

ARRAY COMPENSATED
TRUE RESISTIVITY
LOG

----- Fold here -----

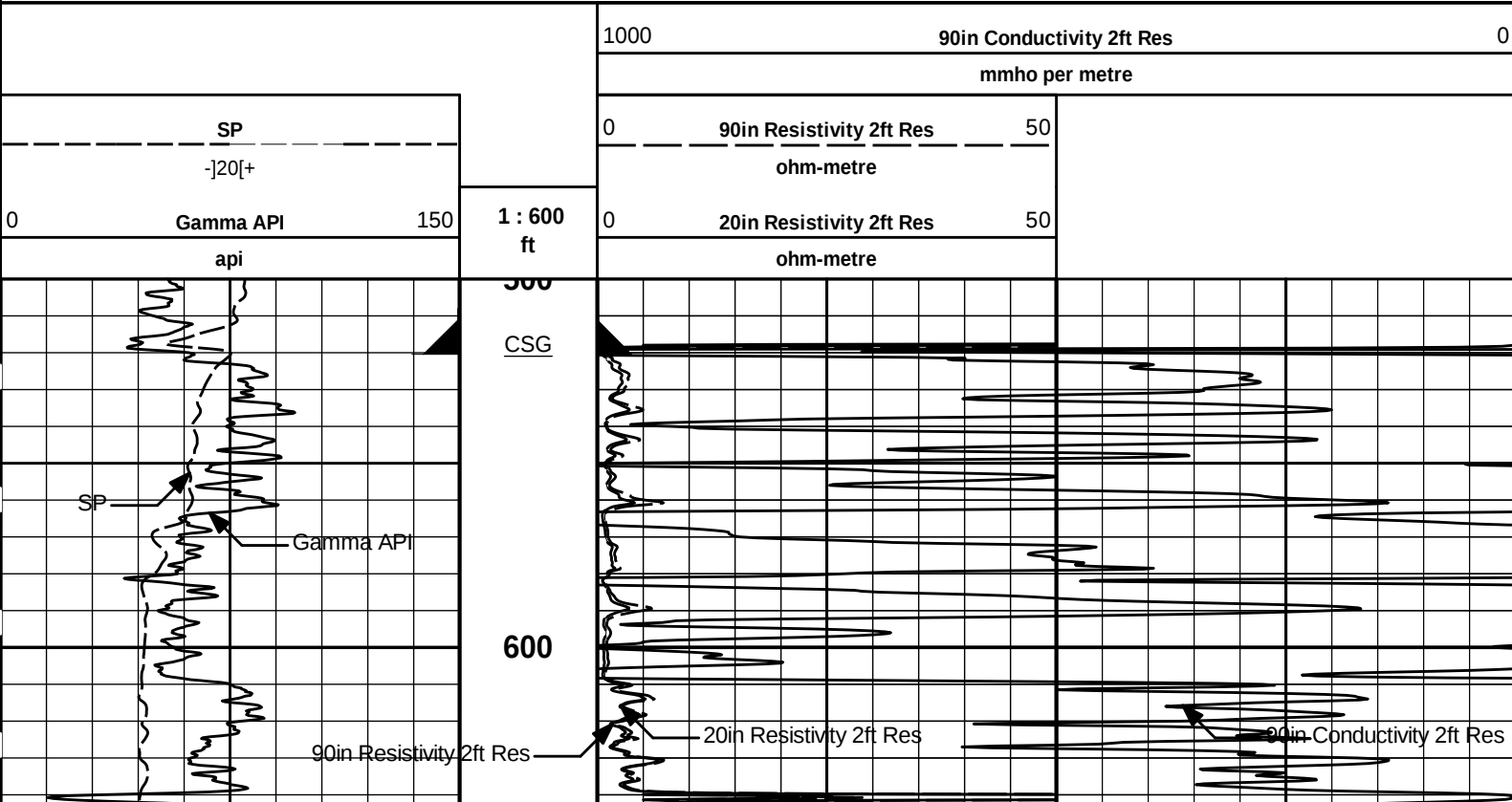
Service Ticket No.: 904384391						API No.: 15-057-20988-00-00						PGM Version: WL INSITE R5.0.5 (Build 8)					
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE								RESISTIVITY SCALE CHANGES									
Date	Sample No.					Type Log	Depth	Scale Up Hole		Scale Down Hole							
Depth-Driller																	
Type 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.				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				

[illegible]**HALLIBURTON**

Plot Time: 22-Oct-17 23:51:18
Plot Range: 500 ft to 5428.5 ft
Data: JOLEN_SELLARD\Well Based\DAQ-0001-003\
Plot File: \\LOCAL-1\JOLEN_SELLARD\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\ACRT\ACRT_2_main

2 INCH MAIN LOG

2 INCH MAIN LOG





700

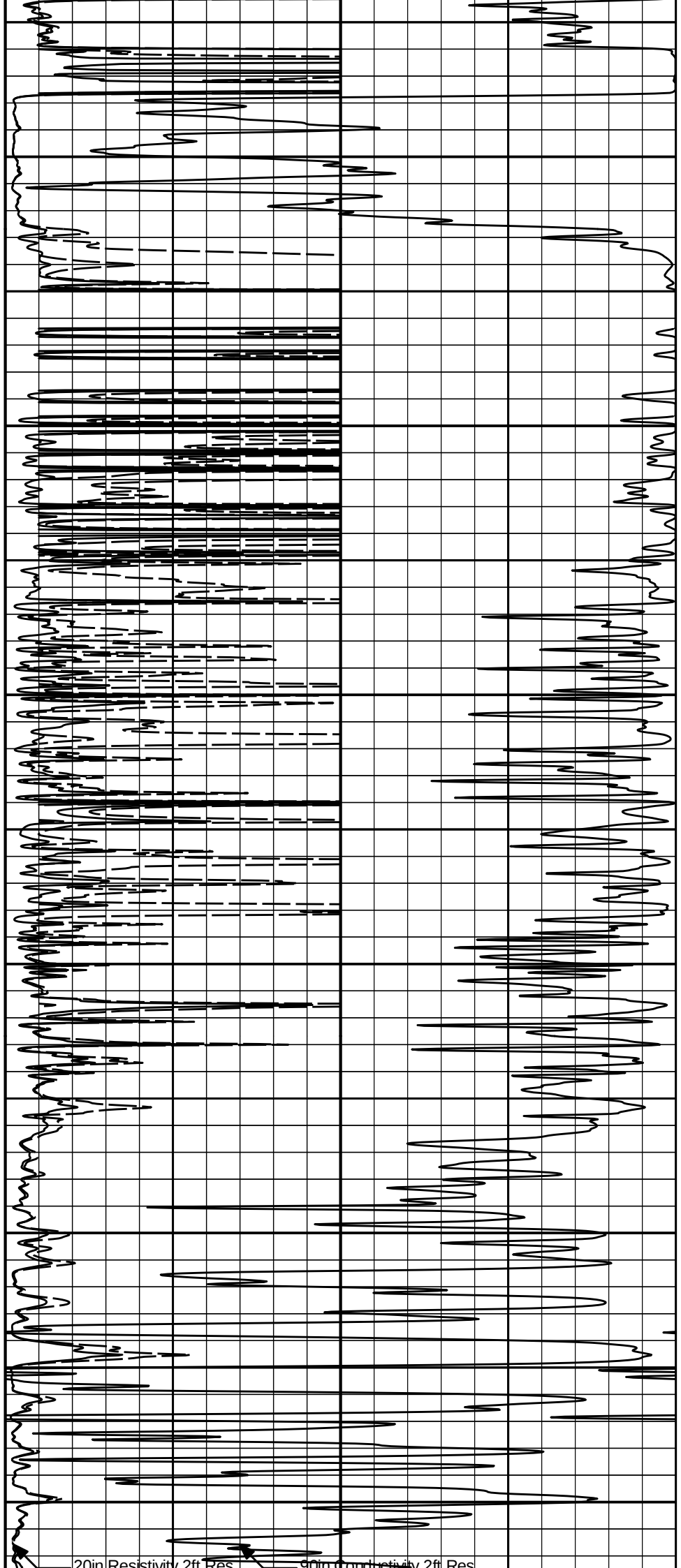
800

900

1000

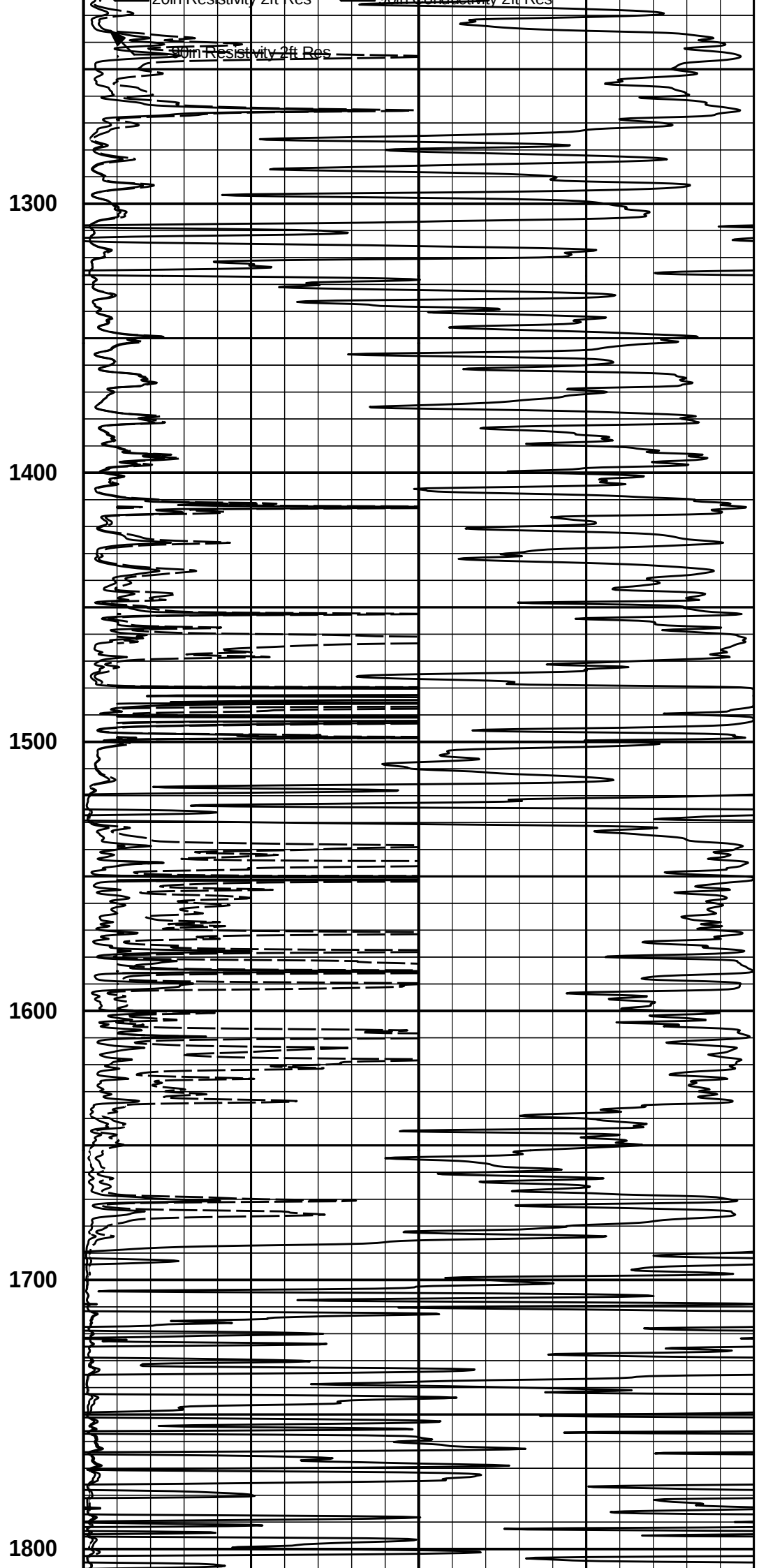
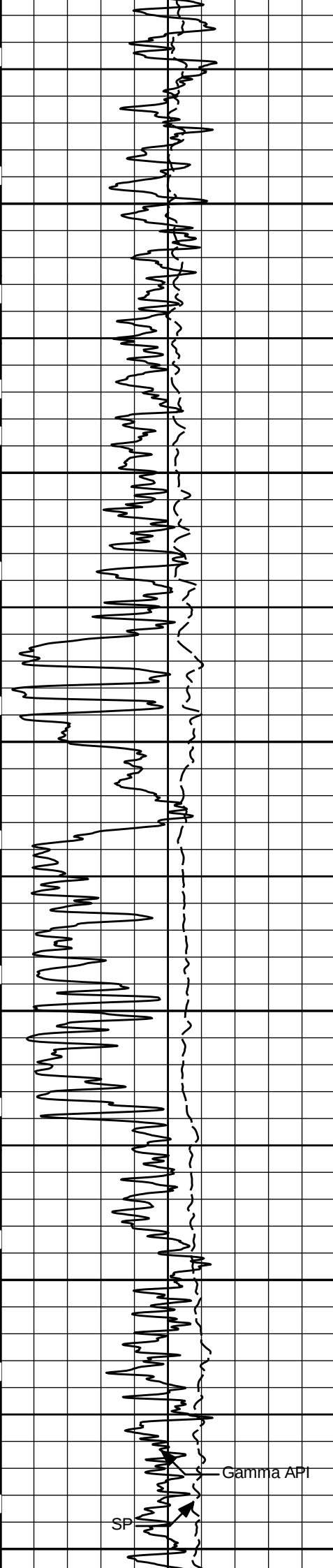
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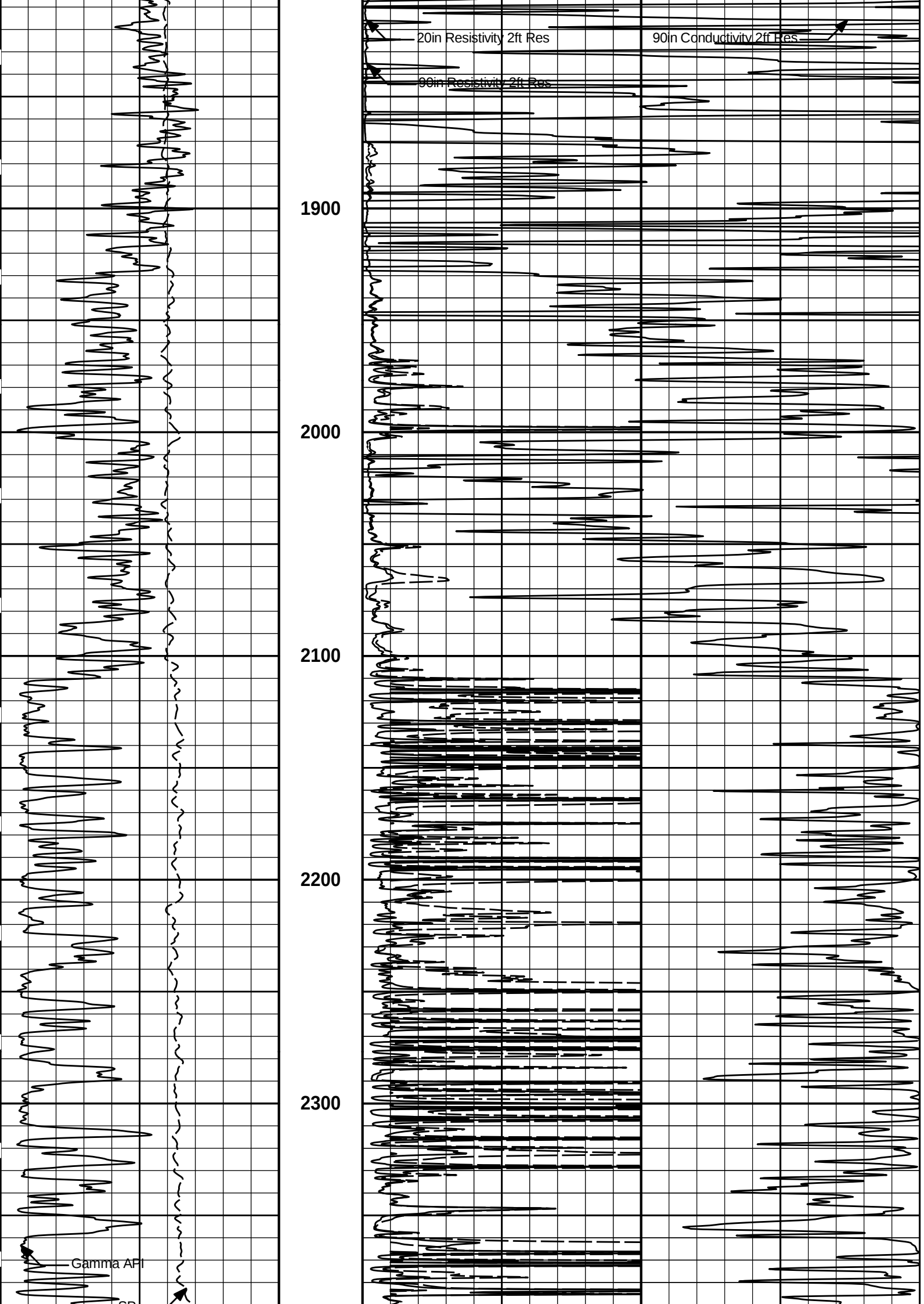
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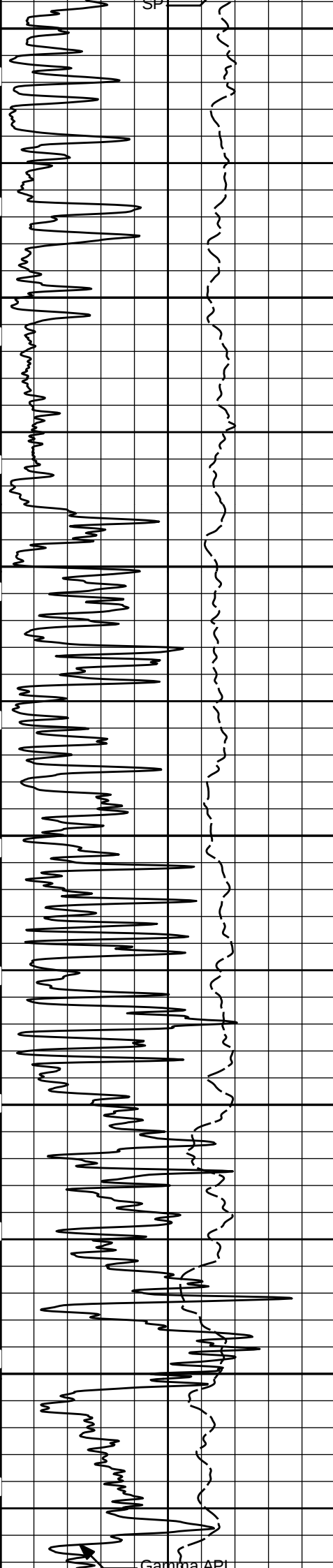


20in Resistivity, 2ft Res

50in Conductivity, 2ft Res







2400

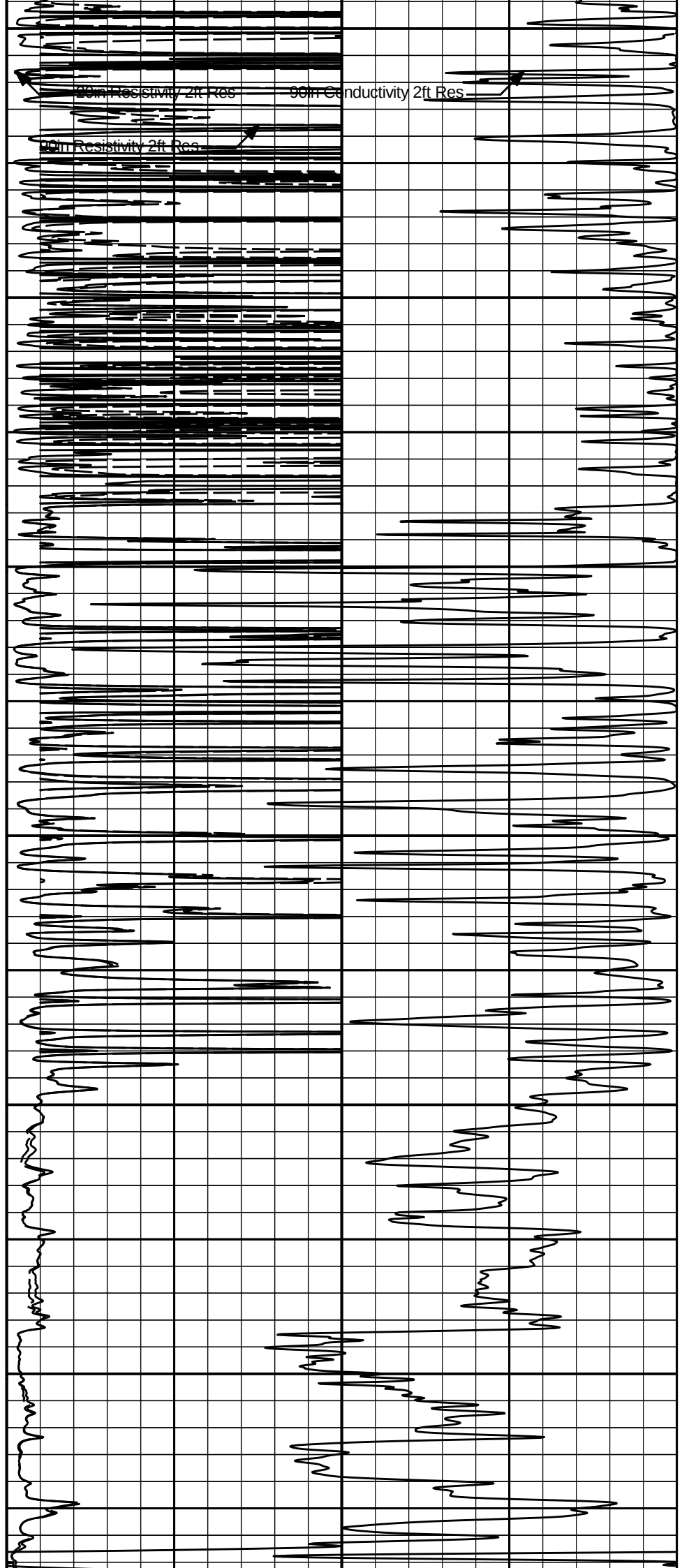
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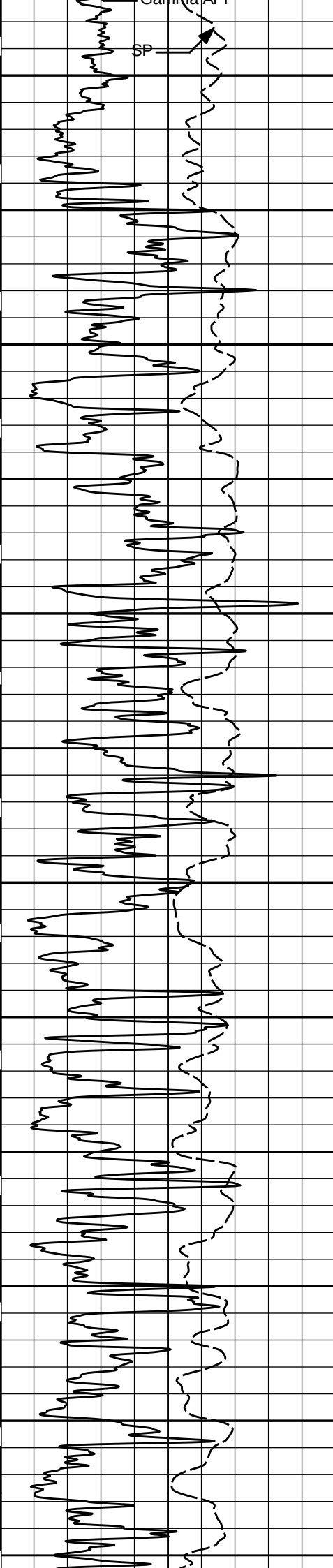
2600

2700

2800

2900





3000

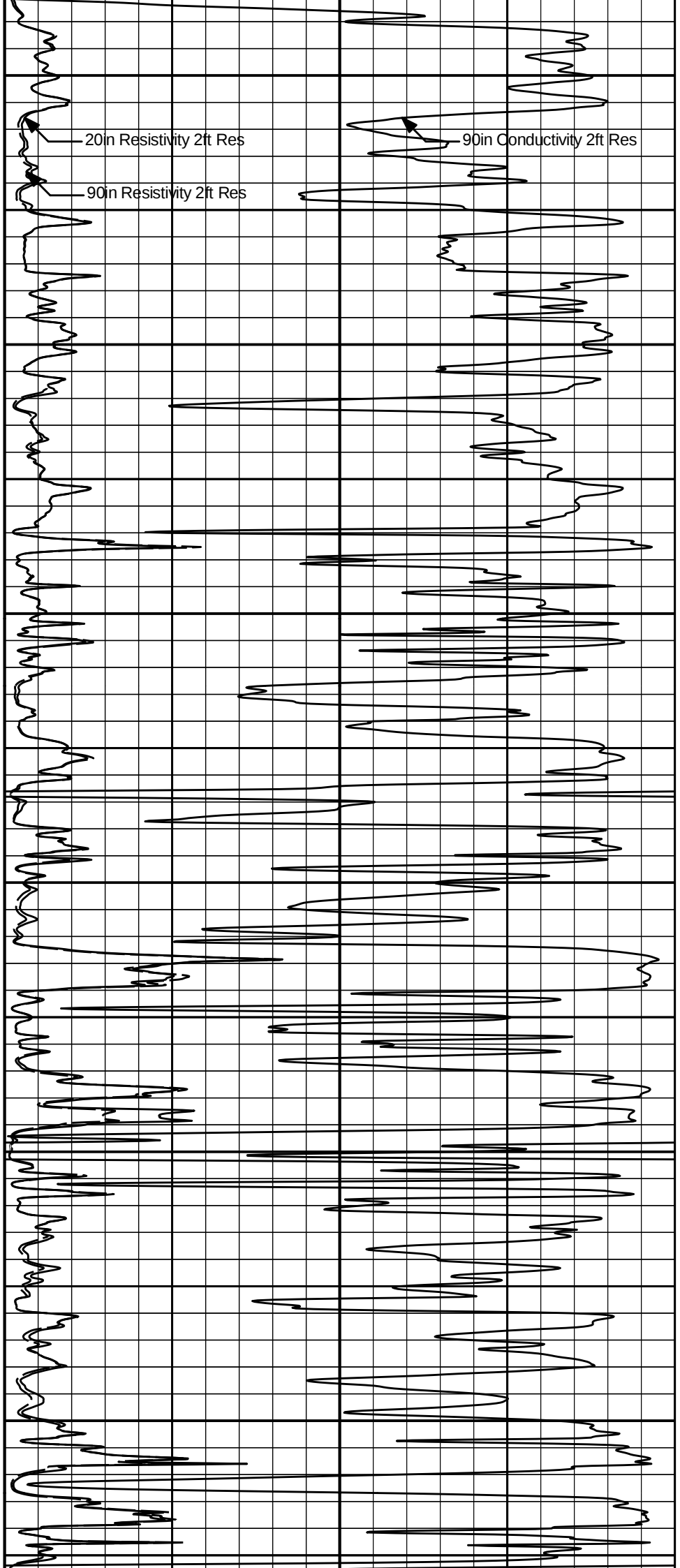
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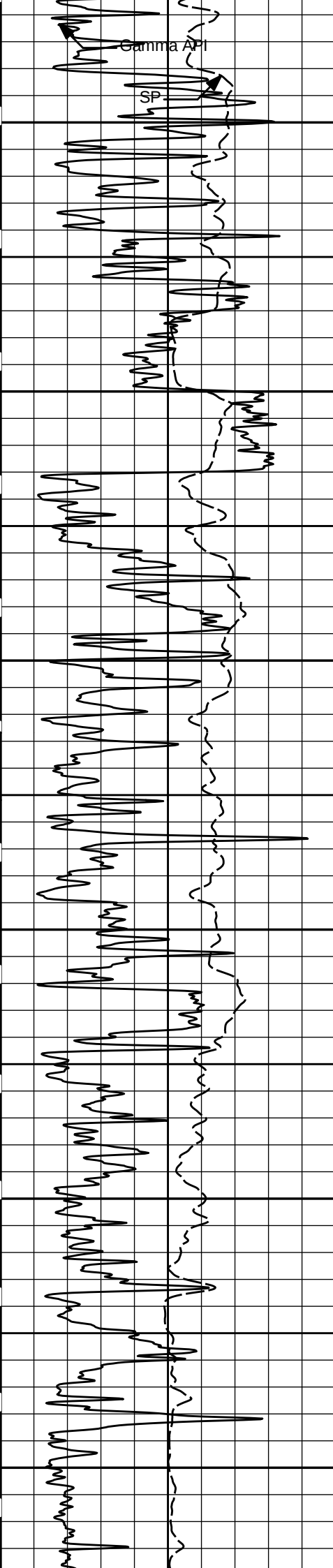
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3300

3400

3500





3600

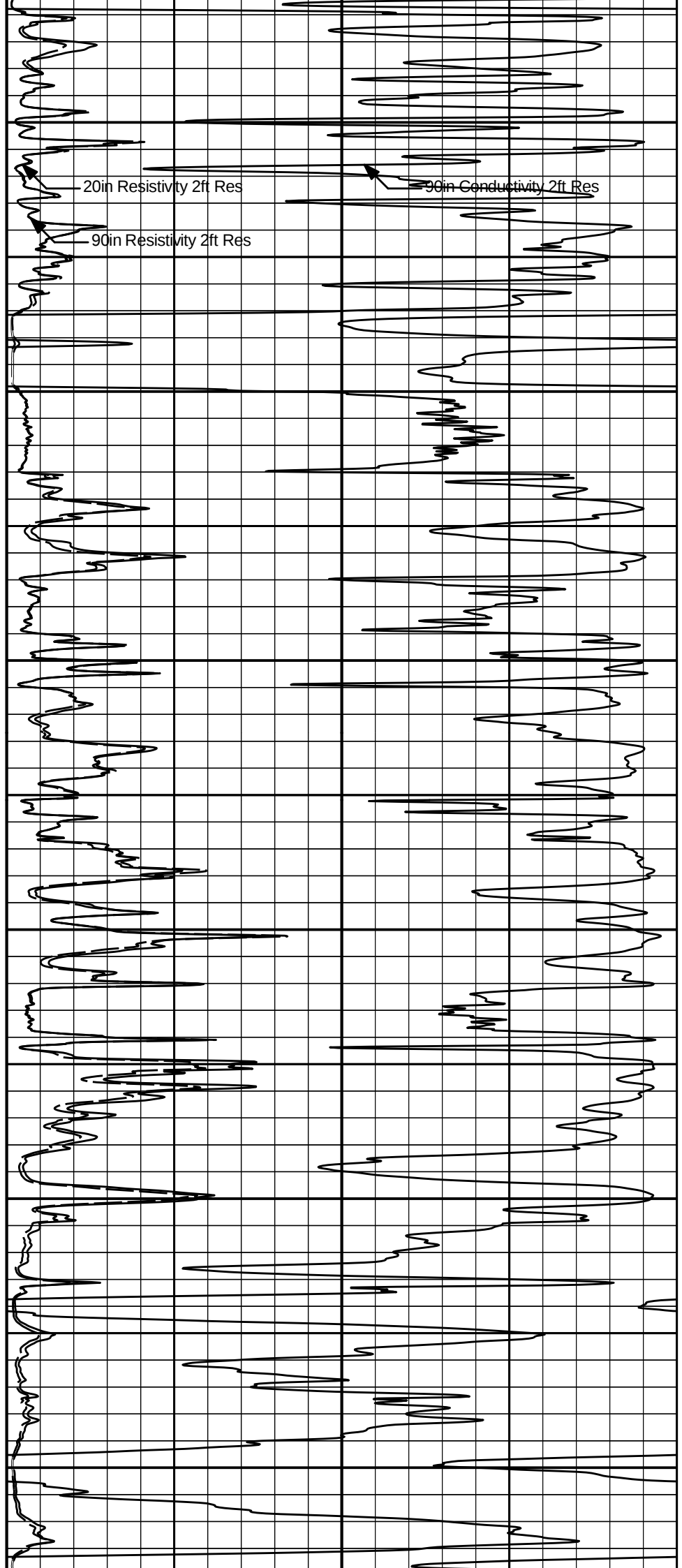
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3800

3900

4000

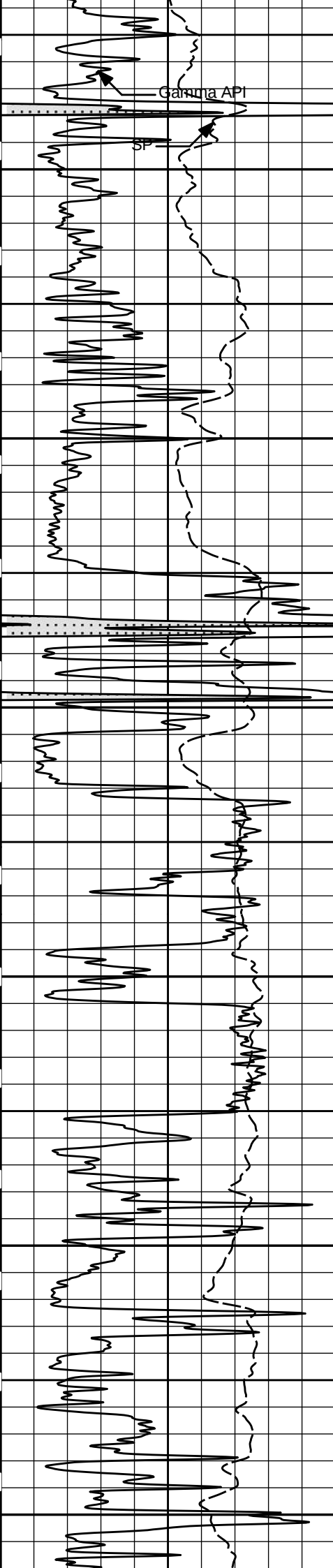
4100



20in Resistivity 2ft Res

90in Resistivity 2ft Res

90in Conductivity 2ft Res



4200

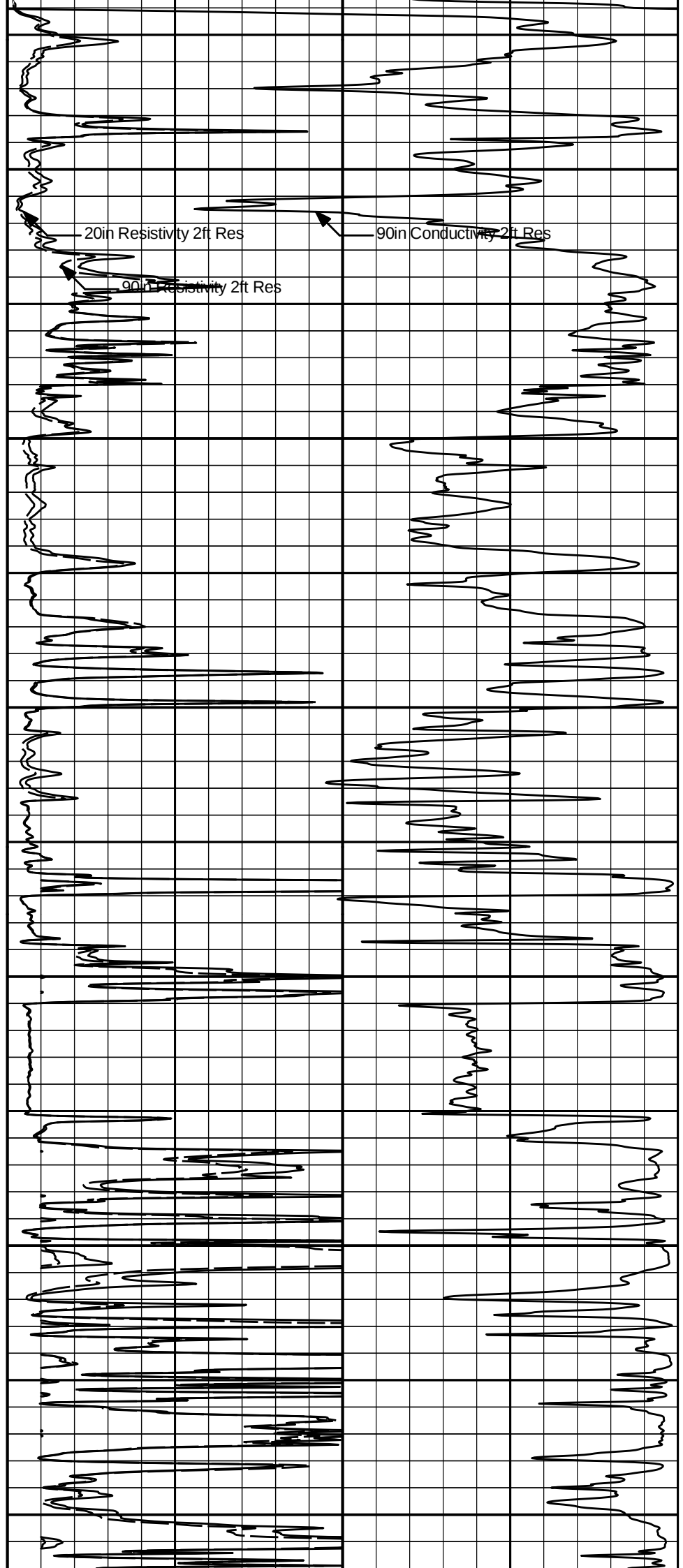
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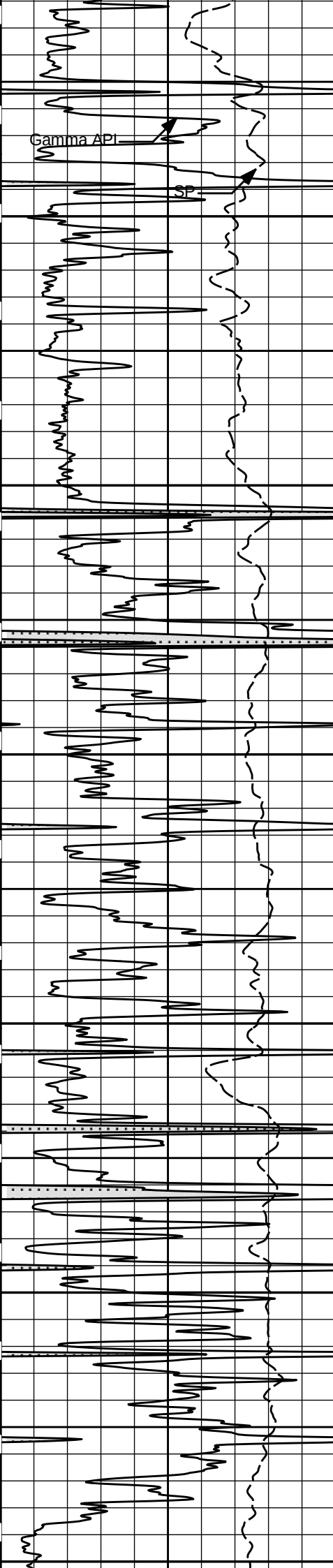
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4500

4600

4700





4800

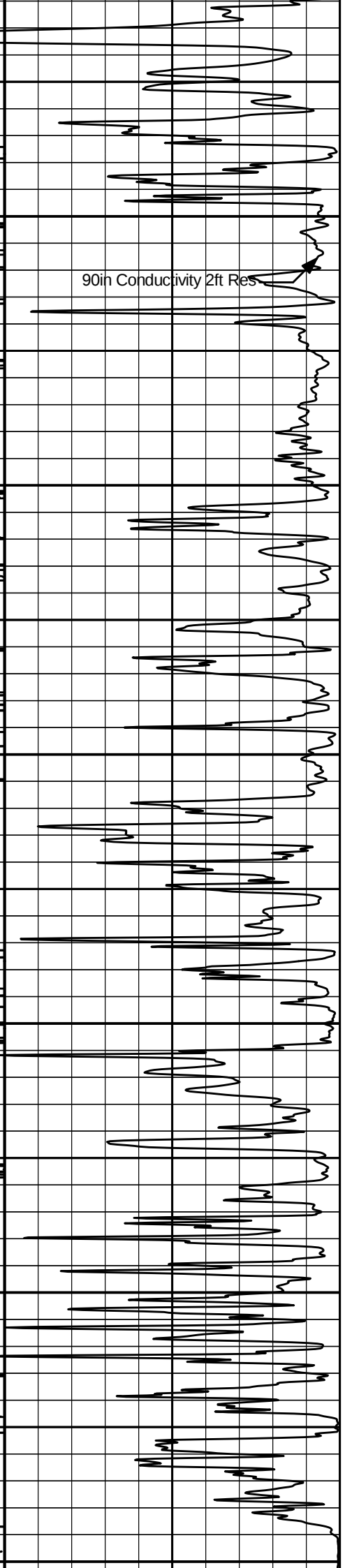
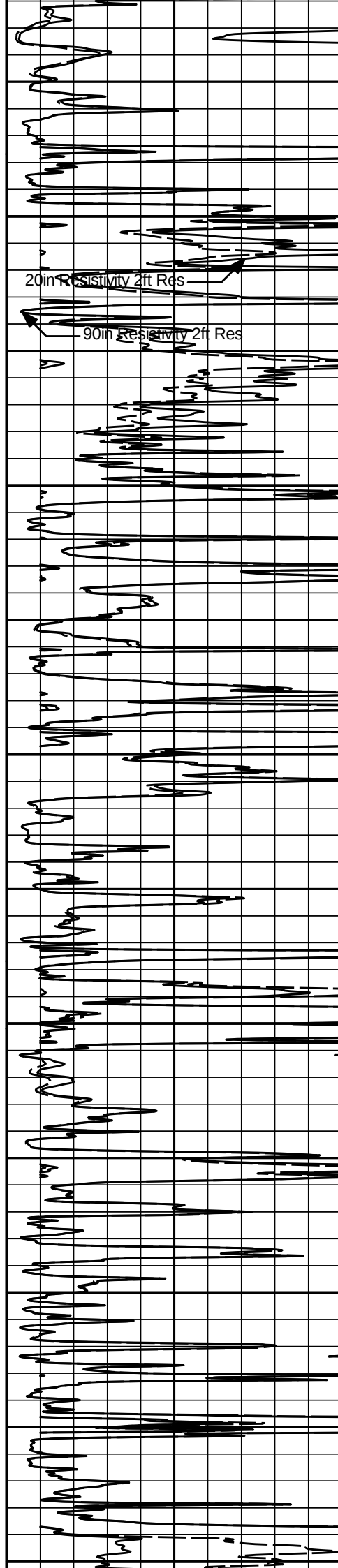
4900

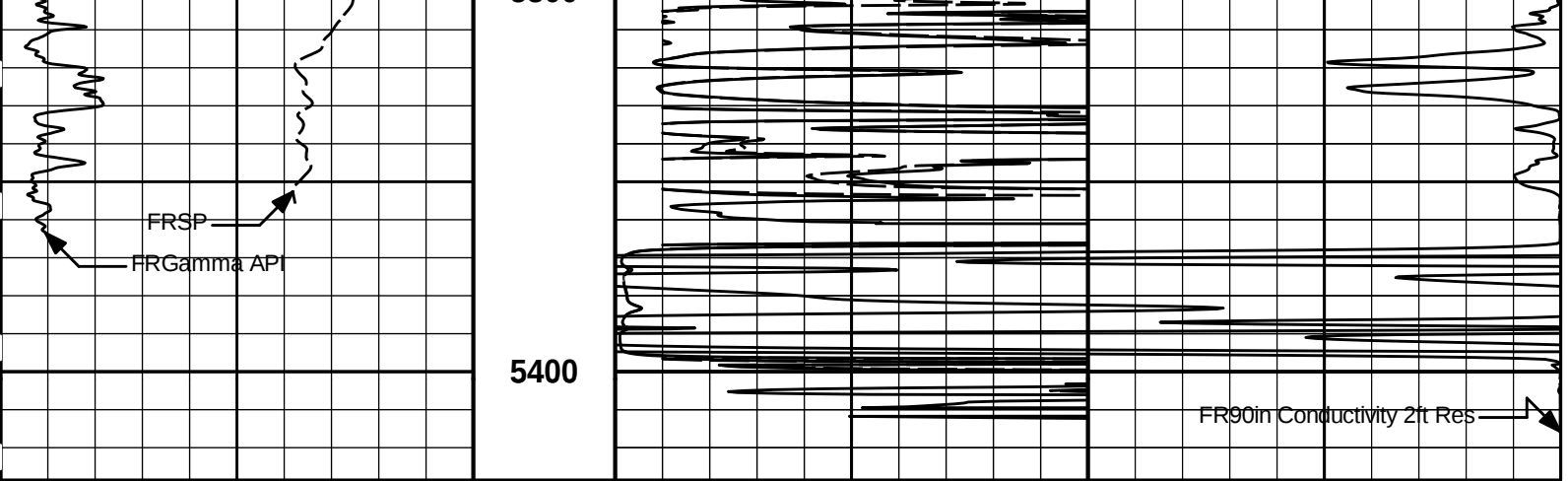
5000

5100

5200

5300





0	Gamma API	150	1 : 600 ft	0	20in Resistivity 2ft Res	50	
	api				ohm-metre		
	SP			0	90in Resistivity 2ft Res	50	
	-]20[+				ohm-metre		
				1000	90in Conductivity 2ft Res		0
					mmho per metre		

HALLIBURTON

Plot Time: 22-Oct-17 23:51:22
Plot Range: 500 ft to 5428.5 ft
Data: JOLEN_SELLARD\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\JOLEN_SELLARD\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\ACRT\ACRT_2_main

2 INCH MAIN LOG

2 INCH MAIN LOG

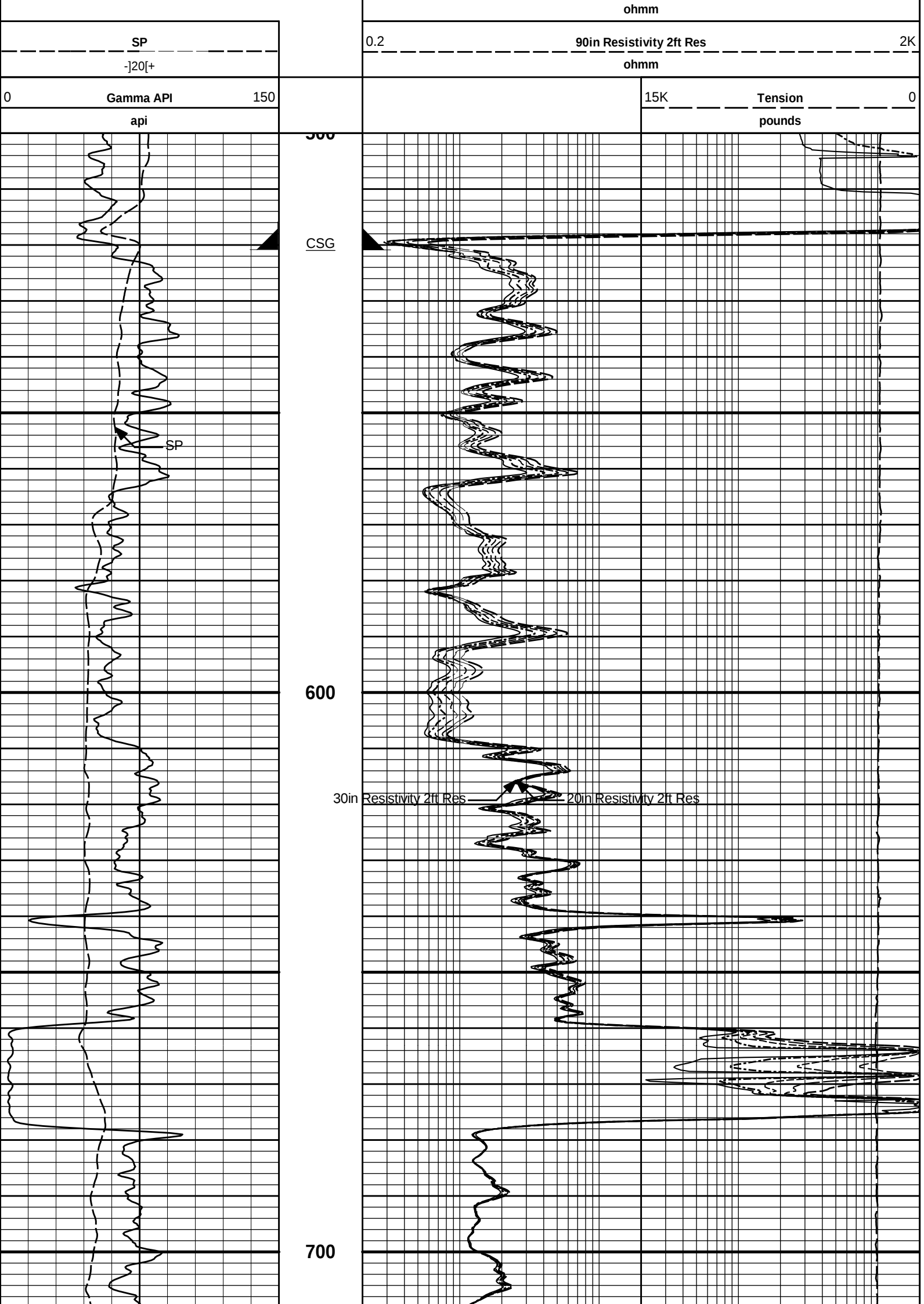
HALLIBURTON

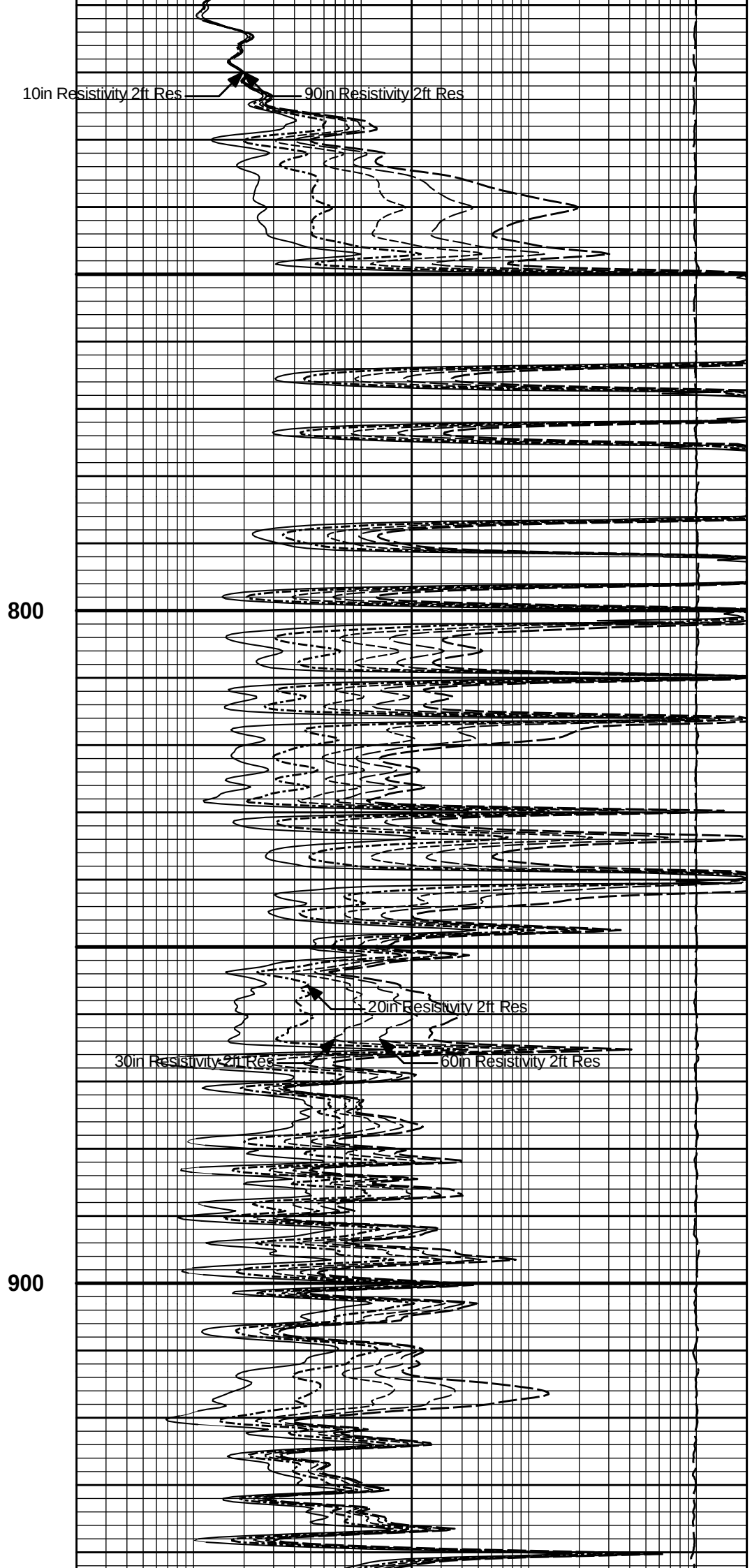
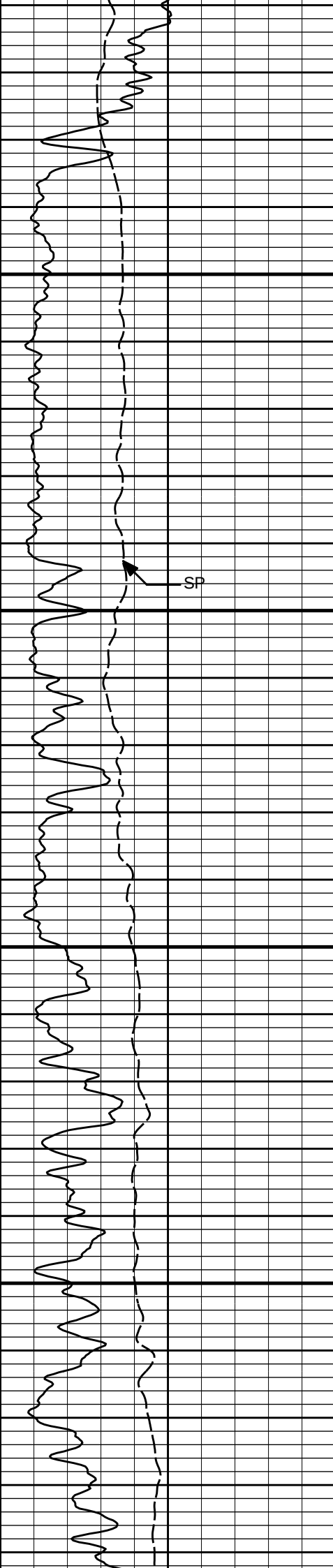
Plot Time: 22-Oct-17 23:51:22
Plot Range: 500 ft to 5428.5 ft
Data: JOLEN_SELLARD\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\JOLEN_SELLARD\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\ACRT\ACRT_5inch_main

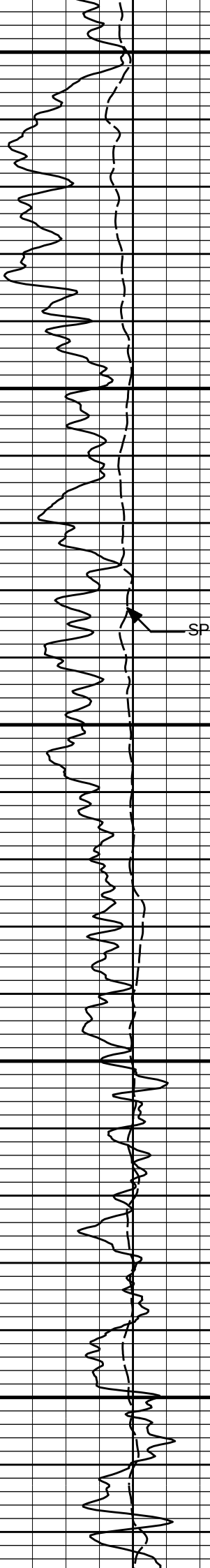
5 INCH MAIN LOG

5 INCH MAIN LOG

	0.2	10in Resistivity 2ft Res	2K
		ohmm	
	0.2	20in Resistivity 2ft Res	2000
		ohmm	
	0.2	30in Resistivity 2ft Res	2000
		ohm-metre	
	0.2	60in Resistivity 2ft Res	2000







1000

1100

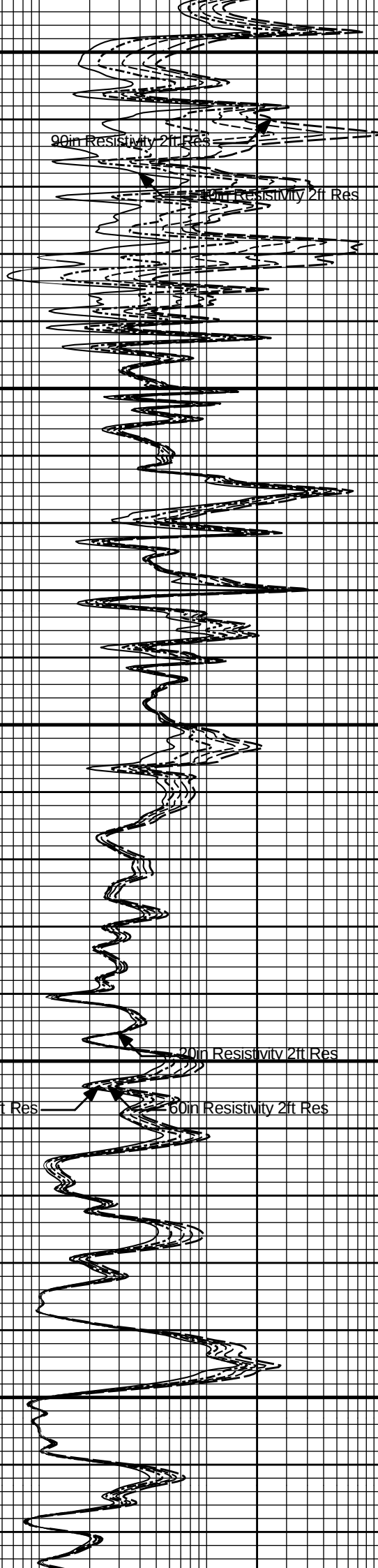
30in Resistivity 2ft Res

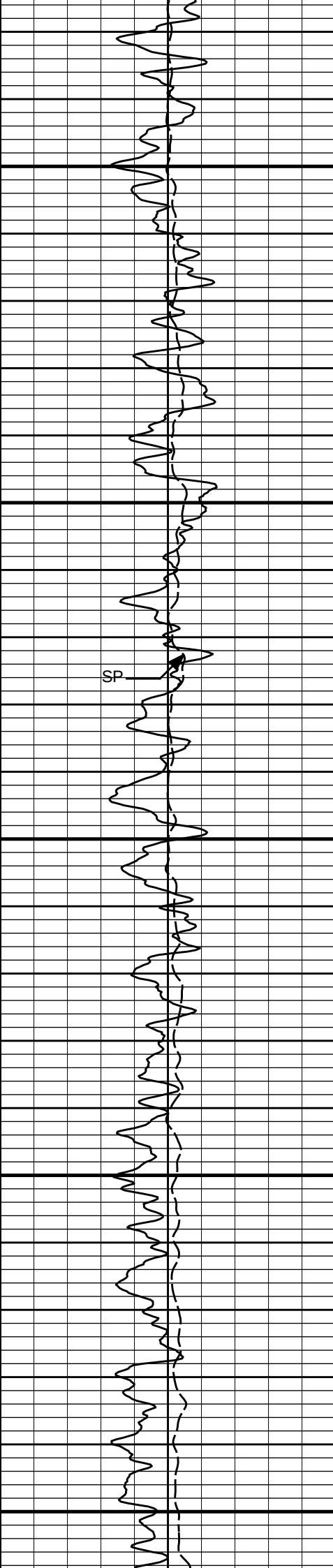
90in Resistivity 2ft Res

60in Resistivity 2ft Res

20in Resistivity 2ft Res

50in Resistivity 2ft Res

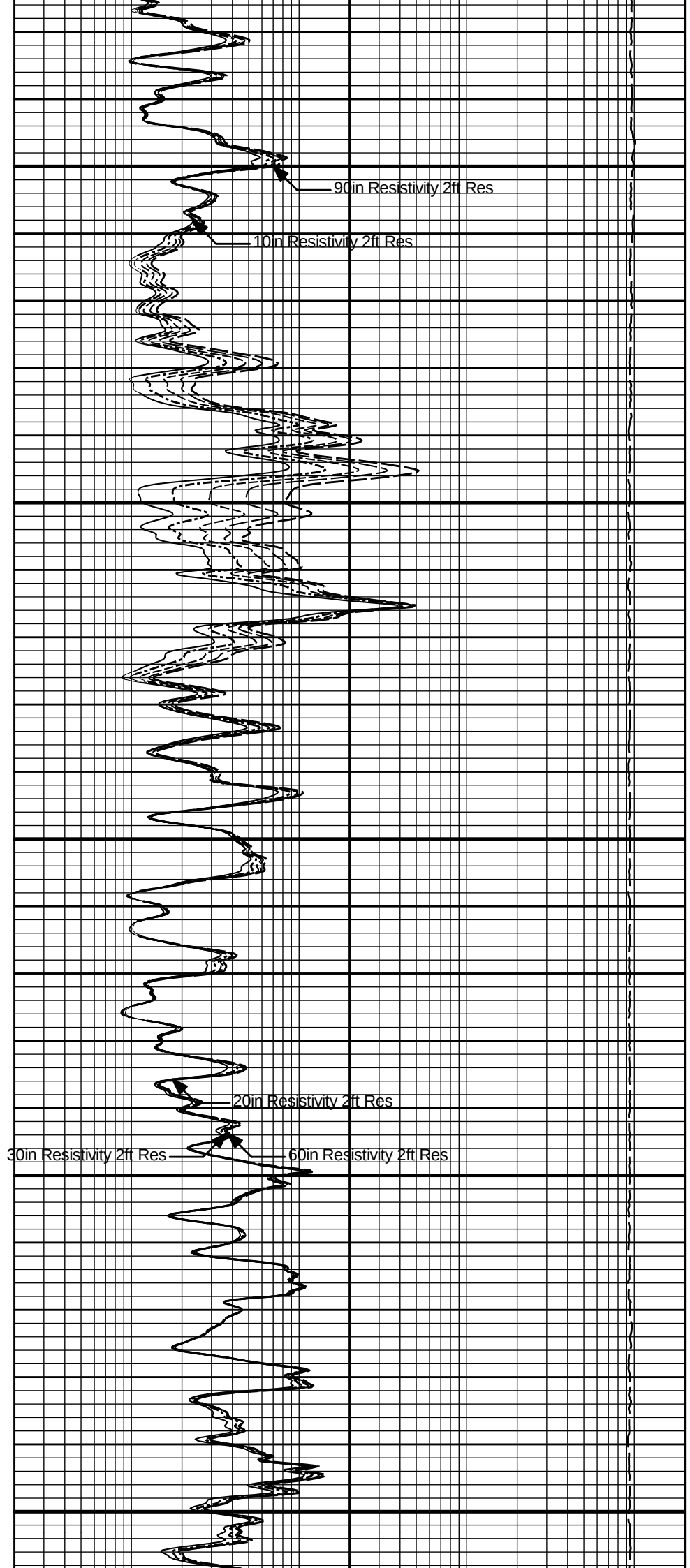


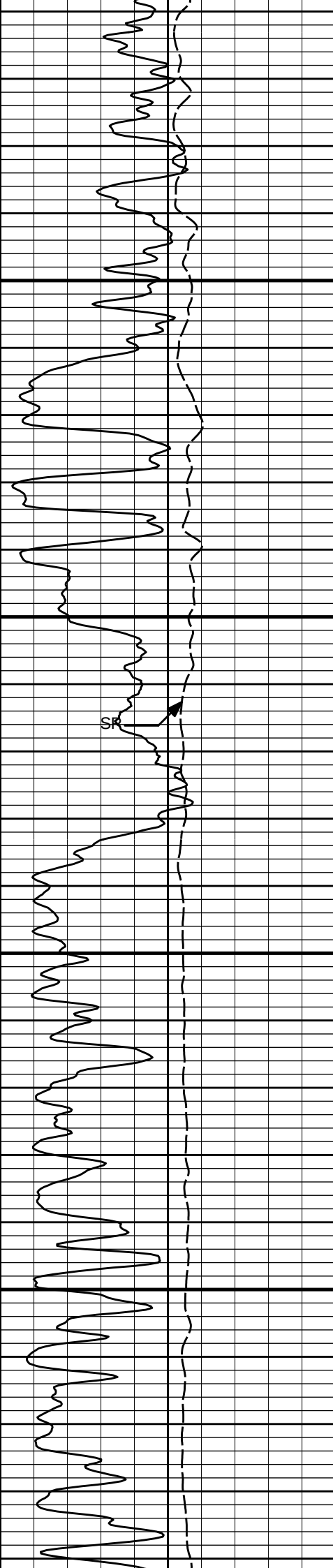


1200

1300

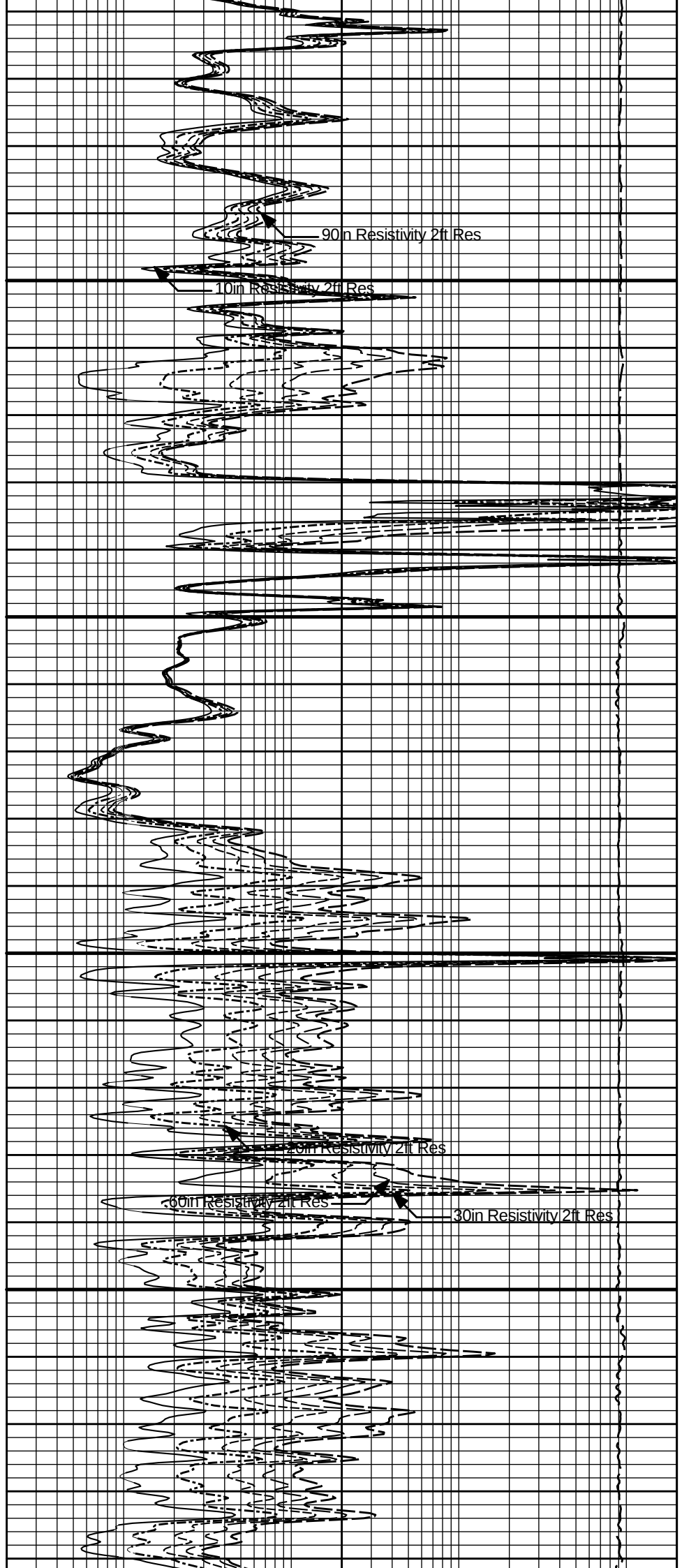
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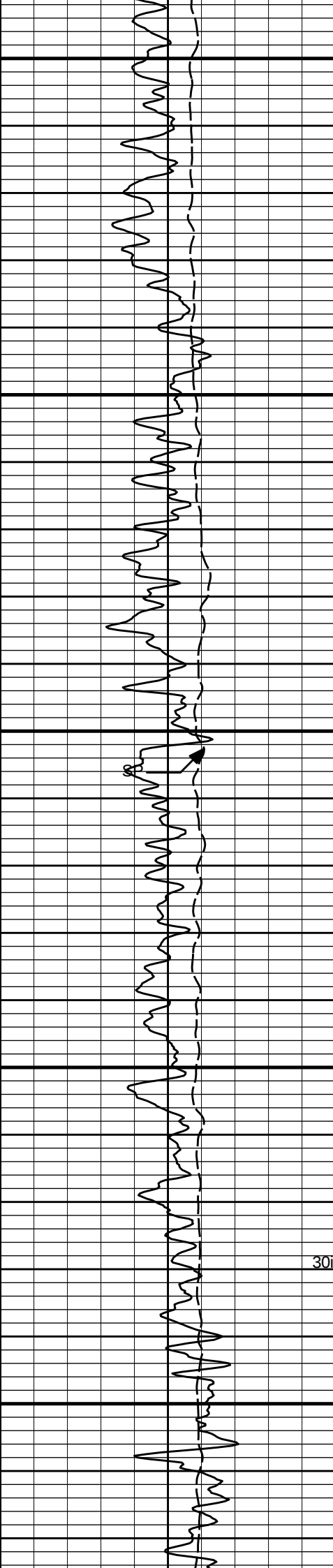




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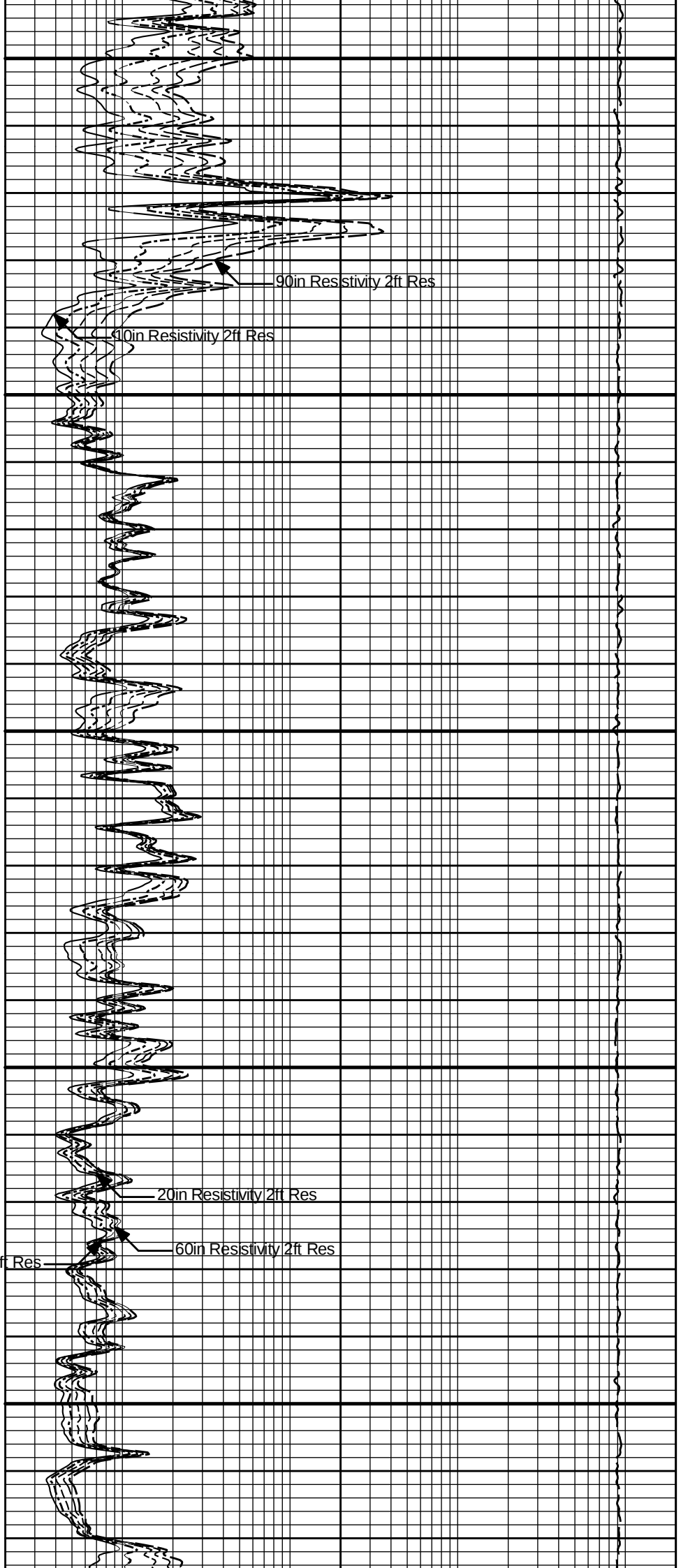
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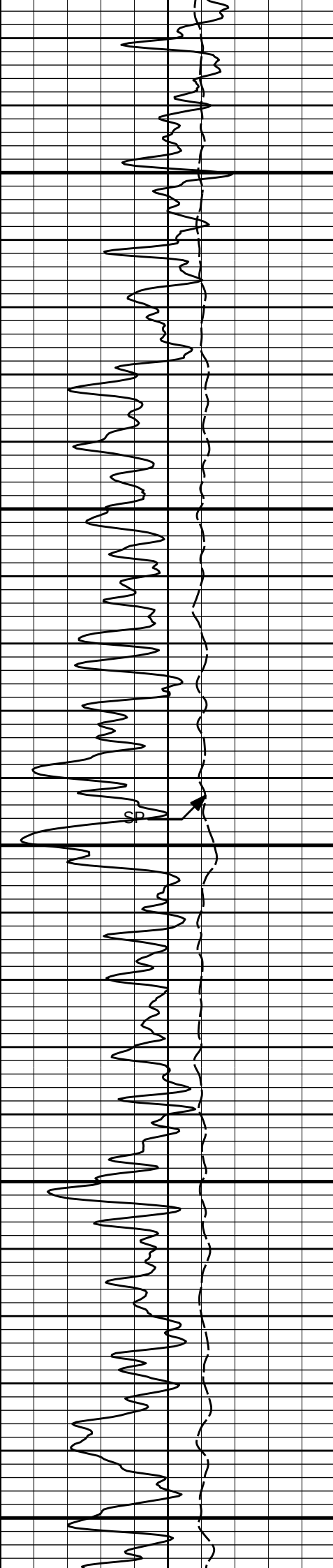




1700

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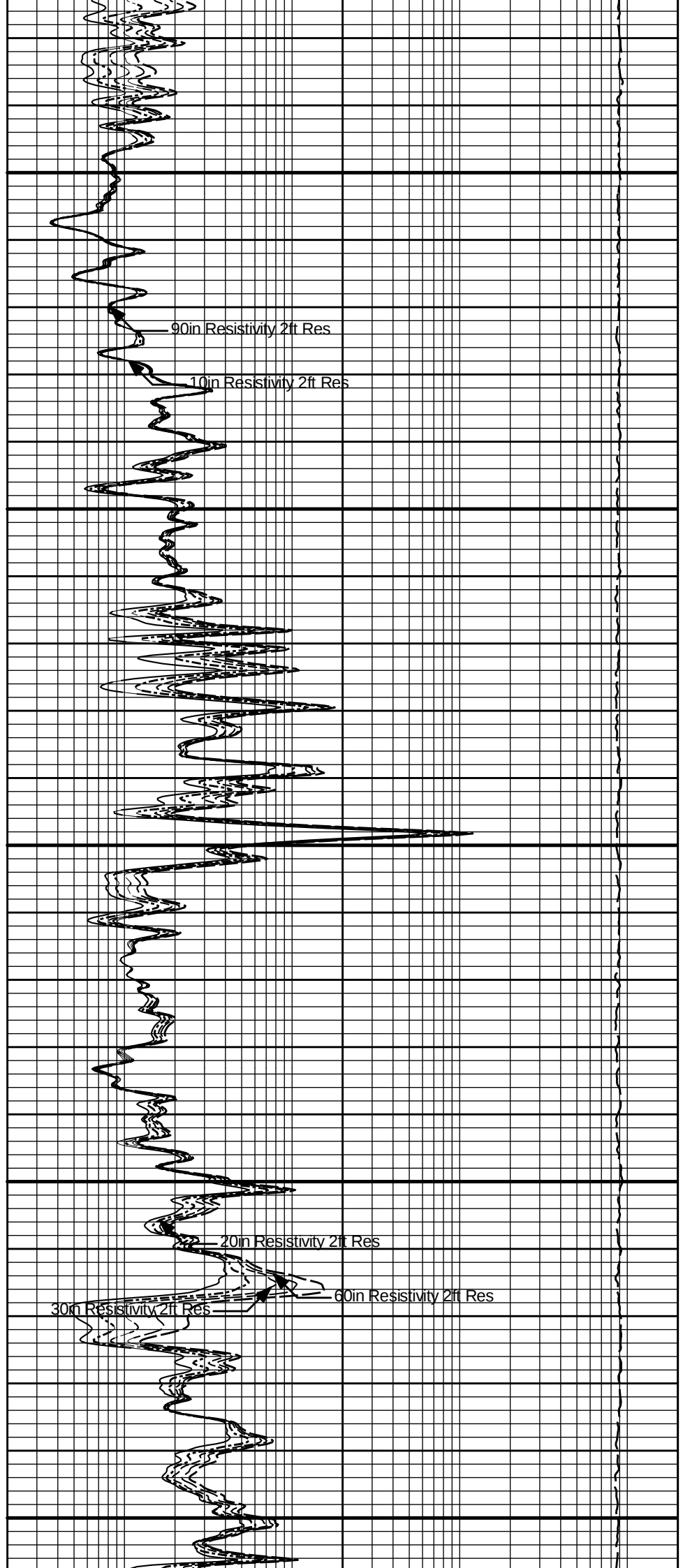


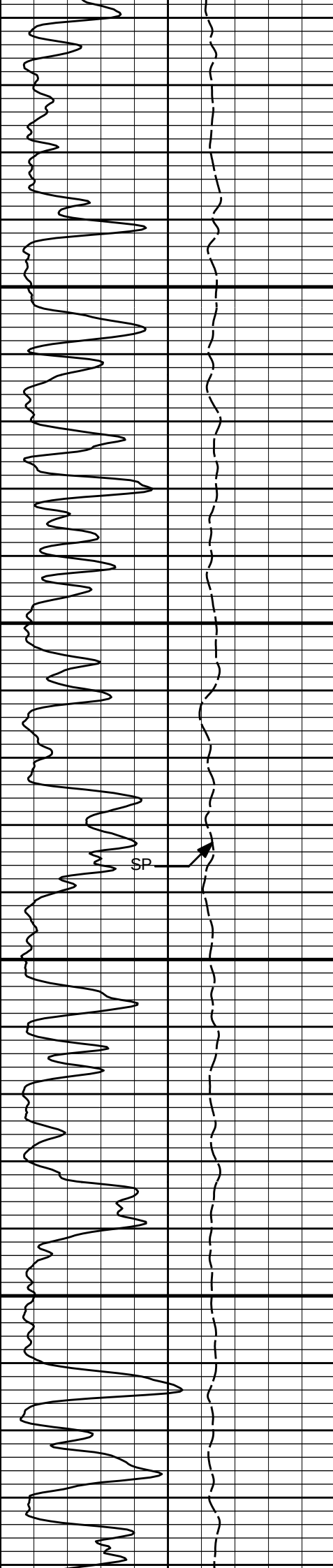


1900

2000

2100

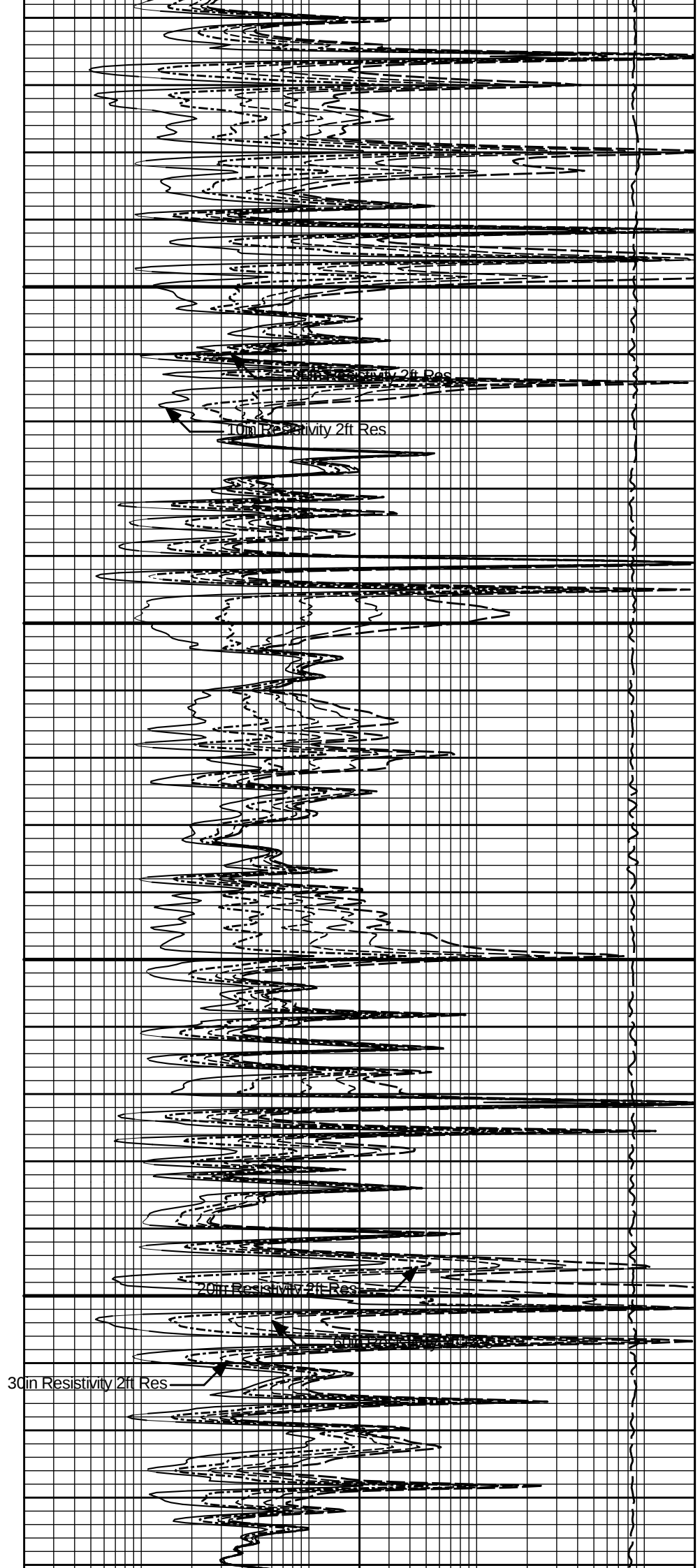


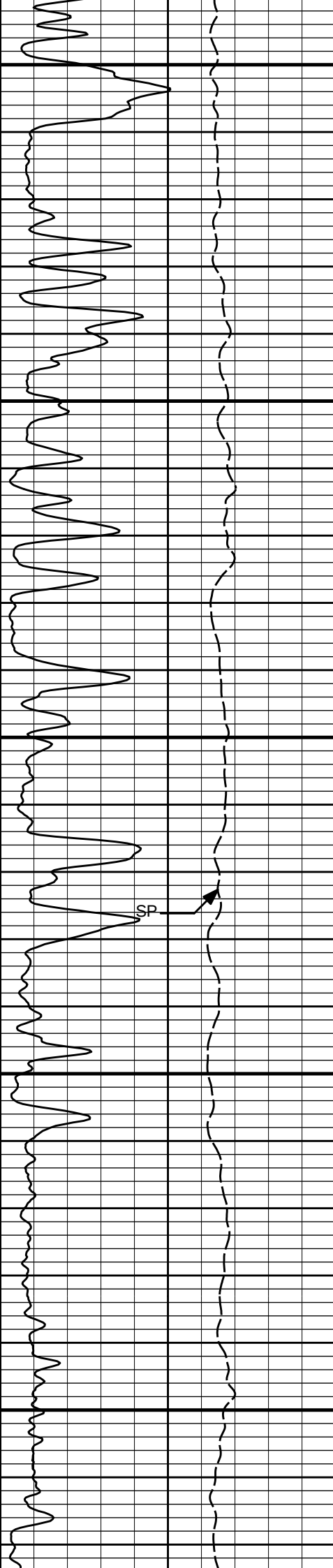


2200

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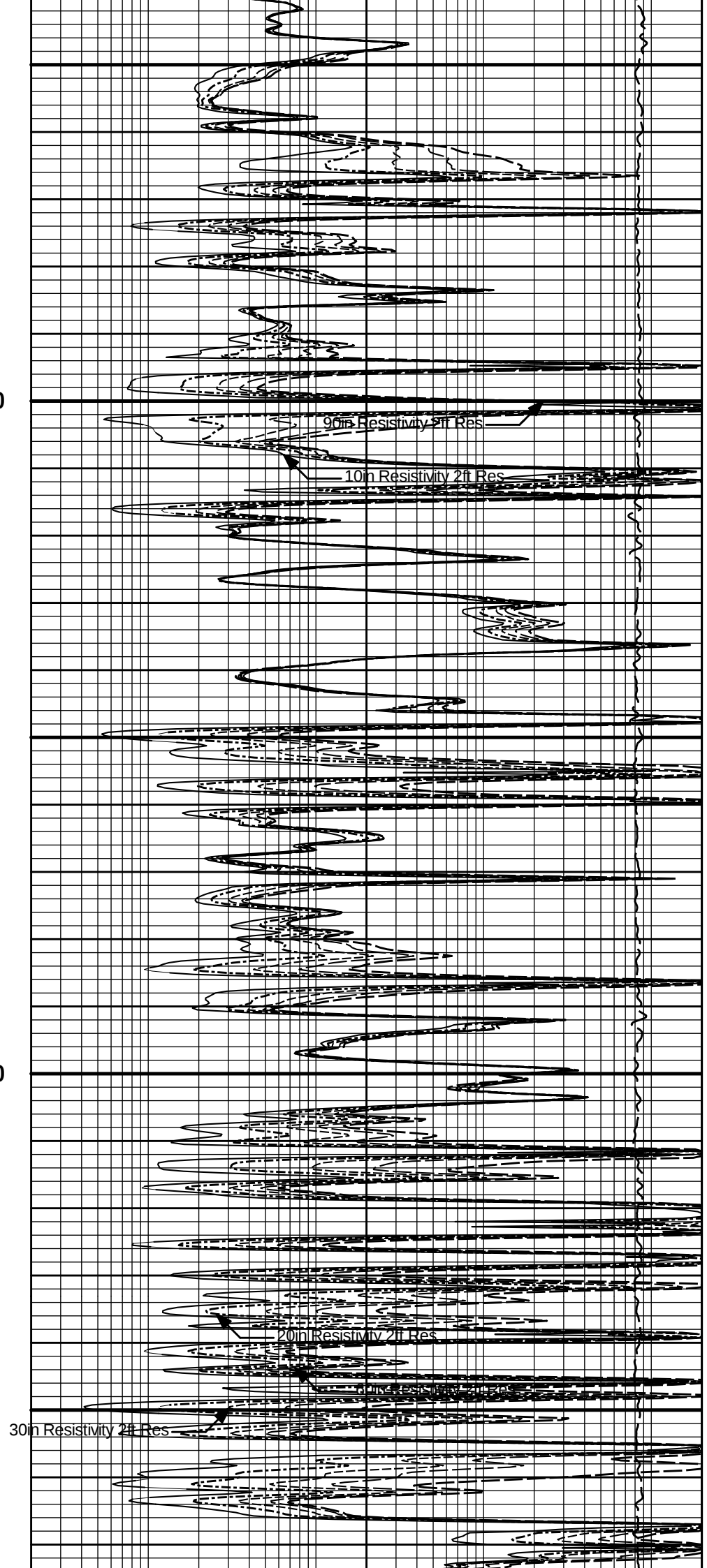
2300





2400

2500

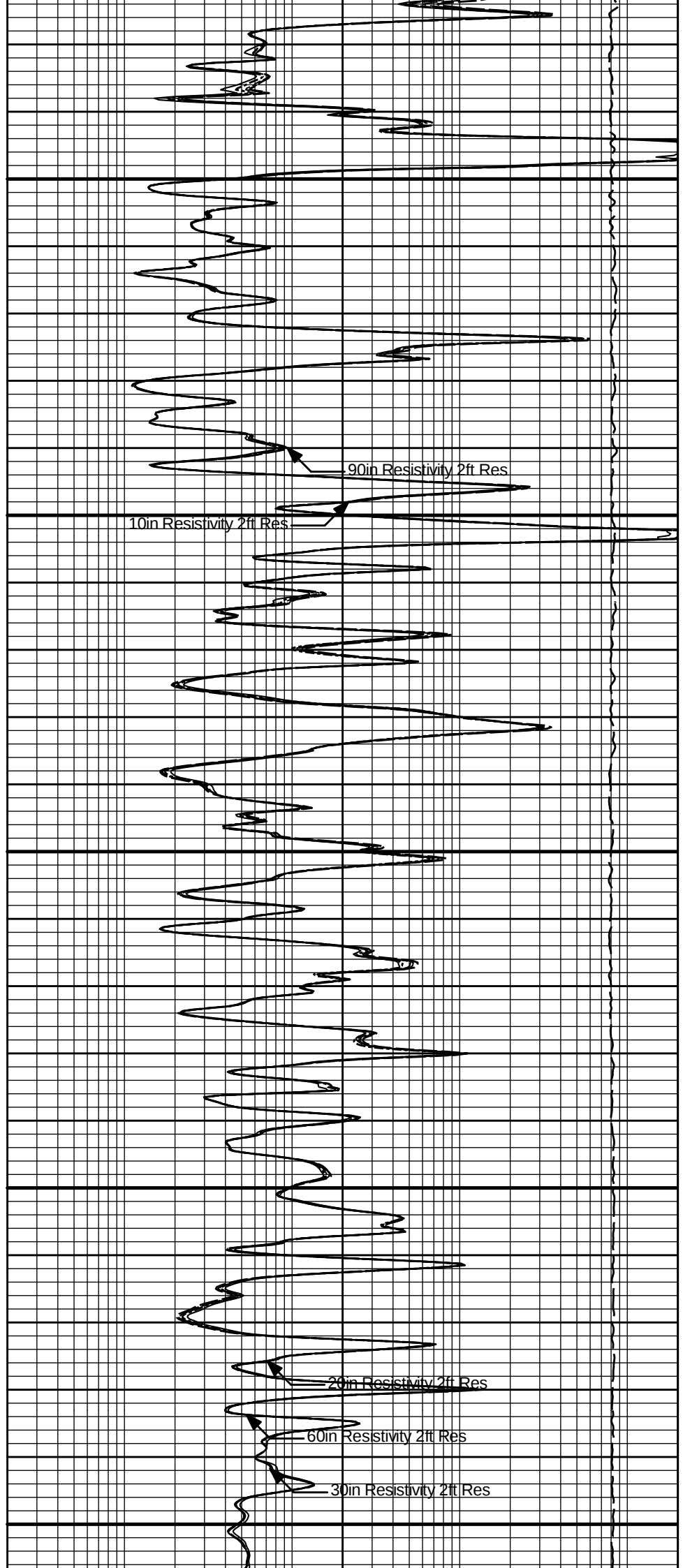


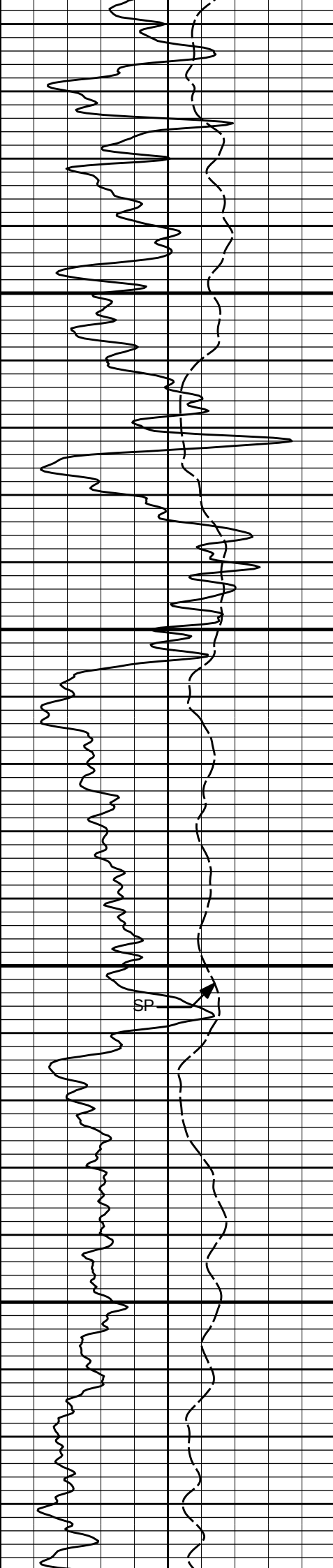


2600

2700

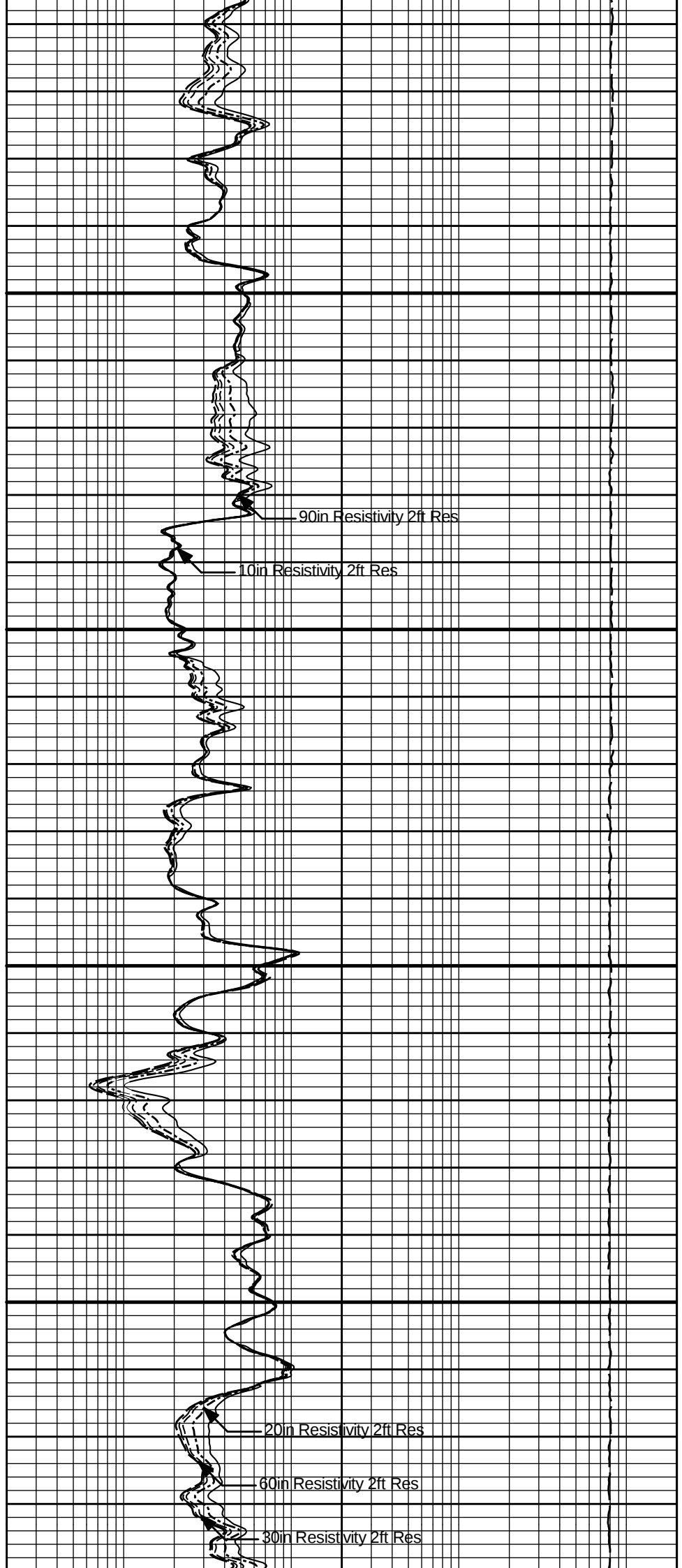
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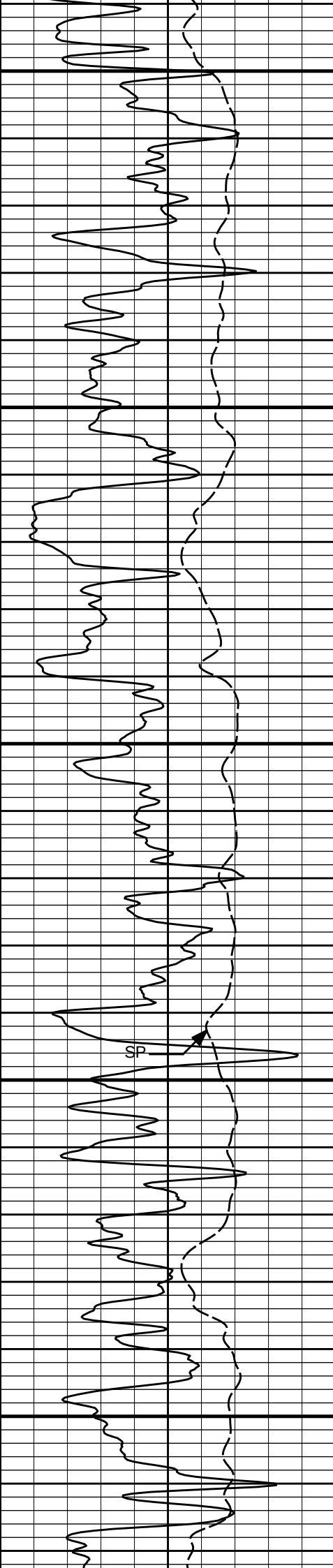




2900

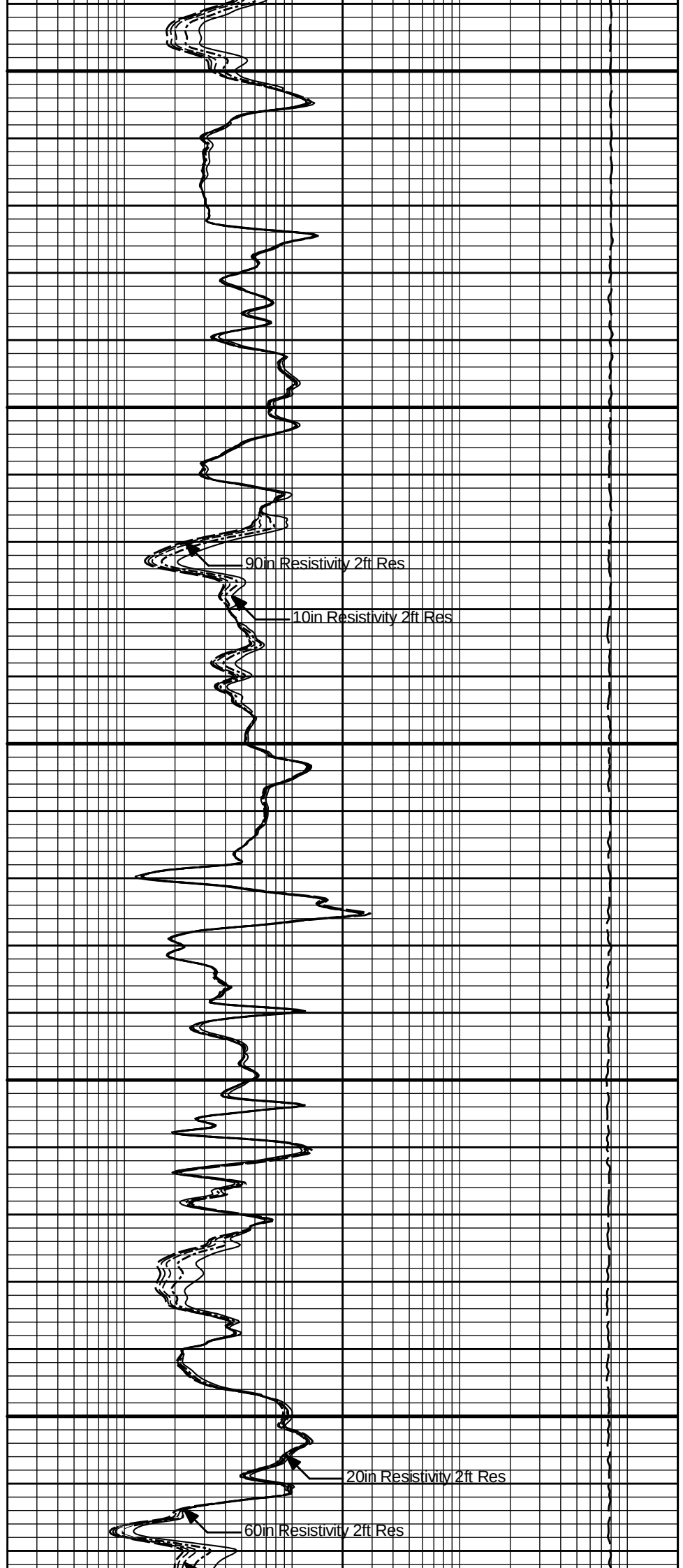
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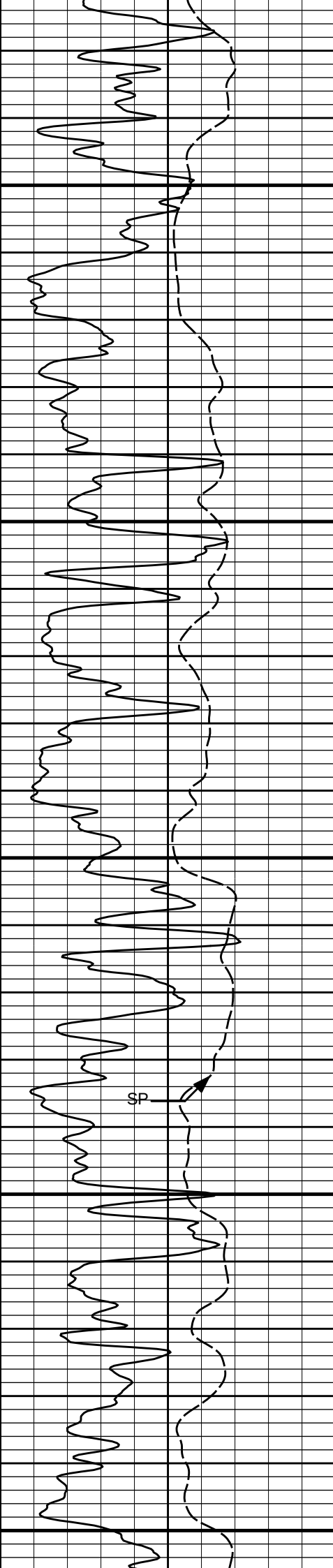




3100

3200

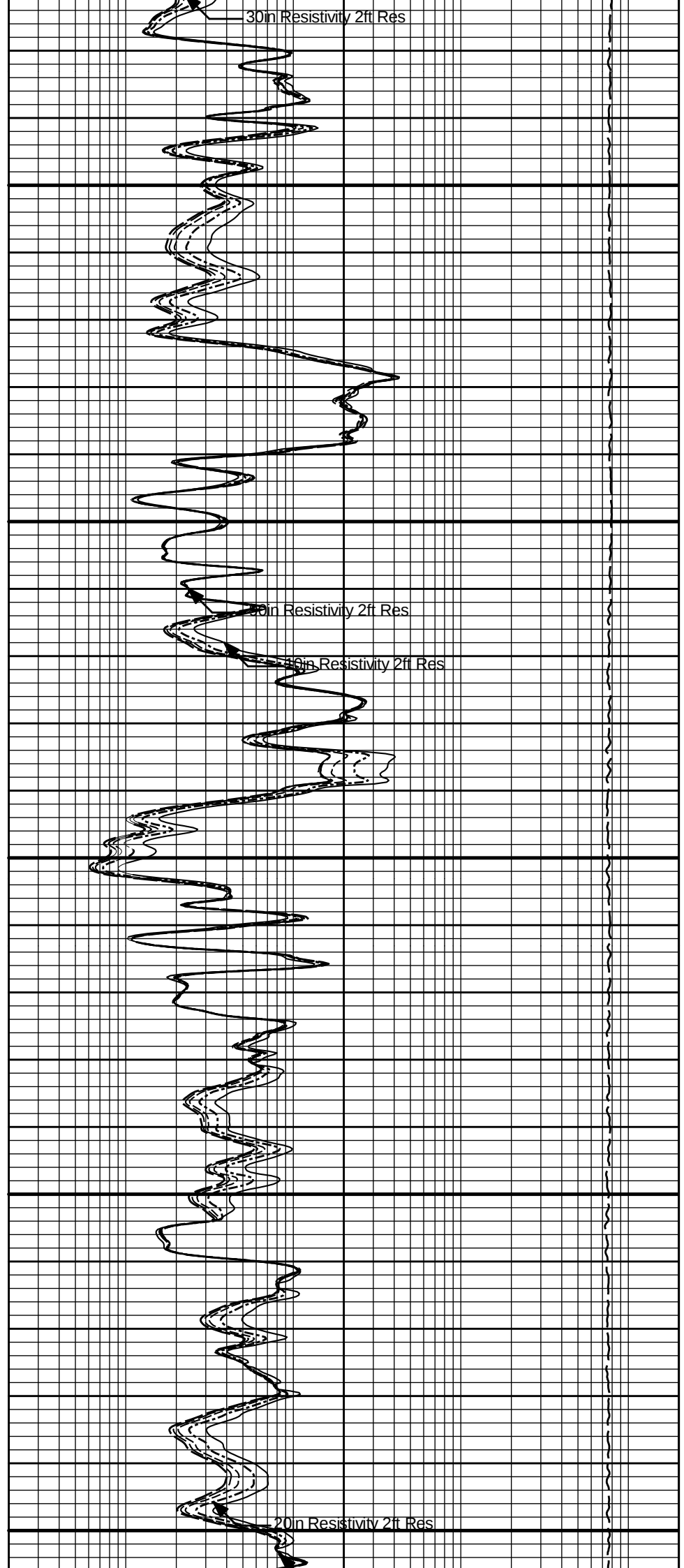




3300

3400

3500

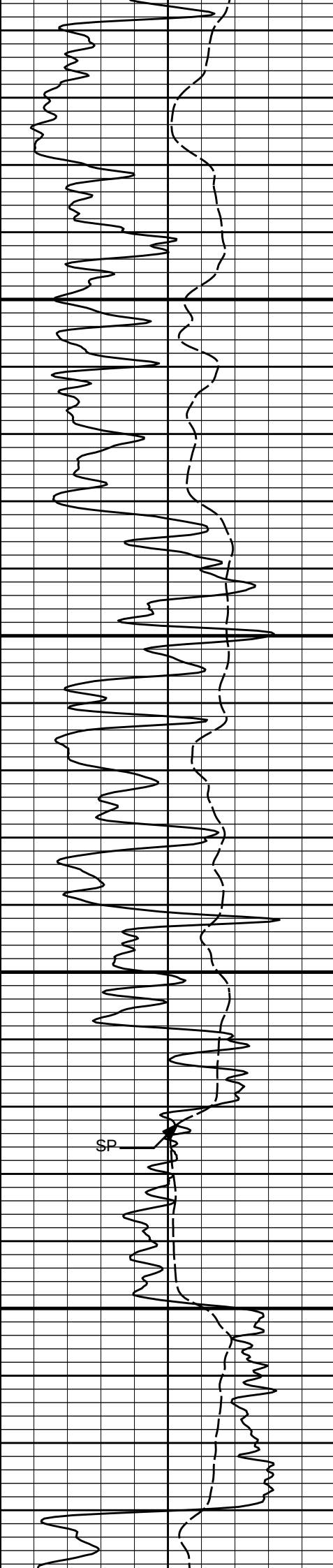


30in Resistivity 2ft Res

30in Resistivity 2ft Res

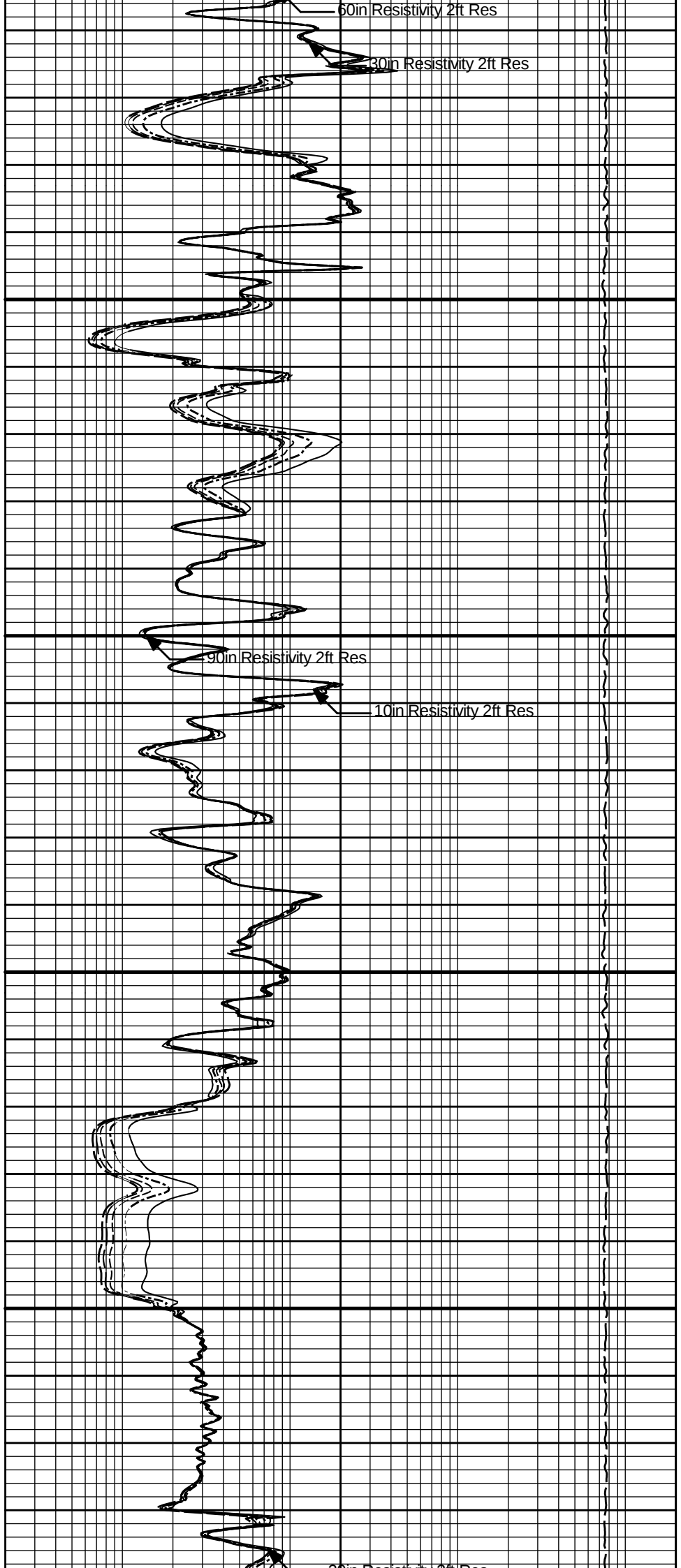
30in Resistivity 2ft Res

20in Resistivity 2ft Res



3600

3700



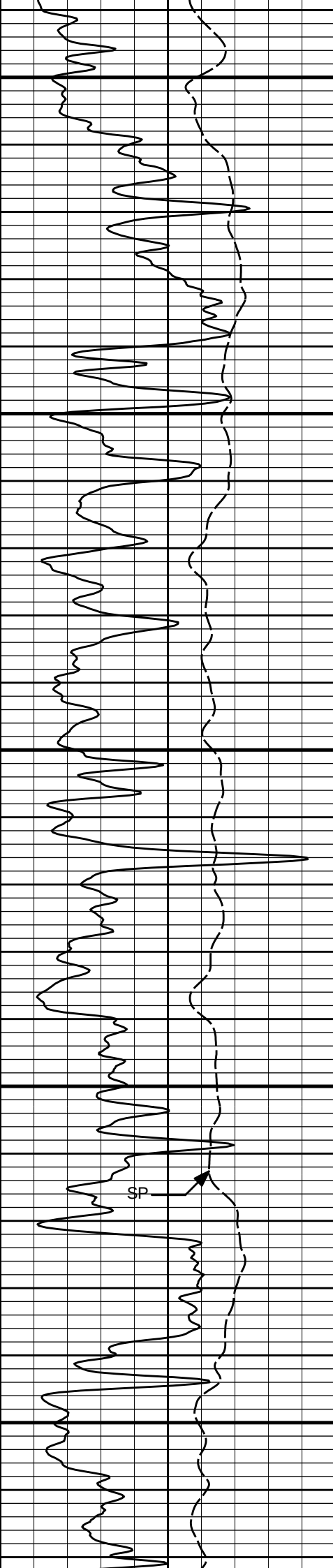
60in Resistivity 2ft Res

30in Resistivity 2ft Res

90in Resistivity 2ft Res

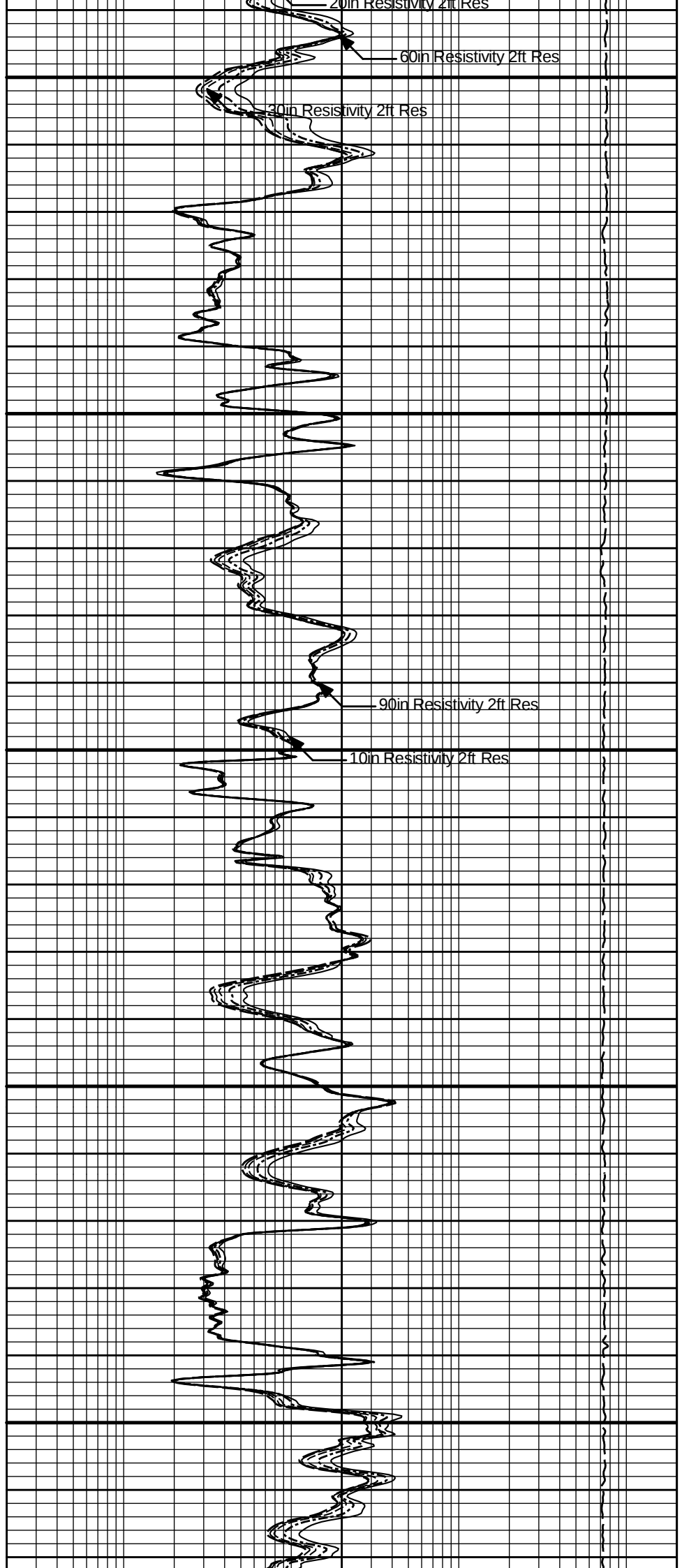
10in Resistivity 2ft Res

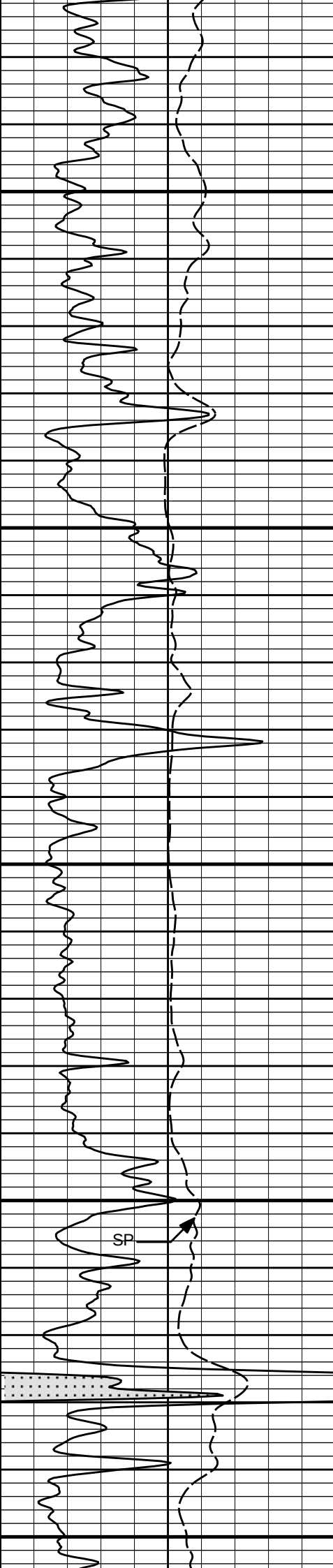
20in Resistivity 2ft Res



3800

3900

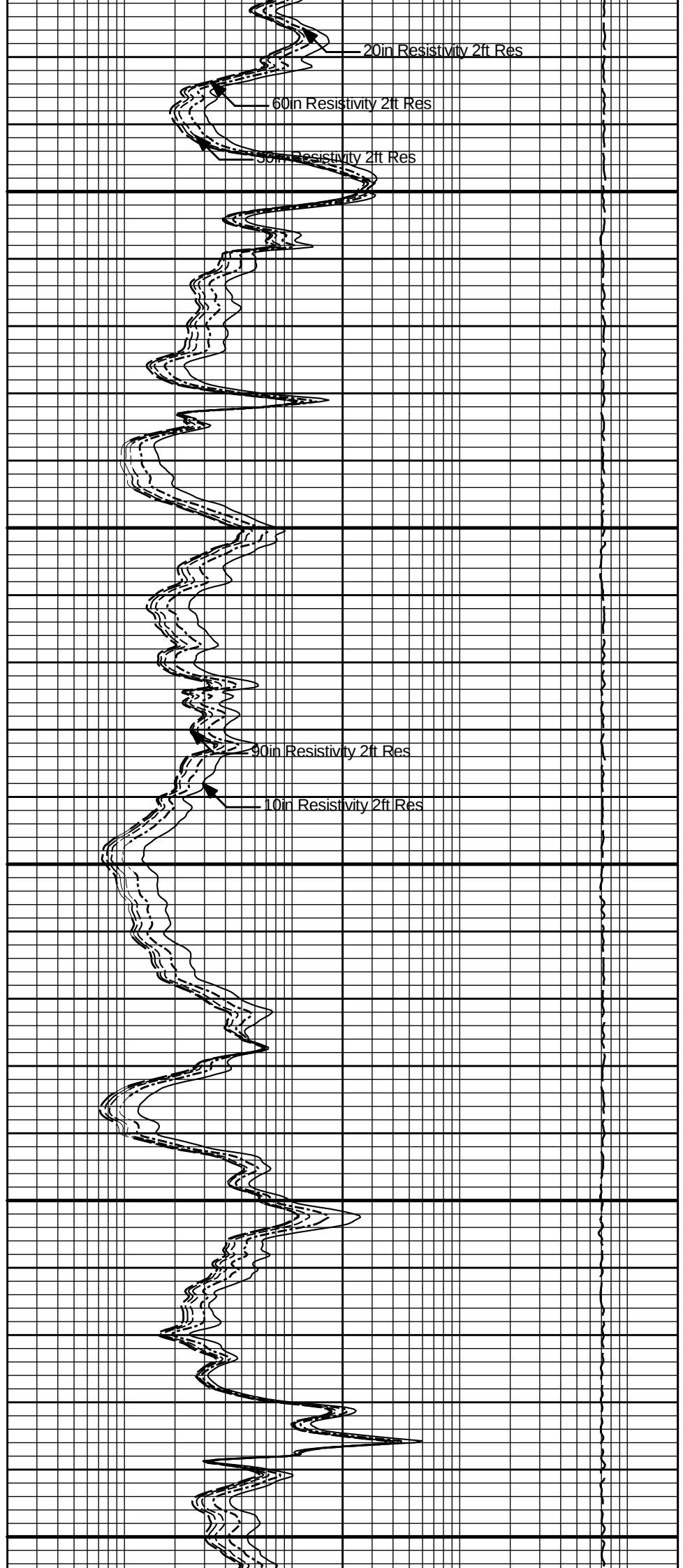


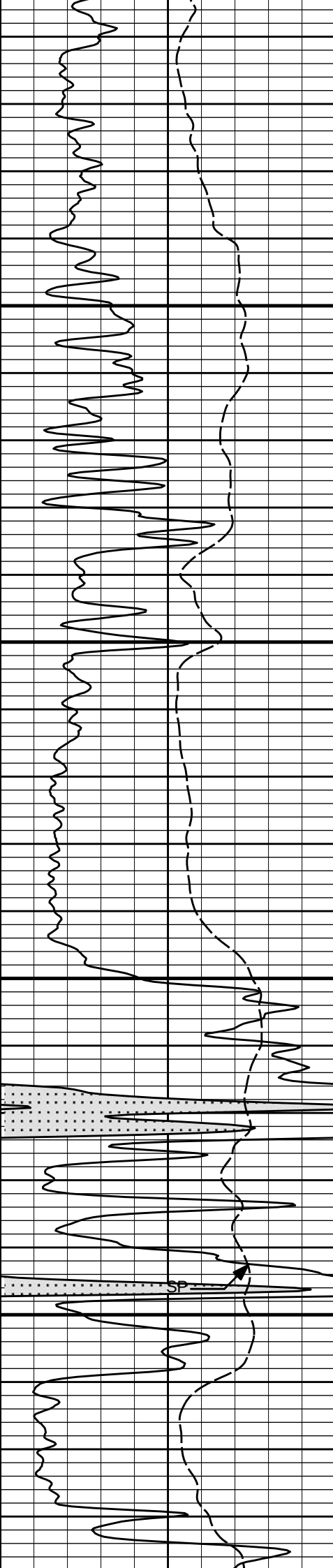


4000

4100

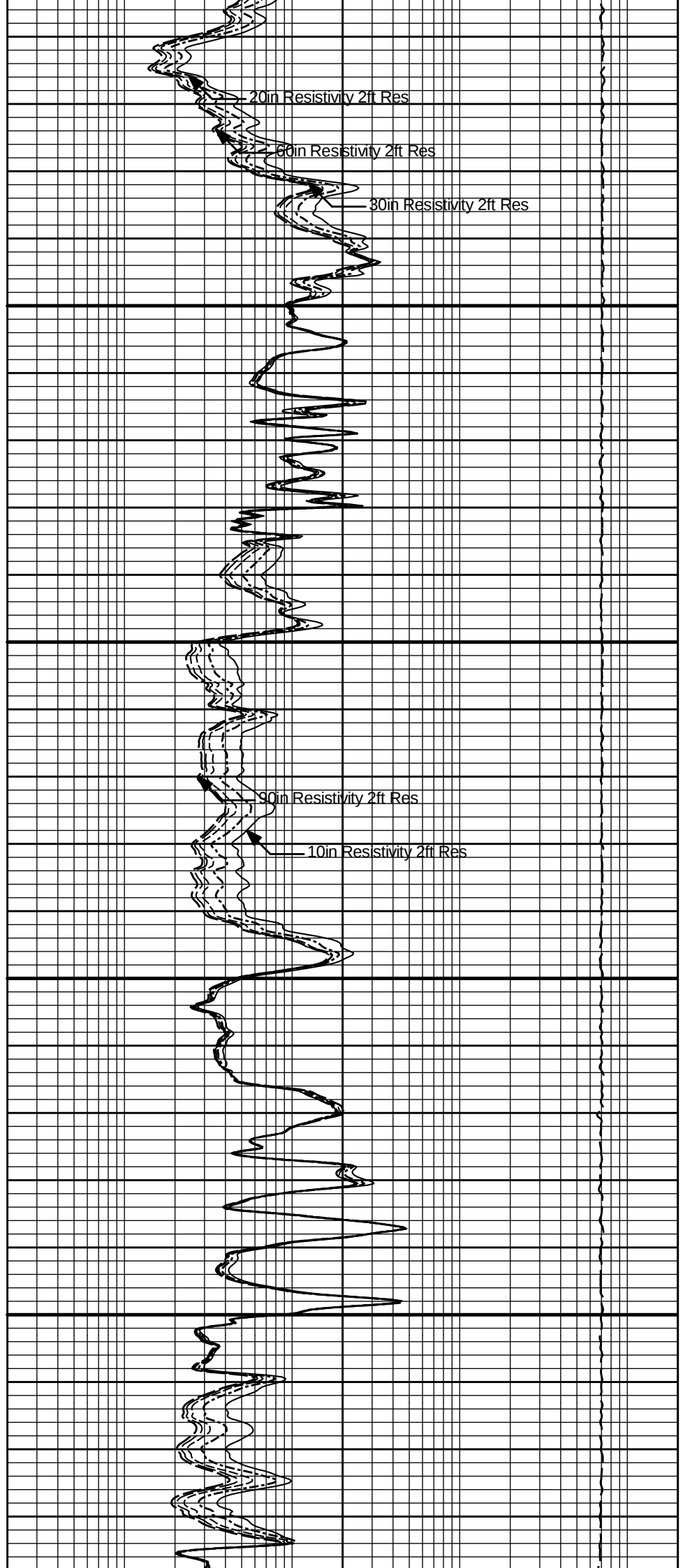
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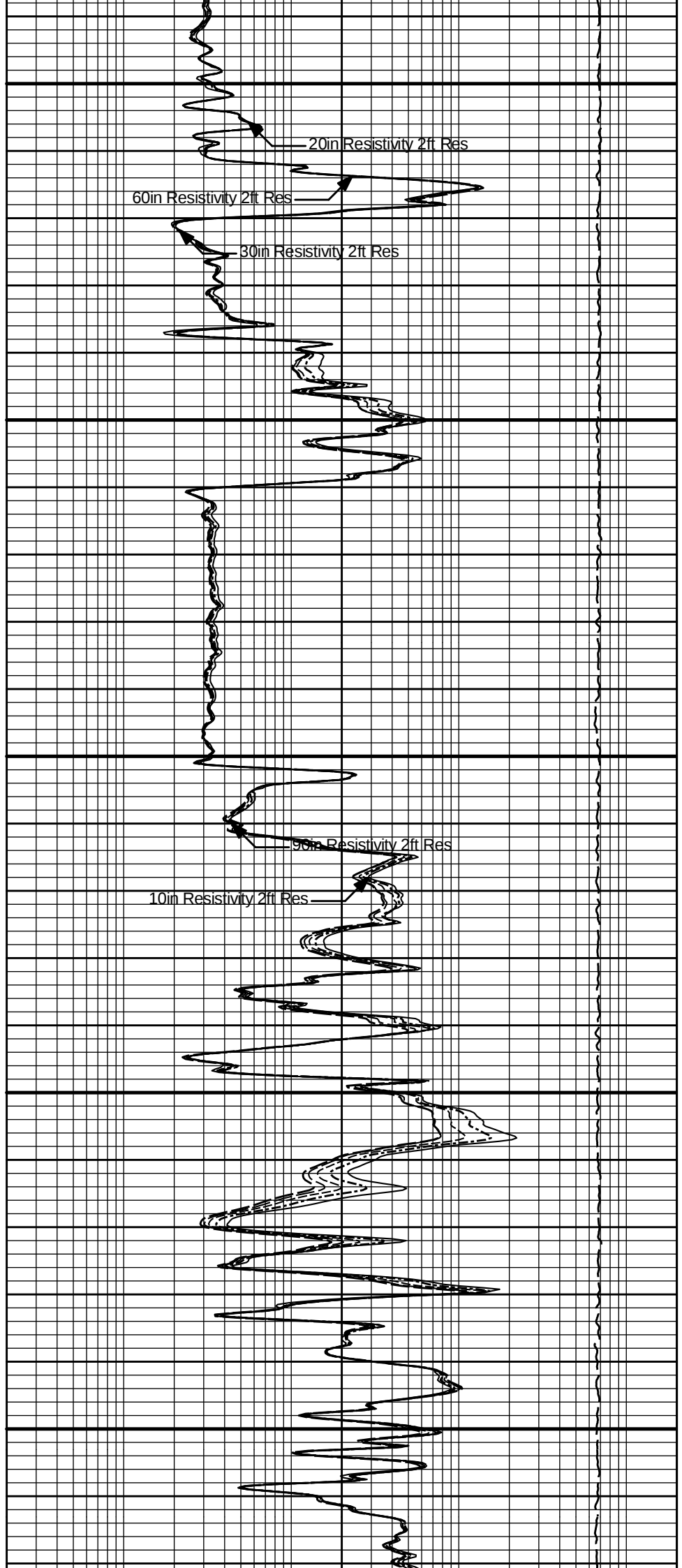
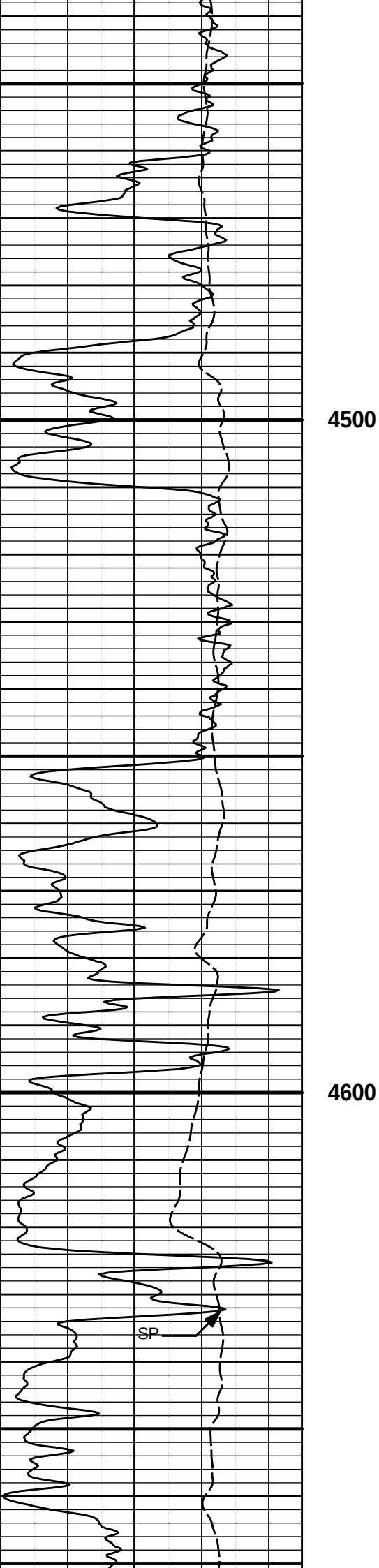


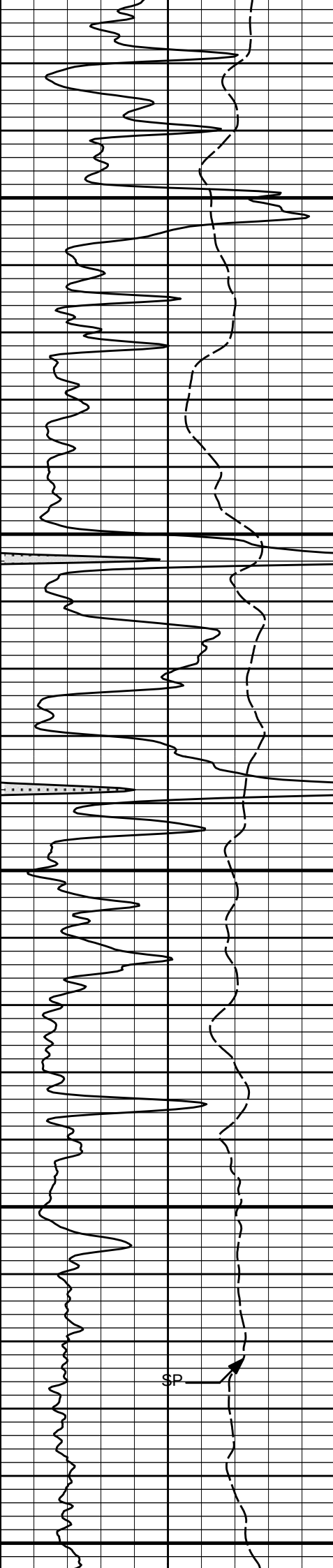


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4400



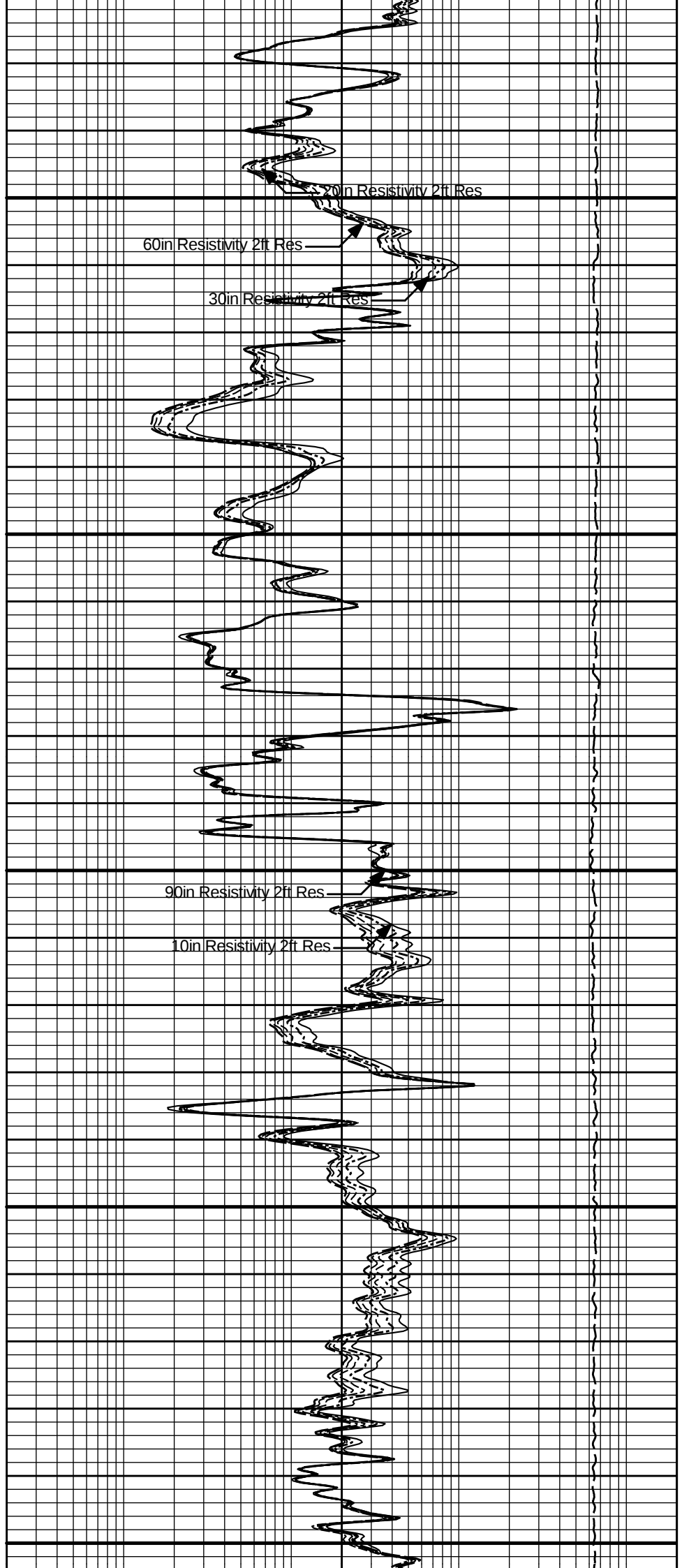




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4800

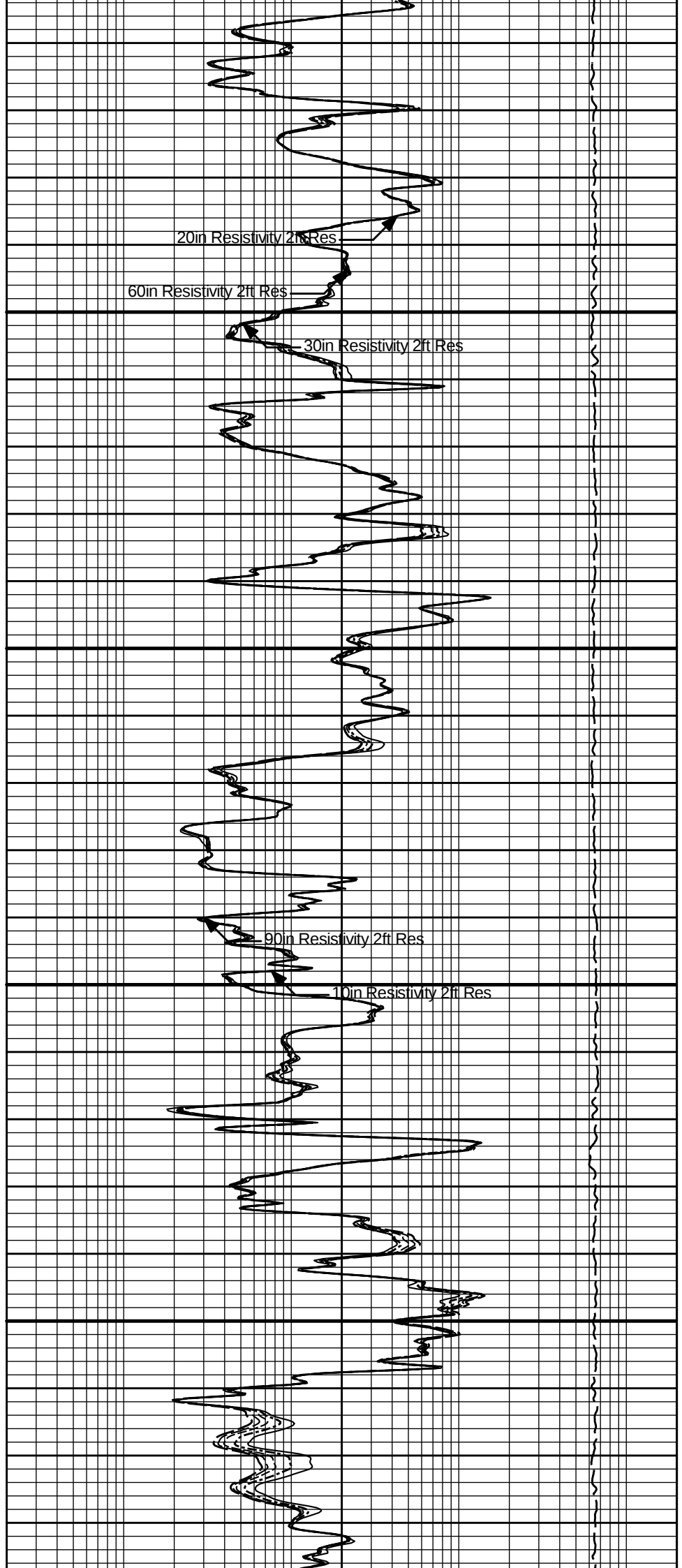
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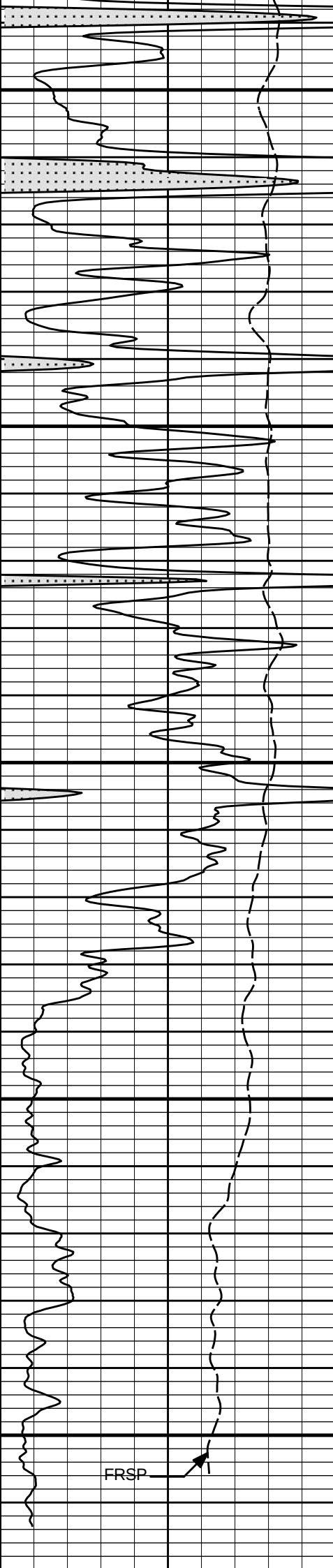




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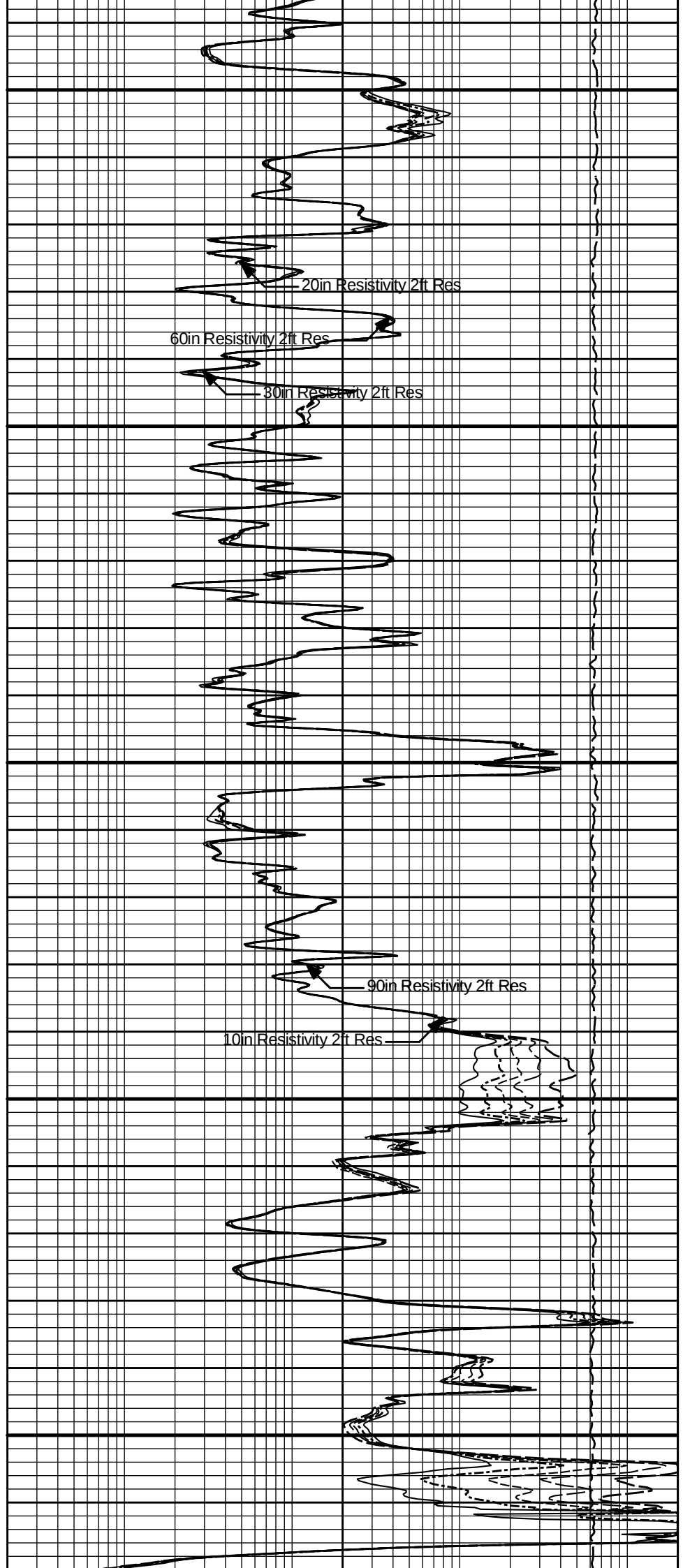
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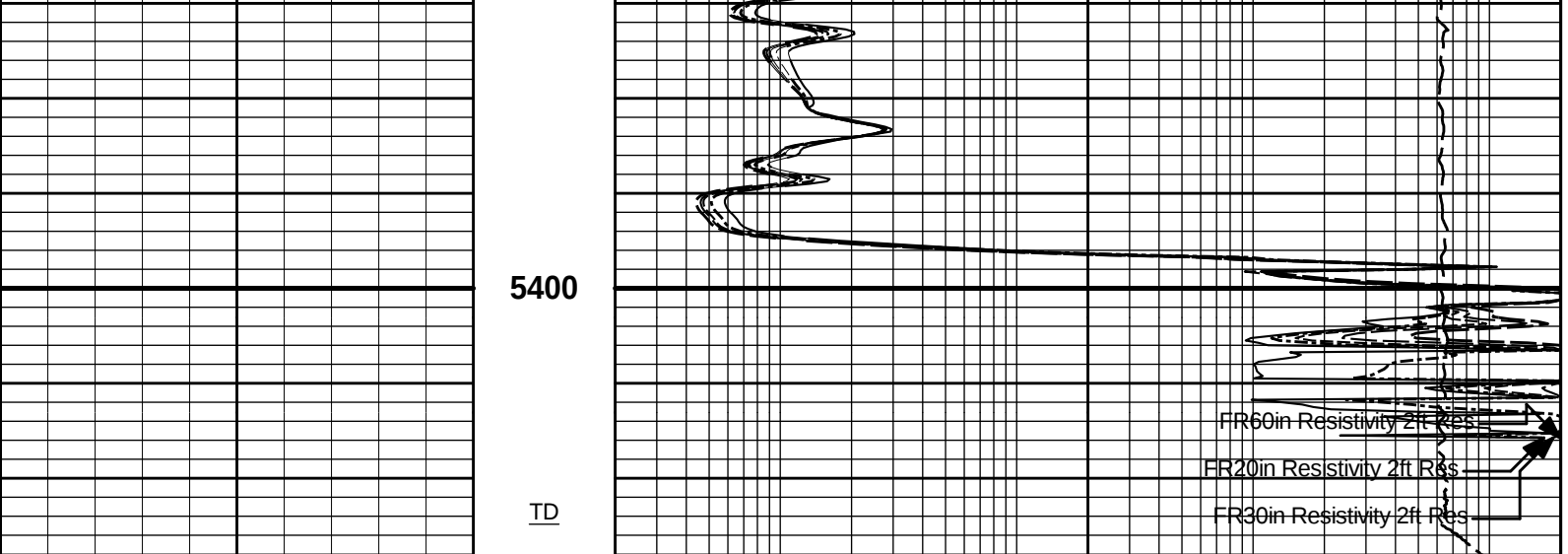




5200

5300





0	Gamma API	150			15K	Tension	0
	api					pounds	
	SP			0.2	90in Resistivity 2ft Res		2K
	- 20 +				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: 22-Oct-17 23:51:29
Plot Range: 500 ft to 5428.5 ft
Data: JOLEN_SELLARD\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-JOLEN_SELLARD\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\ACRT\ACRT_5inch_main

5 INCH MAIN LOG

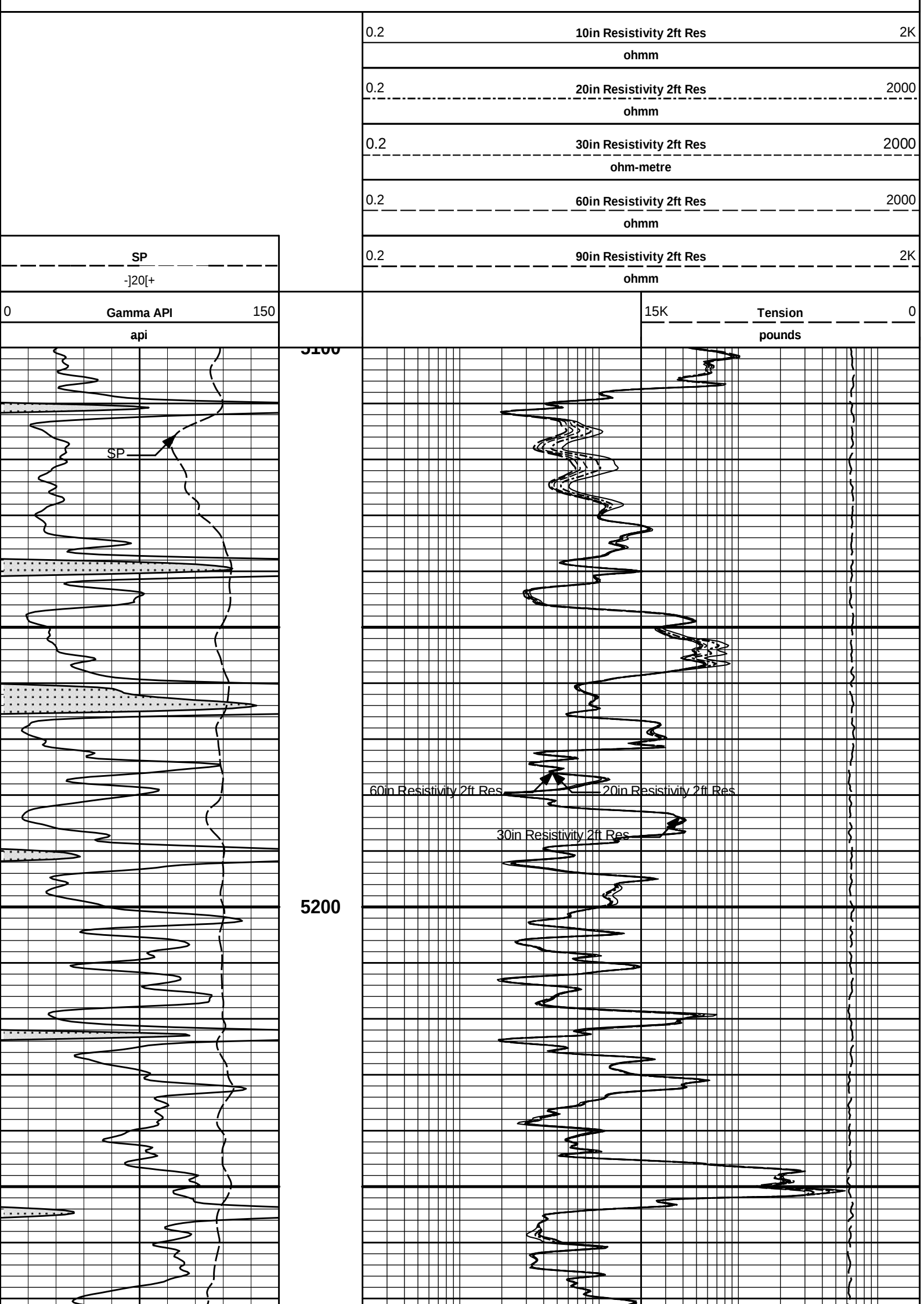
5 INCH MAIN LOG

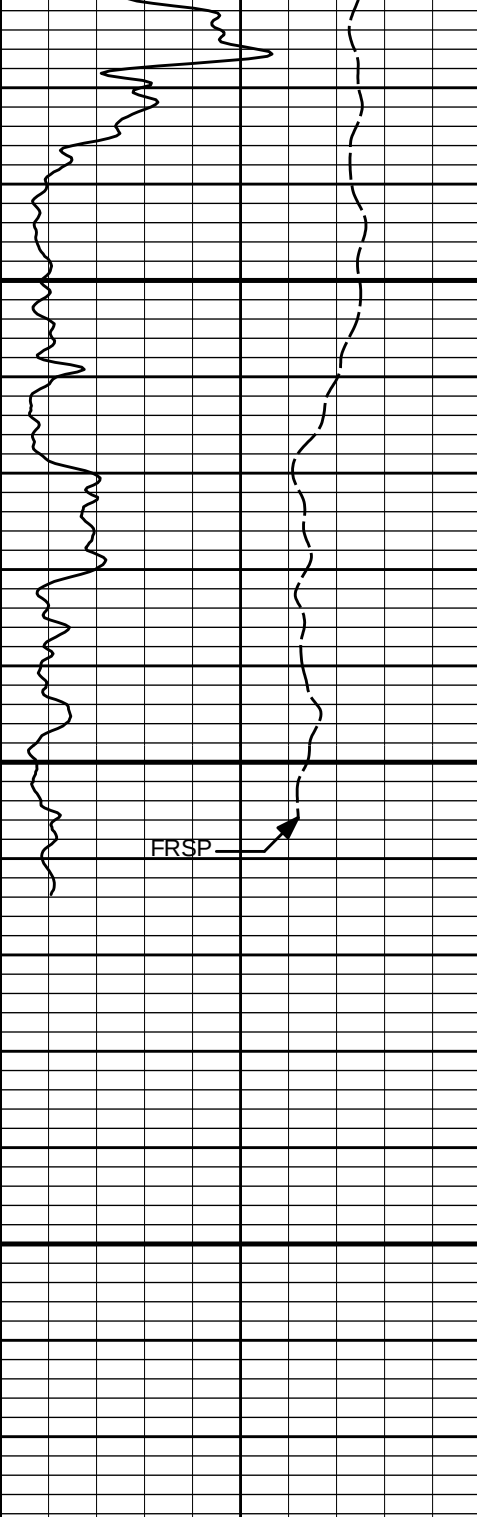
HALLIBURTON

Plot Time: 22-Oct-17 23:51:29
Plot Range: 5100 ft to 5428.83 ft
Data: JOLEN_SELLARD\Well Based\DAQ-0001-002\
Plot File: \\-LOCAL-JOLEN_SELLARD\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\ACRT\ACRT_5inch_main

REPEAT SECTION

REPEAT SECTION

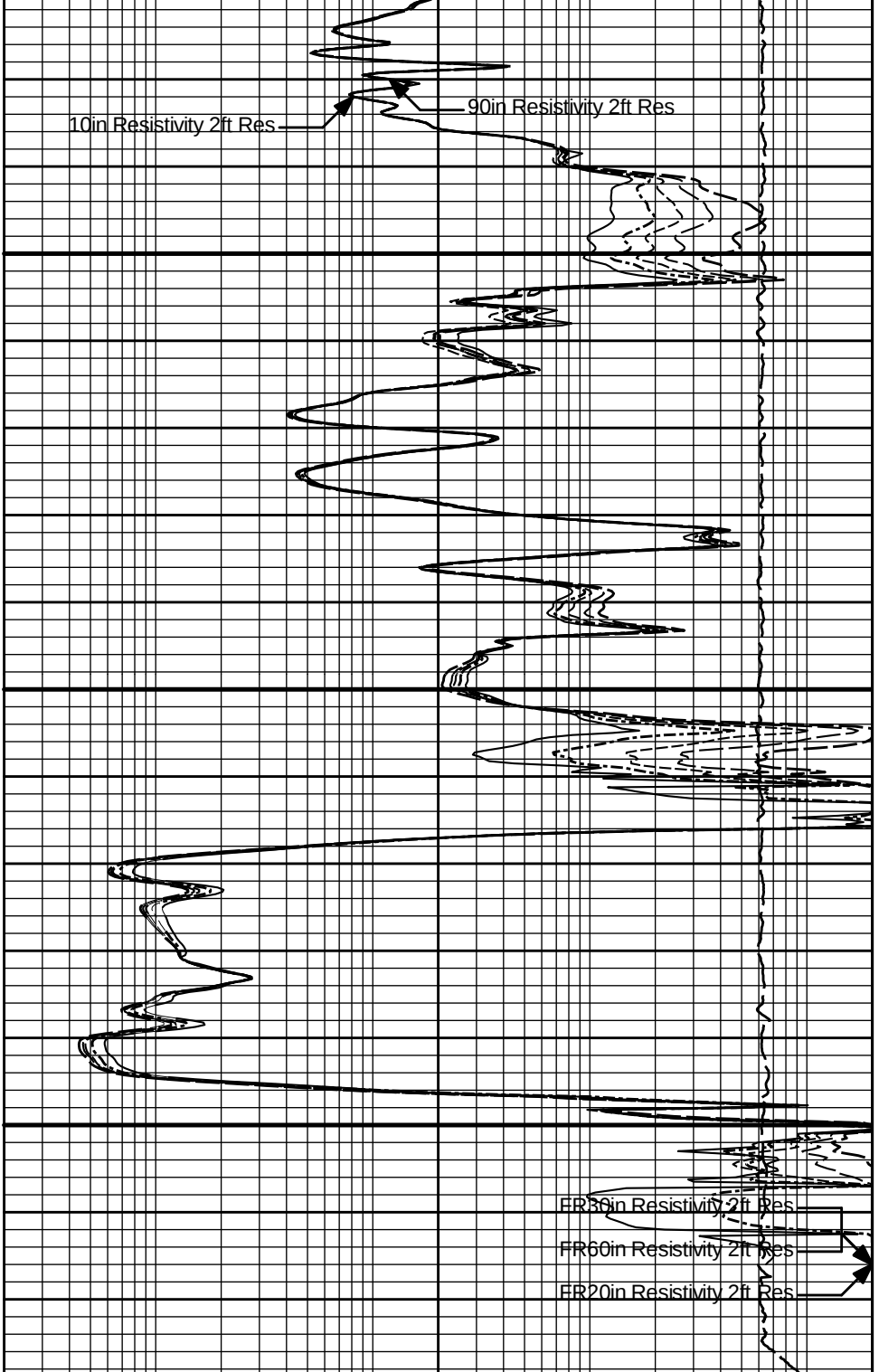




5300

5400

TD



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		
0.2	10in Resistivity 2ft Res		2K
	ohmm		

HALLIBURTON

Plot Time: 22-Oct-17 23:51:32
Plot Range: 5100 ft to 5428.83 ft
Data: JOLEN_SELLARD\Well Based\DAQ-0001-002\
Plot File: \\-LOCAL-JOLEN_SELLARD\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\ACRT\ACRT_5inch_main

REPEAT SECTION

REPEAT SECTION

HALLIBURTON

CALIBRATION REPORT

SURFACE TENSION SHOP CALIBRATION

Tool Name: Depth Panel - PROT01

Reference Calibration Date: 18-Oct-17 01:21:15

Engineer: MICHAEL RICHTER

Calibration Date: 19-Oct-17 01:16:32

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

Calibration Version: 1

SURFACE TENSION LOAD CELL

Measurement	Load Cell Value	Measurement	Calibrated	Units
Low	10840.82	-5.49	0.00	lbs
High	17350.41	7821.21	7830.00	lbs

DOWNHOLE TENSION SHOP CALIBRATION

Tool Name: CH_HOS - CH_HOS_I

Reference Calibration Date: 18-Oct-17 01:28:42

Engineer: MICHAEL RICHTER

Calibration Date: 19-Oct-17 01:20:41

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

Calibration Version: 1

DOWNHOLE LOAD CELL

Measurement	Tool Value	Measurement	Calibrated	Units
Low	-547.18	16.15	0.00	lbs
High	2593.77	989.87	1030.00	lbs

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11021139

Reference Calibration Date: 23-Sep-17 12:22:06

Engineer: WHITLOCK

Calibration Date: 06-Oct-17 11:06:34

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

Calibration Version: 1

Calibrator Source S/N: TB79
Calibrator API Reference:222.00 api
Equivalent Calibrator API Reference:225.9 api

Measurement	Measured	Calibrated	Units
Background	25.7	25.8	api
Background + Calibrator	250.7	251.7	api
Calibrator	225.0	225.9	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11021139

Reference Calibration Date: 06-Oct-17 11:06:34

Engineer: WHITLOCK

Calibration Date: 22-Oct-17 09:49:57

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

Calibration Version: 1

Calibrator Source S/N: TB79
Calibrator API Reference:222.00 api
Equivalent Calibrator API Reference:225.9 api

Field Verification	Shop	Field	Units
Background	25.8	20.3	api
Background + Calibrator	251.7	242.8	api

Background + Calibrator		251.7	243.0	api
Calibrator		225.9	222.7	api
Shop		Field	Difference	Tolerance
225.9		222.7	3.2	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION			
Tool Name:	DSNT - 11660709	Reference Calibration Date:	14-Jul-17 14:37:56
Engineer:	MICHAEL RICHTER	Calibration Date:	21-Oct-17 10:02:19
Software Version:	WL INSITE R5.4.5 (Build 2)	Calibration Version:	1

Logging Source S/N: DSN-424
Tank Serial Number: EL RENO
Reference value assigned to Tank: 56.100
Snow Block S/N: 668
Calibration Tank Water Temperature: 79 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.01791	1.01437	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	0.0011	+/- 0.0020
Calibrated Ratio:	10.5966	10.5597	0.037	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0811	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:	21-Oct-17 10:02:19
Engineer:	WHITLOCK	Calibration Date:	22-Oct-17 10:01:09
Software Version:	WL INSITE R5.0.5 (Build 8)	Calibration Version:	1

Logging Source S/N: DSN-424
Snow Block S/N: 668

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0811	0.0760	-0.0050	+/- 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:	21-Oct-17 17:29:11
Engineer:	MICHAEL RICHTER	Calibration Date:	21-Oct-17 17:35:11
Software Version:	WL INSITE R5.0.5 (Build 8)	Calibration Version:	1

Software Version: WL INSITE R5.4.5 (Build 2)			Calibration Version: 1		
Host Tool Name: DSNT - 11660709					
CALIBRATION COEFFICIENTS					
Measurement	Previous Value	New Value	Control Limit On New Value		
Pad Offset	-4037.57	-3976.32	-7000.00 - -1000.00		
Pad Gain	0.0003850	0.0003840	0.0002000 - 0.0006000		
Arm Offset	-3741.15	-3704.04	-5000.00 - 3000.00		
Arm Gain	0.0005006	0.0004953	0.000300 - 0.000700		
Arm Power	-0.000004136	-0.000003872	-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)	1.98	2.00	0.02	+/- 0.20	
Medium Ring (in)	3.74	3.75	0.01	+/- 0.20	
RING DIAMETER:					
Small Ring (in)	6.48	6.50	0.02	+/- 0.20	
Medium Ring (in)	8.24	8.25	0.01	+/- 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: 21-Oct-17 17:35:11			
Engineer: MICHAEL RICHTER		Calibration Date: 21-Oct-17 17:37:01			
Software Version: WL INSITE R5.4.5 (Build 2)		Calibration Version: 1			
MEASURED CALIPER VALUES					
Measurement	Shop	Field	Change	Control Limit On New Value	
Pad Extension	3.75	3.74	-0.01	+/- 0.10	
Ring Diameter	8.25	8.24	-0.01	+/- 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 13:48:00			
Engineer: JORGE ORLANDO PEREZ		Calibration Date: 12-Sep-17 13:58:19			
Software Version: WL INSITE R5.0.5 (Build 8)		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	1.0395	1.05	0.95	1.0229	1.05	0.95	1.0146	1.05
A2 (50")	0.95	1.0409	1.05	0.95	1.0225	1.05	0.95	1.0165	1.05
A3 (29")	0.95	1.0384	1.05	0.95	1.0194	1.05	0.95	1.0115	1.05
A4 (17")	0.95	1.0343	1.05	0.95	1.0133	1.05	0.95	1.0069	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0083	1.05	0.95	0.9989	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.0000	1.05	0.95	0.9929	1.05
SONDE OFFSET									
Subarray	R12KHz			R36KHz			R72KHz		
	(mmho/m)			(mmho/m)			(mmho/m)		
A1 (80")	0.702			-4.637			-5.501		
A2 (50")	-0.771			-4.034			-5.172		
A3 (29")	-13.230			-3.699			-3.350		
A4 (17")	-110.240			-33.969			-26.356		
A5 (10")	N/A			-83.665			-41.621		
A6 (6")	N/A			333.771			173.557		
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
Signal	Lower		R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)	
12K		0.6	0.90	1.3	Mud Cell	0.95	1.00	1.05	
36K		1.0	1.36	2.0					
72K		1.0	1.62	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 - 11038385	Reference Calibration Date:	12-Sep-17 13:59:44
Engineer:	JORGE ORLANDO PEREZ	Calibration Date:	12-Sep-17 14:00:57
Software Version:	WL INSITE R5.0.5 (Build 8)	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	-0.006	> -0.500	Pass
A2 (50")	0.000	< 0.500	Pass	-0.001	> -0.500	Pass	-0.005	> -0.500	Pass

A2 (30")	0.000	< 0.500	Pass	0.001	> -0.500	Pass	0.000	< 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	-0.027	> -0.500	Pass
A5 (10")	-0.012	> -0.500	Pass	-0.020	> -0.500	Pass	-0.043	> -0.500	Pass
A6 (6")	0.015	< 0.500	Pass	0.074	< 0.500	Pass	0.160	< 0.500	Pass

GAIN TOLERANCE

R12KHz

	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	-223155904.000	-223150640.000	5264.000	11157532.000	Pass
A2 (50")	-220713888.000	-220710416.000	3472.000	11035520.800	Pass
A3 (29")	-216614880.000	-216612000.000	2880.000	10830600.000	Pass
A4 (17")	-214578320.000	-214578224.000	96.000	10728911.200	Pass
A5 (10")	-214986432.000	-214982096.000	4336.000	10749104.800	Pass
A6 (6")	-214394544.000	-214391936.000	2608.000	10719596.800	Pass

R36KHz

	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	60628184.000	60610992.000	17192.000	3030549.600	Pass
A2 (50")	62049960.000	62033248.000	16712.000	3101662.400	Pass
A3 (29")	53214172.000	53197224.000	16948.000	2659861.200	Pass
A4 (17")	50561756.000	50544860.000	16896.000	2527243.000	Pass
A5 (10")	52600244.000	52584856.000	15388.000	2629242.800	Pass
A6 (6")	50656572.000	50641704.000	14868.000	2532085.200	Pass

R72KHz

	Measured (mmho/m)	Last Month (mmho/m)	Difference (mmho/m)	Tolerance (mmho/m)	Pass/Fail
A1 (80")	-92698504.000	-92694664.000	3840.000	4634733.200	Pass
A2 (50")	-89662344.000	-89657152.000	5192.000	4482857.600	Pass
A3 (29")	-89109216.000	-89105528.000	3688.000	4455276.400	Pass
A4 (17")	-84842648.000	-84836840.000	5808.000	4241842.000	Pass
A5 (10")	-83337800.000	-83332480.000	5320.000	4166624.000	Pass
A6 (6")	-84561904.000	-84554136.000	7768.000	4227706.800	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 17:40:50
Engineer:	MICHAEL RICHTER	Calibration Date:	21-Oct-17 17:42:32
Software Version:	WL INSITE R5.4.5 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 11660709		

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.11	-0.14	0.01	0.01	ohmm
Calibration Point #1	0.02	0.00	-0.01	0.00	ohmm
Calibration Point #2	20.00	20.00	19.99	20.00	ohmm
Internal Reference	19.95	19.94	20.00	20.01	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	-10.63	4.50	V

Tool Zero	19.93	19.93	
Calibration Point #1	24.92	-0.13	V
Calibration Point #2	5262.56	6875.93	V
Internal Reference	5247.65	6879.76	V

MICRO LOG FIELD CHECK			
Tool Name:	Microlog Pad - 11014296	Reference Calibration Date:	21-Oct-17 17:42:32
Engineer:	WHITLOCK	Calibration Date:	22-Oct-17 09:45:41
Software Version:	WL INSITE R5.0.5 (Build 8)	Calibration Version:	1

Measurement	Micro Log Normal		Micro Log Lateral		Units
	Shop	Field	Shop	Field	
Tool Zero	-0.14	-0.09	0.01	0.00	ohmm
Internal Reference	19.94	19.90	20.01	19.97	ohmm
Summary					
Signal	Shop	Field	Difference		Tolerance
Microlog Normal	19.94	19.90	0.04		+/- 0.80
Microlog Lateral	20.01	19.97	0.04		+/- 0.80

SPECTRAL DENSITY SHOP CALIBRATION			
Tool Name:	SDLT Pad - 10809130	Reference Calibration Date:	25-May-17 12:11:12
Engineer:	MICHAEL RICHTER	Calibration Date:	03-Aug-17 02:19:19
Software Version:	WL INSITE R5.0.5 (Build 8)	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 MG		Density: 1.687g/cc	Pe: 2.594

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0466	0.9648	0.90 - 1.10
Near Dens Gain	1.0202	0.9664	0.90 - 1.10
Near Peak Gain	1.0587	0.9808	0.90 - 1.10
Near Lith Gain	1.0474	0.9899	0.90 - 1.10
Far Bar Gain	1.0144	1.0063	0.90 - 1.10
Far Dens Gain	1.0018	0.9910	0.90 - 1.10
Far Peak Gain	0.9968	0.9885	0.90 - 1.10
Far Lith Gain	0.9703	0.9595	0.90 - 1.10
Near Bar Offset	-0.1512	0.5881	NONE
Near Dens Offset	0.0840	0.5517	NONE
Near Peak Offset	-0.2272	0.4091	NONE
Near Lith Offset	-0.1986	0.2702	NONE
Far Bar Offset	0.0686	0.1331	NONE
Far Dens Offset	0.1508	0.2380	NONE
Far Peak Offset	0.1449	0.2044	NONE
Far Lith Offset	0.2786	0.3450	NONE
Near Bar Background	815.93	813.79	700 - 1450
Near Dens Background	269.20	265.74	230 - 480
Near Peak Background	115.80	115.36	100 - 210
Near Lith Background	146.10	144.32	125 - 260
Far Bar Background	479.68	477.53	450 - 900
Far Dens Background	184.50	185.37	175 - 345
Far Peak Background	72.51	72.20	70 - 140
Far Lith Background	76.60	75.50	75 - 145

CALIBRATION BLOCK SUMMARY			
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Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.689	1.687	-0.002	+/- 0.015
Pe	2.521	2.561	0.040	+/- 0.150
ALUMINUM				
Density (g/cc)	2.574	2.580	0.006	+/- 0.01500
Pe	3.085	3.134	0.049	+/- 0.150
TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0002	+/- 0.0110	-0.0029	+/- 0.0140
Magnesium Block	-0.0013	+/- 0.0110	-0.0010	+/- 0.0140
Aluminum Block	-0.0009	+/- 0.0110	-0.0014	+/- 0.0140
Resolution	8.91	6.00 - 11.50	9.49	6.00 - 11.50
Internal Verifier(B+D+P+L)	1339	1200 - 2700	811	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 - 10809130		Reference Calibration Date:	03-Aug-17 02:19:19
Engineer:	WHITLOCK		Calibration Date:	22-Oct-17 09:49:00
Software Version:	WL INSITE R5.0.5 (Build 8)		Calibration Version:	1
Pad Temperature: 77.6 degF				
DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1339.219	1329.945	-9.274	14.801
Far (B+D+P+L) cps	810.608	810.409	-0.199	15.737
Near Resolution	8.91	8.83	-0.080	0.50
Far Resolution	9.49	9.23	-0.260	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-PROT01						
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	1030.00	-----	-----	0.00	-----	lbs

GTET-11021139						
Gamma Ray Calibrator	225.9	222.7	-----	3.2	+/- 9.00	api
DSNT-11660709						
Snow-Block Porosity	0.0811	0.0760	-----	0.0051	+/- 0.0150	decp
SDLT-11014296						
Pad Extension	3.75	3.74	-----	0.01	+/-0.10	in
Ring Diameter	8.25	8.24	-----	0.01	+/-0.15	in
ACRt Sonde-11038385						
Mud Cell	1.00	-----	-----	0	-----	ohm-m
Microlog Pad-11014296						
MicroLog Normal	19.94	19.90	-----	0.04	+/-0.80	ohmm
MicroLog Lateral	20.01	19.97	-----	0.04	+/-0.80	ohmm
SDLT Pad-10809130						
Near(B+D+P+L)	1339.219	1329.945	-----	9.274	+/-14.801	cps
Far(B+D+P+L)	810.608	810.409	-----	0.199	+/-15.737	cps
Data: JOLEN_SELLARDI0001 GTET-DSN-SDL-FLX-BSAT-ACRTIDLE						
Date: 22-Oct-17 20:04:53						

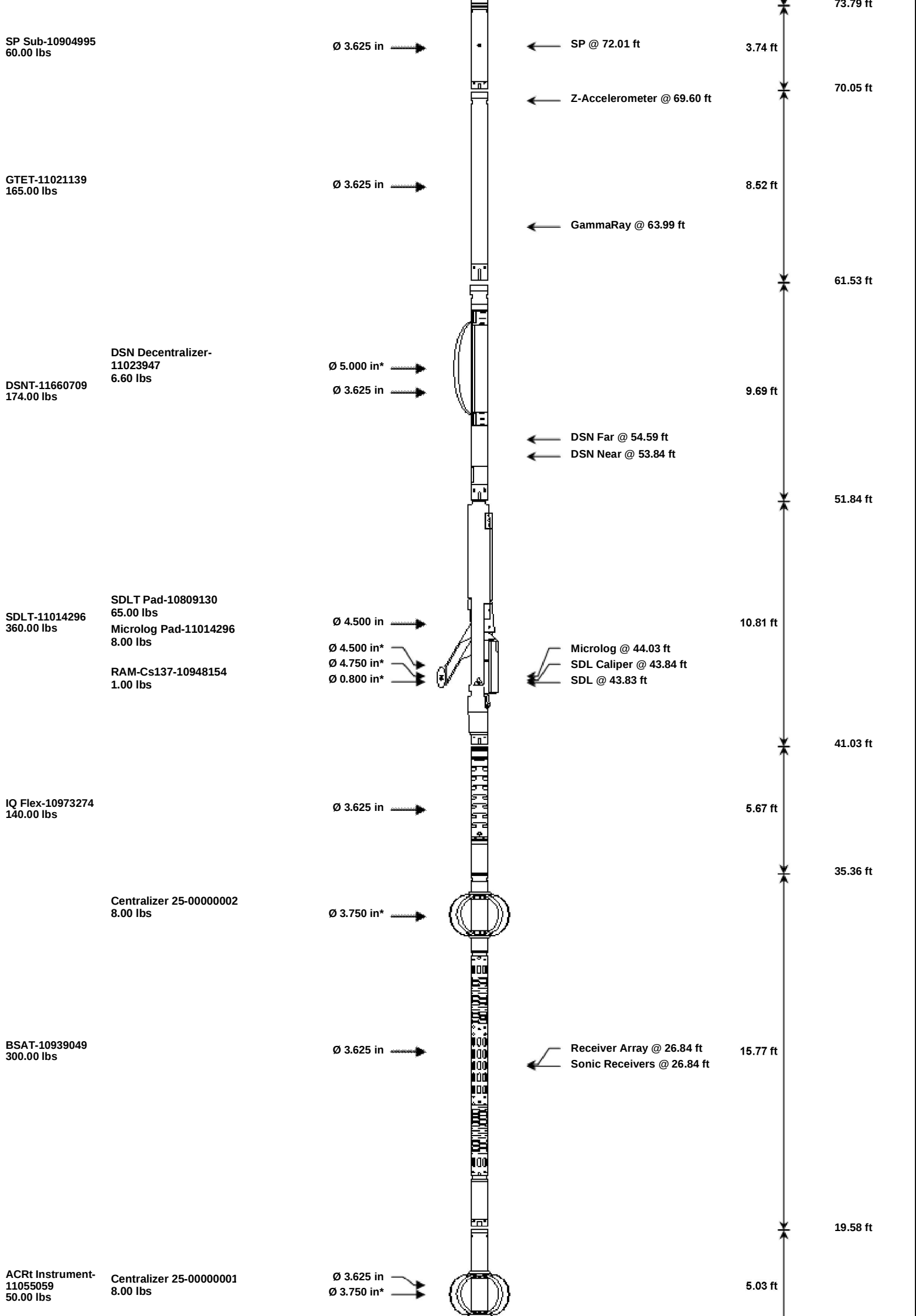
HALLIBURTON

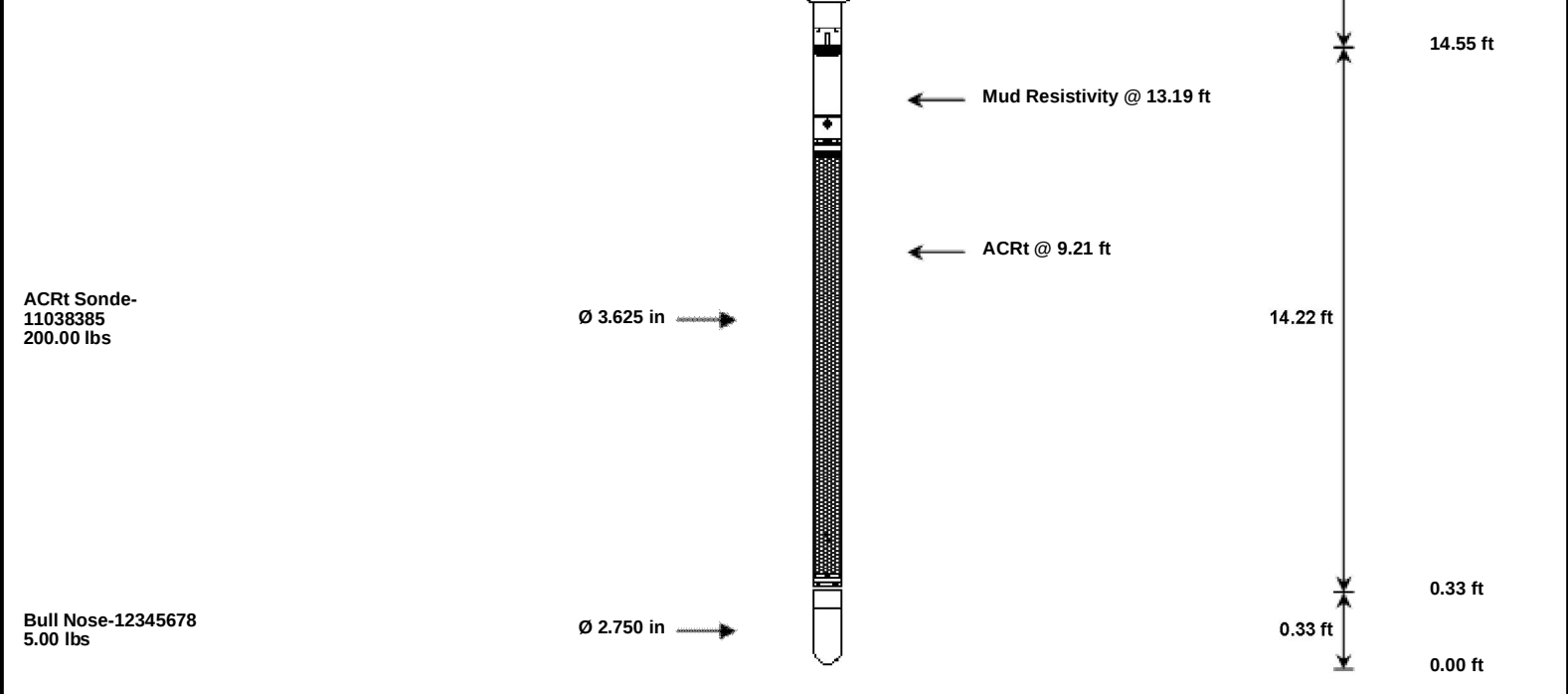
PARAMETERS REPORT

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	5430.00	ft
	SHARED	BHT	Bottom Hole Temperature	130.0	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 /				

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	DSNO	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	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				
Data: JOLEN_SELLARD\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\IDLE			Date: 22-Oct-17 20:05:51	

HALLIBURTON						
TOOL STRING DIAGRAM REPORT						
Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS_I 37.50 lbs		Ø 2.750 in		Temperature @ 76.74 ft	2.25 ft	76.99 ft
XOHD-11021555 20.00 lbs		Ø 2.750 in Ø 3.625 in			0.95 ft	74.74 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	2.25	74.74	300.00	
XOHD	Hostile to Dits Cross Over		11021555	20.00	0.95	73.79	300.00	
SP	SP Sub		10904995	60.00	3.74	70.05	300.00	
GTET	Gamma Telemetry Tool		11021139	165.00	8.52	61.53	60.00	
DSNT	Dual Spaced Neutron		11660709	174.00	9.69	51.84	60.00	
DCNT	DSN Decentralizer		11023947	6.60	5.13	*	55.17	300.00
SDLT	Spectral Density Tool		11014296	360.00	10.81	41.03	60.00	
SDLP	Density Insite Pad		10809130	65.00	2.55	*	43.24	60.00
Cs137	Logging Source, SDLT-I, 1.78 Ci - Cs137		10948154	1.00	0.80	*	43.47	300.00
MICP	Microlog Pad		11014296	8.00	1.00	*	43.53	60.00
IQF	IQ Flex tool		10973274	140.00	5.67	35.36	300.00	
BSAT	Borehole Sonic Array Tool		10939049	300.00	15.77	19.58	60.00	
OBCEN	Centralizer - 25 in. Overbody		00000002	8.00	2.08	*	32.44	300.00
ACRt	Array Compensated True Resistivity Instrument Section		11055059	50.00	5.03	14.55	120.00	
OBCEN	Centralizer - 25 in. Overbody		00000001	8.00	2.08	*	15.70	300.00
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	
Total				1,608.10	76.99			
				* Not included in Total Length and Length Accumulation.				
Data: JOLEN_SELLARD\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\IDLE				Date: 22-Oct-17 20:08:20				

HALLIBURTON

Plot Time: 22-Oct-17 23:51:40

Plot Range: 500 ft to 5428 ft

Data: JOLEN_SELLARD\Well Based\DAQ-0001-003\

Plot File: \\LOCAL-\\JOLEN_SELLARD\0001 GTET-DSN-SDL-FLX-BSAT-ACRT\ACRT\ACRT_1_main

1 INCH MAIN LOG

1 INCH CORRELATION LOG

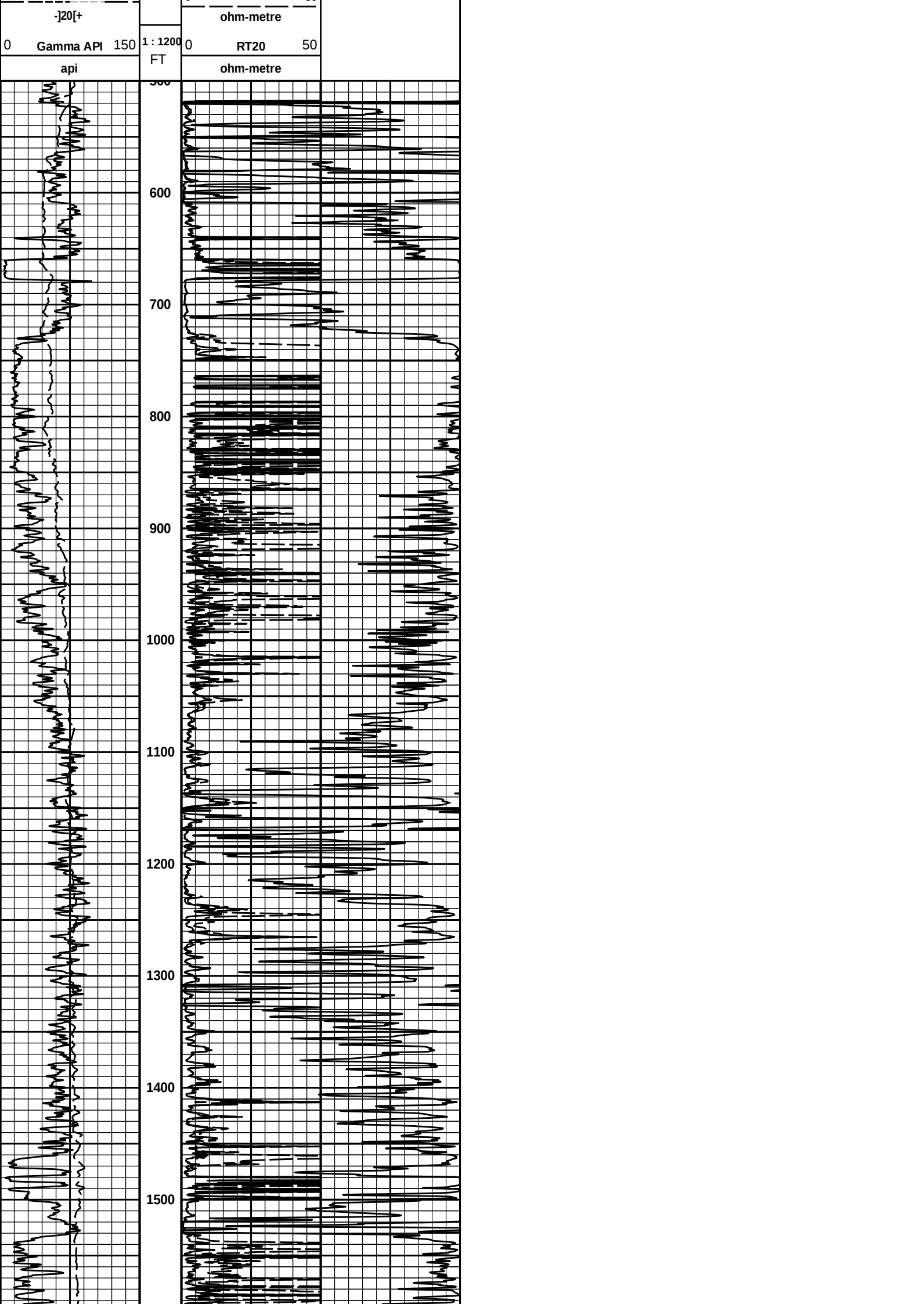
SP

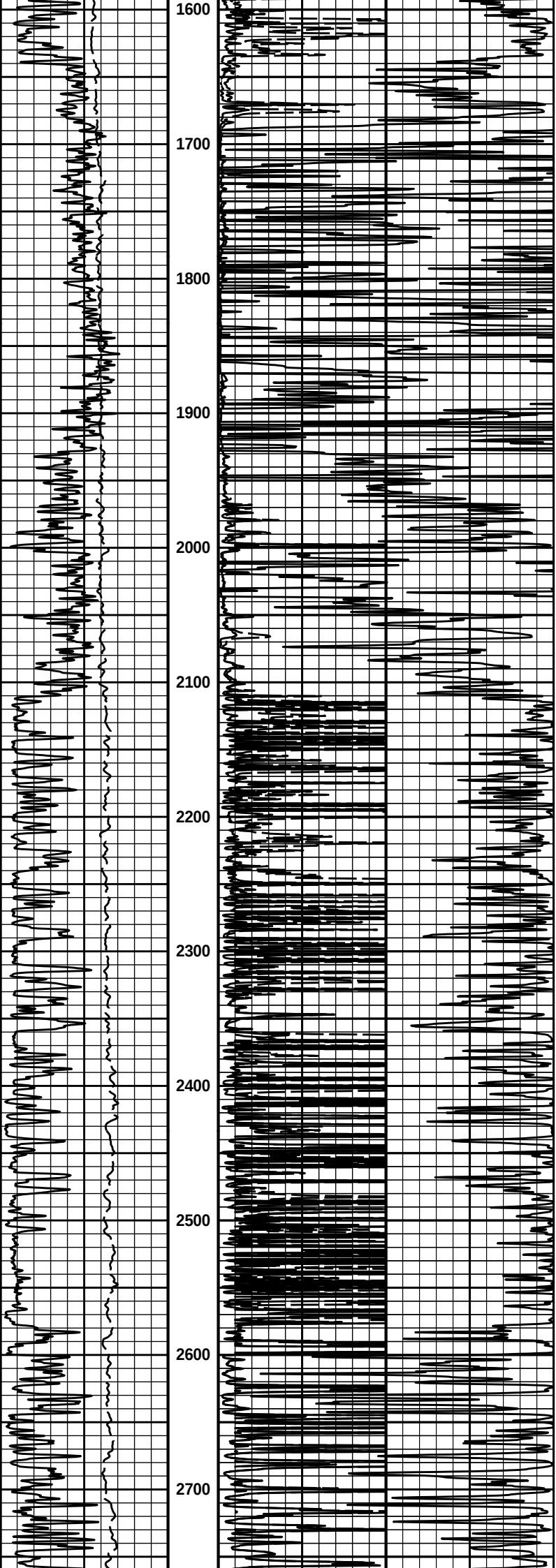
90in Resistivity 2ft Res

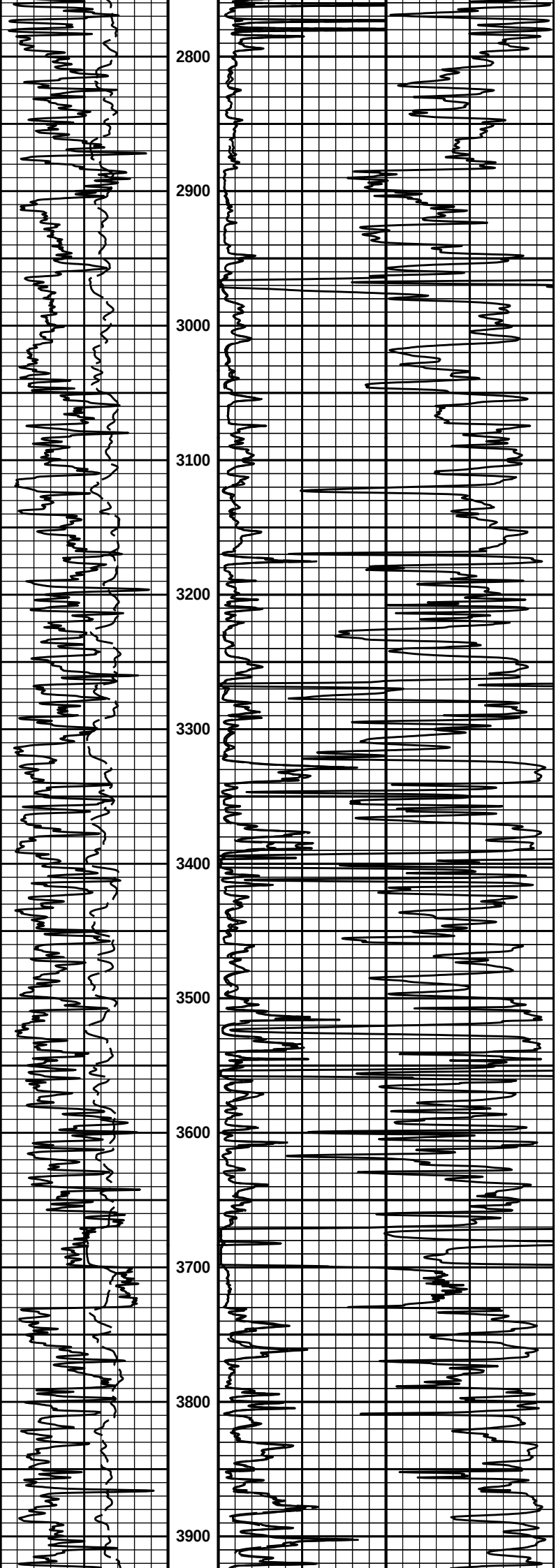
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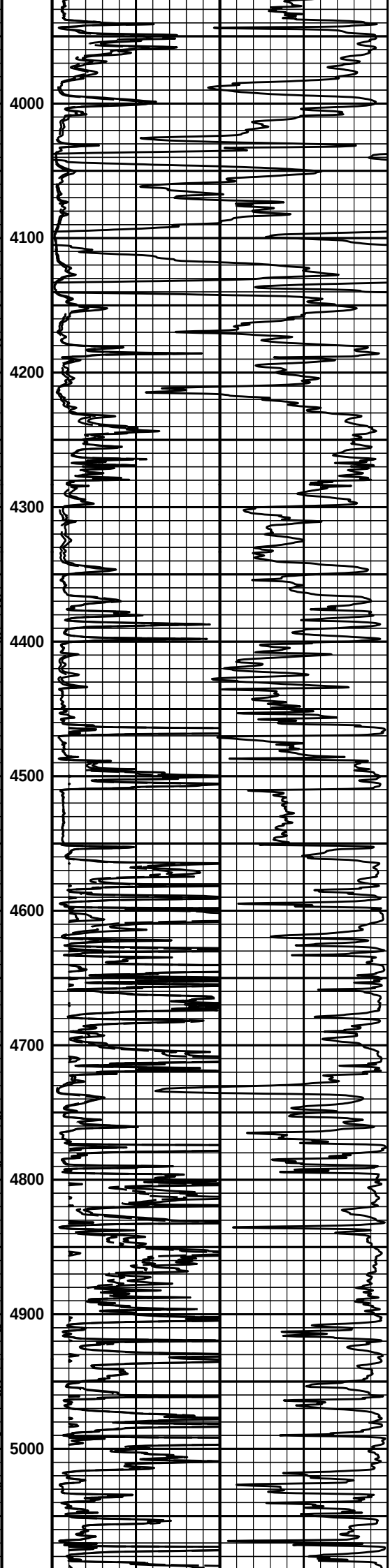
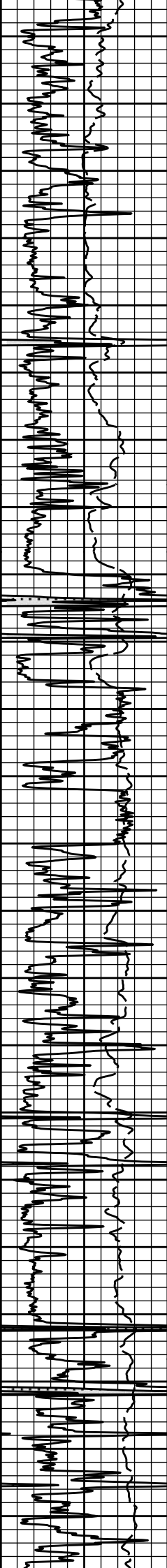
90in Conductivity 2ft Res

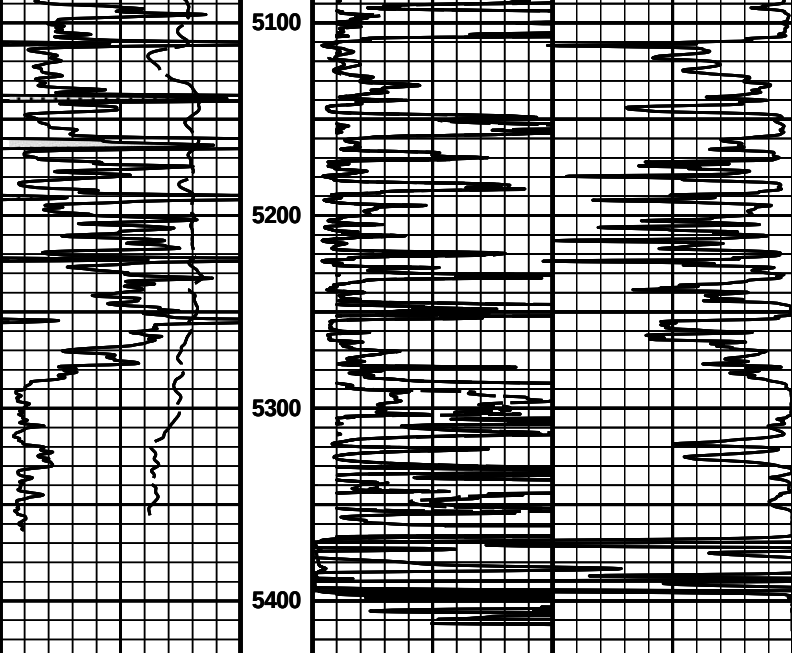
mmho per metre











0	Gamma API	150	1 : 1200	0	RT20	50	
	api		FT		ohm-metre		
	SP			0	90in Resistivity 2ft Res	50	
	-120[+				ohm-metre		
				1000	90in Conductivity 2ft Res	0	
					mmho per metre		

HALLIBURTON
Plot Time: 22-Oct-17 23:51:42
Plot Range: 500 ft to 5428 ft
Data: JOLEN_SELLARD\Well Based\DAQ-0001-003\
Plot File: \\LOCAL-JOLEN_SELLARD\0001 GTET-DSN-SOL-FLX-BSAT-ACRTIACRTIACRT_1_main

1 INCH MAIN LOG

1 INCH CORRELATION LOG