HALLIBURTON

ARRAY COMPENSATED RESISTIVITY LOG

COMPANY SANDRIDGE EXPLORATION
WELL RUTH 3504 1-9
FIELD/BLOCK WILDCAT
COUNTY SUMMER
STATE KANSAS

COMPANY **SANDRIDGE EXPLORATION**

WELL **RUTH 3504 1-9**

FIELD/BLOCK **WILDCAT**

COUNTY **SUMMER** STATE **KANSAS**

API No. 15-191-227-13-00-00

Location SW SW SE SE
200' FSL & 1000' FEL

Sect. 9 Twp. 35S Rge. 4W

Other Services:
SDLT
DSNT
MICROLOG
ACRT
CSNT
MRIL
IDT/ICT / WSTT

Permanent Datum	GL	Elev. 1312.0 ft	Elev.: K.B. 1329.0 ft
Log measured from	KB	, 17.0 ft above perm. Datum	D.F. 1329.0 ft
Drilling measured from	KB		G.L. 1312.0 ft

Date		02-Dec-13					
Run No.		ONE					
Depth - Driller		5132.00 ft					
Depth - Logger		5100.0 ft					
Bottom - Logged Interval		5100 ft					
Top - Logged Interval		561 ft					
Casing - Driller		9.625 in	@ 596.0 ft	@		@	
Casing - Logger		561.0 ft					
Bit Size		8.750 in		@		@	
Type Fluid in Hole		WBM					
Density	Viscosity	8.8 ppg	42.00 s/qt				
PH	Fluid Loss	10.70 pH	5.2 cptm				
Source of Sample		FLOWLINE					
Rm @ Meas. Temperature		0.200 ohmm	@ 85.00 degF	@		@	
Rmf @ Meas. Temperature		0.17 ohmm	@ 70.00 degF	@		@	
Rmc @ Meas. Temperature		0.250 ohmm	@ 70.00 degF	@		@	
Source Rmf	Rmc	MEASURED	MEASURED				
Rm @ BHT		0.17 ohmm	@ 102.0 degF	@		@	
Time Since Circulation		10.0 hr					
Time on Bottom		02-Dec-13 19:24					
Max. Rec. Temperature		102.0 degF	@ 5100.0 ft	@		@	
Equipment	Location	10549592	PVOK				
Recorded By		J.COTHREN					
Witnessed By		HANNA THORNBERG					

Fold here

Service Ticket No.: 900915833 API Serial No.: 15-191-227-13-00-00 PGM Version: WL INSITE R3.8.12 (Build 3)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

RESISTIVITY SCALE CHANGES

| | | | | | | |

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	561	REC	0	150	30	-10	LIME	30	-10	2.71	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks:

THANKS FOR USING HALLIBURTON ENERGY SERVICES.

CHLORIDES REPORTED AT 5800 ppm.

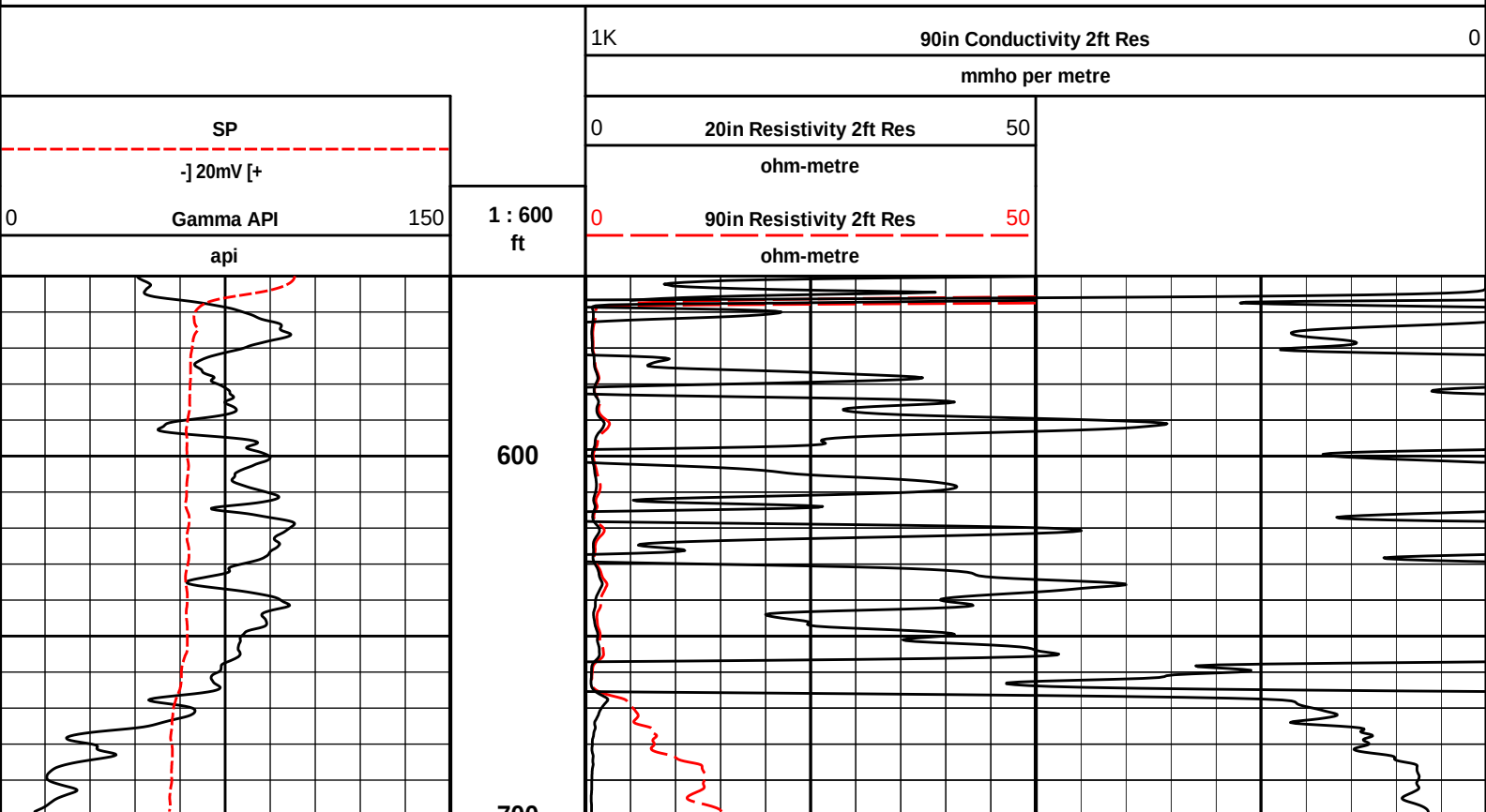
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

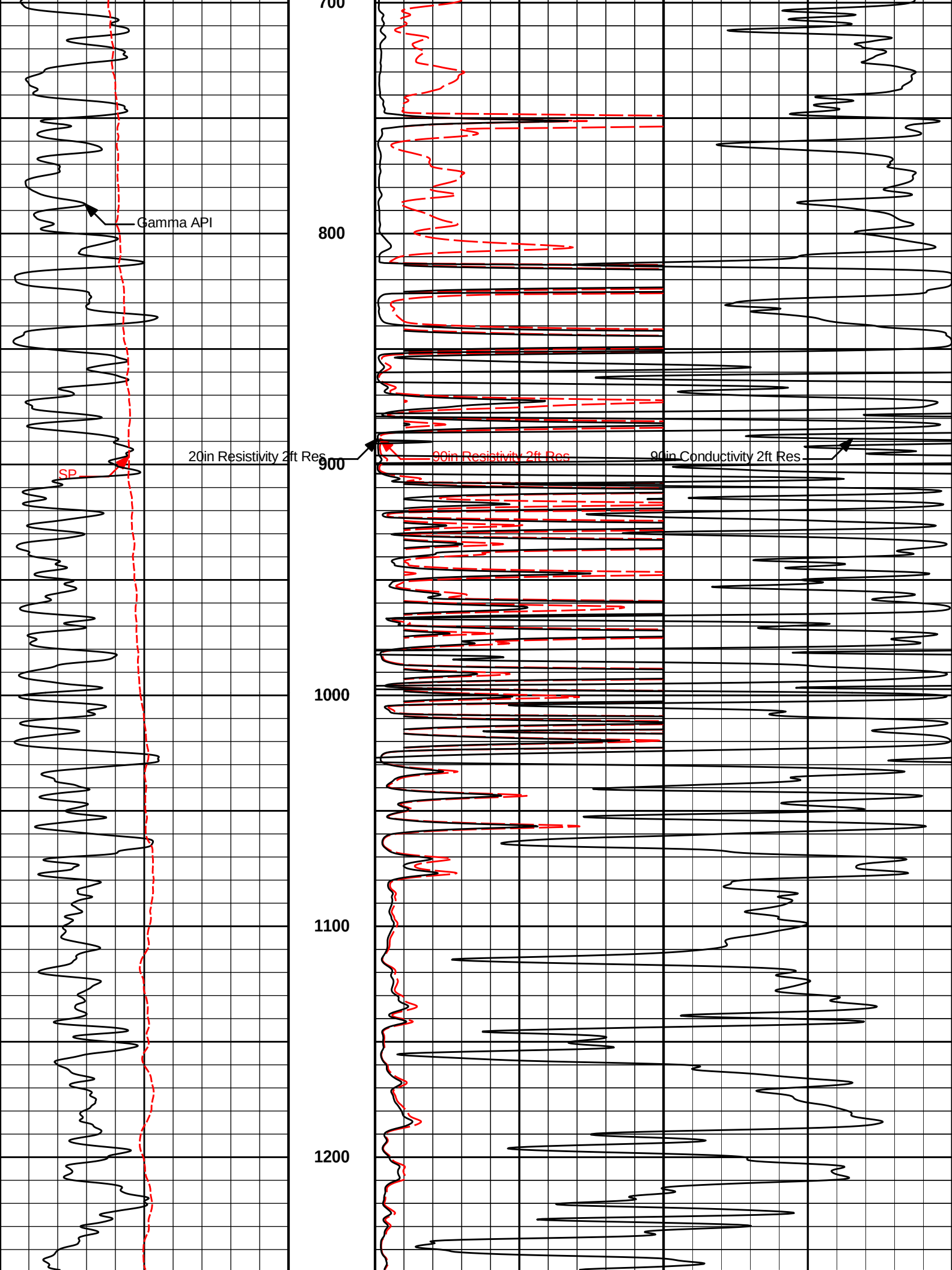
HALLIBURTON

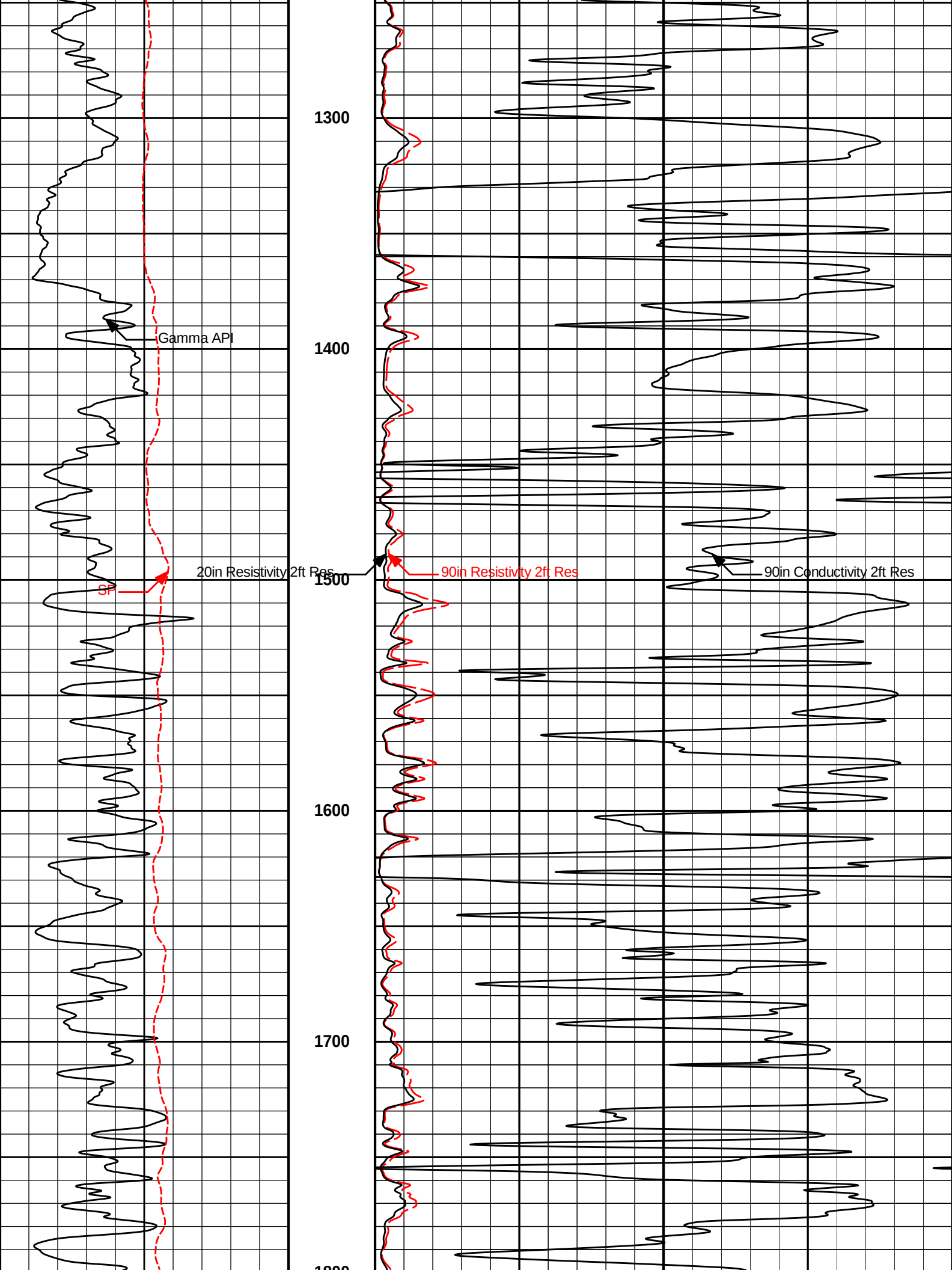
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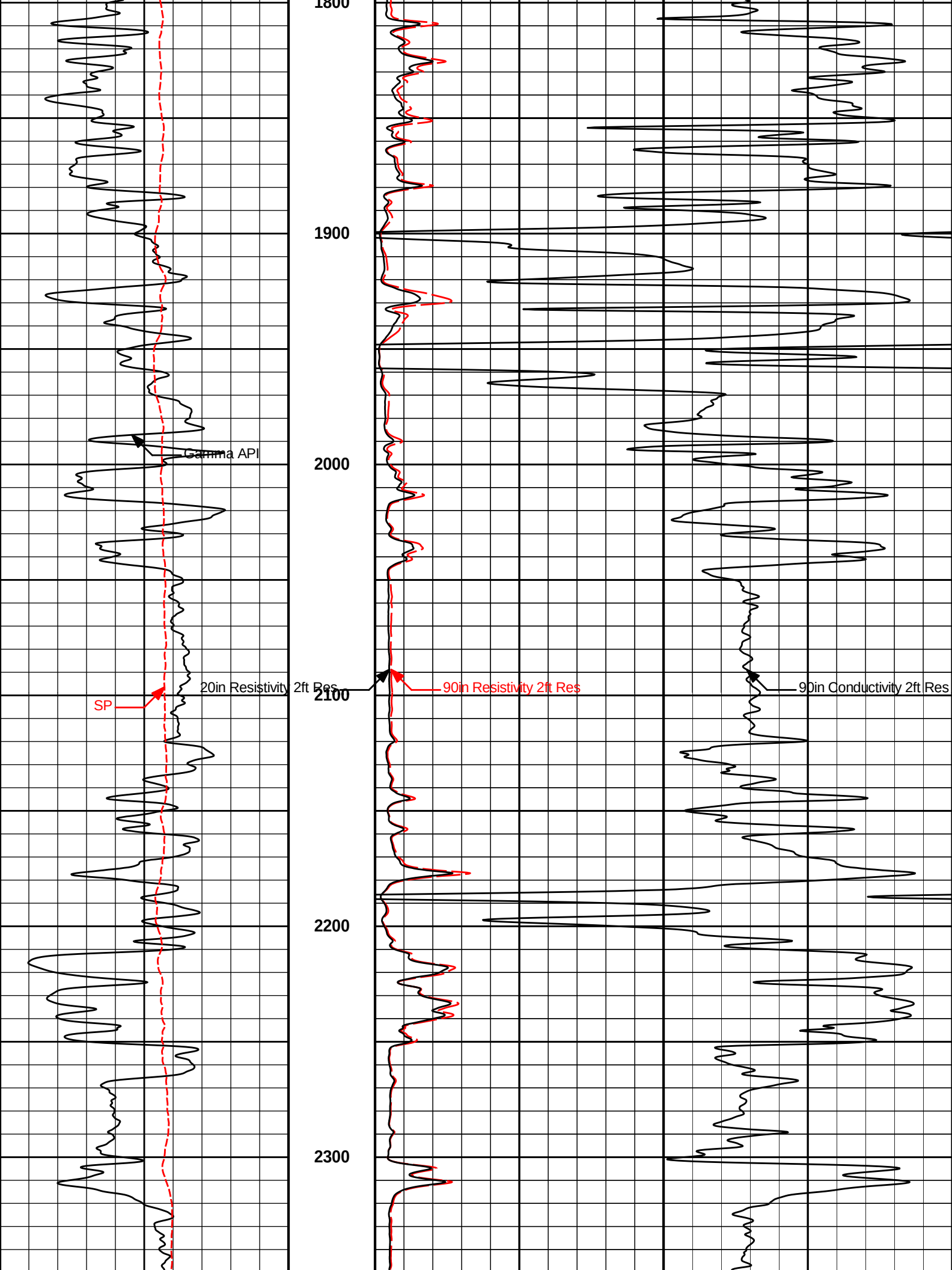
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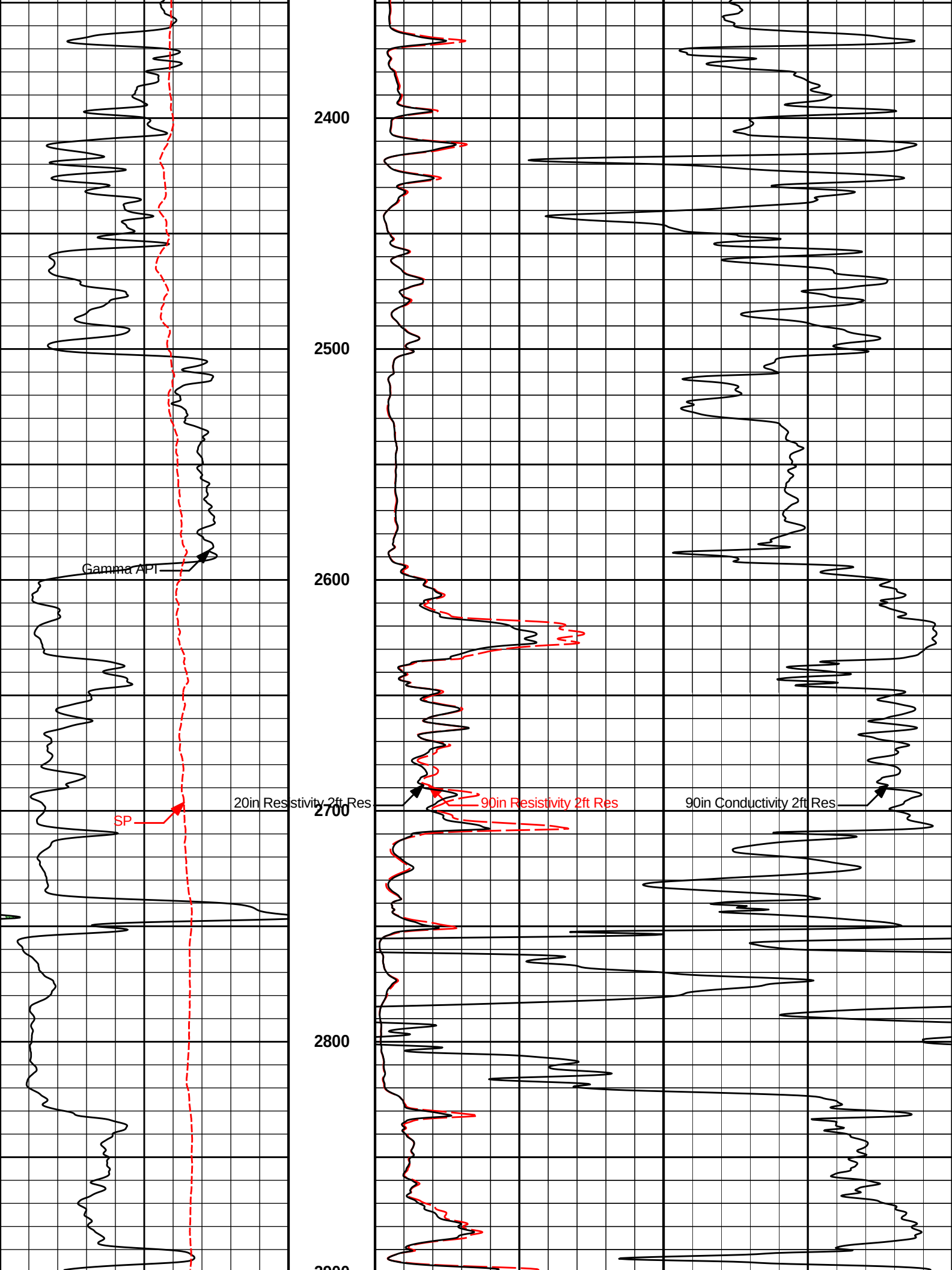
2 INCH MAIN LOG

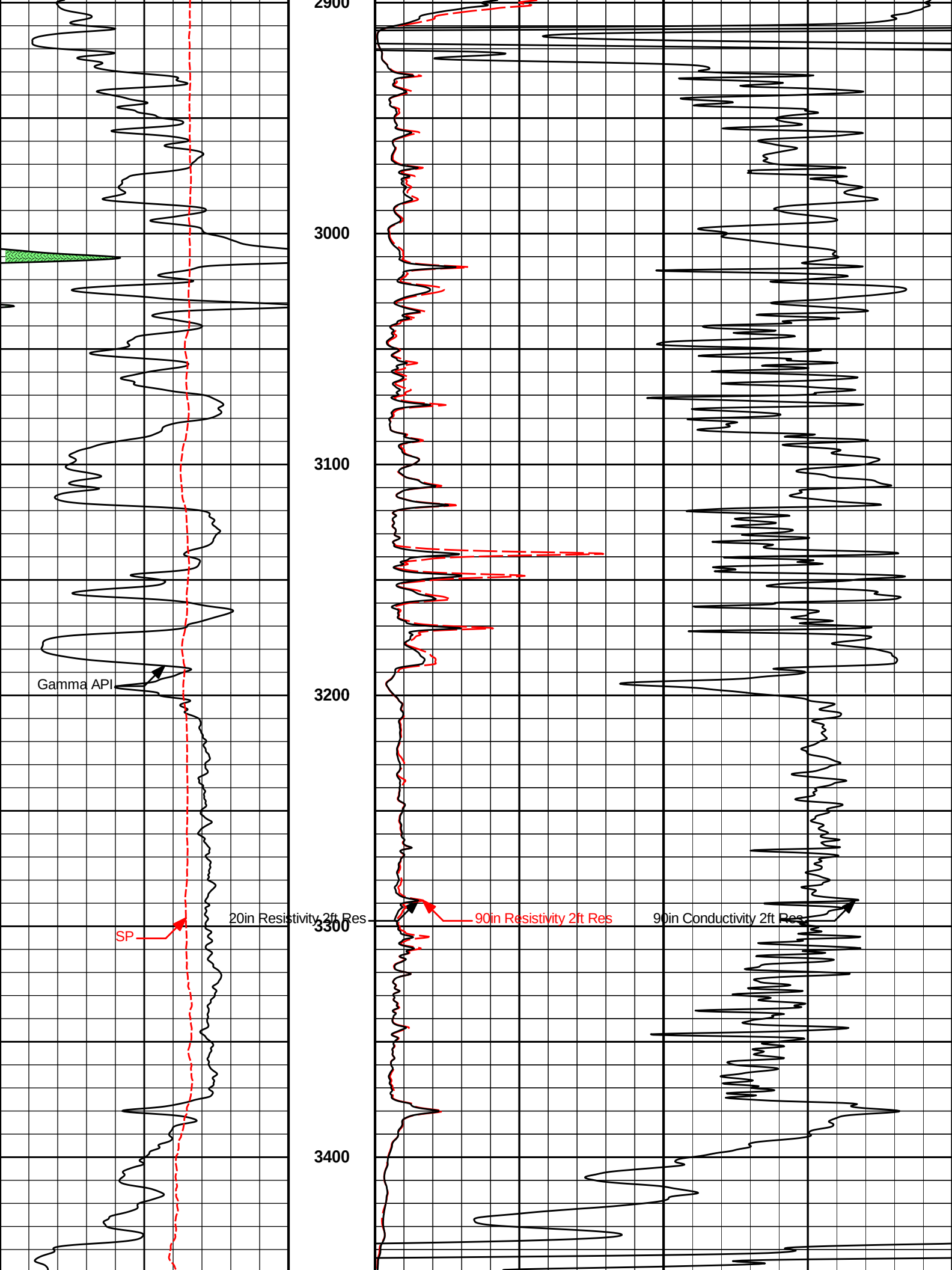


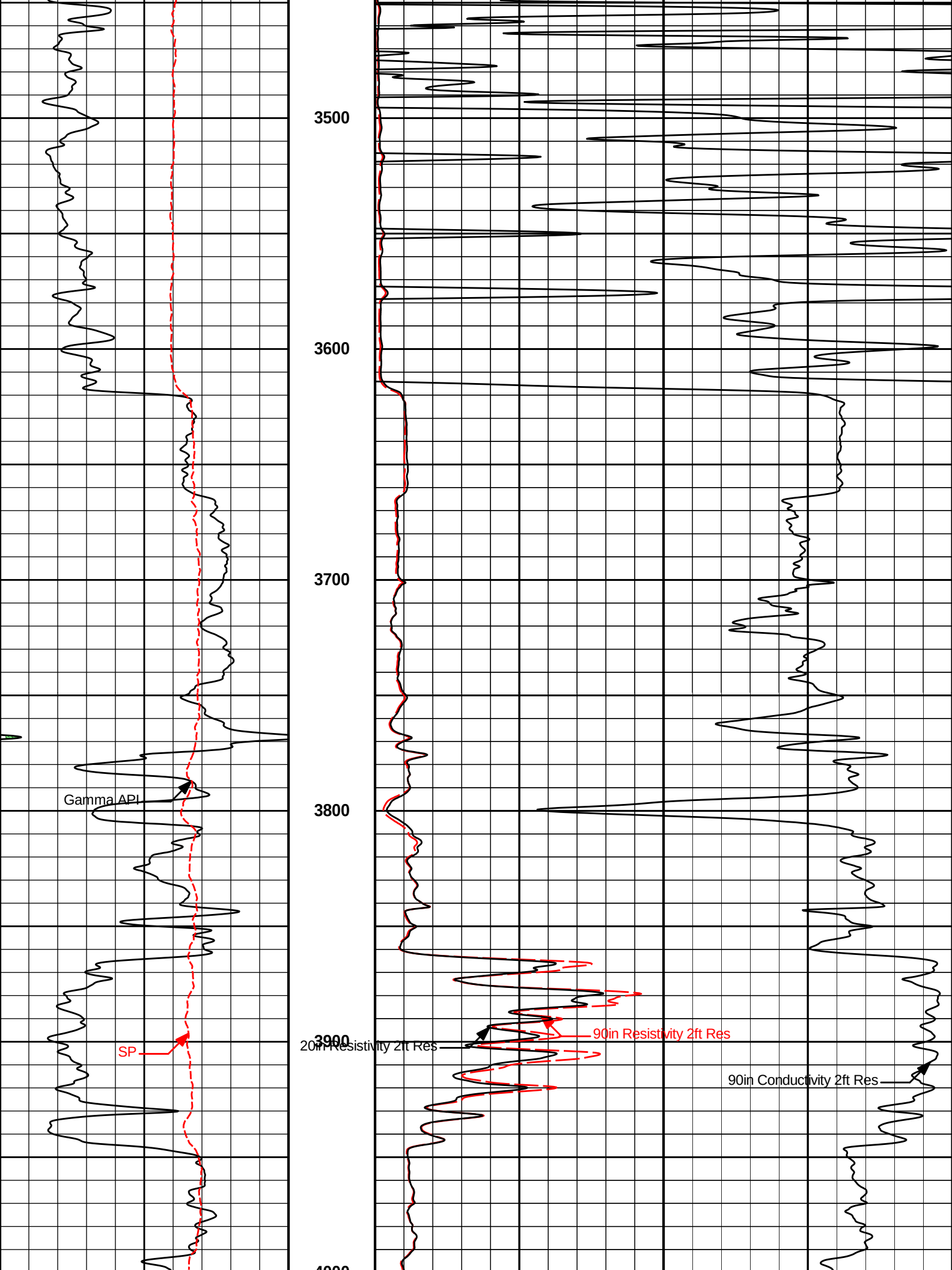

700
800
900
1000
1100
1200
Gamma API
SP
20in Resistivity 2ft Res
90in Resistivity 2ft Res
90in Conductivity 2ft Res

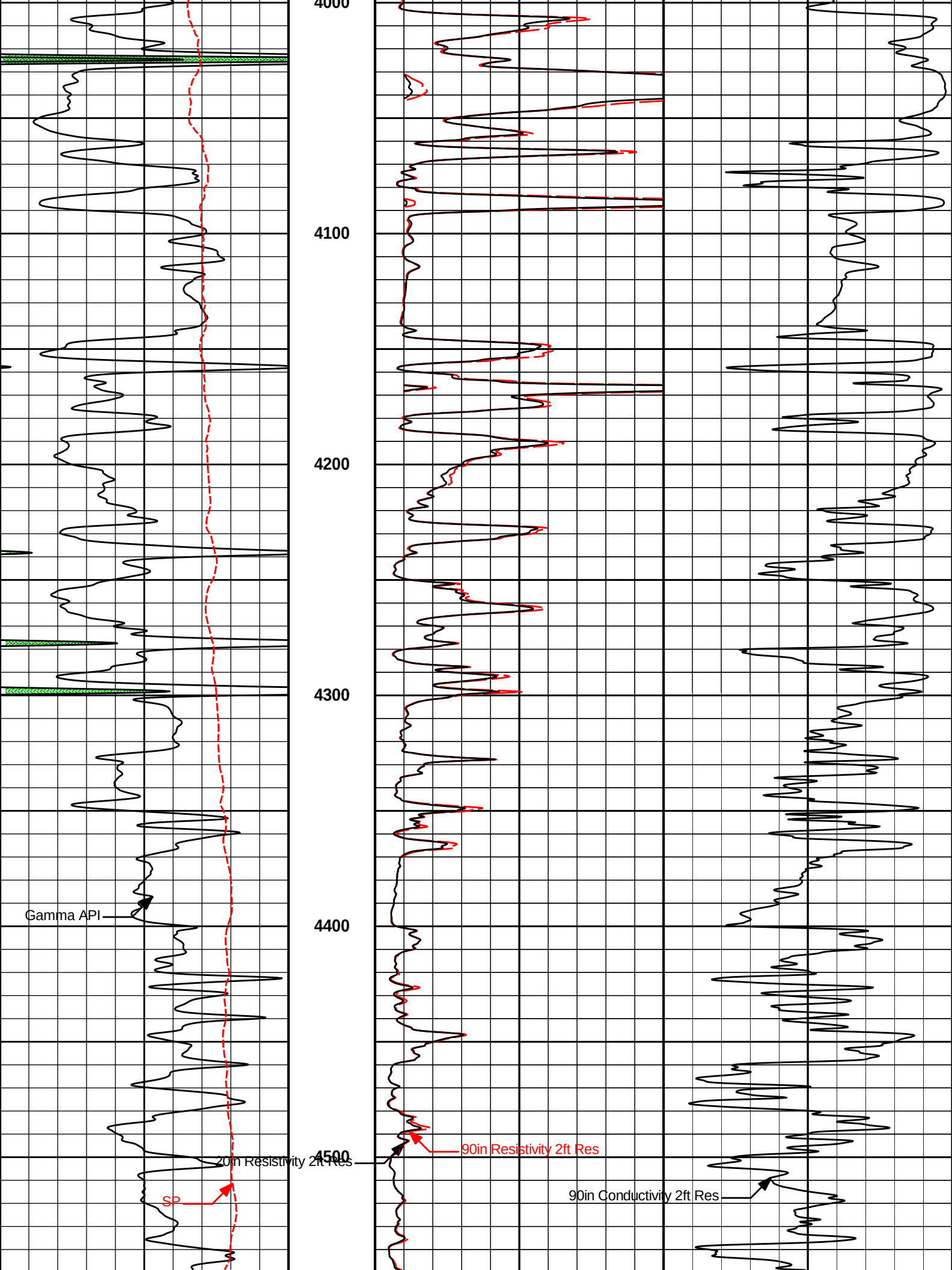

1300
1400
1500
1600
1700
Gamma API
SP
20in Resistivity 2ft Res
90in Resistivity 2ft Res
90in Conductivity 2ft Res

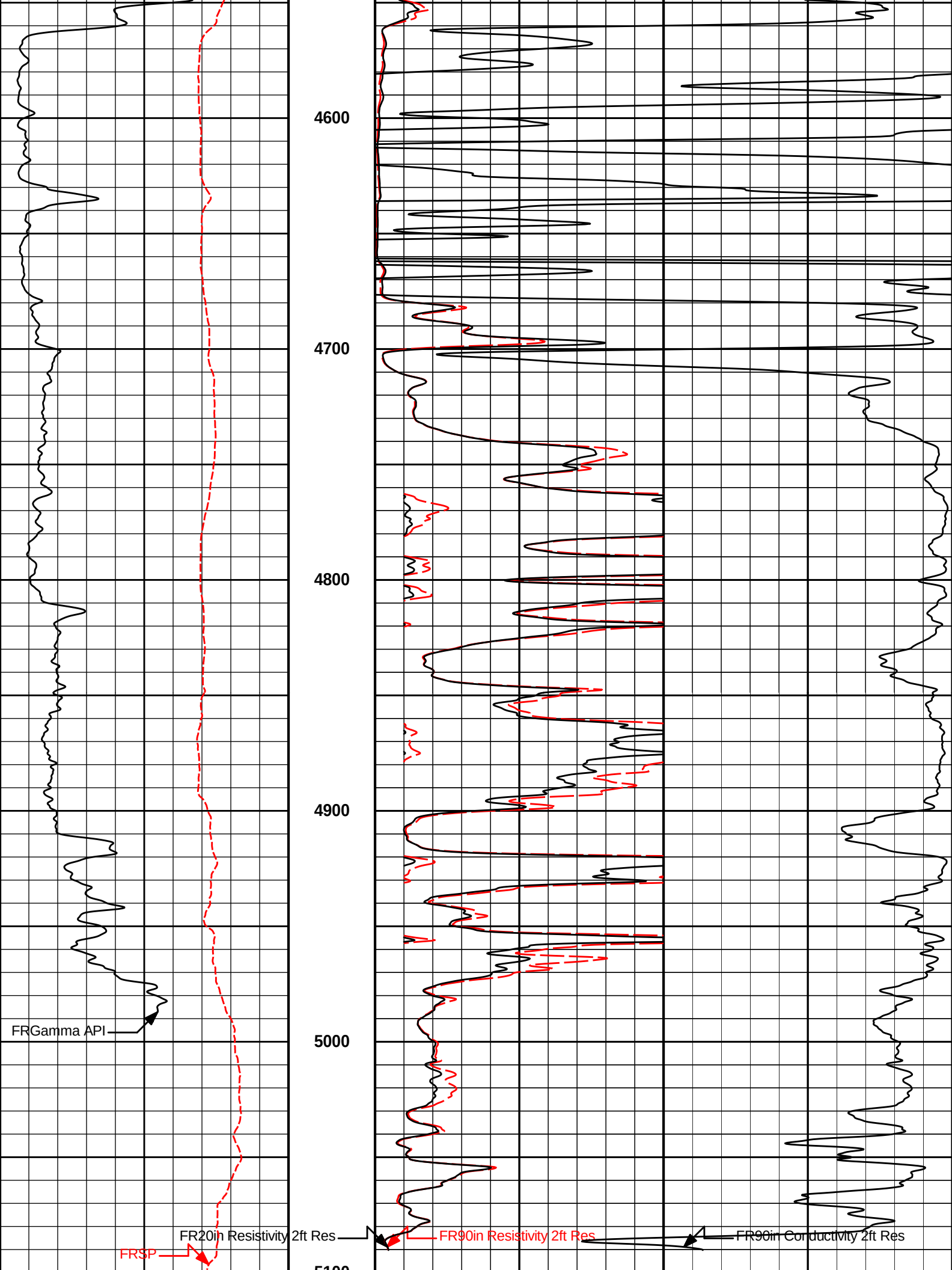

1800
1900
2000
2100
2200
2300
Gamma API
SP
20in Resistivity 2ft Res
90in Resistivity 2ft Res
90in Conductivity 2ft Res

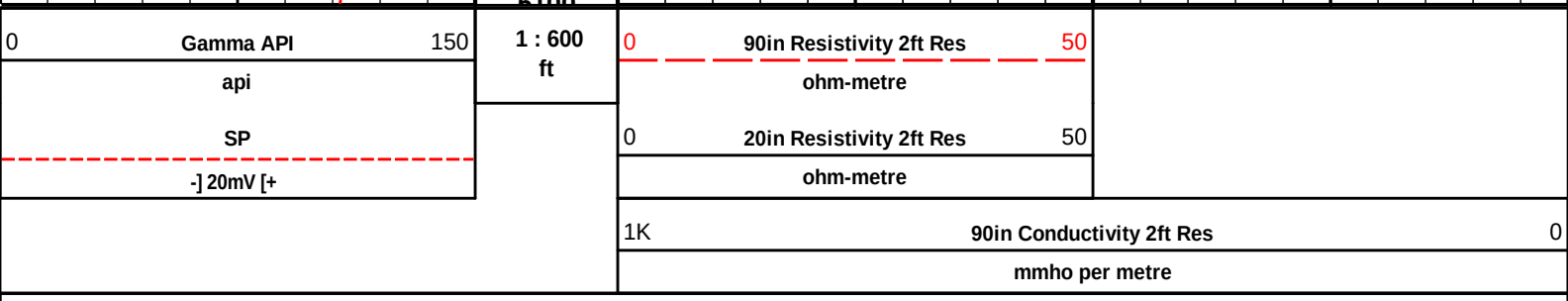

2400
2500
2600
2700
2800
Gamma API
SP
20in Resistivity 2ft Res
90in Resistivity 2ft Res
90in Conductivity 2ft Res


2900
3000
3100
3200
3300
3400
Gamma API
SP
20in Resistivity 2ft Res
90in Resistivity 2ft Res
90in Conductivity 2ft Res


3500
3600
3700
3800
3900
Gamma API
SP
20in Resistivity 2ft Res
90in Resistivity 2ft Res
90in Conductivity 2ft Res


4000
4100
4200
4300
4400
4500
Gamma API
20in Resistivity 2ft Res
SP
90in Resistivity 2ft Res
90in Conductivity 2ft Res


4600
4700
4800
4900
5000
5100
FRGamma API
FR20in Resistivity 2ft Res
FRSP
FR90in Resistivity 2ft Res
FR90in Conductivity 2ft Res



HALLIBURTON

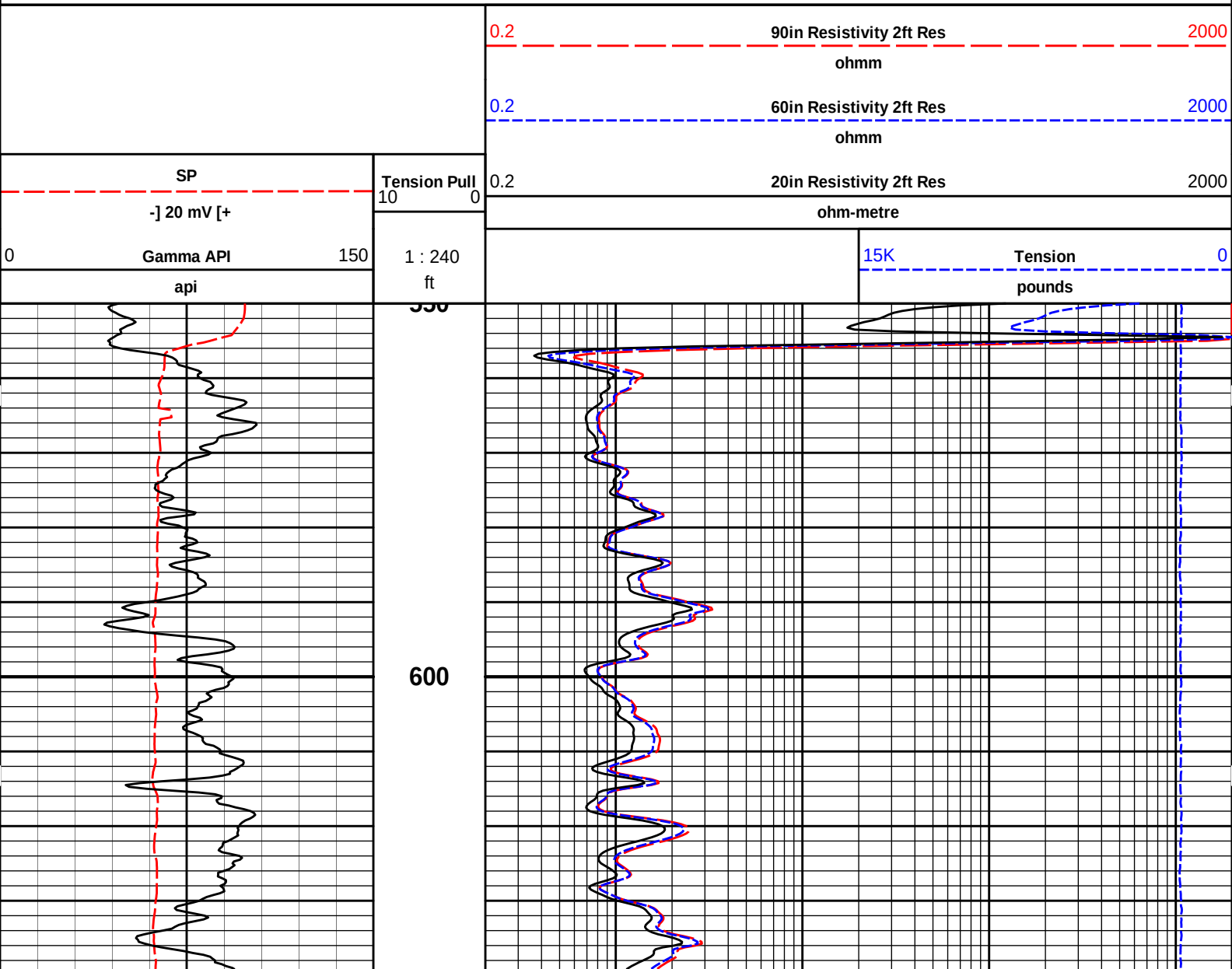
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Data: {ActiveWell}\Well Based\DAQ Current\
Plot File: \\-LOCAL-\RUTH_3504_1_9\0001 TRIPLE\ACRT\1_ACRT_2inx

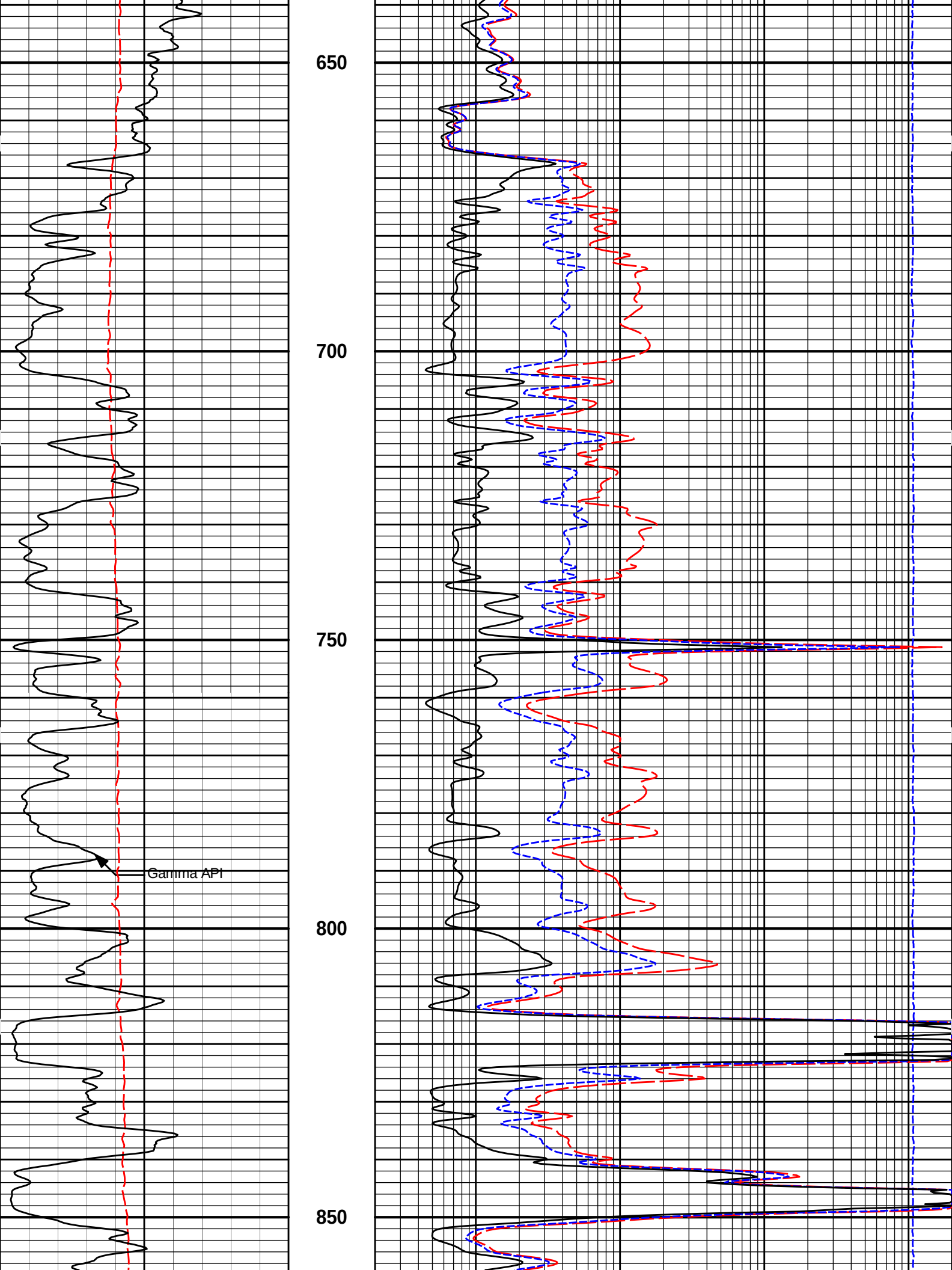
2 INCH MAIN LOG

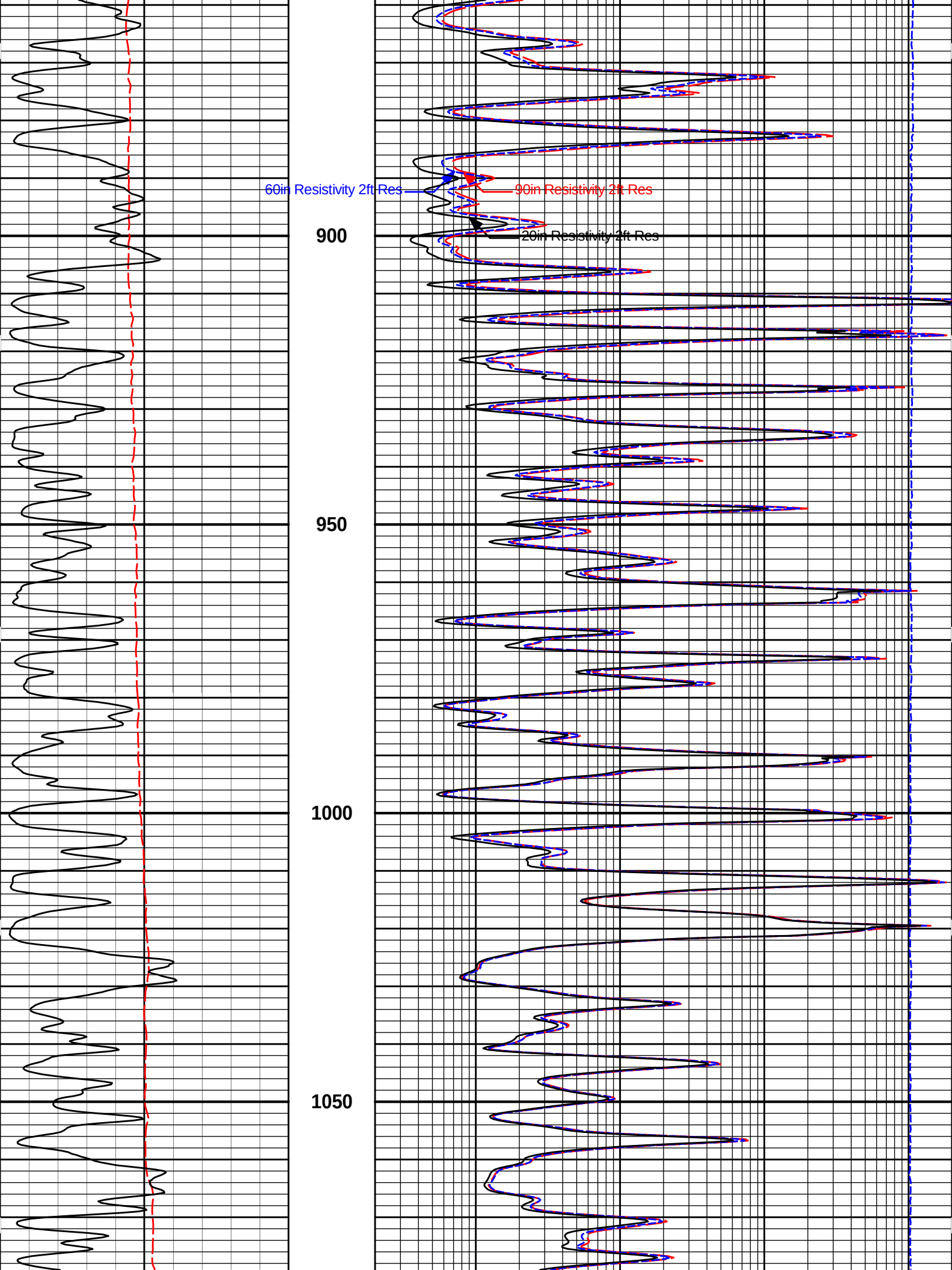
HALLIBURTON

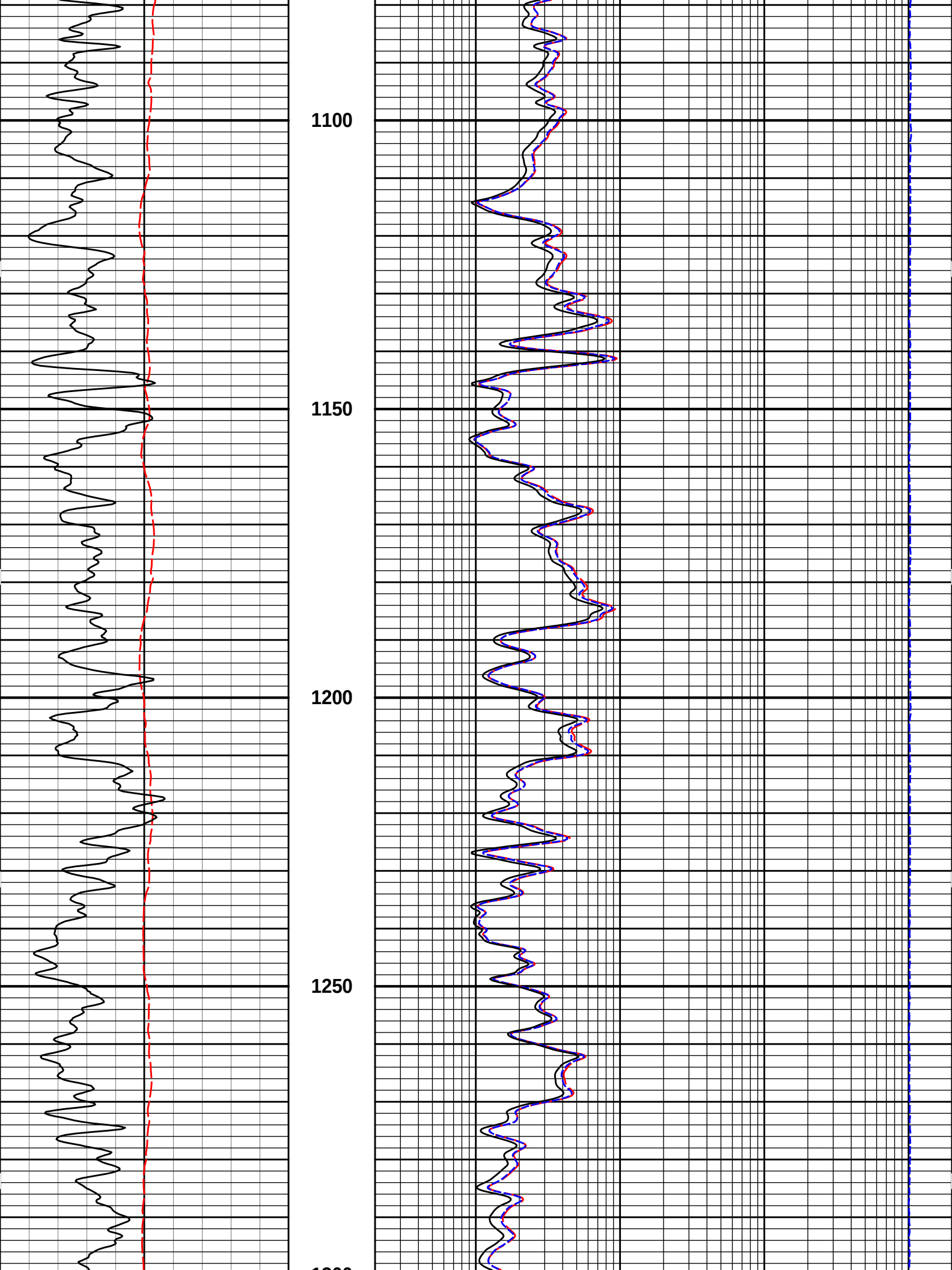
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Plot Range: 550 ft to 5103.17 ft
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Plot File: \\-LOCAL-\RUTH_3504_1_9\0001 TRIPLE\ACRT\1_ACRT_5_mainx

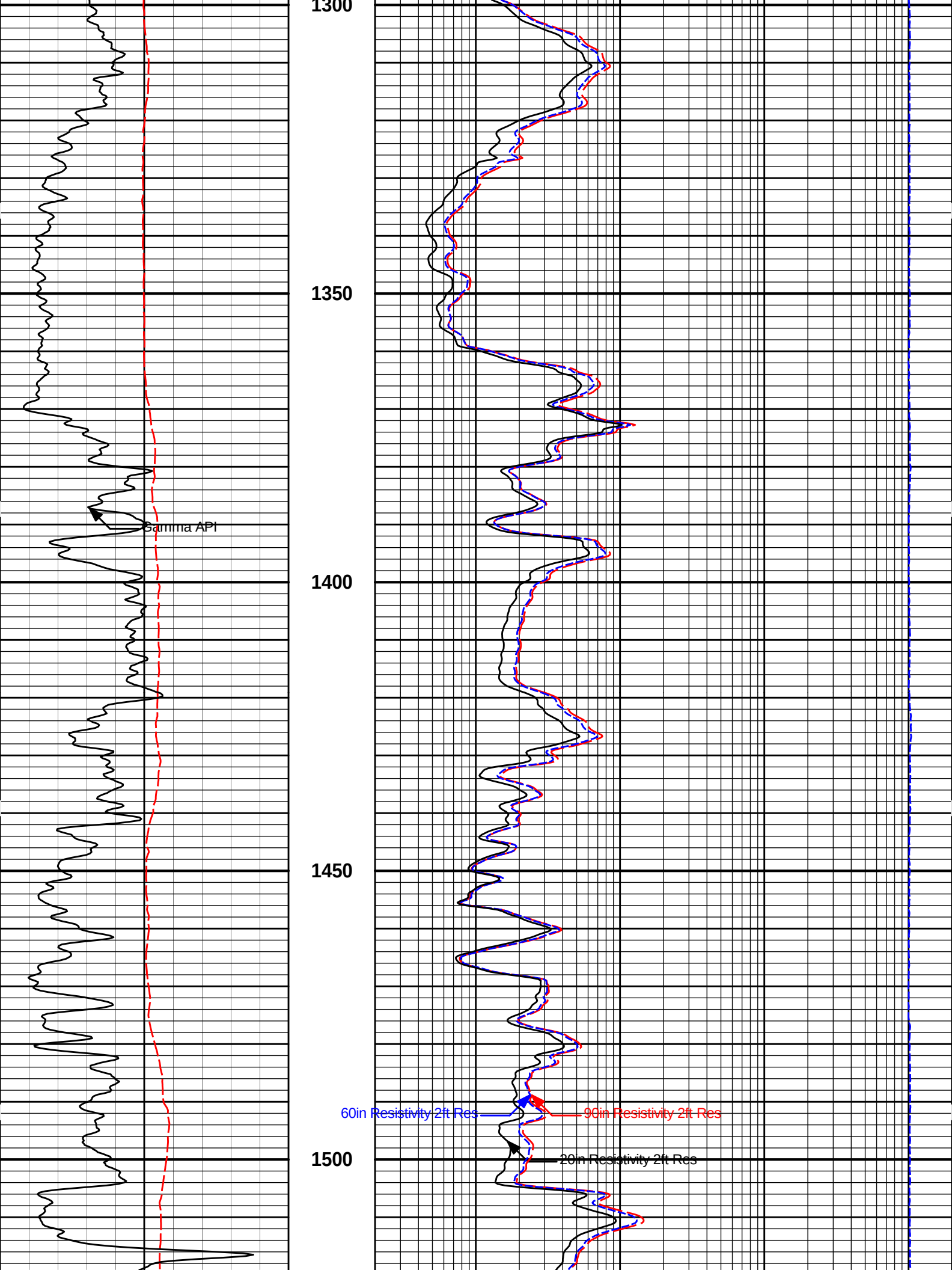
5 INCH MAIN LOG

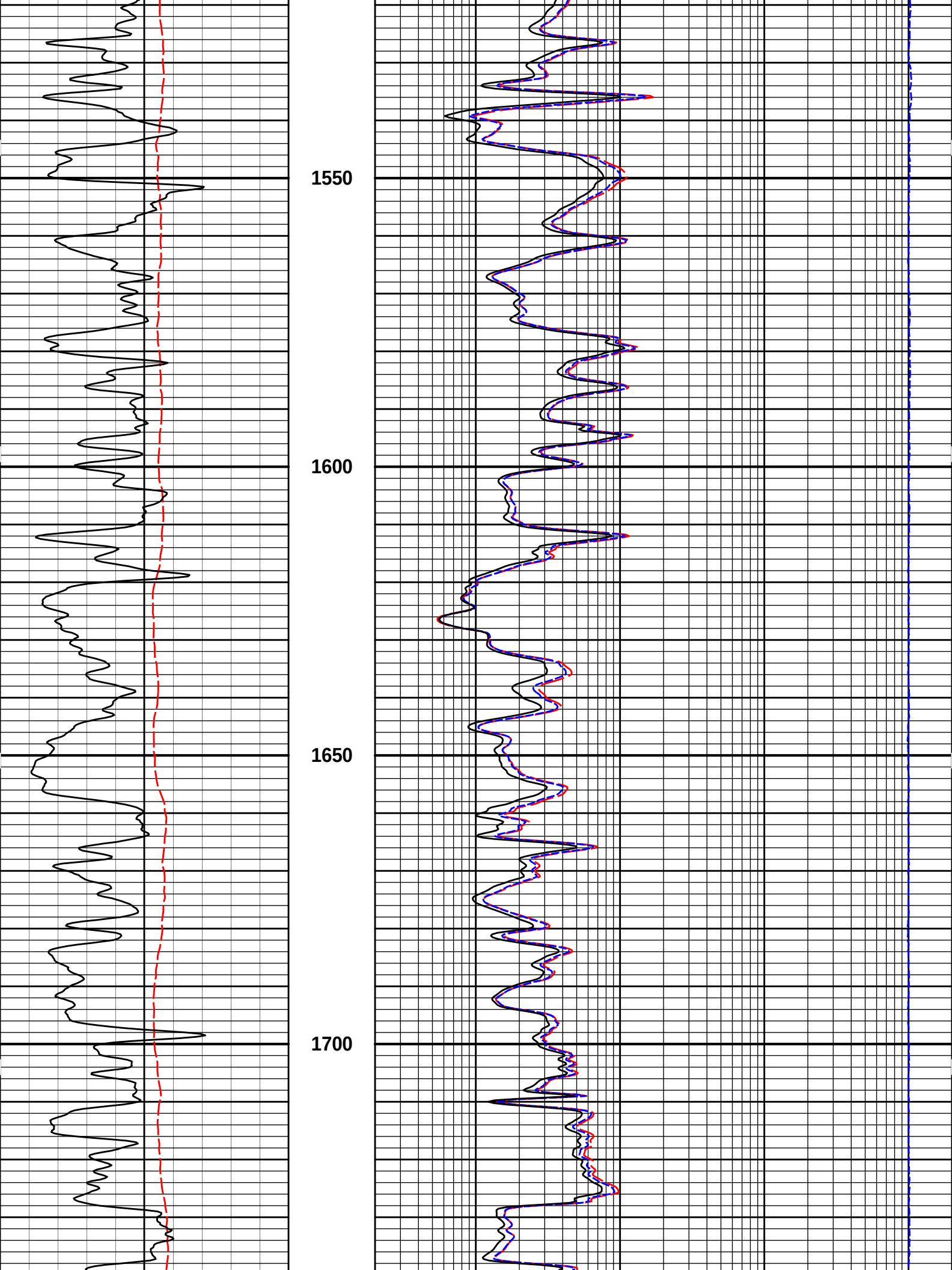


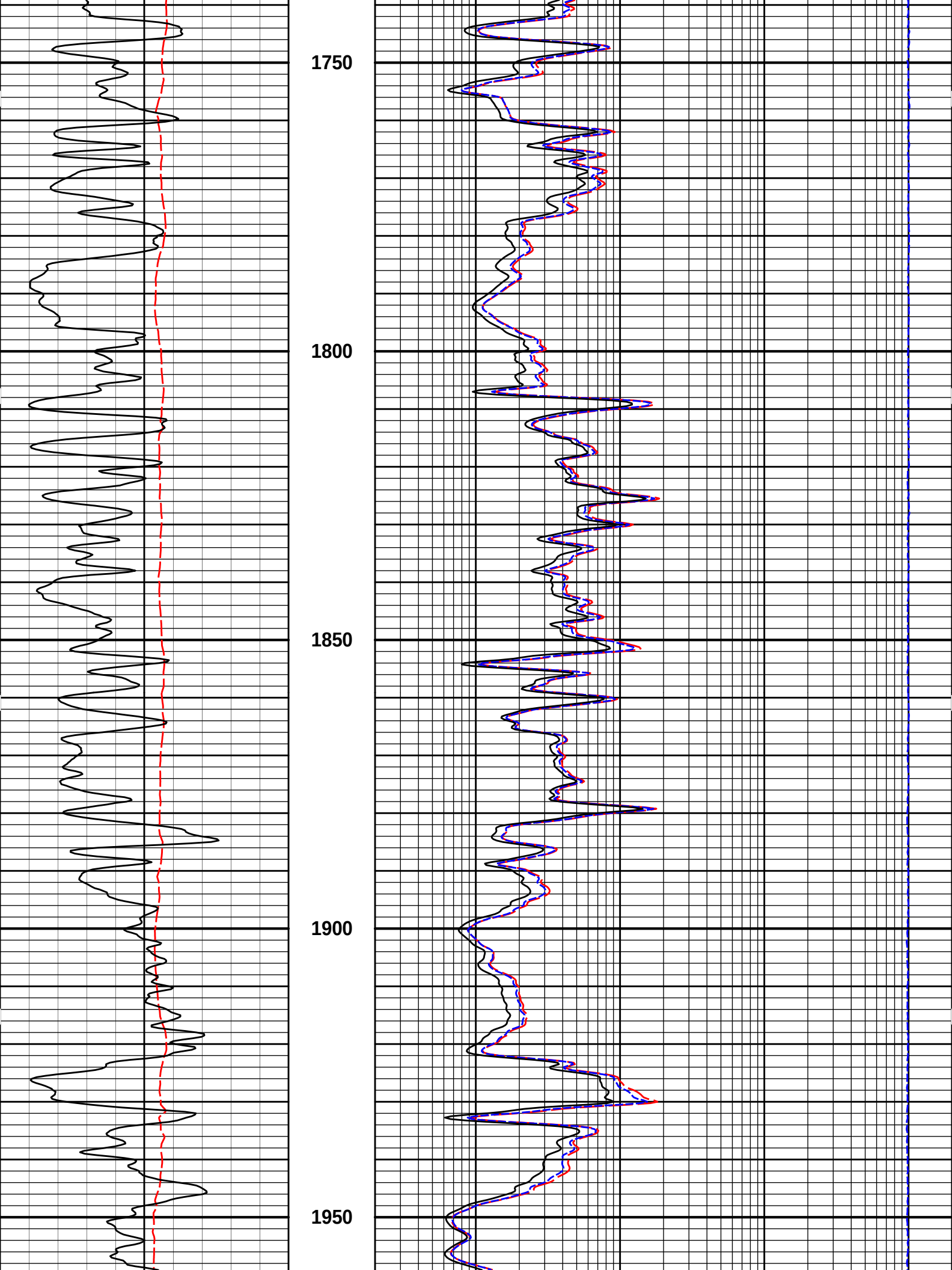

650
700
750
800
850
Gamma API

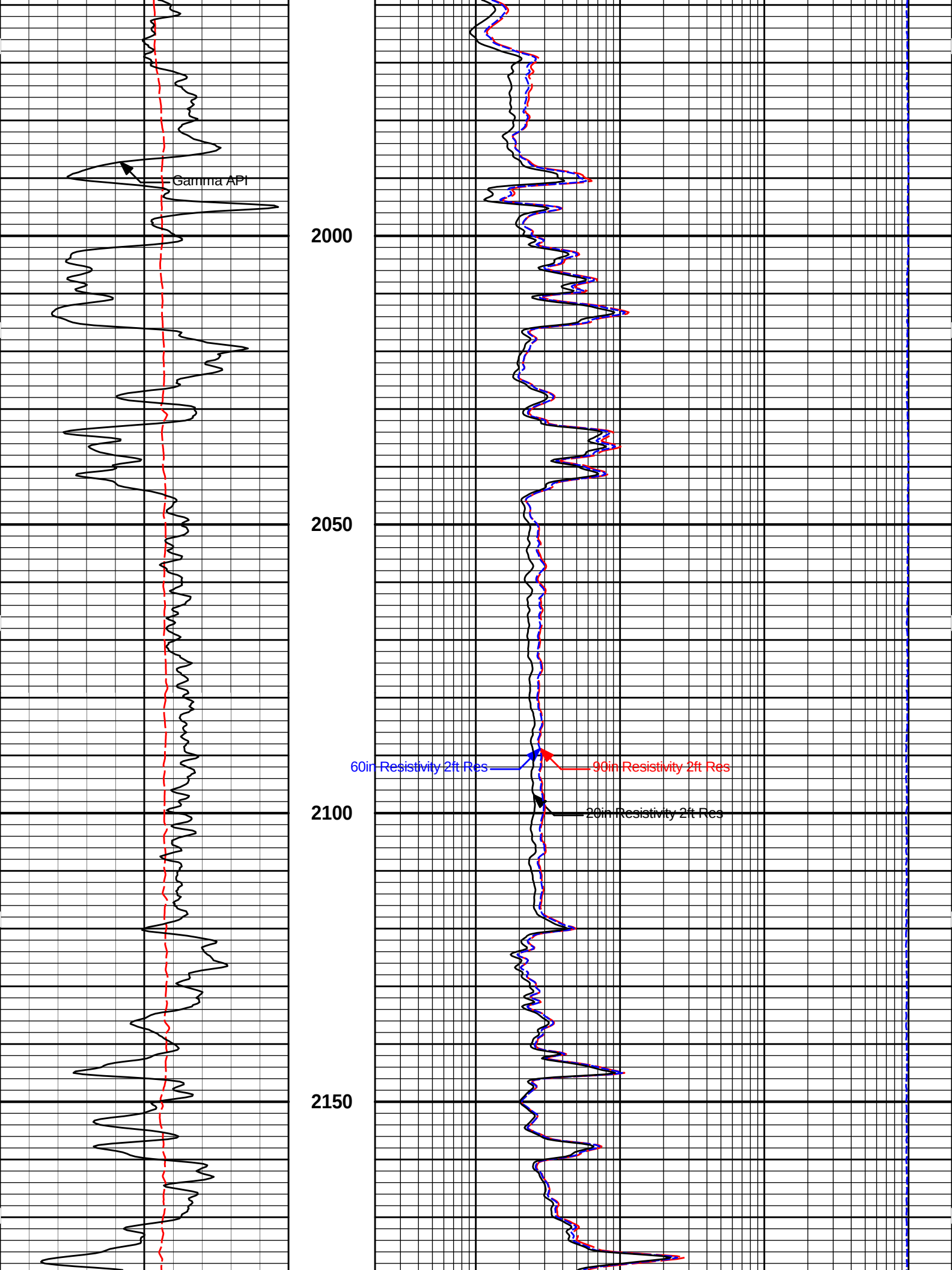

60in Resistivity 2ft Res
90in Resistivity 2ft Res
20in Resistivity 2ft Res
900
950
1000
1050

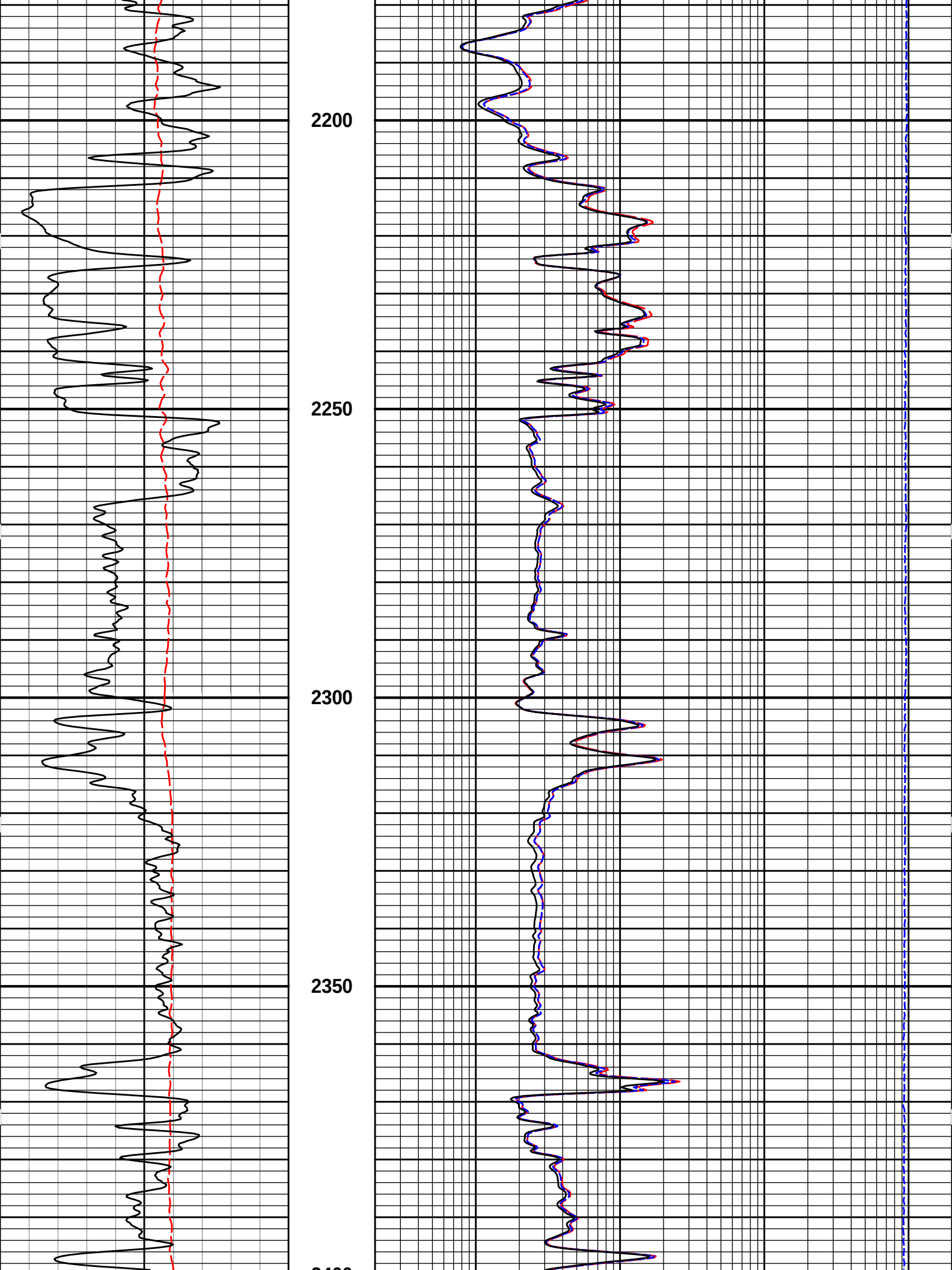

1100
1150
1200
1250

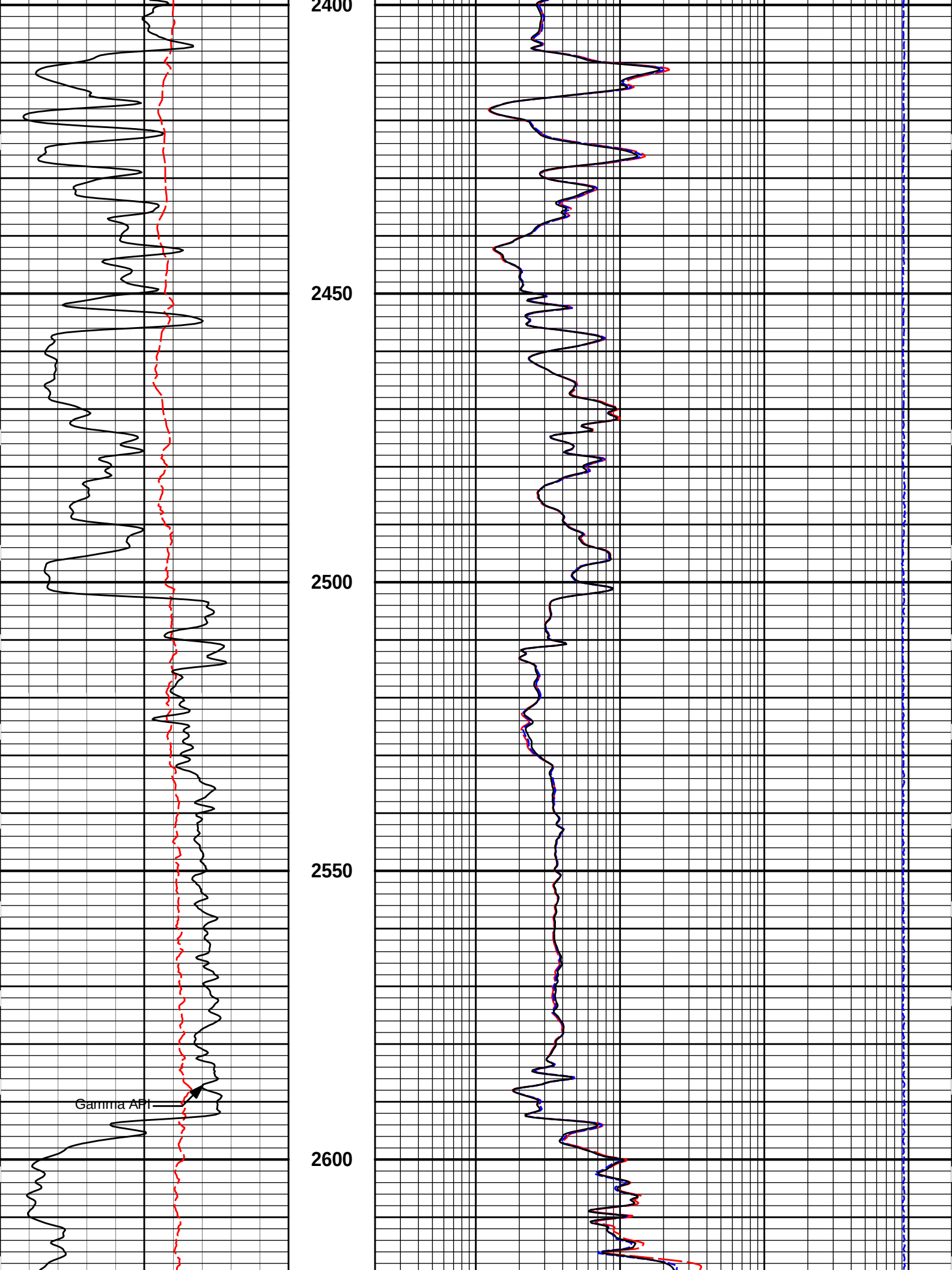

1300
1350
1400
1450
1500
Gamma API
60in Resistivity 2ft Res
90in Resistivity 2ft Res
20in Resistivity 2ft Res

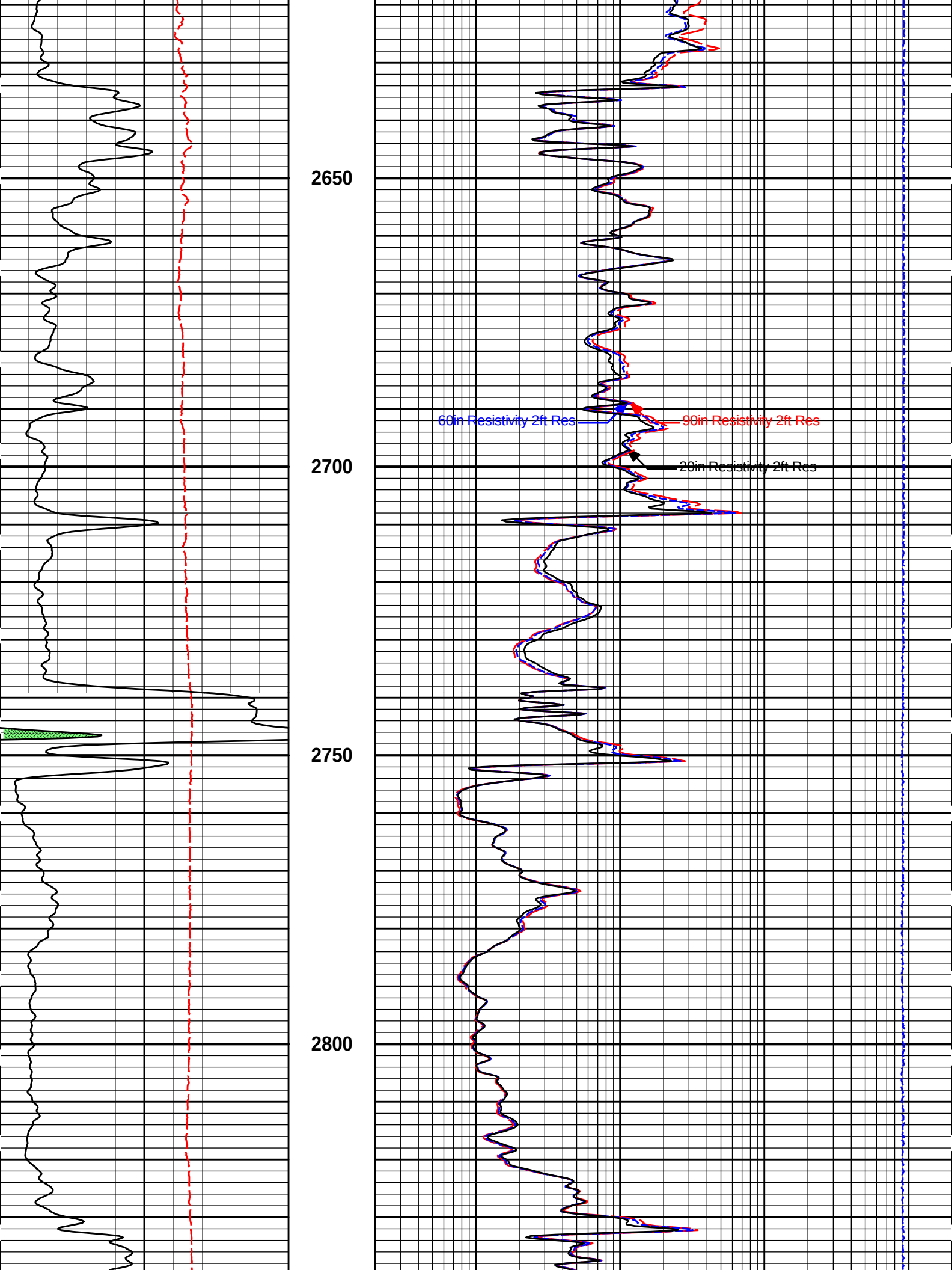

1550
1600
1650
1700

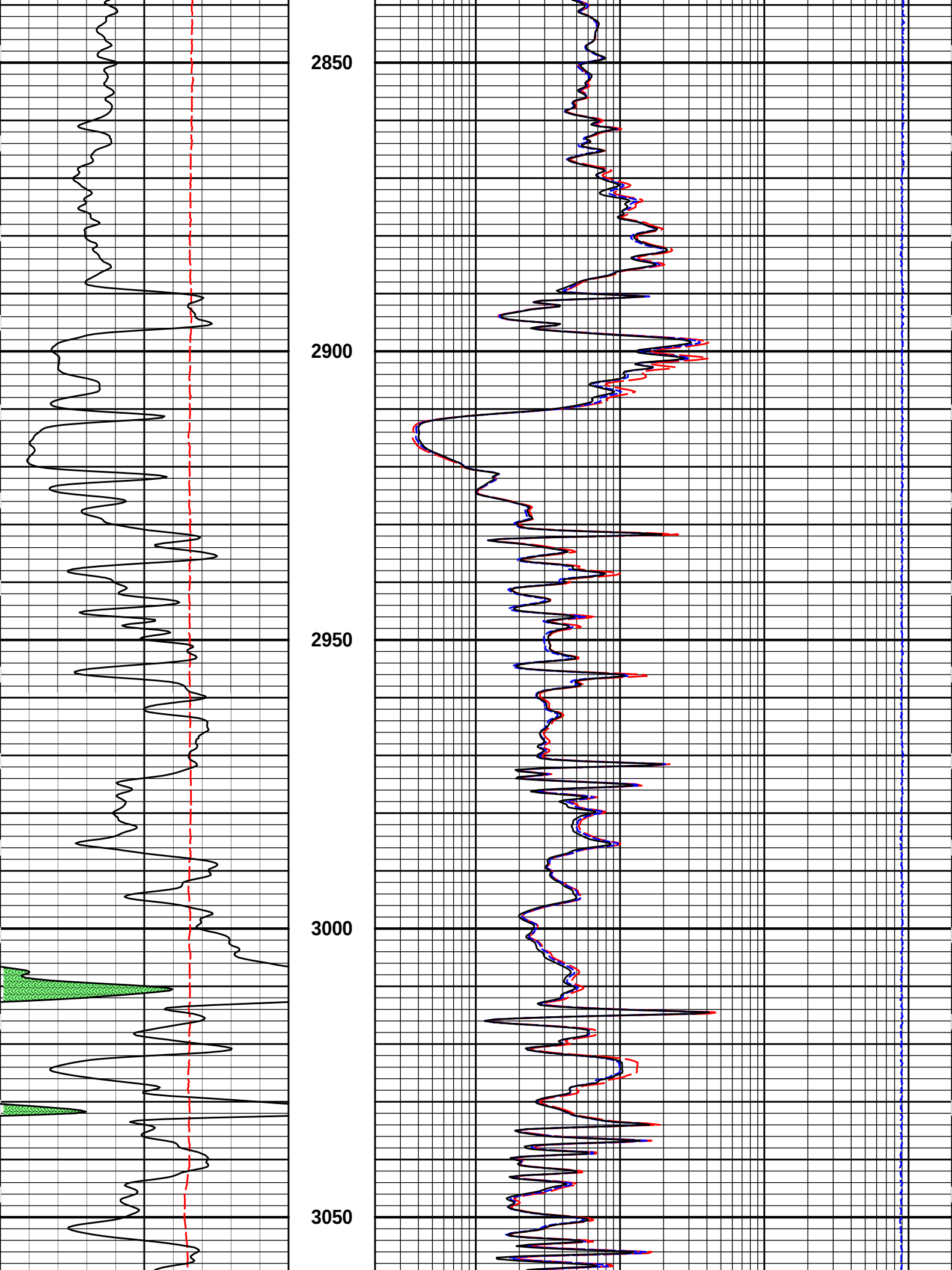

1750
1800
1850
1900
1950

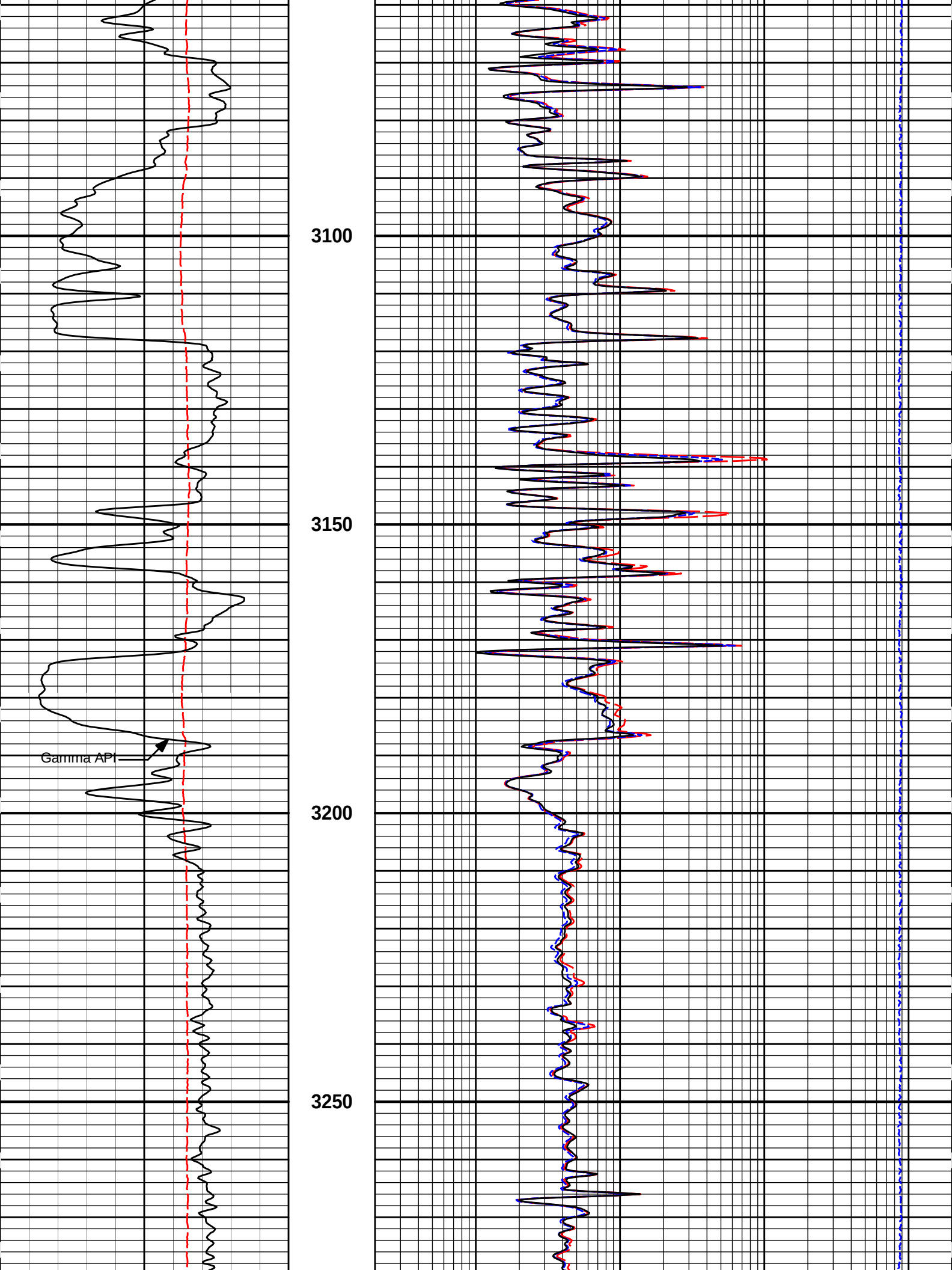

Gamma API
2000
2050
60in Resistivity 2ft Res
90in Resistivity 2ft Res
2100
20in Resistivity 2ft Res
2150

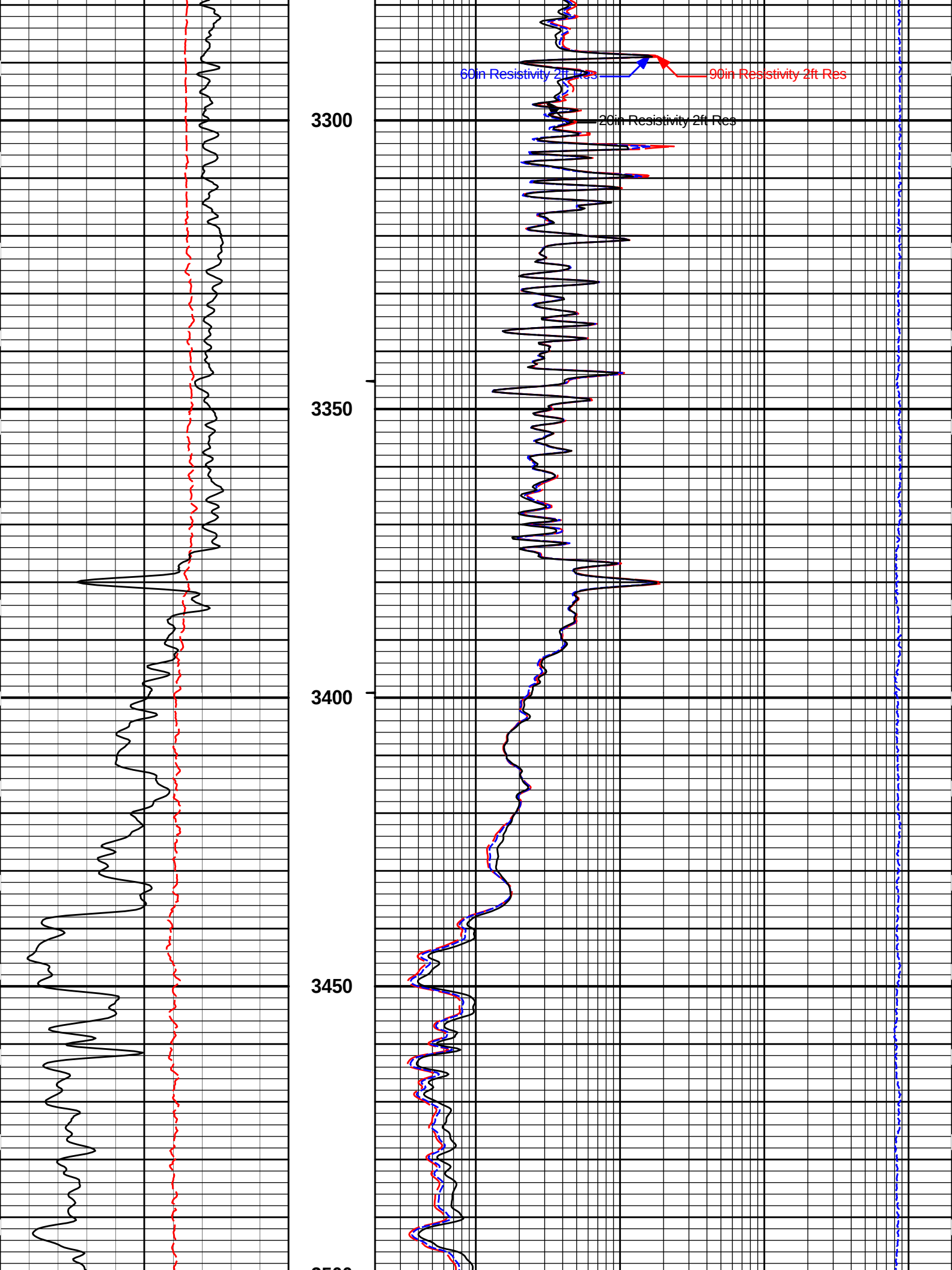

2200
2250
2300
2350

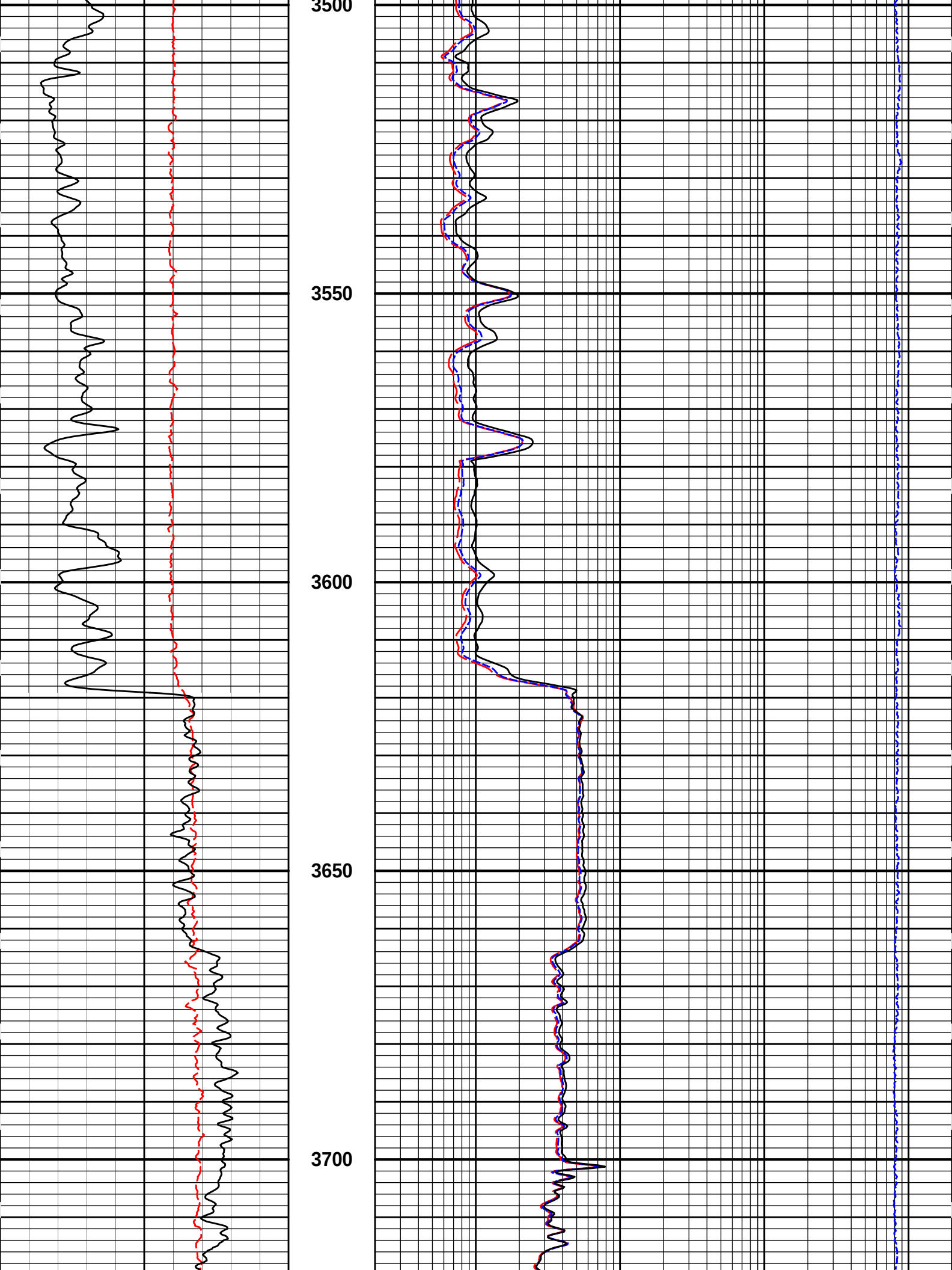

2400
2450
2500
2550
2600
Gamma API

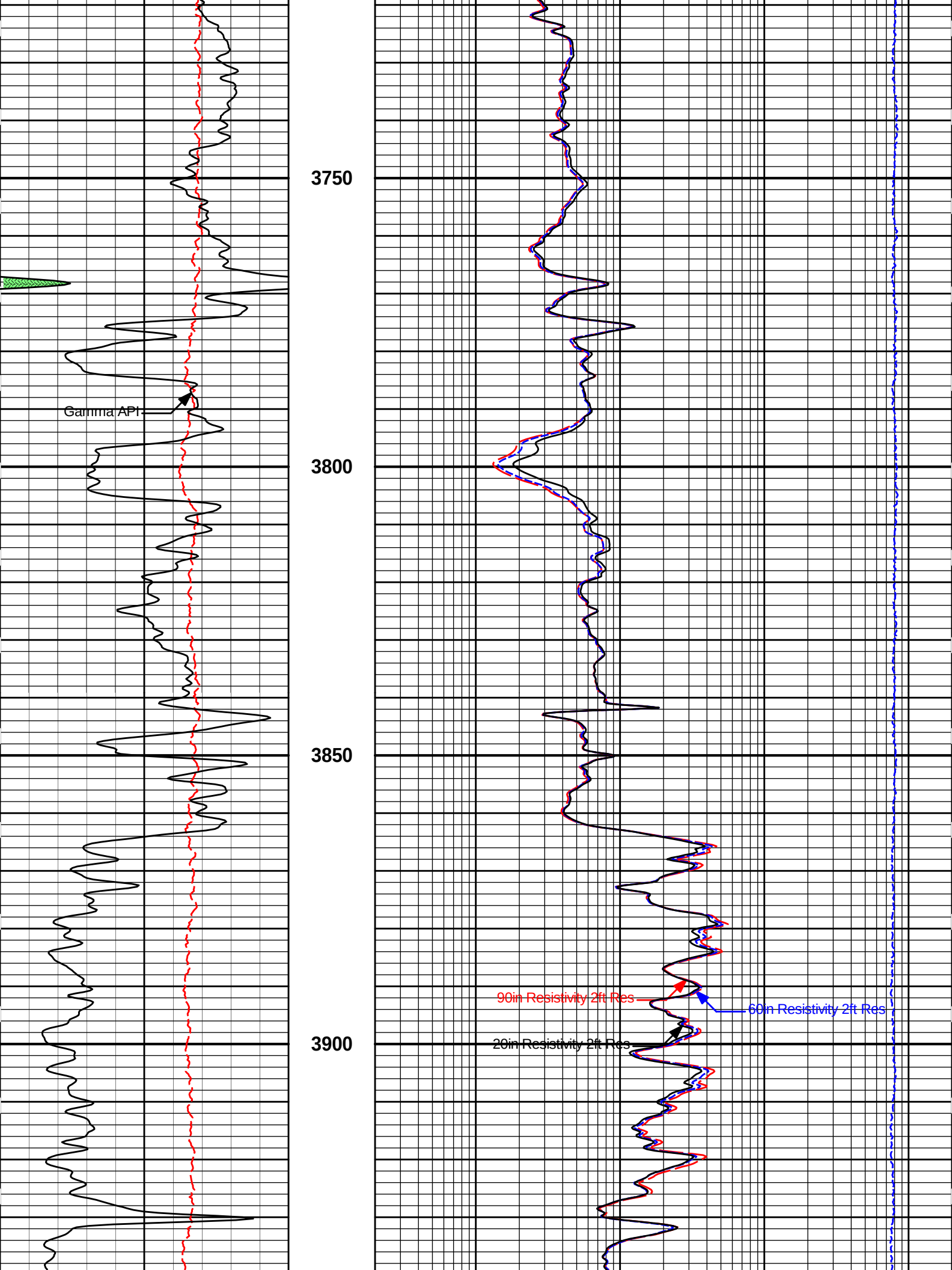

2650
2700
2750
2800
60in Resistivity 2ft Res
90in Resistivity 2ft Res
20in Resistivity 2ft Res

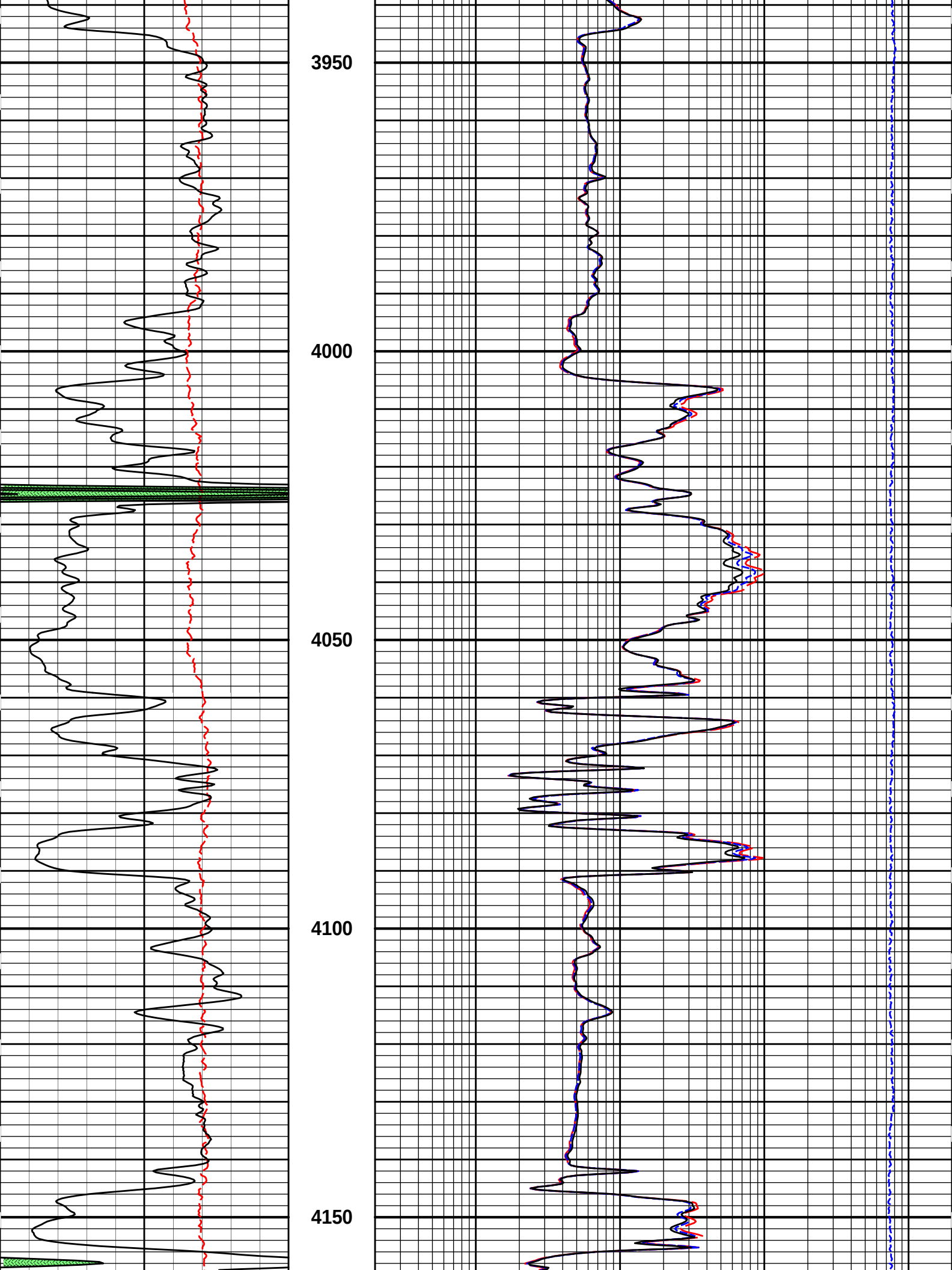

2850
2900
2950
3000
3050

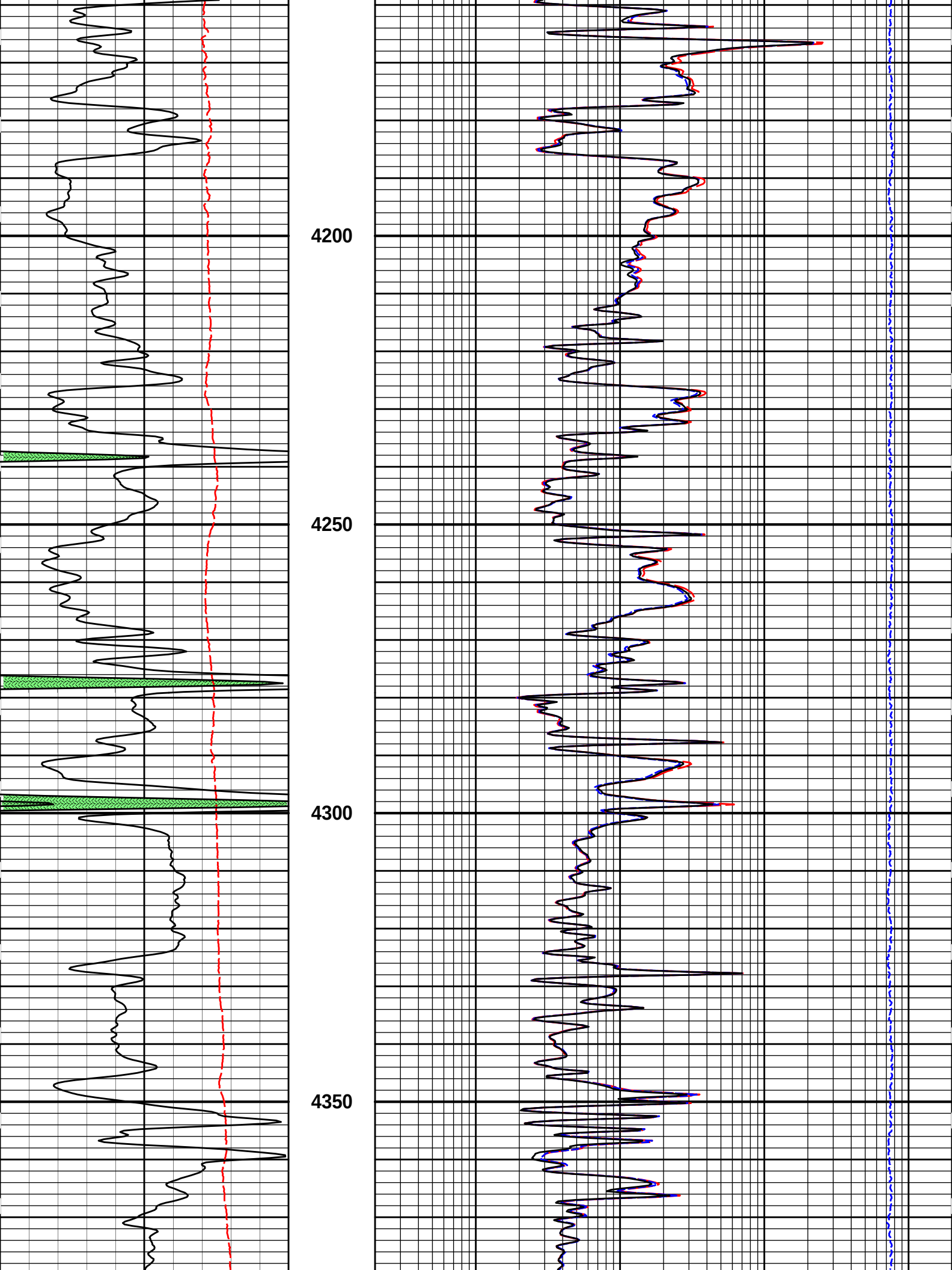

3100
3150
3200
3250
Gamma API

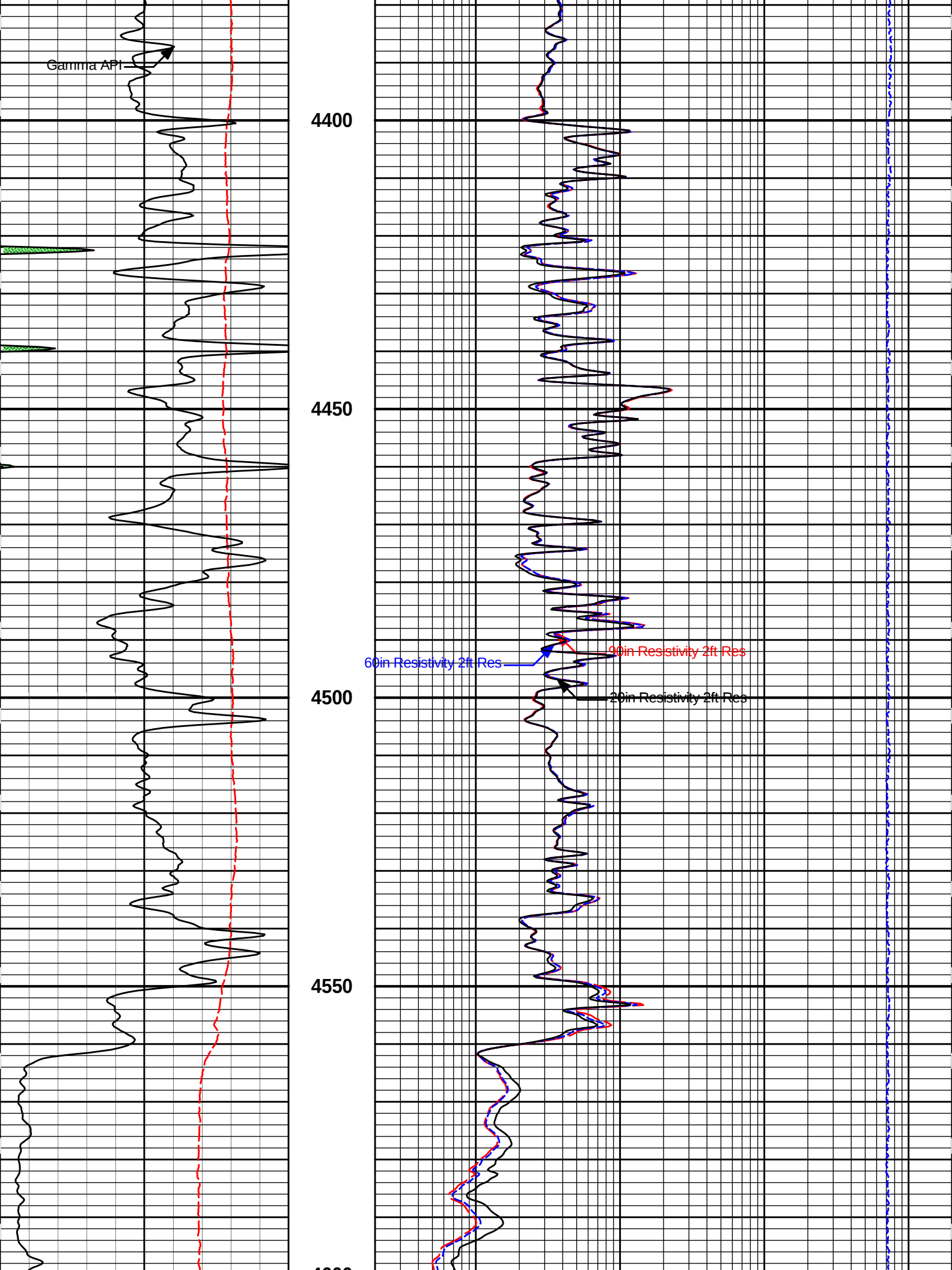

60in Resistivity 2ft Res
90in Resistivity 2ft Res
20in Resistivity 2ft Res
3300
3350
3400
3450

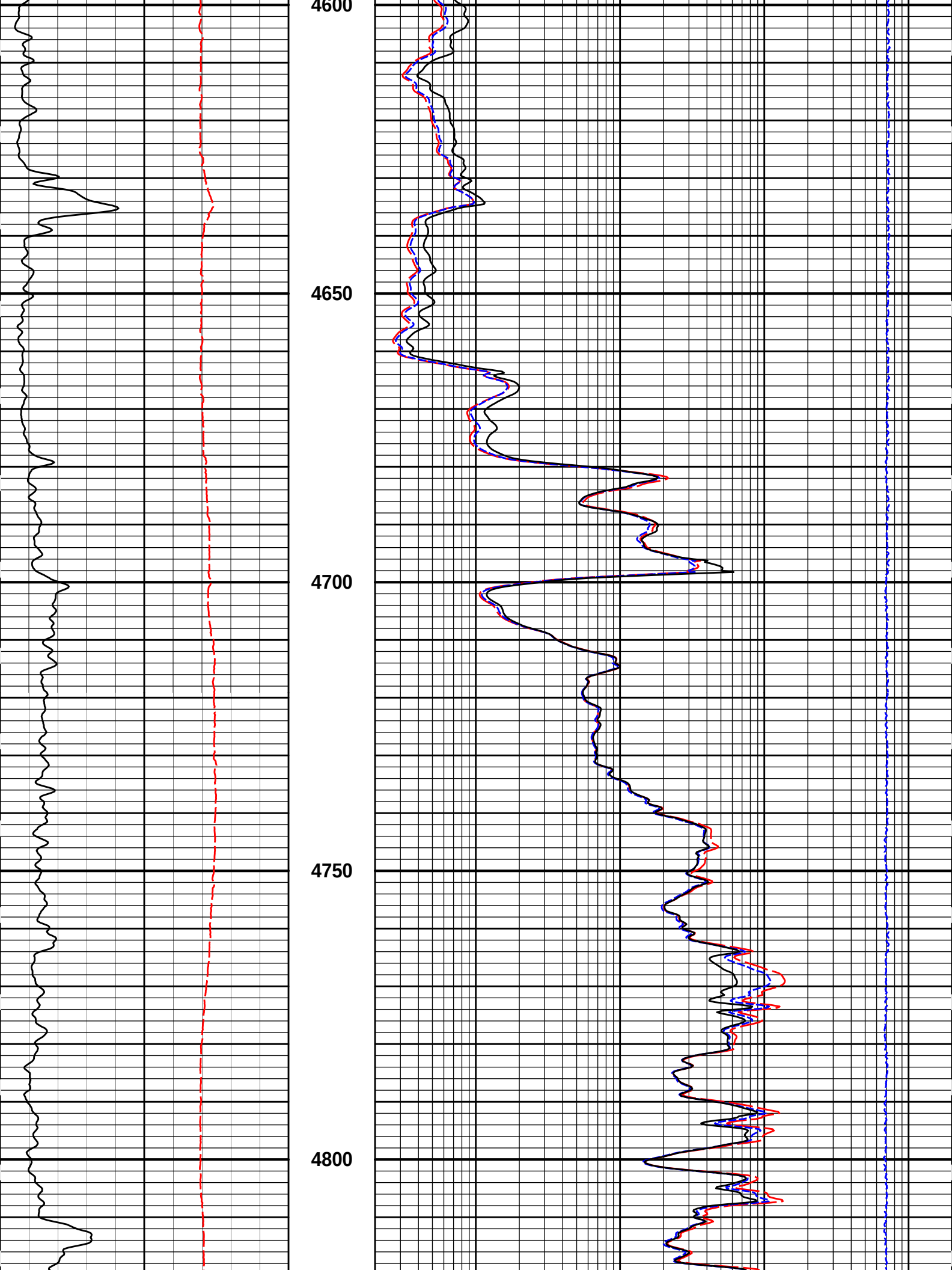

3500
3550
3600
3650
3700

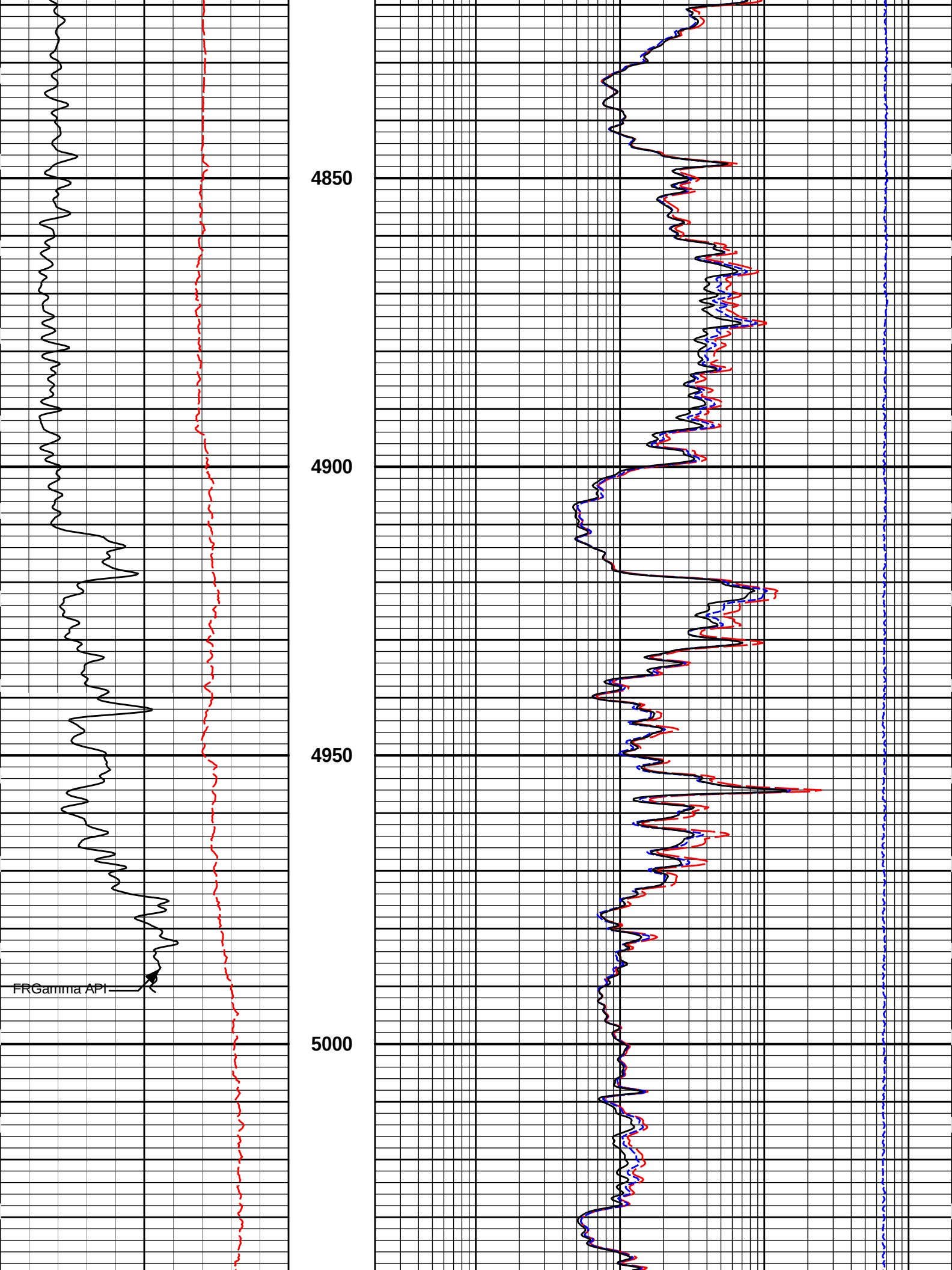

3750
3800
3850
3900
Gamma API
90in Resistivity 2ft Res
60in Resistivity 2ft Res
20in Resistivity 2ft Res

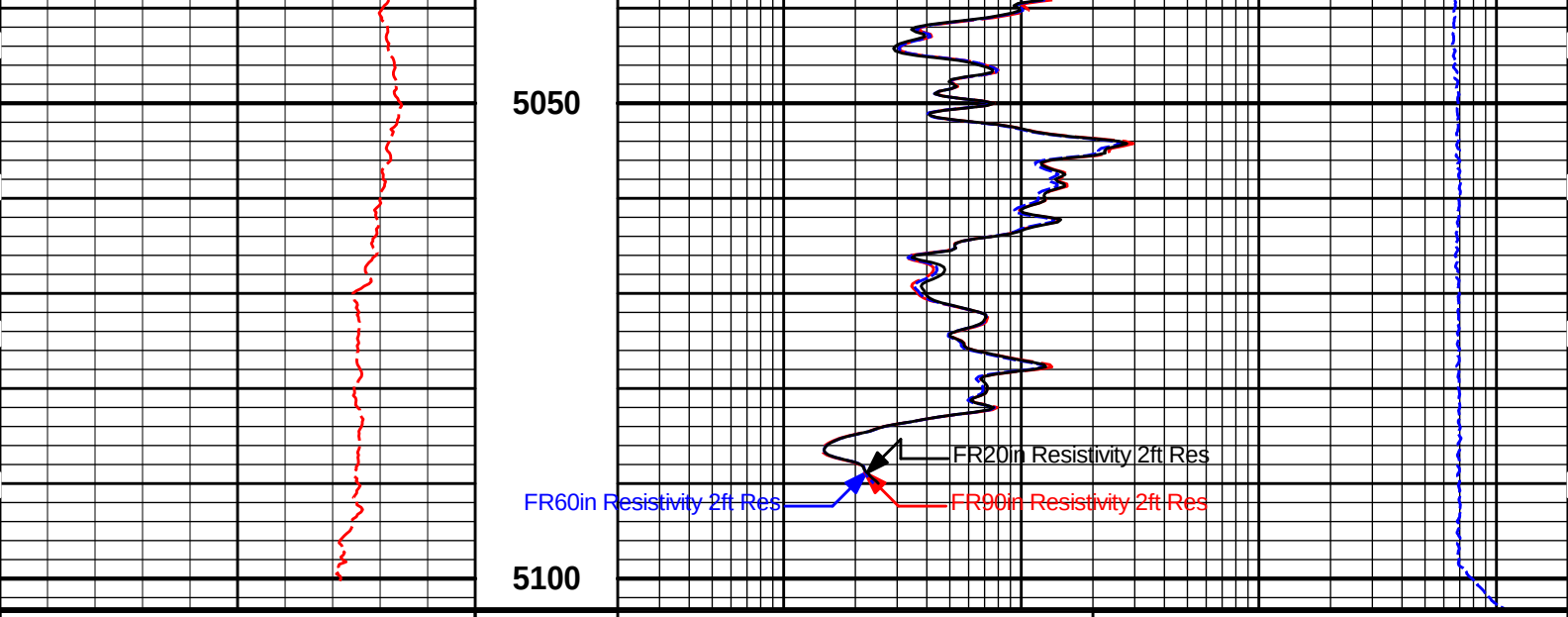

3950
4000
4050
4100
4150


4200
4250
4300
4350


Gamma API
4400
4450
60in Resistivity 2ft Res
90in Resistivity 2ft Res
4500
20in Resistivity 2ft Res
4550


4600
4650
4700
4750
4800


4850
4900
4950
5000
FRGamma API



0 Gamma API 150
api

SP
-] 20 mV [+

1 : 240
ft

Tension Pull
10 0

15K Tension 0
pounds

0.2 20in 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: 02-Dec-13 22:53:00
Plot Range: 550 ft to 5103.17 ft
Data: {ActiveWell}\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\RUTH_3504_1_9\0001 TRIPLE\ACRT\1_ACRT_5_mainx

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 02-Dec-13 22:53:01
Plot Range: 4700 ft to 5102.67 ft
Data: {ActiveWell}\Well Based\REPEAT\
Plot File: \\-LOCAL-\RUTH_3504_1_9\0001 TRIPLE\ACRT\1_ACRT_5_rptx

REPEAT SECTION

0.2 90in Resistivity 2ft Res 2000
ohmm

0.2 60in Resistivity 2ft Res 2000
ohmm

0.2 20in Resistivity 2ft Res 2000
ohm-metre

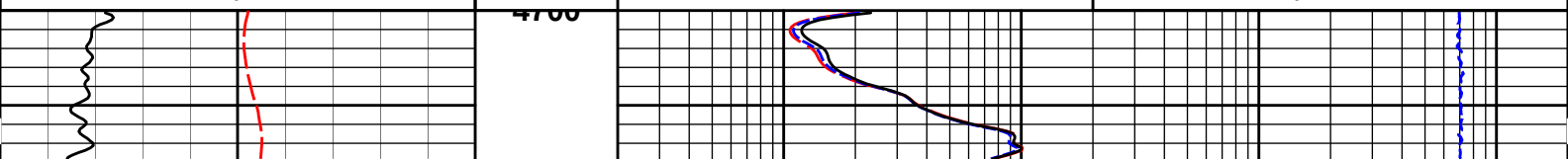
SP
-] 20mV [+

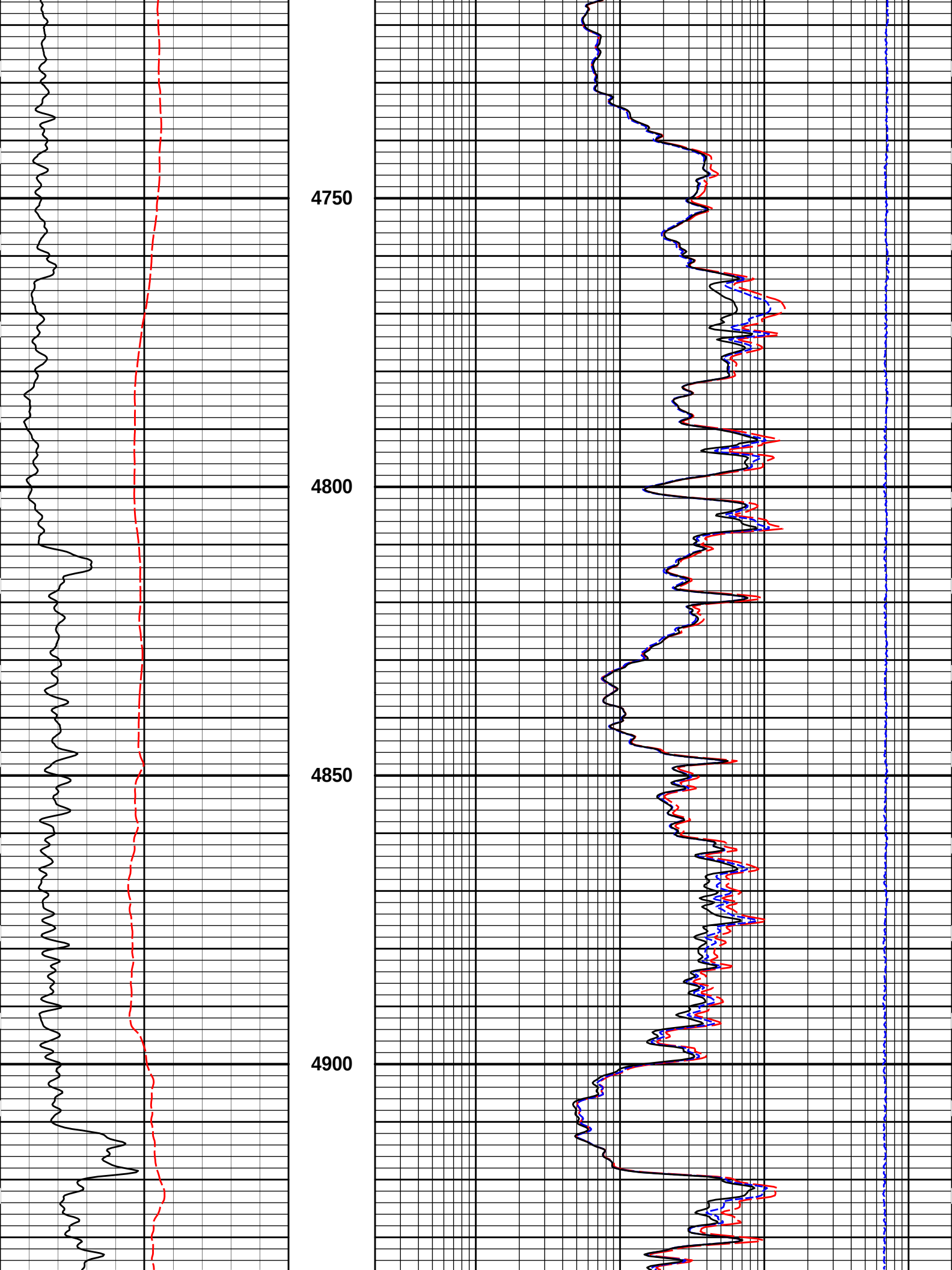
Tension Pull
10 0

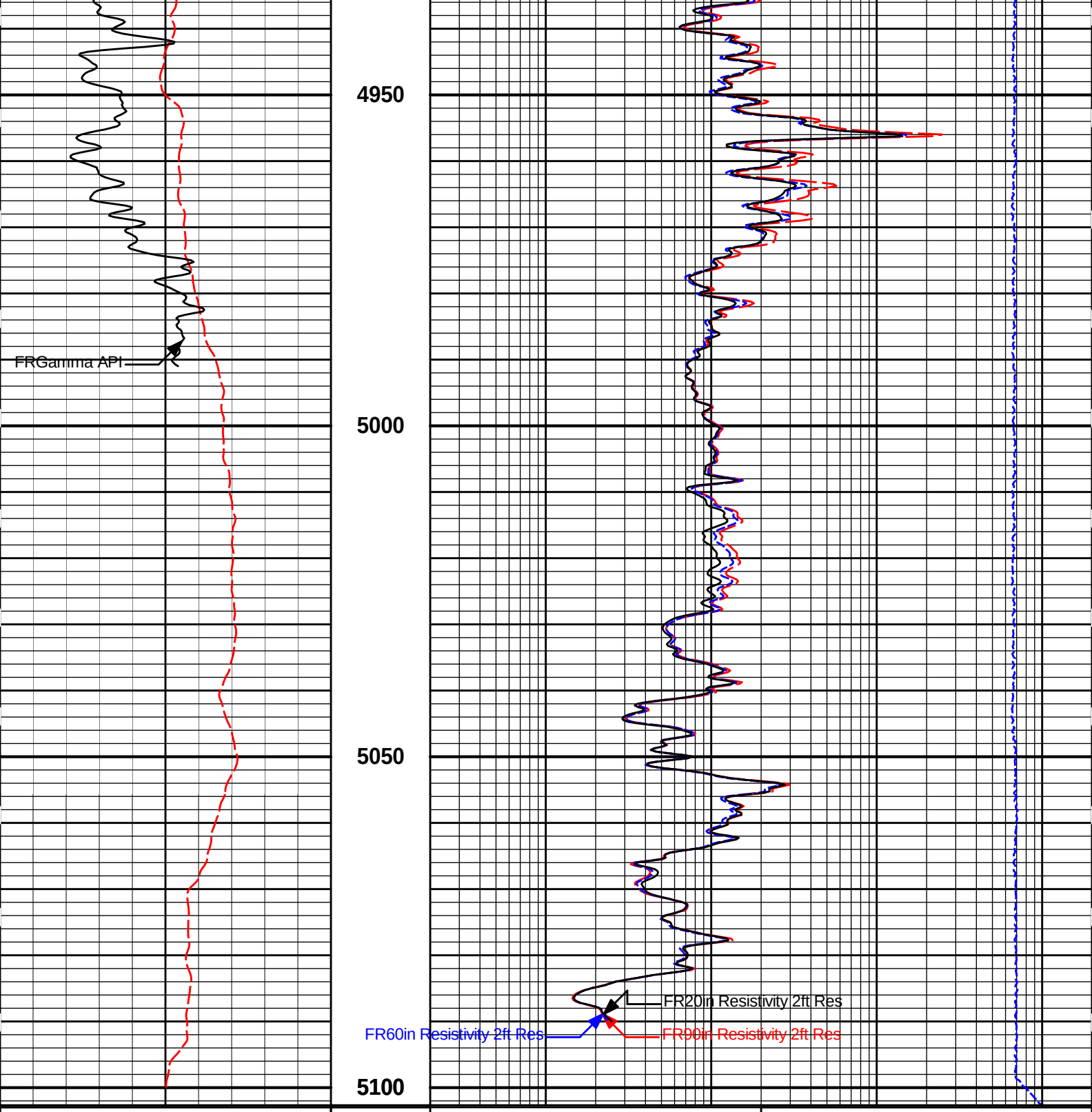
0 Gamma API 150
api

1 : 240
ft

15K Tension 0
pounds




4750
4800
4850
4900



0 Gamma API 150	1 : 240 ft	15K Tension 0
api		pounds
SP	Tension Pull	0.2 20in Resistivity 2ft Res 2000
-] 20mV [+	10 0	ohm-metre
		0.2 60in Resistivity 2ft Res 2000
		ohmm
		0.2 90in Resistivity 2ft Res 2000
		ohmm

HALLIBURTON

Plot Time: 02-Dec-13 22:53:02
Plot Range: 4700 ft to 5102.67 ft
Data: {ActiveWell}\Well Based\REPEAT\
Plot File: \\-LOCAL-\RUTH_3504_1_9\0001 TRIPLE\ACRT\1_ACRT_5_rptx

REPEAT SECTION

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	8.750	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	8.800	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	5800.00	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	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	5132.00	ft
	SHARED	BHT	Bottom Hole Temperature	100.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	IDT	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	IDT	
	SHARED	TEMM	Temperature Master Tool	NONE	
	SHARED	BHSM	Borehole Size Master Tool	ICT	
	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	
	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	
	CSNG	CGOK	Process CSNG Data?	Yes	
	CSNG	CENT	Is Tool Centralized?	No	
	CSNG	GBOK	Gamma Enviromental Corrections?	Yes	
	CSNG	BARF	Barite Correction Factor	1.00	
	CSNG	ORDG	Use Fixed Gain	No	
	CSNG	ORDO	Use Fixed Offset	No	
	CSNG	ORDR	Use Fixed Resolution Degradation Factor	No	
	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	
IDT	WRTI	Survey Writing Interval	30	ft
IDT	SOPT	Smoothing Option	None	
ICT	CLOK	Process Caliper Outputs?	Yes	
ICT	DARM	Disable Caliper Arm	No	
ICT	ATDS	Arm To Disable	0	
ICT	REPM	Method to replace arm?	Caliper Average	
ICT	ARMV	Diameter to use for disabled arm	0.00	in
ICT	DARM	Disable Second Caliper Arm	No	
ICT	ATDS	Second Arm To Disable	0	
ICT	REPM	Method to replace second arm?	Caliper Average	
ICT	ARMV	Diameter to use for second disabled arm	0.00	in
ICT	NAVS	Navigation Source Tool	IDT	
ICT	CL1O	Radius 1 Offset	0.0	in
ICT	CL2O	Radius 2 Offset	0.0	in
ICT	CL3O	Radius 3 Offset	0.0	in
ICT	CL4O	Radius 4 Offset	0.0	in
ICT	CL5O	Radius 5 Offset	0.0	in
ICT	CL6O	Radius 6 Offset	0.0	in
ICT	BHVC	Radius type for borehole volume calcuations	Elliptical	
Wavesonic-I	WSOK	Process WSTT?	Yes	
Wavesonic-I	AFIL	Adaptive Filtering?	No	
Wavesonic-I	PINT	Process 1 Sample and Skip	0	
Wavesonic-I	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4	4	
Wavesonic-I	DTSH	Delta -T Shale	100.00	uspf
Wavesonic-I	DTMT	Delta -T Matrix Type	Limestone 47.5	
Wavesonic-I	DTMA	Delta -T Matrix	57.00	uspf
Wavesonic-I	DTFL	Delta -T Fluid	189.00	uspf
Wavesonic-I	RHOM	Matrix Density	2.7100	g/cc
Wavesonic-I	RHOF	Fluid Density	1.0000	g/cc
Wavesonic-I	SMTH	Semblance Threshold	0.25	
Wavesonic-I	VPVS	VPVS Ratio for Porosity	1.40	
Wavesonic-I	APEQ	Acoustic Porosity Equation	Wylie	
Wavesonic-I	NAVS	Navigation Source Tool	IDT	
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	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm

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	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm

BOTTOM

Data: RUTH_3504_1_9\0001 TRIPLE\IDLE **Date: 02-Dec-13 19:46:32**

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CALIBRATION REPORT

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	**ACRt Sonde - 11005908**	**Reference Calibration Date:**	**21-Nov-13 11:53:14**
Engineer:	**J.COTHREN**	**Calibration Date:**	**21-Nov-13 12:00:27**
Software Version:	**WL INSITE R3.8.12 (Build 3)**	**Calibration Version:**	**1**
Host Tool Name:	**ACRt Instrument - 10129664**		

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.05	1.05	0.95	1.03	1.05	0.95	1.02	1.05
A2 (50")	0.95	1.05	1.05	0.95	1.03	1.05	0.95	1.01	1.05
A3 (29")	0.95	1.05	1.05	0.95	1.03	1.05	0.95	1.02	1.05
A4 (17")	0.95	1.07	1.05	0.95	1.03	1.05	0.95	1.02	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.04	1.05	0.95	1.03	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.01	1.05	0.95	0.99	1.05

SONDE OFFSET

Subarray	R12KHz	R36KHz	R72KHz
	(mmho/m)	(mmho/m)	(mmho/m)
A1 (80")	3.99	-3.12	-6.12
A2 (50")	0.78	-4.00	-4.79
A3 (29")	-12.59	-3.63	-4.20
A4 (17")	-113.97	-35.42	-27.07
A5 (10")	N/A	-107.93	-50.16
A6 (6")	N/A	261.45	143.37

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.80	1.3
36K	1.0	1.25	2.0
72K	1.0	1.46	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	1.00	1.05

PASS/FAIL SUMMARY

GAIN RANGE CHK	FAIL
SONDE OFFSET CHK	PASS

TOOL OUT OF TOLERANCE

CALIBRATION SUMMARY

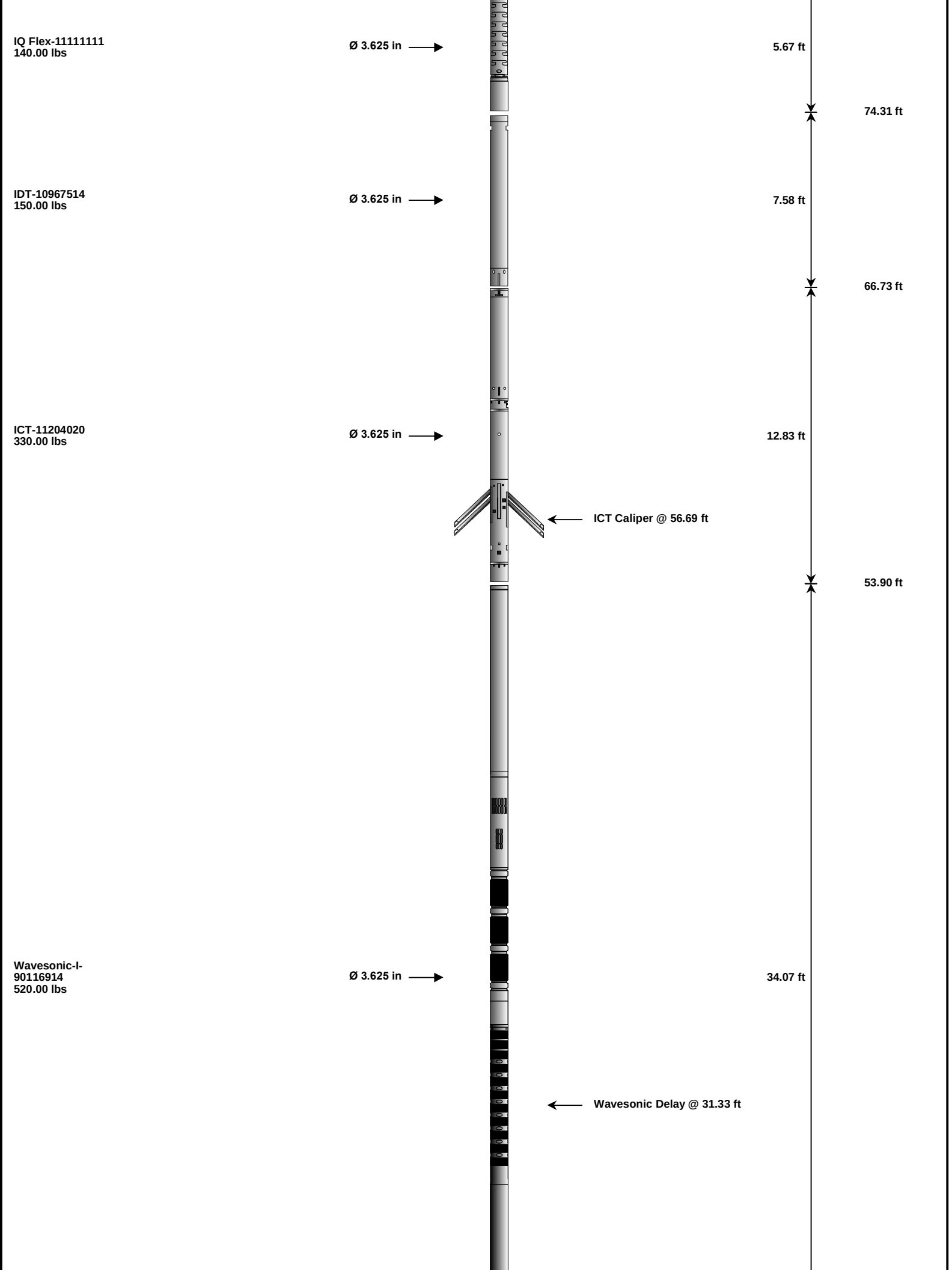
Sensor	Shop	Field	Post	Difference	Tolerance	Units
ACRt Sonde-11005908						
Mud Cell	1.00	----------	----------	0.00	----------	ohm-m

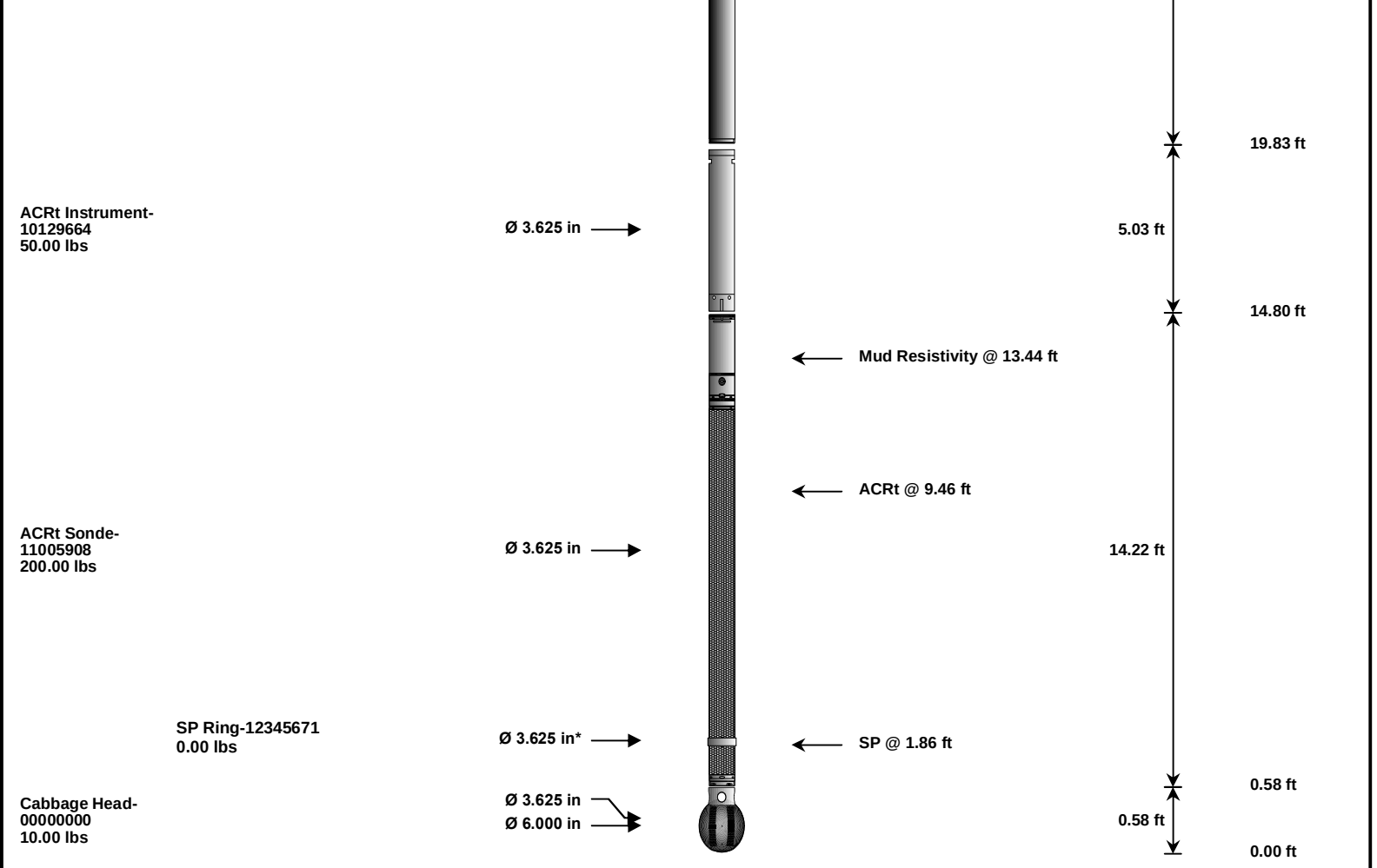
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TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						121.15 ft
CH_HOS-590_RED 37.50 lbs		Ø 2.750 in		Temperature @ 120.12 ft	3.03 ft	
						118.12 ft
XOHD-00000000 20.00 lbs		Ø 2.750 in Ø 3.625 in			0.95 ft	
						117.17 ft
GTET-11021138 165.00 lbs		Ø 3.625 in		GammaRay @ 111.11 ft	8.52 ft	
						108.65 ft
CSNG-10736164 114.00 lbs	UnivWearRing3.6-10736164 5.00 lbs	Ø 4.200 in* Ø 3.625 in		CSNG @ 103.02 ft	8.17 ft	
						100.48 ft
DSNT-11020487 174.00 lbs	DSN Decentralizer-10735144 6.60 lbs	Ø 5.000 in* Ø 3.625 in		DSN Far @ 93.55 ft DSN Near @ 92.80 ft	9.69 ft	
						90.80 ft
SDLT-10951306 360.00 lbs	SDLT Pad-101291230 65.00 lbs Microlog Pad-I15M94P73 8.00 lbs	Ø 4.500 in Ø 4.750 in* Ø 4.750 in*		Microlog @ 82.98 ft SDL Caliper @ 82.80 ft SDL @ 82.79 ft	10.81 ft	
						79.98 ft


IQ Flex-11111111
140.00 lbs
Ø 3.625 in
5.67 ft
74.31 ft
IDT-10967514
150.00 lbs
Ø 3.625 in
7.58 ft
66.73 ft
ICT-11204020
330.00 lbs
Ø 3.625 in
12.83 ft
ICT Caliper @ 56.69 ft
53.90 ft
Wavesonic-I-
90116914
520.00 lbs
Ø 3.625 in
34.07 ft
Wavesonic Delay @ 31.33 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	590_RED	37.50	3.03		118.12	300.00
XOHD	Hostile to Dits Cross Over	00000000	20.00	0.95		117.17	300.00
GTET	Gamma Telemetry Tool	11021138	165.00	8.52		108.65	60.00
CSNG	Compensated Spectral Natural Gamma	10736164	114.00	8.17		100.48	15.00
UWR3P6	Universal Wear Ring 3 5-8 inch	10736164	5.00	0.35	*	104.56	300.00
DSNT	Dual Spaced Neutron	11020487	174.00	9.69		90.80	60.00
DCNT	DSN Decentralizer	10735144	6.60	5.13	*	94.13	300.00
SDLT	Spectral Density Tool	10951306	360.00	10.81		79.98	60.00
MICP	Microlog Pad	I15M94P73	8.00	1.00	*	82.48	60.00
SDLP	Density Insite Pad	101291230	65.00	2.55	*	82.19	60.00
IQF	IQ Flex tool	11111111	140.00	5.67		74.31	300.00
IDT	Insite Directional Tool	10967514	150.00	7.58		66.73	30.00
ICT	Six Independent Arm Caliper	11204020	330.00	12.83		53.90	30.00
WSTT	WaveSonic Insite	90116914	520.00	34.07		19.83	30.00
ACRt	Array Compensated True Resistivity Instrument Section	10129664	50.00	5.03		14.80	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11005908	200.00	14.22		0.58	300.00
SP	SP Ring	12345671	0.00	0.25	*	1.86	300.00
CBHD	Cabbage Head	00000000	10.00	0.58		0.00	300.00
Total			**2,355.10**	**121.15**			

* Not included in Total Length and Length Accumulation.

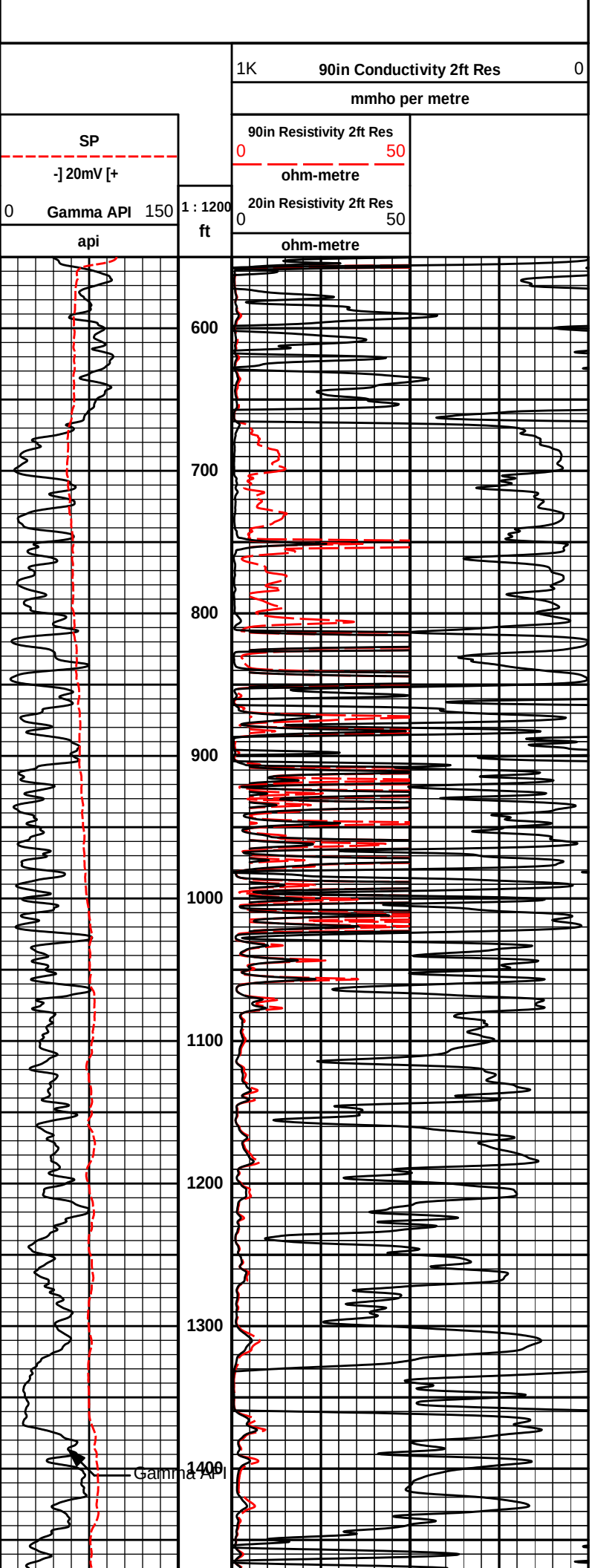
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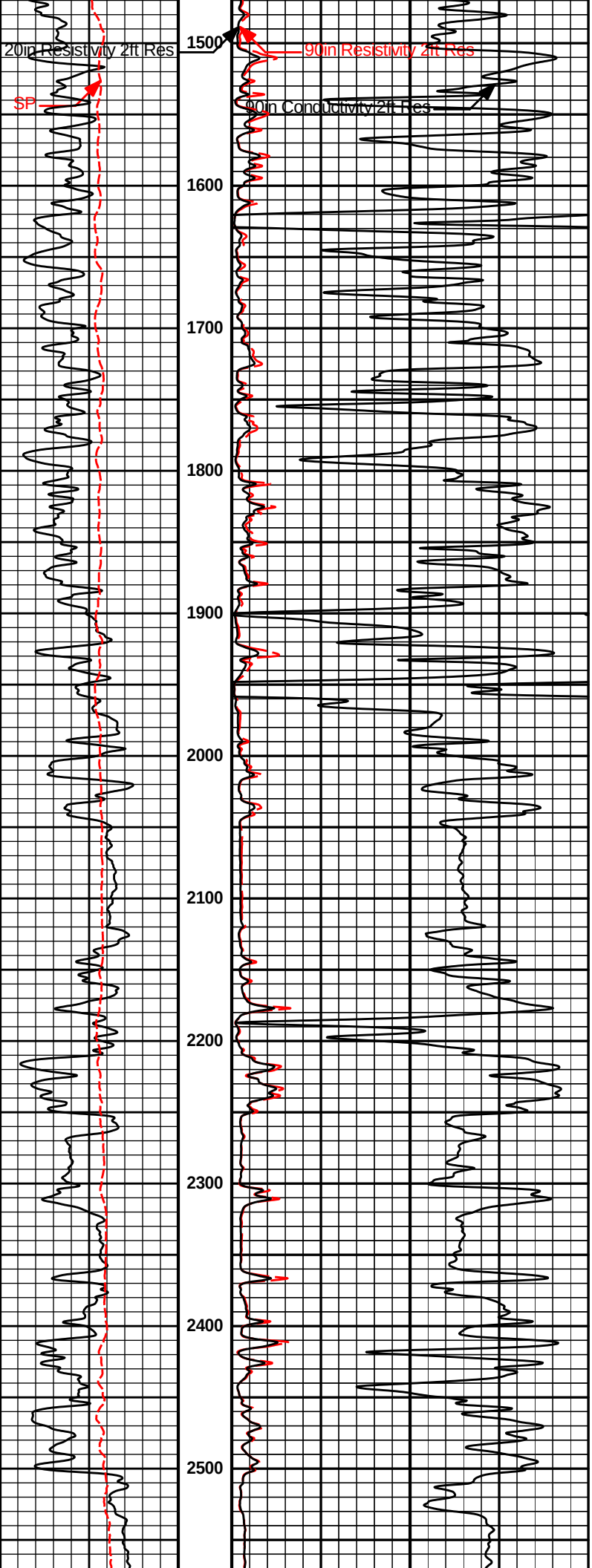
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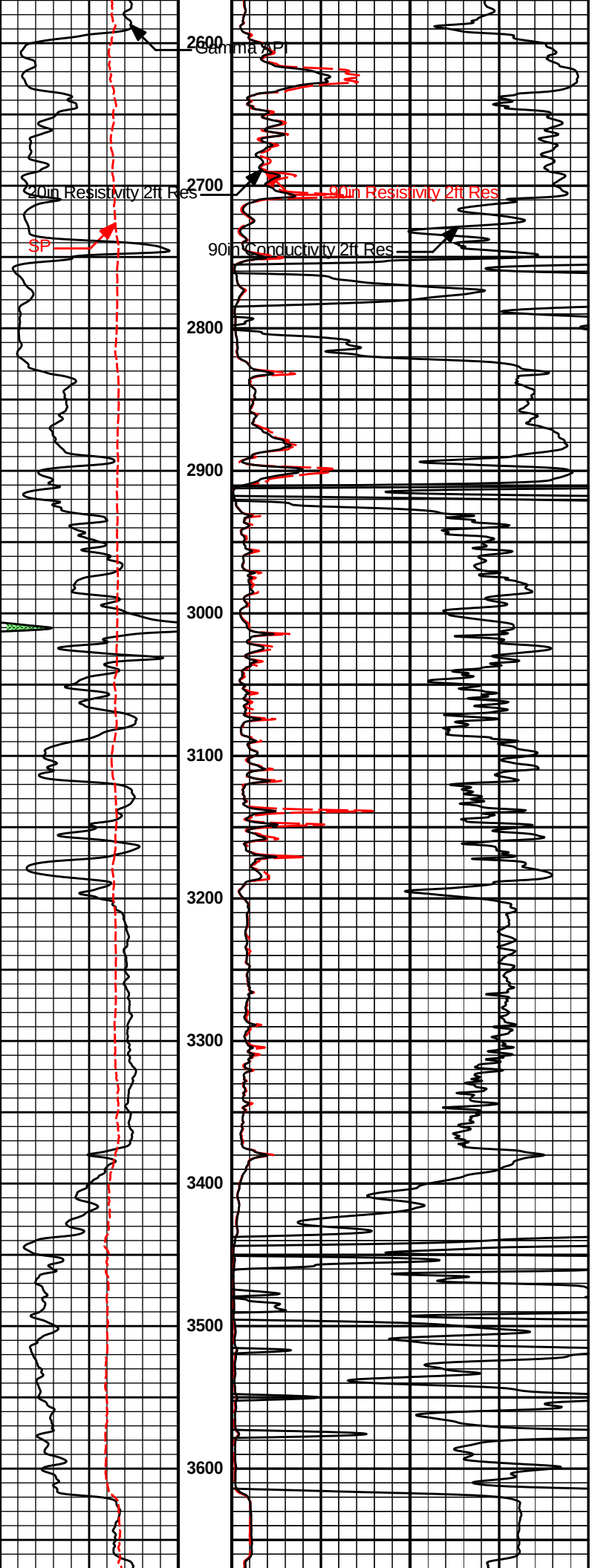
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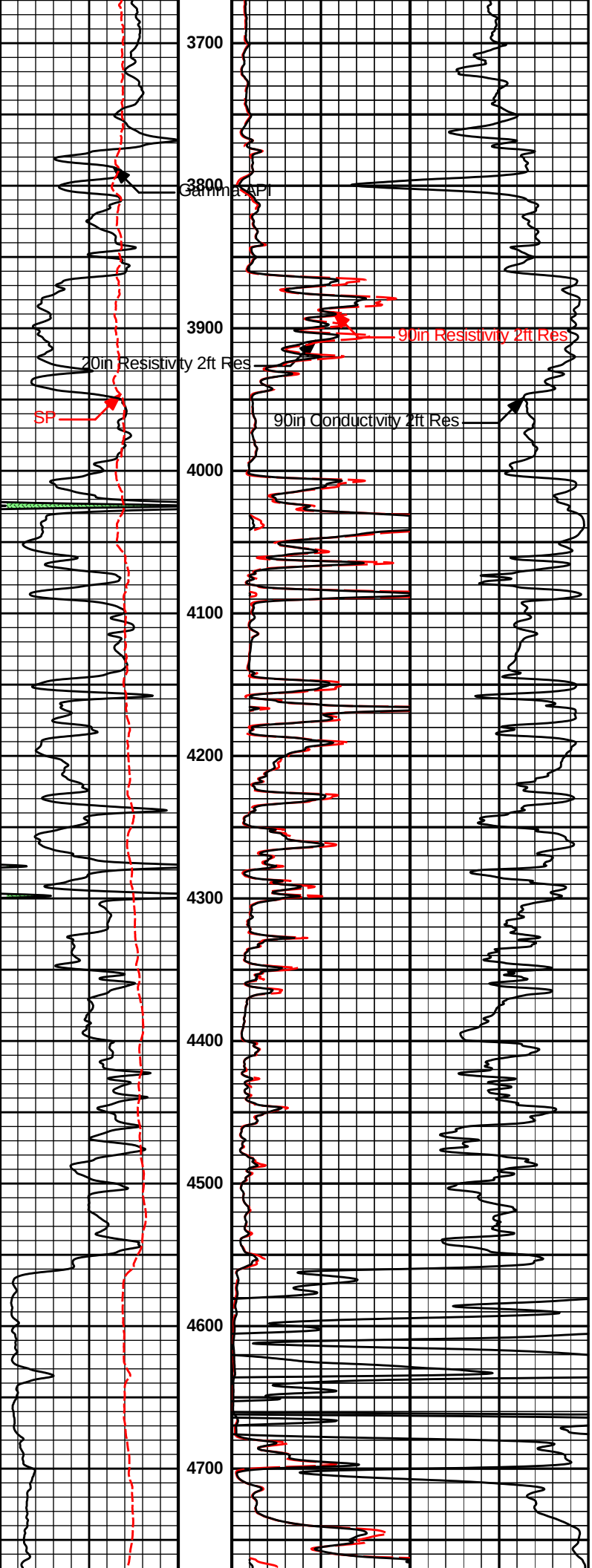
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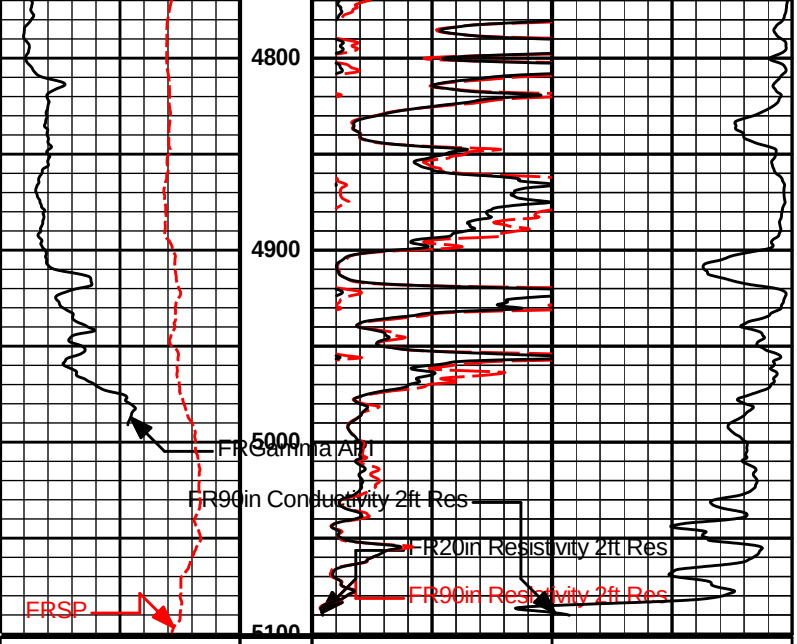
1 INCH MAIN LOG


1K
90in Conductivity 2ft Res
0
mmho per metre
SP
-] 20mV [+
0
Gamma API
150
api
90in Resistivity 2ft Res
0
50
ohm-metre
20in Resistivity 2ft Res
0
50
ohm-metre
1 : 1200
ft
600
700
800
900
1000
1100
1200
1300
1400
Gamma API


20in Resistivity 2ft Res
SP
90in Resistivity 2ft Res
90in Conductivity 2ft Res
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500


Gamma API
20in Resistivity 2ft Res
90in Resistivity 2ft Res
SP
90in Conductivity 2ft Res
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600


3700
3800
3900
4000
4100
4200
4300
4400
4500
4600
4700
Gamma API
90in Resistivity 2ft Res
20in Resistivity 2ft Res
SP
90in Conductivity 2ft Res



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

HALLIBURTON

Plot Time: 02-Dec-13 22:53:05
Plot Range: 550 ft to 5100.25 ft
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1 INCH MAIN LOG

COMPANY	**SANDRIDGE EXPLORATION**		
WELL	**RUTH 3504 1-9**		
FIELD	**WILDCAT**		
COUNTY	**SUMMER**	STATE	**KANSAS**

HALLIBURTON

ARRAY COMPENSATED RESISTIVITY LOG