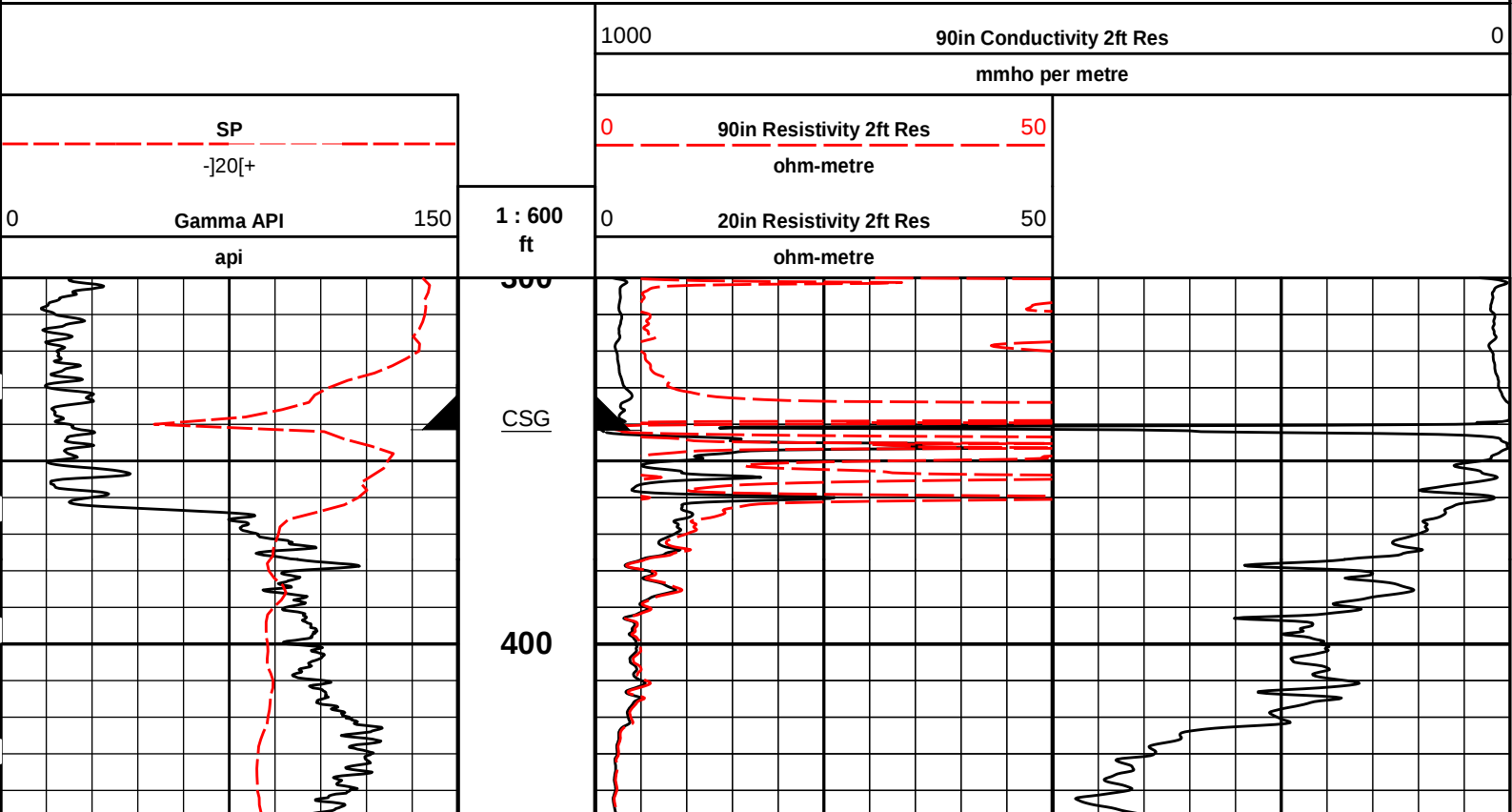
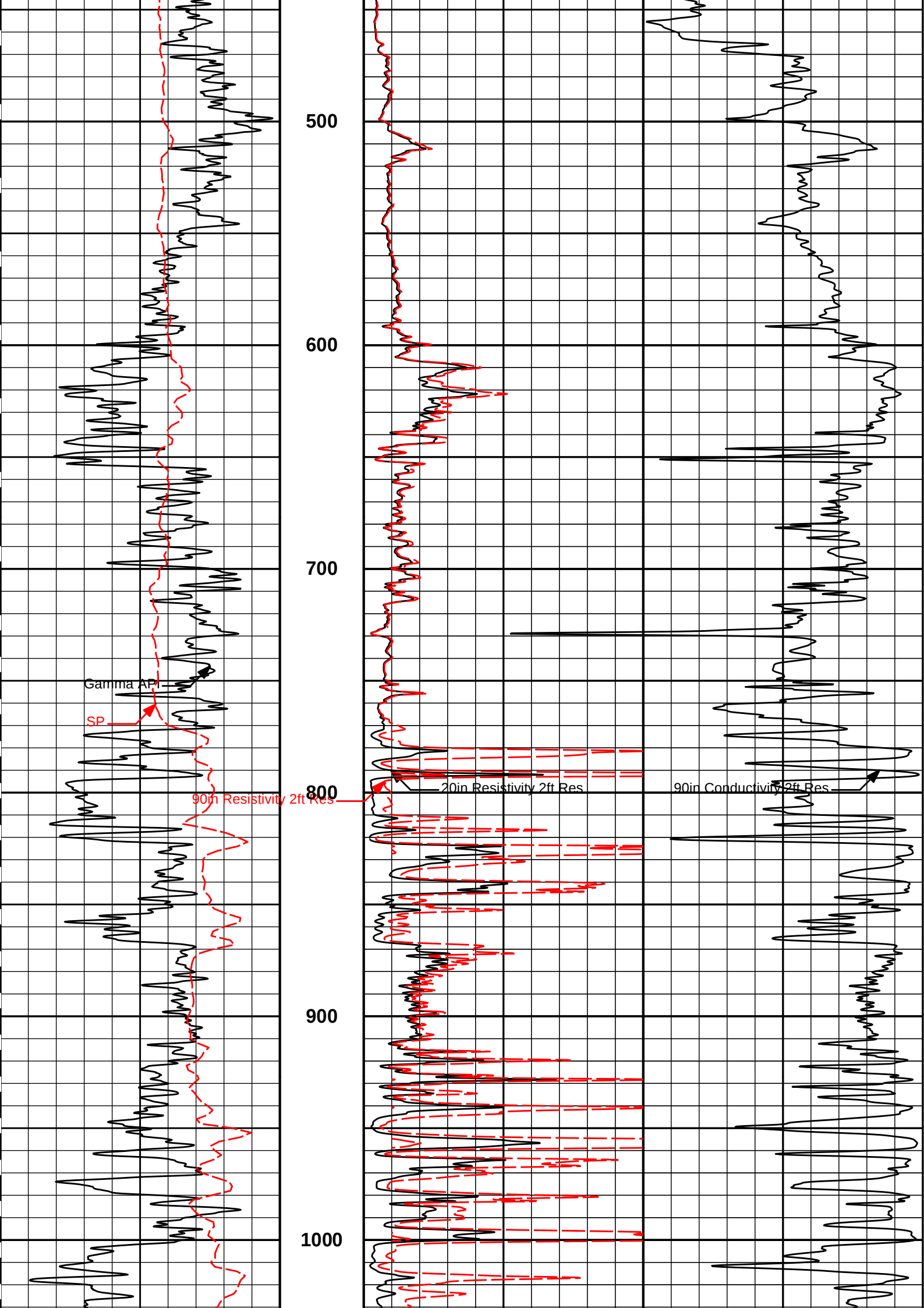


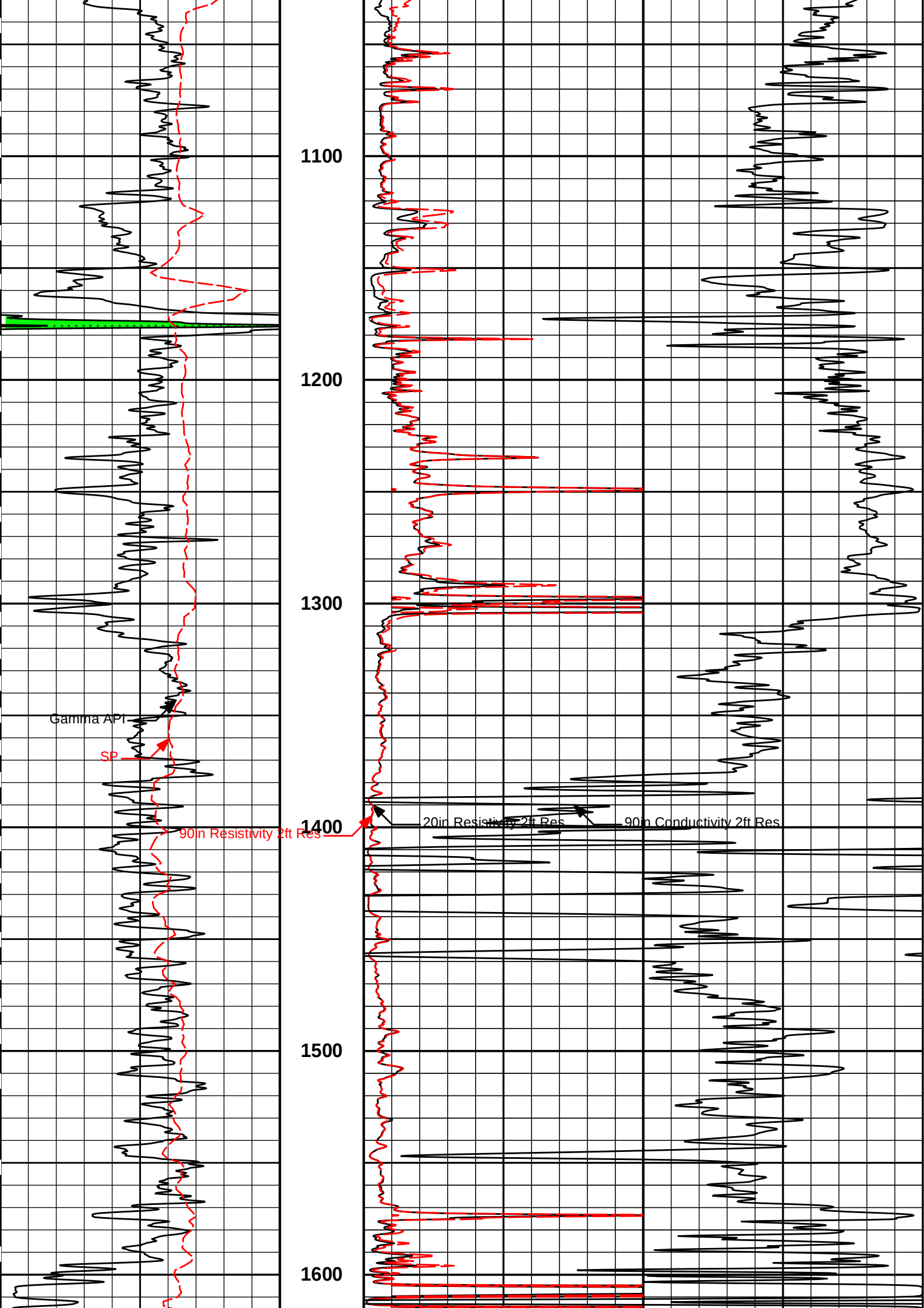
ARRAY COMPENSATED
TRUE RESISTIVITY
LOG

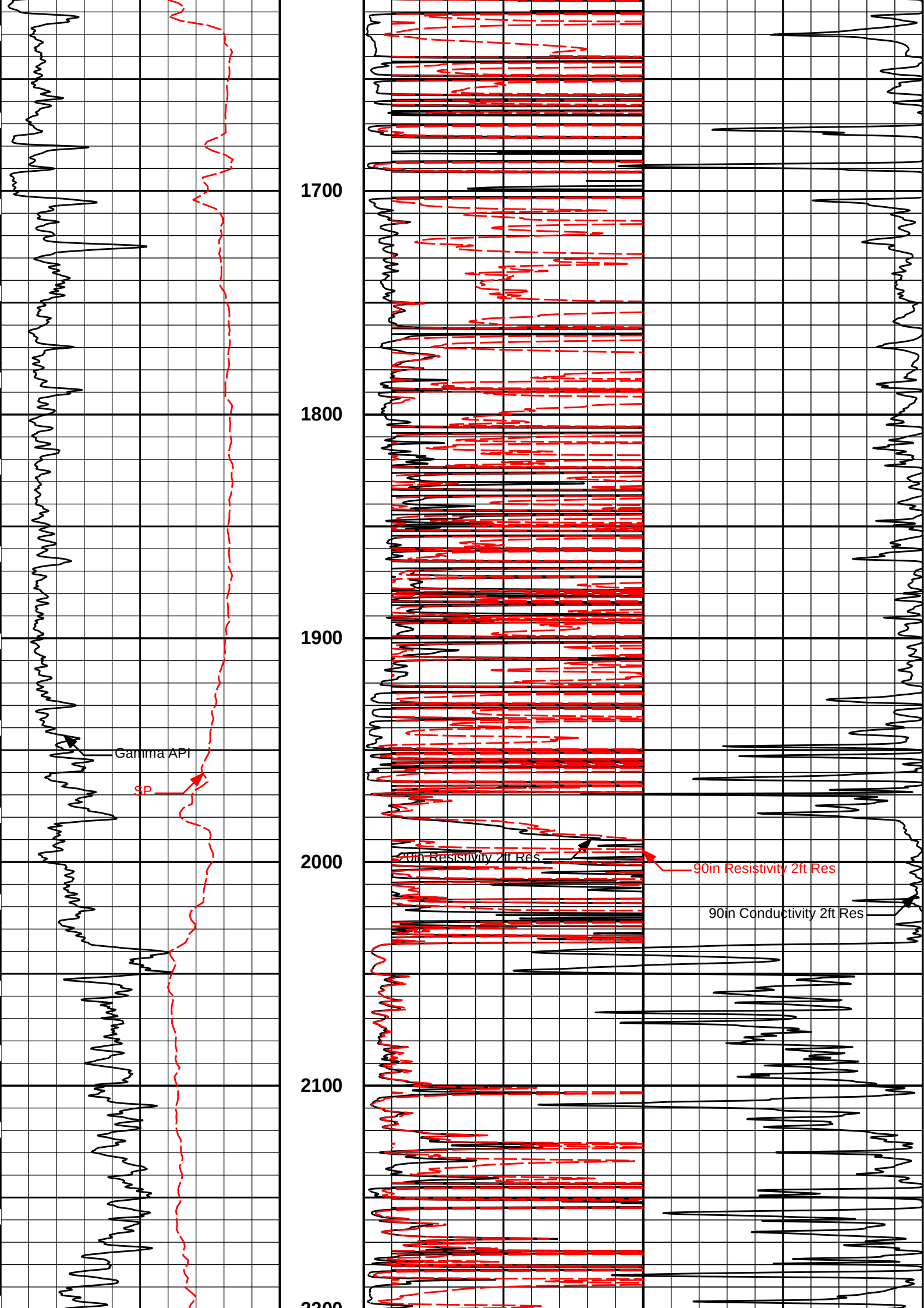
Fold here

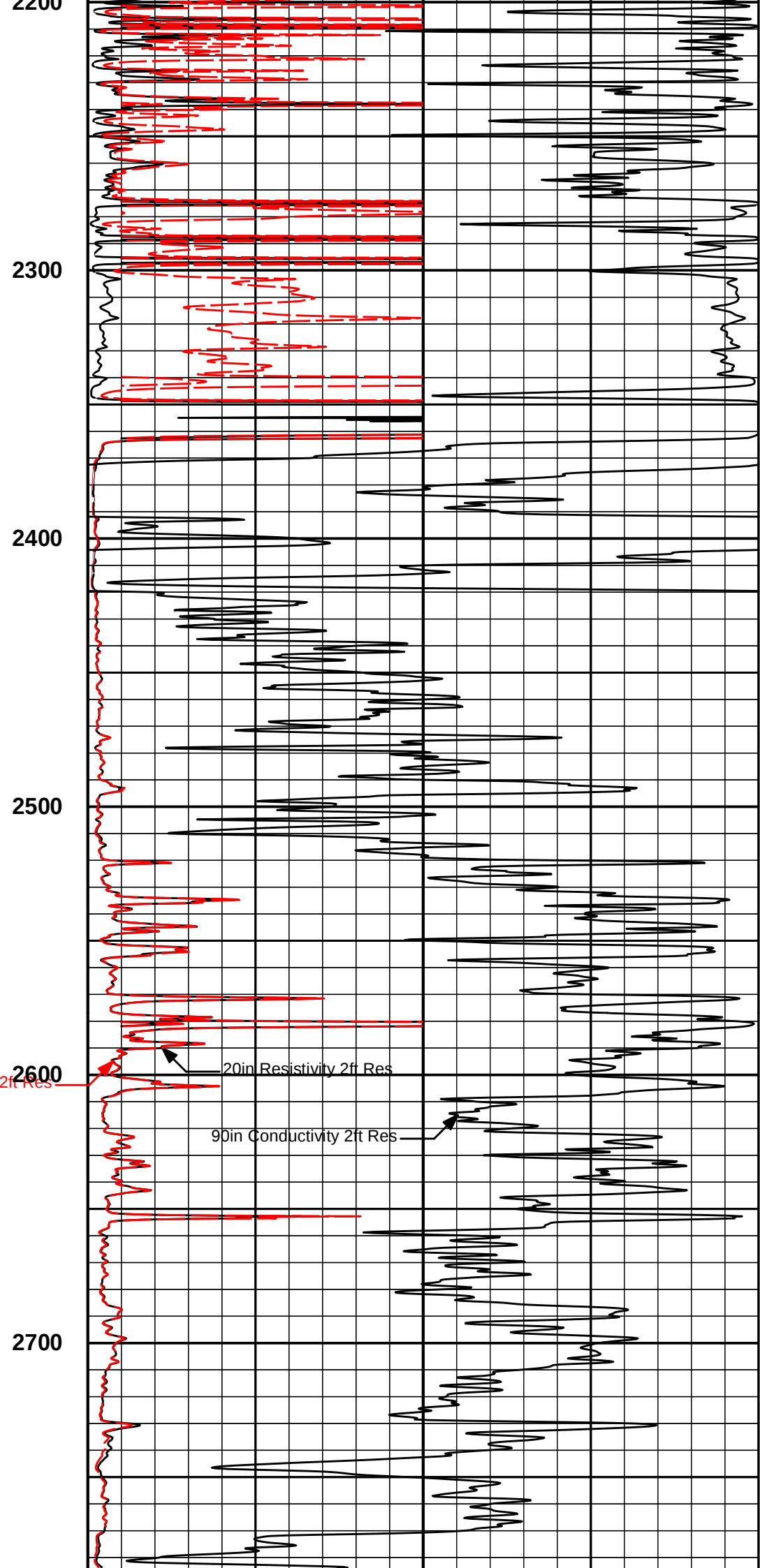
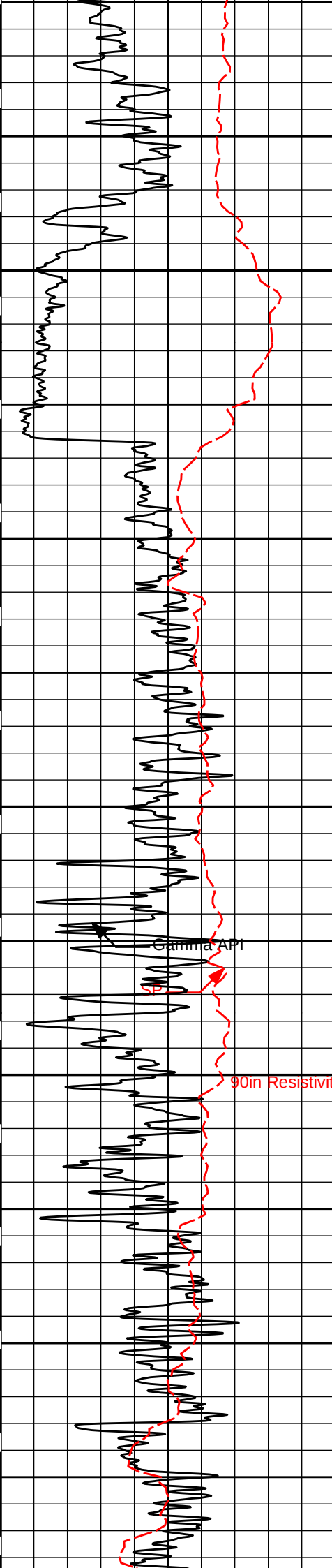
Service Ticket No.: 904686784						API No.: 15-203-20327-00-00				PGM Version: WL INSITE R5.6.3 (Build 4)									
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE								RESISTIVITY SCALE CHANGES											
Date		Sample No.								Type Log		Depth		Scale Up Hole		Scale Down Hole			
Depth-Driller																			
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.				@		@													
Rmc @ Meas. Temp.				@		@													
Source Rmf		Rmc																	
Rm @ BHT				@		@													
Rmf @ BHT				@		@													
Rmc @ BHT				@		@													
EQUIPMENT DATA																			
GAMMA				ACOUSTIC				DENSITY				NEUTRON							
Run No.				Run No.				Run No.				Run No.							
Serial No.				Serial No.				Serial No.				Serial No.							
Model No.				Model No.				Model No.				Model No.							
Diameter				No. of Cent.				Diameter				Diameter							
Detector Model No.				Spacing				Log Type				Log Type							
Type								Source Type				Source Type							
Length				LSA [Y/N]				Serial No.				Serial No.							
Distance to Source				FWDA [Y/N]				Strength				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			

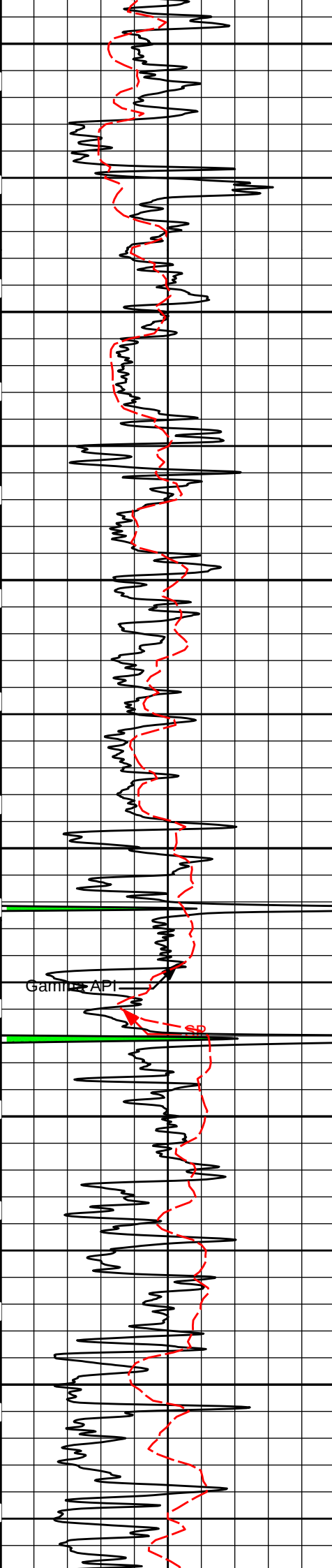












2800

2900

3000

3100

3200

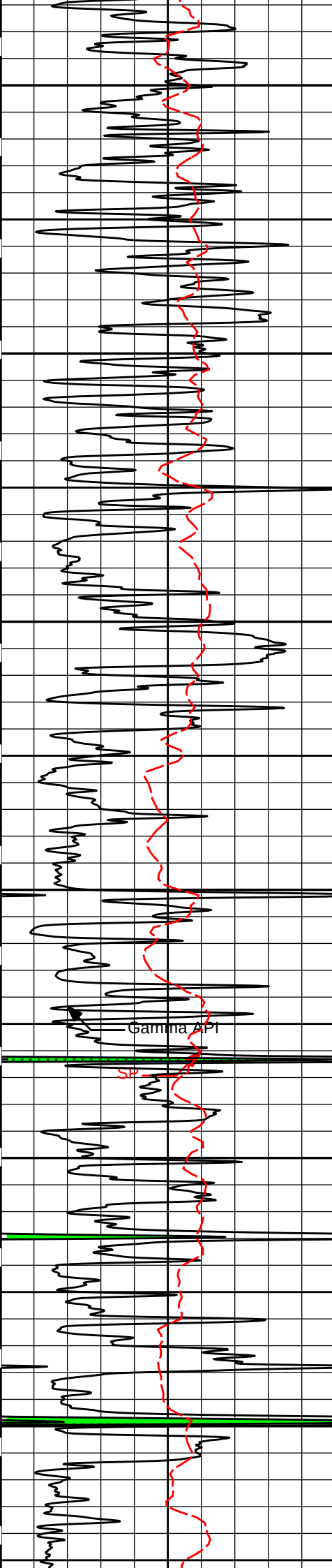
3300

Garnier API

20in Resistivity 2ft Res

90in Resistivity 2ft Res

90in Conductivity 2ft Res



3400

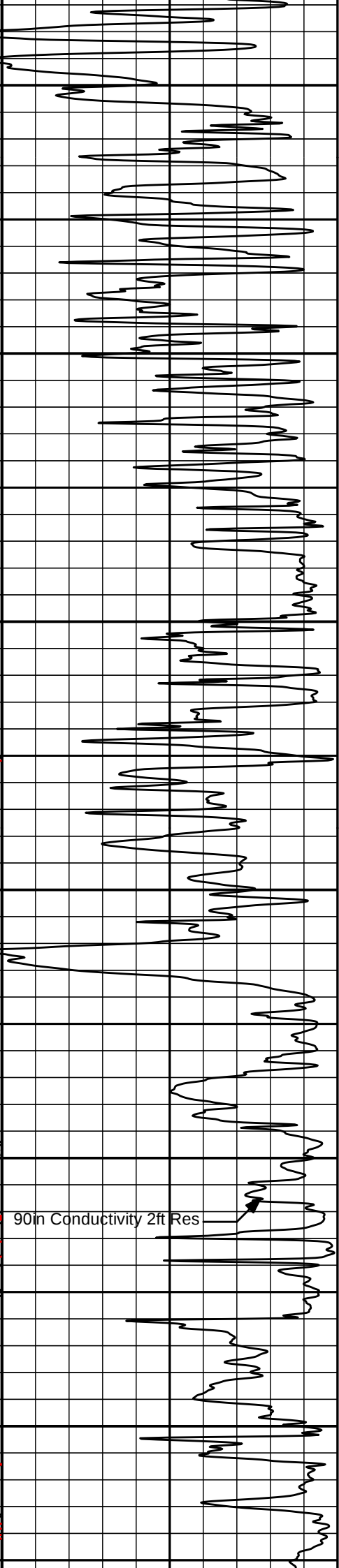
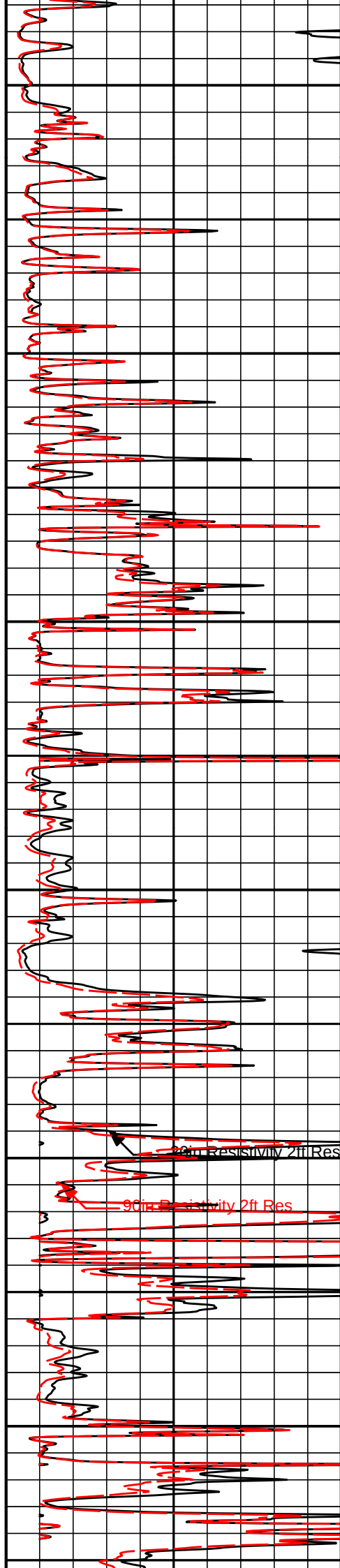
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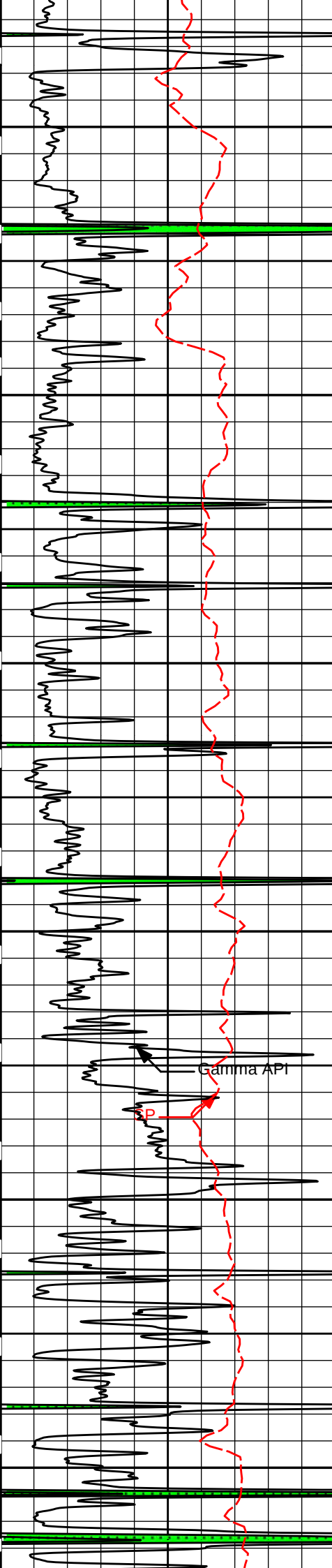
3600

3700

3800

3900





4000

4100

4200

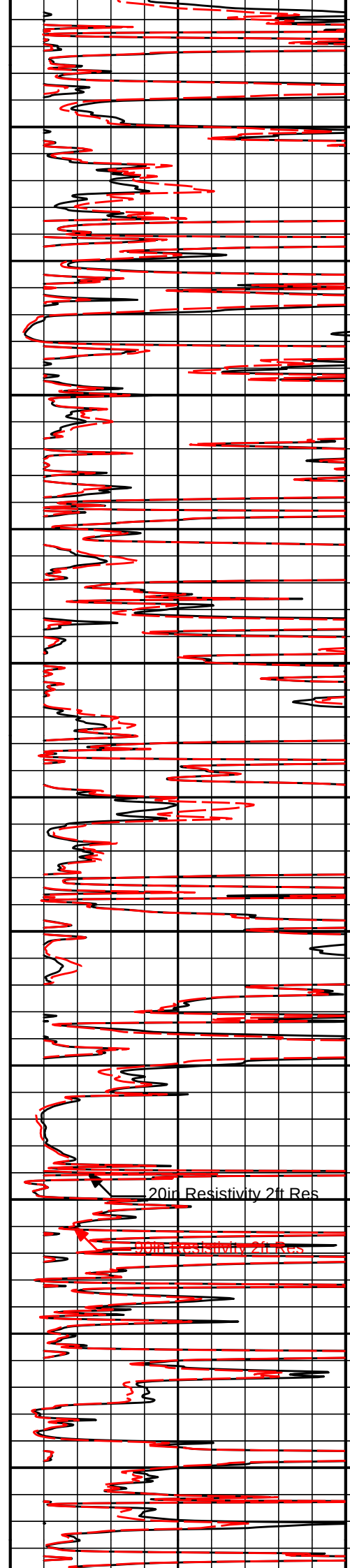
4300

4400

4500

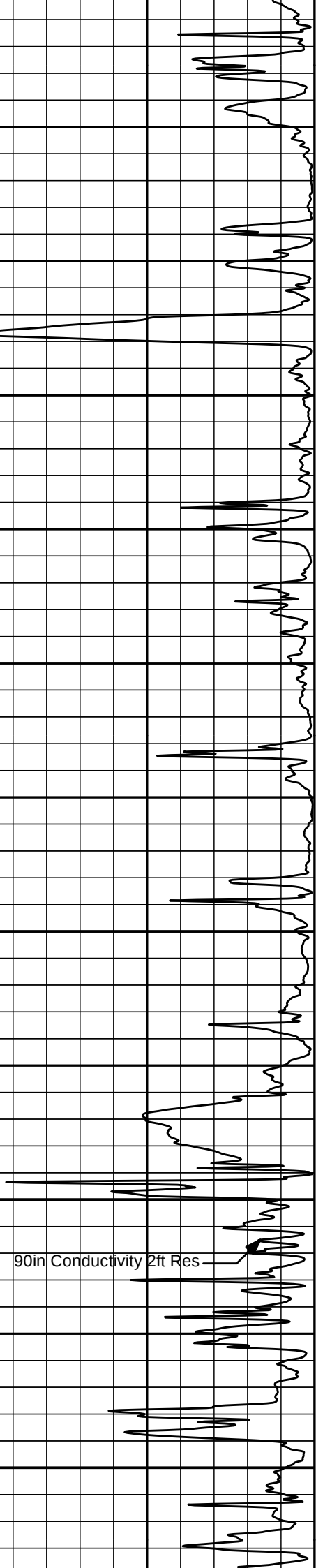
Gamma API

P

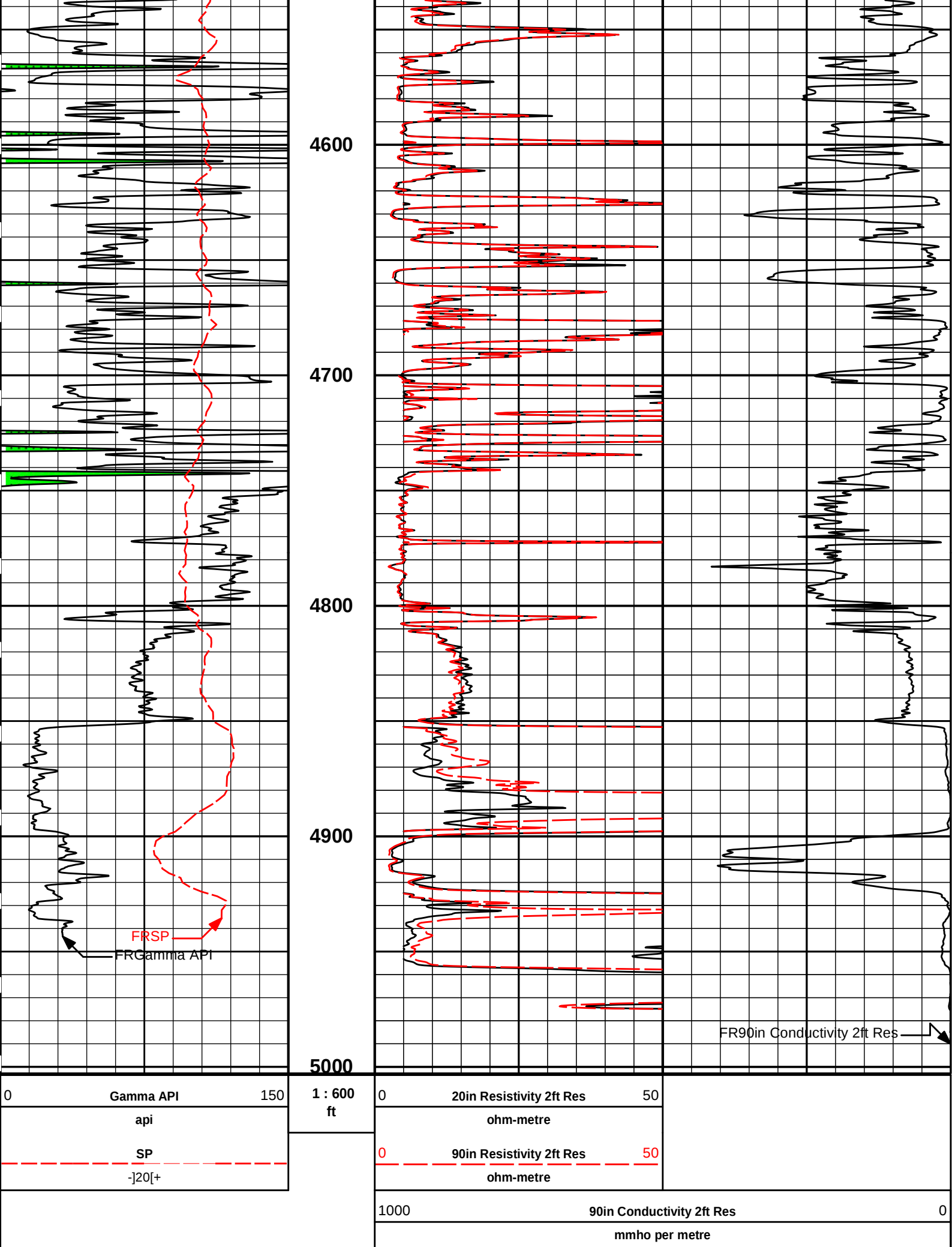


20in Resistivity 2ft Res

90in Resistivity 2ft Res



90in Conductivity 2ft Res



HALLIBURTON

Plot Time: 03-Mar-18 08:46:53
Plot Range: 300 ft to 5002.83 ft
Data: LARIO_KNOBBE\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-LARIO_KNOBBE\0001 GTET-DSNT-SDLT-BSAT-ACRT\ACRT_2_main

2 INCH MAIN LOG

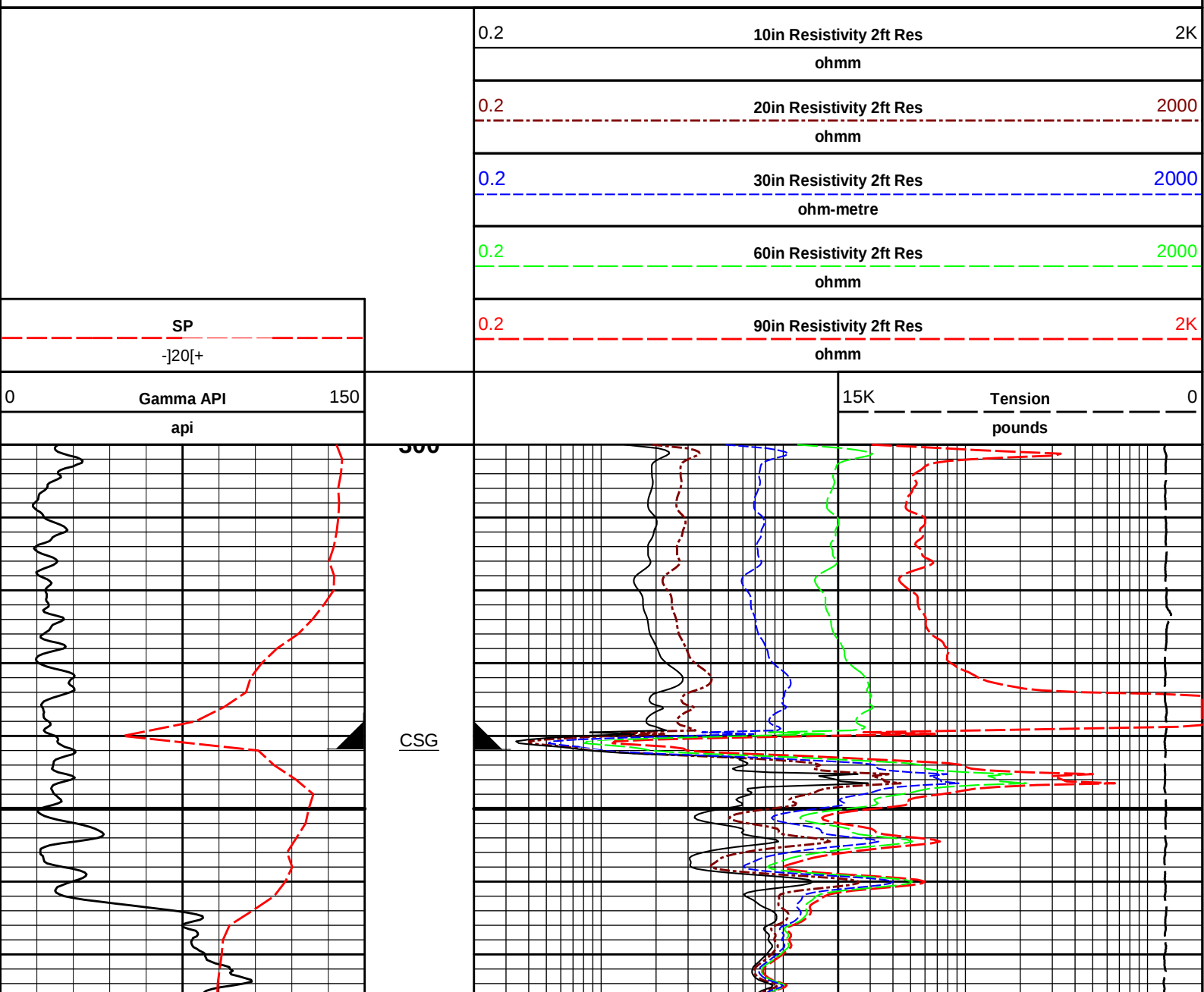
2 INCH MAIN LOG

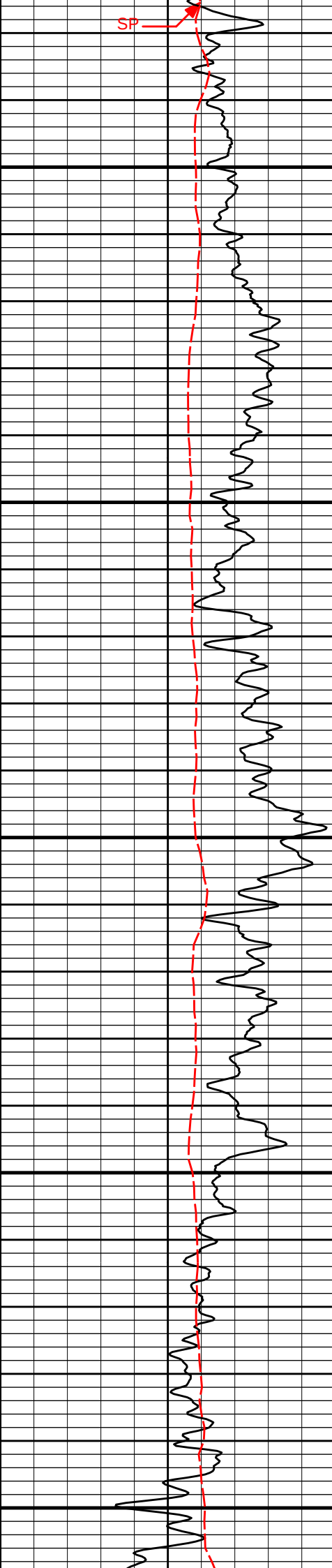
HALLIBURTON

Plot Time: 03-Mar-18 08:46:54
Plot Range: 300 ft to 5002.83 ft
Data: LARIO_KNOBBE\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\\LARIO_KNOBBE\0001 GTET-DSNT-SDLT-BSAT-ACRT\ACRT\ACRT_5inch_main

5 INCH MAIN LOG

5 INCH MAIN LOG

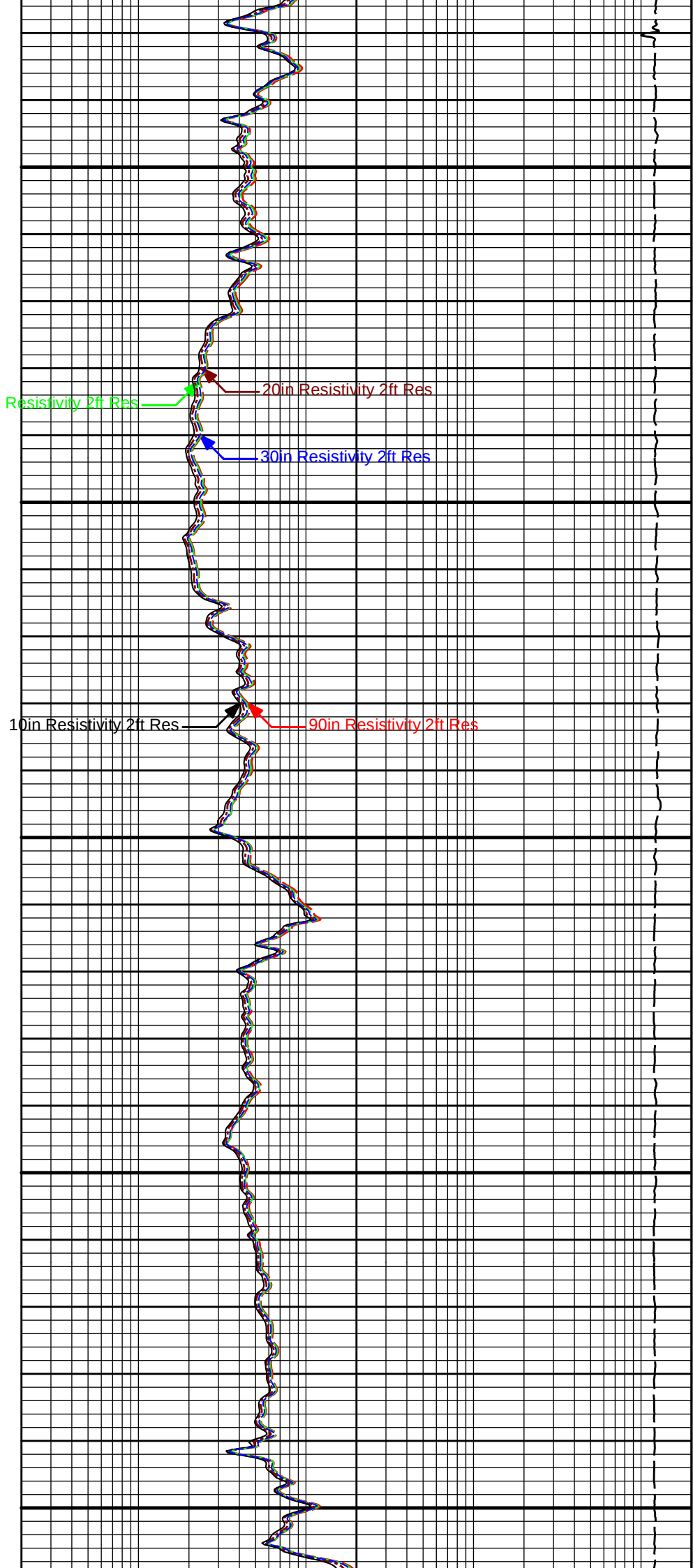


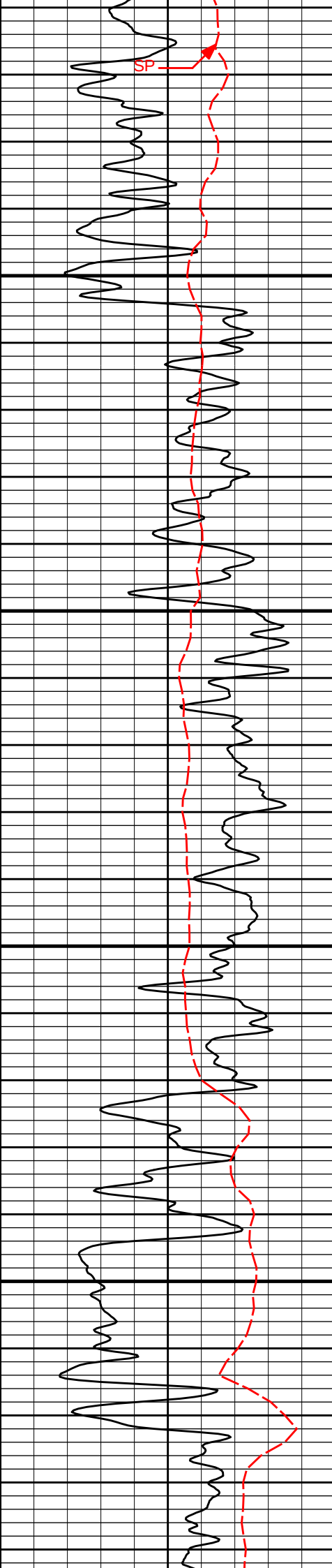


400

500

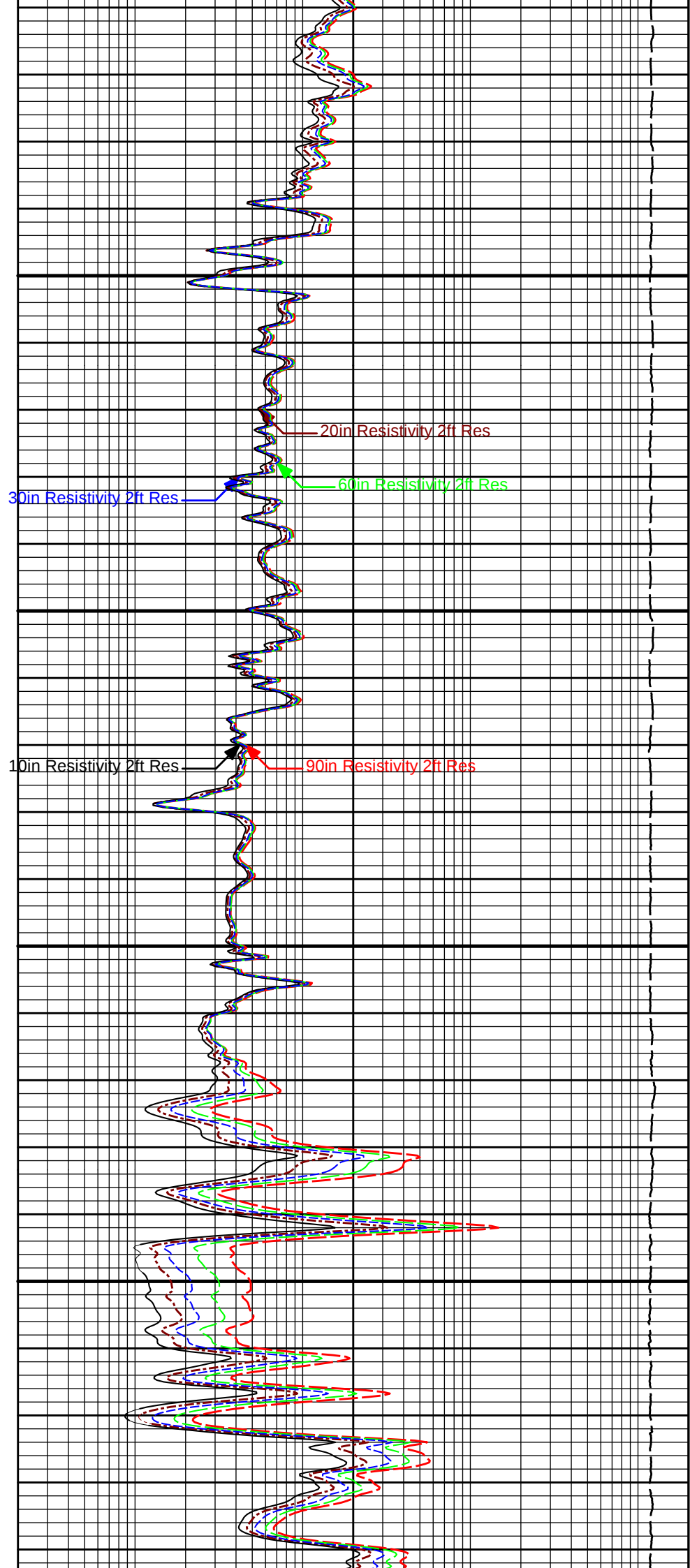
600

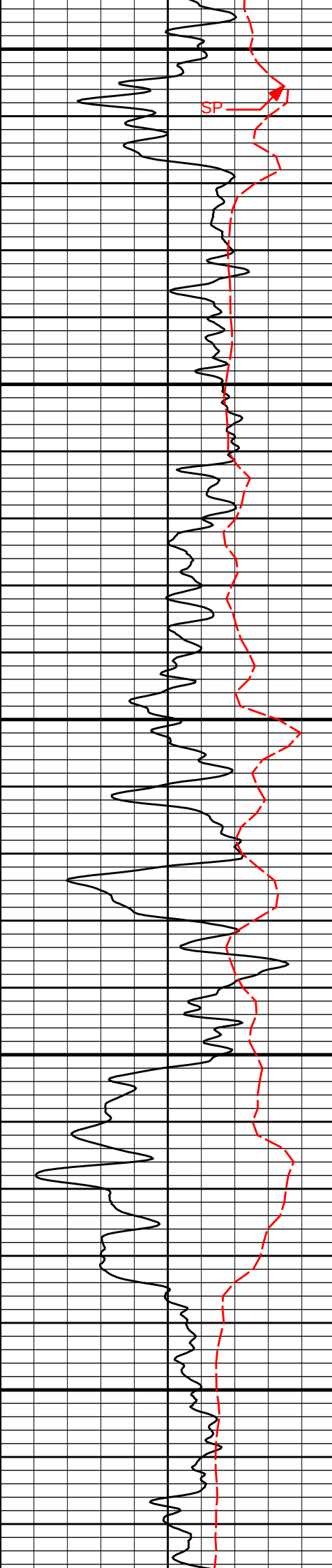




700

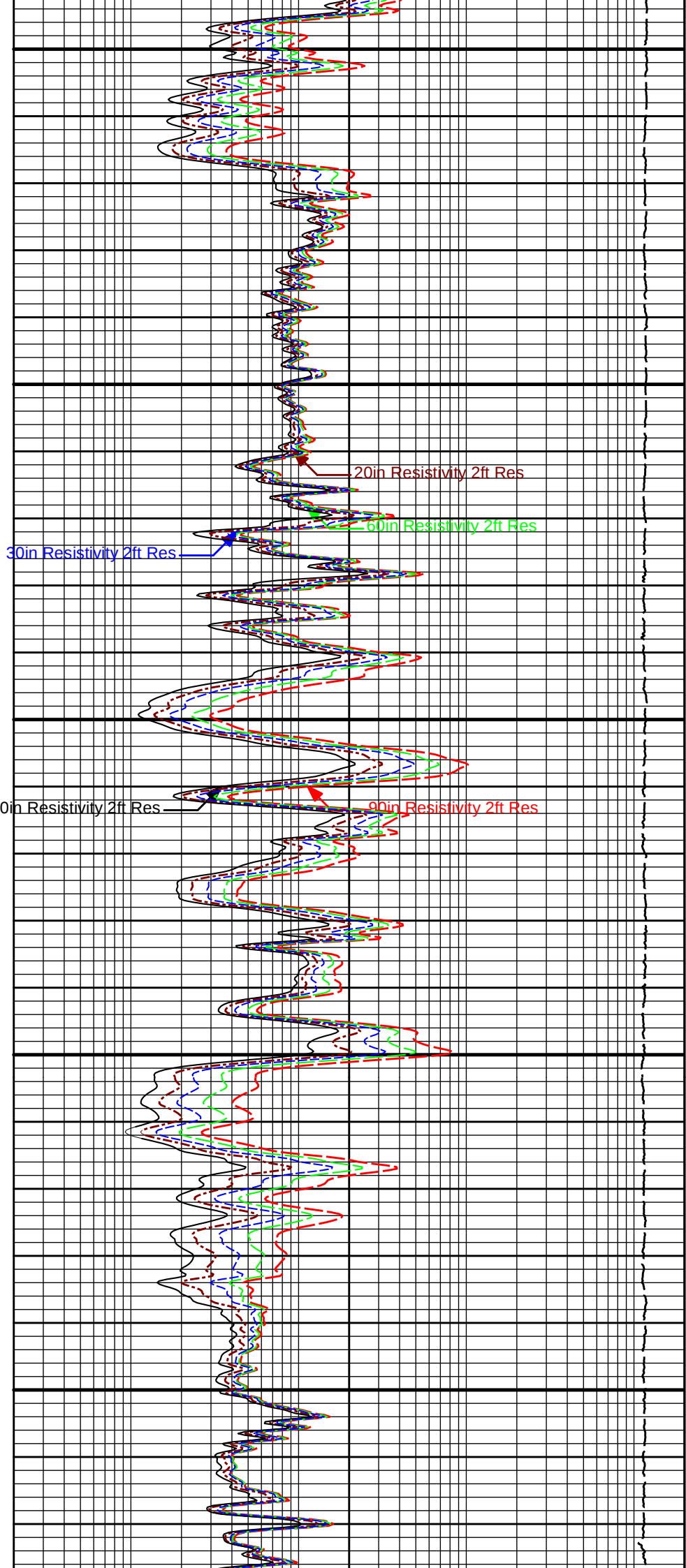
800

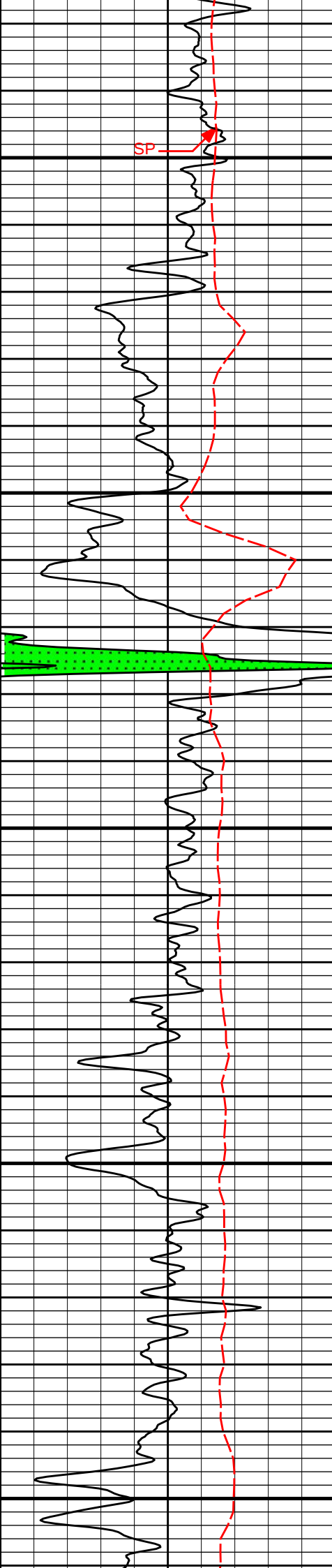




900

1000





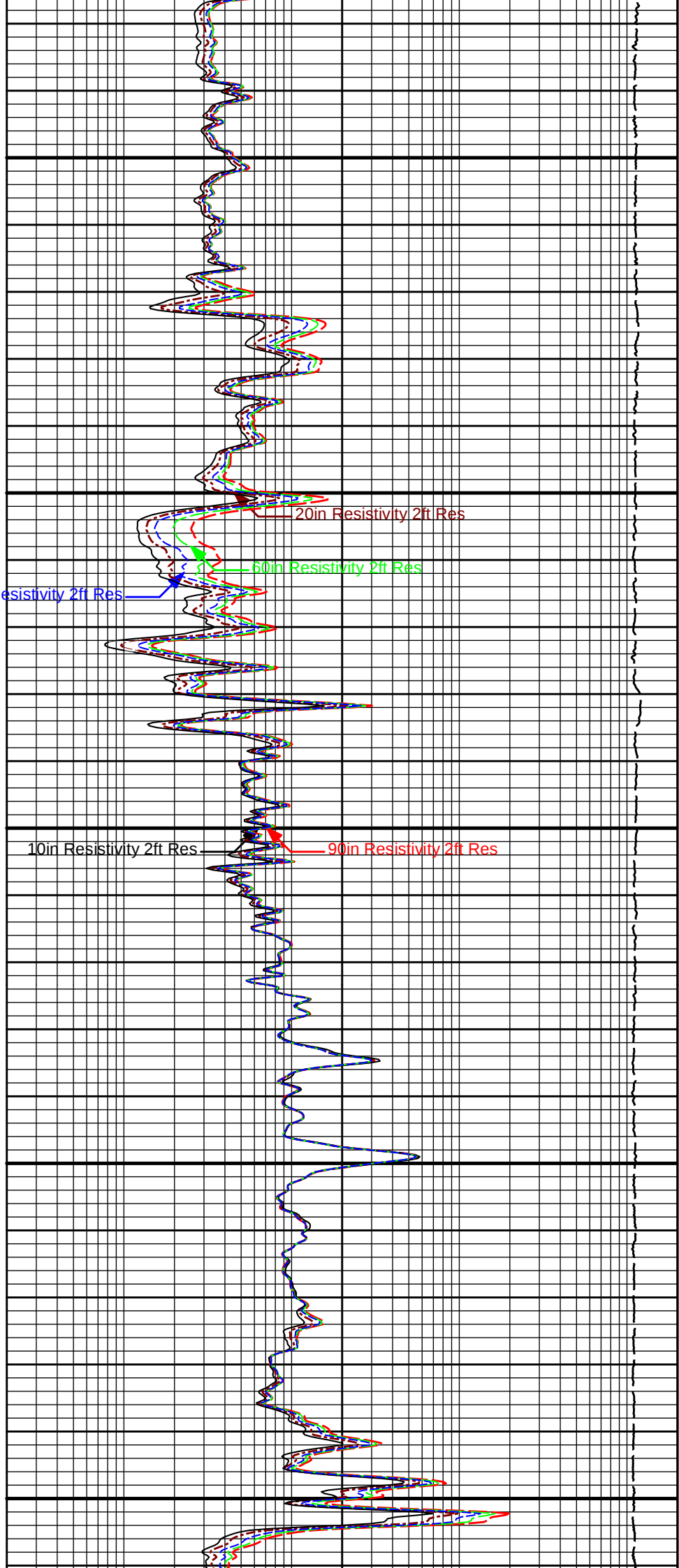
1100

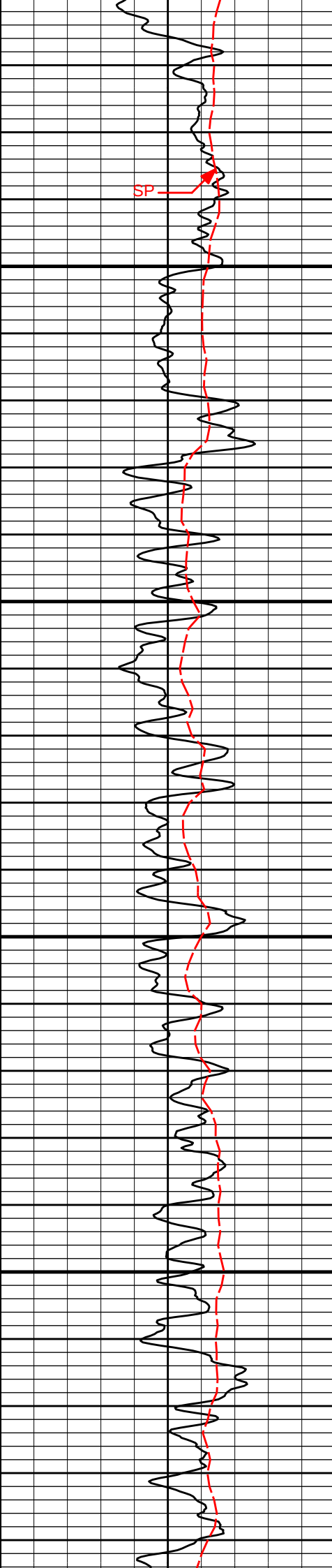
30in Resistivity 2ft Res

1200

10in Resistivity 2ft Res

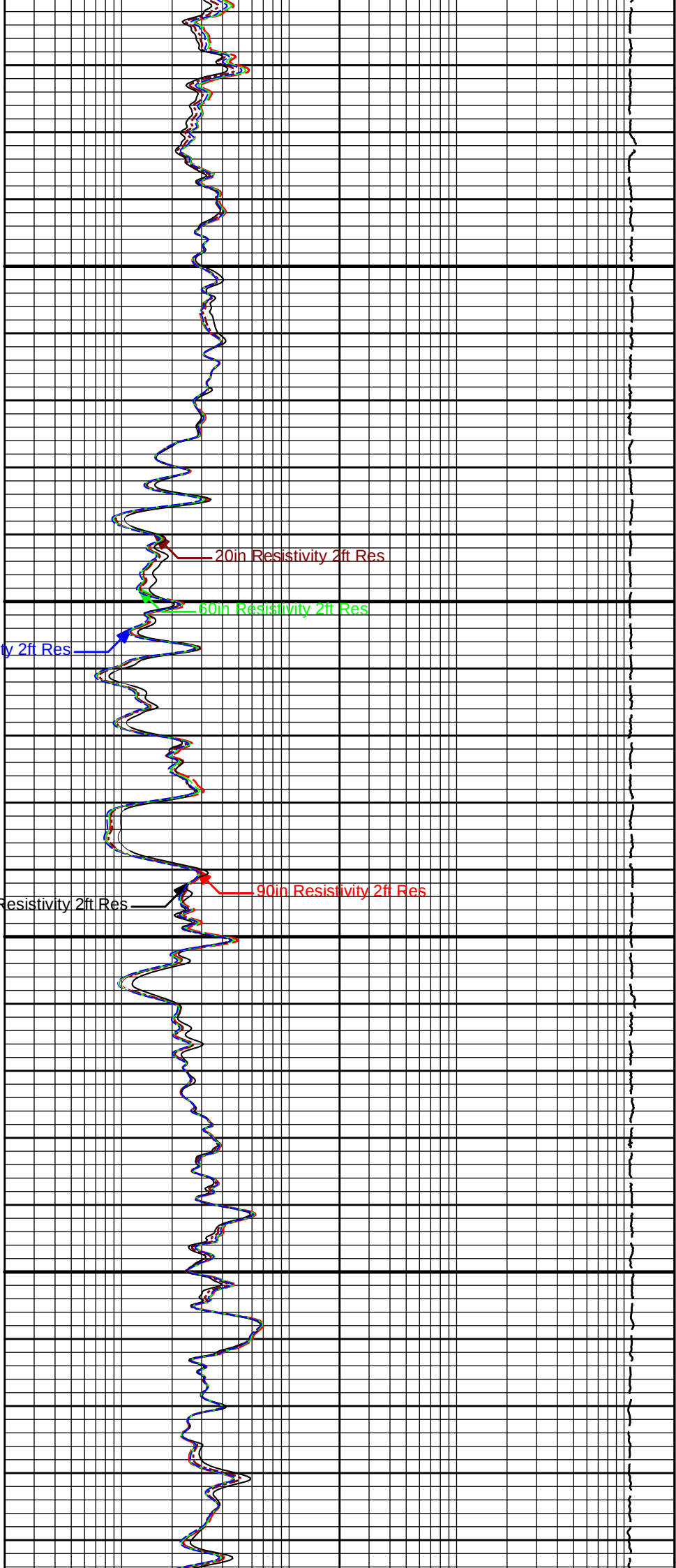
1300

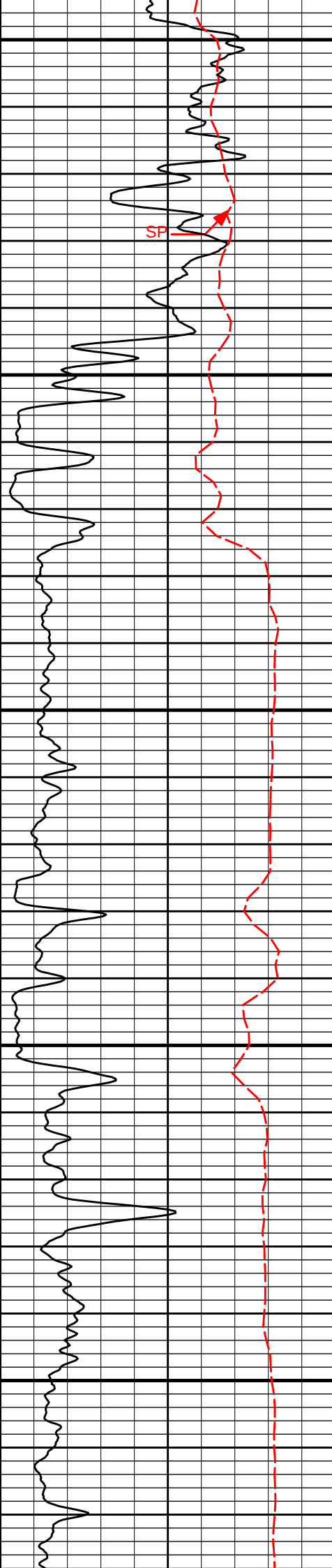




1400

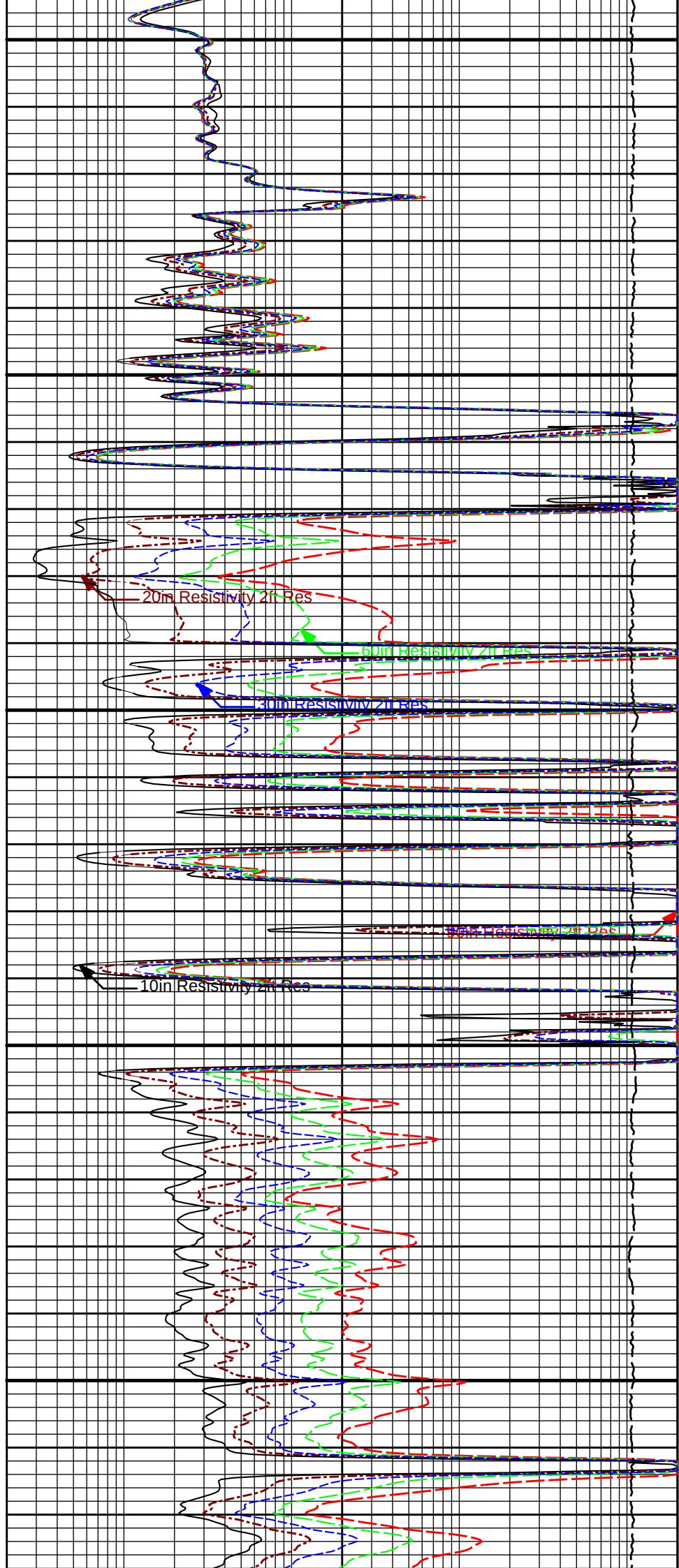
1500





1600

1700

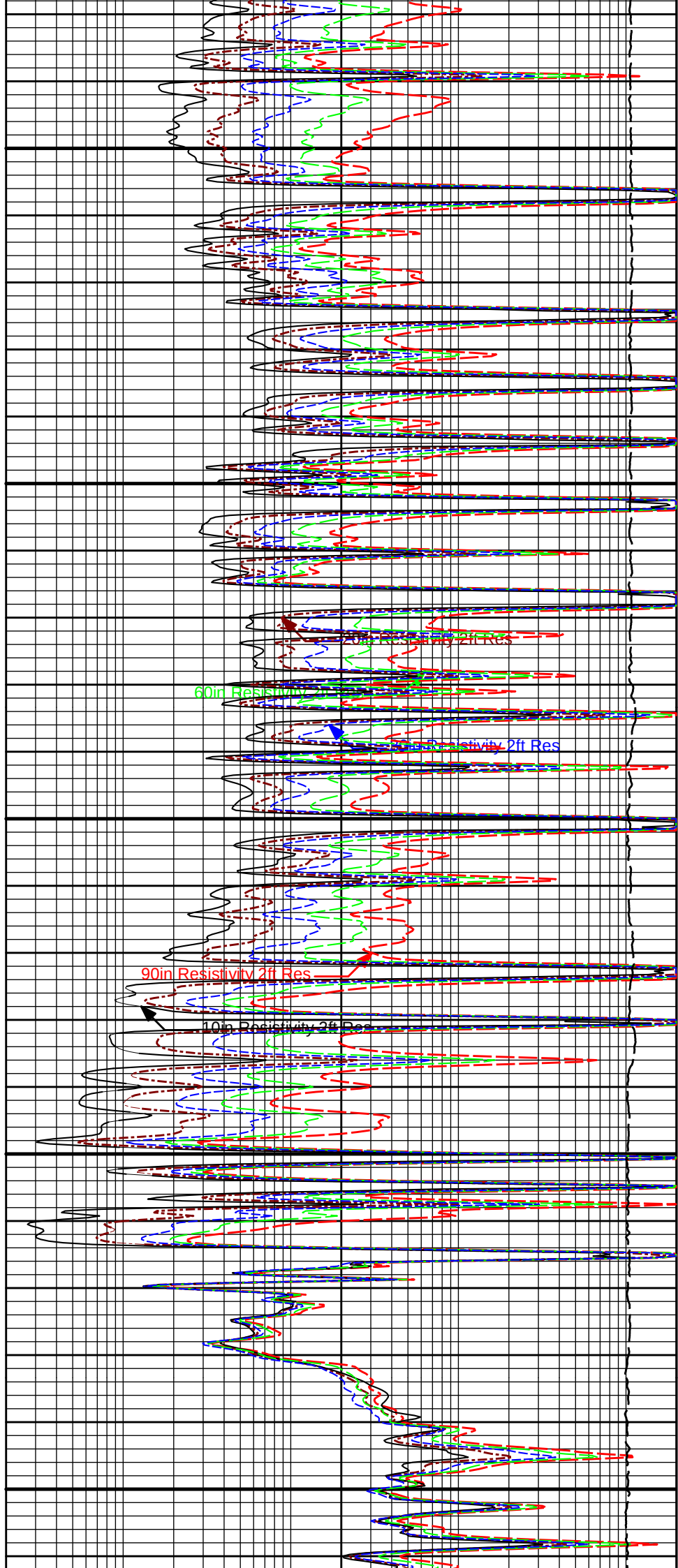


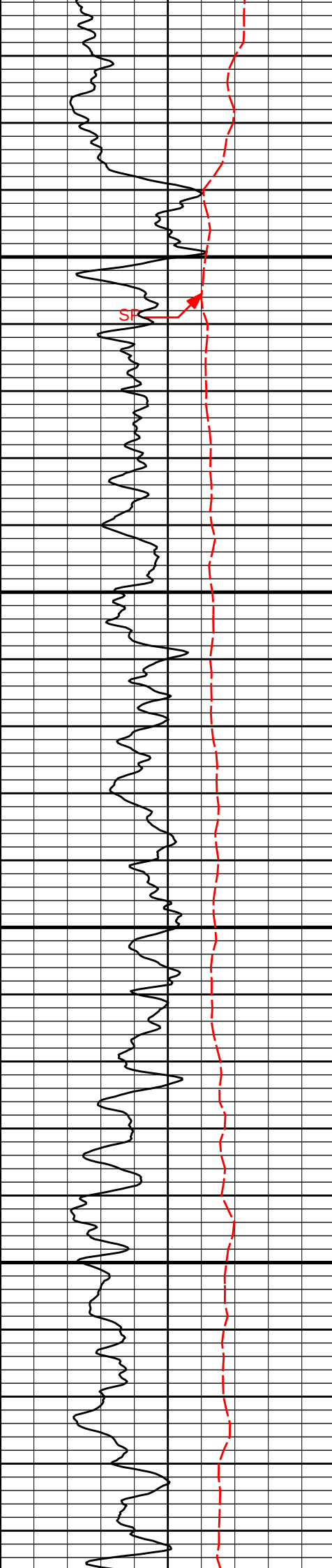


1800

1900

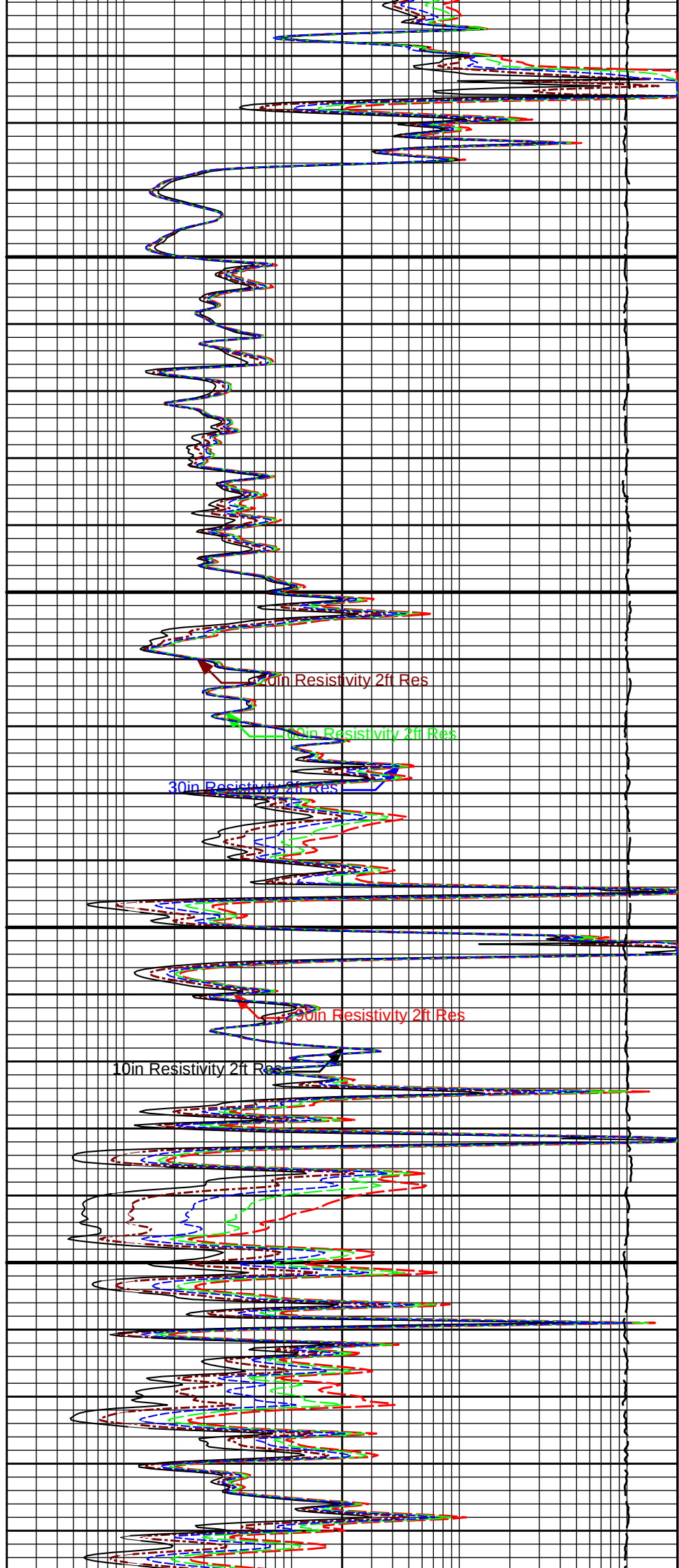
2000





2100

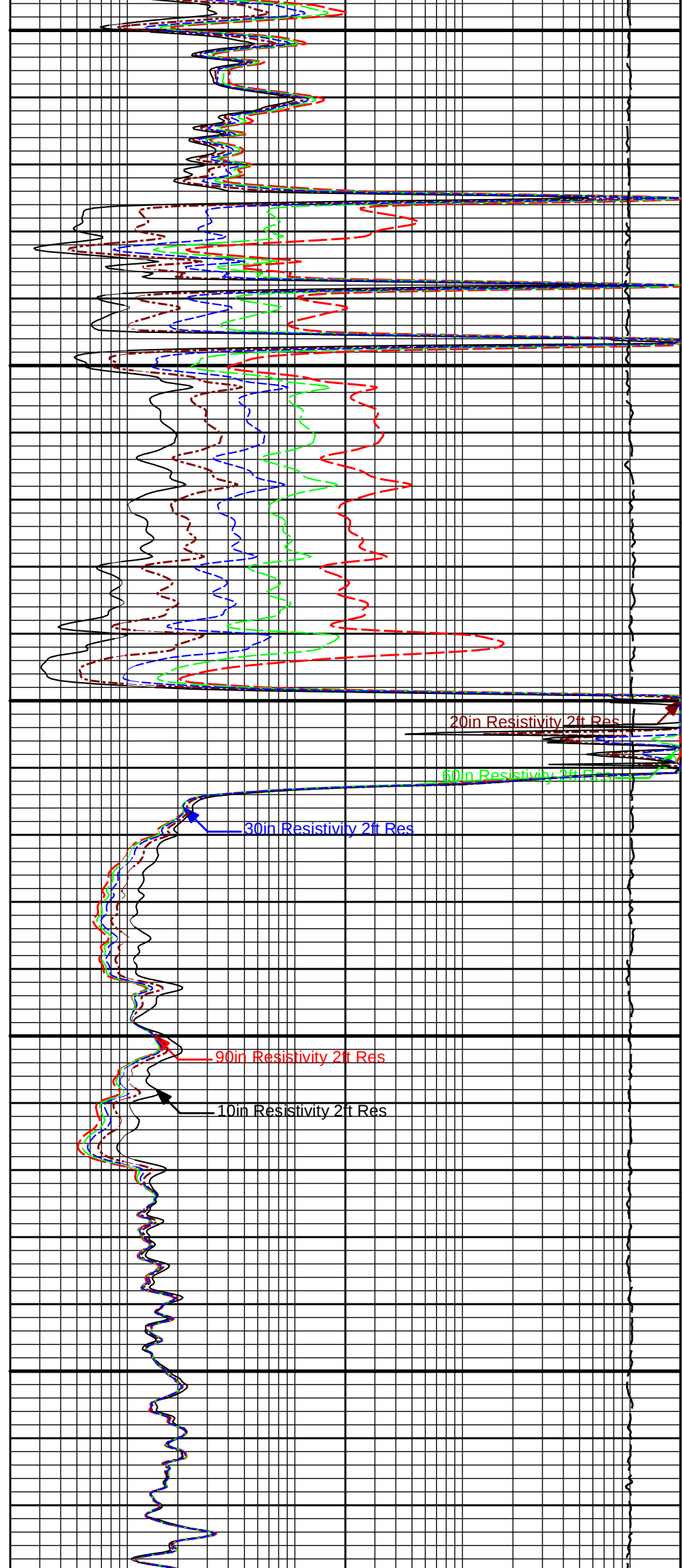
2200

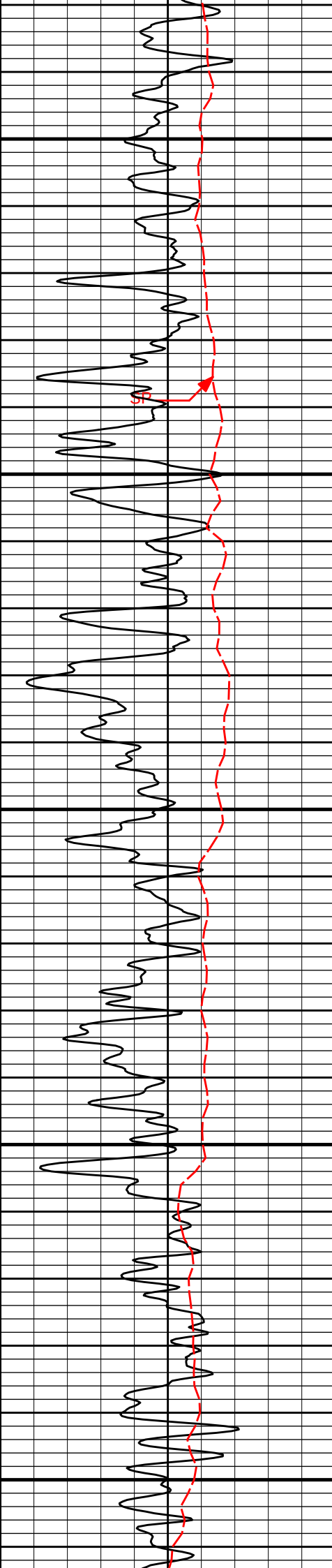




2300

2400

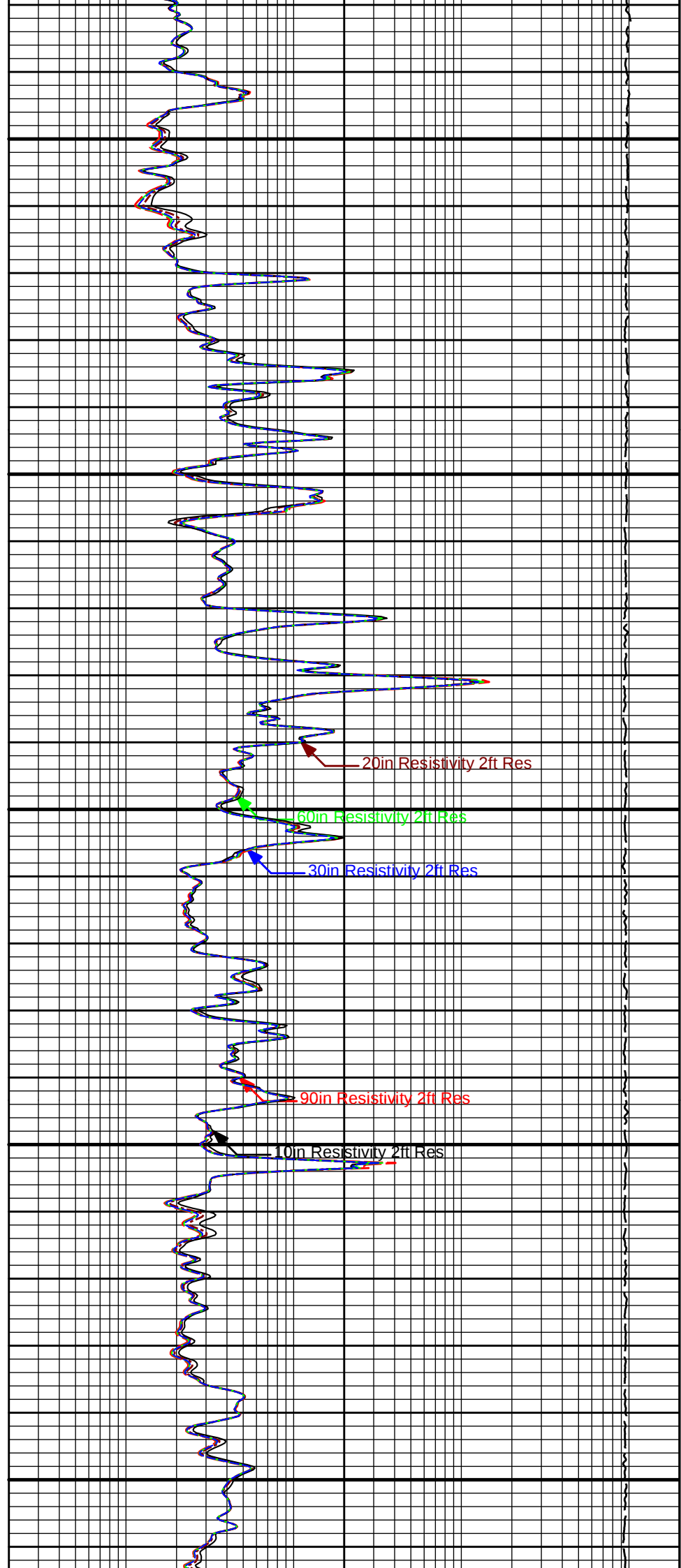


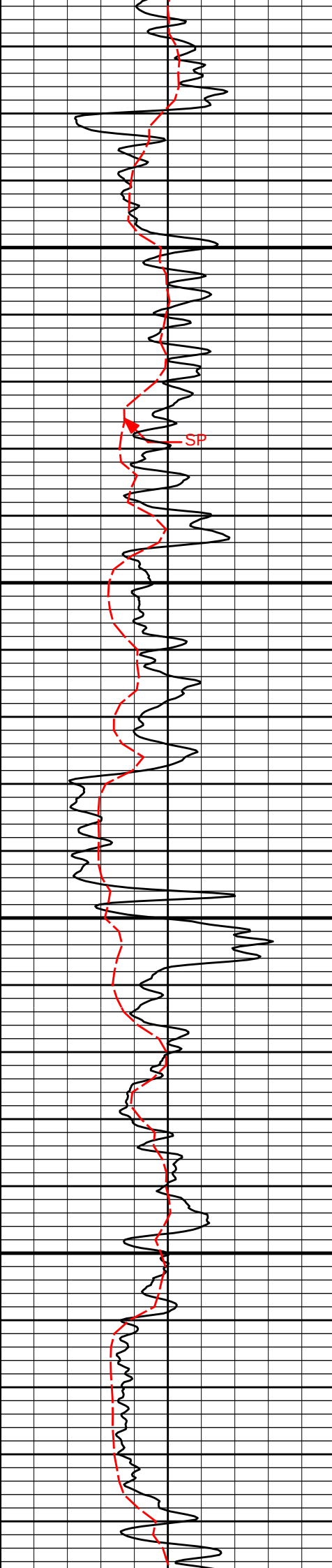


2500

2600

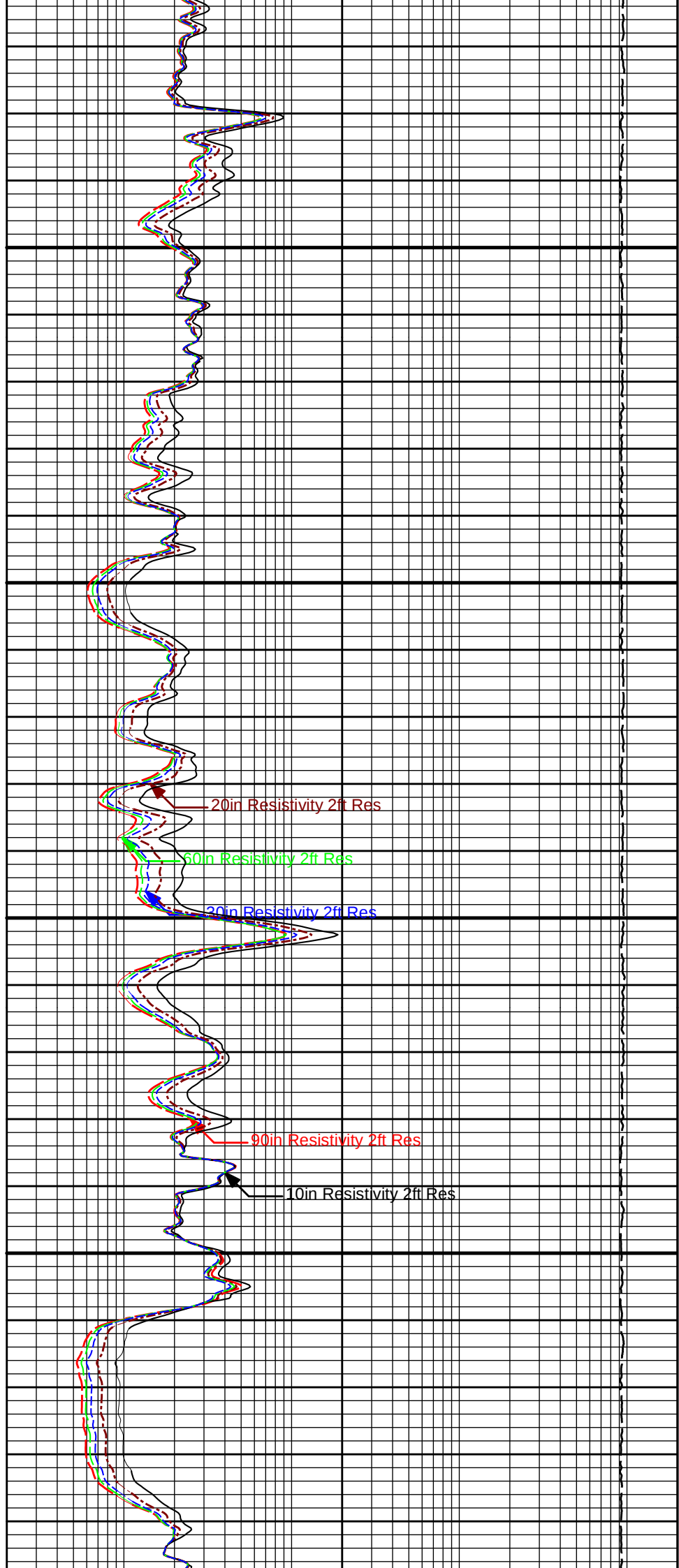
2700

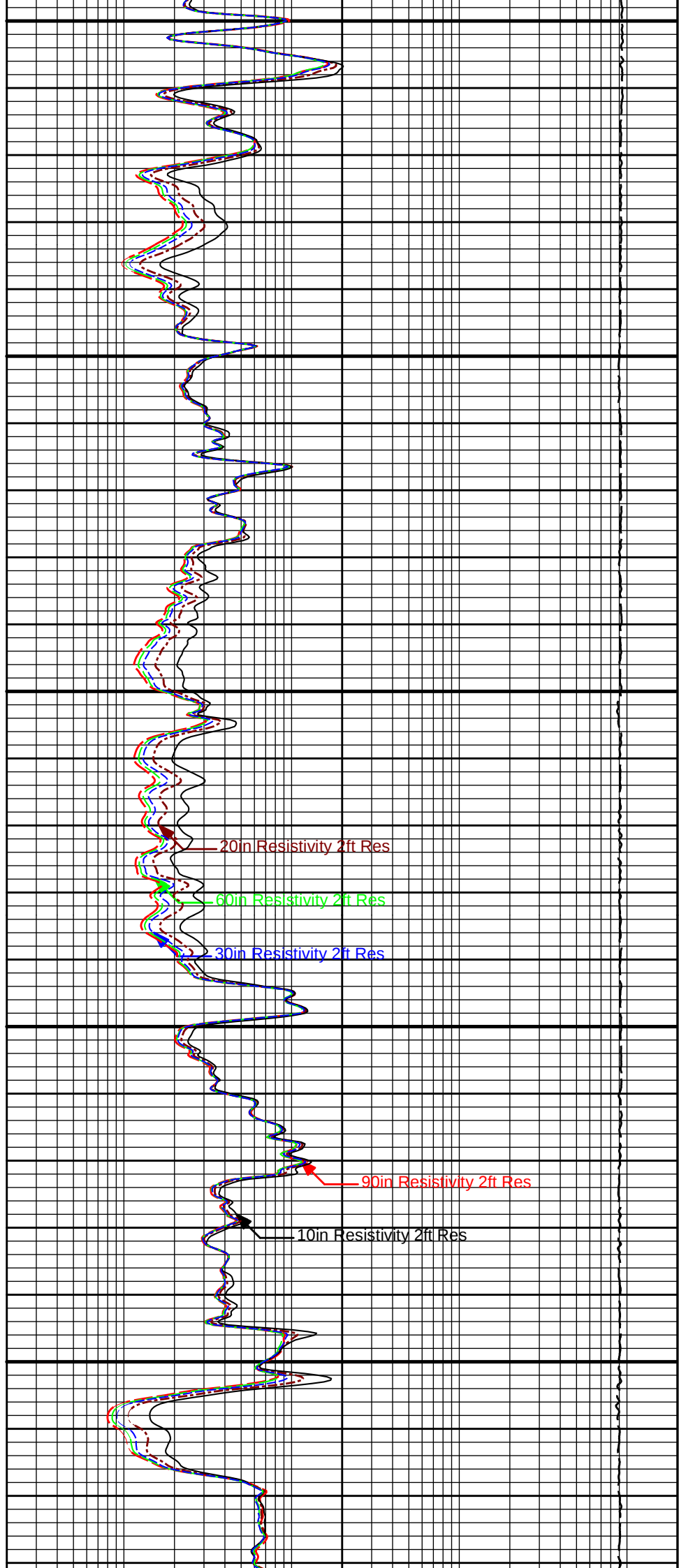
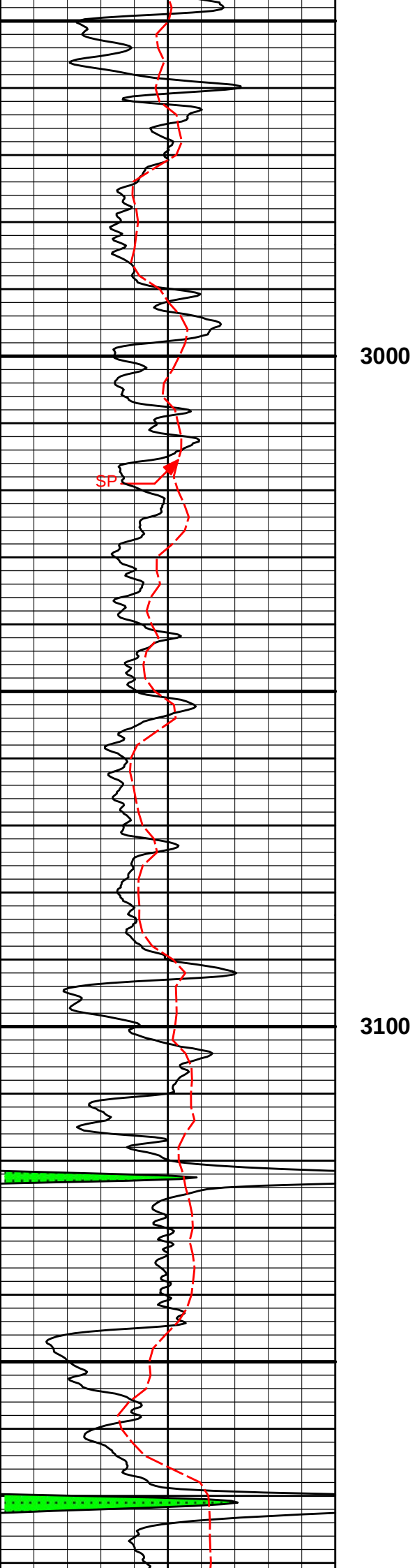


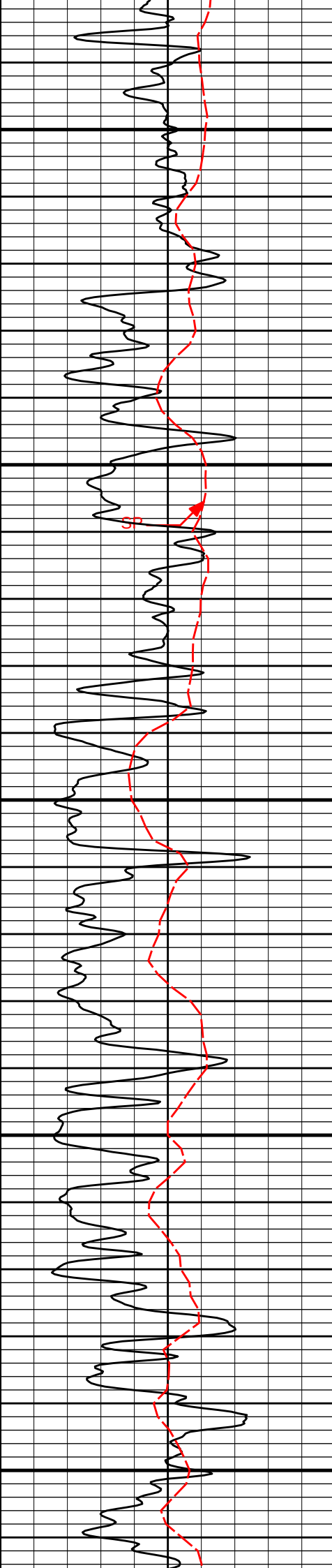


2800

2900



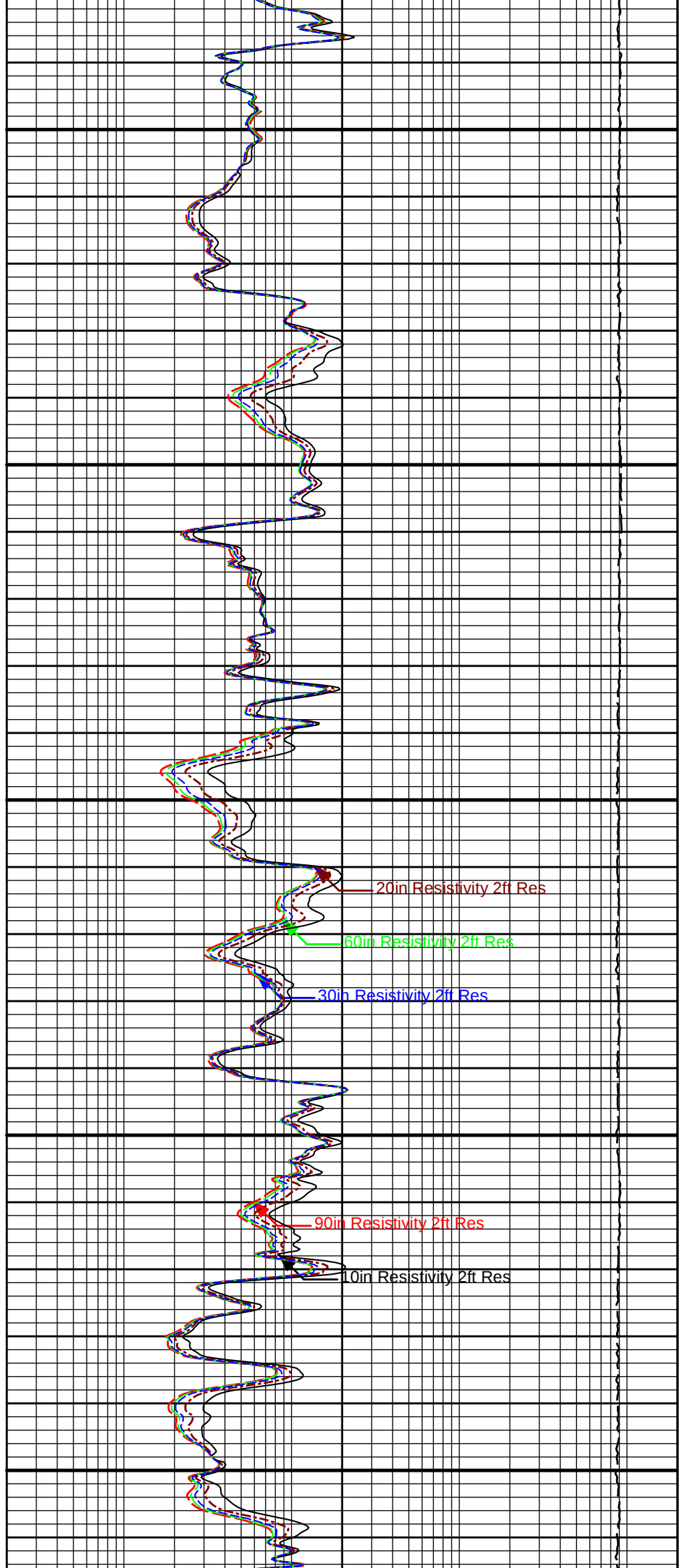


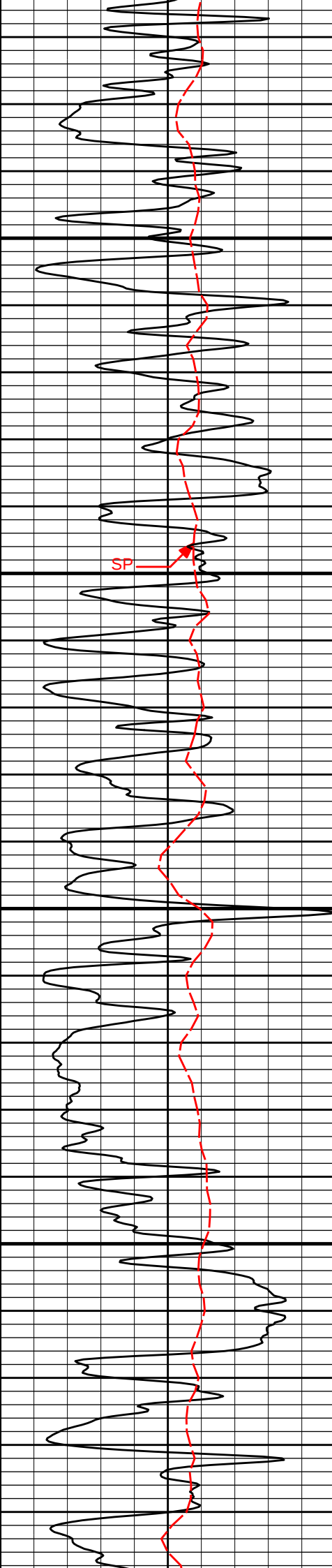


3200

3300

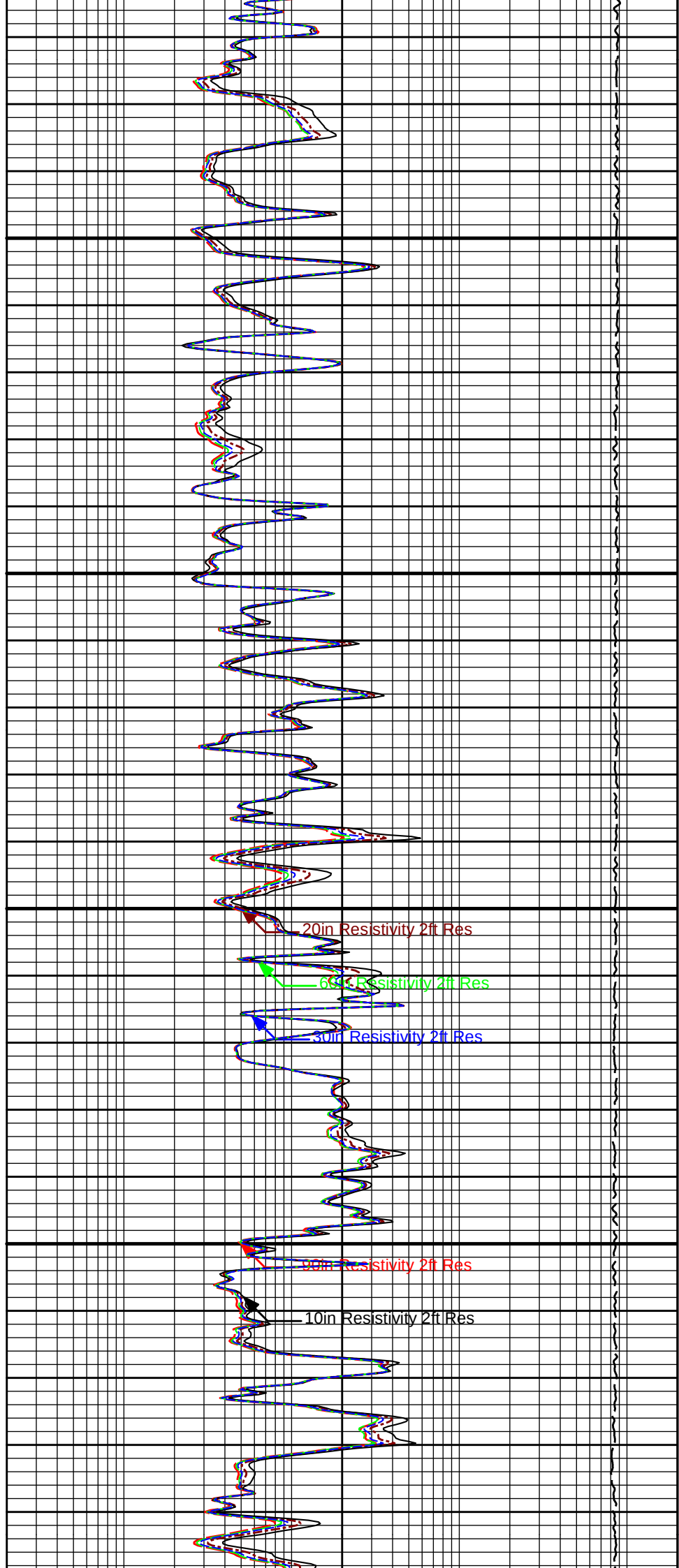
3400

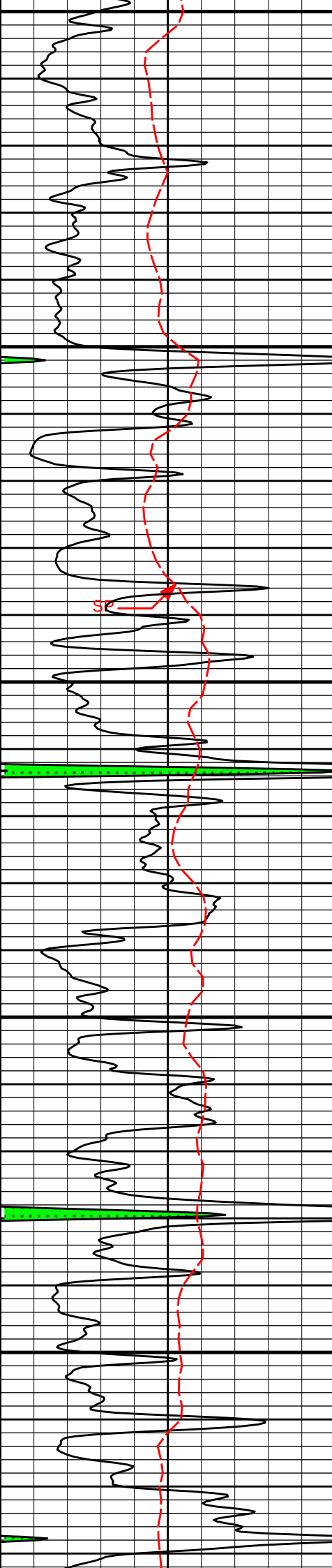




3500

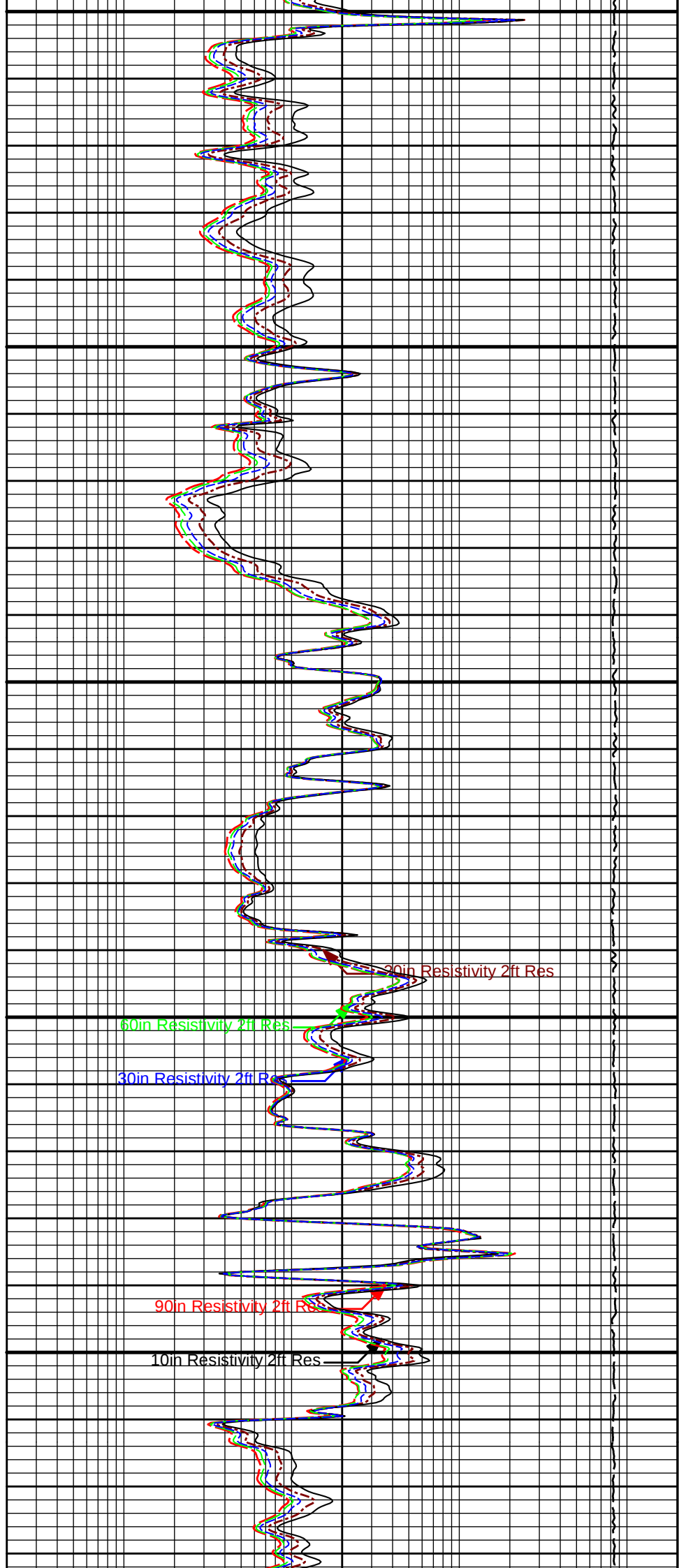
3600





3700

3800



90in Resistivity 2ft Res

60in Resistivity 2ft Res

30in Resistivity 2ft Res

90in Resistivity 2ft Res

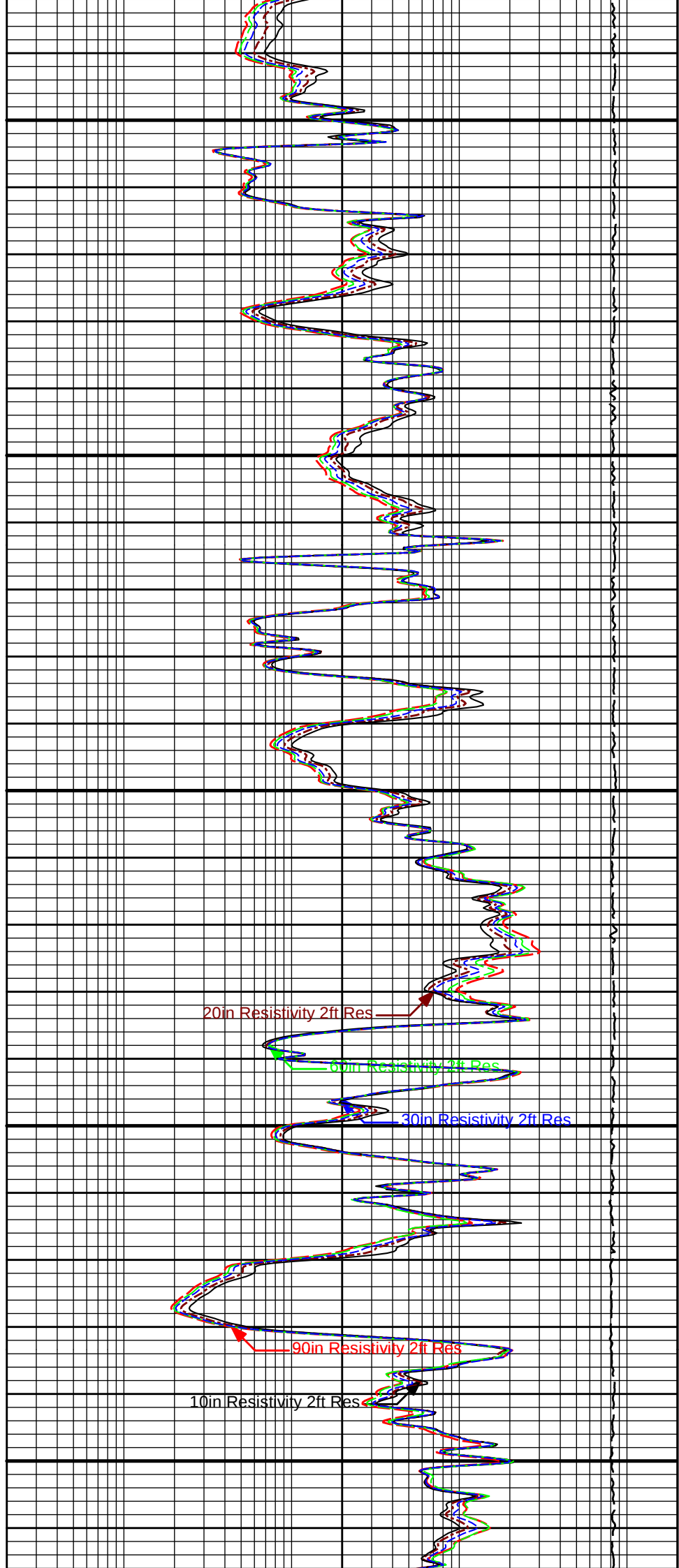
10in Resistivity 2ft Res



3900

4000

4100



20in Resistivity 2ft Res

60in Resistivity 2ft Res

30in Resistivity 2ft Res

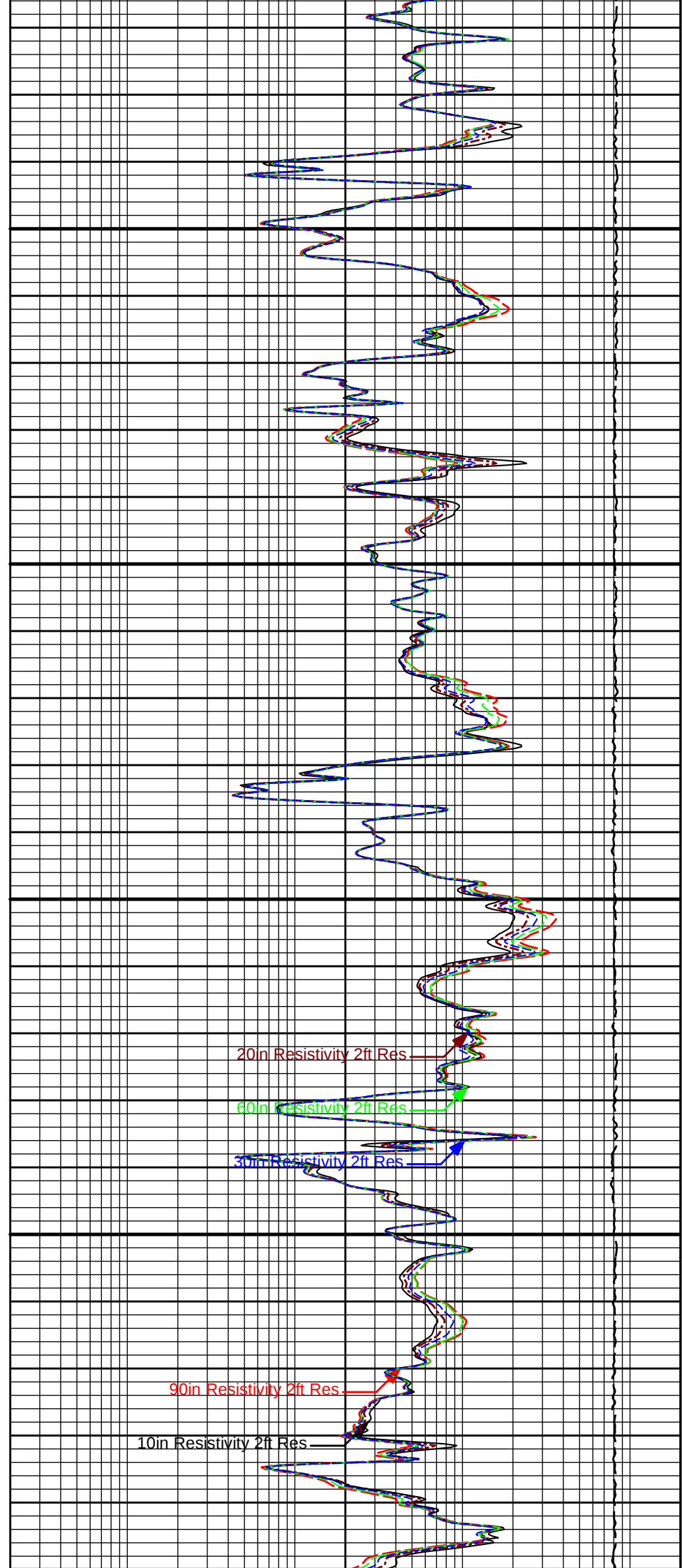
90in Resistivity 2ft Res

10in Resistivity 2ft Res



4200

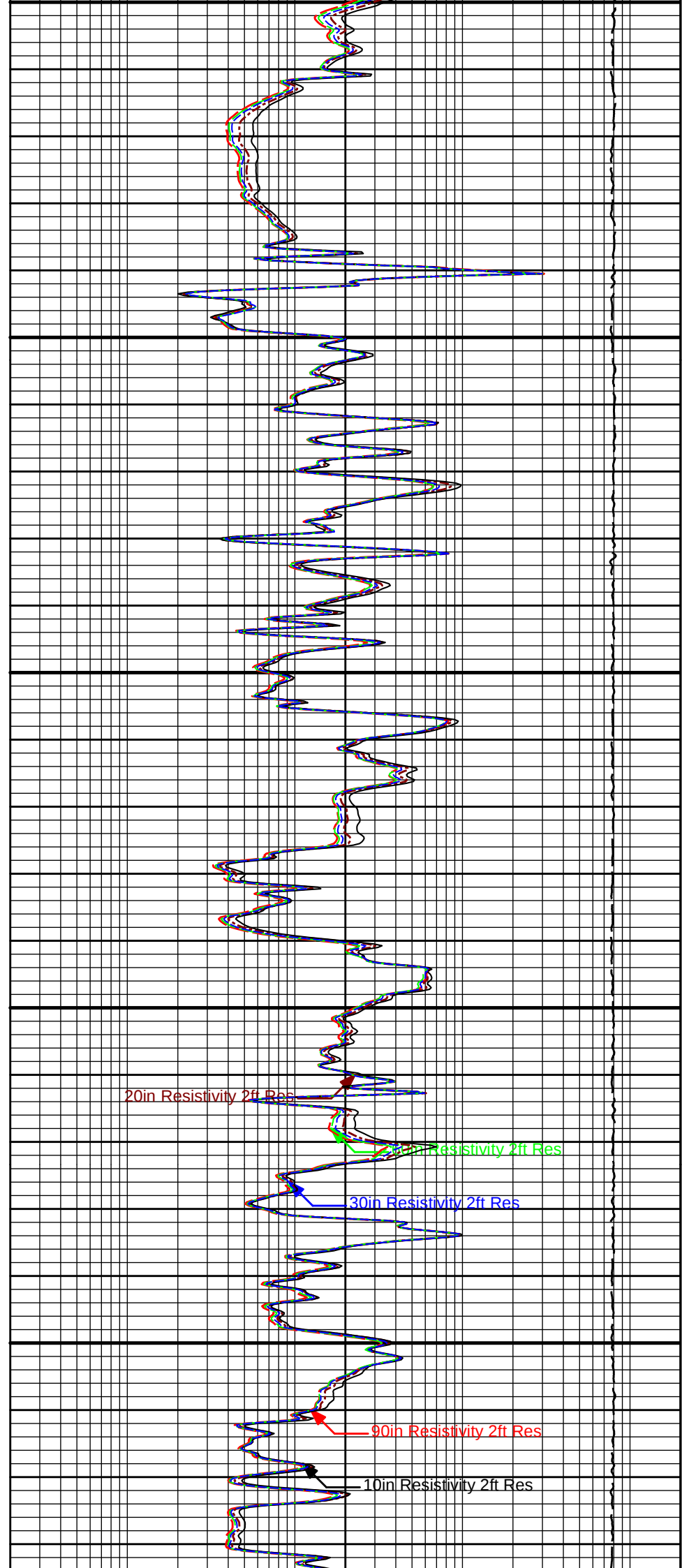
4300

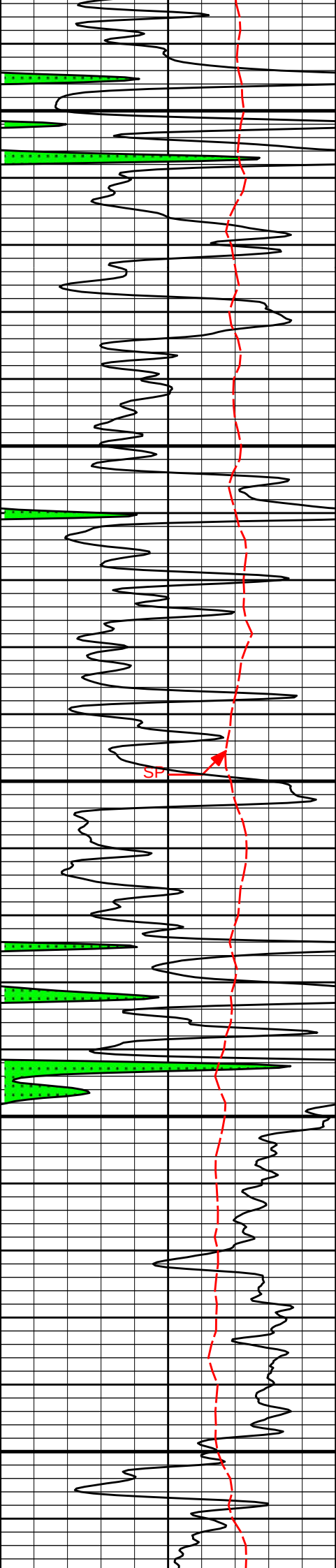




4400

4500

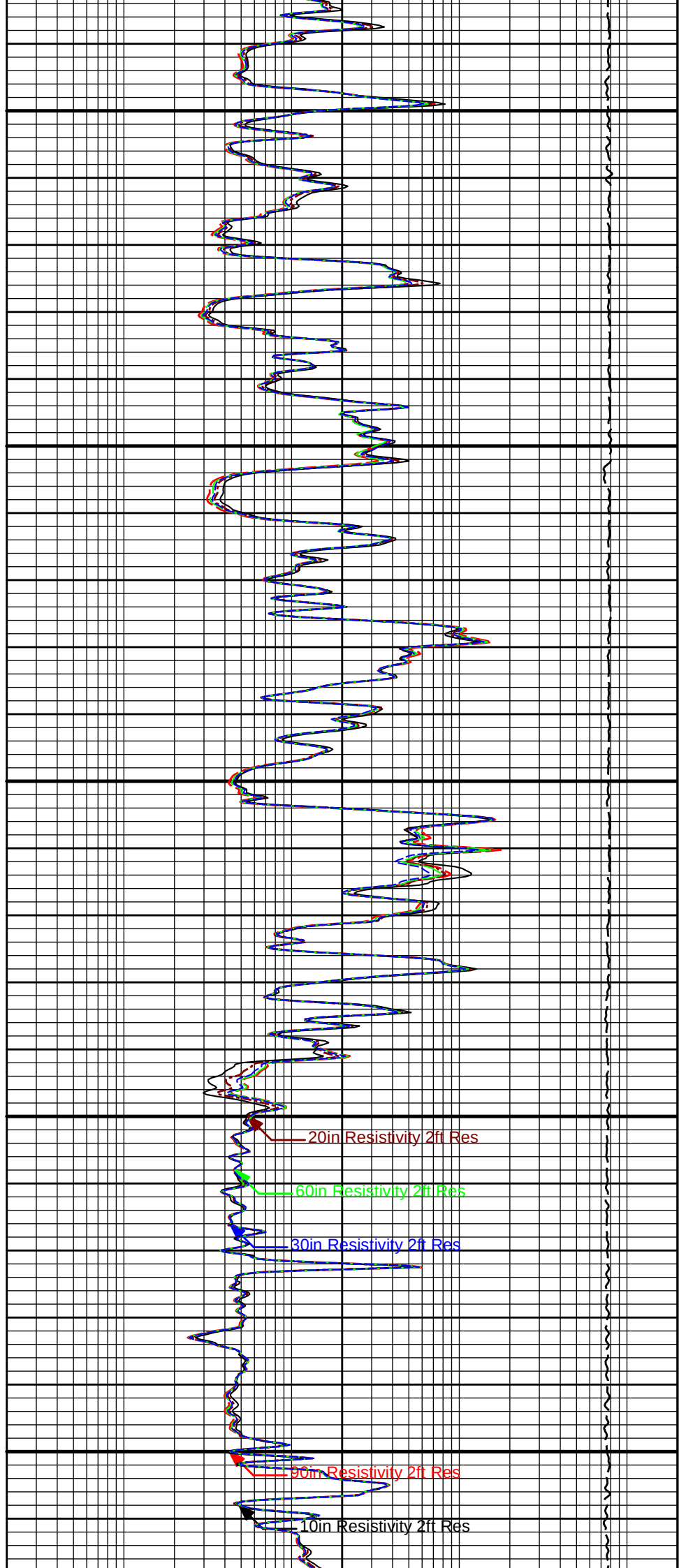




4600

4700

4800



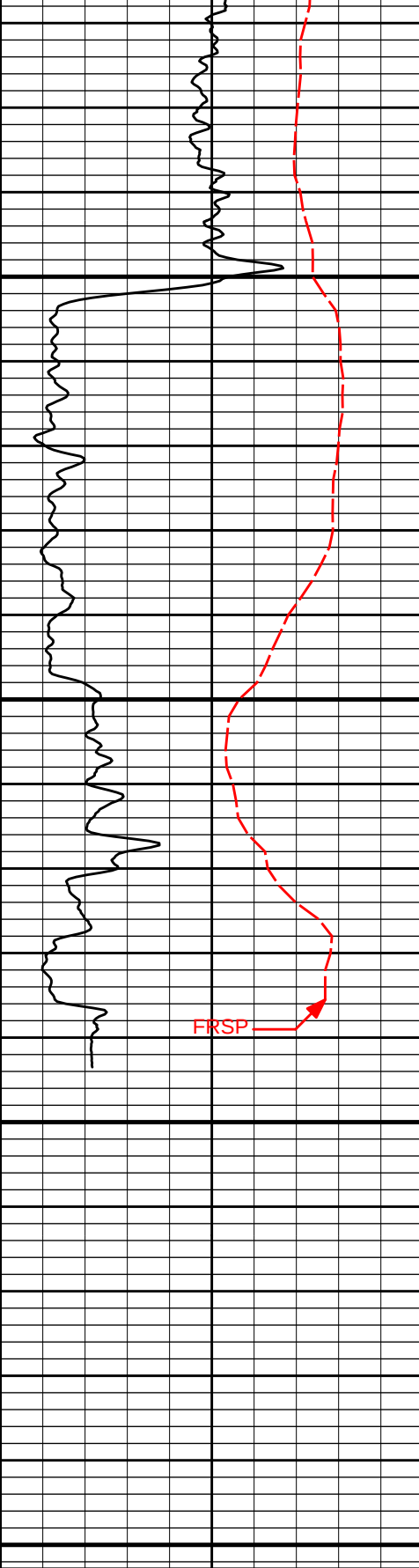
20in Resistivity 2ft Res

60in Resistivity 2ft Res

30in Resistivity 2ft Res

90in Resistivity 2ft Res

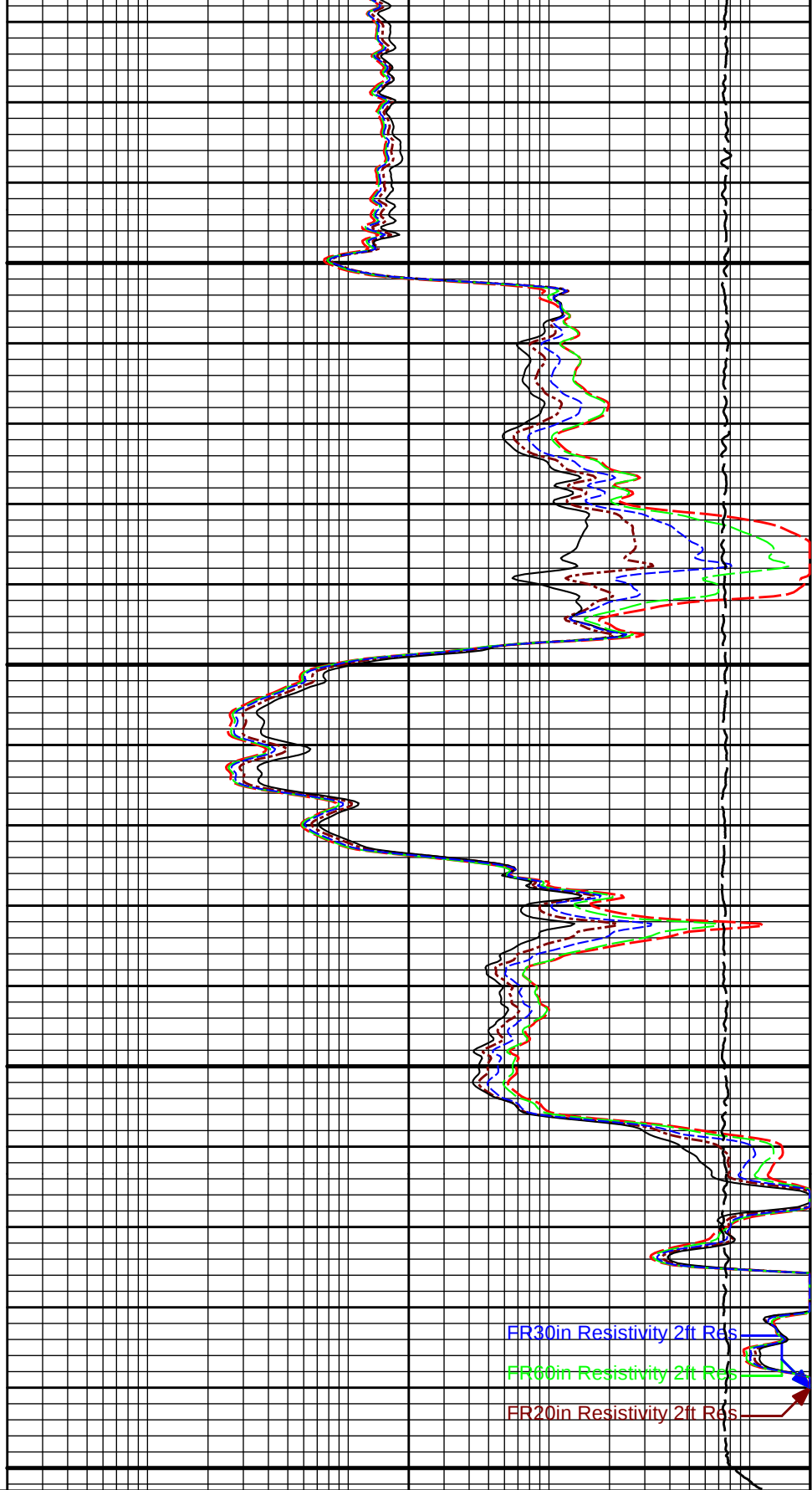
10in Resistivity 2ft Res



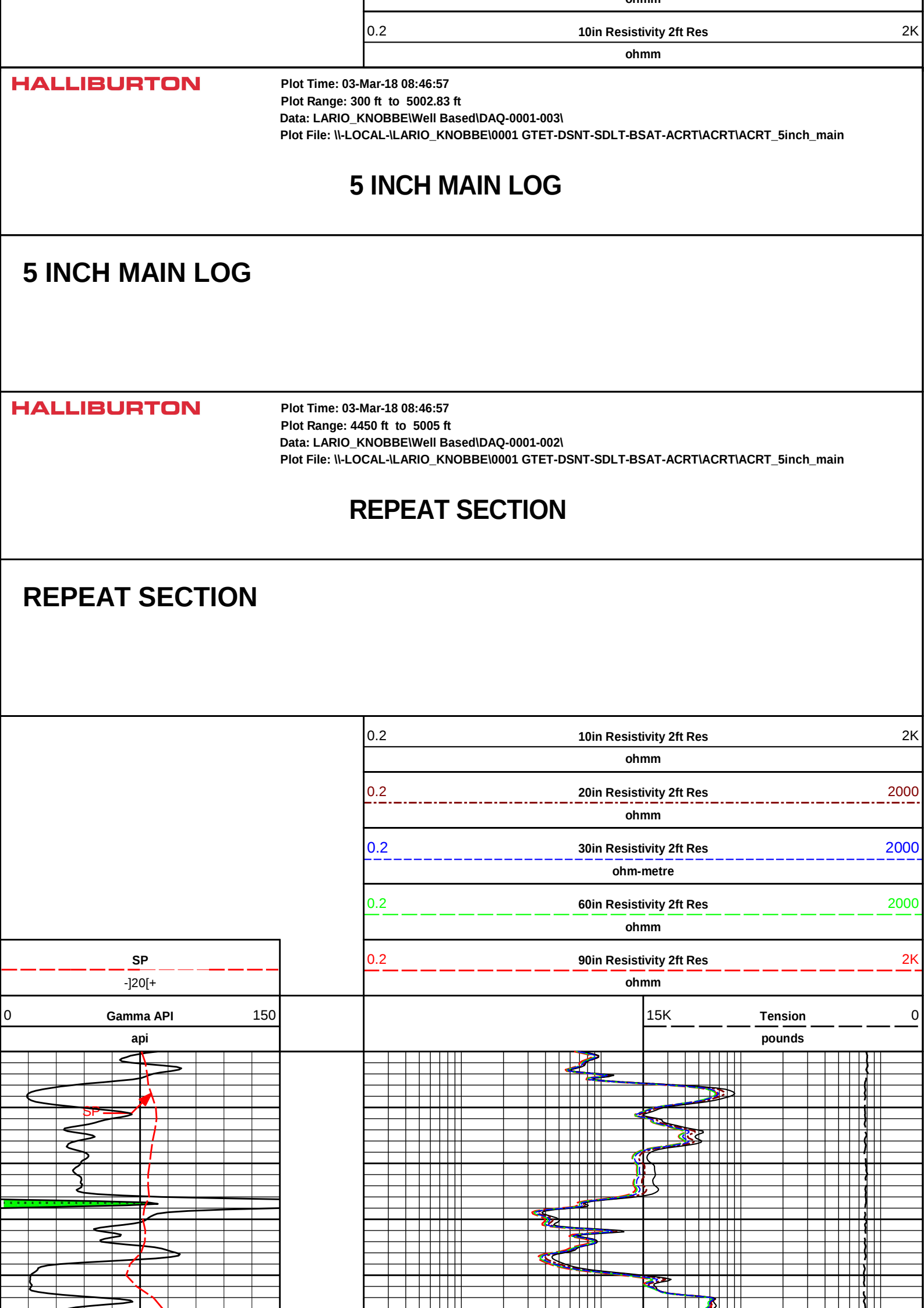
4900

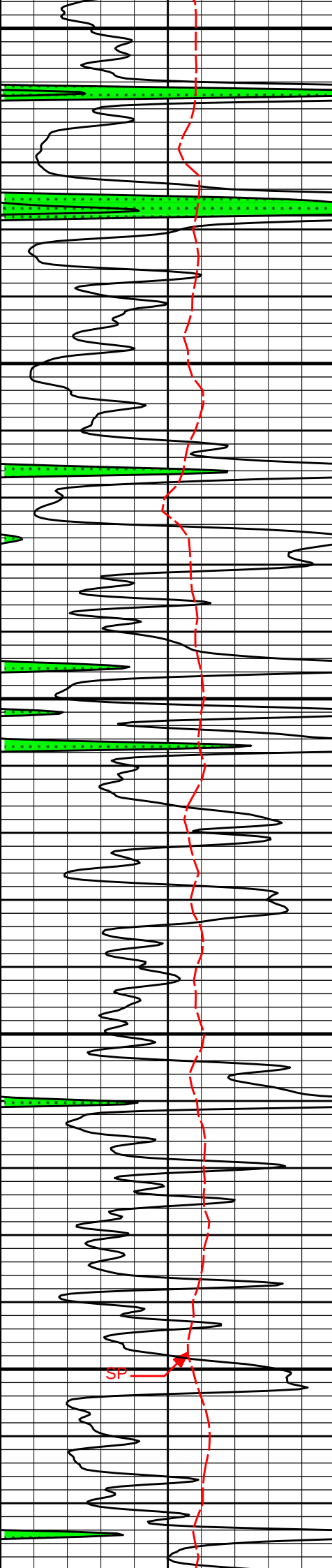
TD
5000

0	Gamma API	150
	api	
	SP	
	-]20[+	



	15K	Tension	0
		pounds	
0.2	90in Resistivity 2ft Res	2K	
	ohmm		
0.2	60in Resistivity 2ft Res	2000	
	ohmm		
0.2	30in Resistivity 2ft Res	2000	
	ohm-metre		
0.2	20in Resistivity 2ft Res	2000	
	ohmm		

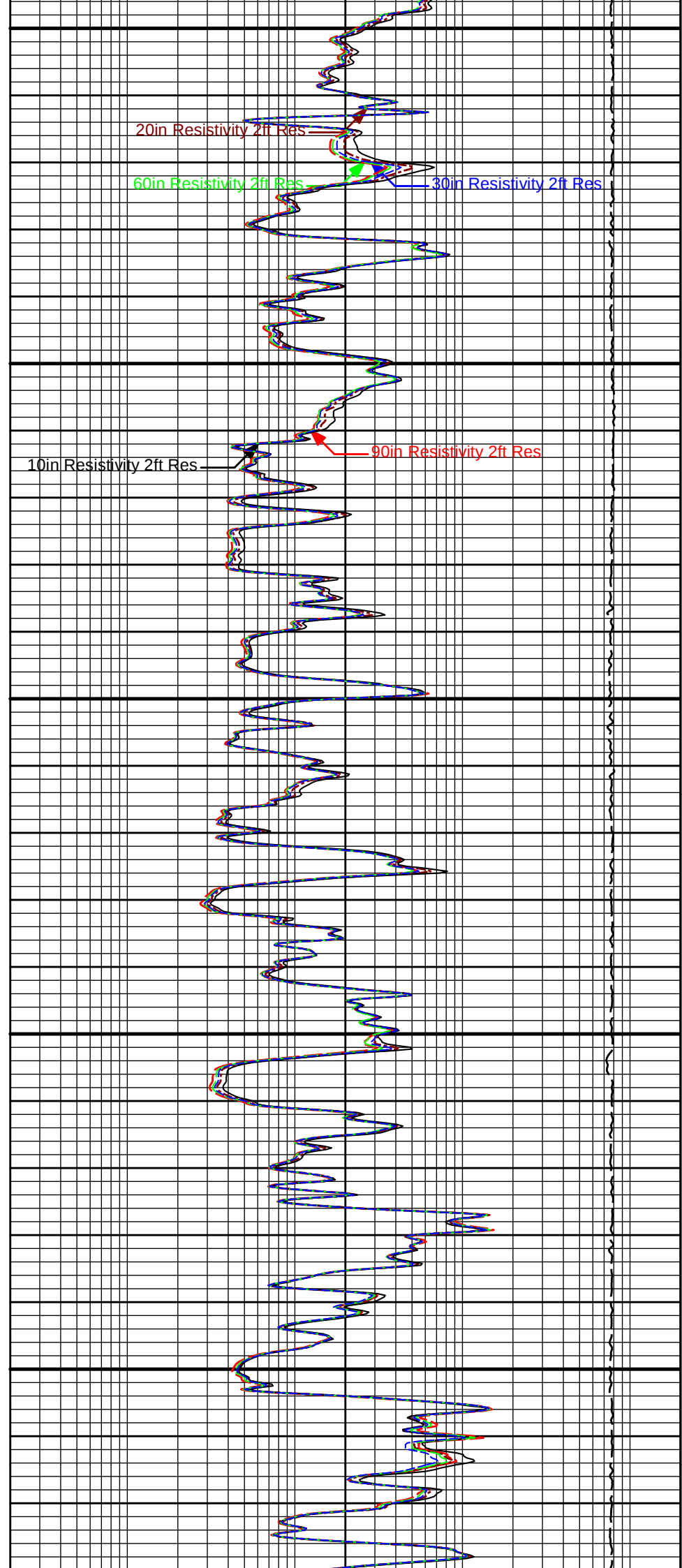




4500

4600

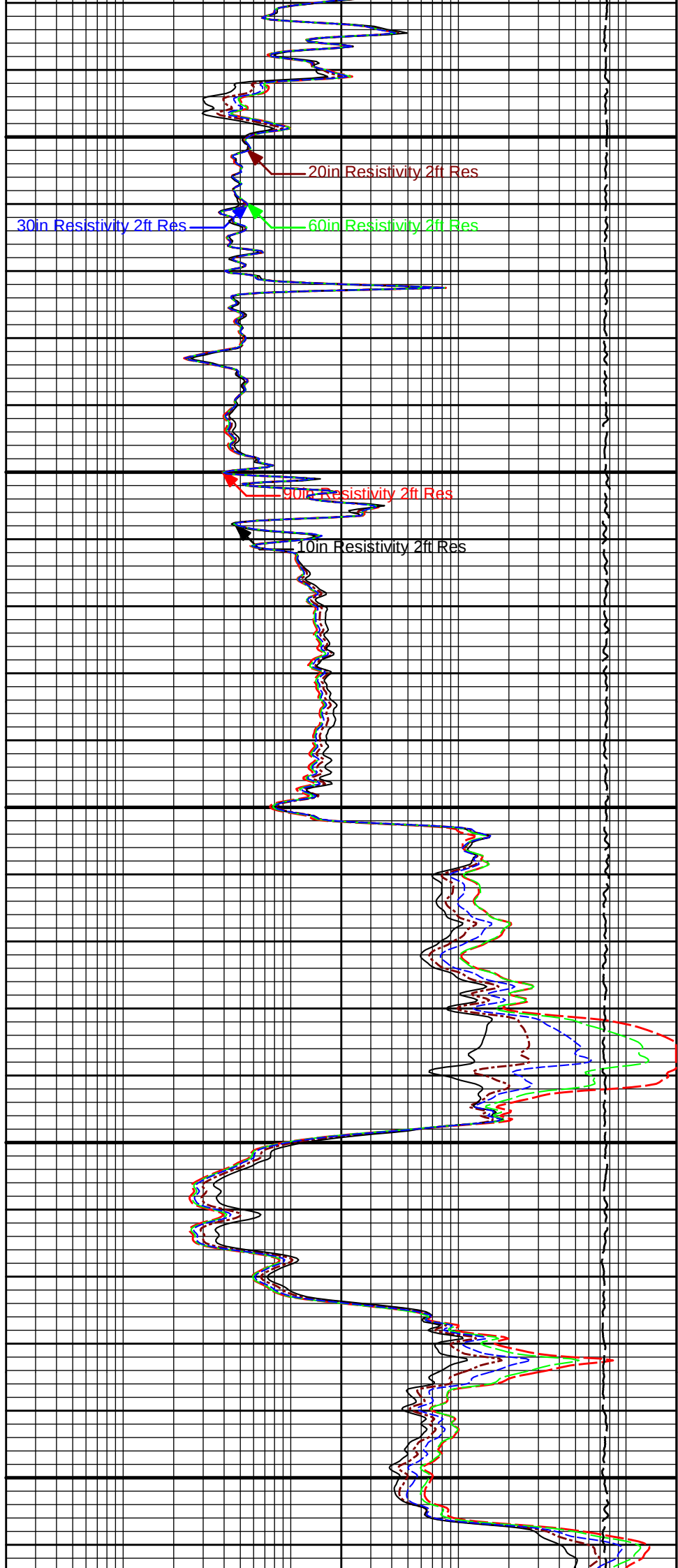
4700

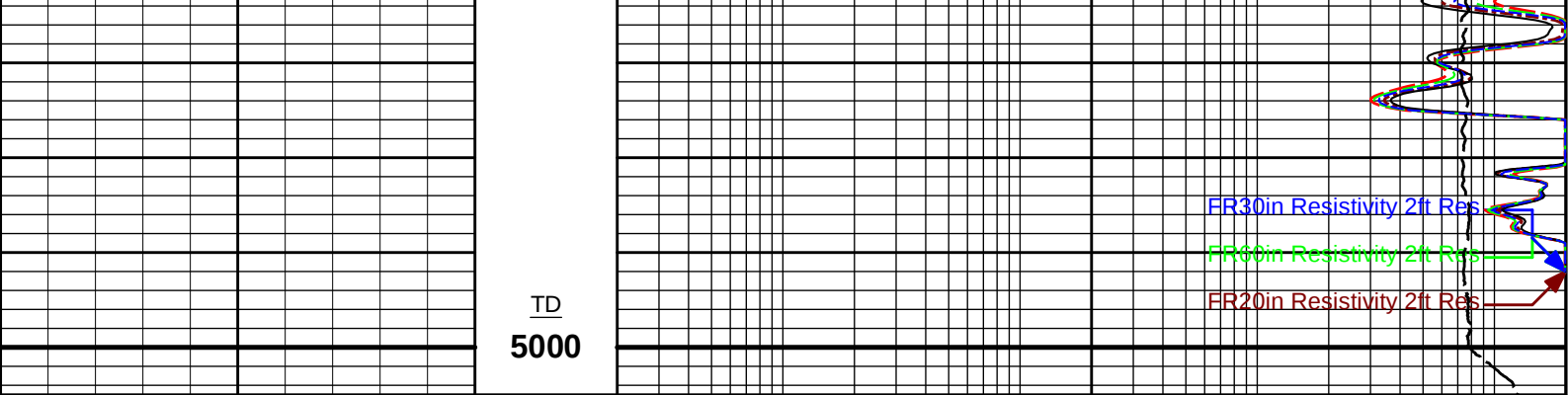




4800

4900





0	Gamma API	150			15K	Tension	0
	api					pounds	
	SP						
	-j20[+						
			0.2	90in Resistivity 2ft Res			2K
				ohmm			
			0.2	60in Resistivity 2ft Res			2000
				ohmm			
			0.2	30in Resistivity 2ft Res			2000
				ohm-metre			
			0.2	20in Resistivity 2ft Res			2000
				ohmm			
			0.2	10in Resistivity 2ft Res			2K
				ohmm			

HALLIBURTON

Plot Time: 03-Mar-18 08:46:59
Plot Range: 4450 ft to 5005 ft
Data: LARIO_KNOBBE\Well Based\DAQ-0001-002\
Plot File: \\LOCAL-\\LARIO_KNOBBE\0001 GTET-DSNT-SDLT-BSAT-ACRT\ACRT\ACRT_5inch_main

REPEAT SECTION

REPEAT SECTION

HALLIBURTON

CALIBRATION REPORT

SURFACE TENSION SHOP CALIBRATION					
Tool Name:	Depth Panel - 12345678			Reference Calibration Date:	12-Jan-18 13:33:22
Engineer:	MICHAEL RICHTER			Calibration Date:	12-Jan-18 13:44:15
Software Version:	WL INSITE R5.6.3 (Build 4)			Calibration Version:	1
	SURFACE TENSION LOAD CELL				
	Measurement	Load Cell Value	Measurement	Calibrated	Units
	Low	10821.18	-24.71	0.00	lbs
	High	17332.25	7807.54	7830.00	lbs

DOWNHOLE TENSION SHOP CALIBRATION					
Tool Name:	CH_HOS - CH_HOS_I			Reference Calibration Date:	02-Feb-18 06:13:08
Engineer:	WHITLOCK			Calibration Date:	18-Feb-18 06:03:11
Software Version:	WL INSITE R5.6.3 (Build 4)			Calibration Version:	1

Software Version: WL INSITE R5.6.3 (Build 4)

Calibration Version: 1

DOWNHOLE LOAD CELL				
Measurement	Tool Value	Measurement	Calibrated	Units
Low	-112.94	7.68	0.00	lbs
High	11487.97	1449.21	1452.00	lbs

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11021139

Reference Calibration Date: 23-Jan-18 09:35:26

Engineer: WHITLOCK

Calibration Date: 02-Mar-18 09:54:20

Software Version: WL INSITE R5.6.3 (Build 4)

Calibration Version: 1

Calibrator Source S/N: TB-79

Calibrator API Reference:222.00 api

Equivalent Calibrator API Reference:225.9 api

Measurement	Measured	Calibrated	Units
Background	23.3	23.8	api
Background + Calibrator	244.0	249.7	api
Calibrator	220.7	225.9	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11021139

Reference Calibration Date: 02-Mar-18 09:54:20

Engineer: WHITLOCK

Calibration Date: 02-Mar-18 09:57:13

Software Version: WL INSITE R5.6.3 (Build 4)

Calibration Version: 1

Calibrator Source S/N: TB-79

Calibrator API Reference:222.00 api

Equivalent Calibrator API Reference:225.9 api

Field Verification	Shop	Field	Units
Background	23.8	23.7	api
Background + Calibrator	249.7	249.1	api
Calibrator	225.9	225.3	api

Shop	Field	Difference	Tolerance
225.9	225.3	0.6	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11660709

Reference Calibration Date: 23-Jan-18 10:26:10

Engineer: WHITLOCK

Calibration Date: 23-Jan-18 10:51:49

Software Version: WL INSITE R5.6.3 (Build 4)

Calibration Version: 1

Logging Source S/N: DSN-436

Tank Serial Number: EL RENO HWT

Reference value assigned to Tank: 56.100

Snow Block S/N: 12156883

Calibration Tank Water Temperature: 72 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.00976	1.00603	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):	0.2369	0.2358	0.0012	+/- 0.0020
Calibrated Ratio:	10.5988	10.5596	0.039	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decg):	0.0699	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 - 11660709	Reference Calibration Date:	23-Jan-18 10:51:49
Engineer:	WHITLOCK	Calibration Date:	02-Mar-18 10:11:17
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1

Logging Source S/N: DSN-436				
Snow Block S/N: 12156883				
NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decg):	0.0699	0.0627	-0.0072	+/- 0.0150
PASS/FAIL SUMMARY				
Block Change Check:				Passed
Snow Block Stat Check:				Passed
Temperature Check:				Passed

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 11014296	Reference Calibration Date:	01-Jan-70 00:00:00
Engineer:	WHITLOCK	Calibration Date:	24-Nov-17 12:28:28
Software Version:	WL INSITE R5.0.5 (Build 8)	Calibration Version:	1
Host Tool Name:	DSNT - 11660709		

CALIBRATION COEFFICIENTS				
Measurement	Previous Value	New Value	Control Limit On New Value	
Pad Offset	-4006.36	-4006.36	-7000.00 - -1000.00	
Pad Gain	0.0003890	0.0003890	0.0002000 - 0.0006000	
Arm Offset	-2182.86	-2182.86	-5000.00 - 3000.00	
Arm Gain	0.0004129	0.0004129	0.000300 - 0.000700	
Arm Power	0.000002297	0.000002297	-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)	6.50	6.50	0.00	+/- 0.20
Medium Ring (in)	8.25	8.25	0.00	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 0.20
PASS/FAIL SUMMARY				
Calibration-Coefficients Range Check:			Passed	
Ring-Measurement Check:			Passed	
PASS/FAIL SUMMARY				
Calibration-Coefficients Range Check:			Passed	

SDLT CALIPER FIELD CALIBRATION

Tool Name:	SDLT - 11014296	Reference Calibration Date:	24-Nov-17 12:28:28
Engineer:	WHITLOCK	Calibration Date:	02-Mar-18 09:01:46
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.79	0.04	+/- 0.10
Ring Diameter	8.25	8.25	0.00	+/- 0.15
PASS/FAIL SUMMARY				
Pad Extension Check:			Passed	
Diameter Check:			Passed	

BSAT FIELD CASING CHECK

Tool Name:	BSAT - 10939049	Calibration Date:	30-Mar-17 10:01:32
Engineer:	HARRIS		
Software Version:	WL INSITE R5.0.5 (Build 8)	Calibration Version:	1

	Pre-Log Check	Check Depth	Shop	Field	Difference	Tolerance	Units
	Delta-T Compensated	147.01	57.00	56.56	0.4400	1.00	uspf

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	ACRt Sonde - 11038385	Reference Calibration Date:	12-Sep-17 13:58:19
Engineer:	WHITLOCK	Calibration Date:	15-Dec-17 10:45:06
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1
Host Tool Name:	ACRt Instrument - 11055059		

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0500	1.05	0.95	1.0229	1.05	0.95	1.0048	1.05
A2 (50")	0.95	1.0500	1.05	0.95	1.0261	1.05	0.95	1.0131	1.05
A3 (29")	0.95	1.0472	1.05	0.95	1.0179	1.05	0.95	1.0025	1.05
A4 (17")	0.95	1.0401	1.05	0.95	1.0093	1.05	0.95	0.9956	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0012	1.05	0.95	0.9839	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9883	1.05	0.95	0.9739	1.05

SONDE OFFSET

Subarray	R12KHz	R36KHz	R72KHz
	(mmho/m)	(mmho/m)	(mmho/m)
A1 (80")	1.490	-4.736	-6.418
A2 (50")	-0.183	-4.133	-5.504
A3 (29")	-12.250	-3.671	-3.367
A4 (17")	-109.670	-32.737	-24.656
A5 (10")	N/A	-82.133	-35.124
A6 (6")	N/A	347.353	195.364

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.86	1.3
36K	1.0	1.34	2.0
72K	1.0	1.61	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

QUALITY CHECK SHOP CALIBRATION

Tool Name:	ACRt Sonde - 11038385	Reference Calibration Date:	12-Sep-17 14:00:57
Engineer:	WHITLOCK	Calibration Date:	15-Dec-17 10:50:30
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1
Host Tool Name:	ACRt Instrument - 11055059		

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	-0.007	> -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")	-0.003	> -0.500	Pass	-0.008	> -0.500	Pass	-0.024	> -0.500	Pass
A5 (10")	-0.011	> -0.500	Pass	-0.018	> -0.500	Pass	-0.034	> -0.500	Pass
A6 (6")	0.016	< 0.500	Pass	0.078	< 0.500	Pass	0.183	< 0.500	Pass

GAIN TOLERANCE

R12KHz

	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	-220721488.000	-223155904.000	2434416.000	11157795.200	Pass
A2 (50")	-218488224.000	-220713888.000	2225664.000	11035694.400	Pass
A3 (29")	-214911568.000	-216614880.000	1703312.000	10830744.000	Pass
A4 (17")	-211434368.000	-214578320.000	3143952.000	10728916.000	Pass
A5 (10")	-211949376.000	-214986432.000	3037056.000	10749321.600	Pass
A6 (6")	-213895760.000	-214394544.000	498784.000	10719727.200	Pass

R36KHz

	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	59105928.000	60628184.000	1522256.000	3031409.200	Pass
A2 (50")	60252356.000	62049960.000	1797604.000	3102498.000	Pass
A3 (29")	52147940.000	53214172.000	1066232.000	2660708.600	Pass
A4 (17")	48569380.000	50561756.000	1992376.000	2528087.800	Pass
A5 (10")	50672468.000	52600244.000	1927776.000	2630012.200	Pass
A6 (6")	49458680.000	50656572.000	1197892.000	2532828.600	Pass

R72KHz

	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	-92108696.000	-92698504.000	589808.000	4634925.200	Pass
A2 (50")	-89118672.000	-89662344.000	543672.000	4483117.200	Pass

A3 (29")	-88812376.000	-89109216.000	296840.000	4455460.800	Pass
A4 (17")	-83501792.000	-84842648.000	1340856.000	4242132.400	Pass
A5 (10")	-82094160.000	-83337800.000	1243640.000	4166890.000	Pass
A6 (6")	-84269728.000	-84561904.000	292176.000	4228095.200	Pass
PASS/FAIL SUMMARY Std Deviation Verification Pass Average Verification Pass Gain Tolerance Verification Pass					

MICRO LOG SHOP CALIBRATION			
Tool Name:	Microlog Pad - 11014296	Reference Calibration Date:	21-Oct-17 17:42:32
Engineer:	WHITLOCK	Calibration Date:	05-Feb-18 09:59:26
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1
Host Tool Name:	DSNT - 11660709		

	CALIBRATION COEFFICIENT SUMMARY				
	Measurement	Micro Log Normal		Micro Log Lateral	
		Measured	Calibrated	Measured	Calibrated
	Tool Zero	-0.09	-0.14	0.00	-0.00
	Calibration Point #1	0.04	0.00	0.01	0.00
	Calibration Point #2	20.18	20.00	19.94	20.00
	Internal Reference	19.86	19.67	19.92	19.98
	Measurement	Micro Log Normal Tool Value		Micro Log Lateral Tool Value	
	Tool Zero	0.66		0.77	
	Calibration Point #1	36.64		2.18	
	Calibration Point #2	5310.85		6855.62	
	Internal Reference	5224.72		6848.83	

MICRO LOG FIELD CHECK					
Tool Name:	Microlog Pad - 11014296		Reference Calibration Date:	05-Feb-18 09:59:26	
Engineer:	WHITLOCK		Calibration Date:	02-Mar-18 09:48:34	
Software Version:	WL INSITE R5.6.3 (Build 4)		Calibration Version:	1	

	Measurement	Micro Log Normal		Micro Log Lateral	
		Shop	Field	Shop	Field
					Units
	Tool Zero	-0.14	-0.16	-0.00	-0.01
	Internal Reference	19.67	19.62	19.98	19.92
	Summary				
	Signal	Shop	Field	Difference	Tolerance
	Microlog Normal	19.67	19.62	0.05	+/- 0.80
	Microlog Lateral	19.98	19.92	0.06	+/- 0.80

SPECTRAL DENSITY SHOP CALIBRATION					
Tool Name:	SDLT Pad - 10865881		Reference Calibration Date:	16-Dec-17 18:39:59	
Engineer:	WHITLOCK		Calibration Date:	16-Dec-17 19:00:32	
Software Version:	WL INSITE R5.6.3 (Build 4)		Calibration Version:	1	

Logging Source S/N: 5155GW					
Aluminum Block S/N: EL RENO			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	1.0190	1.0130	0.90 - 1.10
Near Dens Gain	1.0005	0.9951	0.90 - 1.10
Near Peak Gain	1.0223	1.0145	0.90 - 1.10
Near Lith Gain	1.0517	1.0503	0.90 - 1.10
Far Bar Gain	1.0054	1.0046	0.90 - 1.10
Far Dens Gain	0.9942	0.9923	0.90 - 1.10
Far Peak Gain	0.9912	0.9917	0.90 - 1.10
Far Lith Gain	0.9770	0.9734	0.90 - 1.10

Near Bar Offset	0.1872	0.2425	NONE
Near Dens Offset	0.3382	0.3842	NONE
Near Peak Offset	0.1850	0.2490	NONE
Near Lith Offset	-0.0438	-0.0306	NONE
Far Bar Offset	0.1527	0.1576	NONE
Far Dens Offset	0.2431	0.2592	NONE
Far Peak Offset	0.2590	0.2565	NONE
Far Lith Offset	0.3383	0.3725	NONE

Near Bar Background	930.24	932.15	700 - 1450
Near Dens Background	311.45	312.35	230 - 480
Near Peak Background	133.79	134.32	100 - 210
Near Lith Background	164.51	164.96	125 - 260
Far Bar Background	601.19	603.41	450 - 900
Far Dens Background	235.51	235.02	175 - 345
Far Peak Background	91.58	93.10	70 - 140
Far Lith Background	95.48	97.57	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	2.557	2.553	-0.004	+/- 0.150
ALUMINUM				
Density (g/cc)	2.579	2.581	0.002	+/- 0.01500
Pe	3.126	3.125	-0.001	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0001	+/- 0.0110	-0.0014	+/- 0.0140
Magnesium Block	-0.0009	+/- 0.0110	0.0002	+/- 0.0140
Aluminum Block	-0.0006	+/- 0.0110	-0.0004	+/- 0.0140
Resolution	9.58	6.00 - 11.50	8.95	6.00 - 11.50
Internal Verifier(B+D+P+L)	1544	1200 - 2700	1029	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 - 10865881

Reference Calibration Date: 16-Dec-17 19:00:32

Engineer: WHITLOCK

Calibration Date: 02-Mar-18 09:57:00

Software Version: WL INSITE R5.6.3 (Build 4)

Calibration Version: 1

Pad Temperature: 43.5 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1543.777	1531.829	-11.948	15.818
Far (B+D+P+L) cps	1029.100	1016.707	-12.393	17.098
Near Resolution	9.58	9.78	0.200	0.50
Far Resolution	8.95	9.10	0.150	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-CH_HOS_I						
DH Tension Zero	0.00	-----	-----	0.00	-----	lbs
DH Tension Cal	1452.00	-----	-----	0.00	-----	lbs
GTET-11021139						
Gamma Ray Calibrator	225.9	225.3	-----	0.6	+/- 9.00	api
DSNT-11660709						
Snow-Block Porosity	0.0699	0.0627	-----	0.0072	+/- 0.0150	decp
SDLT-11014296						
Pad Extension	3.75	3.79	-----	-0.04	+/-0.10	in
Ring Diameter	8.25	8.25	-----	0.00	+/-0.15	in
ACRt Sonde-11038385						
Mud Cell	1.00	-----	-----	0	-----	ohm-m
Microlog Pad-11014296						
MicroLog Normal	19.67	19.62	-----	0.05	+/-0.80	ohmm
MicroLog Lateral	19.98	19.92	-----	0.06	+/-0.80	ohmm
SDLT Pad-10865881						
Near(B+D+P+L)	1543.777	1531.829	-----	11.948	+/-15.818	cps
Far(B+D+P+L)	1029.100	1016.707	-----	12.393	+/-17.098	cps

Data: LARIO_KNOBBE\0001 GTET-DSNT-SDLT-BSAT-ACRT\IDLE

Date: 03-Mar-18 03:41:08

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.100	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	0.00	

SHARED	BSAL	Borehole salinity	0.00	ppm
SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
SHARED	RMUD	Mud Resistivity	0.850	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	5000.00	ft
SHARED	BHT	Bottom Hole Temperature	131.0	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	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	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	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	
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	
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 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_____

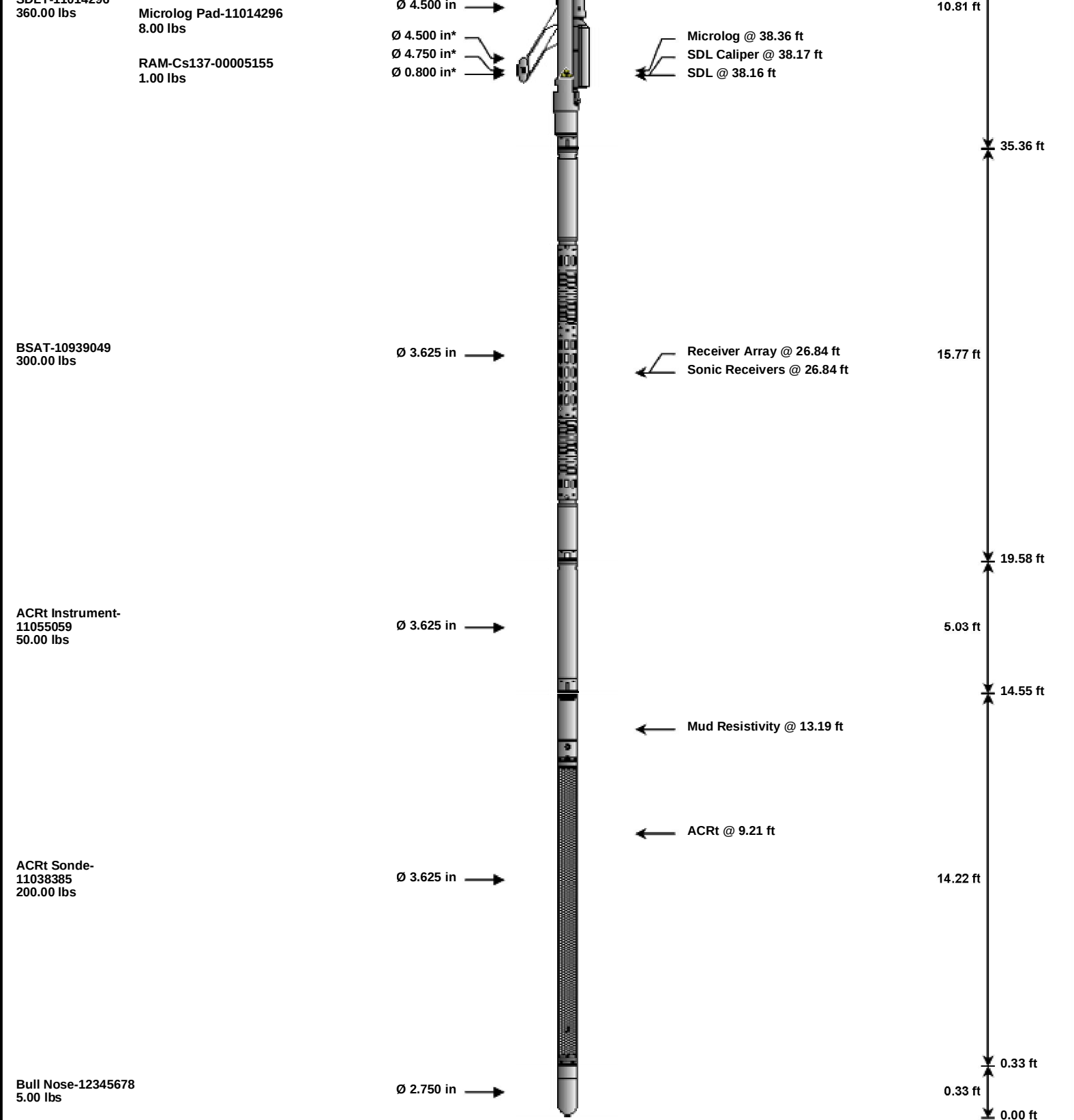
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Date: 03-Mar-18 03:49:00

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TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS_I 37.50 lbs	Weak Point 7000 lbs- CH_HOS_I 0.01 lbs	Ø 2.750 in Ø 0.010 in*		← Temperature @ 71.07 ft	3.03 ft	72.10 ft
XOHD-12345678 20.00 lbs		Ø 2.750 in Ø 3.625 in			0.95 ft	69.07 ft
SP Sub-10904995 60.00 lbs		Ø 3.625 in		← SP @ 66.34 ft	3.74 ft	68.12 ft
				← Z-Accelerometer @ 63.93 ft		64.38 ft
GTET-11021139 165.00 lbs		Ø 3.625 in			8.52 ft	
				← GammaRay @ 58.32 ft		55.86 ft
DSNT-11660709 174.00 lbs	DSN Decentralizer- 11660709 6.60 lbs	Ø 5.000 in* Ø 3.625 in			9.69 ft	
				← DSN Far @ 48.92 ft ← DSN Near @ 48.17 ft		46.17 ft
SDLT-11014296	SDLT Pad-10865881 65.00 lbs					



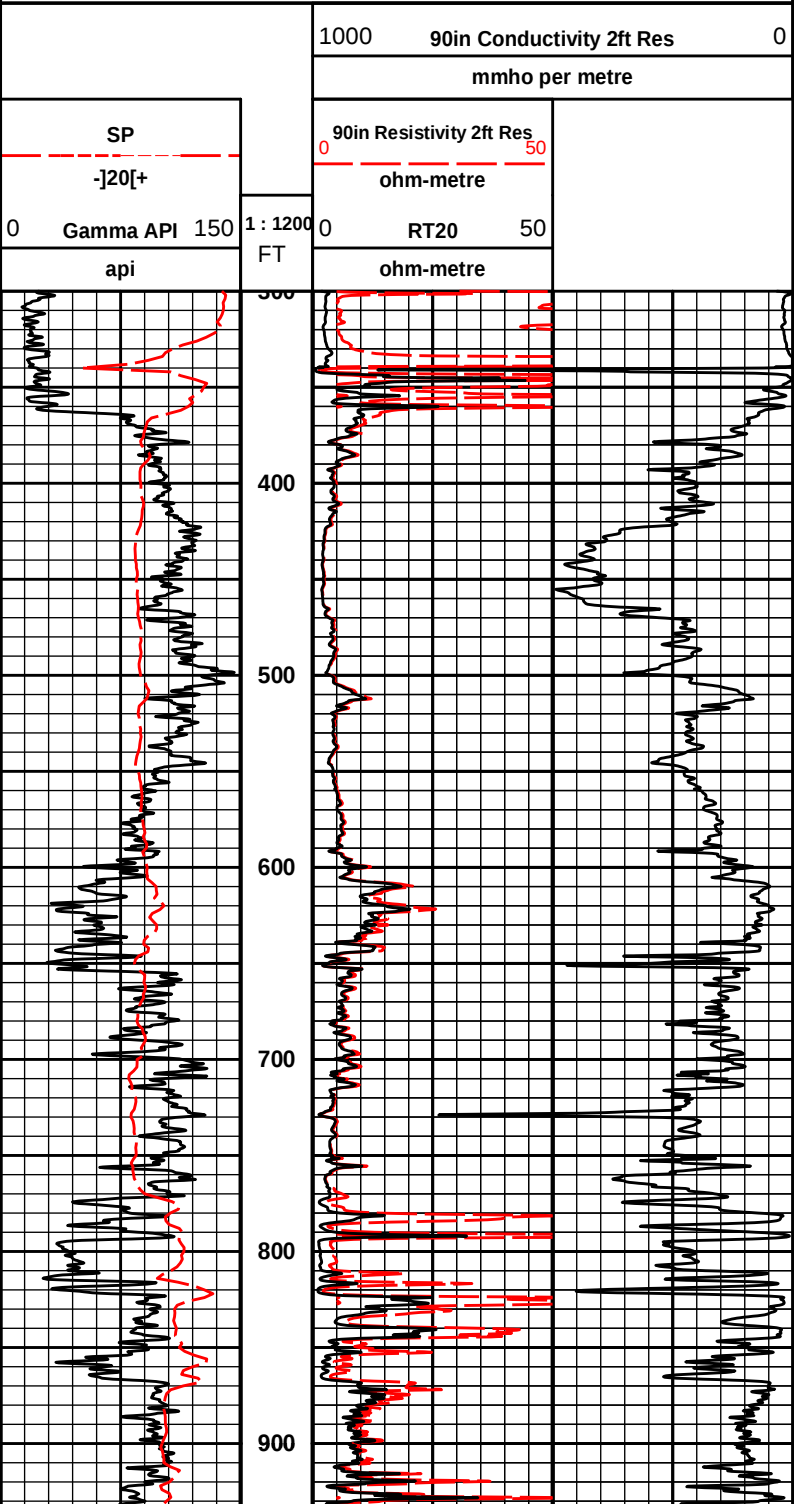
Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	CH_HOS_I	37.50	3.03	69.07	300.00
WP7K	Weak Point 7000 lbs	CH_HOS_I	0.01	0.01	* 69.87	300.00
XOHD	Hostile to Dits Cross Over	12345678	20.00	0.95	68.12	300.00
SP	SP Sub	10904995	60.00	3.74	64.38	300.00
GTET	Gamma Telemetry Tool	11021139	165.00	8.52	55.86	60.00
DSNT	Dual Spaced Neutron	11660709	174.00	9.69	46.17	60.00
DCNT	DSN Decentralizer	11660709	6.60	5.13	* 49.50	300.00
SDLT	Spectral Density Tool	11014296	360.00	10.81	35.36	60.00
SDLP	Density Insite Pad	10865881	65.00	2.55	* 37.57	60.00
Cs137	Logging Source, SDLT-I, 1.78 Ci - Cs137	00005155	1.00	0.80	* 37.80	300.00
MICP	Microlog Pad	11014296	8.00	1.00	* 37.86	60.00
BSAT	Borehole Sonic Array Tool	10939049	300.00	15.77	19.58	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11055059	50.00	5.03	14.55	120.00
ACRt	Array Compensated True Resistivity Sonde Section	11038385	200.00	14.22	0.33	120.00
BLNS	Bull Nose	12345678	5.00	0.33	0.00	300.00

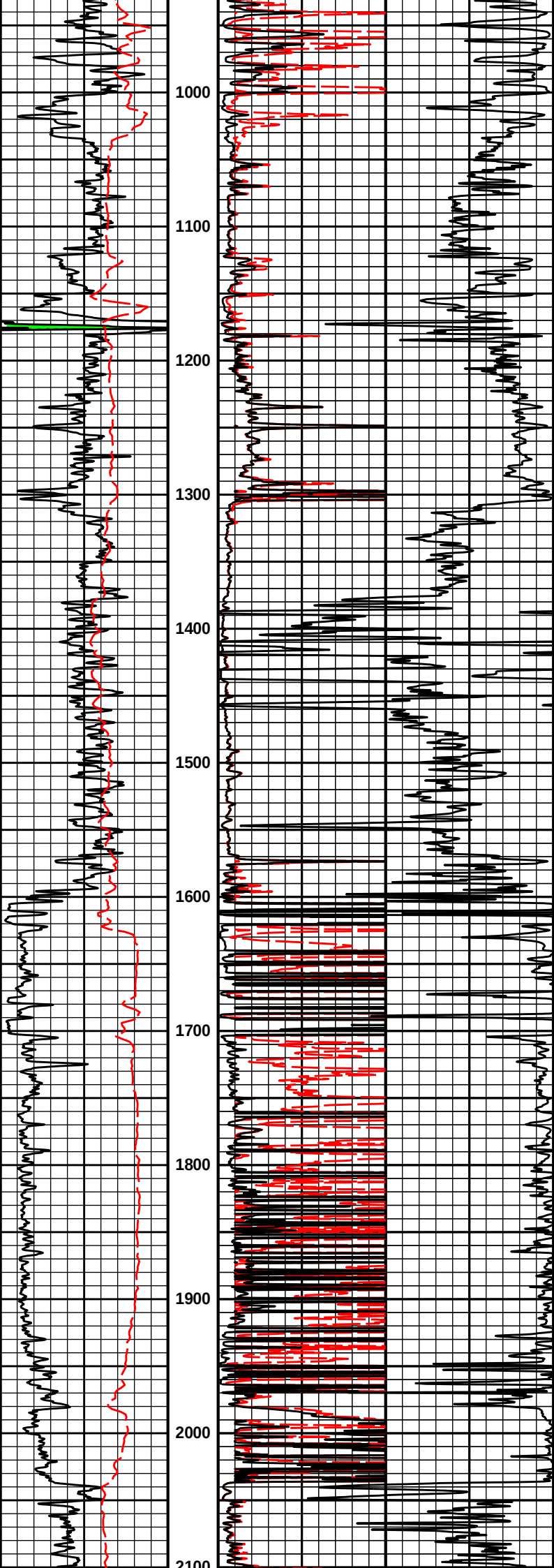
HALLIBURTON

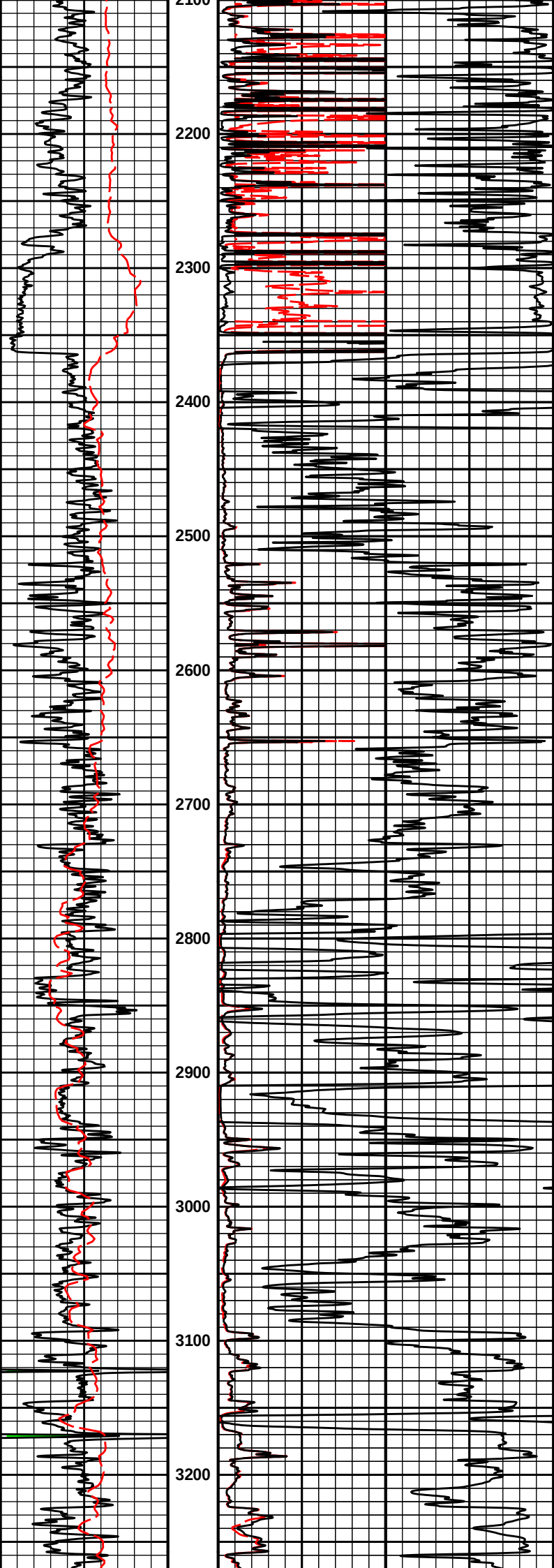
Plot Time: 03-Mar-18 08:47:11
Plot Range: 300 ft to 5002 ft
Data: LARIO_KNOBBE\Well Based\DAQ-0001-003\
Plot File: \\LOCAL-LARIO_KNOBBE\0001 GTET-DSNT-SDLT-BSAT-ACRT\ACRT\ACRT_1_main

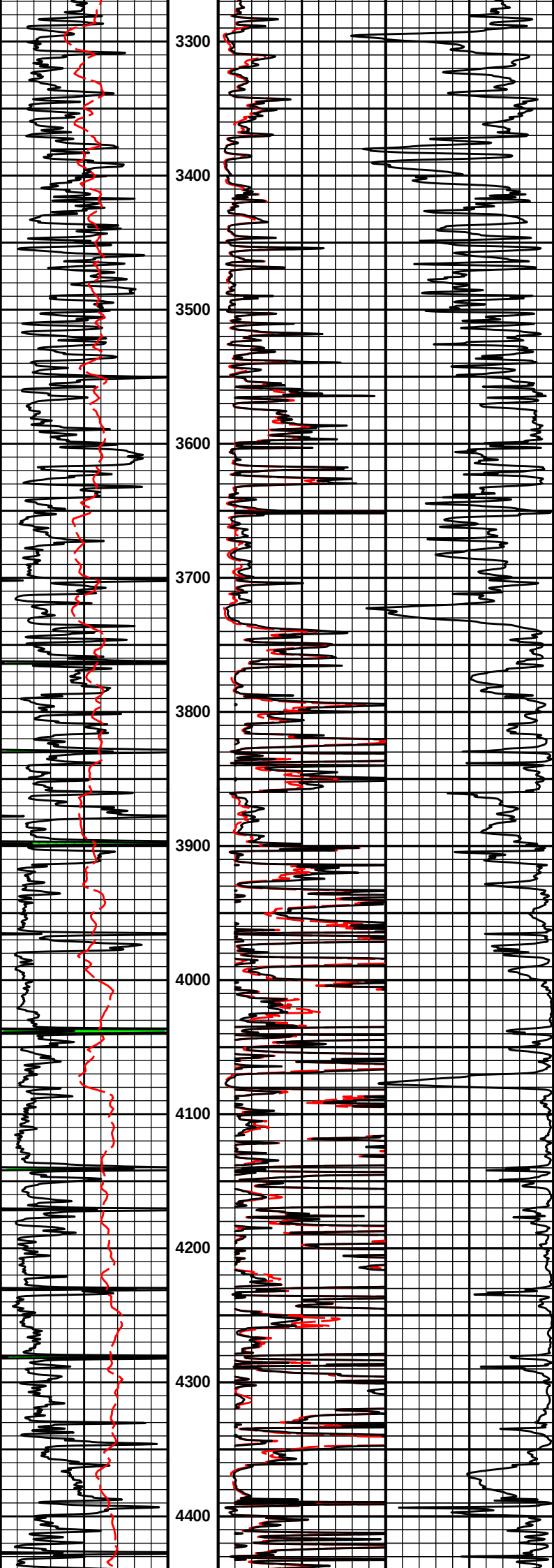
1 INCH MAIN LOG

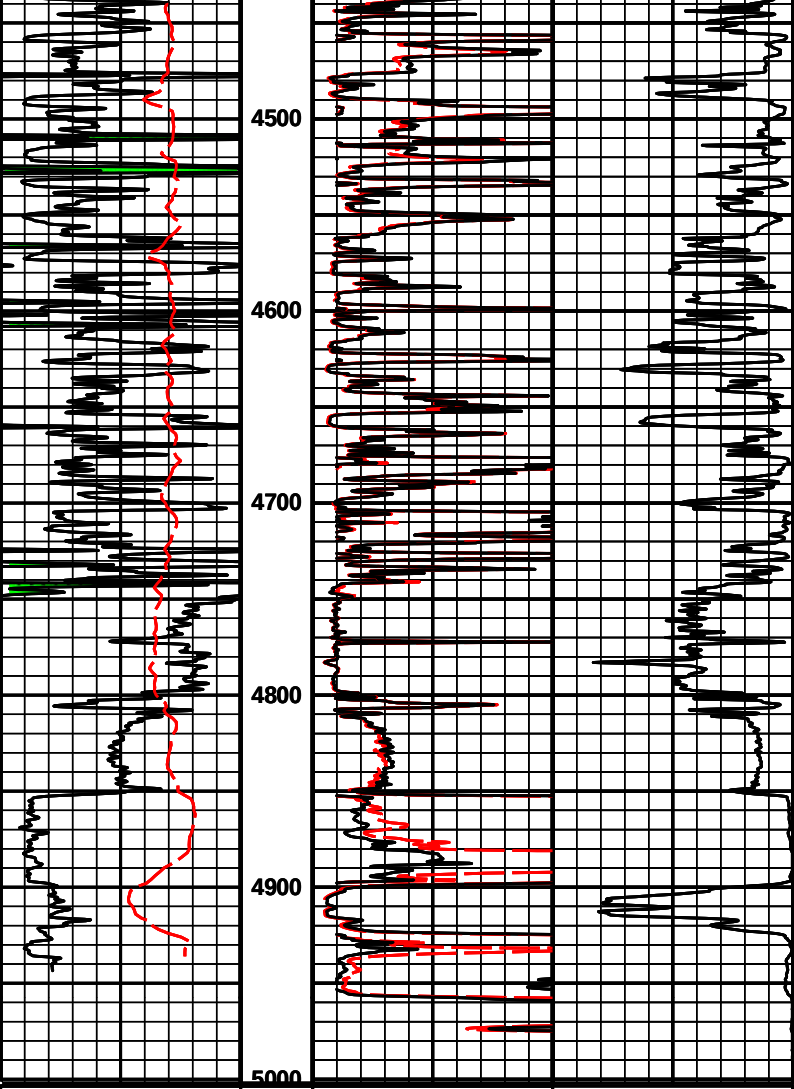
1 INCH CORRELATION LOG











0	Gamma API	150	1: 1200	0	RT20	50
	api		FT		ohm-metre	
	SP				90in Resistivity 2ft Res	
	-]20[+			0	ohm-metre	50
				1000	90in Conductivity 2ft Res	0
					mmho per metre	

HALLIBURTON

Plot Time: 03-Mar-18 08:47:13
Plot Range: 300 ft to 5002 ft
Data: LARIO_KNOBBE\Well Based\DAQ-0001-003\
Plot File: I:\LOCAL\LARIO_KNOBBE\0001 GTET-DSNT-SDLT-BSAT-ACRTIACRTIACRT_1_main

1 INCH MAIN LOG

1 INCH CORRELATION LOG