

HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON ARRAY RESISTIVITY SONIC ARRAY MICROLOG QUAD COMBO LOG

COMPANY		MERIT ENERGY COMPANY			
WELL		RIVER BEND 4			
FIELD/BLOCK		ARKANSAS RIVER			
COUNTY		FINNEY			
STATE		KANSAS			
Permanent Datum	GL	Sect. 26		Twp. 24S	Rge. 32W
Log measured from	KB	Elev. 2825.0 ft			
Drilling measured from	KB	12.0 ft above perm. Datum			
Date	11-Aug-18				
Run No.	ONE				
Depth - Driller	4960.0 ft				
Depth - Logger	4949.0 ft				
Bottom - Logged Interval	4940.0 ft				
Top - Logged Interval	1783.0 ft				
Casing - Driller	8.625 in	@ 1784.0 ft			
Casing - Logger	1783.0 ft	@			
Bit Size	7.875 in	@			
Type Fluid in Hole	Water Based Mud	@			
Density	9.20 g/cc	56.00	sl/qt		
PH	11.00 pH	1.1	cpm		
Source of Sample	MUD PIT				
Rm @ Meas. Temperature	1.03 ohmm	@	75.00 degF	@	
Rmf @ Meas. Temperature	0.82 ohmm	@		@	
Rmc @ Meas. Temperature	1.24 ohmm	@	75.00 degF	@	
Source Rmf	Rmc	MEAS	MEAS	@	
Rm @ BHT	0.80 ohmm	@	133.0 degF	@	
Time Since Circulation	04:00 hr				
Time on Bottom	11-Aug-18 23:24				
Max. Rec. Temperature	133.00 degF	@	4949.0 ft	@	
Equipment	Location	12156883	EL RENO, OK		
Recorded By	SEAN WOLTEMATH				
Witnessed By	MARTIN LANGE				

Fold here

Service Ticket No.: 905054687				API No.: 15-055-22492-00-00				PGM Version: WL INSITE R5.6.3 (Build 4)						
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	ECEN	N/A						
Rmc @ Meas. Temp.		@	@		I-11830684									
Source Rmf	Rmc				S-11830728									
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.	11013113		Serial No.	12173982		Serial No.	11213308		Serial No.	11019641				
Model No.	GTET		Model No.	BSAT		Model No.	SDLT		Model No.	DSNT				
Diameter	3.625"		No. of Cent.			Diameter	5.5"		Diameter	3.625"				
Detector Model No.	GTET		Spacing			Log Type	GAM-GAM		Log Type	NEU-NEU				
Type	SCINT					Source Type	Cs-137		Source Type	Am241Be				
Length	8"		LSA [Y/N]			Serial No.	5475GW		Serial No.	DSN-436				
Distance to Source	10'		FWDA [Y/N]			Strength	1.78 Ci		Strength	15.0 Ci				
LOGGING DATA														
GENERAL			GAMMA			ACOUSTIC			DENSITY			NEUTRON		
Run No.	Depth	Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix	
	From	To	L	R	L	R		L	R		L	R		
ONE	TD	CSG	REC	0	150	30	-10	17.6 us/ft	30	-10	2.71 g/cc	30	-10	LIME

ONE	TD	CSG	REC	0	150	30	-10	47.0 us/ft	30	-10	2.77 g/cc	30	-10	LIME
-----	----	-----	-----	---	-----	----	-----	------------	----	-----	-----------	----	-----	------

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks:

GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION
 ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING
 CHLORIDES REPORTED AT 1600 PPM

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

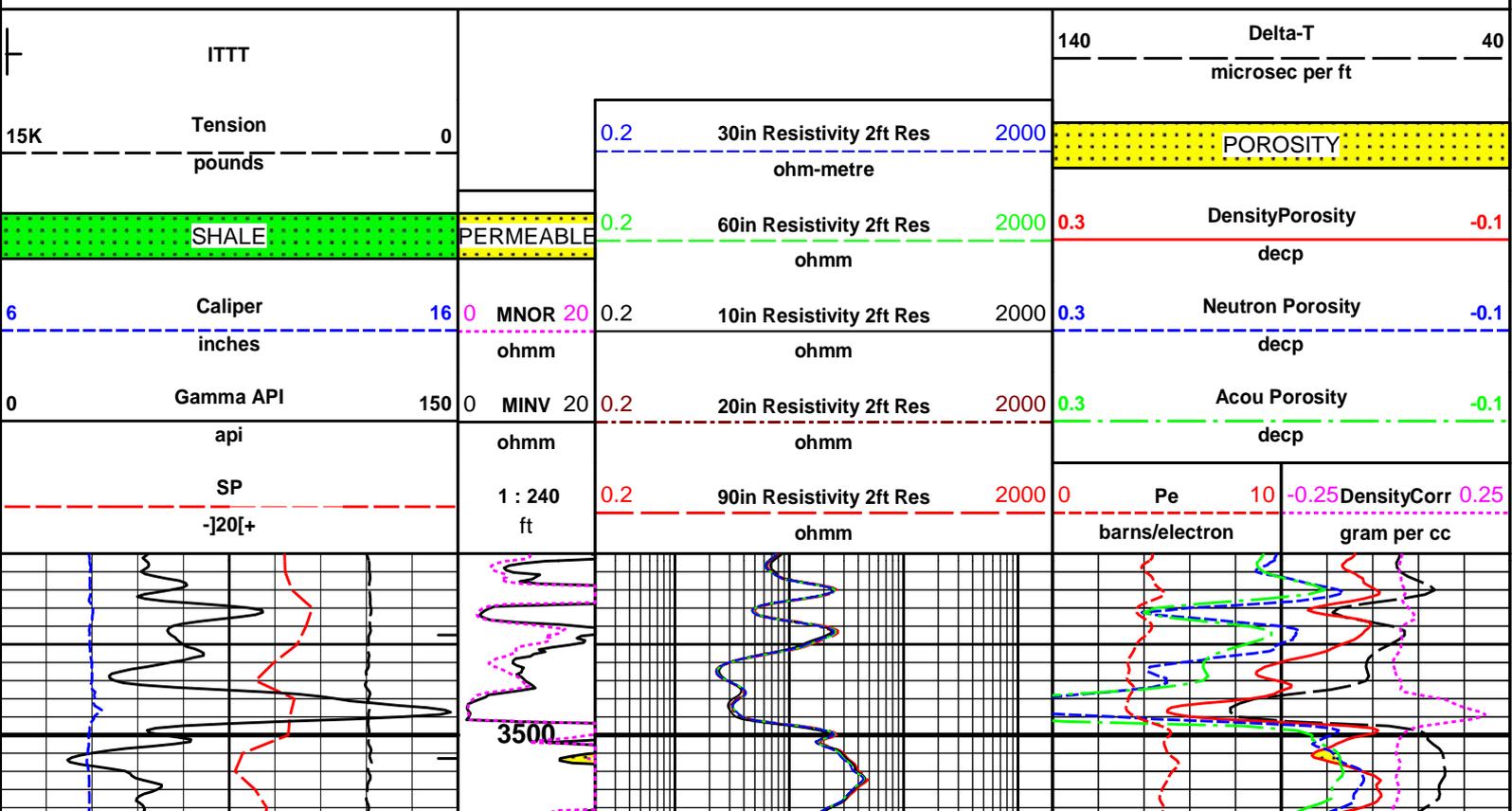
HALLIBURTON

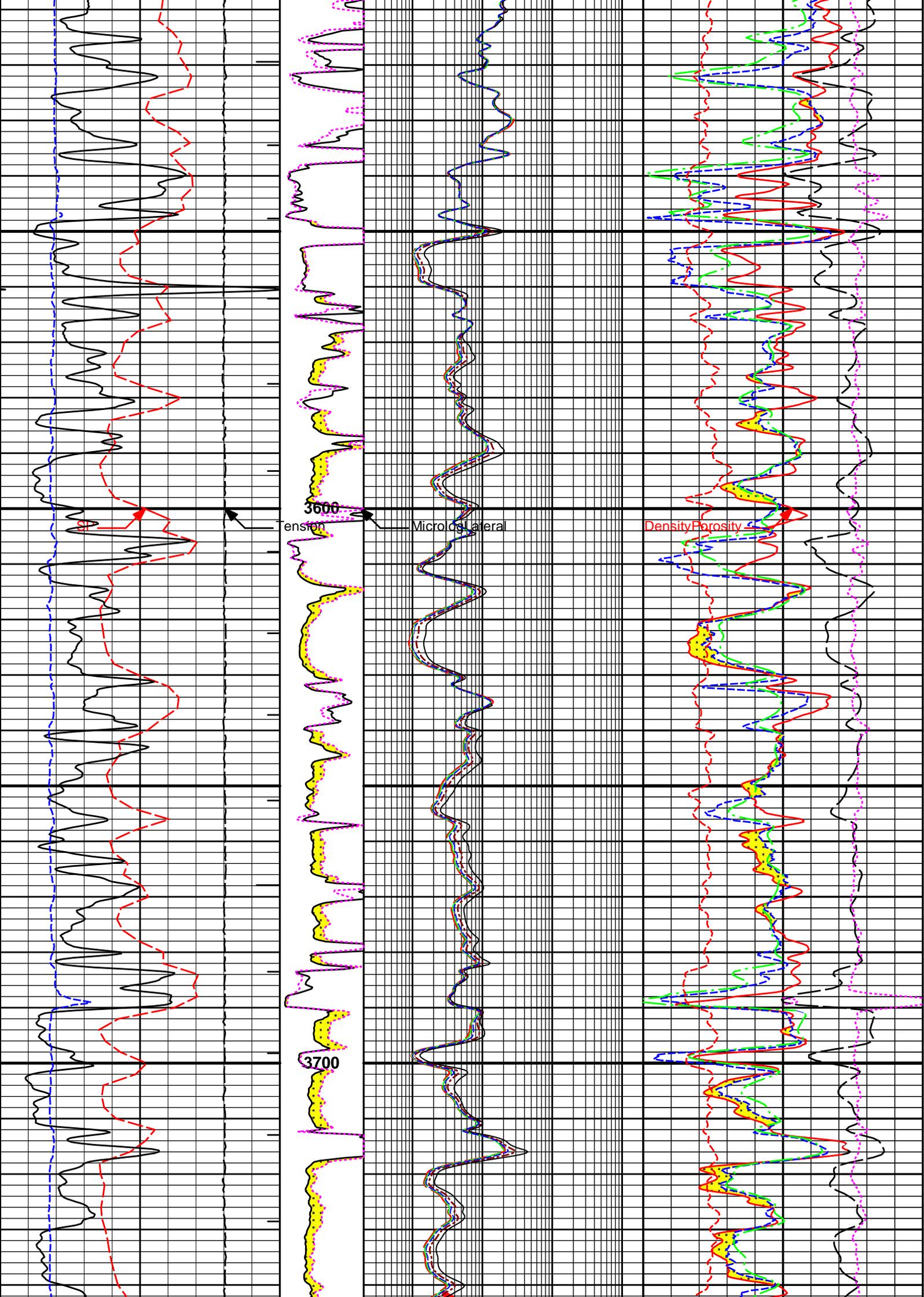


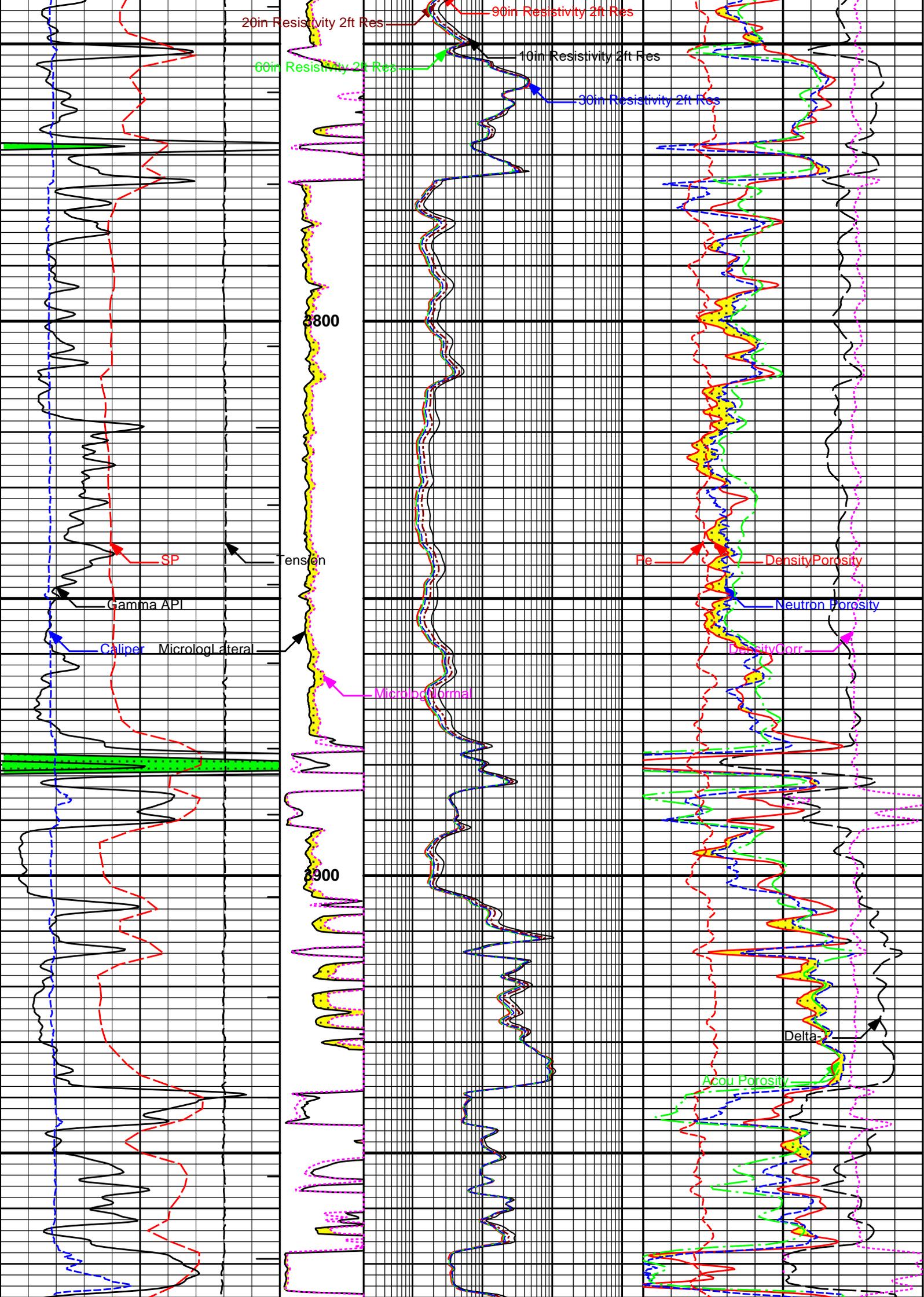
Plot Time: 12-Aug-18 00:32:07
 Plot Range: 3480 ft to 4953.58 ft
 Data: MERIT_RIVERBND4\Well Based\DETAILS\
 Plot File: \\QUAD\QUAD_MAIN

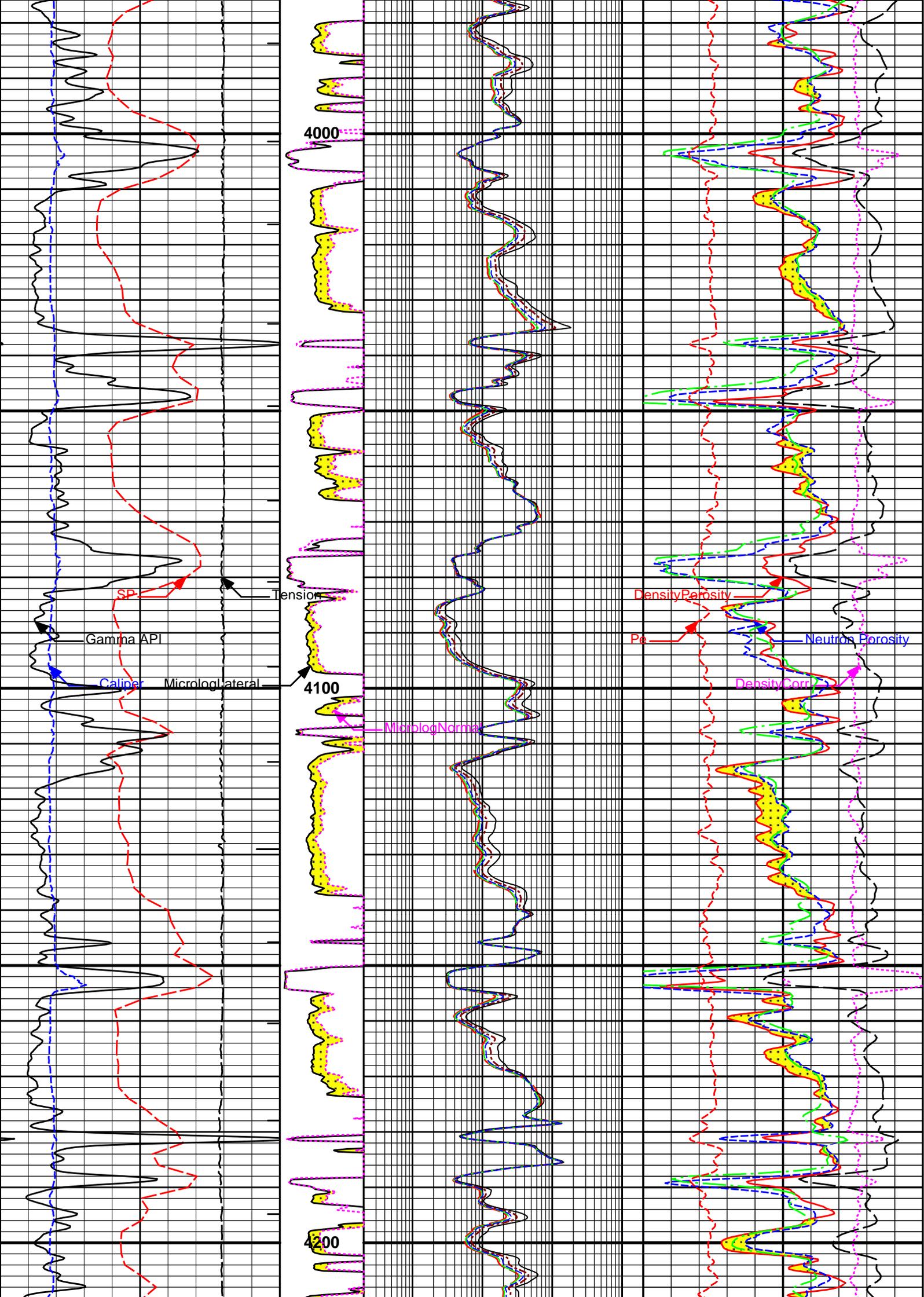
5 INCH MAIN LOG

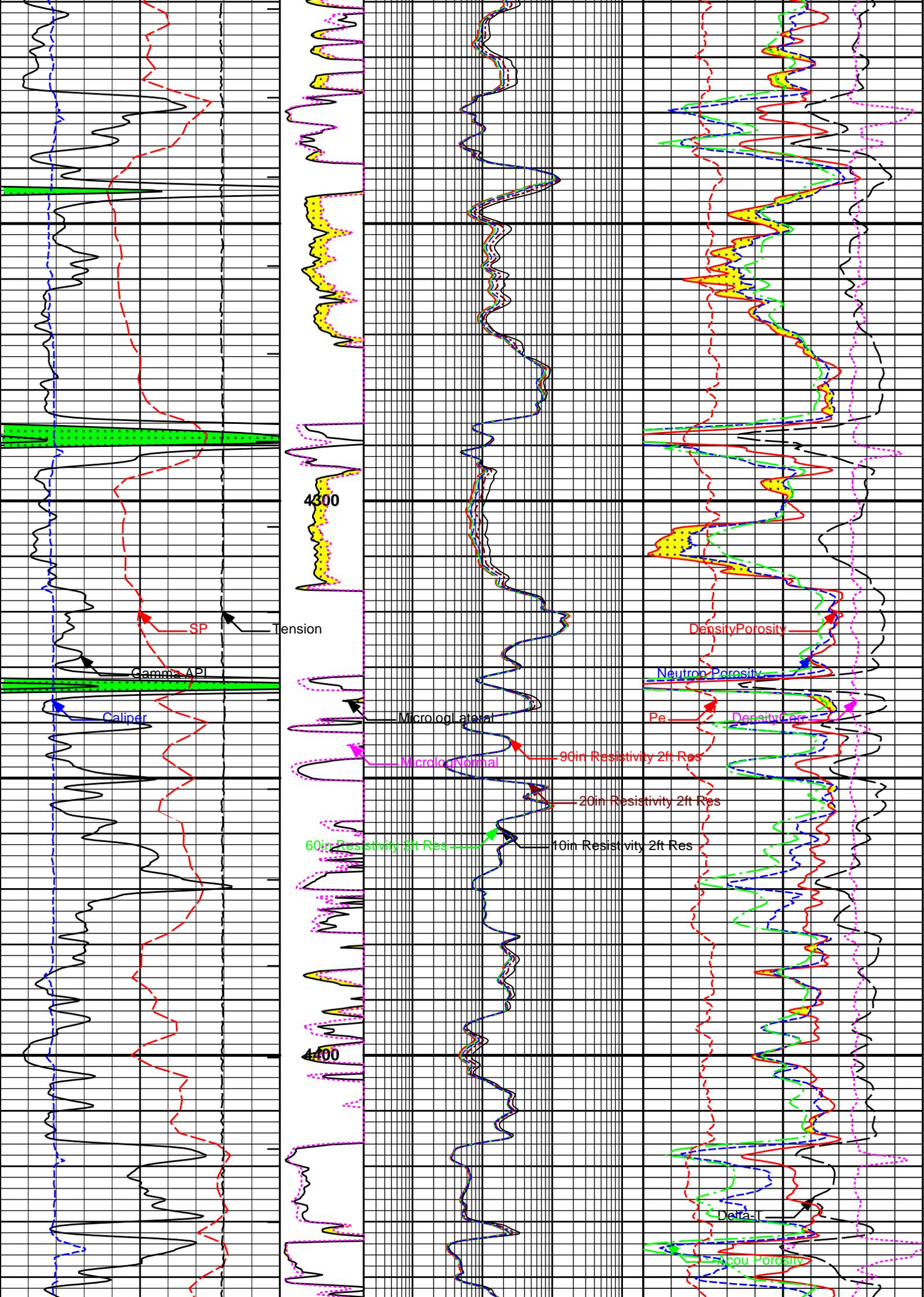
5 INCH MAIN LOG

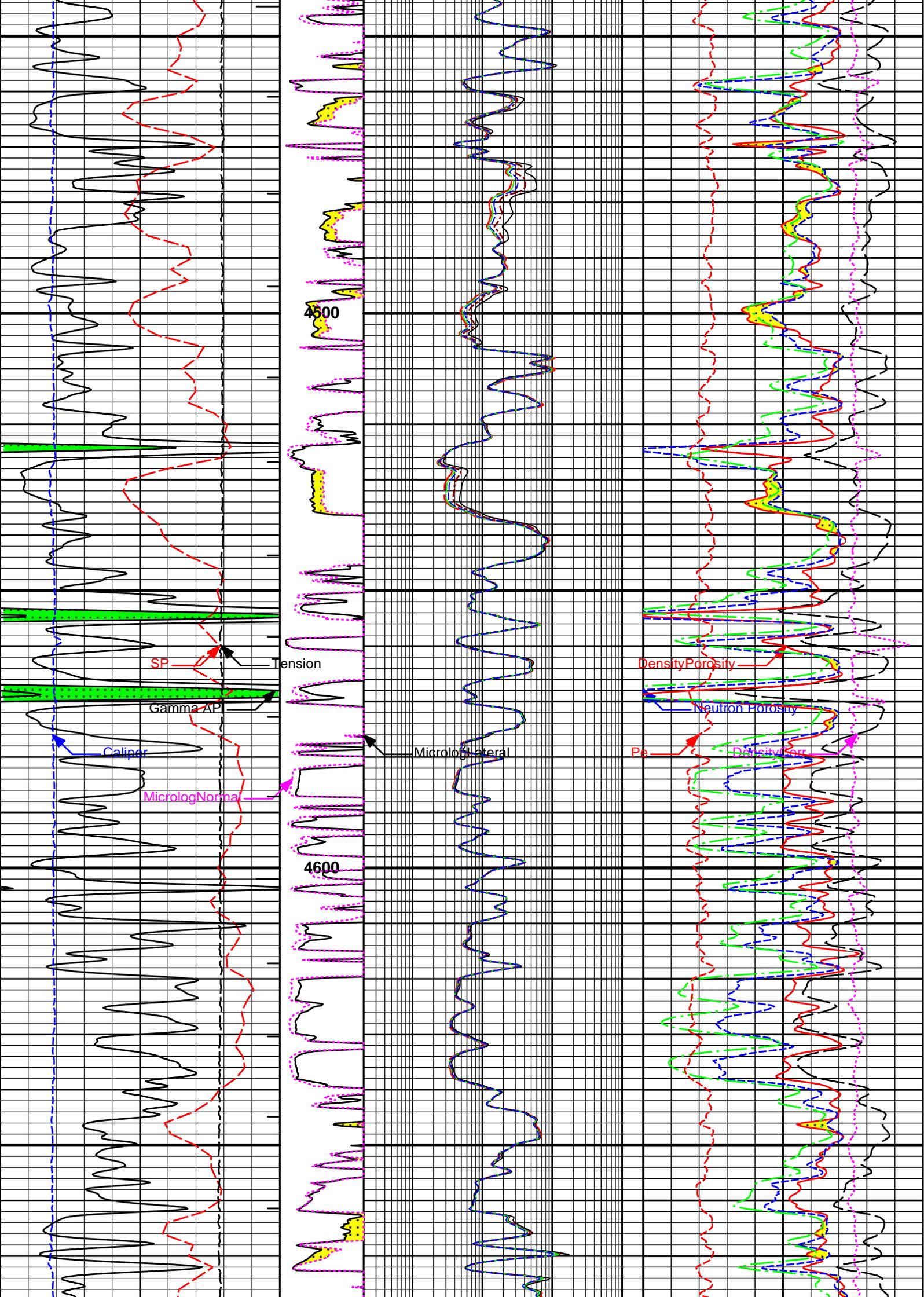


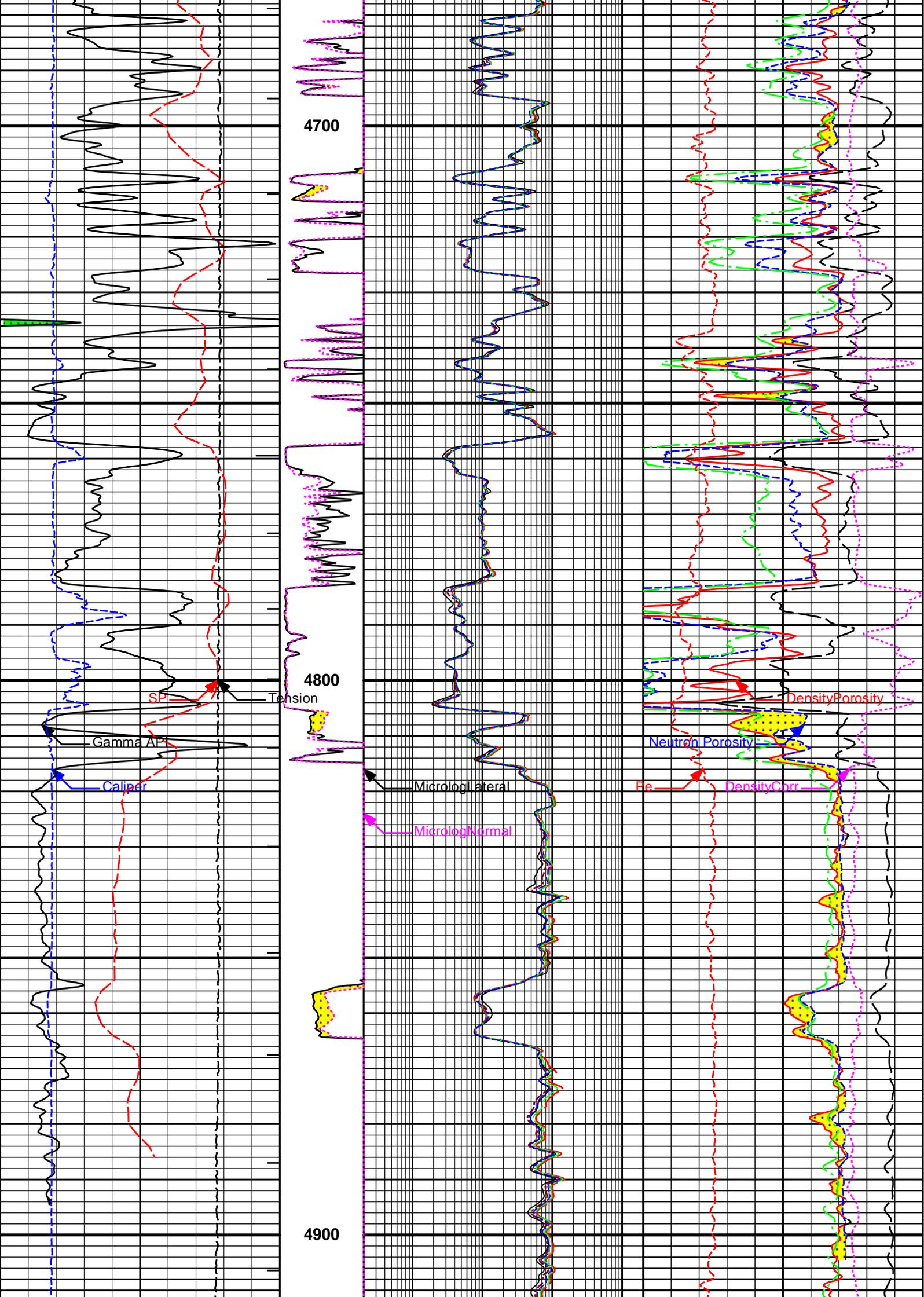


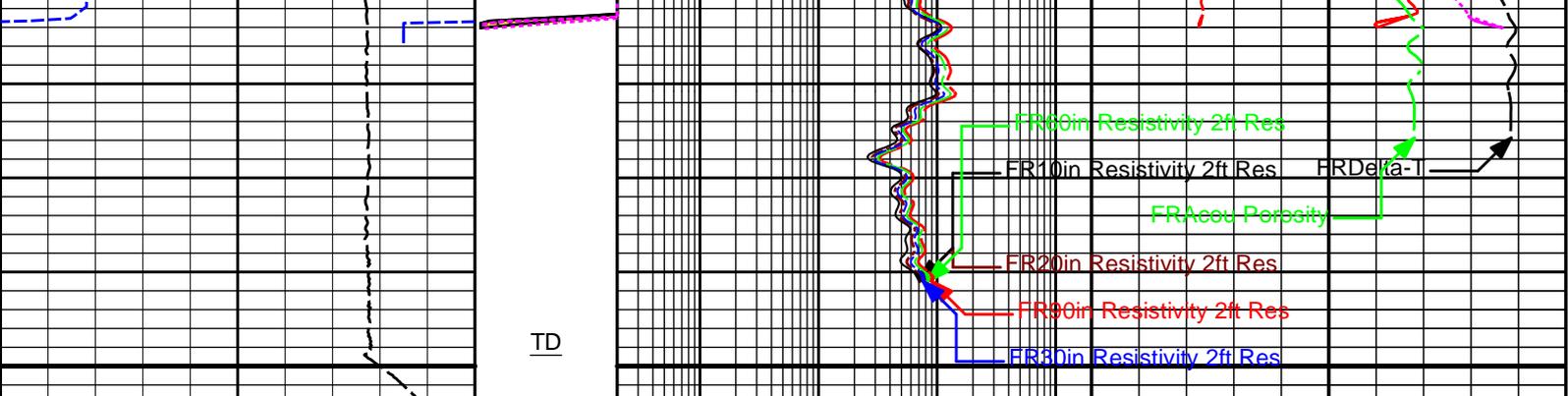












SP -20[+]	1 : 240 ft	0.2	90in Resistivity 2ft Res ohmm	2000	0	Pe barns/electron	10	-0.25	DensityCorr gram per cc	0.25	
Gamma API api	150 0	MINV 20	0.2	20in Resistivity 2ft Res ohmm	2000	0.3	Acou Porosity decp				
Caliper inches	16 0	MNOR 20	0.2	10in Resistivity 2ft Res ohmm	2000	0.3	Neutron Porosity decp				
SHALE	PERMEABLE		0.2	60in Resistivity 2ft Res ohmm	2000	0.3	DensityPorosity decp				
Tension pounds	0		0.2	30in Resistivity 2ft Res ohm-metre	2000	POROSITY					
ITTT						140	Delta-T microsec per ft				40

HALLIBURTON Plot Time: 12-Aug-18 00:32:12
 Plot Range: 3480 ft to 4953.58 ft
 Data: MERIT_RIVERBND4\Well Based\DETAILS\
 Plot File: \\QUAD\QUAD_MAIN

5 INCH MAIN LOG

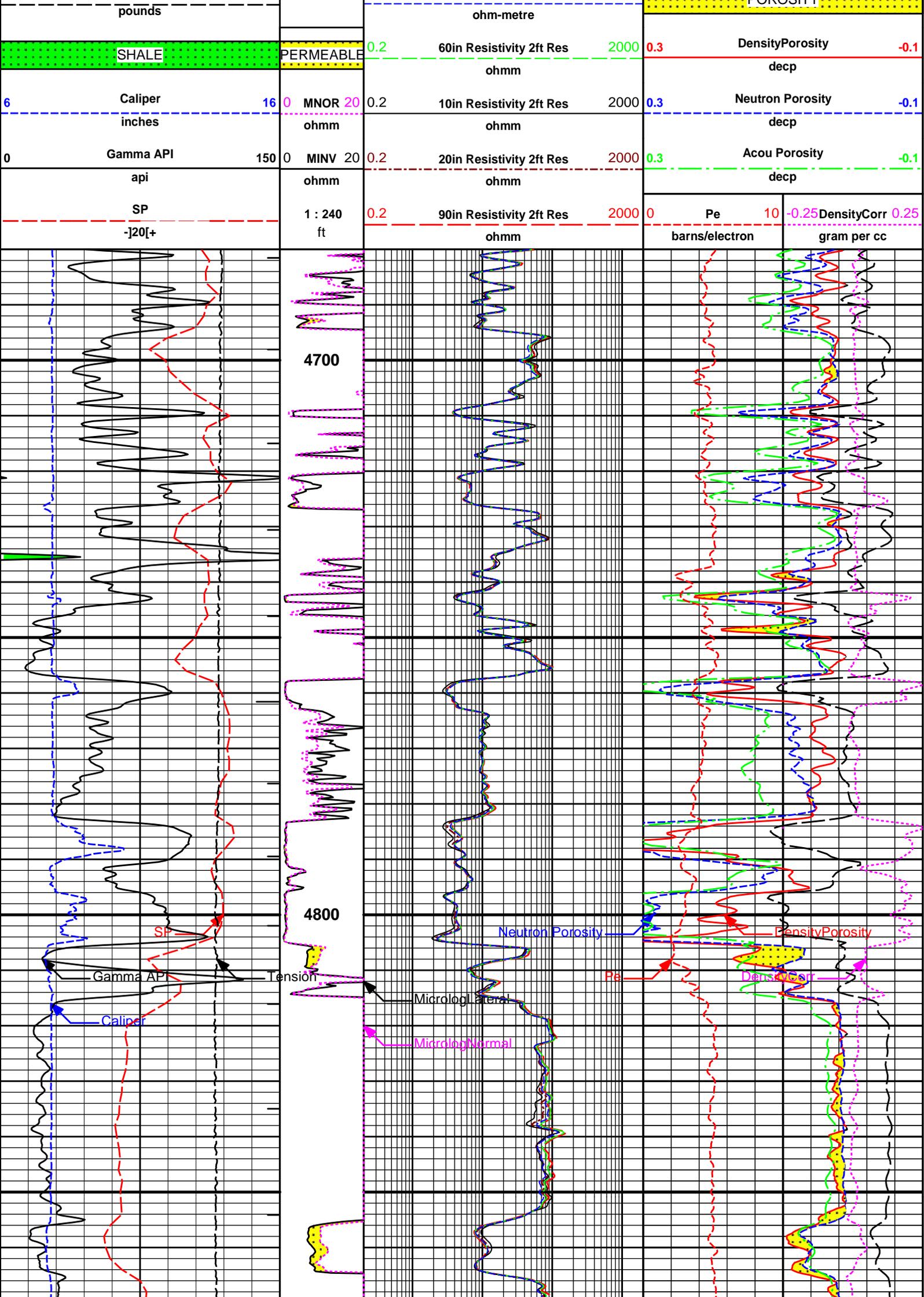
5 INCH MAIN LOG

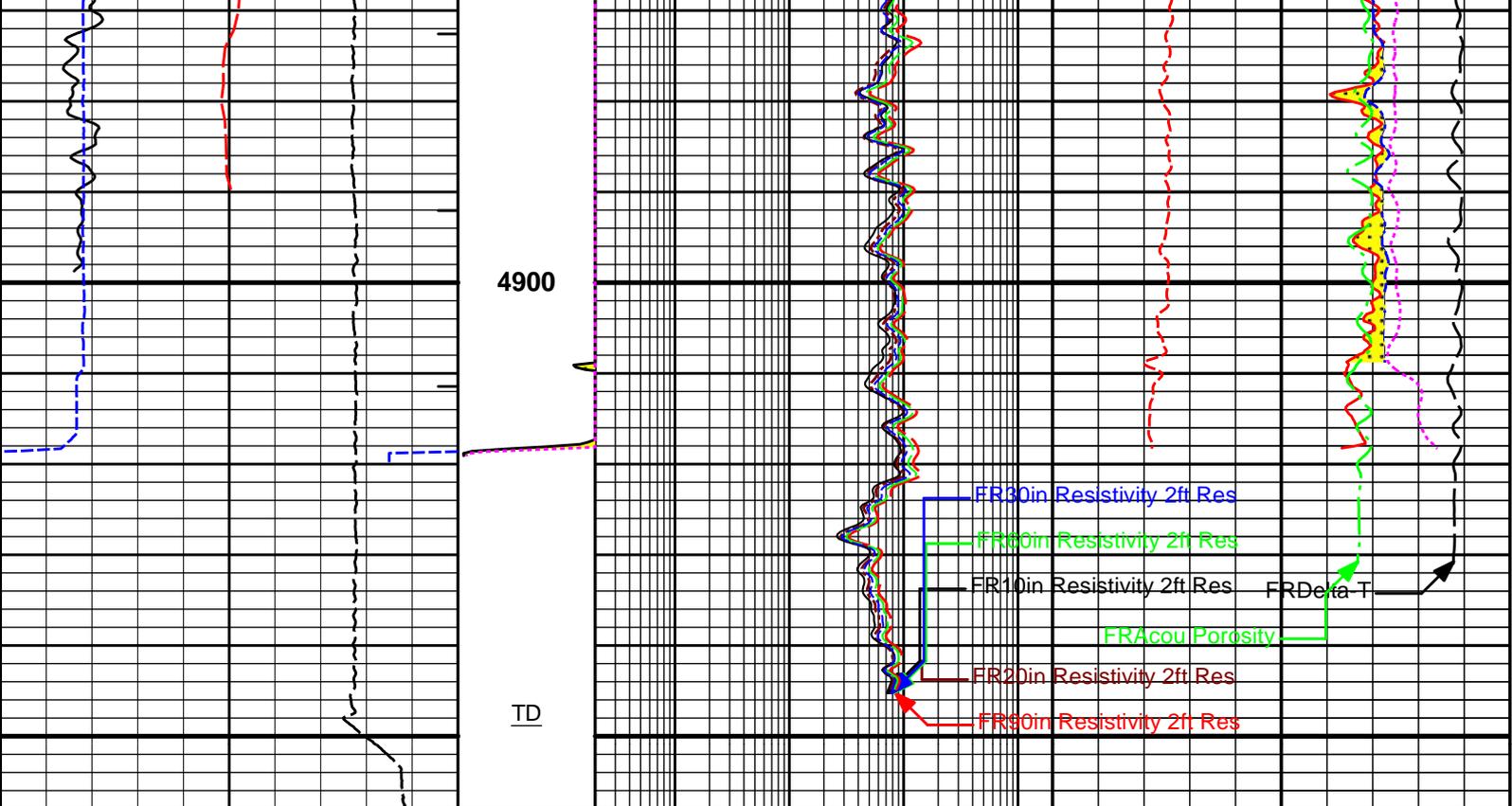
HALLIBURTON Plot Time: 12-Aug-18 00:32:12
 Plot Range: 4680 ft to 4958.08 ft
 Data: MERIT_RIVERBND4\Well Based\REPEAT\
 Plot File: \\QUAD\QUAD_REPEAT

REPEAT SECTION

REPEAT SECTION

ITTT						140	Delta-T microsec per ft				40
Tension pounds	0		0.2	30in Resistivity 2ft Res ohm-metre	2000	POROSITY					





SP -]20[+	1 : 240 ft	0.2	90in Resistivity 2ft Res ohmm	2000	0	Pe barns/electron	10	-0.25	DensityCorr gram per cc	0.25
Gamma API api	150 0	MINV 20	0.2	20in Resistivity 2ft Res ohmm	2000	0.3	Acou Porosity decp			-0.1
Caliper inches	16 0	MNOR 20	0.2	10in Resistivity 2ft Res ohmm	2000	0.3	Neutron Porosity decp			-0.1
SHALE	PERMEABLE		0.2	60in Resistivity 2ft Res ohmm	2000	0.3	DensityPorosity decp			-0.1
Tension pounds	15K 0		0.2	30in Resistivity 2ft Res ohm-metre	2000		POROSITY			
ITTT						140	Delta-T microsec per ft			40

HALLIBURTON

Plot Time: 12-Aug-18 00:32:15
 Plot Range: 4680 ft to 4958.08 ft
 Data: MERIT_RIVERBND4\Well Based\REPEAT\
 Plot File: \\QUAD\QUAD_REPEAT

REPEAT SECTION

REPEAT SECTION

COMPANY	MERIT ENERGY COMPANY
WELL	RIVER BEND 4
FIELD	ARKANSAS RIVER

COUNTY

FINNEY

STATE

KANSAS

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
ARRAY RESISTIVITY
SONIC ARRAY MICROLOG
QUAD COMBO LOG