

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

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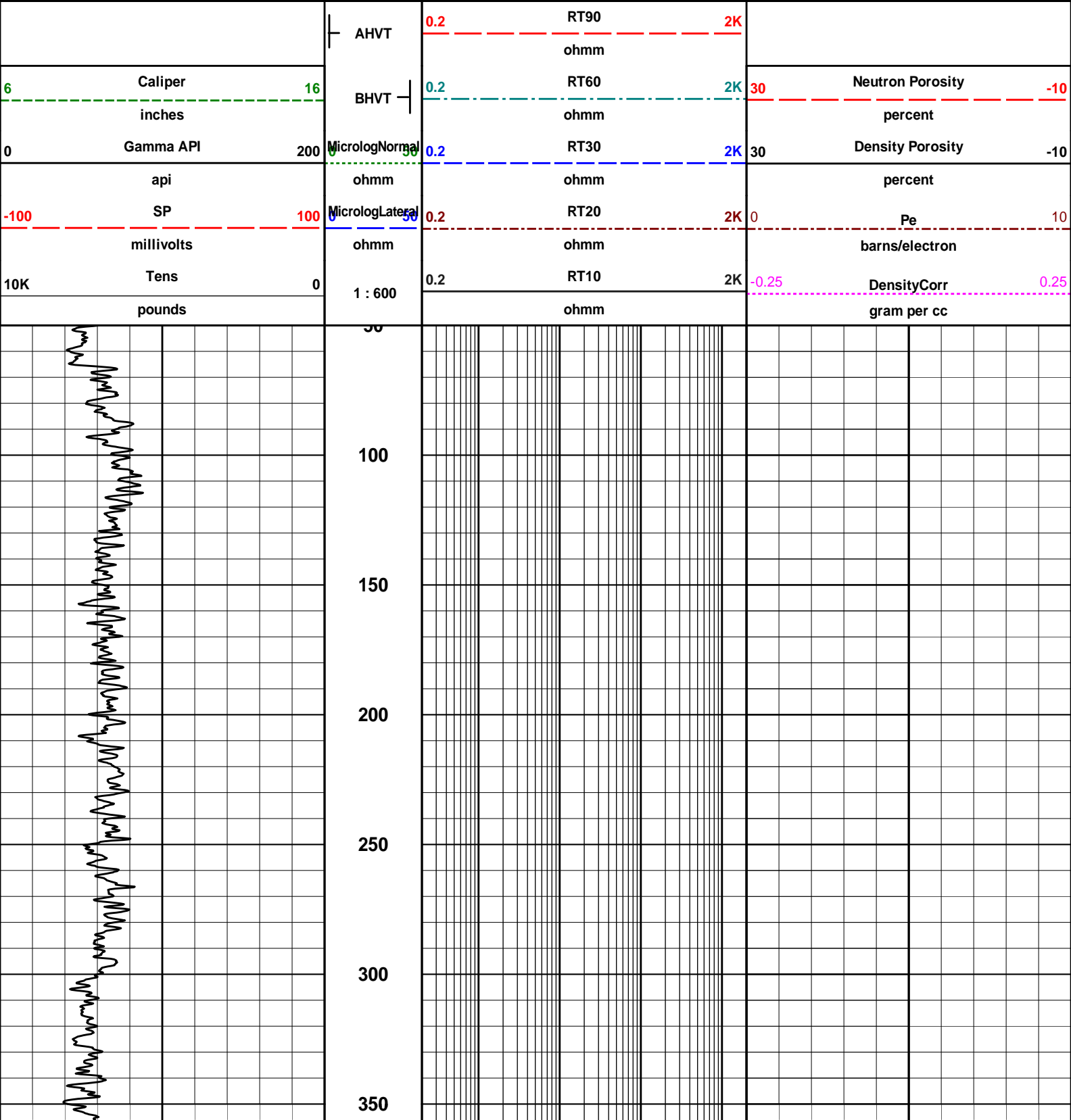
LOGGING DATA

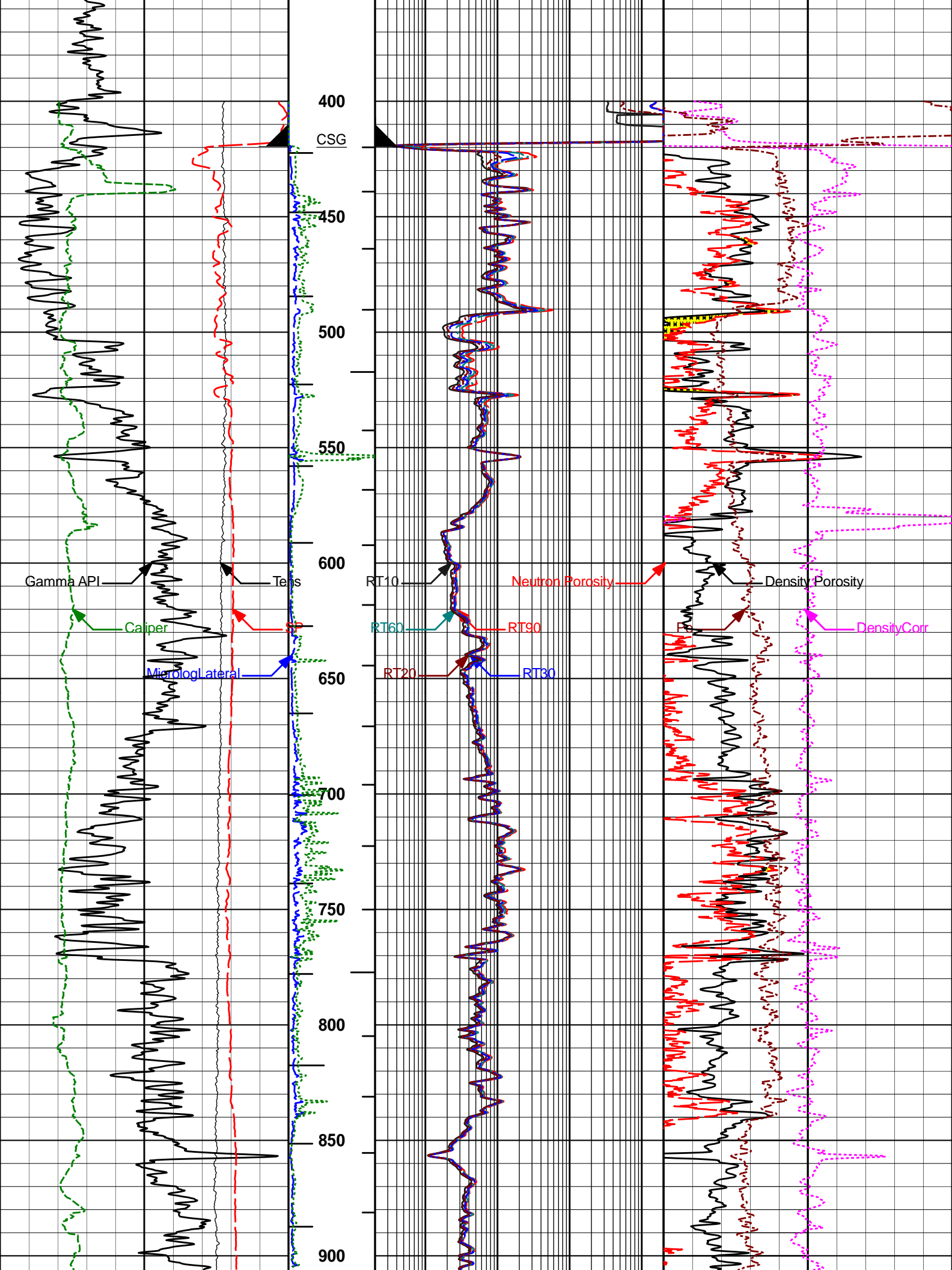
Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.200	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	3000.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.300	ohmm
	SHARED	TRM	Temperature of Mud	69.7	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	5209.00	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	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	

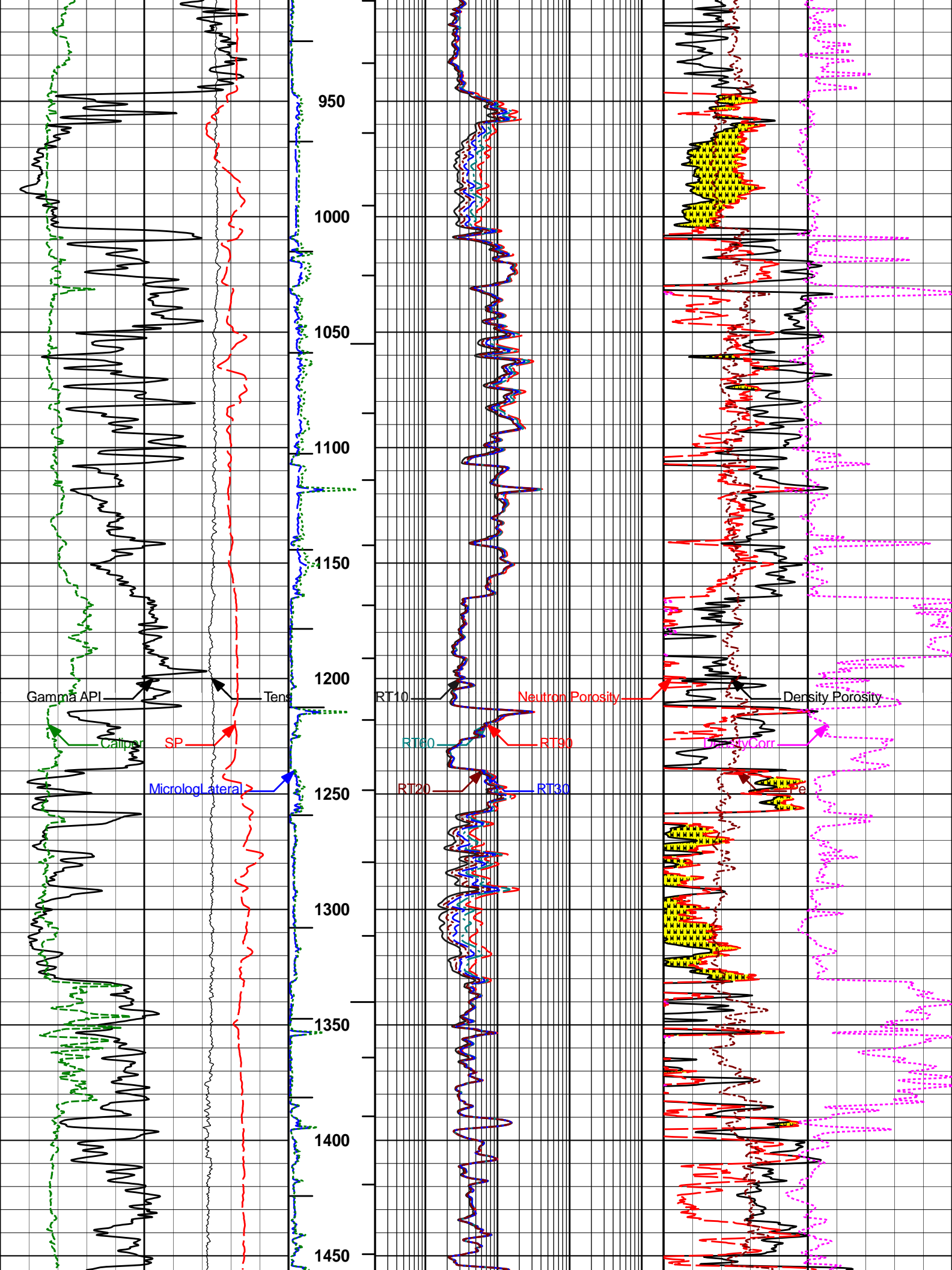
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.250	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
GTET	BHSM	Borehole Size Source Tool	SDLT	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
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	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
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	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	Limestone 47.5	
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wyllie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Centered	
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
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	

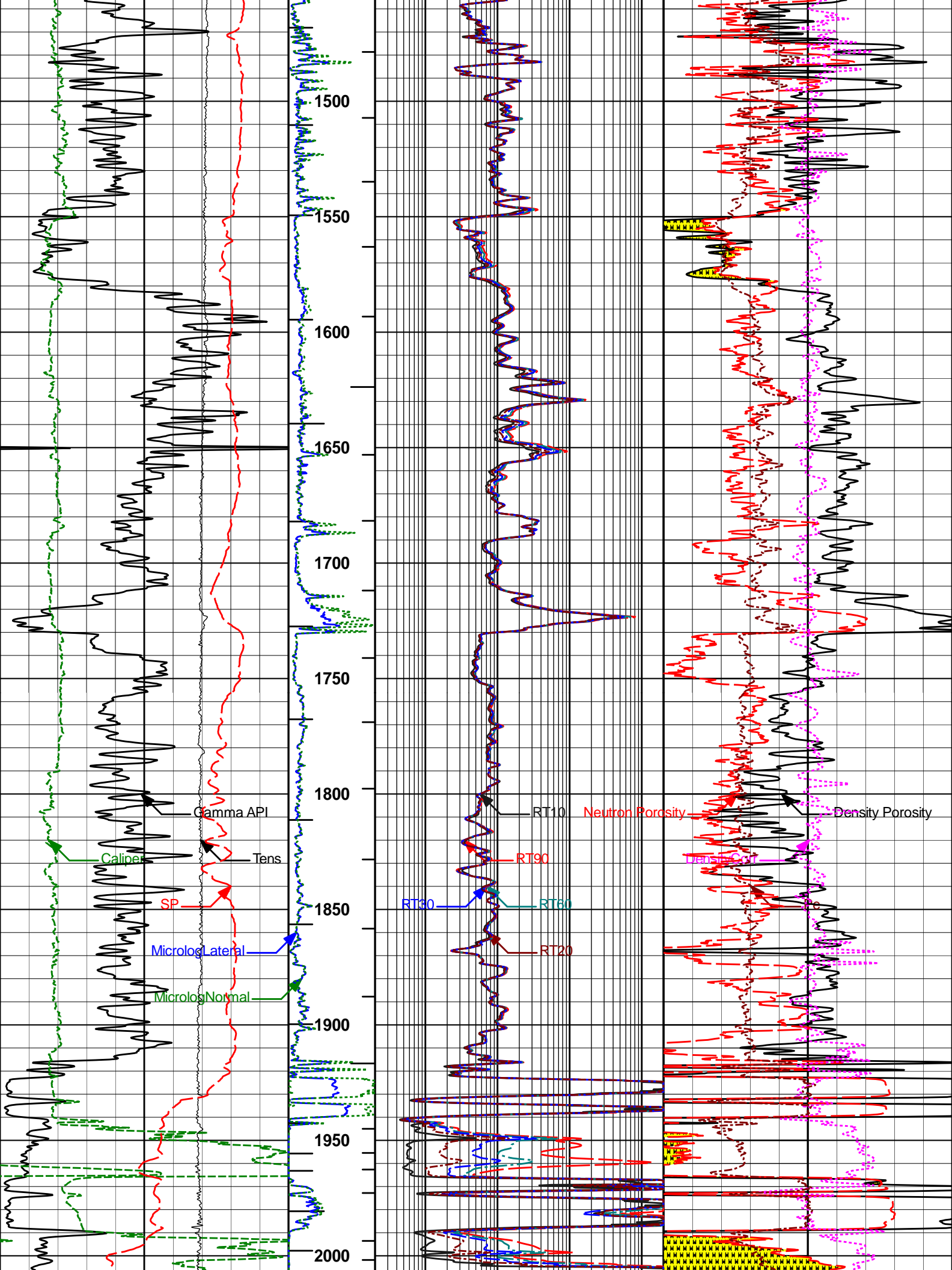
BOTTOM

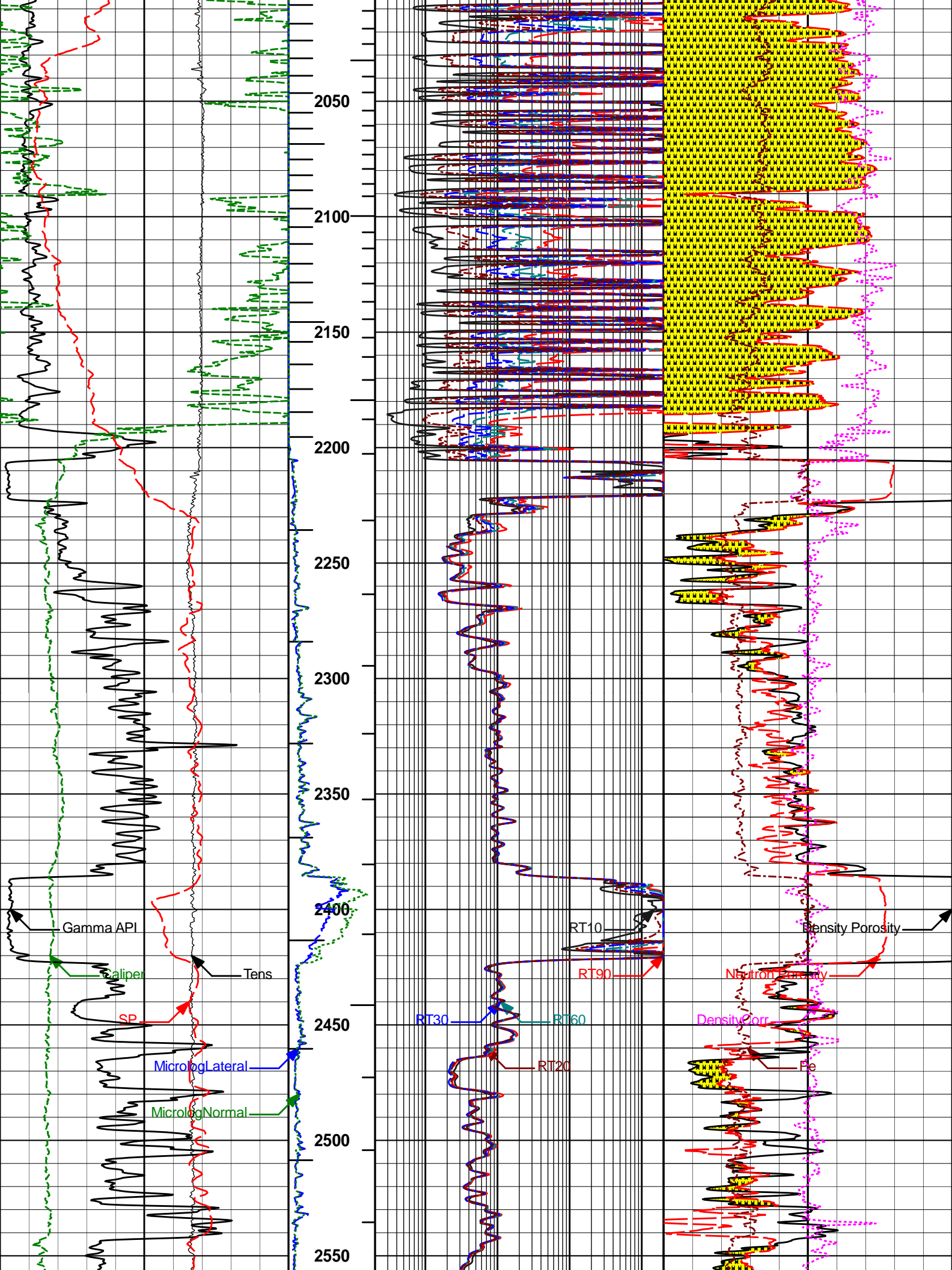
MAIN PASS 2" = 100'

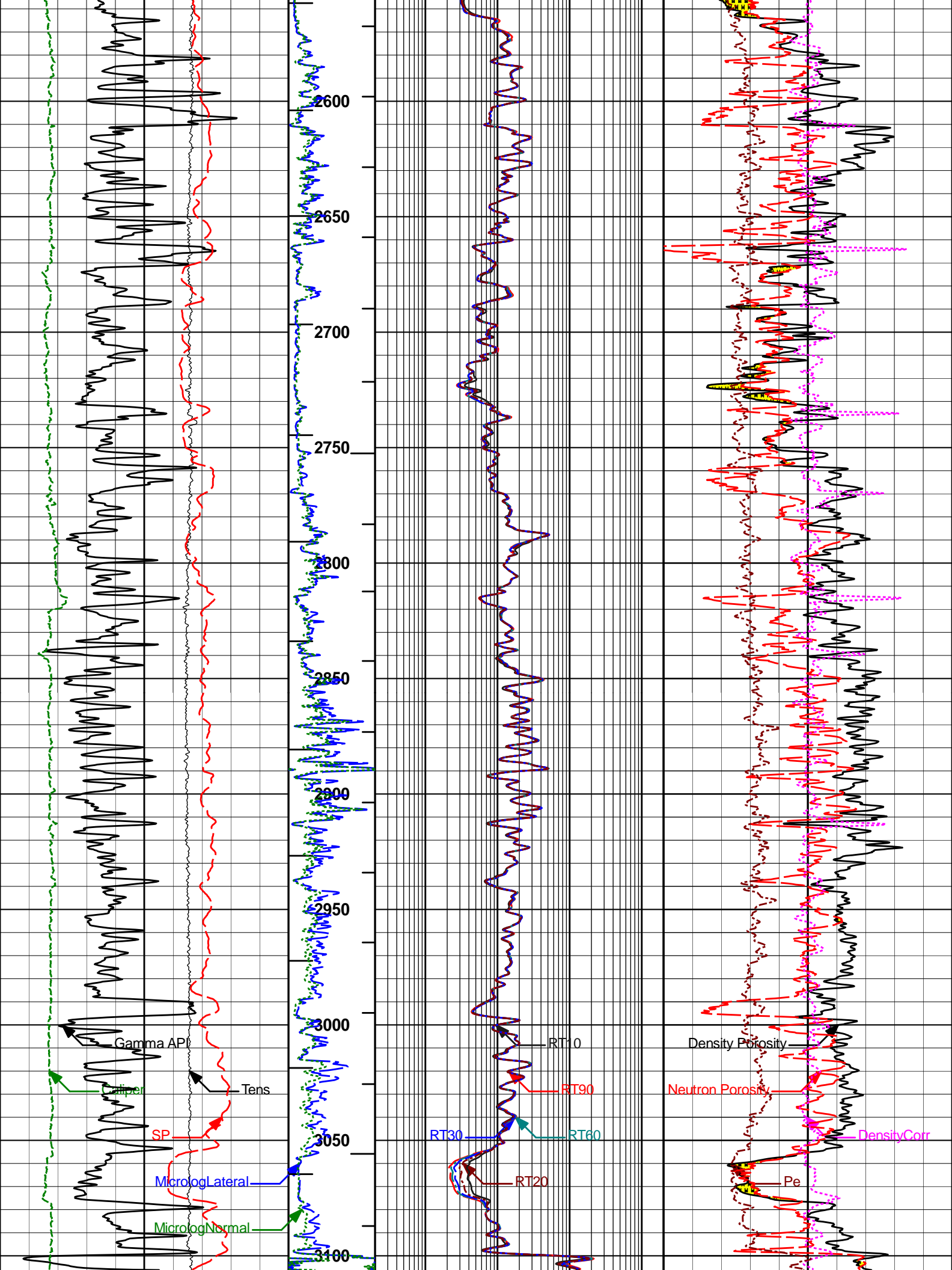


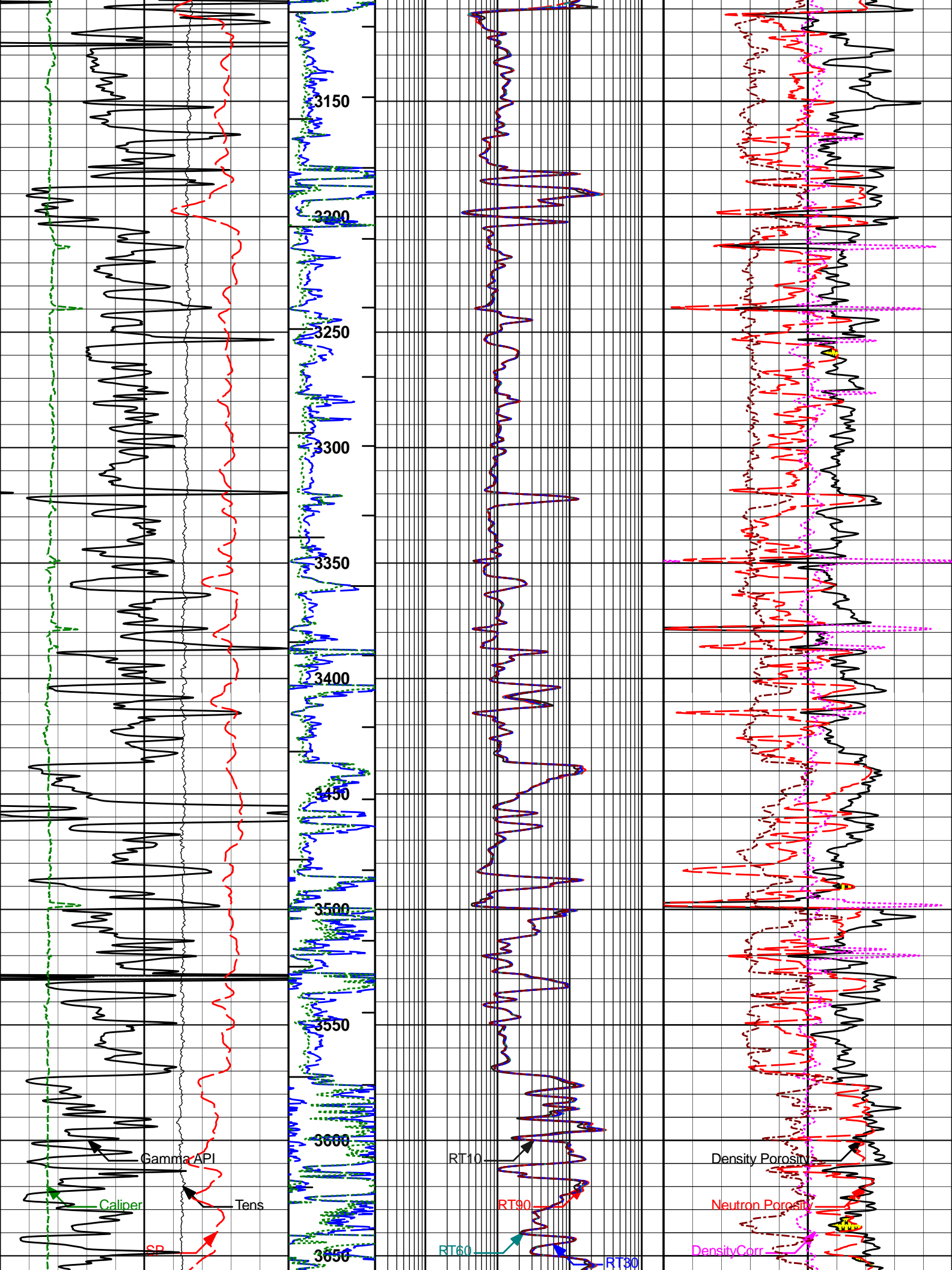


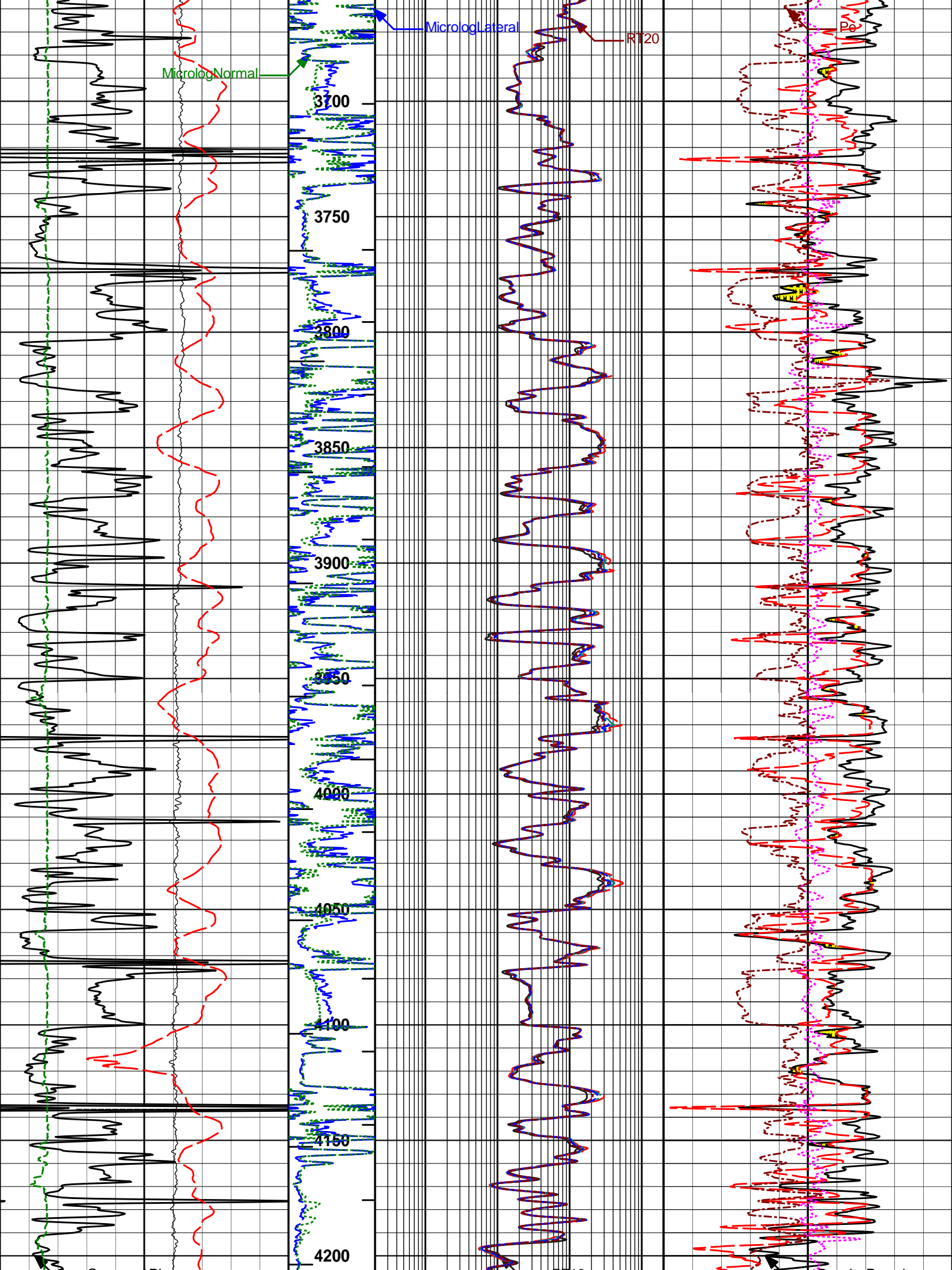


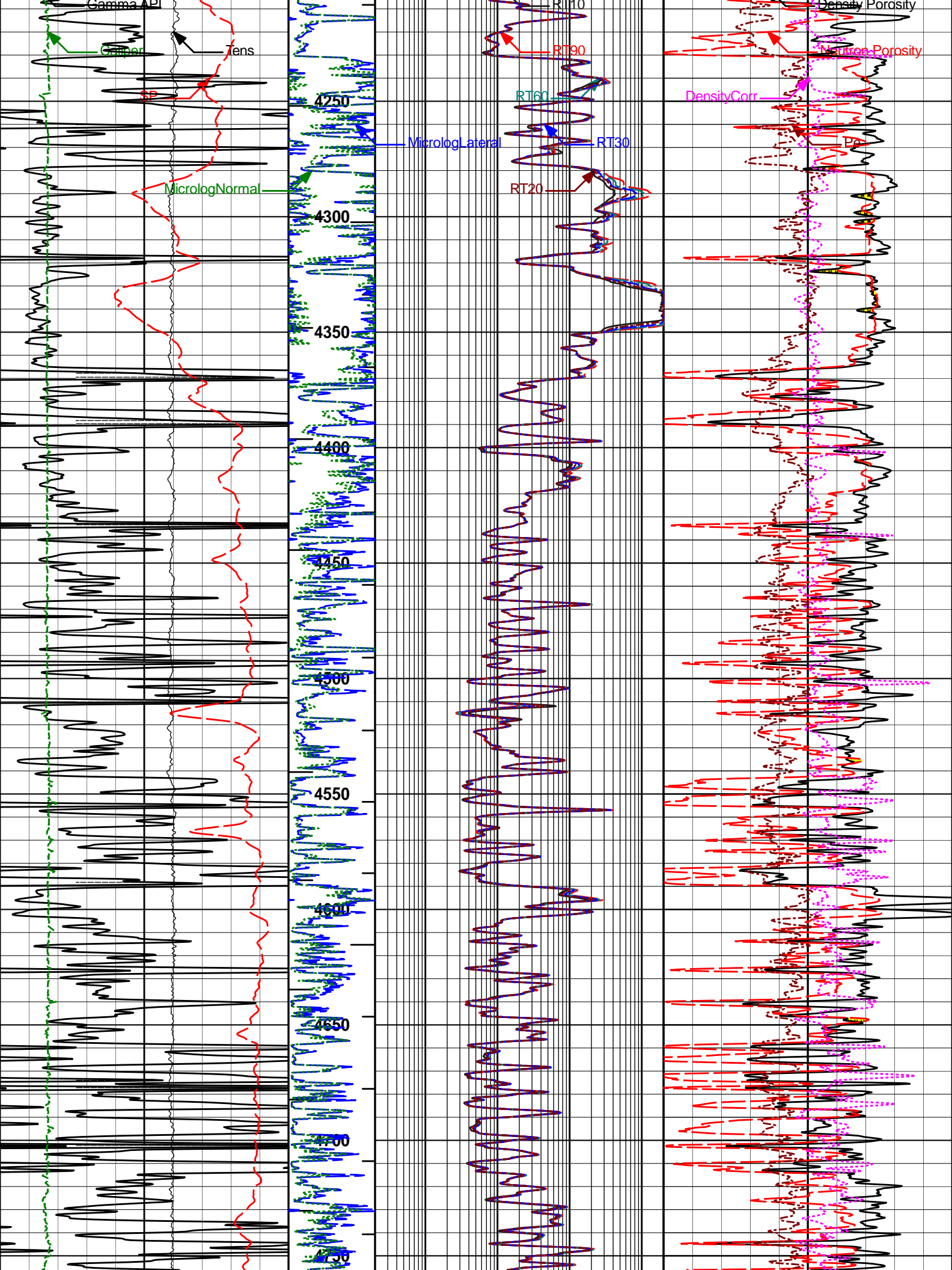


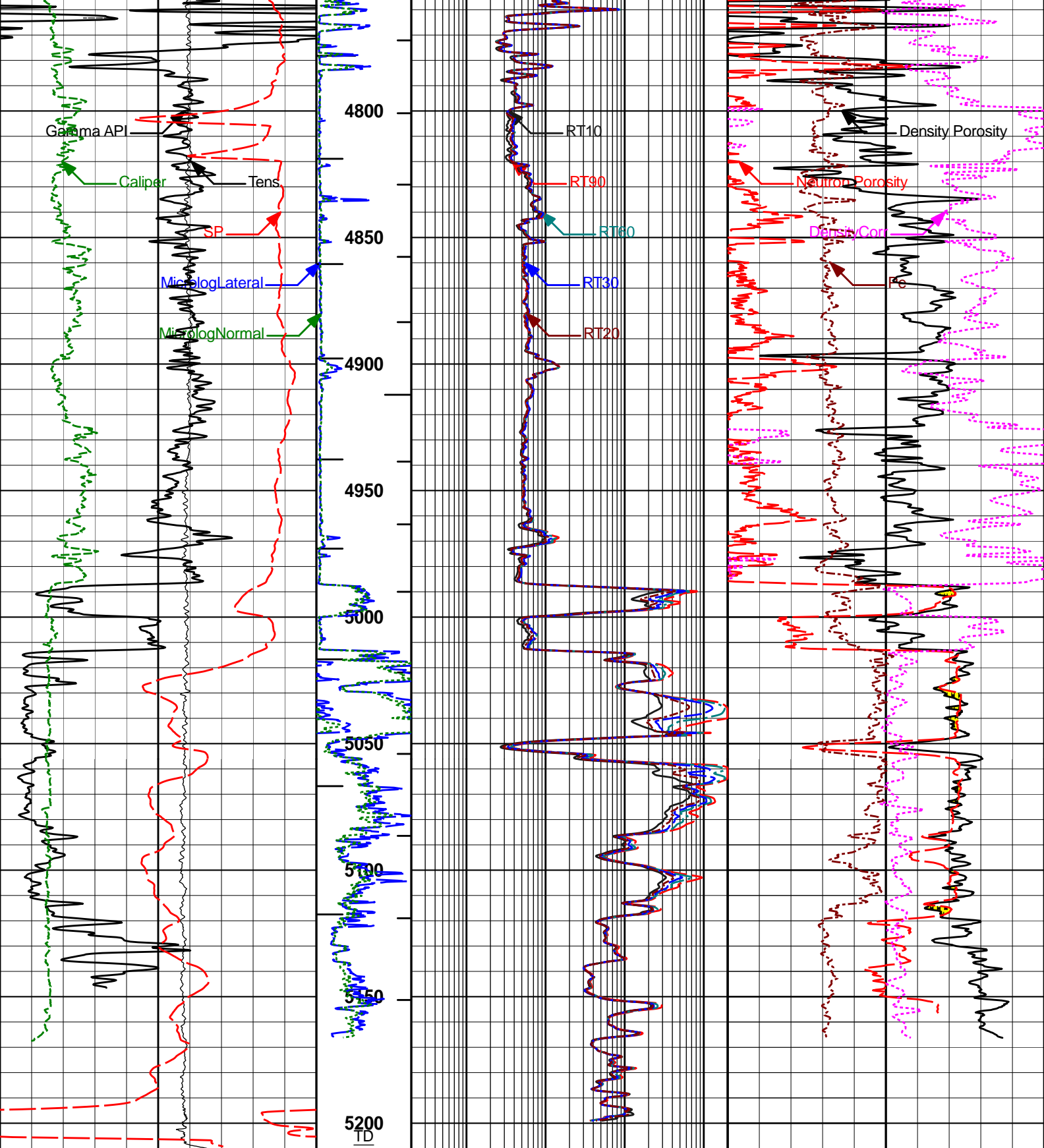




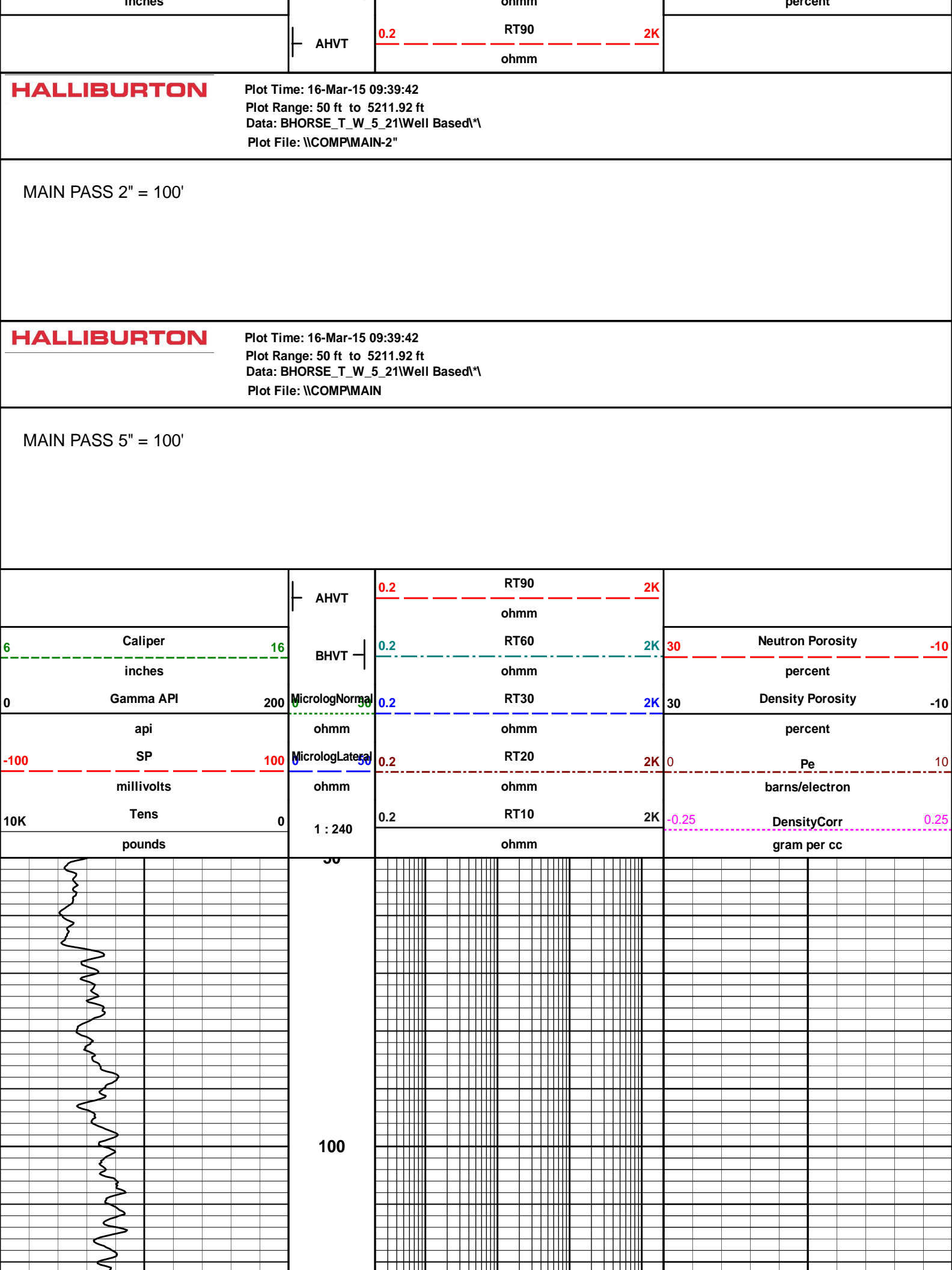


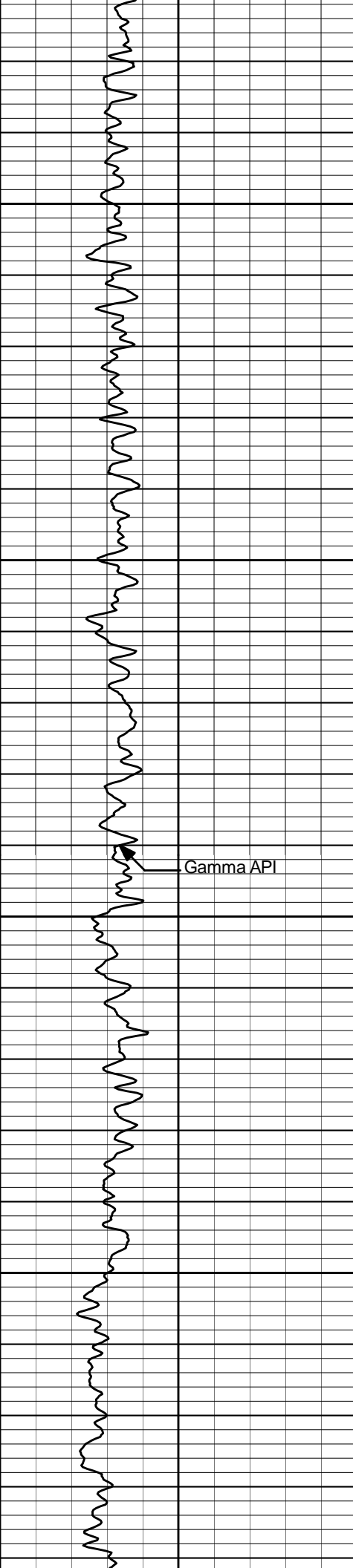






10K	Tens	0	1 : 600	0.2	RT10	2K	-0.25	DensityCorr	0.25
	pounds				ohmm			gram per cc	
-100	SP	100	MicrologLateral	0.2	RT20	2K	0	Pe	10
	millivolts		ohmm		ohmm			barns/electron	
0	Gamma API	200	MicrologNormal	0.2	RT30	2K	30	Density Porosity	-10
	api		ohmm		ohmm			percent	
6	Caliper	16	BHVT	0.2	RT60	2K	30	Neutron Porosity	-10
	inches				ohmm			percent	





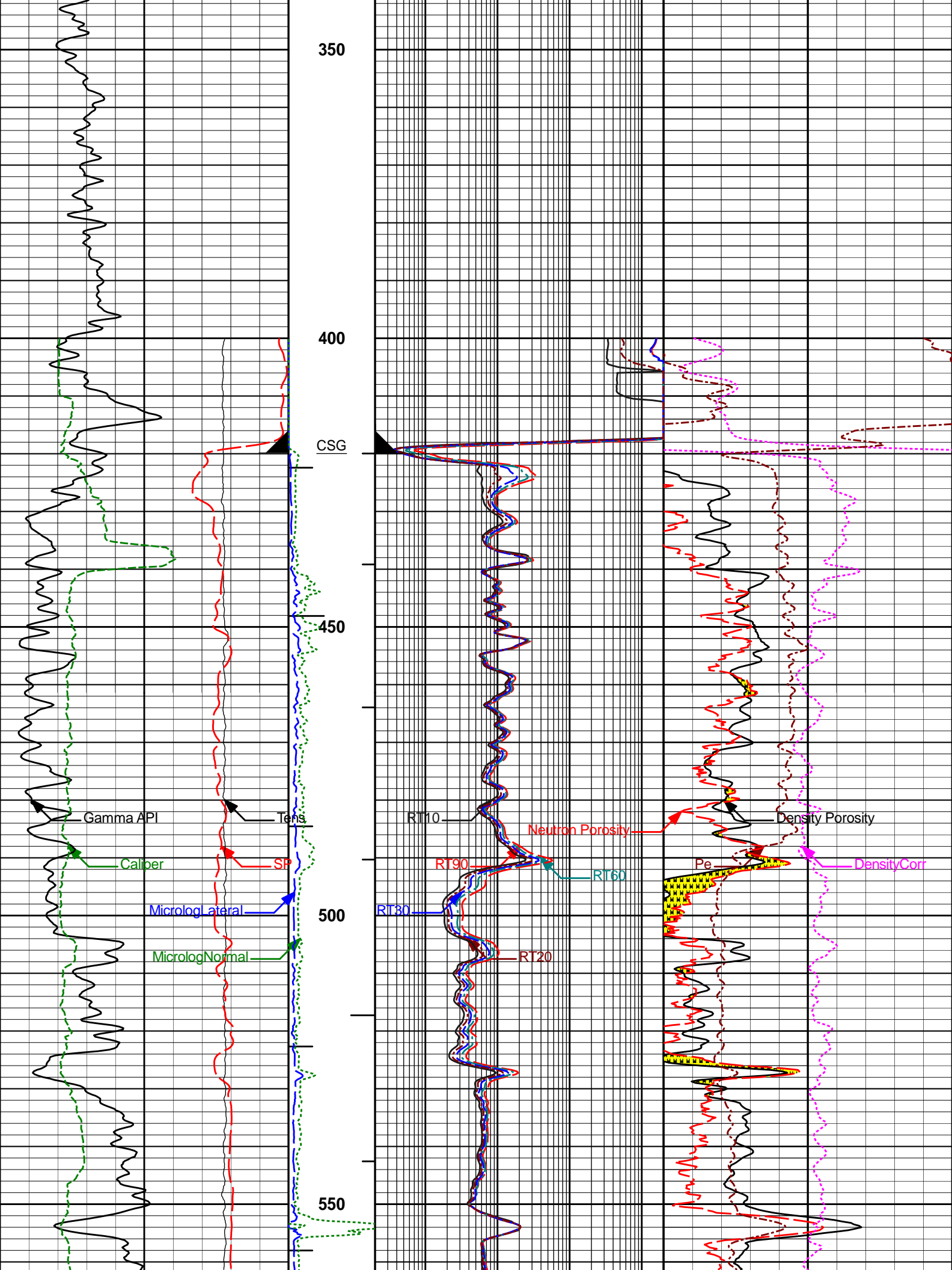
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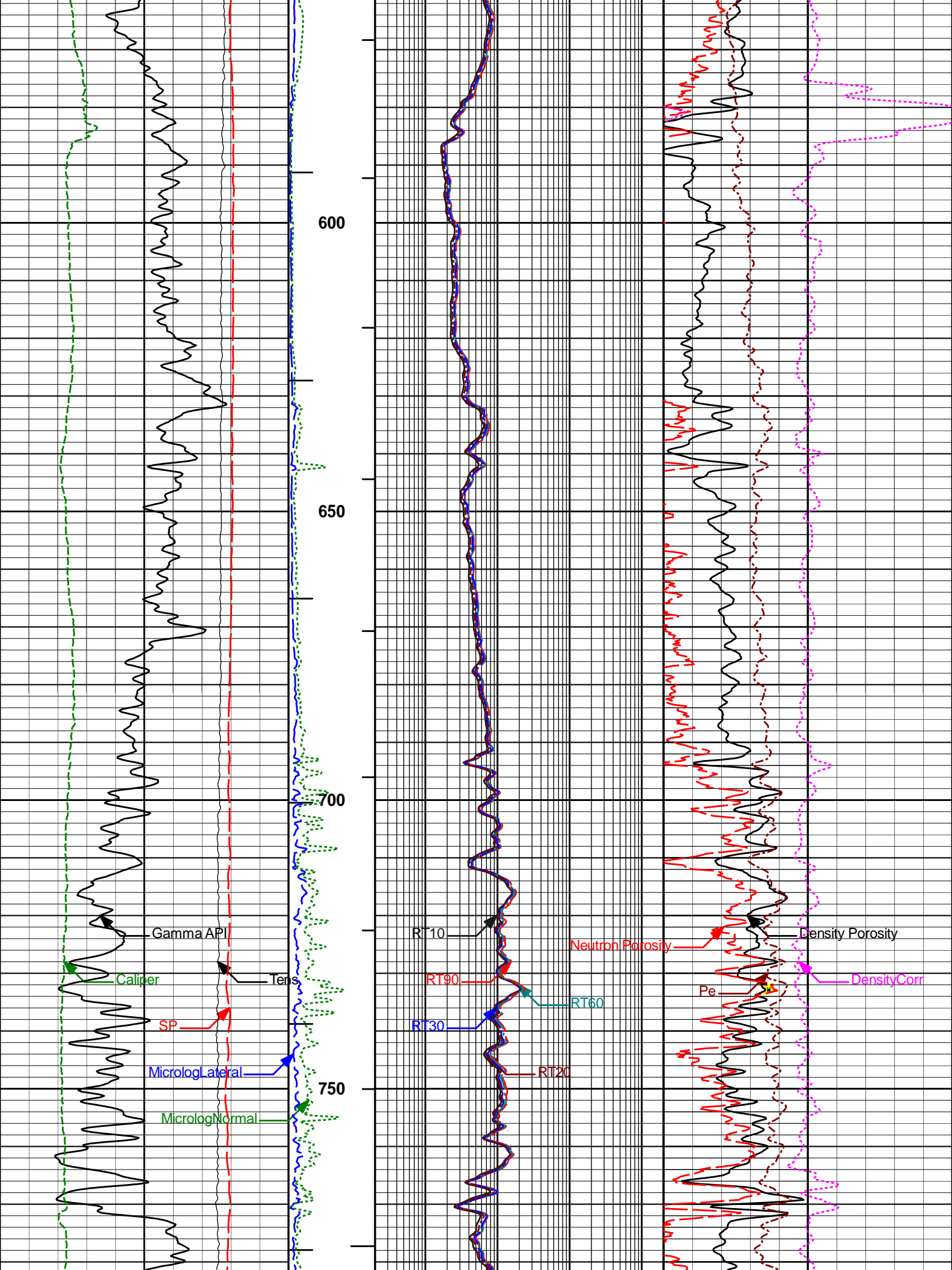
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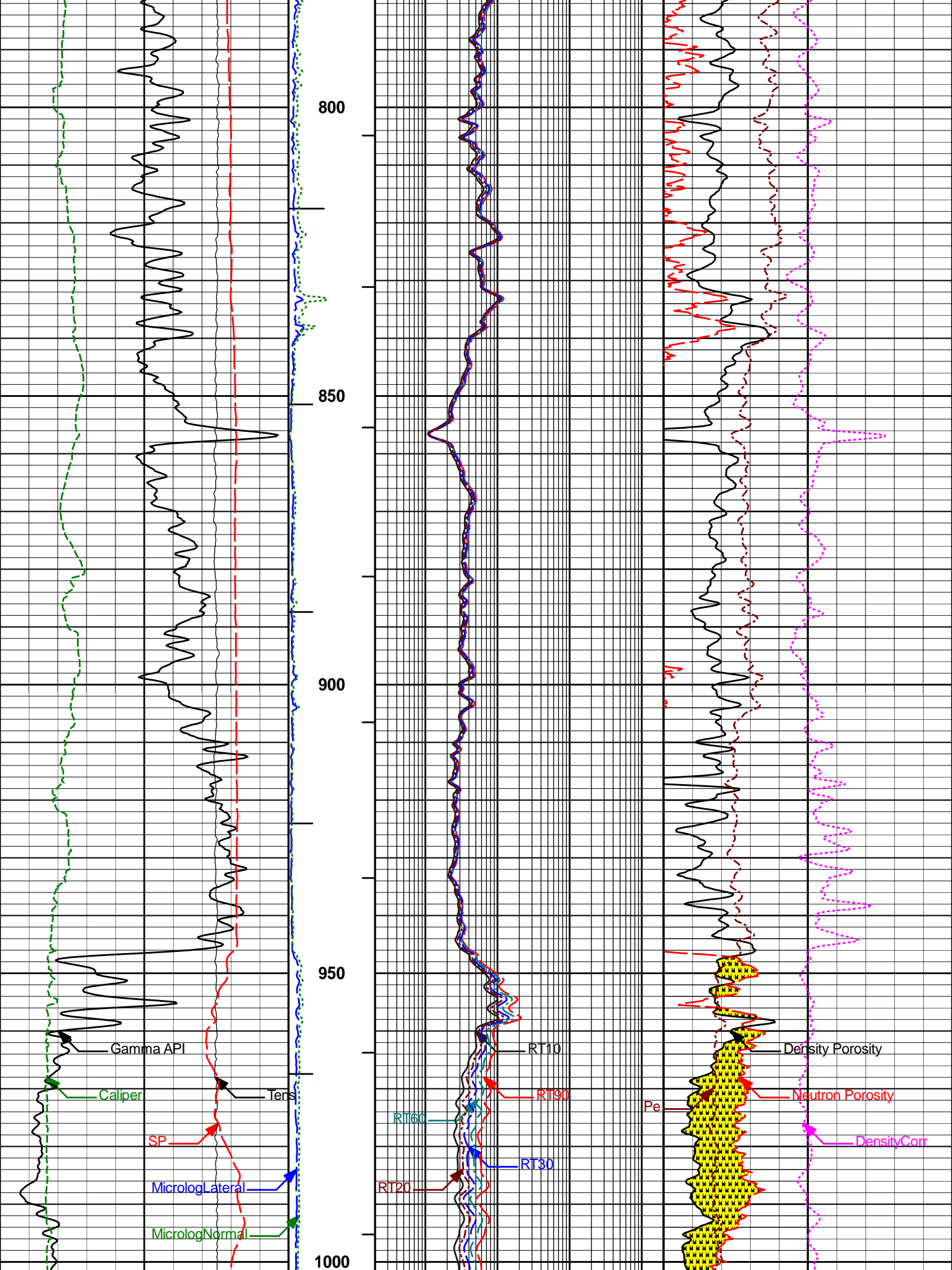
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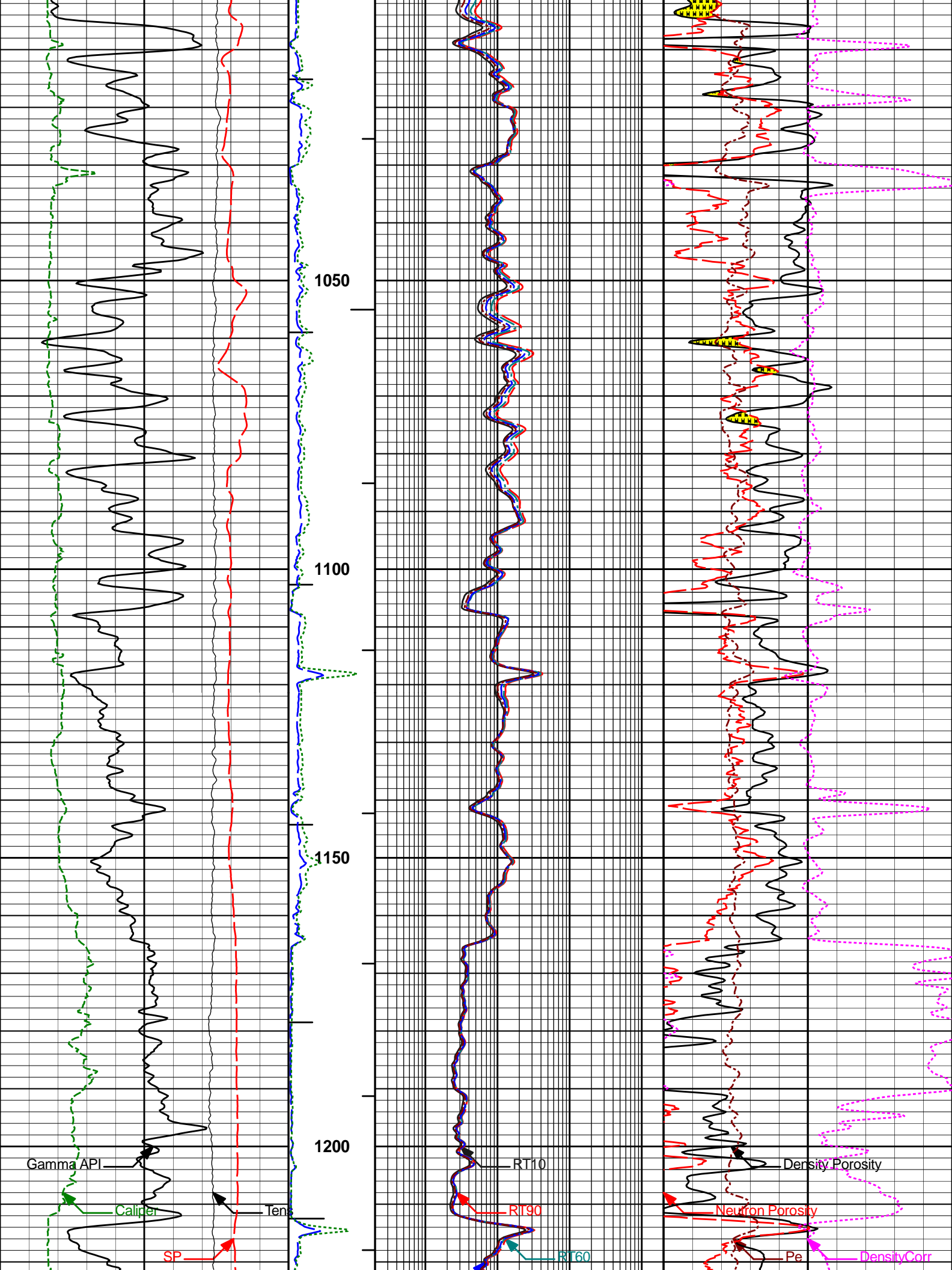
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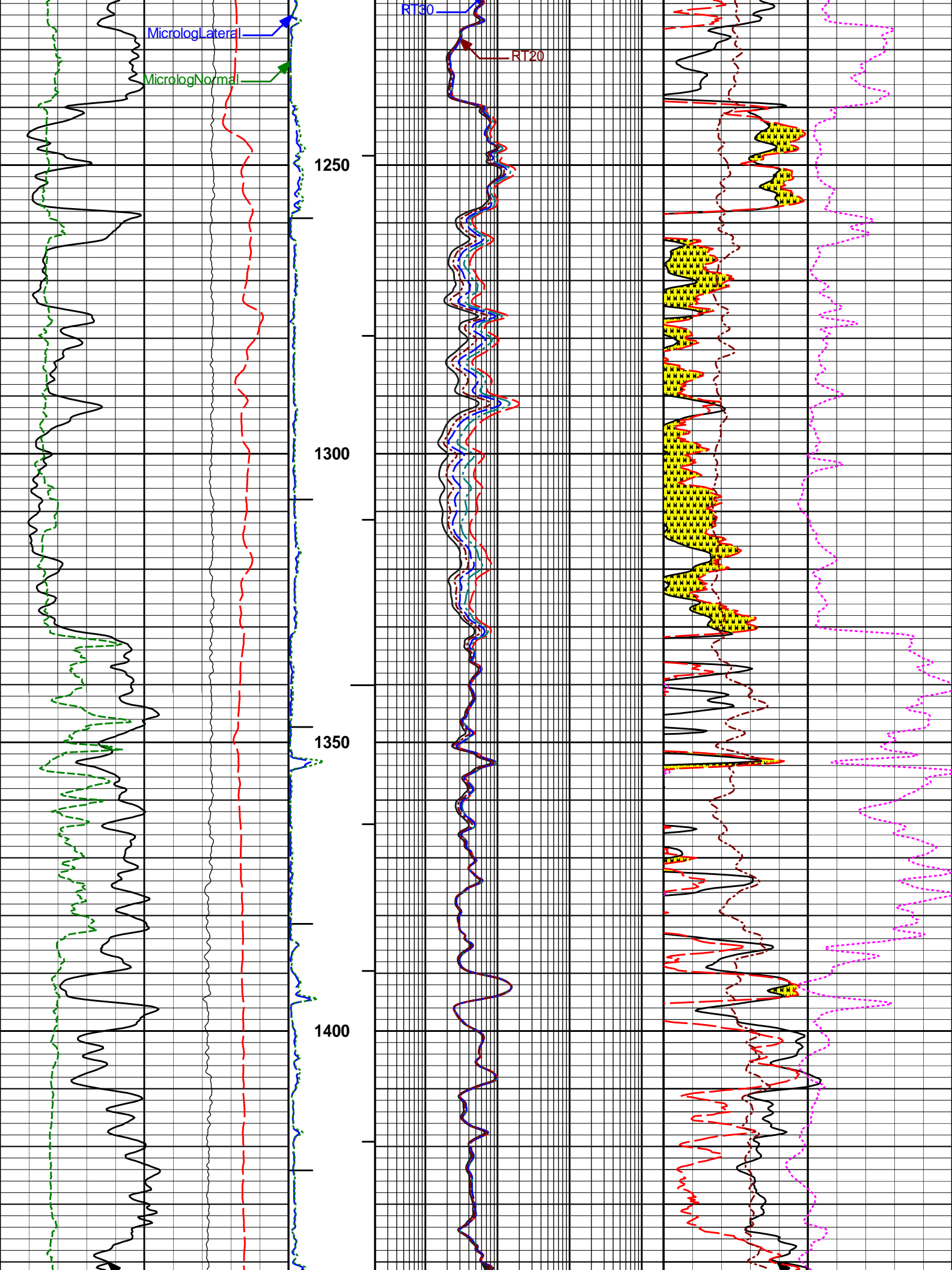
Gamma API

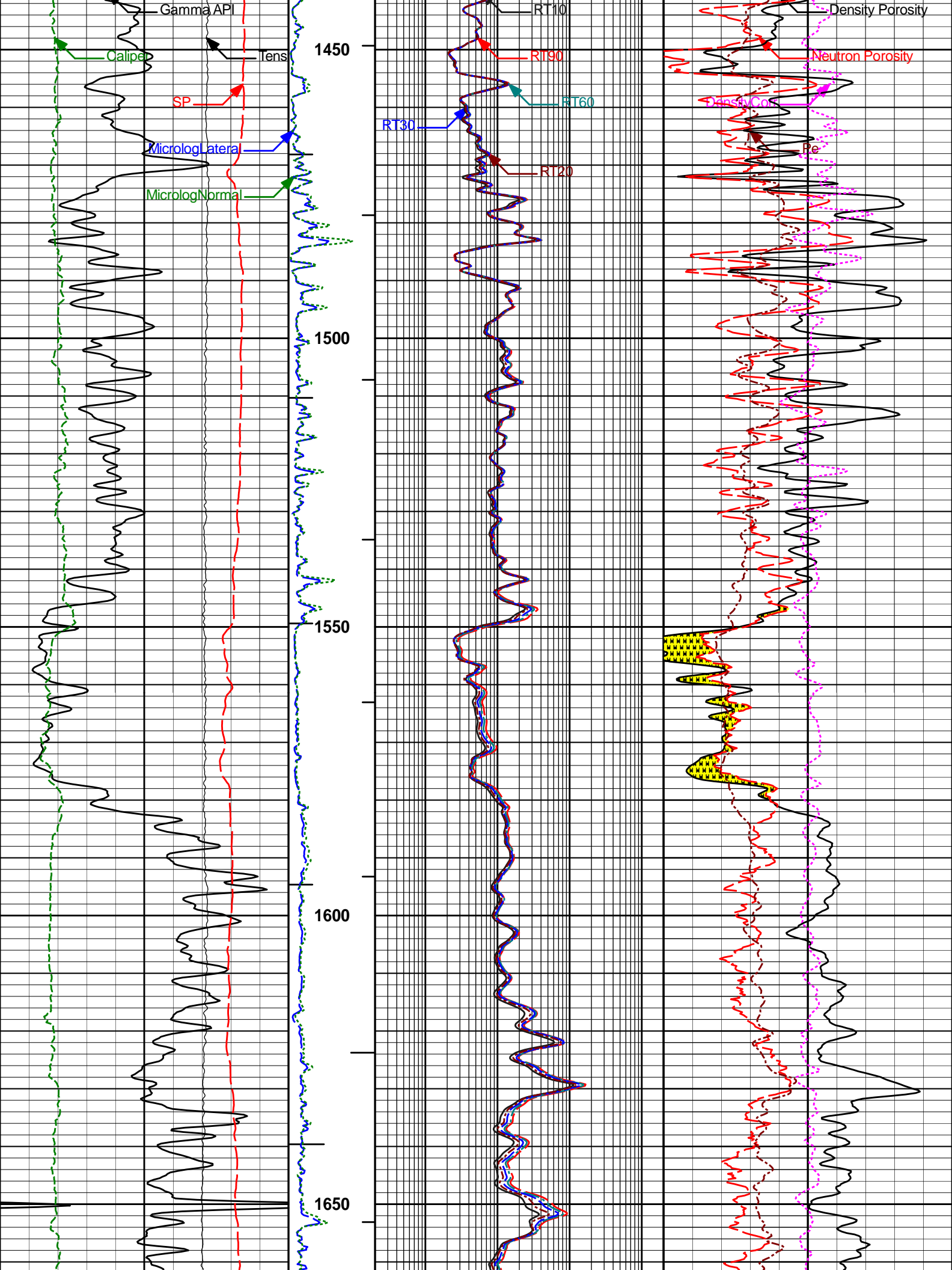


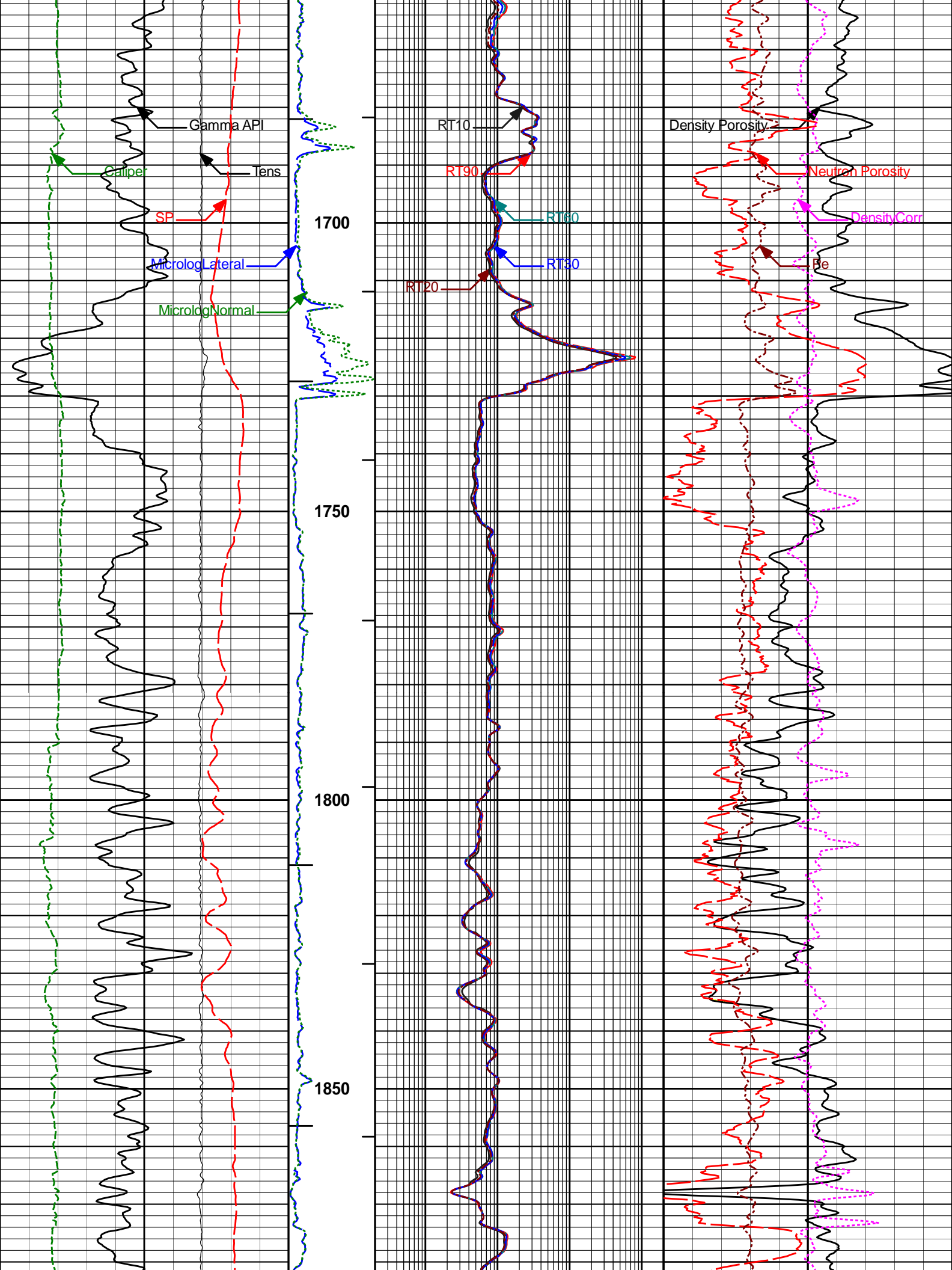


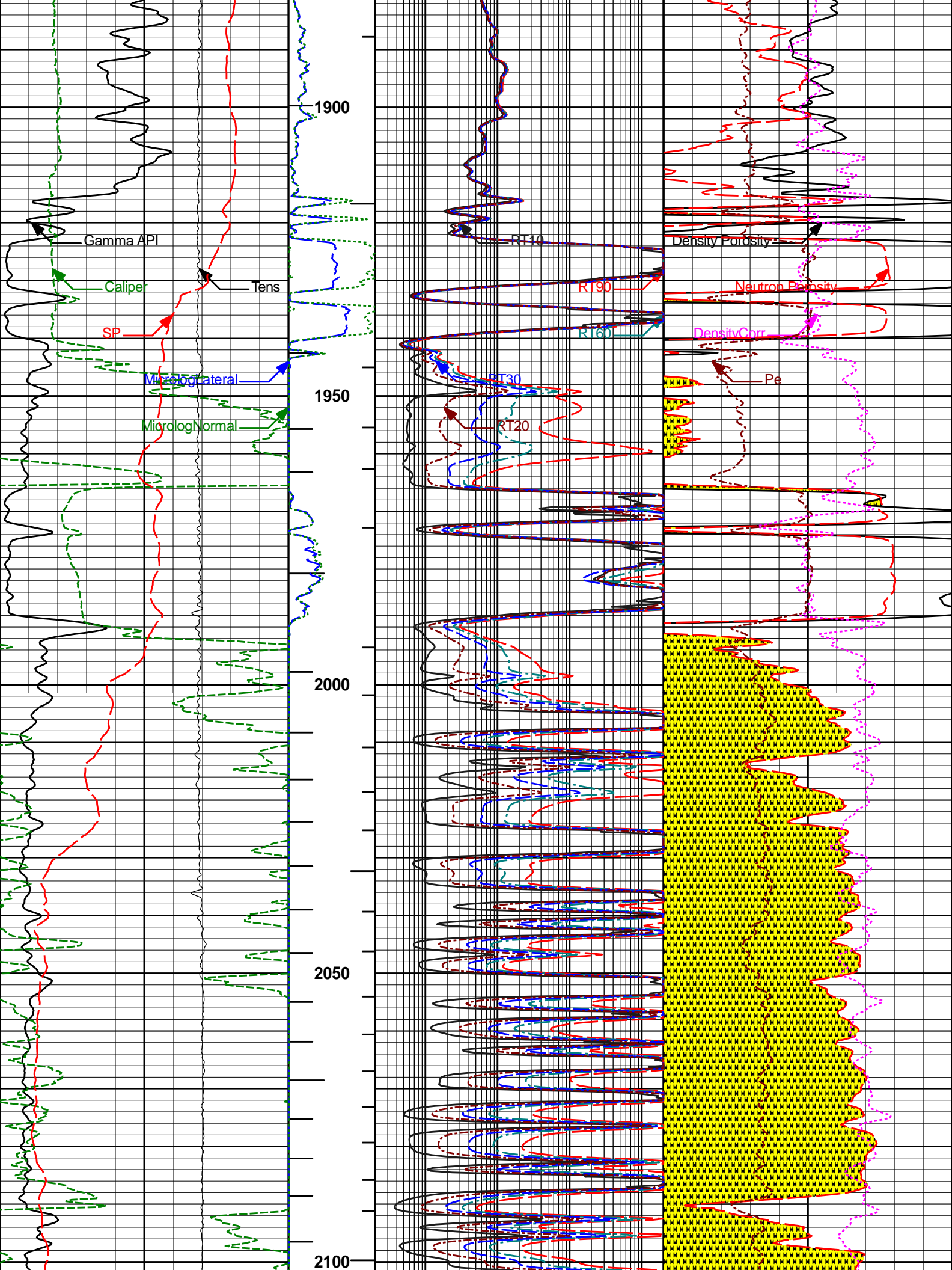


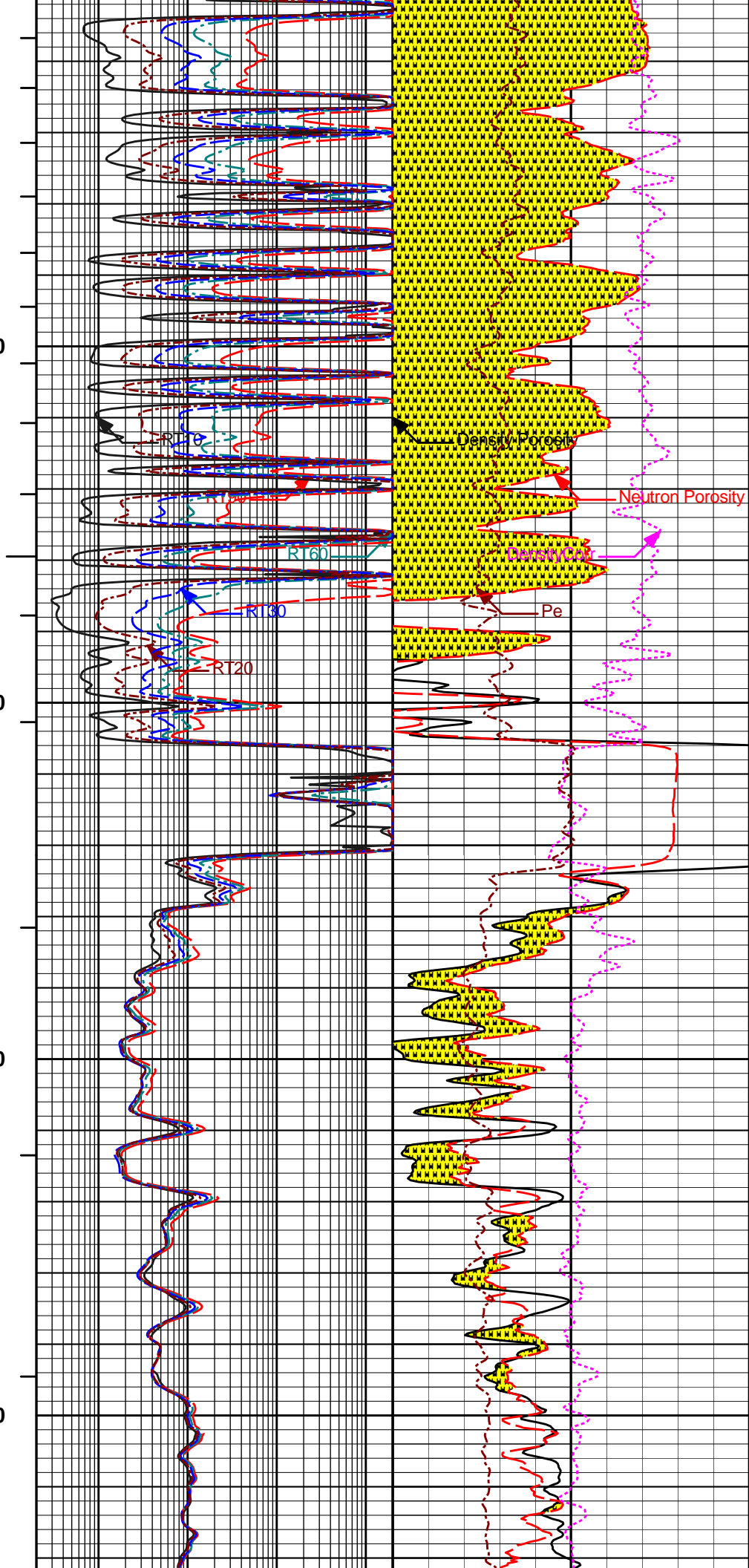
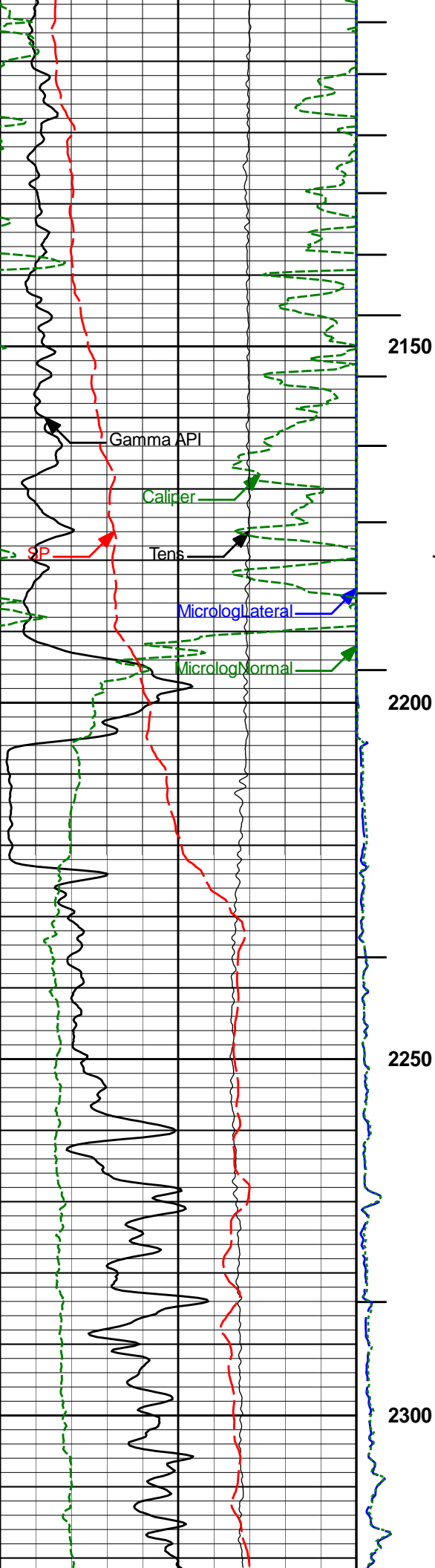


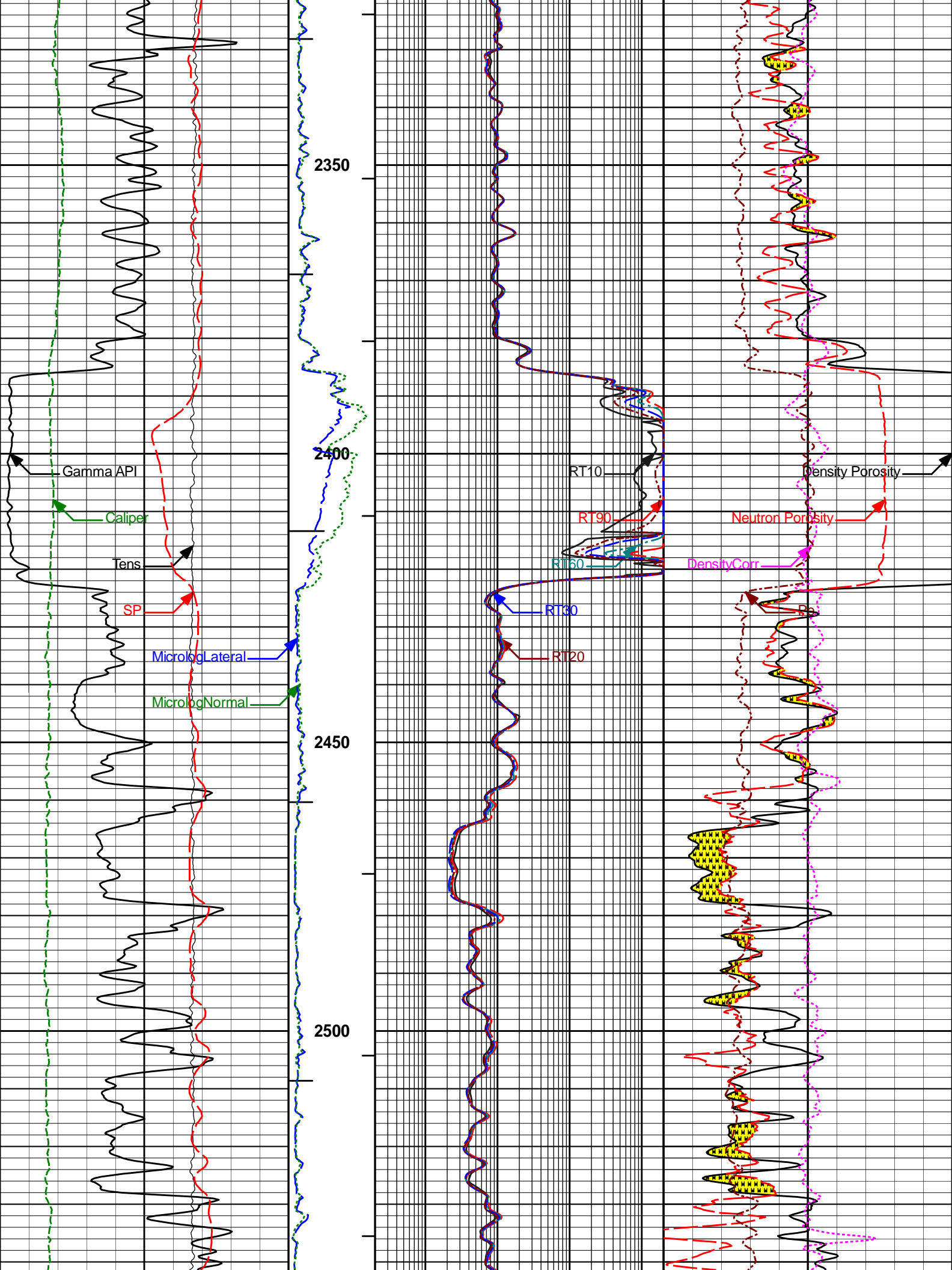


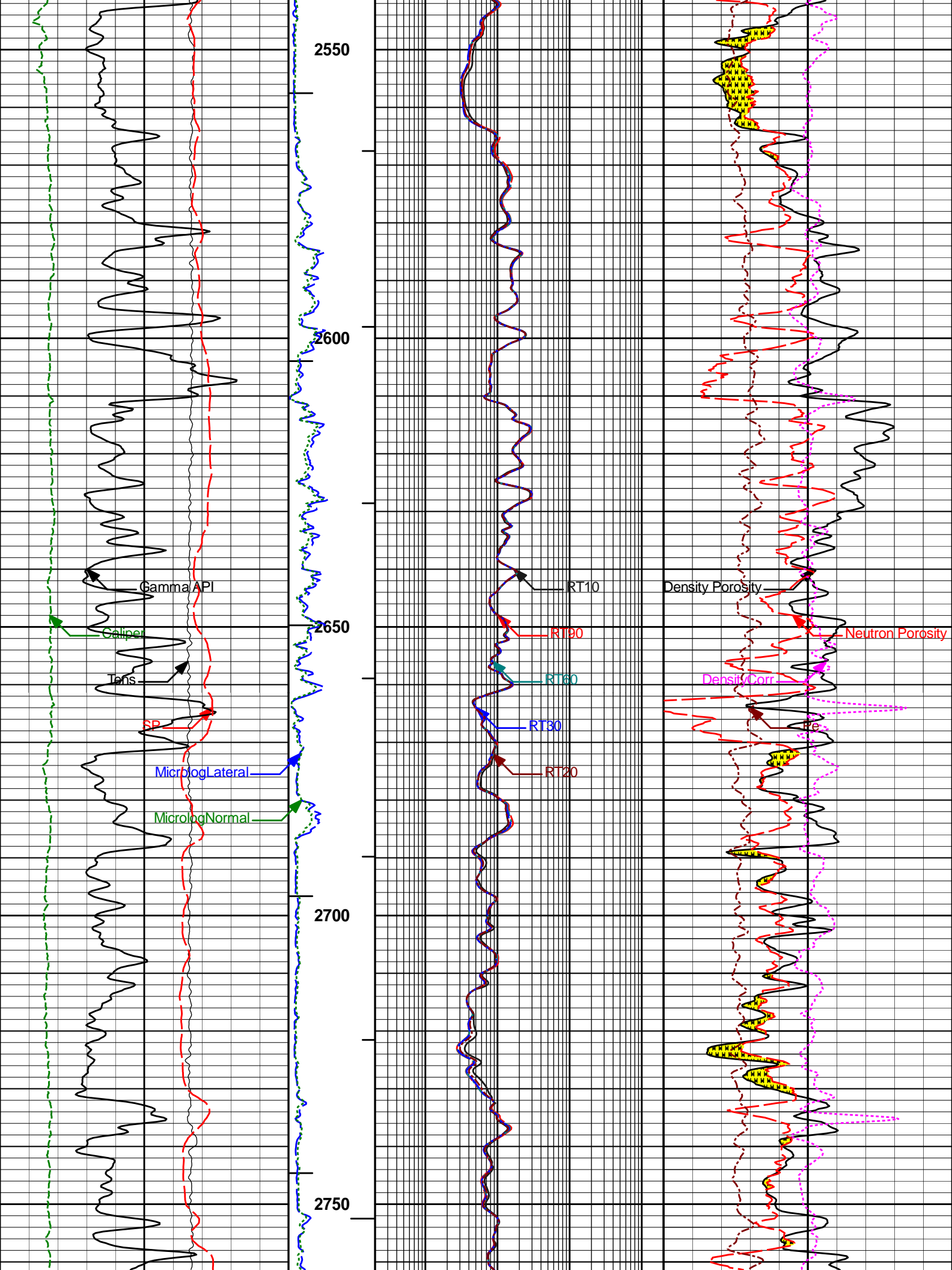


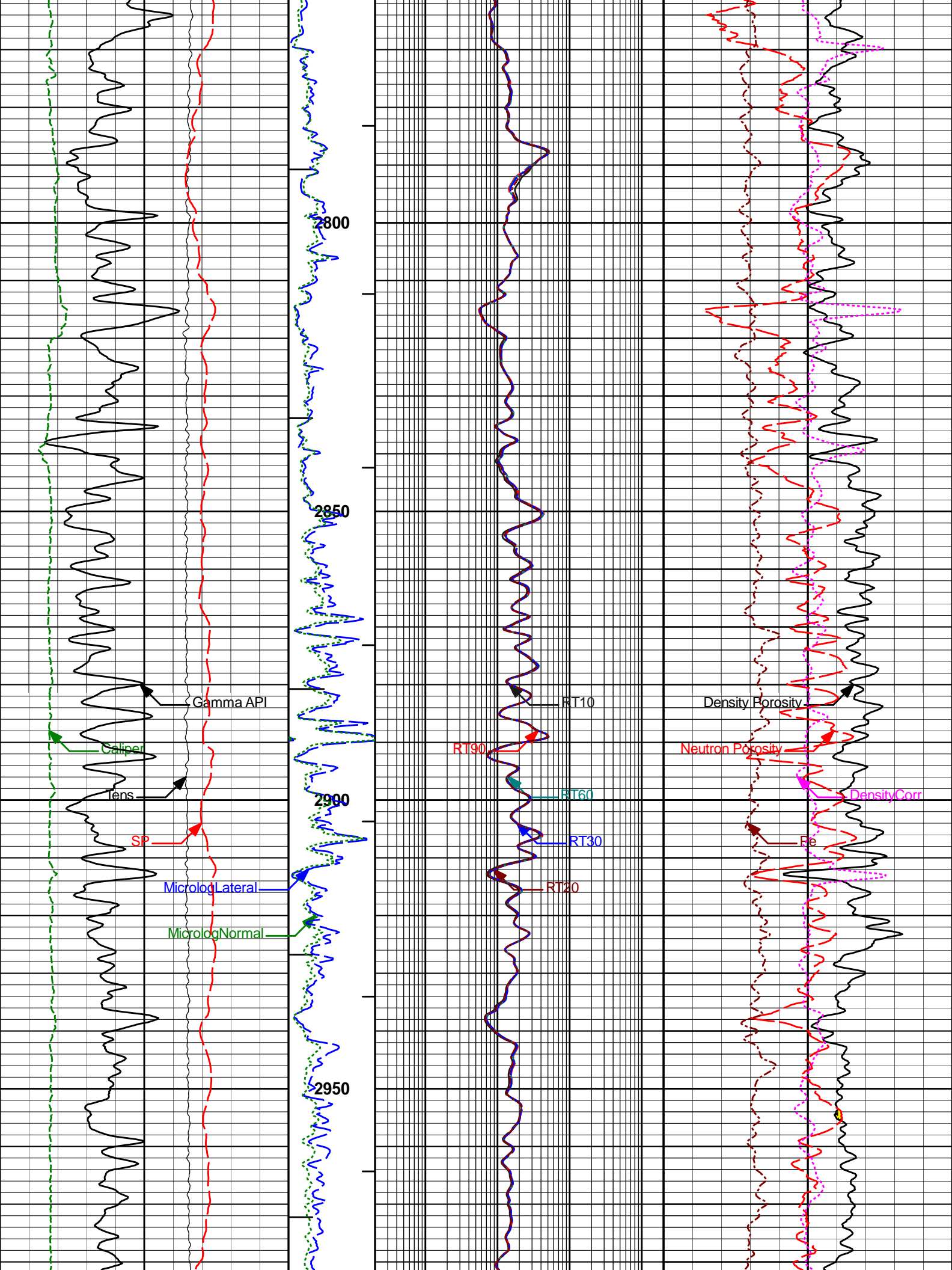


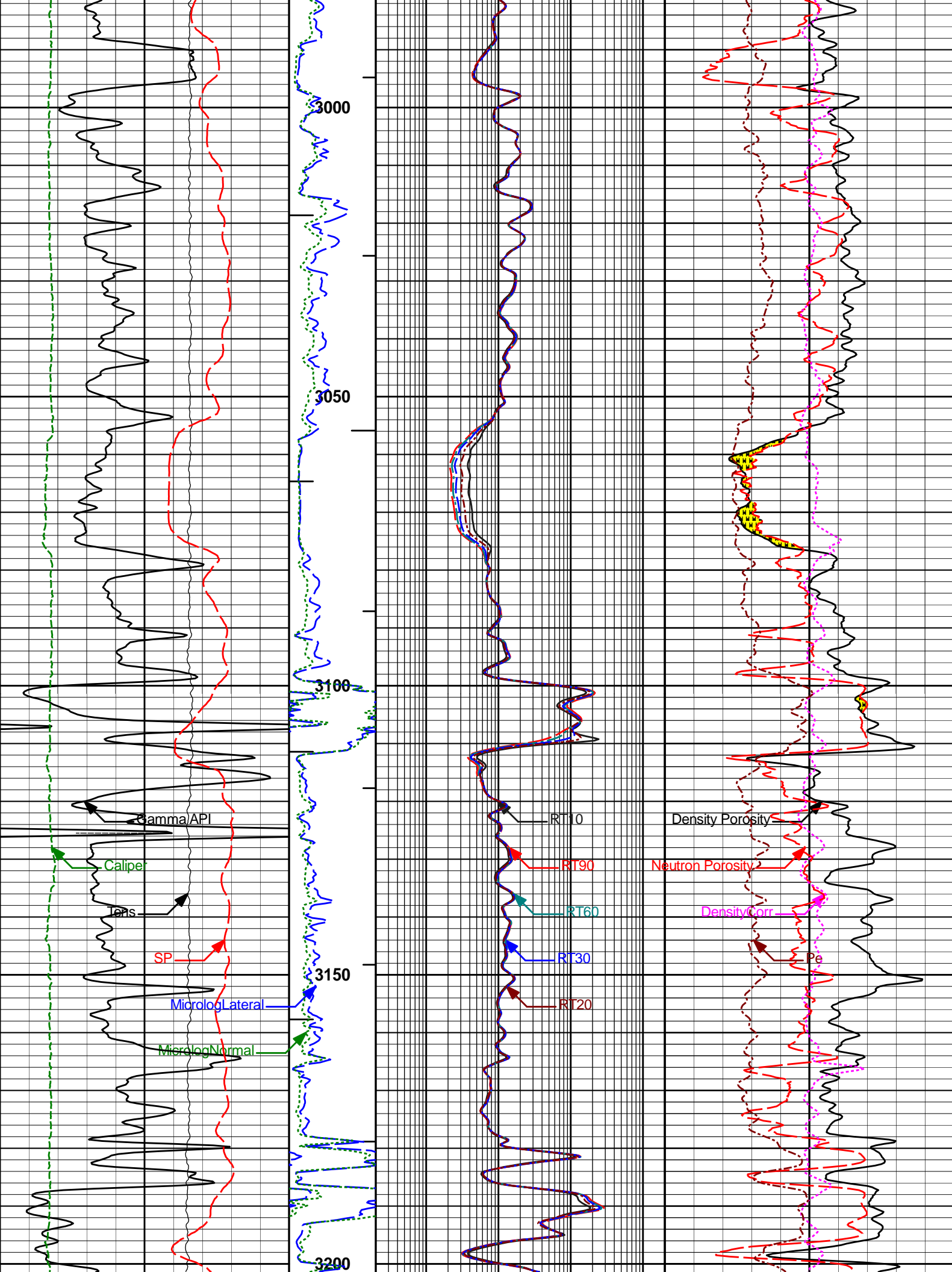


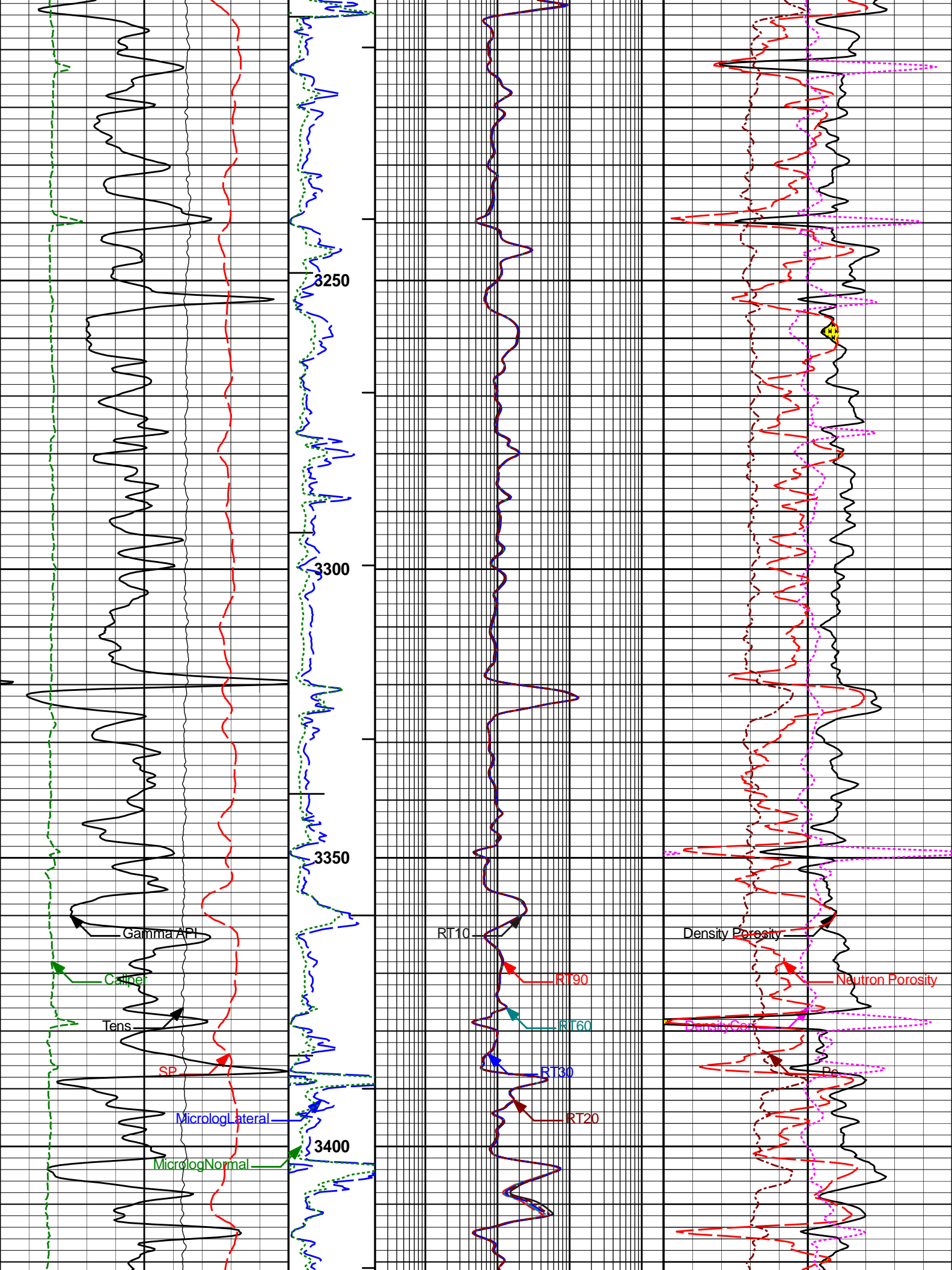


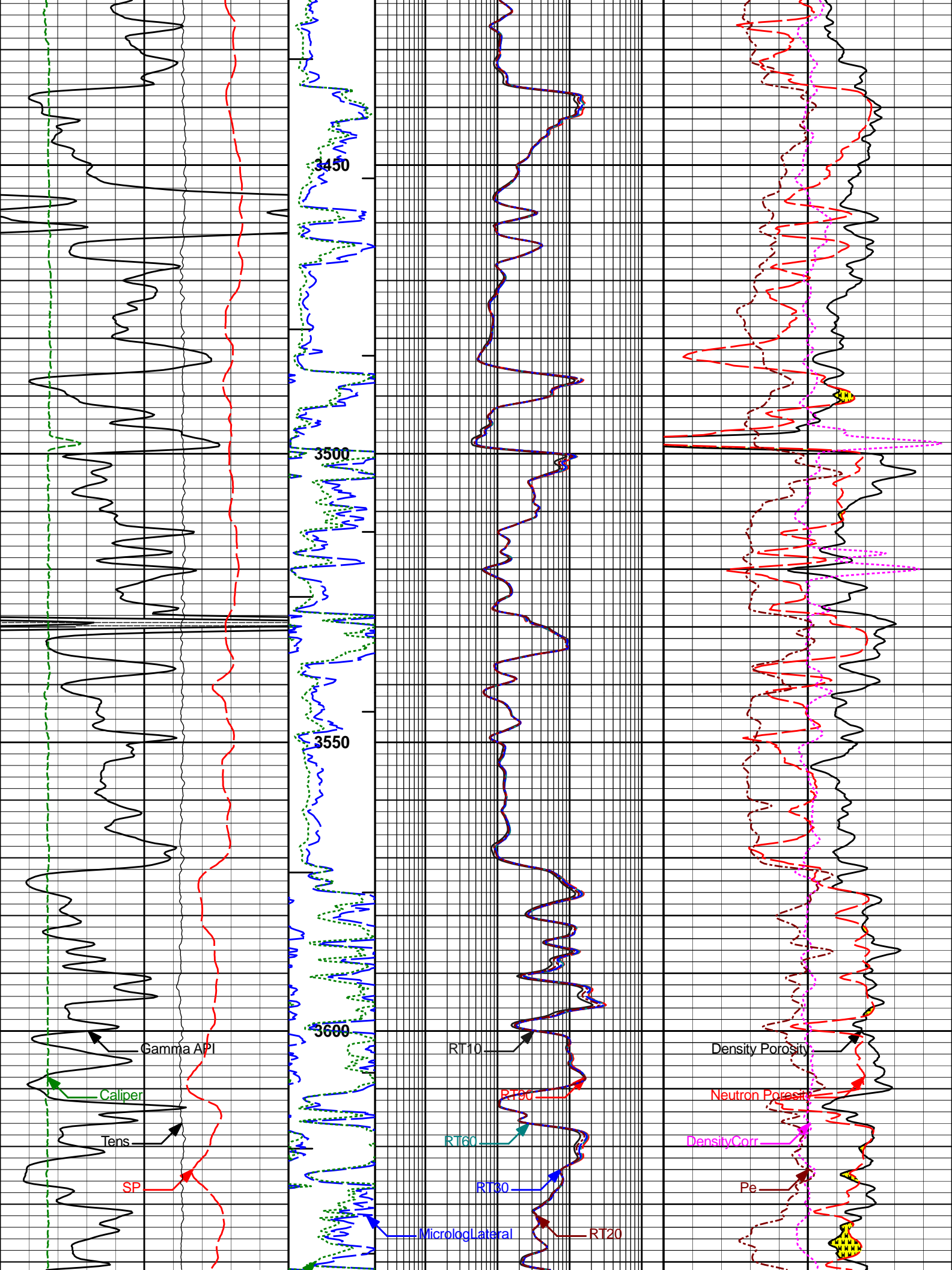


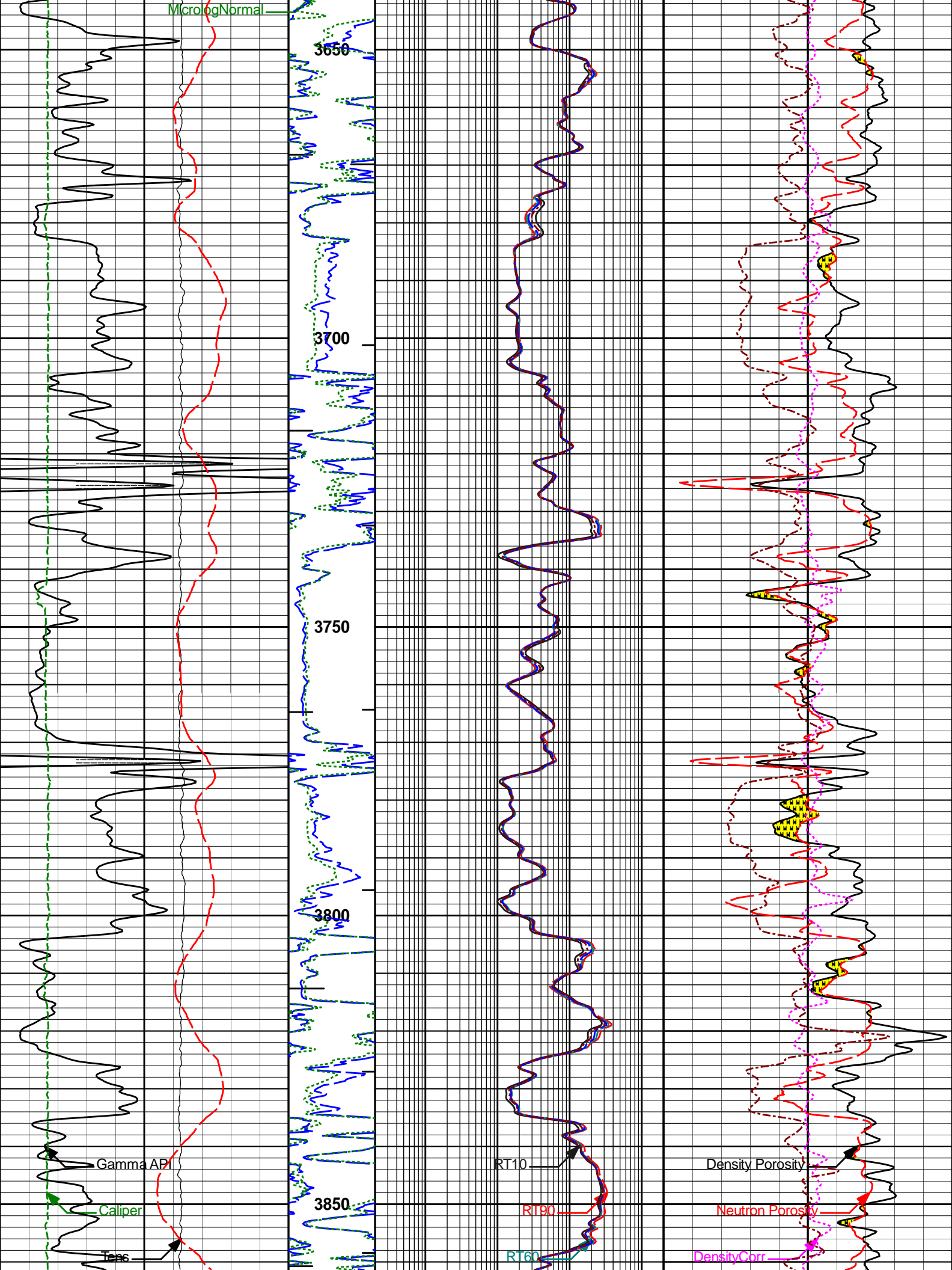


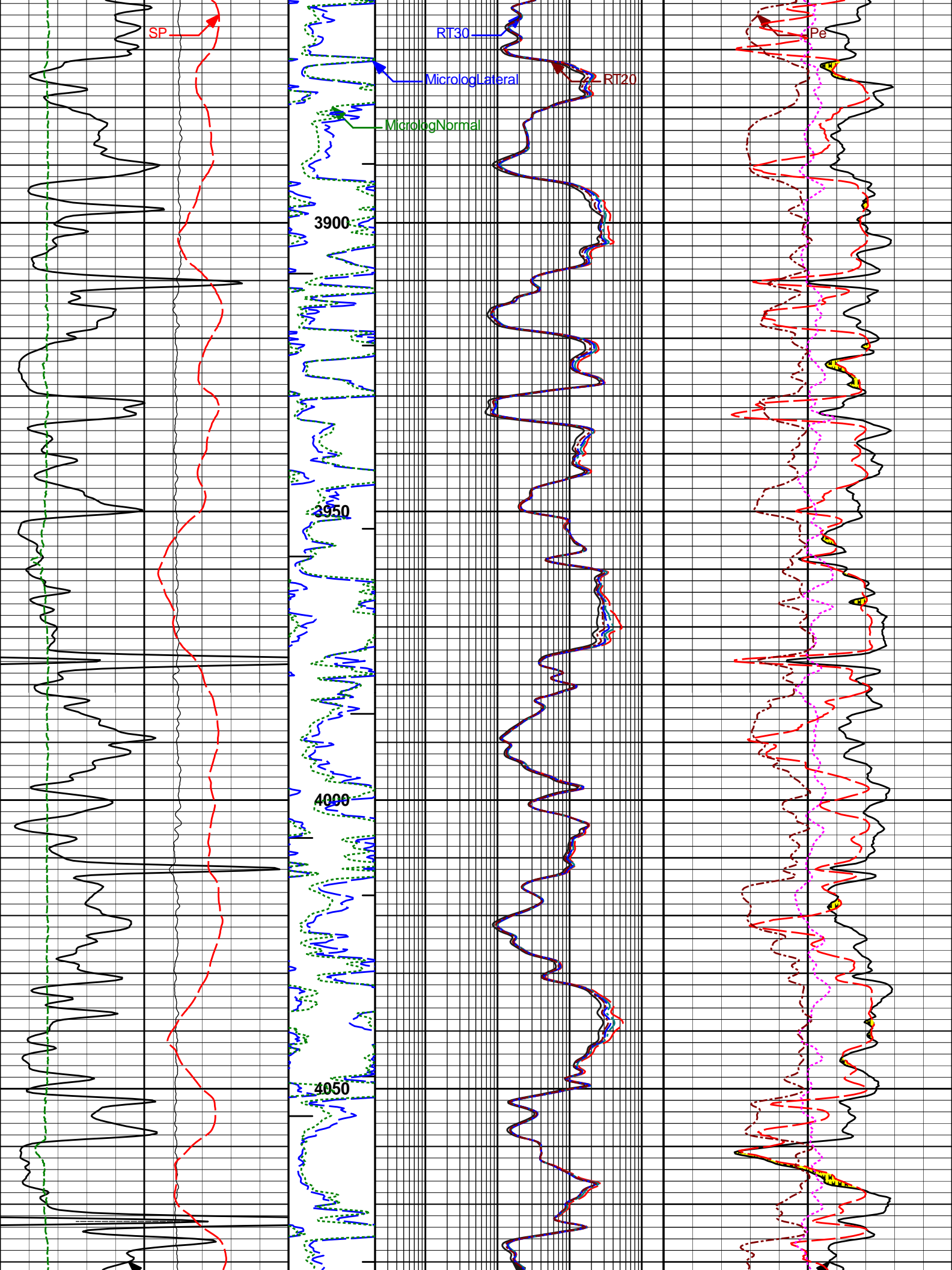


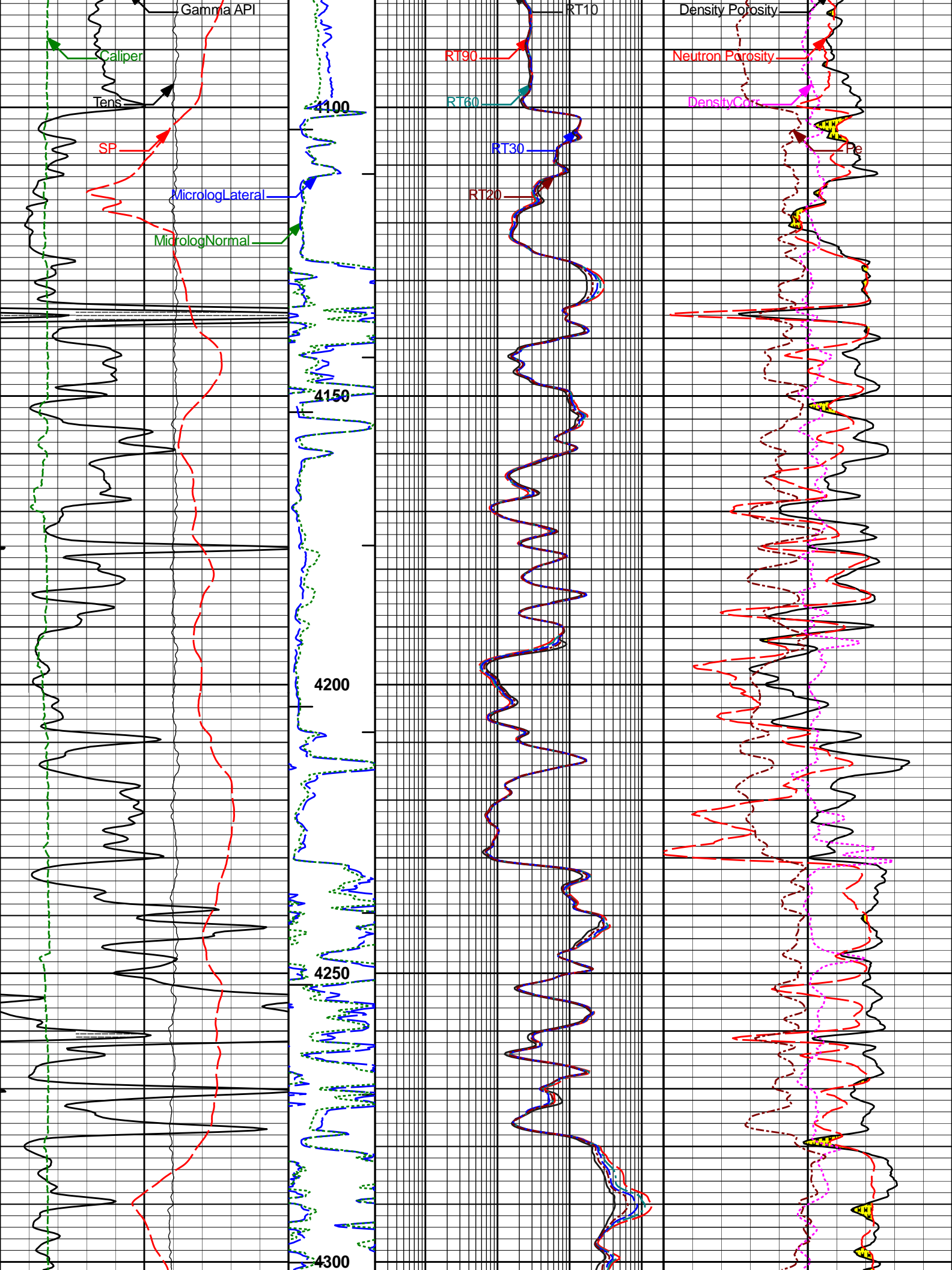


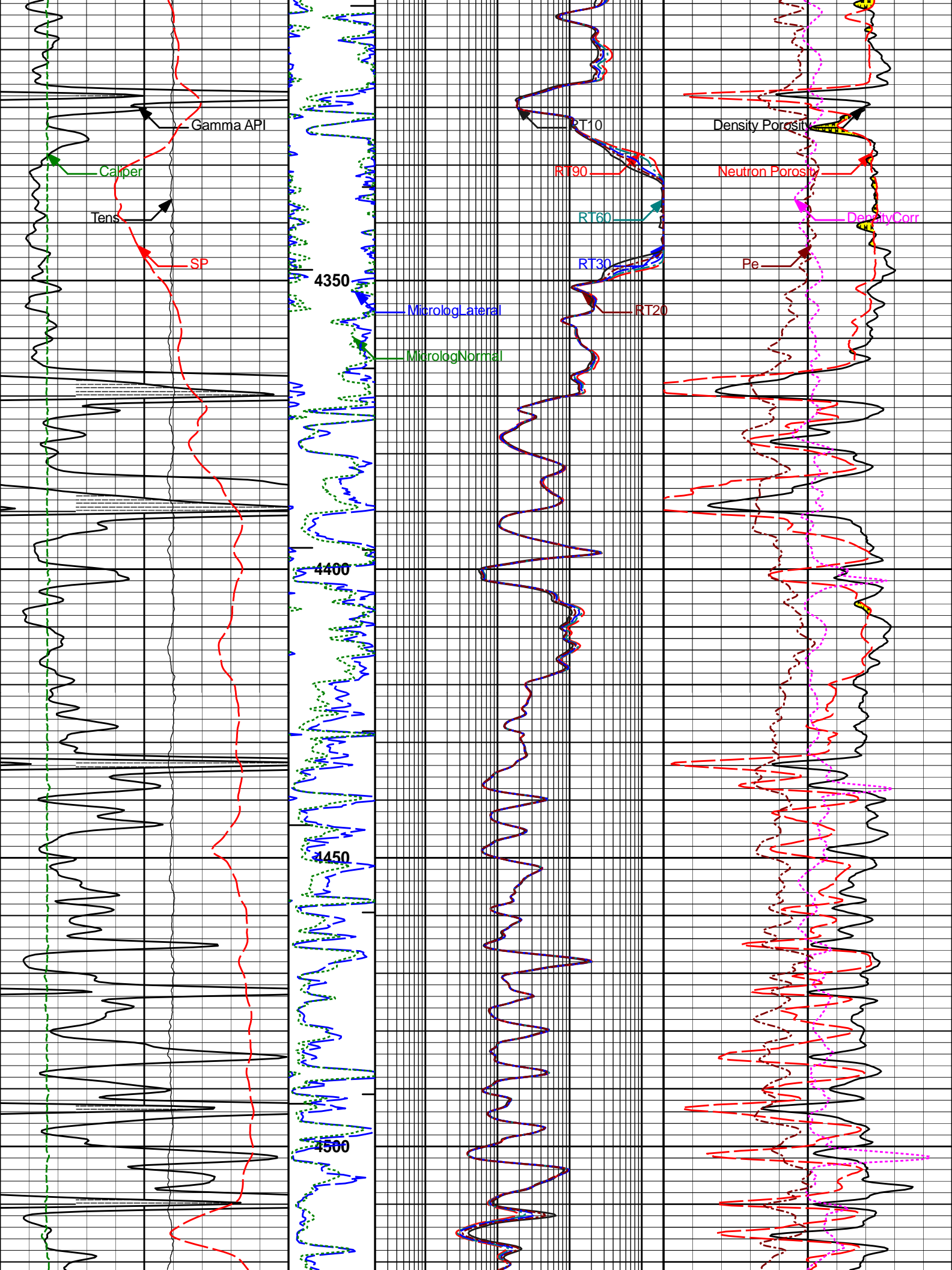


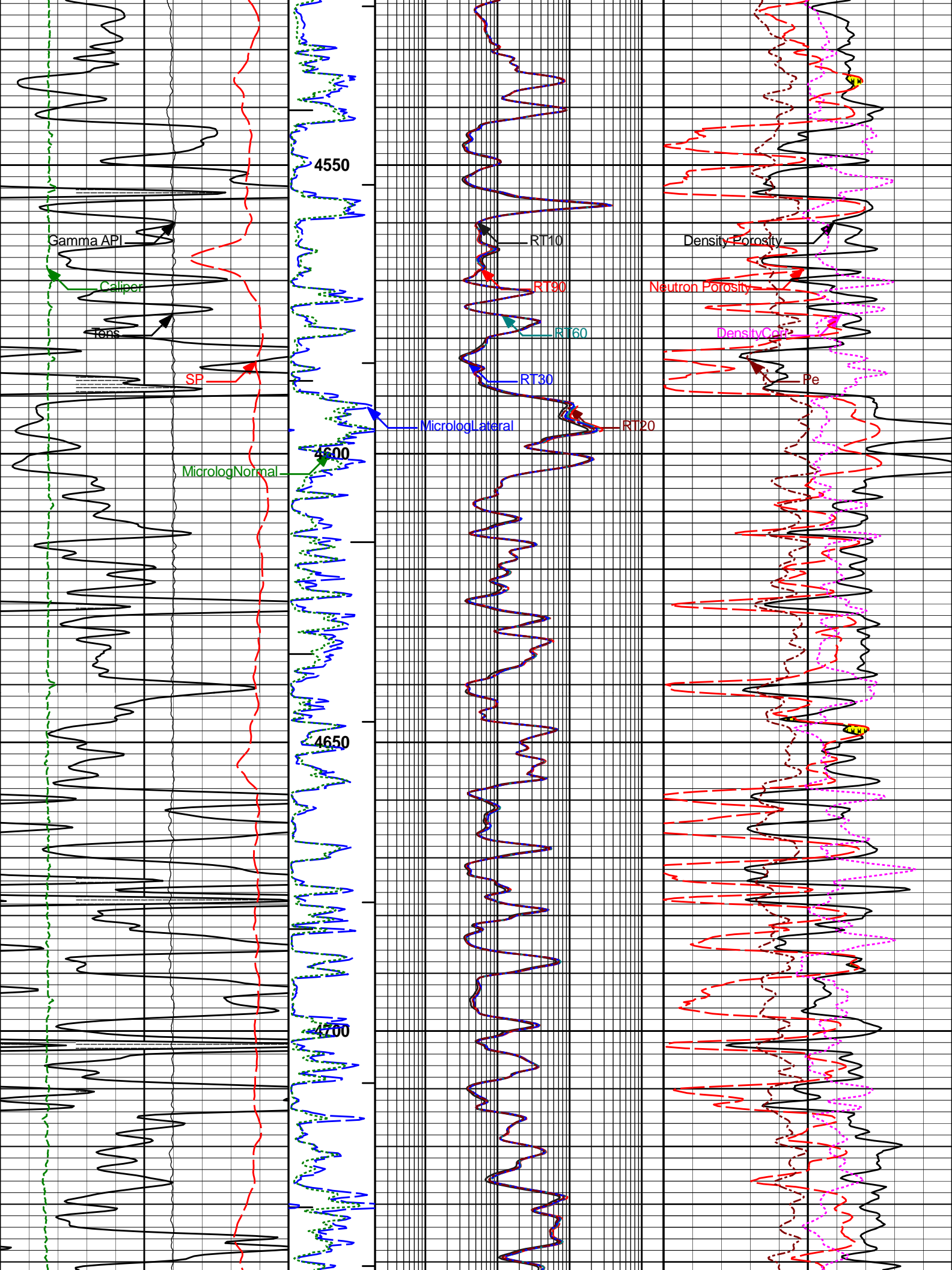


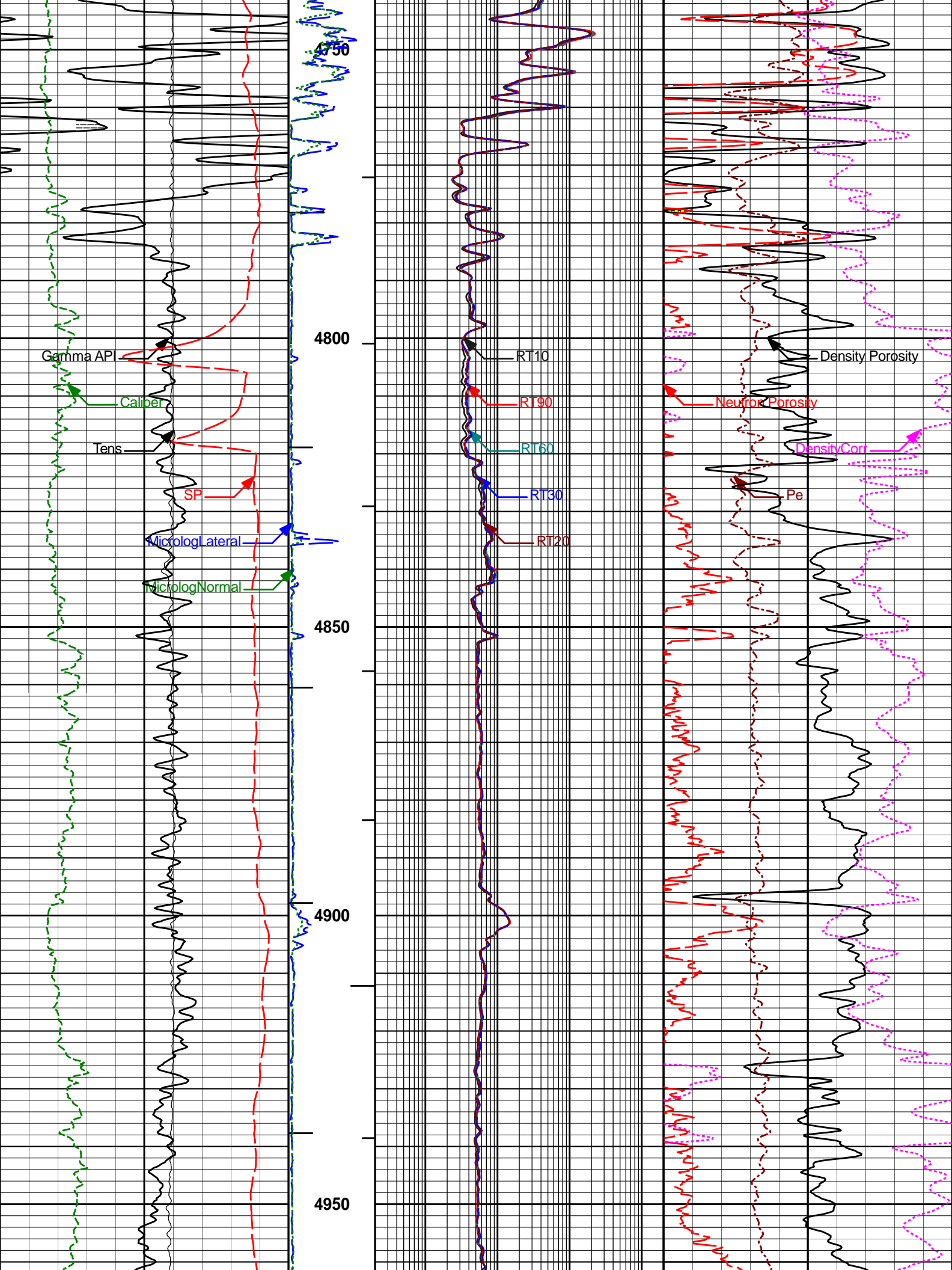


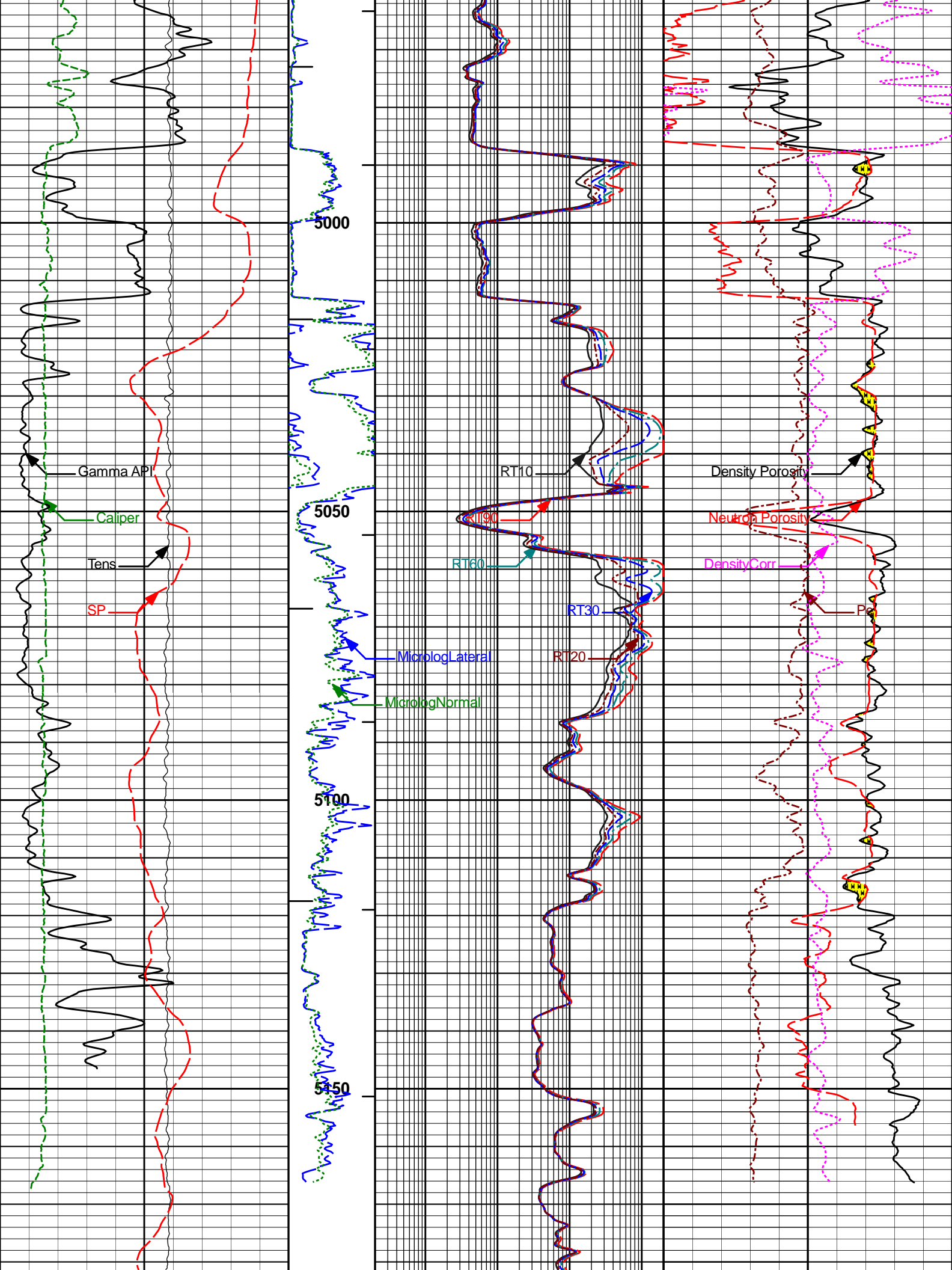


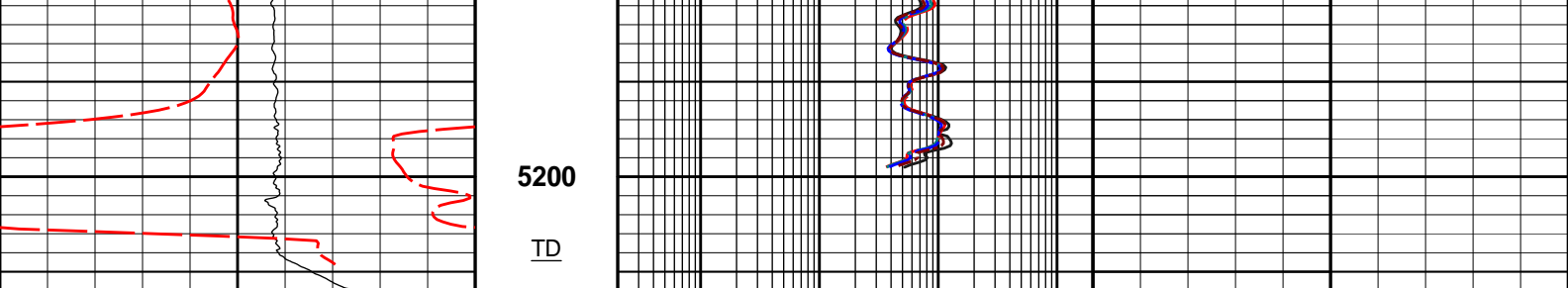












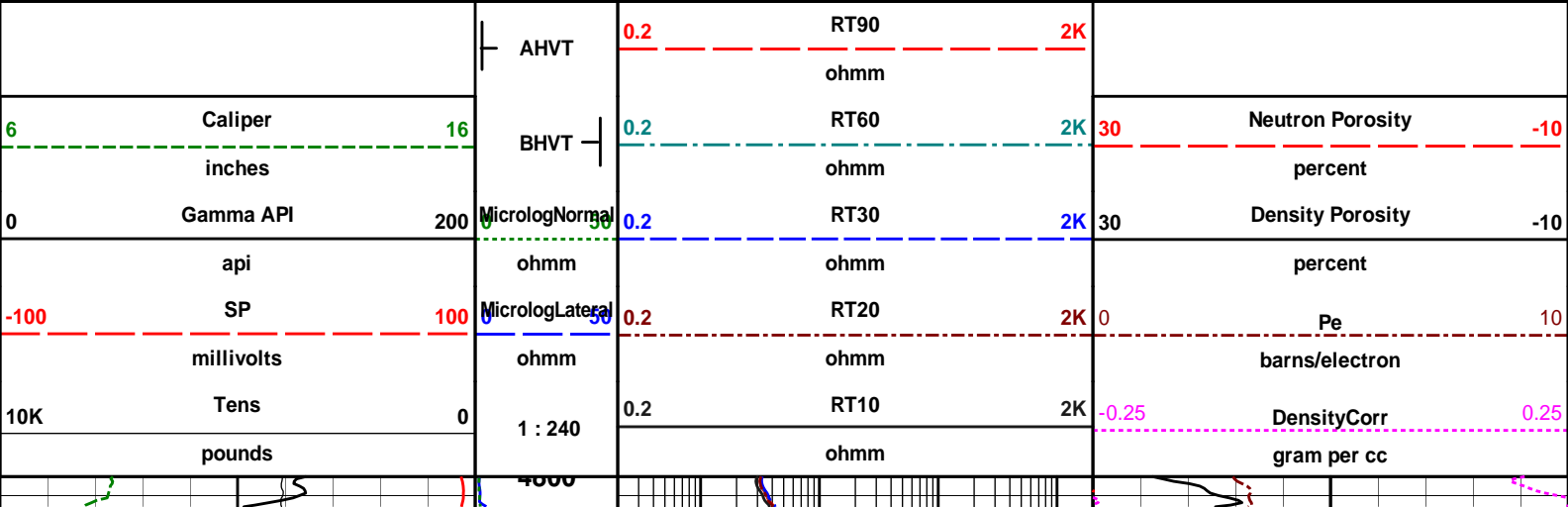
10K	Tens	0	1 : 240	0.2	RT10	2K	-0.25	DensityCorr	0.25
	pounds				ohmm			gram per cc	
-100	SP	100	MicrologLateral	0.2	RT20	2K	0	Pe	10
	millivolts		ohmm		ohmm			barns/electron	
0	Gamma API	200	MicrologNormal	0.2	RT30	2K	30	Density Porosity	-10
	api		ohmm		ohmm			percent	
6	Caliper	16	BHVT	0.2	RT60	2K	30	Neutron Porosity	-10
	inches				ohmm			percent	
			AHVT	0.2	RT90	2K			
					ohmm				

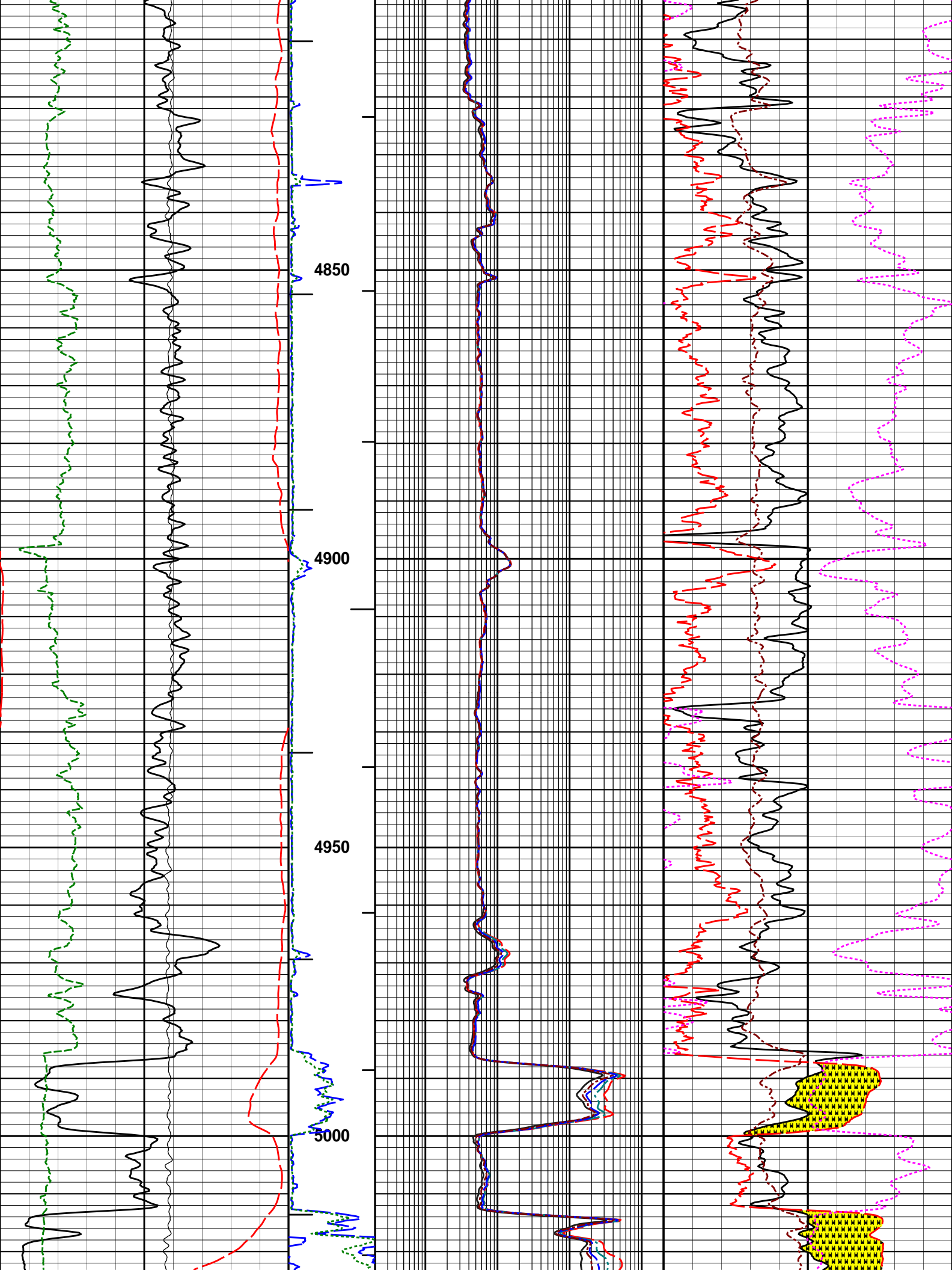
HALLIBURTON Plot Time: 16-Mar-15 09:39:50
Plot Range: 50 ft to 5211.92 ft
Data: BHORSE_T_W_5_21Well Based\1
Plot File: \\COMP\MAIN

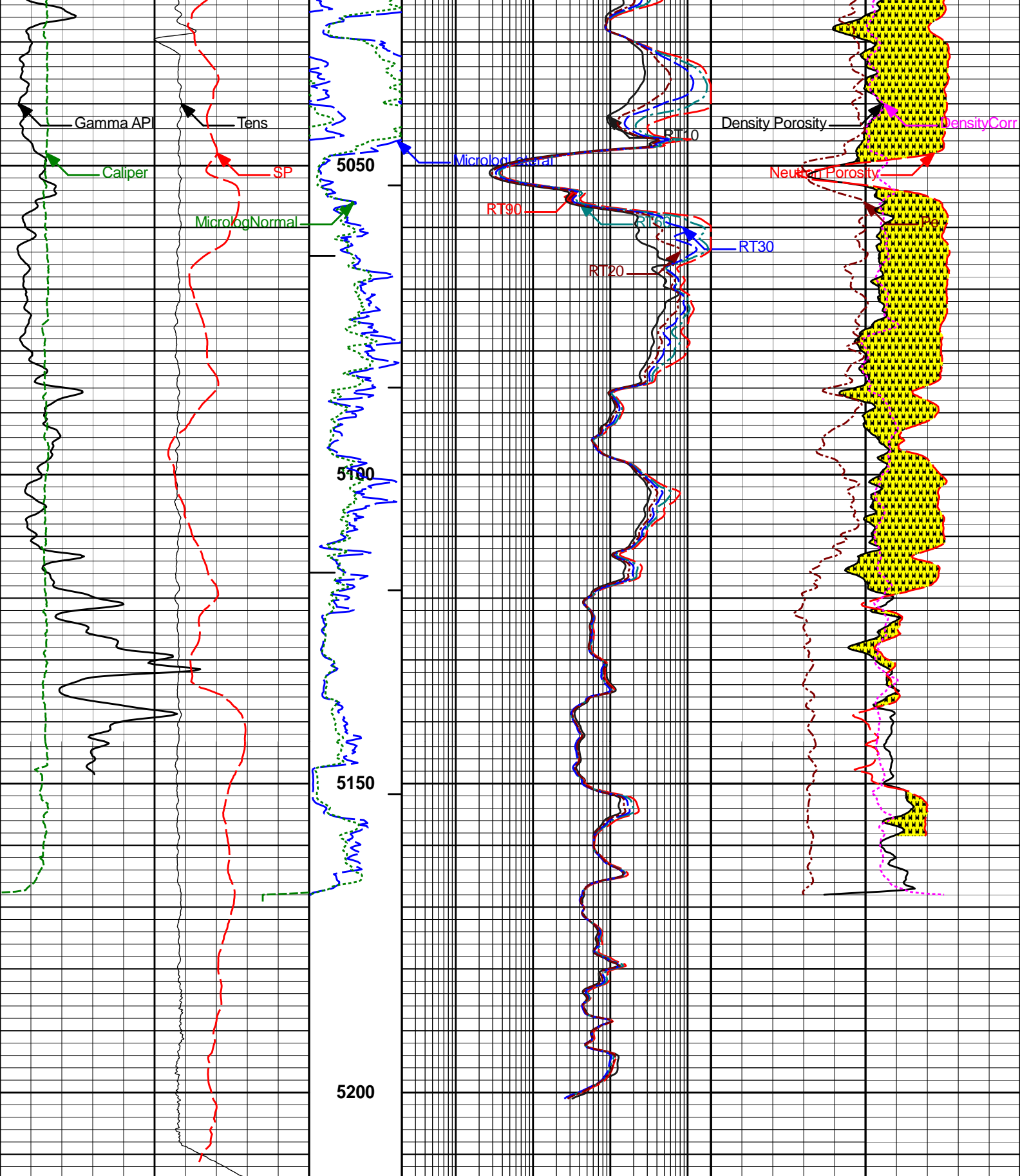
MAIN PASS 5" = 100'

HALLIBURTON Plot Time: 16-Mar-15 09:39:51
Plot Range: 4800 ft to 5213.83 ft
Data: BHORSE_T_W_5_21Well Based\REPEAT
Plot File: \\COMP\REPEAT

REPEAT PASS 5" = 100'
DOLOMITE MATRIX







10K	Tens	0	1 : 240	0.2	RT10	2K	-0.25	DensityCorr	0.25
	pounds				ohmm			gram per cc	
-100	SP	100	MicrologLateral	0.2	RT20	2K	0	Pe	10
	millivolts		ohmm		ohmm			barns/electron	
0	Gamma API	200	MicrologNormal	0.2	RT30	2K	30	Density Porosity	-10
	api		ohmm		ohmm			percent	

6	Caliper	16	BHVT	0.2	RT60	2K	30	Neutron Porosity	-10
	inches				ohmm			percent	
			AHVT	0.2	RT90	2K			
					ohmm				

HALLIBURTON	Plot Time: 16-Mar-15 09:39:54 Plot Range: 4800 ft to 5213.83 ft Data: BHORSE_T_W_5_21\Well Based\REPEAT\ Plot File: \\COMP\REPEAT
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REPEAT PASS 5" = 100'
DOLOMITE MATRIX

HALLIBURTON
CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11005602	Reference Calibration Date:	09-Mar-15 02:01:28
Engineer:	B. RIDDEL	Calibration Date:	12-Mar-15 12:19:27
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1
Calibrator Source S/N: MP051807-04 Calibrator API Reference:239.00 api Equivalent Calibrator API Reference:243.2 api			
Measurement	Measured	Calibrated	Units
Background	39.5	37.1	api
Background + Calibrator	293.7	276.1	api
Calibrator	236.6	239.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION			
Tool Name:	GTET - 11005602	Reference Calibration Date:	12-Mar-15 12:19:27
Engineer:	B. RIDDEL	Calibration Date:	12-Mar-15 12:24:05
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1
Calibrator Source S/N: MP051807-04 Calibrator API Reference:239.00 api Equivalent Calibrator API Reference:243.2 api			
Field Verification	Shop	Field	Units
Background	37.1	37.1	api
Background + Calibrator	276.1	272.0	api
Calibrator	239.0	234.9	api
Shop	Field	Difference	Tolerance
239.0	234.9	4.1	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION			
Tool Name:	DSNT - 10993888	Reference Calibration Date:	29-Jan-15 10:21:15
Engineer:	B. RIDDEL	Calibration Date:	05-Mar-15 14:06:08
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

Logging Source S/N: DSN-388

Tank Serial Number: GJ WATER TANK
Reference value assigned to Tank: 52.750
Snow Block S/N: GJ SNOW BLOCK
Calibration Tank Water Temperature: 66 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.993	0.998	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):	0.2157	0.2169	0.0013	+/- 0.0020
Calibrated Ratio:	9.89	9.93	0.043	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decP):	0.0691	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 - 10993888	Reference Calibration Date:	05-Mar-15 14:06:08
Engineer:	B. RIDDEL	Calibration Date:	12-Mar-15 12:26:13
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

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

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decP):	0.0691	0.0738	0.0047	+/- 0.0150

PASS/FAIL SUMMARY

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	SDLT - 10951300	Reference Calibration Date:	19-Feb-15 10:11:47
Engineer:	B. RIDDEL	Calibration Date:	19-Feb-15 10:15:26
Software Version:	WL INSITE R4.2.0 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 10993888		

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3445.21	-3550.63	-7000.00 - -1000.00
Pad Gain	0.0003644	0.0003685	0.000200 - 0.000600
Pad Offset	1.11242	1.02727	0.000000 - 0.000000

Arm Offset	-1416.13	-1695.85	-5000.00 - 3000.00
Arm Gain	0.0004667	0.0005038	0.000300 - 0.000700
Arm Power	-0.000001974	-0.000004478	-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)	2.02	2.00	-0.02	+/- 0.20
Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.55	6.50	-0.05	+/- 0.20
Medium Ring (in)	8.21	8.25	0.04	+/- 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
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SDLT CALIPER FIELD CALIBRATION

Tool Name:	SDLT - 10951300	Reference Calibration Date:	19-Feb-15 10:15:26
Engineer:	B. RIDDEL	Calibration Date:	12-Mar-15 12:22:32
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.69	-0.06	+/- 0.10
Ring Diameter	8.25	8.11	-0.14	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	SDLT Pad - 10865876	Reference Calibration Date:	16-Feb-15 12:04:38
Engineer:	B. RIDDEL	Calibration Date:	05-Mar-15 09:54:34
Software Version:	WL INSITE R4.6.0 (Build 4)	Calibration Version:	1

Logging Source S/N: 5153 GW			
Aluminum Block S/N: GJ ALUMINUM BLOCK	Density: 2.608g/cc		Pe: 3.230
Magnesium Block S/N: GJ MAG BLOCK	Density: 1.681g/cc		Pe: 2.600

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0255	1.0249	0.90 - 1.10
Near Dens Gain	1.0142	1.0101	0.90 - 1.10
Near Peak Gain	1.0006	1.0022	0.90 - 1.10
Near Lith Gain	0.9771	0.9813	0.90 - 1.10
Far Bar Gain	1.0131	1.0118	0.90 - 1.10
Far Dens Gain	1.0010	1.0016	0.90 - 1.10
Far Peak Gain	0.9950	0.9932	0.90 - 1.10

Far Lith Gain	0.9729	0.9727	0.90 - 1.10
Near Bar Offset	-0.0252	-0.0232	NONE
Near Dens Offset	0.0817	0.1143	NONE
Near Peak Offset	0.1903	0.1710	NONE
Near Lith Offset	0.3704	0.3293	NONE
Far Bar Offset	0.0212	0.0272	NONE
Far Dens Offset	0.1081	0.0978	NONE
Far Peak Offset	0.1359	0.1479	NONE
Far Lith Offset	0.2750	0.2725	NONE
Near Bar Background	857.39	857.08	700 - 1450
Near Dens Background	285.49	286.70	230 - 480
Near Peak Background	128.01	127.29	100 - 210
Near Lith Background	155.13	154.92	125 - 260
Far Bar Background	529.31	526.12	450 - 900
Far Dens Background	206.13	204.04	175 - 345
Far Peak Background	80.69	80.77	70 - 140
Far Lith Background	86.11	85.27	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.681	1.681	-0.000	+/- 0.015
Pe	2.536	2.558	0.022	+/- 0.150
ALUMINUM				
Density (g/cc)	2.609	2.608	-0.001	+/- 0.01500
Pe	3.157	3.179	0.022	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0018	+/- 0.0110	0.0000	+/- 0.0140
Magnesium Block	-0.0005	+/- 0.0110	-0.0021	+/- 0.0140
Aluminum Block	-0.0011	+/- 0.0110	0.0013	+/- 0.0140
Resolution	8.96	6.00 - 11.50	9.64	6.00 - 11.50
Internal Verifier(B+D+P+L)	1426	1200 - 2700	896	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 - 10865876

Reference Calibration Date: 05-Mar-15 09:54:34

Engineer: B. RIDDEL		Calibration Date: 12-Mar-15 12:19:42			
Software Version: WL INSITE R4.6.0 (Build 4)		Calibration Version: 1			
Pad Temperature: 72.4 degF					
DENSITY FIELD CALIBRATION SUMMARY					
Measurement	Shop	Field	Change	Control Limit +/-	
Near (B+D+P+L) cps	1425.983	1422.641	-3.342	15.241	
Far (B+D+P+L) cps	896.206	895.431	-0.775	16.290	
Near Resolution	8.96	9.03	0.070	0.50	
Far Resolution	9.64	9.64	0.000	1.00	
PASS/FAIL SUMMARY					
Bkg Quality Check:		Passed			
Bkg Resolution Check:		Passed			
Bkg Verification Check:		Passed			
MICRO LOG SHOP CALIBRATION					
Tool Name: Microlog Pad - 10951300		Reference Calibration Date: 17-Jan-15 11:47:55			
Engineer: B. RIDDEL		Calibration Date: 05-Mar-15 11:19:23			
Software Version: WL INSITE R4.6.0 (Build 4)		Calibration Version: 1			
Host Tool Name: DSNT - 10993888					
CALIBRATION COEFFICIENT SUMMARY					
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.04	-0.04	0.01	0.01	ohmm
Calibration Point #1	0.00	0.00	-0.00	0.00	ohmm
Calibration Point #2	19.70	20.00	19.72	20.00	ohmm
Internal Reference	19.91	20.21	19.97	20.25	ohmm
Measurement	Micro Log Normal Tool Value		Micro Log Lateral Tool Value		Units
Tool Zero	6.11		6.17		V
Calibration Point #1	17.37		2.30		V
Calibration Point #2	5224.88		6862.02		V
Internal Reference	5280.52		6946.90		V
MICRO LOG FIELD CHECK					
Tool Name: Microlog Pad - 10951300		Reference Calibration Date: 05-Mar-15 11:19:23			
Engineer: B. RIDDEL		Calibration Date: 12-Mar-15 12:23:47			
Software Version: WL INSITE R4.6.0 (Build 4)		Calibration Version: 1			
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Shop	Field	Shop	Field	
Tool Zero	-0.04	-0.07	0.01	-0.01	ohmm
Internal Reference	20.21	20.28	20.25	20.31	ohmm
Summary					
Signal	Shop	Field	Difference	Tolerance	
Microlog Normal	20.21	20.28	-0.07	+/- 0.80	
Microlog Lateral	20.25	20.31	-0.06	+/- 0.80	
ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION					
Tool Name: ACRt Sonde - 11585797		Reference Calibration Date: 27-Jan-15 15:50:02			

Engineer:		P. DIMPFL				Calibration Date:		27-Jan-15 16:03:38	
Software Version:		WL INSITE R4.2.0 (Build 2)				Calibration Version:		1	
Host Tool Name:		ACRt Instrument - 11585787							
TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0234	1.05	0.95	1.0213	1.05	0.95	1.0201	1.05
A2 (50")	0.95	1.0120	1.05	0.95	1.0125	1.05	0.95	1.0133	1.05
A3 (29")	0.95	1.0058	1.05	0.95	1.0054	1.05	0.95	1.0047	1.05
A4 (17")	0.95	1.0036	1.05	0.95	1.0005	1.05	0.95	1.0023	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0075	1.05	0.95	1.0083	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9861	1.05	0.95	0.9861	1.05
SONDE OFFSET									
Subarray	R12KHz			R36KHz			R72KHz		
	(mmho/m)			(mmho/m)			(mmho/m)		
A1 (80")	-1.400			-4.436			-5.489		
A2 (50")	-1.992			-3.255			-4.694		
A3 (29")	-15.645			-4.528			-3.257		
A4 (17")	-119.763			-35.638			-27.444		
A5 (10")	N/A			-97.013			-50.120		
A6 (6")	N/A			312.823			158.068		
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
Signal	Lower	R		Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)	
12K	0.6	0.85		1.3	Mud Cell	0.95	1.00	1.05	
36K	1.0	1.83		2.0					
72K	1.0	1.10		2.0					
PASS/FAIL SUMMARY									
GAIN RANGE CHK					PASS				
SONDE OFFSET CHK					PASS				
TOOL OK TO LOG									

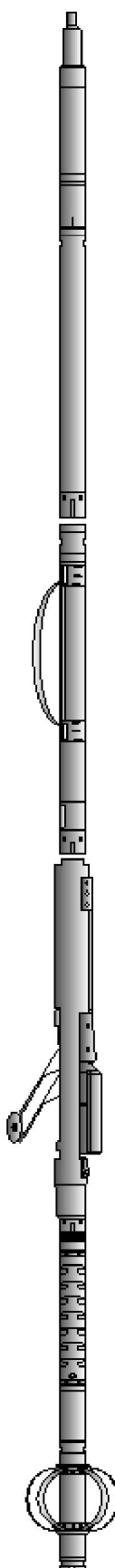
CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11005602						
Gamma Ray Calibrator	239.0	234.9	-----	4.1	+/- 9.00	api
DSNT-10993888						
Snow-Block Porosity	0.0691	0.0738	-----	-0.0047	+/- 0.0150	decp
SDLT-10951300						
Pad Extension	3.75	3.69	-----	0.06	+/-0.10	in
Ring Diameter	8.25	8.11	-----	0.14	+/-0.15	in
SDLT Pad-10865876						
Near(B+D+P+L)	1425.983	1422.641	-----	3.342	+/-15.241	cps
Far(B+D+P+L)	896.206	895.431	-----	0.775	+/-16.290	cps
Microlog Pad-10951300						
MicroLog Normal	20.21	20.28	-----	-0.07	+/-0.80	ohmm
MicroLog Lateral	20.25	20.31	-----	-0.06	+/-0.80	ohmm

Mud Cell	1.00	-----	-----	0.00	-----	ohm-m
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Data: BHORSE T W 5 21\0001 QUAD\IDLE

Date: 12-Mar-15 16:15:15

HALLIBURTON**TOOL STRING DIAGRAM REPORT**

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-A032 135.00 lbs		Ø 3.625 in →		Load Cell @ 72.91 ft BH Temperature @ 72.35 ft	6.25 ft	76.60 ft
GTET-11005602 165.00 lbs		Ø 3.625 in →		GammaRay @ 64.29 ft	8.52 ft	70.35 ft
DSNT-10993888 174.00 lbs	DSN Decentralizer- 12026050 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		DSN Far @ 54.89 ft DSN Near @ 54.14 ft	9.69 ft	61.83 ft
SDLT-10951300 360.00 lbs	SDLT Pad-10865876 65.00 lbs Microlog Pad-10951300 8.00 lbs	Ø 4.500 in → Ø 4.750 in* → Ø 4.750 in* →		Microlog @ 44.33 ft SDL Caliper @ 44.14 ft SDL @ 44.13 ft	10.81 ft	52.14 ft
Flex Joint - Pressure Comp- 11208102 140.00 lbs		Ø 3.625 in →			5.97 ft	41.33 ft
Centralizer 25-00000001 8.00 lbs		Ø 4.000 in* →				35.36 ft

BSAT-10939054
300.00 lbs

Ø 3.625 in →

← Sonic Receivers @ 26.84 ft

15.77 ft

Centralizer 25-00000002
8.00 lbs

Ø 4.000 in* ↗

19.58 ft

ACRt Instrument-
11585787
50.00 lbs

Ø 3.625 in →

5.03 ft

14.55 ft

← Mud Resistivity @ 13.19 ft

← ACRt @ 9.21 ft

ACRt Sonde-
11585797
200.00 lbs

Ø 3.625 in →

14.22 ft

SP Ring-12345671
0.00 lbs

Ø 3.625 in* →

← SP @ 1.61 ft

0.33 ft

Bull Nose-00000001
5.00 lbs

Ø 2.750 in →

0.33 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	A032	135.00	6.25	70.35	300.00
GTET	Gamma Telemetry Tool	11005602	165.00	8.52	61.83	60.00
DSNT	Dual Spaced Neutron	10993888	174.00	9.69	52.14	60.00
DCNT	DSN Decentralizer	12026050	6.60	5.13	* 55.47	300.00
SDLT	Spectral Density Tool	10951300	360.00	10.81	41.33	60.00
SDLP	Density Insite Pad	10865876	65.00	2.55	* 43.54	60.00
MICP	Microlog Pad	10951300	8.00	1.00	* 43.83	60.00
FLEX	Flex Joint - Pressure Compensated	11208102	140.00	5.97	35.36	300.00
BSAT	Borehole Sonic Array Tool	10939054	300.00	15.77	19.58	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	* 32.62	300.00
ACRt	Array Compensated True Resistivity Instrument Section	11585787	50.00	5.03	14.55	120.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	* 19.36	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11585797	200.00	14.22	0.33	120.00
SP	SP Ring	12345671	0.00	0.25	* 1.61	300.00
BLNS	Bull Nose	00000001	5.00	0.33	0.00	300.00

Total **1,624.60** **76.60**

* Not included in Total Length and Length Accumulation.

Data: BHORSE_T_W_5_21\0001 QUAD\IDLE

Date: 12-Mar-15 16:12:35

COMPANY	BAYHORSE PETROLEUM, LLC
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WELL TRADE WINDS 5-21

FIELD	LEFT HAND
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COUNTY	KIOWA	STATE	CO
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HALLIBURTON

DUAL SPACED NEUTRON SPECTRAL DENSITY ARRAY COMPENSATED TRUE RESISTIVITY