

ARRAY RESISTIVITY
SPECTRAL DENSITY
DUAL SPACED NEUTRON
TRIPLE COMBO LOG

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Service Ticket No.: 904526367				API No.: 15-055-22147-00-01				PGM Version: WL INSITE R5.0.5 (Build 8)						
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.		@		@										
Rmc @ Meas. Temp.		@		@										
Source Rmf	Rmc													
Rm @ BHT		@		@										
Rmf @ BHT		@		@										
Rmc @ BHT		@		@										
EQUIPMENT DATA														
GAMMA			ACOUSTIC			DENSITY			NEUTRON					
Run No.				Run No.				Run No.						
Serial No.				Serial No.				Serial No.						
Model No.				Model No.				Model No.						
Diameter				No. of Cent.				Diameter						
Detector Model No.				Spacing				Log Type						
Type						Source Type				Source Type				
Length				LSA [Y/N]				Serial No.						
Distance to Source				FWDA [Y/N]				Strength						
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	

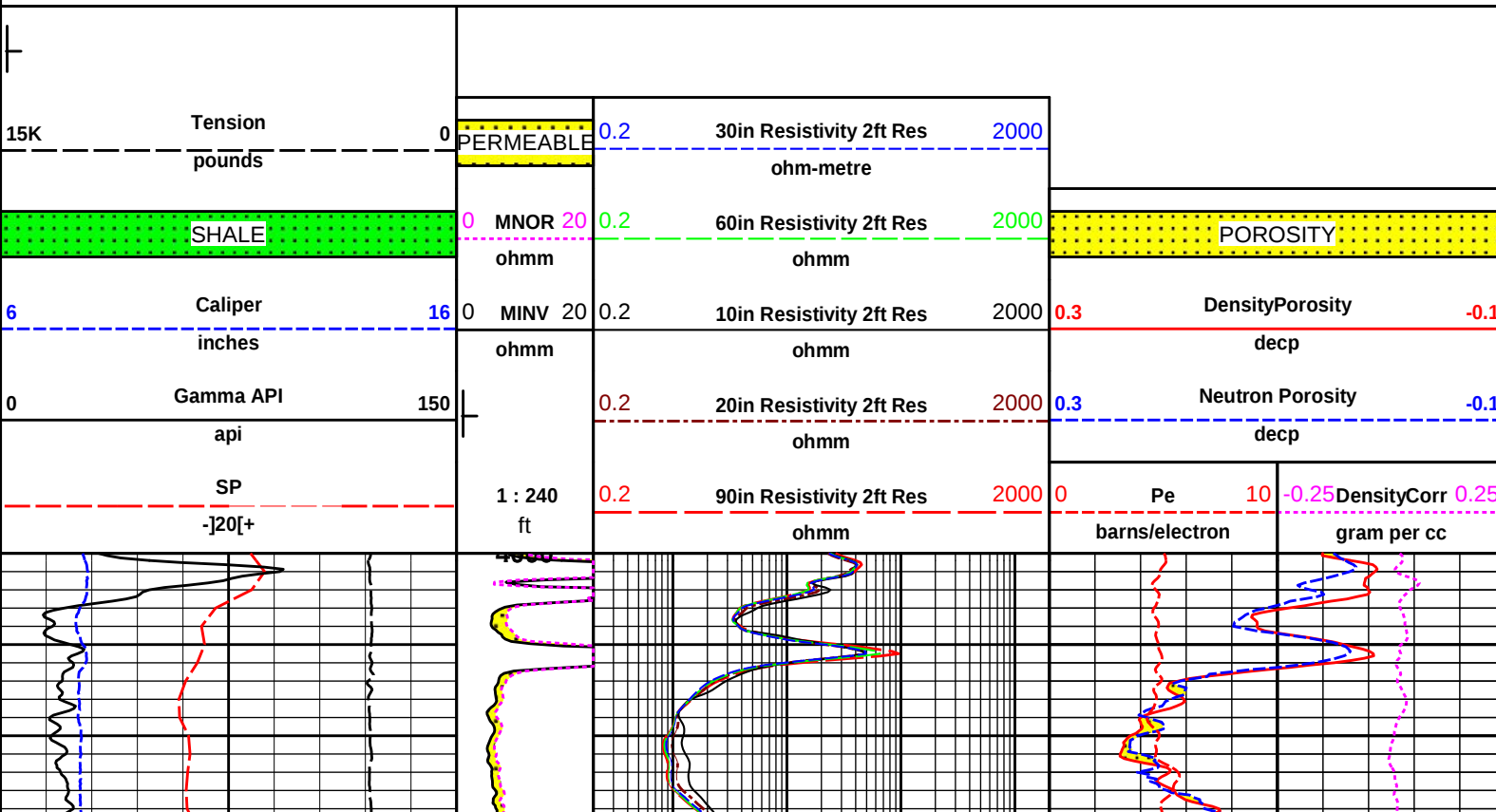
[illegible]

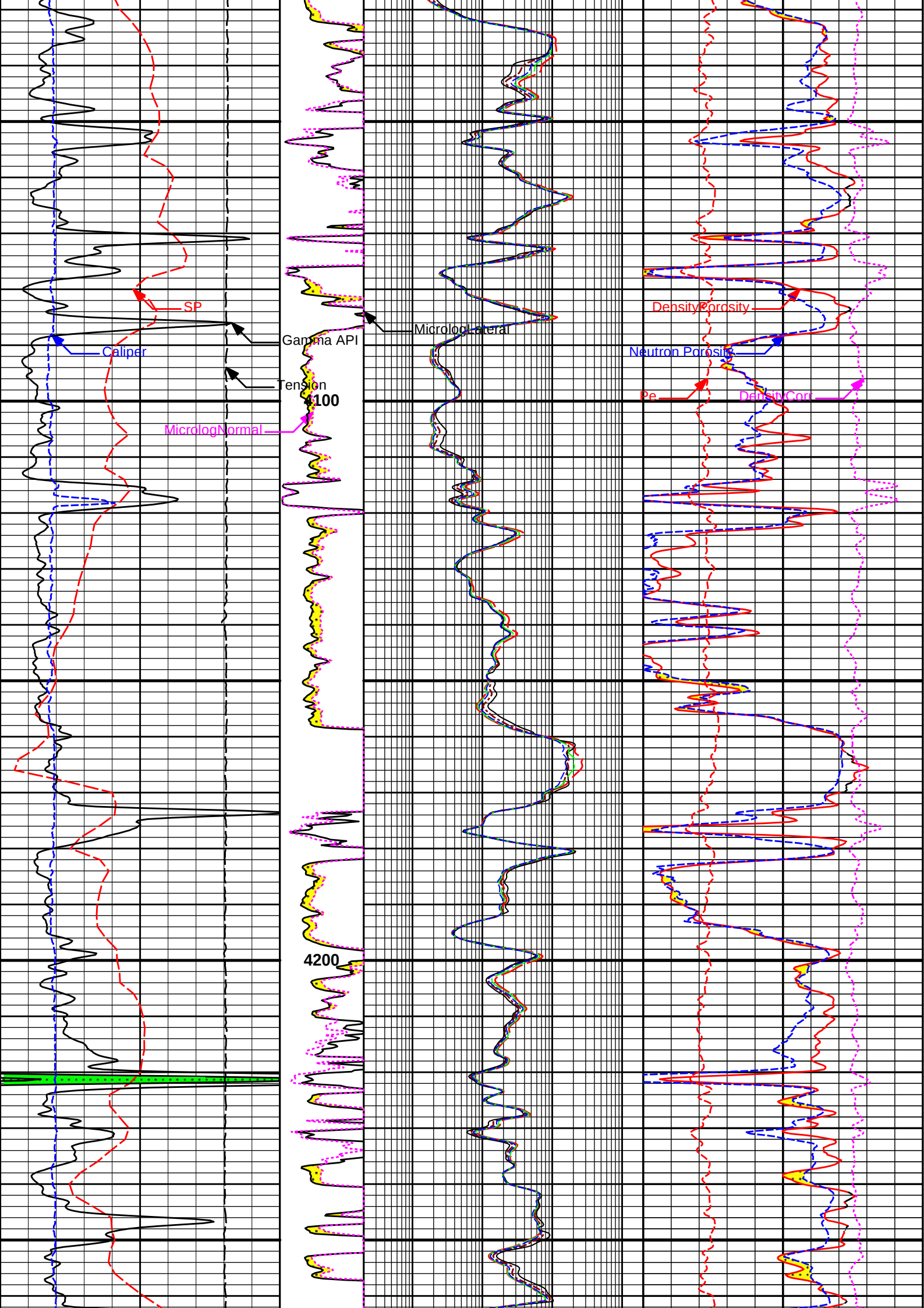
HALLIBURTON

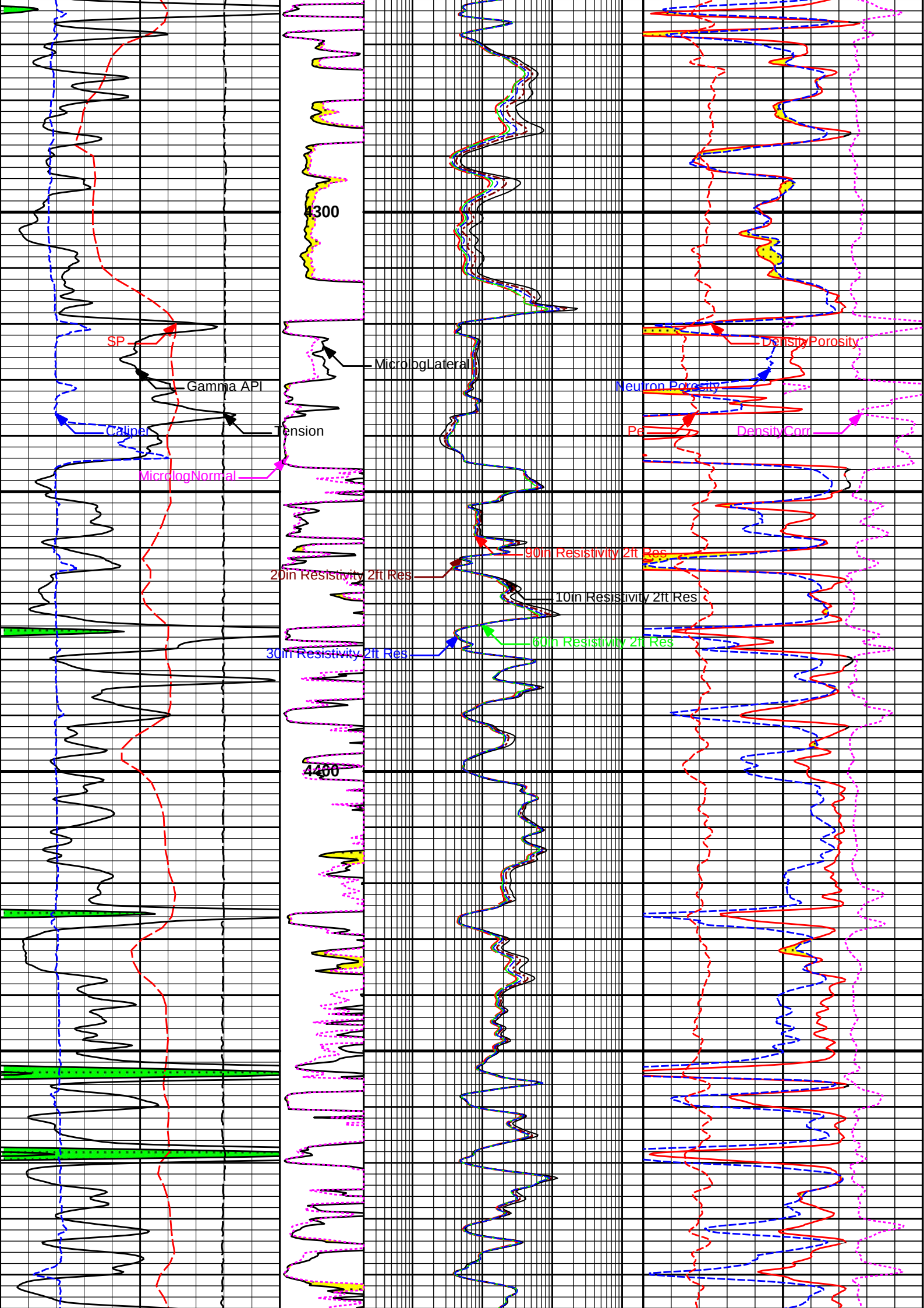
Plot Time: 29-Dec-17 21:19:29
Plot Range: 4000 ft to 5570.67 ft
Data: MERIT_HMU203SIWell Based*\n
Plot File: \\COMBO\ACRT-SDL-DSN-ML-BSAT

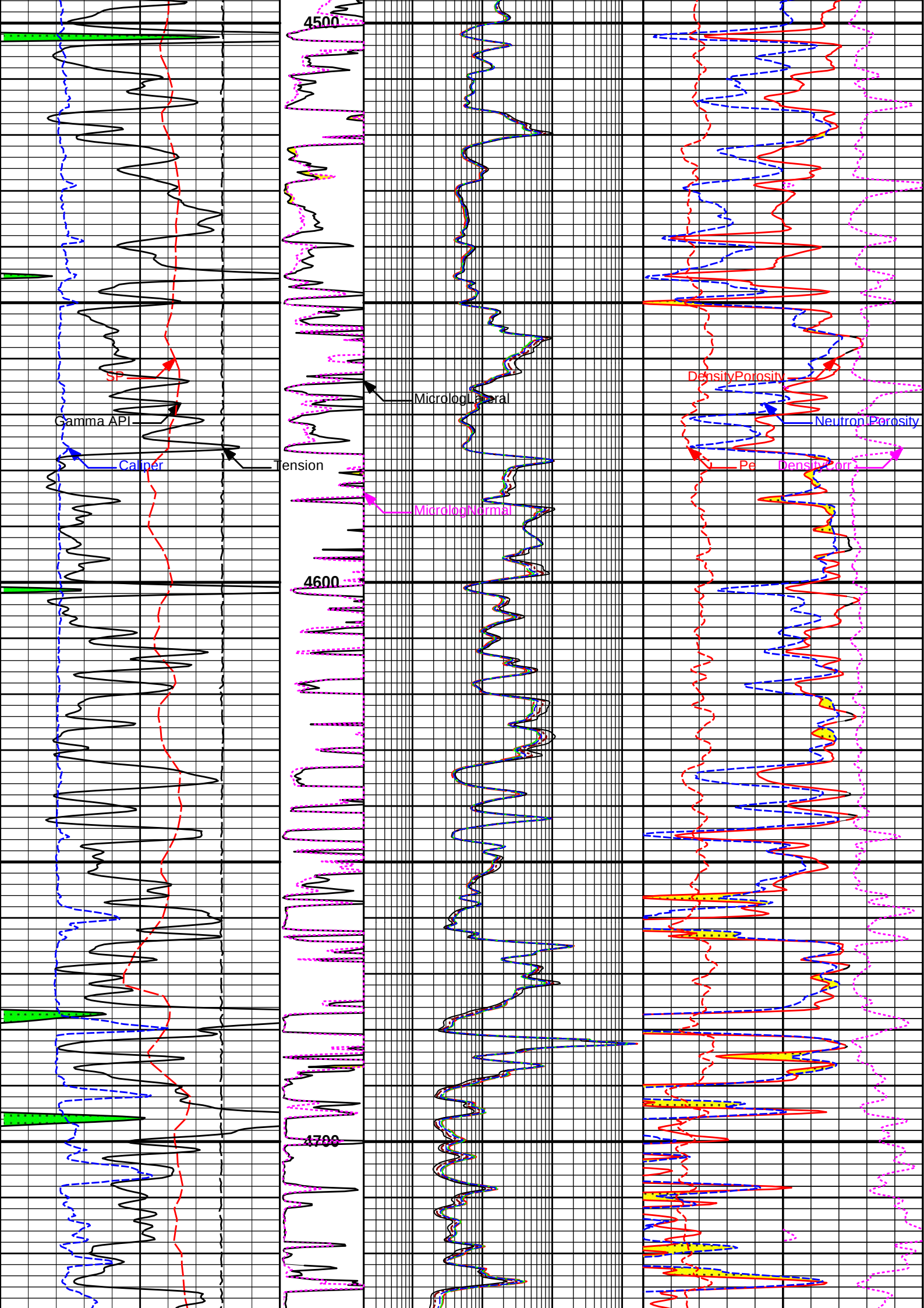
5 INCH MAIN LOG

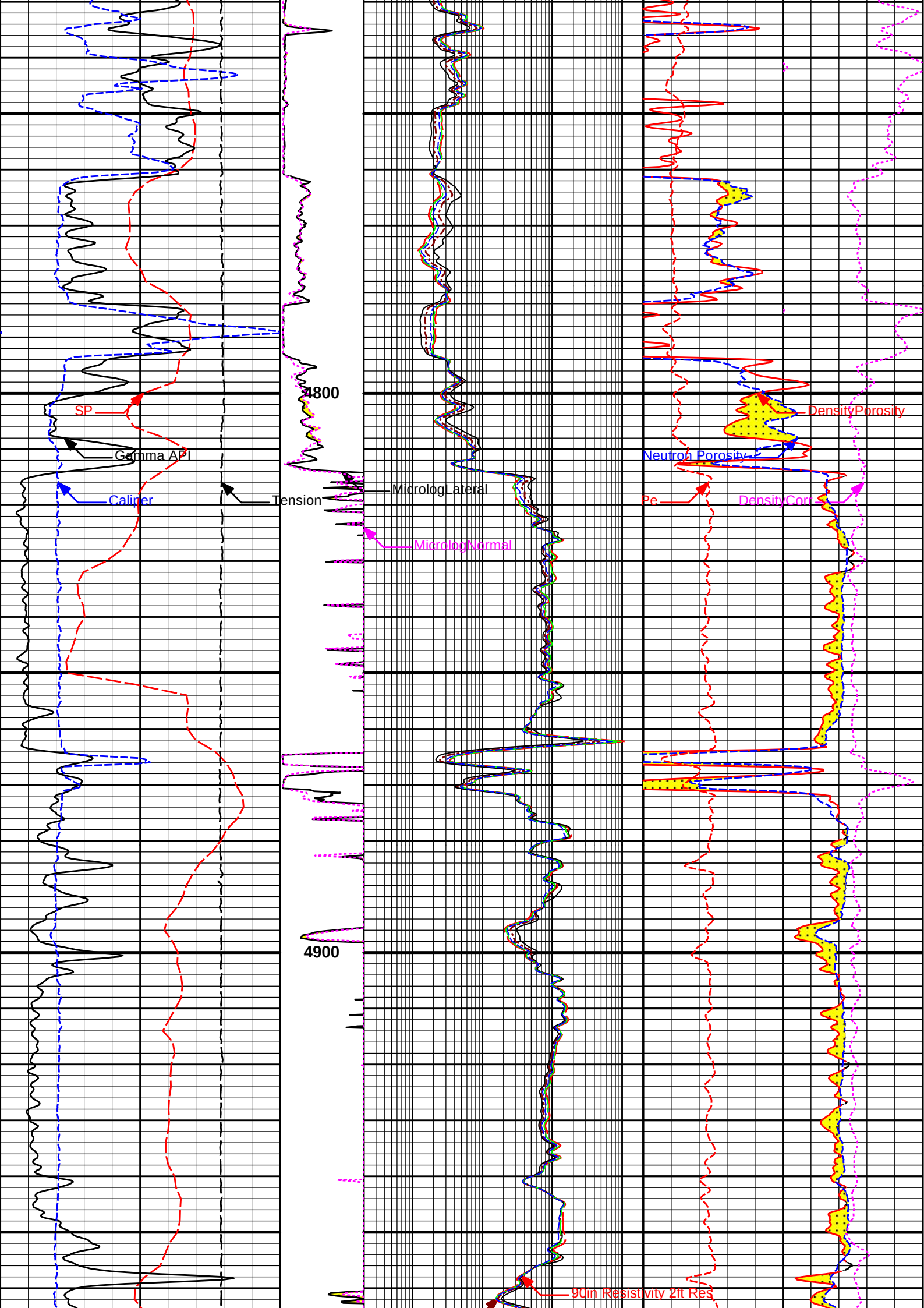
5 INCH MAIN LOG

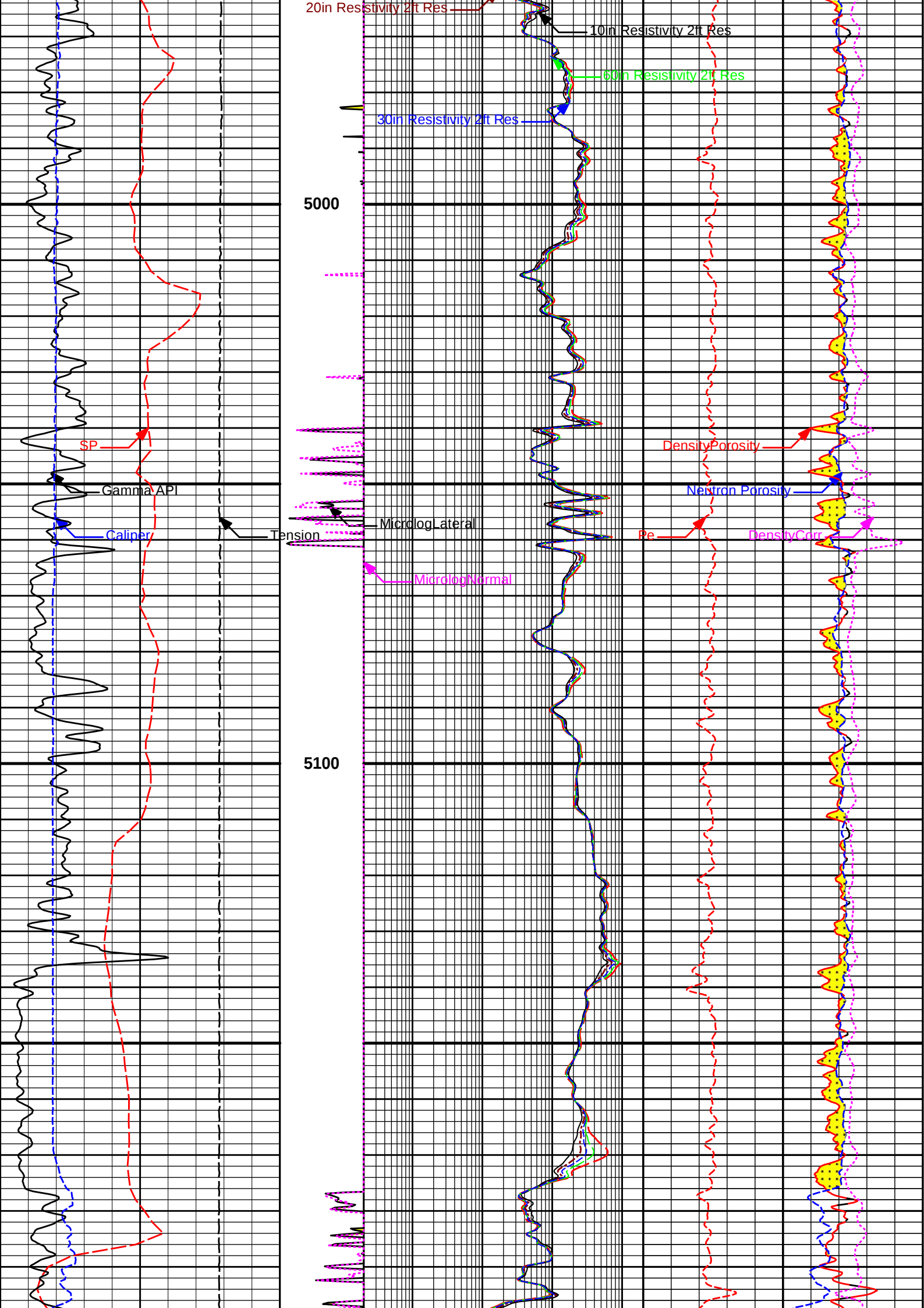


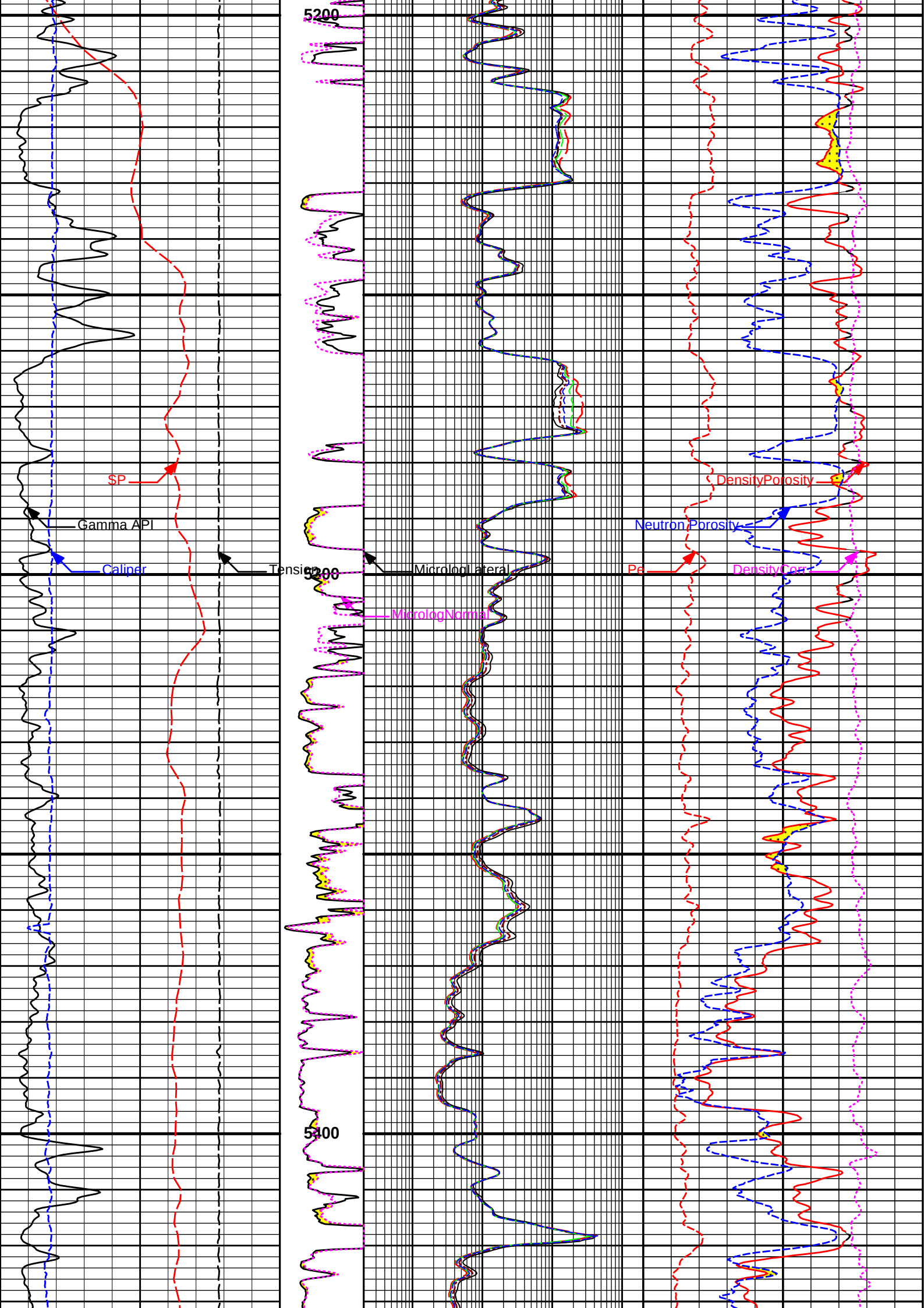


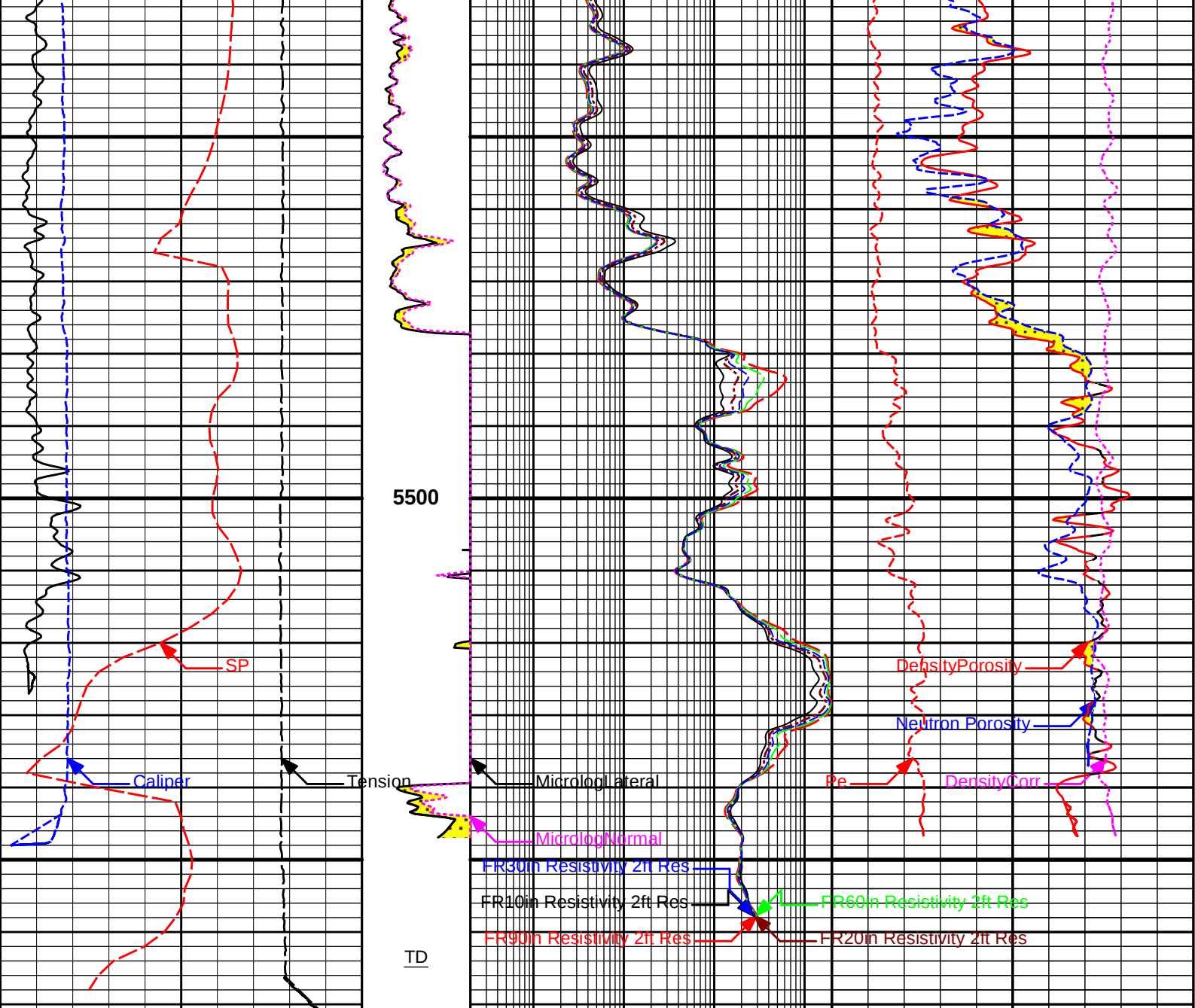












SP		1 : 240 ft	0.2 90in Resistivity 2ft Res 2000		0	Pe	10	-0.25	Density	Corr	0.25
-j20[+			ohmm			barns/electron		gram per cc			
0	Gamma API	150		0.2 20in Resistivity 2ft Res 2000		0.3	Neutron Porosity				
	api			ohmm			decp				
6	Caliper	16	0 MINV 20	0.2 10in Resistivity 2ft Res 2000		0.3	DensityPorosity				
	inches			ohmm			decp				
SHALE		0	MINOR 20	0.2 60in Resistivity 2ft Res 2000			POROSITY				
				ohmm							
15K	Tension	0	PERMEABLE	0.2 30in Resistivity 2ft Res 2000							
	pounds			ohm-metre							

HALLIBURTON

Plot Time: 29-Dec-17 21:19:38
Plot Range: 4000 ft to 5570.67 ft
Data: MERIT_HMU203SIWell Based*
Plot File: \\COMBO\ACRT-SDL-DSN-ML-BSAT

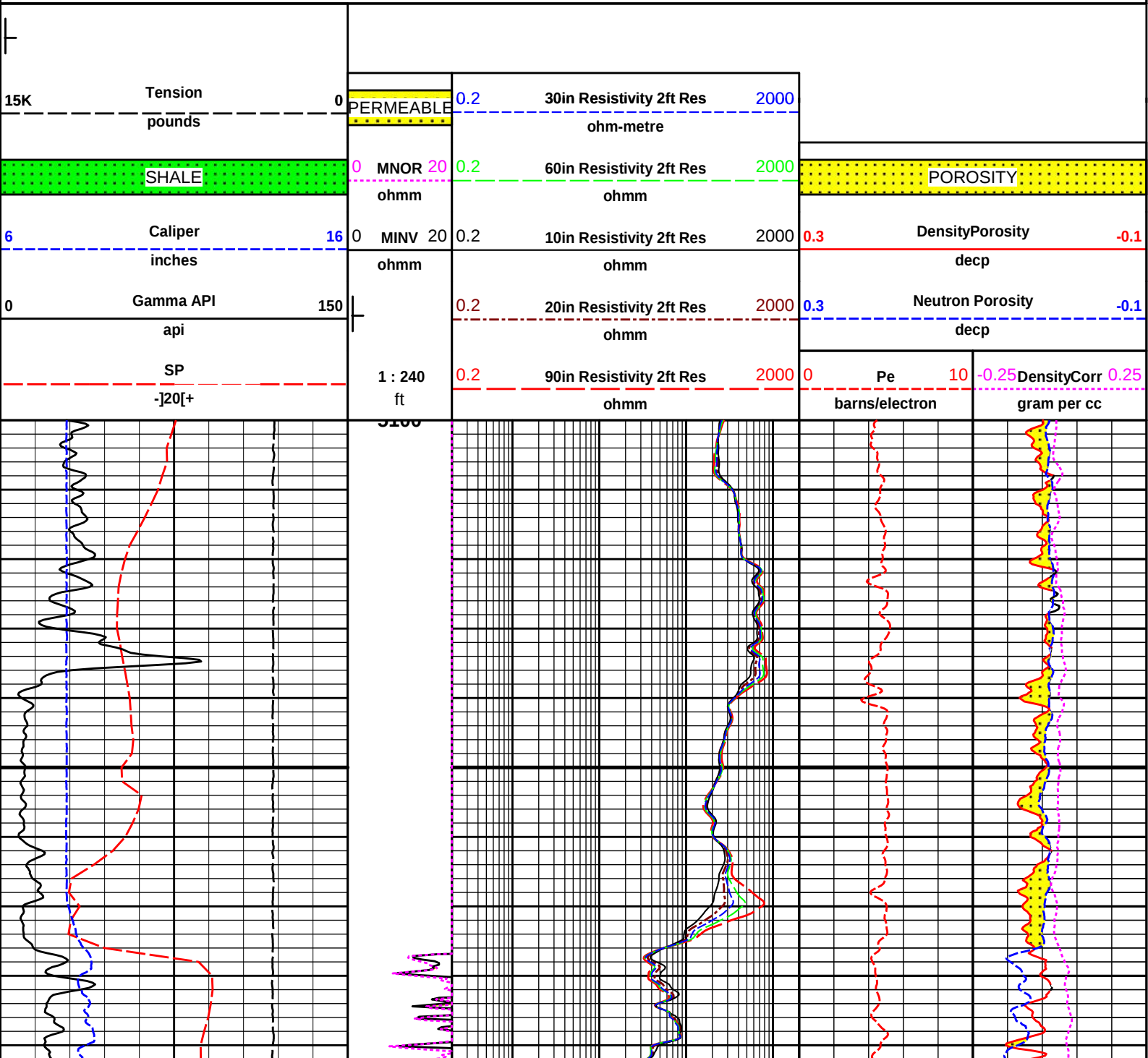
5 INCH MAIN LOG

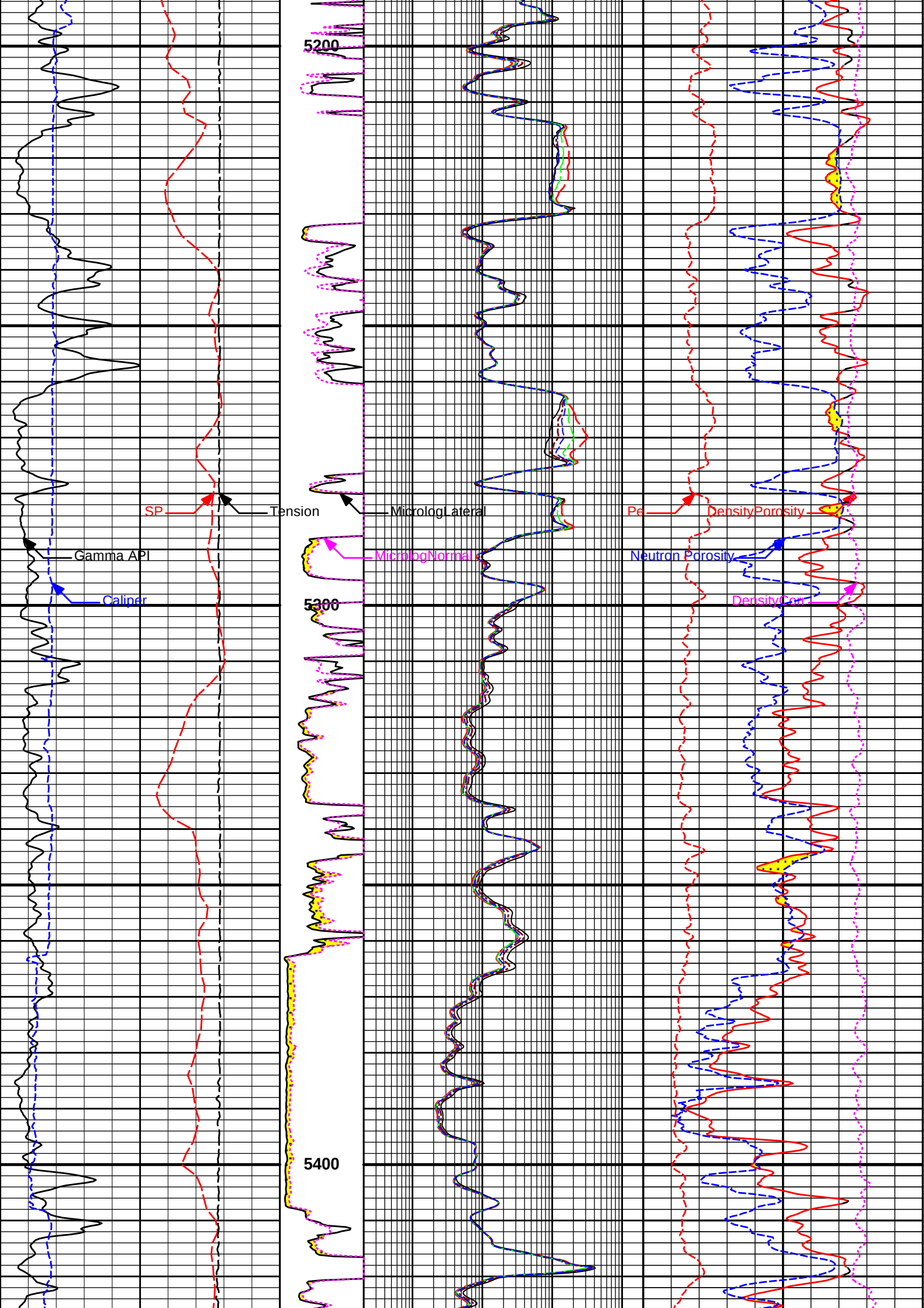
HALLIBURTON

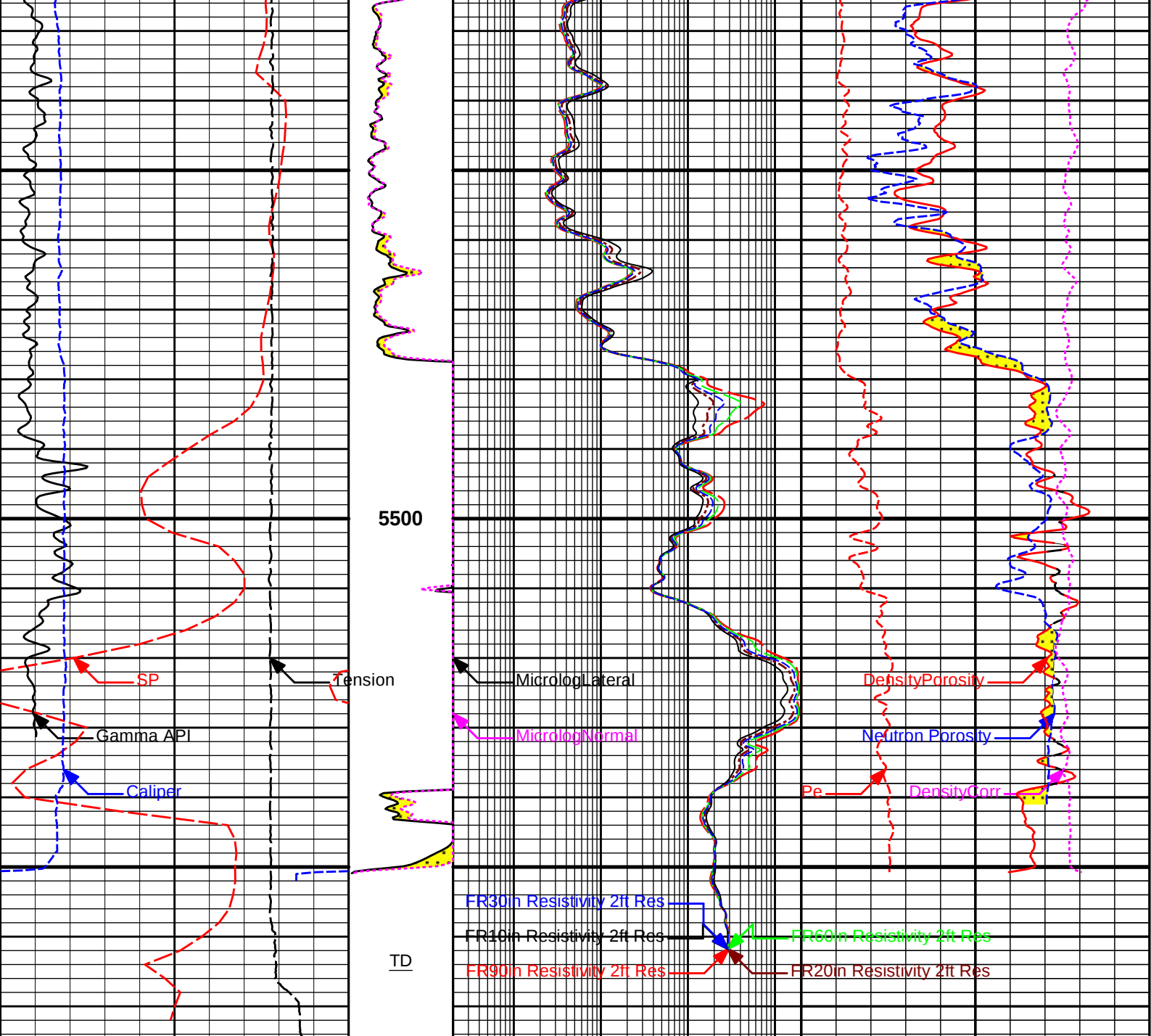
Plot Time: 29-Dec-17 21:19:38
Plot Range: 5100 ft to 5574.58 ft
Data: MERIT_HMU203S\Well Based\DAQ-0001-0041
Plot File: \\COMBO\ACRT-SDL-DSN-ML-BSAT

REPEAT SECTION

REPEAT SECTION







SP	1 : 240 ft	0.2	90in Resistivity 2ft Res	2000	0	Pe	10	-0.25	DensityCorr	0.25
-J20[+			ohmm			barns/electron			gram per cc	
Gamma API	150	0.2	20in Resistivity 2ft Res	2000	0.3	Neutron Porosity			-0.1	
api			ohmm			decip				
Caliper	16	0.2	10in Resistivity 2ft Res	2000	0.3	DensityPorosity			-0.1	
inches			ohmm			decip				
SHALE	0	0.2	60in Resistivity 2ft Res	2000		POROSITY				
	ohmm		ohmm							
Tension	0	0.2	30in Resistivity 2ft Res	2000						
pounds			ohm-metre							
	PERMEABLE									

HALLIBURTON

Plot Time: 29-Dec-17 21:19:43
 Plot Range: 5100 ft to 5574.58 ft
 Data: MERIT_HMU203SIWell Based\DAQ-0001-004\
 Plot File: \\COMBO\ACRT-SDL-DSN-ML-BSAT

REPEAT SECTION

REPEAT SECTION

HALLIBURTON

CALIBRATION REPORT

SURFACE TENSION SHOP CALIBRATION

Tool Name: Depth Panel - 12345678

Reference Calibration Date: 20-Dec-17 19:23:54

Engineer: JORGE ORLANDO PEREZ

Calibration Date: 27-Dec-17 01:07:01

Software Version: WL INSITE R5.0.5 (Build 8)

Calibration Version: 1

SURFACE TENSION LOAD CELL				
Measurement	Load Cell Value	Measurement	Calibrated	Units
Low	10950.60	33.10	0.00	lbs
High	17502.48	7854.54	7830.00	lbs

DOWNHOLE TENSION SHOP CALIBRATION

Tool Name: CH_HOS - 11459024

Reference Calibration Date: 18-Dec-17 23:34:33

Engineer: JORGE ORLANDO PEREZ

Calibration Date: 20-Dec-17 19:26:08

Software Version: WL INSITE R5.0.5 (Build 8)

Calibration Version: 1

DOWNHOLE LOAD CELL				
Measurement	Tool Value	Measurement	Calibrated	Units
Low	-336.89	14.21	0.00	lbs
High	3312.58	805.28	974.10	lbs

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11958947

Reference Calibration Date: 08-Dec-17 09:10:57

Engineer: HARRIS

Calibration Date: 08-Dec-17 09:13:31

Software Version: WL INSITE R5.0.5 (Build 8)

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	33.1	32.7	api
Background + Calibrator	267.5	264.7	api
Calibrator	234.4	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11958947

Reference Calibration Date: 08-Dec-17 09:13:31

Engineer: WHITLOCK

Calibration Date: 28-Dec-17 10:40:47

Software Version: WL INSITE R5.0.5 (Build 8)

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	32.7	22.9	api
Background + Calibrator	264.7	255.8	api
Calibrator	232.0	232.9	api

Shop		Field	Difference	Tolerance
232.0		232.9	-0.9	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:

DSNT - 11055304

Reference Calibration Date:

26-Dec-17 10:04:12

Engineer:

JORGE ORLANDO PEREZ

Calibration Date:

26-Dec-17 10:24:08

Software Version:

WL INSITE R5.0.5 (Build 8)

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:	1.03005	1.02655	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):	0.2368	0.2358	0.0011	+/- 0.0020
Calibrated Ratio:	10.5954	10.5595	0.036	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0338	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 - 11055304

Reference Calibration Date:

26-Dec-17 10:24:08

Engineer:

WHITLOCK

Calibration Date:

28-Dec-17 10:26:02

Software Version:

WL INSITE R5.0.5 (Build 8)

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):	0.0338	0.0474	0.0136	+/- 0.0150

PASS/FAIL SUMMARY

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name:

SDLT - 10960494

Reference Calibration Date:

20-Aug-17 12:41:21

Engineer:

JORGE ORLANDO PEREZ

Calibration Date:

09-Dec-17 12:48:22

Software Version:

WL INSITE R5.0.5 (Build 8)

Calibration Version:

1

Host Tool Name:

DSNT - 11055304

CALIBRATION COEFFICIENTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.03005	1.02655	0.900 - 1.100

CALIBRATION COEFFICIENTS				
Measurement	Previous Value	New Value	Control Limit On New Value	
Pad Offset	-2993.12	-3003.48	-7000.00 - -1000.00	
Pad Gain	0.0003799	0.0003806	0.0002000 - 0.0006000	
Arm Offset	-746.82	-1647.28	-5000.00 - 3000.00	
Arm Gain	0.0004486	0.0005279	0.000300 - 0.000700	
Arm Power	-0.000001023	-0.000005848	-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)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.64	6.50	-0.14	+/- 0.20
Medium Ring (in)	8.21	8.25	0.04	+/- 0.20
Large Ring (in)	14.95	15.00	0.05	+/- 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 - 10960494		Reference Calibration Date:	09-Dec-17 12:48:22
Engineer:	WHITLOCK		Calibration Date:	28-Dec-17 09:50:40
Software Version:	WL INSITE R5.0.5 (Build 8)		Calibration Version:	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	

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION				
Tool Name:	ACRt Sonde - 11005908		Reference Calibration Date:	10-Nov-17 11:20:47
Engineer:	JORGE ORLANDO PEREZ		Calibration Date:	10-Nov-17 11:31:49
Software Version:	WL INSITE R5.0.5 (Build 8)		Calibration Version:	1
Host Tool Name:	ACRt Instrument - 11026095			

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0483	1.05	0.95	1.0289	1.05	0.95	1.0205	1.05
A2 (50")	0.95	1.0428	1.05	0.95	1.0240	1.05	0.95	1.0175	1.05
A3 (29")	0.95	1.0358	1.05	0.95	1.0156	1.05	0.95	1.0063	1.05
A4 (17")	0.95	1.0373	1.05	0.95	1.0159	1.05	0.95	1.0091	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0046	1.05	0.95	0.9979	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9942	1.05	0.95	0.9871	1.05

SONDE OFFSET									
Subarray	R12KHz			R36KHz			R72KHz		
	(mmho/m)			(mmho/m)			(mmho/m)		
A1 (80")	1.787			-4.054			-6.217		
A2 (50")	-0.075			-4.052			-5.296		
A3 (29")	-13.594			-4.365			-3.953		
A4 (17")	-92.256			-29.199			-24.612		
A5 (10")	N/A			-110.923			-48.461		
A6 (6")	N/A			349.406			179.617		
TRANSMITTER CURRENT GAIN						R-MUD VERIFICATION			
Signal	Lower	R	Upper			Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6	0.91	1.3			Mud Cell	0.95	1.00	1.05
36K	1.0	1.93	2.0						
72K	1.0	1.26	2.0						
PASS/FAIL SUMMARY									
GAIN RANGE CHK						PASS			
SONDE OFFSET CHK						PASS			
TOOL OK TO LOG									

QUALITY CHECK SHOP CALIBRATION									
Tool Name:	ACRt Sonde - 11005908					Reference Calibration Date:	10-Nov-17 11:33:26		
Engineer:	JORGE ORLANDO PEREZ					Calibration Date:	10-Nov-17 11:34:40		
Software Version:	WL INSITE R5.0.5 (Build 8)					Calibration Version:	1		
Host Tool Name:	ACRt Instrument - 11026095								

STANDARD DEVIATIONS									
	R12KHz			R36KHz			R72KHz		
	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail
A1 (80")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A2 (50")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A3 (29")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A4 (17")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A5 (10")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
A6 (6")	0.000	< 0.750	Pass	0.000	< 0.750	Pass	0.000	< 0.750	Pass
AVERAGES									
	R12KHz			R36KHz			R72KHz		
	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail	Measured (mmho/m)	Expected (mmho/m)	Pass/Fail
A1 (80")	0.000	< 0.500	Pass	-0.001	> -0.500	Pass	-0.006	> -0.500	Pass
A2 (50")	0.000	< 0.500	Pass	-0.001	> -0.500	Pass	-0.005	> -0.500	Pass
A3 (29")	-0.000	< 0.500	Pass	-0.001	> -0.500	Pass	-0.003	> -0.500	Pass
A4 (17")	-0.002	> -0.500	Pass	-0.007	> -0.500	Pass	-0.024	> -0.500	Pass
A5 (10")	-0.014	> -0.500	Pass	-0.026	> -0.500	Pass	-0.048	> -0.500	Pass
A6 (6")	0.017	< 0.500	Pass	0.078	< 0.500	Pass	0.167	< 0.500	Pass
GAIN TOLERANCE									
R12KHz									
	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail				
A1 (80")	216237220 ± 222	216237210 ± 222	11022 ± 222	122 ± 2222 ± 222	Pass				

A1 (80")	-216865984.000	-216877216.000	11232.000	10843860.800	Pass
A2 (50")	-216599408.000	-216609920.000	10512.000	10830496.000	Pass
A3 (29")	-217540240.000	-217550704.000	10464.000	10877535.200	Pass
A4 (17")	-213427792.000	-213432208.000	4416.000	10671610.400	Pass
A5 (10")	-210590928.000	-210602896.000	11968.000	10530144.800	Pass
A6 (6")	-215428144.000	-215438304.000	10160.000	10771915.200	Pass
R36KHz					
	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	49366364.000	49368072.000	1708.000	2468403.600	Pass
A2 (50")	49290164.000	49292088.000	1924.000	2464604.400	Pass
A3 (29")	44800484.000	44804868.000	4384.000	2240243.400	Pass
A4 (17")	40789108.000	40793480.000	4372.000	2039674.000	Pass
A5 (10")	36882076.000	36872316.000	9760.000	1843615.800	Pass
A6 (6")	35712096.000	35714260.000	2164.000	1785713.000	Pass
R72KHz					
	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	-93241072.000	-93236992.000	4080.000	4661849.600	Pass
A2 (50")	-89038832.000	-89039632.000	800.000	4451981.600	Pass
A3 (29")	-88716992.000	-88717136.000	144.000	4435856.800	Pass
A4 (17")	-89277208.000	-89260376.000	16832.000	4463018.800	Pass
A5 (10")	-87229560.000	-87228376.000	1184.000	4361418.800	Pass
A6 (6")	-89965224.000	-89964336.000	888.000	4498216.800	Pass
PASS/FAIL SUMMARY Std Deviation Verification Pass Average Verification Pass Gain Tolerance Verification Pass					

MICRO LOG SHOP CALIBRATION					
Tool Name:	Microlog Pad - 10960494			Reference Calibration Date:	24-Nov-17 11:21:38
Engineer:	JORGE ORLANDO PEREZ			Calibration Date:	24-Nov-17 11:23:09
Software Version:	WL INSITE R5.0.5 (Build 8)			Calibration Version:	1
Host Tool Name:	DSNT - 11055304				

	CALIBRATION COEFFICIENT SUMMARY					
	Measurement	Micro Log Normal		Micro Log Lateral		Units
		Measured	Calibrated	Measured	Calibrated	
	Tool Zero	-0.18	-0.17	-0.00	0.00	ohmm
	Calibration Point #1	-0.01	0.00	-0.00	0.00	ohmm
	Calibration Point #2	20.00	20.00	20.00	20.00	ohmm
	Internal Reference	19.83	19.83	19.99	19.99	ohmm
	Measurement	Micro Log Normal Tool Value		Micro Log Lateral Tool Value		Units
	Tool Zero	-1.46		0.65		V
	Calibration Point #1	44.89		0.58		V
	Calibration Point #2	5370.73		6909.13		V
	Internal Reference	5324.87		6905.27		V

MICRO LOG FIELD CHECK					
Tool Name:	Microlog Pad - 10960494			Reference Calibration Date:	24-Nov-17 11:23:09
Engineer:	WHITLOCK			Calibration Date:	28-Dec-17 10:36:41
Software Version:	WL INSITE R5.0.5 (Build 8)			Calibration Version:	1

	Measurement	Micro Log Normal		Micro Log Lateral	
		Shop	Field	Shop	Field
					Units

Tool Zero	-0.17	-0.17	0.00	-0.00	ohmm
Internal Reference	19.83	19.77	19.99	19.93	ohmm
Summary					
Signal	Shop	Field	Difference	Tolerance	
Microlog Normal	19.83	19.77	0.06	+/- 0.80	
Microlog Lateral	19.99	19.93	0.06	+/- 0.80	

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	SDLT Pad - 10844781	Reference Calibration Date:	13-Mar-17 10:24:03
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	09-Dec-17 11:03:23
Software Version:	WL INSITE R5.0.5 (Build 8)	Calibration Version:	1

Logging Source S/N: 5168GW		
Aluminum Block S/N: EL RENO STD ALUMINUM	Density: 2.581g/cc	Pe: 3.170
Magnesium Block S/N: EL RENO	Density: 1.687g/cc	Pe: 2.594

Density Calibration Summary			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0364	1.0186	0.90 - 1.10
Near Dens Gain	1.0238	1.0069	0.90 - 1.10
Near Peak Gain	1.0221	1.0079	0.90 - 1.10
Near Lith Gain	1.0552	1.0294	0.90 - 1.10
Far Bar Gain	1.0145	1.0123	0.90 - 1.10
Far Dens Gain	1.0038	0.9989	0.90 - 1.10
Far Peak Gain	1.0000	0.9971	0.90 - 1.10
Far Lith Gain	0.9816	0.9753	0.90 - 1.10
Near Bar Offset	-0.0376	0.1365	NONE
Near Dens Offset	0.0482	0.2065	NONE
Near Peak Offset	0.0495	0.1754	NONE
Near Lith Offset	-0.2247	-0.0123	NONE
Far Bar Offset	0.1095	0.1369	NONE
Far Dens Offset	0.1904	0.2360	NONE
Far Peak Offset	0.2182	0.2309	NONE
Far Lith Offset	0.3442	0.3659	NONE
Near Bar Background	733.33	732.60	700 - 1450
Near Dens Background	239.77	241.62	230 - 480
Near Peak Background	105.24	104.56	100 - 210
Near Lith Background	129.58	128.06	125 - 260
Far Bar Background	478.31	473.96	450 - 900
Far Dens Background	188.83	186.91	175 - 345
Far Peak Background	74.80	74.19	70 - 140
Far Lith Background	77.92	76.67	75 - 145

Calibration Block Summary				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.675	1.687	0.012	+/- 0.015
Pe	2.474	2.559	0.085	+/- 0.150
ALUMINUM				
Density (g/cc)	2.566	2.581	0.015	+/- 0.01500
Pe	3.051	3.132	0.081	+/- 0.150

Tool Summary		
Measurement	Near Detector	Far Detector

	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0007	+/- 0.0110	-0.0009	+/- 0.0140
Magnesium Block	-0.0007	+/- 0.0110	-0.0029	+/- 0.0140
Aluminum Block	-0.0007	+/- 0.0110	0.0006	+/- 0.0140
Resolution	9.59	6.00 - 11.50	8.79	6.00 - 11.50
Internal Verifier(B+D+P+L)	1207	1200 - 2700	812	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 - 10844781		Reference Calibration Date:	09-Dec-17 11:03:23
Engineer:	WHITLOCK		Calibration Date:	28-Dec-17 10:40:37
Software Version:	WL INSITE R5.0.5 (Build 8)		Calibration Version:	1

Pad Temperature: 64.7 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1206.834	1193.624	-13.210	14.101
Far (B+D+P+L) cps	811.738	805.890	-5.848	15.745
Near Resolution	9.59	9.63	0.040	0.50
Far Resolution	8.79	8.79	0.000	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
Depth Panel-12345678						
Tension Zero	0.00	-----	-----	0.00	-----	lbs
Tension Cal	7830.00	-----	-----	0.00	-----	lbs
CH_HOS-11459024						
DH Tension Zero	0.00	-----	-----	0.00	-----	lbs
DH Tension Cal	974.10	-----	-----	0.00	-----	lbs
GTET-11958947						
Gamma Ray Calibrator	232.0	232.9	-----	-0.9	+/- 9.00	api
DSNT-11055304						
Snow-Block Porosity	0.0338	0.0474	-----	-0.0136	+/- 0.0150	decp
SDLT-10960494						
Pad Extension	3.75	3.75	-----	0.00	+/-0.10	in
Ring Diameter	8.25	8.25	-----	0.00	+/-0.15	in
ACRt Sonde-11005908						
Mud Cell	1.00	-----	-----	0	-----	ohm-m
Microlog Pad-10960494						
MicroLog Normal	19.83	19.77	-----	0.06	+/-0.80	ohmm

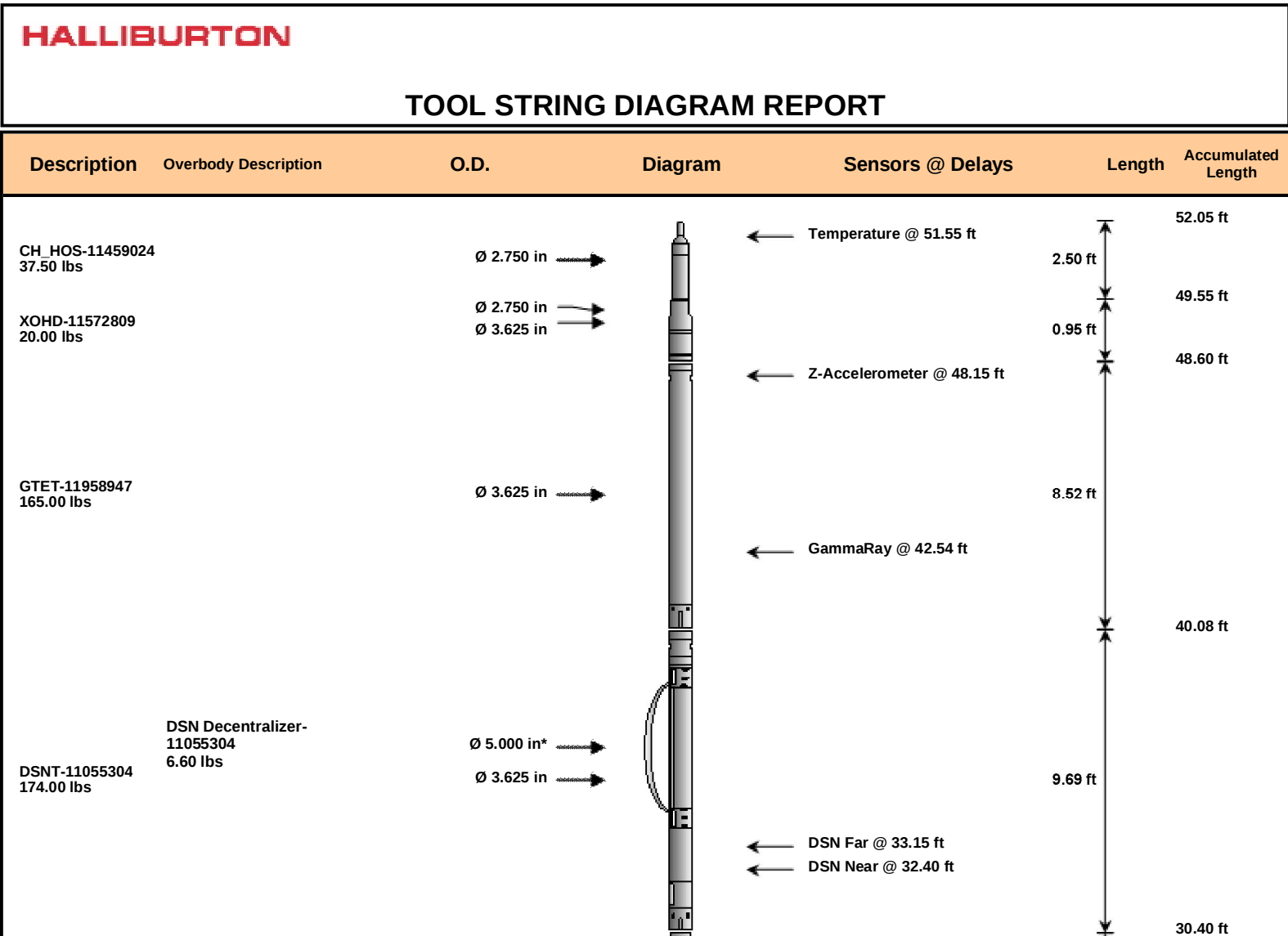
MicroLog Lateral	19.99	19.93	-----	0.06	+/-0.80	ohmm
SDLT Pad-10844781						
Near(B+D+P+L)	1206.834	1193.624	-----	13.210	+/-14.101	cps
Far(B+D+P+L)	811.738	805.890	-----	5.848	+/-15.745	cps
Data: MERIT_HMU203S\0001 GTET-DSNT-SDLT-ACRT\IDLE					Date: 29-Dec-17 17:51:37	

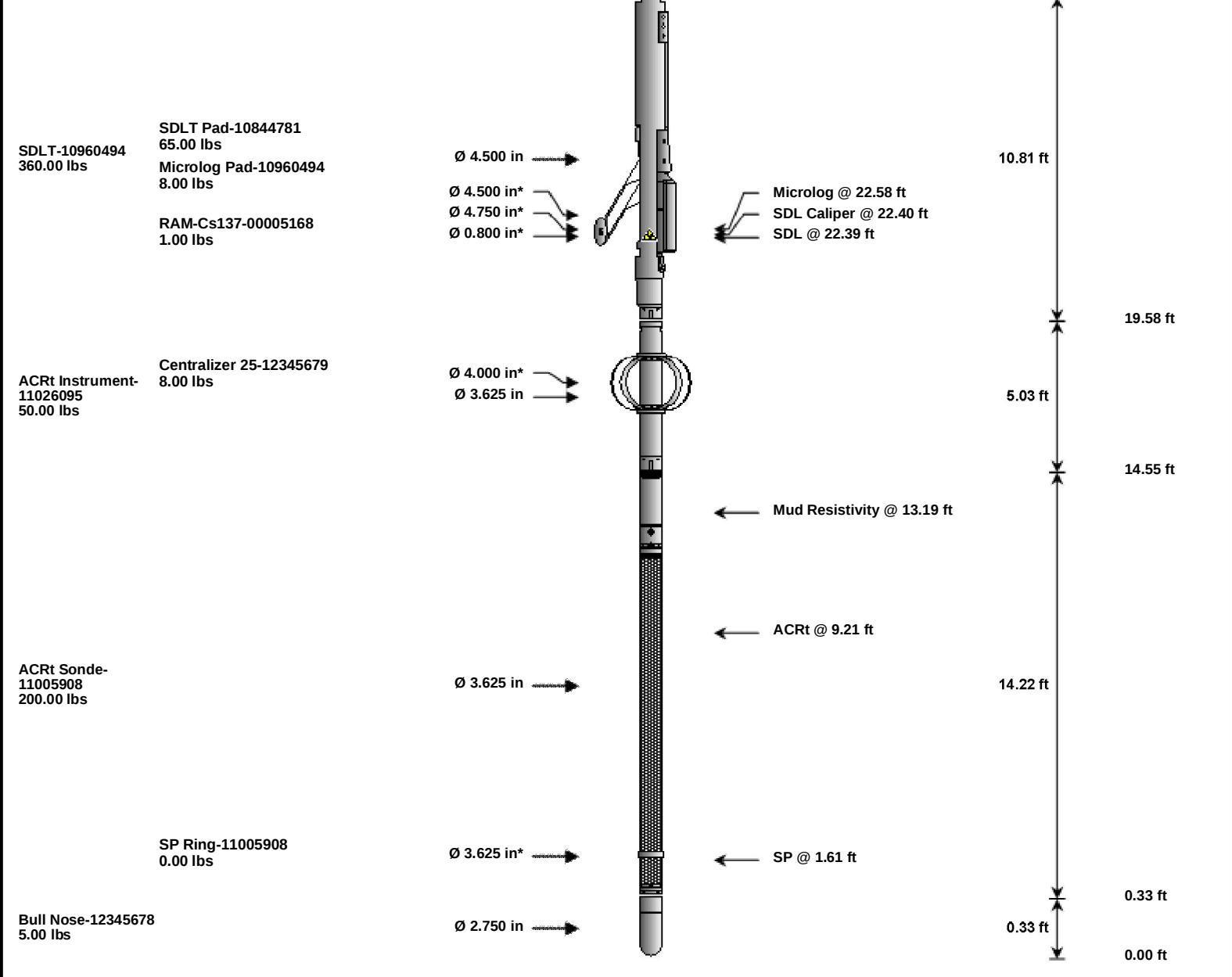
HALLIBURTON

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	9.000	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	5560.00	ft
	SHARED	BHT	Bottom Hole Temperature	135.0	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	
	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	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	CHSC	New Hole Correction Options?	No		
DSNT	LHWT	Logging Horizontal Water Tank?	No		
DSNT	BHSM	Borehole Size Source Tool	SDLT		
SDLT	CLOK	Process Caliper Outputs?	Yes		
Microlog Pad	MLOK	Process MicroLog 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		
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	SDLT		
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No		
BOTTOM_____					
Data: MERIT_HMU203SI0001 GTET-DSNT-SDLT-ACRTIDLE				Date: 29-Dec-17 17:52:58	





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	2.50	49.55	300.00
XOHD	Hostile to Dits Cross Over	11572809	20.00	0.95	48.60	300.00
GTET	Gamma Telemetry Tool	11958947	165.00	8.52	40.08	60.00
DSNT	Dual Spaced Neutron	11055304	174.00	9.69	30.40	60.00
DCNT	DSN Decentralizer	11055304	6.60	5.13	* 33.73	300.00
SDLT	Spectral Density Tool	10960494	360.00	10.81	19.58	60.00
SDLP	Density Insite Pad	10844781	65.00	2.55	* 21.79	60.00
Cs137	Logging Source, SDLT-I, 1.78 Ci - Cs137	00005168	1.00	0.80	* 22.02	300.00
MICP	Microlog Pad	10960494	8.00	1.00	* 22.08	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11026095	50.00	5.03	14.55	120.00
OBCEN	Centralizer - 25 in. Overbody	12345679	8.00	2.08	* 16.42	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11005908	200.00	14.22	0.33	120.00
SP	SP Ring	11005908	0.00	0.25	* 1.61	300.00
BLNS	Bull Nose	12345678	5.00	0.33	0.00	300.00
Total			1,100.10	52.05		

* Not included in Total Length and Length Accumulation.

Data: MERIT_HMU203S\0001 GTET-DSNT-SDLT-ACRTIDLE

Date: 29-Dec-17 17:53:28