HALLIBURTON

DUAL SPACED NEUTRON SPECTRAL DENSITY LOG

COMPANY SANDRIDGE ENERGY
WELL FORREST SWD 3404 1-7
FIELD/BLOCK BLUFF
COUNTY SUMNER
STATE KANSAS

COMPANY **SANDRIDGE ENERGY**

WELL **FORREST SWD 3404 1-7**

FIELD/BLOCK **BLUFF**

COUNTY **SUMNER** STATE **KANSAS**

API No. 15191227300000

Location 2290' FNL 1100' FWL

Sect. 7 Twp. 34S Rge. 4W

Other Services:
ACRT
CSNG
MICRO
WSTT
MRIL

Permanent Datum	GL	Elev. 1251.0 ft	Elev.: K.B. 1265.0 ft
Log measured from	KB	14.0 ft above perm. Datum	D.F. 1263.0 ft
Drilling measured from	KB		G.L. 1251.0 ft

Date		05-May-14					
Run No.		ONE					
Depth - Driller		5115.00 ft					
Depth - Logger		5114.0 ft					
Bottom - Logged Interval		5031.0 ft					
Top - Logged Interval		568.0 ft					
Casing - Driller		8.625 in	@ 568.0 ft	@		@	
Casing - Logger		568.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		Water Based Mud					
Density	Viscosity	9.3 ppg	46.00 s/qt				
PH	Fluid Loss	11.00 pH	4.8 cptm				
Source of Sample		MUD PIT					
Rm @ Meas. Temperature		0.450 ohmm	@ 85.00 degF	@		@	
Rmf @ Meas. Temperature		0.38 ohmm	@ 83.00 degF	@		@	
Rmc @ Meas. Temperature		0.490 ohmm	@ 85.00 degF	@		@	
Source Rmf	Rmc	MEASURED	MEASURED				
Rm @ BHT		0.27 ohmm	@ 145.0 degF	@		@	
Time Since Circulation		6.0000 hr					
Time on Bottom		05-May-14 19:05					
Max. Rec. Temperature		145.0 degF	@ 5114.0 ft	@		@	
Equipment	Location	11230668	LIBERAL				
Recorded By		THOMAS K HYDE					
Witnessed By		A. MILLER		W. SCOTT			

Fold here

Service Ticket No.: 901323687 API Serial No.: 15191227300000 PGM Version: WL INSITE R4.2.0 (Build 2)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

RESISTIVITY SCALE CHANGES

	Sample No.						
Date				Type Log	Depth	Scale Up Hole	Scale Down Hole
Depth-Driller							
Type Fluid in Hole							
Density	Viscosity						
Ph	Fluid Loss						
Source of Sample							
Rm @ Meas. Temp		@	@				
Rmf @ Meas. Temp.		@	@				
Rmc @ Meas. Temp.		@	@				
Source Rmf	Rmc						
Rm @ BHT		@	@				
Rmf @ BHT		@	@				
Rmc @ BHT		@	@				

RESISTIVITY EQUIPMENT DATA

	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	10811258	Serial No.		Serial No.	10685803	Serial No.	10755066
Model No.	GTET	Model No.		Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.		Diameter	4.5"	Diameter	3.625"
Detector Model No.	T-102	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	Cs137	Source Type	Am241Be
Length	8"	LSA [Y/N]		Serial No.	5073 GW	Serial No.	DSN-436
Distance to Source	18'	FWDA [Y/N]		Strength	1.5 Ci	Strength	15 Ci

LOGGING DATA

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	5114	568	REC	0	150				30	-10	2.71	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @	KOP @

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CHLORIDES REPORTED AT 7000 MG/L

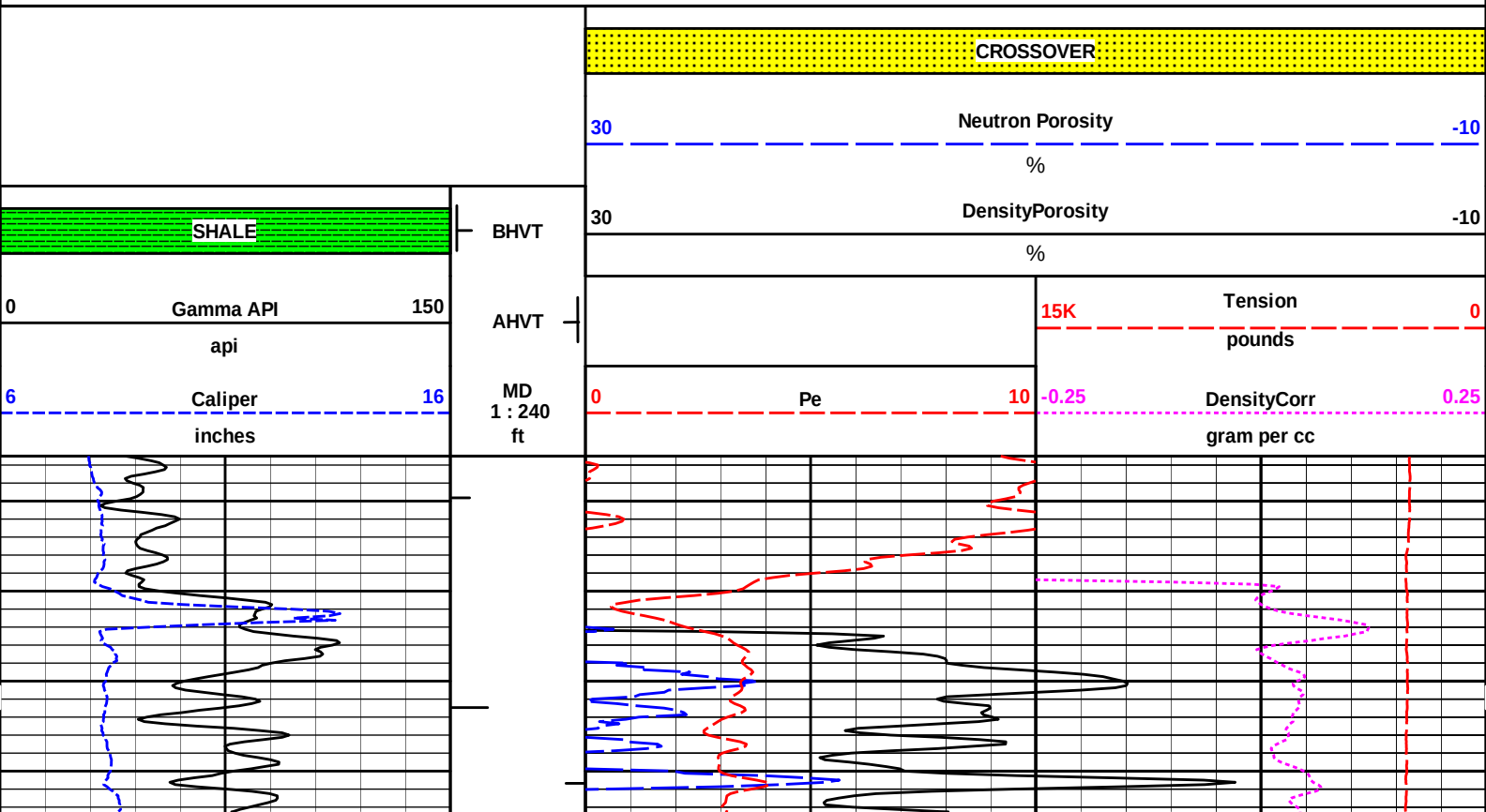
TODAY'S CREW D. MILLER E. ZAPPIEN K. PIDDINGTON

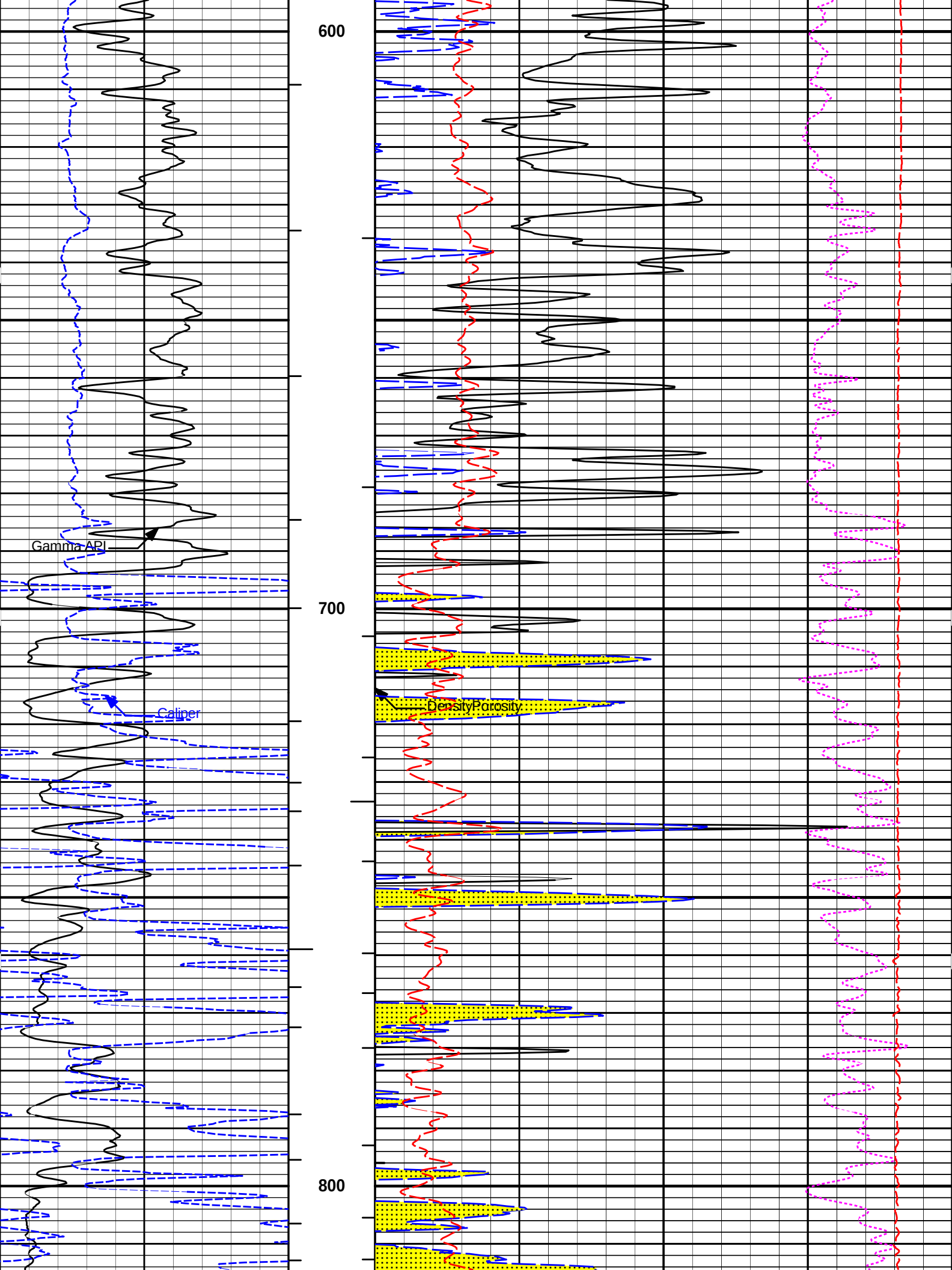
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KANSAS 620-624-8123

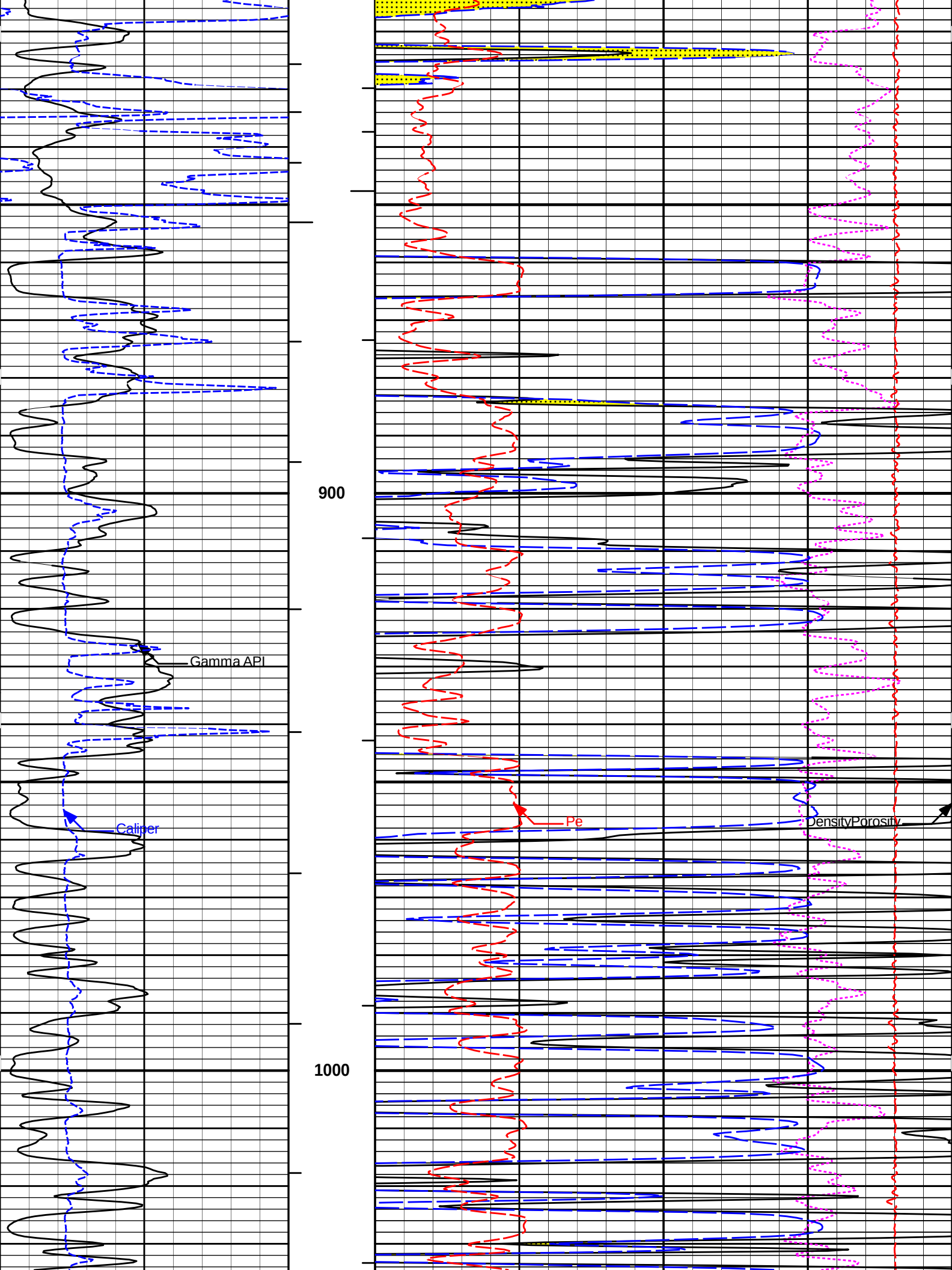
HALLIBURTON

Plot Time: 06-May-14 08:01:13
Plot Range: 555 ft to 5117.75 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-003
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

5 INCH MAIN LOG




600
700
800
Gamma API
Caliper
DensityPorosity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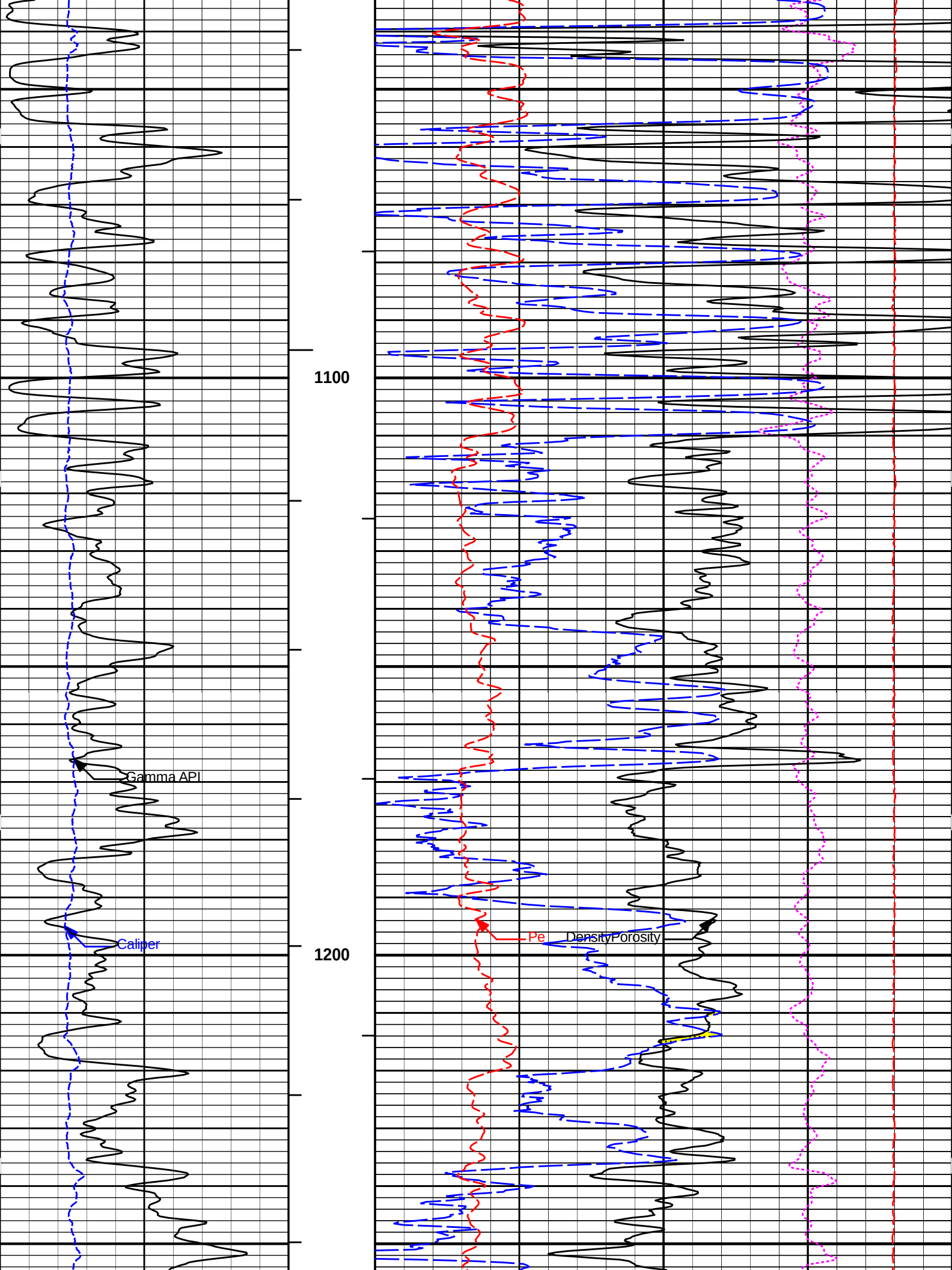
Gamma API
Caliper
Pe
DensityPorosity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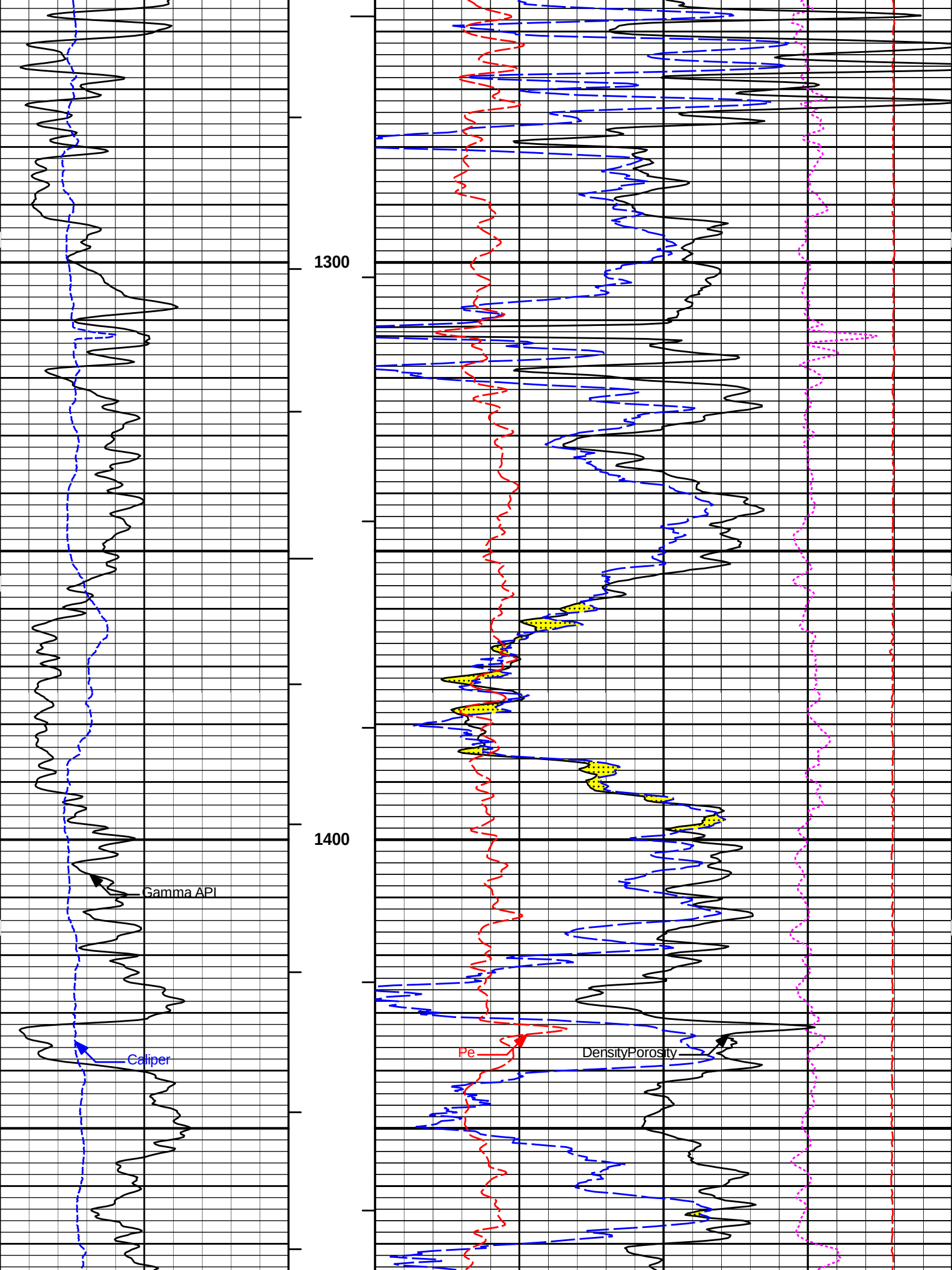
Gamma API
Caliper
Pe
DensityPorosity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1400
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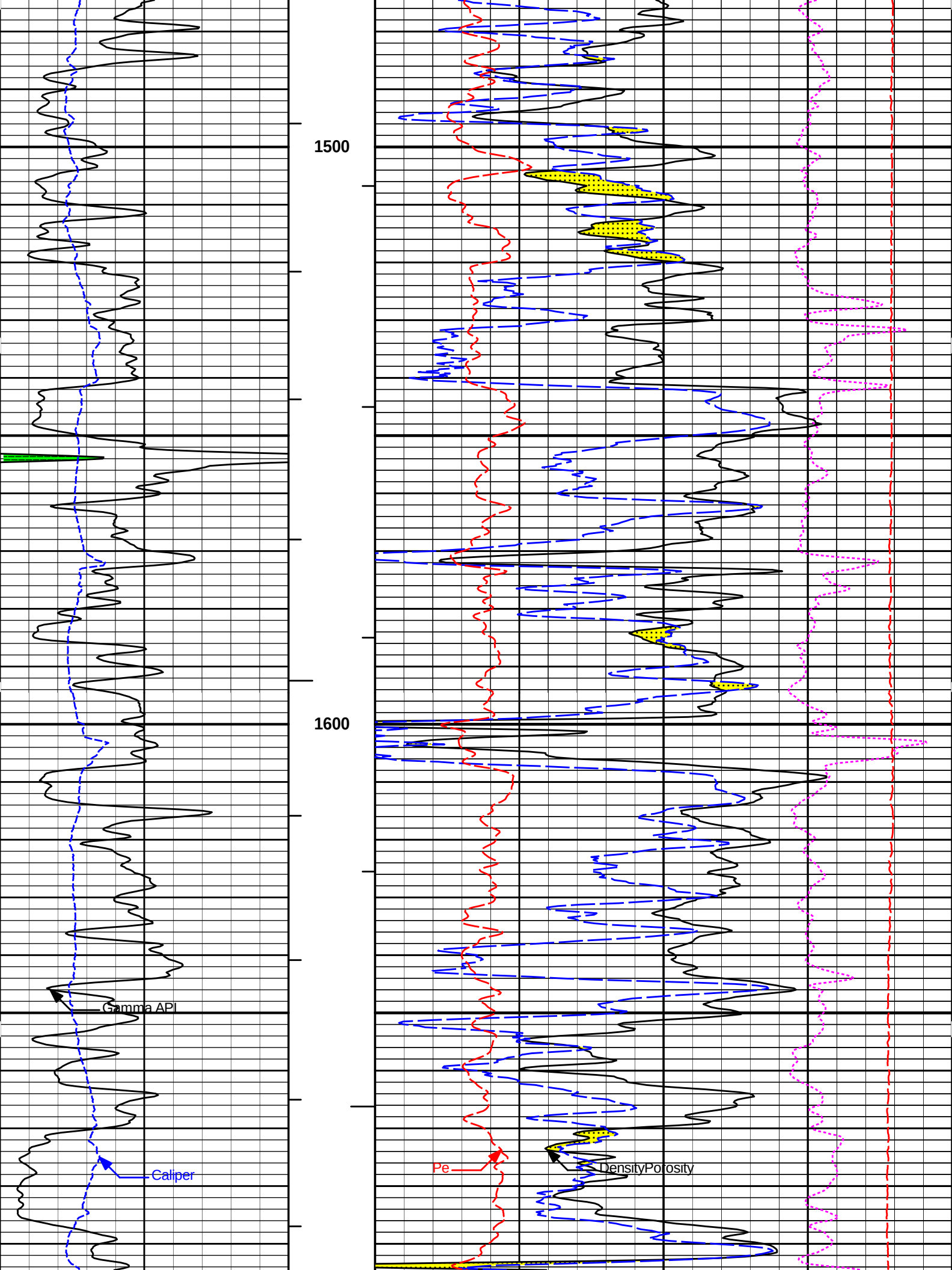
DensityPorosity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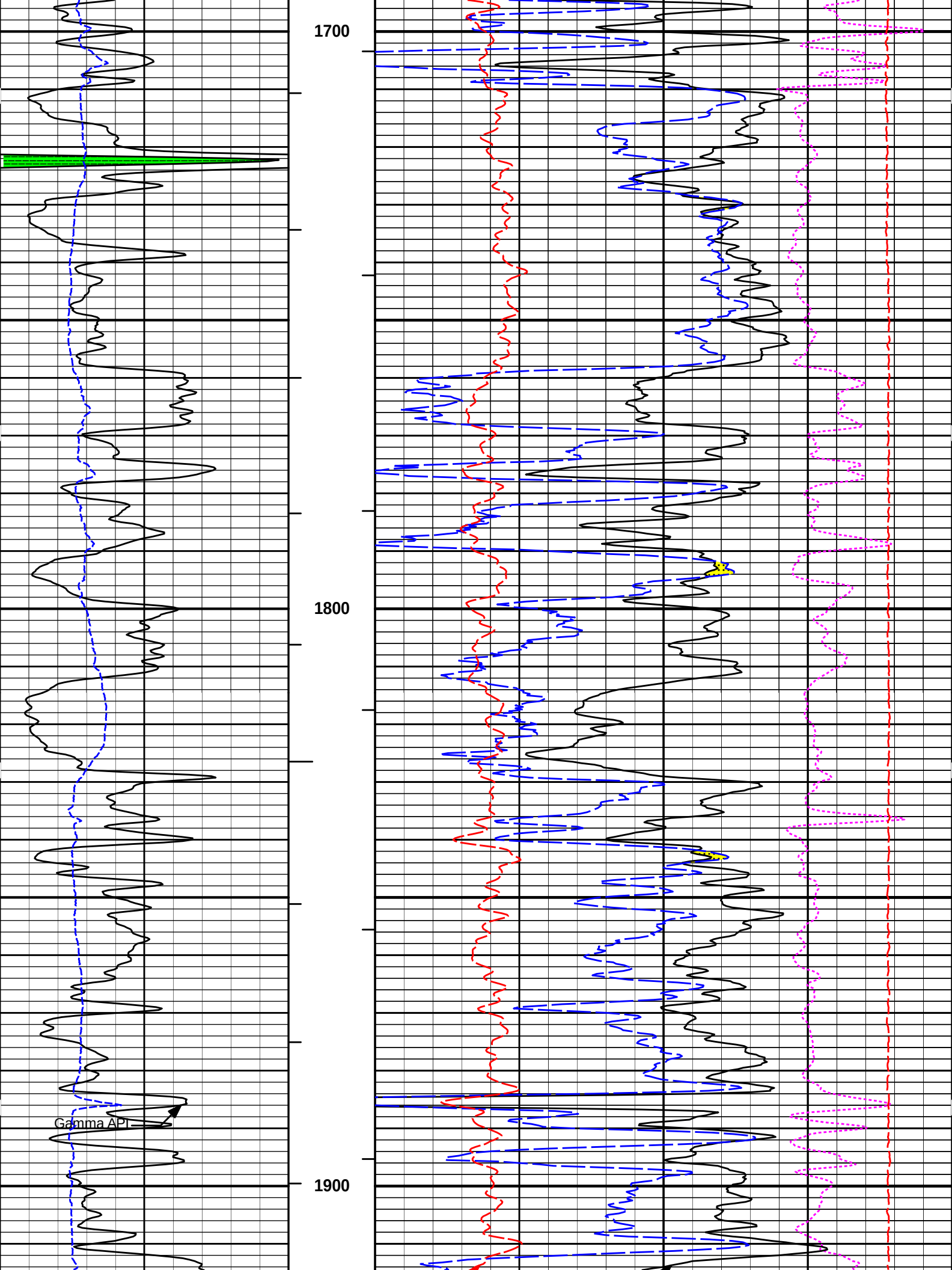
Gamma API
Caliper
Pe
DensityPorosity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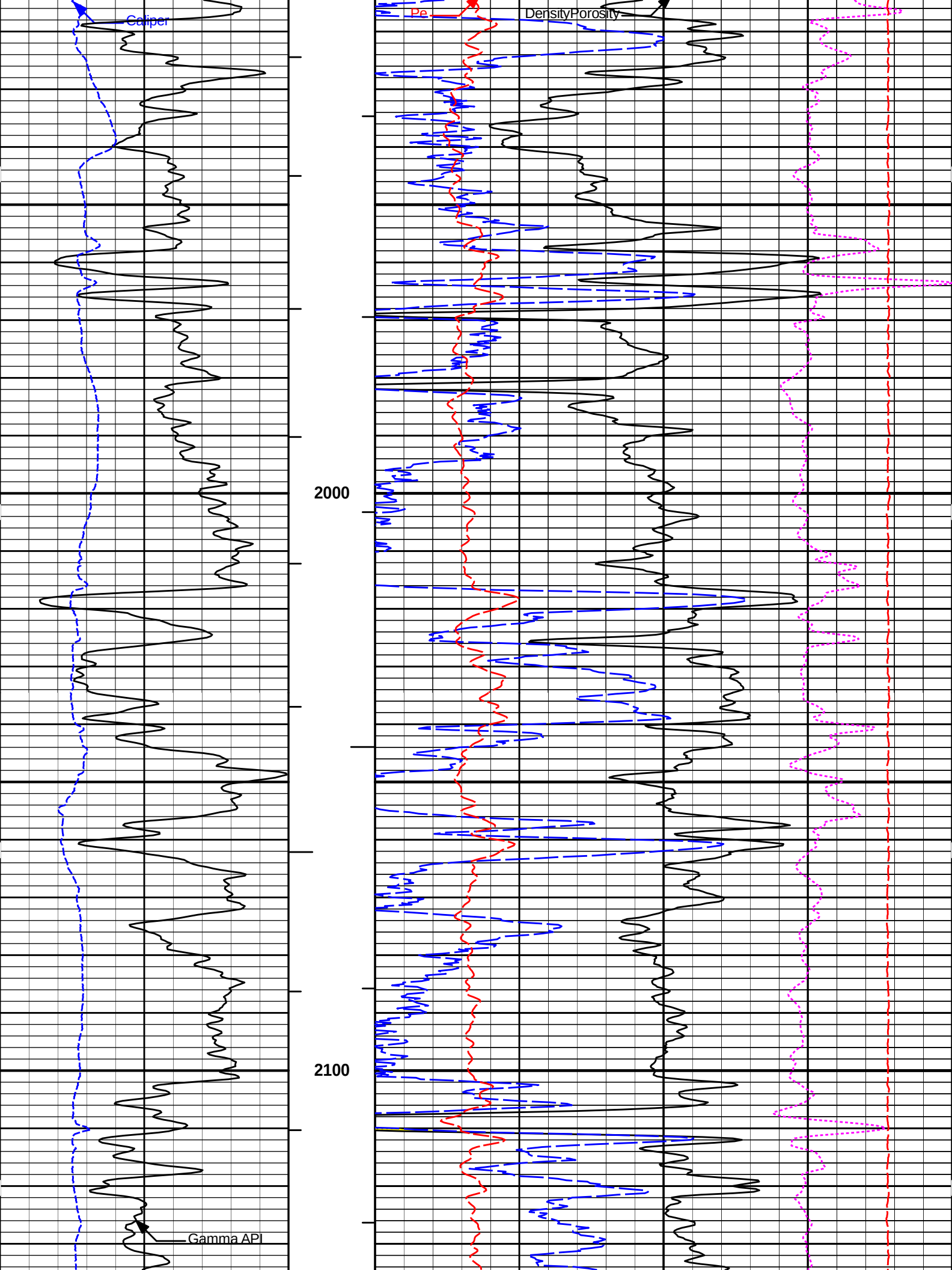
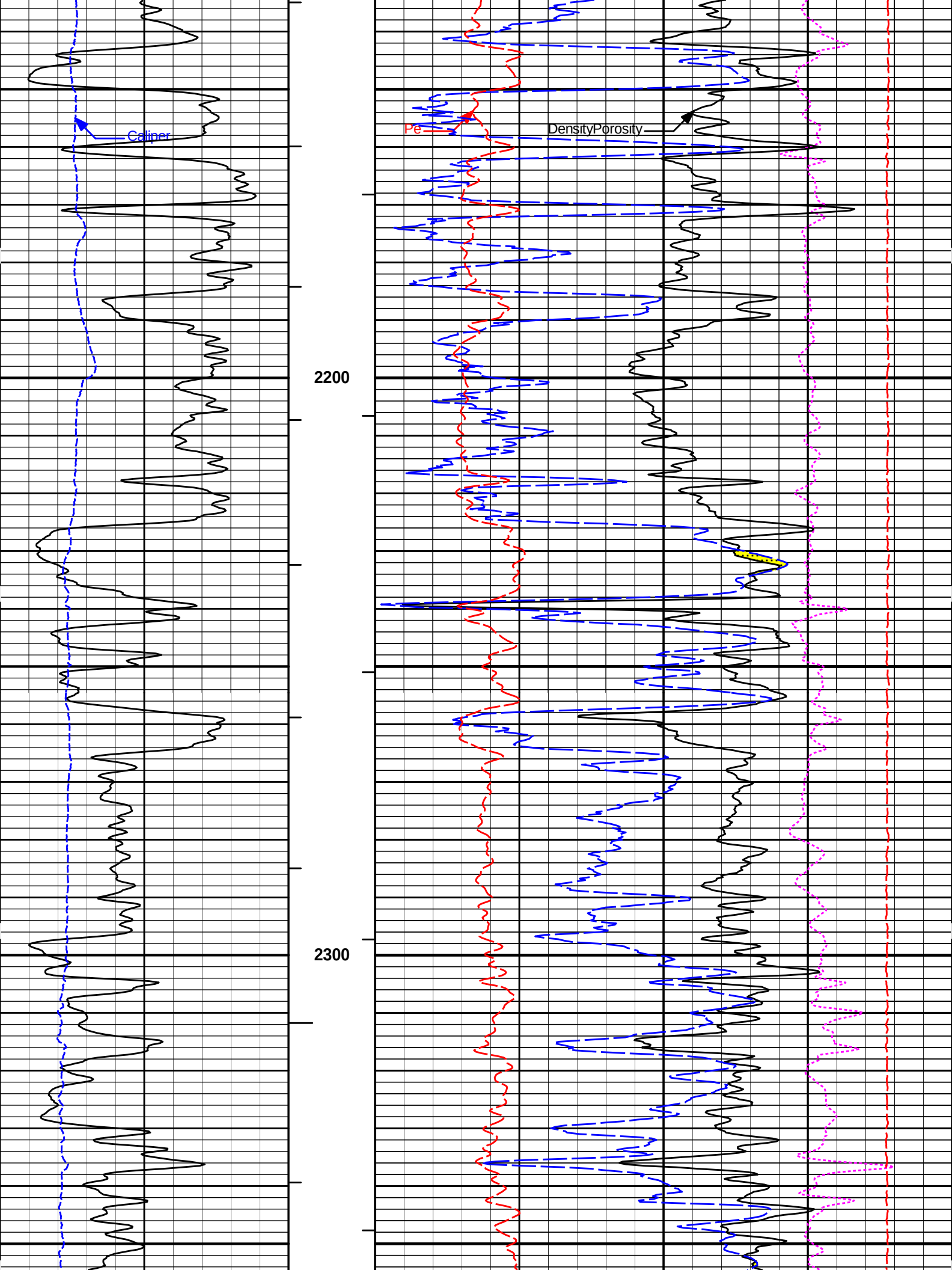
1800
1900
Gamma API


Caliper
Pe
DensityPorosity
2000
2100
Gamma API


Caliper
Pe
DensityPorosity
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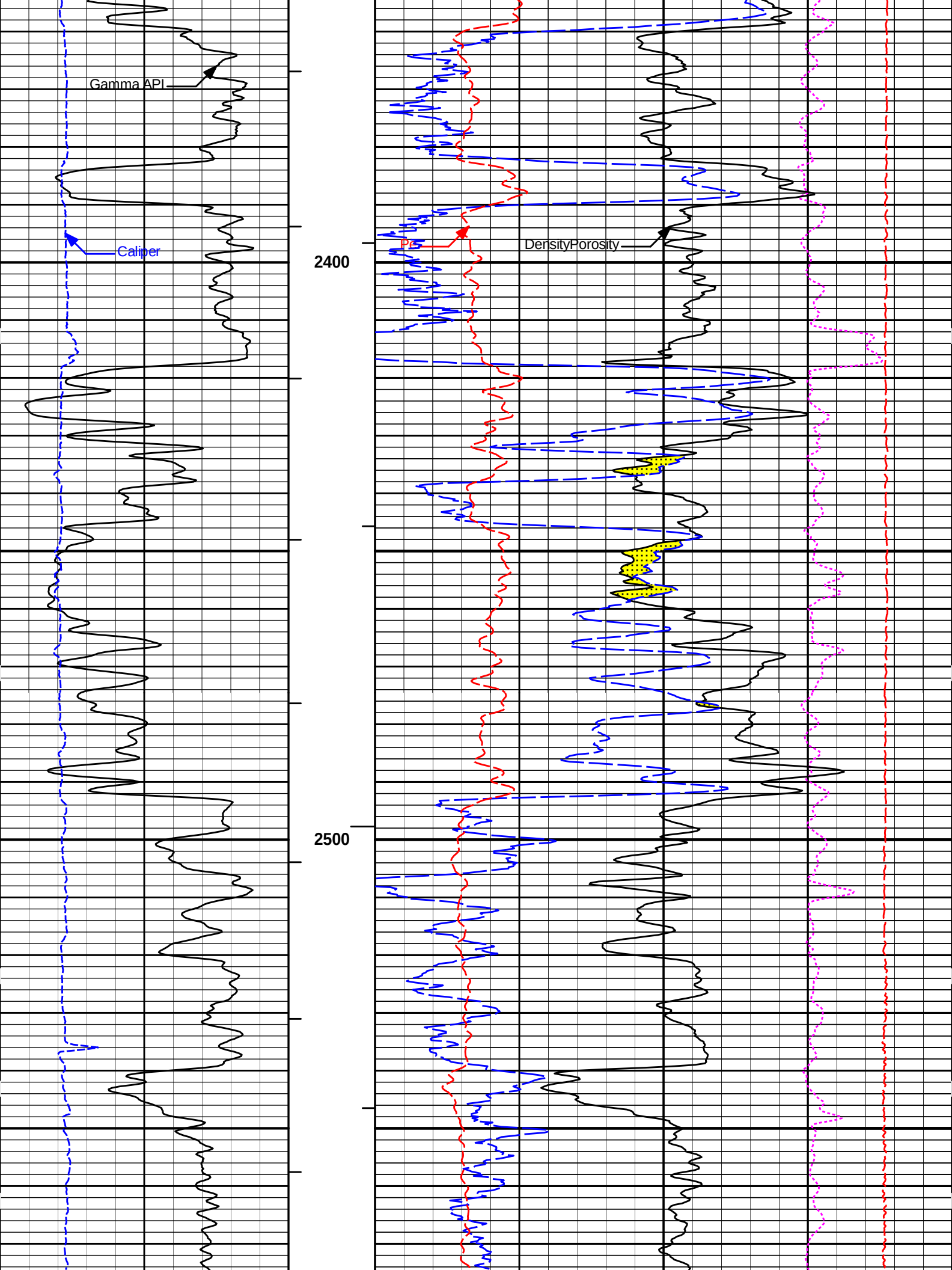
2300


Gamma API
Caliper
Pe
DensityPorosity
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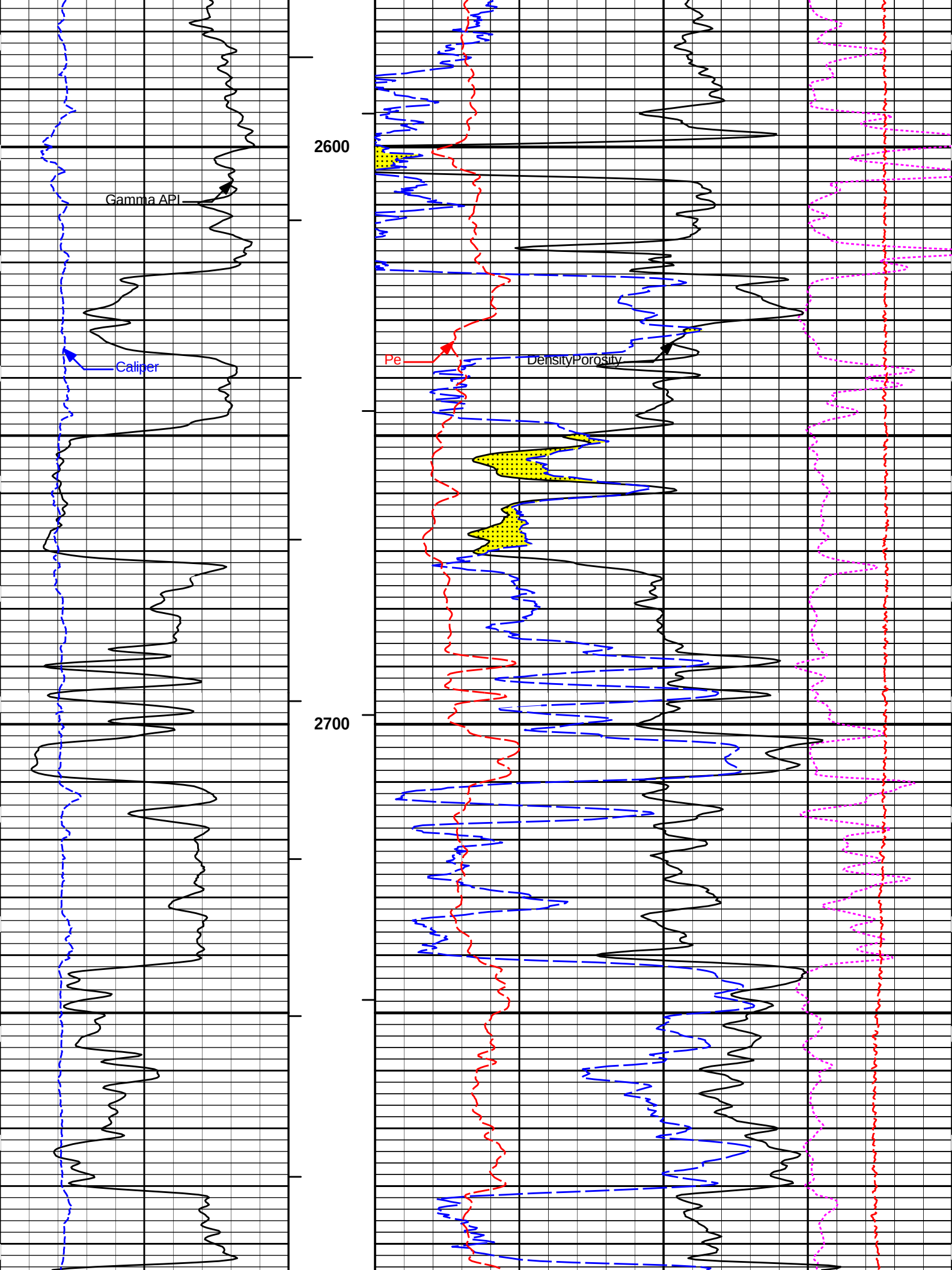
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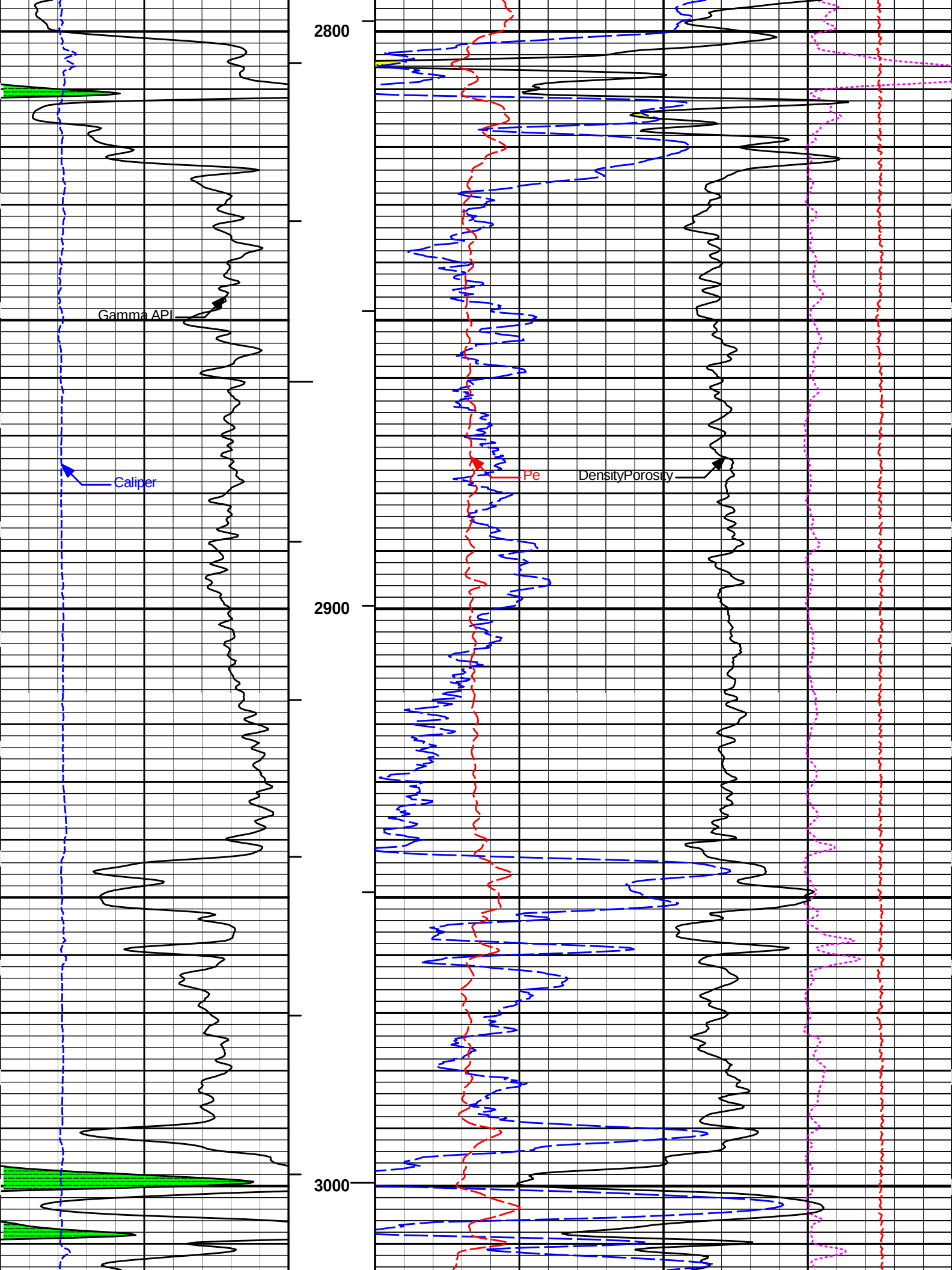
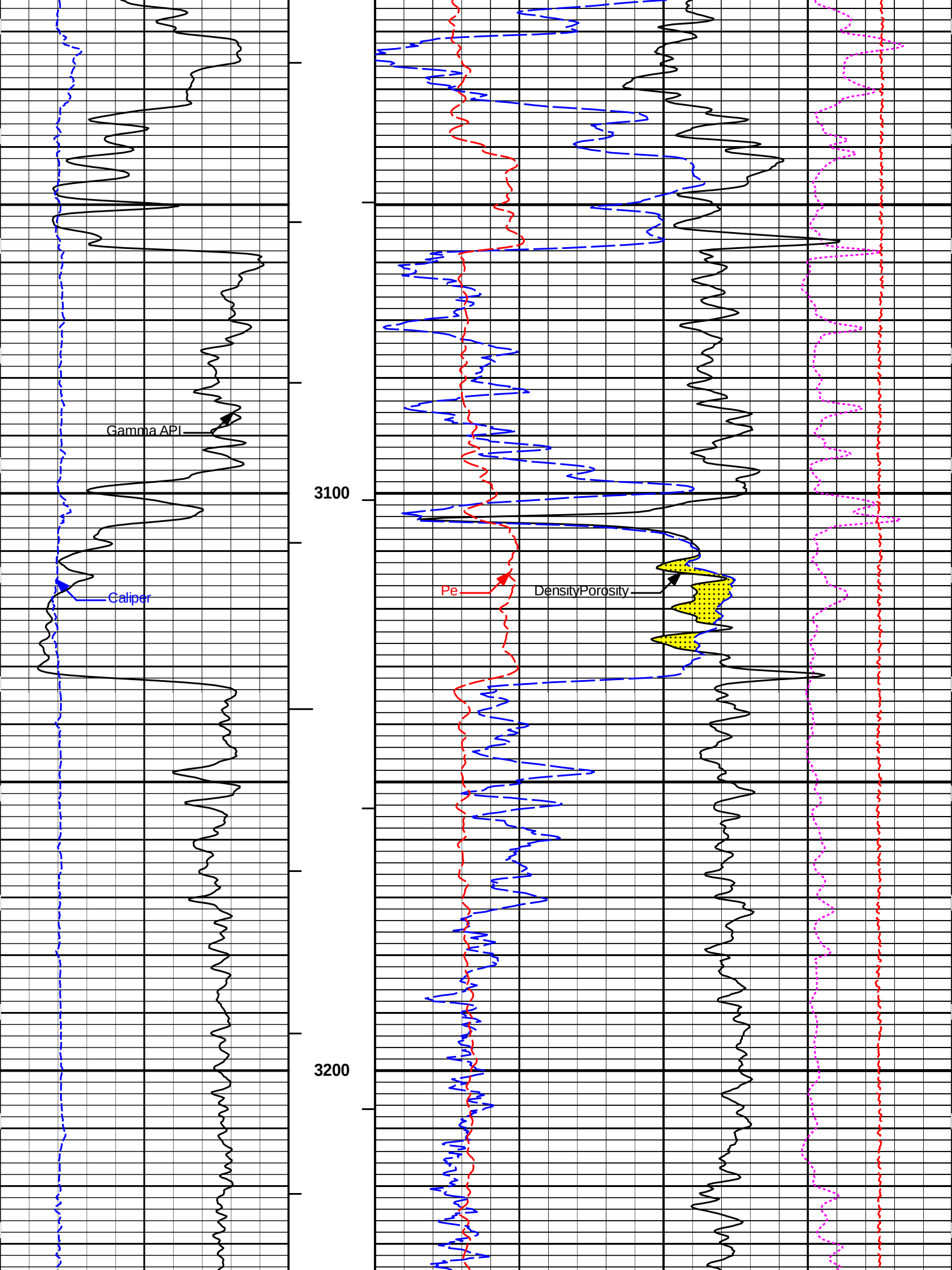
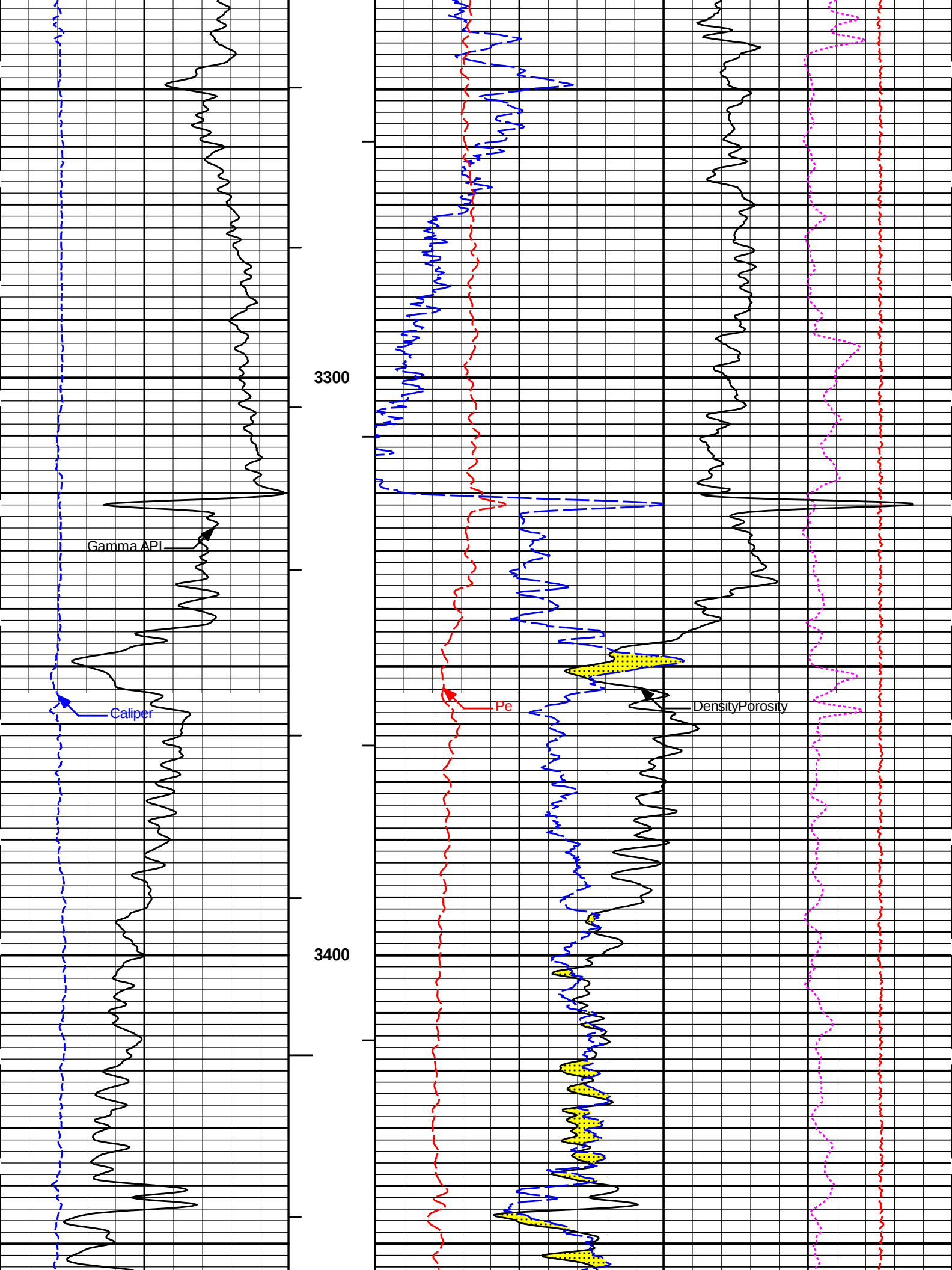
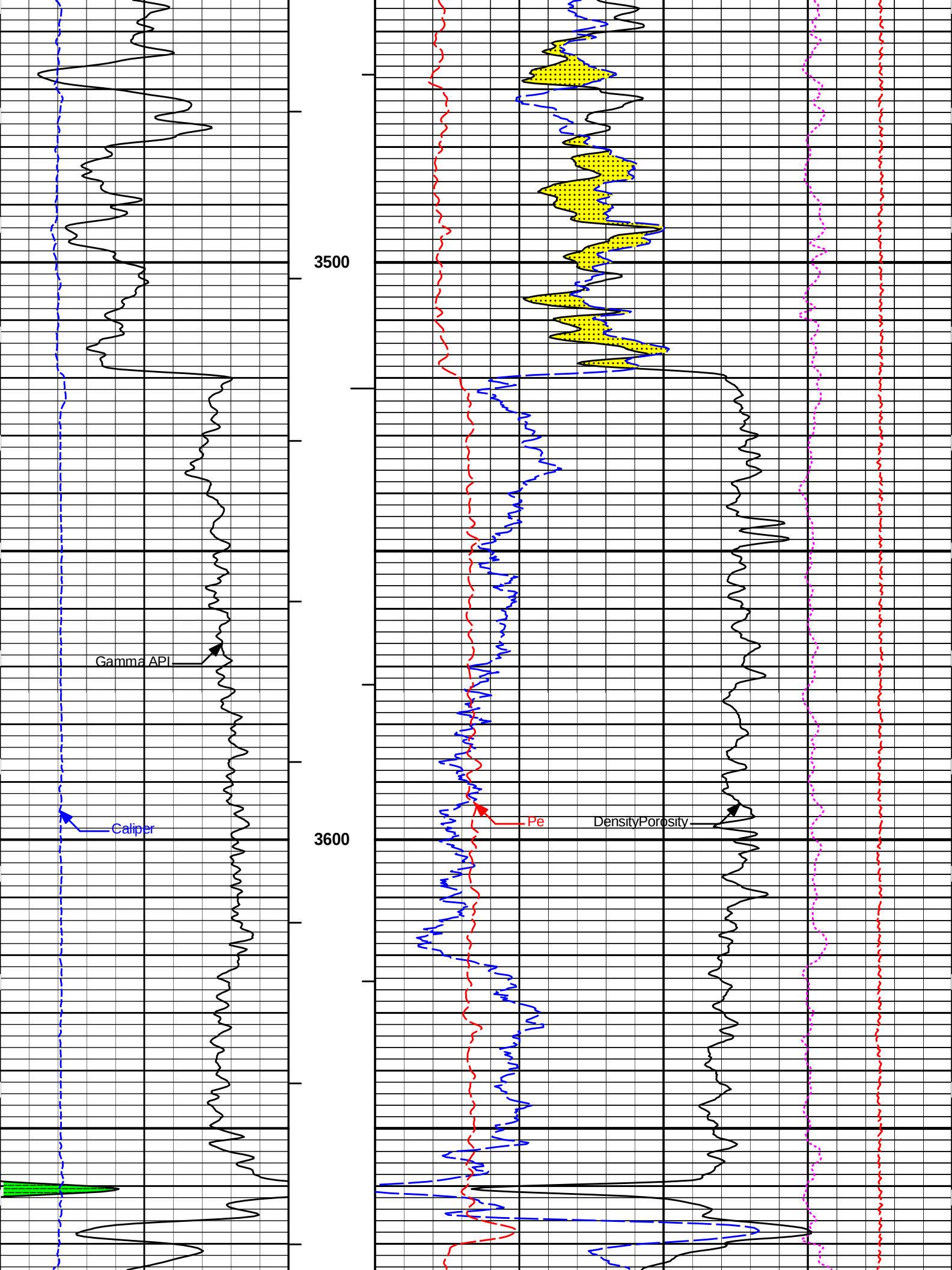
2700
Gamma API
Caliper
Pe
DensityPorosity


2800
2900
3000
Gamma API
Caliper
Pe
DensityPorosity


Gamma API
Caliper
3100
Pe
DensityPorosity
3200


3300
3400
Gamma API
Caliper
Pe
DensityPorosity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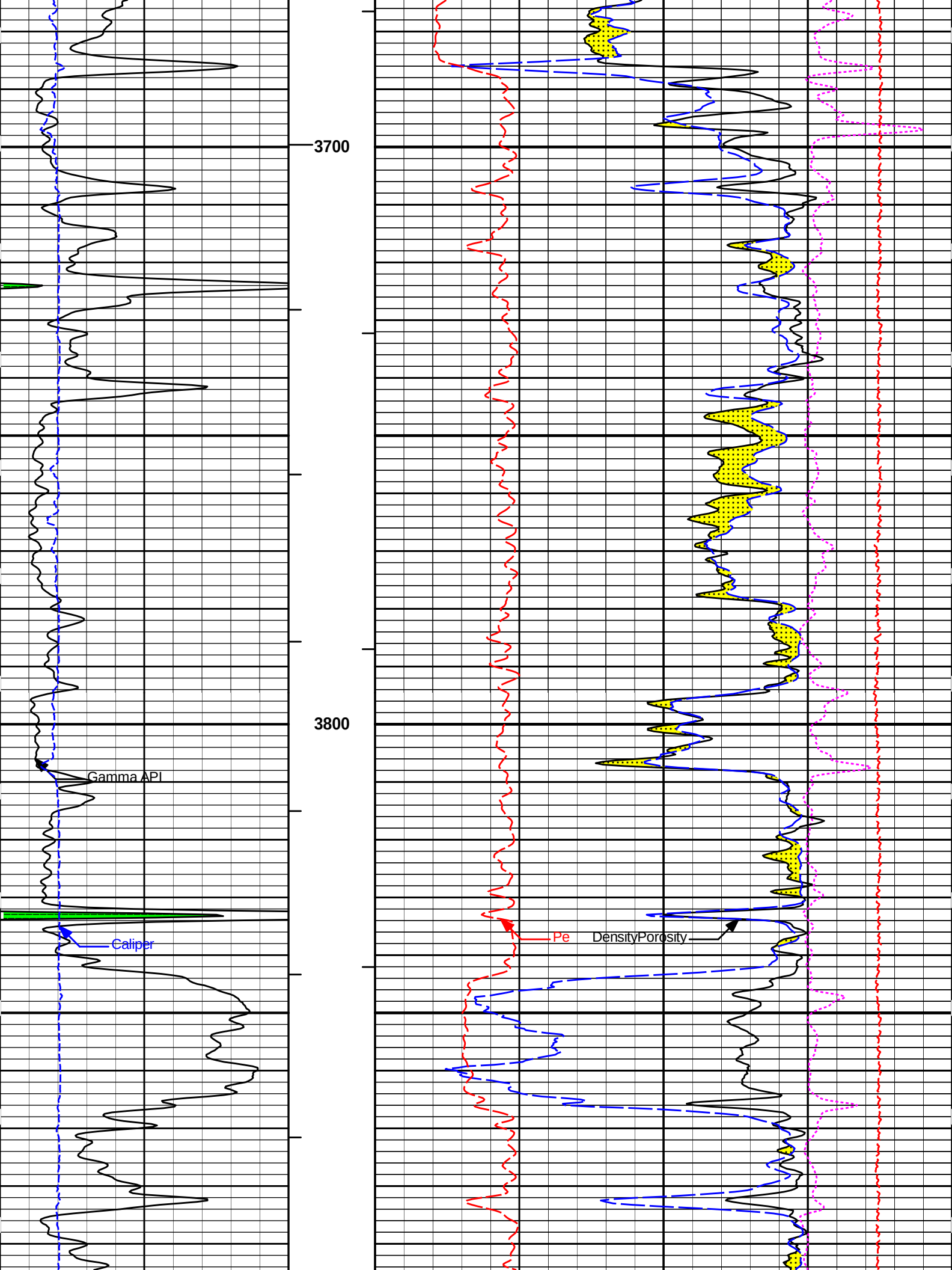
Gamma API
Caliper
Pe
DensityPorosity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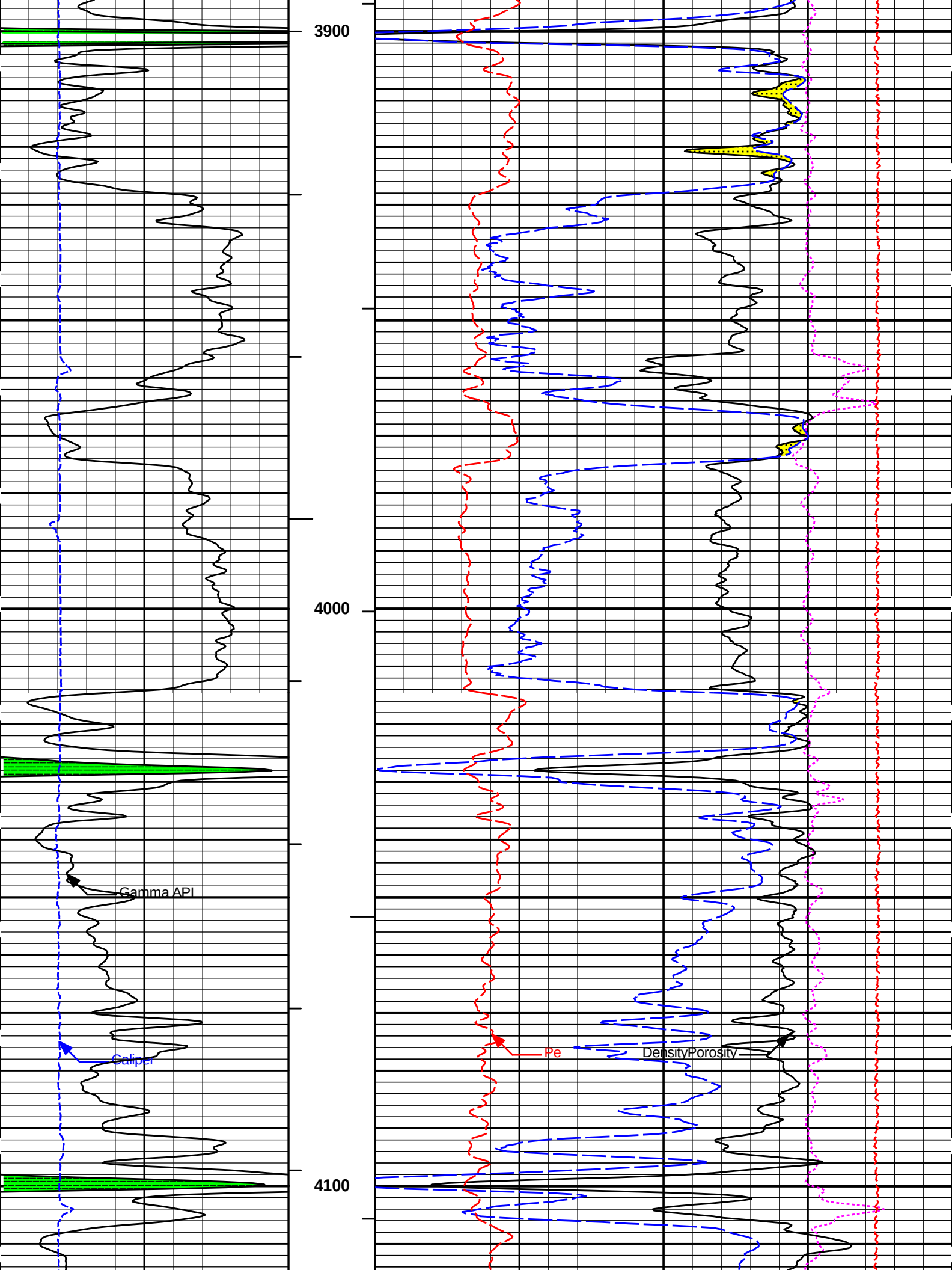
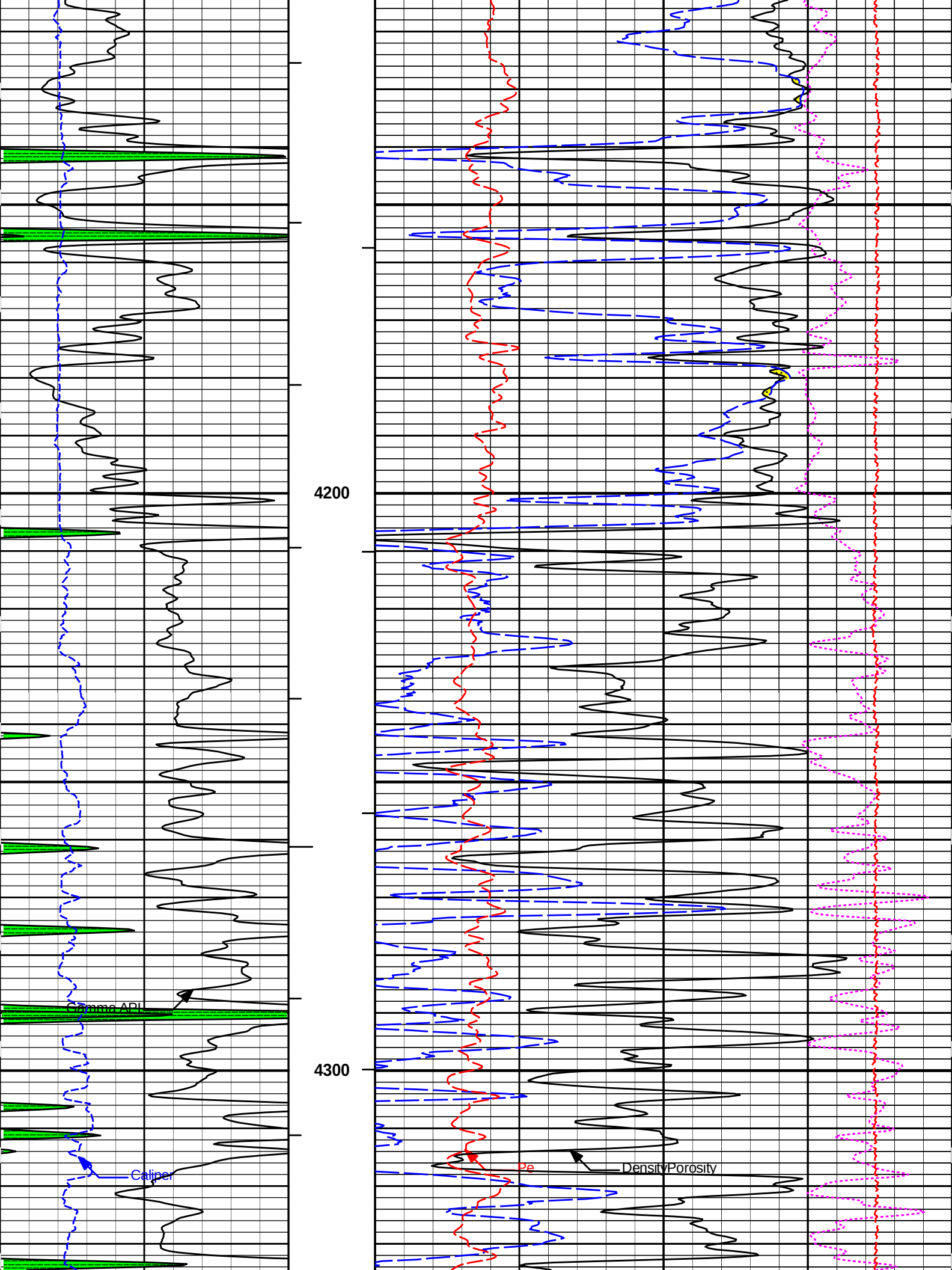
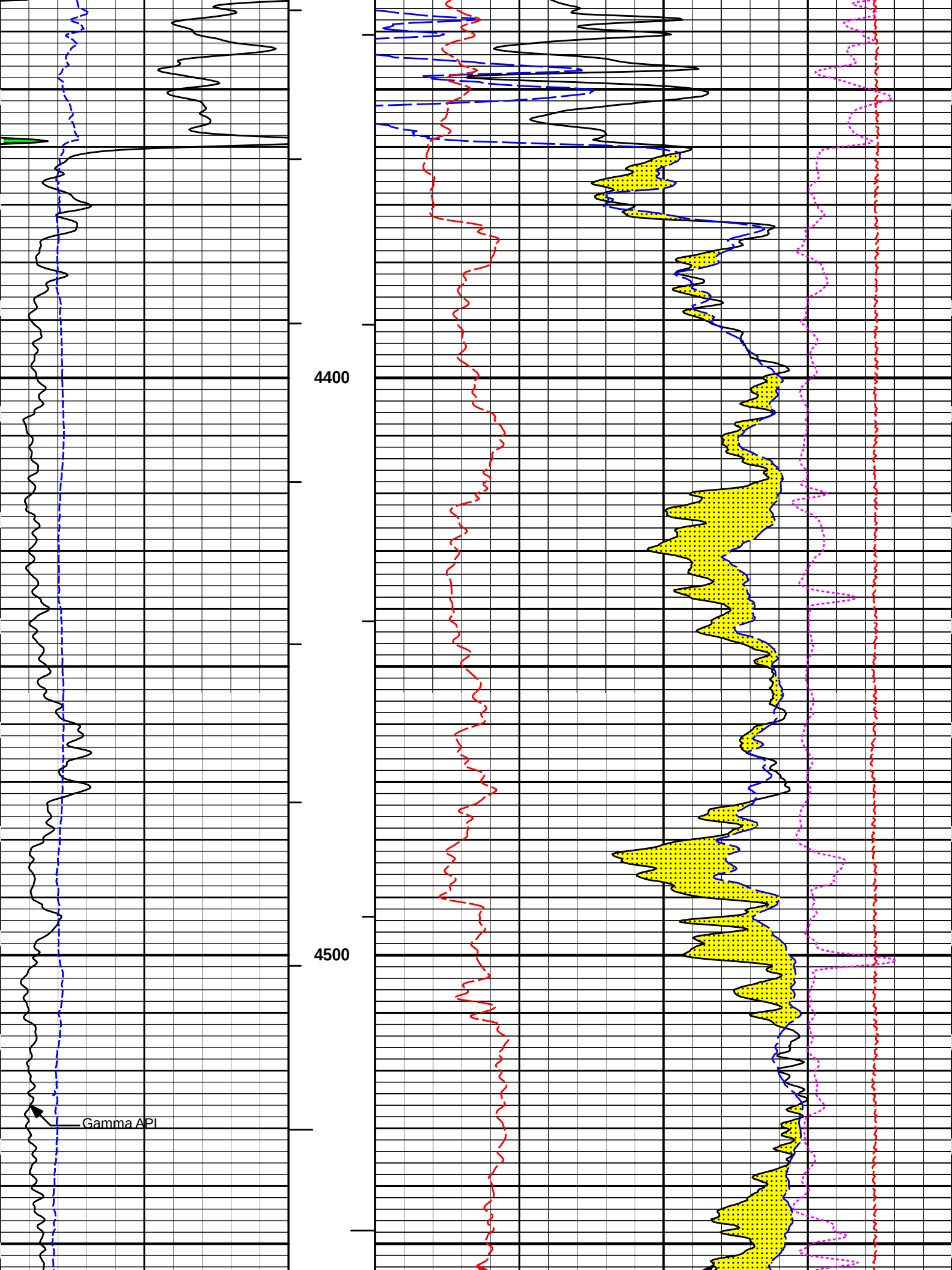
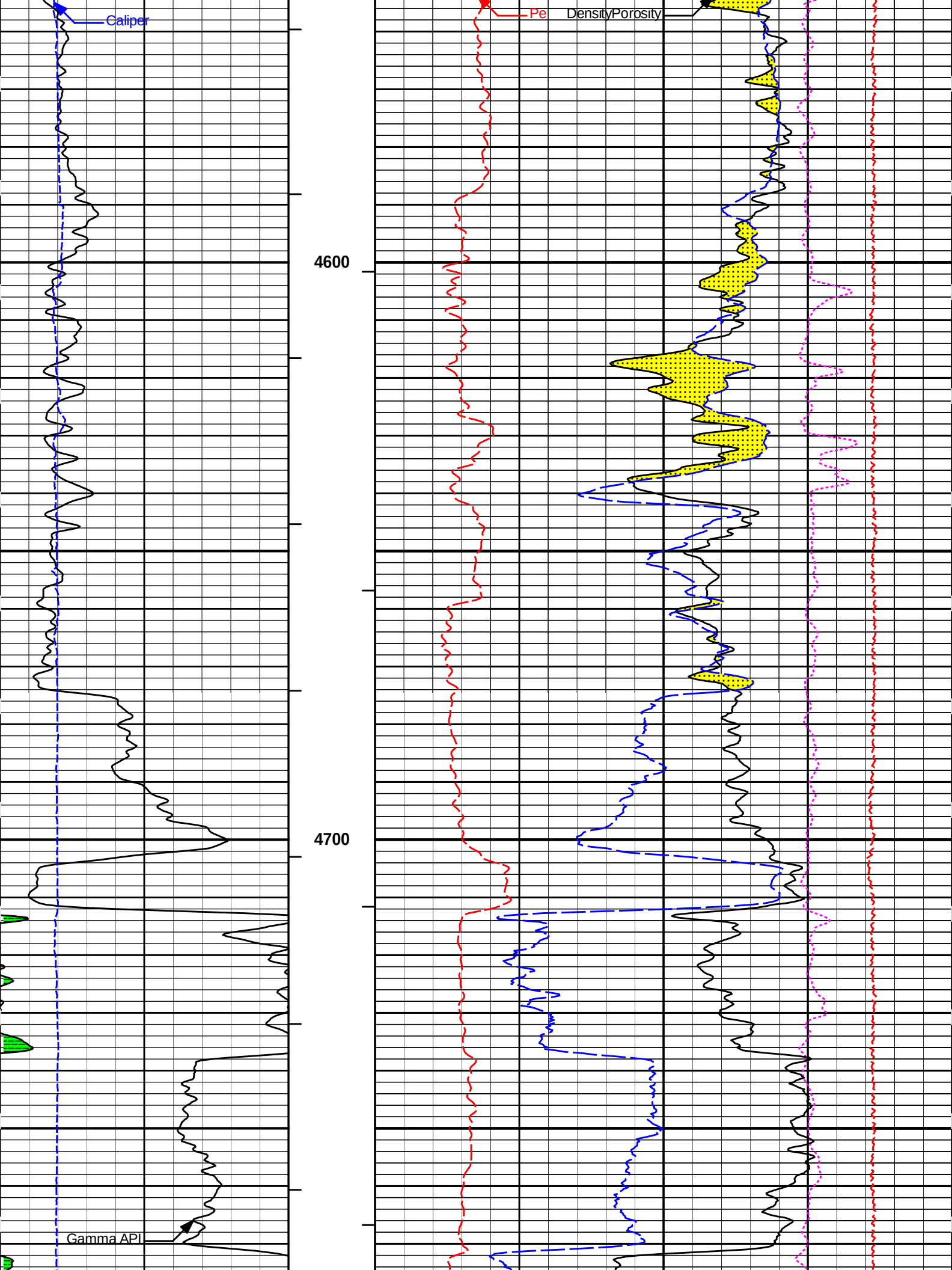
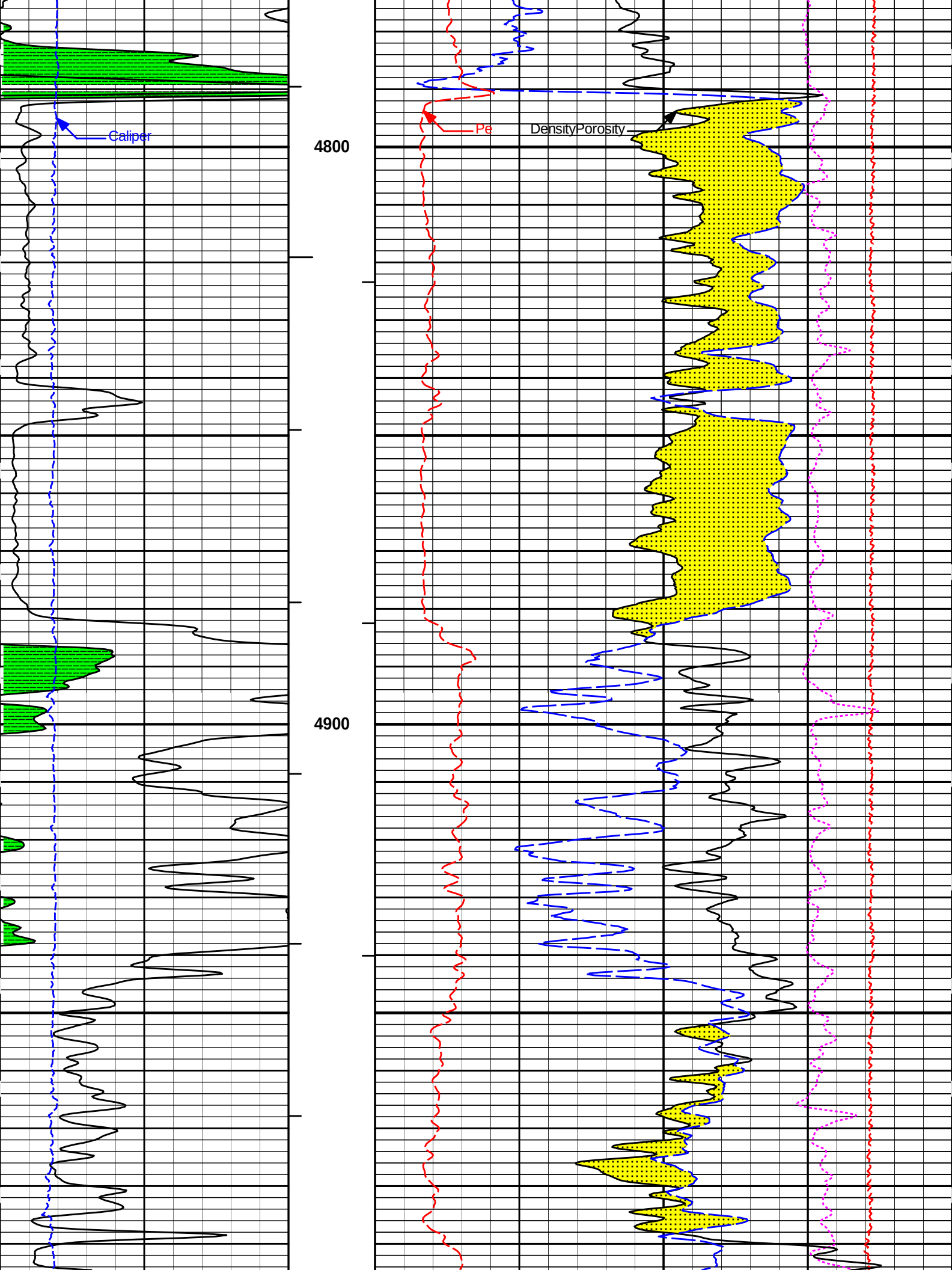
3800
Gamma API
Caliper
Pe
DensityPorosity

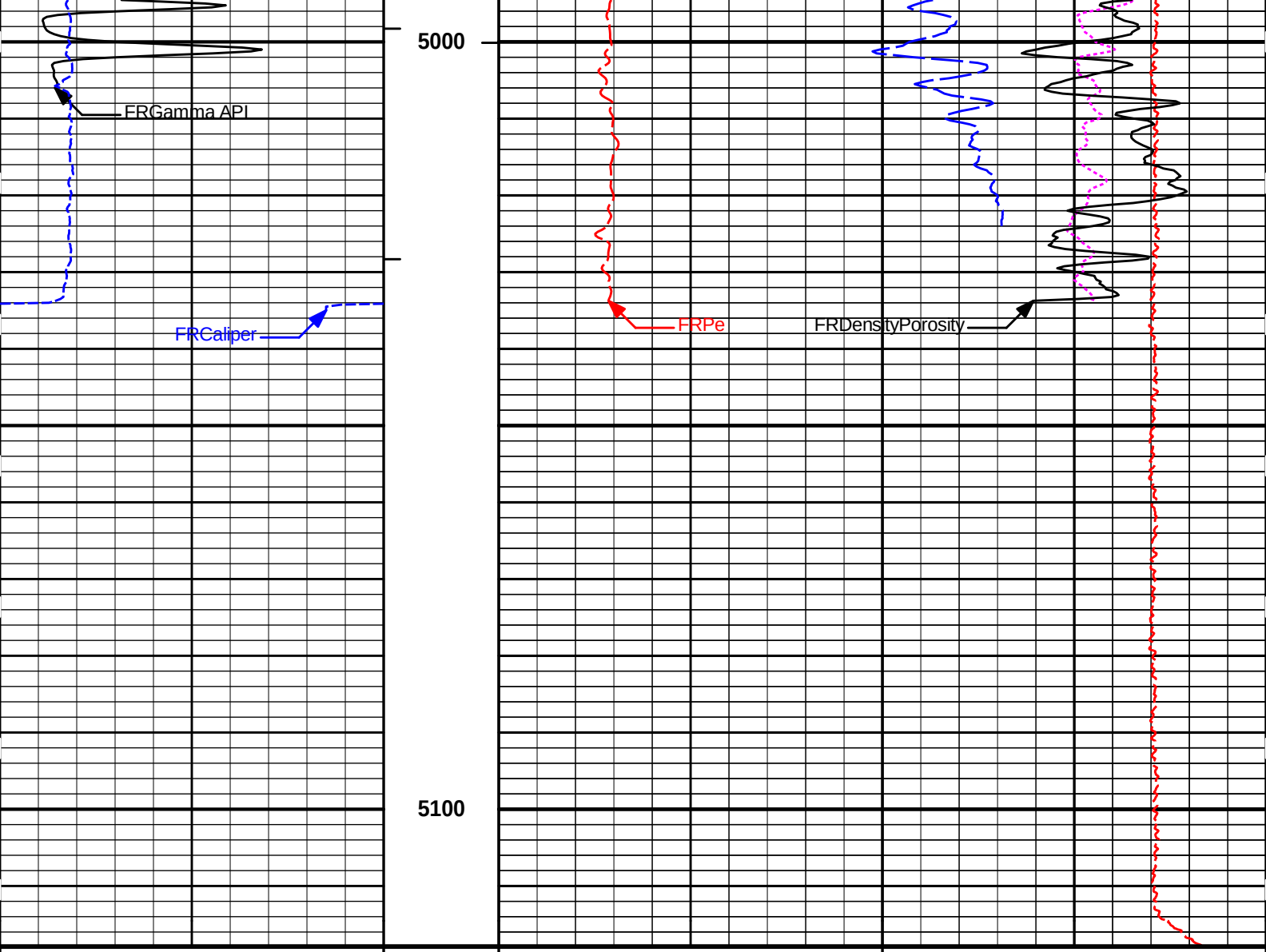

3900
4000
4100
Gamma API
Caliper
Pe
DensityPorosity


4200
4300
Gamma API
Caliper
Pe
DensityPorosity


4400
4500
Gamma API


Caliper
Pe
DensityPorosity
4600
4700
Gamma API


Caliper
Pe
DensityPorosity
4800
4900



6 Caliper 16 inches	MD 1 : 240 ft	0 Pe 10 -0.25 DensityCorr 0.25 gram per cc
0 Gamma API 150 api	AHVT	15K Tension 0 pounds
SHALE	BHVT	30 DensityPorosity -10 % 30 Neutron Porosity -10 %
		CROSSOVER

HALLIBURTON

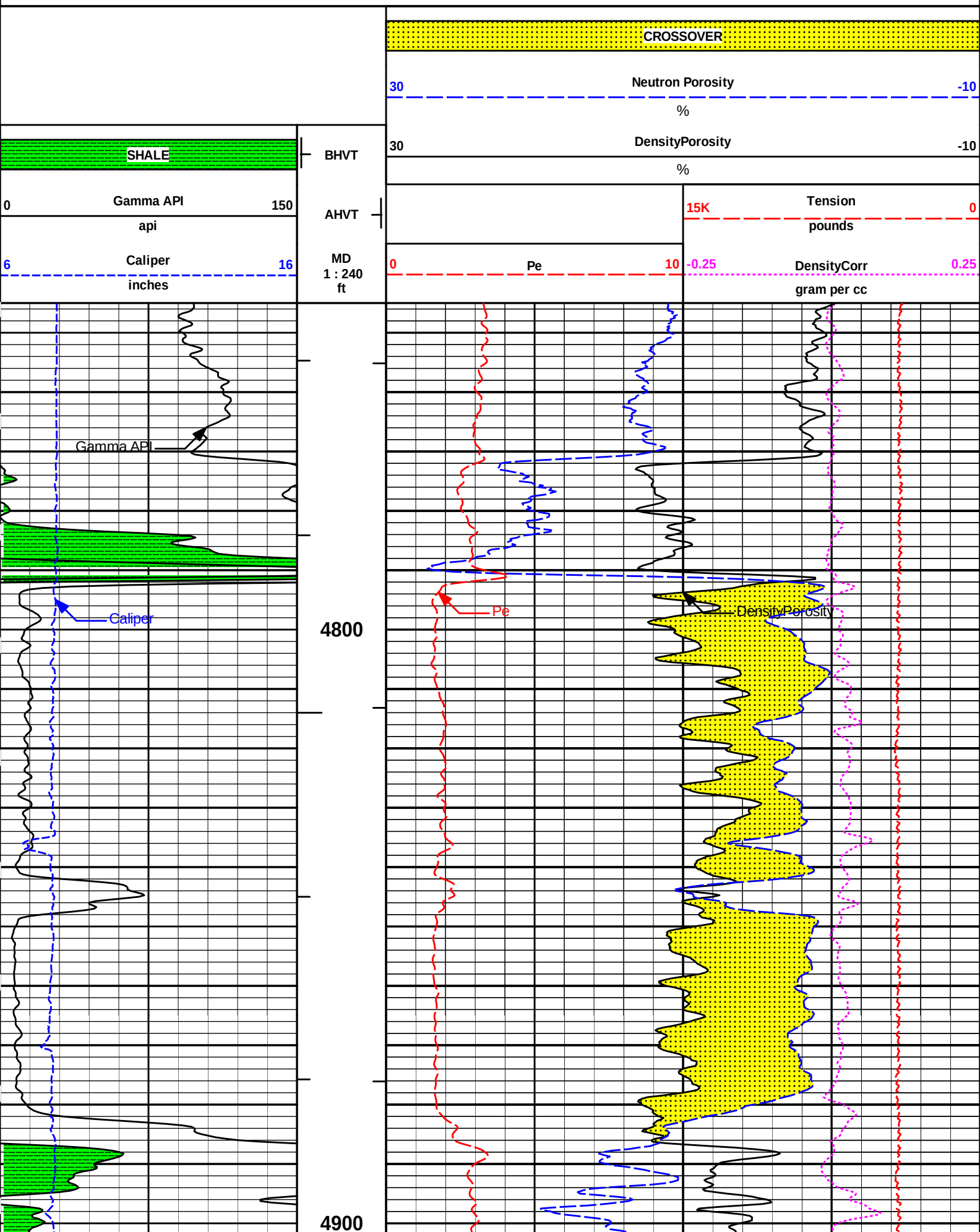
Plot Time: 06-May-14 08:01:16
Plot Range: 555 ft to 5117.75 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-003\
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

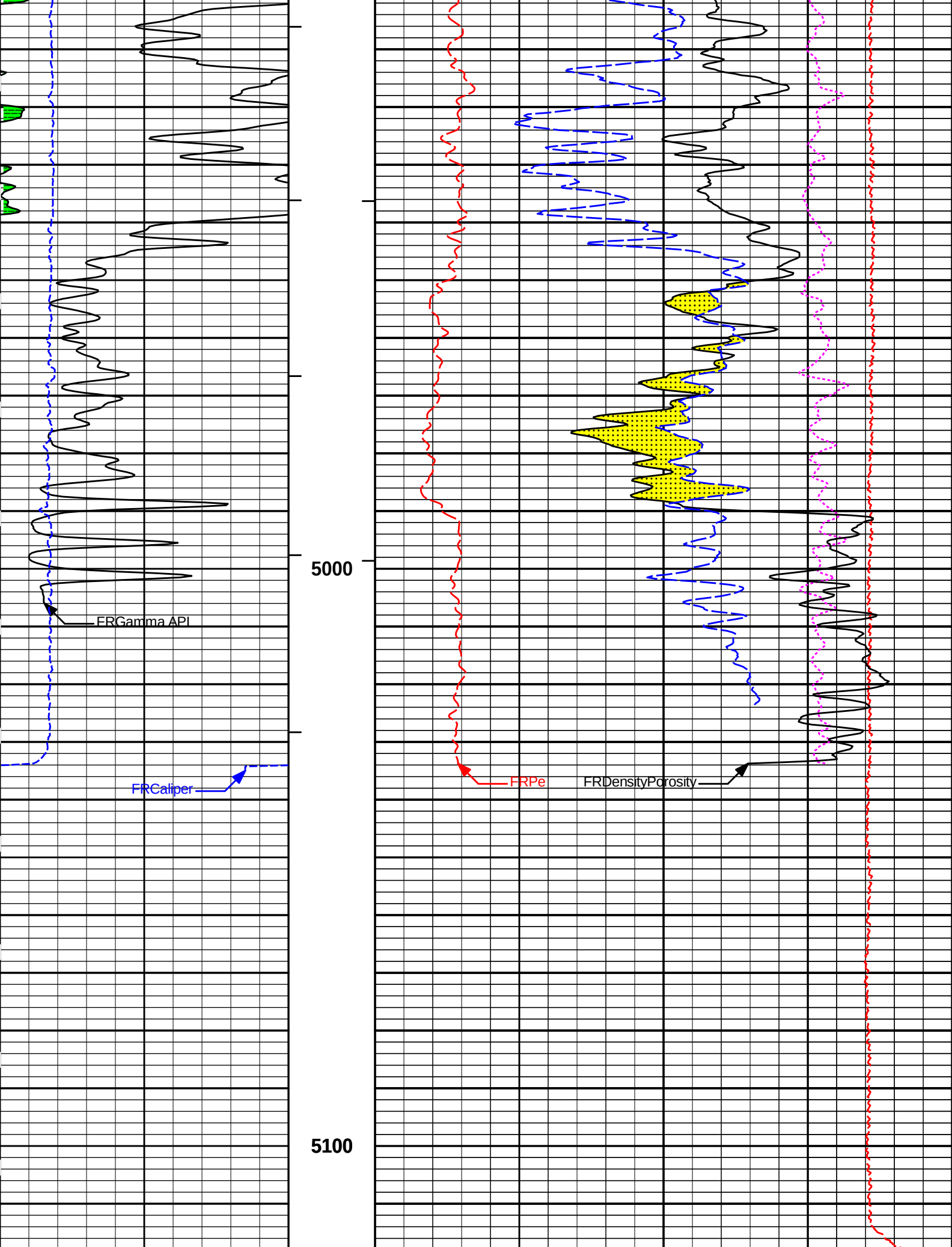
5 INCH MAIN LOG

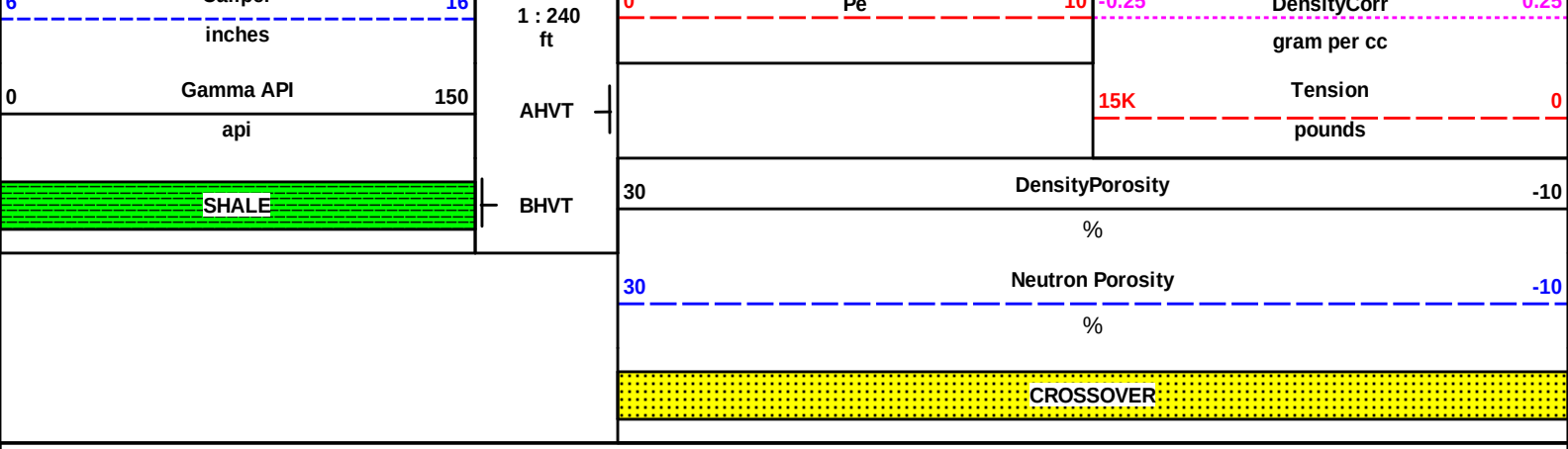
HALLIBURTON

Plot Time: 06-May-14 08:01:16
Plot Range: 4745 ft to 5117.83 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-002\
Plot File: \\PORO\Poro_IQ_5_REP_LIB

REPEAT SECTION




5000
5100
FRGamma API
FRCaliper
FRPe
FRDensityPorosity
Caliper
16
MD
0
10
0.25
0.25



HALLIBURTON

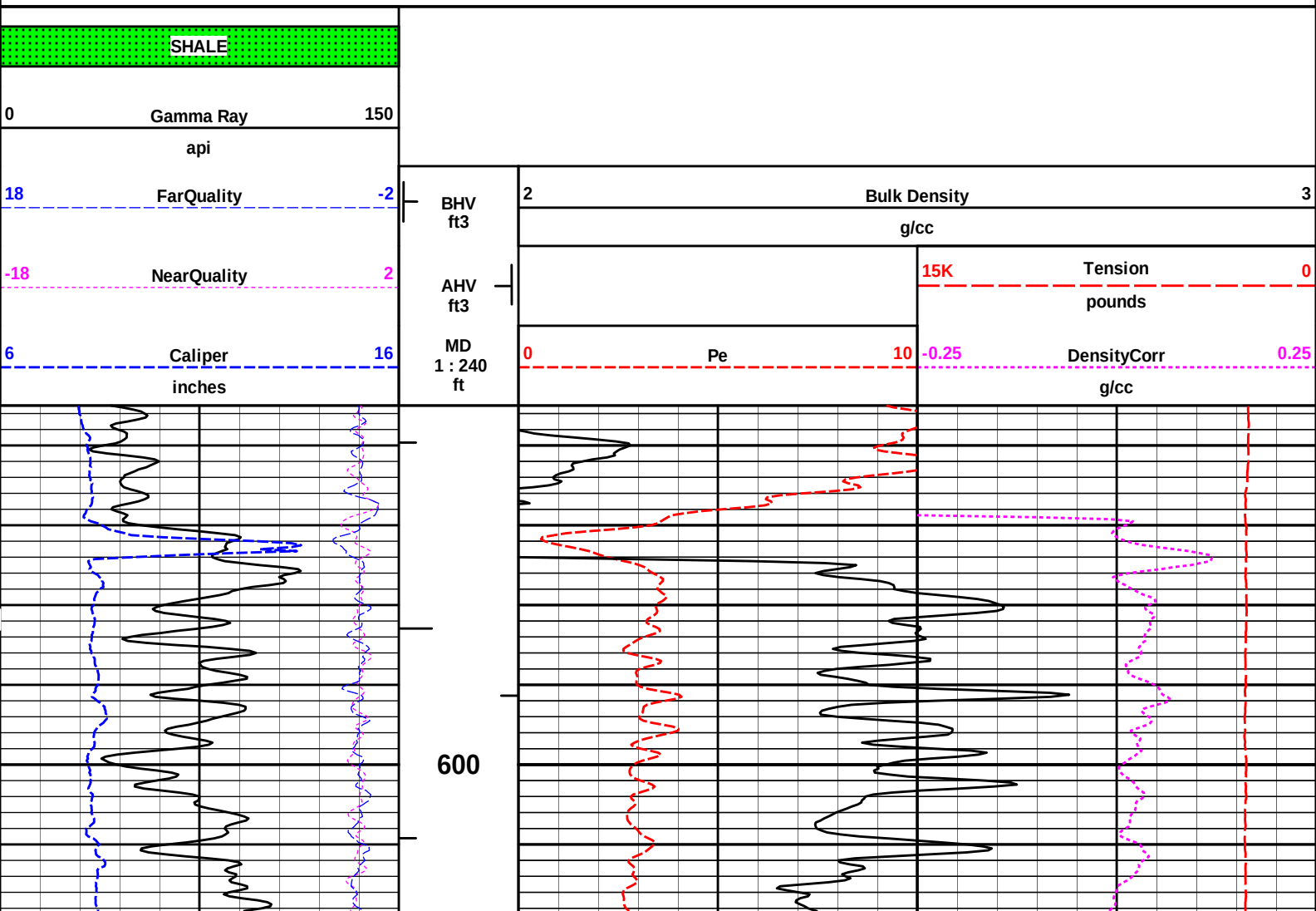
Plot Time: 06-May-14 08:01:17
Plot Range: 4745 ft to 5117.83 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-002\
Plot File: \\PORO\Poro_IQ_5_REP_LIB

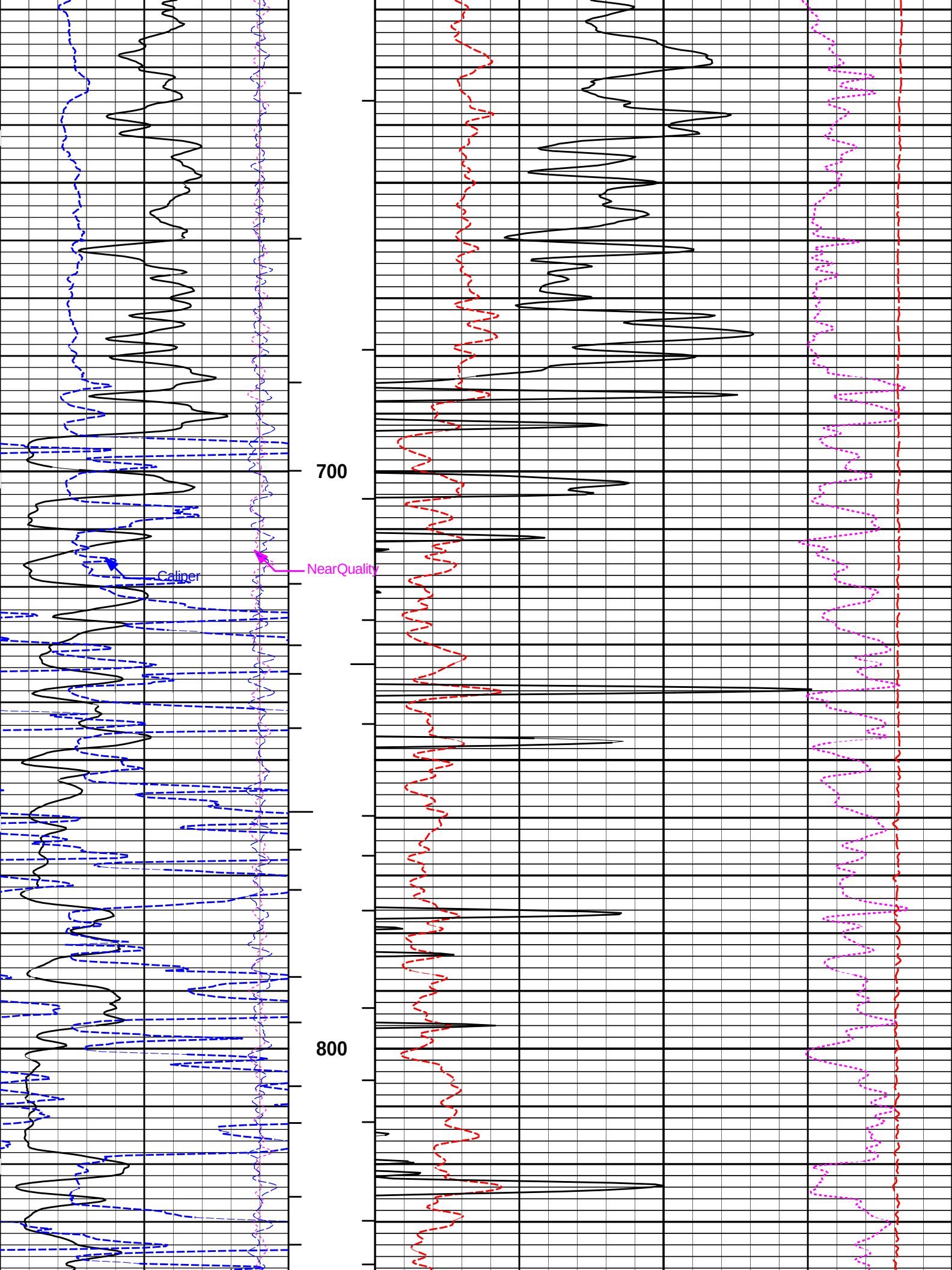
REPEAT SECTION

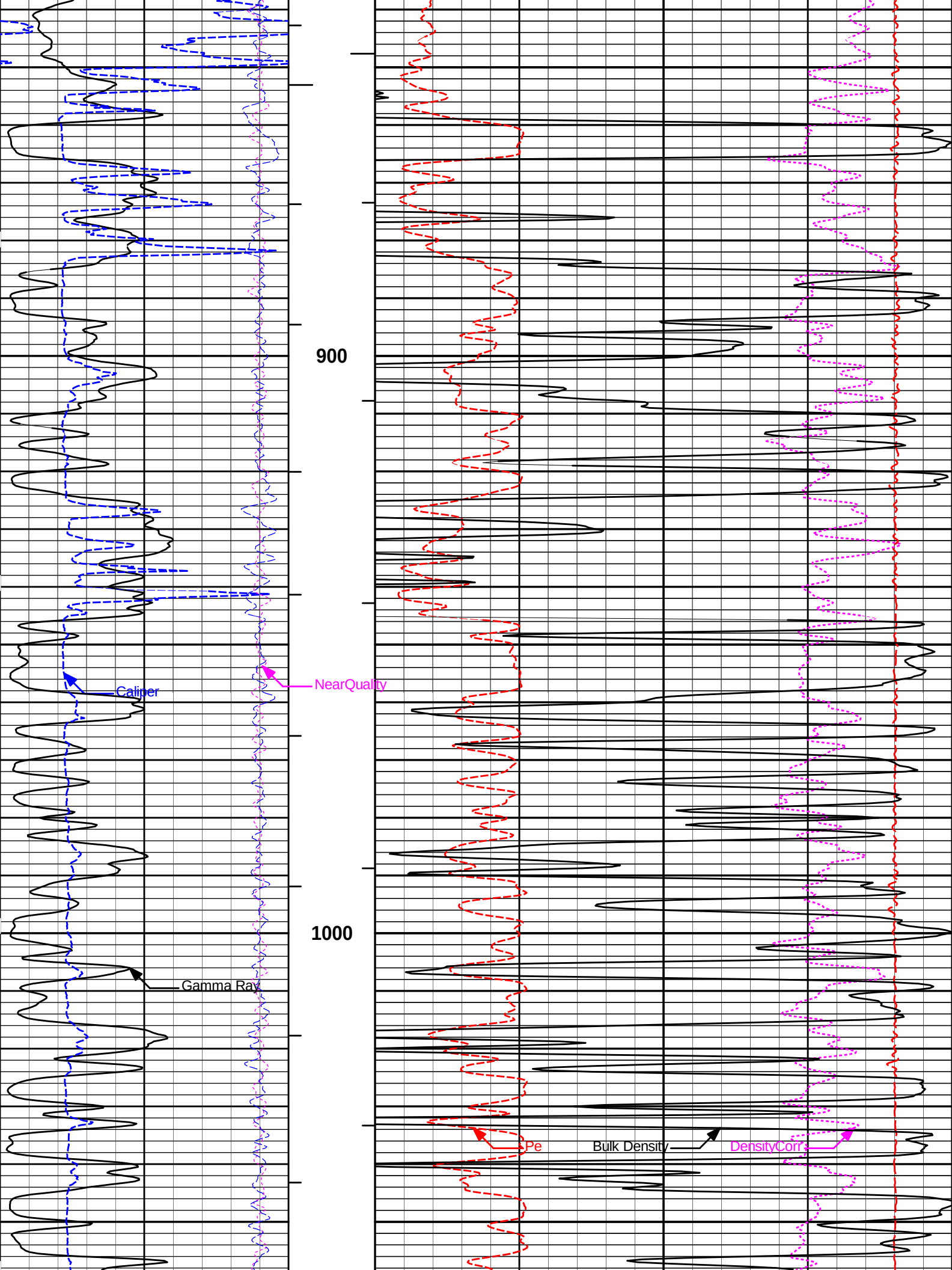
HALLIBURTON

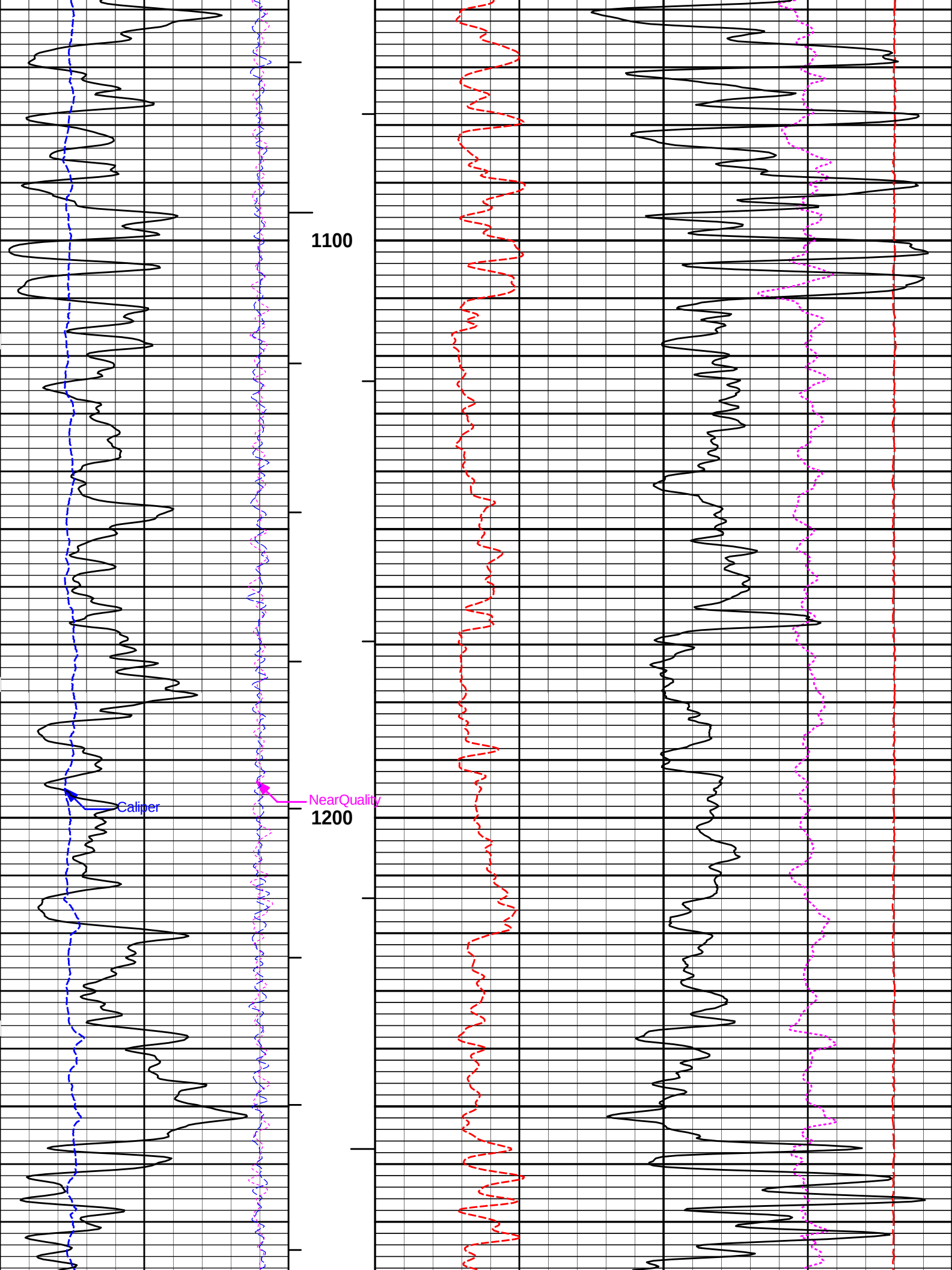
Plot Time: 06-May-14 08:01:18
Plot Range: 555 ft to 5117.75 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\FORREST_SWD_1-7\0001 SP-GTET-CSNG-DSNT-SDLT-FLEX-IDT-ICT-WAVE-ACRT-BN\PORO\BULKD_5_MAIN_LIB

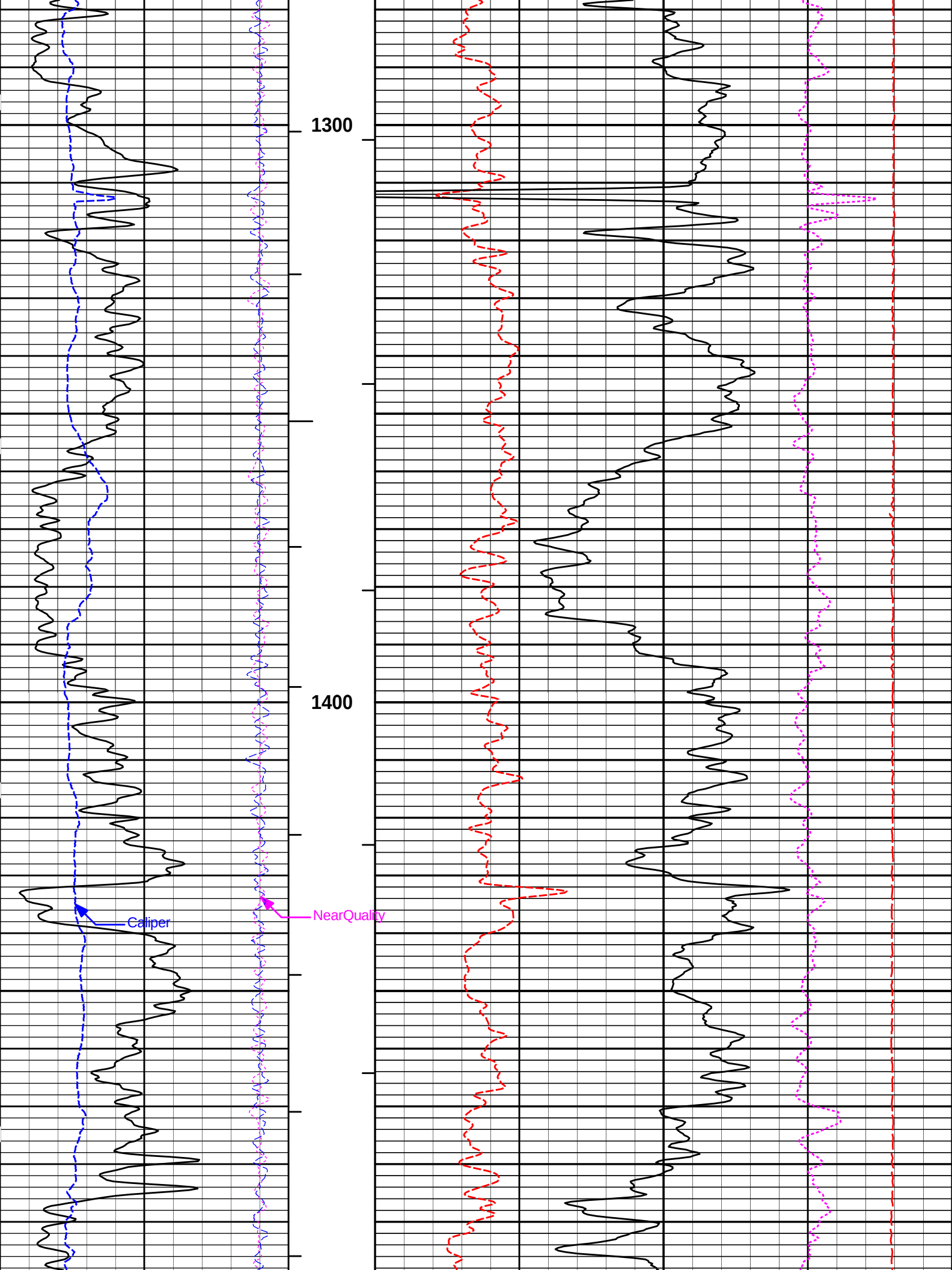
5 INCH MAIN LOG

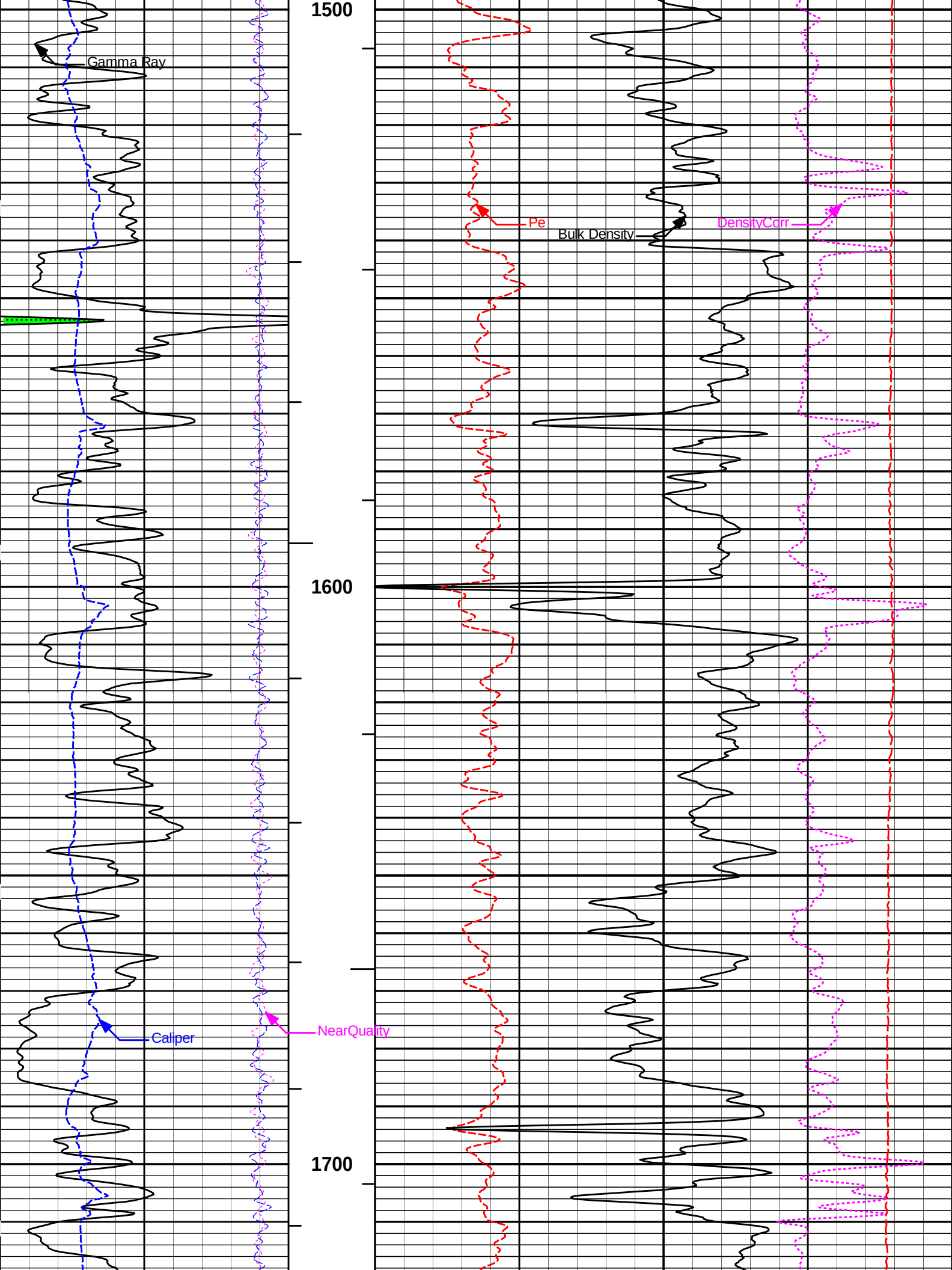


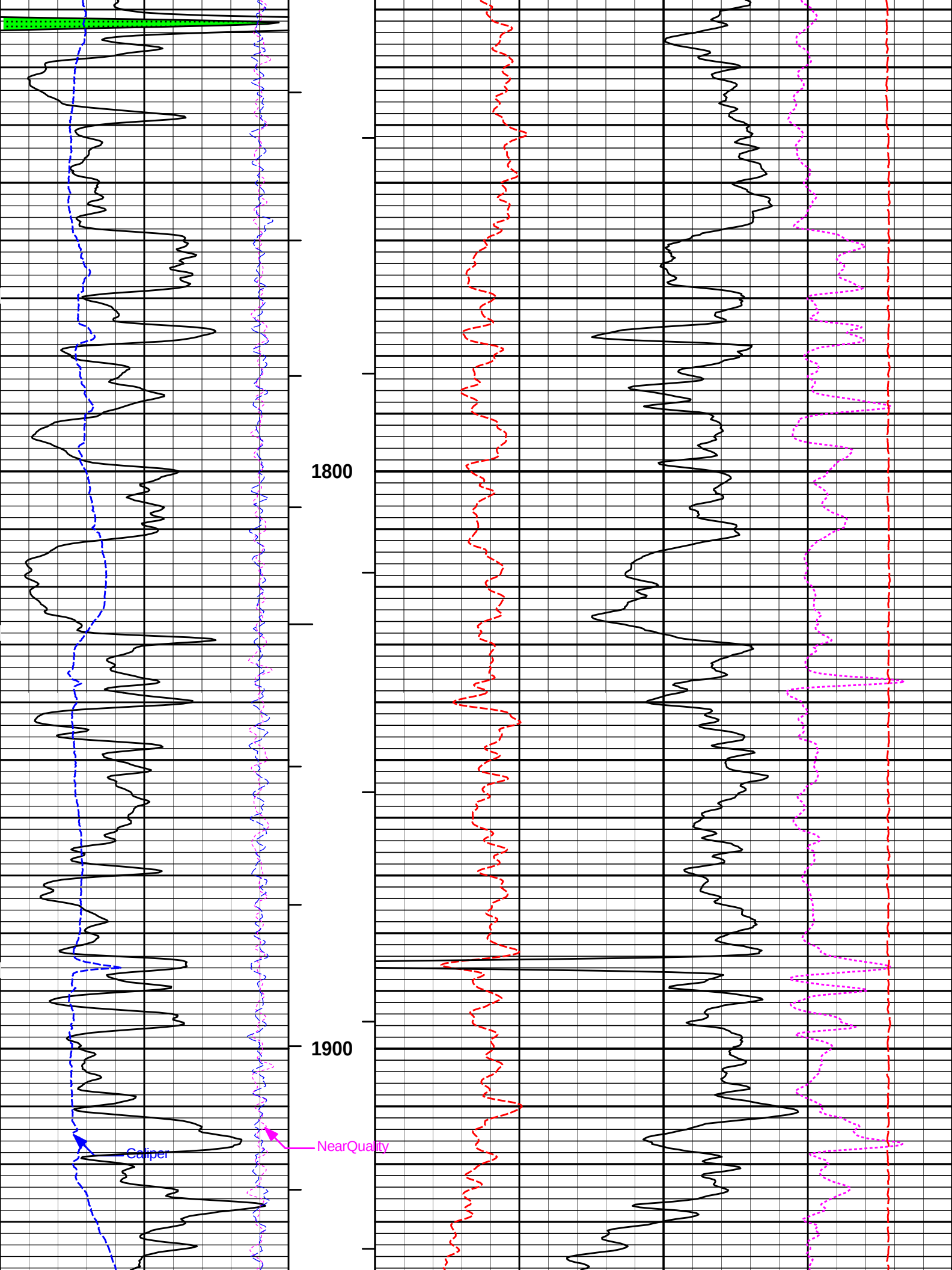

700
800
Caliper
NearQuality


900
1000
Caliper
NearQuality
Gamma Ray
Pe
Bulk Density
DensityCorr


1100
Caliper
NearQuality
1200


1300
1400
Caliper
NearQuality


1500
1600
1700
Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr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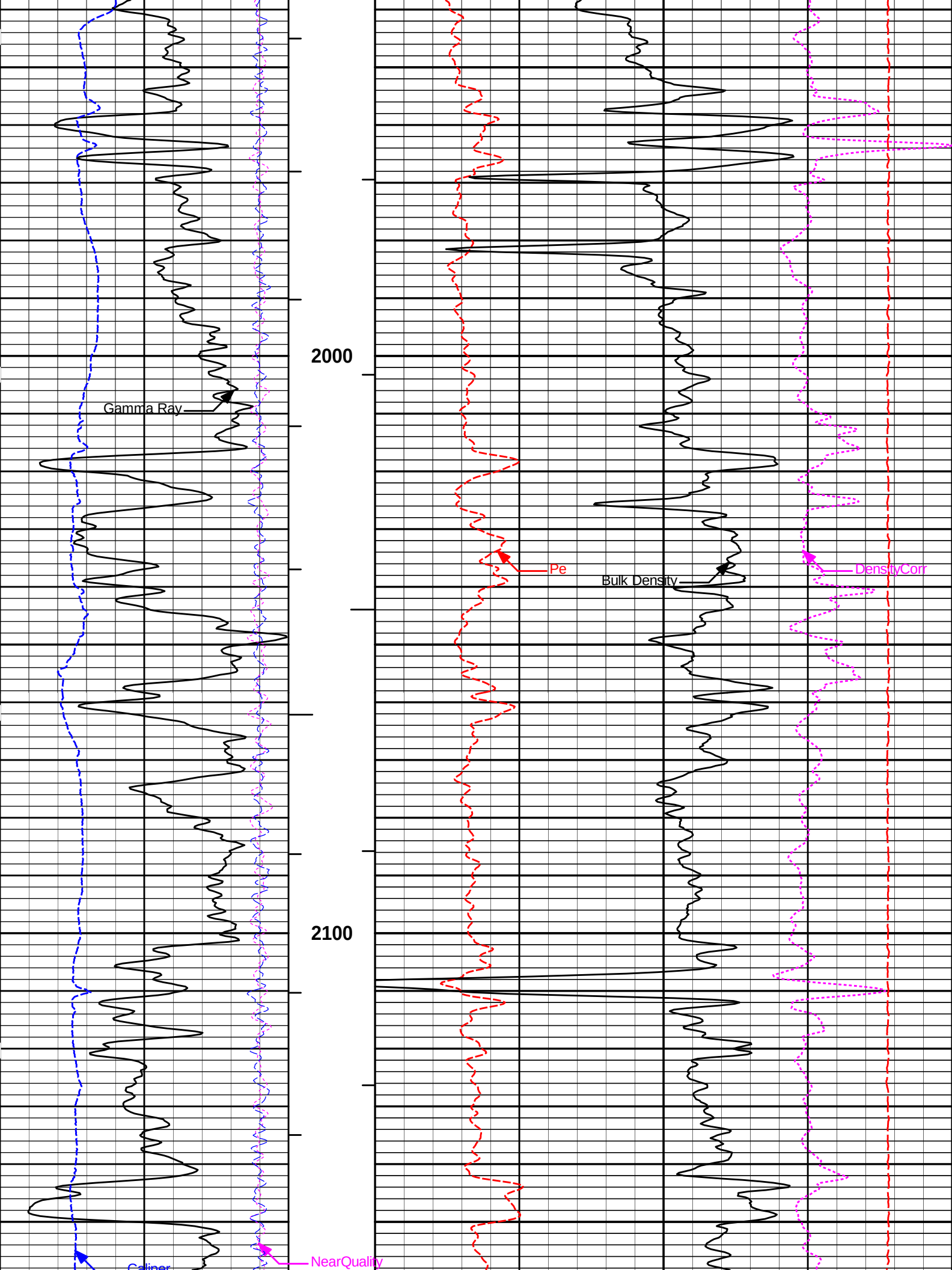
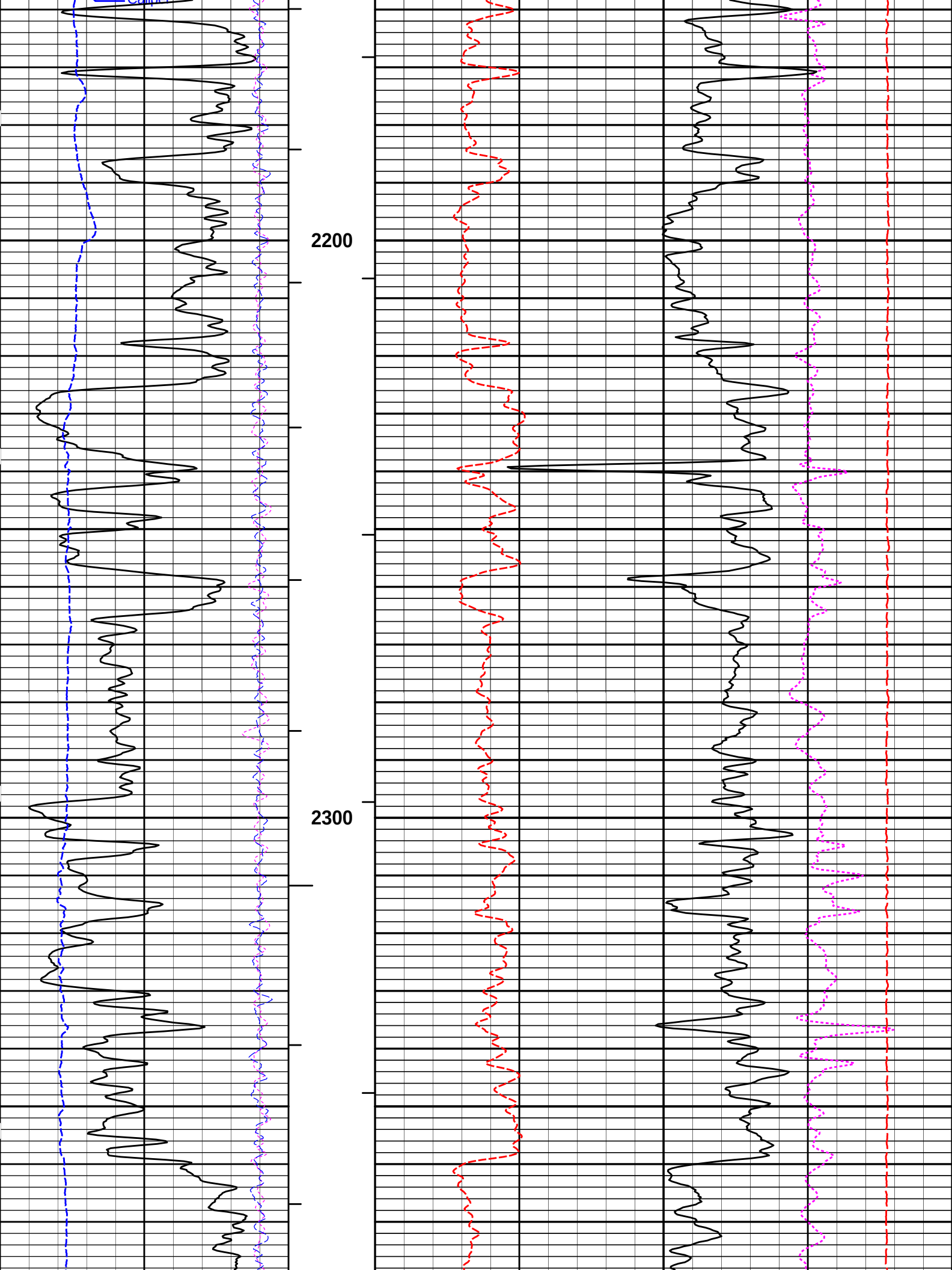
Caliper
NearQuality


2000
2100
Gamma Ray
Pe
Bulk Density
DensityCorr
NearQuality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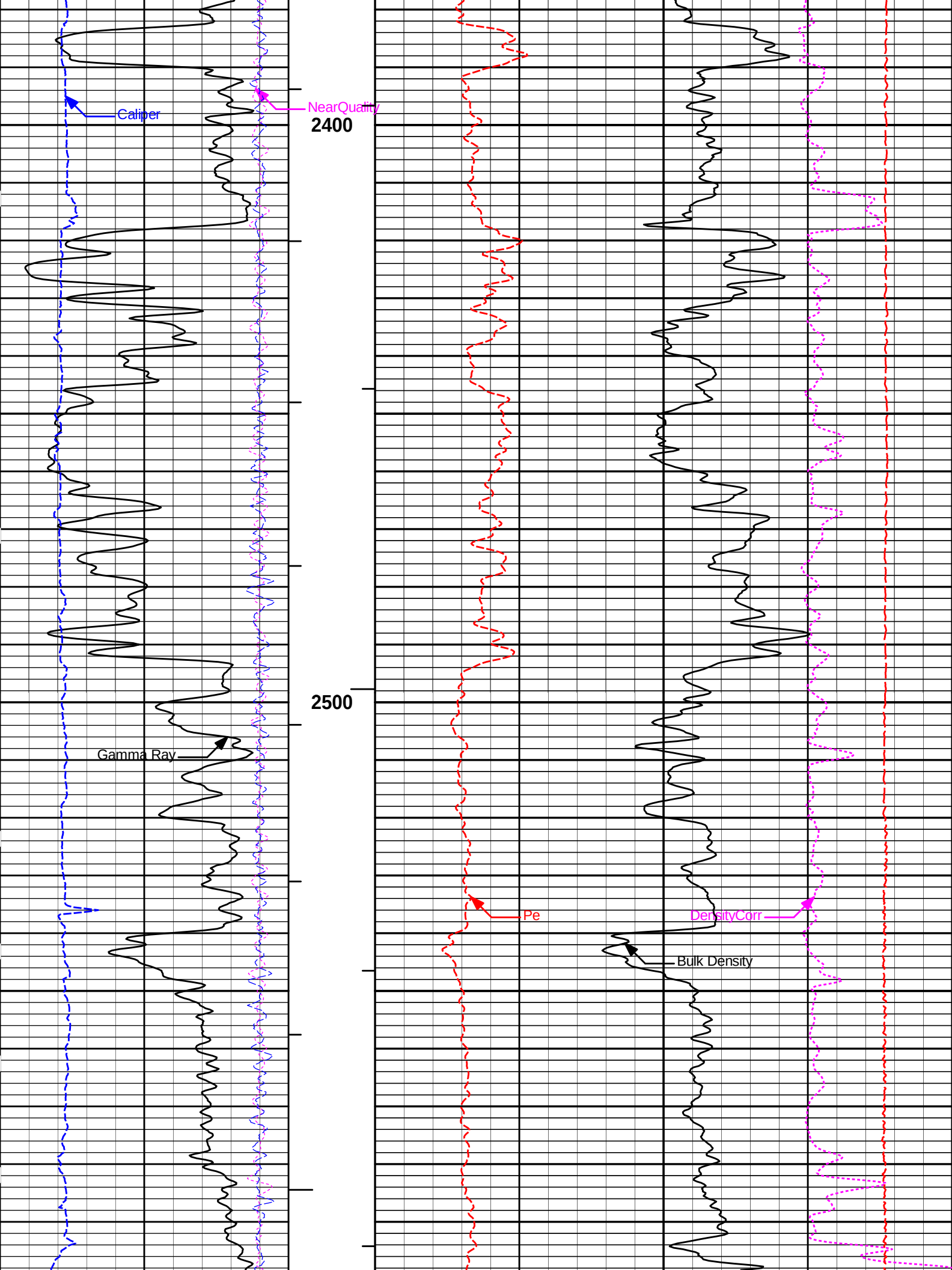
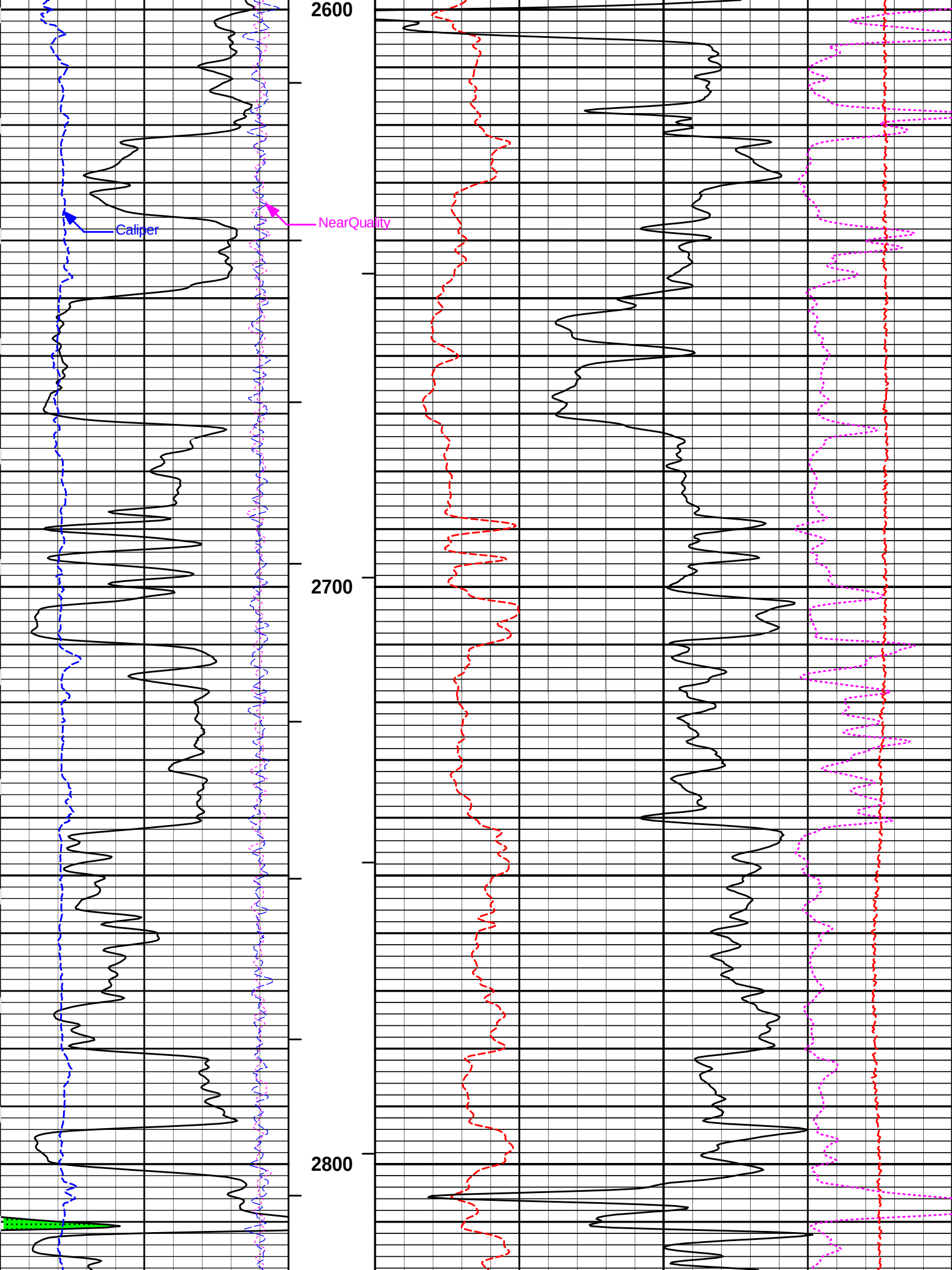
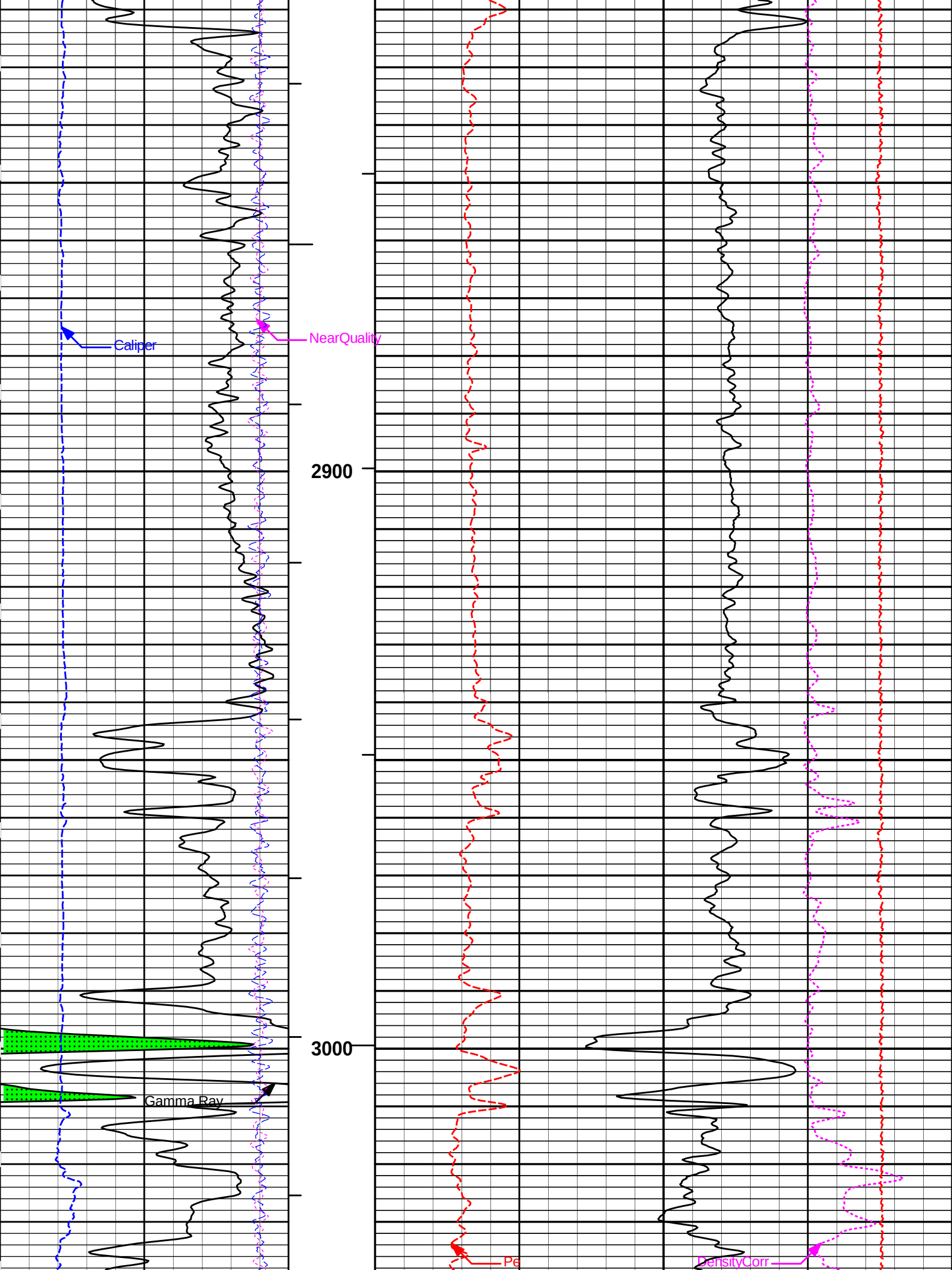
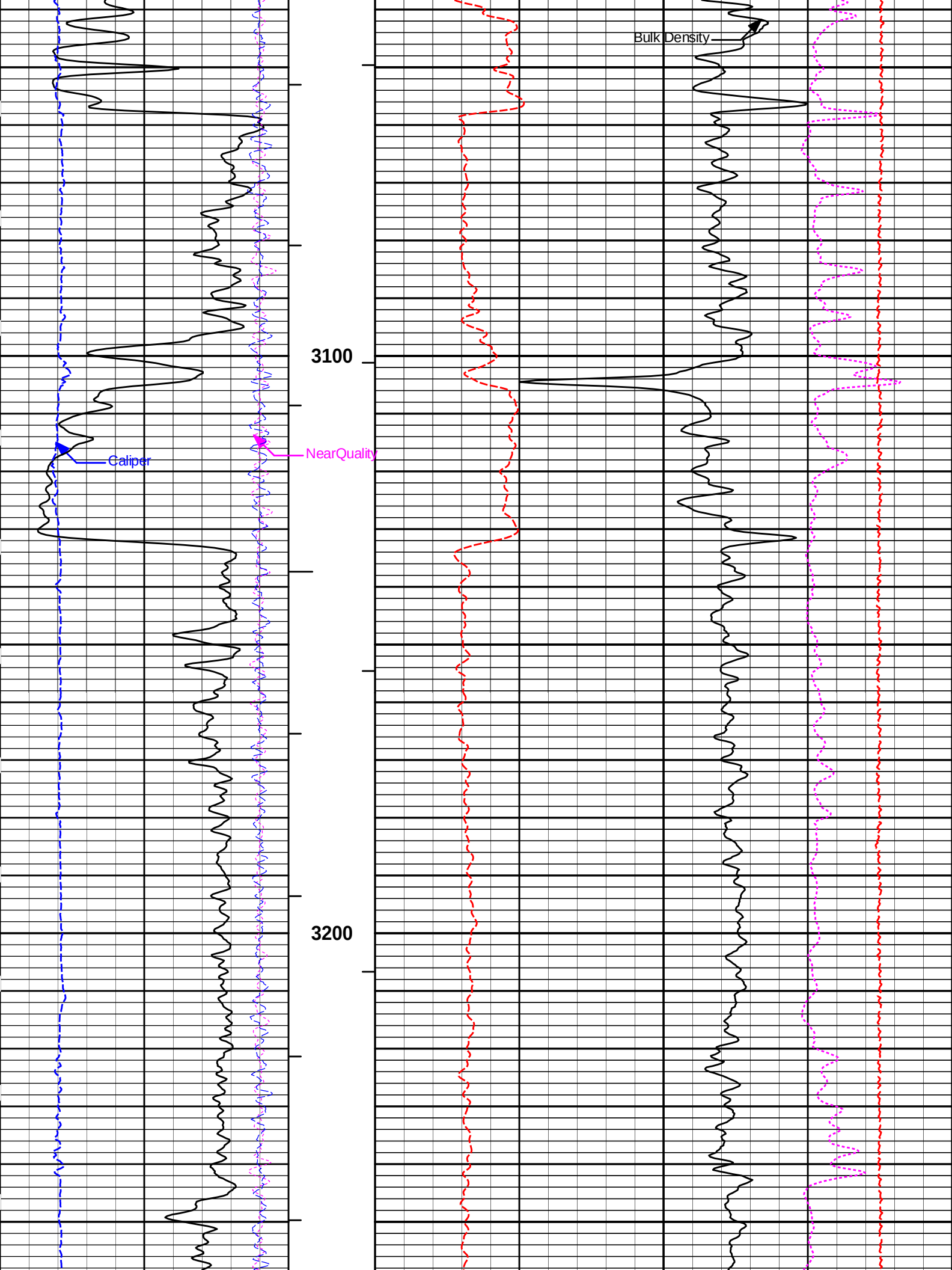
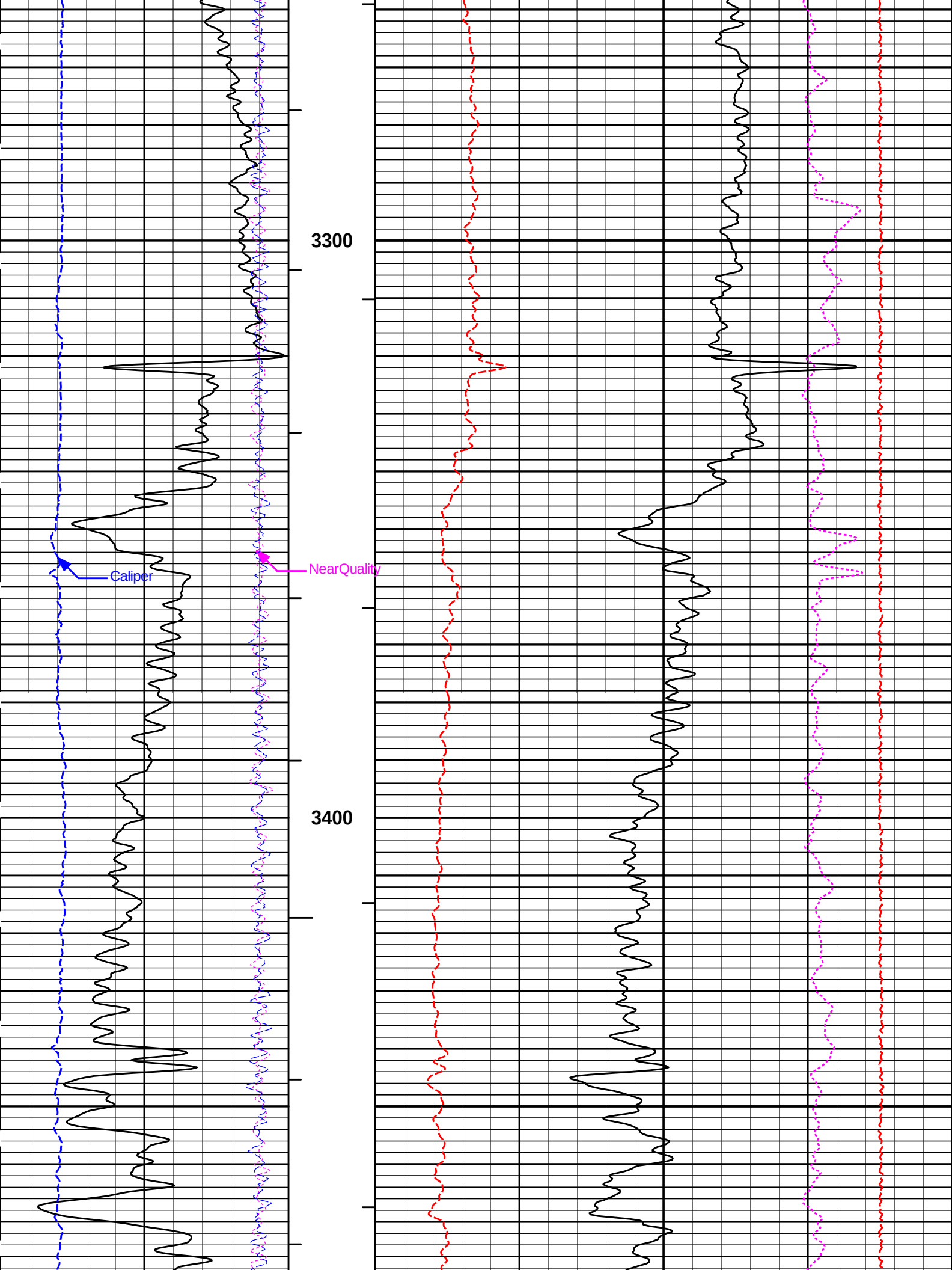
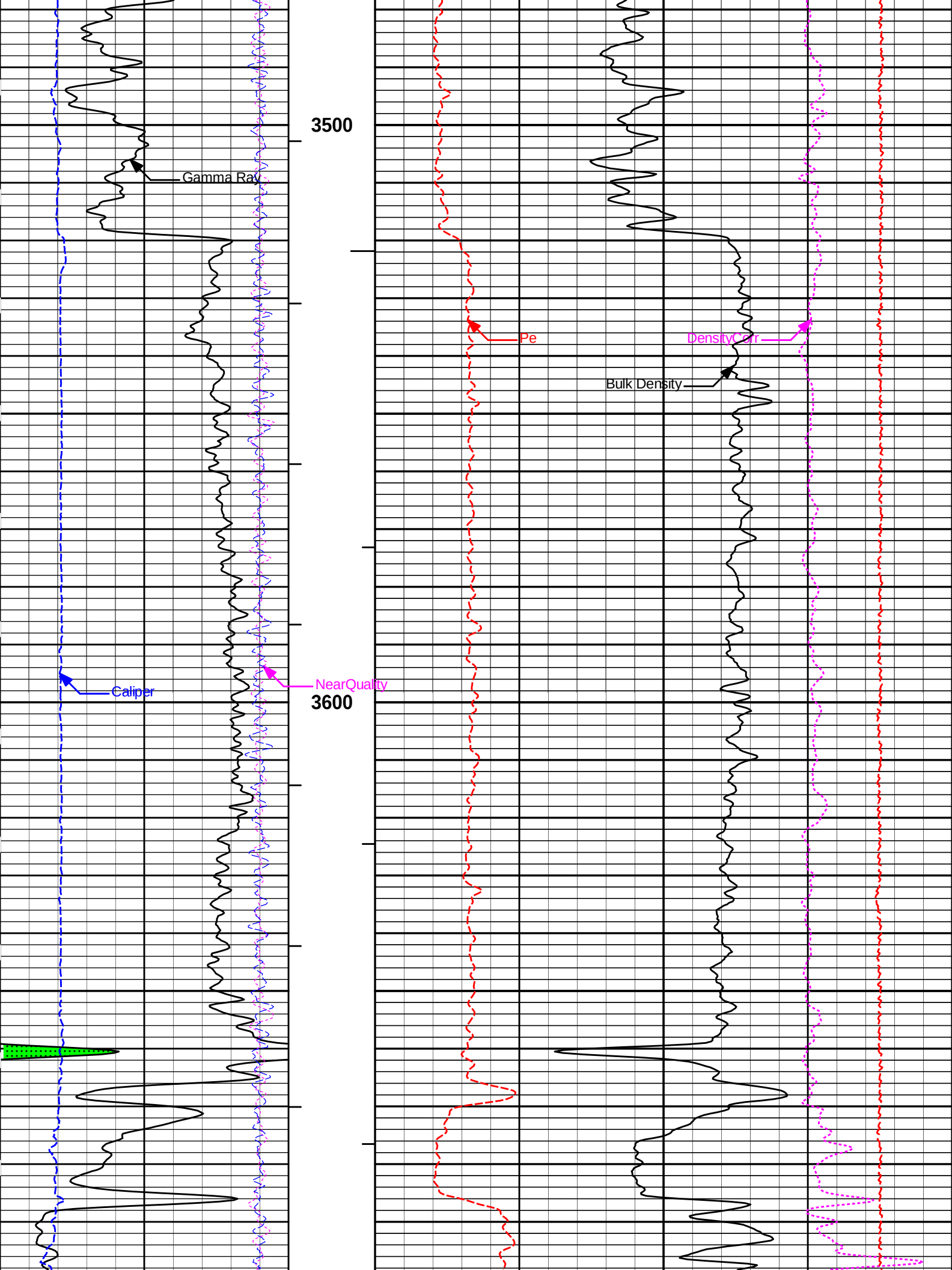

Caliper
NearQuality
2400
2500
Gamma Ray
Pe
DensityCorr
Bulk Density

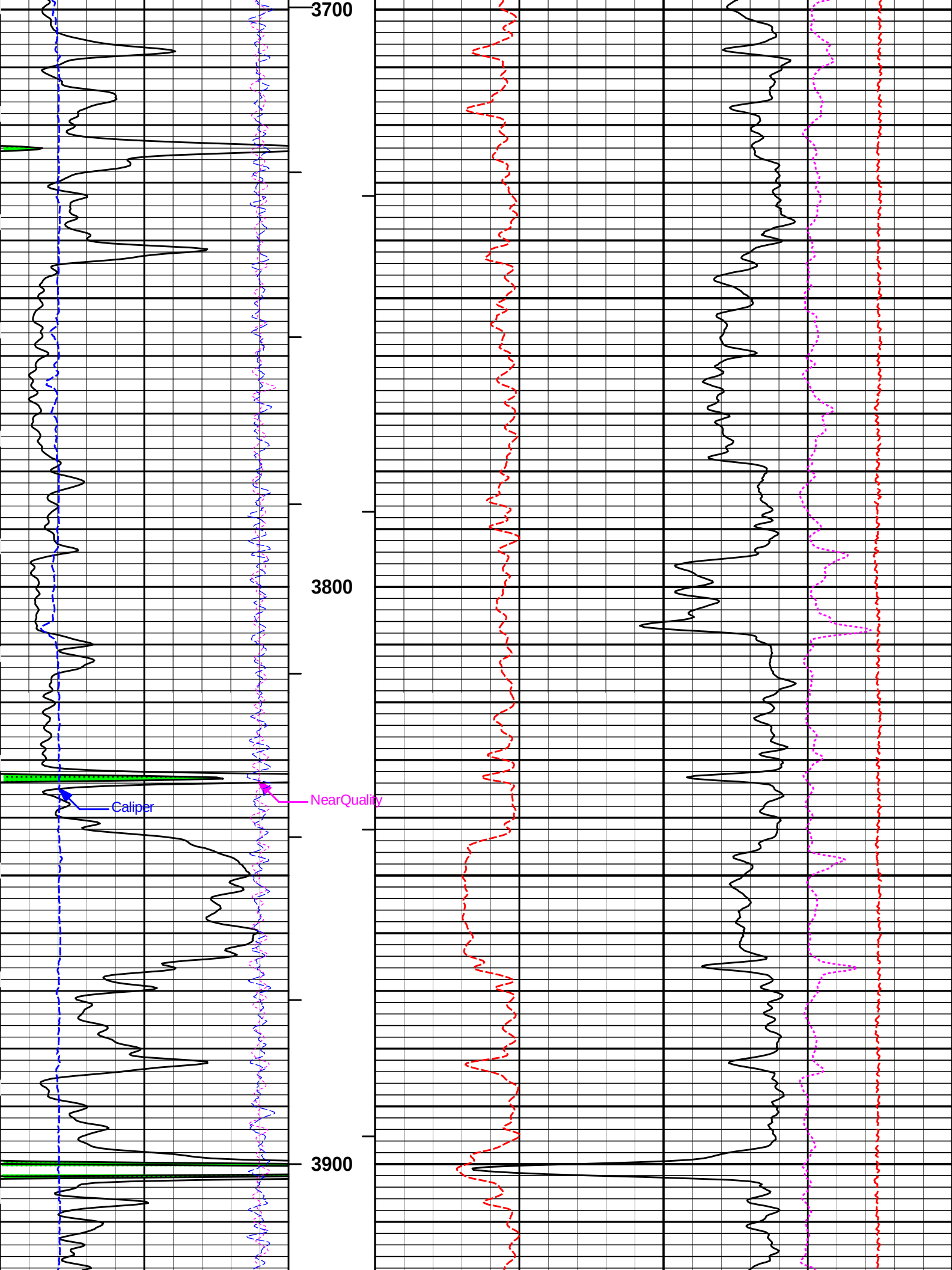

2600
2700
2800
Caliper
NearQuality

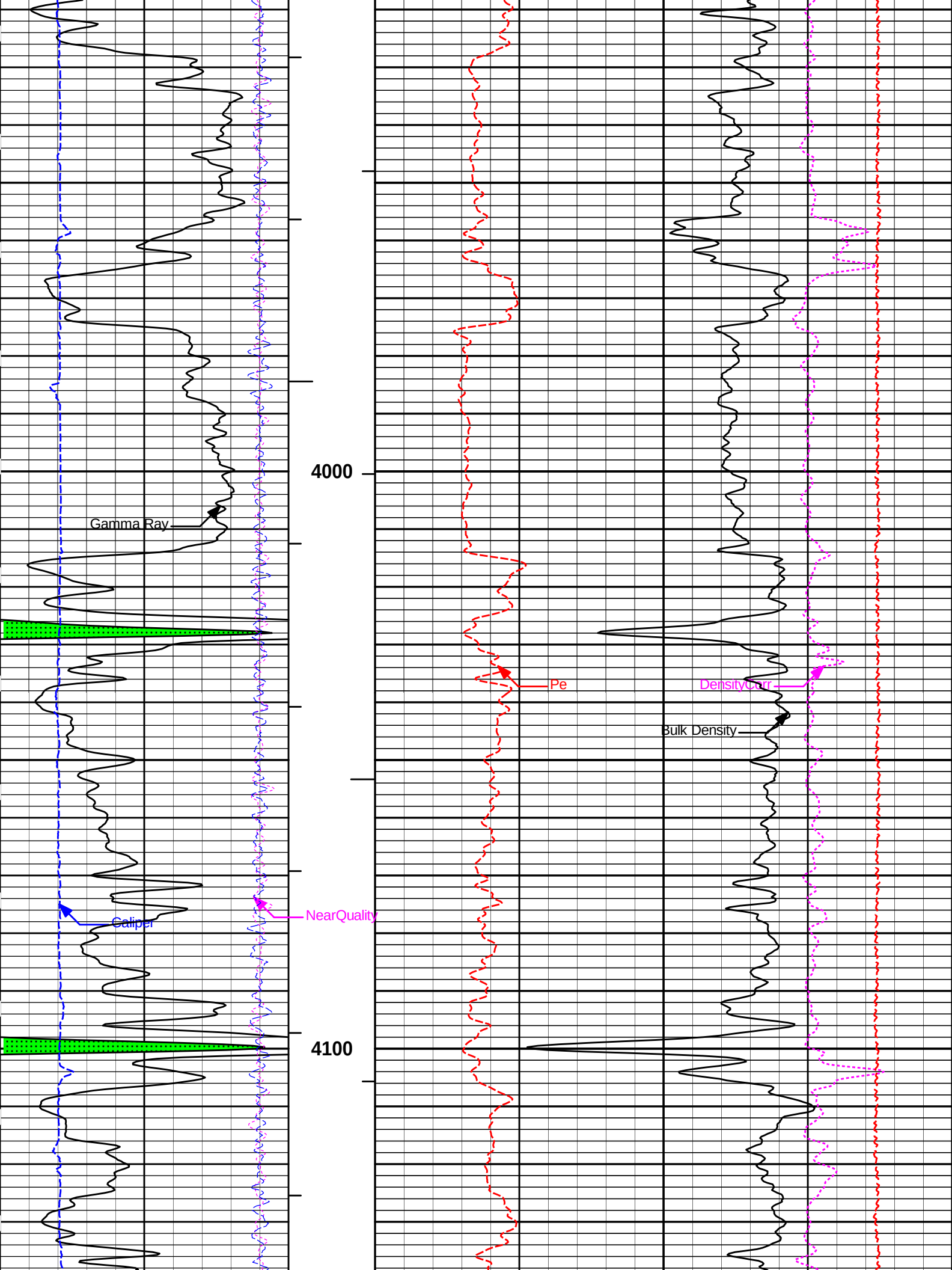

Caliper
NearQuality
2900
3000
Gamma Ray
Pe
DensityCorr

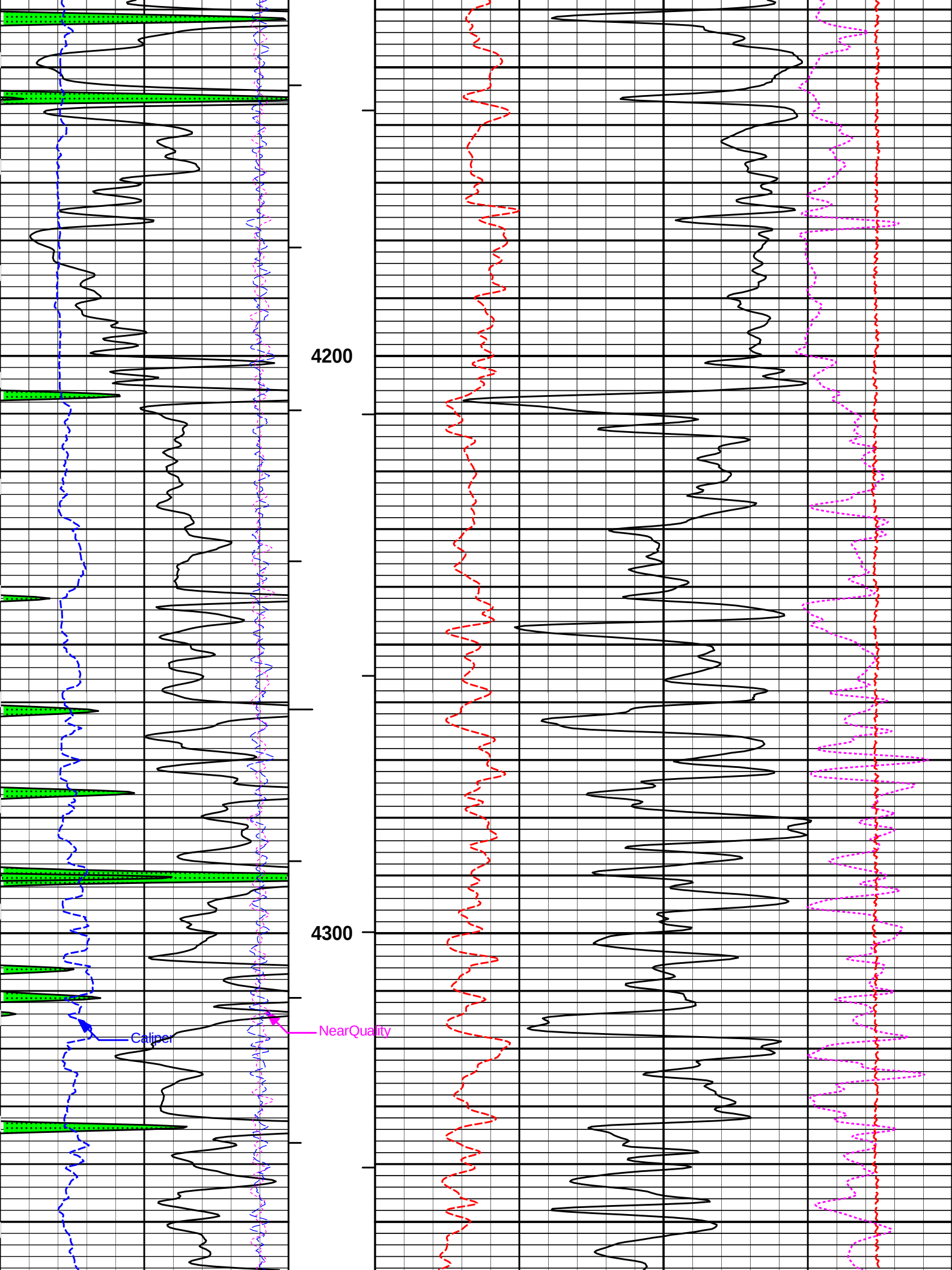

Bulk Density
3100
NearQuality
Caliper
3200

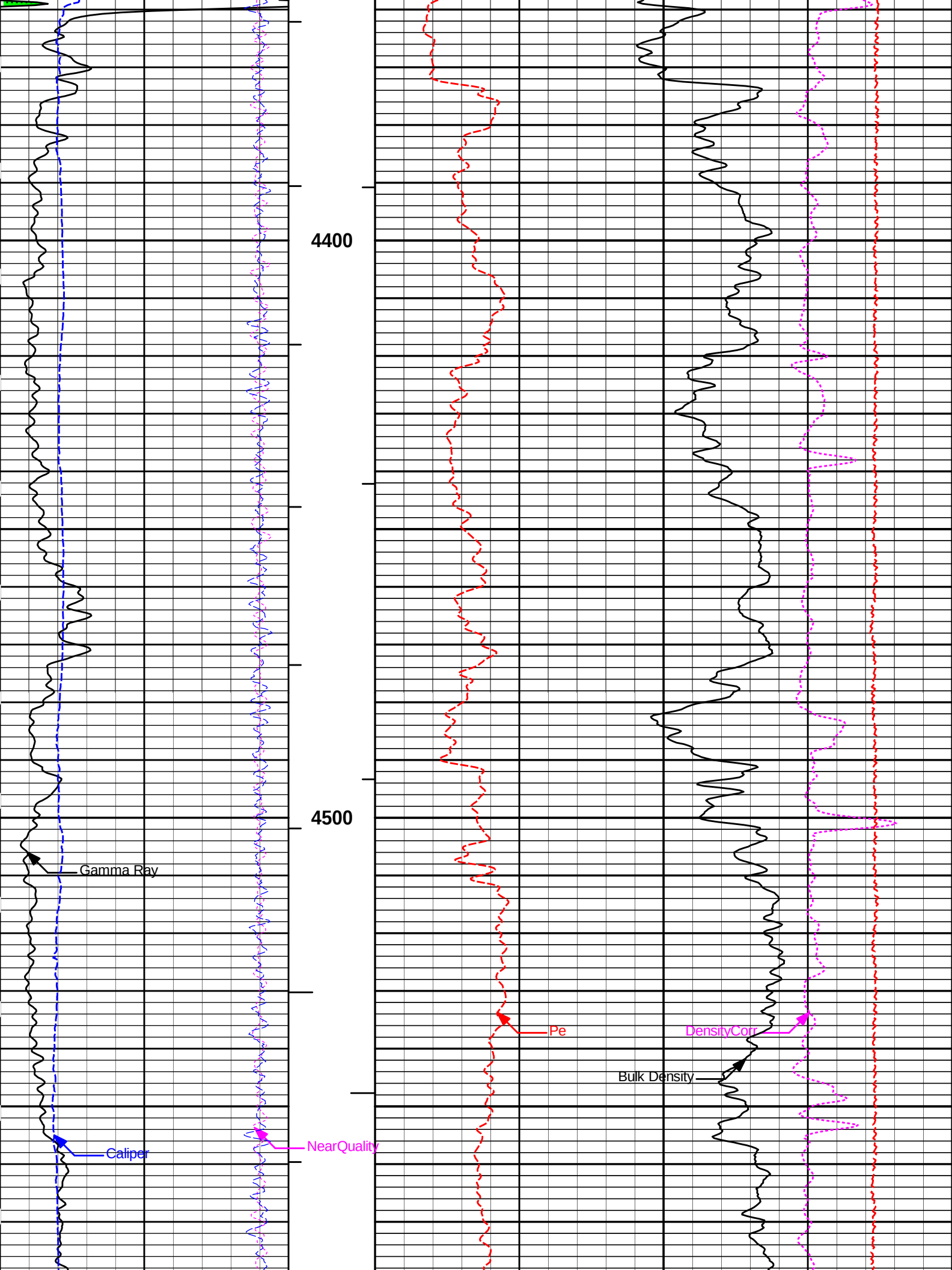

3300
3400
Caliper
NearQuality

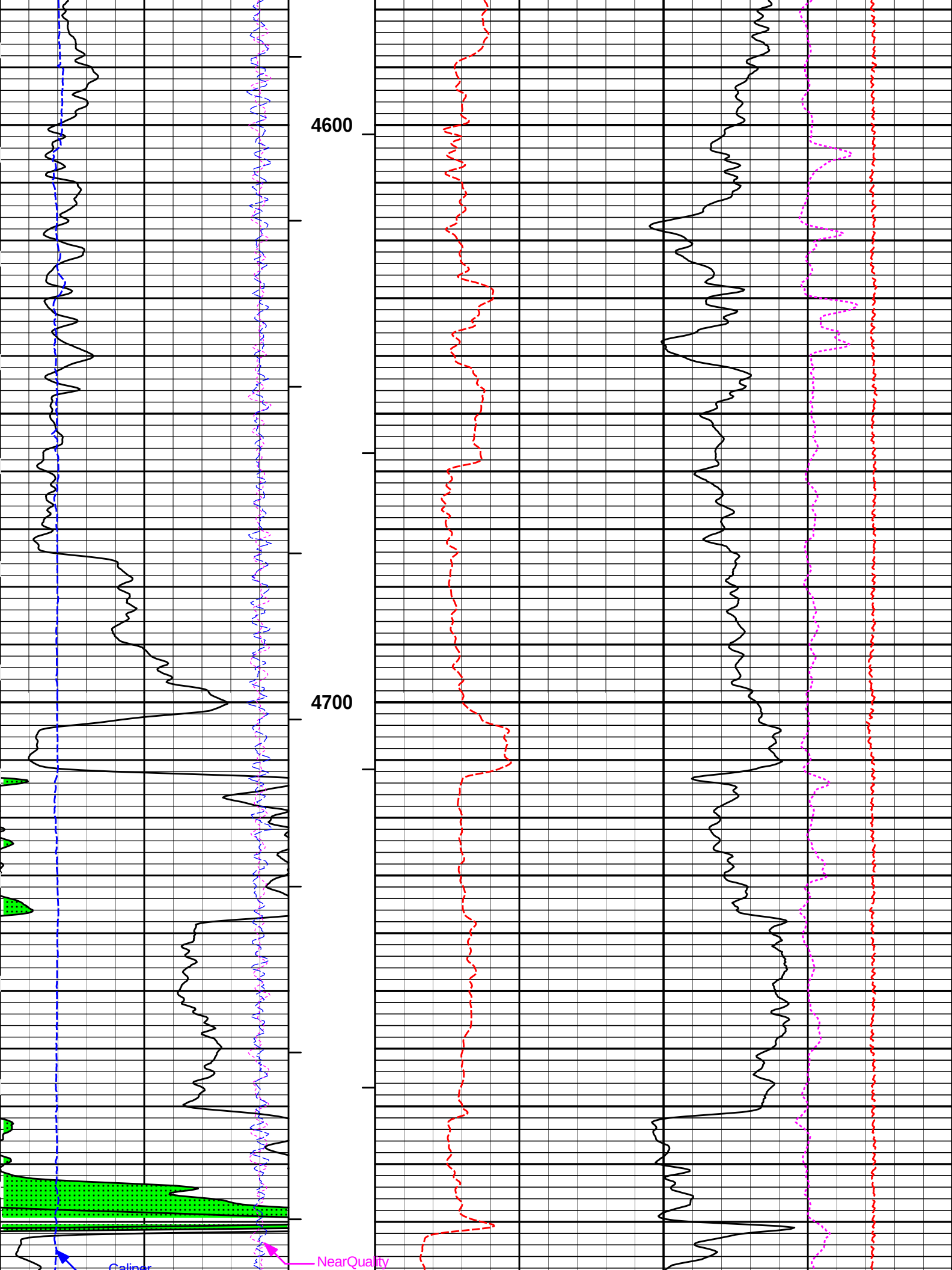

3500
Gamma Ray
Pe
DensityCorr
Bulk Density
Caliper
NearQuality
3600

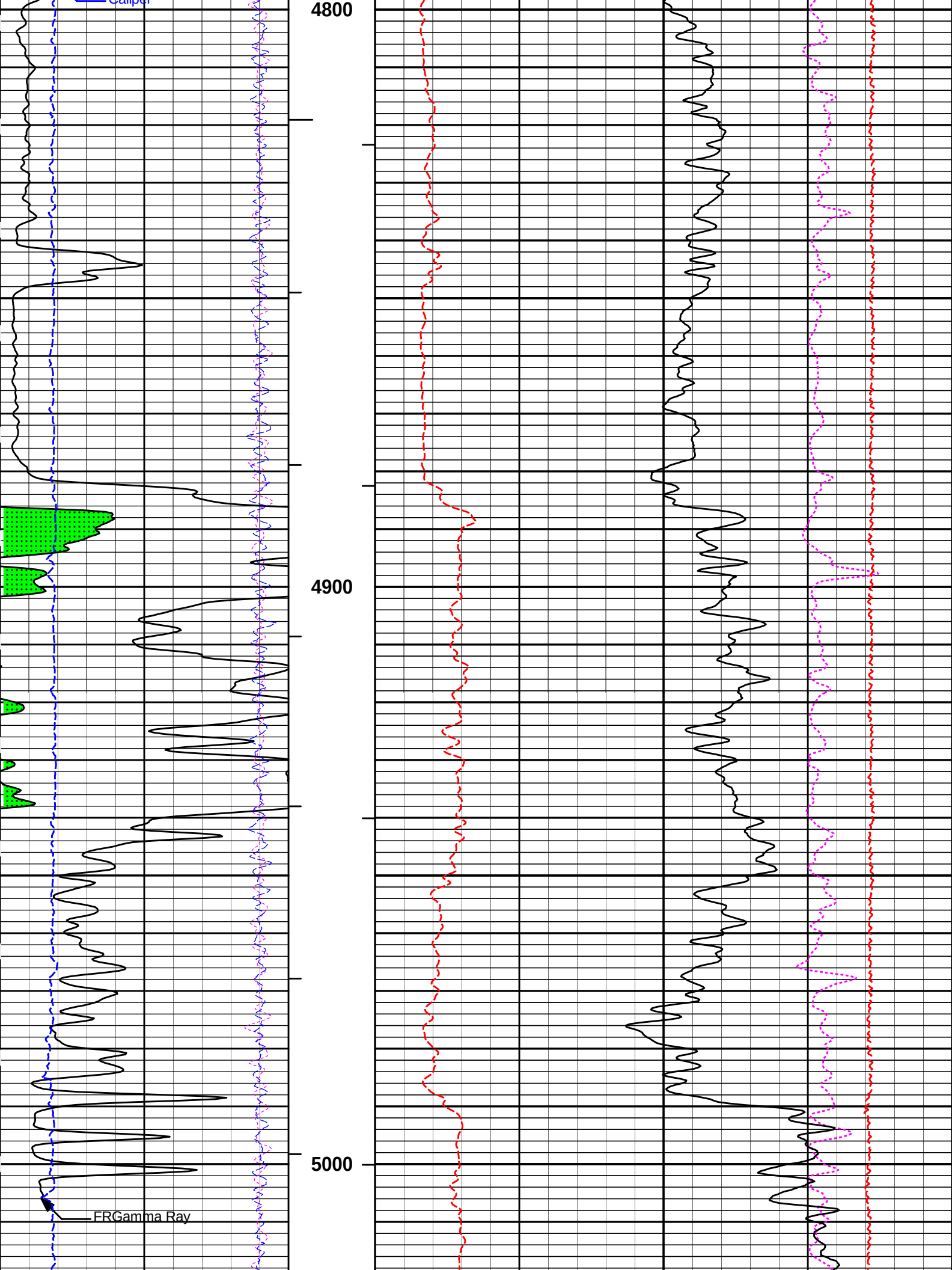

3700
3800
3900
Caliper
NearQuality

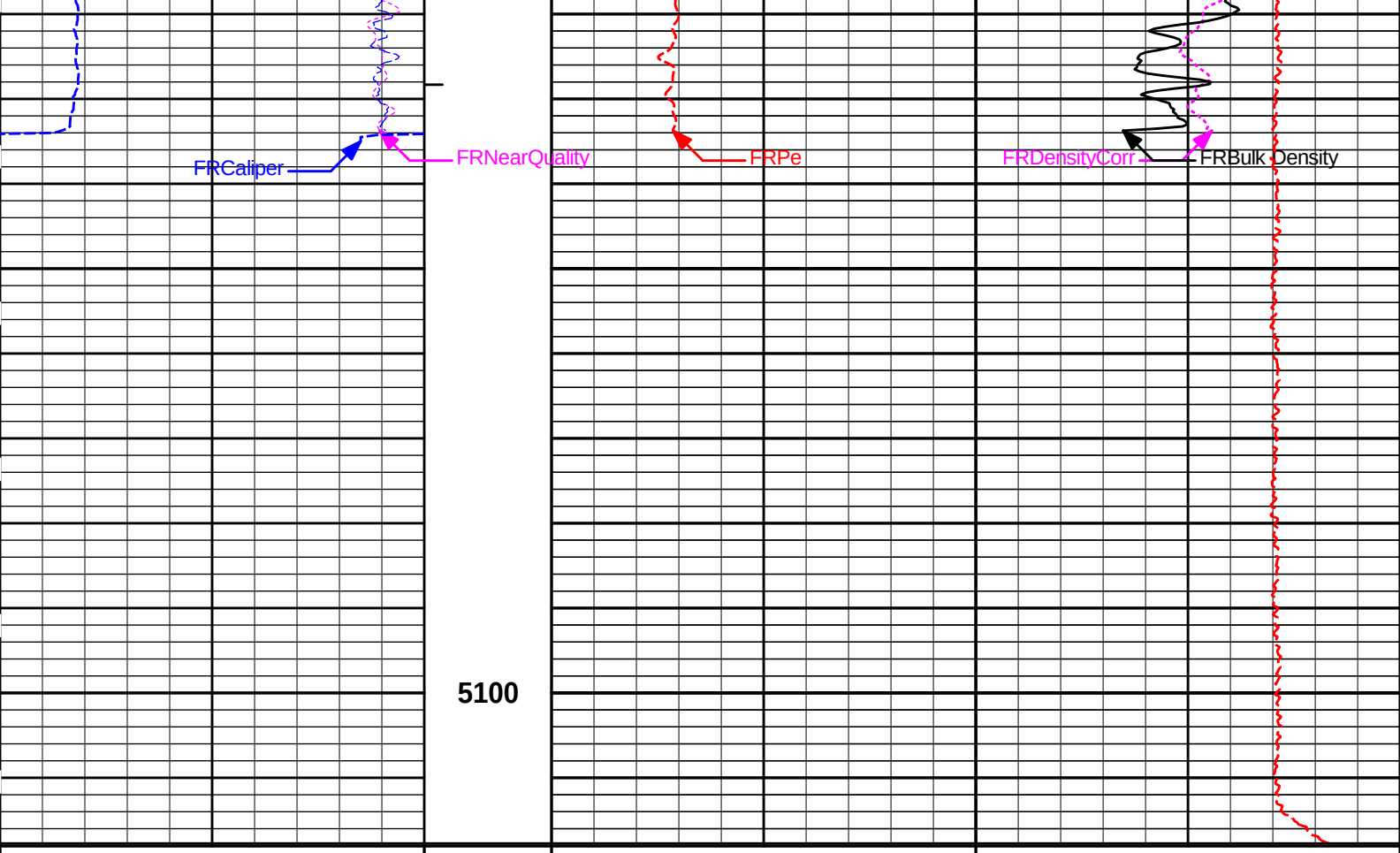

4000
4100
Gamma Ray
Caliper
NearQuality
Pe
DensityCorr
Bulk Density


4200
4300
Caliper
NearQuality


4400
4500
Gamma Ray
Caliper
NearQuality
Pe
DensityCorr
Bulk Density


4600
4700
Caliper
NearQuality


Caliper
4800
4900
5000
FRGamma Ray



6 Caliper 16	MD 1 : 240 ft	0 Pe 10
inches		
-18 NearQuality 2	AHV ft3	15K Tension 0
		pounds
18 FarQuality -2	BHV ft3	2 Bulk Density 3
		g/cc
0 Gamma Ray 150		-0.25 DensityCorr 0.25
api		g/cc
SHALE		

HALLIBURTON

Plot Time: 06-May-14 08:01:21
Plot Range: 555 ft to 5117.75 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\FORREST_SWD_1-7\0001 SP-GTET-CSNG-DSNT-SDLT-FLEX-IDT-ICT-WAVE-ACRT-BN\PORO\BULKD_5_MAIN_LIB

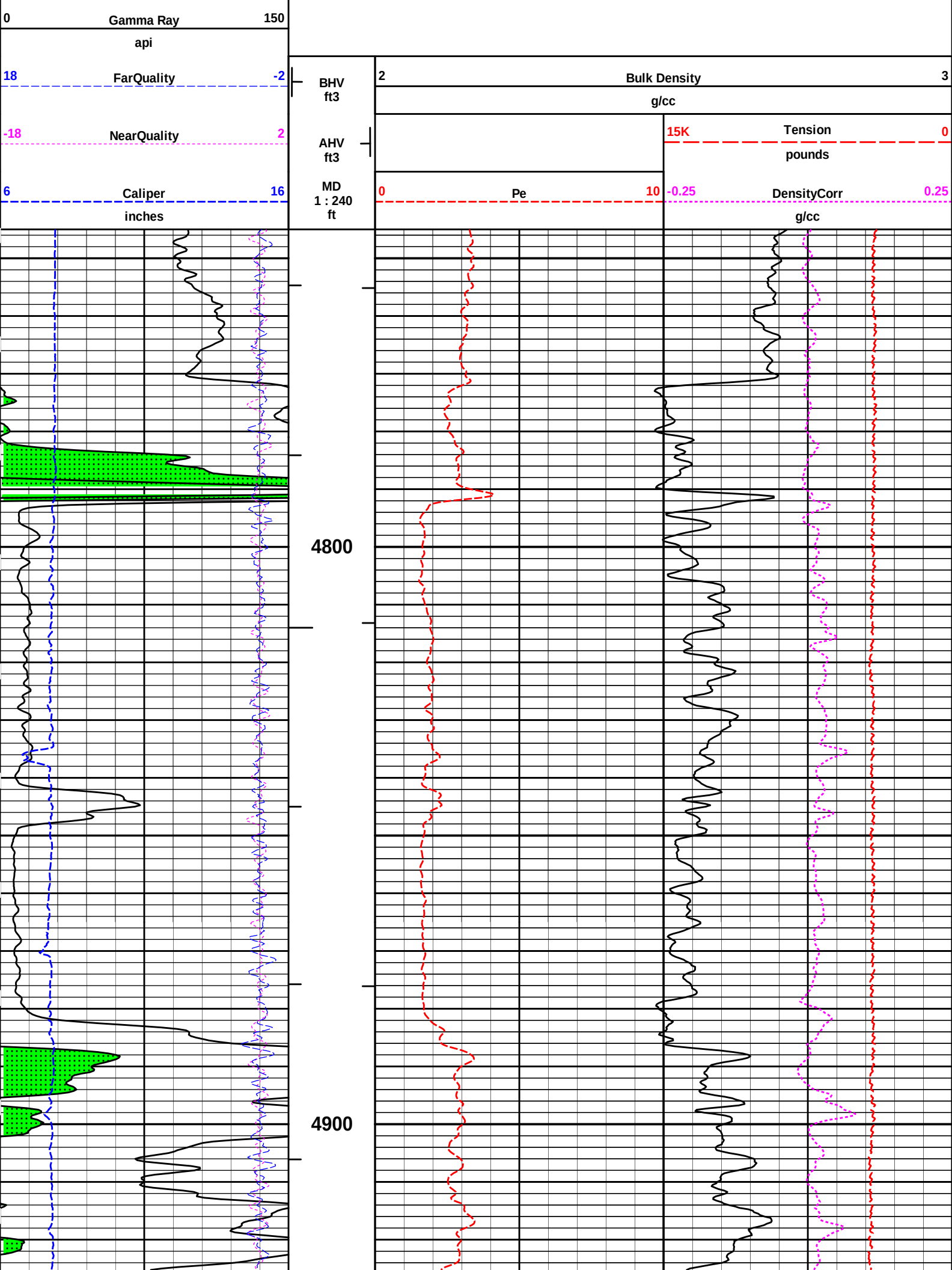
5 INCH MAIN LOG

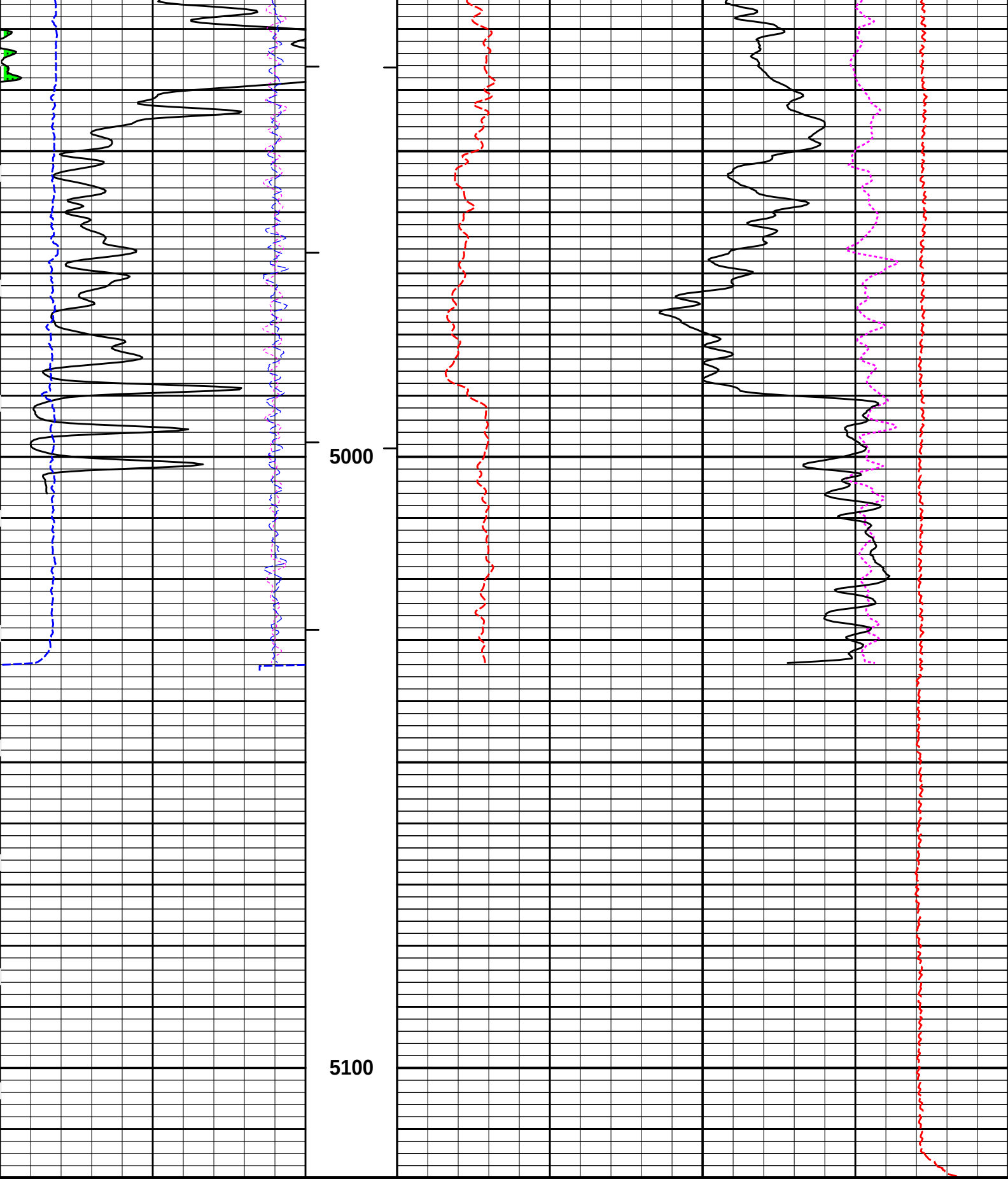
HALLIBURTON

Plot Time: 06-May-14 08:01:21
Plot Range: 4745 ft to 5117.83 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-002\
Plot File: \\-LOCAL-\FORREST_SWD_1-7\0001 SP-GTET-CSNG-DSNT-SDLT-FLEX-IDT-ICT-WAVE-ACRT-BN\PORO\BULKD_5_REP_LIB

REPEAT SECTION

SHALE


0
Gamma Ray
150
api
18
FarQuality
-2
-18
NearQuality
2
6
Caliper
16
inches
BHV
ft3
AHV
ft3
MD
1 : 240
ft
2
Bulk Density
3
g/cc
15K
Tension
0
pounds
0
Pe
10
-0.25
DensityCorr
0.25
g/cc
4800
4900



6 Caliper 16	MD 1 : 240 ft	0 Pe 10
inches		
-18 NearQuality 2	AHV ft3	
18 FarQuality -2	BHV ft3	2 Bulk Density 3

-0.25 DensityCorr 0.25	
g/cc	
15K Tension 0	
pounds	

	lb/ft3	g/cc
0	Gamma Ray	150
	api	
	SHALE	

HALLIBURTON

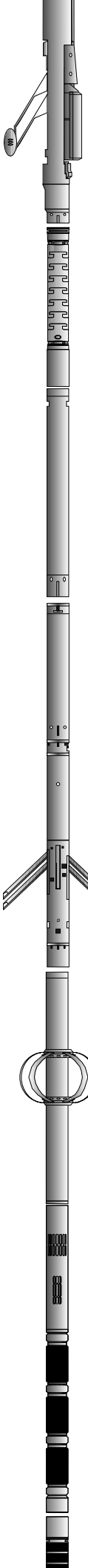
Plot Time: 06-May-14 08:01:22
Plot Range: 4745 ft to 5117.83 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-002\
Plot File: \\-LOCAL-\FORREST_SWD_1-7\0001 SP-GTET-CSNG-DSNT-SDLT-FLEX-IDT-ICT-WAVE-ACRT-BN\PORO\BULKD_5_REP_LIB

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						122.58 ft
Cable Head-12345678 30.00 lbs		Ø 3.625 in →			1.92 ft	
						120.66 ft
SP Sub-12345678 60.00 lbs		Ø 3.625 in →		← SP @ 118.88 ft	3.74 ft	
						116.92 ft
GTET-10811258 165.00 lbs		Ø 3.625 in →		← GammaRay @ 110.86 ft	8.52 ft	
						108.40 ft
CSNG-11830417 114.00 lbs		Ø 3.625 in →		← CSNG @ 102.78 ft	8.17 ft	
						100.24 ft
DSNT-10755066 174.00 lbs	DSN Decentralizer-10735145 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 93.30 ft ← DSN Near @ 92.55 ft	9.69 ft	
						90.55 ft



SDLT-10685803
360.00 lbs

SDLT Pad-10714945
65.00 lbs

Microlog Pad-10685803
8.00 lbs

Ø 4.500 in

Ø 4.750 in*

Ø 4.750 in*

Microlog @ 82.74 ft

SDL Caliper @ 82.55 ft

SDL @ 82.54 ft

10.81 ft

79.74 ft

IQ Flex-00000668
140.00 lbs

Ø 3.625 in

5.67 ft

74.07 ft

IDT-1094
150.00 lbs

Ø 3.625 in

7.58 ft

66.48 ft

ICT-10880633
330.00 lbs

Ø 3.625 in

ICT Caliper @ 56.44 ft

12.83 ft

53.65 ft

WSTT-I Upper Electronics-10753397
115.00 lbs

Centralizer 25-00000001
8.00 lbs

Ø 4.000 in*

Ø 3.625 in

8.31 ft

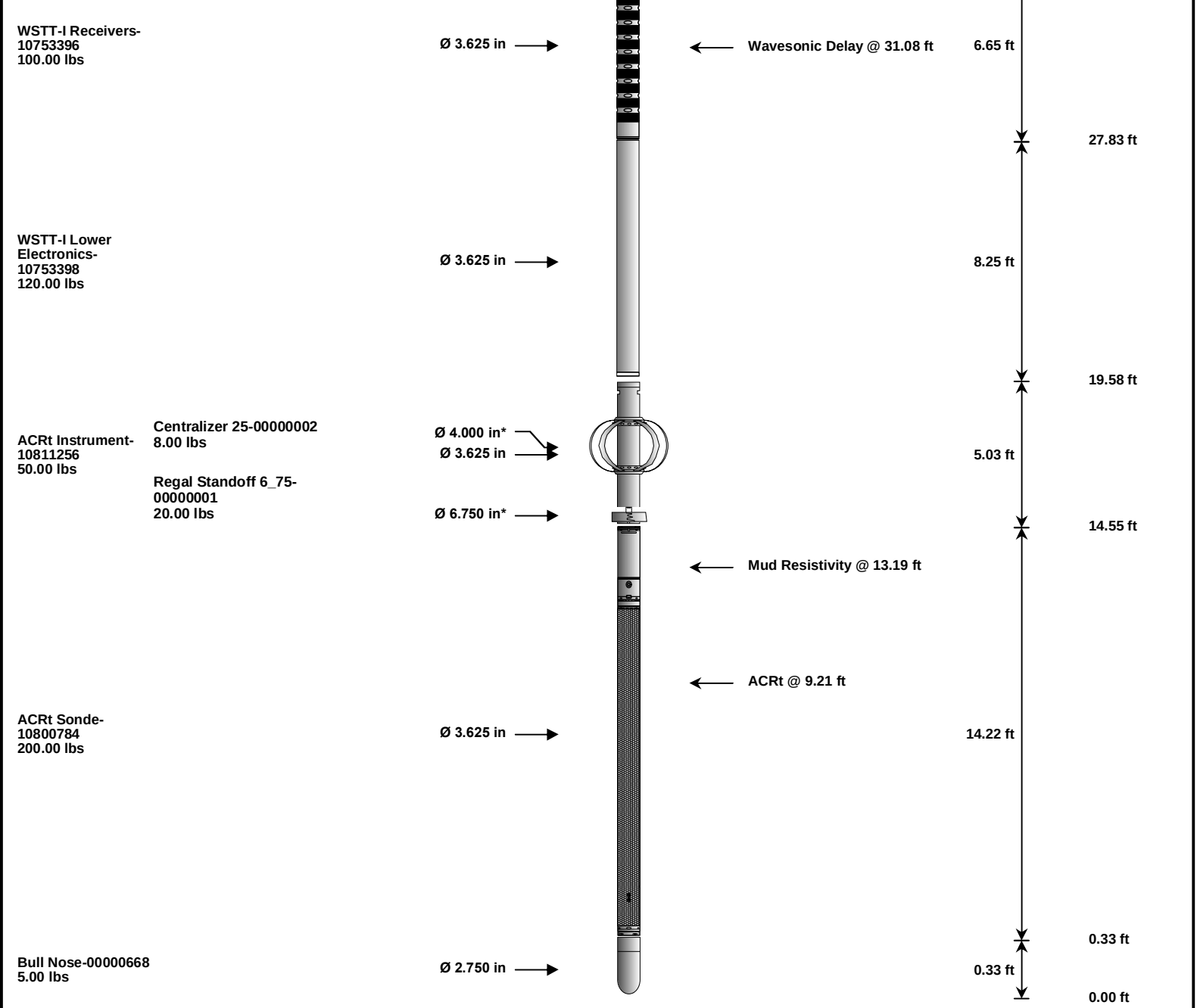
45.34 ft

WSTT-I Trans-Isolator - Std-12345678
185.00 lbs

Ø 3.625 in

10.86 ft

34.48 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH	Standard OH Cable Head	12345678	30.00	1.92		120.66	300.00
SP	SP Sub	12345678	60.00	3.74		116.92	300.00
GTET	Gamma Telemetry Tool	10811258	165.00	8.52		108.40	60.00
CSNG	Compensated Spectral Natural Gamma	11830417	114.00	8.17		100.24	15.00
DSNT	Dual Spaced Neutron	10755066	174.00	9.69		90.55	60.00
DCNT	DSN Decentralizer	10735145	6.60	5.13	*	93.88	300.00
SDLT	Spectral Density Tool	10685803	360.00	10.81		79.74	60.00
SDLP	Density Insite Pad	10714945	65.00	2.55	*	81.95	60.00
MICP	Microlog Pad	10685803	8.00	1.00	*	82.24	60.00
IQF	IQ Flex tool	00000668	140.00	5.67		74.07	300.00
IDT	Insite Directional Tool	1094	150.00	7.58		66.48	30.00
ICT	Six Independent Arm Caliper	10880633	330.00	12.83		53.65	60.00
WSTT	WaveSonic Insite - Upper Electronics	10753397	115.00	8.31		45.34	100.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	*	48.77	300.00
WSTT	WaveSonic Insite - Trans-Isolator - Std	12345678	185.00	10.86		34.48	100.00
WSTT	WaveSonic Insite - Receivers	10753396	100.00	6.65		27.83	30.00
WSTT	WaveSonic Insite - Lower Electronics	10753398	120.00	8.25		19.58	100.00
ACRt	Array Compensated True Resistivity Instrument Section	10811256	50.00	5.03		14.55	120.00
RSOF	Regal Standoff 6.75in	00000001	20.00	0.52	*	14.71	300.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	*	16.19	300.00
ACRt	Array Compensated True Resistivity Sonde Section	10800784	200.00	14.22		0.33	120.00
BLNS	Bull Nose	00000668	5.00	0.33		0.00	300.00

Total	**2,413.60**	**122.58**

* Not included in Total Length and Length Accumulation.

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 10811258**	**Reference Calibration Date:**	**25-Apr-14 08:20:22**
Engineer:	**THOMAS K HYDE**	**Calibration Date:**	**25-Apr-14 08:23:37**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	44.8	44.7	api
Background + Calibrator	277.2	276.7	api
Calibrator	232.4	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 10811258**	**Reference Calibration Date:**	**25-Apr-14 08:23:37**
Engineer:	**THOMAS K HYDE**	**Calibration Date:**	**05-May-14 19:26:40**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	44.7	44.1	api
Background + Calibrator	276.7	279.3	api
Calibrator	232.0	235.2	api

Shop	Field	Difference	Tolerance
232.0	235.2	-3.2	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 10755066**	**Reference Calibration Date:**	**14-Apr-14 14:08:27**
Engineer:	**THOMAS K HYDE**	**Calibration Date:**	**05-May-14 09:55:54**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**

Logging Source S/N: DSN-436

Tank Serial Number: LIBERAL

Reference value assigned to Tank: 51.680

Snow Block S/N: 668

Calibration Tank Water Temperature: 70 degF

Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS			
Measurement	**Prev. Value**	**New Value**	**Control Limit On New Value**
Gain:	0.948	0.945	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):	0.2114	0.2107	0.0007	+/- 0.0020
Calibrated Ratio:	9.74	9.72	0.025	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0575	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 - 10755066 **Reference Calibration Date:** 05-May-14 09:55:54

Engineer: THOMAS K HYDE **Calibration Date:** 05-May-14 19:28:50

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Logging Source S/N: DSN-436

Snow Block S/N: 668

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0575	0.0574	-0.0001	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 10685803 **Reference Calibration Date:** 14-Apr-14 11:26:43

Engineer: J. BOLLOM **Calibration Date:** 14-Apr-14 11:31:00

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Host Tool Name: DSNT - 10755066

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-4362.95	-4420.65	-7000.00 - -1000.00
Pad Gain	0.0003849	0.0003863	0.000200 - 0.000600
Arm Offset	-3135.46	-3304.43	-5000.00 - 3000.00
Arm Gain	0.0005085	0.0005300	0.000300 - 0.000700
Arm Power	-0.000004496	-0.000005774	-0.000010000 - 0.000010000

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.01	2.00	-0.01	+/- 0.20

Medium Ring (in)	3.76	3.75	-0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.53	6.50	-0.03	+/- 0.20
Medium Ring (in)	8.24	8.25	0.01	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - 10685803 **Reference Calibration Date:** 14-Apr-14 11:31:00

Engineer: THOMAS K HYDE **Calibration Date:** 05-May-14 19:29:53

Software Version: WL INSITE R4.2.0 (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	8.36	0.11	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 10714945 **Reference Calibration Date:** 28-Apr-14 09:49:03

Engineer: THOMAS K HYDE **Calibration Date:** 28-Apr-14 10:11:22

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Logging Source S/N: 5073 GW

Aluminum Block S/N: LIBERAL Density: 2.598g/cc Pe: 3.170

Magnesium Block S/N: LIBERAL Density: 1.684g/cc Pe: 2.598

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0263	1.0429	0.90 - 1.10
Near Dens Gain	1.0042	1.0358	0.90 - 1.10
Near Peak Gain	0.9945	1.0562	0.90 - 1.10
Near Lith Gain	0.9704	1.0108	0.90 - 1.10
Far Bar Gain	1.0072	1.0071	0.90 - 1.10
Far Dens Gain	1.0006	0.9998	0.90 - 1.10
Far Peak Gain	0.9955	0.9930	0.90 - 1.10
Far Lith Gain	0.9708	0.9648	0.90 - 1.10
Near Bar Offset	0.0618	-0.0842	NONE
Near Dens Offset	0.2364	-0.0368	NONE
Near Peak Offset	0.2893	-0.2159	NONE
Near Lith Offset	0.4680	0.1368	NONE
Far Bar Offset	0.1401	0.1411	NONE
Far Dens Offset	0.1788	0.1856	NONE
Far Peak Offset	0.2120	0.2306	NONE
Far Lith Offset	0.3689	0.4131	NONE

Near Bar Background	949.73	950.42	700 - 1450
Near Dens Background	314.80	315.54	230 - 480
Near Peak Background	138.78	138.82	100 - 210
Near Lith Background	164.21	163.53	125 - 260
Far Bar Background	489.05	487.23	450 - 900
Far Dens Background	188.74	188.06	175 - 345
Far Peak Background	74.60	73.87	70 - 140
Far Lith Background	76.88	76.48	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.675	1.684	0.009	+/- 0.015
Pe	2.582	2.557	-0.025	+/- 0.150
ALUMINUM				
Density (g/cc)	2.599	2.598	-0.001	+/- 0.01500
Pe	3.104	3.126	0.022	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0010	+/- 0.0110	0.0008	+/- 0.0140
Magnesium Block	-0.0007	+/- 0.0110	-0.0022	+/- 0.0140
Aluminum Block	-0.0006	+/- 0.0110	0.0008	+/- 0.0140
Resolution	9.94	6.00 - 11.50	9.20	6.00 - 11.50
Internal Verifier(B+D+P+L)	1568	1200 - 2700	826	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 - 10714945 **Reference Calibration Date:** 28-Apr-14 10:11:22

Engineer: THOMAS K HYDE **Calibration Date:** 05-May-14 19:24:18

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Pad Temperature: 71.7 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1568.312	1566.661	-1.651	15.935
Far (B+D+P+L) cps	825.641	825.555	-0.086	15.836
Near Resolution	9.94	9.81	-0.130	0.50

Far Resolution	9.20	9.19	-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-10811258						
Gamma Ray Calibrator	232.0	235.2	----------	-3.2	+/- 9.00	api
DSNT-10755066						
Snow-Block Porosity	0.0575	0.0574	----------	0.0001	+/- 0.0150	decp
SDLT-10685803						
Pad Extension	3.75	3.73	----------	0.02	+/-0.10	in
Ring Diameter	8.25	8.36	----------	-0.11	+/-0.15	in
SDLT Pad-10714945						
Near(B+D+P+L)	1568.312	1566.661	----------	1.651	+/-15.935	cps
Far(B+D+P+L)	825.641	825.555	----------	0.086	+/-15.836	cps

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.300	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	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	0.450	ohmm
	SHARED	TRM	Temperature of Mud	90.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	85.0	degF
	SHARED	TD	Total Well Depth	5115.00	ft
	SHARED	BHT	Bottom Hole Temperature	200.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	IDT	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	IDT	
	SHARED	TEMM	Temperature Master Tool	NONE	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
	Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
	Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF

CrossPlot				
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	ICT	
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	
GTET	BHSM	Borehole Size Source Tool	ICT	
CSNG	CGOK	Process CSNG Data?	Yes	
CSNG	CENT	Is Tool Centralized?	No	
CSNG	GBOK	Gamma Enviromental Corrections?	Yes	
CSNG	BARF	Barite Correction Factor	1.00	
CSNG	ORDG	Use Fixed Gain	No	
CSNG	ORDO	Use Fixed Offset	No	
CSNG	ORDR	Use Fixed Resolution Degradation Factor	No	
CSNG	BHSM	Borehole Size Source Tool	ICT	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
DSNT	BHSM	Borehole Size Source Tool	ICT	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
IDT	WRTI	Survey Writing Interval	30	ft
IDT	SOPT	Smoothing Option	None	
ICT	CLOK	Process Caliper Outputs?	Yes	
ICT	DARM	Disable Caliper Arm	No	
ICT	ATDS	Arm To Disable	0	
ICT	REPM	Method to replace arm?	Caliper Average	
ICT	ARMV	Diameter to use for disabled arm	0.00	in
ICT	DARM	Disable Second Caliper Arm	No	
ICT	ATDS	Second Arm To Disable	0	
ICT	REPM	Method to replace second arm?	Caliper Average	
ICT	ARMV	Diameter to use for second disabled arm	0.00	in
ICT	NAVS	Navigation Source Tool	IDT	
ICT	CL1O	Radius 1 Offset	0.0	in
ICT	CL2O	Radius 2 Offset	0.0	in
ICT	CL3O	Radius 3 Offset	0.0	in
ICT	CL4O	Radius 4 Offset	0.0	in
ICT	CL5O	Radius 5 Offset	0.0	in

	ICT	CL6O	Radius 6 Offset	0.0	in
	ICT	BHVC	Radius type for borehole volume calcuations	Elliptical	
	WSTT-I Receivers	WSOK	Process WSTT?	Yes	
	WSTT-I Receivers	AFIL	Adaptive Filtering?	No	
	WSTT-I Receivers	PINT	Process 1 Sample and Skip	0	
	WSTT-I Receivers	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4	4	
	WSTT-I Receivers	DTSH	Delta -T Shale	100.00	uspf
	WSTT-I Receivers	DTMT	Delta -T Matrix Type	User define	
	WSTT-I Receivers	DTMA	Delta -T Matrix	47.60	uspf
	WSTT-I Receivers	DTFL	Delta -T Fluid	189.00	uspf
	WSTT-I Receivers	RHOM	Matrix Density	2.7100	g/cc
	WSTT-I Receivers	RHOF	Fluid Density	1.0000	g/cc
	WSTT-I Receivers	SMTH	Semblance Threshold	0.25	
	WSTT-I Receivers	VPVS	VPVS Ratio for Porosity	1.40	
	WSTT-I Receivers	APEQ	Acoustic Porosity Equation	Wylie	
	WSTT-I Receivers	NAVS	Navigation Source Tool	IDT	
	ACRt Sonde	RTOK	Process ACRt?	Yes	
	ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
	ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
	ACRt Sonde	TPOS	Tool Position	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	
	ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
	ACRt Sonde	BHSM	Borehole Size Source Tool	ICT	
BOTTOM					

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INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
	Depth Panel			
TENS	Tension	0.00	NO	
	Rwa / CrossPlot			
TPUL	Tension Pull	122.58	NO	
BS	Bit Size	122.58	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	SP Sub			
PLTC	Plot Control Mask	118.88	NO	

SP	Spontaneous Potential	118.88	BLK	1.250
SPR	Raw Spontaneous Potential	118.88	NO	
SPO	Spontaneous Potential Offset	118.88	NO	
	GTET			
TPUL	Tension Pull	110.86	NO	
GR	Natural Gamma Ray API	110.86	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	110.86	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	110.86	W	1.416 , 0.750
HDIA	Measured Hole Diameter	0.00	NO	
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	CSNG			
TPUL	Tension Pull	102.78	NO	
STAT	Status	102.78	NO	
FRMC	Tool Frame Count	102.78	BLK	0.250
TFRM	Total Frames	102.78	NO	
LSPD	Line Speed	102.78	BLK	0.250
CTIM	Accumulation time for sample	102.78	BLK	0.250
NOIS	Spectral Noise	102.78	BLK	0.250
STAB	Stabilizer Voltage in mv	102.78	BLK	0.250
STBP	Stabilizer 60 KEV Peak	102.78	BLK	0.250
AMER	Americium	102.78	BLK	0.250
FTMP	Flask PCB Temperature	102.78	BLK	0.250
SPEL	Low Energy Spectrum	102.78	BLK	0.250
SPEH	High Energy Spectrum	102.78	BLK	0.250
SSP	Stabilization Energy Spectrum	102.78	BLK	0.250
HDIA	Measured Hole Diameter	0.00	NO	
CSPC	CSNG Lo Hi Spectrum Data	102.78	NO	
	DSNT			
TPUL	Tension Pull	92.45	NO	
RNDS	Near Detector Telemetry Counts	92.55	BLK	1.417
RFDS	Far Detector Telemetry Counts	93.30	TRI	0.583
DNTT	DSN Tool Temperature	92.55	NO	
DSNS	DSN Tool Status	92.45	NO	
ERND	Near Detector Telemetry Counts EVR	92.55	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	93.30	BLK	0.000
ENTM	DSN Tool Temperature EVR	92.55	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	SDLT			
TPUL	Tension Pull	82.55	NO	
PCAL	Pad Caliper	82.55	TRI	0.250
ACAL	Arm Caliper	82.55	TRI	0.250
	IDT			
TPUL	Tension Pull	67.48	NO	
ACCX	Accelerometer X	67.48	NO	
ACCY	Accelerometer Y	67.48	NO	
ACCZ	Accelerometer Z	67.48	NO	
MAGX	magnetometer x with unit	67.48	NO	
MAGY	Magnetometer Y with unit	67.48	NO	
MAGZ	magnetometer z with unit	67.48	NO	
IAMP	Accelerometer Temperature	67.48	NO	

MTMP	Magnetometer Temperature	67.48	NO	
	ICT			
TPUL	Tension Pull	56.44	NO	
	Arm Potentiometer excitation V	53.65	NO	
	Caliper 1 measurement	56.44	BLK	1.250
	Caliper 2 measurement	56.44	BLK	1.250
	Caliper 3 measurement	56.44	BLK	1.250
	Caliper 4 measurement	56.44	BLK	1.250
	Caliper 5 measurement	56.44	BLK	1.250
	Caliper 6 measurement	56.44	BLK	1.250
	Caliper Global measurement	56.44	BLK	1.250
MOTI	Motor Current	53.65	NO	
MOT1	Motor Voltage Monitor 1	53.65	NO	
STA1	Status word #1	53.65	NO	
STA2	Status word #2	53.65	NO	
PRES	Caliper percentage of total compression of the spring	53.65	NO	
HAZI	Hole Azimuth	56.44	NO	
RB	Relative Bearing	56.44	NO	
AZI1	PAD1 Azimuth	56.44	NO	
DEVI	Inclination	56.44	NO	
	WSTT-I Receivers			
TPUL	Tension Pull	31.08	NO	
DPSX	Dipole Source X Structurel	27.83	NO	
DPSY	Dipole Source Y Structurel	27.83	NO	
DPSM	Monopole Source Structure	27.83	NO	
WVST	Wavesonic Compressed Data	31.08	NO	
TPUL	Tension Pull	31.08	NO	
XMS1	Wave Sonic Status Word 1	27.83	NO	
XMS2	Wave Sonic Status Word 2	27.83	NO	
XMS1	Wave Sonic XMITStatus Word 1	27.83	NO	
XMS1	Wave Sonic XMITStatus Word 2	27.83	NO	
F1HA	Dipole 1 HV After	27.83	NO	
F1HB	Dipole 1 HV Before	27.83	NO	
F2HA	Dipole 2 HV After	27.83	NO	
F2HB	Dipole 2 HV Before	27.83	NO	
F3HA	Monopole HV After	27.83	NO	
F3HB	Monopole HV Before	27.83	NO	
INVT	Input Voltage	27.83	NO	
5VOL	5 Volts	27.83	NO	
MI5A	Minus 5 Volts Analog	27.83	NO	
ITMP	Instrument Temperature	27.83	NO	
PL5A	Plus 5 Volts Analog	27.83	NO	
5VD	Plus 5 Volts Digital	27.83	NO	
TCUR	Tool Current	27.83	NO	
SUPV	Supply Voltage	27.83	NO	
PRVT	Preregulated voltage	27.83	NO	
PRVT	Pre-regulated voltage Xmter	27.83	NO	
TEMP	Temperature	27.83	NO	
ACQN	Acquisition Number	27.83	NO	
XDP	Delay Reference	31.08	NO	
MITM	MIT Mode	31.08	NO	
VERS	Version	27.83	NO	
D1CT	Dipole 1 Compressed Word Count	31.08	NO	
D2CT	Dipole 2 Compressed Word Count	31.08	NO	

DZCT	Dipole Z Compressed Word Count	31.08	NO
MCNT	Monopole Compressed Word Count	31.08	NO
SEQN	Sequence Number	27.83	NO
FREV	Firmware Revision	27.83	NO
MSMP	Monopole Sample Rate	27.83	NO
MSMP	Dipole Sample Rate	27.83	NO
MFWF	Monopole Firing Waveform	27.83	NO
MFRQ	Monopole Frequency	27.83	NO
MDLY	Monopole Delay	27.83	NO
DXWF	Dipole X Firing Waveform	27.83	NO
XFRQ	Dipole X Frequency	27.83	NO
XDLY	Dipole X Delay	27.83	NO
DYWF	Dipole Y Firing Waveform	27.83	NO
YFRQ	Dipole Y Frequency	27.83	NO
YDLY	Dipole Y Delay	27.83	NO
DPSX	Dipole Source X Structurel	27.83	NO
DPSY	Dipole Source Y Structurel	27.83	NO
DPSM	Monopole Source Structure	27.83	NO
WVST	Wavesonic Compressed Data	31.08	NO
AUTM	Auto Mode	27.83	NO
SONM	tool mode for sonic - 0 for normal or 3 for calibration	27.83	NO
MSL	Monopole Lower Travel Time	31.08	NO
MSH	Monopole Upper Travel Time	31.08	NO
MLFC	Monopole-1 Lower Filter Bandpass Frequency Cut-off	27.83	NO
MUFC	Monopole-1 Upper Filter Bandpass Frequency Cut-off	27.83	NO
DLTT	Dipole Lower Travel Time	27.83	NO
DUTT	Dipole Upper Travel Time	27.83	NO
DLFC	Dipole Lower Filter Bandpass Frequency Cut-off	27.83	NO
DUFC	Dipole Upper Filter Bandpass Frequency Cut-off	27.83	NO
MUTE	WaveSonic Mute/Enable Channels and Sides map	27.83	NO
MUTS	Mute/Enable Sides	27.83	NO
WSRB	Relative Bearing	31.08	NO
WSAZ	WSX Azimuth Pad 1	31.08	NO
TPUL	Tension Pull	31.08	NO
WMP	Summed array of Monopole for SIDES - A,B,C,D	31.08	NO
WXX	Dipole X for SIDES - A-C	31.08	NO
WYY	Dipole Y for SIDES - B-D	31.08	NO
WXY	Dipole X for SIDES - B-D	31.08	NO
WYX	Dipole Y for SIDES - A-C	31.08	NO
TPUL	Tension Pull	31.08	NO
WMA	Monopole Waveform Side A - Channel 1 to Channel 8 Receivers	31.08	NO
WMB	Monopole Waveform Side B - Channel 1 to Channel 8 Receivers	31.08	NO
WMC	Monopole Waveform Side C - Channel 1 to Channel 8 Receivers	31.08	NO
WMD	Monopole Waveform Side D - Channel 1 to Channel 8 Receivers	31.08	NO
WXA	Dipole X Waveform Side A - Channel 1 to Channel 8 Receivers	31.08	NO
WXB	Dipole X Waveform Side B - Channel 1 to Channel 8 Receivers	31.08	NO
WXC	Dipole X Waveform Side C - Channel 1 to Channel 8 Receivers	31.08	NO
WXD	Dipole X Waveform Side D - Channel 1 to Channel 8 Receivers	31.08	NO
WYA	Dipole Y Waveform Side A - Channel 1 to Channel 8 Receivers	31.08	NO
WYB	Dipole Y Waveform Side B - Channel 1 to Channel 8 Receivers	31.08	NO
WYC	Dipole Y Waveform Side C - Channel 1 to Channel 8	31.08	NO

WYC	Dipole Y Waveform Side C - Channel 1 to Channel 8 Receivers	31.08	NO	
WYD	Dipole Y Waveform Side D - Channel 1 to Channel 8 Receivers	31.08	NO	
GAR1	Gain Side A Receiver 1	27.83	NO	
GAR2	Gain Side A Receiver 2	27.83	NO	
GAR3	Gain Side A Receiver 3	27.83	NO	
GAR4	Gain Side A Receiver 4	27.83	NO	
GAR5	Gain Side A Receiver 5	27.83	NO	
GAR6	Gain Side A Receiver 6	27.83	NO	
GAR7	Gain Side A Receiver 7	27.83	NO	
GAR8	Gain Side A Receiver 8	27.83	NO	
GBR1	Gain Side B Receiver 1	27.83	NO	
GBR2	Gain Side B Receiver 2	27.83	NO	
GBR3	Gain Side B Receiver 3	27.83	NO	
GBR4	Gain Side B Receiver 4	27.83	NO	
GBR5	Gain Side B Receiver 5	27.83	NO	
GBR6	Gain Side B Receiver 6	27.83	NO	
GBR7	Gain Side B Receiver 7	27.83	NO	
GBR8	Gain Side B Receiver 8	27.83	NO	
GCR1	Gain Side C Receiver 1	27.83	NO	
GCR2	Gain Side C Receiver 2	27.83	NO	
GCR3	Gain Side C Receiver 3	27.83	NO	
GCR4	Gain Side C Receiver 4	27.83	NO	
GCR5	Gain Side C Receiver 5	27.83	NO	
GCR6	Gain Side C Receiver 6	27.83	NO	
GCR7	Gain Side C Receiver 7	27.83	NO	
GCR8	Gain Side C Receiver 8	27.83	NO	
GDR1	Gain Side D Receiver 1	27.83	NO	
GDR2	Gain Side D Receiver 2	27.83	NO	
GDR3	Gain Side D Receiver 3	27.83	NO	
GDR4	Gain Side D Receiver 4	27.83	NO	
GDR5	Gain Side D Receiver 5	27.83	NO	
GDR6	Gain Side D Receiver 6	27.83	NO	
GDR7	Gain Side D Receiver 7	27.83	NO	
GDR8	Gain Side D Receiver 8	27.83	NO	
	ACRt Sonde			
TPUL	Tension Pull	2.73	NO	
F1R1	ACRT 12KHz - 80in R value	8.98	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	8.98	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.48	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.48	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	4.98	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	4.98	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	3.98	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	3.98	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.48	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.48	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.23	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.23	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	8.98	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	8.98	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.48	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.48	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000

F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	8.98	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	8.98	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.48	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.48	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	4.98	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	4.98	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	3.98	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	3.98	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.48	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.48	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.23	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.23	BLK	0.000
RMUD	Mud Resistivity	12.52	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.73	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.73	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.73	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.73	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.73	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.73	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.73	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.73	BLK	0.000
ITMP	Instrument Temperature	2.73	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.73	NO	
TIDV	Instrument Temperature Derivative	2.73	NO	
TUDV	Upper Temperature Derivative	2.73	NO	
TLDV	Lower Temperature Derivative	2.73	NO	
TRBD	Receiver Board Temperature	2.73	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	SDLT Pad			
TPUL	Tension Pull	82.54	NO	
NAB	Near Above	82.37	BLK	0.920
NHI	Near Cesium High	82.37	BLK	0.920
NLO	Near Cesium Low	82.37	BLK	0.920
NVA	Near Valley	82.37	BLK	0.920
NBA	Near Barite	82.37	BLK	0.920
NDE	Near Density	82.37	BLK	0.920
NPK	Near Peak	82.37	BLK	0.920
NLI	Near Lithology	82.37	BLK	0.920
NBAU	Near Barite Unfiltered	82.37	BLK	0.250
NLIU	Near Lithology Unfiltered	82.37	BLK	0.250
FAB	Far Above	82.72	BLK	0.250
FHI	Far Cesium High	82.72	BLK	0.250
FLO	Far Cesium Low	82.72	BLK	0.250
FVA	Far Valley	82.72	BLK	0.250
FBA	Far Barite	82.72	BLK	0.250
FDE	Far Density	82.72	BLK	0.250
FPK	Far Peak	82.72	BLK	0.250
FLI	Far Lithology	82.72	BLK	0.250

PTMP	Pad Temperature	82.55	BLK	0.920
NHV	Near Detector High Voltage	81.95	NO	
FHV	Far Detector High Voltage	81.95	NO	
ITMP	Instrument Temperature	81.95	NO	
DDHV	Detector High Voltage	81.95	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	Microlog Pad			
TPUL	Tension Pull	82.74	NO	
MINV	Microlog Lateral	82.74	BLK	0.750
MNOR	Microlog Normal	82.74	BLK	0.750

Data: FORREST_SWD_1-7\0001 SP-GTET-CSNG-DSNT-SDLT-FLEX-IDT-ICT-WAVE-ACRT-BN\IDLE **Date: 05-May-14 20:41:18**

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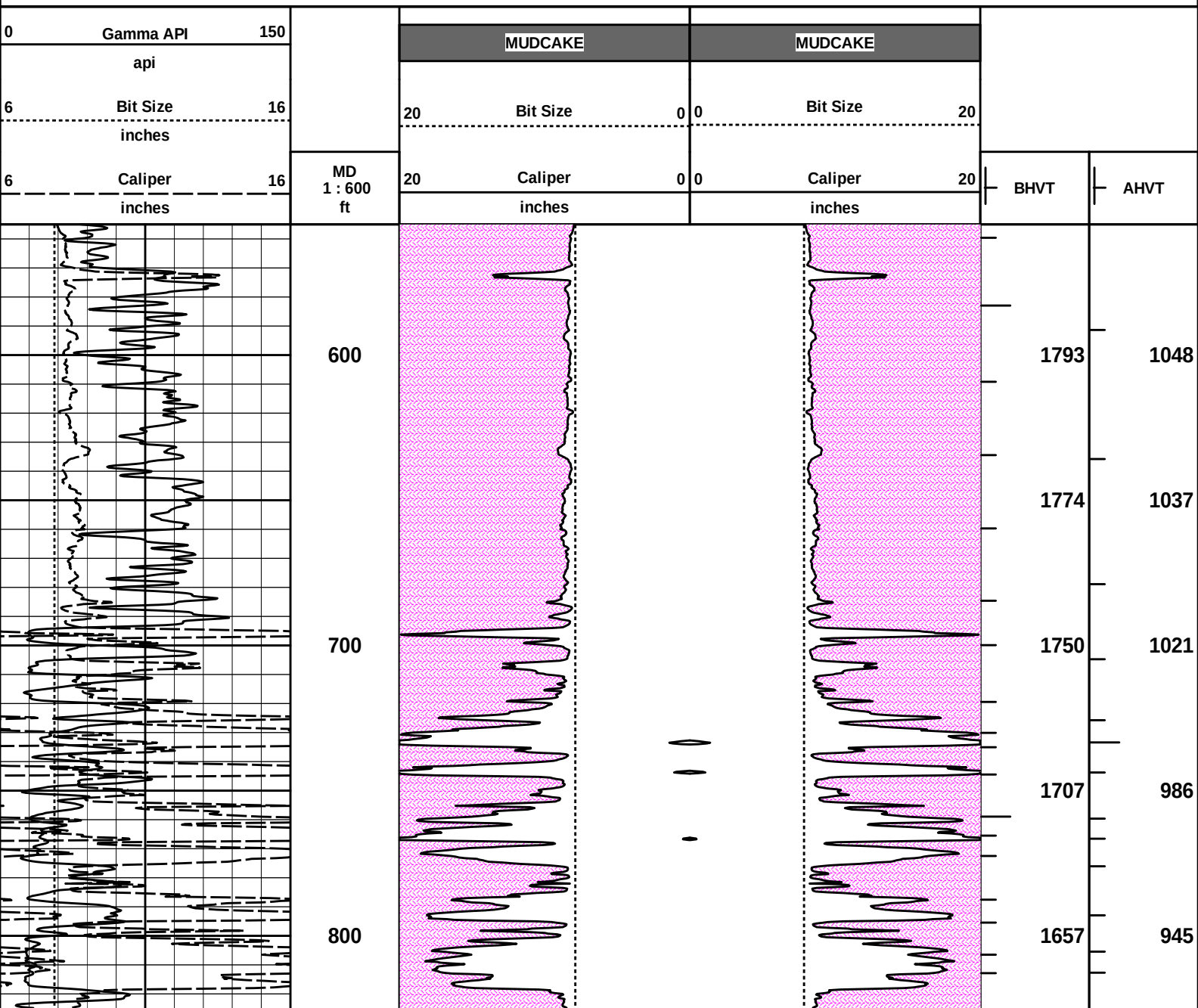
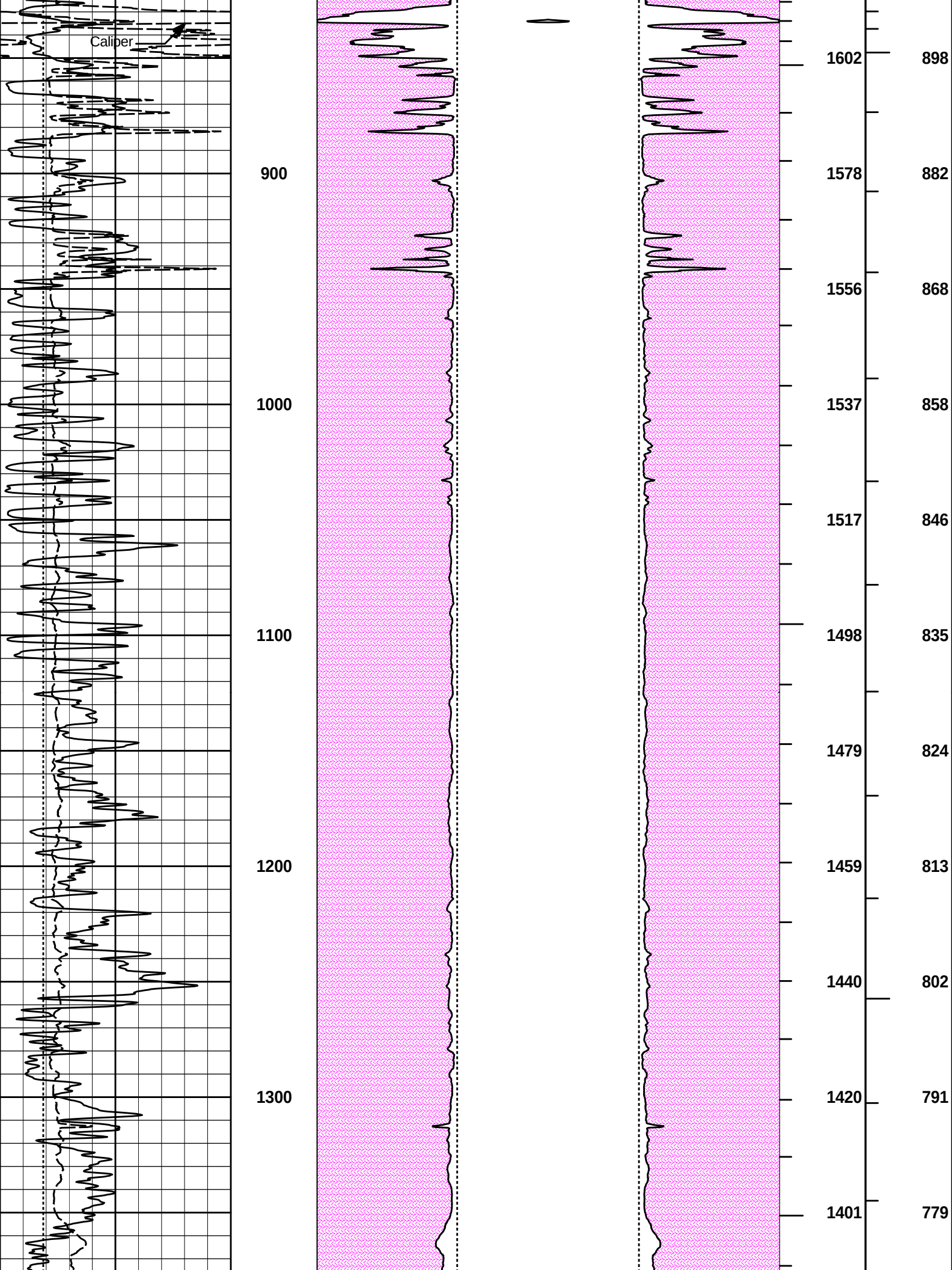
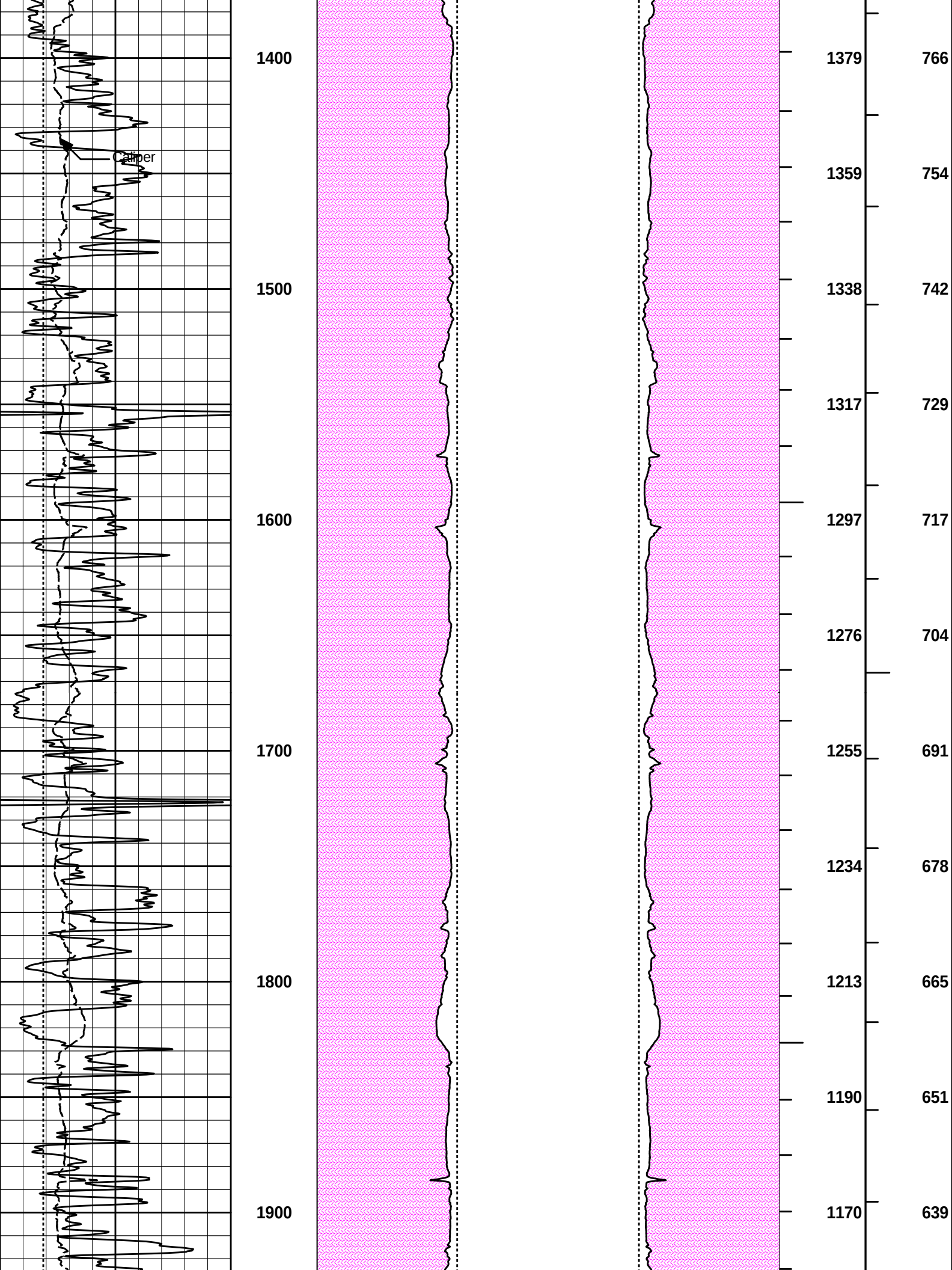
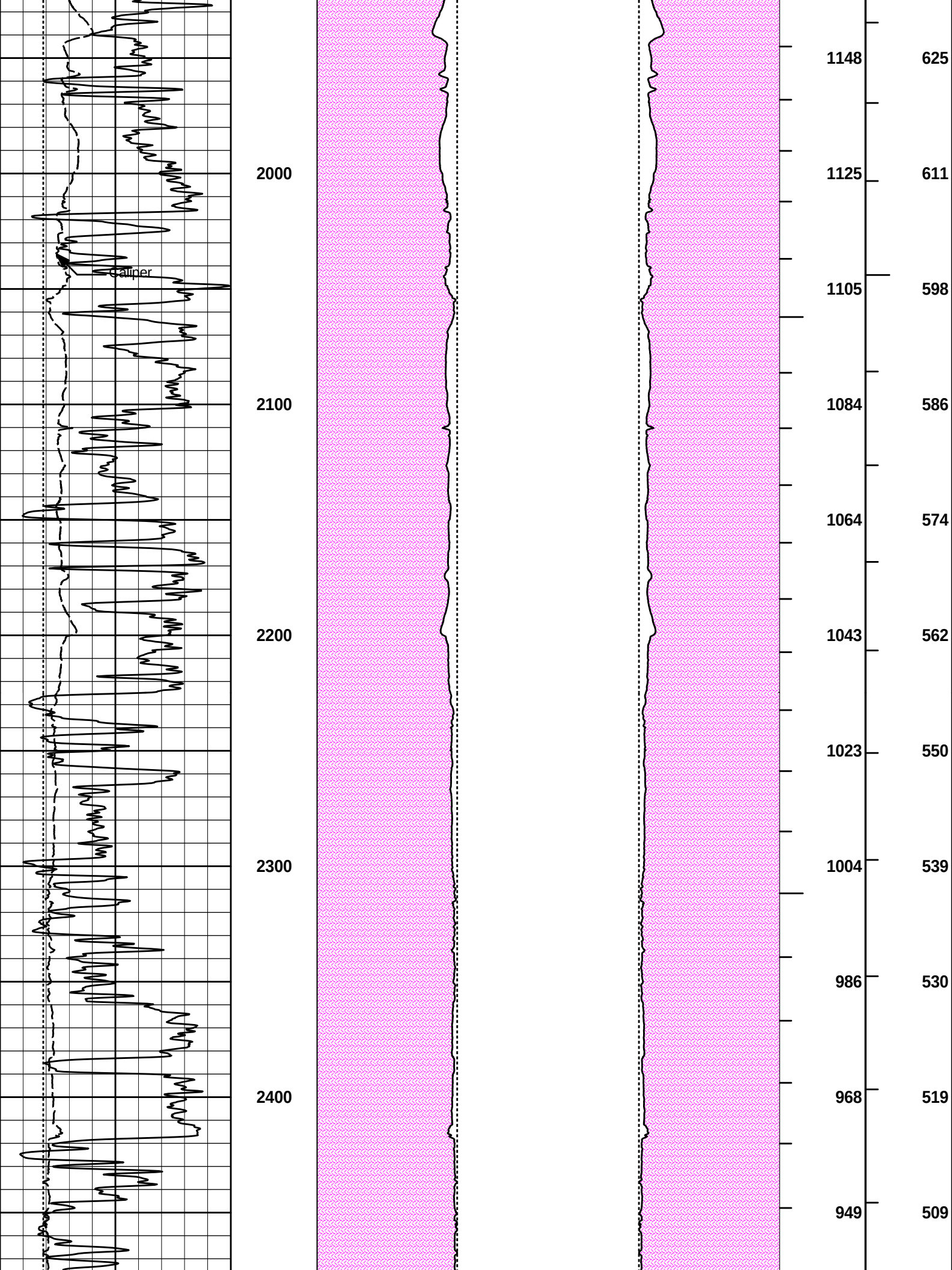
Plot Time: 06-May-14 08:01:23
Plot Range: 555 ft to 5117.75 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-003
Plot File: \\-LOCAL-\FORREST_SWD_1-7\0001 SP-GTET-CSNG-DSNT-SDLT-FLEX-IDT-ICT-WAVE-ACRT-BN\PORO\AHV_2_IQ_LIB

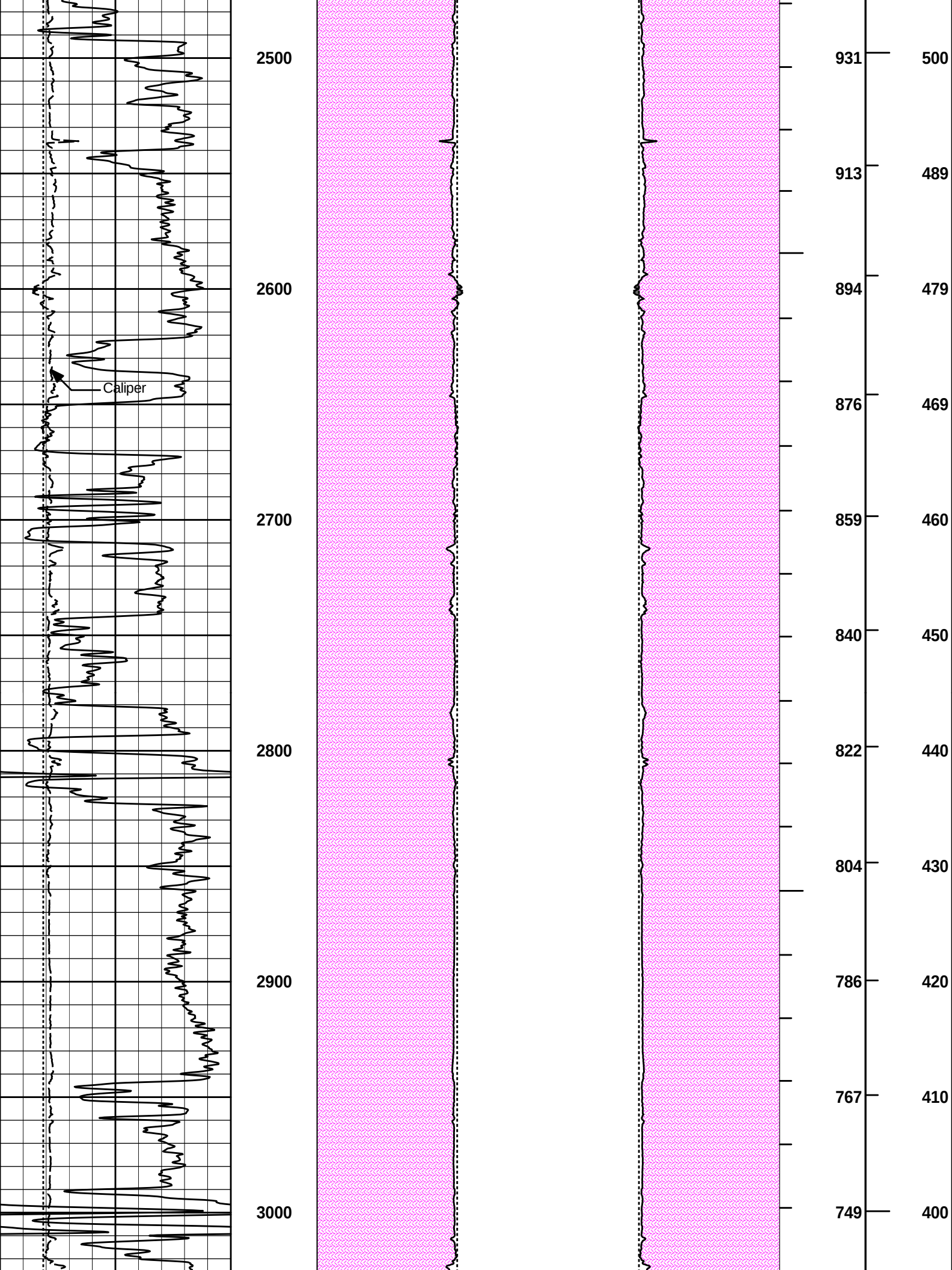
ANNULAR HOLE VOLUME PLOT

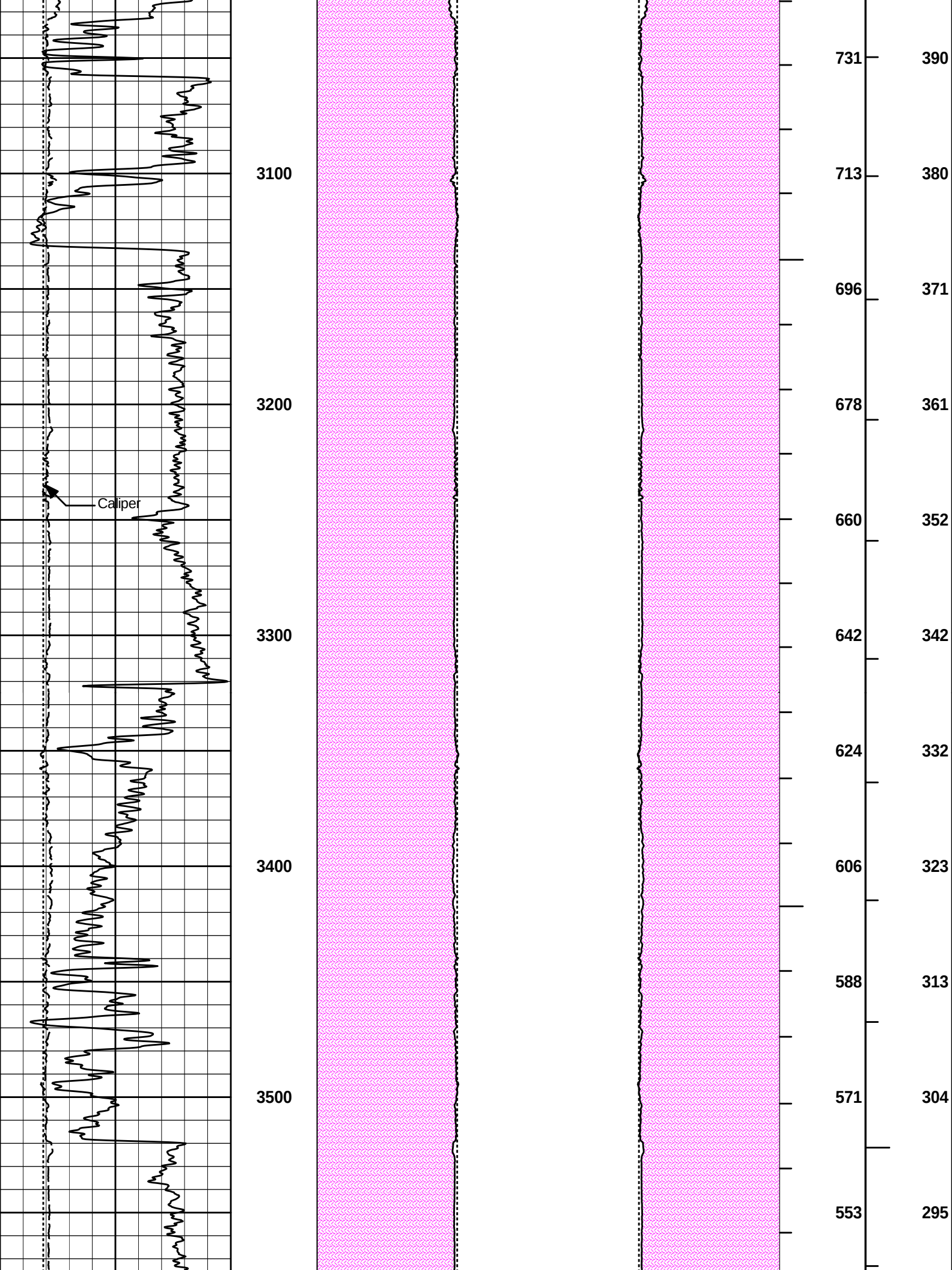


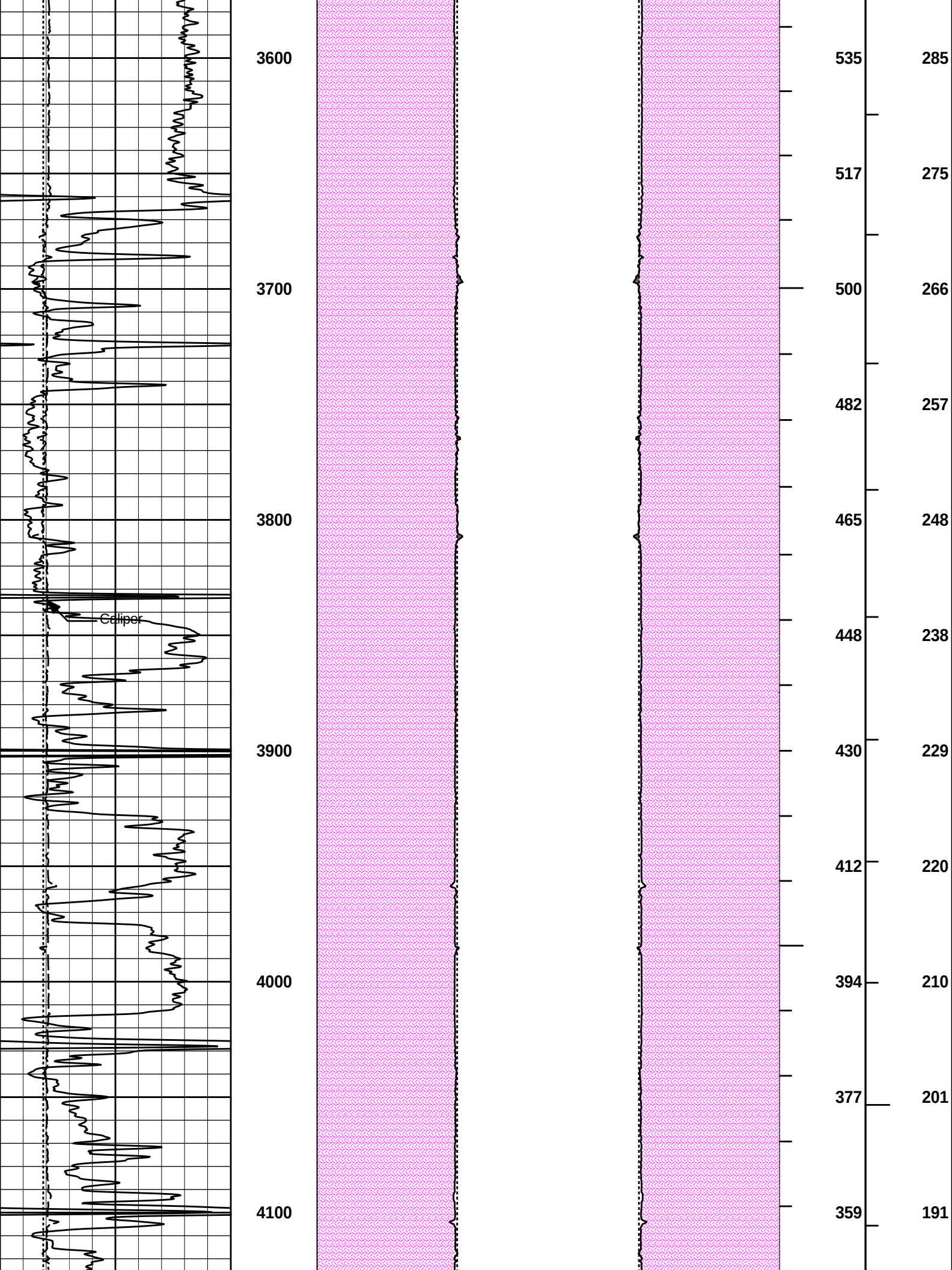

Caliper
900
1000
1100
1200
1300
1602
1578
1556
1537
1517
1498
1479
1459
1440
1420
1401
898
882
868
858
846
835
824
813
802
791
779

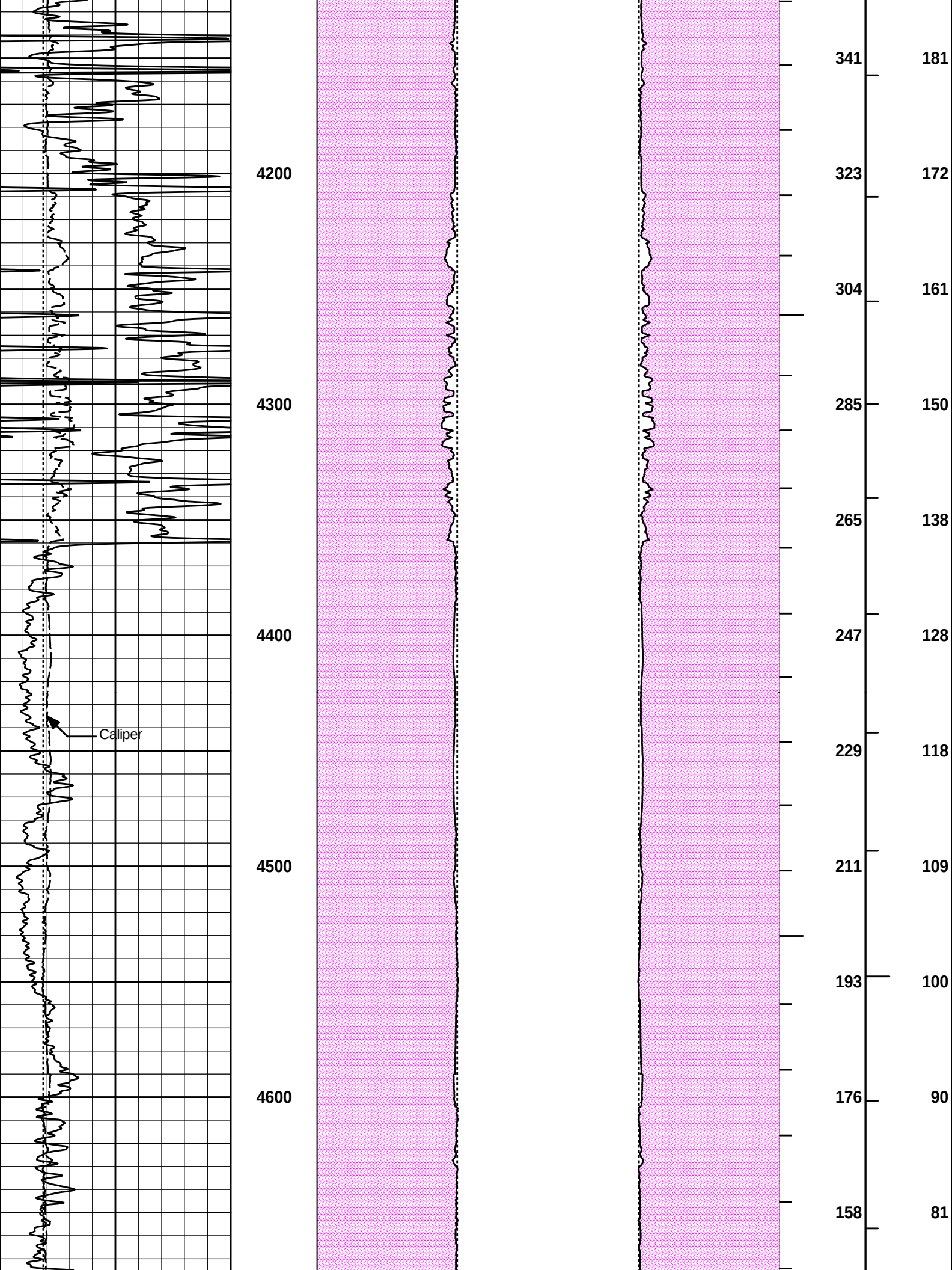

Caliper
1400
1500
1600
1700
1800
1900
1379
1359
1338
1317
1297
1276
1255
1234
1213
1190
1170
766
754
742
729
717
704
691
678
665
651
639

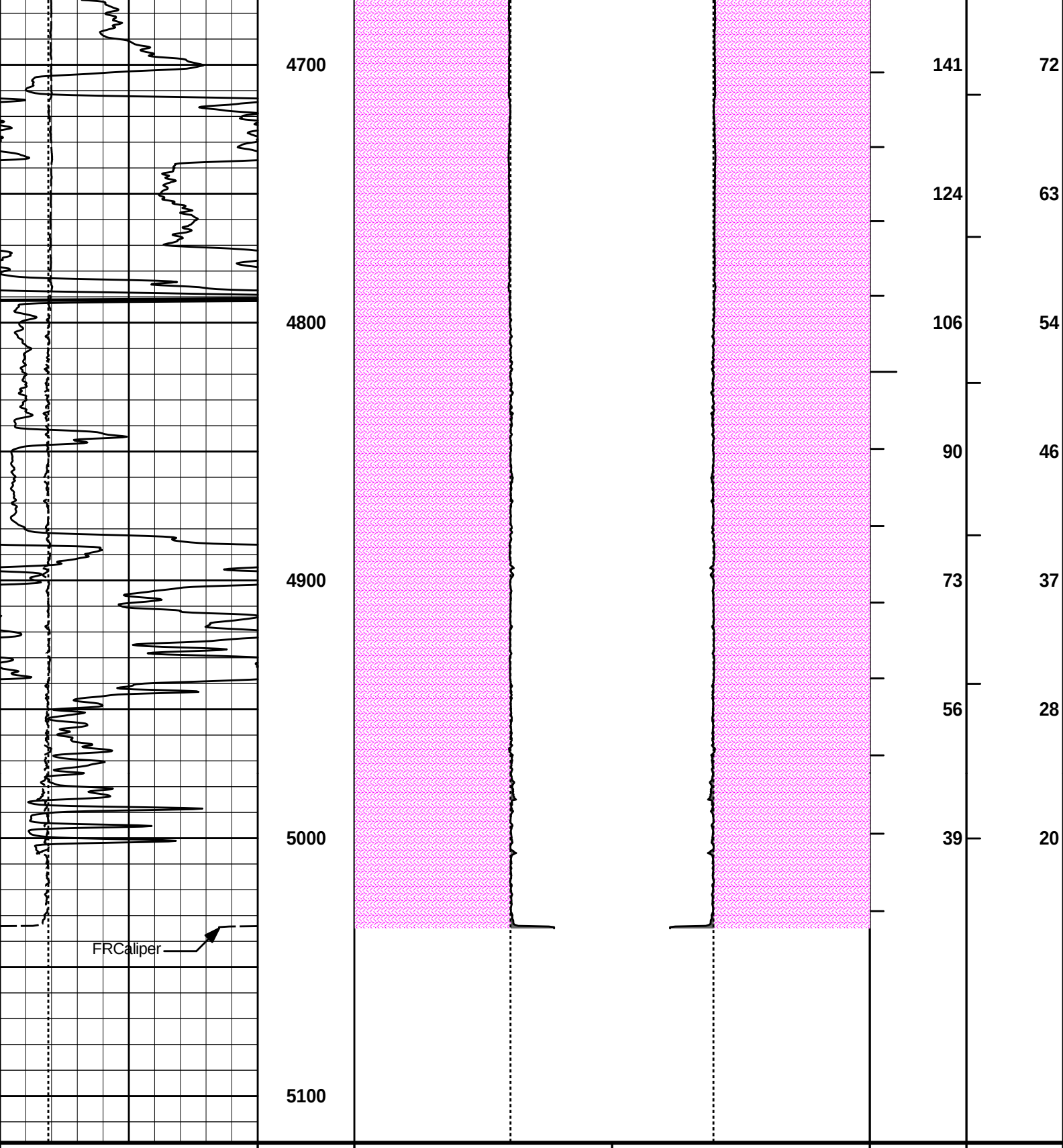

Caliper
2000
2100
2200
2300
2400
1148
1125
1105
1084
1064
1043
1023
1004
986
968
949
625
611
598
586
574
562
550
539
530
519
509


Caliper
2500
2600
2700
2800
2900
3000
931
913
894
876
859
840
822
804
786
767
749
500
489
479
469
460
450
440
430
420
410
400


Caliper
3100
3200
3300
3400
3500
731
713
696
678
660
642
624
606
588
571
553
390
380
371
361
352
342
332
323
313
304
295


Caliper
3600
3700
3800
3900
4000
4100
535
517
500
482
465
448
430
412
394
377
359
285
275
266
257
248
238
229
220
210
201
191


4200
4300
4400
4500
4600
Caliper
341
323
304
285
265
247
229
211
193
176
158
181
172
161
150
138
128
118
109
100
90
81



6 Caliper 16	MD 1 : 600 ft	20 Caliper 0
inches		inches
6 Bit Size 16		20 Bit Size 0
inches		
0 Gamma API 150		MUDCAKE
api		

0 Caliper 20	BHVT	AHVT
inches		
0 Bit Size 20		
MUDCAKE		

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Plot Time: 06-May-14 08:01:26
Plot Range: 555 ft to 5117.75 ft
Data: FORREST_SWD_1-7\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\FORREST_SWD_1-7\0001 SP-GTET-CSNG-DSNT-SDLT-FLEX-IDT-ICT-WAVE-ACRT-BN\PORO\AHV_2_IO_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	**SANDRIDGE ENERGY**		
WELL	**FORREST SWD 3404 1-7**		
FIELD	**BLUFF**		
COUNTY	**SUMNER**	STATE	**KANSAS**

HALLIBURTON

DUAL SPACED NEUTRON
SPECTRAL DENSITY
LOG