

ARRAY COMPENSATED
TRUE RESISTIVITY
LOG

Fold here

Service Ticket No.: 904731126						API No.: 15-175-22259-00-00						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.															
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.								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									

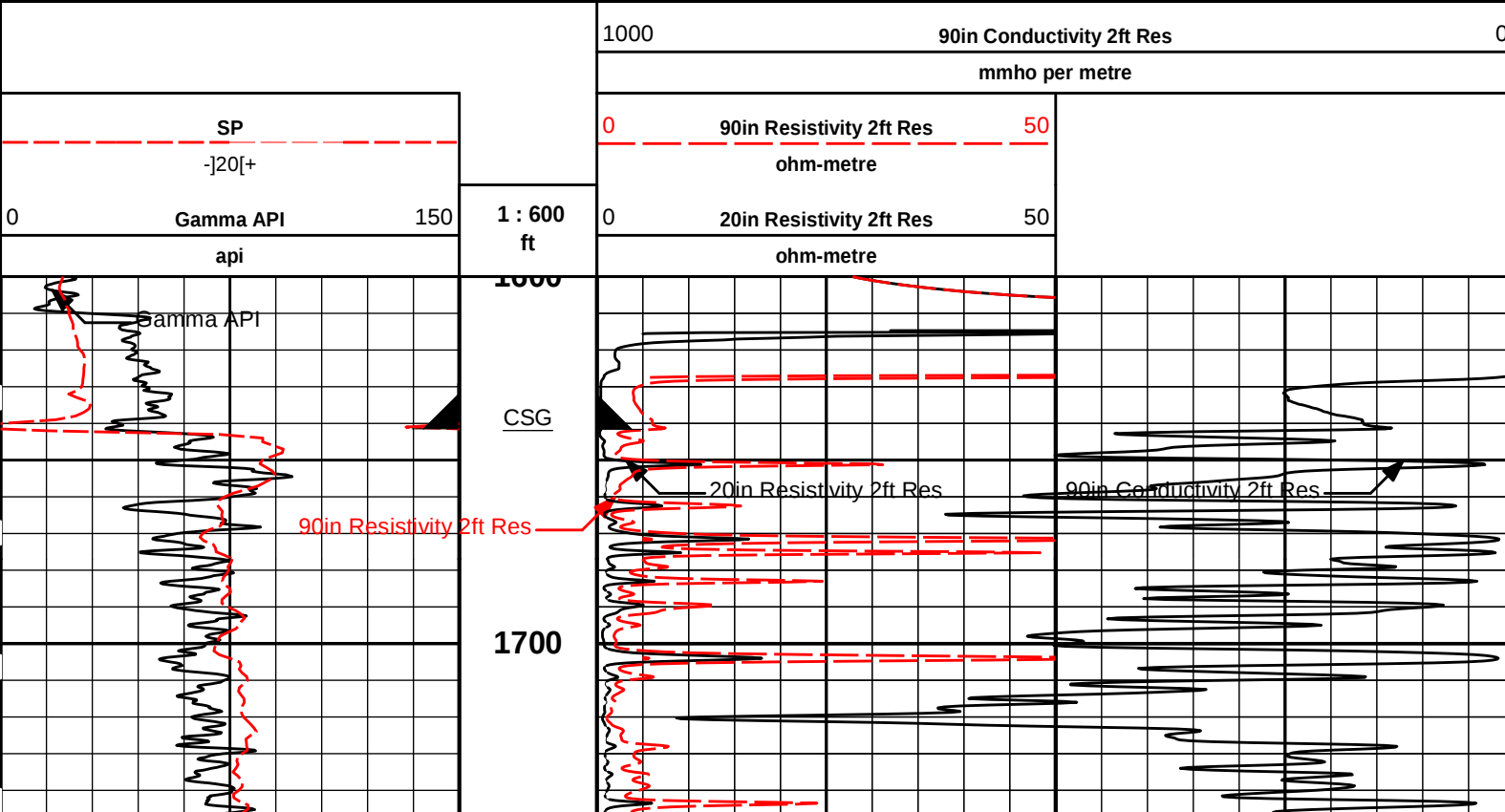
[illegible]

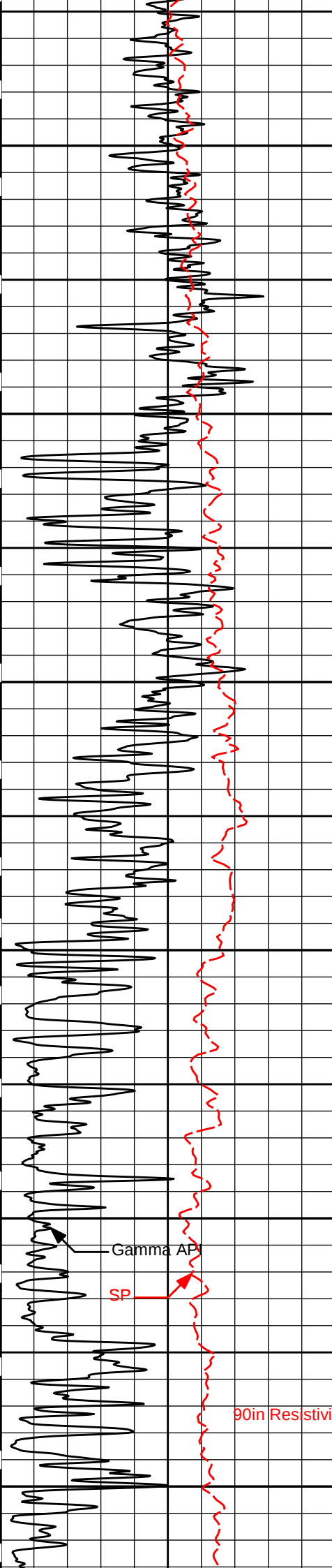
HALLIBURTON

Plot Time: 02-Apr-18 22:18:41
Plot Range: 1600 ft to 5862.92 ft
Data: RAYDON_ROCK\Well Based\DAQ-0001-004\
Plot File: \\LOCAL-L\RAYDON_ROCK\0001 GTET-DSNT-SDLT-BSAT-ACRT\ACRT\ACRT_2_main

2 INCH MAIN LOG

2 INCH MAIN LOG





1800

1900

2000

2100

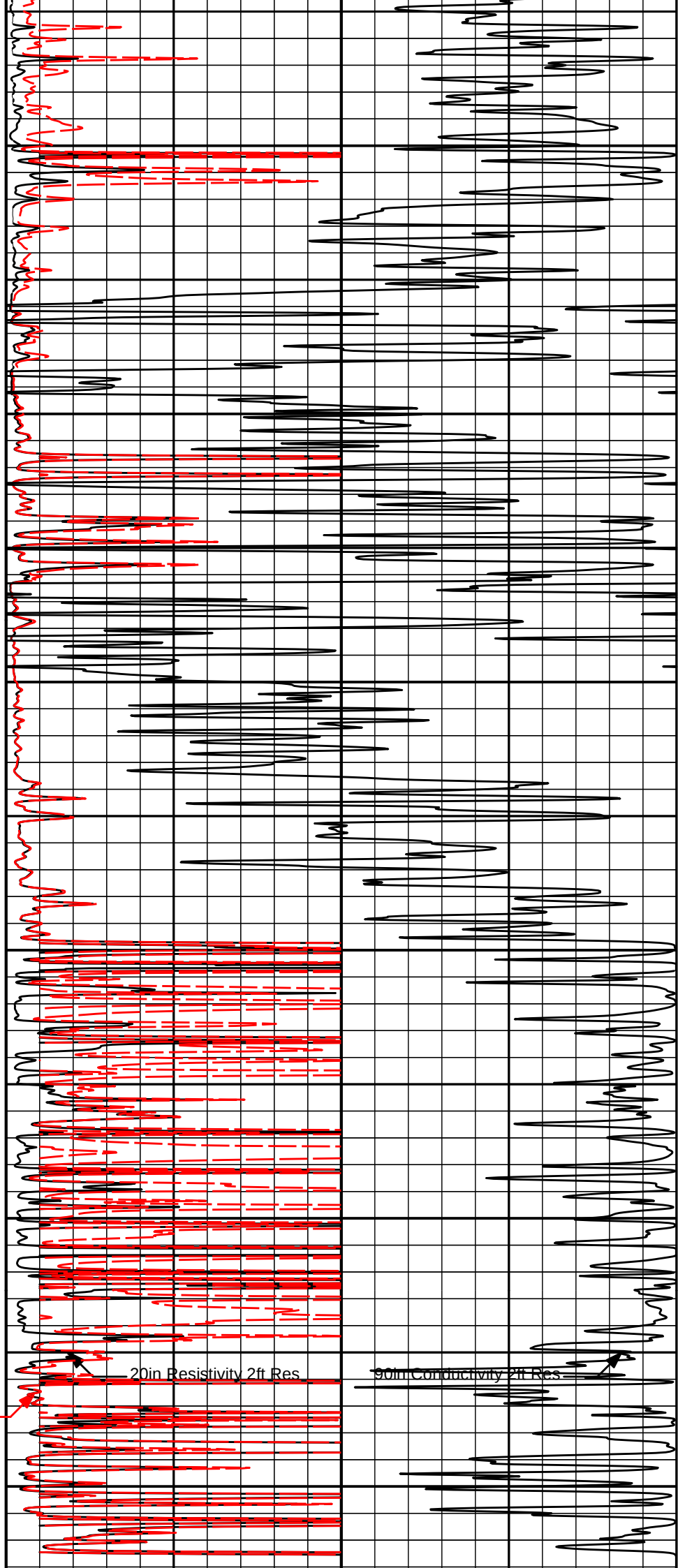
2200

2300

Gamma AP

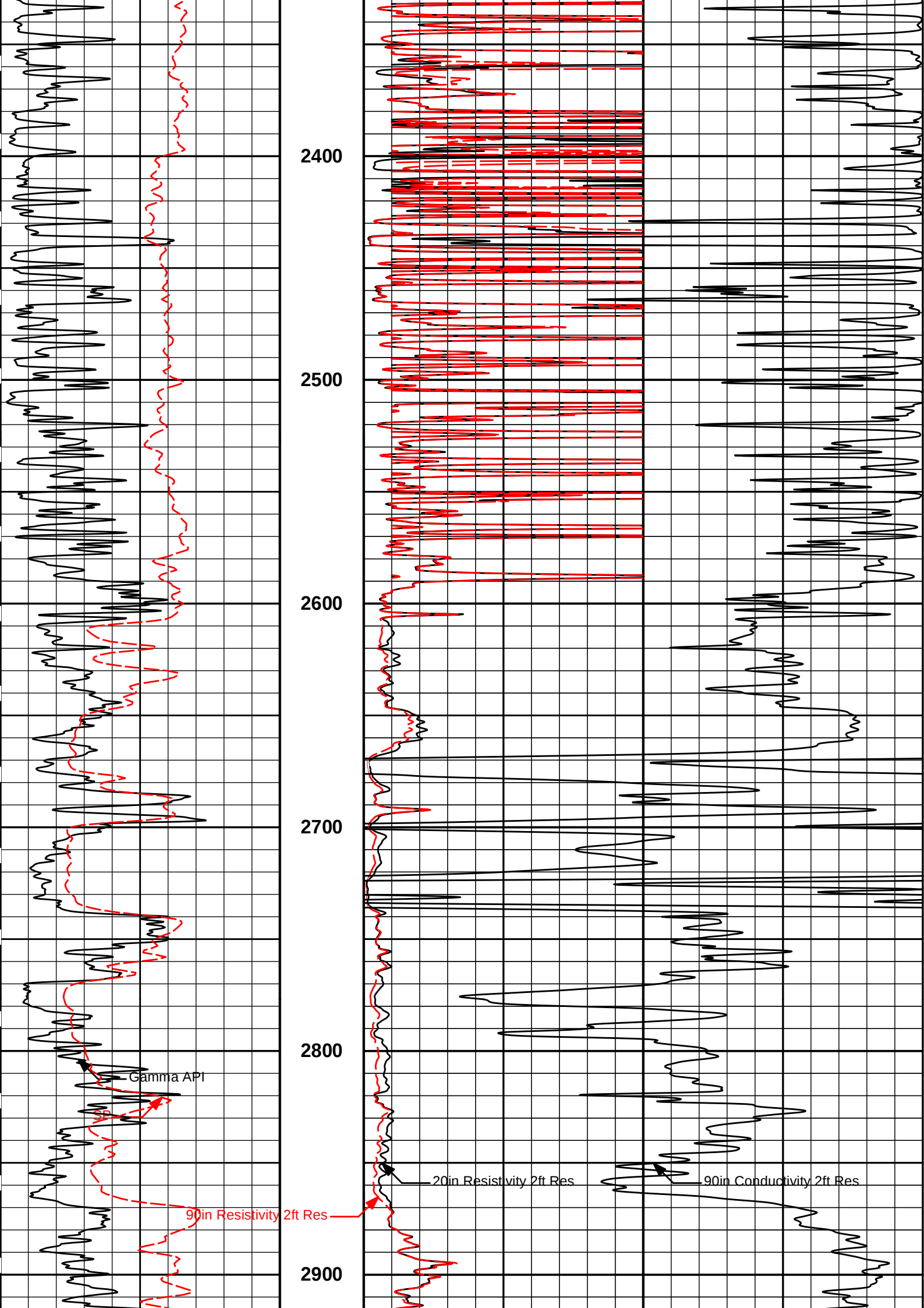
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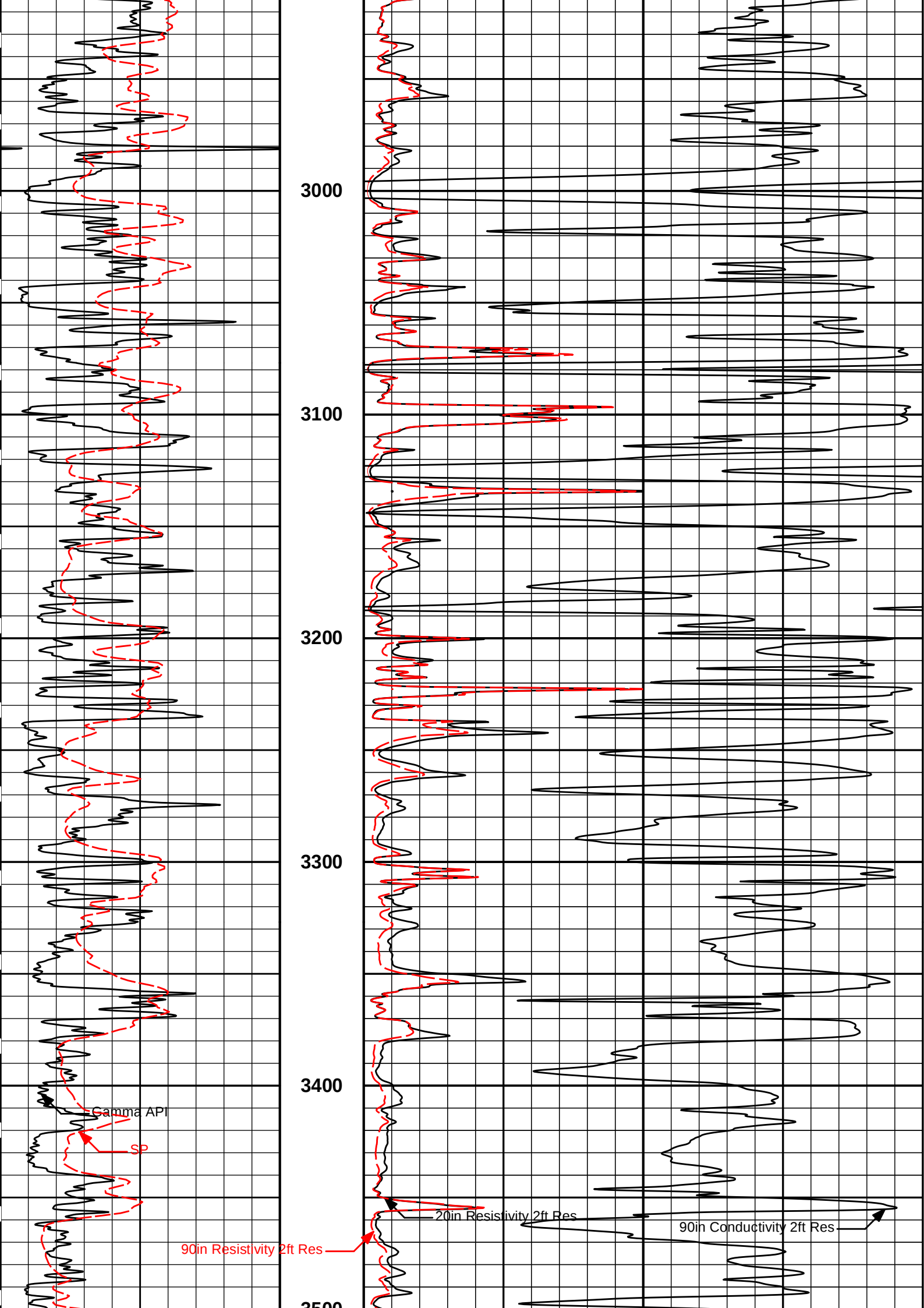
90in Resistivity 2ft Res

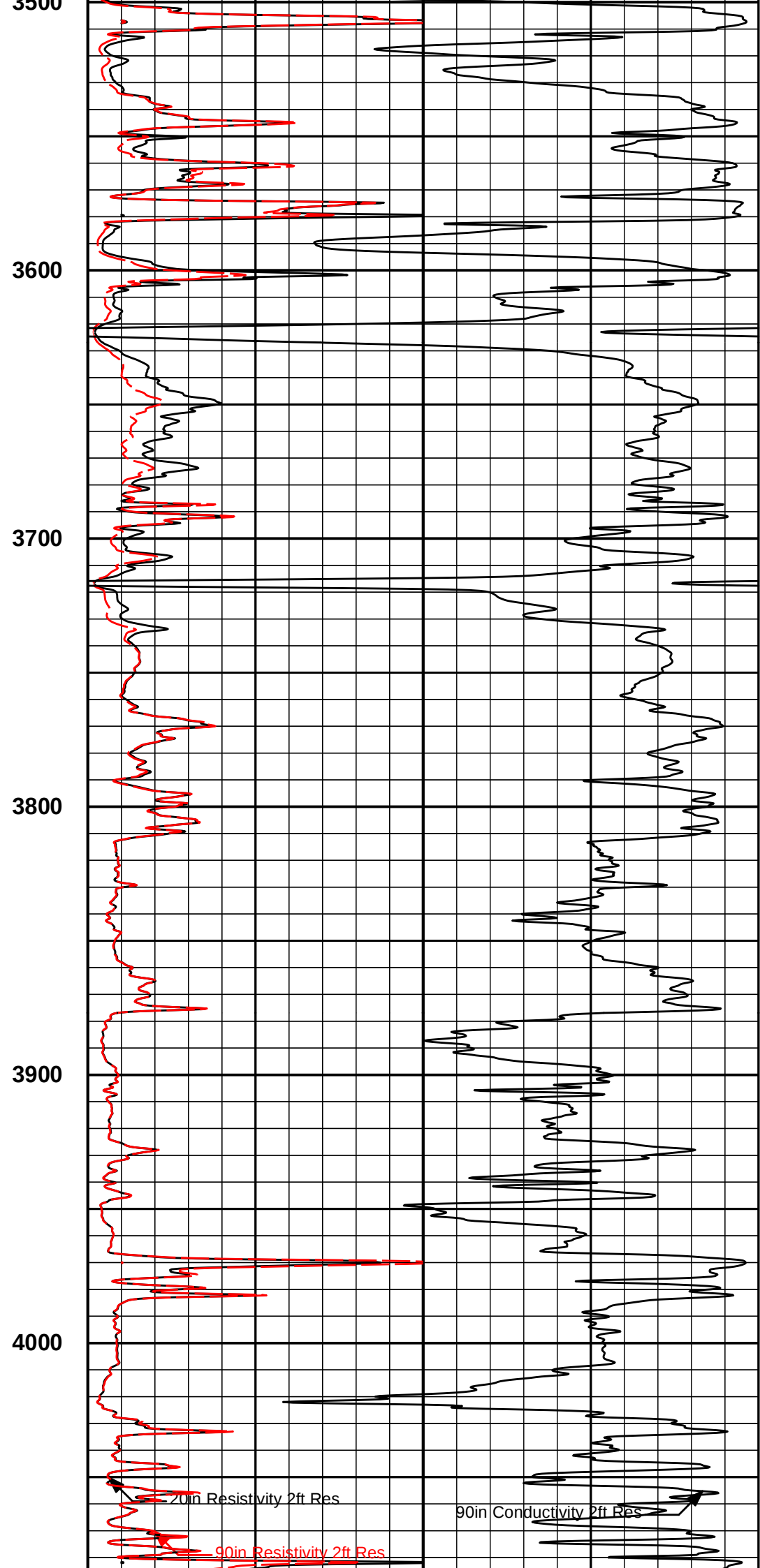
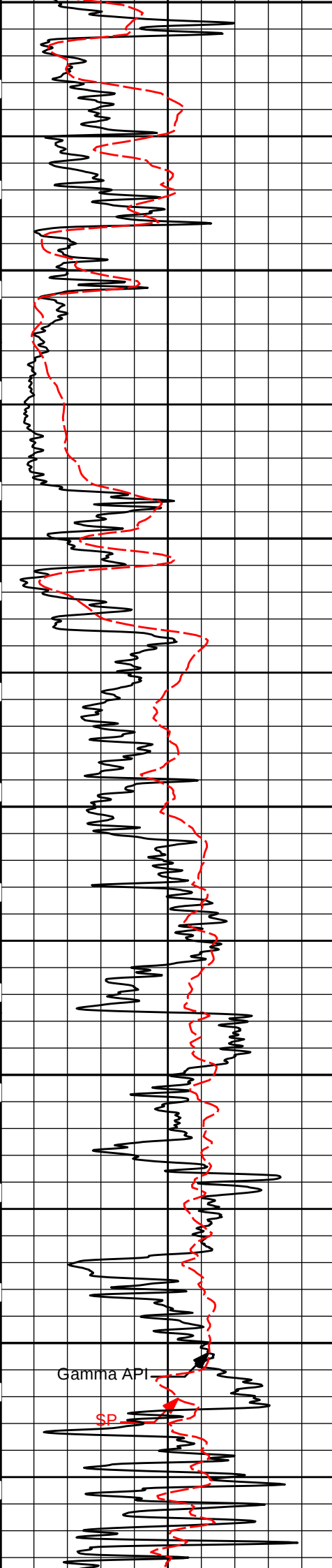


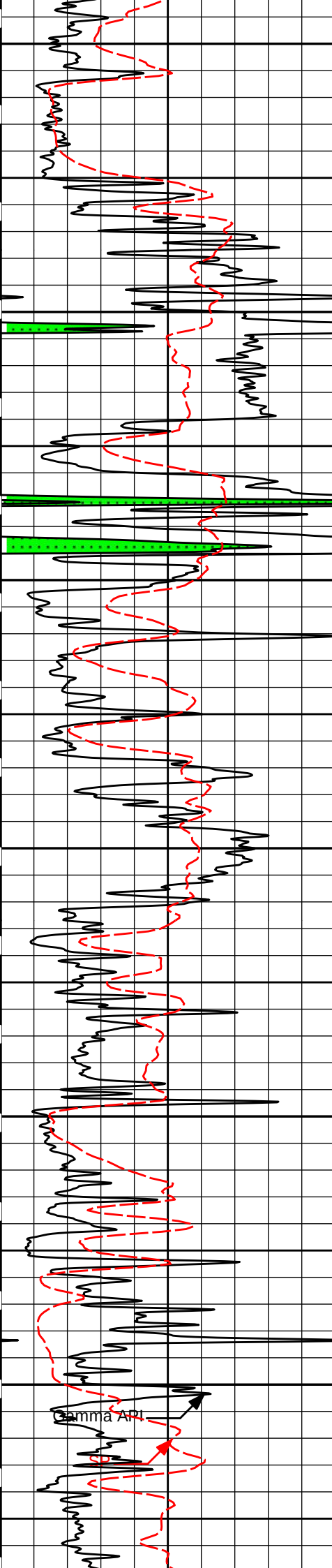
20in Resistivity 2ft Res

90in Conductivity 2ft Res









4100

4200

4300

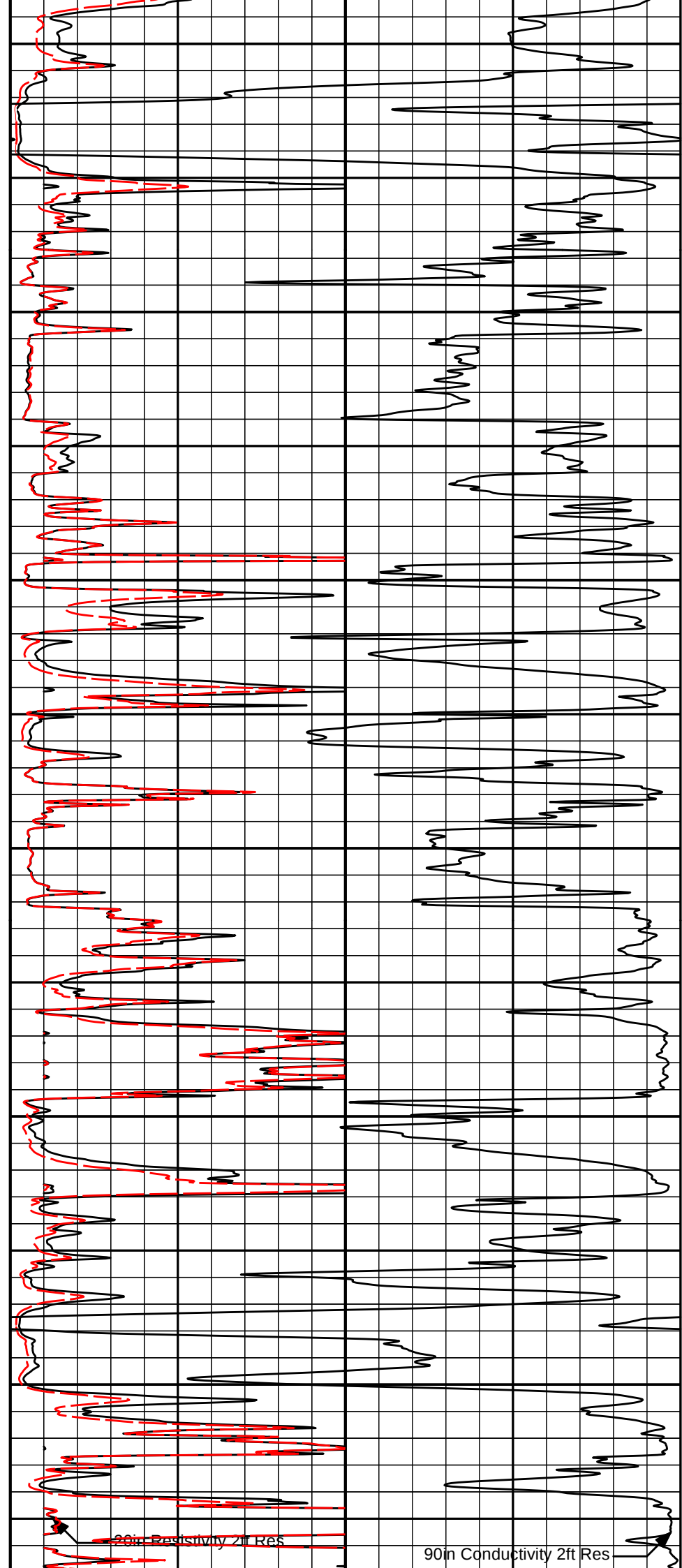
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4500

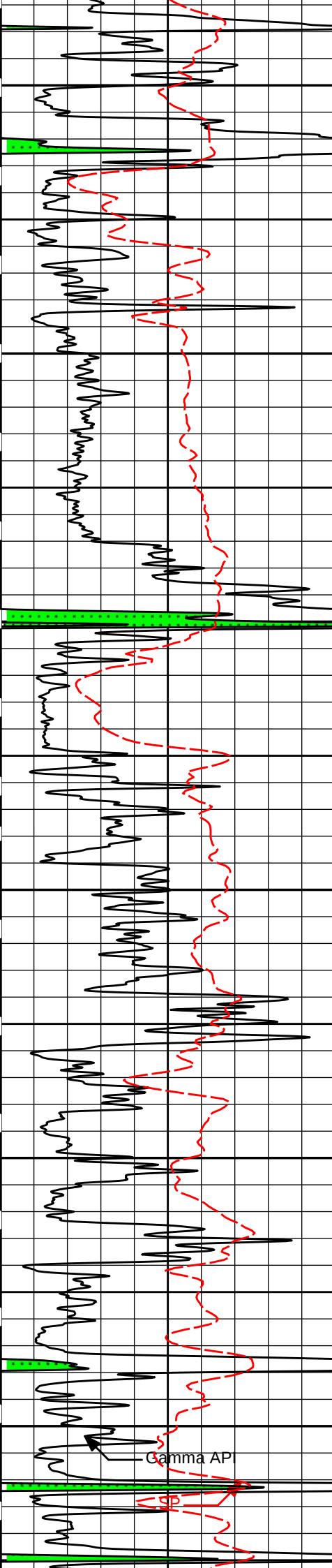
4600

Gamma API

20in Resistivity 2ft Res



90in Conductivity 2ft Res



4700

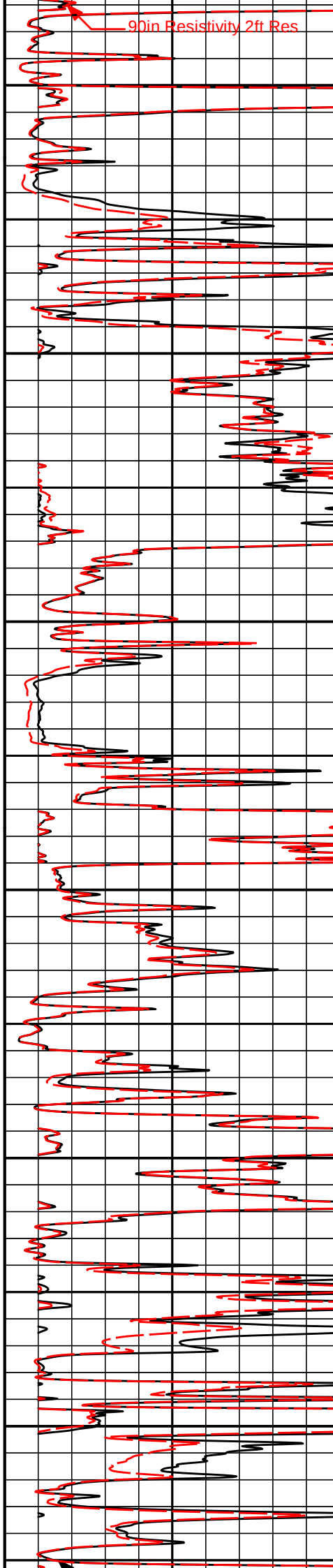
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4900

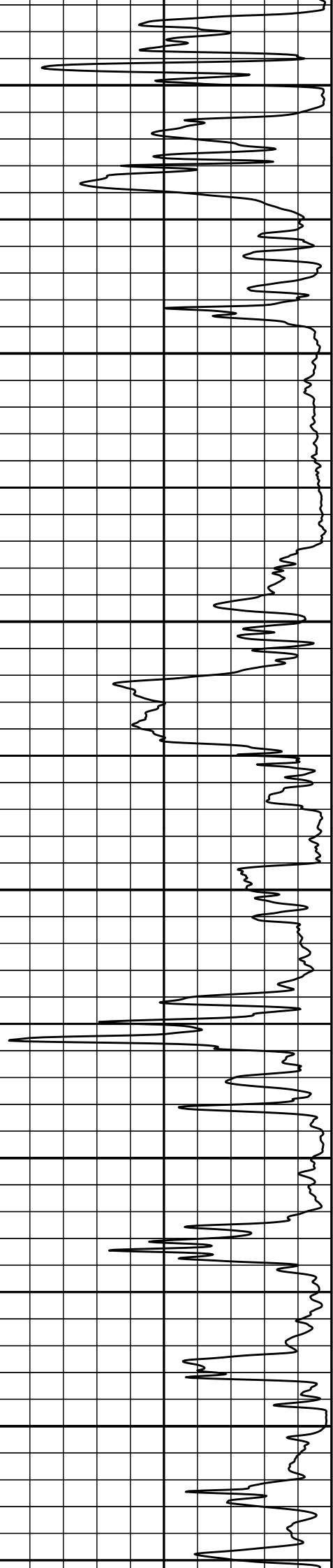
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5100

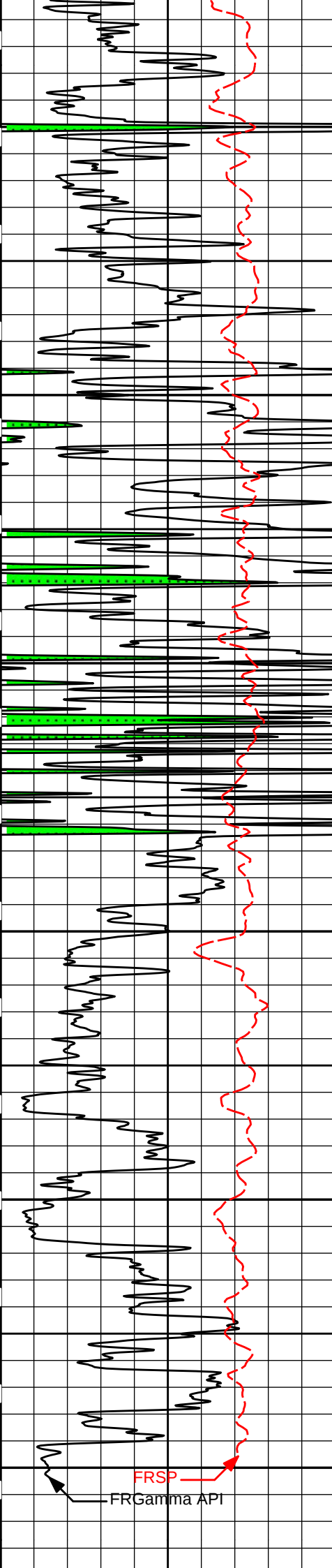
5200



90in Resistivity 2ft Res



Gamma API



5300

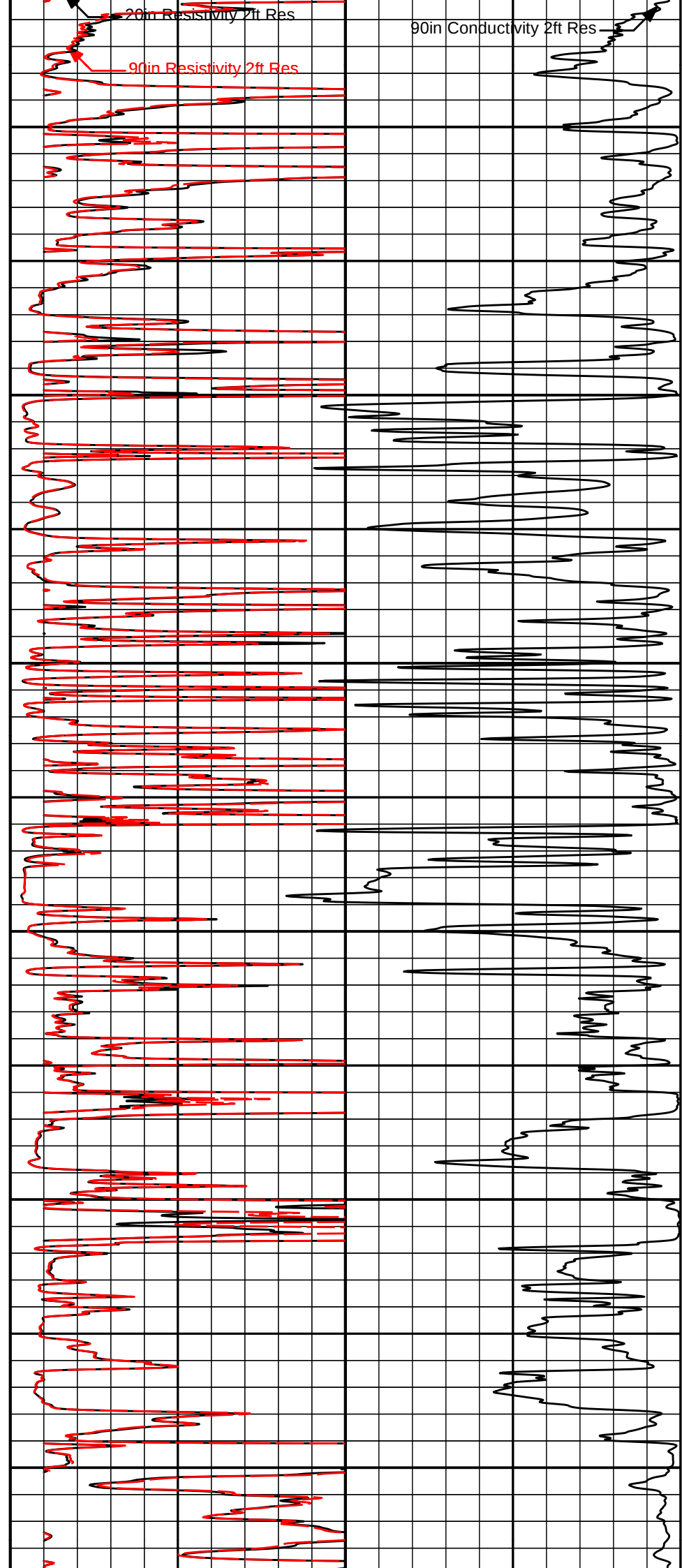
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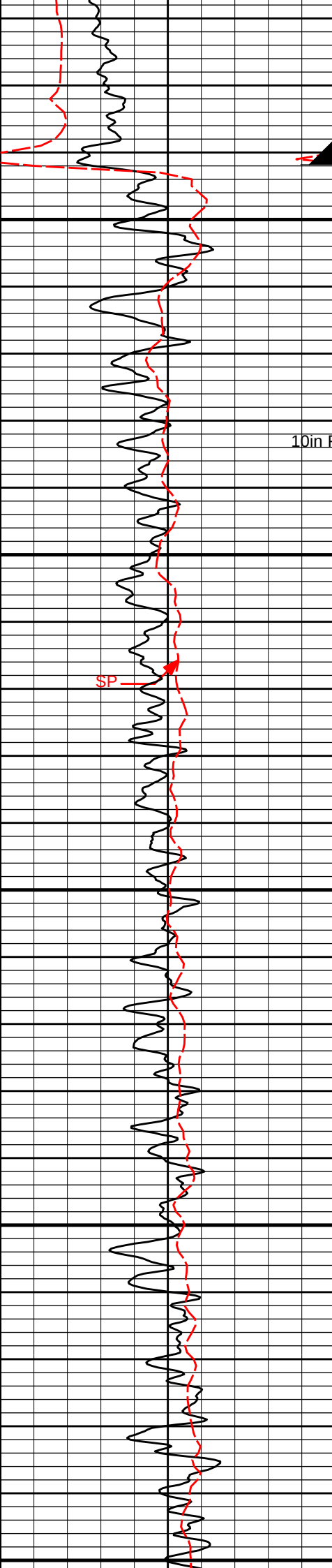
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5600

5700

5800





CSG

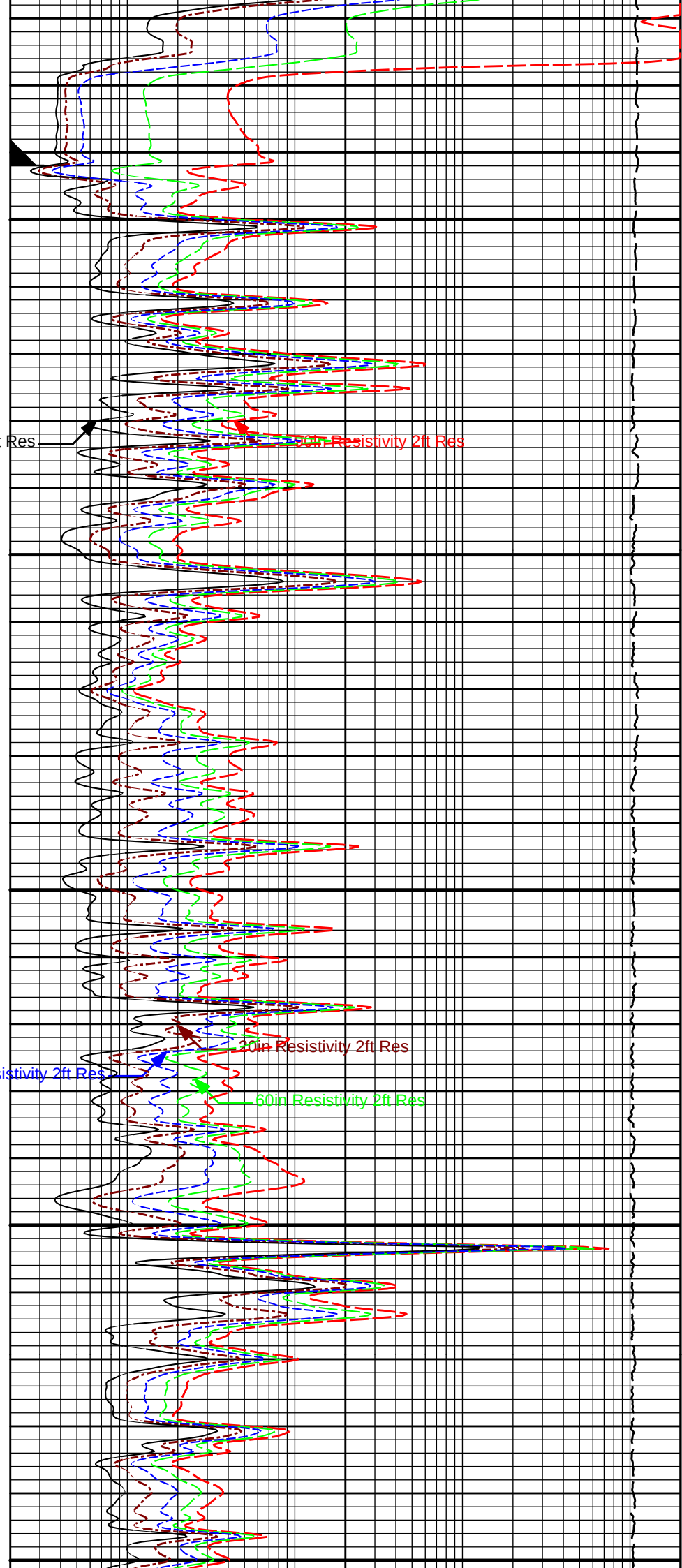
10in Resistivity 2ft Res

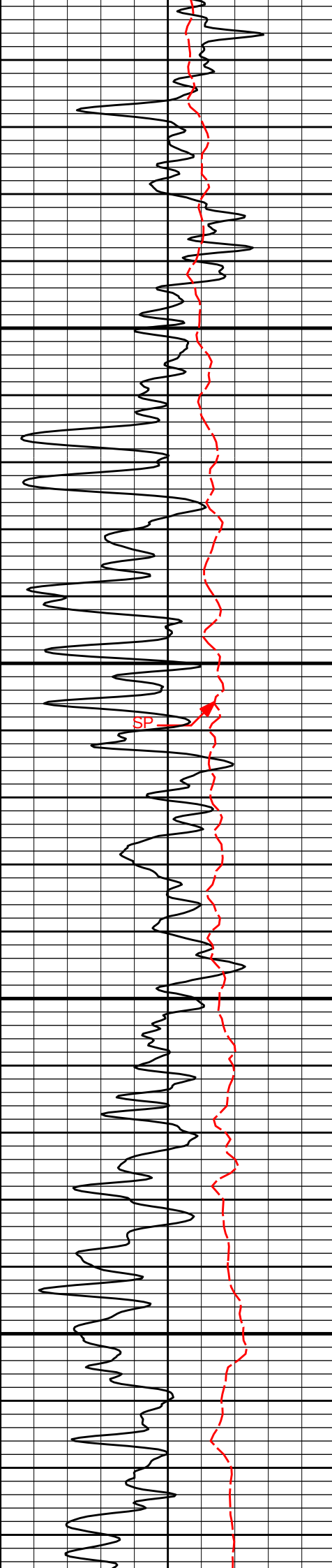
1700

SP

30in Resistivity 2ft Res

1800





1900

10in Resistivity 2ft Res

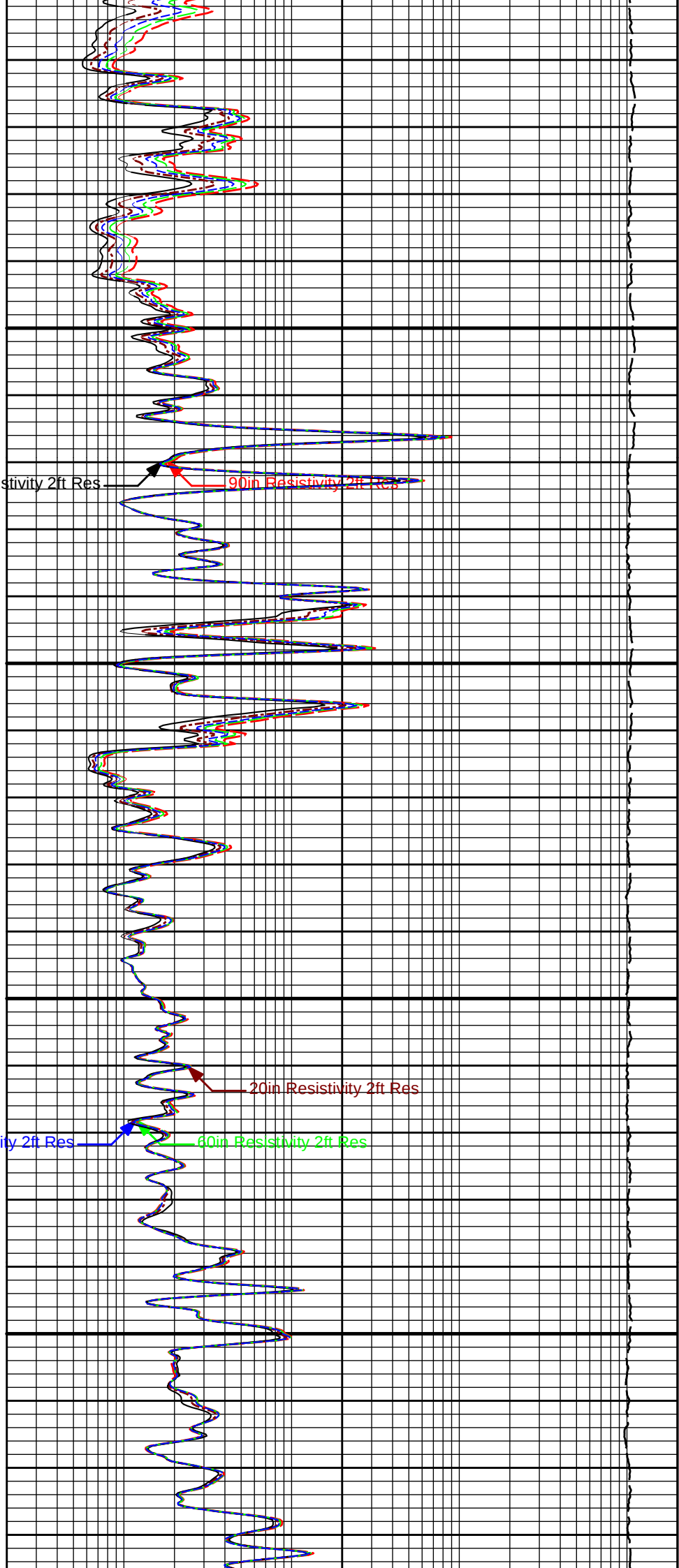
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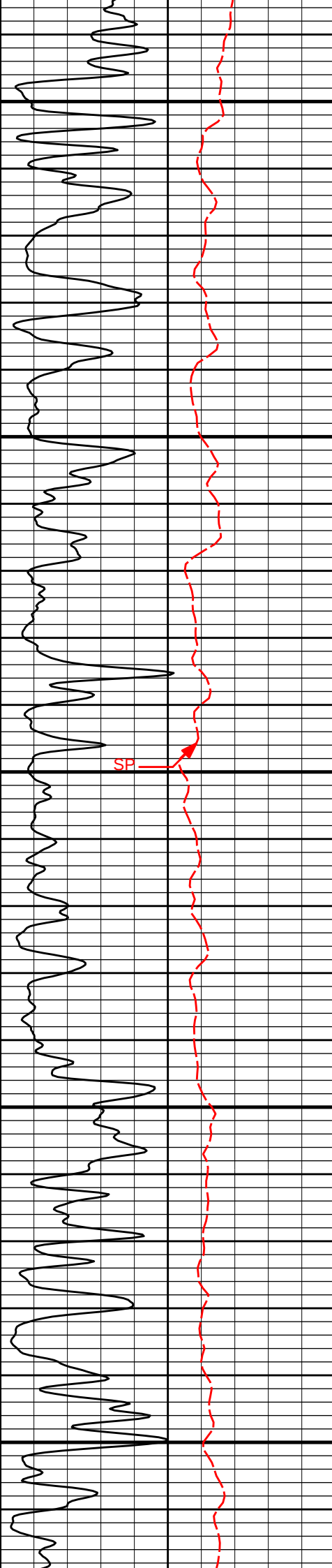
2000

30in Resistivity 2ft Res

20in Resistivity 2ft Res

60in Resistivity 2ft Res

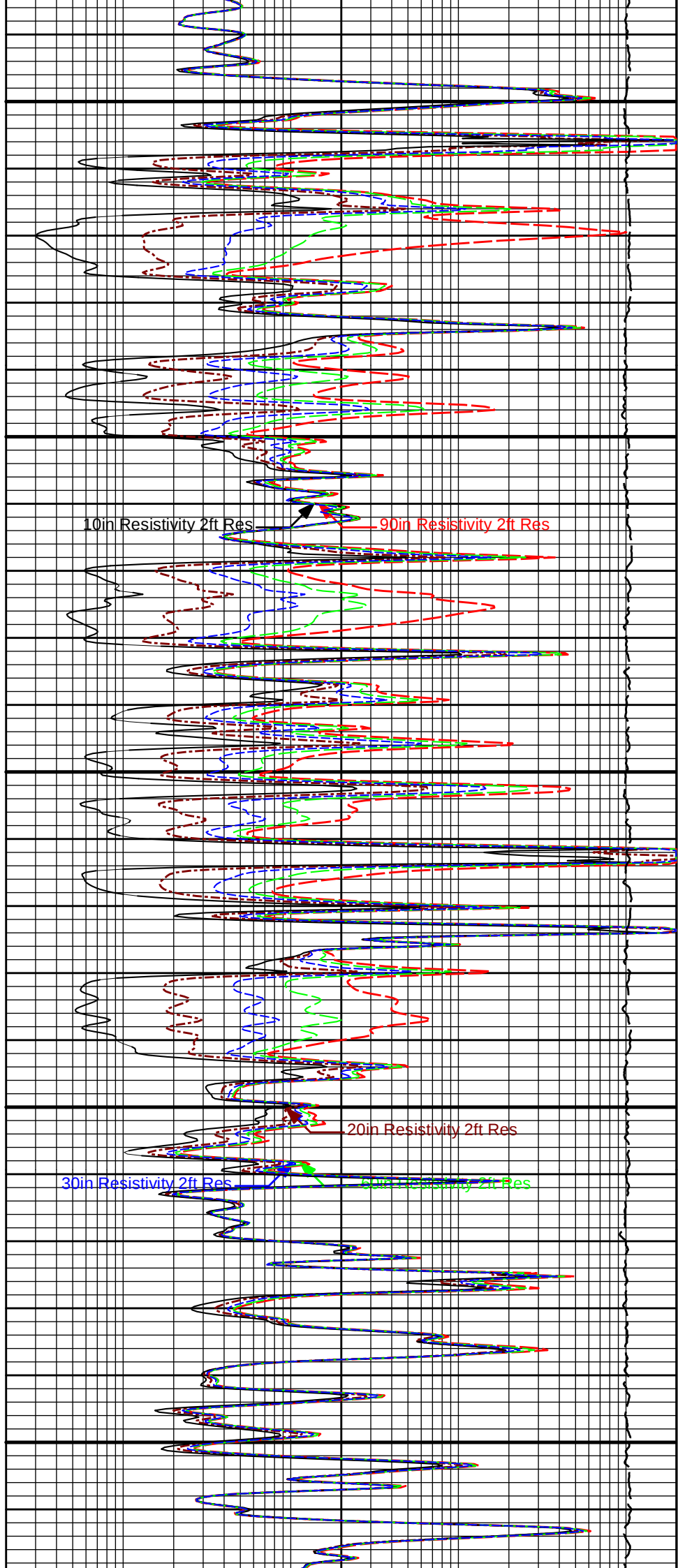


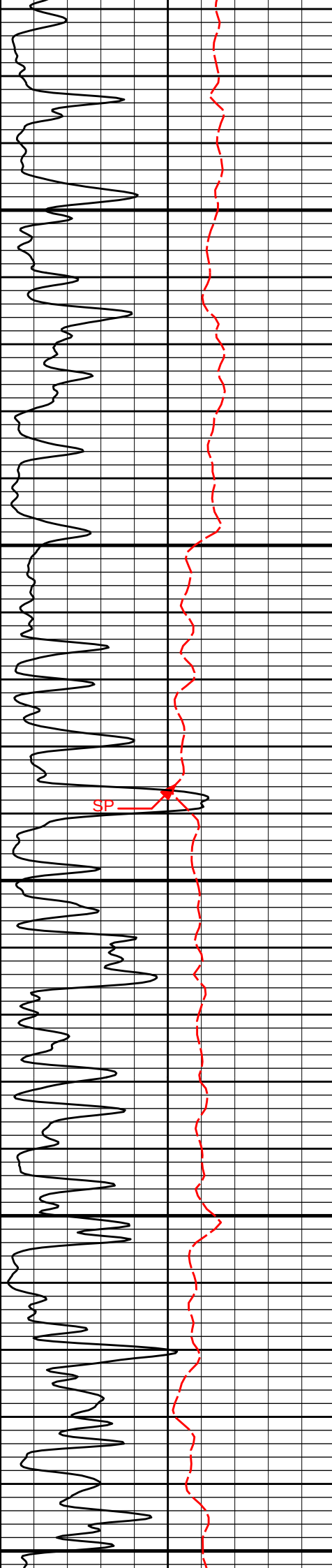


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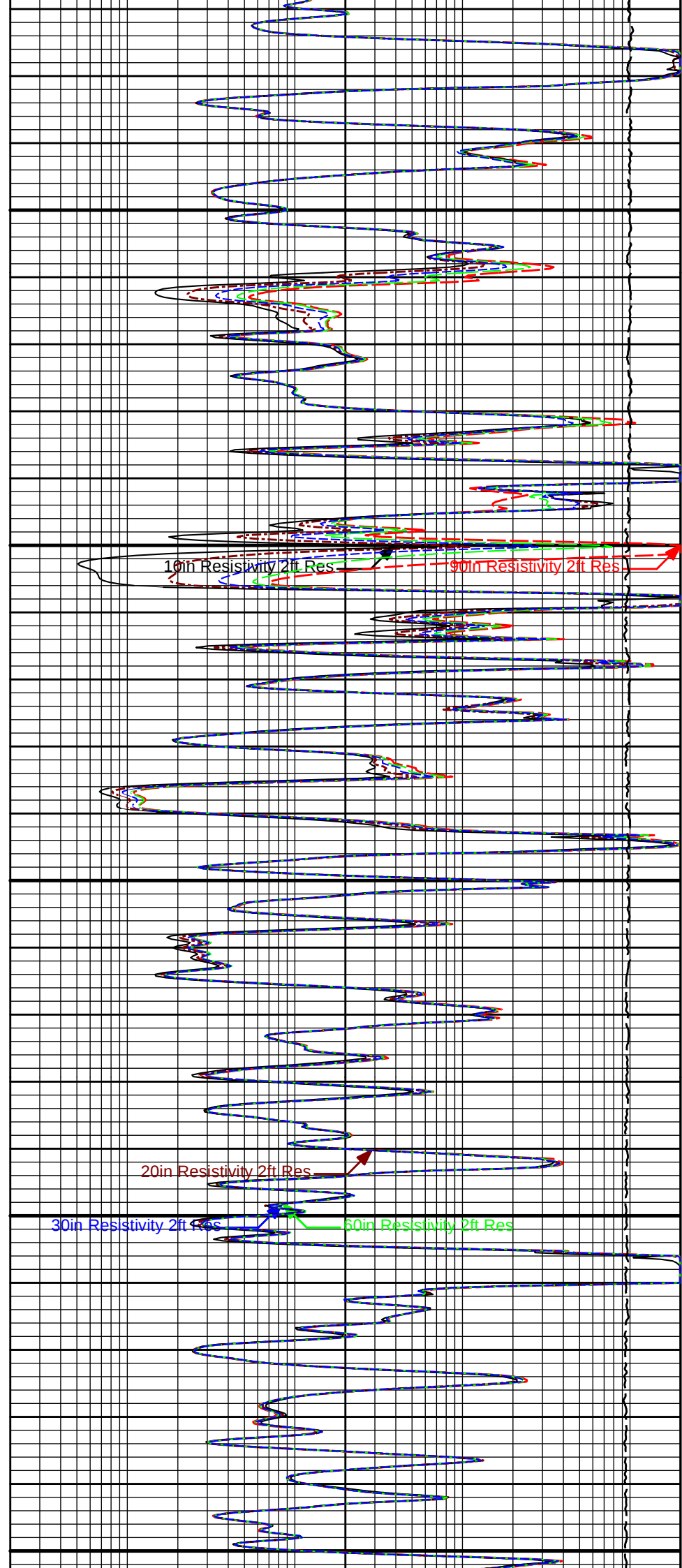
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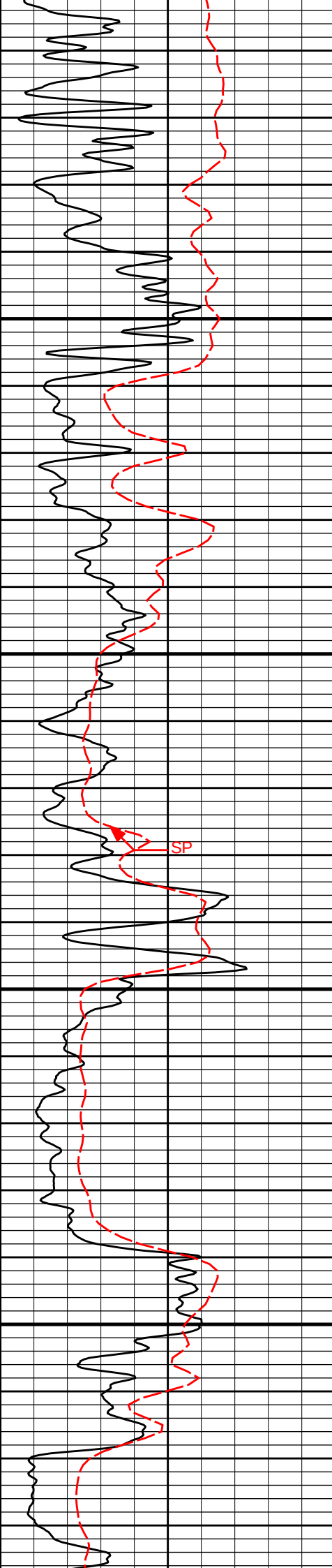




2400

2500

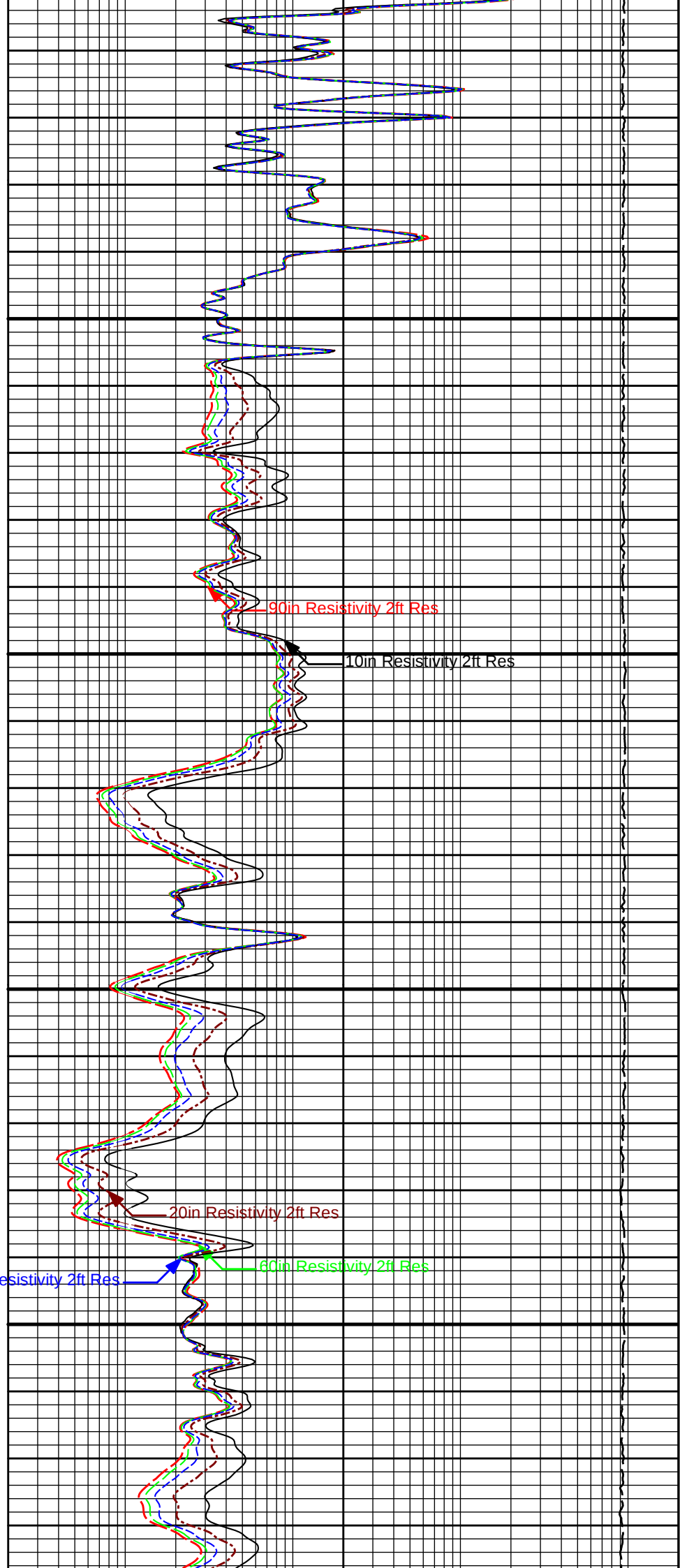


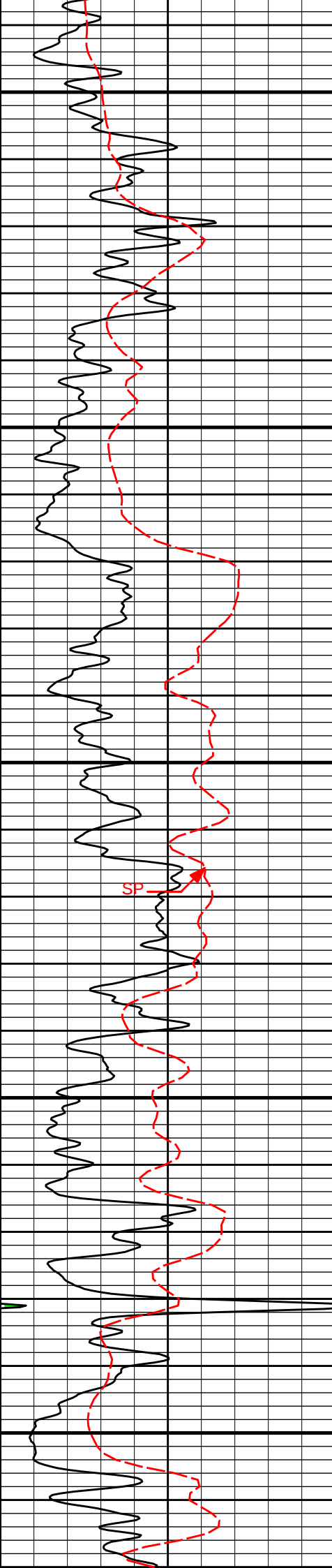


2600

2700

30in Resistivity 2ft Res

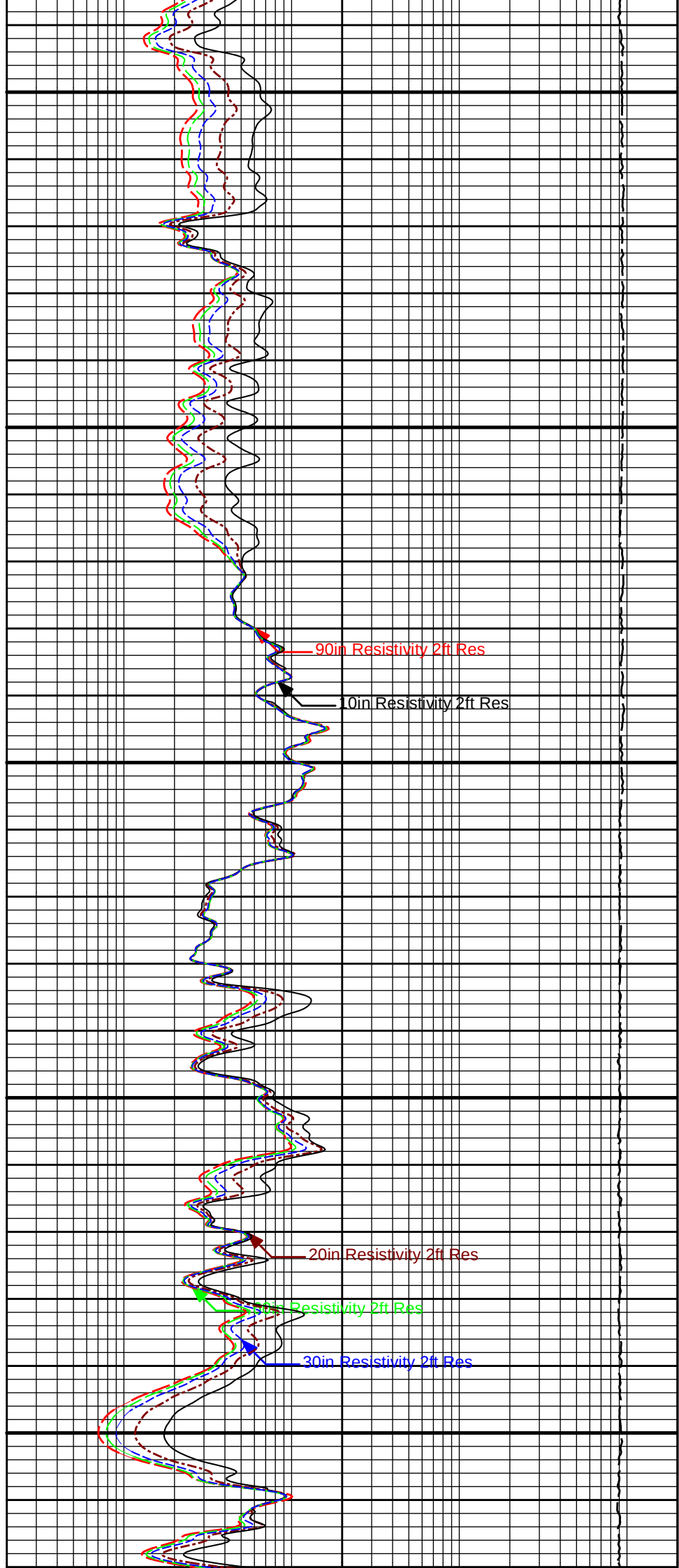




2800

2900

3000



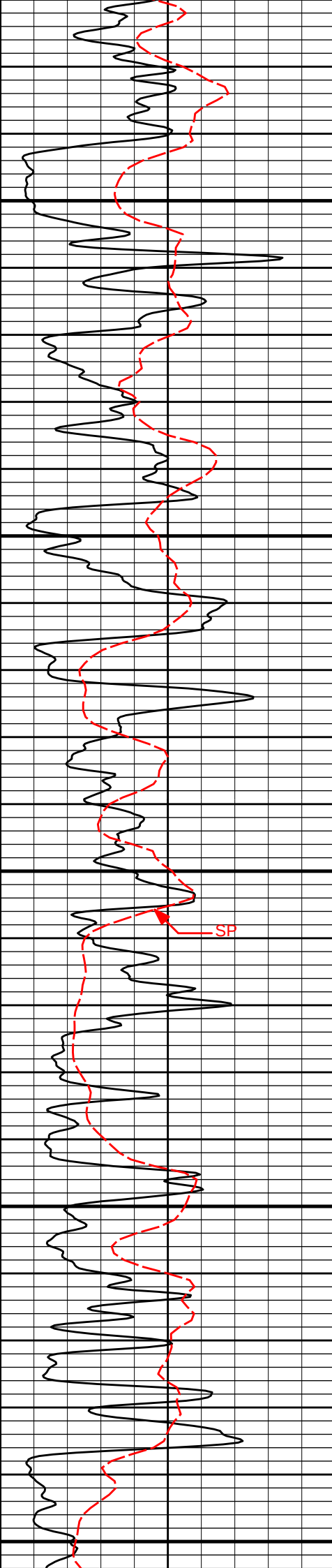
90in Resistivity 2ft Res

10in Resistivity 2ft Res

20in Resistivity 2ft Res

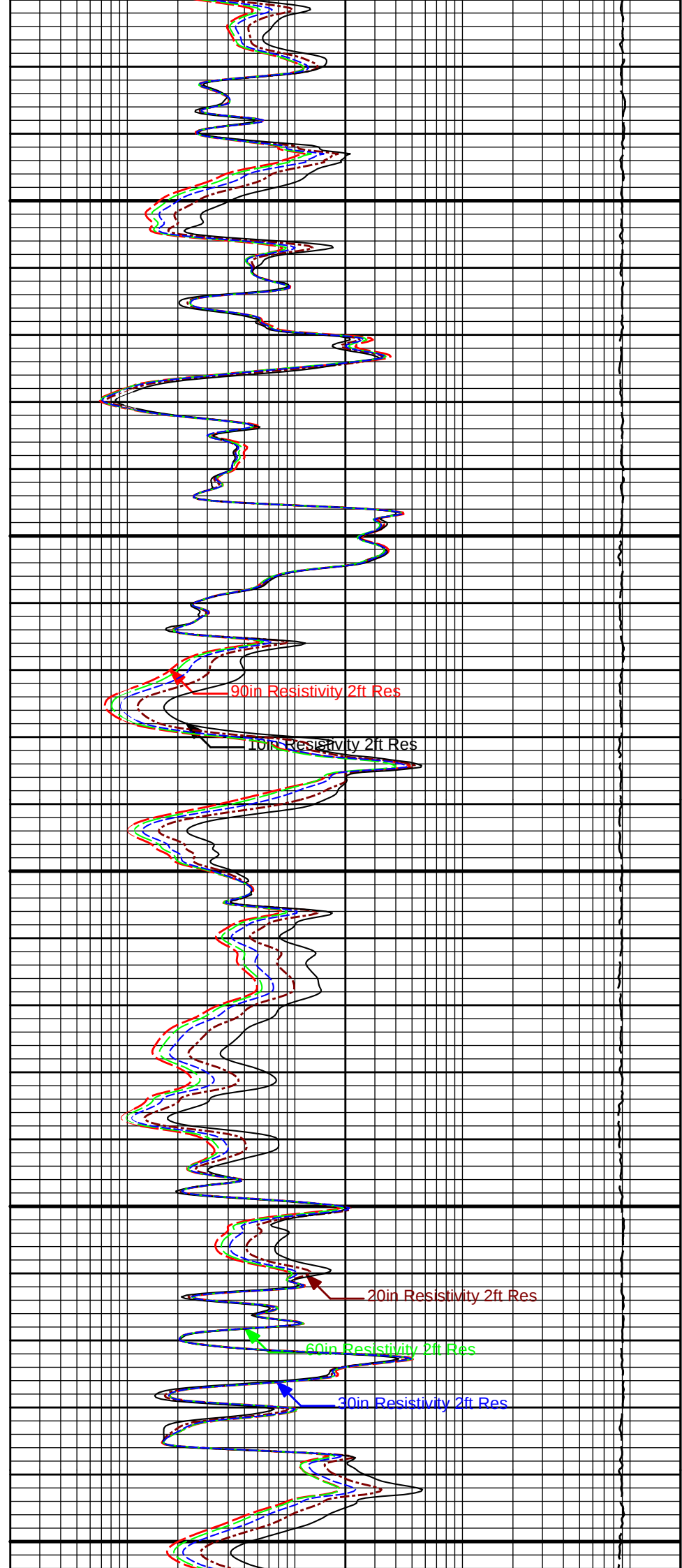
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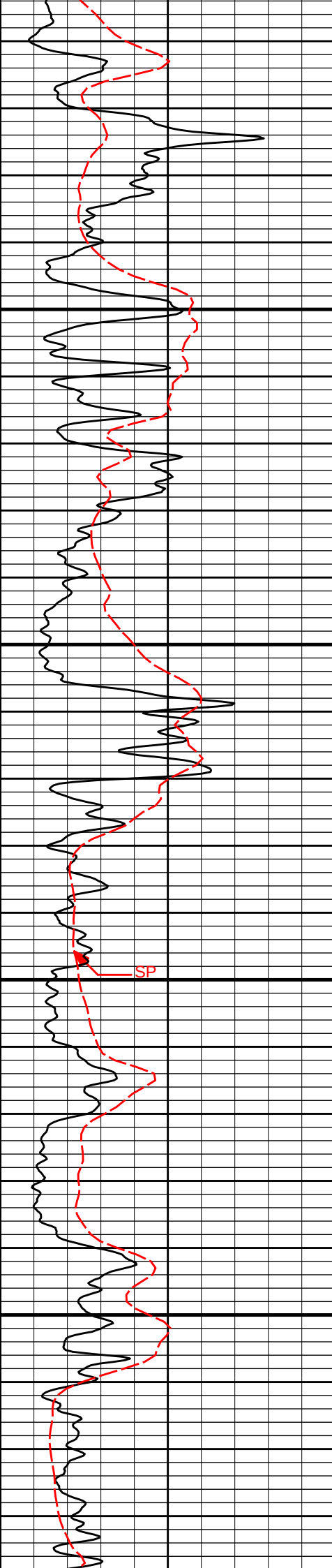
30in Resistivity 2ft Res



3100

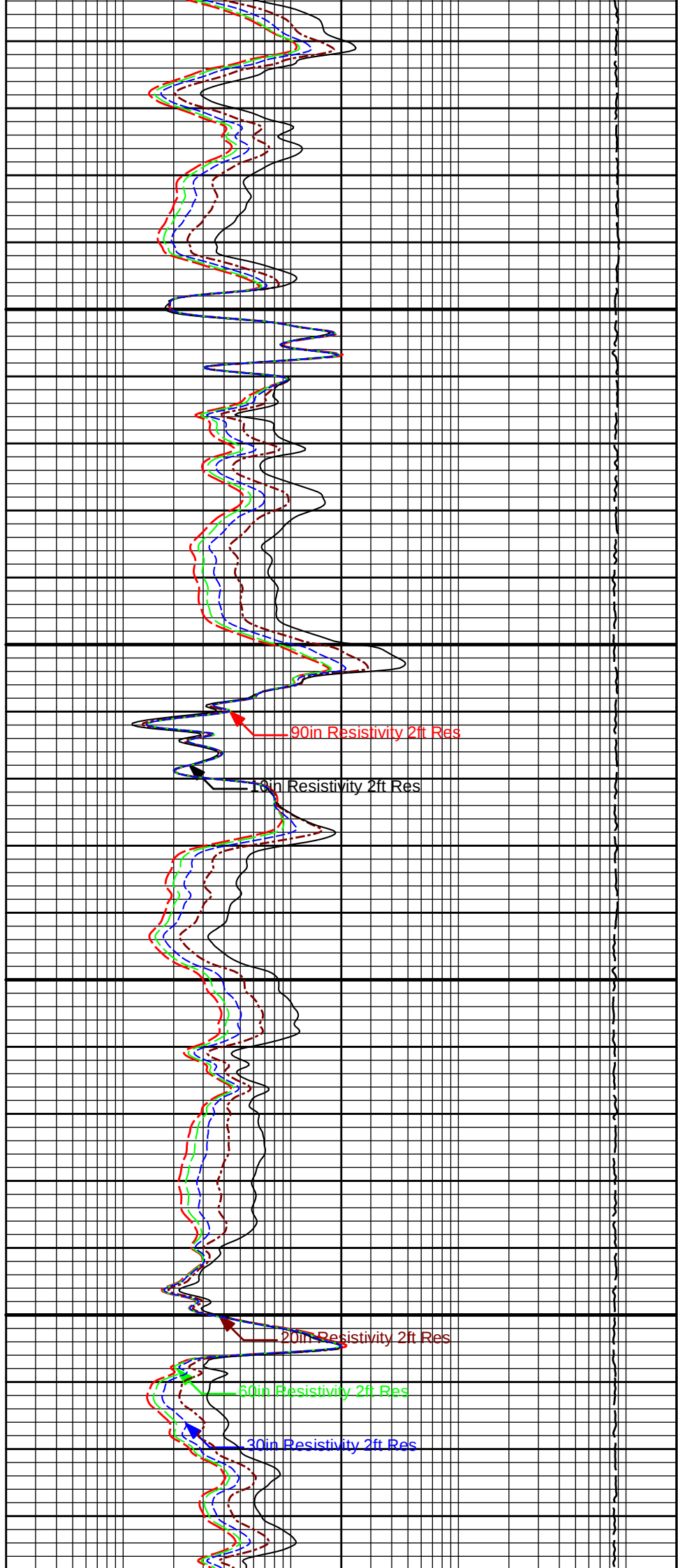
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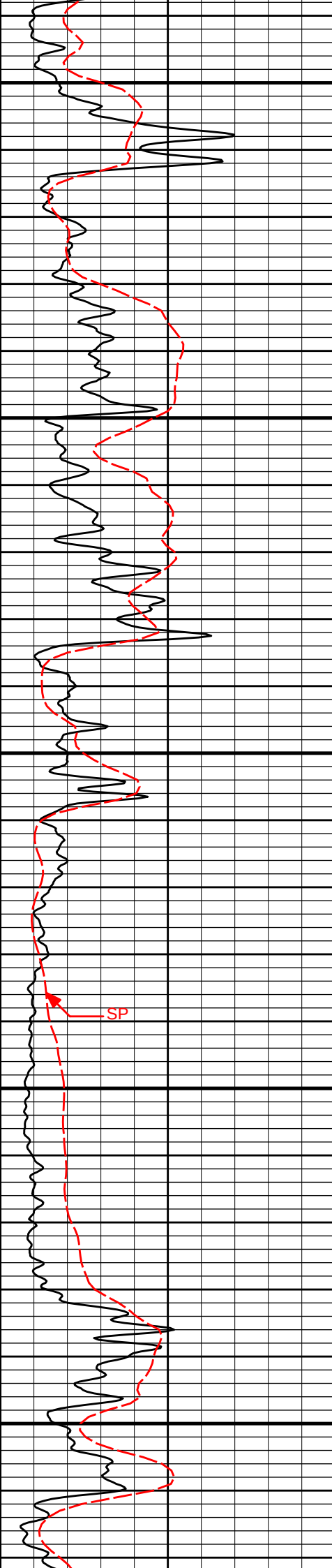




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3400

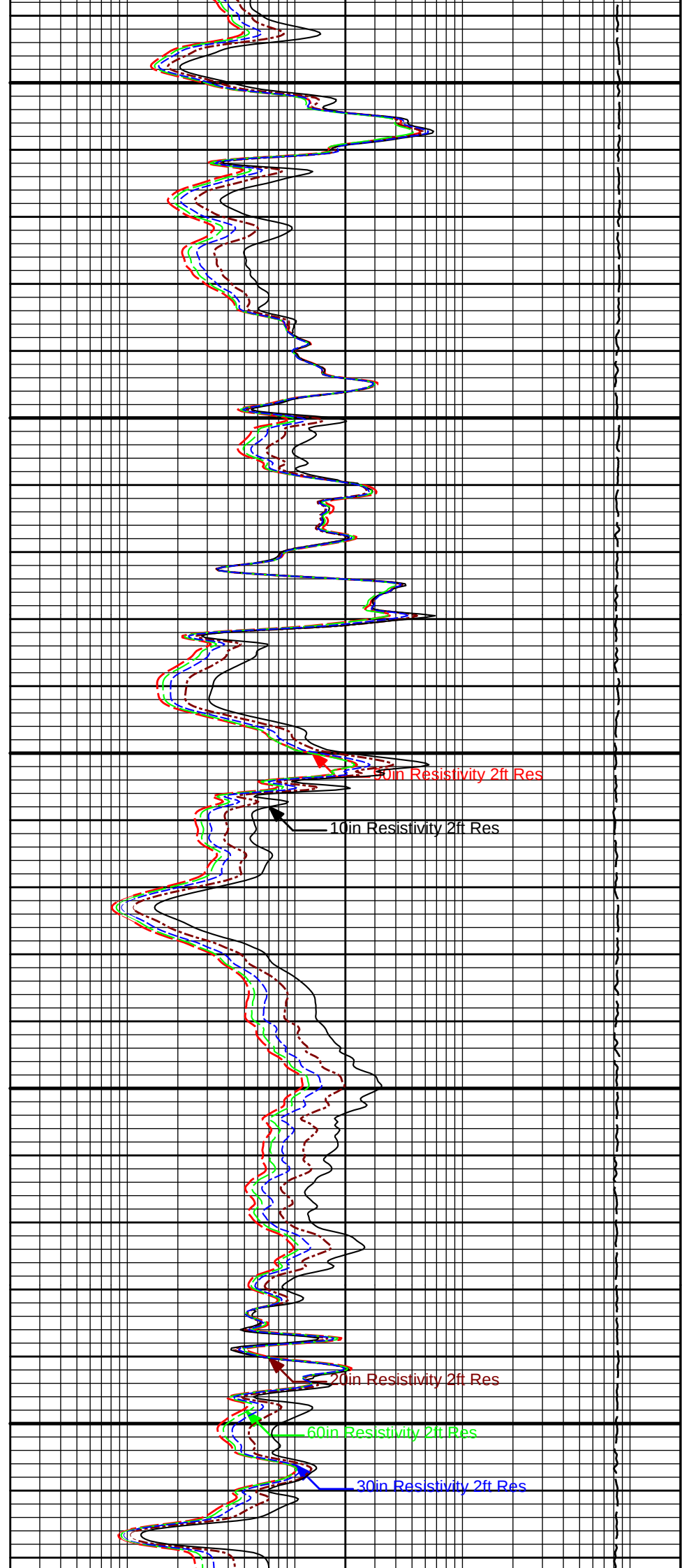




3500

3600

3700



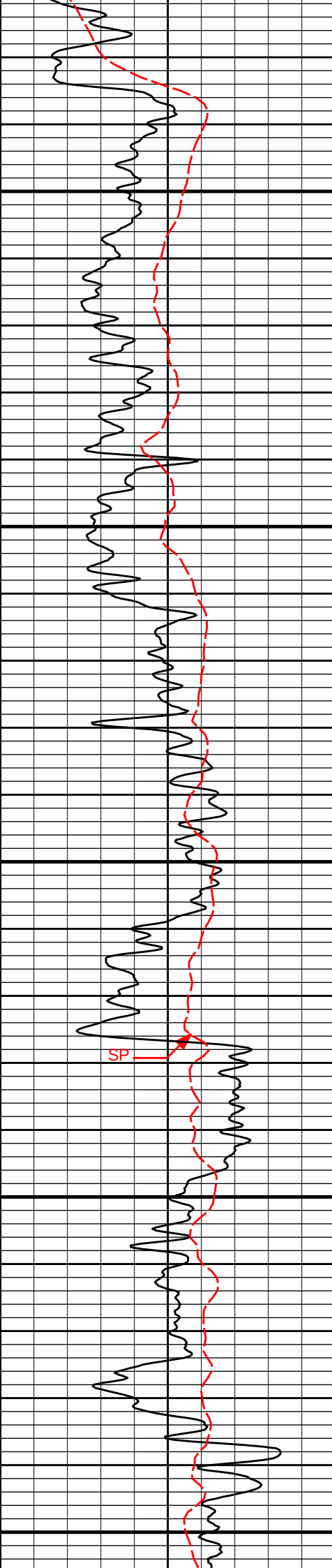
50in Resistivity 2ft Res

10in Resistivity 2ft Res

20in Resistivity 2ft Res

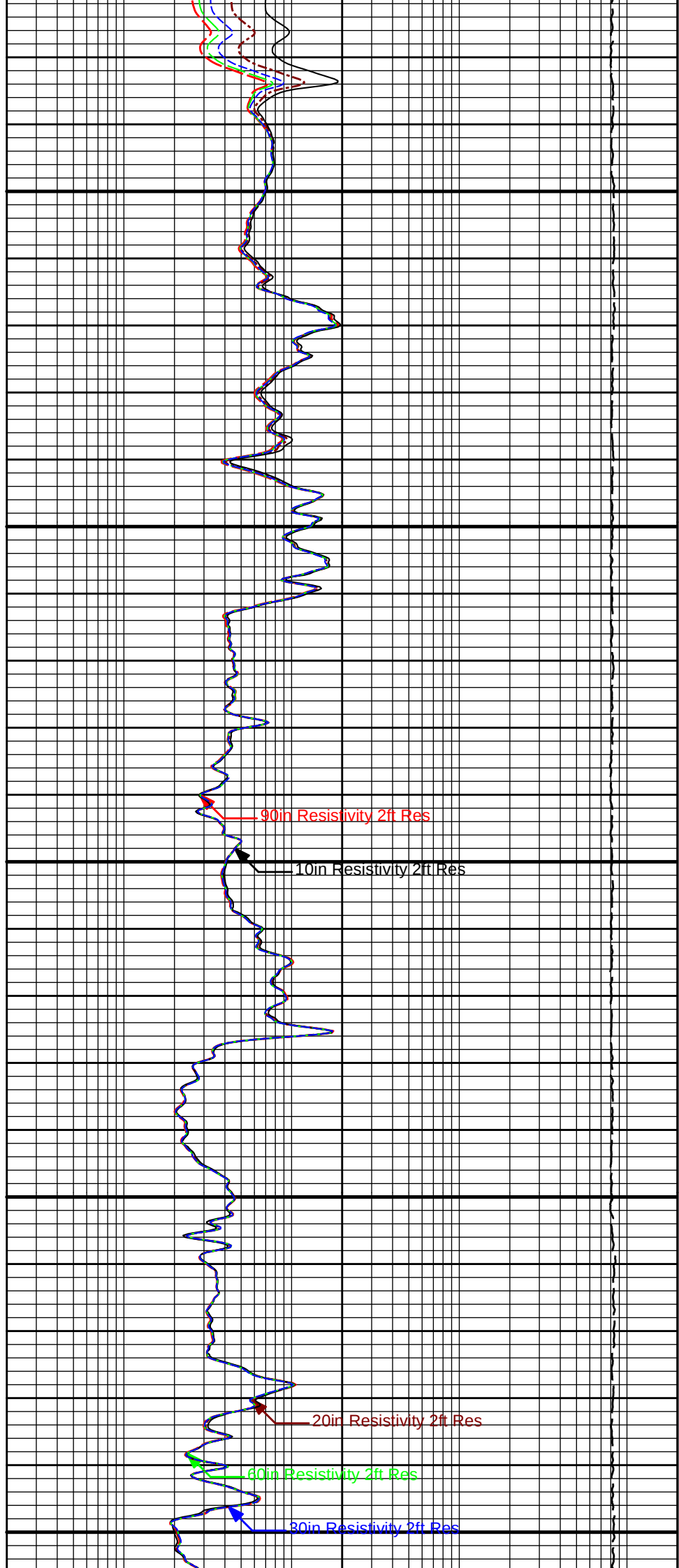
60in Resistivity 2ft Res

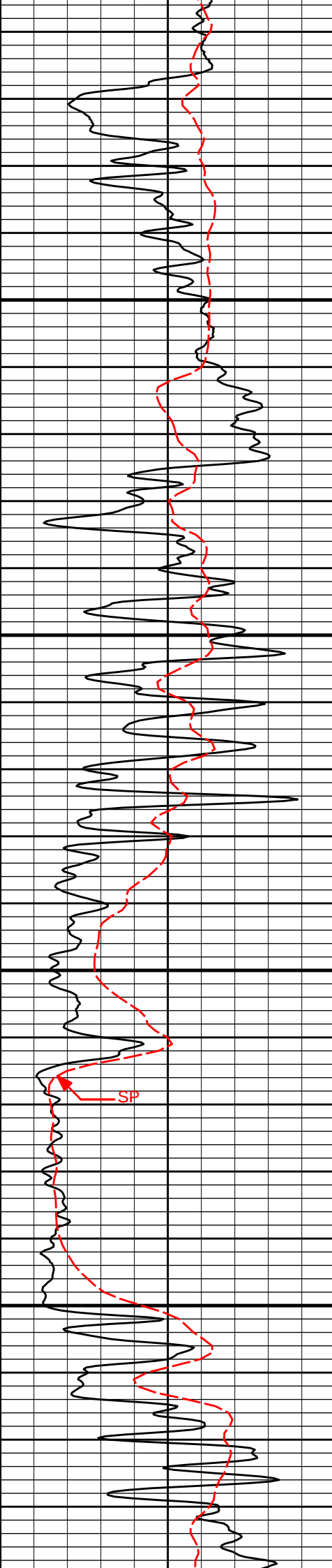
30in Resistivity 2ft Res



3800

3900

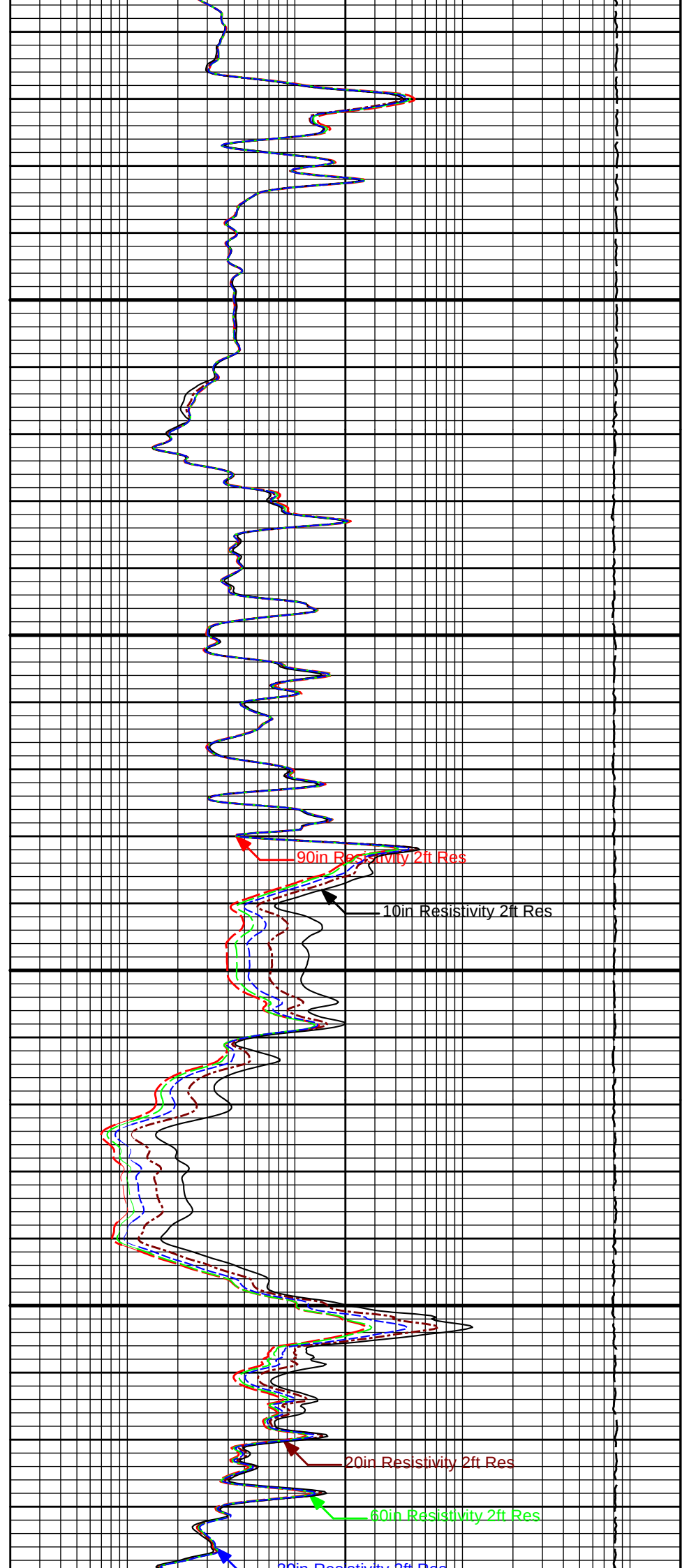




4000

4100

SP



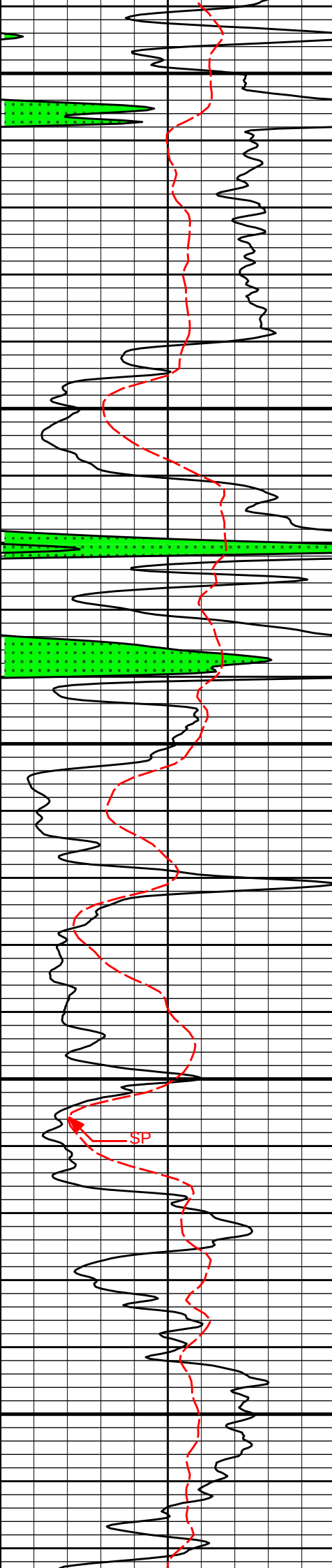
90in Resistivity 2ft Res

10in Resistivity 2ft Res

20in Resistivity 2ft Res

60in Resistivity 2ft Res

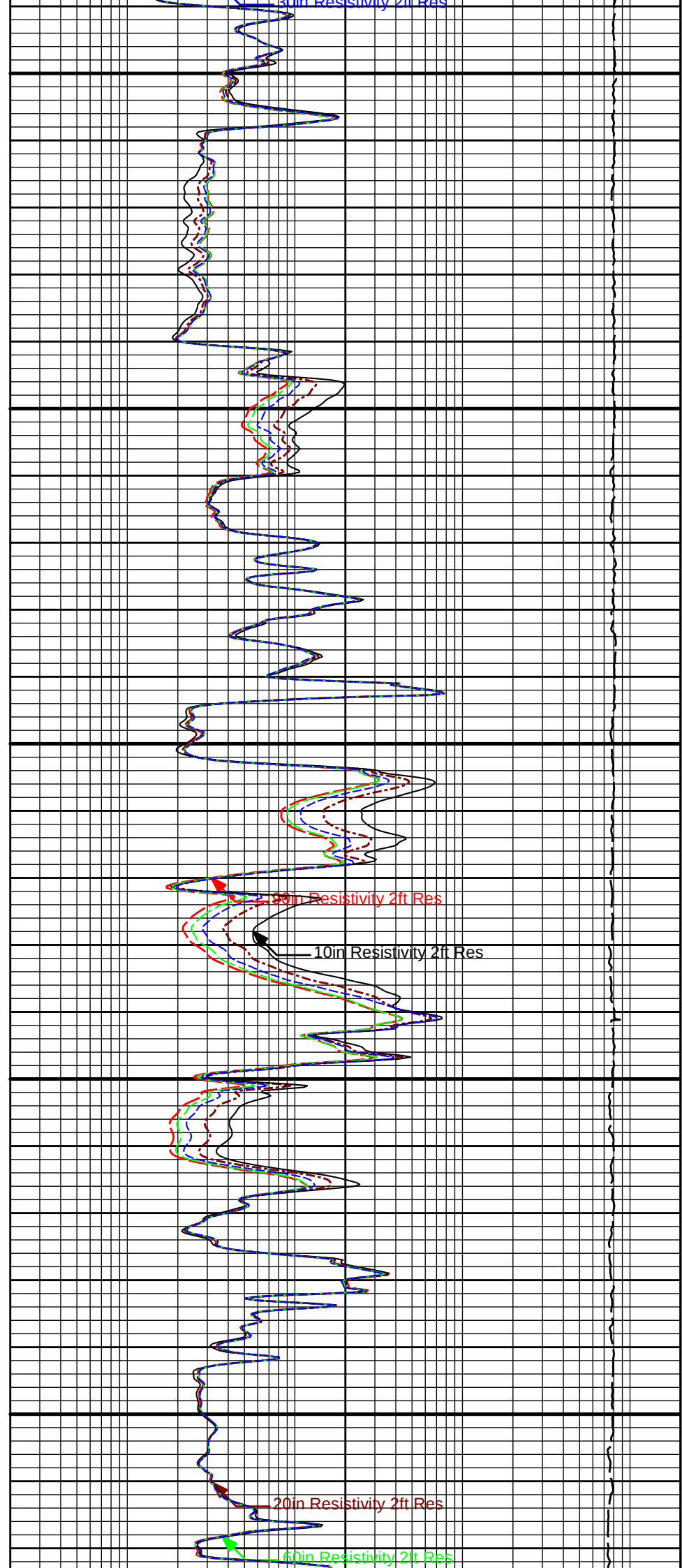
20in Resistivity 2ft Res

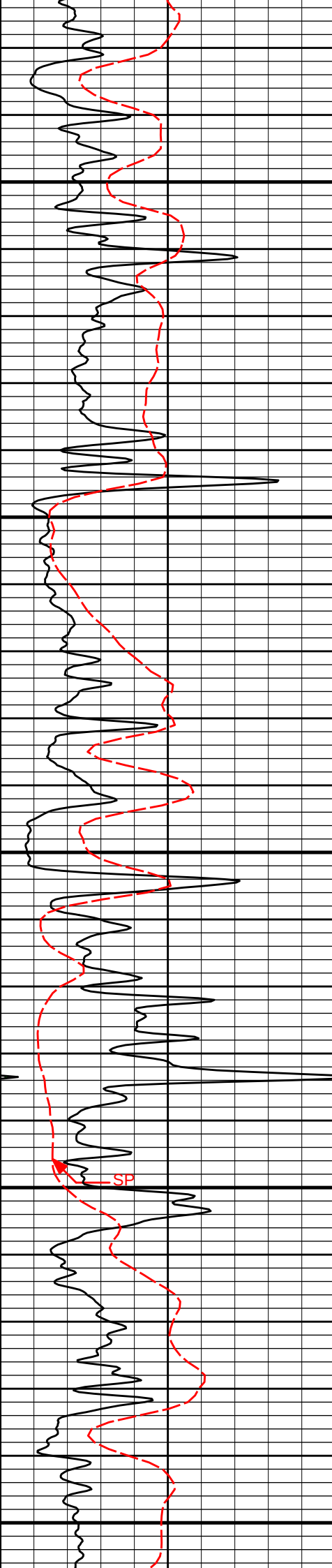


4200

4300

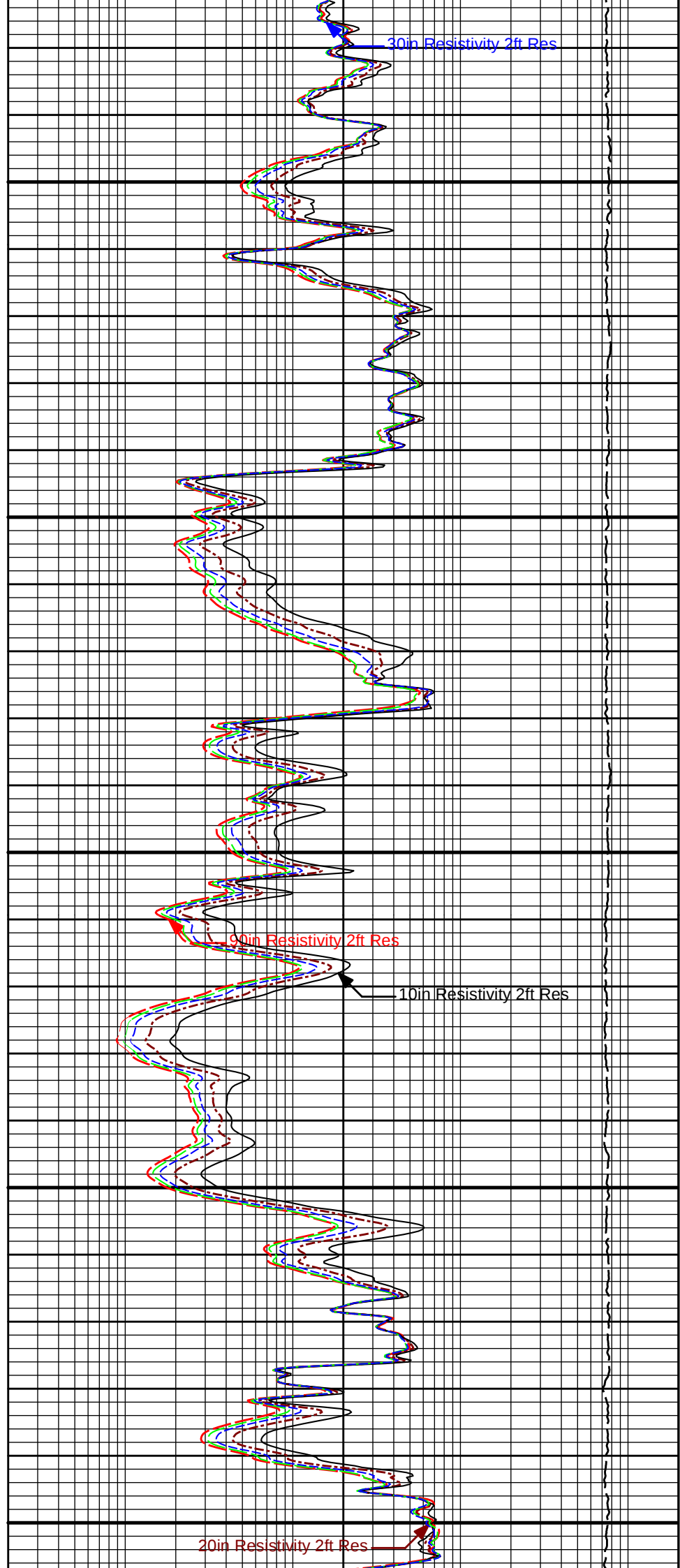
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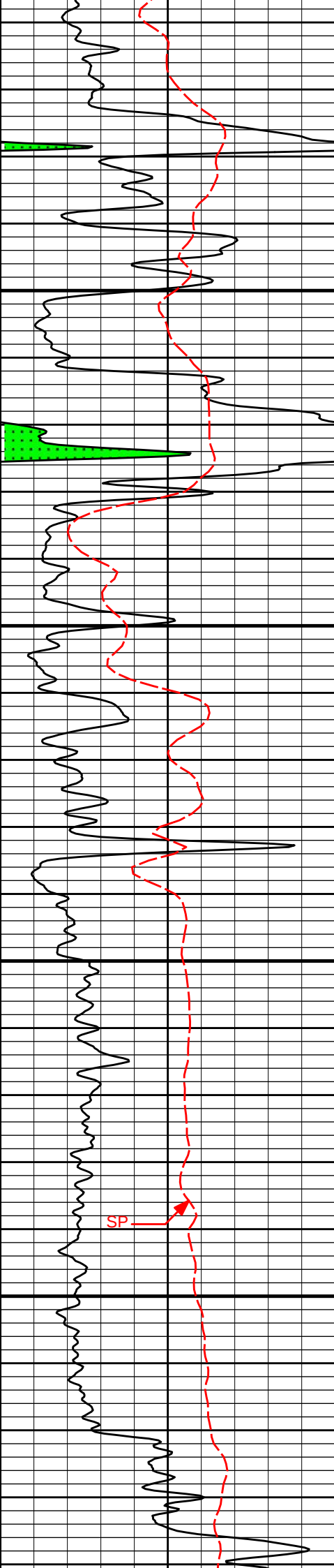




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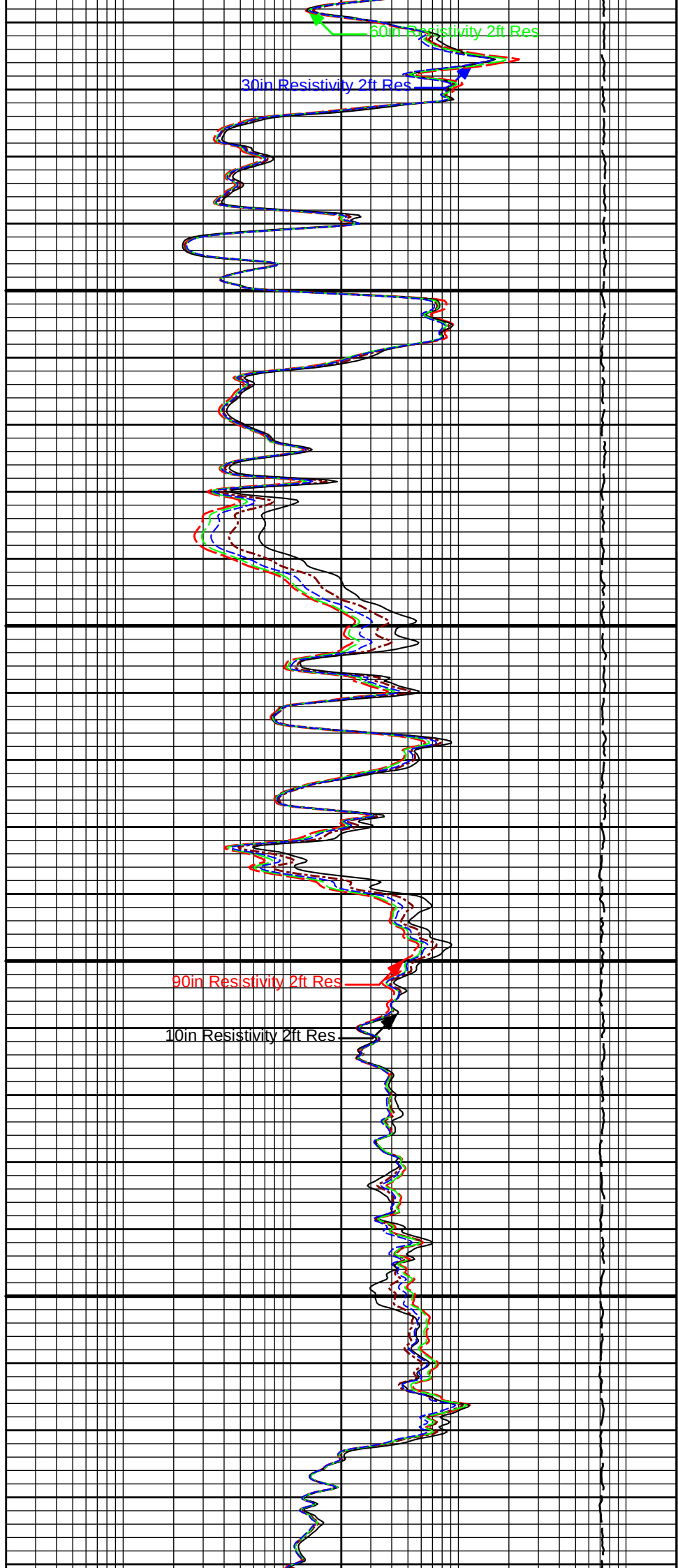
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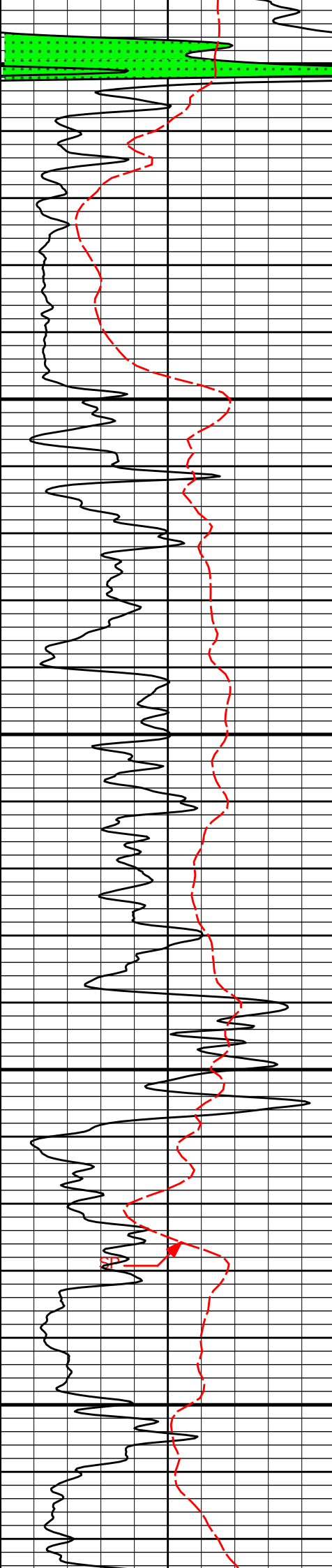




4700

4800

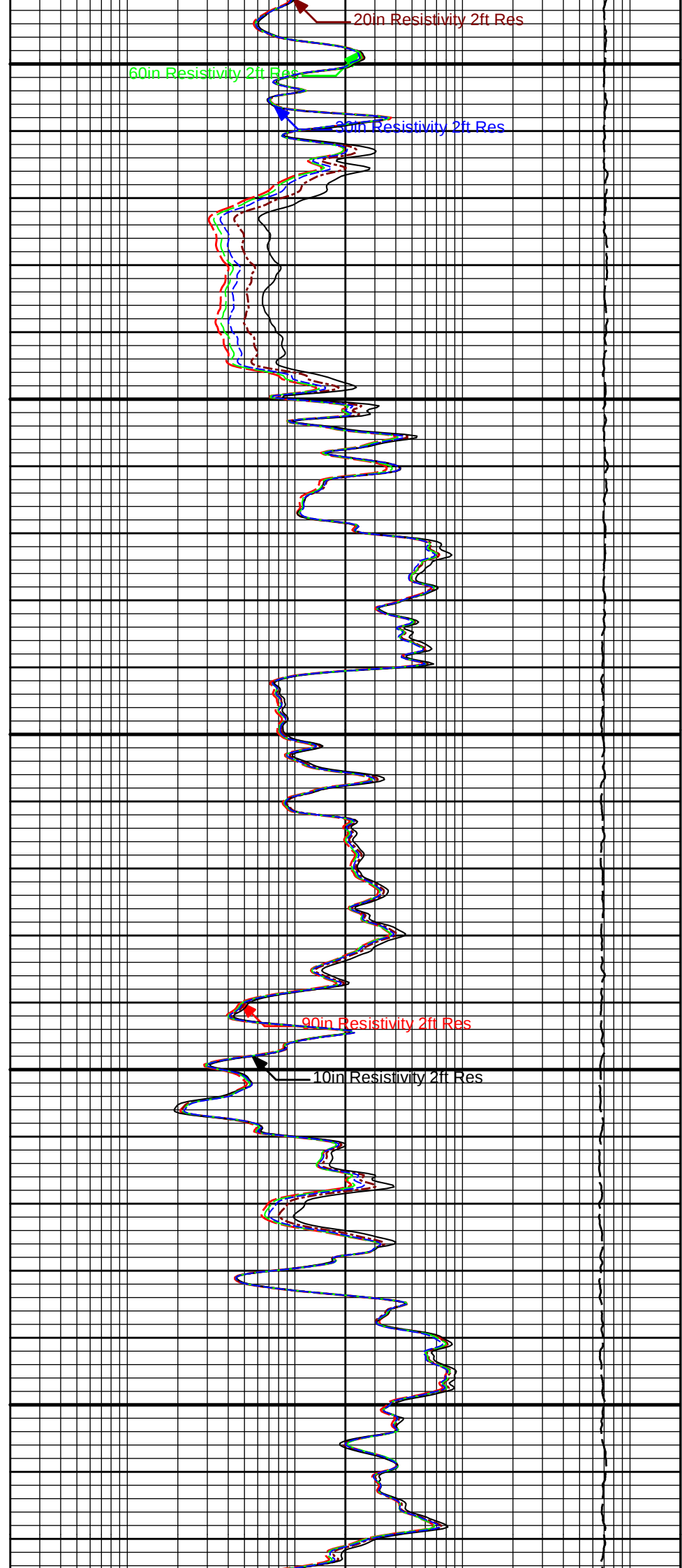


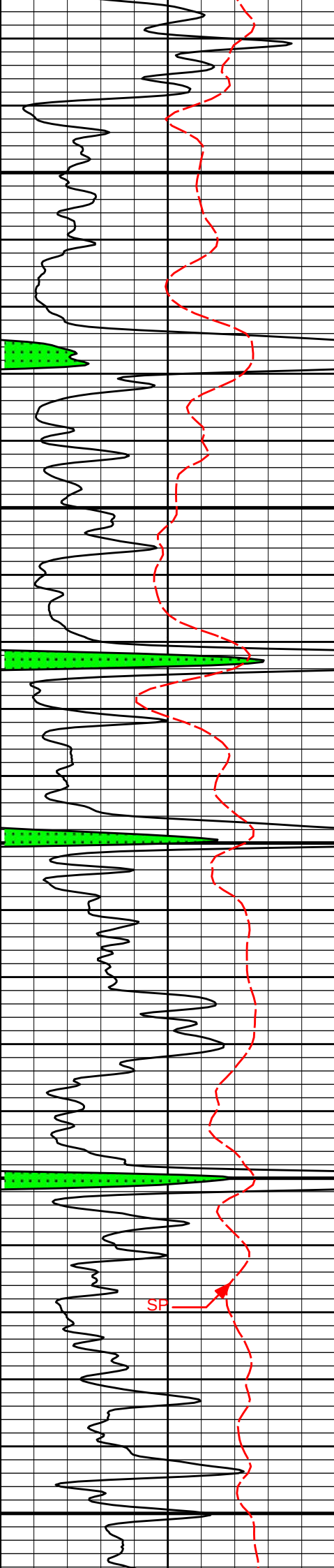


4900

5000

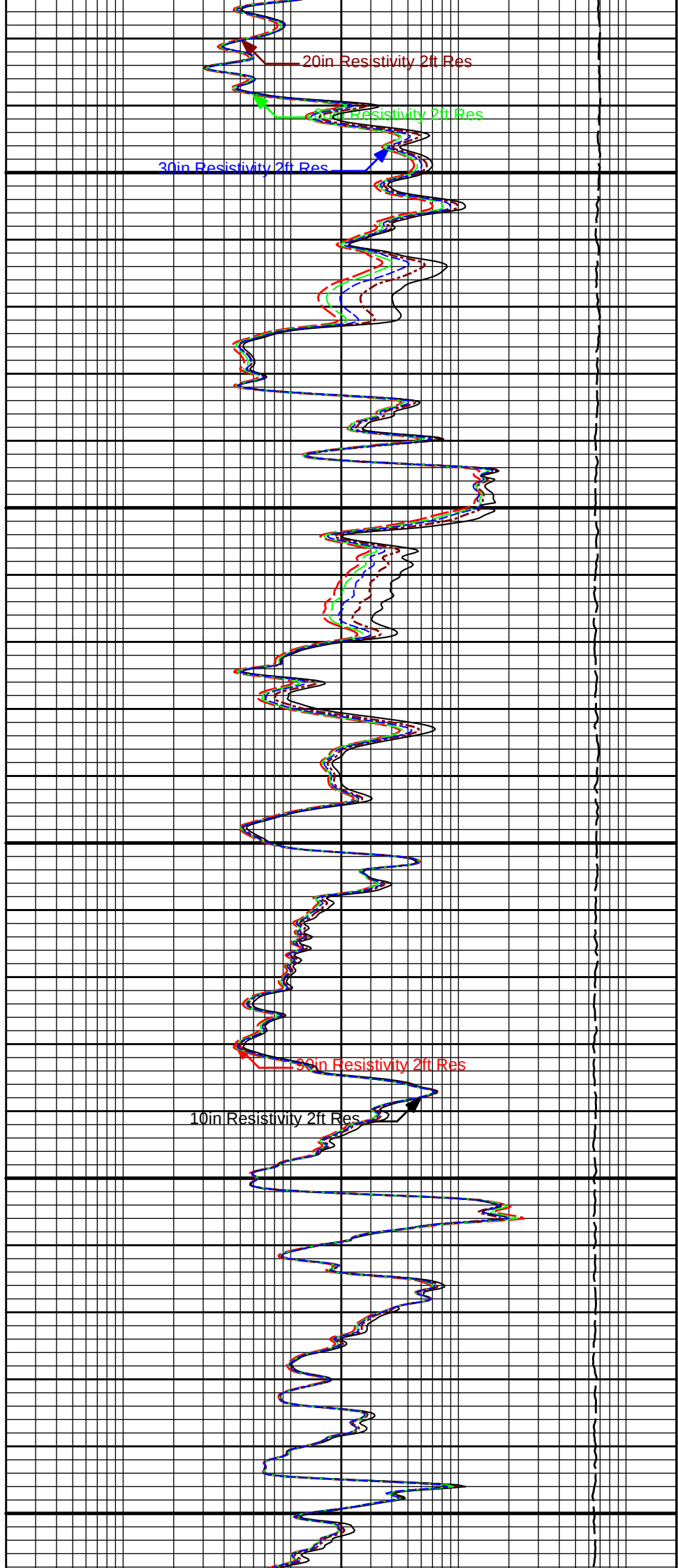
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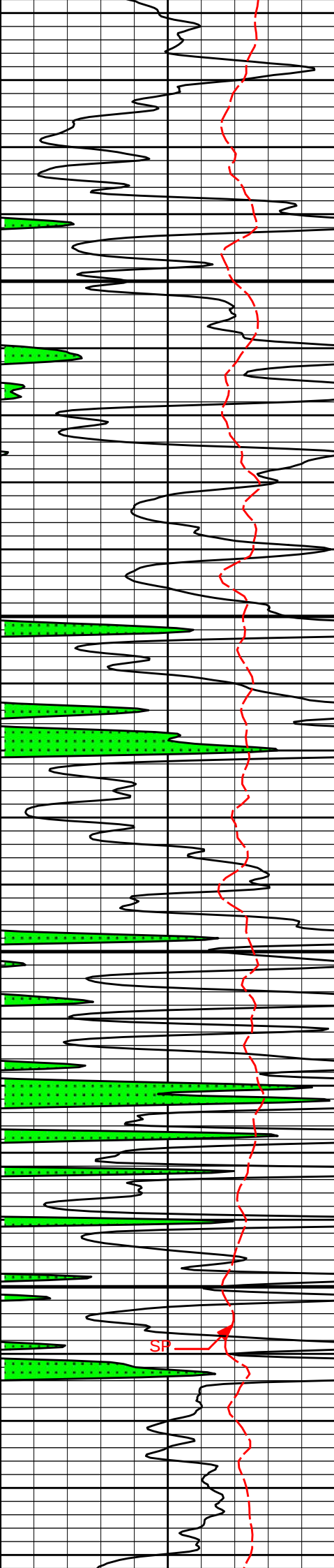




5200

5300

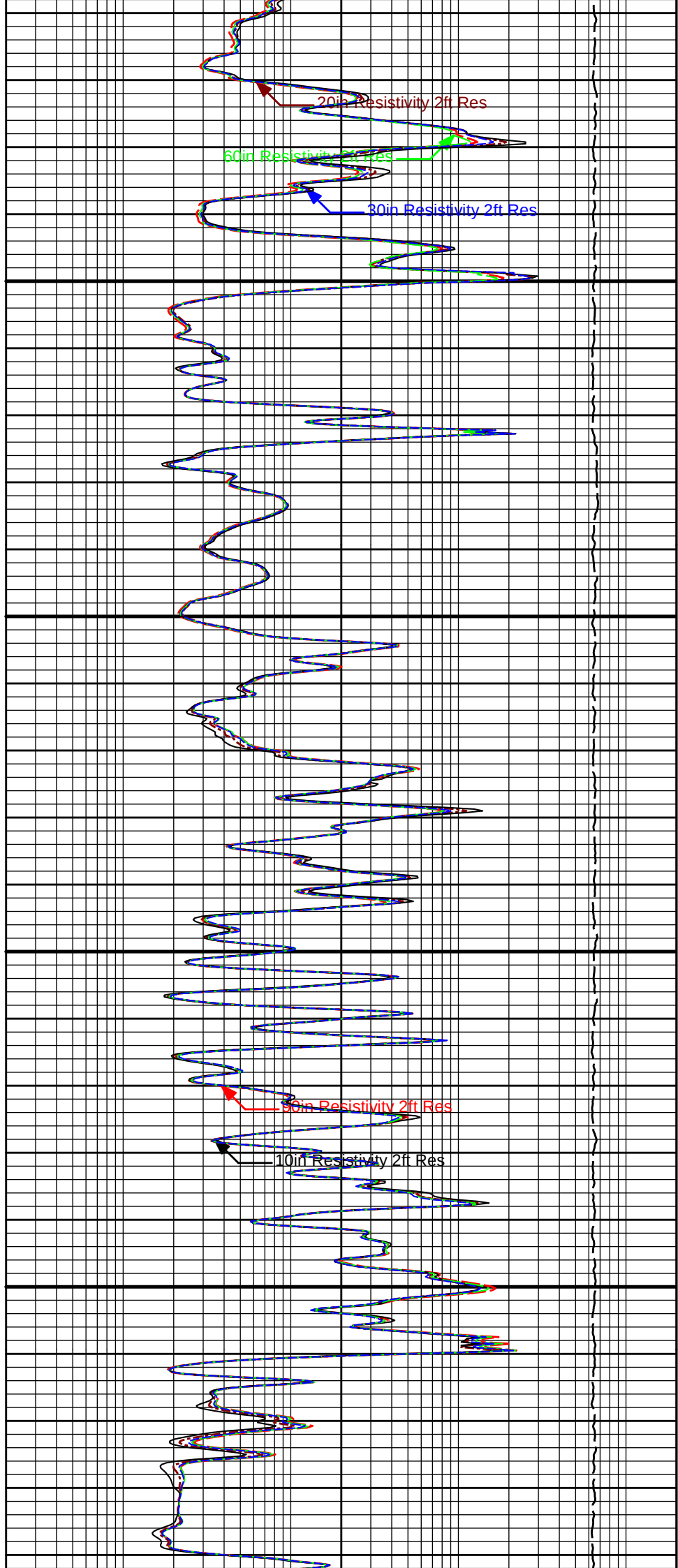


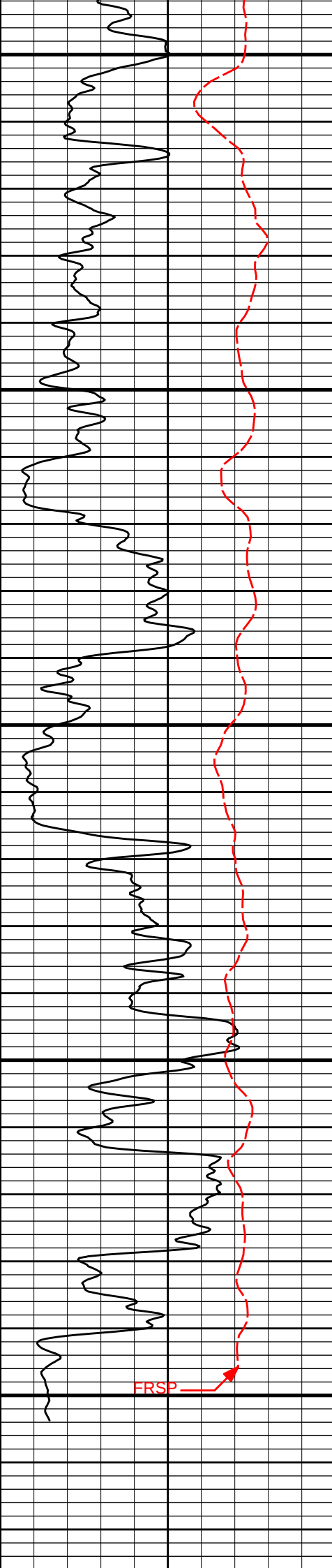


5400

5500

SP

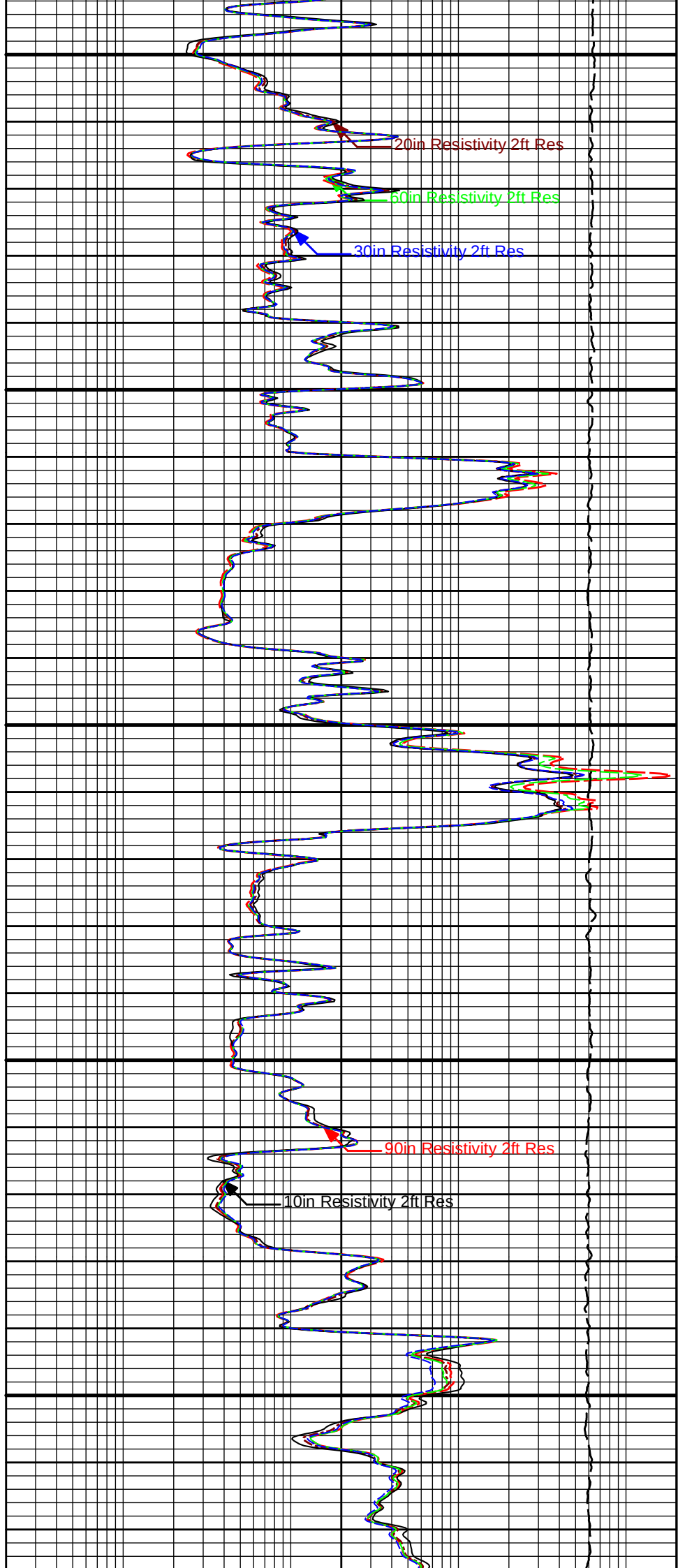




5600

5700

5800



20in Resistivity 2ft Res

60in Resistivity 2ft Res

30in Resistivity 2ft Res

90in Resistivity 2ft Res

10in Resistivity 2ft Res



Plot Time: 02-Apr-18 22:18:47
Plot Range: 1600 ft to 5862.92 ft
Data: RAYDON_ROCK\Well Based\DAQ-0001-004\
Plot File: \\LOCAL-1\RAYDON_ROCK\0001 GTET-DSNT-SDLT-BSAT-ACRT\ACRT\ACRT_5inch_main

5 INCH MAIN LOG

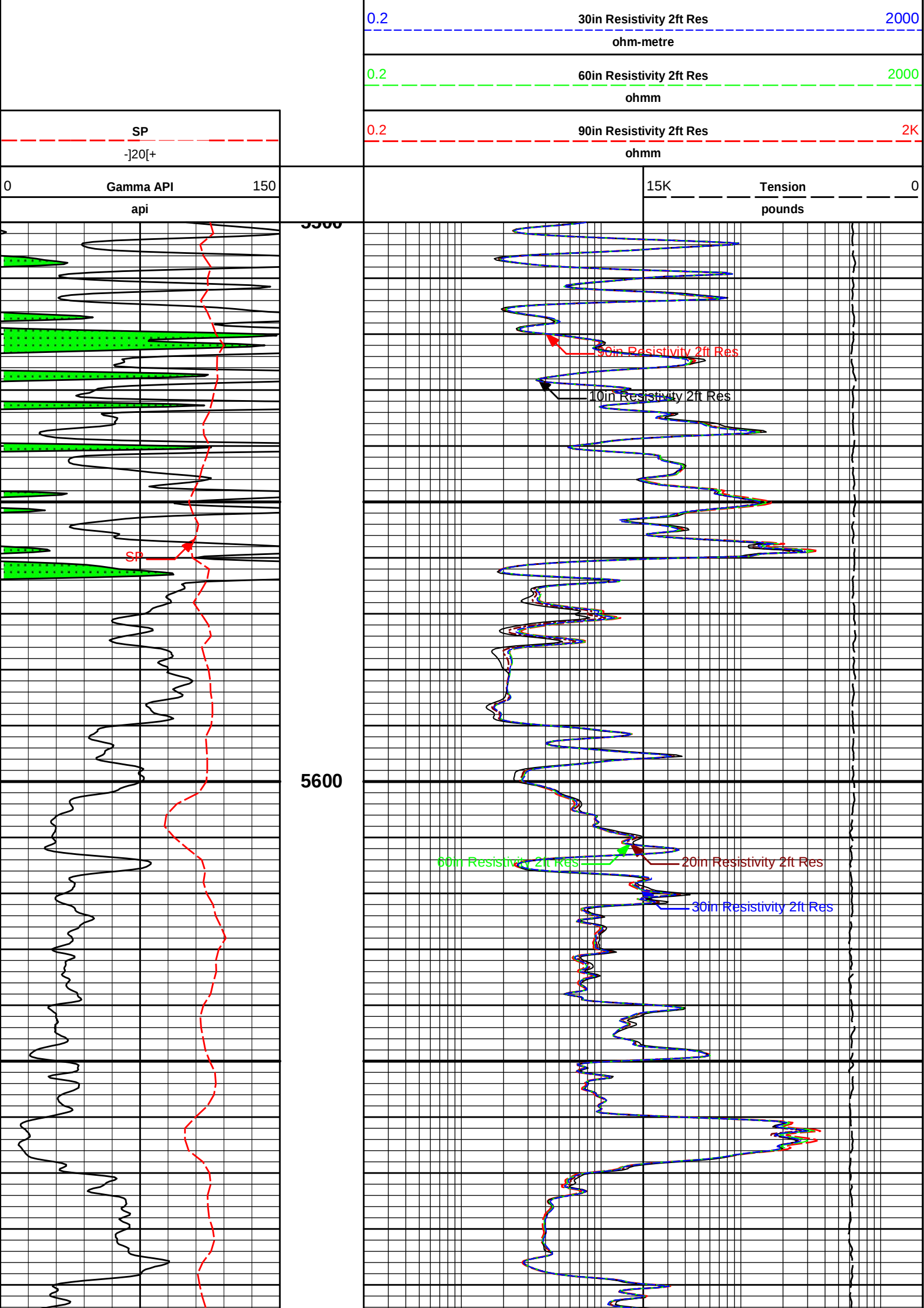
5 INCH MAIN LOG

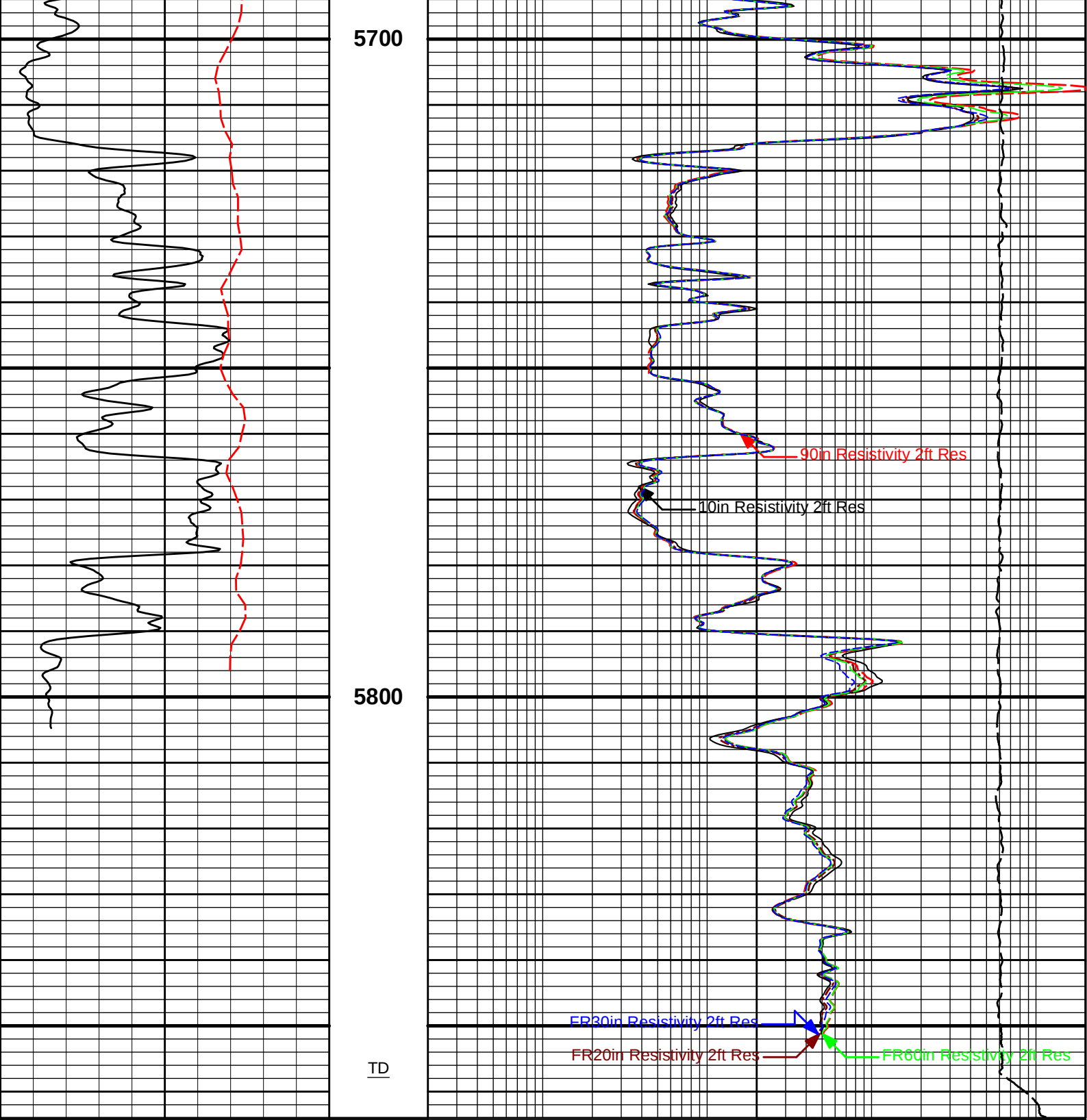
Plot Time: 02-Apr-18 22:18:47
Plot Range: 5500 ft to 5864 ft
Data: RAYDON_ROCK\Well Based\DAQ-0001-003\
Plot File: \\LOCAL-1\RAYDON_ROCK\0001 GTET-DSNT-SDLT-BSAT-ACRT\ACRT\ACRT_5inch_main

REPEAT SECTION

REPEAT SECTION

	0.2	10in Resistivity 2ft Res	2K
	ohmm		
	0.2	20in Resistivity 2ft Res	2000
	ohmm		





0	Gamma API	150		15K	Tension	0
	api				pounds	
	SP					
	-20[+					
			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		

REPEAT SECTION

REPEAT SECTION



CALIBRATION REPORT

SURFACE TENSION SHOP CALIBRATION

Tool Name:	Depth Panel - 12345678	Reference Calibration Date:	22-Mar-18 13:22:04
Engineer:	MICHAEL RICHTER	Calibration Date:	26-Mar-18 02:44:11
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1

SURFACE TENSION LOAD CELL				
Measurement	Load Cell Value	Measurement	Calibrated	Units
Low	10487.49	152.55	0.00	lbs
High	16966.98	7992.00	7830.00	lbs

DOWNHOLE TENSION SHOP CALIBRATION

Tool Name:	CH_HOS - CH_HOS_I	Reference Calibration Date:	22-Mar-18 13:25:56
Engineer:	MICHAEL RICHTER	Calibration Date:	26-Mar-18 02:47:18
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1

DOWNHOLE LOAD CELL				
Measurement	Tool Value	Measurement	Calibrated	Units
Low	-387.58	-26.64	0.00	lbs
High	4481.23	556.85	1810.00	lbs

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	GTET - 11013113	Reference Calibration Date:	02-Mar-18 10:43:25
Engineer:	WHITLOCK	Calibration Date:	02-Apr-18 09:34:23
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	24.8	24.5	api
Background + Calibrator	253.9	250.4	api
Calibrator	229.0	225.9	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 11013113	Reference Calibration Date:	02-Apr-18 09:34:23
Engineer:	WHITLOCK	Calibration Date:	02-Apr-18 09:42:58
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	24.5	24.2	api
Background + Calibrator	250.4	247.0	api
Calibrator	225.9	222.8	api
Shop	Field	Difference	Tolerance
225.9	222.8	3.1	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 11019641	Reference Calibration Date:	23-Jan-18 12:17:50
Engineer:	WHITLOCK	Calibration Date:	23-Jan-18 12:36:13
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:	0.98237	0.98197	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):	0.2359	0.2358	0.0001	+/- 0.0020
Calibrated Ratio:	10.5640	10.5596	0.004	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0770	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 - 11019641	Reference Calibration Date:	23-Jan-18 12:36:13
Engineer:	SEAN WOLTEMATH	Calibration Date:	02-Apr-18 09:46:51
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 (decp):	0.0770	0.0634	-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:	DSNT - 11019641	Reference Calibration Date:	01-Jan-70 00:00:00
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Tool Name: SDLT - 10950489		Reference Calibration Date: 01-Jan-70 00:00:00			
Engineer: WHITLOCK		Calibration Date: 14-Dec-17 13:55:25			
Software Version: WL INSITE R5.6.3 (Build 4)		Calibration Version: 1			
Host Tool Name: DSNT - 11019641					
	CALIBRATION COEFFICIENTS				
	Measurement	Previous Value	New Value	Control Limit On New Value	
	Pad Offset	-3919.89	-3919.89	-7000.00 - -1000.00	
	Pad Gain	0.0003729	0.0003729	0.0002000 - 0.0006000	
	Arm Offset	-3610.38	-3610.38	-5000.00 - 3000.00	
	Arm Gain	0.0004319	0.0004319	0.000300 - 0.000700	
	Arm Power	-0.000000447	-0.000000447	-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		

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION									
Tool Name: ACRt Sonde - 11830728		Reference Calibration Date: 15-Dec-17 11:55:35							
Engineer: WHITLOCK		Calibration Date: 23-Feb-18 10:15:37							
Software Version: WL INSITE R5.6.3 (Build 4)		Calibration Version: 1							
Host Tool Name: ACRt Instrument - 11830684									
TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0279	1.05	0.95	1.0076	1.05	0.95	0.9997	1.05
A2 (50")	0.95	1.0334	1.05	0.95	1.0139	1.05	0.95	1.0097	1.05
A3 (29")	0.95	1.0346	1.05	0.95	1.0146	1.05	0.95	1.0081	1.05
A4 (17")	0.95	1.0279	1.05	0.95	1.0063	1.05	0.95	1.0018	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0001	1.05	0.95	0.9950	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9869	1.05	0.95	0.9818	1.05
SONDE OFFSET									
Subarray	R12KHz			R36KHz			R72KHz		
	(mmho/m)			(mmho/m)			(mmho/m)		
A1 (80")	0.315			-4.964			-5.711		
A2 (50")	0.409			-3.450			-5.485		
A3 (29")	-11.648			-3.720			-3.783		
A4 (17")	-90.980			-28.724			-23.707		
A5 (10")	N/A			-76.200			-37.537		
A6 (6")	N/A			280.488			149.005		

TRANSMITTER CURRENT GAIN			
Signal	Lower	R	Upper
12K	0.6	0.82	1.3
36K	1.0	1.80	2.0
72K	1.0	1.05	2.0

R-MUD VERIFICATION			
Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	0.99	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 - 11830728	Reference Calibration Date:	15-Dec-17 11:58:57
Engineer:	WHITLOCK	Calibration Date:	23-Feb-18 10:21:17
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1
Host Tool Name:	ACRt Instrument - 11830684		

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	-0.006	> -0.500	Pass	-0.022	> -0.500	Pass
A5 (10")	-0.010	> -0.500	Pass	-0.017	> -0.500	Pass	-0.036	> -0.500	Pass
A6 (6")	0.014	< 0.500	Pass	0.063	< 0.500	Pass	0.138	< 0.500	Pass

GAIN TOLERANCE					
R12KHz					
	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	-213173456.000	-213653808.000	480352.000	10682690.400	Pass
A2 (50")	-205651744.000	-206143280.000	491536.000	10307164.000	Pass
A3 (29")	-200817664.000	-201197776.000	380112.000	10059888.800	Pass
A4 (17")	-200193568.000	-200629872.000	436304.000	10031493.600	Pass
A5 (10")	-200252336.000	-200678960.000	426624.000	10033948.000	Pass
A6 (6")	-199820688.000	-200219344.000	398656.000	10010967.200	Pass
R36KHz					
	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	48114080.000	48477272.000	363192.000	2423863.600	Pass

A2 (50")	33966292.000	34324412.000	358120.000	1716220.600	Pass
A3 (29")	28032378.000	28346680.000	314302.000	1417334.000	Pass
A4 (17")	27853682.000	28207516.000	353834.000	1410375.800	Pass
A5 (10")	27373208.000	27716930.000	343722.000	1385846.500	Pass
A6 (6")	26035236.000	26360300.000	325064.000	1318015.000	Pass
R72KHz					
	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	-92927656.000	-93022904.000	95248.000	4651145.200	Pass
A2 (50")	-90501024.000	-90617752.000	116728.000	4530887.600	Pass
A3 (29")	-88192472.000	-88292832.000	100360.000	4414641.600	Pass
A4 (17")	-88397088.000	-88515880.000	118792.000	4425794.000	Pass
A5 (10")	-86957704.000	-87076952.000	119248.000	4353847.600	Pass
A6 (6")	-87976216.000	-88080696.000	104480.000	4404034.800	Pass
PASS/FAIL SUMMARY					
Std Deviation Verification				Pass	
Average Verification				Pass	
Gain Tolerance Verification				Pass	

MICRO LOG SHOP CALIBRATION			
Tool Name:	Microlog Pad - 10950489	Reference Calibration Date:	14-Dec-17 13:13:21
Engineer:	SEAN WOLTEMATH	Calibration Date:	29-Mar-18 10:10:09
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1
Host Tool Name:	DSNT - 11019641		

	CALIBRATION COEFFICIENT SUMMARY					
	Measurement	Micro Log Normal		Micro Log Lateral		
		Measured	Calibrated	Measured	Calibrated	Units
	Tool Zero	-0.07	-0.09	-0.01	-0.01	ohmm
	Calibration Point #1	0.02	0.00	0.00	0.00	ohmm
	Calibration Point #2	20.01	20.00	19.99	20.00	ohmm
	Internal Reference	19.92	19.91	19.98	19.99	ohmm
	Measurement	Micro Log Normal Tool Value		Micro Log Lateral Tool Value		Units
	Tool Zero	0.01		0.02		V
	Calibration Point #1	22.62		2.05		V
	Calibration Point #2	5331.95		6945.96		V
	Internal Reference	5308.27		6942.10		V

MICRO LOG FIELD CHECK					
Tool Name:	Microlog Pad - 10950489		Reference Calibration Date:	29-Mar-18 10:10:09	
Engineer:	WHITLOCK		Calibration Date:	02-Apr-18 09:31:49	
Software Version:	WL INSITE R5.6.3 (Build 4)		Calibration Version:	1	

	Measurement	Micro Log Normal		Micro Log Lateral		Units
		Shop	Field	Shop	Field	
	Tool Zero	-0.09	-0.09	-0.01	-0.01	ohmm
	Internal Reference	19.91	19.88	19.99	19.96	ohmm
	Summary					
	Signal	Shop	Field	Difference	Tolerance	
	Microlog Normal	19.91	19.88	0.03	+/- 0.80	
	Microlog Lateral	19.99	19.96	0.03	+/- 0.80	

SPECTRAL DENSITY SHOP CALIBRATION					
Tool Name:	SDI T Pad - 11213308		Reference Calibration Date:	14-Dec-17 13:29:17	

Logging Source S/N: 5155GW

Aluminum Block S/N: EL RENO

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	1.0311	1.0351	0.90 - 1.10
Near Dens Gain	1.0140	1.0142	0.90 - 1.10
Near Peak Gain	1.0305	1.0443	0.90 - 1.10
Near Lith Gain	1.0375	1.0681	0.90 - 1.10
Far Bar Gain	1.0101	1.0125	0.90 - 1.10
Far Dens Gain	0.9969	0.9981	0.90 - 1.10
Far Peak Gain	0.9958	0.9949	0.90 - 1.10
Far Lith Gain	0.9757	0.9731	0.90 - 1.10
Near Bar Offset	0.0106	-0.0096	NONE
Near Dens Offset	0.1722	0.1818	NONE
Near Peak Offset	0.0177	-0.0795	NONE
Near Lith Offset	-0.0725	-0.3008	NONE
Far Bar Offset	0.1300	0.1155	NONE
Far Dens Offset	0.2552	0.2496	NONE
Far Peak Offset	0.2487	0.2613	NONE
Far Lith Offset	0.3676	0.3924	NONE
Near Bar Background	963.19	957.68	700 - 1450
Near Dens Background	320.82	317.42	230 - 480
Near Peak Background	140.46	138.59	100 - 210
Near Lith Background	171.88	169.33	125 - 260
Far Bar Background	490.97	486.09	450 - 900
Far Dens Background	195.43	194.85	175 - 345
Far Peak Background	78.63	78.00	70 - 140
Far Lith Background	81.18	81.14	75 - 145

Calibration Block Summary				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.674	1.687	0.013	+/- 0.015
Pe	2.623	2.551	-0.072	+/- 0.150
ALUMINUM				
Density (g/cc)	2.567	2.581	0.014	+/- 0.01500
Pe	3.146	3.123	-0.023	+/- 0.150

Tool Summary				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0015	+/- 0.0110	-0.0006	+/- 0.0140
Magnesium Block	-0.0009	+/- 0.0110	0.0001	+/- 0.0140
Aluminum Block	-0.0011	+/- 0.0110	-0.0005	+/- 0.0140
Resolution	9.25	6.00 - 11.50	9.36	6.00 - 11.50
Internal Verifier(B+D+P+L)	1583	1200 - 2700	840	800 - 1700

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 - 11213308	Reference Calibration Date:	29-Mar-18 13:45:53
Engineer:	WHITLOCK	Calibration Date:	02-Apr-18 09:35:32
Software Version:	WL INSITE R5.6.3 (Build 4)	Calibration Version:	1

Pad Temperature: 64.7 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1583.020	1579.950	-3.070	16.005
Far (B+D+P+L) cps	840.072	840.066	-0.006	15.931
Near Resolution	9.25	9.25	0.000	0.50
Far Resolution	9.36	9.25	-0.110	1.00

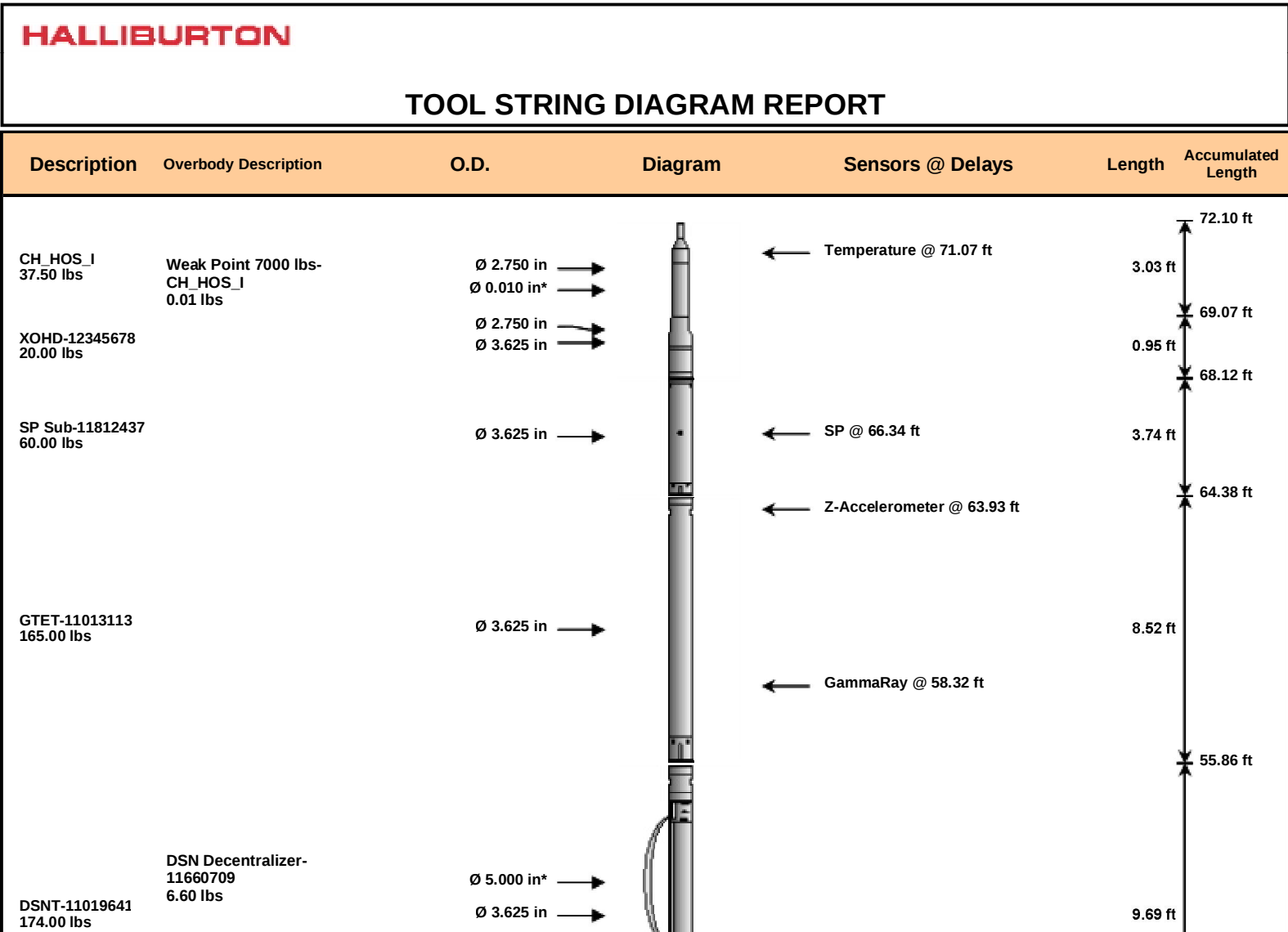
PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

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	1810.00	-----	-----	0.00	-----	lbs
GTET-11013113						
Gamma Ray Calibrator	225.9	222.8	-----	3.1	+/- 9.00	api
DSNT-11019641						
Snow-Block Porosity	0.0770	0.0634	-----	0.0136	+/- 0.0150	decp
SDLT-10950489						
Pad Extension	3.75	-----	-----	0.00	+/-0.20	in
Ring Diameter	8.25	-----	-----	0.00	+/-0.20	in
ACRt Sonde-11830728						
Mud Cell	0.99	-----	-----	0	-----	ohm-m
Microlog Pad-10950489						
MicroLog Normal	19.91	19.88	-----	0.03	+/-0.80	ohmm
MicroLog Lateral	19.99	19.96	-----	0.03	+/-0.80	ohmm
SDLT Pad-11213308						
Near(B+D+P+L)	1583.020	1579.950	-----	3.070	+/-16.005	cps
Far(B+D+P+L)	840.072	840.066	-----	0.006	+/-15.931	cps

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	8.900	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	1.250	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	5860.00	ft
	SHARED	BHT	Bottom Hole Temperature	138.0	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	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_____				
Data: RAYDON_ROCK\0001 GTET-DSNT-SDLT-BSAT-ACRT\IDLE			Date: 02-Apr-18 17:14:12	



SDLT-10950489
360.00 lbs

SDLT Pad-11213308
65.00 lbs
Microlog Pad-10950489
8.00 lbs

RAM-Cs137-00005155
1.00 lbs

Ø 4.500 in →

Ø 4.500 in* →

Ø 4.750 in* →

Ø 0.800 in* →

← DSN Far @ 48.92 ft

← DSN Near @ 48.17 ft

← Microlog @ 38.36 ft

← SDL Caliper @ 38.17 ft

← SDL @ 38.16 ft

46.17 ft

10.81 ft

35.36 ft

BSAT-12173982
300.00 lbs

Ø 3.625 in →

← Receiver Array @ 26.84 ft

← Sonic Receivers @ 26.84 ft

15.77 ft

ACRt Instrument-
11830684
50.00 lbs

Ø 3.625 in →

← Mud Resistivity @ 13.19 ft

19.58 ft

5.03 ft

14.55 ft

ACRt Sonde-
11830728
200.00 lbs

Ø 3.625 in →

← ACRt @ 9.21 ft

14.22 ft

Bull Nose-12345678
5.00 lbs

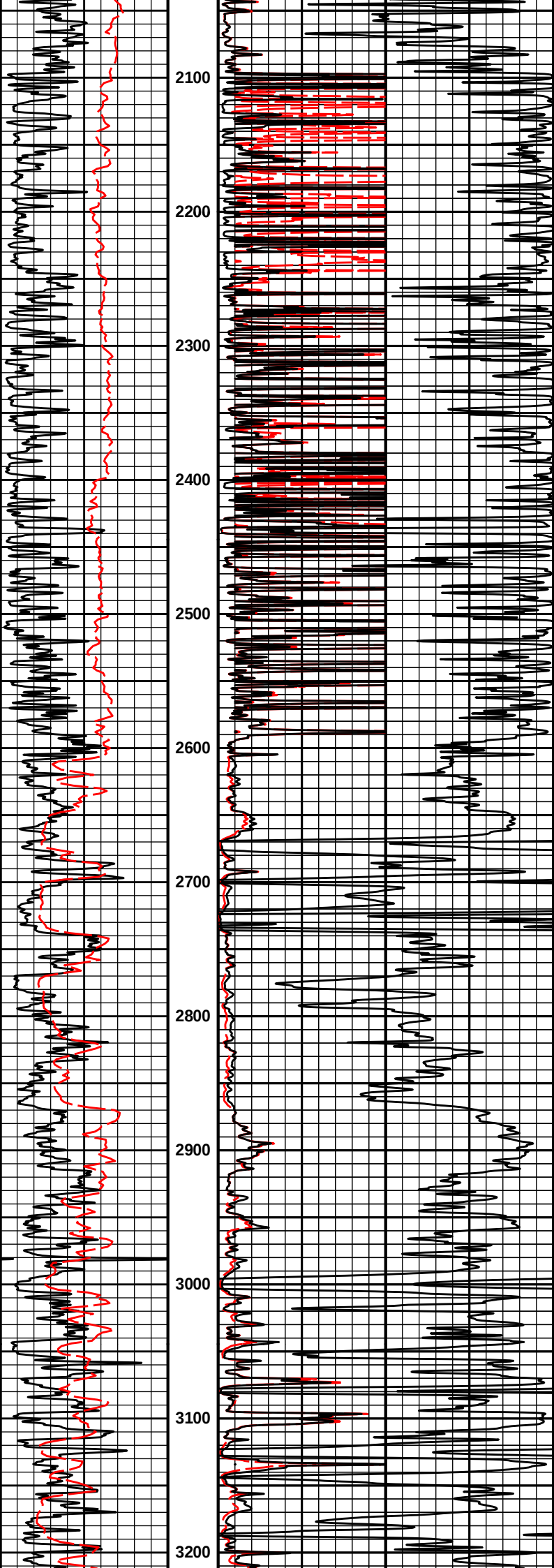
Ø 2.750 in →

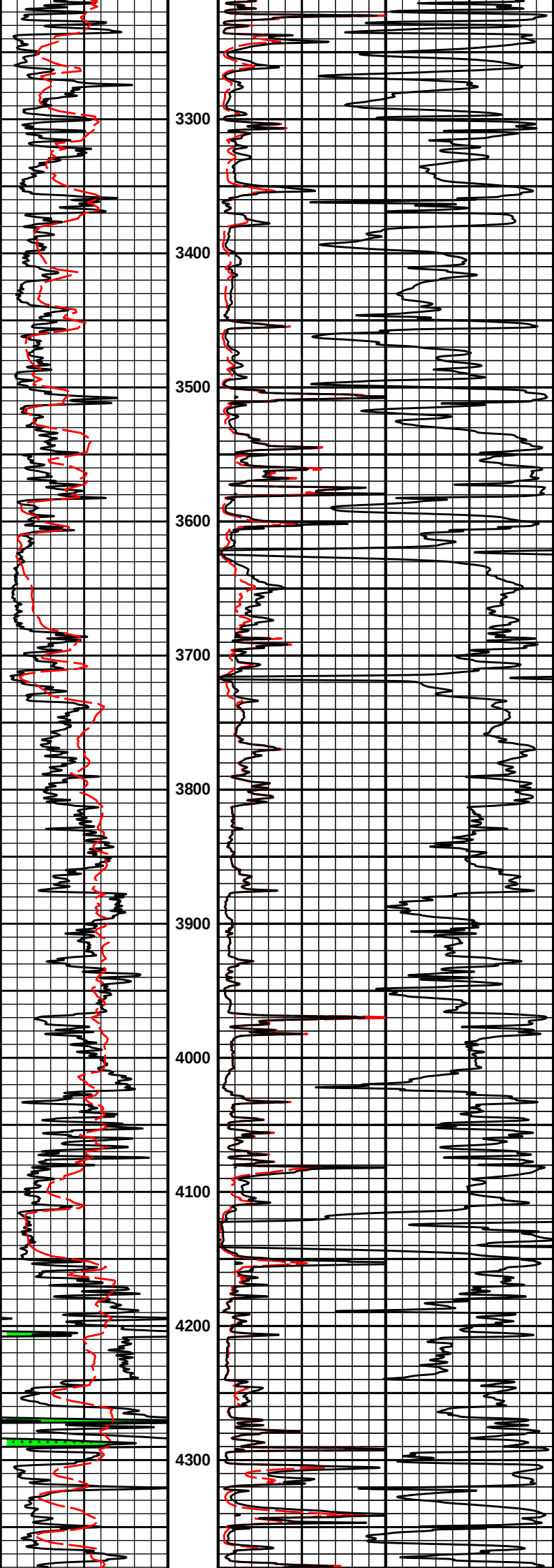
0.33 ft

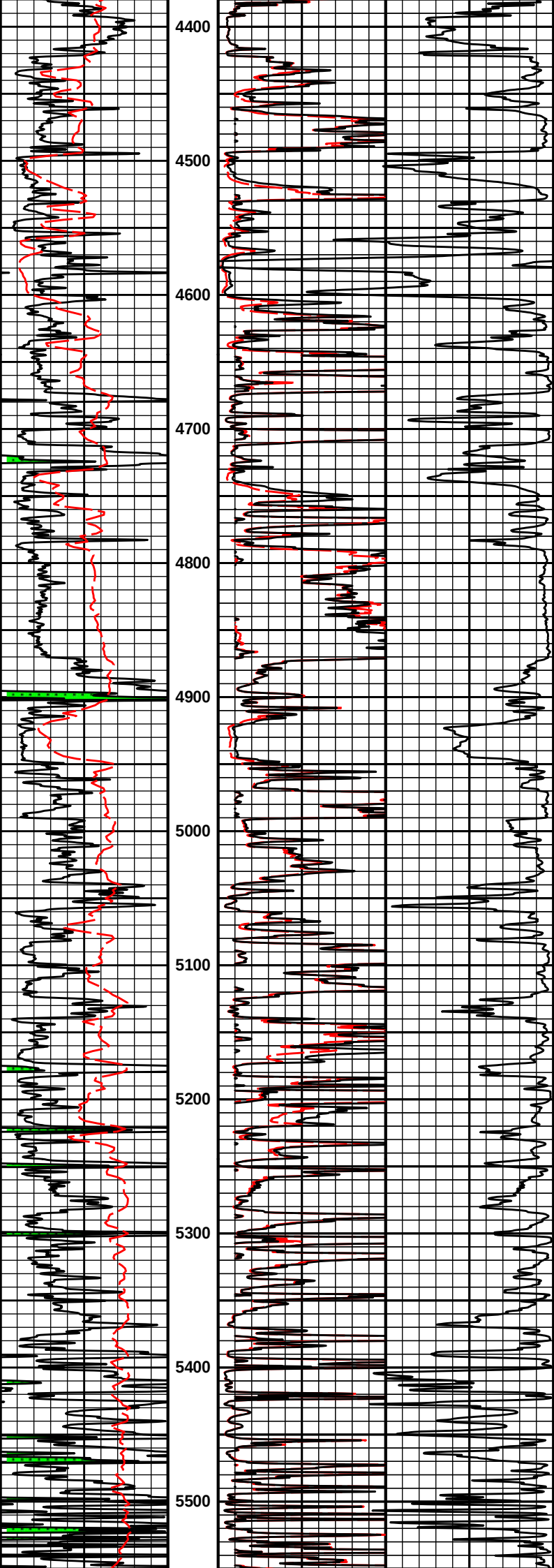
0.33 ft

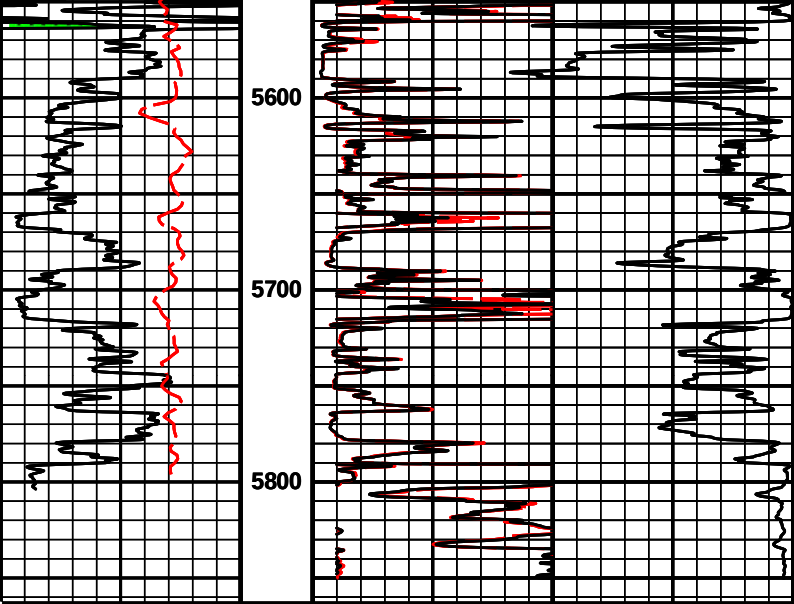
0.00 ft

Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell		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		11812437	60.00	3.74	64.38	300.00
CTET	Comms Telemetry Tool		11012112	165.00	9.52	55.86	60.00









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

HALLIBURTON

Plot Time: 02-Apr-18 22:19:02
Plot Range: 1600 ft to 5863 ft
Data: RAYDON_ROCK\Well Based\DAQ-0001-004\
Plot File: I:\LOCAL\RAYDON_ROCK\0001.GTET-DSNT-SDLT-BSAT-ACRTIACRTIACRT_1_main

1 INCH MAIN LOG

1 INCH CORRELATION LOG