

HALLIBURTON

SPECTRAL DENSITY  
DUAL SPACED NEUTRON

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		7955.0 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

Sect. 30 Twp. 9S Rge. 93W  
Location SURFACE HOLE LOCATION:  
2535 FSL & 1807 FEL  
BOTTOM HOLE LOCATION:  
1833 FNL & 2021 FWL

API No. 05077101040000  
Other Services:  
RWCH  
ACRT

Elev. 7650.0 ft  
Elev.: K.B. 7671.0 ft  
D.F. 7670.0 ft  
G.L. 7650.0 ft

21.0 ft above perm. Datum  
G.L.

Fold here

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																			

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

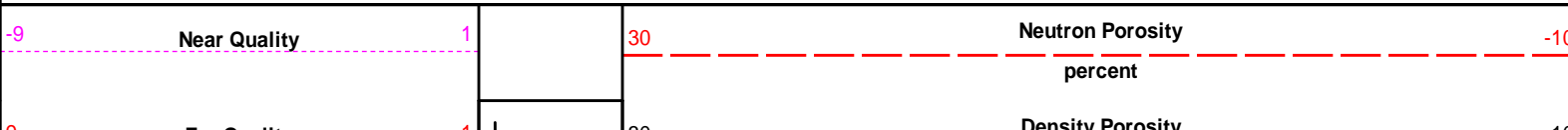
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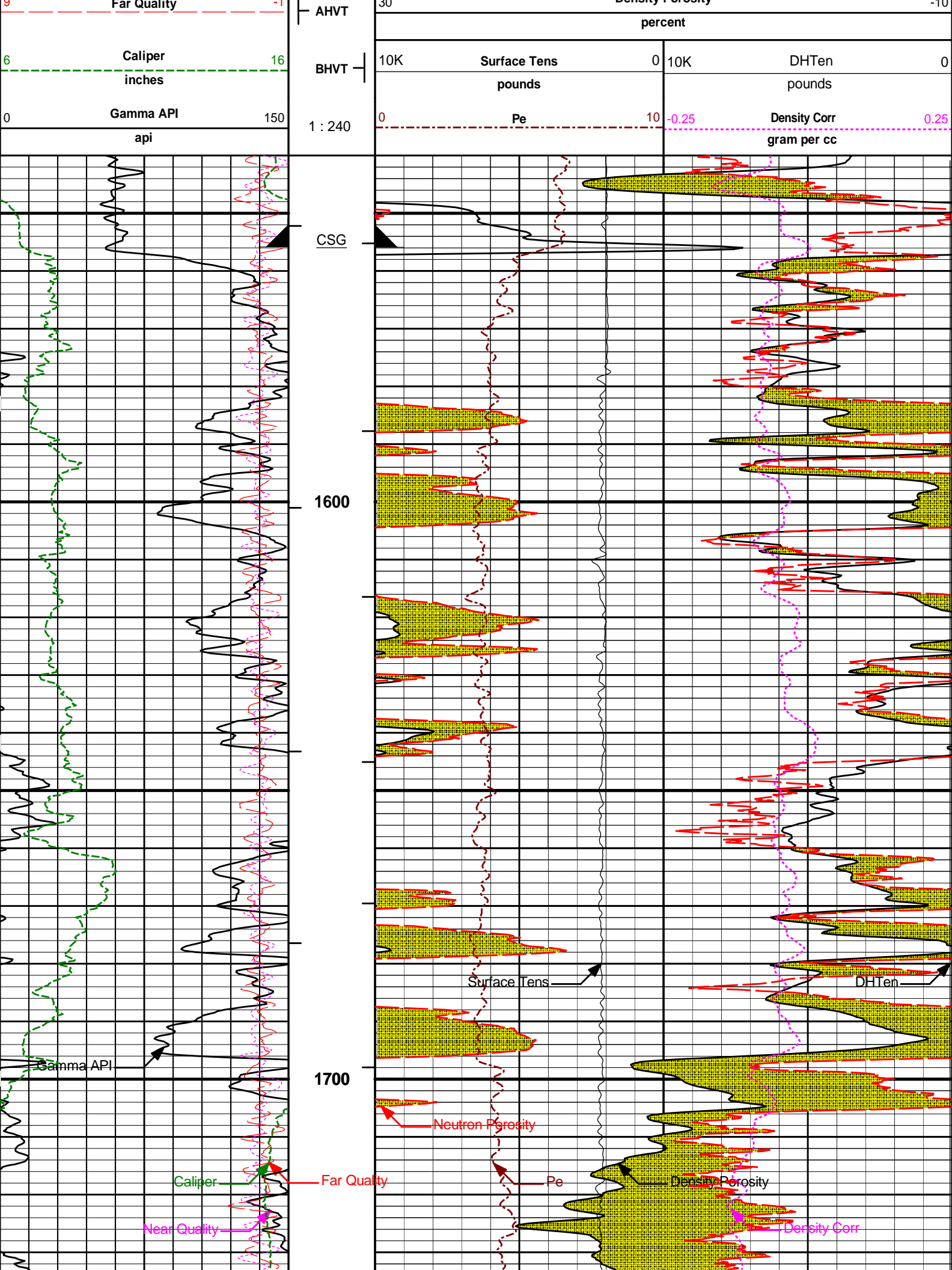
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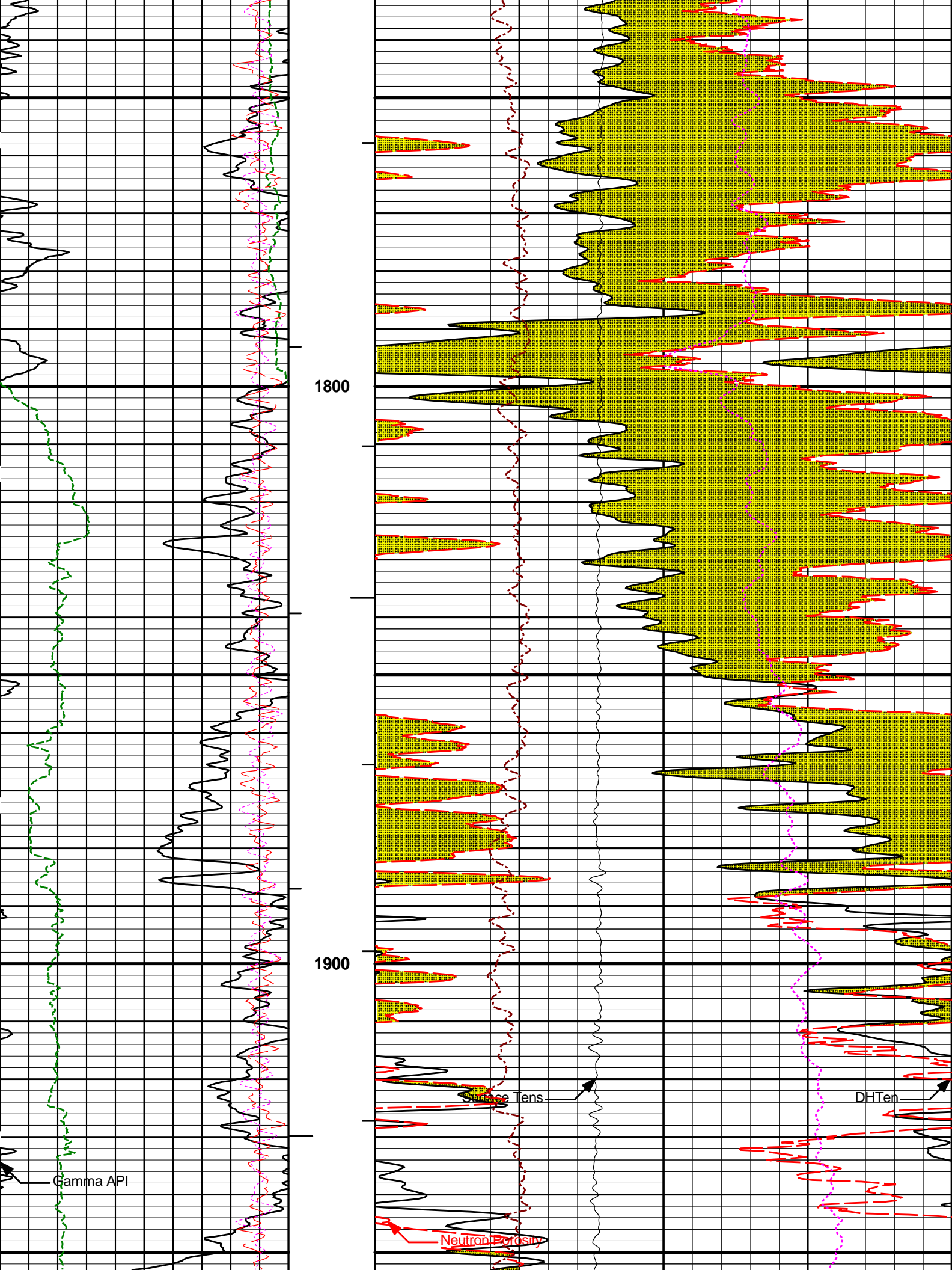
HALLIBURTON

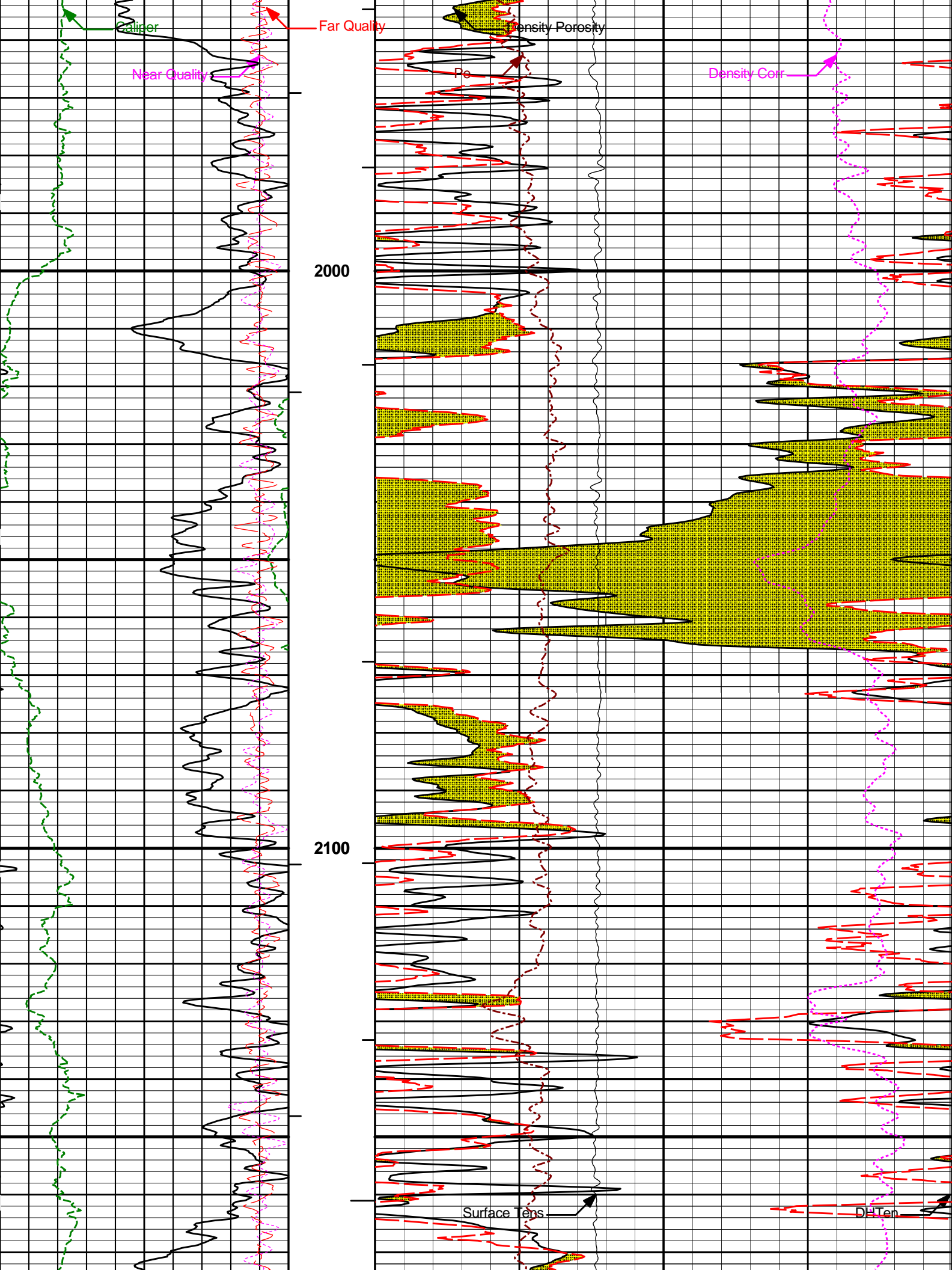
Plot Time: 13-Feb-12 00:46:05  
Plot Range: 1540 ft to 7986.5 ft  
Data: {ActiveWell}\Well Based\MAIN  
Plot File: \\POR\IQ\_BP\_POROSITY\_5IN\_DHT

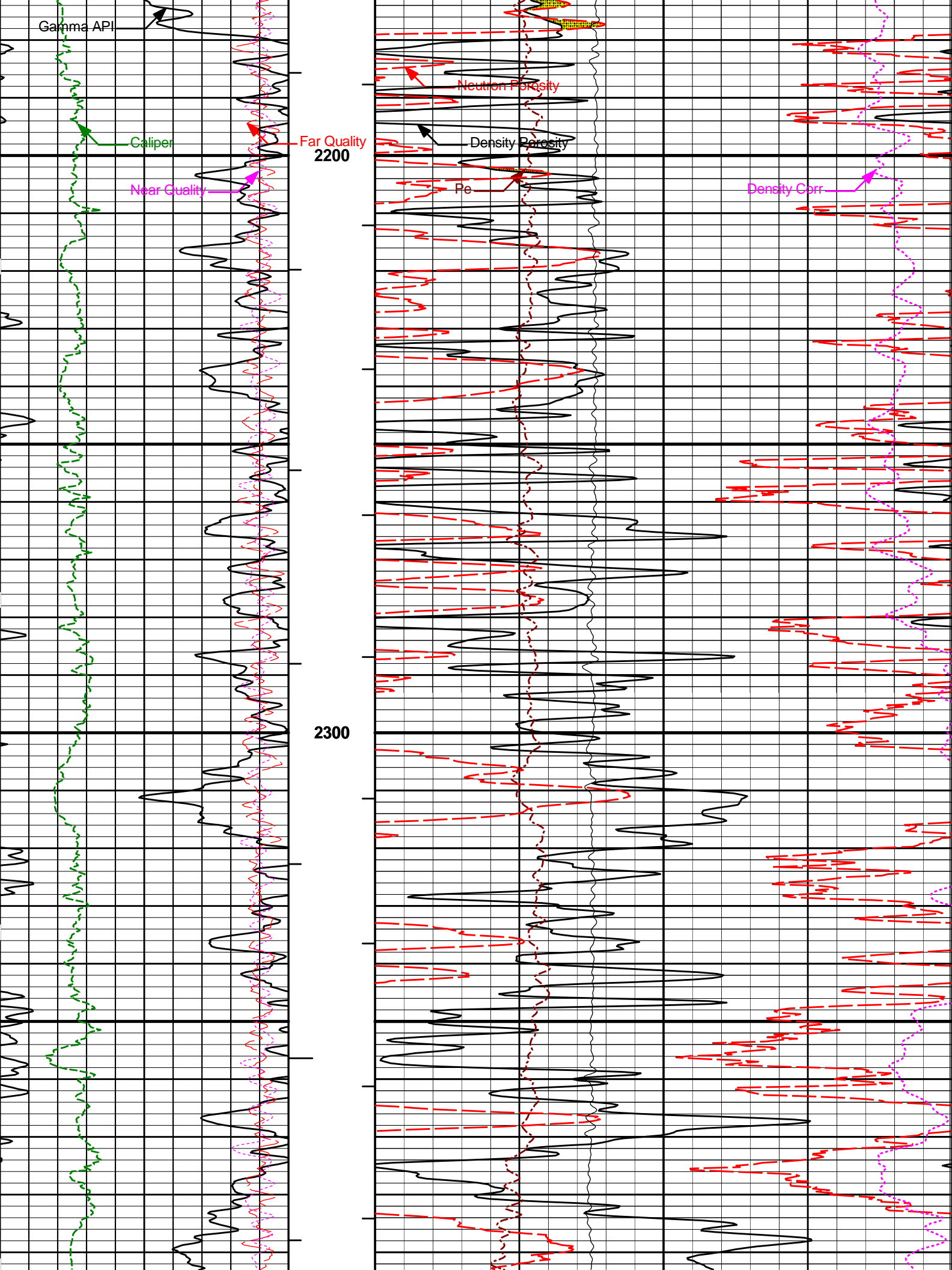
MAIN PASS 5" = 100'



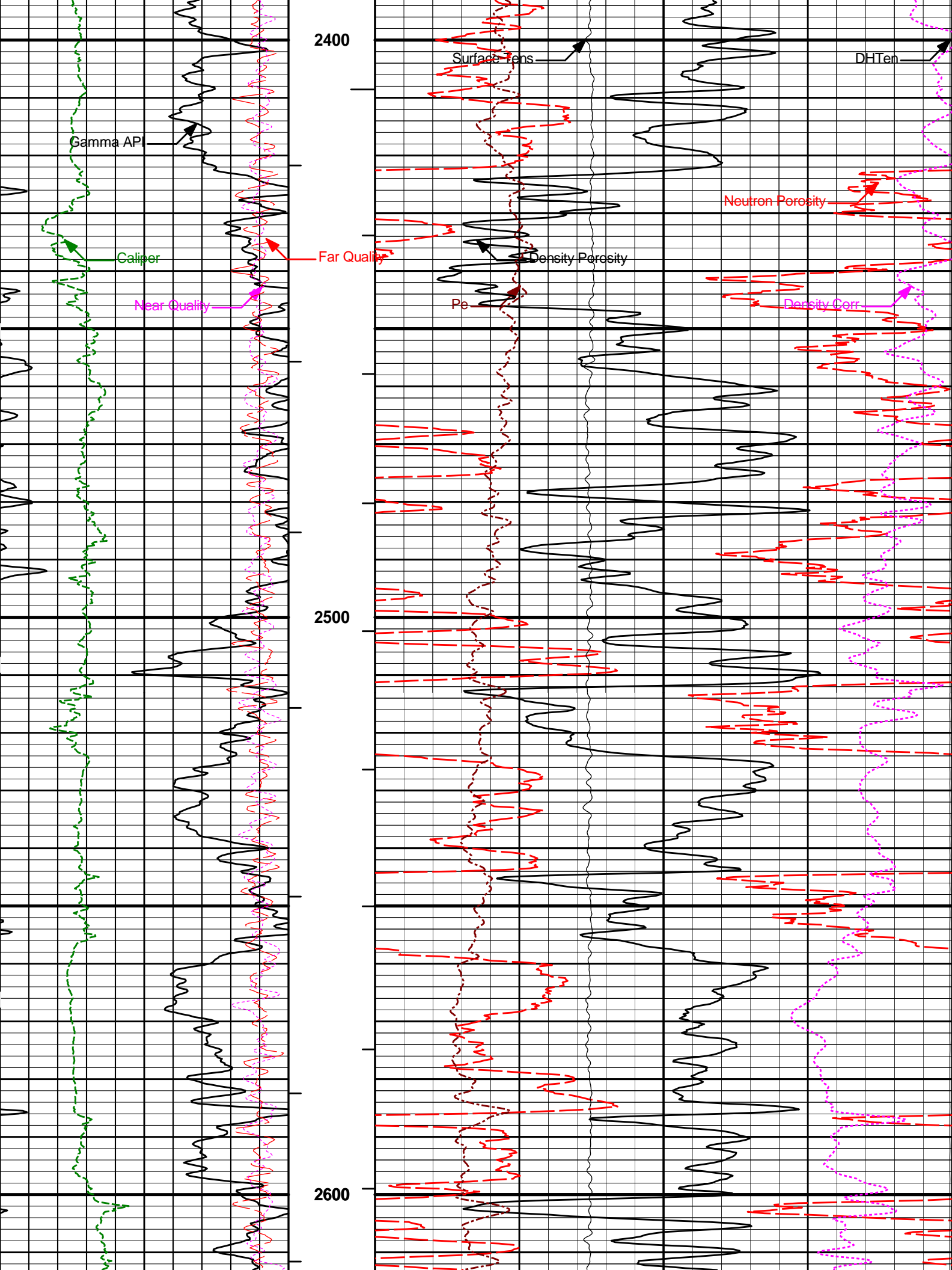




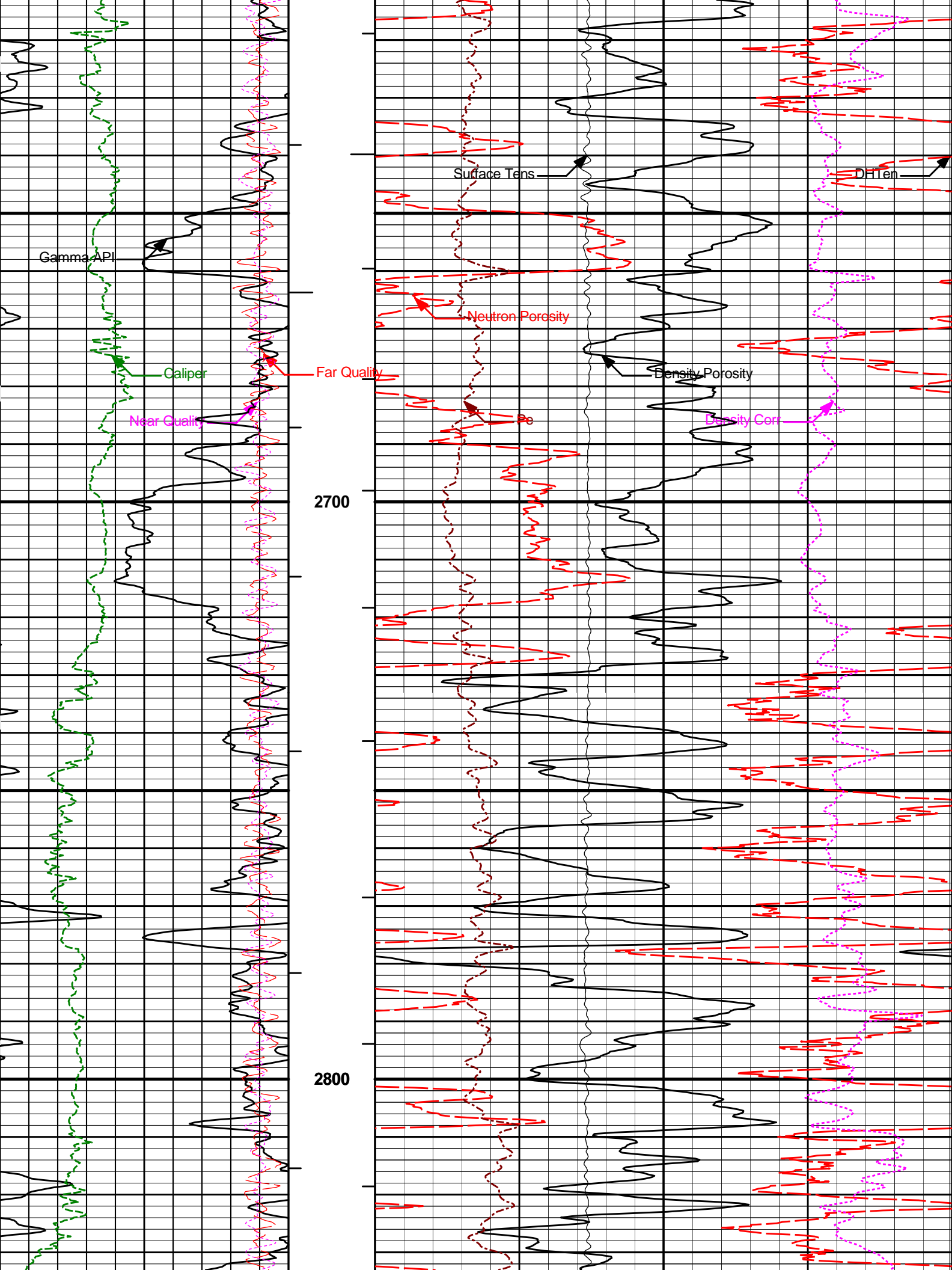


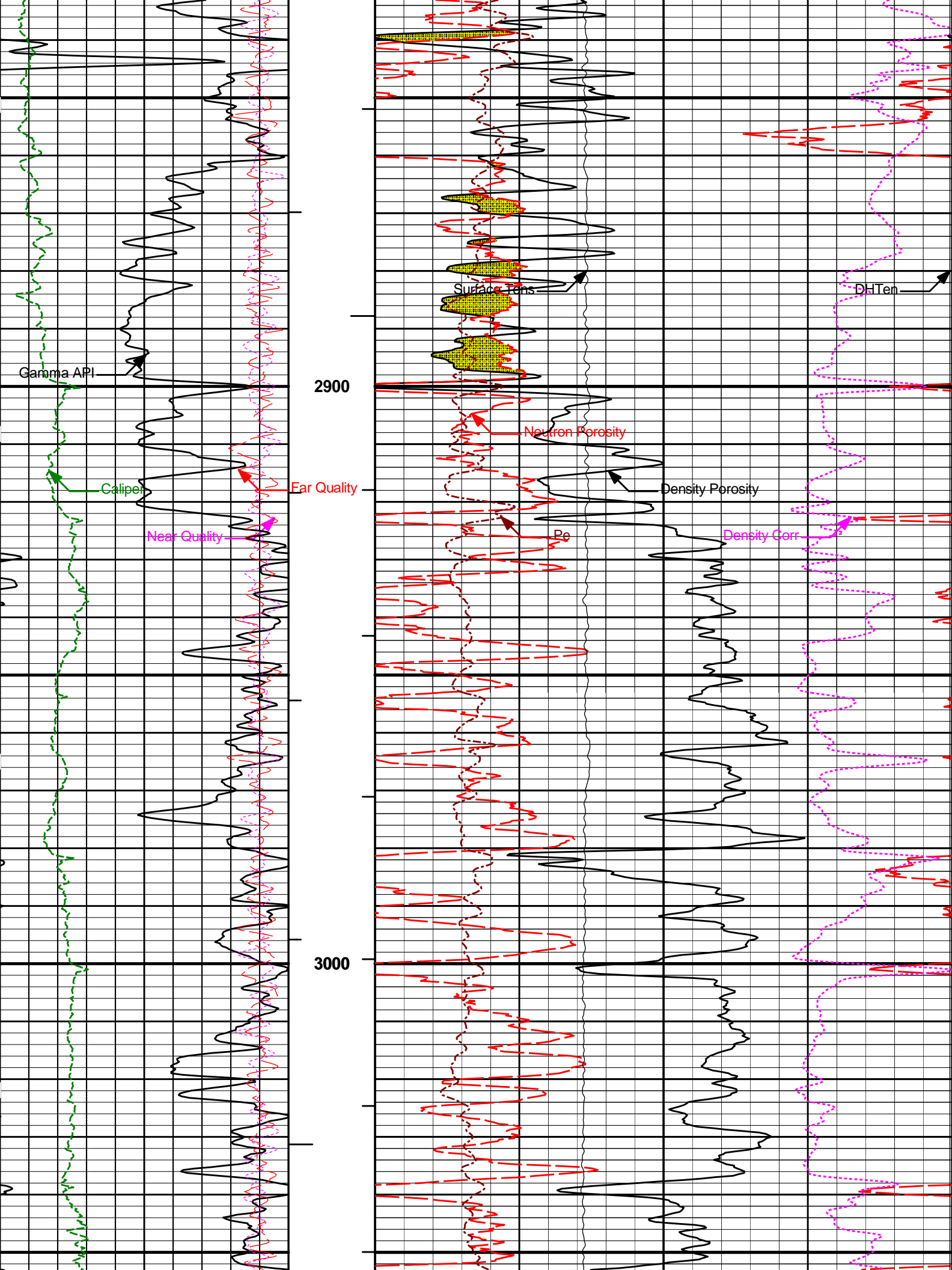


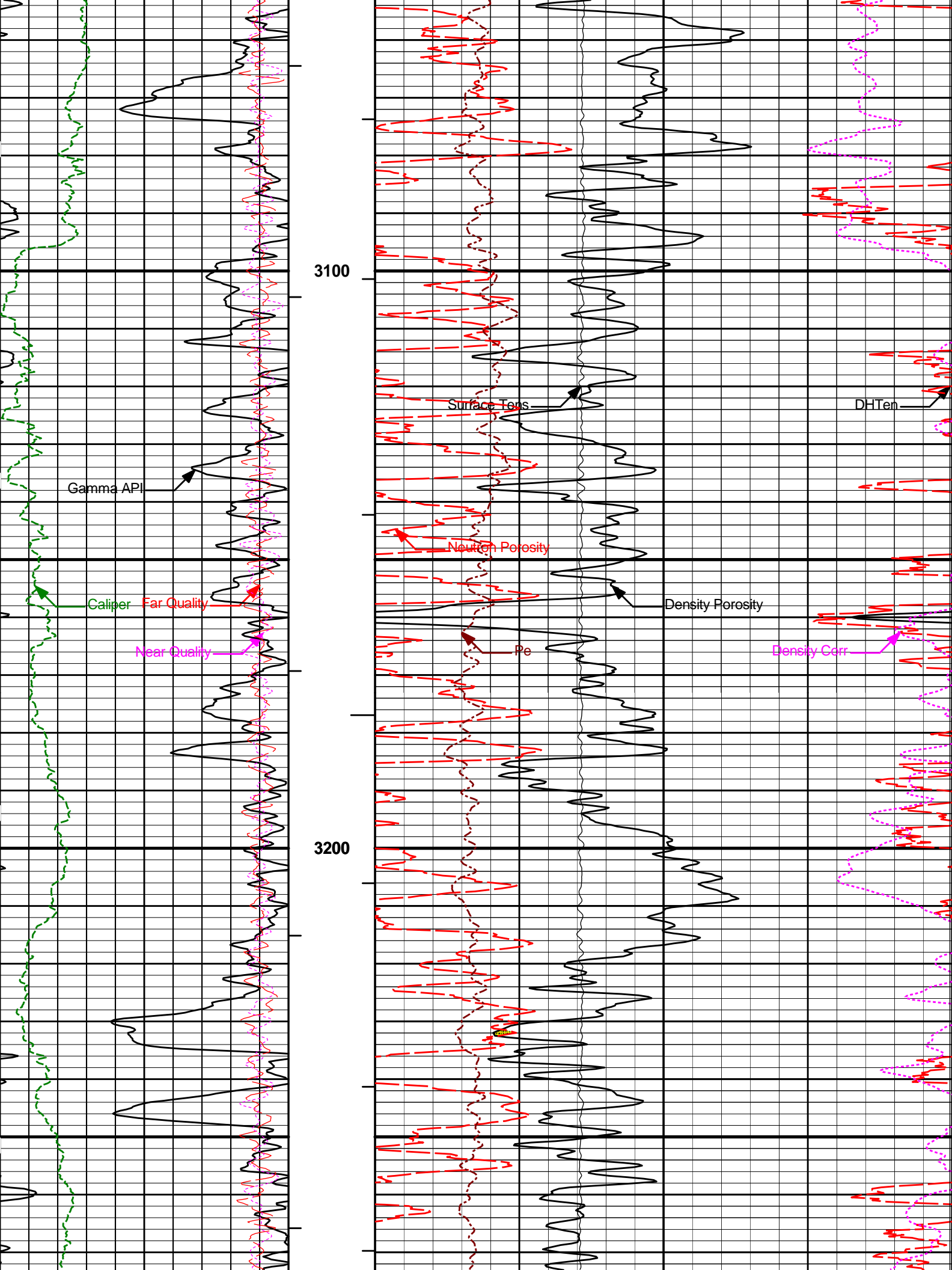


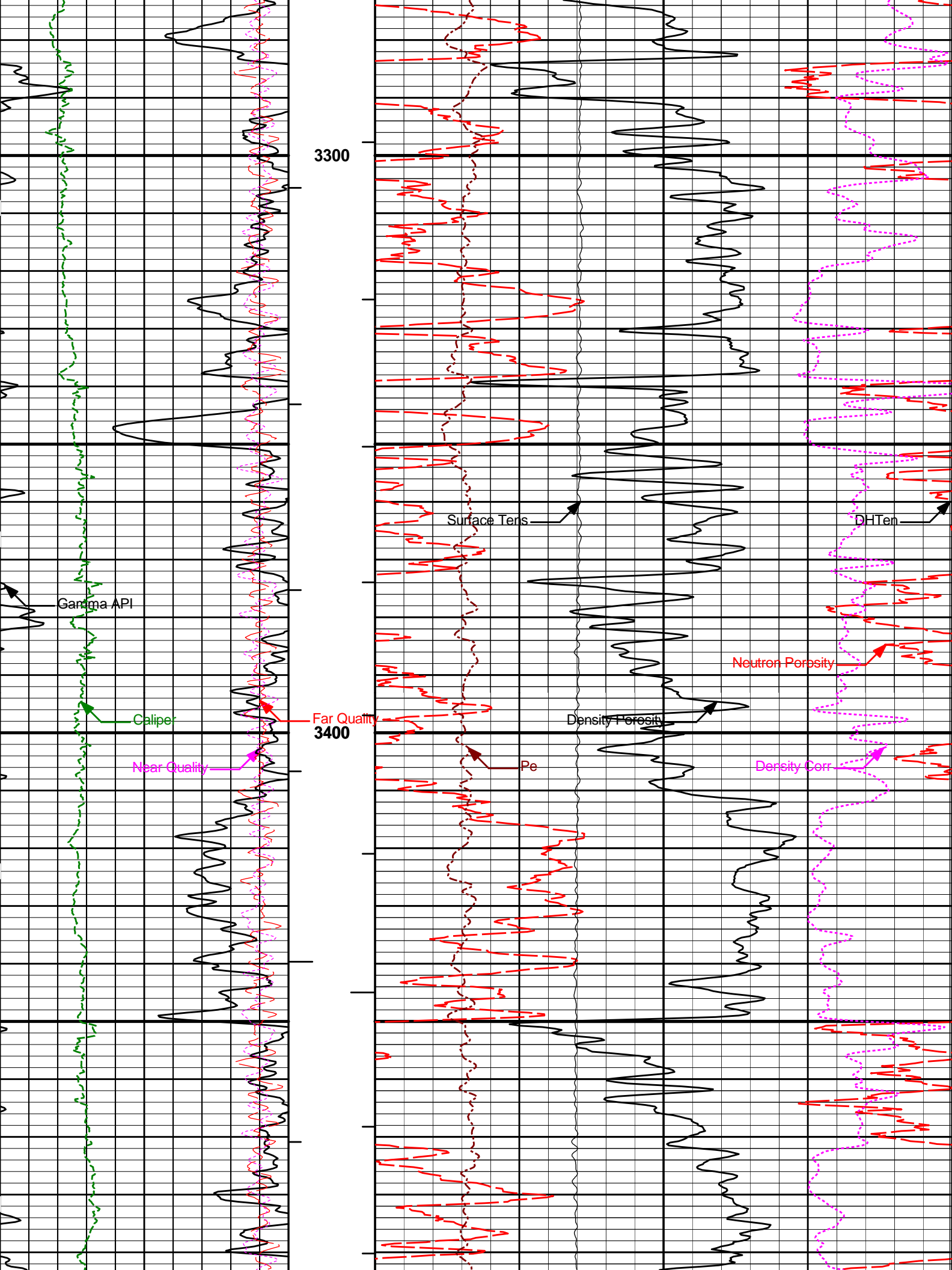


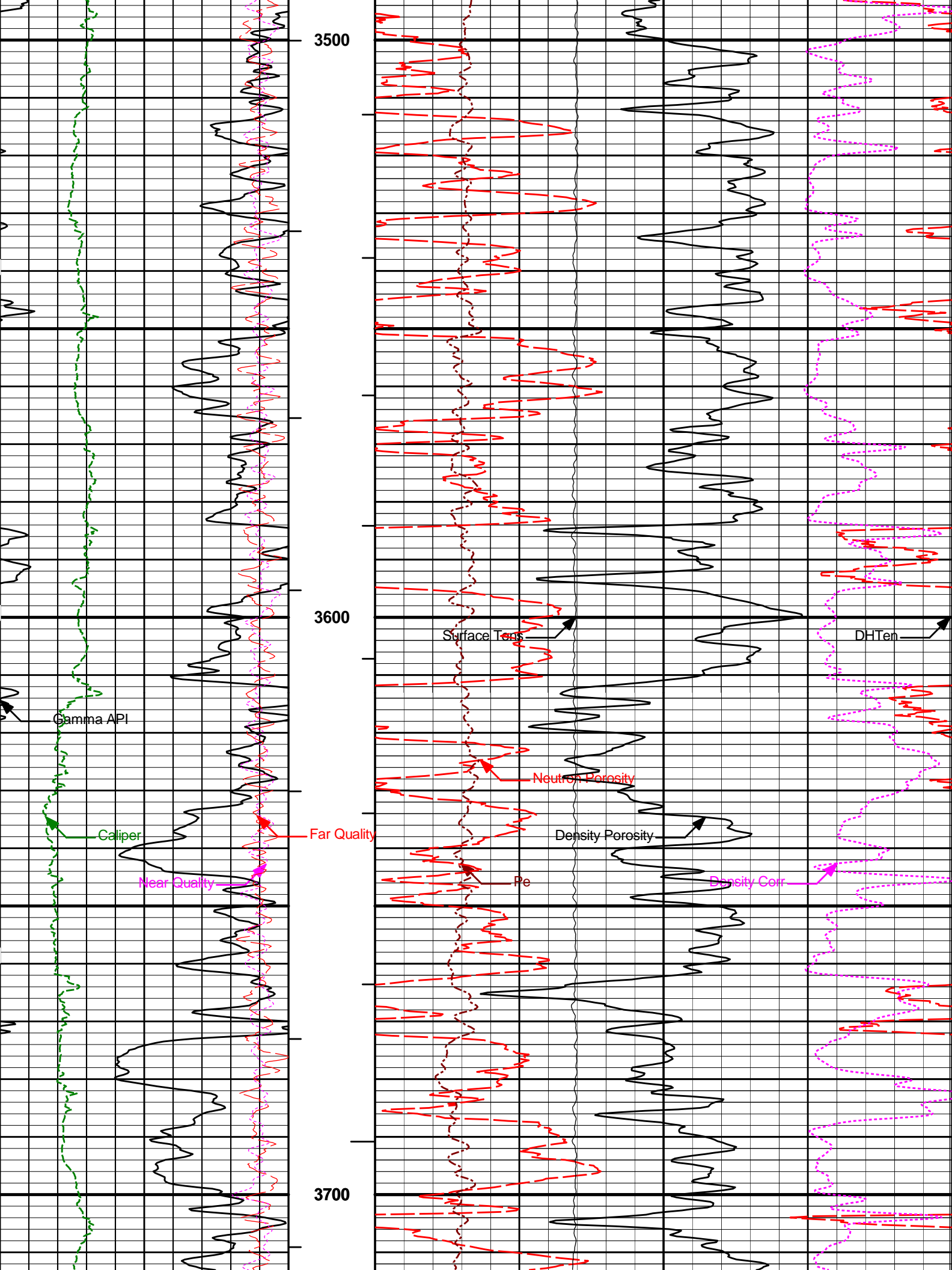


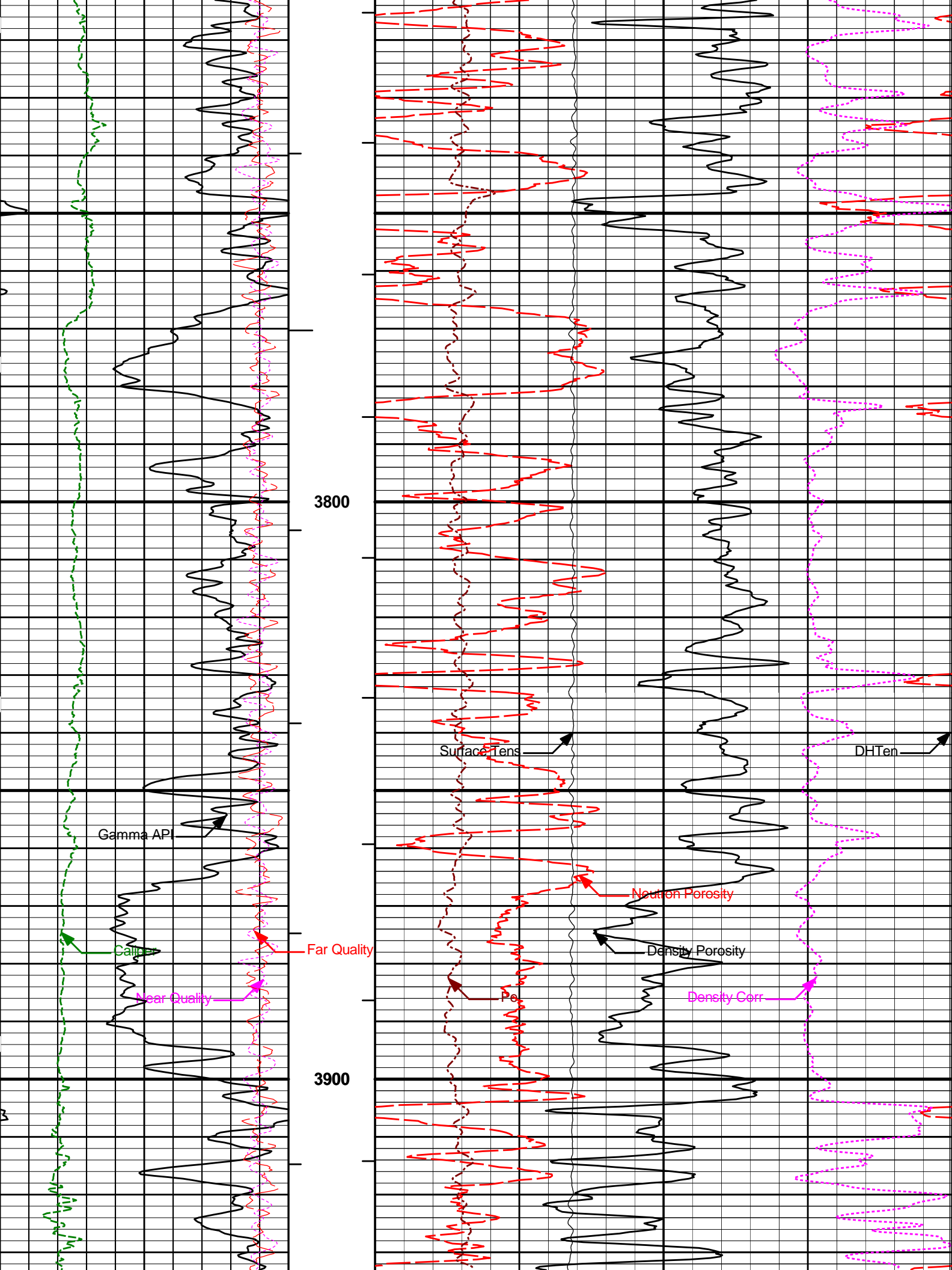


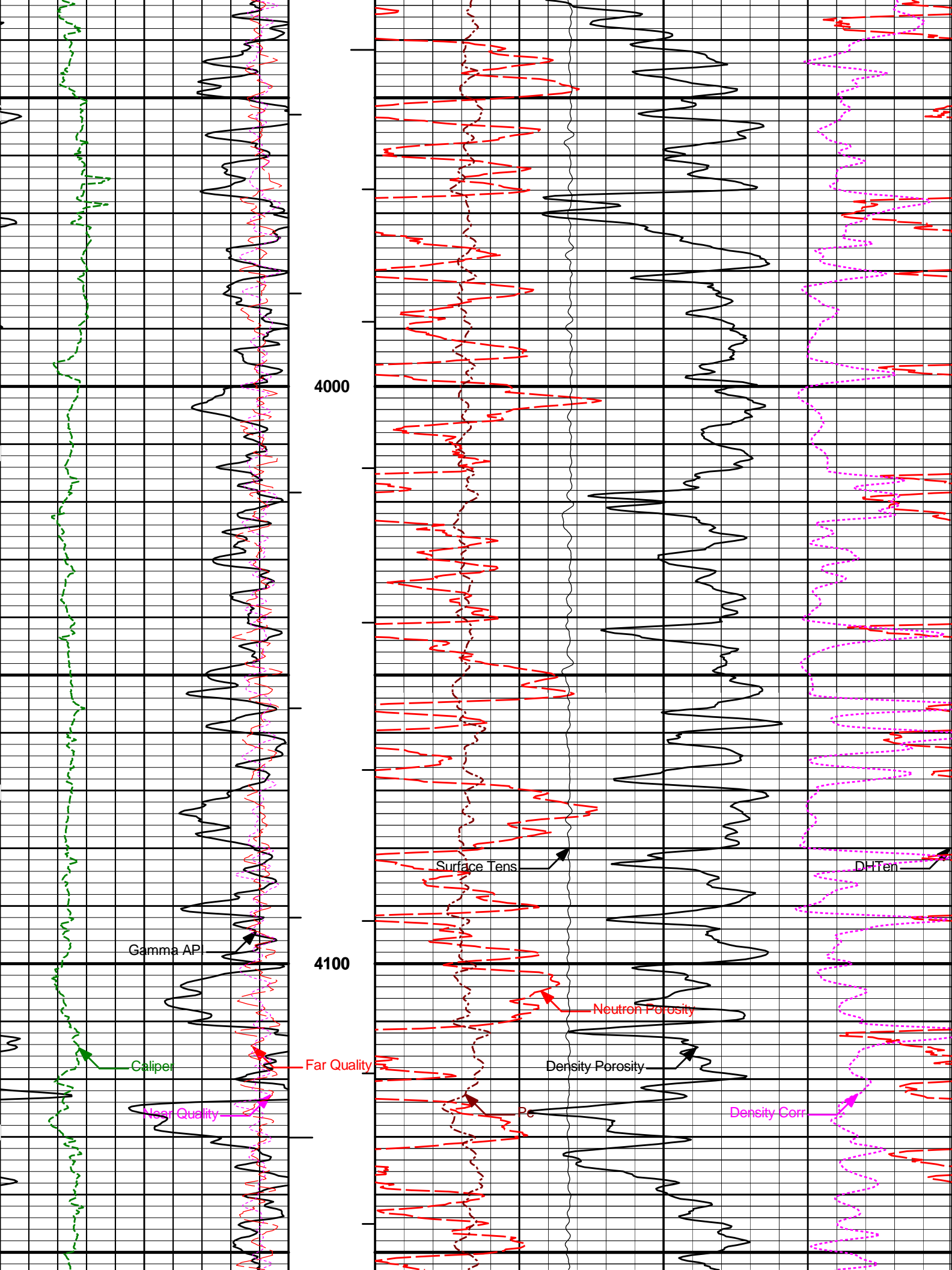




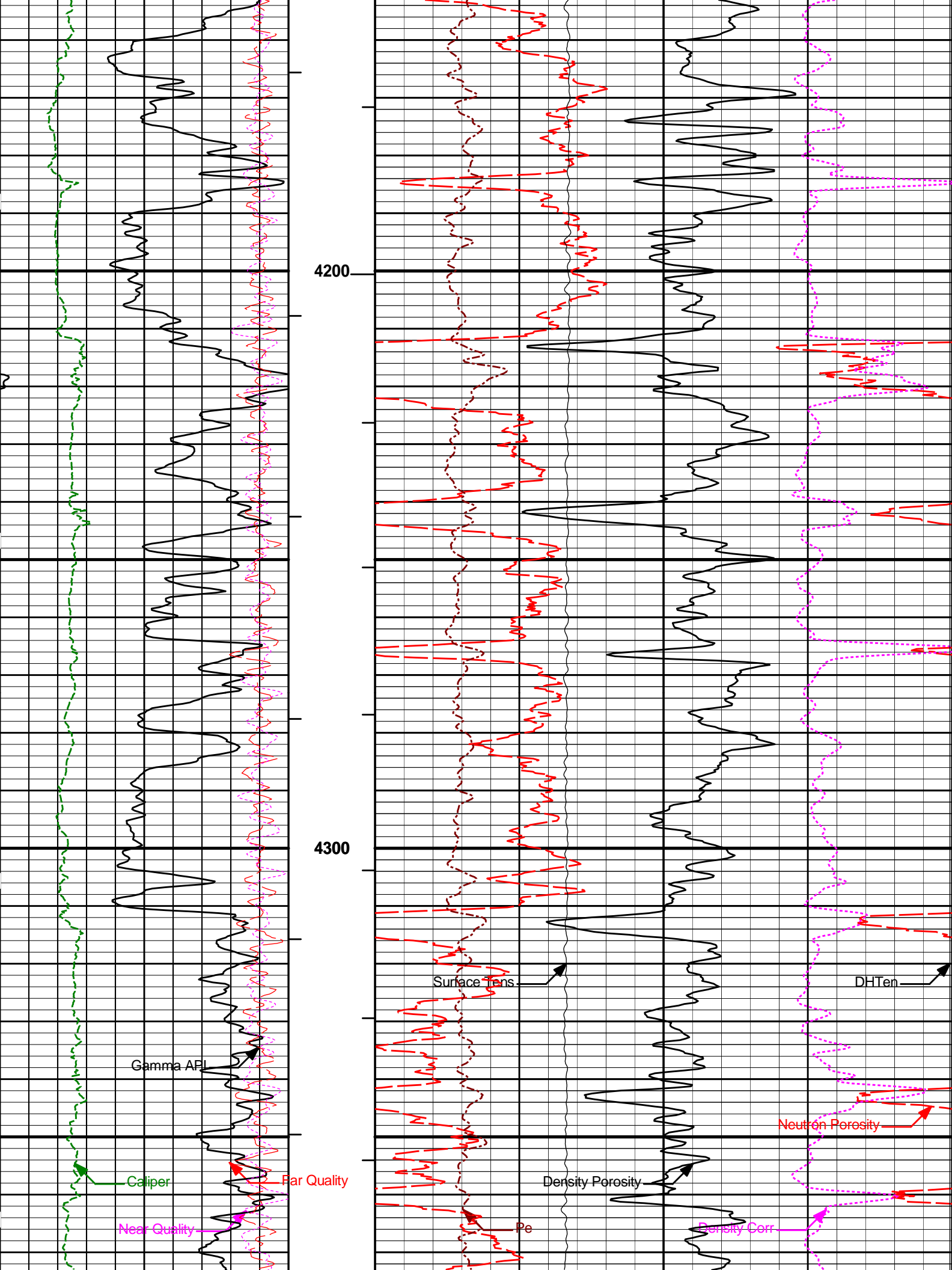


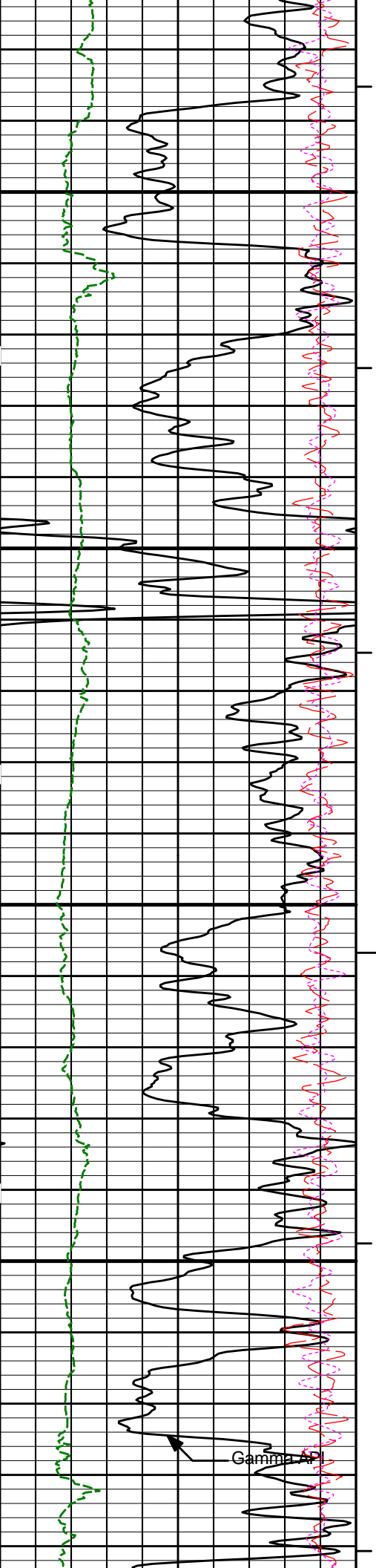






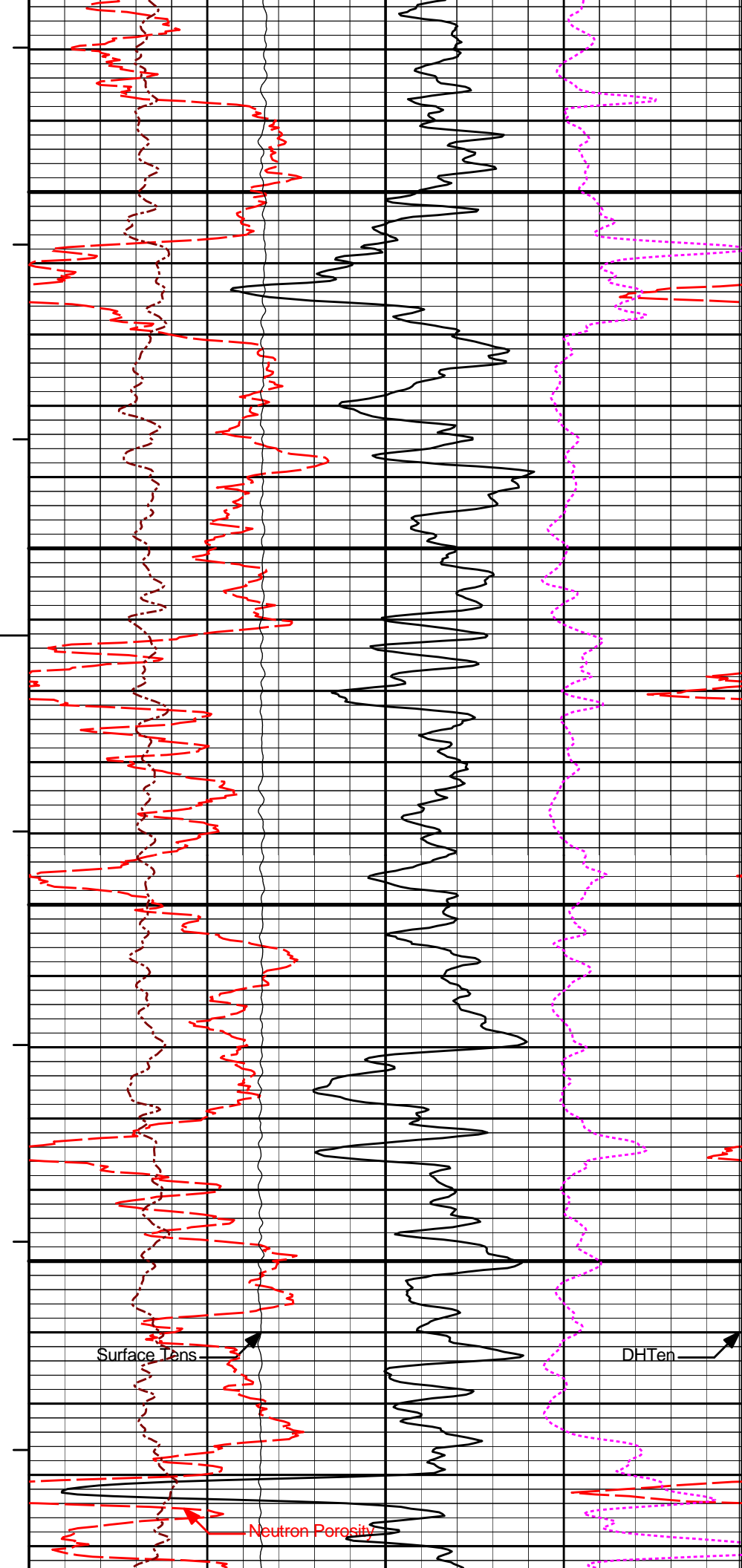






4400

4500

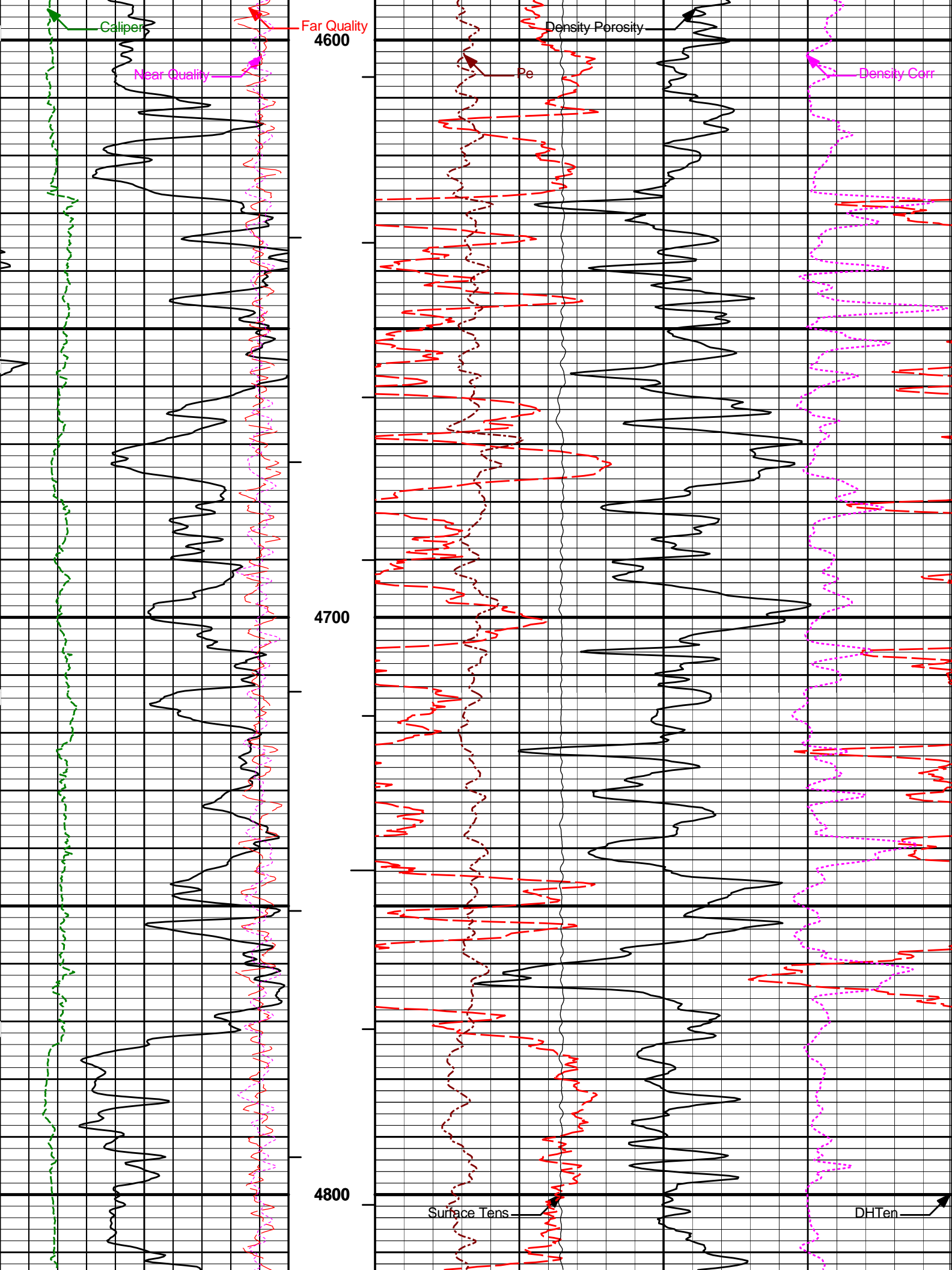


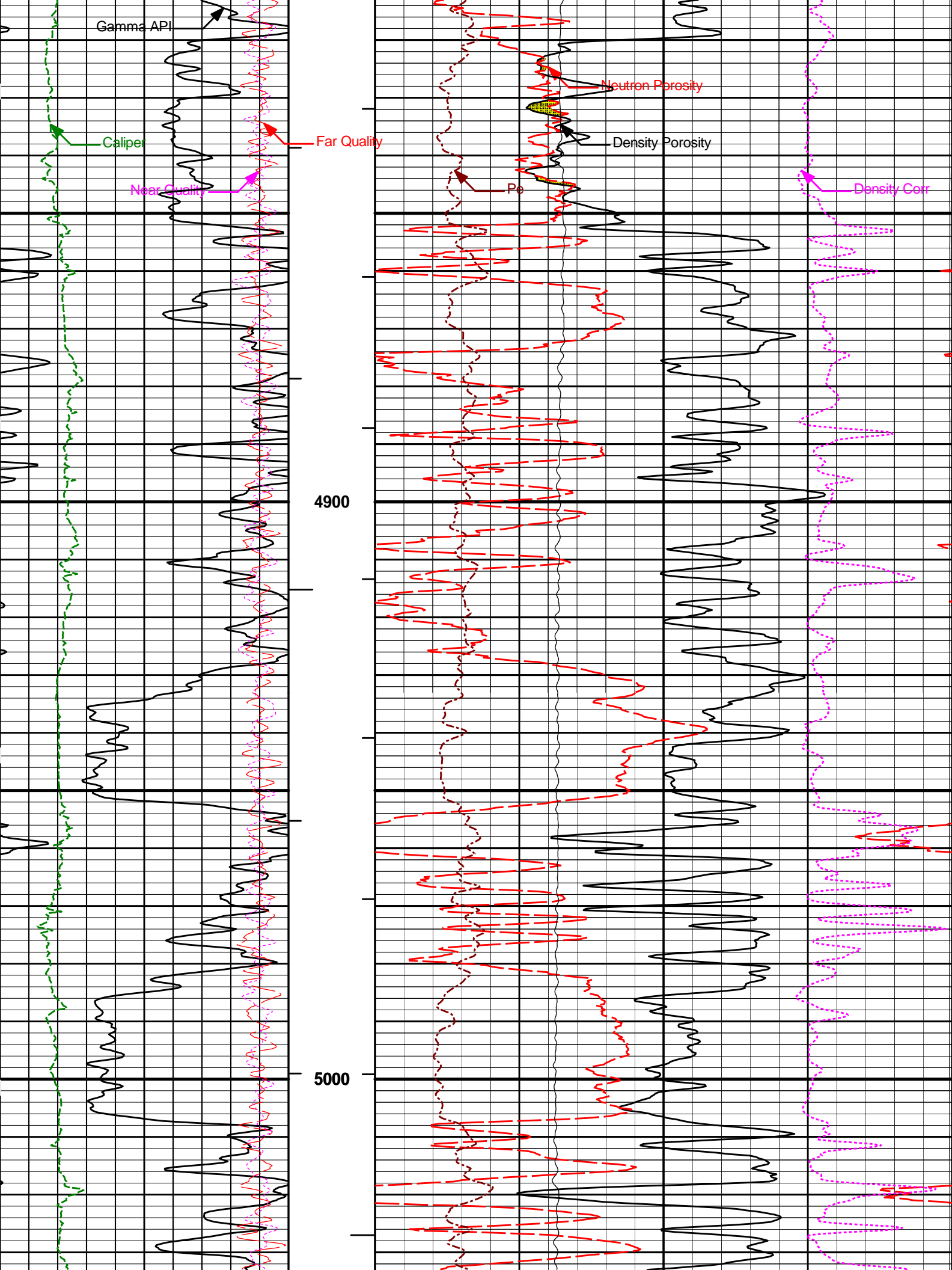
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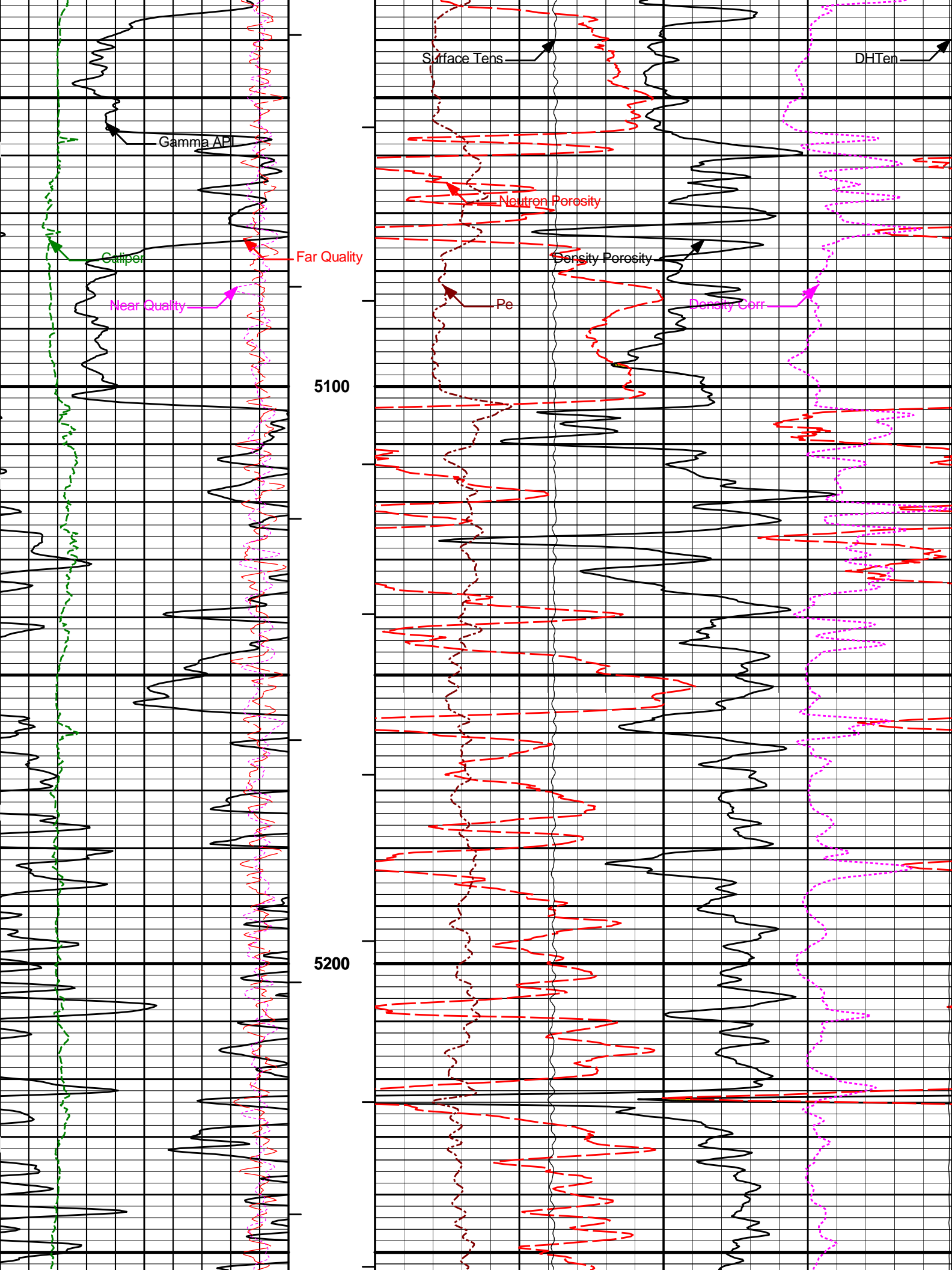
Neutron Porosity

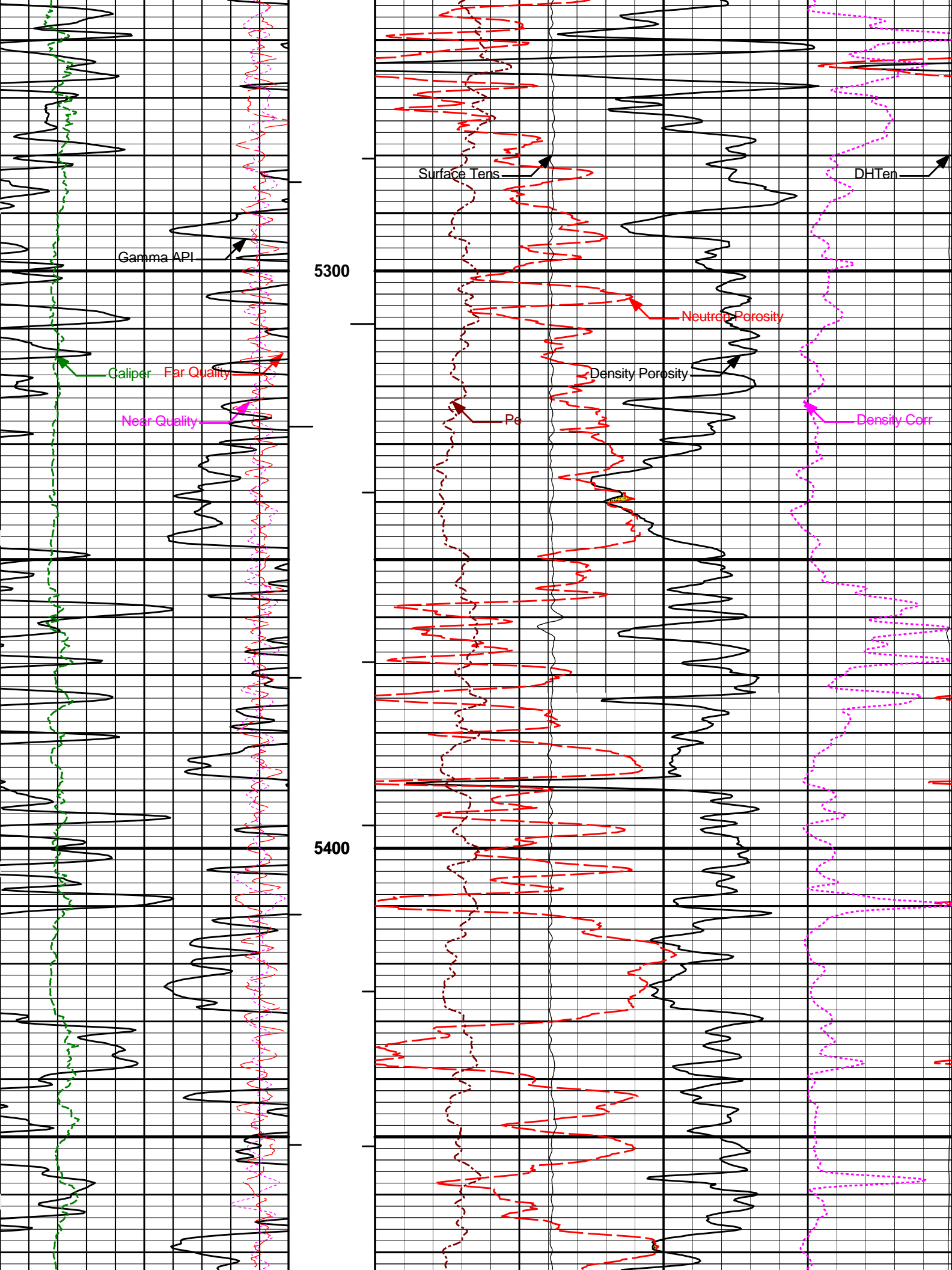
DHTen

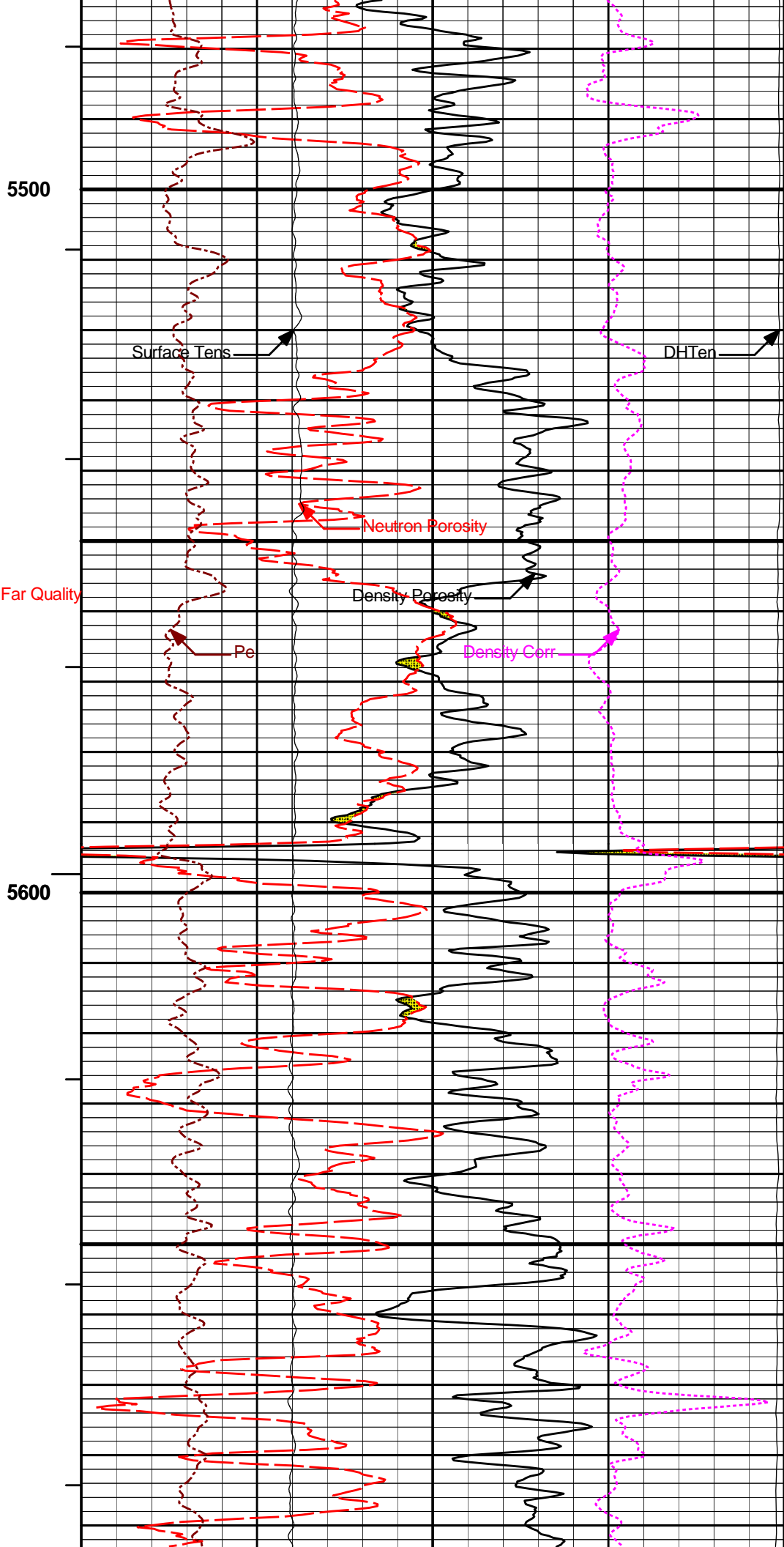
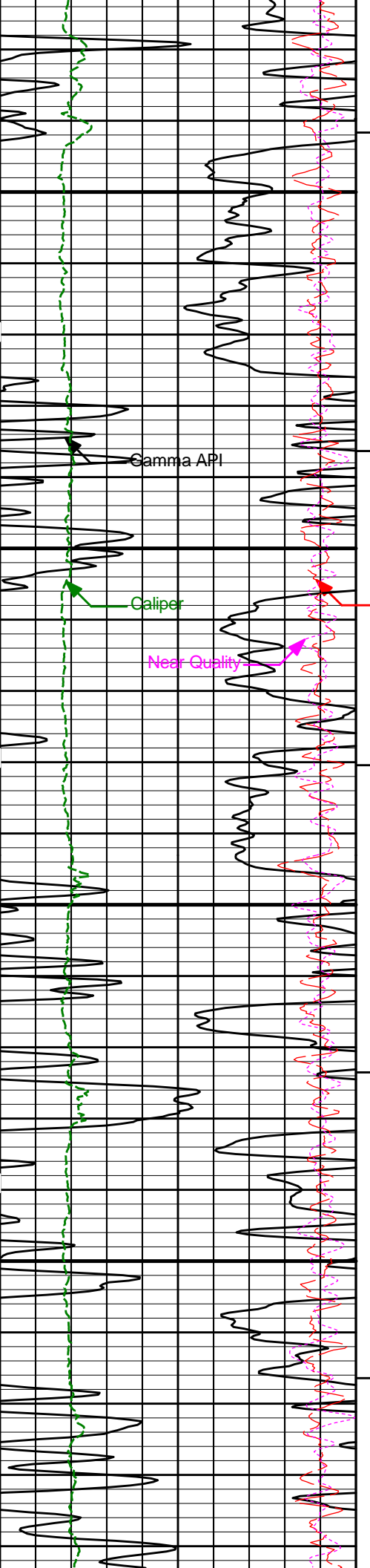
Gamma Ray



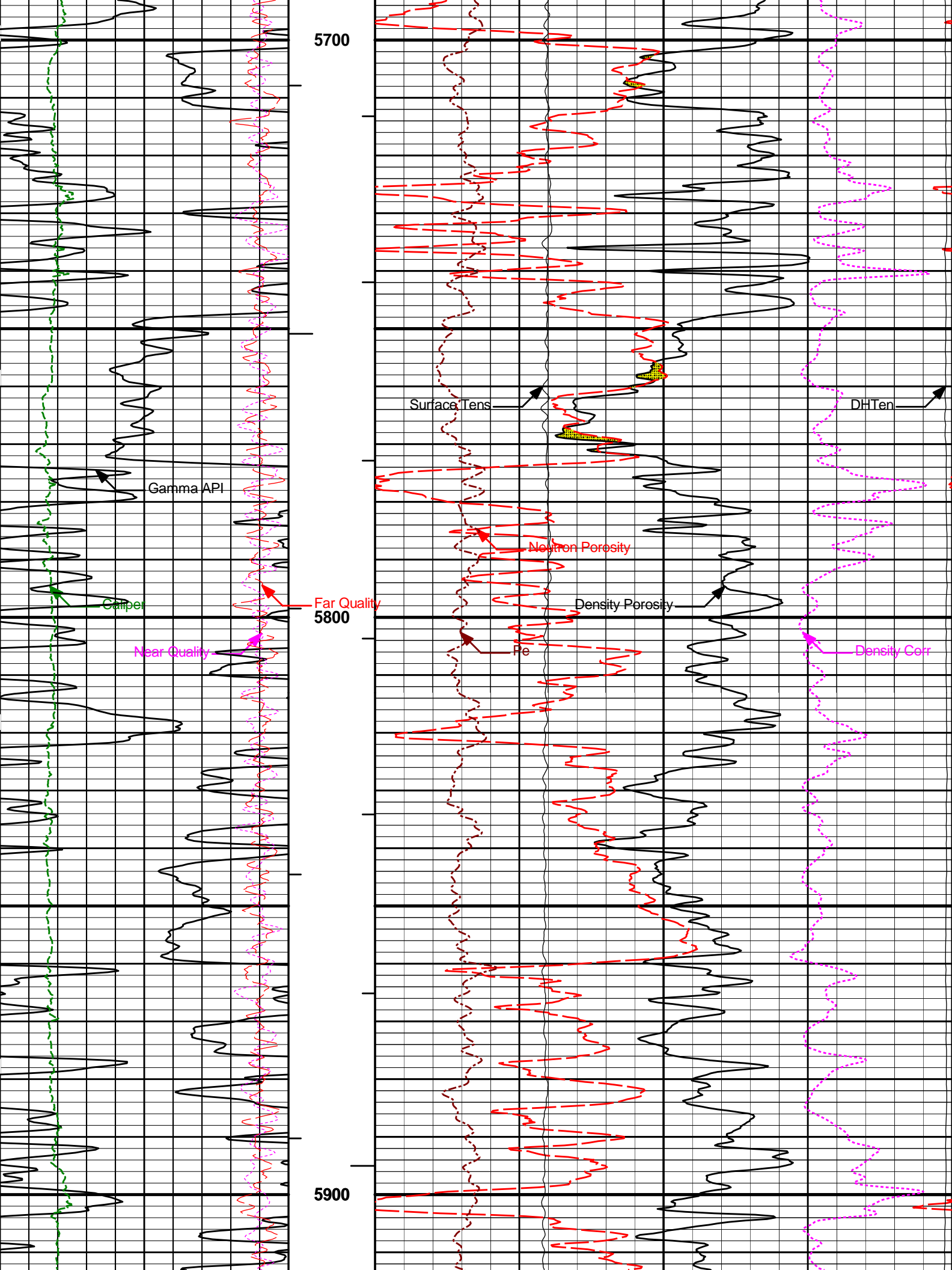


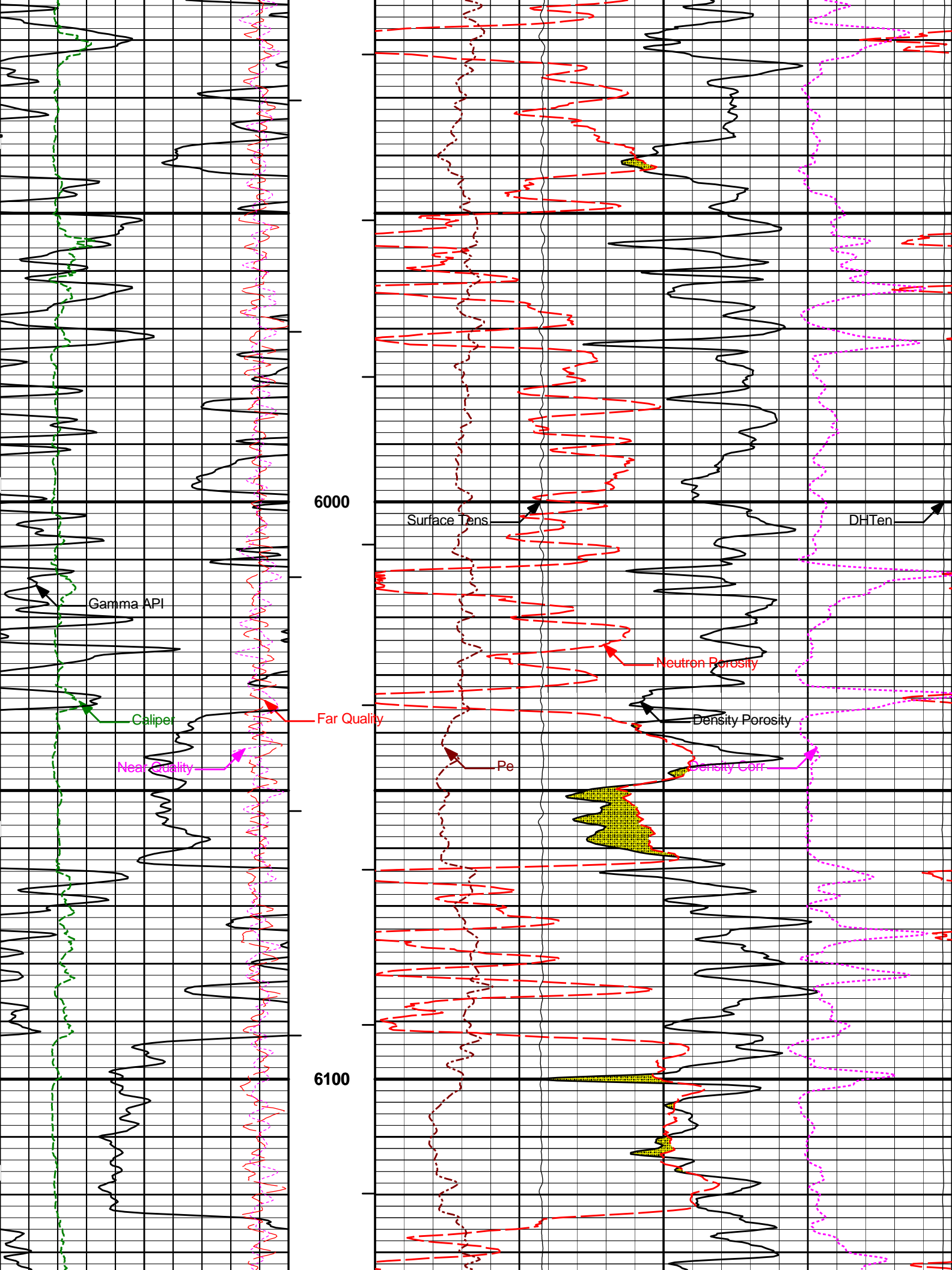


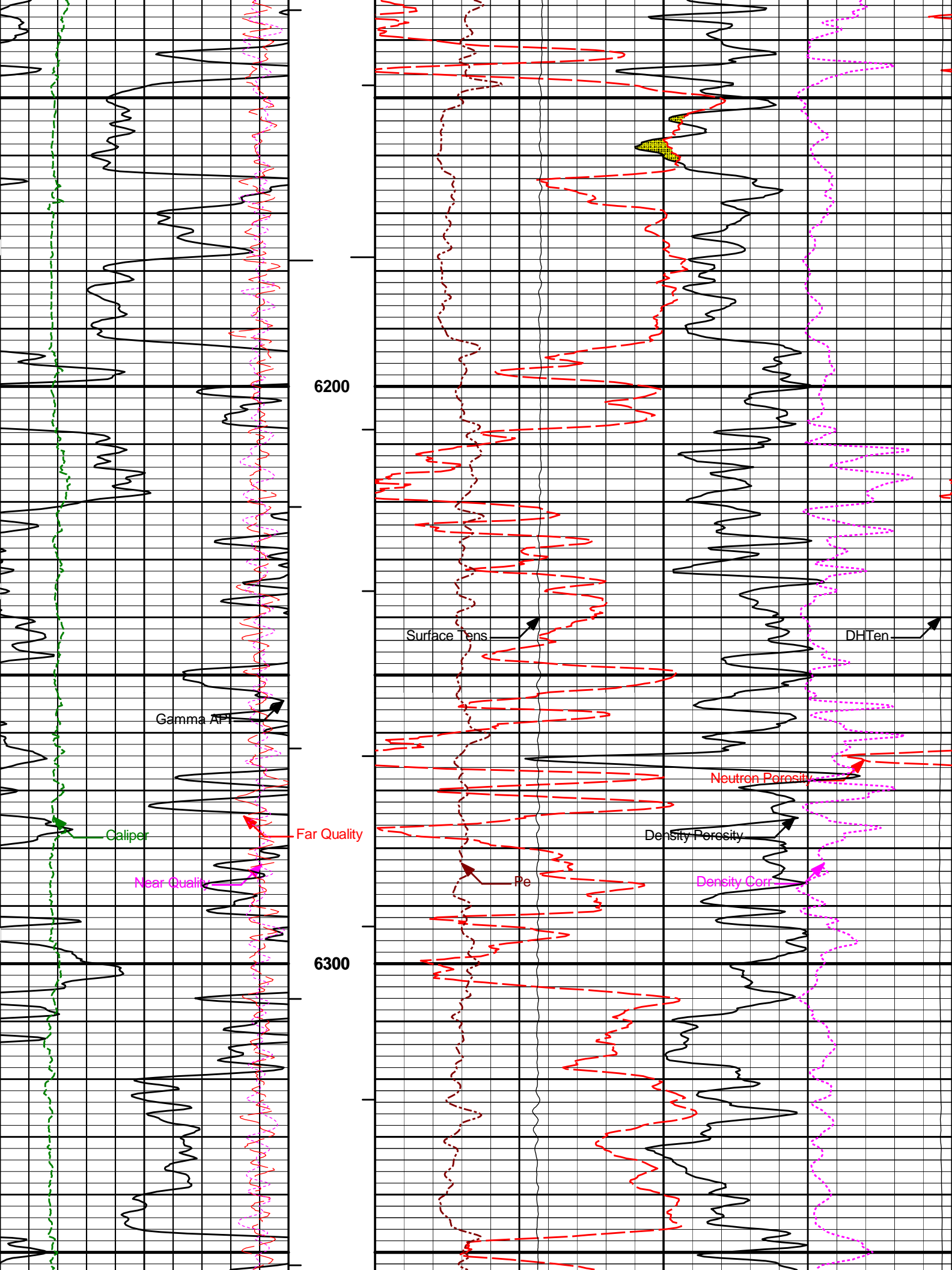


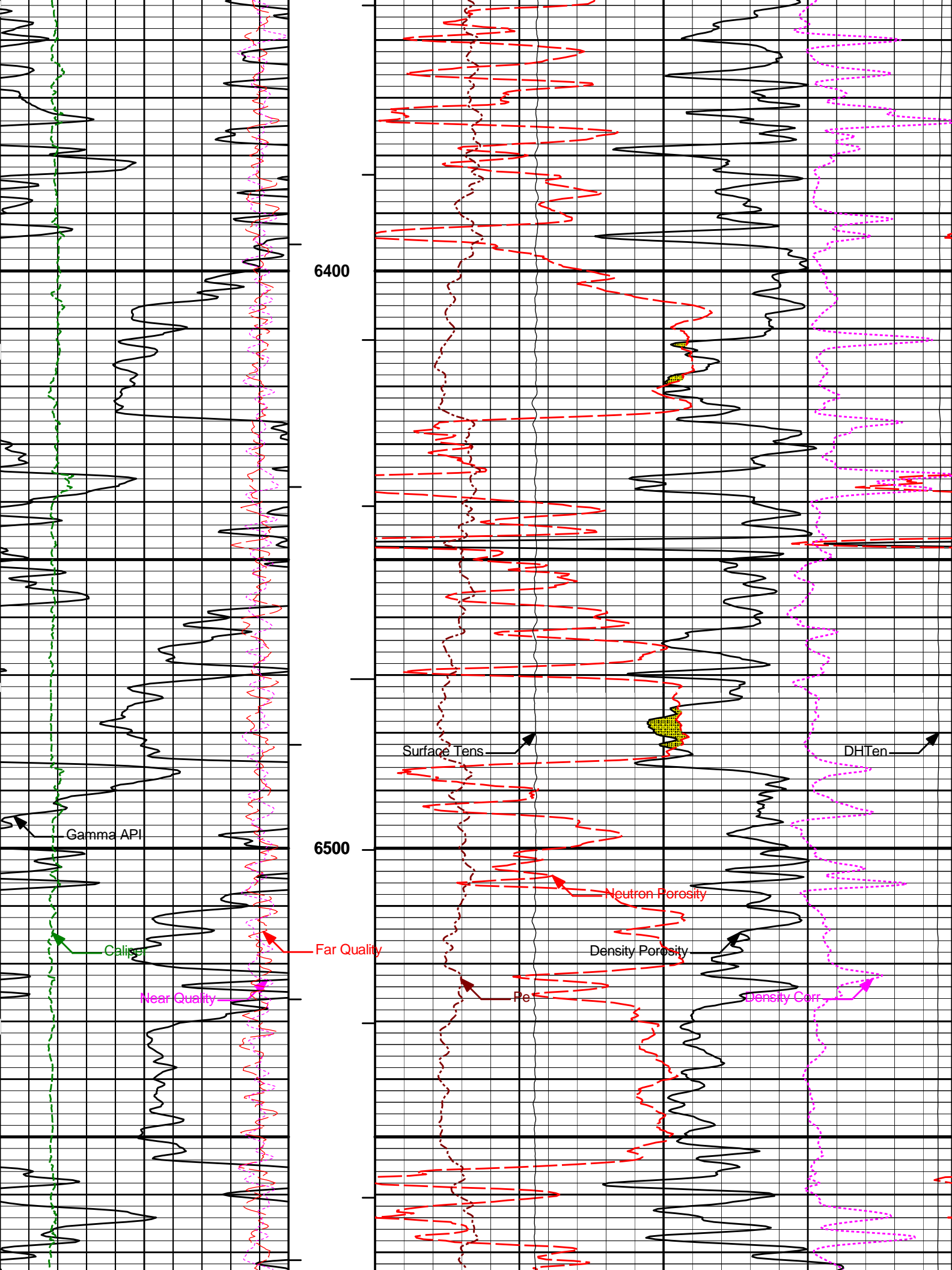


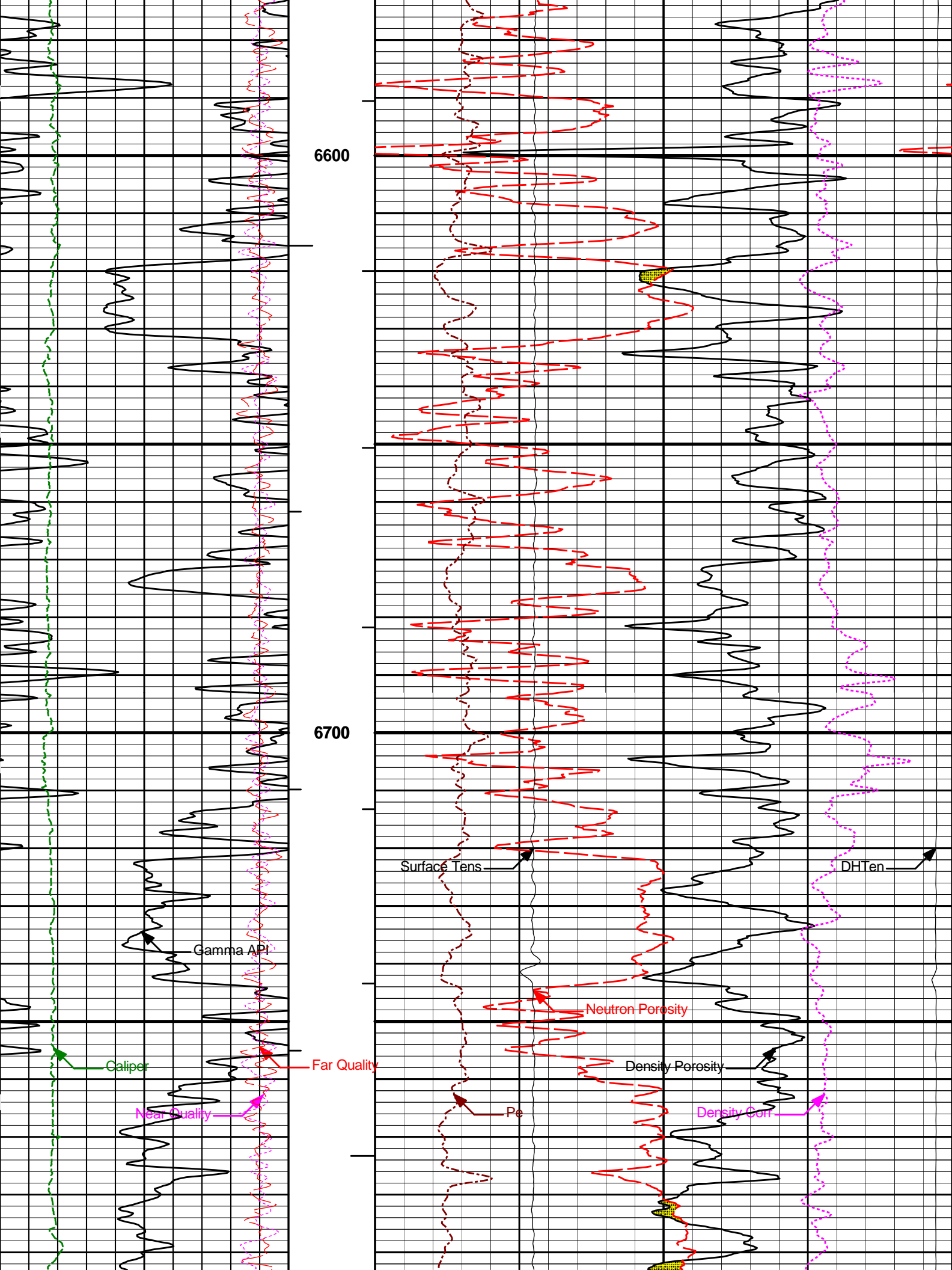


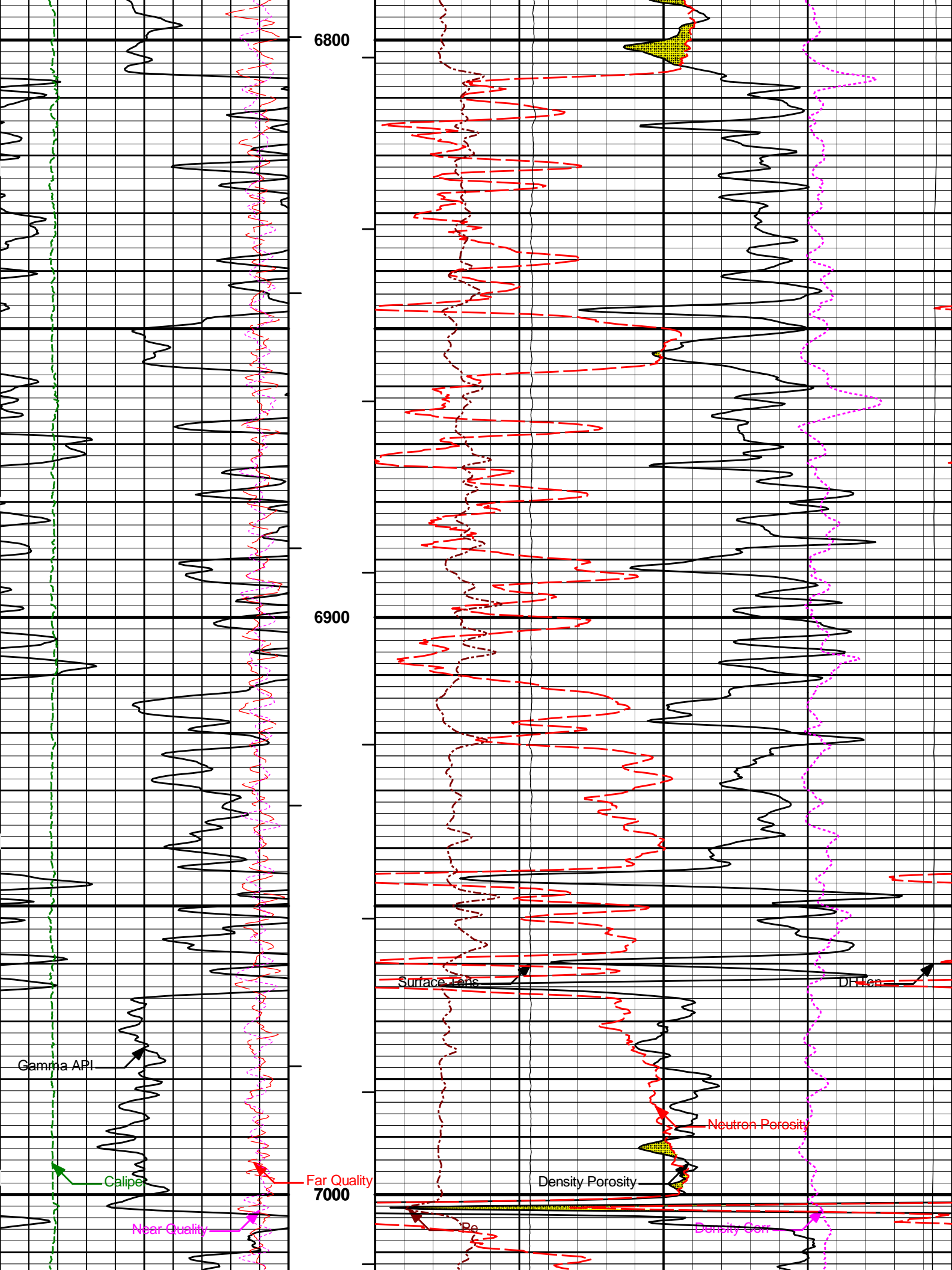


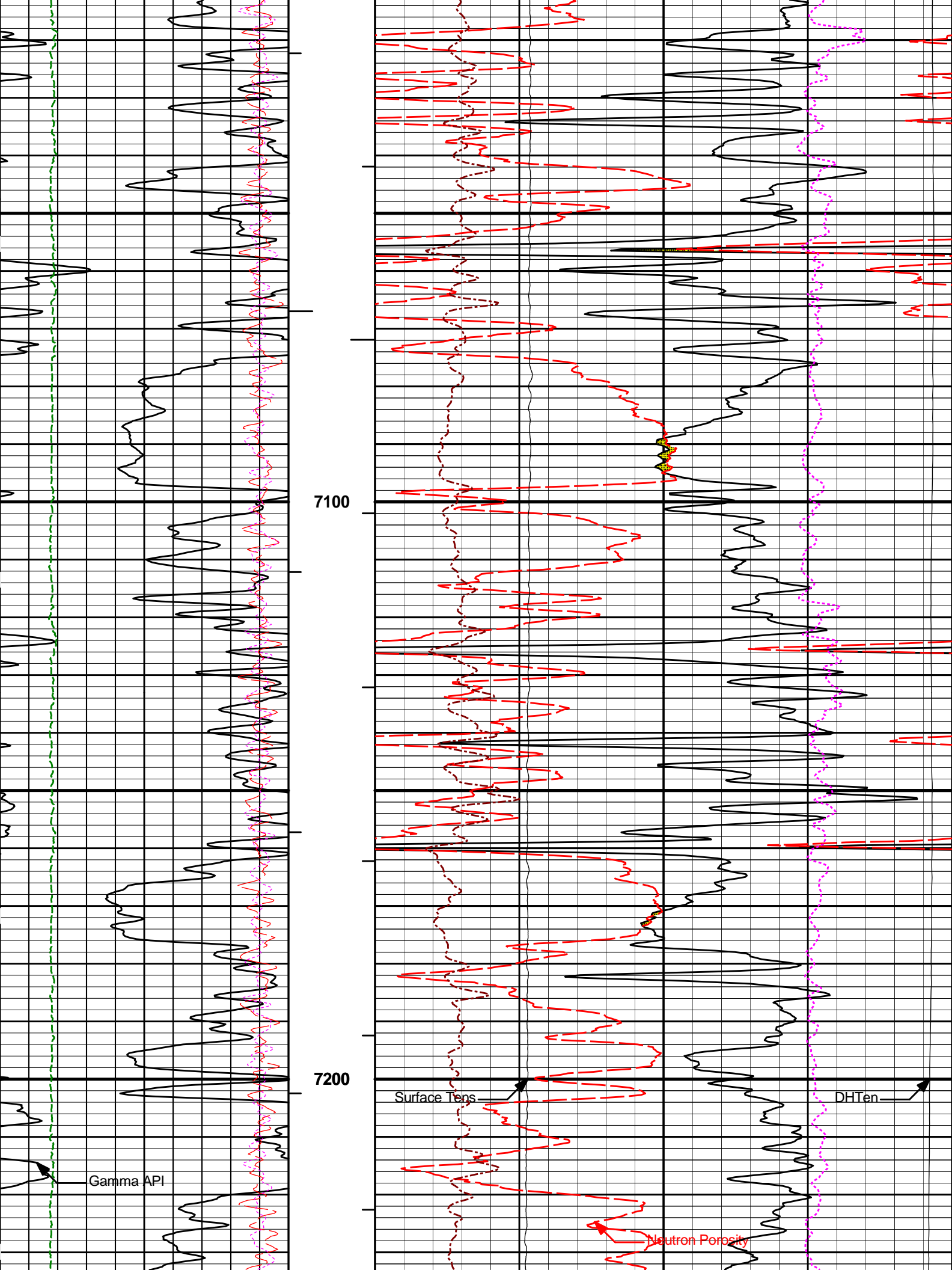




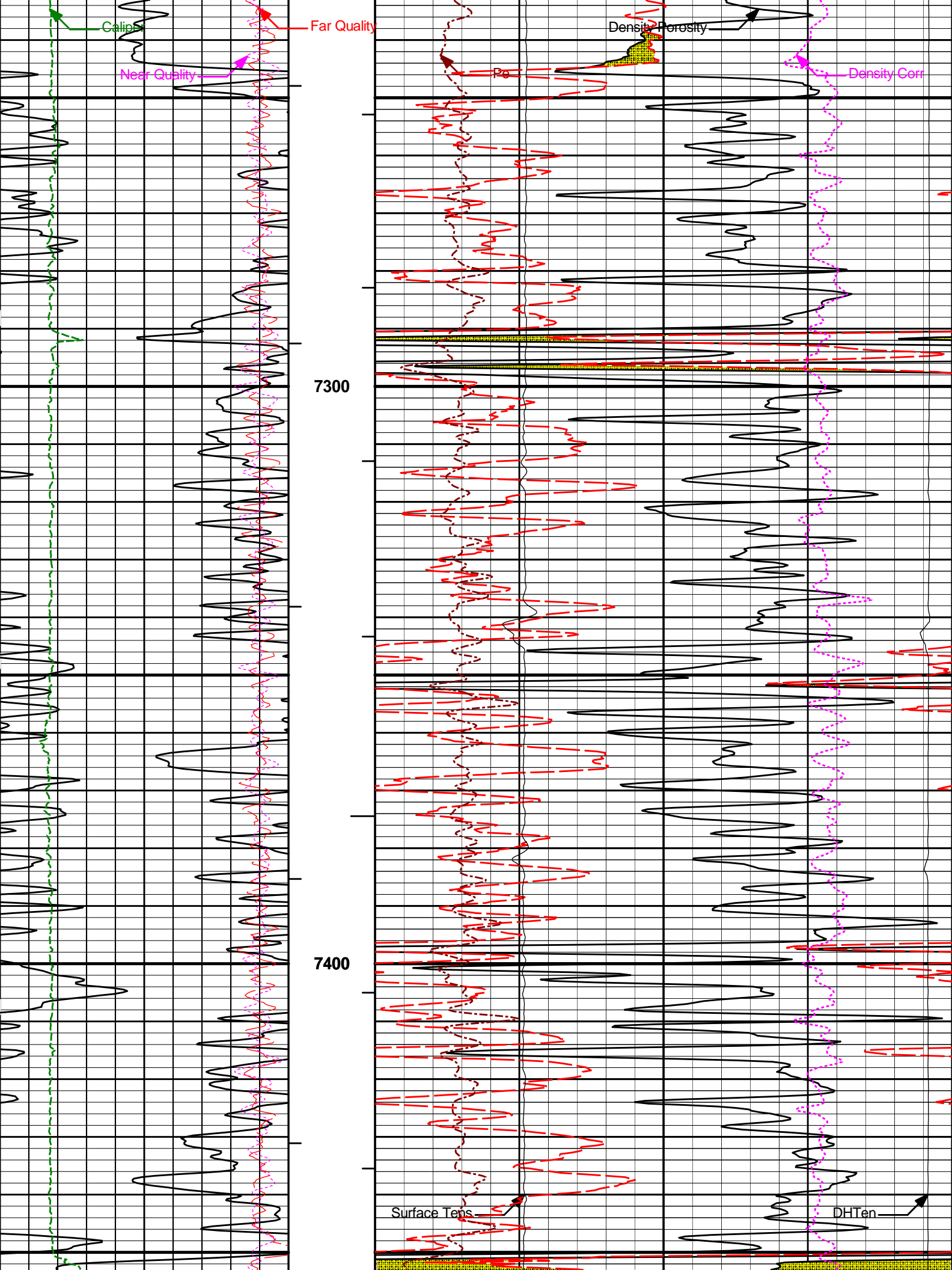


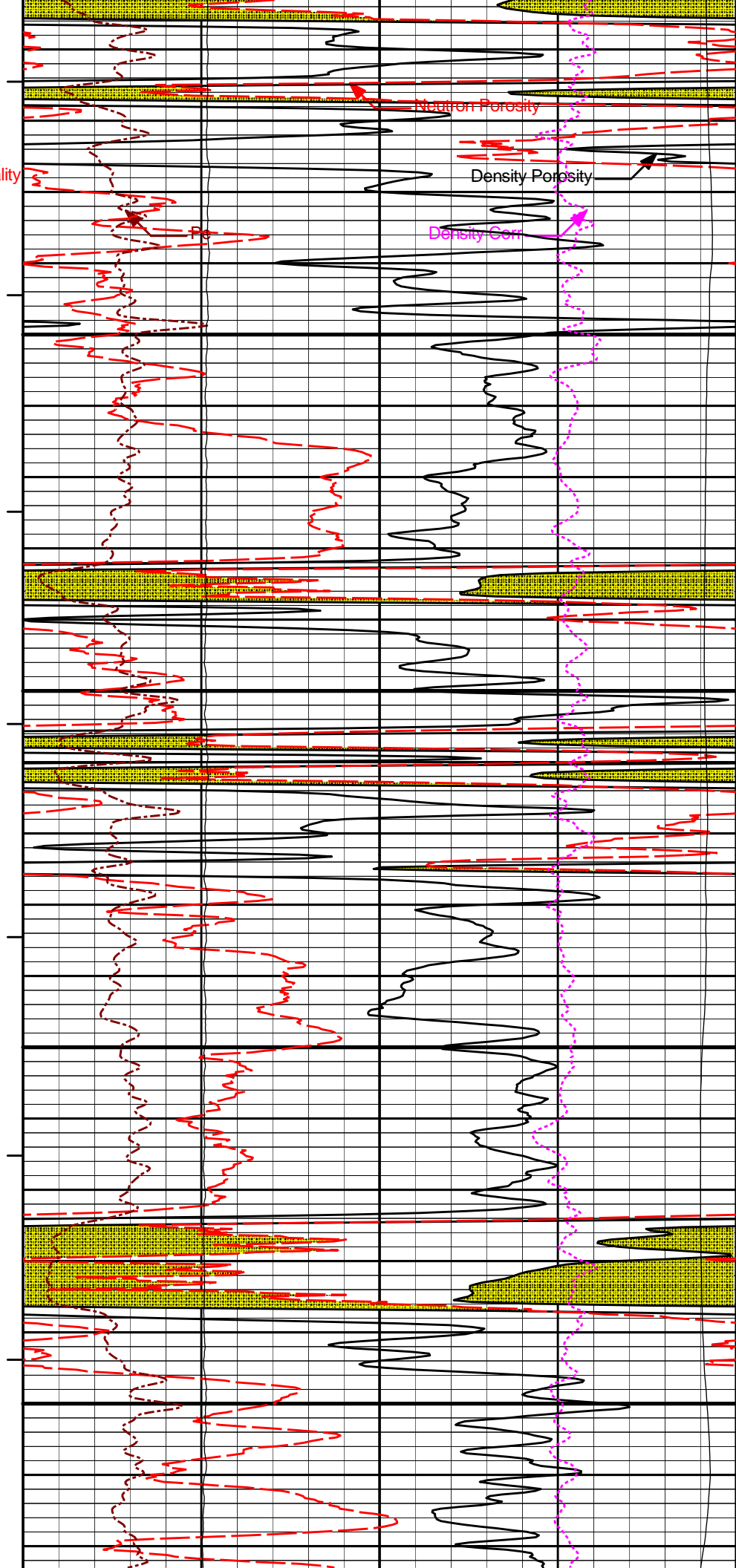
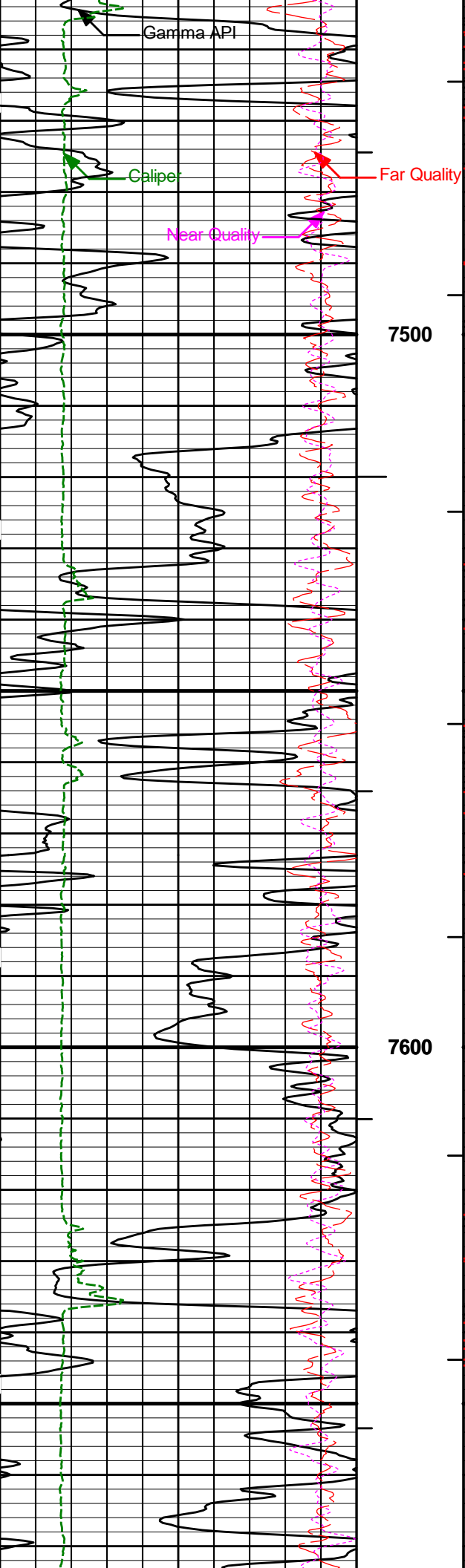


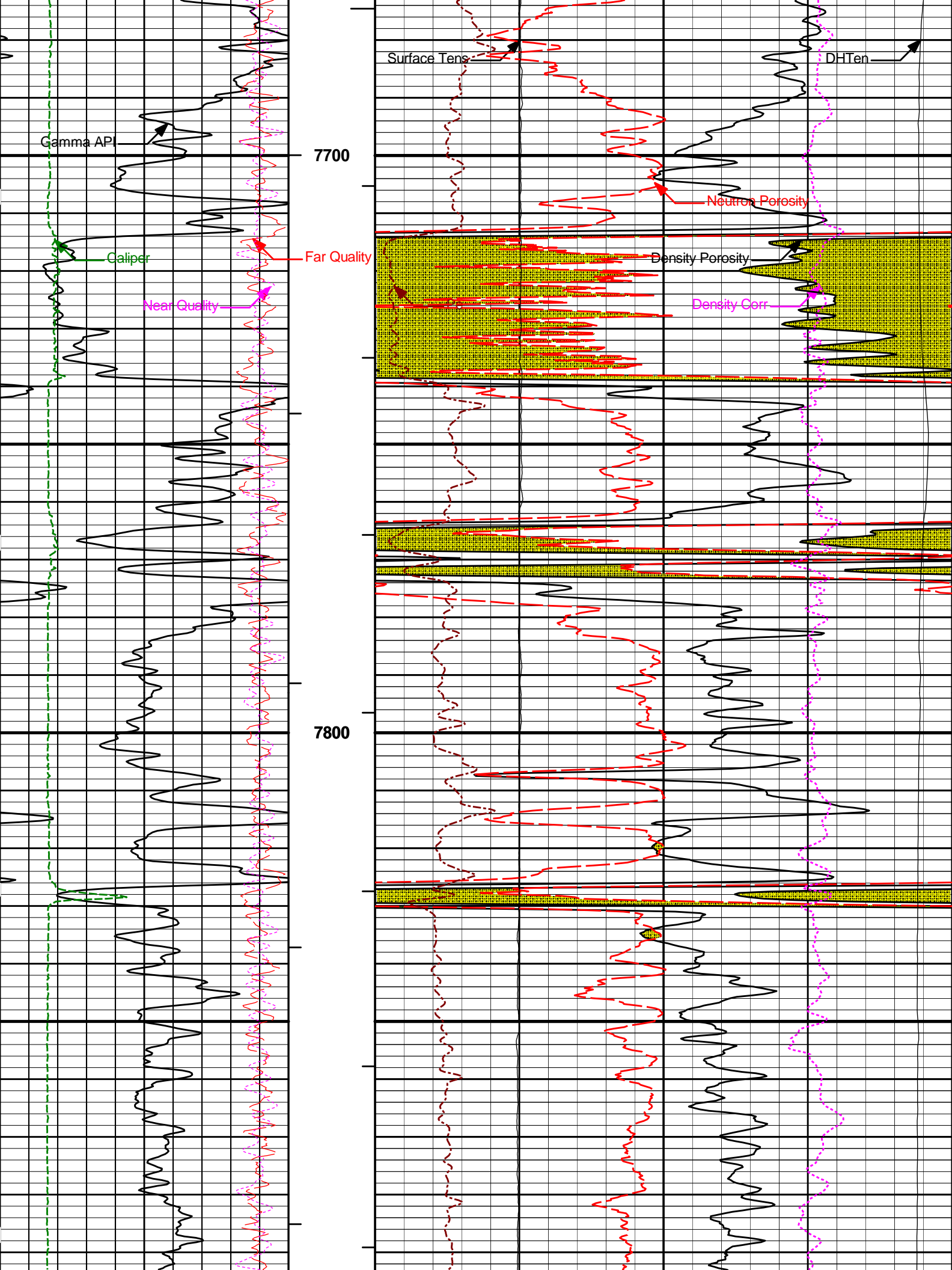


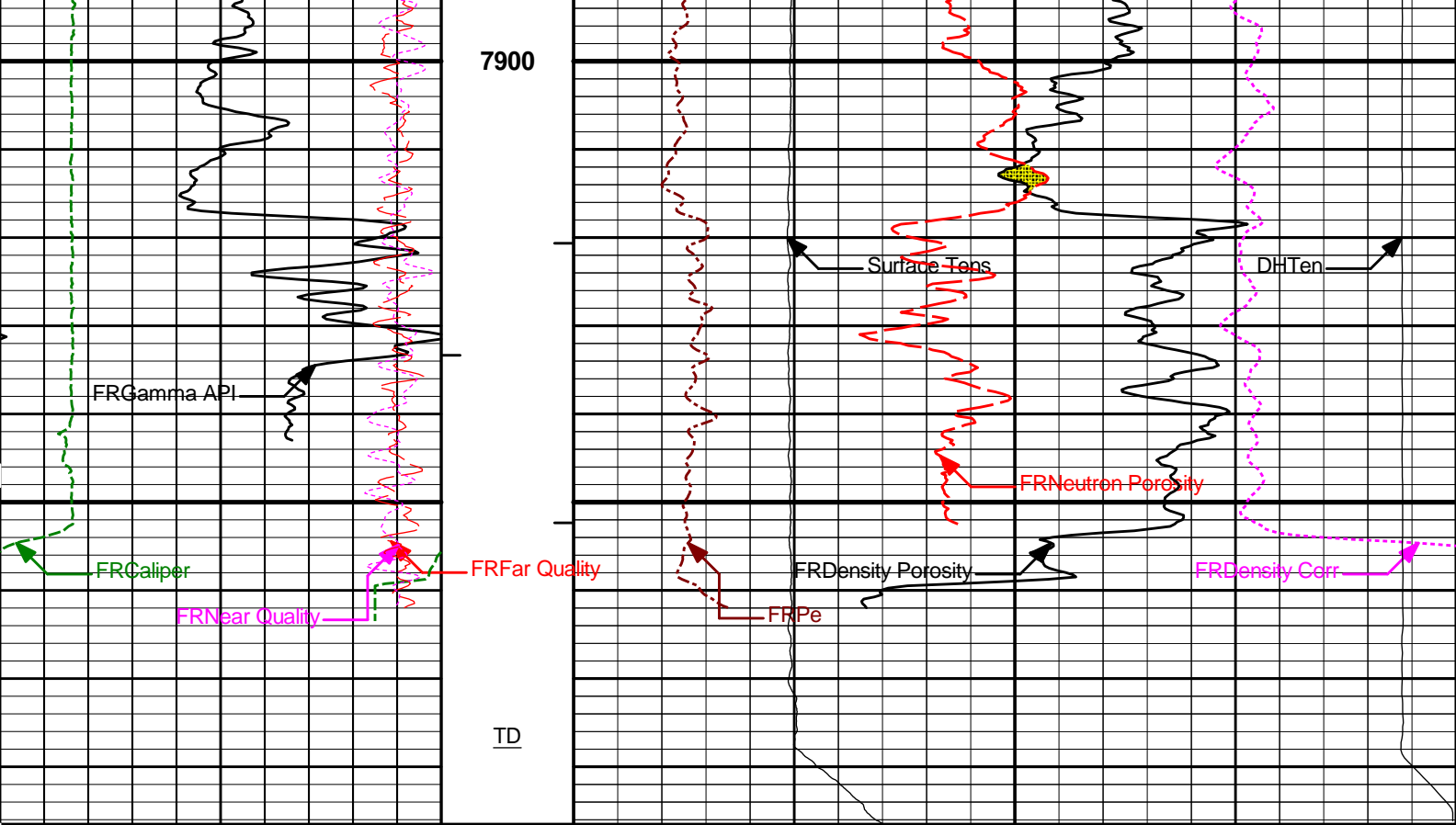












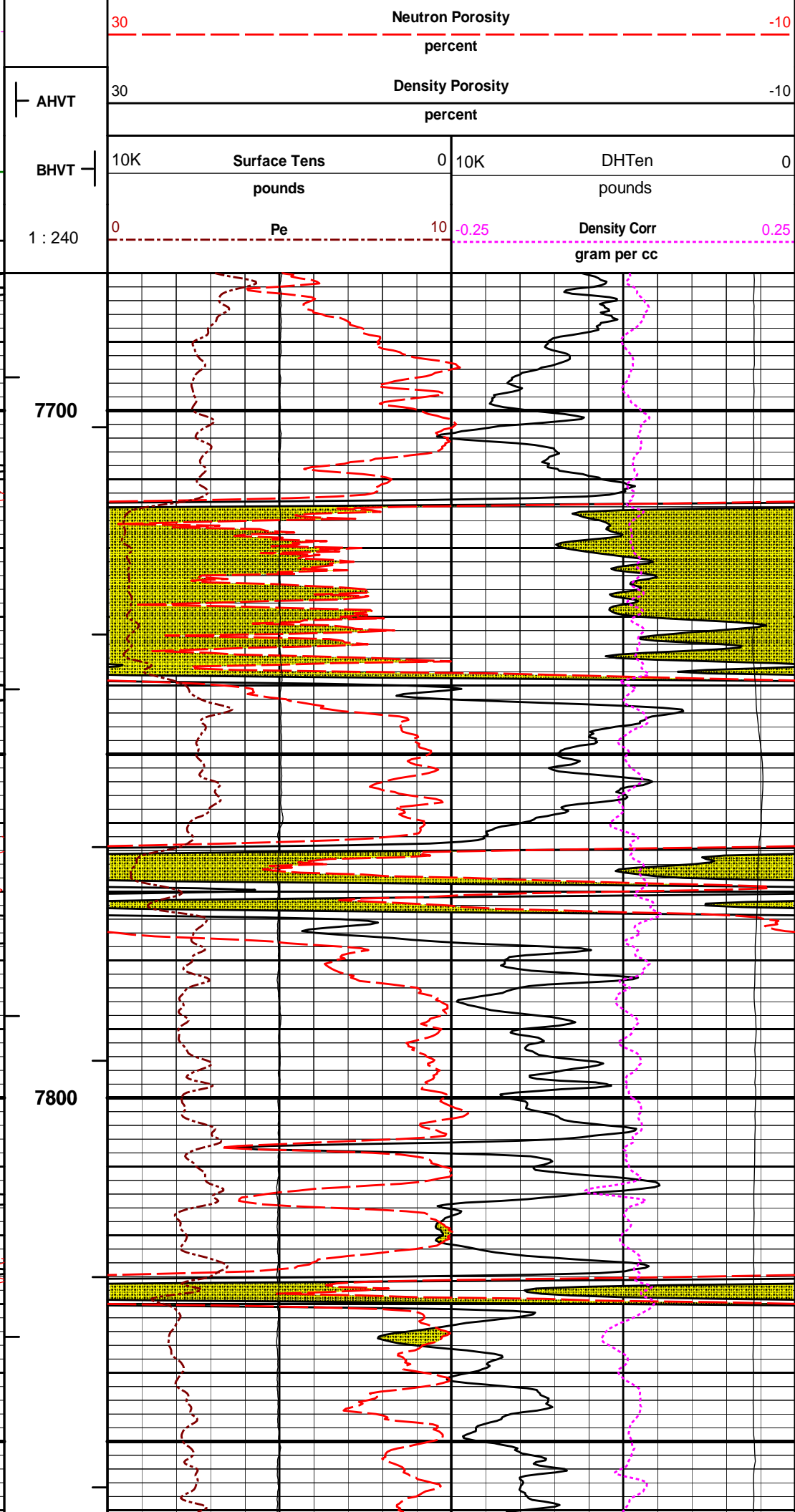
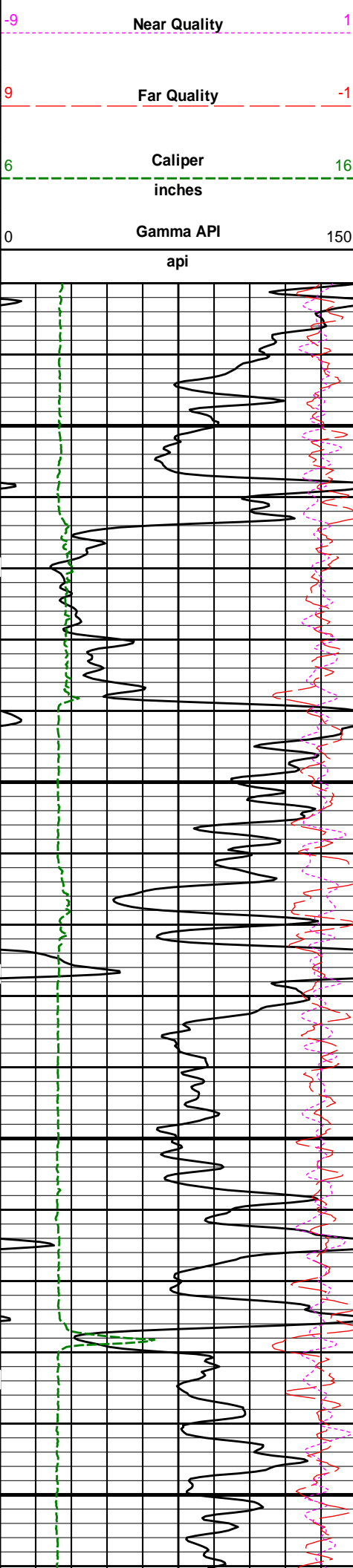
0	Gamma API	150	1 : 240	0	Pe	10	-0.25	Density Corr	0.25
	api							gram per cc	
6	Caliper	16	BHVT	10K	Surface Tens	0	10K	DHTen	0
	inches				pounds			pounds	
9	Far Quality	-1	AHVT	30	Density Porosity				-10
					percent				
-9	Near Quality	1		30	Neutron Porosity				-10
					percent				

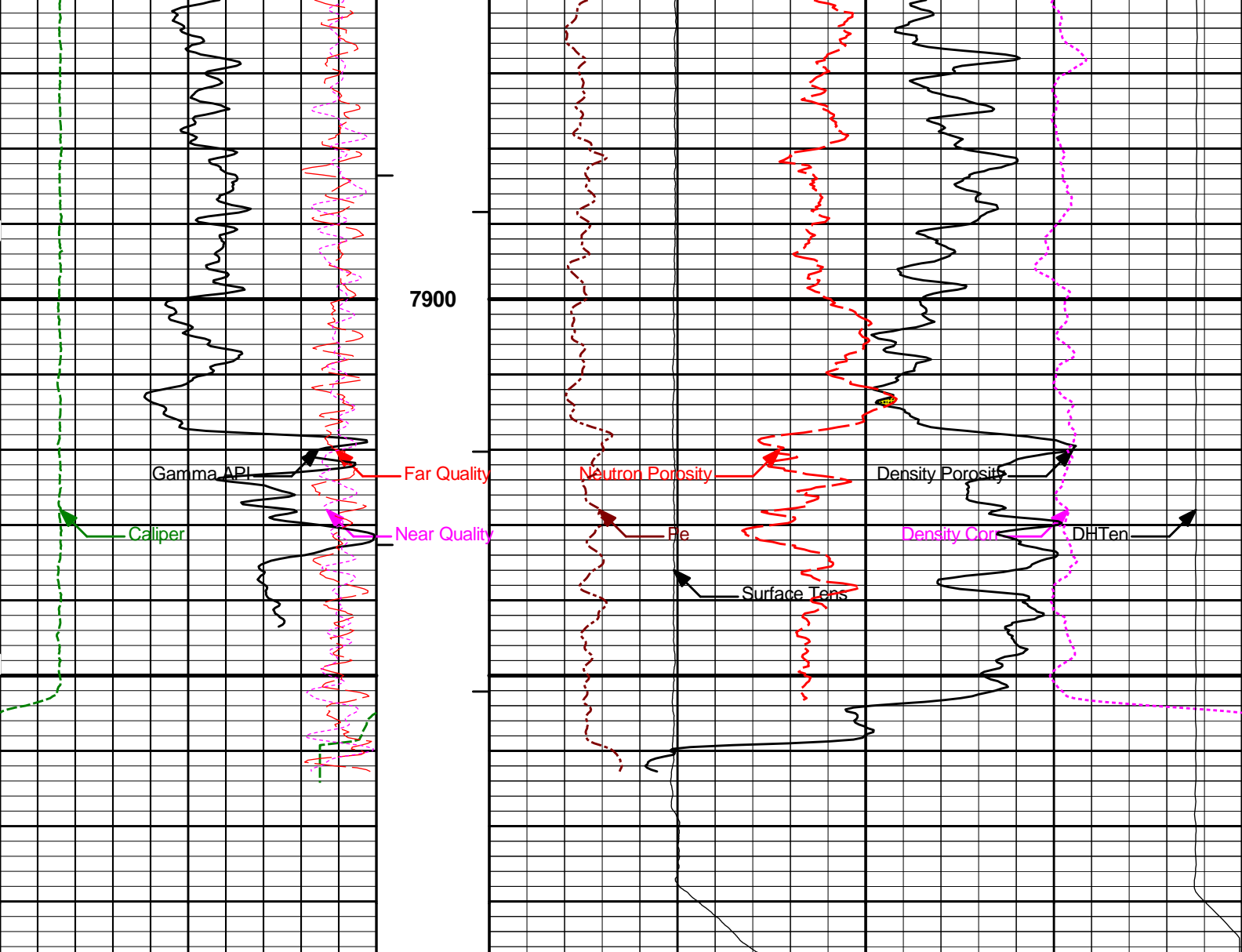
**HALLIBURTON** Plot Time: 13-Feb-12 00:46:13  
 Plot Range: 1540 ft to 7986.5 ft  
 Data: {ActiveWell}\Well Based\MAIN\  
 Plot File: \\POR\IQ\_BP\_POROSITY\_5IN\_DHT

MAIN PASS 5" = 100'

**HALLIBURTON** Plot Time: 13-Feb-12 00:46:13  
 Plot Range: 7680 ft to 7987.08 ft  
 Data: {ActiveWell}\Well Based\REPEAT\  
 Plot File: \\POR\IQ\_BP\_POROSITY\_5IN\_DHT\_RPT

REPEAT SECTION 5" = 100'





0	Gamma API	150	1 : 240	0	Pe	10	-0.25	Density Corr	0.25
	api							gram per cc	
6	Caliper	16	BHVT	10K	Surface Tens	0	10K	DHTen	0
	inches				pounds			pounds	
9	Far Quality	-1	AHVT	30	Density Porosity			Density Porosity	-10
					percent				
-9	Near Quality	1		30	Neutron Porosity			Neutron Porosity	-10
					percent				

**HALLIBURTON**

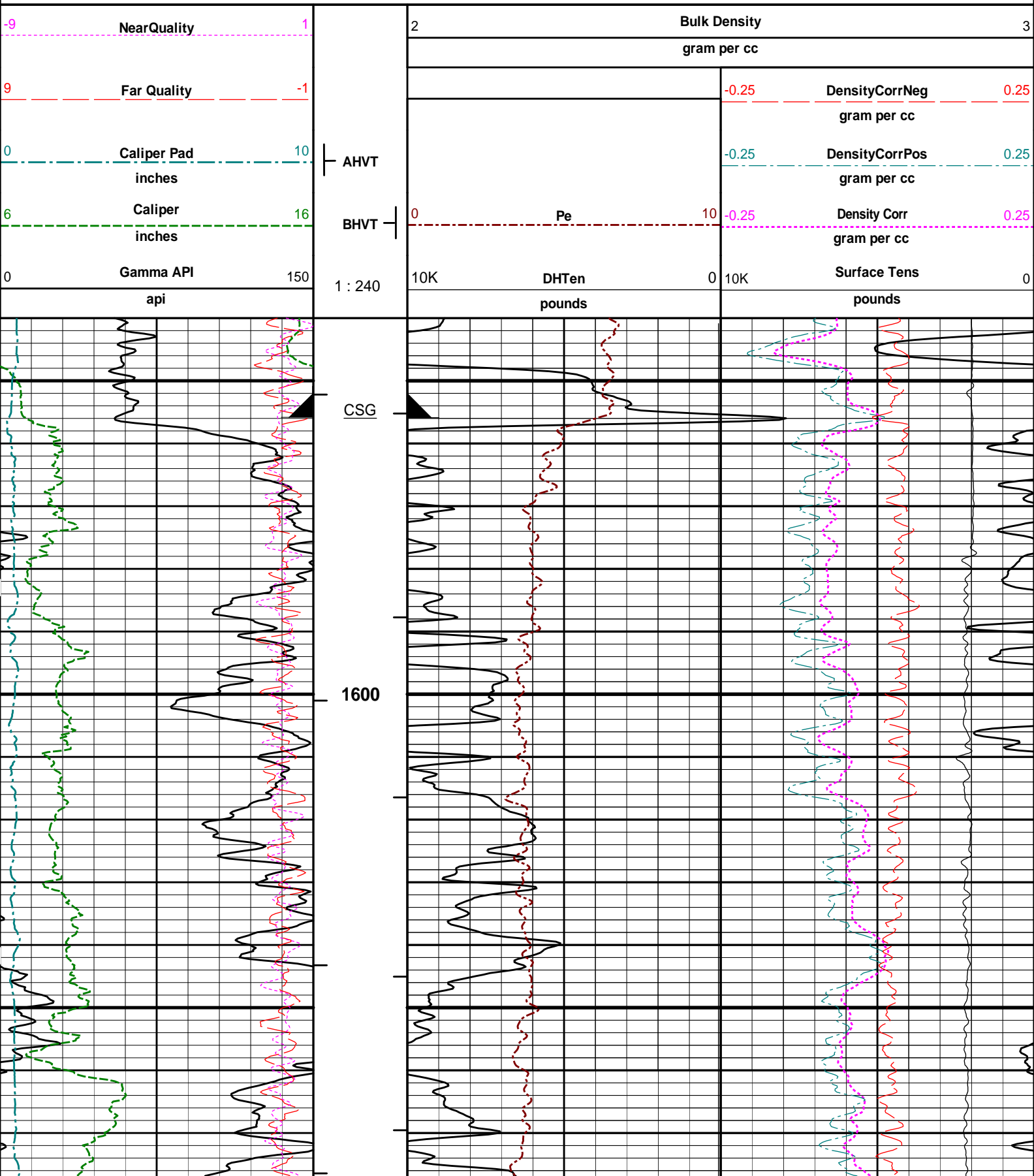
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REPEAT SECTION 5" = 100'

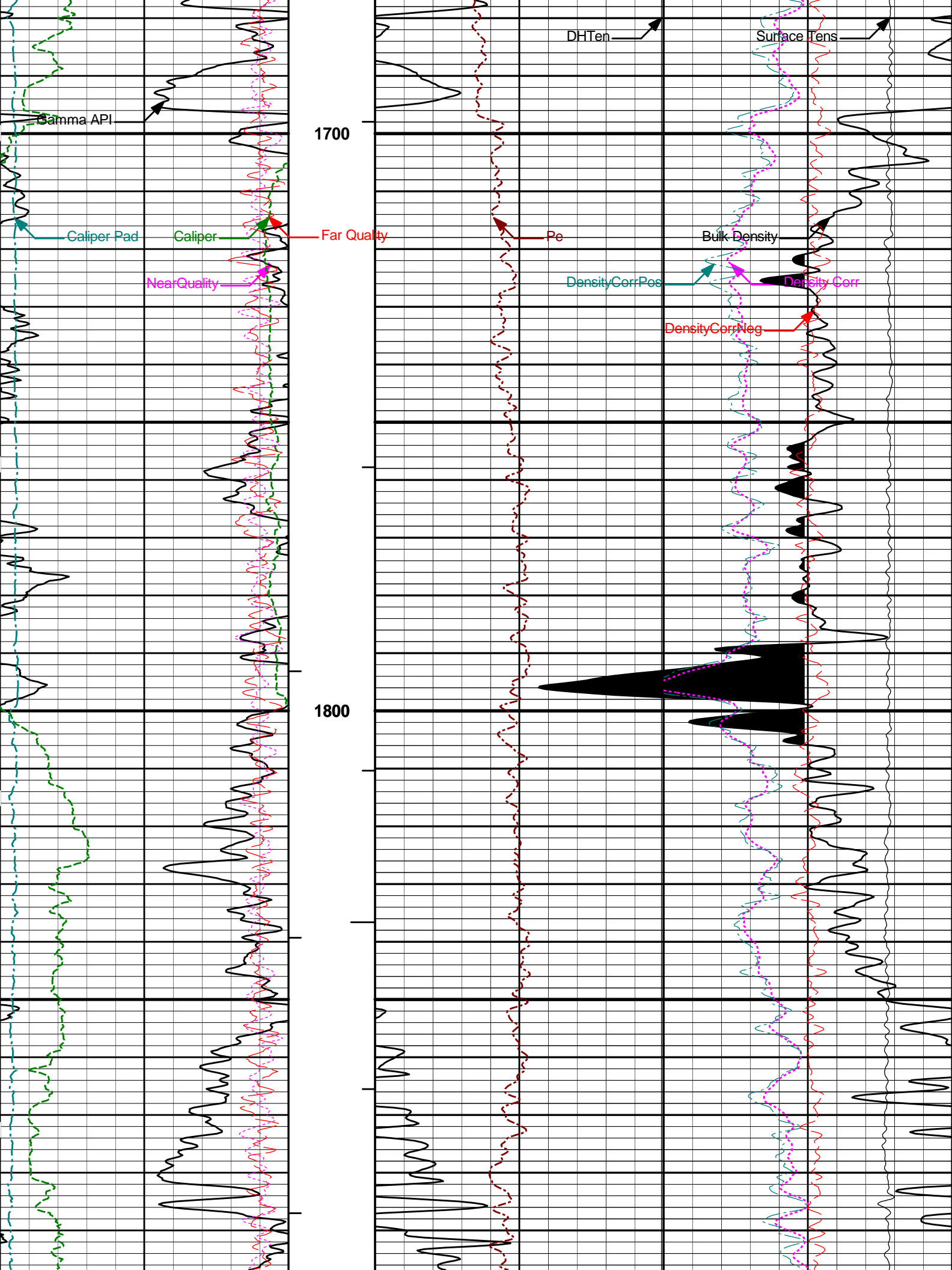
**HALLIBURTON**

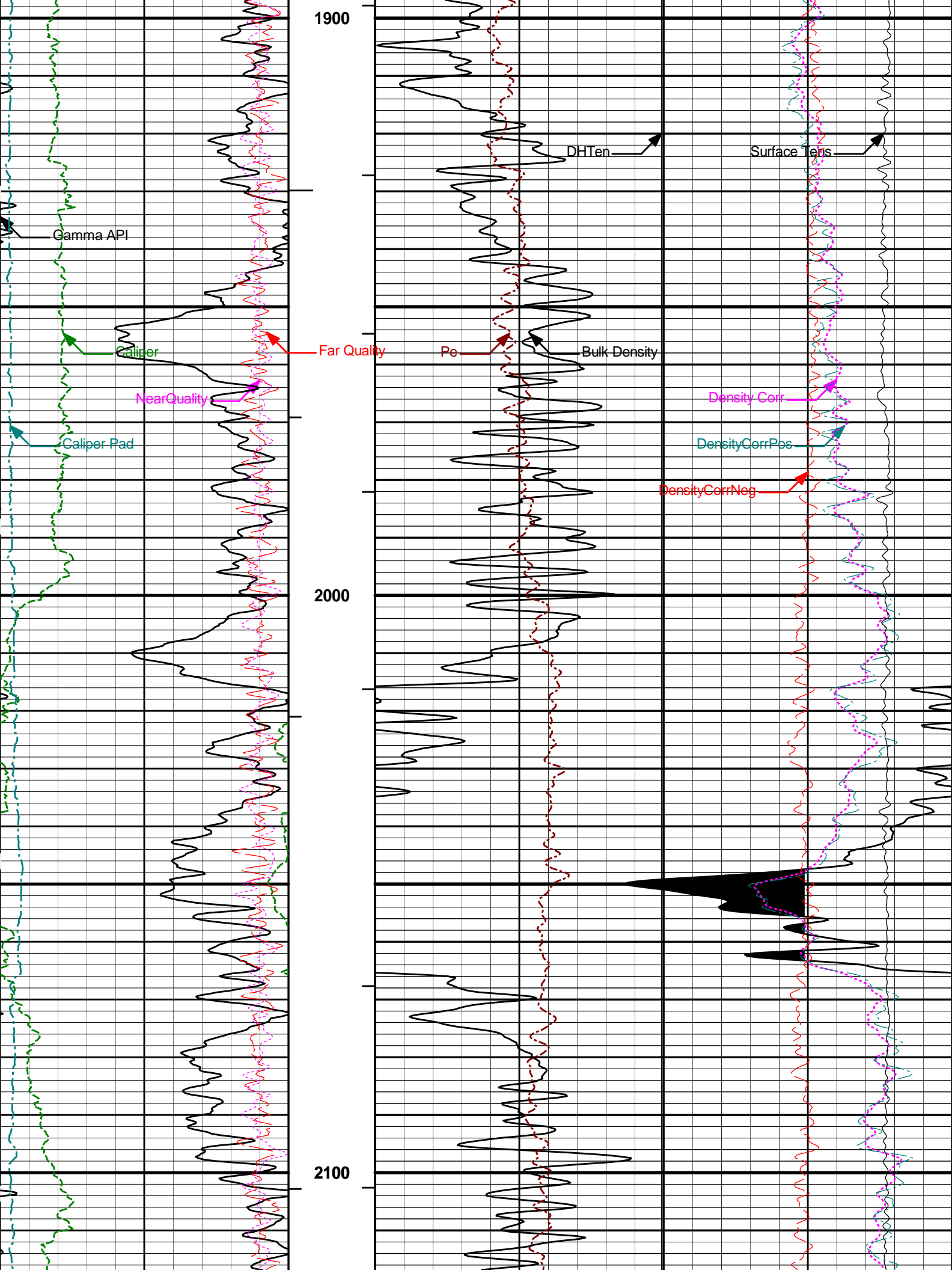
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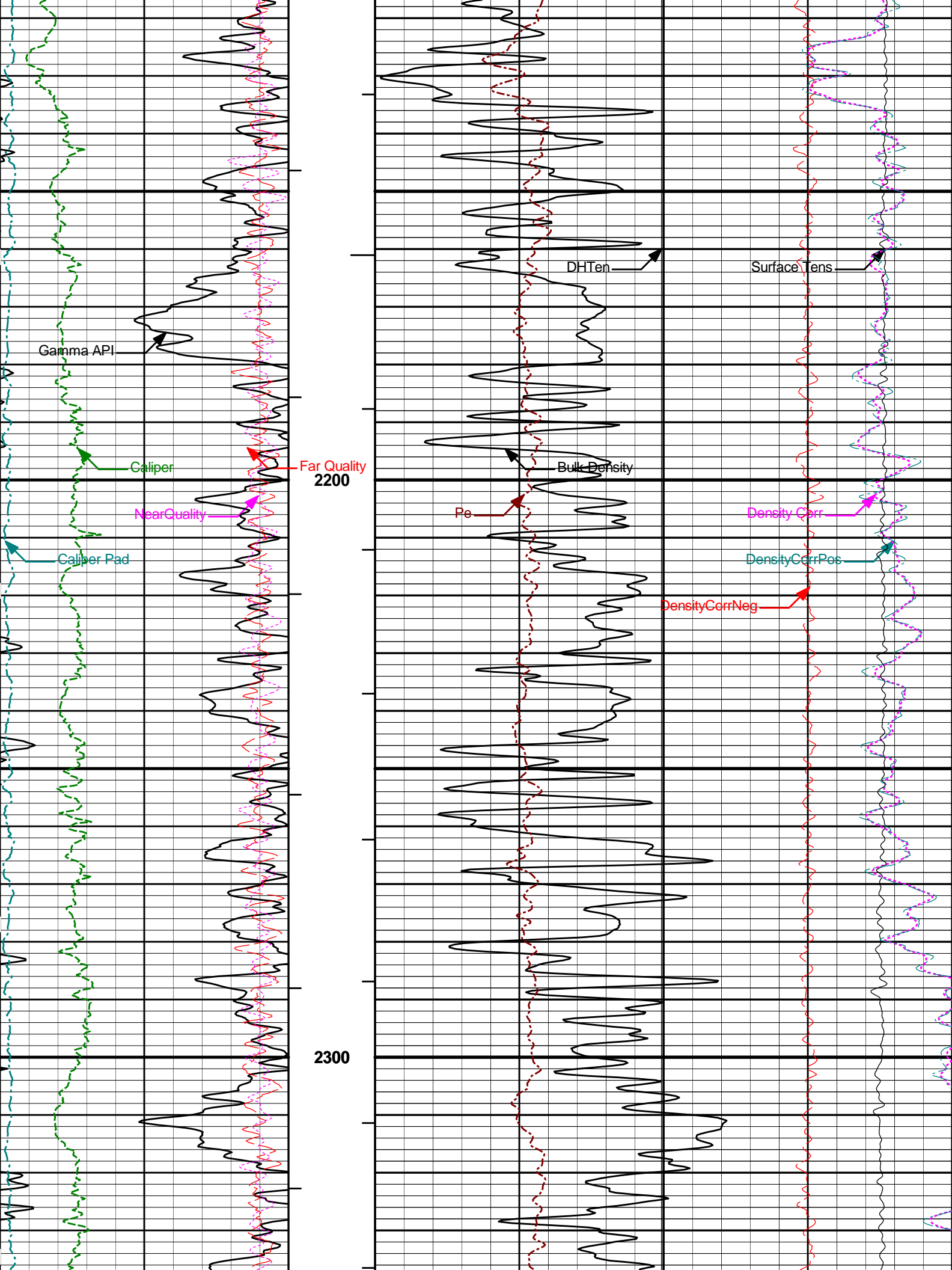
MAIN PASS 5" = 100'

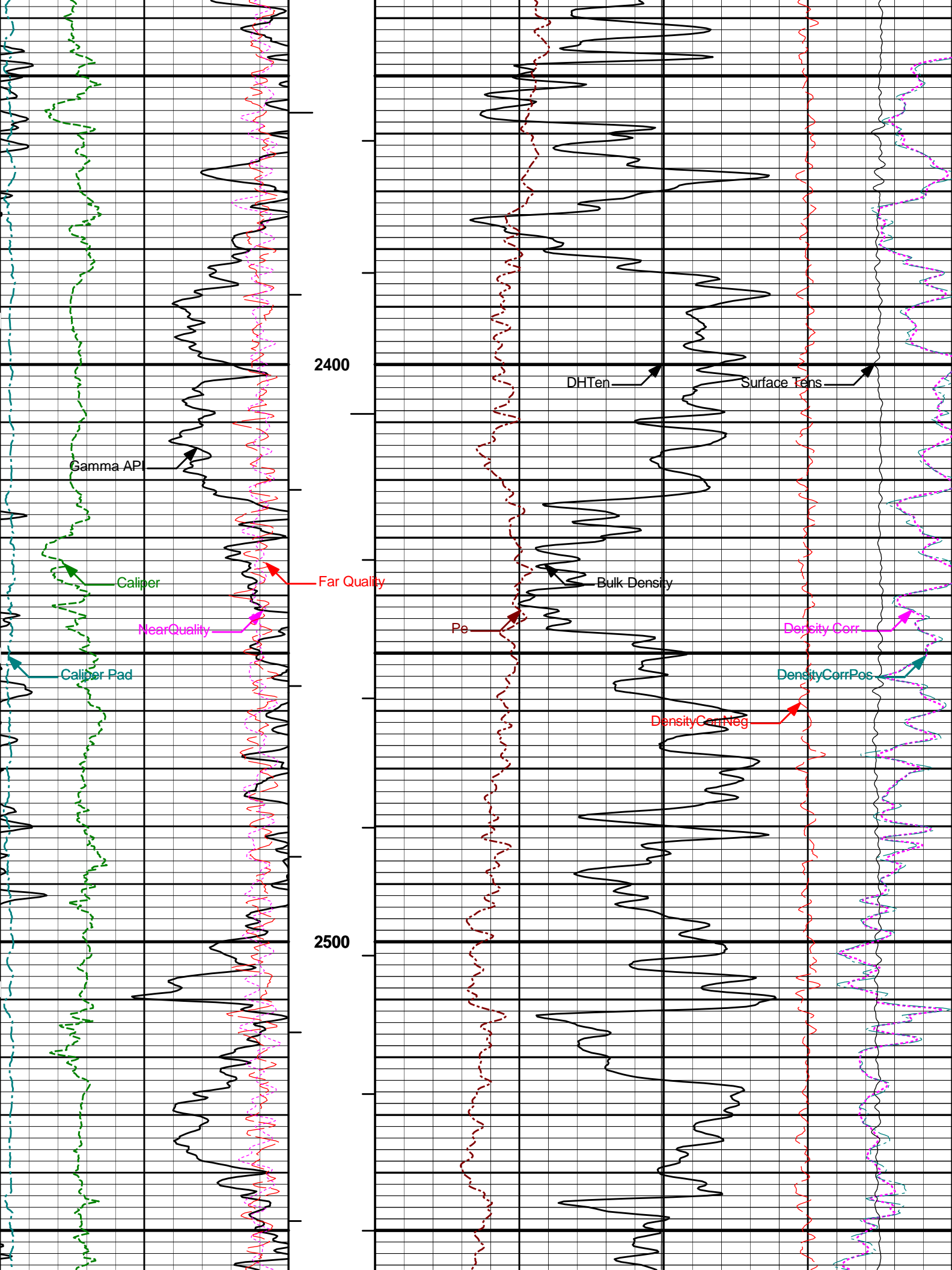


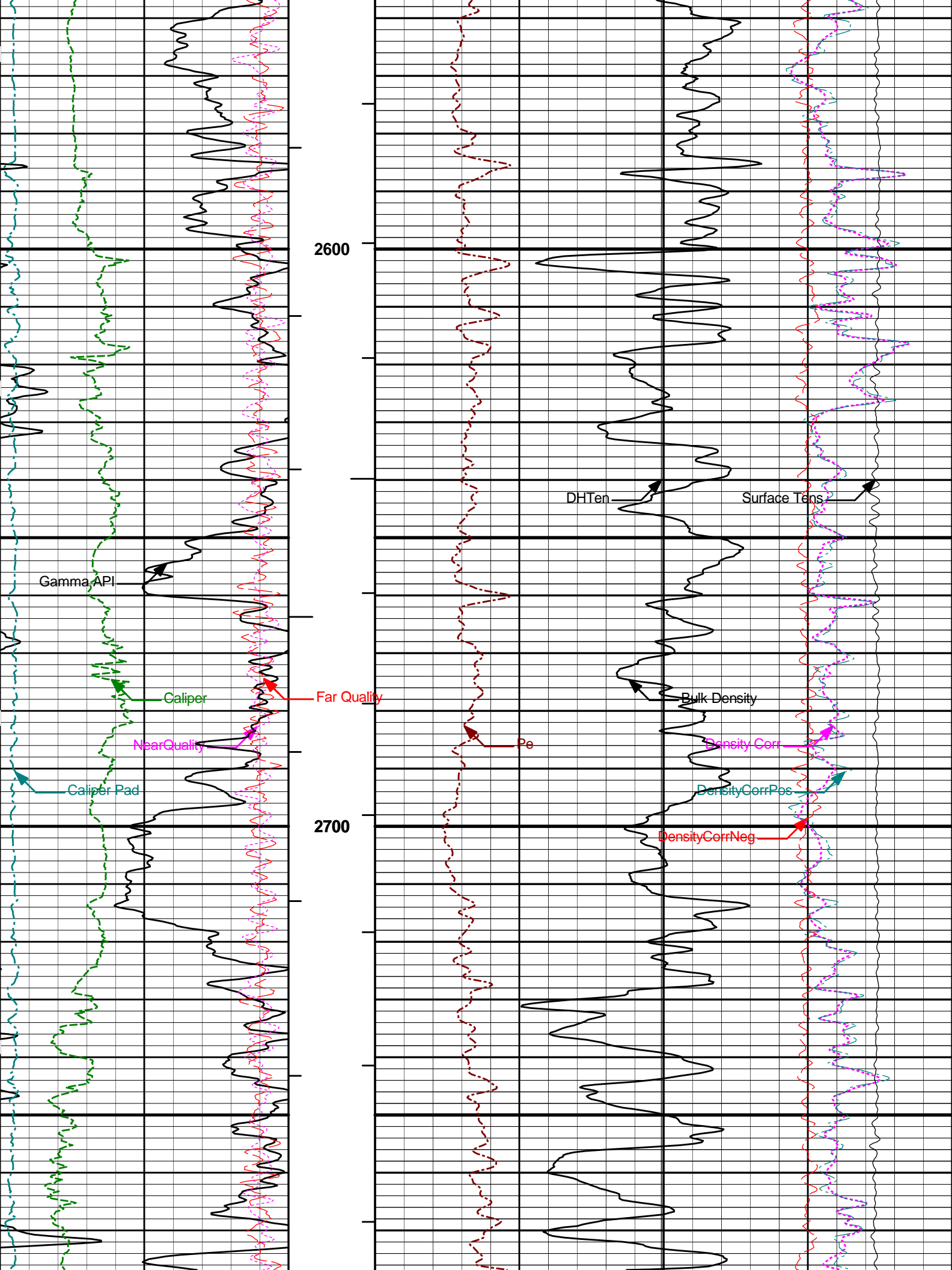


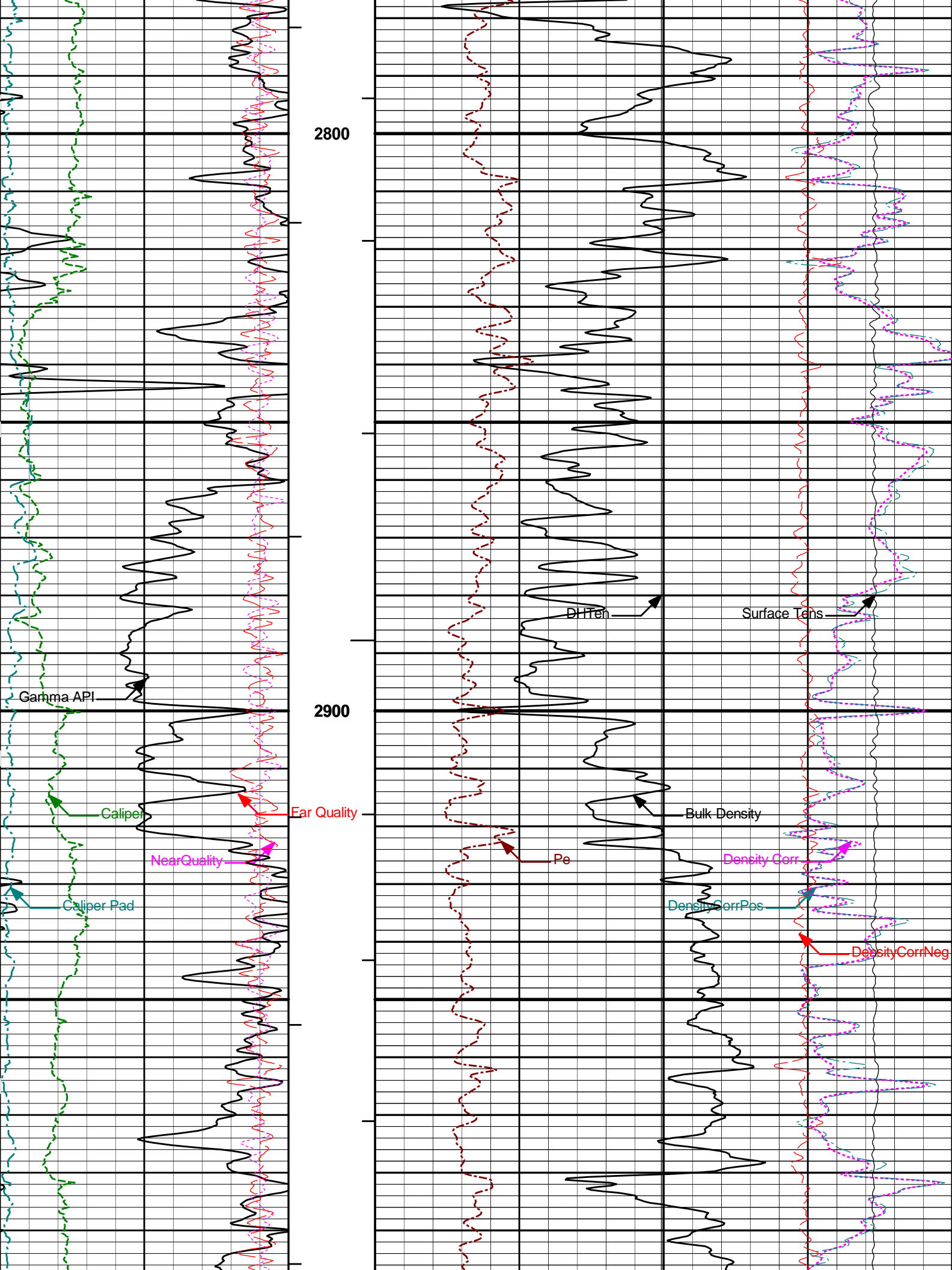


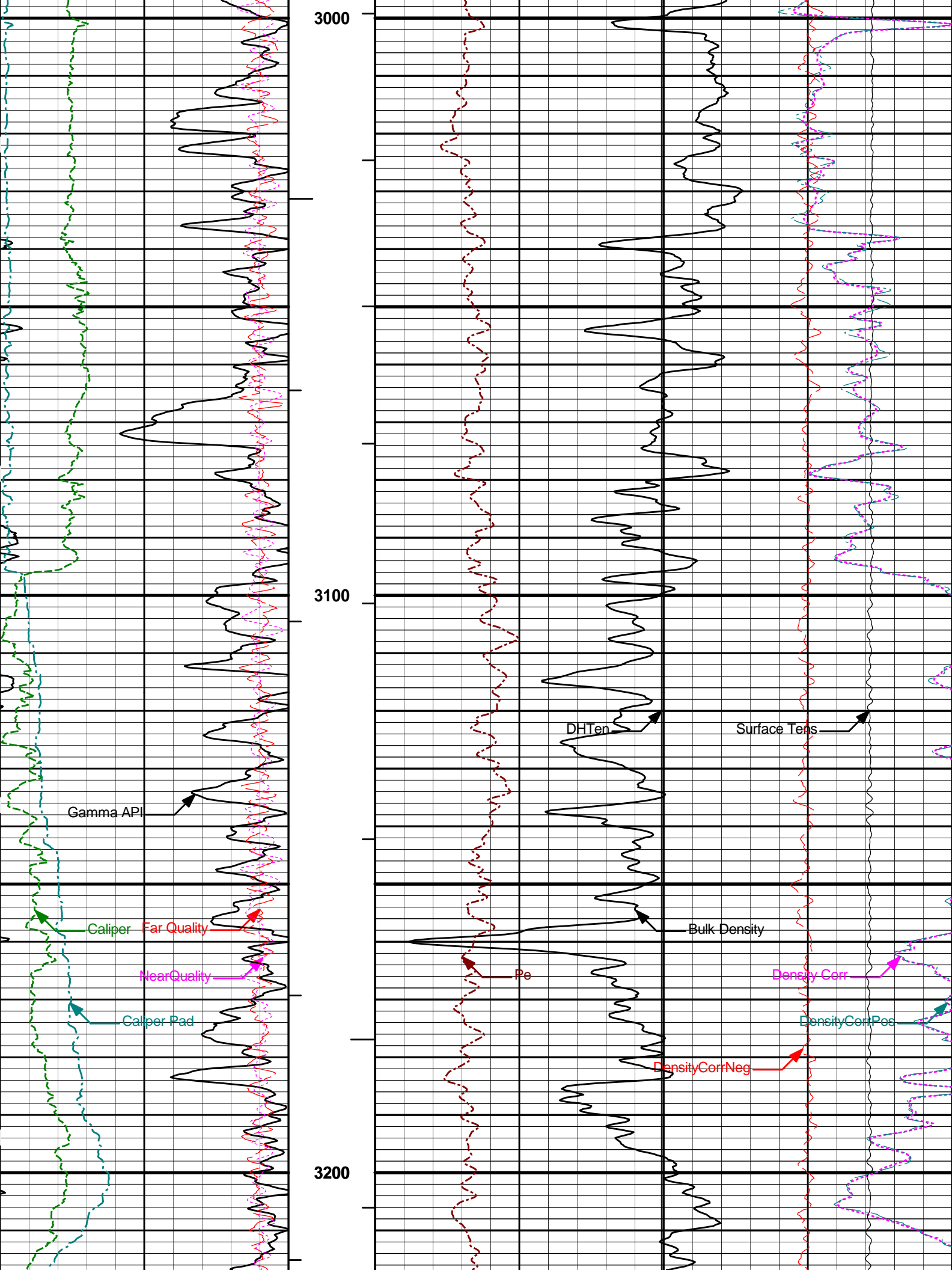




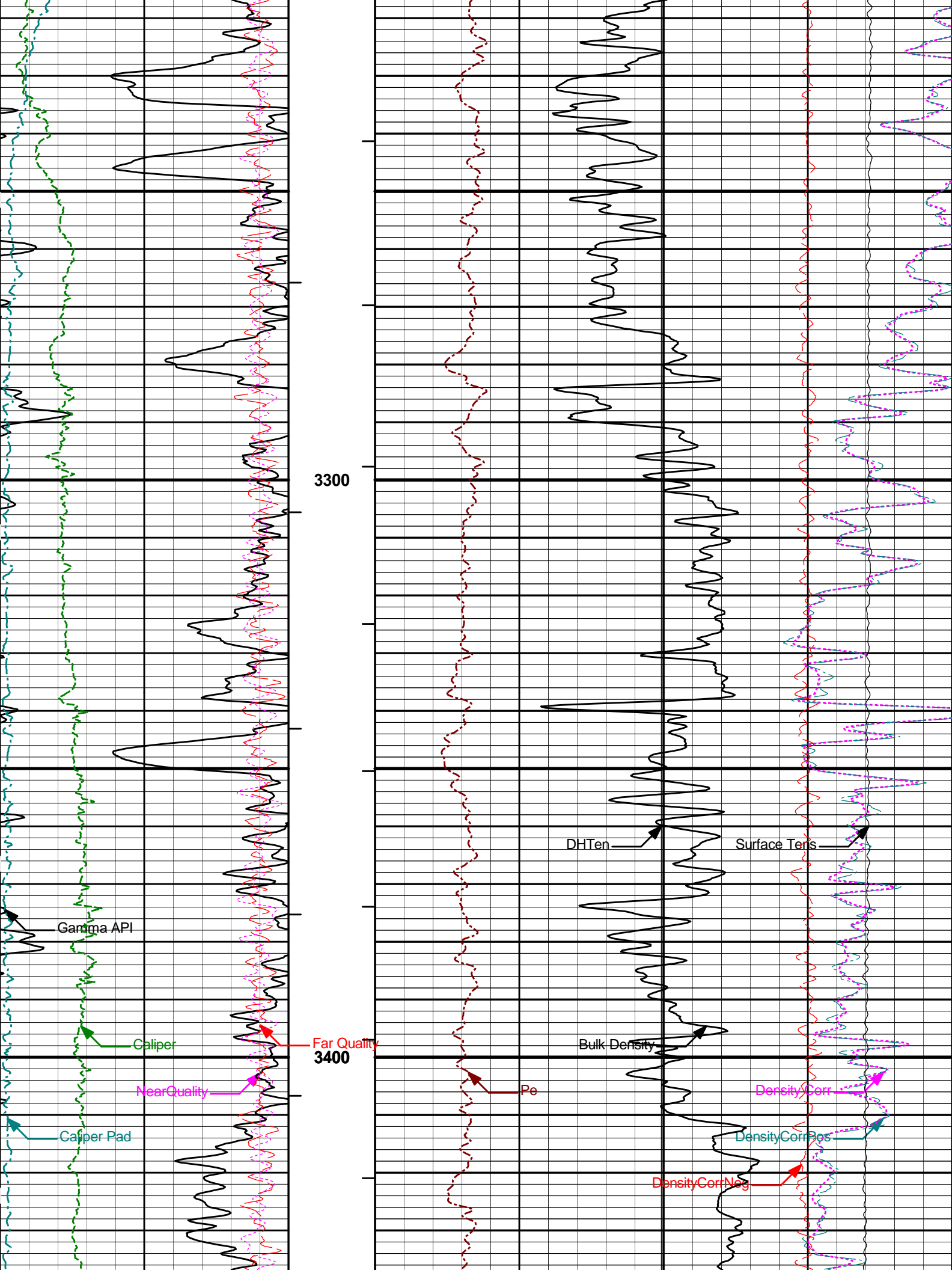


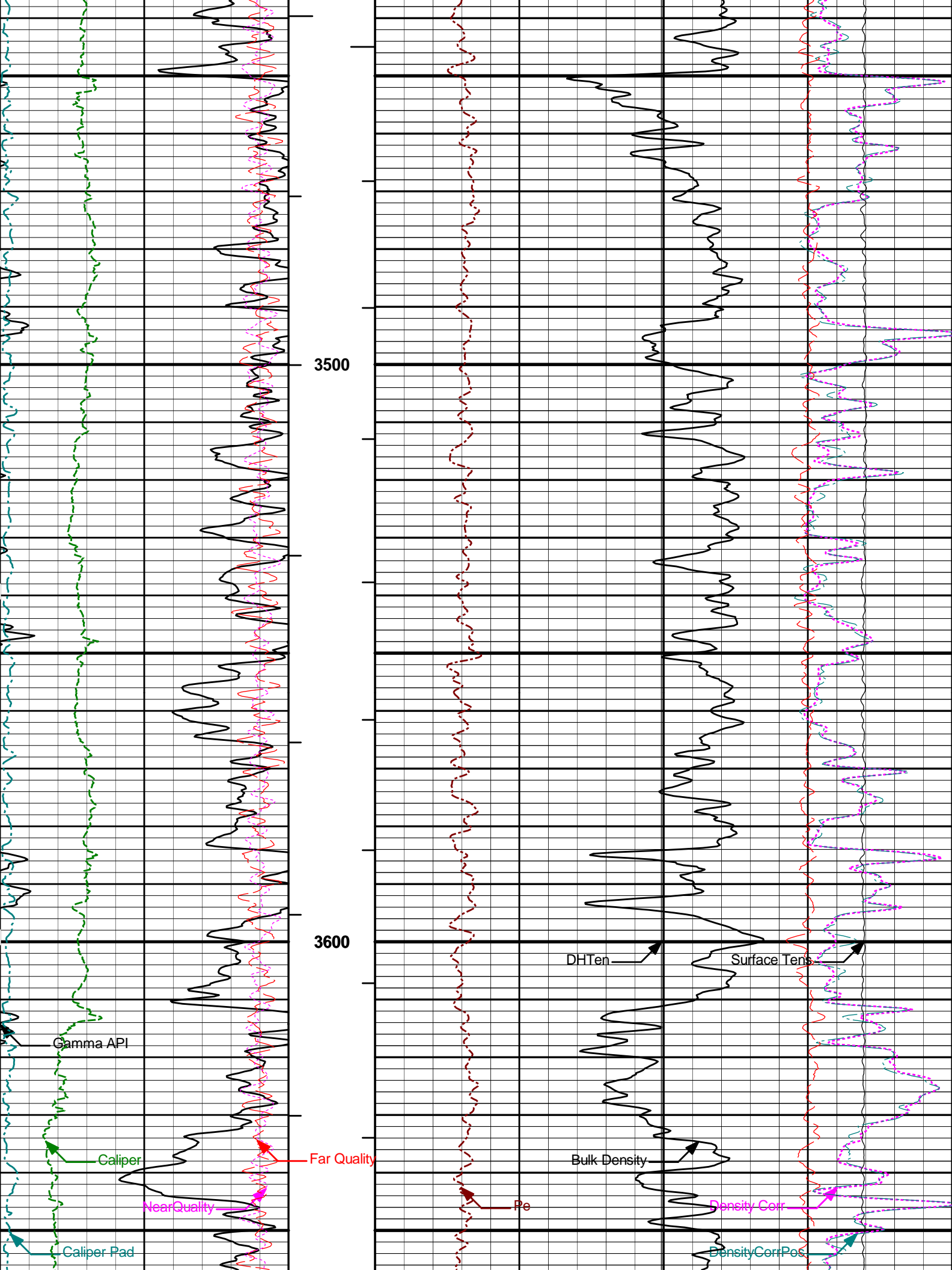


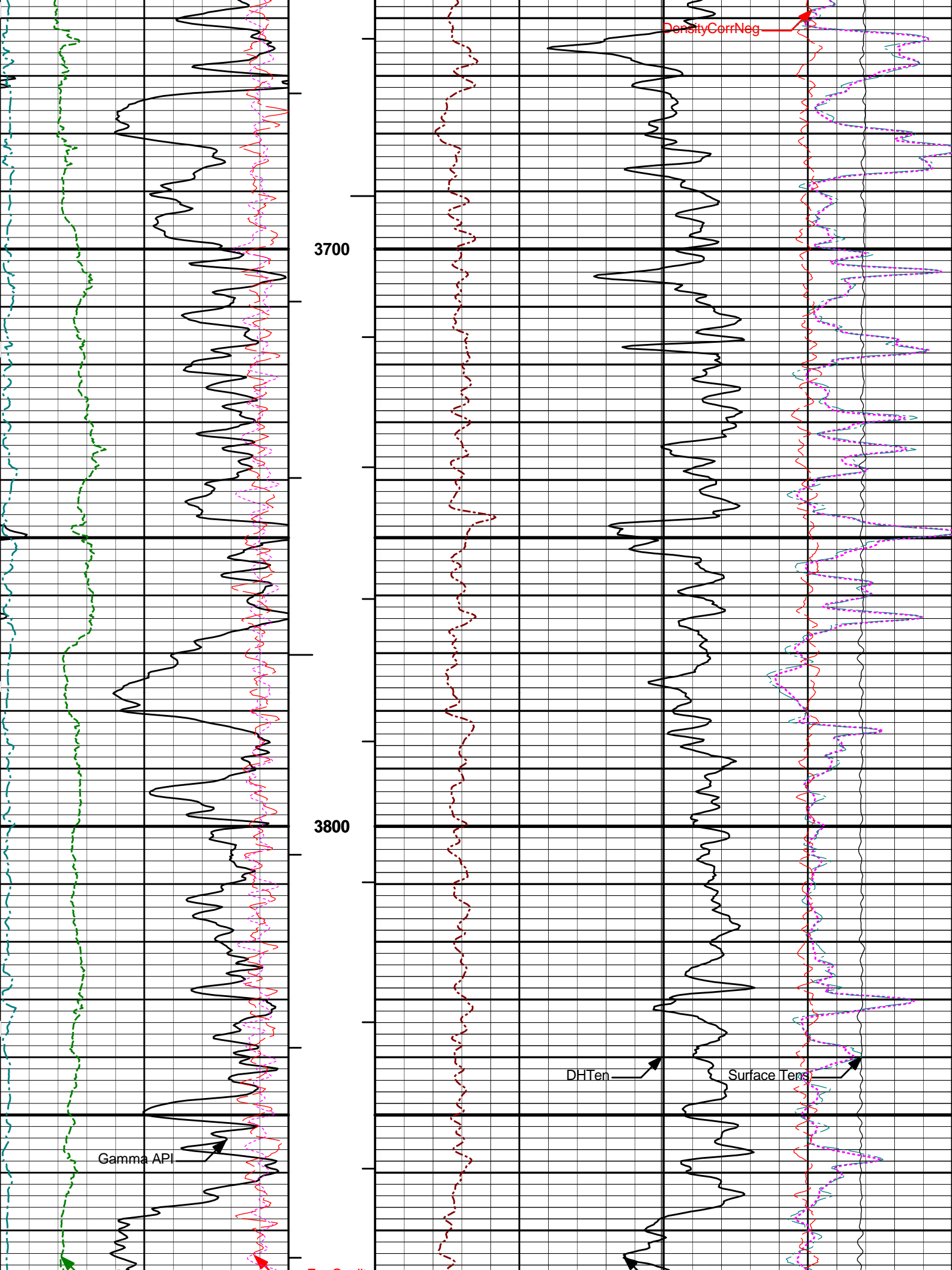


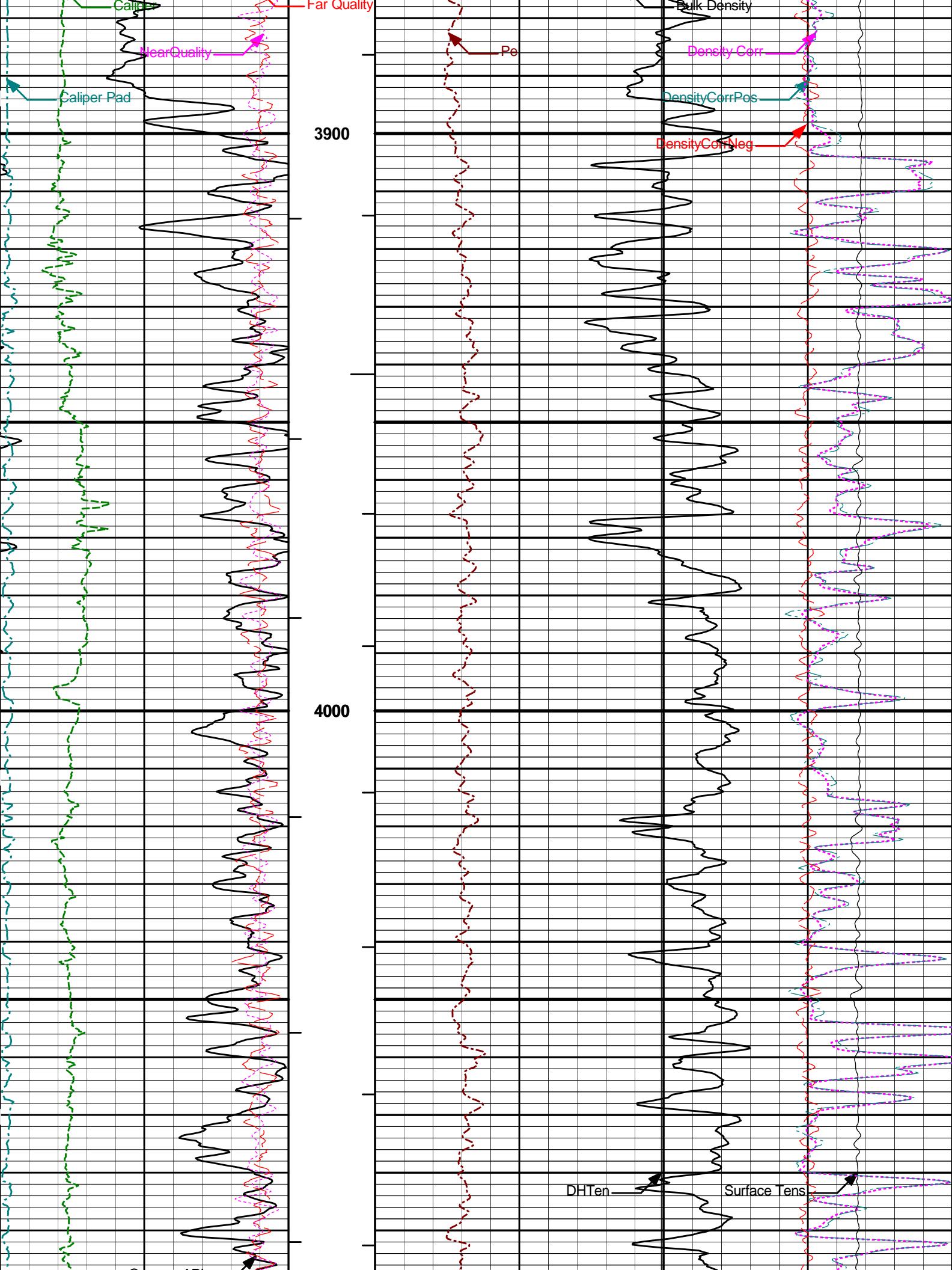


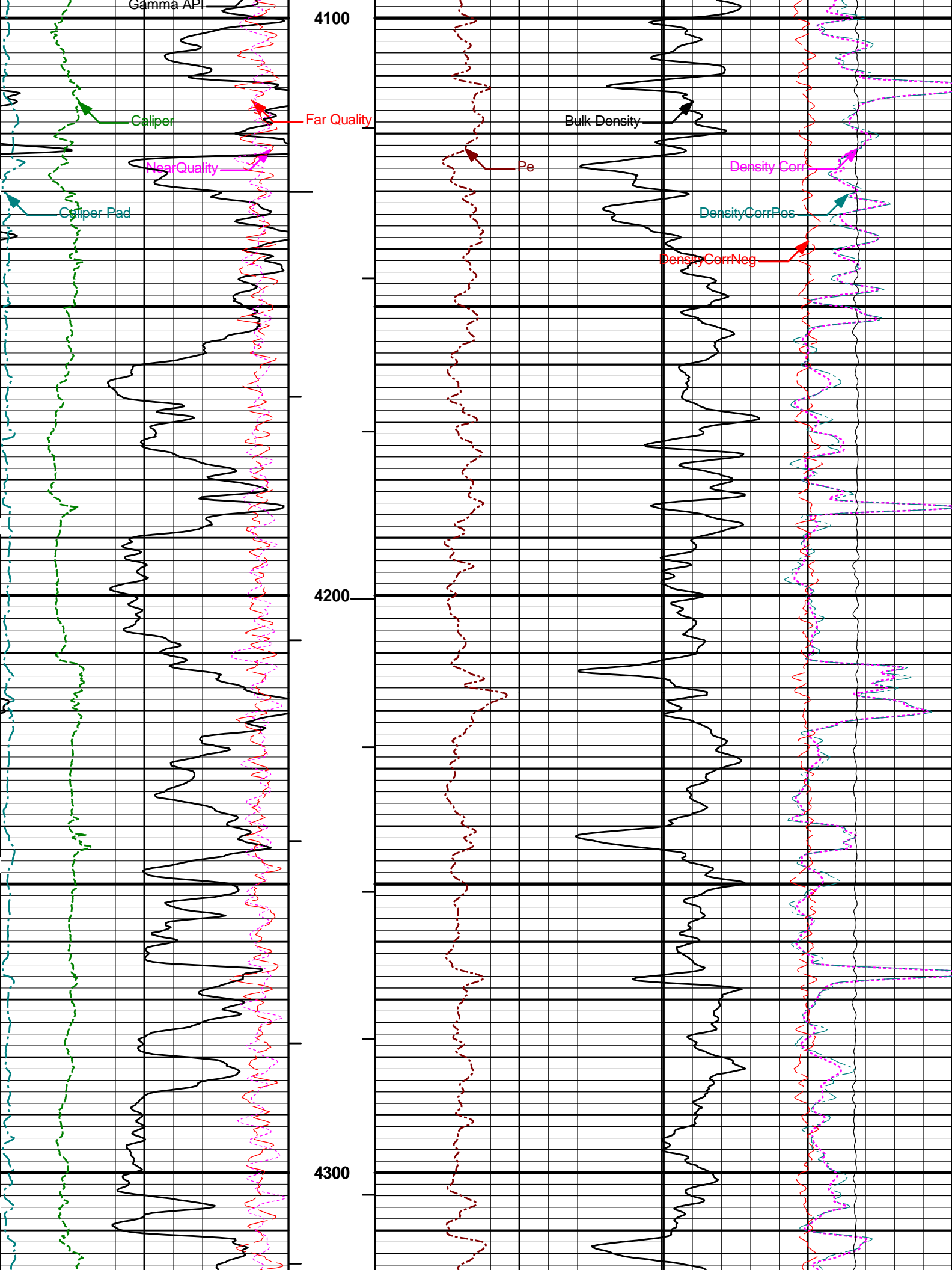


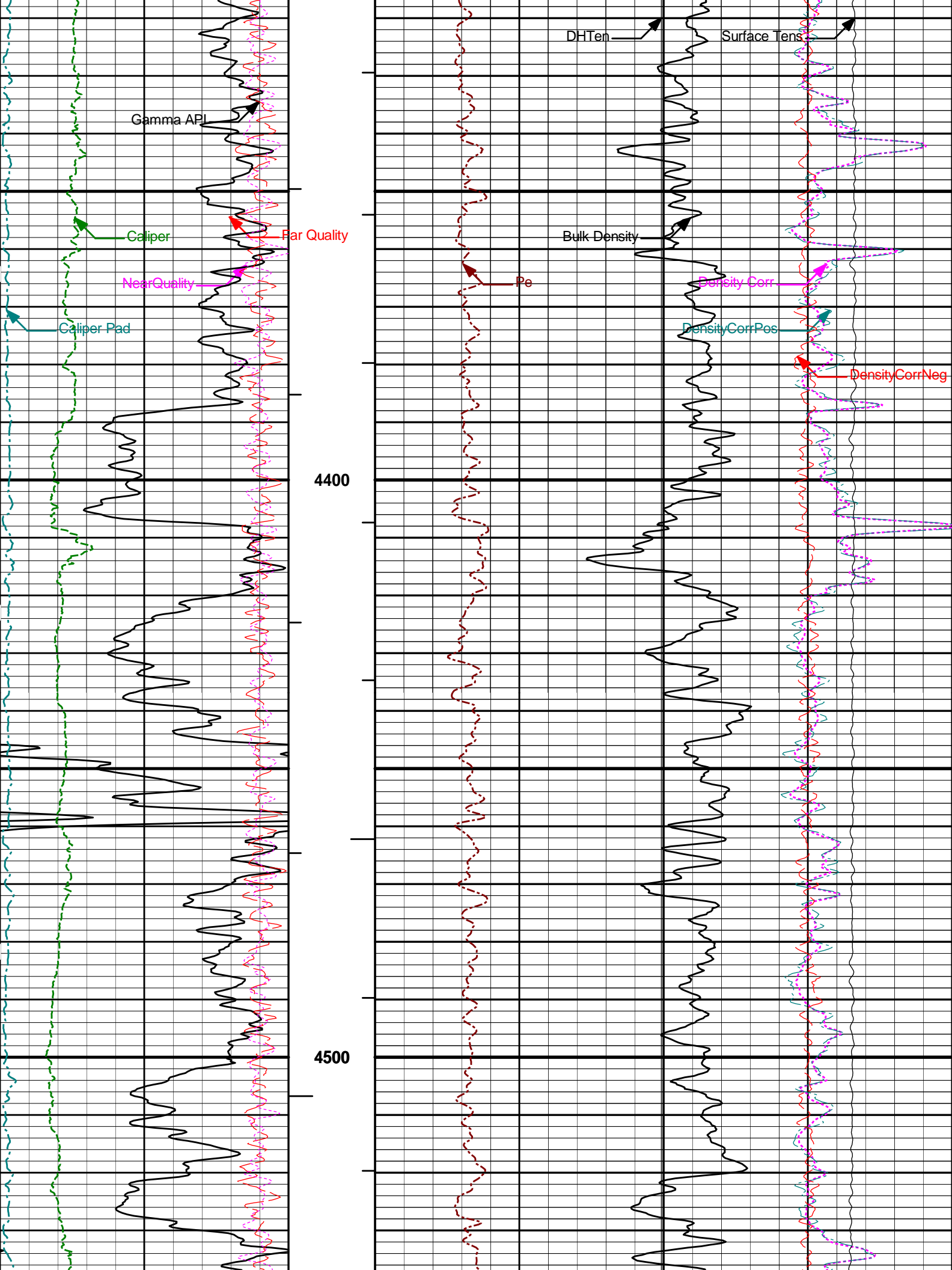


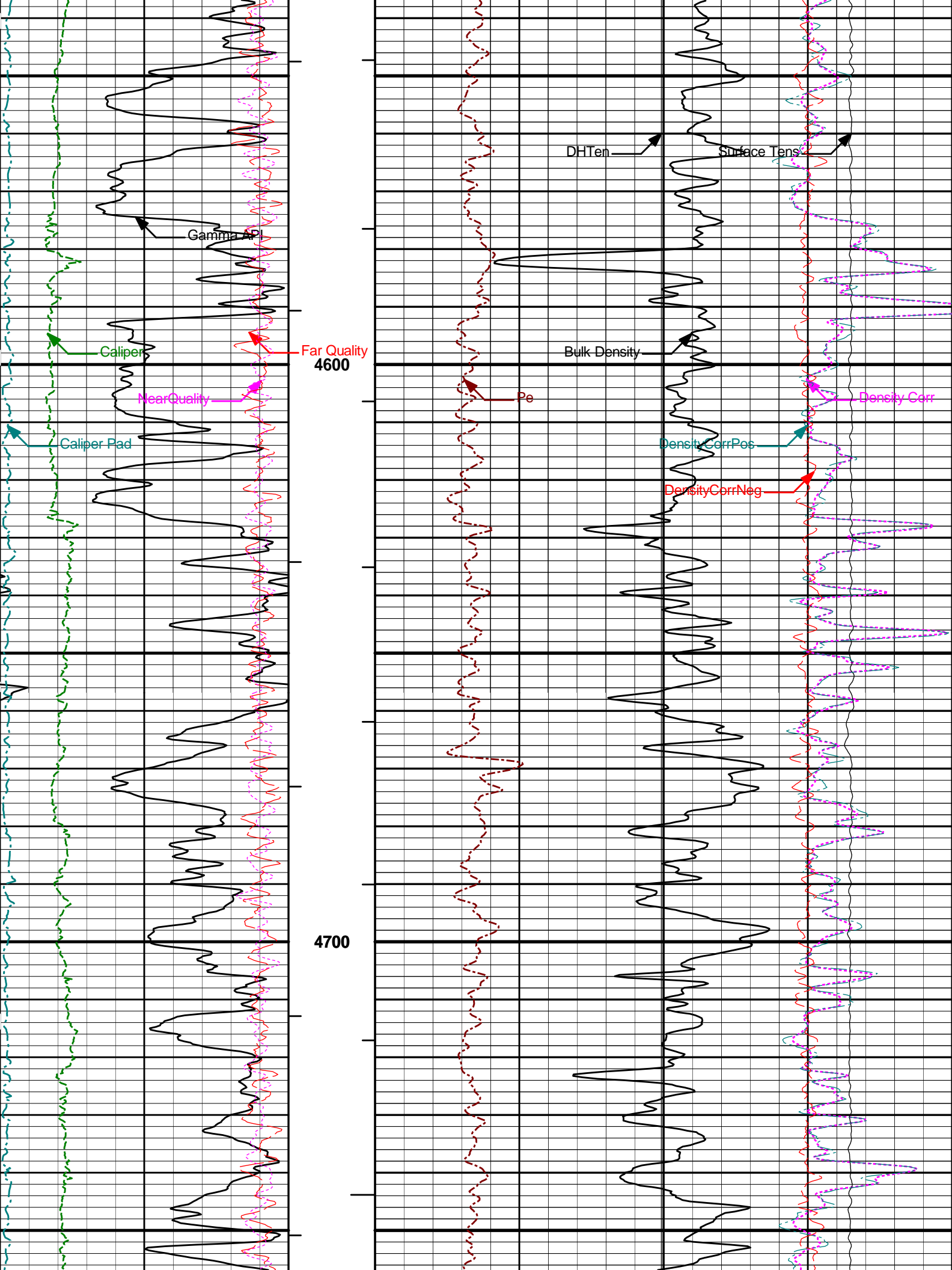




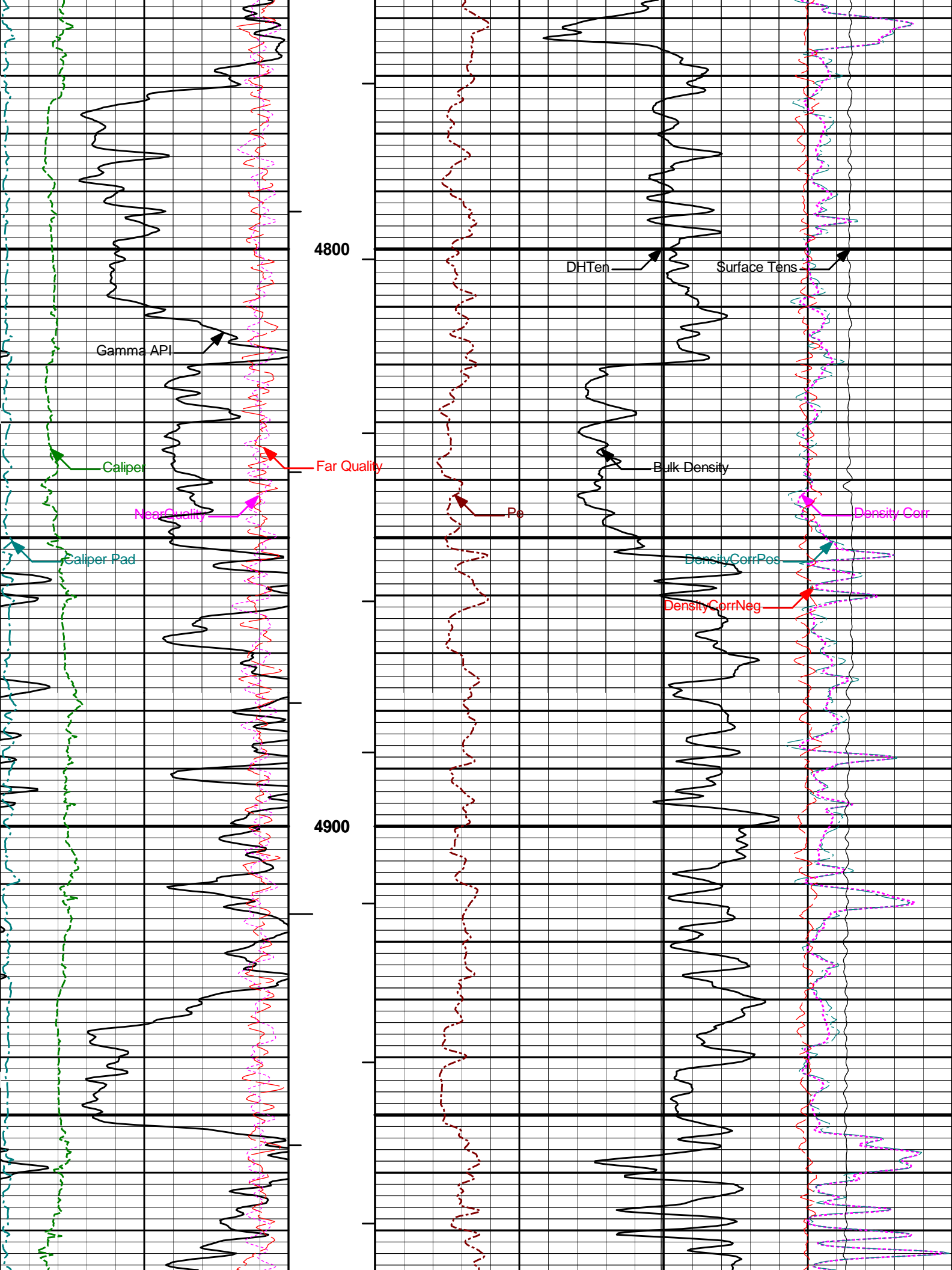


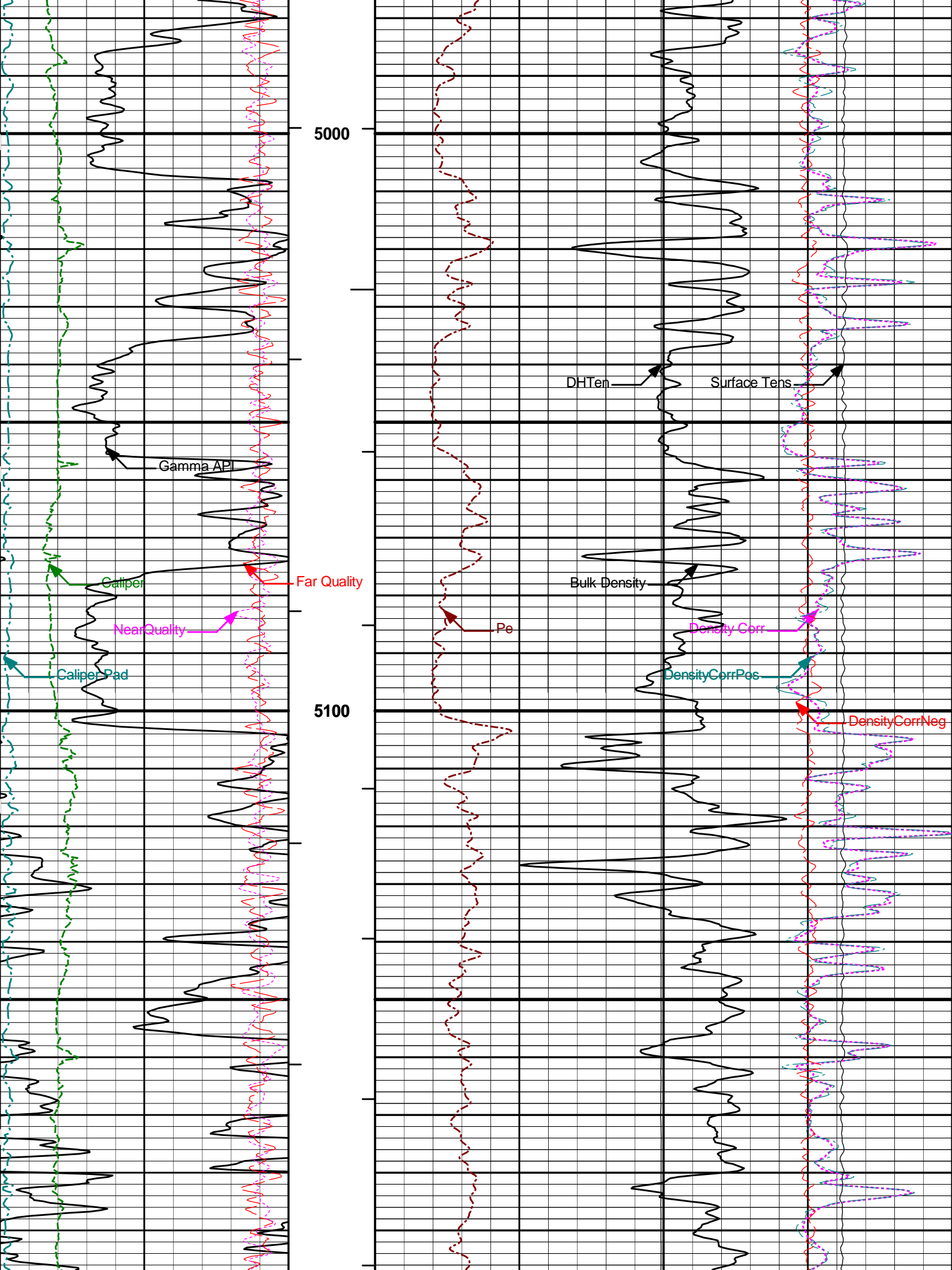


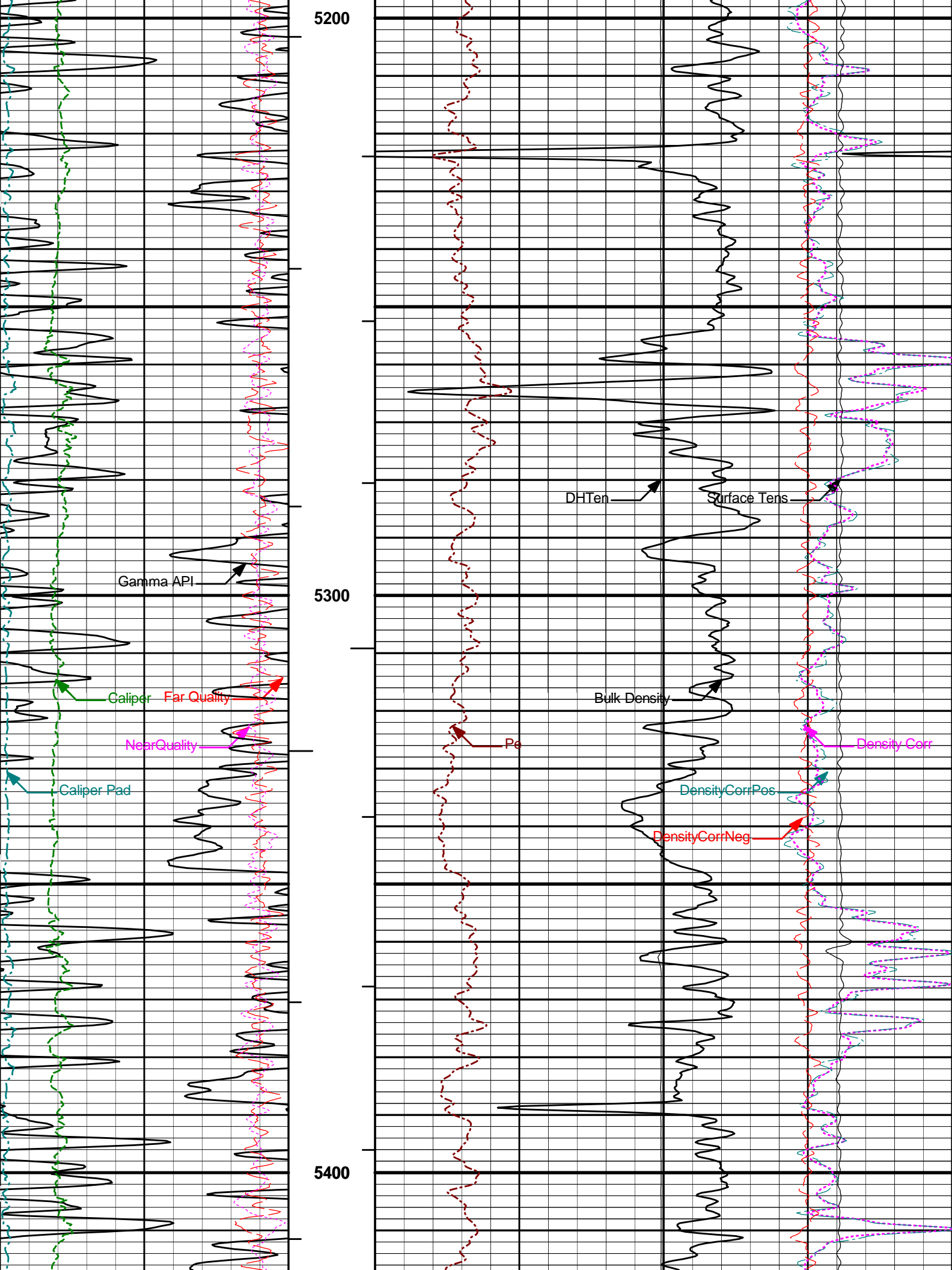


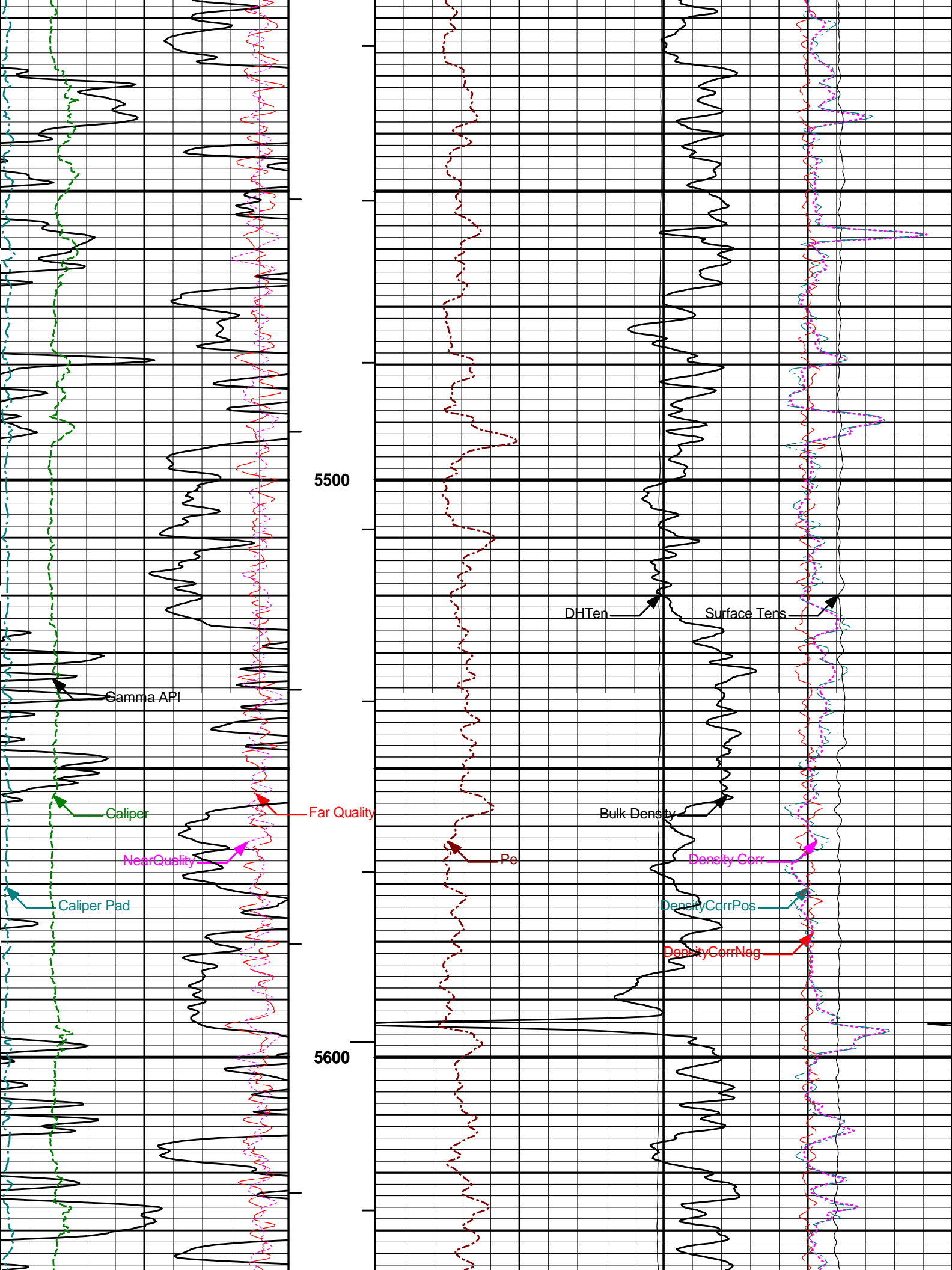


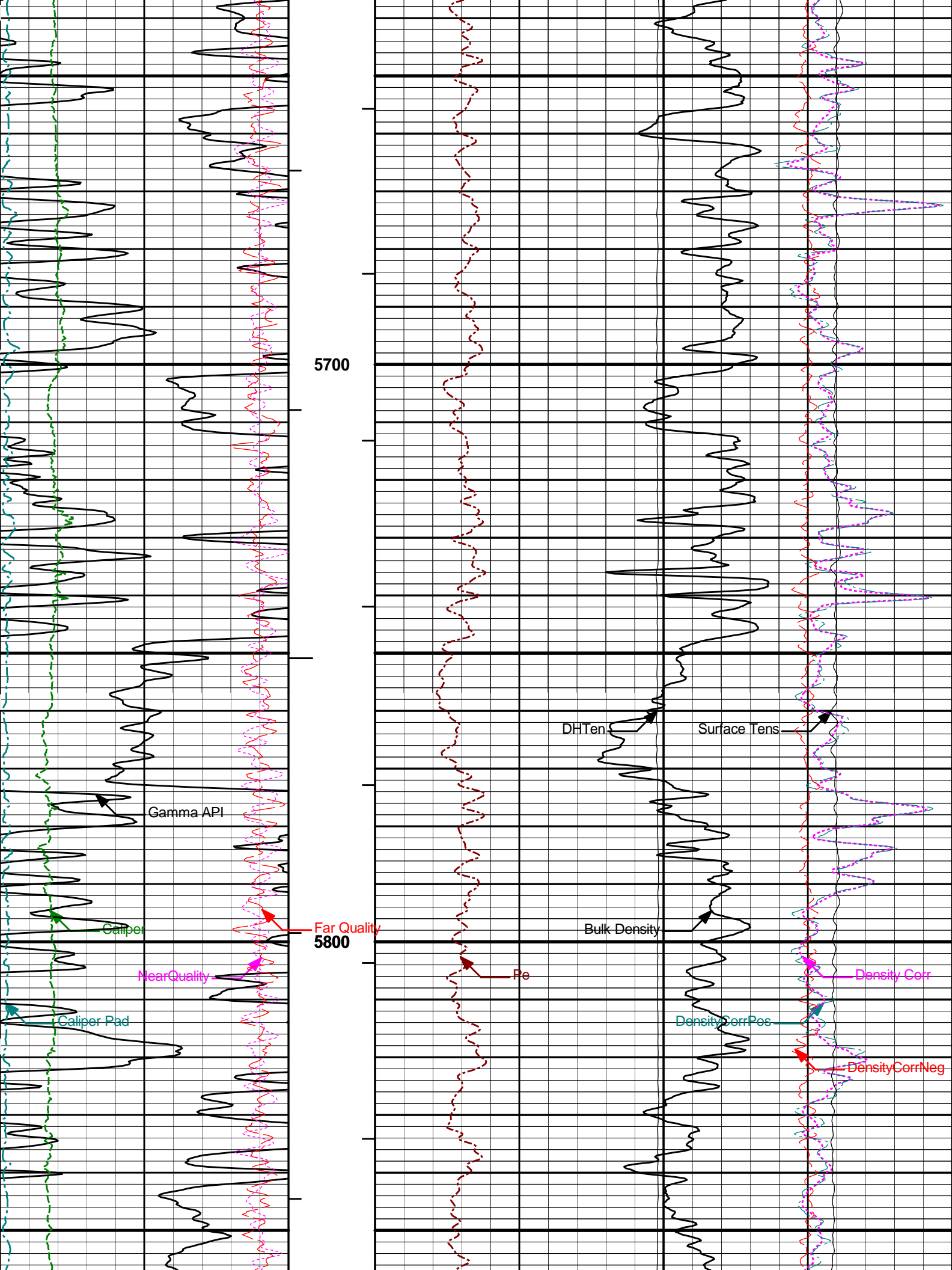


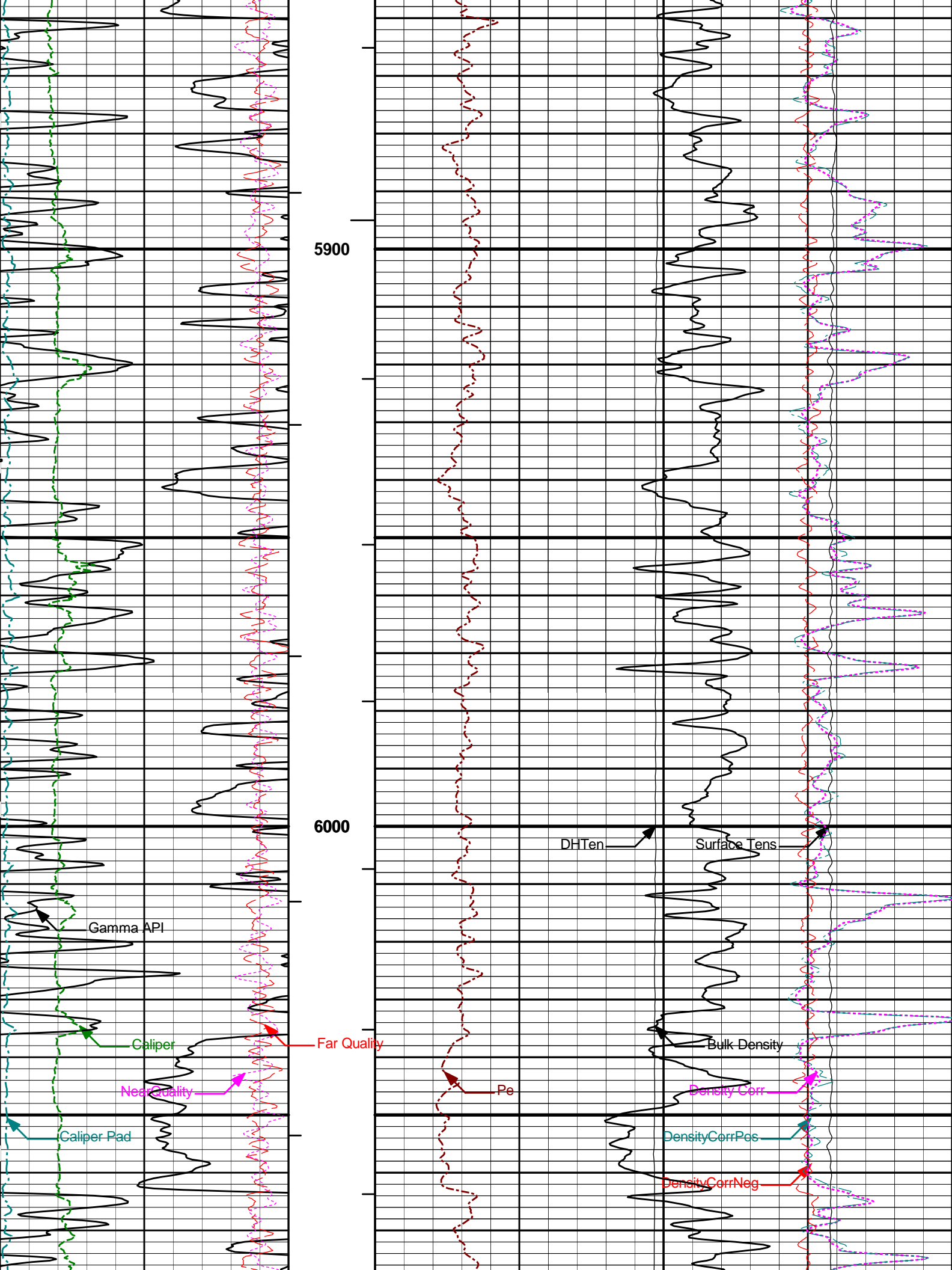


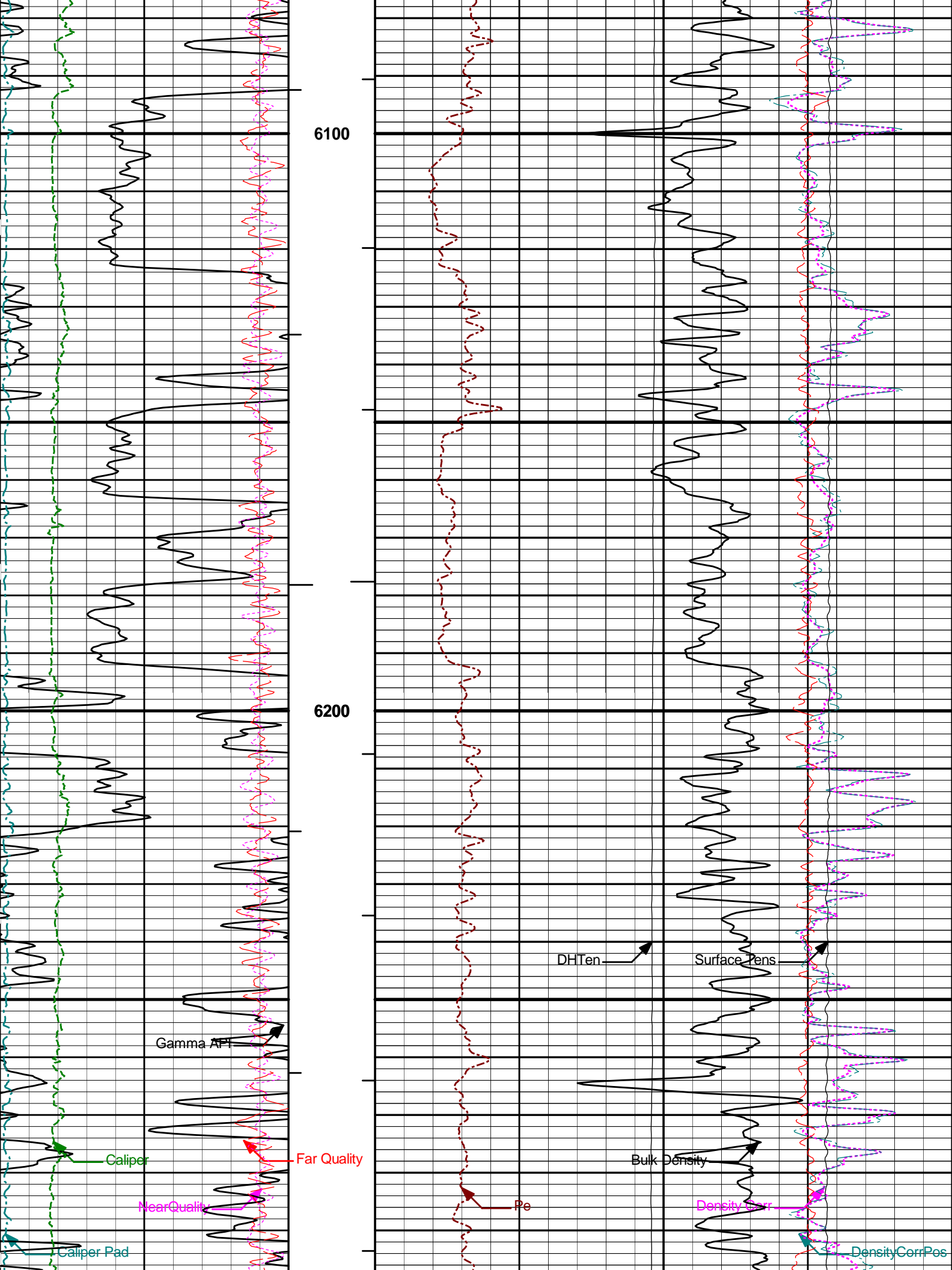




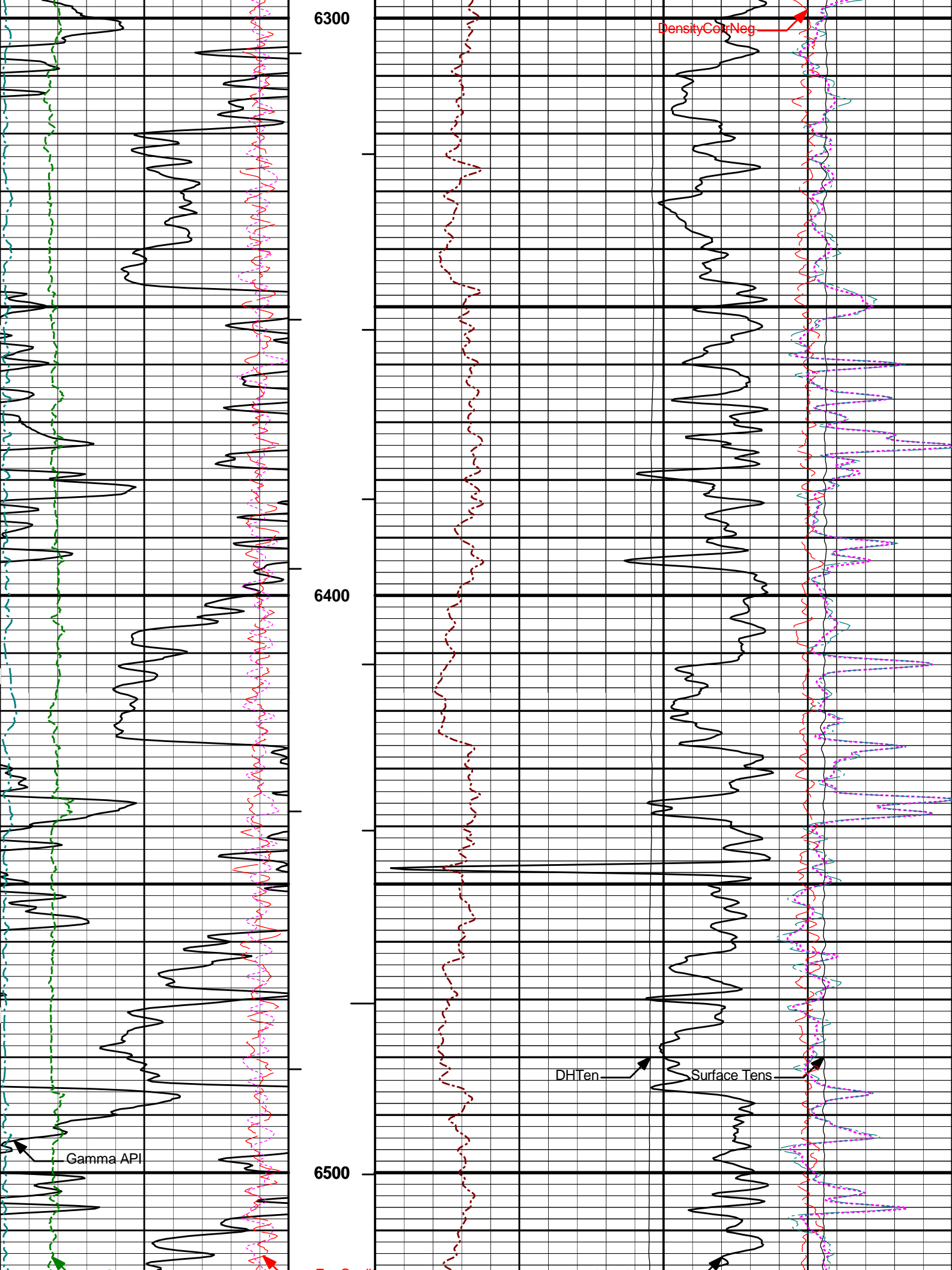


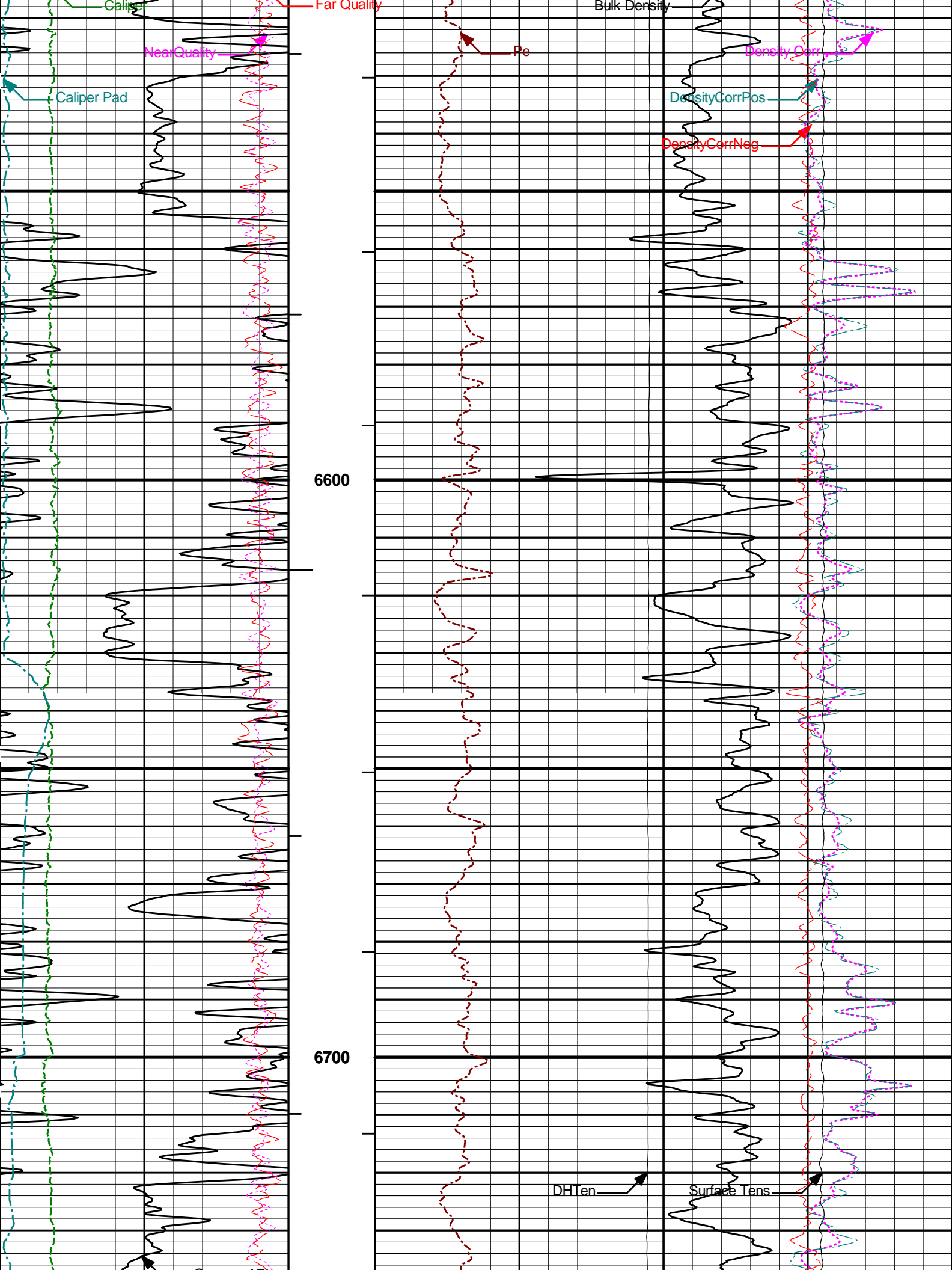


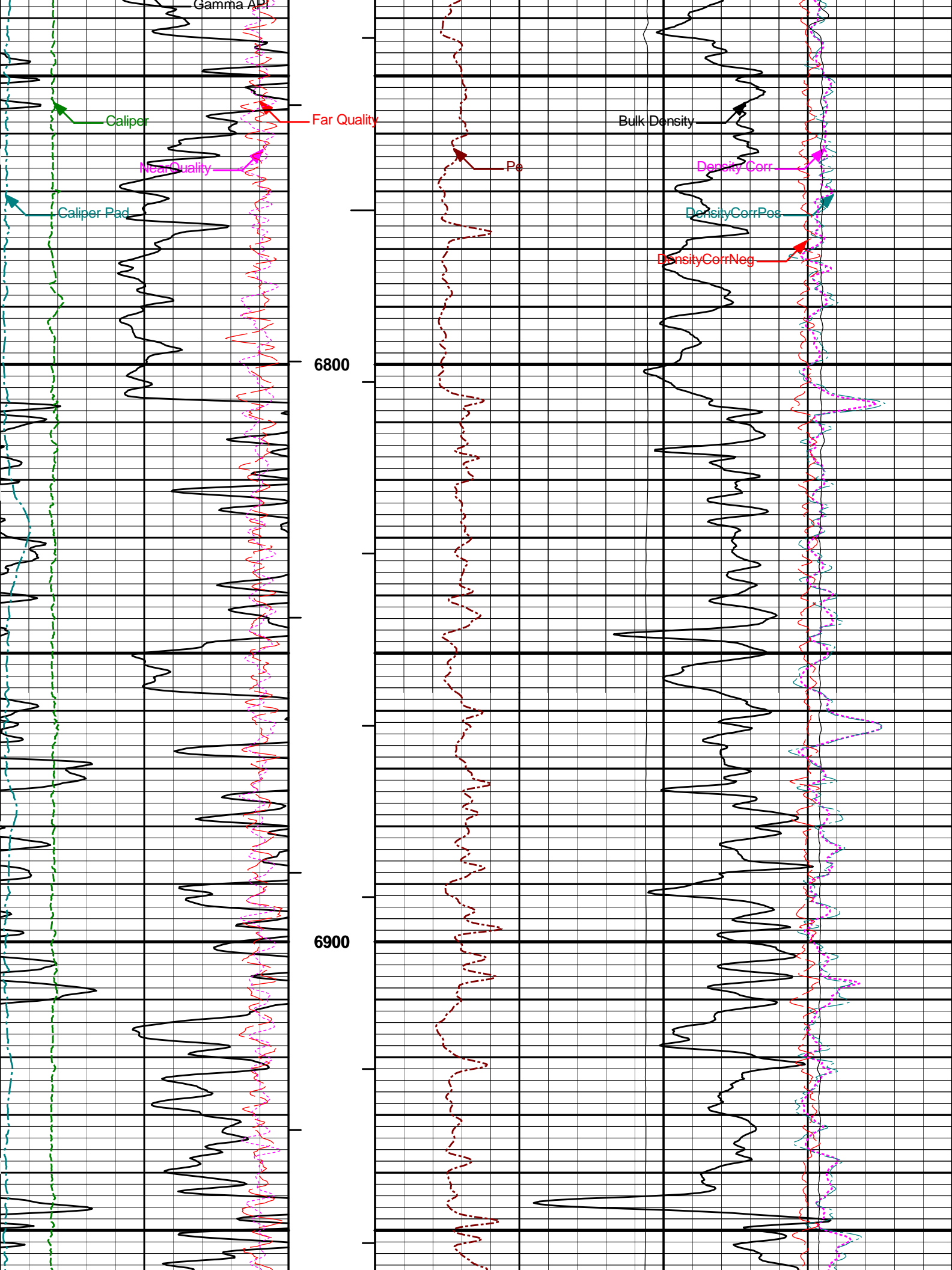


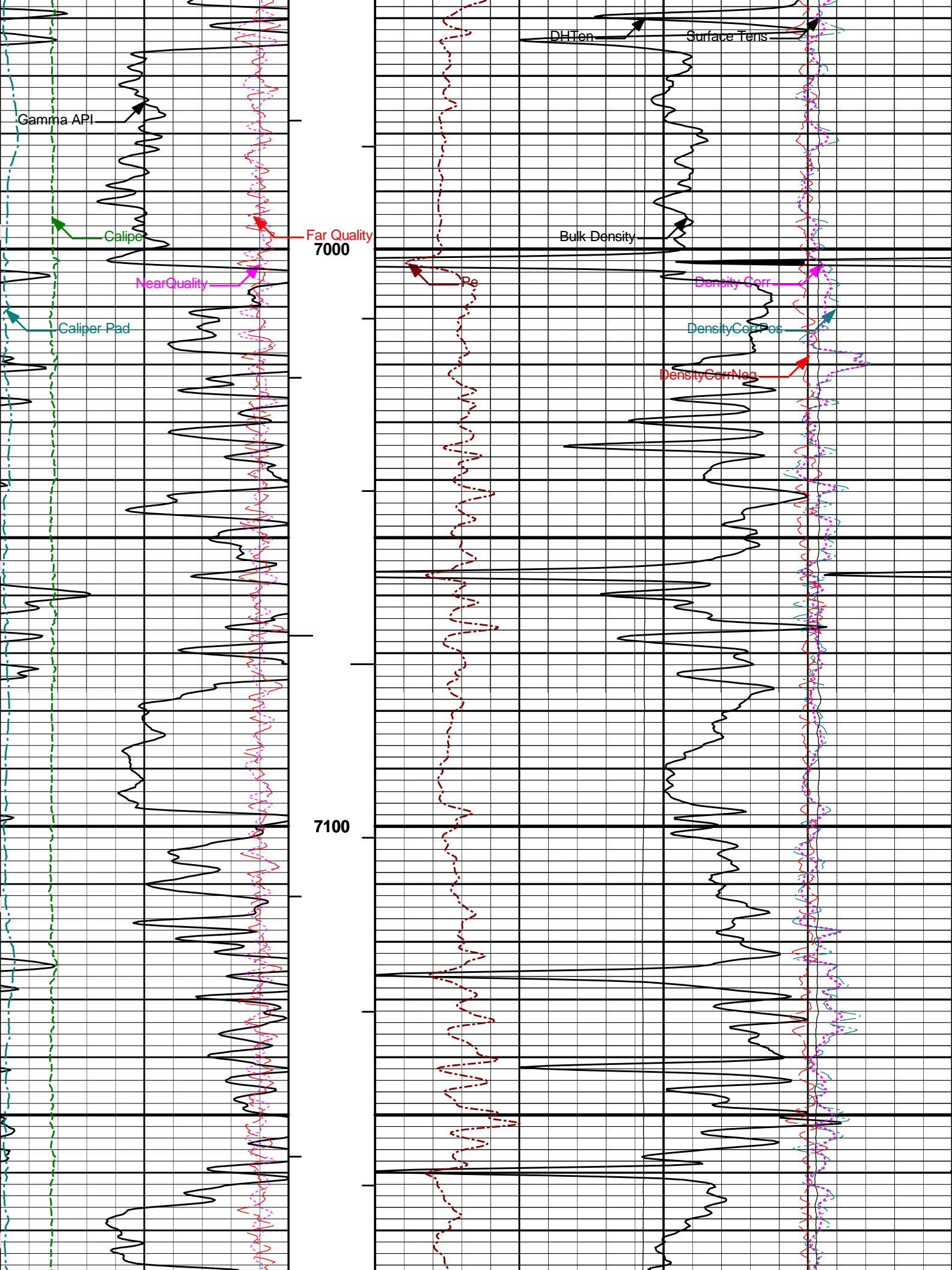


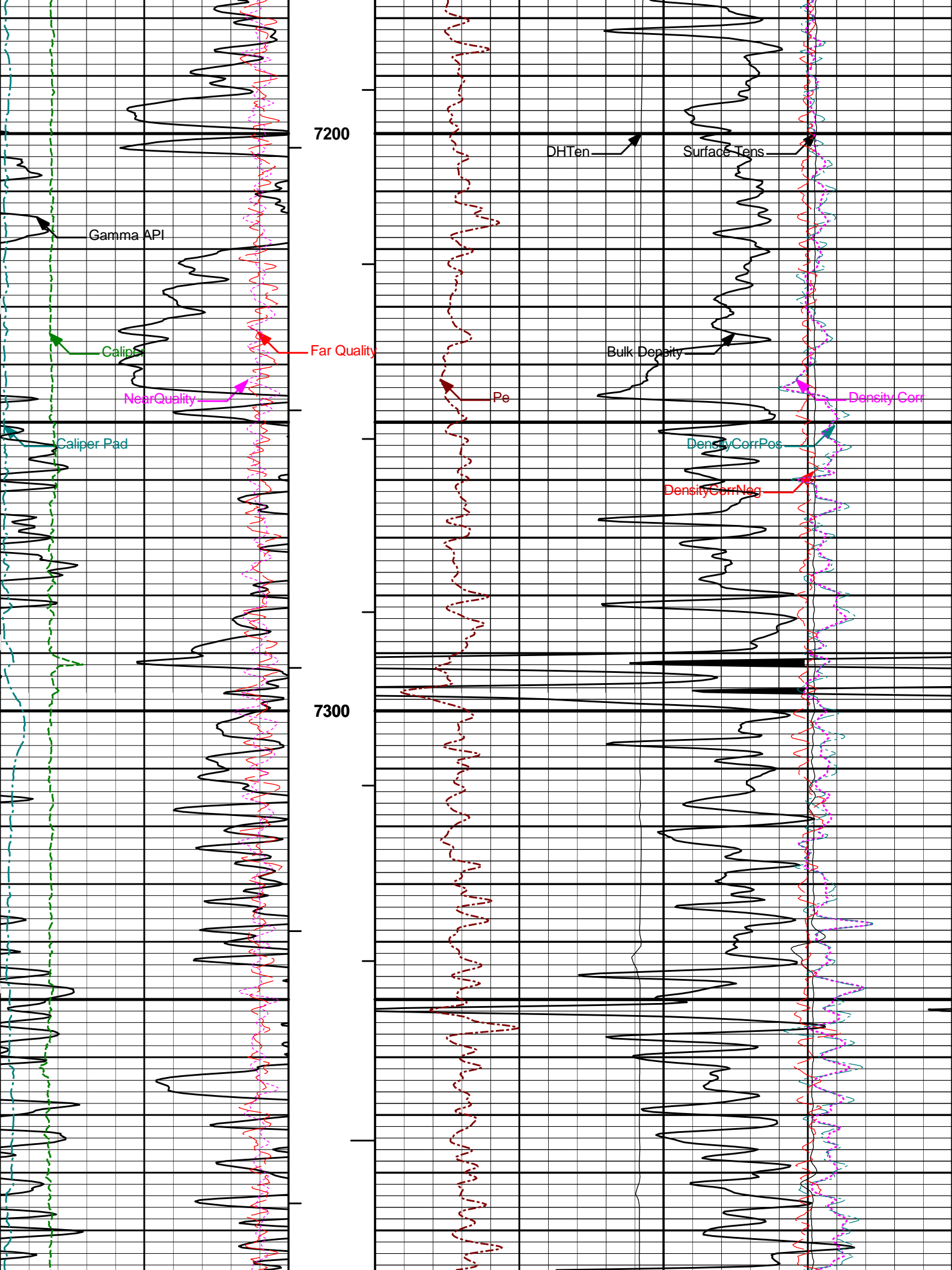


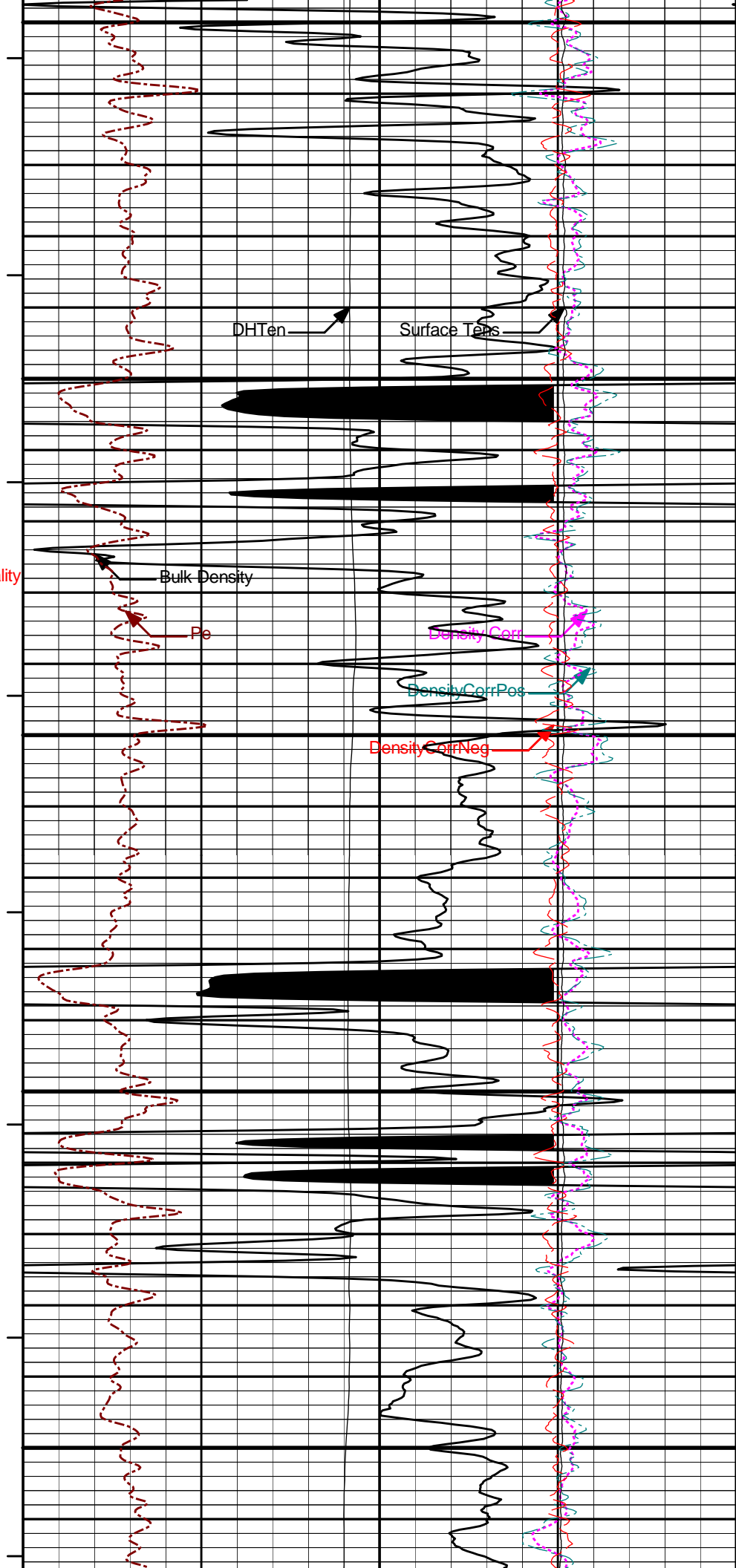
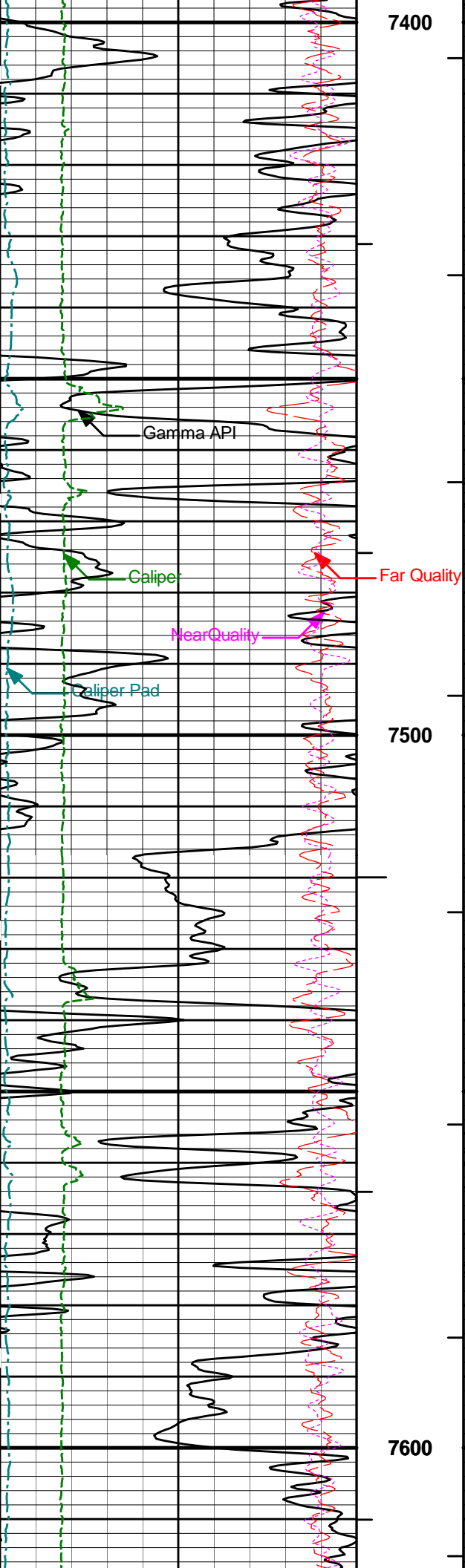


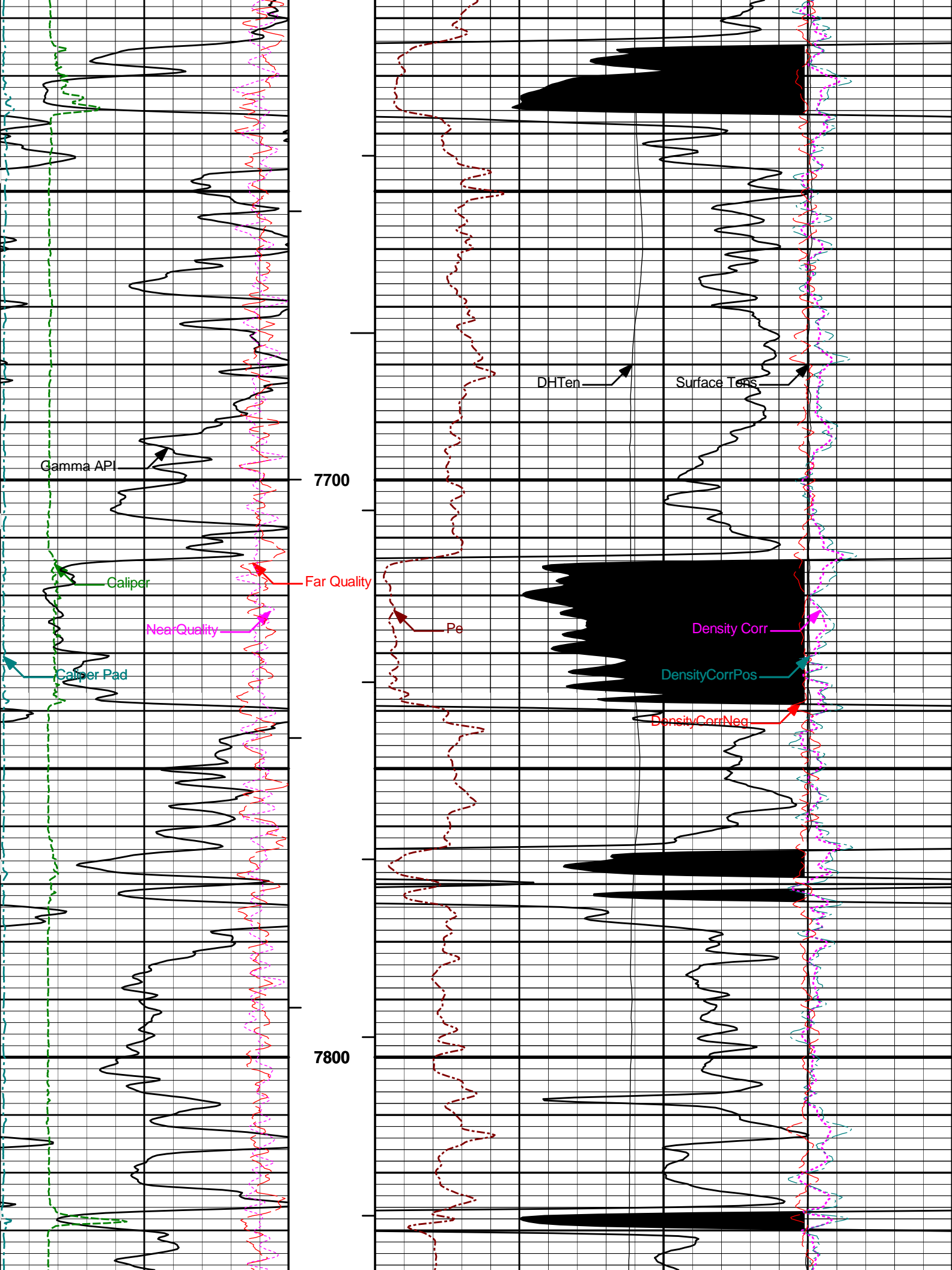




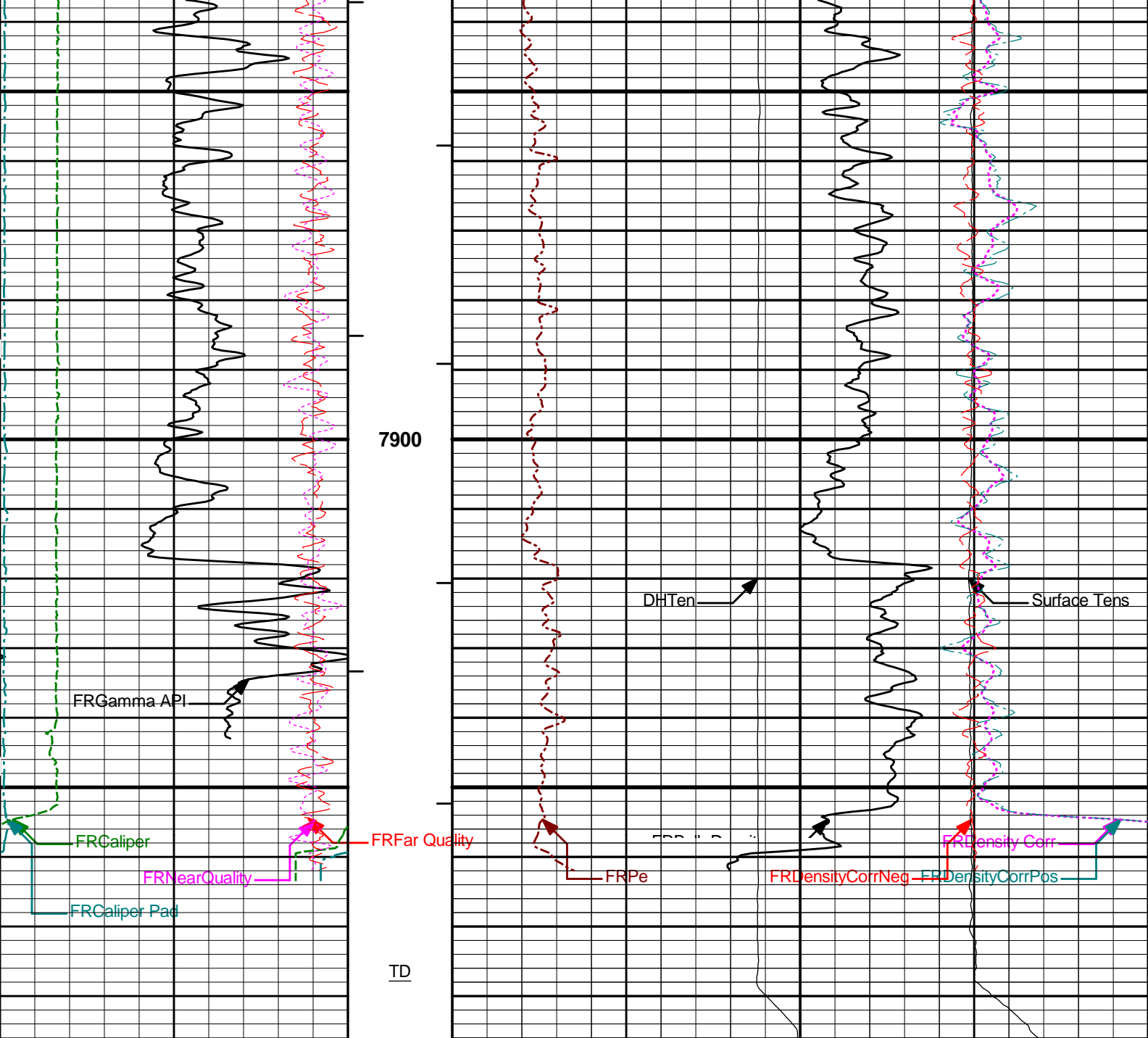












0	Gamma API	150	1 : 240	10K	DHTen	0	10K	Surface Tens	0
	api				pounds			pounds	
6	Caliper	16	BHVT	0	Pe	10	-0.25	Density Corr	0.25
	inches							gram per cc	
0	Caliper Pad	10	AHVT				-0.25	DensityCorrPos	0.25
	inches							gram per cc	
9	Far Quality	-1					-0.25	DensityCorrNeg	0.25
								gram per cc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

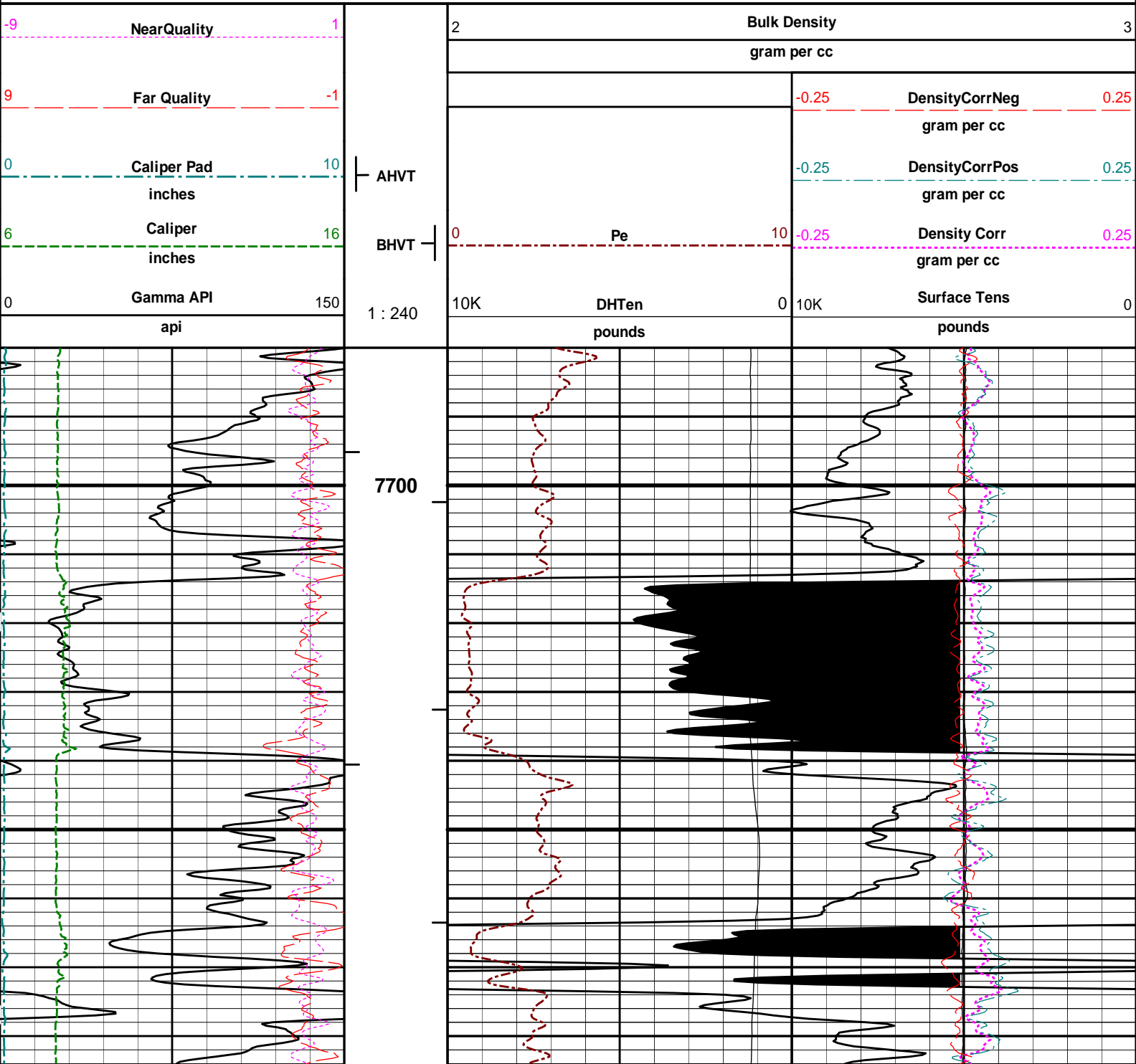
**HALLIBURTON**

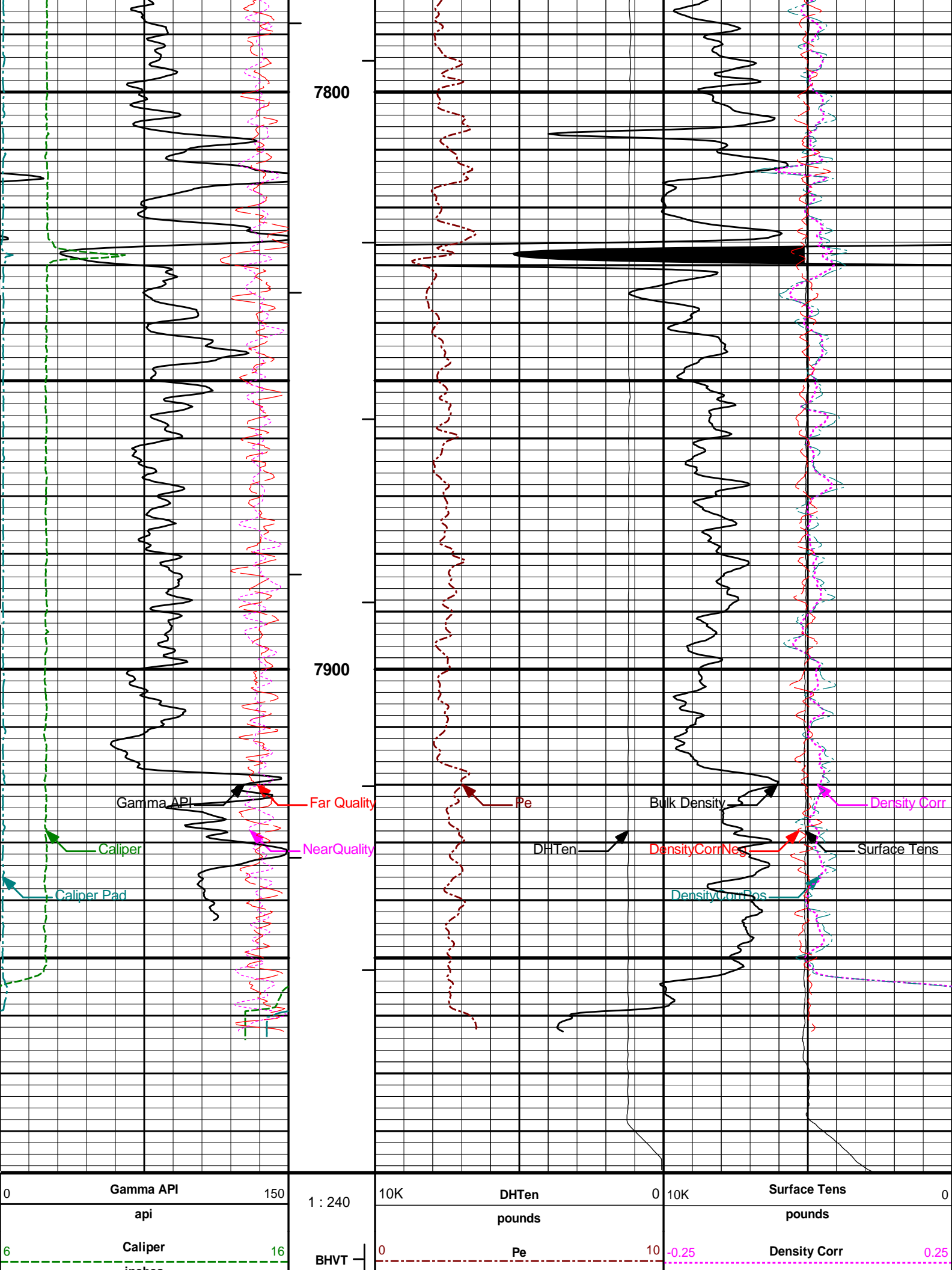
Plot Time: 13-Feb-12 00:46:22  
 Plot Range: 1540 ft to 7986.5 ft  
 Data: {ActiveWell}\Well Based\MAIN\*  
 Plot File: \\POR\IQ\_BP\_RHOB\_5IN\_DHT

HALLIBURTON

Plot Time: 13-Feb-12 00:46:23  
Plot Range: 7680 ft to 7987.08 ft  
Data: {ActiveWell}\Well Based\REPEAT\  
Plot File: \\POR\IQ\_BP\_RHOB\_5IN\_DHT\_RPT

REPEAT SECTION 5" = 100'





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			

HALLIBURTON

Plot Time: 13-Feb-12 00:46:25  
Plot Range: 7680 ft to 7987.08 ft  
Data: {ActiveWell}\Well Based\REPEAT\  
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:	18-Jan-12 10:28:56
Engineer:	D. CULVER	Calibration Date:	26-Jan-12 14:42:04
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	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	Reference Calibration Date:	26-Jan-12 14:42:04
Engineer:	B. PEDERSEN	Calibration Date:	11-Feb-12 15:13:51
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	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	Reference Calibration Date:	30-Dec-11 09:30:54
Engineer:	D. CULVER	Calibration Date:	26-Jan-12 16:13:24

Engineer: D. COLVER		Calibration Date: 26-Jan-12 16:13:34		
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: 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				
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			
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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	+/- 0.00	cpi

Gamma Ray Calibrator	230.3	232.1	-----	-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
Data: BRUTON_30_06_B\0001 LOGIQ_TRIPLENDLE						Date: 12-Feb-12 23:08:28

HALLIBURTON

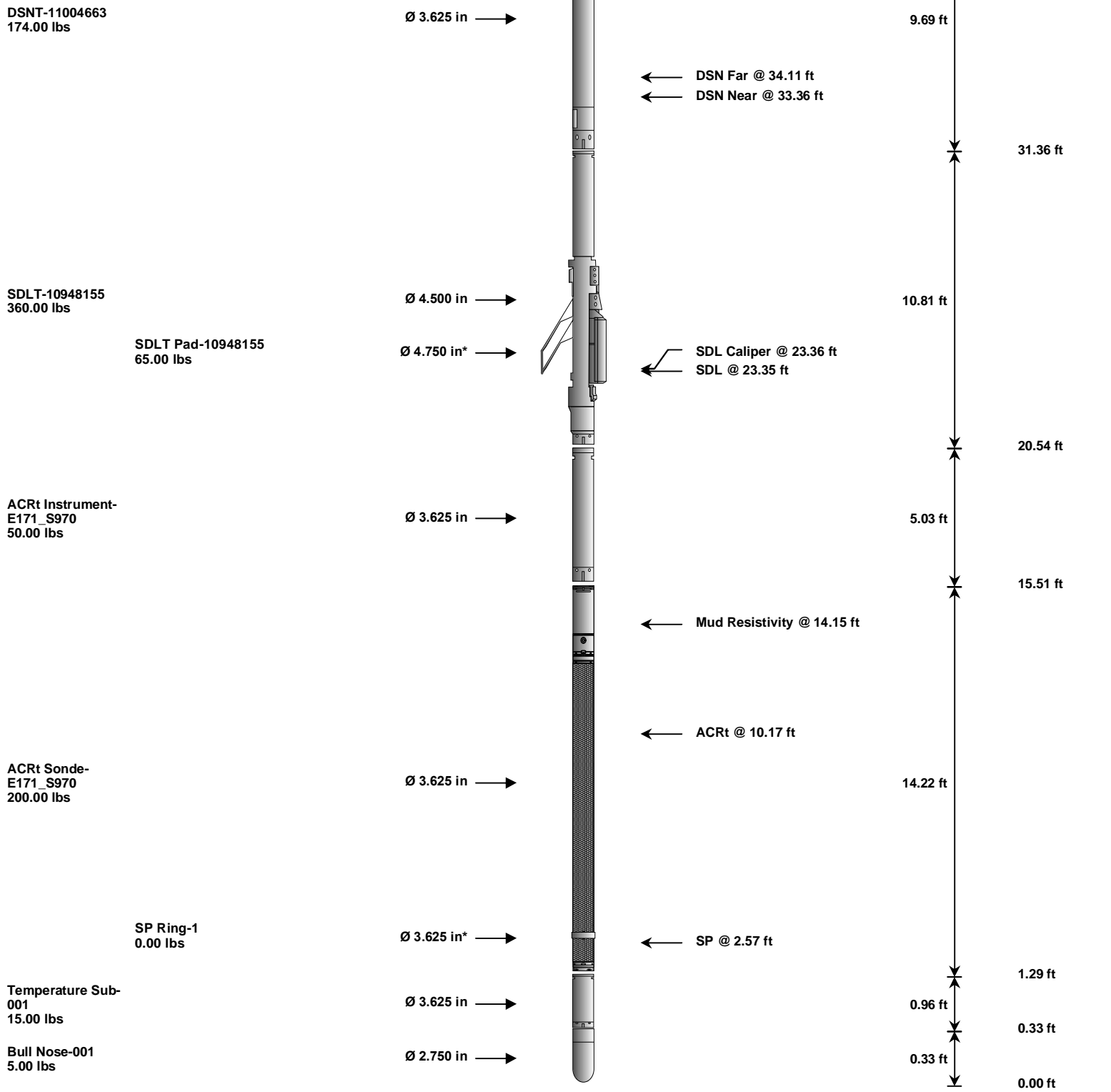
CUSTOMER EVENT LOG

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

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
						49.56 ft
GTET-11016182 165.00 lbs		Ø 3.625 in →		← GammaRay @ 43.50 ft	8.52 ft	
						41.04 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

COMPANY	LARAMIE ENERGY		
WELL	BRUTON 30-06-B		
FIELD	BRUSH CREEK		
COUNTY	GARFIELD	STATE	CO
HALLIBURTON		SPECTRAL DENSITY DUAL SPACED NEUTRON	