

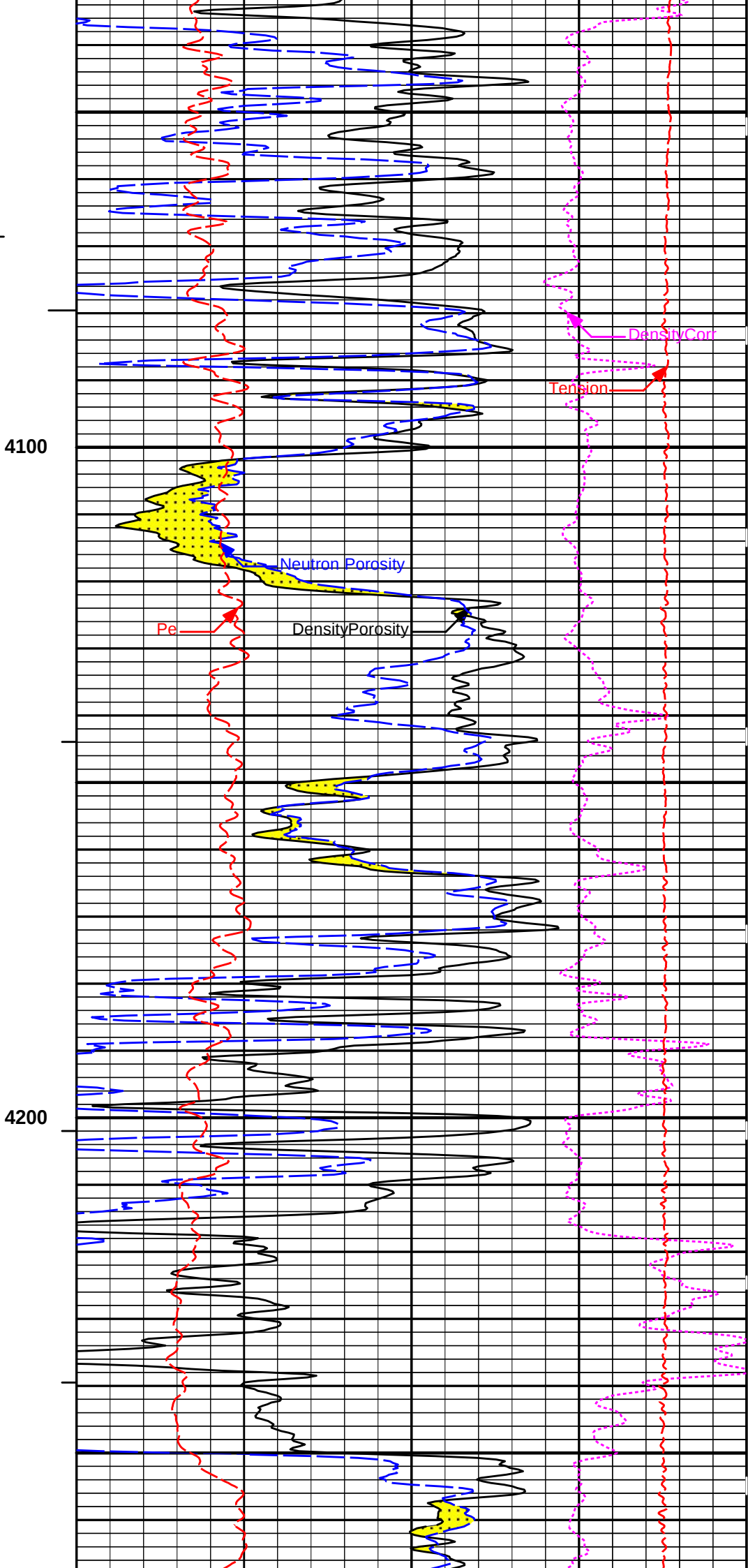
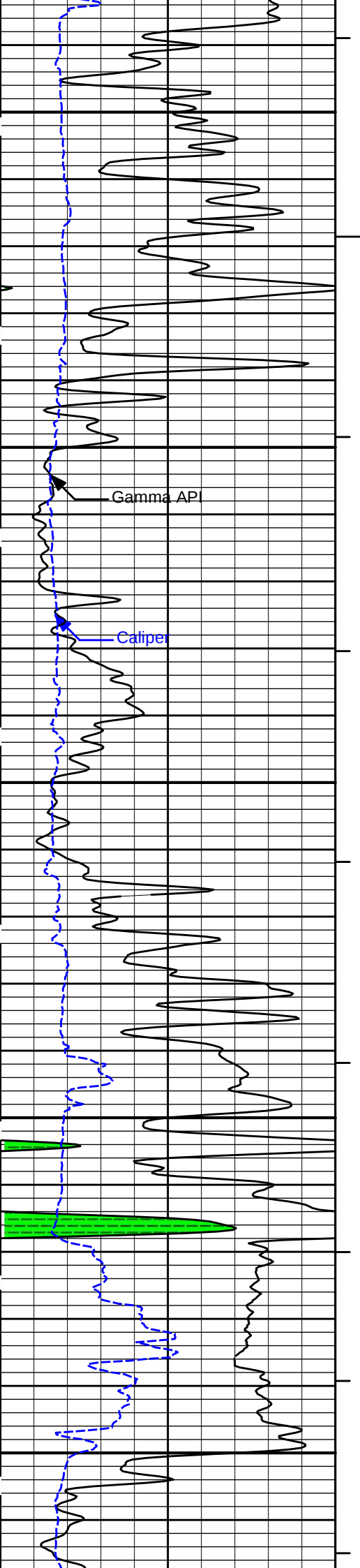
HALLIBURTON

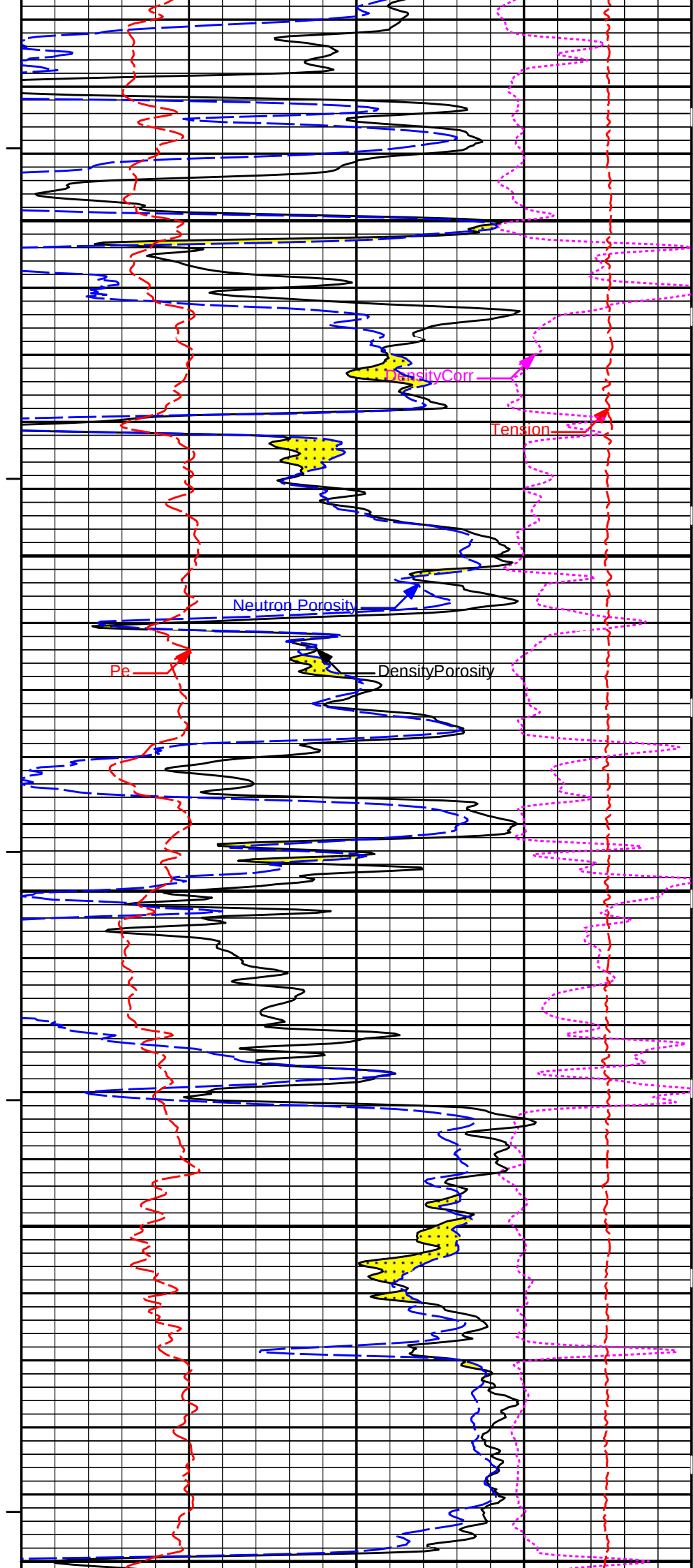
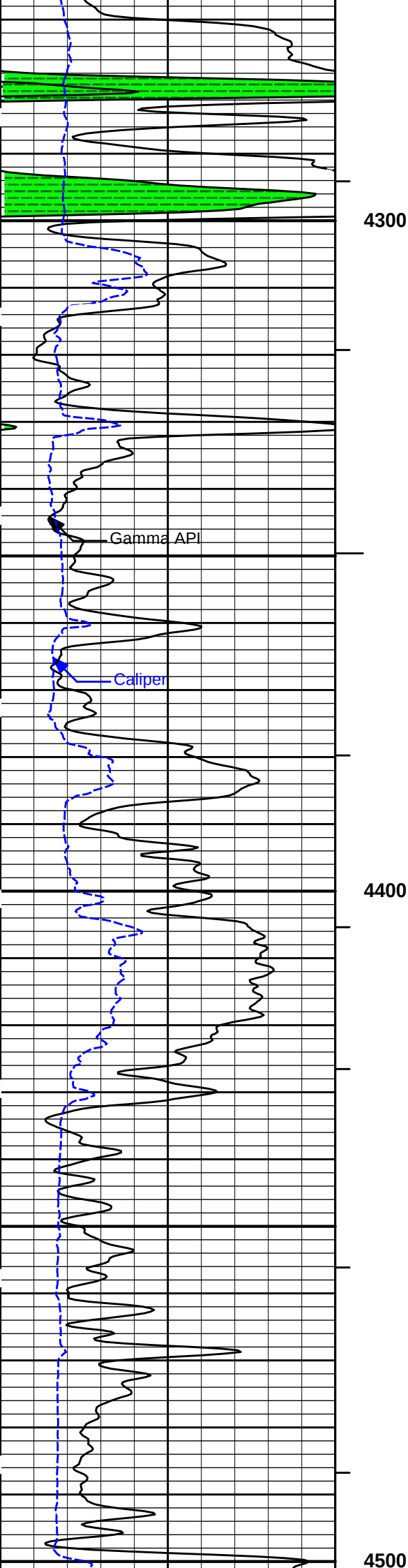
DUAL SPACED NEUTRON
SPECTRAL DENSITY
LOG

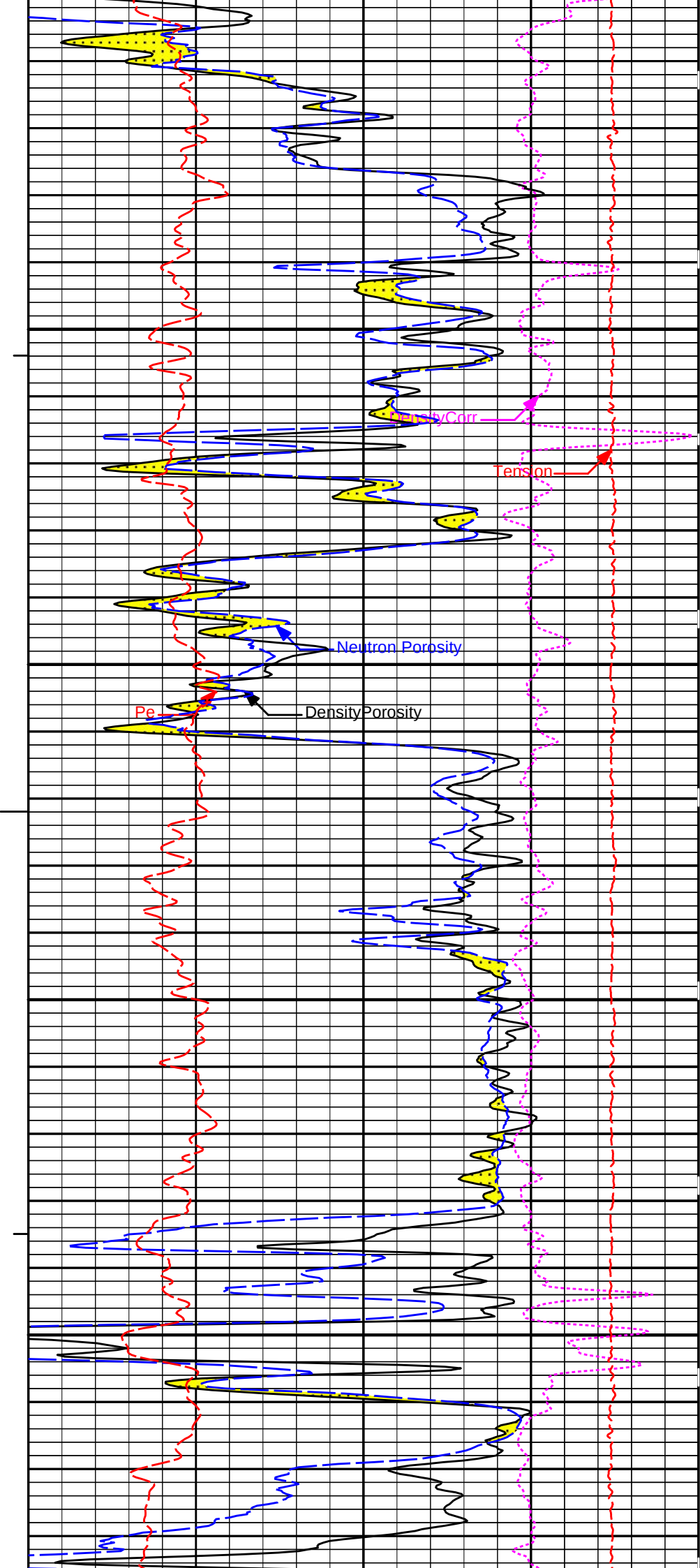
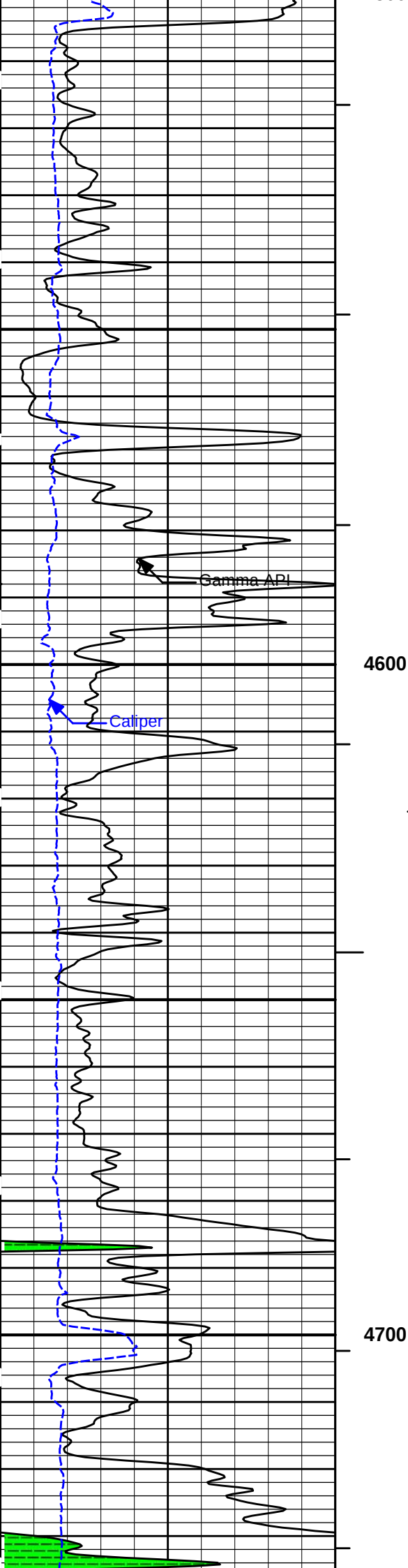
HALLIBURTON DUAL SPACED NEUTRON SPECTRAL DENSITY LOG									
RAYDON EXPLORATION, INC. THORP 1-26R KISMET SEWARD KANSAS					COMPANY RAYDON EXPLORATION, INC. WELL THORP 1-26R FIELD/BLOCK KISMET COUNTY SEWARD STATE KANSAS				
COMPANY WELL FIELD/BLOCK COUNTY STATE					API No. 15-175-22262-00-00 Location (SHL) 335' FNL & 335' FWL SE NW NW NW Other Services: DSNT/SDLT MICROLOG BSAT XRM/I ACRT				
Permanent Datum Log measured from Drilling measured from					GL KB KB Elev. 2738.0 ft 11.0 ft above perm. Datum Elev.: K.B. D.F. G.L.				
Date					12-Jul-18				
Run No.					ONE				
Depth - Driller					5880.0 ft				
Depth - Logger					5873.0 ft				
Bottom - Logged Interval					5804.00 ft				
Top - Logged Interval					4000.00 ft				
Casing - Driller					8.625 in @ 1636.0 ft				
Casing - Logger					1639.0 ft @				
Bit Size					7.875 in @				
Type Fluid in Hole					Water Based Mud				
Density					9.1 ppg 55.00 s/qt				
PH					10.50 pH 7.0 cpm				
Source of Sample					MUDDIT				
Rm @ Meas. Temperature					1.11 ohmm @ 75.00 degF @				
Rmf @ Meas. Temperature					0.92 ohmm @ 75.00 degF @				
Rmc @ Meas. Temperature					1.27 ohmm @ 75.00 degF @				
Source Rmf					Rmc MEAS MEAS				
Rm @ BHT					0.64 ohmm @ 134.0 degF @				
Time Since Circulation					5.0 hr				
Time on Bottom					12-Jul-18 16:00				
Max. Rec. Temperature					134.00 degF @ 5873.0 ft @				
Equipment					12147634 EL RENO, OK				
Recorded By					JORGE ORLANDO PEREZ				
Witnessed By					TIM HEDDRICK				

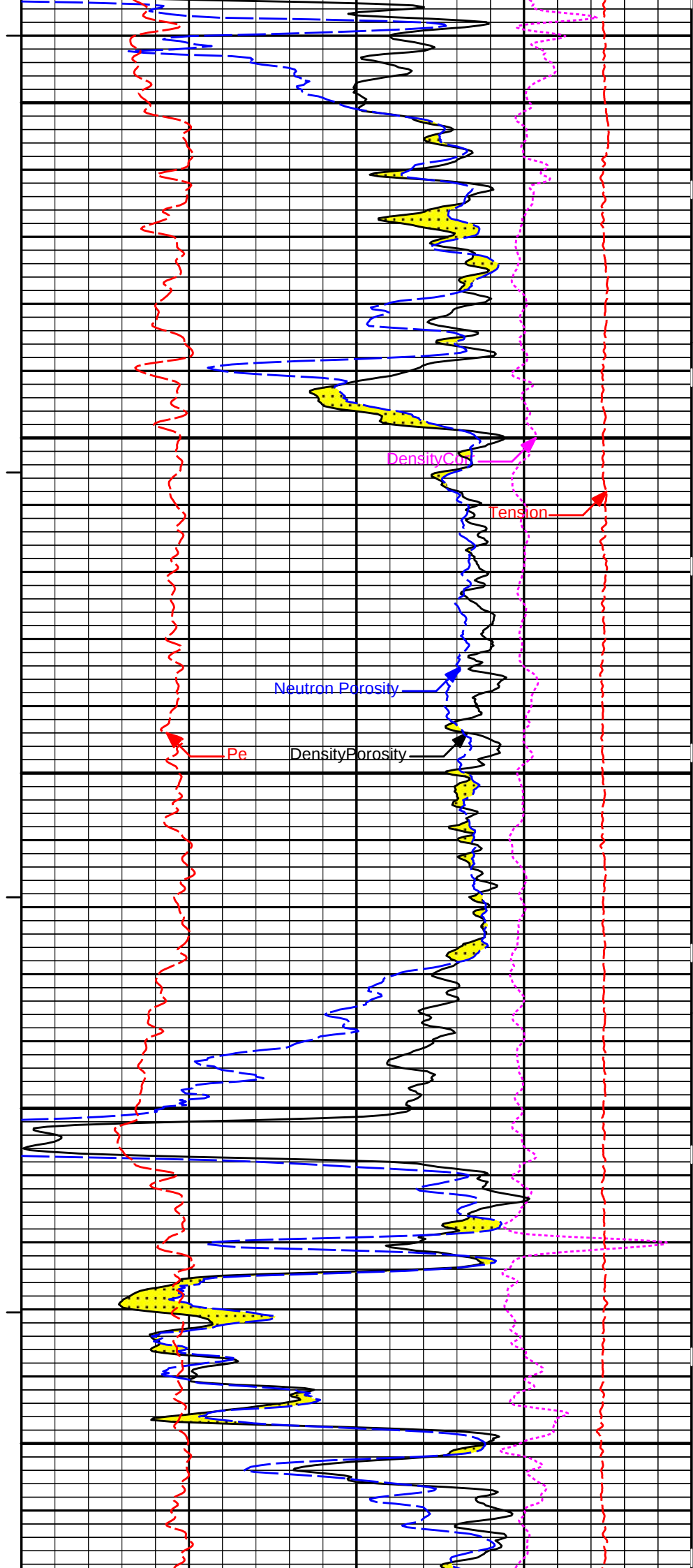
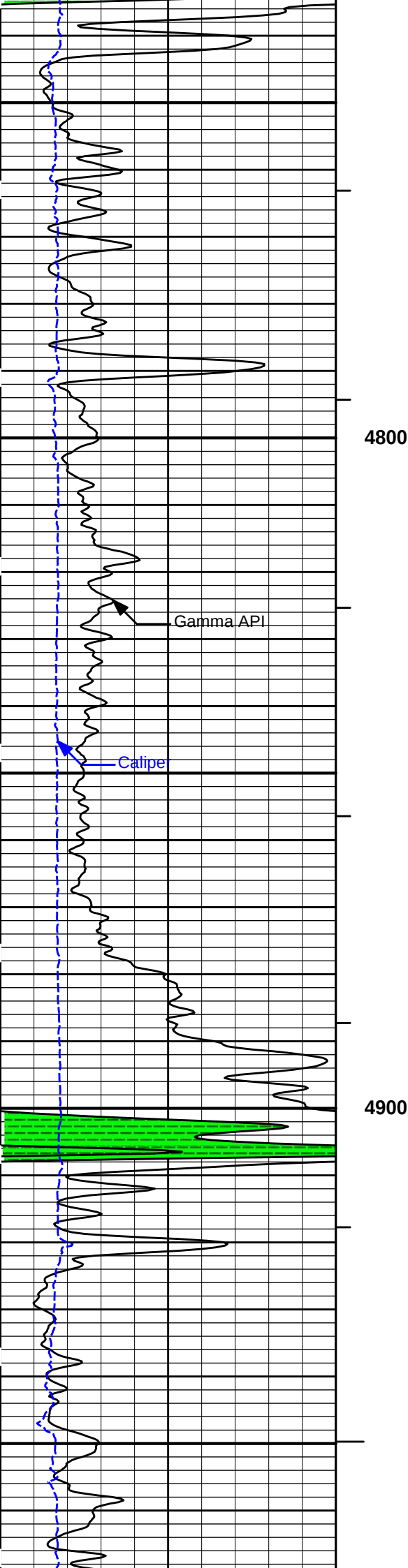
Service Ticket No.: 904928072						API No.: 15-175-22262-00-00						PGM Version: WL INSITE R5.6.0 (Build 2)													
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE												RESISTIVITY SCALE CHANGES													
Date		Sample No.										Type Log		Depth		Scale Up Hole		Scale Down Hole							
Depth-Driller																									
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		CENT		N/A					
Rmc @ Meas. Temp.				@				@						I-12109517											
Source Rmf		Rmc										S-12109515													
Rm @ BHT				@				@																	
Rmf @ BHT				@				@																	
Rmc @ BHT				@				@																	
EQUIPMENT DATA																									
GAMMA						ACOUSTIC						DENSITY						NEUTRON							
Run No.		ONE				Run No.		ONE				Run No.		ONE				Run No.		ONE					
Serial No.		11013114				Serial No.		10747686				Serial No.		12153220				Serial No.		10993115					
Model No.		GTET				Model No.		BSAT				Model No.		SDLT				Model No.		DSNT					
Diameter		3.625"				No. of Cent.		2				Diameter		5.5"				Diameter		3.625"					
Detector Model No.		T-102				Spacing		EVEN				Log Type		GAM-GAM				Log Type		NEU-NEU					
Type		SCINT										Source Type		CS137				Source Type		AM241BE					
Length		8"				LSA [Y/N]						Serial No.		5471GW				Serial No.		DSN-424					
Distance to Source		N/A				FWDA [Y/N]						Strength		1.78 Ci				Strength		15.0 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		TD		CSG		PEC		0 150		30 10		47.6 uSec/ft		30 10		2.71 gr/cc		30 10		LIME					

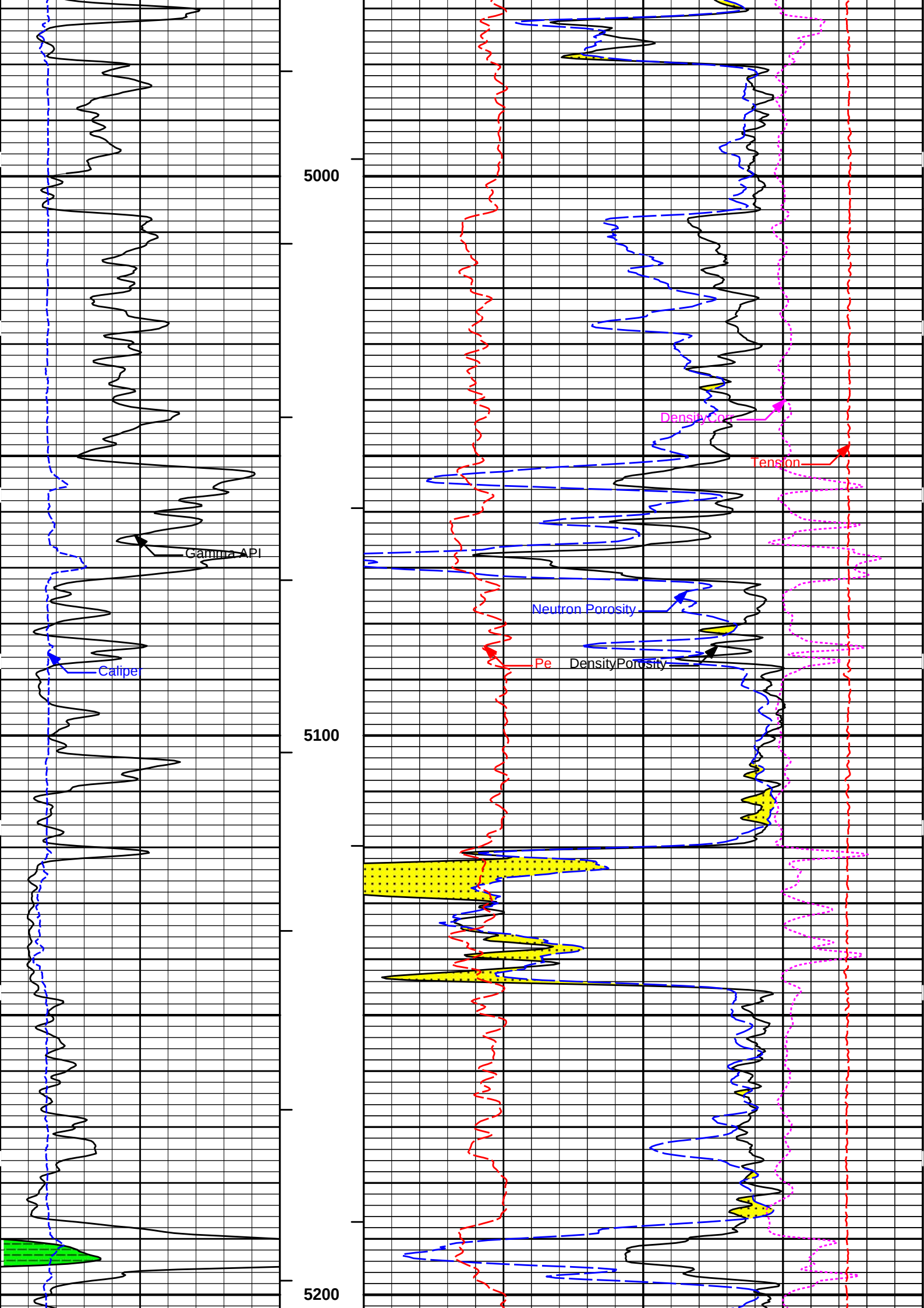
ONE	TD	CSG	REC	U	130	30	-10	47.0 dsec/ft	30	-10	2.71 g/cc	30	-10	TIME	
DIRECTIONAL INFORMATION															
Maximum Deviation							@	KOP							@
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING															

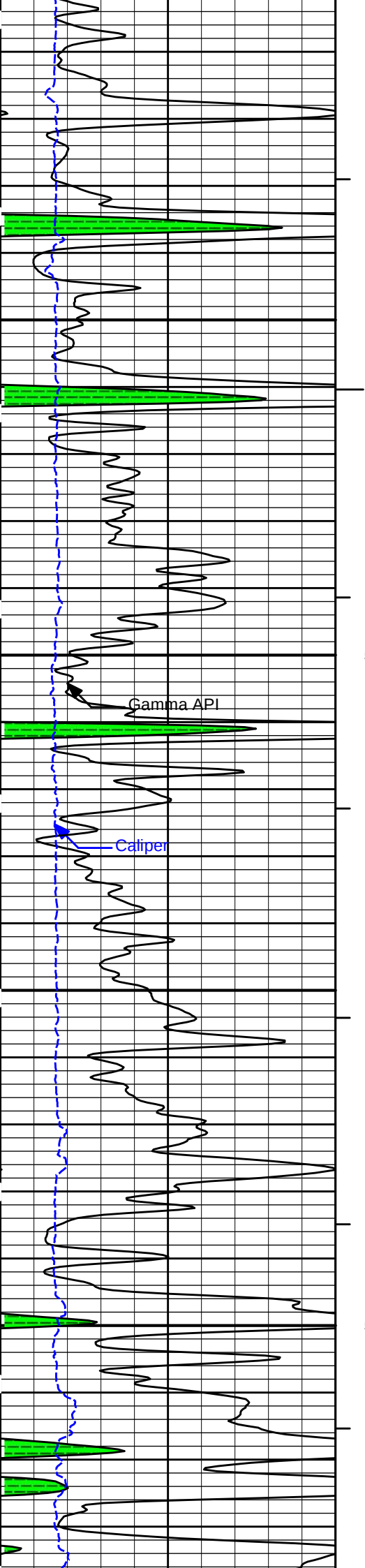






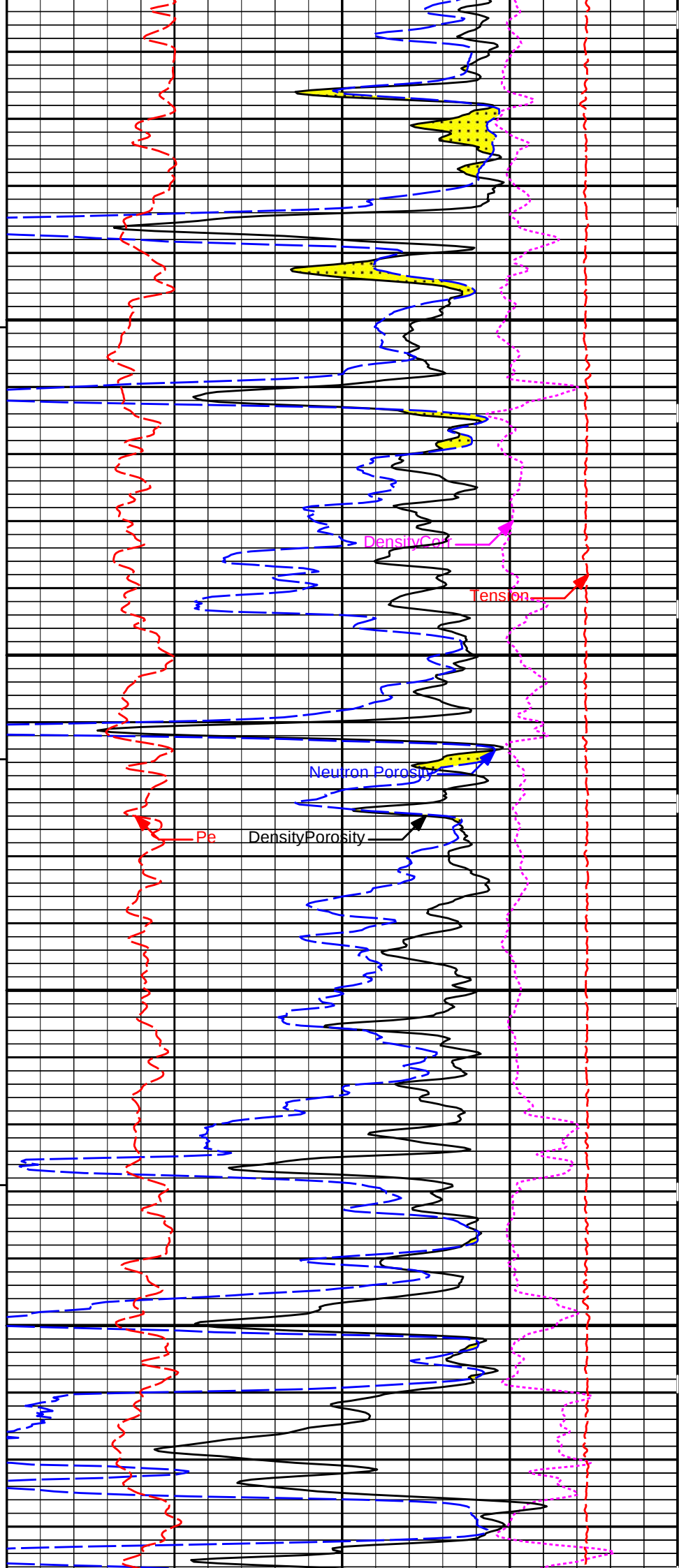


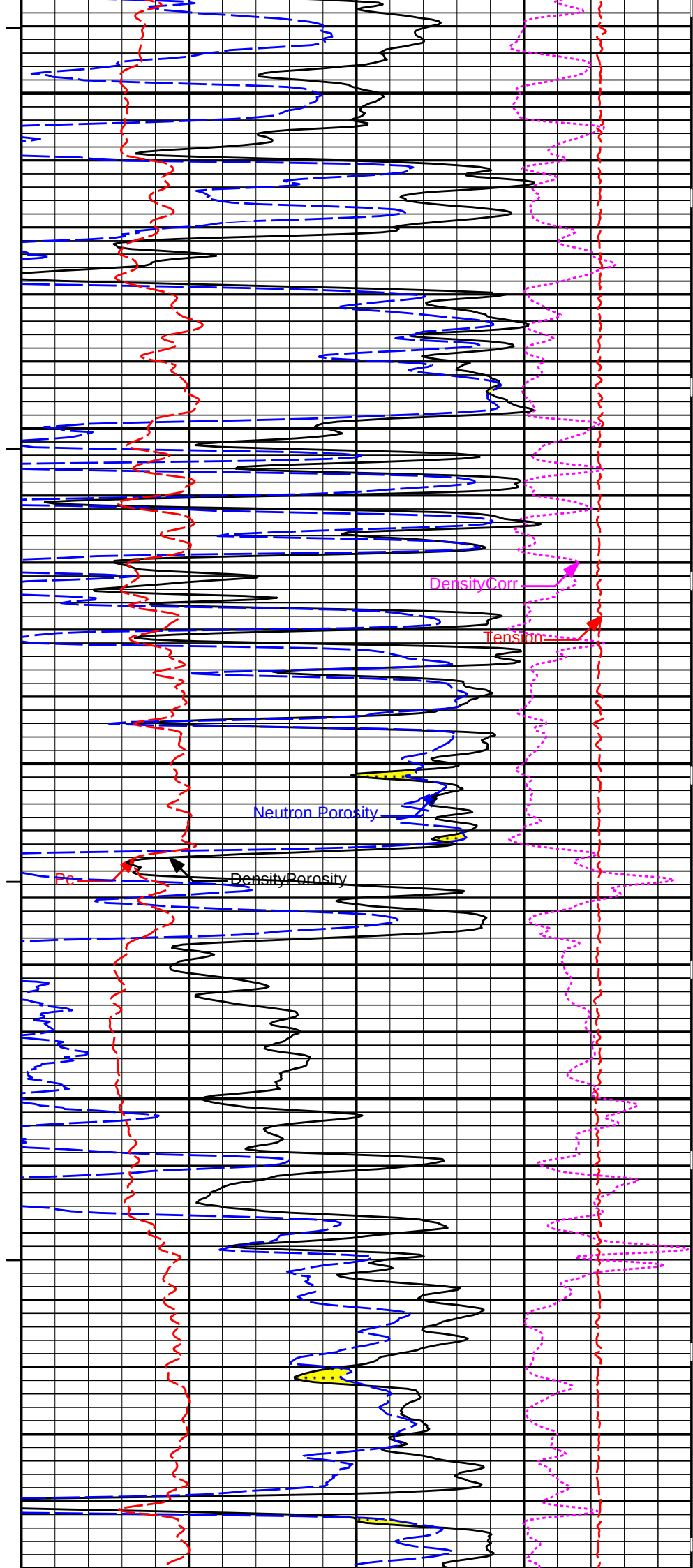
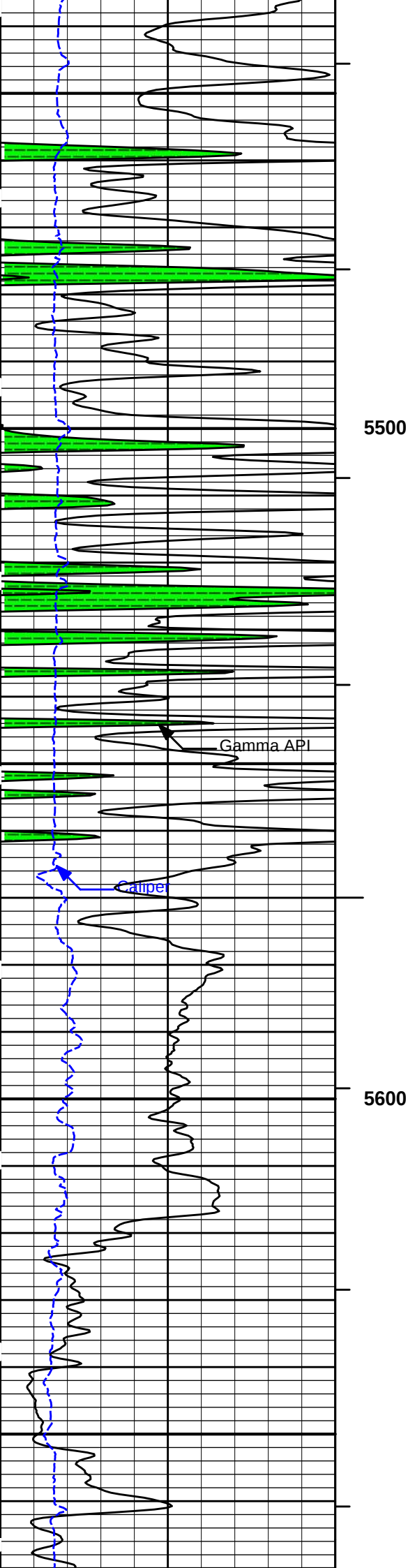


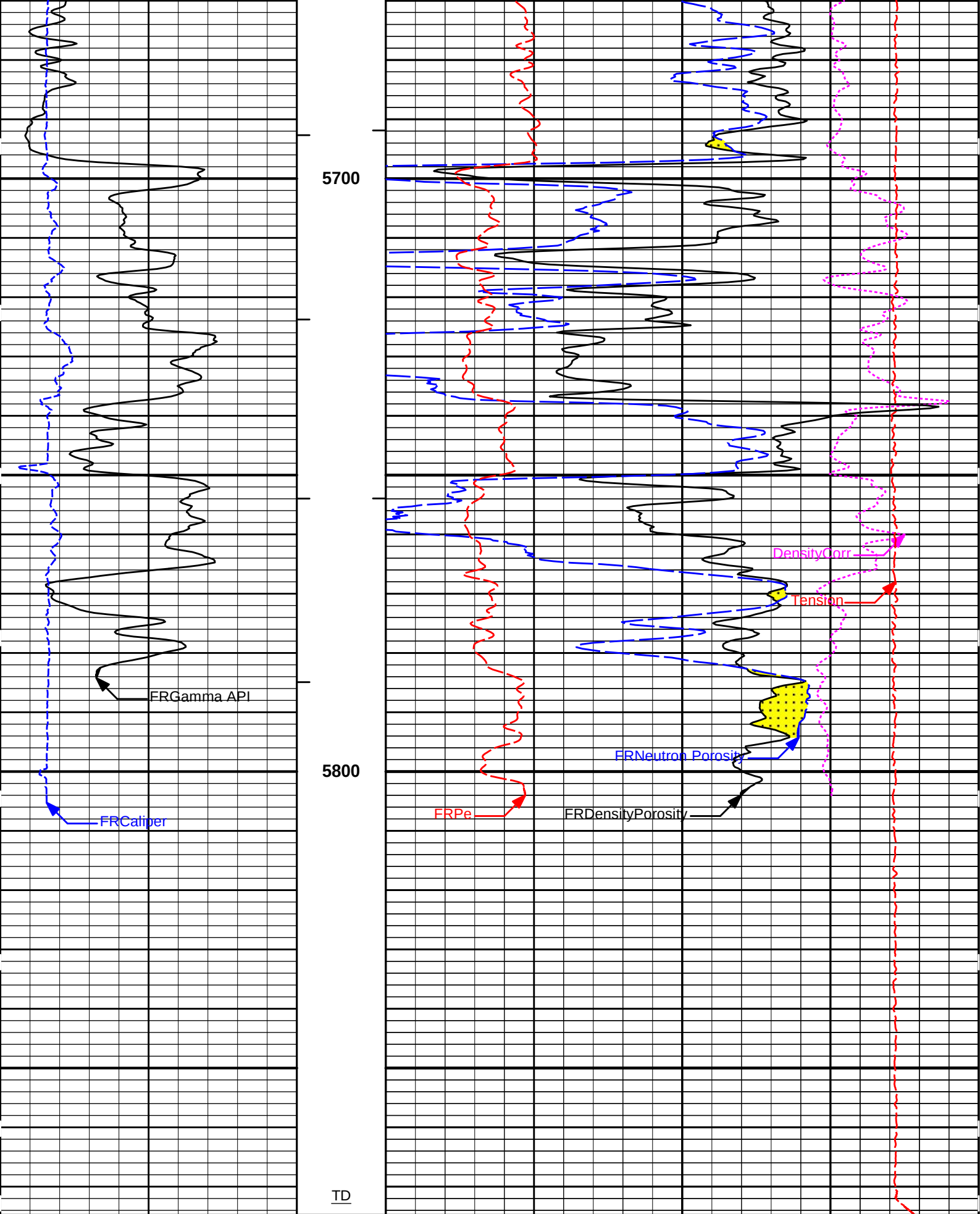


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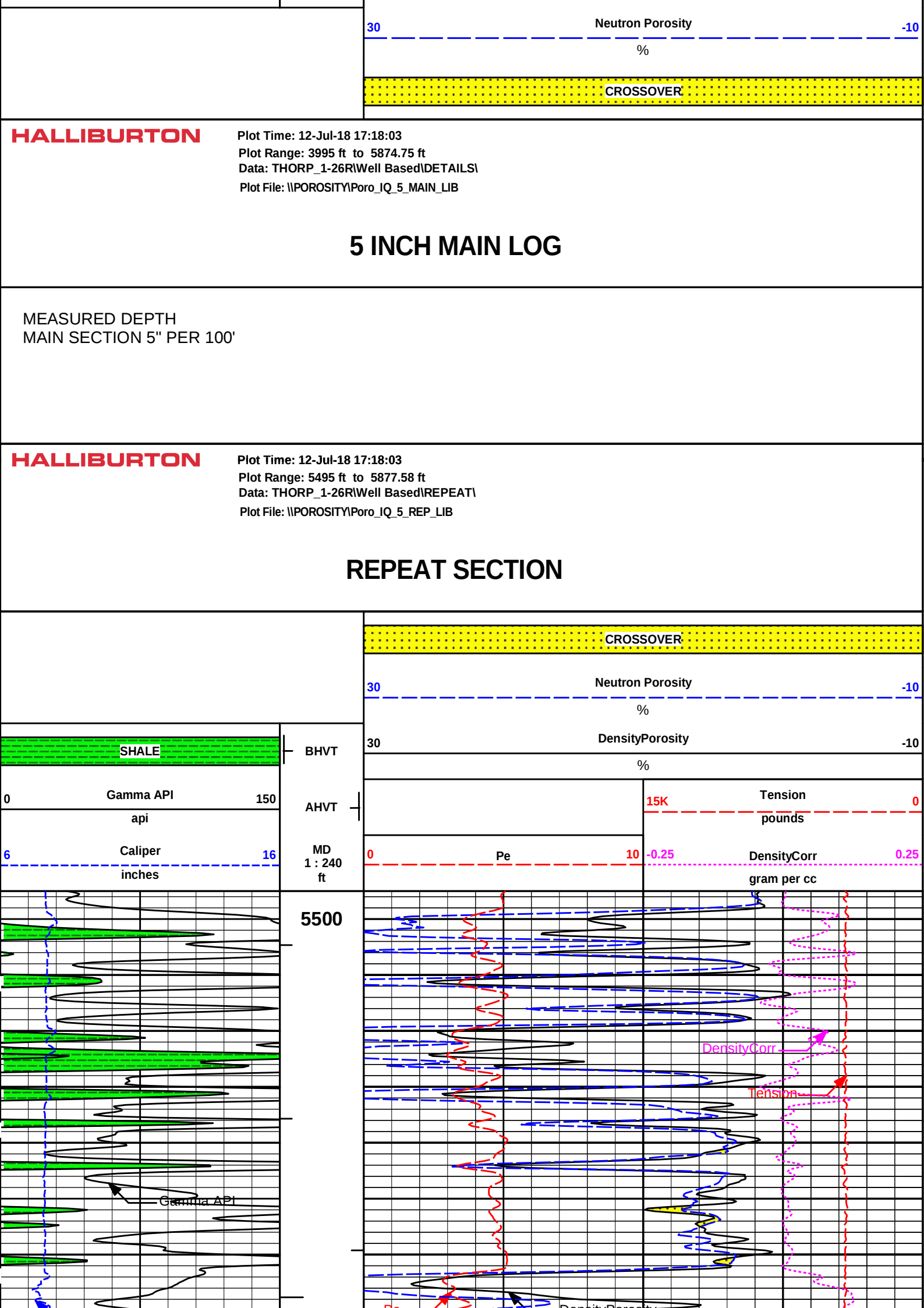
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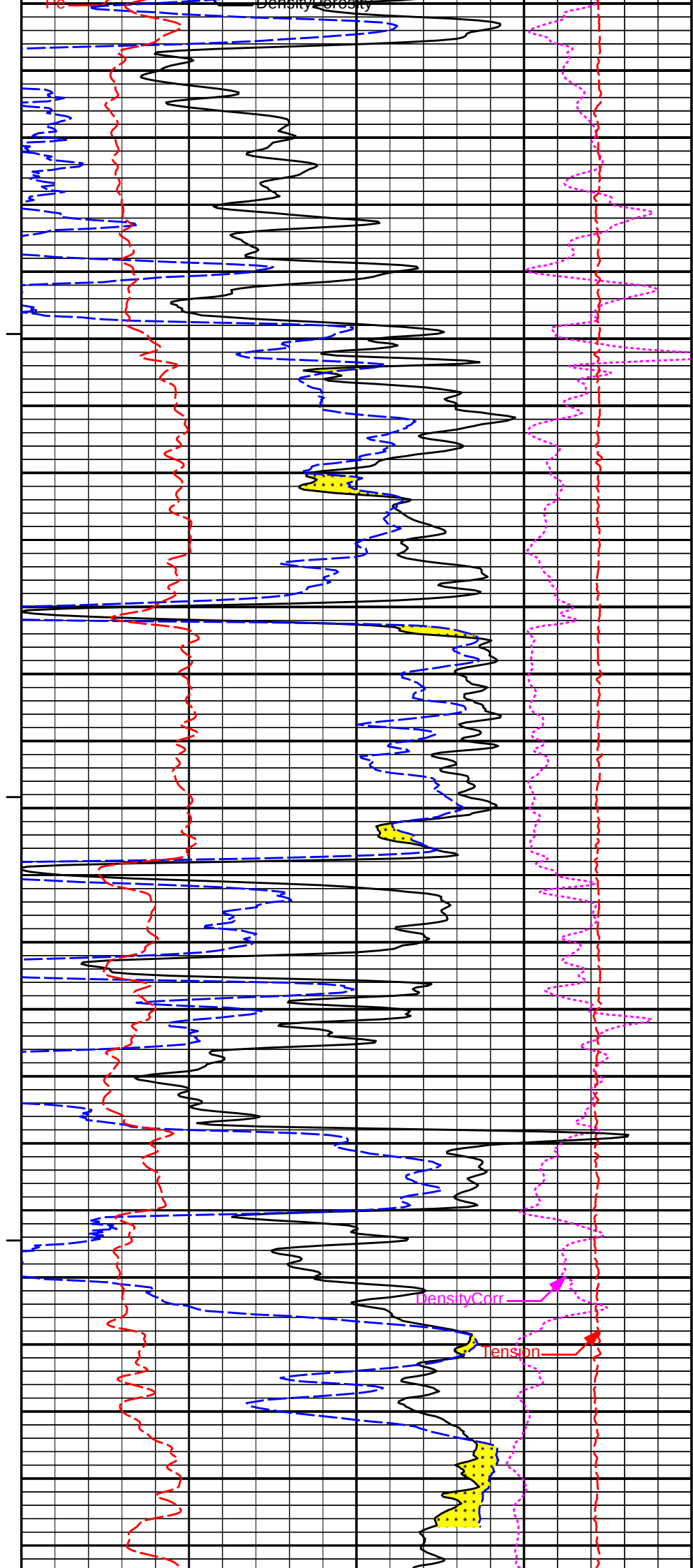
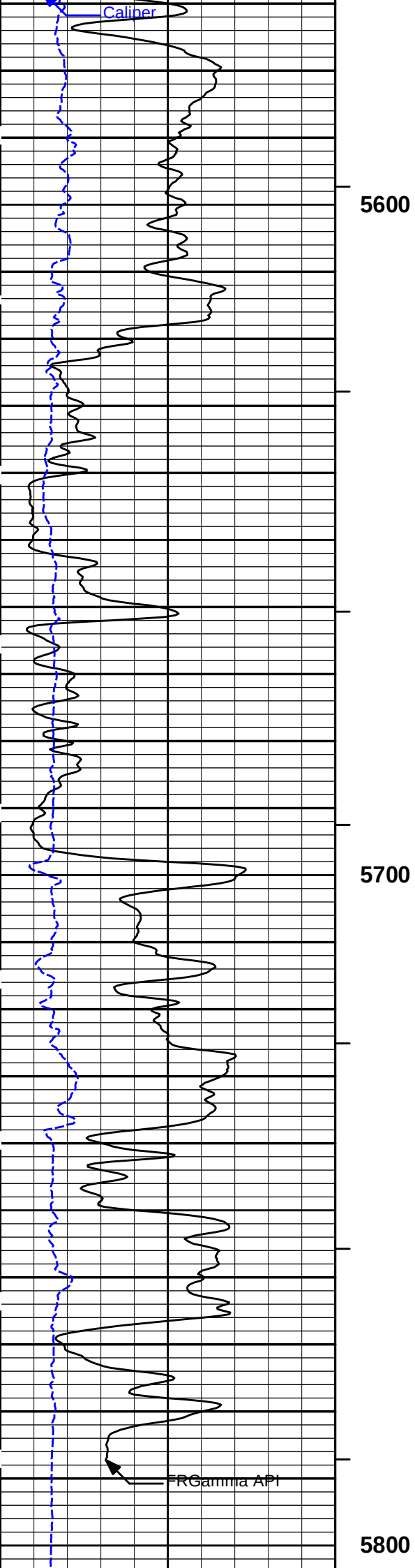


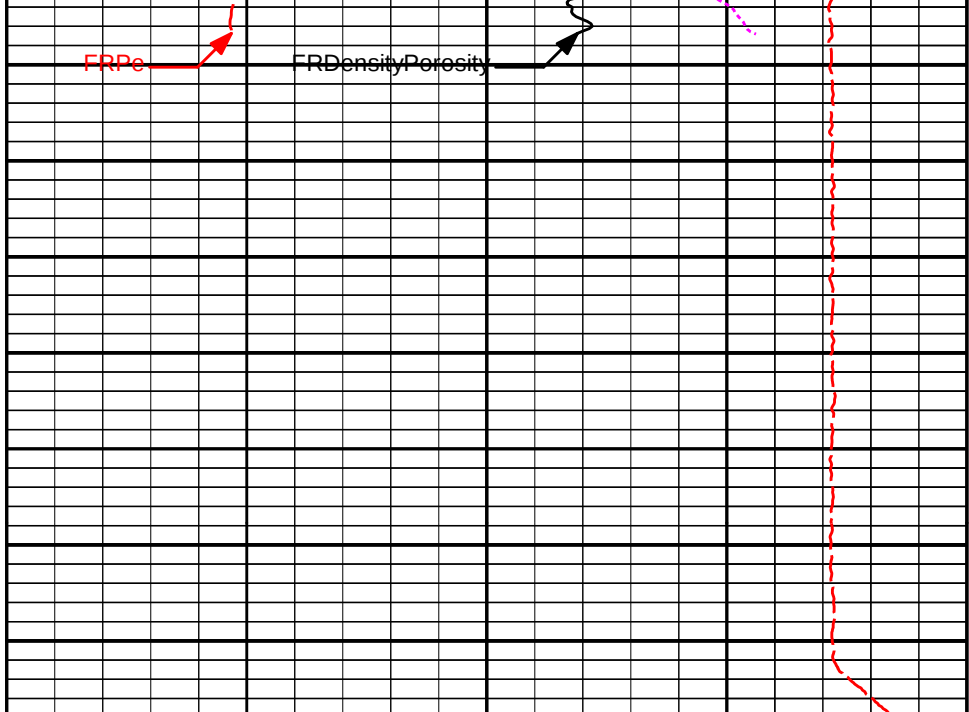
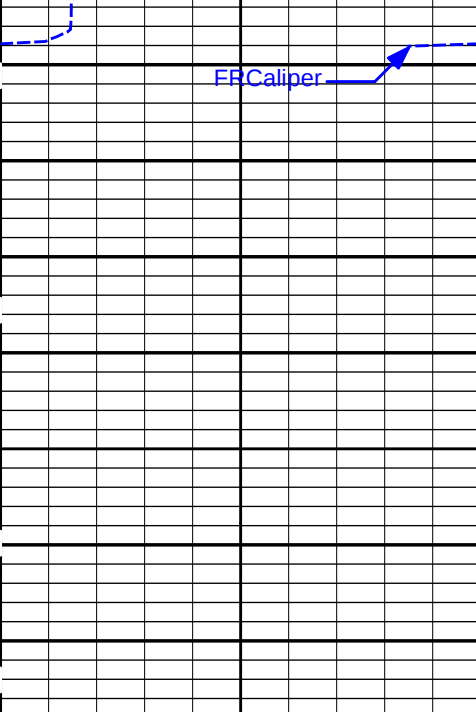




6	Caliper	16	MD 1 : 240 ft	0		Pe	10	-0.25	DensityCorr	0.25					
0	Gamma API	150	AHVT			15K		Tension							
		api	BHVT					pounds							
SHALE				30		DensityPorosity		-10							
								%							







6	Caliper	16
	inches	
0	Gamma API	150
	api	
	SHALE	

MD	1 : 240
ft	
AHVT	
BHVT	

0	Pe	10
30	DensityPorosity	-10
	%	
30	Neutron Porosity	-10
	%	
	CROSSOVER	

-0.25	DensityCorr	0.25
	gram per cc	
15K	Tension	0
	pounds	

HALLIBURTON

Plot Time: 12-Jul-18 17:18:05
Plot Range: 5495 ft to 5877.58 ft
Data: THORP_1-26R\Well Based\REPEAT\
Plot File: \\POROSITY\Porosity_Q_5_REP_LIB

REPEAT SECTION

HALLIBURTON

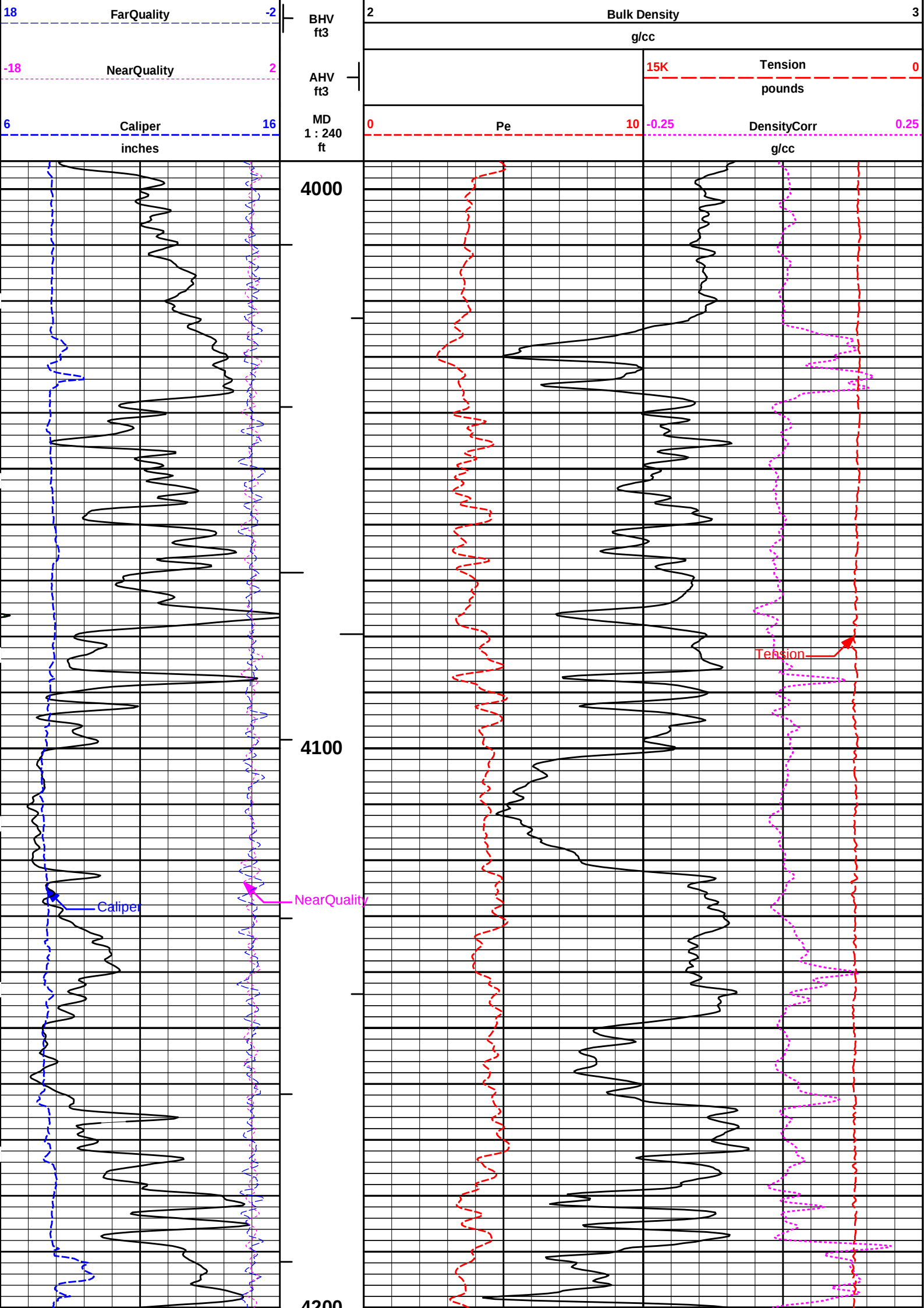
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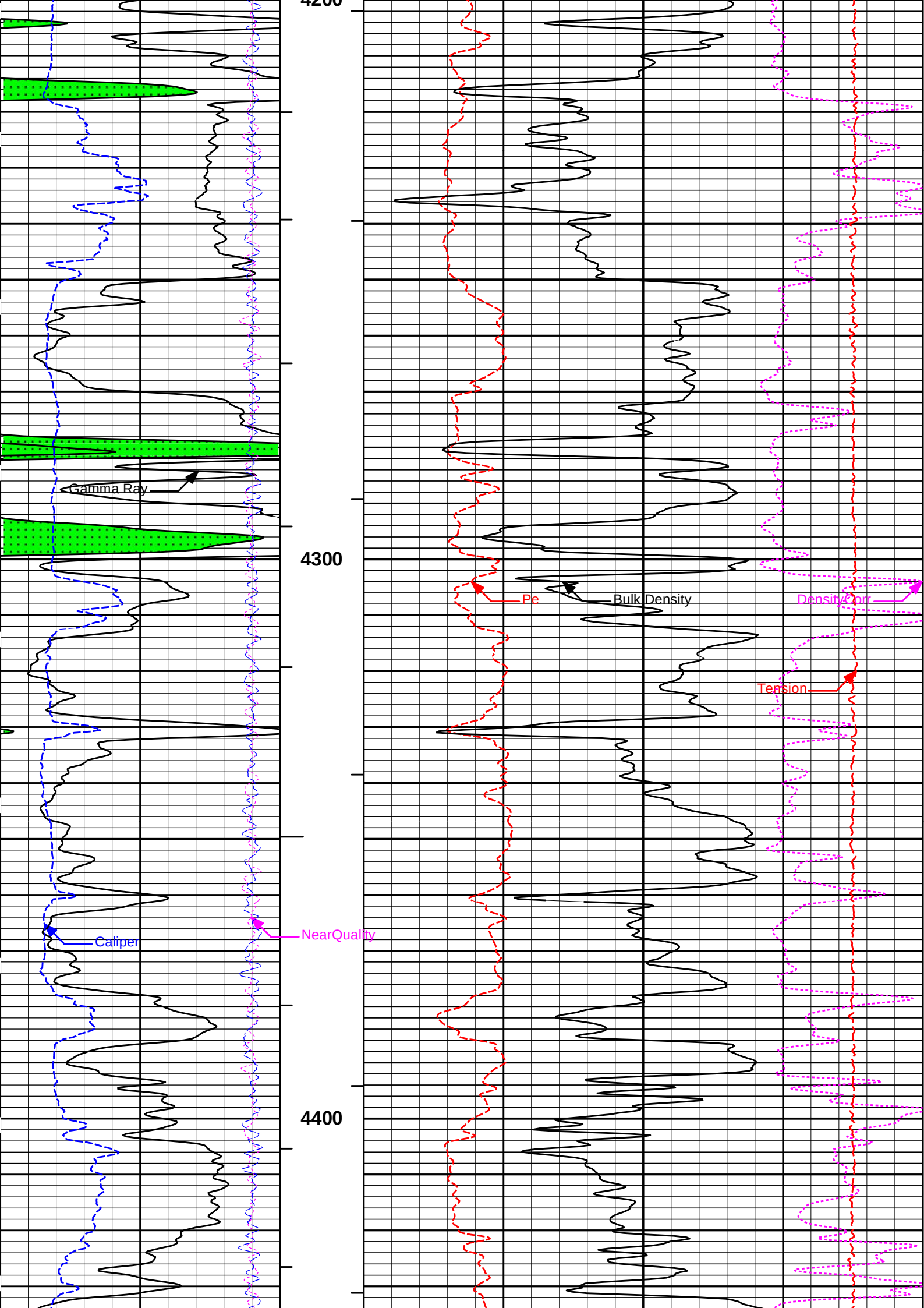
5 INCH MAIN LOG

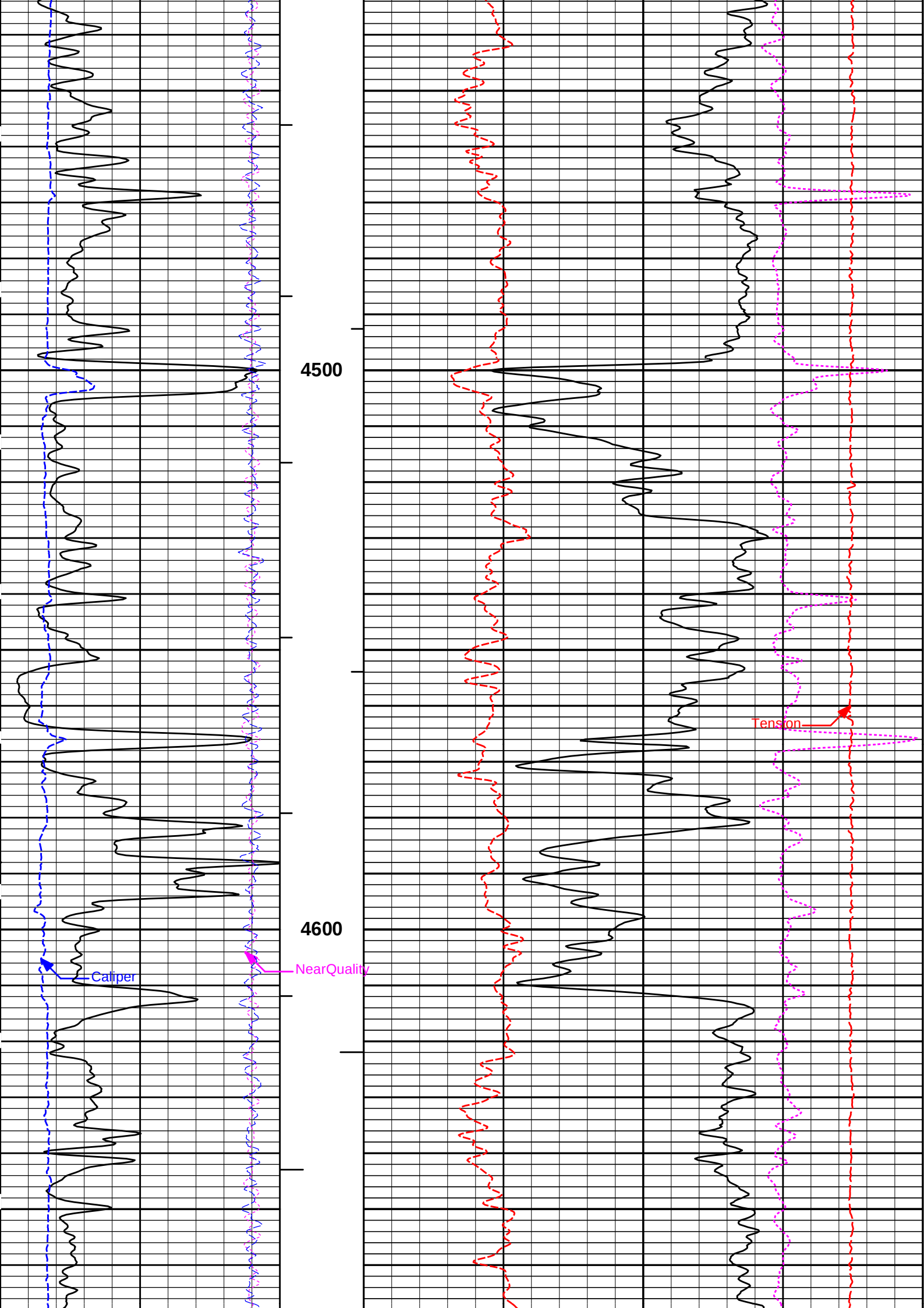
MEASURED DEPTH
MAIN SECTION 5" PER 100'

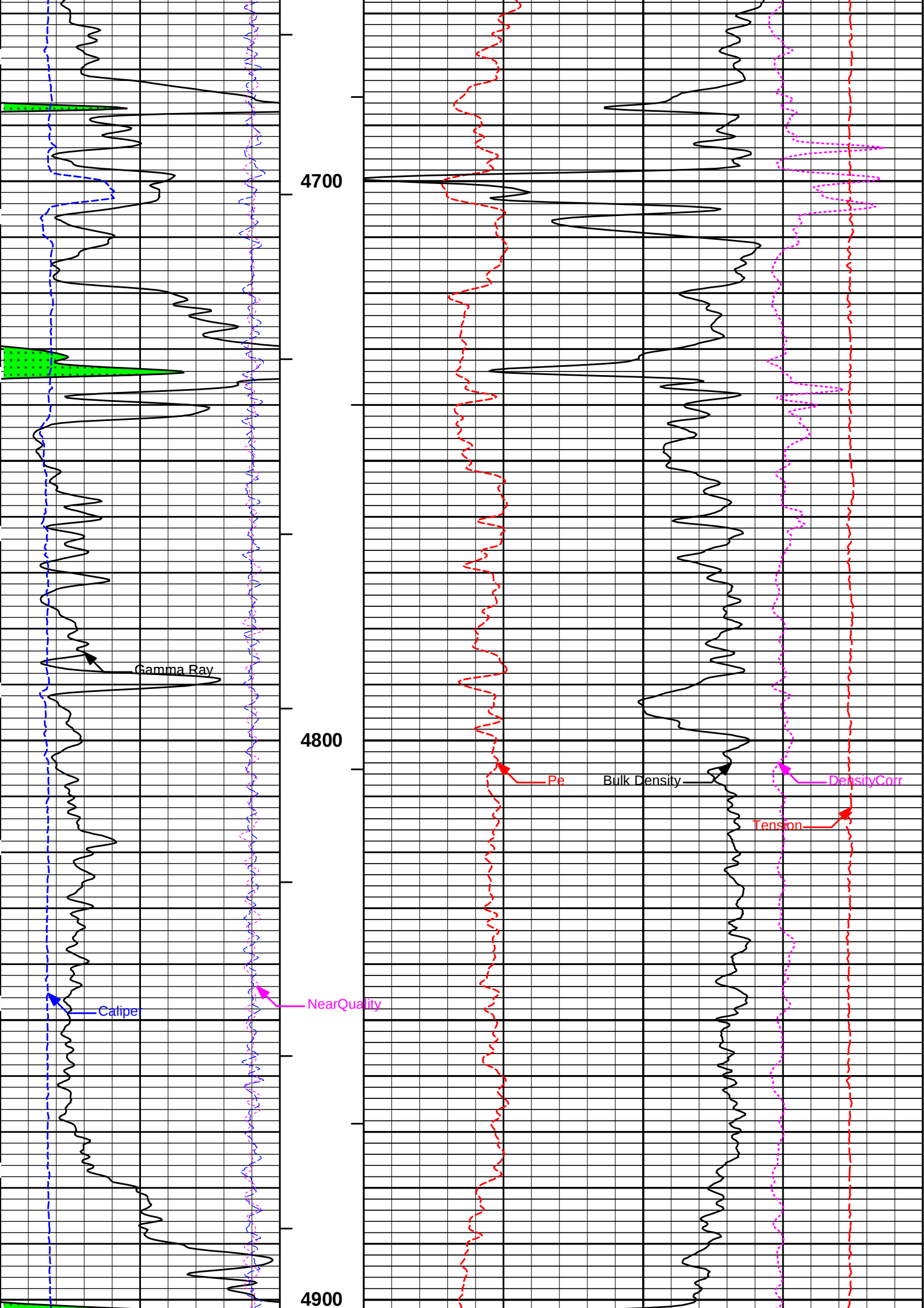
	SHALE	
0	Gamma Ray	150
	api	

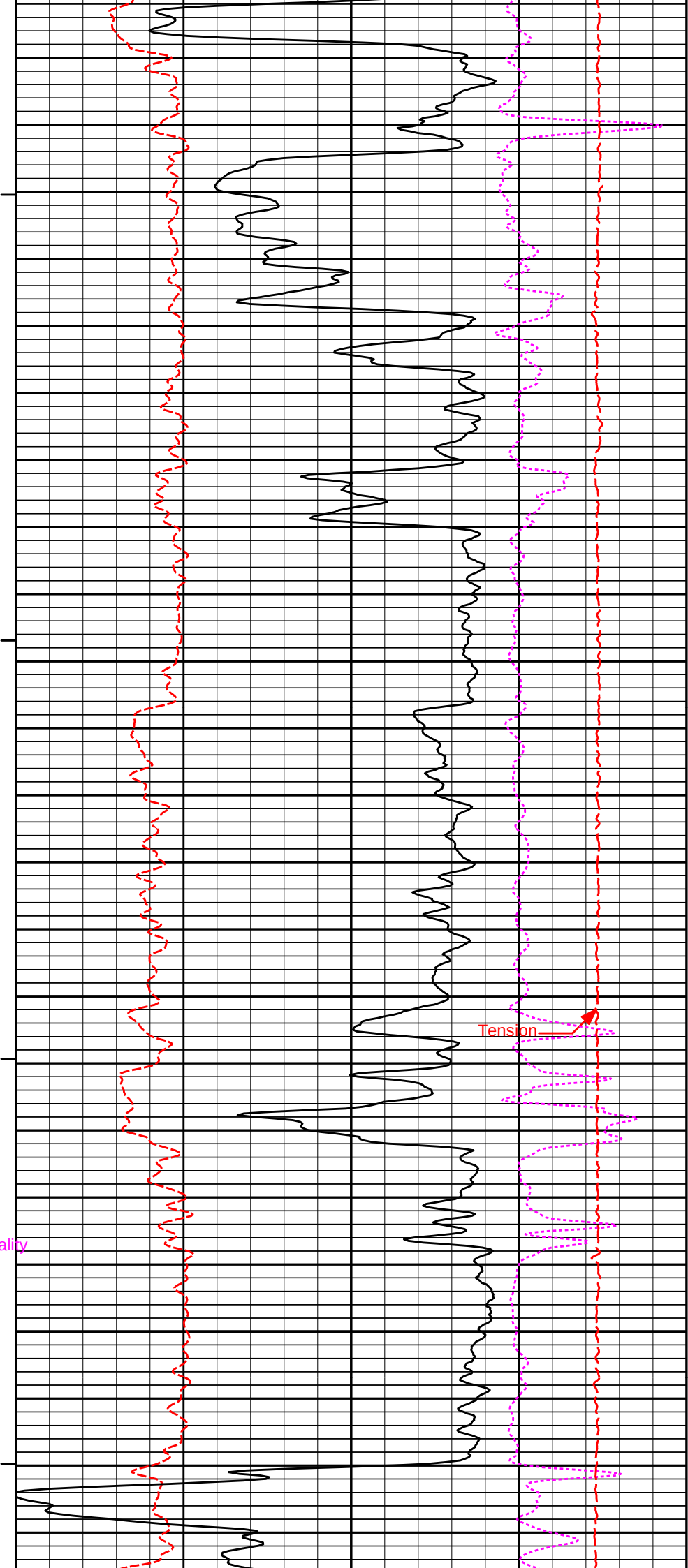
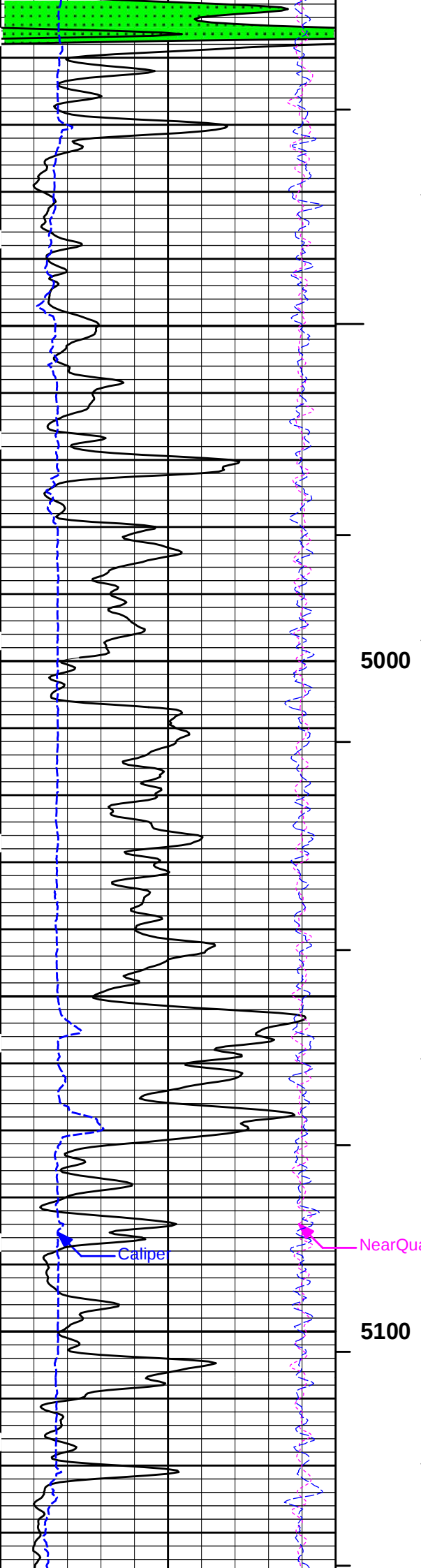
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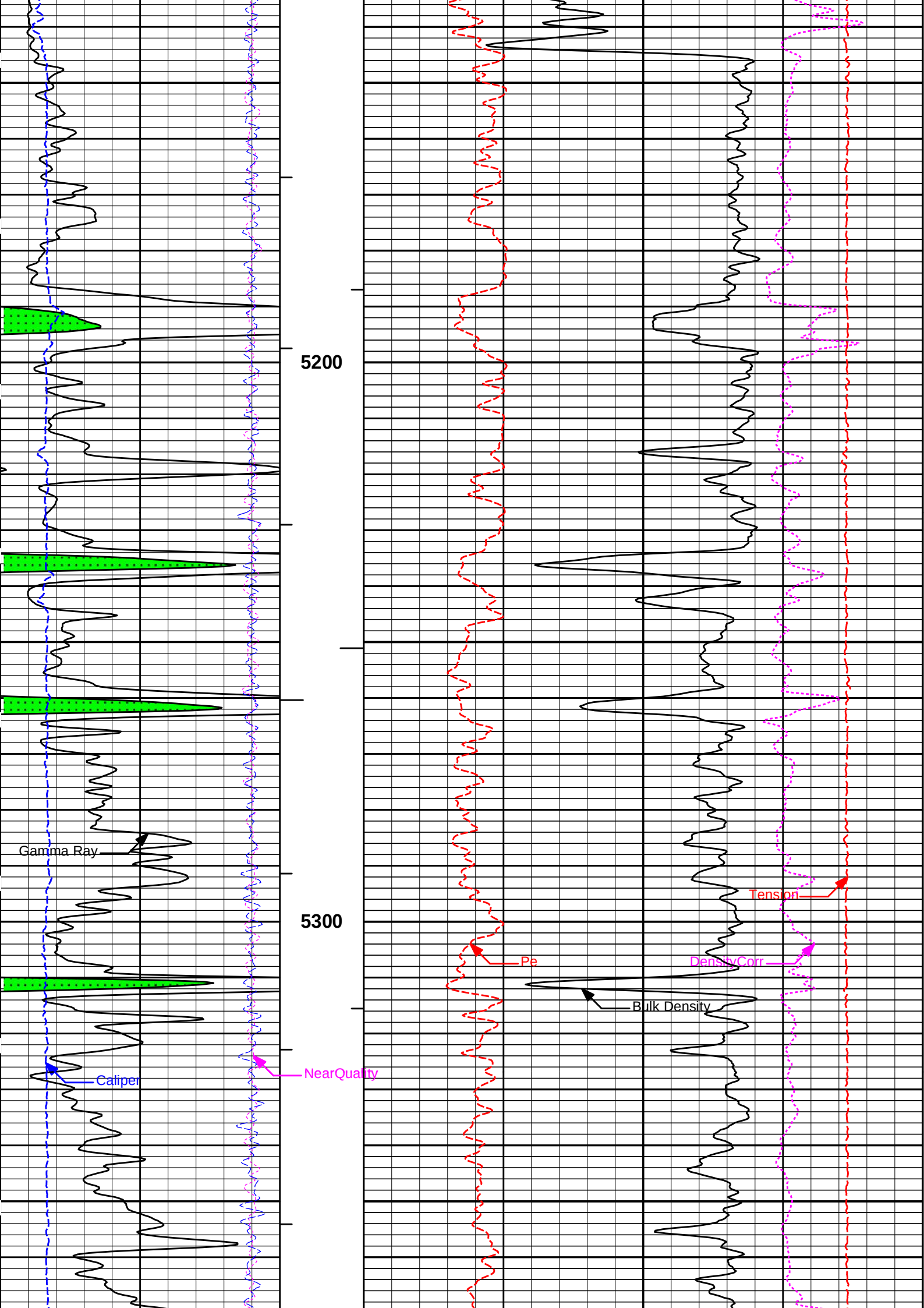


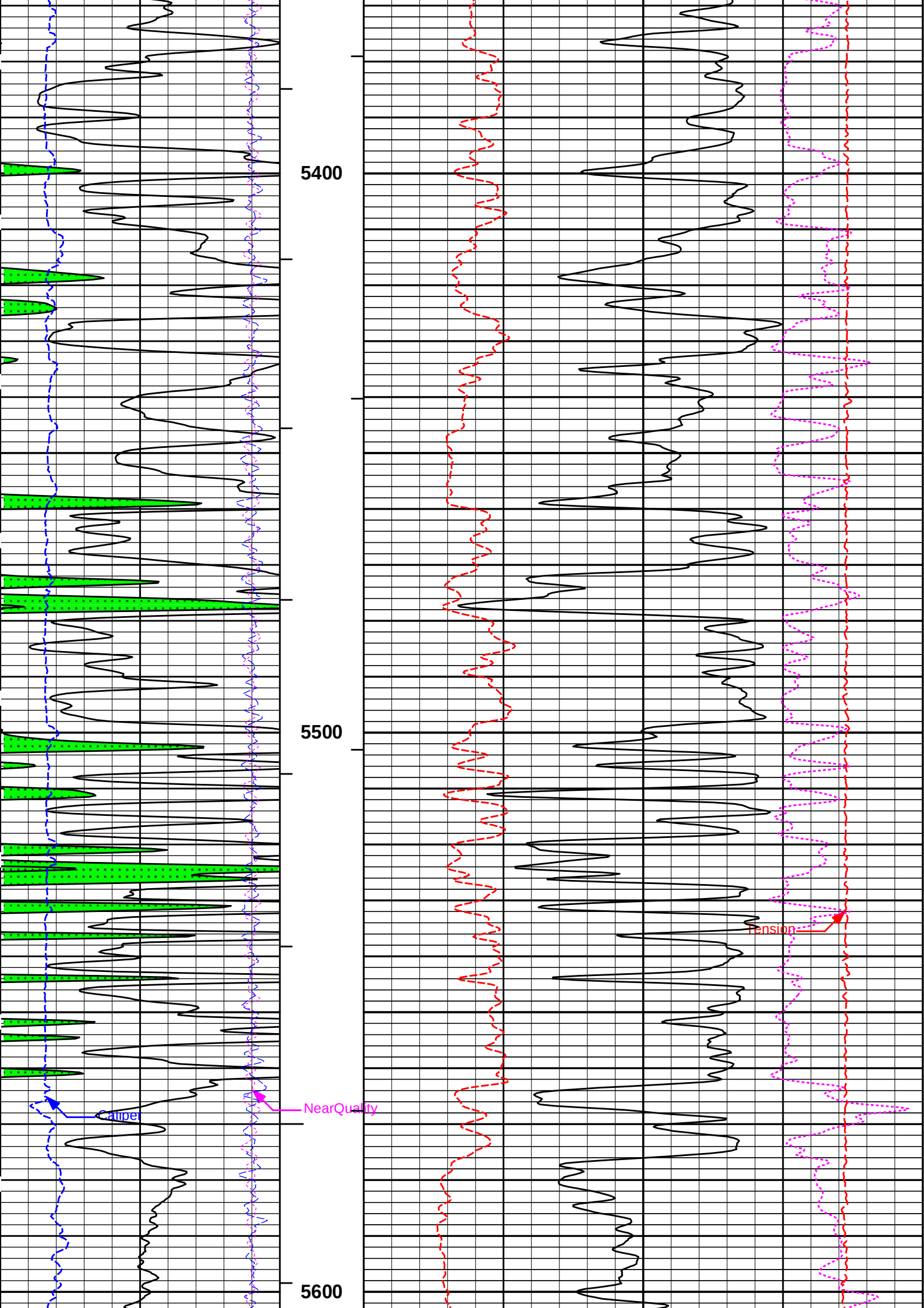


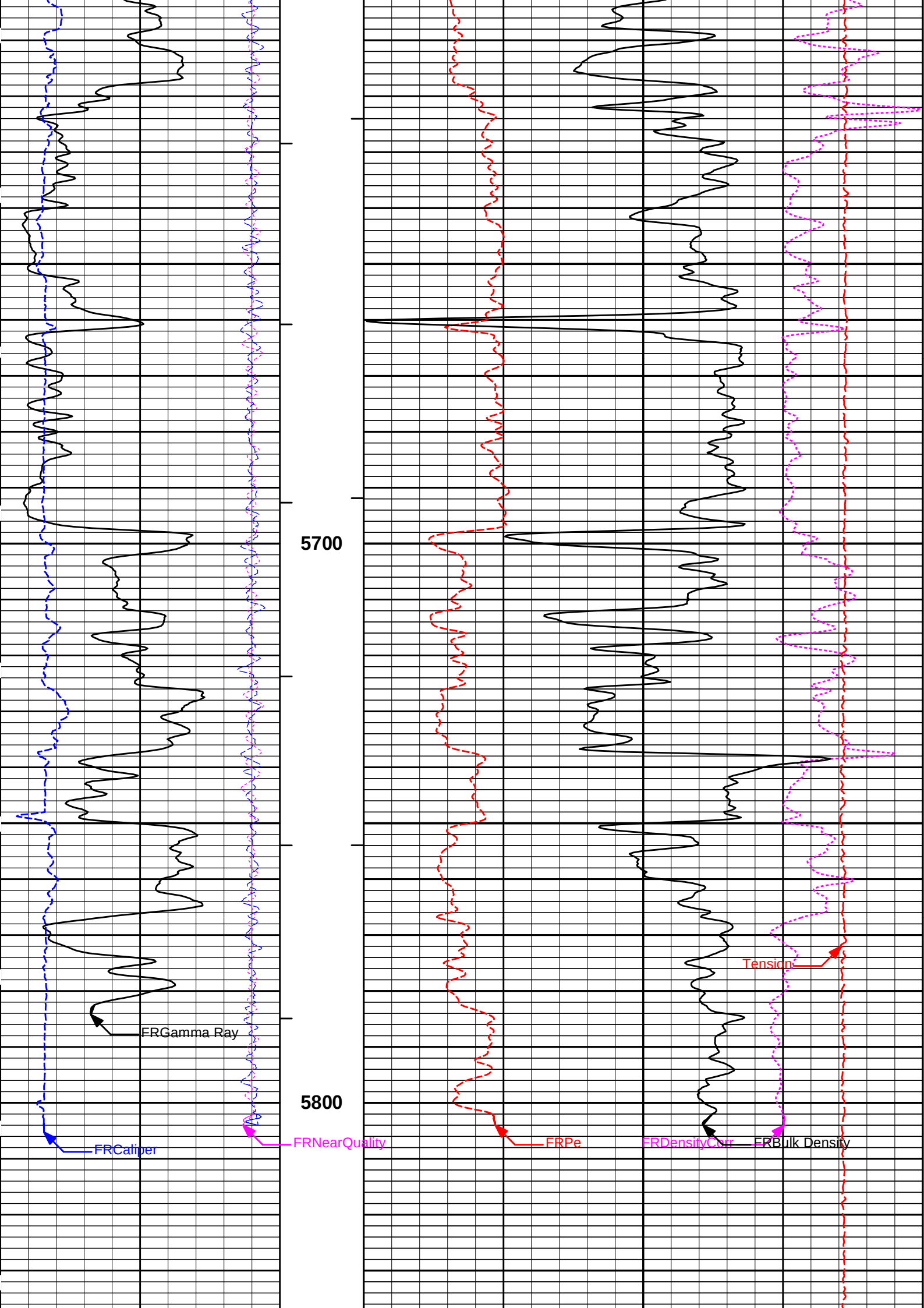


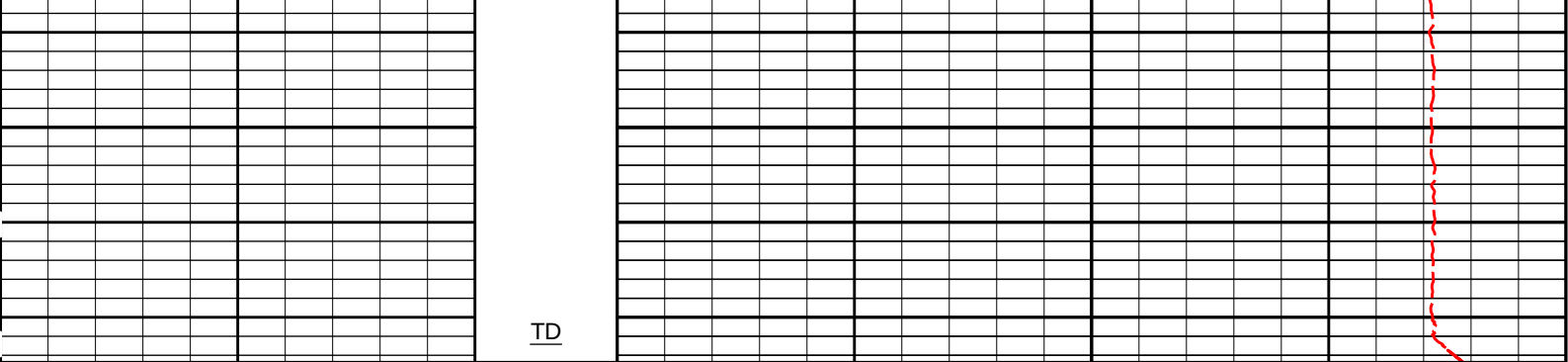












6 Caliper inches 16	MD 1 : 240 ft	0 Pe 10	-0.25 DensityCorr g/cc 0.25			
		15K Tension pounds 0				
-18 NearQuality 2	AHV ft3					
18 FarQuality -2	BHV ft3	2 Bulk Density 3				
0 Gamma Ray 150		g/cc				
api						
SHALE						

HALLIBURTON

Plot Time: 12-Jul-18 17:18:09
Plot Range: 3995 ft to 5874.75 ft
Data: THORP_1-26R\Well Based\DETAILS\
Plot File: \\-LOCAL-\THORP_1-26R\Well Based\POROSITY\BULKD_5_MAIN_LIB

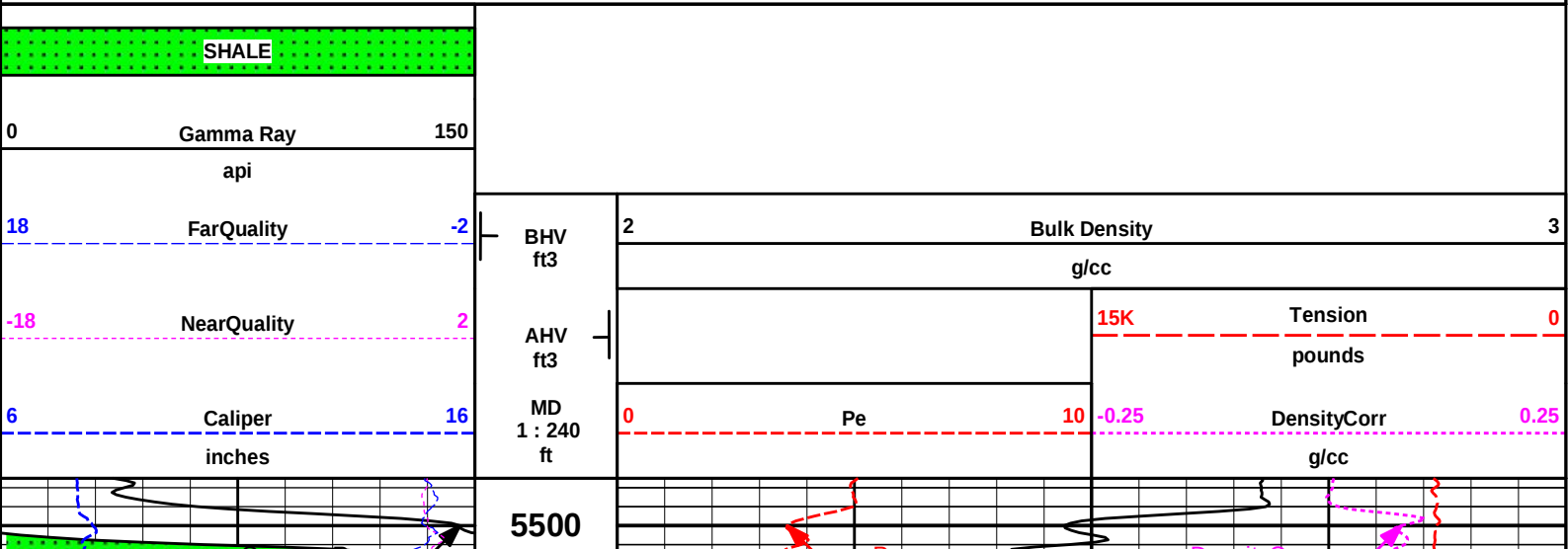
5 INCH MAIN LOG

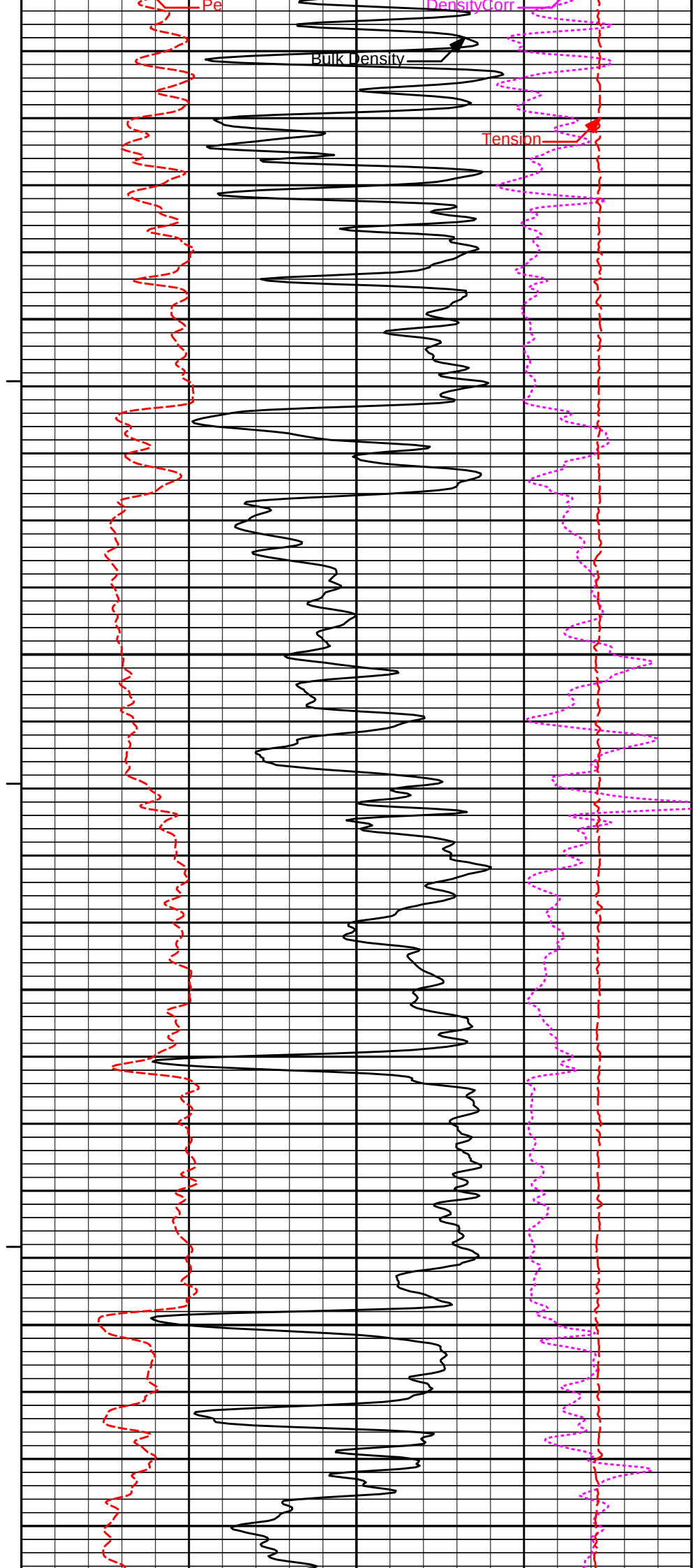
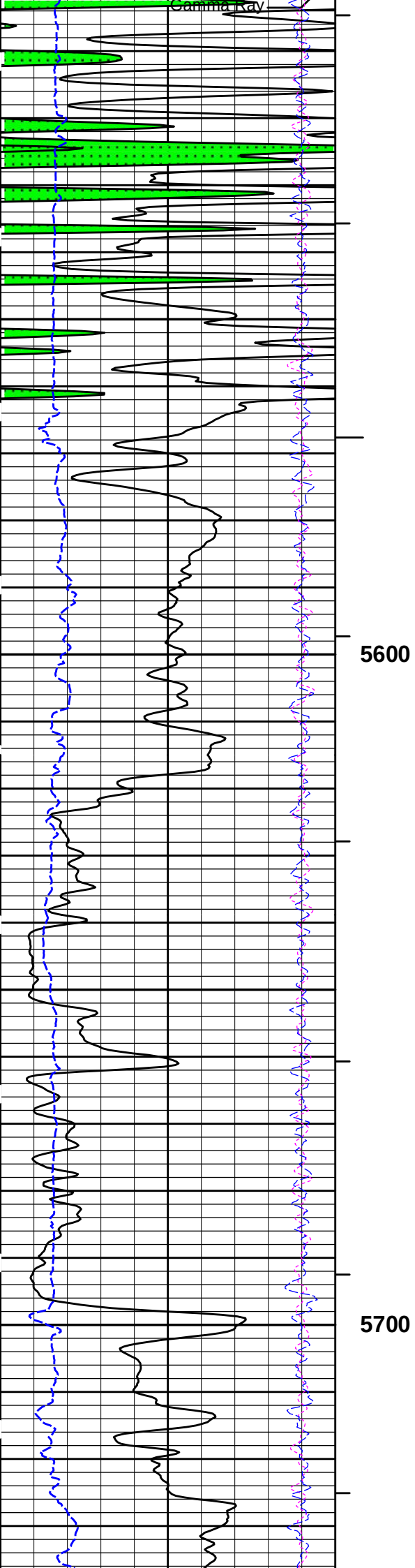
MEASURED DEPTH
MAIN SECTION 5" PER 100'

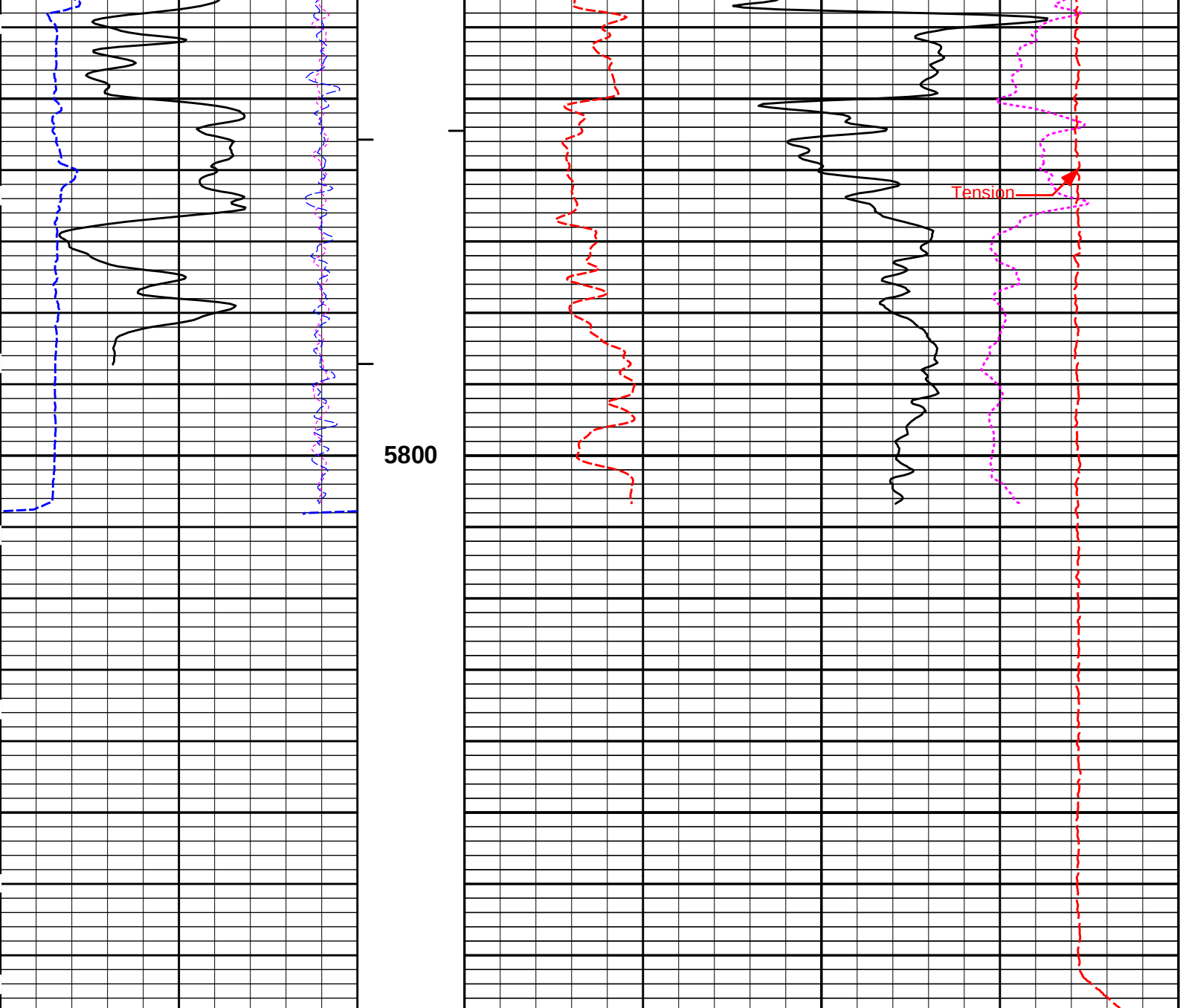
HALLIBURTON

Plot Time: 12-Jul-18 17:18:09
Plot Range: 5495 ft to 5877.58 ft
Data: THORP_1-26R\Well Based\REPEAT\
Plot File: \\-LOCAL-\THORP_1-26R\Well Based\POROSITY\BULKD_5_REP_LIB

REPEAT SECTION







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

HALLIBURTON

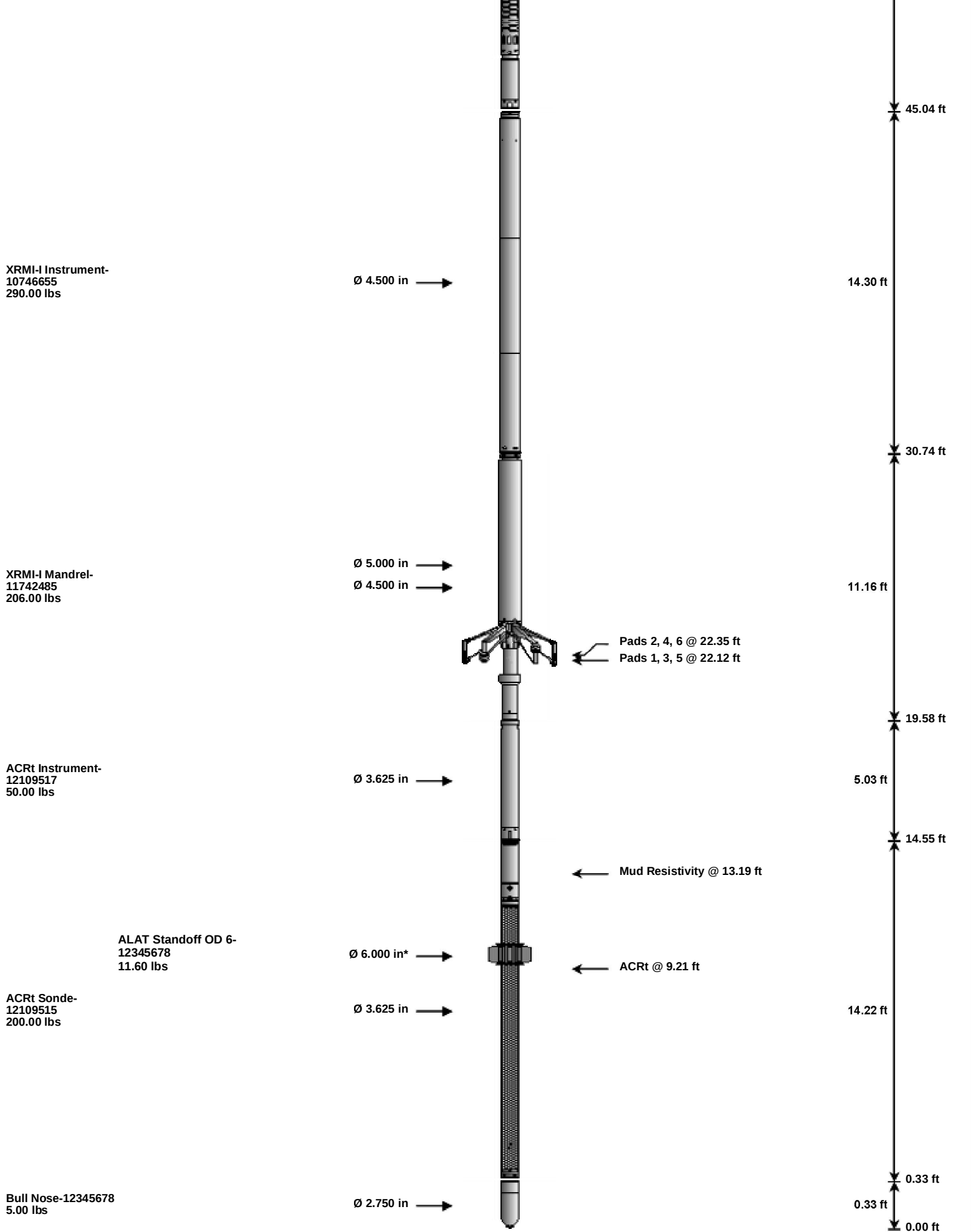
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Data: THORP_1-26R\Well Based\REPEAT\
Plot File: \\LOCAL-THORP_1-26R\Well Based\POROSITY\BULKD_5_REP_LIB

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-11459024 37.50 lbs		Ø 2.750 in →		← Temperature @ 102.20 ft	3.03 ft	103.23 ft
XOHD-11572809 20.00 lbs		Ø 2.750 in → Ø 3.625 in →			0.95 ft	100.20 ft
SP Sub-11153357 60.00 lbs		Ø 3.625 in →		← SP @ 97.47 ft	3.74 ft	99.25 ft
				← Z-Accelerometer @ 95.06 ft		95.51 ft
GTET-11013114 165.00 lbs		Ø 3.625 in →		← GammaRay @ 89.45 ft	8.52 ft	
						86.99 ft
DSNT2-10993115 174.00 lbs	DSN Decentralizer- 10993115 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 80.05 ft ← DSN Near @ 79.30 ft	9.69 ft	
						77.30 ft
SDLT2-12153520 360.00 lbs	SDLT Pad2-10809130 65.00 lbs Microlog Pad2-12153520 8.00 lbs	Ø 4.500 in → Ø 4.500 in* → Ø 4.750 in* →		← Microlog @ 69.49 ft ← SDL Caliper @ 69.30 ft ← SDL @ 69.29 ft	10.81 ft	
						66.49 ft
IQ Flex-11005585 140.00 lbs		Ø 3.625 in →			5.67 ft	
						60.82 ft
BSAT-10747686 300.00 lbs		Ø 3.625 in →		← Receiver Array @ 52.30 ft ← Sonic Receivers @ 52.30 ft	15.77 ft	



Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell		11459024	37.50	3.03	100.20	300.00
XOHD	Hostile to Dits Cross Over		11572809	20.00	0.95	99.25	300.00
SP	SP Sub		11153357	60.00	3.74	95.51	300.00
GTET	Gamma Telemetry Tool		11013114	165.00	8.52	86.99	60.00
DSNT	Dual Spaced Neutron		10993115	174.00	9.69	77.30	60.00
DSNT	DSNT		10993115	0.00	5.10	62.20	300.00

DCNT	DSN Decentralizer	10993115	6.60	5.13	*	80.63	300.00
SDLT	Spectral Density Tool	12153520	360.00	10.81		66.49	60.00
SDLP	Density Insite Pad	10809130	65.00	2.55	*	68.70	60.00
MICP	Microlog Pad	12153520	8.00	1.00	*	68.99	60.00
IQF	IQ Flex tool	11005585	140.00	5.67		60.82	300.00
BSAT	Borehole Sonic Array Tool	10747686	300.00	15.77		45.04	60.00
XRMI	XRMI Navigation - Insite	10746655	290.00	14.30		30.74	30.00
XRMI-I	XRMI Imager - Insite	11742485	206.00	11.16		19.58	30.00
ACRt	Array Compensated True Resistivity Instrument Section	12109517	50.00	5.03		14.55	120.00
ACRt	Array Compensated True Resistivity Sonde Section	12109515	200.00	14.22		0.33	120.00
ALATS	Array Laterolog Tool OD 6 Standoff	12345678	11.60	1.00	*	9.23	60.00
BLNS	Bull Nose	12345678	5.00	0.33		0.00	300.00
Total			2,098.70	103.23			
* Not included in Total Length and Length Accumulation.							
Data: THORP_1-26R10001 GTET-DSNT-SDLT-FLEX-BSAT-XRMI-ACRTIDLE							
Date: 12-Jul-18 14:54:59							



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	9.600	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	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	5880.00	ft
	SHARED	BHT	Bottom Hole Temperature	135.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	XRMI-I Instrument	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	XRMI-I Instrument	
	SHARED	TEMM	CBM Temperature Master Tool	GTET	
	SHARED	SOCI	Source of Casing Information	Parameters	
	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	XRMI-I Mandrel	
	Rwa / CrossPlot	ROIN	Input for RO Calculation	Rwa	

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	XRMI-I Mandrel	
DSNT2	DNOK	Process DSN?	Yes	
DSNT2	DEOK	Process DSN EVR?	No	
DSNT2	NLIT	Neutron Lithology	Limestone	
DSNT2	DSNO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT2	DNTT	Temperature Correction Type	None	
DSNT2	DPRS	DSN Pressure Correction Type	None	
DSNT2	SHCO	View More Correction Options	No	
DSNT2	UTVD	Use TVD for Gradient Corrections?	No	
DSNT2	LHWT	Logging Horizontal Water Tank?	No	
DSNT2	UCLA	Classic Neutron Parameter utilized?	No	
DSNT2	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
SDLT2	CLOK	Process Caliper Outputs?	Yes	
Microlog Pad2	MLOK	Process MicroLog Outputs?	Yes	
SDLT Pad2	DNOK	Process Density?	Yes	
SDLT Pad2	DNOK	Process Density EVR?	No	
SDLT Pad2	CB	Logging Calibration Blocks?	No	
SDLT Pad2	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad2	DTWN	Disable temperature warning	No	
SDLT Pad2	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad2	DFL	Formation Density Fluid	1.000	g/cc
SDLT Pad2	BHSM	Borehole Size Source Tool	SDLT2	
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	
XRMI-I Instrument	WRTI	Survey Writing Interval	30	ft
XRMI-I Instrument	SOPT	Smoothing Option	None	
XRMI-I Instrument	AO	Angular Offset Between Imaging Tools	0	deg
XRMI-I Mandrel	DIMG	Process XRMI?	Yes	
XRMI-I Mandrel	ALMT	Image Alignment Method	TOOL	
XRMI-I Mandrel	AGN	Use Button Auto Gain?	Yes	
XRMI-I Mandrel	BCLR	Button Auto Gain Color	127	
XRMI-I Mandrel	BFIL	Button Auto Gain Filter	0.020	
XRMI-I Mandrel	BGAN	Button Gain Value	0.001	
XRMI-I Mandrel	BOFF	Button Offset	0	
XRMI-I Mandrel	DIPE	Process Dipmeter Calculations?	Yes	
XRMI-I Mandrel	BHCS	Process Borehole Corrections?	Yes	
XRMI-I Mandrel	BHSM	Borehole Size Source Tool	XRMI-I Mandrel	
XRMI-I Mandrel	CLOK	Process Caliper Outputs?	Yes	
XRMI-I Mandrel	CMAX	Caliper Maximum Limit	100.0	in
XRMI-I Mandrel	CMIN	Caliper Mimimum Limit	3.5	in
XRMI-I Mandrel	NAVS	Navigation Source Tool	XRMI-I Instrument	
XRMI-I Mandrel	BHVC	Radius type for borehole volume calcuations	Elliptical	
XRMI-I Mandrel	CCL	Caliper Correction Algorithm	None	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	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	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	XRMI-I Mandrel	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	
BOTTOM				
Data: THORP_1-26R10001 GTET-DSNT-SDLT-FLEX-BSAT-XRMI-ACRTIDLE			Date: 12-Jul-18 16:44:46	

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION				
Tool Name:	GTET - 11013114	Reference Calibration Date:	20-May-18 14:50:21	
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	05-Jun-18 11:57:37	
Software Version:	WL INSITE R5.6.0 (Build 2)	Calibration Version:	1	

Calibrator Source S/N: TB-146				
Calibrator API Reference:225.00 api				
Equivalent Calibrator API Reference:228.9 api				
Measurement	Measured	Calibrated	Units	
Background	35.2	35.7	api	
Background + Calibrator	260.9	264.7	api	
Calibrator	225.7	228.9	api	

NATURAL GAMMA RAY TOOL FIELD CALIBRATION				
Tool Name:	GTET - 11013114	Reference Calibration Date:	05-Jun-18 11:57:37	
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	06-Jul-18 09:11:08	
Software Version:	WL INSITE R5.6.0 (Build 2)	Calibration Version:	1	

Calibrator Source S/N: TB-146				
Calibrator API Reference:225.00 api				
Equivalent Calibrator API Reference:228.9 api				
Field Verification	Shop	Field	Units	
Background	35.7	25.5	api	
Background + Calibrator	264.7	253.6	api	
Calibrator	228.9	228.1	api	
Shop	Field	Difference	Tolerance	
228.9	228.1	0.8	+/- 9.00	

DUAL SPACED NEUTRON SHOP CALIBRATION				
Tool Name:	DSNT2 - 10993115	Reference Calibration Date:	13-Mar-18 16:36:23	
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	05-Jun-18 11:51:00	
Software Version:	WL INSITE R5.6.0 (Build 2)	Calibration Version:	1	

Logging Source S/N: DSN-424				
Tank Serial Number: 12345678				
Reference value assigned to Tank: 56.100				
Snow Block S/N: 12345678				
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:	0.99503	0.99632	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):	0.2354	0.2358	0.0004	+/- 0.0020
Calibrated Ratio:	10.5458	10.5595	0.014	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0626	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:	DSNT2 - 10993115	Reference Calibration Date:	05-Jun-18 11:51:00
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	06-Jul-18 08:52:12
Software Version:	WL INSITE R5.6.0 (Build 2)	Calibration Version:	1

Logging Source S/N: DSN-424

Snow Block S/N: 12345678

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0626	0.0622	-0.0004	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	SDLT2 - 12153520	Reference Calibration Date:	05-Jun-18 10:31:07
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	05-Jun-18 10:38:49
Software Version:	WL INSITE R5.6.0 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 10993115		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-4928.64	-5107.21	-7000.00 - -1000.00
Pad Gain	0.0003765	0.0003757	0.0002000 - 0.0006000
Arm Offset	-3652.41	-3183.13	-5000.00 - 3000.00
Arm Gain	0.0005508	0.0005255	0.000300 - 0.000700
Arm Power	-0.000006501	-0.000005130	-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)	2.07	2.00	-0.07	+/- 0.20
Medium Ring (in)	3.83	3.75	-0.08	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.41	6.50	0.09	+/- 0.20
Medium Ring (in)	8.22	8.25	0.03	+/- 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:	SDLT2 - 12153520	Reference Calibration Date:	05-Jun-18 10:38:49
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	06-Jul-18 09:04:06
Software Version:	WL INSITE R5.6.0 (Build 2)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.83	3.75	-0.08	+/- 0.10
Ring Diameter	8.25	8.30	0.05	+/- 0.15
PASS/FAIL SUMMARY				
Pad Extension Check:			Passed	
Diameter Check:			Passed	

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	SDLT Pad2 - 10809130	Reference Calibration Date:	07-Jun-18 10:44:05
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	07-Jun-18 11:05:54
Software Version:	WL INSITE R5.6.0 (Build 2)	Calibration Version:	1

Logging Source S/N: 5471GW

Aluminum Block S/N: EL RENO STD ALUMINUM

Magnesium Block S/N: EL RENO

Density: 2.581g/cc

Density: 1.687g/cc

Pe: 3.170

Pe: 2.594

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0433	1.0481	0.90 - 1.10
Near Dens Gain	1.0146	1.0272	0.90 - 1.10
Near Peak Gain	1.0349	1.0557	0.90 - 1.10
Near Lith Gain	1.0501	1.0457	0.90 - 1.10
Far Bar Gain	1.0059	1.0078	0.90 - 1.10
Far Dens Gain	0.9982	0.9997	0.90 - 1.10
Far Peak Gain	0.9938	0.9979	0.90 - 1.10
Far Lith Gain	0.9753	0.9775	0.90 - 1.10
Near Bar Offset	-0.3213	-0.3667	NONE
Near Dens Offset	-0.0548	-0.1665	NONE
Near Peak Offset	-0.2185	-0.3946	NONE
Near Lith Offset	-0.4067	-0.3700	NONE
Far Bar Offset	-0.0635	-0.0805	NONE
Far Dens Offset	-0.0133	-0.0260	NONE
Far Peak Offset	-0.0225	-0.0562	NONE
Far Lith Offset	0.0490	0.0335	NONE
Near Bar Background	880.73	882.81	700 - 1450
Near Dens Background	290.88	290.05	230 - 480
Near Peak Background	126.80	125.98	100 - 210
Near Lith Background	156.87	157.45	125 - 260
Far Bar Background	609.52	609.12	450 - 900
Far Dens Background	234.72	235.06	175 - 345
Far Peak Background	22.22	22.25	20 - 240
Far Lith Background	22.22	22.25	20 - 240

Far Peak Background	92.66	92.87	70 - 140
Far Lith Background	94.94	97.17	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.687	1.687	0.000	+/- 0.015
Pe	2.552	2.561	0.009	+/- 0.150
ALUMINUM				
Density (g/cc)	2.580	2.580	-0.000	+/- 0.01500
Pe	3.135	3.134	-0.001	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0003	+/- 0.0110	0.0020	+/- 0.0140
Magnesium Block	-0.0001	+/- 0.0110	-0.0017	+/- 0.0140
Aluminum Block	-0.0004	+/- 0.0110	0.0010	+/- 0.0140
Resolution	8.91	6.00 - 11.50	9.36	6.00 - 11.50
Internal Verifier(B+D+P+L)	1456	1200 - 2700	1034	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 Pad2 - 10809130	Reference Calibration Date:	07-Jun-18 11:05:54
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	06-Jul-18 08:59:34
Software Version:	WL INSITE R5.6.0 (Build 2)	Calibration Version:	1

Pad Temperature: 92.9 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1456.282	1454.090	-2.192	15.392
Far (B+D+P+L) cps	1034.223	1035.912	1.689	17.128
Near Resolution	8.91	8.97	0.060	0.50
Far Resolution	9.36	9.34	-0.020	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-11013114						
Gamma Ray Calibrator	228.9	228.1	-----	0.8	+/- 9.00	api

DSNT2-10993115						
Snow-Block Porosity	0.0626	0.0622	-----	0.0004	+/- 0.0150	decP
SDLT2-12153520						
Pad Extension	3.75	3.75	-----	0.00	+/-0.10	in
Ring Diameter	8.25	8.30	-----	-0.05	+/-0.15	in
SDLT Pad2-10809130						
Near(B+D+P+L)	1456.282	1454.090	-----	2.192	+/-15.392	cps
Far(B+D+P+L)	1034.223	1035.912	-----	-1.689	+/-17.128	cps
Data: THORP_1-26R\0001 GTET-DSNT-SDLT-FLEX-BSAT-XRMI-ACRTIDLE					Date: 12-Jul-18 17:04:47	



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	103.22	NO	
BS	Bit Size	103.22	NO	
HDIA	Measured Hole Diameter	0.00	NO	
CH_HOS				
DHTN	DownholeTension	0.00	BLK	0.000
SP Sub				
PLTC	Plot Control Mask	97.47	NO	
SP	Spontaneous Potential	97.47	BLK	1.250
SPR	Raw Spontaneous Potential	97.47	NO	
SPO	Spontaneous Potential Offset	97.47	NO	
GTET				
TPUL	Tension Pull	89.45	NO	
GR	Natural Gamma Ray API	89.45	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	89.45	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	89.45	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	
DSNT2				
TPUL	Tension Pull	79.20	NO	
RNDS	Near Detector Telemetry Counts	79.30	BLK	1.417
RFDS	Far Detector Telemetry Counts	80.05	TRI	0.583
DNTT	DSN Tool Temperature	79.30	NO	
DSNS	DSN Tool Status	79.20	NO	
ERND	Near Detector Telemetry Counts EVR	79.30	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	80.05	BLK	0.000
ENTM	DSN Tool Temperature EVR	79.30	NO	
HDIA	Measured Hole Diameter	0.00	NO	
SDLT2				
TPUL	Tension Pull	69.30	NO	
PCAL	Pad Caliper	69.30	TRI	0.250
ACAL	Arm Caliper	69.30	TRI	0.250
BSAT				
TPUL	Tension Pull	52.30	NO	
STAT	Status	52.30	NO	

STATUS	Status	52.30	NO	
DLYT	Delay Time	52.30	NO	
SI	Sample Interval	52.30	NO	
TXRX	Raw Telemetry 10 Receivers	52.30	NO	
FRMC	Tool Frame Count	52.30	NO	
GMOD	Gain processing mode	45.04	NO	
XRMI-I Mandrel				
TPUL	Tension Pull	22.35	NO	
PAD1	XRMI Pad 1 values	22.12	NO	
PAD2	XRMI Pad 2 values	22.12	NO	
PAD3	XRMI Pad 3 values	22.12	NO	
PAD4	XRMI Pad 4 values	22.12	NO	
PAD5	XRMI Pad 5 values	22.12	NO	
PAD6	XRMI Pad 6 values	22.12	NO	
OD1	EMI Odd Button Values Pad 1	22.12	NO	
OD2	EMI Odd Button Values Pad 2	22.35	NO	
OD3	EMI Odd Button Values Pad 3	22.12	NO	
OD4	EMI Odd Button Values Pad 4	22.35	NO	
OD5	EMI Odd Button Values Pad 5	22.12	NO	
OD6	EMI Odd Button Values Pad 6	22.35	NO	
EV1	EMI Even Button Values Pad 1	22.14	NO	
EV2	EMI Even Button Values Pad 2	22.32	NO	
EV3	EMI Even Button Values Pad 3	22.14	NO	
EV4	EMI Even Button Values Pad 4	22.32	NO	
EV5	EMI Even Button Values Pad 5	22.14	NO	
EV6	EMI Even Button Values Pad 6	22.32	NO	
ITMP	Instrument Temperature	19.58	NO	
EMIM	Tool Mode	19.58	NO	
HAZI	Hole Azimuth	21.87	NO	
HAZD	Hole Azimuth - Down Delay	22.37	NO	
ACCZ	Accelerometer Z	22.12	NO	
RB	Relative Bearing	21.87	NO	
RBD	Relative Bearing Down	22.37	NO	
TPUL	Tension Pull	22.35	NO	
FIR1	Current Button R - Pad 1	22.12	NO	
FIR2	Current Button R - Pad 2	22.35	NO	
FIR3	Current Button R - Pad 3	22.12	NO	
FIR4	Current Button R - Pad 4	22.35	NO	
FIR5	Current Button R - Pad 5	22.12	NO	
FIR6	Current Button R - Pad 6	22.35	NO	
FIX1	Current Button X - Pad 1	22.12	NO	
FIX2	Current Button X - Pad 2	22.35	NO	
FIX3	Current Button X - Pad 3	22.12	NO	
FIX4	Current Button X - Pad 4	22.35	NO	
FIX5	Current Button X - Pad 5	22.12	NO	
FIX6	Current Button X - Pad 6	22.35	NO	
SIR1	Current Slow Button R - Pad 1	22.12	BLK	3.000
SIR2	Current Slow Button R - Pad 2	22.35	BLK	3.000
SIR3	Current Slow Button R - Pad 3	22.12	BLK	3.000
SIR4	Current Slow Button R - Pad 4	22.35	BLK	3.000
SIR5	Current Slow Button R - Pad 5	22.12	BLK	3.000
SIR6	Current Slow Button R - Pad 6	22.35	BLK	3.000
SIX1	Current Slow Button X - Pad 1	22.12	BLK	3.000
SIX2	Current Slow Button X - Pad 2	22.35	BLK	3.000
SIX3	Current Slow Button X - Pad 3	22.12	BLK	3.000
SIX4	Current Slow Button X - Pad 4	22.35	BLK	3.000
SIX5	Current Slow Button X - Pad 5	22.12	BLK	3.000
SIX6	Current Slow Button X - Pad 6	22.35	BLK	3.000
EMMR	Phase Voltage - Peak Port	22.12	NO	

EMMR	Phasor Voltage - Real Part	22.12	NO	
EMMX	Phasor Voltage - Imaginary Part	22.12	NO	
PADV	Pad Voltage	19.58	BLK	0.250
ITMP	Instrument Temperature	19.58	BLK	0.000
CON1	Conductivity Pad 1	22.12	BLK	3.000
CON2	Conductivity Pad 2	22.35	BLK	3.000
CON3	Conductivity Pad 3	22.12	BLK	3.000
CON4	Conductivity Pad 4	22.35	BLK	3.000
CON5	Conductivity Pad 5	22.12	BLK	3.000
CON6	Conductivity Pad 6	22.35	BLK	3.000
UIR2	Current Button R No Delay - Pad 2	22.12	NO	
UIR4	Current Button R No Delay - Pad 4	22.12	NO	
UIR6	Current Button R No Delay - Pad 6	22.12	NO	
UIX2	Current Button X No Delay - Pad 2	22.12	NO	
UIX4	Current Button X No Delay - Pad 4	22.12	NO	
UIX6	Current Button X No Delay - Pad 6	22.12	NO	
HDIA	Measured Hole Diameter	0.00	NO	
TPUL	Tension Pull	22.35	NO	
ARM1	Caliper 1 measurement	22.12	BLK	0.000
ARM2	Caliper 2 measurement	22.12	BLK	0.000
ARM3	Caliper 3 measurement	22.12	BLK	0.000
ARM4	Caliper 4 measurement	22.12	BLK	0.000
ARM5	Caliper 5 measurement	22.12	BLK	0.000
ARM6	Caliper 6 measurement	22.12	BLK	0.000
MOTV	Motor Voltage 1	22.12	BLK	0.000
PRES	Caliper percentage of total compression of the spring	19.58	BLK	0.000
HAZI	Hole Azimuth	22.12	NO	
RB	Relative Bearing	22.12	NO	
AZI1	PAD1 Azimuth	22.12	NO	
DEVI	Inclination	22.12	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	
Microlog Pad2				
TPUL	Tension Pull	69.49	NO	
MINV	Microlog Lateral	69.49	BLK	0.750
MNOR	Microlog Normal	69.49	BLK	0.750
SDLT Pad2				
TPUL	Tension Pull	69.29	NO	
NAB	Near Above	69.12	BLK	0.920
NHI	Near Cesium High	69.12	BLK	0.920
NLO	Near Cesium Low	69.12	BLK	0.920
NVA	Near Valley	69.12	BLK	0.920
NBA	Near Barite	69.12	BLK	0.920
NDE	Near Density	69.12	BLK	0.920
NPK	Near Peak	69.12	BLK	0.920
NLI	Near Lithology	69.12	BLK	0.920
NBAU	Near Barite Unfiltered	69.12	BLK	0.250
NLIU	Near Lithology Unfiltered	69.12	BLK	0.250
FAB	Far Above	69.47	BLK	0.250
FHI	Far Cesium High	69.47	BLK	0.250
FLO	Far Cesium Low	69.47	BLK	0.250
FVA	Far Valley	69.47	BLK	0.250
FBA	Far Barite	69.47	BLK	0.250
FDE	Far Density	69.47	BLK	0.250
FPK	Far Peak	69.47	BLK	0.250
FLI	Far Lithology	69.47	BLK	0.250
PTMP	Pad Temperature	69.30	BLK	0.920
NHV	Near Detector High Voltage	68.70	NO	
FHV	Far Detector High Voltage	68.70	NO	
ITMP	Instrument Temperature	68.70	NO	
DDHV	Detector High Voltage	68.70	NO	
HDIA	Measured Hole Diameter	0.00	NO	

COMPANY	RAYDON EXPLORATION, INC.		
WELL	THORP 1-26R		
FIELD	KISMET		
COUNTY	SEWARD	STATE	KANSAS
HALLIBURTON		DUAL SPACED NEUTRON SPECTRAL DENSITY LOG	