

Company	Ramshorn Resources, LLC.	Company	Ramshorn Resources, LLC.
Well	Degeer #03-01	Well	Degeer #03-01
Field	Degeer	Field	Degeer
County	Barber	County	Barber
State	Kansas	State	Kansas
Location:	1345' FSL & 2018' FEL SW NE SE	API #:	15-007-24377
SEC 03	TWP 33S	RGE	15W
Permanent Datum	G.L.	Elevation	1975 ft.
Log Measured From	K.B.		12 ft. above perm. datum
Drilling Measured From	K.B.		
		Other Services	IAT
		Elevation	1987 ft.
		D.F.	1986 ft.
		G.L.	1975 ft.

Date	24-Feb-2021
Run Number	One
Depth Driller	5575'
Depth Logger	5568'
Bottom Logged Interval	5553'
Top Log Interval	220'
Casing Driller	13 3/8" @ 223'
Casing Logger	222'
Bit Size	7 7/8"
Type Fluid in Hole	WBM
Density / Viscosity	9.25 / 59
PH / Fluid Loss	11.0 / 7.6
Source of Sample	Flowline
Rm @ Meas. Temp	1.26 @ 75°F
Rmt @ Meas. Temp	0.94 @ 75°F
Rmc @ Meas. Temp	1.57 @ 75°F
Source of Rmf / Rmc	Calculated
Rm @ BHT	0.81 @ 120°F
Time Circulation Stopped	13:15
Time Logger on Bottom	17:42
Maximum Recorded Temperature	120°F
Equipment Number	11008
Location	OKC, OK.
Recorded By	H. Garcia
Witnessed By	Mr. JD Dubwig

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**Equipment and Log Data**

Service Order: T8-210224

Gamma		Density		Neutron		Sonic		IAT/DLL	
Run No.	One	Run No.	One	Run No.	One	Run No.	One	Run No.	One
Serial No.	049	Serial No.	110	Serial No.	071	Serial No.	NA	Serial No.	110
O.D.	3.375 in.	Source No.	70997B	Source No.	1414NC	Centralizers	NA	Standoffs	2 @ 0.5"
		O.D.	4.5 in.	O.D.	3.375 in.	O.D.	3.375 in.	O.D.	3.875 in.

**Logging Pass Data**

General			Gamma		Density			Neutron			Sonic			IAT/DLL	
			Scales		Scales			Scales			Scales			Scales	
Run	Depths		Left	Right	Left	Right	Matrix	Left	Right	Matrix	Left	Right	Matrix	Left	Right
One	25'	TD	0	150	0.3	-0.10	2.71 g/cc	0.3	-0.10	Lime	NA	NA	NA	0.2	2000

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

**Comments**

Toolstring ran as per diagram.  
 Density is presented on a 2.71g/cc Matrix, Neutron is presented on a Limestone Matrix  
 Chlorides: 3500 ppm  
 LCM: 3 lb/bbl  
 Annular volume calculated using 5.5" casing.

YOUR CREW TODAY: J. Bennett / J. Willis / J. Wood

THANK YOU FOR CHOOSING WIRELINE LOGGING SOLUTIONS. OKLAHOMA CITY, OK. (405) 445-7135.

# WIRELINE LOGGING SOLUTIONS

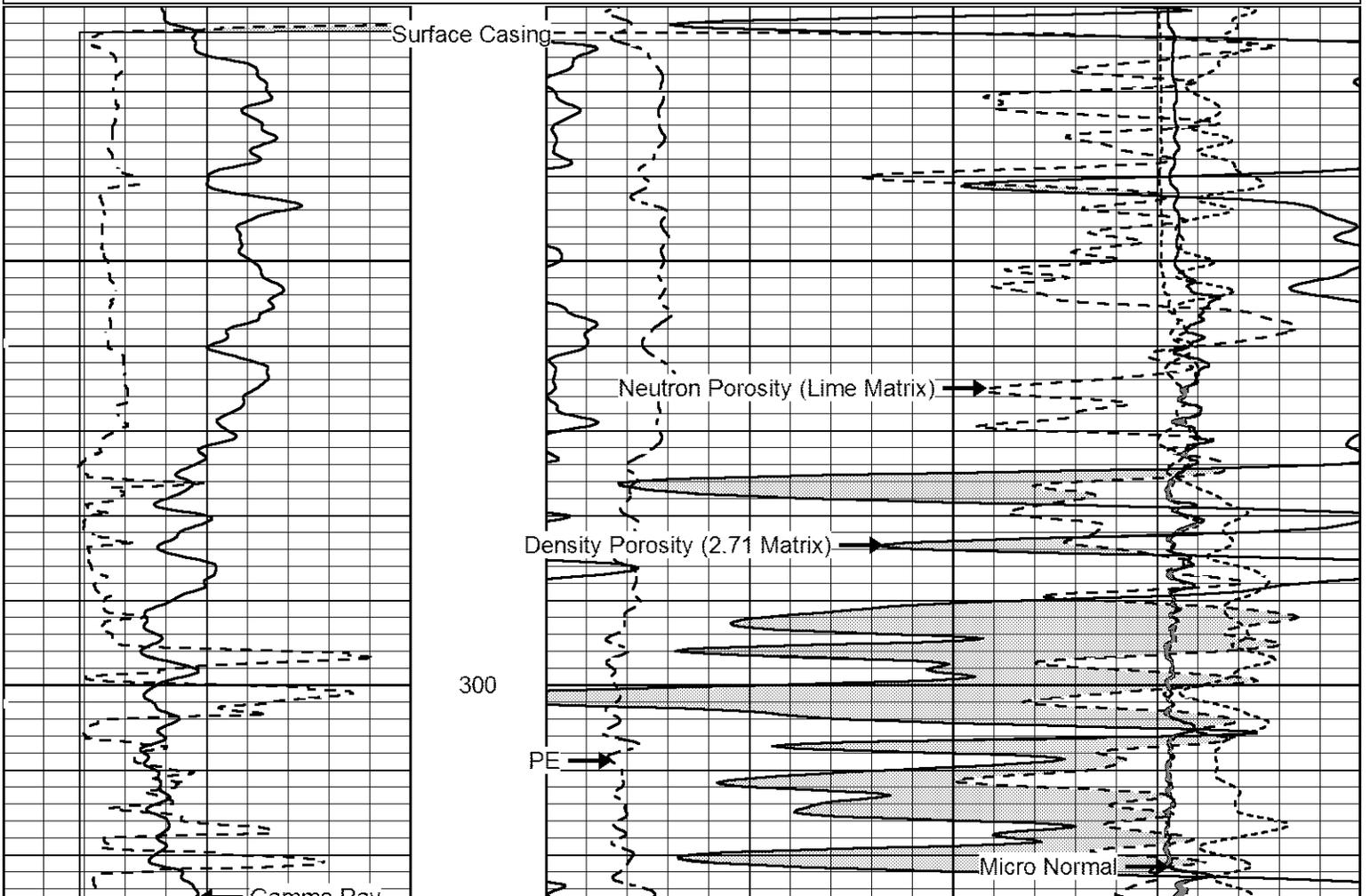
## Main Pass

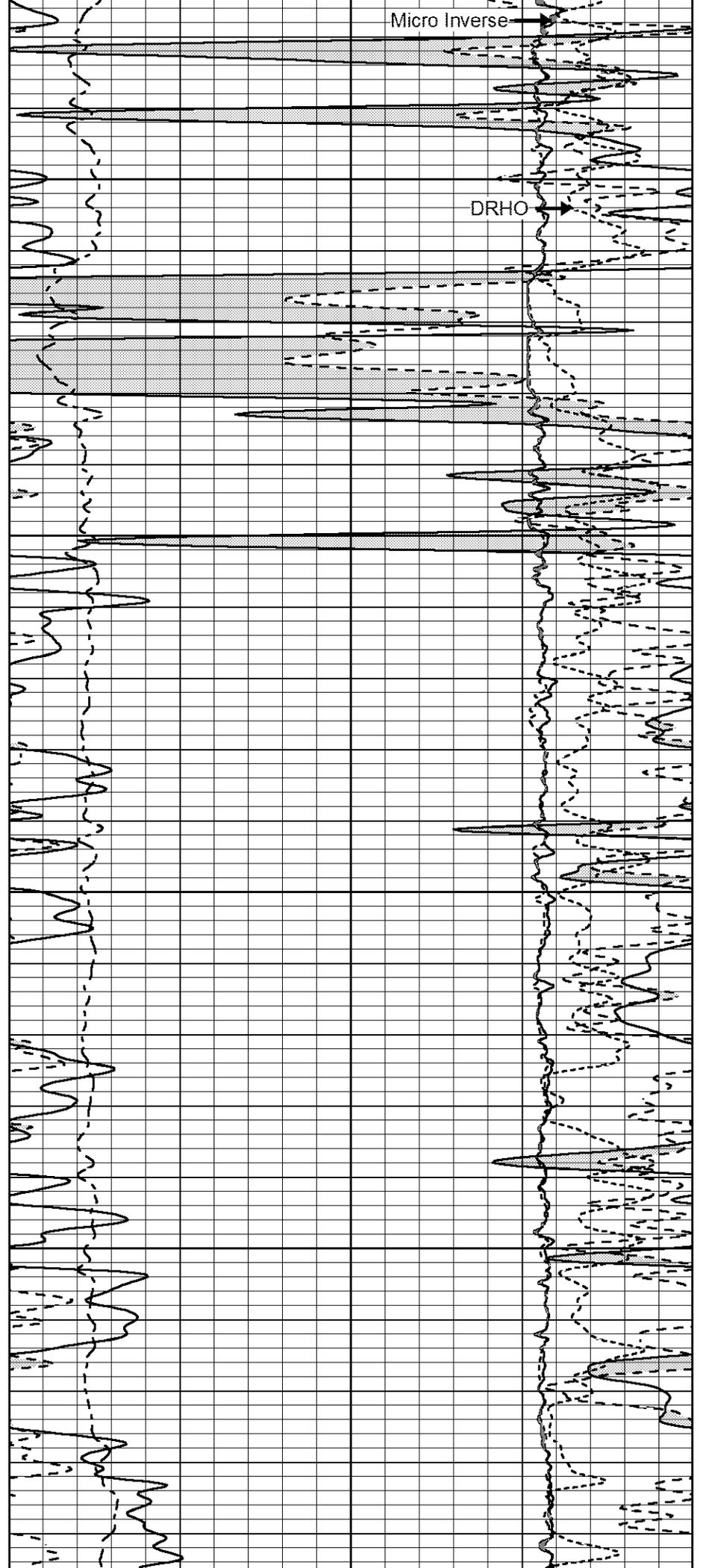
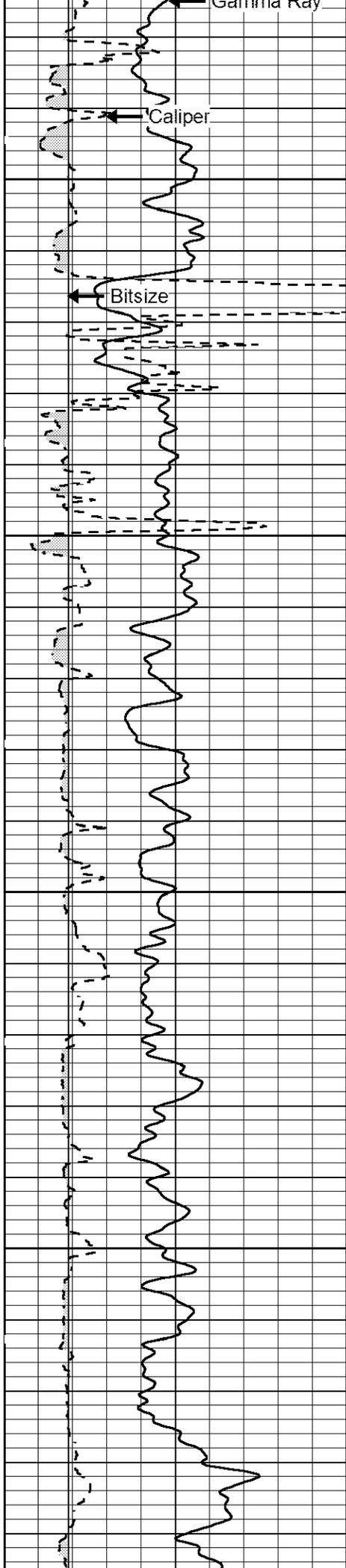
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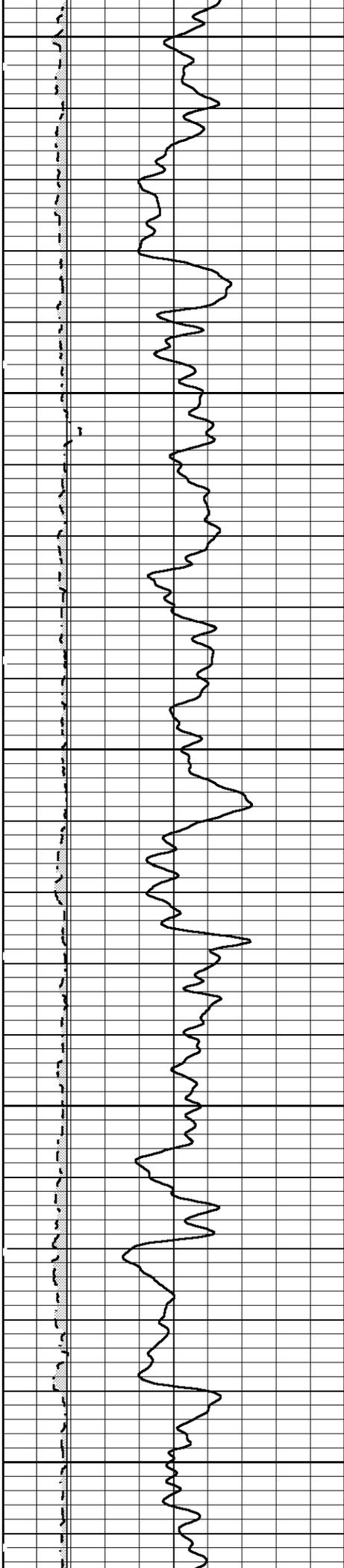
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6	Caliper (in)	16
6	Bitsize (in)	16

0.3	Density Porosity (2.71 Matrix)		-0.1
0.3	Neutron Porosity (Lime Matrix)		-0.1
0	PE	10	-0.25 DRHO (g/cc) 0.25

Micro Normal	
0 (Ohm-m)	20
Micro Inverse	
0 (Ohm-m)	20

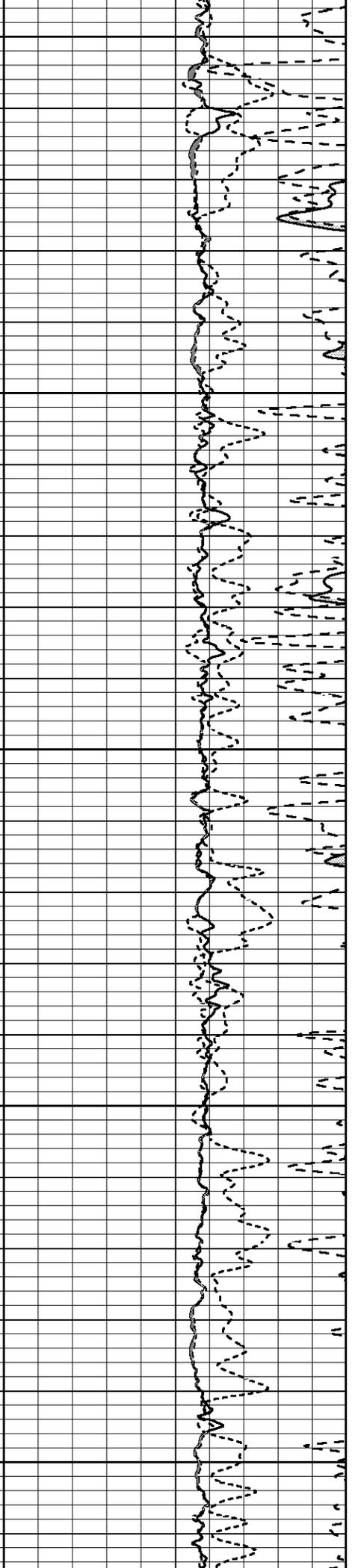
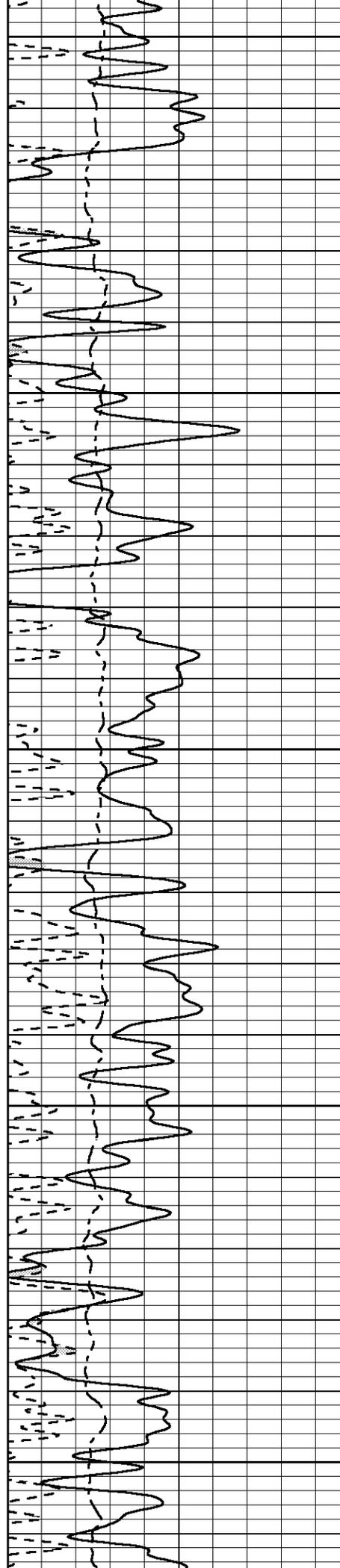


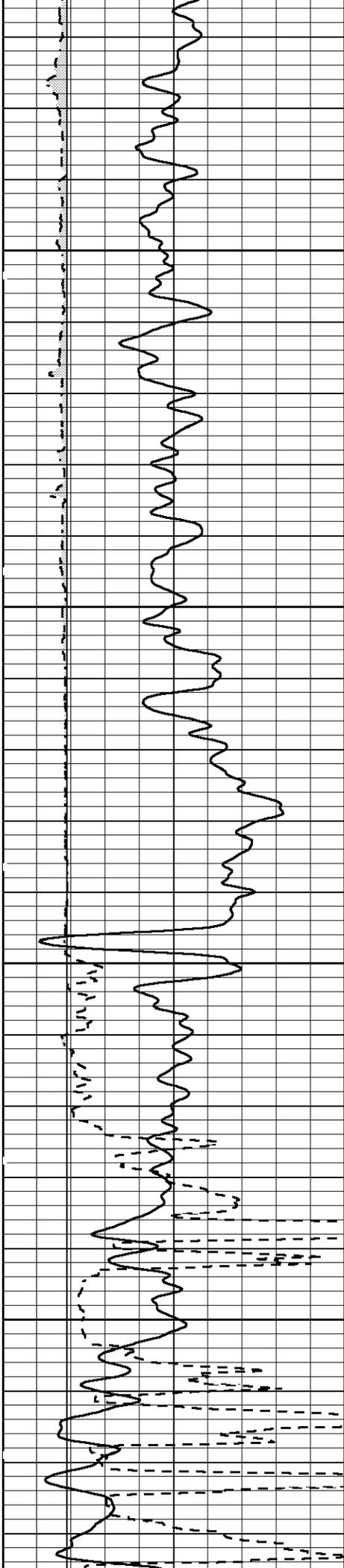




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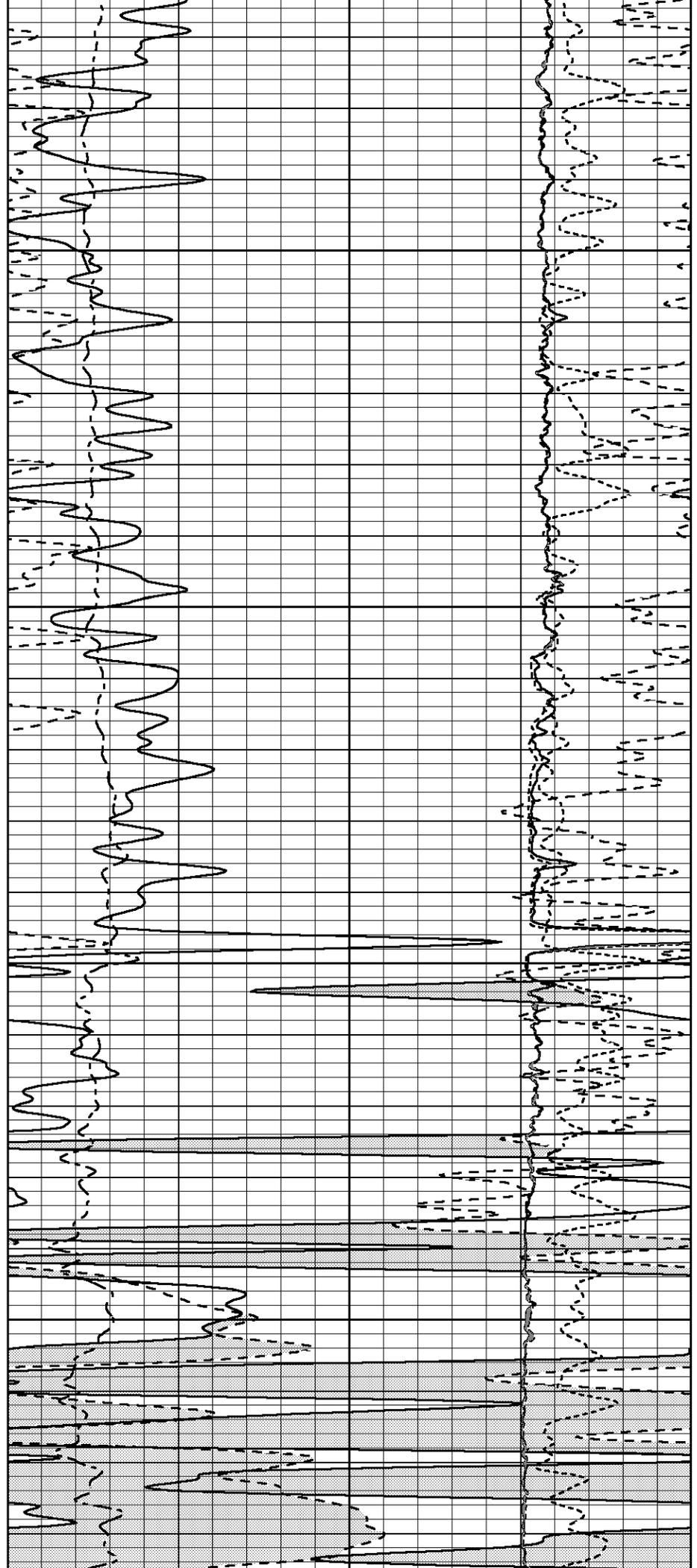
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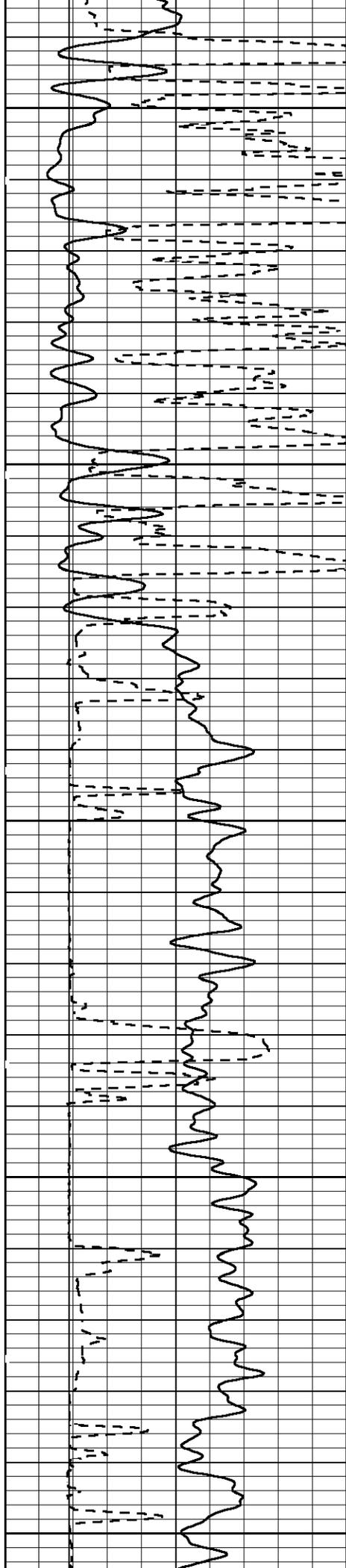




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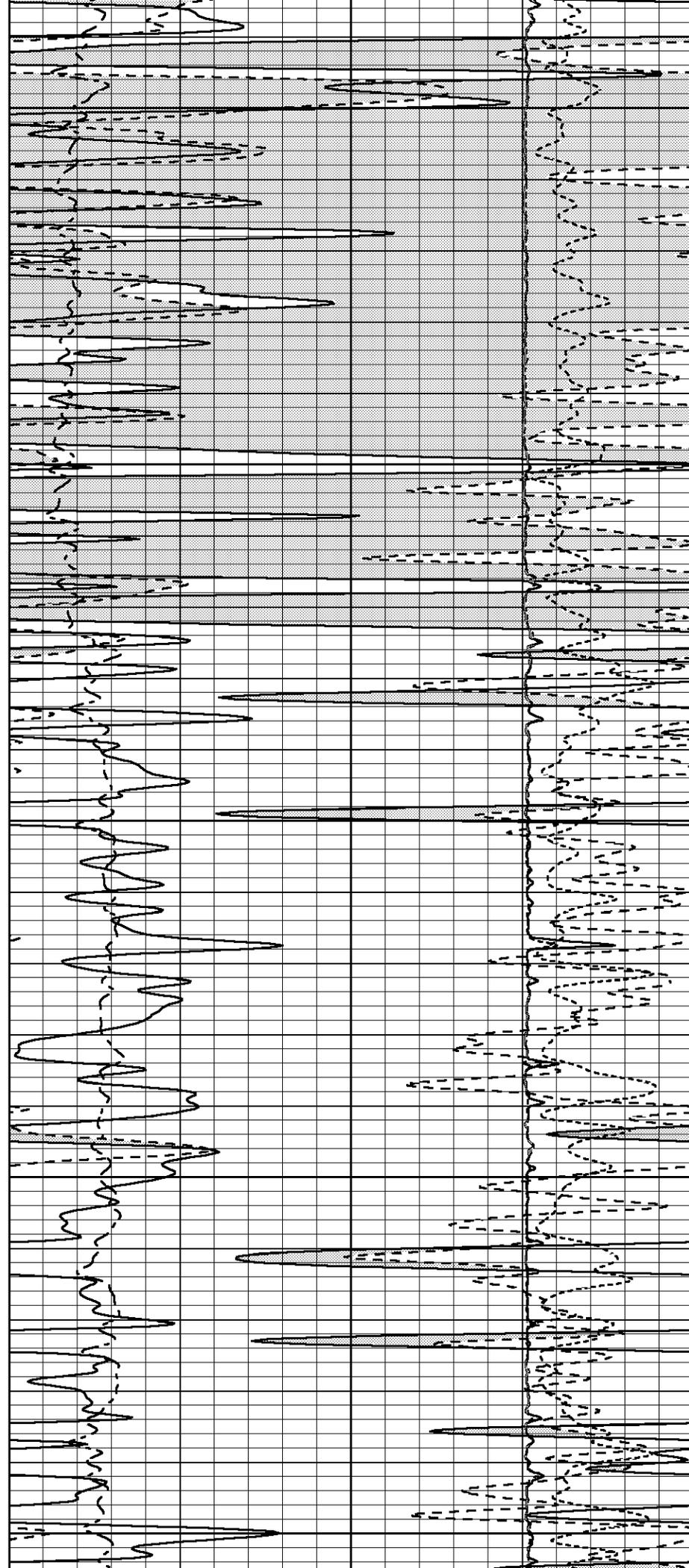


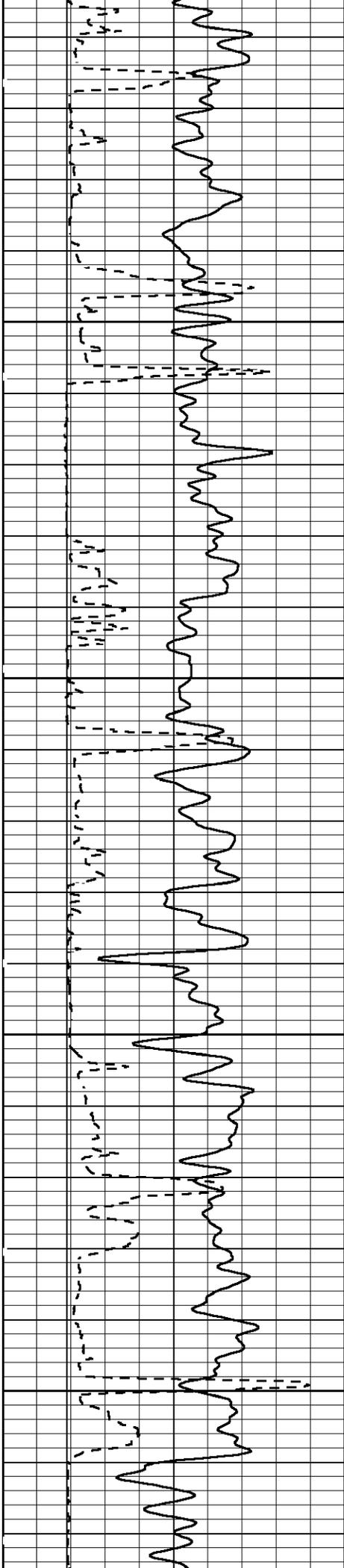


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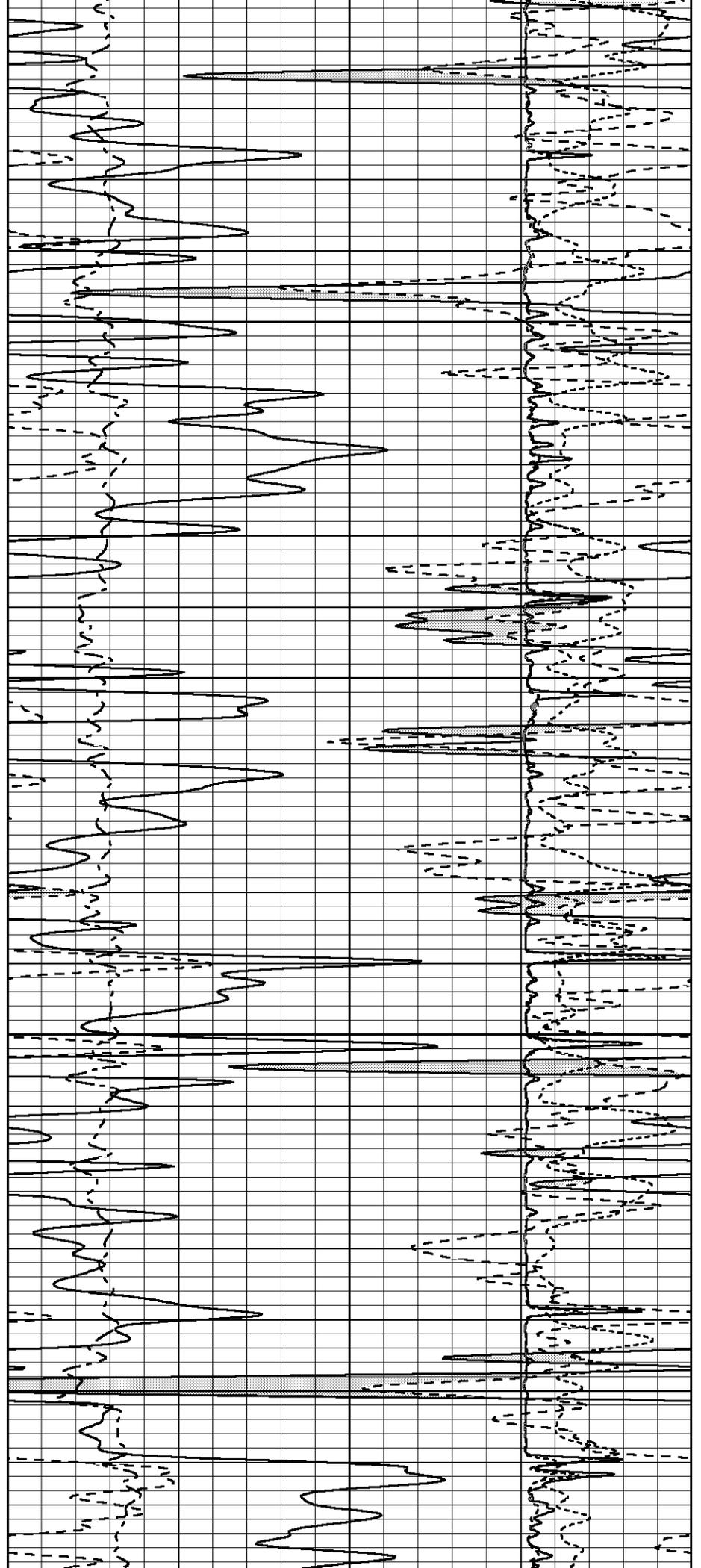
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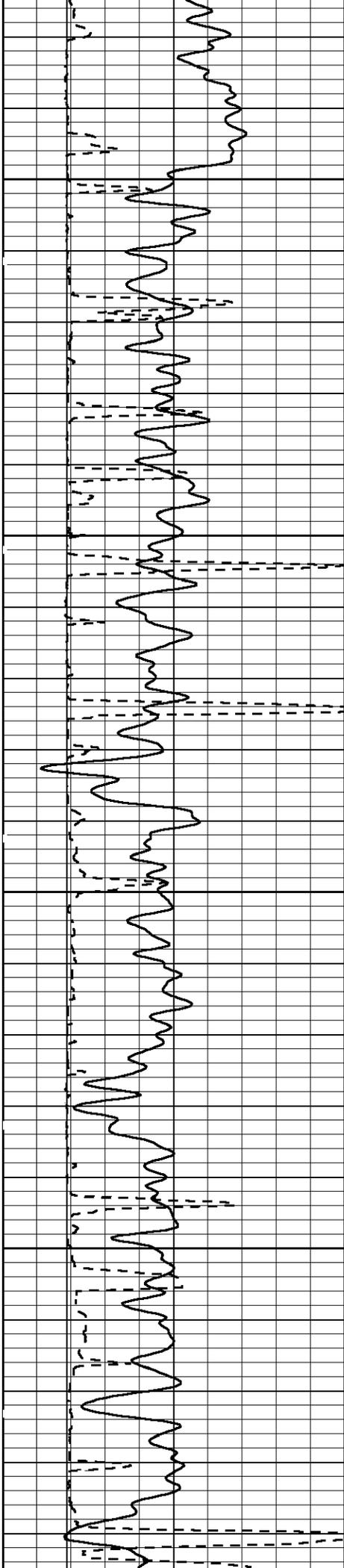




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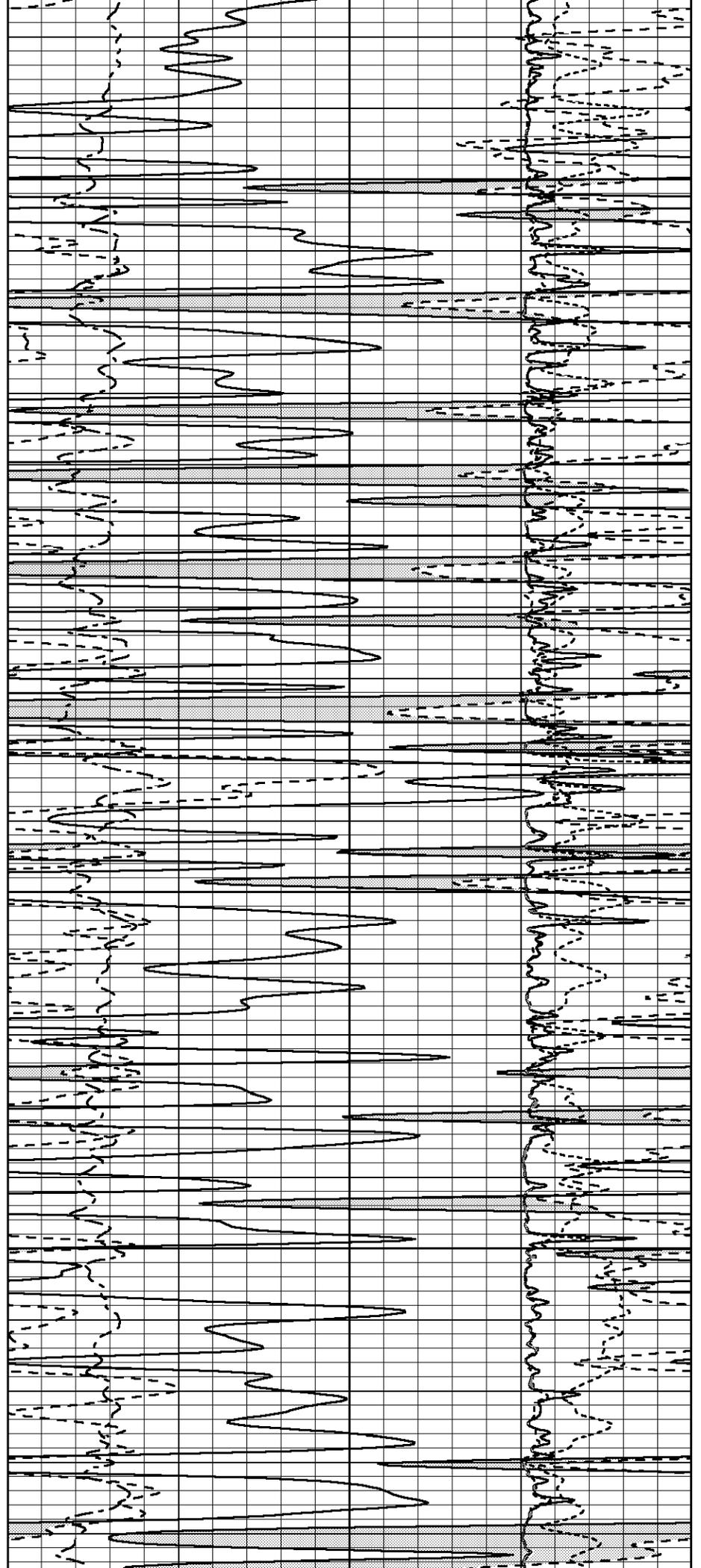
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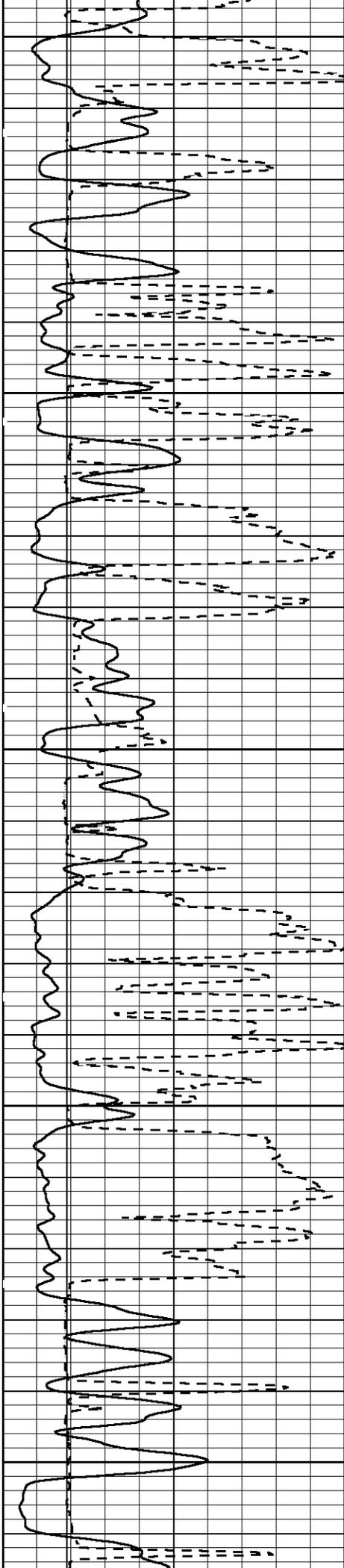




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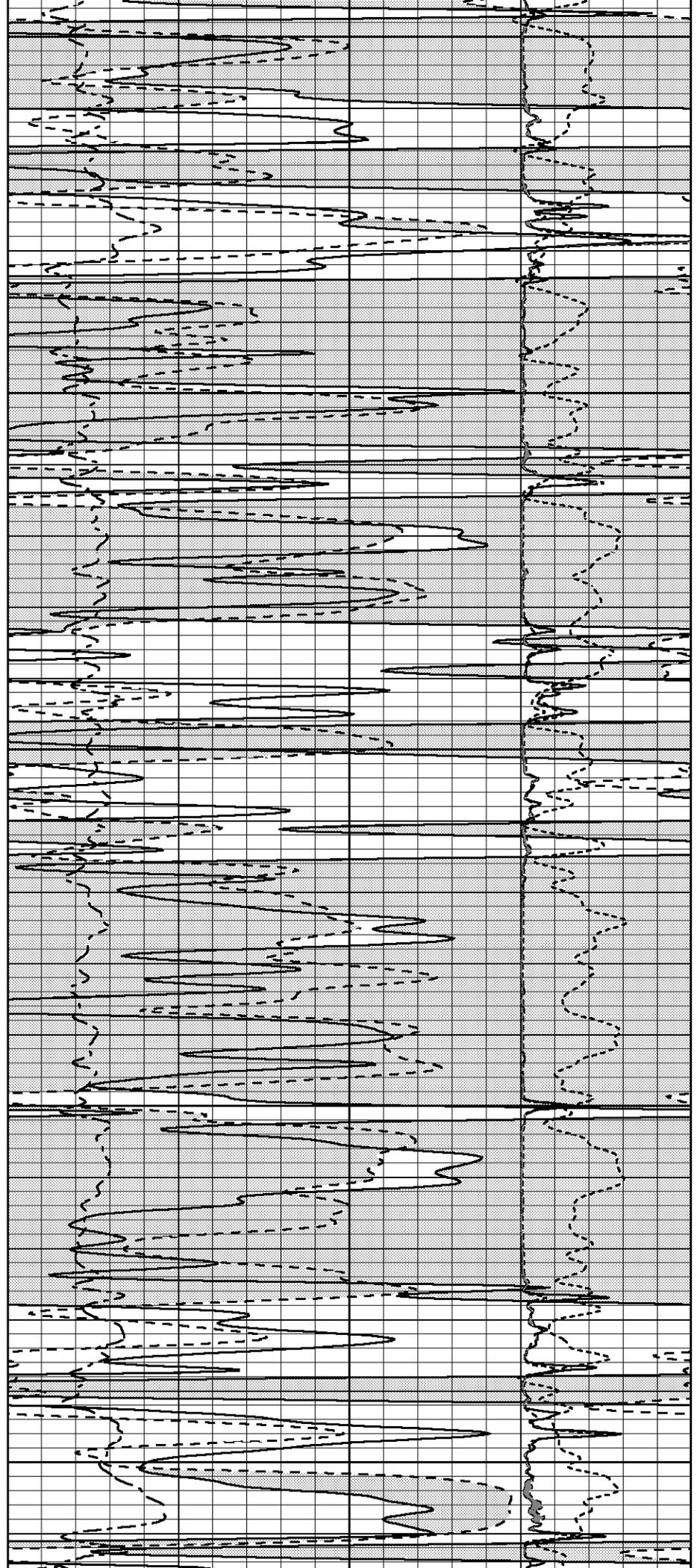
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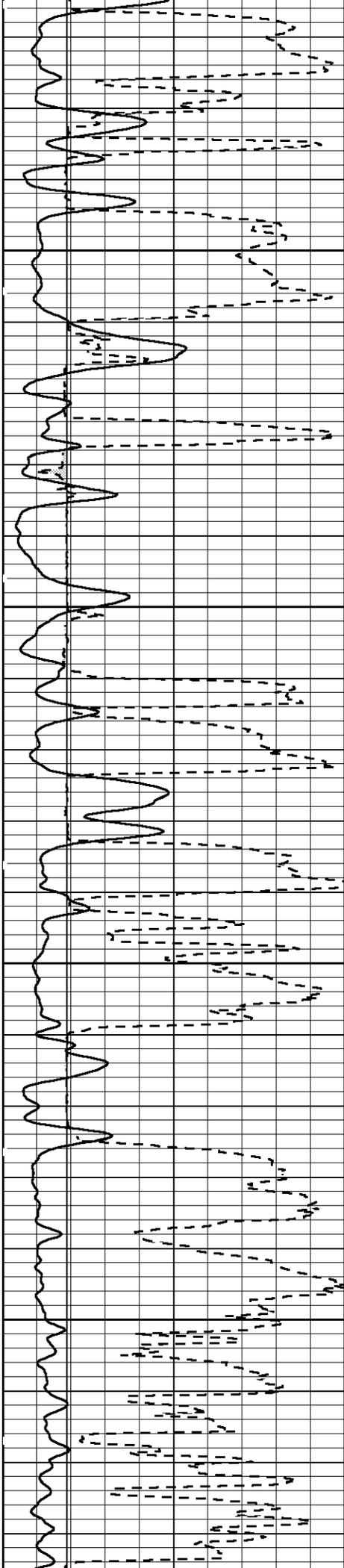




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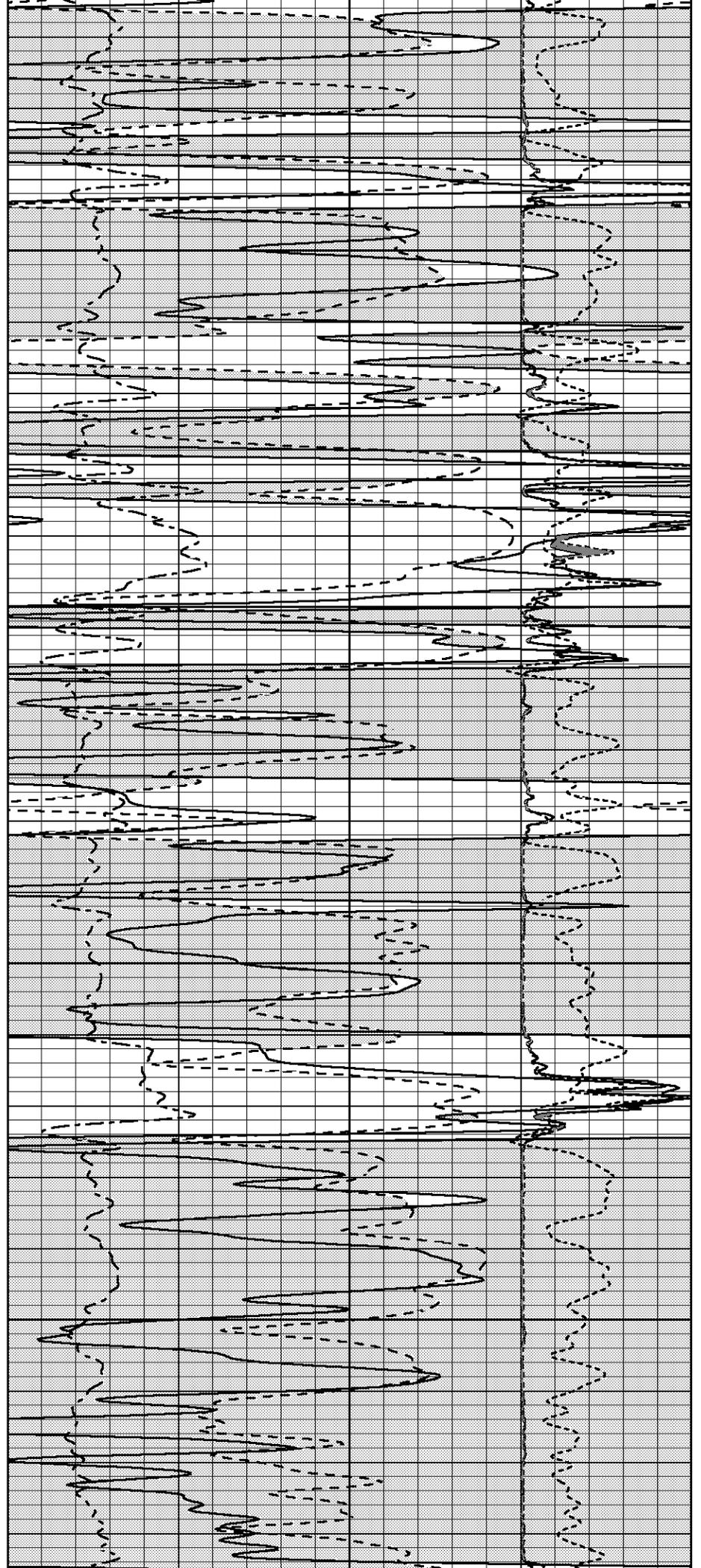
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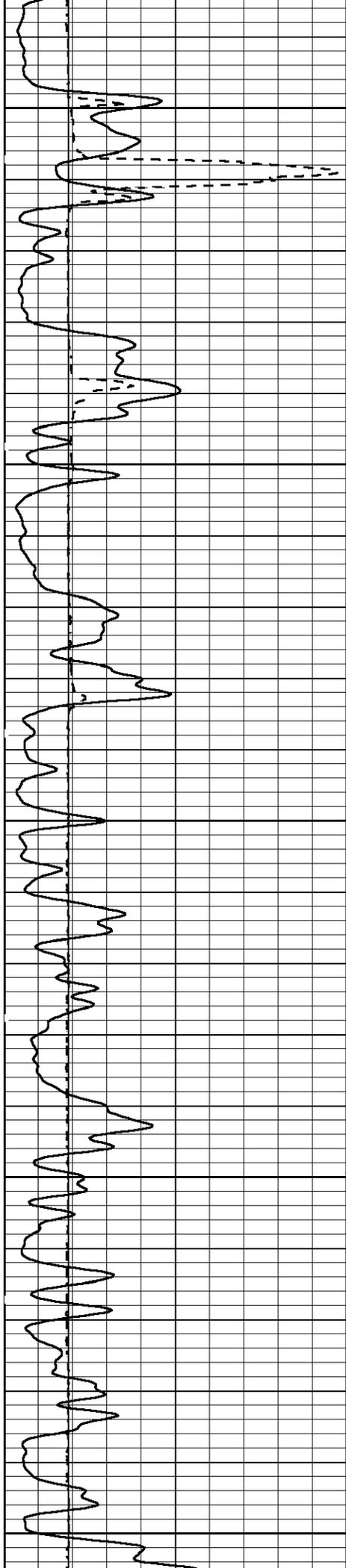




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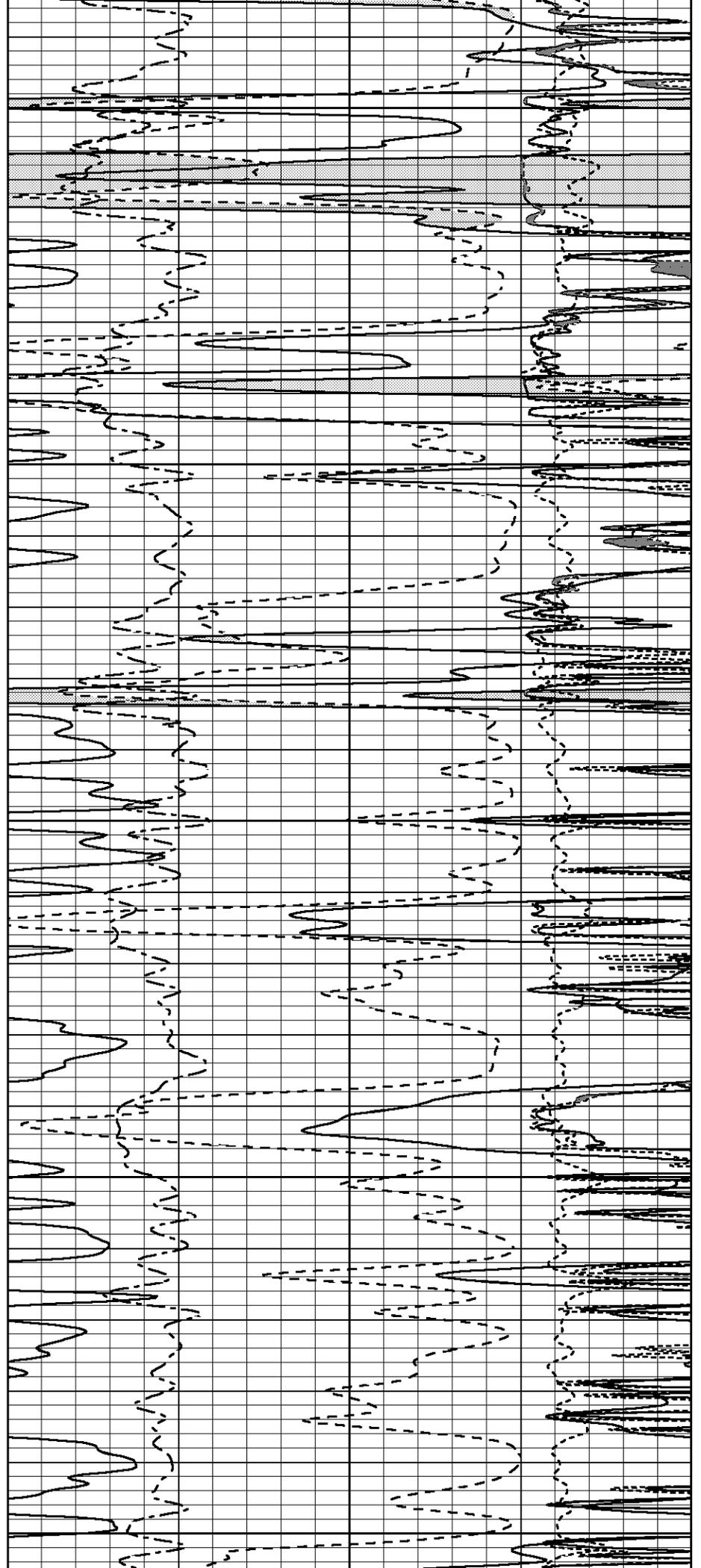


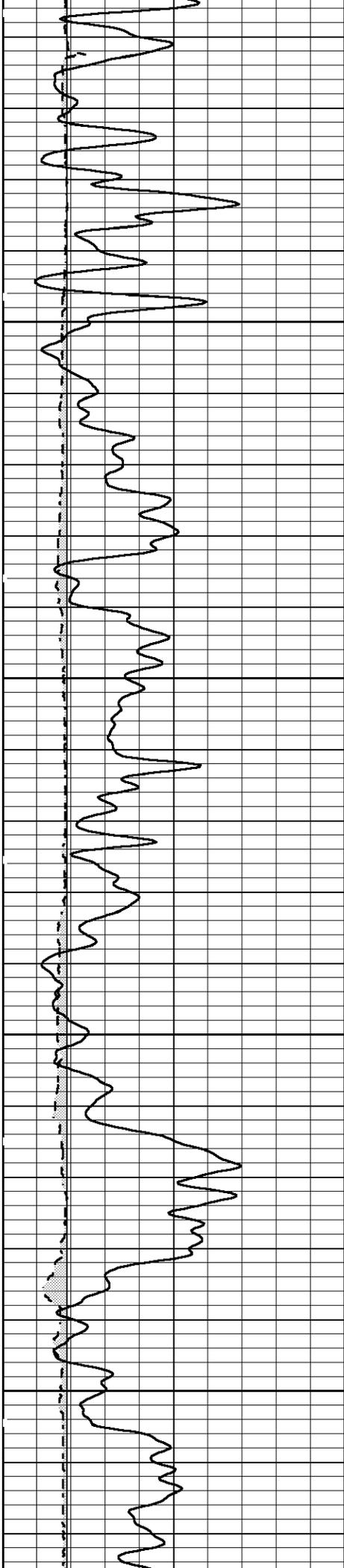


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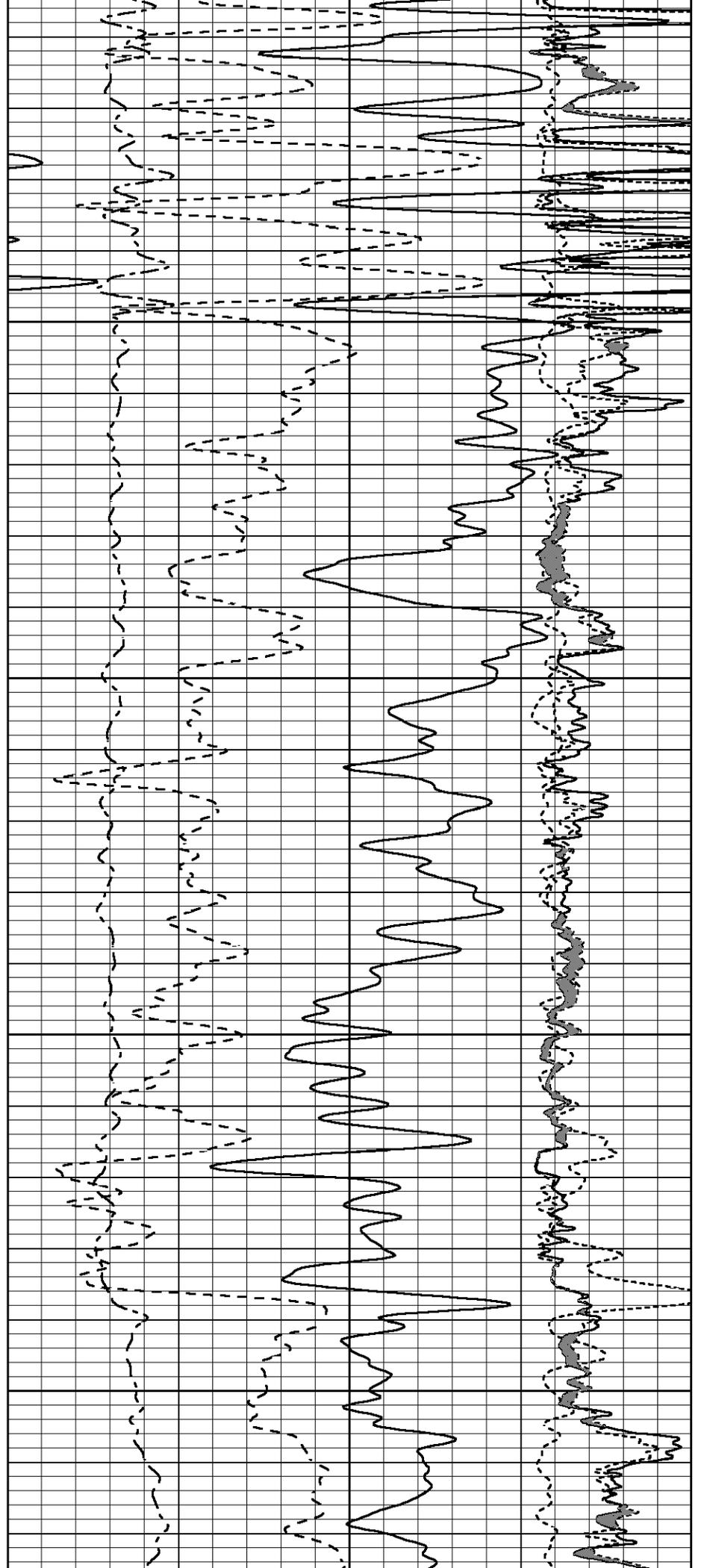
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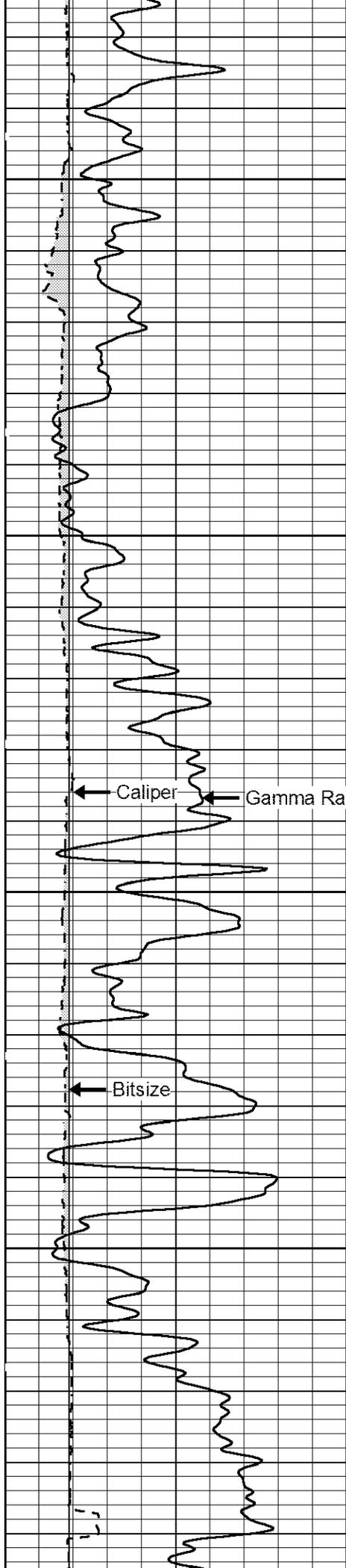




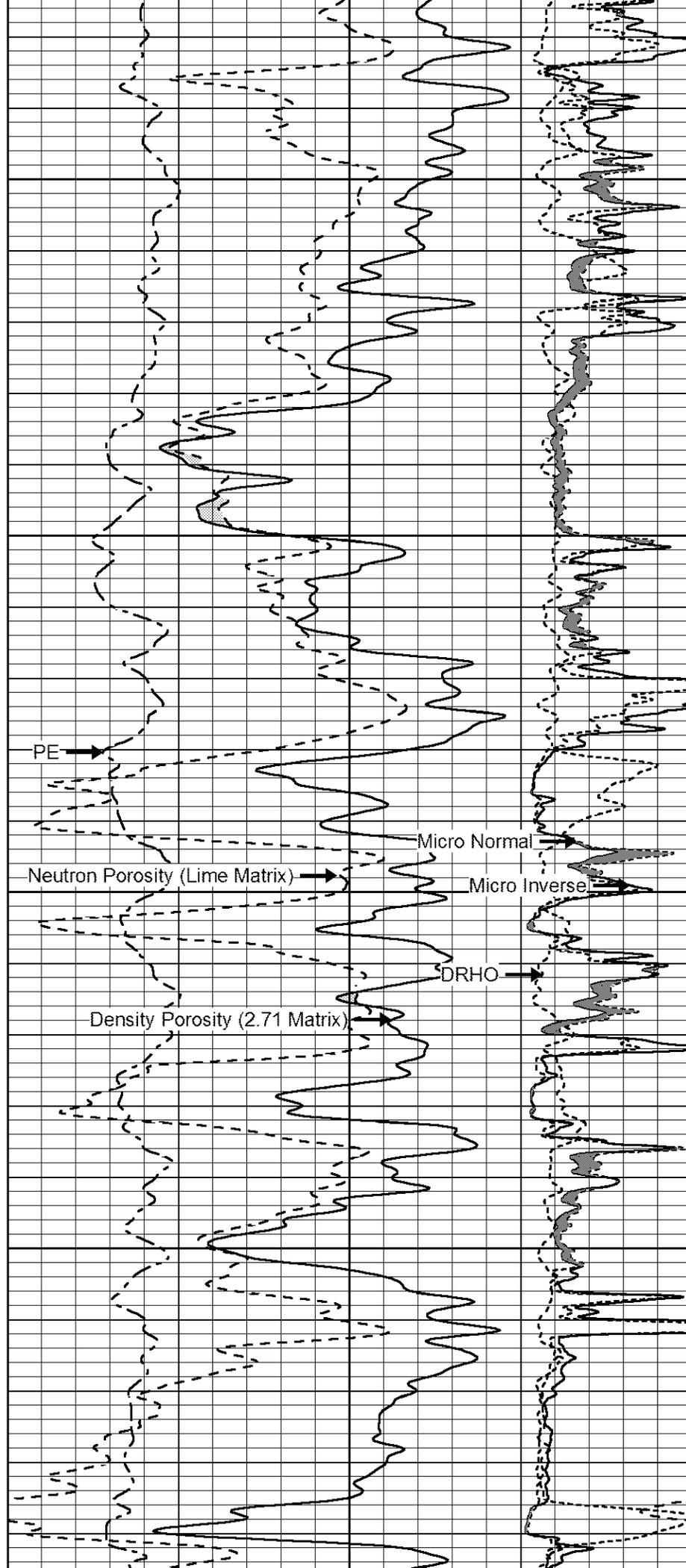
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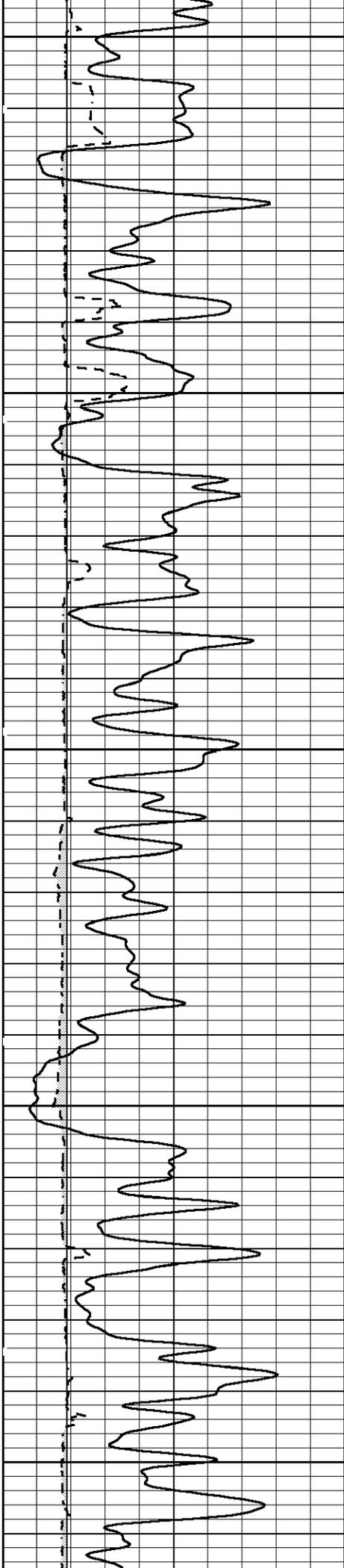




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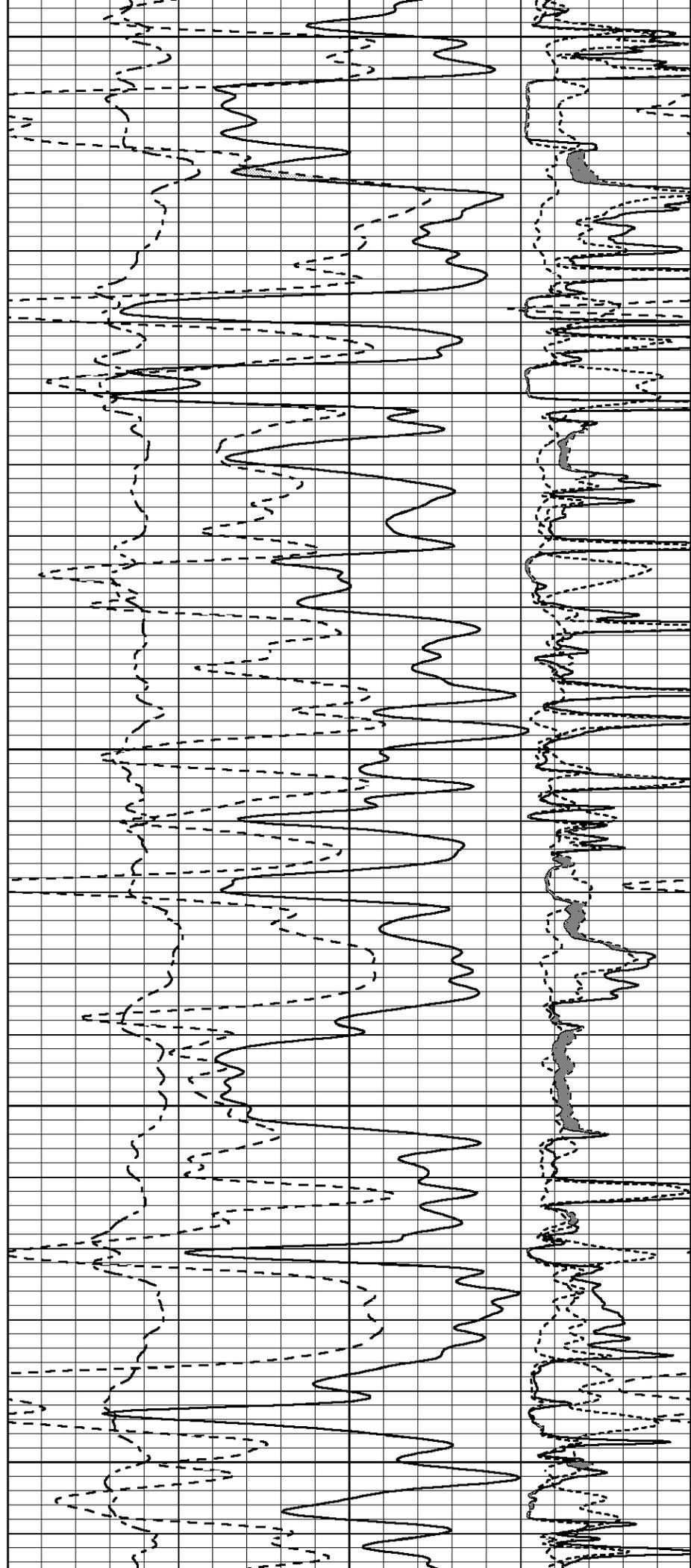


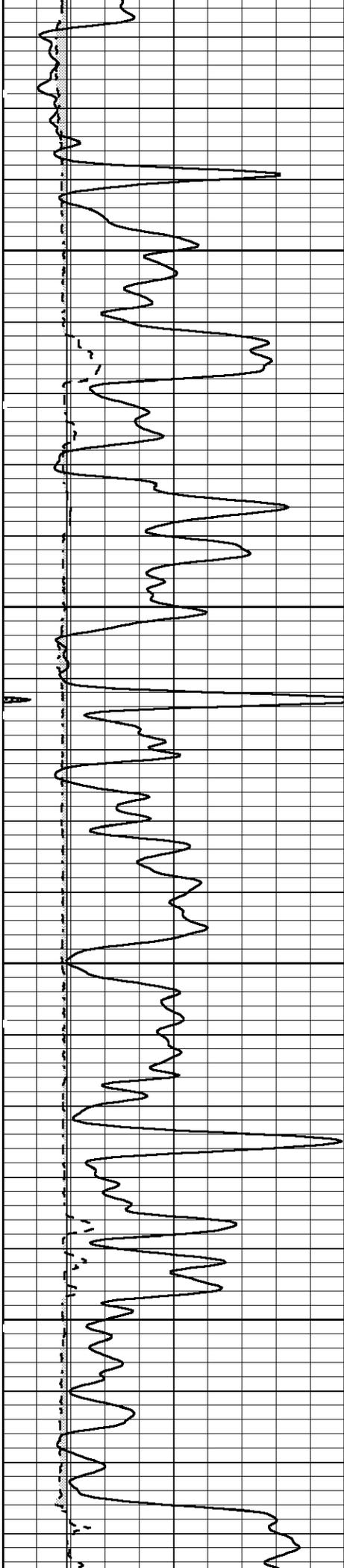
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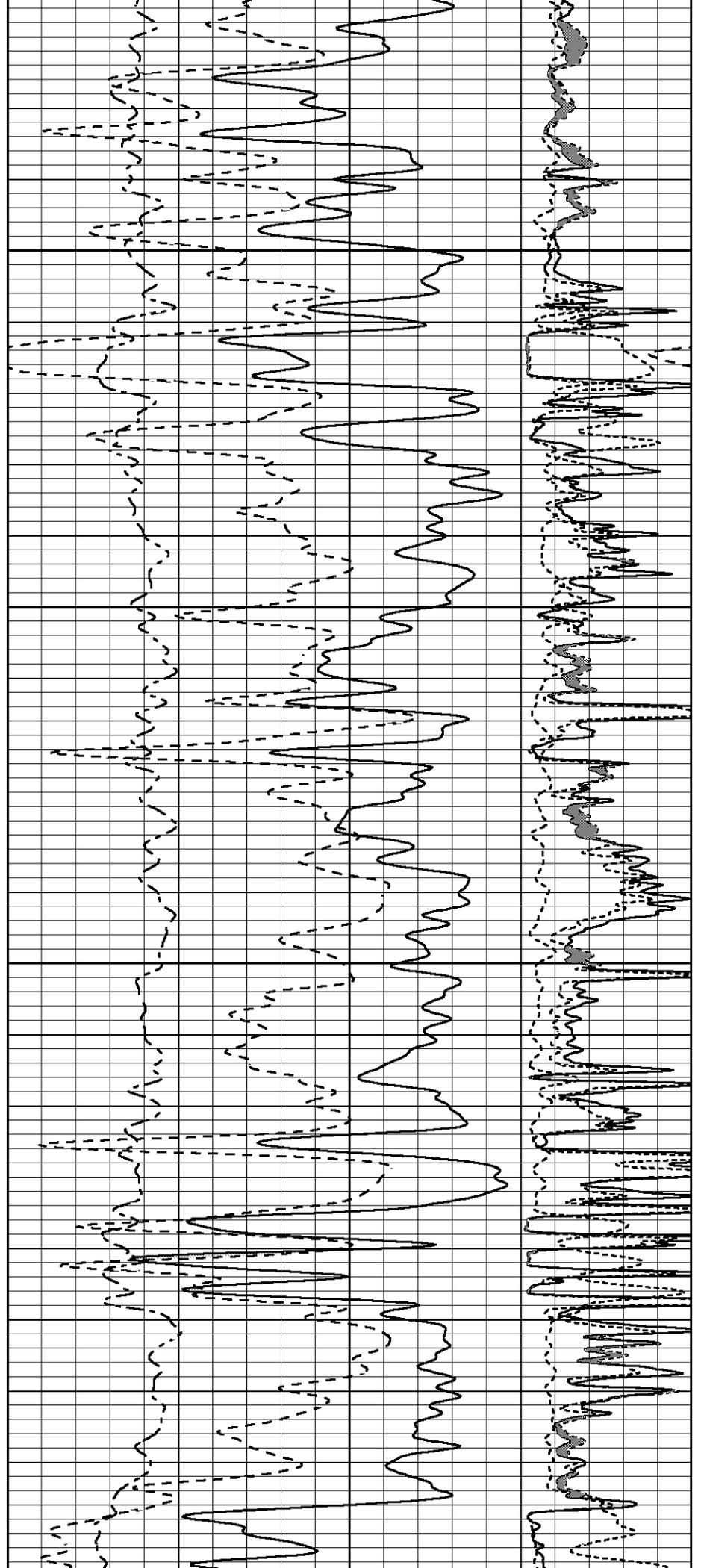
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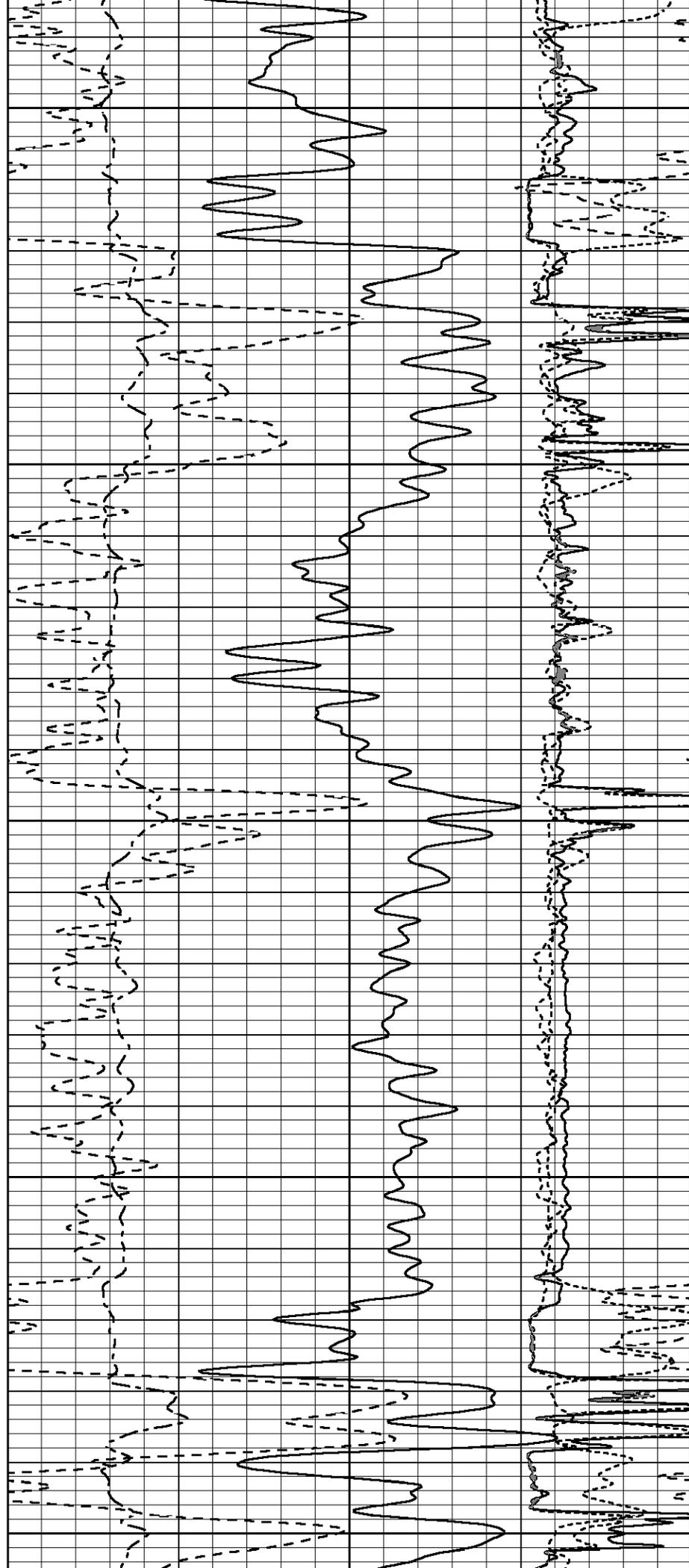
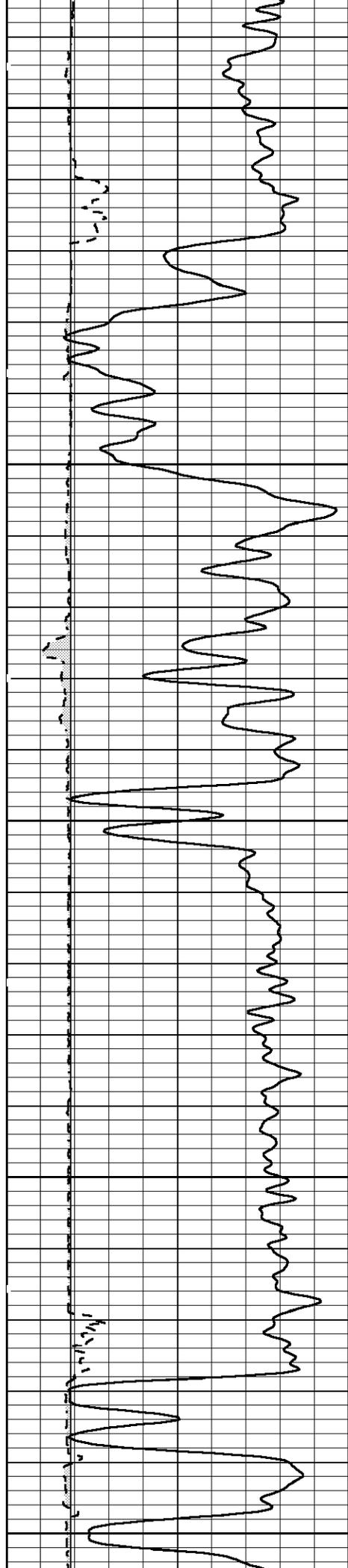
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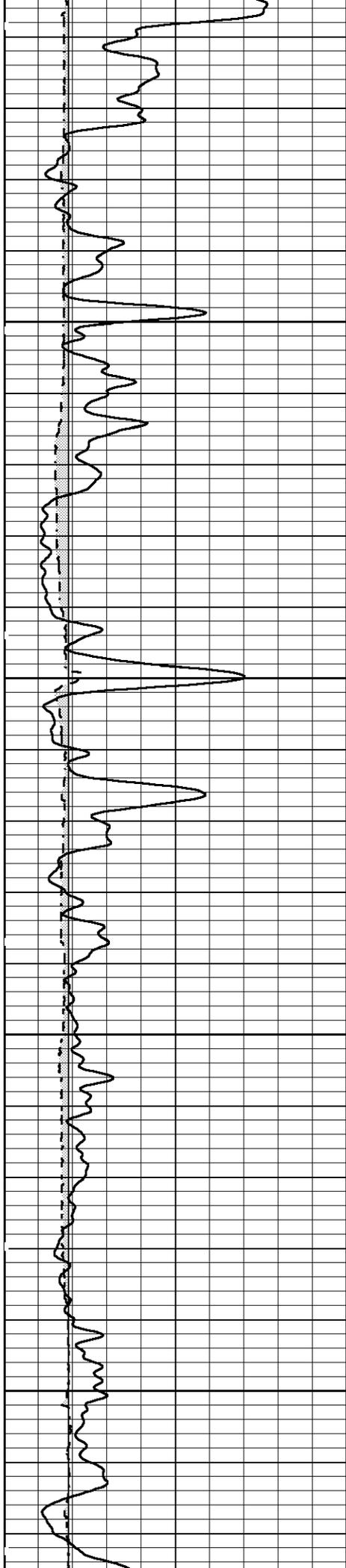


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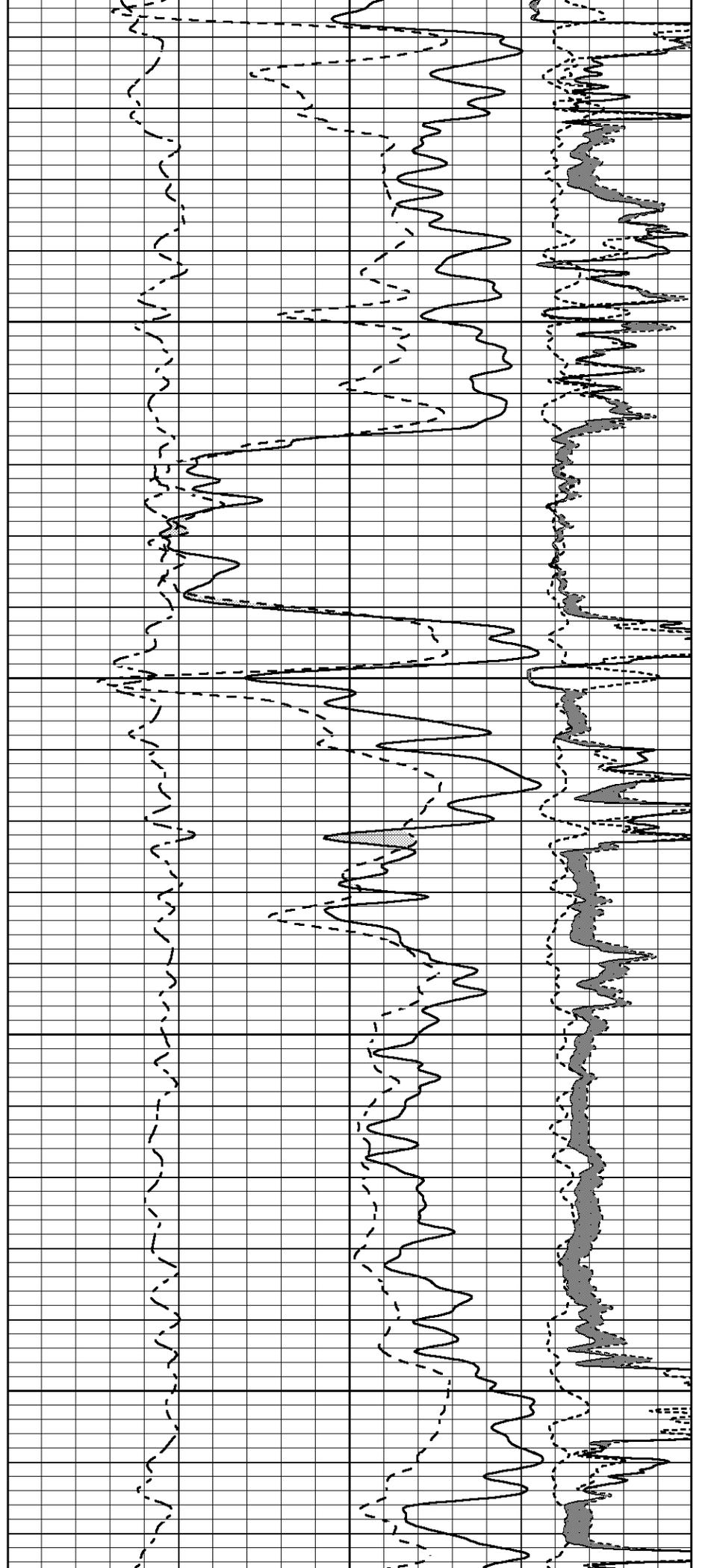
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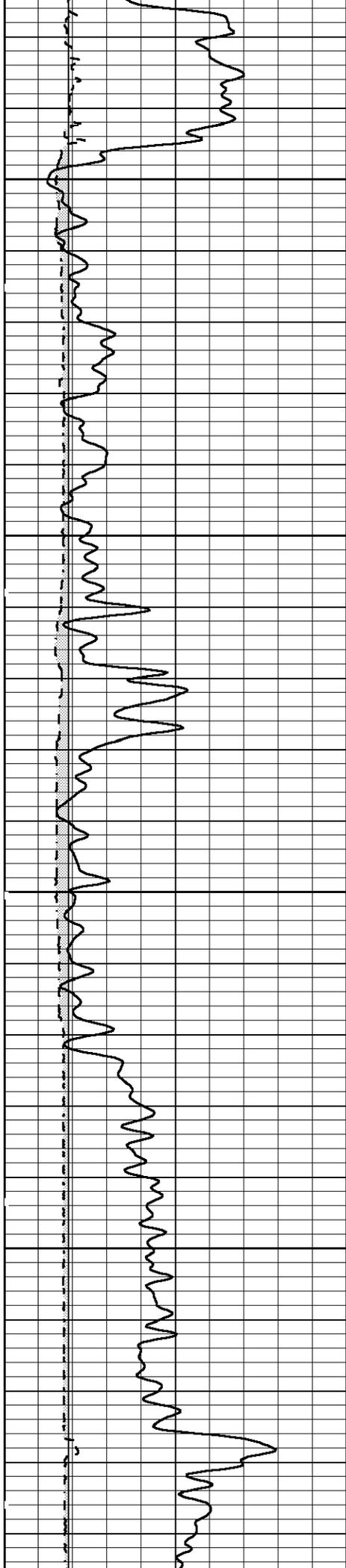




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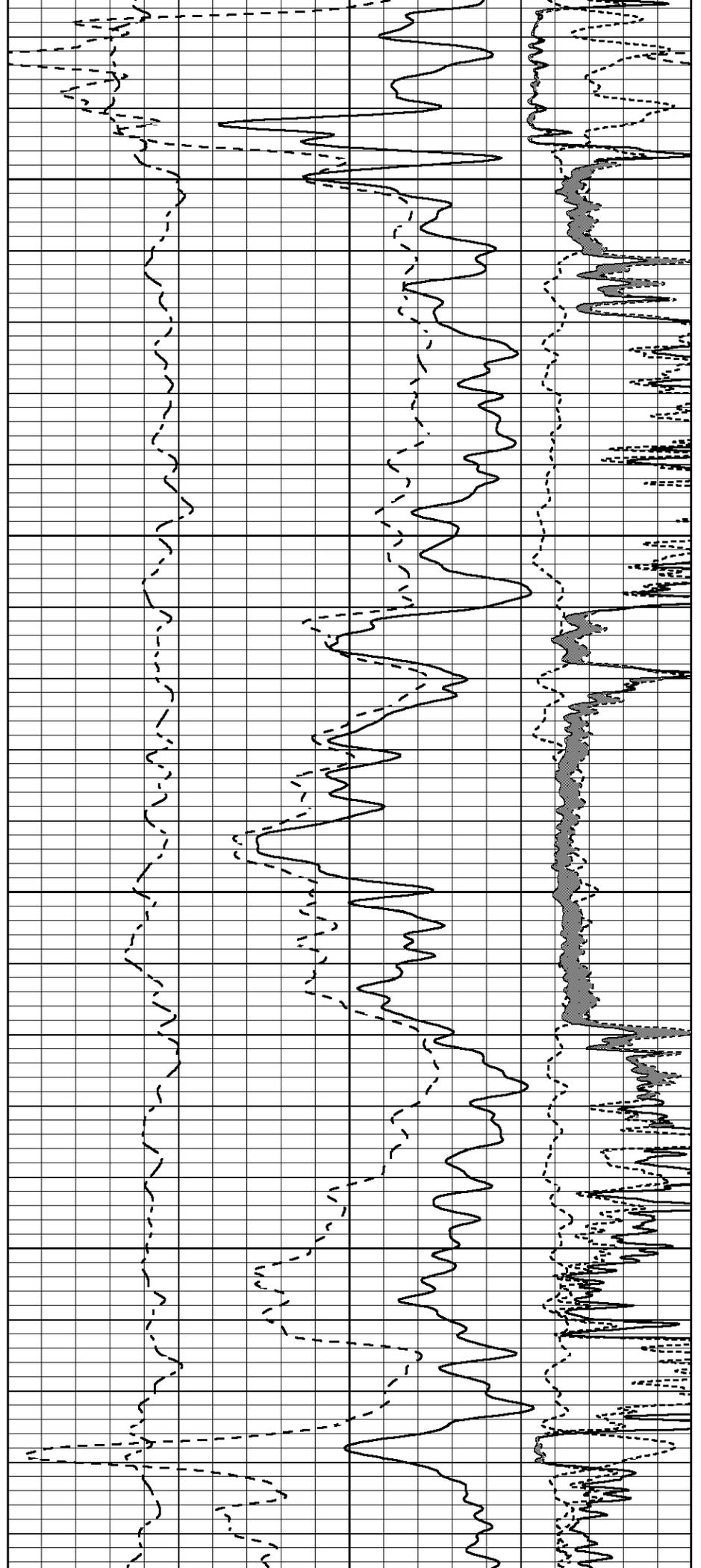
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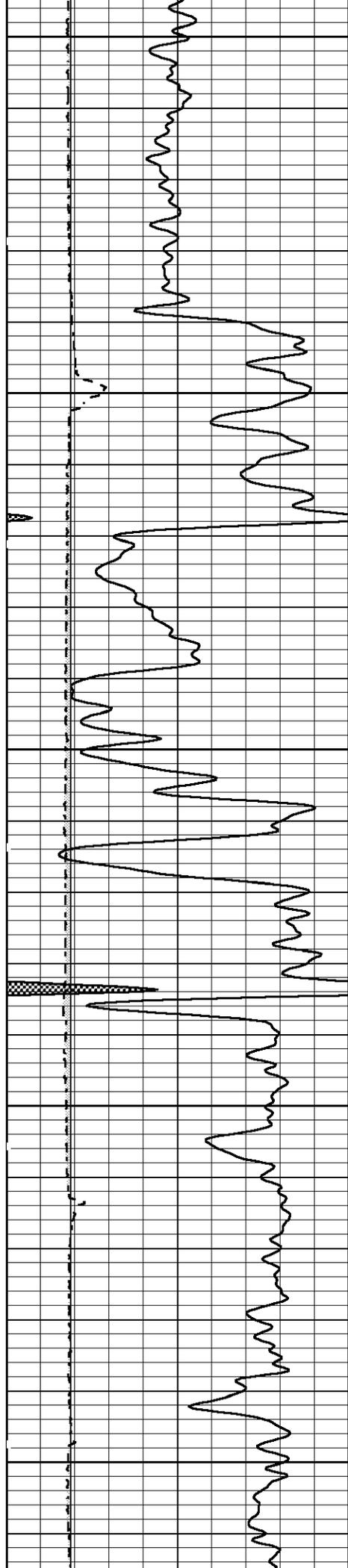




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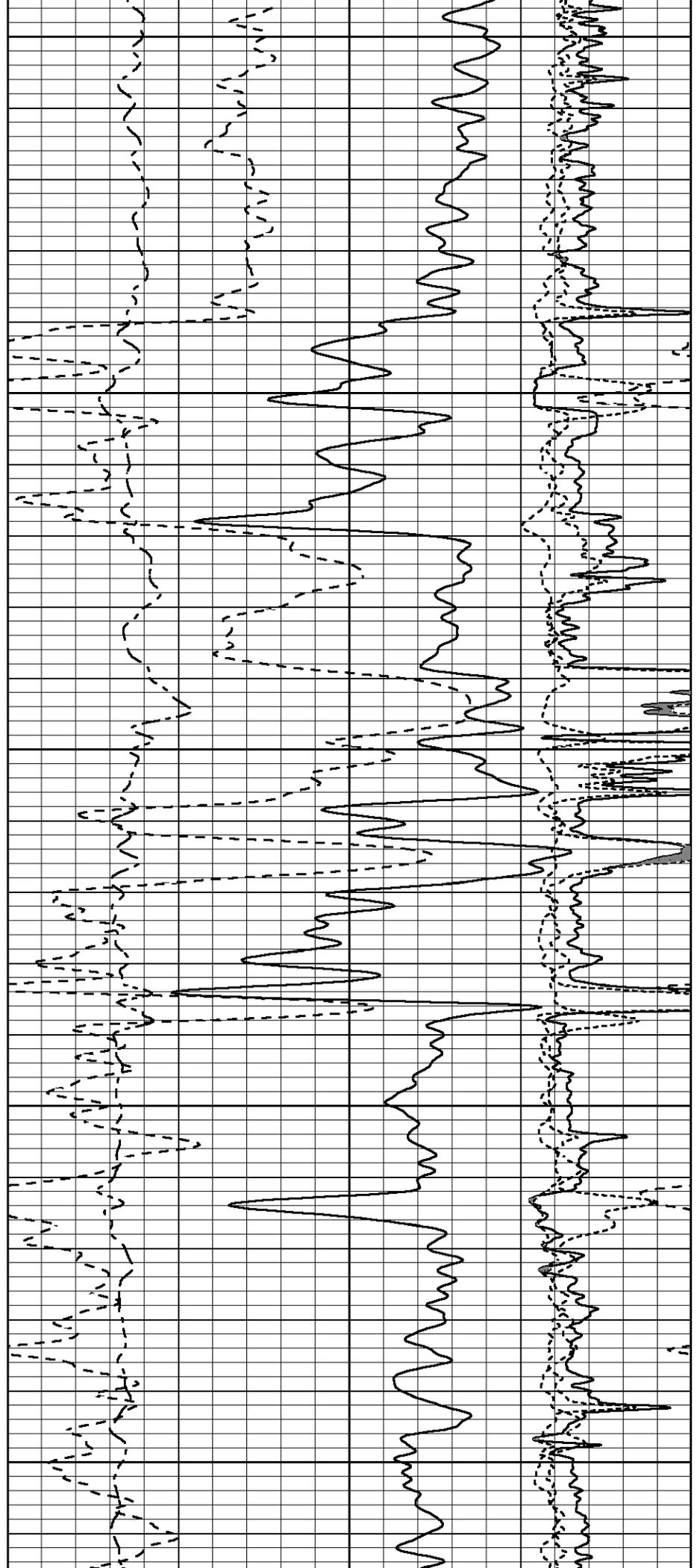
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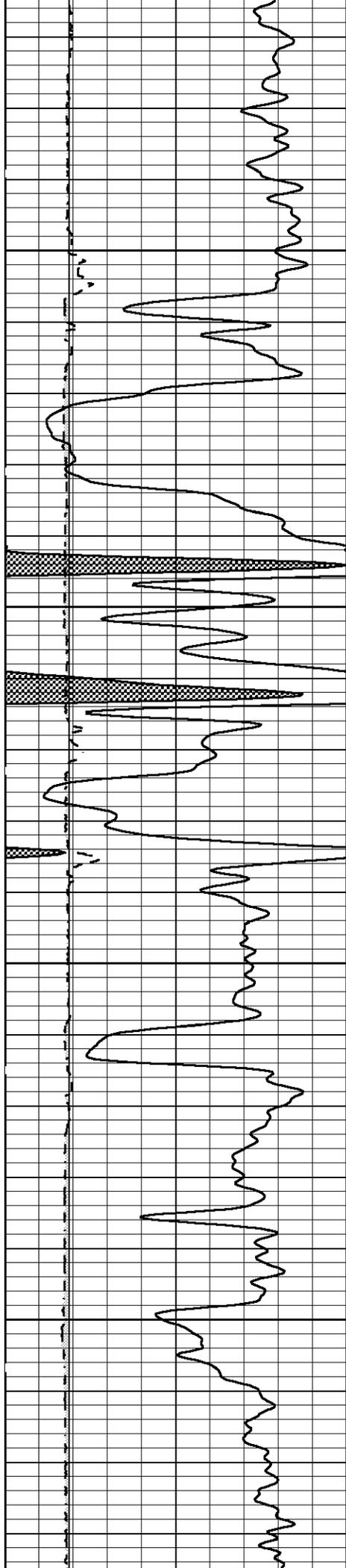




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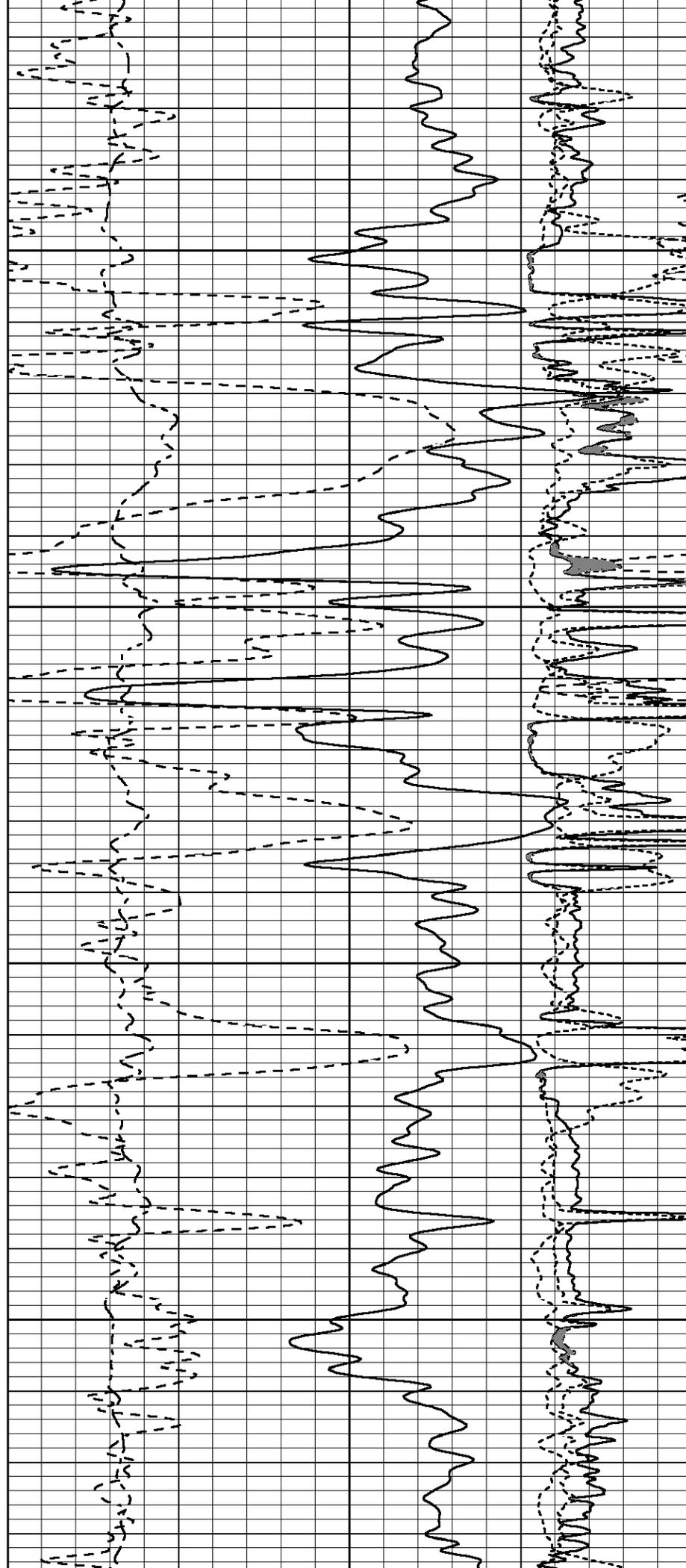
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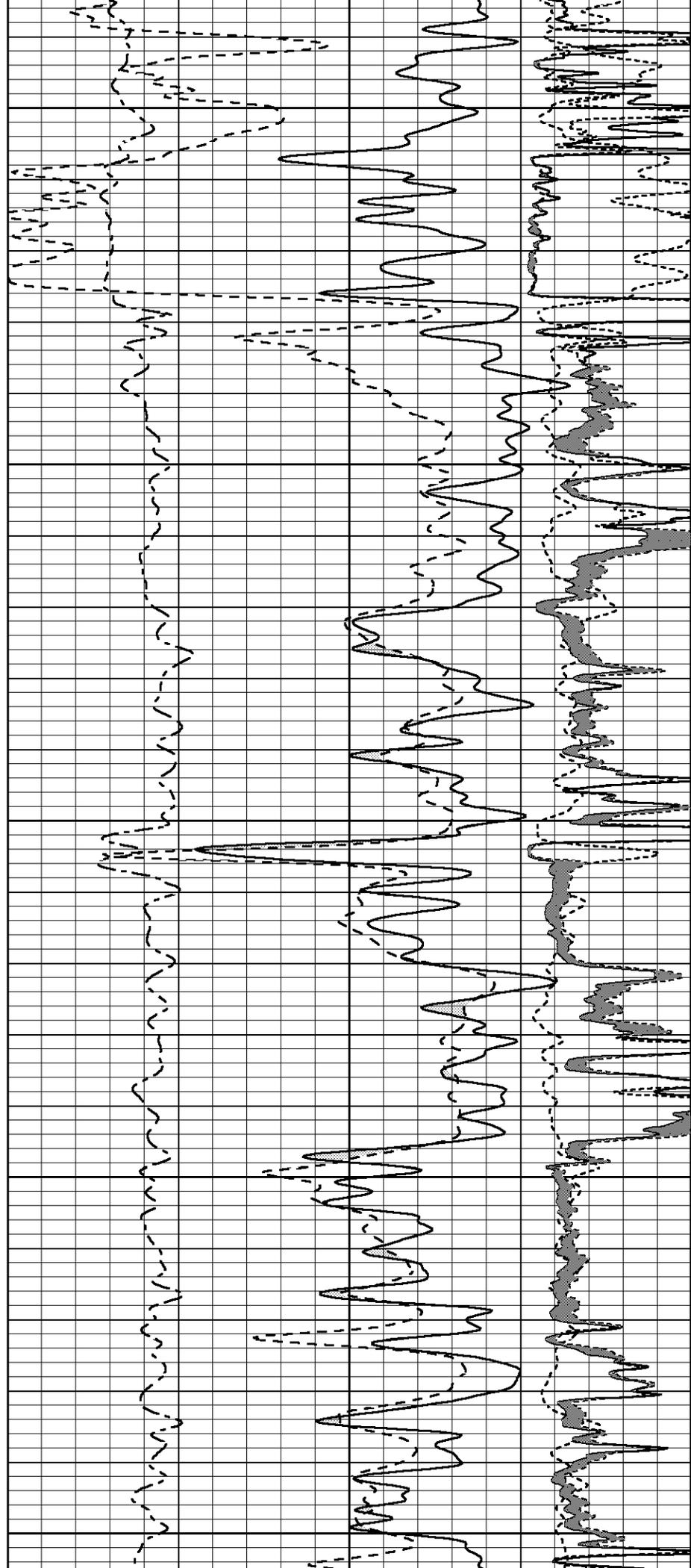
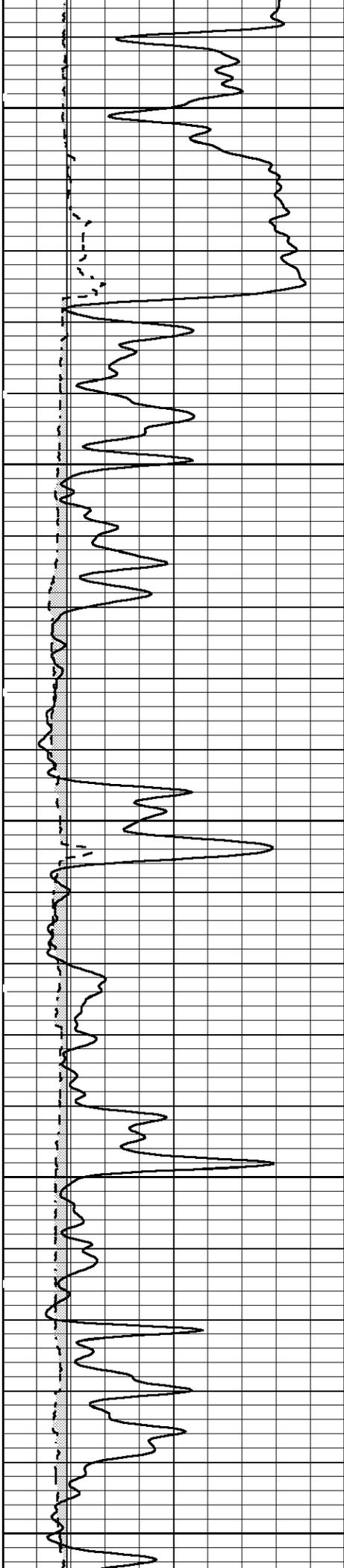
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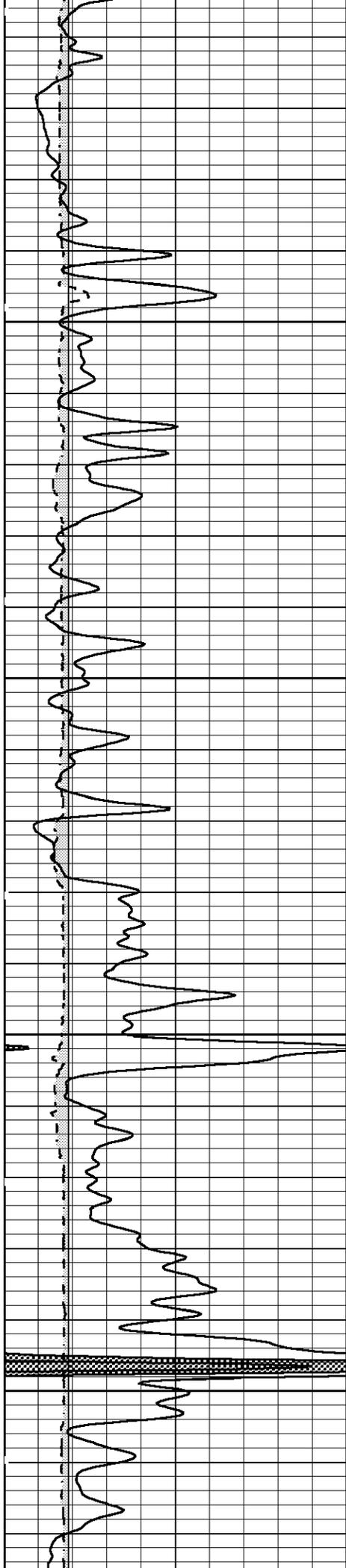


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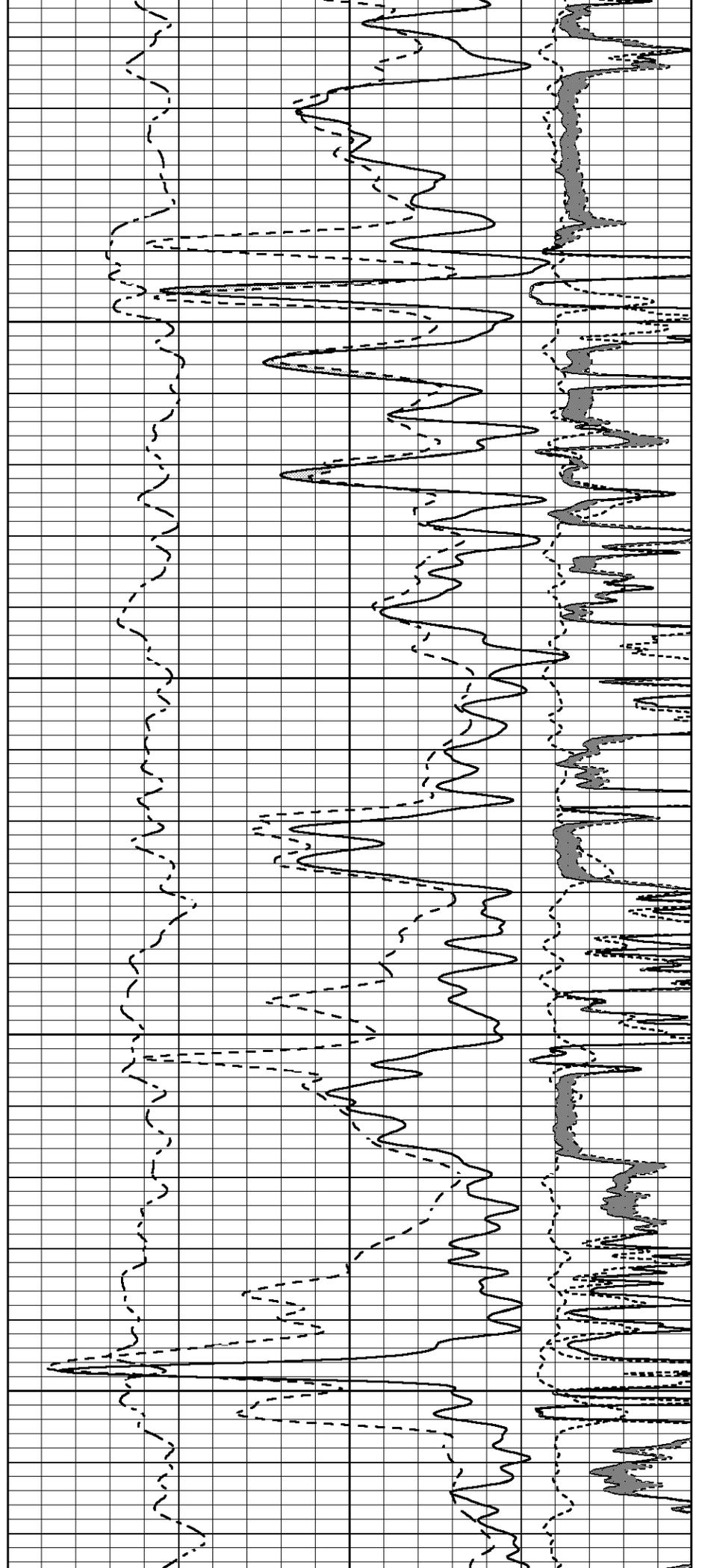
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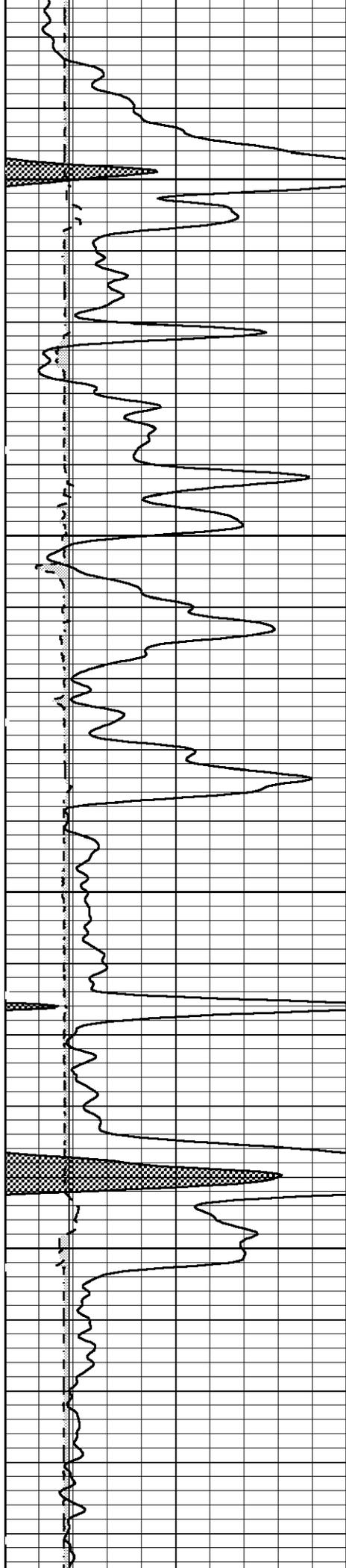




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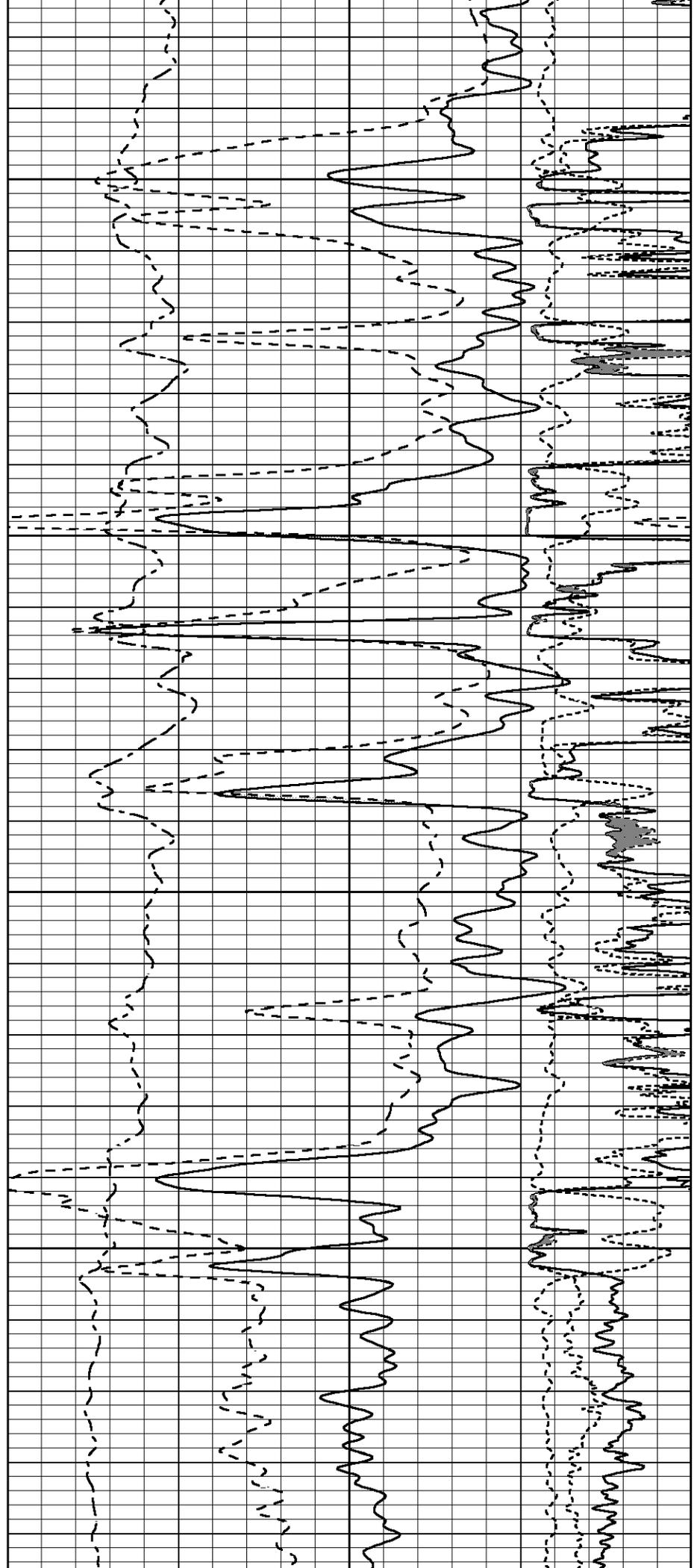
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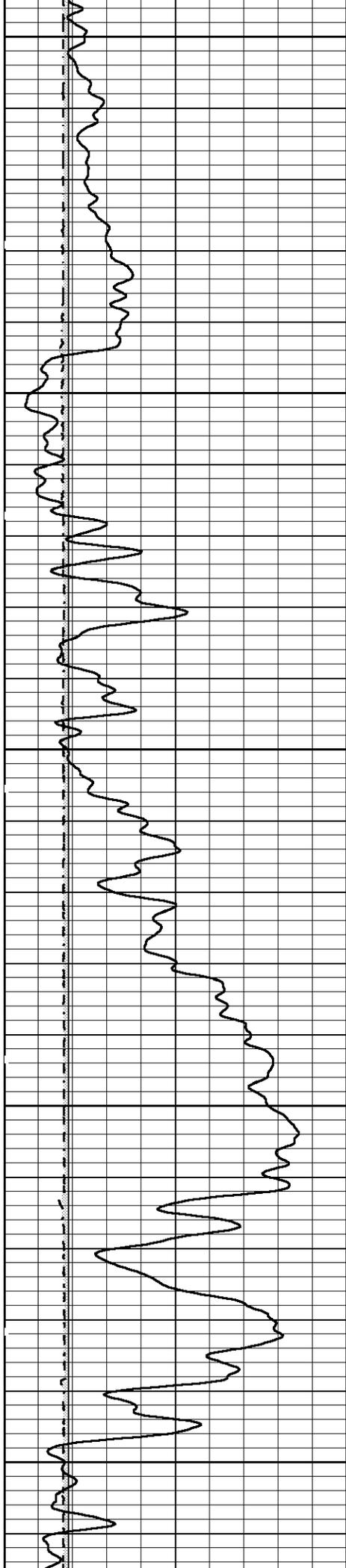




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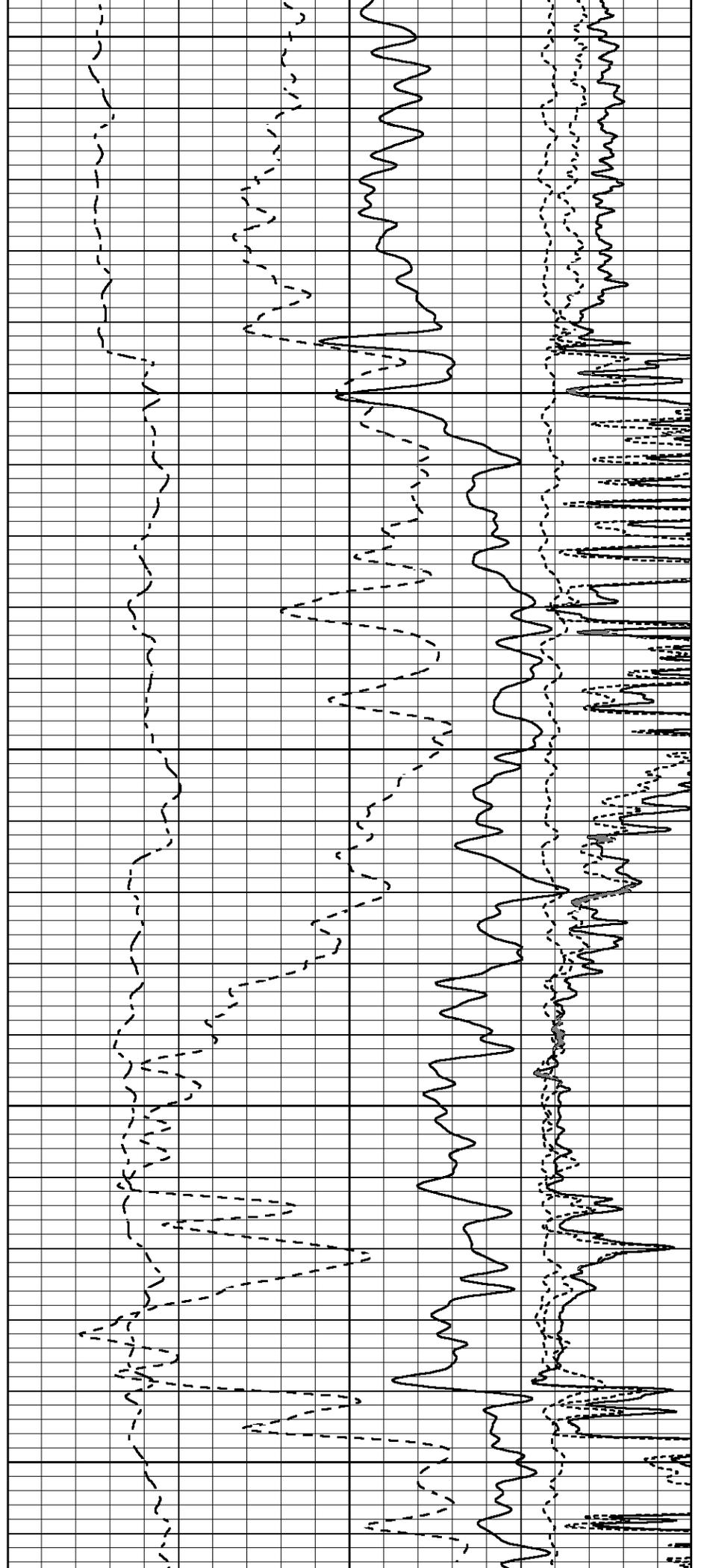
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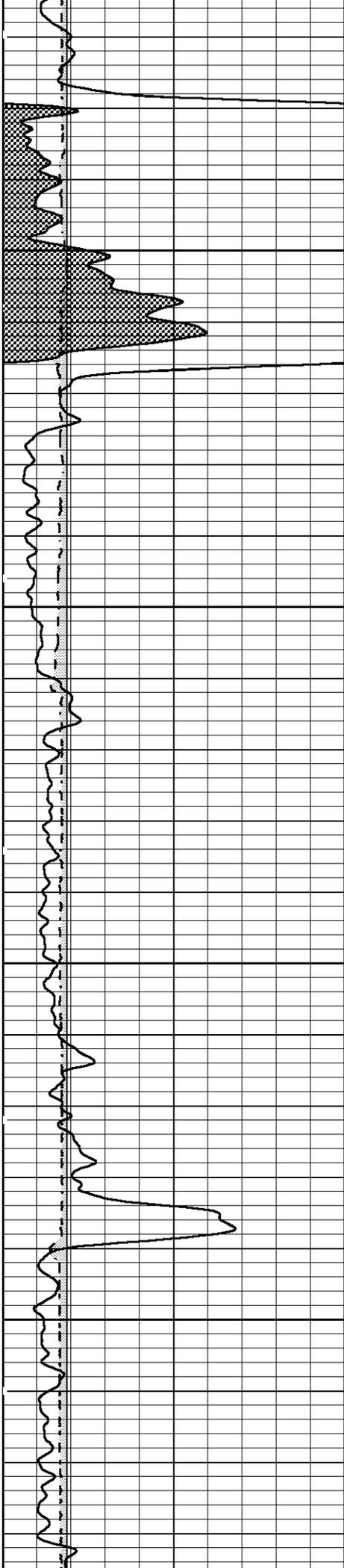




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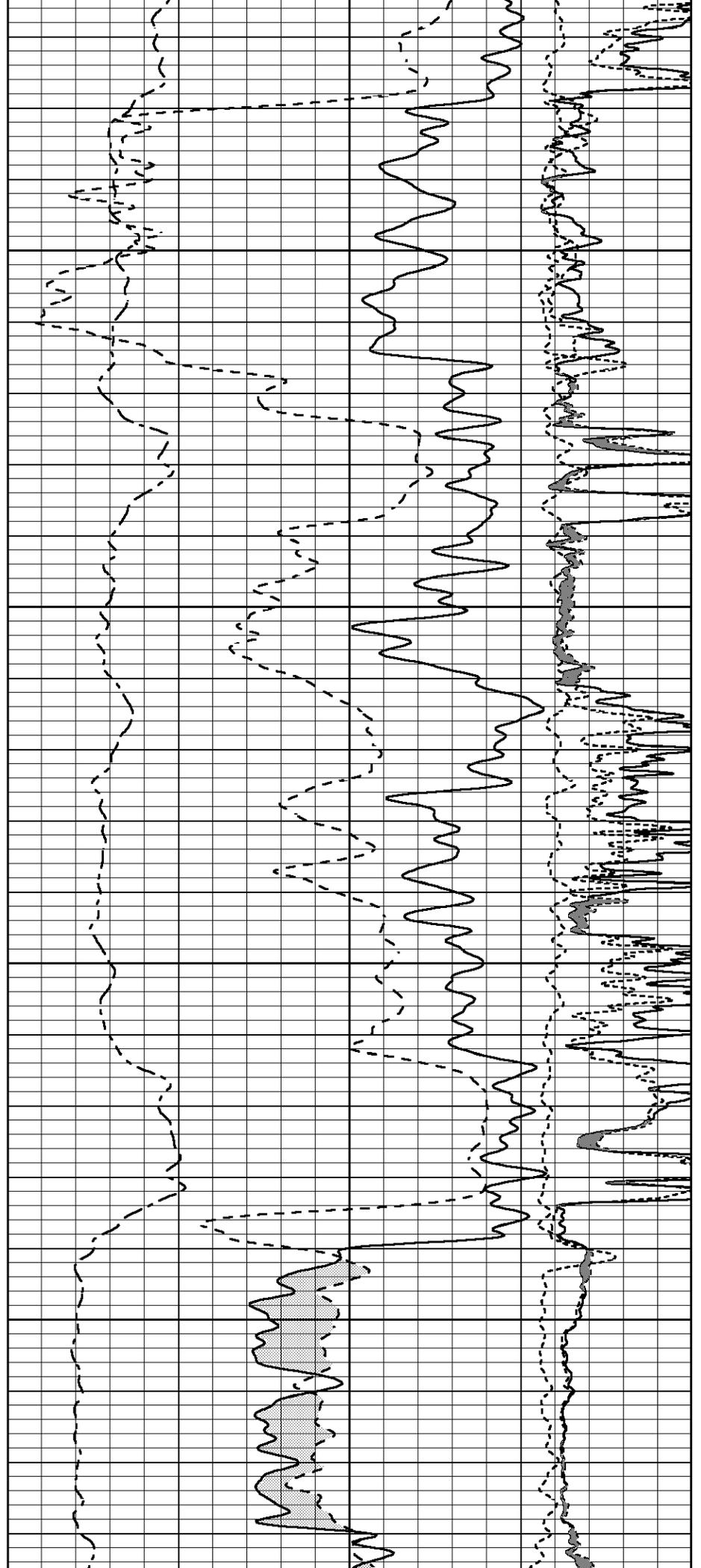
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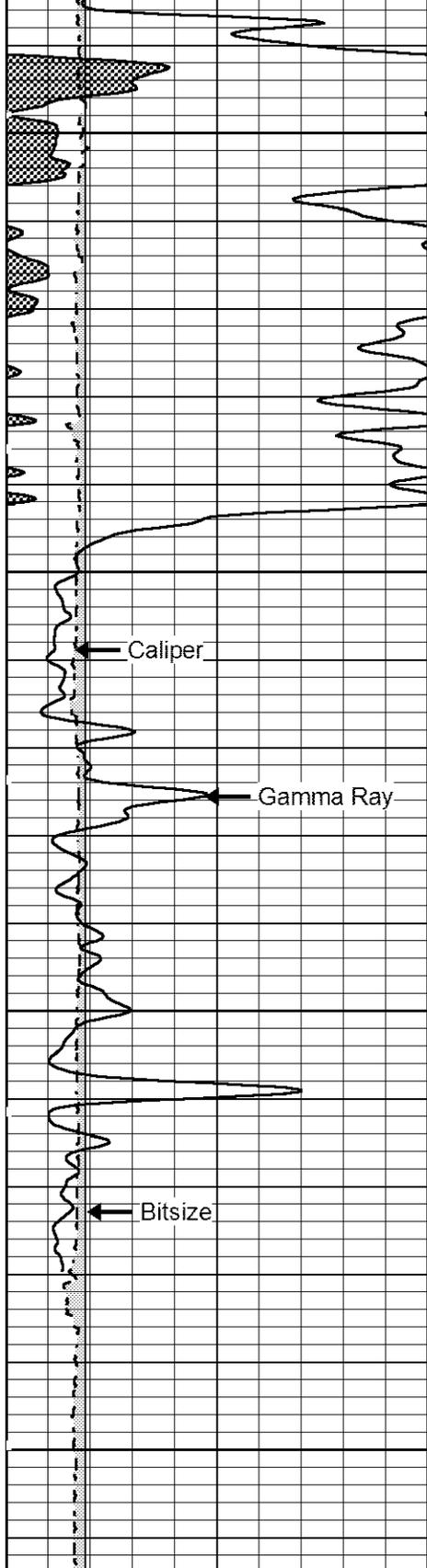




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5300





5400

Caliper

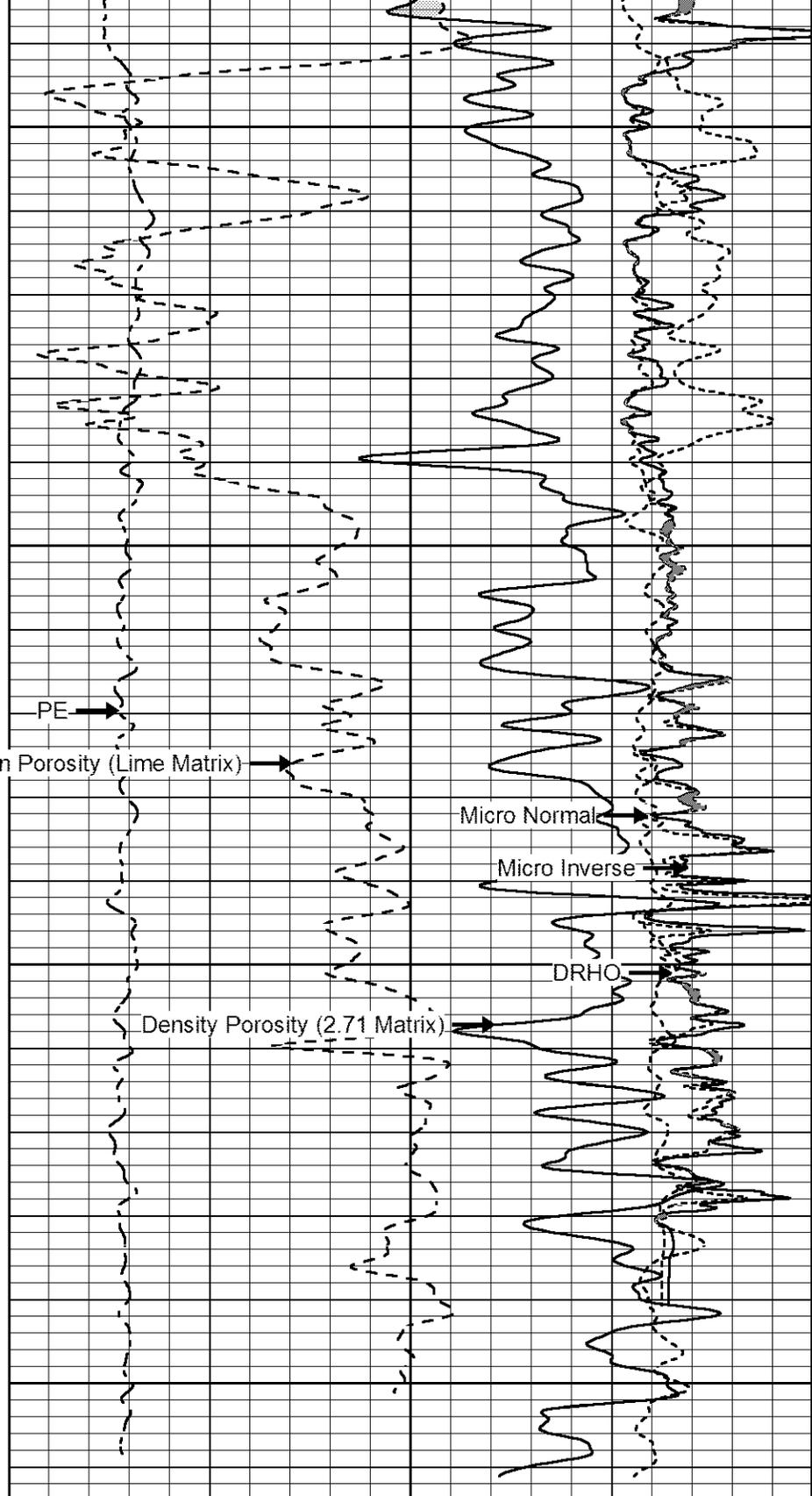
Gamma Ray

Bitsize

5500

Total Depth

5600



PE

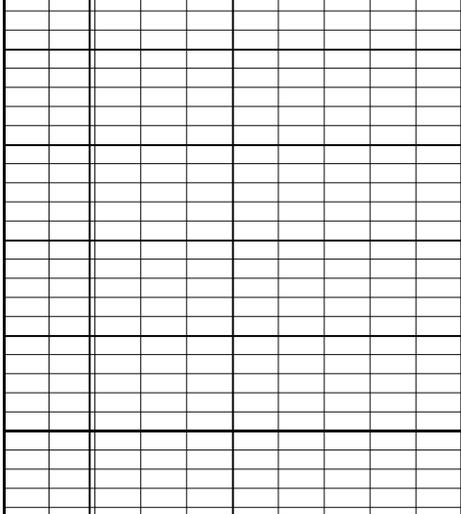
Neutron Porosity (Lime Matrix)

Micro Normal

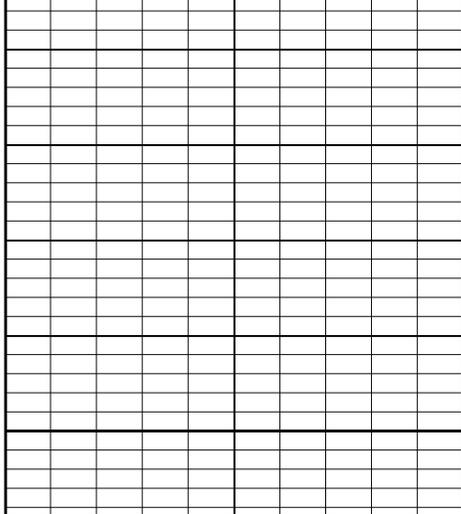
Micro Inverse

DRHO

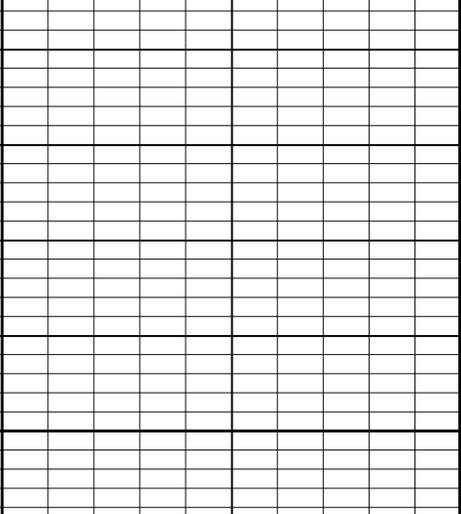
Density Porosity (2.71 Matrix)



0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
6	Bitsize (in)	16



0.3	Density Porosity (2.71 Matrix)	-0.1
0.3	Neutron Porosity (Lime Matrix)	-0.1
0	PE	10
-0.25	DRHO (g/cc)	0.25



0	Micro Normal	20
0	Micro Inverse	20

0	Micro Normal	20
0	Micro Inverse	20

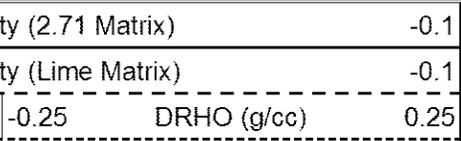
# WIRELINE LOGGING SOLUTIONS

## Repeat Pass

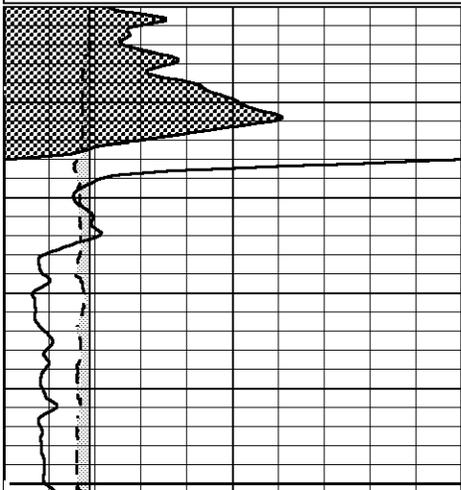
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6	Bitsize (in)	16

0.3	Density Porosity (2.71 Matrix)	-0.1
0.3	Neutron Porosity (Lime Matrix)	-0.1
0	PE	10
-0.25	DRHO (g/cc)	0.25

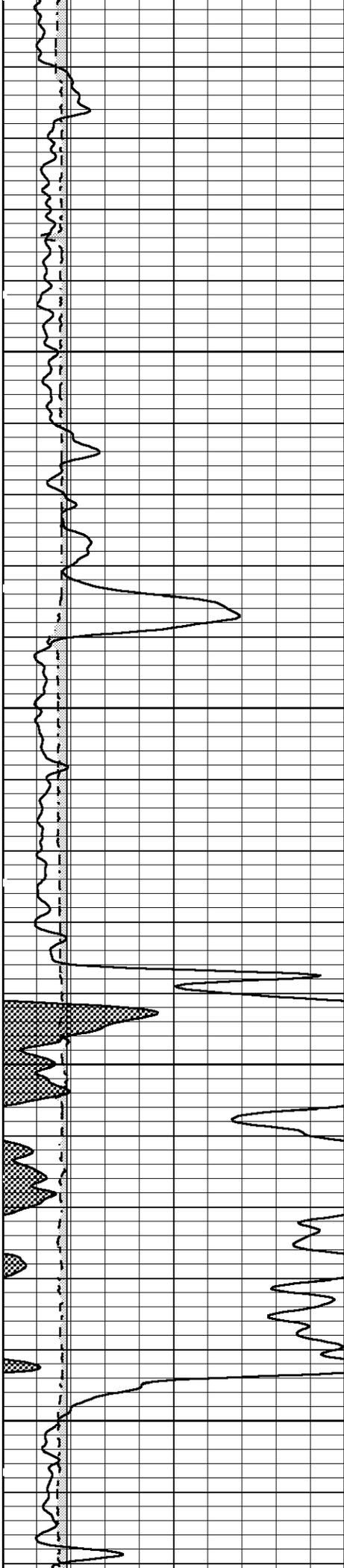


0	Micro Normal	20
0	Micro Inverse	20



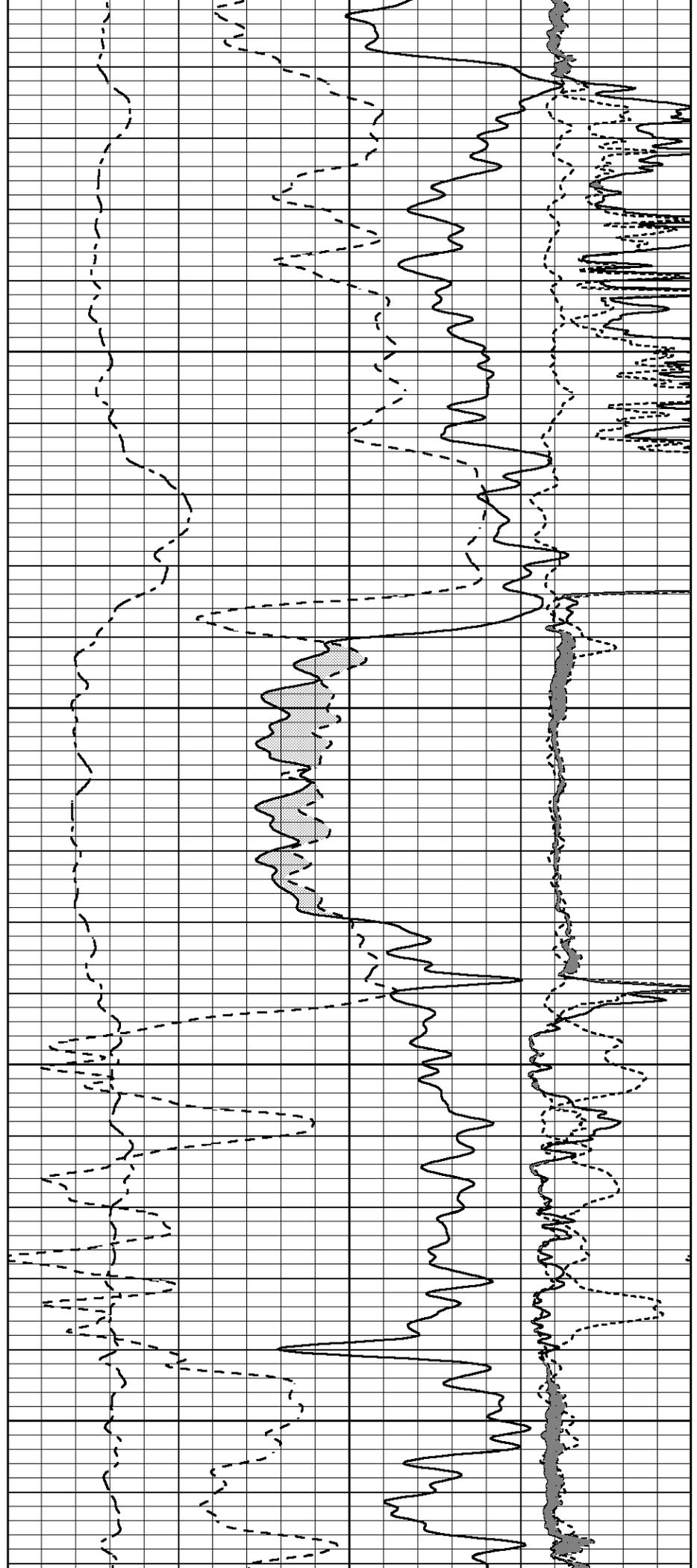
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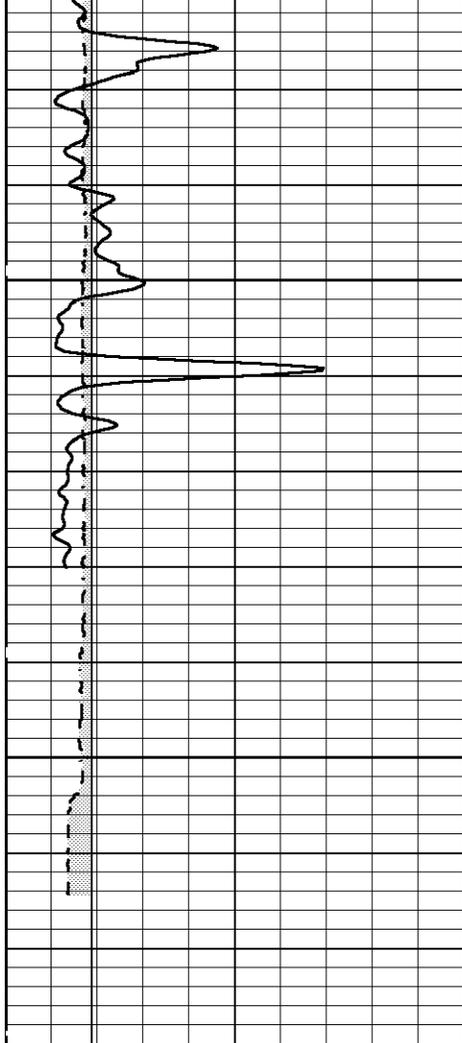




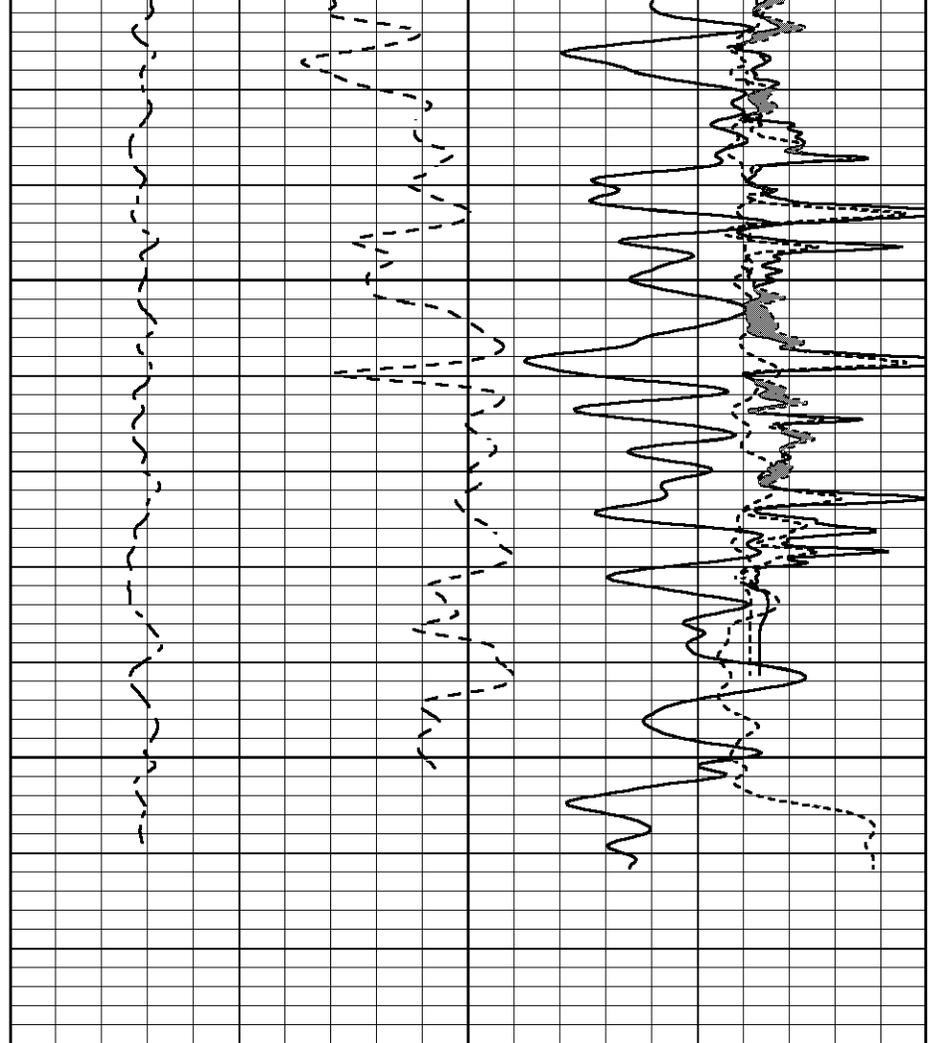
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5500



0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
6	Bitsize (in)	16

0.3	Density Porosity (2.71 Matrix)	-0.1
0.3	Neutron Porosity (Lime Matrix)	-0.1
0	PE	10
-0.25	DRHO (g/cc)	0.25

Micro Normal	
0 (Ohm-m)	20
Micro Inverse	
0 (Ohm-m)	20

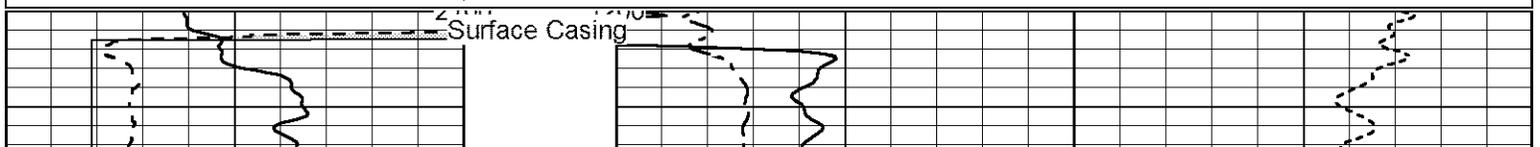
# WIRELINE LOGGING SOLUTIONS

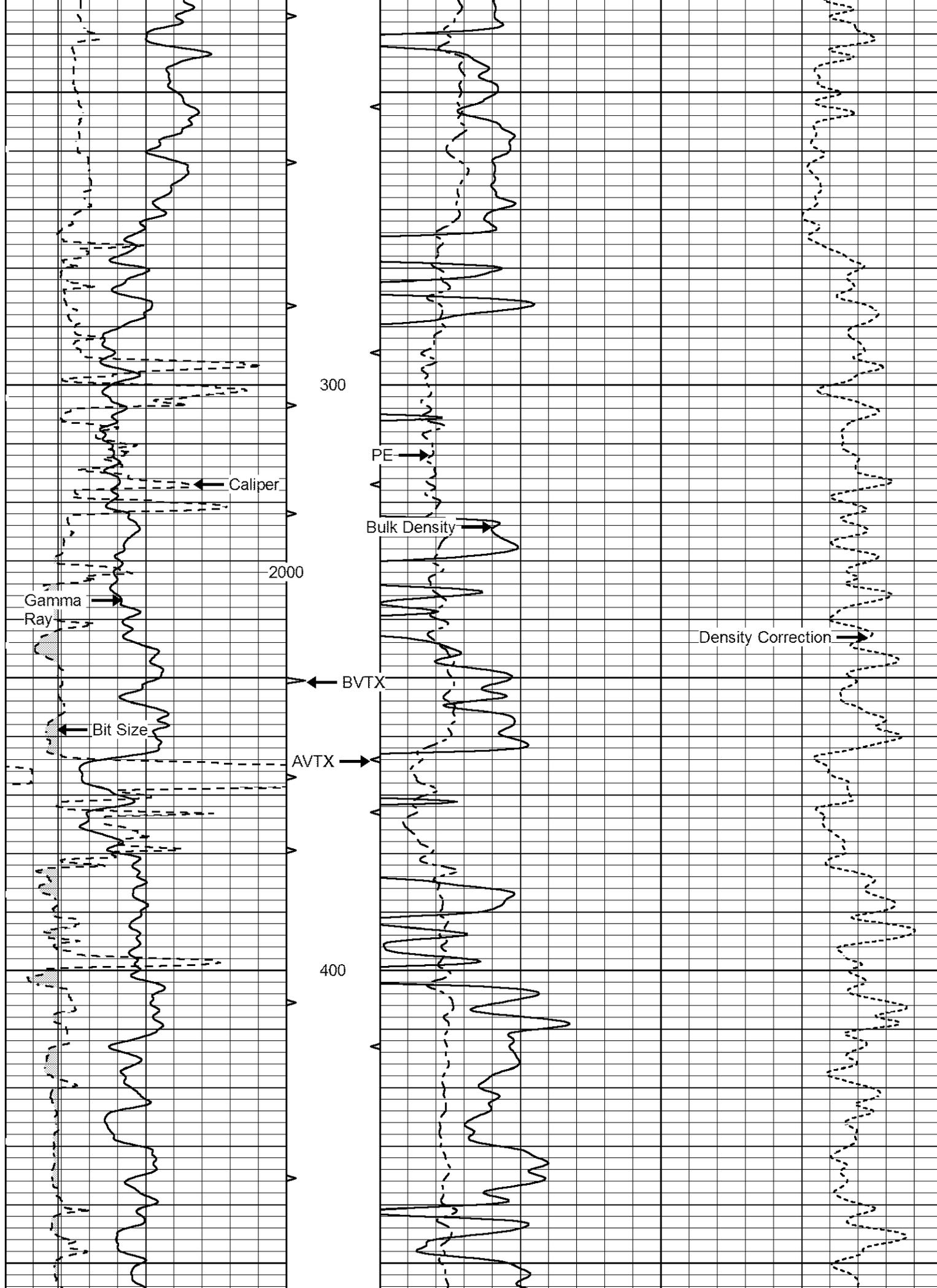
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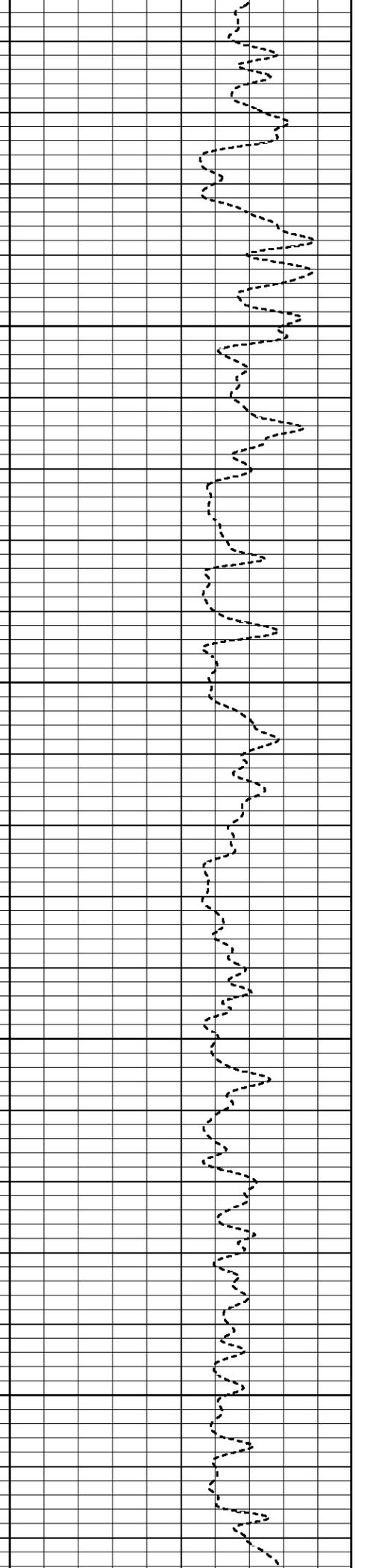
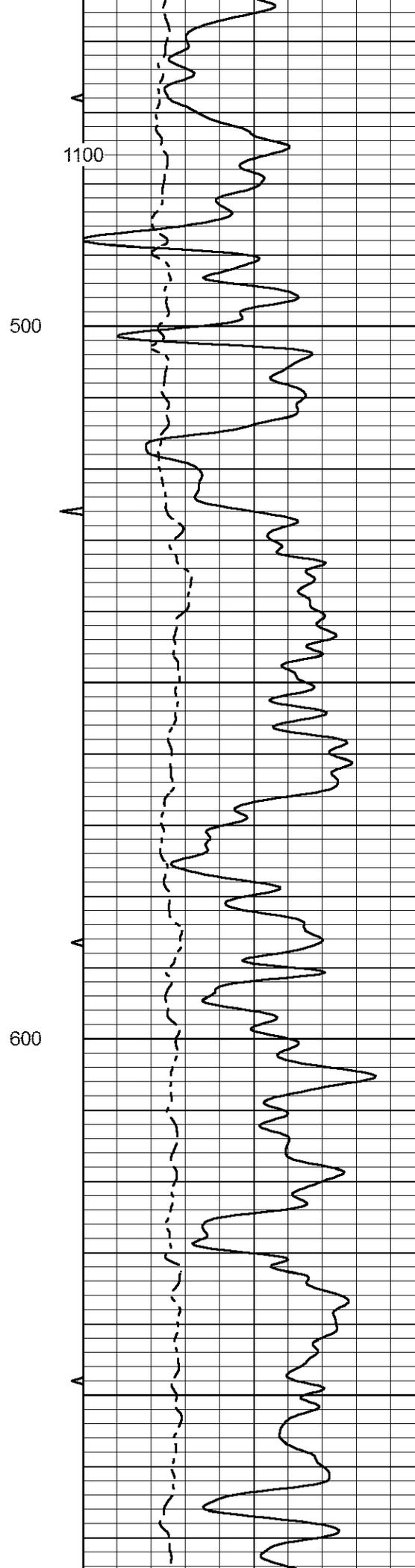
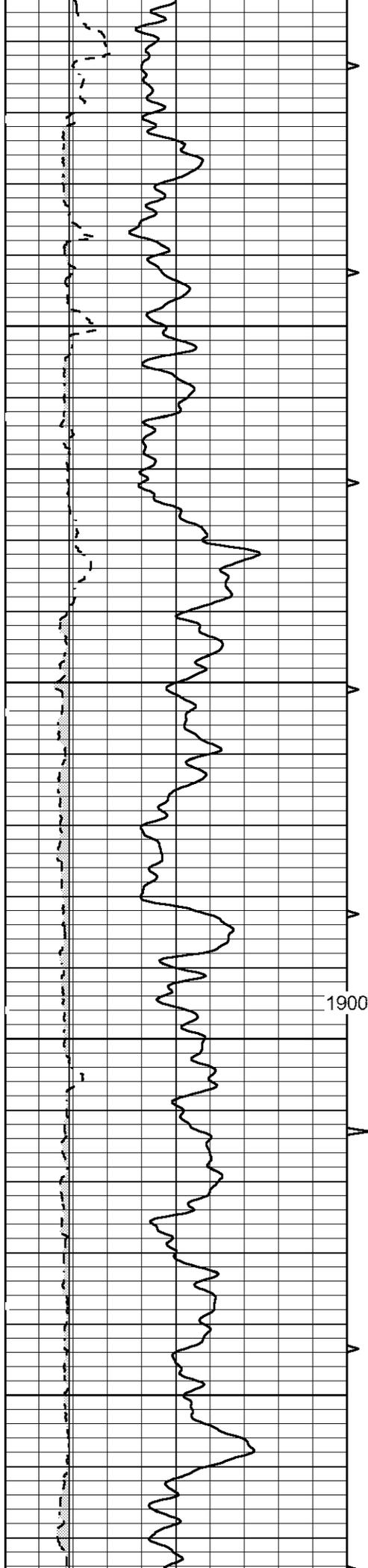
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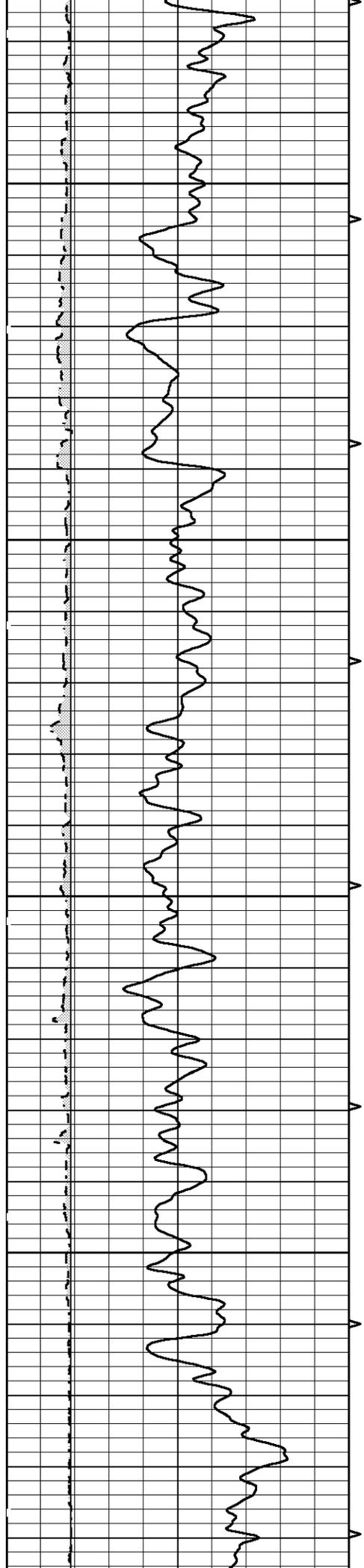
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6	Caliper (in)	16
6	Bit Size (in)	16

2	Bulk Density (g/cc)	3
0	PE	10
-0.25	Density Correction (g/cc)	0.25



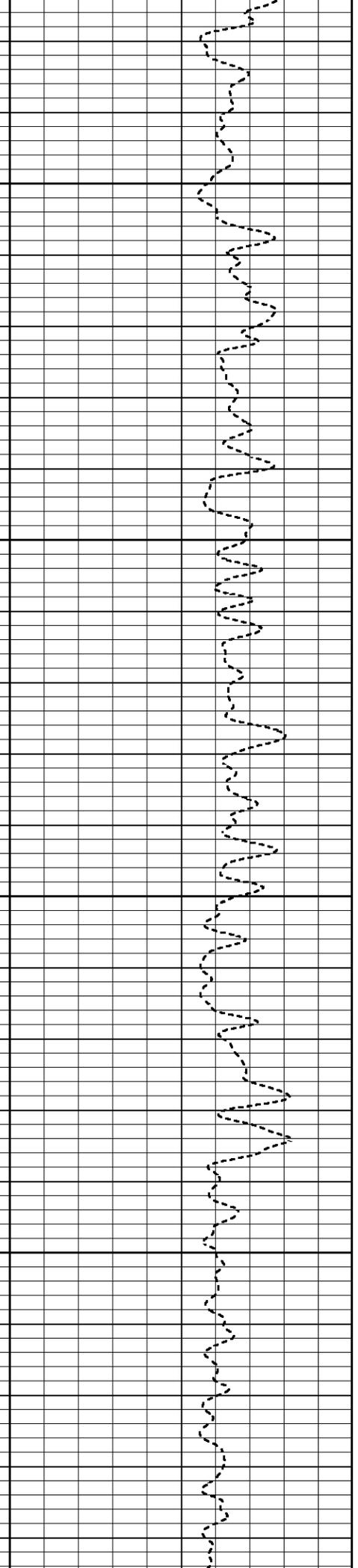
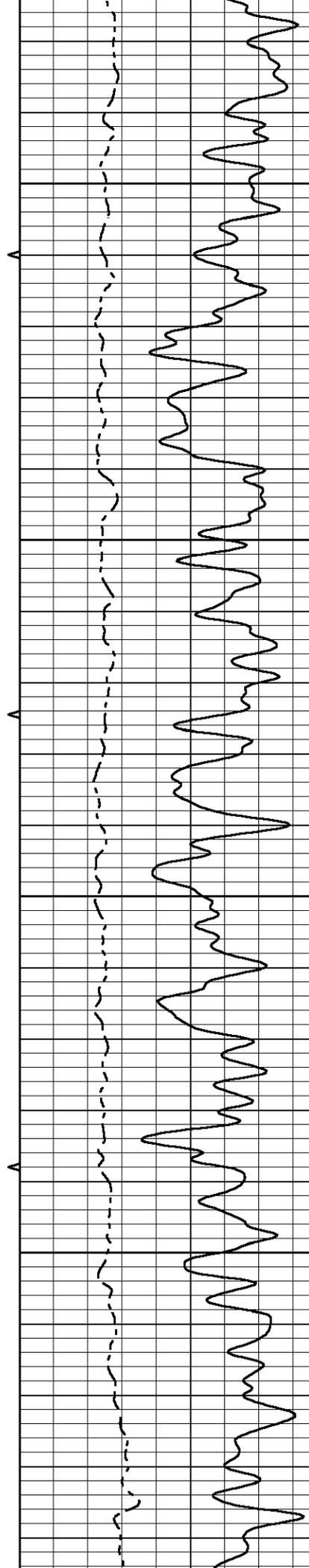


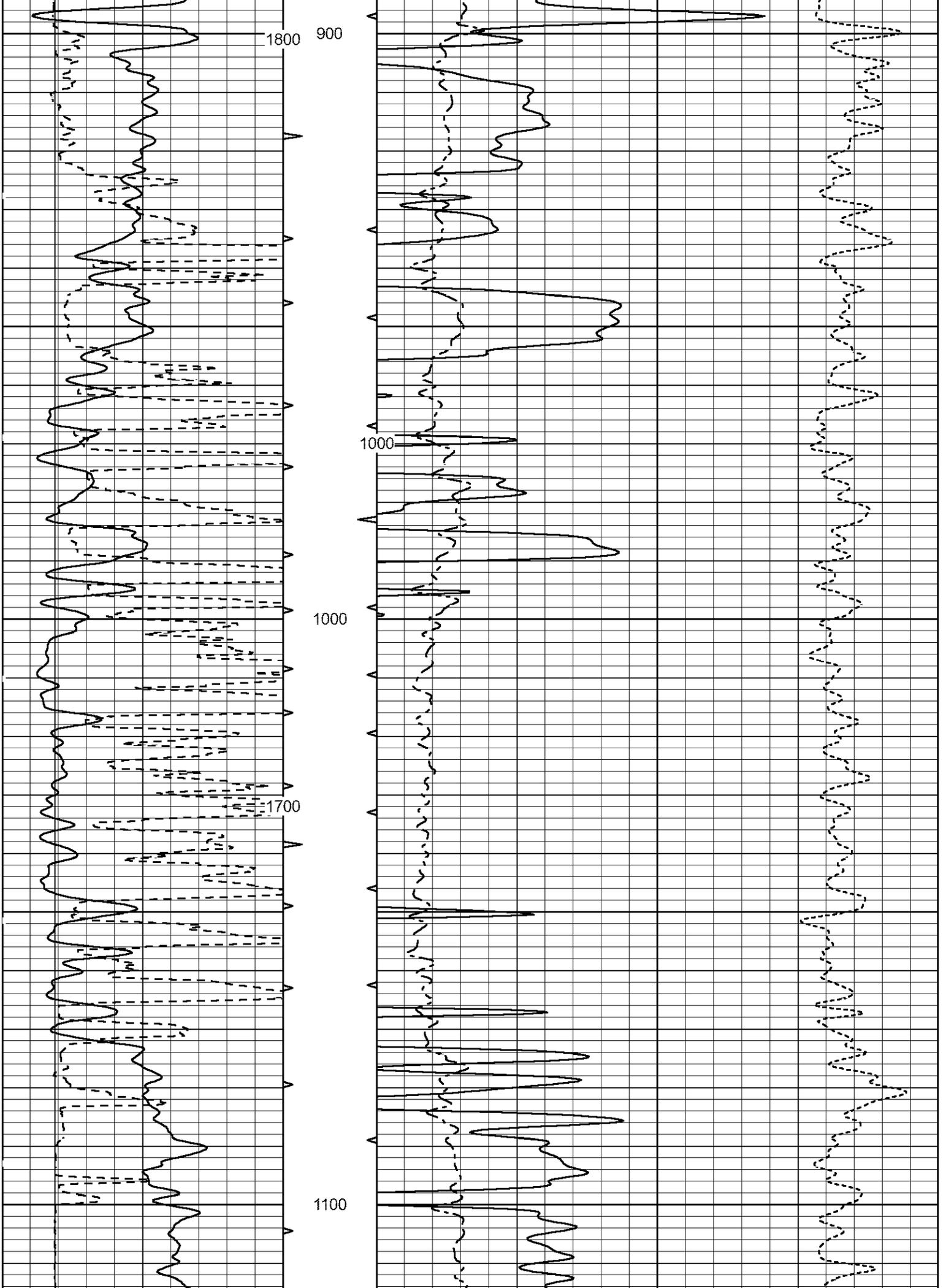


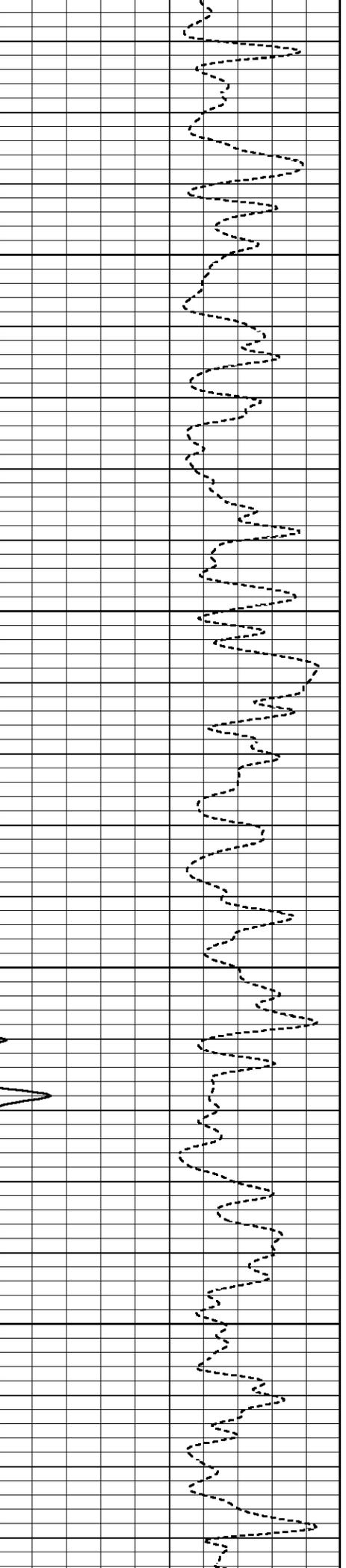
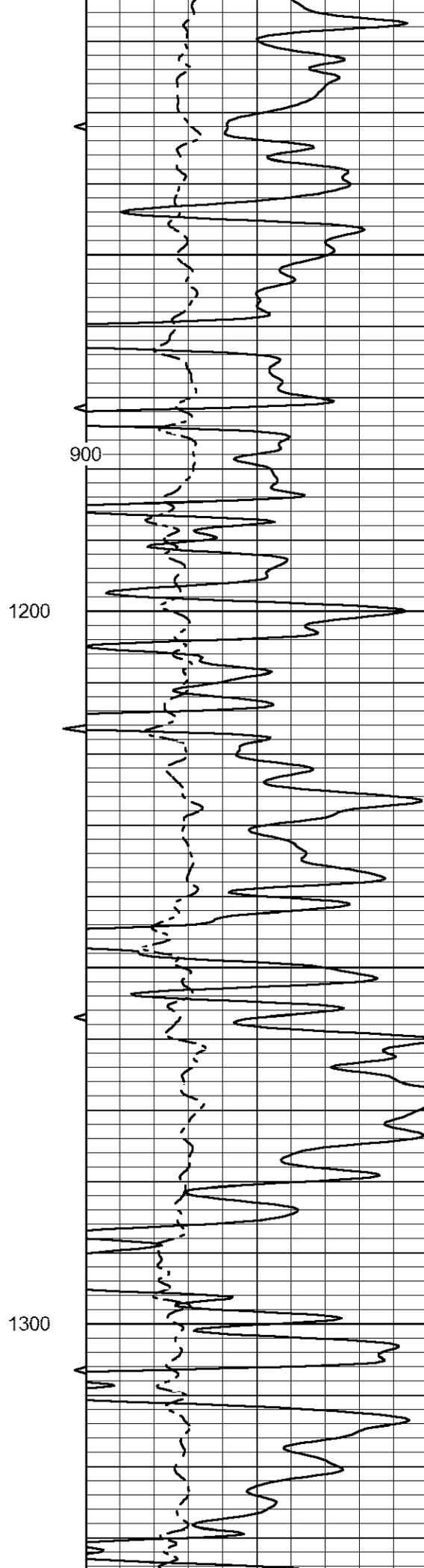
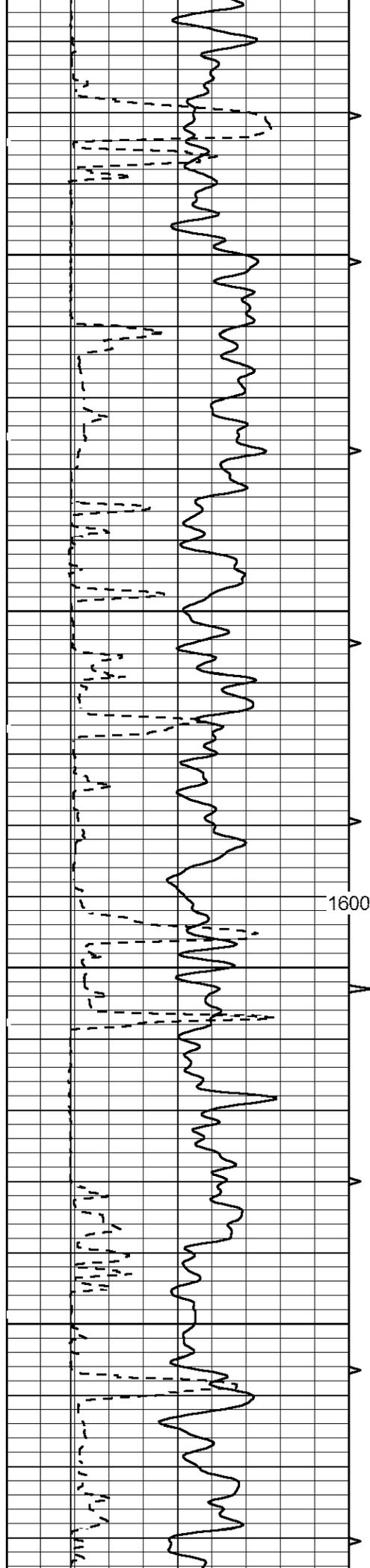


700

800





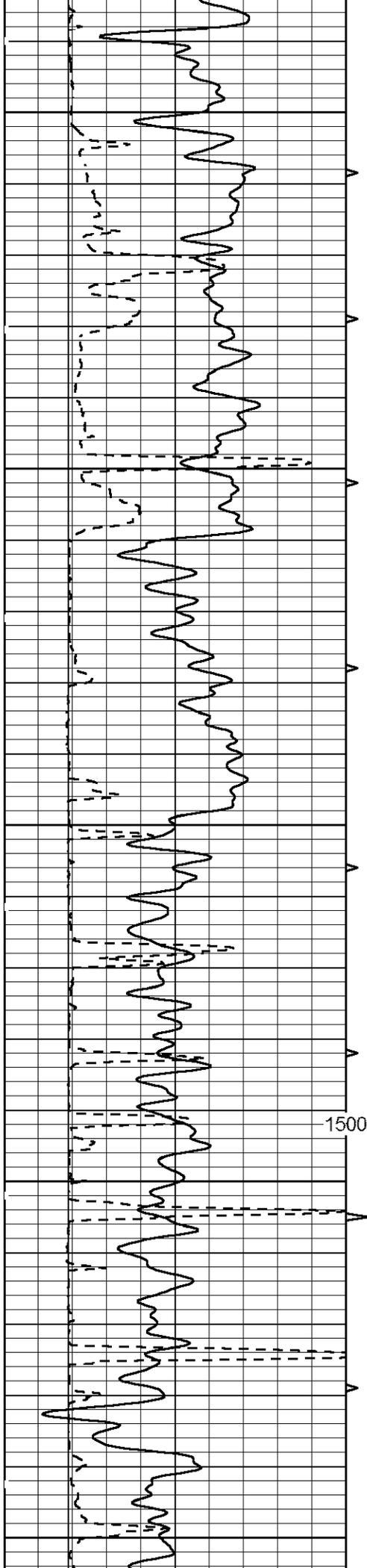


900

1200

1600

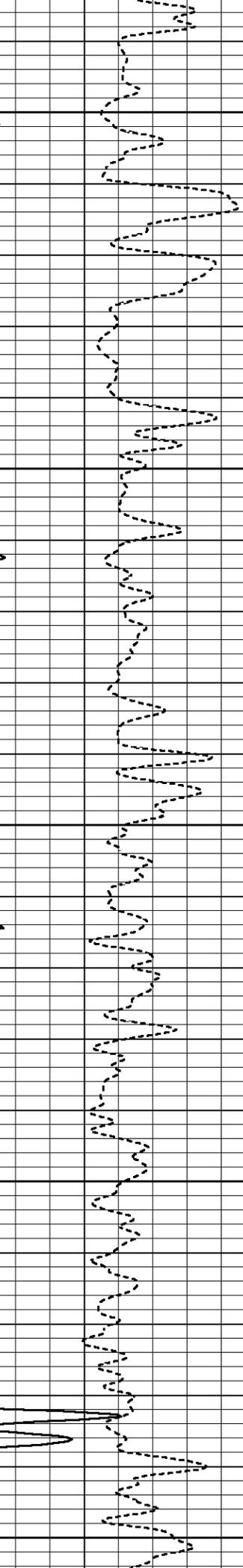
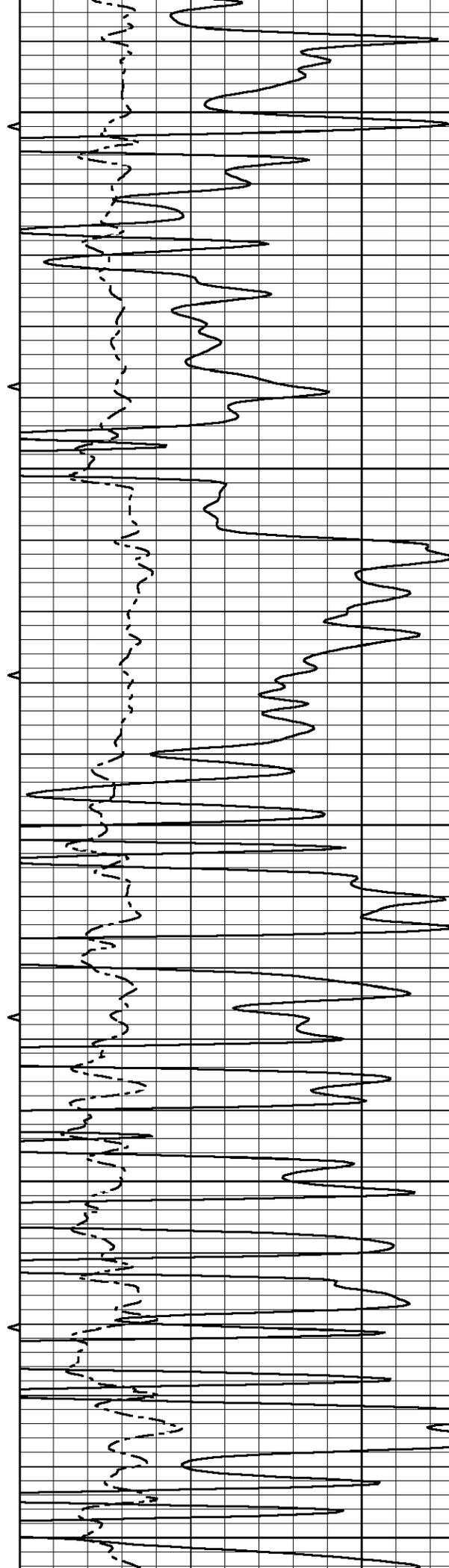
1300

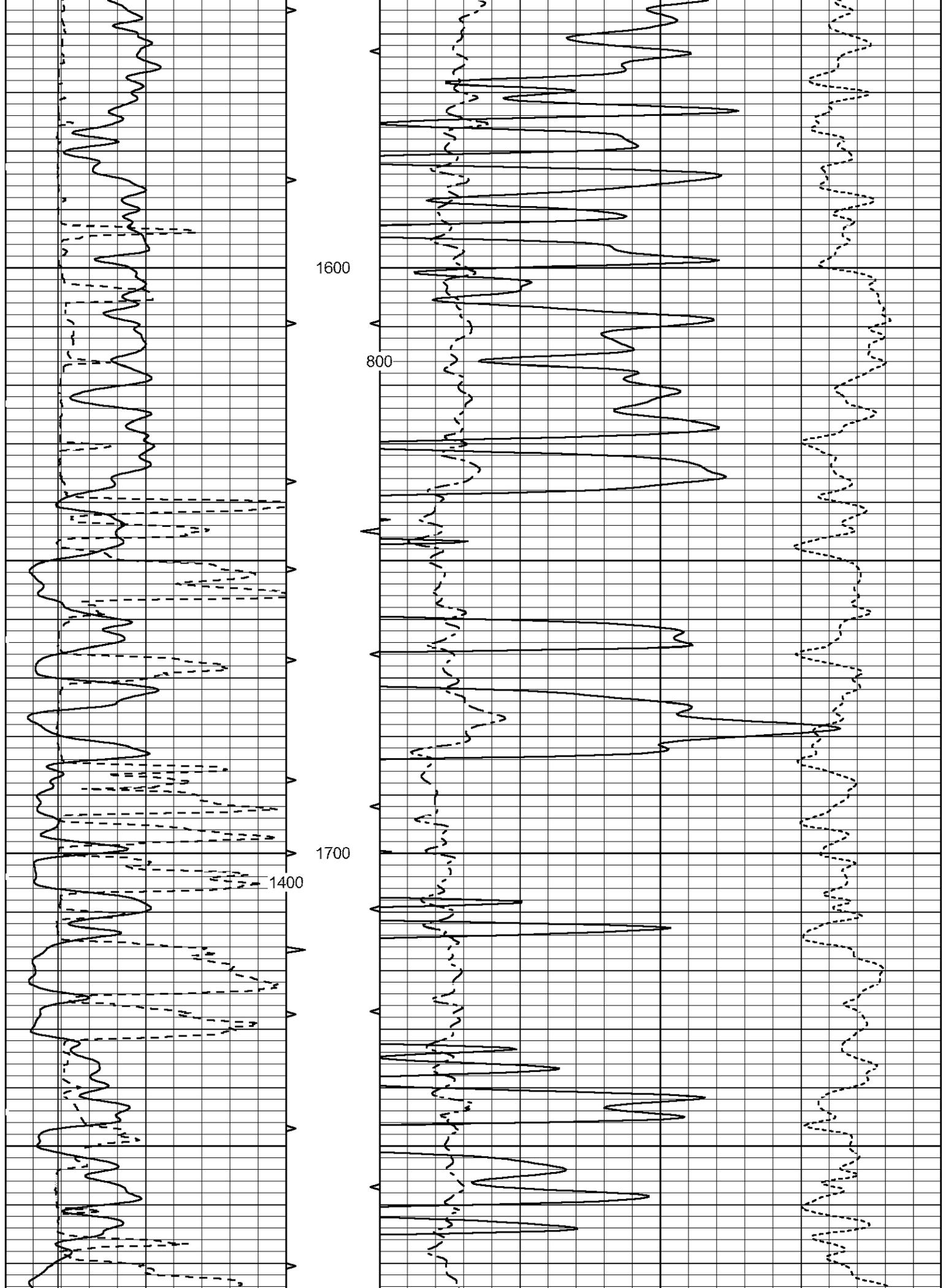


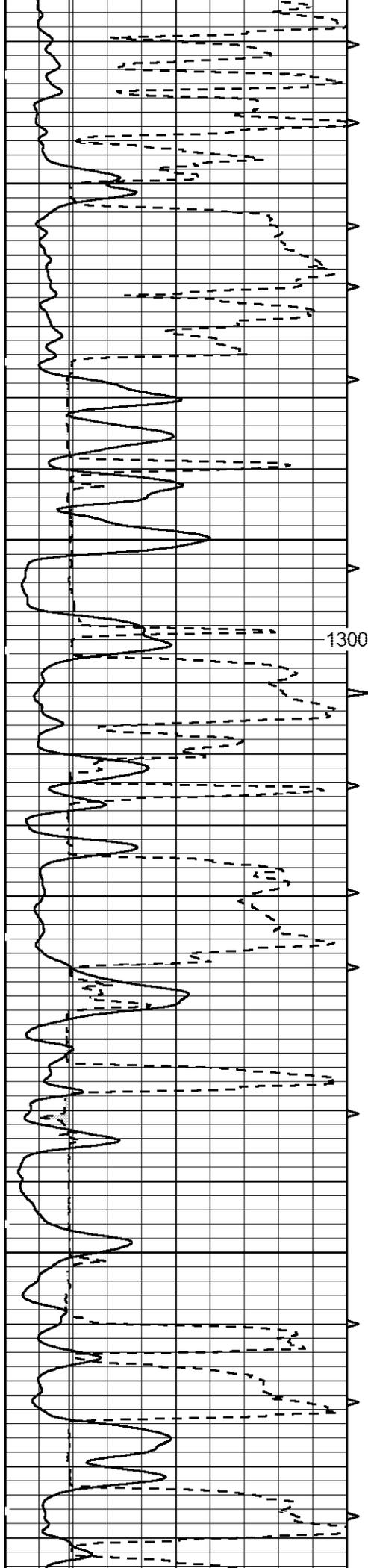
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1500

1500





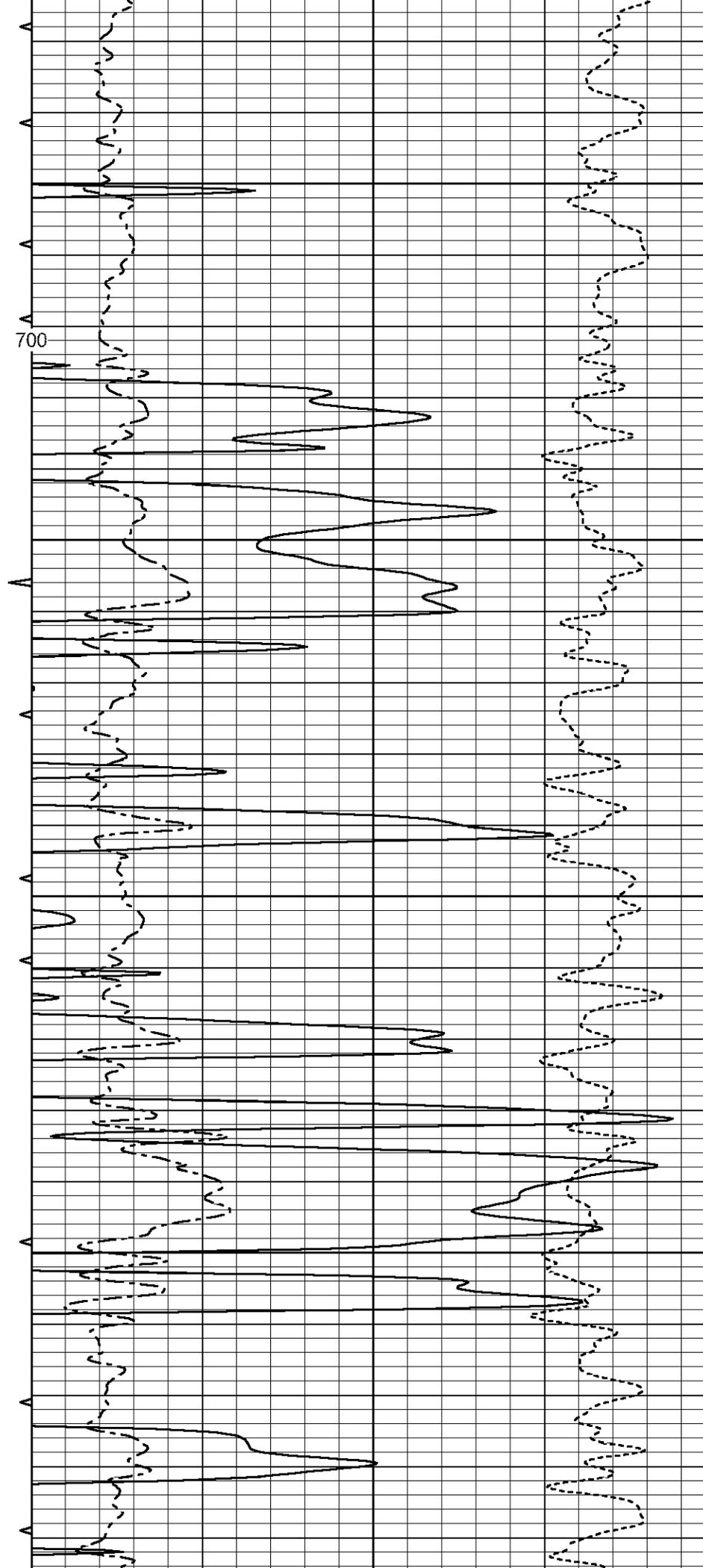


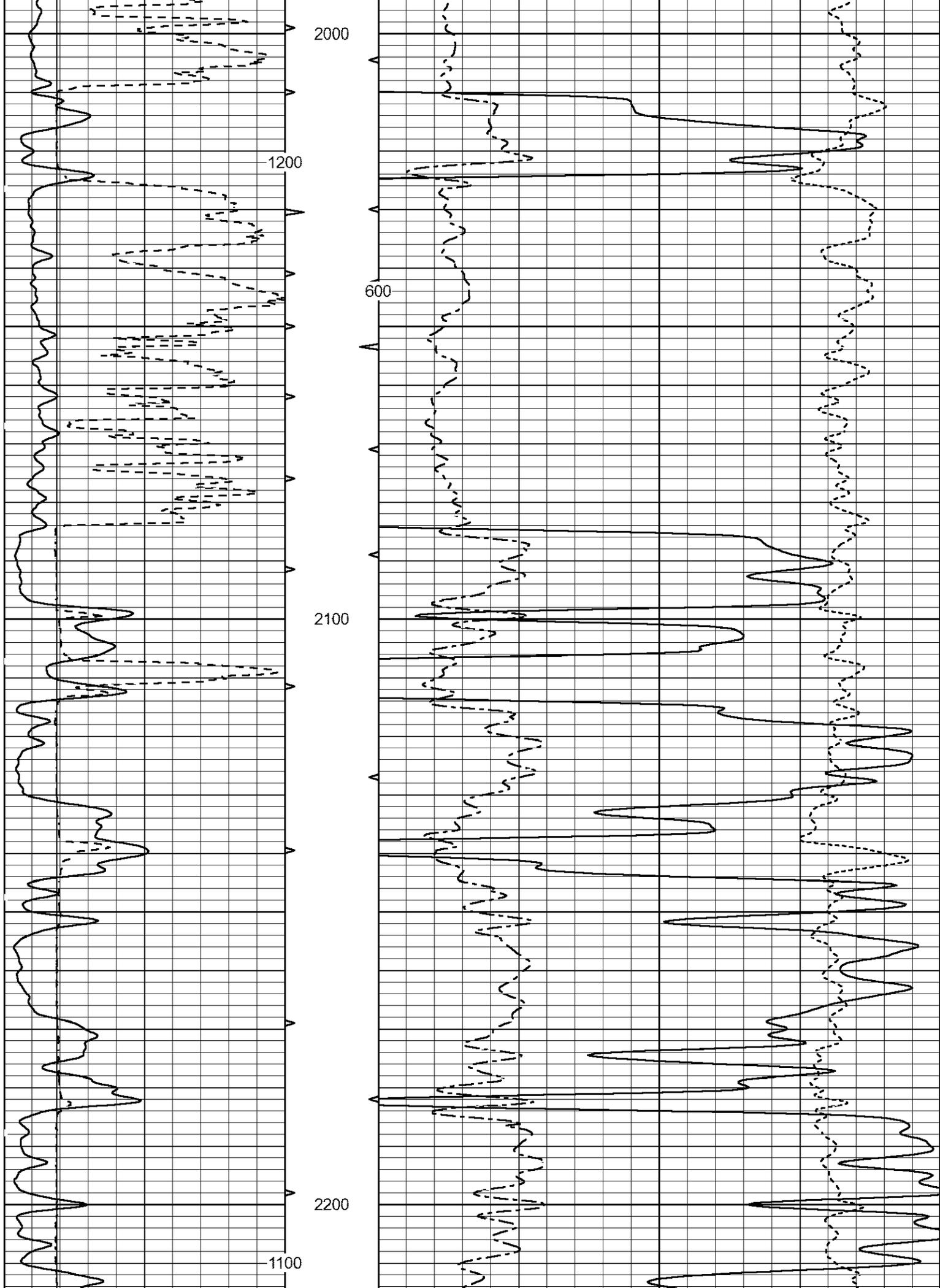
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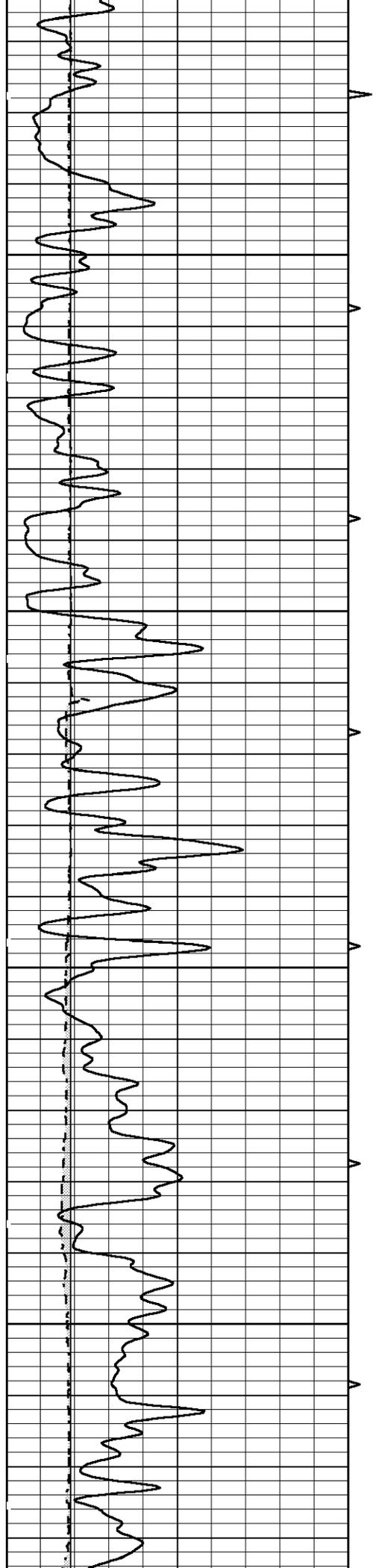
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1300

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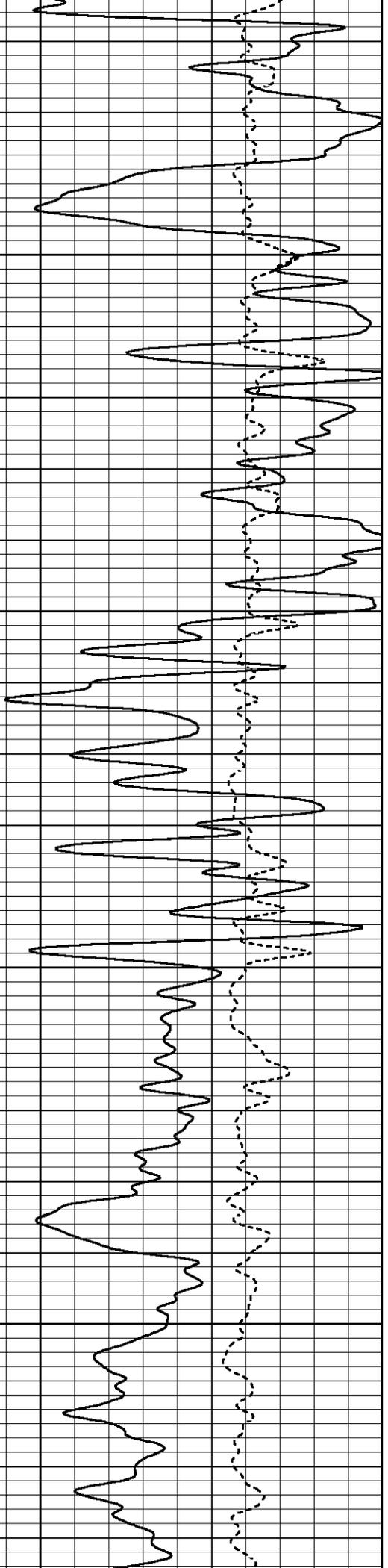
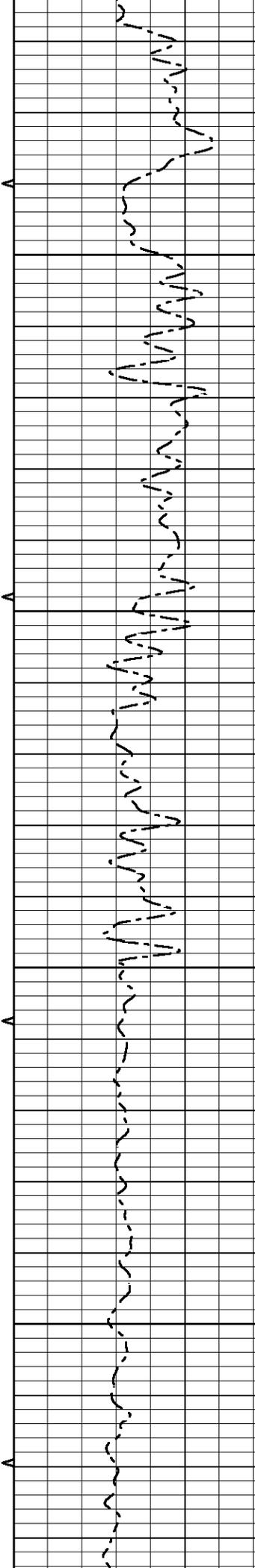


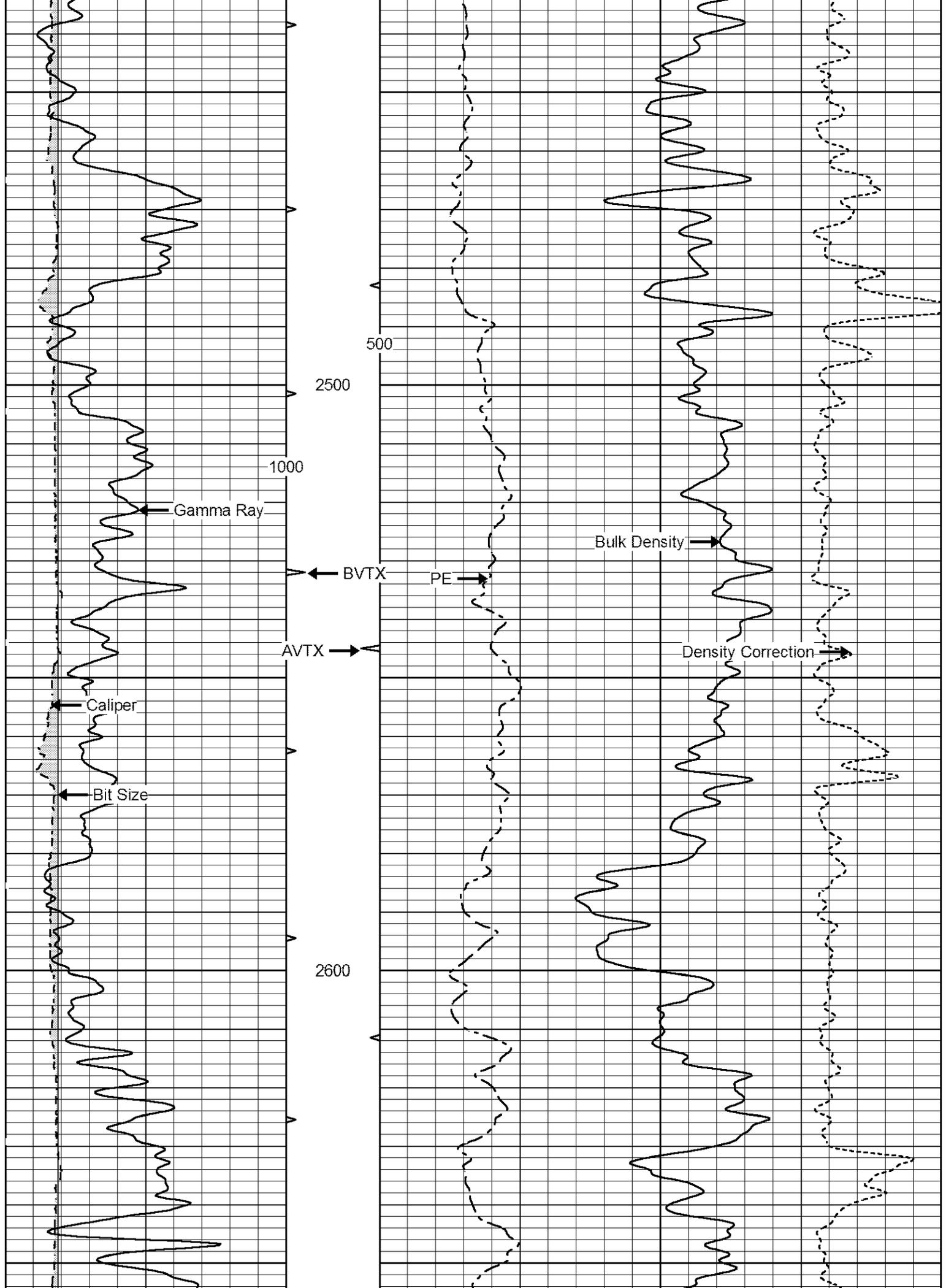


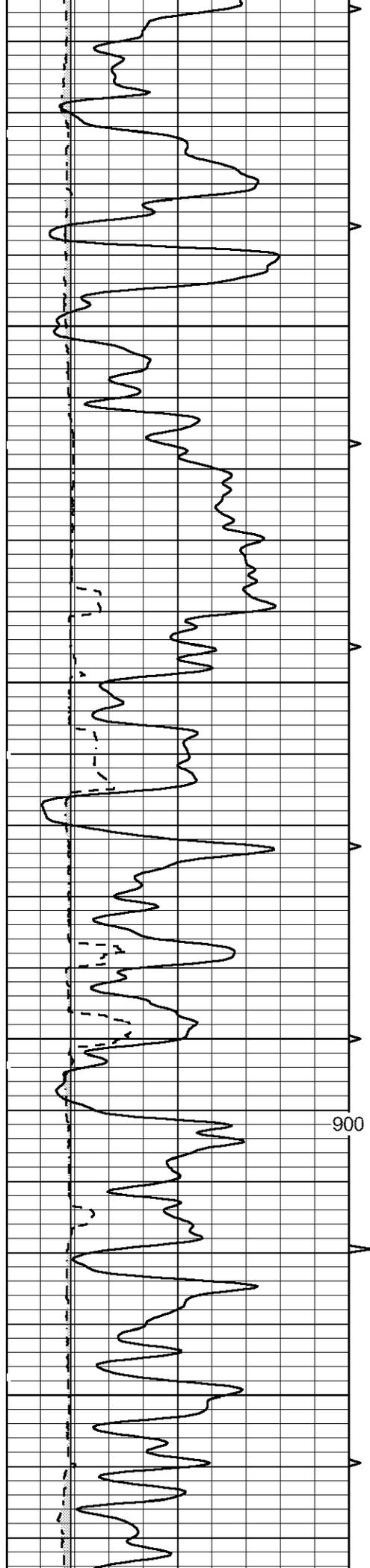


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2400



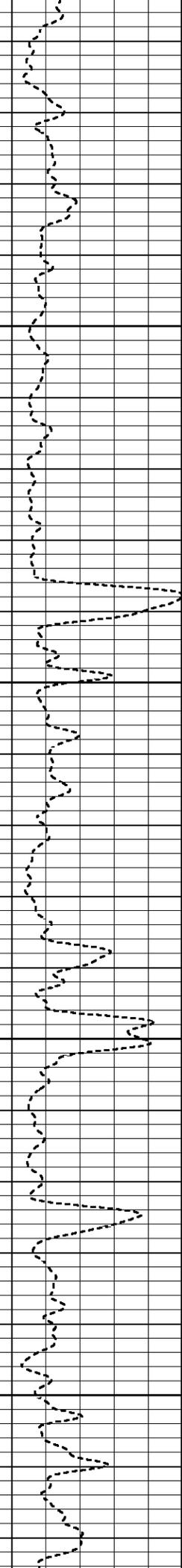
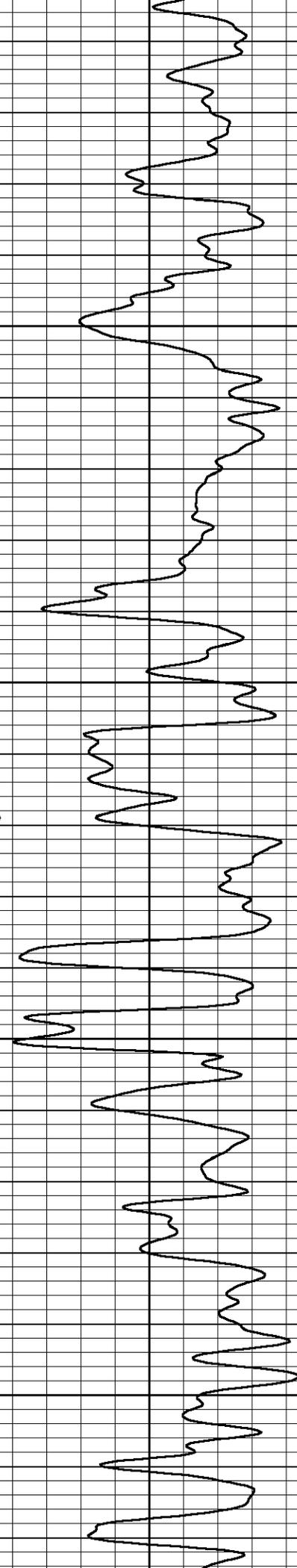
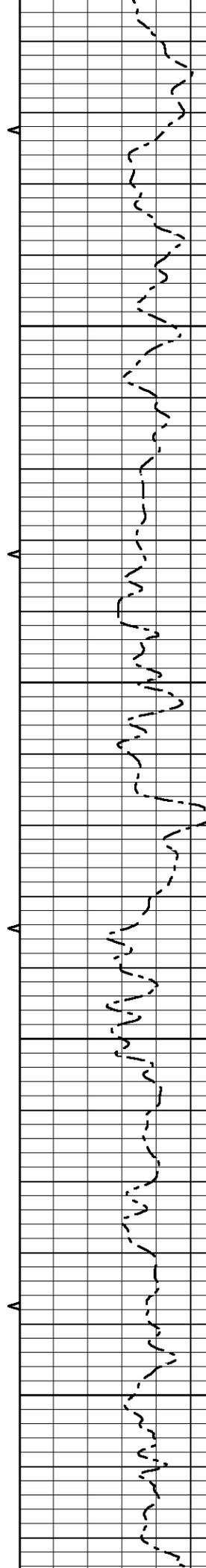


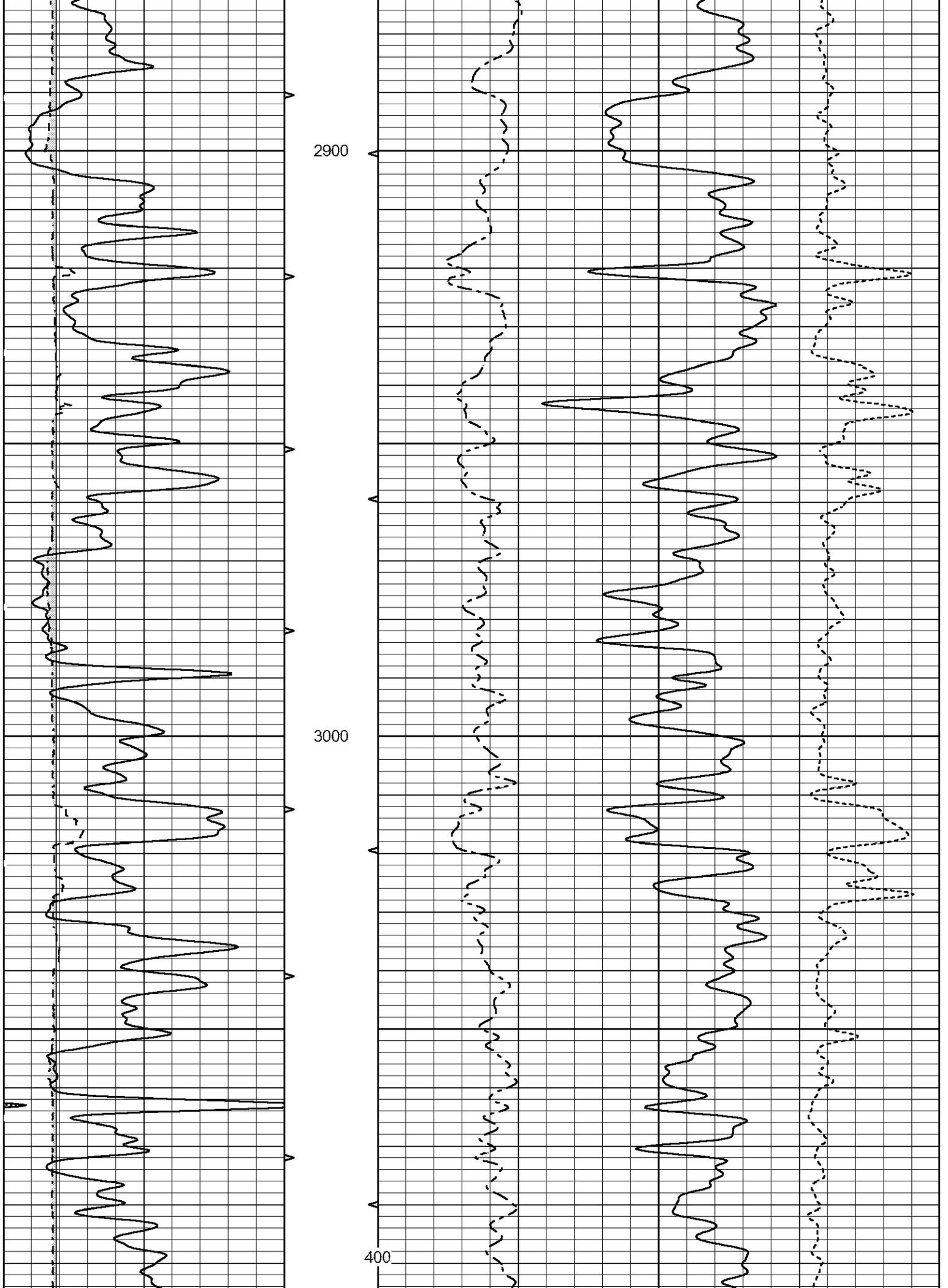


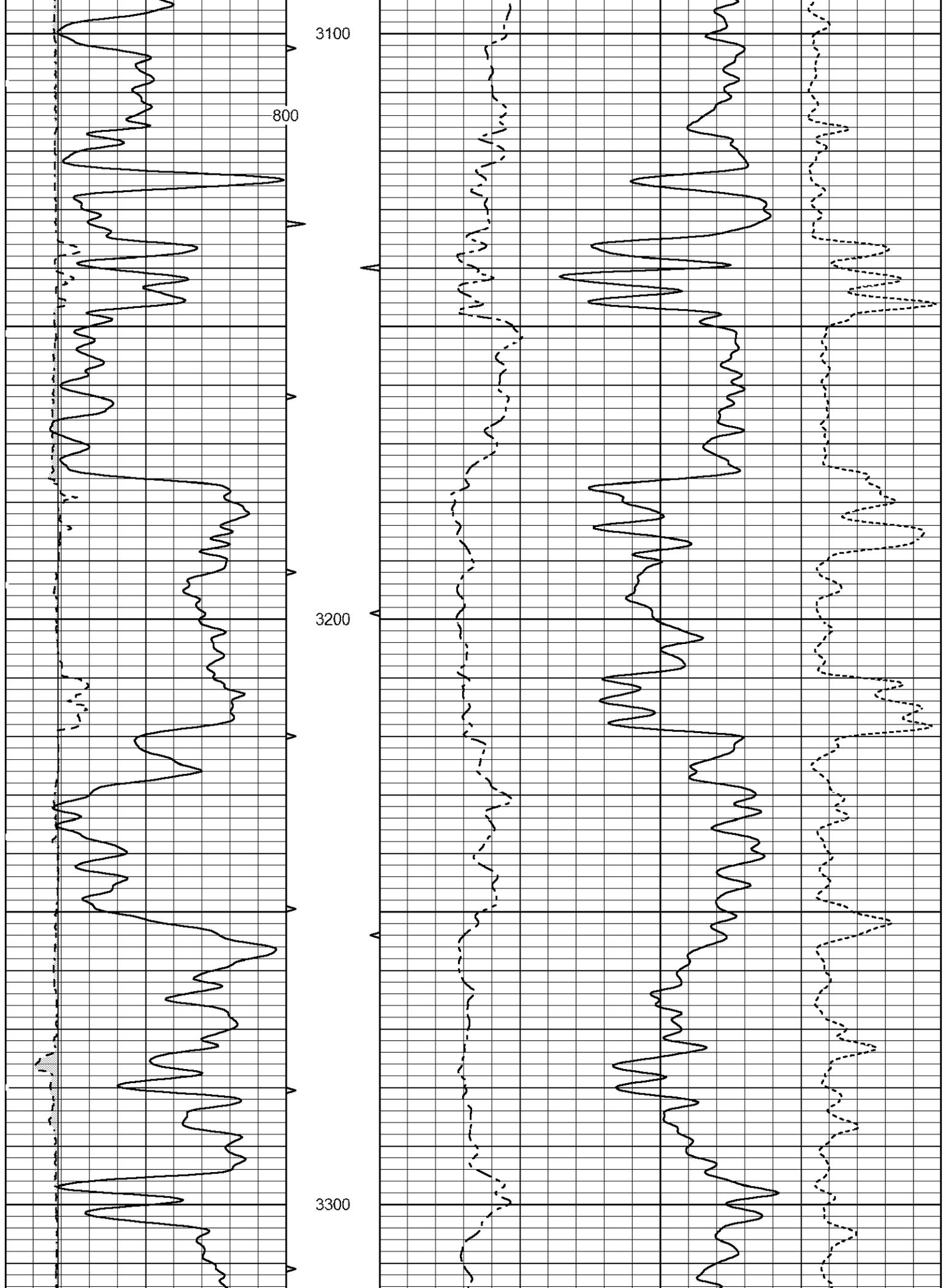
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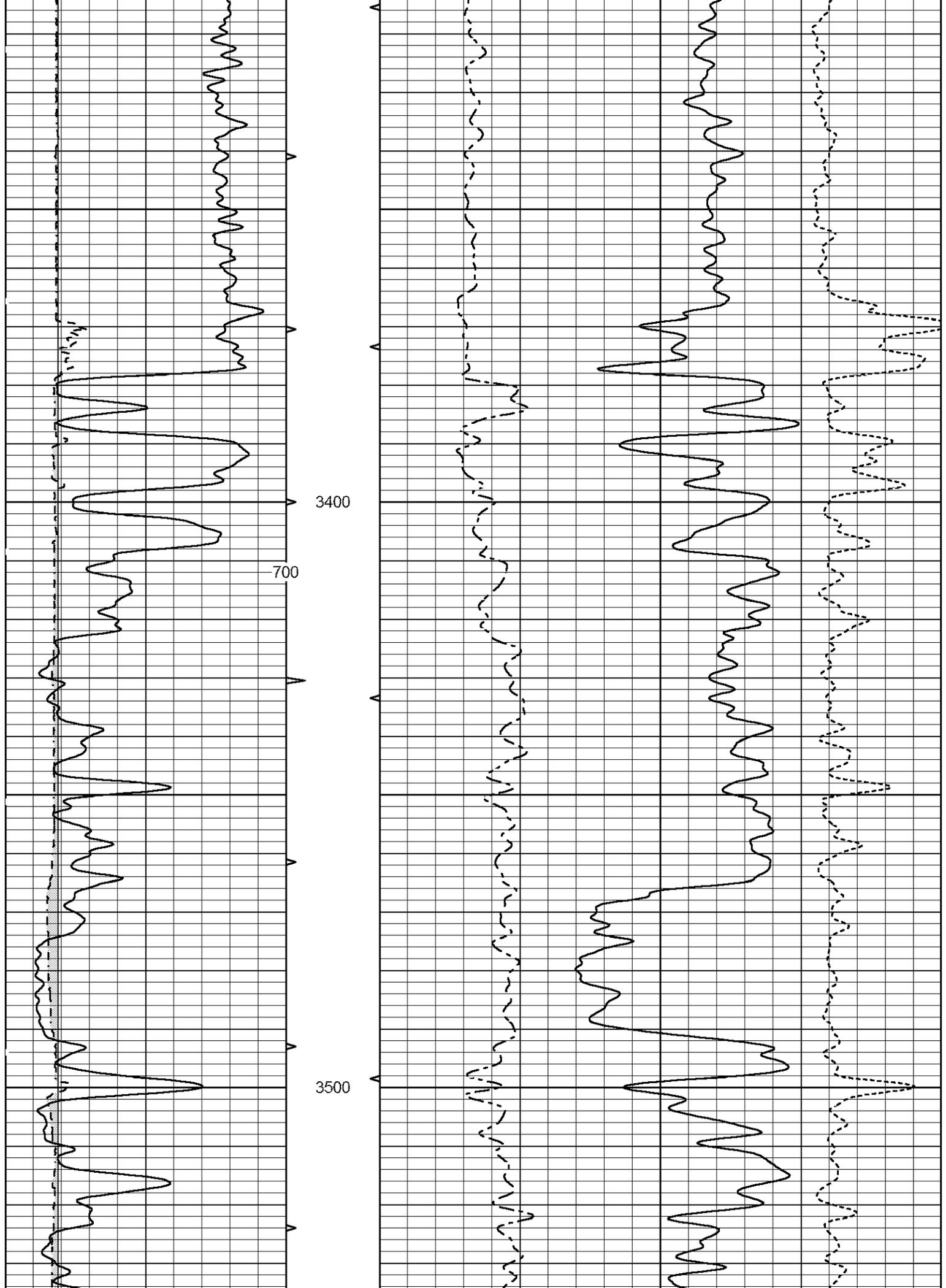
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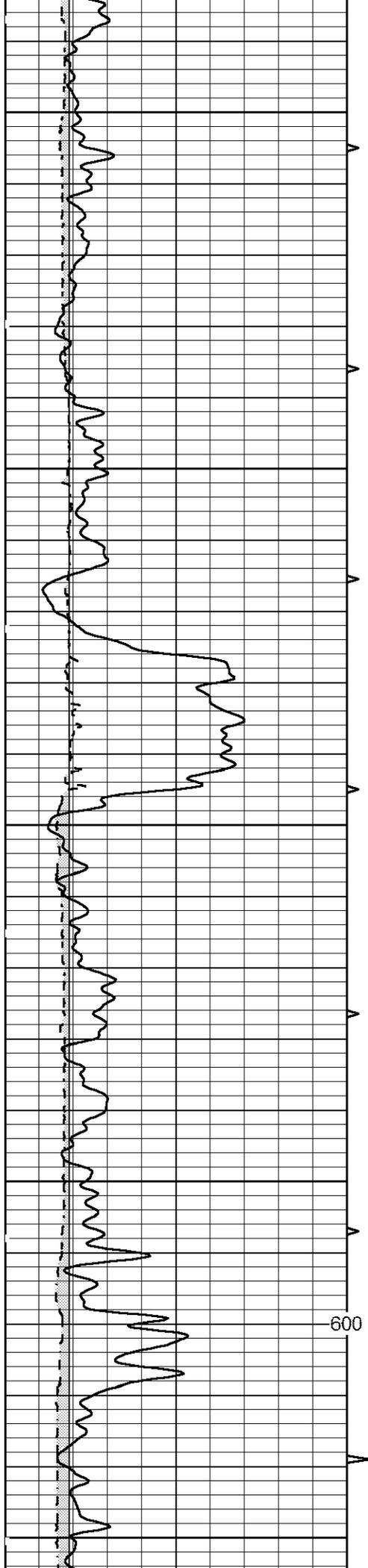
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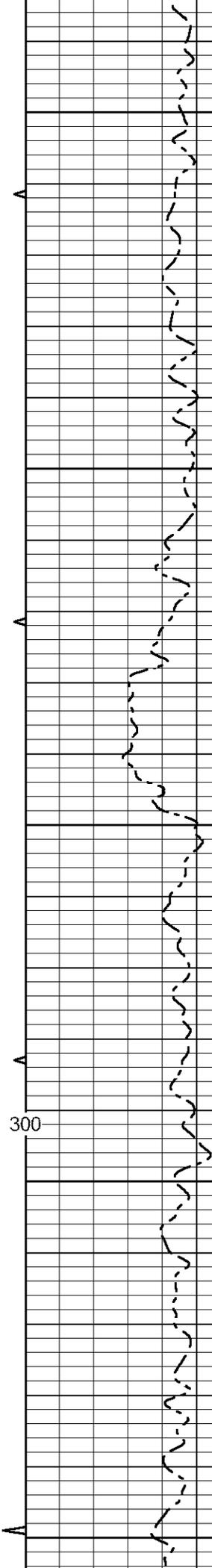






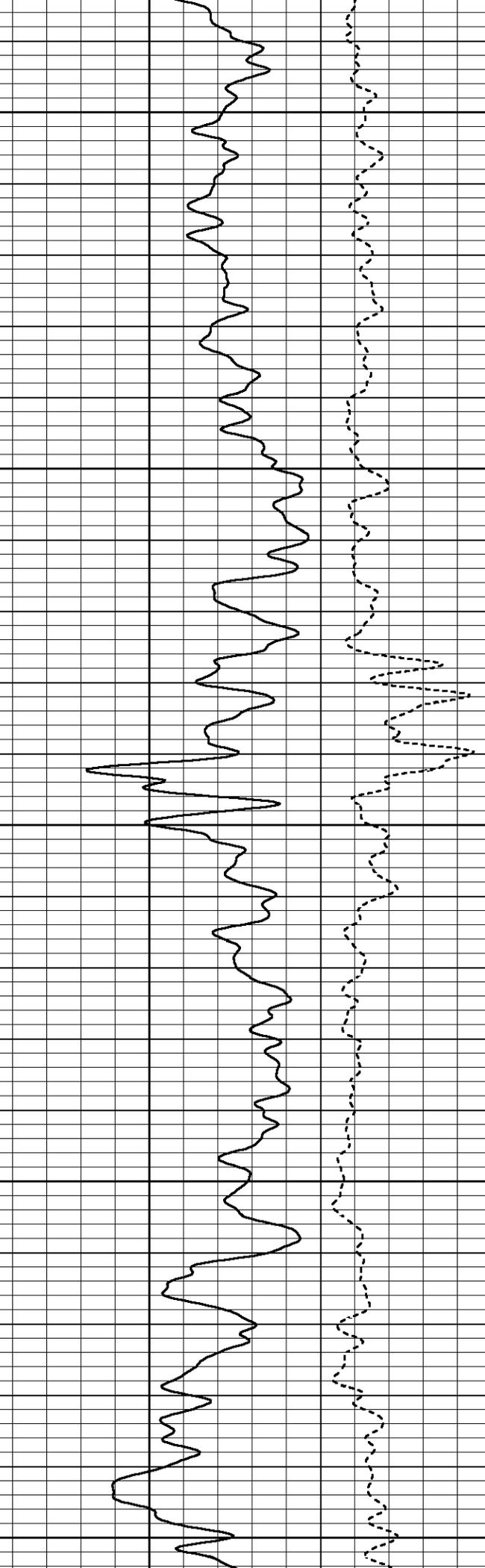


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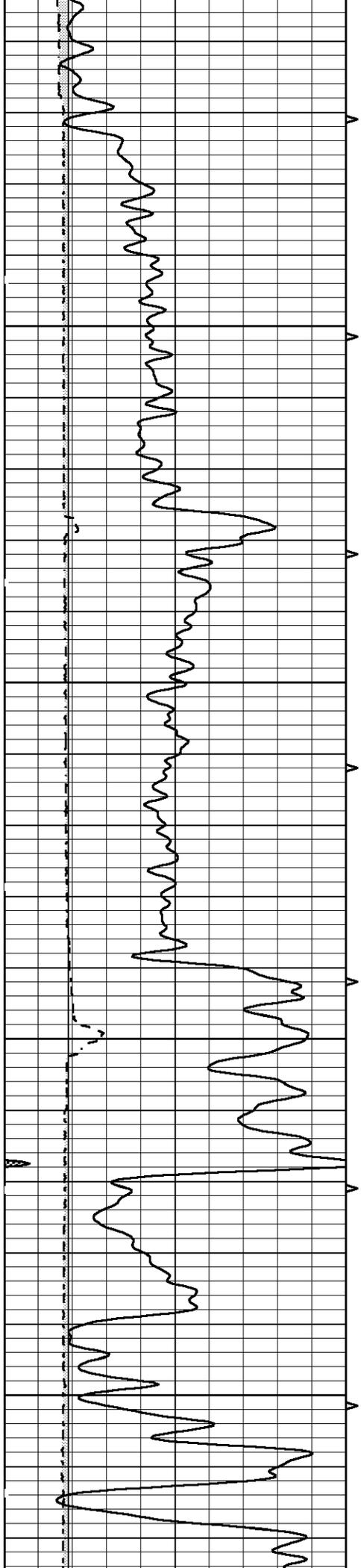


300

3700

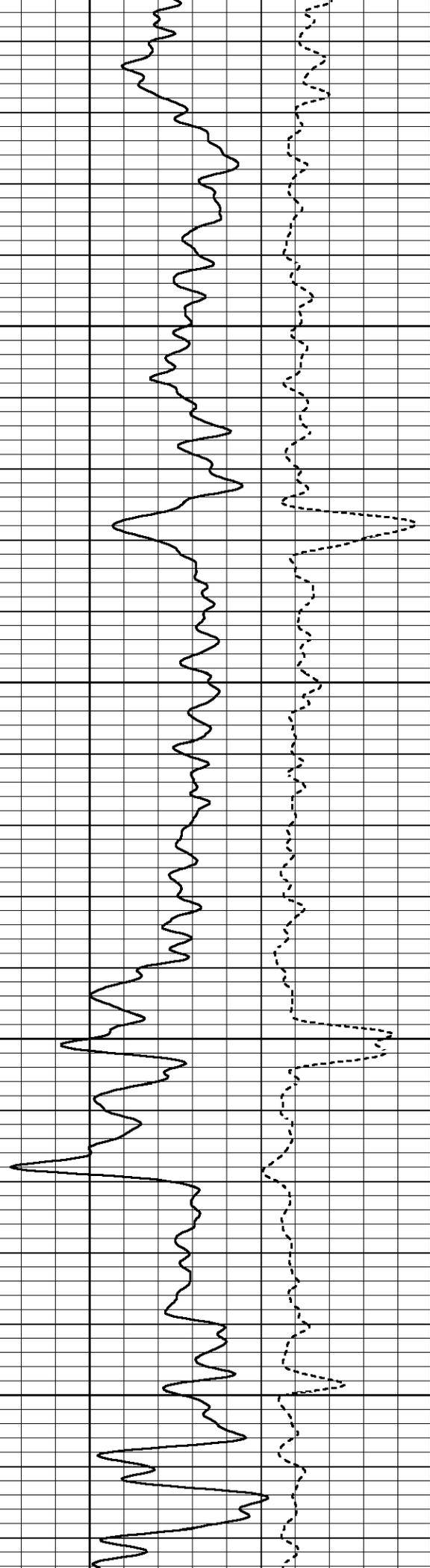
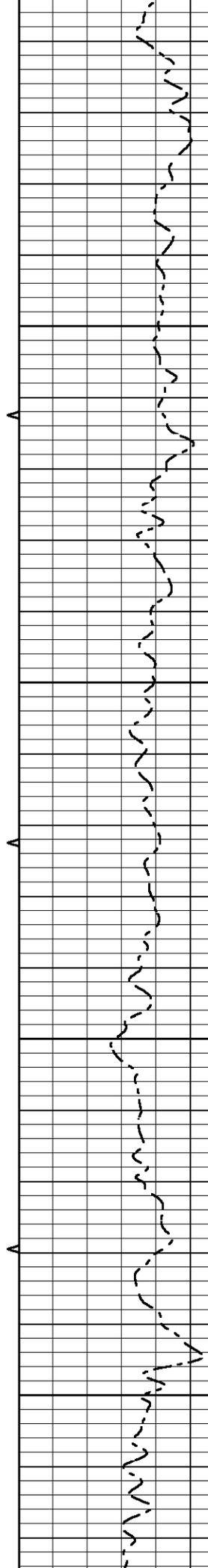


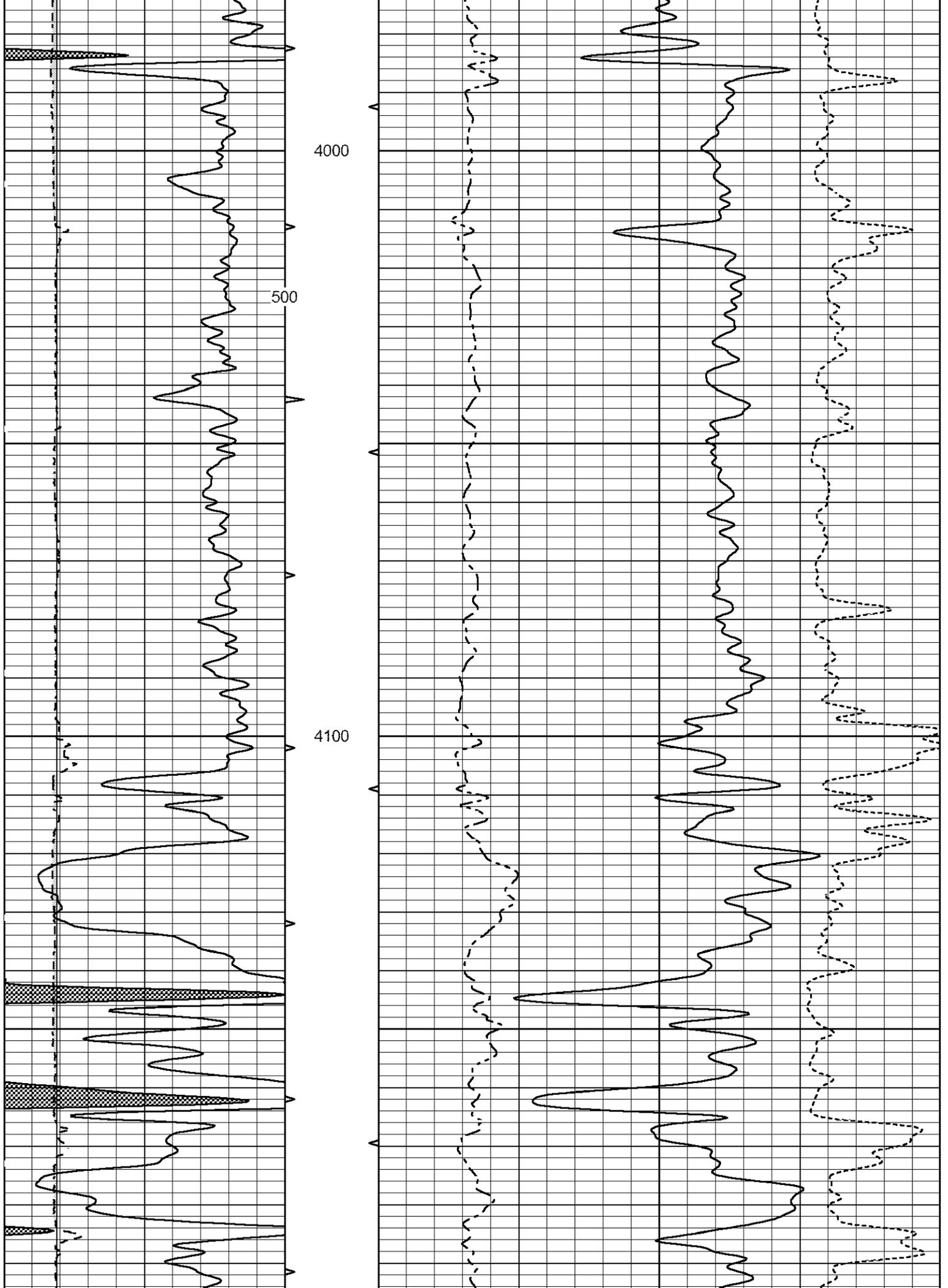
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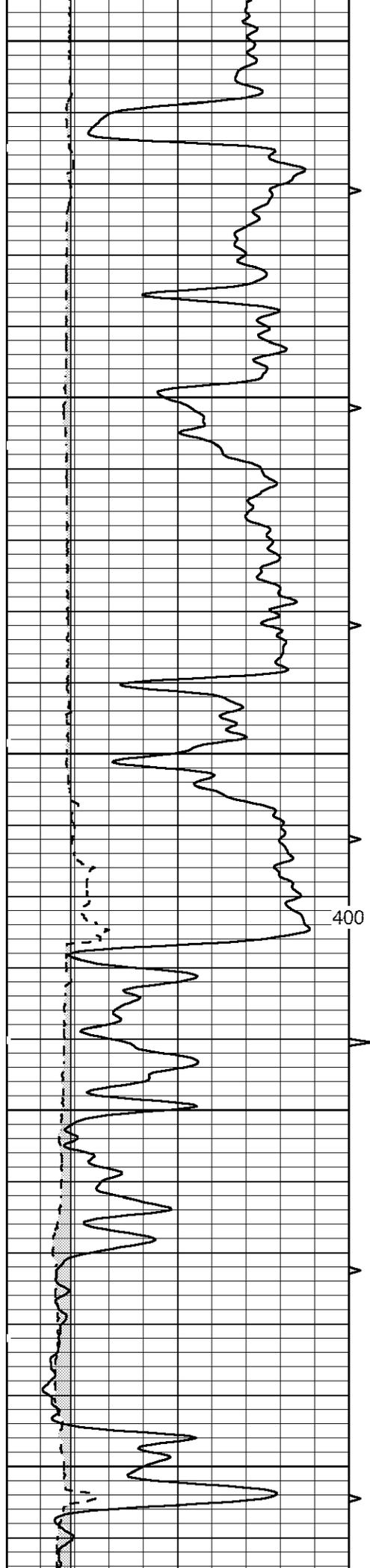


3800

3900





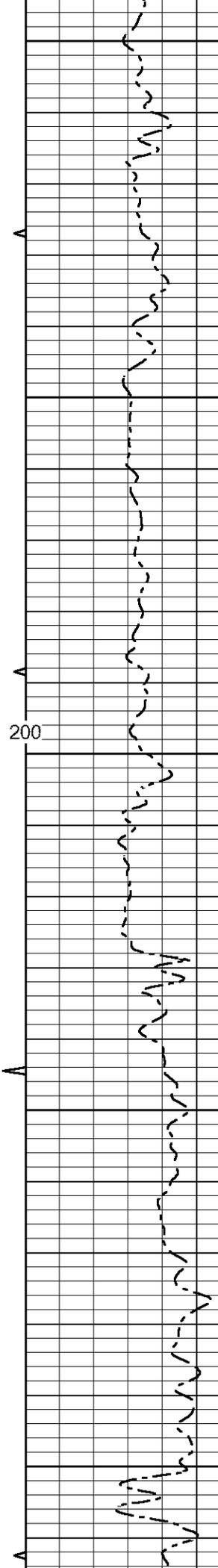


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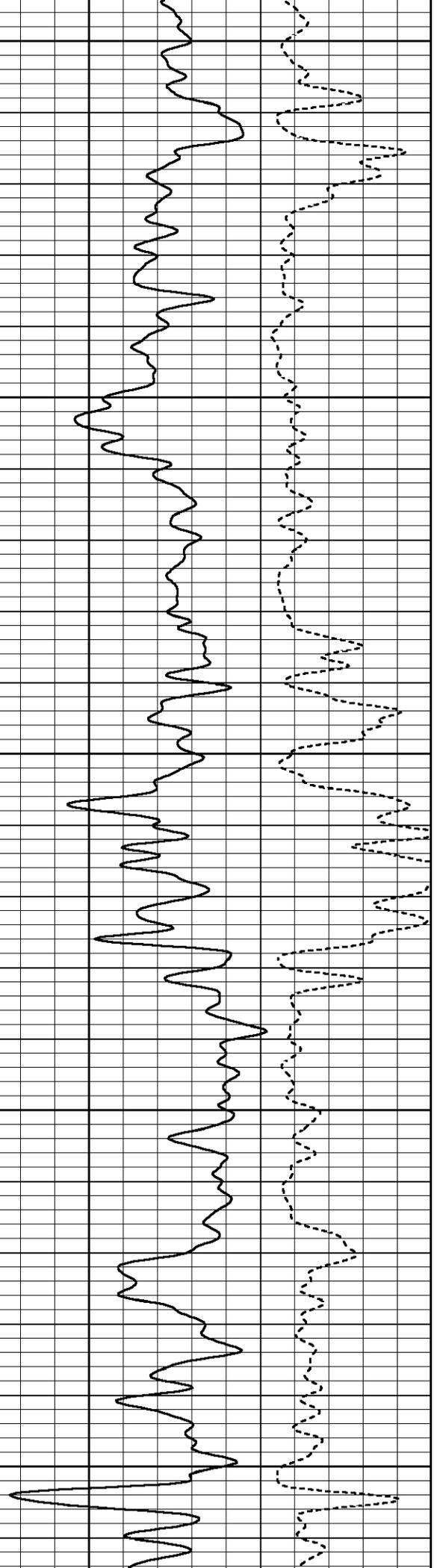
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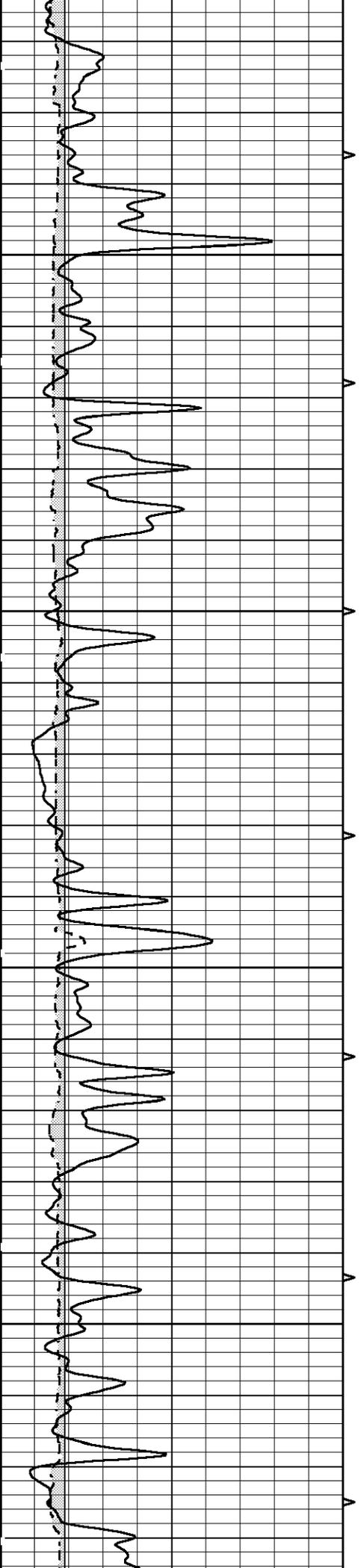
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4400



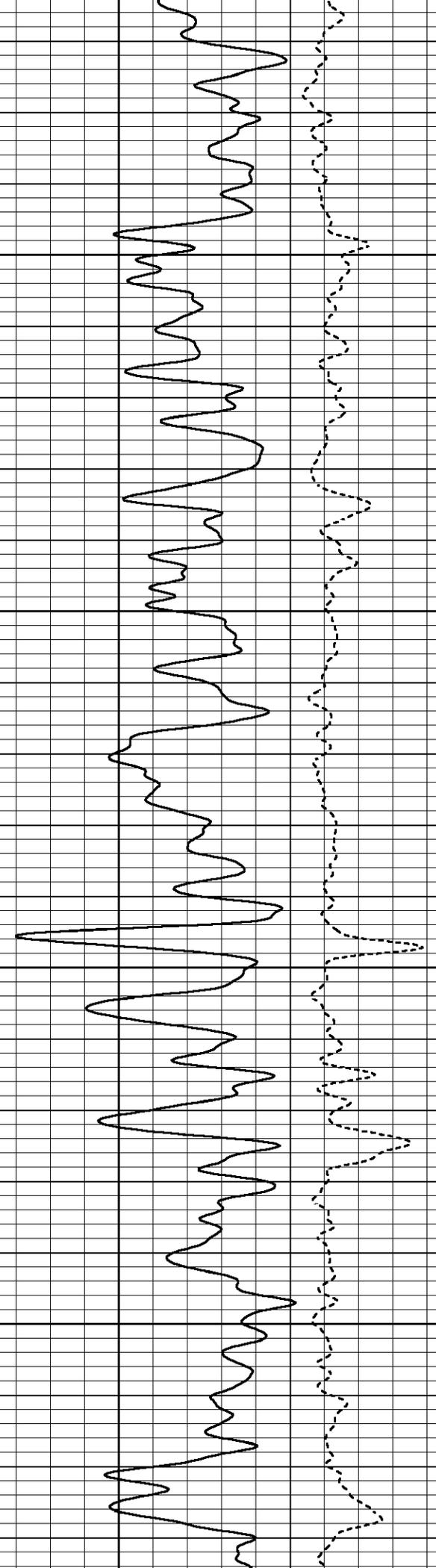
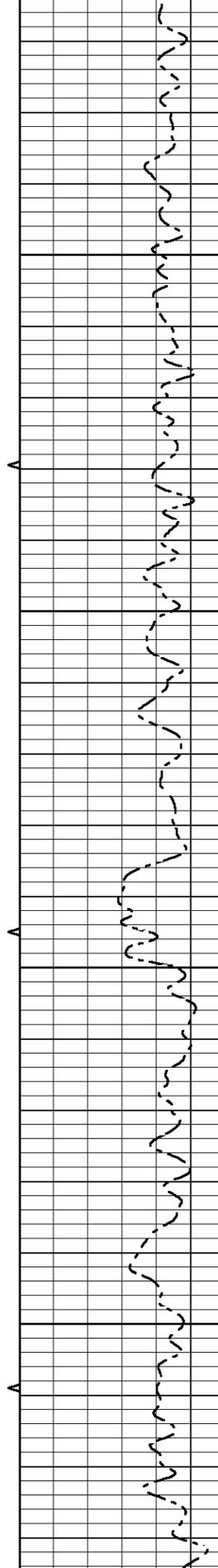
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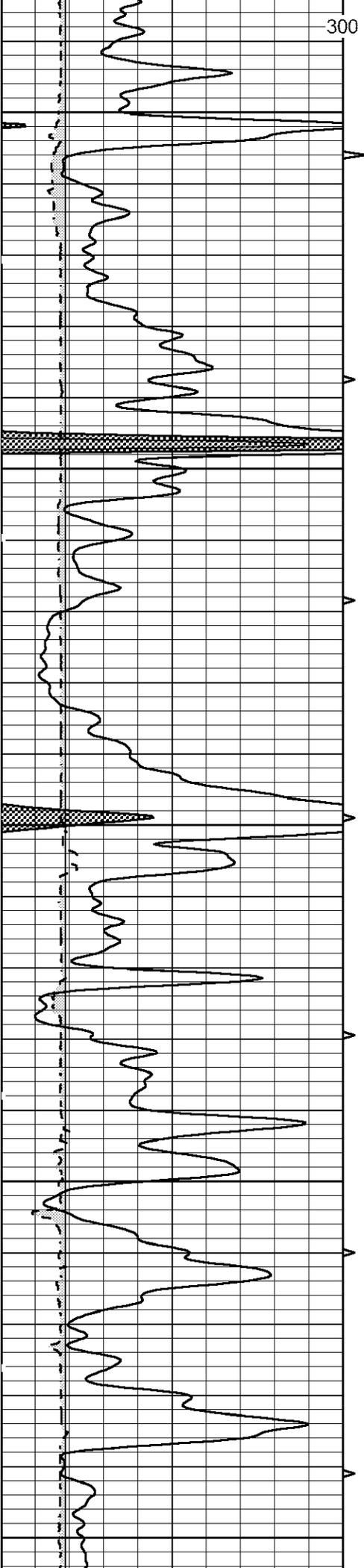




4500

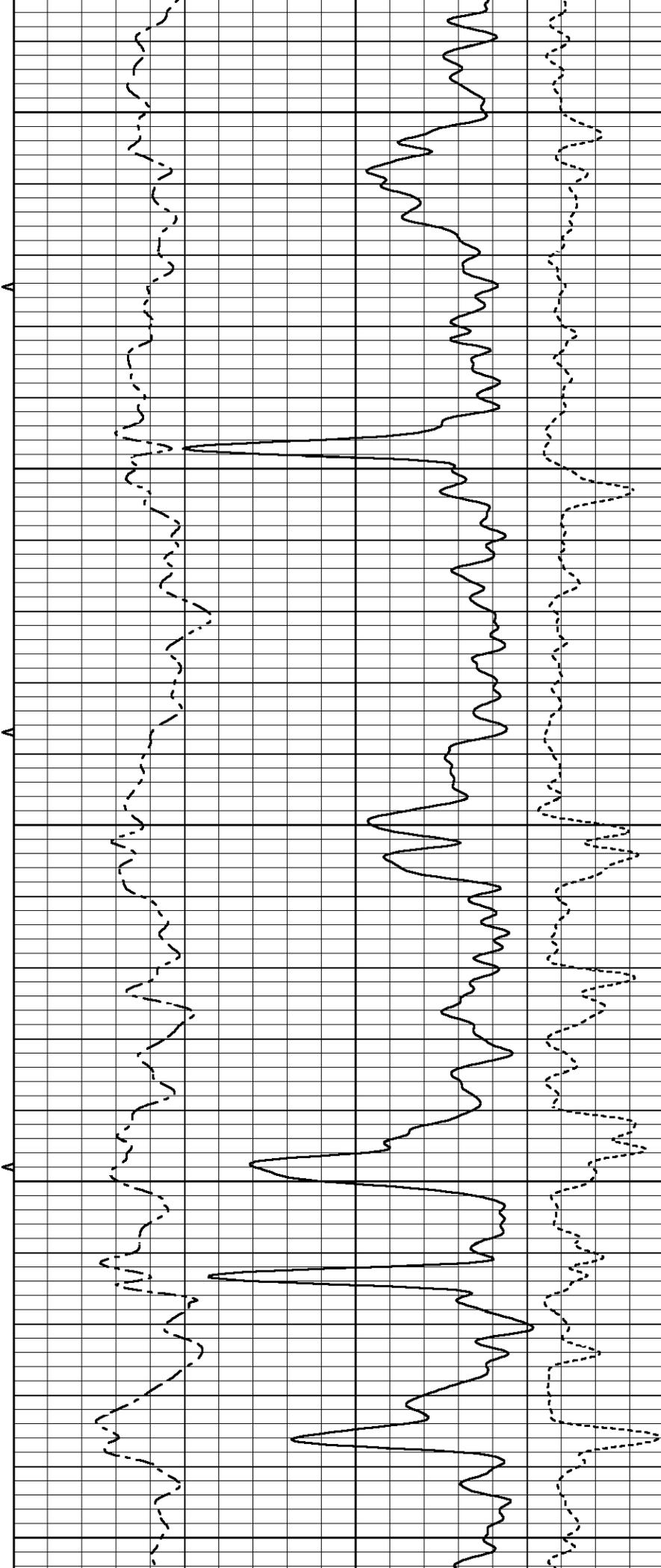
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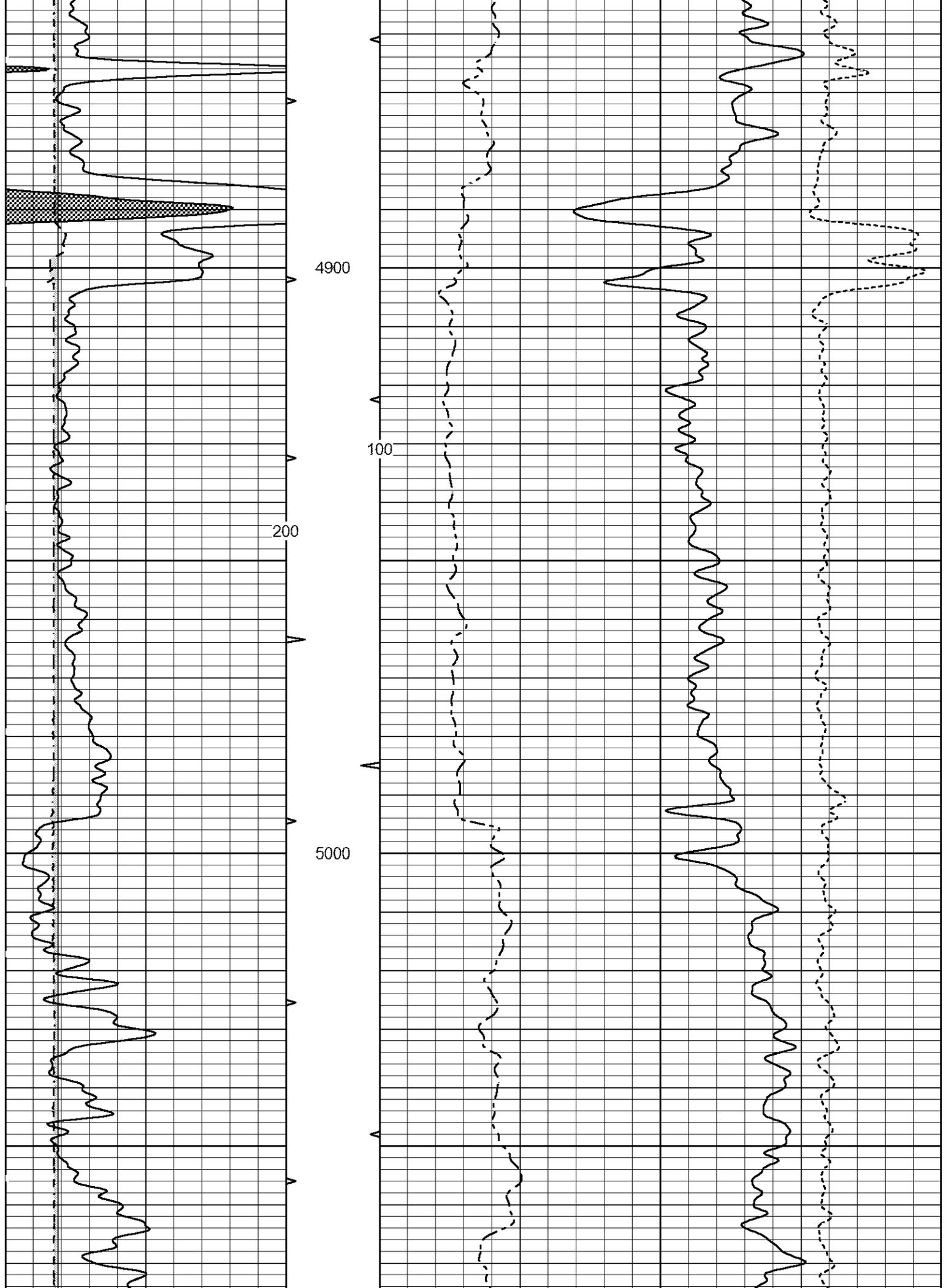


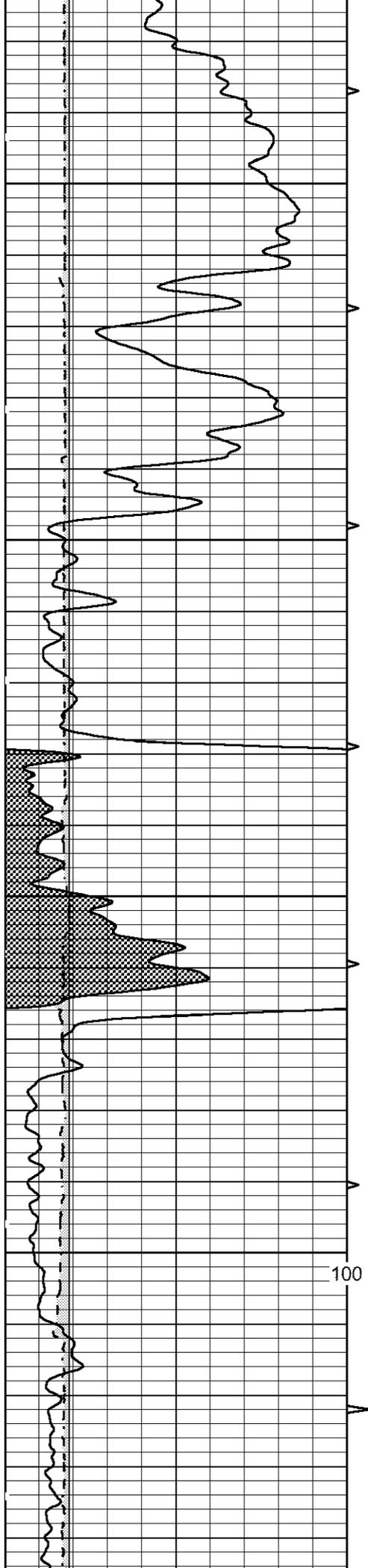


4700

4800



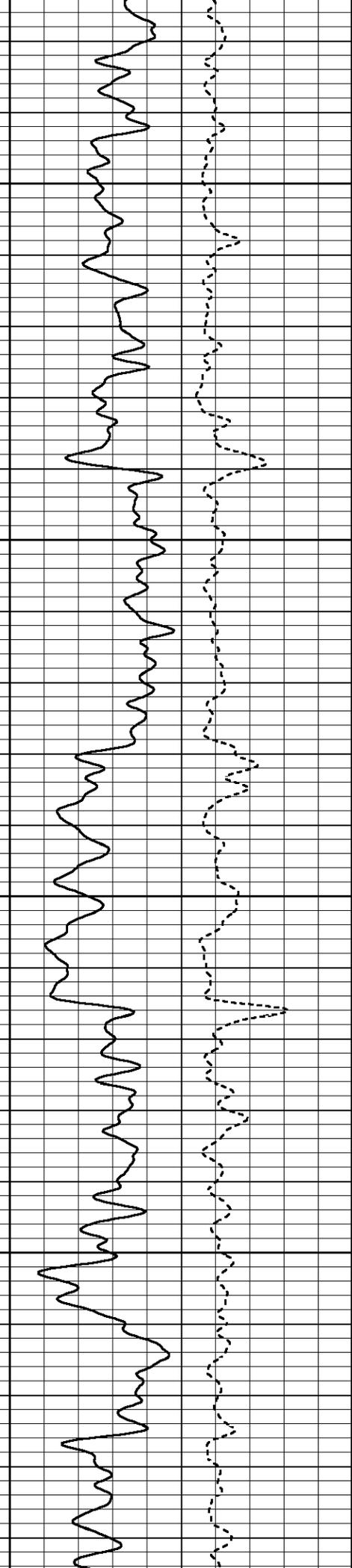
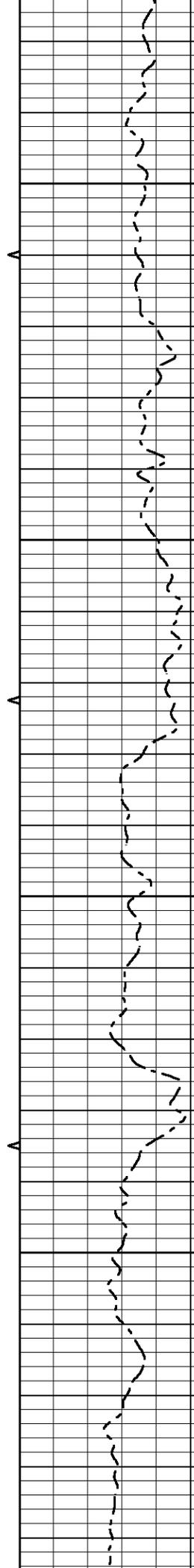


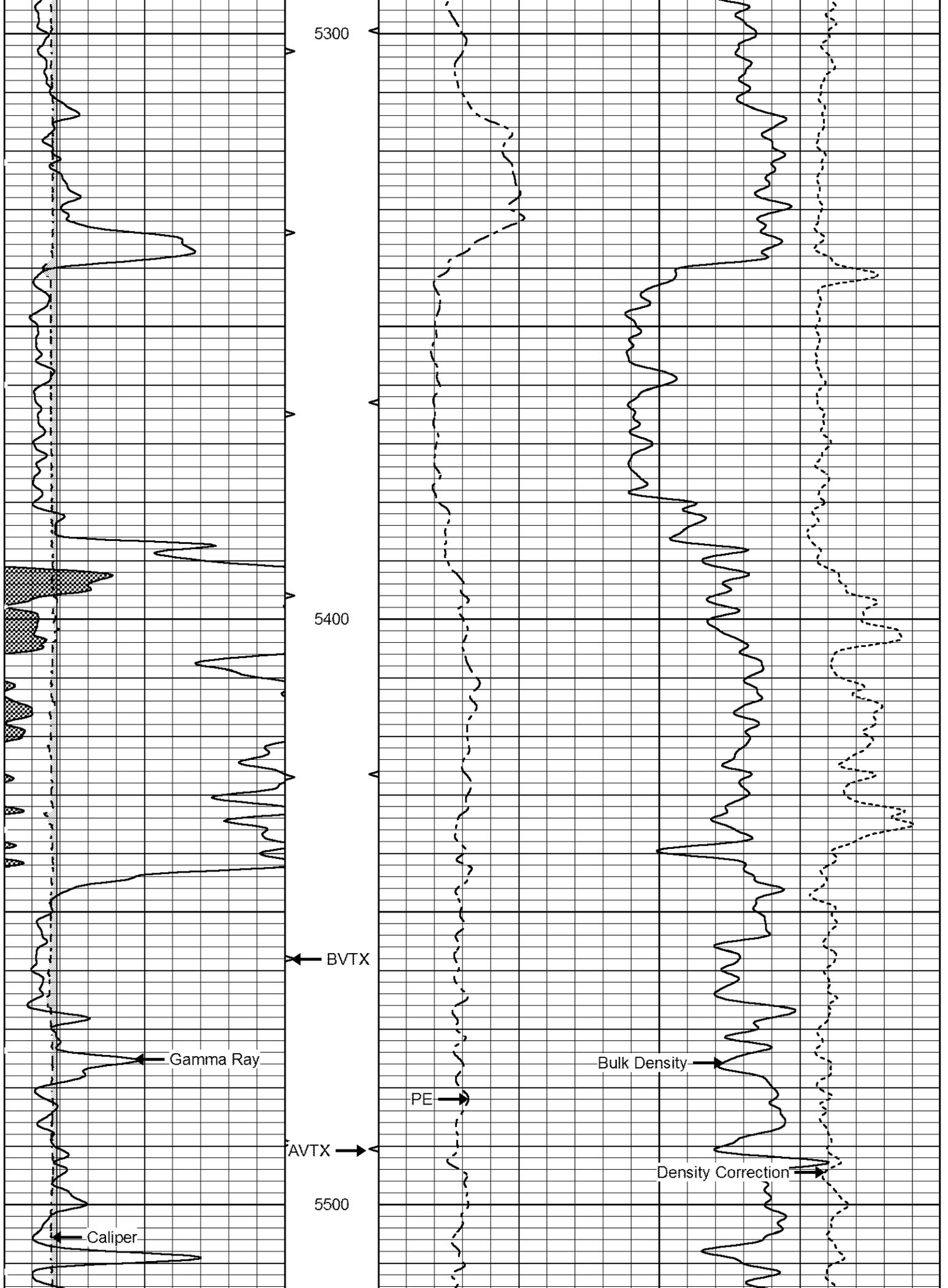


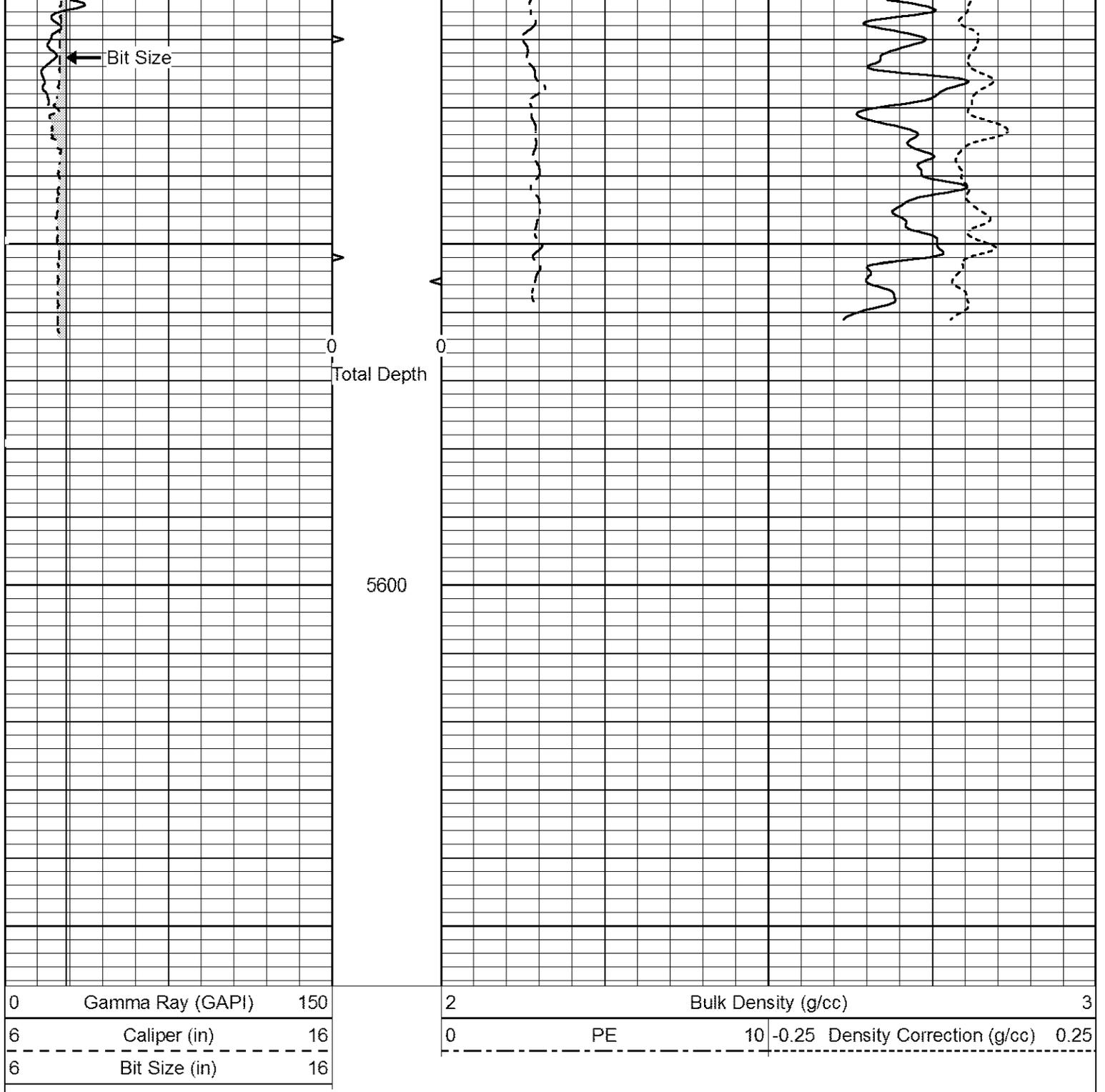
5100

5200

100







## Log Variables

DatabaseC:\Sondex\Sondex Warrior\Data\ramshorn-degreer #03-01.db  
 Dataset field/well/run1/pass4/\_vars\_

Top - 223.00 ft

AIR_HOLE?	BOREID in	BOTTEMP degF	CASED?	CASEOD in	CASETHCK in	CASEWGHT lb/ft	DE-CENT
No	17.5	117	Yes	13.375	0.33	48	Yes
DEVI deg	FLUIDDEN g/cc	FRMSALIN kppm	MATRXDEN g/cc	MUDSALIN kppm	MudWgt lb/gal	NPORSEL	PERFS
0	1	75	2.71	0	9.25	Limestone	No
SO in	SPSHIFT mV	SRFTEMP degF	TDEPTH ft				
0.25	0	55	223				

**223.00 ft - Bottom**

AIR_HOLE? No	BOREID in 7.875	BOTTEMP degF 117	CASED? No	CASEOD in 5.5	CASETHCK in 0.275	CASEWGHT lb/ft 15.5	DE-CENT Yes
DEVI deg 0	FLUIDDEN g/cc 1	FRMSALIN kppm 75	MATRXDEN g/cc 2.71	MUDSALIN kppm 0	MudWgt lb/gal 9.25	NPORSEL Limestone	PERFS No
SO in 0.25	SPSHIFT mV 0	SRFTEMP degF 55	TDEPTH ft 5575				

**Calibration Report**

Database File ramshorn-degreer #03-01.db  
 Dataset Pathname pass4  
 Dataset Creation Wed Feb 24 17:59:40 2021 by Log Sondex

**Induction Array Tool Calibration Report**

Serial Number: B10110  
 Tool Model: 002

Master Calibration Performed: Fri Mar 08 09:16:00 2019  
 Temperature: 51.2 degF

Sonde Error:

Array	1	2	3	4	5	6	7	
Real	188.1	-11.7	-39.0	-14.9	-1.9	2.0	3.2	mmho/m
Imaginary	-13.9	8.5	-5.4	-11.7	-20.7	-2.4	5.6	mmho/m

Loop Gain:

Array	1	2	3	4	5	6	7	
Loop (real)	537.7	678.5	1295.3	1394.1	1144.8	712.8	404.8	mmho/m
Loop (imaginary)	73.3	92.5	389.8	419.5	344.5	214.5	121.8	mmho/m
Real	758.2	735.6	1253.6	1381.7	1164.3	742.4	424.4	mmho/m
Imaginary	60.0	109.2	384.4	412.6	330.6	220.8	134.7	mmho/m
Gain (real)	0.943	0.908	1.002	0.998	0.982	0.963	0.961	
Gain (imaginary)	0.992	0.918	1.000	0.989	0.981	0.961	0.943	

Before Survey Verification Performed: Wed May 01 12:44:49 2019  
 Sonde 1 Temperature: 77.2 degF  
 Sonde 2 Temperature: 78.2 degF  
 Array 1 Temperature: 78.3 degF

Array	1	2	3	4	5	6	7	
TxIR	-0.0	-0.0	0.1	0.1	0.1	0.1	0.1	
TxIX	-0.0	-0.0	-0.2	-0.2	-0.2	-0.2	-0.2	
Tx Magnitude	0.0	0.0	0.2	0.2	0.2	0.2	0.2	
Gain	105.5	108.5	133.4	132.5	135.0	100.3	144.2	
RxCR	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	
RxCX	0.1	0.1	0.2	0.2	0.3	0.1	0.0	
RxC Magnitude	0.1	0.1	0.2	0.2	0.3	0.1	0.0	

**Tool Module Parameters**

Software Version: 8.0.0.5  
 Borehole Size Source: CALI  
 Mud Resistivity Source: MUDRES  
 Mud Resistivity At Surface: N/A

Mud Resistivity Surface Temperature:  
Borehole Corrections:  
Minimum Standoff:

N/A  
Automatic  
0.4 in

Litho Density Tool Calibration Report

Serial Number: B10110S70997B  
Tool Model: B10110

Caliper Calibration Performed: Tue Feb 02 14:40:37 2021

	Diameter		Reading	
Small Ring:	9.000	in	1715.000	cps
Large Ring:	13.000	in	2057.300	cps
Gain:	0.0117			
Offset:	-11.0409			

Master Calibration Performed: Tue Feb 02 12:18:09 2021

Source Number: S70997B  
Medium: Water  
Al Block Density: 2.6018 g/cc

	Background	Al Block	Al Block + Fe	
SS1	707.5	3845.9	3472.6	cps
SS2	1994.5	26739.6	24096.4	cps
SSTOTAL	4674.1	42688.5	38119.1	cps
LITH	88.1	439.9	284.5	cps
LL	176.9	756.0	706.0	cps
LU	498.0	988.6	954.2	cps
LS	675.0	1744.6	1660.1	cps
LSTOTAL	1268.0	4214.7	3625.5	cps
SSHV	1468.8	1467.6	1468.8	V
LSHV	1303.0	1302.9	1303.8	V
SSFF	-0.001	0.003	0.005	
LSFF	-0.002	0.006	0.007	

Before Survey Verification Performed: Tue Feb 02 13:53:54 2021  
After Survey Verification Performed: Tue Feb 02 13:55:12 2021

	Master Background	Before Survey Background	After Survey Background	
SS1	707.5	708.9	707.6	cps
SS2	1994.5	1998.7	1990.6	cps
SSTOTAL	4674.1	4669.3	4663.2	cps
LITH	88.1	89.3	87.6	cps
LL	176.9	176.1	174.0	cps
LU	498.0	502.3	501.1	cps
LS	675.0	678.4	675.0	cps
LSTOTAL	1268.0	1270.1	1270.2	cps
SSHV	1468.8	1470.6	1470.5	V
LSHV	1303.0	1304.3	1304.3	V
SSFF	-0.001	-0.001	-0.007	
LSFF	-0.002	0.001	0.005	

Tool Module Parameters

Software Version: 8.0.0.8  
Pad Type: 2  
Borehole Size Source: CALI  
Barite Mud: No

Compensated Neutron Tool Calibration Report

Serial Number: C10071S1414NC  
Tool Model: 009

Master Calibration Performed: Mon Feb 01 12:45:55 2021

Source Number: 1414NC

Short Spacing Counts: 5589.60 cps  
Long Spacing Counts: 204.18 cps  
High Voltage: 1364.02 V

Target Ratio: 27.2000  
Ratio: 27.3756  
K-Factor: 0.9936

Before Survey Verification Performed: Mon Feb 01 12:55:39 2021  
After Survey Verification Performed: Mon Feb 01 12:56:51 2021

Verifier Number: 6489

Verifier Values	Master Cal	Before Survey	After Survey	
Short Spacing Counts:	256.51	262.05	257.59	cps
Long Spacing Counts:	295.89	298.76	296.97	cps
High Voltage:	1364.00	1364.00	1364.00	V
Ratio:	0.8669	0.8771	0.8674	

Tool Module Parameters

Software Version: 8.0.0.6  
Borehole Size Source: CALI  
Clip Crossplot Porosity: YES  
Lithology Identification Parameters:  

	Calcite	Quartz	Dolomite	
Uma:	13.77	4.79	9.03	barns/cc
RHOMA:	2.71	2.65	2.88	g/cc

Micro Electric Log Calibration Report

Serial Number: 10021240  
Tool Model: 003

Caliper Calibration Performed: Mon Nov 13 12:40:50 2017

	Pad Arm			Backup Arm		
	Radius	in	Reading	Radius	in	Reading
Small Jig:	9.000	in	1847.200	9.000	in	1677.000
Large Jig:	13.000	in	2371.600	13.000	in	2315.300
Gain:			0.0076			0.0063
Offset:			-5.0900			-1.5092

Pad Calibration

	Inverse	Normal
Gain:	0.7600	0.9700
Offset:	0.0000	0.0000

Tool Module Parameters

Software Version: 8.0.0.6

Gamma Ray Calibration Report

Serial Number: C10049  
Tool Model: 001

Performed: Mon Feb 01 10:45:24 2021

Calibrator Value: 156.0 GAPI

Background Reading: 75.6 cps

Calibrator Reading: 494.0 cps

Sensitivity: 0.3729 GAPI/cps

Tool Module Parameters

Software Version: 8.0.0.5

Borehole Fluid Resistivity Calibration Report

Serial Number: P004  
Tool Model: 002

Master Calibration Performed: Mon Dec 05 18:05:39 2011

Resistivity Polynomial Equation:

$$0.1429x^3 - 0.4495x^2 + 1.2097x - 0.2854$$

Temperature Calibration:

Reference		Reading	
71.60	degF	559.80	bits
167.00	degF	659.50	bits

Tool Module Parameters

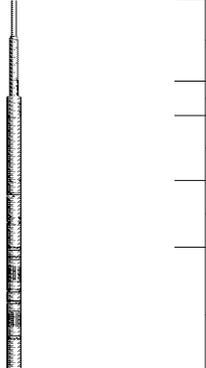
Software Version: 8.0.0.2

Head Tension Unit Calibration Report

Serial Number: 00001  
Tool Model: 011

Performed: Mon Mar 04 10:52:43 2013

Point #	Reference		Reading	
1	-19894.000	lb	8957.860	cps
2	-15010.000	lb	13965.100	cps
3	-9998.000	lb	19079.100	cps
4	-5007.000	lb	24133.000	cps
5	-1009.000	lb	28232.100	cps
6	1017.000	lb	30185.400	cps
7	5040.000	lb	34439.700	cps
8	9970.000	lb	39346.900	cps
9	14955.000	lb	44466.000	cps
10	19770.000	lb	49397.800	cps

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
HTEN	54.05		CHD-WFT (WFT01) Weatherford Cable Head	2.67	2.25	15.00
			X-Over-WFT (0001) Weatherford X-Over	1.13	3.38	5.00
			XTU-008 (C10067) Crossover Ultrawire Toolbus to Ultralink	2.08	3.38	47.00
			HTU-011 (00001) Head Tension Unit	2.18	3.38	55.00
BFR	50.41		BFR-002 (P004) Borehole Fluid Resistivity Tool	4.39	3.38	94.00

GR	47.64		GRT-001 (C10049) Gamma Ray Tool	3.22	3.38	69.00
			Overbody-Over-cen (1) Overbody Centralizer	3.00	3.38	10.00
MEL	37.67		MEL-003 (10021240) Micro Electric Log	9.27	3.38	209.00
			CEN-001 (C10025) Inline OH Springbow Centraliser	4.27	3.38	66.00
			KJT-001 (10010515) Knuckle Joint	2.86	3.38	72.00
CNLSC	25.59		CNL-009 (C10071S1414NC) Compensated Neutron Logging Tool	5.28	3.38	100.00
CNSSC	25.09					
LDT	15.44		LDT-B10110 (B10110S70997B) Litho Density Tool	9.75	4.50	310.00
IAT	8.44		IAT-002 (B10110) Induction Array Tool	13.22	3.88	196.00
SP	0.43		Shorty-Short Short Hole Finder	0.38	3.88	6.00

Dataset: ramshorn-degreer #03-01.db: field/well/run1/pass4  
 Total length: 60.69 ft  
 Total weight: 1254.00 lb  
 O.D.: 4.50 in



Company	Ramshorn Resources, LLC.		
Well	Degeer #03-01		
Field	Degeer		
County	Barber		
State	Kansas	Country	USA