

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY		LARAMIE ENERGY	
WELL		BRUTON 30-06-B	
FIELD		BRUSH CREEK	
COUNTY		GARFIELD	
STATE		CO	
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Date		12-Feb-12	
Run No.		ONE	
Depth - Driller		7975.00 ft	
Depth - Logger		7978.0 ft	
Bottom - Logged Interval		7975.0 ft	
Top - Logged Interval		1556.0 ft	
Casing - Driller		8.625 in @ 1560.0 ft	
Casing - Logger		1556.0 ft	
Bit Size		7.875 in @	
Type Fluid in Hole		WBM	
Density		9.7 ppq	
Viscosity		58.00 s/qt	
PH		9.20 pH	
Fluid Loss		6.8 cpm	
Source of Sample		MUD TANK	
Rm @ Meas. Temperature		1.350 ohmm @ 59.30 degF	
Rmf @ Meas. Temperature		0.93 ohmm @ 75.00 degF	
Rmc @ Meas. Temperature		0.980 ohmm @ 75.00 degF	
Source Rmf		CHART	
Rmc		CHART	
Rm @ BHT		0.54 ohmm @ 185.0 degF	
Time Since Circulation		12.8 hr	
Time on Bottom		12-Feb-12 22:19	
Max. Rec. Temperature		185.0 degF @ 7978.0 ft	
Equipment		11362840	
Location		ROCK SPRING	
Recorded By		B. PEDERSEN	
Witnessed By		K. CLAUSEN	

COMPANY	LARAMIE ENERGY
WELL	BRUTON 30-06-B
FIELD	BRUSH CREEK
COUNTY	GARFIELD
STATE	CO
API No.	05077101040000
Location	SURFACE HOLE LOCATION: 2535' FSL & 1807' FEL BOTTOM HOLE LOCATION: 1833' FNL & 2021' FWL
Other Services:	RWCH
Sect.	30
Twp.	9S
Rge.	93W
Elev.	7650.0 ft
D.F.	7670.0 ft
G.L.	7650.0 ft

Service Ticket No.: 9254976										API Serial No.: 05077101040000										PGM Version: WL INSITE R3.4.2 (Build 2)									
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE										RESISTIVITY SCALE CHANGES																			
Date		Sample No.								Type Log		Depth		Scale Up Hole		Scale Down Hole													
Depth-Driller																													
Type Fluid in Hole																													
Density		Viscosity																											
Ph		Fluid Loss																											
Source of Sample										RESISTIVITY EQUIPMENT DATA																			
Rm @ Meas. Temp		@				@				Run No.		Tool Type & No.		Pad Type		Tool Pos.		Other											
Rmf @ Meas. Temp.		@				@				ONE		ACRT		N/A		0" S.O.		N/A											
Rmc @ Meas. Temp.		@				@						E171_S970																	
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.		11016182				Serial No.				Serial No.		10948155				Serial No.		11004663											
Model No.		GTET				Model No.				Model No.		SDLT-I				Model No.		DSNT-I											
Diameter		3.625"				No. of Cent.				Diameter		4.5"				Diameter		3.625"											
Detector Model No.		102-A				Spacing				Log Type		GAM-GAM				Log Type		THERM-THERM											
Type		SCINT								Source Type		Cs137				Source Type		Am241Be											
Length		8"				LSA [Y/N]				Serial No.		5116GW				Serial No.		DSN-431											
Distance to Source		10'				FWDA [Y/N]				Strength		1.5 Ci				Strength		15 Ci											
LOGGING DATA																													
GENERAL					GAMMA					ACOUSTIC					DENSITY					NEUTRON									

GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON							
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix		
No.	From	To	ft/min	L	R	L	R		L	R		L	R			
ONE	7978'	1556'	REC	0	150				30%	-10%	2.68 g/cc	30%	-10%	SAND		
DIRECTIONAL INFORMATION																
Maximum Deviation								@	KOP							@
Remarks: RWCH-GTET-DSNT-SDLT-ACRT RAN IN COMBINATION																
BOREHOLE RUGOSITY, TENSION PULLS AND WASHOUTS MAY AFFECT TOOL RESPONSE																
ANNULAR HOLE VOLUME CALCULATED FOR 4.5-INCH PRODUCTION CASING																
BOWSPRING AND STANDOFF REMOVED AT CUSTOMER'S REQUEST																
LATITUDE: 39.247822																
LONGITUDE: -107.808671																
TODAY'S CREW: J. DAVIS, K. TUELLER, P. MACLEOD																
RIG: PRECISION 706																
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES, ROCK SPRINGS, WY (307) 352-8600																
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	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	9.700	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	2.000	ohmm
	SHARED	TRM	Temperature of Mud	75.0	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	7975.00	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	
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	2.680	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	0.00	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	

BOTTOM

Data: BRUTON_30_06_B\0001 LOGIQ_TRIPLE\006 12-Feb-12 22:19 Up @7988.0f

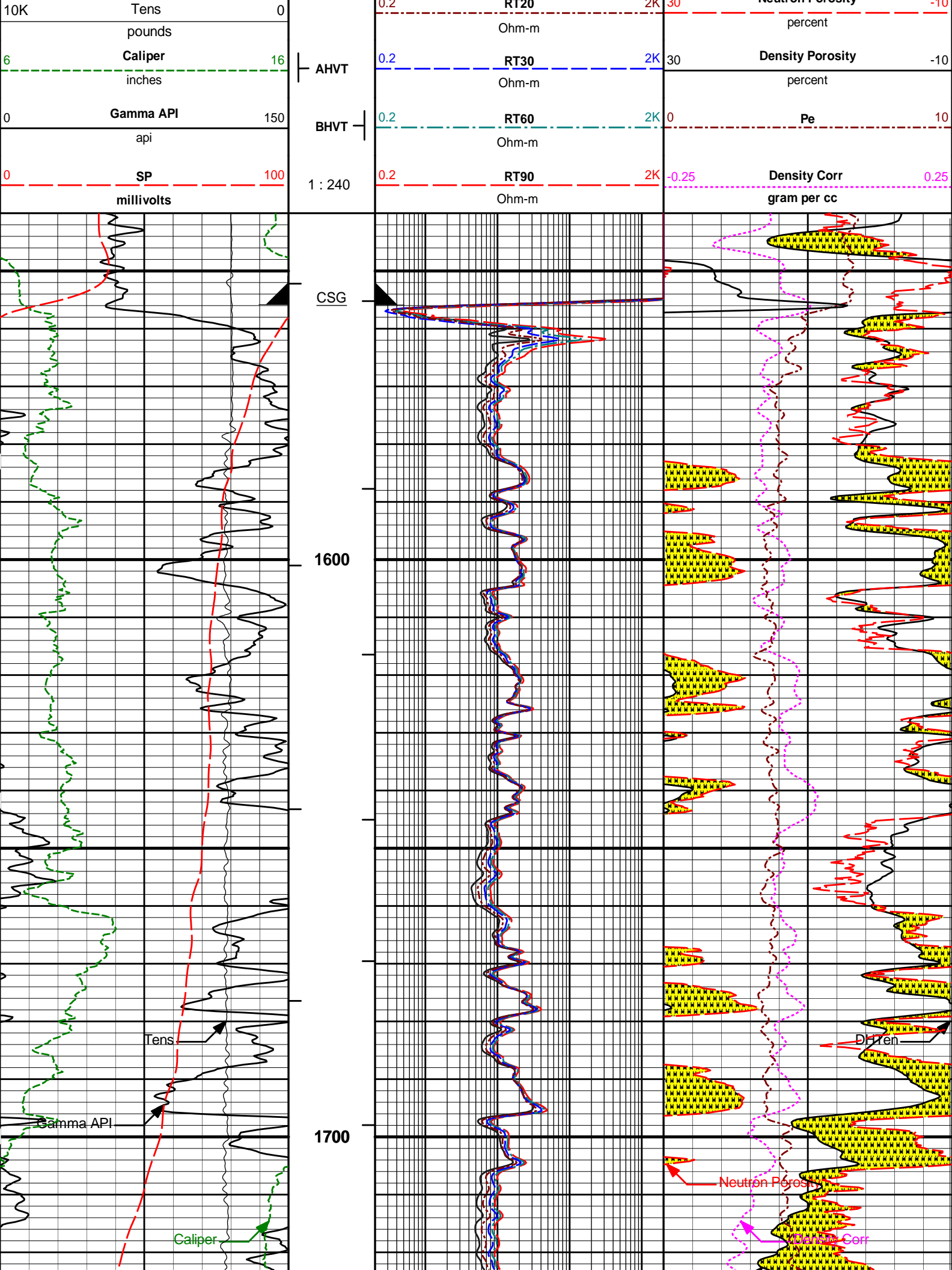
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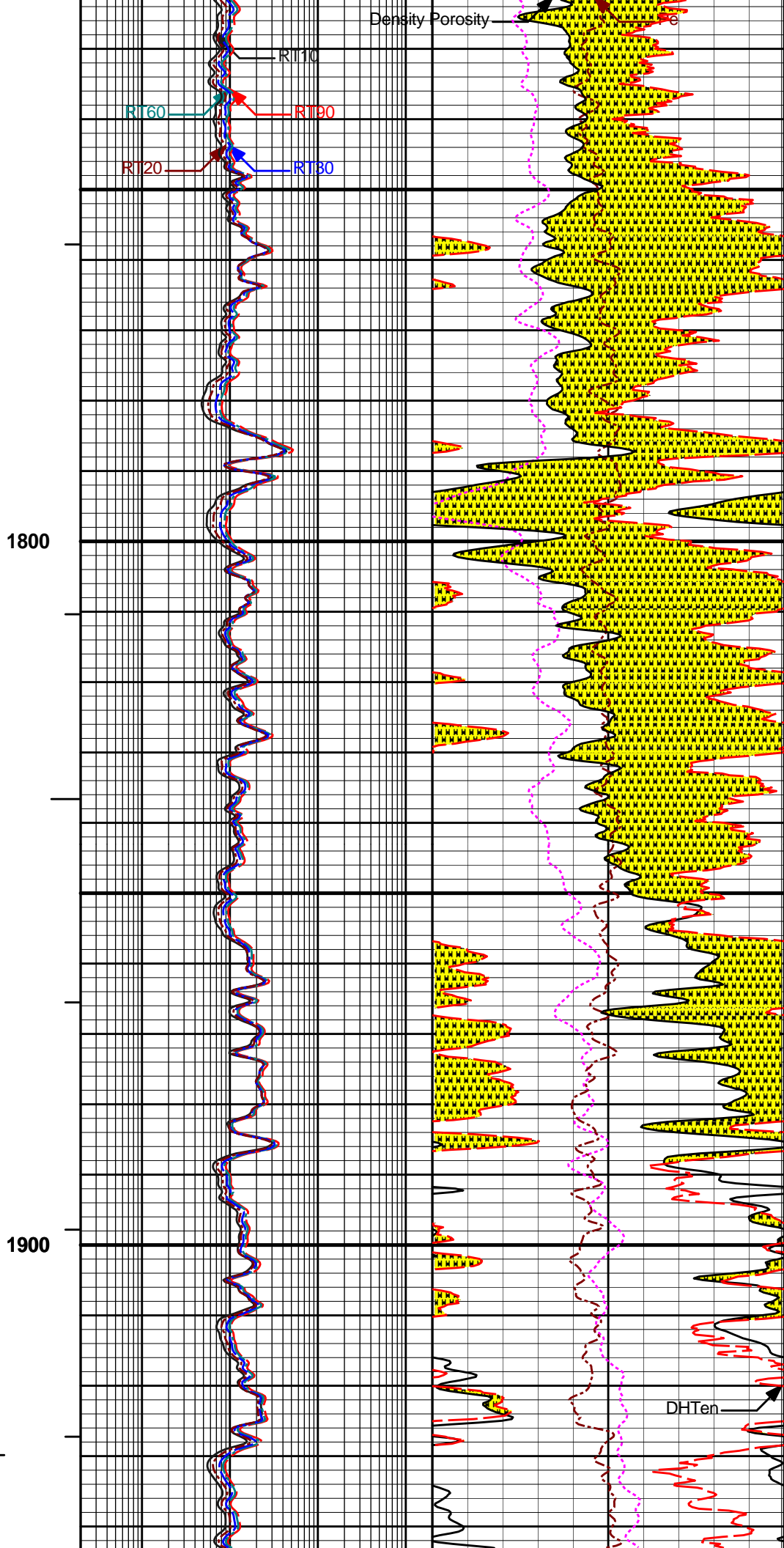
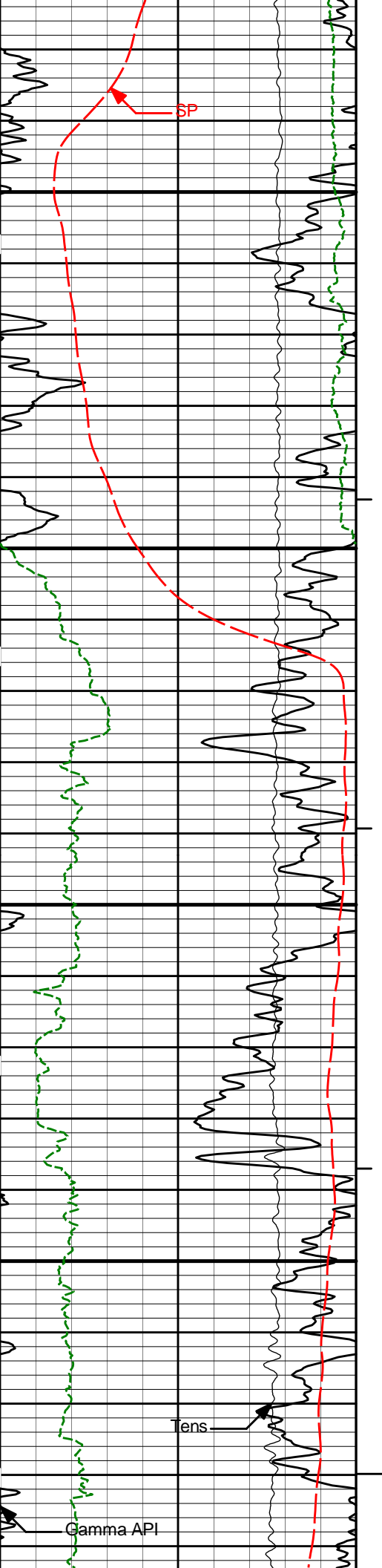
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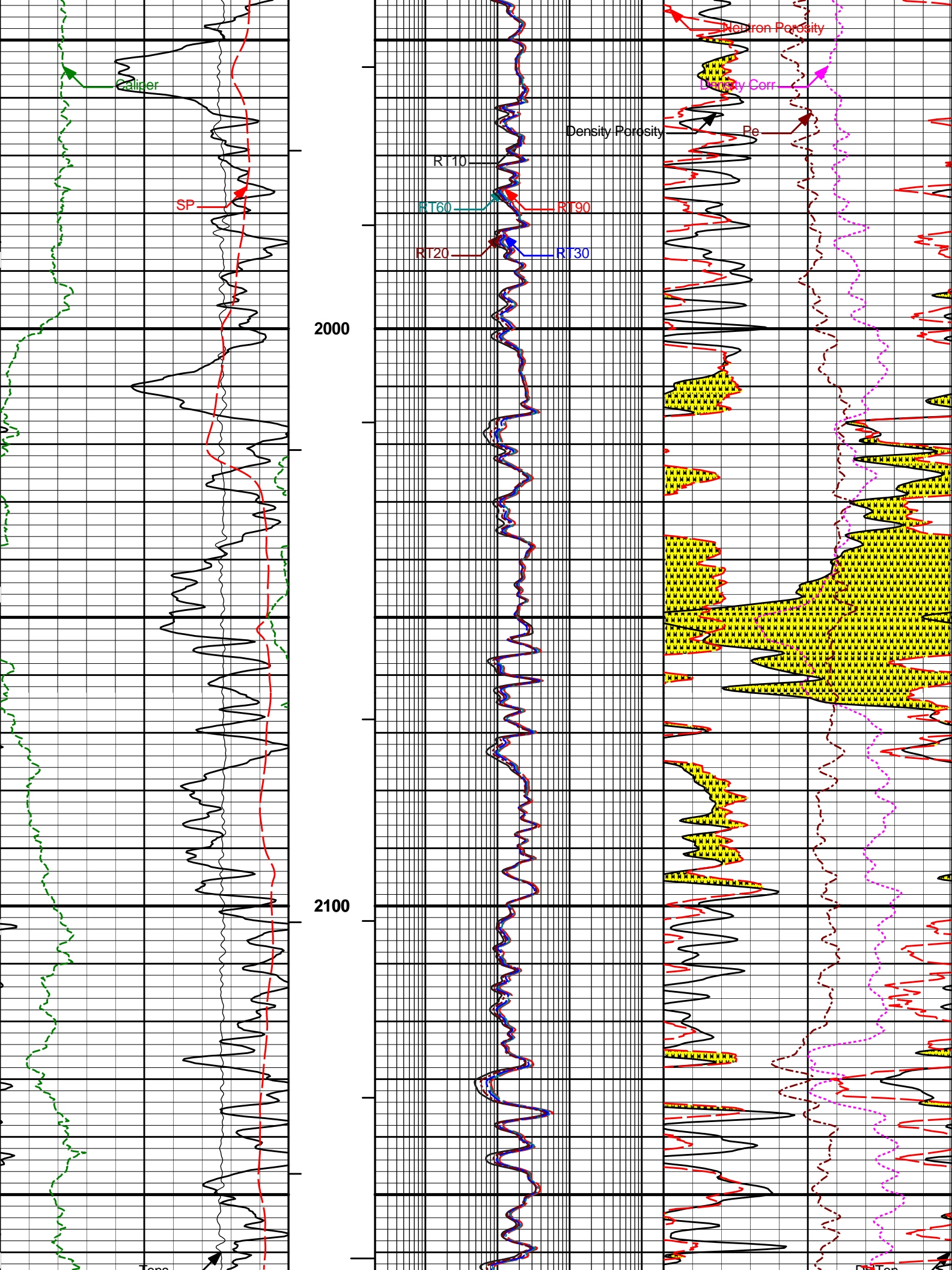
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Data: {ActiveWell}\Well Based\MAIN*
Plot File: \COMP\IQ_BP_COMPOSITE_ACRT_5IN_DHT

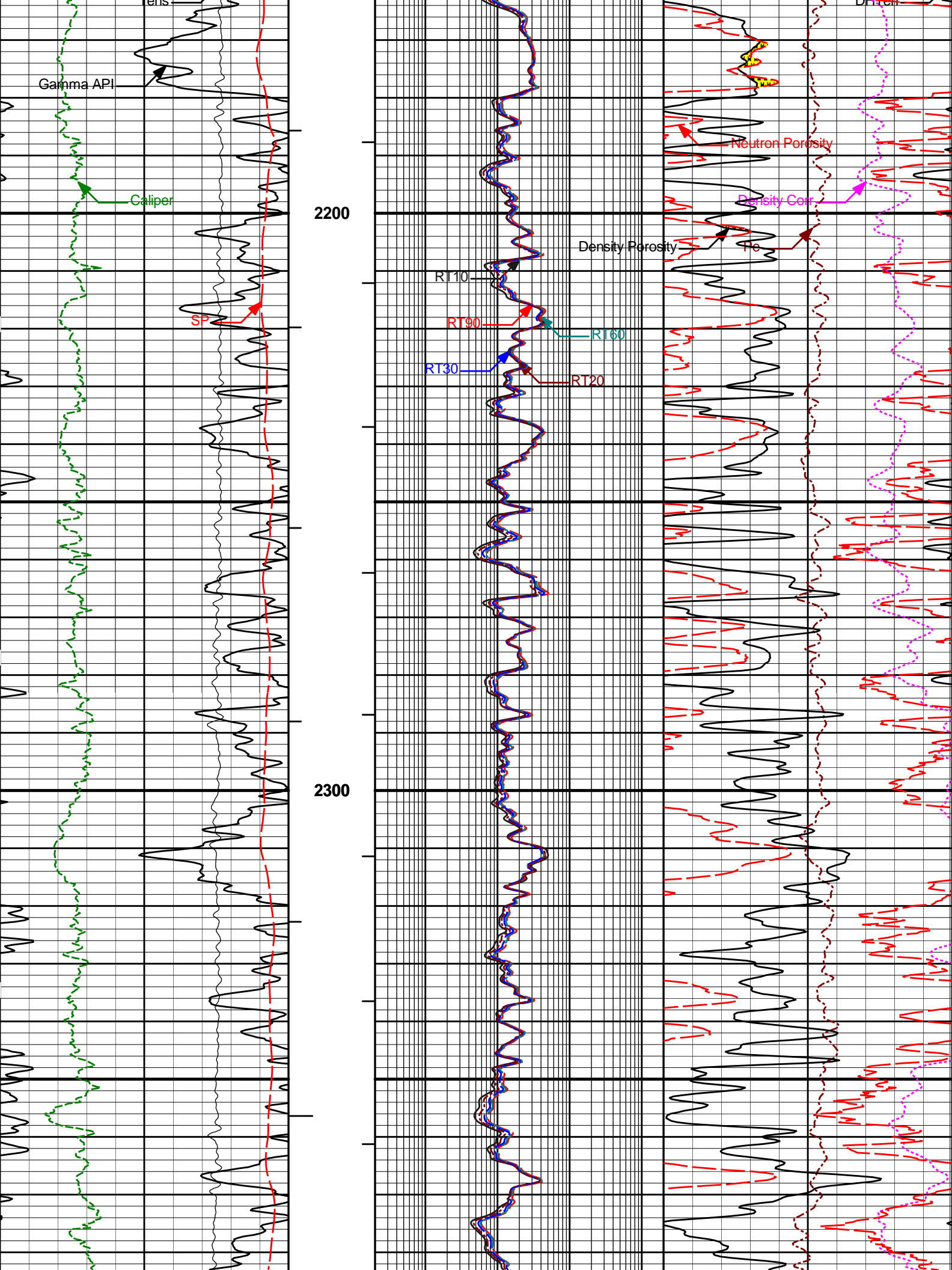
MAIN PASS 5" = 100'

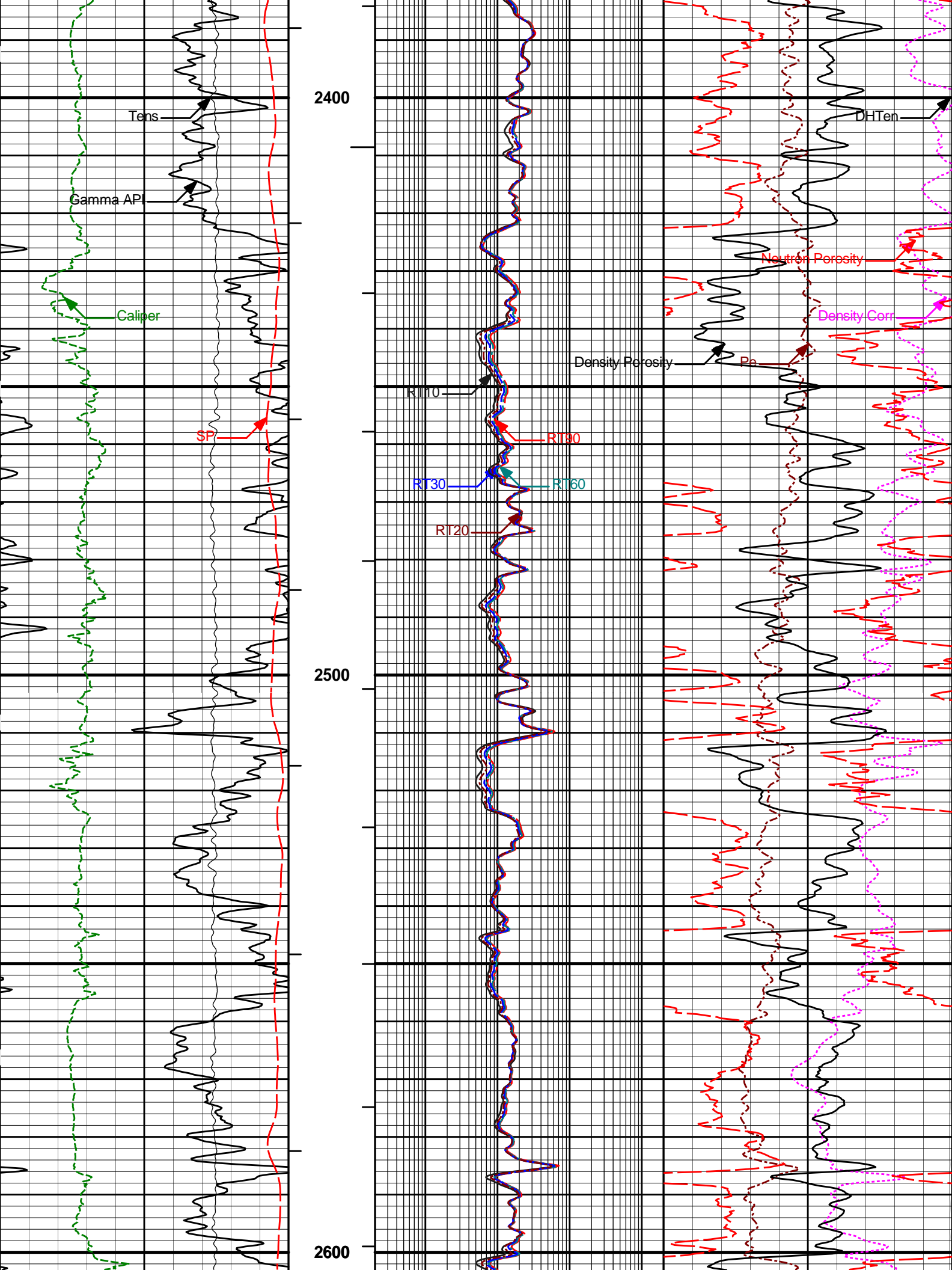
		0.2	RT10	2K	10K	DHTen	0
			Ohm-m			pounds	
		0.2	RT10	2K	10K	Neutron Porosity	0

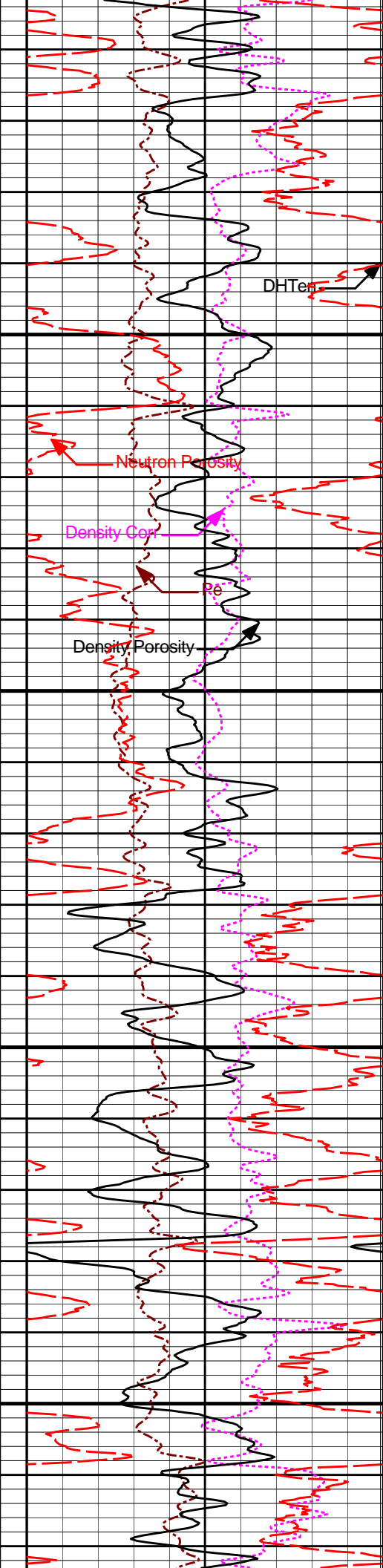
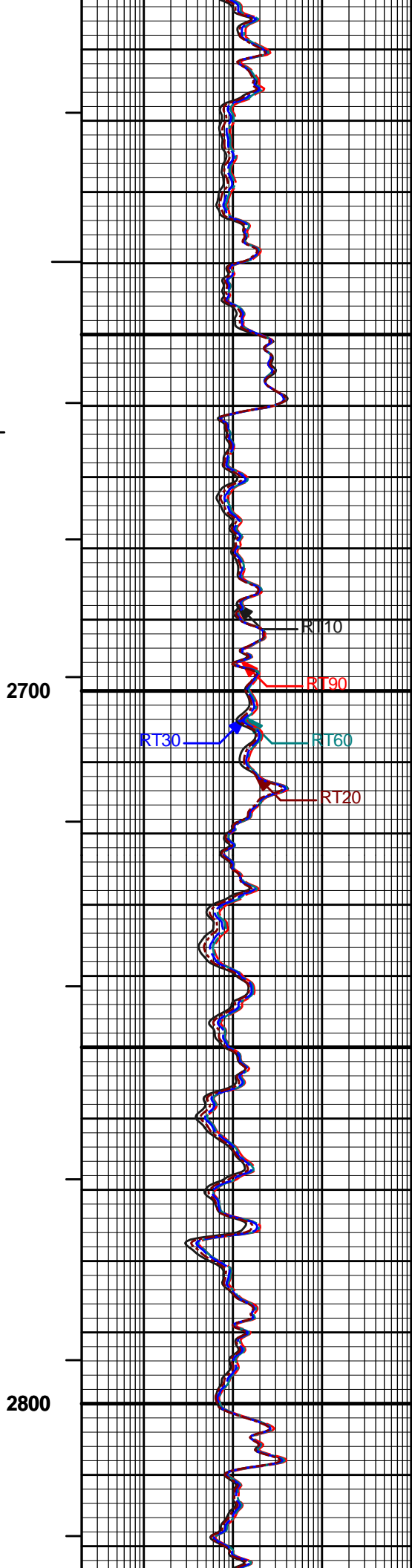
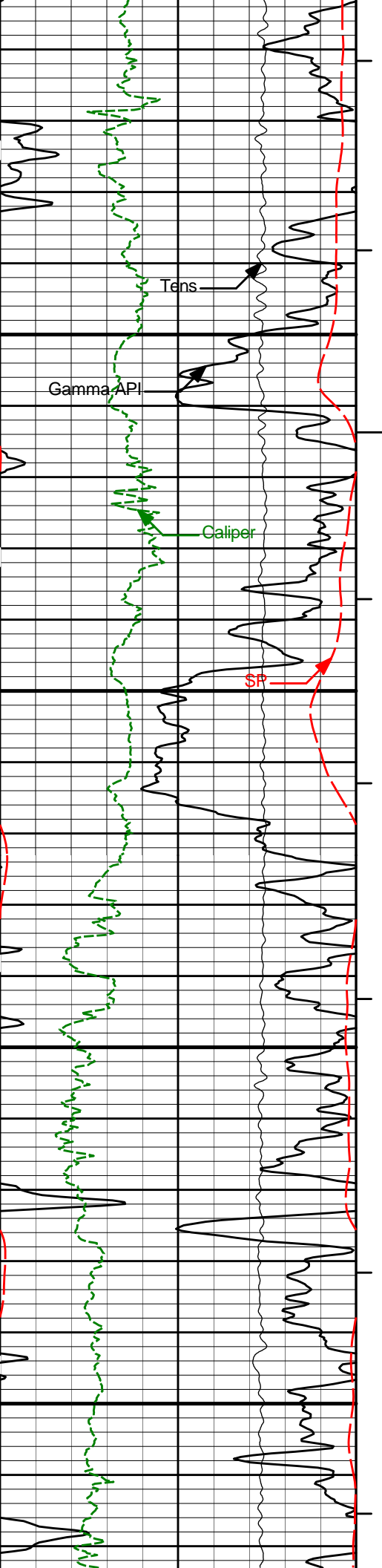


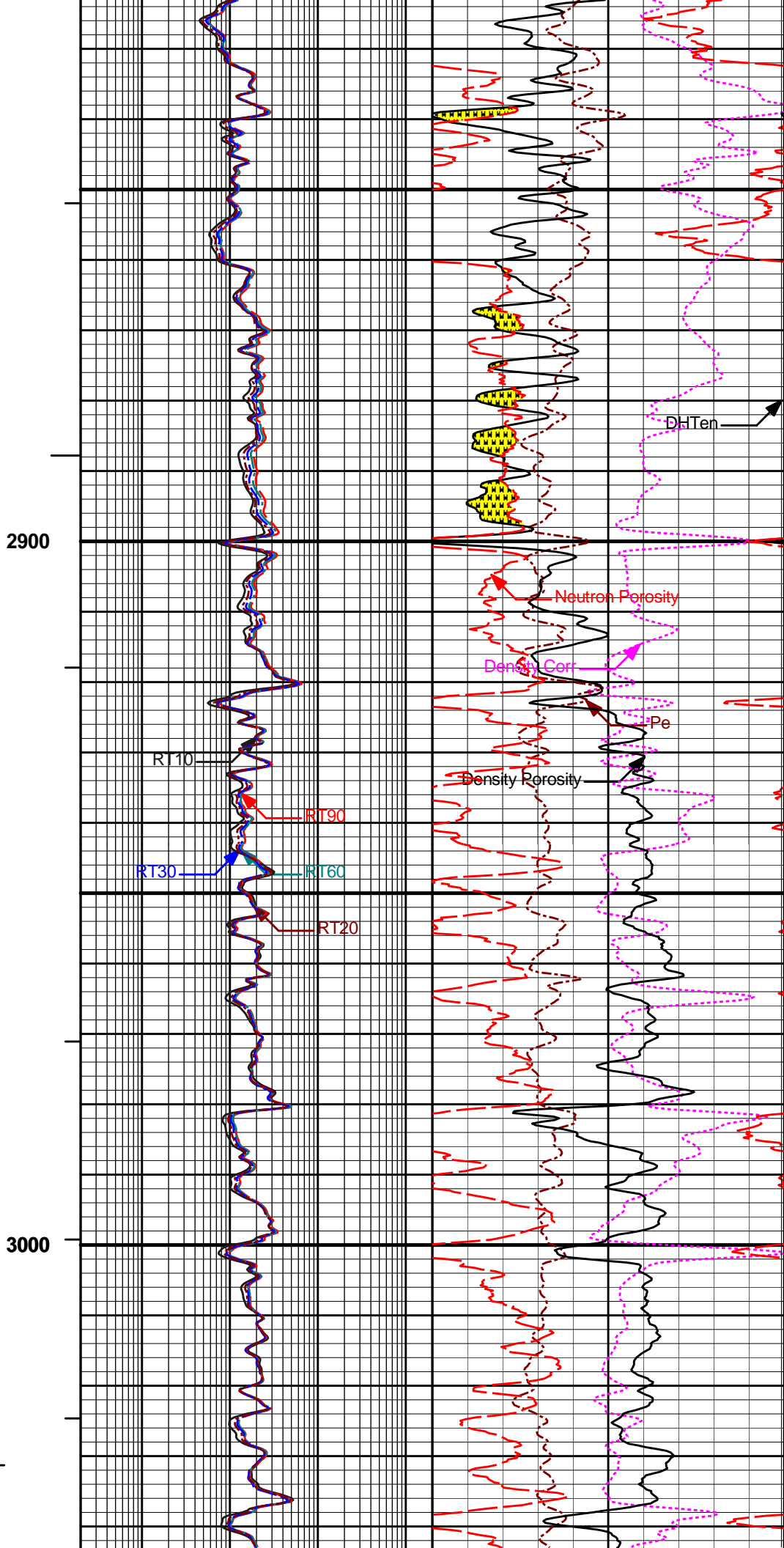
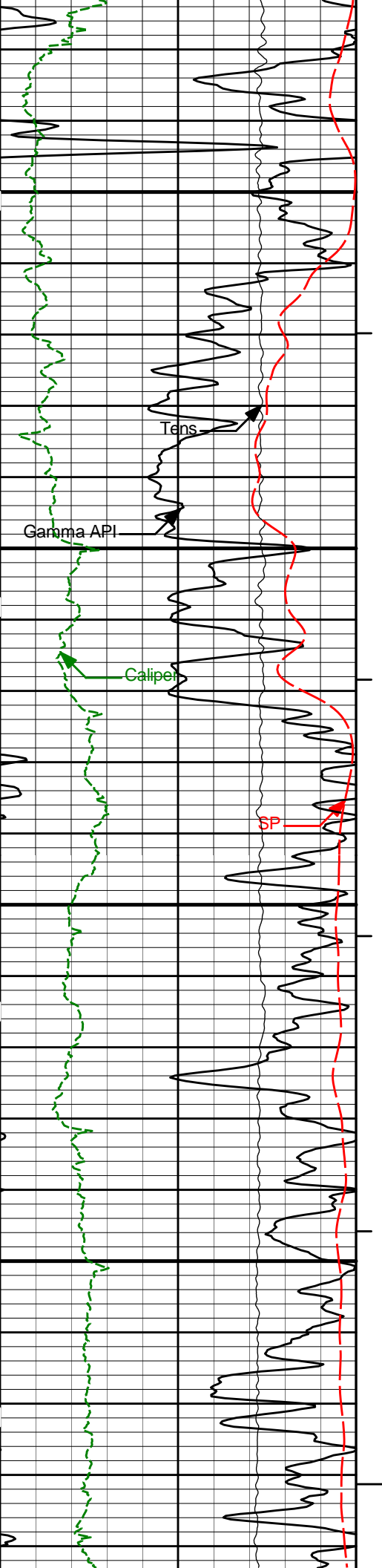


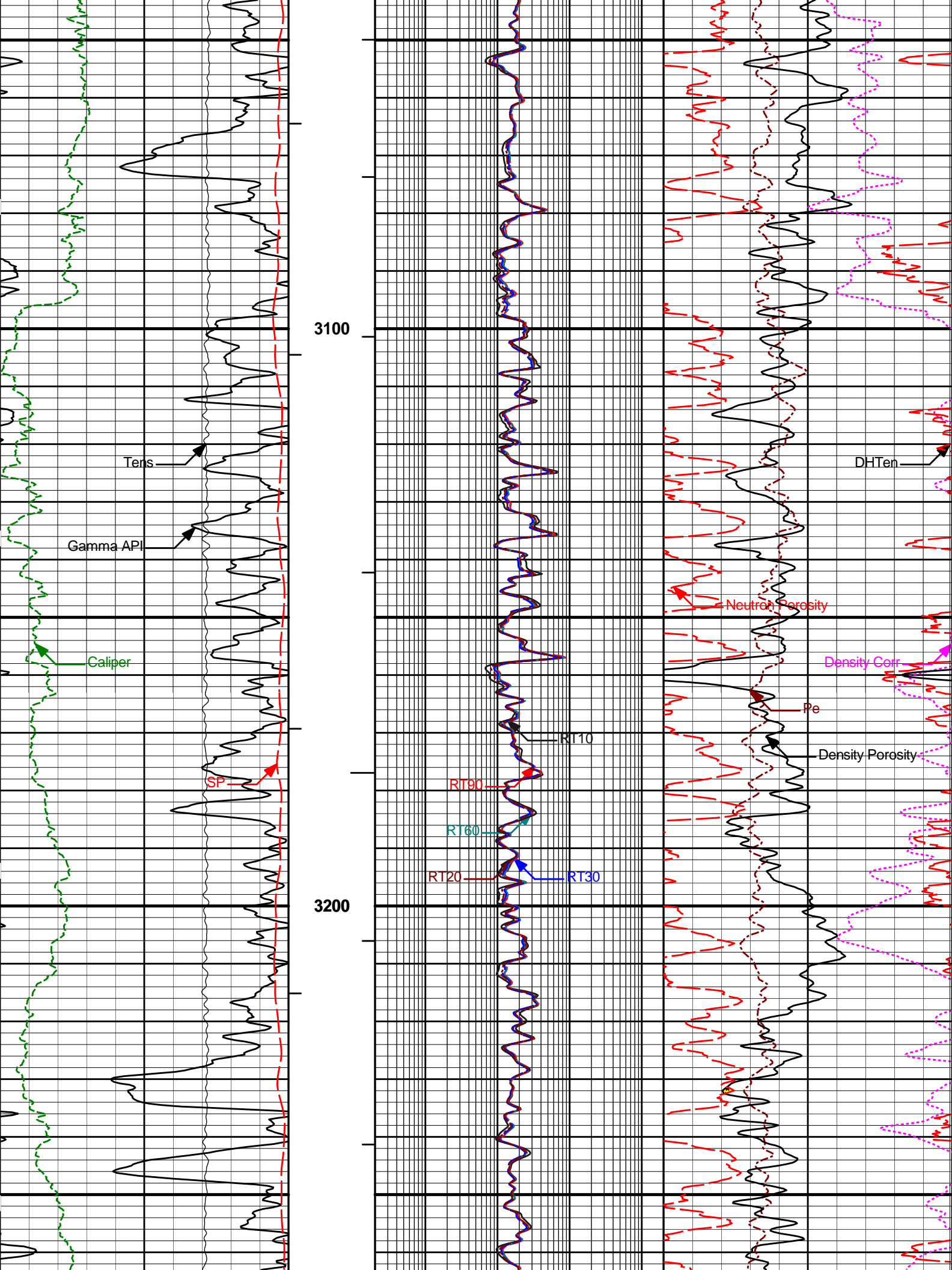


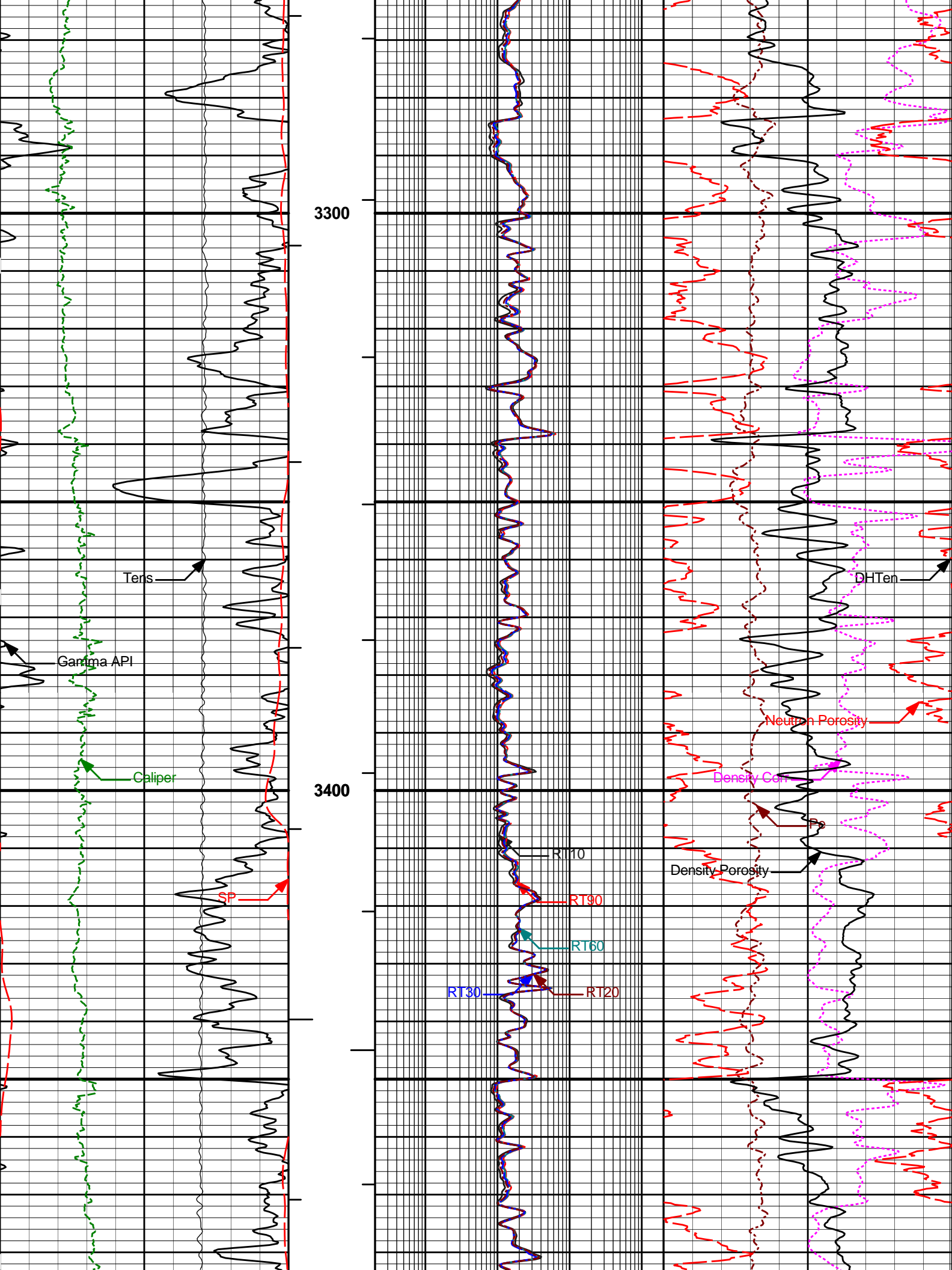


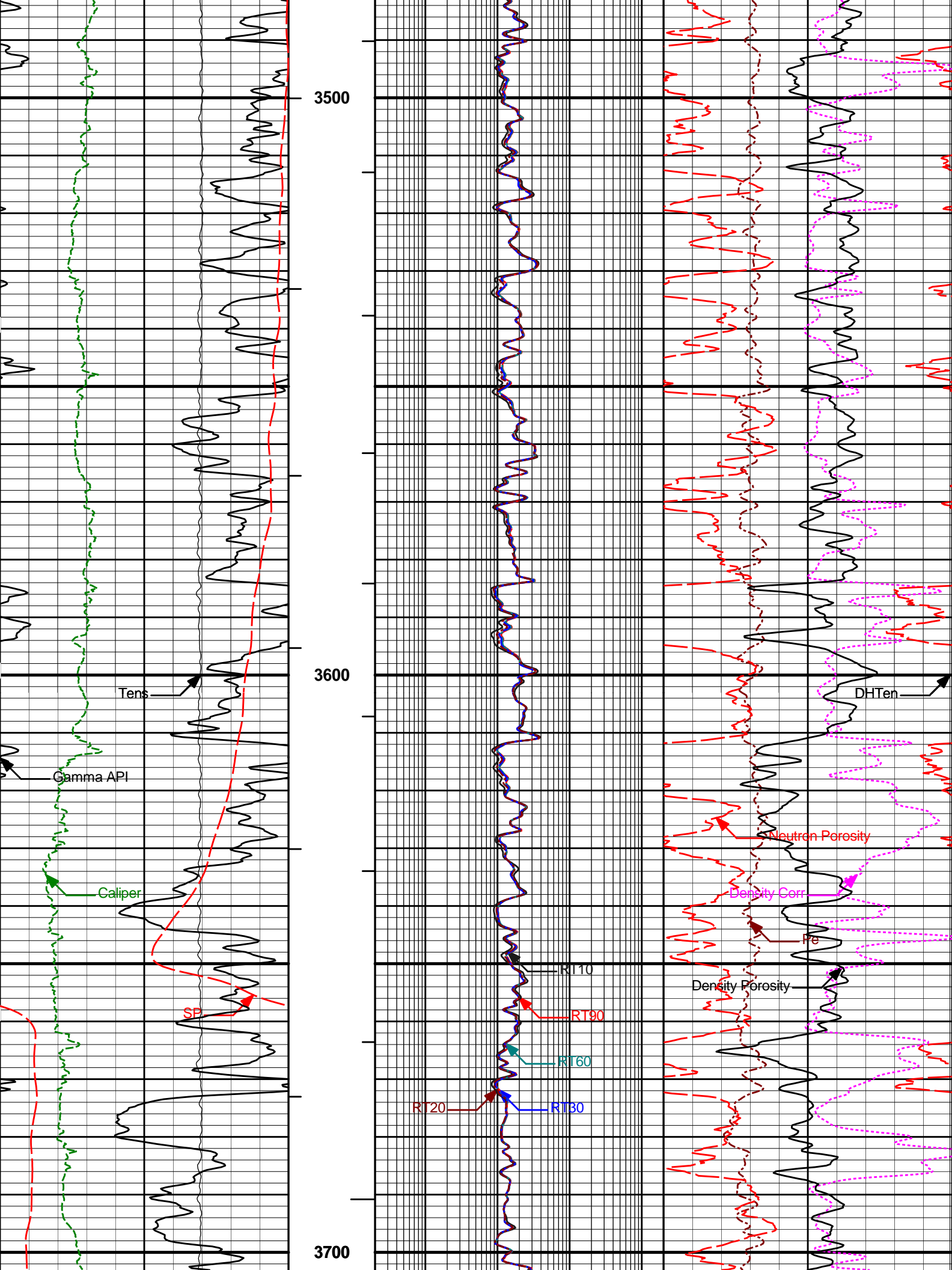


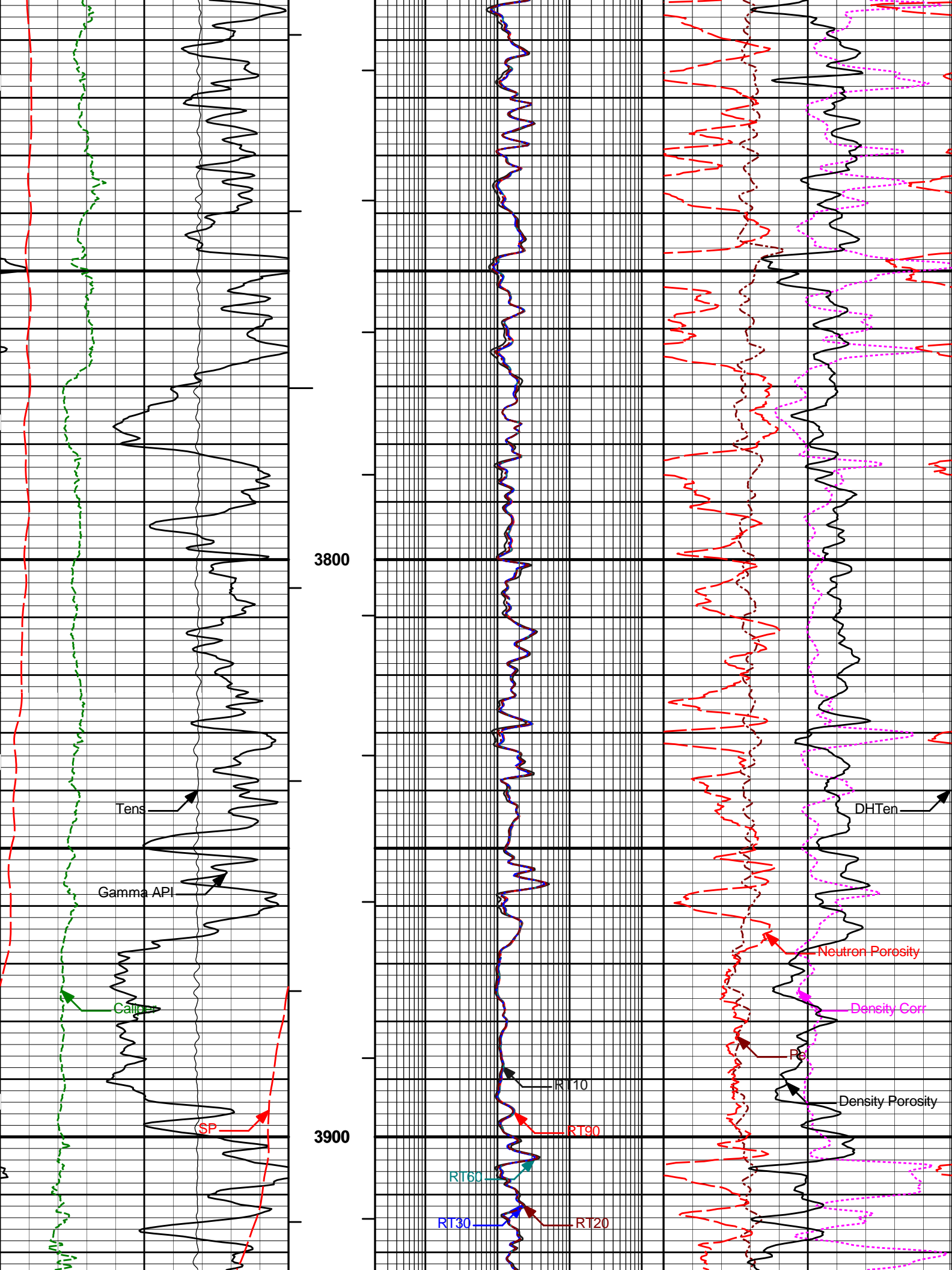


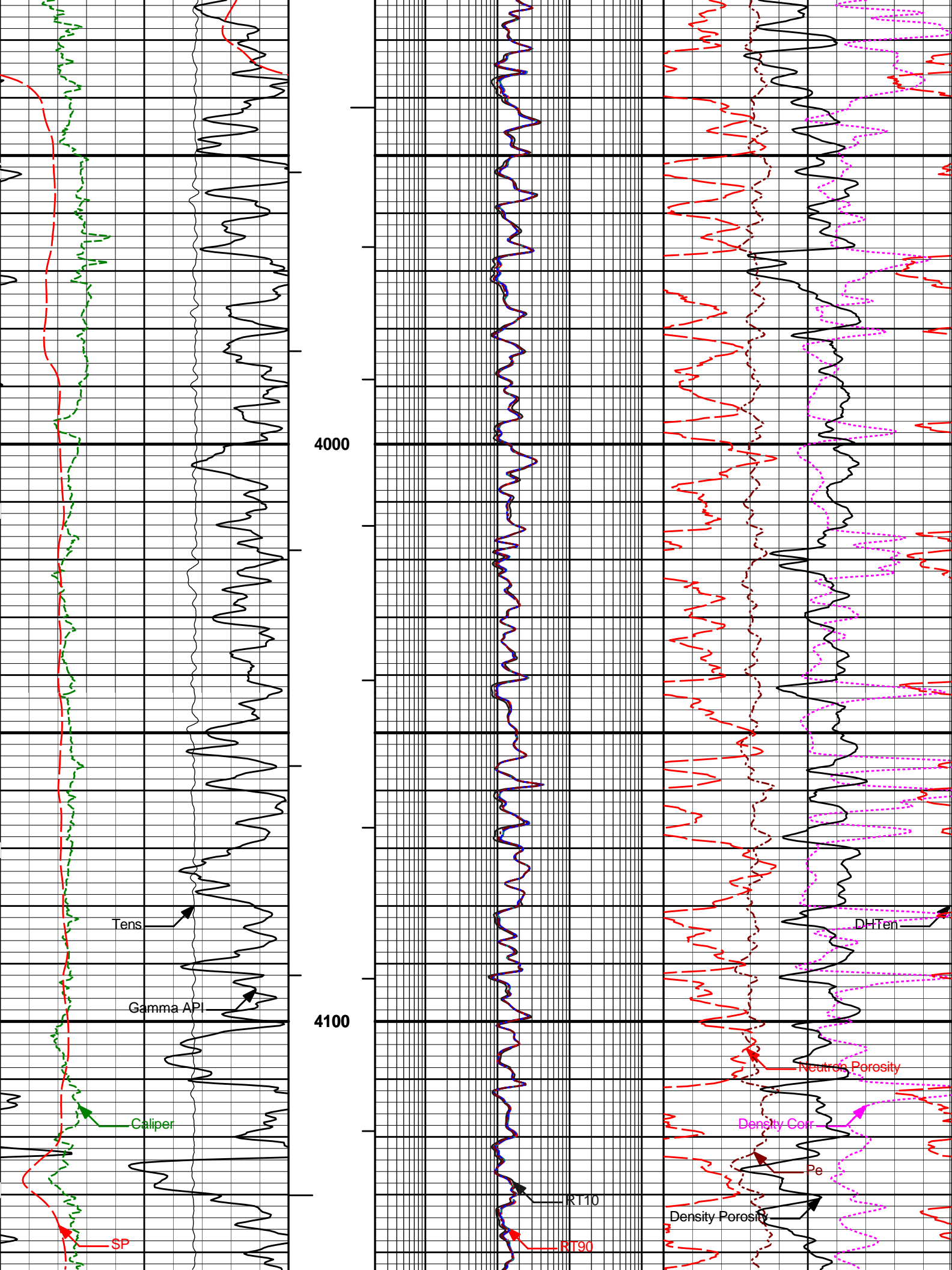


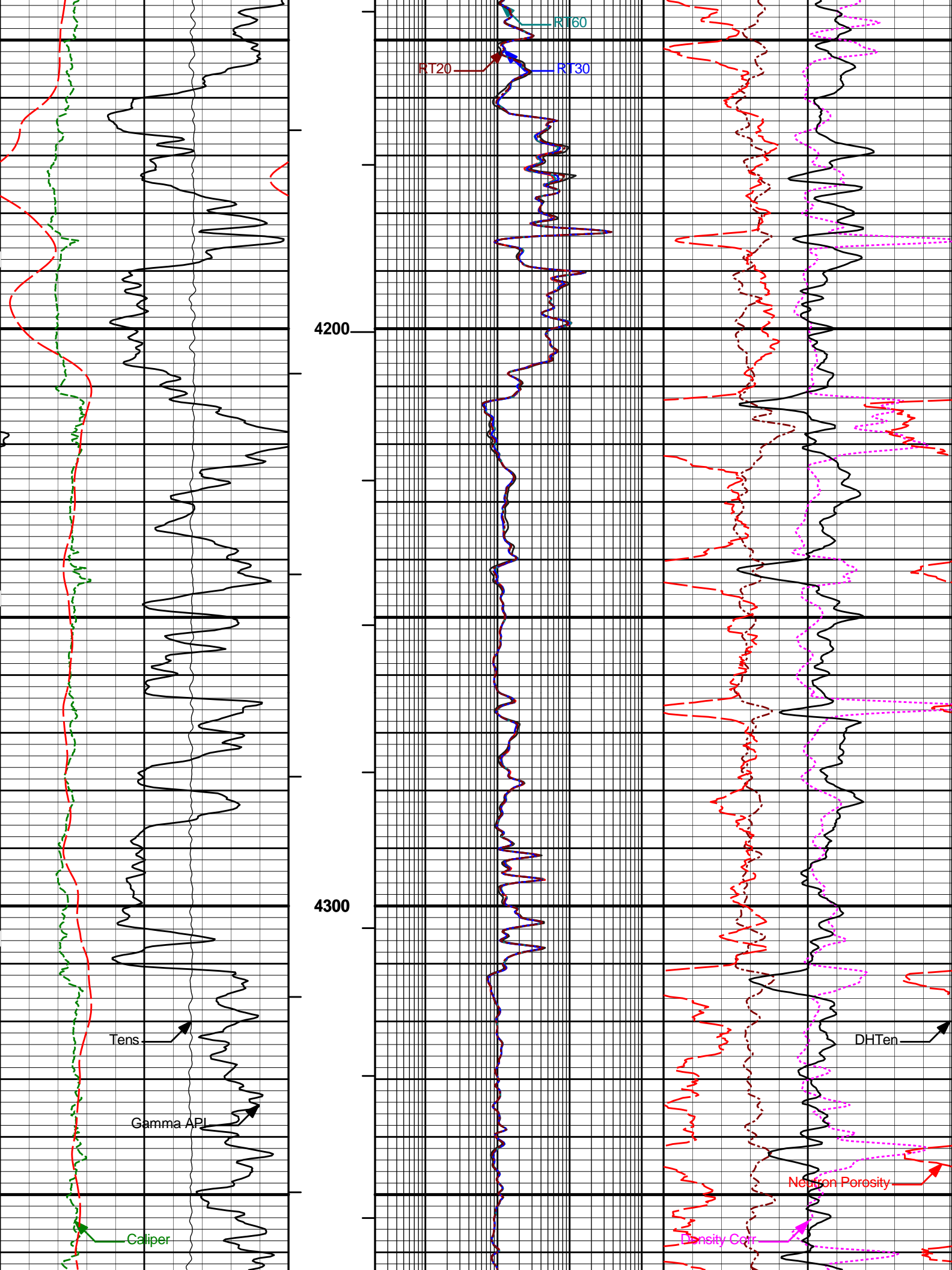


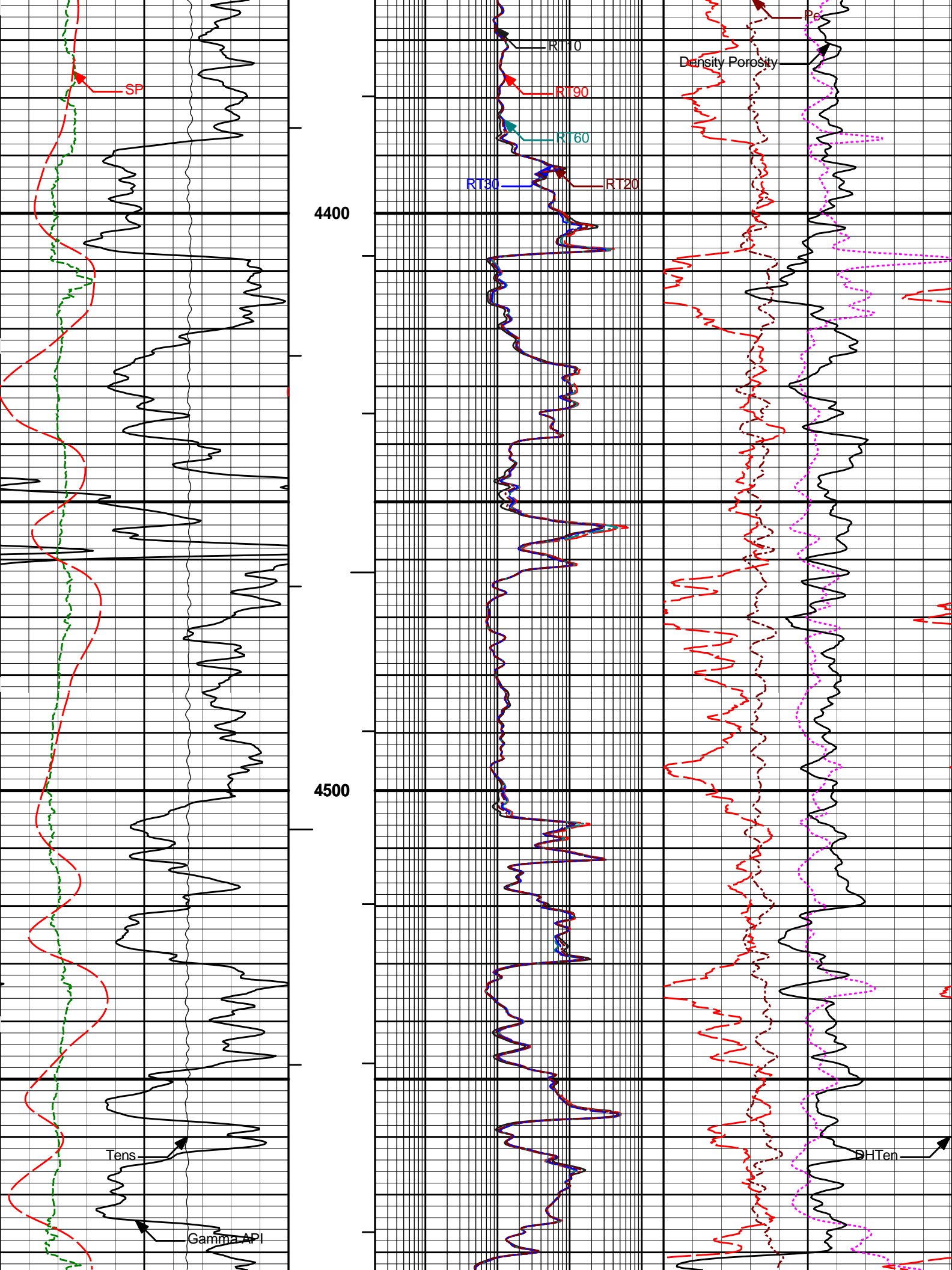


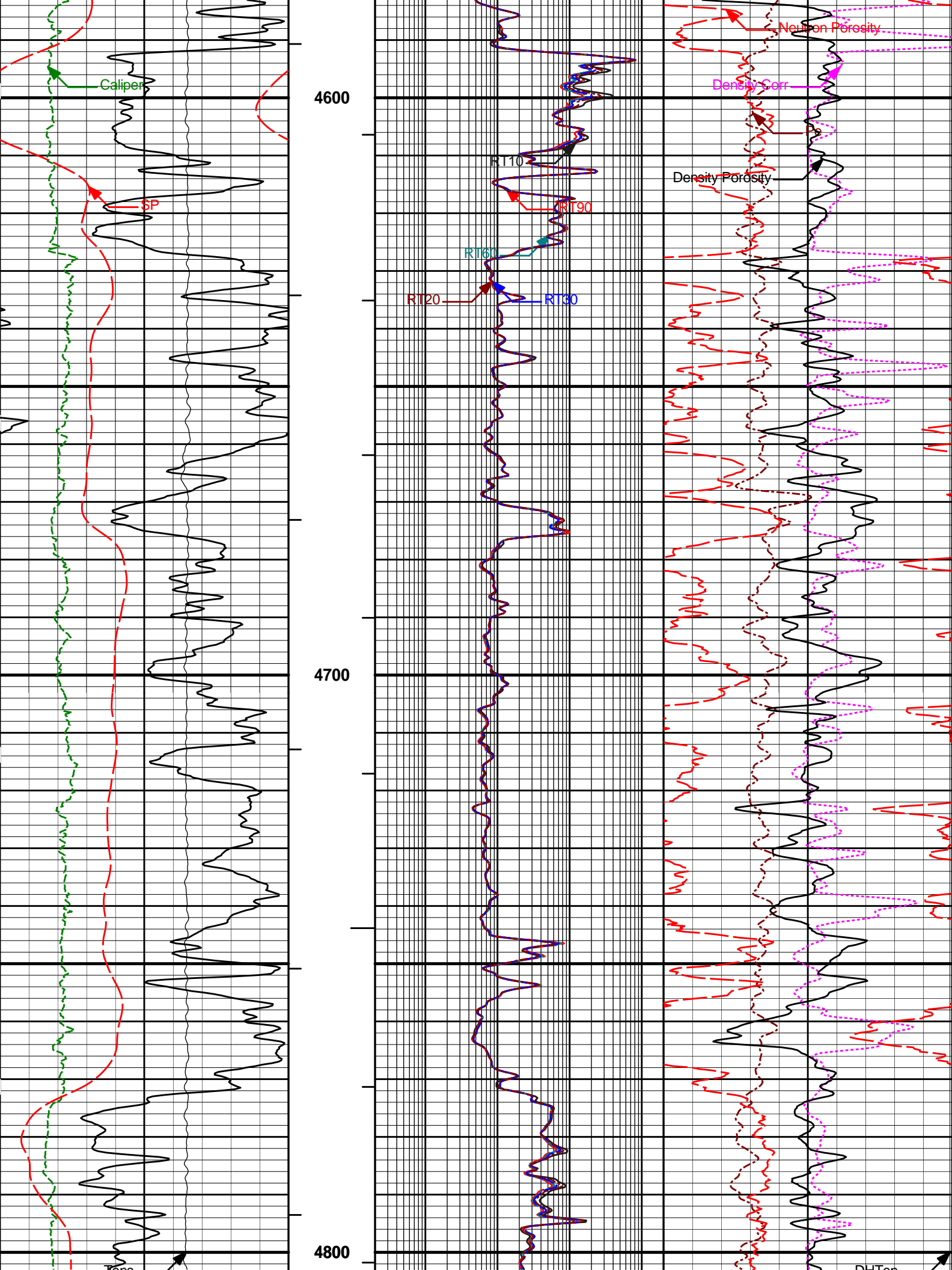


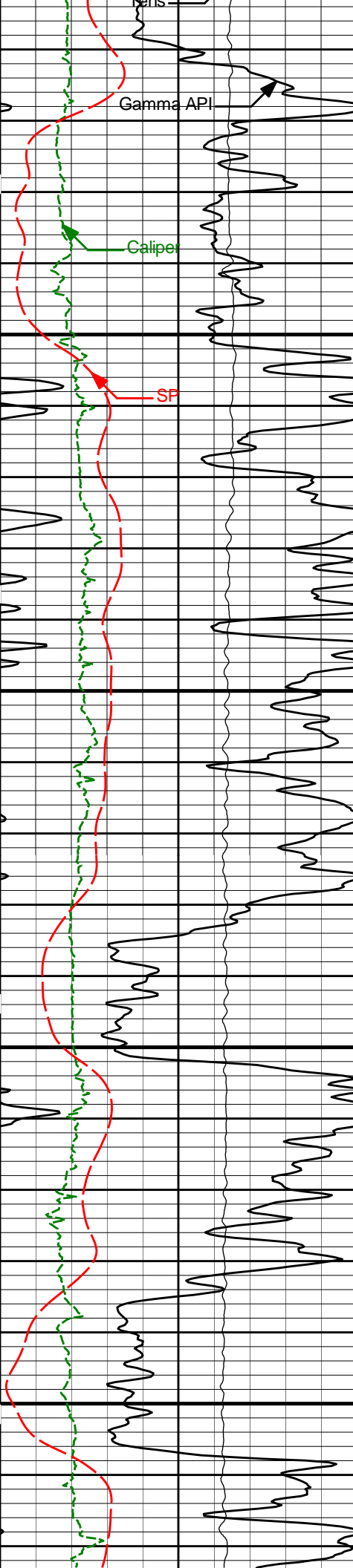






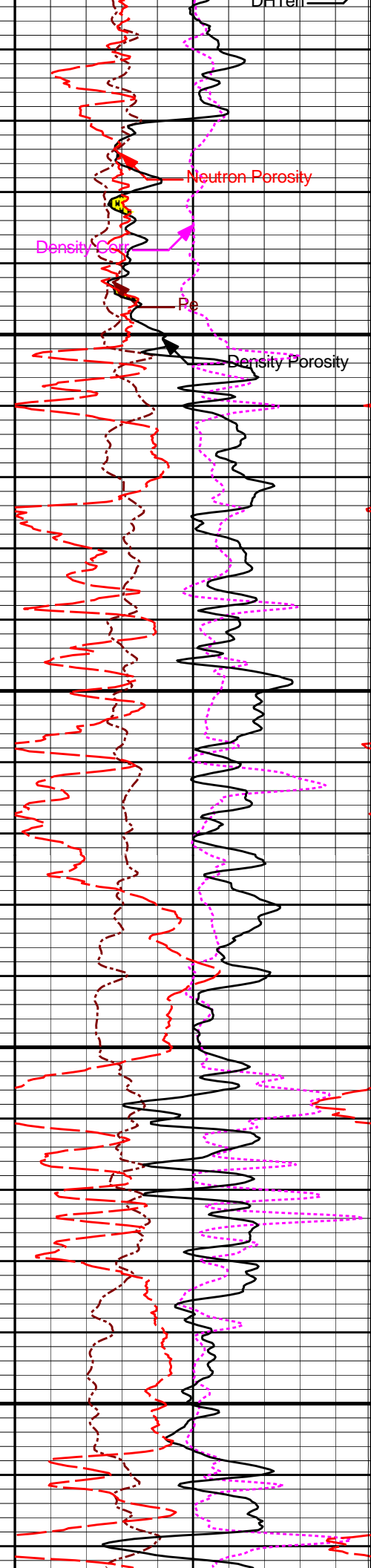
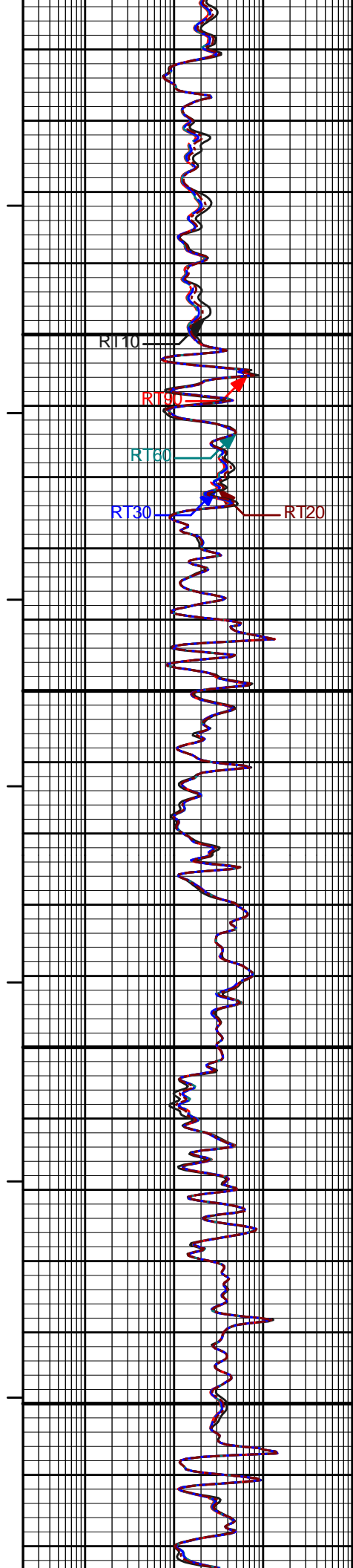


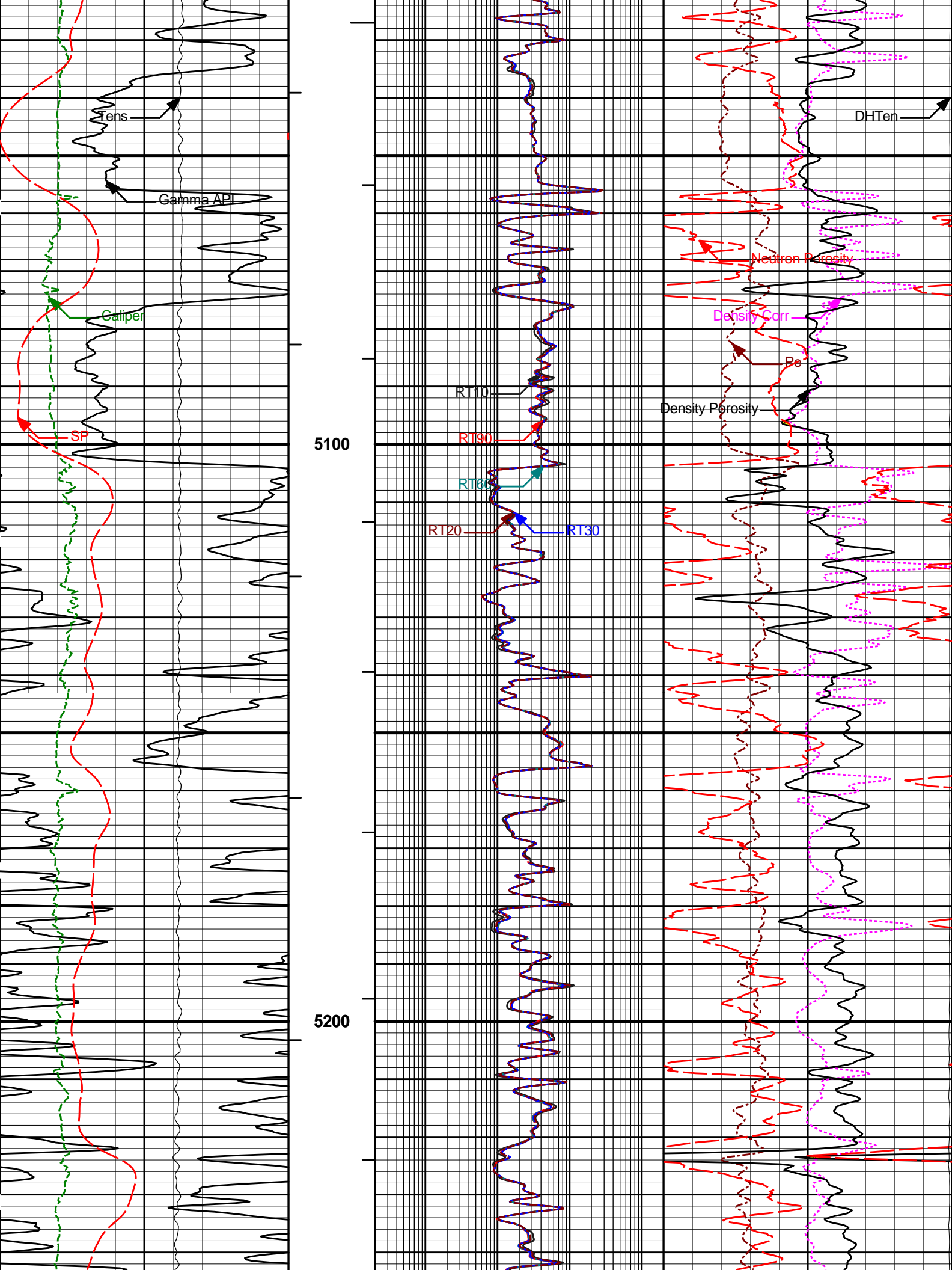


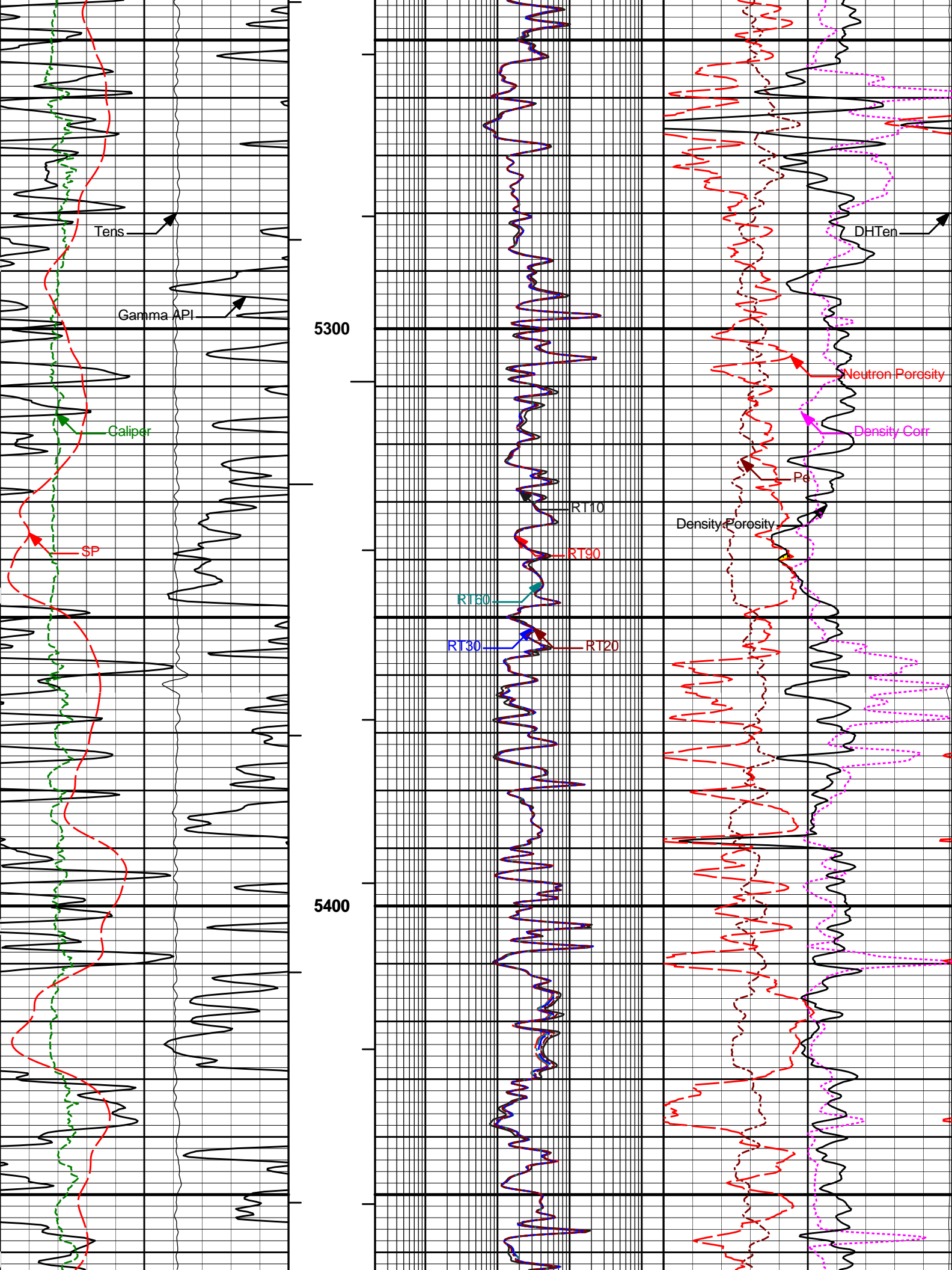


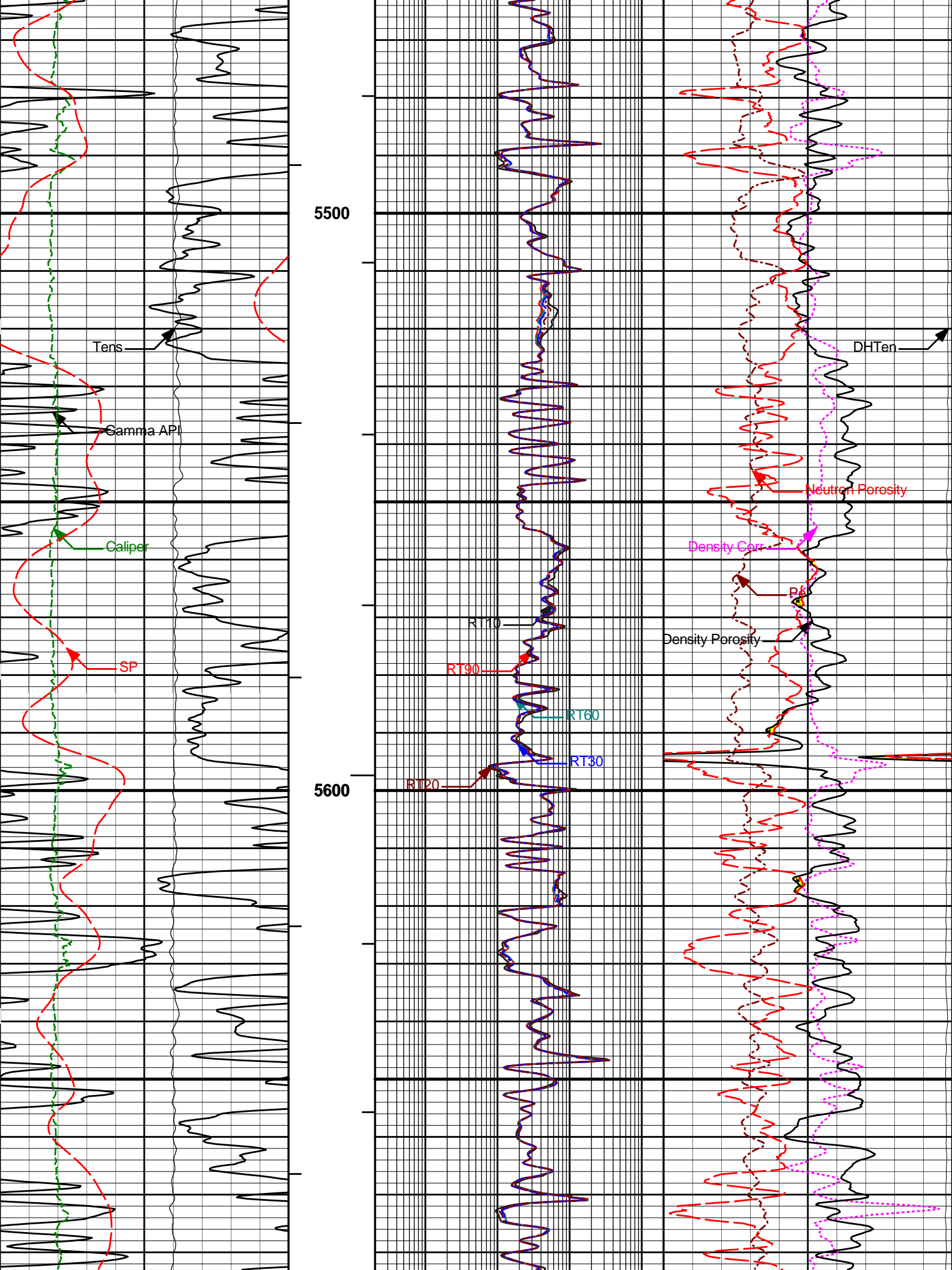
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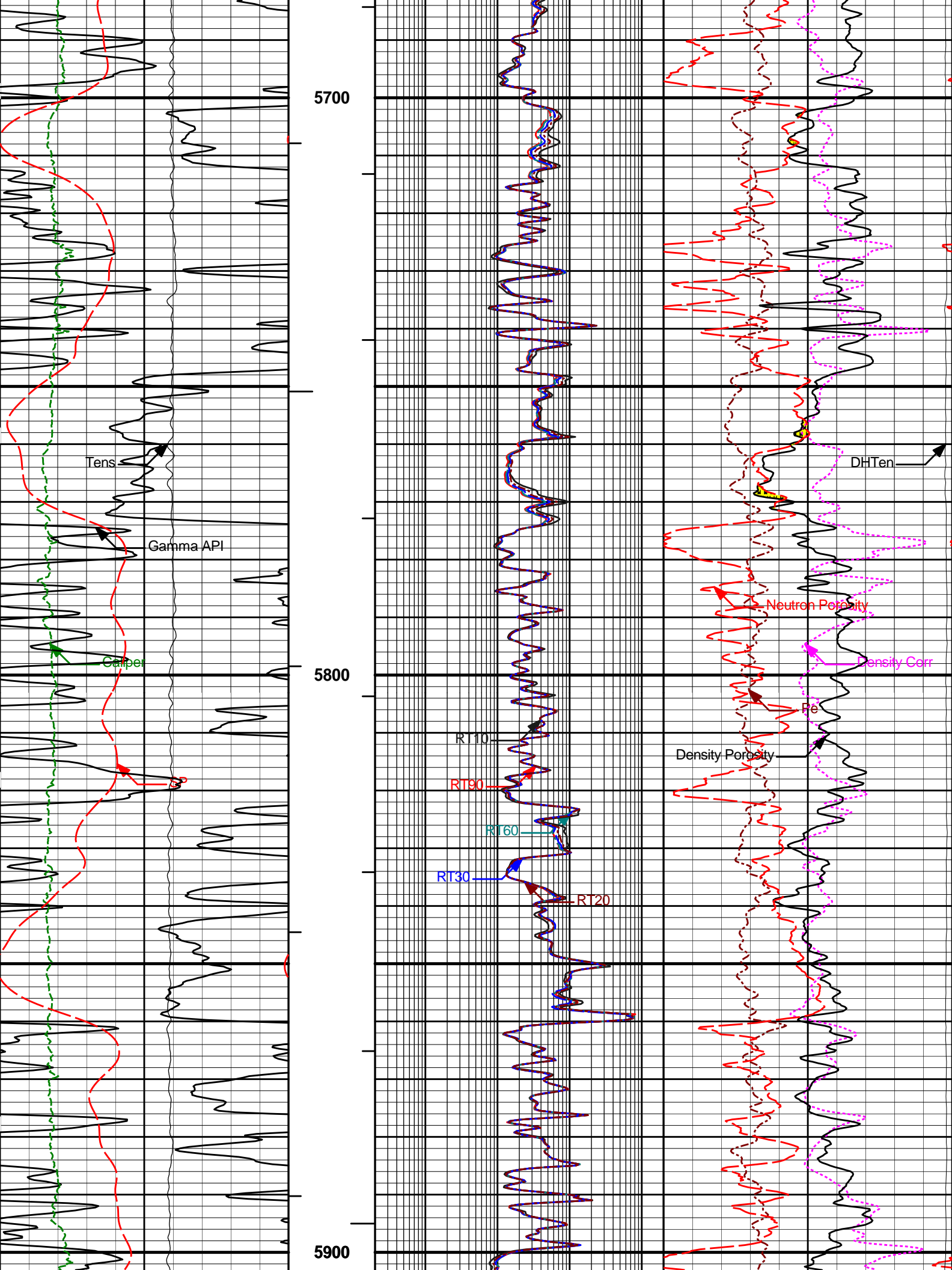
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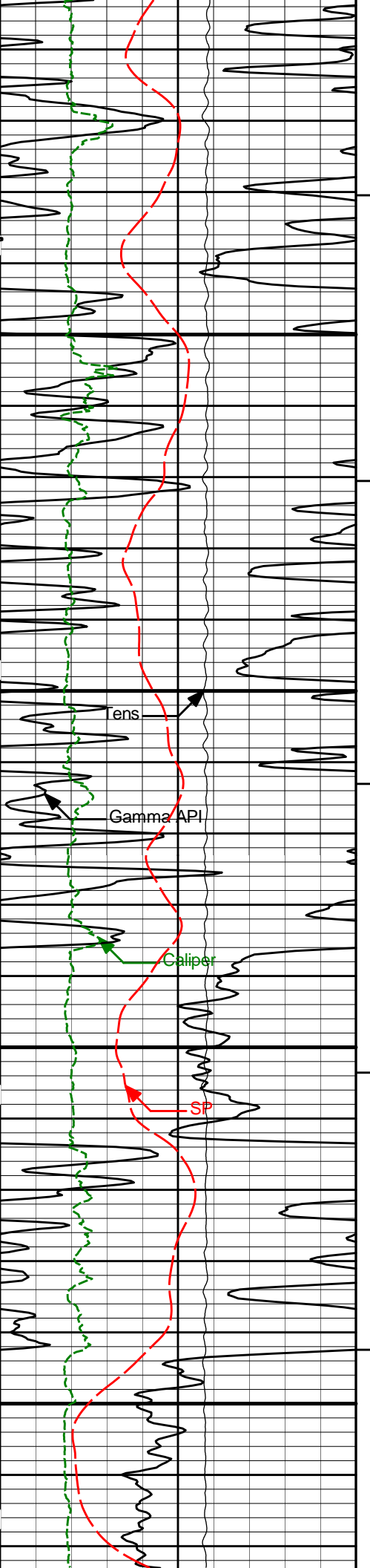






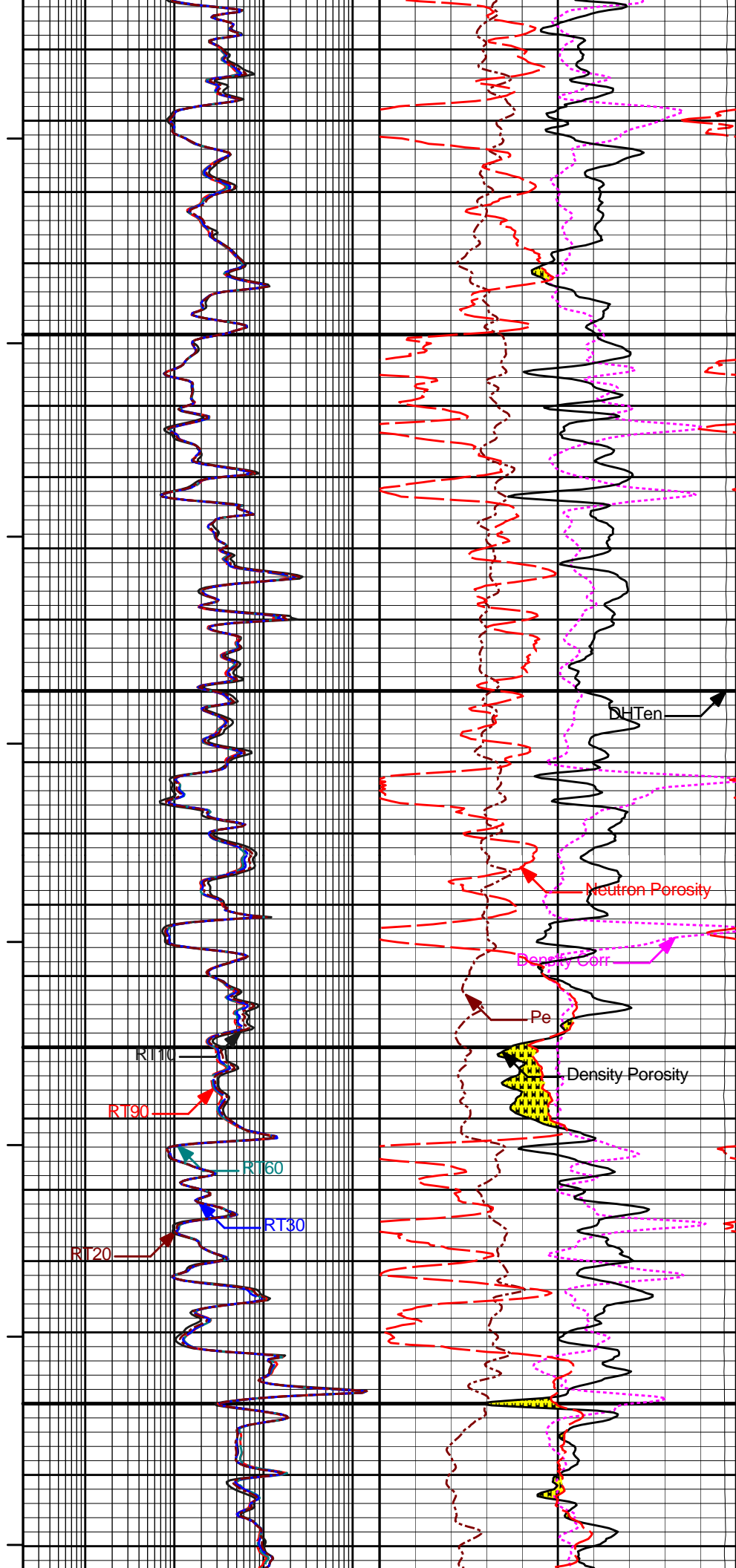


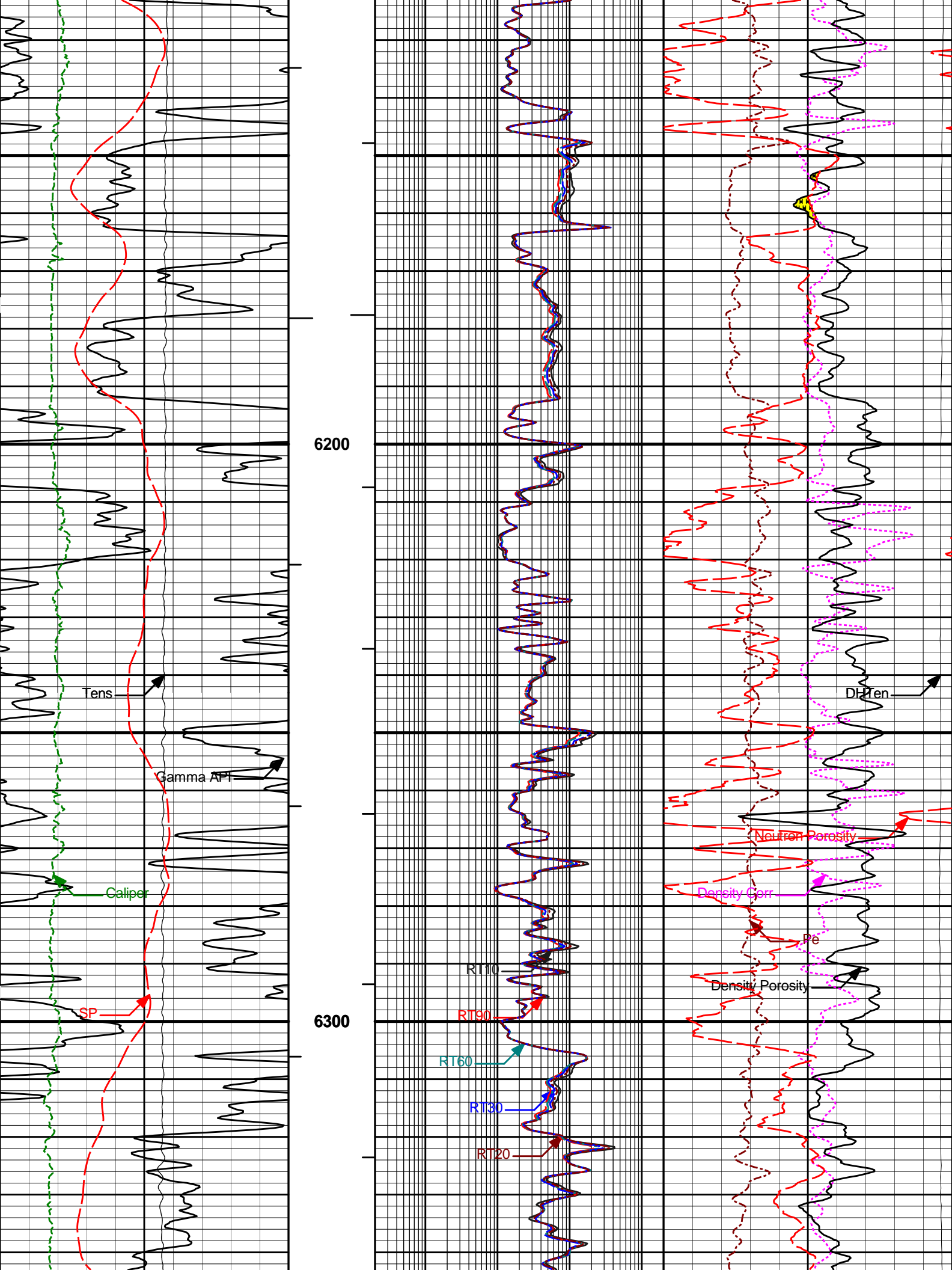


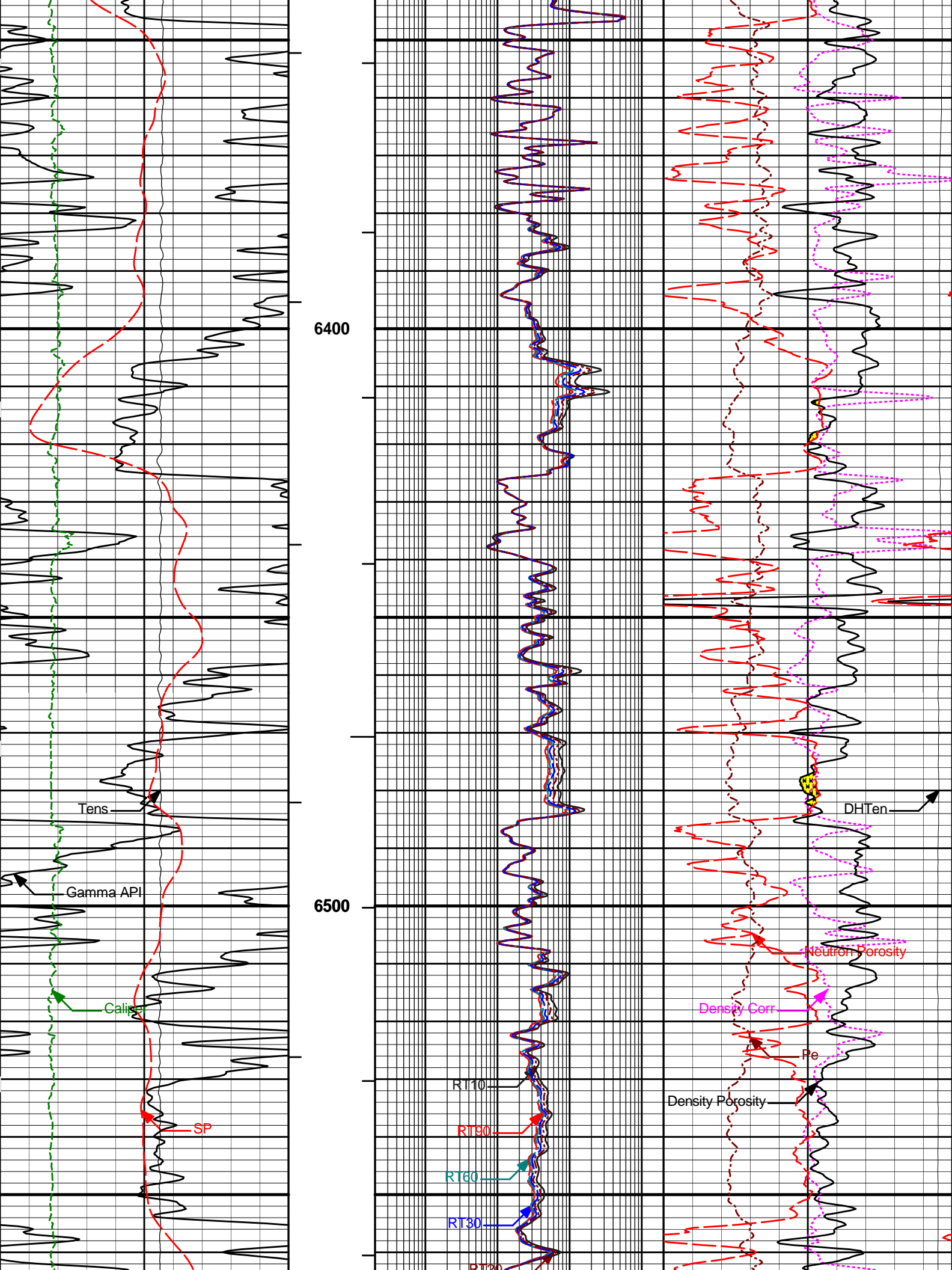


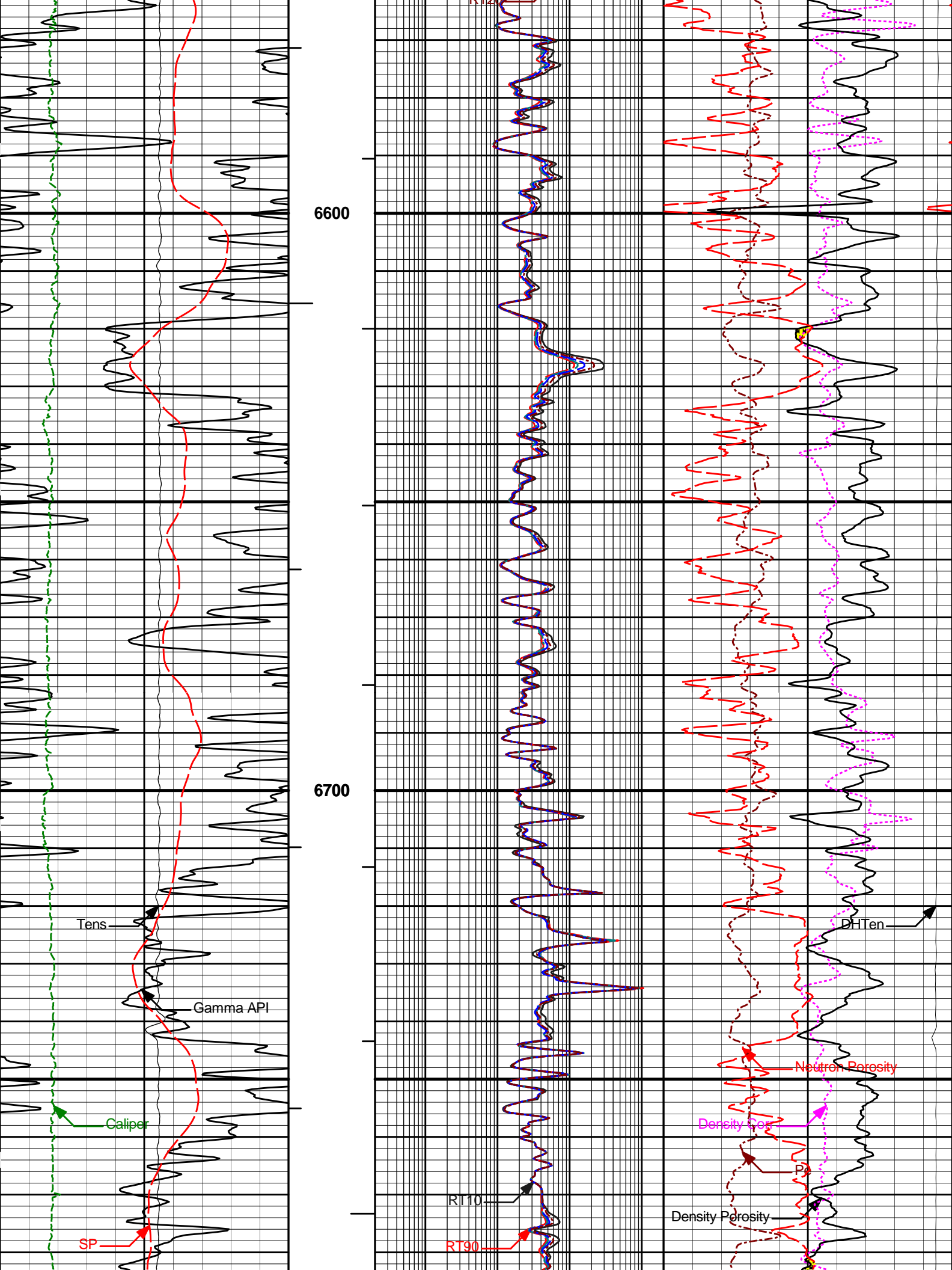
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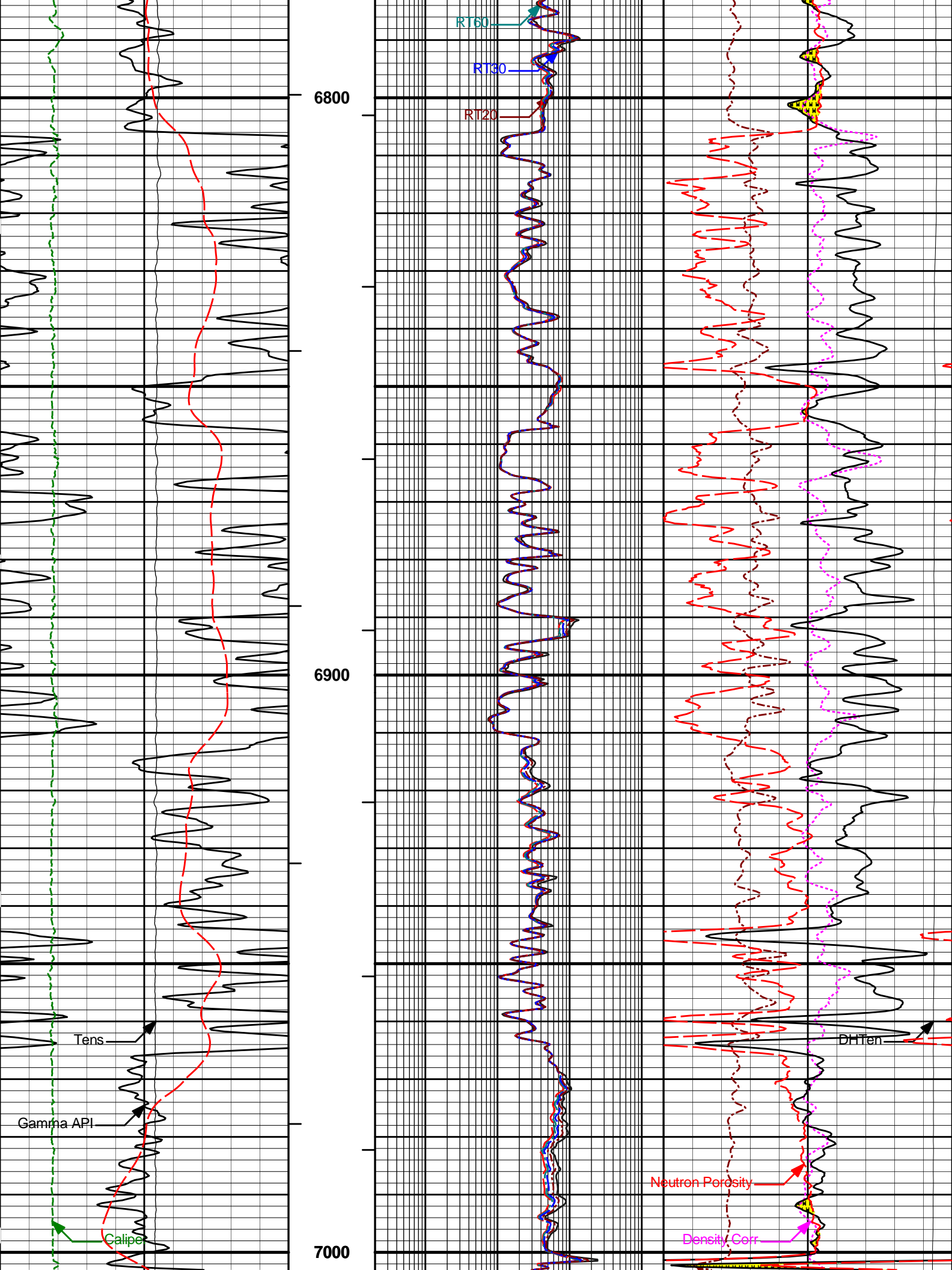
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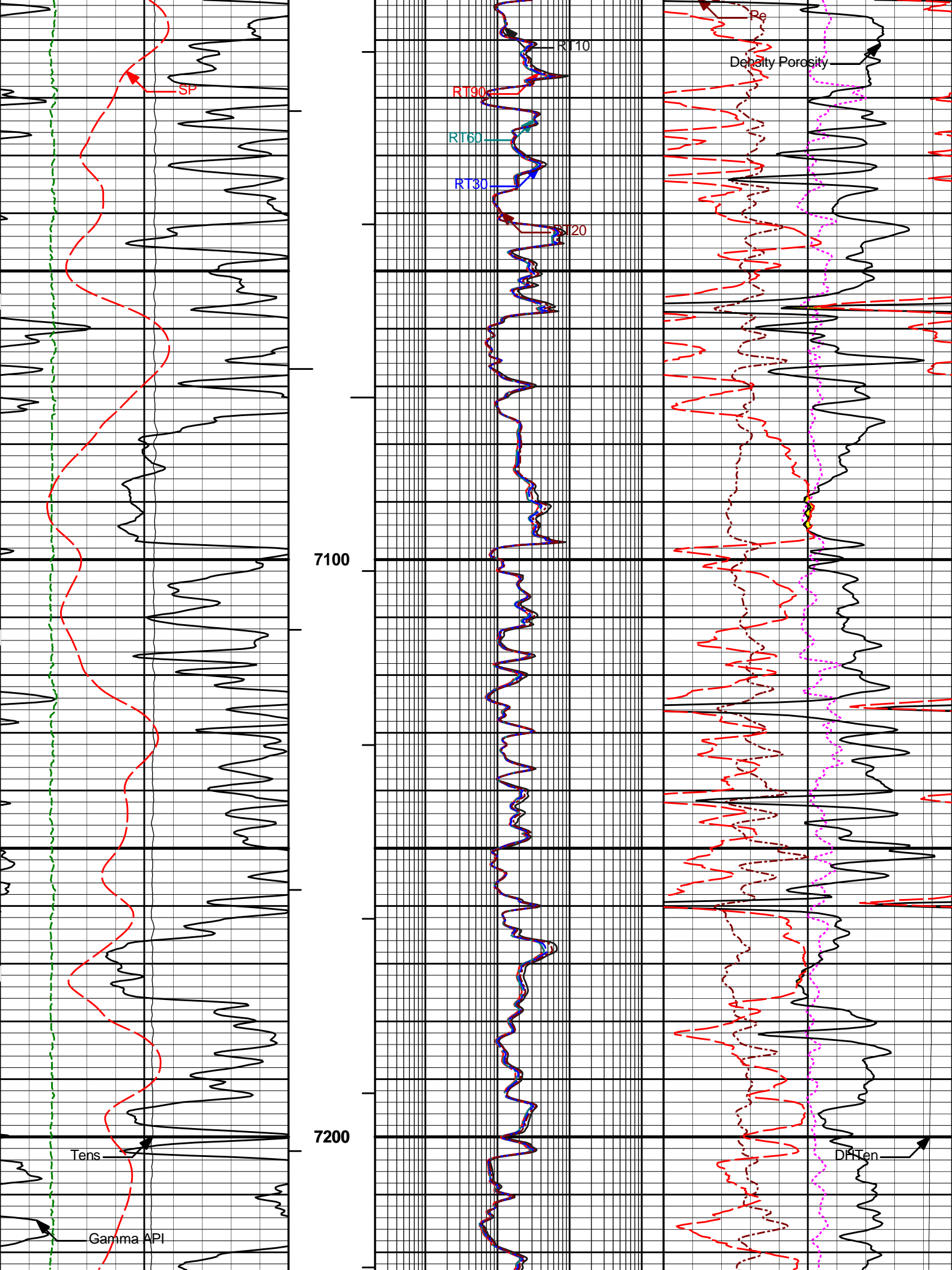


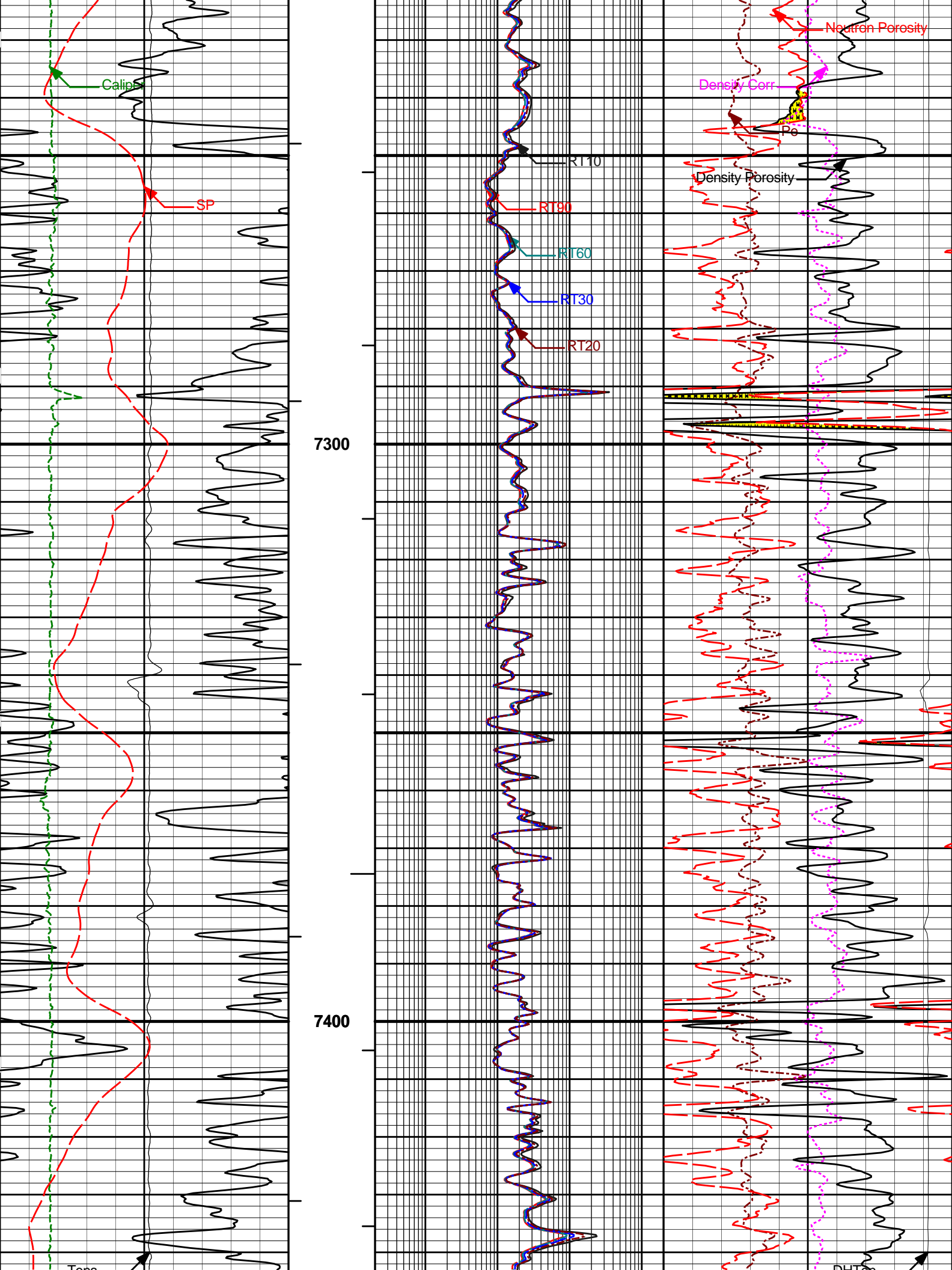


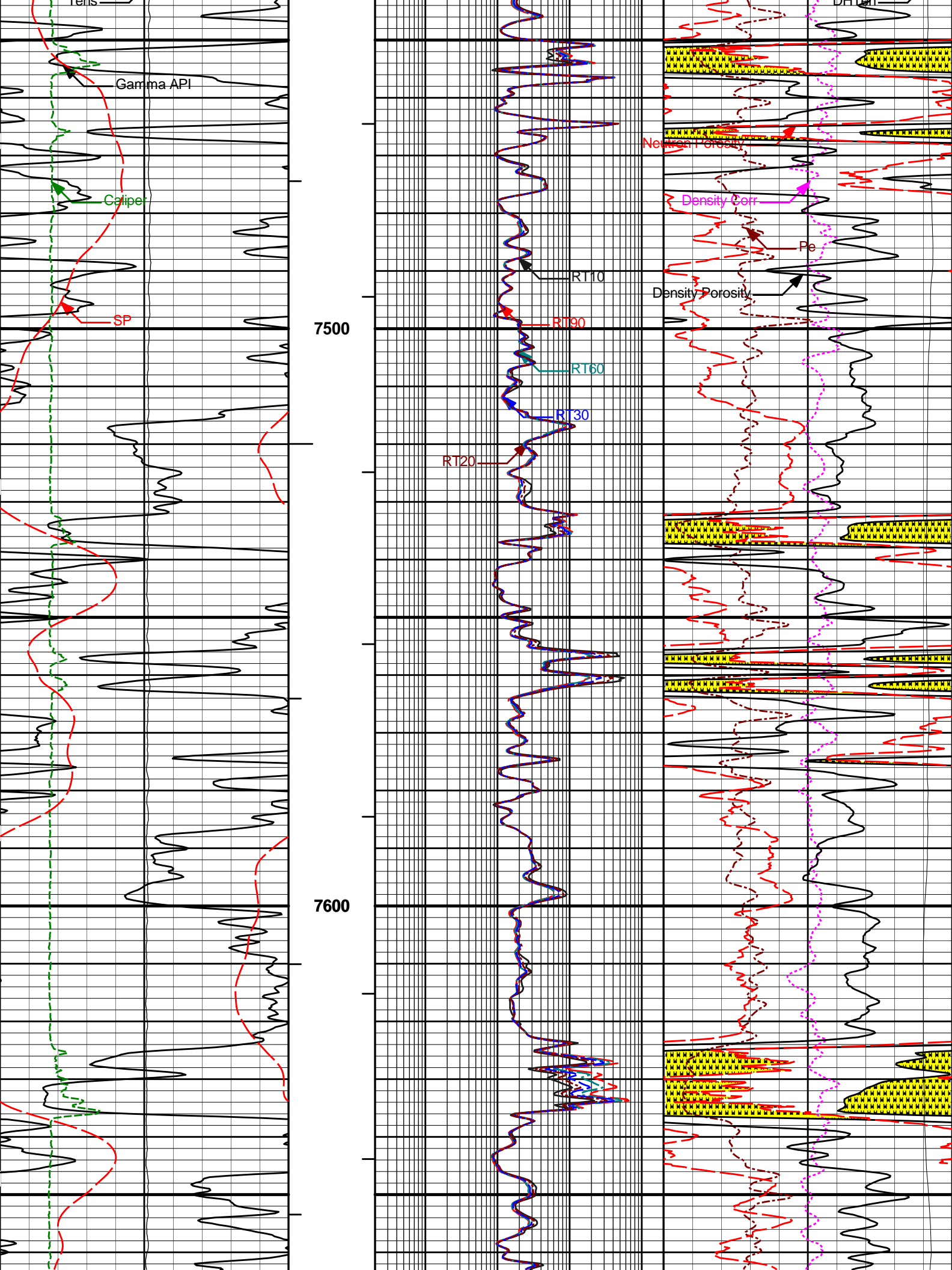


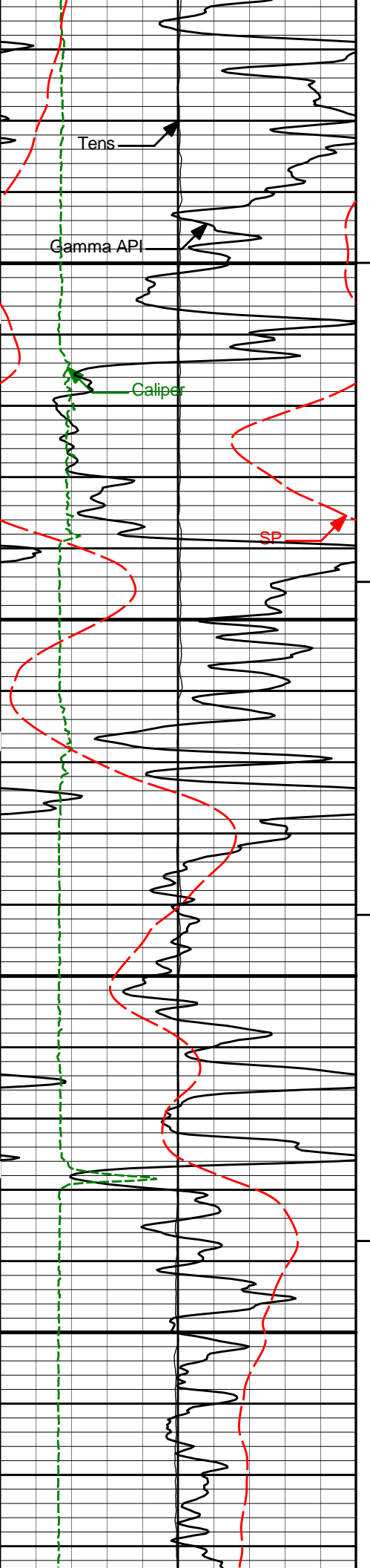






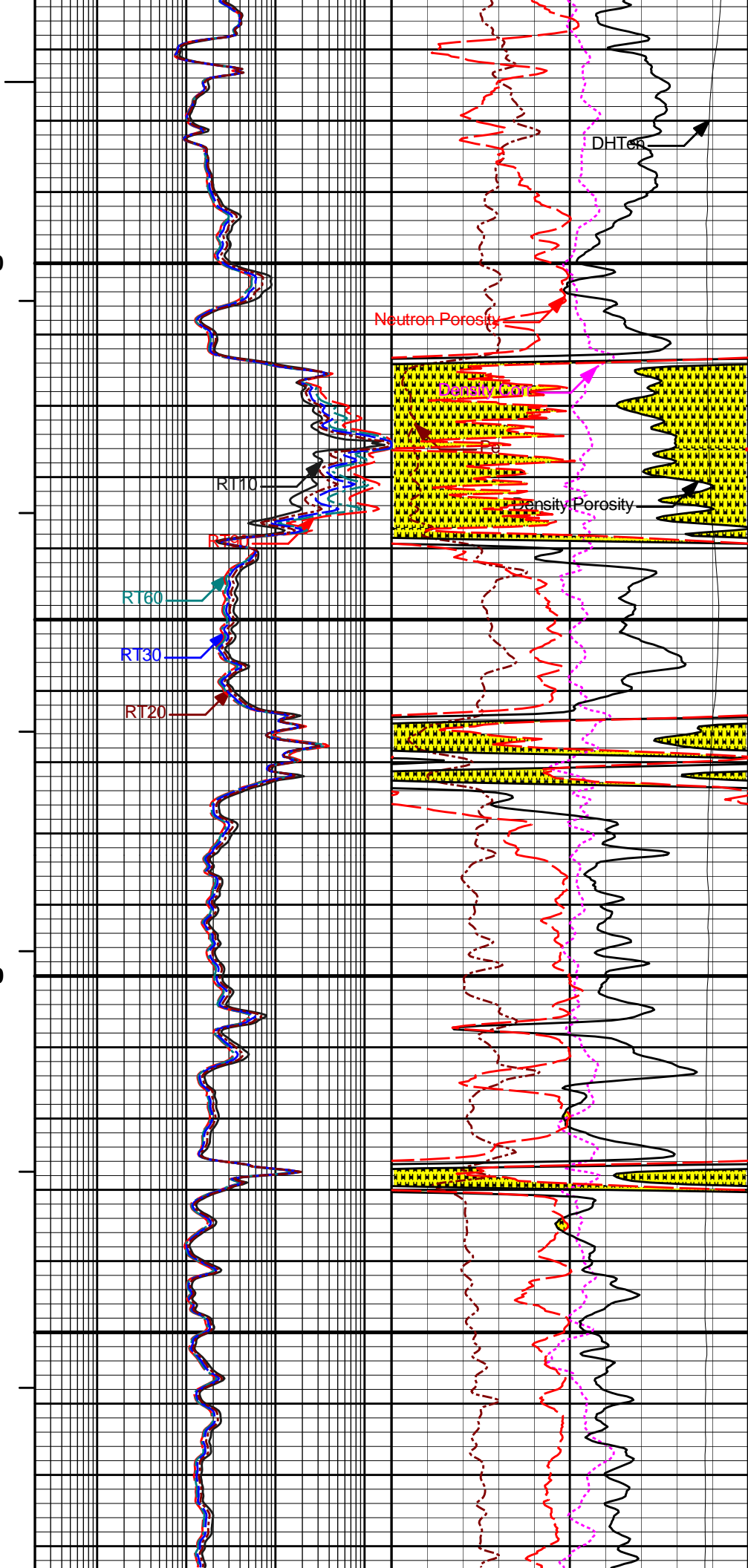


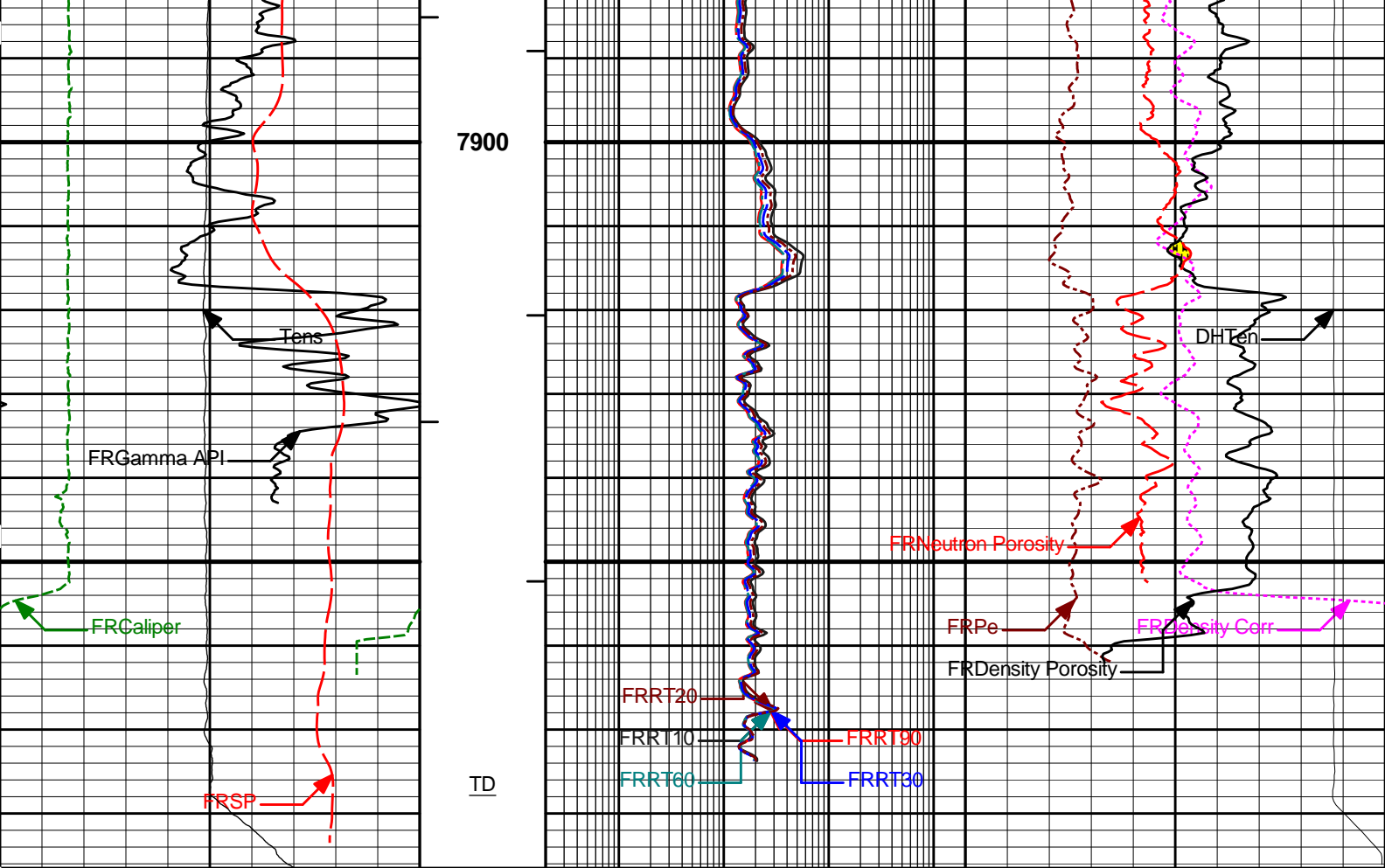




7700

7800





0	SP	100	1 : 240	0.2	RT90	2K	-0.25	Density Corr	0.25
	millivolts				Ohm-m			gram per cc	
0	Gamma API	150	BHVT	0.2	RT60	2K	0	Pe	10
	api				Ohm-m				
6	Caliper	16	AHVT	0.2	RT30	2K	30	Density Porosity	-10
	inches				Ohm-m			percent	
10K	Tens	0		0.2	RT20	2K	30	Neutron Porosity	-10
	pounds				Ohm-m			percent	
				0.2	RT10	2K	10K	DHTen	0
					Ohm-m			pounds	

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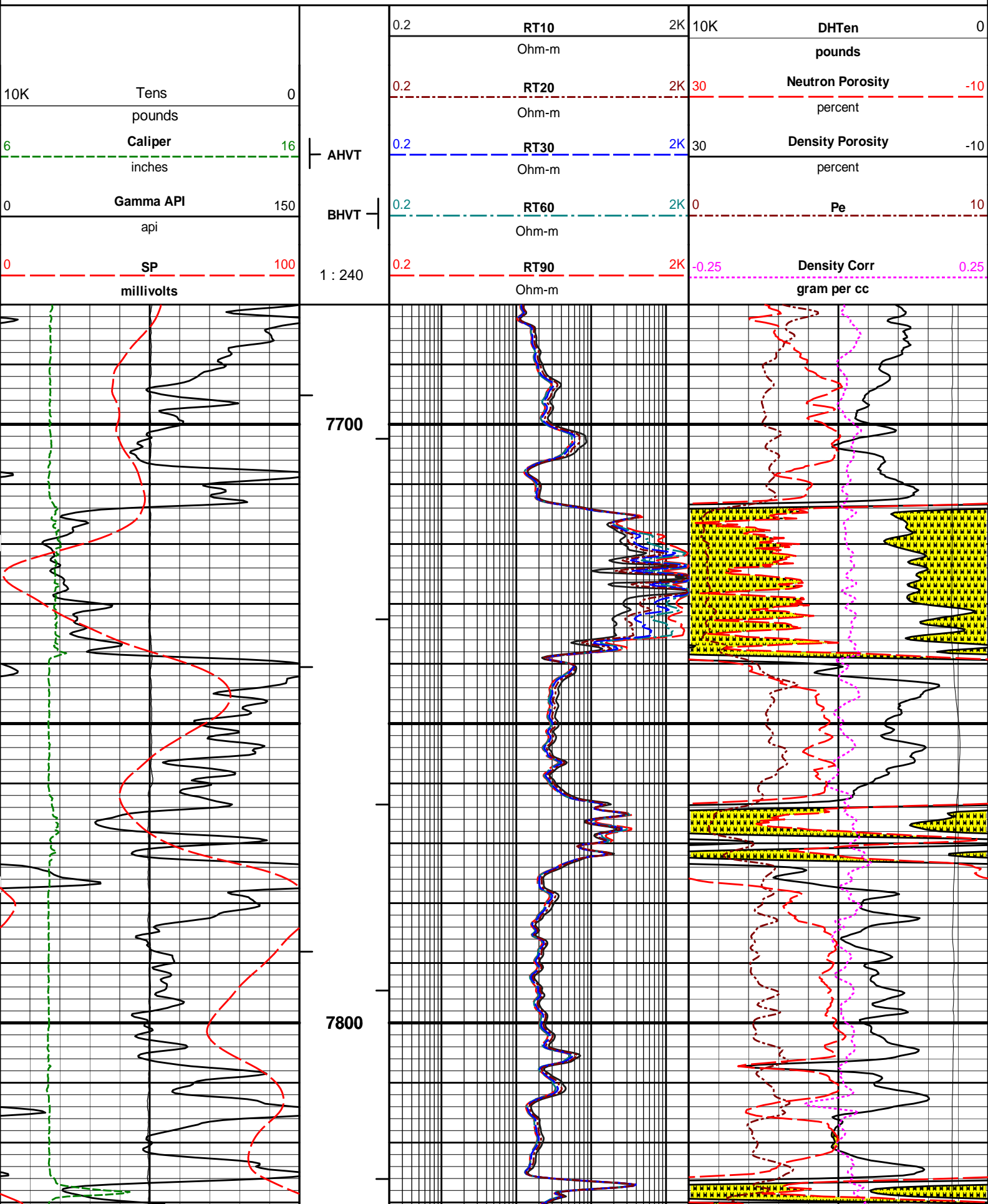
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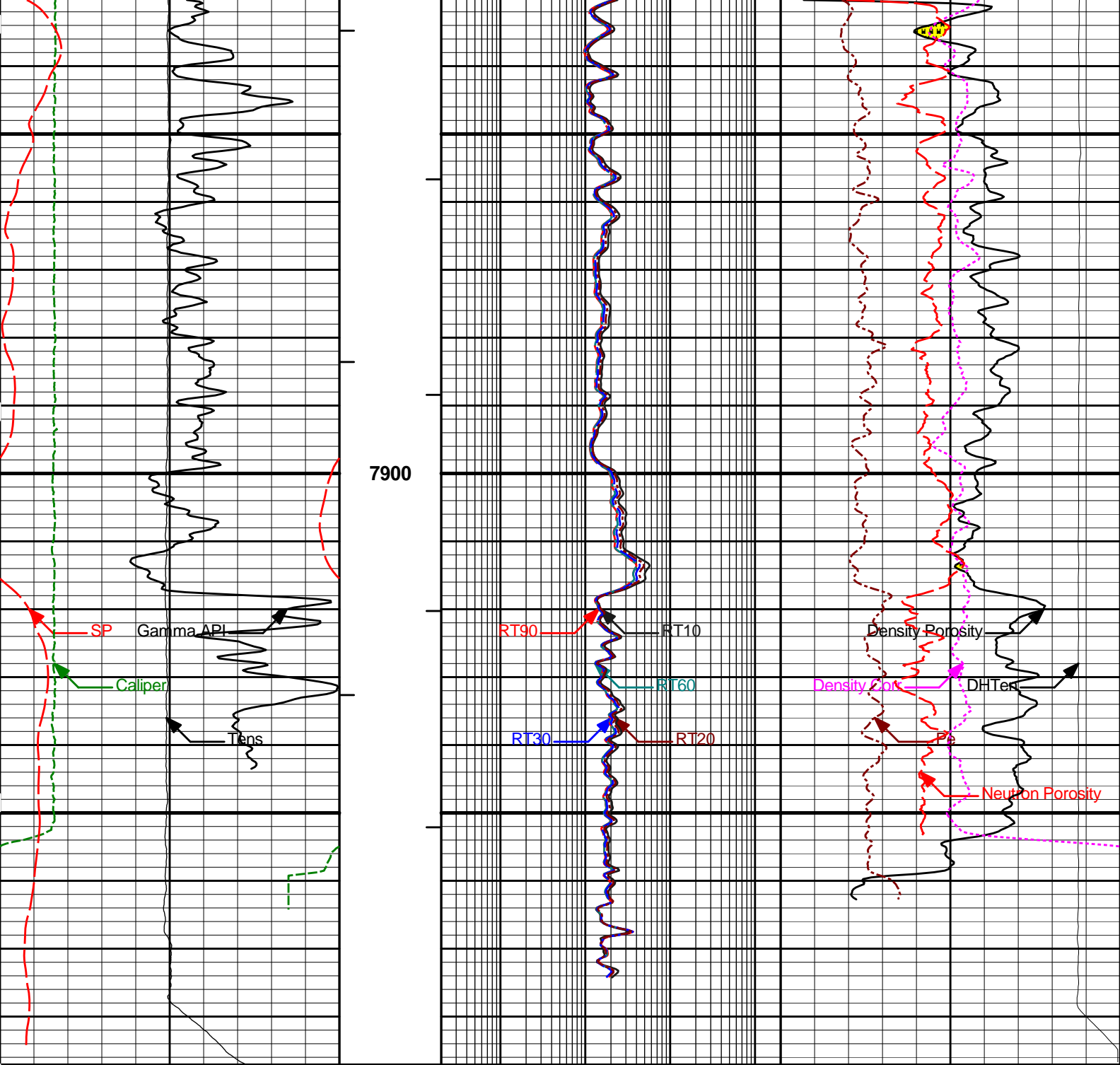
MAIN PASS 5" = 100'

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Plot Time: 13-Feb-12 00:36:14
 Plot Range: 7680 ft to 7987.08 ft
 Data: {ActiveWell}\Well Based\REPEAT*
 Plot File: \\COMPIQ_BP_COMPOSITE_ACRT_5IN_DHT_RPT

REPEAT SECTION 5" = 100'





0	SP	100	1 : 240	0.2	RT90	2K	-0.25	Density Corr	0.25
	millivolts				Ohm-m			gram per cc	
0	Gamma API	150	BHVT	0.2	RT60	2K	0	Pe	10
	api				Ohm-m				
6	Caliper	16	AHVT	0.2	RT30	2K	30	Density Porosity	-10
	inches				Ohm-m			percent	
10K	Tens	0		0.2	RT20	2K	30	Neutron Porosity	-10
	pounds				Ohm-m			percent	
				0.2	RT10	2K	10K	DHTen	0
					Ohm-m			pounds	

REPEAT SECTION 5" = 100'

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11016182

Engineer: D. CULVER

Software Version: WL INSITE R3.4.2 (Build 2)

Reference Calibration Date: 18-Jan-12 10:28:56

Calibration Date: 26-Jan-12 14:42:04

Calibration Version: 1

Calibrator Source S/N: TB-11
Calibrator API Reference:246.00 api
Equivalent Calibrator API Reference:250.3 api

Measurement	Measured	Calibrated	Units
Background	56.4	56.1	api
Background + Calibrator	308.1	306.4	api
Calibrator	251.7	250.3	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11016182

Engineer: B. PEDERSEN

Software Version: WL INSITE R3.4.2 (Build 2)

Reference Calibration Date: 26-Jan-12 14:42:04

Calibration Date: 11-Feb-12 15:13:51

Calibration Version: 1

Calibrator Source S/N: TB-11
Calibrator API Reference:246.00 api
Equivalent Calibrator API Reference:250.3 api

Field Verification	Shop	Field	Units
Background	56.1	53.0	api
Background + Calibrator	306.4	305.1	api
Calibrator	250.3	252.1	api

Shop	Field	Difference	Tolerance
250.3	252.1	-1.8	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11004663

Engineer: D. CULVER

Software Version: WL INSITE R3.4.2 (Build 2)

Reference Calibration Date: 30-Dec-11 09:30:54

Calibration Date: 26-Jan-12 16:13:34

Calibration Version: 1

Logging Source S/N: DSN-431
Tank Serial Number: 105039
Reference value assigned to Tank: 51.650
Snow Block S/N: SNOWBLOCK
Calibration Tank Water Temperature: 68 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value

Gain:

0.955

0.959

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):	0.2096	0.2108	0.0012	+/- 0.0020
Calibrated Ratio:	9.68	9.72	0.040	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0764	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 - 11004663	Reference Calibration Date:	26-Jan-12 16:13:34
Engineer:	B. PEDERSEN	Calibration Date:	11-Feb-12 15:41:59
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Logging Source S/N: DSN-431
Snow Block S/N: SNOWBLOCK

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0764	0.0778	0.0014	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	SDLT - 10948155	Reference Calibration Date:	12-Feb-12 01:48:03
Engineer:	B. PEDERSEN	Calibration Date:	12-Feb-12 01:51:55
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-2669.19	-2615.16	-7000.00 - -1000.00
Pad Gain	0.0003853	0.0003813	0.000200 - 0.000600
Arm Offset	-3293.73	-3349.44	-5000.00 - 3000.00
Arm Gain	0.0005207	0.0005235	0.000300 - 0.000700
Arm Power	-0.000001786	-0.000001739	-0.000010 - 0.000010

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER
Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.00	2.00	0.00	+/- 0.20

	Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20
	RING DIAMETER:				
	Small Ring (in)	6.50	6.50	0.00	+/- 0.20
	Medium Ring (in)	8.23	8.25	0.02	+/- 0.20
	Large Ring (in)	14.94	15.00	0.06	+/- 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 - 10948155		Reference Calibration Date:	12-Feb-12 01:51:55	
Engineer:	B. PEDERSEN		Calibration Date:	12-Feb-12 01:53:44	
Software Version:	WL INSITE R3.4.2 (Build 2)		Calibration Version:	1	

	MEASURED CALIPER VALUES					
	Measurement	Shop	Field	Change	Control Limit On New Value	
	Pad Extension	3.75	3.66	-0.09	+/- 0.10	
	Ring Diameter	8.25	8.25	-0.00	+/- 0.15	
	PASS/FAIL SUMMARY					
	Pad Extension Check:			Passed		
	Diameter Check:			Passed		

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION					
Tool Name:	ACRt Sonde - E171_S970		Reference Calibration Date:	09-Jan-12 10:41:15	
Engineer:	B. PEDERSEN		Calibration Date:	11-Feb-12 12:21:07	
Software Version:	WL INSITE R3.4.2 (Build 2)		Calibration Version:	1	

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0143	1.05	0.95	1.0138	1.05	0.95	1.0111	1.05
A2 (50")	0.95	1.0182	1.05	0.95	1.0200	1.05	0.95	1.0197	1.05
A3 (29")	0.95	1.0099	1.05	0.95	1.0104	1.05	0.95	1.0081	1.05
A4 (17")	0.95	1.0097	1.05	0.95	1.0081	1.05	0.95	1.0076	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0074	1.05	0.95	1.0059	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9938	1.05	0.95	0.9916	1.05

TYPICAL SONDE OFFSET RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-0.693	2	-6	-3.754	-2	-8	-4.895	-2
A2 (50")	-7	-2.209	-1	-6	-3.657	-2	-7	-4.595	-2
A3 (29")	-27	-12.626	-9	-9	-3.530	-3	-7	-3.157	-1
A4 (17")	-180	-100.975	-60	-45	-31.261	-15	-39	-25.477	-13
A5 (10")	N/A	N/A	N/A	-150	-107.765	-50	-80	-51.232	-10
A6 (6")	N/A	N/A	N/A	175	349.922	525	90	169.044	270

TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
					Lower	Measured	Upper		

Signal	Lower	R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6	0.9162	1.3	Mud Cell	0.95	1.007	1.05
36K	1.0	1.9566	2.0				
72K	1.0	1.1604	2.0				

SPECTRAL DENSITY SHOP CALIBRATION							
Tool Name:	SDLT Pad - 10948155			Reference Calibration Date:	30-Dec-11 09:00:12		
Engineer:	D. CULVER			Calibration Date:	26-Jan-12 15:35:06		
Software Version:	WL INSITE R3.4.2 (Build 2)			Calibration Version:	1		

Logging Source S/N: 5116GW			
Aluminum Block S/N: ROCK SPRINGS		Density: 2.602g/cc	Pe: 3.110
Magnesium Block S/N: ROCK SPRINGS		Density: 1.690g/cc	Pe: 2.610

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0171	1.0170	0.90 - 1.10
Near Dens Gain	1.0035	1.0088	0.90 - 1.10
Near Peak Gain	1.0094	1.0249	0.90 - 1.10
Near Lith Gain	0.9888	1.0064	0.90 - 1.10
Far Bar Gain	1.0067	1.0027	0.90 - 1.10
Far Dens Gain	0.9975	0.9970	0.90 - 1.10
Far Peak Gain	0.9911	0.9929	0.90 - 1.10
Far Lith Gain	0.9641	0.9754	0.90 - 1.10
Near Bar Offset	0.0608	0.0611	NONE
Near Dens Offset	0.1567	0.1108	NONE
Near Peak Offset	0.1014	-0.0292	NONE
Near Lith Offset	0.2383	0.1022	NONE
Far Bar Offset	0.0544	0.0809	NONE
Far Dens Offset	0.1222	0.1268	NONE
Far Peak Offset	0.1320	0.1283	NONE
Far Lith Offset	0.2869	0.2260	NONE
Near Bar Background	810.81	810.07	700 - 1450
Near Dens Background	269.86	267.17	230 - 480
Near Peak Background	116.14	115.83	100 - 210
Near Lith Background	142.57	143.22	125 - 260
Far Bar Background	513.97	513.27	450 - 900
Far Dens Background	201.02	200.96	175 - 345
Far Peak Background	82.03	81.86	70 - 140
Far Lith Background	85.16	85.26	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.689	1.690	0.001	+/- 0.015
Pe	2.620	2.558	-0.062	+/- 0.150
ALUMINUM				
Density (g/cc)	2.602	2.602	0.000	+/- 0.01500
Pe	3.113	3.063	-0.050	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0005	+/- 0.0110	-0.0003	+/- 0.0140
Magnesium Block	-0.0007	+/- 0.0110	-0.0000	+/- 0.0140
Aluminum Block	-0.0000	+/- 0.0110	0.0016	+/- 0.0140
Resolution	9.57	6.00 - 11.50	9.03	6.00 - 11.50
Internal Verifier(B+D+P+L)	1336	1200 - 2700	881	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 - 10948155		Reference Calibration Date:	26-Jan-12 15:35:06
Engineer:	B. PEDERSEN		Calibration Date:	11-Feb-12 15:34:50
Software Version:	WL INSITE R3.4.2 (Build 2)		Calibration Version:	1

Pad Temperature: 51.7 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1336.290	1329.670	-6.620	14.786
Far (B+D+P+L) cps	881.348	882.193	0.845	16.196
Near Resolution	9.57	9.57	0.000	0.50
Far Resolution	9.03	9.16	0.130	1.00

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


CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11016182						
Gamma Ray Calibrator	250.3	252.1	-----	-1.8	+/- 9.00	api
DSNT-11004663						
Snow-Block Porosity	0.0764	0.0778	-----	-0.0014	+/- 0.0150	decp
SDLT-10948155						
Pad Extension	3.75	3.66	-----	0.09	+/-0.10	in
Ring Diameter	8.25	8.25	-----	0.000	+/-0.15	in
ACRt Sonde-E171_S970						
Mud Cell	1.007	-----	-----	0.000	-----	ohm-m
SDLT Pad-10948155						
Near(B+D+P+L)	1336.290	1329.670	-----	6.620	+/-14.786	cps
Far(B+D+P+L)	881.348	882.193	-----	-0.845	+/-16.196	cps

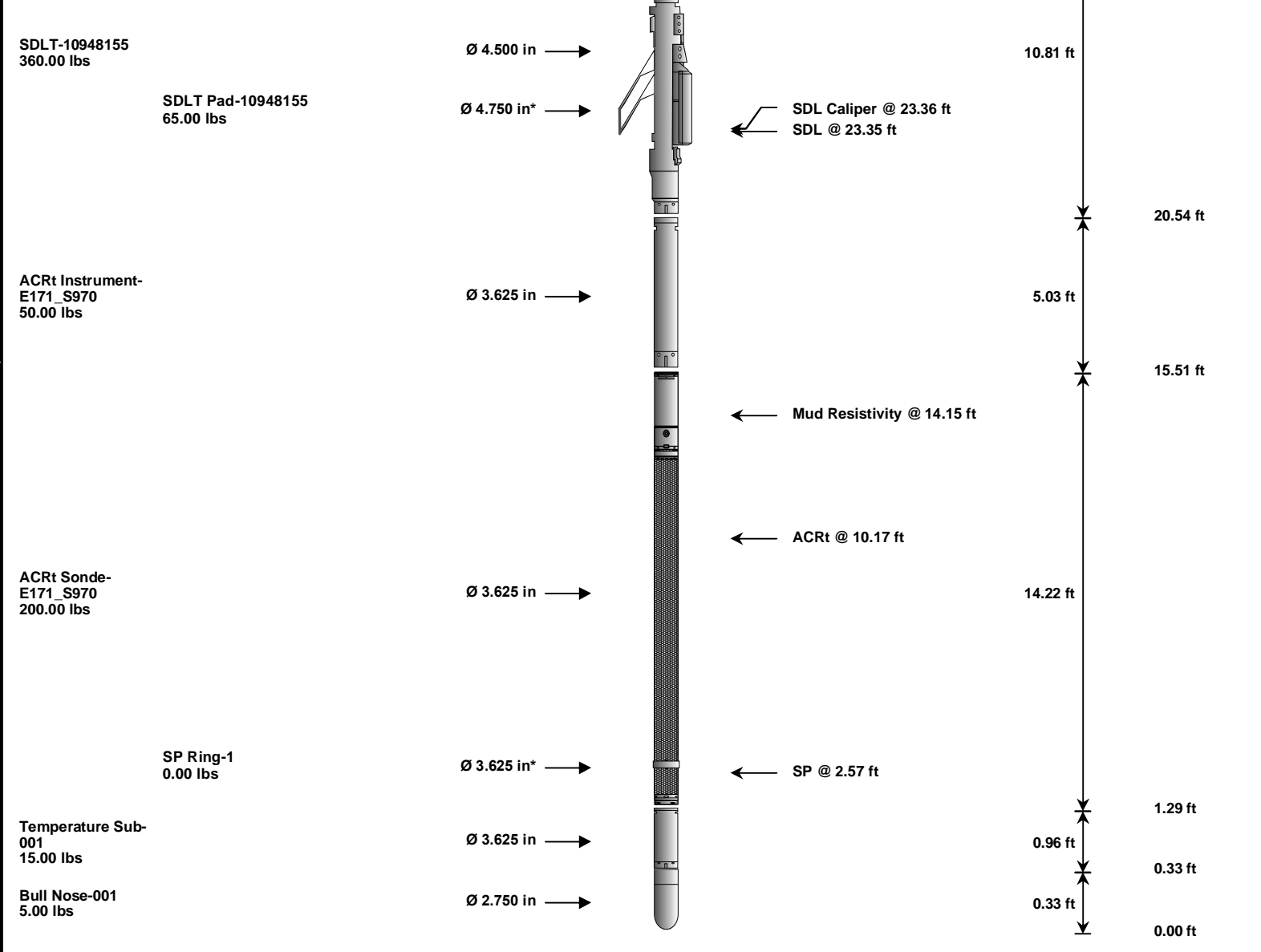
CUSTOMER EVENT LOG

Event Type	Time & Date	Depth (ft)	Event Description
	12-Feb-12 21:23:48	1364.75	Logging 001 12-Feb-12 21:23 Dn @1364.8f
	12-Feb-12 21:27:11	1691.82	Halting 001 12-Feb-12 21:23 Dn @1364.8f
	12-Feb-12 21:27:23	1698.50	Logging 002 12-Feb-12 21:27 Up @1698.5f
	12-Feb-12 21:31:16	1489.94	Halting 002 12-Feb-12 21:27 Up @1698.5f
	12-Feb-12 21:31:49	1486.25	Logging 003 12-Feb-12 21:31 Dn @1486.3f
	12-Feb-12 21:46:47	4647.83	Halting 003 12-Feb-12 21:31 Dn @1486.3f
	12-Feb-12 21:47:22	4654.25	Logging 004 12-Feb-12 21:47 Dn @4654.3f
	12-Feb-12 22:04:31	7893.74	Halting 004 12-Feb-12 21:47 Dn @4654.3f
	12-Feb-12 22:07:34	7988.25	Logging 005 12-Feb-12 22:07 Up @7988.3f
	12-Feb-12 22:15:46	7536.77	Halting 005 12-Feb-12 22:07 Up @7988.3f
	12-Feb-12 22:19:18	7988.00	Logging 006 12-Feb-12 22:19 Up @7988.0f

Data: BRUTON_30_06_B\0001 LOGIQ_TRIPLEHW11111 Date: 12-Feb-12 23:08:01

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-001 135.00 lbs		Ø 3.625 in →		← Load Cell @ 52.13 ft ← BH Temperature @ 51.56 ft	6.25 ft	55.81 ft
GTET-11016182 165.00 lbs		Ø 3.625 in →		← GammaRay @ 43.50 ft	8.52 ft	49.56 ft
DSNT-11004663 174.00 lbs		Ø 3.625 in →		← DSN Far @ 34.11 ft ← DSN Near @ 33.36 ft	9.69 ft	41.04 ft
						31.36 ft



Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head		001	135.00	6.25	49.56	300.00
GTET	Gamma Telemetry Tool		11016182	165.00	8.52	41.04	60.00
DSNT	Dual Spaced Neutron		11004663	174.00	9.69	31.36	60.00
SDLT	Spectral Density Tool		10948155	360.00	10.81	20.54	60.00
SDLP	Density Insite Pad		10948155	65.00	2.55	* 22.75	60.00
ACRt	Array Compensated True Resistivity Instrument Section		E171_S970	50.00	5.03	15.51	300.00
ACRt	Array Compensated True Resistivity		E171_S970	200.00	14.22	1.29	300.00
SP	SP Ring		1	0.00	0.25	* 2.57	300.00
TMAX	Temperature Sub - 3_625 OD		001	15.00	0.96	0.33	300.00
BLNS	Bull Nose		001	5.00	0.33	0.00	300.00
Total				1,169.00	55.81		
* Not included in Total Length and Length Accumulation.							
Data: BRUTON_30_06_B\0001 LOGIQ_TRIPLE\IDLE							
Date: 12-Feb-12 20:19:17							

COMPANY	LARAMIE ENERGY		
WELL	BRUTON 30-06-B		
FIELD	BRUSH CREEK		
COUNTY	GARFIELD	STATE	CO

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
ARRAY COMPENSATED
TRUE RESISTIVITY