

HALLBURTON

ARRAY COMPENSATED
TRUE RESISTIVITY

COMPANY										PALOMINO PETROLEUM, INC.									
WELL										DANFIELD21 No.1									
FIELD										None (Wildcat)									
COUNTY										SCOTT									
STATE										KANSAS									
Permanent Datum										GL									
Log measured from										KB									
Drilling measured from										KB									
Date										28-Sep-13									
Run No.										ONE									
Depth - Driller										5045.00 ft									
Depth - Logger										5030.0 ft									
Bottom - Logged Interval										5028.0 ft									
Top - Logged Interval										217.0 ft									
Casing - Driller										8.625 in @ 218.0 ft									
Casing - Logger										217.0 ft									
Bit Size										7.875 in									
Type Fluid in Hole										CHEMICAL									
Density										9.2 ppq									
Viscosity										51.00 s/qt									
PH										10.00 pH									
Fluid Loss										8.8 cpm									
Source of Sample										FLOWLINE									
Rm @ Meas. Temperature										0.700 ohmm @ 69.00 degF									
Rmf @ Meas. Temperature										0.56 ohmm @ 69.00 degF									
Rmc @ Meas. Temperature										0.840 ohmm @ 69.00 degF									
Source Rmf										CHART									
Rm @ BHT										0.40 ohmm @ 127.5 degF									
Time Since Circulation										4.4 hr									
Time on Bottom										28-Sep-13 12:53									
Max. Rec. Temperature										127.5 degF @ 5030.0 ft									
Equipment										10549598									
Recorded By										ALEXANDER MURILLO									
Witnessed By										RYAN SEIB									

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Service Ticket No.: 900769718					API Serial No.: 15-171-20980-00-00					PGM Version: WL INSITE R3.8.11 (Build 5)				
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.		@		@		ONE	ACRT	N/A	1.5" S.O	N/A				
Rmc @ Meas. Temp.		@		@			11468725							
Source Rmf	Rmc													
Rm @ BHT		@		@										
Rmf @ BHT		@		@										
Rmc @ BHT		@		@										
EQUIPMENT DATA														
GAMMA			ACOUSTIC			DENSITY			NEUTRON					
Run No.	ONE		Run No.			Run No.			Run No.					
Serial No.	10958653		Serial No.			Serial No.			Serial No.					
Model No.	GTET		Model No.			Model No.			Model No.					
Diameter	3.625"		No. of Cent.			Diameter			Diameter					
Detector Model No.	GTET		Spacing			Log Type			Log Type					
Type	SCINT					Source Type			Source Type					
Length	8"		LSA [Y/N]			Serial No.			Serial No.					
Distance to Source	18'		FWDA [Y/N]			Strength			Strength					

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	5030'	217'	REC	0 API	150 API									
DIRECTIONAL INFORMATION														
Maximum Deviation @								KOP @						
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING														
GTET-DSNT-SDLT-ML-ACRT RAN IN COMBINATION														
DRILLER'S TD WAS NOT REACHED DUE TO BAD BOREHOLE CONDITIONS														
LCM WAS REPORTED TO BE PRESENT IN THE MUD (0.5 LB/BBL)														
NO REPEAT SECTION WAS PERFORMED PER CUSTOMER REQUEST														
WELLSITE COORDINATES: LAT 38*18'22.094" Deg N LONG -101*04'25.401" Deg W														
HES CREW: E. ORTIZ, E. CASTRO, D. LEON, H. GONZALEZ														
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES - ODESSA, TX - 800.844.8451														
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														



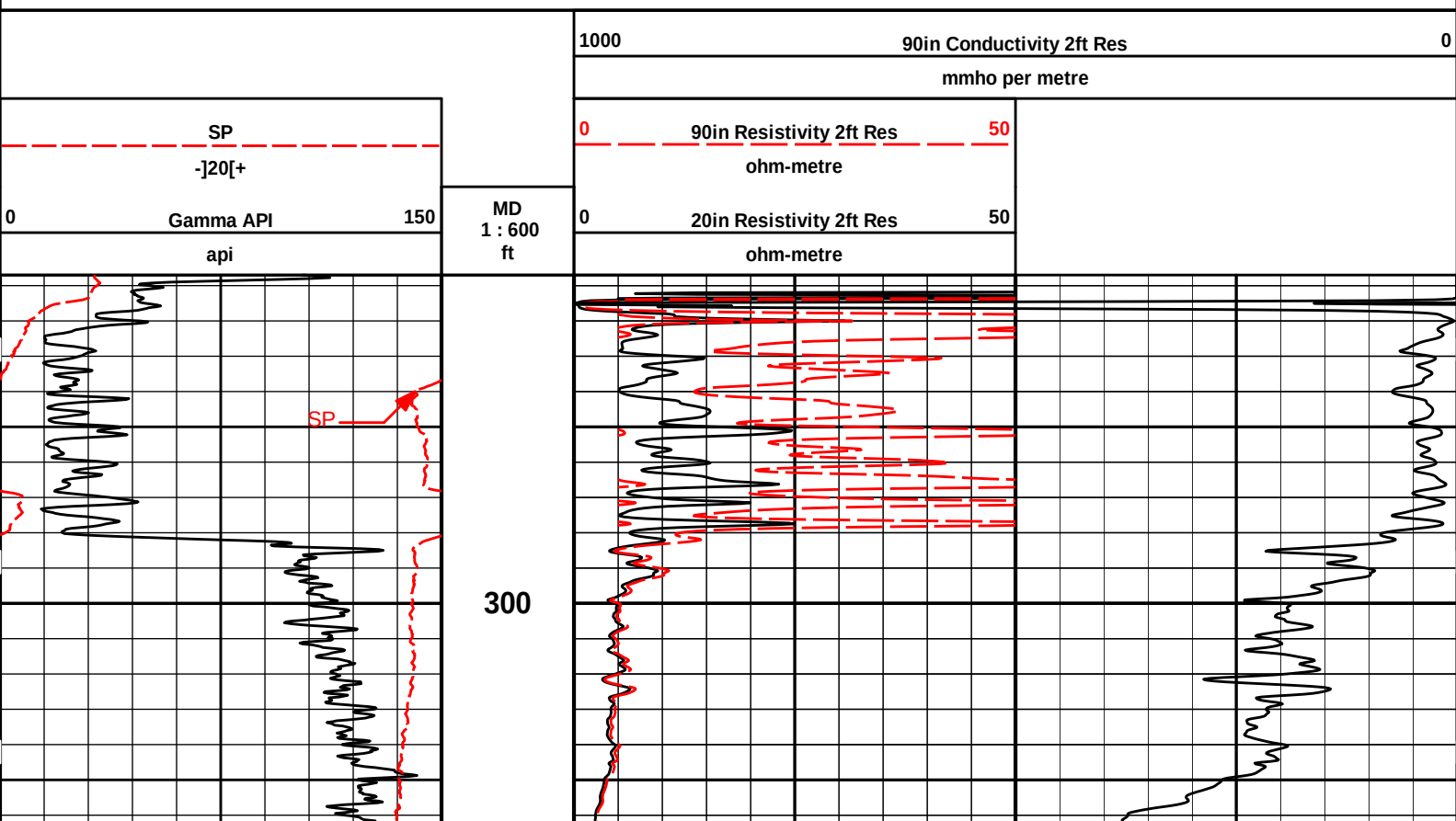
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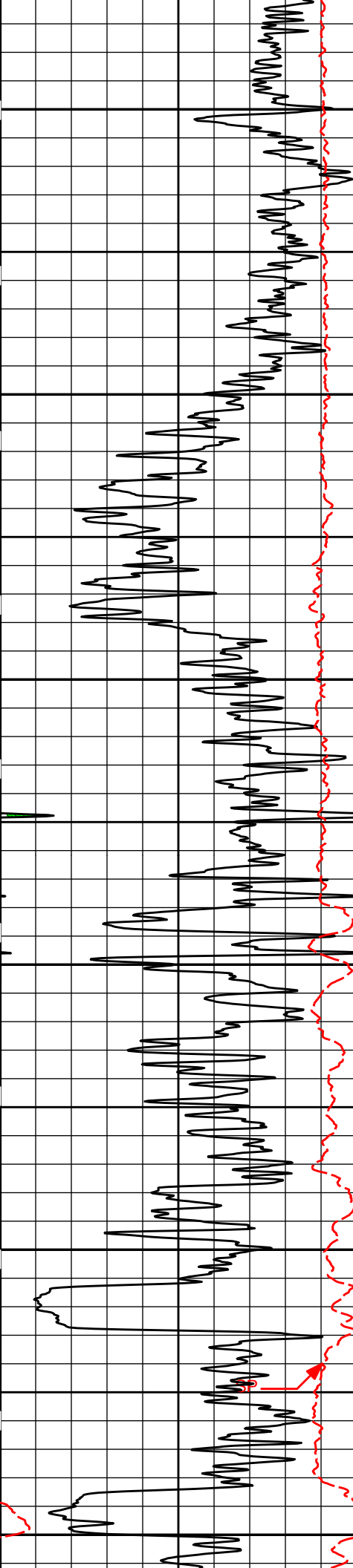
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Data: 09_28_PALOMINO\Well Based\DAQ-0001-003\

Plot File: \\-LOCAL-109 28 PALOMINO\\Well Based\\ACRT\\ACRT 2 lib

2 INCH MAIN LOG





400

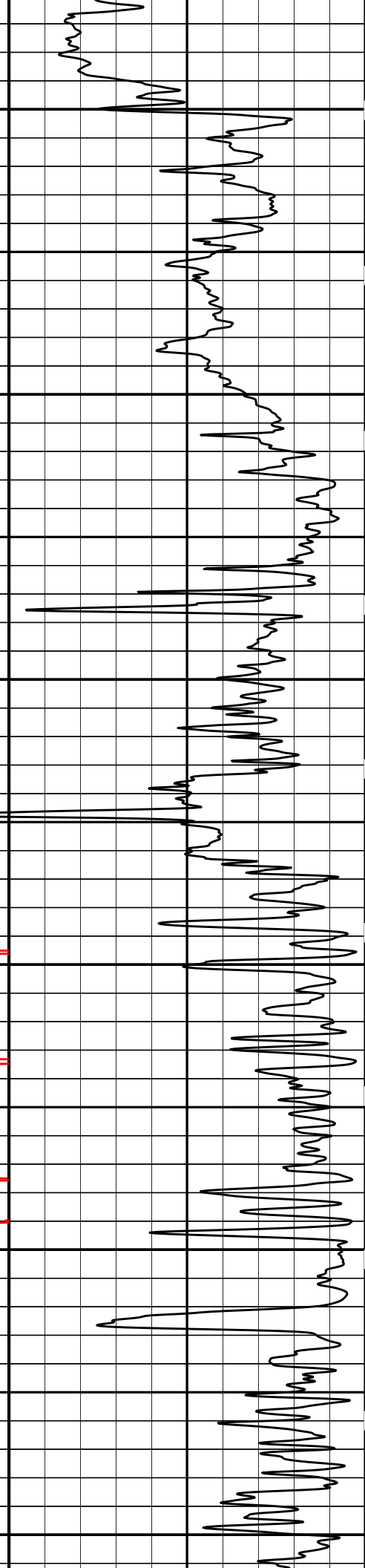
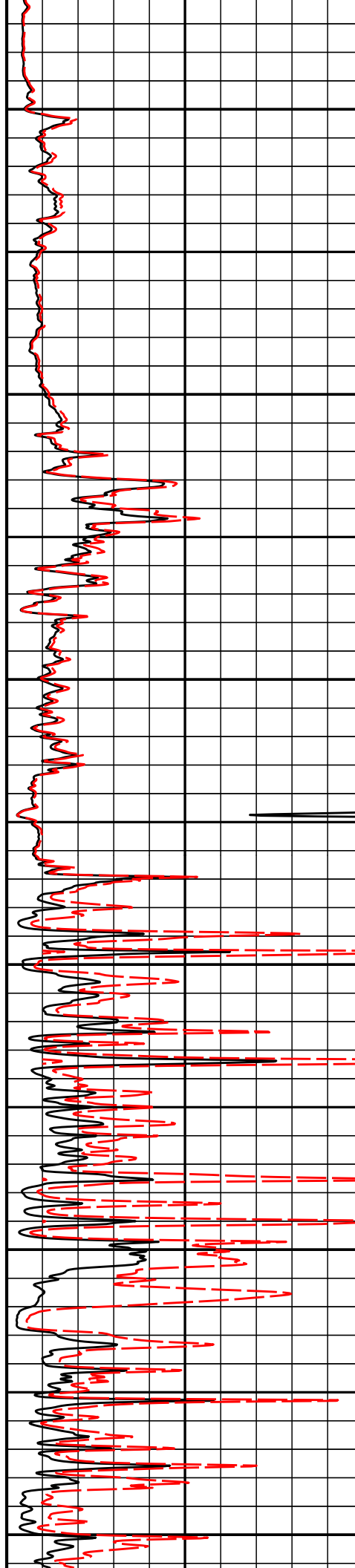
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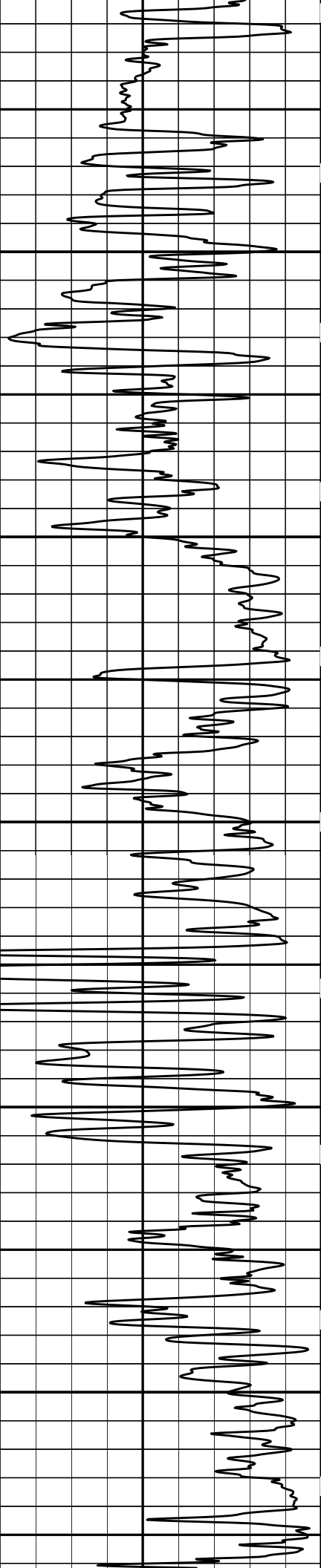
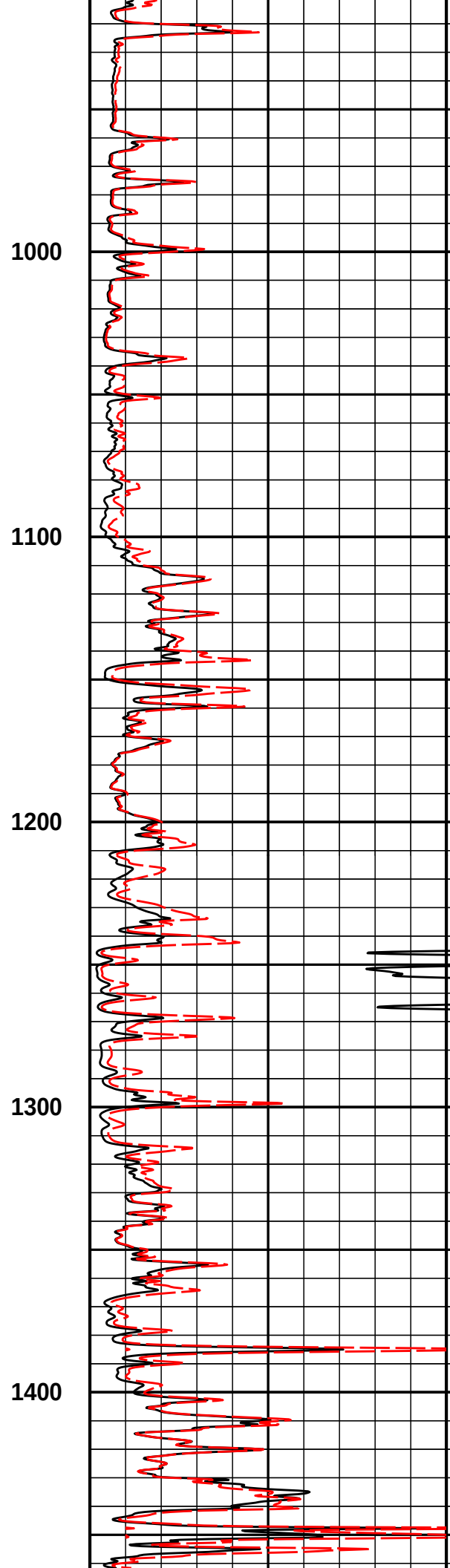
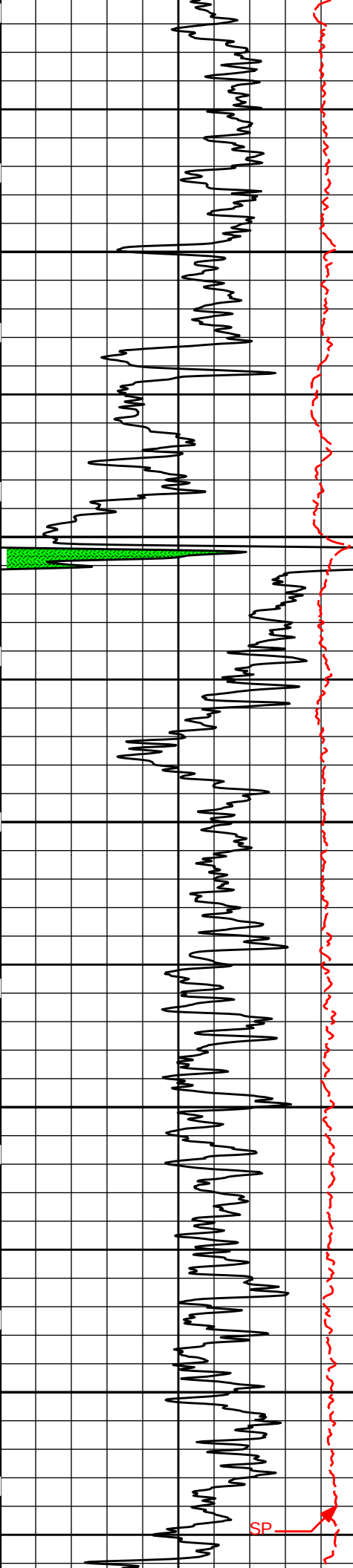
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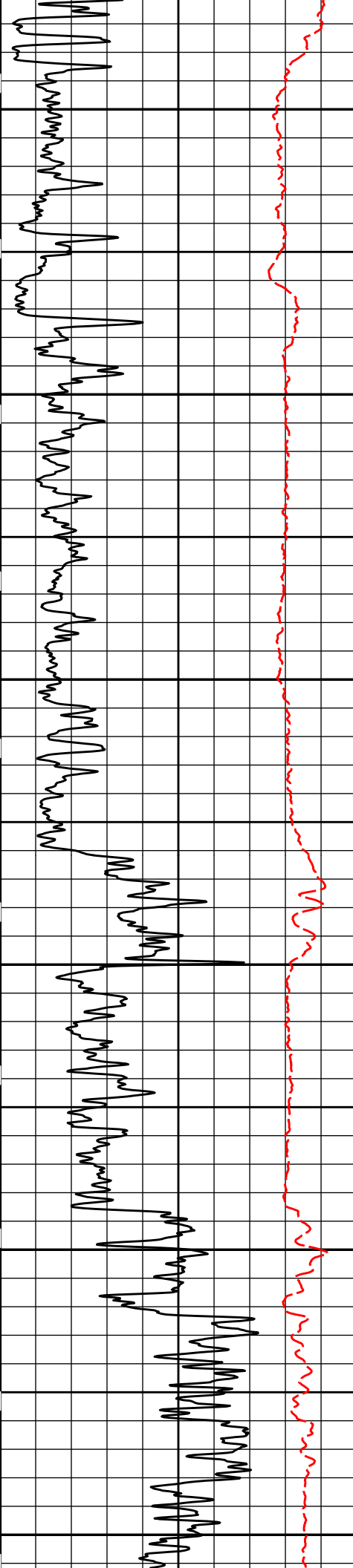
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800

900







1500

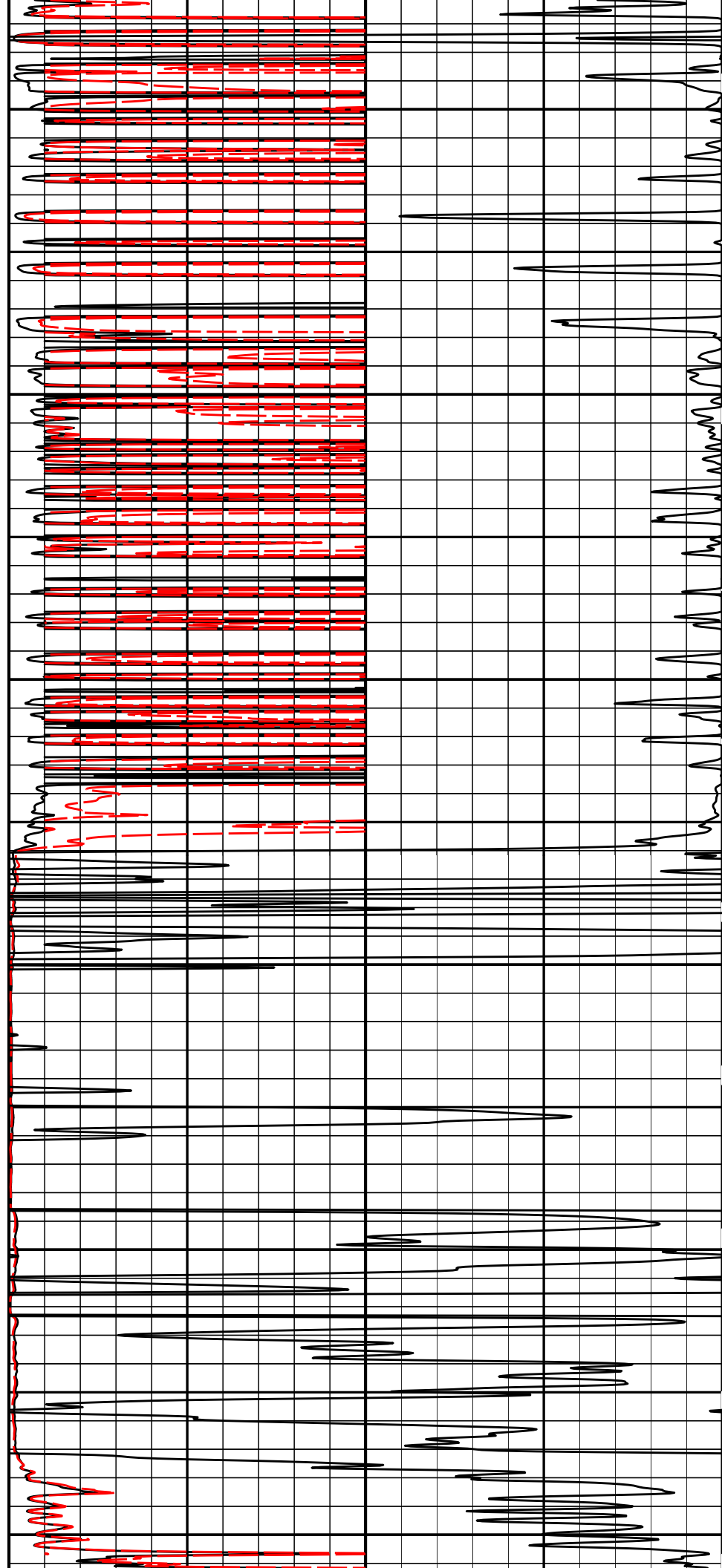
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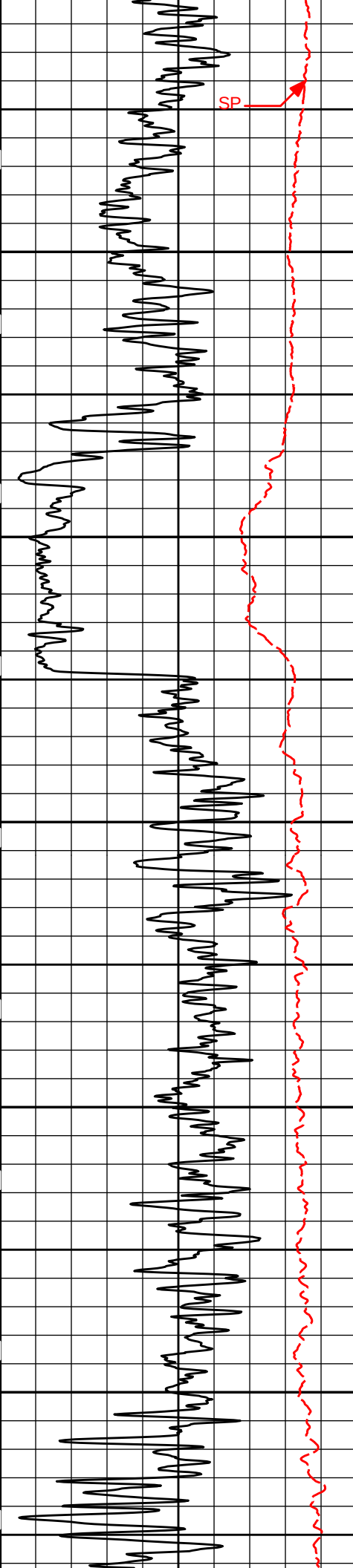
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1800

1900

2000





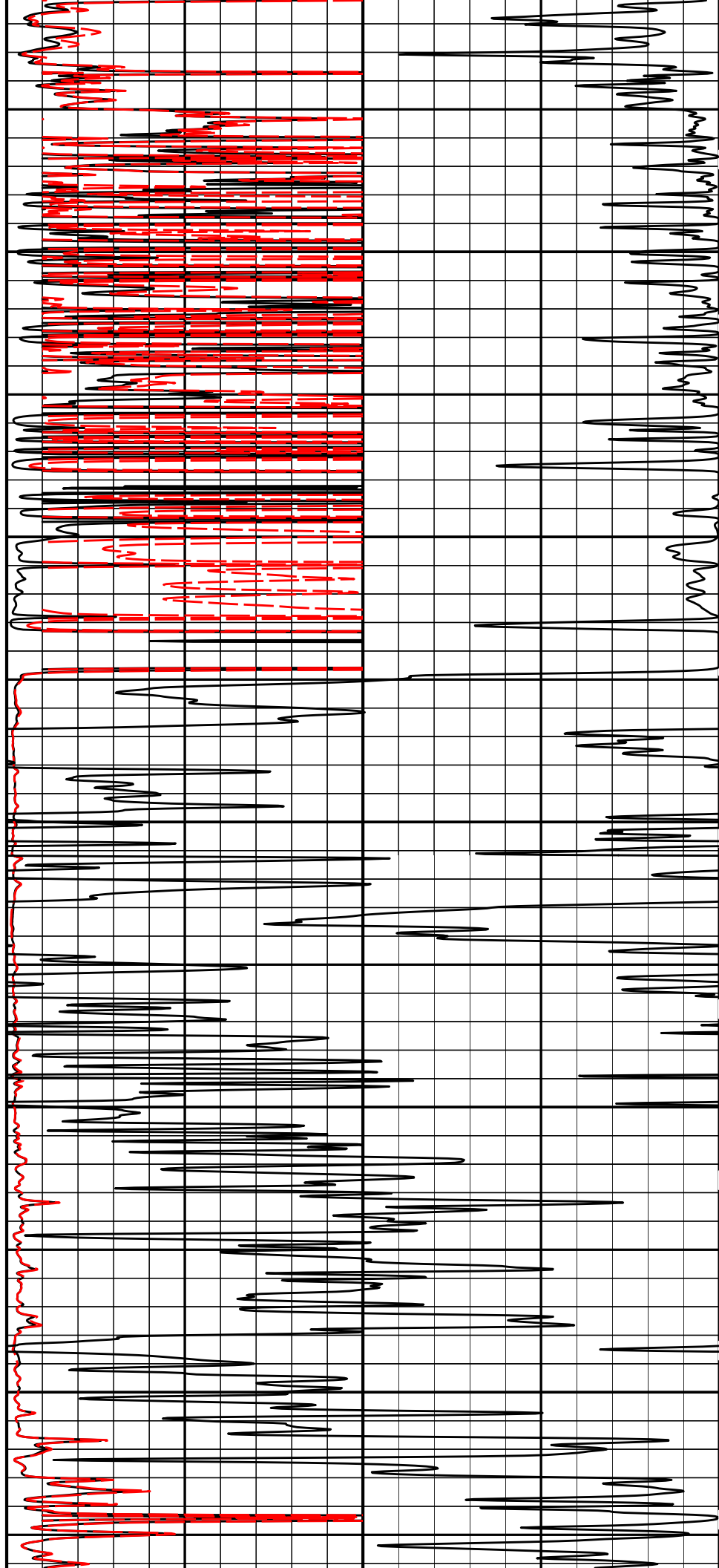
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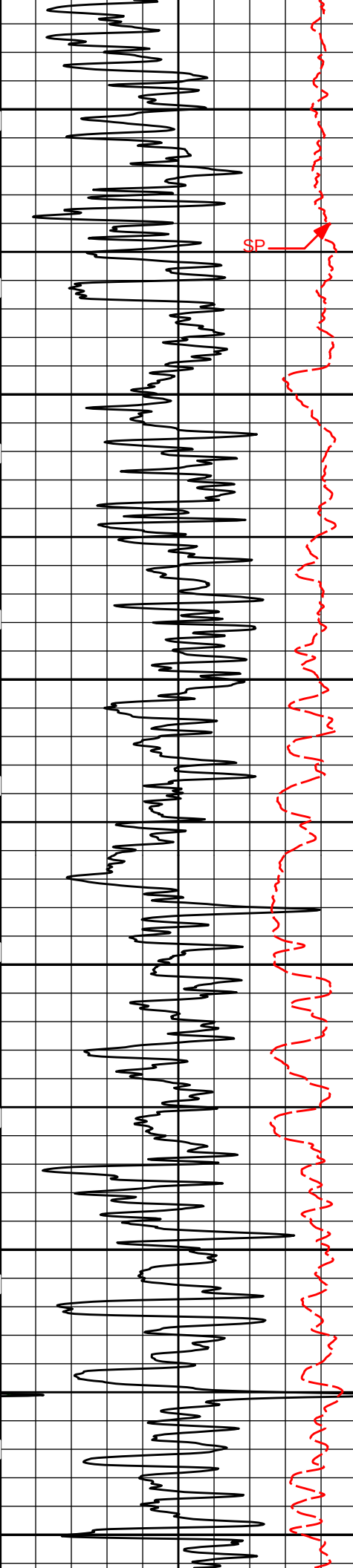
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2300

2400

2500





2600

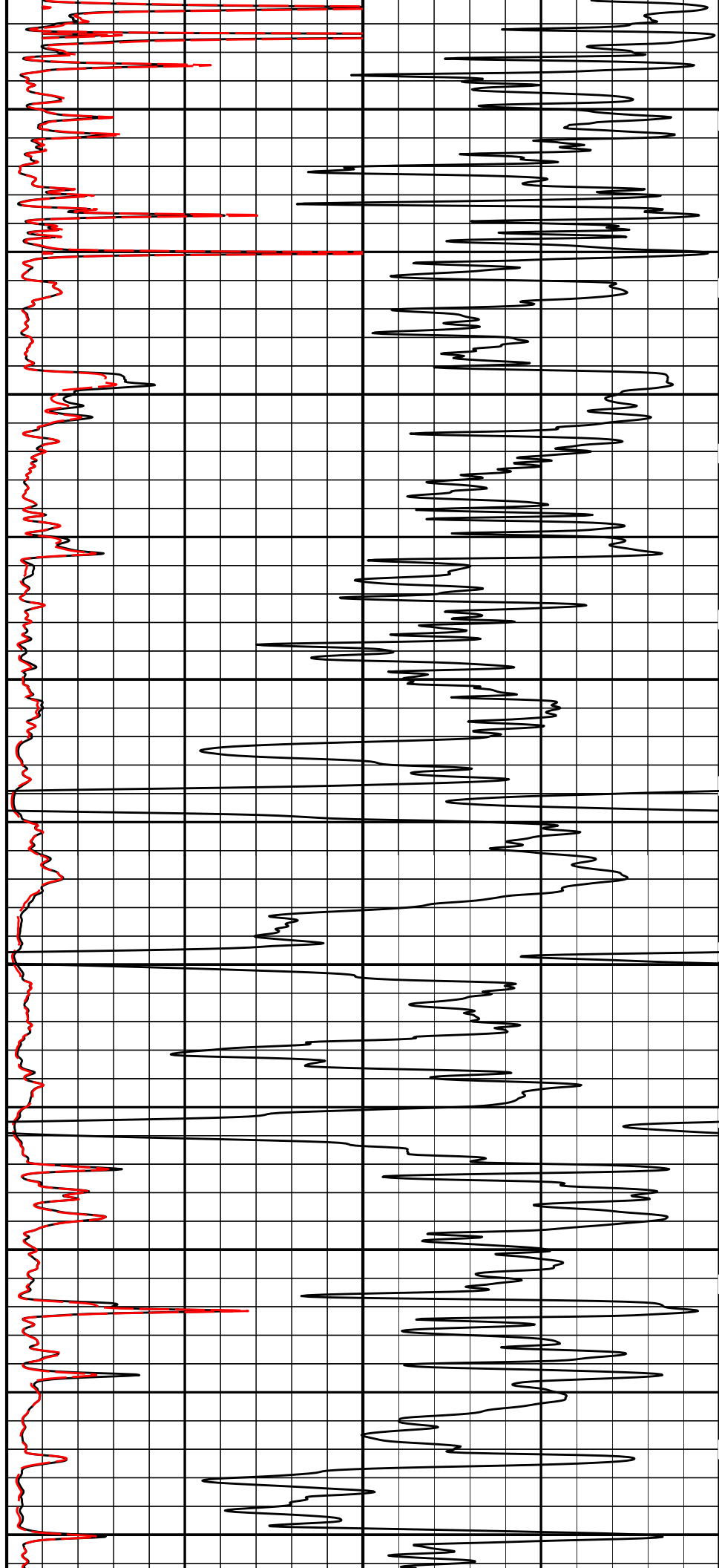
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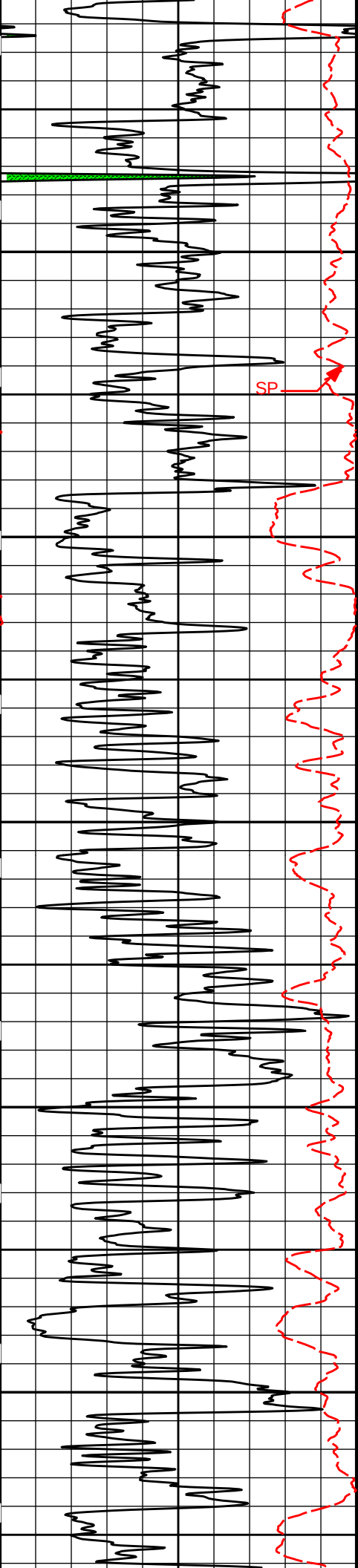
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2900

3000

3100





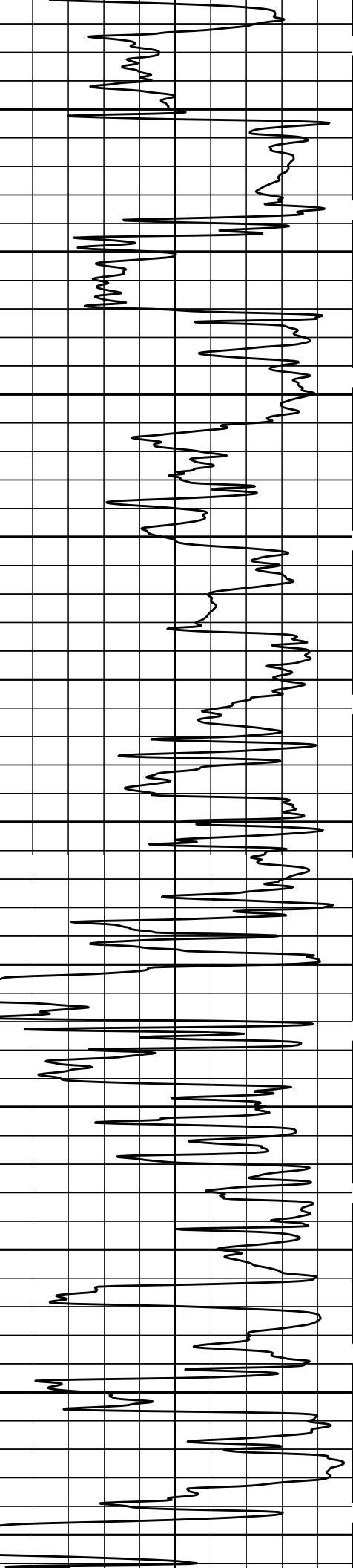
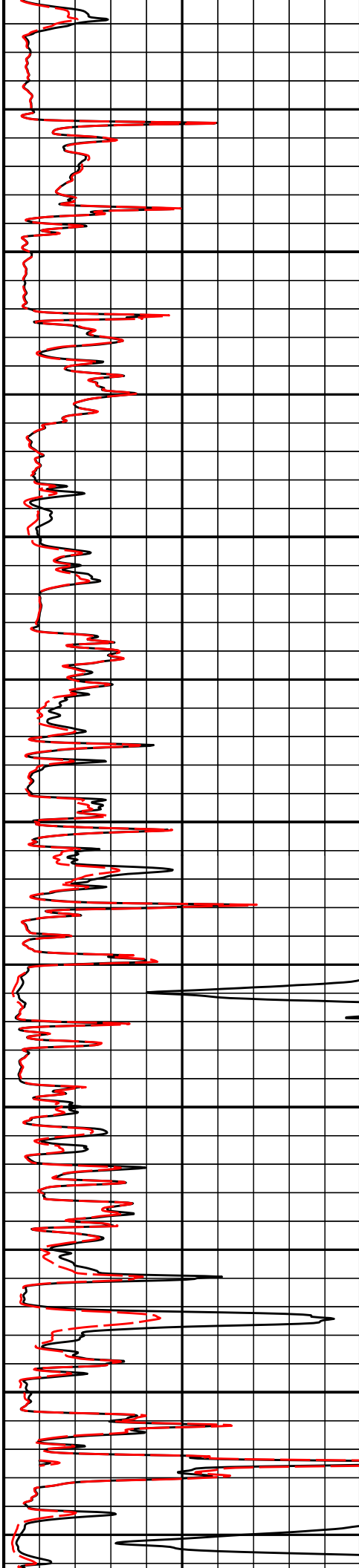
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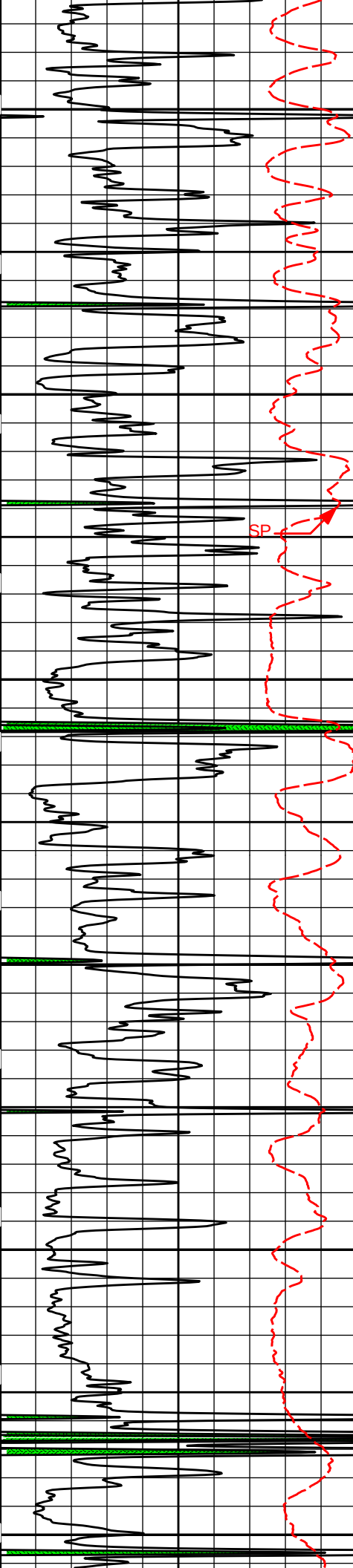
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3400

3500

3600





3700

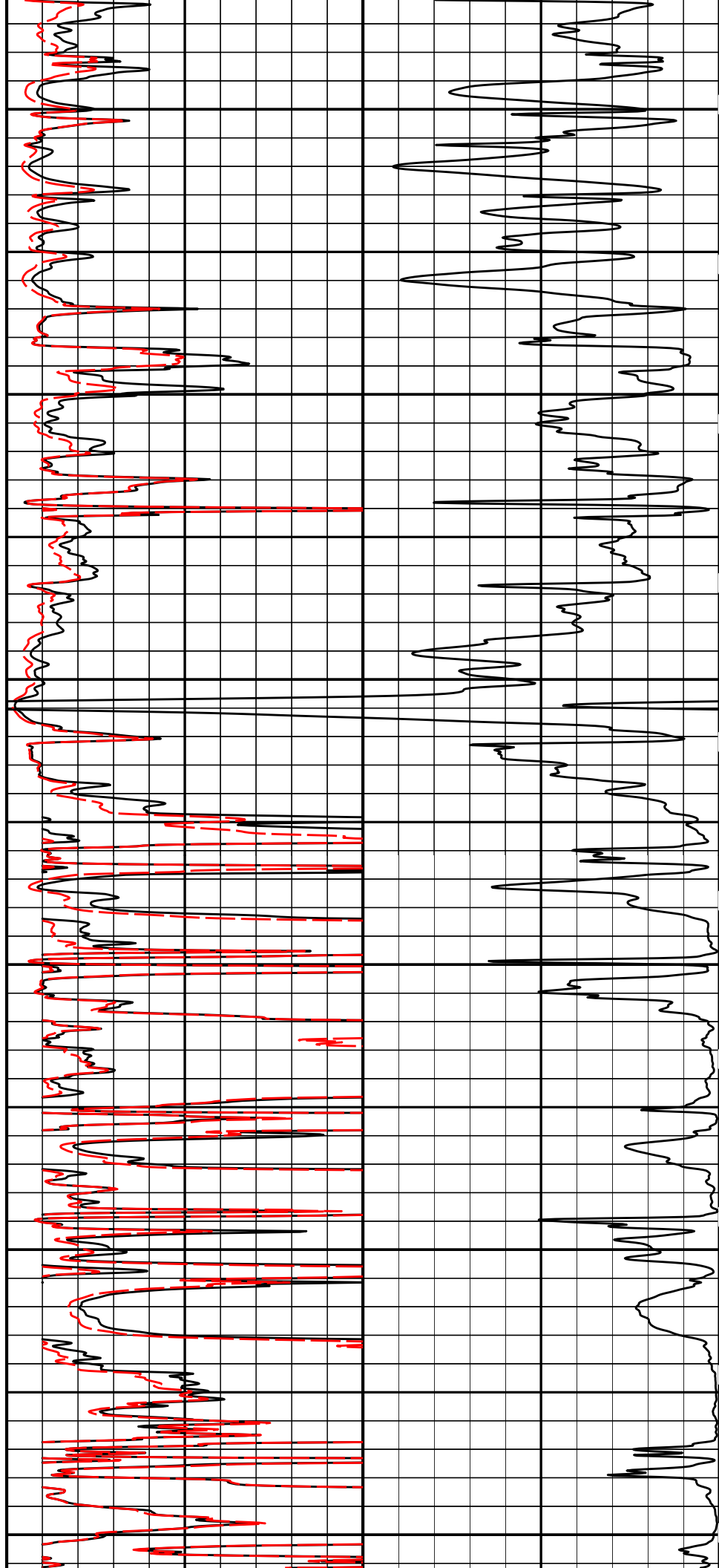
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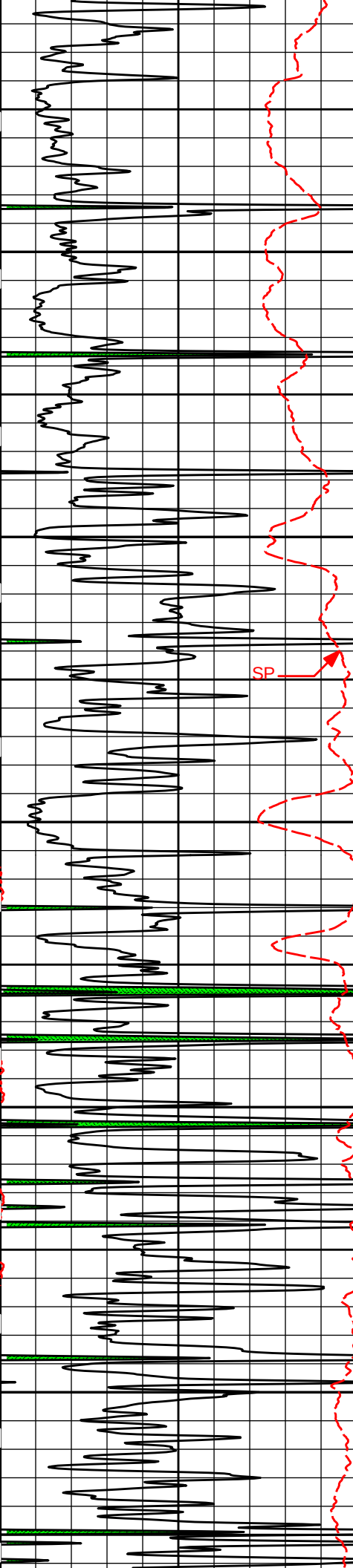
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4000

4100

4200





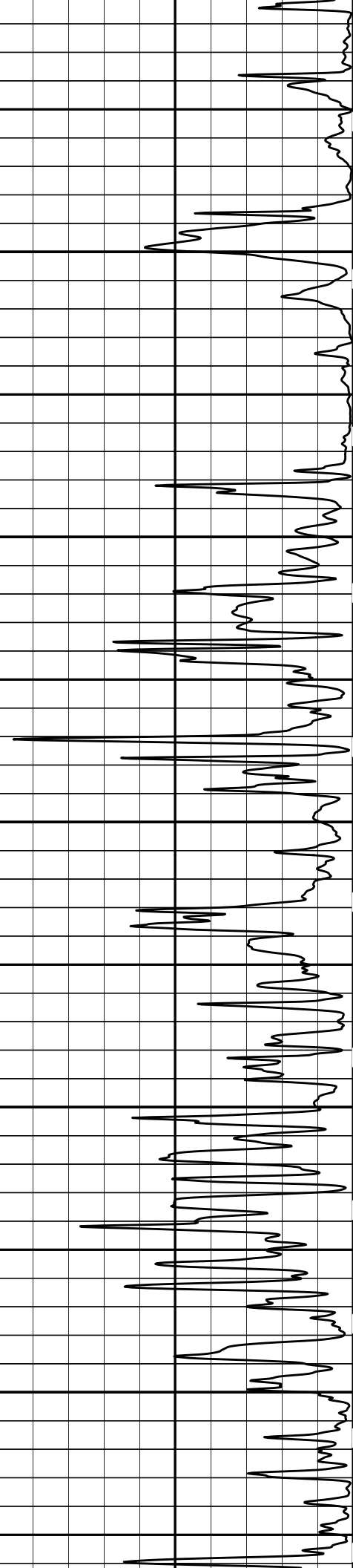
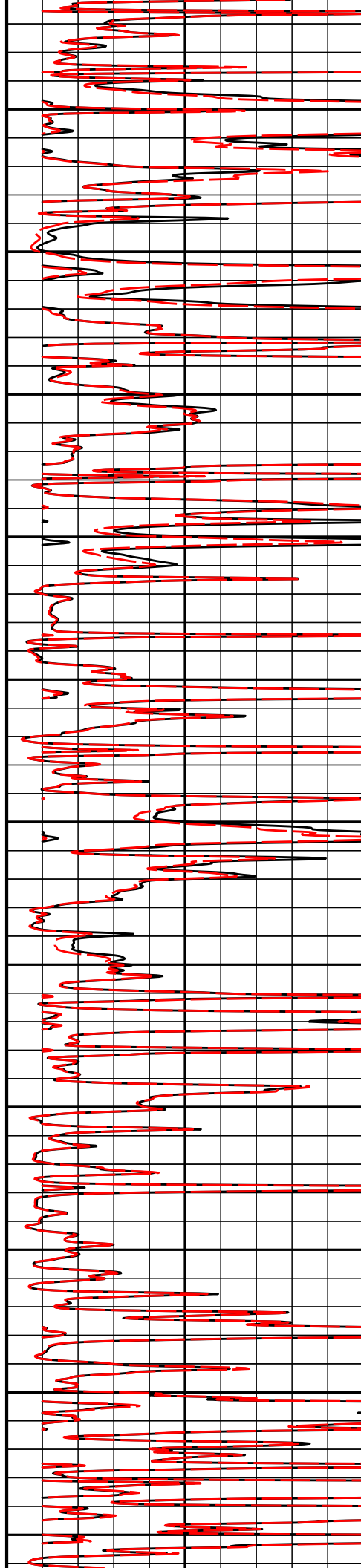
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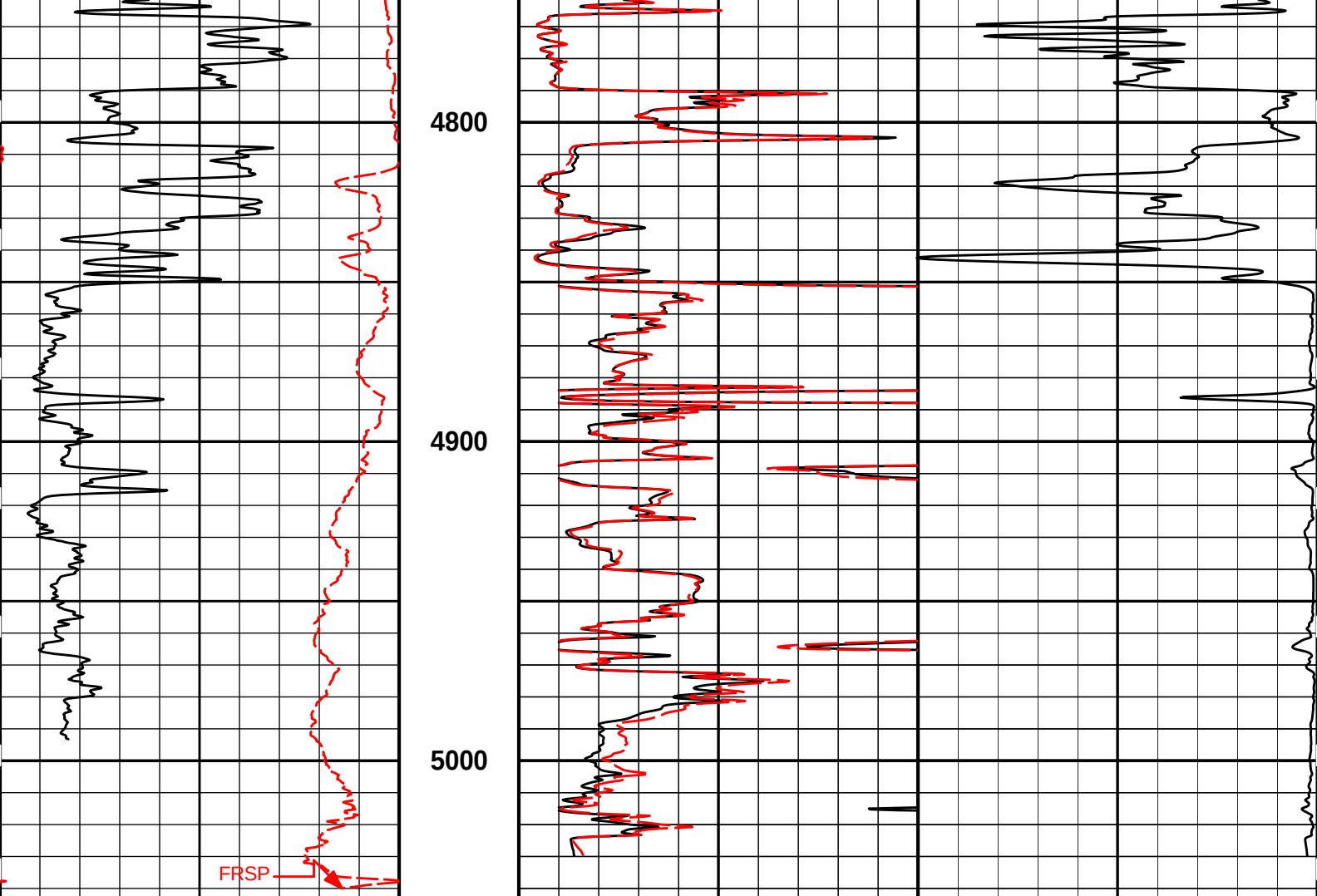
4400

4500

4600

4700





0	Gamma API	150	MD 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: 28-Sep-13 14:58:11
Plot Range: 207 ft to 5042.75 ft
Data: 09_28_PALOMINO\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-09_28_PALOMINO\Well Based\ACRT\ACRT_2_lib

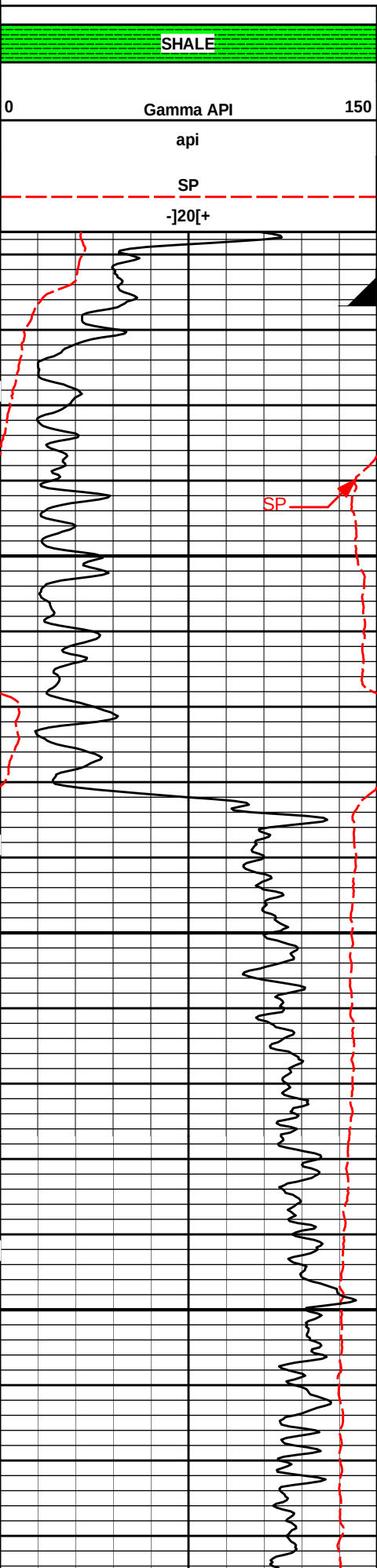
2 INCH MAIN LOG

HALLIBURTON

Plot Time: 28-Sep-13 14:58:11
Plot Range: 207 ft to 5042.75 ft
Data: 09_28_PALOMINO\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-09_28_PALOMINO\Well Based\ACRT\ACRT_5_main_lib

5 INCH MAIN LOG

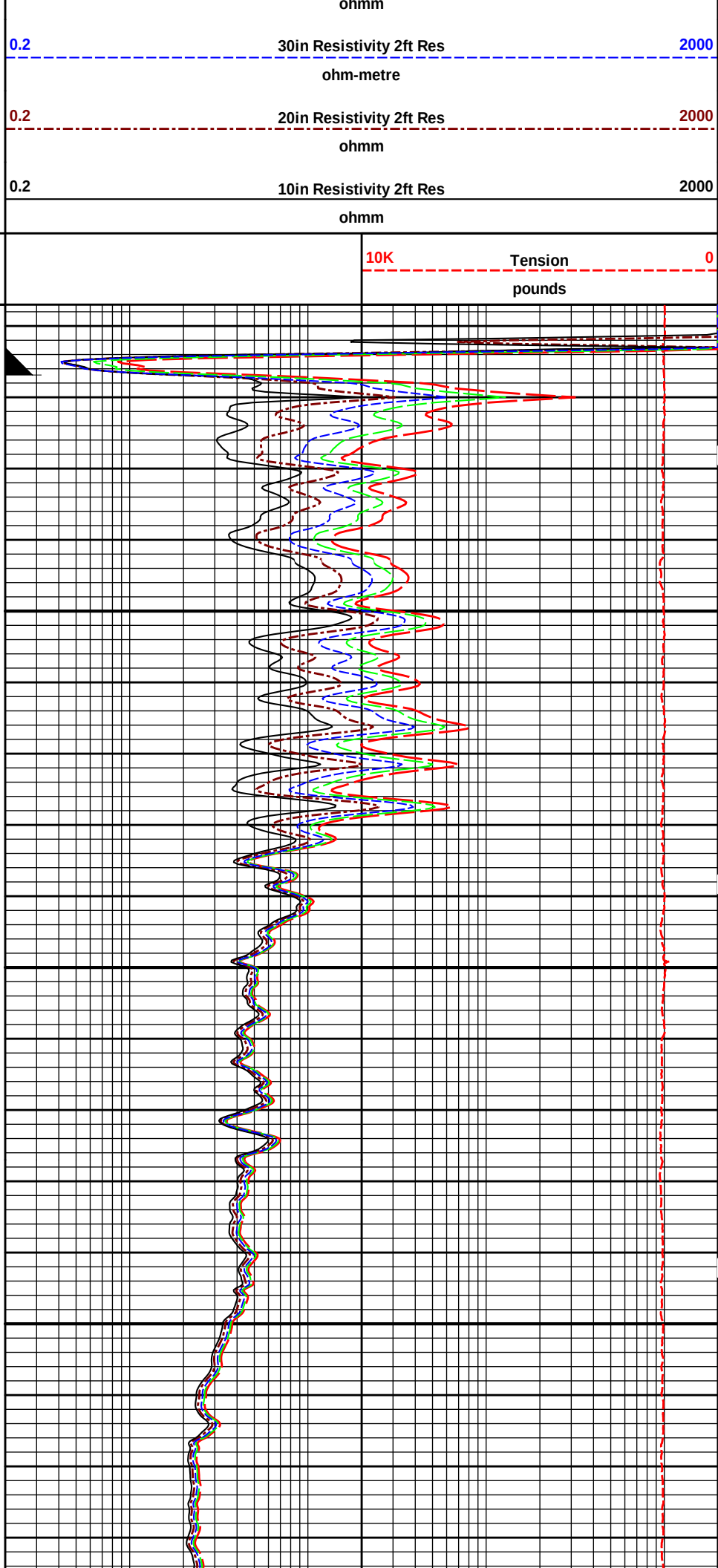
0.2	90in Resistivity 2ft Res	2000
	ohmm	
0.2	60in Resistivity 2ft Res	2000

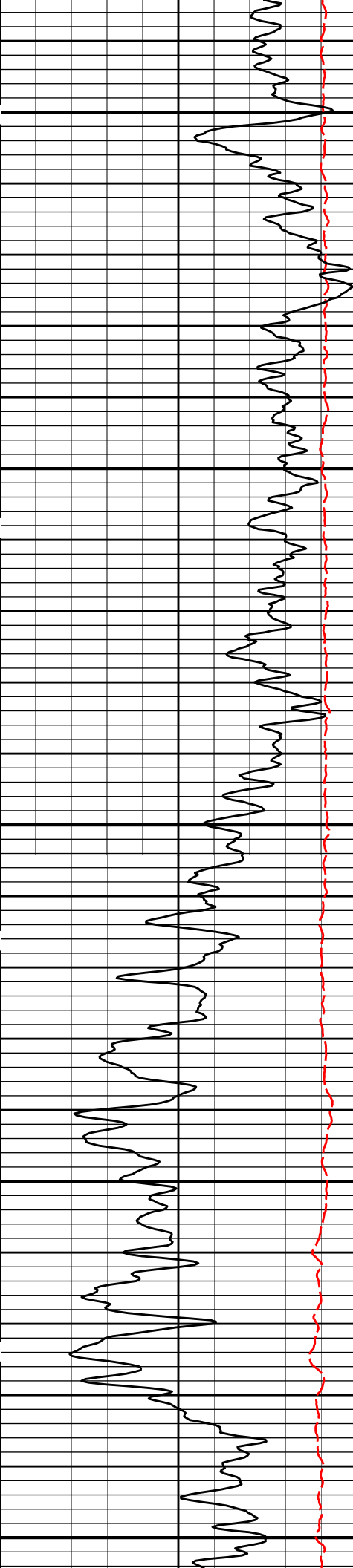


MD
1 : 240
ft

CSG

300

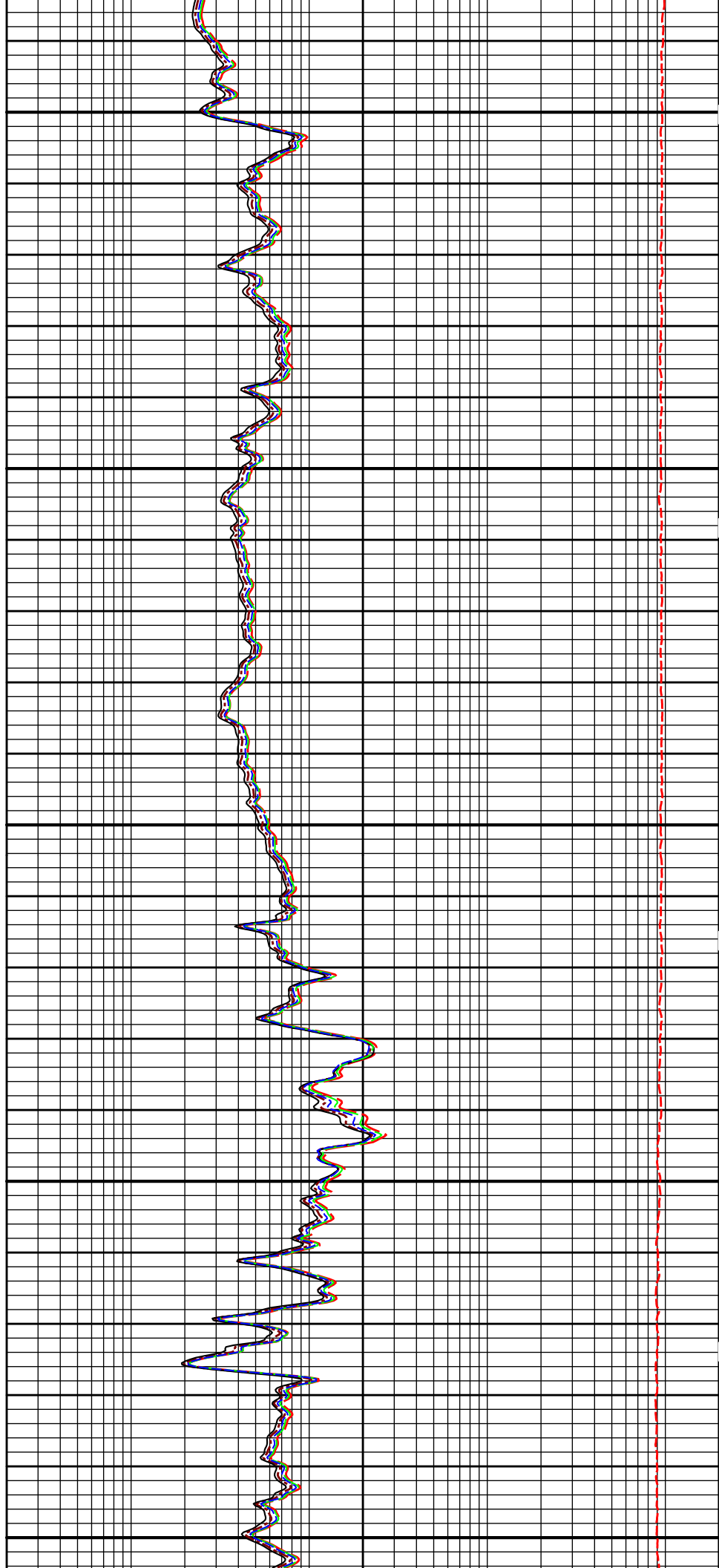


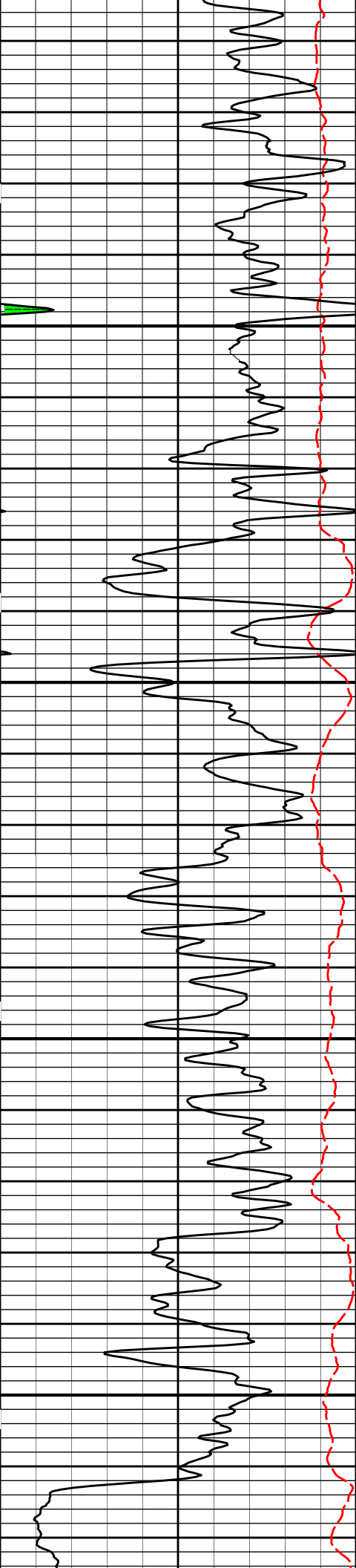


400

500

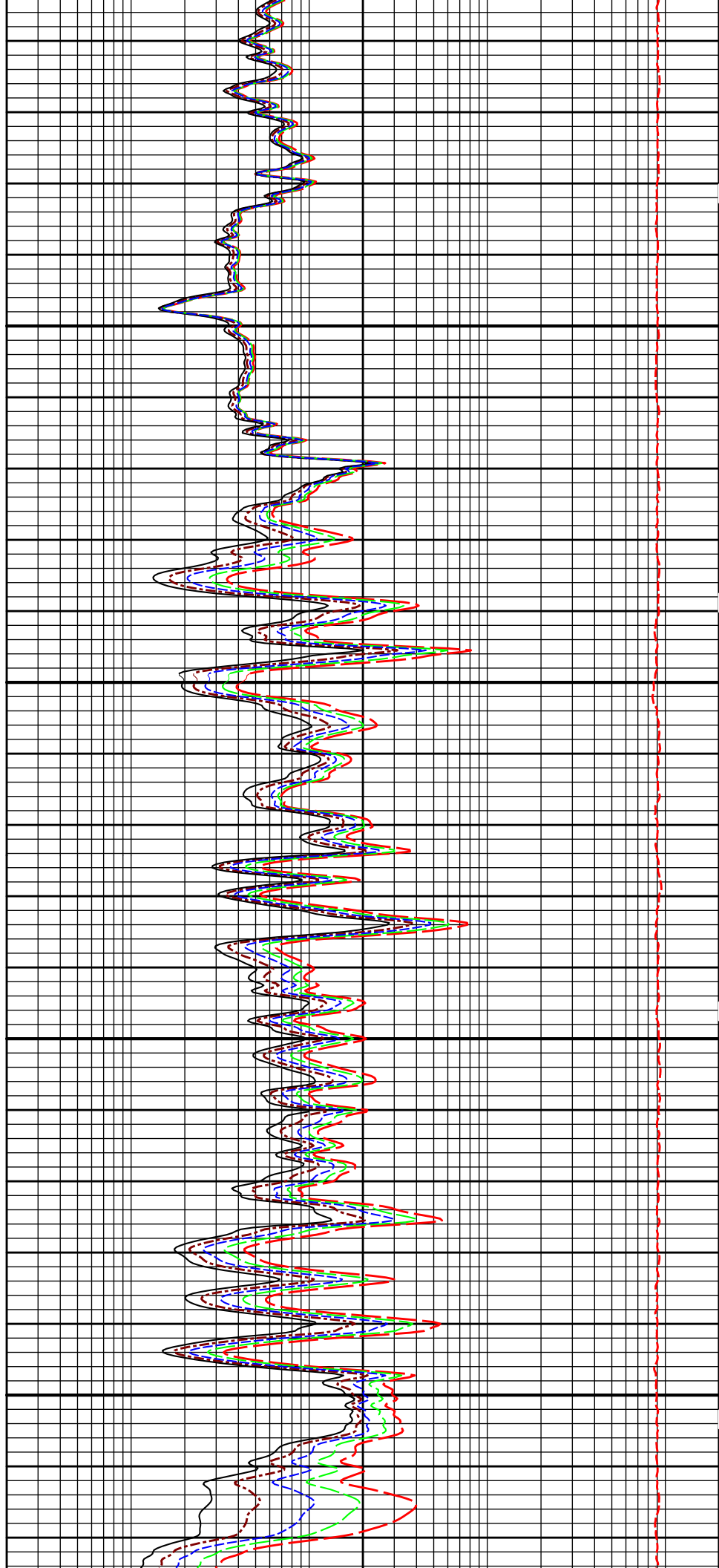
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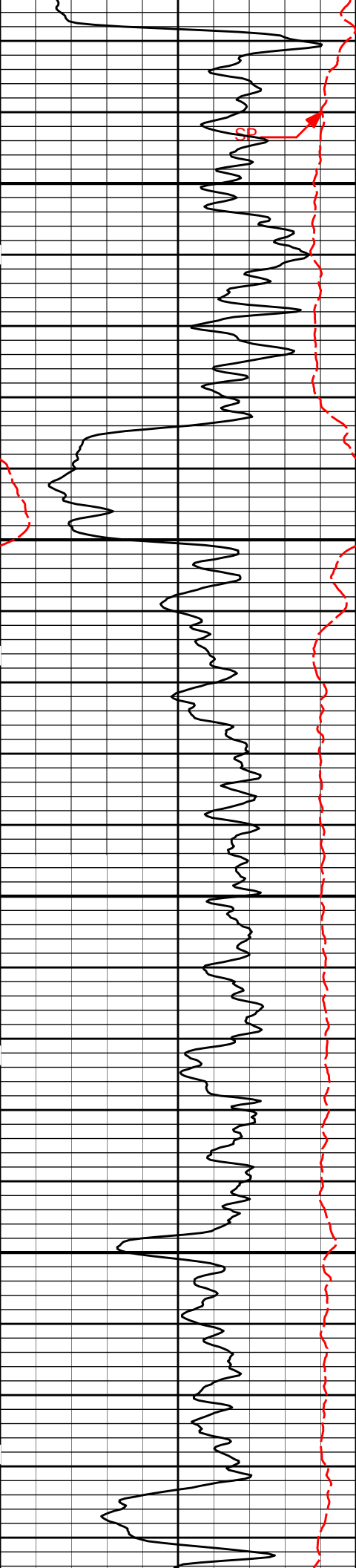




700

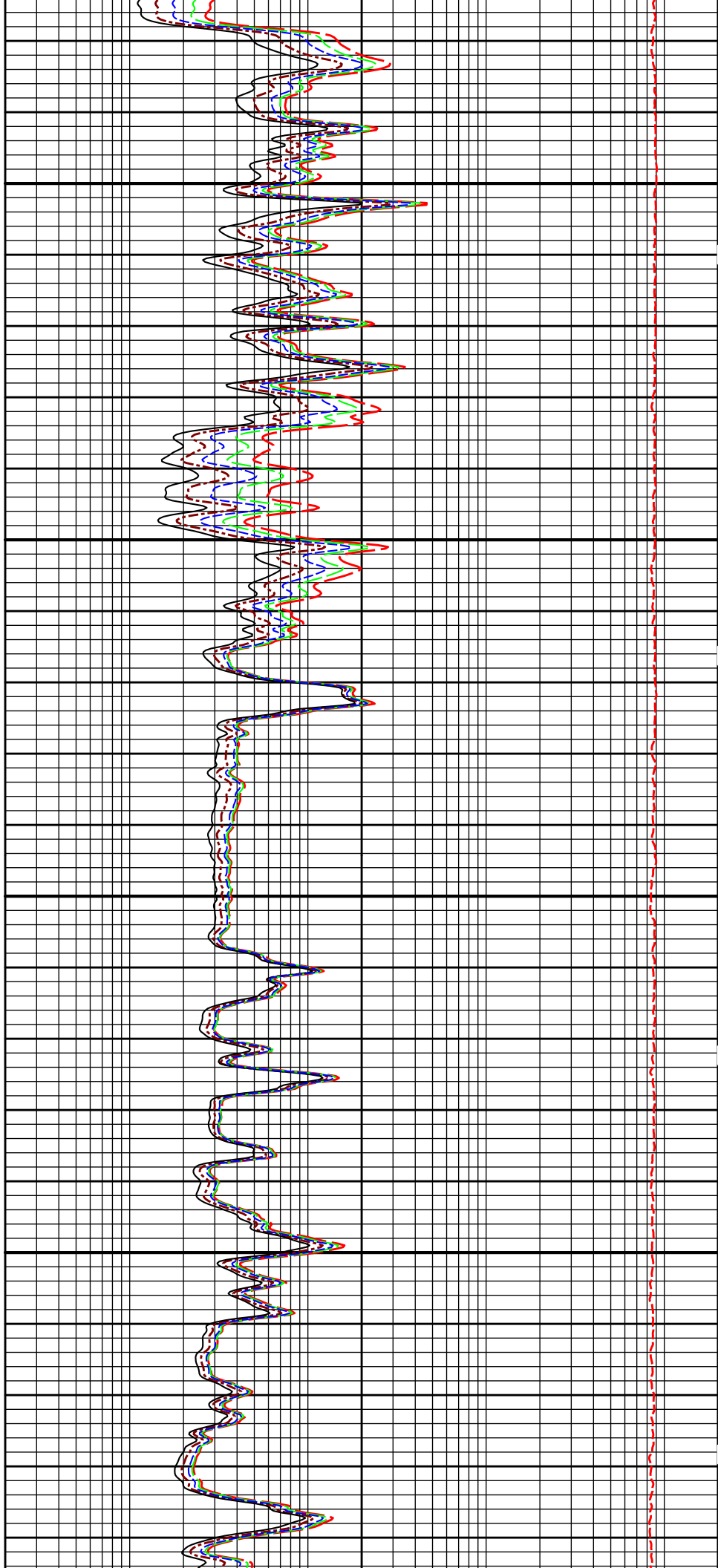
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900

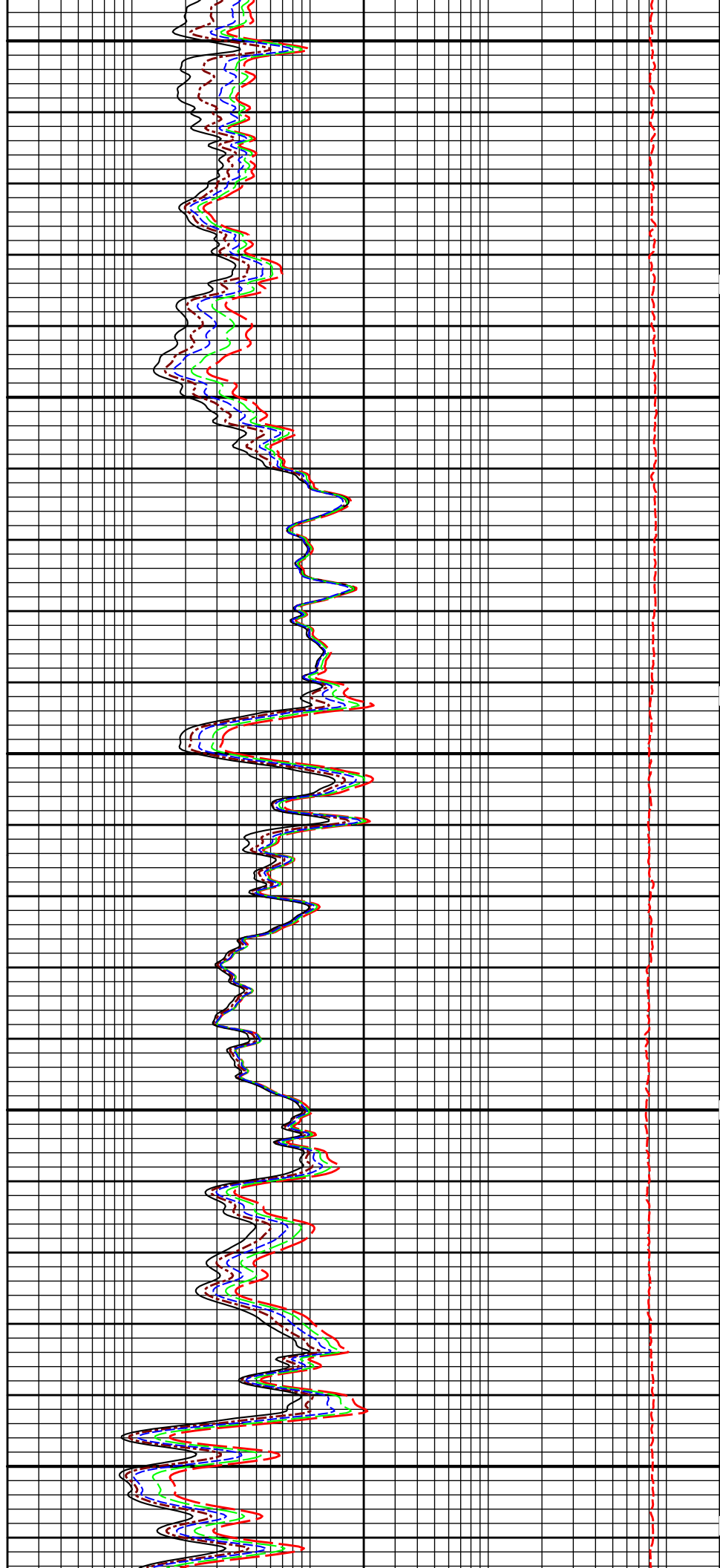
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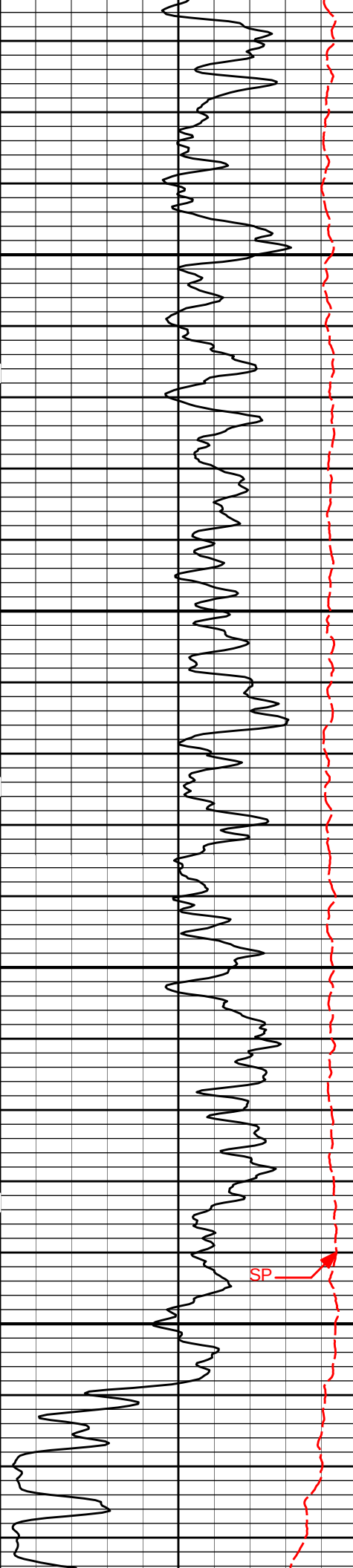




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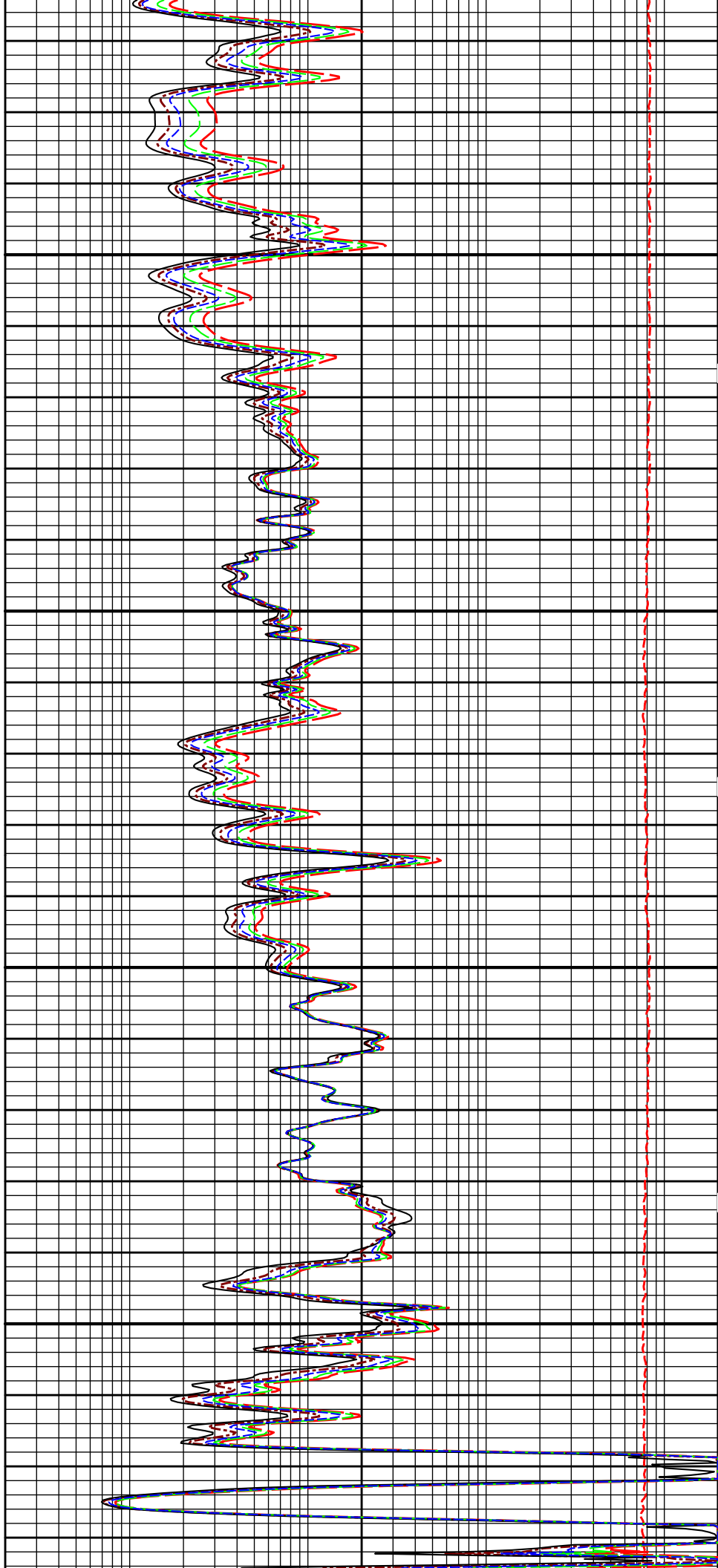
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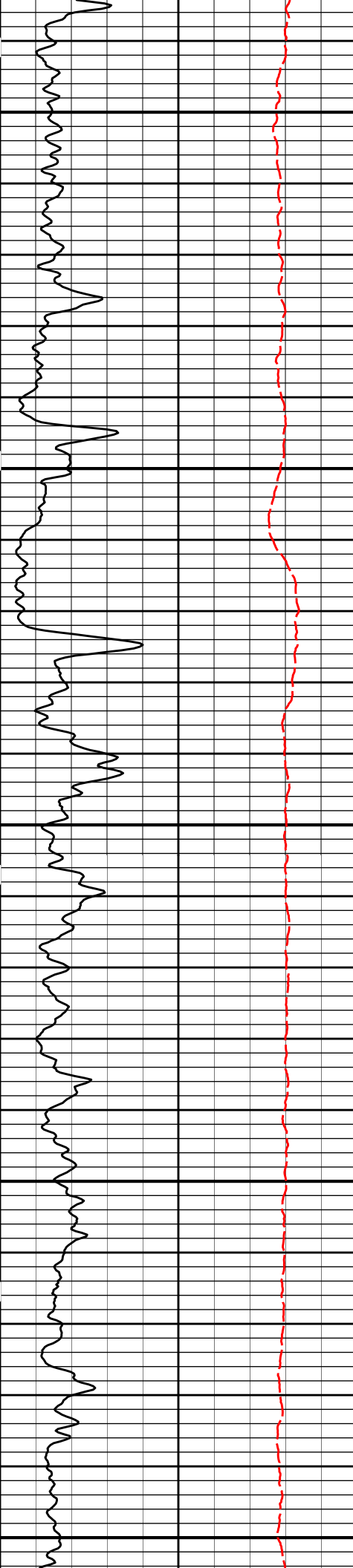




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1400

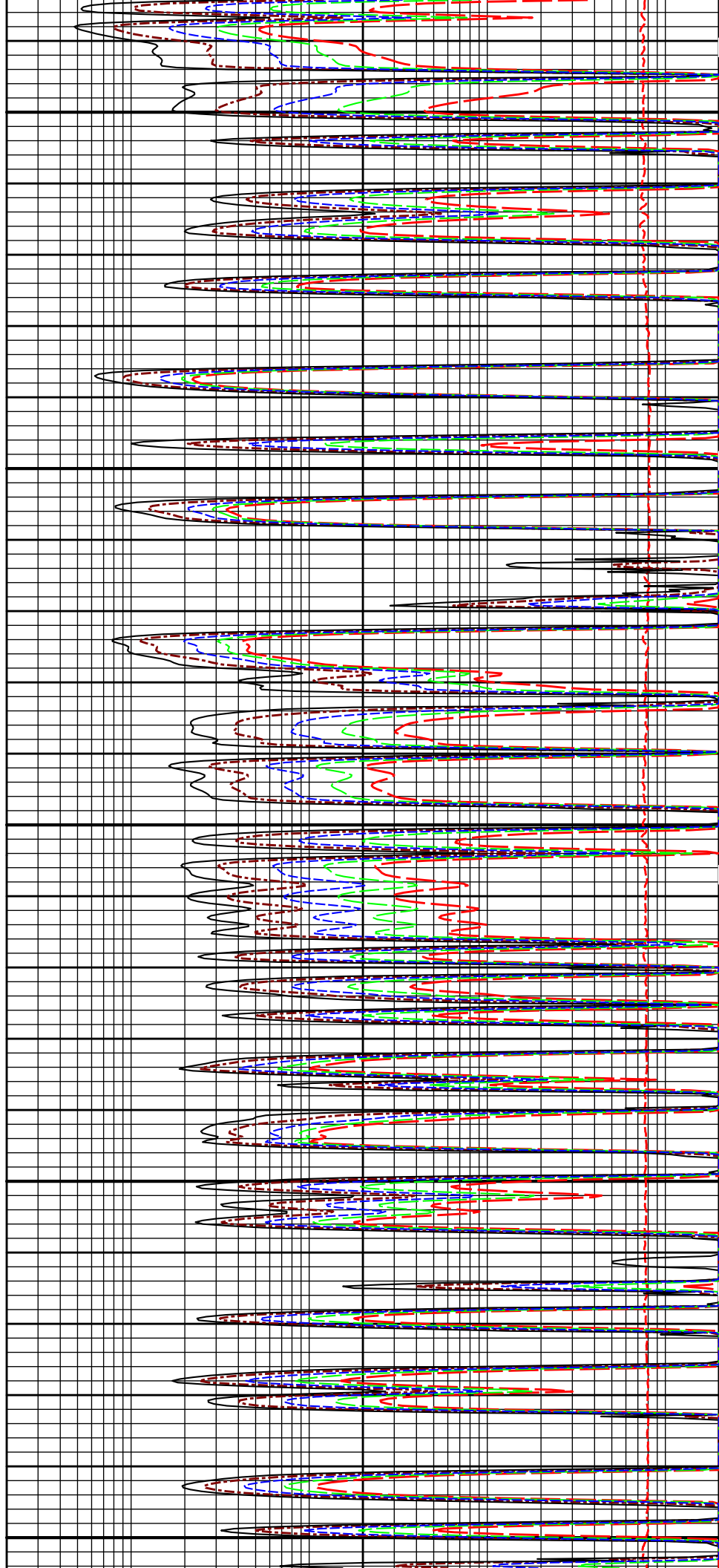


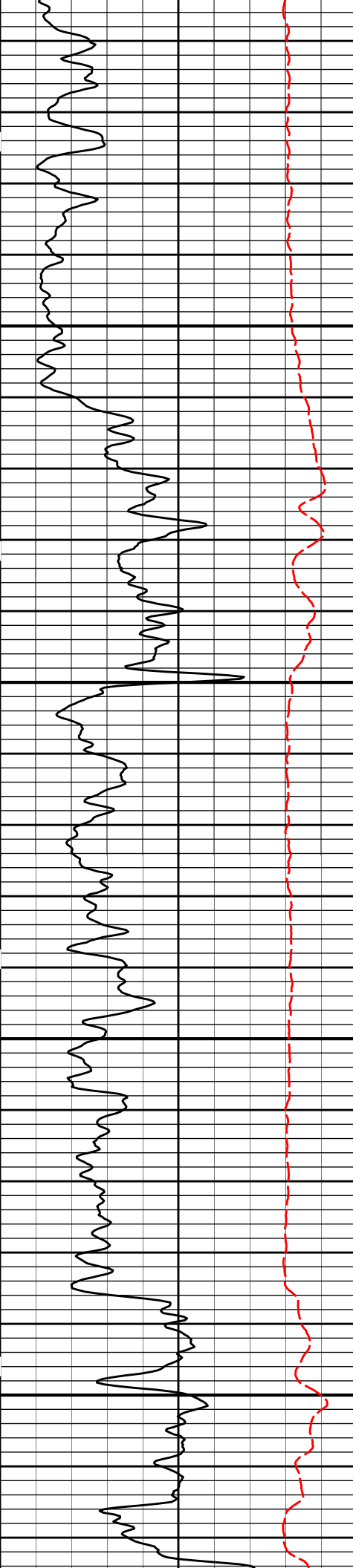


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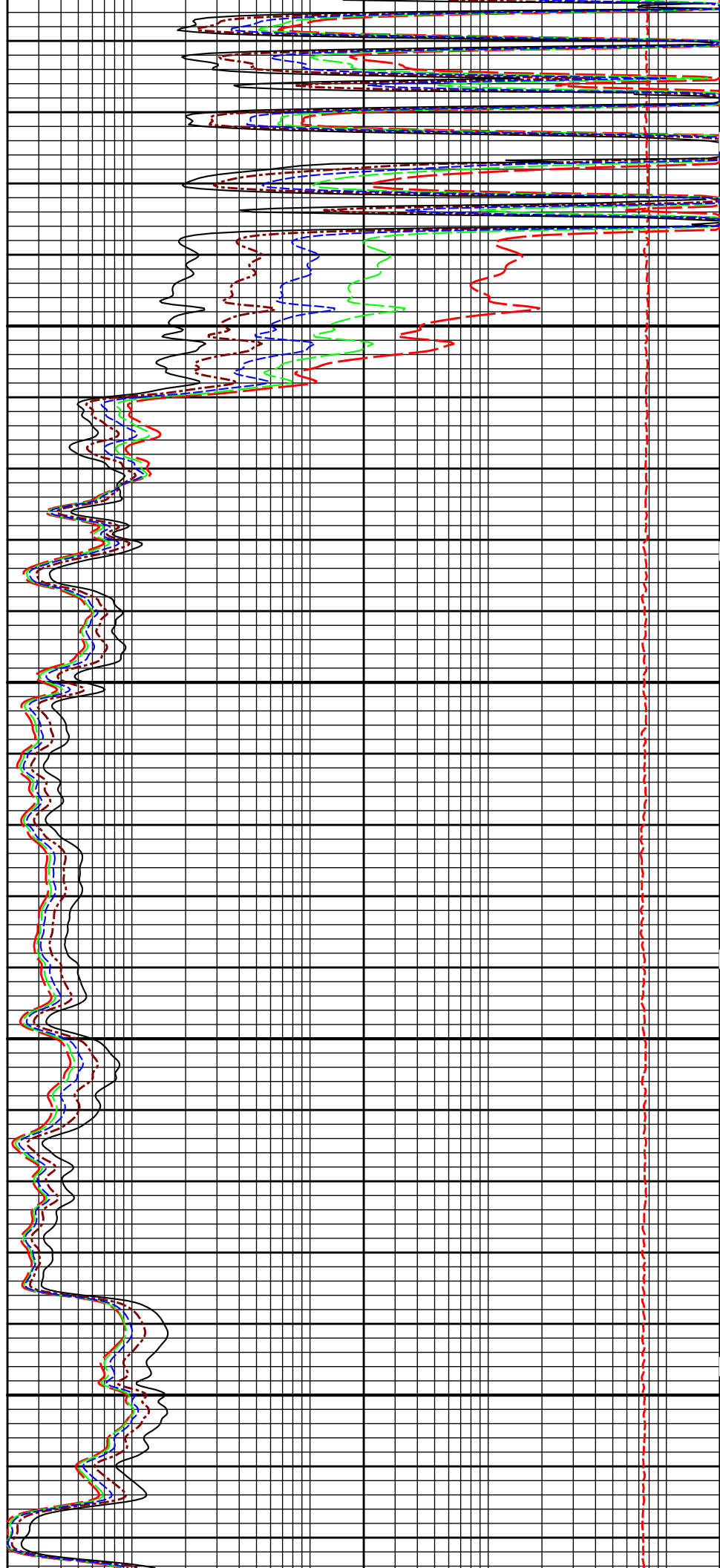
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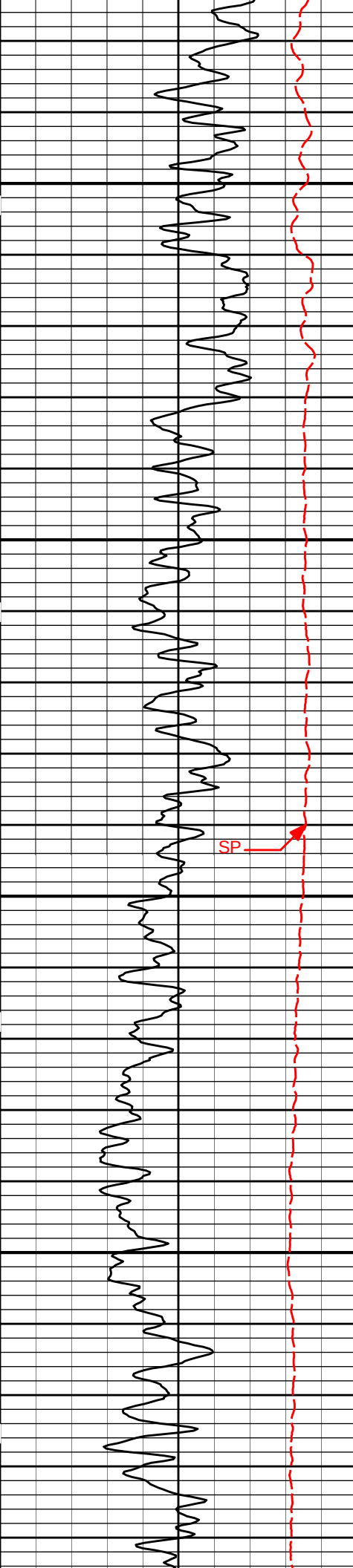




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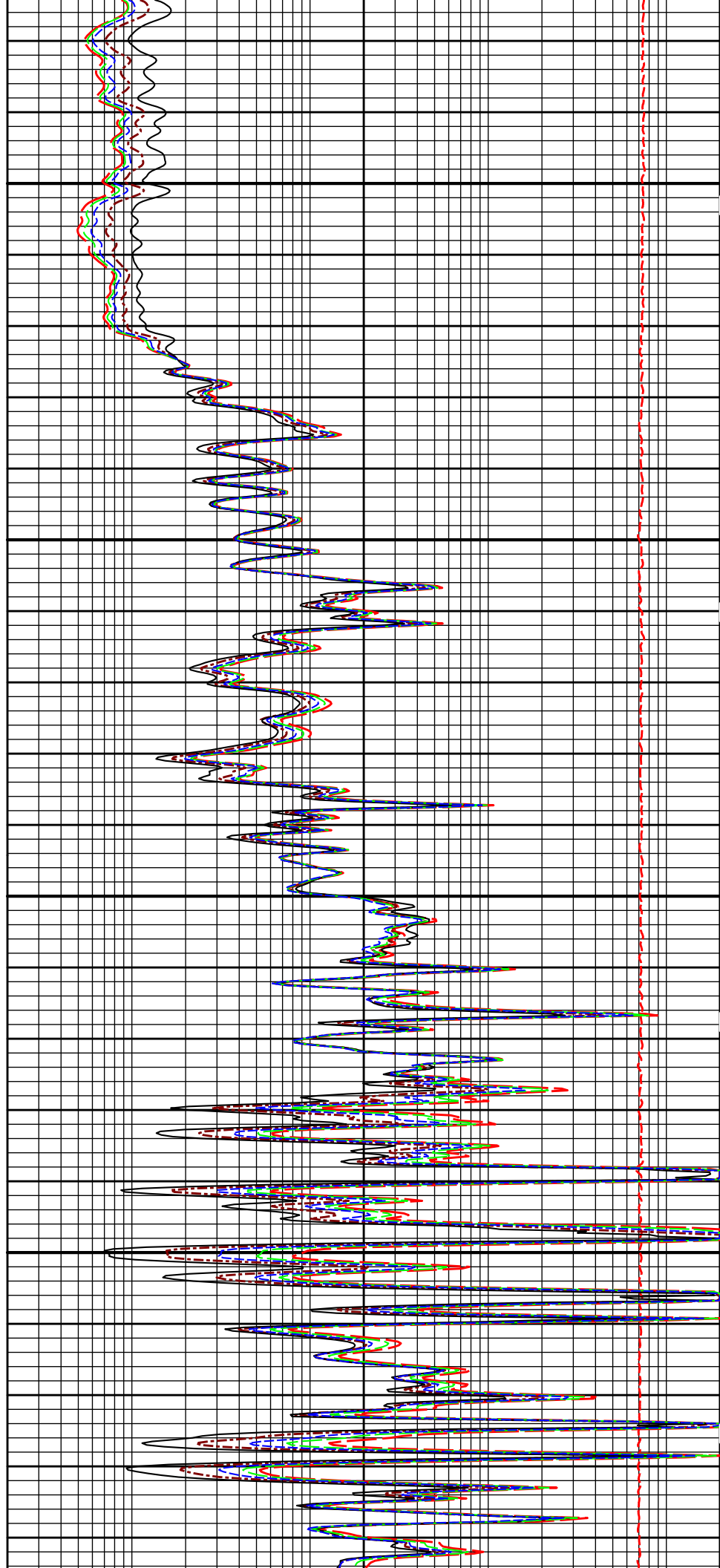
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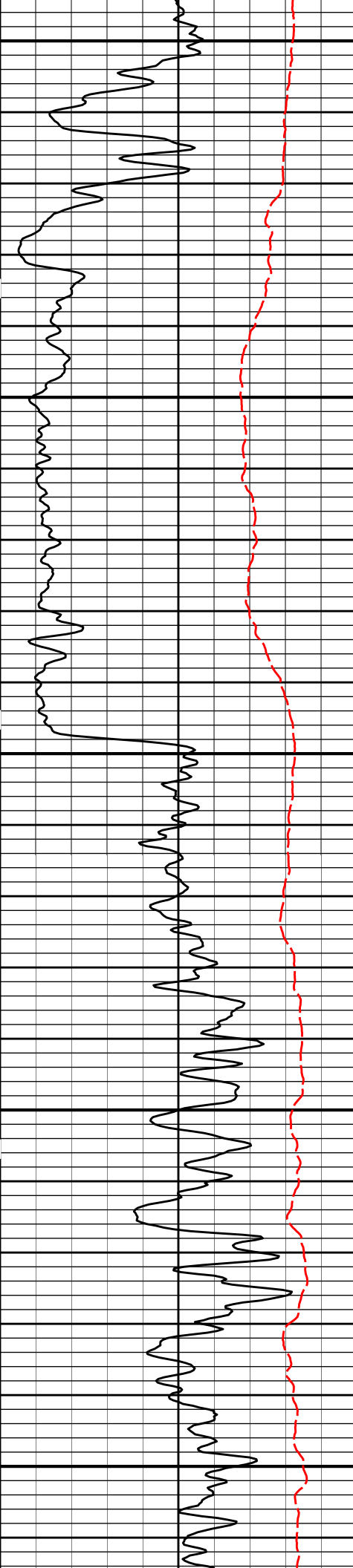




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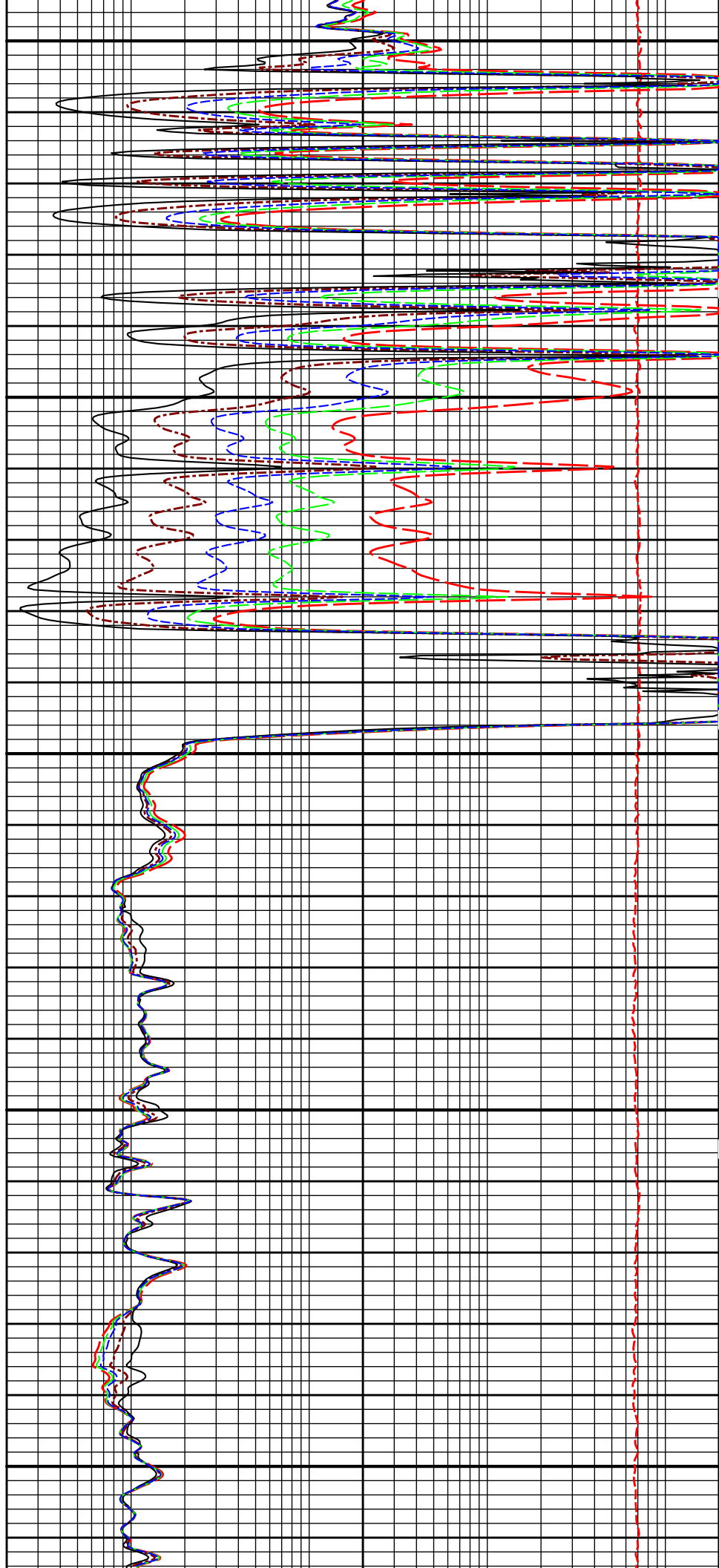
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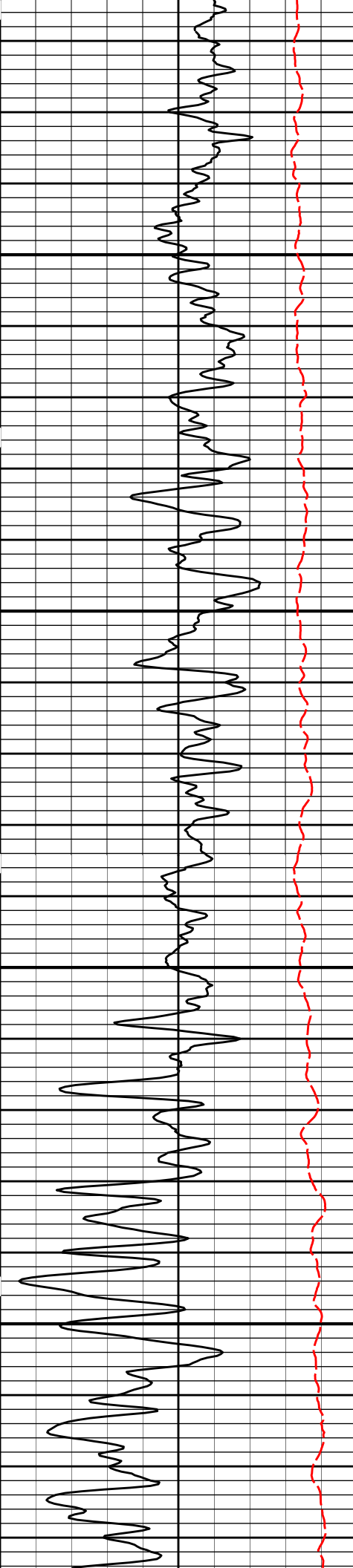




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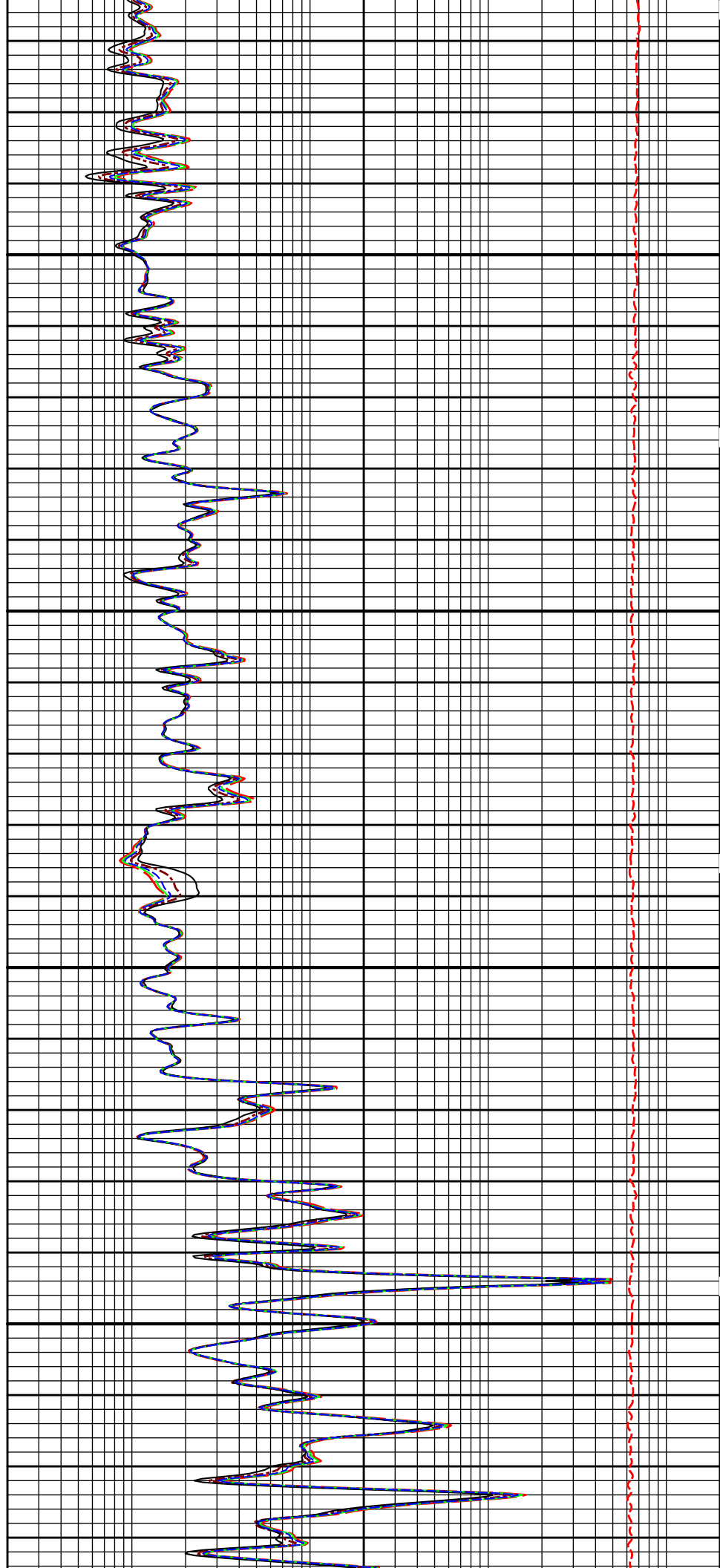
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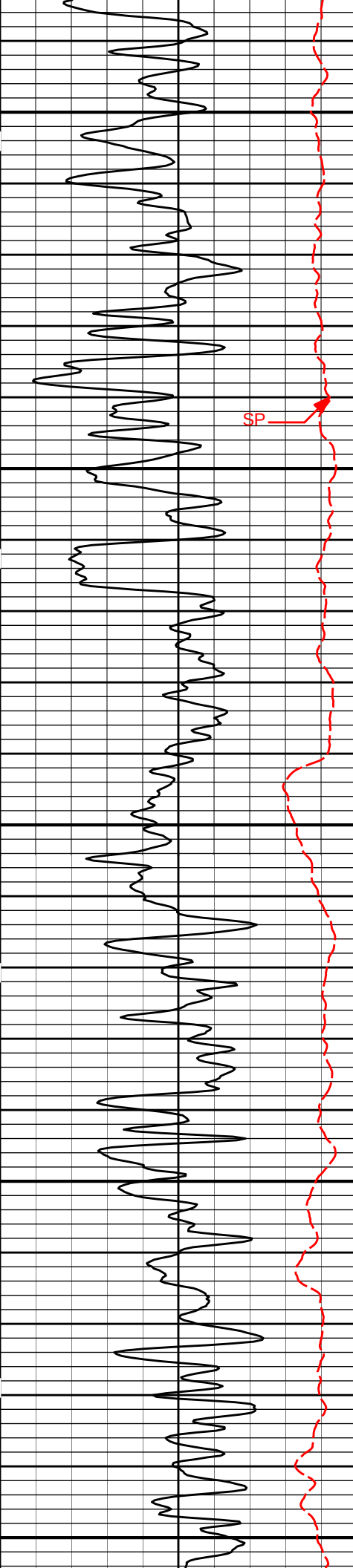




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2500



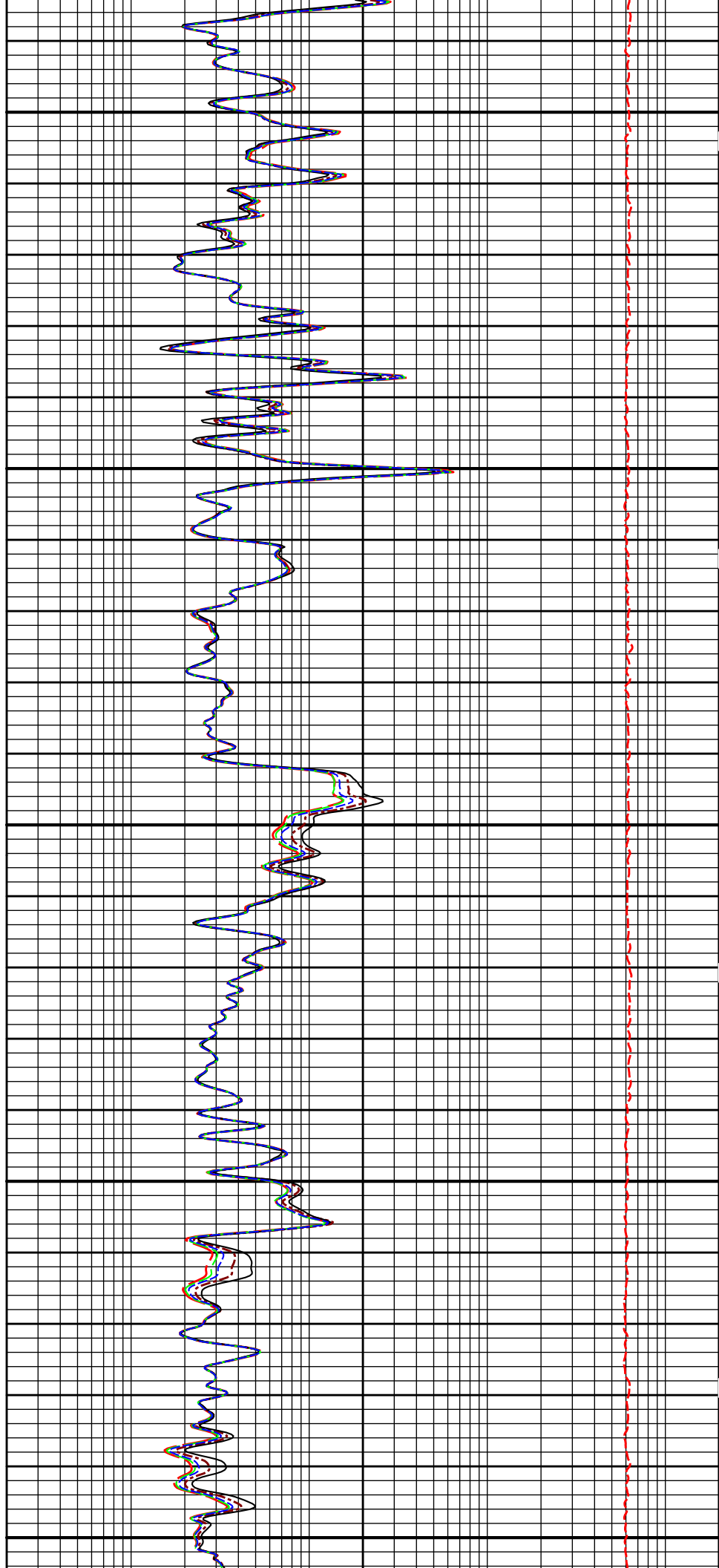


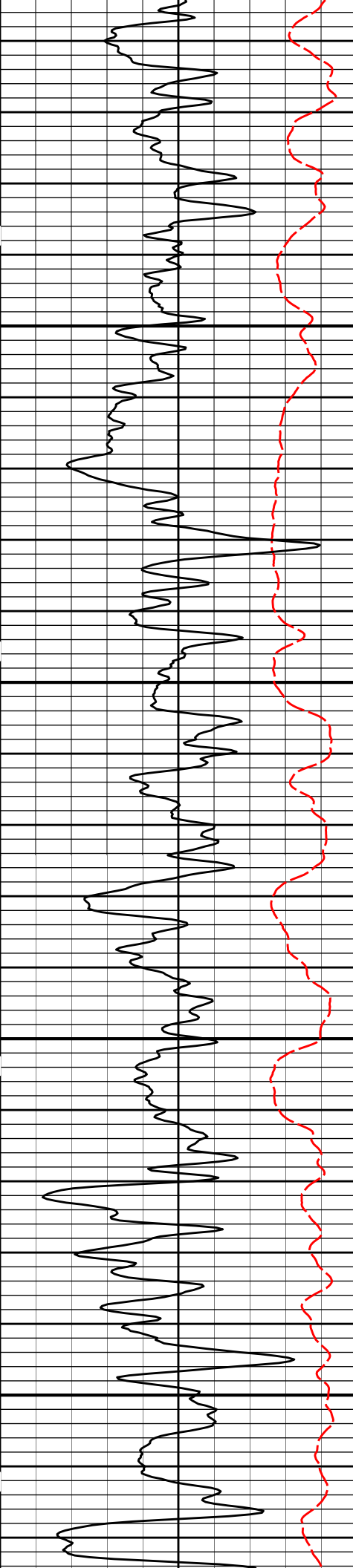
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2700

2800

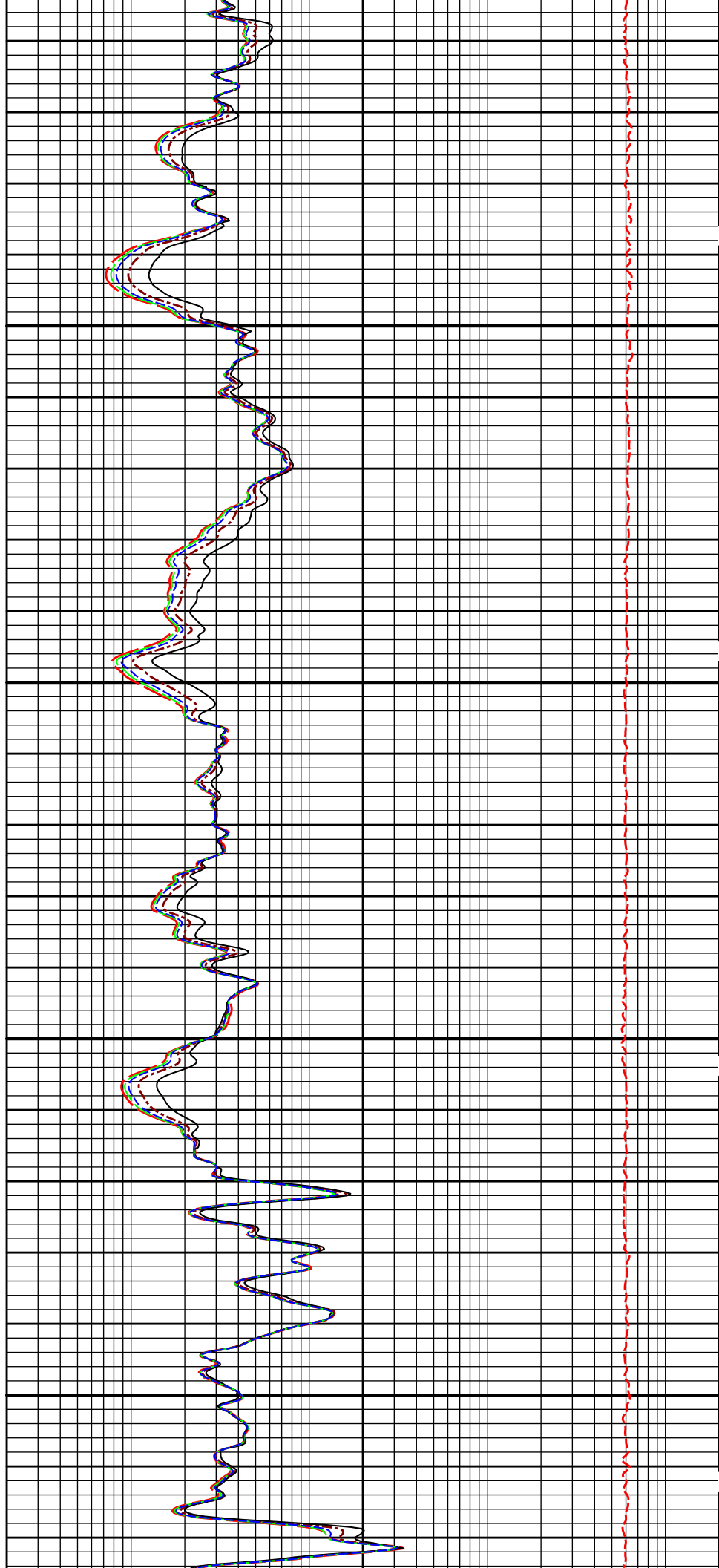
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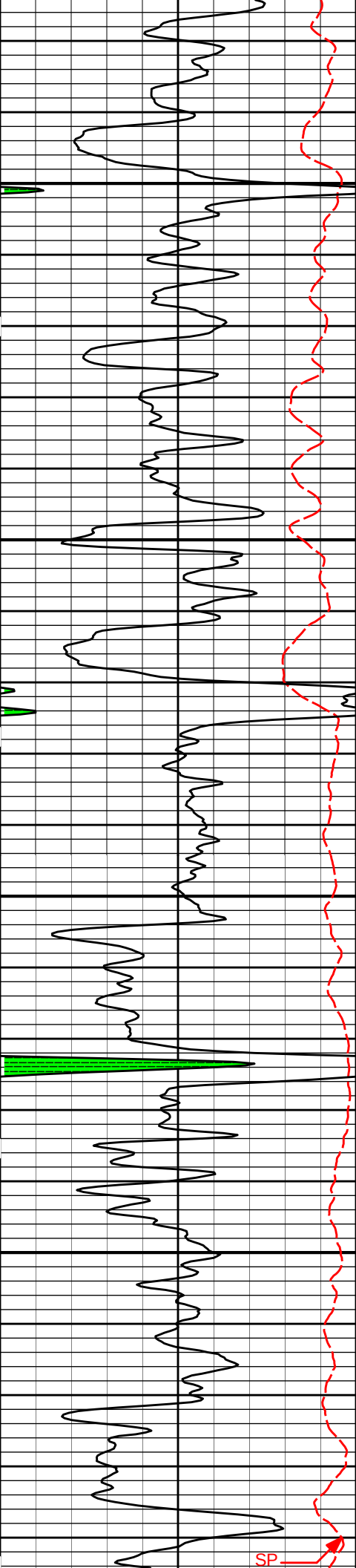




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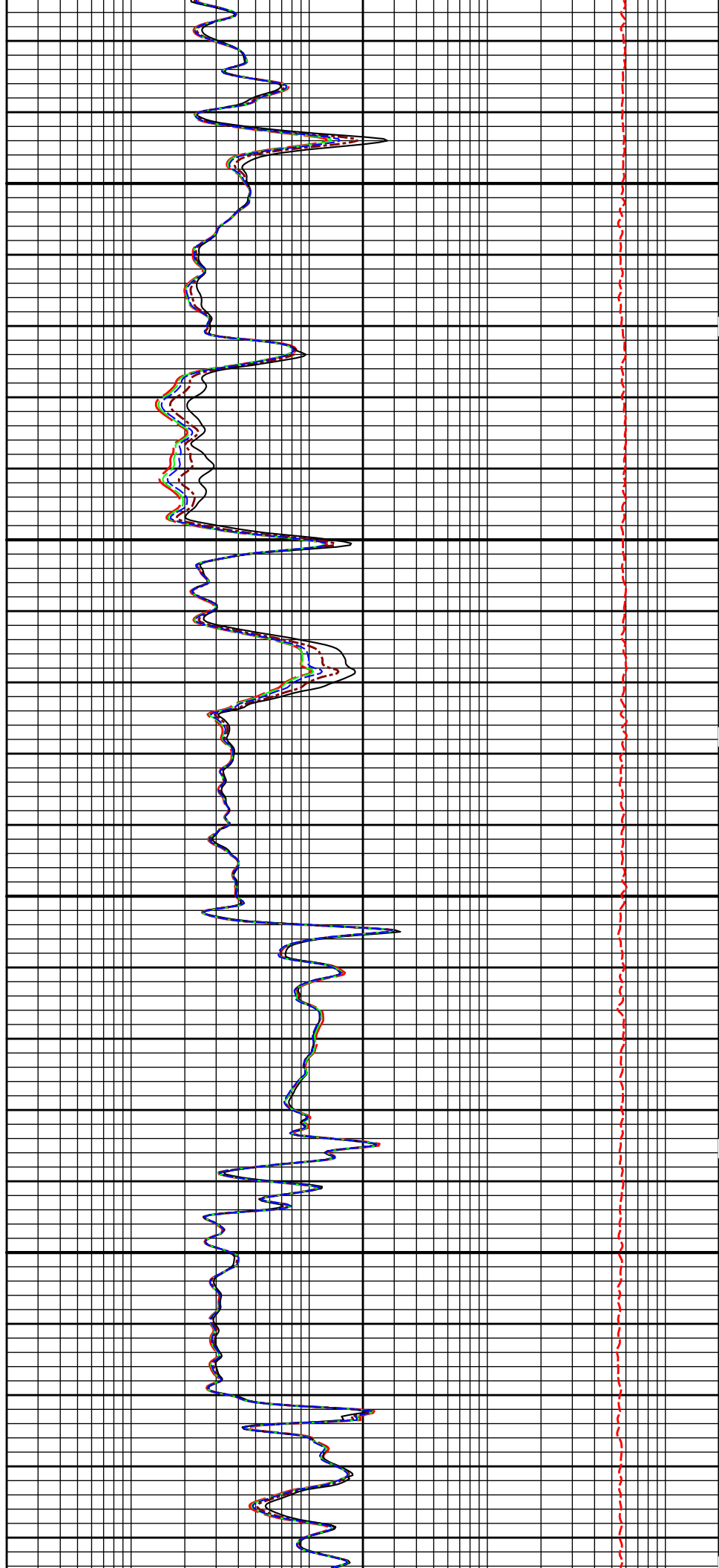
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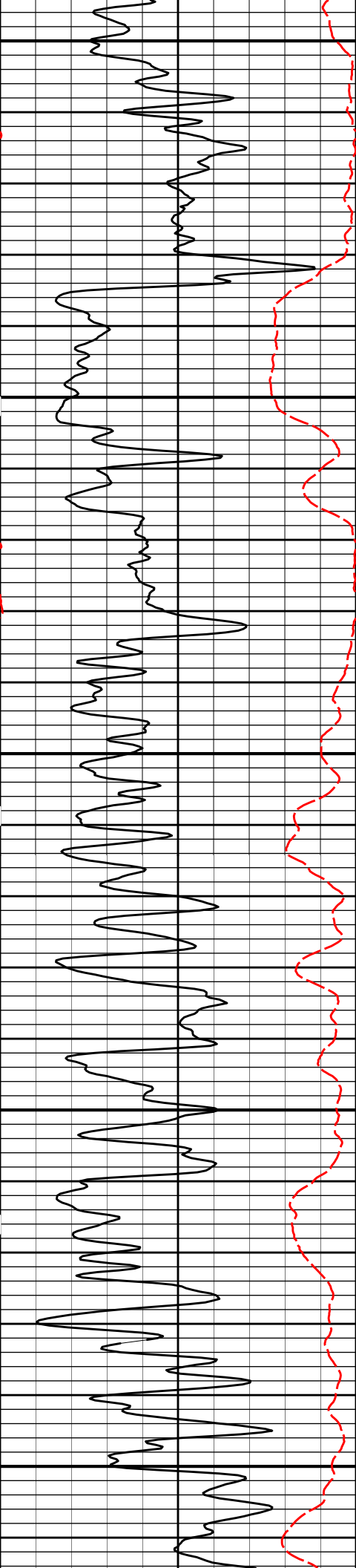




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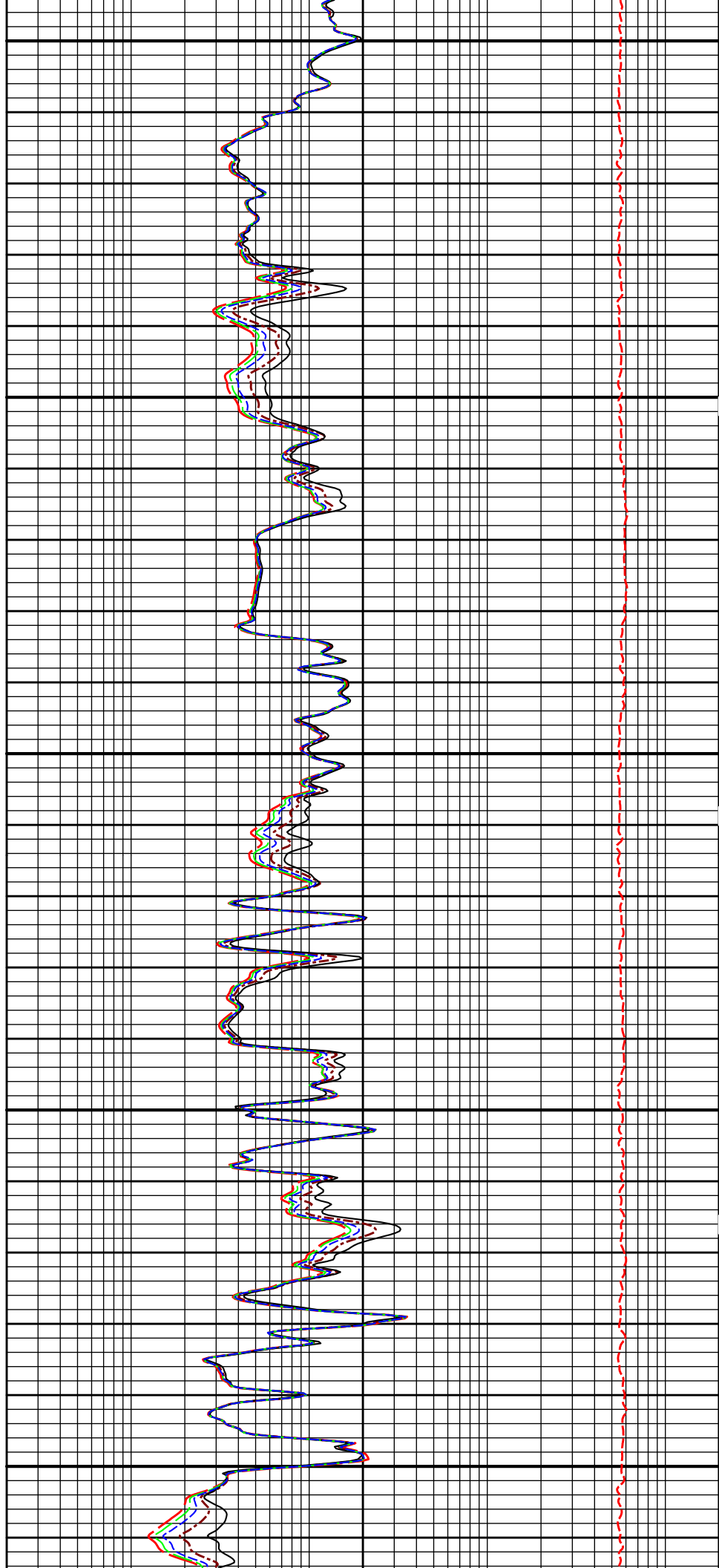
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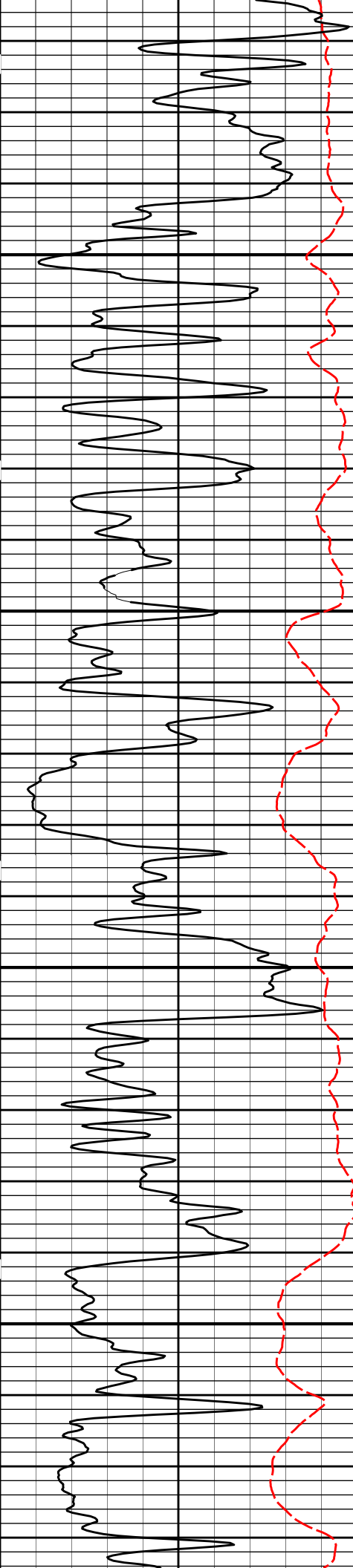




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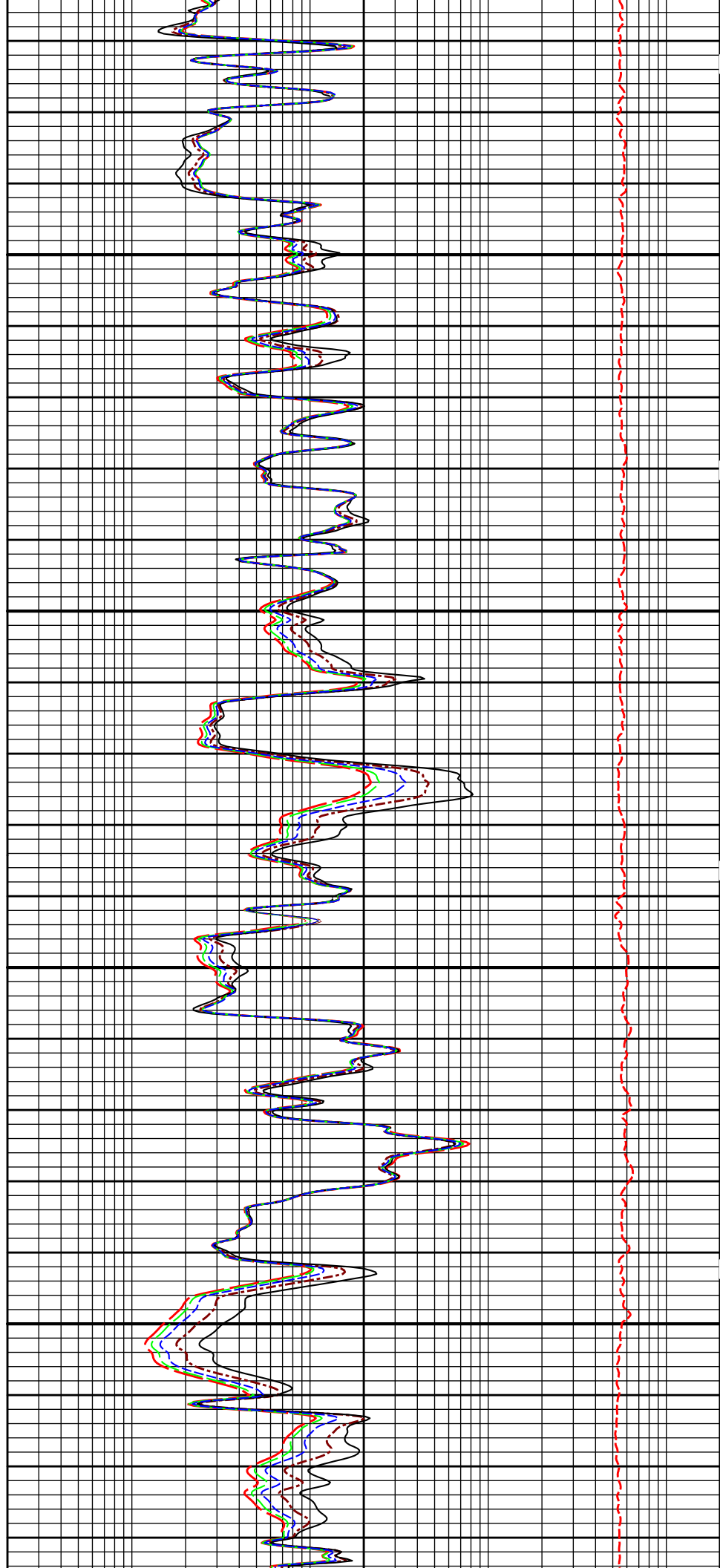
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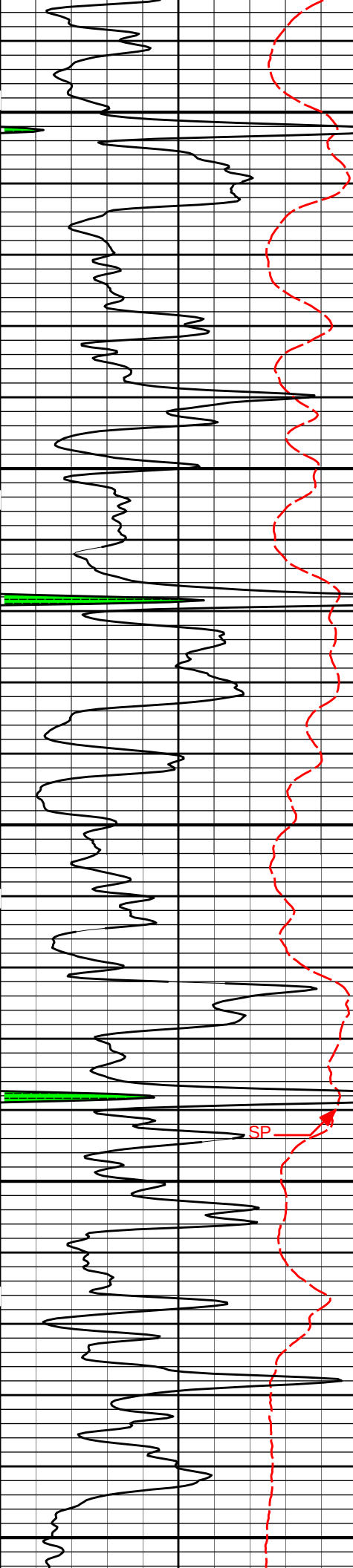




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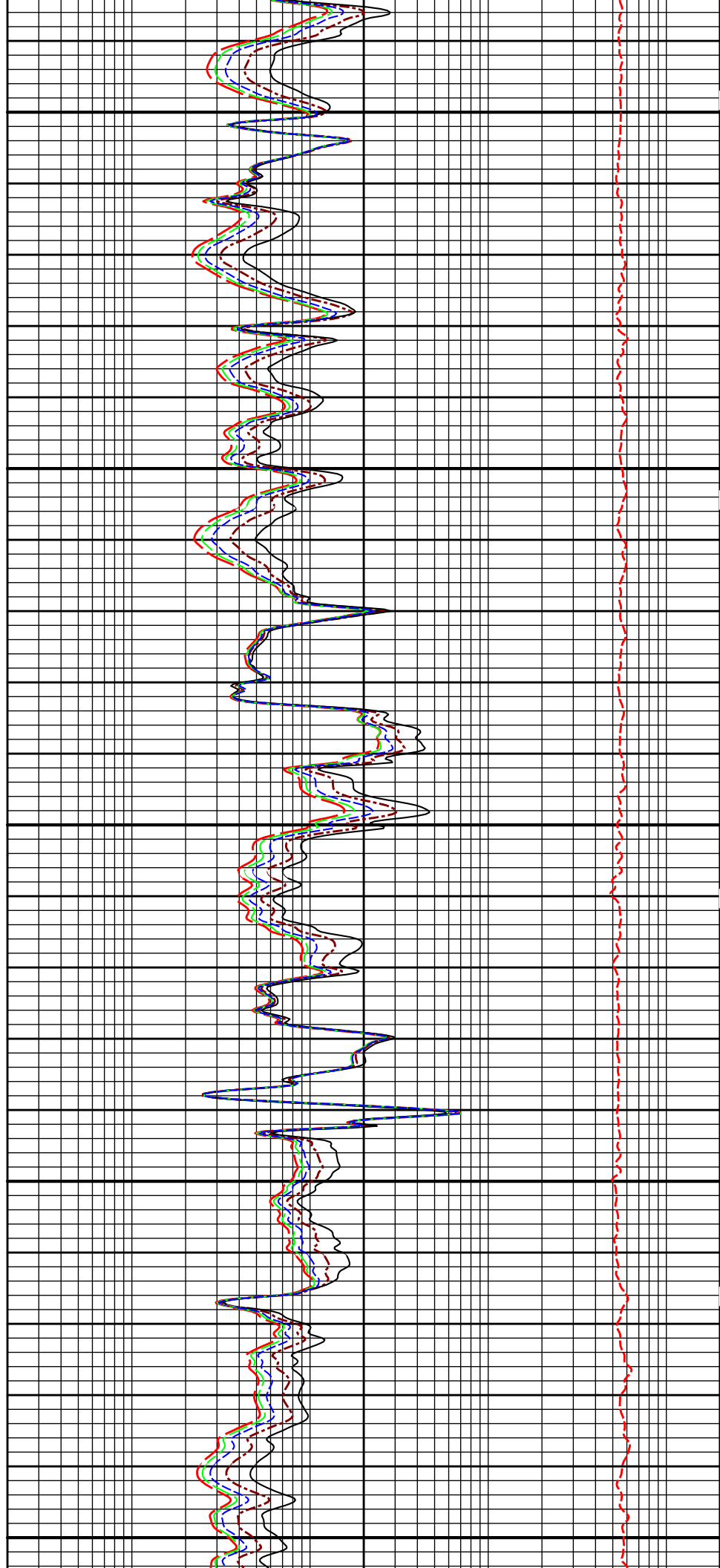




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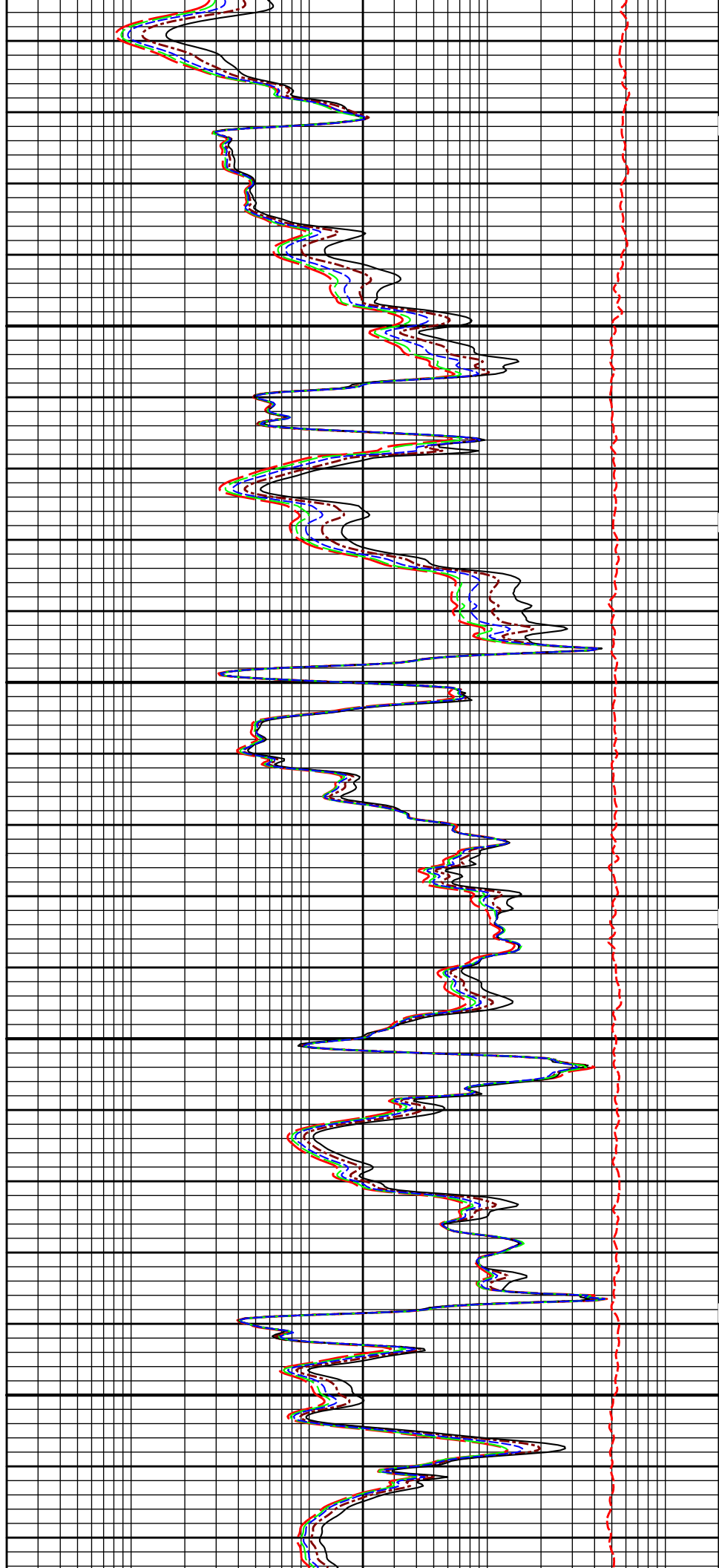
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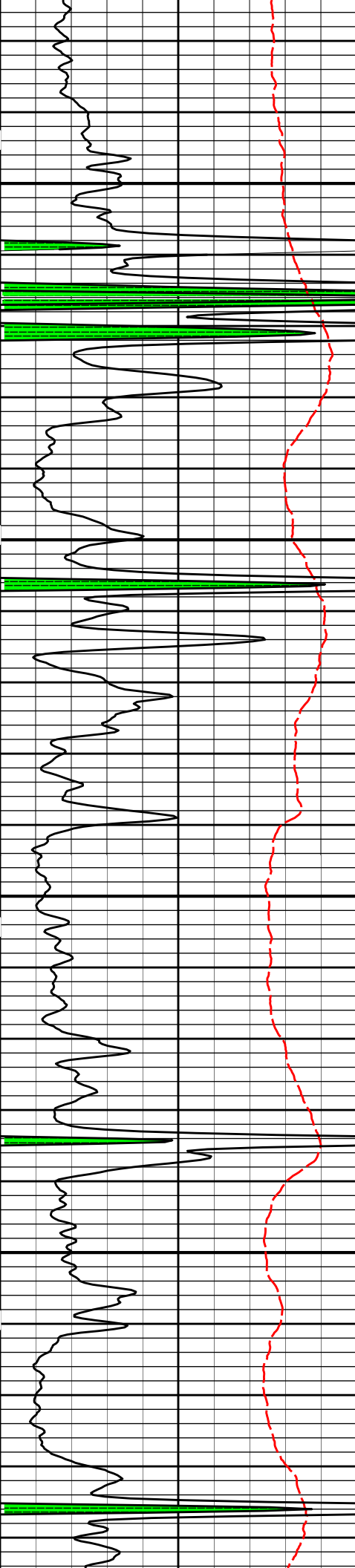




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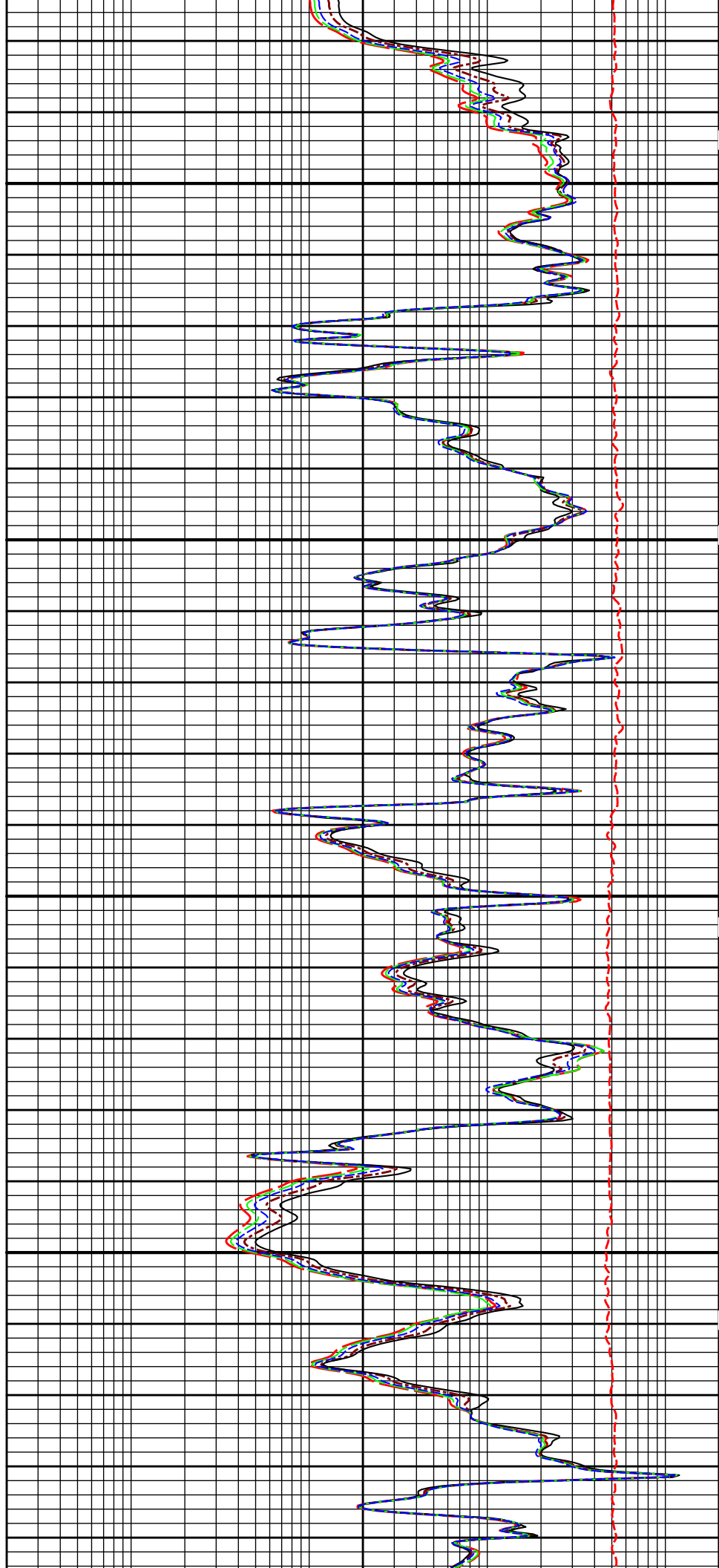
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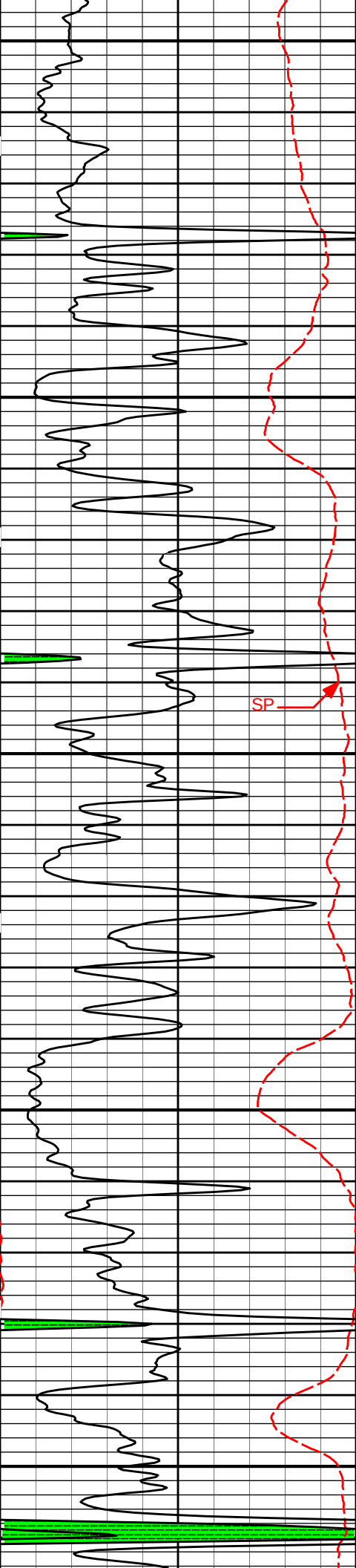




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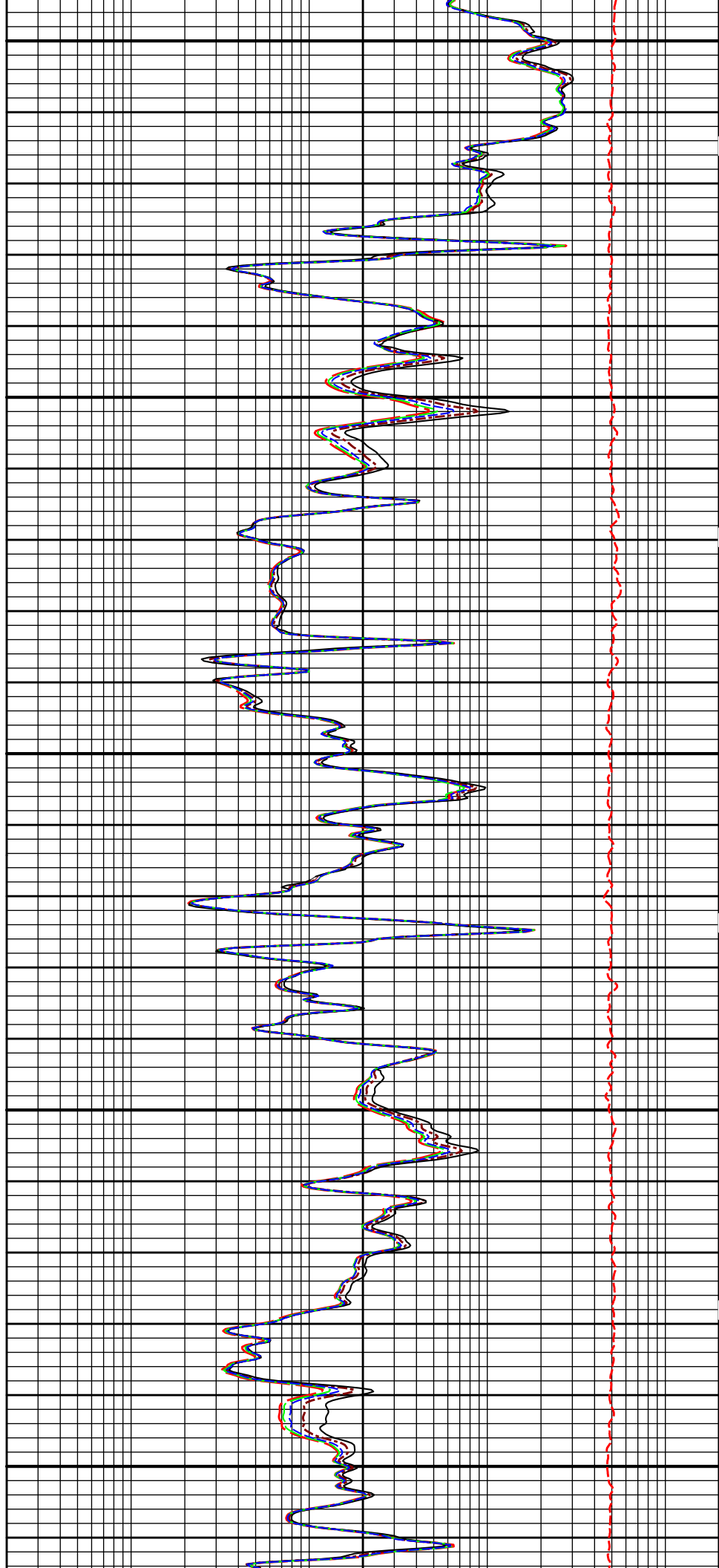
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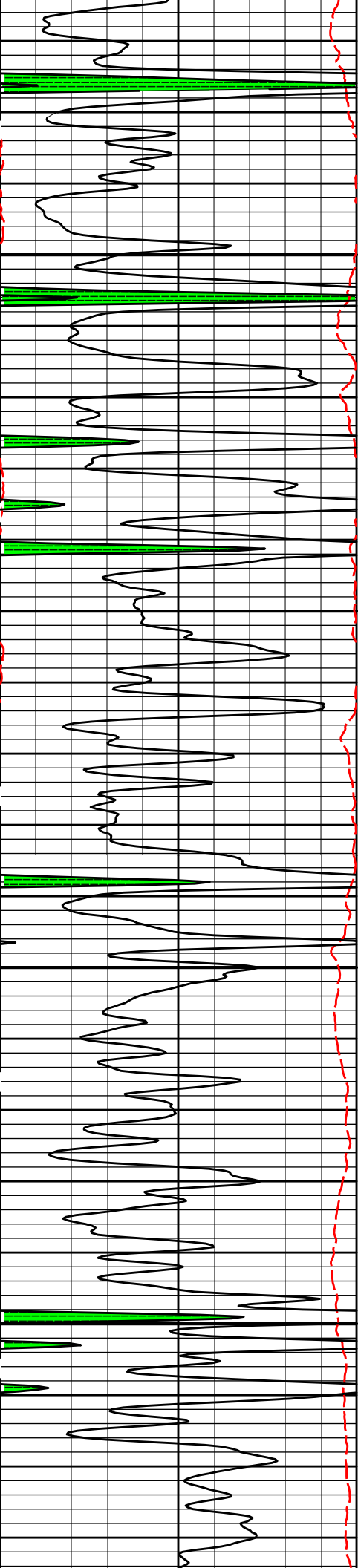




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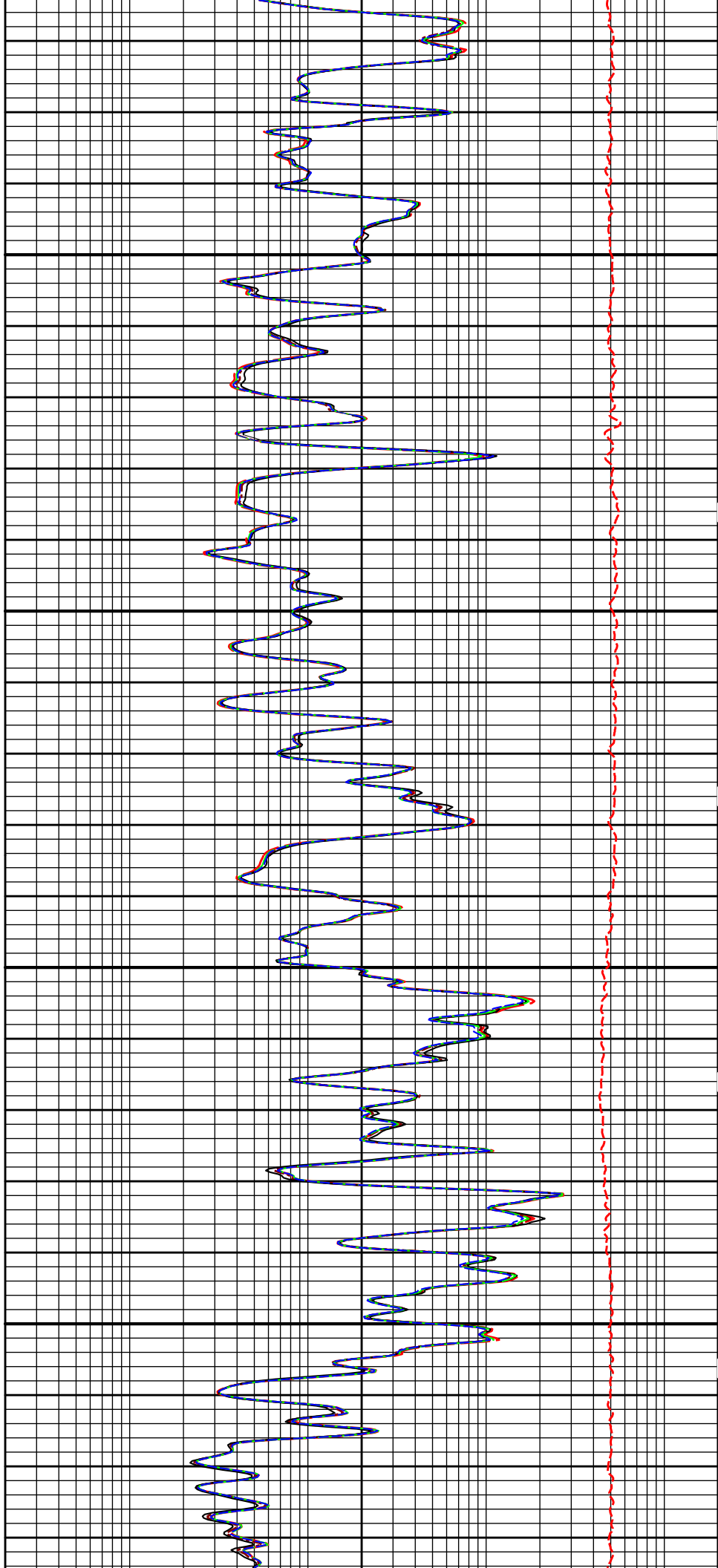
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4700

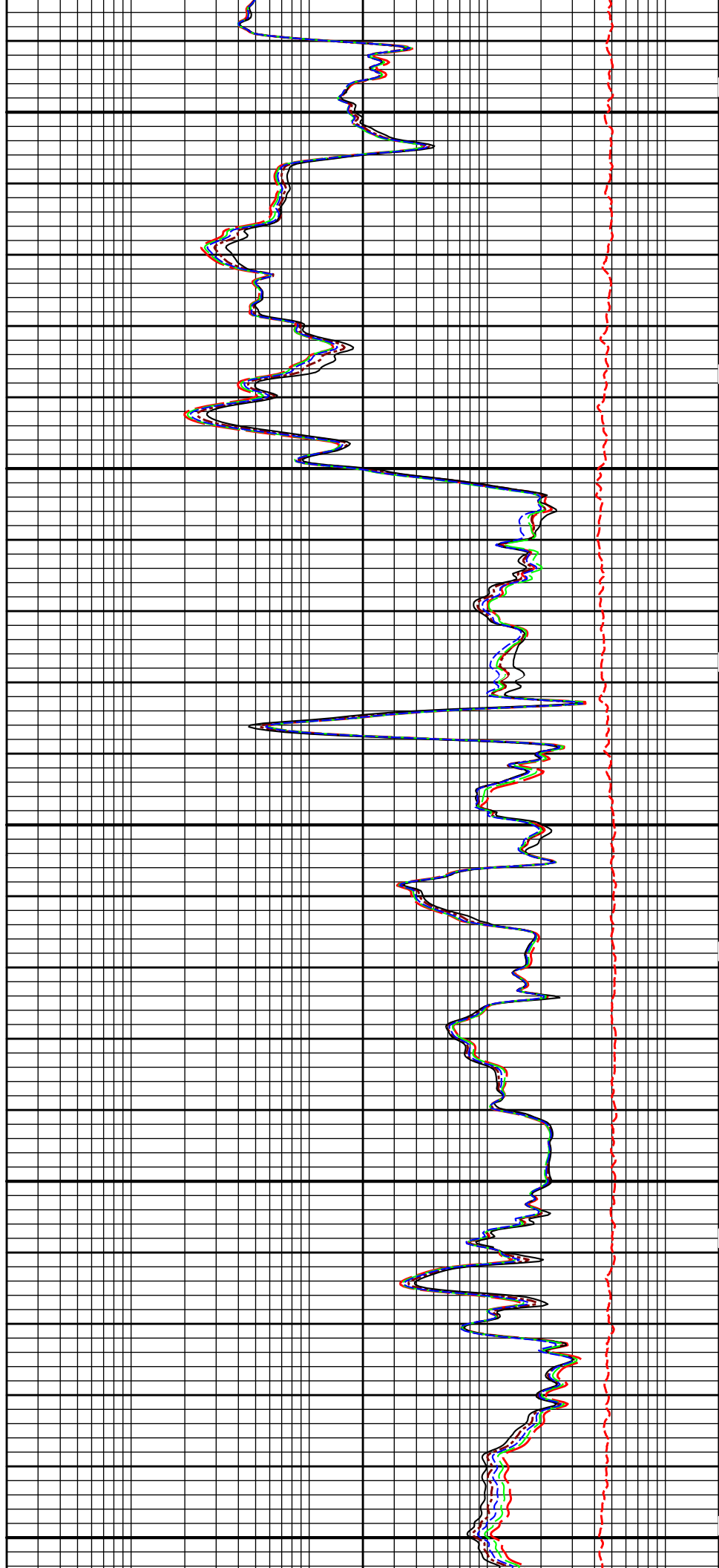


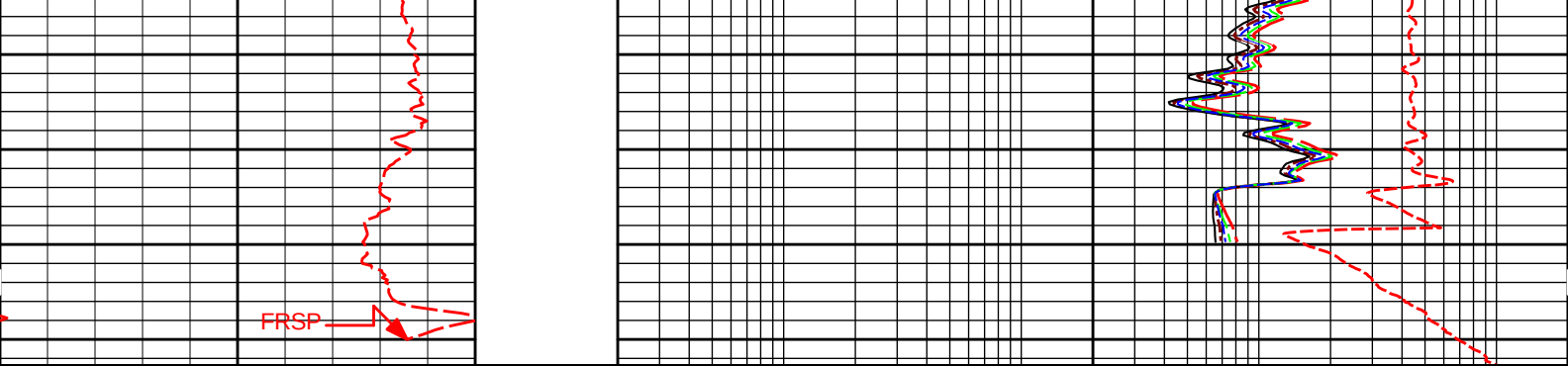


4800

4900

5000





SP		MD 1 : 240 ft	10K Tension 0	
-]20[+			pounds	
0	Gamma API 150		0.2 10in Resistivity 2ft Res 2000	
api			ohmm	
SHALE			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: 28-Sep-13 14:58:22
Plot Range: 207 ft to 5042.75 ft
Data: 09_28_PALOMINO\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-109_28_PALOMINO\Well Based\ACRT\ACRT_5_main_lib

5 INCH MAIN LOG

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	GTET - 10958653	Reference Calibration Date:	03-Aug-13 11:17:56
Engineer:	ALEXANDER MURILLO	Calibration Date:	05-Sep-13 18:03:34
Software Version:	WL INSITE R3.8.11 (Build 5)	Calibration Version:	1

Calibrator Source S/N: TB-71
Calibrator API Reference:231.00 api
Equivalent Calibrator API Reference:235.1 api

Measurement	Measured	Calibrated	Units
Background	26.0	26.1	api
Background + Calibrator	259.7	261.2	api
Calibrator	233.7	235.1	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 10958653	Reference Calibration Date:	05-Sep-13 18:03:34
Engineer:	ALEXANDER MURILLO	Calibration Date:	27-Sep-13 19:41:56
Software Version:	WL INSITE R3.8.11 (Build 5)	Calibration Version:	1

Calibrator Source S/N: TB-71

Field Verification	Shop	Field	Units
Background	26.1	146.5	api
Background + Calibrator	261.2	375.5	api
Calibrator	235.1	229.0	api
Shop	Field	Difference	Tolerance
235.1	229.0	6.1	+/- 9.00

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	ACRt Sonde - 11468725	Reference Calibration Date:	29-Mar-13 16:46:05
Engineer:	ALEXANDER MURILLO	Calibration Date:	31-Aug-13 17:00:20
Software Version:	WL INSITE R3.8.11 (Build 5)	Calibration Version:	1
Host Tool Name:	ACRt Instrument - 11468730		

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.00	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A2 (50")	0.95	1.00	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A3 (29")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A4 (17")	0.95	1.00	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.99	1.05	0.95	0.99	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.99	1.05	0.95	0.99	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	-1.61	2	-6	-4.26	-2	-8	-4.55	-2
A2 (50")	-7	-2.32	0	-7	-3.53	0	-7	-4.33	0
A3 (29")	-27	-15.17	-9	-9	-4.58	-3	-7	-2.90	-1
A4 (17")	-180	-96.97	-60	-45	-30.56	-15	-39	-24.50	-13
A5 (10")	N/A	N/A	N/A	-150	-96.24	-50	-80	-48.23	-10
A6 (6")	N/A	N/A	N/A	175	339.44	525	90	176.25	270

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	1.03	1.3
36K	1.0	1.98	2.0
72K	1.0	1.27	2.0

R-MUD VERIFICATION

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

PASS/FAIL SUMMARY

GAIN RANGE CHK PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

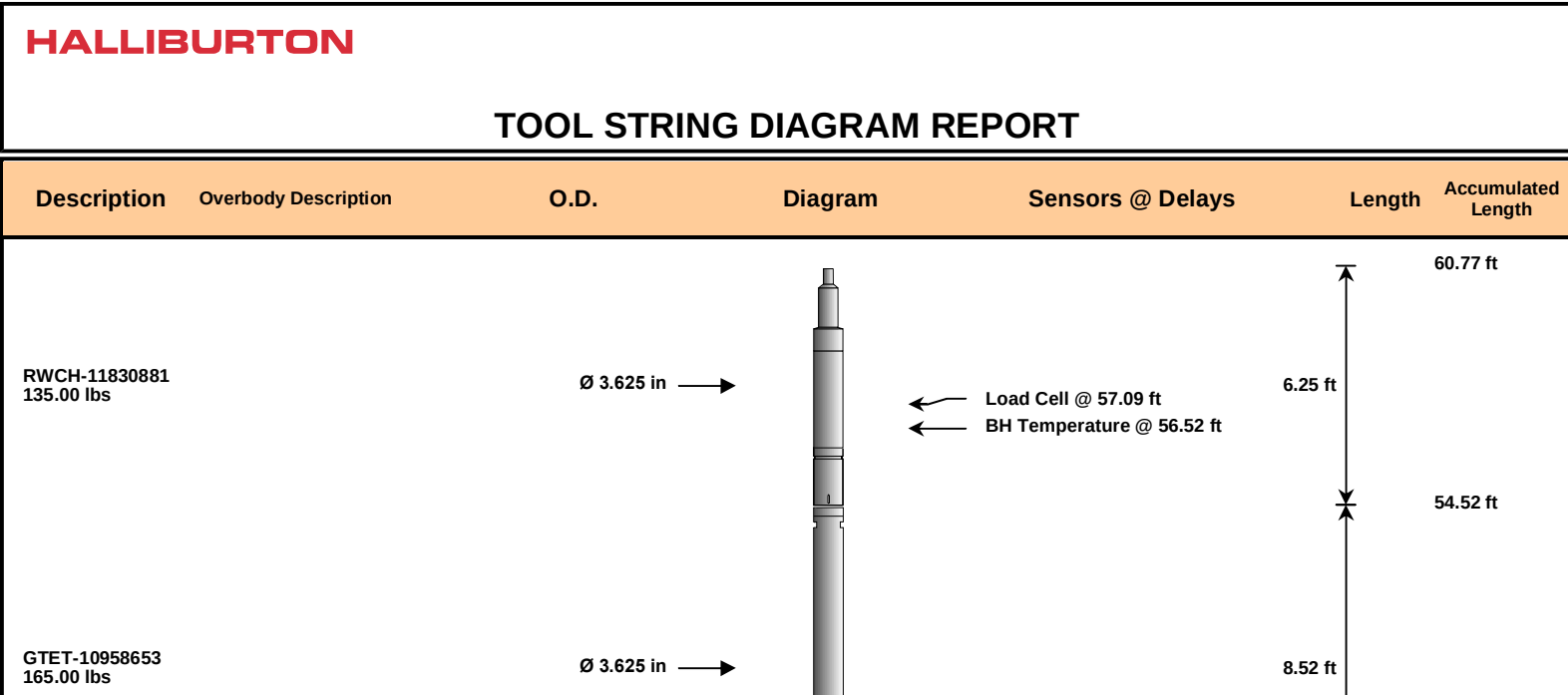
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10958653						
Gamma Ray Calibrator	235.1	229.0		6.1	+/- 9.00	api

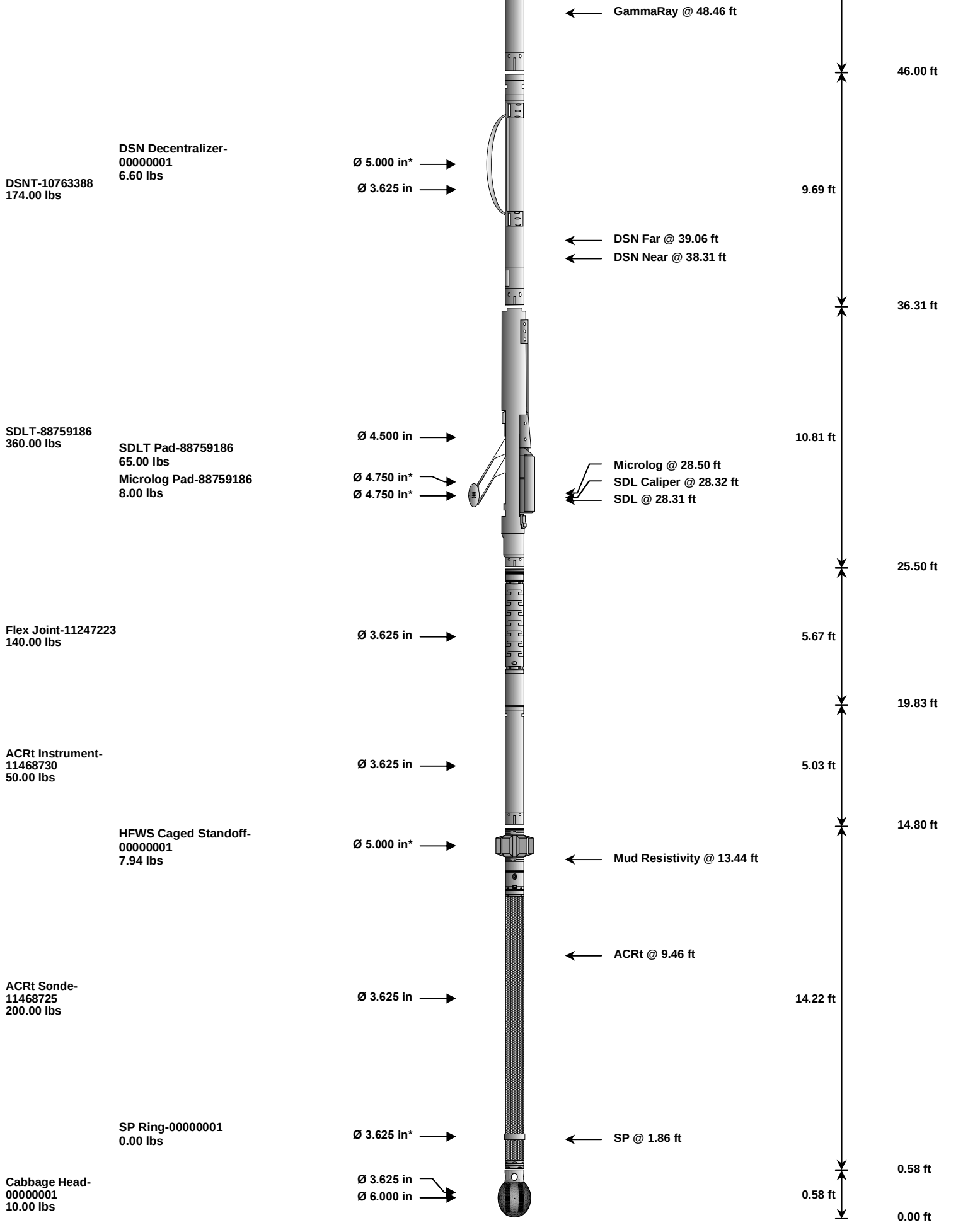
Gamma Ray Calibrator	233.1	229.0	-----	0.1	+/- 9.00	api
ACRt Sonde-11468725						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m
Data: 09_28_PALOMINO\0001 RWCH-GTET-CSNG-DSN-SDL-ML-FLEX-ACRT-HFaa\IDLE						Date: 28-Sep-13 14:49:38

HALLIBURTON CUSTOMER EVENT LOG			
Event Type	Time & Date	Depth (ft)	Event Description
	28-Sep-13 12:22:04	406.50	Logging 001 28-Sep-13 12:22 Up @406.5f
	28-Sep-13 12:27:24	177.83	Halting 001 28-Sep-13 12:22 Up @406.5f
	28-Sep-13 12:28:37	215.50	Logging 002 28-Sep-13 12:28 Dn @215.5f
	28-Sep-13 12:48:57	4912.21	Halting 002 28-Sep-13 12:28 Dn @215.5f
	28-Sep-13 12:53:43	5042.75	Logging 003 28-Sep-13 12:53 Up @5042.8f
	28-Sep-13 14:24:50	61.44	Halting 003 28-Sep-13 12:53 Up @5042.8f
Data: 09_28_PALOMINO\0001 RWCH-GTET-CSNG-DSN-SDL-ML-FLEX-ACRT-HFaa\HW11043			Date: 28-Sep-13 14:50:44

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	9.200	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	6500.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	0.700	ohmm
	SHARED	TRM	Temperature of Mud	69.0	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	5045.00	ft
	SHARED	BHT	Bottom Hole Temperature	112.0	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	0.10	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
	Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm

CrossPlot	Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
GTET	GTET	GROK	Process Gamma Ray?	Yes	
GTET	GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
DSNT	DSNT	DNOK	Process DSN?	Yes	
DSNT	DSNT	DEOK	Process DSN EVR?	No	
DSNT	DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DSNT	DSNO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DSNT	DNTP	Temperature Correction Type	None	
DSNT	DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	DSNT	SHCO	View More Correction Options	No	
DSNT	DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
Microlog Pad	Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
ACRt Sonde	ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt Sonde	ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
BOTTOM					
Data: 09_28_PALOMINO\0001 RWCH-GTET-CSNG-DSN-SDL-ML-FLEX-ACRT-HFaa\003 28-Sep-13 12:53 Up @5042.8f				Date: 28-Sep-13 14:52:08	

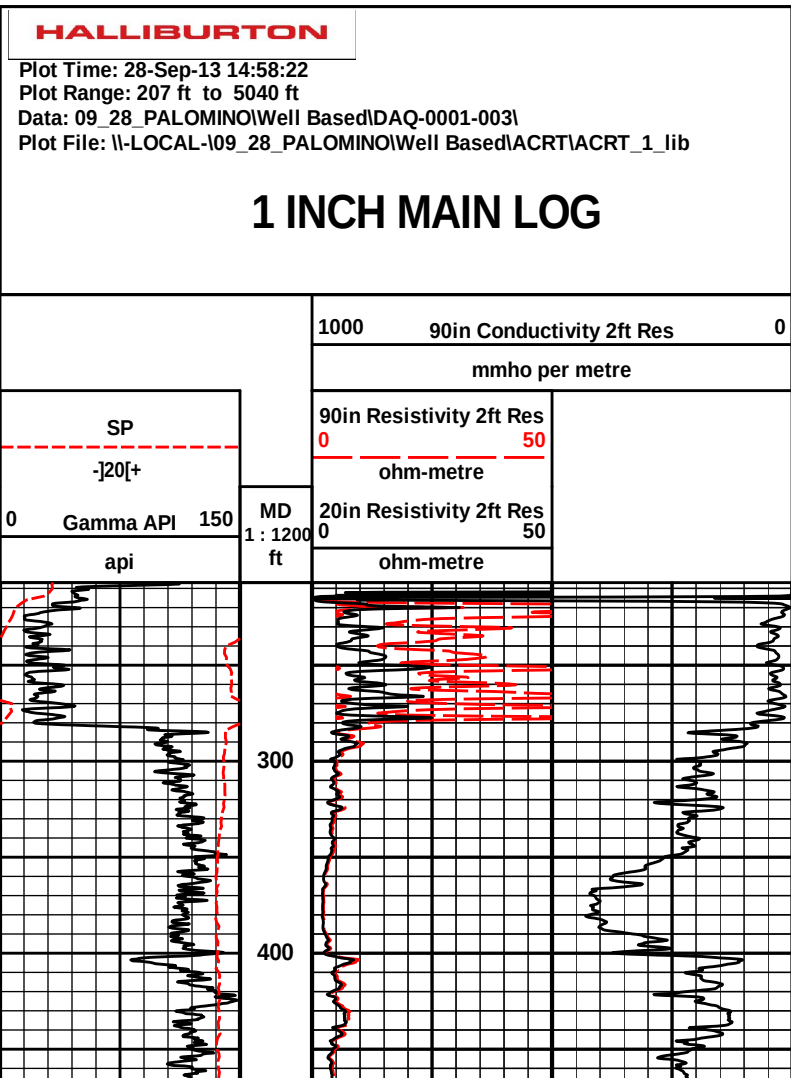


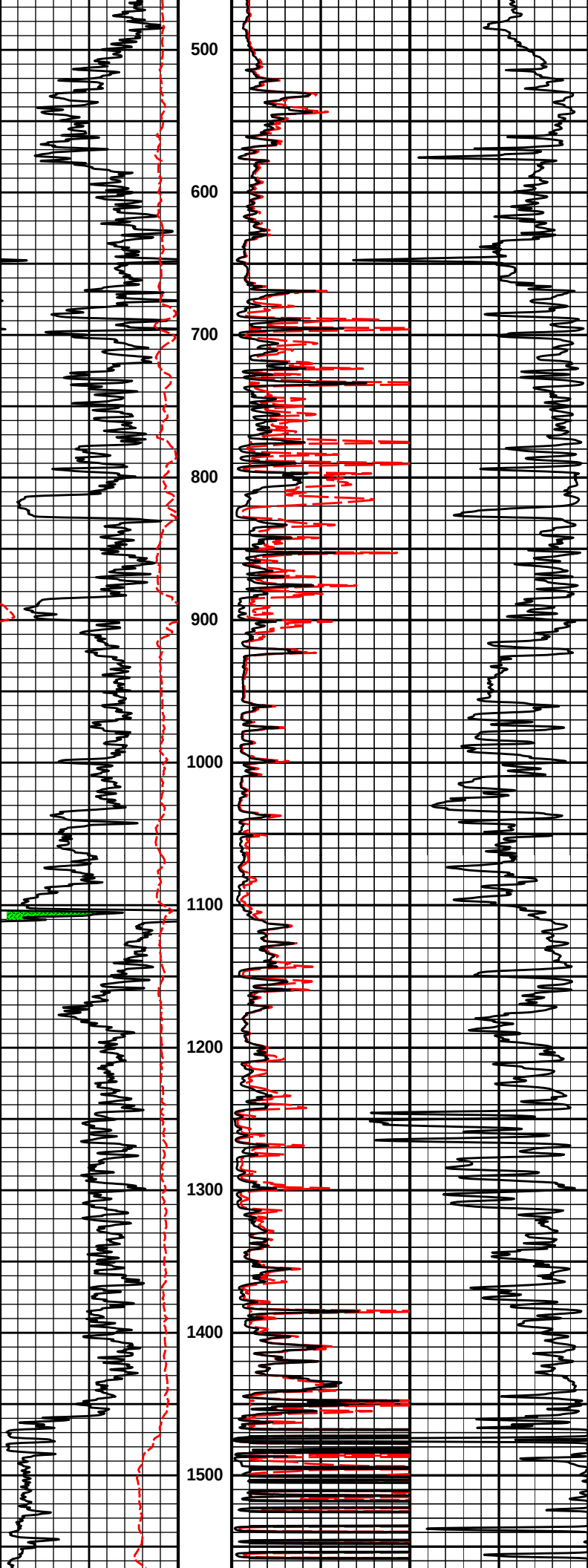


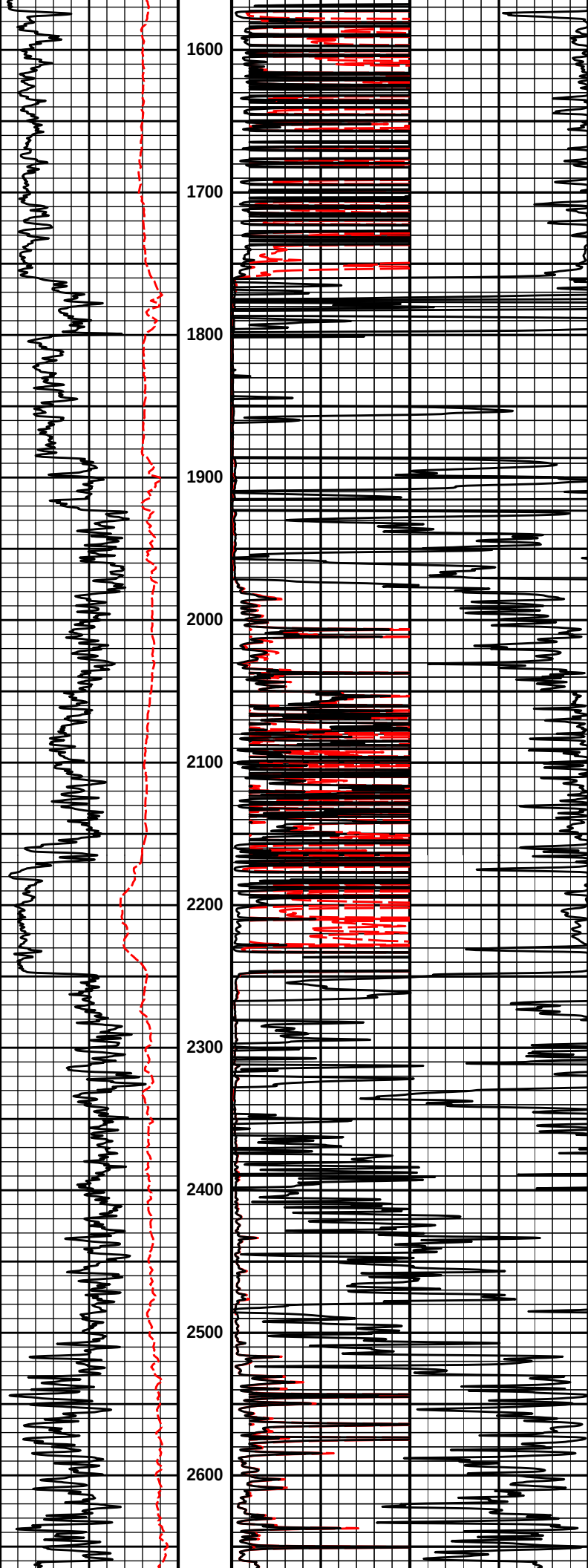
Mnemonic		Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH		Releasable Wireline Cable Head	11830881	135.00	6.25	54.52	300.00
GTET		Gamma Telemetry Tool	10958653	165.00	8.52	46.00	60.00

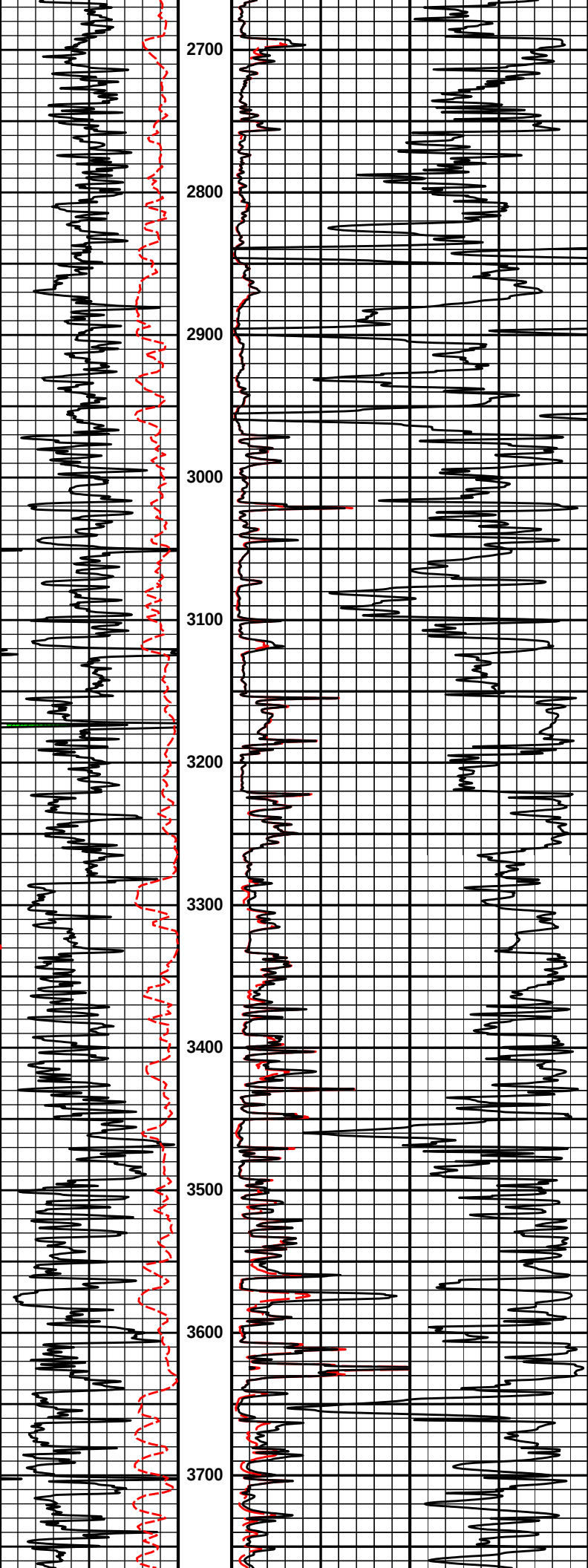
TYPE	Gamma Telemetry Tool	10938000	100.00	0.32	40.00	60.00
DSNT	Dual Spaced Neutron	10763388	174.00	9.69	36.31	60.00
DCNT	DSN Decentralizer	00000001	6.60	5.13 *	39.64	300.00
SDLT	Spectral Density Tool	88759186	360.00	10.81	25.50	60.00
SDLP	Density Insite Pad	88759186	65.00	2.55 *	27.71	60.00
MICP	Microlog Pad	88759186	8.00	1.00 *	28.00	60.00
FLEX	Flex Joint	11247223	140.00	5.67	19.83	300.00
ACRt	Array Compensated True Resistivity Instrument Section	11468730	50.00	5.03	14.80	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11468725	200.00	14.22	0.58	300.00
SP	SP Ring	00000001	0.00	0.25 *	1.86	300.00
HFCS	Hostile Full Wave Sonic Caged Metal and Rubber Standoff	00000001	7.94	1.33 *	13.35	300.00
CBHD	Cabbage Head	00000001	10.00	0.58	0.00	300.00
Total			1,321.54	60.77		
* Not included in Total Length and Length Accumulation.						
Data: 09_28_PALOMINO\0001 RWCH-GTET-CSNG-DSN-SDL-ML-FLEX-ACRT-HFaal003 28-Sep-13 12:53 Up @5042.8f				Date: 28-Sep-13 14:52:38		

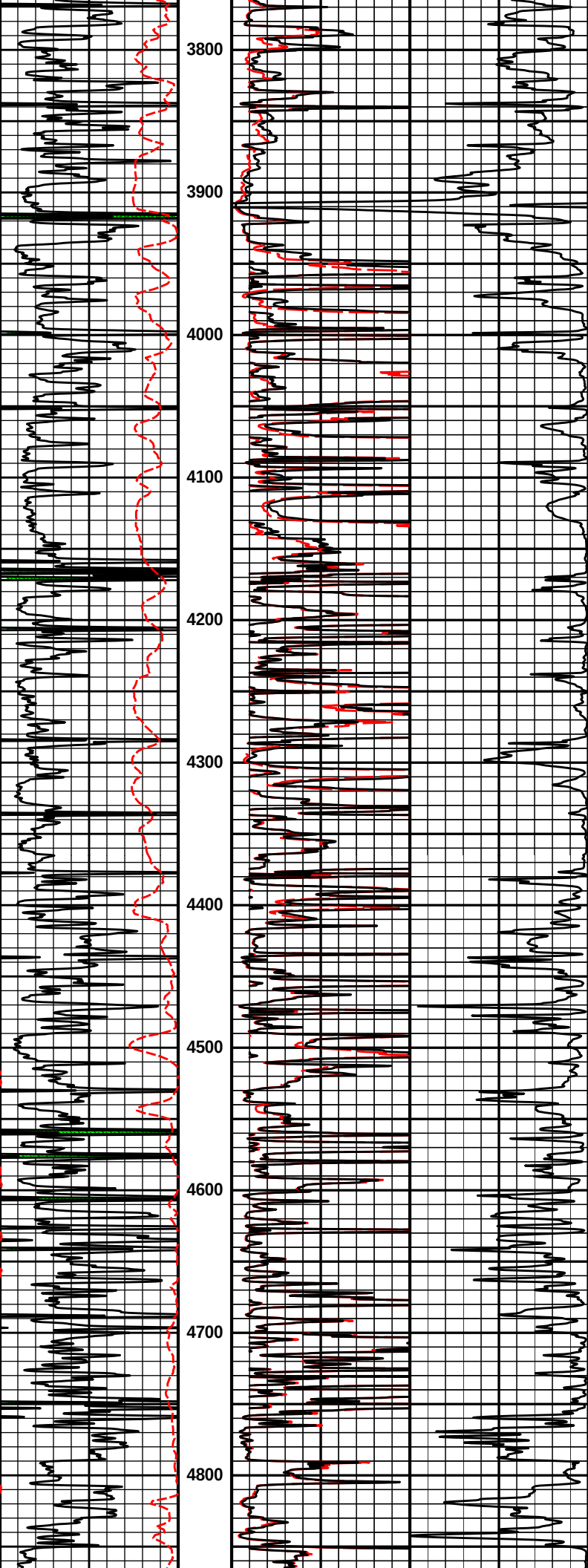
COMPANY	PALOMINO PETROLEUM, INC.					
WELL	DANFIELD21 No.1					
FIELD	None (Wildcat)					
COUNTY	SCOTT	STATE	KANSAS			
HALLIBURTON			ARRAY COMPENSATED TRUE RESISTIVITY			

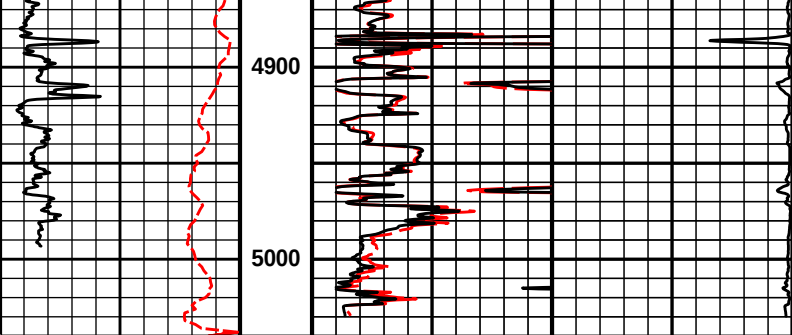












0	Gamma API	150	MD	20in Resistivity 2ft Res	
	api		1 : 1200	0	
	SP		ft	ohm-metre	
	- 20 +			90in Resistivity 2ft Res	
				0	50
				ohm-metre	
				1000	90in Conductivity 2ft Res
					0
					mmho per metre

HALLIBURTON

Plot Time: 28-Sep-13 14:58:26
Plot Range: 207 ft to 5040 ft
Data: 09_28_PALOMINO\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\\09_28_PALOMINO\Well Based\ACRT\ACRT_1.lib

1 INCH MAIN LOG