

# HALLIBURTON

## DUAL SPACED NEUTRON SPECTRAL DENSITY

COMPANY		MERIT ENERGY COMPANY, LLC	
WELL		KATY JACKSON 1-7	
FIELD/BLOCK		SEVEN MILE	
COUNTY		FINNEY	
STATE		KANSAS	
Permanent Datum	GL	Elev. 2857.9 ft	Elev. K.B. 2869.9 ft
Log measured from	KB	12.0 ft above perm. Datum	D.F. 2868.9 ft
Drilling measured from	KB		G.L. 2857.9 ft
Date	07-Apr-22		
Run No.	ONE		
Depth - Driller	5000.0 ft		
Depth - Logger	5000.0 ft		
Bottom - Logged Interval	4960.0 ft		
Top - Logged Interval	3500.0 ft		
Casing - Driller	8.625 in	@ 1813.0 ft	@
Casing - Logger	1811.0 ft		
Bit Size	7.875 in		@
Type Fluid in Hole	Water Based Mud		
Density	9.4 ppg	48.00 s/qt	
PH	11.00 pH	5.2 optm	
Source of Sample	MUD PIT		
Rm @ Meas. Temperature	1.45 ohmm	@ 56.10 degF	@
Rmf @ Meas. Temperature	1.73 ohmm	@ 56.10 degF	@
Rmc @ Meas. Temperature	1.10 ohmm	@ 56.10 degF	@
Source Rmf	CALC		
Rm @ BHT	0.74 ohmm	@ 117.0 degF	@
Time Since Circulation	06:30 hr		
Time on Bottom	08-Apr-22 01:00		
Max. Rec. Temperature	117.00 degF	@ 5000.0 ft	@
Equipment	12128583	ALVARADO	
Recorded By	K. BUERGA	M. ABUELGASIM	
Witnessed By	M. LANGE	A. GARNER	

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Sales Order Number: 907776086		API No.: 15055225570100		PGM Version: WL INSITE R6.4.20 (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.
Rmf @ Meas. Temp.	@		@				
Rmc @ Meas. Temp.	@		@				
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.	11958947	Serial No.		Serial No.	10763919	Serial No.	11019643
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.	GTET	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	Cs137	Source Type	Am241Be
Length	8"	LSA [Y/N]		Serial No.	5381GW	Serial No.	DSN313
Distance to Source	10'	FWDA [Y/N ]		Strength	1.78 Ci	Strength	15 Ci
LOGGING DATA							

GENERAL			GAMMA		ACOUSTIC		DENSITY			NEUTRON				
Run No.	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	5000'	3500'	REC	0 gapi	150 gapi				30%	-10%	2.71 g/cc	30%	-10%	LIME

**DIRECTIONAL INFORMATION**

Maximum Deviation	@	KOP	@
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Remarks: FIRST LOG ON WELL, POSITIVE DEPTH CORRECTION APPLIED  
 ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING  
 LOGGING INTERVALS AND SERVICES ARE AS PER CUSTOMER REQUEST  
 TOOLS RAN IN COMBINATION AS PER TOOLSTRING DIAGRAM  
 CHLORIDES REPORTED AT 2,900

CREW: C. HERRERA, B. EZEKWU

\*\*\*\*\*THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES\*\*\*\*\*

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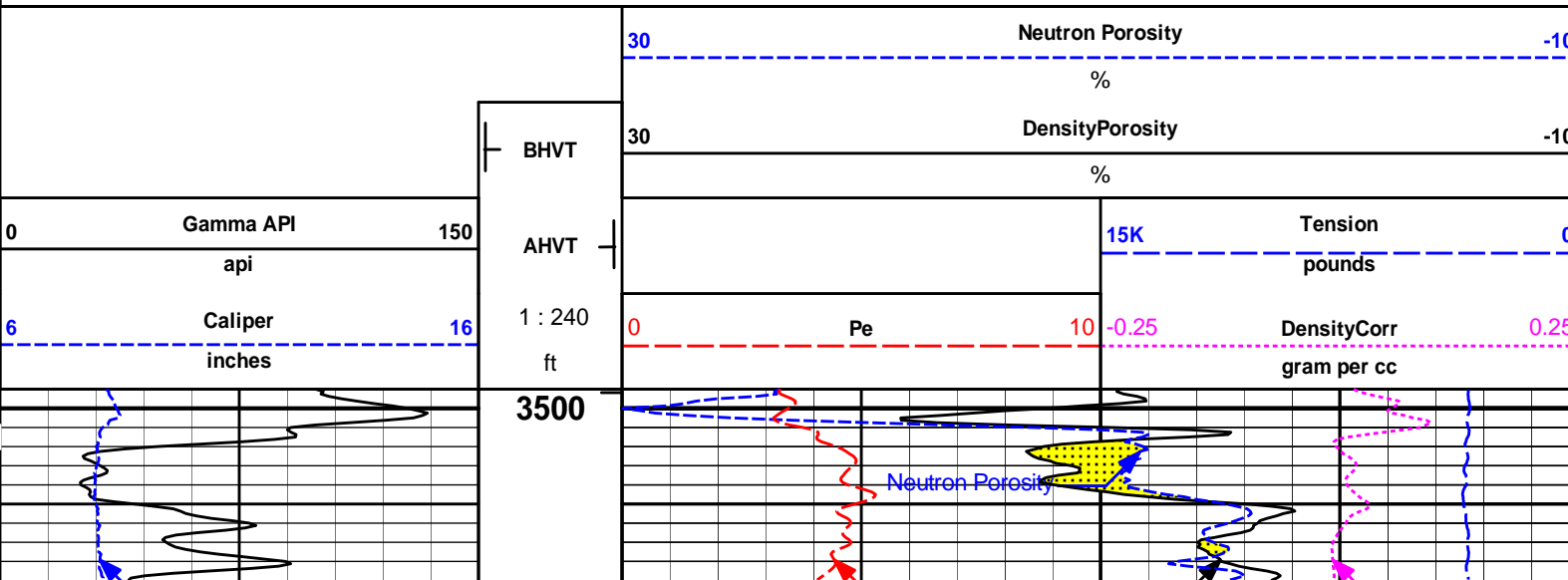
HALLIBURTON

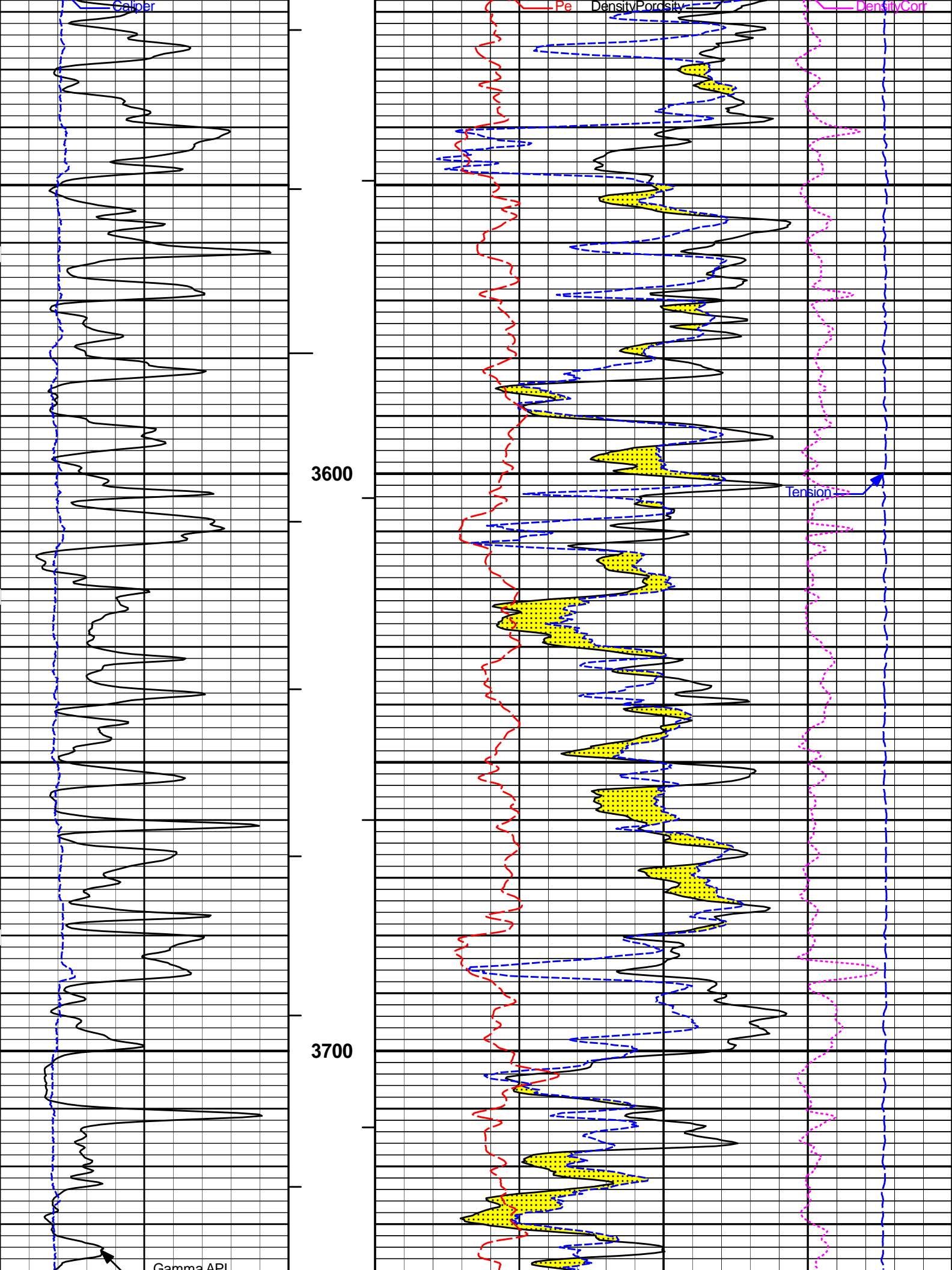


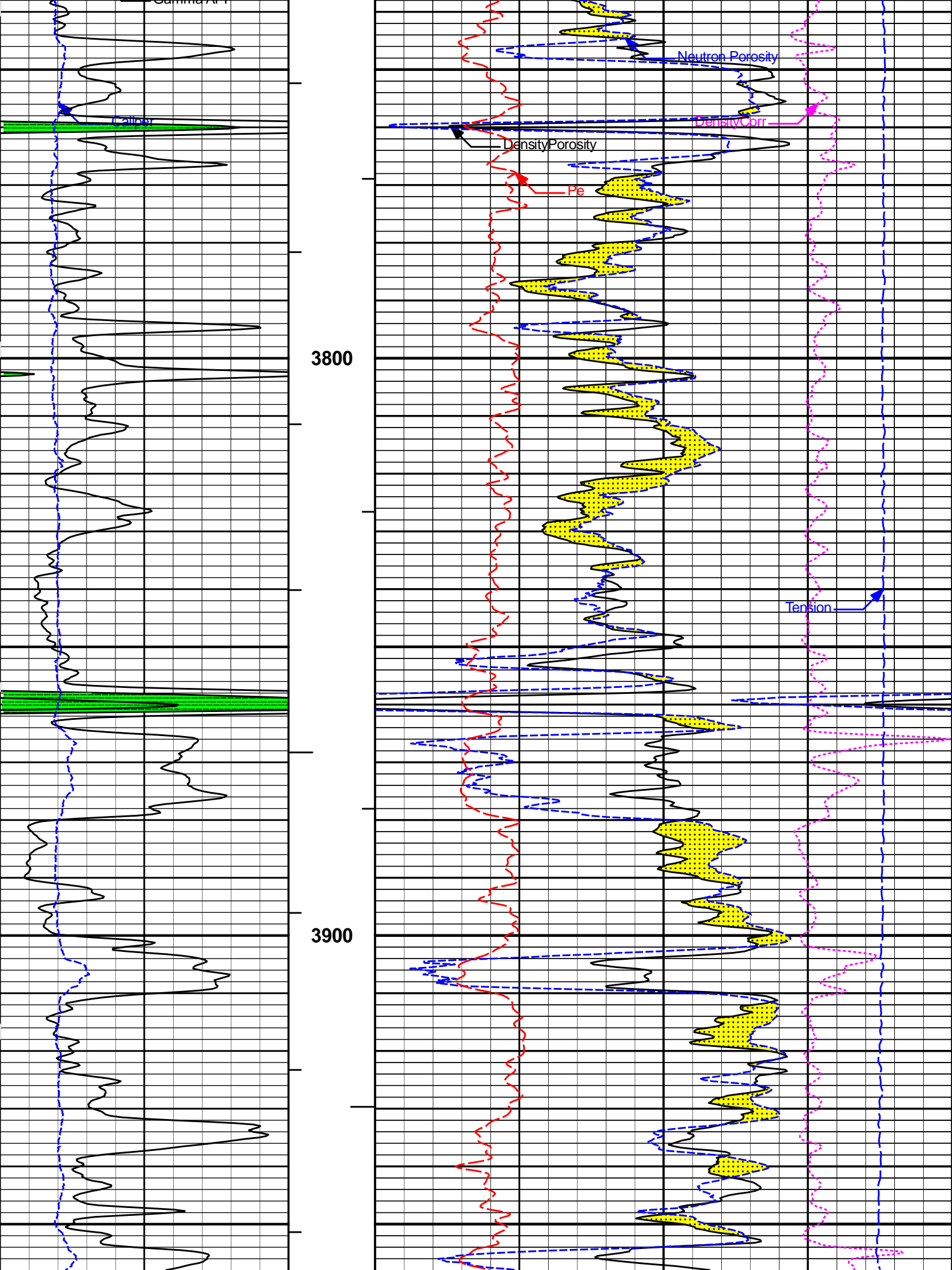
Plot Time: 08-Apr-22 02:55:37  
 Plot Range: 3498 ft to 5006.67 ft  
 Data: 04\_07\_MERIT\Well Based\DAQ-DETAIL\  
 Plot File: \\POR\Porosity\_IQ\_5\_MAIN

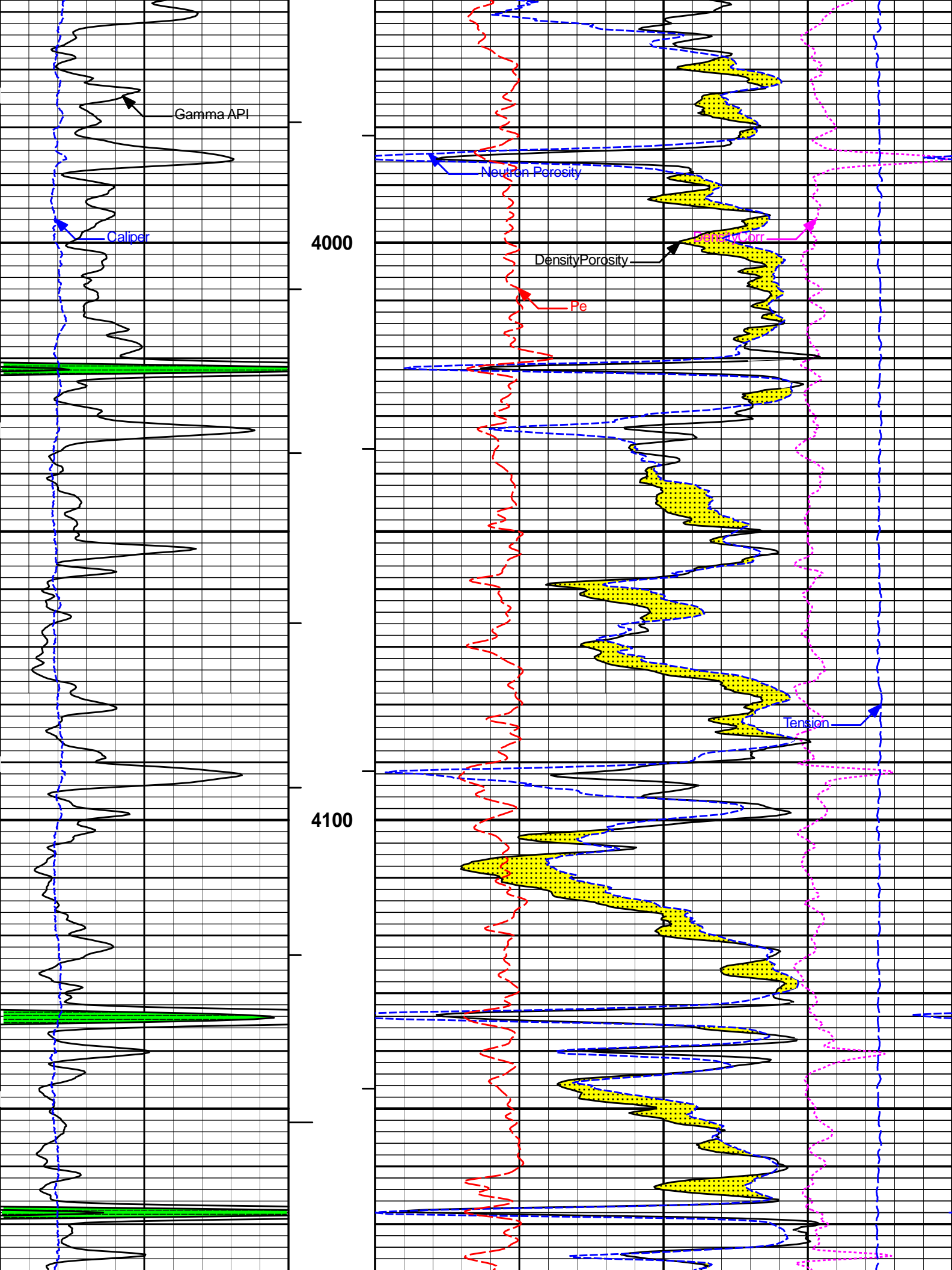
## 5 INCH MAIN LOG

### MAIN SECTION 5" PER 100'

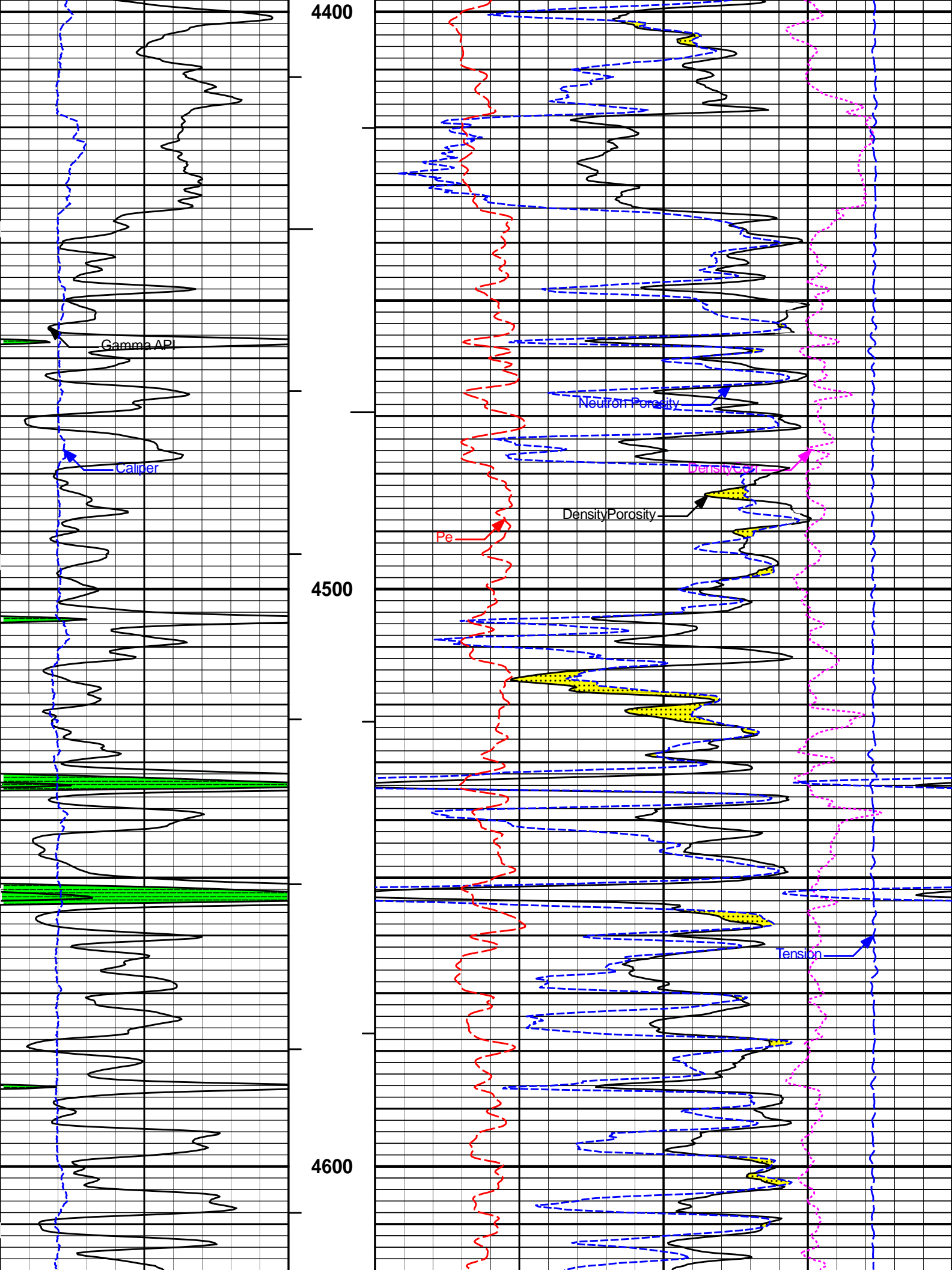


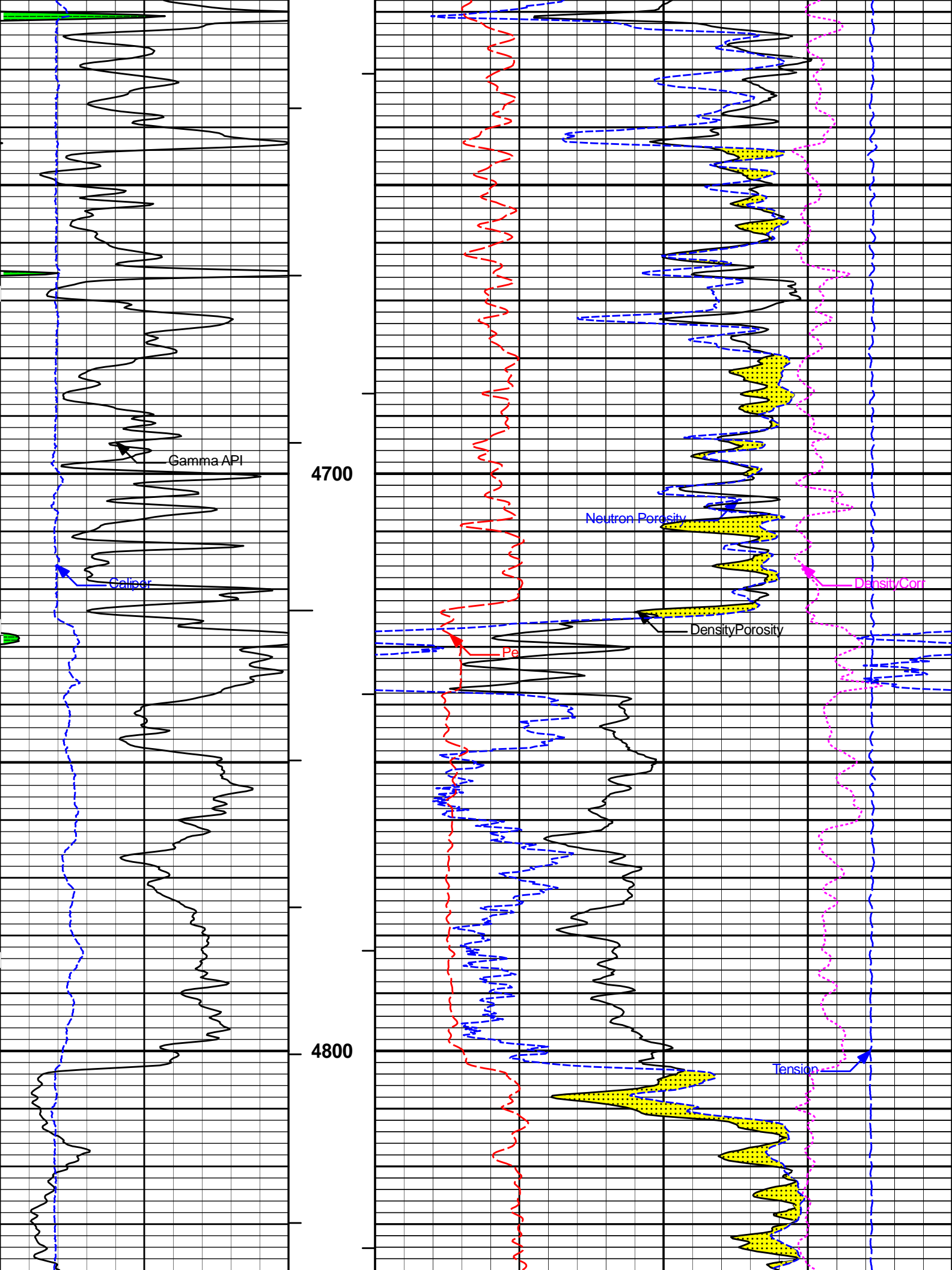




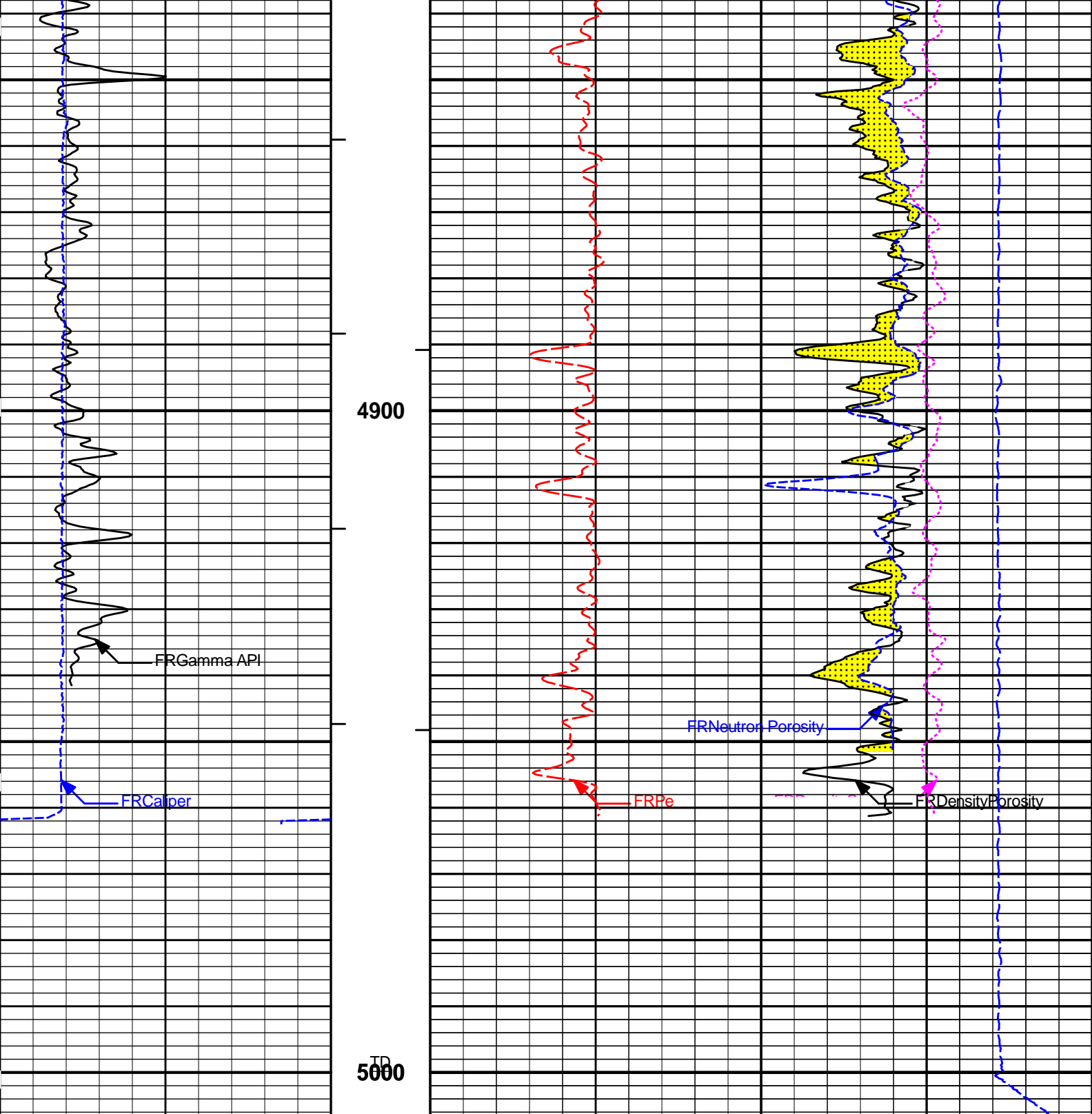












6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					gram per cc	
0	Gamma API	150	AHVT				15K	Tension	0
	api							pounds	
			BHVT	30	DensityPorosity				-10
					%				
				30	Neutron Porosity				-10
					%				

# 5 INCH MAIN LOG

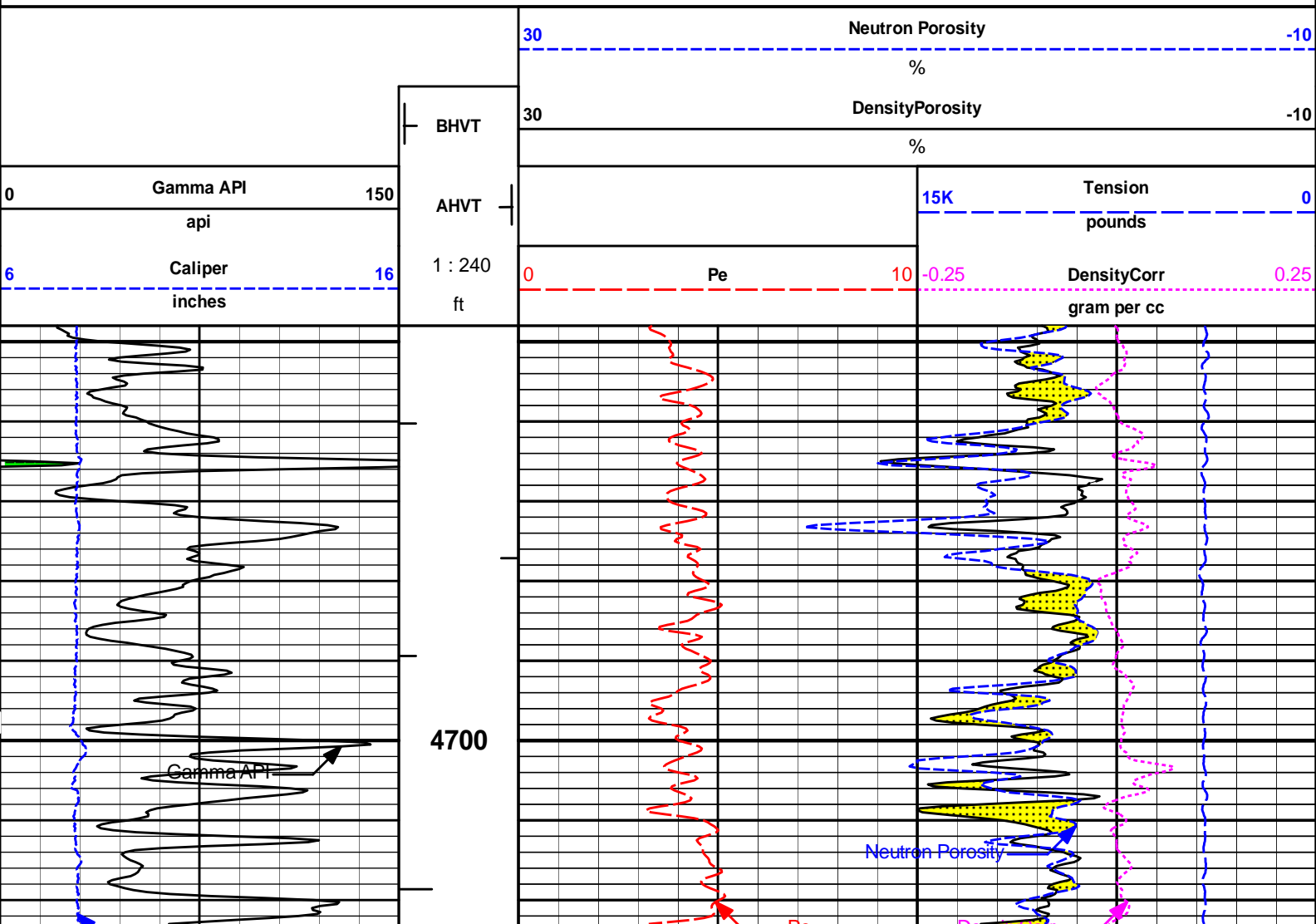
## MAIN SECTION 5" PER 100'

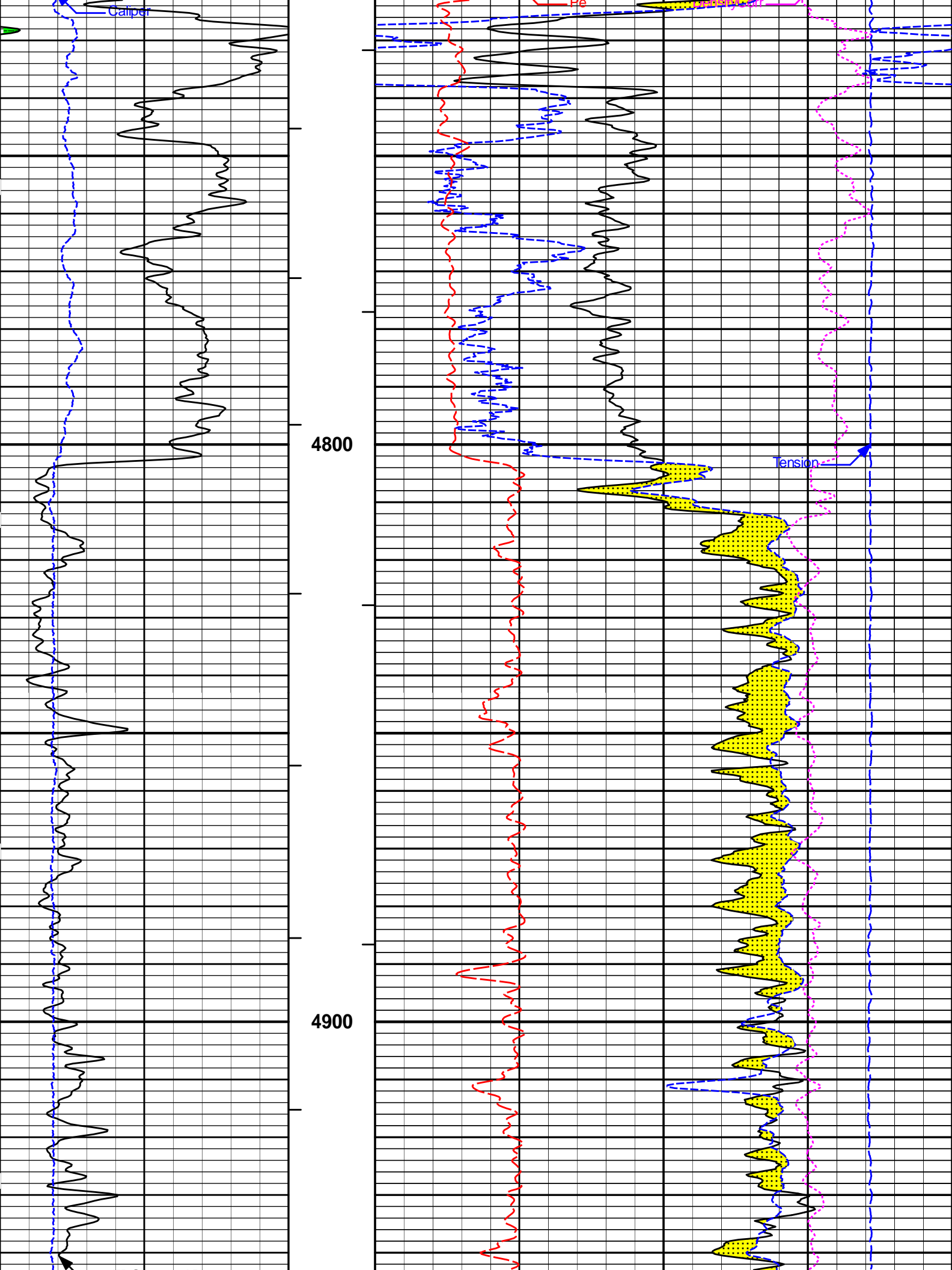
**HALLIBURTON**

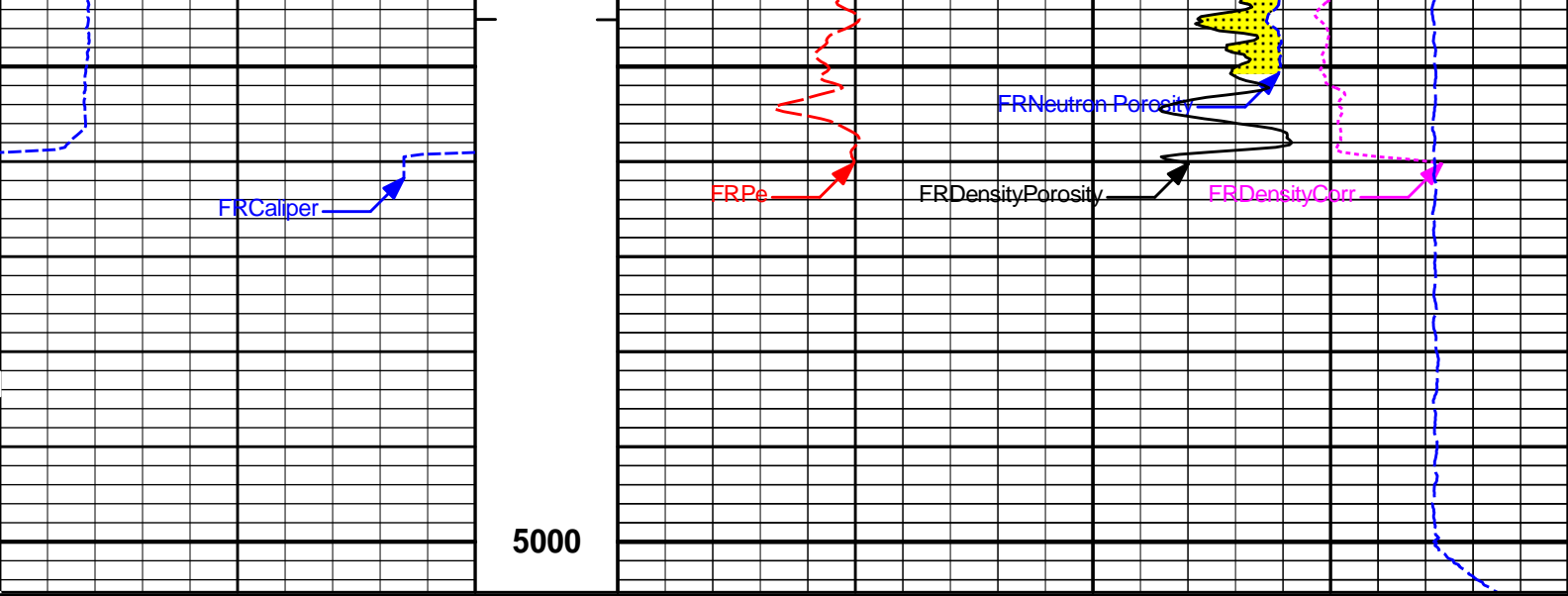
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Plot Range: 4648 ft to 5005.33 ft  
Data: 04\_07\_MERIT\Well Based\DAQ-0001-003\  
Plot File: \\POR\Porosity\_IQ\_5\_MAIN

## REPEAT SECTION

## REPEAT SECTION







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

**HALLIBURTON** Plot Time: 08-Apr-22 02:55:41  
 Plot Range: 4648 ft to 5005.33 ft  
 Data: 04\_07\_MERITWell Based\DAQ-0001-003\  
 Plot File: \\POR\Porosity\_5\_MAIN

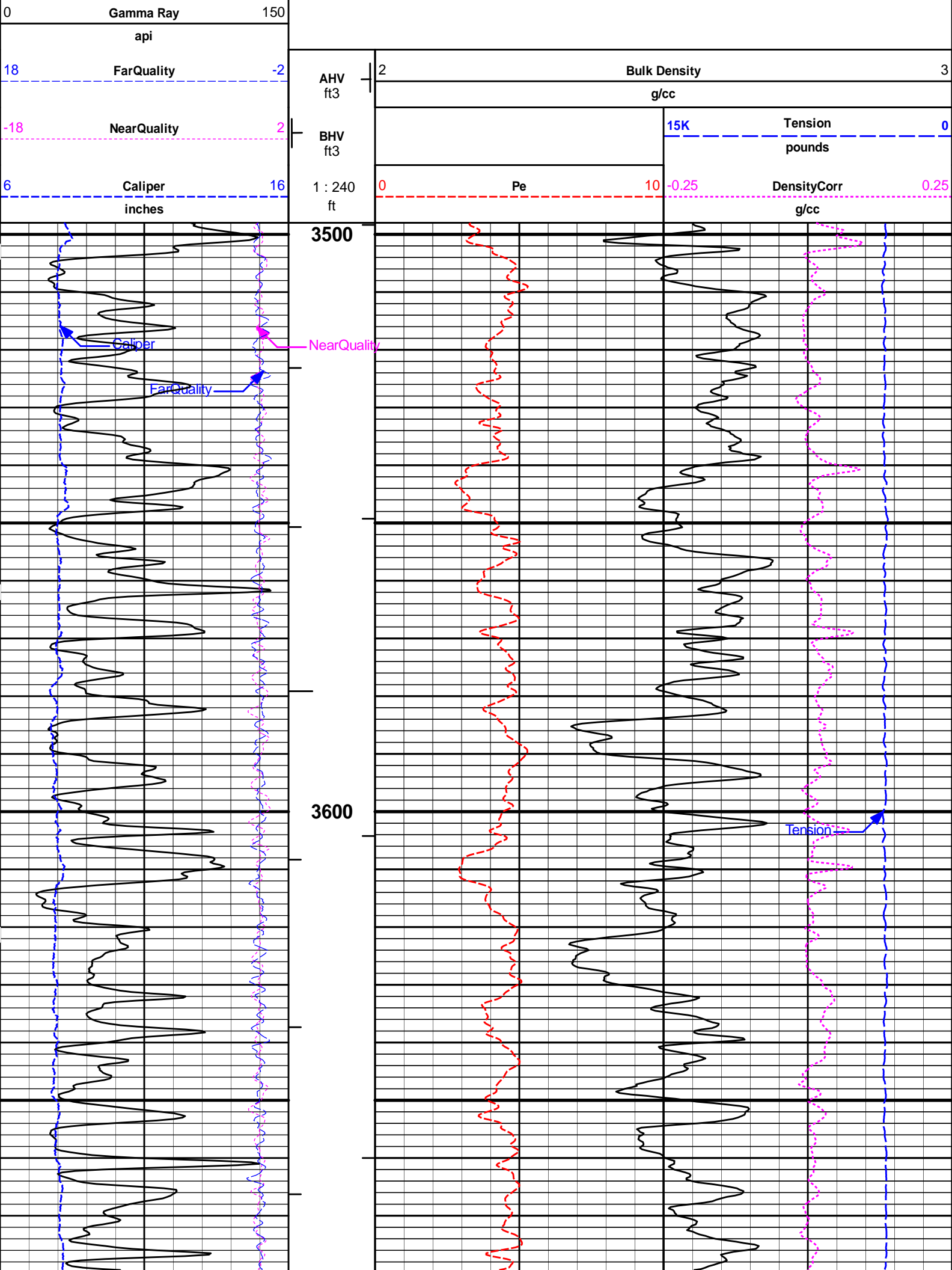
**REPEAT SECTION**

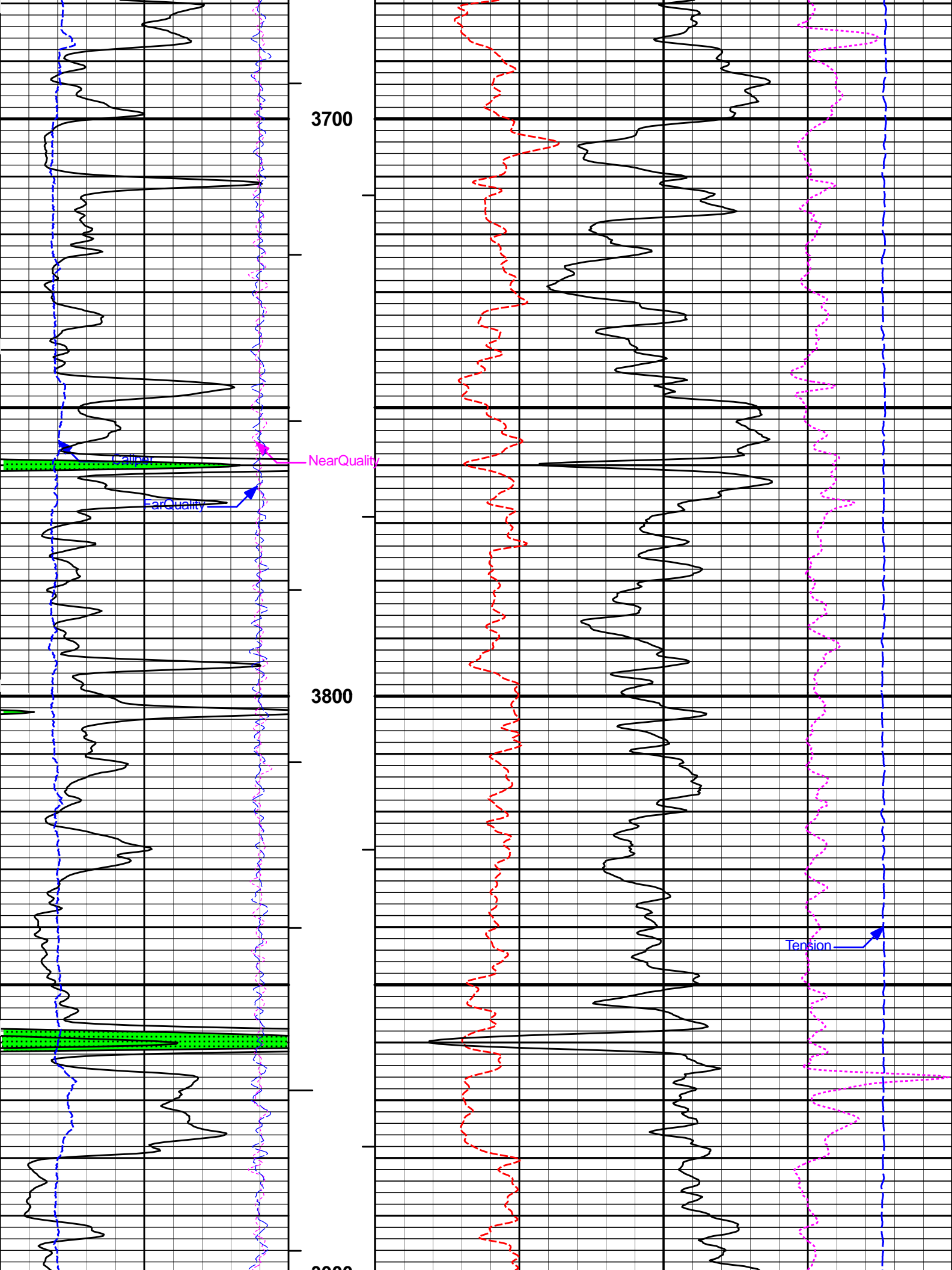
**REPEAT SECTION**

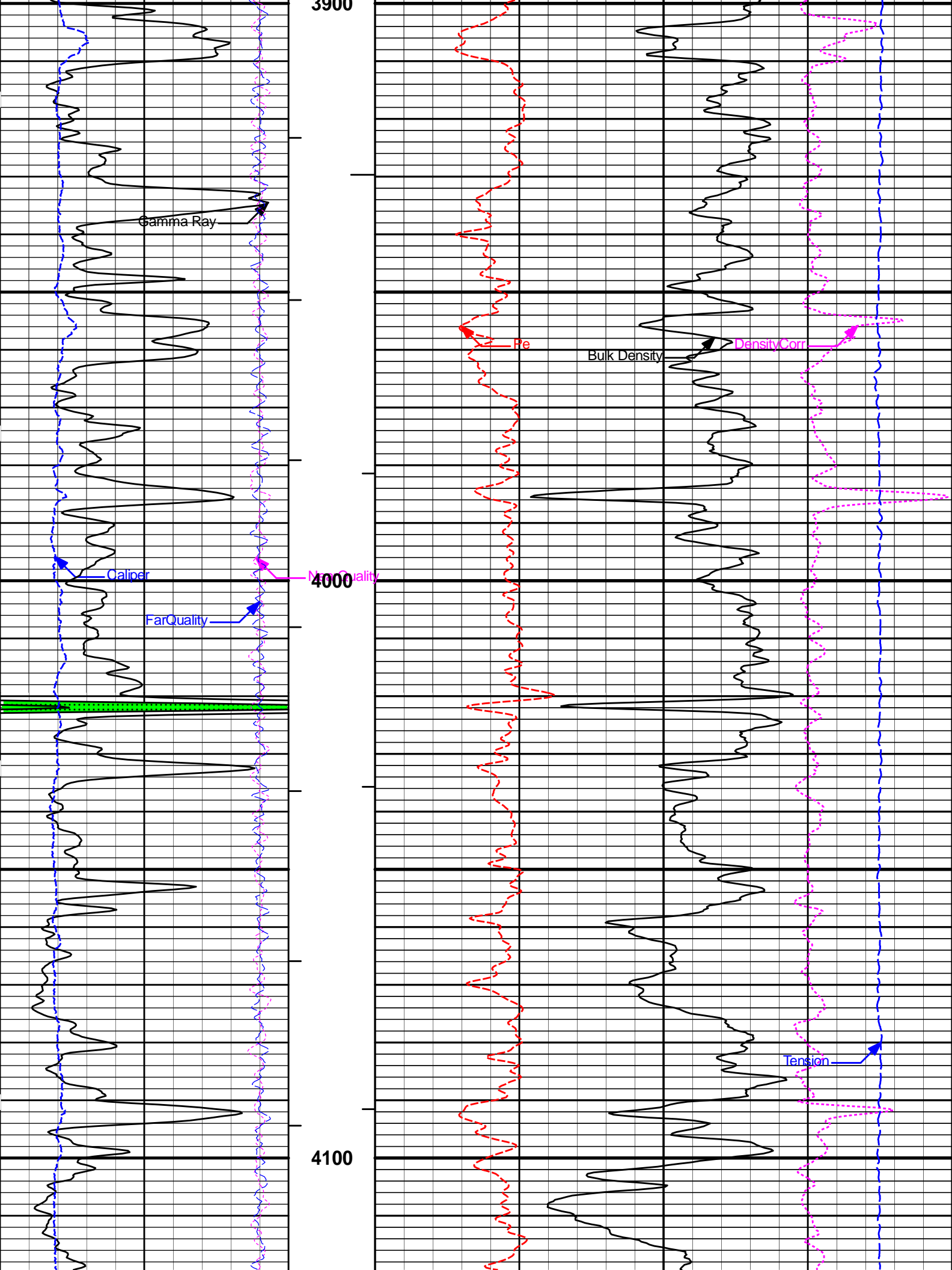
**HALLIBURTON** Plot Time: 08-Apr-22 02:55:41  
 Plot Range: 3498 ft to 5006.67 ft  
 Data: 04\_07\_MERITWell Based\DAQ-DETAIL\  
 Plot File: \\LOCAL-104\_07\_MERIT0001 RWCH-GTET-DSNT-SDLT-BSAT-ACRT\POR\BULKD\_5\_MAIN\_IQ

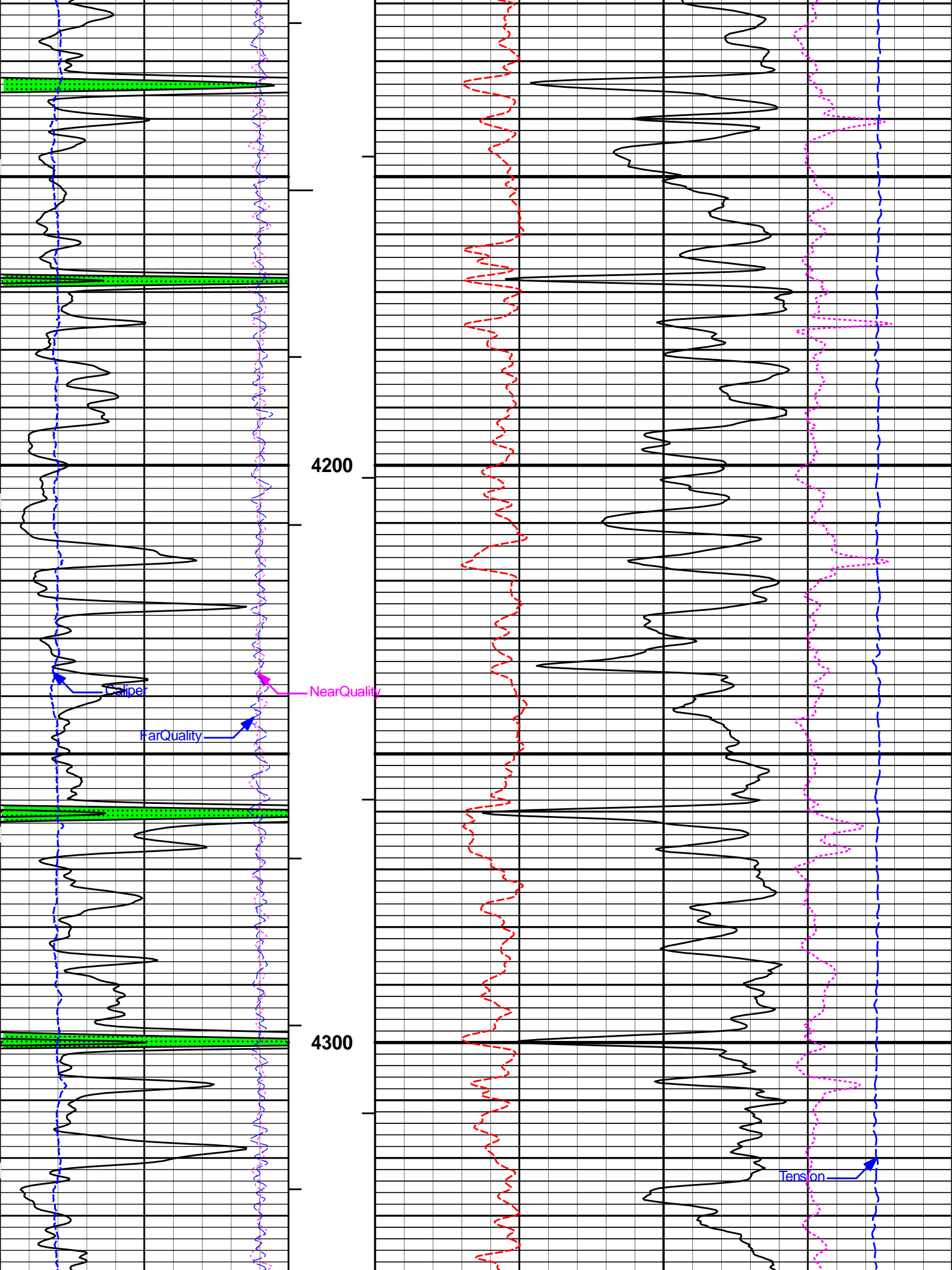
**5 INCH MAIN LOG**

**MAIN SECTION 5" PER 100'**

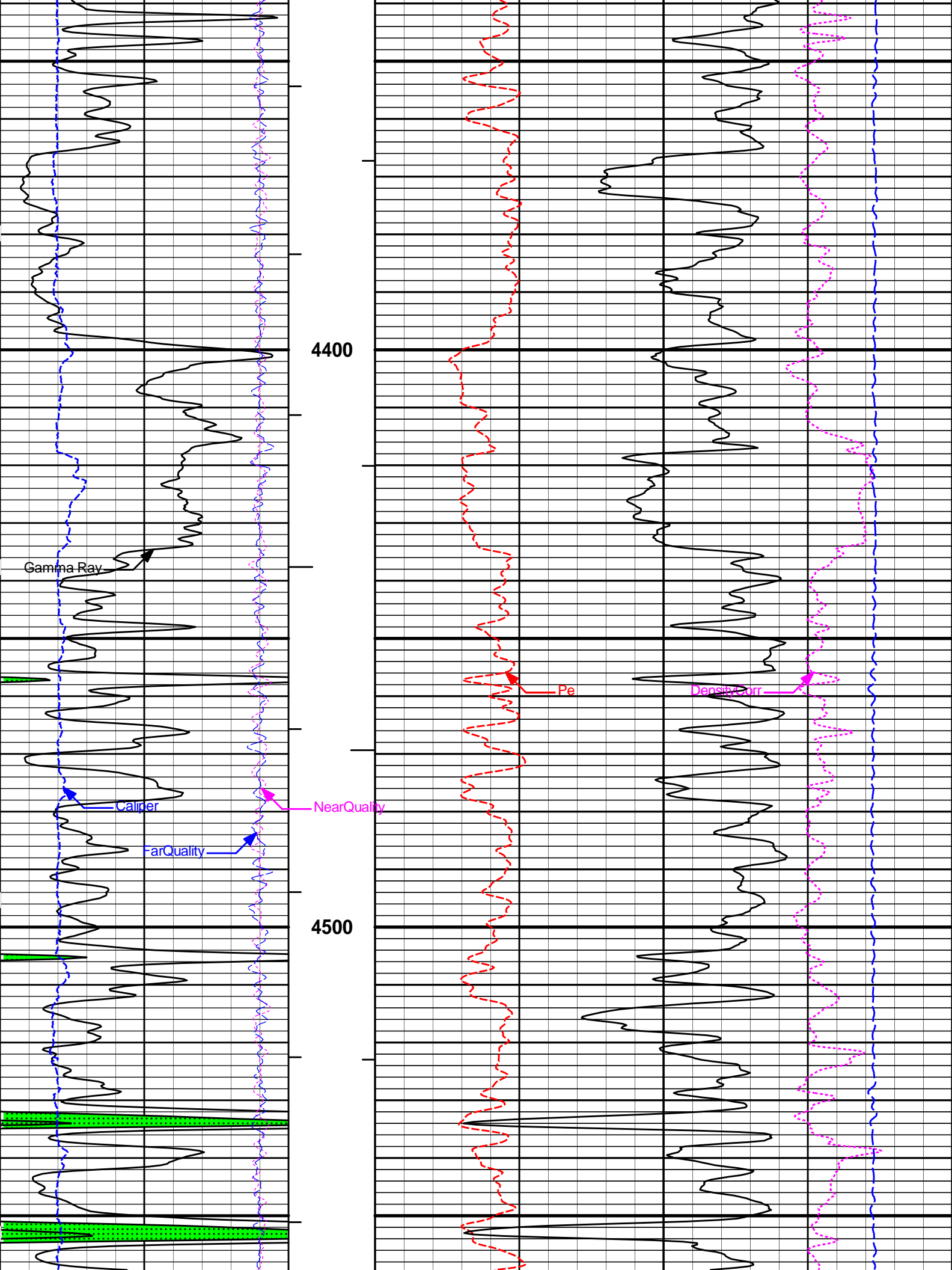


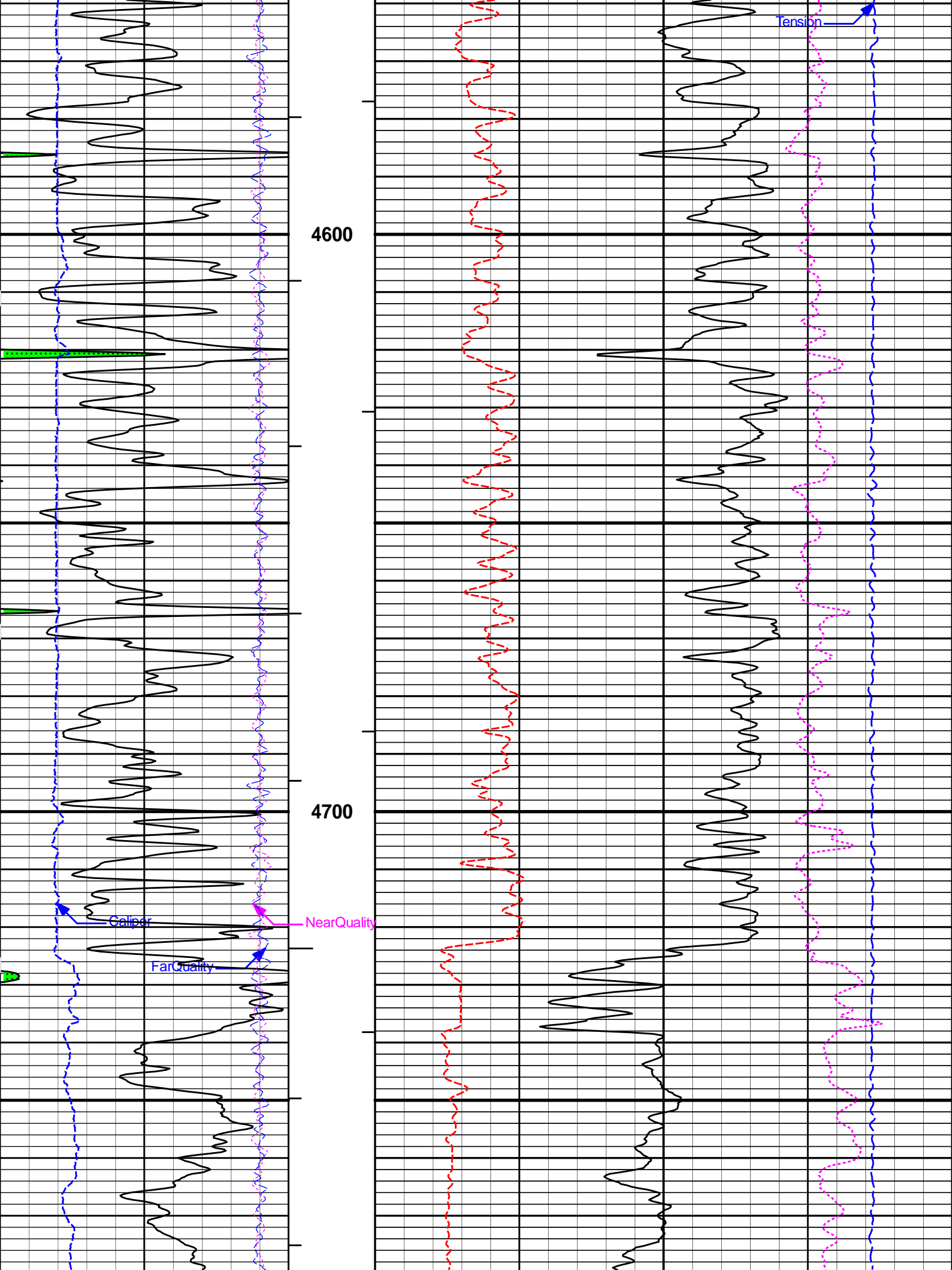


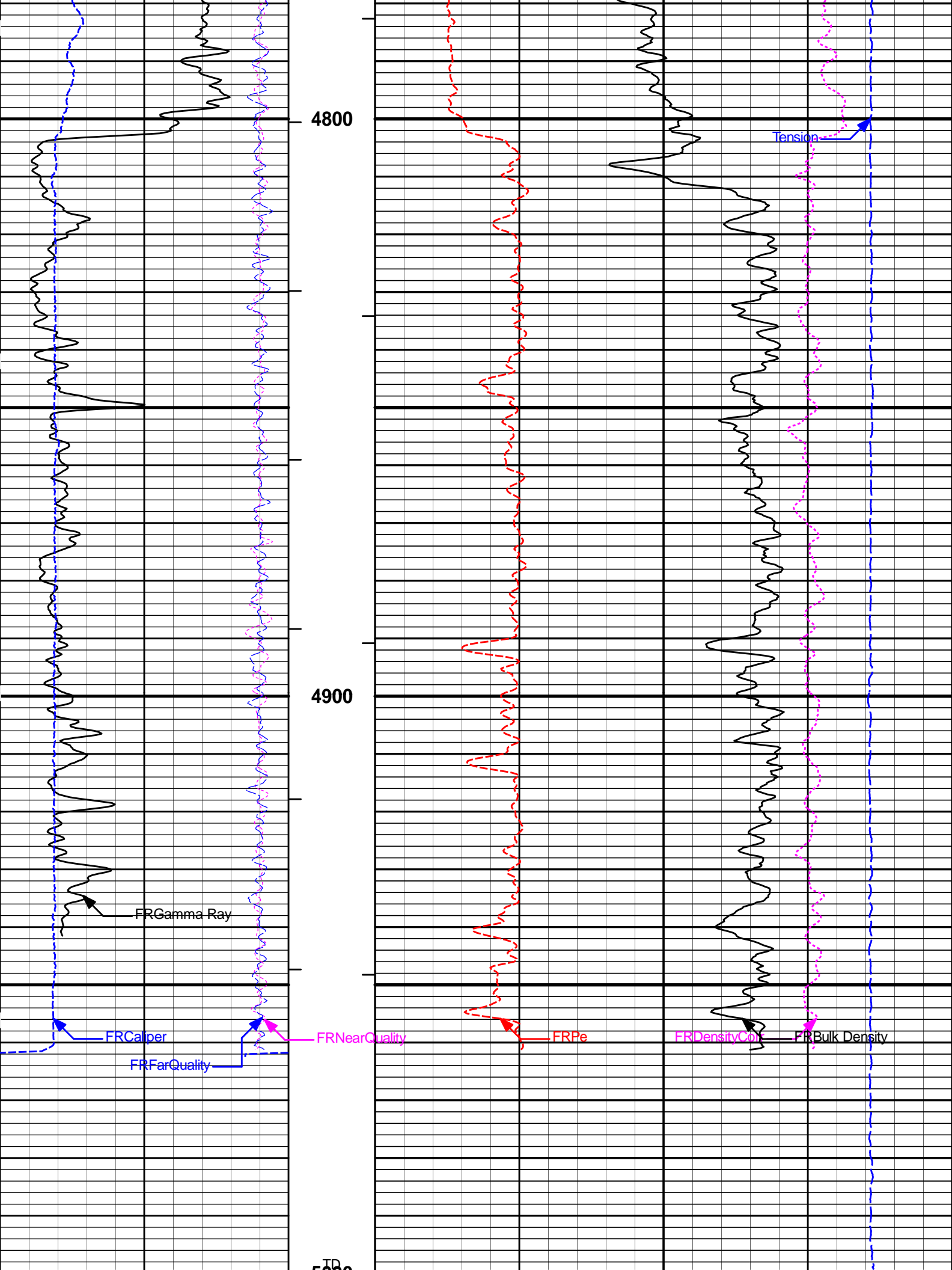












6	Caliper	16	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft					g/cc	
-18	NearQuality	2	BHV				15K	Tension	0
			ft3					pounds	
18	FarQuality	-2	AHV	2	Bulk Density				3
			ft3		g/cc				
0	Gamma Ray	150							
	api								

**HALLIBURTON** Plot Time: 08-Apr-22 02:55:43  
 Plot Range: 3498 ft to 5006.67 ft  
 Data: 04\_07\_MERIT\Well Based\DAQ-DETAIL\  
 Plot File: \\LOCAL-104\_07\_MERIT\0001 RWCH-GTET-DSNT-SDLT-BSAT-ACRT\POR\BULKD\_5\_MAIN\_IQ

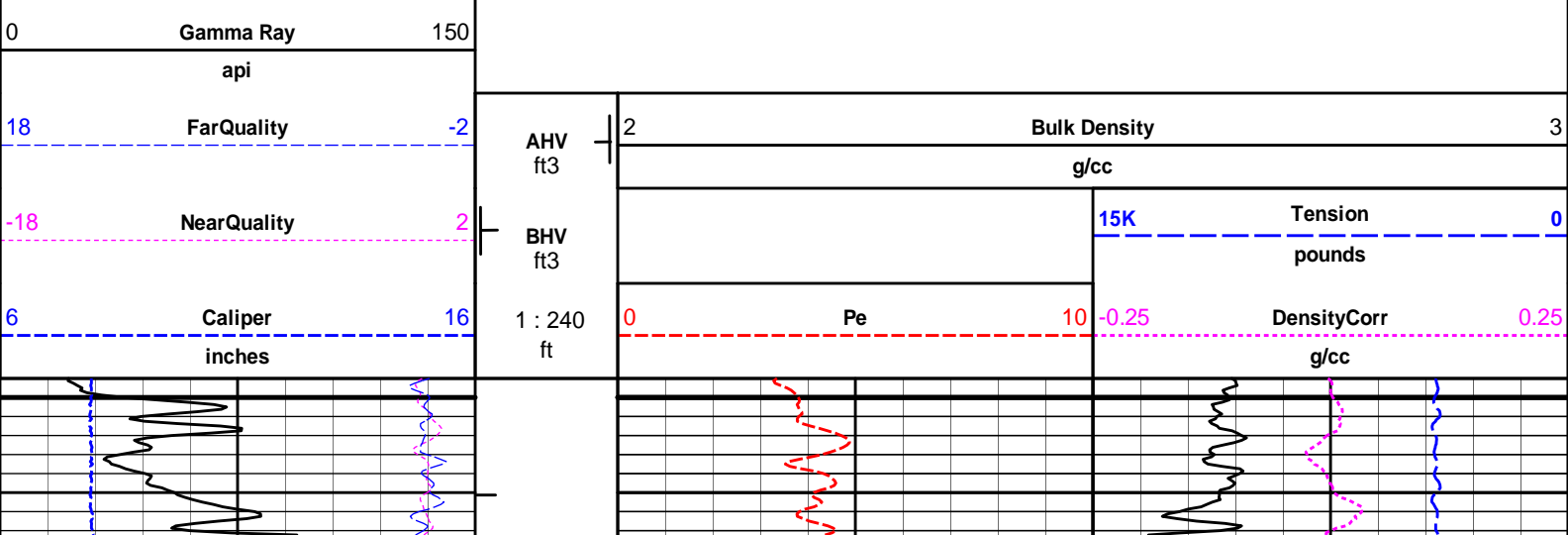
## 5 INCH MAIN LOG

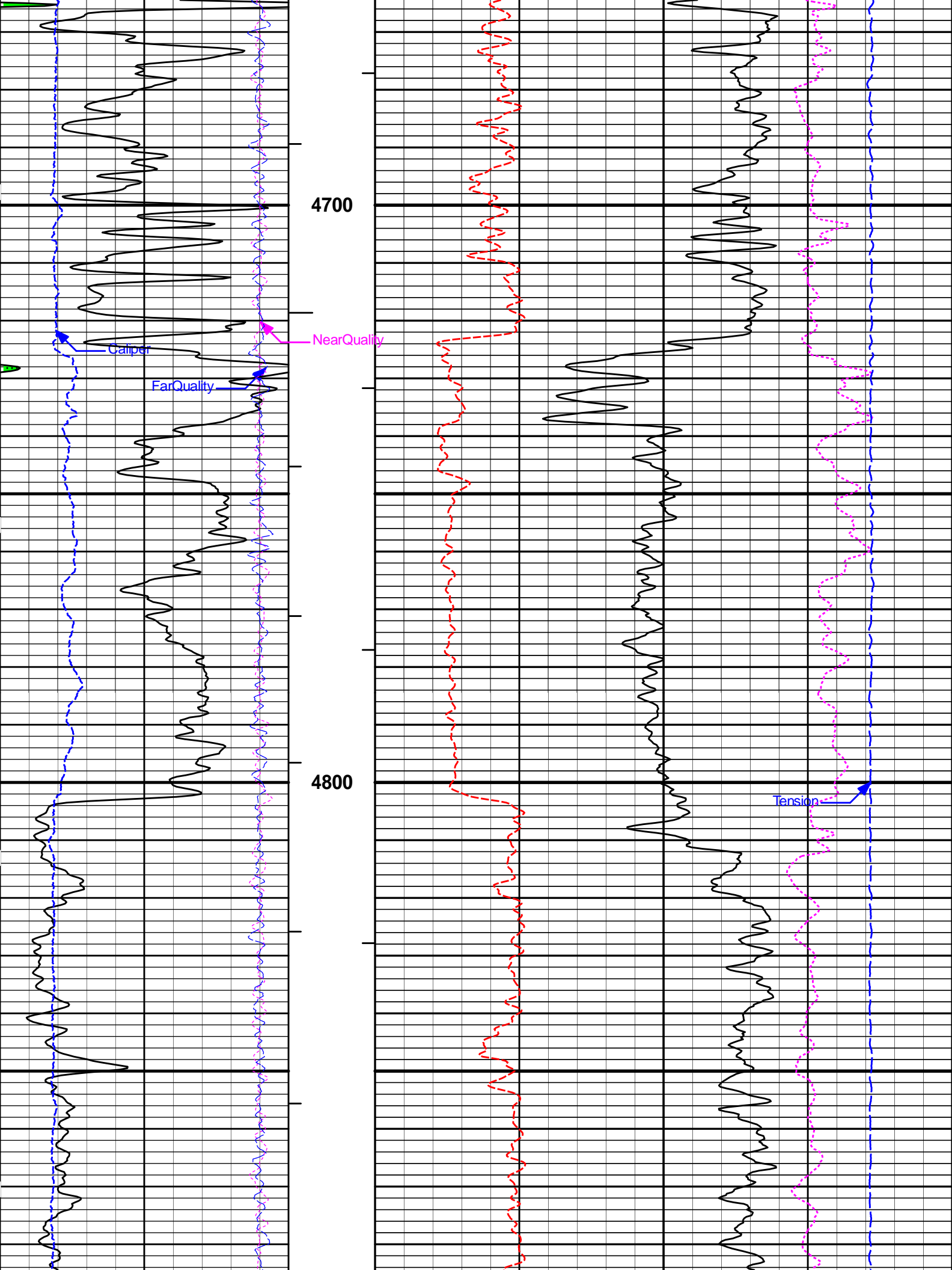
### MAIN SECTION 5" PER 100'

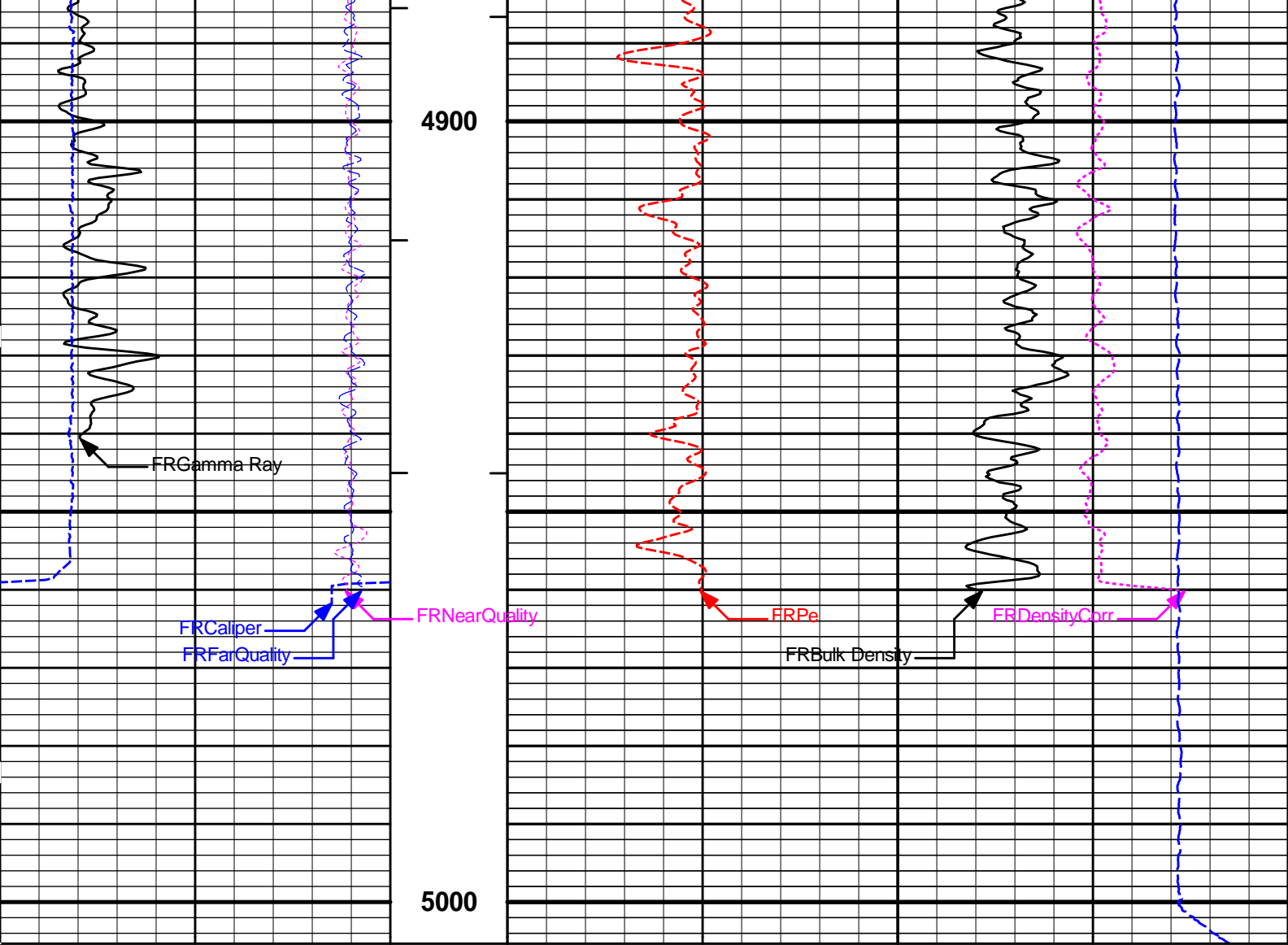
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 Plot Range: 4648 ft to 5005.33 ft  
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 Plot File: \\LOCAL-104\_07\_MERIT\0001 RWCH-GTET-DSNT-SDLT-BSAT-ACRT\POR\BULKD\_5\_MAIN\_IQ

## REPEAT SECTION

### REPEAT SECTION







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

**HALLIBURTON**

Plot Time: 08-Apr-22 02:55:45  
 Plot Range: 4648 ft to 5005.33 ft  
 Data: 04\_07\_MERITWell Based\DAQ-0001-003\  
 Plot File: \\-LOCAL-04\_07\_MERIT0001 RWCH-GTET-DSNT-SDLT-BSAT-ACRT\POR\BULKD\_5\_MAIN\_IQ

**REPEAT SECTION**

**REPEAT SECTION**

**CALIBRATION REPORT**

**NATURAL GAMMA RAY TOOL SHOP CALIBRATION**

**Tool Name:** GTET - 11958947

**Reference Calibration Date:** 19-Dec-21 12:49:37

**Engineer:** M. GALLION

**Calibration Date:** 07-Mar-22 16:02:32

**Software Version:** WL INSITE R6.4.20 (Build 2)

**Calibration Version:** 1

Calibrator Source S/N: TB-768

Calibrator API Reference:203.00 api

Equivalent Calibrator API Reference:206.6 api

Measurement	Measured	Calibrated	Units
Background	17.8	17.9	api
Background + Calibrator	222.2	224.5	api
Calibrator	204.5	206.6	api

**NATURAL GAMMA RAY TOOL FIELD CALIBRATION**

**Tool Name:** GTET - 11958947

**Reference Calibration Date:** 07-Mar-22 16:02:32

**Engineer:** M. GALLION

**Calibration Date:** 07-Mar-22 16:05:20

**Software Version:** WL INSITE R6.4.20 (Build 2)

**Calibration Version:** 1

Calibrator Source S/N: TB-768

Calibrator API Reference:203.00 api

Equivalent Calibrator API Reference:206.6 api

Field Verification	Shop	Field	Units
Background	17.9	18.4	api
Background + Calibrator	224.5	223.9	api
Calibrator	206.6	205.5	api

Shop	Field	Difference	Tolerance
206.6	205.5	1.1	+/- 9.00

**DUAL SPACED NEUTRON SHOP CALIBRATION**

**Tool Name:** DSNT - 11019643

**Reference Calibration Date:** 20-Nov-21 07:01:22

**Engineer:** M. GALLION

**Calibration Date:** 03-Mar-22 14:13:22

**Software Version:** WL INSITE R6.6.1 (Build 2)

**Calibration Version:** 1

Logging Source S/N: DSN-313

Tank Serial Number: 10585331

Reference value assigned to Tank: 54.090

Snow Block S/N: 7665

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:	0.99248	0.98833	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):	0.2257	0.2244	0.0013	+/- 0.0020
Calibrated Ratio:	10.2239	10.1812	0.043	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0842	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION			
<b>Tool Name:</b>	<b>DSNT - 11019643</b>	<b>Reference Calibration Date:</b>	<b>03-Mar-22 14:13:22</b>
<b>Engineer:</b>	<b>M. GALLION</b>	<b>Calibration Date:</b>	<b>03-Mar-22 14:14:35</b>
<b>Software Version:</b>	<b>WL INSITE R6.6.1 (Build 2)</b>	<b>Calibration Version:</b>	<b>1</b>

Logging Source S/N: DSN-313  
Snow Block S/N: 7665

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0842	0.0844	0.0002	+/- 0.0150

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

DUAL SPACED NEUTRON POST CALIBRATION			
<b>Tool Name:</b>	<b>DSNT - 11019643</b>	<b>Reference Calibration Date:</b>	<b>03-Mar-22 14:14:35</b>
<b>Engineer:</b>	<b>M. GALLION</b>	<b>Calibration Date:</b>	<b>03-Mar-22 14:15:45</b>
<b>Software Version:</b>	<b>WL INSITE R6.6.1 (Build 2)</b>	<b>Calibration Version:</b>	<b>1</b>

Logging Source S/N: DSN-313  
Snow Block S/N: 7665

NEUTRON POST-CHECK SUMMARY				
	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0844	0.0847	0.0003	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION			
<b>Tool Name:</b>	<b>SDLT - 11014296</b>	<b>Reference Calibration Date:</b>	<b>03-Mar-22 17:02:51</b>
<b>Engineer:</b>	<b>M. GALLION</b>	<b>Calibration Date:</b>	<b>03-Mar-22 17:07:15</b>
<b>Software Version:</b>	<b>WL INSITE R6.6.1 (Build 2)</b>	<b>Calibration Version:</b>	<b>1</b>
<b>Host Tool Name:</b>	<b>DSNT - 11019643</b>		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3072.02	-2996.82	-7000.00 - -1000.00
Pad Gain	0.0003911	0.0003888	0.0002000 - 0.0006000
Arm Offset	2272.58	2154.18	5000.00 - 3000.00



Arm Offset	-2272.36	-2154.18	-3000.00 - 3000.00
Arm Gain	0.0005311	0.0005170	0.000300 - 0.000700
Arm Power	-0.000005994	-0.000005256	-0.000010000 - 0.000010000

The ring diameter is computed from:  $\text{DIAMETER} = \text{PAD EXTENSION} + \text{ARM EXTENSION} + \text{TOOL DIAMETER}$

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)	1.98	2.00	0.02	+/- 0.20
Medium Ring (in)	3.74	3.75	0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.46	6.50	0.04	+/- 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

<b>Tool Name:</b> SDLT - 11014296	<b>Reference Calibration Date:</b> 03-Mar-22 17:07:15
<b>Engineer:</b> M. GALLION	<b>Calibration Date:</b> 03-Mar-22 17:08:43
<b>Software Version:</b> WL INSITE R6.6.1 (Build 2)	<b>Calibration Version:</b> 1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.75	0.00	+/- 0.10
Ring Diameter	8.25	8.25	-0.00	+/- 0.15

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

### SPECTRAL DENSITY SHOP CALIBRATION

<b>Tool Name:</b> SDLT Pad - 10763919	<b>Reference Calibration Date:</b> 27-Nov-21 18:58:04
<b>Engineer:</b> M. GALLION	<b>Calibration Date:</b> 03-Mar-22 14:57:18
<b>Software Version:</b> WL INSITE R6.6.1 (Build 2)	<b>Calibration Version:</b> 1

Logging Source S/N: 5381GW

Aluminum Block S/N: 10585329

Density: 2.595g/cc

Pe: 3.270

Magnesium Block S/N: 10585330

Density: 1.679g/cc

Pe: 2.580

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0635	1.0463	0.90 - 1.10
Near Dens Gain	1.0182	1.0224	0.90 - 1.10
Near Peak Gain	1.0153	1.0087	0.90 - 1.10
Near Lith Gain	0.9960	0.9946	0.90 - 1.10
Far Bar Gain	1.0131	1.0125	0.90 - 1.10
Far Dens Gain	0.9974	0.9983	0.90 - 1.10
Far Peak Gain	0.9909	0.9935	0.90 - 1.10
Far Lith Gain	0.9970	0.9954	0.90 - 1.10

	0.9670	0.9594	0.90 - 1.10
Near Bar Offset	-0.4009	-0.2344	NONE
Near Dens Offset	0.0352	0.0040	NONE
Near Peak Offset	0.0554	0.1183	NONE
Near Lith Offset	0.1652	0.1750	NONE
Far Bar Offset	0.0380	0.0510	NONE
Far Dens Offset	0.1461	0.1396	NONE
Far Peak Offset	0.1605	0.1304	NONE
Far Lith Offset	0.2829	0.3123	NONE

Near Bar Background	920.62	917.41	700 - 1450
Near Dens Background	302.56	301.92	230 - 480
Near Peak Background	133.05	132.96	100 - 210
Near Lith Background	164.13	163.11	125 - 260
Far Bar Background	622.74	619.39	450 - 900
Far Dens Background	243.73	242.74	175 - 345
Far Peak Background	97.27	95.52	70 - 140
Far Lith Background	100.58	101.28	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.672	1.679	0.008	+/- 0.015
Pe	2.496	2.545	0.049	+/- 0.150
ALUMINUM				
Density (g/cc)	2.583	2.595	0.012	+/- 0.01500
Pe	3.137	3.221	0.084	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0002	+/- 0.0110	-0.0003	+/- 0.0140
Magnesium Block	-0.0002	+/- 0.0110	-0.0015	+/- 0.0140
Aluminum Block	0.0004	+/- 0.0110	-0.0005	+/- 0.0140
Resolution	8.80	6.00 - 11.50	9.20	6.00 - 11.50
Internal Verifier(B+D+P+L)	1515	1200 - 2700	1059	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

Pad Temperature: 82.3 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1515.394	1519.413	4.019	15.681
Far (B+D+P+L) cps	1058.939	1053.560	-5.379	17.272
Near Resolution	8.80	8.85	0.050	0.50
Far Resolution	9.20	9.15	-0.050	1.00

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

### SPECTRAL DENSITY POST CHECK

<b>Tool Name:</b> SDLT Pad - 10763919	<b>Reference Calibration Date:</b> 03-Mar-22 15:02:13
<b>Engineer:</b> M. GALLION	<b>Calibration Date:</b> 03-Mar-22 15:05:26
<b>Software Version:</b> WL INSITE R6.6.1 (Build 2)	<b>Calibration Version:</b> 1

Pad Temperature: 82.3 degF

DENSITY POST CALIBRATION SUMMARY				
Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1519.413	1511.939	-7.474	15.681
Far (B+D+P+L) cps	1053.560	1056.094	2.534	17.272
Near Resolution	8.85	8.73	-0.120	0.50
Far Resolution	9.15	9.19	0.040	1.00

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

### MICRO LOG SHOP CALIBRATION

<b>Tool Name:</b> Microlog Pad - 11014296	<b>Reference Calibration Date:</b> 21-Jan-22 15:19:35
<b>Engineer:</b> M. GALLION	<b>Calibration Date:</b> 03-Mar-22 17:13:27
<b>Software Version:</b> WL INSITE R6.6.1 (Build 2)	<b>Calibration Version:</b> 1
<b>Host Tool Name:</b> DSNT - 11019643	

CALIBRATION COEFFICIENT SUMMARY					
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	0.03	0.05	0.02	0.02	ohmm
Calibration Point #1	-0.00	0.02	0.02	0.02	ohmm
Calibration Point #2	19.90	20.00	20.05	20.00	ohmm
Internal Reference	19.83	19.93	20.04	19.99	ohmm

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Tool Value		Tool Value		
Tool Zero	3.19		0.02		V
Calibration Point #1	-4.69		1.39		V
Calibration Point #2	5311.30		6943.48		V
Internal Reference	5292.64		6940.73		V

### MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - 11014296

Reference Calibration Date: 03-Mar-22 17:13:27

Engineer: M. GALLION

Calibration Date: 03-Mar-22 17:13:58

Software Version: WL INSITE R6.6.1 (Build 2)

Calibration Version: 1

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Shop	Field	Shop	Field	
Tool Zero	0.05	0.03	0.02	0.02	ohmm
Internal Reference	19.93	19.93	19.99	19.99	ohmm
Summary					
Signal	Shop	Field	Difference	Tolerance	
Microlog Normal	19.93	19.93	0.00	+/- 0.80	
Microlog Lateral	19.99	19.99	0.00	+/- 0.80	

### ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - 10947895

Reference Calibration Date: 29-Nov-21 18:24:28

Engineer: J. CABANZO

Calibration Date: 10-Mar-22 12:20:29

Software Version: WL INSITE R6.6.1 (Build 2)

Calibration Version: 1

Host Tool Name: ACRt Instrument - 10937852

### TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0126	1.05	0.95	1.0107	1.05	0.95	1.0014	1.05
A2 (50")	0.95	1.0093	1.05	0.95	1.0069	1.05	0.95	0.9979	1.05
A3 (29")	0.95	1.0038	1.05	0.95	1.0018	1.05	0.95	0.9932	1.05
A4 (17")	0.95	1.0082	1.05	0.95	1.0027	1.05	0.95	0.9974	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9967	1.05	0.95	0.9917	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9813	1.05	0.95	0.9768	1.05

### SONDE OFFSET

Subarray	R12KHz			R36KHz			R72KHz		
	(mmho/m)			(mmho/m)			(mmho/m)		
A1 (80")	0.091			-3.205			-5.370		
A2 (50")	-1.993			-5.050			-7.471		
A3 (29")	-15.480			-5.635			-6.034		
A4 (17")	-103.132			-32.683			-26.370		
A5 (10")	N/A			-88.492			-43.615		
A6 (6")	N/A			294.356			148.105		

### TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.87	1.3
36K	1.0	1.88	2.0
72K	1.0	1.12	2.0

### R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	1.00	1.05

### PASS/FAIL SUMMARY

GAIN RANGE CHK	PASS
SONDE OFFSET CHK	PASS

TOOL OK TO LOG

## CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
<b>GTET-11958947</b>						
Gamma Ray Calibrator	206.6	205.5	-----	1.1	+/- 9.00	api
<b>DSNT-11019643</b>						
Snow-Block Porosity	0.0842	0.0844	0.0847	-0.0003	+/- 0.0150	decp
<b>SDLT-11014296</b>						
Pad Extension	3.75	3.75	-----	0.00	+/-0.10	in
Ring Diameter	8.25	8.25	-----	0.00	+/-0.15	in
<b>SDLT Pad-10763919</b>						
Near(B+D+P+L)	1515.394	1519.413	1511.939	7.474	+/-15.681	cps
Far(B+D+P+L)	1058.939	1053.560	1056.094	-2.534	+/-17.272	cps
<b>Microlog Pad-11014296</b>						
MicroLog Normal	19.93	19.93	-----	0.00	+/-0.80	ohmm
MicroLog Lateral	19.99	19.99	-----	0.00	+/-0.80	ohmm
<b>ACRt Sonde-10947895</b>						
Mud Cell	1.00	-----	-----	0	-----	ohm-m

Data: 04\_07\_MERIT\0001 RWCH-GTET-DSNT-SDLT-BSAT-ACRT\004 08-Apr-22 01:10 Up @5007.0f Date: 08-Apr-22 01:33:01

# HALLIBURTON

## 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	9.400	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	5.500	in
	SHARED	CSTR	Compressive Strength	1000.00	psia
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	10000.00	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	CBM Temperature Master Tool	GTET	
	SHARED	MSAL	Water-base mud filtrate salinity	0.00	ppm
	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	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
Rwa / CrossPlot	ROIN	Input for RO Calculation	Rwa	
GTET	ACOK	Do ACCZ Calculations?	Yes	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
GTET	BHSM	Borehole Size Source Tool	SDLT	
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	DNTT	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	UCLA	Classic Neutron Parameter utilized?	No	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
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	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Pore Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	Limestone 47.6	
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
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	Centered	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMAX	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	SDLT	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	

BOTTOM

## TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
		Ø 2.310 in		← Fishing Neck @ 75.72 ft	76.60 ft	76.60 ft
RWCH-12027542 135.00 lbs	Weak Point 12000 lbs- 11111111 0.01 lbs	Ø 3.625 in		← Load Cell @ 72.91 ft ← BH Temperature @ 72.35 ft	6.25 ft	70.35 ft
		Ø 0.010 in*		← Z-Accelerometer @ 69.90 ft		70.35 ft
GTET-11958947 165.00 lbs		Ø 3.625 in		← GammaRay @ 64.29 ft	8.52 ft	61.83 ft
DSNT-11019643 174.00 lbs	DSN Decentralizer- 11020488 6.60 lbs	Ø 5.000 in* Ø 3.625 in		← DSN Far @ 54.89 ft ← DSN Near @ 54.14 ft	9.69 ft	52.14 ft
SDLT-11014296 360.00 lbs	SDLT Pad-10763919 65.00 lbs Microlog Pad-11014296 8.00 lbs RAM-Cs137-11206141 1.00 lbs	Ø 4.500 in Ø 4.500 in* Ø 4.750 in* Ø 0.800 in*		← Microlog @ 44.33 ft ← SDL Caliper @ 44.14 ft ← SDL @ 44.13 ft	10.81 ft	41.33 ft
Flex Joint - Pressure Comp- 11288767 140.00 lbs		Ø 3.625 in			5.97 ft	35.36 ft
	Centralizer 25-00000002 8.00 lbs	Ø 4.000 in*				35.36 ft

BSAT-10747681  
300.00 lbs

Ø 3.625 in →

Receiver Array @ 26.84 ft  
Sonic Receivers @ 26.84 ft

15.77 ft

Centralizer 25-00000001  
8.00 lbs

Ø 4.000 in\* →

19.58 ft

ACRt Instrument-  
10937852  
50.00 lbs

Ø 3.625 in →

5.03 ft

ALAT Standoff OD 6-  
00000001  
11.60 lbs

Ø 5.000 in\* →

Mud Resistivity @ 13.19 ft

14.55 ft

ACRt Sonde-  
10947895  
200.00 lbs

Ø 3.625 in →

ACRt @ 9.21 ft

14.22 ft

SP Ring-10947895  
0.00 lbs

Ø 3.625 in\* →

SP @ 1.61 ft

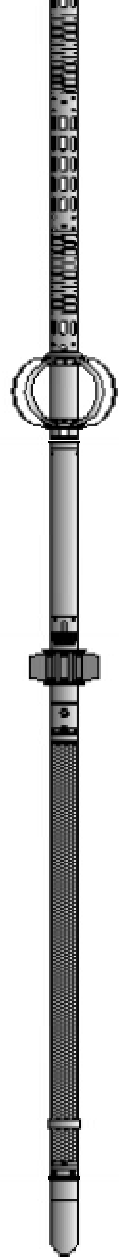
0.33 ft

Bull Nose-11111111  
5.00 lbs

Ø 2.750 in →

0.33 ft

0.00 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max. Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	12027542	135.00	6.25	70.35	300.00
WP12K	Weak Point 12000 lbs	11111111	0.01	0.01	* 71.15	300.00
GTET	Gamma Telemetry Tool	11958947	165.00	8.52	61.83	60.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69	52.14	60.00
DCNT	DSN Decentralizer	11020488	6.60	5.13	* 55.47	300.00
SDLT	Spectral Density Tool	11014296	360.00	10.81	41.33	60.00
SDLP	Density Insite Pad	10763919	65.00	2.55	* 43.54	60.00
Cs137	Logging Source, SDLT-I, 1.78 Ci - Cs137	11206141	1.00	0.80	* 43.77	300.00
MICP	Microlog Pad	11014296	8.00	1.00	* 43.83	60.00
FLEX	Flex Joint - Pressure Compensated	11288767	140.00	5.97	35.36	300.00
BSAT	Borehole Sonic Array Tool	10747681	300.00	15.77	19.58	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	* 19.87	300.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	* 32.48	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10937852	50.00	5.03	14.55	120.00
ACRt	Array Compensated True Resistivity Sonde Section	10947895	200.00	14.22	0.33	120.00
SP	SP Ring	10947895	0.00	0.25	* 1.61	300.00
ALATS	Array Laterolog Tool OD 5 Standoff	00000001	11.60	1.00	* 13.21	60.00
BLNS	Bull Nose	11111111	5.00	0.33	0.00	300.00

**Total** **1,637.21**    **76.60**

\* Not included in Total Length and Length Accumulation.



COMPANY	MERIT ENERGY COMPANY, LLC		
WELL	KATY JACKSON 1-7		
FIELD	SEVEN MILE		
COUNTY	FINNEY	STATE	KANSAS
<b>HALLIBURTON</b>		DUAL SPACED NEUTRON SPECTRAL DENSITY	