

HALLIBURTON

DUAL SPACED NEUTRON
SPECTRAL DENSITY
ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY				LARAMIE ENERGY			
WELL				HAWXHURST 17-03C			
FIELD				BRUSH CREEK			
COUNTY				MESA			
STATE				COLORADO			
COMPANY				LARAMIE ENERGY			
WELL				HAWXHURST 17-03C			
FIELD				BRUSH CREEK			
COUNTY				MESA			
STATE				COLORADO			
Permanent Datum				GL			
Log measured from				KB			
Drilling measured from				KB			
Date				28-Nov-11			
Run No.				ONE			
Depth - Driller				7490.00 ft			
Depth - Logger				6423.0 ft			
Bottom - Logged Interval				6420.0 ft			
Top - Logged Interval				100.0 ft			
Casing - Driller				8.625 in @ 1585.0 ft			
Casing - Logger				1584.0 ft			
Bit Size				7.875 in			
Type Fluid in Hole				OBM			
Density				9.5 ppq			
Viscosity				55.00 s/qt			
PH				9.50 pH			
Fluid Loss				6.8 cpm			
Source of Sample				MUD TANK			
Rm @ Meas. Temperature				1.720 ohmm @ 51.40 degF			
Rmf @ Meas. Temperature				1.42 ohmm @ 61.20 degF			
Rmc @ Meas. Temperature				1.870 ohmm @ 72.00 degF			
Source Rmf				MEASURED			
Rm @ BHT				0.57 ohmm @ 170.0 degF			
Time Since Circulation				14.2 hr			
Time on Bottom				28-Nov-11 06:40			
Max. Rec. Temperature				170.0 degF @ 6423.0 ft			
Equipment				11362657			
Recorded By				V. CREWS			
Witnessed By				C. CLAUSSEN			

Fold here

Service Ticket No.: 9086389						API Serial No.: 05077101600000						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		1.5" S.O.		N/A			
Rmc @ Meas. Temp.				@				@						E336_S042									
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.		10733075		Serial No.		10839203					
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		15.0 Ci					

LOGGING DATA

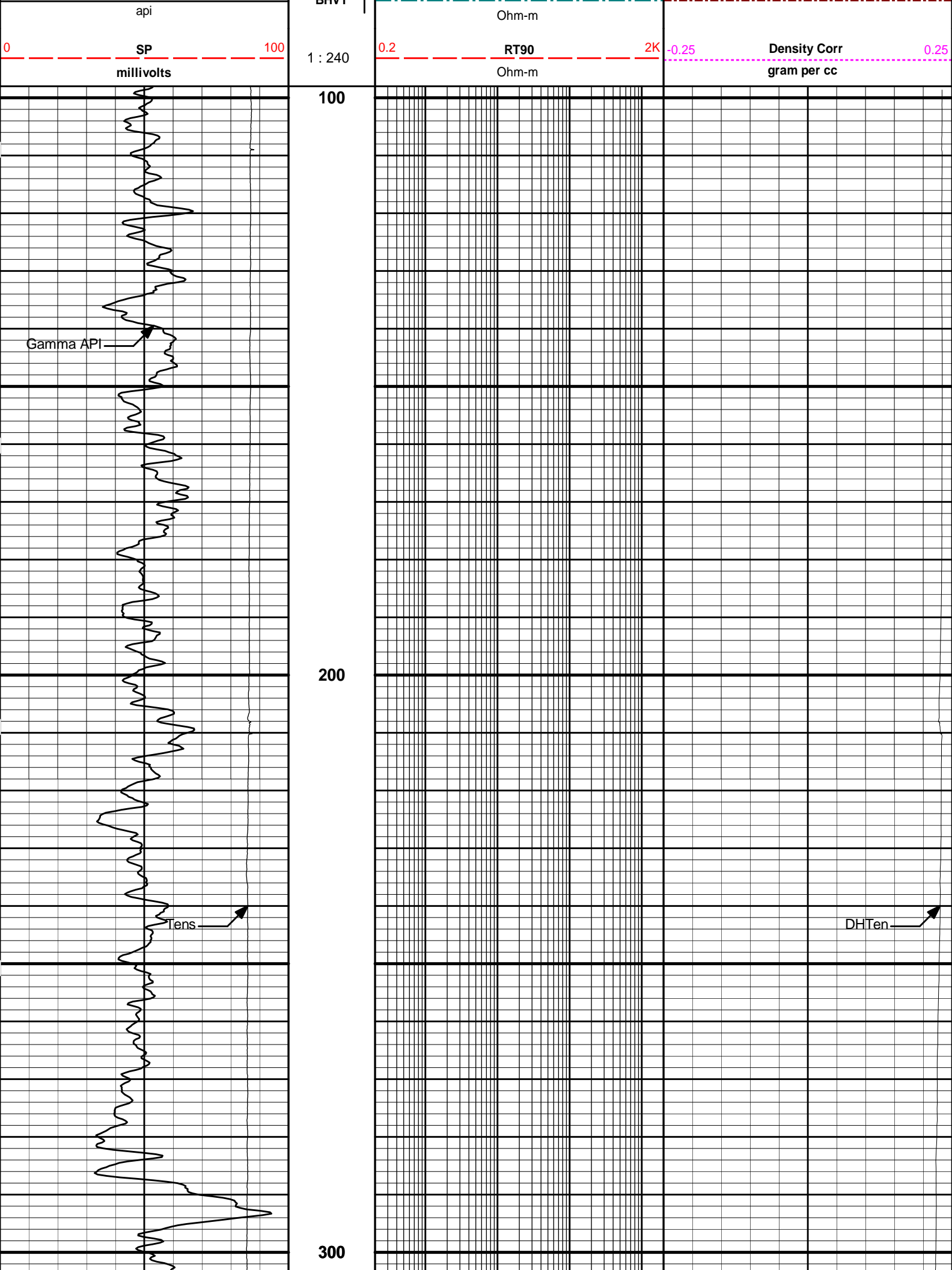
GENERAL			GAMMA			ACOUSTIC			DENSITY			NEUTRON		
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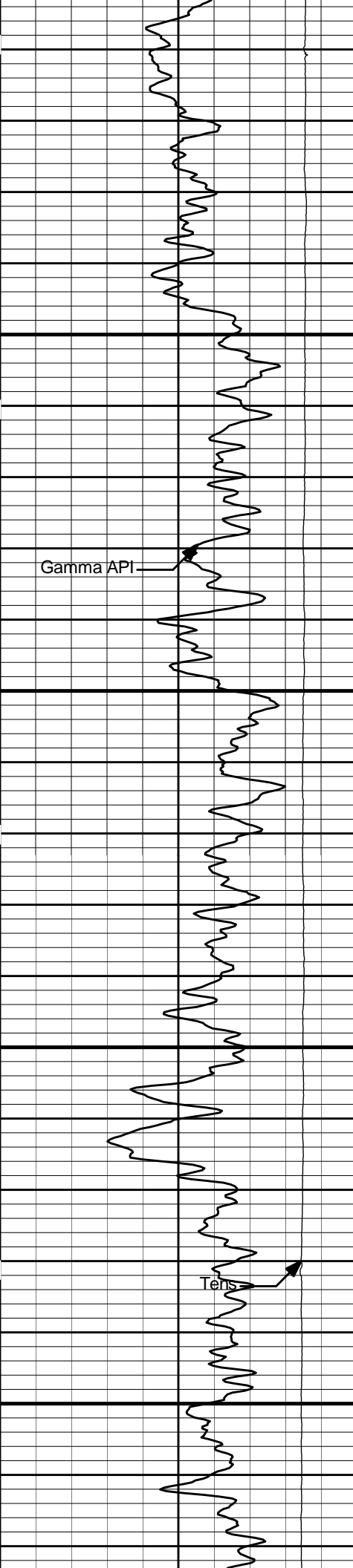
GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON							
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix		
No.	From	To	ft/min	L	R	L	R		L	R		L	R			
ONE	6423'	1584'	REC	0	150				30%	-10%	2.68 g/cc	30%	-10%	SAND		
ONE	1584'	100'	REC	0	150											
DIRECTIONAL INFORMATION																
Maximum 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																
TD NOT REACHED, LOGGED OUT FROM 6423'																
LATITUDE: 39.280610																
LONGITUDE: 107.913520																
TODAY'S CREW: G. HOOD & M. GRAHAM																
RIG: PERCISION 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

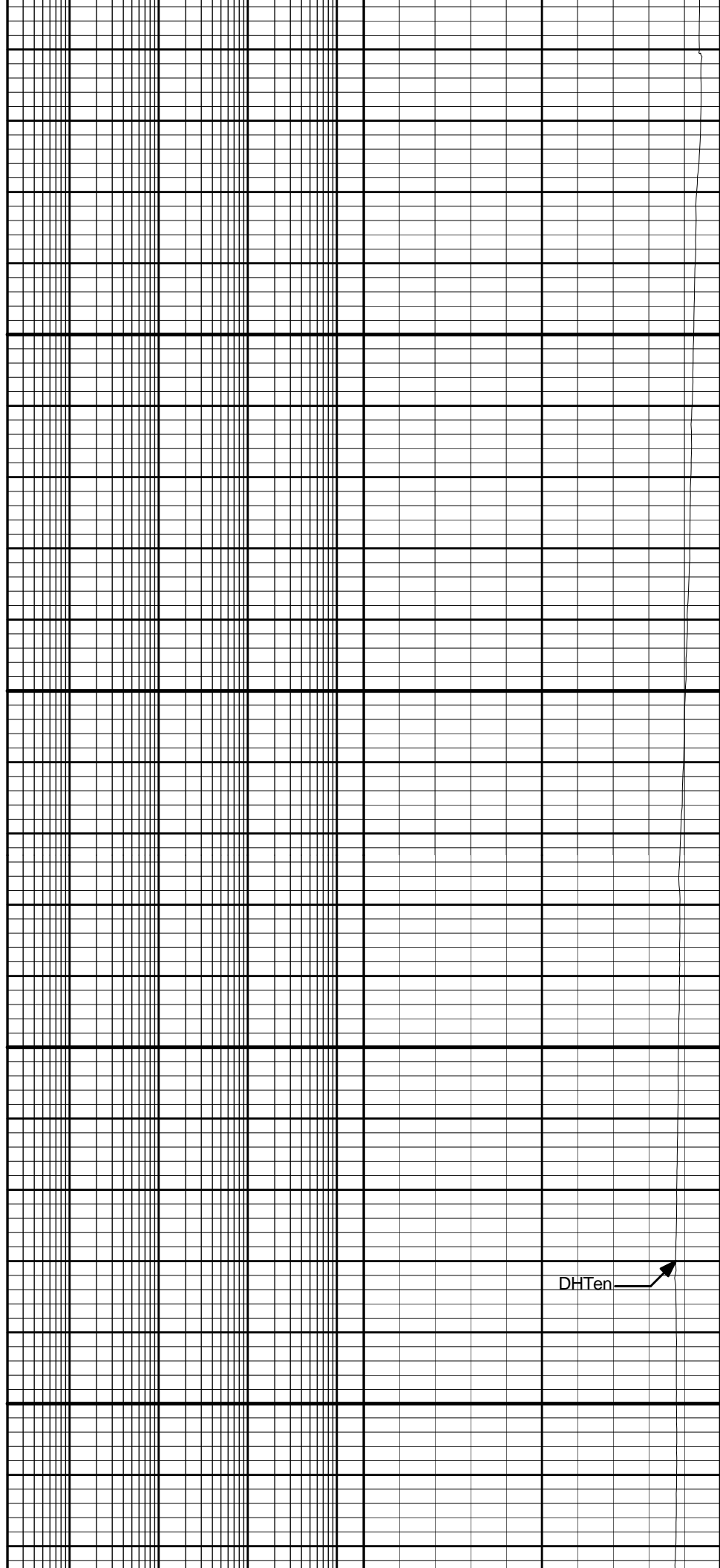
Depth ((ft))	Tool Name	Description	Value	Units
TOP_____				
	SHARED	Bit Size	7.875	in
	SHARED	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	Mud Base	Water	
	SHARED	Borehole Fluid Weight	9.500	ppg
	SHARED	Weighting Agent	Barite	
	SHARED	Borehole salinity	0.00	ppm
	SHARED	Formation Salinity NaCl	0.00	ppm
	SHARED	Percent K in Mud by Weight?	0.00	%
	SHARED	Mud Resistivity	1.720	ohmm
	SHARED	Temperature of Mud	51.4	degF
	SHARED	Logging Interval is Cased?	No	
	SHARED	AHV Casing OD	4.500	in
	SHARED	Surface Temperature	50.0	degF
	SHARED	Total Well Depth	6423.00	ft
	SHARED	Bottom Hole Temperature	170.0	degF
	SHARED	Navigation and Survey Master Tool	NONE	
	SHARED	High Res Z Accelerometer Master Tool	GTET	
	SHARED	Temperature Master Tool	NONE	
	SHARED	Borehole Size Master Tool	NONE	
	Rwa / CrossPlot	Process Crossplot?	Yes	
	Rwa / CrossPlot	Select Source of F	Automatic	
	Rwa / CrossPlot	Archie A factor	0.6200	
	Rwa / CrossPlot	Archie M factor	2.1500	
	Rwa / CrossPlot	Drift Reference	0.10	ohmm

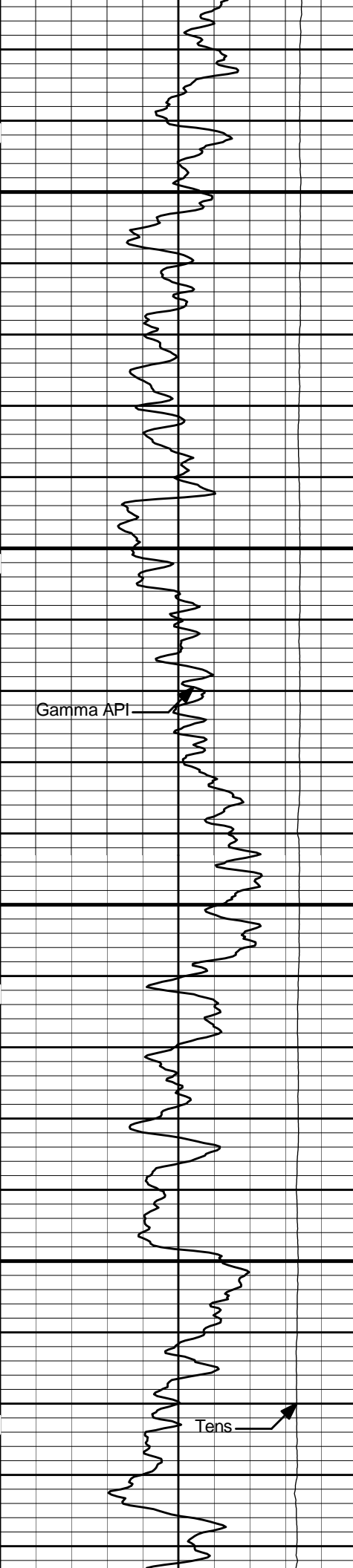




400

500



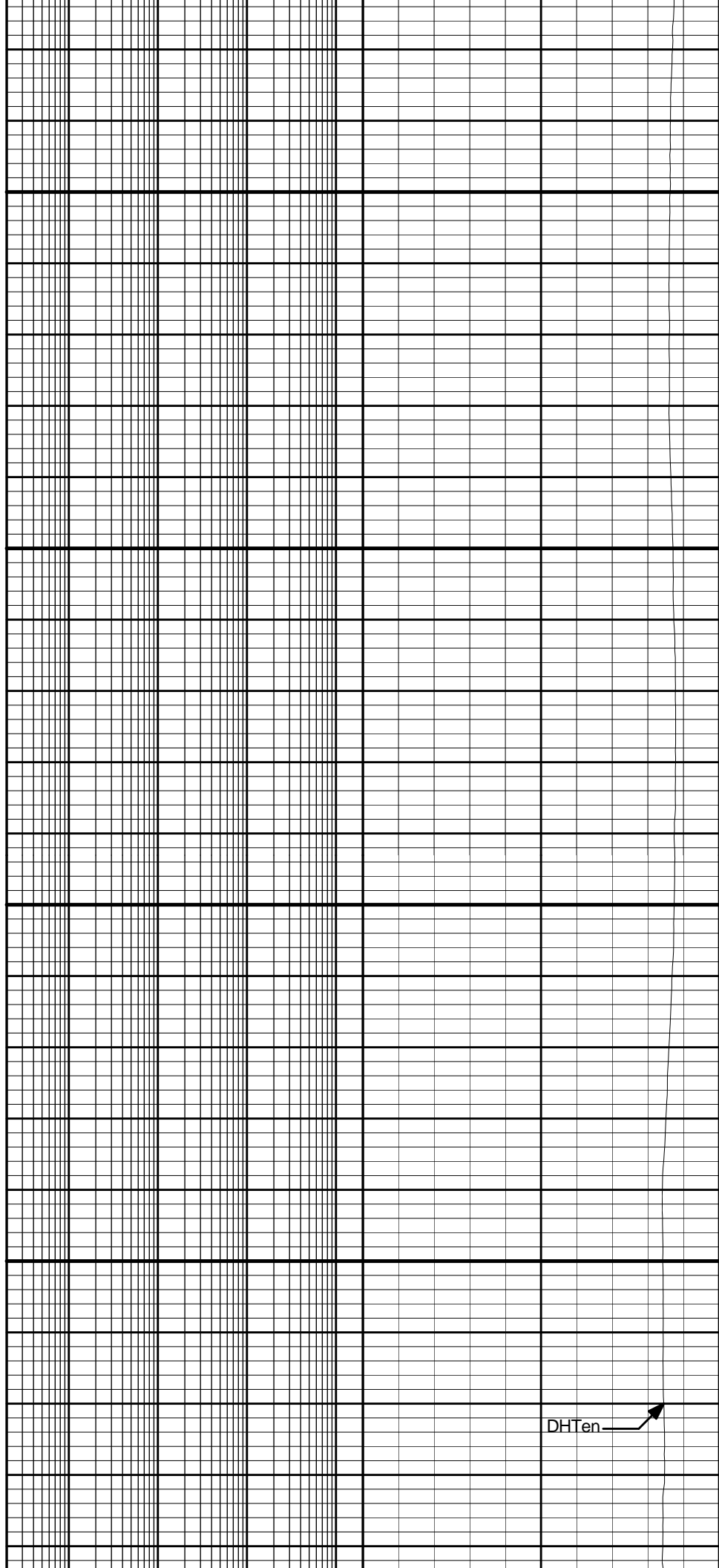


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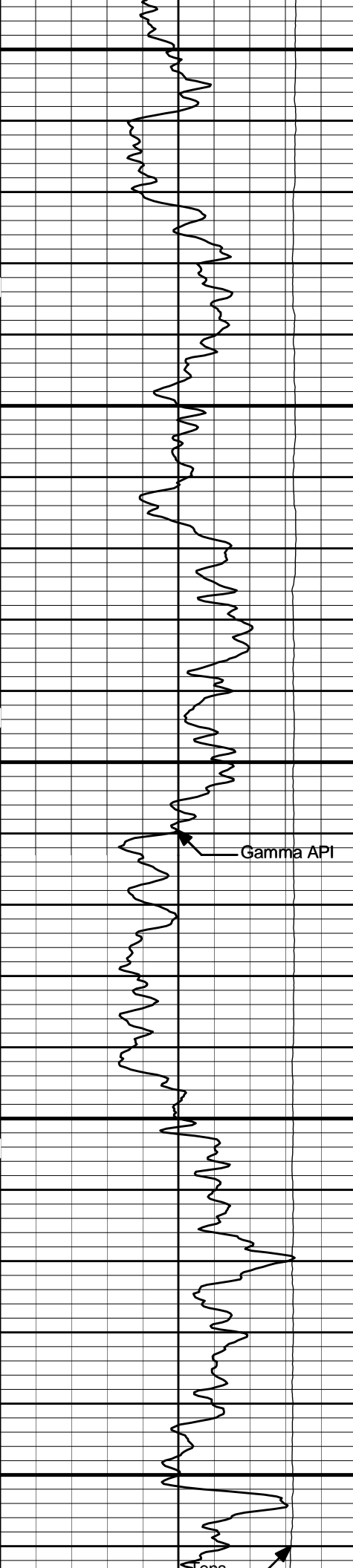
Gamma API

700

Tens



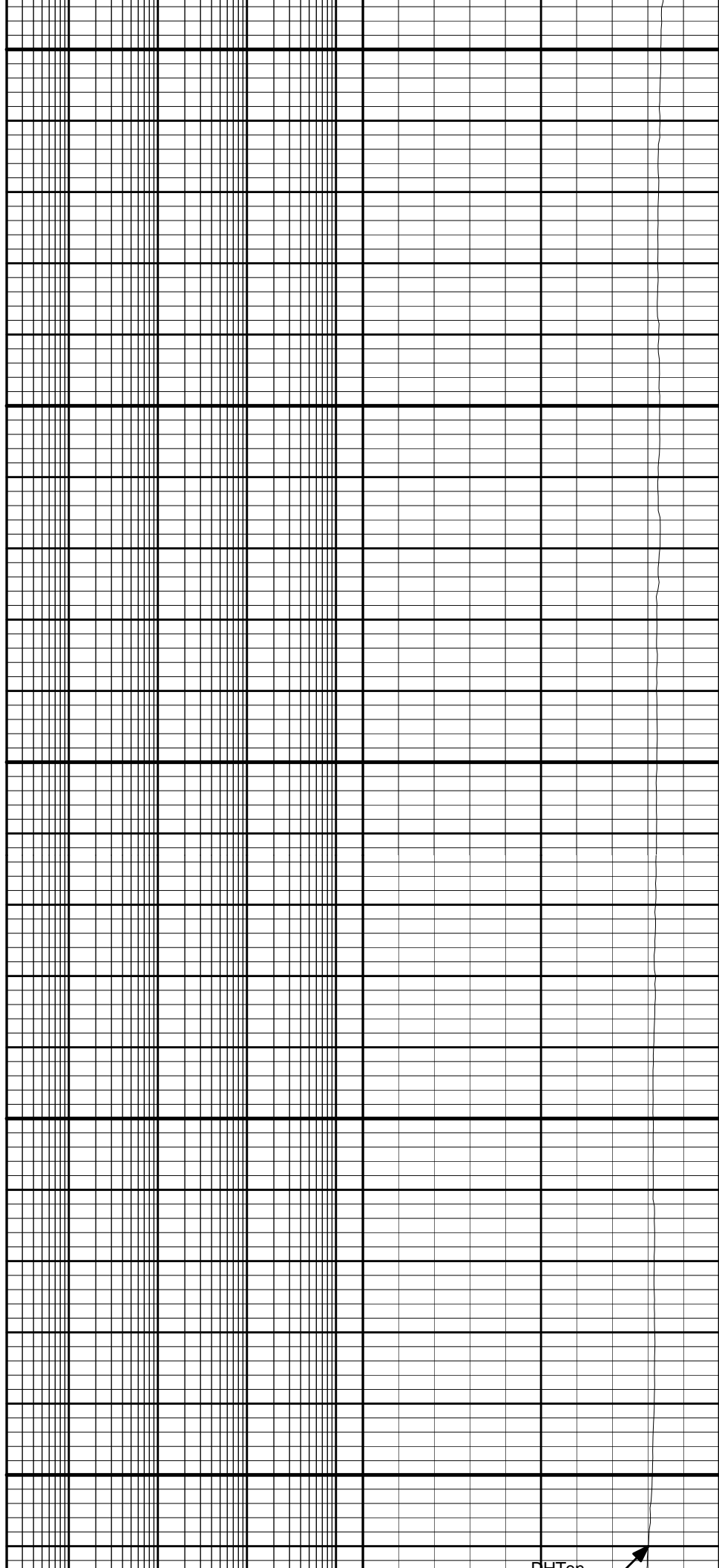
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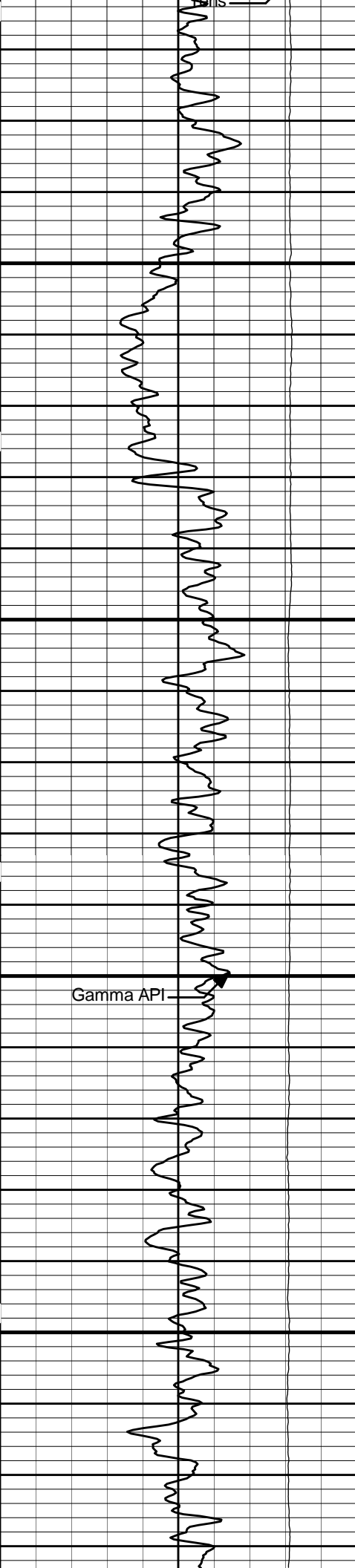
800

900

Gamma API

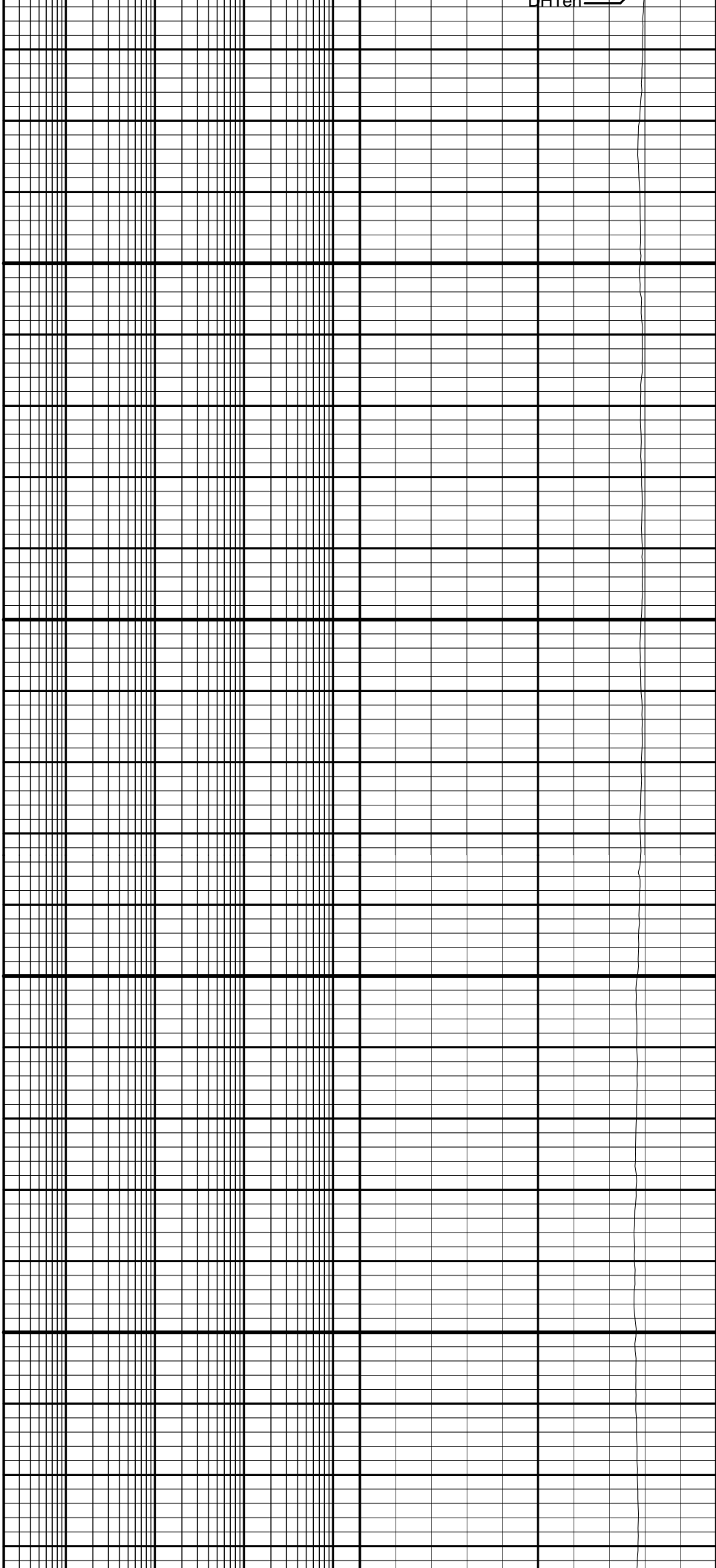


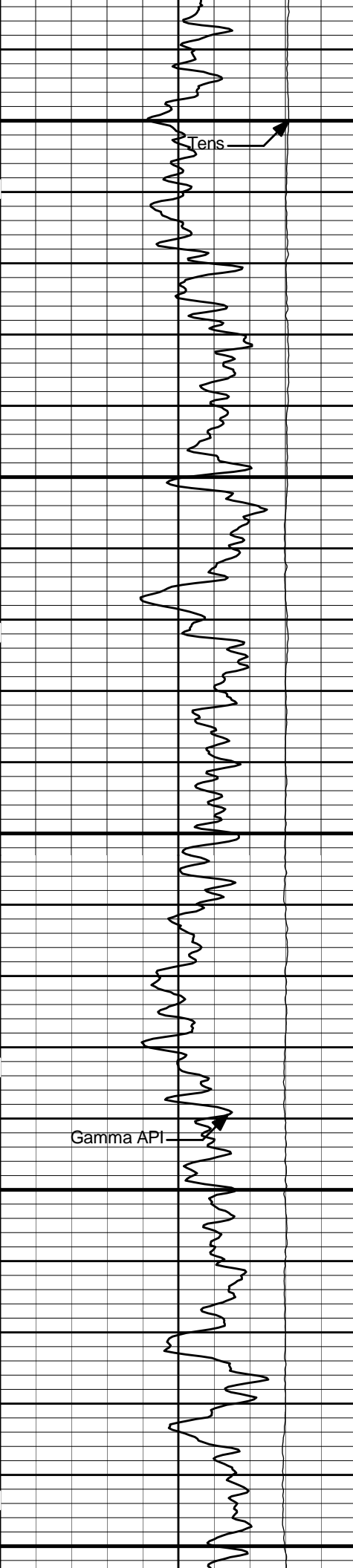
DLTos



1000

1100

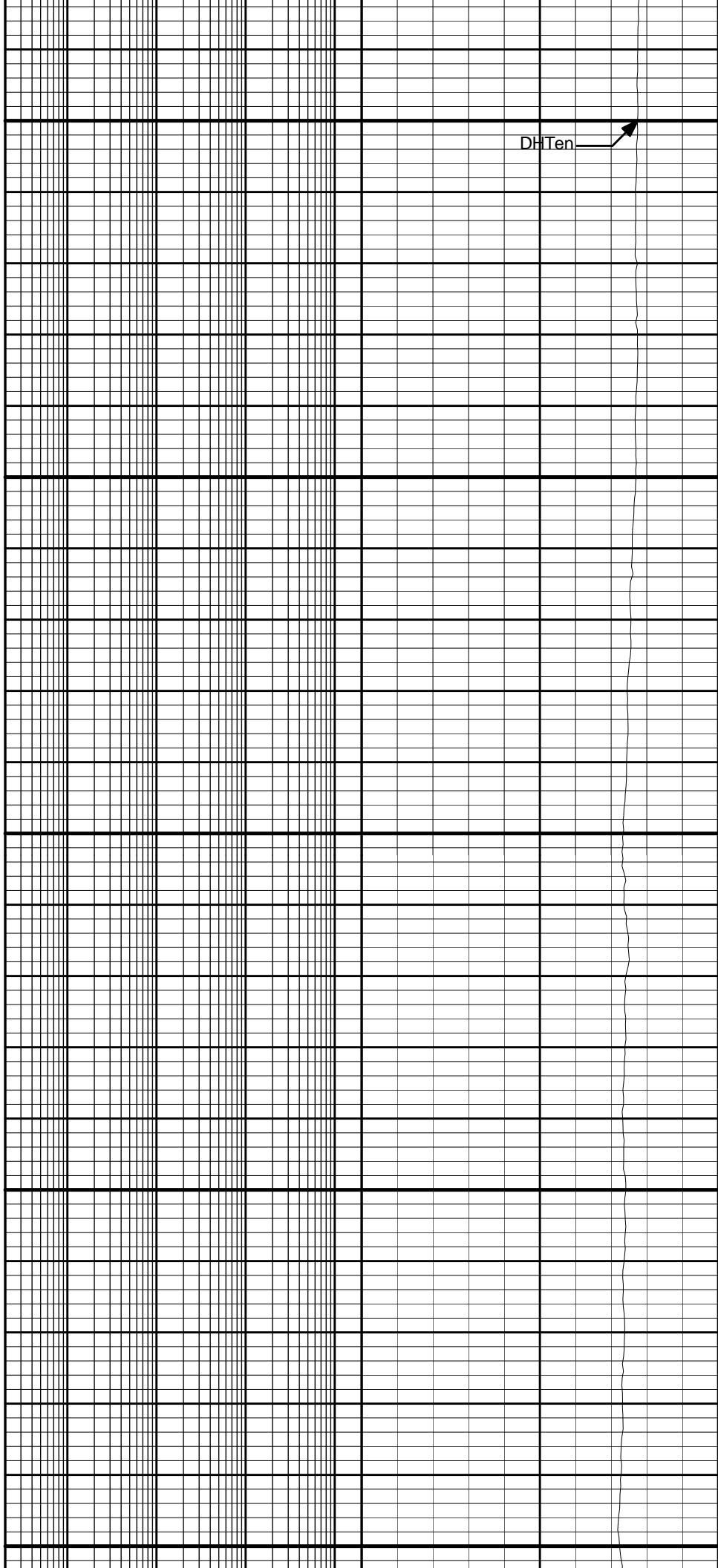




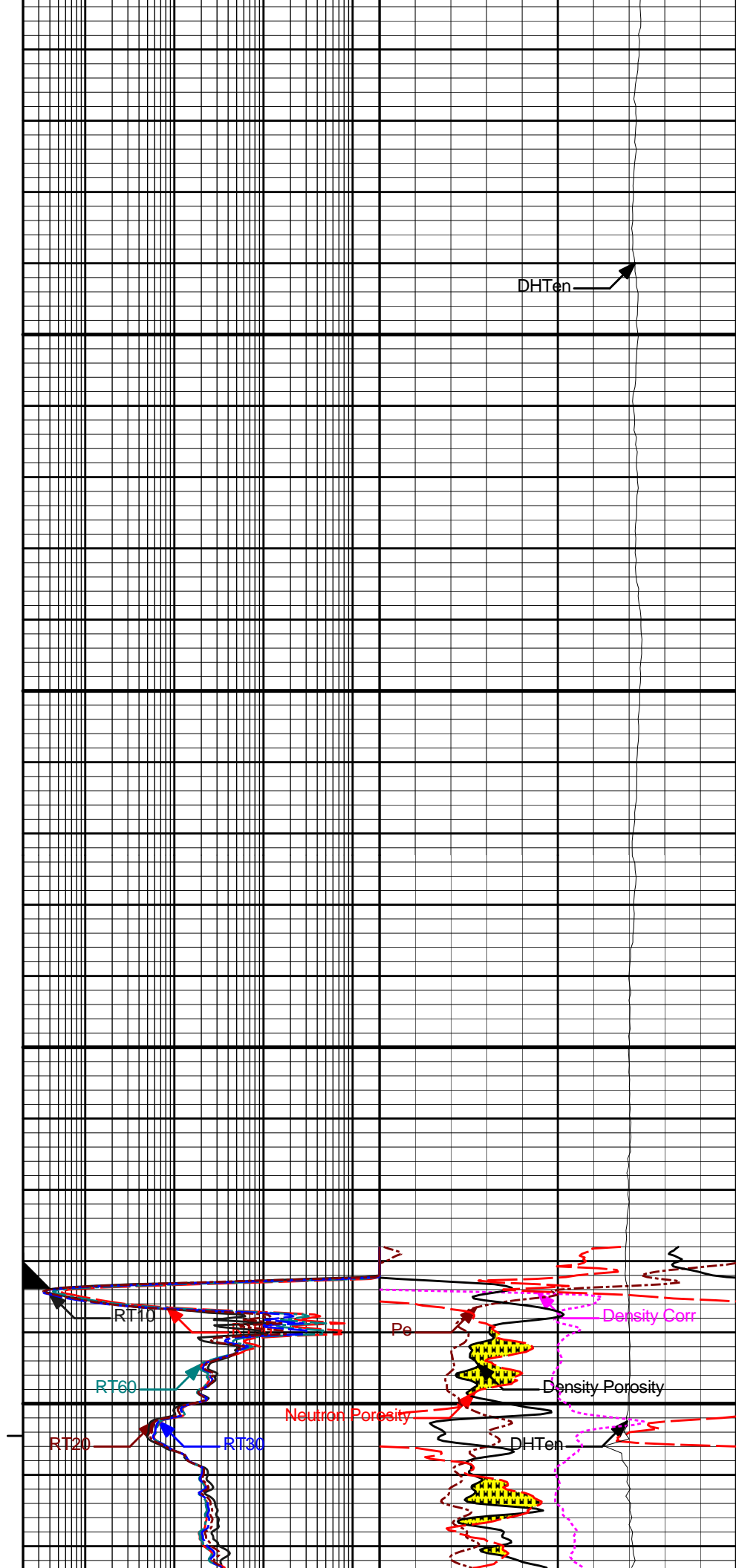
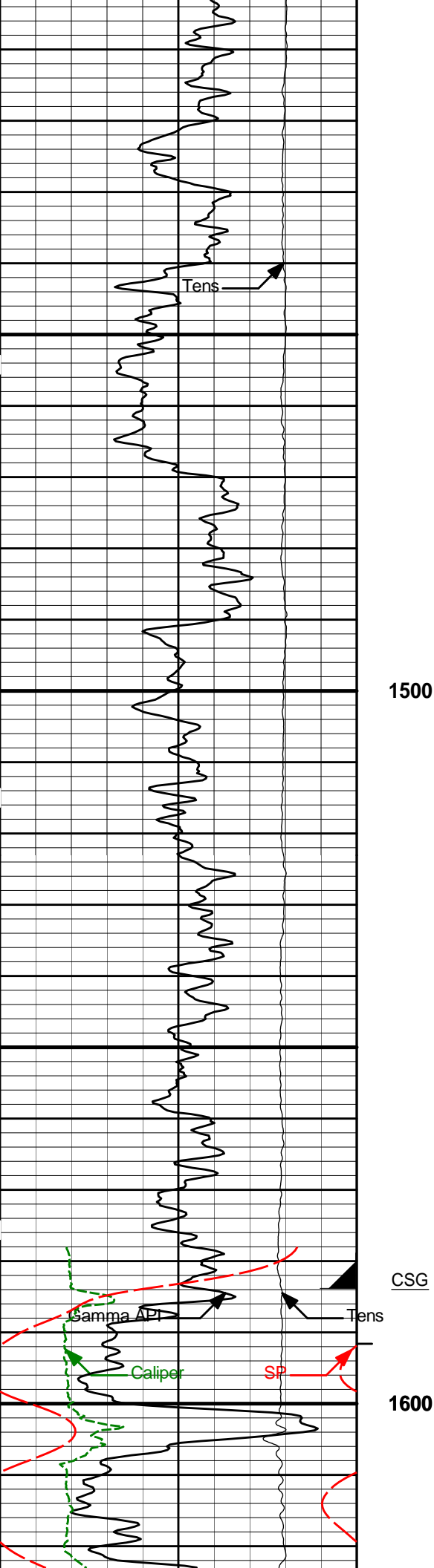
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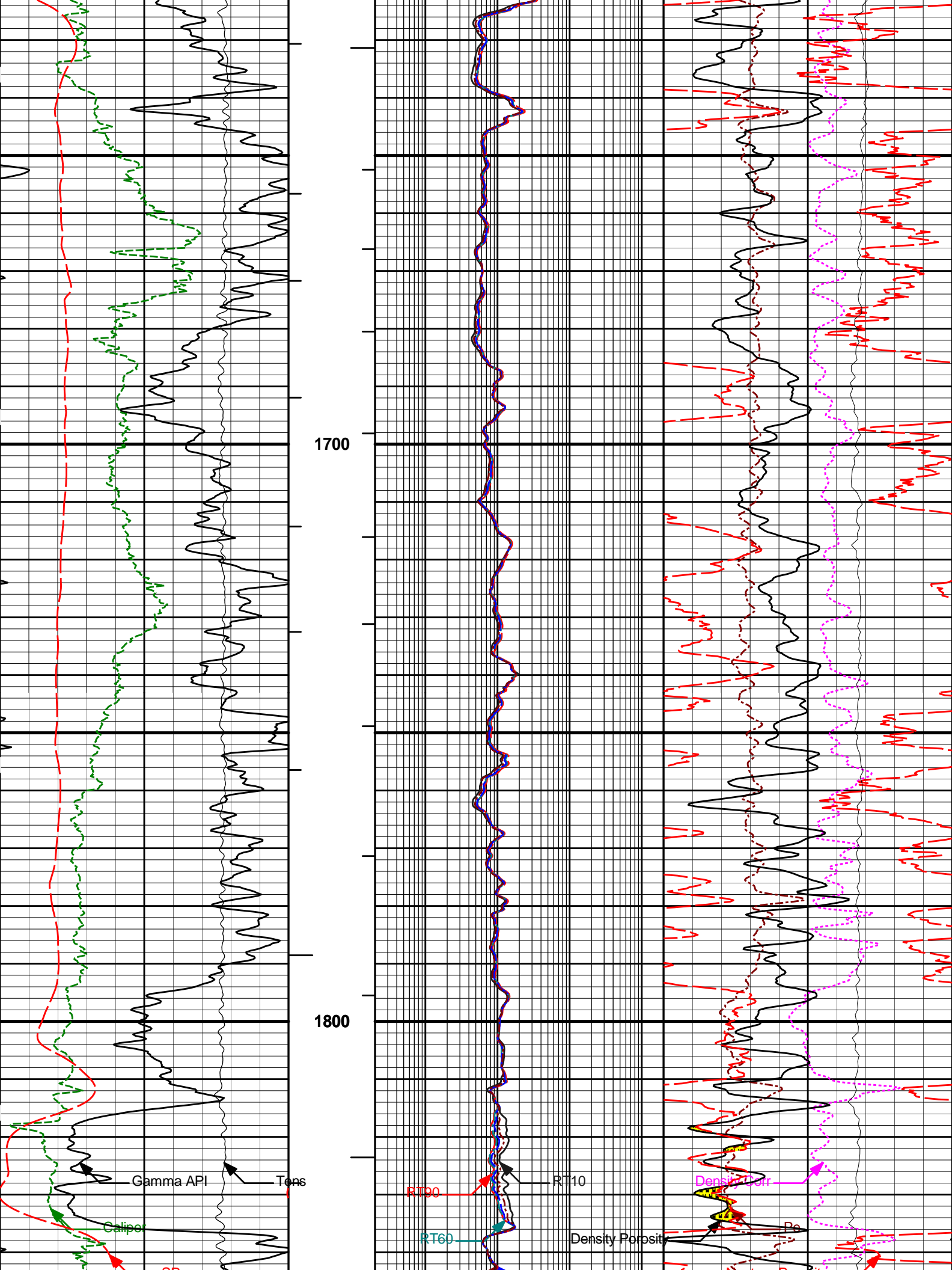
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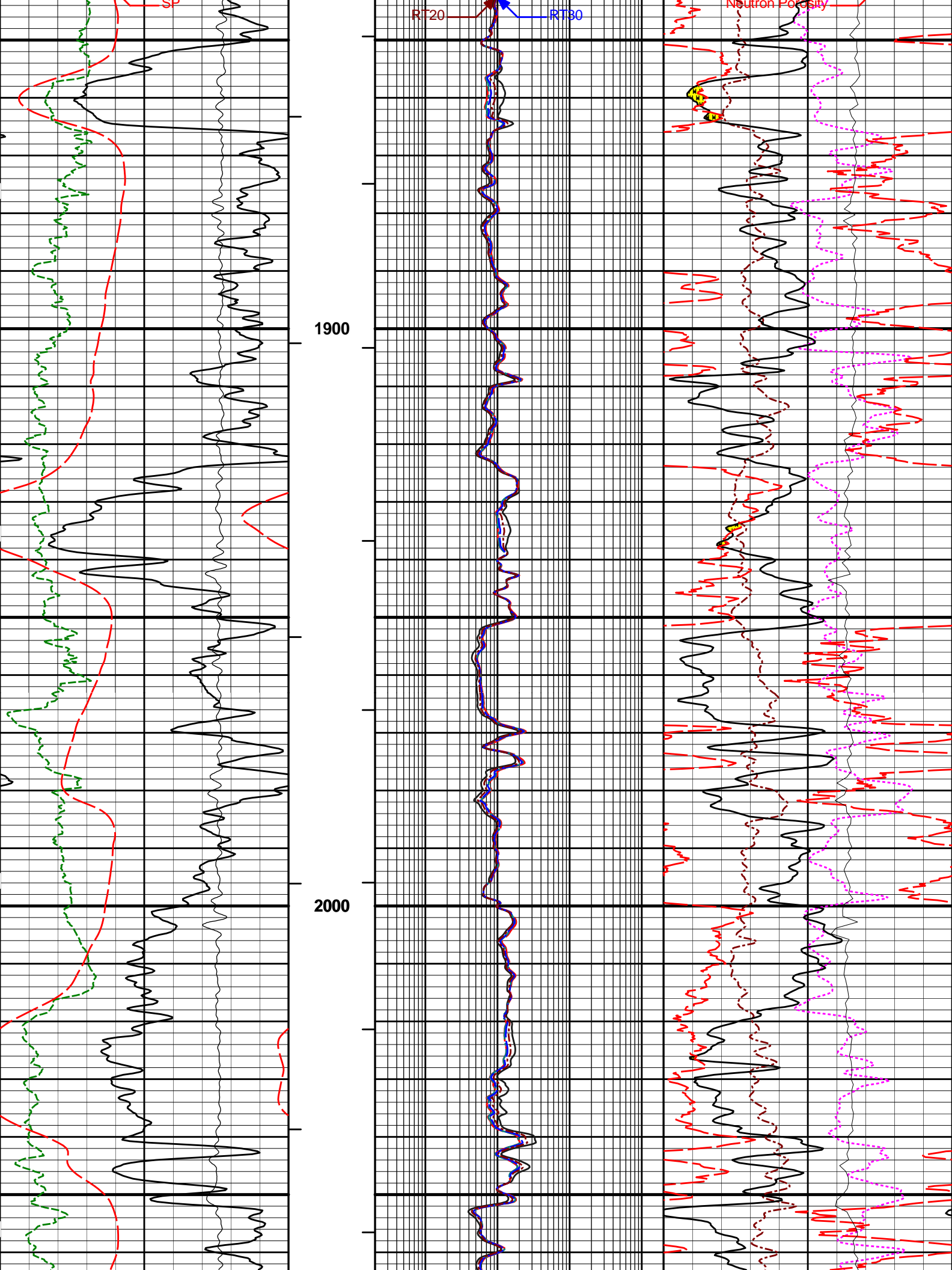
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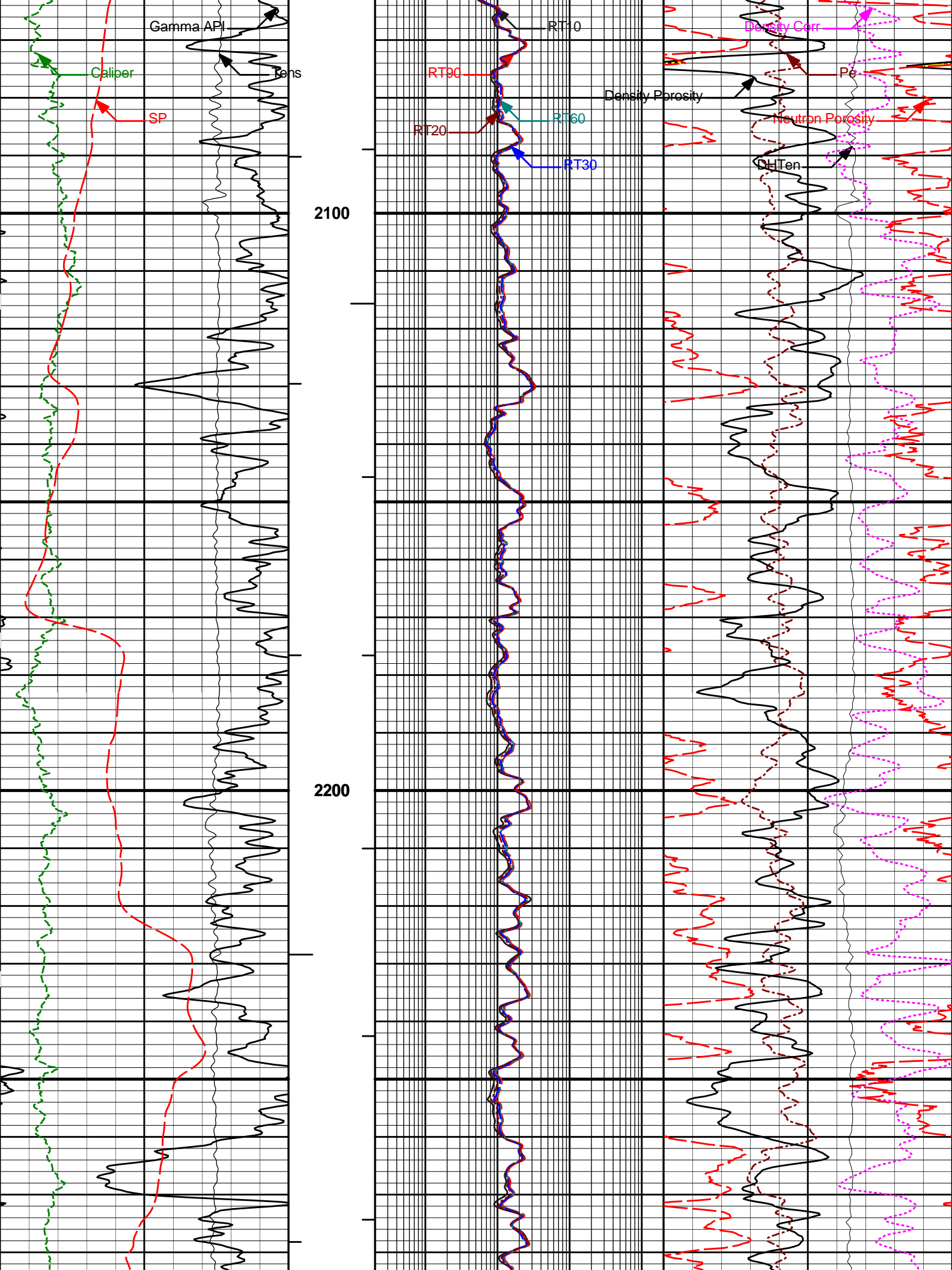


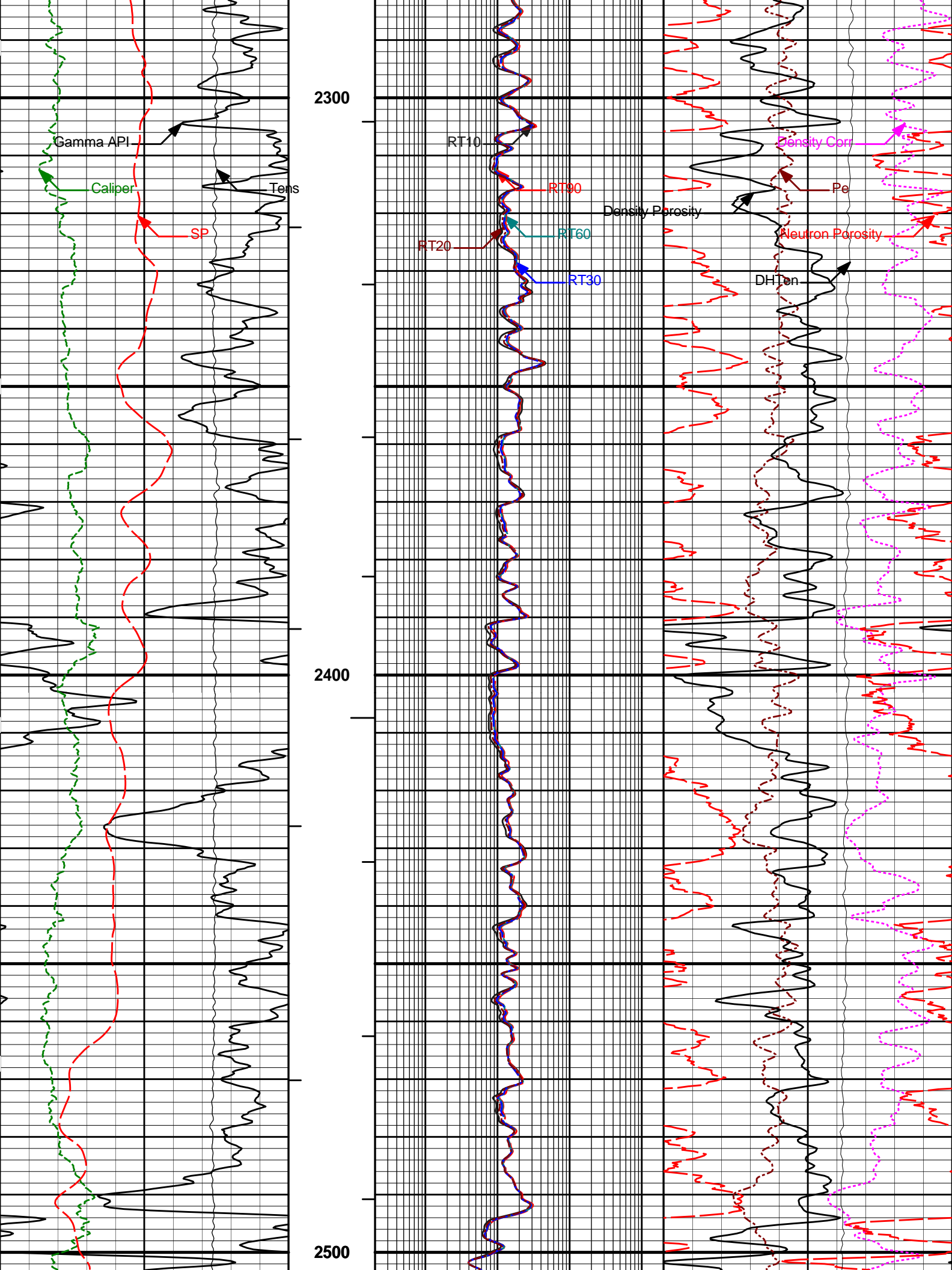
DH Ten

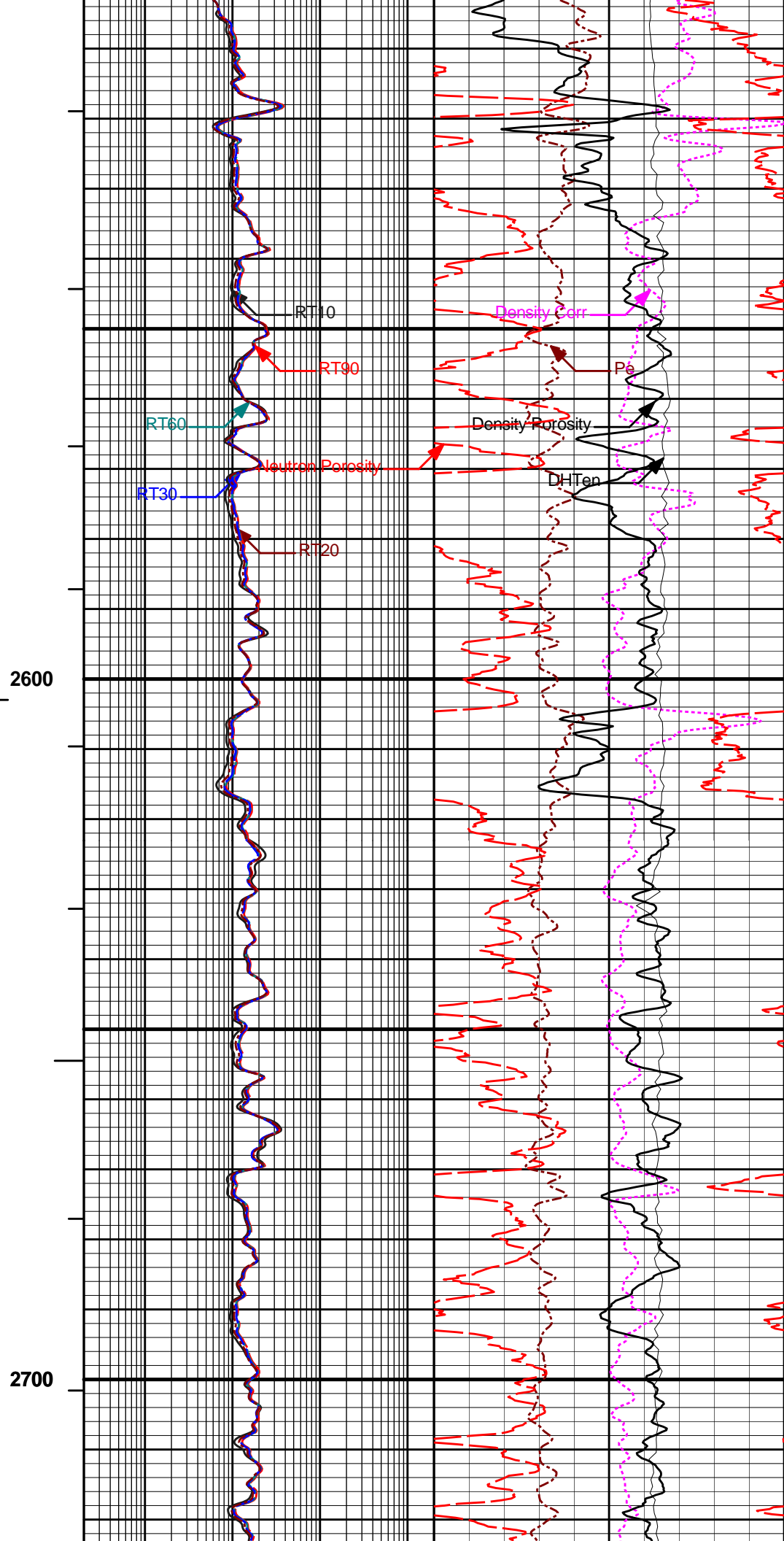
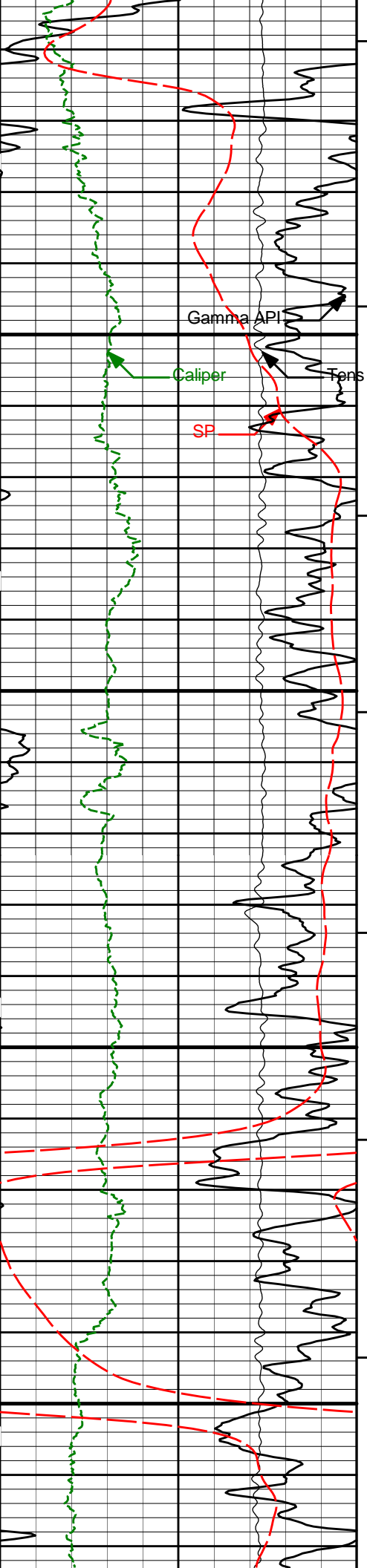


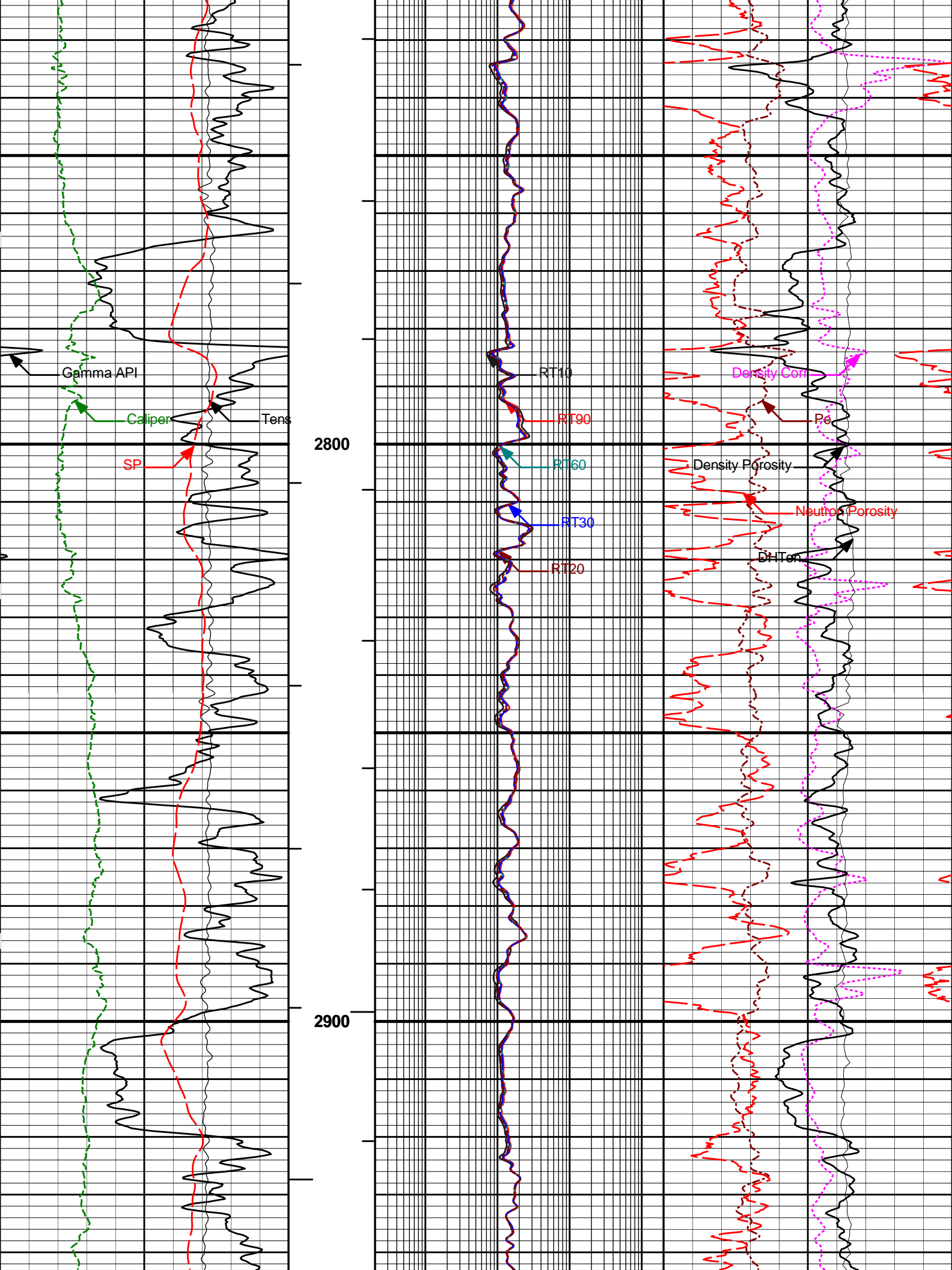


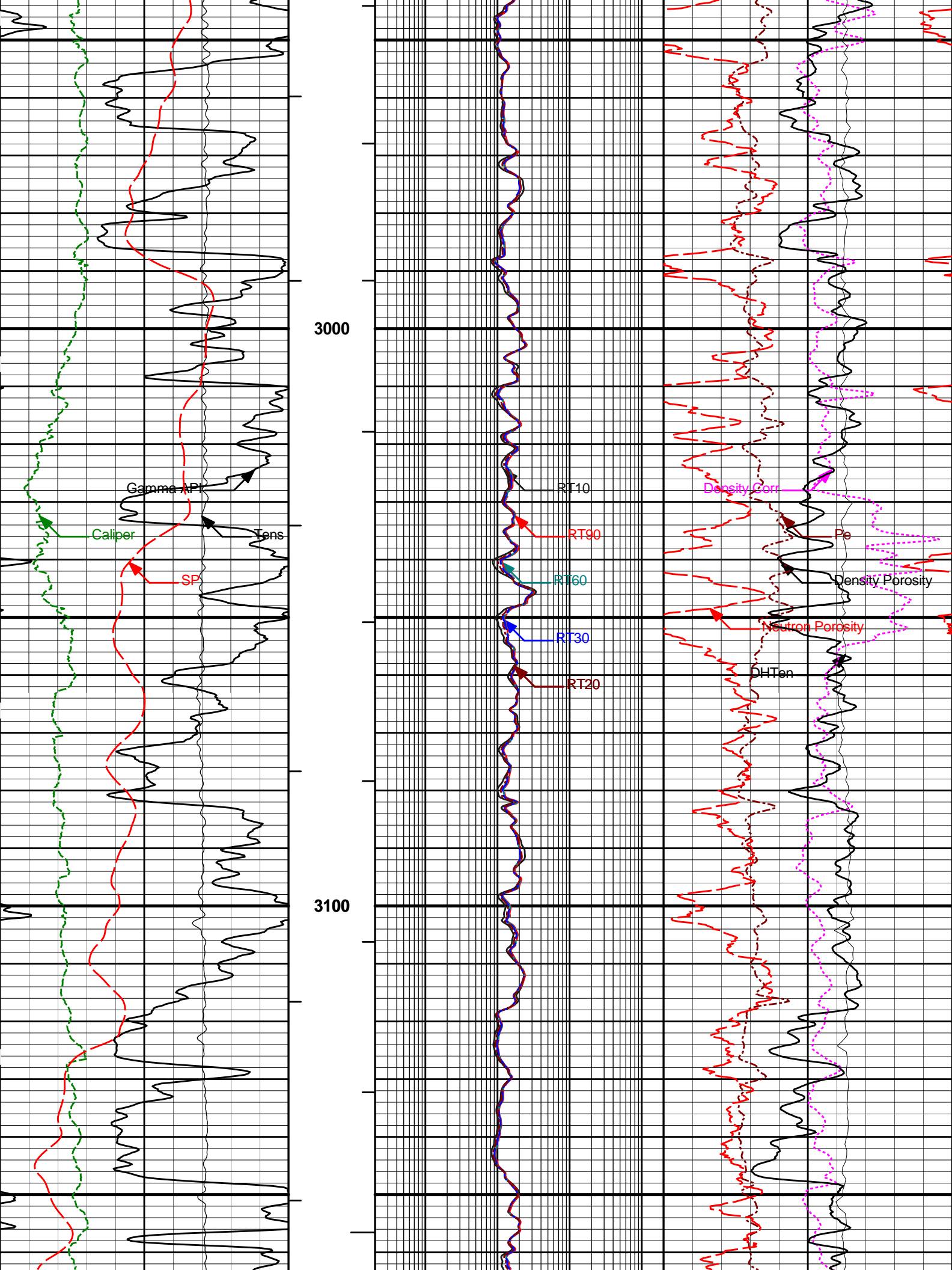


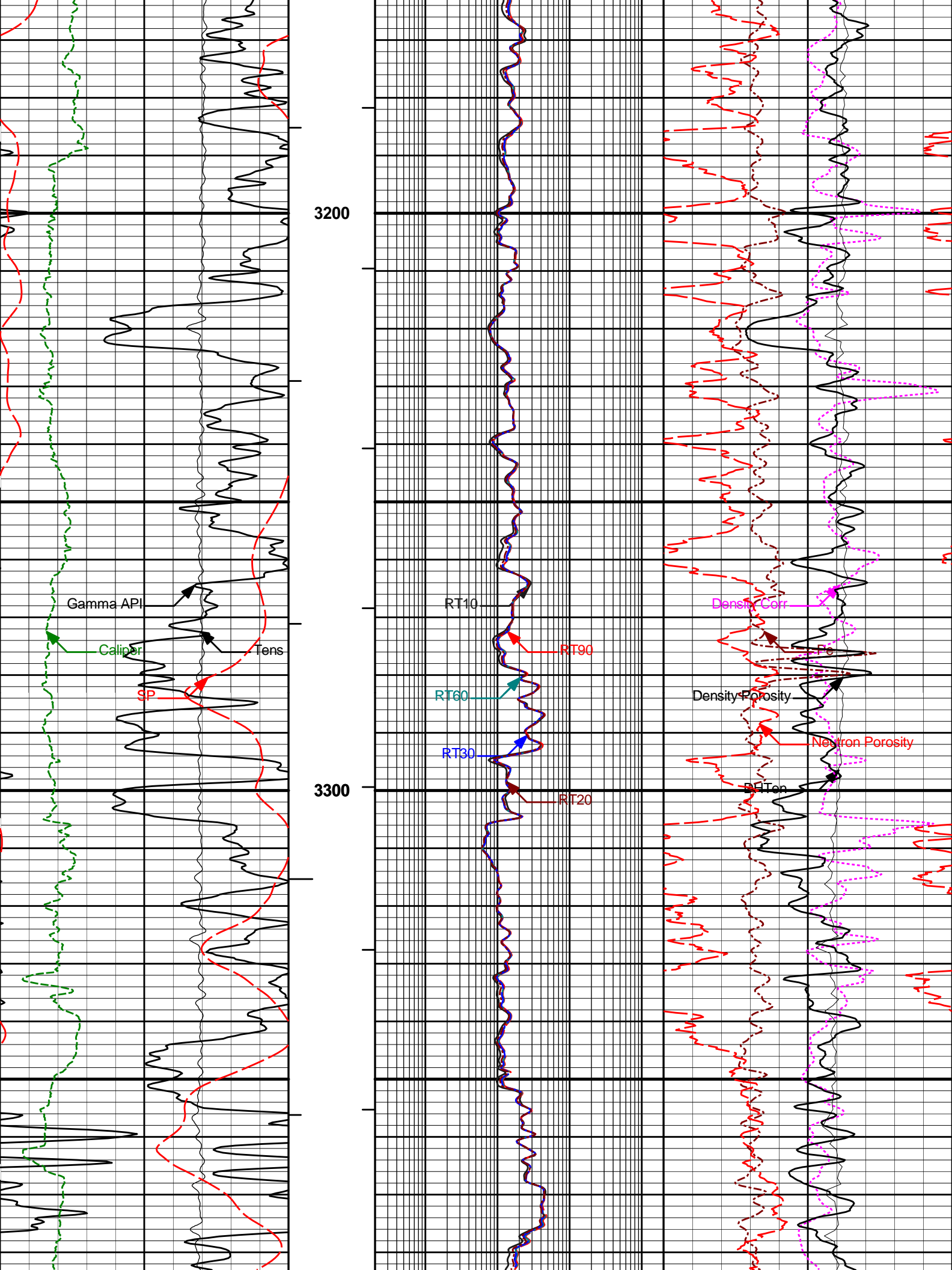


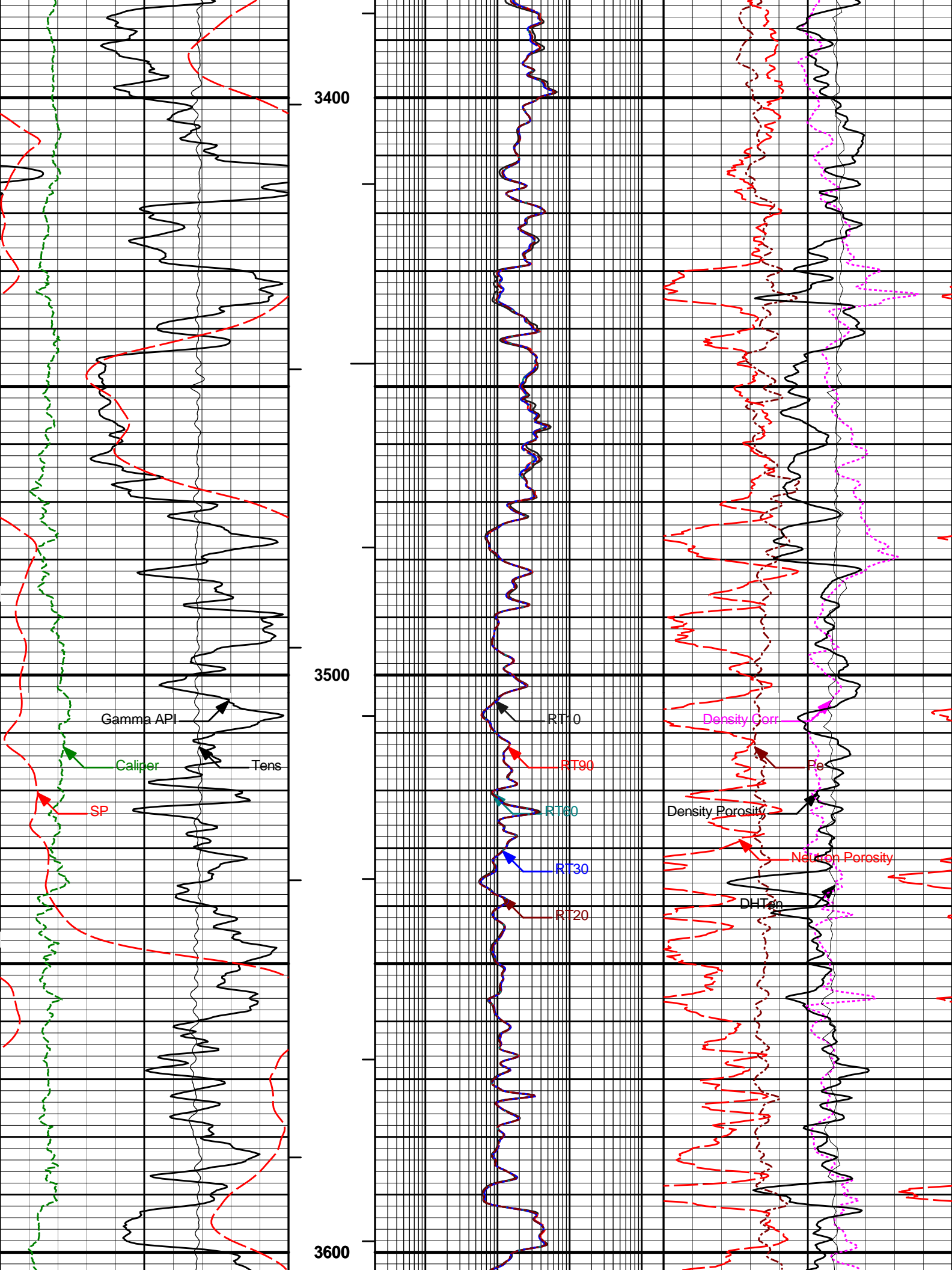


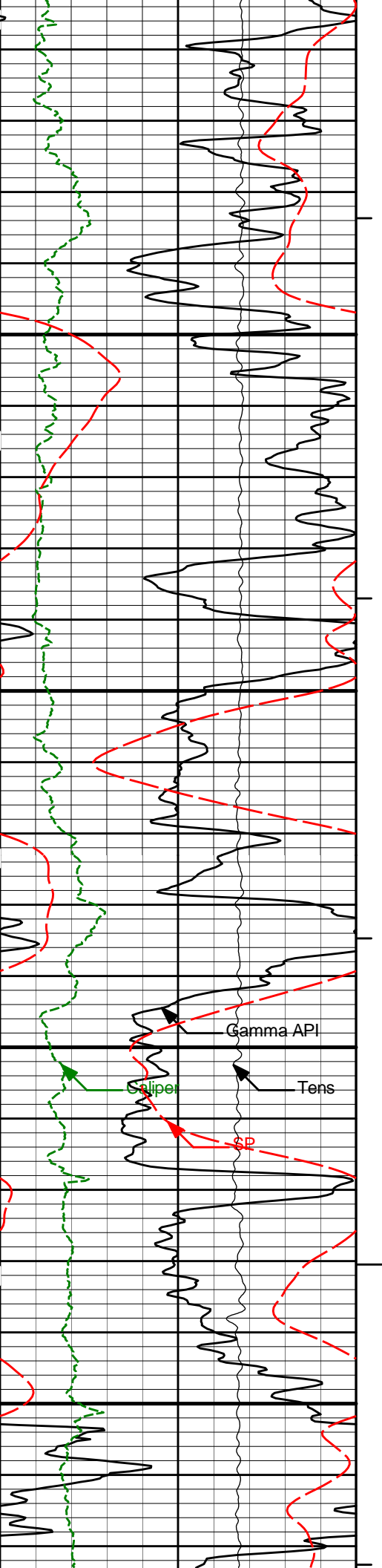






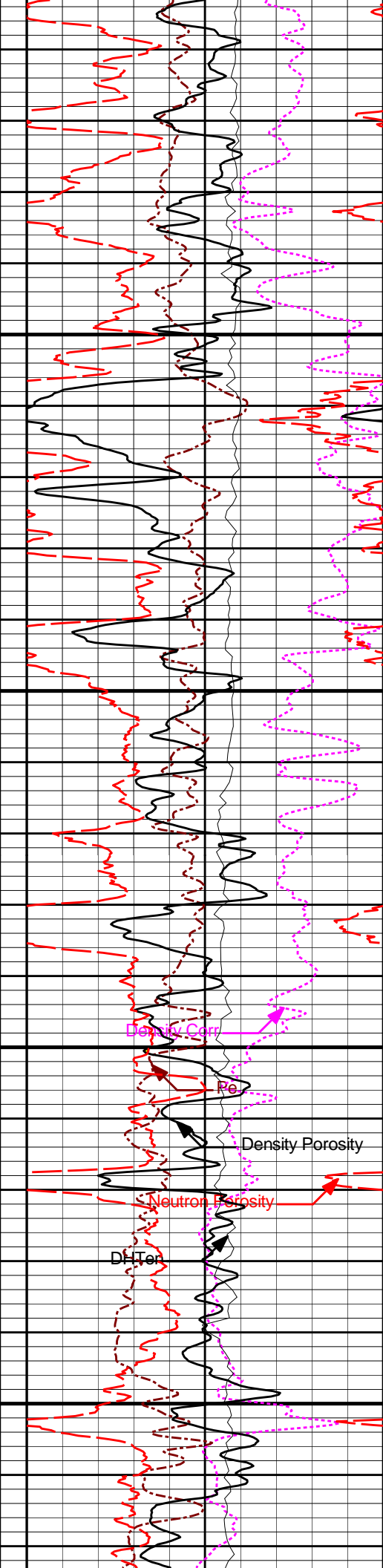
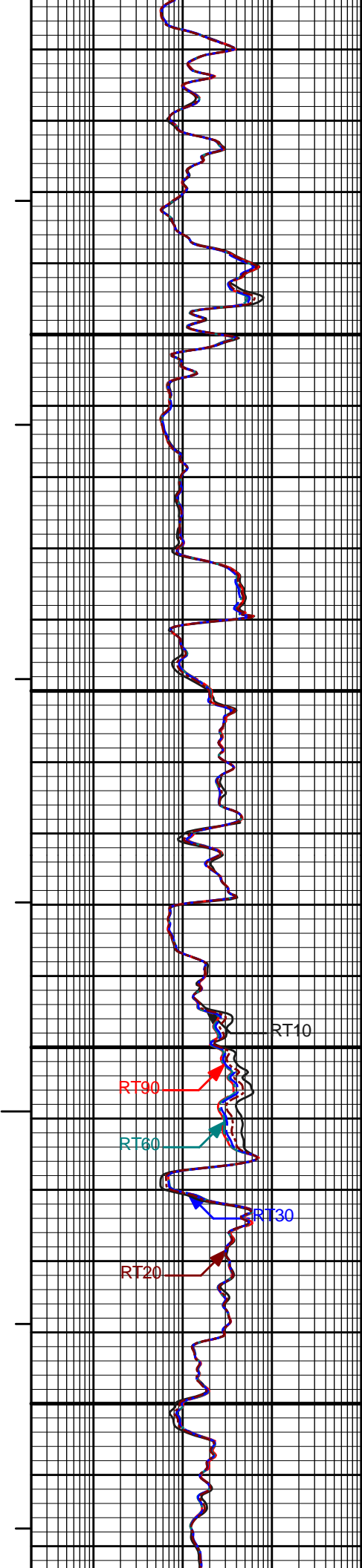


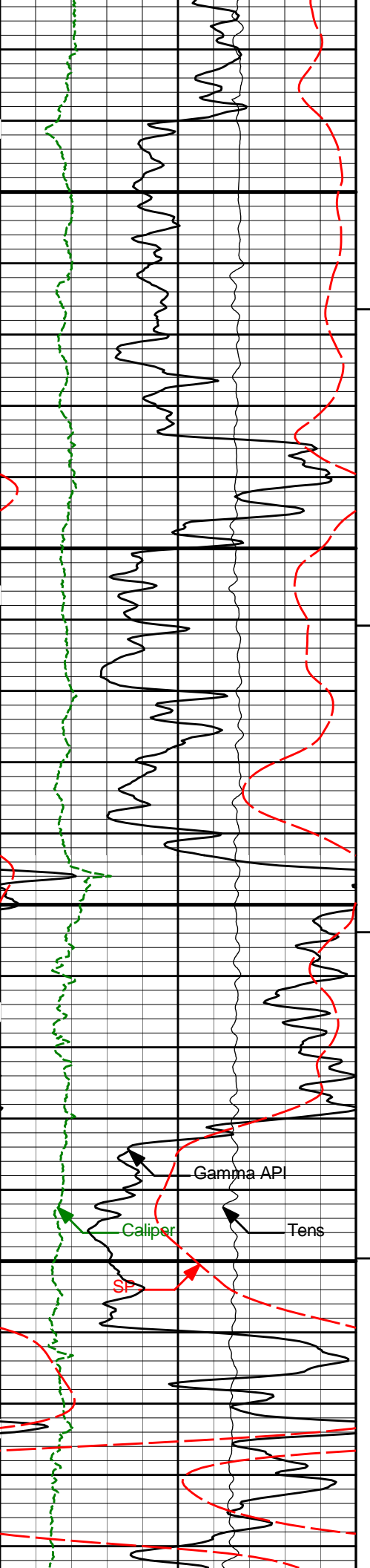




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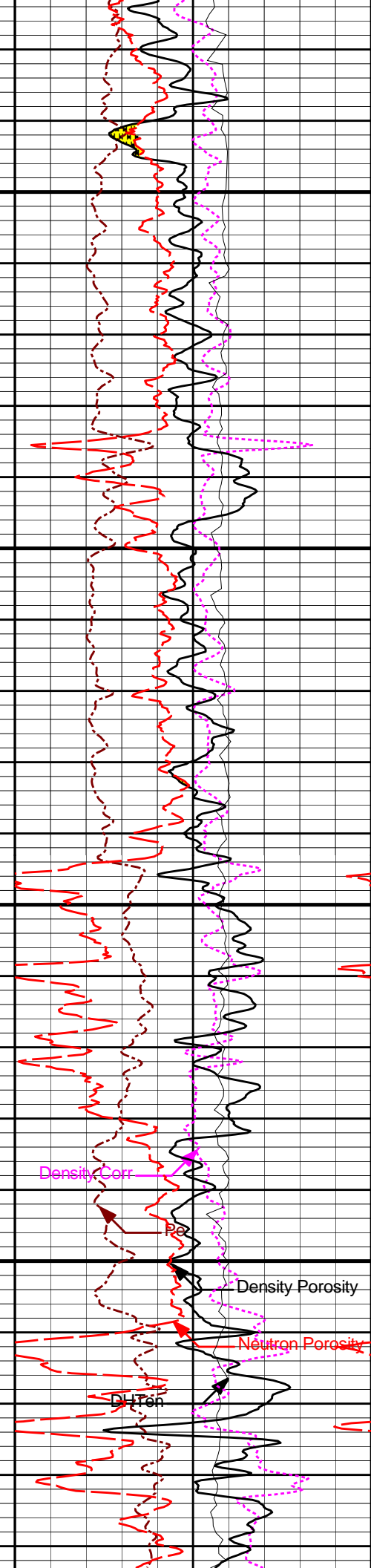
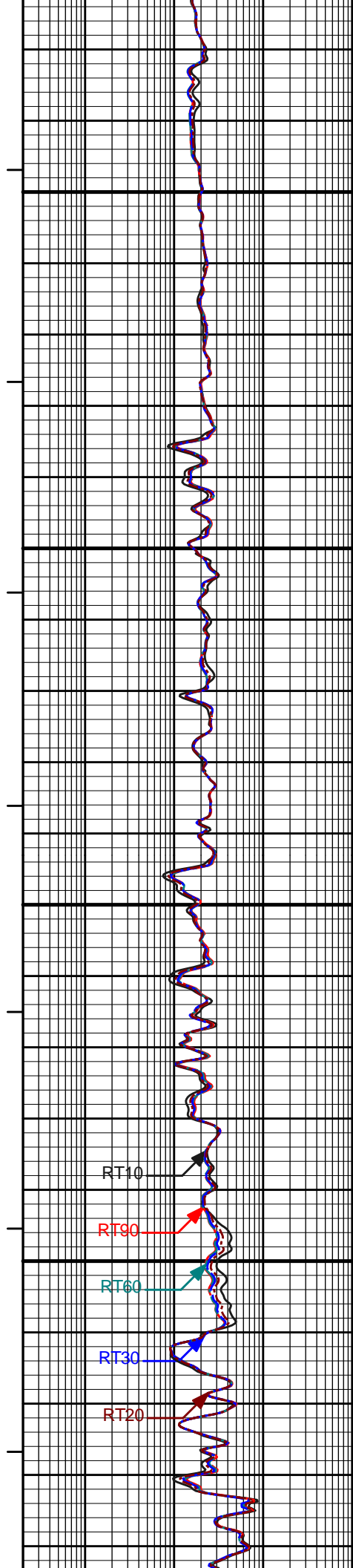
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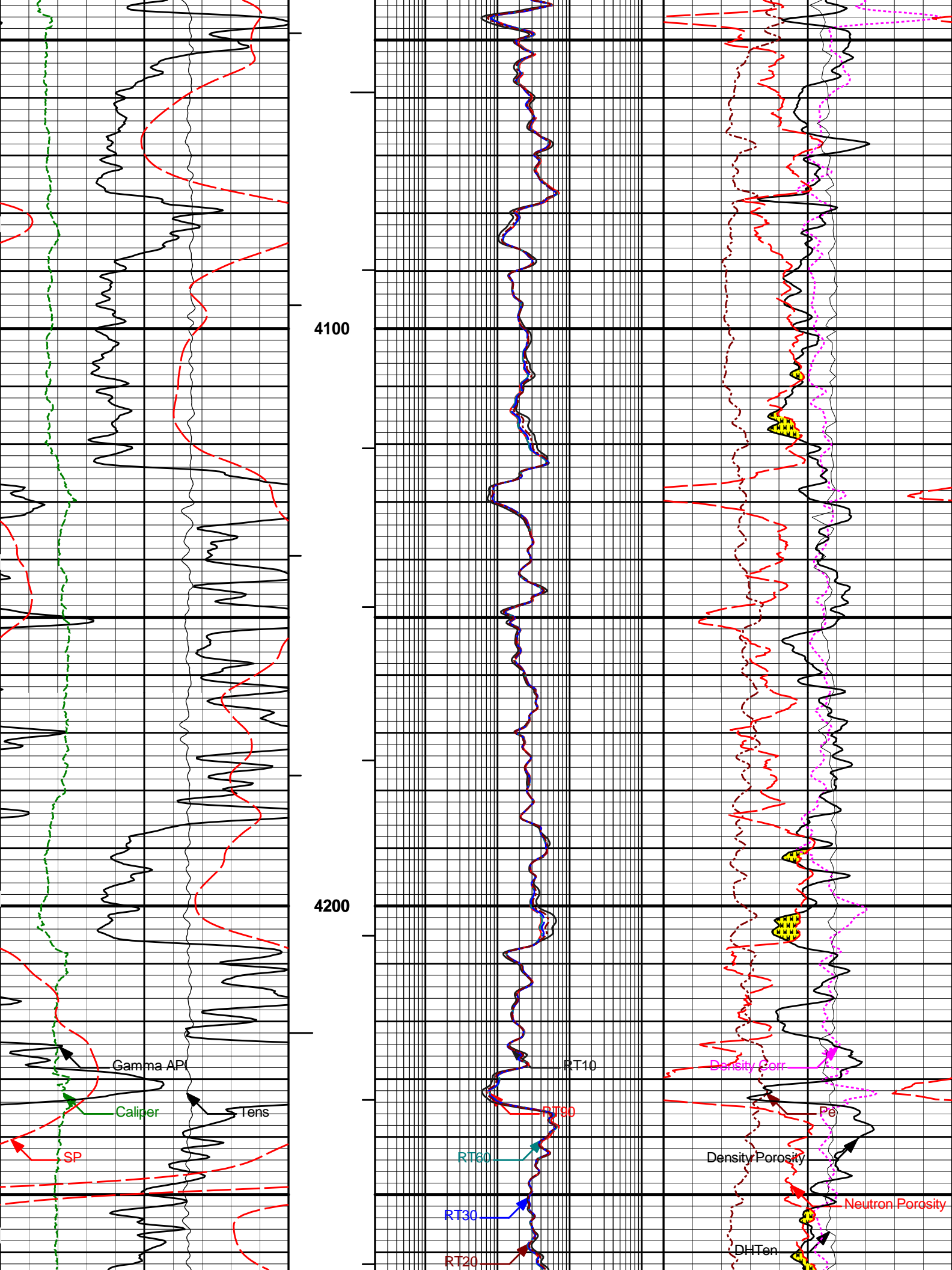


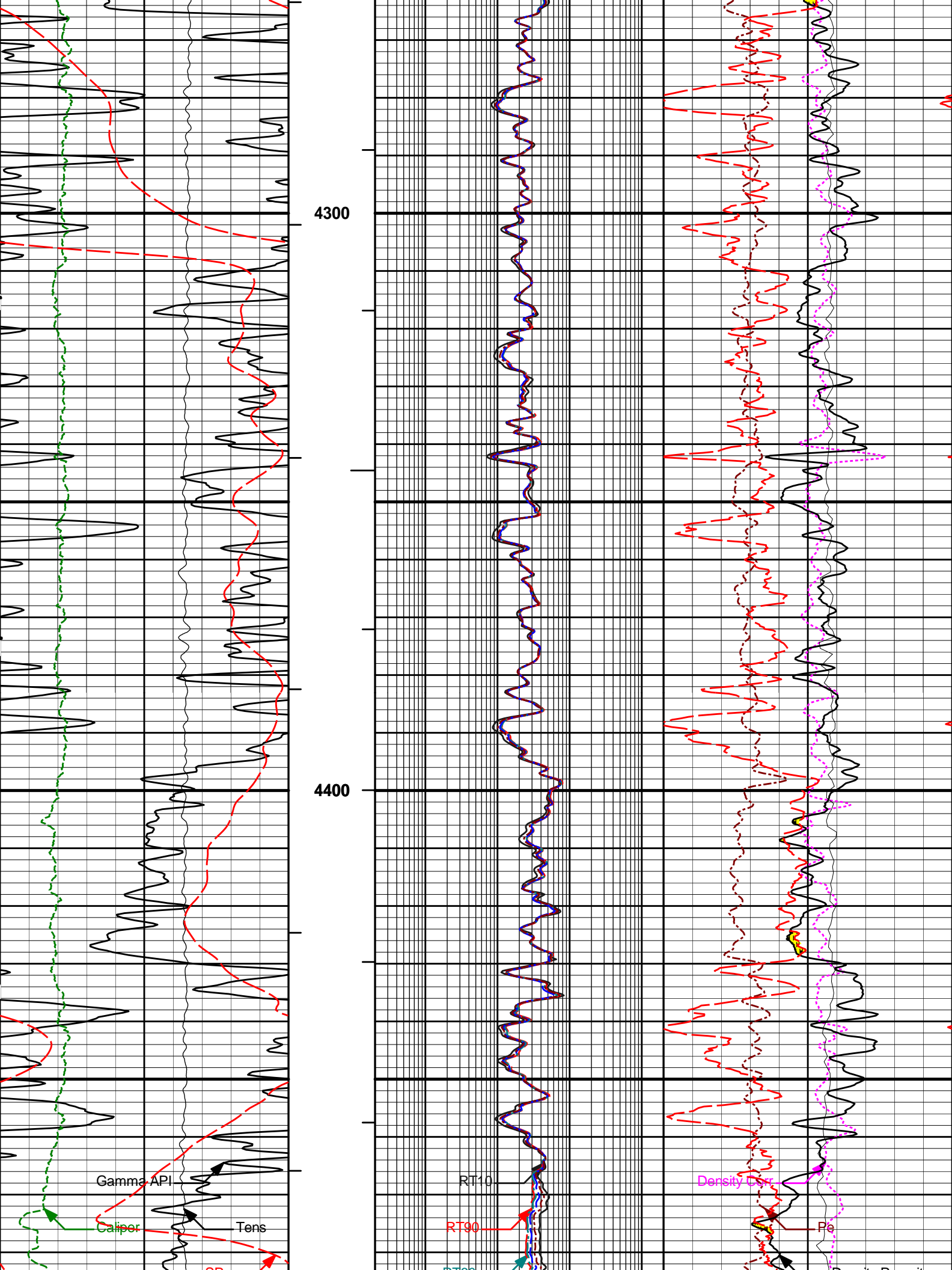


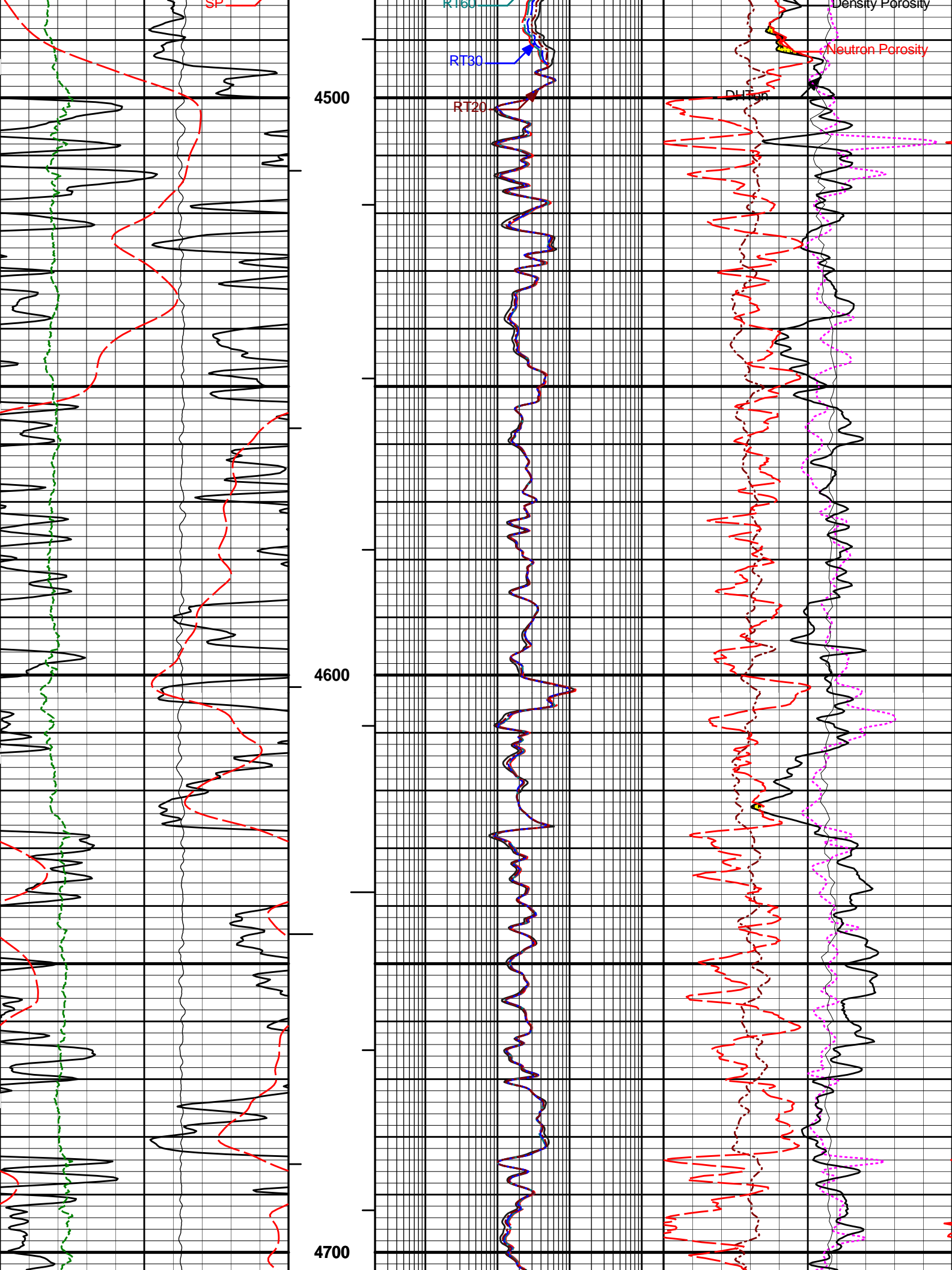
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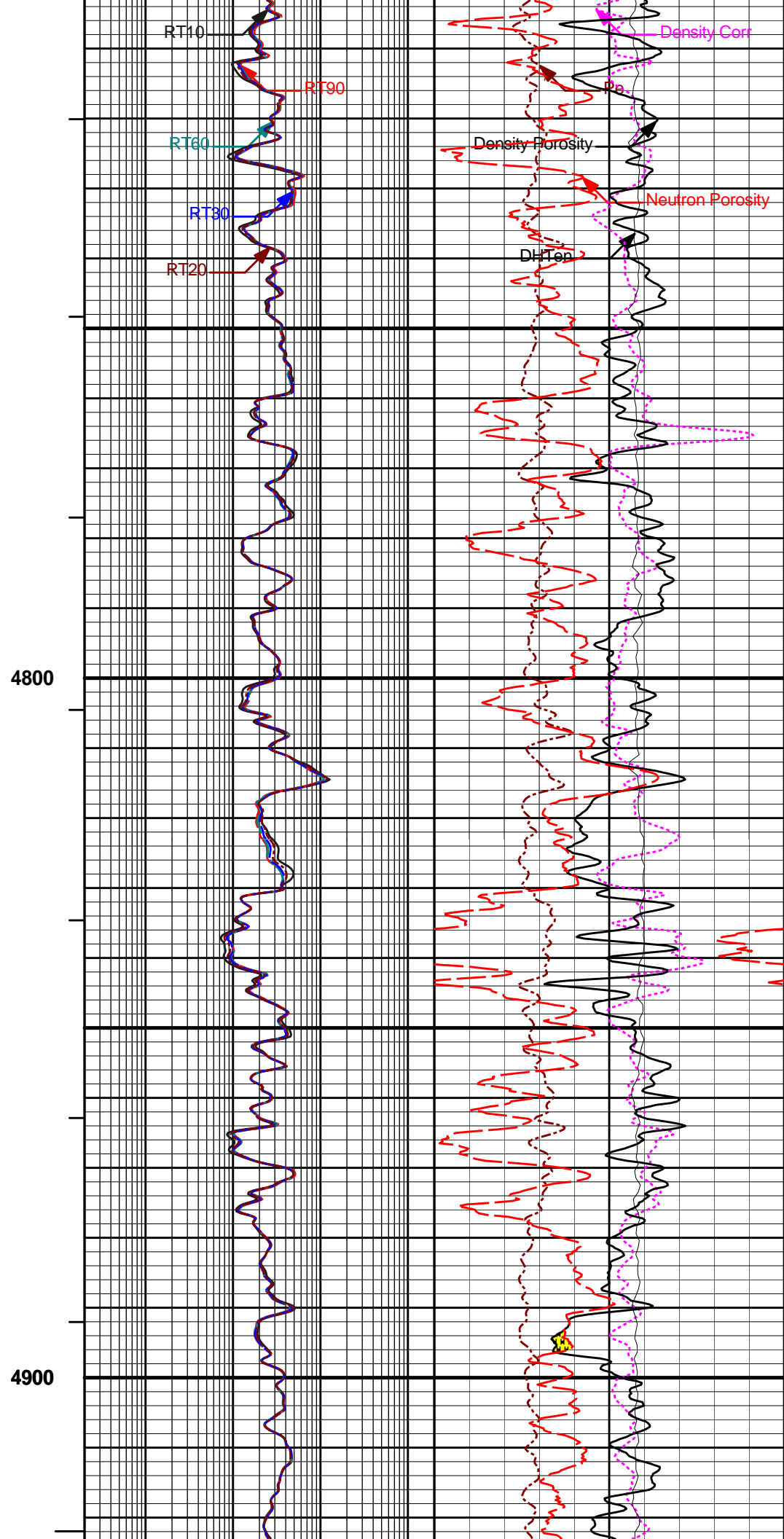
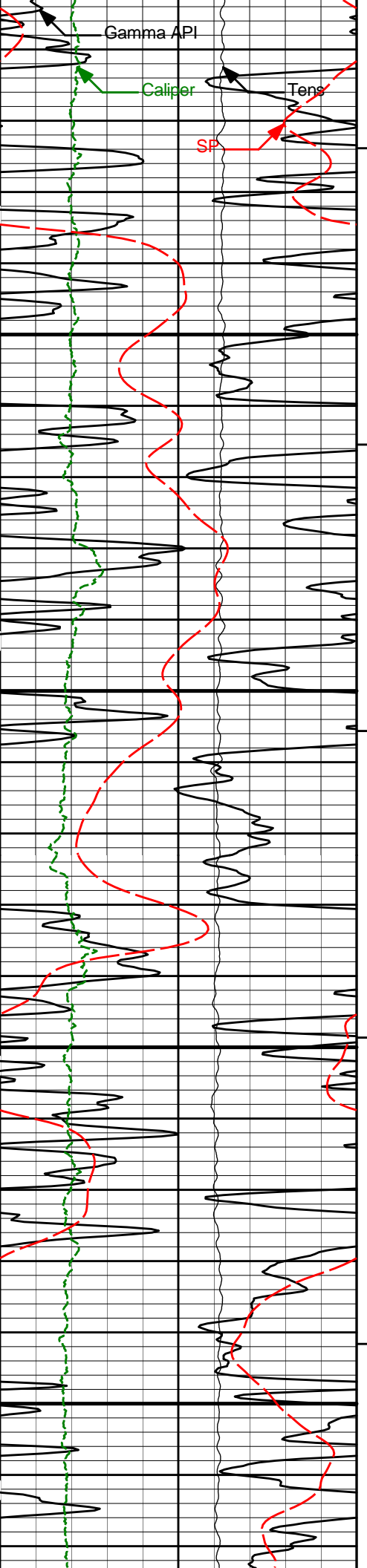
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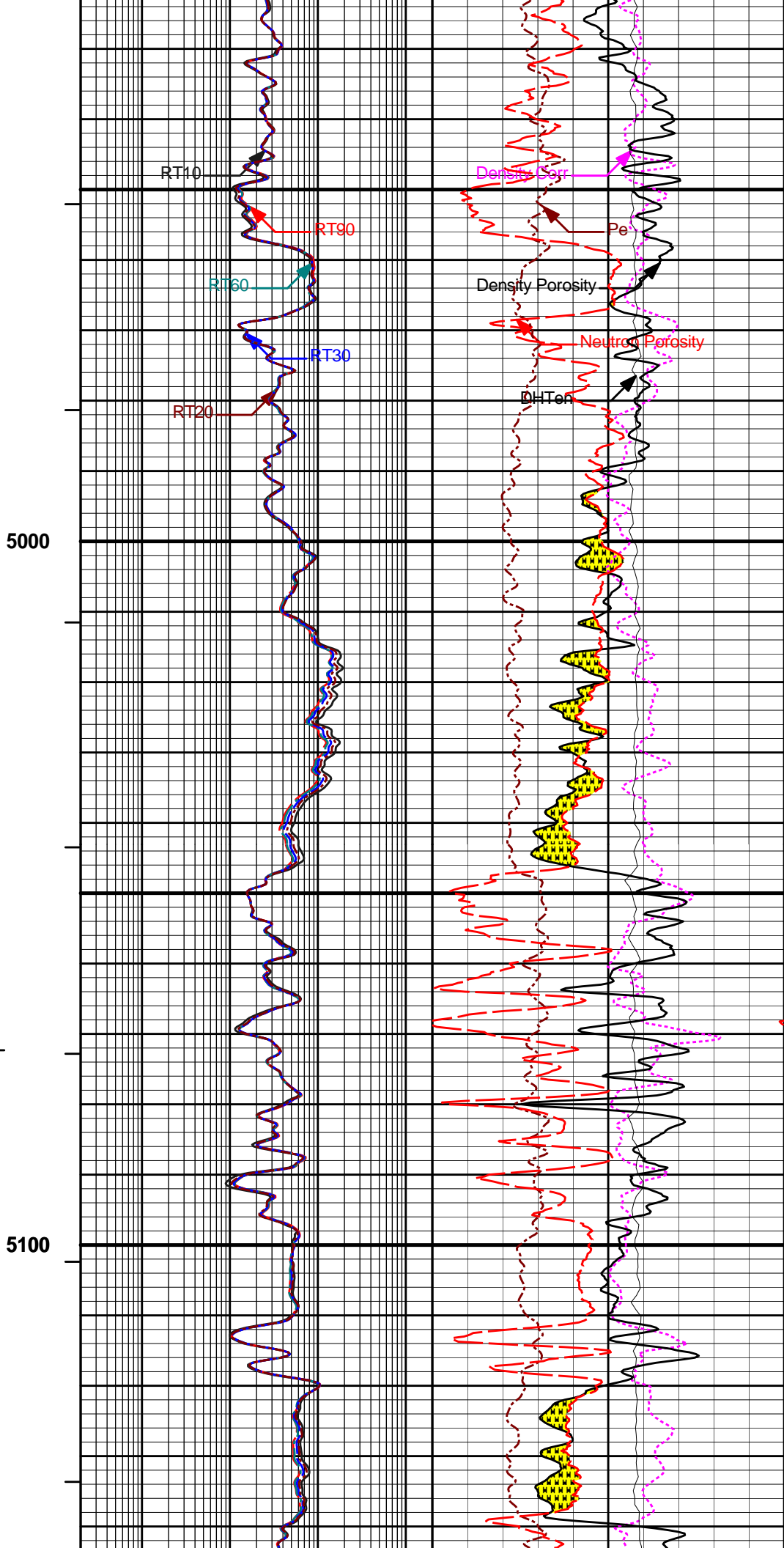
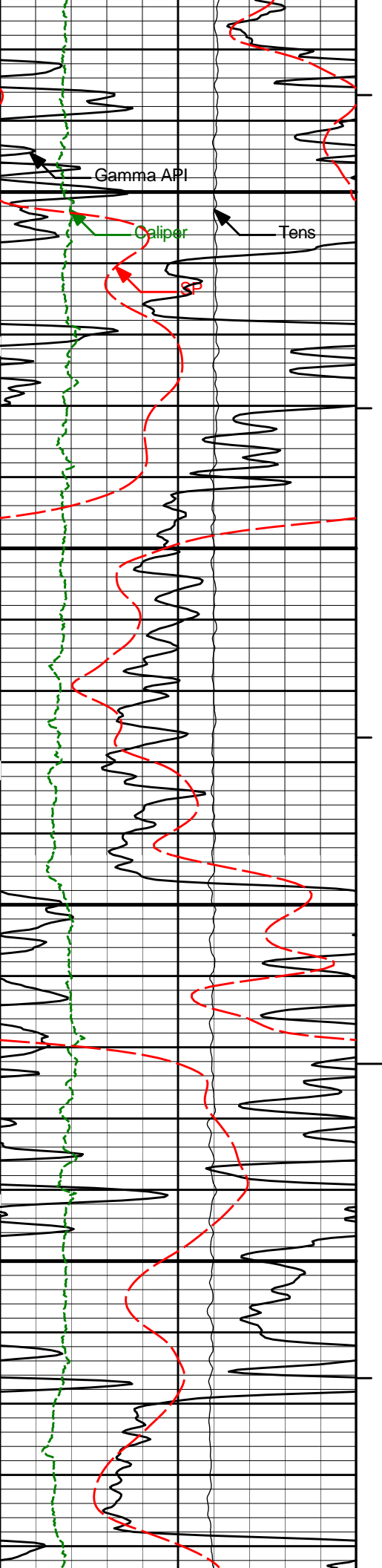






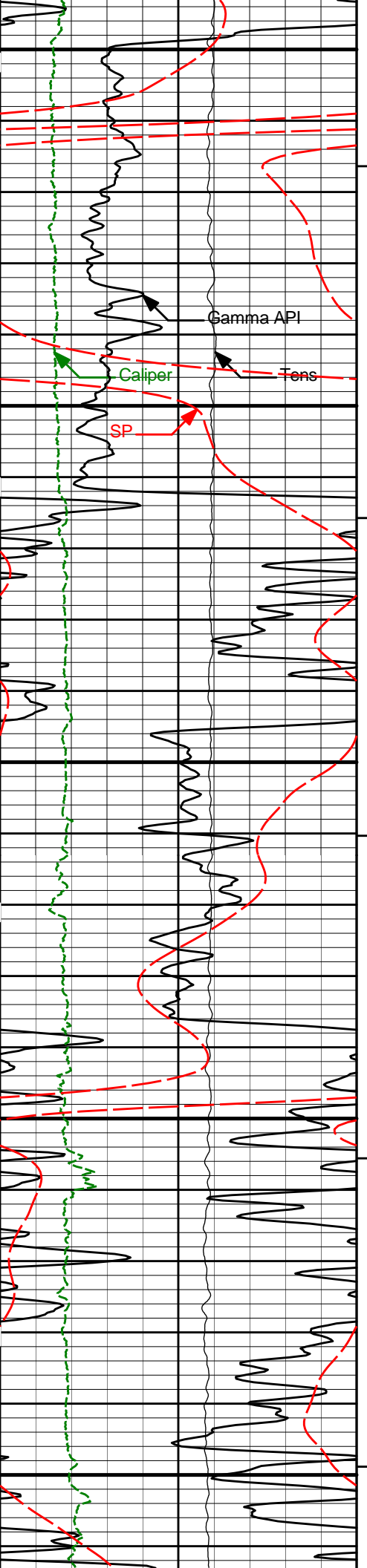






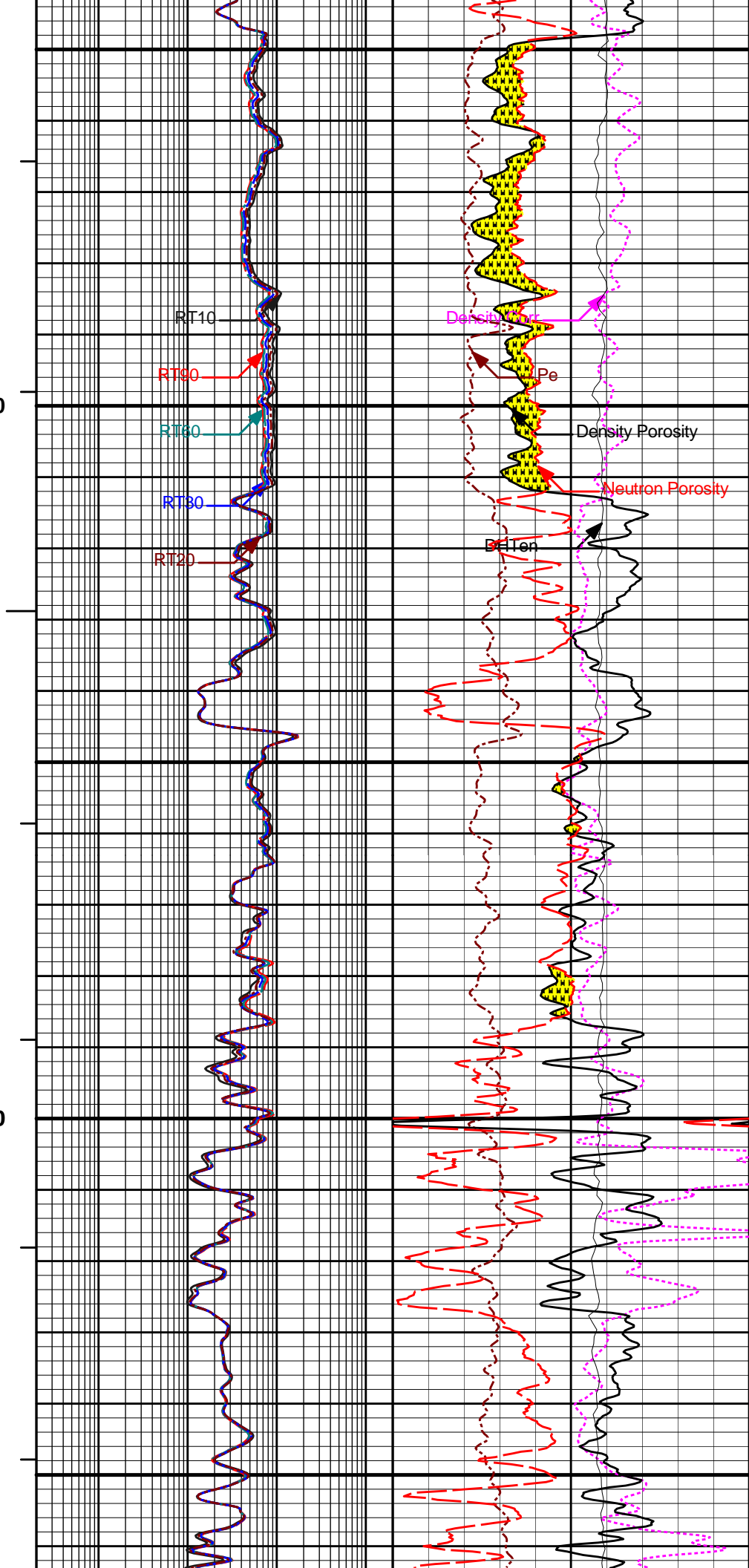
5000

5100



5200

5300



RT10

RT90

RT60

RT30

RT20

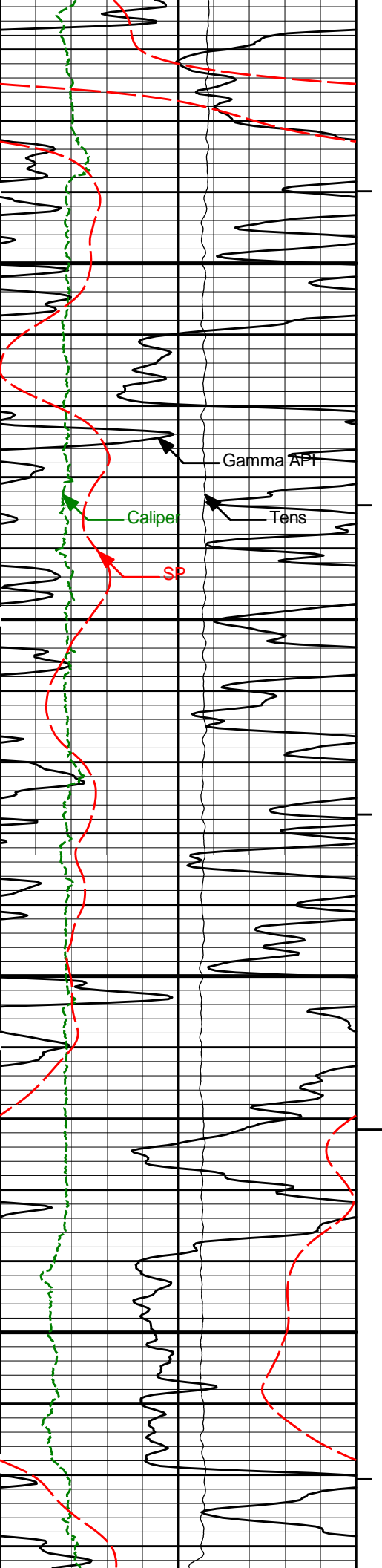
Density Porosity

Pe

Density Porosity

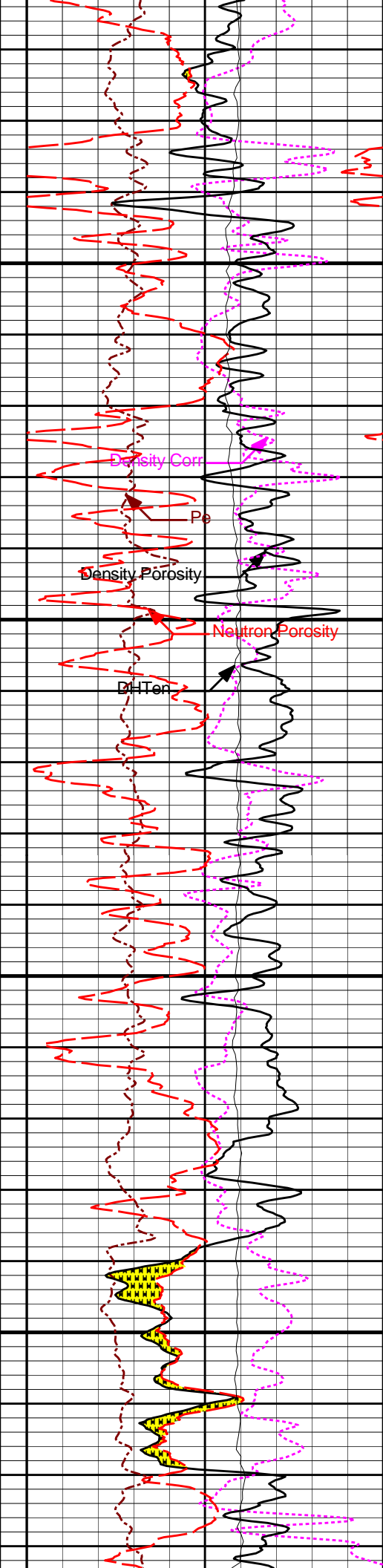
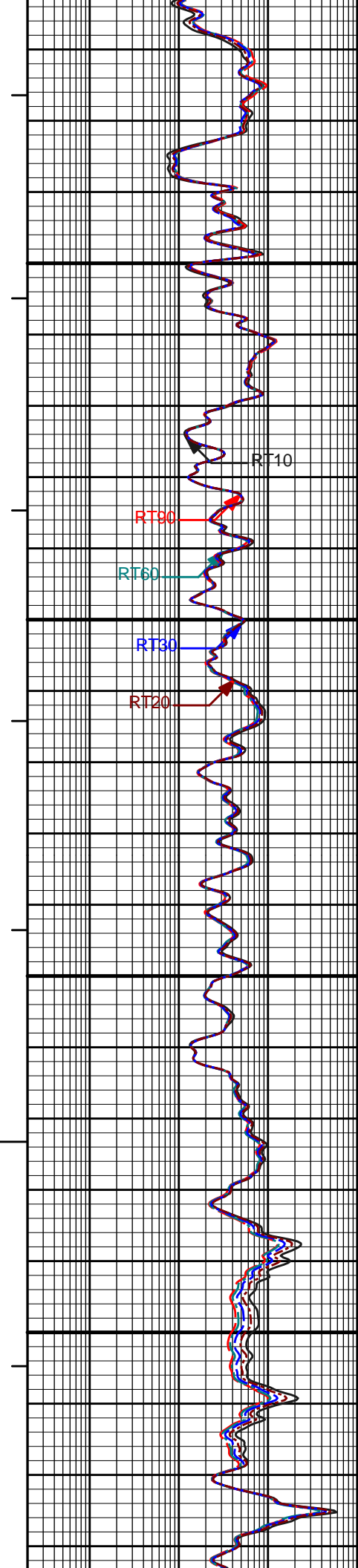
Neutron Porosity

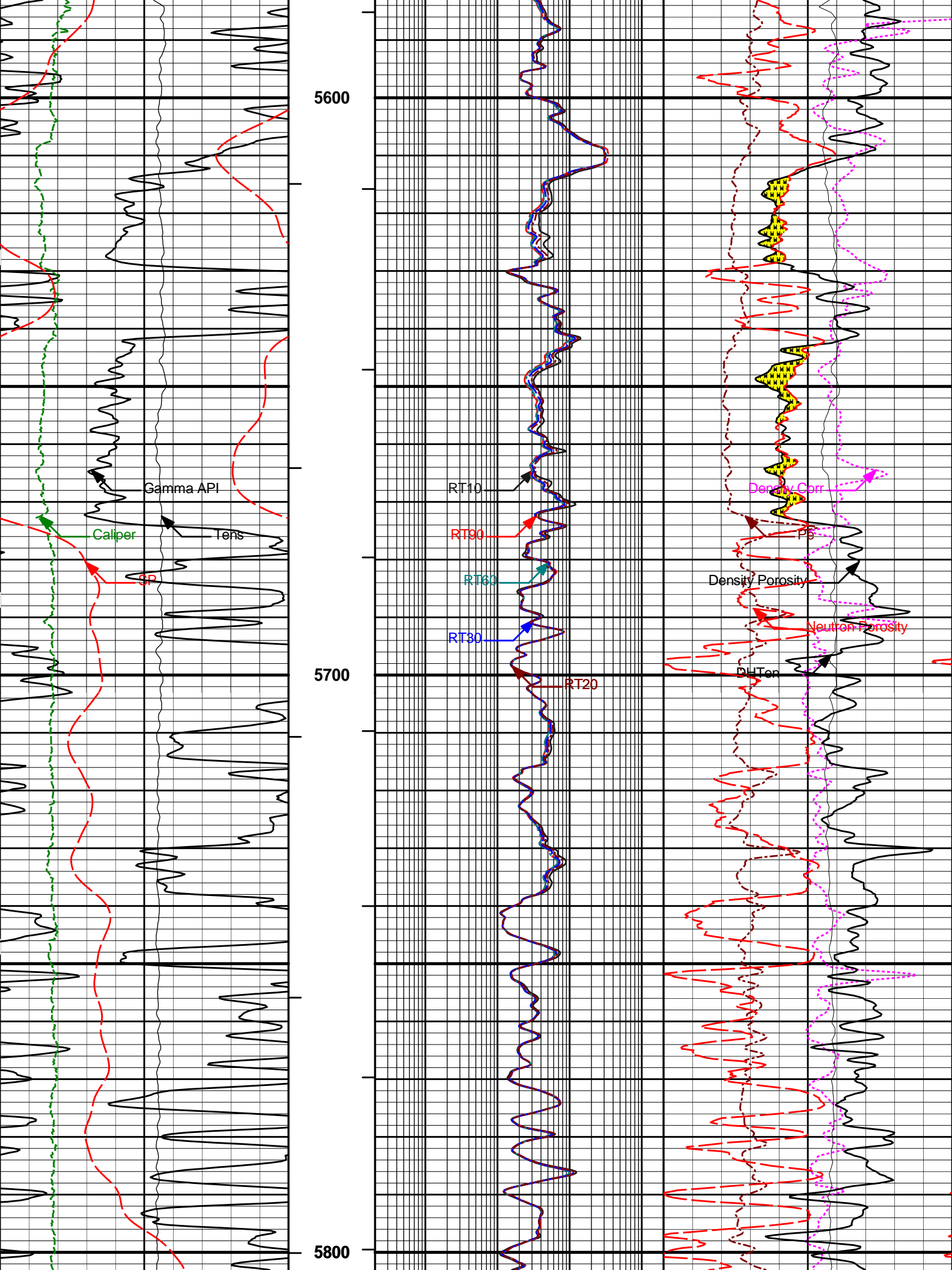
RT10

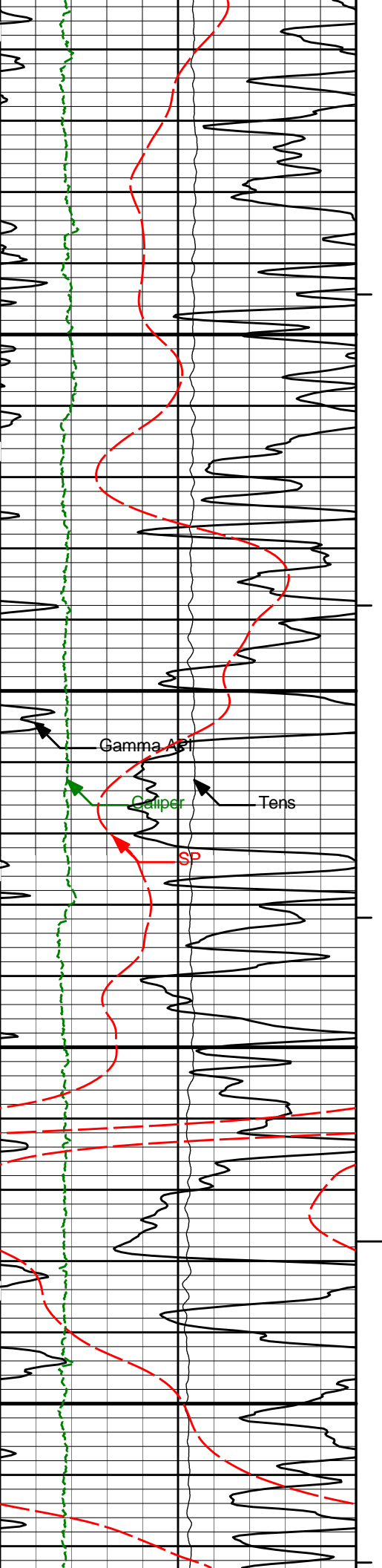


5400

5500

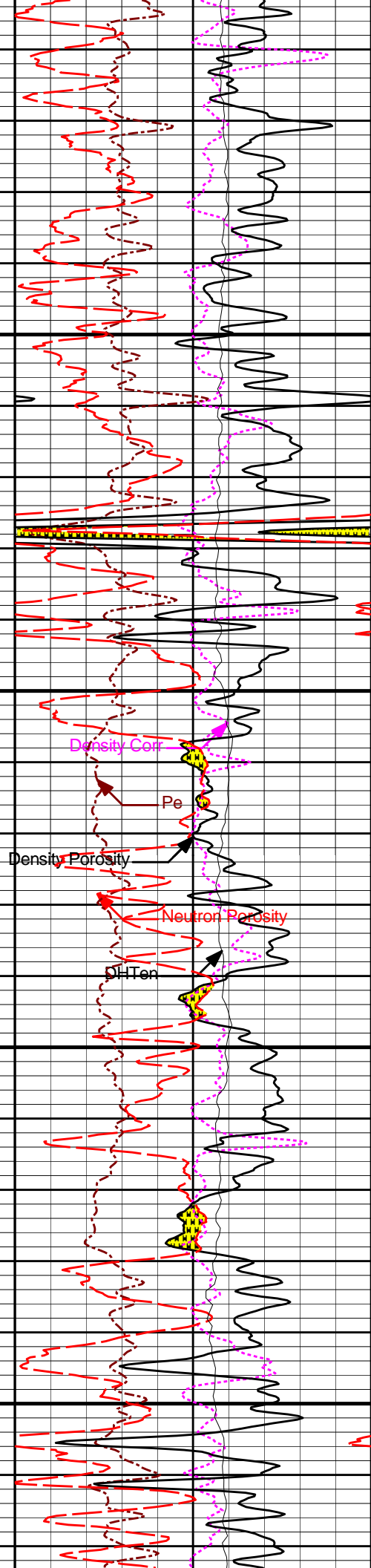
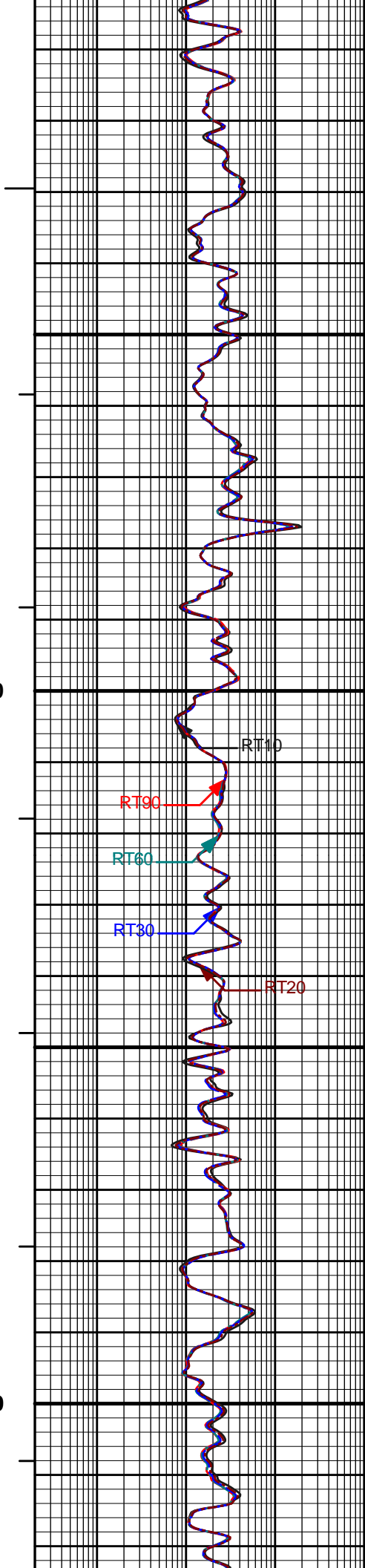


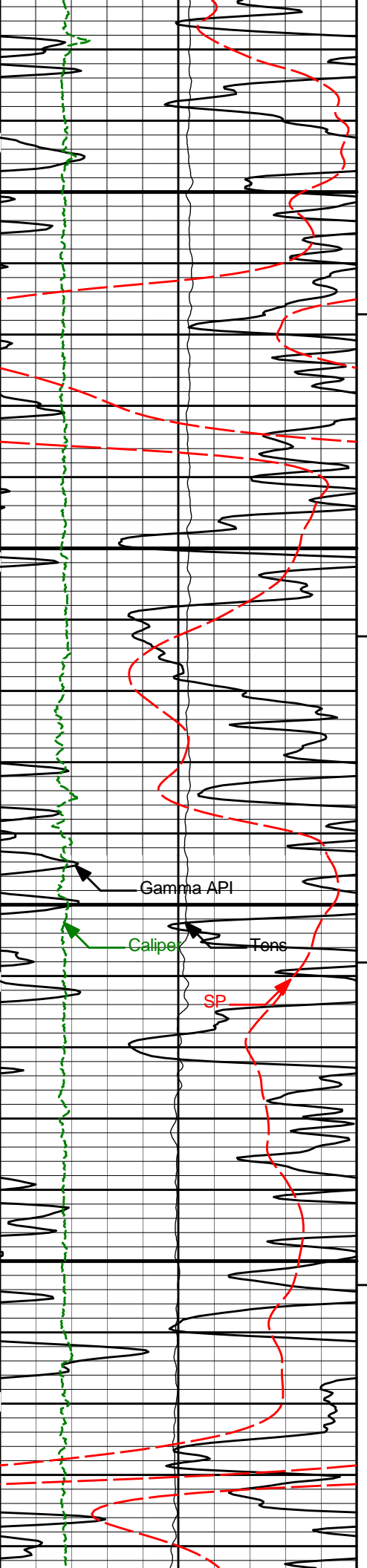




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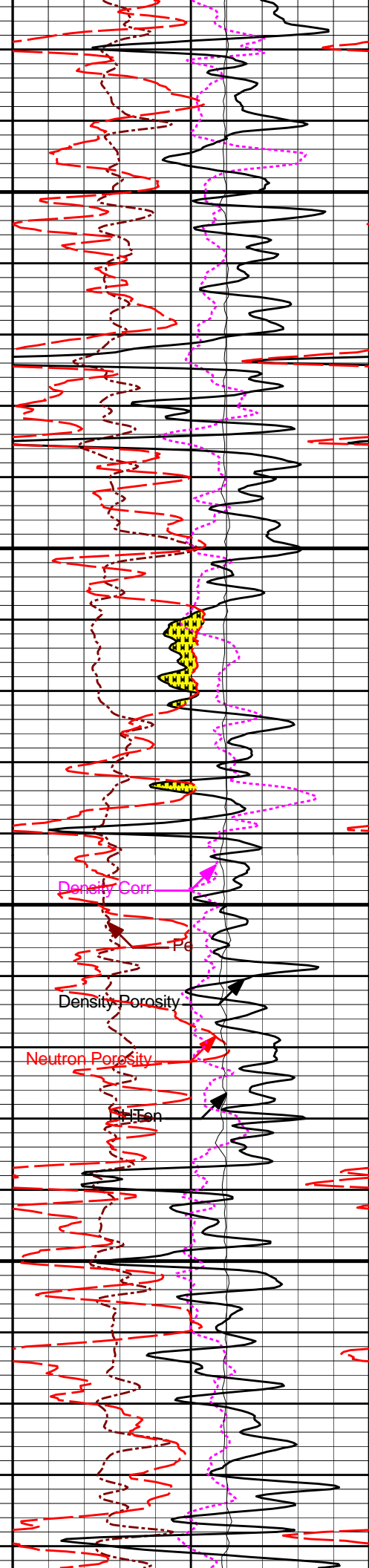
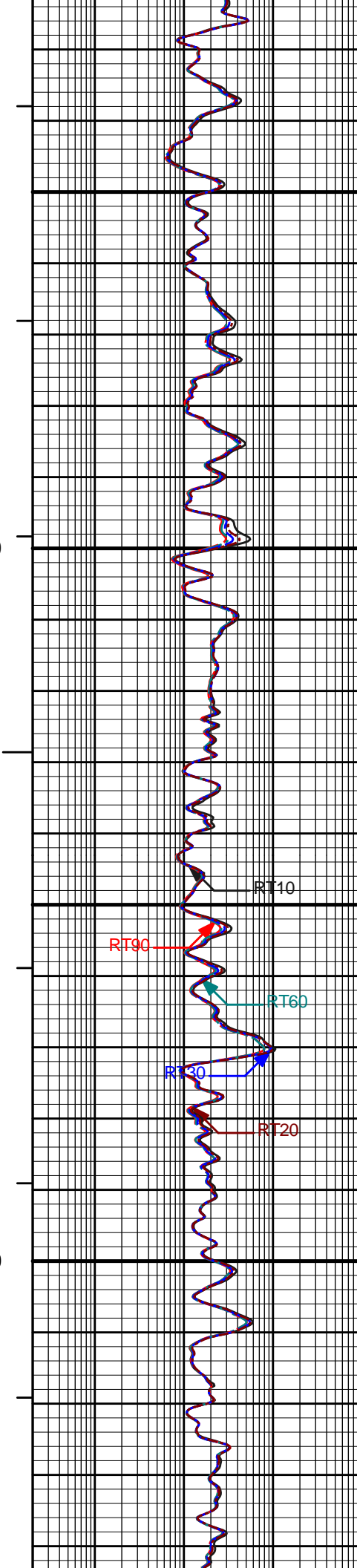
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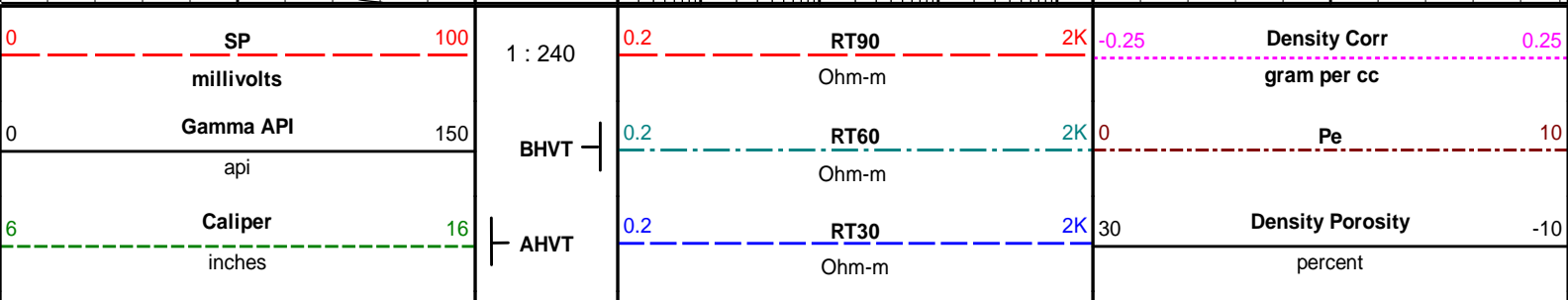
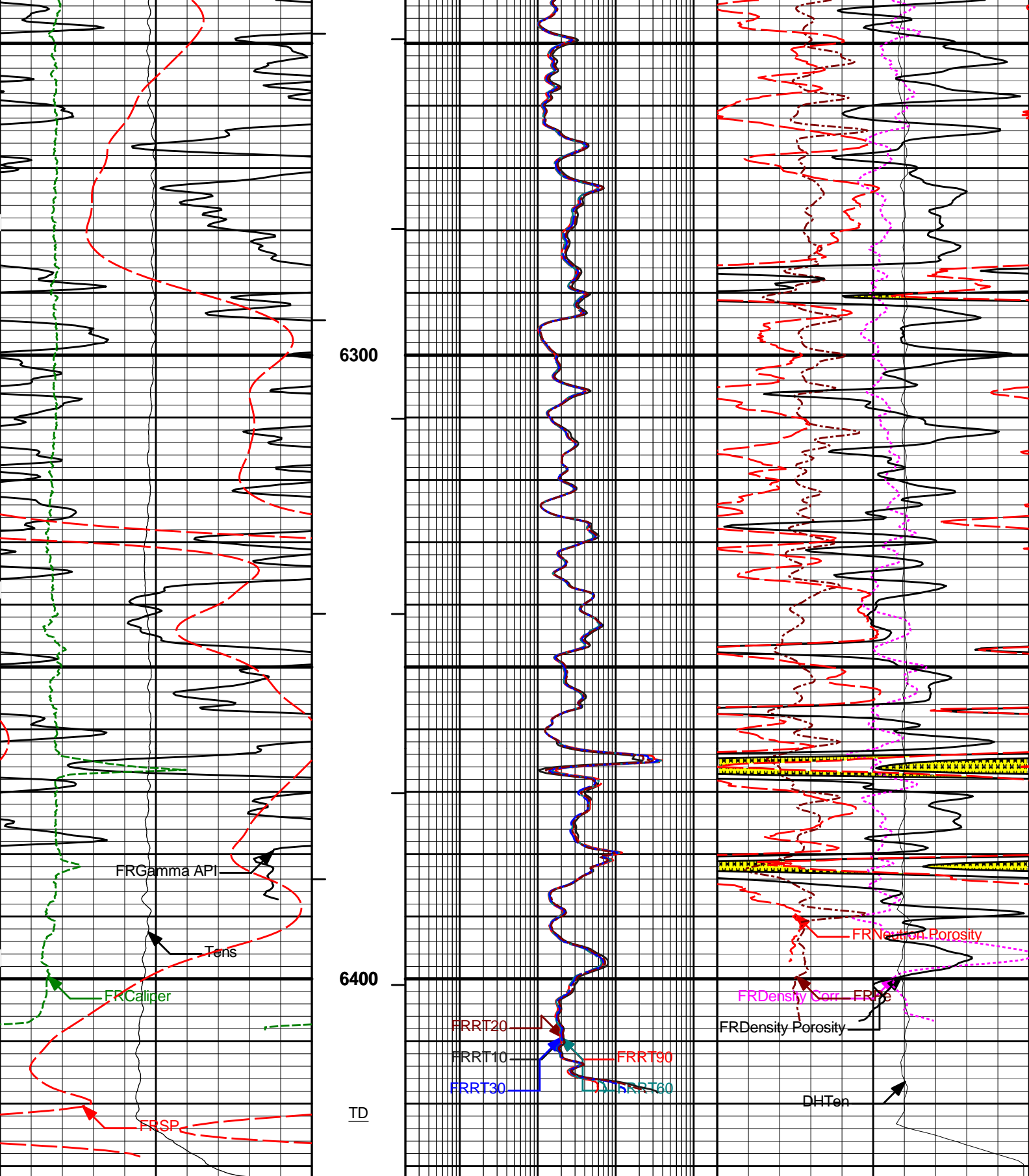




6100

6200





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	

HALLIBURTON

Plot Time: 28-Nov-11 09:23:42

Plot Range: 98 ft to 6431.85 ft

Data: {ActiveWell}\Well Based\MAIN*

Plot File: \\COMP\IQ_BP_COMPOSITE_ACRT_5IN_DHT

MAIN PASS 5" = 100'

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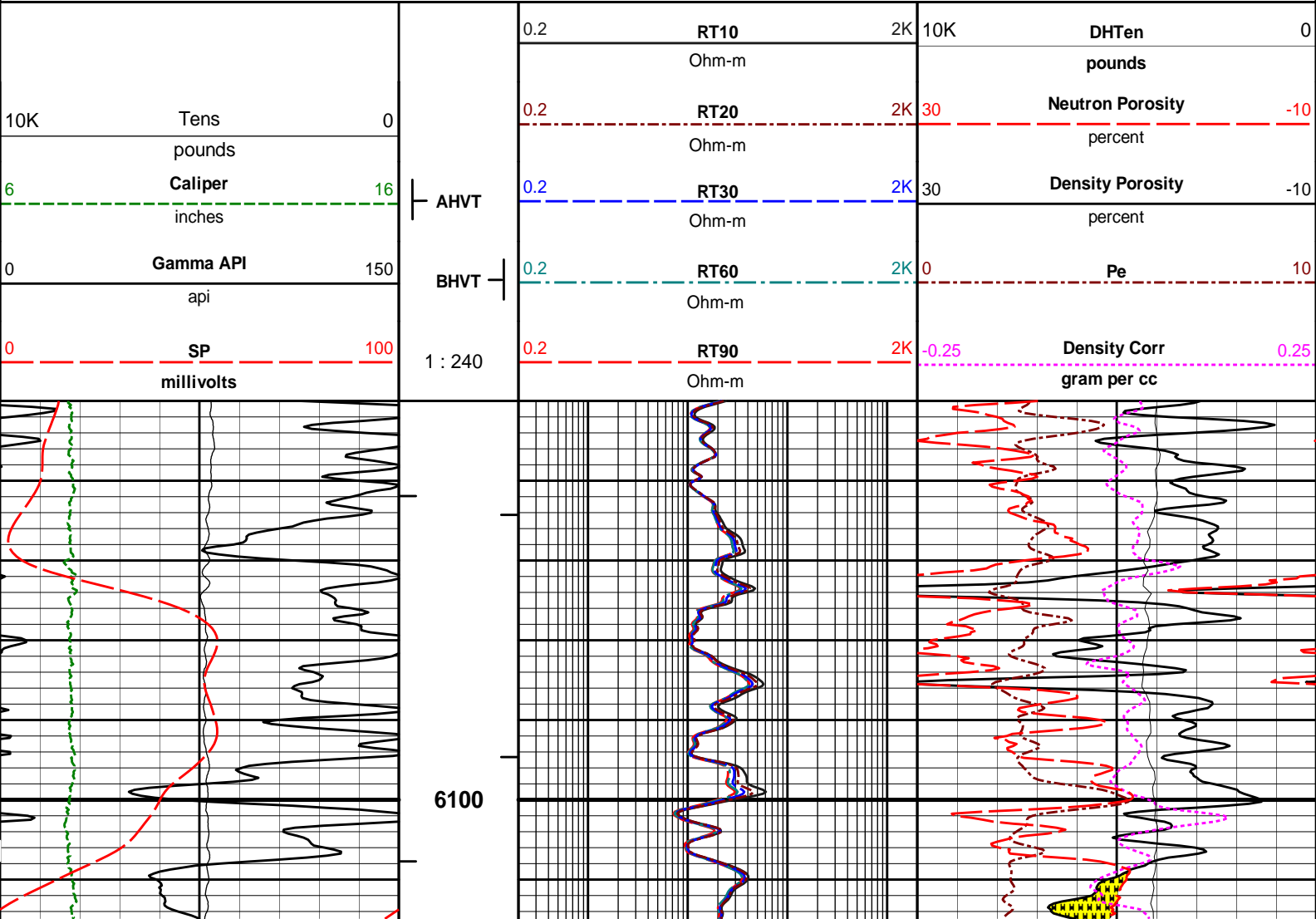
Plot Time: 28-Nov-11 09:23:42

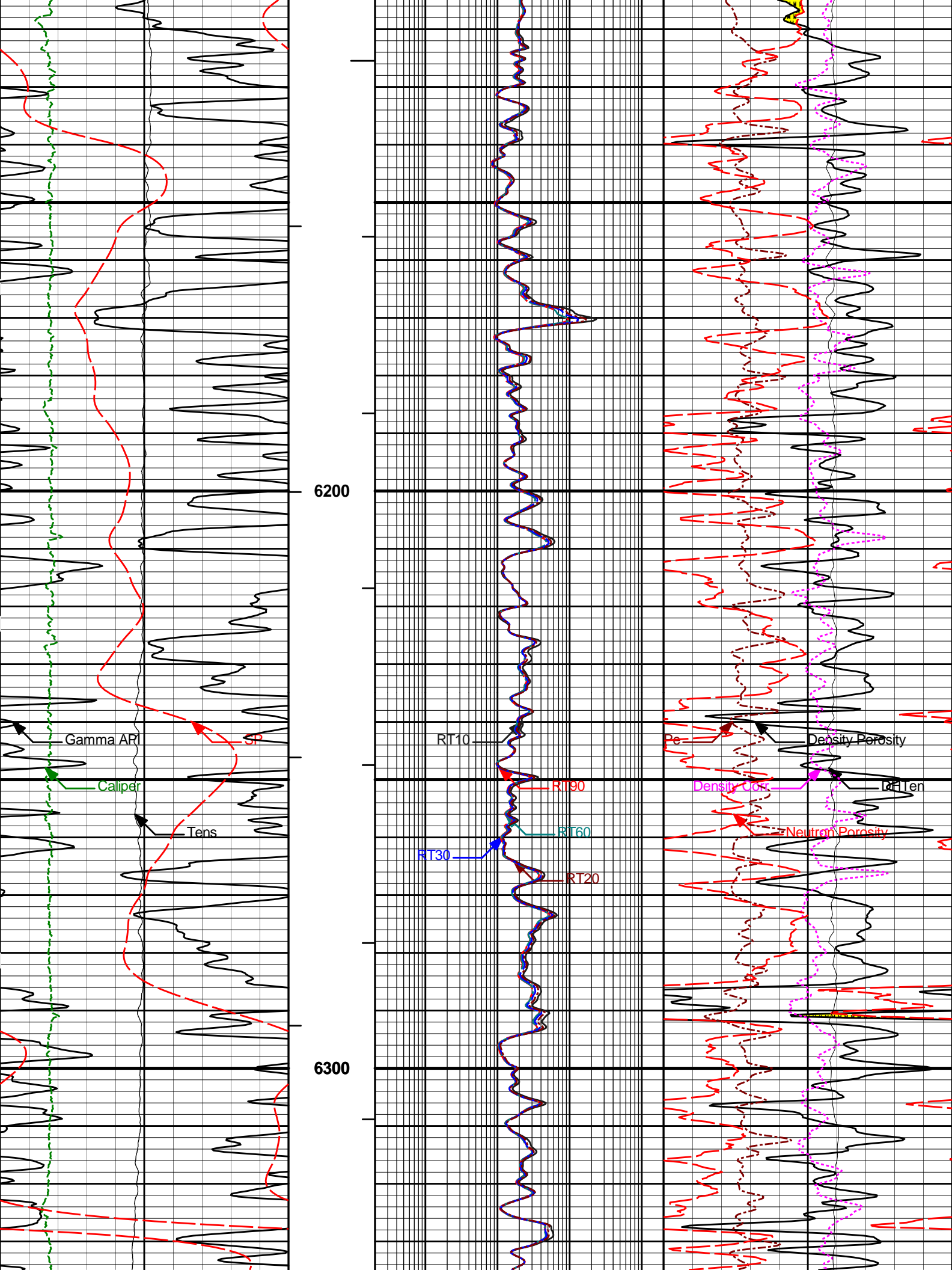
Plot Range: 6050 ft to 6430.75 ft

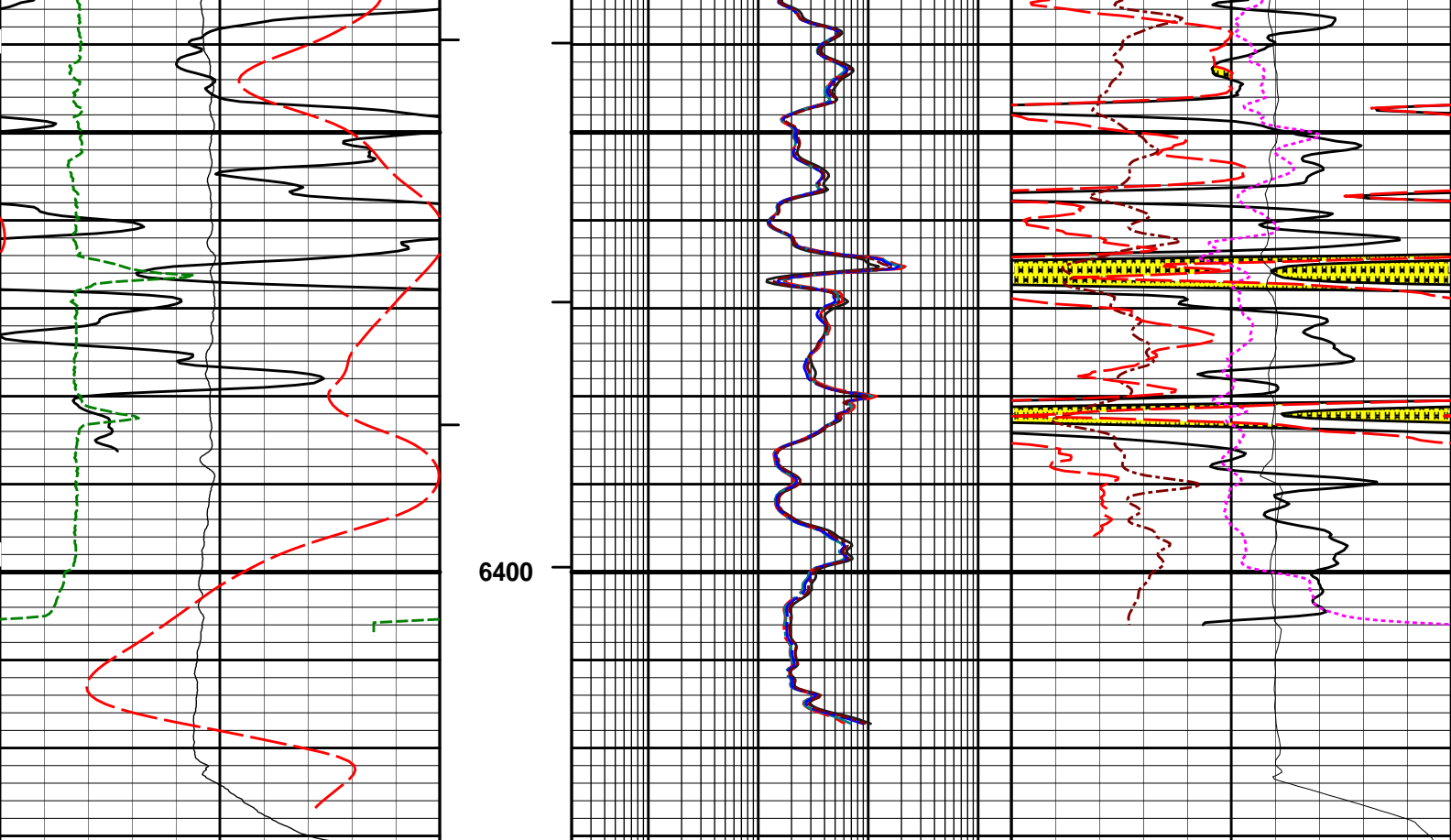
Data: LE_HWXST_17_03CWell Based\RP1*

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	

HALLIBURTON Plot Time: 28-Nov-11 09:23:44
 Plot Range: 6050 ft to 6430.75 ft
 Data: LE_HWXST_17_03CWell Based\RPT*
 Plot File: \COMPIQ_BP_COMPOSITE_ACRT_5IN_DHT_RPT

REPEAT SECTION 5" = 100'

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11016182	Reference Calibration Date:	26-Oct-11 09:25:20
Engineer:	V. CREWS	Calibration Date:	26-Nov-11 14:39:38

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

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	39.6	39.1	api
Background + Calibrator	293.0	289.4	api
Calibrator	253.5	250.3	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:GTET - 11016182

Reference Calibration Date:26-Nov-11 14:39:38

Engineer:V. CREWS

Calibration Date:27-Nov-11 11:50:01

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

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	39.1	39.4	api
Background + Calibrator	289.4	283.0	api
Calibrator	250.3	243.5	api

Shop	Field	Difference	Tolerance
250.3	243.5	6.8	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION

Tool Name:GTET - 11016182

Reference Calibration Date:27-Nov-11 11:50:01

Engineer:V. CREWS

Calibration Date:28-Nov-11 09:11:21

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

Calibration Version:1

Calibrator Source S/N: TB-11

Calibrator API Reference:246.00 api

Calibrator API Reference:250.3 api

Post Verification	Field	Post	Units
Background	39.4	43.9	api
Background + Calibrator	283.0	290.2	api
Calibrator	243.5	246.3	api

Shop	Field	Post	Difference	Tolerance
250.3	243.5	246.3	-2.8	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:DSNT - 10839203

Reference Calibration Date:10-Nov-11 21:51:58

Engineer:V. CREWS

Calibration Date:26-Nov-11 14:32:06

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

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: 69 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Previous Value	New Value	Control Limit On New
Background	39.1	39.4	± 0.5
Background + Calibrator	289.4	290.2	± 0.8
Calibrator	250.3	246.3	± 0.4

Measurement	Prev. Value	New Value	Value
Gain:	0.998	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):	0.2122	0.2108	0.0014	+/- 0.0020
Calibrated Ratio:	9.77	9.72	0.047	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0675	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 - 10839203	Reference Calibration Date:	26-Nov-11 14:32:06
Engineer:	V. CREWS	Calibration Date:	27-Nov-11 12:02:24
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):	0.0675	0.0817	0.0142	+/- 0.0150

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

DUAL SPACED NEUTRON POST CALIBRATION			
Tool Name:	DSNT - 10839203	Reference Calibration Date:	27-Nov-11 12:02:24
Engineer:	V. CREWS	Calibration Date:	28-Nov-11 09:16:14
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

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

NEUTRON POST-CHECK SUMMARY				
	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0817	0.0696	-0.0120	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 10733075	Reference Calibration Date:	25-Oct-11 16:27:41
Engineer:	V. CREWS	Calibration Date:	26-Nov-11 11:18:04

Engineer: V. CREWS		Calibration Date: 26-Nov-11 11:18:04			
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	-2024.77	-1893.78	-7000.00 - -1000.00	
	Pad Gain	0.0003751	0.0003714	0.000200 - 0.000600	
	Arm Offset	-3490.43	-3332.50	-5000.00 - 3000.00	
	Arm Gain	0.0005480	0.0005436	0.000300 - 0.000700	
	Arm Power	-0.000004451	-0.000004298	-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)	1.97	2.00	0.03	+/- 0.20
	Medium Ring (in)	3.74	3.75	0.01	+/- 0.20
	RING DIAMETER:				
	Small Ring (in)	6.38	6.50	0.12	+/- 0.20
	Medium Ring (in)	8.15	8.25	0.10	+/- 0.20
	Large Ring (in)	14.93	15.00	0.07	+/- 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 - 10733075	Reference Calibration Date:	26-Nov-11 11:18:04	
Engineer:	V. CREWS	Calibration Date:	27-Nov-11 11:53:33	
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	3.73	-0.02	+/- 0.10
	Ring Diameter	8.25	8.26	0.01	+/- 0.15
	PASS/FAIL SUMMARY				
	Pad Extension Check:			Passed	
Diameter Check:			Passed		

SDLT CALIPER POST CALIBRATION				
Tool Name:	SDLT - 10733075	Reference Calibration Date:	27-Nov-11 11:53:33	
Engineer:	V. CREWS	Calibration Date:	28-Nov-11 09:13:59	
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1	

	MEASURED CALIPER VALUES				
	Measurement	Field	Post	Change	Control Limit On New Value
	Pad Extension	3.73	3.73	0.00	+/- 0.10
	Ring Diameter	8.26	8.36	0.10	+/- 0.15

PASS/FAIL SUMMARY									
Pad Extension Check:				Passed					
Diameter Check:				Passed					
ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION									
Tool Name:		ACRt Sonde - E336_S042				Reference Calibration Date:		31-Aug-11 10:13:19	
Engineer:		B. PEDERSEN				Calibration Date:		28-Sep-11 10:49:25	
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	1.0019	1.05	0.95	1.0053	1.05	0.95	1.0054	1.05
A2 (50")	0.95	1.0584	1.05	0.95	1.0628	1.05	0.95	1.0643	1.05
A3 (29")	0.95	1.0012	1.05	0.95	1.0049	1.05	0.95	1.0037	1.05
A4 (17")	0.95	0.9915	1.05	0.95	0.9932	1.05	0.95	0.9958	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9913	1.05	0.95	0.9919	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9764	1.05	0.95	0.9768	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	-0.301	2	-6	-3.728	-2	-8	-4.797	-2
A2 (50")	-7	-2.094	-1	-6	-3.856	-2	-7	-4.583	-2
A3 (29")	-27	-13.233	-9	-9	-3.792	-3	-7	-3.035	-1
A4 (17")	-180	-102.591	-60	-45	-32.410	-15	-39	-25.653	-13
A5 (10")	N/A	N/A	N/A	-150	-59.814	-50	-80	-33.132	-10
A6 (6")	N/A	N/A	N/A	175	276.058	525	90	141.666	270
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
Signal	Lower	R		Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)	
12K	0.6	0.8833		1.3	Mud Cell	0.95	1.009	1.05	
36K	1.0	1.8987		2.0					
72K	1.0	1.1229		2.0					
SPECTRAL DENSITY SHOP CALIBRATION									
Tool Name:		SDLT Pad - 10733075				Reference Calibration Date:		25-Oct-11 14:42:19	
Engineer:		V. CREWS				Calibration Date:		26-Nov-11 10:40:49	
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		1.0551		1.0310		0.90 - 1.10			
Near Dens Gain		1.0304		1.0254		0.90 - 1.10			
Near Peak Gain		1.0508		1.0444		0.90 - 1.10			
Near Lith Gain		1.0168		1.0051		0.90 - 1.10			
Far Bar Gain		1.0162		1.0089		0.90 - 1.10			
Far Dens Gain		1.0008		1.0000		0.90 - 1.10			
Far Peak Gain		0.9953		0.9945		0.90 - 1.10			

Far Lith Gain	0.9811	0.9770	0.90 - 1.10
Near Bar Offset	-0.3299	-0.1169	NONE
Near Dens Offset	-0.1065	-0.0697	NONE
Near Peak Offset	-0.2743	-0.2310	NONE
Near Lith Offset	0.0133	0.0984	NONE
Far Bar Offset	-0.0697	0.0006	NONE
Far Dens Offset	0.0868	0.0954	NONE
Far Peak Offset	0.1288	0.1347	NONE
Far Lith Offset	0.2180	0.2385	NONE
Near Bar Background	856.17	854.04	700 - 1450
Near Dens Background	283.17	280.77	230 - 480
Near Peak Background	123.90	124.05	100 - 210
Near Lith Background	152.50	152.54	125 - 260
Far Bar Background	530.10	530.56	450 - 900
Far Dens Background	205.78	206.95	175 - 345
Far Peak Background	81.42	80.81	70 - 140
Far Lith Background	83.95	84.62	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.699	1.690	-0.009	+/- 0.015
Pe	2.523	2.568	0.045	+/- 0.150
ALUMINUM				
Density (g/cc)	2.611	2.602	-0.009	+/- 0.01500
Pe	3.032	3.073	0.041	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0003	+/- 0.0110	-0.0004	+/- 0.0140
Magnesium Block	-0.0006	+/- 0.0110	-0.0016	+/- 0.0140
Aluminum Block	-0.0006	+/- 0.0110	-0.0006	+/- 0.0140
Resolution	8.43	6.00 - 11.50	9.27	6.00 - 11.50
Internal Verifier(B+D+P+L)	1411	1200 - 2700	903	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 - 10733075

Reference Calibration Date: 26-Nov-11 10:40:49

Pad Temperature: 64.7 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1411.402	1405.971	-5.431	15.168
Far (B+D+P+L) cps	902.940	903.478	0.538	16.332
Near Resolution	8.43	8.39	-0.040	0.50
Far Resolution	9.27	9.34	0.070	1.00

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

SPECTRAL DENSITY POST CHECK

Tool Name: SDLT Pad - 10733075

Reference Calibration Date: 27-Nov-11 11:49:36

Engineer: V. CREWS

Calibration Date: 28-Nov-11 09:11:54

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

Calibration Version: 1

Pad Temperature: 75.2 degF

DENSITY POST CALIBRATION SUMMARY				
Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1405.971	1410.536	4.565	15.168
Far (B+D+P+L) cps	903.478	901.144	-2.334	16.332
Near Resolution	8.39	8.49	0.100	0.50
Far Resolution	9.34	9.33	-0.010	1.00

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

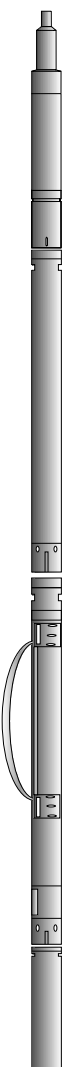
CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11016182						
Gamma Ray Calibrator	250.3	243.5	246.3	-2.8	+/- 9.00	api
DSNT-10839203						
Snow-Block Porosity	0.0675	0.0817	0.0696	0.0121	+/- 0.0150	decp
SDLT-10733075						
Pad Extension	3.75	3.73	3.73	0.00	+/-0.10	in
Ring Diameter	8.25	8.26	8.36	-0.100	+/-0.15	in
ACRt Sonde-E336_S042						
Mud Cell	1.009	-----	-----	0.000	-----	ohm-m
SDLT Pad-10733075						
Near(B+D+P+L)	1411.402	1405.971	1410.536	-4.565	+/-15.168	cps
Far(B+D+P+L)	902.940	903.478	901.144	2.334	+/-16.332	cps
Data: LE_HWXST_17_03C\0001 LOGIQ_TRIPLE\IDLE					Date: 28-Nov-11 09:16:49	

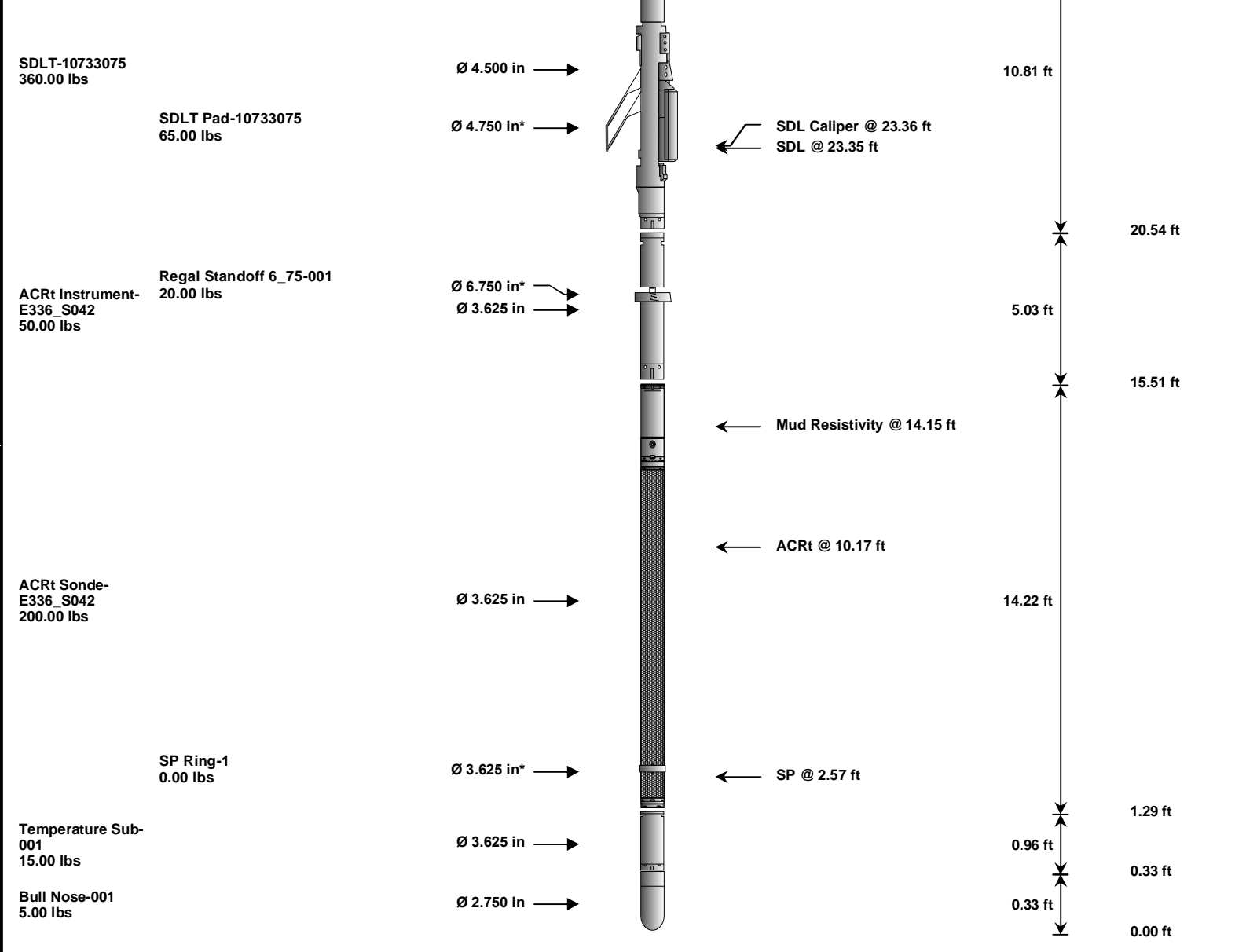
CUSTOMER EVENT LOG

Event Type	Time & Date	Depth (ft)	Event Description
	28-Nov-11 05:42:30	1038.50	Logging 001 28-Nov-11 05:42 Up @1038.5f
	28-Nov-11 05:42:34	1065.82	Halting 001 28-Nov-11 05:42 Up @1038.5f
	28-Nov-11 05:43:13	1175.25	Logging 002 28-Nov-11 05:43 Dn @1175.3f
	28-Nov-11 05:46:12	1757.90	Halting 002 28-Nov-11 05:43 Dn @1175.3f
	28-Nov-11 05:47:07	1852.00	Logging 003 28-Nov-11 05:47 Up @1852.0f
	28-Nov-11 05:52:27	1554.97	Halting 003 28-Nov-11 05:47 Up @1852.0f
	28-Nov-11 05:52:48	1478.75	Logging 004 28-Nov-11 05:52 Dn @1478.8f
	28-Nov-11 06:08:16	4444.60	Halting 004 28-Nov-11 05:52 Dn @1478.8f
	28-Nov-11 06:09:22	4292.25	Logging 005 28-Nov-11 06:09 Dn @4292.3f
	28-Nov-11 06:09:27	4360.52	Halting 005 28-Nov-11 06:09 Dn @4292.3f
	28-Nov-11 06:09:42	4348.75	Logging 006 28-Nov-11 06:09 Dn @4348.8f
	28-Nov-11 06:30:03	6411.89	Halting 006 28-Nov-11 06:09 Dn @4348.8f
	28-Nov-11 06:31:17	6412.25	Logging 007 28-Nov-11 06:31 Up @6412.3f
	28-Nov-11 06:38:35	6012.68	Halting 007 28-Nov-11 06:31 Up @6412.3f
	28-Nov-11 06:43:08	6412.00	Logging 008 28-Nov-11 06:43 Up @6412.0f
	28-Nov-11 08:31:27	79.16	Halting 008 28-Nov-11 06:43 Up @6412.0f
Data: LE_HWXST_17_03C\0001 LOGIQ_TRIPLE\HW11111			Date: 28-Nov-11 08:53:28

HALLIBURTON

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
DSN Decentralizer- 10839203 6.60 lbs		Ø 5.000 in* →				41.04 ft
DSNT-10839203 174.00 lbs		Ø 3.625 in →		← DSN Far @ 34.11 ft ← DSN Near @ 33.36 ft	9.69 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	10839203		174.00	9.69	31.36	60.00
DCNT	DSN Decentralizer	10839203		6.60	5.13	* 34.69	300.00
SDLT	Spectral Density Tool	10733075		360.00	10.81	20.54	60.00
SDLP	Density Insite Pad	10733075		65.00	2.55	* 22.75	60.00
ACRt	Array Compensated True Resistivity Instrument Section	E336_S042		50.00	5.03	15.51	300.00
RSOF	Regal Standoff 6.75in	001		20.00	0.52	* 18.17	300.00
ACRt	Array Compensated True Resistivity	E336_S042		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				1,195.60	55.81		

* Not included in Total Length and Length Accumulation.

Data: LE_HWXST_17_03C\0001 LOGIQ_TRIPLE\IDLE Date: 28-Nov-11 05:02:51

COMPANY	LARAMIE ENERGY
WELL	HAWXHURST 17-03C
FIELD	BRUSH CREEK

COUNTY	MESA	STATE	COLORADO
HALLIBURTON		DUAL SPACED NEUTRON SPECTRAL DENSITY ARRAY COMPENSATED TRUE RESISTIVITY	