

# HALLIBURTON

ARRAY COMPENSATED  
TRUE RESISTIVITY  
SPECTRAL DENSITY  
DUAL SPACED NEUTRON

<div> <div>COMPANY</div> <div>WELL</div> <div>FIELD/BLOCK</div> <div>COUNTY</div> <div>STATE</div> </div> <div> <div>BAYSWATER EXPLORATION AND PRODUCTION LLC</div> <div>RIVER BLUFFS 18-13</div> <div>WATTENBERG</div> <div>LARIMER</div> <div>CO</div> </div>										<div> <div>COMPANY</div> <div>WELL</div> <div>FIELD/BLOCK</div> <div>COUNTY</div> <div>STATE</div> </div> <div> <div>BAYSWATER EXPLORATION AND PRODUCTION LLC</div> <div>RIVER BLUFFS 18-13</div> <div>WATTENBERG</div> <div>LARIMER</div> <div>CO</div> </div>																			
<div> <div>Permanent Datum</div> <div>Log measured from</div> <div>Drilling measured from</div> </div> <div> <div>GL</div> <div>KB</div> <div>KB</div> </div> <div> <div>Elev. 4802.0 ft</div> <div>16.0 ft above perm. Datum</div> <div>G.L.</div> </div>										<div> <div>API No.</div> <div>Location</div> <div>BOTTOM LOCATION:</div> <div>LATITUDE:</div> <div>LONGITUDE:</div> </div> <div> <div>05069064510000</div> <div>SURFACE LOCATION: 1.758' FNL &amp; 1.452' FEL SWNE</div> <div>1.378' FNL &amp; 1.266' FWL SWNW</div> <div>40.489097°</div> <div>-104.949351°</div> </div>										<div>Other Services:</div> <div>RWCH</div>									
<div> <div>Date</div> <div>Run No.</div> <div>Depth - Driller</div> <div>Depth - Logger</div> <div>Bottom - Logged Interval</div> <div>Top - Logged Interval</div> <div>Casing - Driller</div> <div>Casing - Logger</div> <div>Bit Size</div> </div> <div> <div>17-Mar-13</div> <div>ONE</div> <div>7570.00 ft</div> <div>7587.0 ft</div> <div>7585 ft</div> <div>CASING</div> <div>8.625 in</div> <div>759.0 ft</div> <div>7.875 in</div> </div>										<div> <div>Elev. 4802.0 ft</div> <div>D.F.</div> <div>G.L.</div> </div> <div> <div>4818.0 ft</div> <div>4817.0 ft</div> <div>4802.0 ft</div> </div>																			
<div> <div>Type Fluid in Hole</div> <div>Density</div> <div>PH</div> <div>Source of Sample</div> </div> <div> <div>WATER BASED MUD</div> <div>9.4 ppq</div> <div>8.00 pH</div> <div>MUD CELL</div> </div>										<div> <div>Viscosity</div> <div>Fluid Loss</div> </div> <div> <div>70.00 s/qt</div> <div>8.0 cpm</div> </div>																			
<div> <div>Rm @ Meas. Temperature</div> <div>Rmf @ Meas. Temperature</div> <div>Rmc @ Meas. Temperature</div> <div>Source Rmf</div> <div>Rm @ BHT</div> <div>Time Since Circulation</div> <div>Time on Bottom</div> <div>Max. Rec. Temperature</div> <div>Equipment</div> <div>Recorded By</div> <div>Witnessed By</div> </div> <div> <div>1.070 ohmm</div> <div>1.05 ohmm</div> <div>1.082 ohmm</div> <div>CHART</div> <div>0.55 ohmm</div> <div>7.1 hr</div> <div>17-Mar-13 16:56</div> <div>174.0 degF</div> <div>11454566</div> <div>R. TWETEN</div> <div>D. BARBULA</div> </div>										<div> <div>@</div> <div>@</div> <div>@</div> <div>CHART</div> <div>@</div> <div>@</div> <div>@</div> <div>@</div> <div>@</div> <div>@</div> </div>																			

Fold here

Service Ticket No.:										API Serial No.: 05069064510000										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					ECC					N/A				
Rmc @ Meas. Temp.					@					@										11302817																			
Source Rmf					Rmc															11294353																			
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.					5471GW					Serial No.					DSN434				
Distance to Source					10'					FWDA [Y/N ]										Strength					1.78 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	7428	REC	0	200				20	0	2.68	20	0	SAND	
ONE	7428	7050	REC	0	200				20	0	2.71	20	0	LIME	
ONE	7050	CSG	REC	0	200				20	0	2.68	20	0	SAND	
DIRECTIONAL INFORMATION															
Maximum Deviation				28.90 deg		@		4672.00 ft		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.															
TOOL STRING RUN IN SLICK CONFIGURATION AT CLIENT'S REQUEST.															
REPEAT PASS NOT RUN AT CLIENT'S REQUEST.															
YOUR CREW TODAY: M. BURNETT, A. AXE															
RIG: ENSIGN 7															
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															

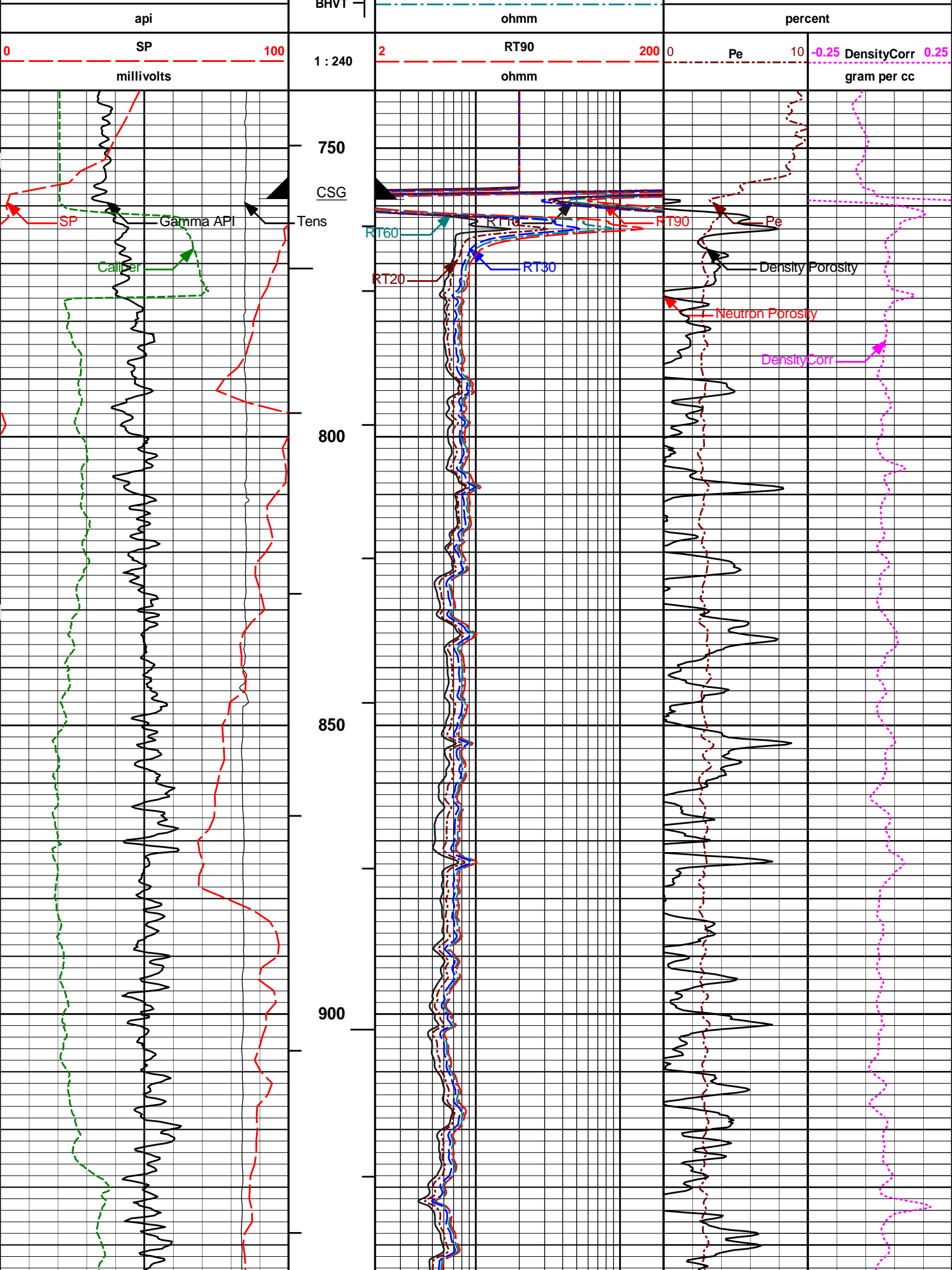


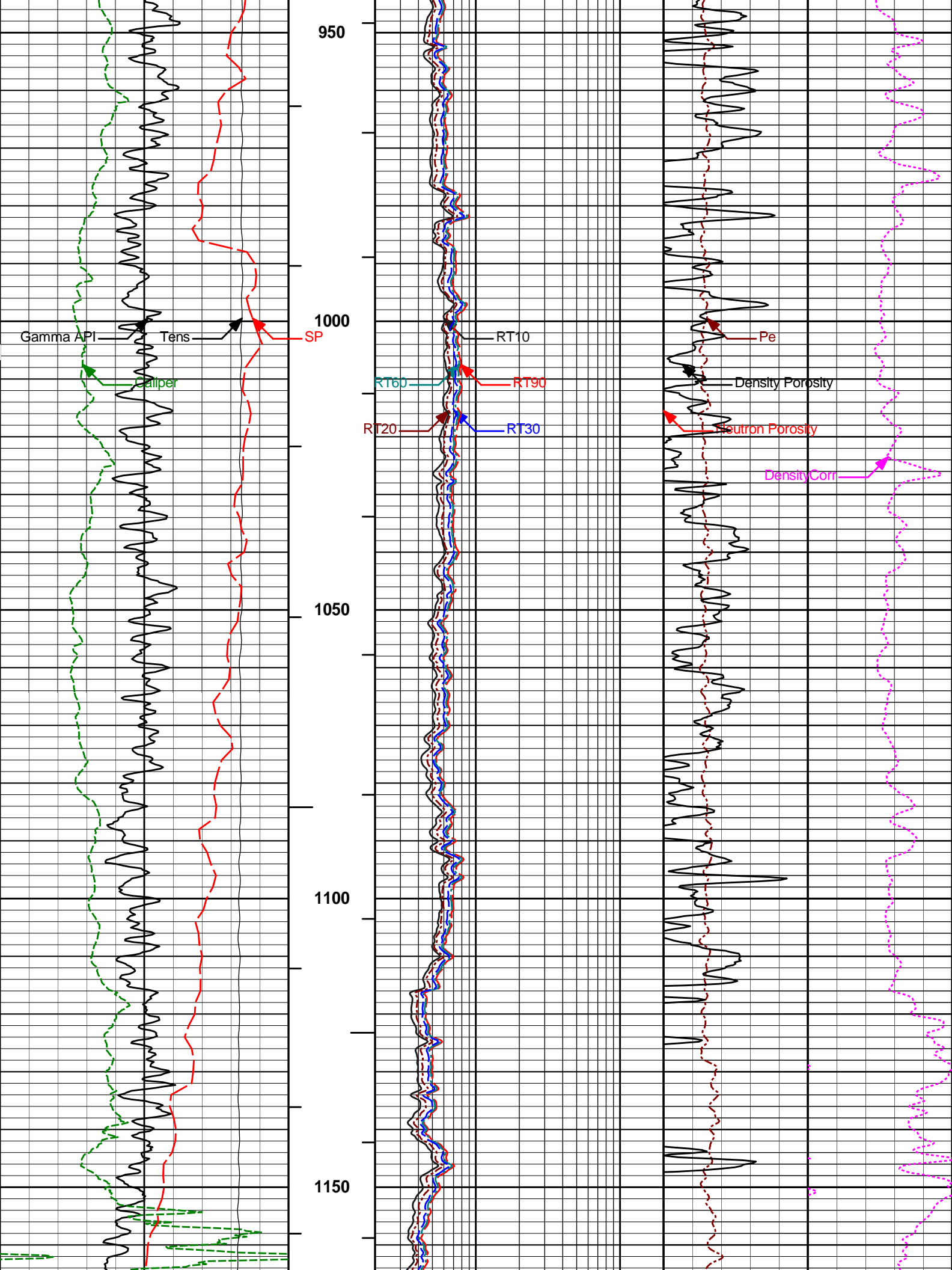
## PARAMETERS REPORT

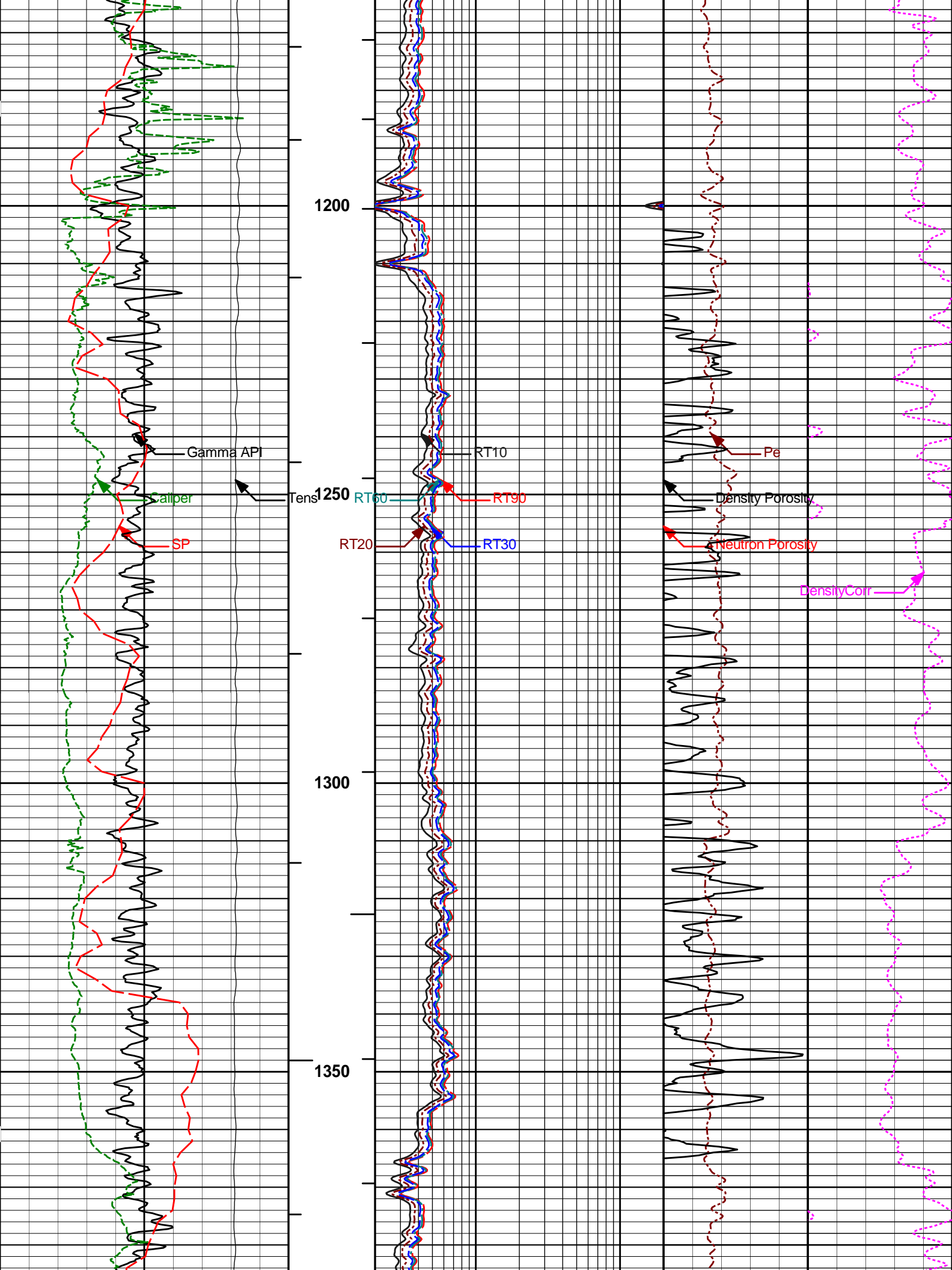
Depth (ft))	Tool Name	Mnemonic	Description	Value	Units
TOP					
	DSNT	NLIT	Neutron Lithology	Sandstone	
	SDLT Pad	DMA	Formation Density Matrix	2.680	g/cc
7050.00					
	DSNT	NLIT	Neutron Lithology	Limestone	
	SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
7428.00					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.400	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	1000.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.070	ohmm
	SHARED	TRM	Temperature of Mud	86.5	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	4.500	in
	SHARED	ST	Surface Temperature	55.0	degF
	SHARED	TD	Total Well Depth	7587.00	ft
	SHARED	BHT	Bottom Hole Temperature	174.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	

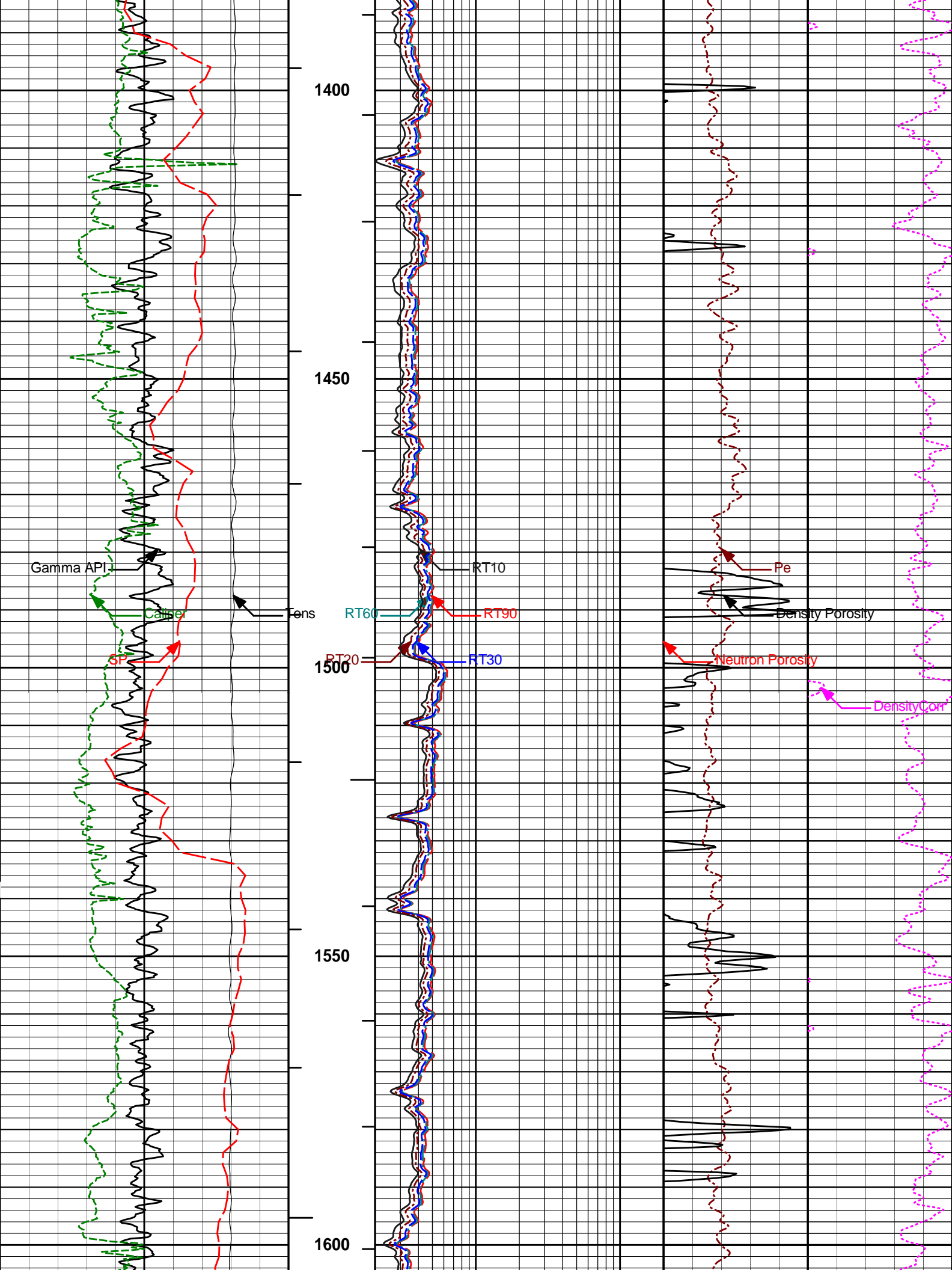
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	Temperature Master Tool	NONE	
SHARED	BHSM	Borehole Size Master Tool	NONE	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
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	0.25	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
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: RIVERBLUF_18-13\0001 TRIPLE_RED_SLICK\002.01 17-Mar-13 17:24 Up				Date: 17-Mar-13 17:29:33

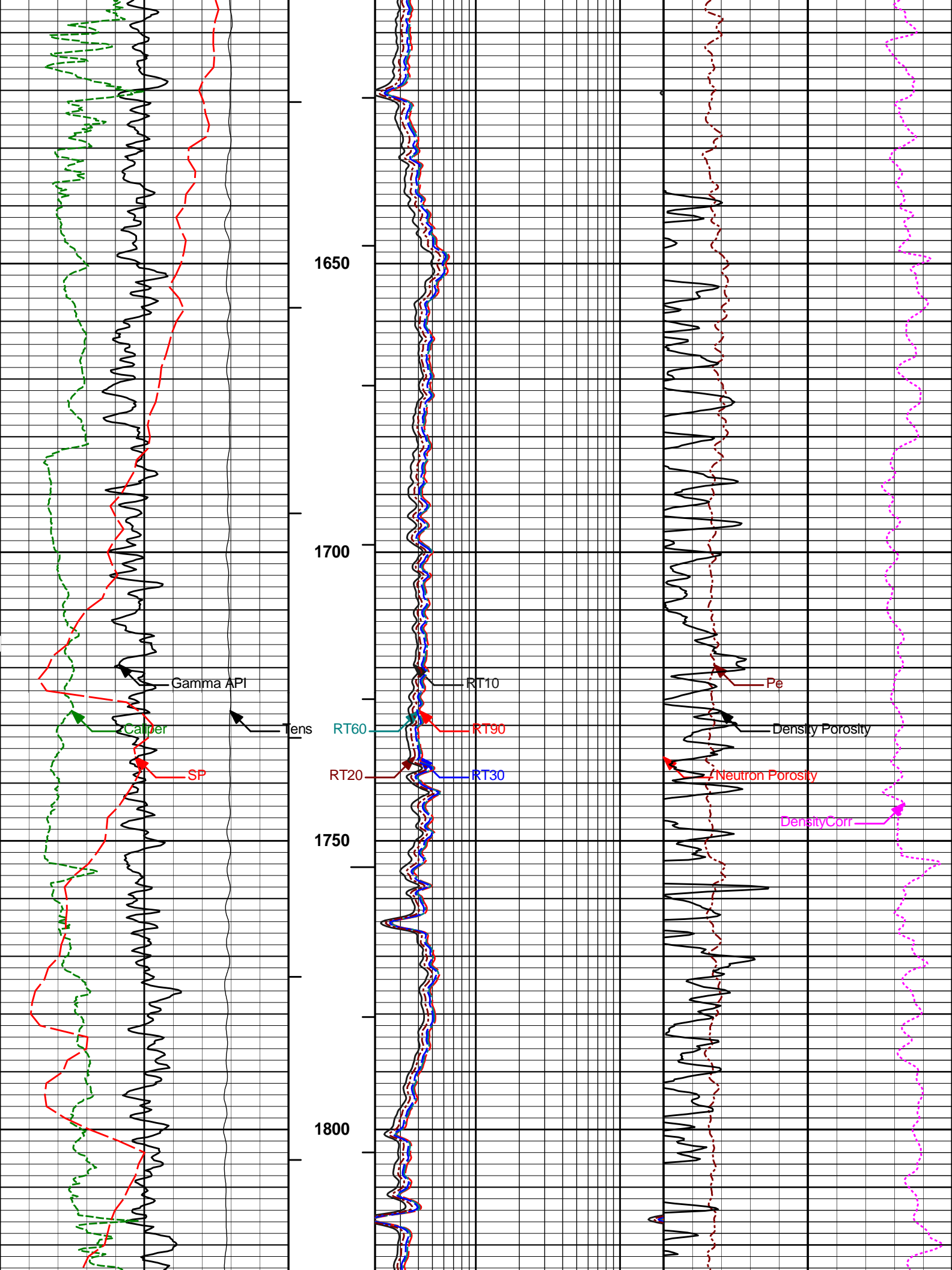
<div><div>HALLIBURTON</div><div>Plot Time: 17-Mar-13 18:17:12 Plot Range: 740 ft to 7598.08 ft Data: RIVERBLUF_18-13\Well Based\MAIN* Plot File: \\COMP\MAIN</div></div>									
MAIN PASS 5" = 100'									
			2RT10200						
			ohmm						
10KTens0			2RT20200						
pounds			ohmm						
6Caliper16			2RT30200		20Neutron Porosity0				
inches			ohmm		percent				
0Gamma API200			2RT60200		20Density Porosity0				



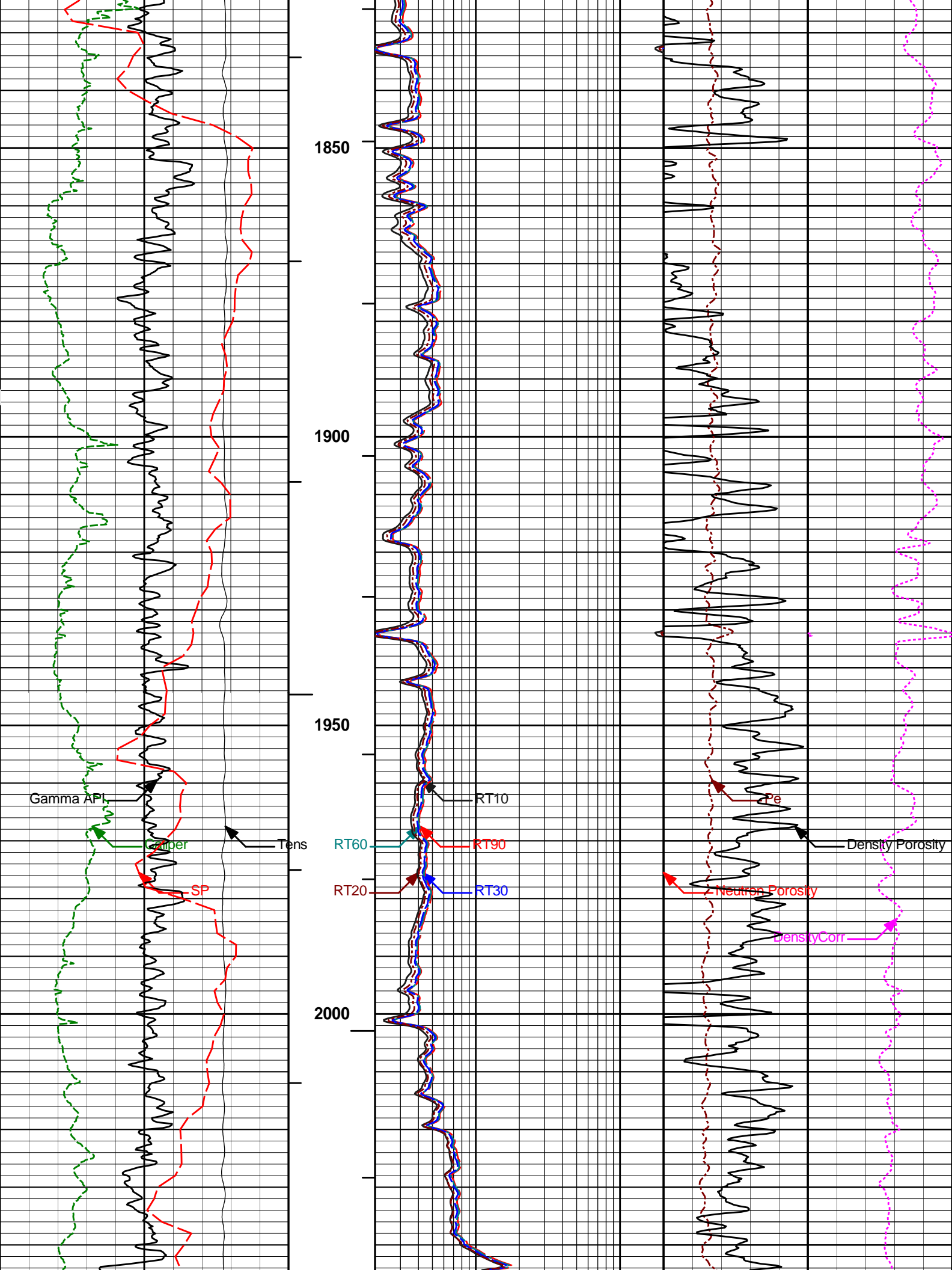


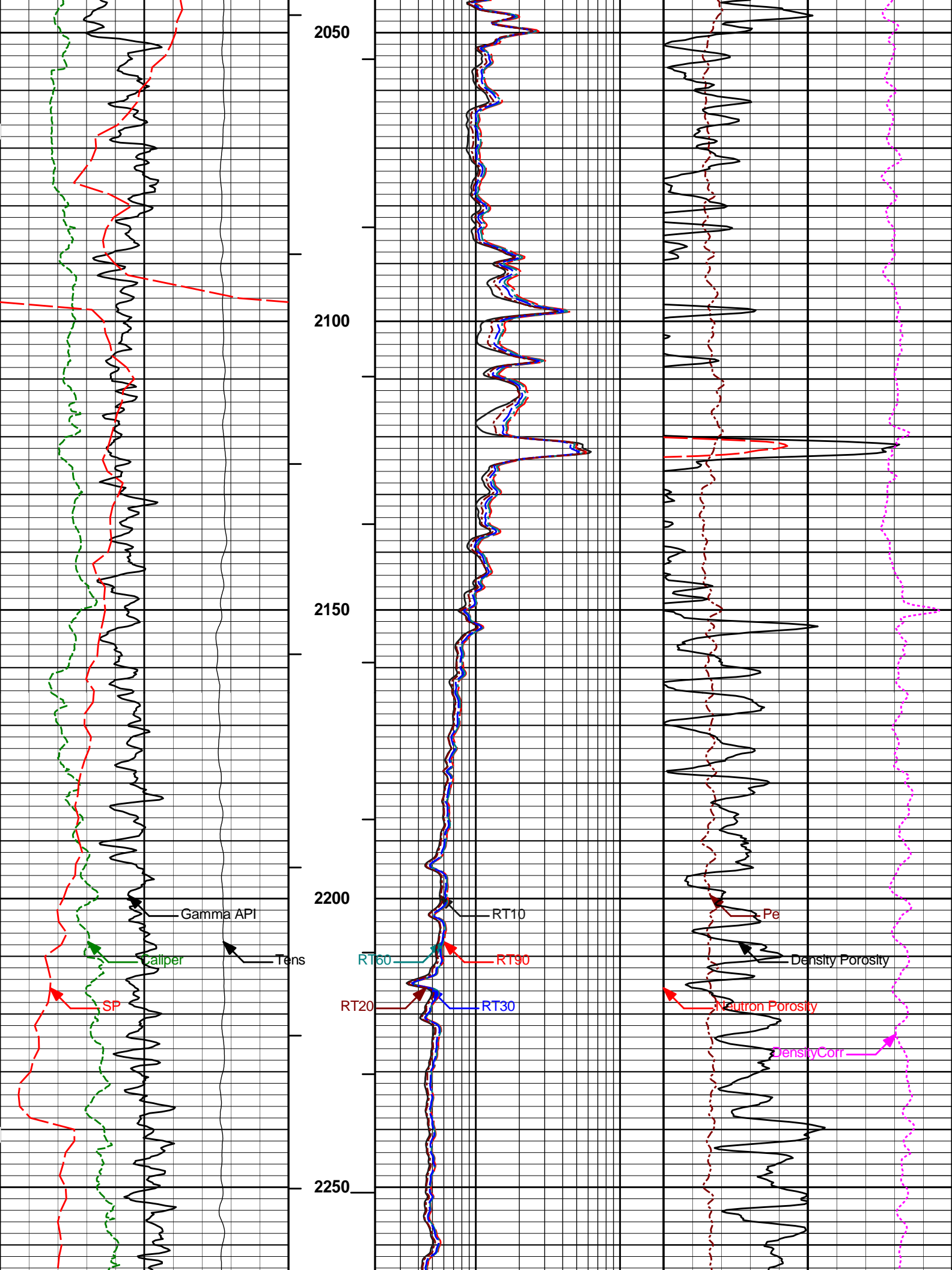


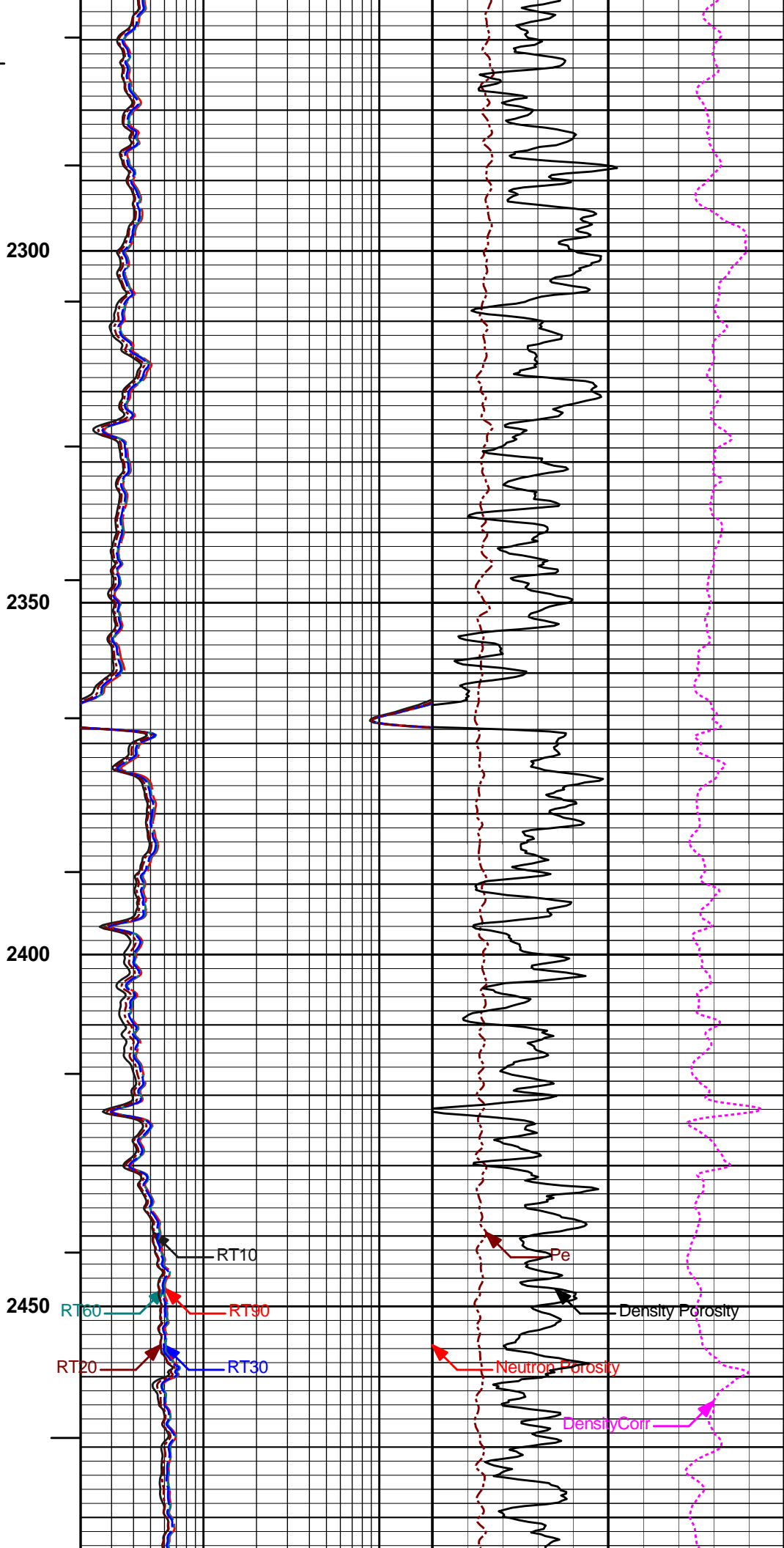
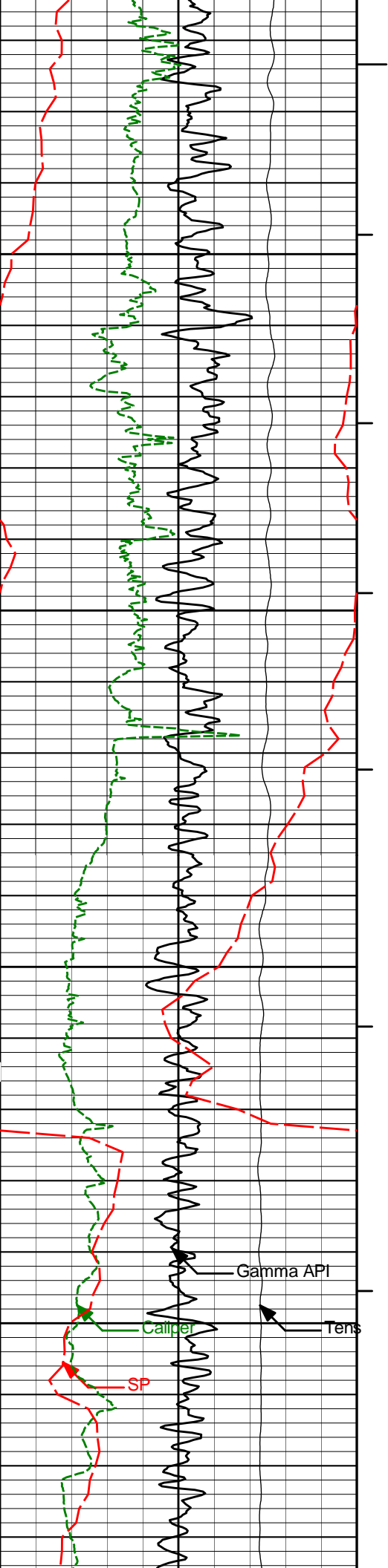


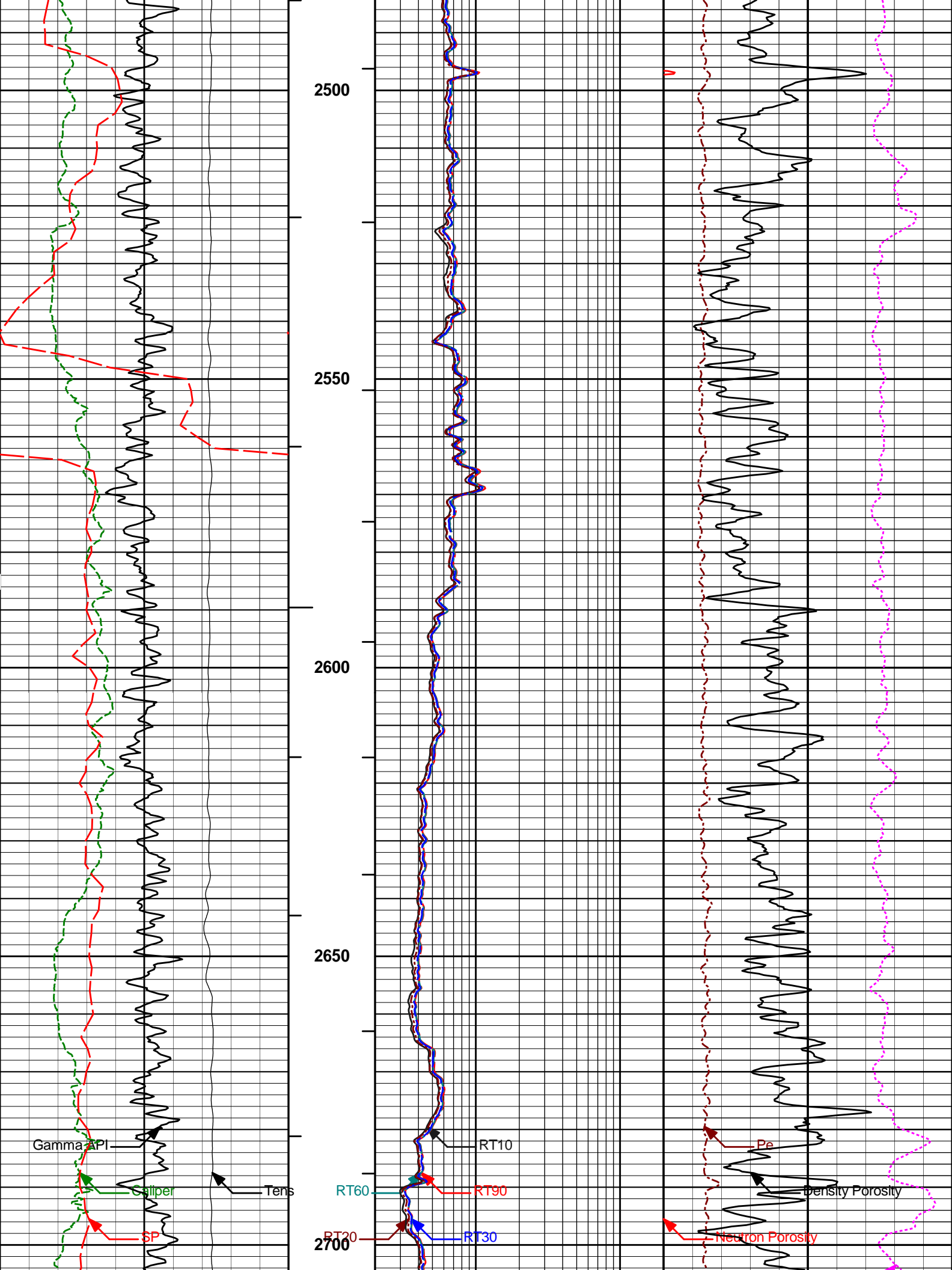


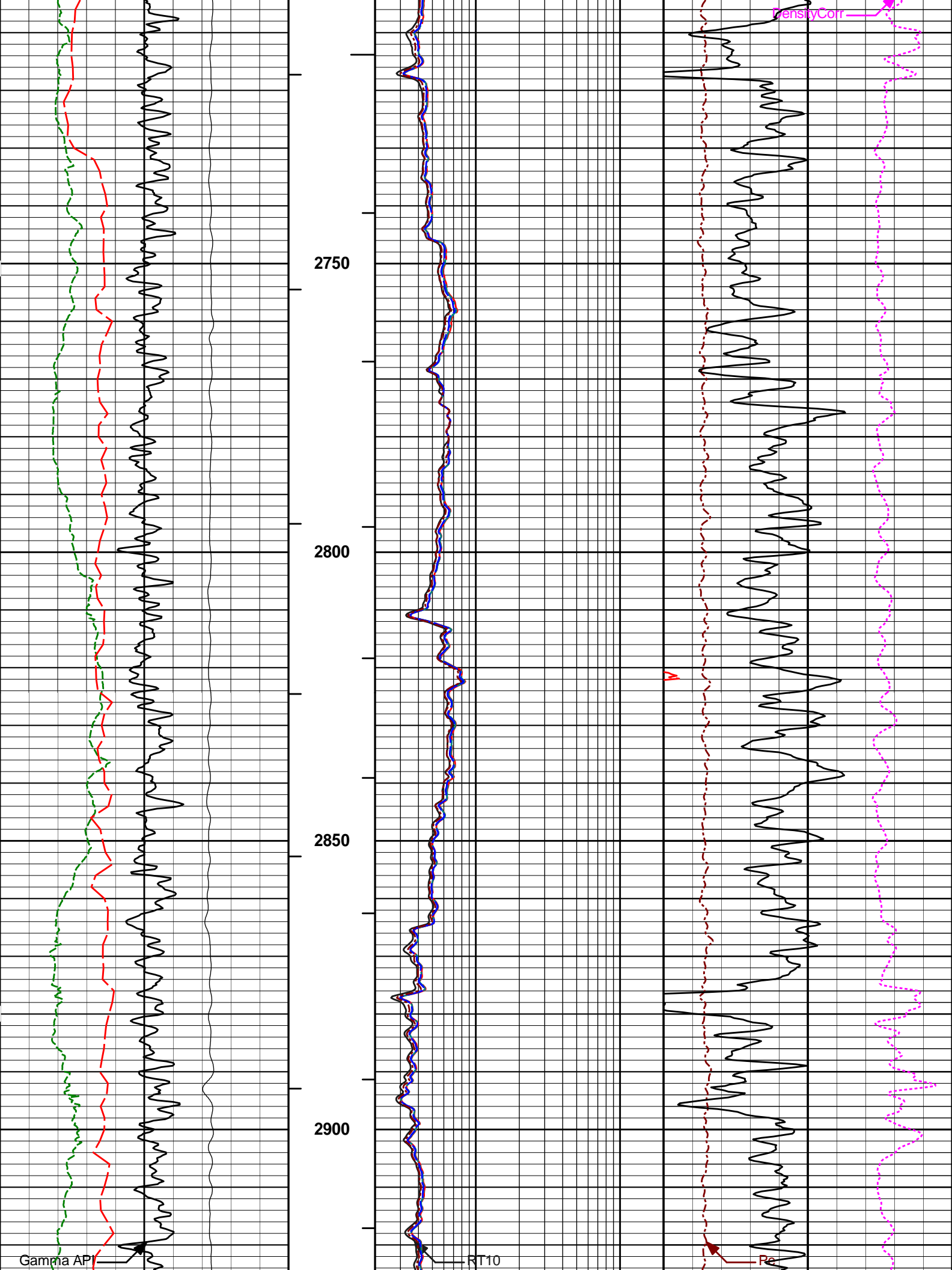


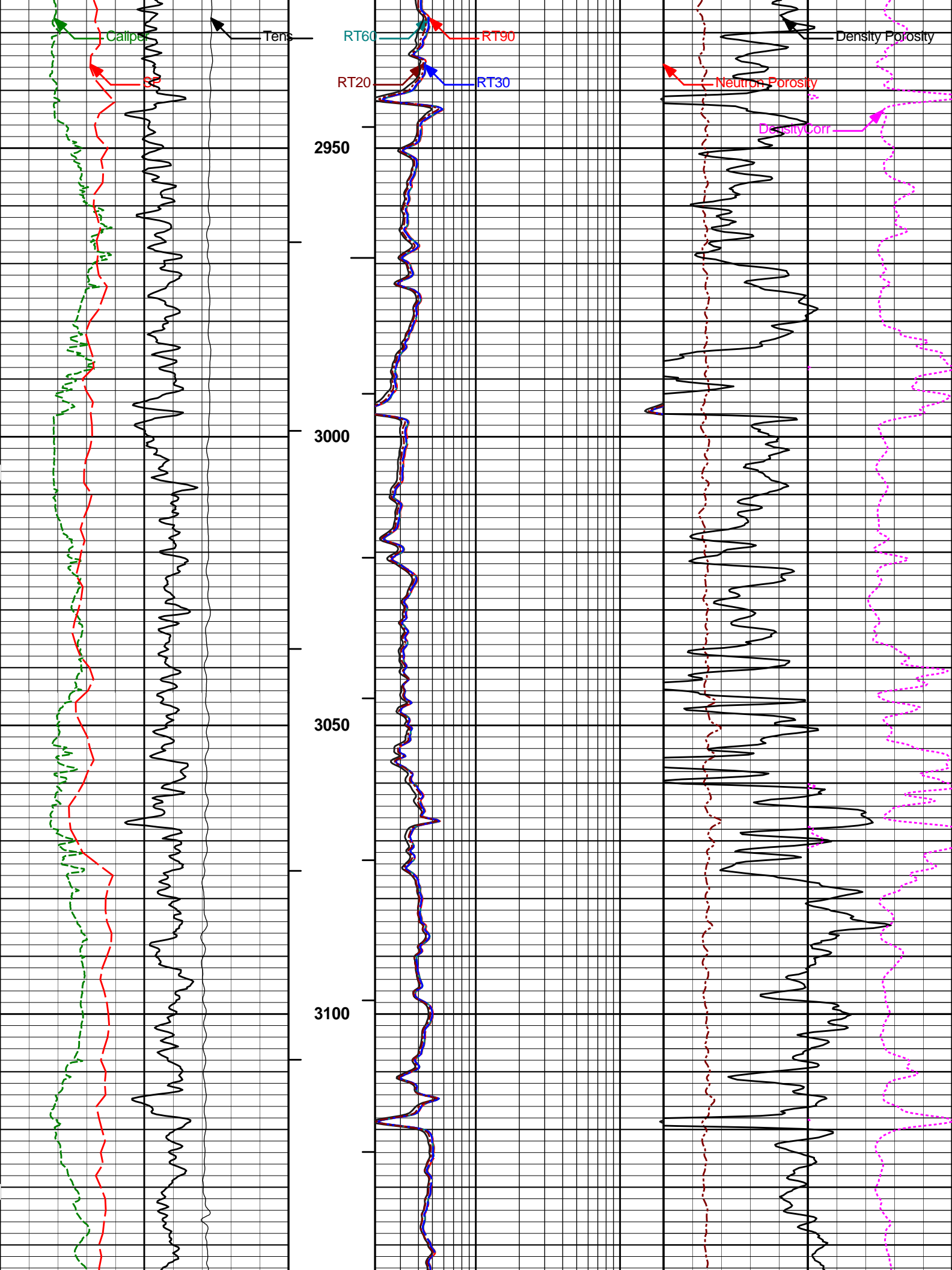


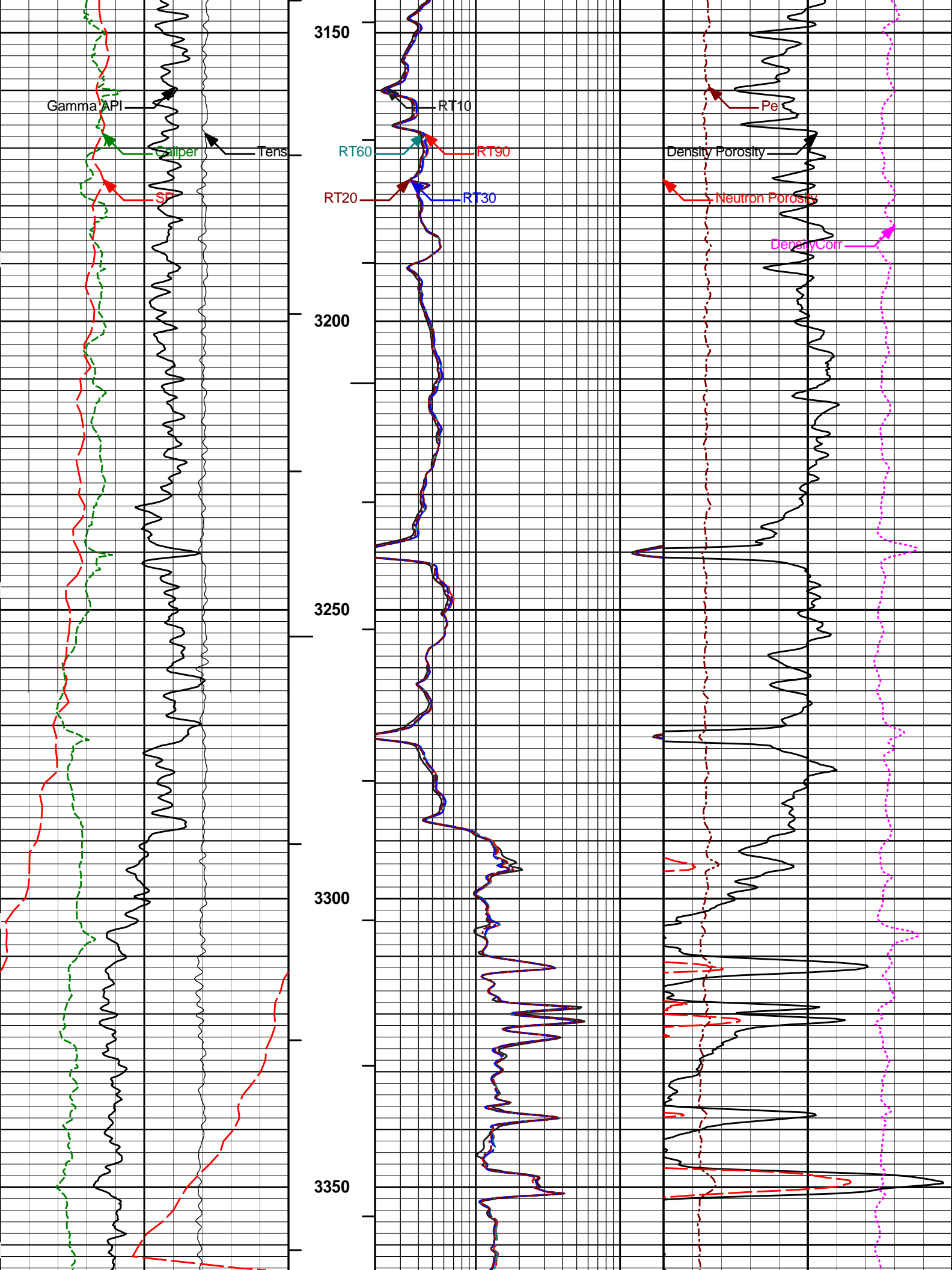


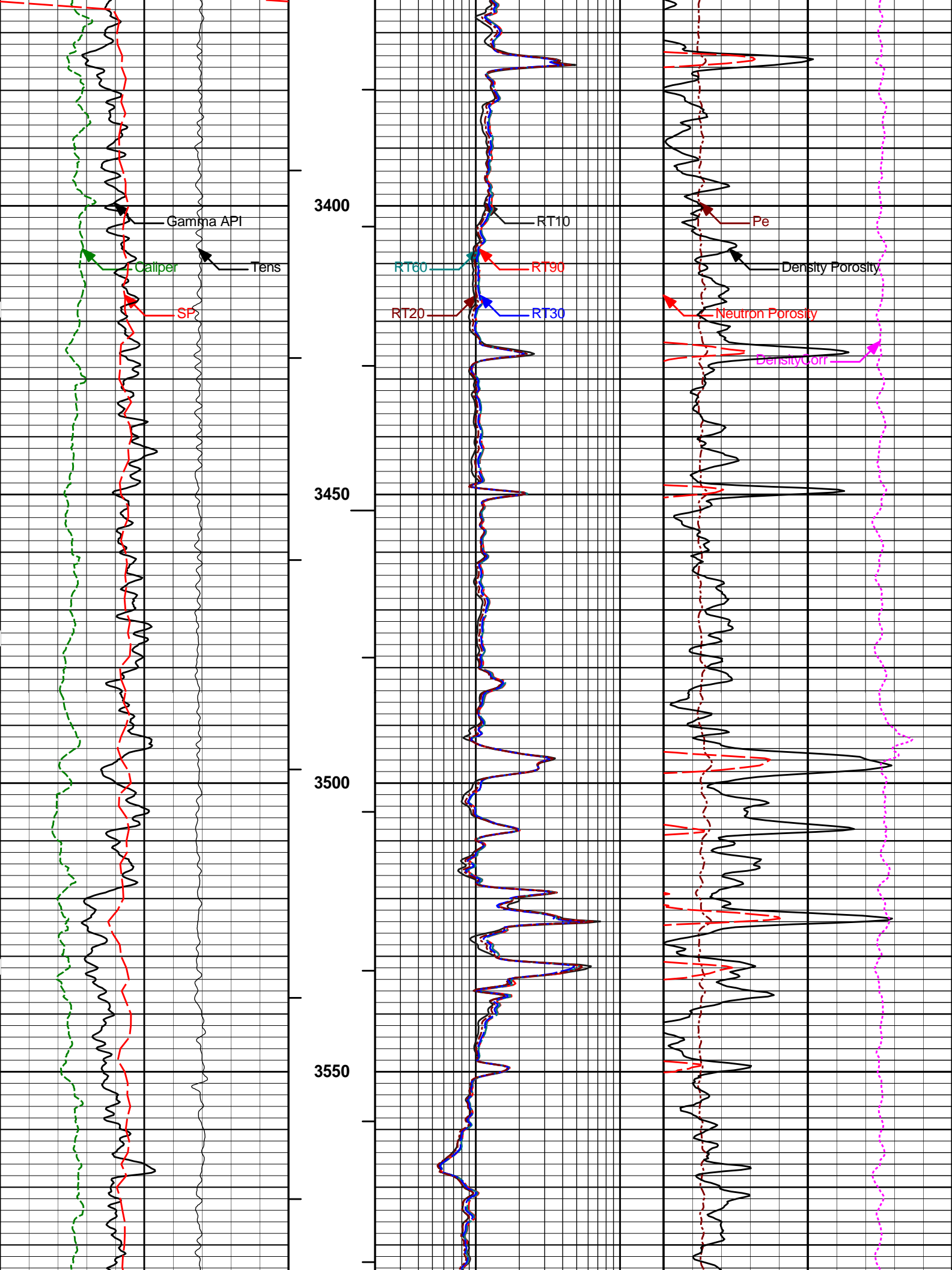




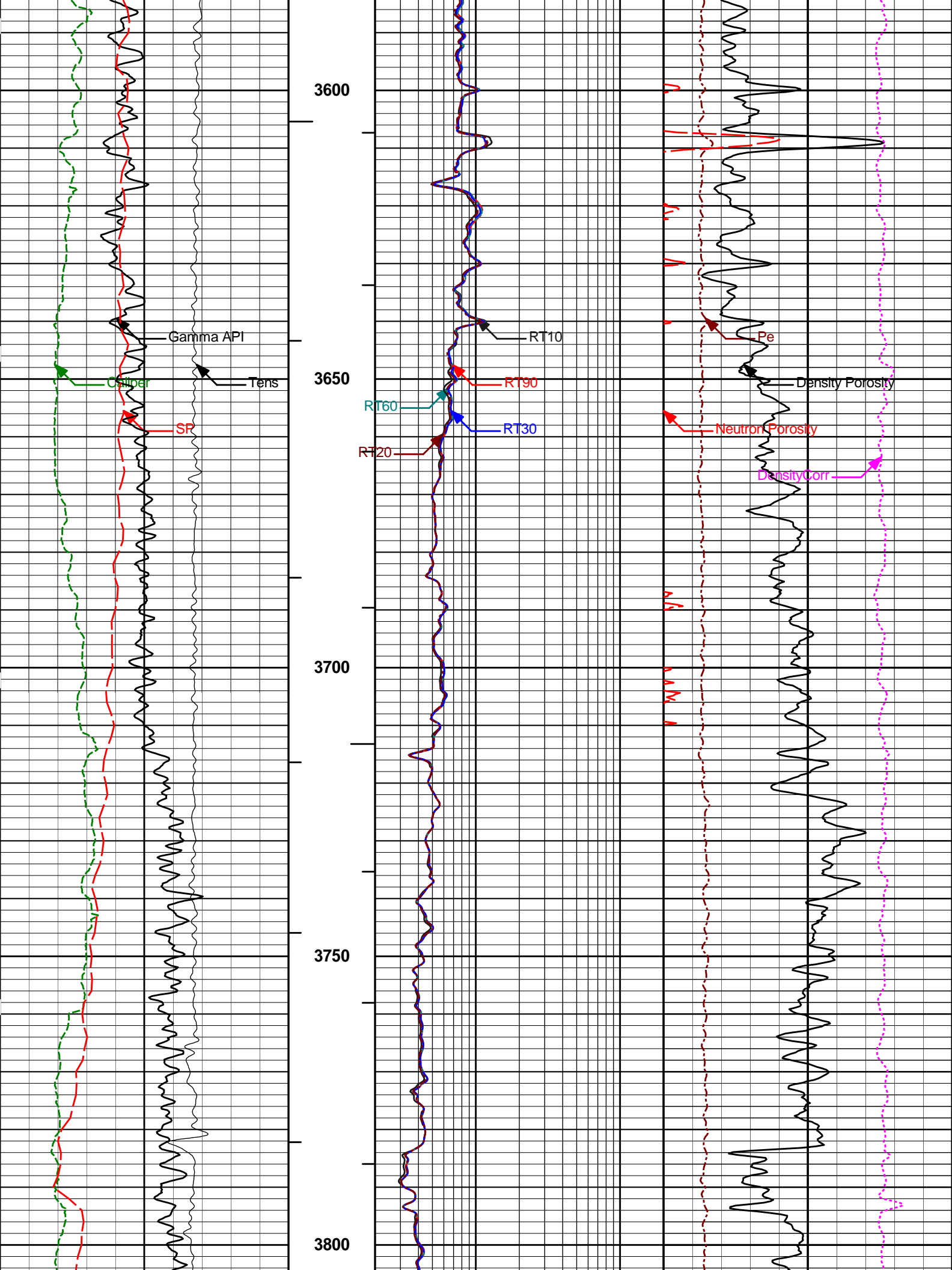


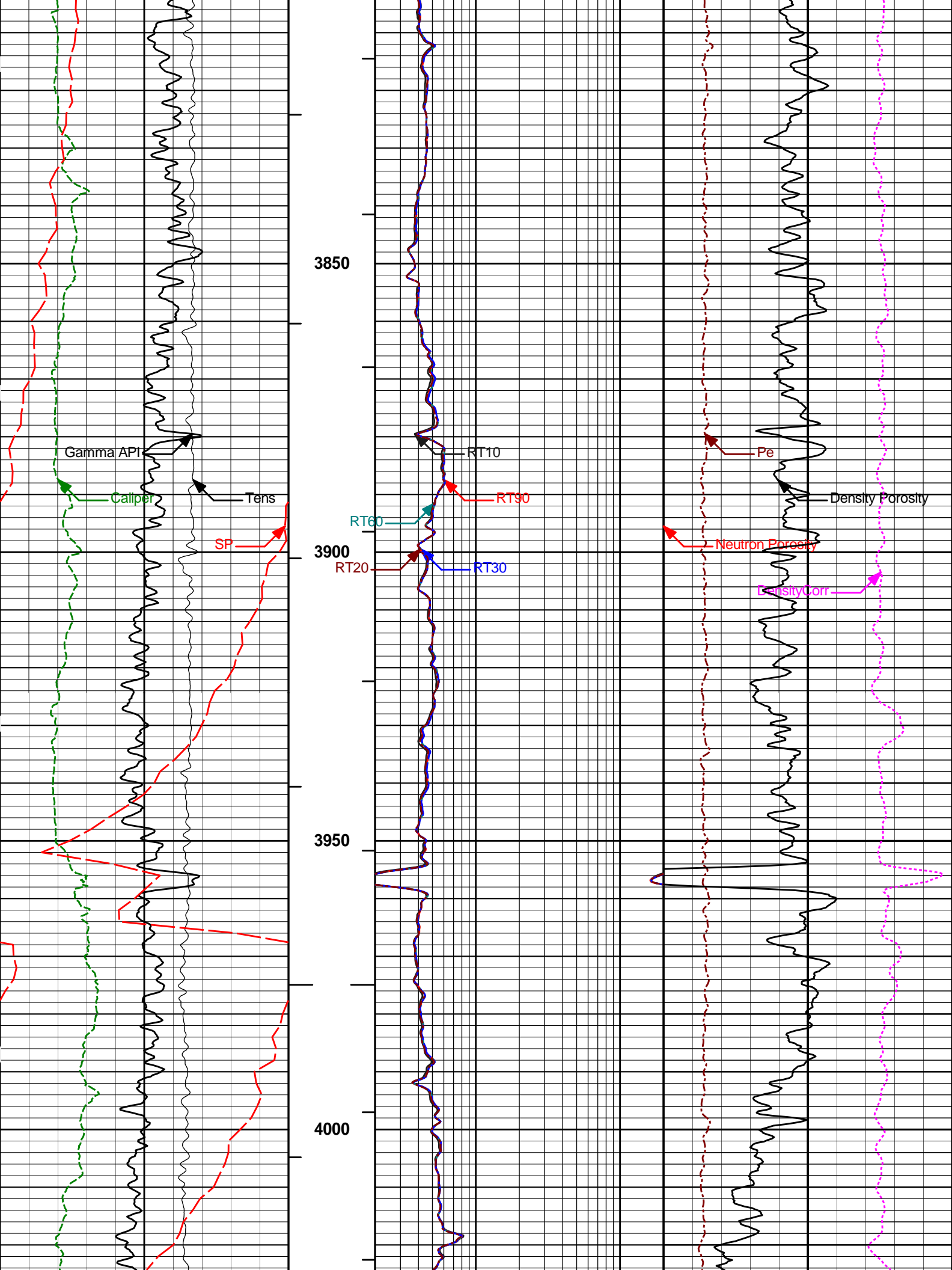


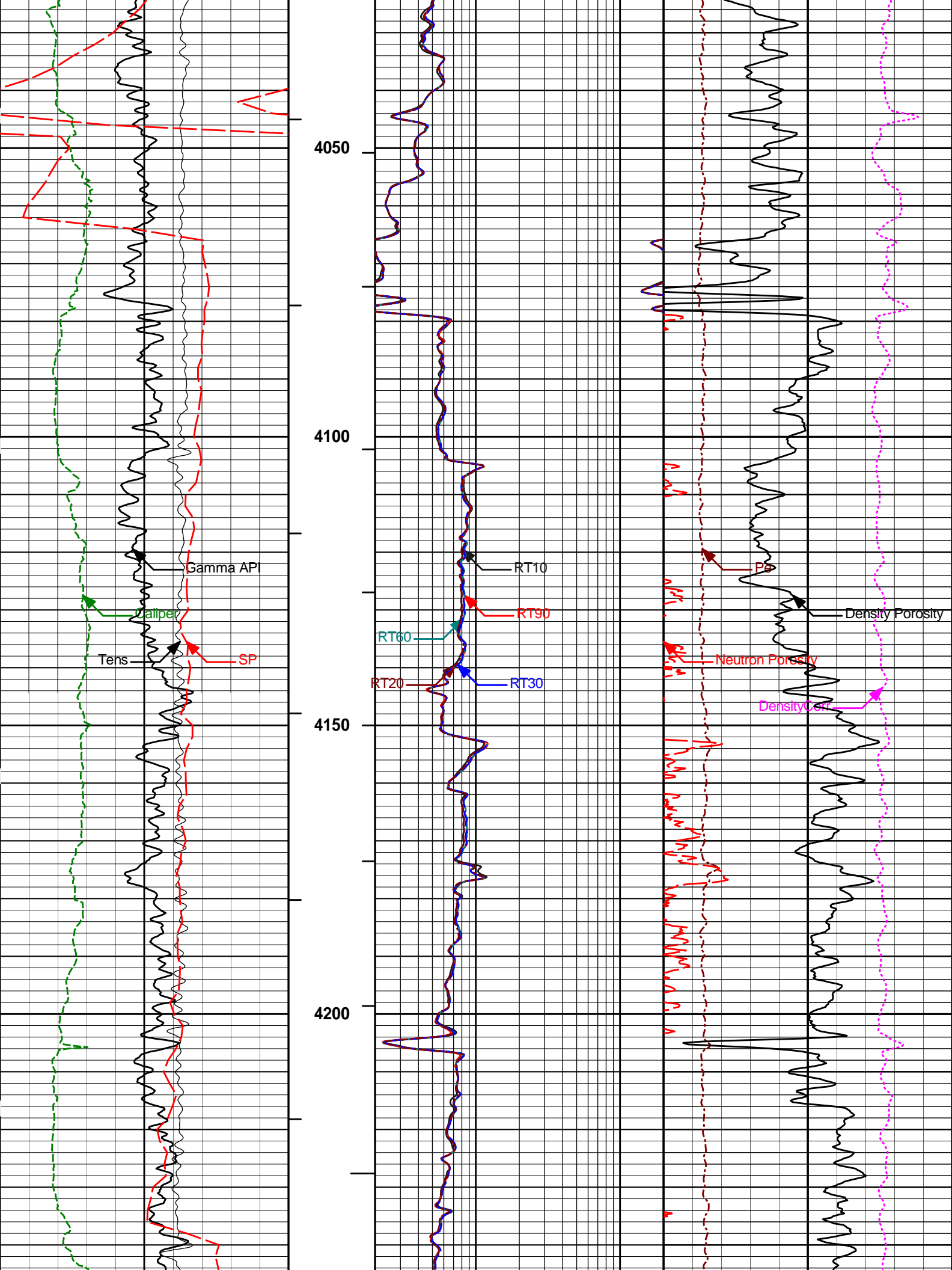


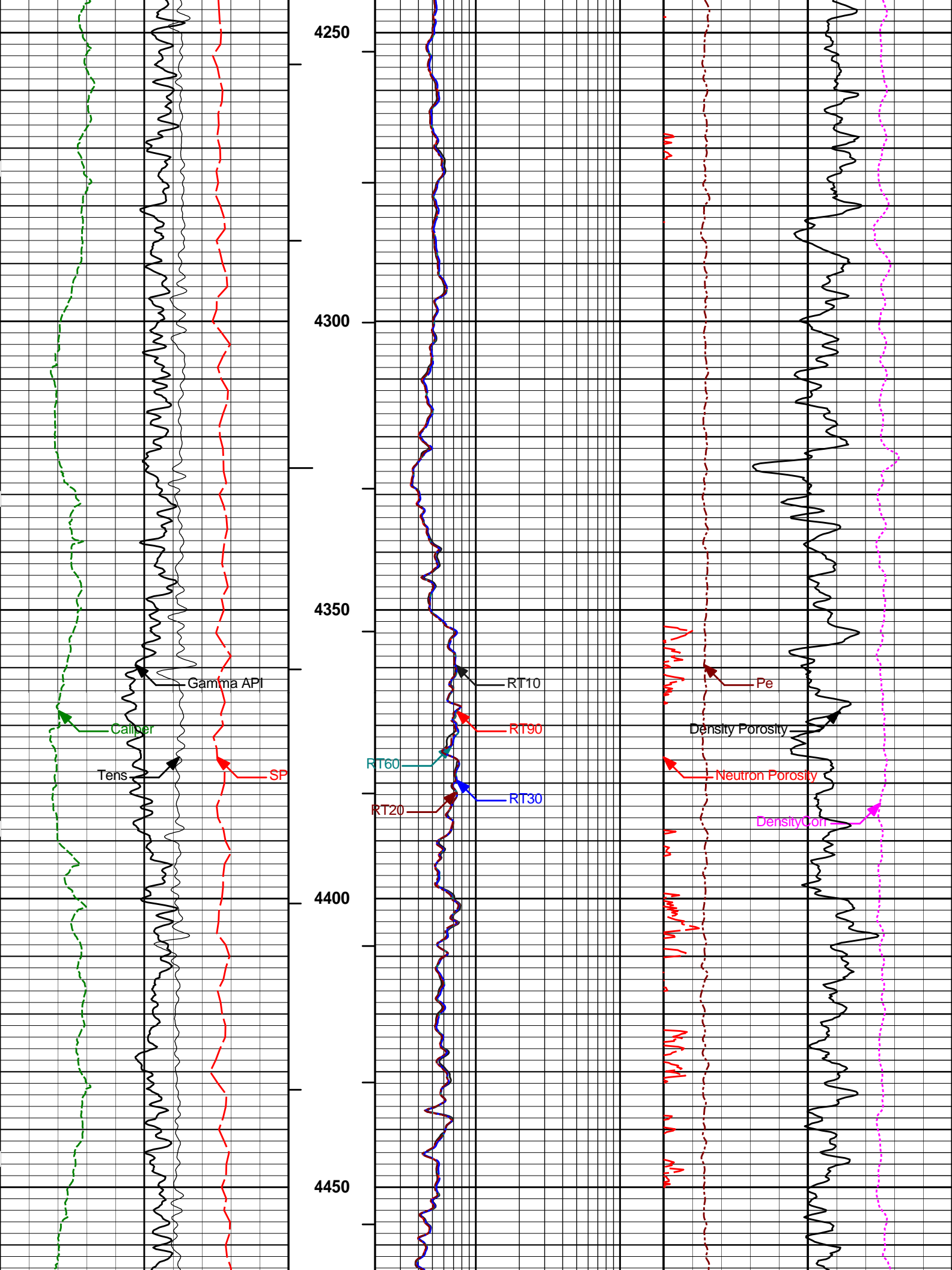


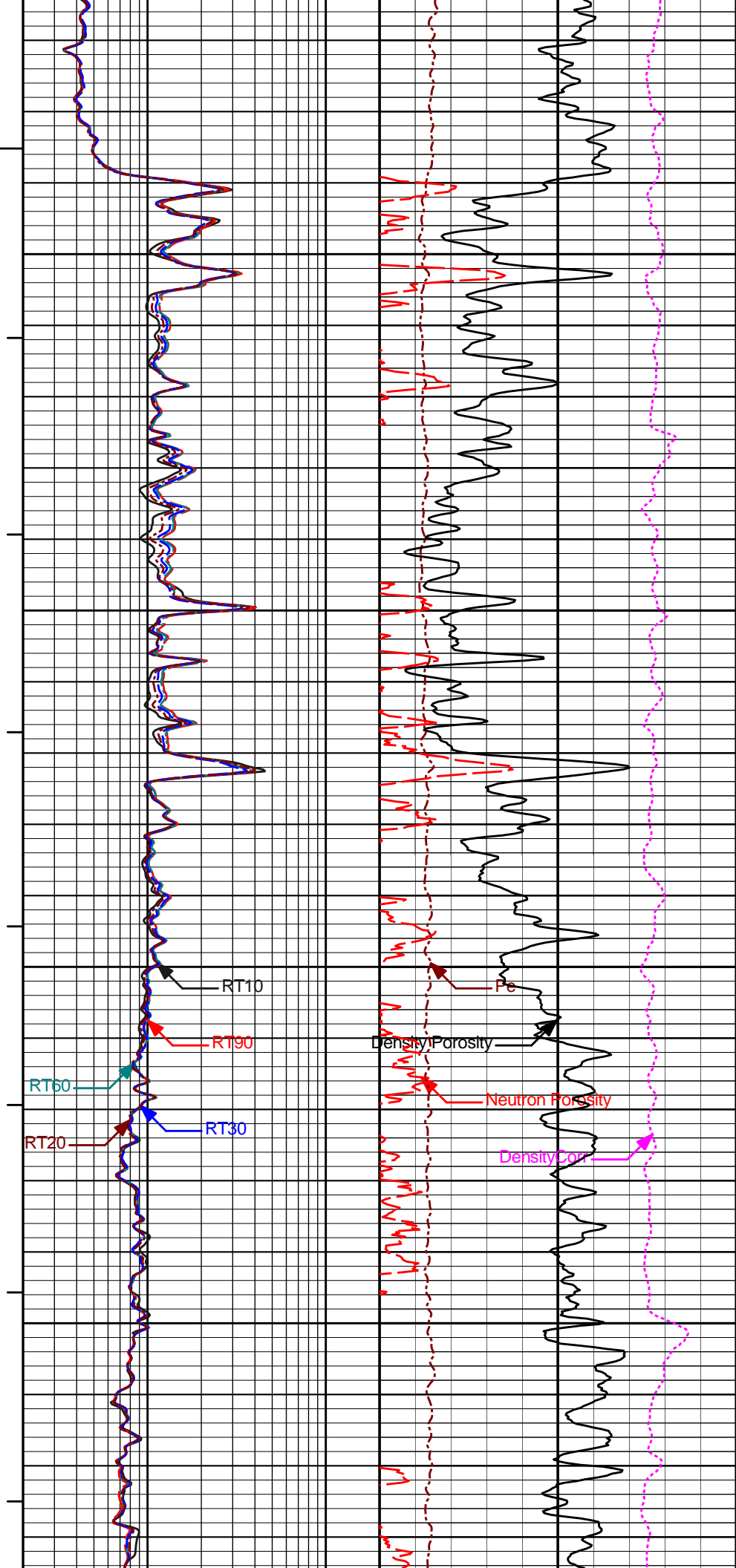
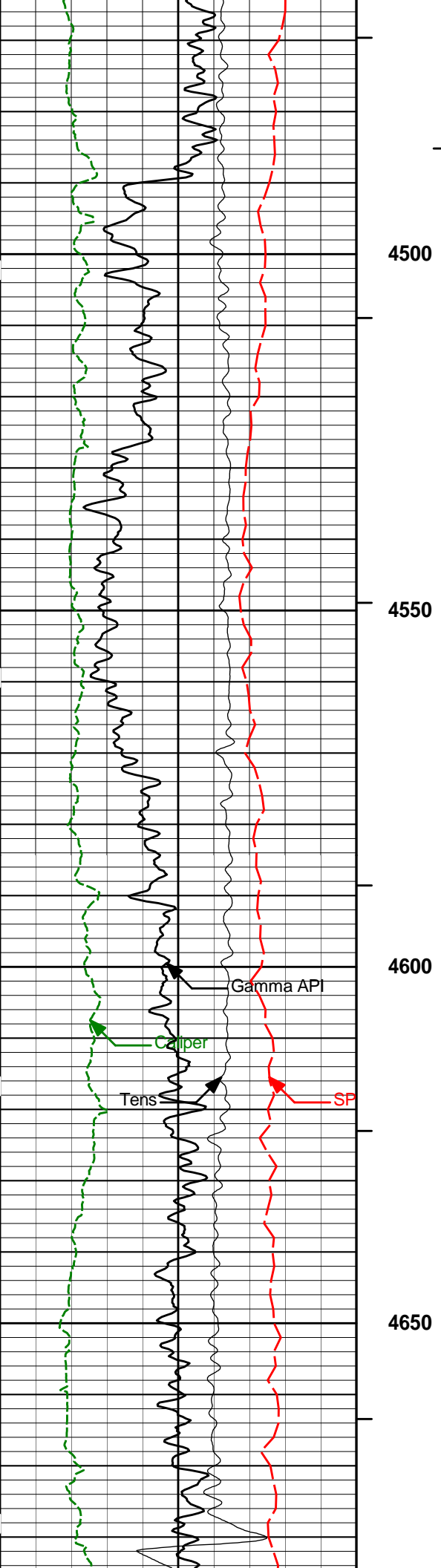


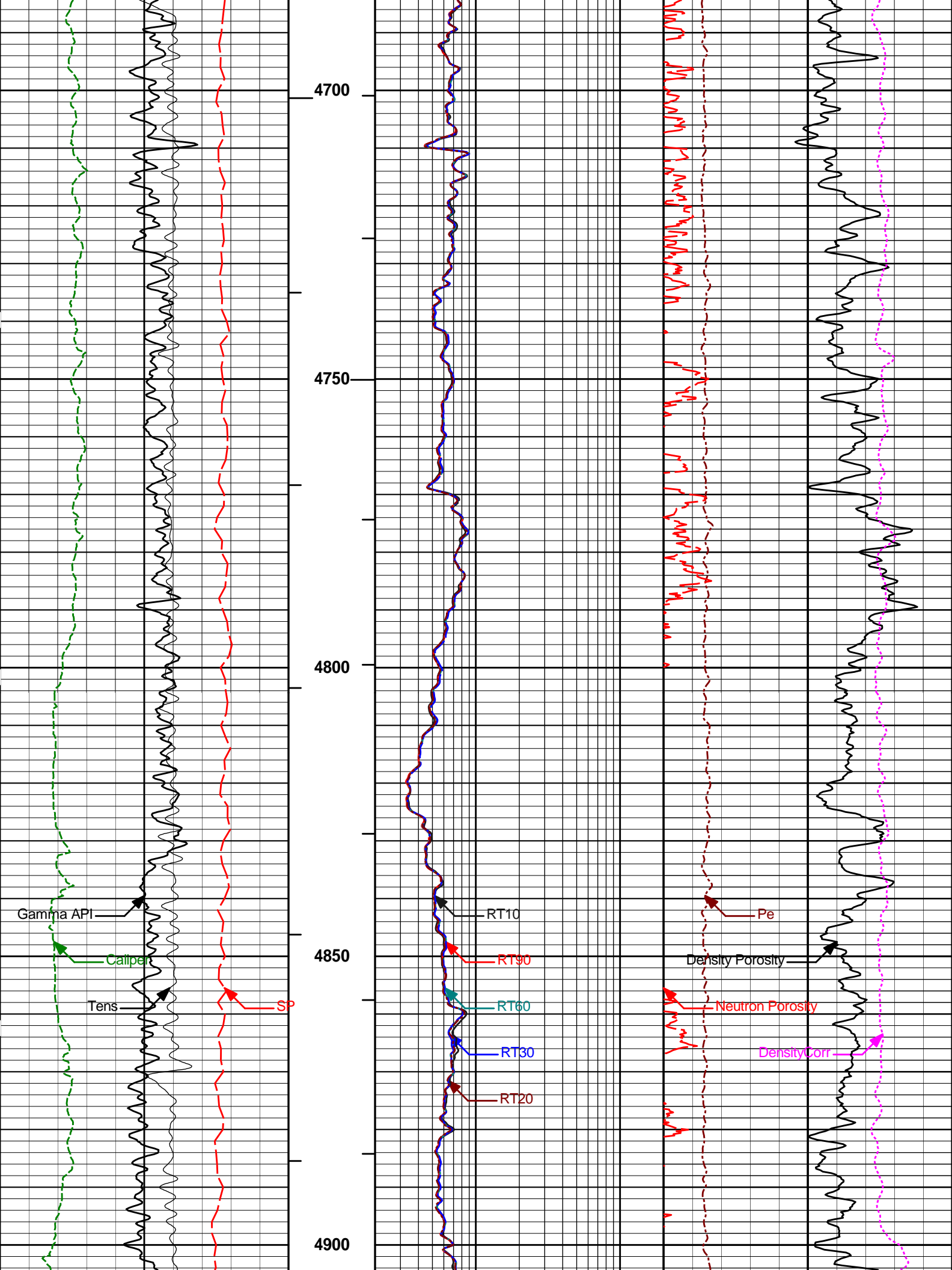


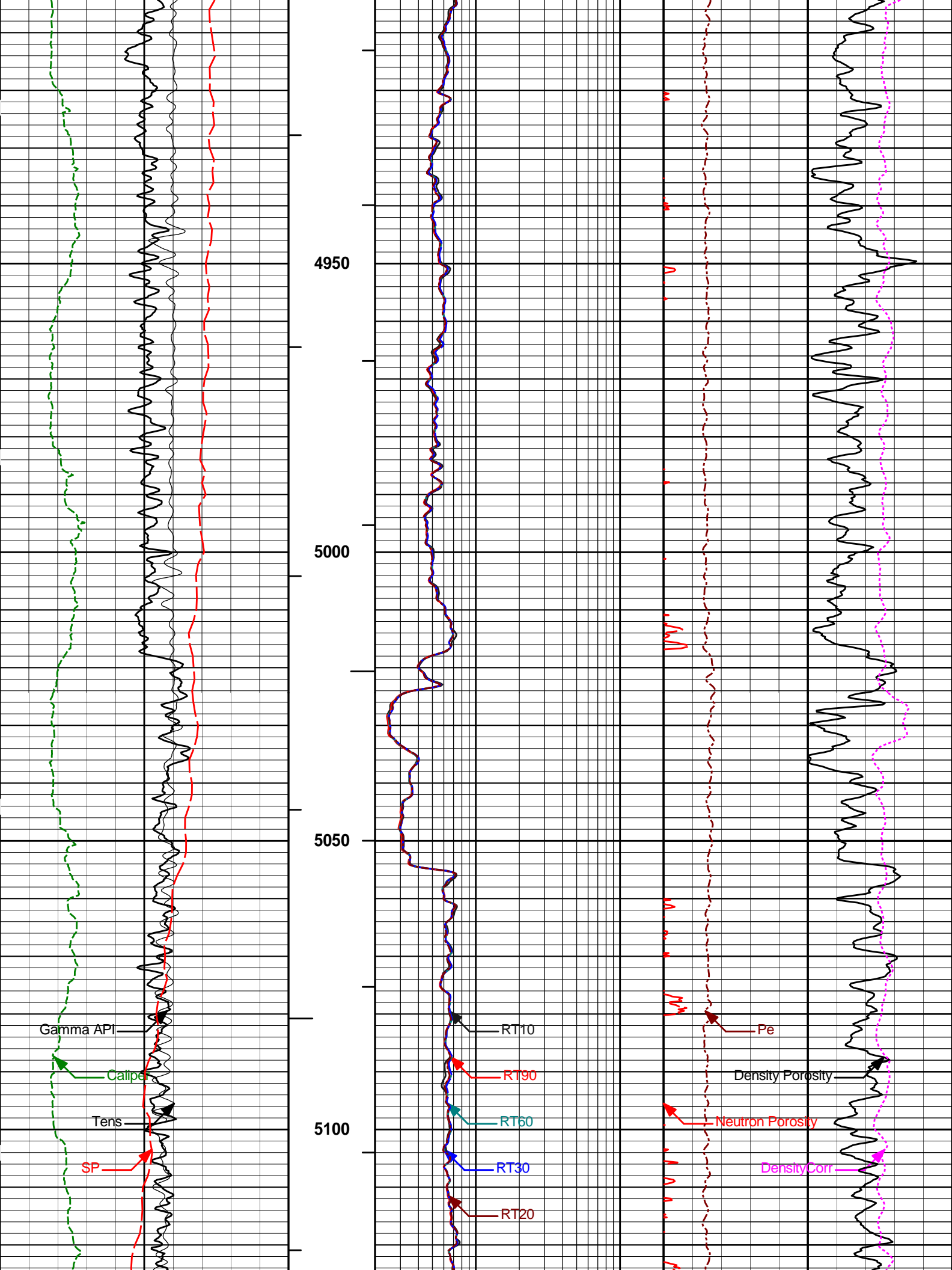


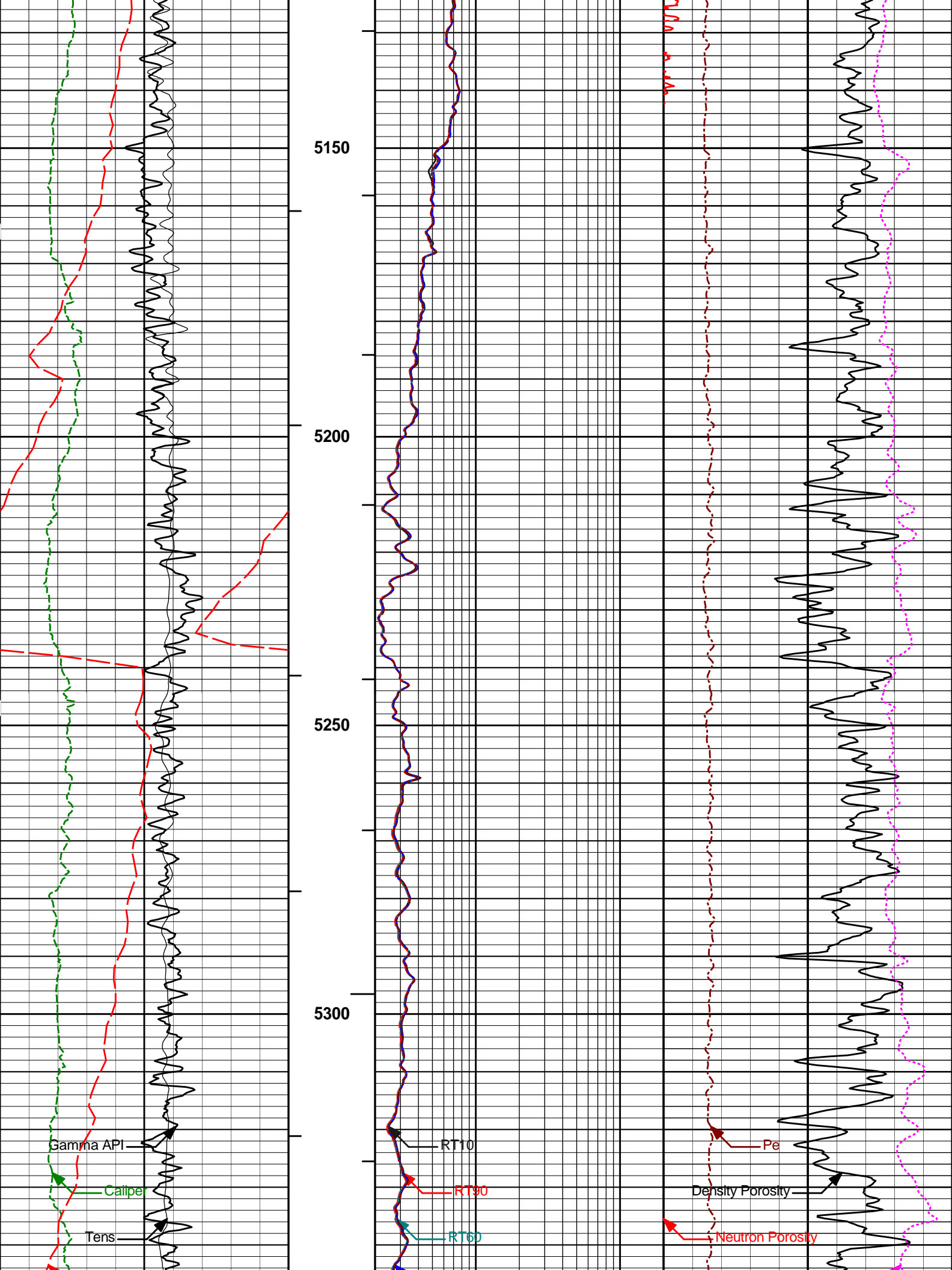




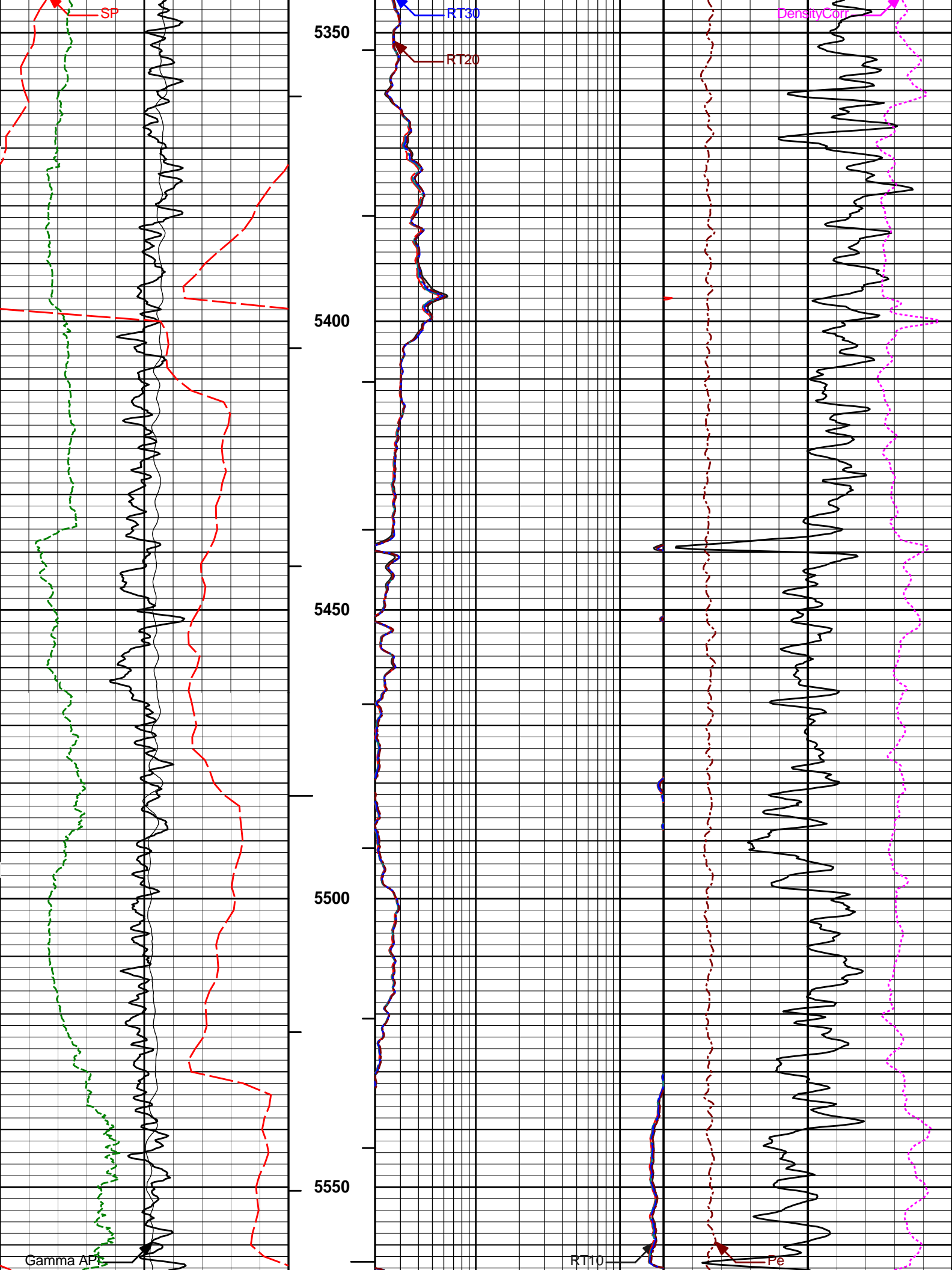


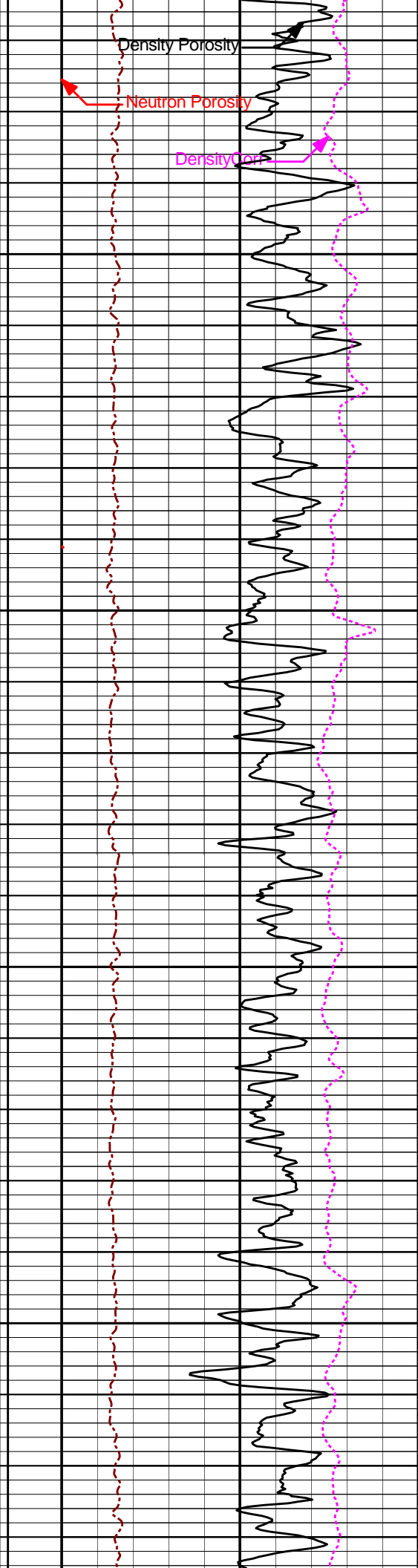
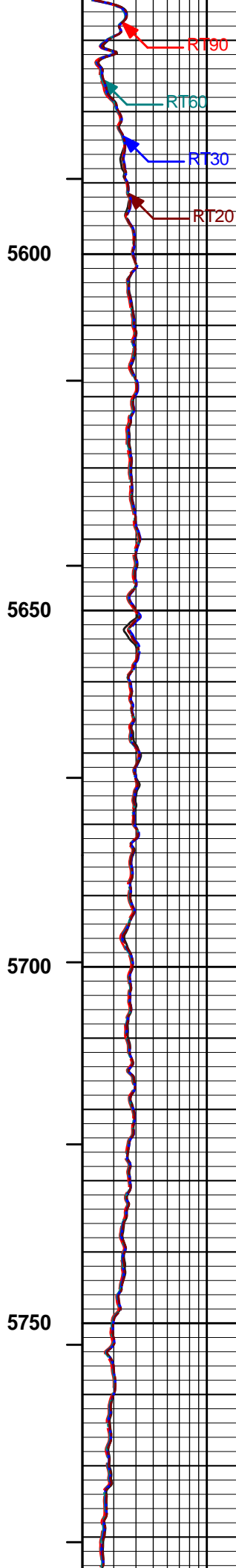
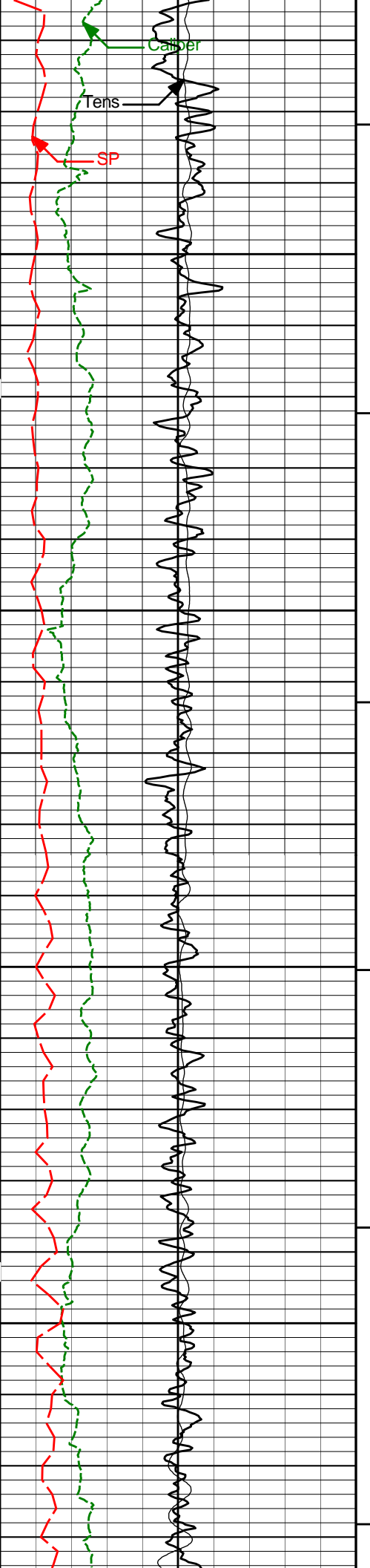


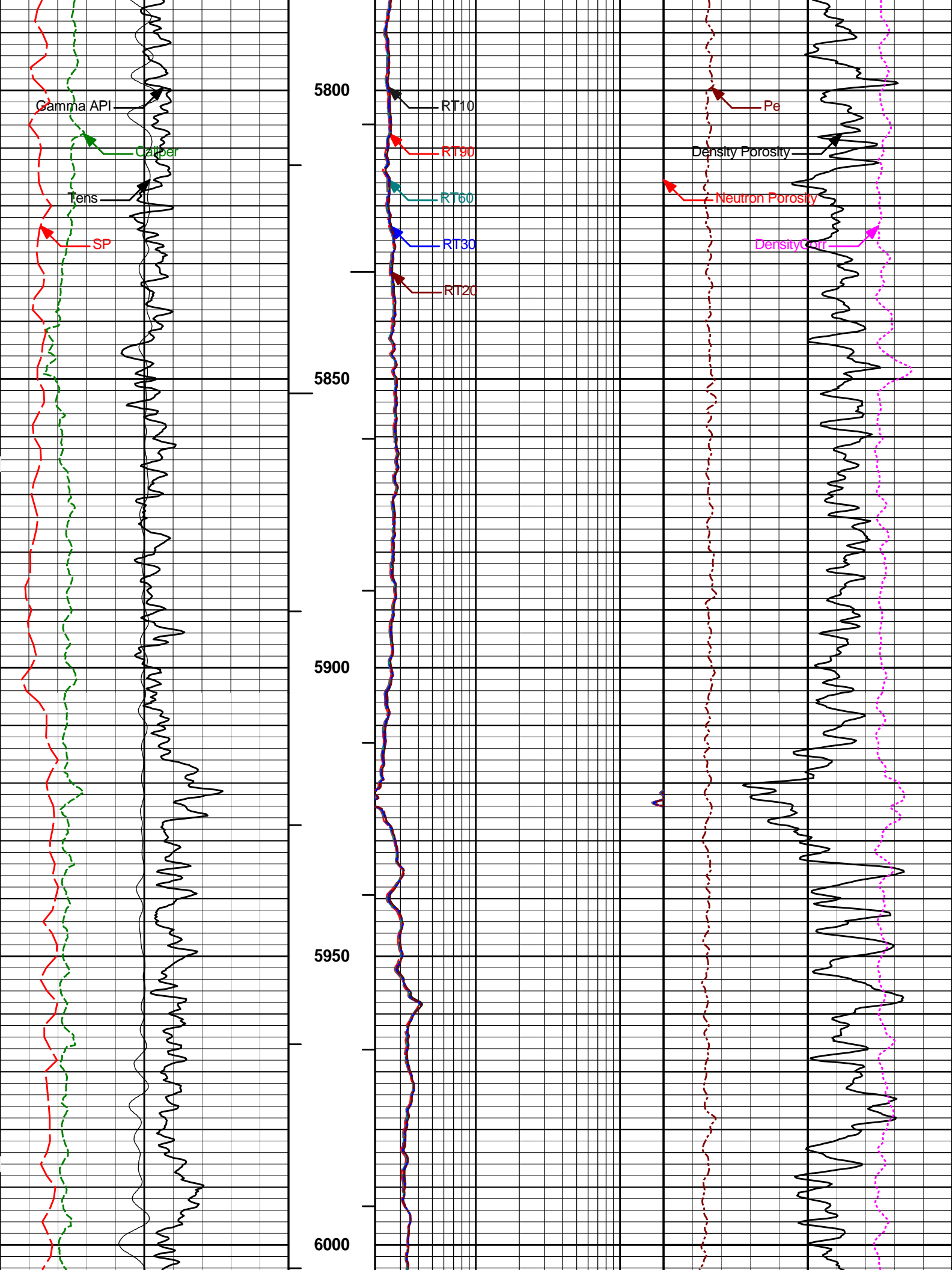


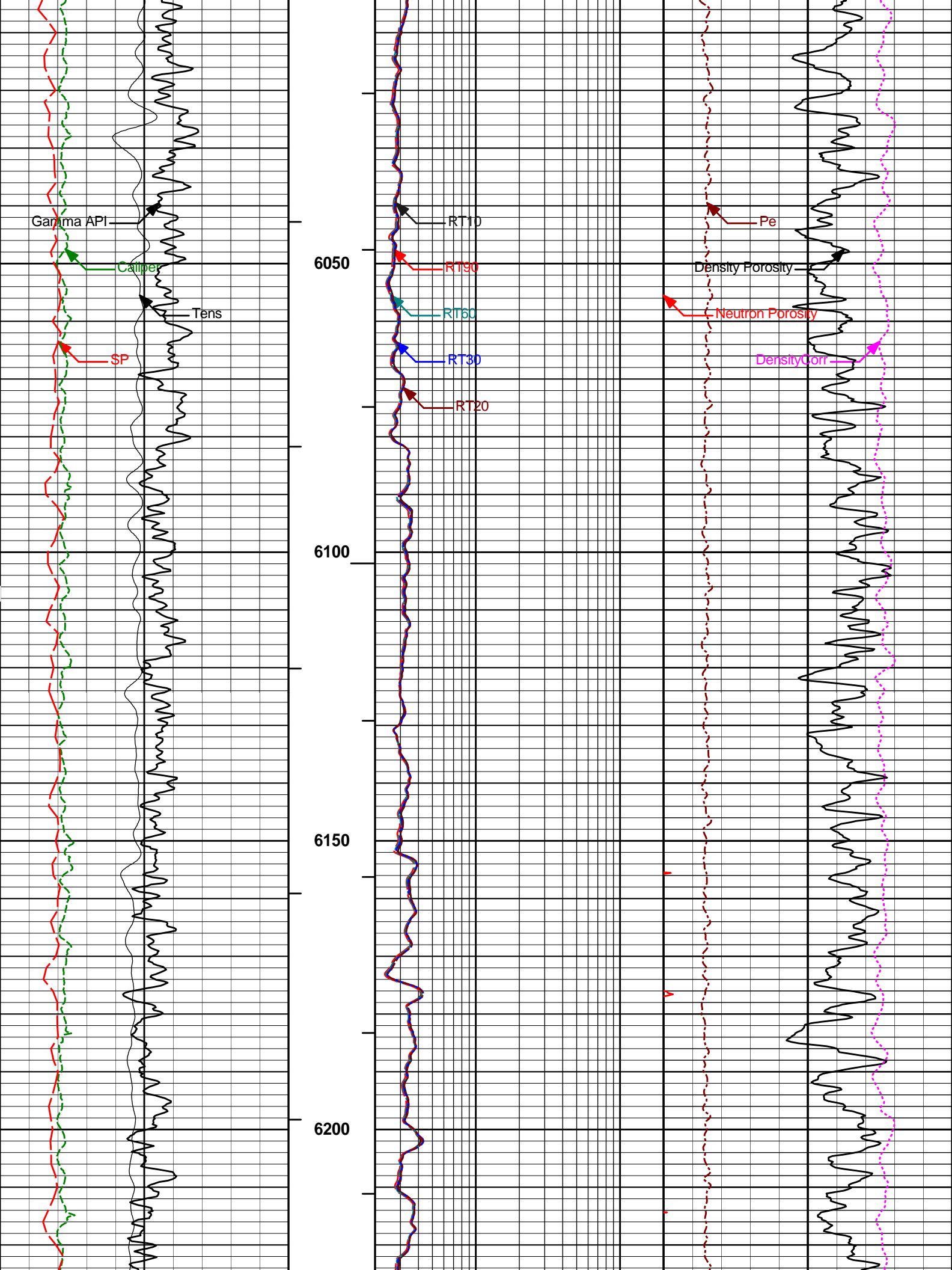


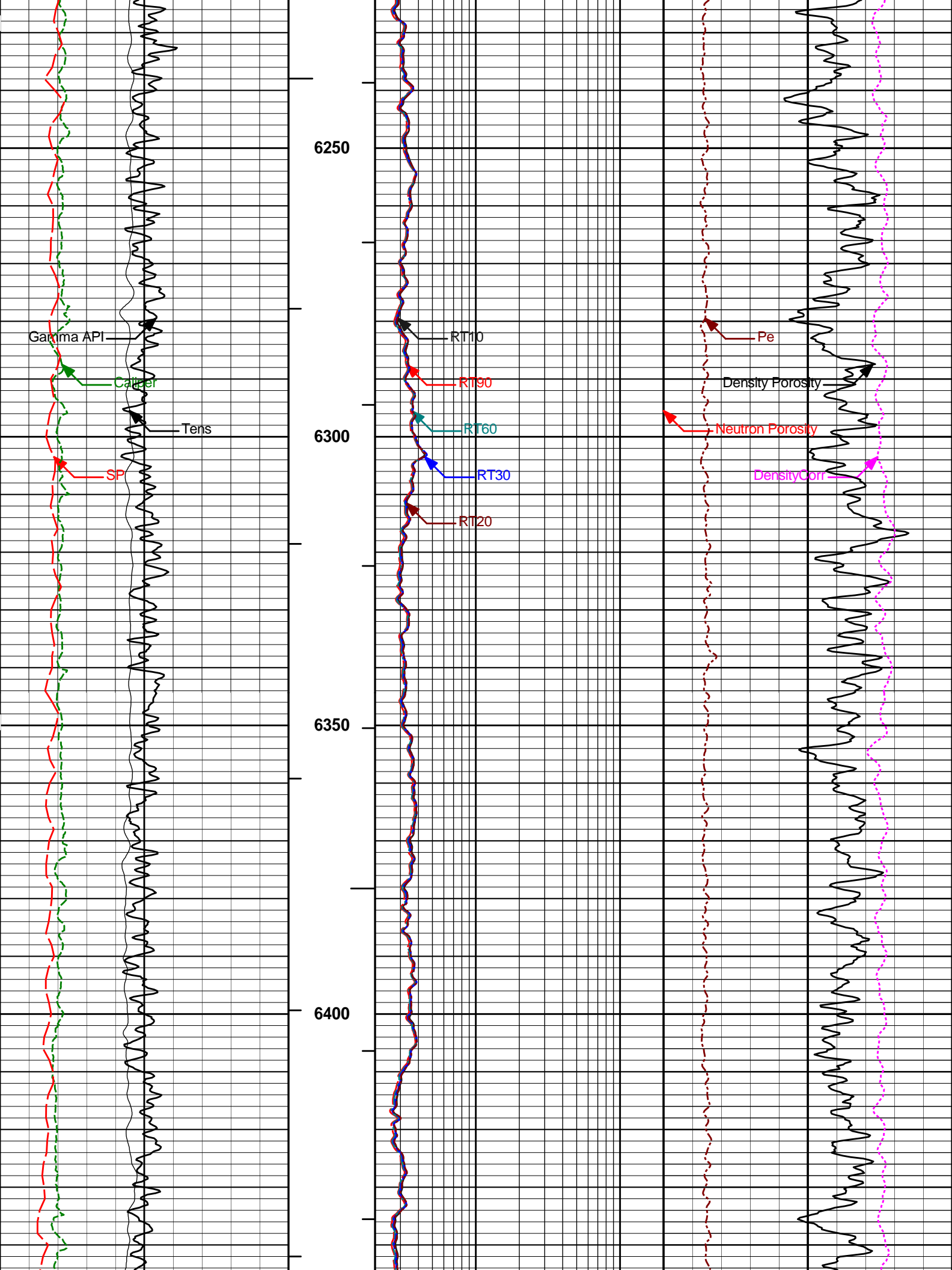


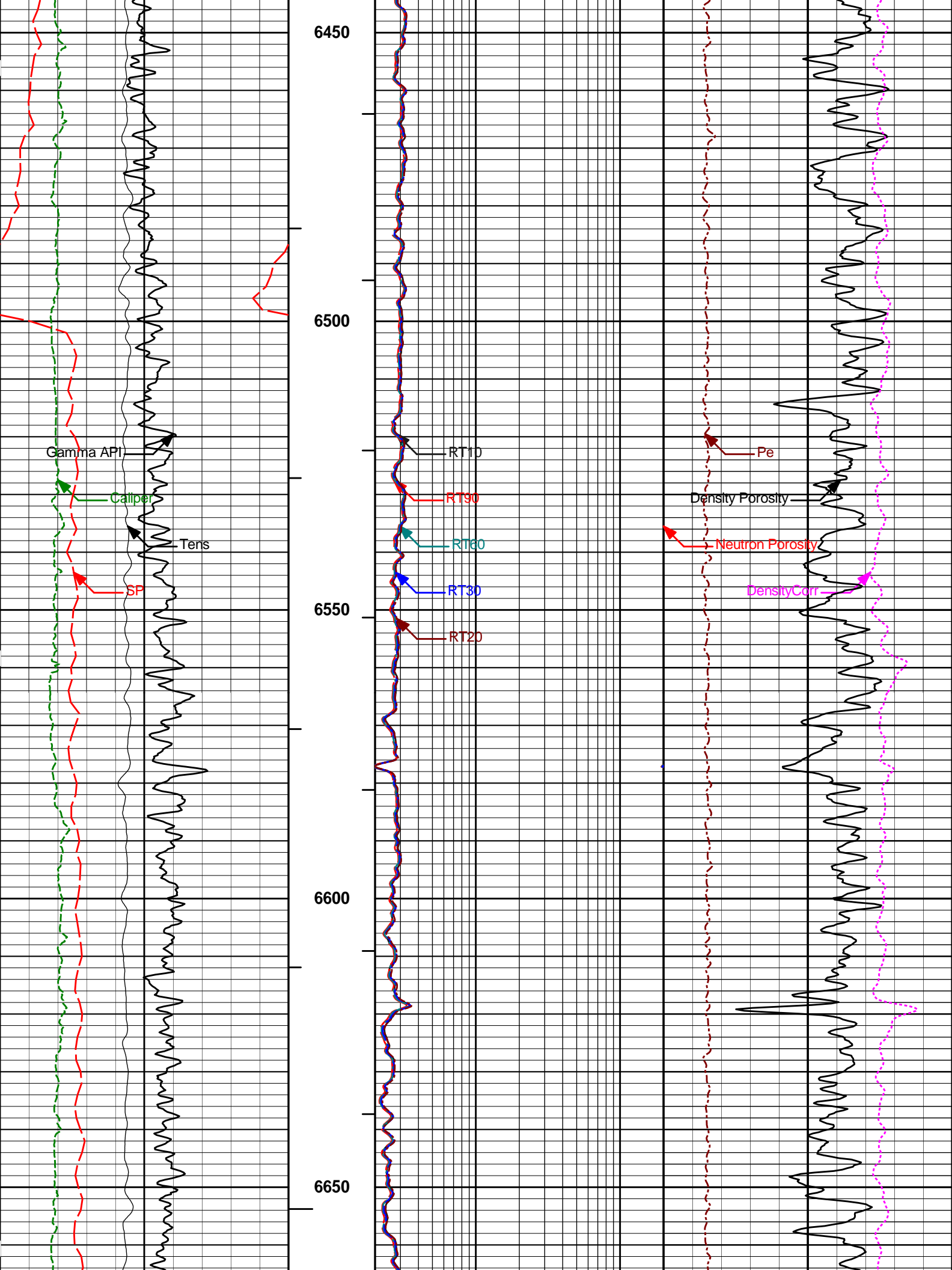


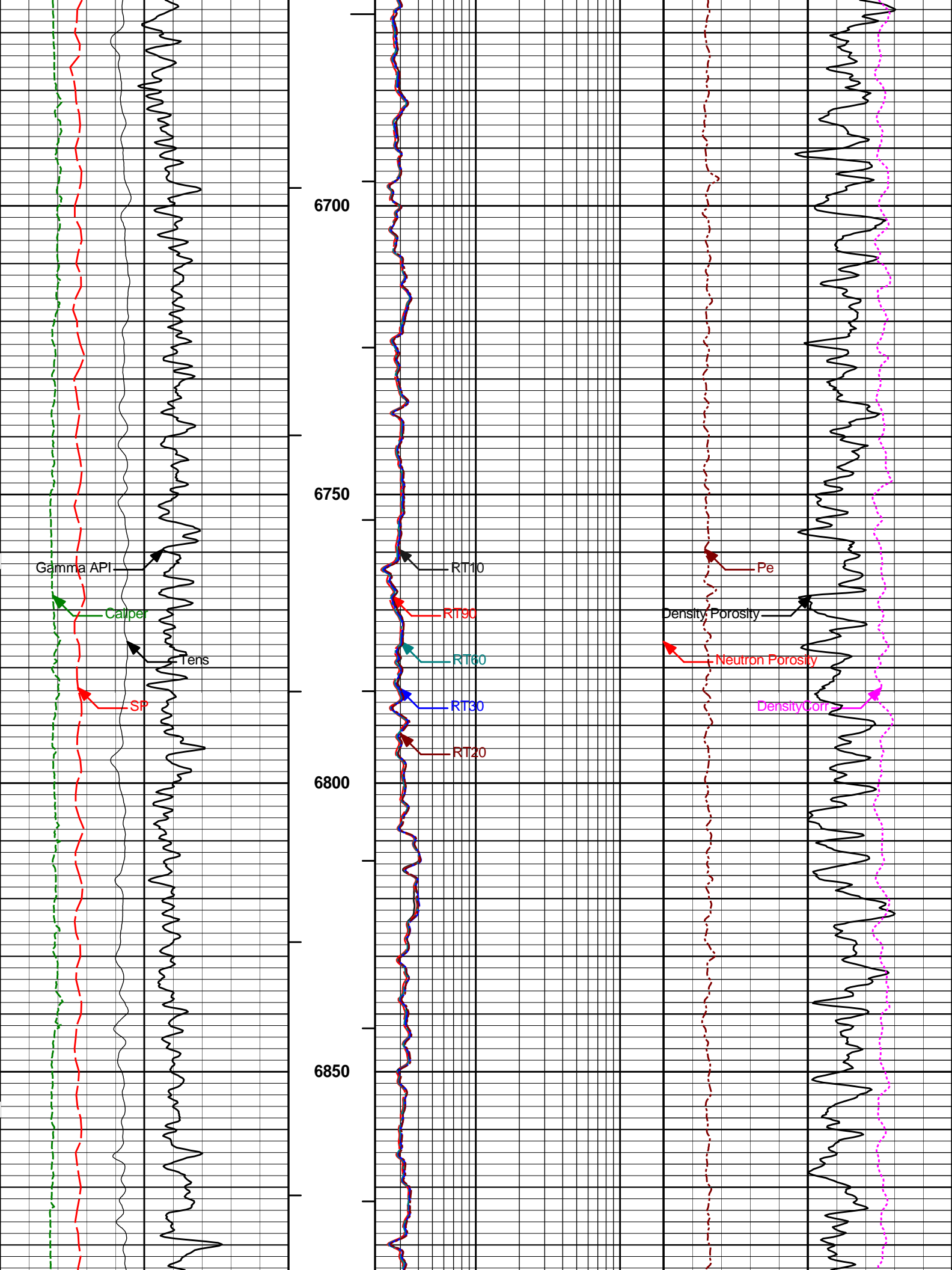


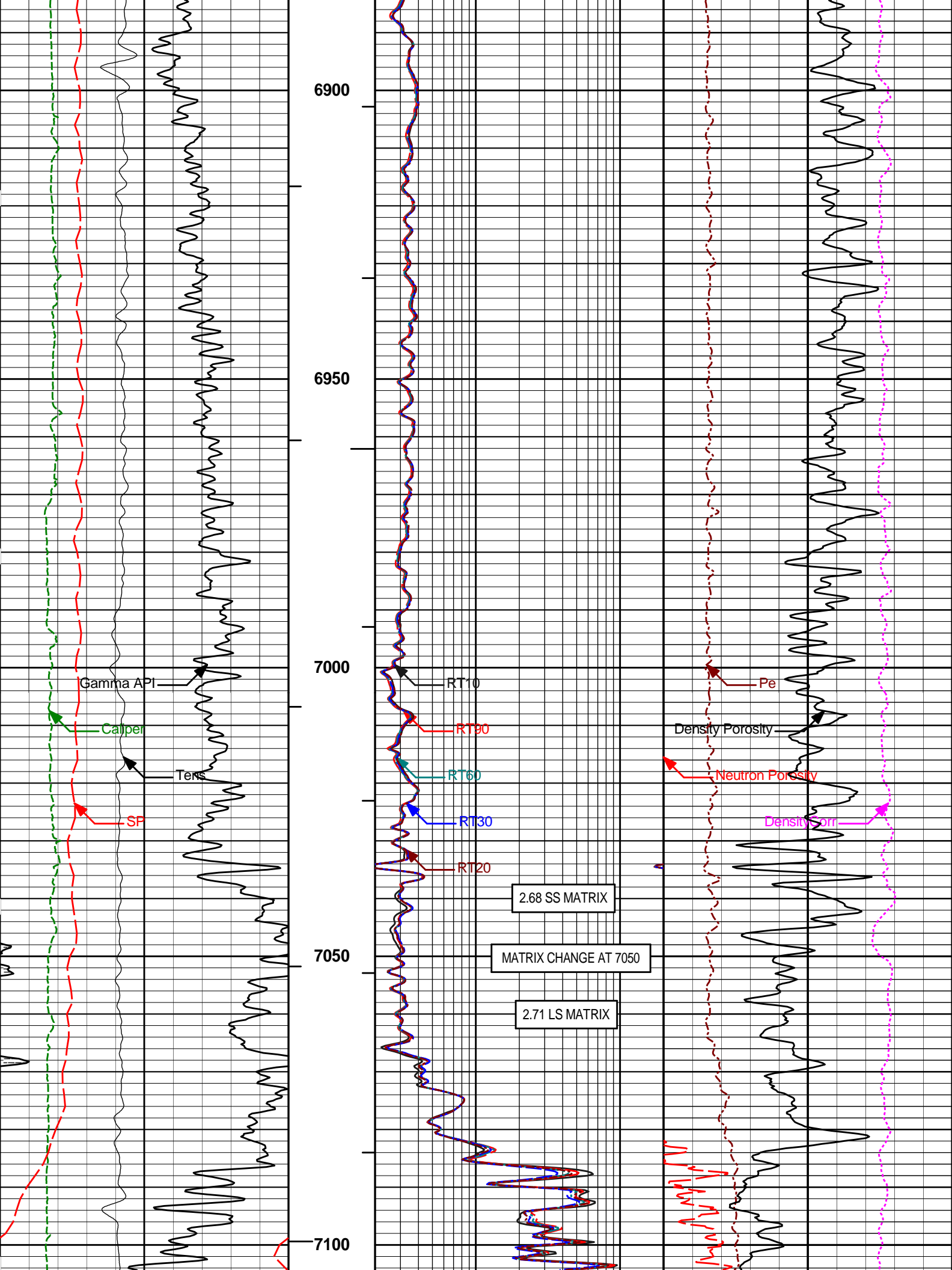




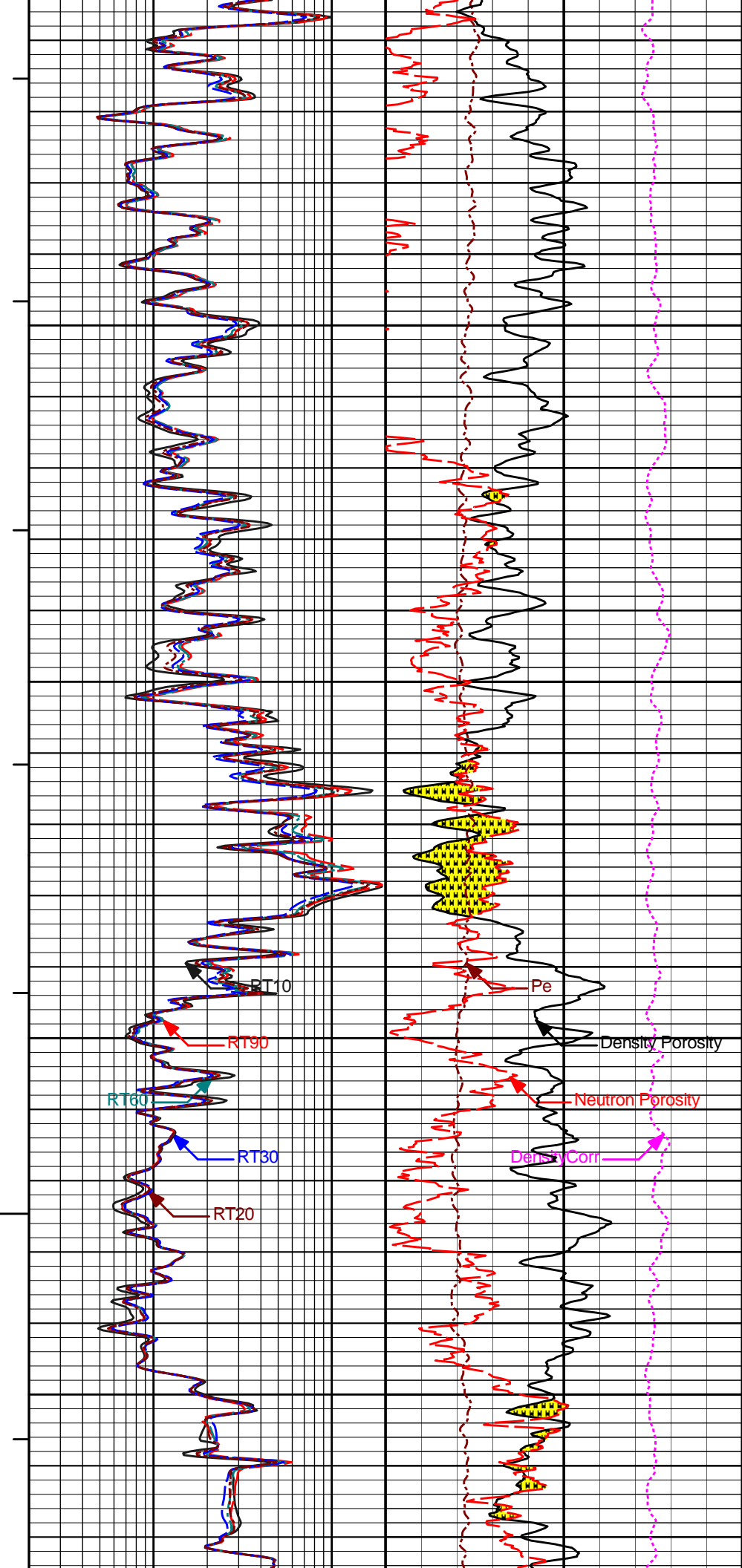
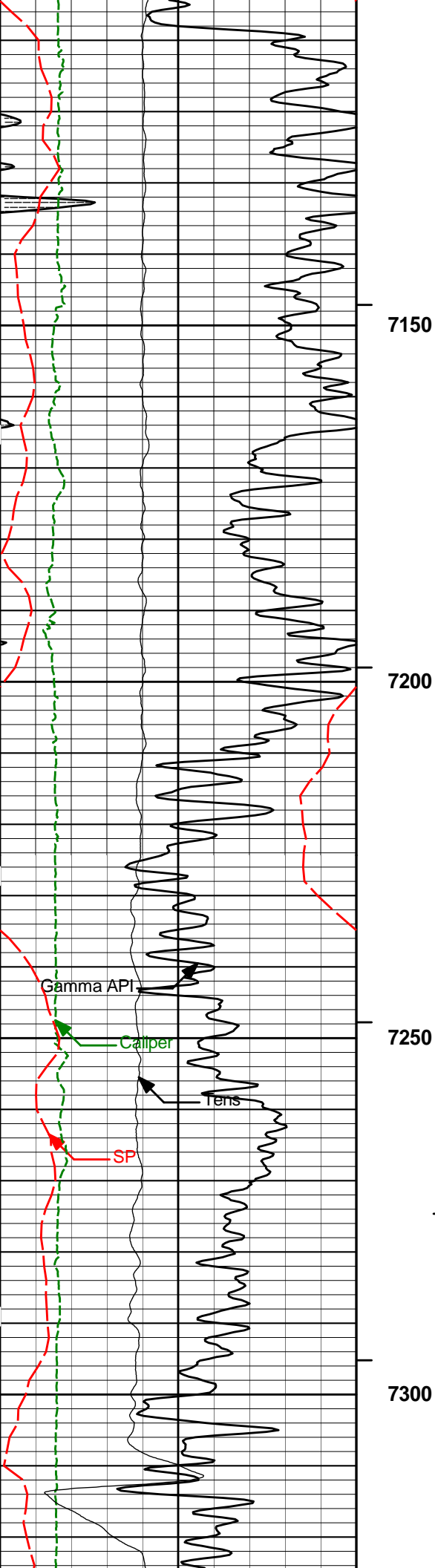


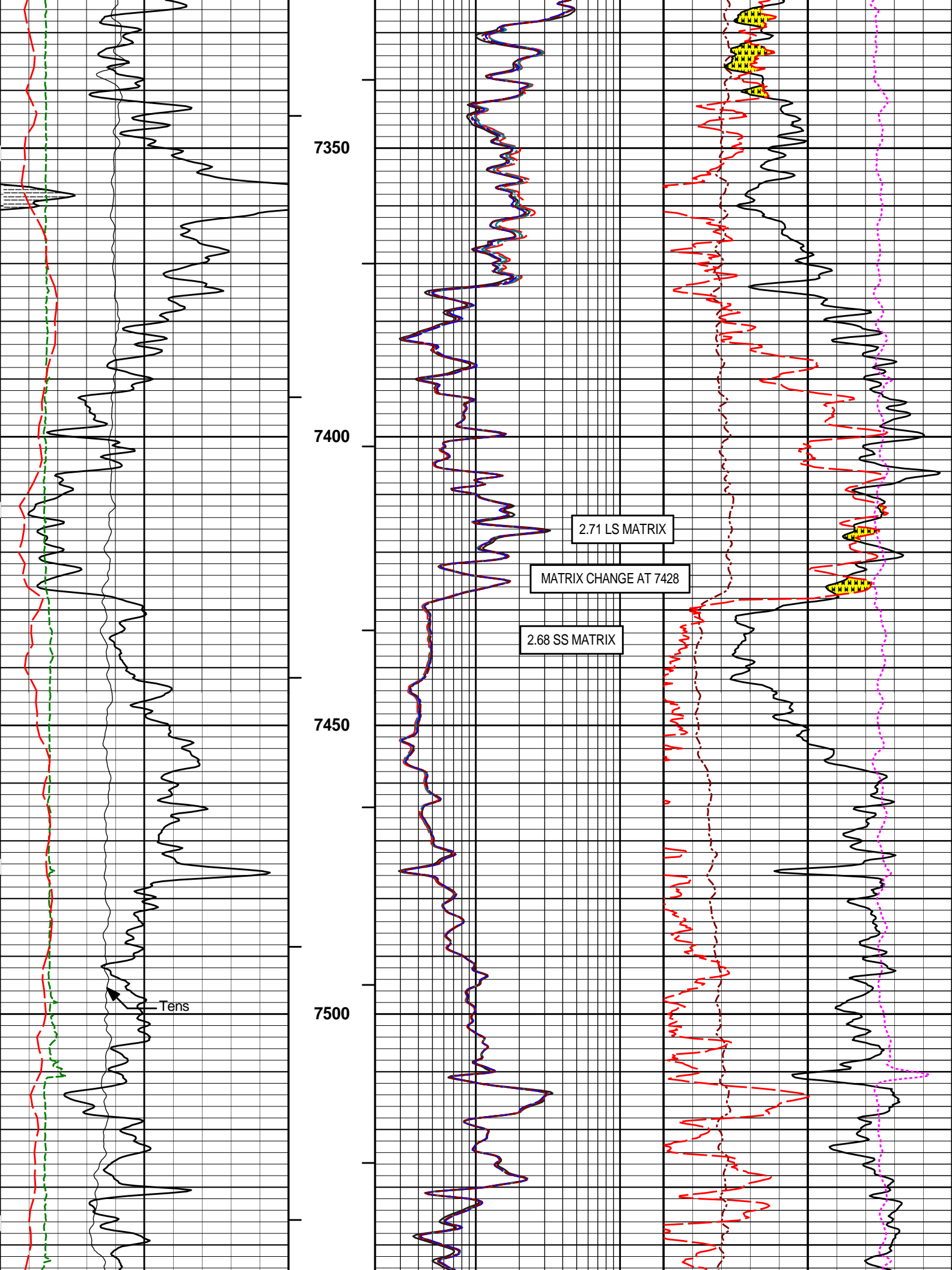


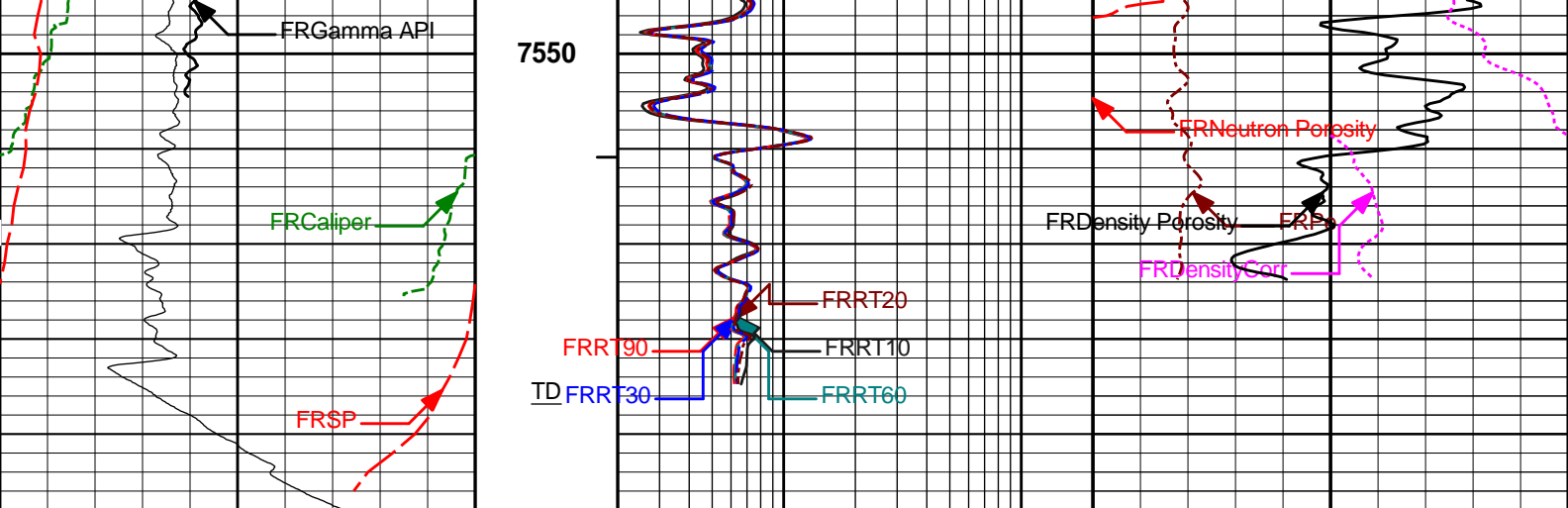












0	SP	100	1 : 240	2	RT90	200	0	Pe	10	-0.25	DensityCorr	0.25
	millivolts				ohmm						gram per cc	
0	Gamma API	200	BHVT	2	RT60	200	20	Density Porosity				0
	api				ohmm			percent				
6	Caliper	16	AHVT	2	RT30	200	20	Neutron Porosity				0
	inches				ohmm			percent				
10K	Tens	0		2	RT20	200						
	pounds				ohmm							
				2	RT10	200						
					ohmm							

**HALLIBURTON** Plot Time: 17-Mar-13 18:17:22  
Plot Range: 740 ft to 7598.08 ft  
Data: RIVERBLUF\_18-13\Well Based\MAIN\*  
Plot File: \COMP\MAIN

MAIN PASS 5" = 100'

## HALLIBURTON

### CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11812883	Reference Calibration Date:	13-Mar-13 13:09:57
Engineer:	J. PINKETT	Calibration Date:	15-Mar-13 11:39:53
Software Version:	WL INSITE R3.8.4 (Build 5)	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	72.7	72.0	api
Background + Calibrator	322.1	319.3	api
Calibrator	249.5	247.3	api

### NATURAL GAMMA RAY TOOL FIELD CALIBRATION

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	72.0	111.6	api
Background + Calibrator	319.3	362.7	api
Calibrator	247.3	251.0	api
Shop	Field	Difference	Tolerance
247.3	251.0	-3.7	+/- 9.00

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: 55 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.000	0.997	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):	0.2234	0.2223	0.0010	+/- 0.0020
Calibrated Ratio:	10.15	10.11	0.035	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decP):	0.0792	0.02000 - 0.09000

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

Logging Source S/N: DSN434  
 Snow Block S/N: BRIGHTON

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decg):	0.0792	0.0801	0.0009	+/- 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:	15-Mar-13 13:34:29
Engineer:	J. PINKETT	Calibration Date:	15-Mar-13 13:39:28
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1
Host Tool Name:	DSNT - 11812167		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3477.98	-3466.35	-7000.00 - -1000.00
Pad Gain	0.0003828	0.0003821	0.000200 - 0.000600
Arm Offset	-4590.60	-4620.46	-5000.00 - 3000.00
Arm Gain	0.0005482	0.0005694	0.000300 - 0.000700
Arm Power	-0.000003515	-0.000005197	-0.000010000 - 0.000010000

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

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.45	6.50	0.05	+/- 0.20
Medium Ring (in)	8.17	8.25	0.08	+/- 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 - 11812177	Reference Calibration Date:	15-Mar-13 13:39:28
Engineer:	R. TWEETEN	Calibration Date:	17-Mar-13 13:28:24
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	3.79	0.04	+/- 0.10
Ring Diameter	8.25	8.29	0.04	+/- 0.15

PASS/FAIL SUMMARY	
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### SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:SDLT Pad - 11795867

Reference Calibration Date:15-Mar-13 12:50:08

Engineer:J. PINKETT

Calibration Date:15-Mar-13 13:12:10

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

Calibration Version:1

Logging Source S/N: 5471GW

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	1.0498	1.0374	0.90 - 1.10
Near Dens Gain	1.0098	1.0064	0.90 - 1.10
Near Peak Gain	0.9965	0.9833	0.90 - 1.10
Near Lith Gain	0.9556	0.9523	0.90 - 1.10
Far Bar Gain	1.0094	1.0072	0.90 - 1.10
Far Dens Gain	0.9971	0.9966	0.90 - 1.10
Far Peak Gain	0.9917	0.9902	0.90 - 1.10
Far Lith Gain	0.9765	0.9813	0.90 - 1.10
Near Bar Offset	-0.5237	-0.4083	NONE
Near Dens Offset	-0.1385	-0.1089	NONE
Near Peak Offset	-0.0173	0.0935	NONE
Near Lith Offset	0.3026	0.3286	NONE
Far Bar Offset	-0.1964	-0.1769	NONE
Far Dens Offset	-0.0720	-0.0679	NONE
Far Peak Offset	-0.0313	-0.0196	NONE
Far Lith Offset	0.1098	0.0720	NONE
Near Bar Background	837.33	836.80	700 - 1450
Near Dens Background	276.63	276.37	230 - 480
Near Peak Background	120.84	120.11	100 - 210
Near Lith Background	147.09	147.58	125 - 260
Far Bar Background	658.95	658.60	450 - 900
Far Dens Background	259.62	257.76	175 - 345
Far Peak Background	101.99	102.13	70 - 140
Far Lith Background	104.75	105.12	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	2.589	2.603	0.014	+/- 0.150
ALUMINUM				
Density (g/cc)	2.603	2.602	-0.001	+/- 0.01500
Pe	3.043	3.063	0.020	+/- 0.150

Tool Summary				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits

QUALITY				
Background	0.0008	+/- 0.0110	0.0000	+/- 0.0140
Magnesium Block	-0.0005	+/- 0.0110	0.0001	+/- 0.0140
Aluminum Block	0.0004	+/- 0.0110	-0.0005	+/- 0.0140
Resolution	8.46	6.00 - 11.50	8.88	6.00 - 11.50
Internal Verifier(B+D+P+L)	1381	1200 - 2700	1124	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:	15-Mar-13 13:12:10
Engineer:	R. TWEETEN	Calibration Date:	17-Mar-13 13:24:48
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1

Pad Temperature: 63.3 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1380.870	1385.464	4.594	15.014
Far (B+D+P+L) cps	1123.615	1128.890	5.275	17.641
Near Resolution	8.46	8.51	0.050	0.50
Far Resolution	8.88	8.95	0.070	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 - 11294353	Reference Calibration Date:	10-Feb-13 10:04:15
Engineer:	J. PINKETT	Calibration Date:	05-Mar-13 19:14:41
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1
Host Tool Name:	ACRt Instrument - 11302817		

### TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.01	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	1.01	1.05	0.95	1.01	1.05	0.95	1.00	1.05
A4 (17")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.00	1.05	0.95	0.99	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.99	1.05	0.95	0.99	1.05

### TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
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Subarray	RIVERBLUE			RIVERBLUE			RIVERBLUE		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-0.71	2	-6	-4.45	-2	-8	-5.00	-2
A2 (50")	-7	-1.36	0	-7	-2.89	0	-7	-4.82	0
A3 (29")	-27	-12.76	-9	-9	-3.51	-3	-7	-3.69	-1
A4 (17")	-180	-90.13	-60	-45	-28.90	-15	-39	-24.94	-13
A5 (10")	N/A	N/A	N/A	-150	-96.55	-50	-80	-46.39	-10
A6 (6")	N/A	N/A	N/A	175	342.02	525	90	172.98	270

TRANSMITTER CURRENT GAIN				R-MUD VERIFICATION			
Signal	Lower	R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6	0.87	1.3	Mud Cell	0.95	1.00	1.05
36K	1.0	1.83	2.0				
72K	1.0	1.12	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

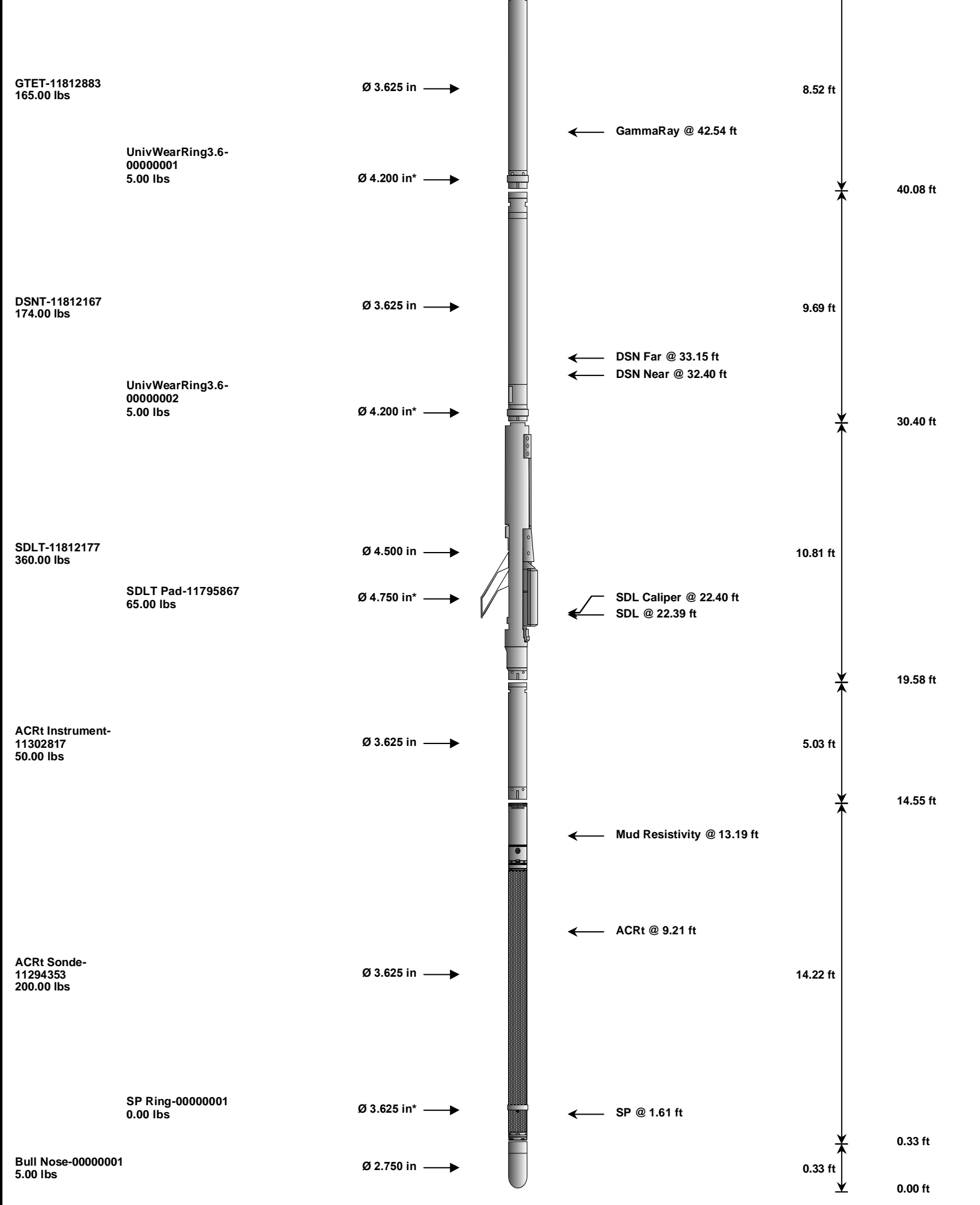
CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11812883						
Gamma Ray Calibrator	247.3	251.0	-----	-3.7	+/- 9.00	api
DSNT-11812167						
Snow-Block Porosity	0.0792	0.0801	-----	-0.0009	+/- 0.0150	decg
SDLT-11812177						
Pad Extension	3.75	3.79	-----	-0.04	+/-0.10	in
Ring Diameter	8.25	8.29	-----	-0.04	+/-0.15	in
SDLT Pad-11795867						
Near(B+D+P+L)	1380.870	1385.464	-----	-4.594	+/-15.014	cps
Far(B+D+P+L)	1123.615	1128.890	-----	-5.275	+/-17.641	cps
ACRt Sonde-11294353						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m
Data: RIVERBLUF_18-13\0001 TRIPLE_RED_SLICK\IDLE					Date: 17-Mar-13 17:29:51	

# HALLIBURTON

## TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-10409638 135.00 lbs		Ø 3.625 in →		← Load Cell @ 51.17 ft ← BH Temperature @ 50.60 ft	6.25 ft	54.85 ft  48.60 ft





Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	10409638	135.00	6.25	48.60	300.00
GTET	Gamma Telemetry Tool	11812883	165.00	8.52	40.08	60.00
UWR3P6	Universal Wear Ring 3 5-8 inch	00000001	5.00	0.35	* 40.39	300.00

DSNT	Dual Spaced Neutron	11812167	174.00	9.69	30.40	60.00
UWR3P6	Universal Wear Ring 3 5-8 inch	00000002	5.00	0.35 *	30.64	300.00
SDLT	Spectral Density Tool	11812177	360.00	10.81	19.58	60.00
SDLP	Density Insite Pad	11795867	65.00	2.55 *	21.79	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11302817	50.00	5.03	14.55	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11294353	200.00	14.22	0.33	300.00
SP	SP Ring	00000001	0.00	0.25 *	1.61	300.00
BLNS	Bull Nose	00000001	5.00	0.33	0.00	300.00
Total			1,164.00	54.85		
* Not included in Total Length and Length Accumulation.						
Data: RIVERBLUF_18-13\0001 TRIPLE_RED_SLICK\IDLE						
Date: 17-Mar-13 17:29:09						

COMPANY	BAYSWATER EXPLORATION AND PRODUCTION LLC		
WELL	RIVER BLUFFS 18-13		
FIELD	WATTENBERG		
COUNTY	LARIMER	STATE	CO
HALLIBURTON		ARRAY COMPENSATED TRUE RESISTIVITY SPECTRAL DENSITY DUAL SPACED NEUTRON	