

HALLIBURTON

DUAL SPACED NEUTRON SPECTRAL DENSITY ARRAY COMPENSATED TRUE RESISTIVITY

GREAT BEAR PETROLEUM		COMPANY		GREAT BEAR PETROLEUM					
		WELL		ALCOR #1					
		FIELD		WILDCAT					
		COUNTY		NORTH SLOPE		STATE		ALASKA	
		API No.		50029200260000			Other Services:		
		Location		SURFACE: 2452' FSL & 652' FEL			WSTT CSNG		
		Sect.		5	Twp.		7N	Rge.	14E
Permanent Datum		GL						Elev.	178.00 ft
Log measured from		DF						, 21.00 ft above perm. Datum	
Drilling measured from		DF						Elev.:	K.B. 187.00 ft D.F. 186.00 ft G.L. 163.70 ft
Date		10-Jul-12							
Run No.		ONE							
Depth - Driller		8320.00 ft							
Depth - Logger		8319.00 ft							
Bottom - Logged Interval		8310.0 ft							
Top - Logged Interval		CASING							
Casing - Driller		9.625 in @ 2491.00 ft			@		@		
Casing - Logger		2491.00 ft							
Bit Size		8.500 in			@		@		
Type Fluid in Hole		ENVIROMUL							
Density	F. Viscosity	9.5 ppg	85.00 spqt						
Alkalinity	P. Viscosity		38.0 cP						
HTHP @ Meas. Temperature		2.4 mptm @ 200.00 degF			@		@		
Solids	Wgt. Material		BARITE						
Oil	Water Ratio	80	20						
Water Phase Salinity		234.00 ppm Cl-							
Oil Type	Brine Type								
Electrical Stability		720 V							
Time Since Circulation		12.0 hr							
Time on Bottom		10-Jul-12 12:28							
Max. Rec. Temperature		180.0 degF @ 8319.0 ft			@		@		
Equipment	Location	11640435	PRUDHOE BA'						
Recorded By		C. GULLETT							
Witnessed By		P. STILES							

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Service Ticket No.: N/A										API Serial No.: 50029200260000										PGM Version: WL INSITE R3.6.0 (Build 3)									
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE															RESISTIVITY SCALE CHANGES														
Date	Sample No.					Type Log	Depth	Scale Up Hole	Scale Down Hole																				
Type Fluid in Hole																													
Density	F. Viscosity																												
Alkalinity	P. Viscosity																												
HTHP @ Meas. Temp.										@	RESISTIVITY EQUIPMENT DATA																		
Solids	Wgt. Mat.					Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other																			
Oil	Water Ratio					ONE	ACRt-	N/A	1.5" STANDOFF	N/A																			
Water Phase Salinity											E7818-S1994																		
Oil Type	Water Type																												
Electrical Stability																													
EQUIPMENT DATA																													
GAMMA					ACOUSTIC					DENSITY					NEUTRON														
Run No.	ONE	Run No.	Serial No.	Model No.	No. of Cent.	Spacing	Diameter	Log Type	GAMMA-GAMMA	Cs137	Source Type	Serial No.	Strength	15 Ci															
Serial No.	10995697	Serial No.	126	WSST	2	0.5'	Diameter	Log Type	GAMMA-GAMMA	Cs137	Source Type	Serial No.	Strength	15 Ci															
Model No.	GTEI	Model No.	WSST	2	0.5'	Diameter	Log Type	GAMMA-GAMMA	Cs137	Source Type	Serial No.	Strength	15 Ci																
Diameter	3.625"	No. of Cent.	Spacing	Diameter	Log Type	GAMMA-GAMMA	Cs137	Source Type	Serial No.	Strength	15 Ci																		
Detector Model No.	102-T	Spacing	Diameter	Log Type	GAMMA-GAMMA	Cs137	Source Type	Serial No.	Strength	15 Ci																			
Type	SCINT.	LSA [Y/N]	FWDA [Y/N]	Strength	15 Ci																								
Length	8"	FWDA [Y/N]	Strength	15 Ci																									
Distance to Source	17'	FWDA [Y/N]	Strength	15 Ci																									

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	T.D.	CSG.	REC.	0	200	30	190	55.5 usec	45	-15	2.65 g/cc	45	-15	SAND	
ONE	T.D.	SURF.	REC.	0	200										
DIRECTIONAL INFORMATION															
Maximum Deviation									@		KOP				@
Remarks:															
RWCH-SWIVEL-GTET-WSTT-OMRI WERE RAN IN COMBINATION.															
ANNULAR VOLUME CALCULATED FOR 7" CASING.															
TOOL STRING AND LOG PRESENTATION PER CUSTOMER REQUEST.															
LATITUDE: 69° 59' 22.812" N															
LONGITUDE: 148° 40' 54.588" W															
YOUR CREW TODAY: D. CLEARY AND J. CUNNINGHAM.									RIG: NABORS #105.						
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES - PRUDHOE BAY, AK.															
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	8.500	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Oil	
	SHARED	MDWT	Borehole Fluid Weight	9.500	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	WPHS	OBM Water Phase Salinity NaCl	0.00	ppm
	SHARED	OFOW	Base Oil Fraction from Oil/Water Ratio	1.00	
	SHARED	OBMT	Oil based Mud Type	Diesel	
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	7.000	in
	SHARED	ST	Surface Temperature	50.0	degF
	SHARED	TD	Total Well Depth	8320.00	ft
	SHARED	BHT	Bottom Hole Temperature	200.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	SHARED	BHSM	Borehole Size Master Tool	NONE	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	

	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
	Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
	Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
	Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
	Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
	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	
	CSNG	CGOK	Process CSNG Data?	Yes	
	CSNG	CENT	Is Tool Centralized?	No	
	CSNG	GBOK	Gamma Enviromental Corrections?	Yes	
	CSNG	BARF	Barite Correction Factor	1.00	
	CSNG	ORDG	Use Fixed Gain	No	
	CSNG	ORDO	Use Fixed Offset	No	
	CSNG	ORDR	Use Fixed Resolution Degradation Factor	No	
	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	0.000	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
	Wavesonic-I	WSOK	Process WSTT?	Yes	
	Wavesonic-I	AFIL	Adaptive Filtering?	No	
	Wavesonic-I	PINT	Process 1 Sample and Skip	0	
	Wavesonic-I	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4	4	
	Wavesonic-I	DTSH	Delta -T Shale	100.00	uspf
	Wavesonic-I	DTMT	Delta -T Matrix Type	Sandstone 55.5	
	Wavesonic-I	DTMA	Delta -T Matrix	55.50	uspf
	Wavesonic-I	DTFL	Delta -T Fluid	189.00	uspf
	Wavesonic-I	RHOM	Matrix Density	2.6500	g/cc
	Wavesonic-I	RHOF	Fluid Density	1.0000	g/cc
	Wavesonic-I	SMTH	Semblance Threshold	0.25	
	Wavesonic-I	VPVS	VPVS Ratio for Porosity	1.40	
	Wavesonic-I	APEQ	Acoustic Porosity Equation	Wylie	
	Wavesonic-I	NAVS	Navigation Source Tool	NONE	
	ACRt Sonde	RTOK	Process ACRt?	Yes	
	ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
	ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
	ACRt Sonde	TPOS	Tool Position	Free Hanging	

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: GB_ALCOR_#1\0001 QUADIDLE			Date: 10-Jul-12 14:18:59	



Plot Time: 26-Jul-12 13:07:07

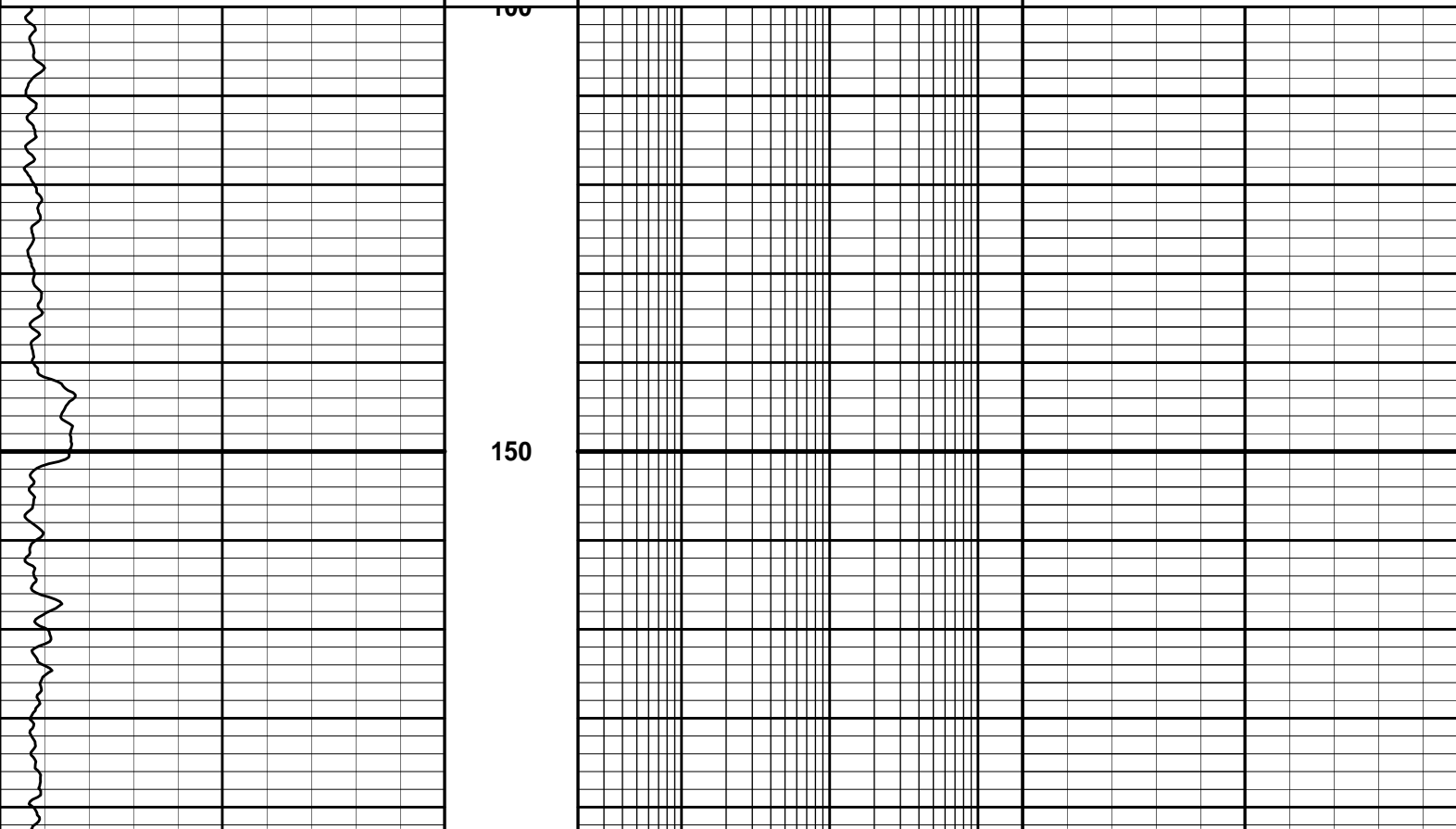
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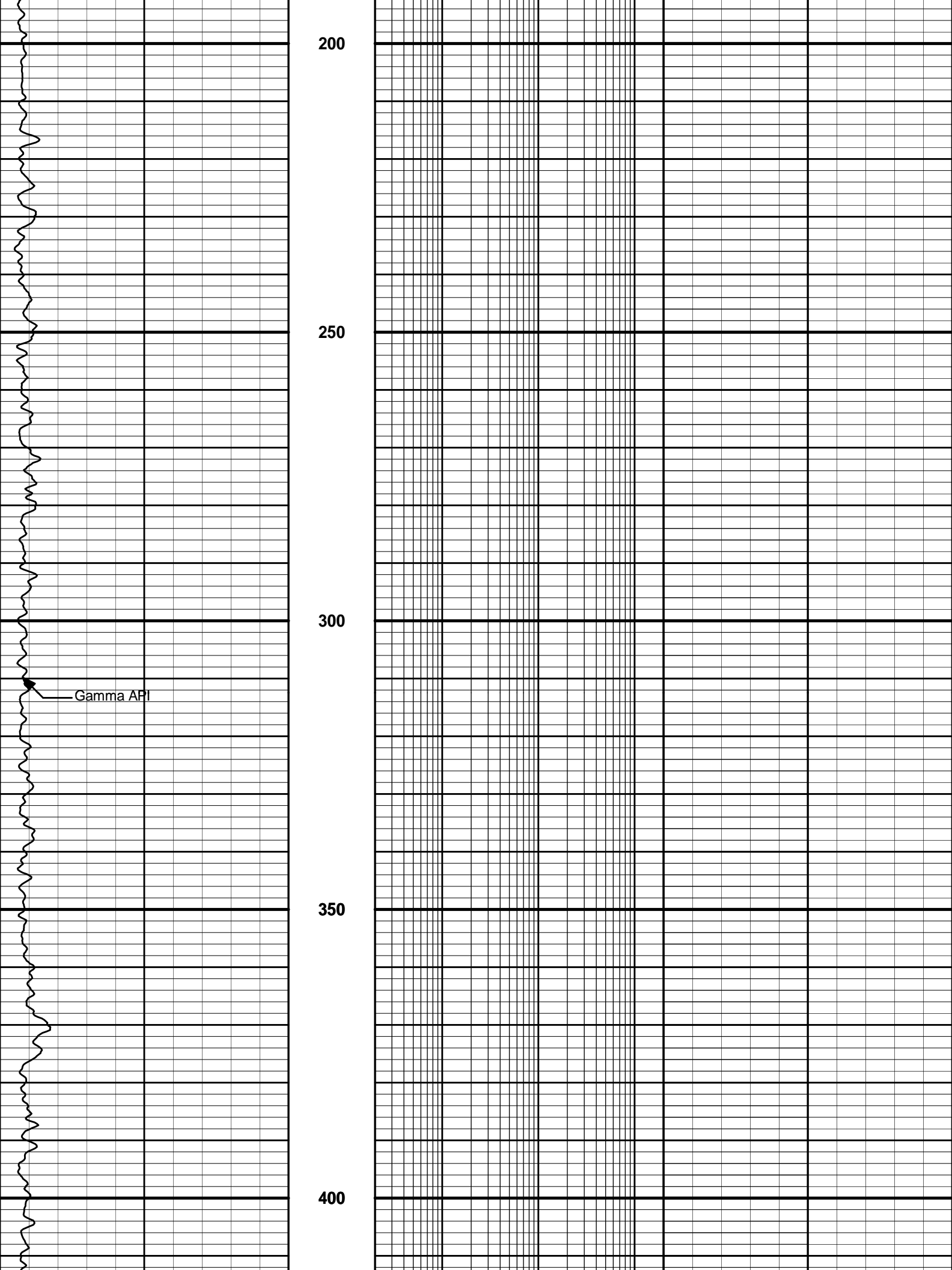
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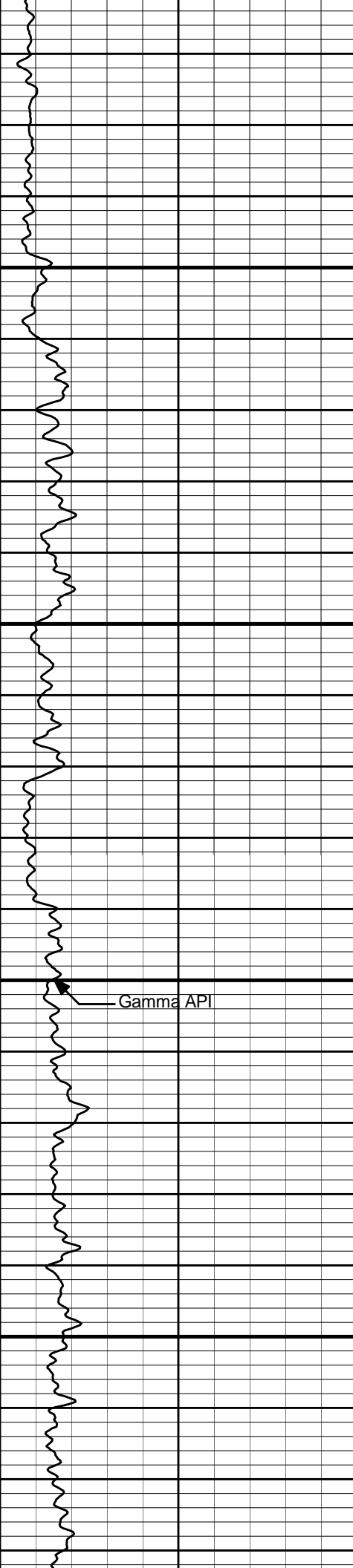
Plot File: \\COMP_5IN\IQ_COMP_5IN_RM

MAIN PASS 5" = 100'

			0.2		RT10		200				
			Ohm-m								
			0.2		RT20		200				
			45		Neutron Porosity		-15				
			Ohm-m		percent						
10K	Tens	0	AHVT	0.2	RT30		200		45	Density Porosity	-15
	pounds			Ohm-m						percent	
6	Caliper	16	BHVT	0.2	RT60		200		0	Pe	10
	inches			Ohm-m							
0	Gamma API	200	1 : 240	0.2	RT90		200		-0.25	DensityCorr	0.25
	api			Ohm-m							gram per cc







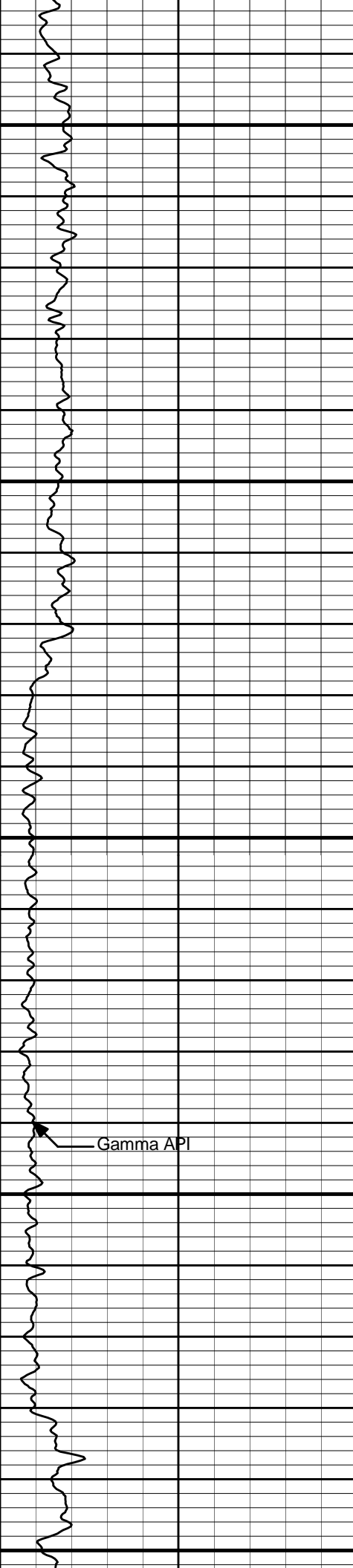
450

500

550

600

Gamma API



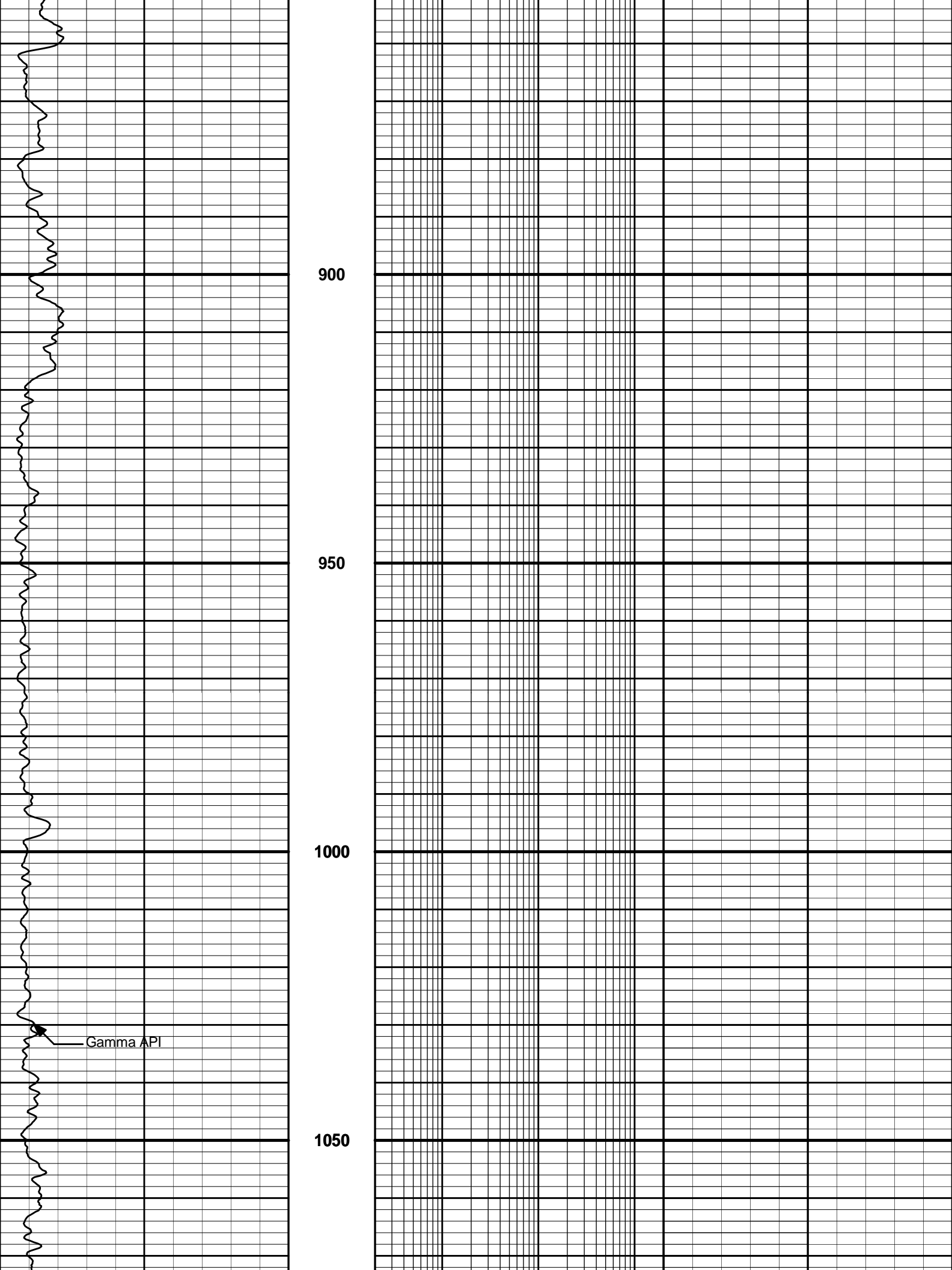
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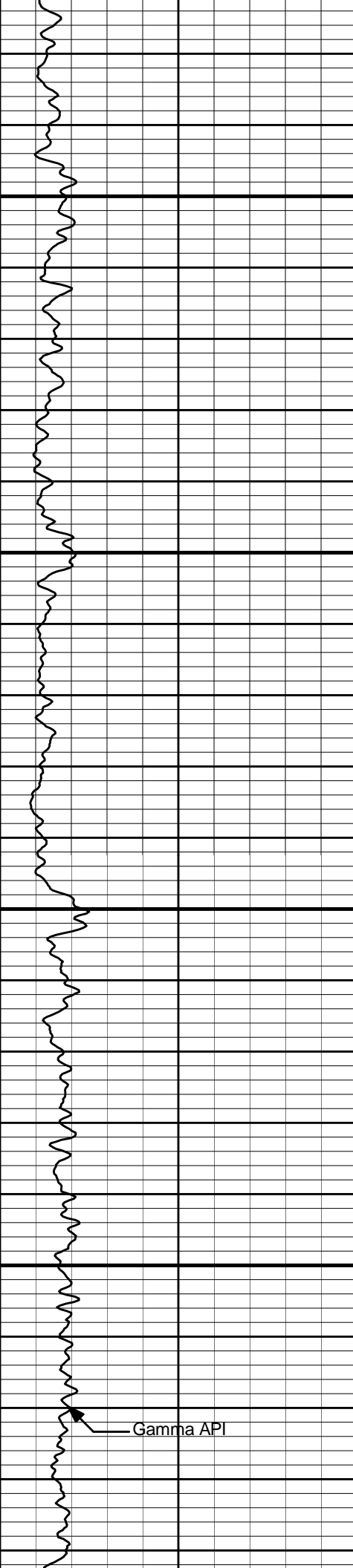
700

750

800

850





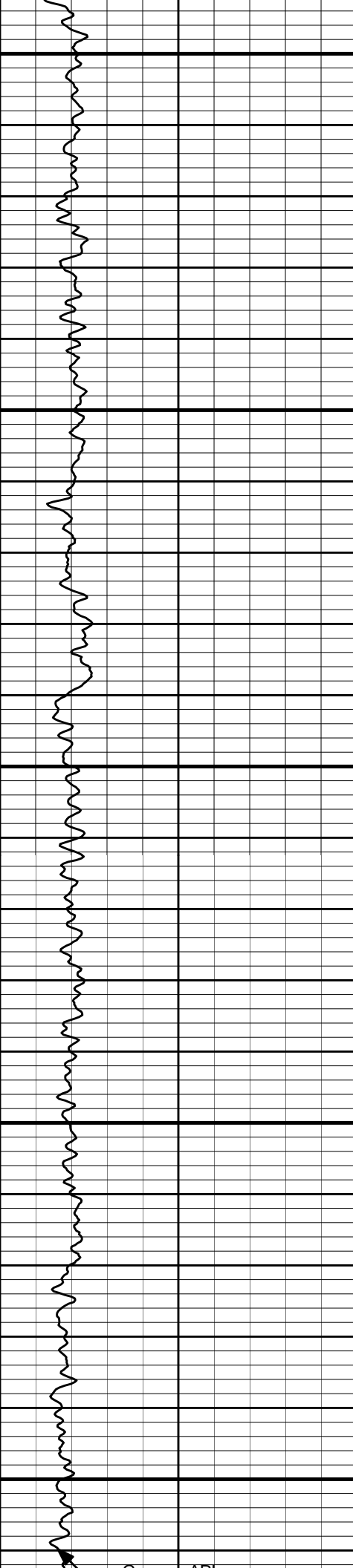
1100

1150

1200

1250

Gamma API



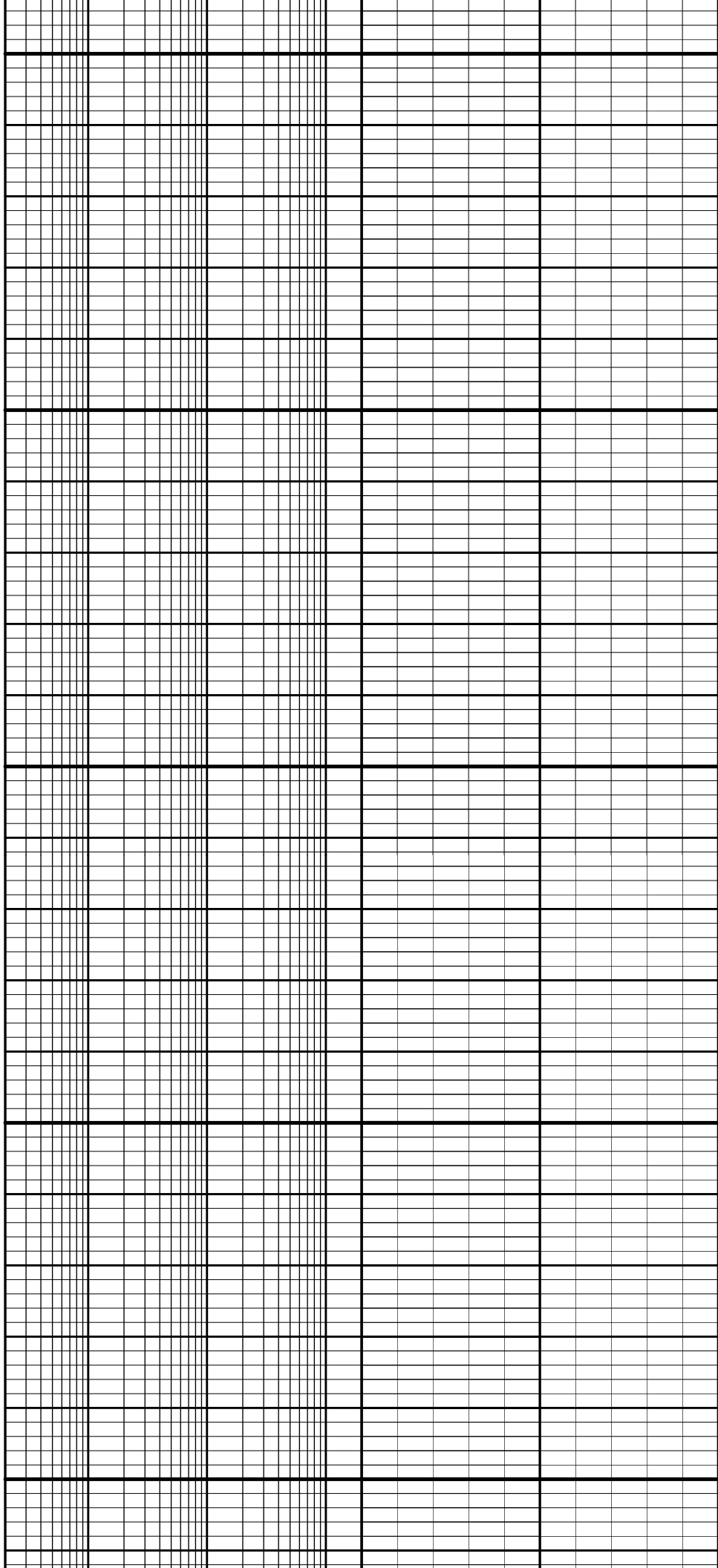
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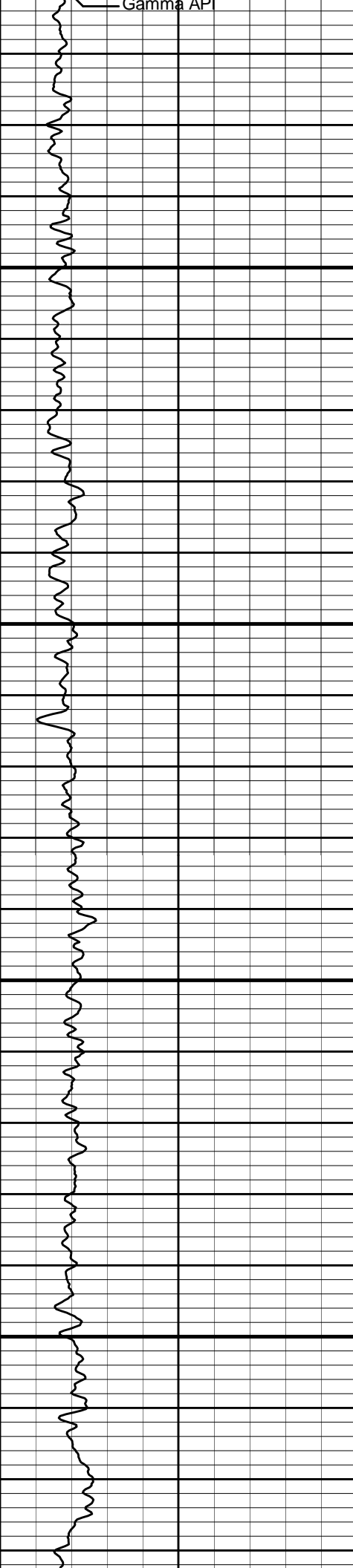
1350

1400

1450

1500



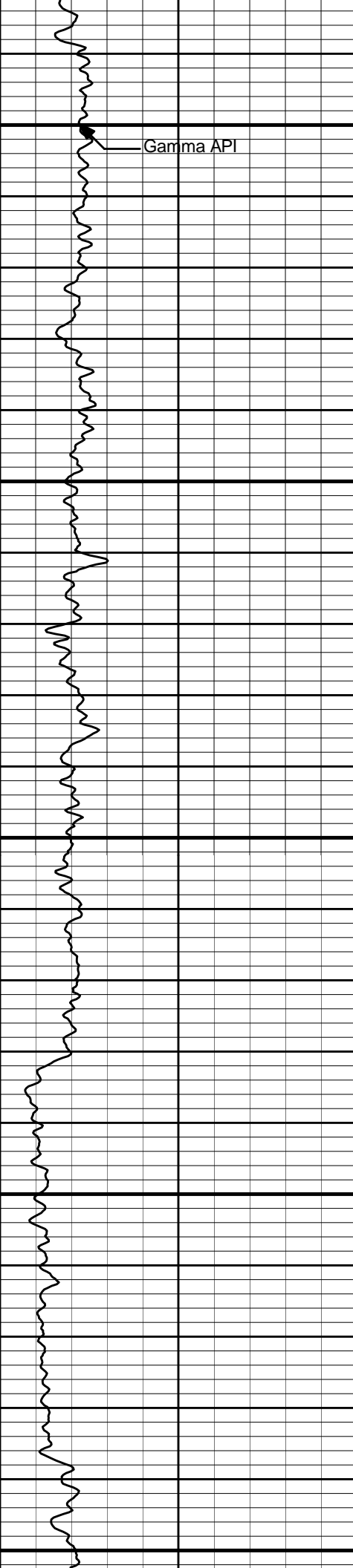


1550

1600

1650

1700



Gamma API

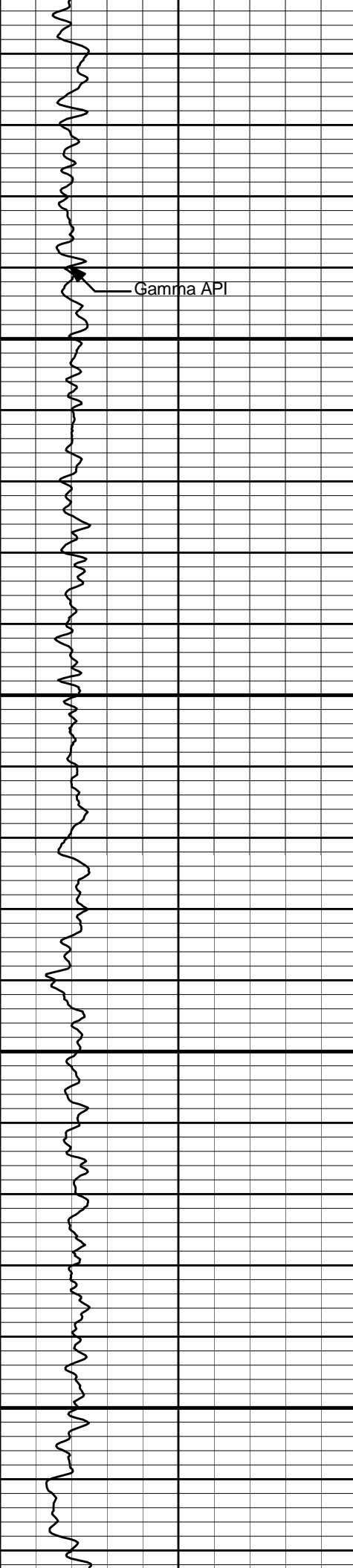
1750

1800

1850

1900

1950



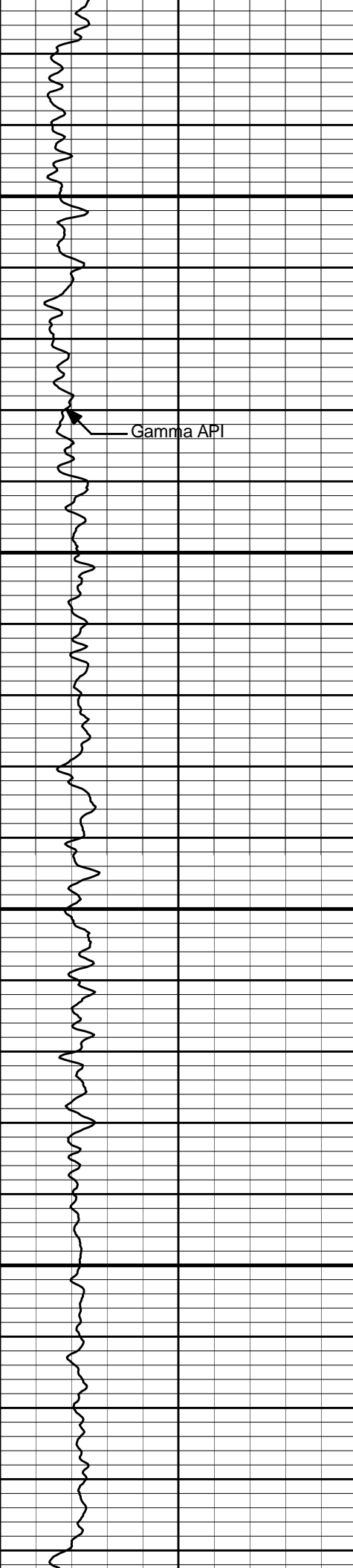
Gamma API

2000

2050

2100

2150

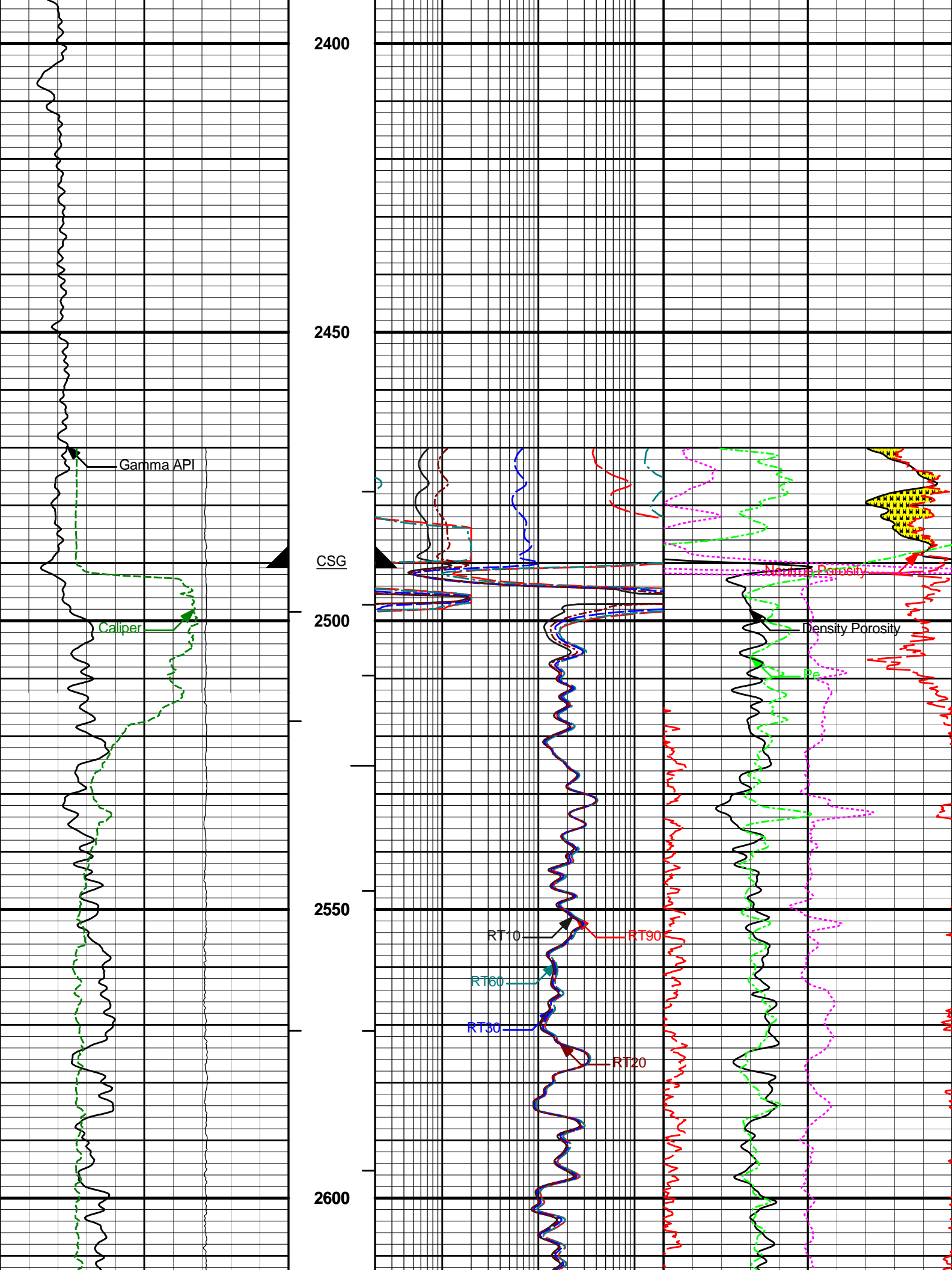


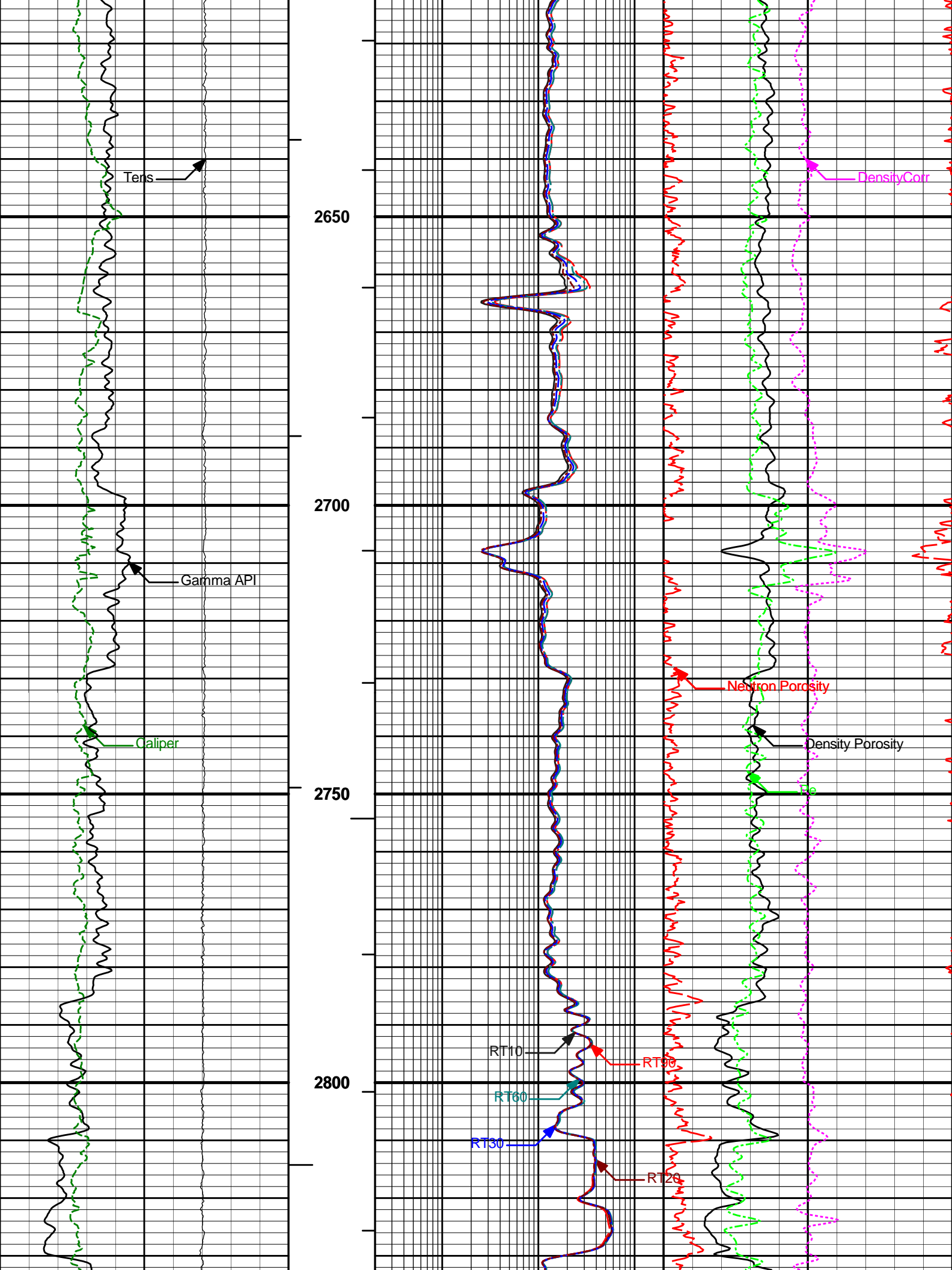
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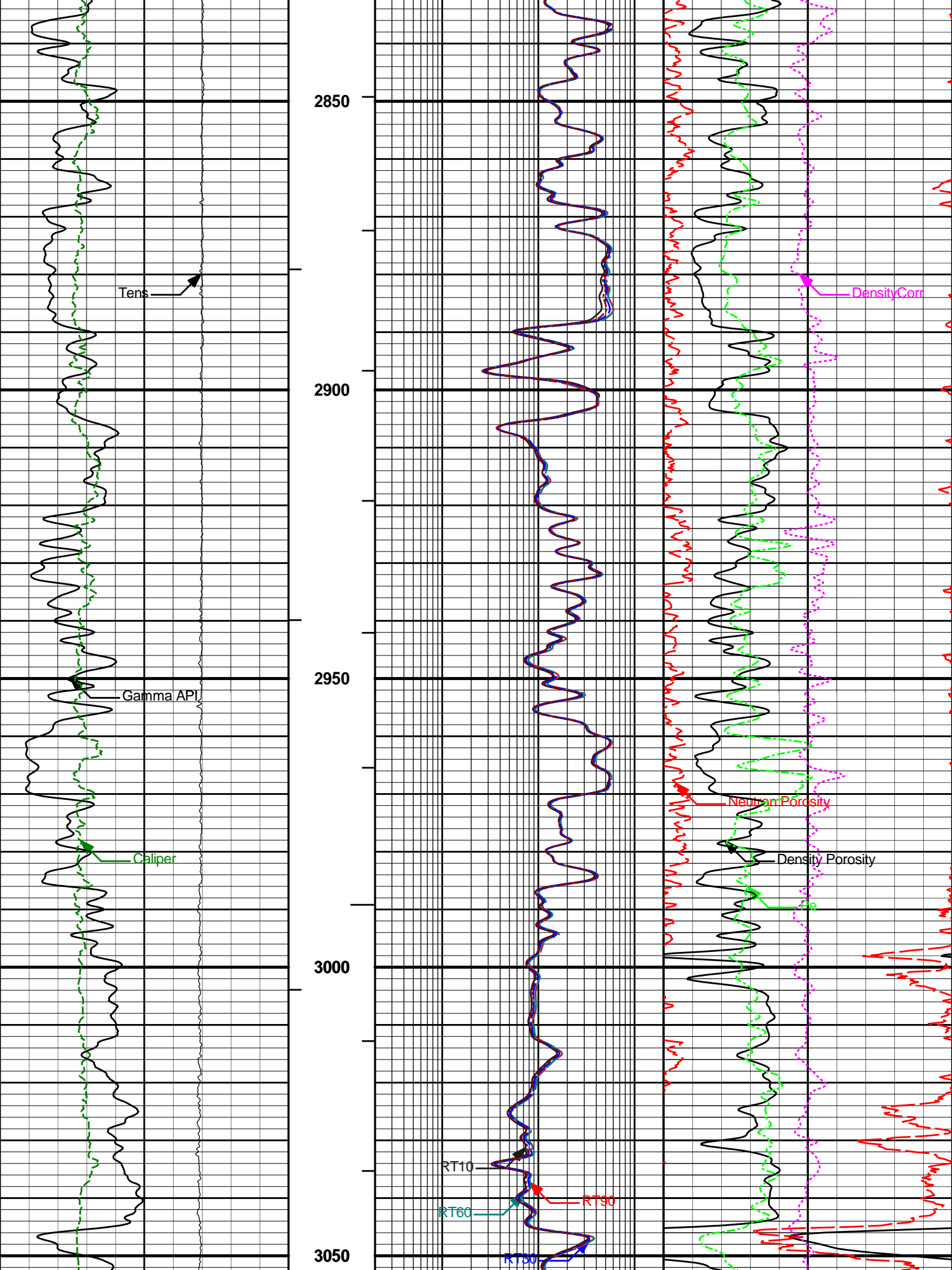
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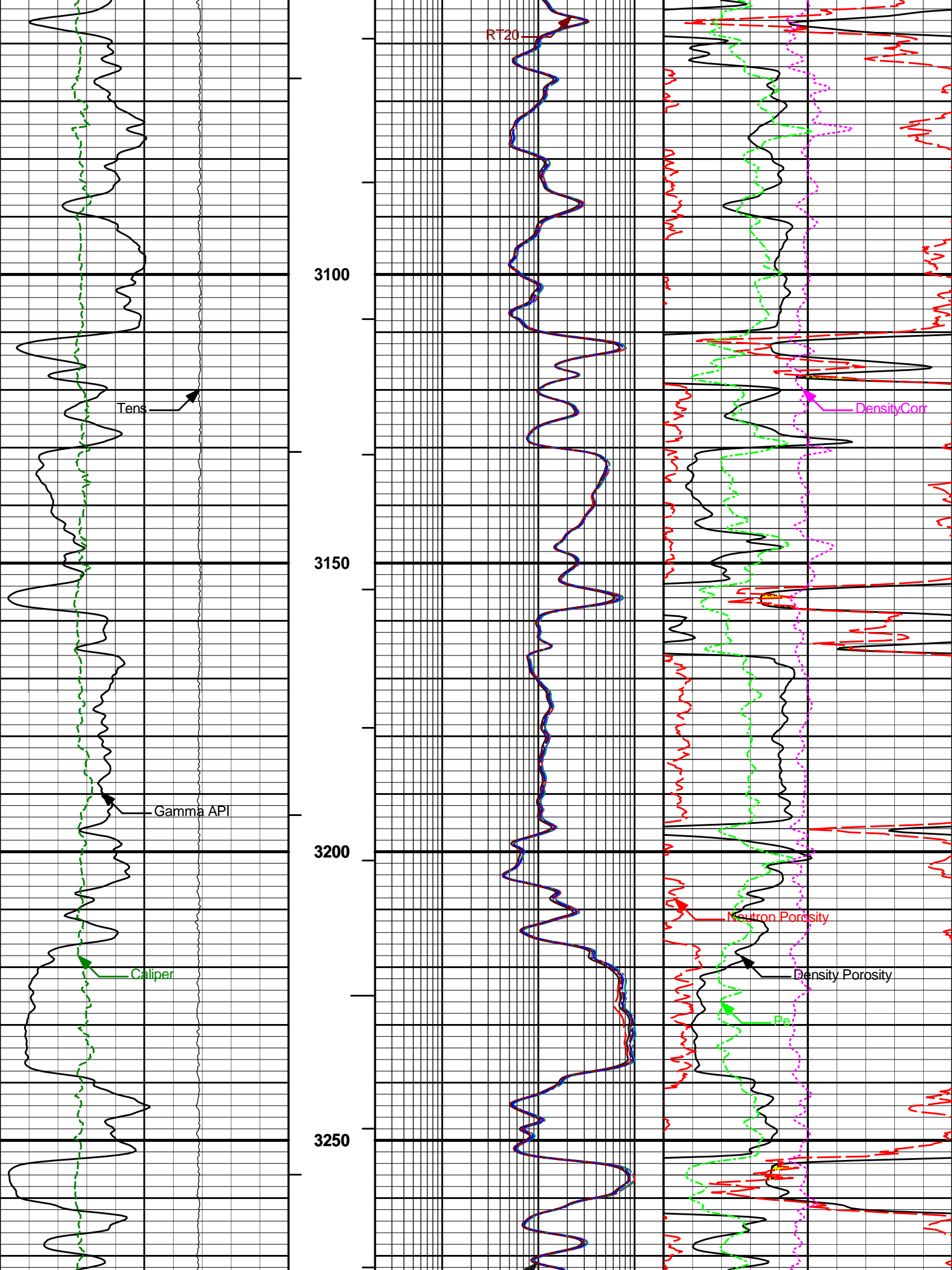
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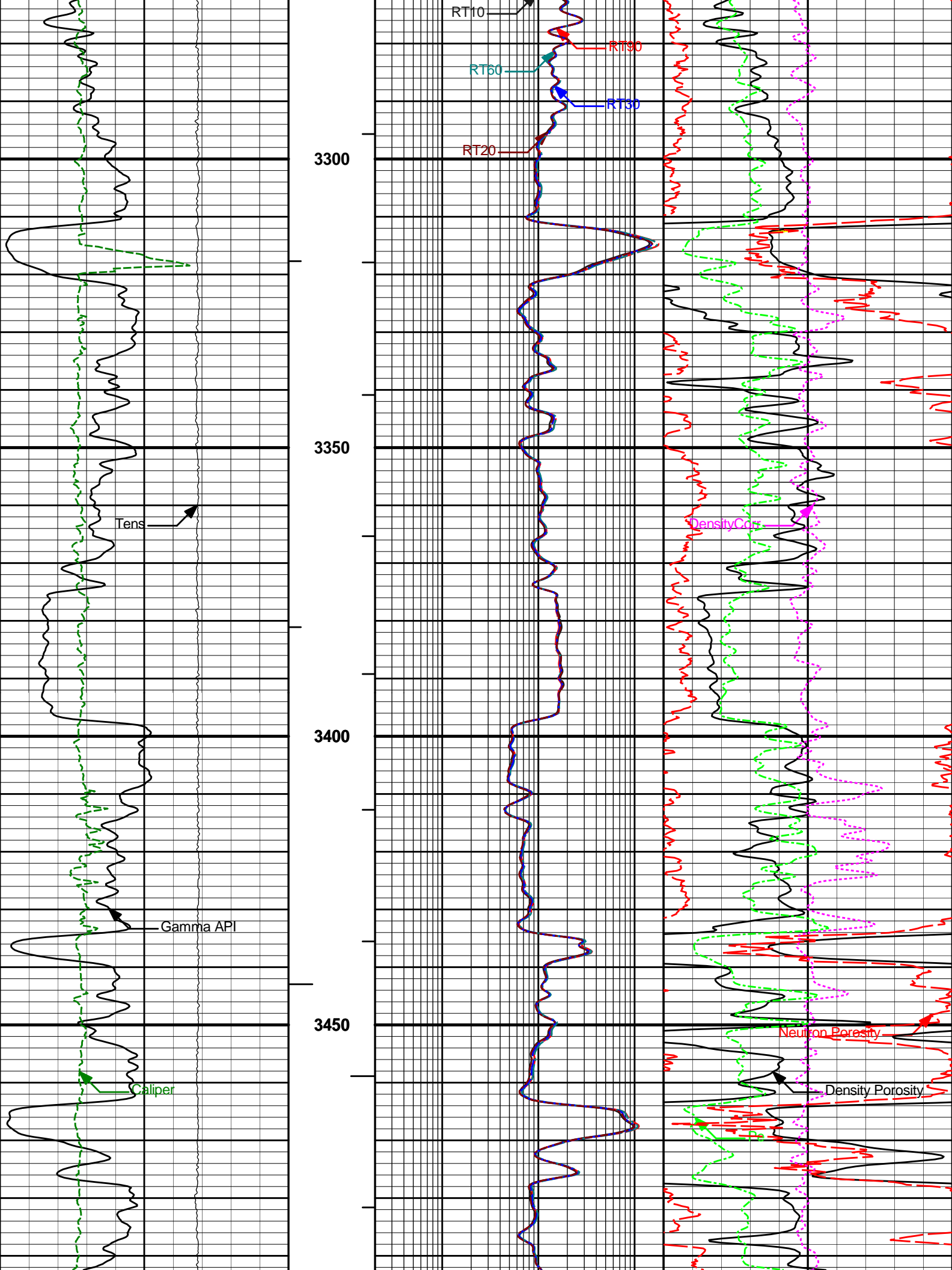
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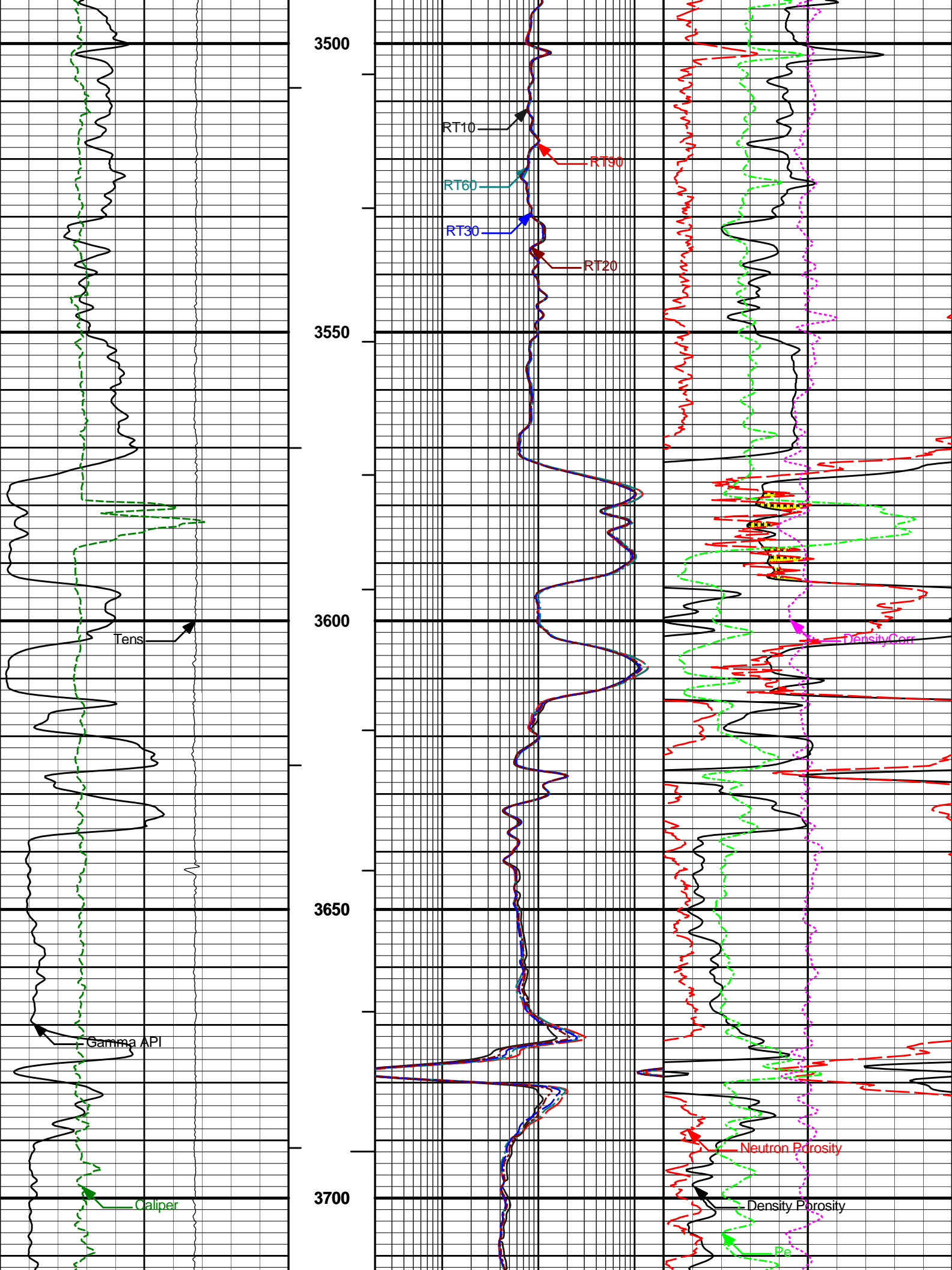


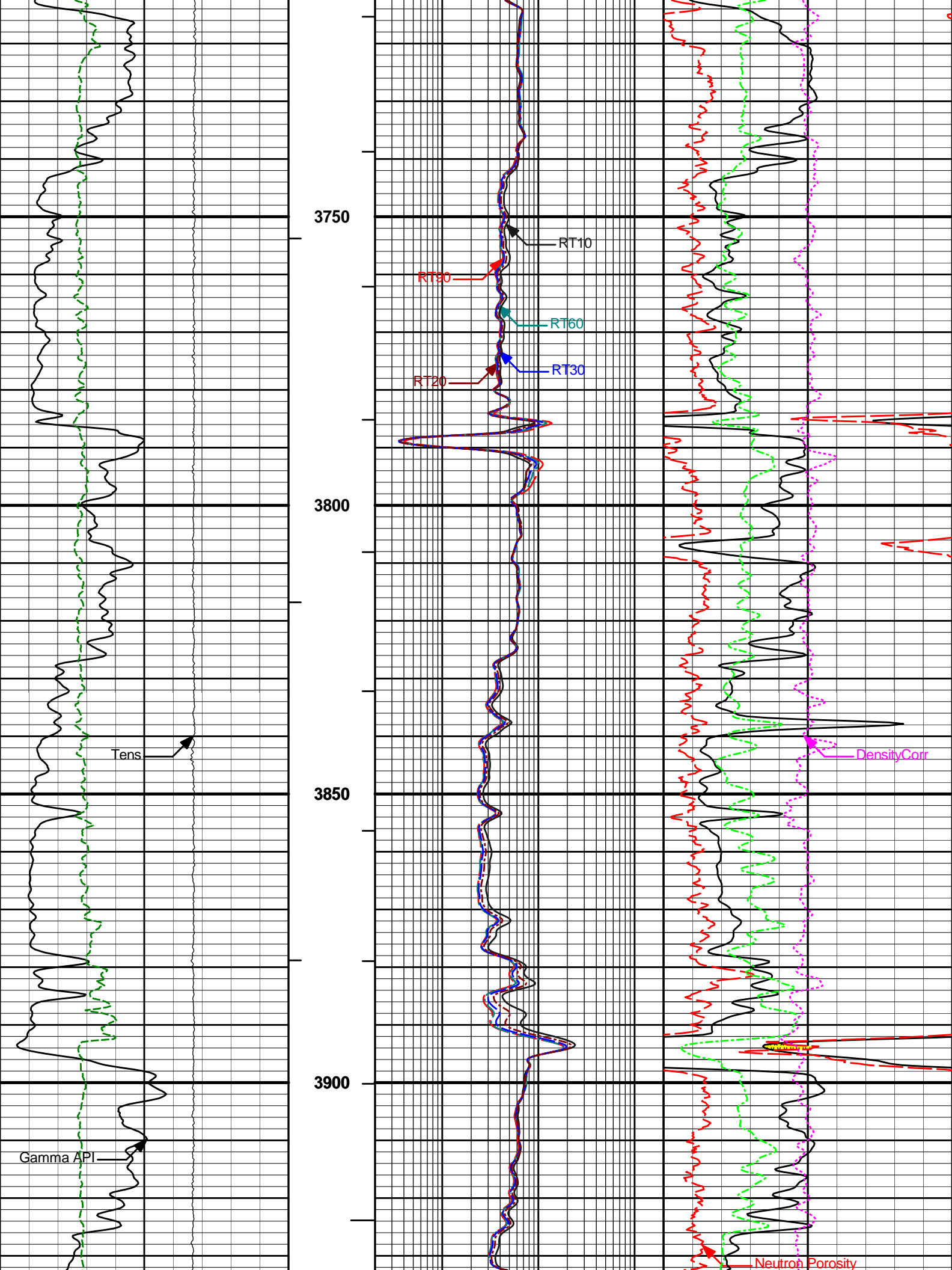


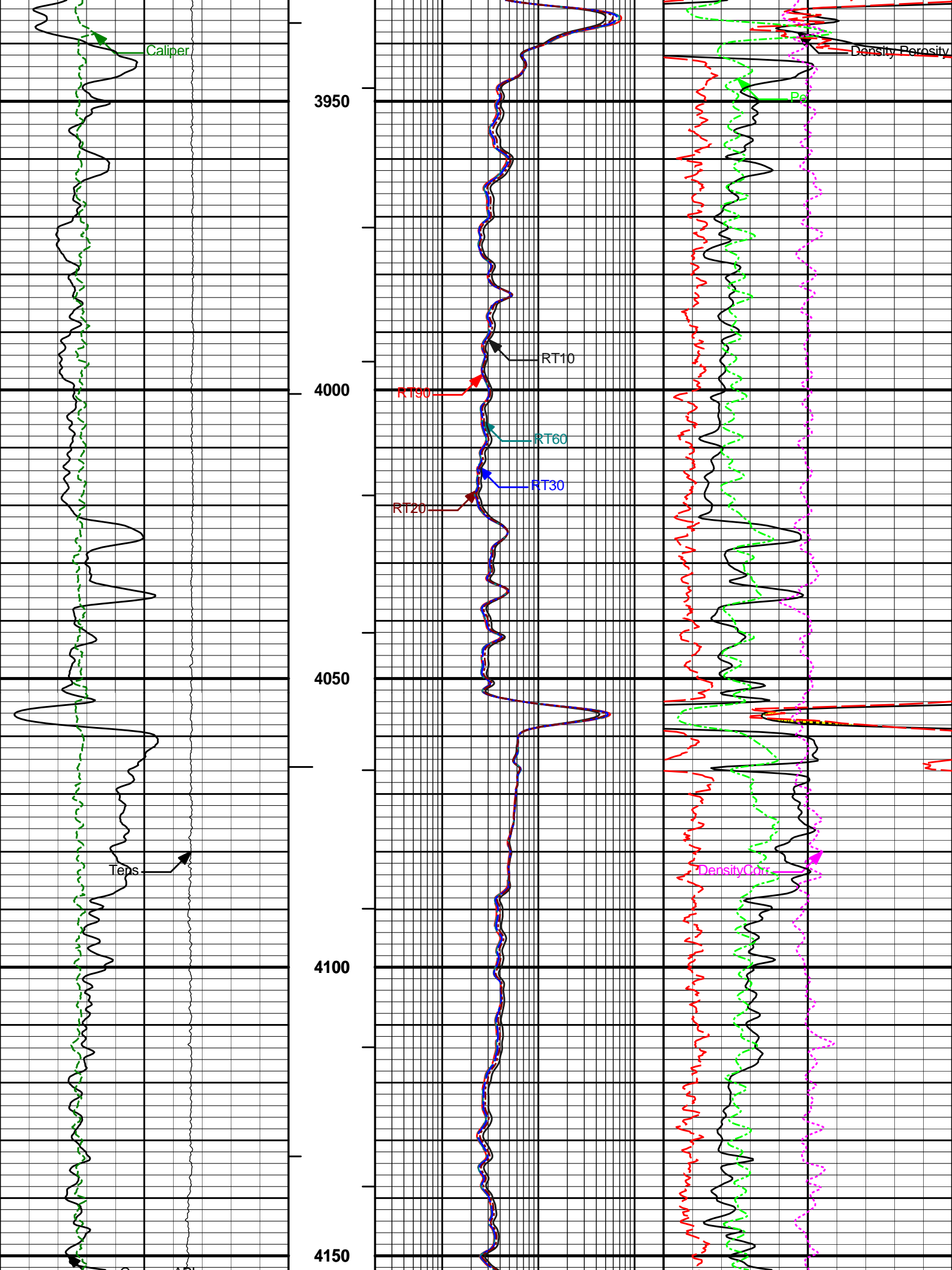


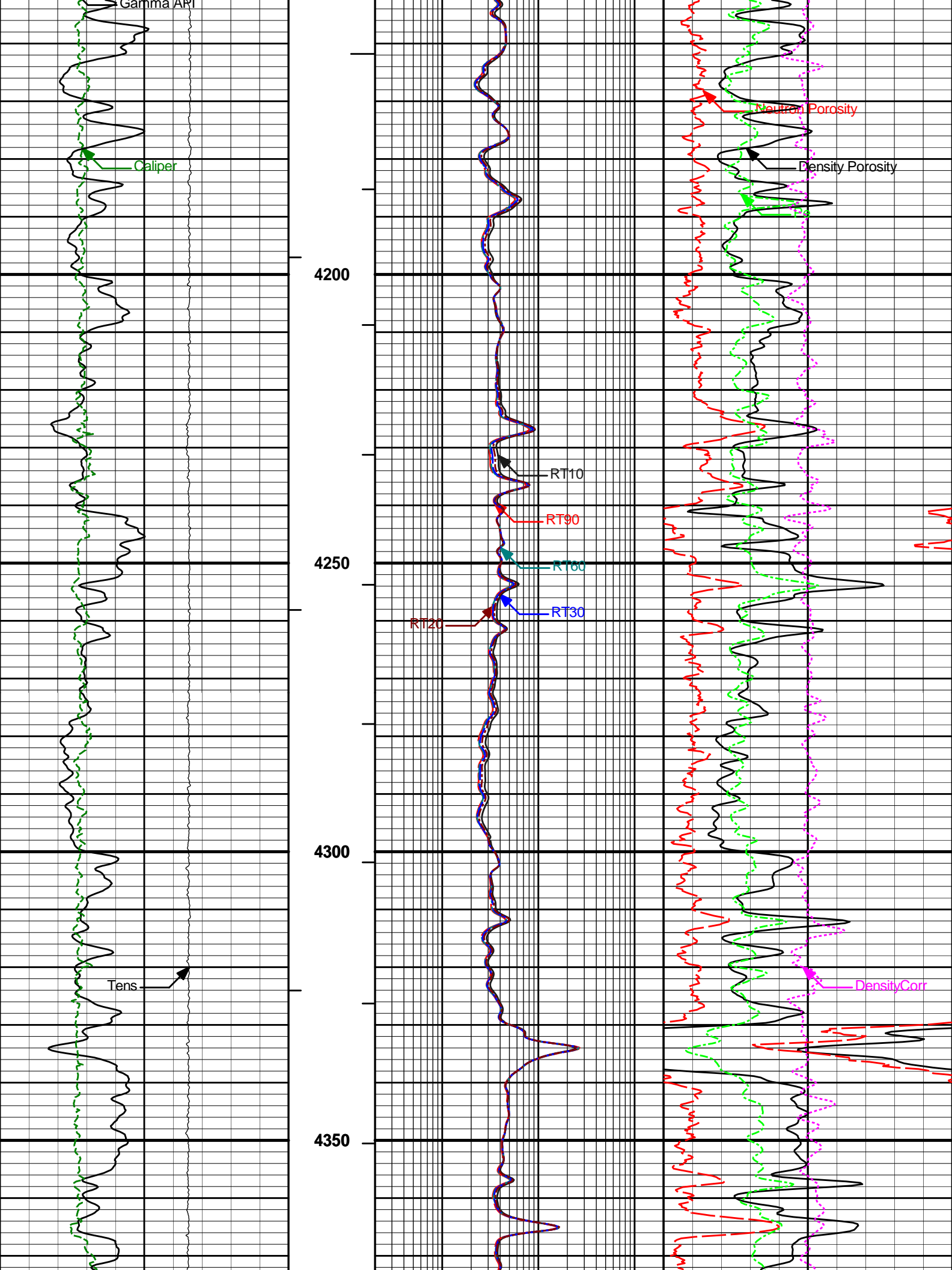


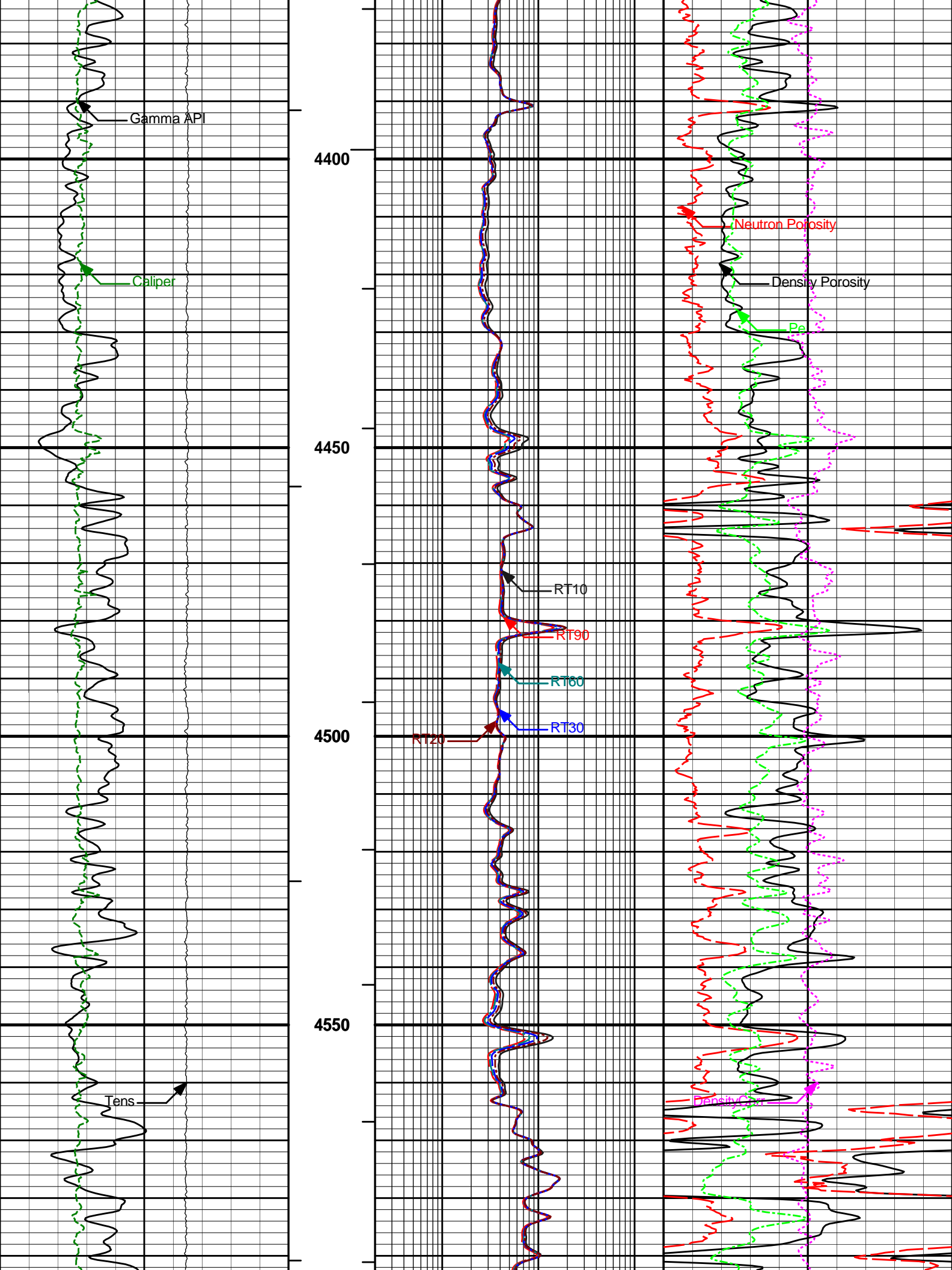


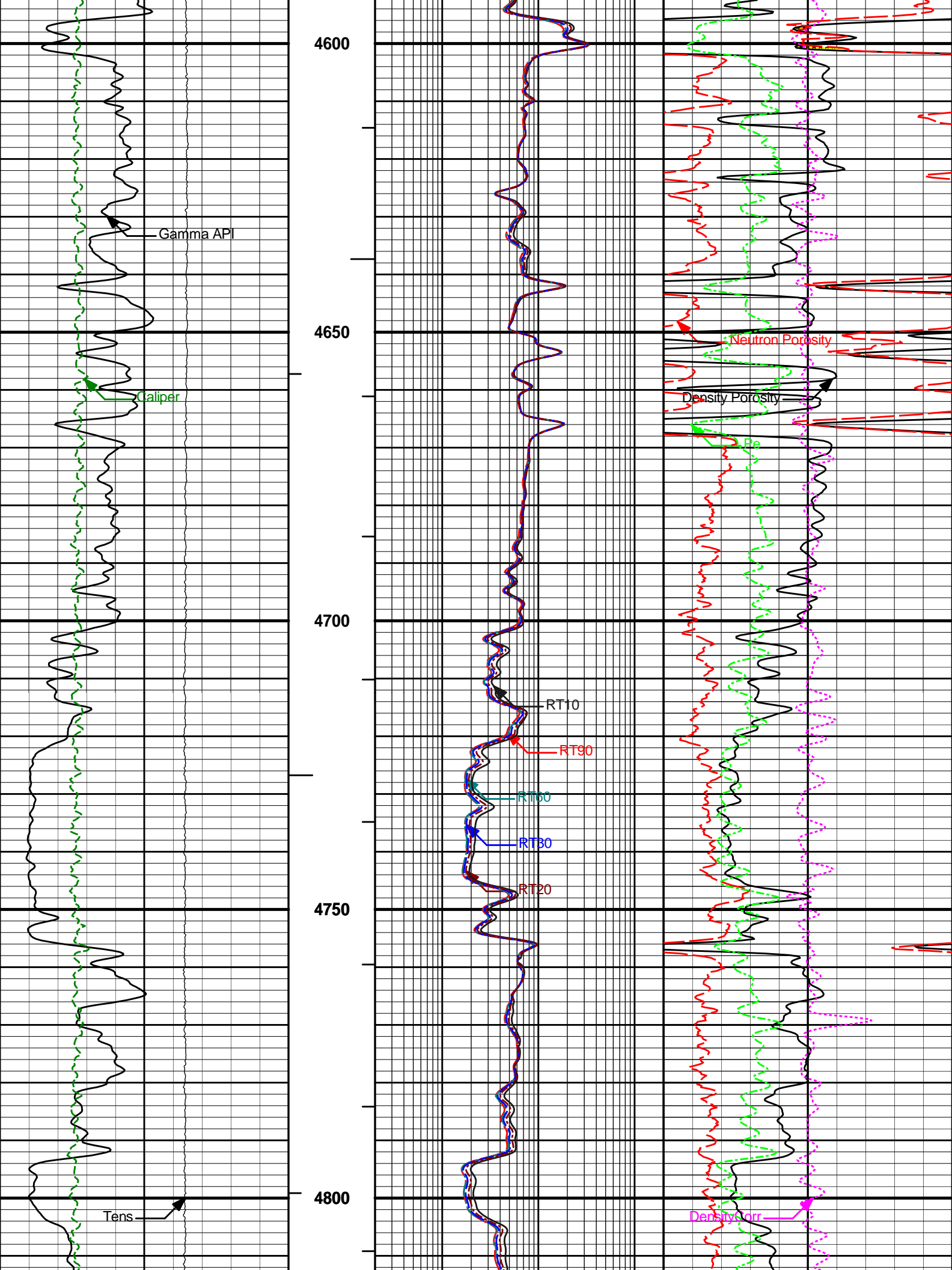


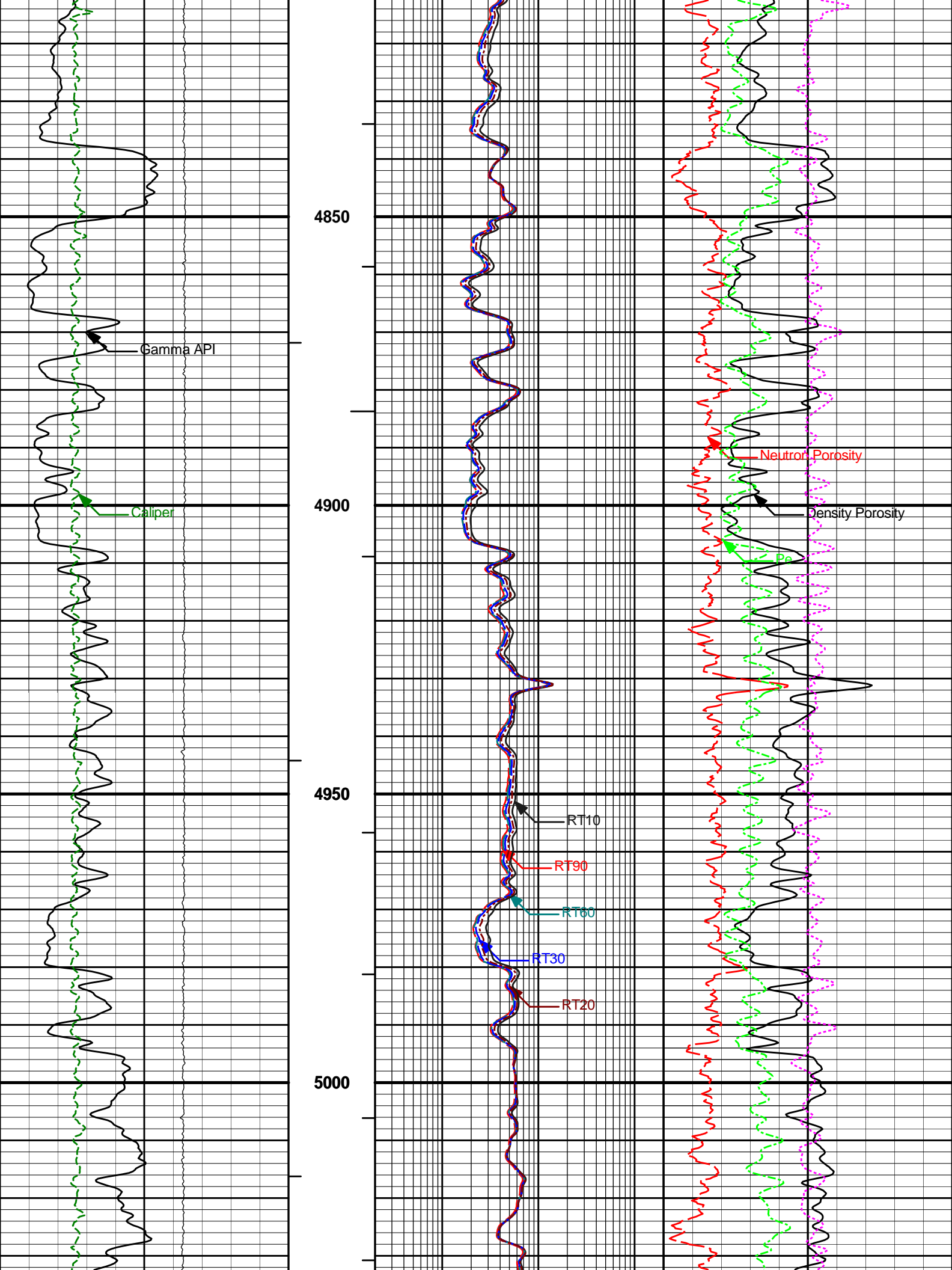


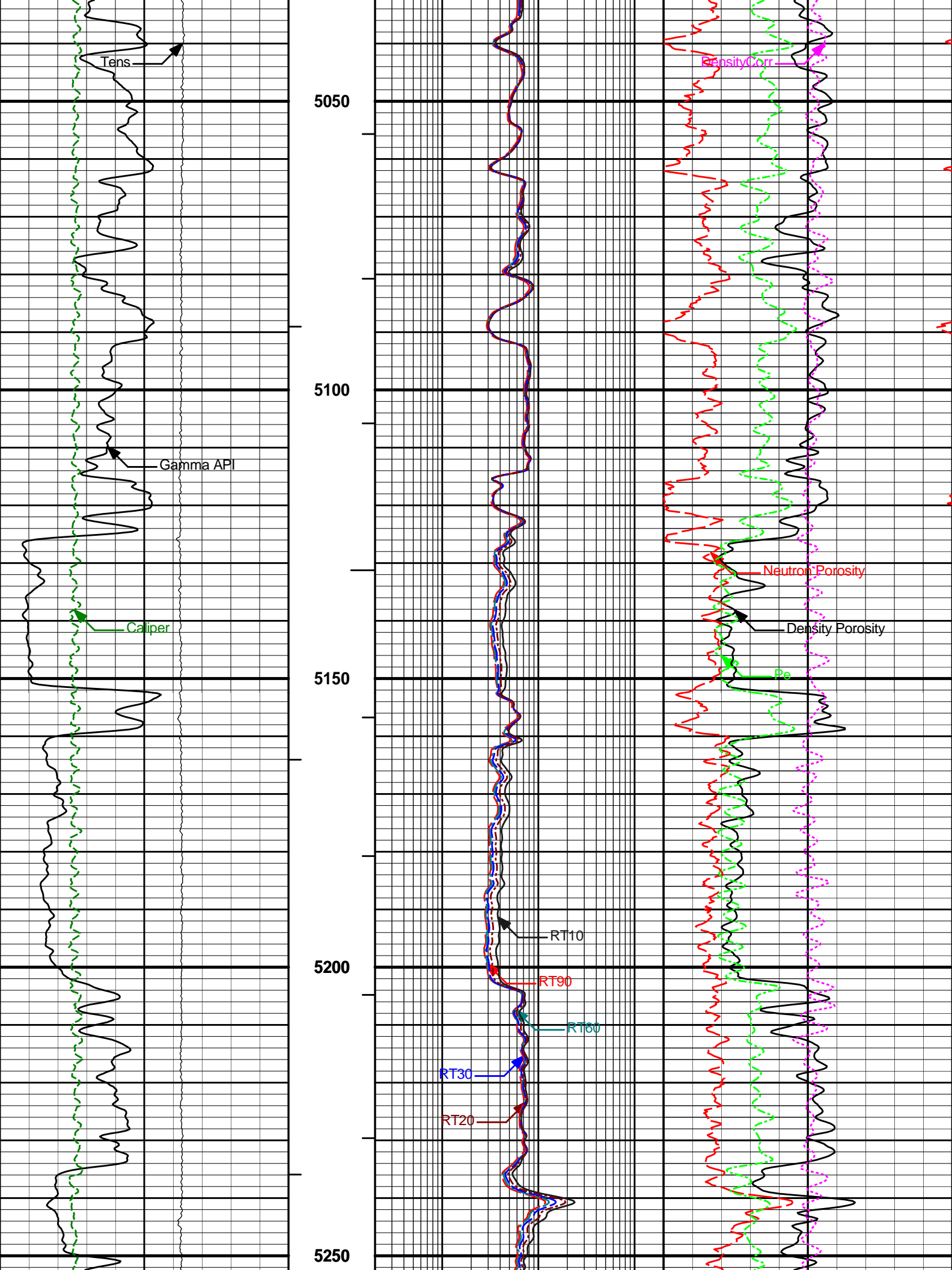


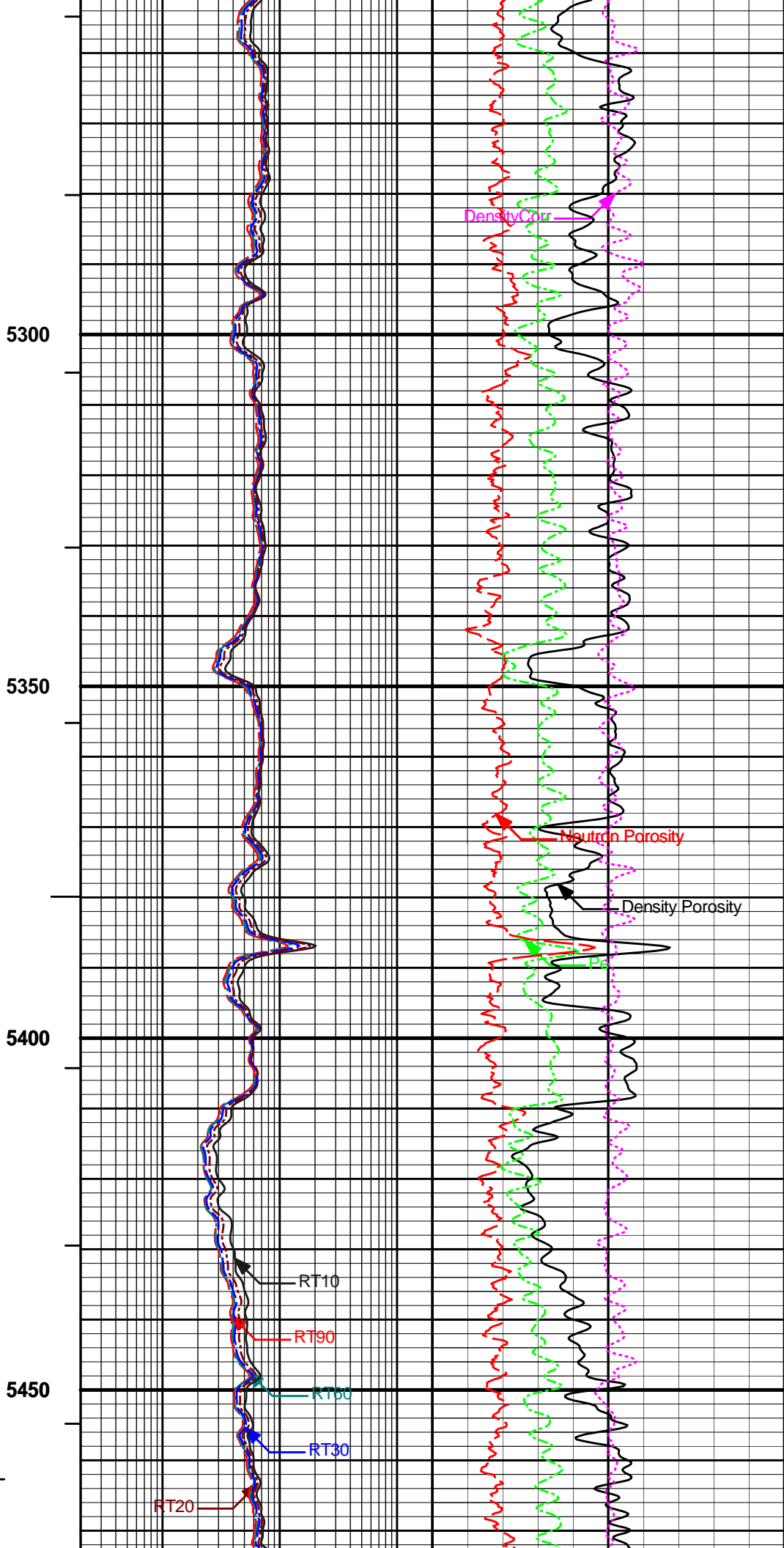
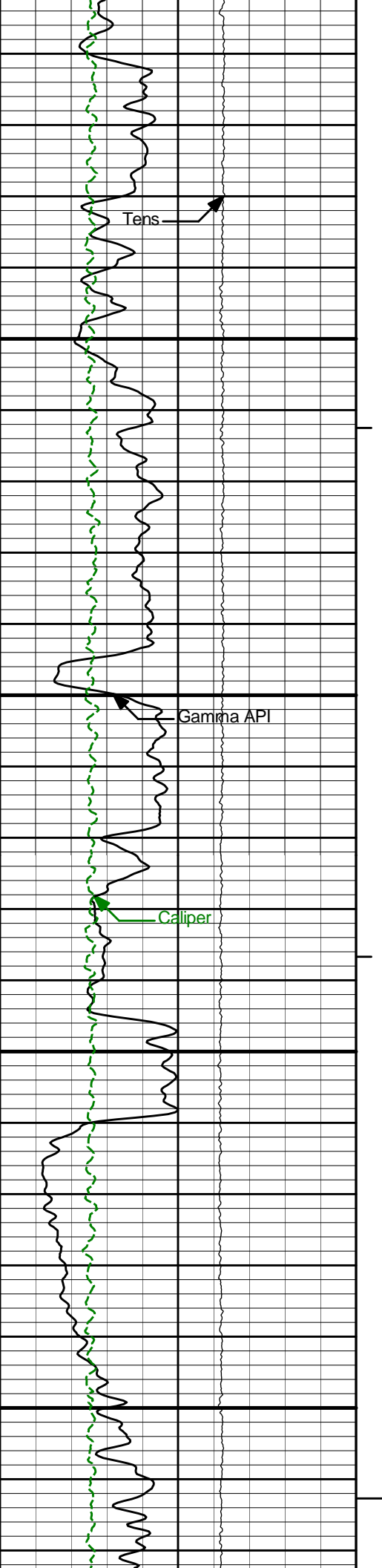


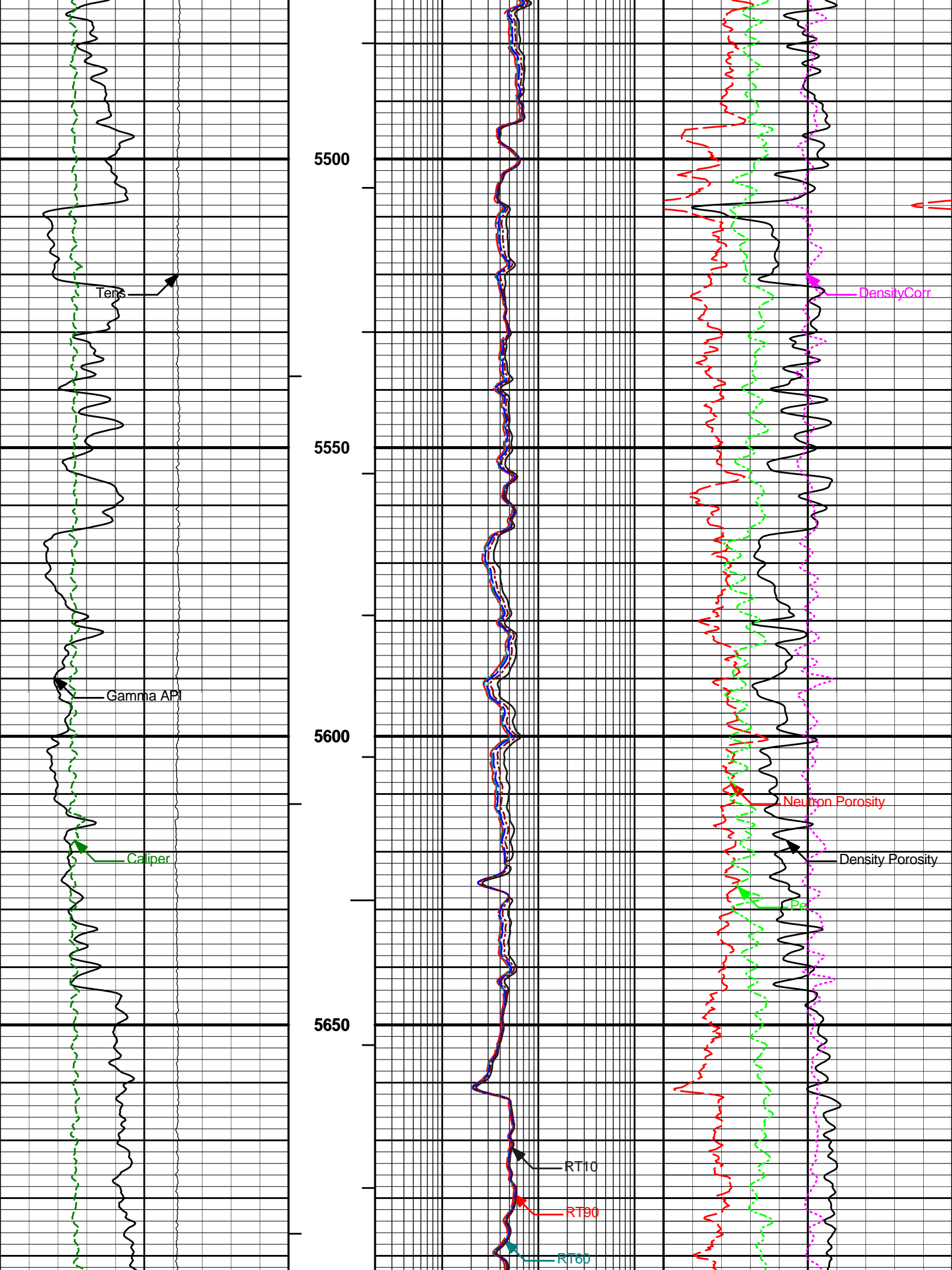


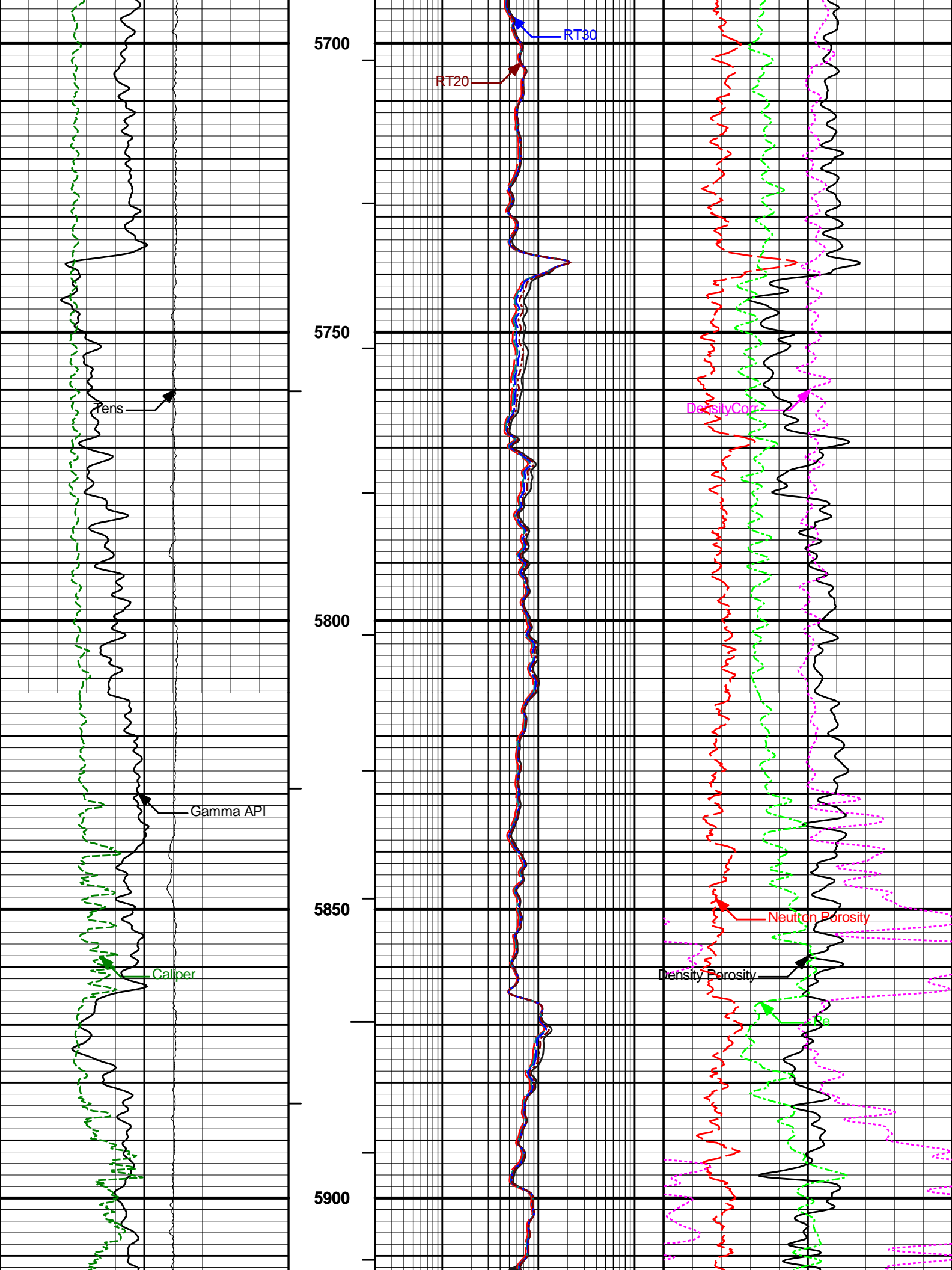


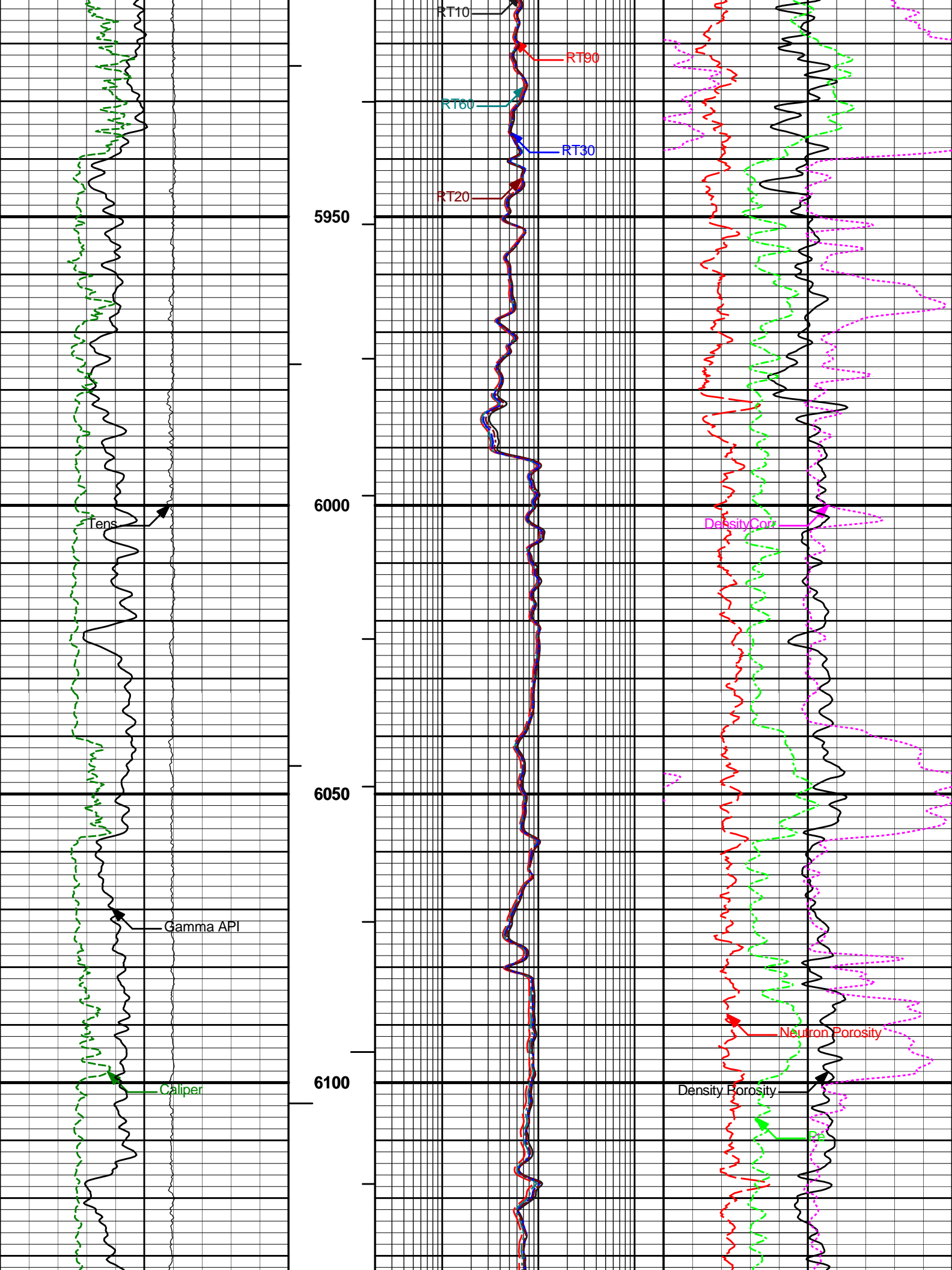


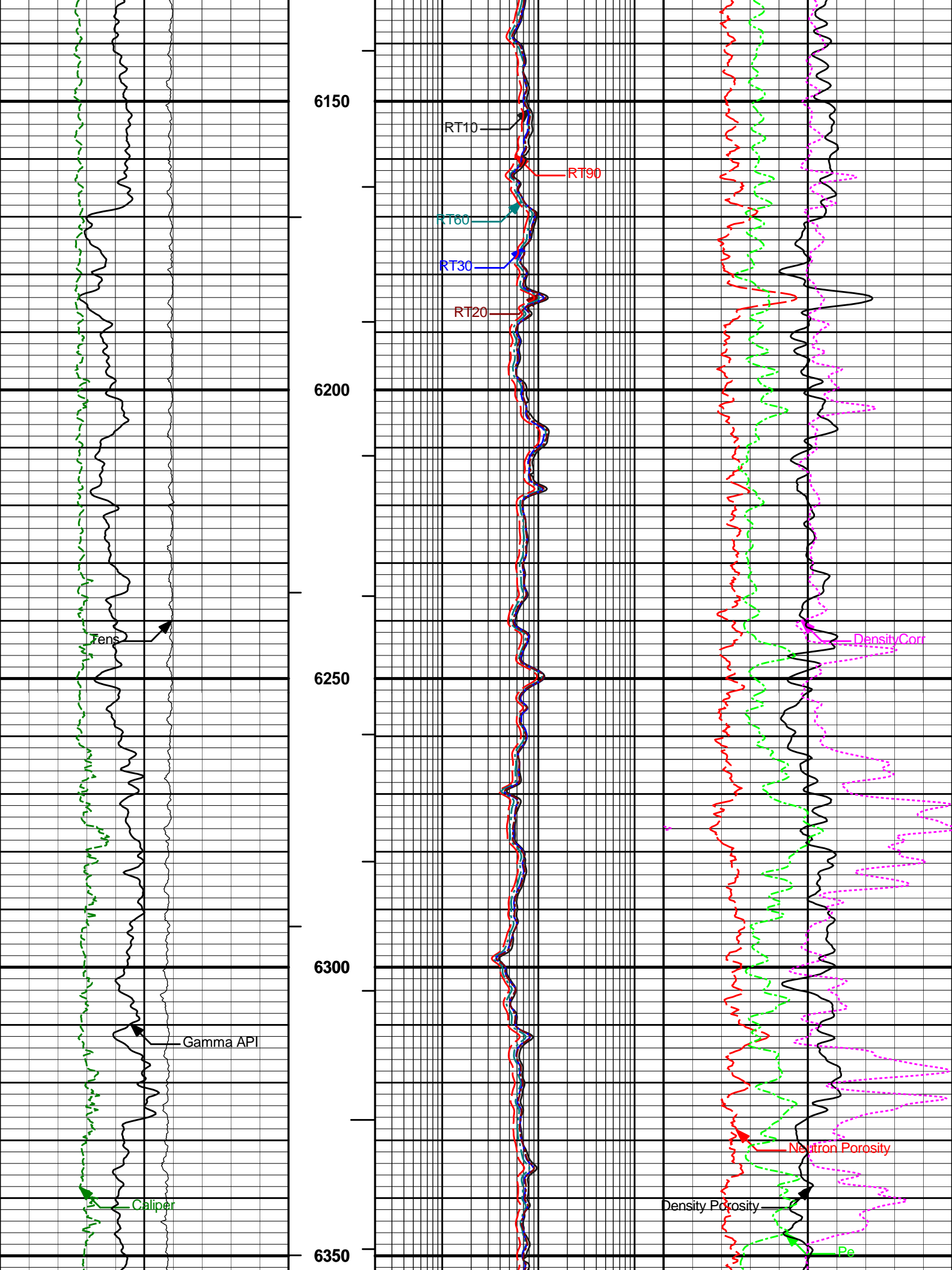


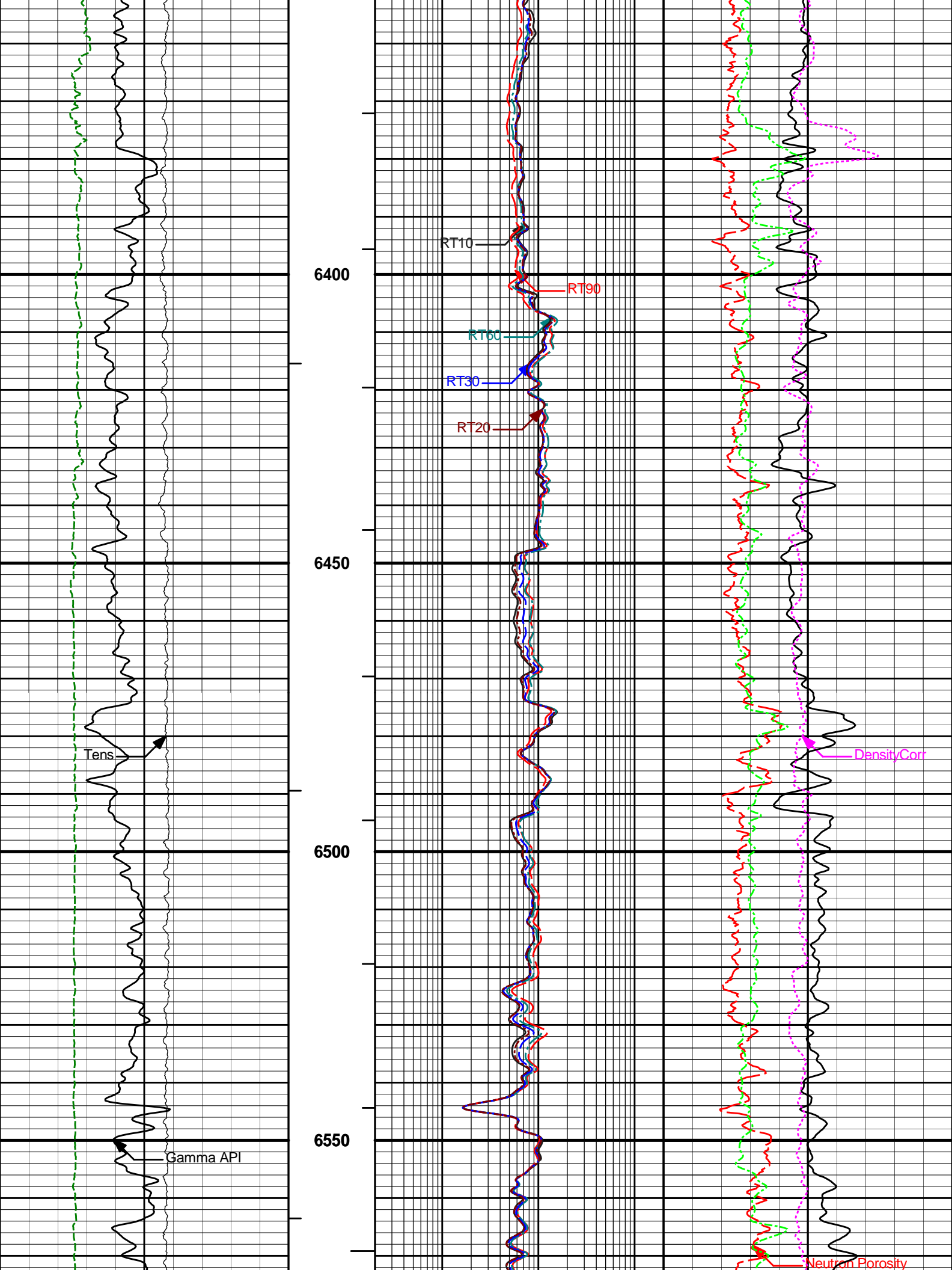


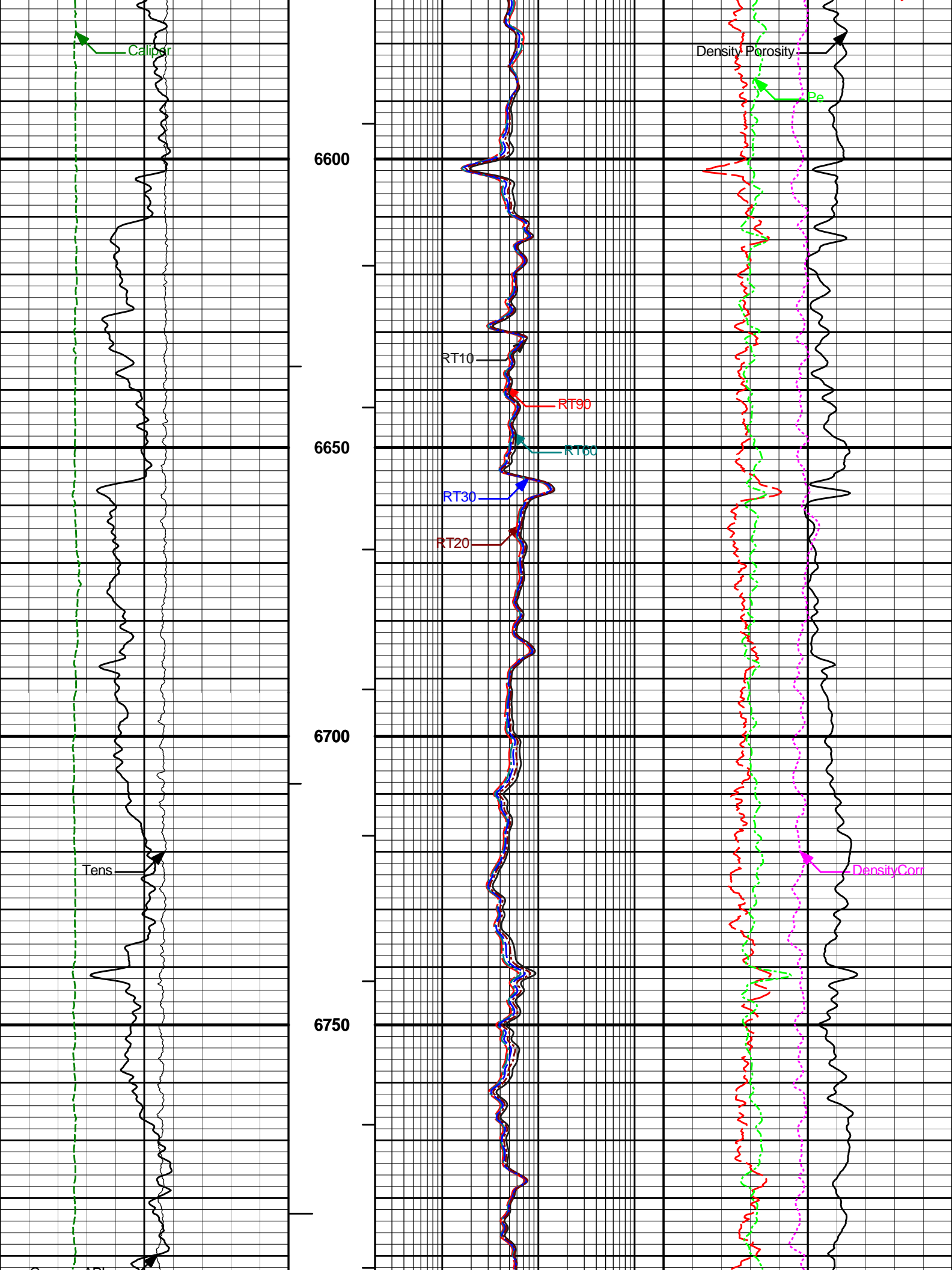


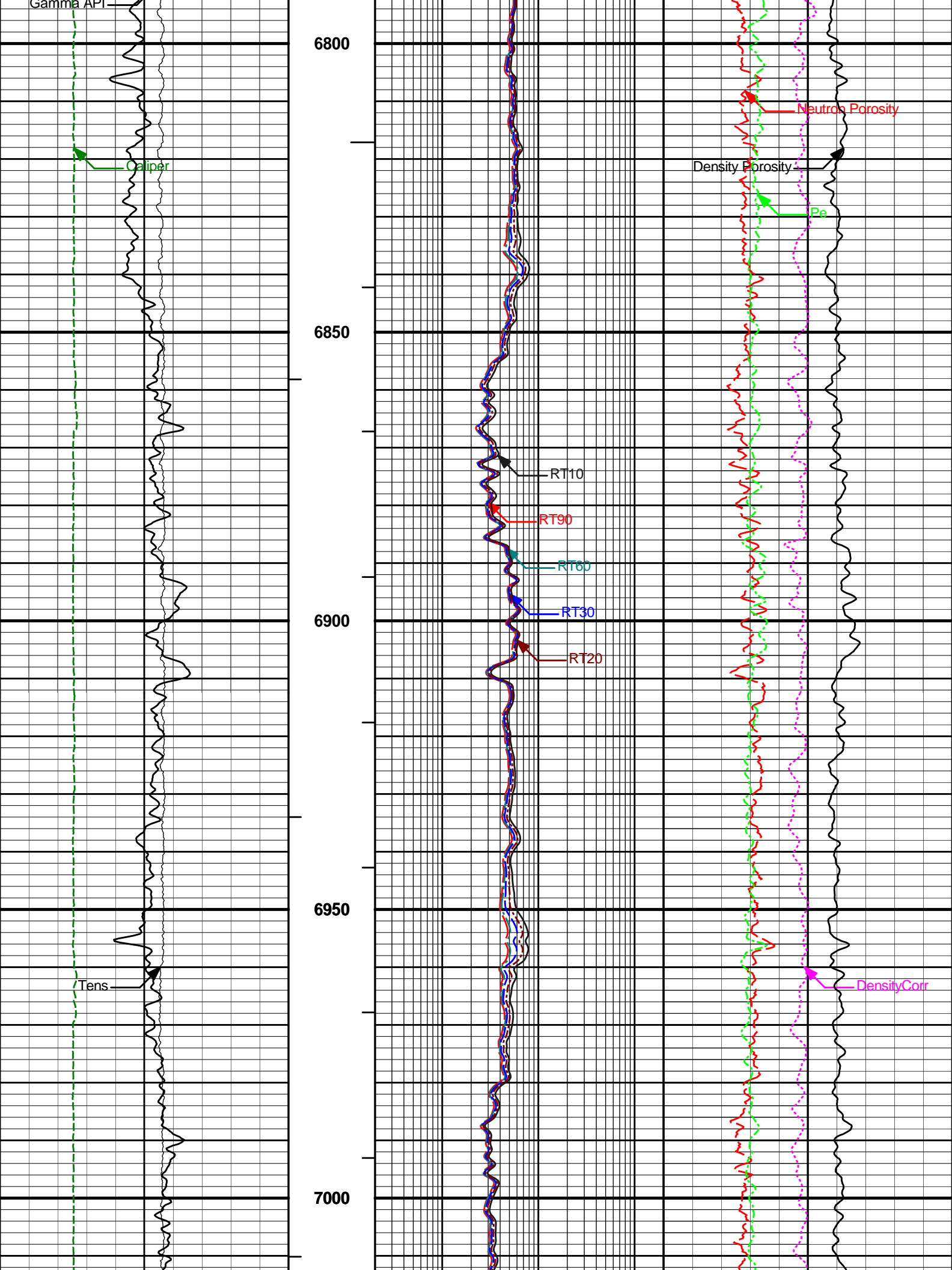


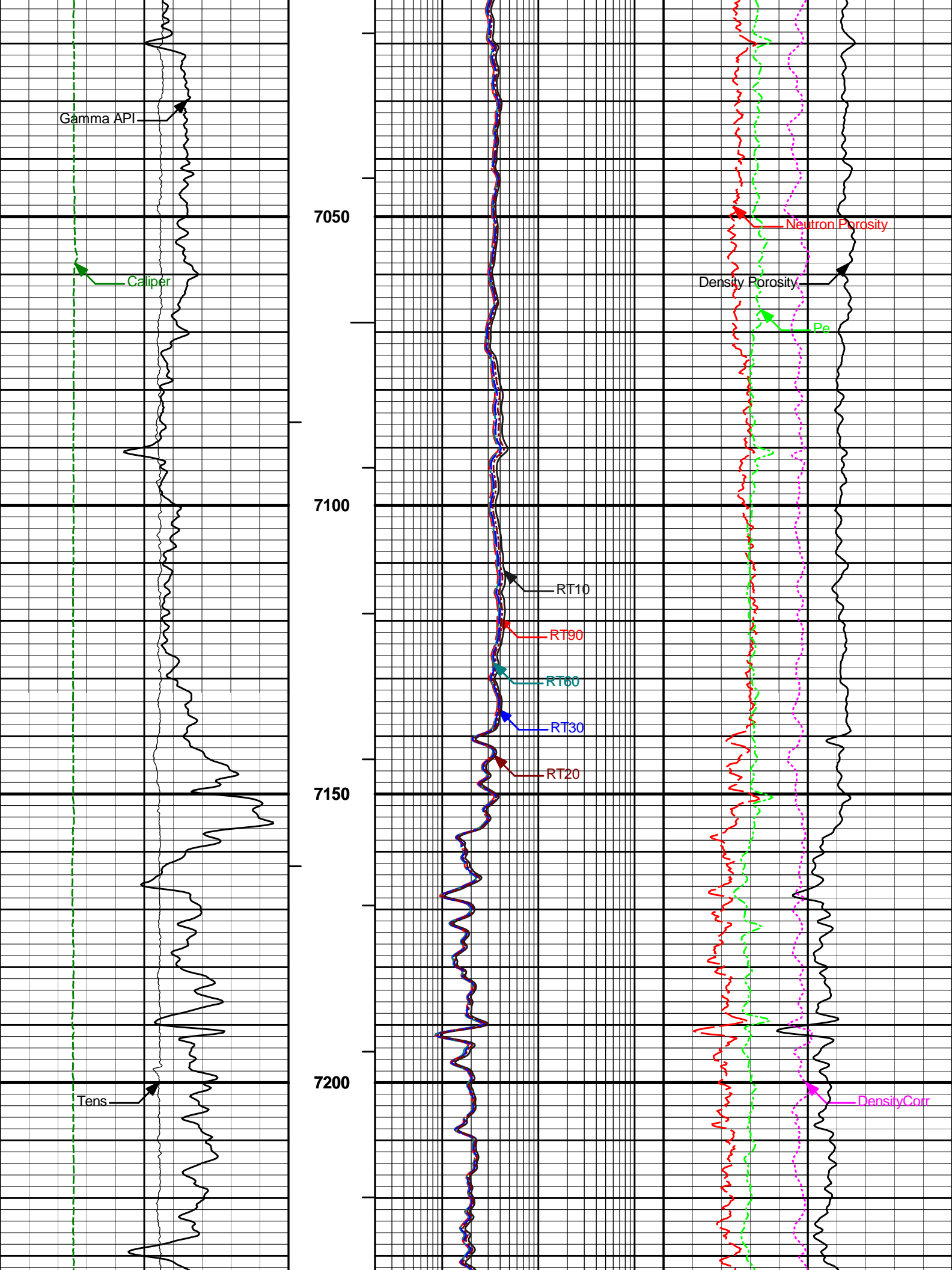


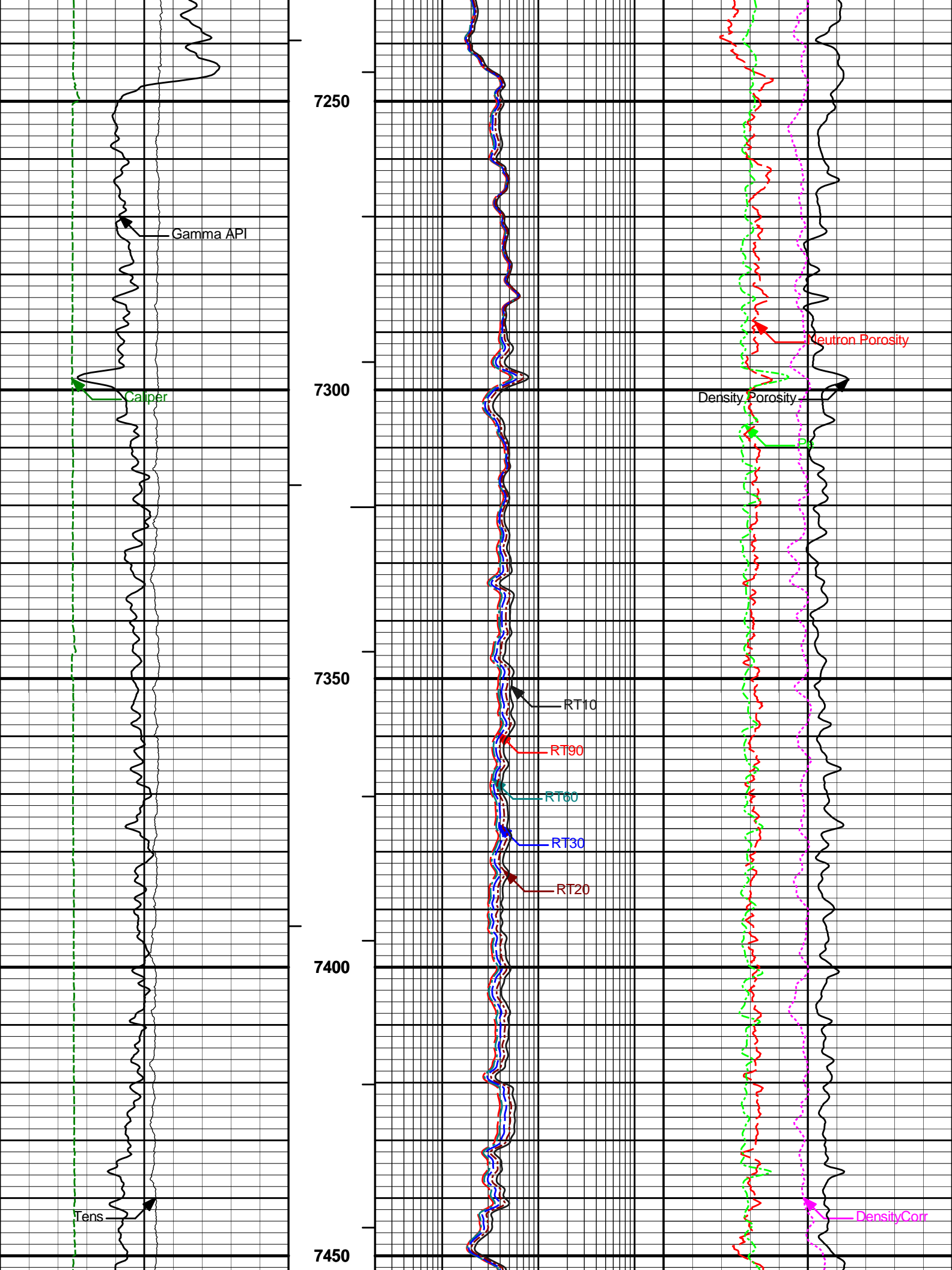


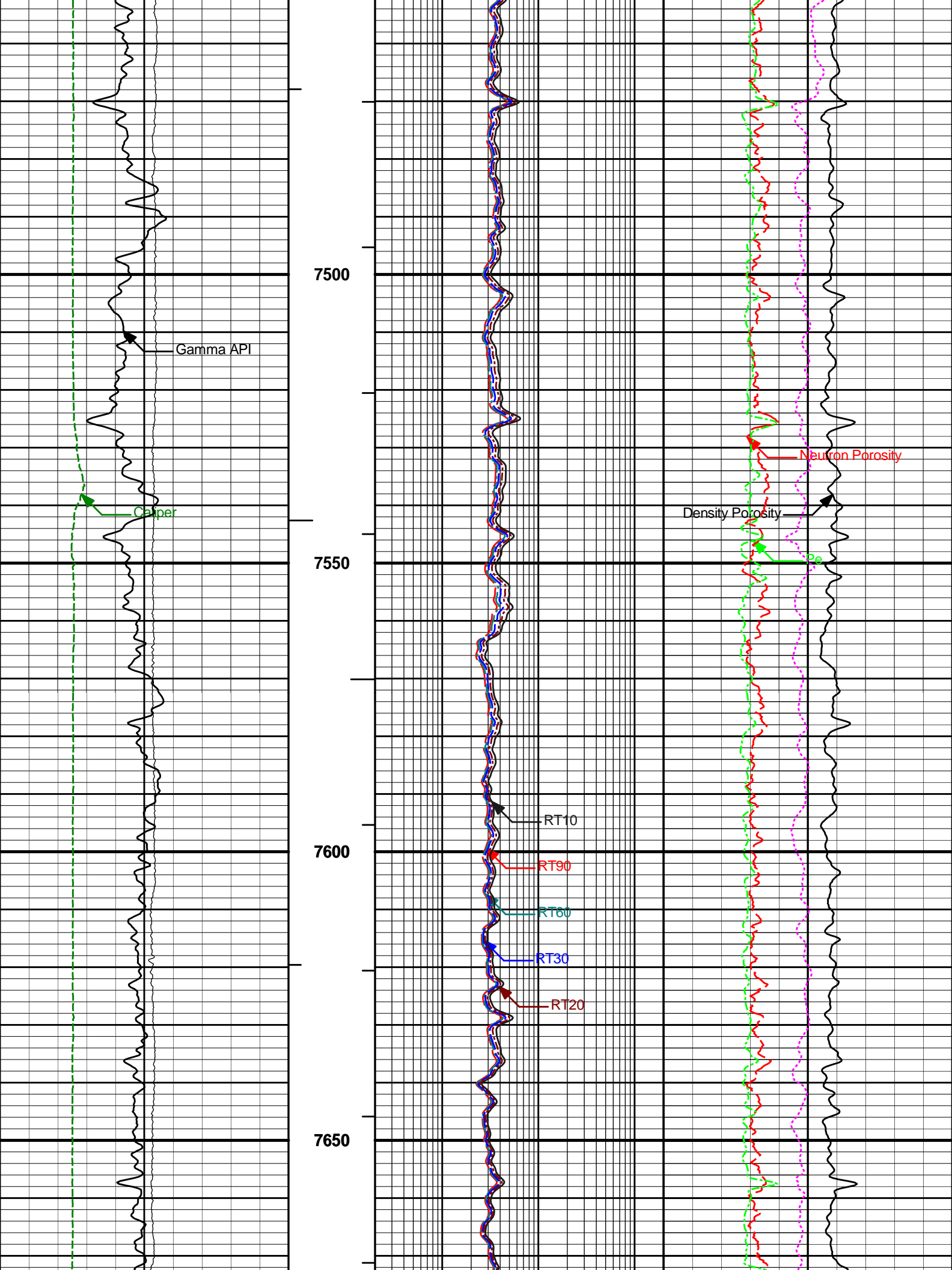


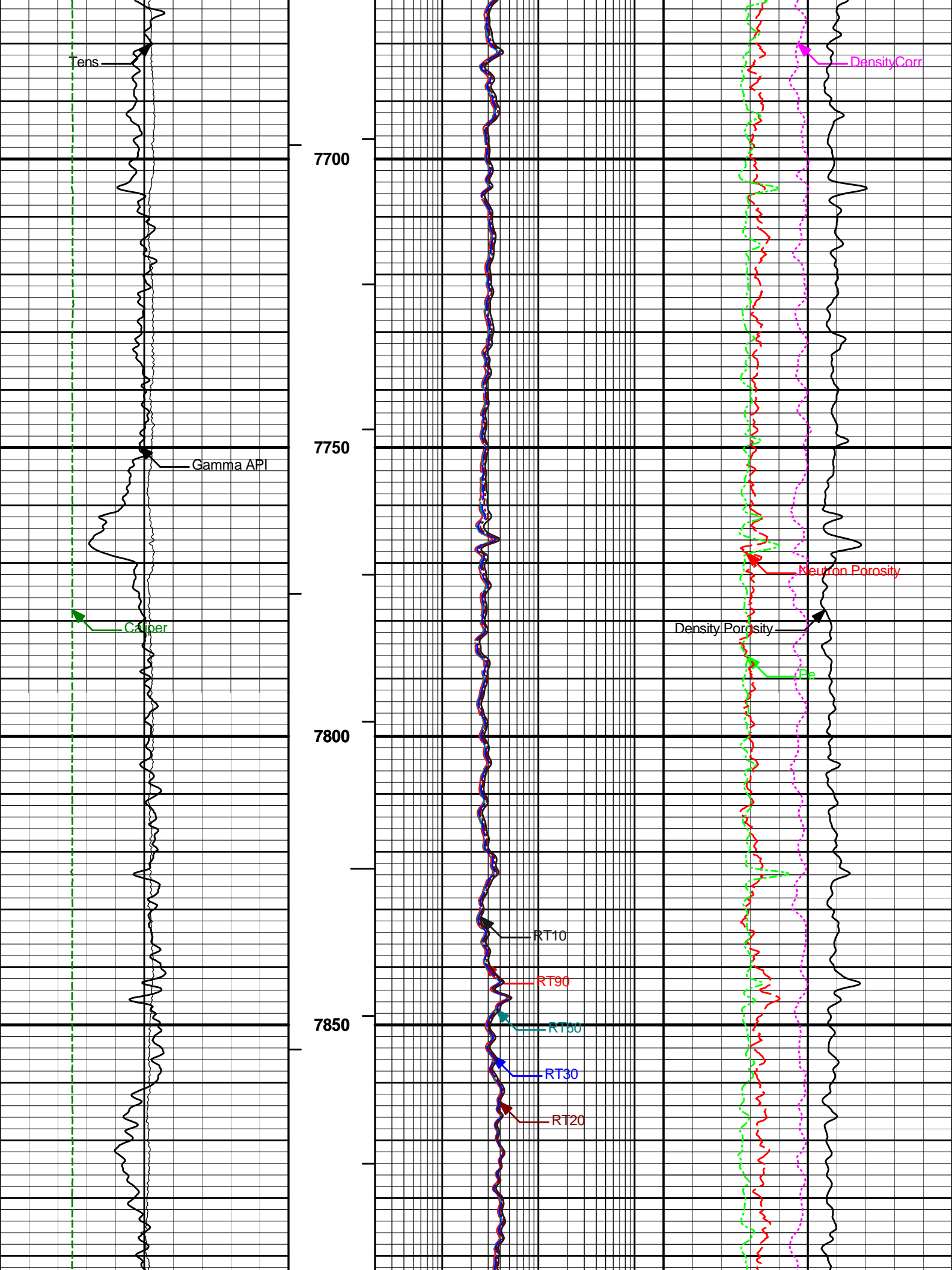


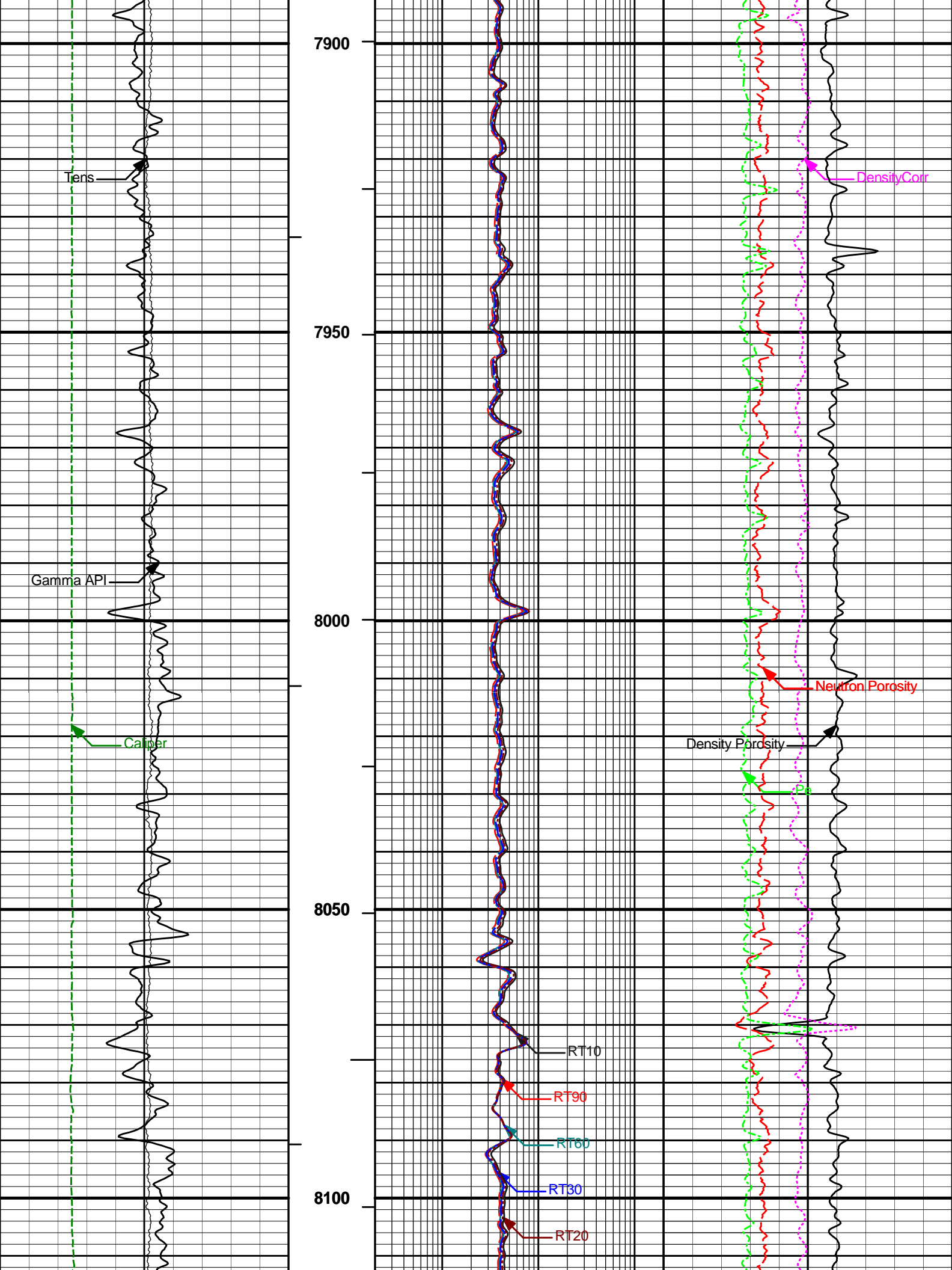


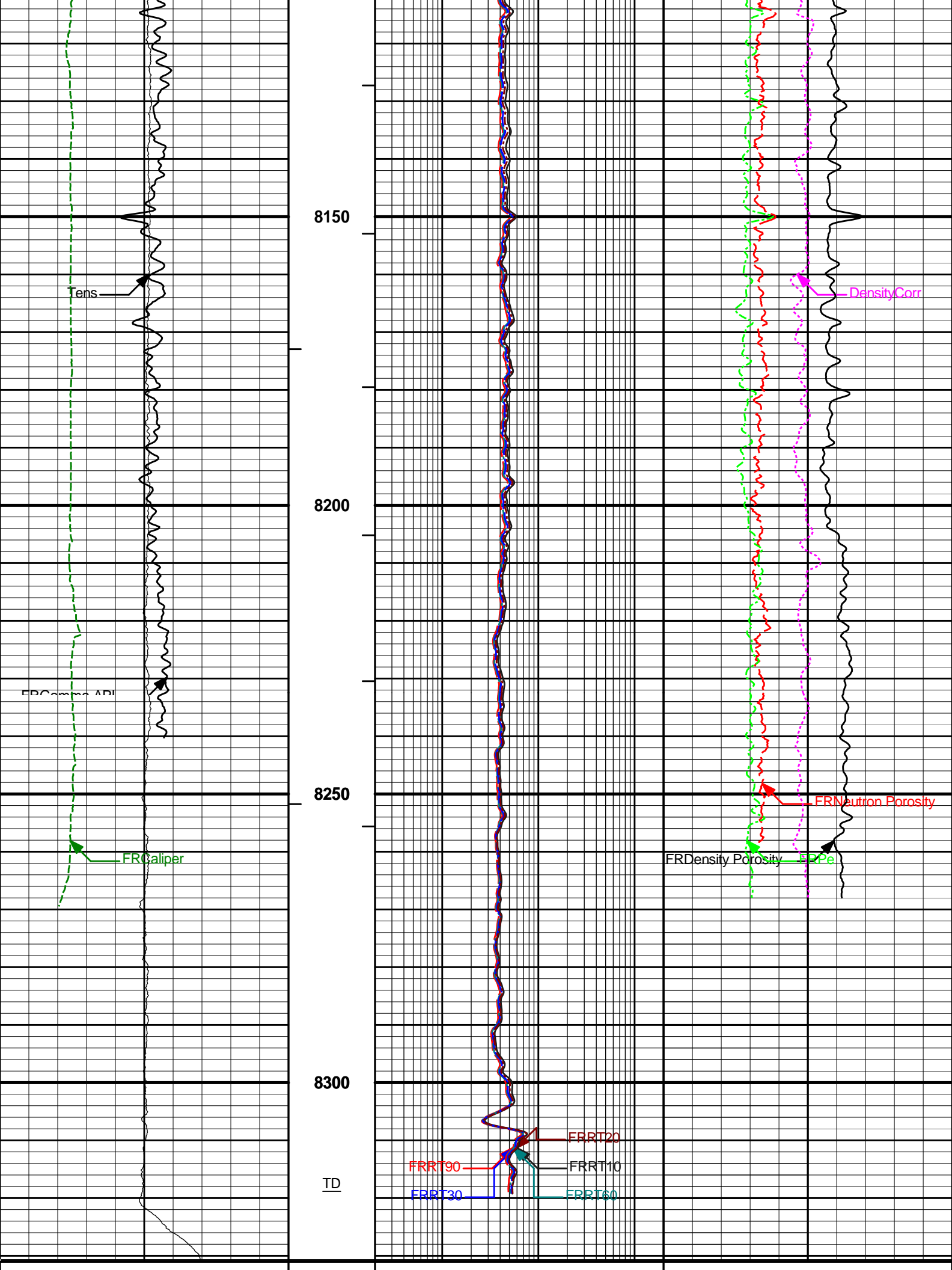












0	Gamma API	200	1 : 240	0.2	RT90	200	-0.25	DensityCorr	0.25
	api				Ohm-m			gram per cc	
6	Caliper	16	BHVT	0.2	RT60	200	0	Pe	10
	inches				Ohm-m				
10K	Tens	0	AHVT	0.2	RT30	200	45	Density Porosity	-15
	pounds				Ohm-m			percent	
				0.2	RT20	200	45	Neutron Porosity	-15
					Ohm-m			percent	
				0.2	RT10	200			
					Ohm-m				

HALLIBURTON

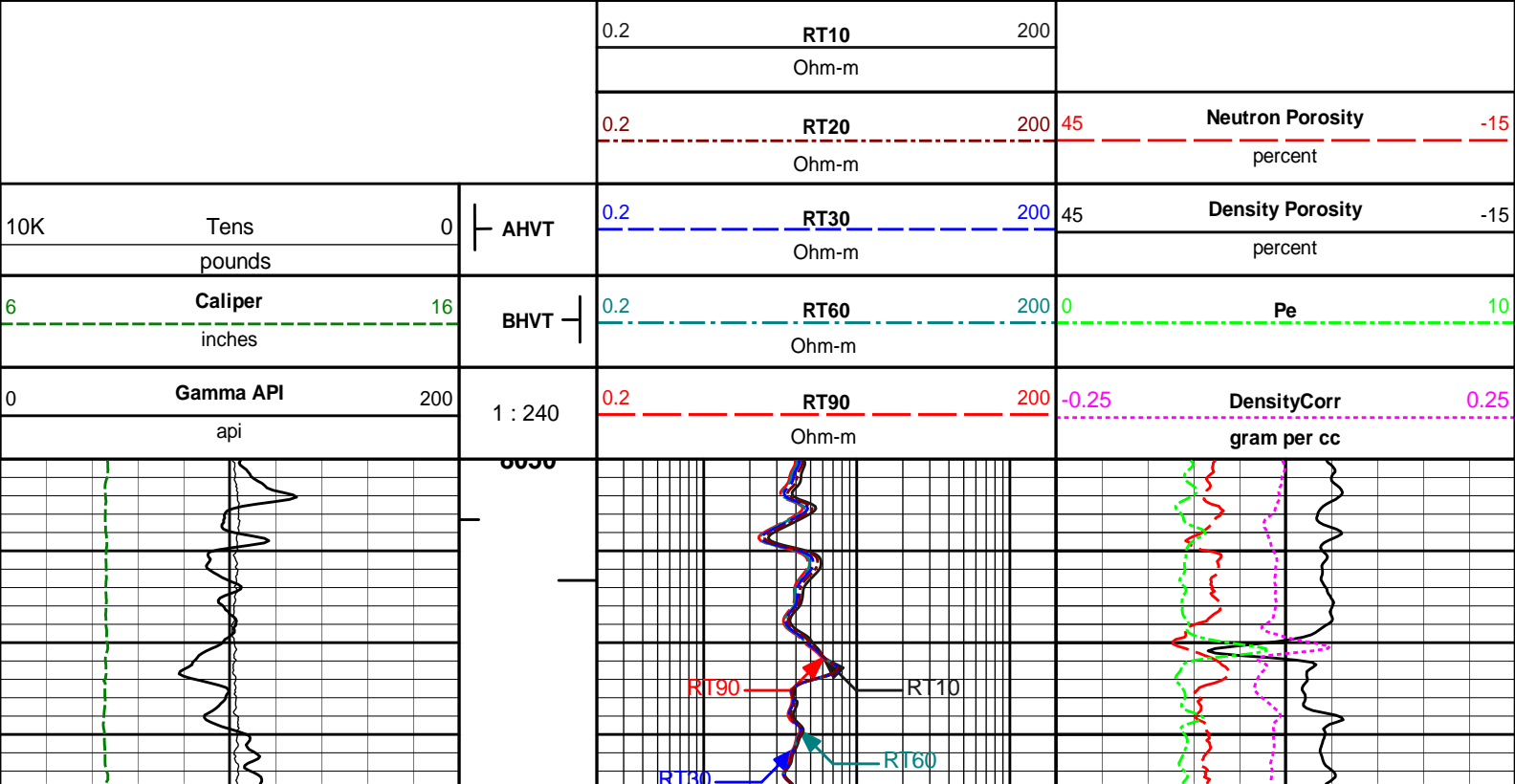
Plot Time: 26-Jul-12 13:07:13
Plot Range: 100 ft to 8330.75 ft
Data: {ActiveWell}\Well Based**
Plot File: \COMP_5INIQ_COMP_5IN_RM

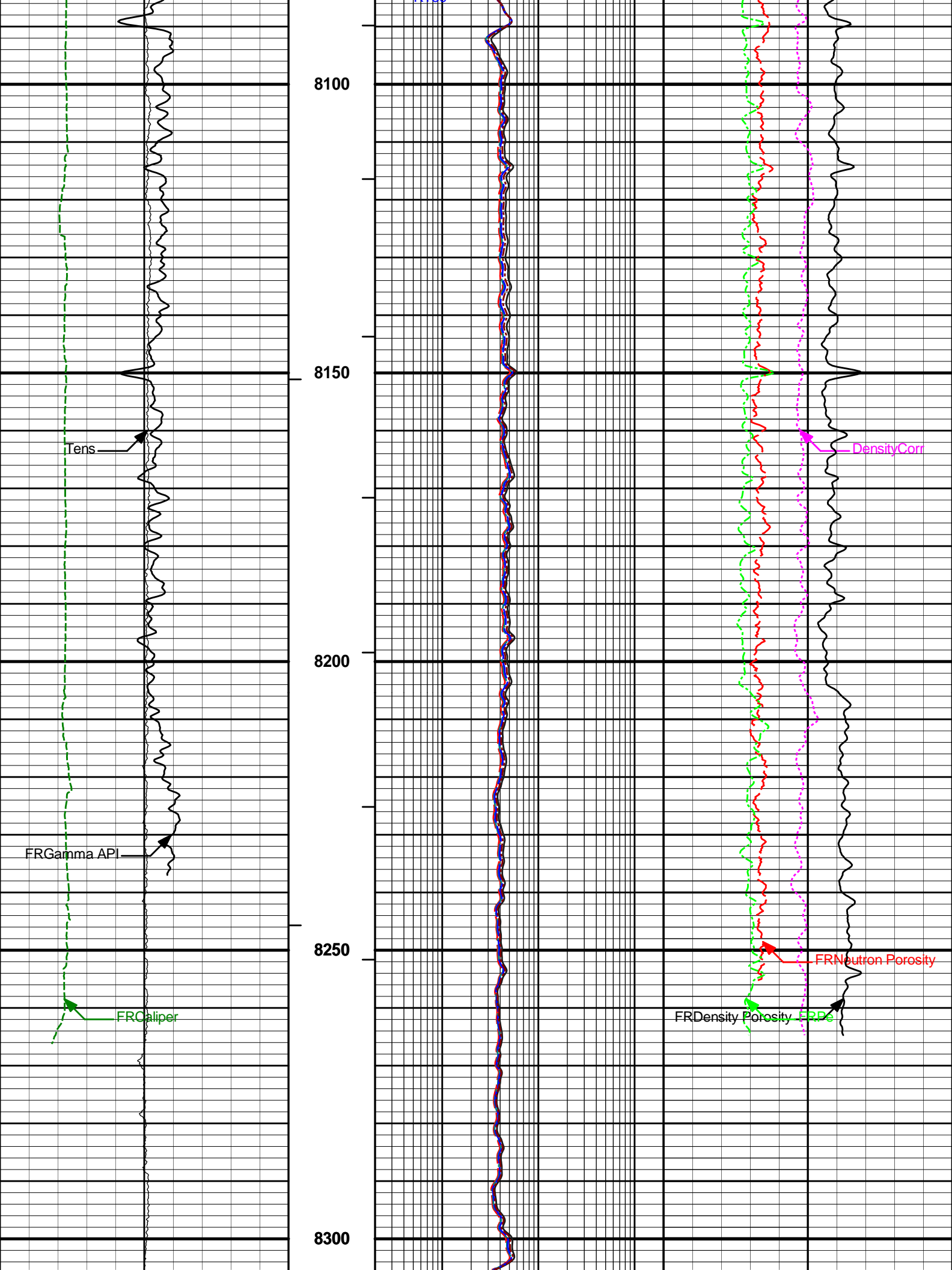
MAIN PASS 5" = 100'

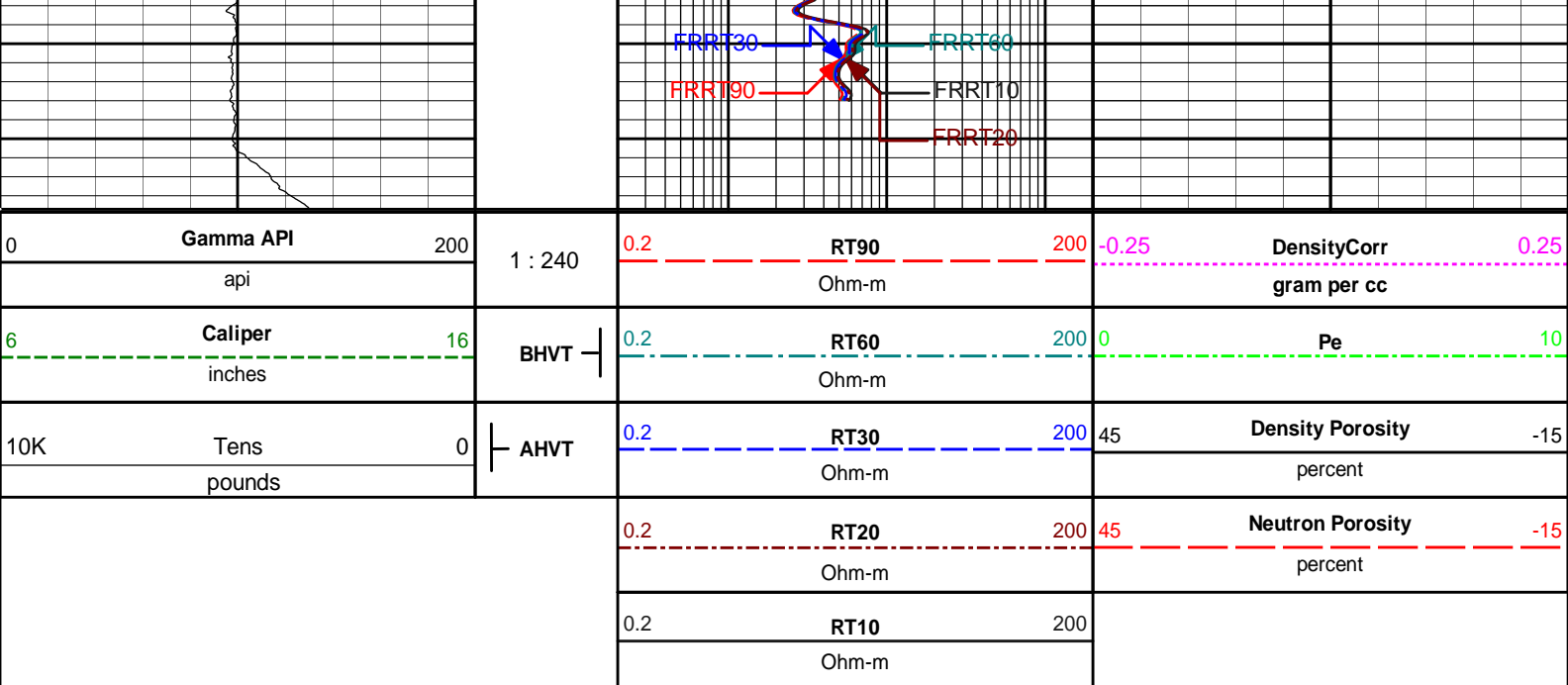
HALLIBURTON

Plot Time: 26-Jul-12 13:07:13
Plot Range: 8050 ft to 8327.42 ft
Data: {ActiveWell}\Well Based\REPEAT*
Plot File: \COMP_5INIQ_COMP_5IN_RM

REPEAT PASS 5" = 100'







HALLIBURTON

Plot Time: 26-Jul-12 13:07:15
Plot Range: 8050 ft to 8327.42 ft
Data: {ActiveWell}\Well Based\REPEAT*
Plot File: \\COMP_5\INI\COMP_5\IN_RM

REPEAT PASS 5" = 100'

HALLIBURTON

CALIBRATION REPORT

DOWNHOLE TENSION SHOP CALIBRATION

Tool Name: RWCH - 3377 Reference Calibration Date: 15-Jun-12 09:15:37
Engineer: C. GULLETT Calibration Date: 10-Jul-12 10:22:46
Software Version: WL INSITE R3.6.0 (Build 3) Calibration Version: 1

DOWNHOLE LOAD CELL				
Measurement	Tool Value	Measurement	Calibrated	Units
Low	-1787.15	-26.41	0.00	lbs
High	13542.70	2043.64	1728.10	lbs

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 10995697 Reference Calibration Date: 09-Oct-11 12:29:59
Engineer: K. GALLOWAY Calibration Date: 21-Apr-12 15:35:46
Software Version: WL INSITE R3.4.4 (Build 2) Calibration Version: 1

Calibrator Source S/N: JL037208-08
Calibrator API Reference:222.00 api
Equivalent Calibrator API Reference:225.9 api

Measurement	Measured	Calibrated	Units
Background	14.6	13.7	api
Background + Calibrator	256.4	239.6	api
Calibrator	241.8	225.9	api

CSNG-FS SHOP CALIBRATION			
Tool Name:	CSNG - 10846349	Reference Calibration Date:	31-Dec-10 12:07:50
Engineer:	K. GALLOWAY	Calibration Date:	21-Apr-12 14:17:40
Software Version:	WL INSITE R3.4.4 (Build 2)	Calibration Version:	1
Source SN:	JL037208-08		

TITANIUM CASE	Measured	Calibrated	Units
60 KEV Peak Channel #	48.0	48.0	Channel #
239 KEV Peak Channel #	23.3	23.6	Channel #
583 KEV Peak Channel #	52.2	53.2	Channel #
2614 KEV Peak Channel #	214.5	218.5	Channel #
Calibrate Temperature	72.4	34.0	degF

Pass/Fail Summary	Centroid
239 KEV Peak	Passed
583 KEV Peak	Passed
2614 KEV Peak	Passed

Blanket Reference Value: 222.00 API
 Calibrator Value: 252.1 API

	Counts	Units	Measured	Calibrated	Units
Thorium Blanket	1293.0	CPS	268.7	264.1	API
Background	58.5	CPS	31.3	12.0	API

Gamma Ray Gain: 1.03
 Expected Gain Range: 0.85 - 1.15
 Gamma Gain Check: Passed

DUAL SPACED NEUTRON SHOP CALIBRATION			
Tool Name:	DSNT - 11059108	Reference Calibration Date:	22-Dec-11 10:53:15
Engineer:	S. MATHESON	Calibration Date:	20-Feb-12 12:30:58
Software Version:	WL INSITE R3.4.4 (Build 2)	Calibration Version:	1

Logging Source S/N: 21484B
 Tank Serial Number: 11020262
 Reference value assigned to Tank: 52.950
 Snow Block S/N: 0435
 Calibration Tank Water Temperature: 63 degF
 Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.992	0.993	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):	0.2178	0.2180	0.0003	+/- 0.0020
Calibrated Ratio:	9.96	9.97	0.009	+/- 0.050

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

Tool Name:	DSNT - 11059108	Reference Calibration Date:	20-Feb-12 12:30:58
Engineer:	C. GULLETT	Calibration Date:	05-Jul-12 13:47:55
are Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decip):	0.0437	0.0424	-0.0013	+/- 0.0150

DENSITY CALIPER SHOP CALIBRATION

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-2096.27	-2083.22	-7000.00 - -1000.00
Pad Gain	0.0003786	0.0003783	0.000200 - 0.000600
Arm Offset	-3798.27	-3905.40	-5000.00 - 3000.00
Arm Gain	0.0005469	0.0005660	0.000300 - 0.000700
Arm Power	-0.000004584	-0.000005424	-0.000010000 - 0.000010000

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)	6.49	6.50	0.01	+/- 0.20	
Medium Ring (in)	8.19	8.25	0.06	+/- 0.20	
Large Ring (in)	14.89	15.00	0.11	+/- 0.20	

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check:Passed

Ring-Measurement Check:Passed

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check:Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:SDLT Pad - 5871P_1320M

Reference Calibration Date:23-Feb-12 18:57:10

Engineer:K. GALLOWAY

Calibration Date:19-Mar-12 13:51:12

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

Calibration Version:1

Logging Source S/N: 5176-GW

Aluminum Block S/N: 11039029

Magnesium Block S/N: 11072359

Density: 2.605g/cc

Density: 1.693g/cc

Pe: 3.175

Pe: 2.610

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0471	1.0789	0.90 - 1.10
Near Dens Gain	1.0195	1.0545	0.90 - 1.10
Near Peak Gain	1.0309	1.0593	0.90 - 1.10
Near Lith Gain	1.0294	1.0810	0.90 - 1.10
Far Bar Gain	1.0144	1.0167	0.90 - 1.10
Far Dens Gain	1.0020	1.0050	0.90 - 1.10
Far Peak Gain	0.9967	1.0027	0.90 - 1.10
Far Lith Gain	0.9793	0.9825	0.90 - 1.10
Near Bar Offset	-0.2570	-0.5428	NONE
Near Dens Offset	-0.0266	-0.3302	NONE
Near Peak Offset	-0.1256	-0.3514	NONE
Near Lith Offset	-0.1361	-0.5562	NONE
Far Bar Offset	-0.0334	-0.0611	NONE
Far Dens Offset	0.0655	0.0335	NONE
Far Peak Offset	0.0942	0.0384	NONE
Far Lith Offset	0.1966	0.1682	NONE
Near Bar Background	898.69	897.46	700 - 1450
Near Dens Background	296.88	293.97	230 - 480
Near Peak Background	127.39	128.43	100 - 210
Near Lith Background	158.95	158.84	125 - 260
Far Bar Background	519.39	520.49	450 - 900
Far Dens Background	203.83	204.10	175 - 345
Far Peak Background	79.84	80.08	70 - 140
Far Lith Background	82.90	83.66	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.679	1.693	0.014	+/- 0.015
Pe	2.620	2.562	-0.058	+/- 0.150
ALUMINUM				
Density (g/cc)	2.592	2.605	0.013	+/- 0.01500
Pe	3.143	3.127	-0.016	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0009	+/- 0.0110	-0.0021	+/- 0.0140
Magnesium Block	-0.0019	+/- 0.0110	-0.0022	+/- 0.0140
Aluminum Block	-0.0007	+/- 0.0110	-0.0006	+/- 0.0140
Resolution	9.75	6.00 - 11.50	9.32	6.00 - 11.50
Internal Verifier(B+D+P+L)	1479	1200 - 2700	888	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 - 5871P_1320M	Reference Calibration Date:	19-Mar-12 13:51:12
Engineer:	C. GULLETT	Calibration Date:	05-Jul-12 12:07:31
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Pad Temperature: 57.6 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1478.699	1468.530	-10.169	15.502
Far (B+D+P+L) cps	888.335	877.227	-11.108	16.240
Near Resolution	9.75	9.87	0.120	0.50
Far Resolution	9.32	9.55	0.230	1.00

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

SDLT CALIPER FIELD CALIBRATION

Tool Name:	SDLT - 10951320	Reference Calibration Date:	05-Jul-12 13:11:38
Engineer:	C. GULLETT	Calibration Date:	05-Jul-12 13:14:57
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.75	0.00	+/- 0.10
Ring Diameter	8.25	8.34	0.09	+/- 0.15

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

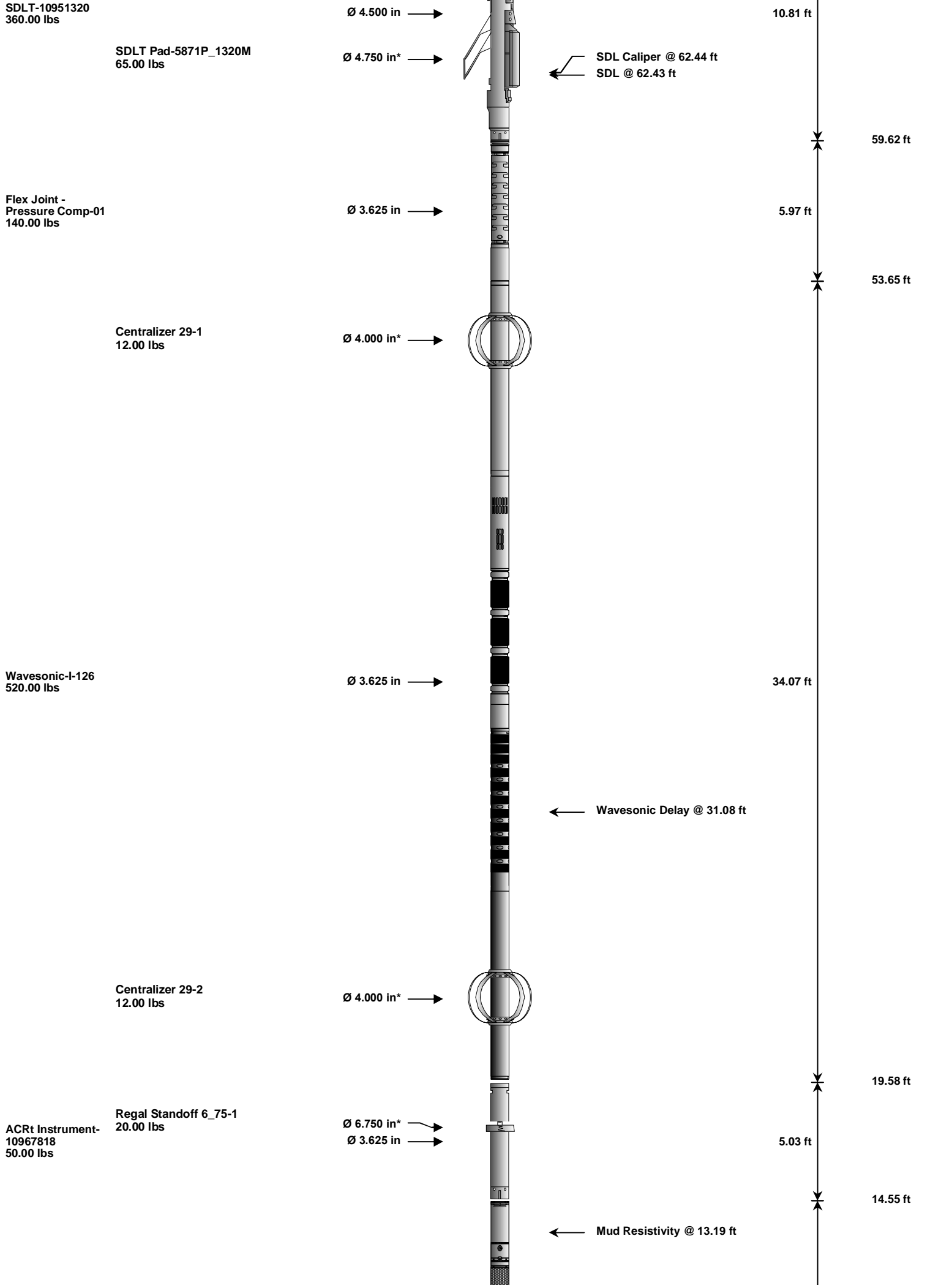
ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

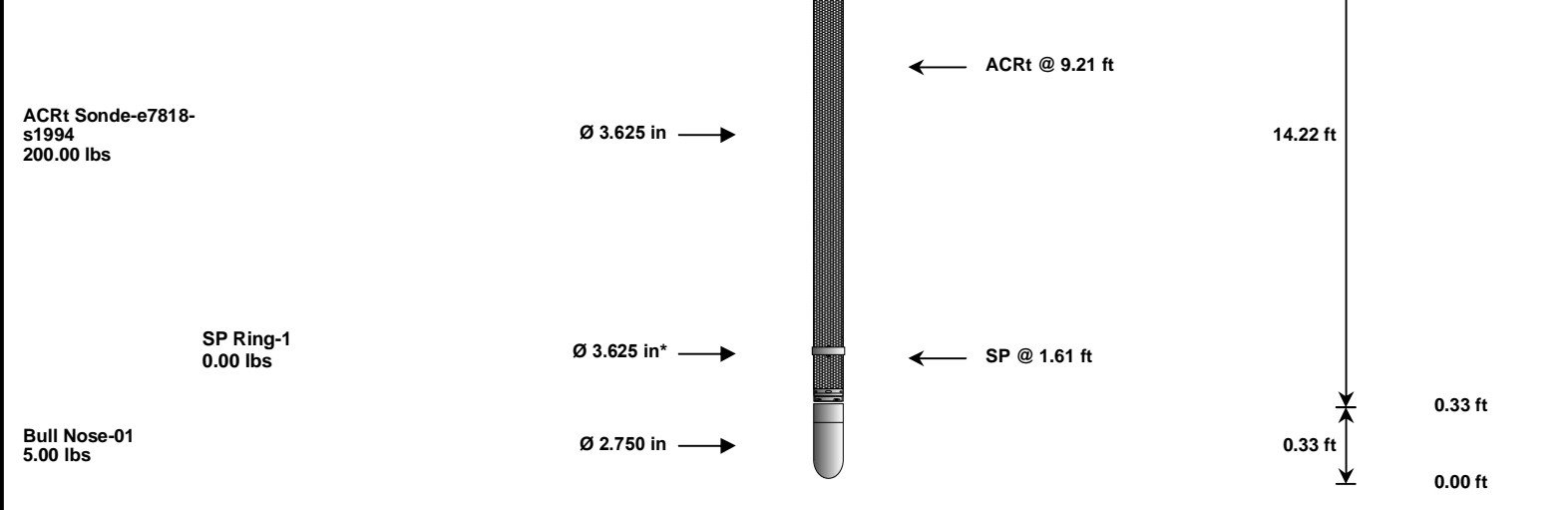
Tool Name: ACRT Sonde - e7818-s1994				Reference Calibration Date: 13-Sep-10 13:20:58					
Engineer: M. SCHMELING				Calibration Date: 25-Jan-11 13:33:16					
Software Version: WL INSITE R3.2.1 (Build 7)				Calibration Version: 1					
Host Tool Name: -									
TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.02	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A2 (50")	0.95	1.02	1.05	0.95	1.02	1.05	0.95	1.01	1.05
A3 (29")	0.95	1.02	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A4 (17")	0.95	1.01	1.05	0.95	1.00	1.05	0.95	1.00	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.00	1.05	0.95	1.00	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.99	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	-1.66	2	-6	-4.33	-2	-8	-5.50	-2
A2 (50")	-7	-3.04	0	-7	-4.35	0	-7	-4.22	0
A3 (29")	-27	-11.93	-9	-9	-3.57	-3	-7	-3.13	-1
A4 (17")	-180	-103.72	-60	-45	-32.39	-15	-39	-25.05	-13
A5 (10")	N/A	N/A	N/A	-150	-107.63	-50	-80	-55.86	-10
A6 (6")	N/A	N/A	N/A	175	288.30	525	90	151.55	270
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
Signal	Lower	R	Upper		Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)	
12K	0.6	0.92	1.3		Mud Cell	0.95	0.99	1.05	
36K	1.0	1.28	2.0						
72K	1.0	1.51	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			
RWCH-3377									
DH Tension Zero	0.00	-----	-----	0.00	-----	lbs			
DH Tension Cal	1728.10	-----	-----	0.00	-----	lbs			
GTET-10995697									
Gamma Ray Calibrator	225.9	-----	-----	0.0	+/- 9.00	api			
CSNG-10846349									
60 KEV Peak Channel #	48.0	-----	-----	0.0	-----	Channel #			
239 KEV Peak Channel #	23.6	-----	-----	0.0	-----	Channel #			
583 KEV Peak Channel #	53.2	-----	-----	0.0	-----	Channel #			
2614 KEV Peak Channel #	218.5	-----	-----	0.0	-----	Channel #			

DSNT-11059108						
Snow-Block Porosity	0.0437	0.0424	-----	0.0013	+/- 0.0150	decp
SDLT-10951320						
Pad Extension	3.75	3.75	-----	0.00	+/-0.10	in
Ring Diameter	8.25	8.34	-----	-0.09	+/-0.15	in
SDLT Pad-5871P_1320M						
Near(B+D+P+L)	1478.699	1468.530	-----	10.169	+/-15.502	cps
Far(B+D+P+L)	888.335	877.227	-----	11.108	+/-16.240	cps
ACRt Sonde-e7818-s1994						
Mud Cell	0.99	-----	-----	0.00	-----	ohm-m

Date: CB AL COR #110001 QUADRIE										Date: 10 Jul 12 14:48:20									
HALLIBURTON																			
TOOL STRING DIAGRAM REPORT																			

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						103.06 ft
RWCH-3377 135.00 lbs		Ø 3.625 in →		← Load Cell @ 99.38 ft ← BH Temperature @ 98.81 ft	6.25 ft	96.81 ft
GTET-10995697 165.00 lbs		Ø 3.625 in →		← GammaRay @ 90.75 ft	8.52 ft	88.29 ft
CSNG-10846349 114.00 lbs	UnivWearRing3.6- 10846349 5.00 lbs	Ø 4.200 in* ↗ Ø 3.625 in →		← CSNG @ 82.66 ft	8.17 ft	80.12 ft
DSNT-11059108 174.00 lbs	DSN Decentralizer- 10735512 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 73.19 ft ← DSN Near @ 72.44 ft	9.69 ft	70.44 ft





Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)	
RWCH	Releasable Wireline Cable Head	3377	135.00	6.25	96.81	300.00	
GTET	Gamma Telemetry Tool	10995697	165.00	8.52	88.29	60.00	
CSNG	Compensated Spectral Natural Gamma	10846349	114.00	8.17	80.12	15.00	
UWR3P6	Universal Wear Ring 3 5-8 inch	10846349	5.00	0.35	*	84.20	300.00
DSNT	Dual Spaced Neutron	11059108	174.00	9.69		70.44	60.00
DCNT	DSN Decentralizer	10735512	6.60	5.13	*	73.77	300.00
SDLT	Spectral Density Tool	10951320	360.00	10.81		59.62	60.00
SDLP	Density Insite Pad	5871P_1320M	65.00	2.55	*	61.83	60.00
FLEX	Flex Joint - Pressure Compensated	01	140.00	5.97		53.65	300.00
WSTT	WaveSonic Insite	126	520.00	34.07		19.58	30.00
OBCEN	Centralizer - 29 in.Overbody	1	12.00	2.42	*	49.94	300.00
OBCEN	Centralizer - 29 in.Overbody	2	12.00	2.42	*	21.93	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10967818	50.00	5.03		14.55	300.00
RSOF	Regal Standoff 6.75in	1	20.00	0.52	*	17.32	300.00
ACRt	Array Compensated True Resistivity Sonde Section	e7818-s1994	200.00	14.22		0.33	300.00
SP	SP Ring	1	0.00	0.25	*	1.61	300.00
BLNS	Bull Nose	01	5.00	0.33		0.00	300.00
Total			1,983.60	103.06			
* Not included in Total Length and Length Accumulation.							
Data: GB_ALCOR_#1\0001 QUAD\IDLE							
Date: 10-Jul-12 09:33:14							

COMPANY	GREAT BEAR PETROLEUM		
WELL	ALCOR #1		
FIELD	WILDCAT		
COUNTY	NORTH SLOPE	STATE	ALASKA
HALLIBURTON		DUAL SPACED NEUTRON SPECTRAL DENSITY ARRAY COMPENSATED TRUE RESISTIVITY	