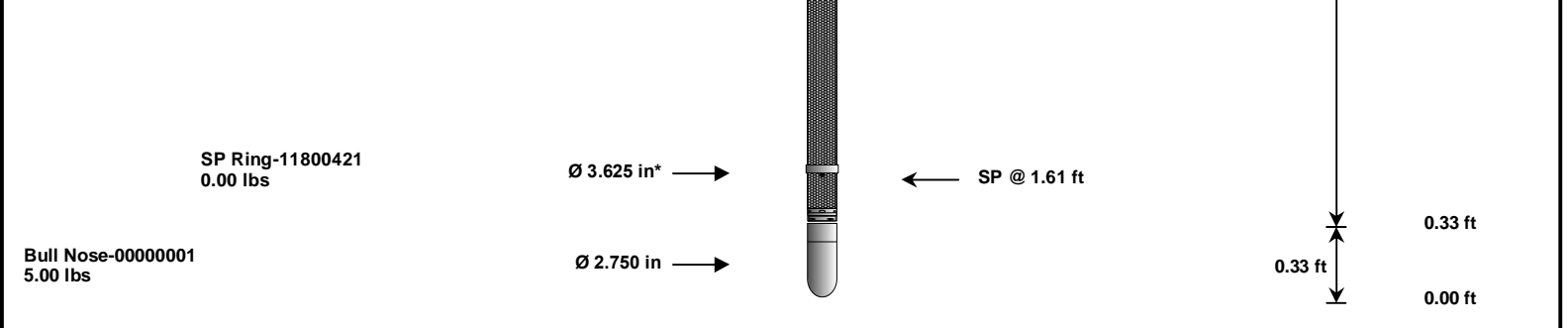
ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	ACRt Sonde - 11800421	Reference Calibration Date:	02-Jul-12 19:39:47
Engineer:	J. PINKETT	Calibration Date:	05-Mar-13 19:45:46
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1
Host Tool Name:	ACRt Instrument - 11830585		

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.00	1.05	0.95	1.01	1.05	0.95	1.00	1.05
A2 (50")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A3 (29")	0.95	1.00	1.05	0.95	1.00	1.05	0.95	1.00	1.05
A4 (17")	0.95	1.00	1.05	0.95	1.00	1.05	0.95	1.00	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.99	1.05	0.95	0.99	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.98	1.05	0.95	0.98	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	-1.11	2	-6	-4.20	-2	-8	-5.16	-2
A2 (50")	-7	-1.59	0	-7	-3.43	0	-7	-4.95	0
A3 (29")	-27	-14.91	-9	-9	-4.24	-3	-7	-3.52	-1
A4 (17")	-180	-97.78	-60	-45	-30.77	-15	-39	-24.82	-13
A5 (10")	N/A	N/A	N/A	-150	-100.04	-50	-80	-47.42	-10
A6 (6")	N/A	N/A	N/A	175	300.66	525	90	156.13	270
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
Signal	Lower		R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)	
12K		0.6	0.90	1.3	Mud Cell	0.95	0.98	1.05	
36K		1.0	1.92	2.0					
72K		1.0	1.15	2.0					
PASS/FAIL SUMMARY									
GAIN RANGE CHK					PASS				
SONDE OFFSET RANGE CHK					PASS				
Tx CURRENT GAIN					PASS				
Rmud VERIFICATION					PASS				
TOOL OK TO LOG									
CALIBRATION SUMMARY									
Sensor	Shop	Field	Post	Difference	Tolerance	Units			
GTET-11294346									
Gamma Ray Calibrator	234.0	229.2	-----	4.8	+/- 9.00	api			
DSNT-11219332									
Snow-Block Porosity	0.0789	0.0789	-----	0.0000	+/- 0.0150	decp			
SDLT-11014271									
Pad Extension	3.75	3.78	-----	-0.03	+/-0.10	in			
Ring Diameter	8.25	8.27	-----	-0.02	+/-0.15	in			
SDLT Pad-11816600									
Near(B+D+P+L)	1698.671	1692.348	-----	6.323	+/-16.543	cps			
Far(B+D+P+L)	1119.907	1117.569	-----	2.338	+/-17.620	cps			
ACRt Sonde-11800421									
Mud Cell	0.98	-----	-----	0.00	-----	ohm-m			
Data: RVR_BLUFF_10-13\0001 TRIPLE_WHITE_SLICK\IDLE									
Date: 22-Mar-13 13:55:25									

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-11030643 135.00 lbs		Ø 3.625 in →		← Load Cell @ 51.17 ft ← BH Temperature @ 50.60 ft	6.25 ft	54.85 ft
GTET-11294346 165.00 lbs		Ø 3.625 in →		← GammaRay @ 42.54 ft	8.52 ft	48.60 ft
DSNT-11219332 174.00 lbs		Ø 3.625 in →		← DSN Far @ 33.15 ft ← DSN Near @ 32.40 ft	9.69 ft	40.08 ft
SDLT-11014271 360.00 lbs	SDLT Pad-11816600 65.00 lbs	Ø 4.500 in → Ø 4.750 in* →		← SDL Caliper @ 22.40 ft ← SDL @ 22.39 ft	10.81 ft	30.40 ft
ACRt Instrument- 11830585 50.00 lbs		Ø 3.625 in →			5.03 ft	19.58 ft
Regal Standoff 6_75- 00000001 20.00 lbs		Ø 6.750 in* →		← Mud Resistivity @ 13.19 ft		14.55 ft
ACRt Sonde- 11800421 200.00 lbs		Ø 3.625 in →		← ACRt @ 9.21 ft	14.22 ft	



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	11030643	135.00	6.25	48.60	300.00
GTET	Gamma Telemetry Tool	11294346	165.00	8.52	40.08	60.00
DSNT	Dual Spaced Neutron	11219332	174.00	9.69	30.40	60.00
SDLT	Spectral Density Tool	11014271	360.00	10.81	19.58	60.00
SDLP	Density Insite Pad	11816600	65.00	2.55	* 21.79	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11830585	50.00	5.03	14.55	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11800421	200.00	14.22	0.33	300.00
SP	SP Ring	11800421	0.00	0.25	* 1.61	300.00
RSOF	Regal Standoff 6.75in	00000001	20.00	0.52	* 13.49	300.00
BLNS	Bull Nose	00000001	5.00	0.33	0.00	300.00
Total			1,174.00	54.85		
						* Not included in Total Length and Length Accumulation.
Data: RVR_BLUFF_10-13\0001 TRIPLE_WHITE_SLICKIDLE						Date: 22-Mar-13 13:50:14

COMPANY	BAYSWATER EXPLORATION AND PRODUCTION		
WELL	RIVER BLUFFS 10-13		
FIELD	WATTENBERG		
COUNTY	WELD	STATE	CO
HALLIBURTON		DUAL SPACED NEUTRON SPECTRAL DENSITY ARRAY COMPENSATED TRUE RESISTIVITY	