HALLIBURTON

ARRAY COMPENSATED TRUE RESISITIVITY LOG

COMPANY **VAL ENERGY, INC,**

WELL **HOAGLAND 1-22**

FIELD **UNKNOWN**

COUNTY **BARBER** STATE **KANSAS**

VAL ENERGY, INC, (COMPANY)
HOAGLAND 1-22 (WELL)
UNKNOWN (FIELD)
BARBER (COUNTY)
KANSAS (STATE)

API No. 15-007-23821

Location 1013' FSL & 239' FWL

Sect. 22 Twp. 32S Rge. 14W

Other Services:
DSNT/SDLT
ML
MRIL

Permanent Datum	GL	Elev. 1910.0 ft	Elev.: K.B. 1921.0 ft
Log measured from	KB	, 11.0 ft above perm. Datum	D.F. 1920.0 ft
Drilling measured from	KB		G.L. 1910.0 ft

Date		15-Jan-12		@		@	
Run No.		ONE					
Depth - Driller		5270.00 ft					
Depth - Logger		5264.0 ft					
Bottom - Logged Interval		5255 ft					
Top - Logged Interval		226 ft					
Casing - Driller		8.625 in @ 224.0 ft		@		@	
Casing - Logger		226.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		WATER BASED MUD					
Density	Viscosity	9.5 ppg	61.00 s/qt				
PH	Fluid Loss	12.00 pH	13.6 cptm				
Source of Sample		FLOWLINE					
Rm @ Meas. Temperature		0.340 ohmm @ 67.00 degF		@		@	
Rmf @ Meas. Temperature		0.29 ohmm @ 65.00 degF		@		@	
Rmc @ Meas. Temperature		0.450 ohmm @ 65.00 degF		@		@	
Source Rmf	Rmc	MEASURED	MEASURED				
Rm @ BHT		0.21 ohmm @ 115.0 degF		@		@	
Time Since Circulation		0.0 hr					
Time on Bottom		15-Jan-12 23:17					
Max. Rec. Temperature		115.0 degF @ 5264.0 ft		@		@	
Equipment	Location	10782954	LIBERAL				
Recorded By		C. MARLOWE					
Witnessed By		S. VANBUSKIRK					

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PGM Version: WL INSITE R3.4.2 (Build 2)

Service Ticket No.: 99198957 API Serial No.: 15-007-23821

RESISTIVITY SCALE CHANGES

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

	Type Log	Depth	Scale Up Hole	Scale Down Hole
Date				
Sample No.				
Depth-Driller				
Type Fluid in Hole				
Density / Viscosity				
Ph / Fluid Loss				
Source of Sample				
Rm @ Meas. Temp				
Rmf @ Meas. Temp.				
Rmc @ Meas. Temp.				
Source Rmf / Rmc				
Rm @ BHT				
Rmf @ BHT				
Rmc @ BHT				

RESISTIVITY EQUIPMENT DATA

	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
Date					
Sample No.					
Depth-Driller					
Type Fluid in Hole					
Density / Viscosity					
Ph / Fluid Loss					
Source of Sample					
Rm @ Meas. Temp	@	@	@	@	@
Rmf @ Meas. Temp.	@	ONE	ACRT	N/A	1.5" S.O.	N/A
Rmc @ Meas. Temp.	@		I776_S775			
Source Rmf / Rmc					
Rm @ BHT	@	@	@	@	@
Rmf @ BHT	@	@	@	@	@
Rmc @ BHT	@	@	@	@	@

EQUIPMENT DATA

	GAMMA	ACOUSTIC	DENSITY	NEUTRON
Run No.	ONE			
Serial No.	10748374			
Model No.	GTET			
Diameter	3.625"			
Detector Model No.	T-102	Spacing	Log Type	Log Type
Type	SCINT		Source Type	Source Type
Length	8"	LSA [Y/N]	Serial No.	Serial No.
Distance to Source	10'	FWDA [Y/N]	Strength	Strength

LOGGING DATA

GENERAL ACOUSTIC DENSITY NEUTRON GAMMA

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	
ONE	TD	CSG	REC	0	150									

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks: SP/GTET/DSNT/SDLT/ACRT RUN IN COMBINATION

ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CHLORIDES REPORTED AT 8000 PPM

GPS COORDINATES: 35º32' N & 98º34' W

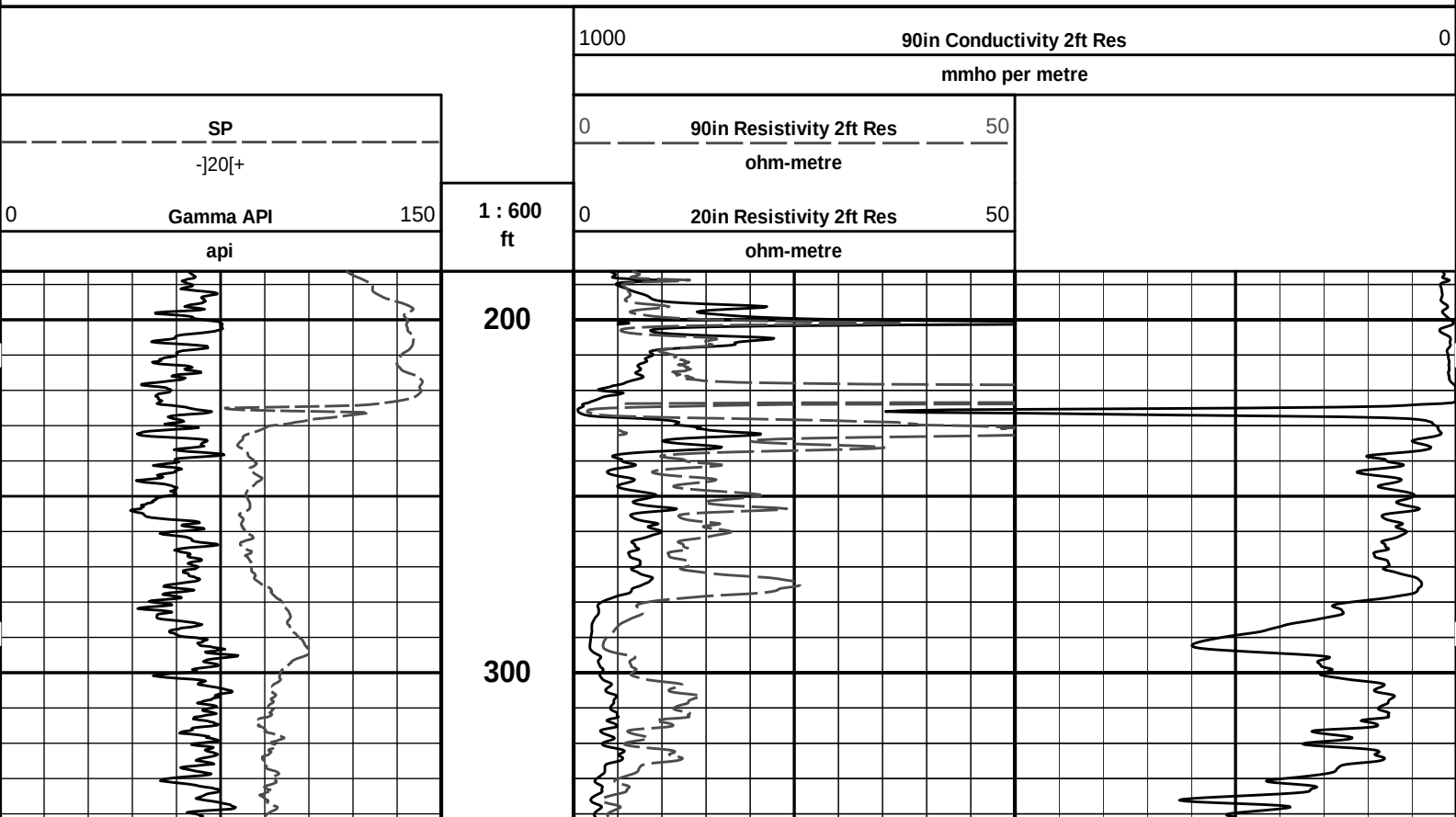
TODAY'S CREW: F. VILLA, B. TERRELL

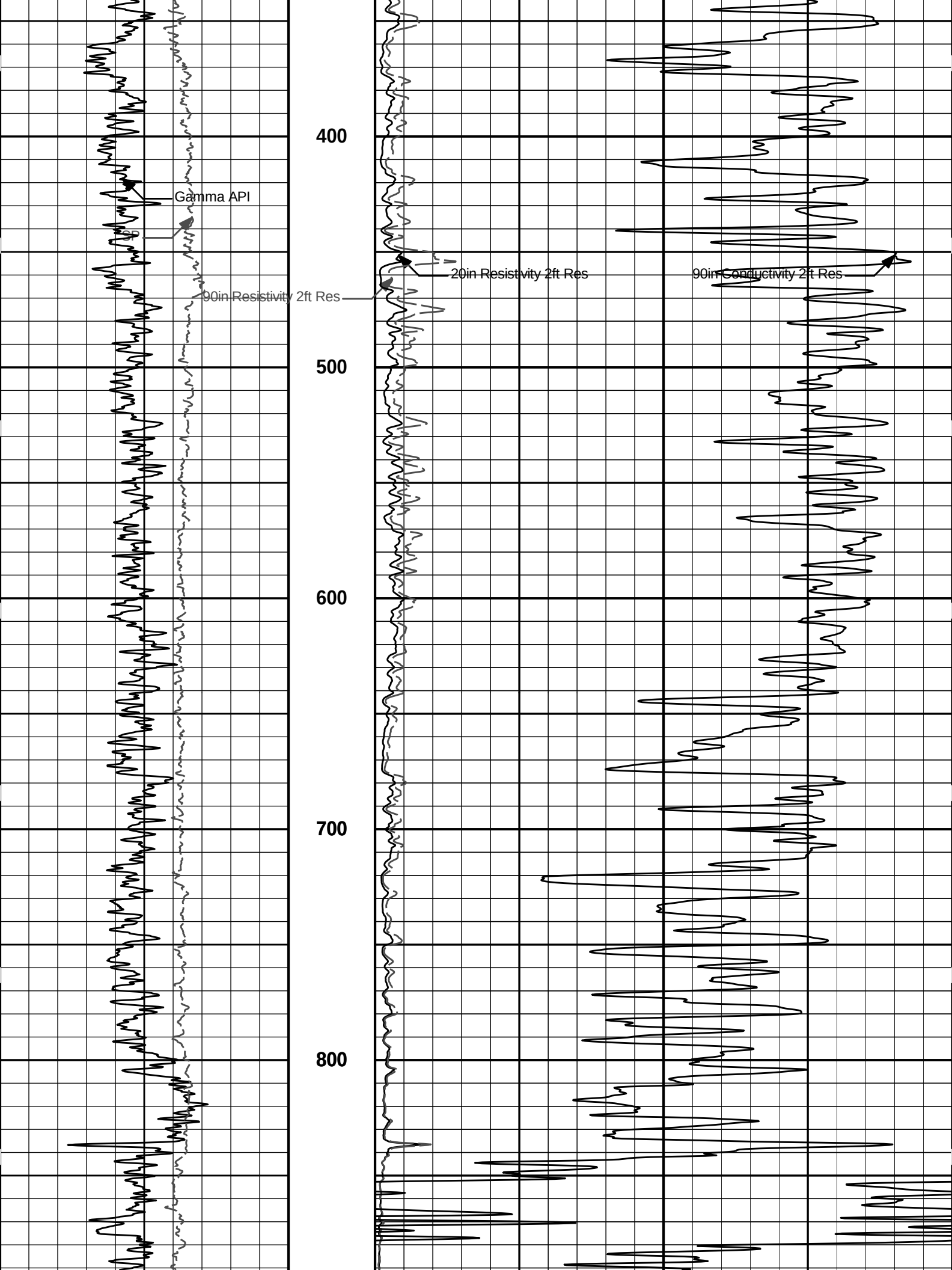
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES: LIBERAL, KS 620-624-8123

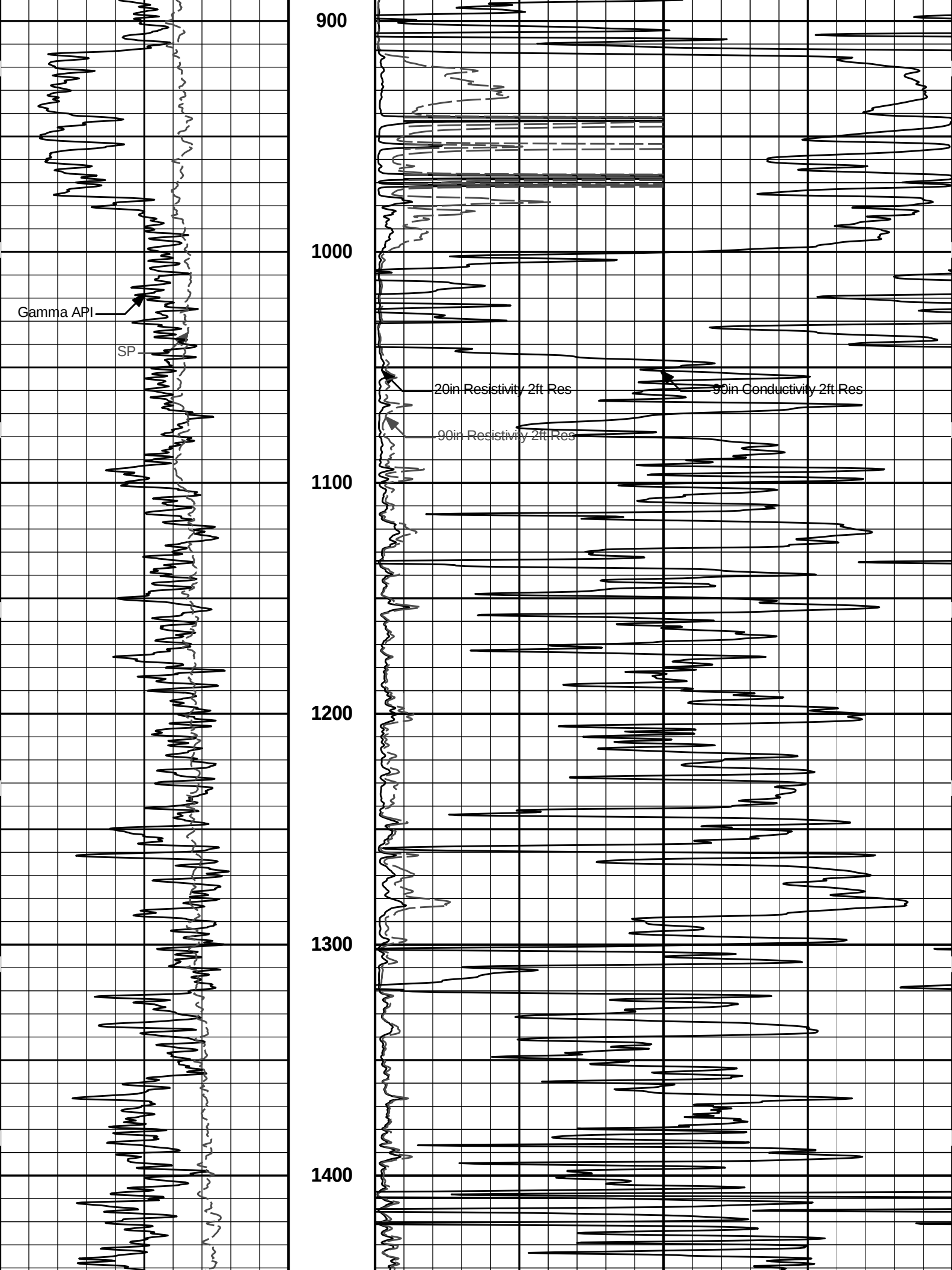
HALLIBURTON

Plot Time: 16-Jan-12 01:31:54
Plot Range: 186.25 ft to 5268.33 ft
Data: HOAGLAND_1_22\Well Based\CASING
Plot File: \\-LOCAL-\HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\ACRT\ACRT_2_lib

2 INCH MAIN LOG




400
500
600
700
800
Gamma API
SP
90in Resistivity 2ft Res
20in Resistvity 2ft Res
90in Conductivity 2ft Res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1100
1200
1300
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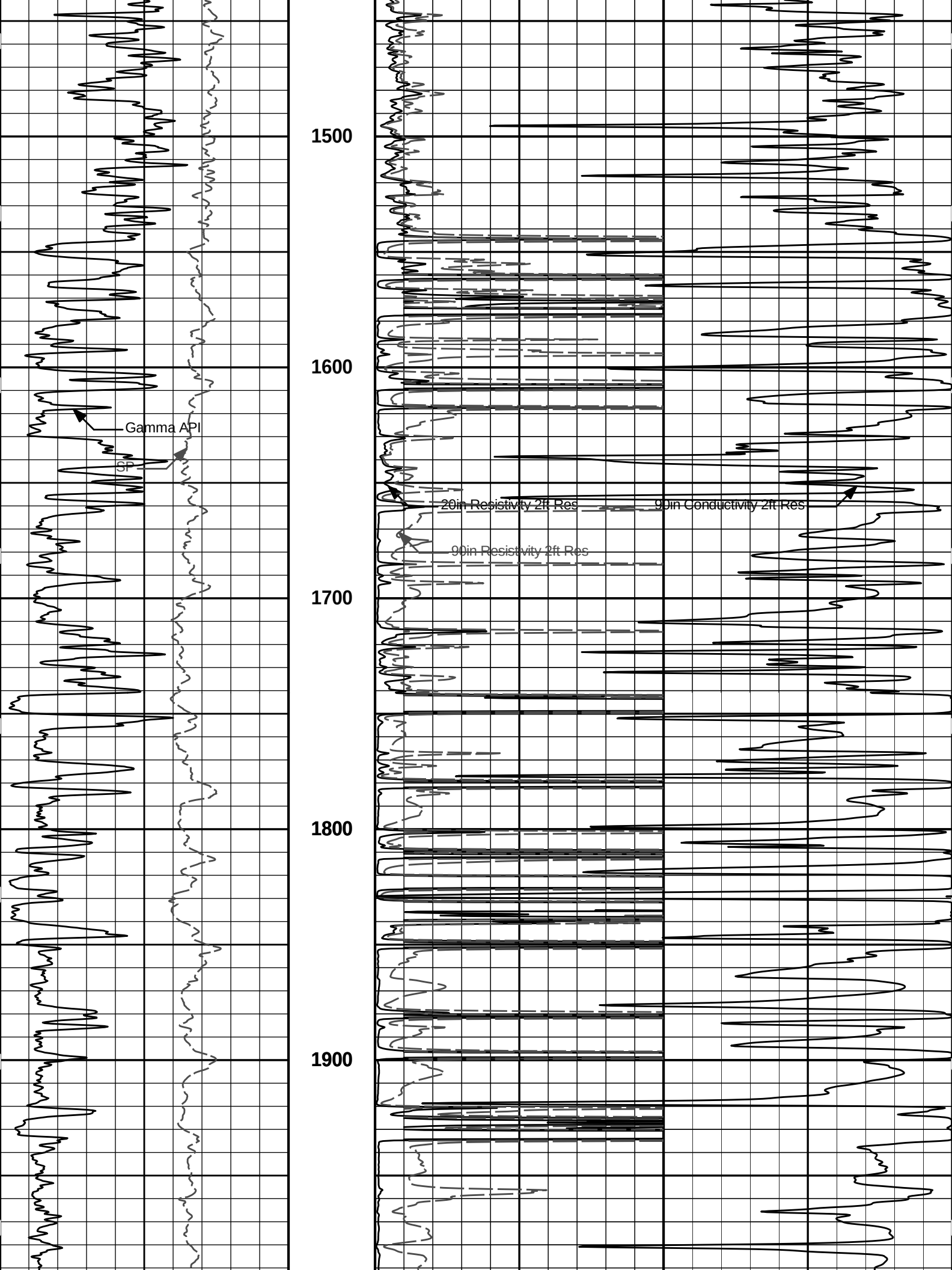
90in Conductivity 2ft Res
90in Resistivity 2ft Res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1700
1800
1900
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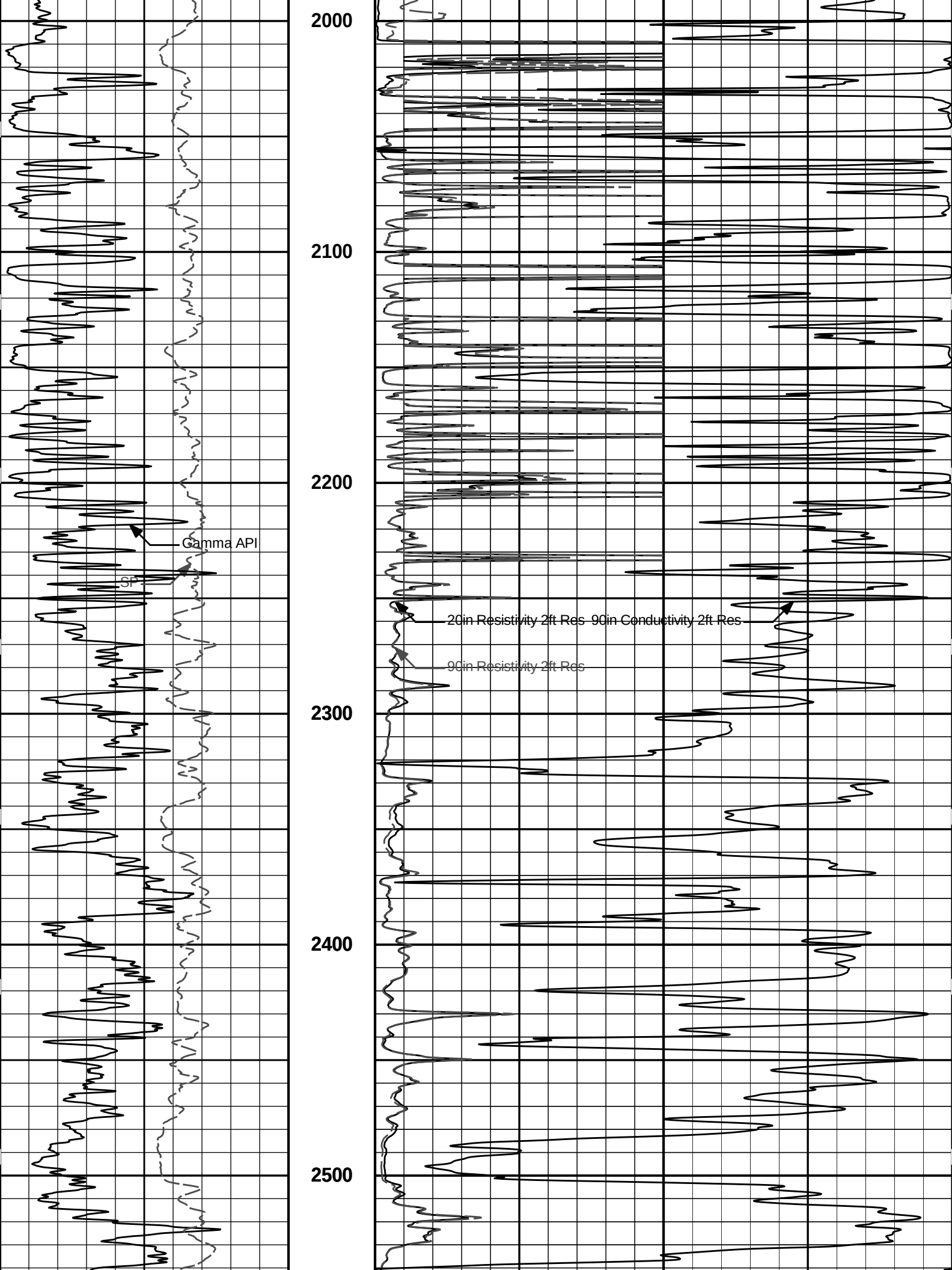
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2100
2200
2300
2400
2500
Gamma API
SP
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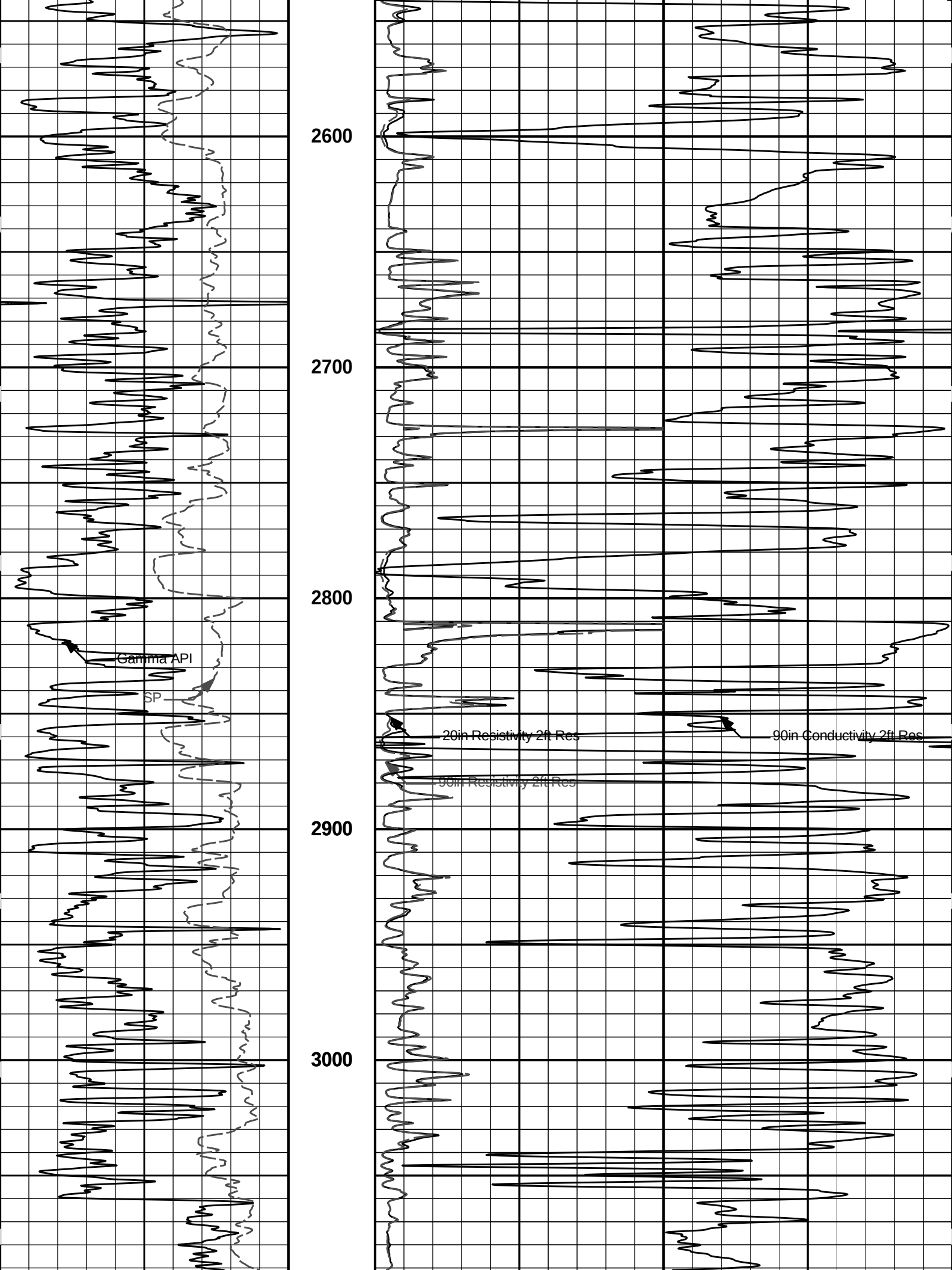
90in Conductivity 2ft Res
90in Resistivity 2ft Res


2600
2700
2800
2900
3000
Gamma API
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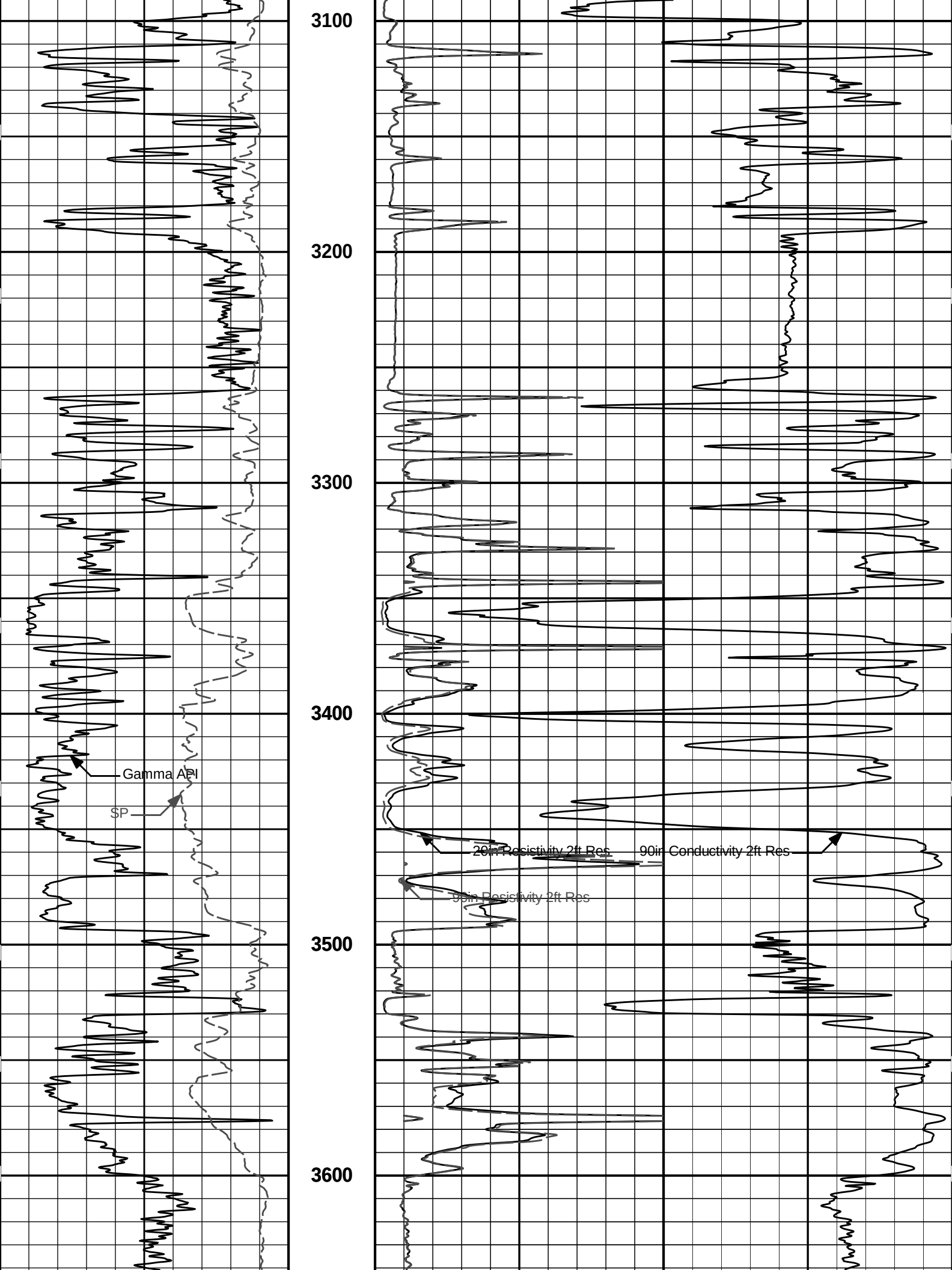
90in Conductivity 2ft Res
90in Resistivity 2ft Res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3200
3300
3400
3500
3600
Gamma API
SP
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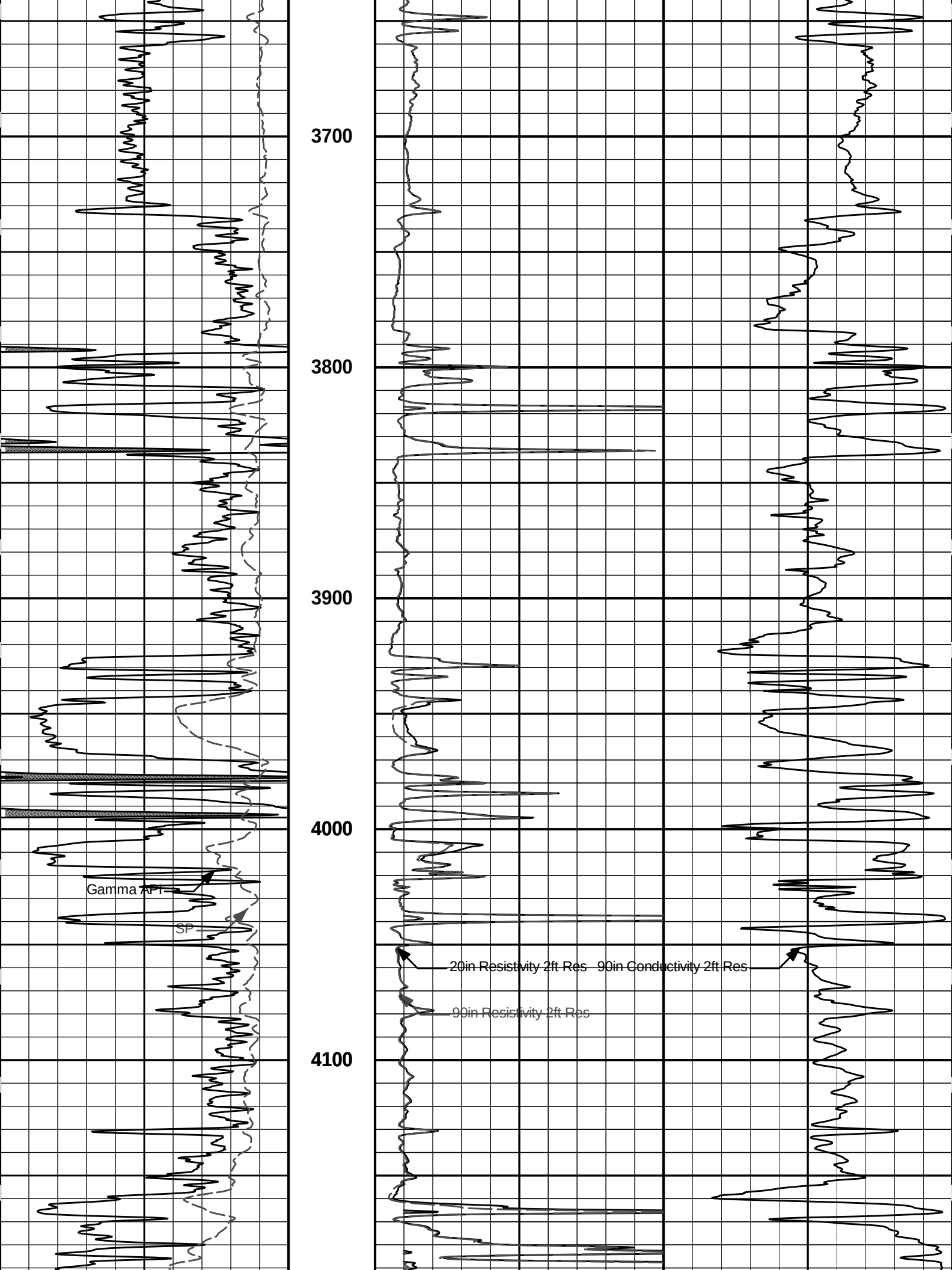
90in Conductivity 2ft Res
90in Resistivity 2ft Res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3800
3900
4000
4100
Gamma API
SP
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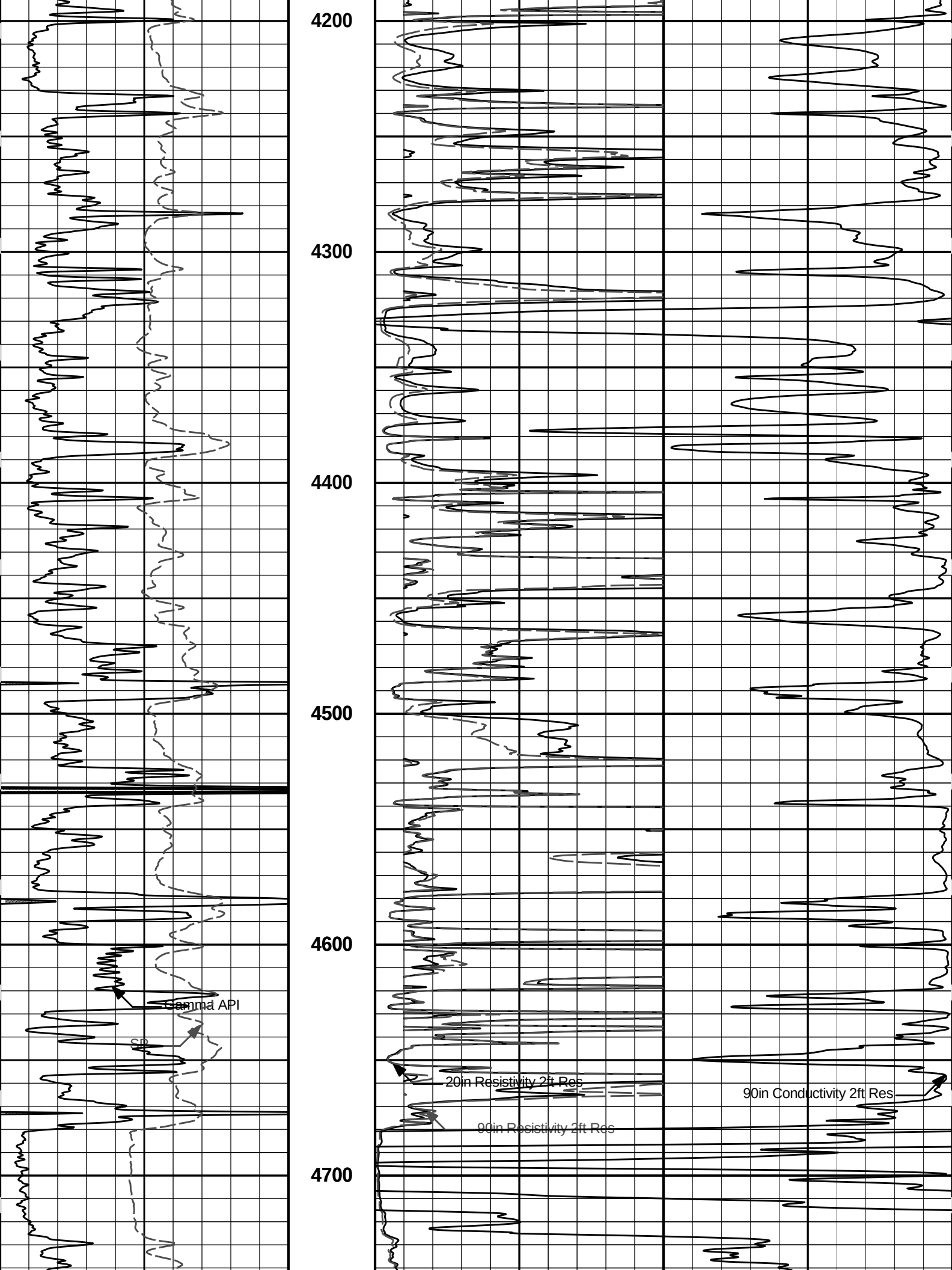
90in Conductivity 2ft Res
90in Resistivity 2ft Res


4200
4300
4400
4500
4600
4700
Gamma API
SP
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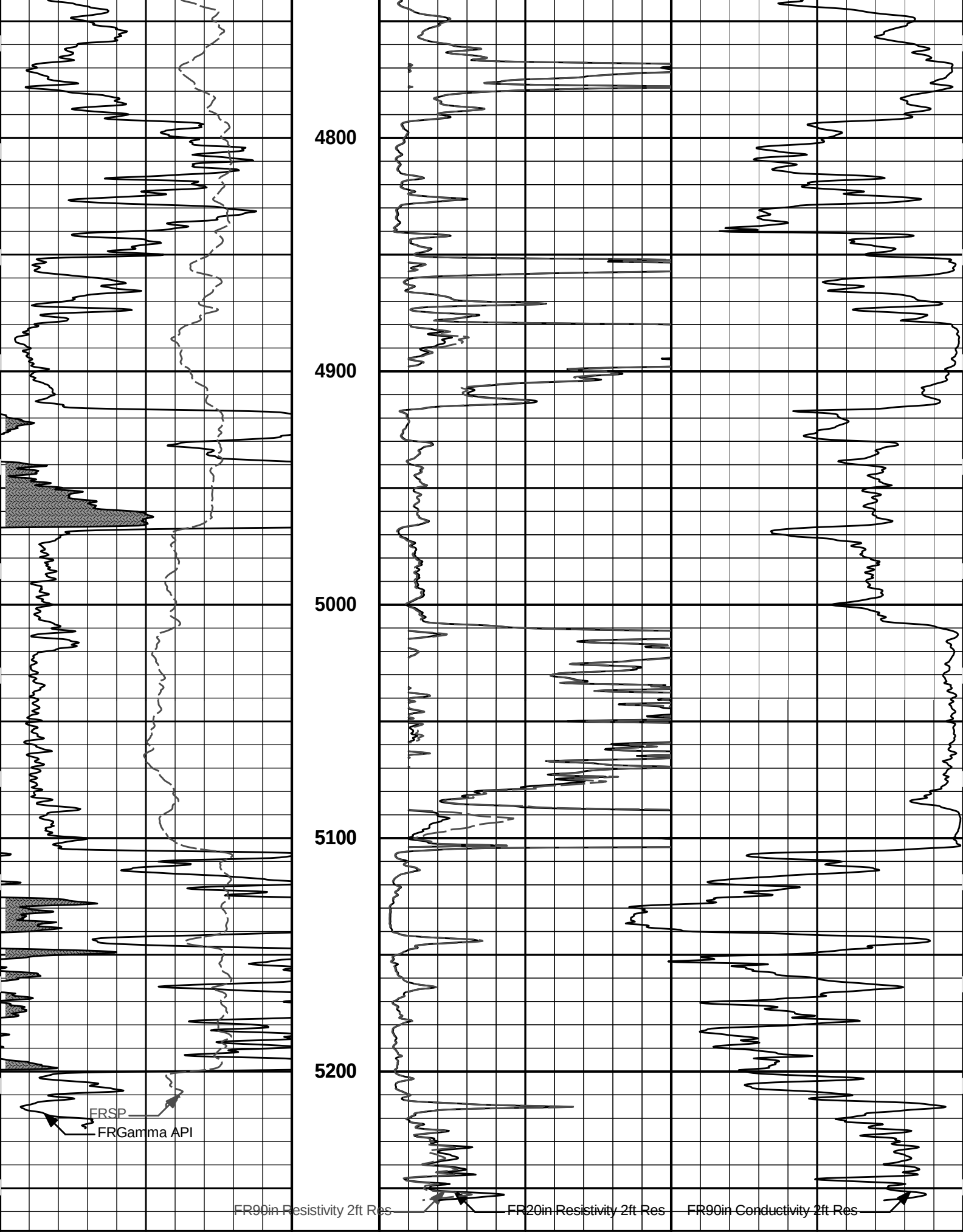
90in Resistivity 2ft Res
90in Conductivity 2ft Res



0	Gamma API	150	1 : 600	0	20in Resistivity 2ft Res	50
	api		ft		ohm-metre	

SP

-]20[+

0 90in Resistivity 2ft Res 50

ohm-metre

1000 90in Conductivity 2ft Res 0

mmho per metre

HALLIBURTON

Plot Time: 16-Jan-12 01:32:29
Plot Range: 186.25 ft to 5268.33 ft
Data: HOAGLAND_1_22\Well Based\CASING\
Plot File: \\-LOCAL-\HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\ACRT\ACRT_2_lib

2 INCH MAIN LOG

HALLIBURTON

Plot Time: 16-Jan-12 01:32:30
Plot Range: 186.25 ft to 5268.33 ft
Data: HOAGLAND_1_22\Well Based\CASING\
Plot File: \\-LOCAL-\HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\ACRT\ACRT_5_main_lib

5 INCH MAIN LOG

0.2 90in Resistivity 2ft Res 2000

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 2000

ohmm

SHALE

Tension Pull

0 Gamma API 150

api

Tension Pull 10 0

SP

-]20[+

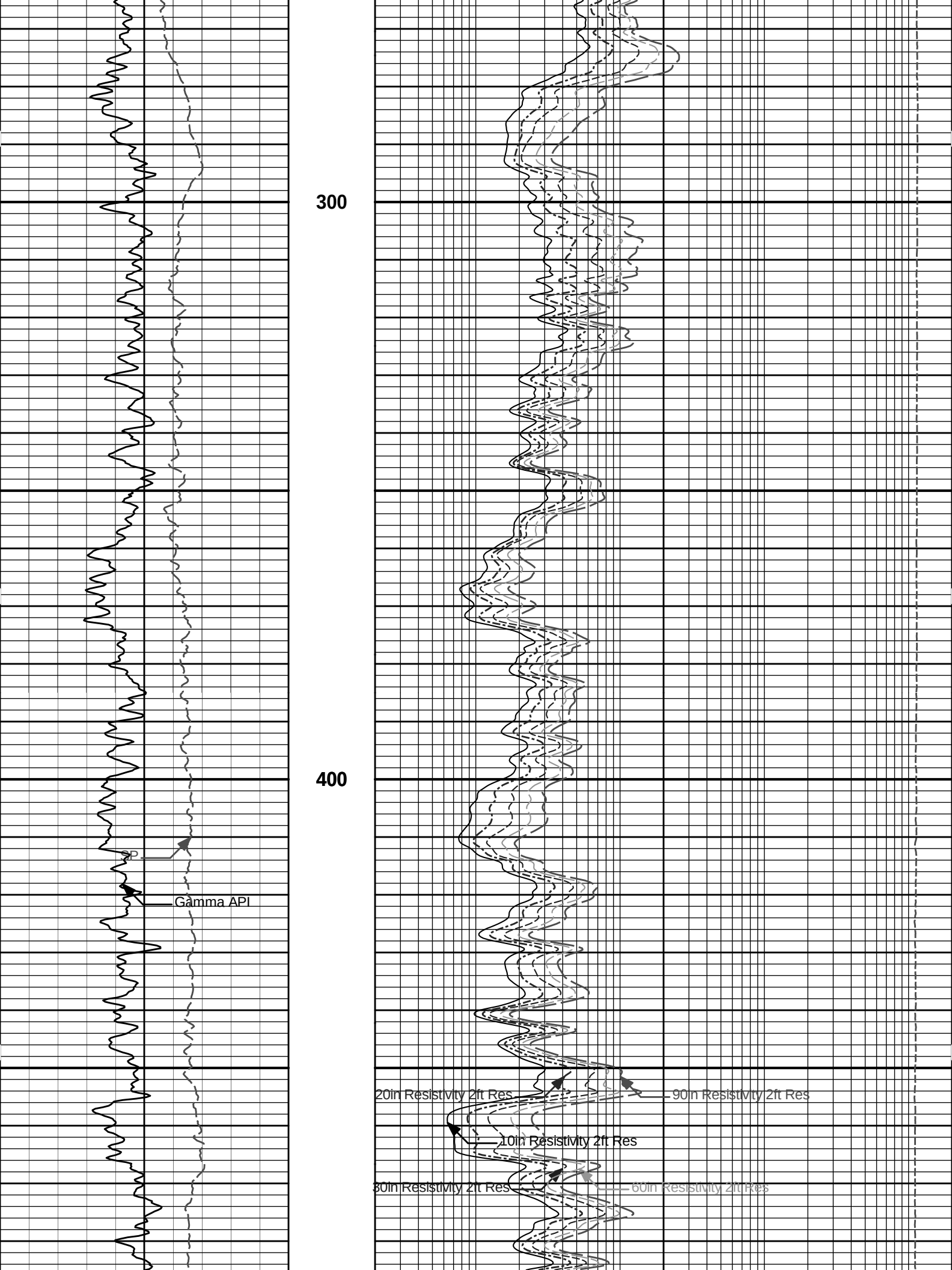
1 : 240 ft

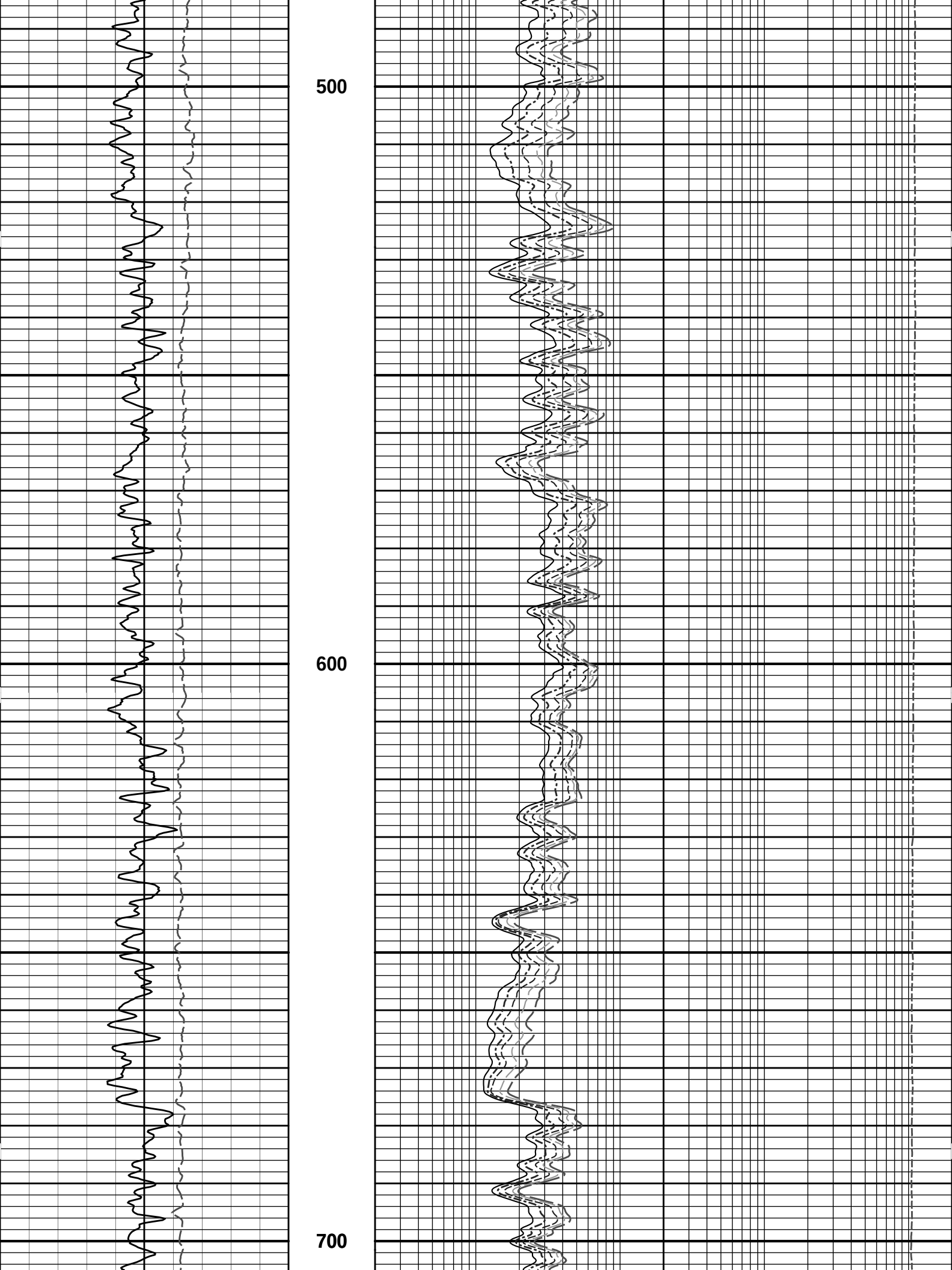
10K Tension 0

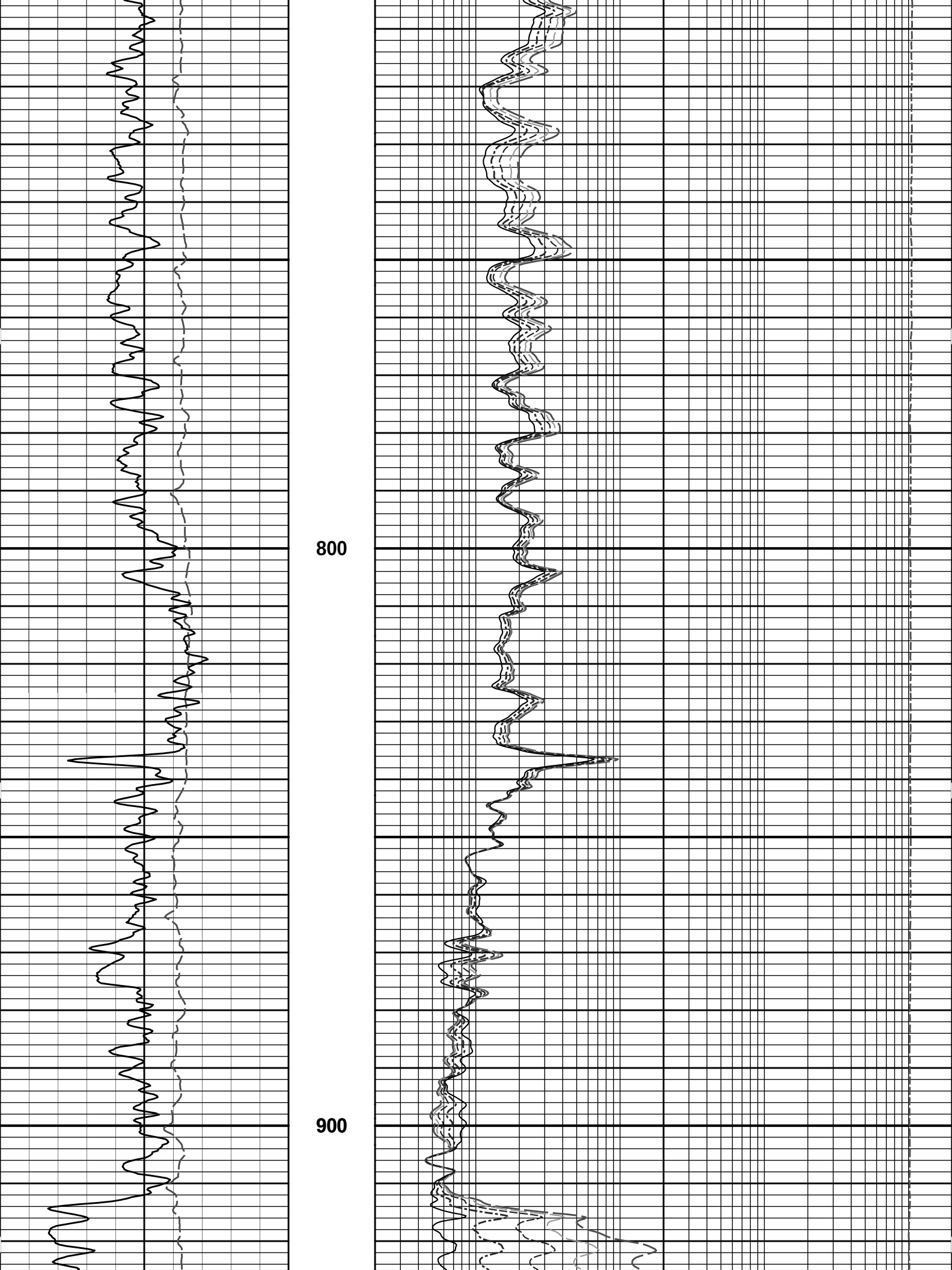
pounds

200

CSG


300
400
SP
Gamma API
20in Resistivity 2ft Res
90in Resistivity 2ft Res
10in Resistivity 2ft Res
30in Resistivity 2ft Res
60in Resistivity 2ft Res


500
600
700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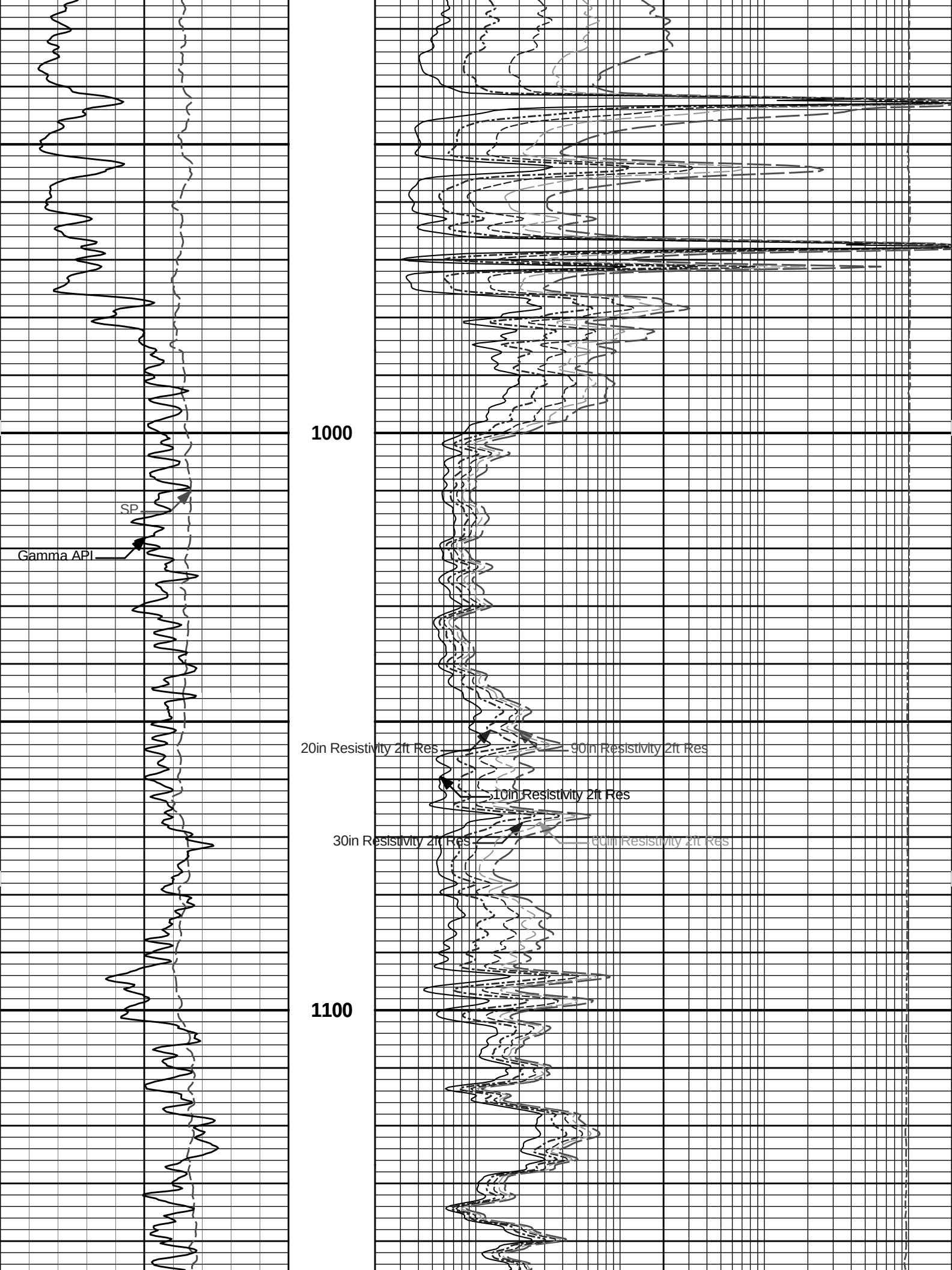
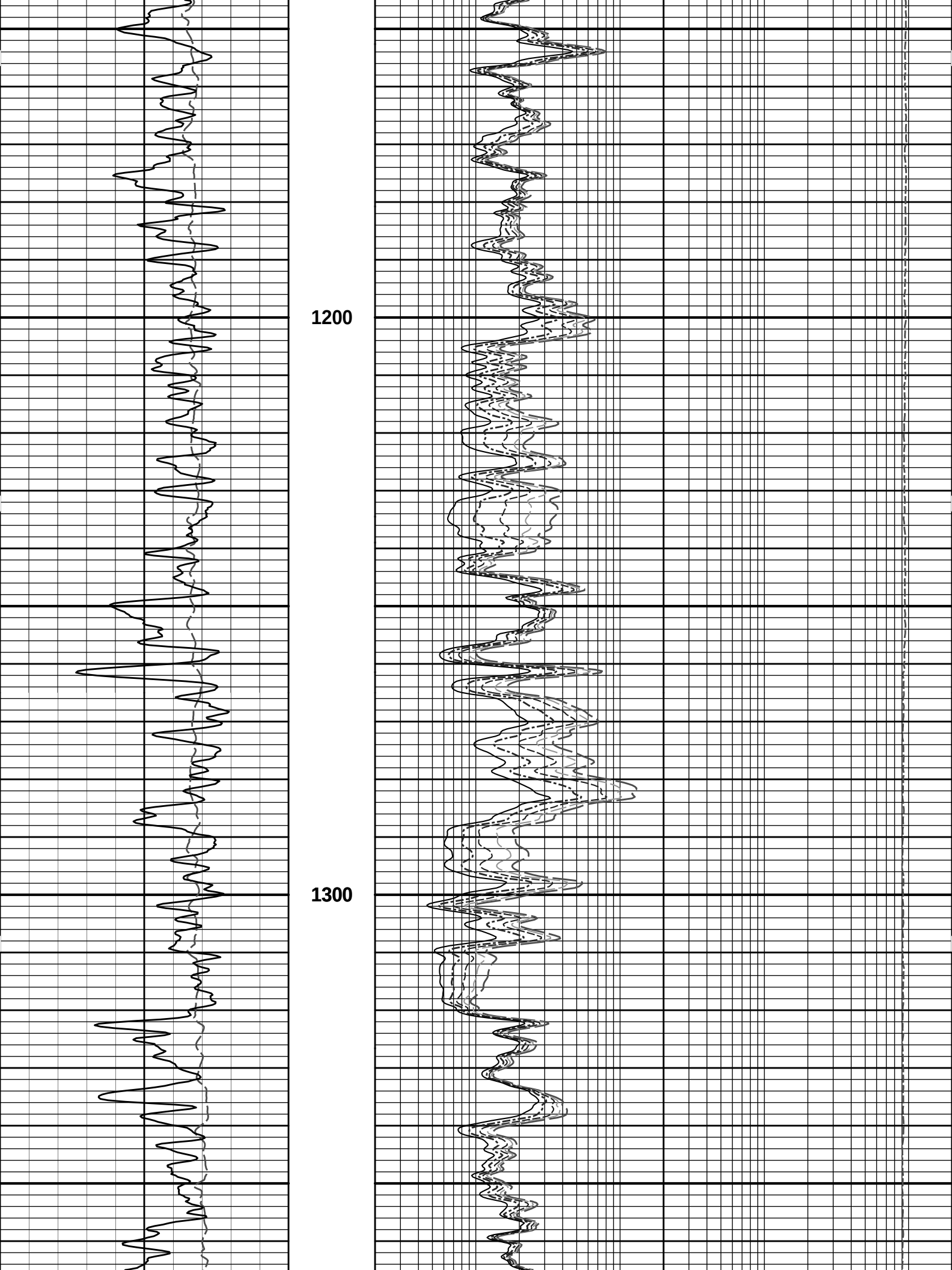
900


1000
SP
Gamma API
20in Resistivity 2ft Res
90in Resistivity 2ft Res
10in Resistivity 2ft Res
30in Resistivity 2ft Res
60in Resistivity 2ft Res
1100


1200
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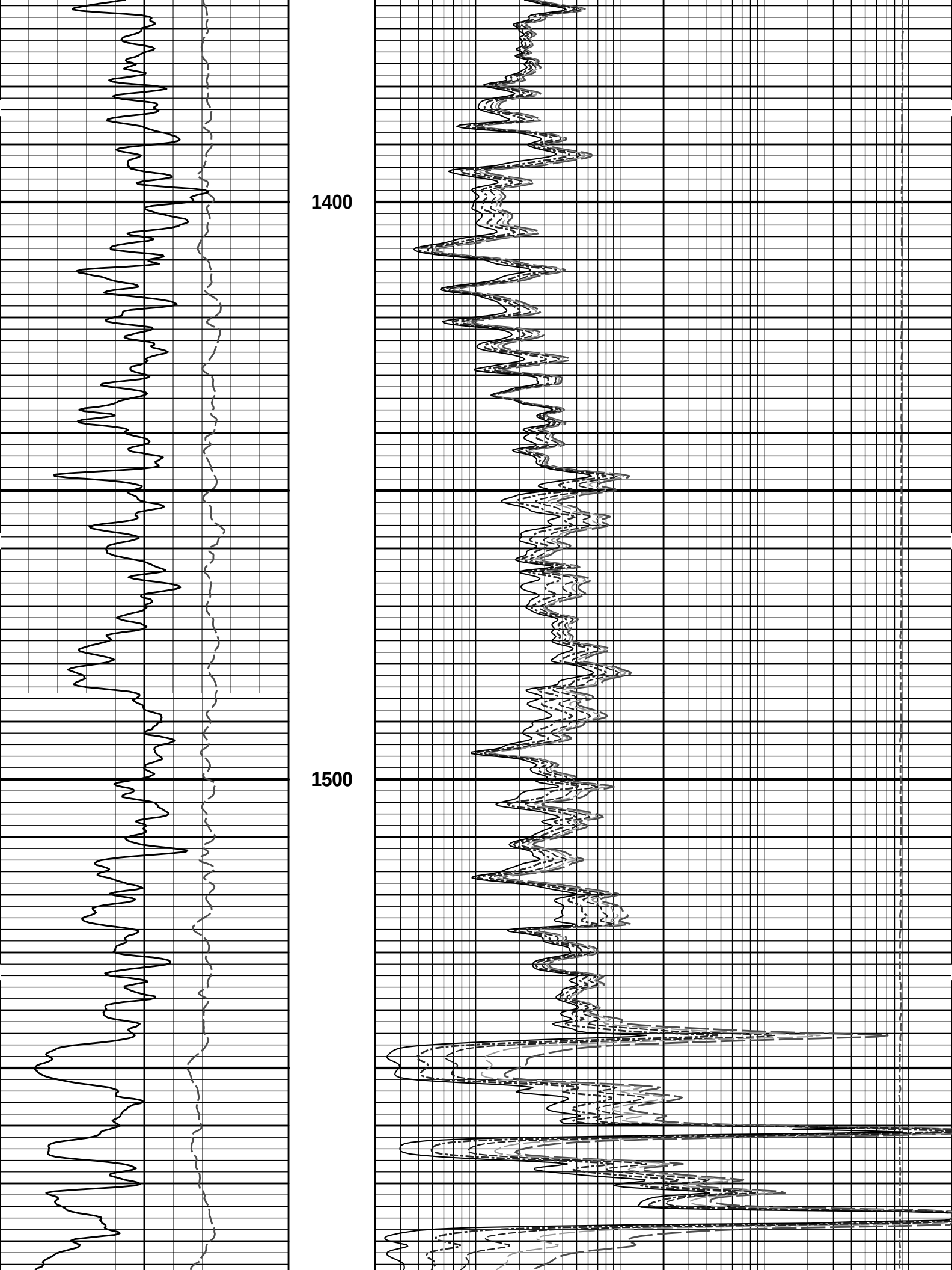
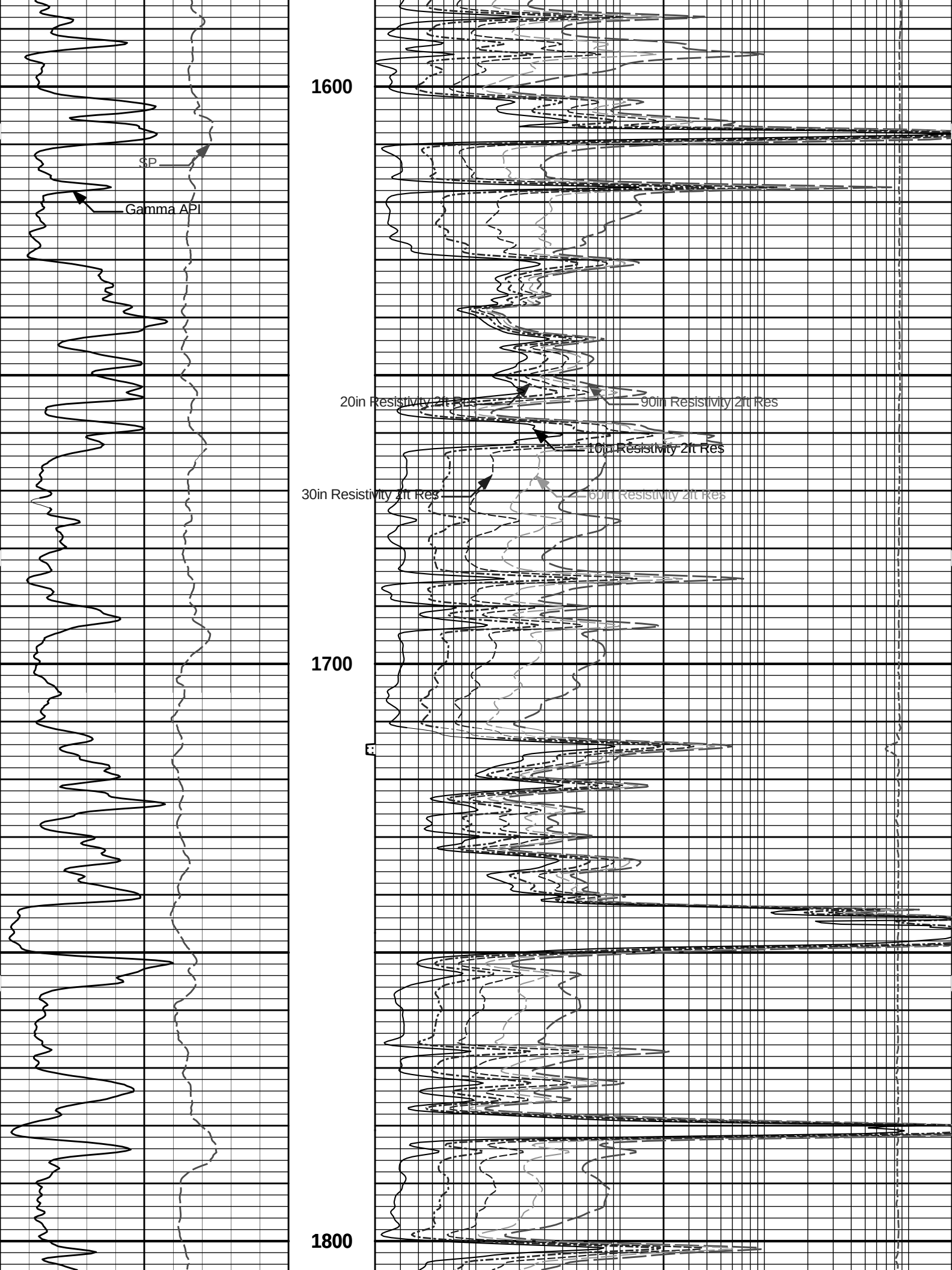
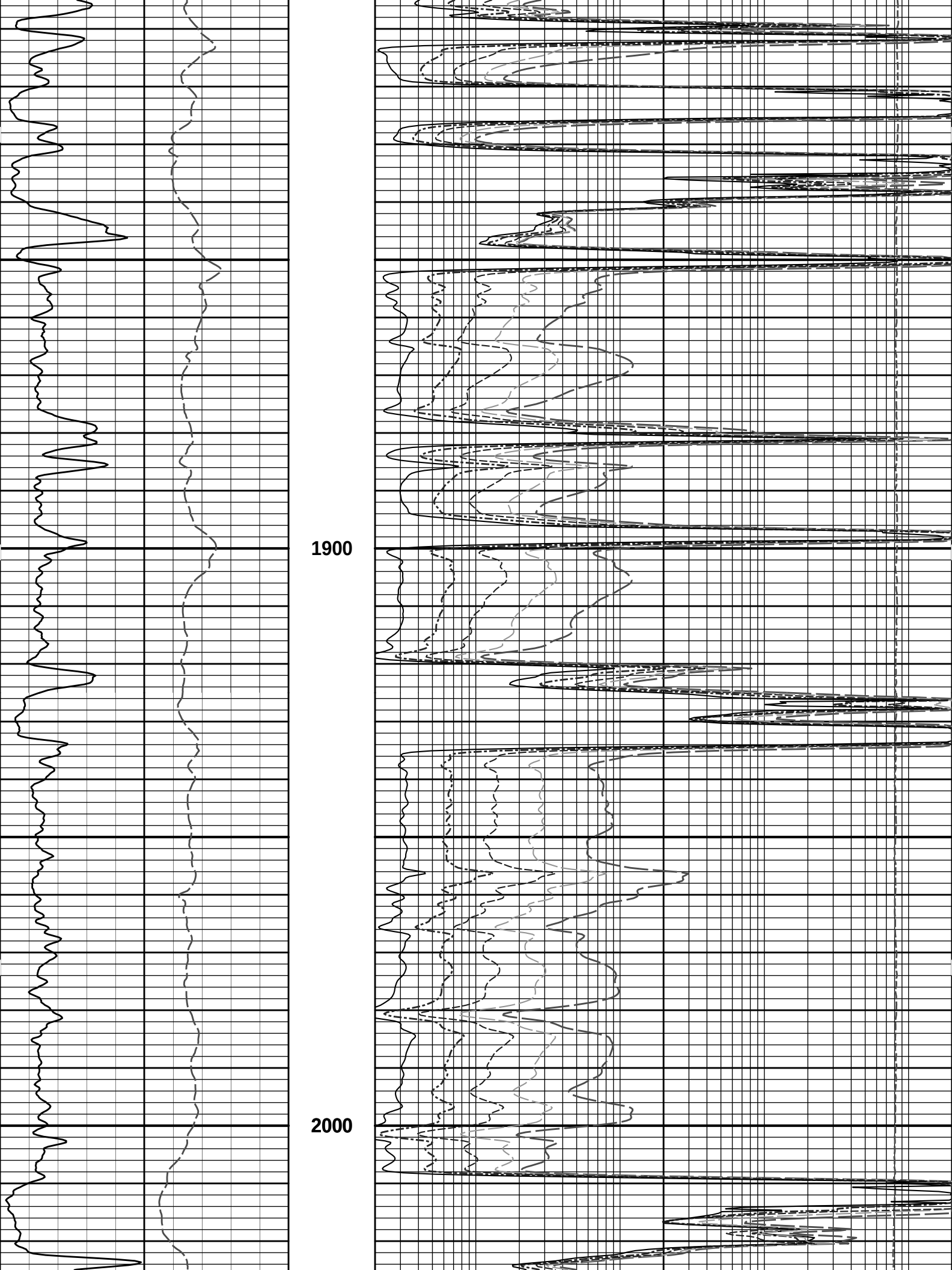

1400
1500


1600
SP
Gamma API
20in Resistivity 2ft Res
90in Resistivity 2ft Res
10in Resistivity 2ft Res
30in Resistivity 2ft Res
60in Resistivity 2ft Res
1700
1800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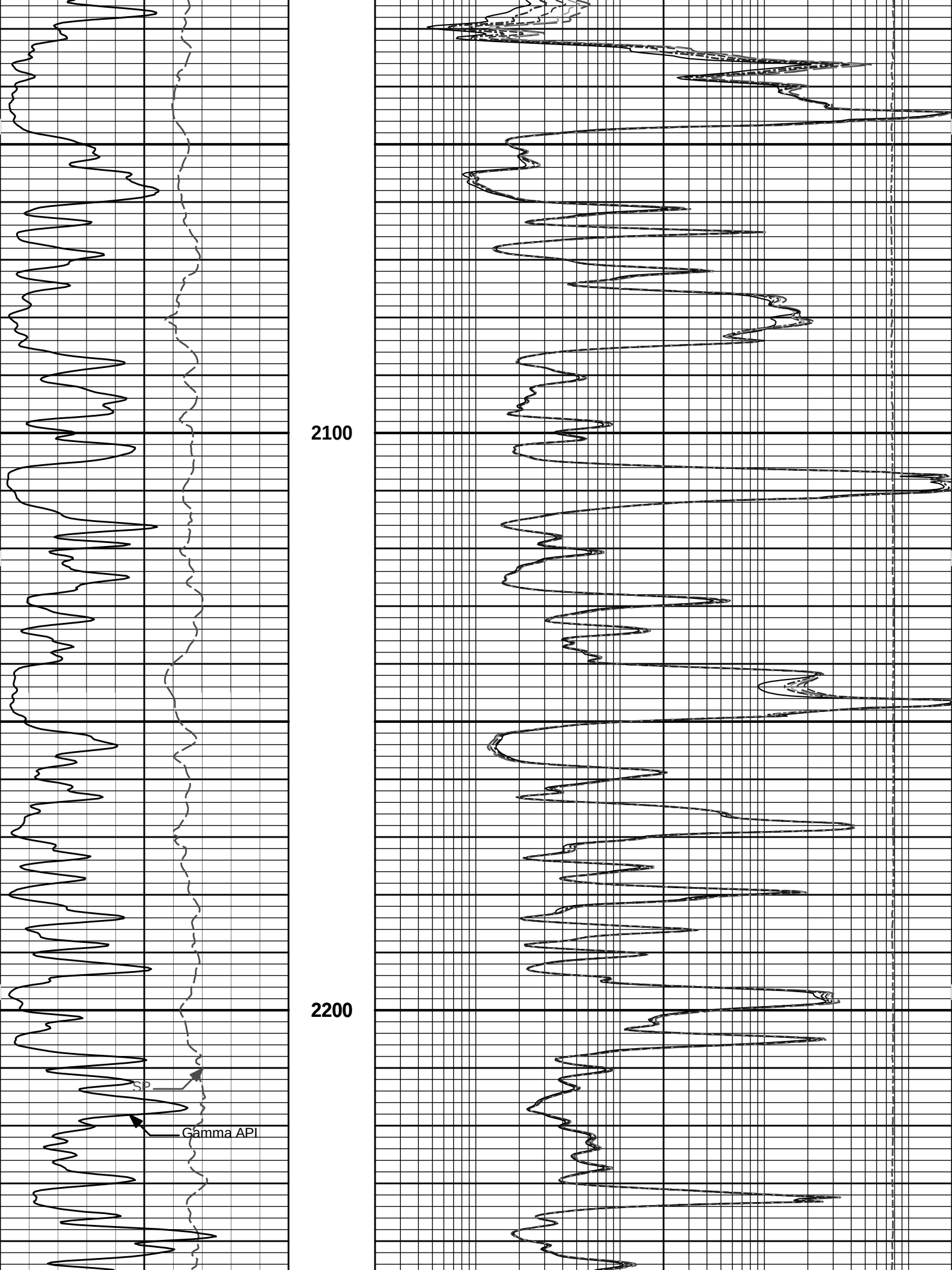
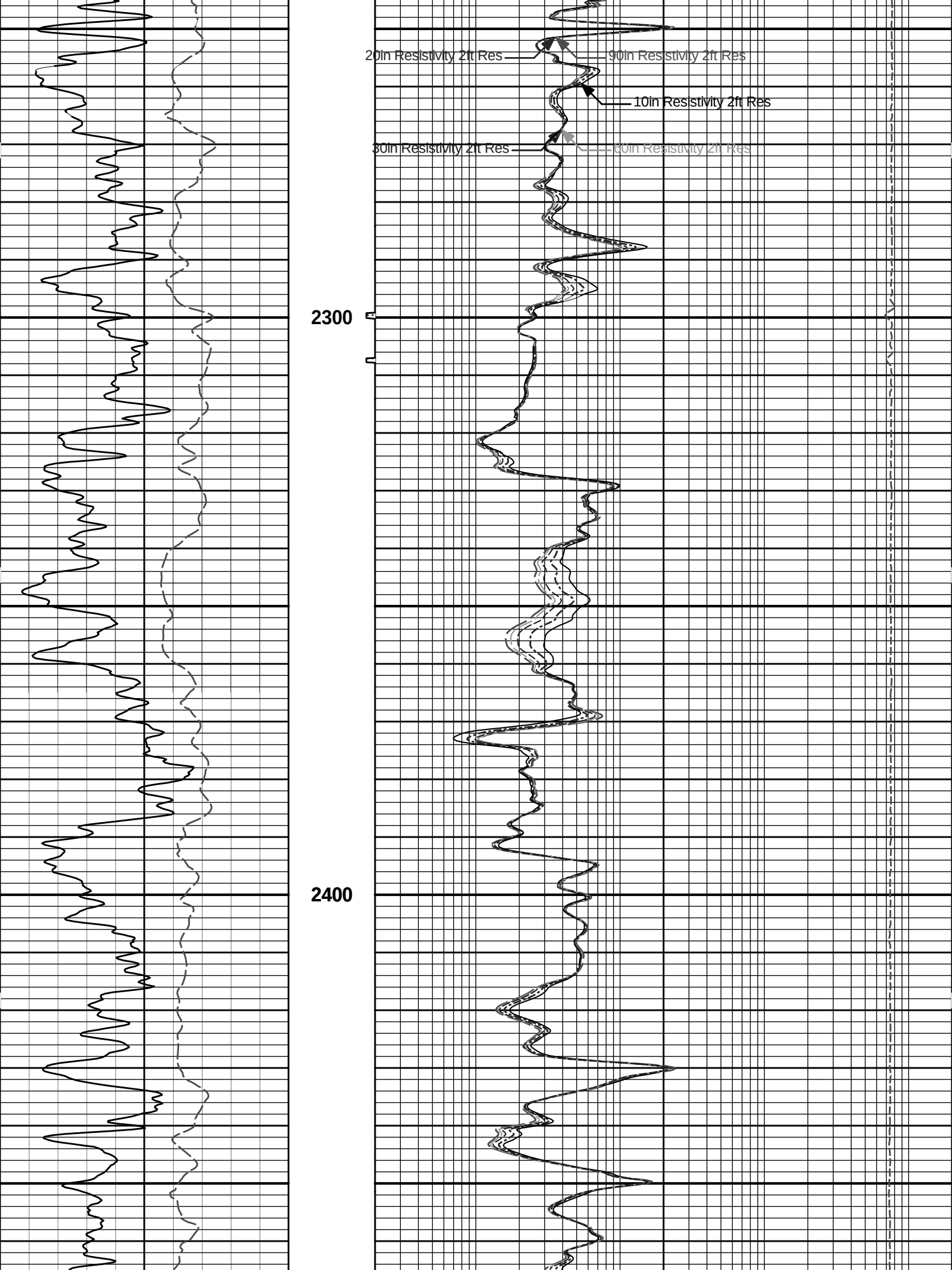

2100
2200
SP
Gamma API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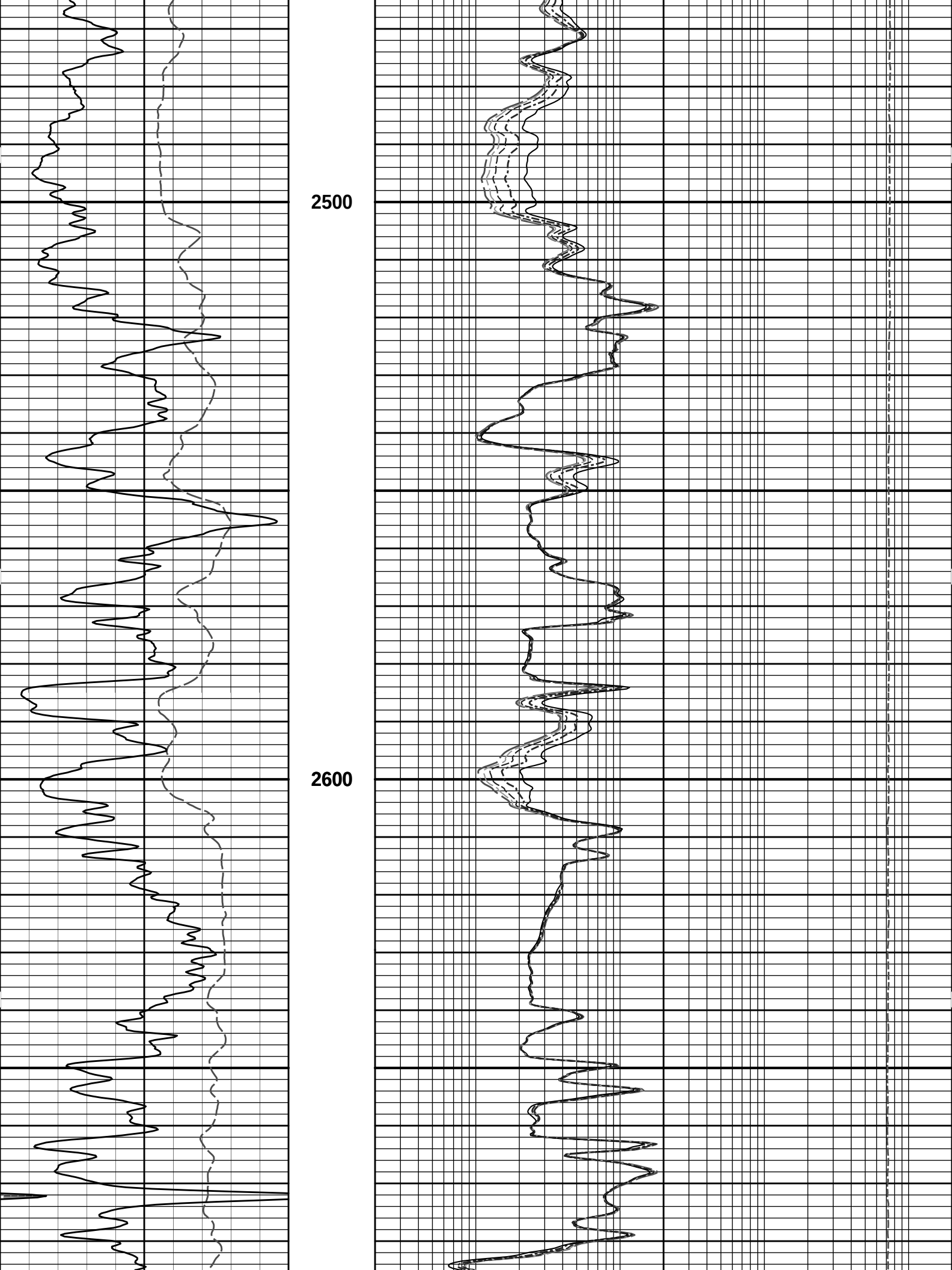
90in Resistivity 2ft Res
10in Resistivity 2ft Res
30in Resistivity 2ft Res
60in Resistivity 2ft Res
2300
2400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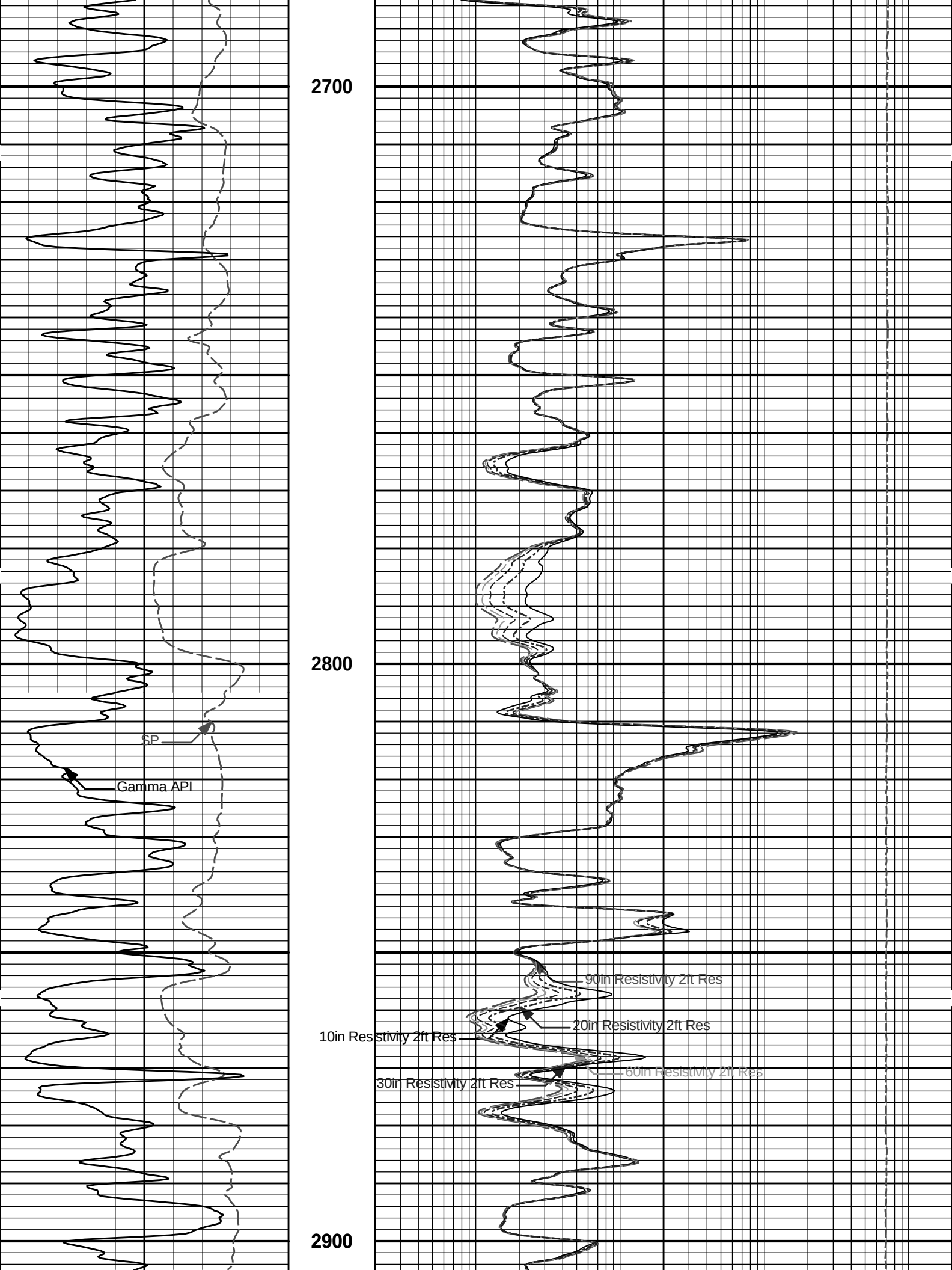
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20in Resistivity 2ft Res
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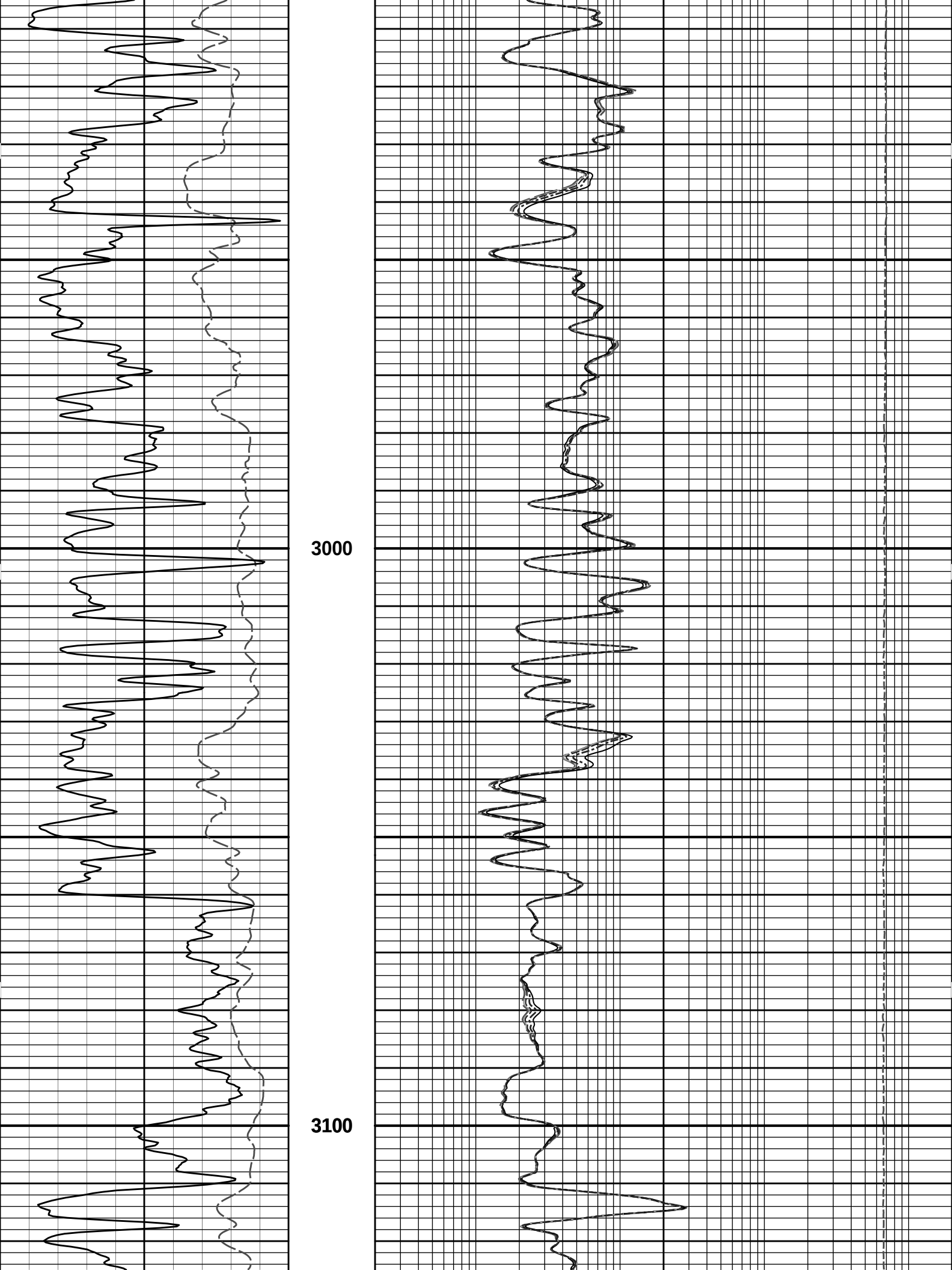
30in Resistivity 2ft Res
2900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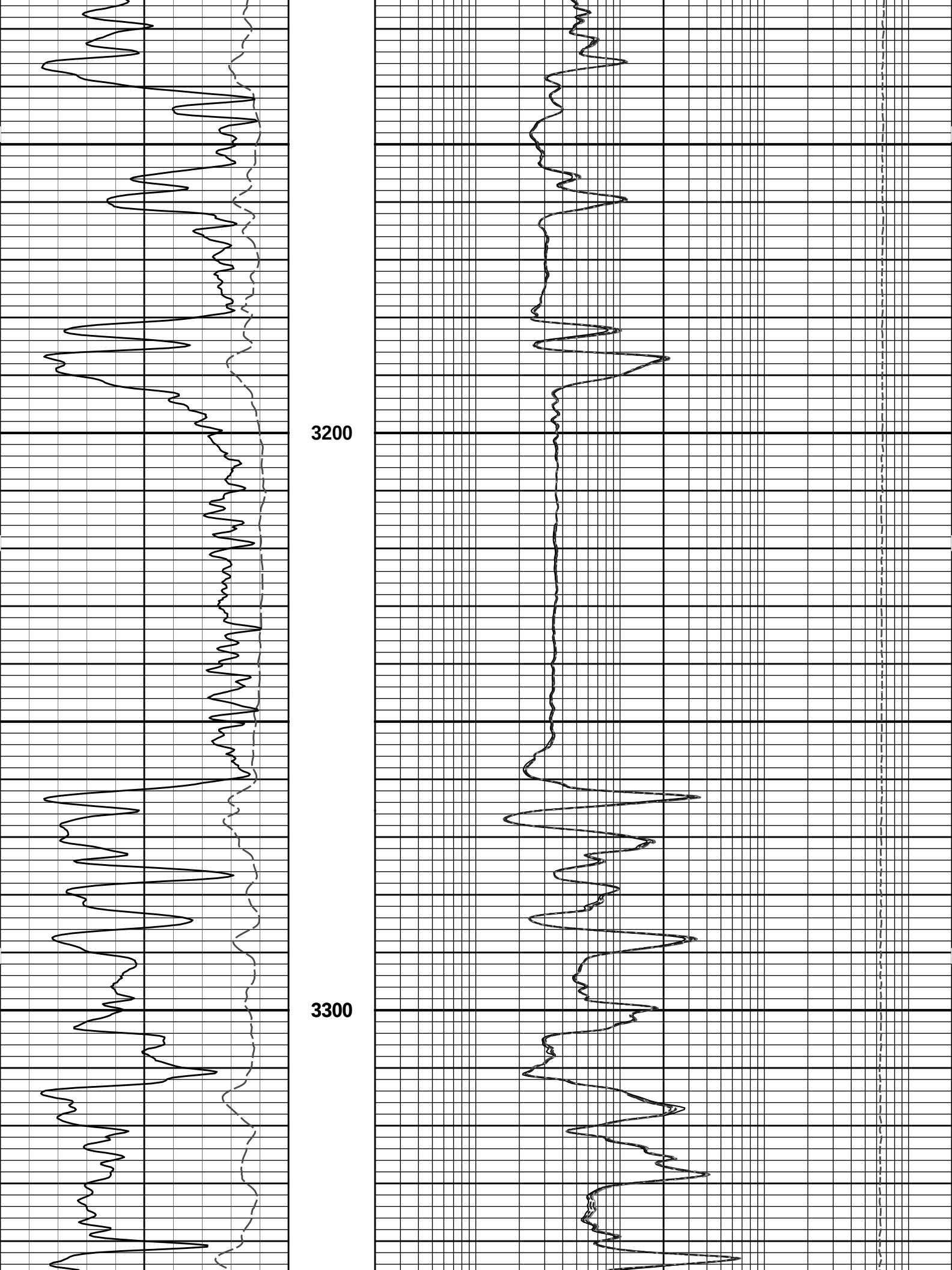
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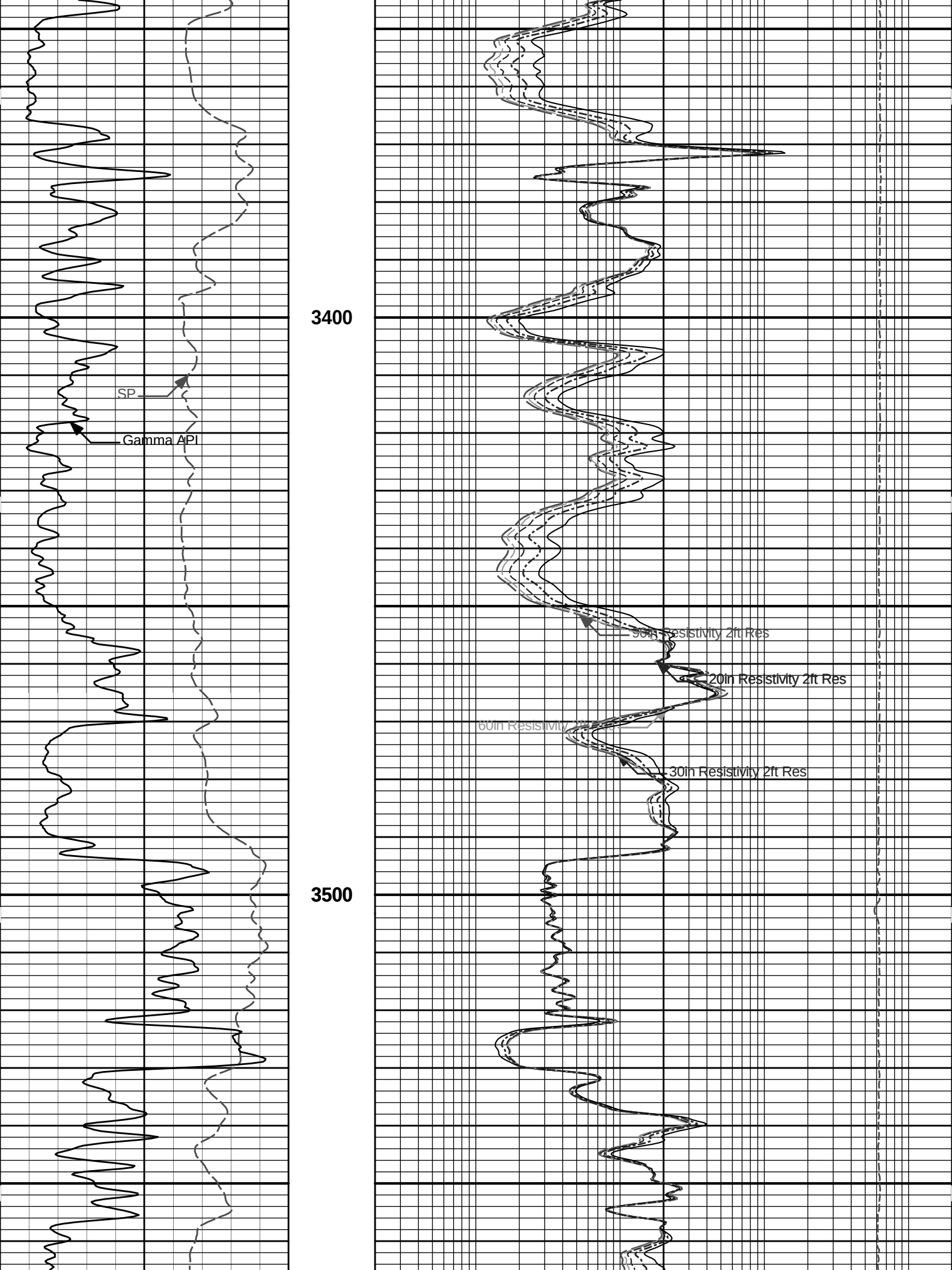
3400
SP
Gamma API
90in Resistivity 2ft Res
20in Resistivity 2ft Res
60in Resistivity 2ft Res
30in Resistivity 2ft Res
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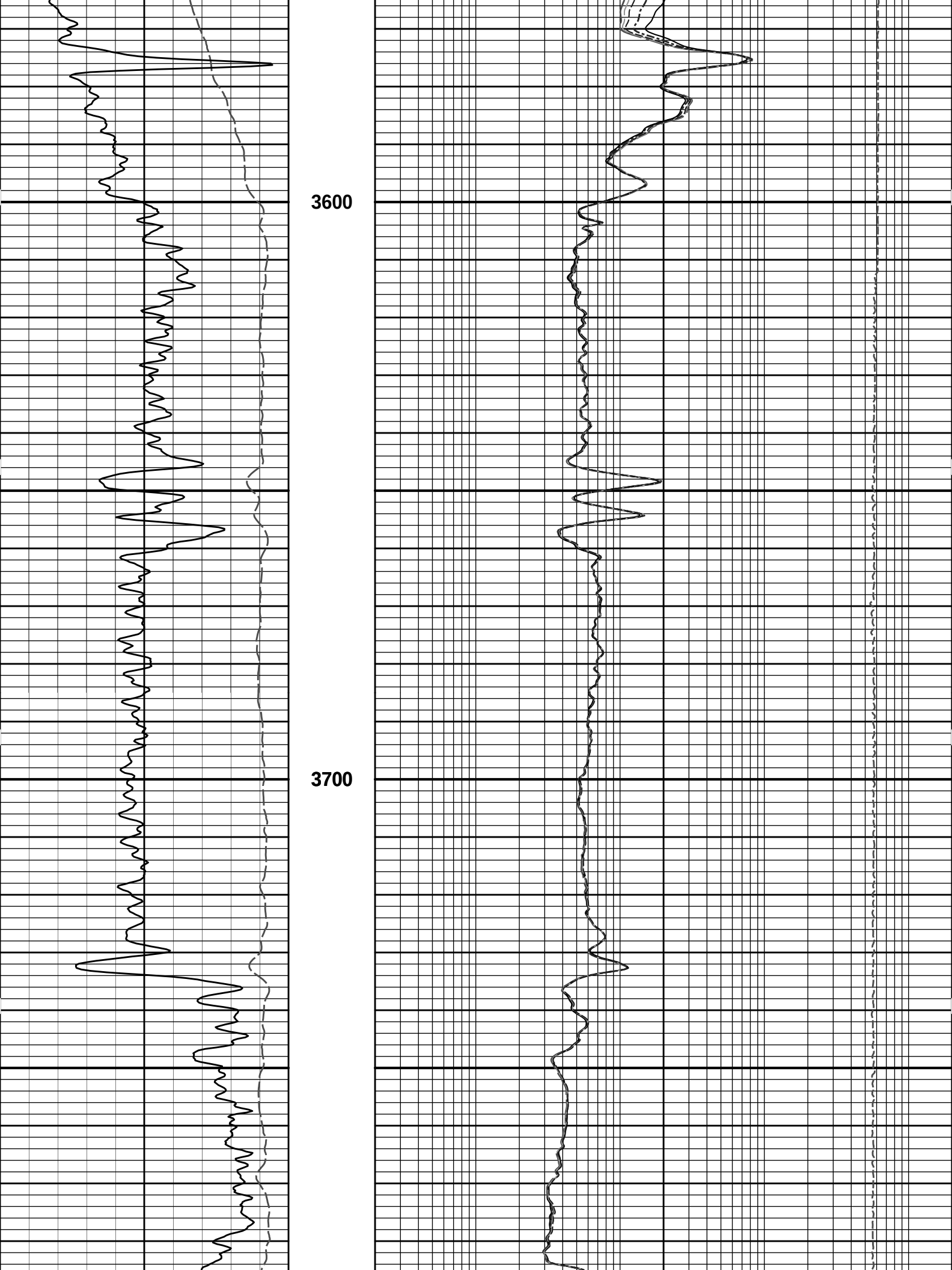
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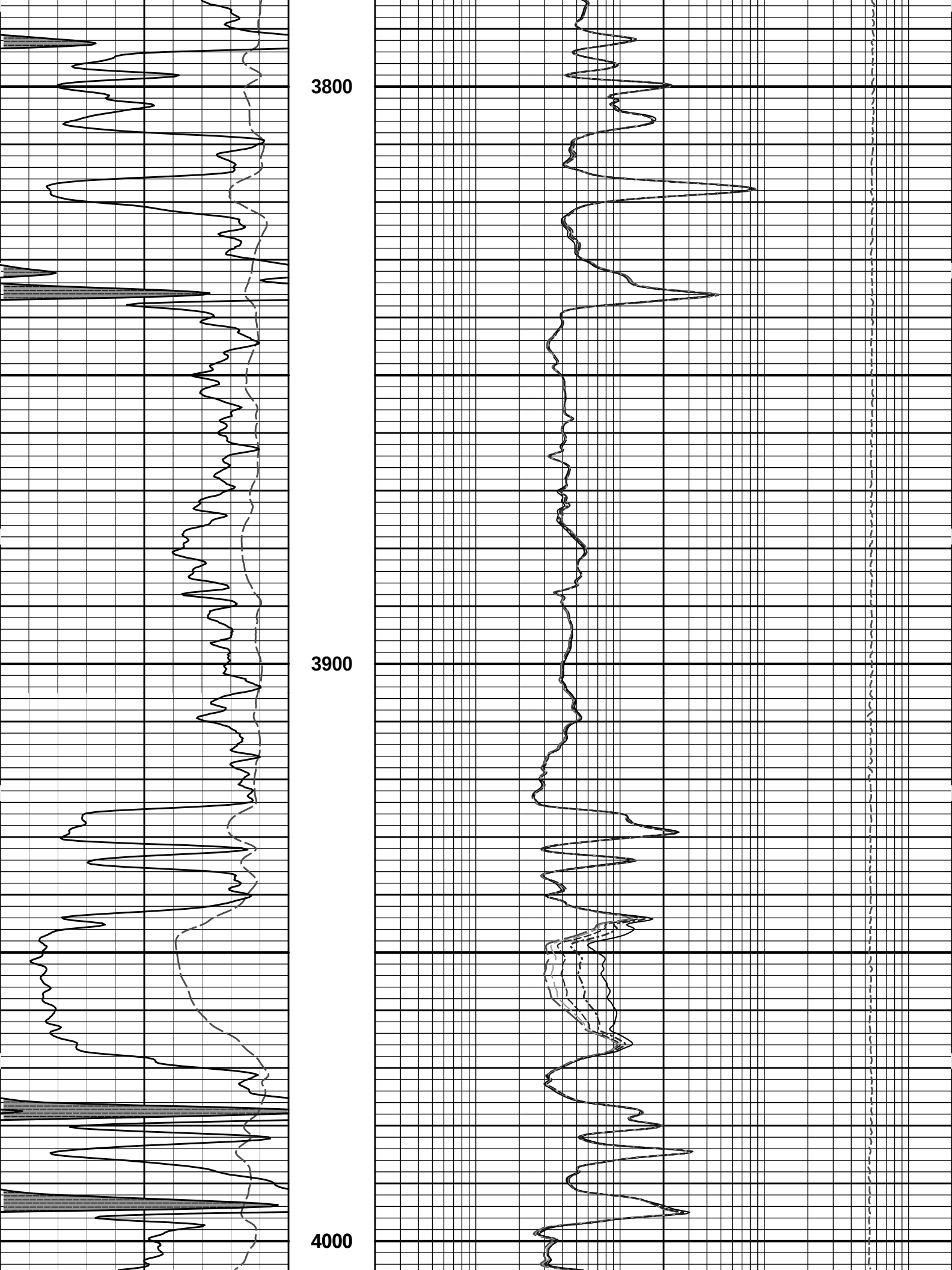
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3900
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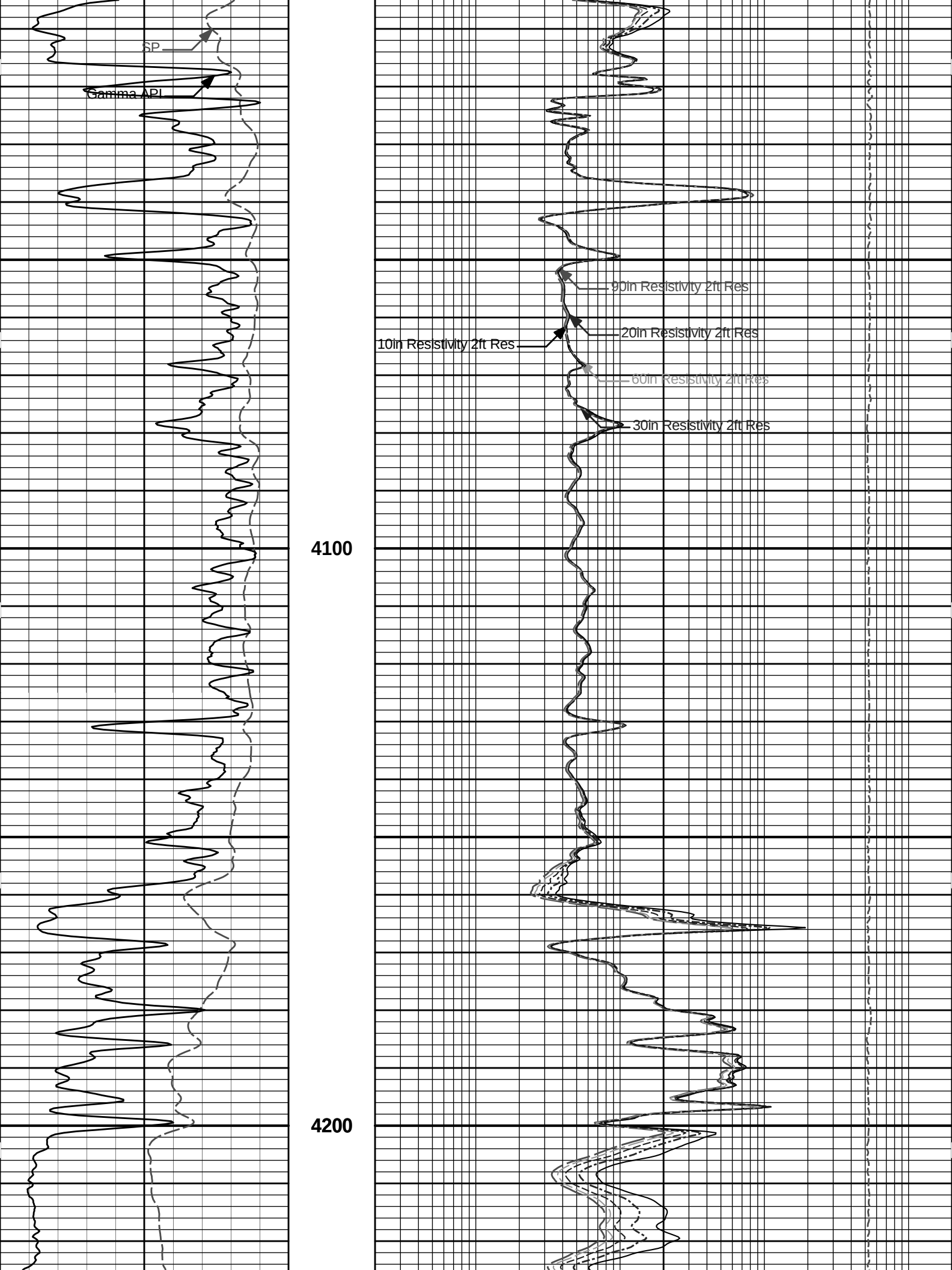
SP
Gamma API
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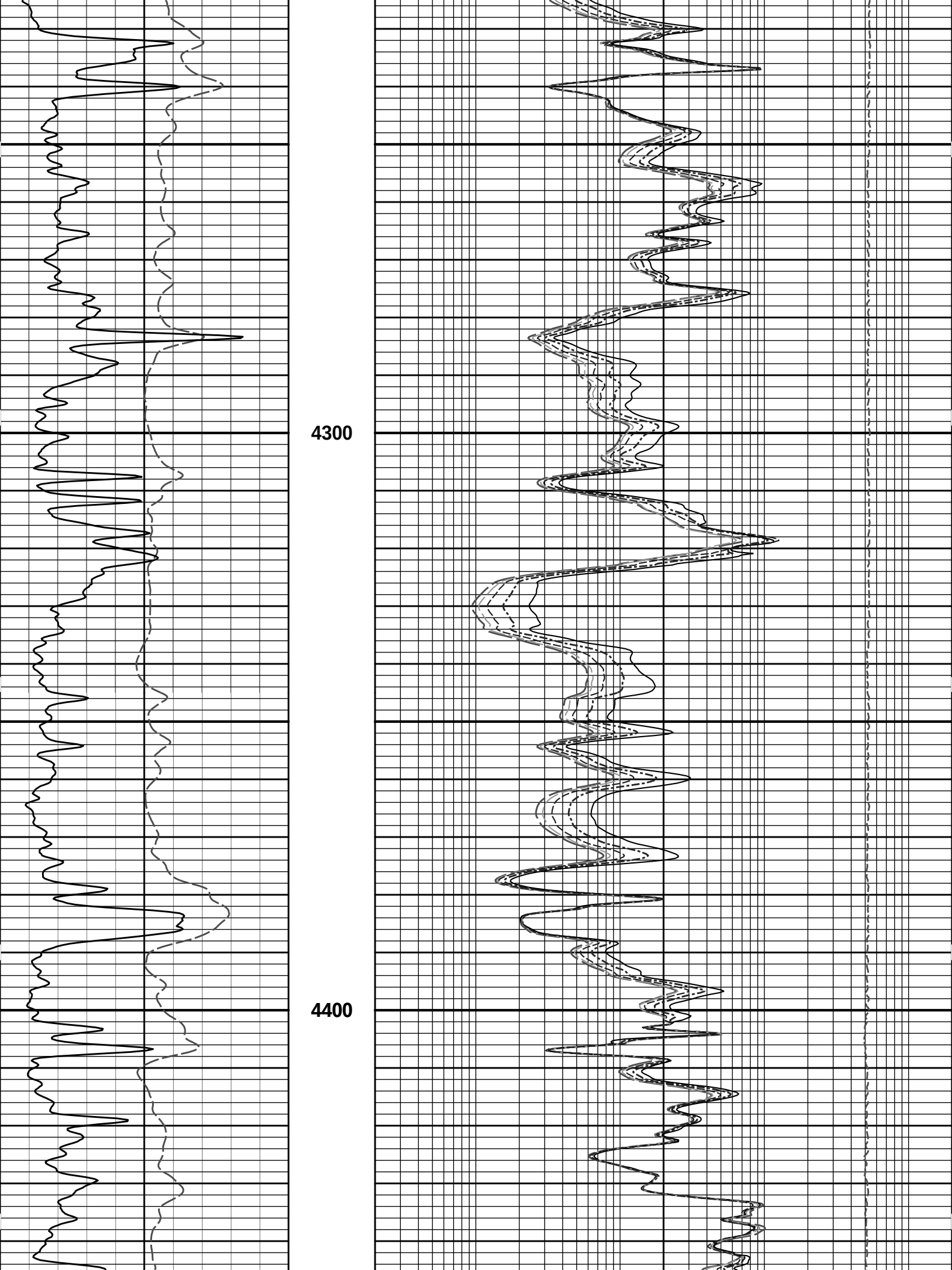
20in Resistivity 2ft Res
10in Resistivity 2ft Res
60in Resistivity 2ft Res
30in Resistivity 2ft Res
4100
4200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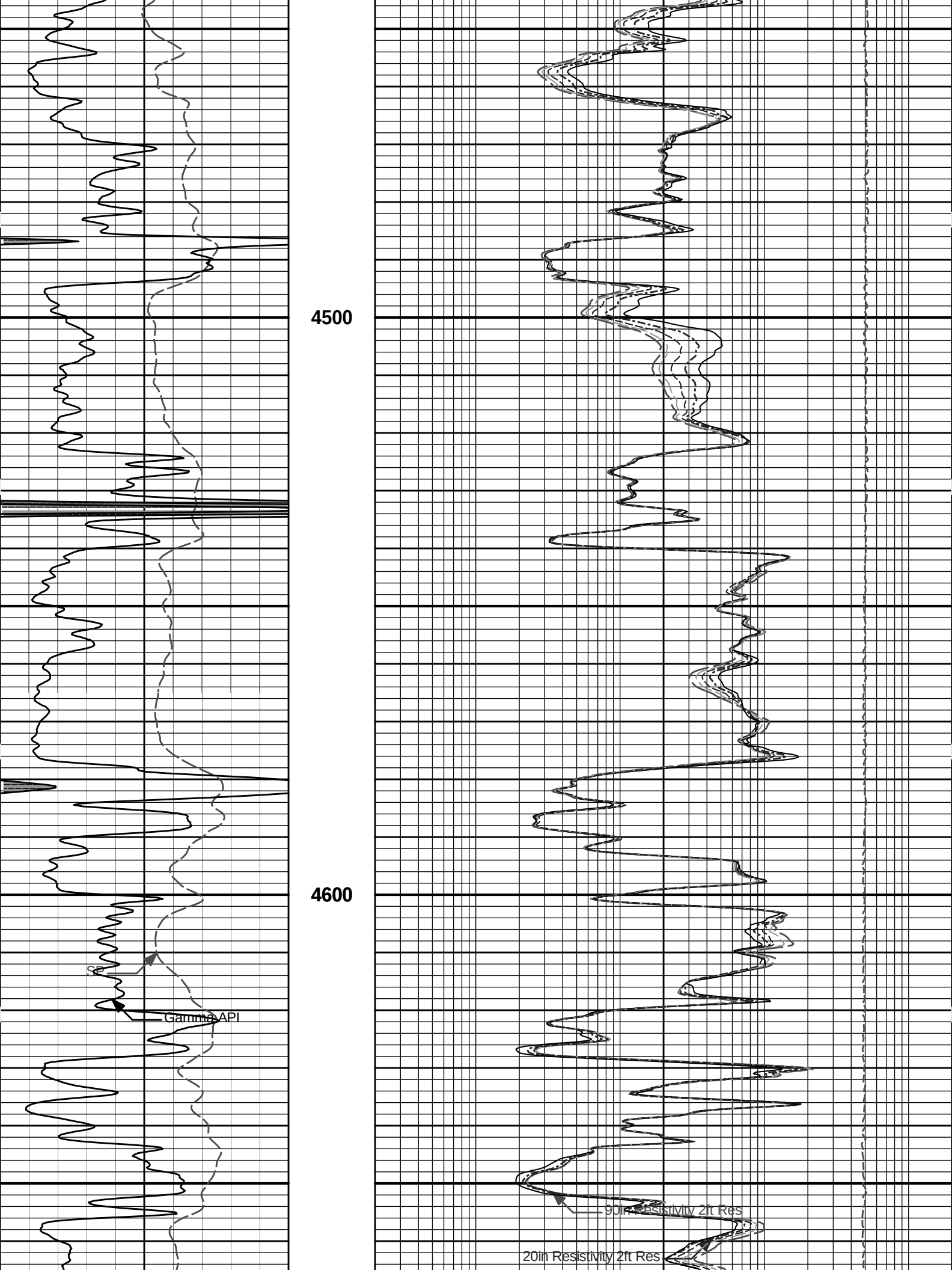
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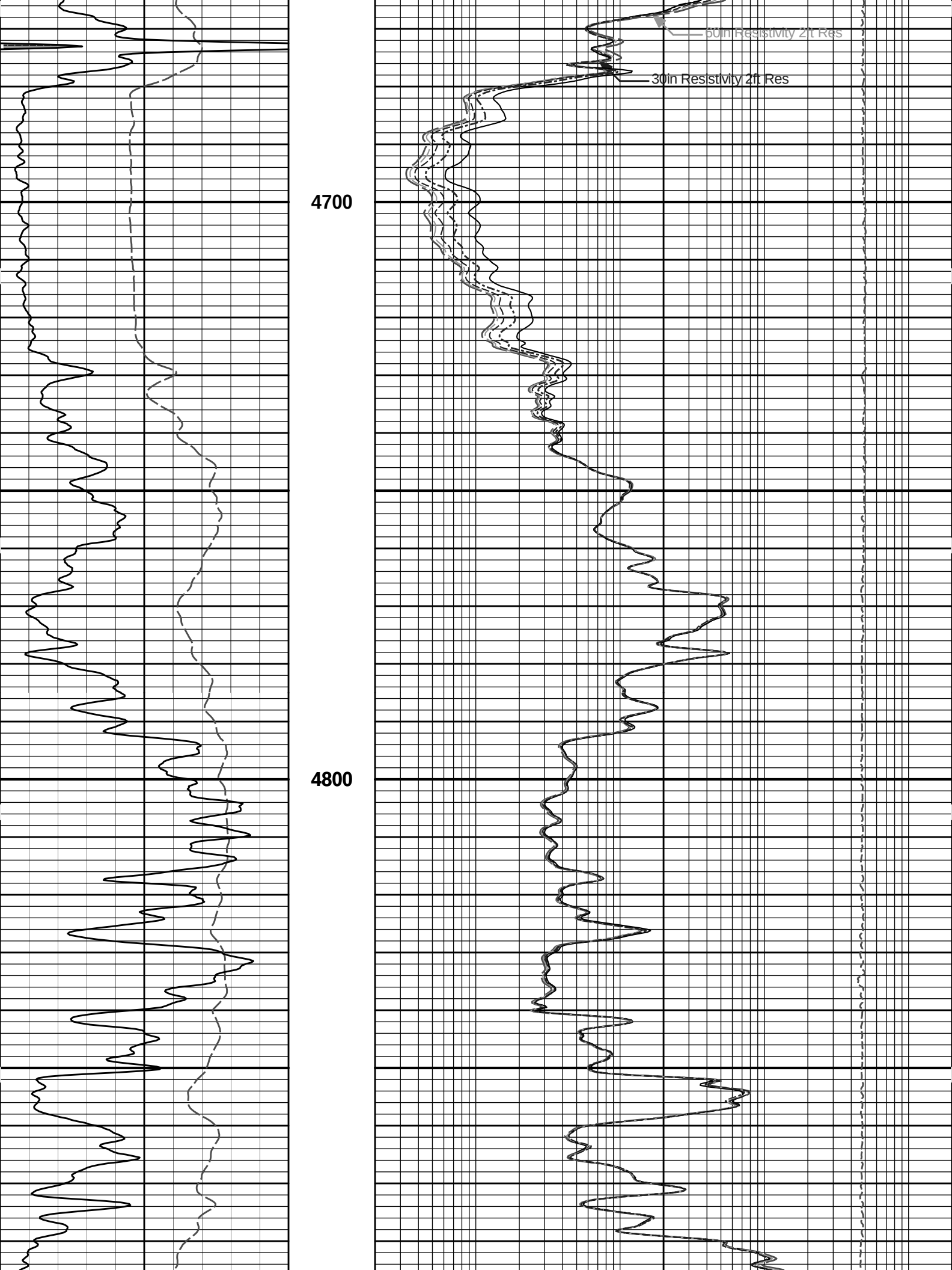
4600
Gamma API
90in Resistivity 2ft Res
20in Resistivity 2ft Res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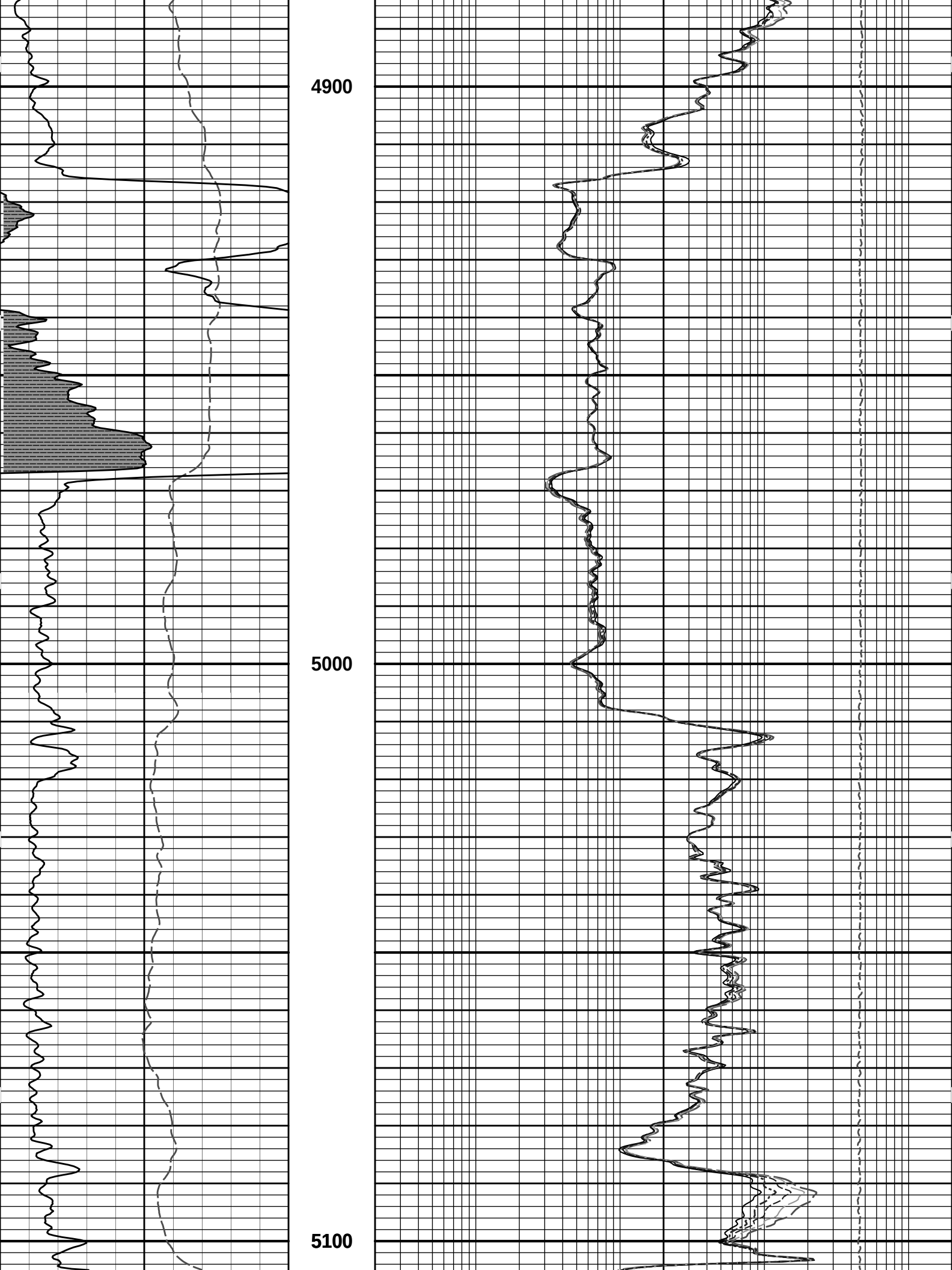
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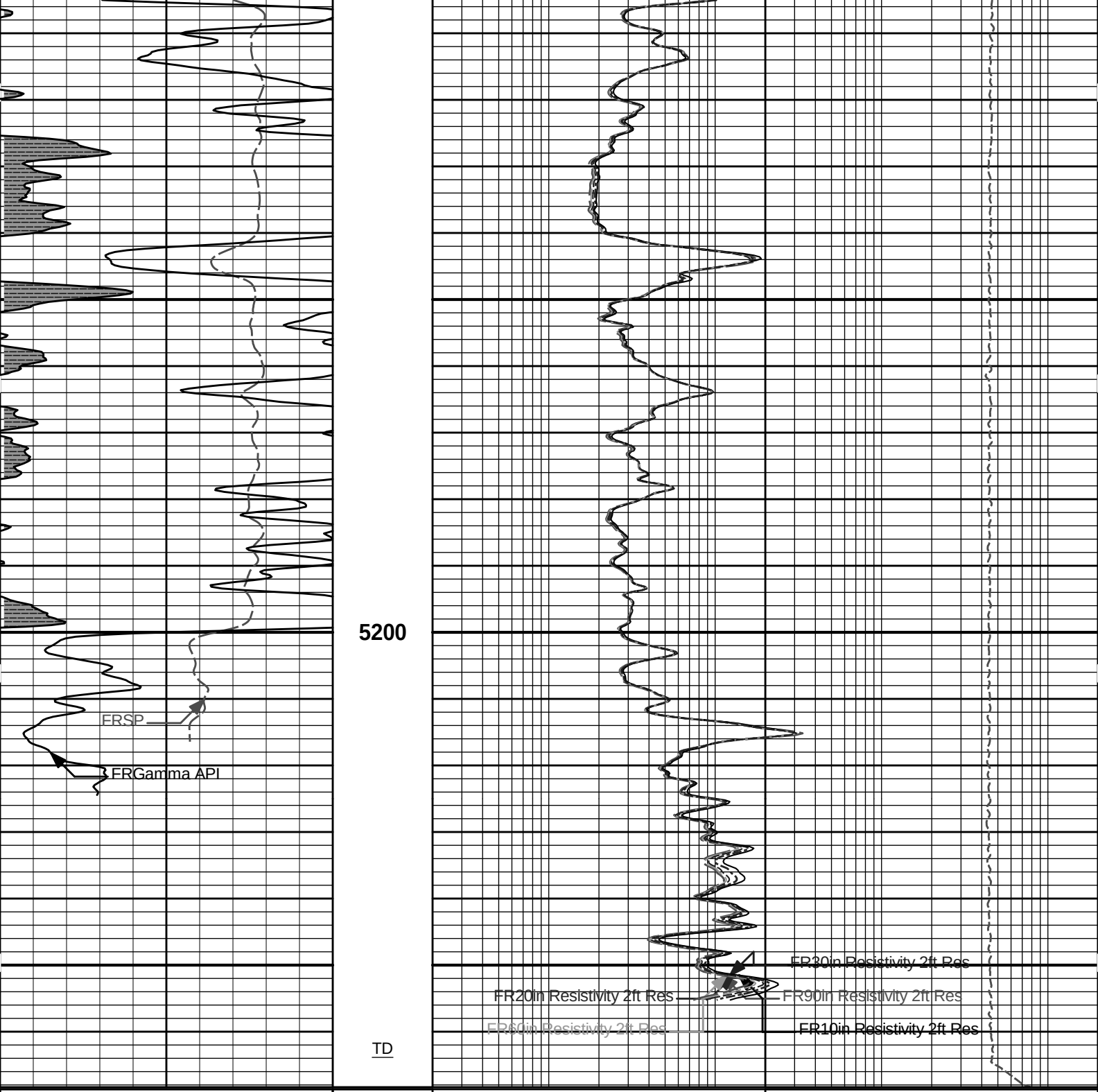

SP	1 : 240 ft	10K Tension 0
-]20[+		pounds
0 Gamma API 150	Tension Pull 10 0	0.2 10in Resistivity 2ft Res 2000
api		ohmm
SHALE	Tension Pull	0.2 20in Resistivity 2ft Res 2000
		ohmm
		0.2 30in Resistivity 2ft Res 2000
		ohm-metre
		0.2 60in Resistivity 2ft Res 2000
		ohmm
		0.2 90in Resistivity 2ft Res 2000

ohmm

HALLIBURTON

Plot Time: 16-Jan-12 01:32:34
Plot Range: 186.25 ft to 5268.33 ft
Data: HOAGLAND_1_22\Well Based\CASING\
Plot File: \\-LOCAL-\HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\ACRT\ACRT_5_main_lib

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 16-Jan-12 01:32:34
Plot Range: 5010 ft to 5268.33 ft
Data: HOAGLAND_1_22\Well Based\REPEAT2\
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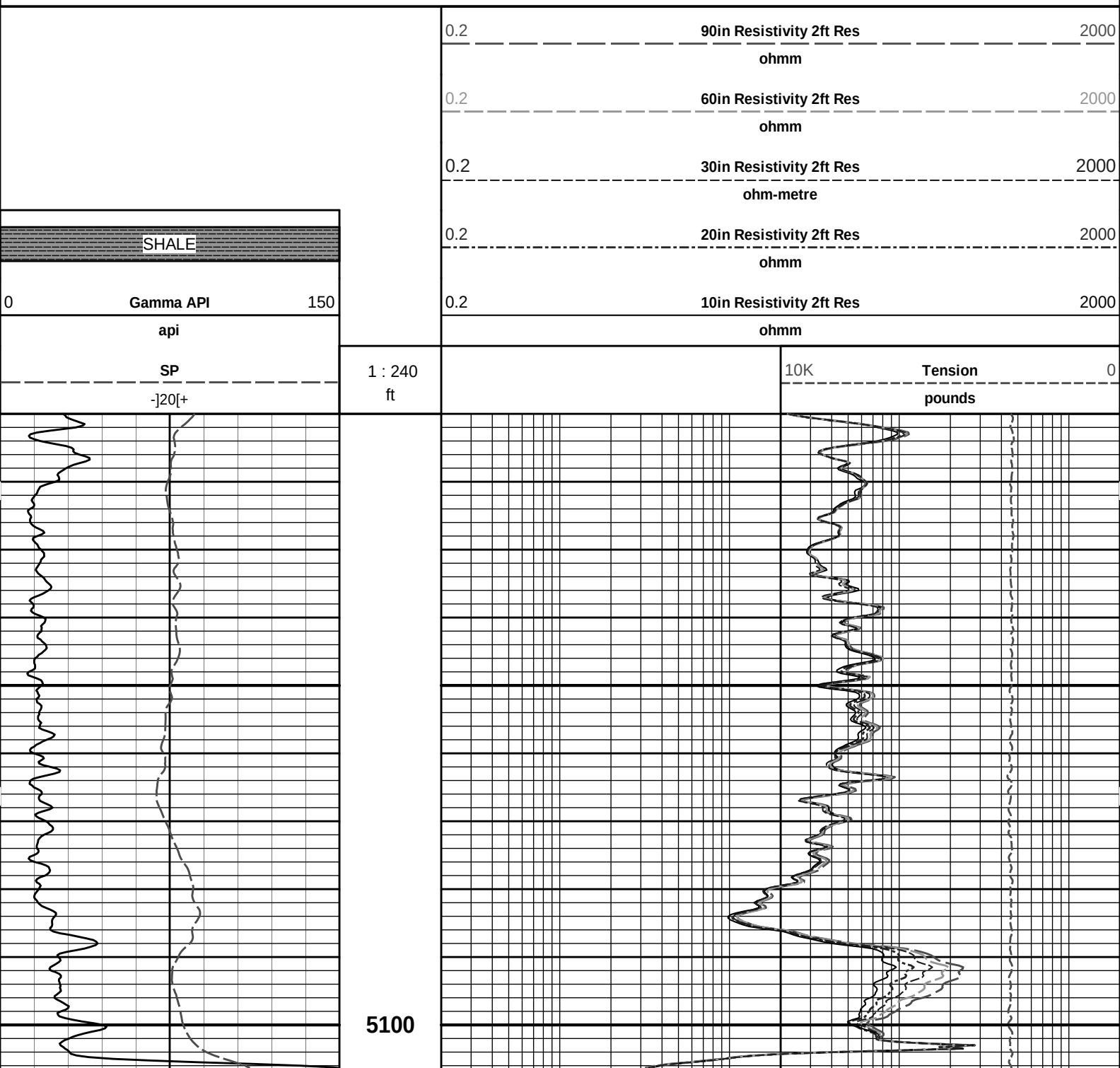
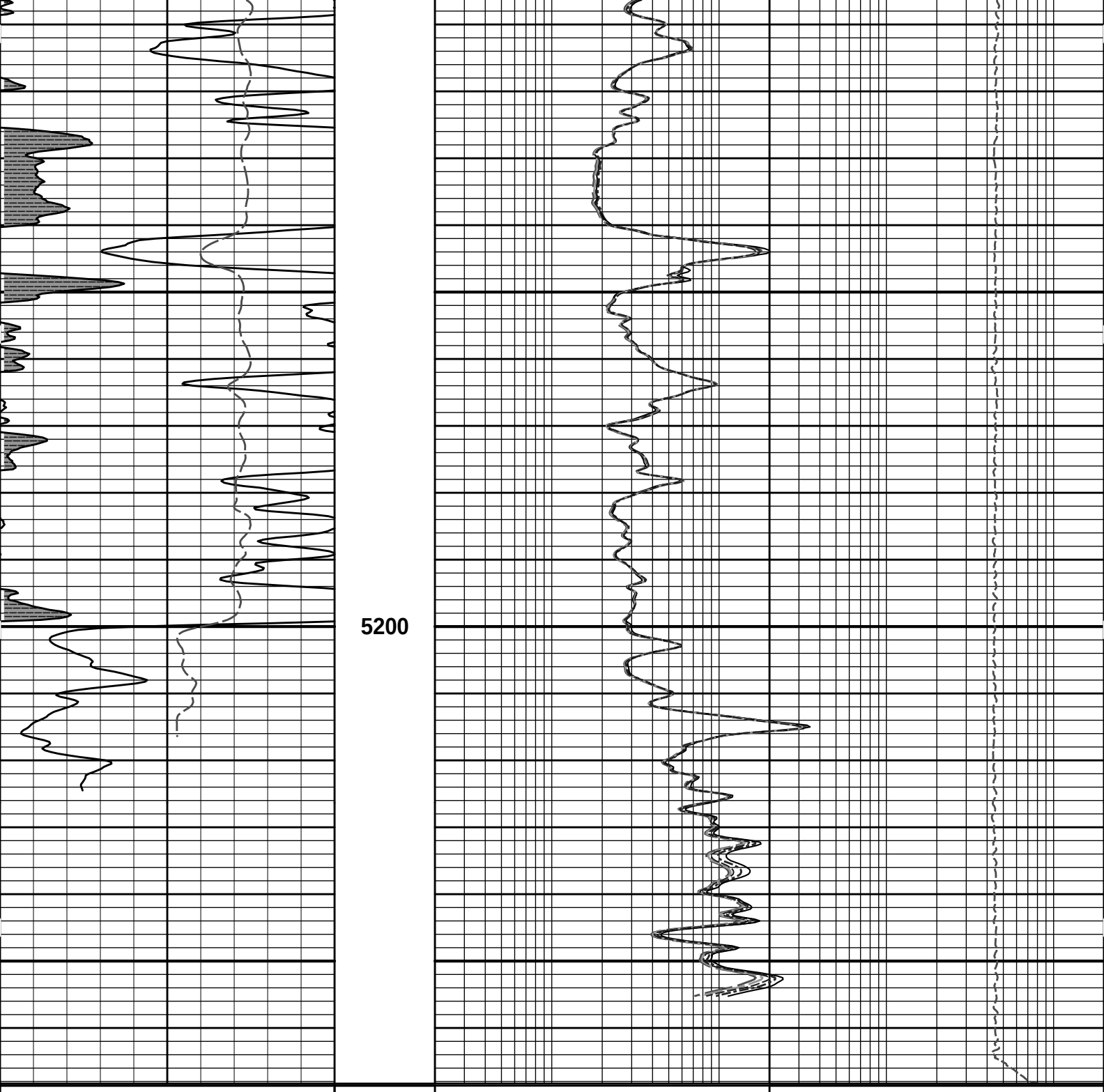
REPEAT SECTION





SP

-]20[+

0 Gamma API 150

api

SHALE

1 : 240

ft

10K Tension 0

pounds

0.2 10in Resistivity 2ft Res 2000

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

ohmm

0.2 90in Resistivity 2ft Res 2000

ohmm

ohmm

HALLIBURTON

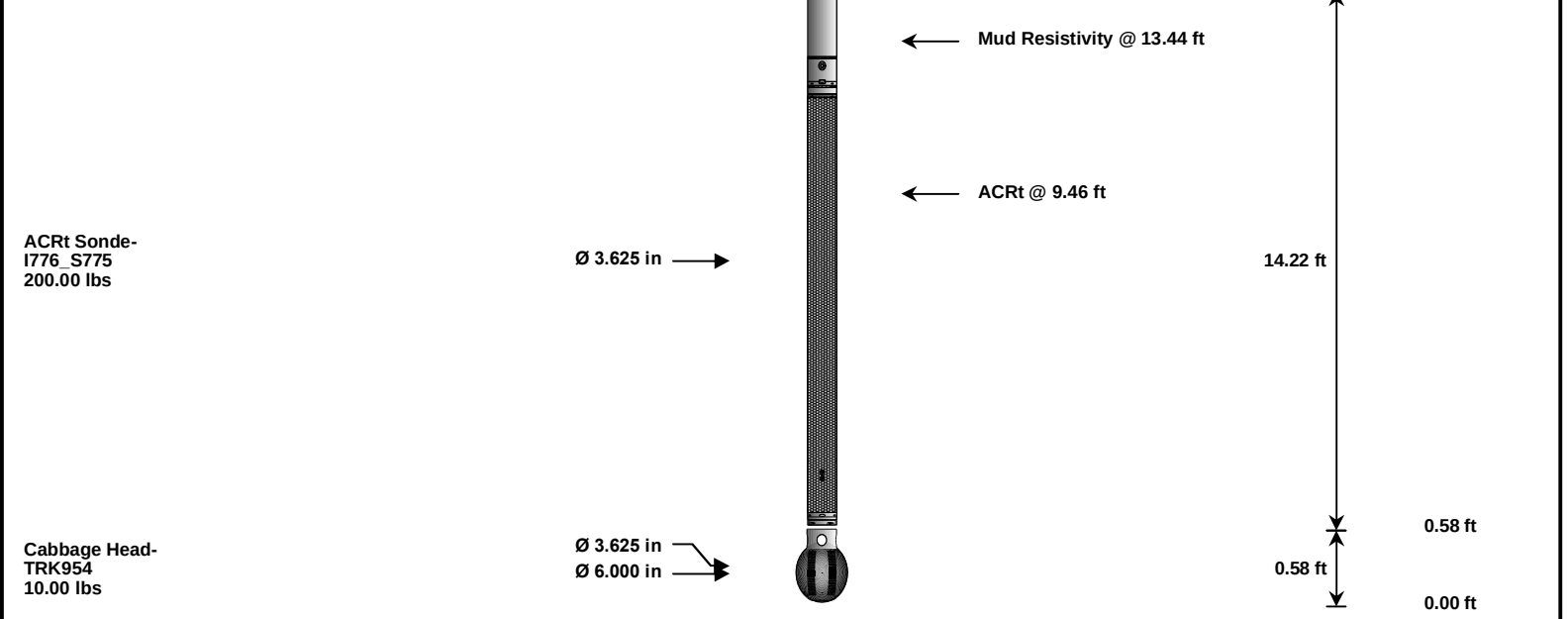
Plot Time: 16-Jan-12 01:32:37
Plot Range: 5010 ft to 5268.33 ft
Data: HOAGLAND_1_22\Well Based\REPEAT2\
Plot File: \\-LOCAL-\HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\ACRT\ACRT_5_repeat_lib

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						54.51 ft
Cable Head-PROT01 30.00 lbs		Ø 3.625 in			1.92 ft	
						52.59 ft
SP Sub-PROT01 60.00 lbs		Ø 3.625 in		SP @ 50.81 ft	3.74 ft	
						48.85 ft
GTET-10748374 165.00 lbs		Ø 3.625 in		GammaRay @ 42.79 ft	8.52 ft	
						40.33 ft
DSNT-10735145 174.00 lbs	DSN Decentralizer-10735145 6.60 lbs	Ø 5.000 in* Ø 3.625 in		DSN Far @ 33.39 ft DSN Near @ 32.64 ft	9.69 ft	
						30.64 ft
SDLT-I145_M73803_P90 360.00 lbs	SDLT Pad-I145_M73803_P90 65.00 lbs Microlog Pad-I145_M73803_P90 8.00 lbs	Ø 4.500 in Ø 4.750 in* Ø 4.750 in*		Microlog @ 22.83 ft SDL Caliper @ 22.65 ft SDL @ 22.64 ft	10.81 ft	
						19.83 ft
ACRt Instrument-I776 50.00 lbs		Ø 3.625 in			5.03 ft	
						14.80 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH	Standard OH Cable Head	PROT01	30.00	1.92		52.59	300.00
SP	SP Sub	PROT01	60.00	3.74		48.85	300.00
GTET	Gamma Telemetry Tool	10748374	165.00	8.52		40.33	60.00
DSNT	Dual Spaced Neutron	10735145	174.00	9.69		30.64	60.00
DCNT	DSN Decentralizer	10735145	6.60	5.13	*	33.97	300.00
SDLT	Spectral Density Tool	I145_M73803_P90	360.00	10.81		19.83	60.00
MICP	Microlog Pad	I145_M73803_P90	8.00	1.00	*	22.33	60.00
SDLP	Density Insite Pad	I145_M73803_P90	65.00	2.55	*	22.04	60.00
ACRt	Array Compensated True Resistivity Instrument Section	I776	50.00	5.03		14.80	300.00
ACRt	Array Compensated True Resistivity	I776_S775	200.00	14.22		0.58	300.00
CBHD	Cabbage Head	TRK954	10.00	0.58		0.00	300.00
Total			**1,128.60**	**54.51**			

* Not included in Total Length and Length Accumulation.

Data: HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\IDLE **Date: 15-Jan-12 22:11:31**

HALLIBURTON

CALIBRATION REPORT

SURFACE TENSION SHOP CALIBRATION

Tool Name:	**Depth Panel - 10842695**	**Reference Calibration Date:**	**28-Dec-07 12:33:23**
Engineer:	**GUTHMUELLER**	**Calibration Date:**	**07-Jan-08 09:52:53**
Software Version:	**WL INSITE R2.0 (Build 22)**	**Calibration Version:**	**1**

SURFACE TENSION LOAD CELL

Measurement	Load Cell Value	Measurement	Calibrated	Units
Low	10285.21	-35.81	0.00	lbs
High	17061.79	6736.91	6770.00	lbs

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 10748374**	**Reference Calibration Date:**	**02-Nov-11 10:46:23**
Engineer:	**C. MARLOWE**	**Calibration Date:**	**11-Dec-11 15:41:11**
Software Version:	**WL INSITE R3.4.2 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	29.5	29.1	api
Background + Calibrator	264.0	261.1	api
Calibrator	234.6	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 10748374 **Reference Calibration Date:** 11-Dec-11 15:41:11

Engineer: C. MARLOWE **Calibration Date:** 13-Jan-12 11:31:40

Software Version: WL INSITE R3.4.2 (Build 2) **Calibration Version:** 1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	29.1	45.1	api
Background + Calibrator	261.1	277.8	api
Calibrator	232.0	232.7	api

Shop	Field	Difference	Tolerance
232.0	232.7	-0.7	+/- 9.00

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - I776_S775 **Reference Calibration Date:** 06-Nov-11 13:13:00

Engineer: C. MARLOWE **Calibration Date:** 16-Dec-11 04:41:40

Software Version: WL INSITE R3.4.2 (Build 2) **Calibration Version:** 1

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0238	1.05	0.95	1.0275	1.05	0.95	1.0273	1.05
A2 (50")	0.95	1.0171	1.05	0.95	1.0216	1.05	0.95	1.0194	1.05
A3 (29")	0.95	1.0101	1.05	0.95	1.0138	1.05	0.95	1.0114	1.05
A4 (17")	0.95	1.0098	1.05	0.95	1.0125	1.05	0.95	1.0132	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0125	1.05	0.95	1.0138	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9990	1.05	0.95	1.0035	1.05

TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-1.567	2	-6	-4.284	-2	-8	-4.287	-2
A2 (50")	-7	-2.703	-1	-6	-4.216	-2	-7	-4.260	-2
A3 (29")	-27	-14.603	-9	-9	-4.373	-3	-7	-2.480	-1
A4 (17")	-180	-101.892	-60	-45	-31.309	-15	-39	-24.244	-13
A5 (10")	N/A	N/A	N/A	-150	-117.498	-50	-80	-53.883	-10
A6 (6")	N/A	N/A	N/A	175	276.891	525	90	138.510	270

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.8454	1.3
36K	1.0	1.1743	2.0
72K	1.0	1.4617	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	0.991	1.05

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
Depth Panel-10842695						
Tension Zero	0.00	----------	----------	0.00	----------	lbs
Tension Cal	6770.00	----------	----------	0.00	----------	lbs
GTET-10748374						
Gamma Ray Calibrator	232.0	232.7	----------	-0.7	+/- 9.00	api
ACRt Sonde-I776_S775						
Mud Cell	0.991	----------	----------	0.000	----------	ohm-m

Data: HOAGLAND_1_22\0001 SP-GTET-DSNT-SDLT-ACRT-CH\IDLE **Date: 15-Jan-12 17:10:02**

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	9.500	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	0.340	ohmm
	SHARED	TRM	Temperature of Mud	67.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	5264.00	ft
	SHARED	BHT	Bottom Hole Temperature	115.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	SHARED	BHSM	Borehole Size Master Tool	NONE	
	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	0.29	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	65.00	degF
	Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
	Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
	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	DNTP	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	
	SDLT	CLOK	Process Caliper 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
	Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
	ACRt Sonde	RTOK	Process ACRt?	Yes	
	ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
	ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
	ACRt Sonde	TPOS	Tool Position	Free Hanging	
	ACRt Sonde	RMOP	Rmud Source	Gradient	
	ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
	ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
	ACRt Sonde	THQY	Threshold Quality	0.50	
BOTTOM					

Data: HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\IDLE **Date: 15-Jan-12 23:35:30**

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
	Depth Panel			
TENS	Tension	0.00	NO	
	SP Sub			
PLTC	Plot Control Mask	50.81	NO	
SP	Spontaneous Potential	50.81	BLK	1.250
SPR	Raw Spontaneous Potential	50.81	NO	
SPO	Spontaneous Potential Offset	50.81	NO	
	GTET			
TPUL	Tension Pull	42.79	NO	
GR	Natural Gamma Ray API	42.79	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	42.79	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	42.79	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	DSNT			
TPUL	Tension Pull	32.54	NO	
RNDS	Near Detector Telemetry Counts	32.64	BLK	1.417

RFDS	Far Detector Telemetry Counts	33.39	TRI	0.583
DNTT	DSN Tool Temperature	32.64	NO	
DSNS	DSN Tool Status	32.54	NO	
ERND	Near Detector Telemetry Counts EVR	32.64	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	33.39	BLK	0.000
ENTM	DSN Tool Temperature EVR	32.64	NO	
	SDLT			
TPUL	Tension Pull	22.65	NO	
PCAL	Pad Caliper	22.65	TRI	0.250
ACAL	Arm Caliper	22.65	TRI	0.250
	ACRt Sonde			
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000

F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	

SDLT Pad

TPUL	Tension Pull	22.64	NO	
NAB	Near Above	22.46	BLK	0.920
NHI	Near Cesium High	22.46	BLK	0.920
NLO	Near Cesium Low	22.46	BLK	0.920
NVA	Near Valley	22.46	BLK	0.920
NBA	Near Barite	22.46	BLK	0.920
NDE	Near Density	22.46	BLK	0.920
NPK	Near Peak	22.46	BLK	0.920
NLI	Near Lithology	22.46	BLK	0.920
NBAU	Near Barite Unfiltered	22.46	BLK	0.250
NLIU	Near Lithology Unfiltered	22.46	BLK	0.250
FAB	Far Above	22.81	BLK	0.250
FHI	Far Cesium High	22.81	BLK	0.250
FLO	Far Cesium Low	22.81	BLK	0.250
FVA	Far Valley	22.81	BLK	0.250
FBA	Far Barite	22.81	BLK	0.250
FDE	Far Density	22.81	BLK	0.250
FPK	Far Peak	22.81	BLK	0.250
FLI	Far Lithology	22.81	BLK	0.250
PTMP	Pad Temperature	22.65	BLK	0.920
NHV	Near Detector High Voltage	22.04	NO	
FHV	Far Detector High Voltage	22.04	NO	
ITMP	Instrument Temperature	22.04	NO	
DDHV	Detector High Voltage	22.04	NO	

Microlog Pad

TPUL	Tension Pull	22.83	NO	
MINV	Microlog Lateral	22.83	BLK	0.750
MNOR	Microlog Normal	22.83	BLK	0.750

Data: HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\IDLE **Date: 15-Jan-12 23:34:55**

COMPANY	**VAL ENERGY, INC,**		
WELL	**HOAGLAND 1-22**		
FIELD	**UNKNOWN**		
COUNTY	**BARBER**	STATE	**KANSAS**

HALLIBURTON

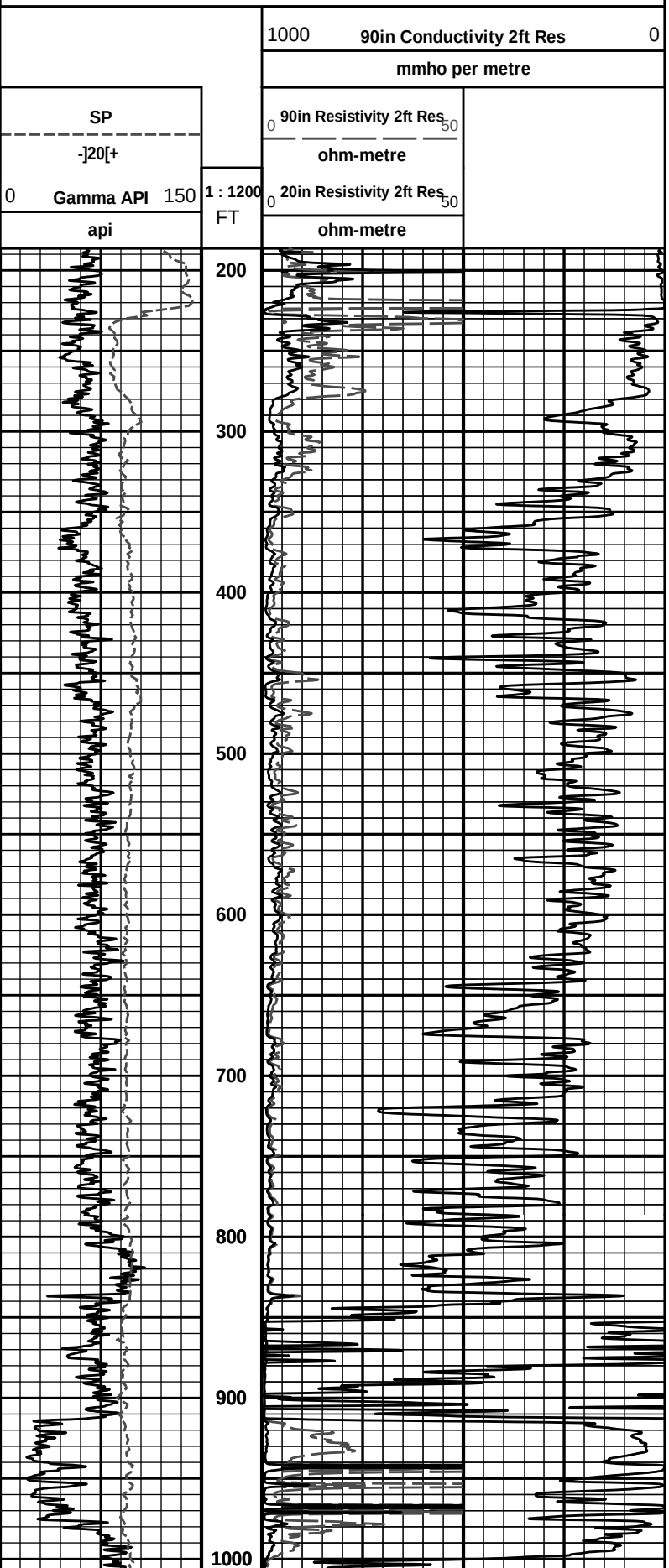
ARRAY COMPENSATED TRUE RESISITIVITY LOG

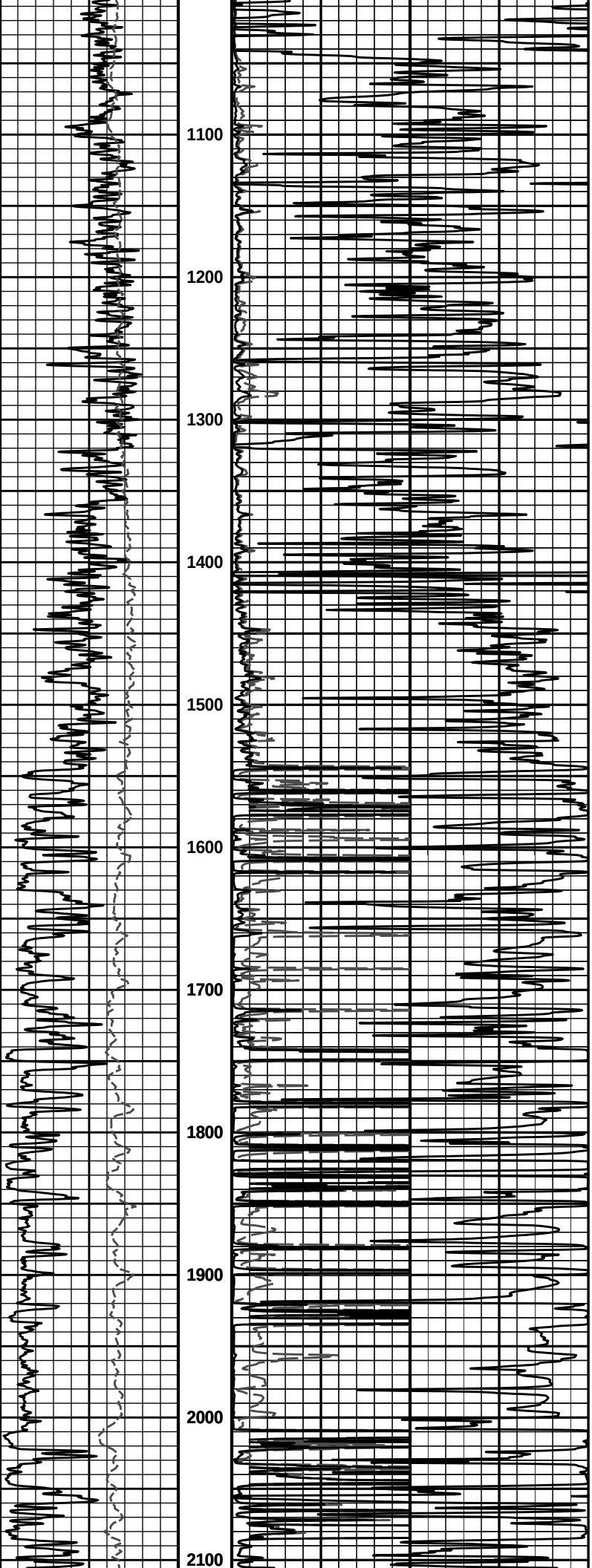
HALLIBURTON

HALLIBURTON

Plot Time: 16-Jan-12 01:32:38
Plot Range: 186.25 ft to 5255.23 ft
Data: HOAGLAND_1_22\Well Based\CASING\
Plot File: \\-LOCAL-\HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\...\ACRT_1_lib

1 INCH MAIN LOG

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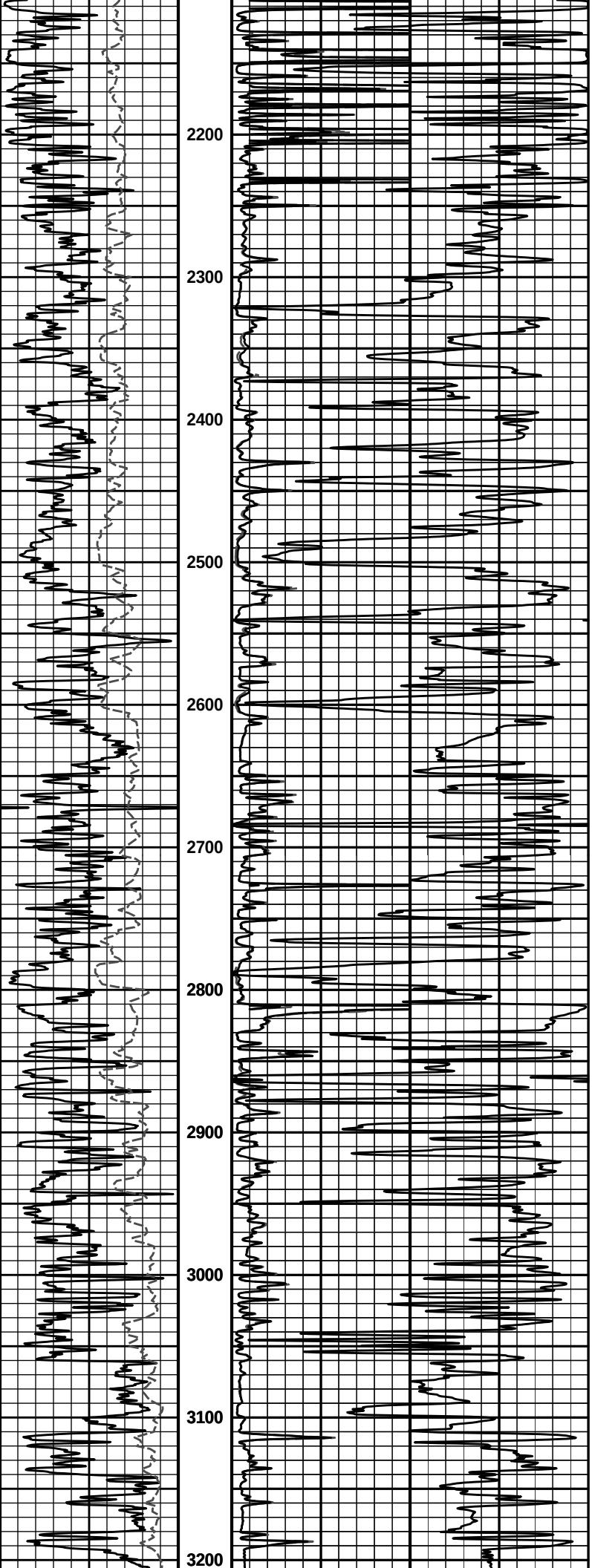
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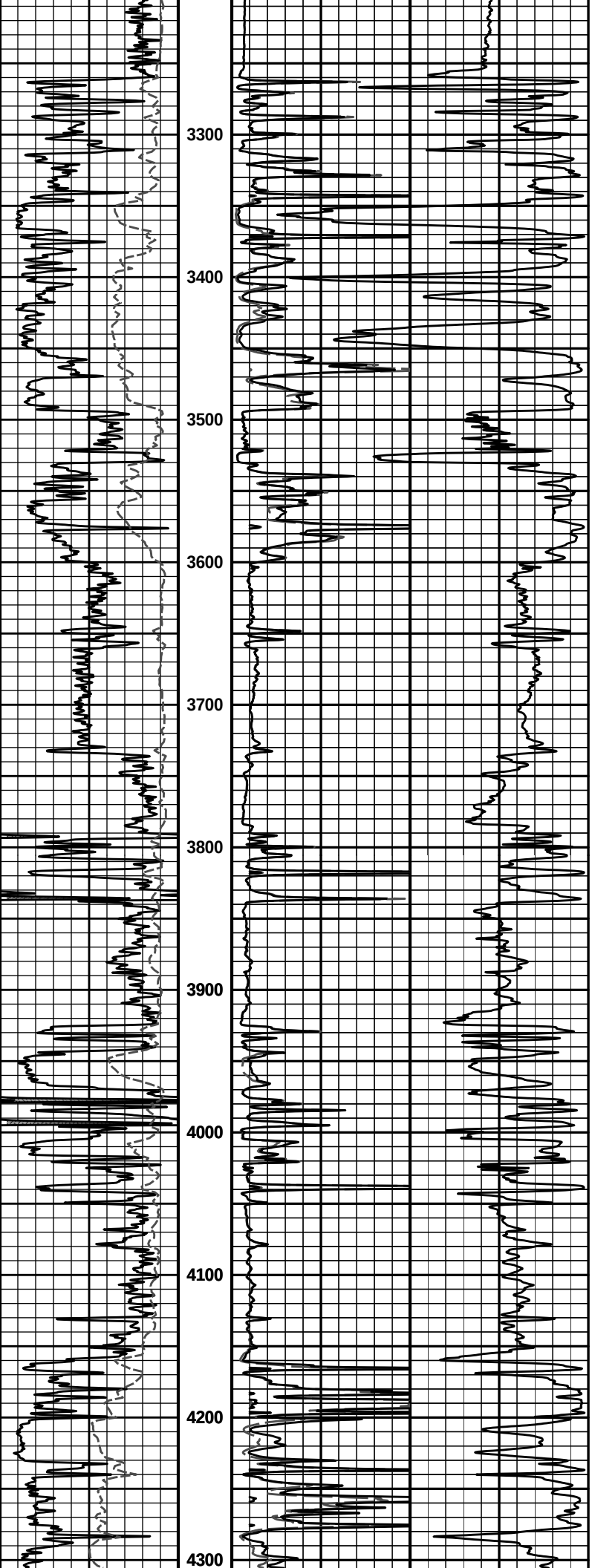
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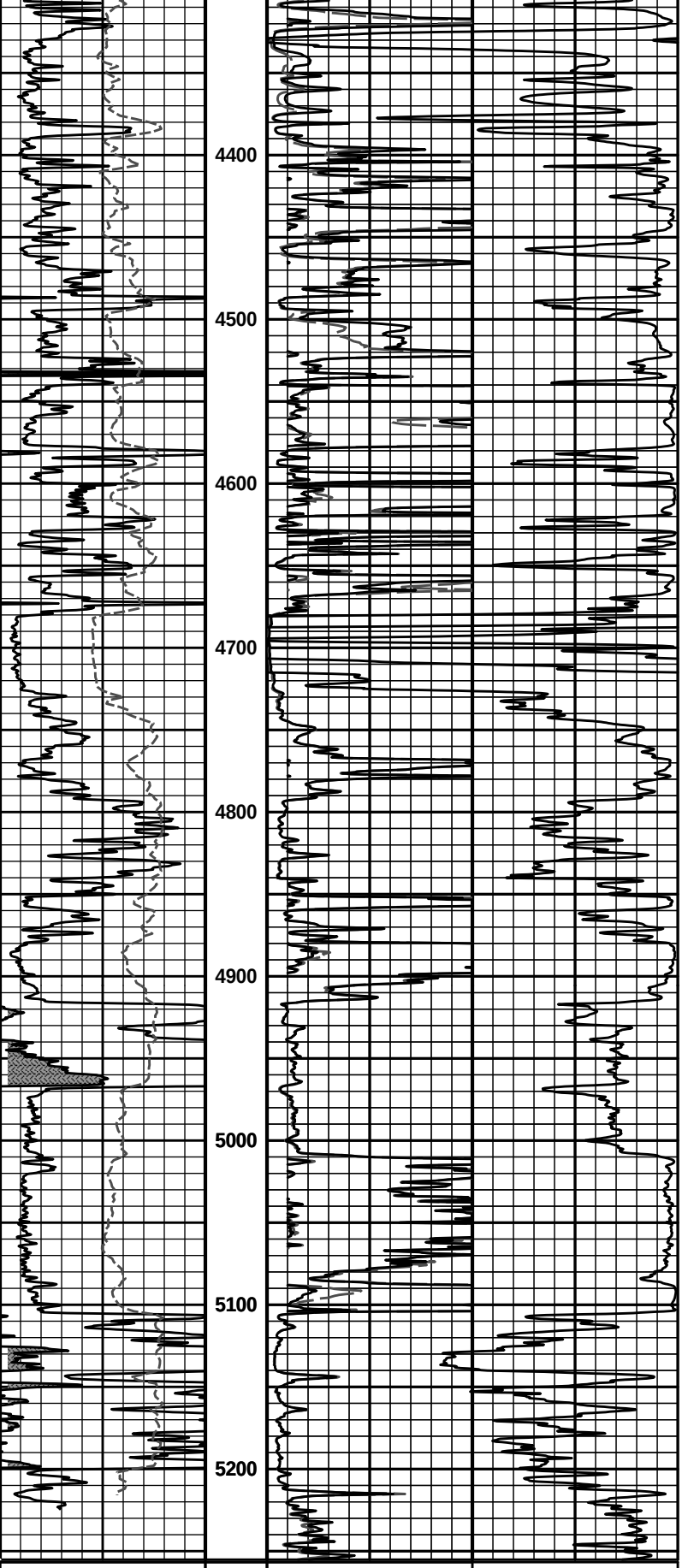

0 Gamma API 150

api

SP

-]20[+

1 : 1200

FT

0 20in Resistivity 2ft Res 50

ohm-metre

0 90in Resistivity 2ft Res 50

ohm-metre

1000 90in Conductivity 2ft Res 0

mmho per metre

HALLIBURTON

Plot Time: 16-Jan-12 01:32:39
Plot Range: 186.25 ft to 5255.23 ft
Data: HOAGLAND_1_22\Well Based\CASING\
Plot File: \\-LOCAL-\HOAGLAND_1_22\0002 SP-GTET-DSNT-SDLT-ACRT-CH\...\ACRT_1_lib

1 INCH MAIN LOG