

HALLIBURTON

DUAL SPACED NEUTRON SPECTRAL DENSITY

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		6400.0 ft	
Top - Logged Interval		1584.0 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	
Rmc		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	
Location		ROCK SPRING	
Recorded By		V. CREWS	
Witnessed By		C. CLAUSEN	

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
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
Rmf @ Meas. Temp.	@	@	ONE	ACRT -	N/A
Rmc @ Meas. Temp.	@	@		E336_S042	
Source Rmf	Rmc				
Rm @ BHT	@	@			
Rmf @ BHT	@	@			
Rmc @ BHT	@	@			
EQUIPMENT DATA					
GAMMA		ACOUSTIC		DENSITY	
Run No.	ONE	Run No.		Run No.	ONE
Serial No.	11016182	Serial No.		Serial No.	10733075
Model No.	GTET	Model No.		Model No.	SDLT-I
Diameter	3.625"	No. of Cent.		Diameter	4.5"
Detector Model No.	102-A	Spacing		Log Type	GAM-GAM
Type	SCINT			Source Type	Cs137
Length	8"	LSA [Y/N]		Serial No.	5116GW
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 Ci

LOGGING DATA		LOGGING DATA		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	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	Archie Reference	0.10	ohmm

Rwa / CrossPlot	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	Use Air Porosity to calculate CrossplotPhi	No	
GTET	Process Gamma Ray?	Yes	
GTET	Gamma Tool Standoff	0.000	in
GTET	Process Gamma Ray EVR?	No	
GTET	Tool Position for Gamma Ray Tools.	Eccentered	
DSNT	Process DSN?	Yes	
DSNT	Process DSN EVR?	No	
DSNT	Neutron Lithology	Sandstone	
DSNT	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	Temperature Correction Type	None	
DSNT	DSN Pressure Correction Type	None	
DSNT	View More Correction Options	No	
DSNT	Use TVD for Gradient Corrections?	No	
DSNT	Logging Horizontal Water Tank?	No	
SDLT	Process Caliper Outputs?	Yes	
SDLT Pad	Process Density?	Yes	
SDLT Pad	Process Density EVR?	No	
SDLT Pad	Logging Calibration Blocks?	No	
SDLT Pad	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	Disable temperature warning	No	
SDLT Pad	Formation Density Matrix	2.680	g/cc
SDLT Pad	Formation Density Fluid	1.000	g/cc
ACRt Sonde	Process ACRt?	Yes	
ACRt Sonde	Minimum Tool Standoff	1.25	in
ACRt Sonde	Temperature Correction Source	FP Lwr & FP Up	
ACRt Sonde	Tool Position	Free Hanging	
ACRt Sonde	Rmud Source	Mud Cell	
ACRt Sonde	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	Threshold Quality	0.50	

BOTTOM

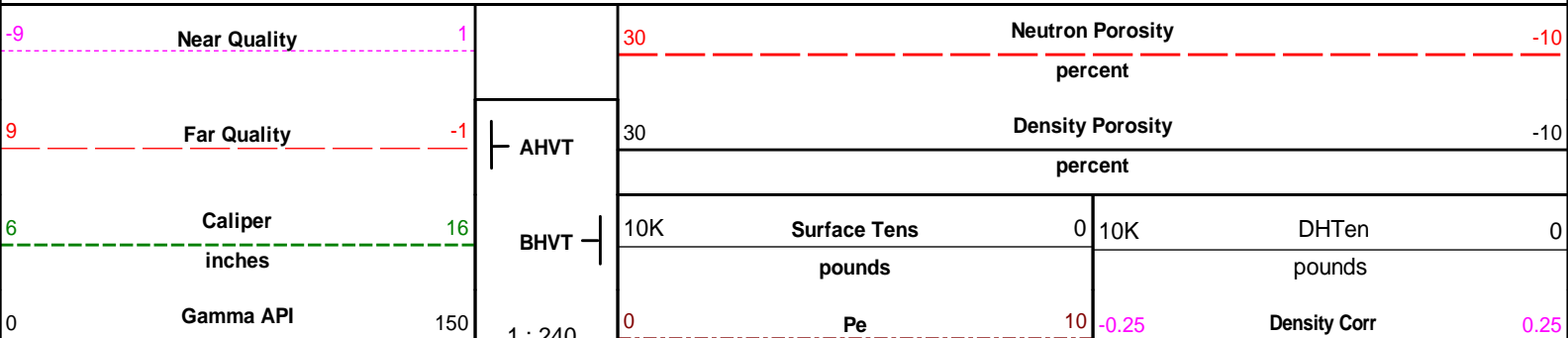
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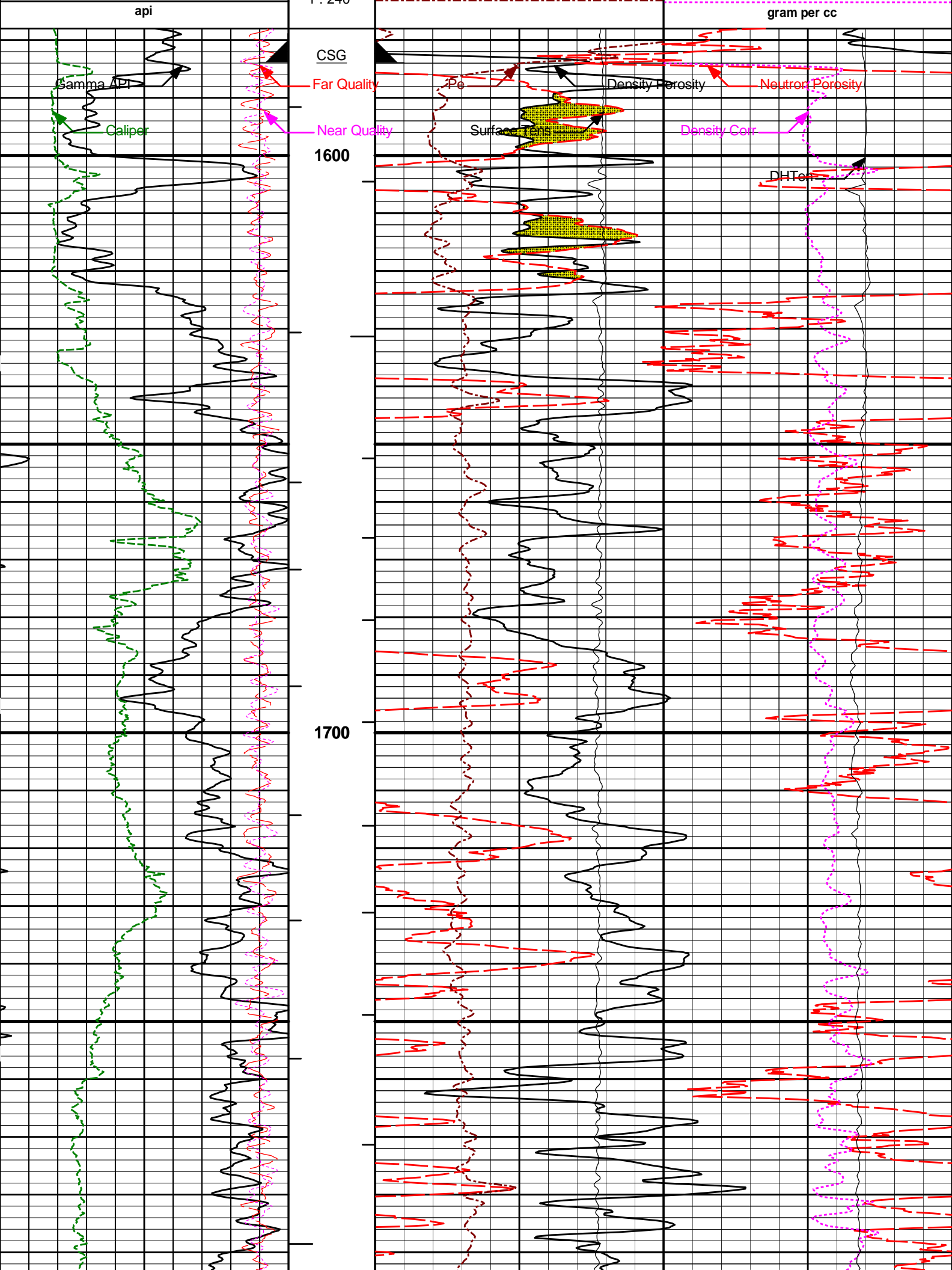
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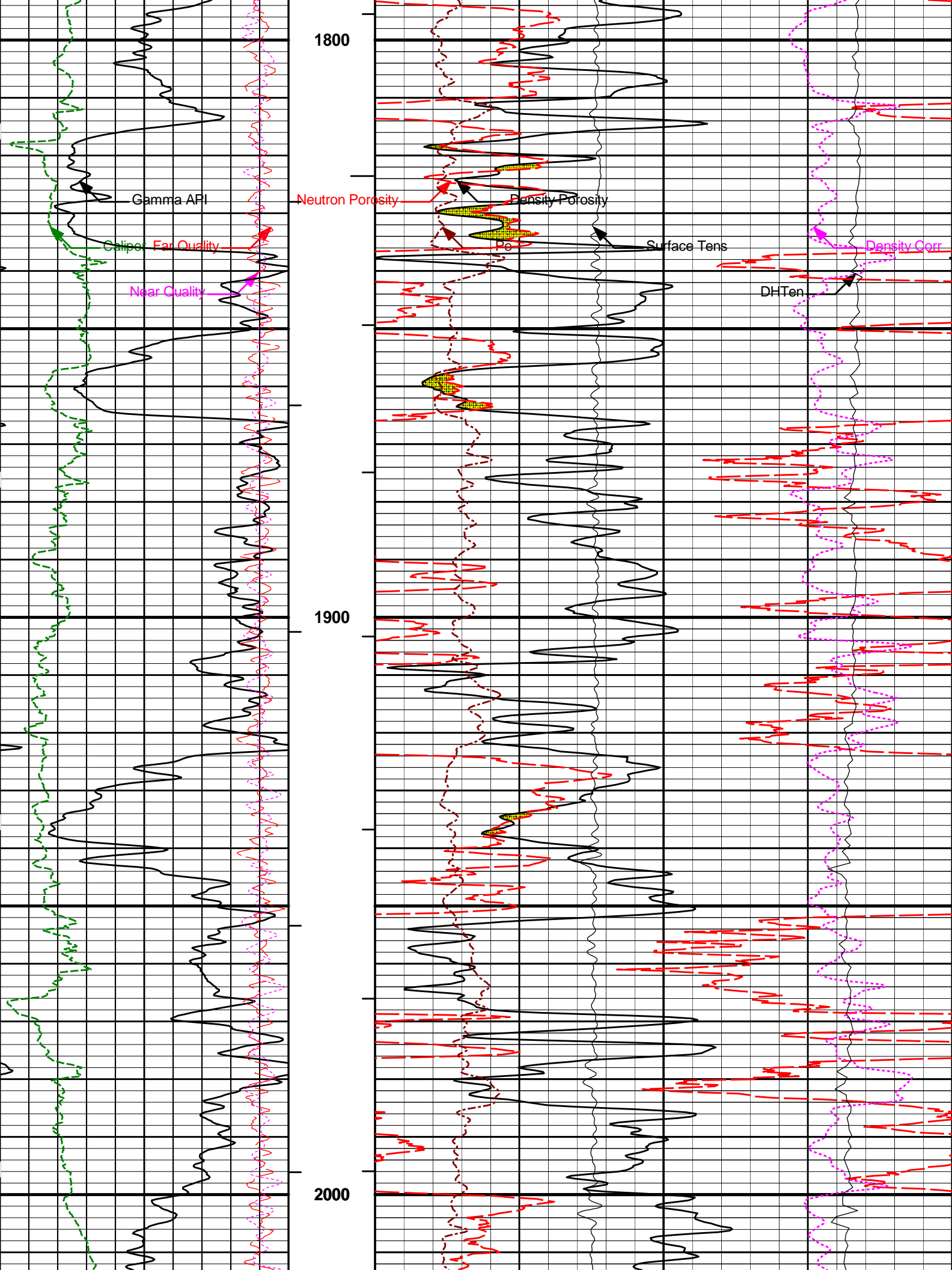
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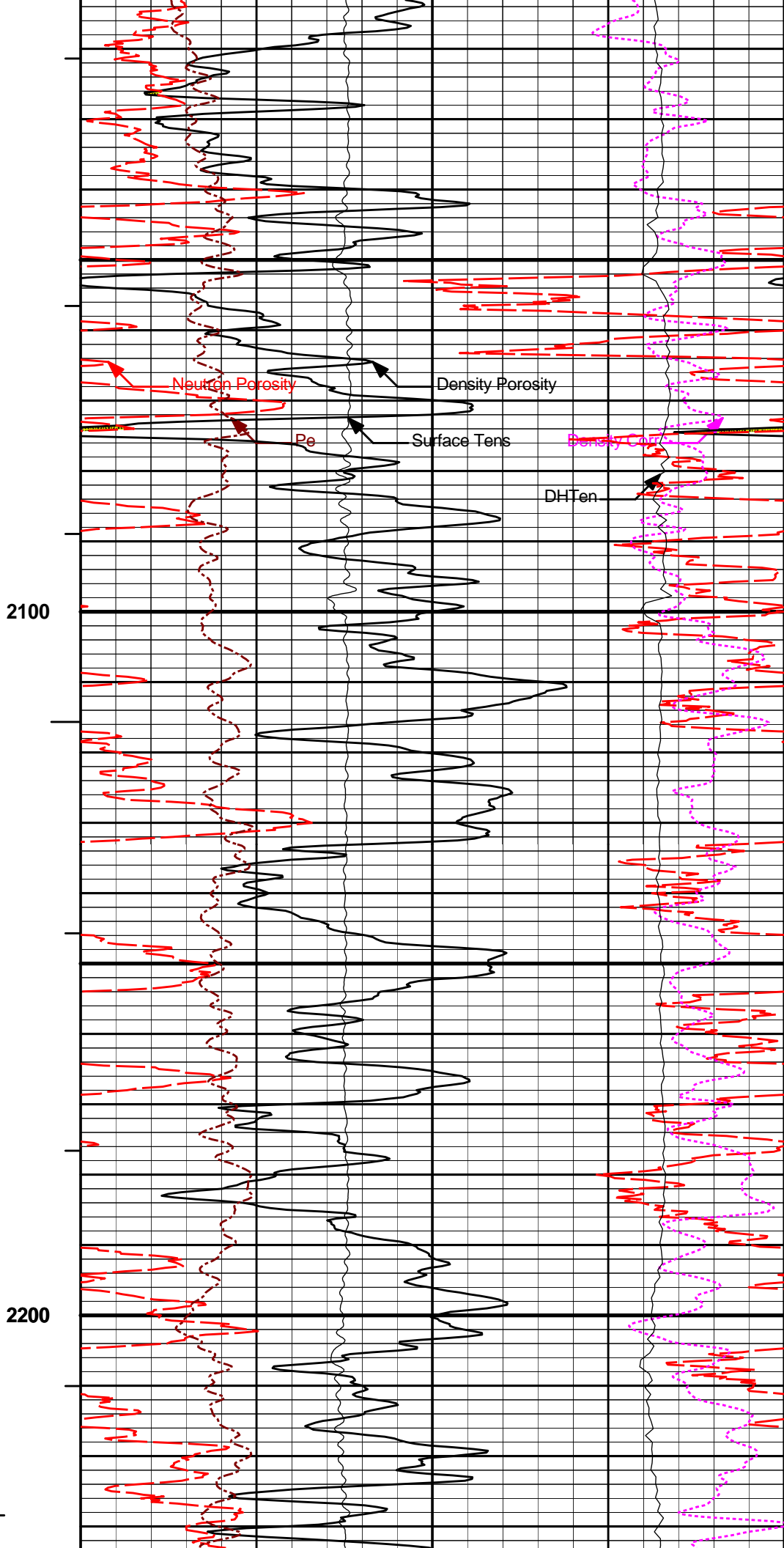
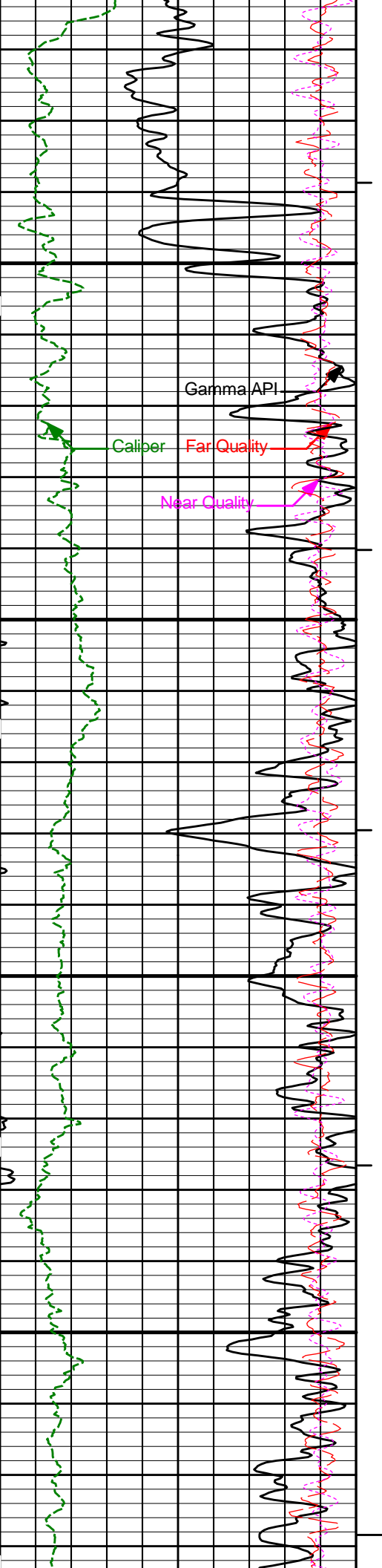
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Data: LE_HWXST_17_03C\Well Based\MAIN\
Plot File: \\POR\IQ_BP_POROSITY_5IN_DHT

MAIN PASS 5" = 100'



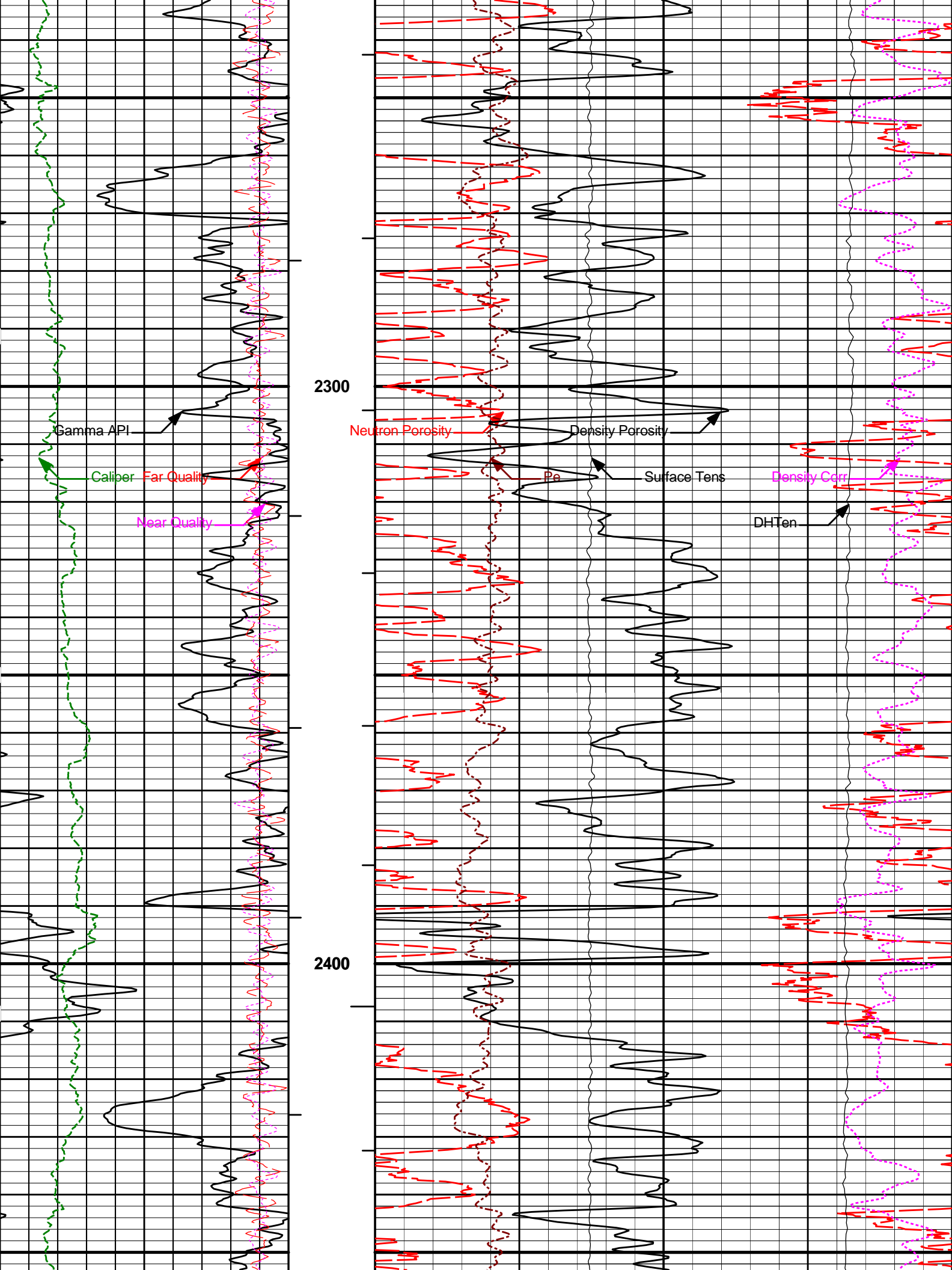


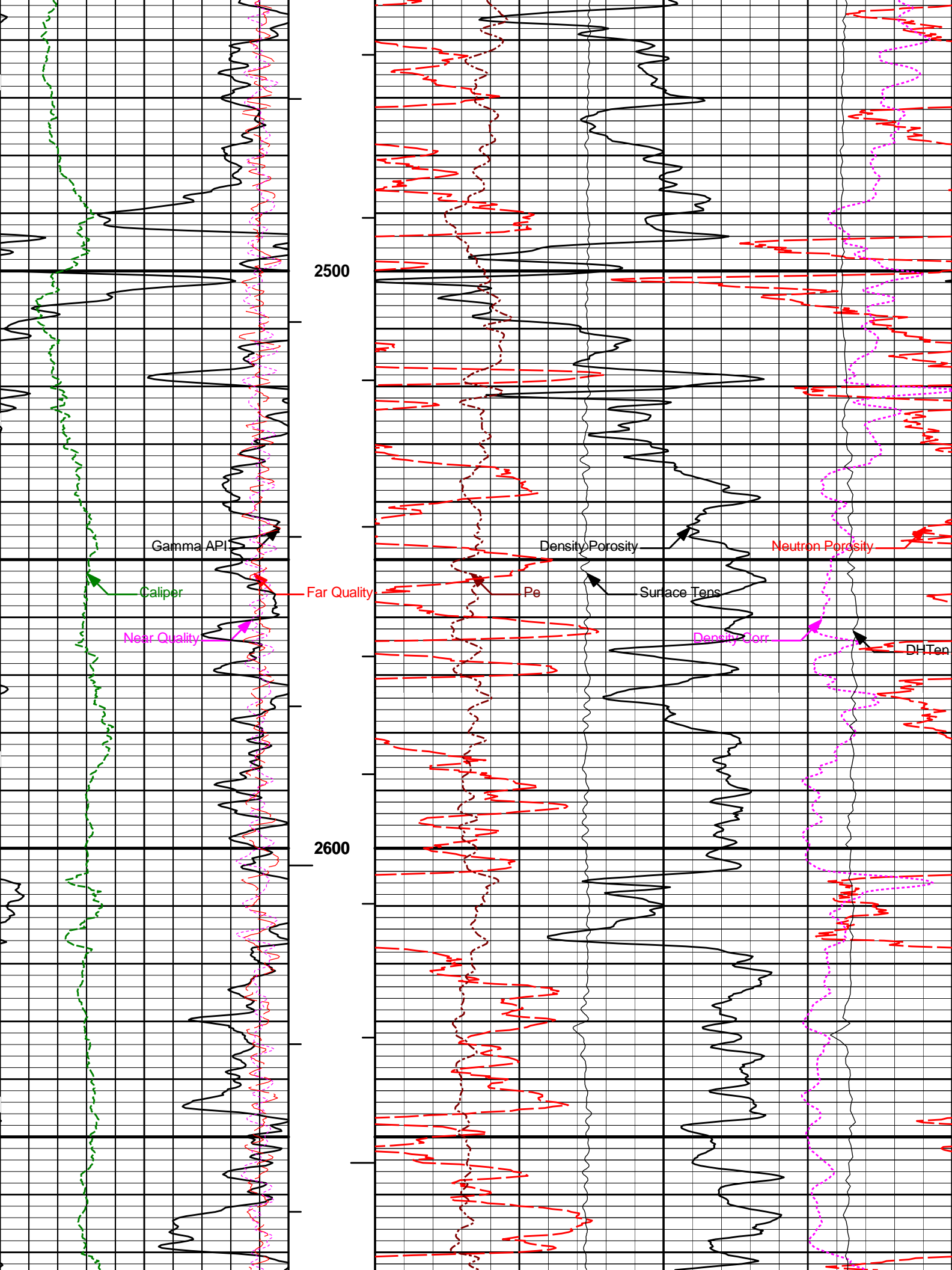


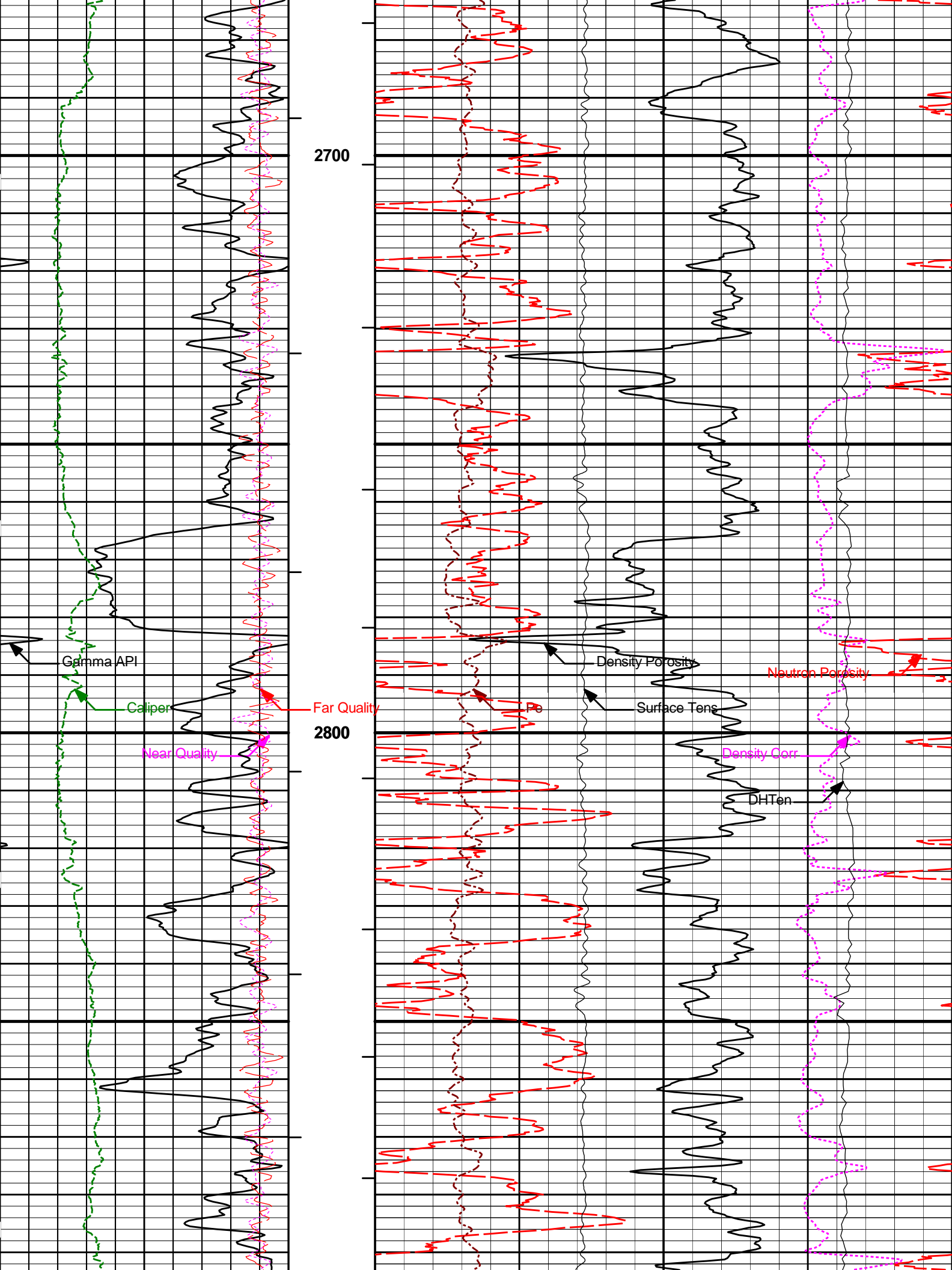


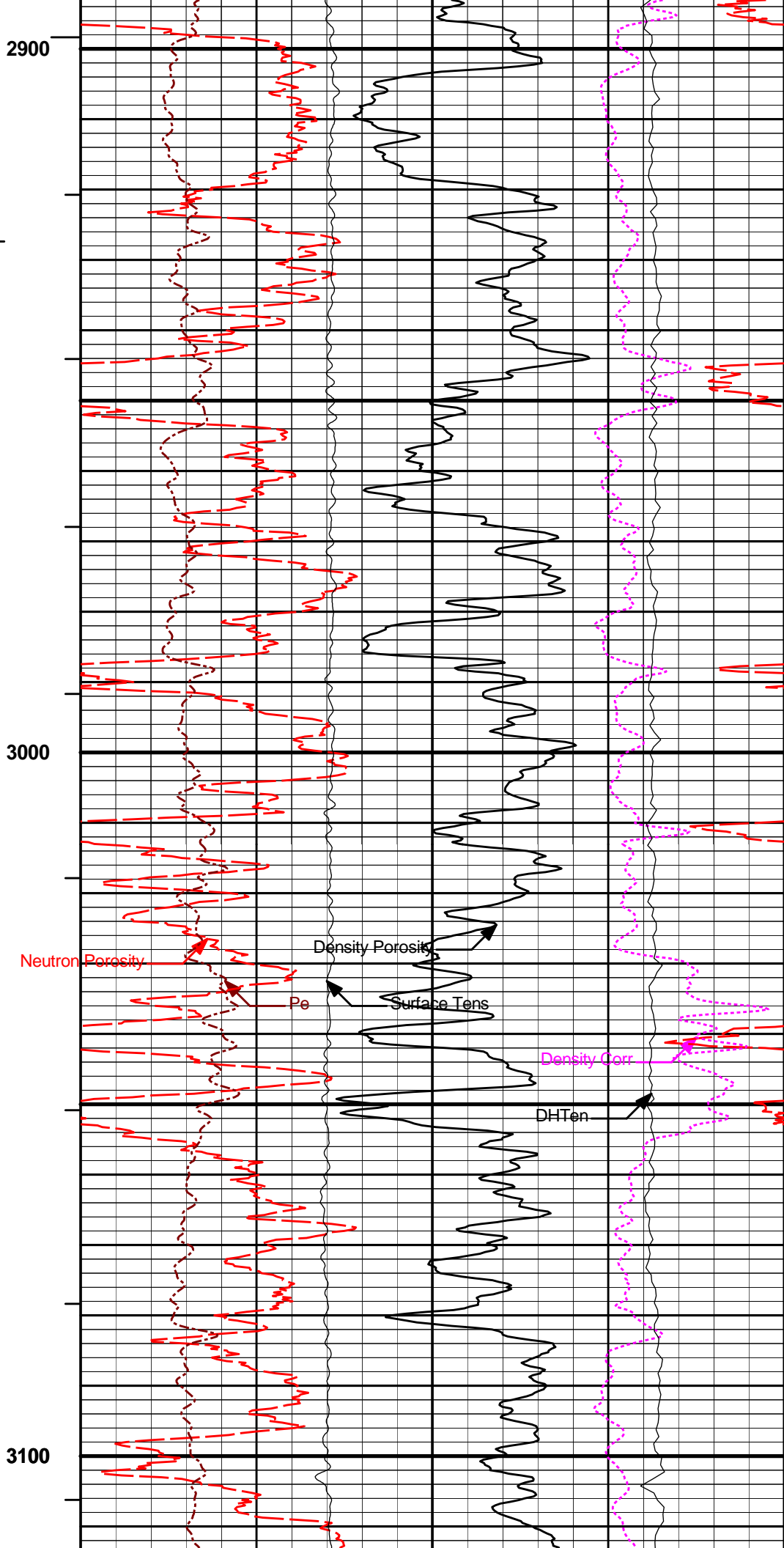
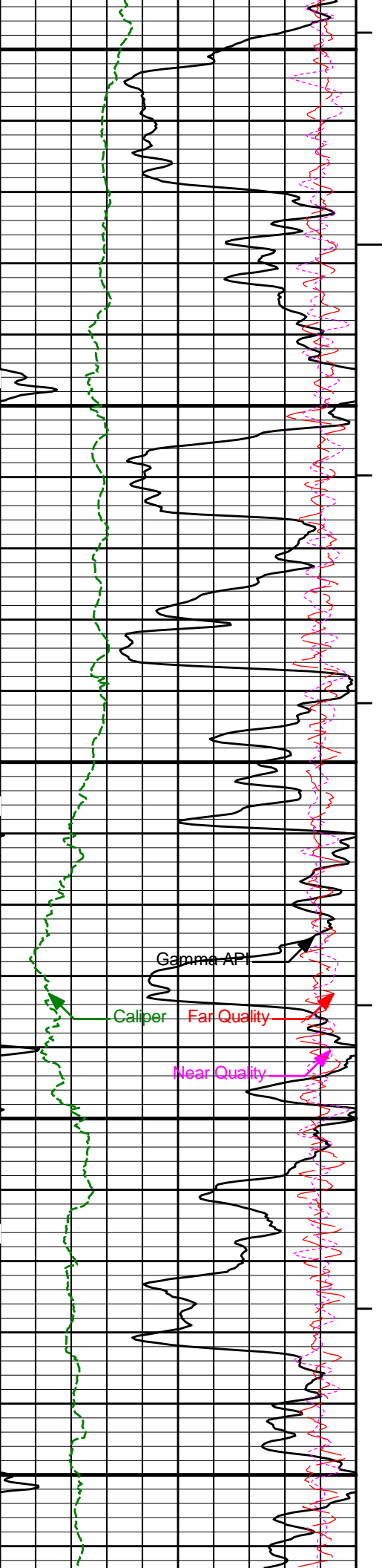
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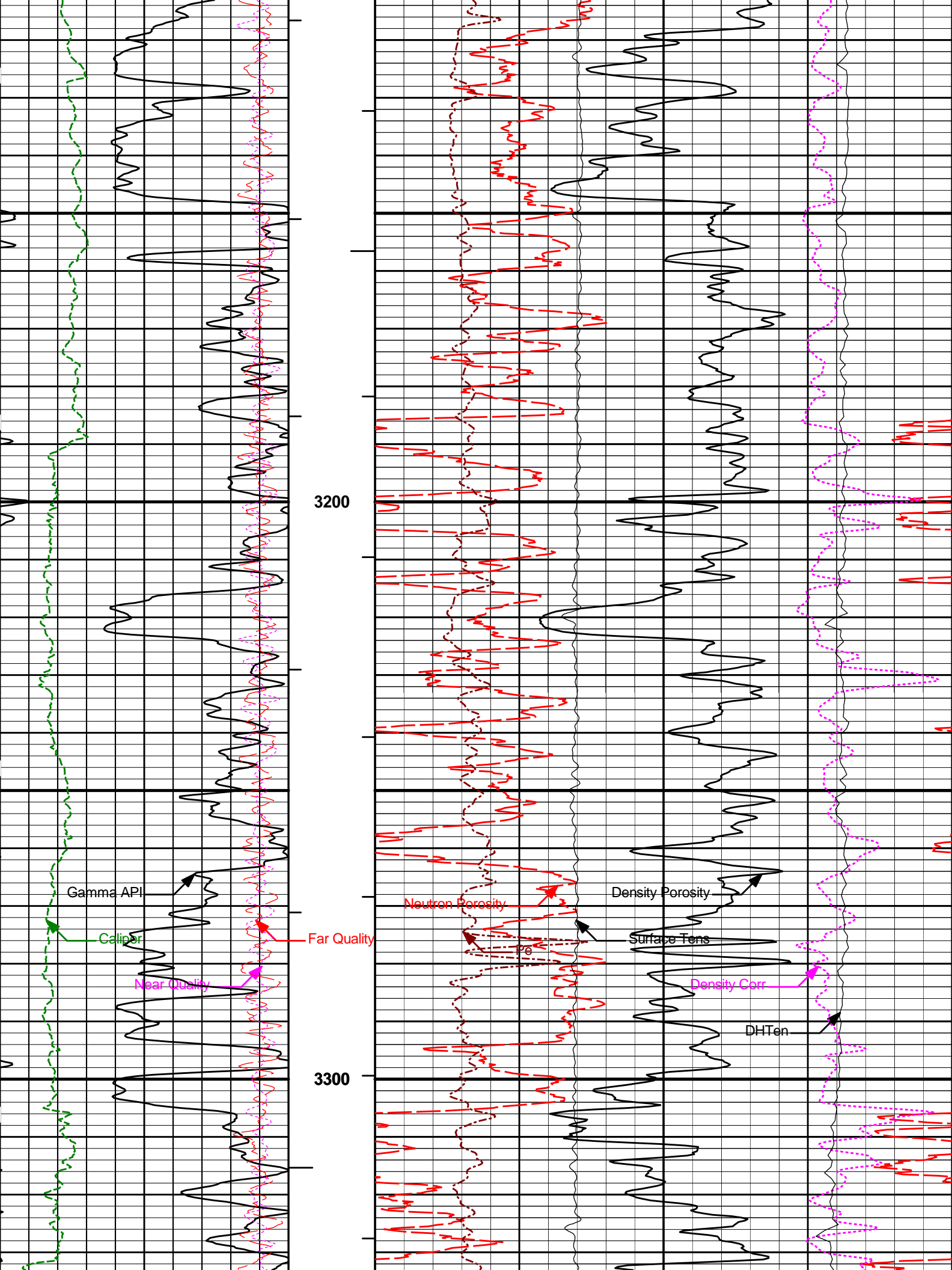
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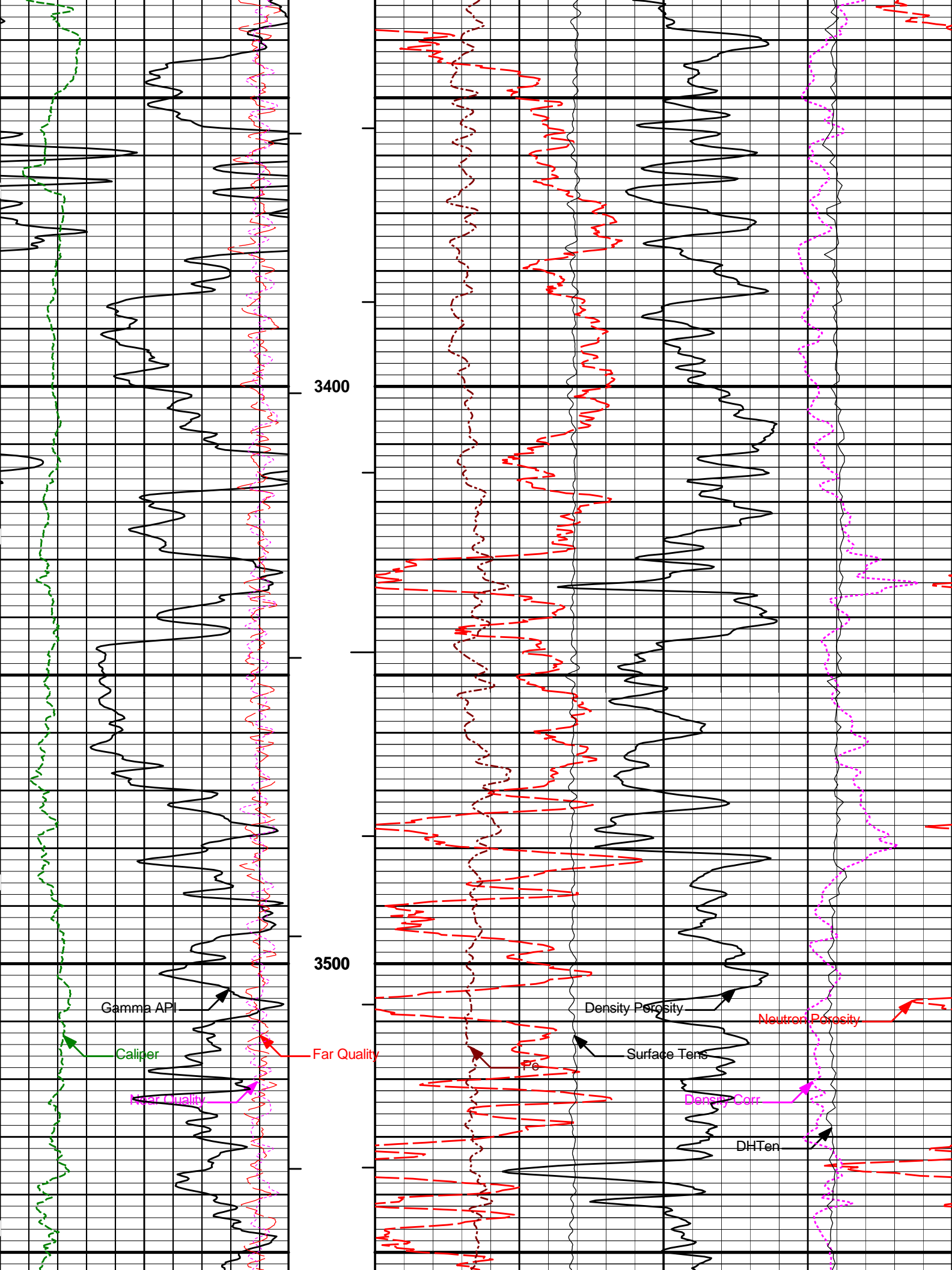


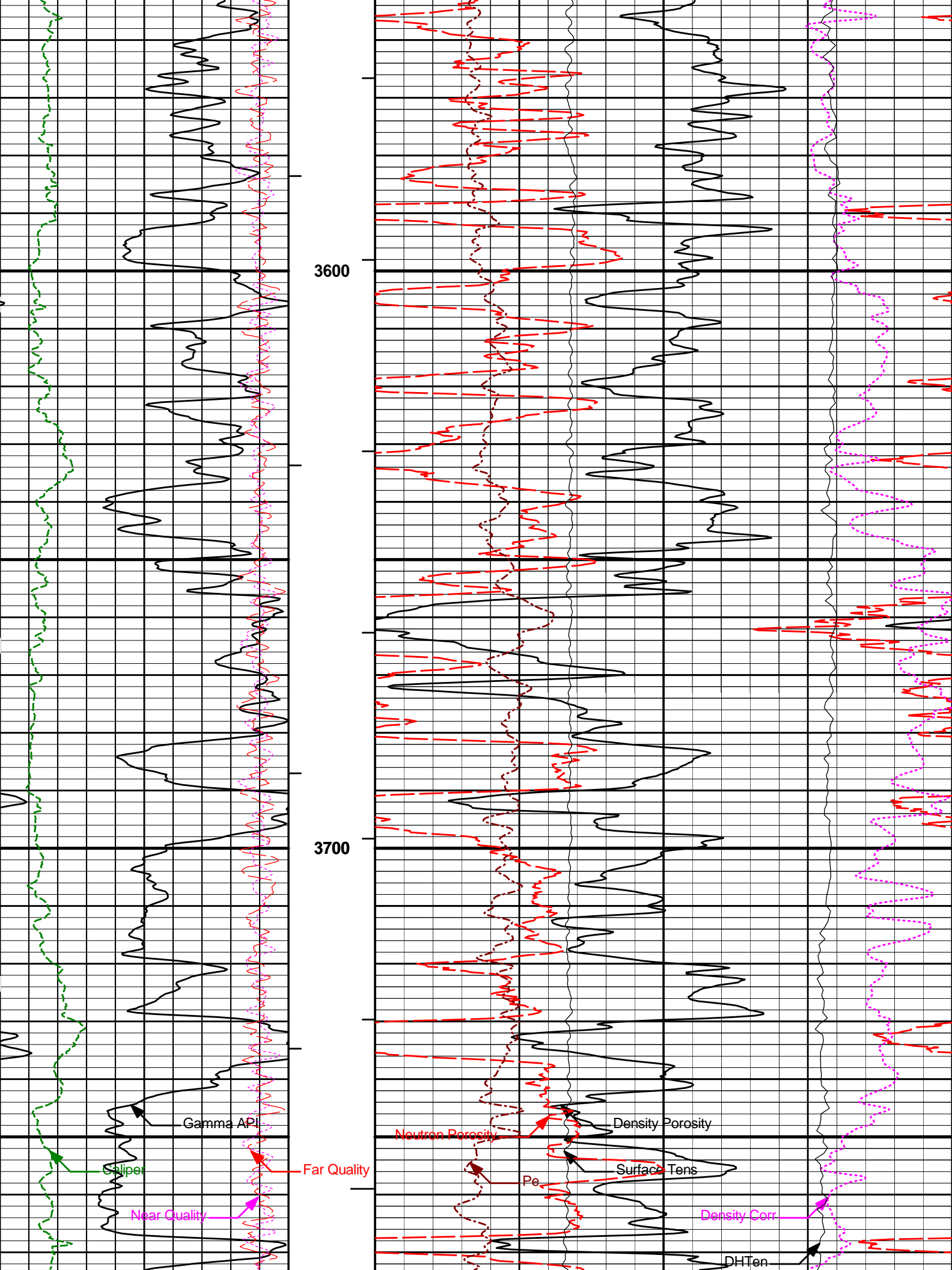


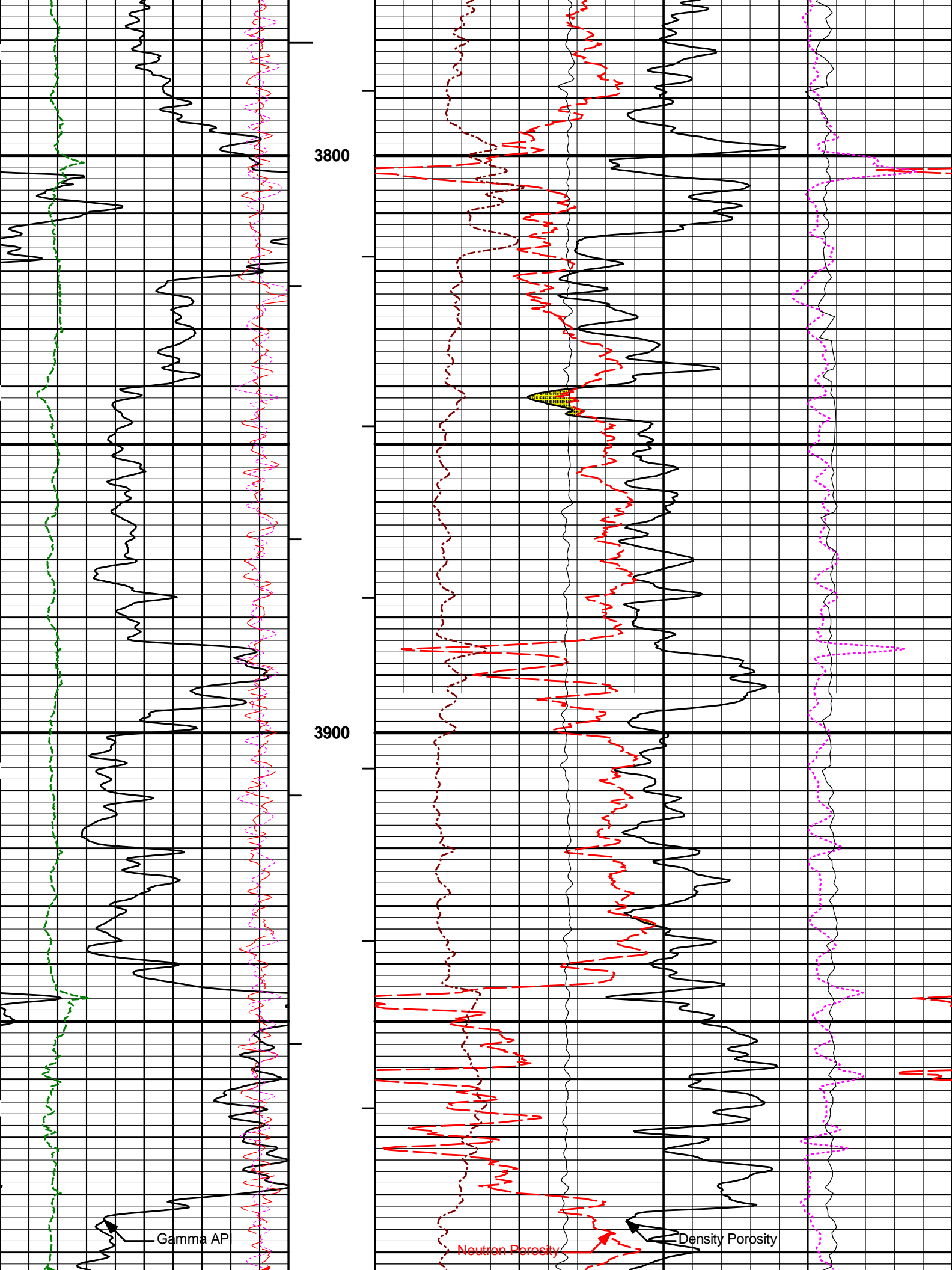


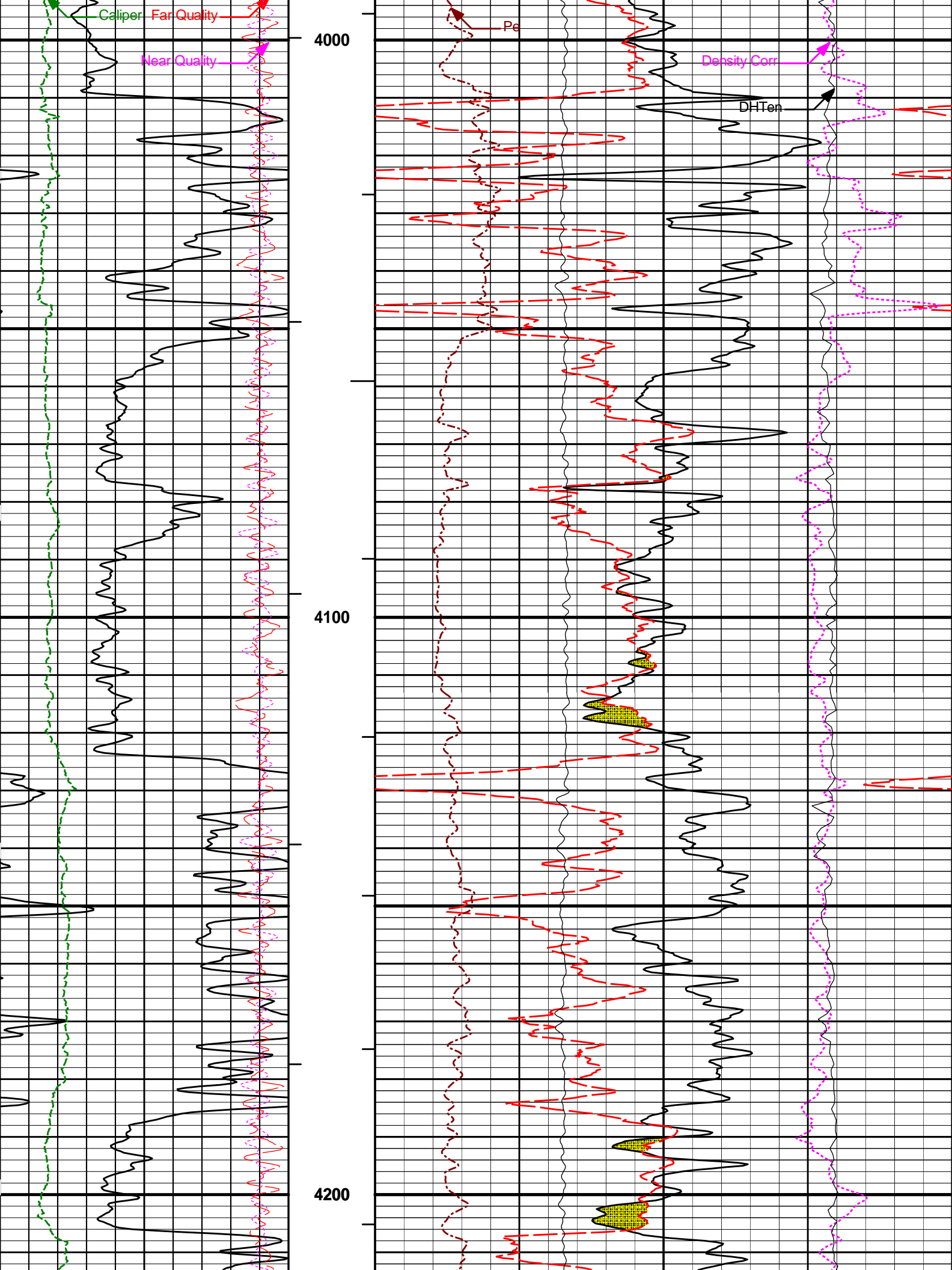


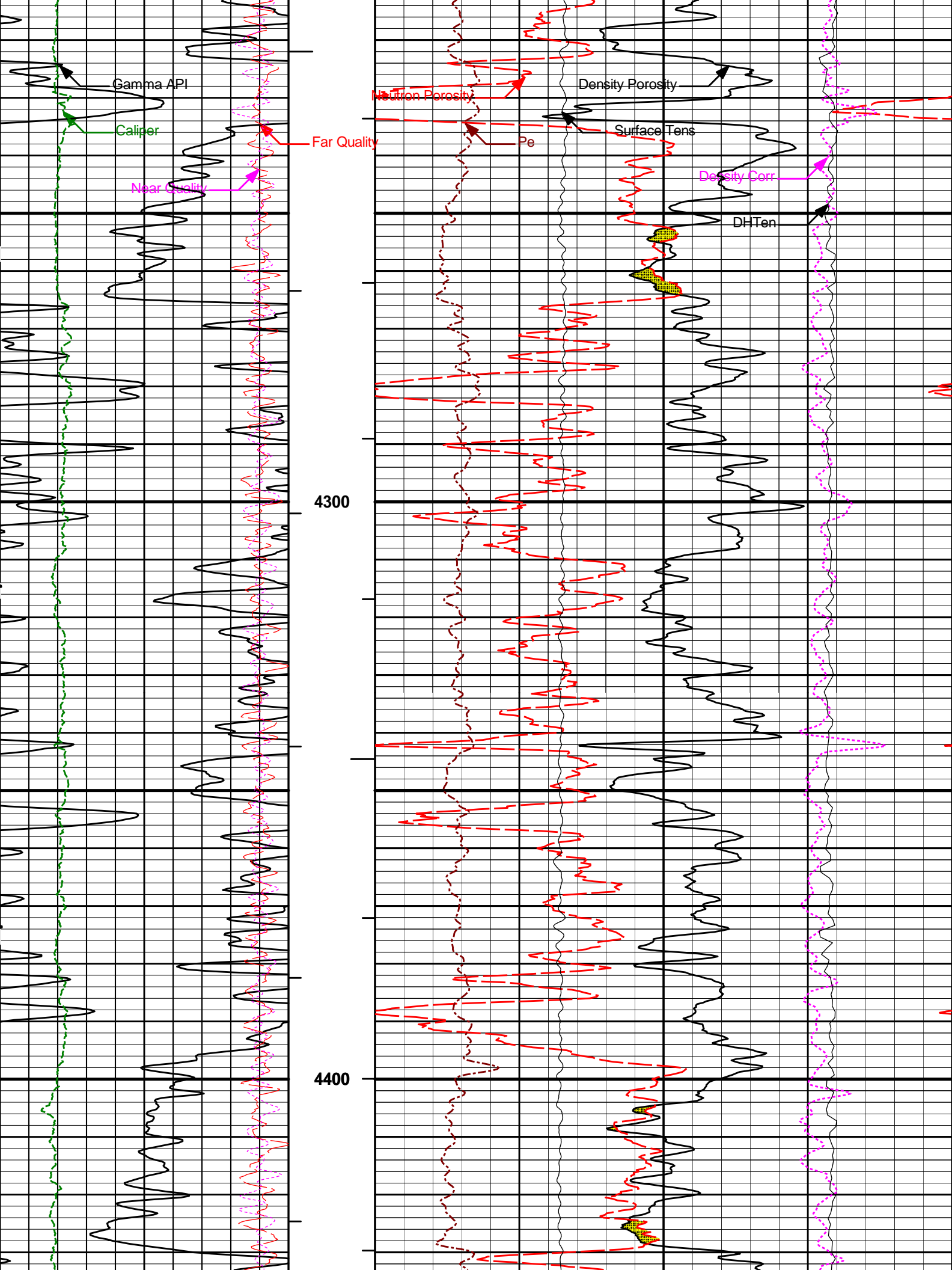


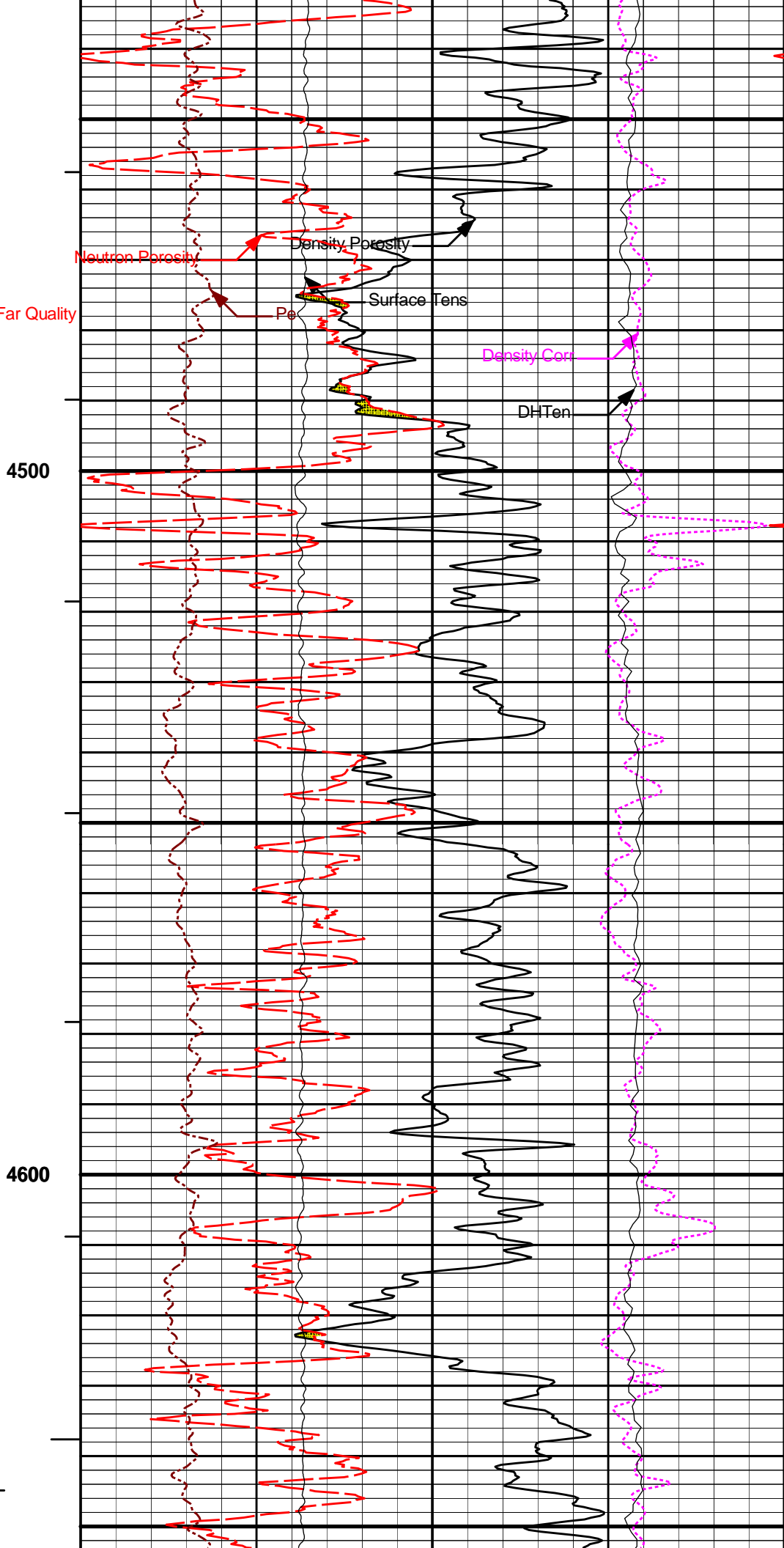
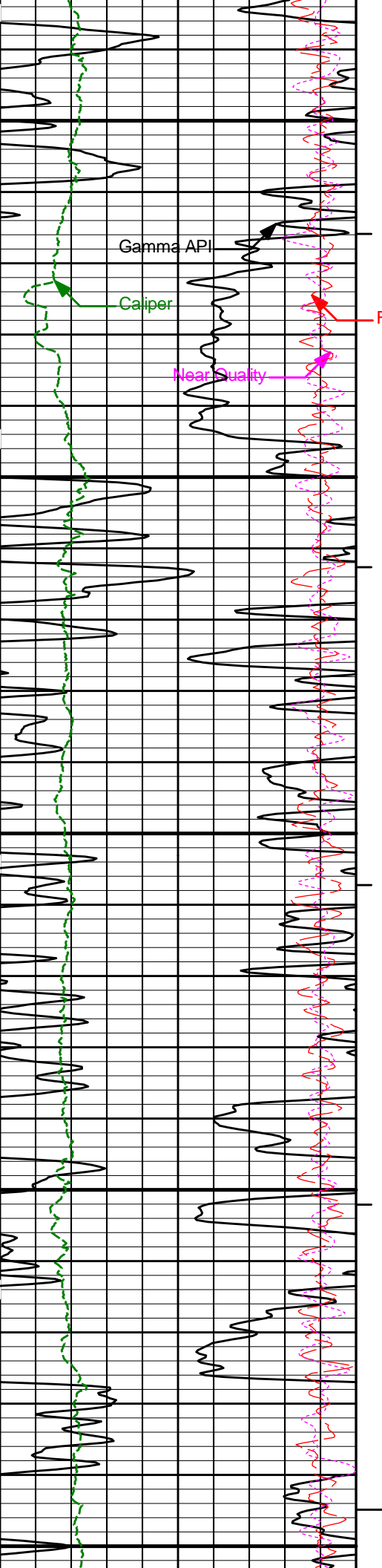


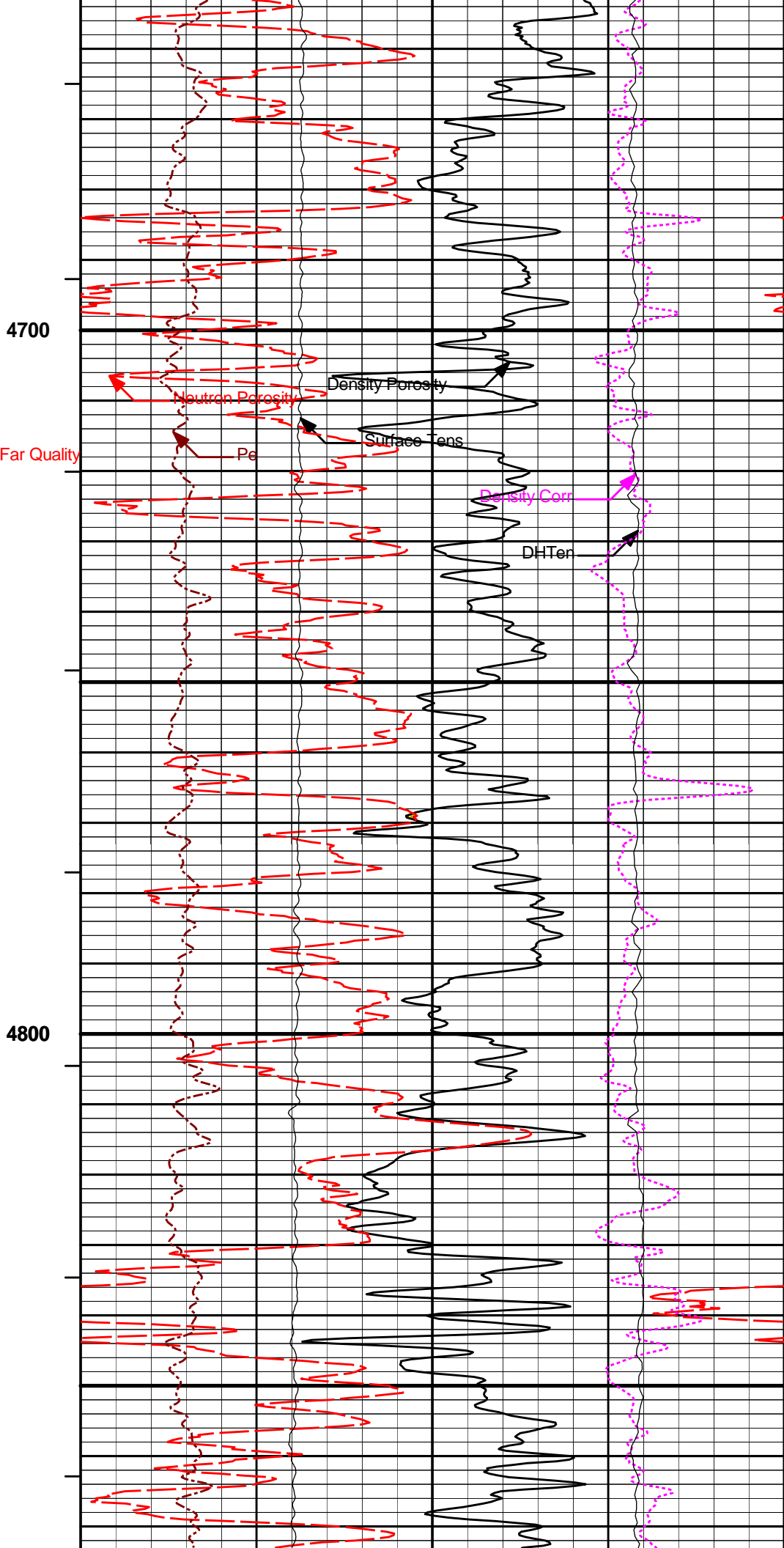
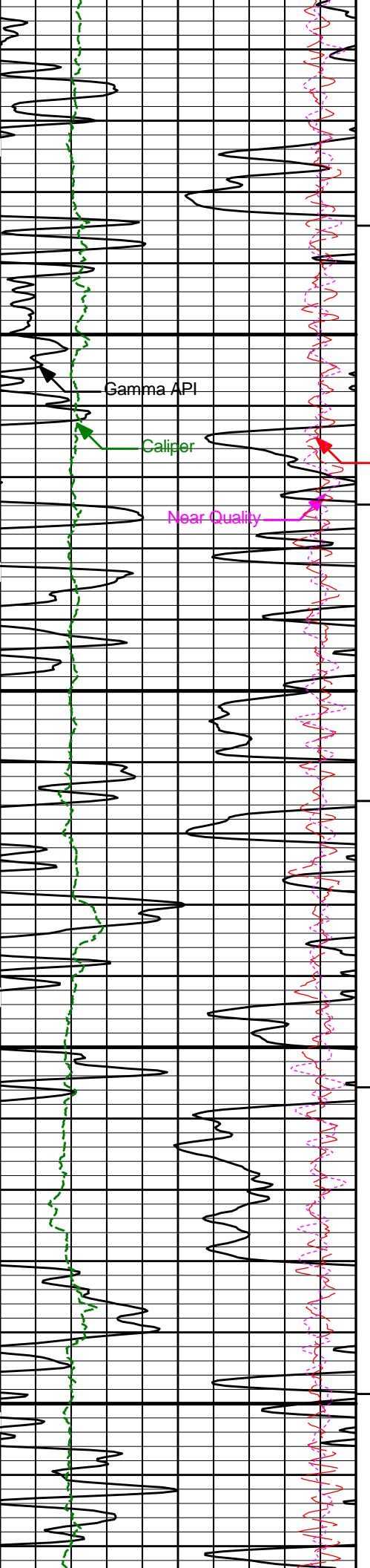


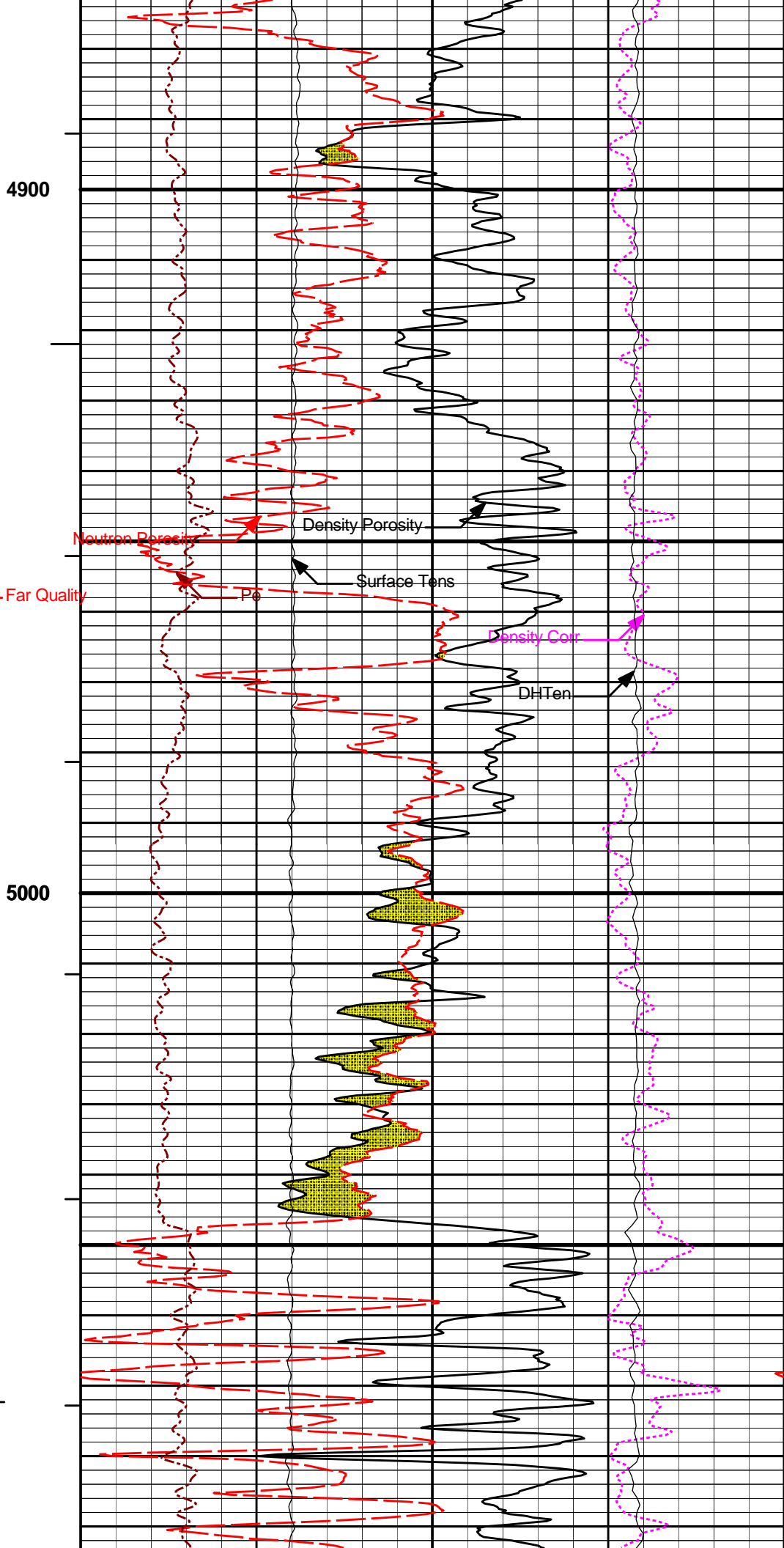
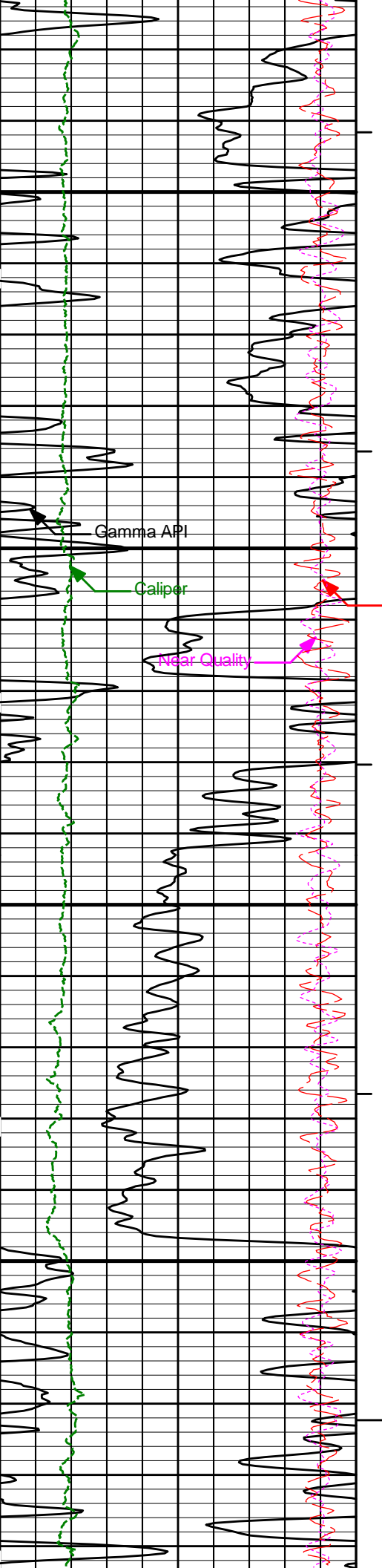


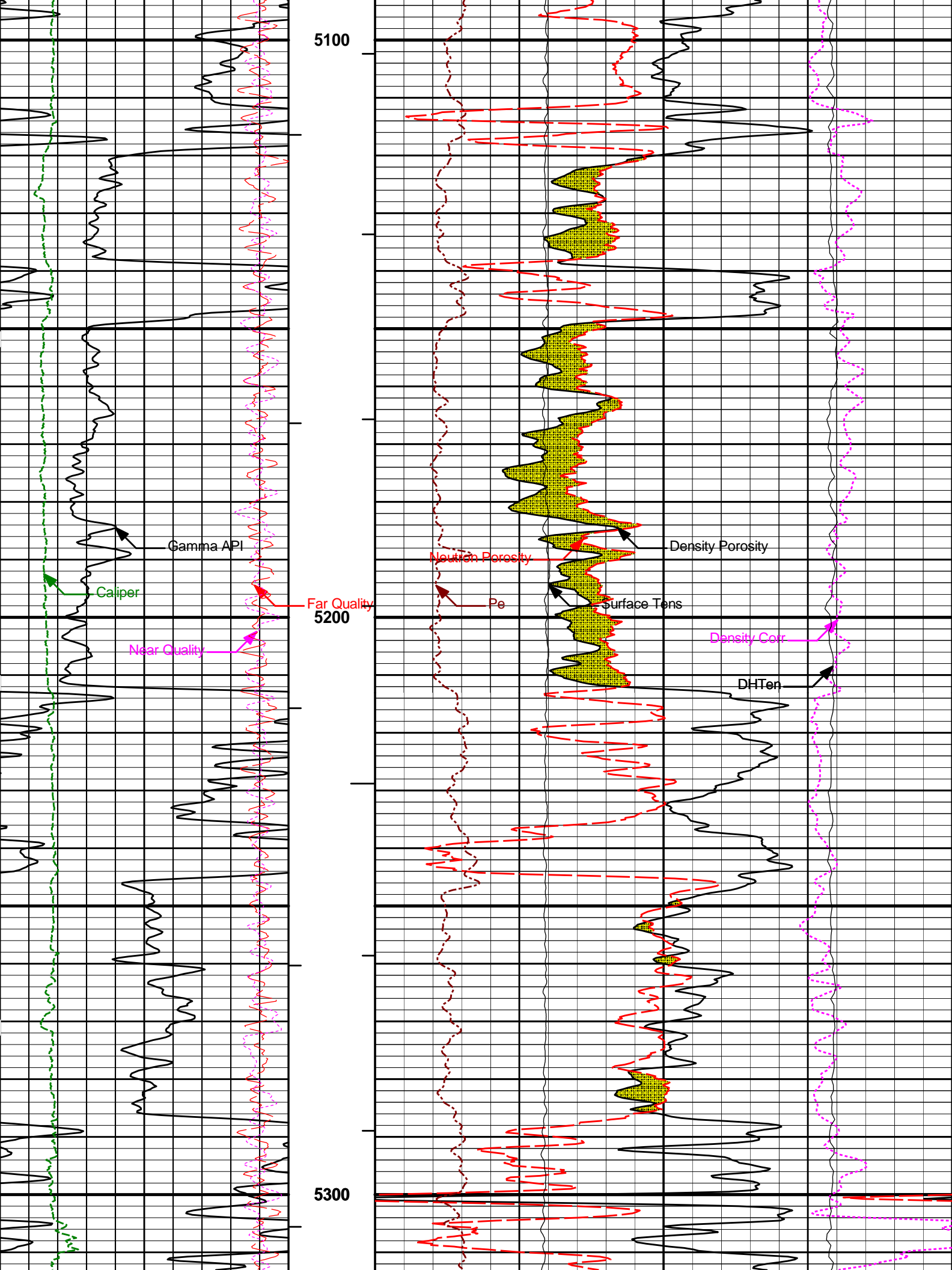


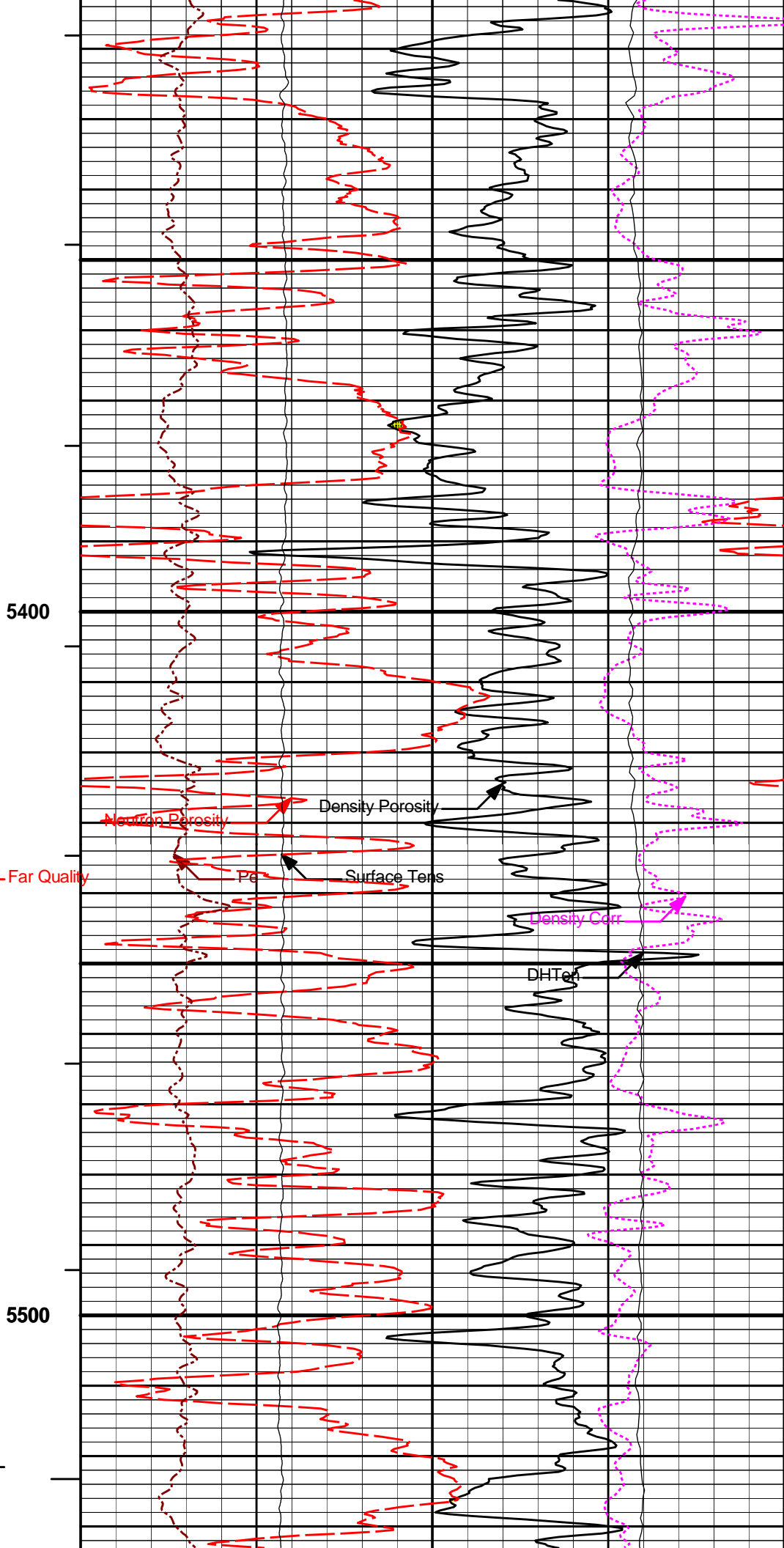
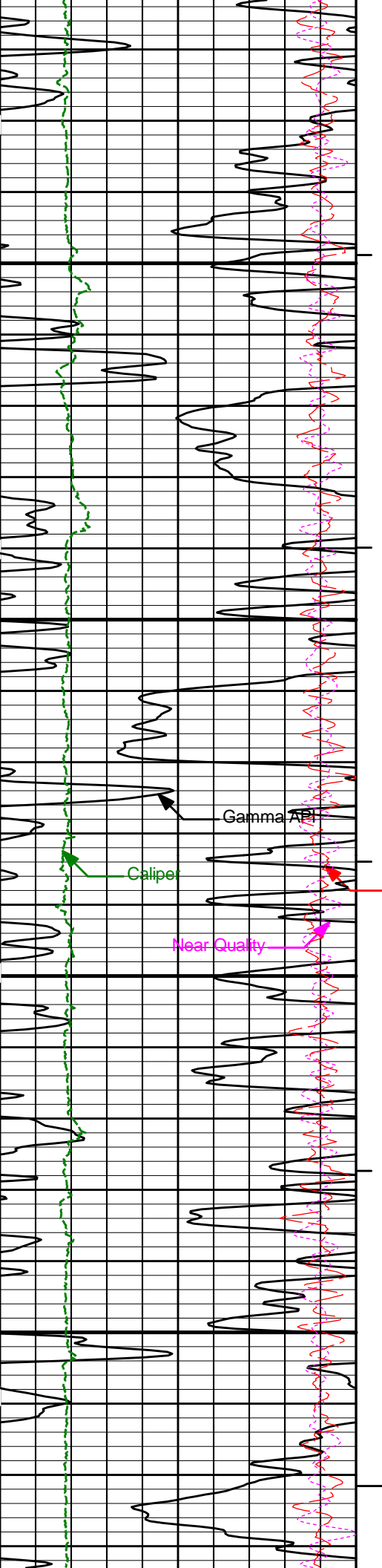


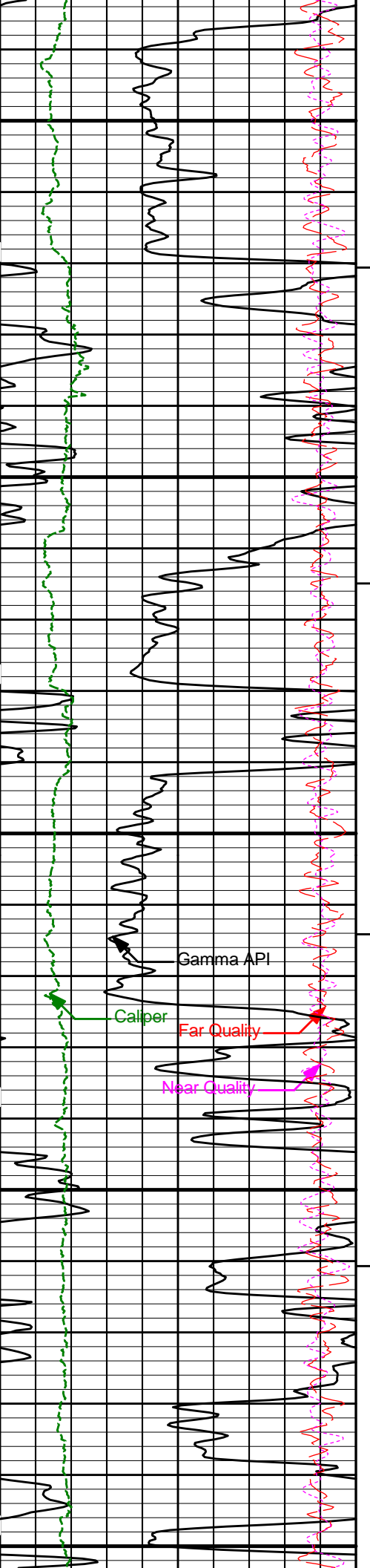






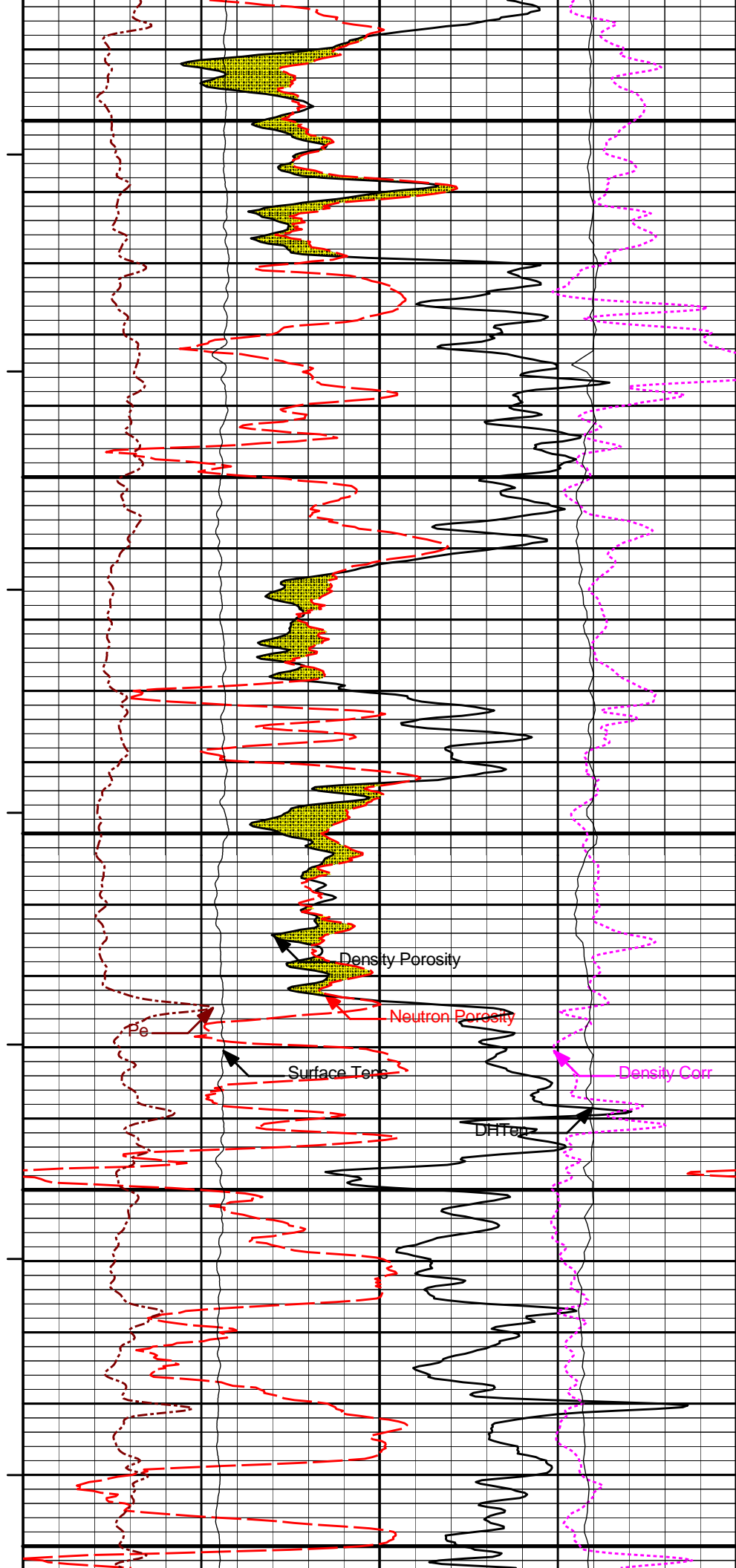






5600

5700

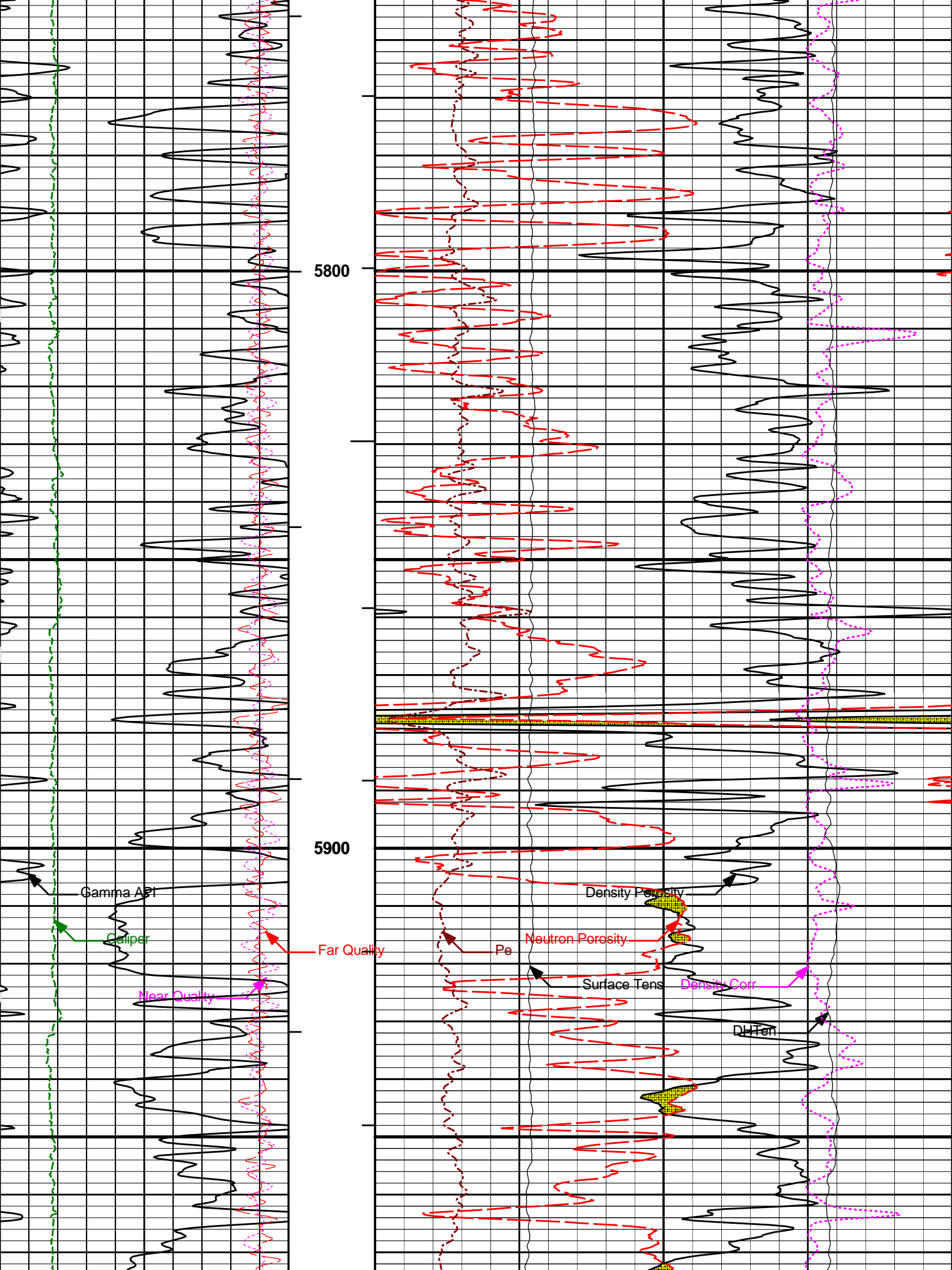


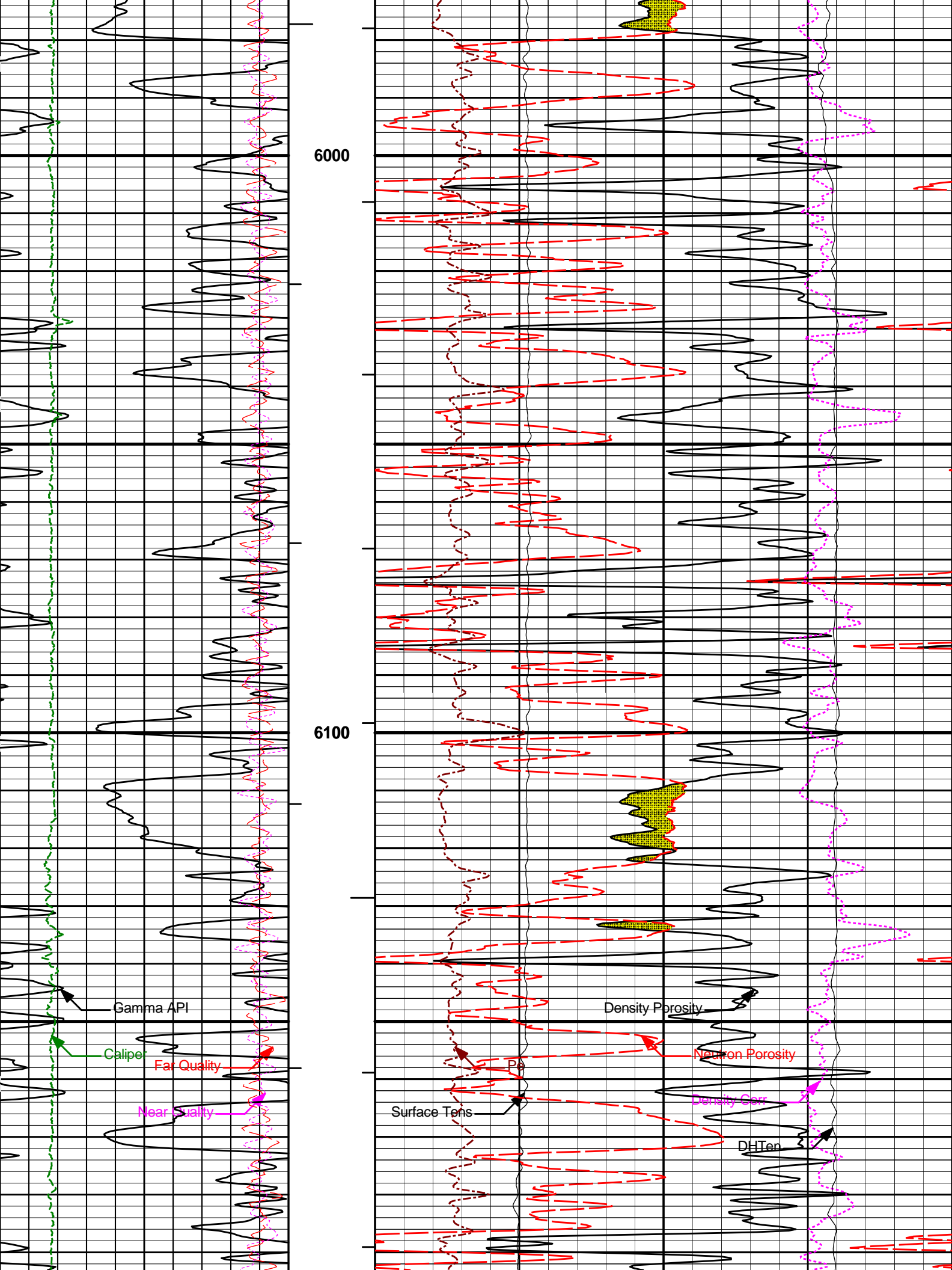
Density Porosity

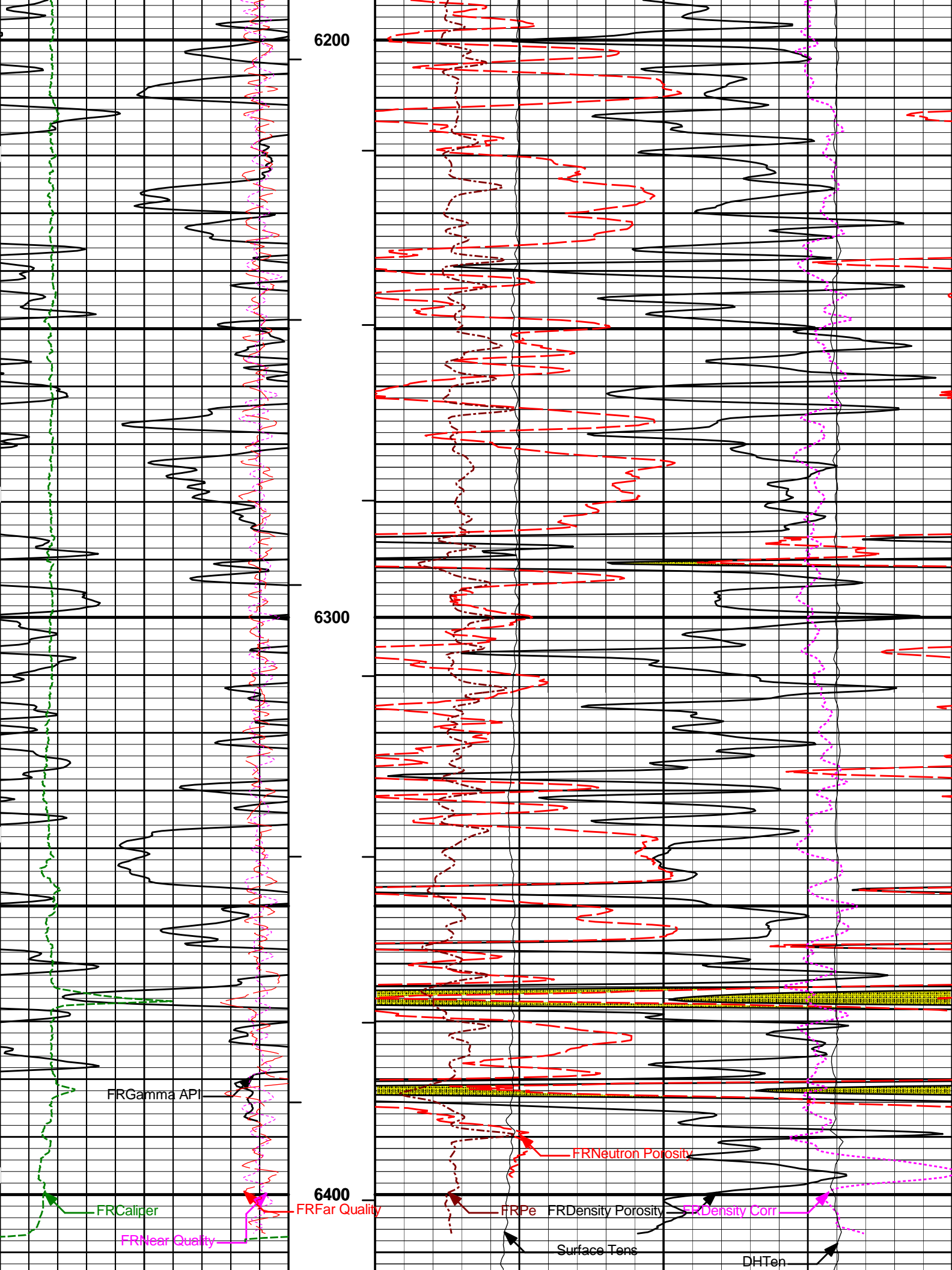
Neutron Porosity

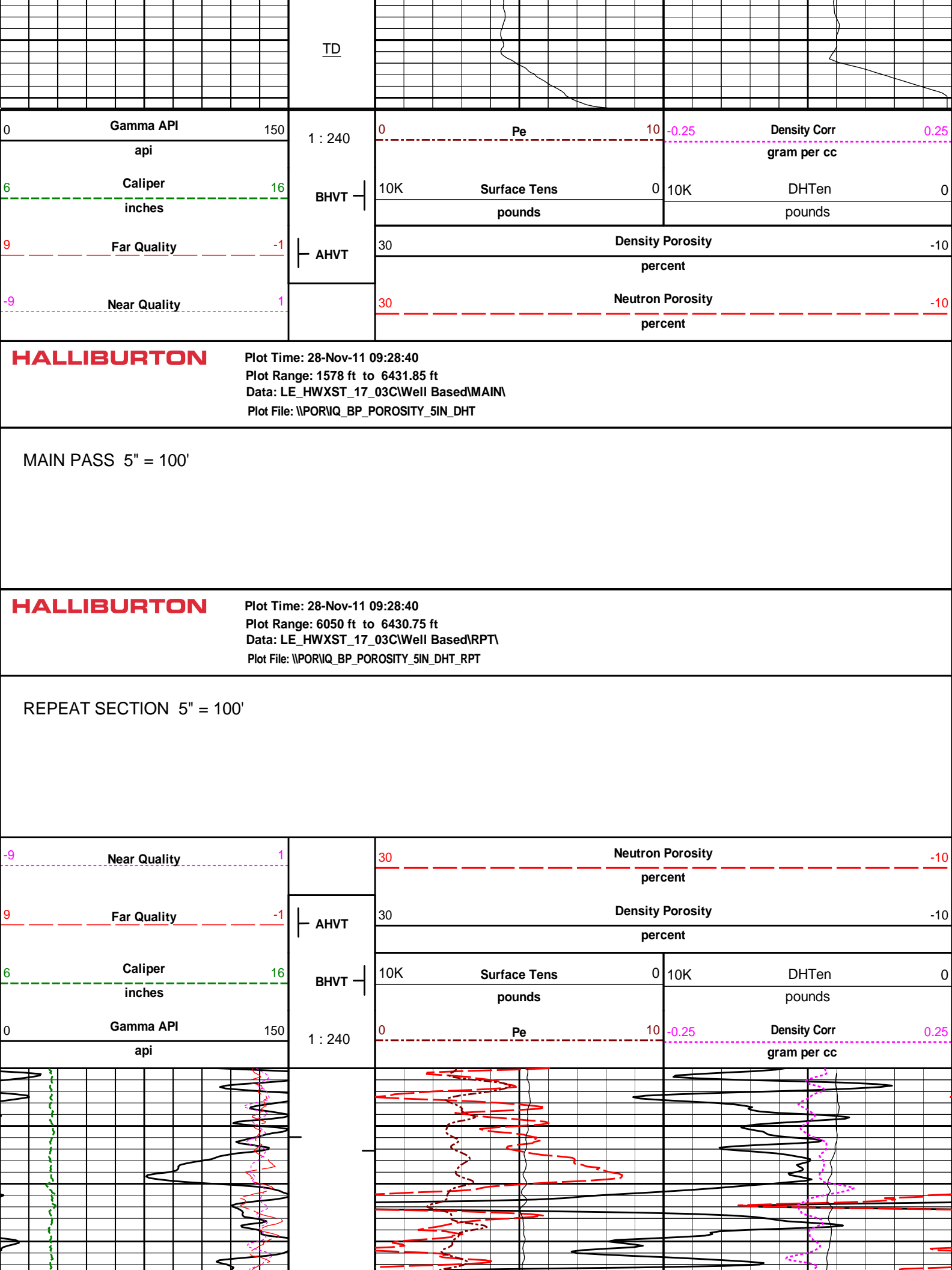
Surface Tens

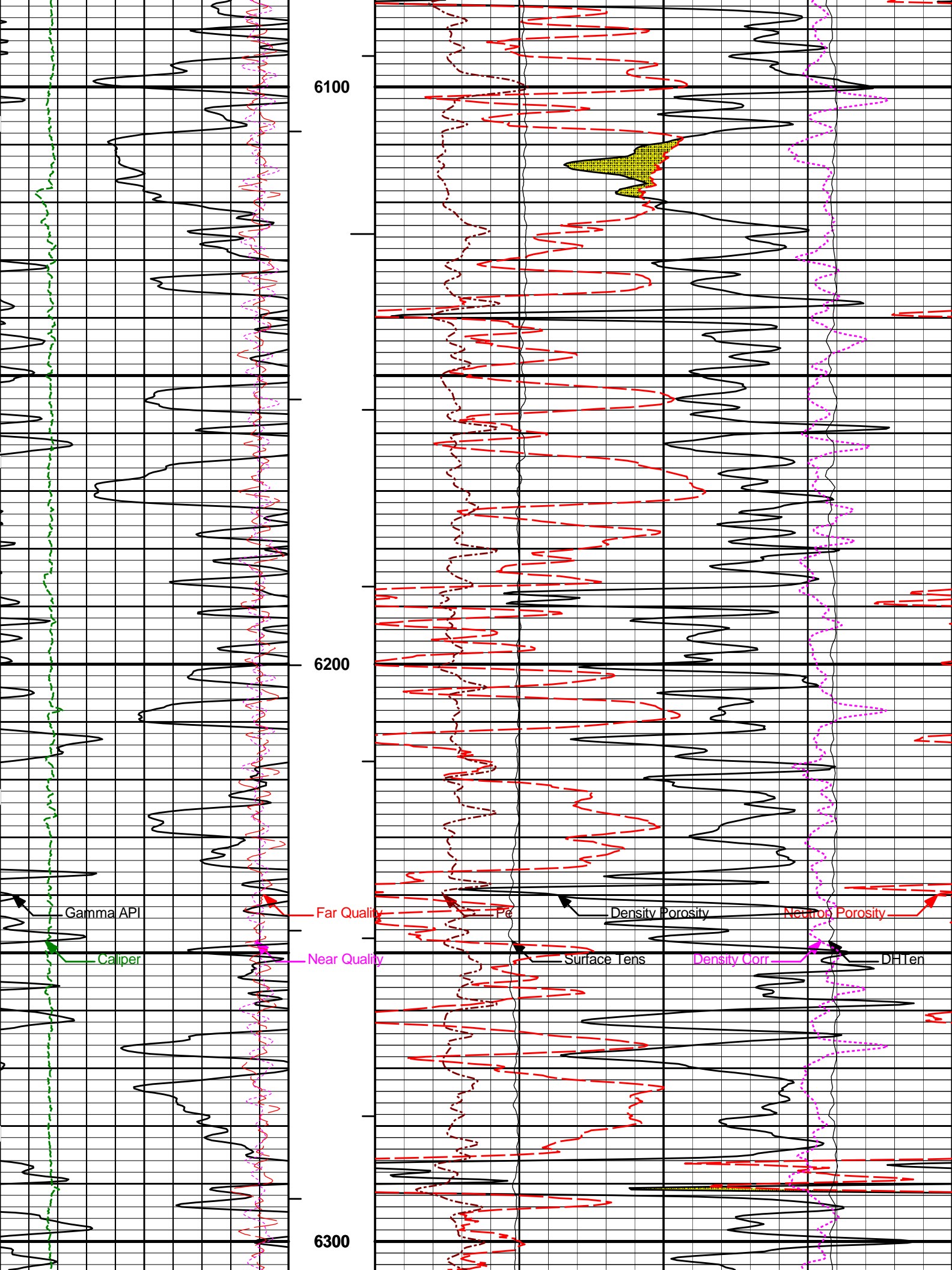
Density Corr

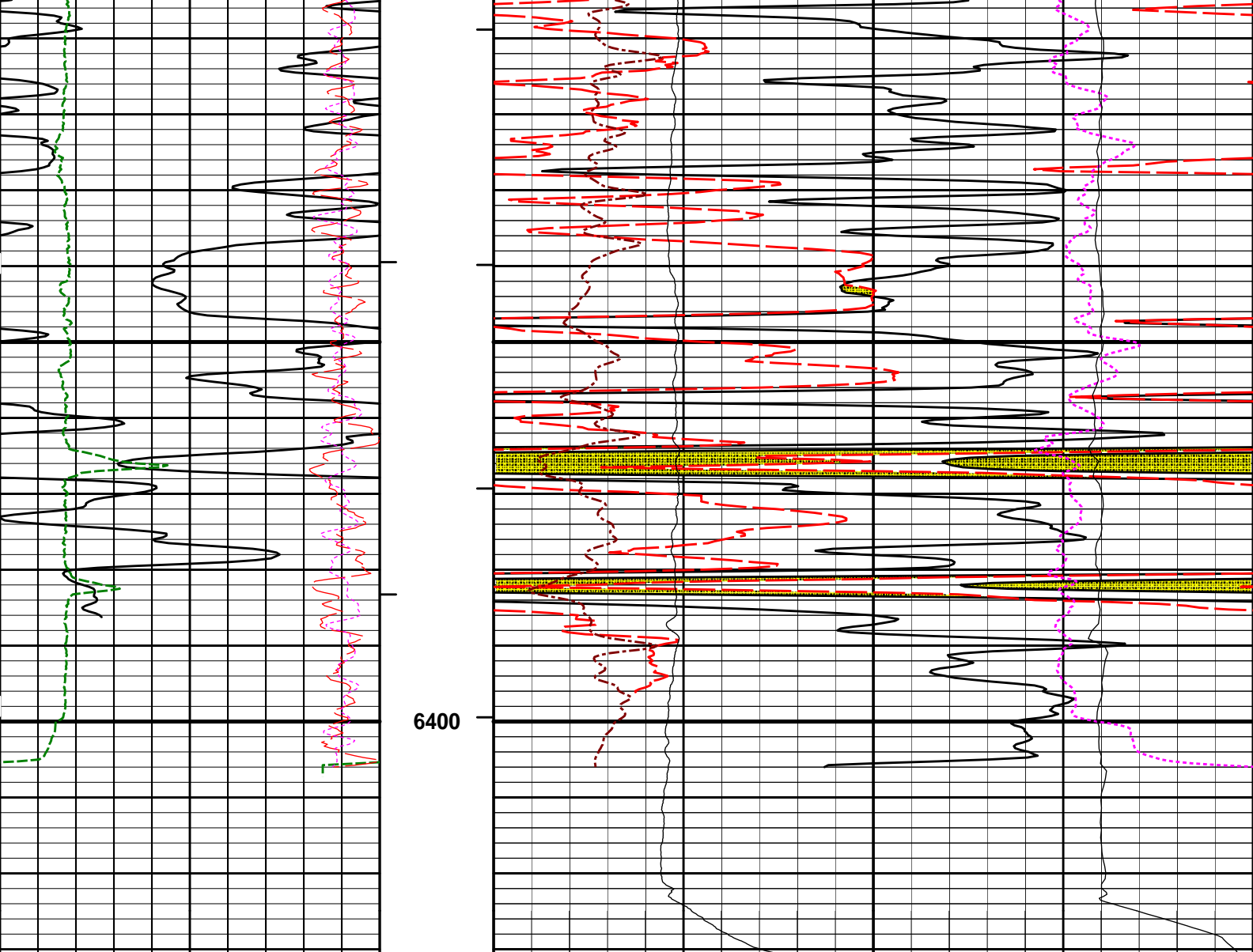












0Gamma API150		1 : 240	0Pe10		-0.25Density Corr0.25		
api					gram per cc		
6Caliper16			BHVT	10KSurface Tens0		10KDHTen0	
inches				pounds		pounds	
9Far Quality-1		AHVT	30Density Porosity-10				
			percent				
-9Near Quality1			30Neutron Porosity-10				
			percent				

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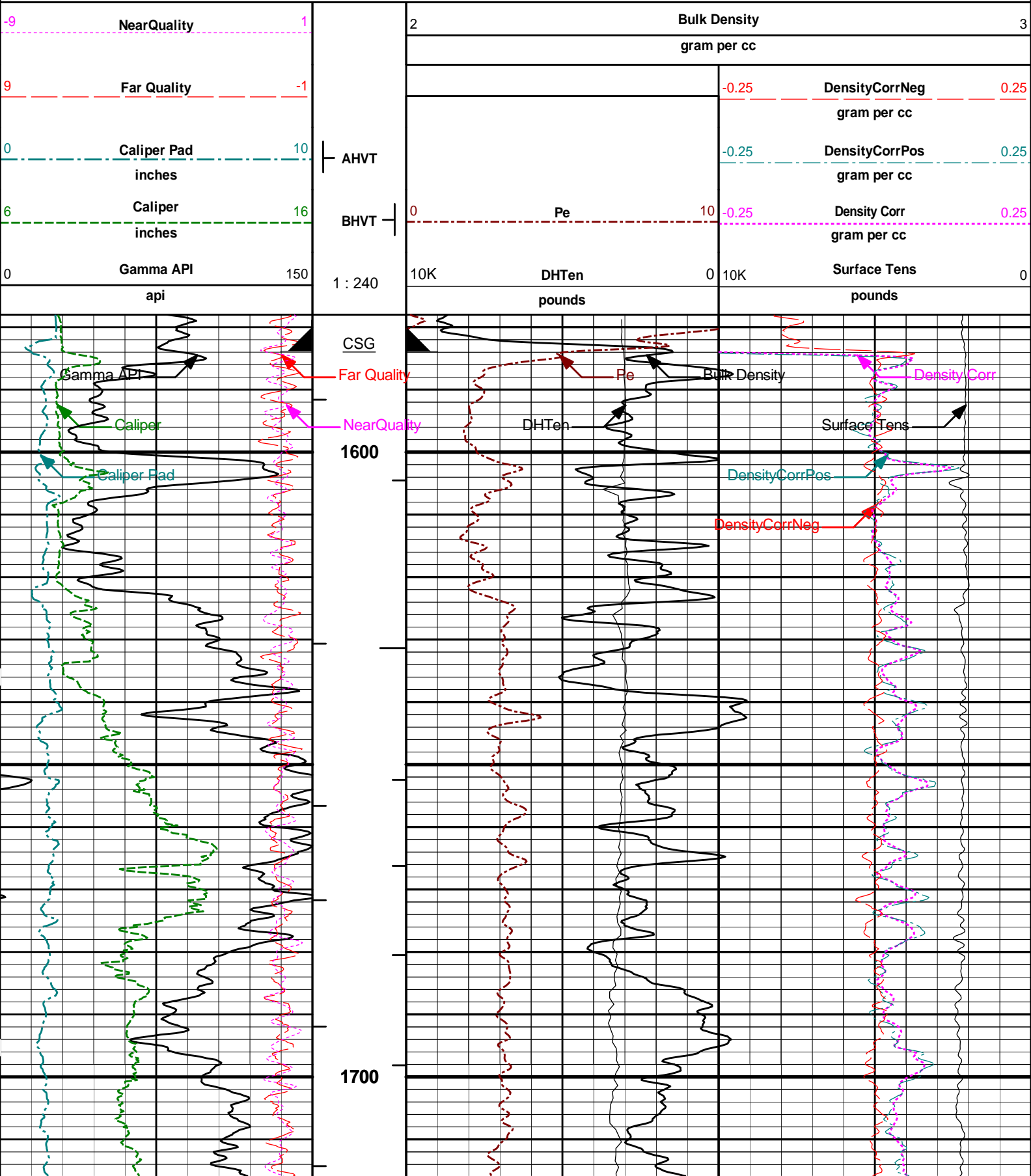
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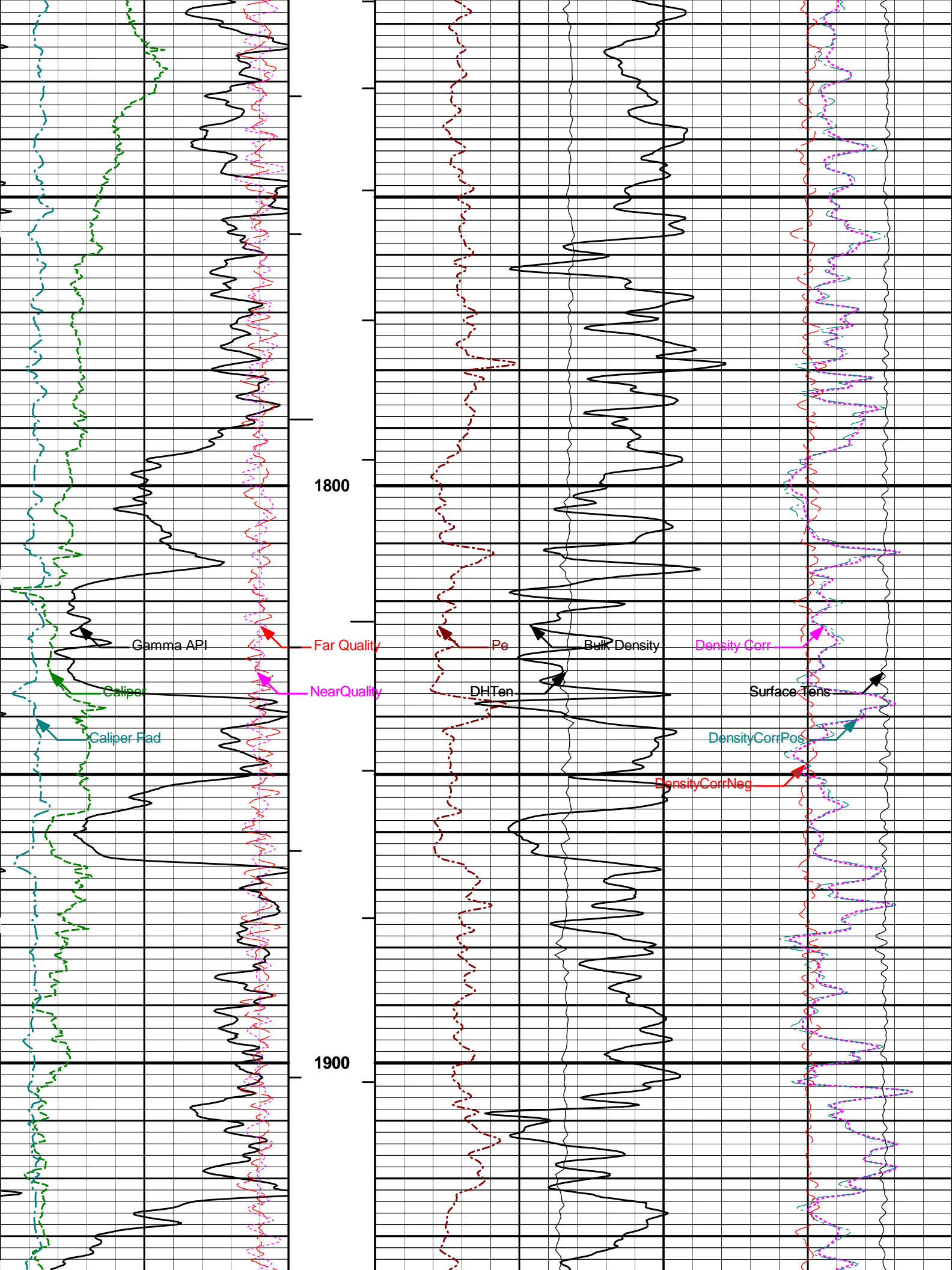
REPEAT SECTION 5" = 100'

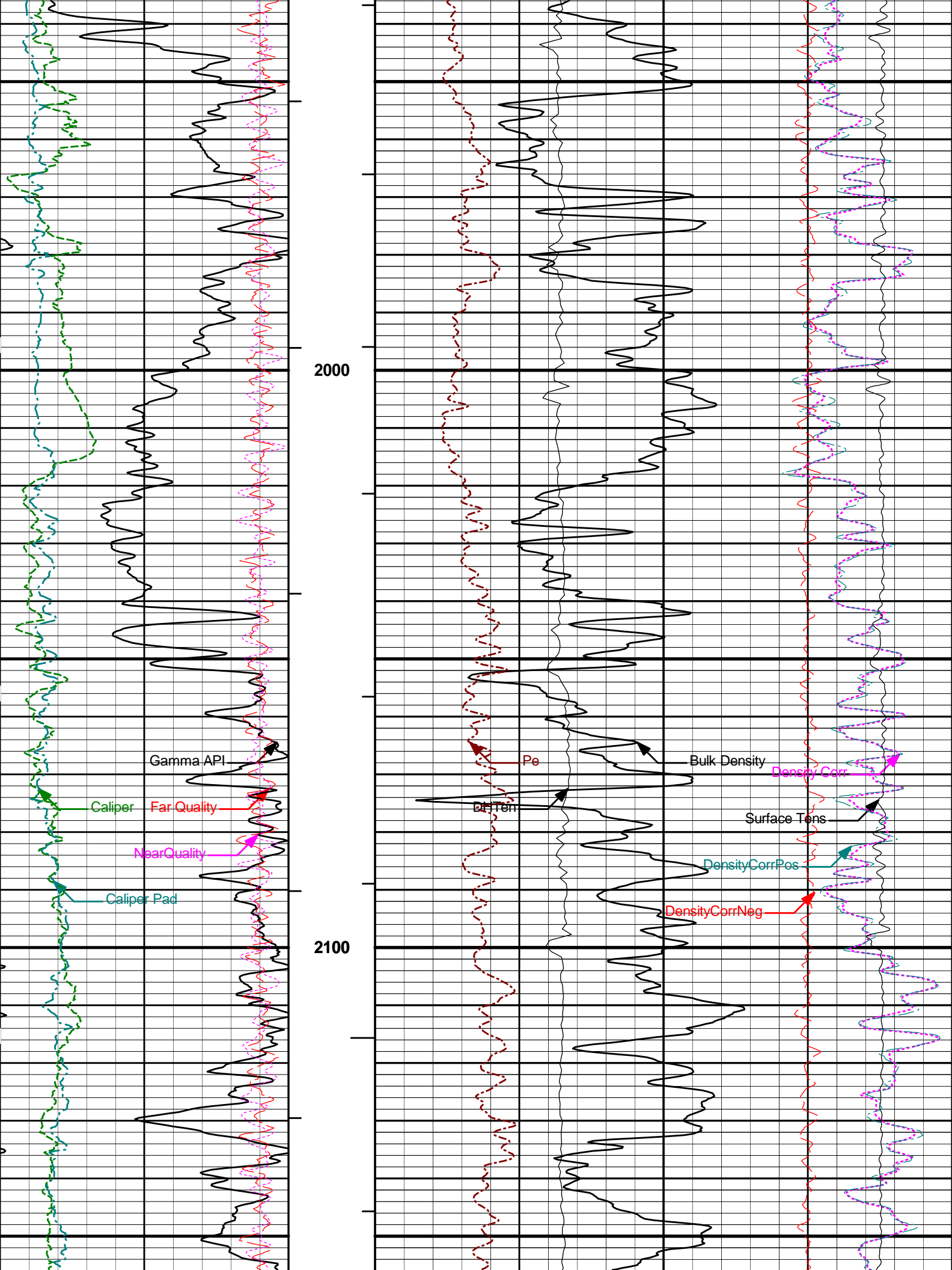
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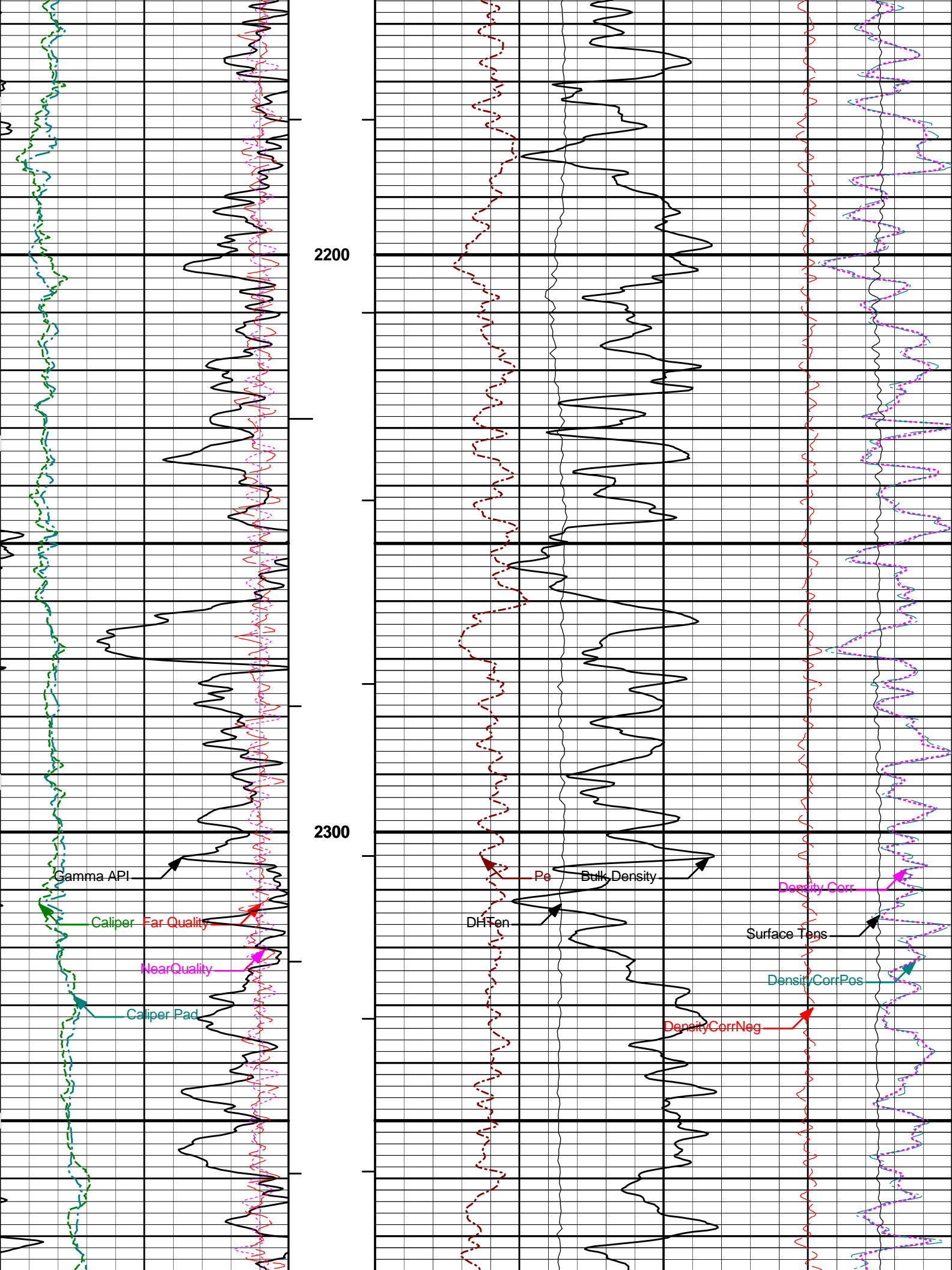
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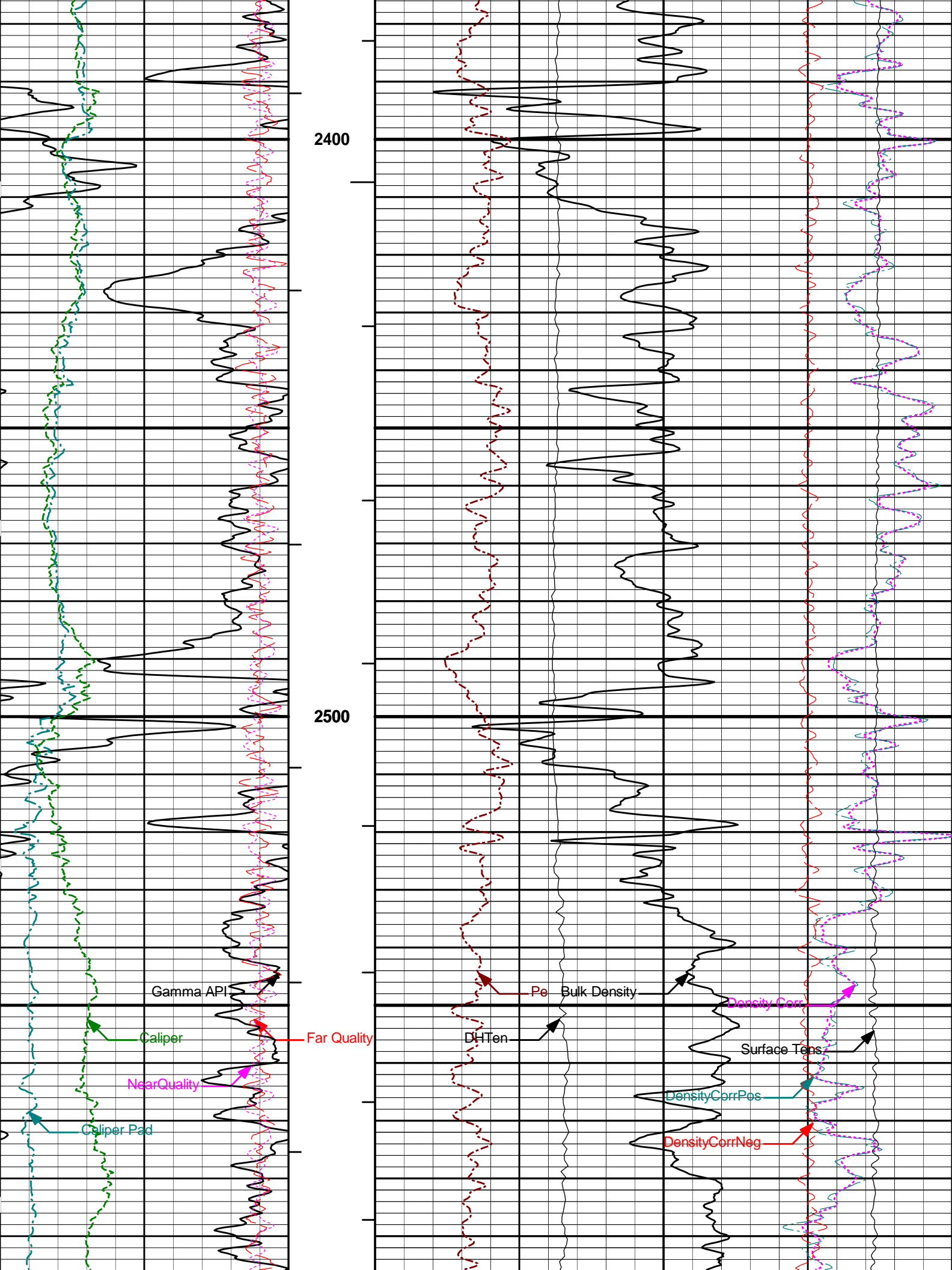
MAIN PASS 5" = 100'

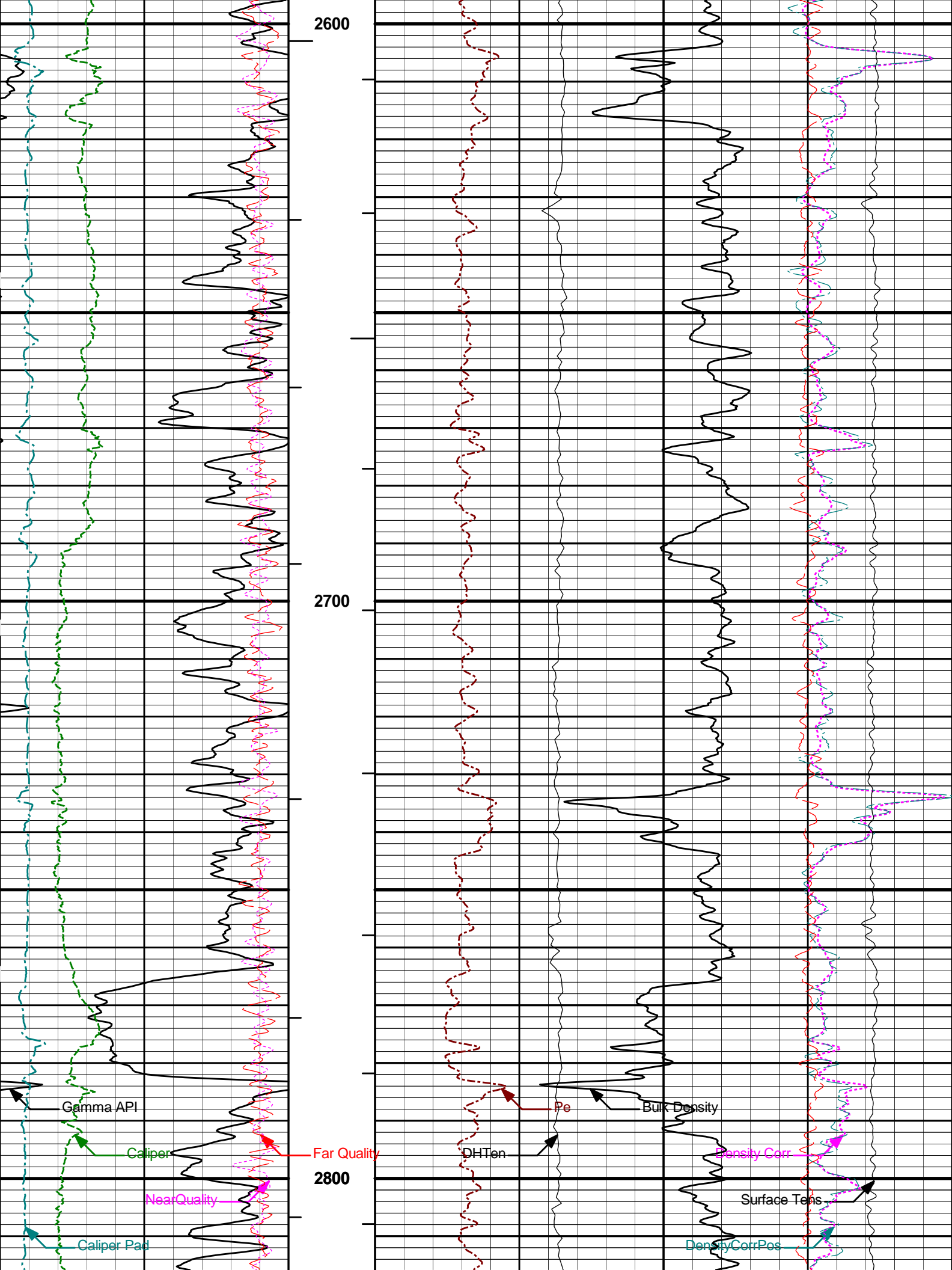


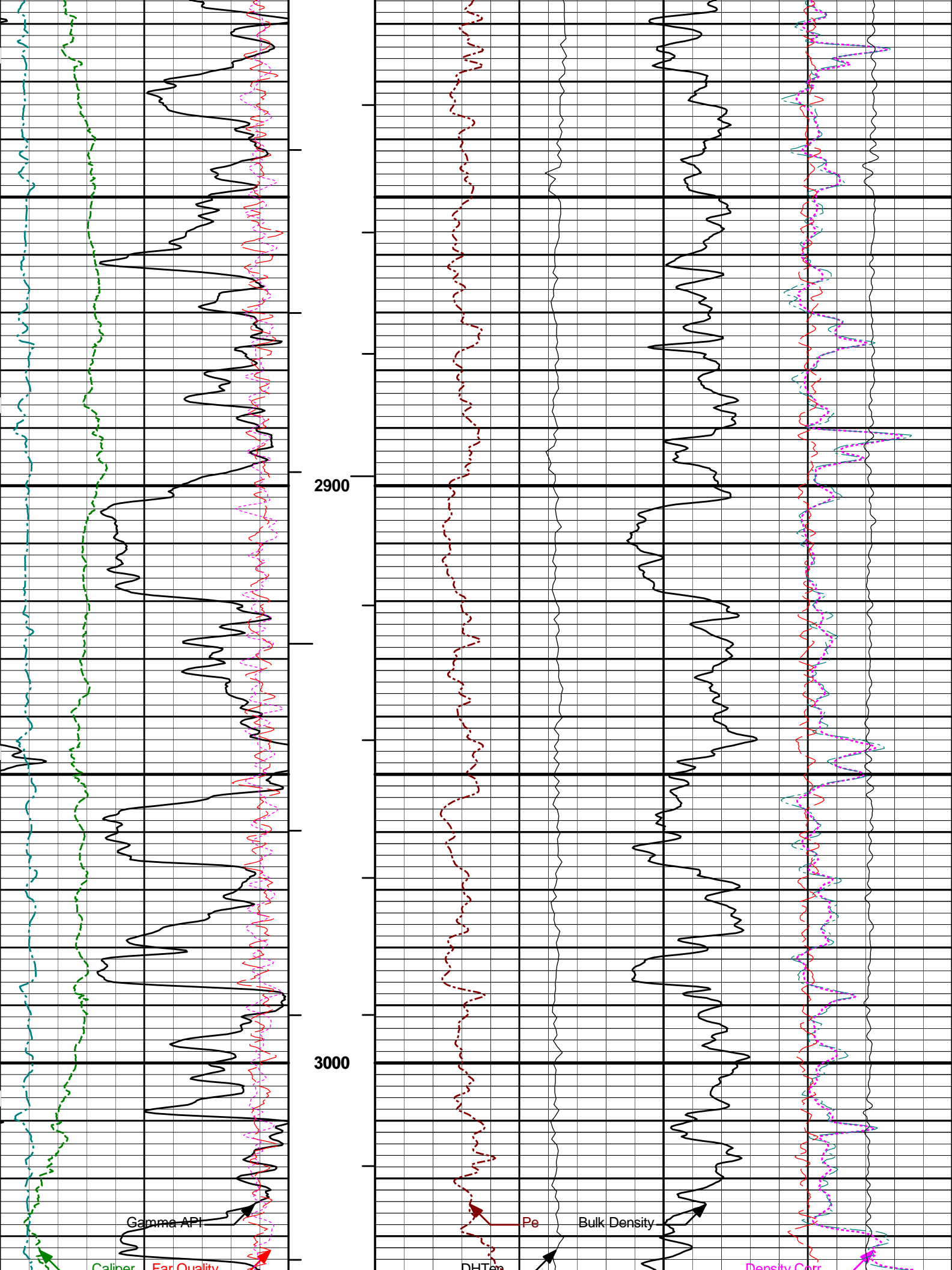


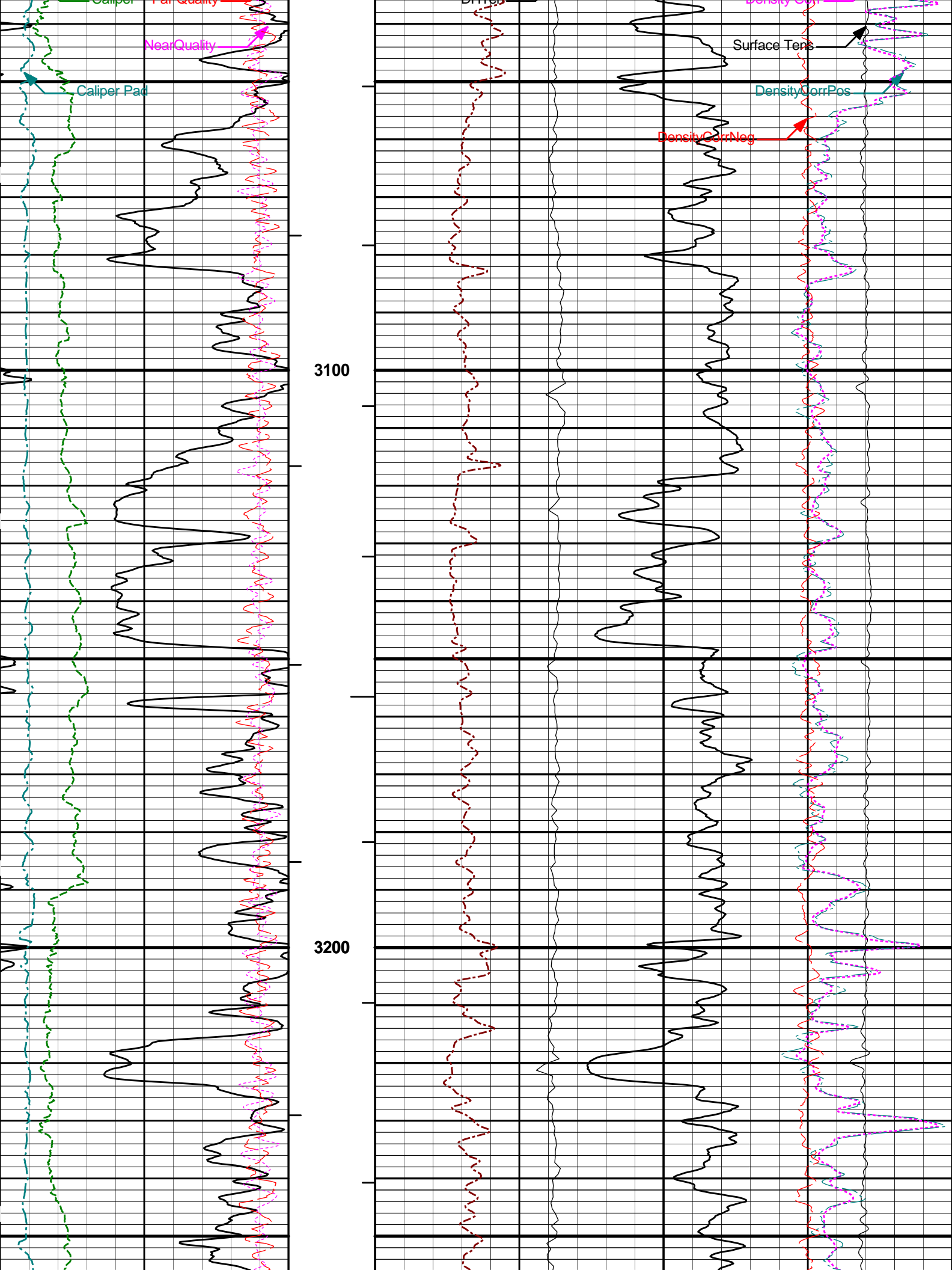


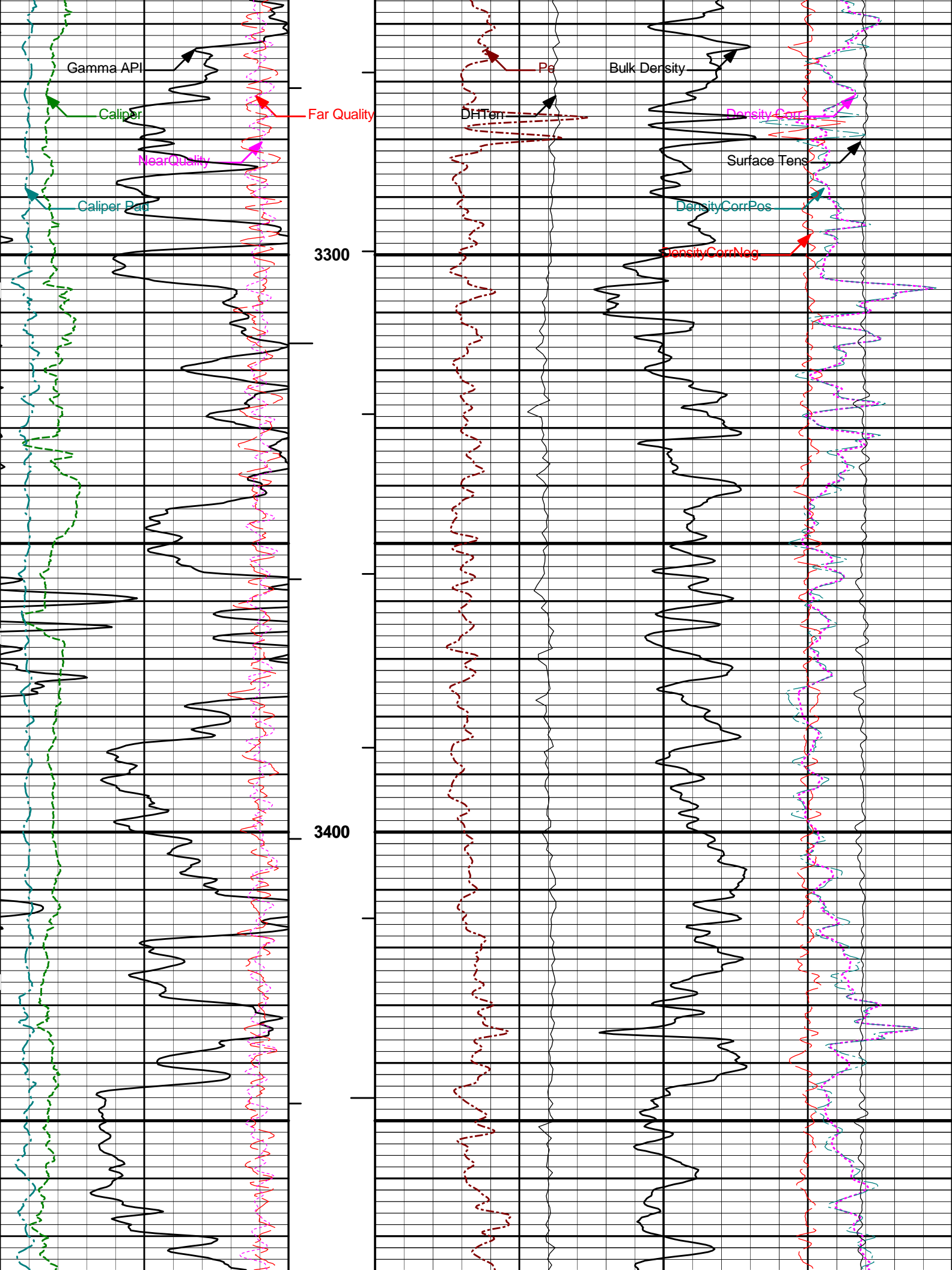


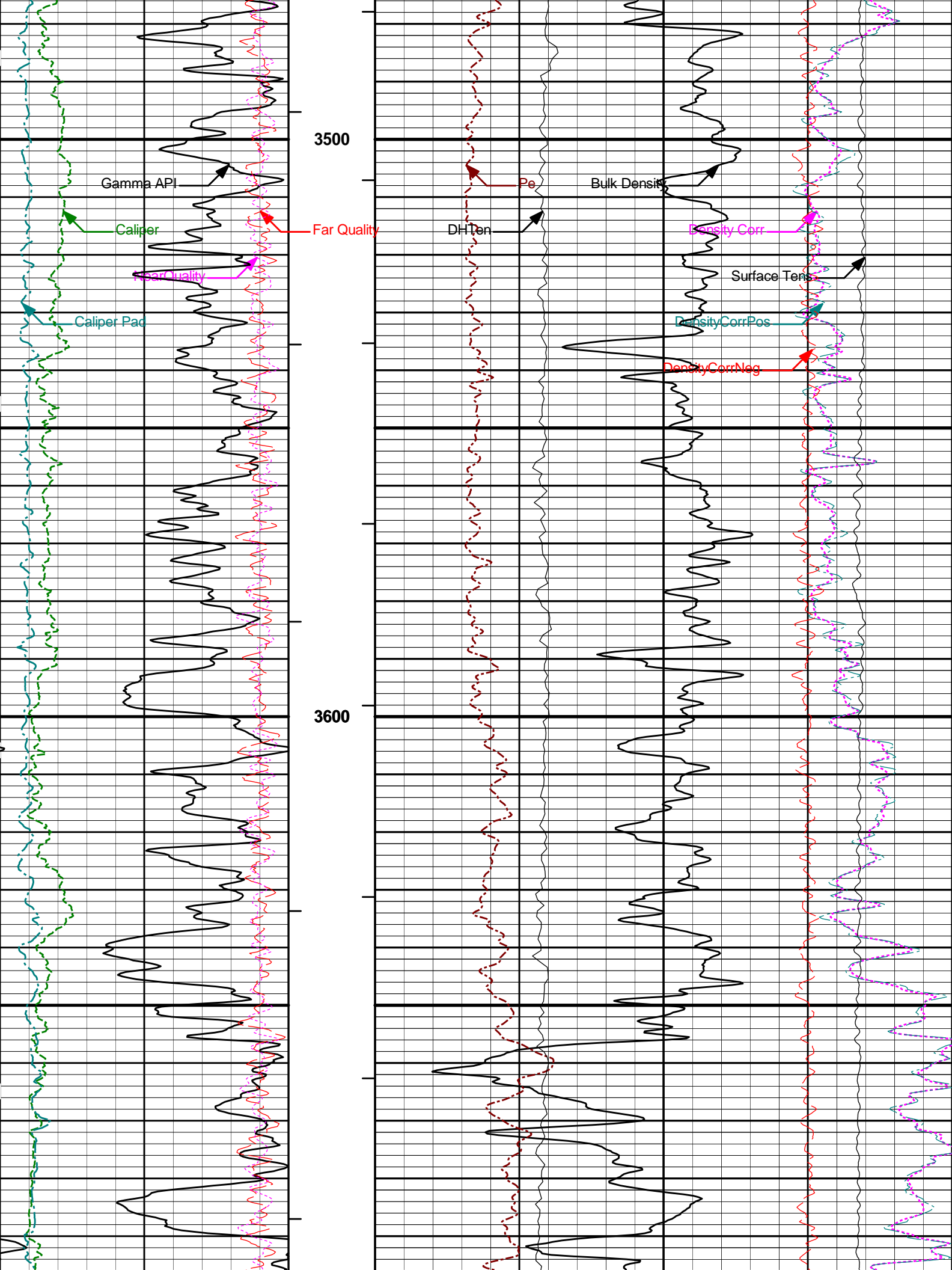


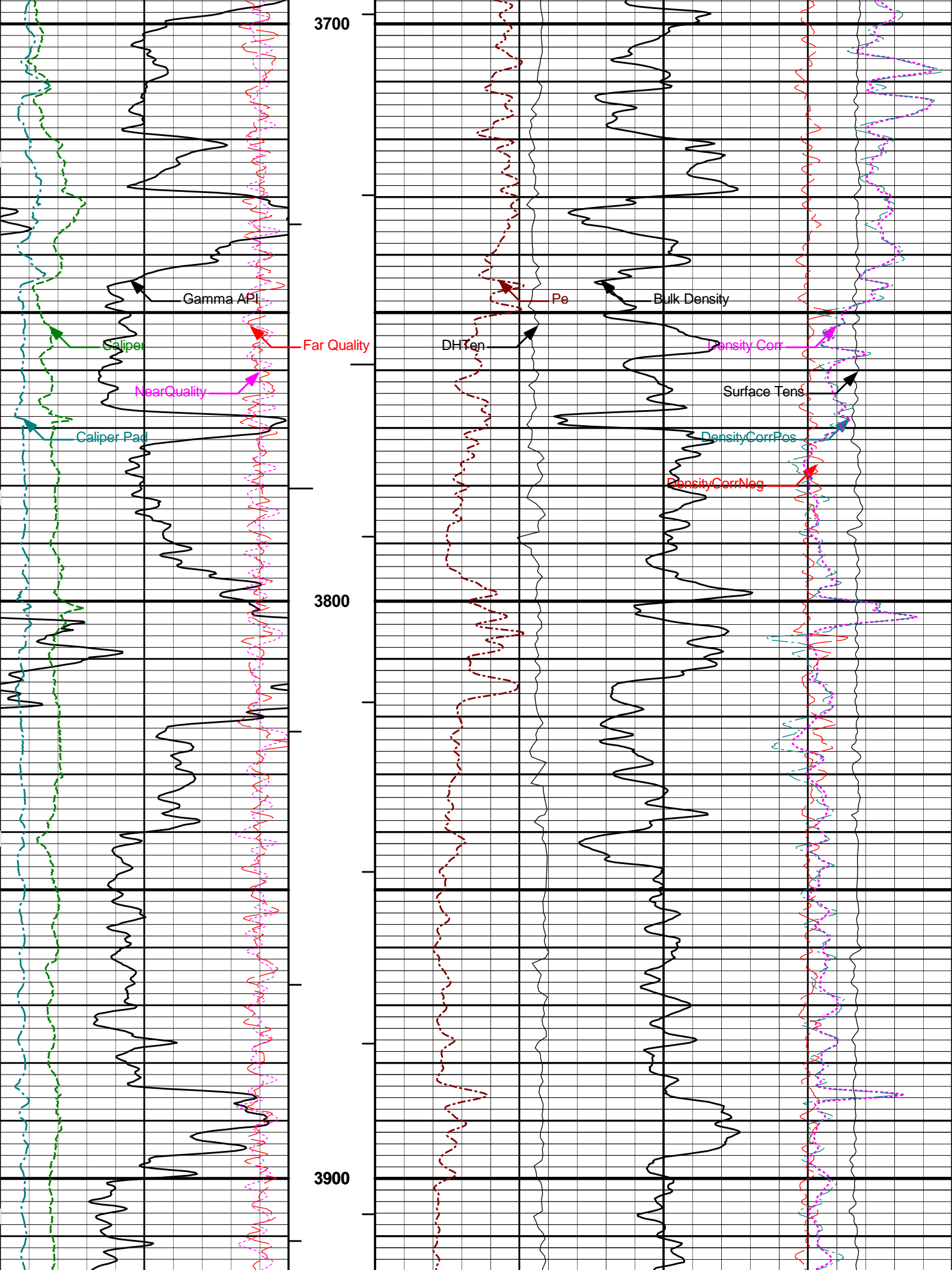


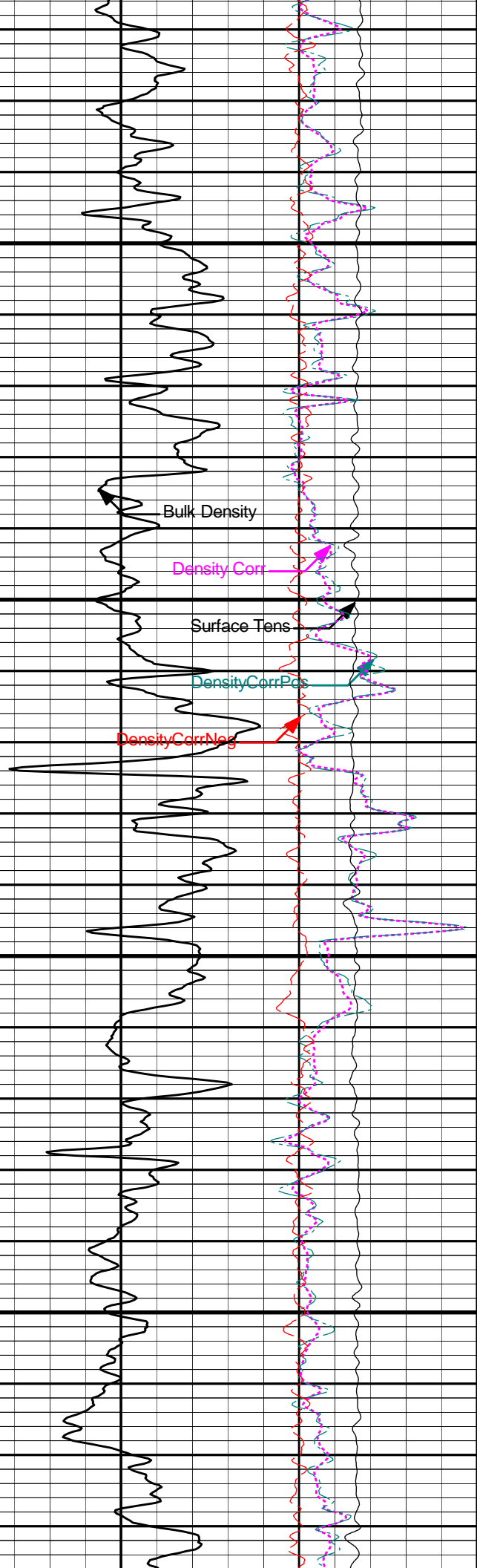
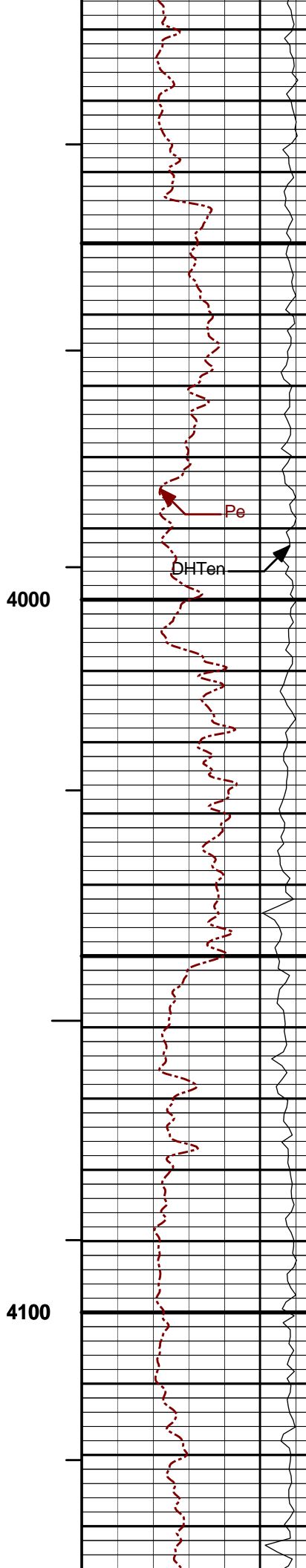
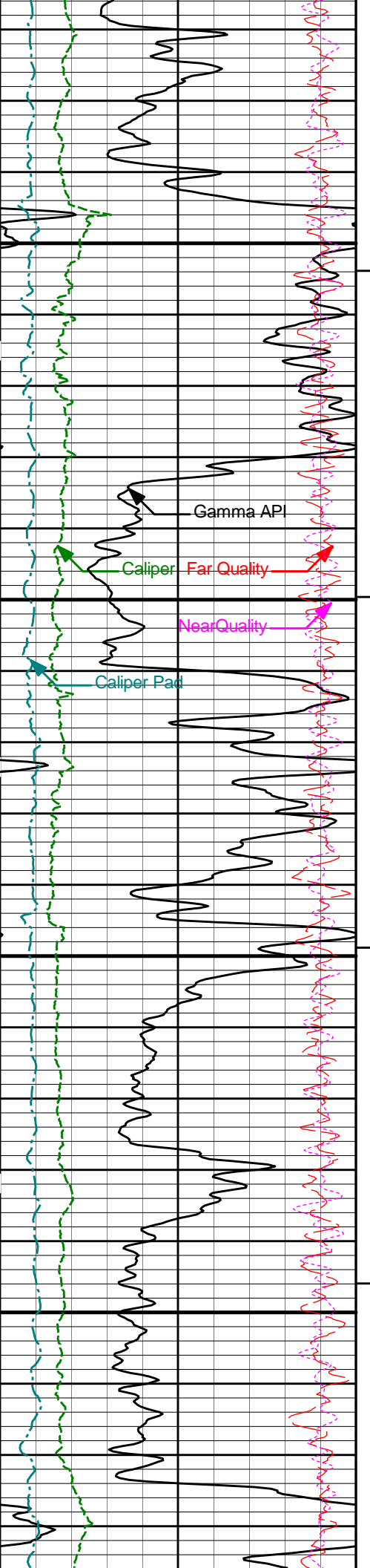


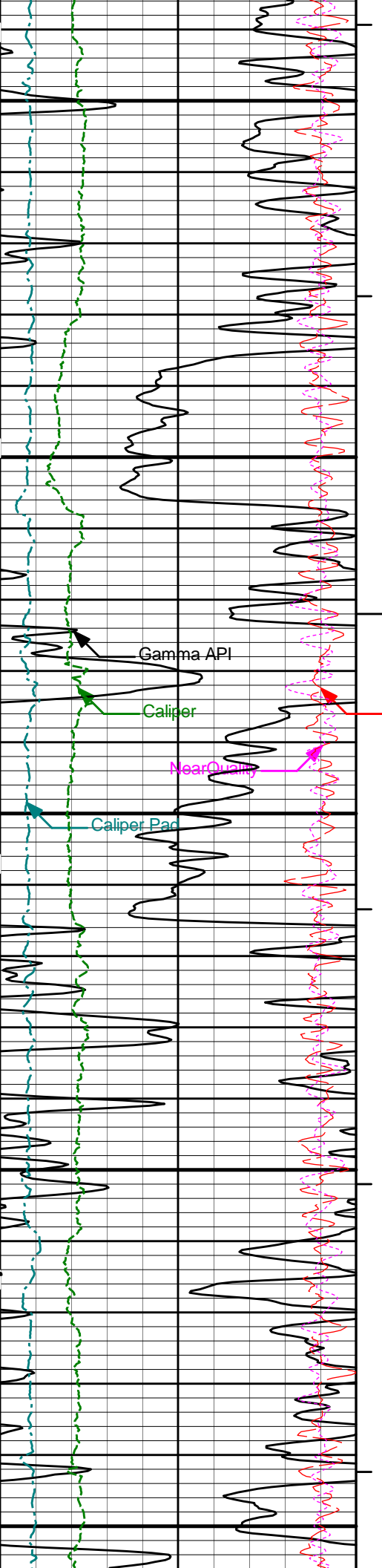






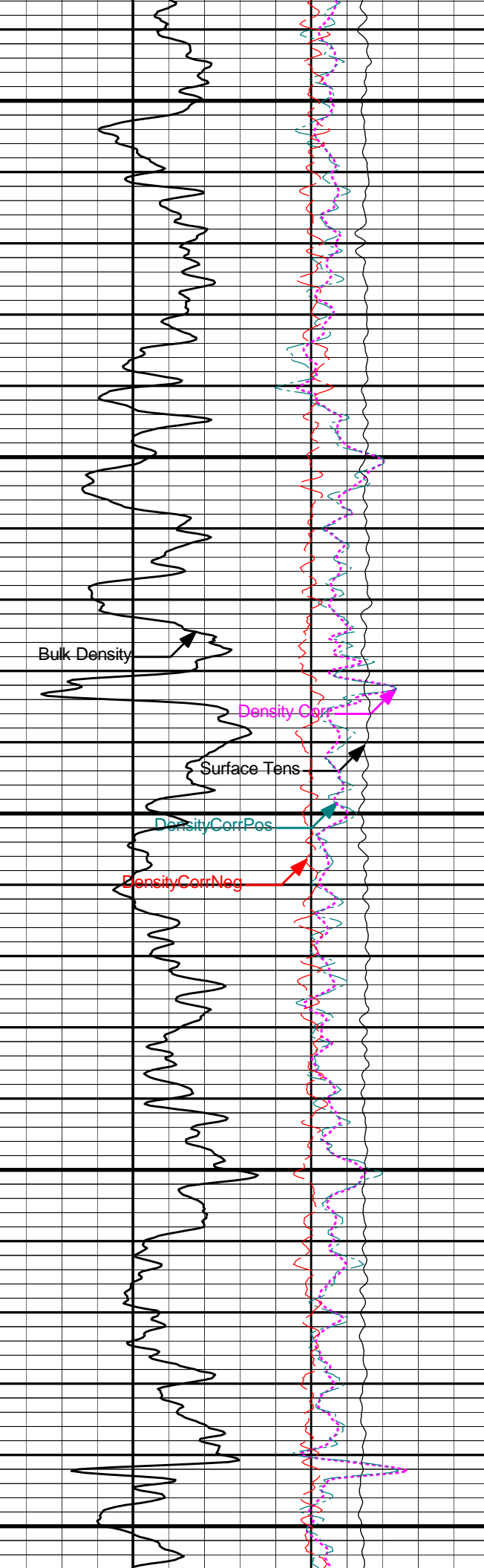
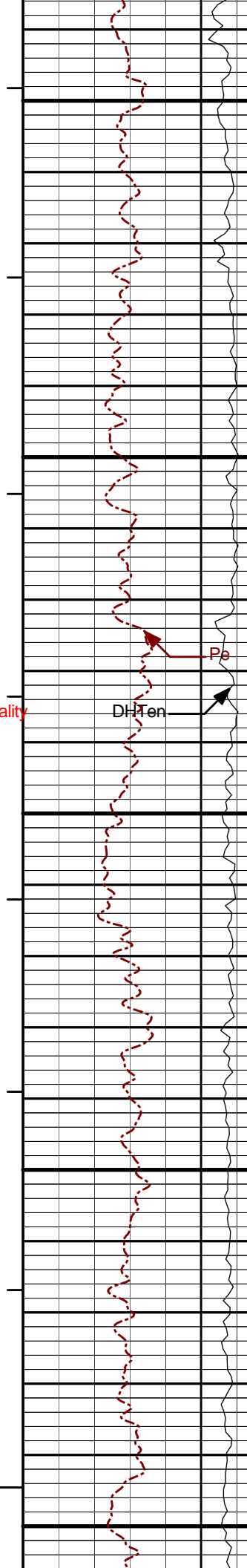


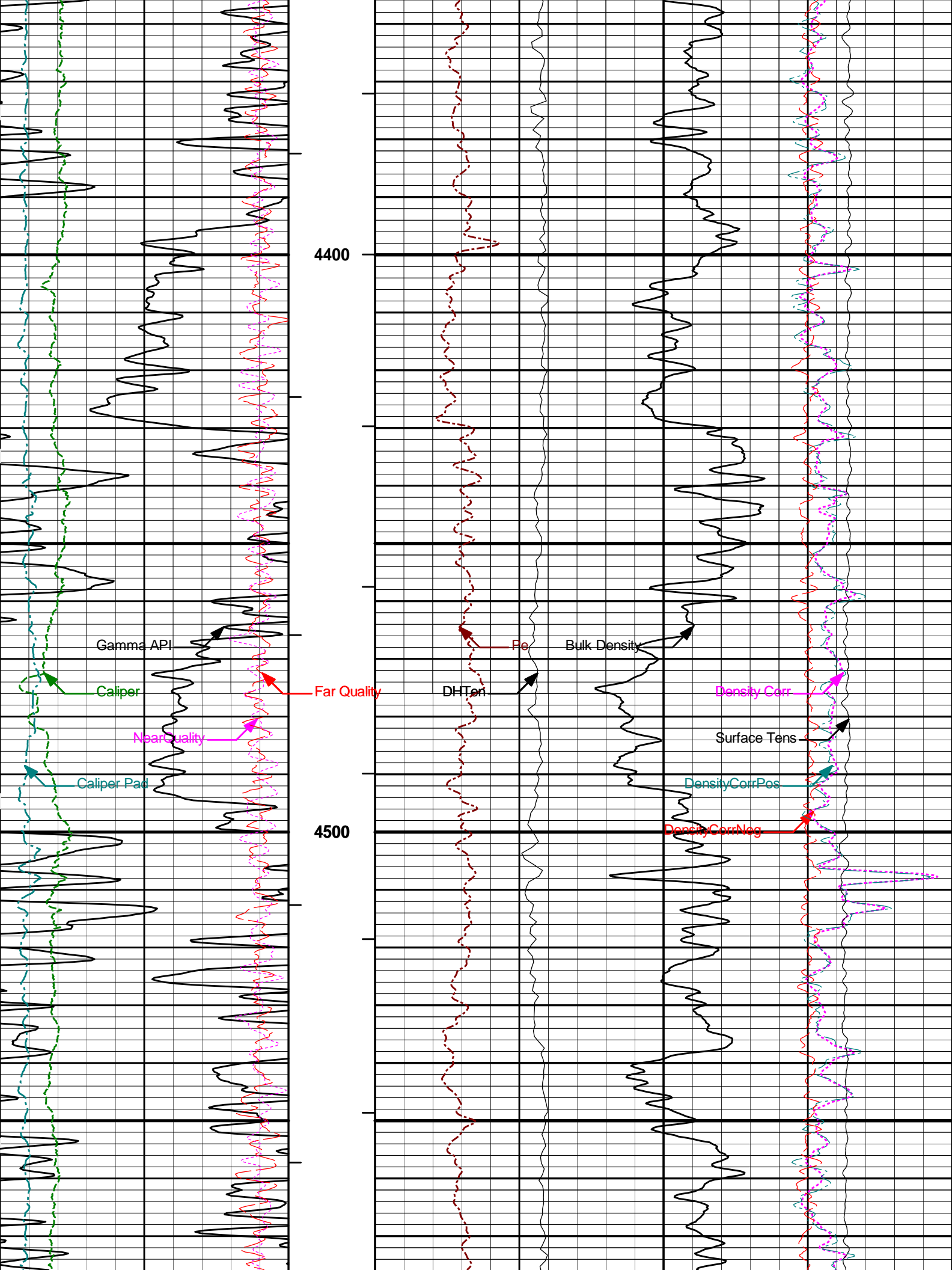


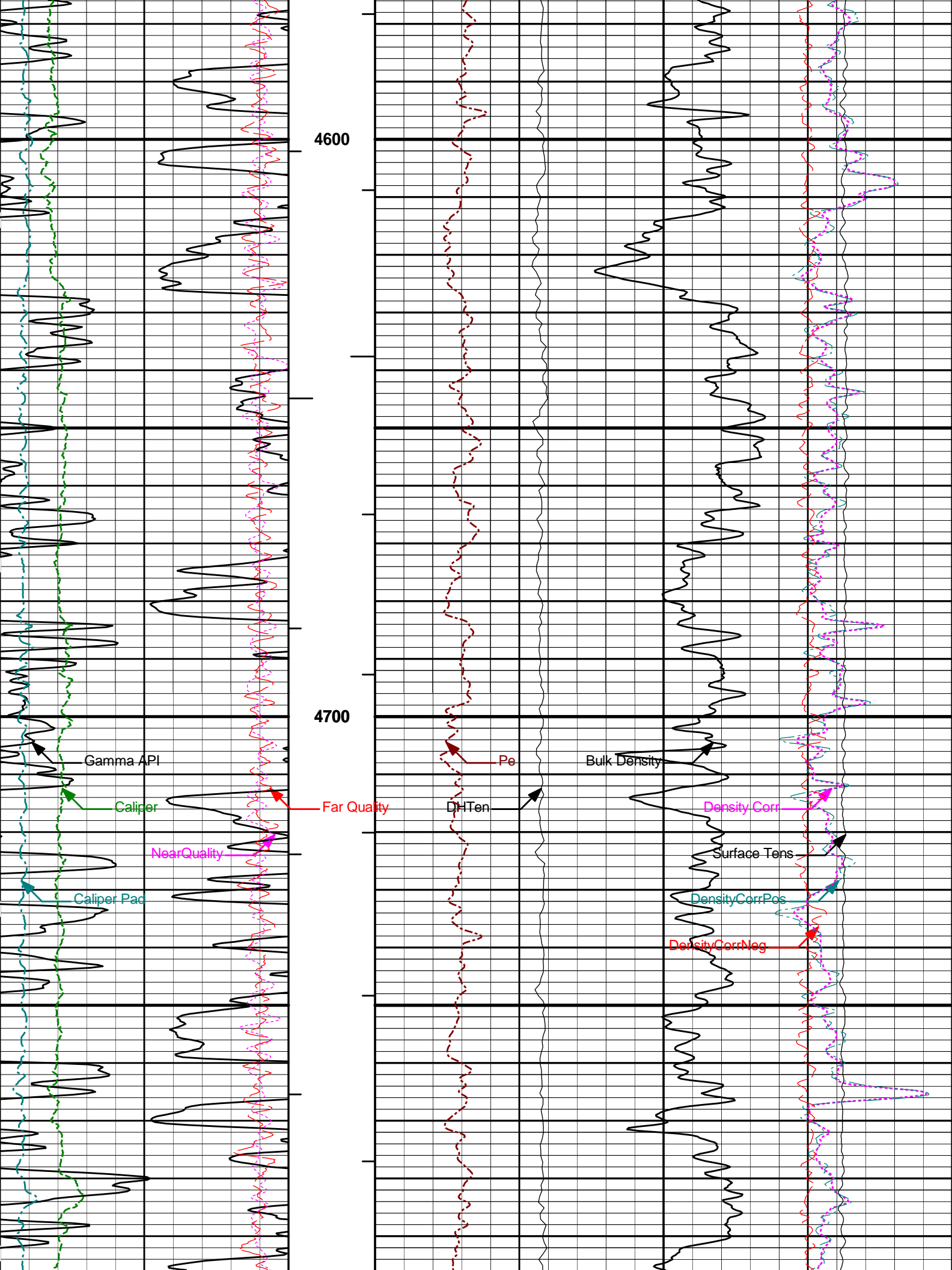


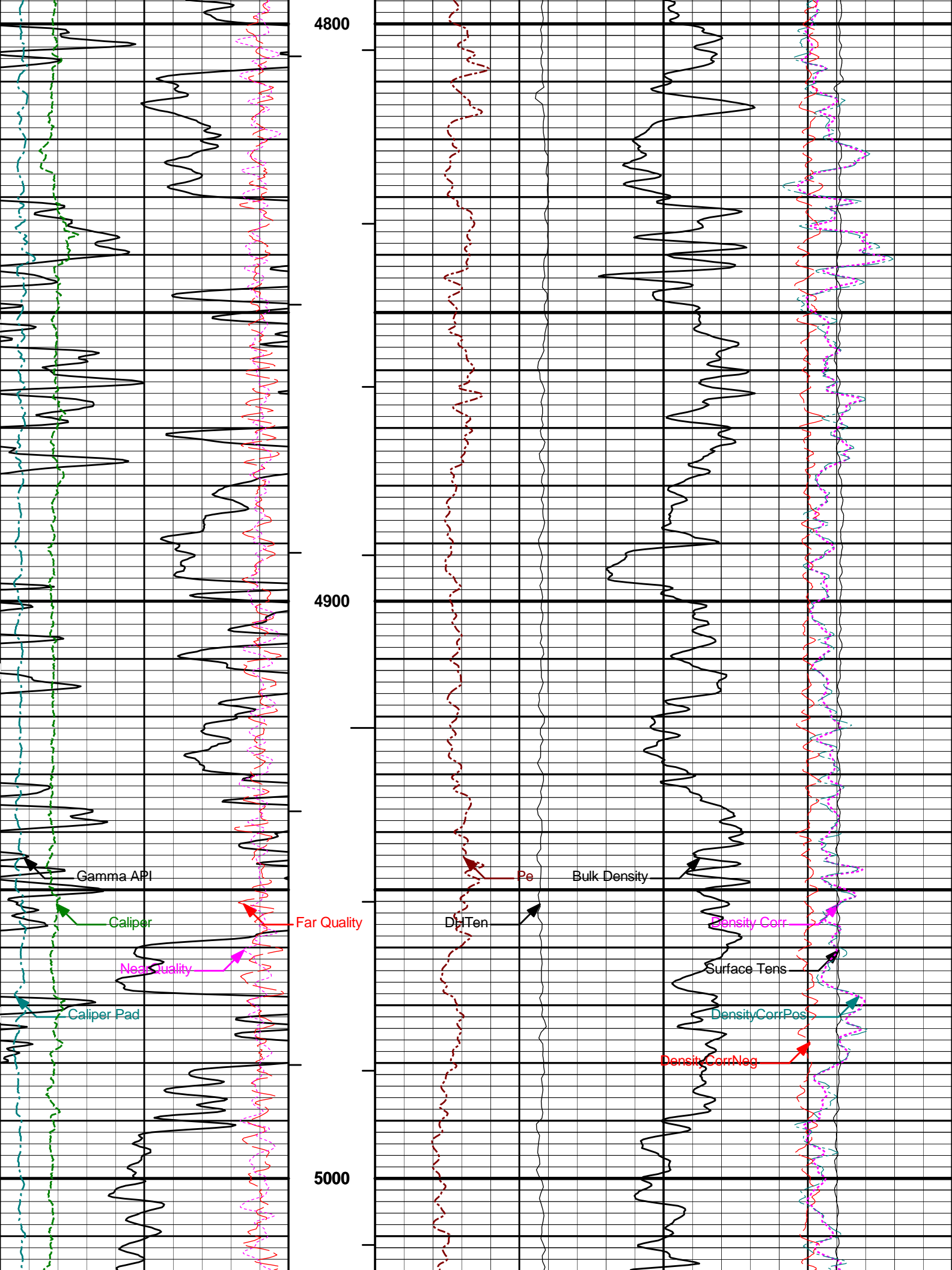
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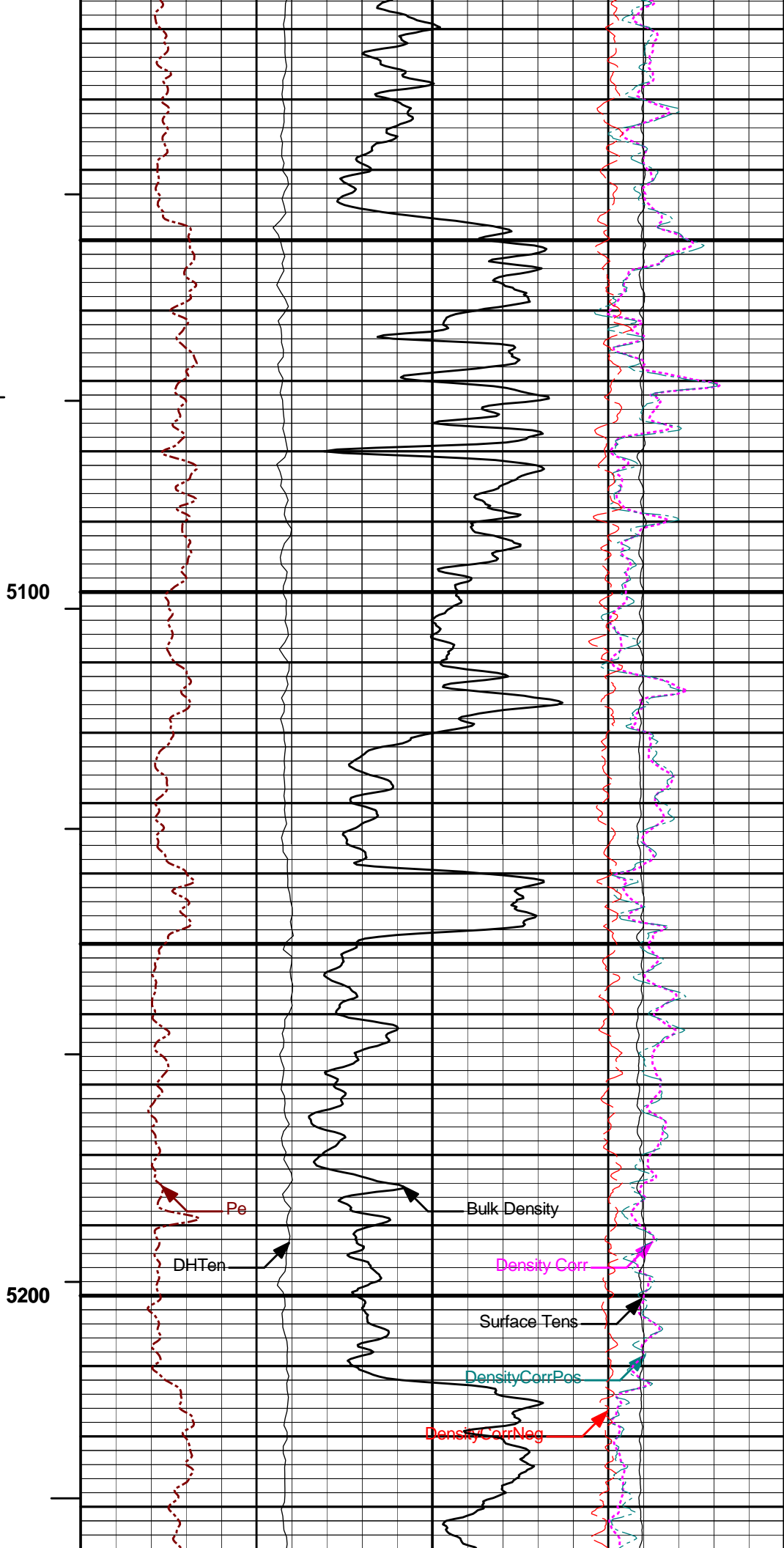
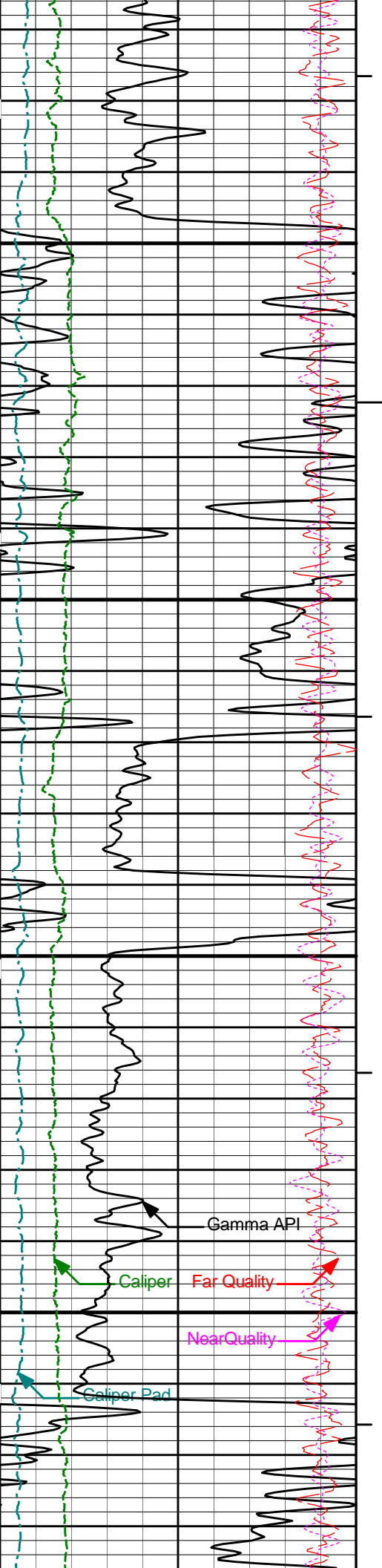
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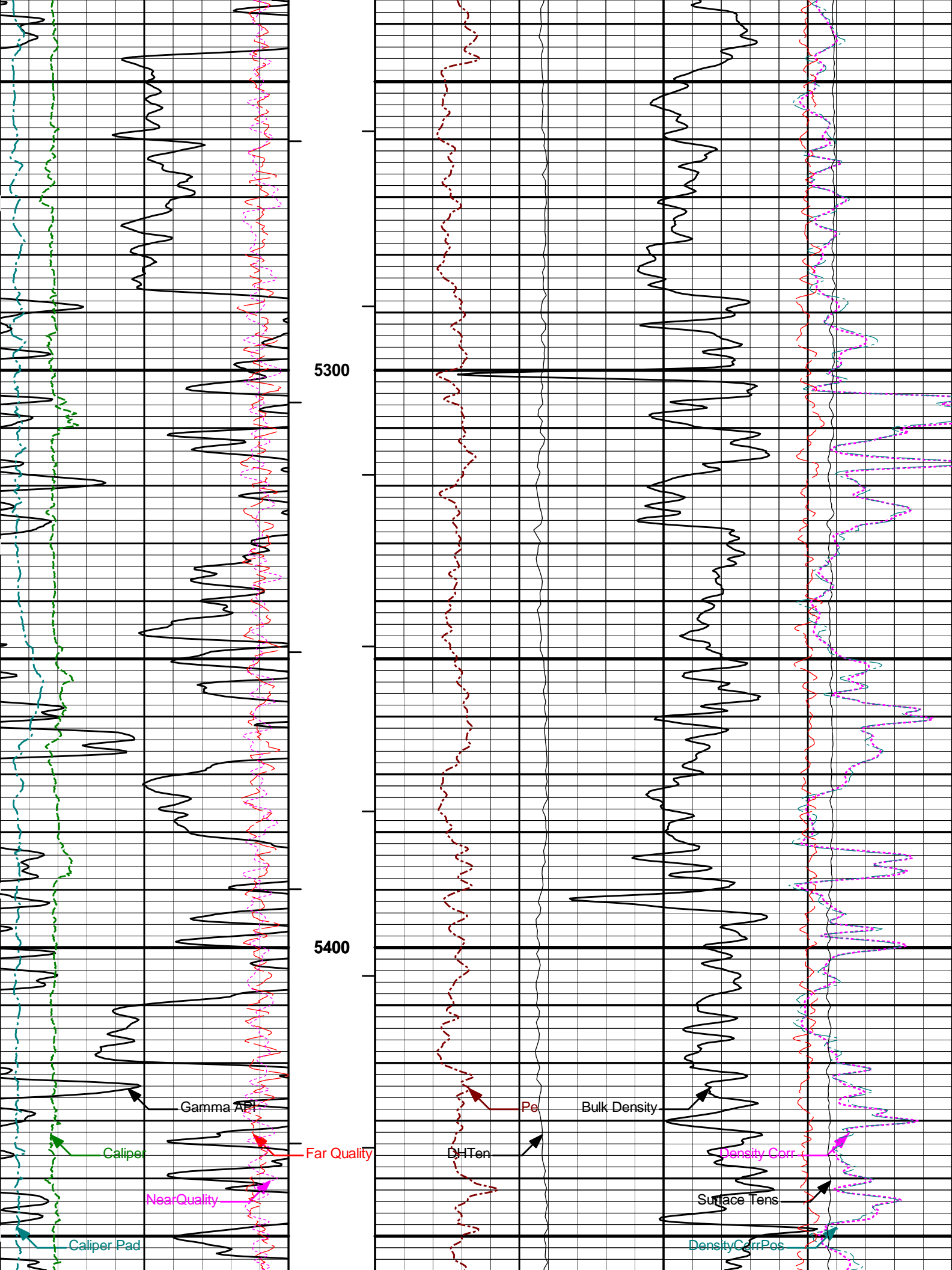


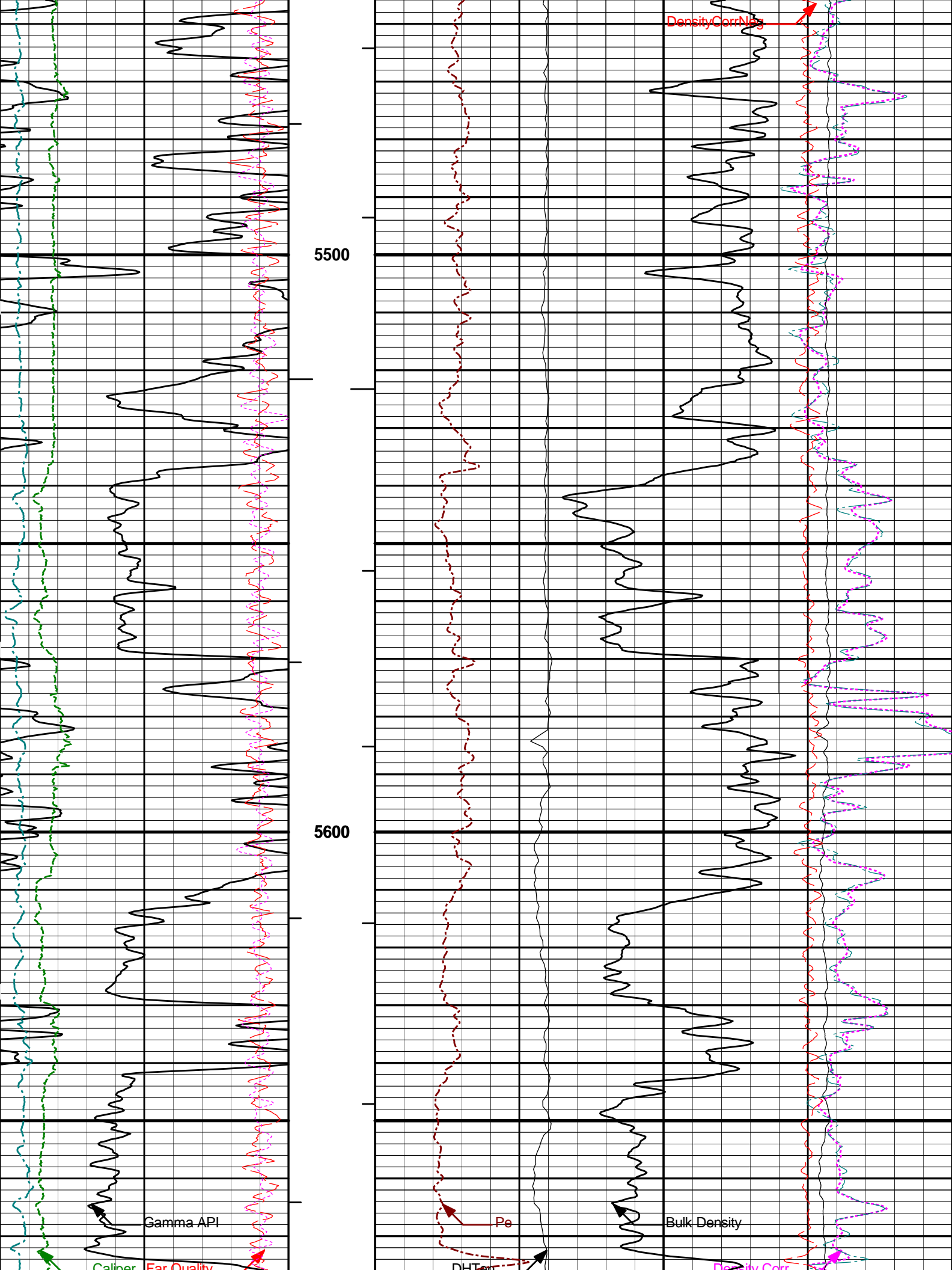


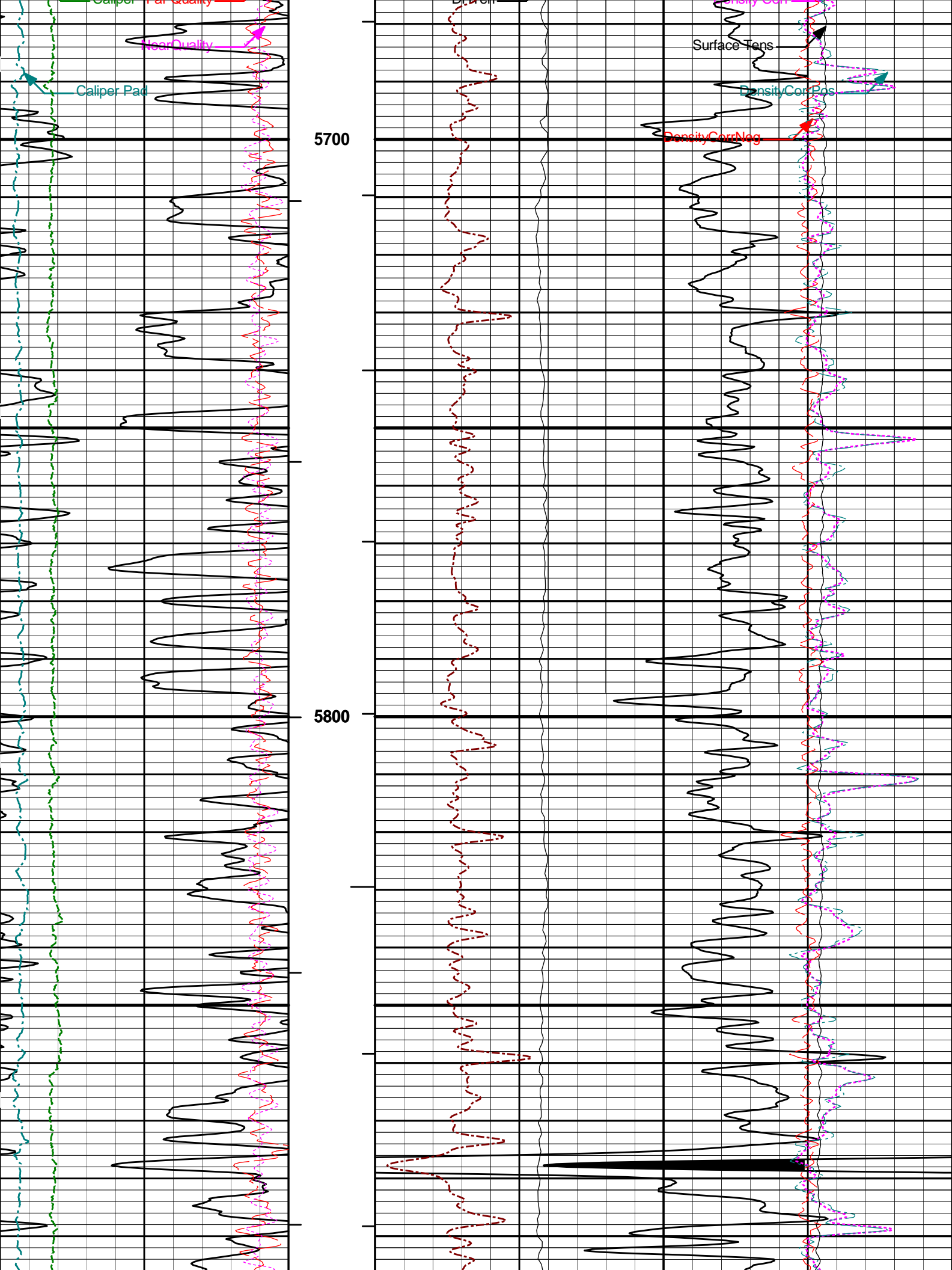


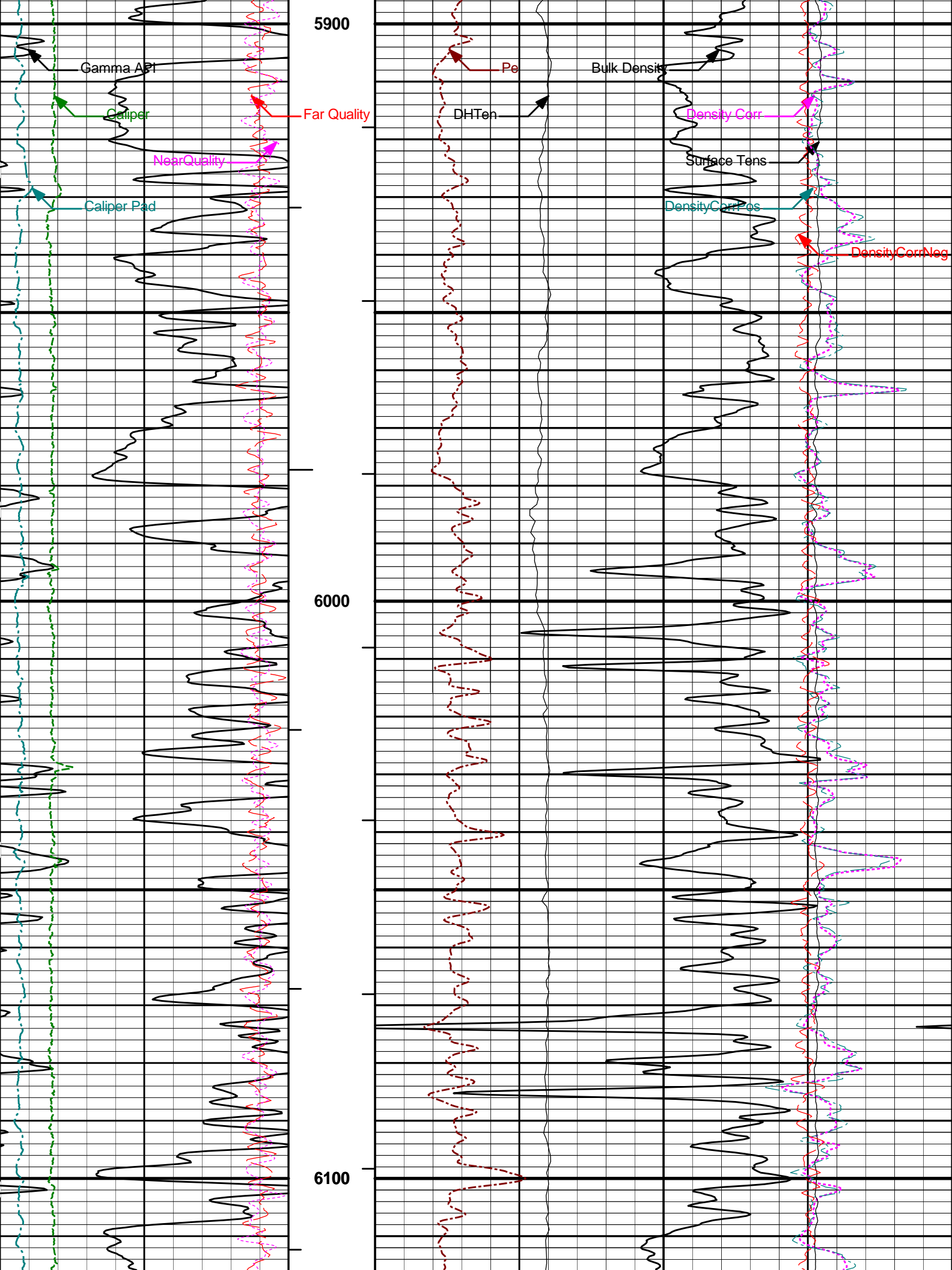


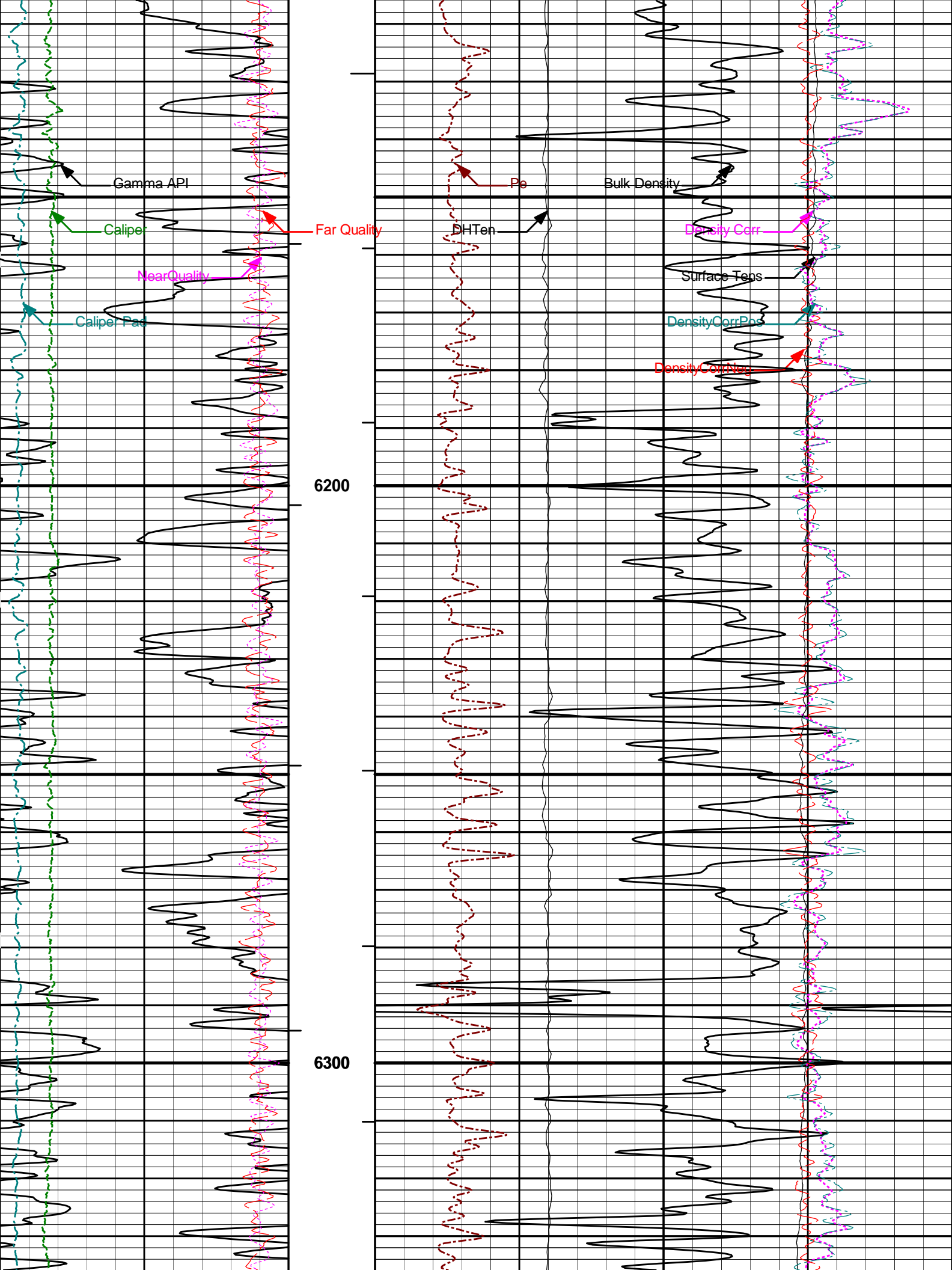


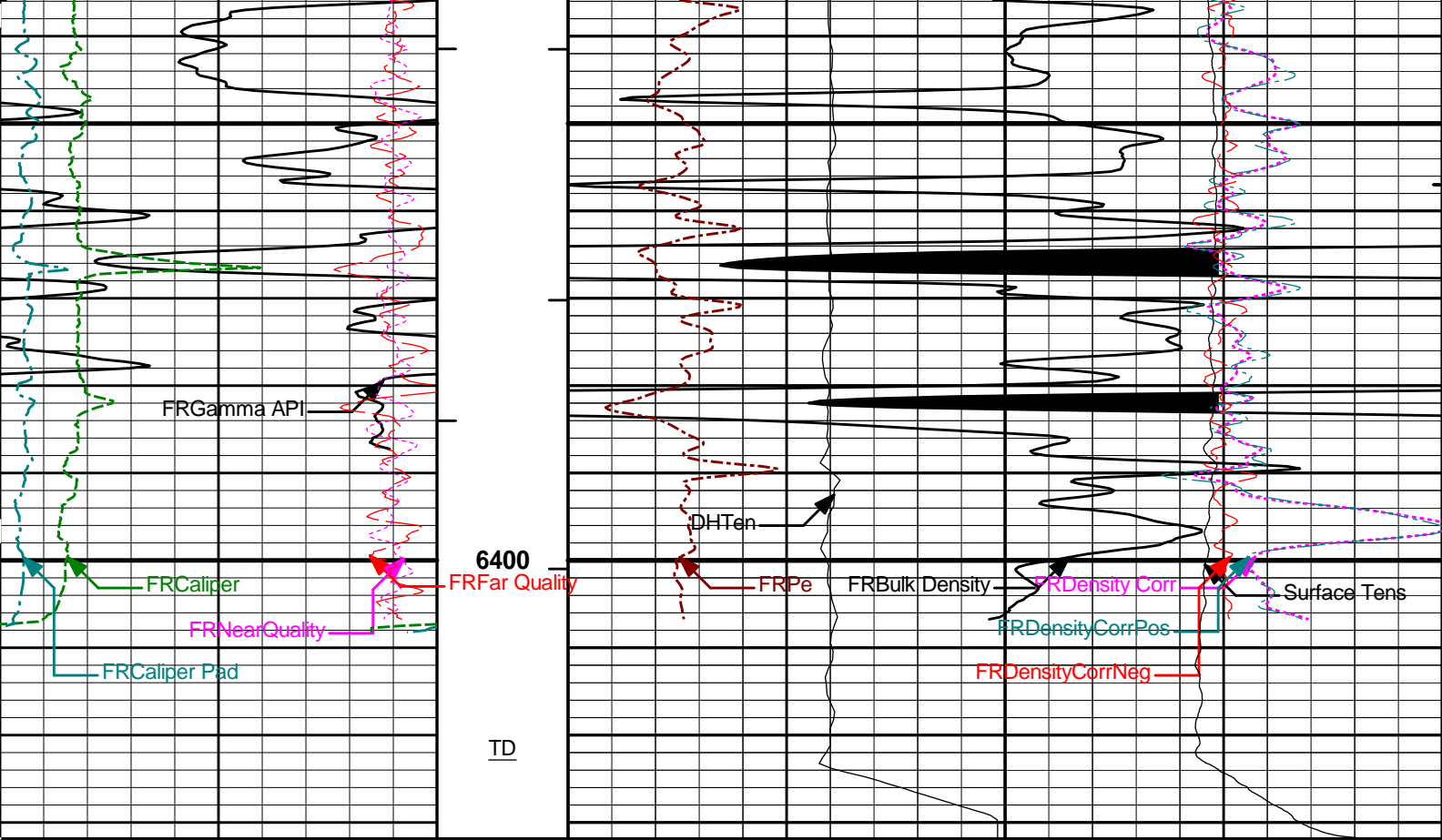












0	Gamma API	150	1 : 240	10K	DHTen	0	10K	Surface Tens	0
	api				pounds			pounds	
6	Caliper	16	BHVT	0	Pe	10	-0.25	Density Corr	0.25
	inches							gram per cc	
0	Caliper Pad	10	AHVT				-0.25	DensityCorrPos	0.25
	inches							gram per cc	
9	Far Quality	-1					-0.25	DensityCorrNeg	0.25
								gram per cc	
-9	NearQuality	1		2	Bulk Density				3
					gram per cc				

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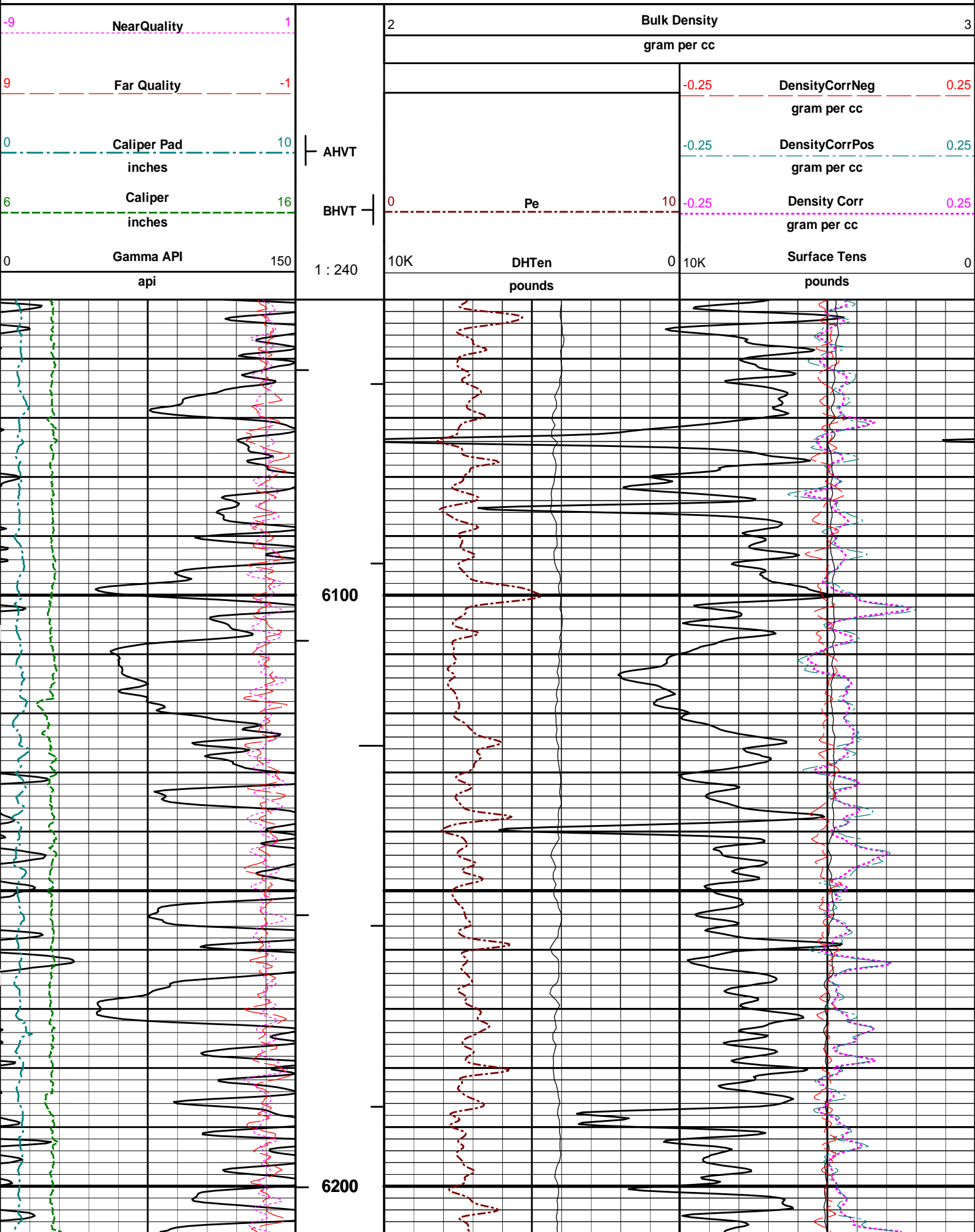
Plot Time: 28-Nov-11 09:28:50
 Plot Range: 1578 ft to 6431.85 ft
 Data: LE_HWXST_17_03CWell Based\MAIN*
 Plot File: \\POR\IQ_BP_RHOB_5IN_DHT

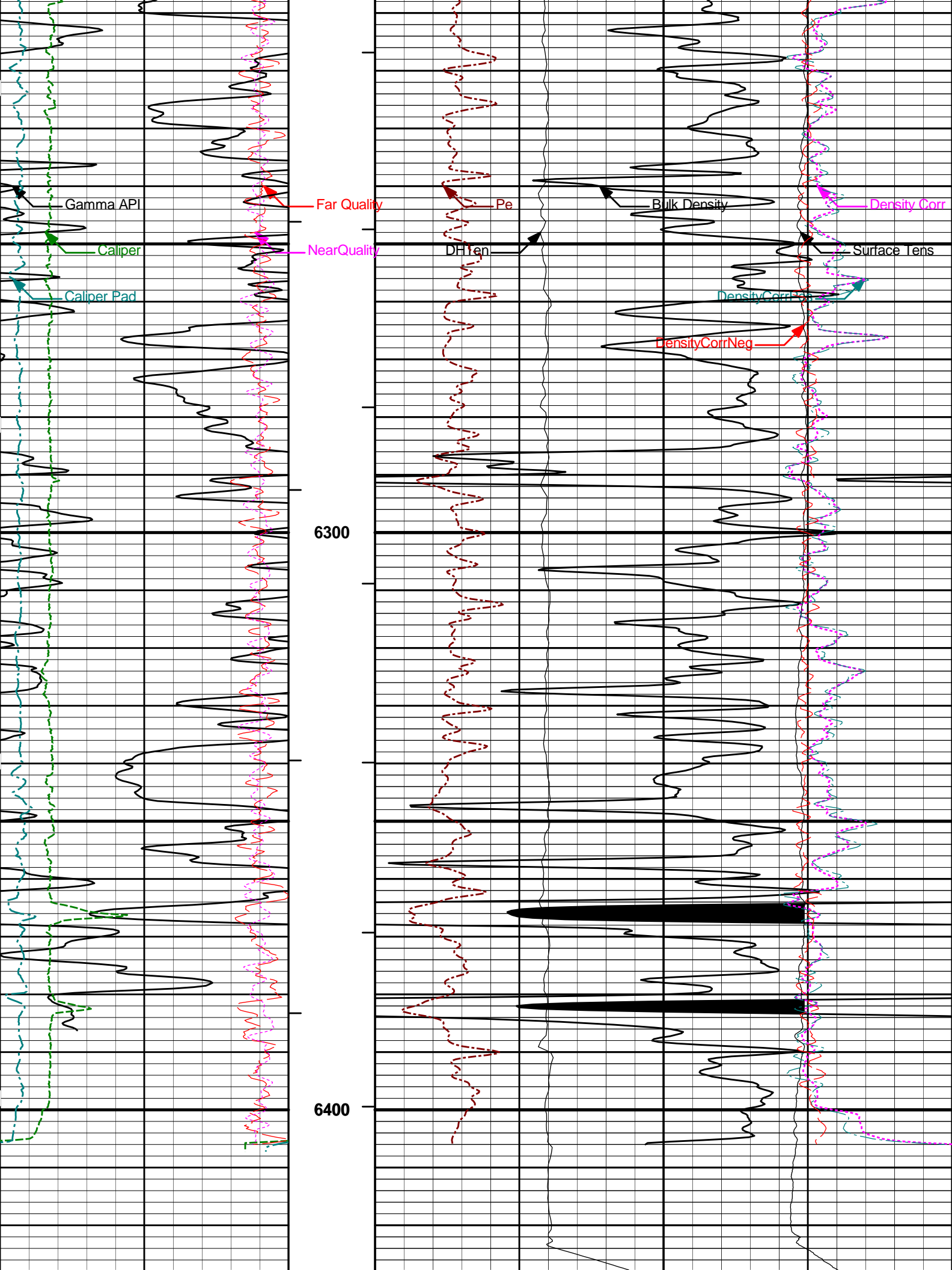
MAIN PASS 5" = 100'

HALLIBURTON

Plot Time: 28-Nov-11 09:28:50
 Plot Range: 6050 ft to 6430.75 ft
 Data: LE_HWXST_17_03CWell Based\RPT*
 Plot File: \\POR\IQ_BP_RHOB_5IN_DHT_RPT

REPEAT SECTION 5" = 100'





0	Gamma API	150	1 : 240 BHVT AHVT	10K	DHTen	0	10K	Surface Tens	0
	api				pounds			pounds	
6	Caliper	16		0	Pe	10	-0.25	Density Corr	0.25
	inches							gram per cc	
0	Caliper Pad	10					-0.25	DensityCorrPos	0.25
	inches							gram per cc	
9	Far Quality	-1					-0.25	DensityCorrNeg	0.25
								gram per cc	
-9	NearQuality	1		2	Bulk Density				3
					gram per cc				

HALLIBURTON

Plot Time: 28-Nov-11 09:28:52
Plot Range: 6050 ft to 6430.75 ft
Data: LE_HWXST_17_03CWell Based\RPT*
Plot File: \\POR\IQ_BP_RHOB_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
------	-------	------------	-----------

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	Prev. Value	New Value	Control Limit On New 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
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

Magnesium Block S/N: ROCK SPRINGS

Density: 2.602g/cc

Density: 1.690g/cc

Pe: 3.110

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

(Previous Coer)				
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
Engineer:	V. CREWS	Calibration Date:	27-Nov-11 11:49:36
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

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	decg
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

HALLIBURTON

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

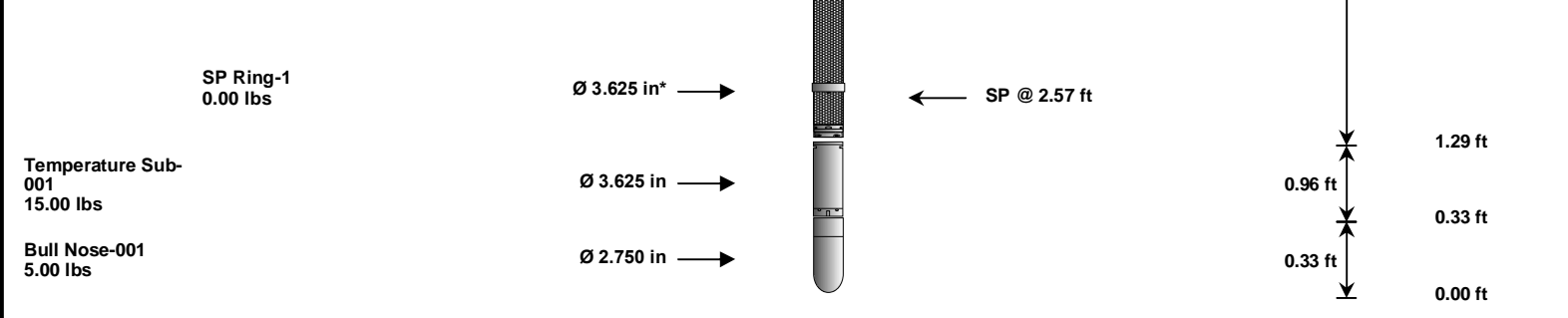
Data: LE_HWXST_17_03C\0001 LOGIQ_TRIPLE\HW11111

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
DSNT-10839203 174.00 lbs	DSN Decentralizer-10839203 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 34.11 ft ← DSN Near @ 33.36 ft	9.69 ft	41.04 ft
SDLT-10733075 360.00 lbs	SDLT Pad-10733075 65.00 lbs	Ø 4.500 in → Ø 4.750 in* →		← SDL Caliper @ 23.36 ft ← SDL @ 23.35 ft	10.81 ft	31.36 ft
ACRt Instrument-E336_S042 50.00 lbs	Regal Standoff 6_75-001 20.00 lbs	Ø 6.750 in* → Ø 3.625 in →		← Mud Resistivity @ 14.15 ft	5.03 ft	20.54 ft
ACRt Sonde-E336_S042 200.00 lbs		Ø 3.625 in →		← ACRt @ 10.17 ft	14.22 ft	15.51 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	