



# SONIC LOG

Company ROYAL ENERGY, INC.  
 Well PRAEGER #4R  
 Field PRAEGER  
 County STAFFORD  
 State KANSAS

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 Well PRAEGER #4R  
 Field PRAEGER  
 County STAFFORD State KANSAS

Location: API # : 15-185-24008-00-00  
 2310' FSL & 1320' FEL  
 SEC 36 TWP 24S RGE 15W  
 Permanent Datum GROUND LEVEL Elevation 2006  
 Log Measured From KELLY BUSHING 10' A.G.L.  
 Drilling Measured From KELLY BUSHING  
 Other Services CDL/CNL/DIL MEL  
 Elevation K.B. 2018 D.F. 2014 G.L. 2006

Date	01/26/18
Run Number	TWO
Depth Driller	4575
Depth Logger	4580
Bottom Logged Interval	4571
Top Log Interval	00
Casing Driller	8 5/8" @ 353
Casing Logger	353
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.0/44
pH / Fluid Loss	10.0/12.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.50@56
Rmt @ Meas. Temp	.38@56
Rmc @ Meas. Temp	.60@56
Source of Rmf / Rmc	MEASURED
Rm @ BHT	23@121
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	///
Maximum Recorded Temperature	121F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	GUS PFANENSTIEL
Witnessed By	ELI FELTS

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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

THANK YOU FOR USING ELI WIRELINE, HAYS, KS. (785) 628-6395

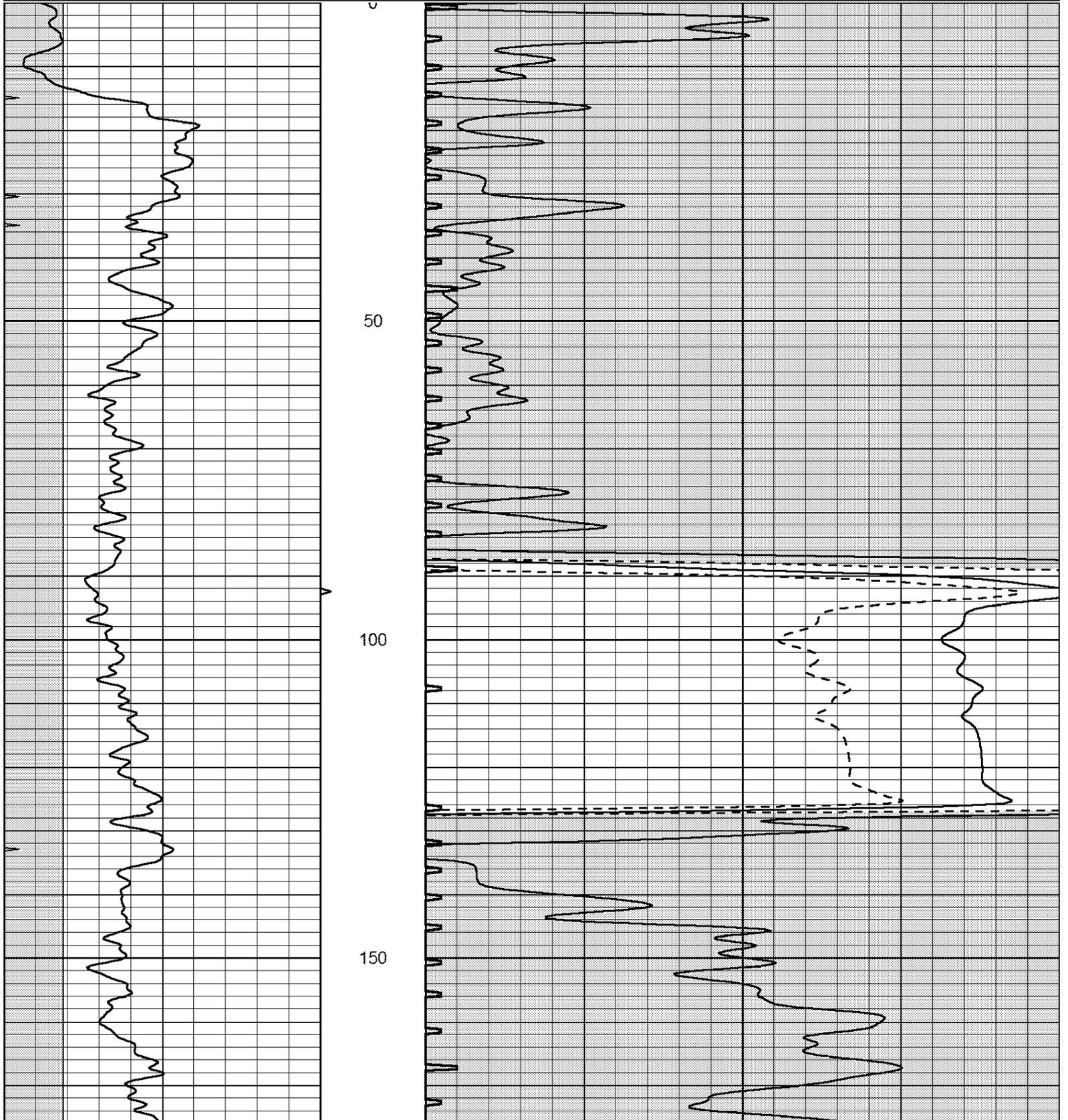
DIRECTIONS  
 EAST OF MACKSVILLE 3 MILES,  
 SOUTH 2 3/4 MILES, WEST INTO.

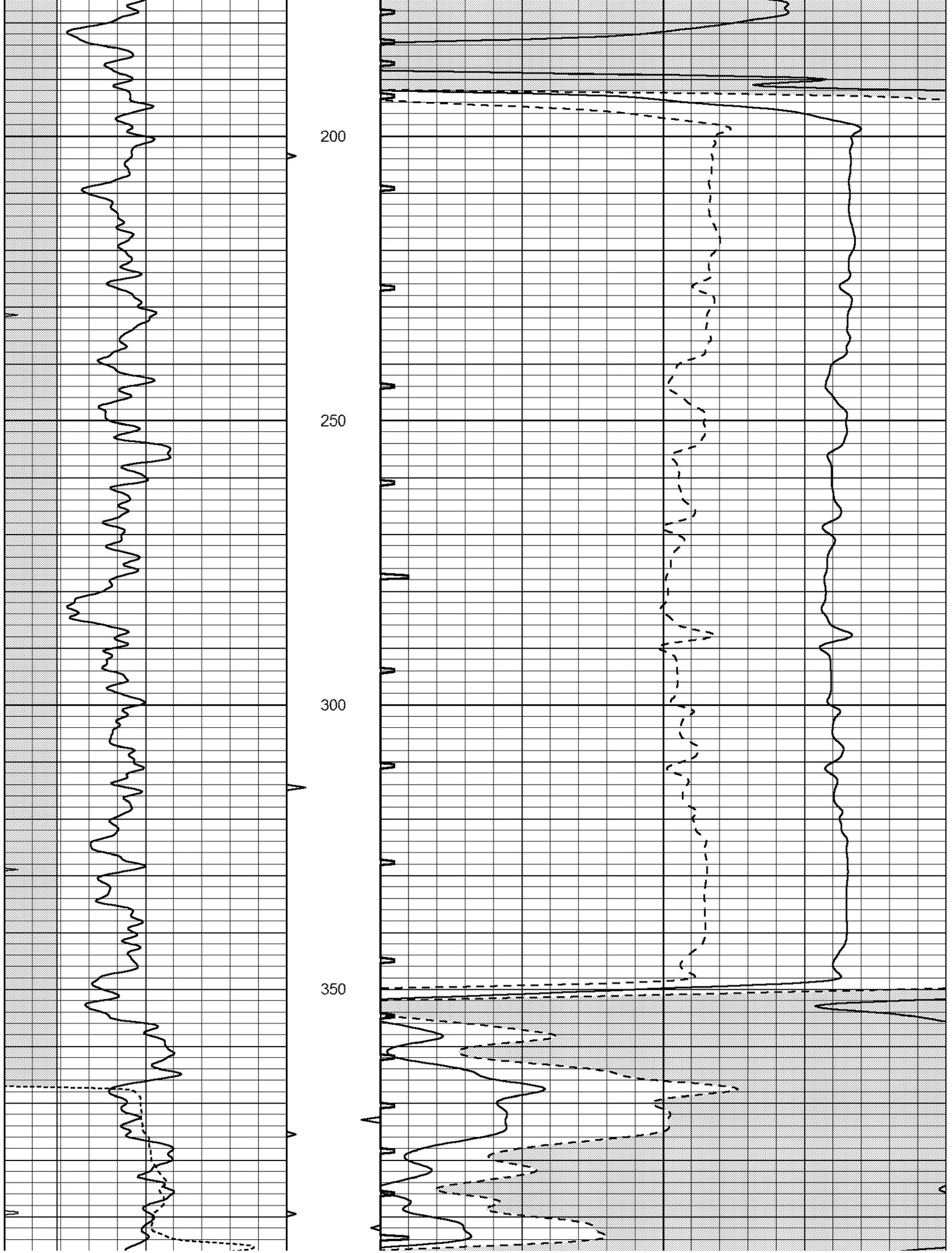


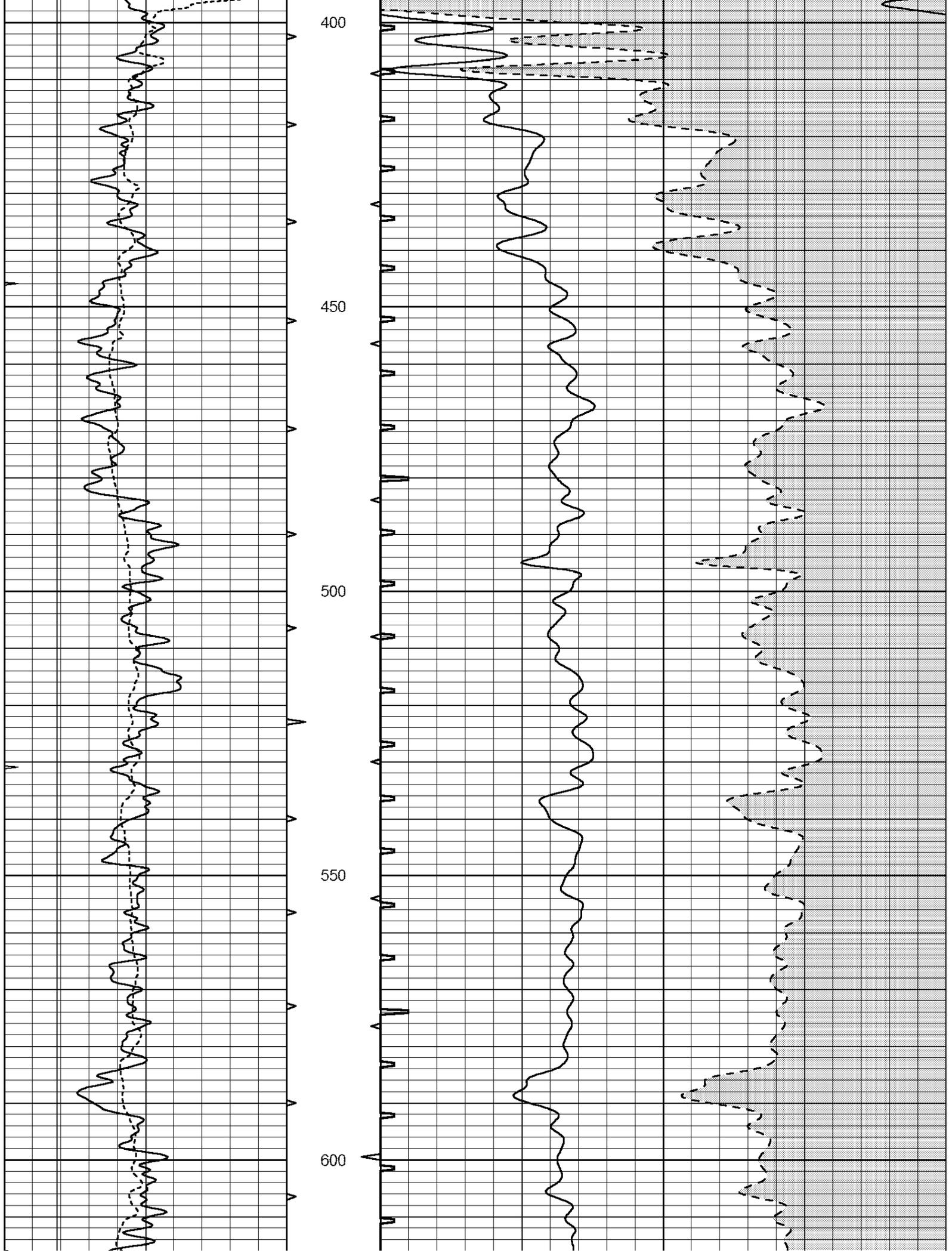
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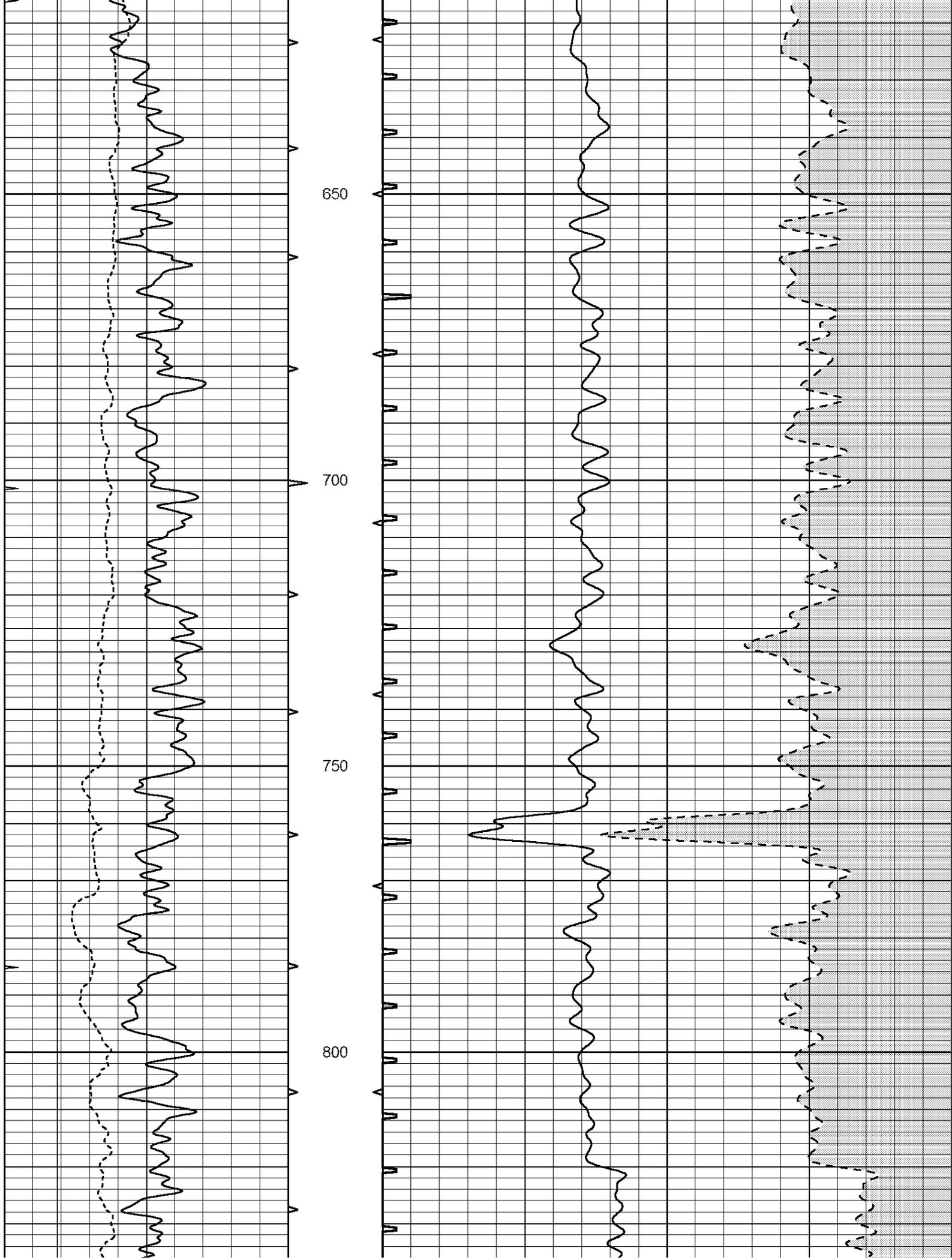
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 Dataset Pathname: pass5.1  
 Presentation Format: \_slt  
 Dataset Creation: Fri Jan 26 12:44:57 2018 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

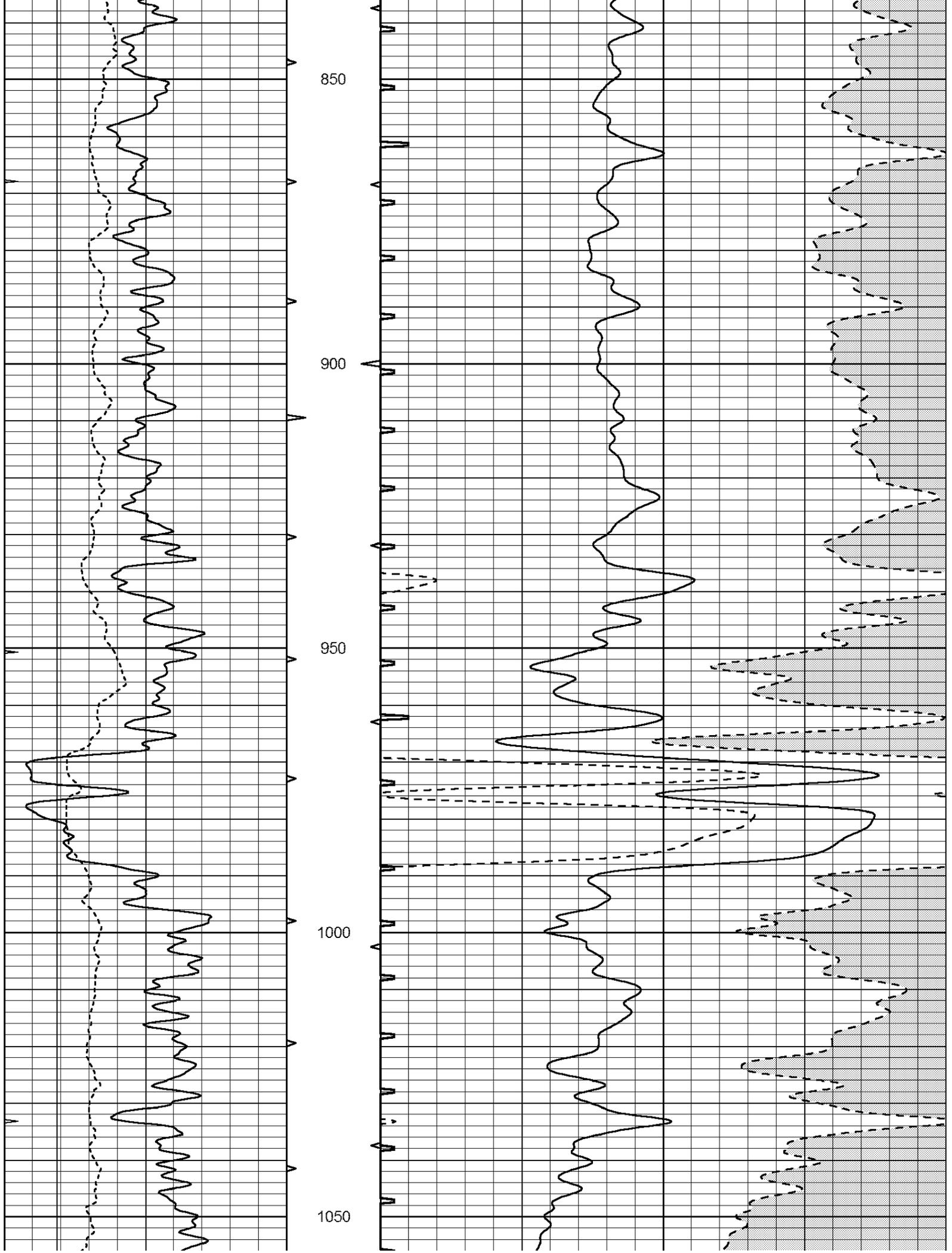
0	GAMMA RAY (GAPI)	150	ABHV	140	DELTA TIME (usec/ft)	40
6	CALIPER (in)	16	10 (ft3) 0	30	SONIC POROSITY (pu)	-10
0	MINMK	20	TBHV	0	ITT (msec)	20
			0 (ft3) 10			

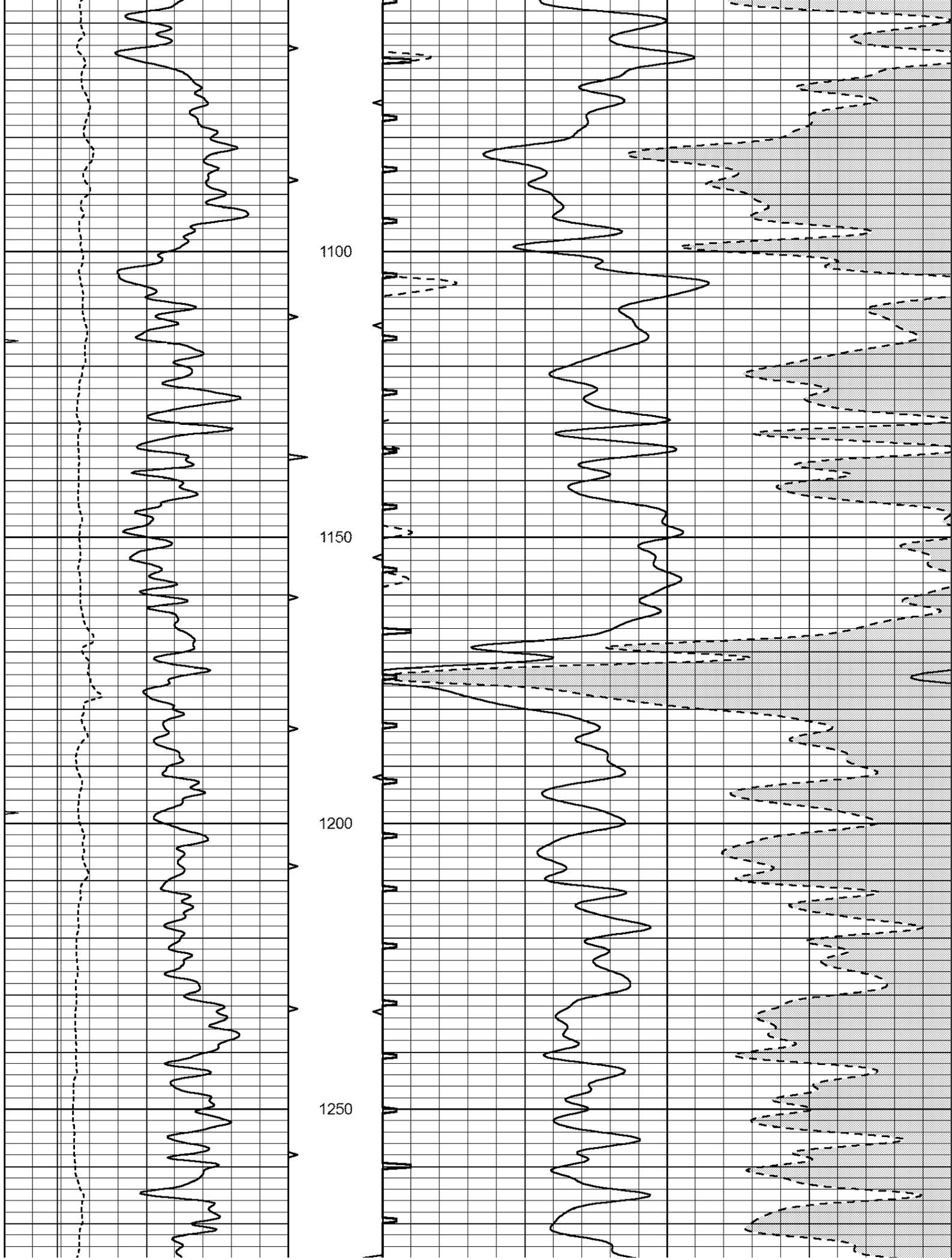


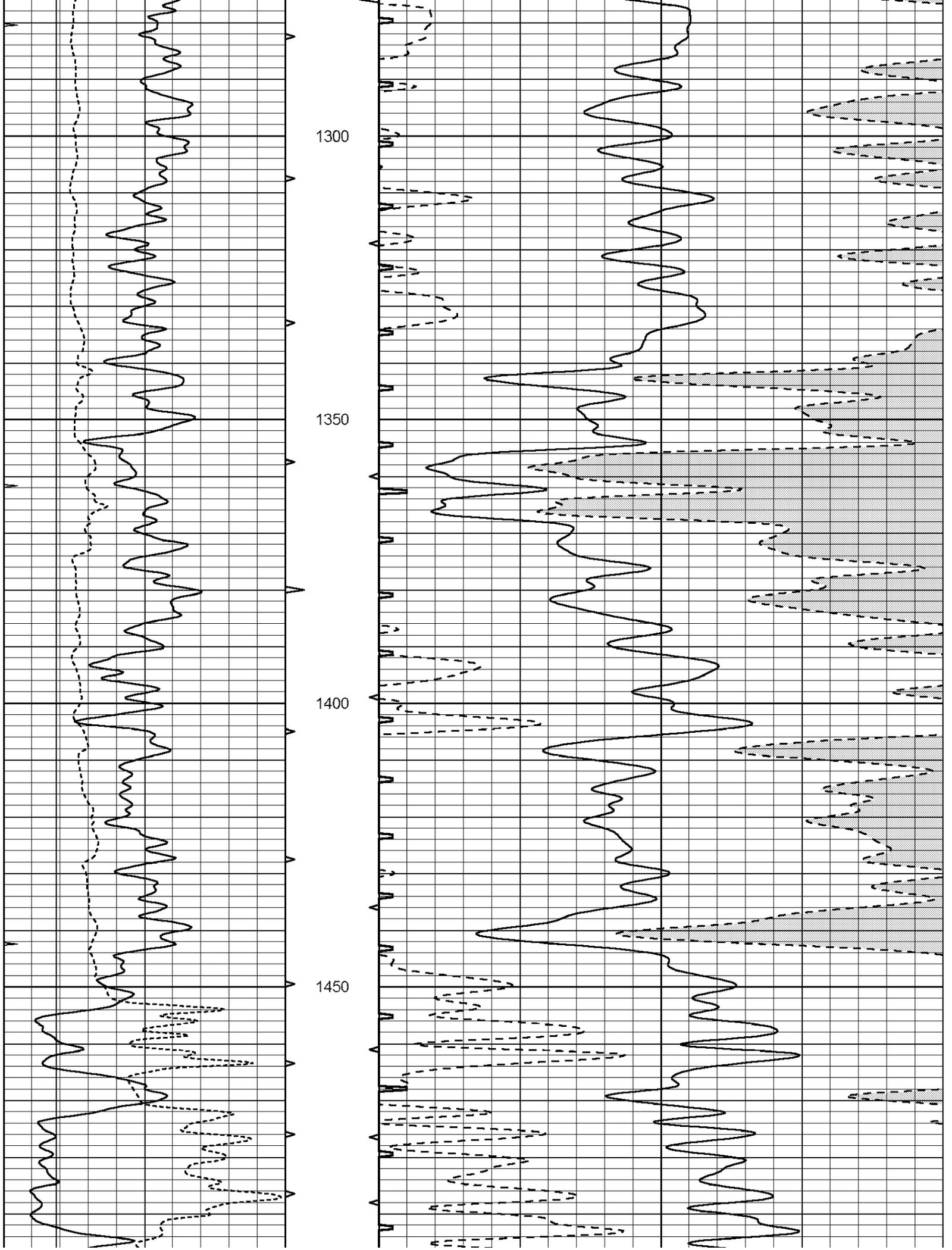


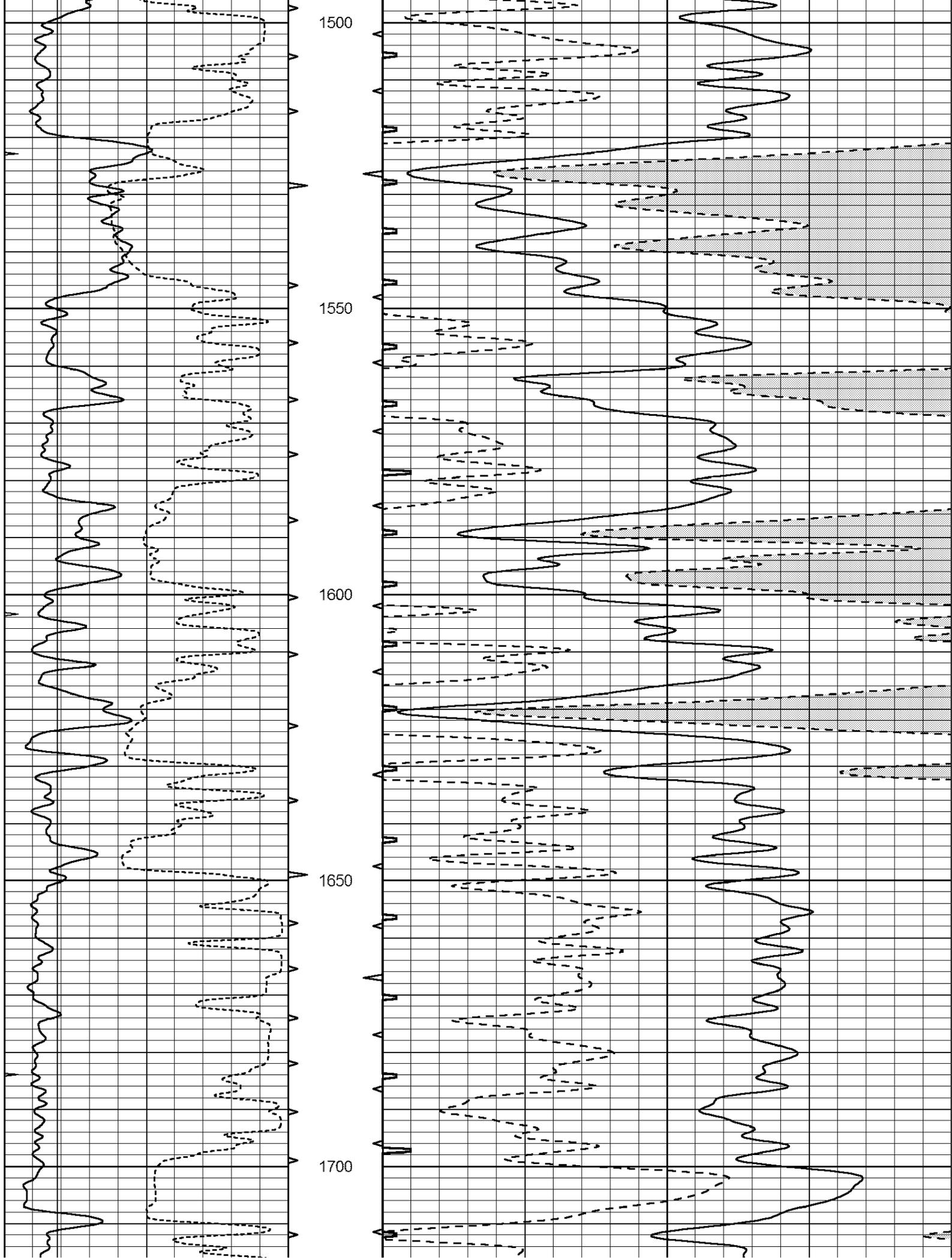


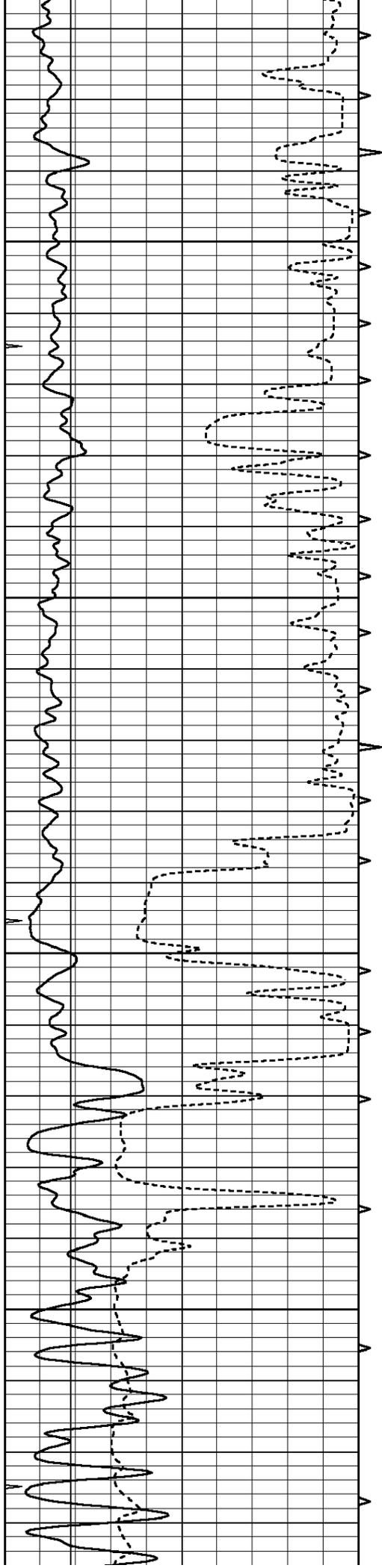










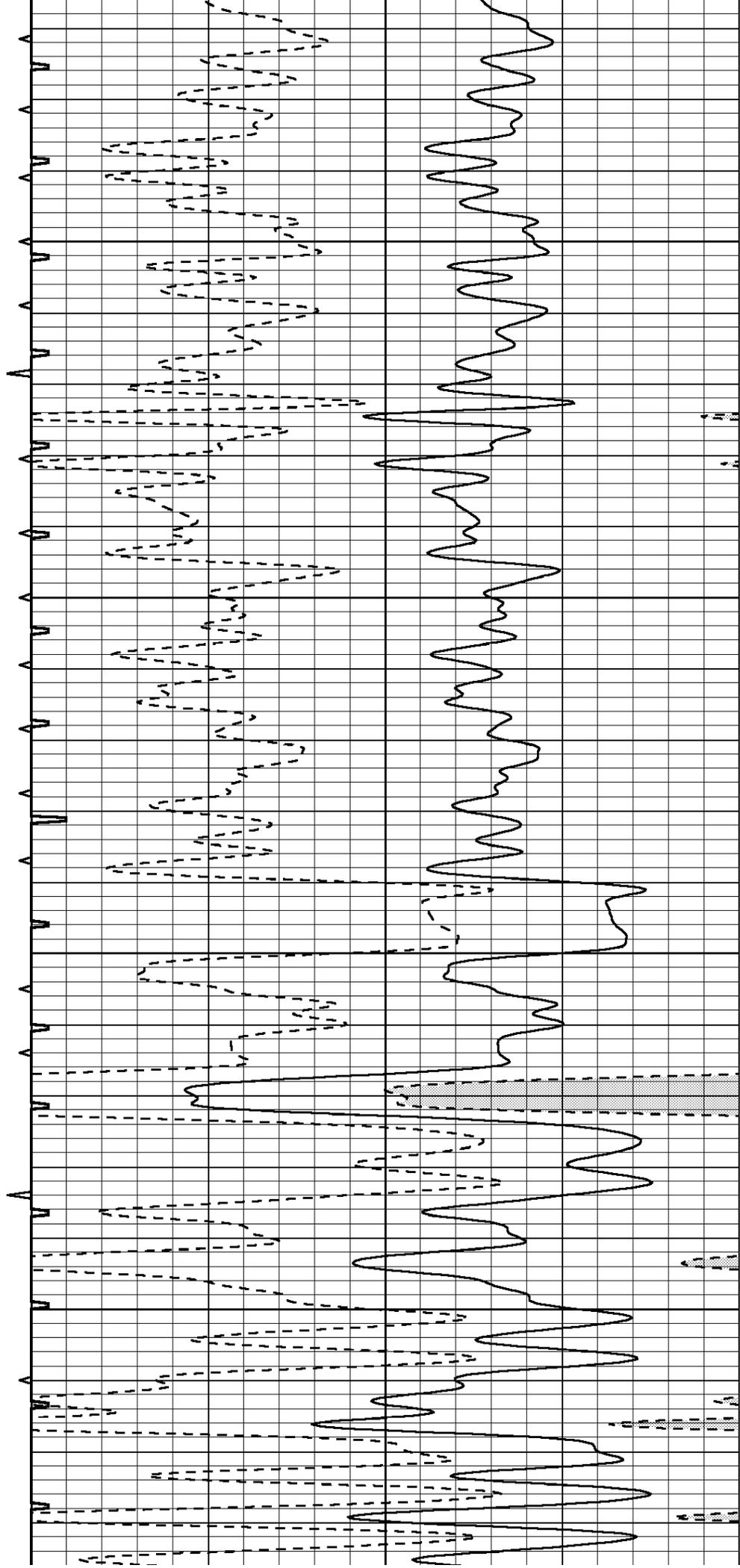


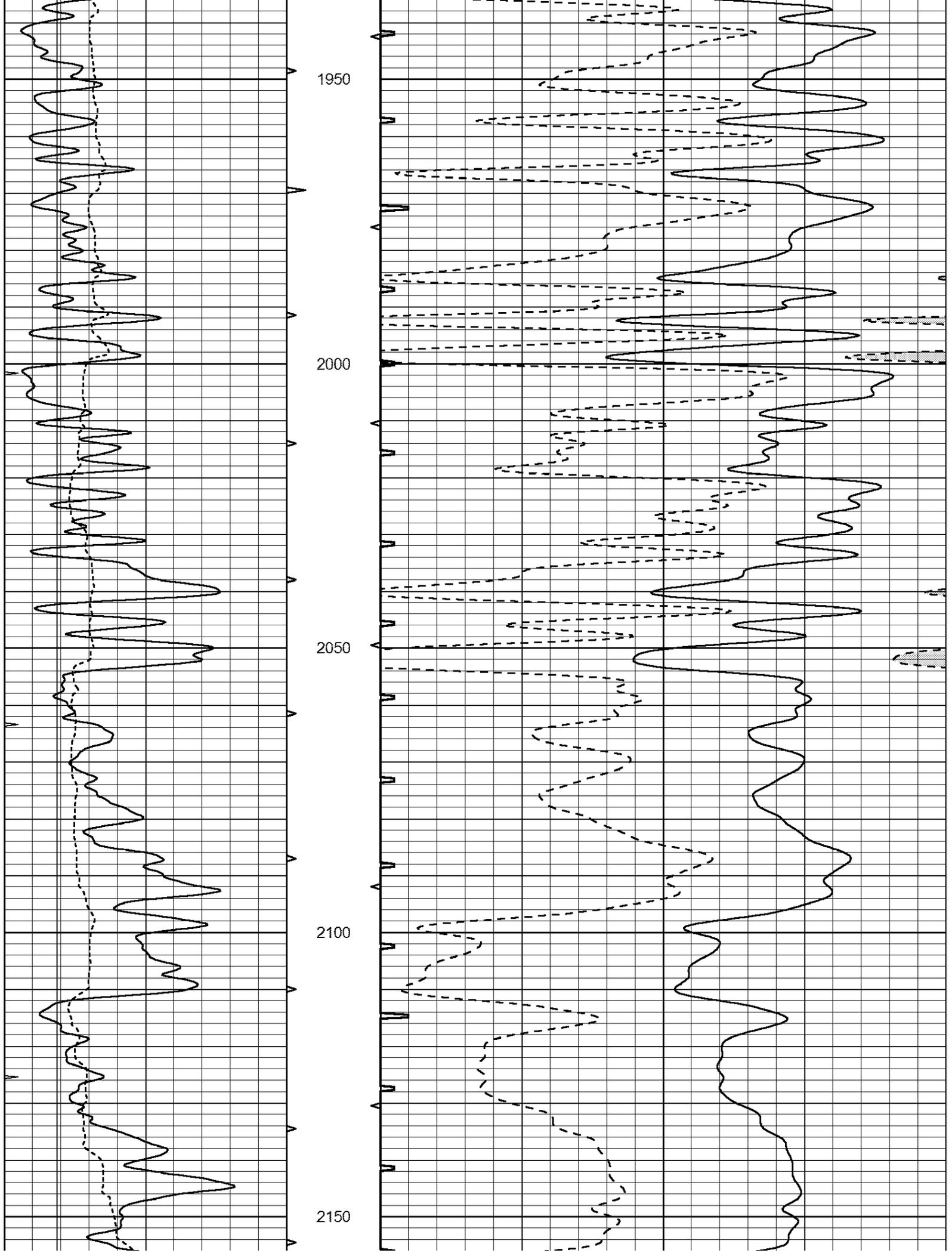
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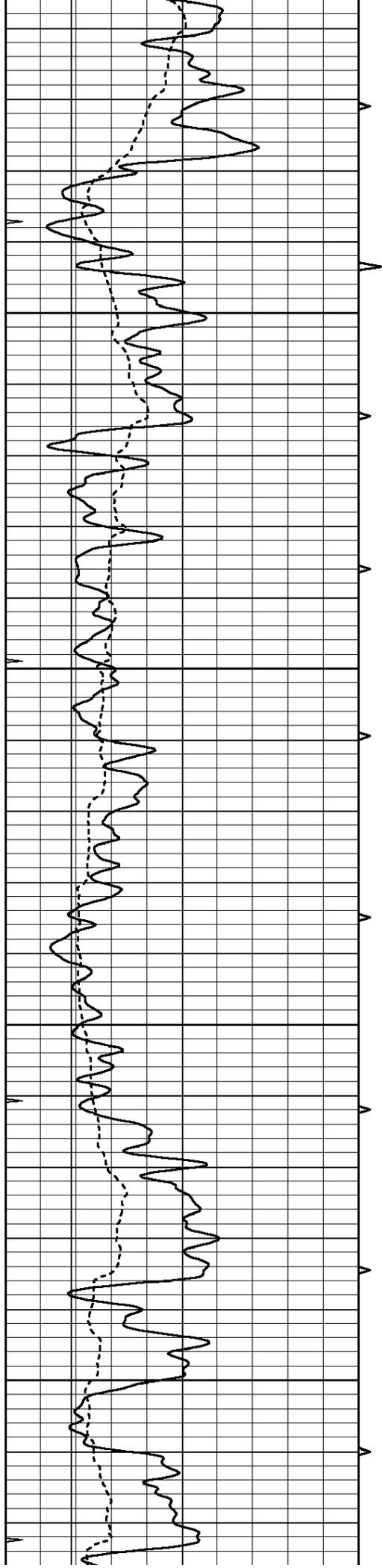
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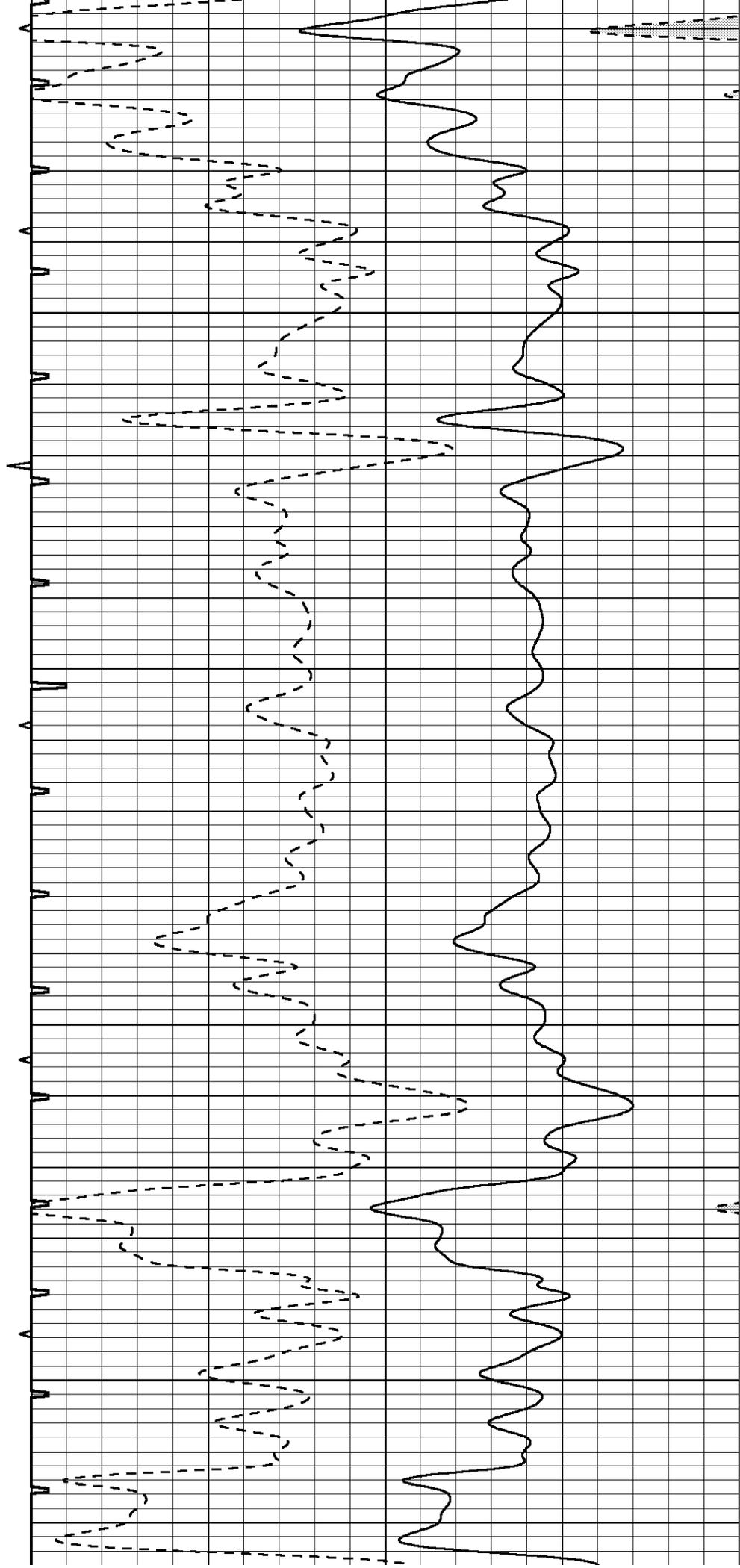


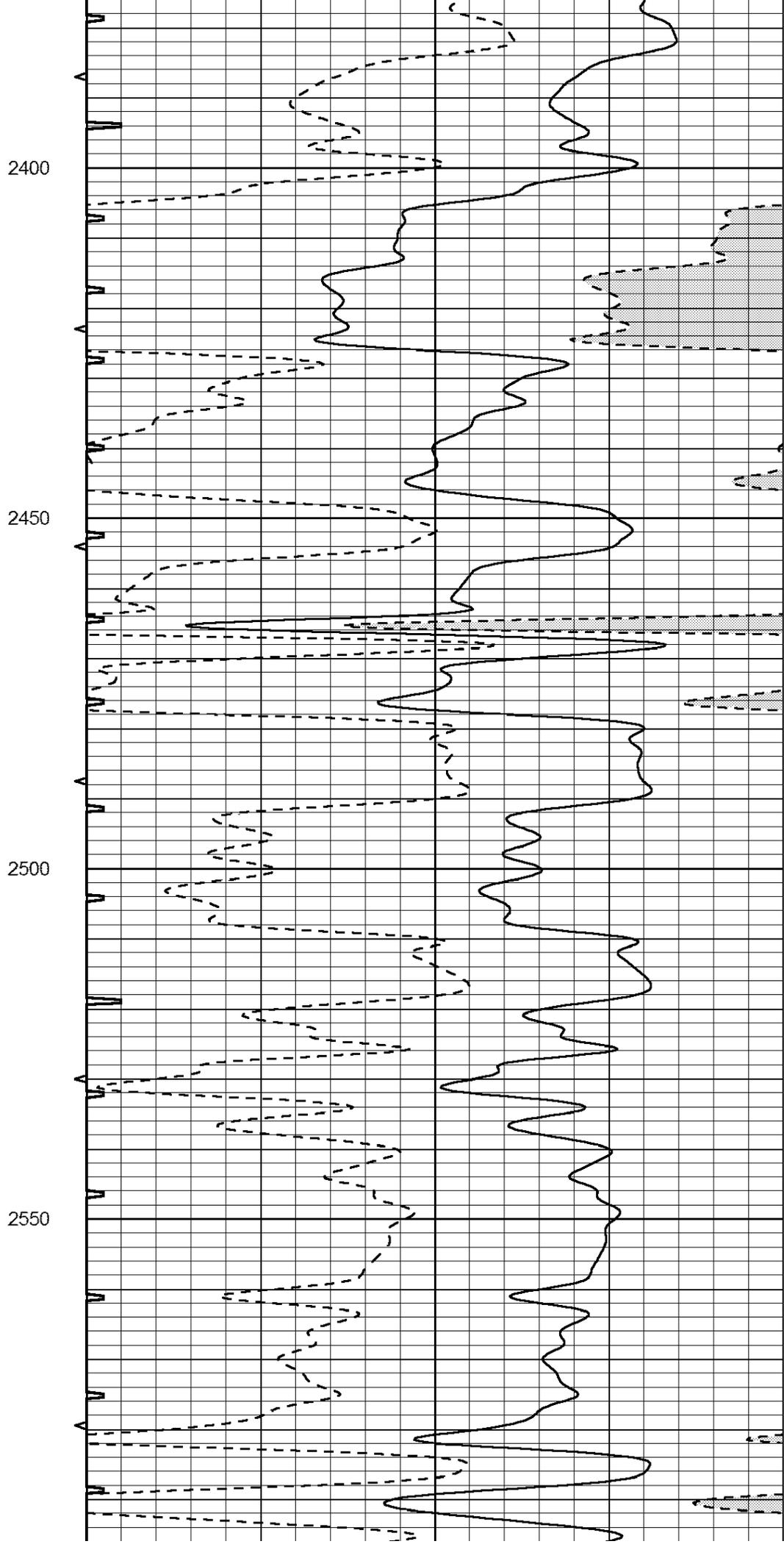
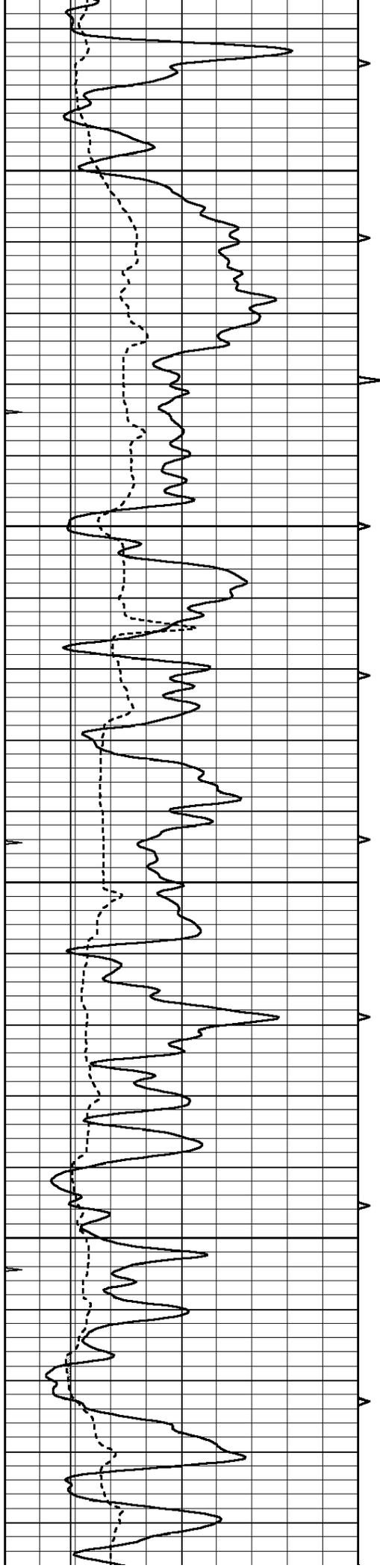
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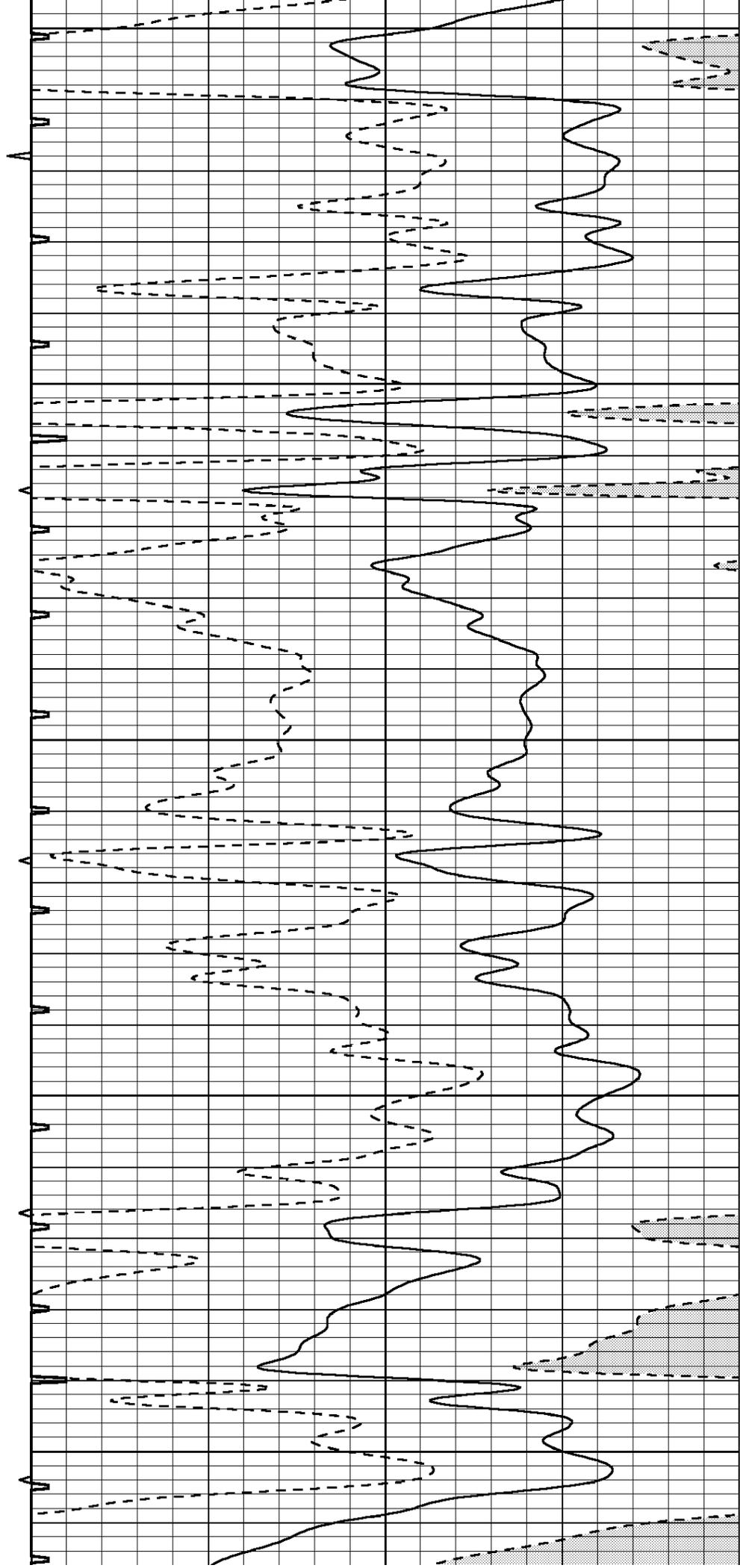
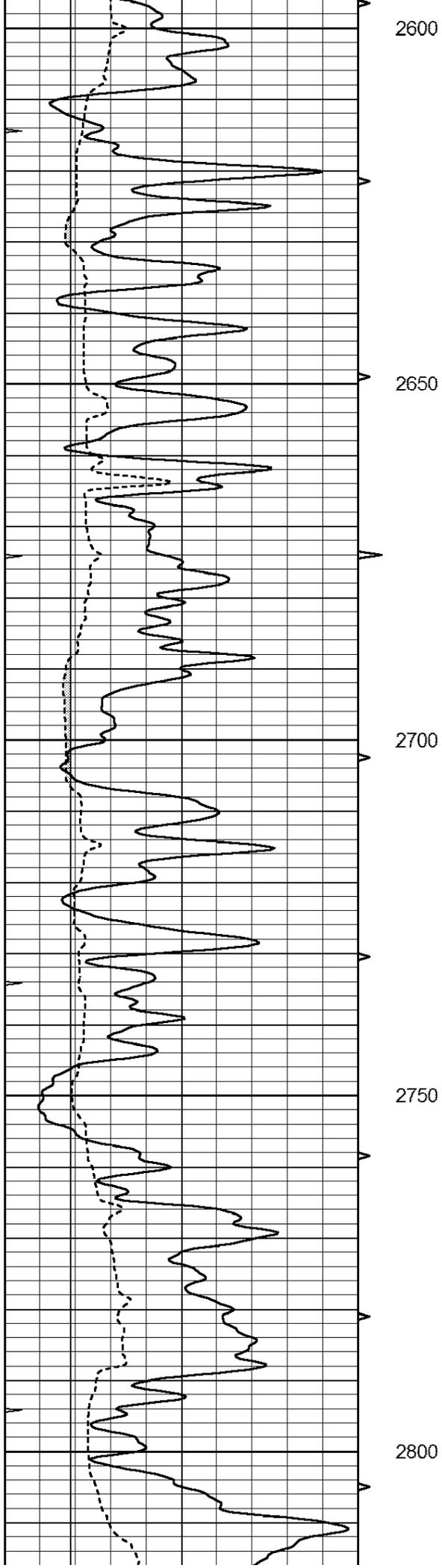
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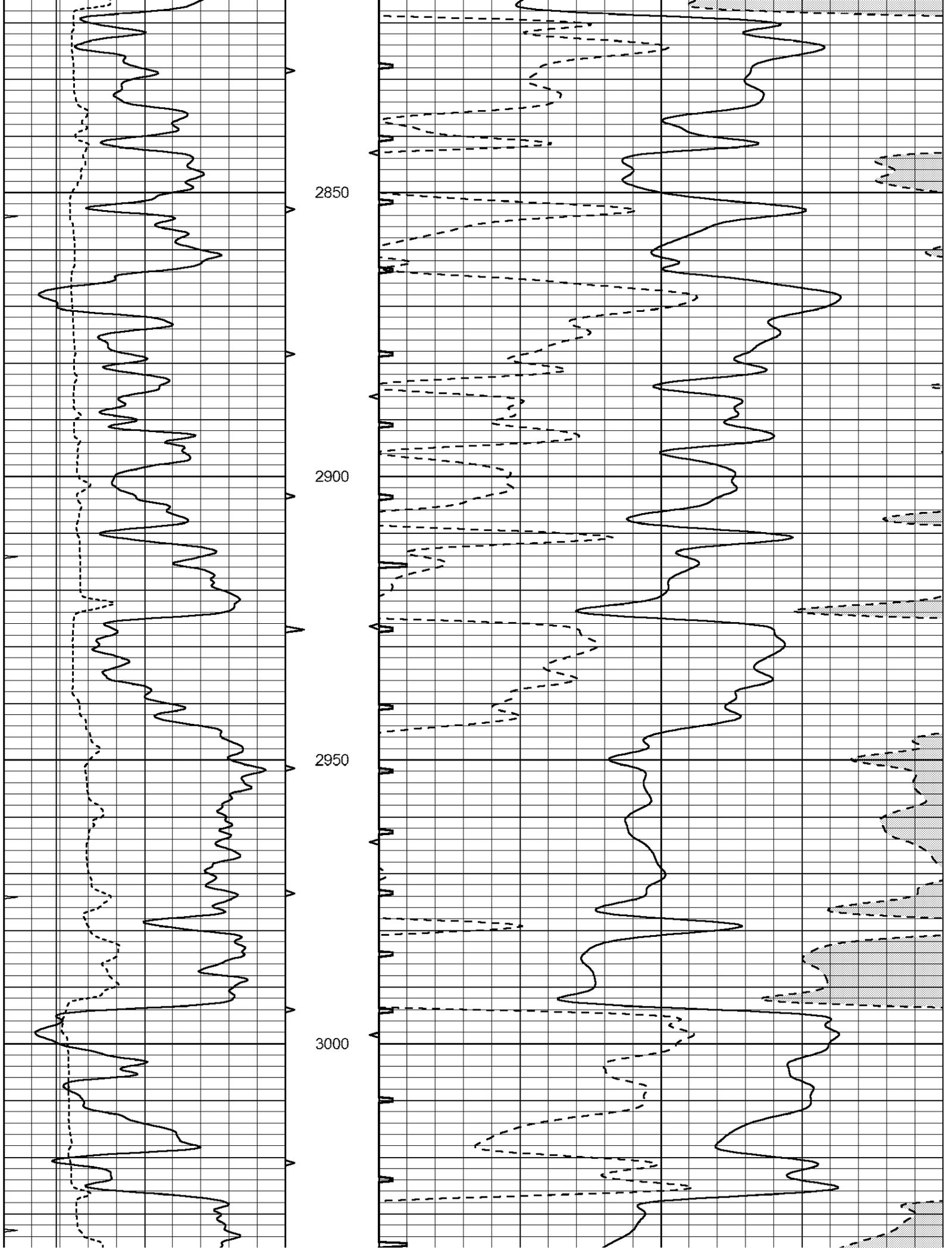
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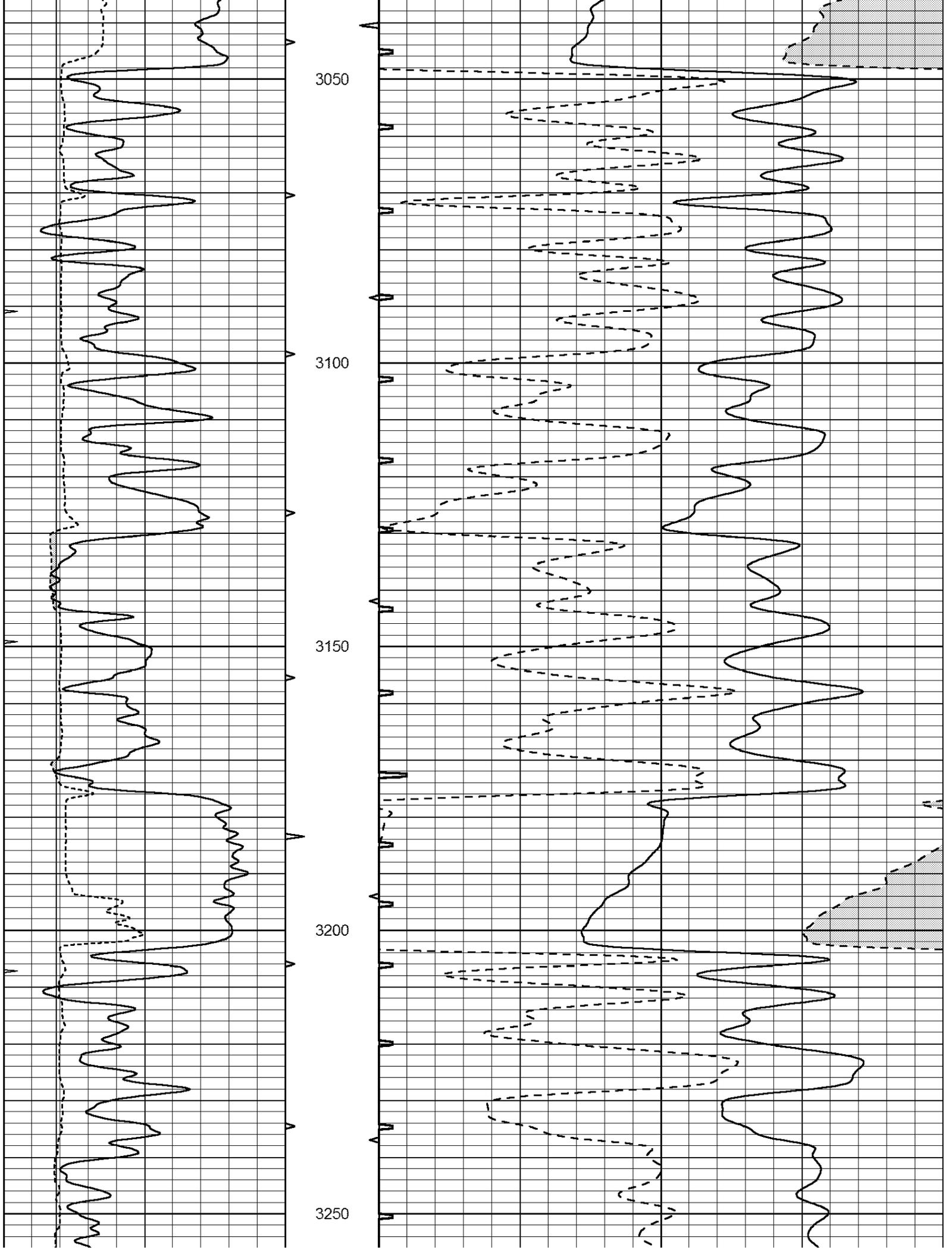
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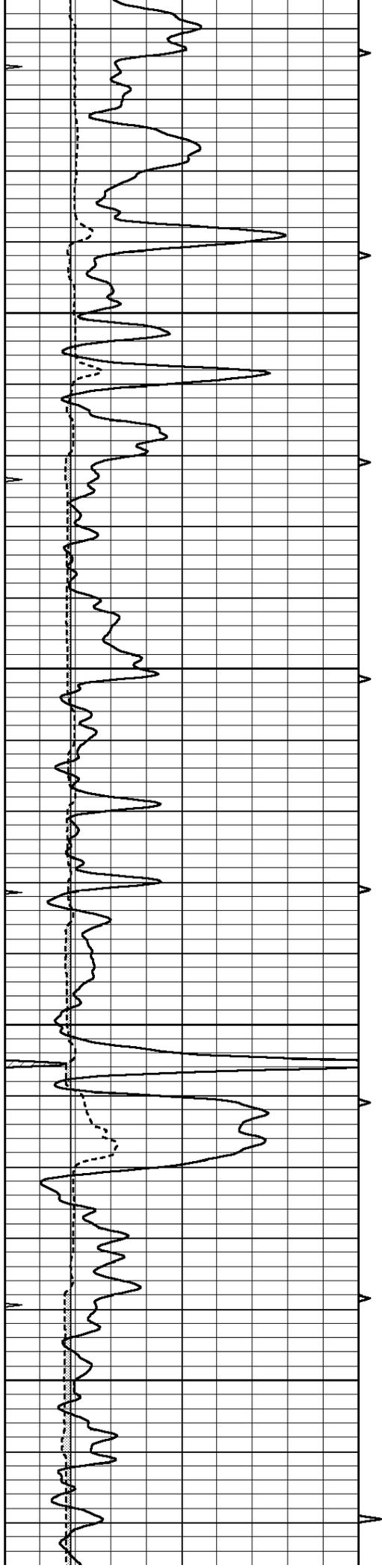










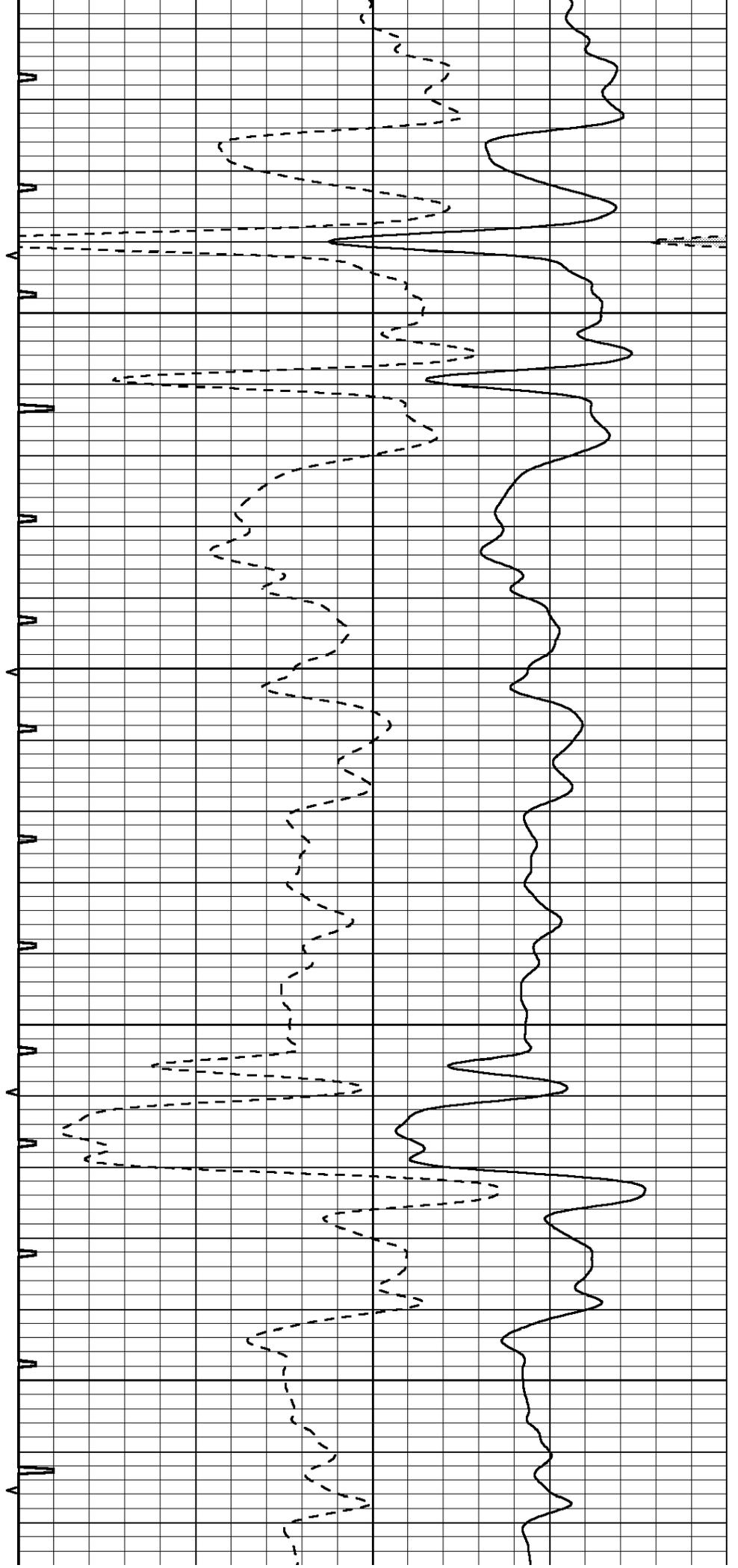


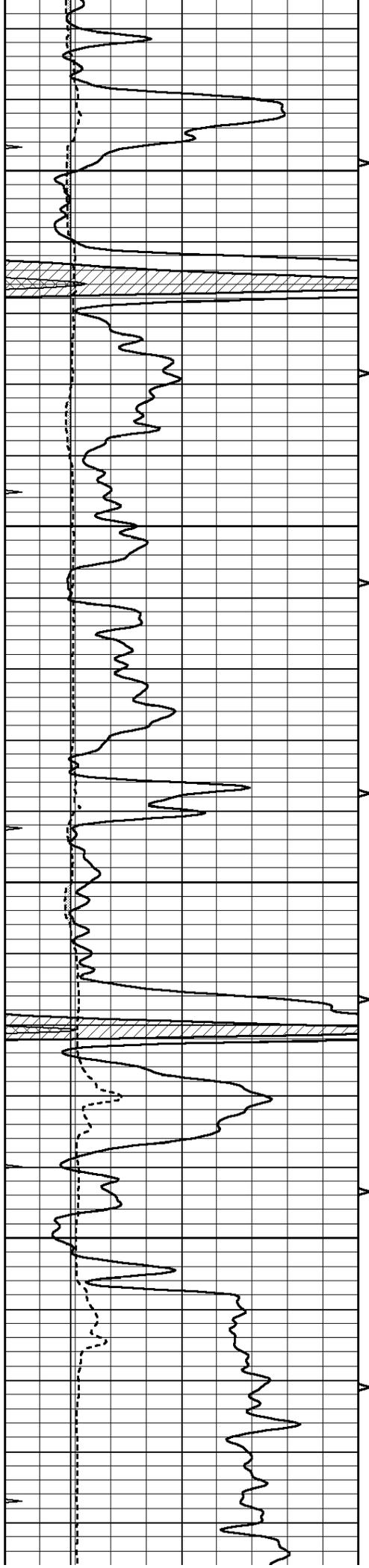
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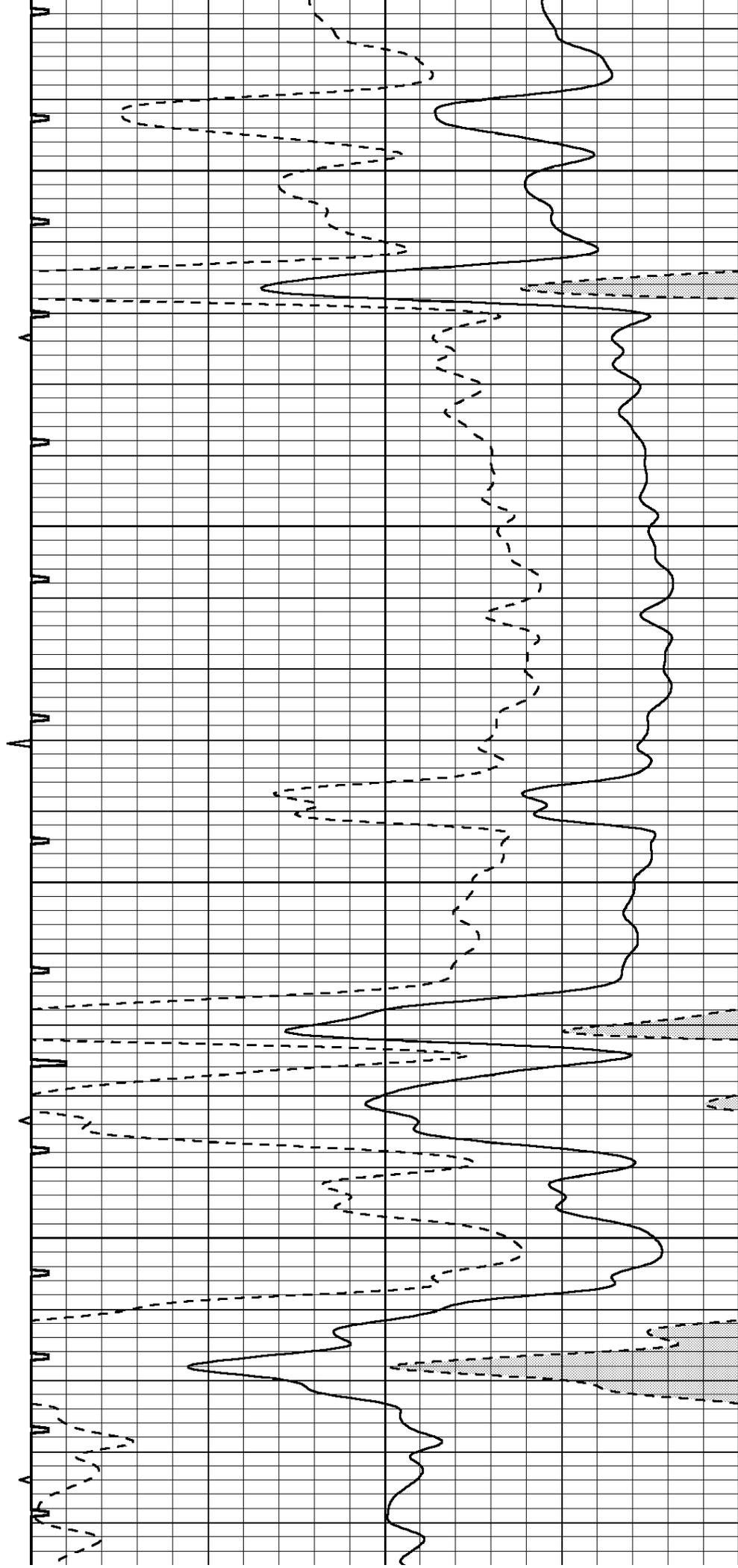


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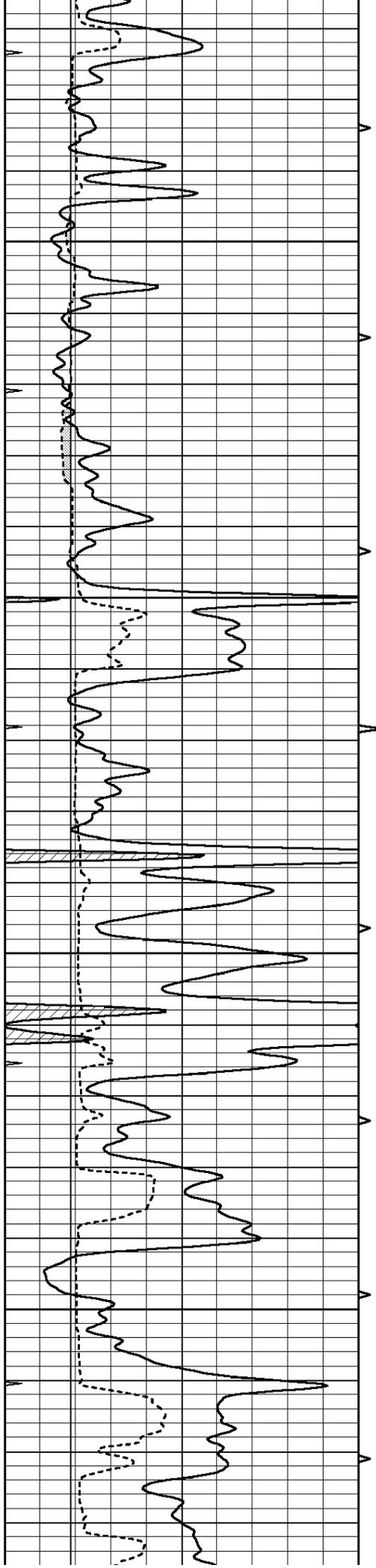
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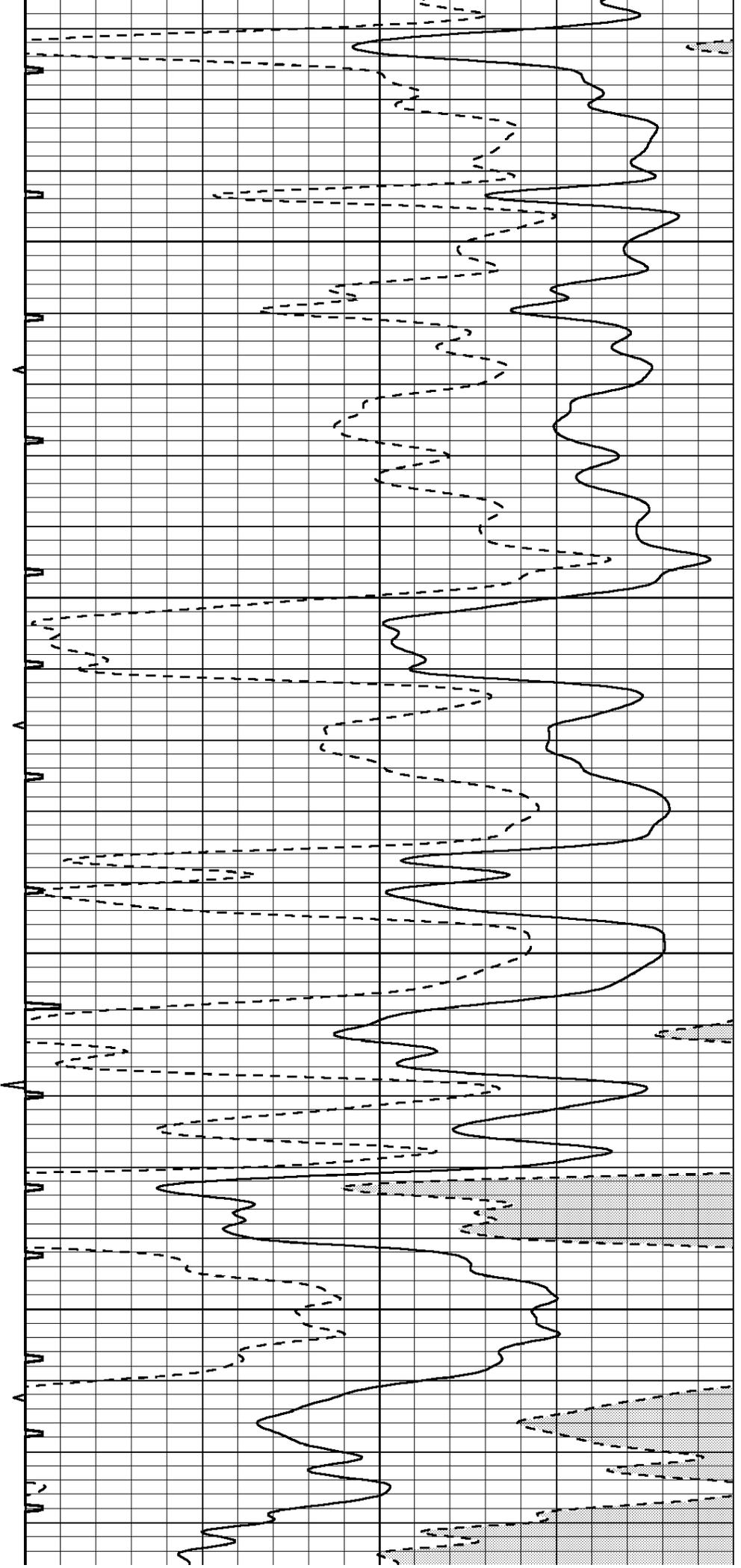


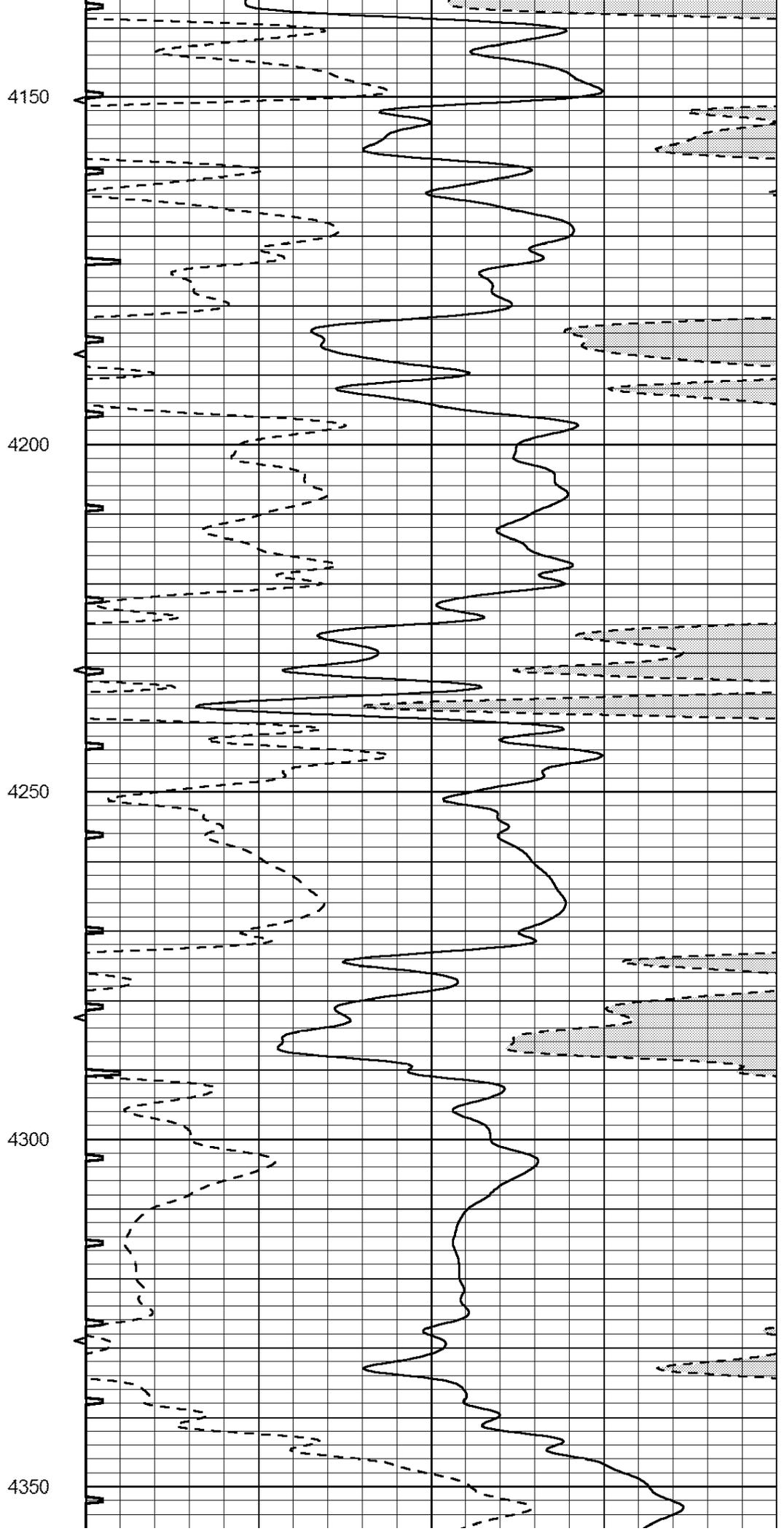
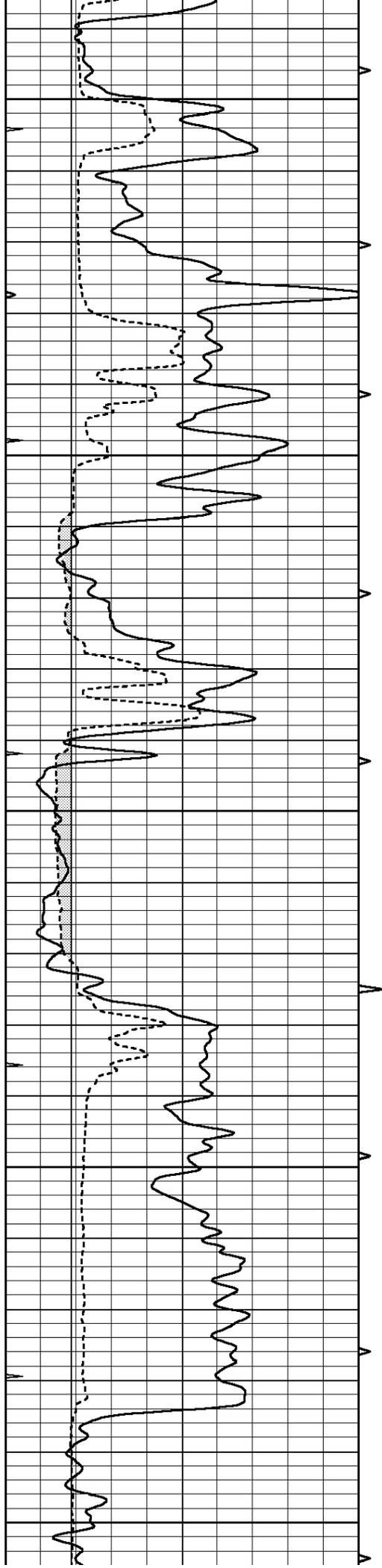
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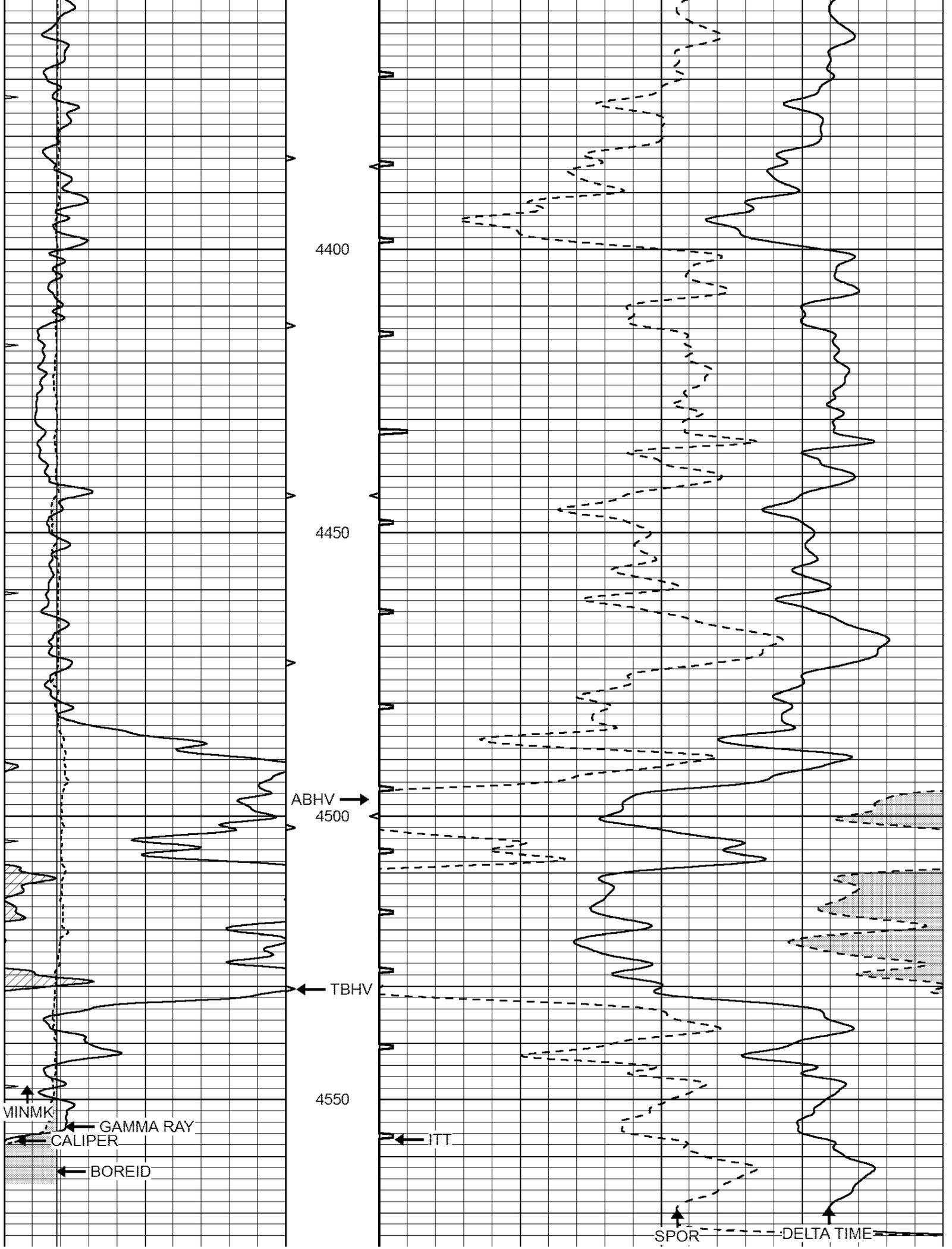
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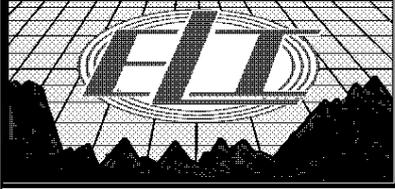
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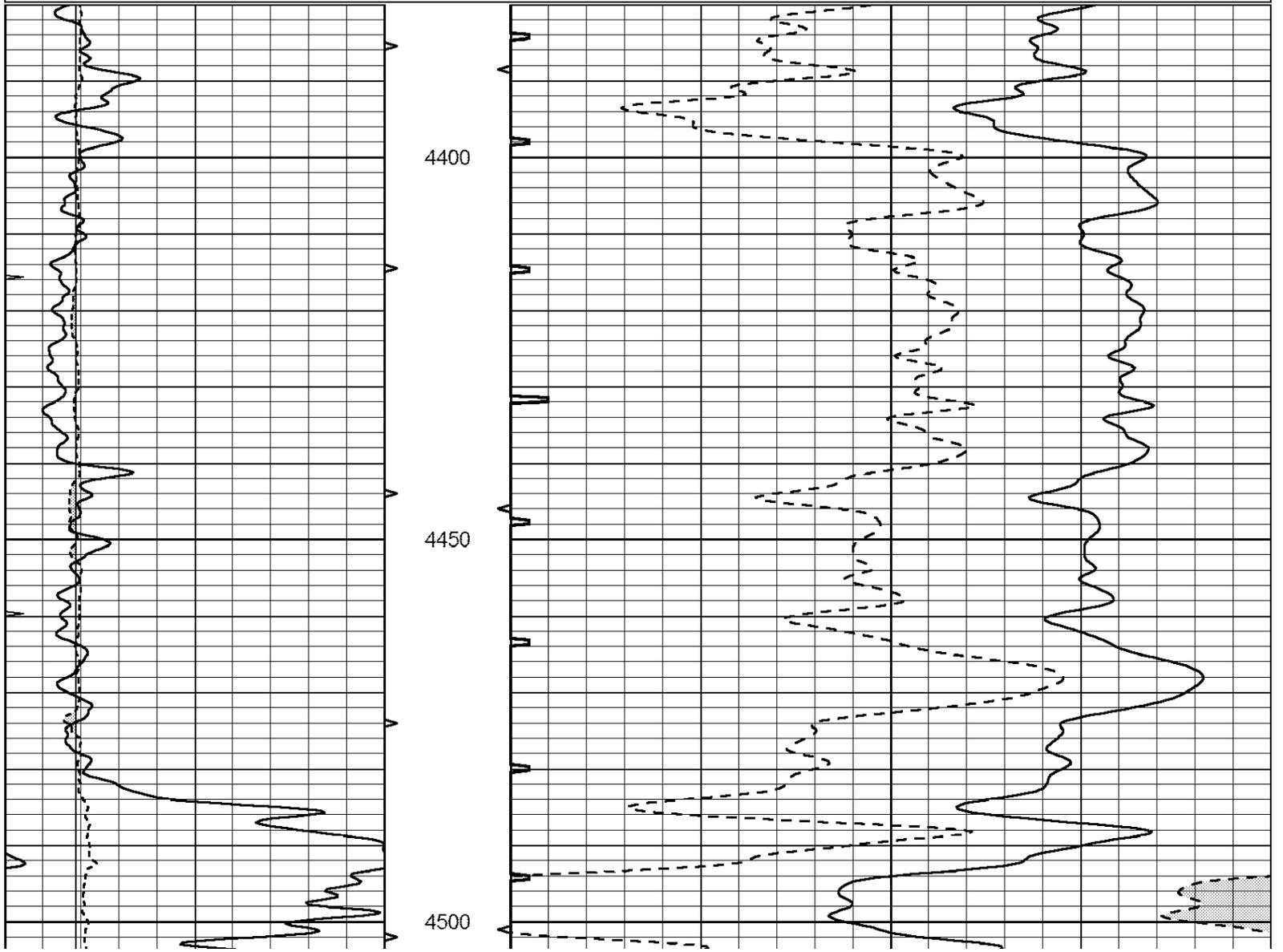
			LTD 4580						
0	GAMMA RAY (GAPI)	150	ABHV	140	DELTA TIME (usec/ft)			40	
6	CALIPER (in)	16	10 (ft3)	0	30	SONIC POROSITY (pu)			-10
0	MINMK	20	TBHV	0	ITT (msec)		20		
			0 (ft3)	10					

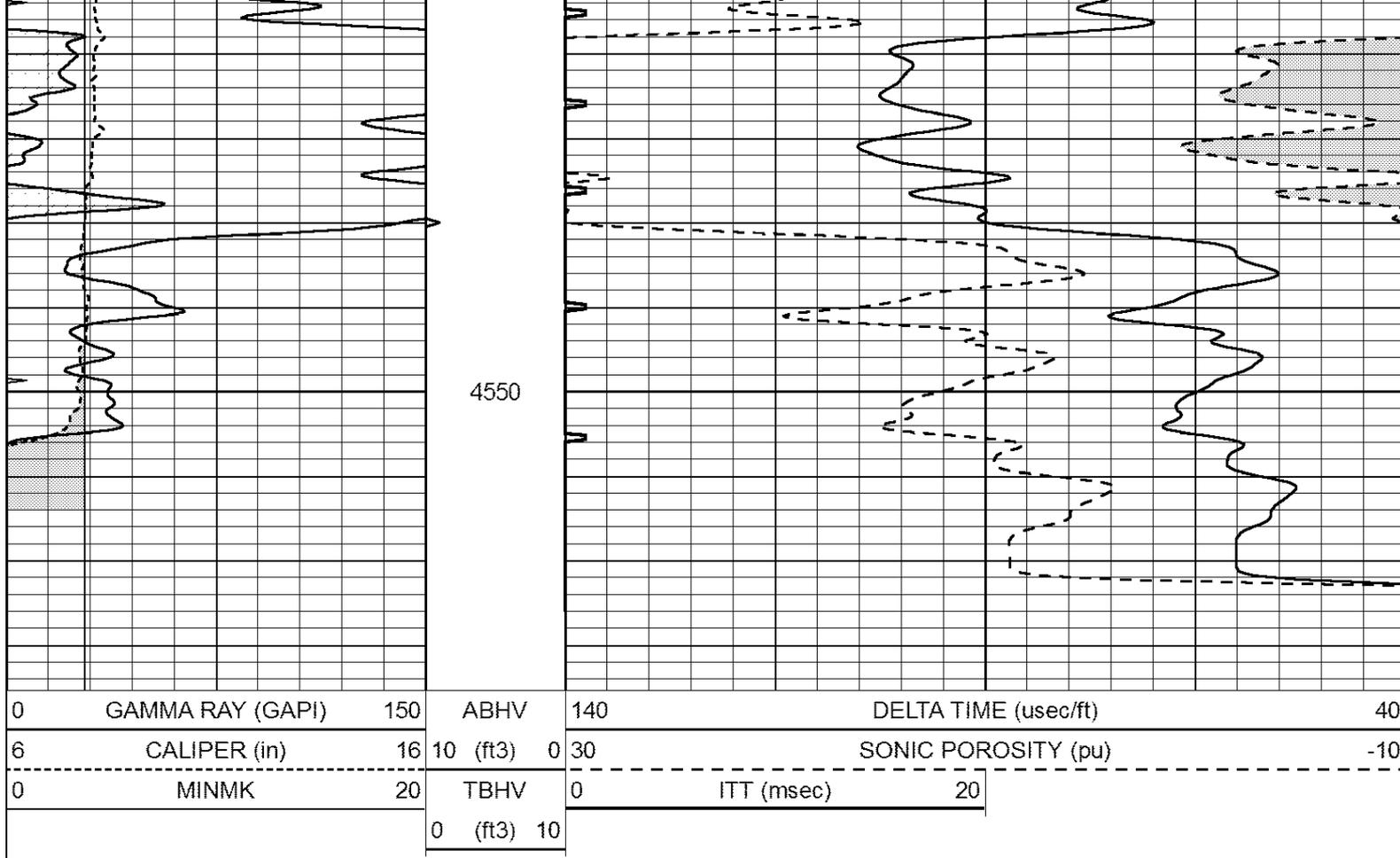


# REPEAT SECTION

Database File: 2403ddn.db  
 Dataset Pathname: pass4RP  
 Presentation Format: \_slt  
 Dataset Creation: Fri Jan 26 12:11:50 2018 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	140	DELTA TIME (usec/ft)			40	
6	CALIPER (in)	16	10 (ft3)	0	30	SONIC POROSITY (pu)			-10
0	MINMK	20	TBHV	0	ITT (msec)		20		
			0 (ft3)	10					





### Calibration Report

Database File: 2403ddn.db  
 Dataset Pathname: pass4RP  
 Dataset Creation: Fri Jan 26 12:11:50 2018 by Calc Open-Cased 090629

### MICRO Calibration Report

Serial Number: MICRO6  
 Tool Model: PROBE  
 Performed: Wed Aug 16 17:13:39 2017

Caliper Calibration: Gain=3.960 Offset=4.101  
 References Low Cal 7.000 High Cal 14.000  
 Readings 0.555 2.323

1.5" Calibration: Gain=36.075 Offset=0.600  
 References Low Cal 0.000 High Cal 20.000  
 Readings 0.004 1.196

2" Calibration: Gain=45.000 Offset=0.000  
 References Low Cal 0.000 High Cal 20.000  
 Readings 0.006 0.913

### Gamma Ray Calibration Report

Serial Number: GR2  
 Tool Model: OPEN  
 Performed: Wed Aug 16 17:13:40 2017

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3800	GAPI/cps