

HALLIBURTON

BOREHOLE COMPENSATED
SONIC
LOG

RAYDON EXPLORATION INC.				COMPANY			
PARITY 1-27				RAYDON EXPLORATION INC.			
WILDCAT				WELL			
SEWARD				PARITY 1-27			
KANSAS				FIELD/BLOCK			
COUNTY				WILDCAT			
STATE				COUNTY			
SEWARD				SEWARD			
STATE				KANSAS			
AP I No. 15-175-22249-00-00				Other Services:			
Location (SHL) E2 SW SW 660' FSL & 990' FWL				SDLT			
				DSNT			
				MICROLOG			
				BSAT			
				ACRT			
Permanent Datum				Sect 27			
Log measured from				Twp. 33S			
Drilling measured from				Rge. 31W			
GL				Elev. 2727.0 ft			
KB				Elev. K.B. 2738.0 ft			
KB				D.F. 2737.0 ft			
11.0 ft above perm. Datum				G.L. 2727.0 ft			
Date				18-Oct-16			
Run No.				ONE			
Depth - Driller				6293.0 ft			
Depth - Logger				6293.0 ft			
Bottom - Logged Interval				6293.00 ft			
Top - Logged Interval				1668.00 ft			
Casing - Driller				8.625 in @ 1675.0 ft			
Casing - Logger				1668.0 ft @			
Bit Size				7.875 in @			
Type Fluid in Hole				Water Based Mud			
Density				8.8 ppg @ 58.00 s/qt			
Viscosity				10.00 pH @ 5.2 cpm			
Fluid Loss				FLOWLINE			
Source of Sample				1.29 ohmm @ 80.00 degF			
Rm @ Meas. Temperature				1.09 ohmm @ 60.00 degF			
Rmf @ Meas. Temperature				1.61 ohmm @ 60.00 degF			
Rmc @ Meas. Temperature				MEAS @ 60.00 degF			
Source Rmf				MEAS			
Rm @ BHT				0.86 ohmm @ 123.0 degF			
Time Since Circulation				8.0 hrs hr			
Time on Bottom				18-Oct-16 17:16			
Max. Rec. Temperature				123.00 degF @ 6293.0 ft			
Equipment				12156883 EL RENO, OK			
Recorded By				COTHREN			
Witnessed By				EDWIN GRIEVES			

Fold here

Service Ticket No.: 903584926						API No.: 15-175-22249-00-00						PGM Version: WL INSITE R5.0.5 (Build 8)															
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 156		N/A				1.5" STANDOFF				N/A			
Rmc @ Meas. Temp.				@				@																			
Source Rmf		Rmc																									
Rm @ BHT				@				@																			
Rmf @ BHT				@				@																			
Rmc @ BHT				@				@																			
EQUIPMENT DATA																											
GAMMA						ACOUSTIC						DENSITY						NEUTRON									
Run No.		ONE				Run No.		ONE				Run No.		ONE				Run No.		ONE							
Serial No.		11021139				Serial No.		10939049				Serial No.		10951315				Serial No.		11020487							
Model No.		GTET				Model No.		BSAT				Model No.		SDLT				Model No.		DSNT							
Diameter		3.625"				No. of Cent.		2				Diameter		4.5"				Diameter		3.625"							
Detector Model No.		A-102				Spacing		4				Log Type		GAM-GAM				Log Type		NEU-NEU							
Type		SCINT.										Source Type		Cs 137				Source Type		AM241Be							
Length		8"				LSA [Y/N]		N				Serial No.		5155GW				Serial No.		DSN 436							
Distance to Source		10'				FWDA [Y/N]		N				Strength		1.5 Ci				Strength		15 Ci							

LOGGING DATA

[illegible]

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@
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Remarks: THANKS FOR USING HALLIBURTON LOGGING SERVICES.

ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

CHLORIDES REPORTED AT 1700 mg/L

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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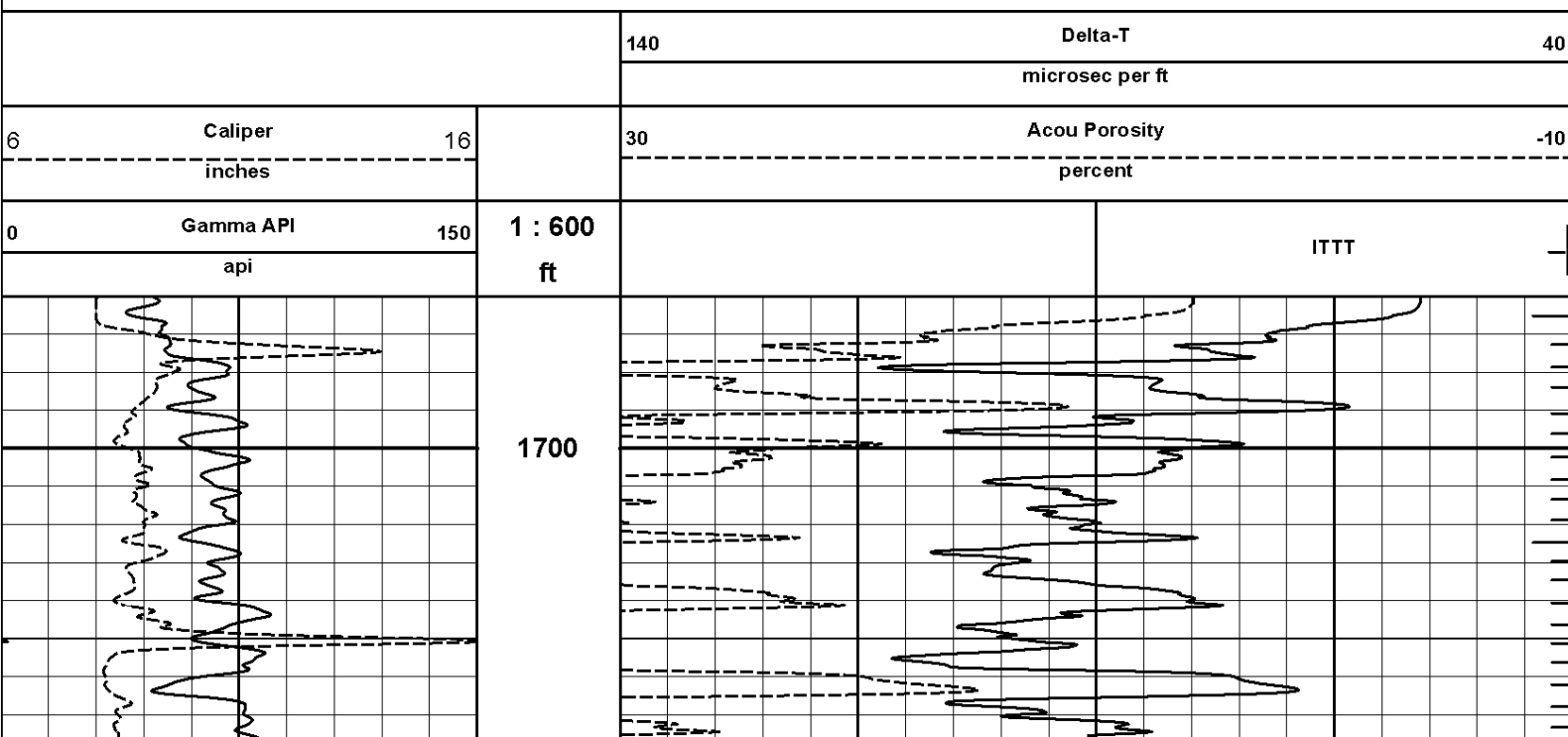
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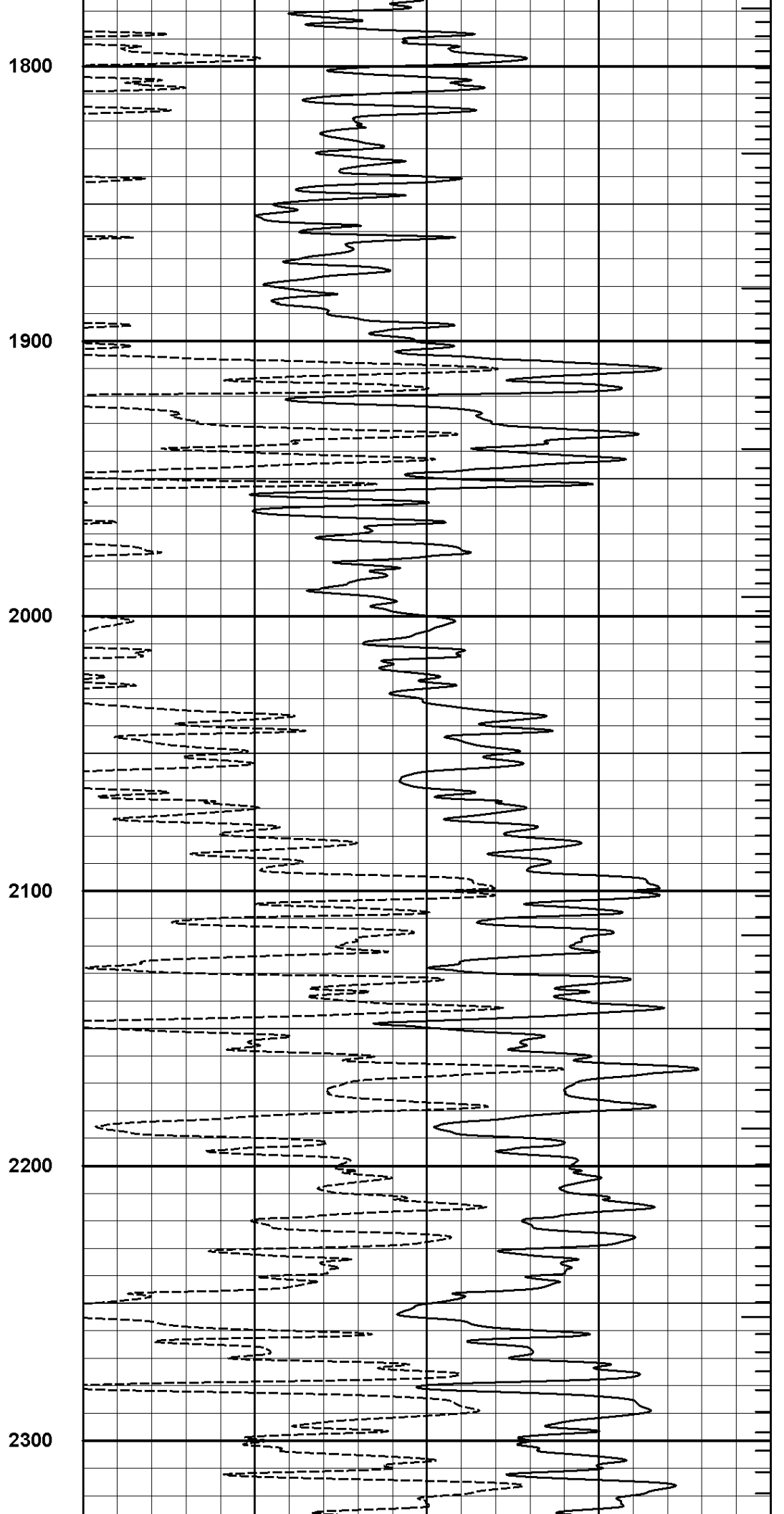
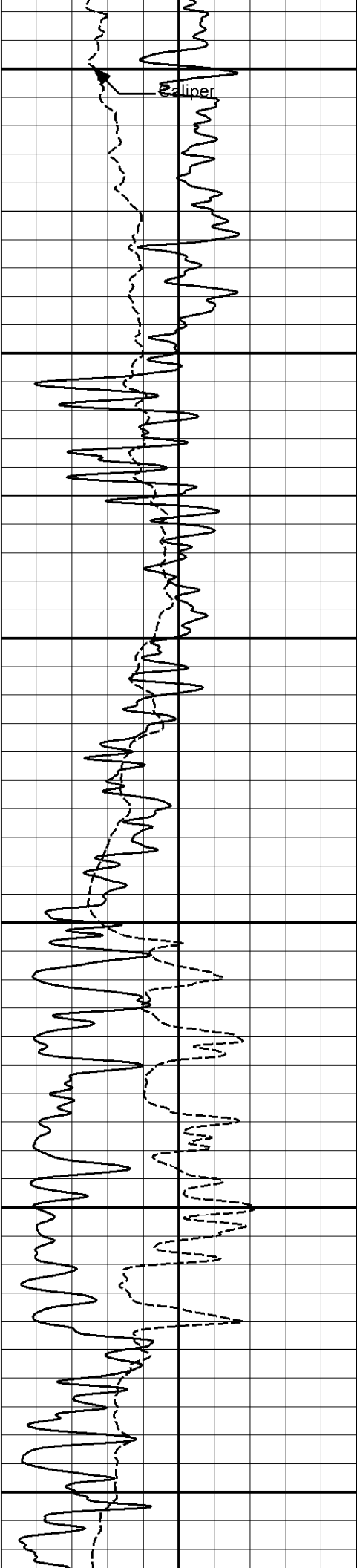
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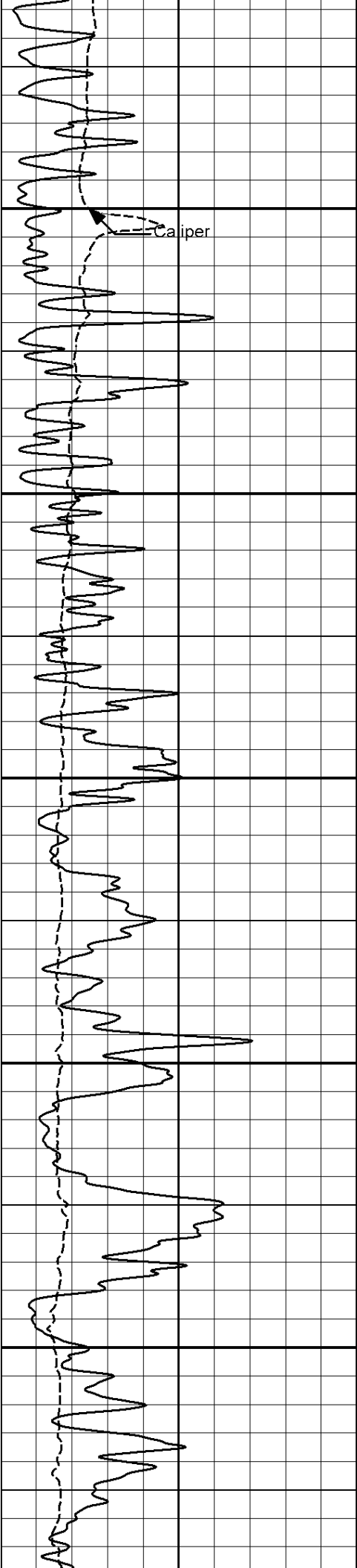
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Plot File: \\BSAT\\1_BSAT_2inx

2 INCH MAIN LOG







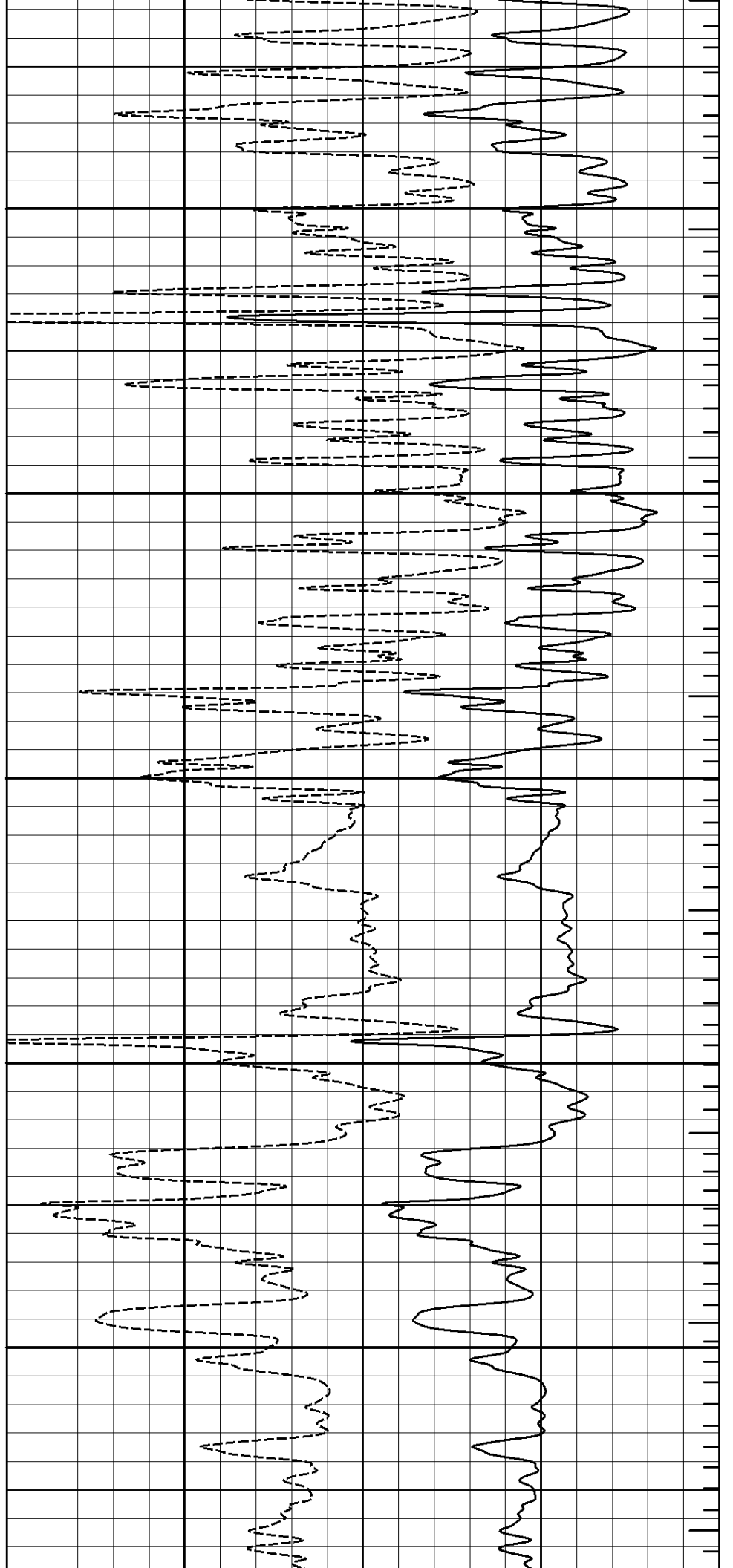
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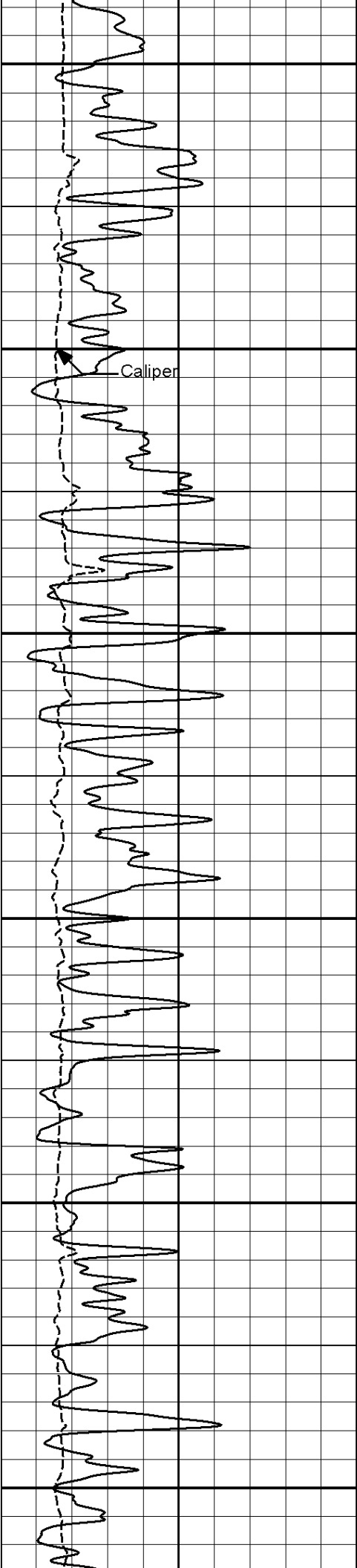
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2600

2700

2800





2900

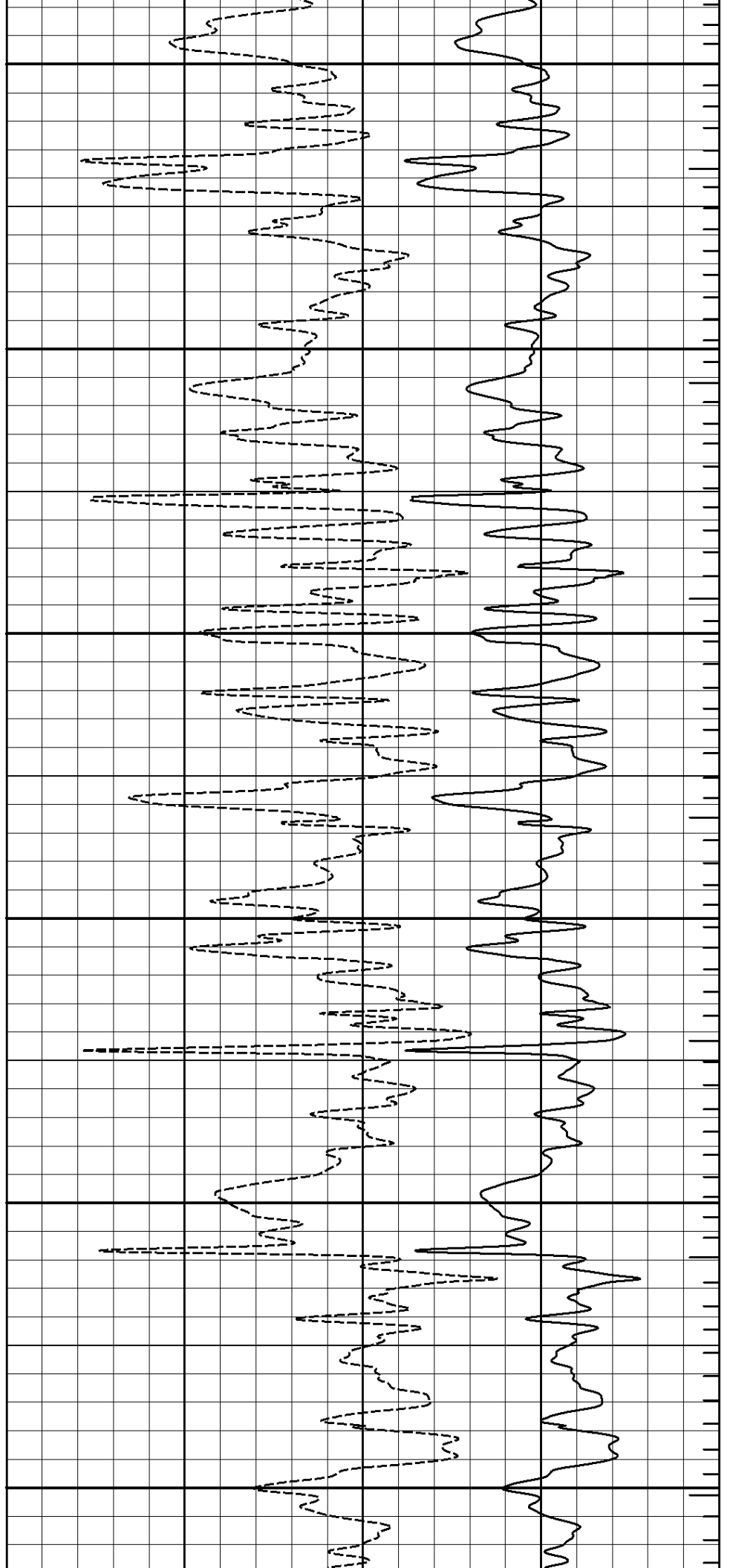
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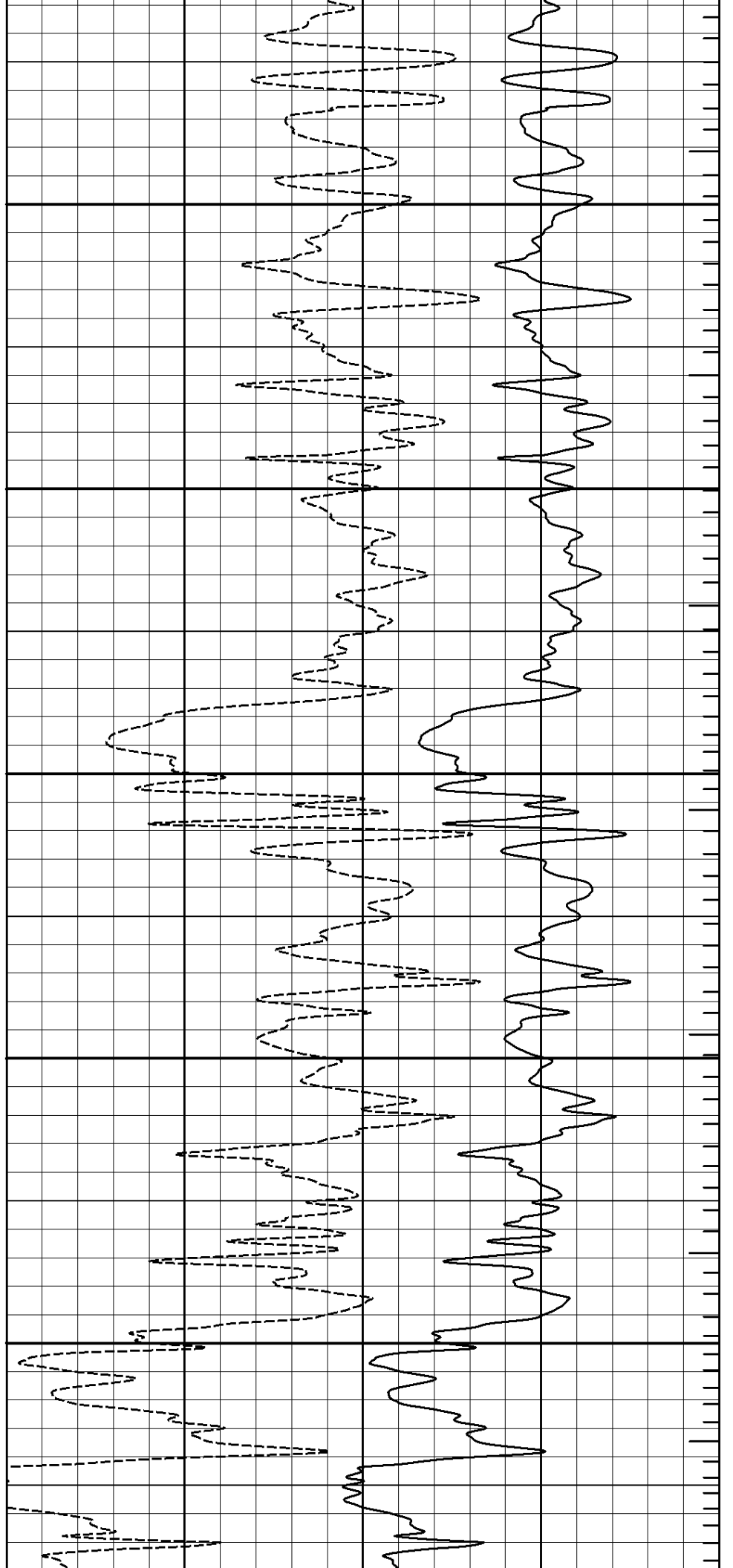
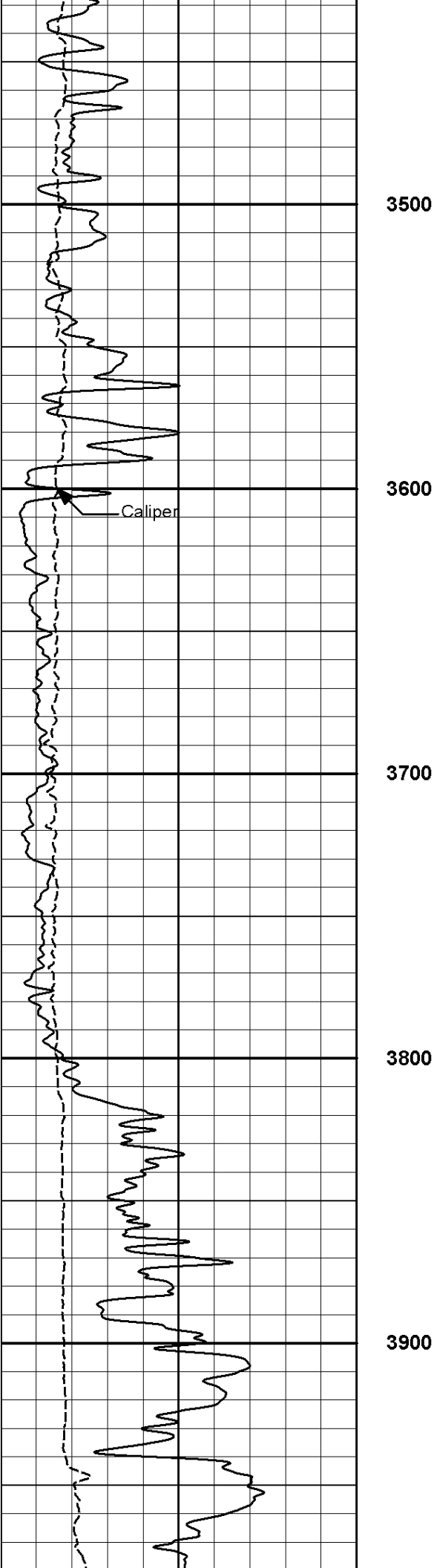
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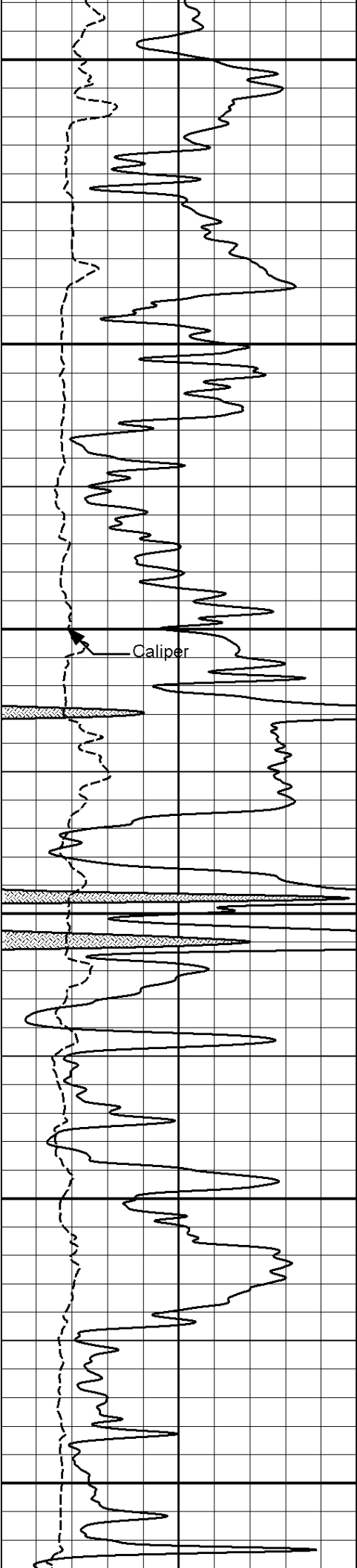
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3300

3400







Caliper

4000

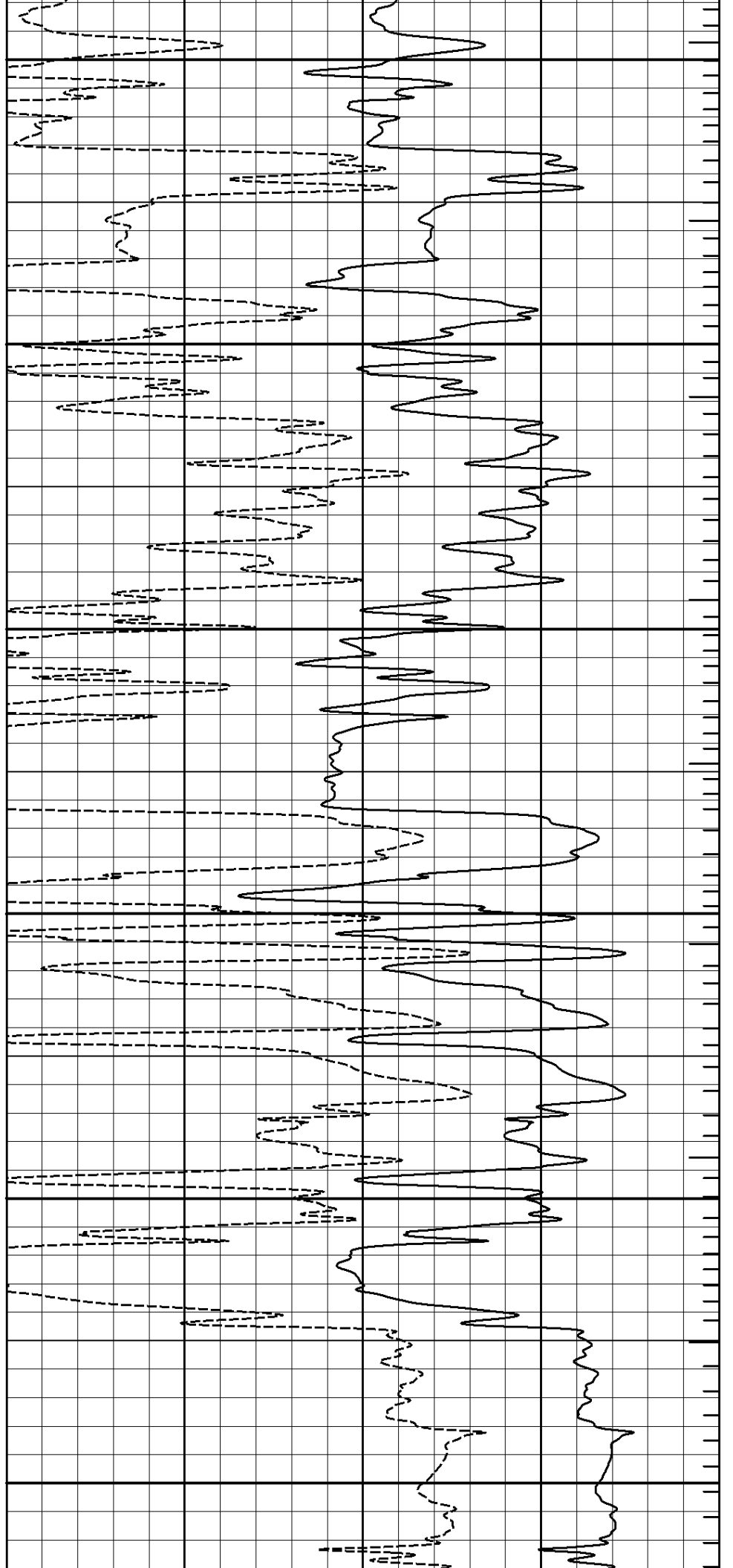
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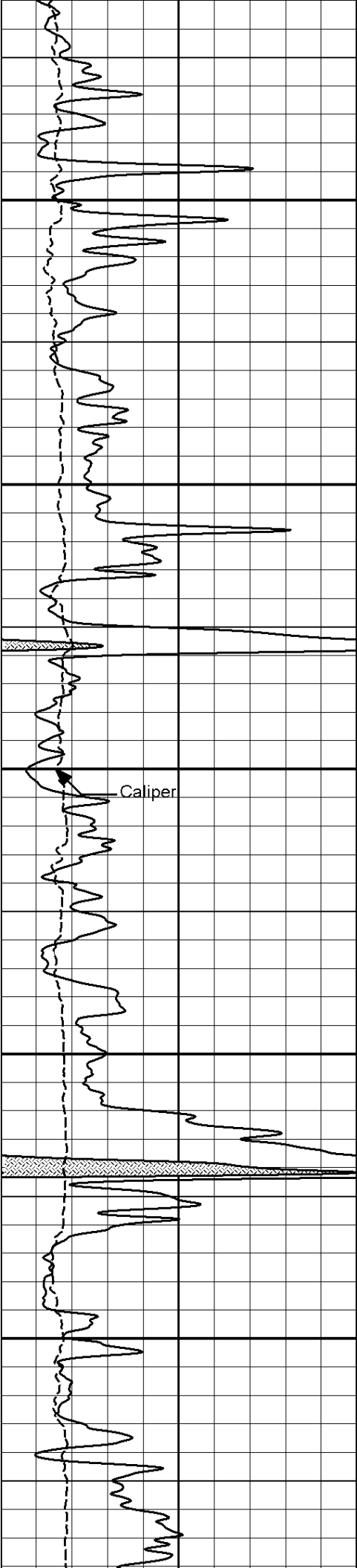
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4300

4400

4500





Caliper

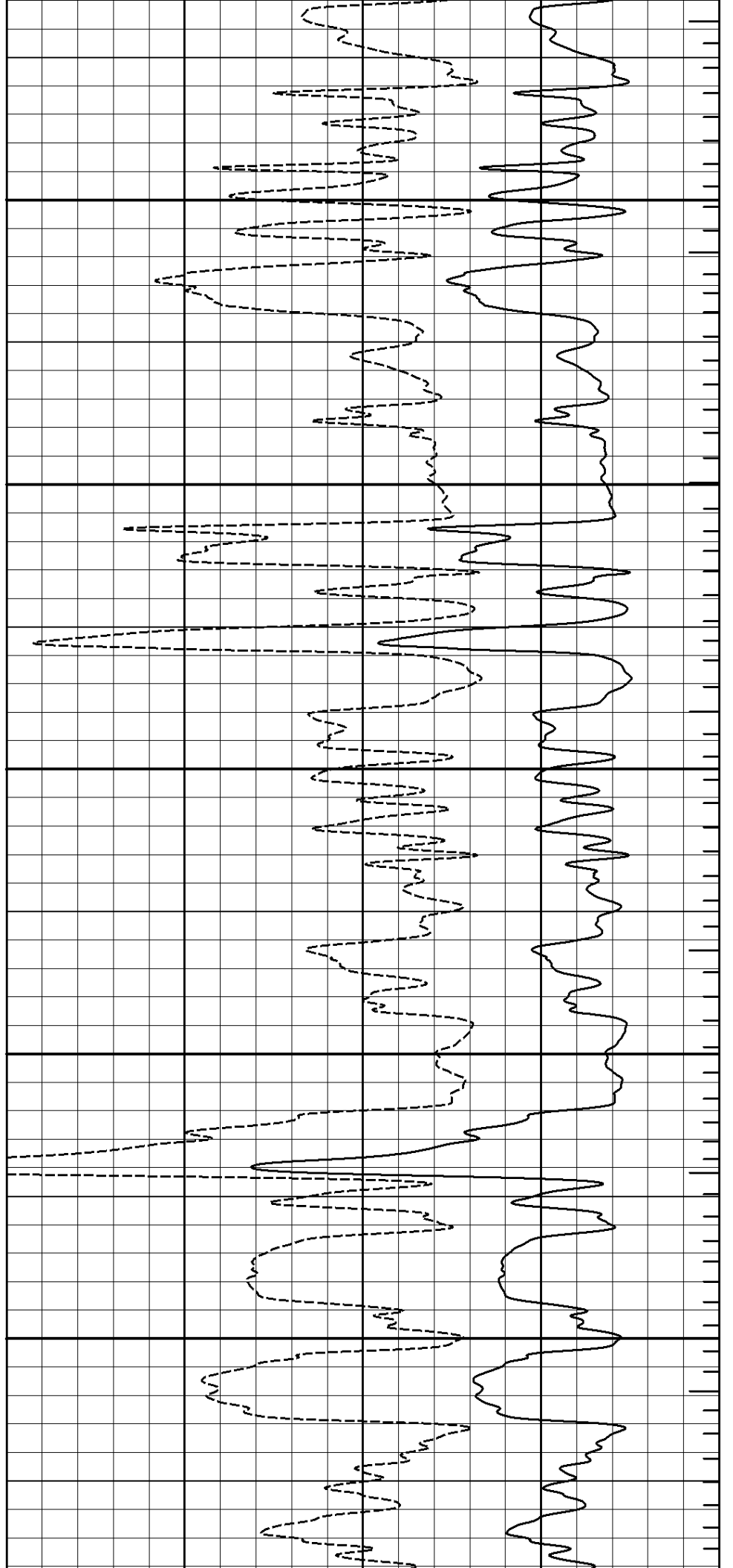
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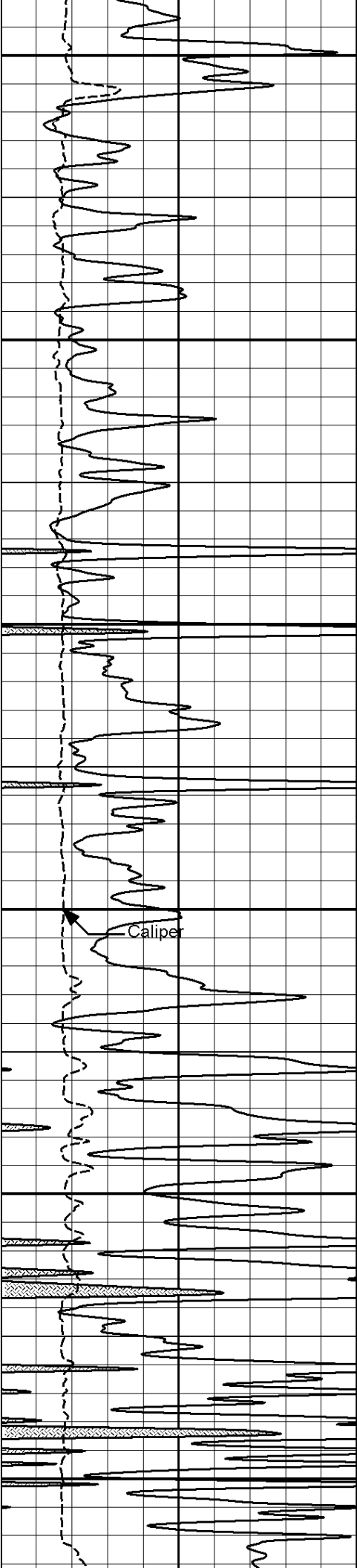
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4800

4900

5000





5100

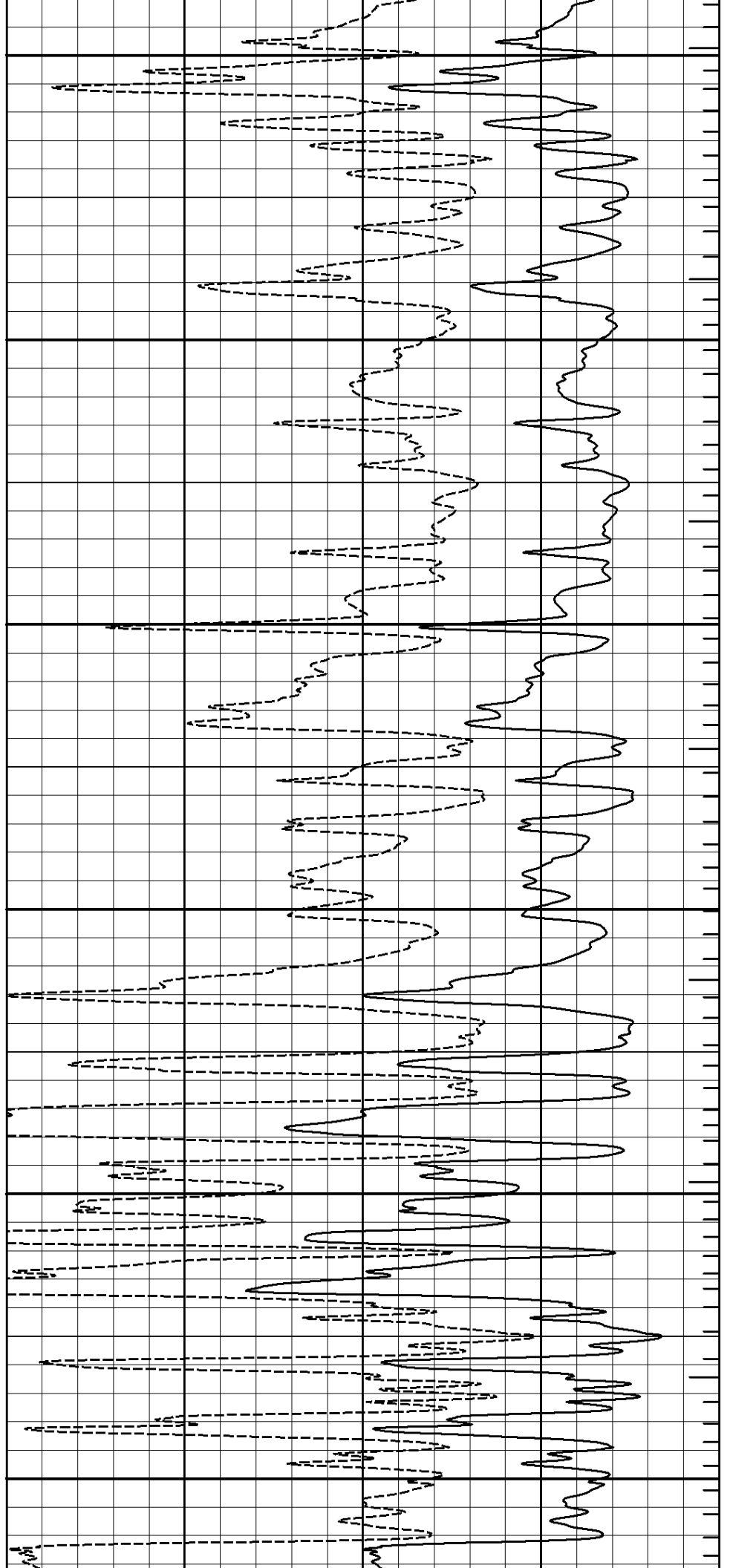
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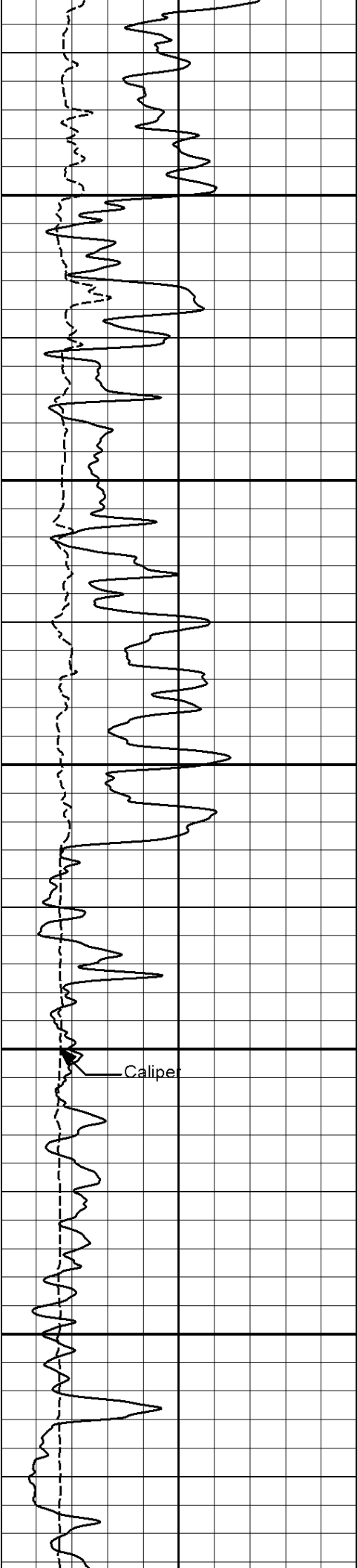
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5500

5600





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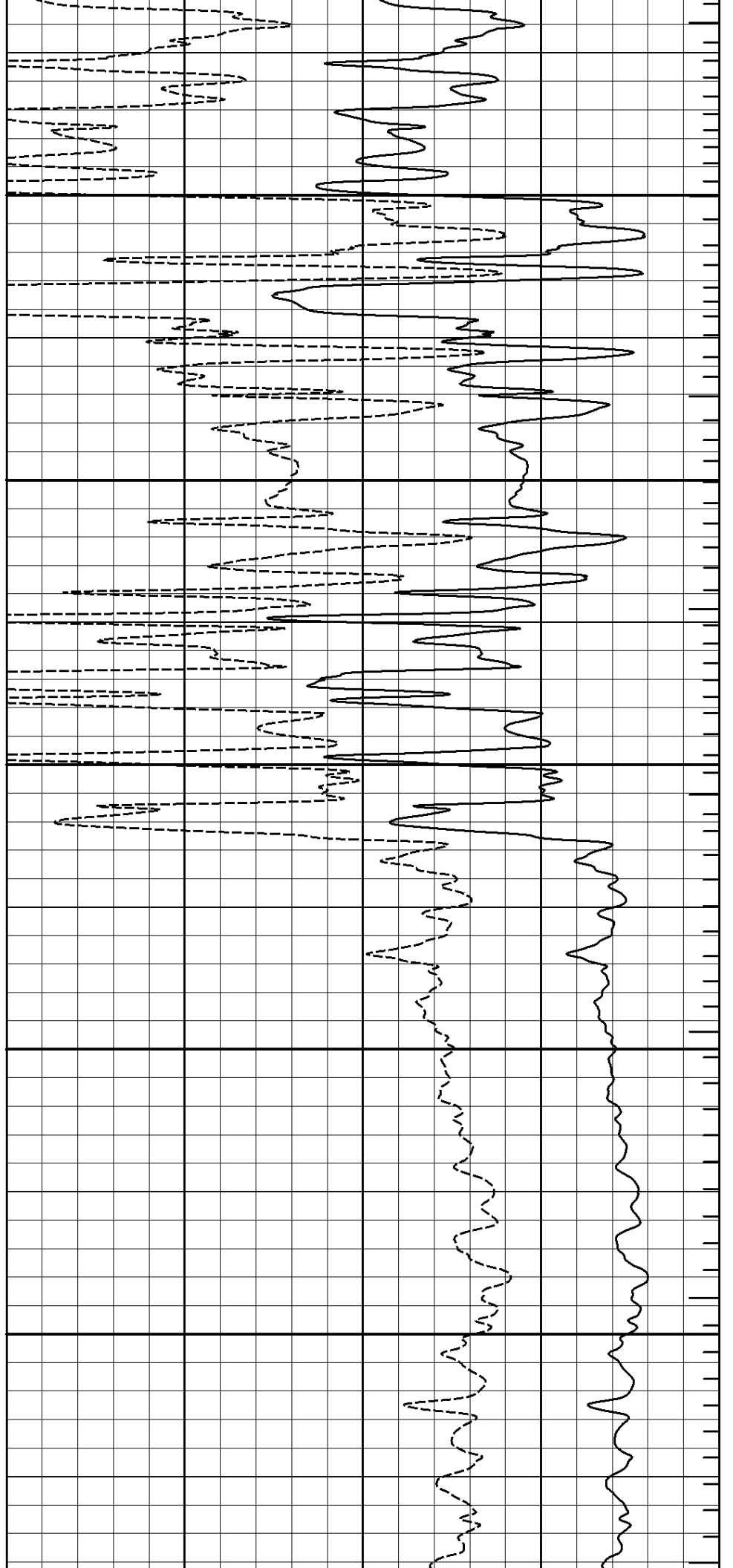
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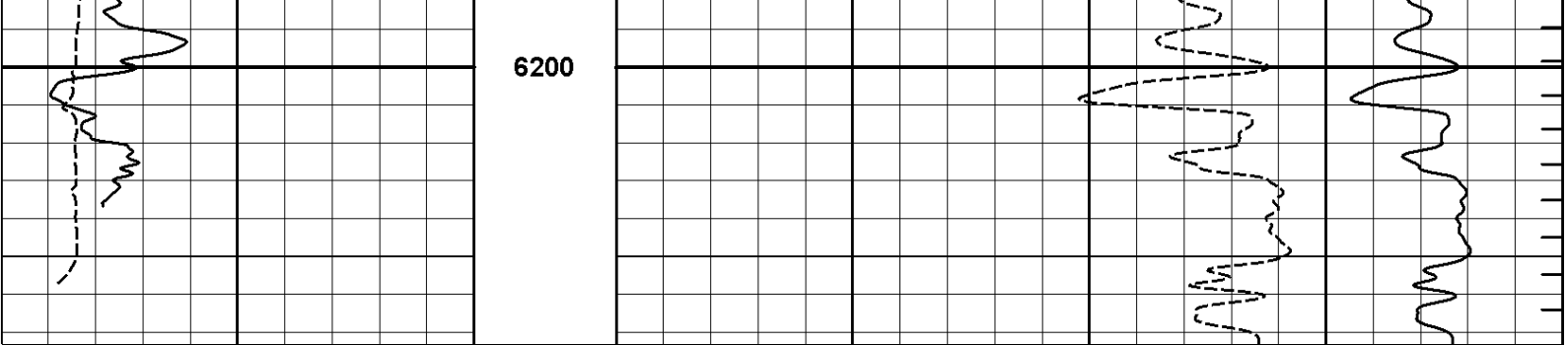
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6100

Caliper





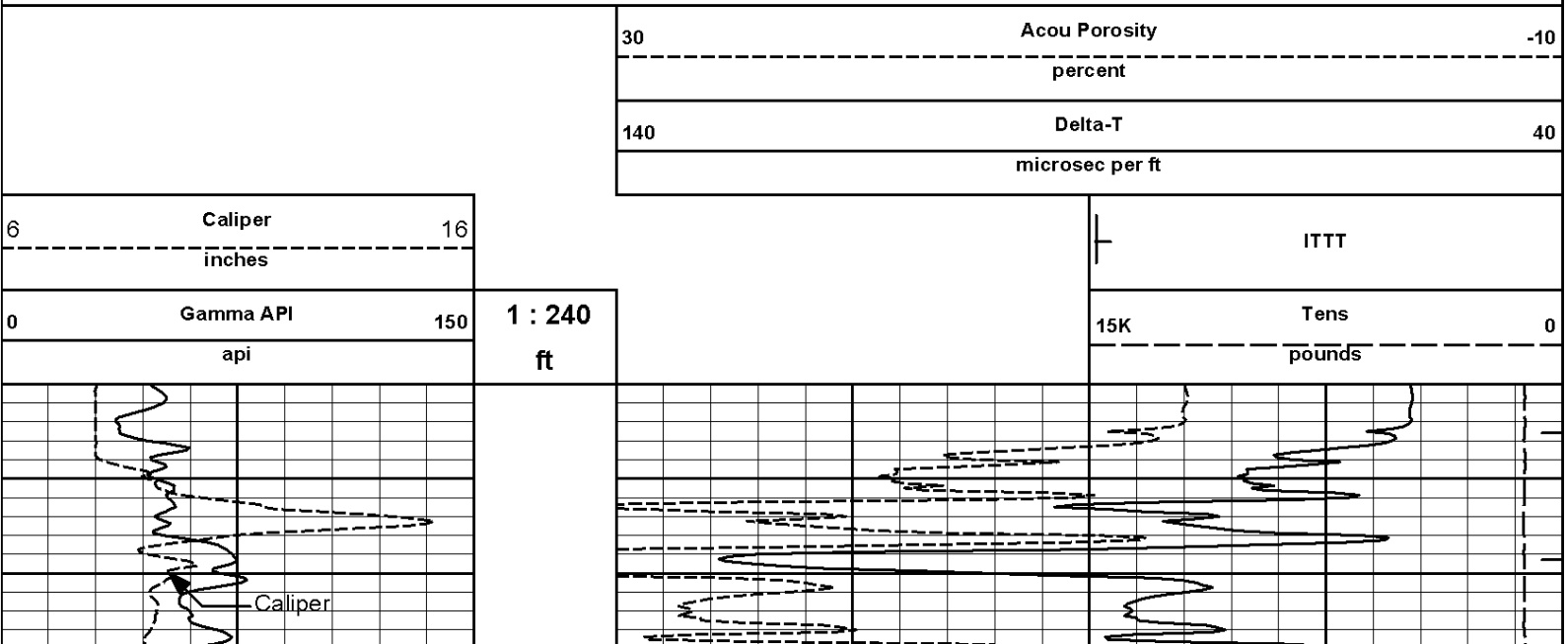
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	api		ft		
6	Caliper	16	30	Acou Porosity	-10
	inches			percent	
			140	Delta-T	40
				microsec per ft	

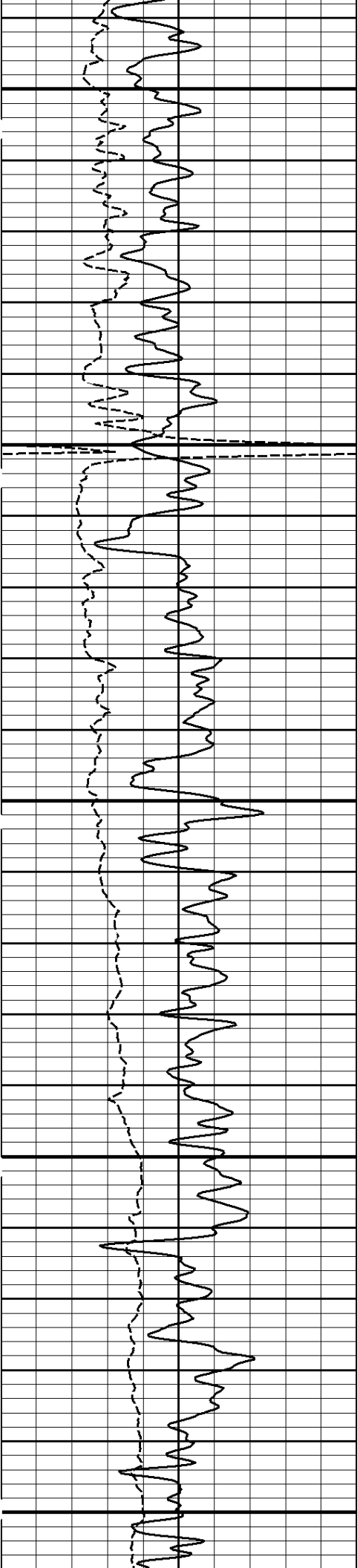
HALLIBURTON Plot Time: 18-Oct-16 20:35:37
Plot Range: 1660 ft to 6273.5 ft
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Plot File: \\BSAT\1_BSAT_2inx

2 INCH MAIN LOG

HALLIBURTON Plot Time: 18-Oct-16 20:35:37
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Plot File: \\BSAT\1_BSAT_5_mainx

5 INCH MAIN LOG

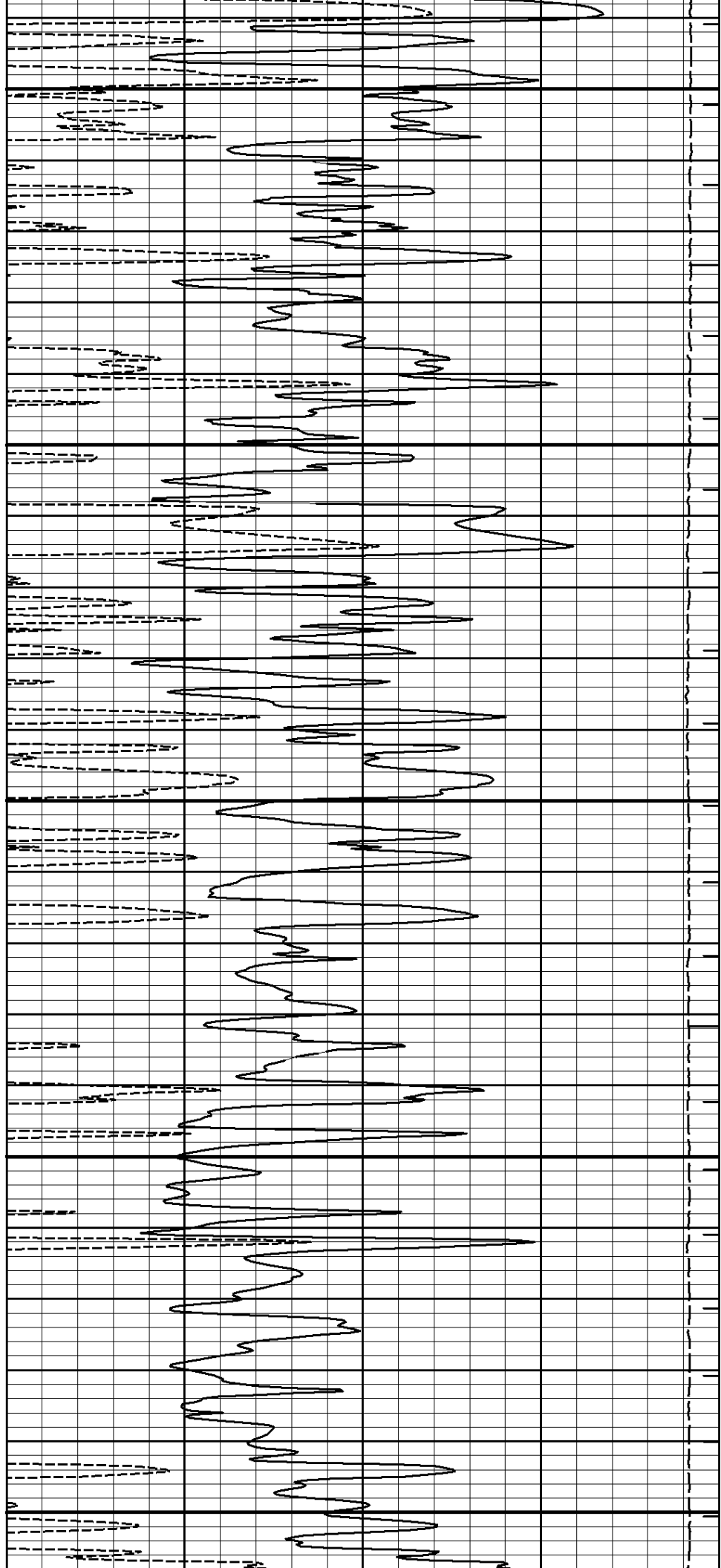


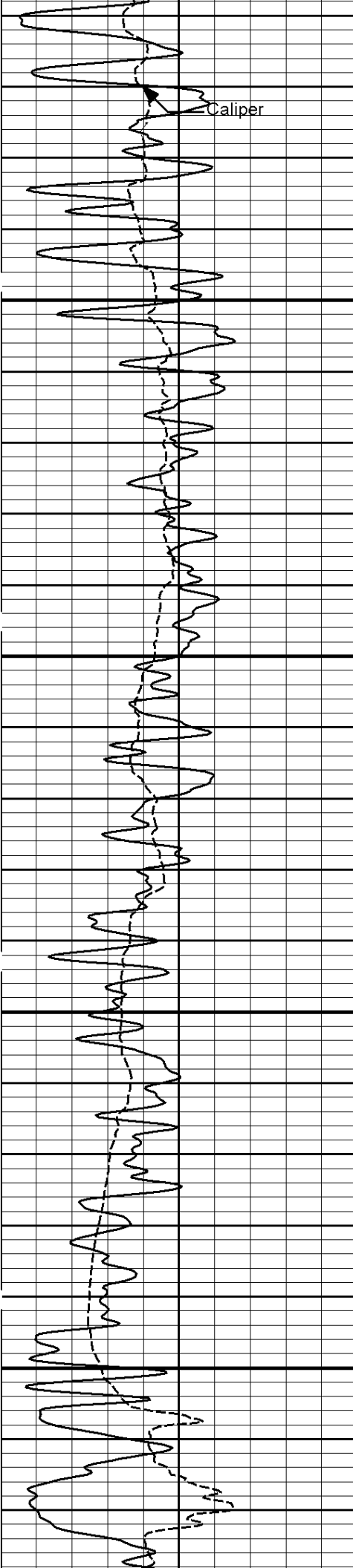


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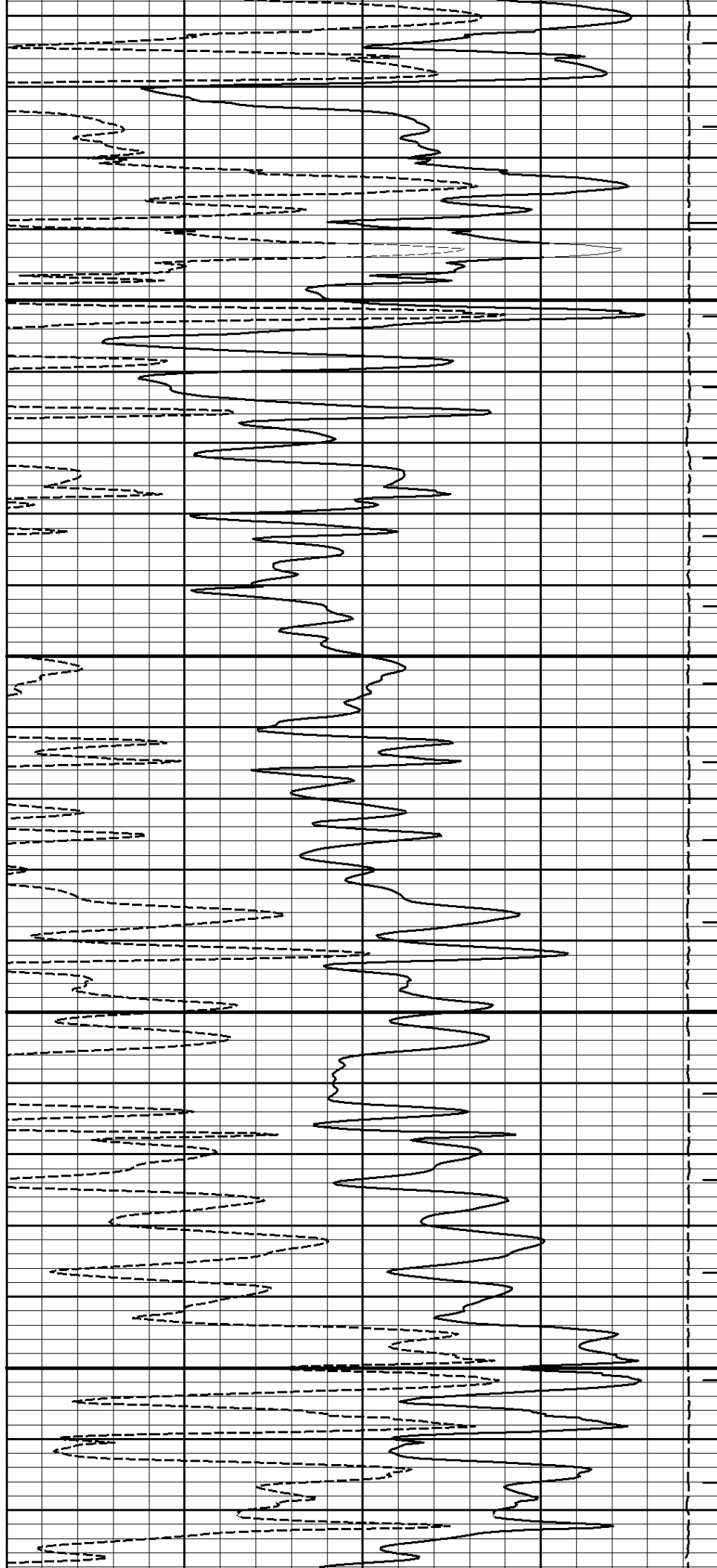
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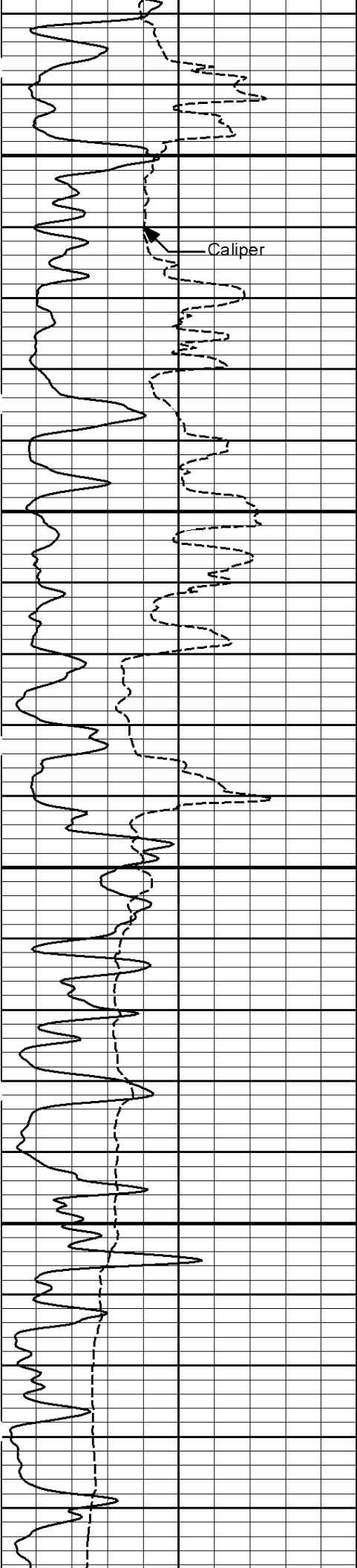




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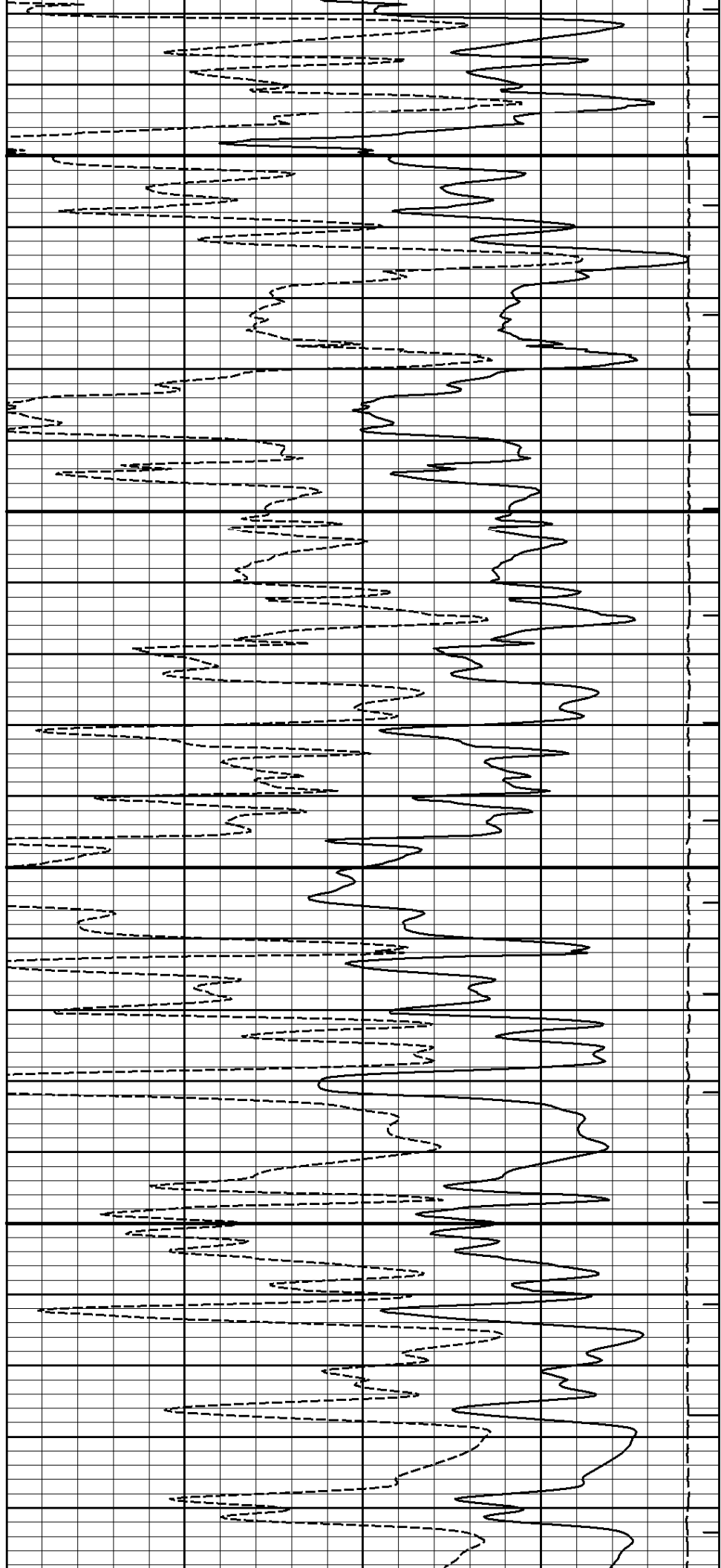
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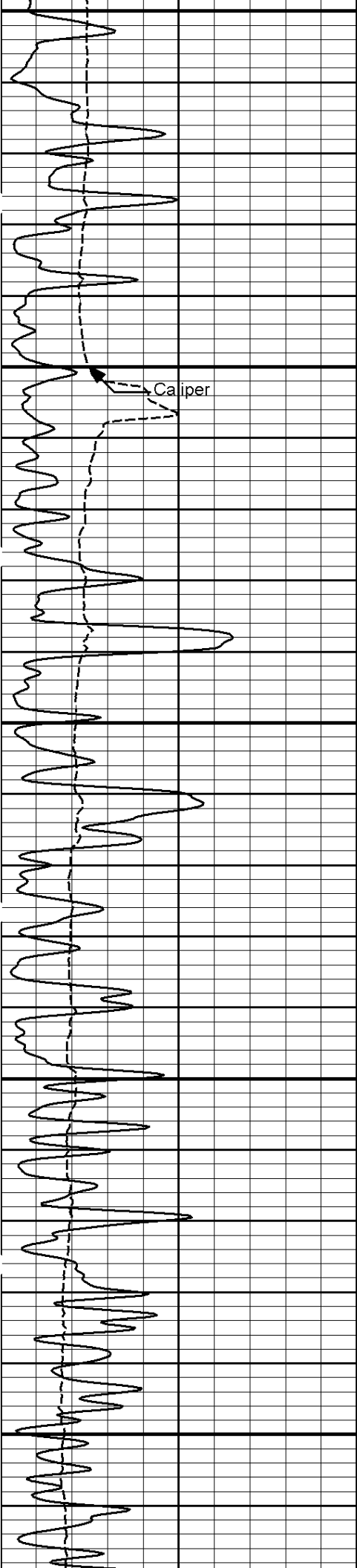




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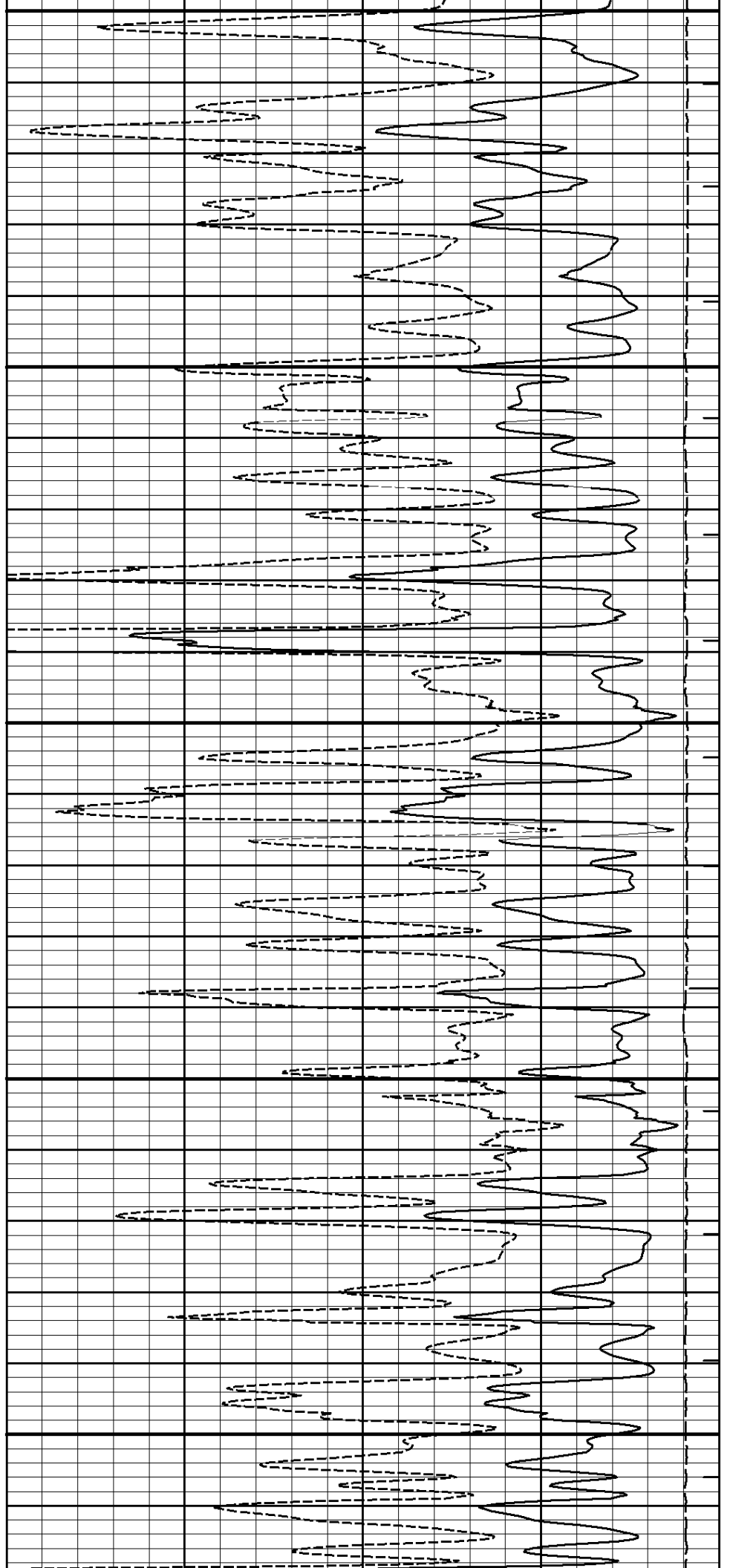
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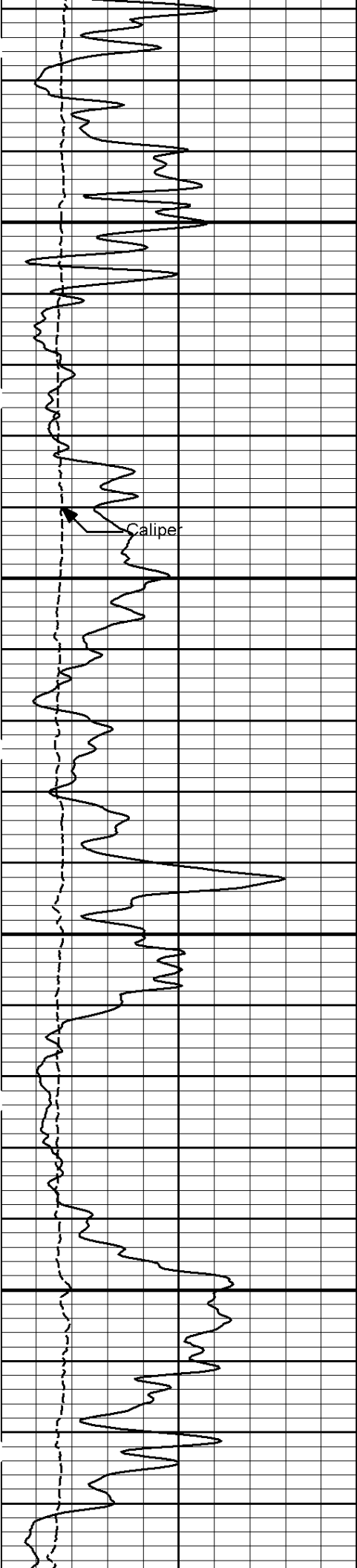




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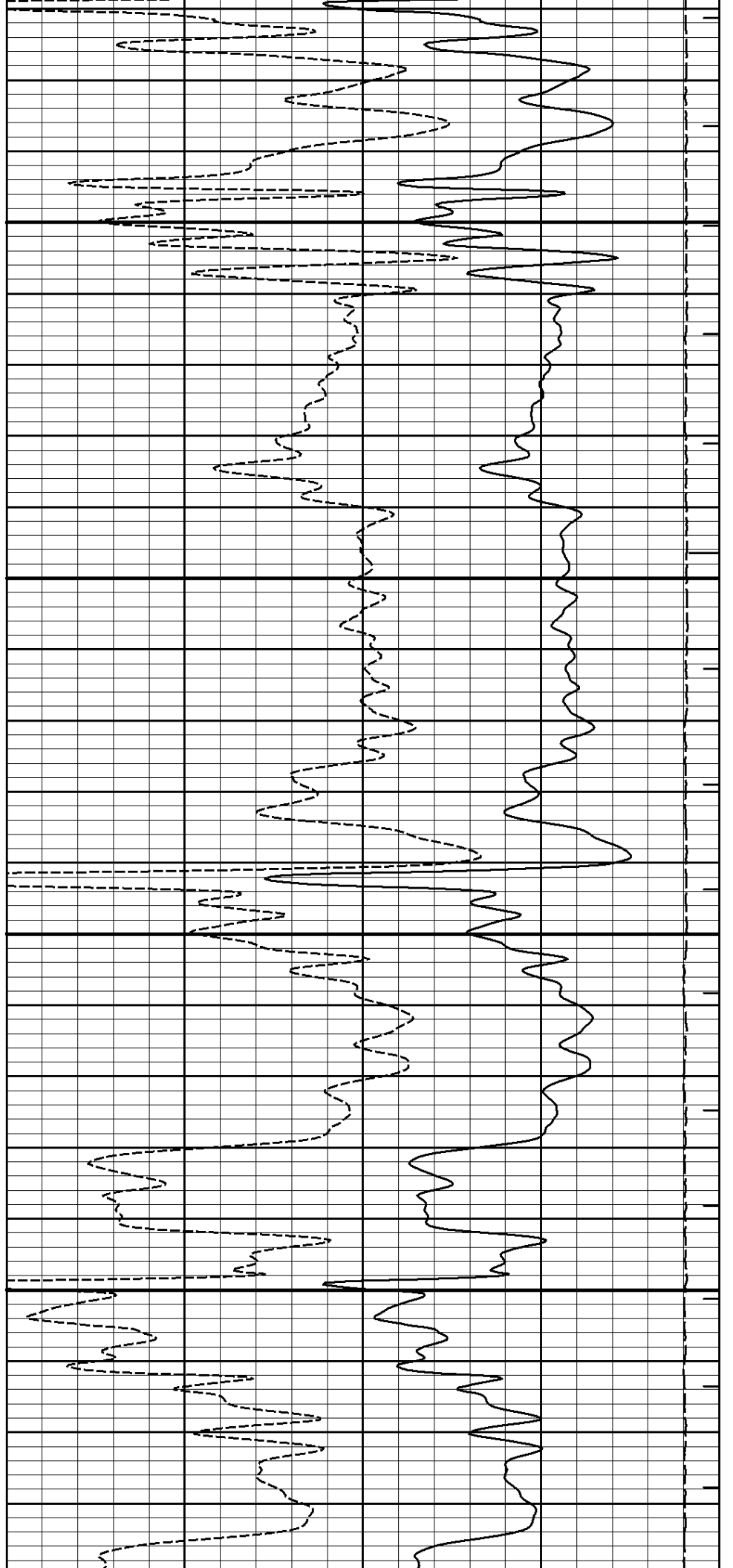
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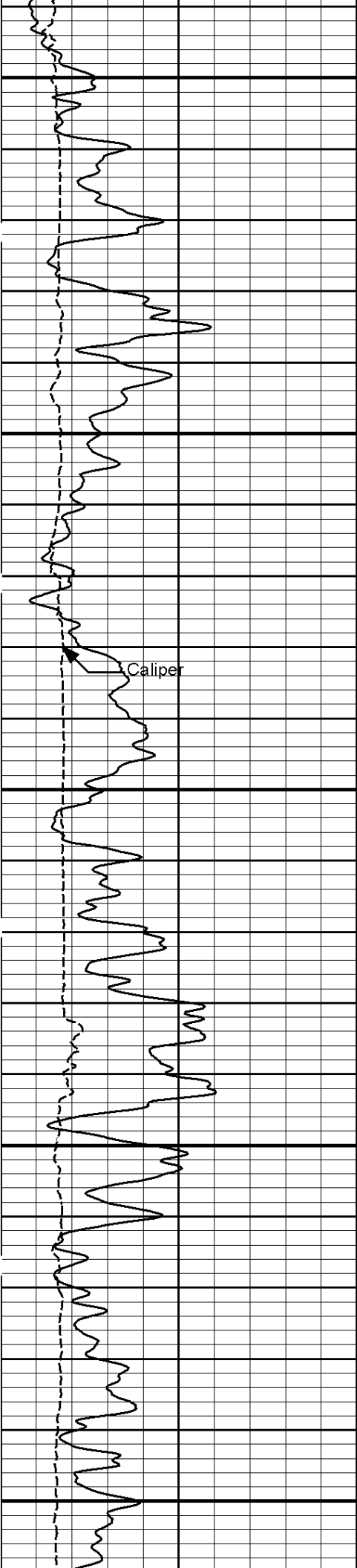




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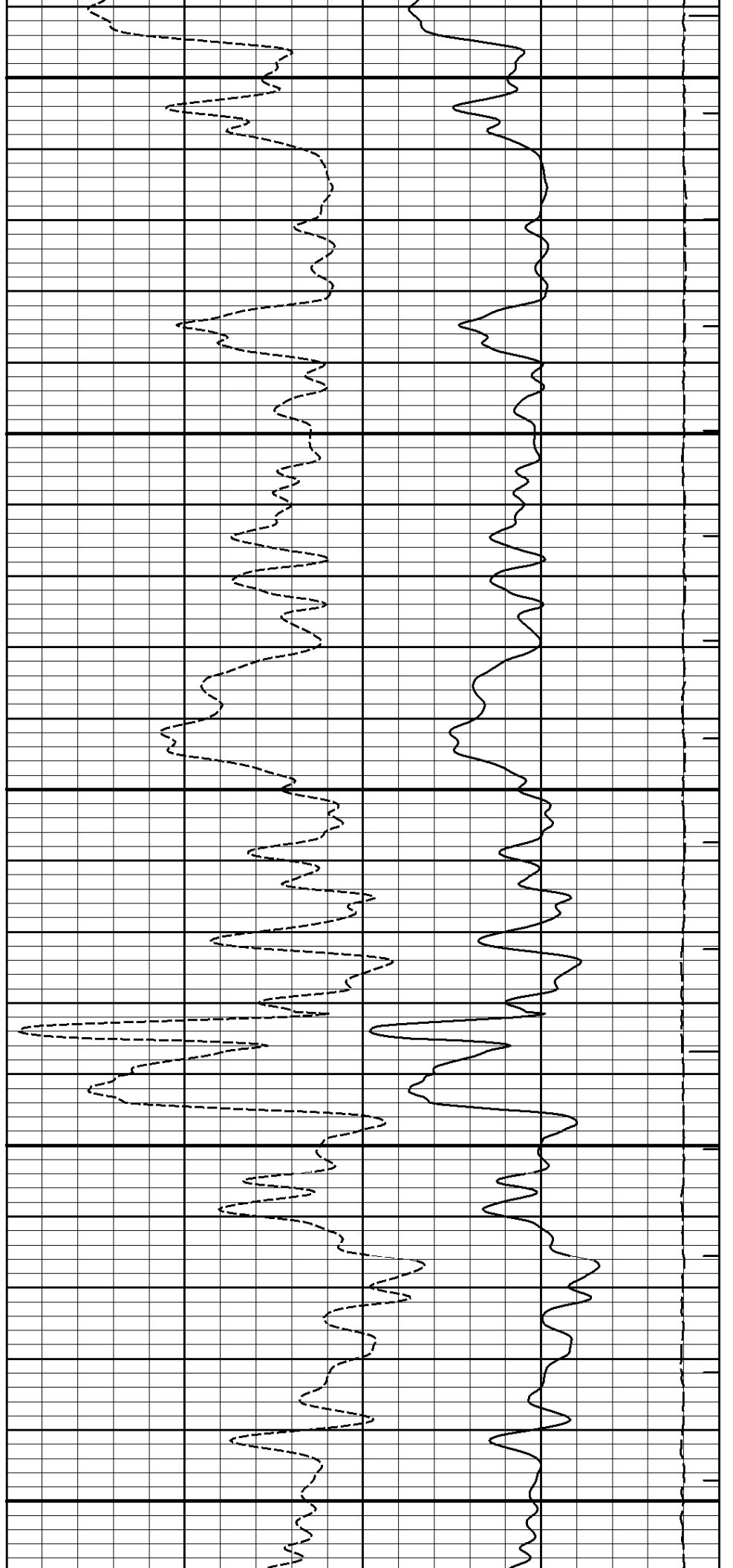


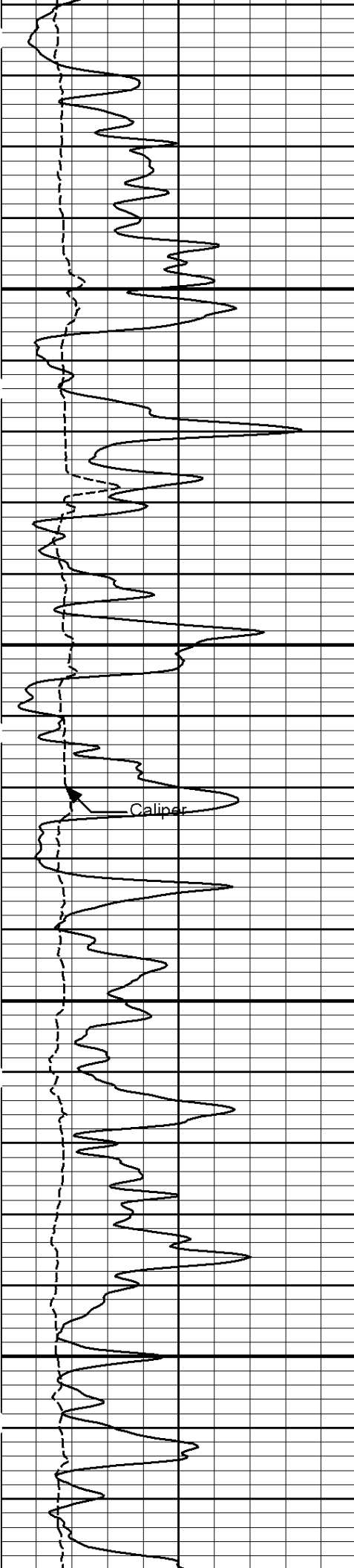


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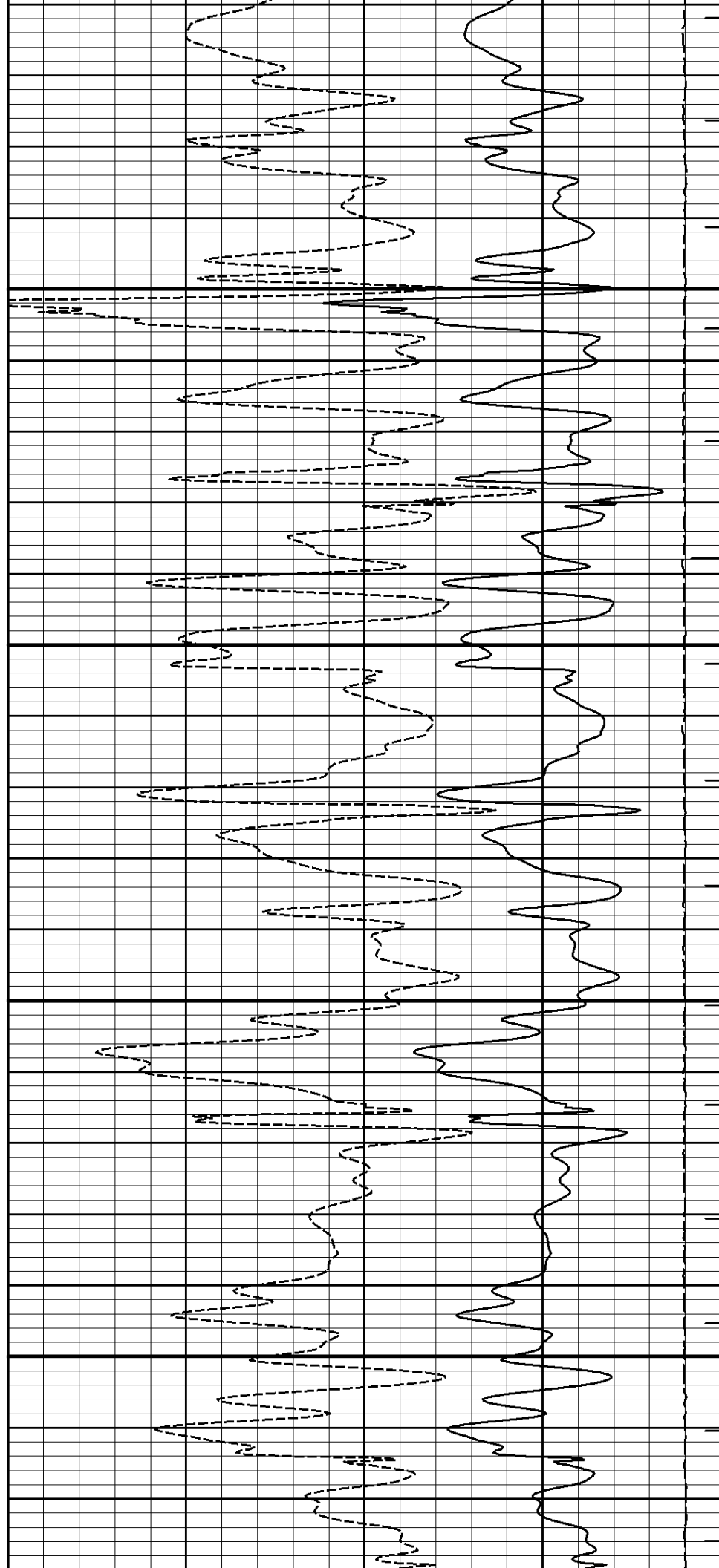
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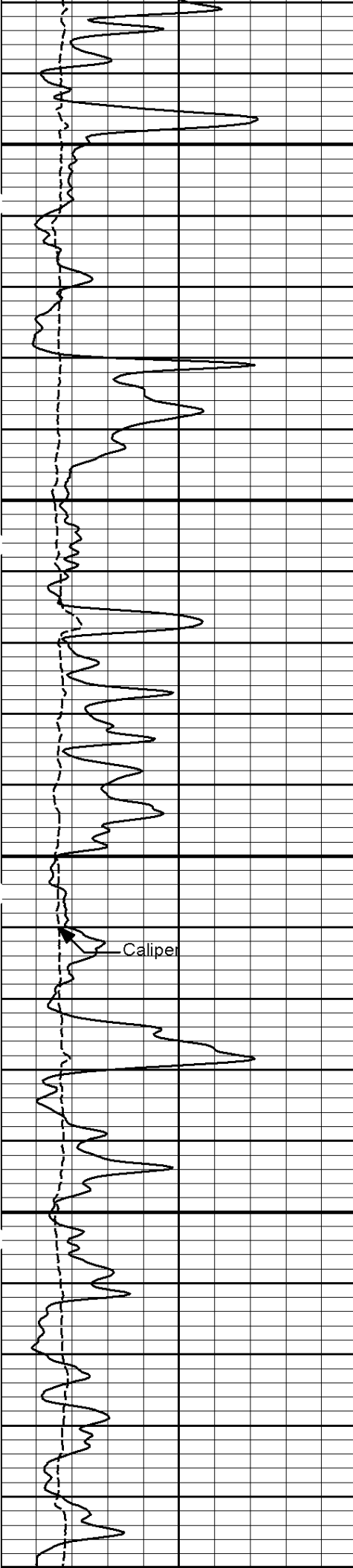




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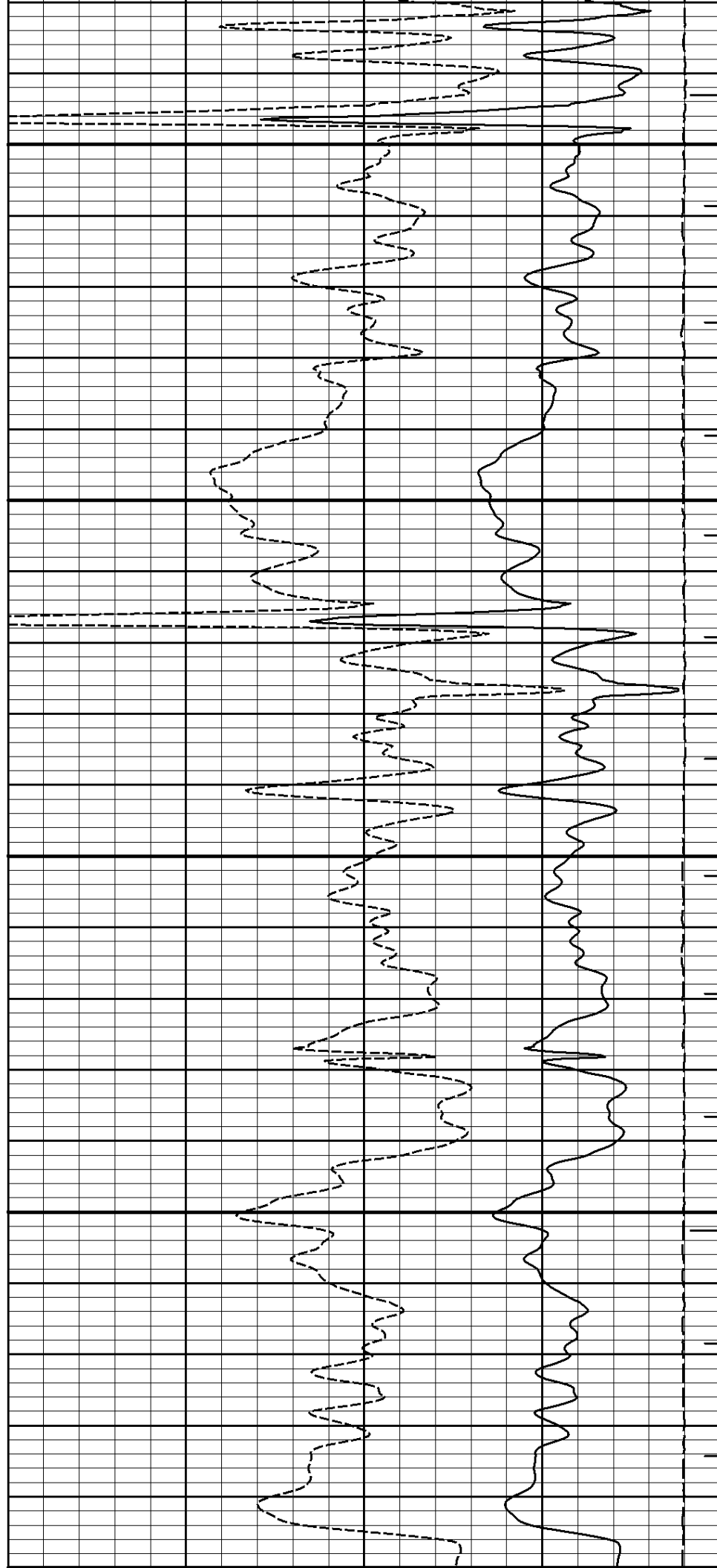
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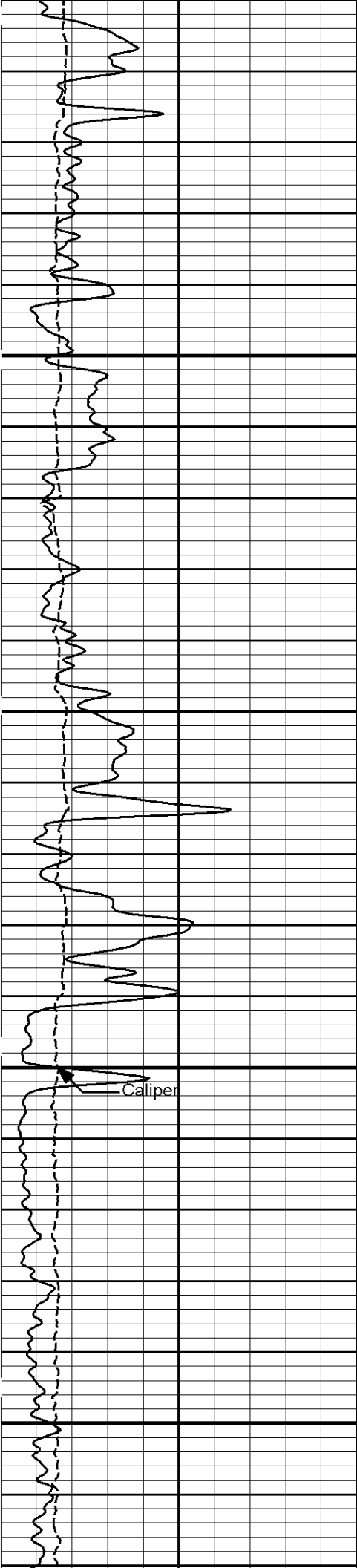




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3400

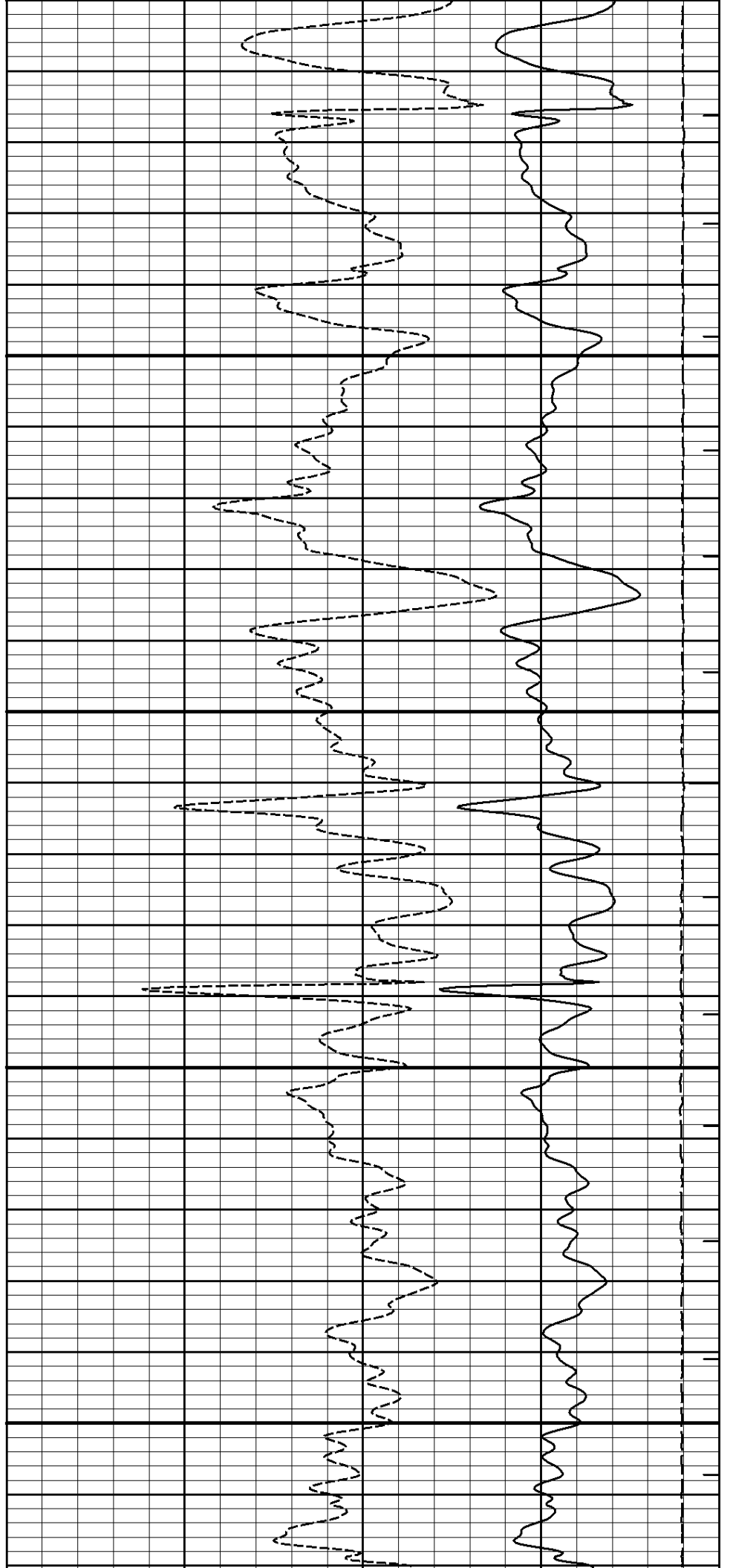


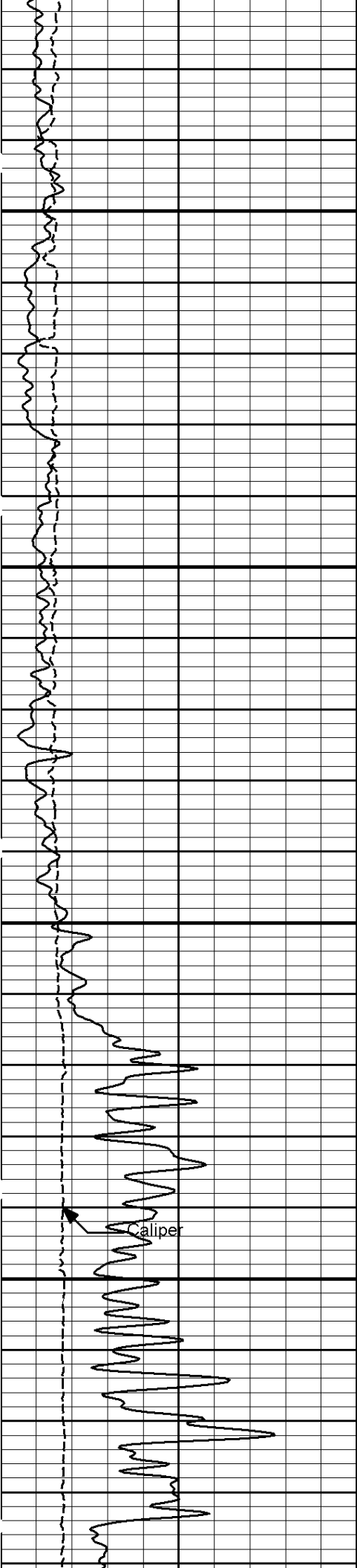


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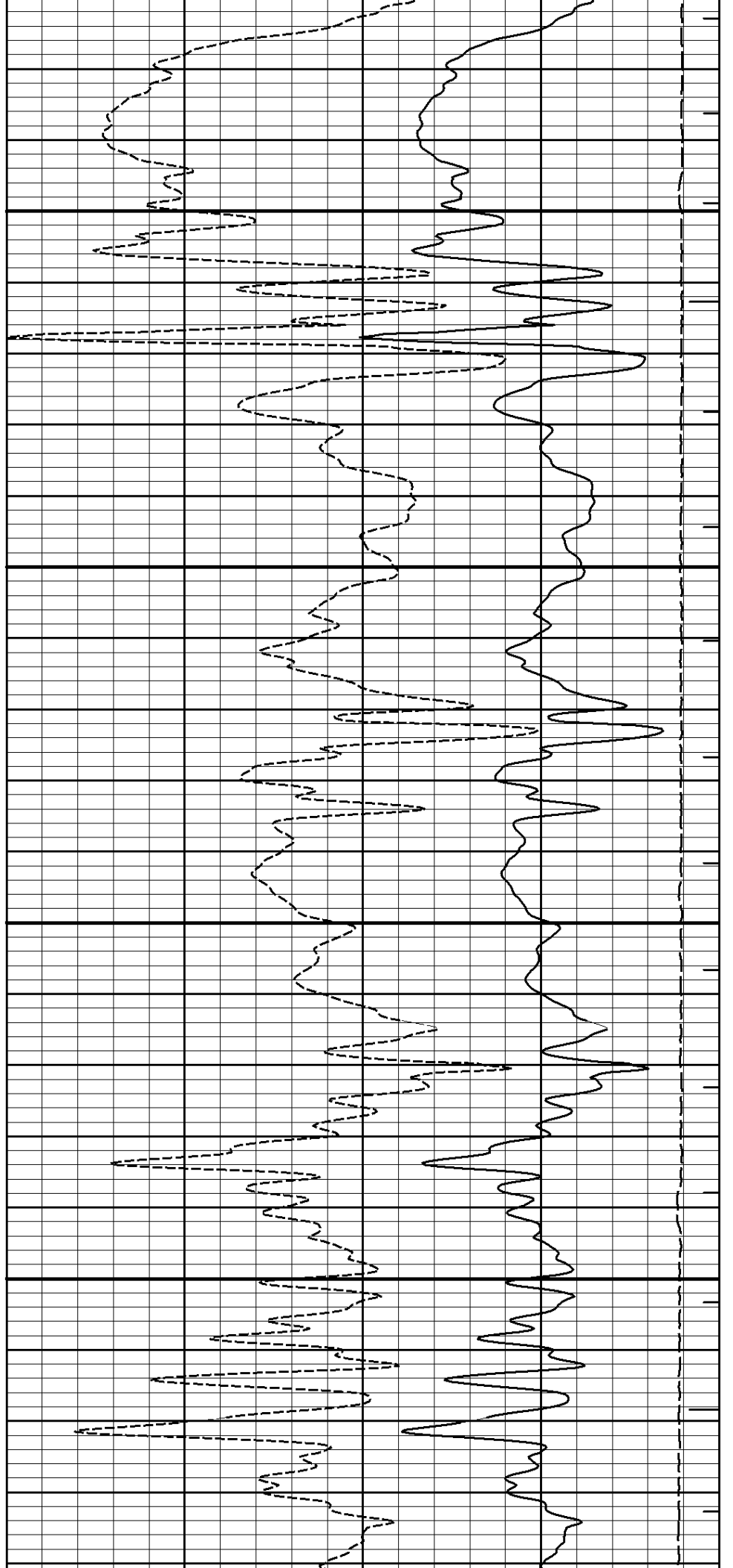
Caliper

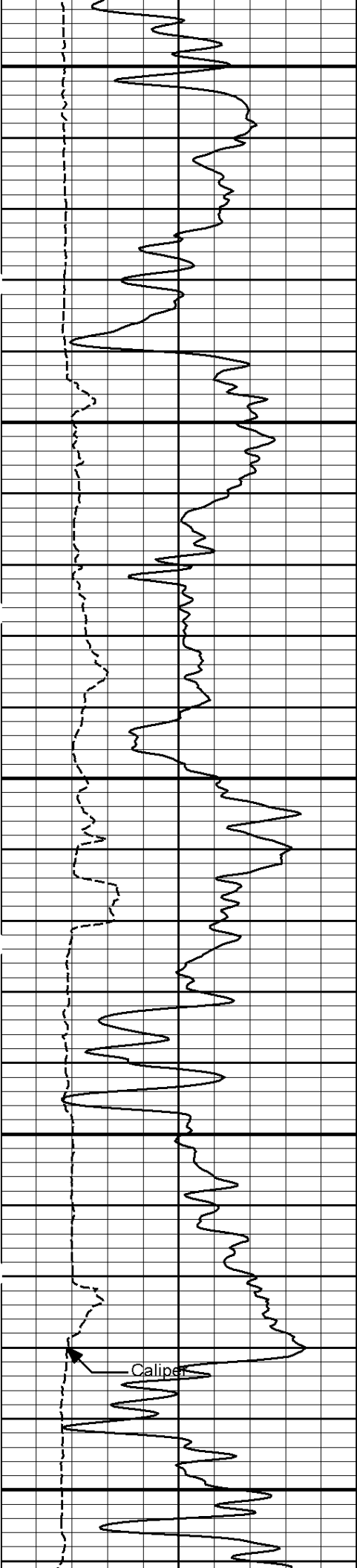




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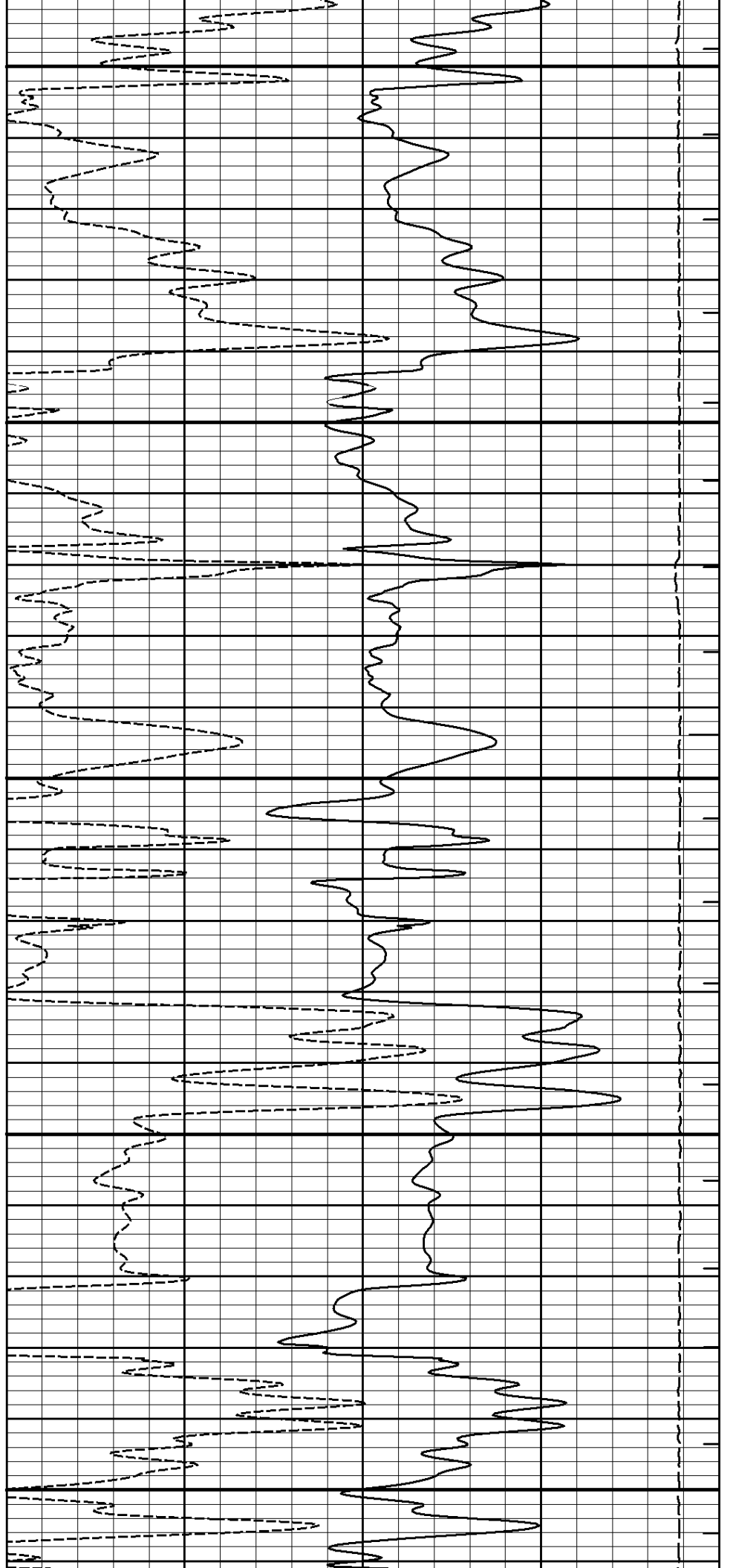


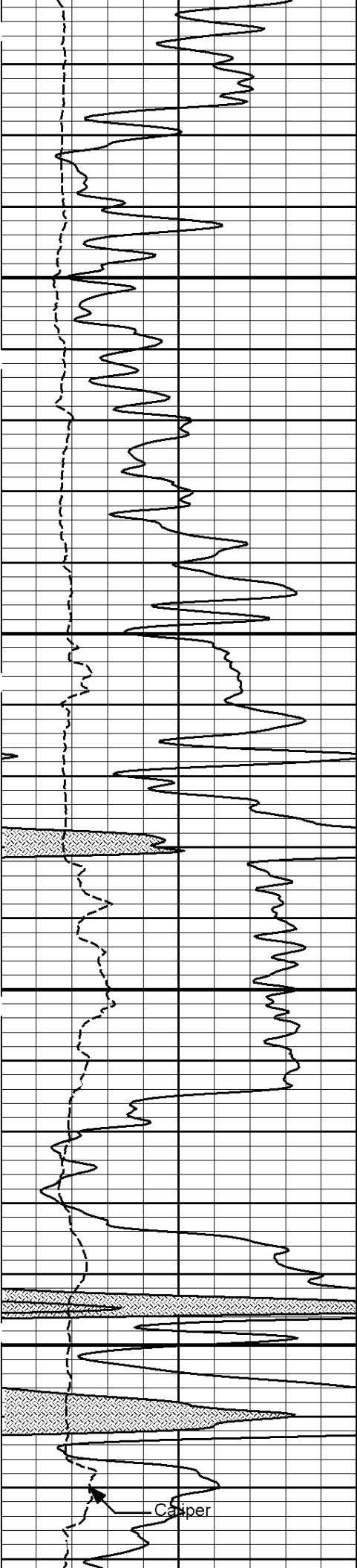


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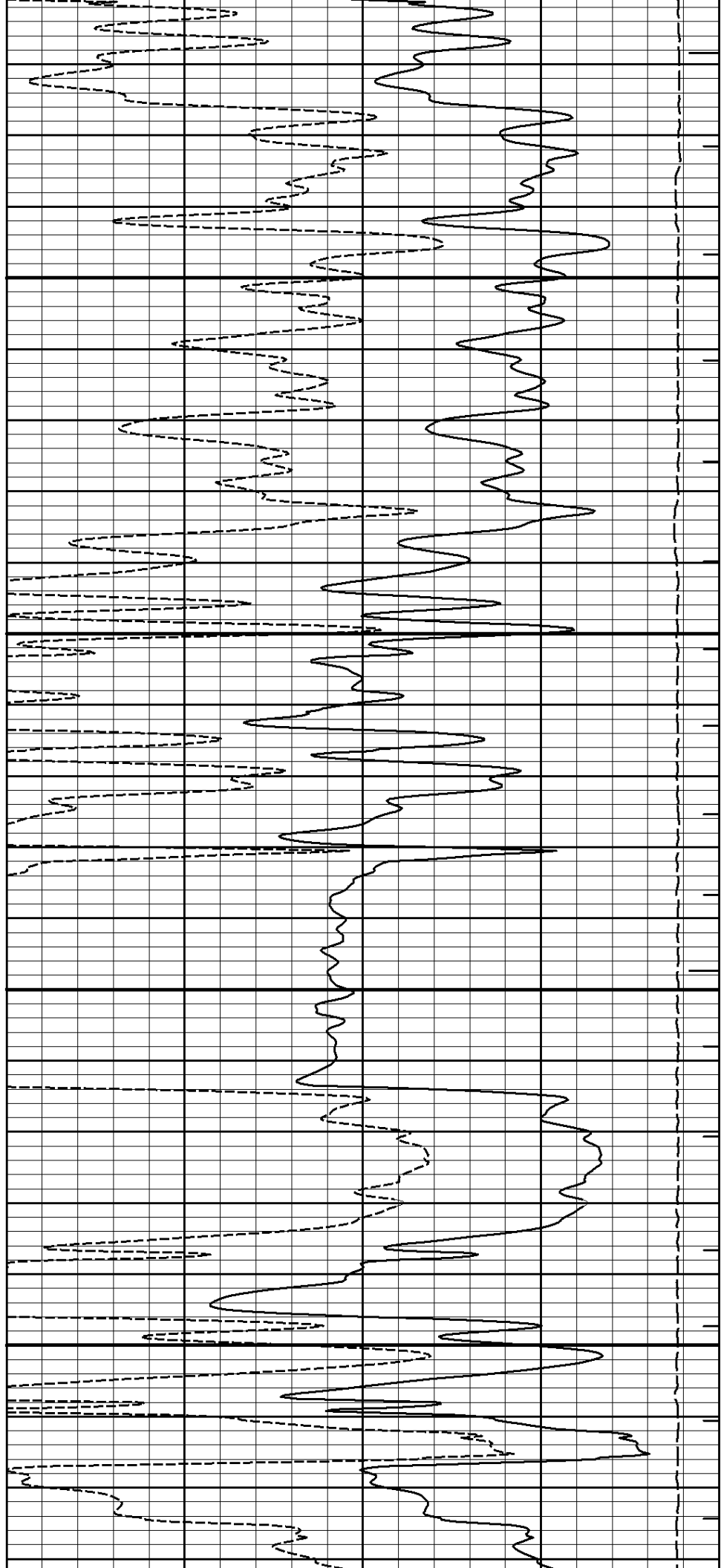
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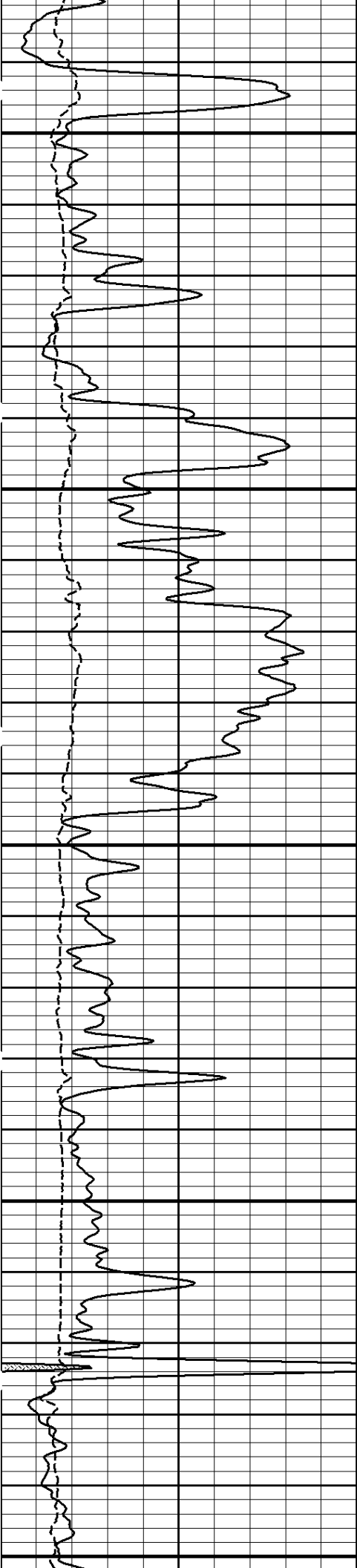




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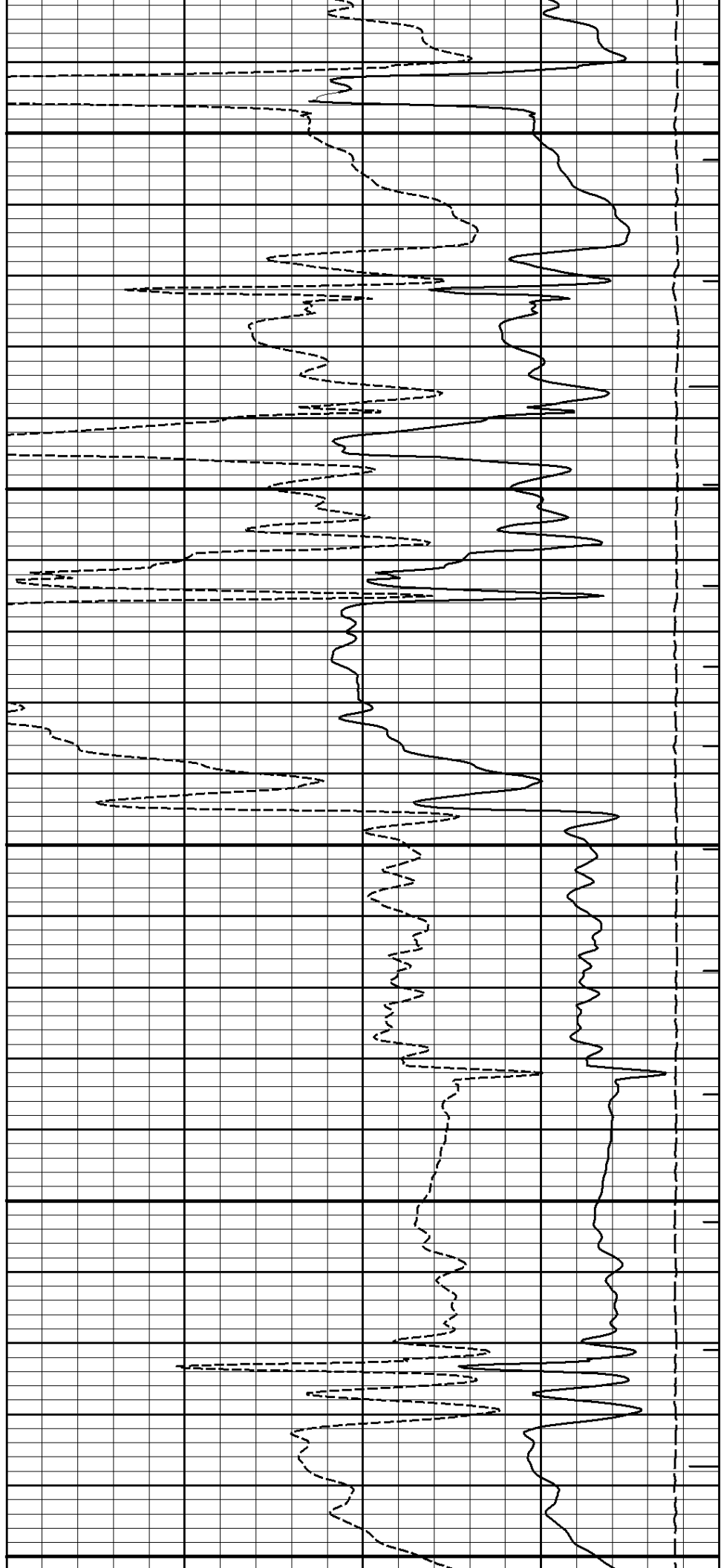
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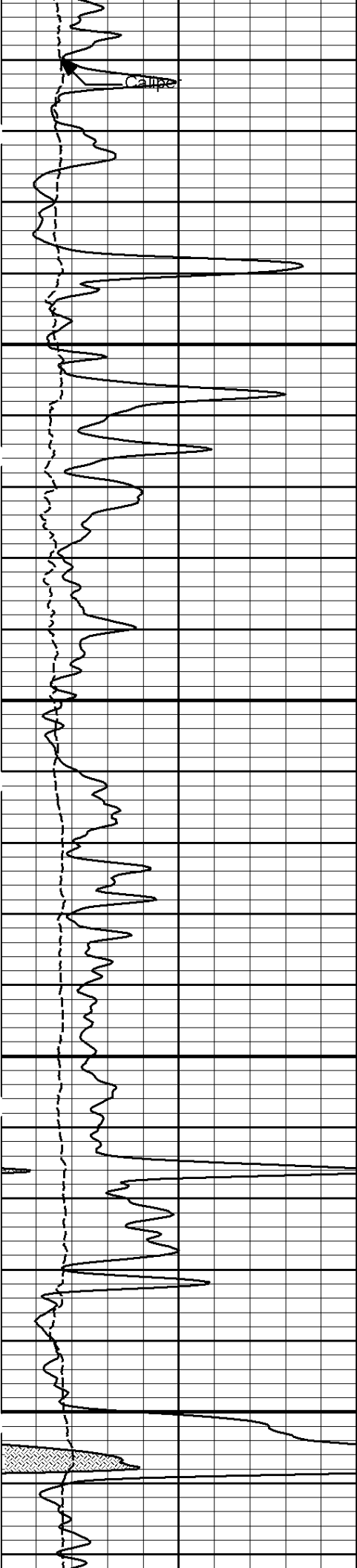




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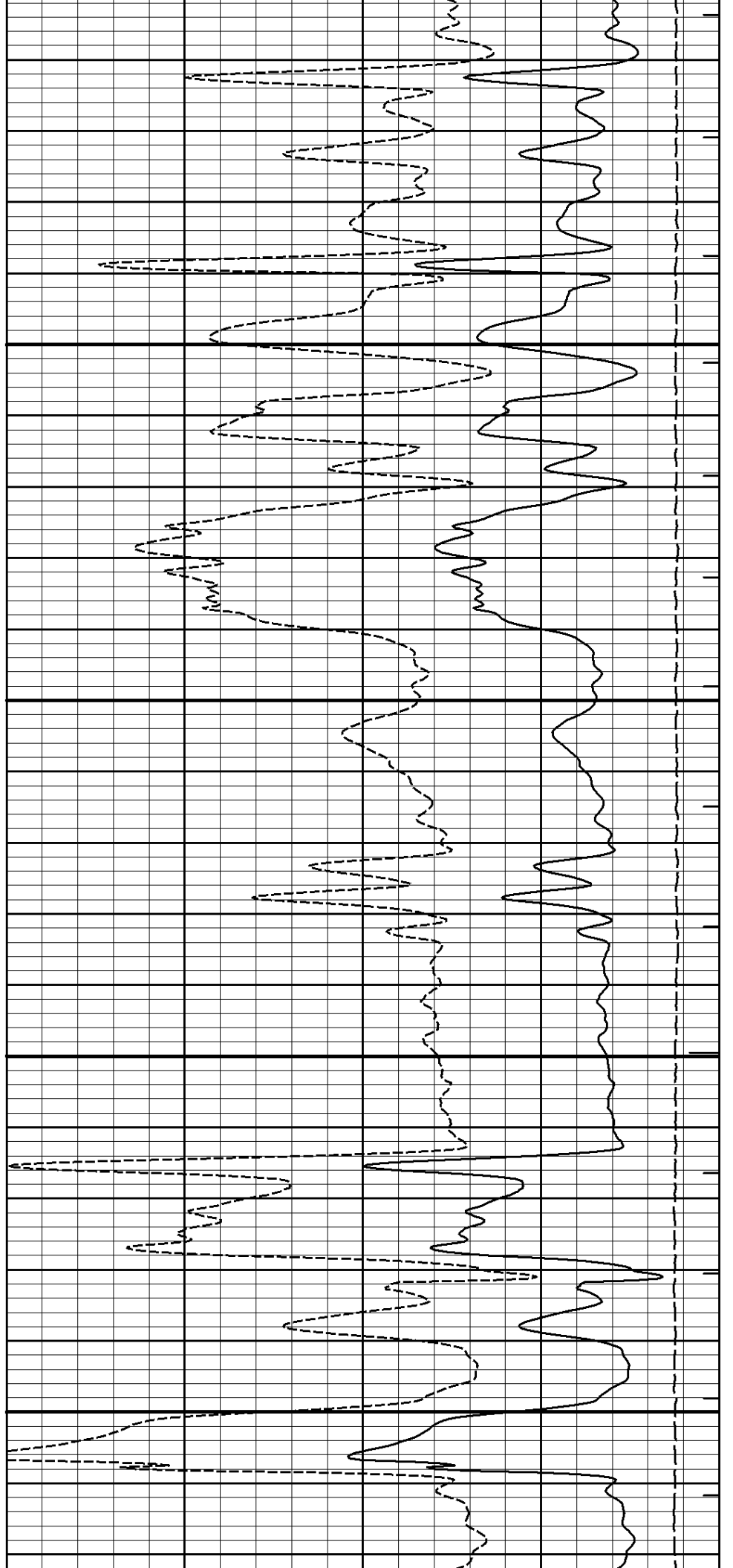
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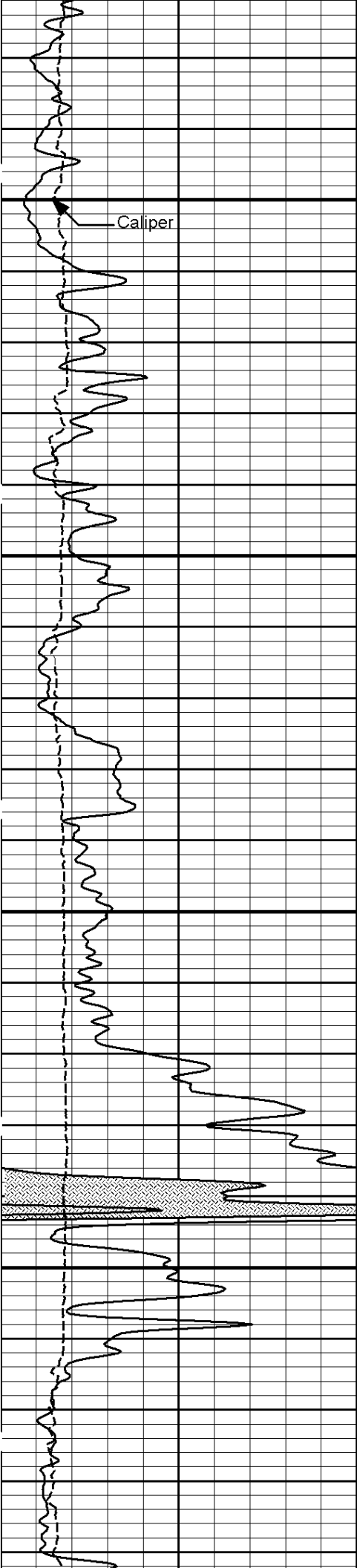




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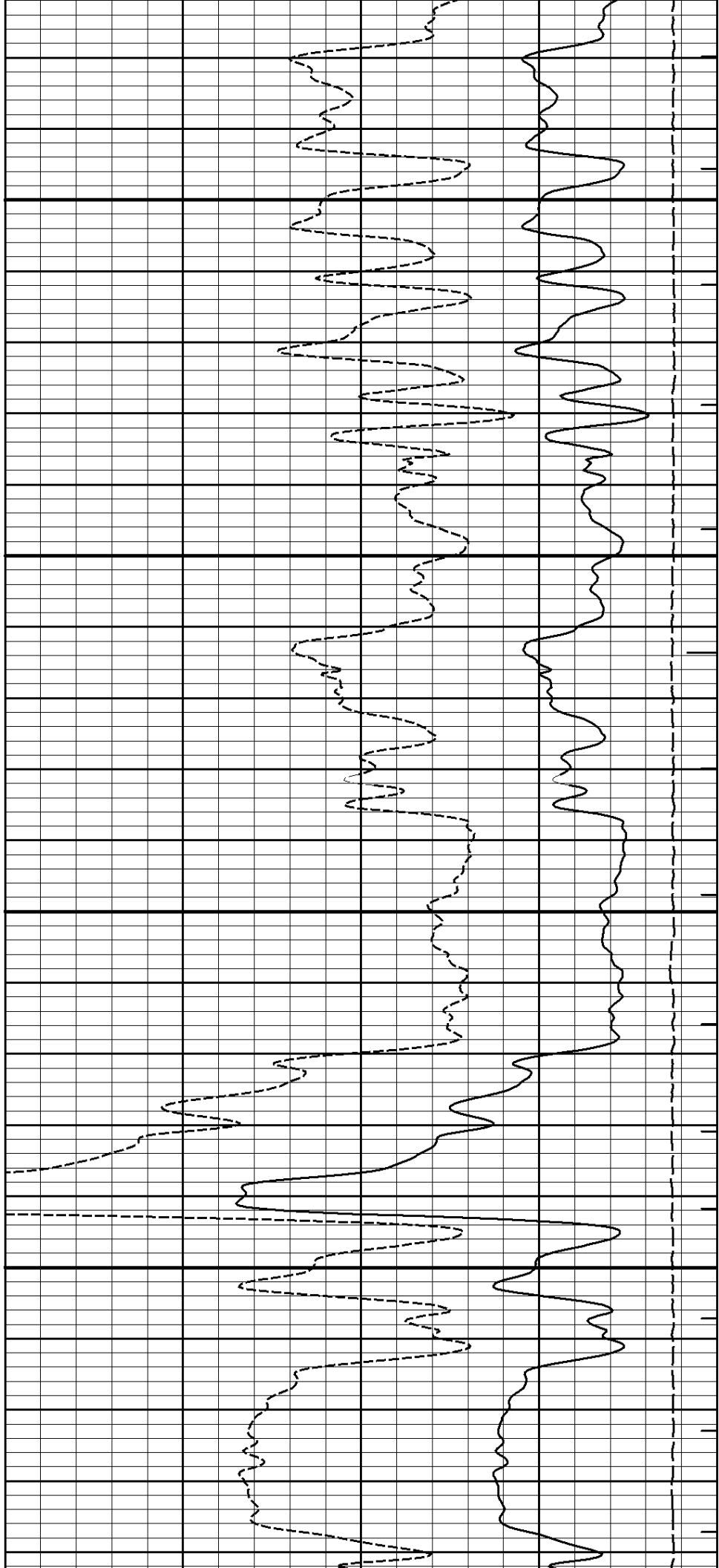
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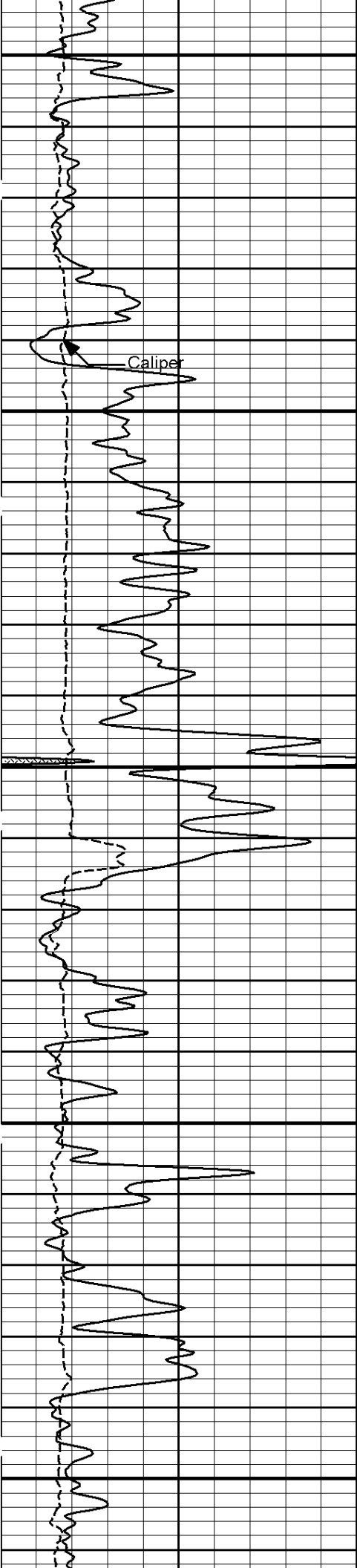




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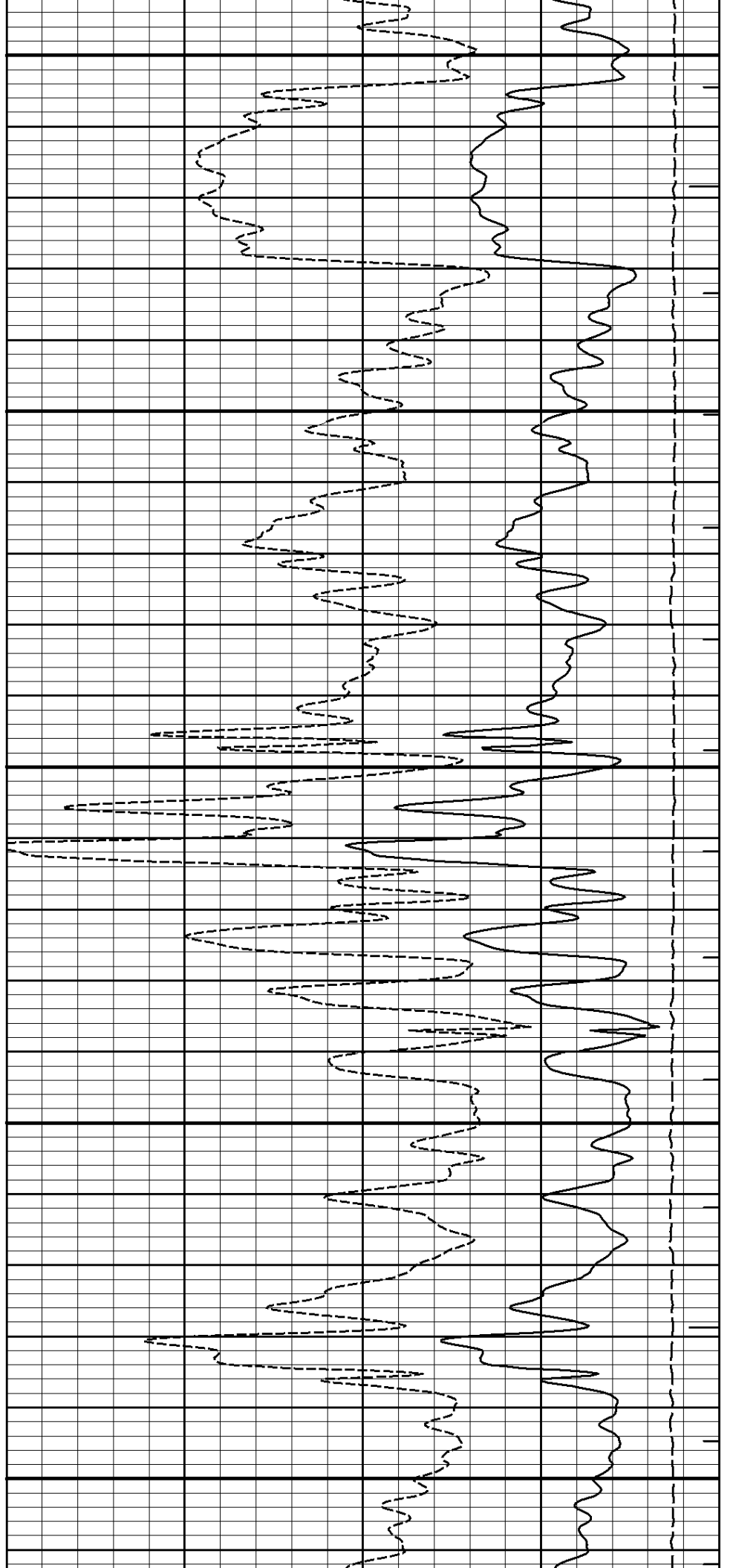


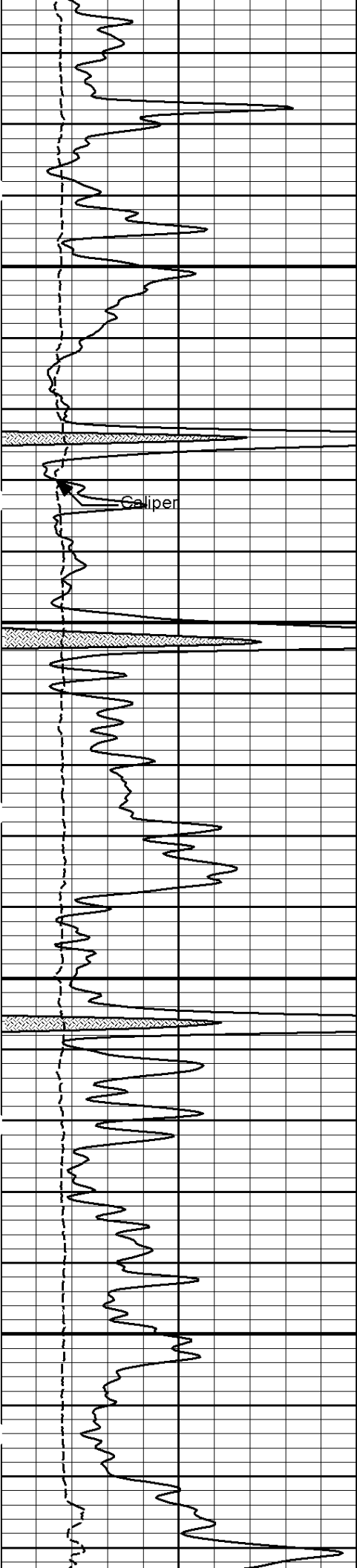


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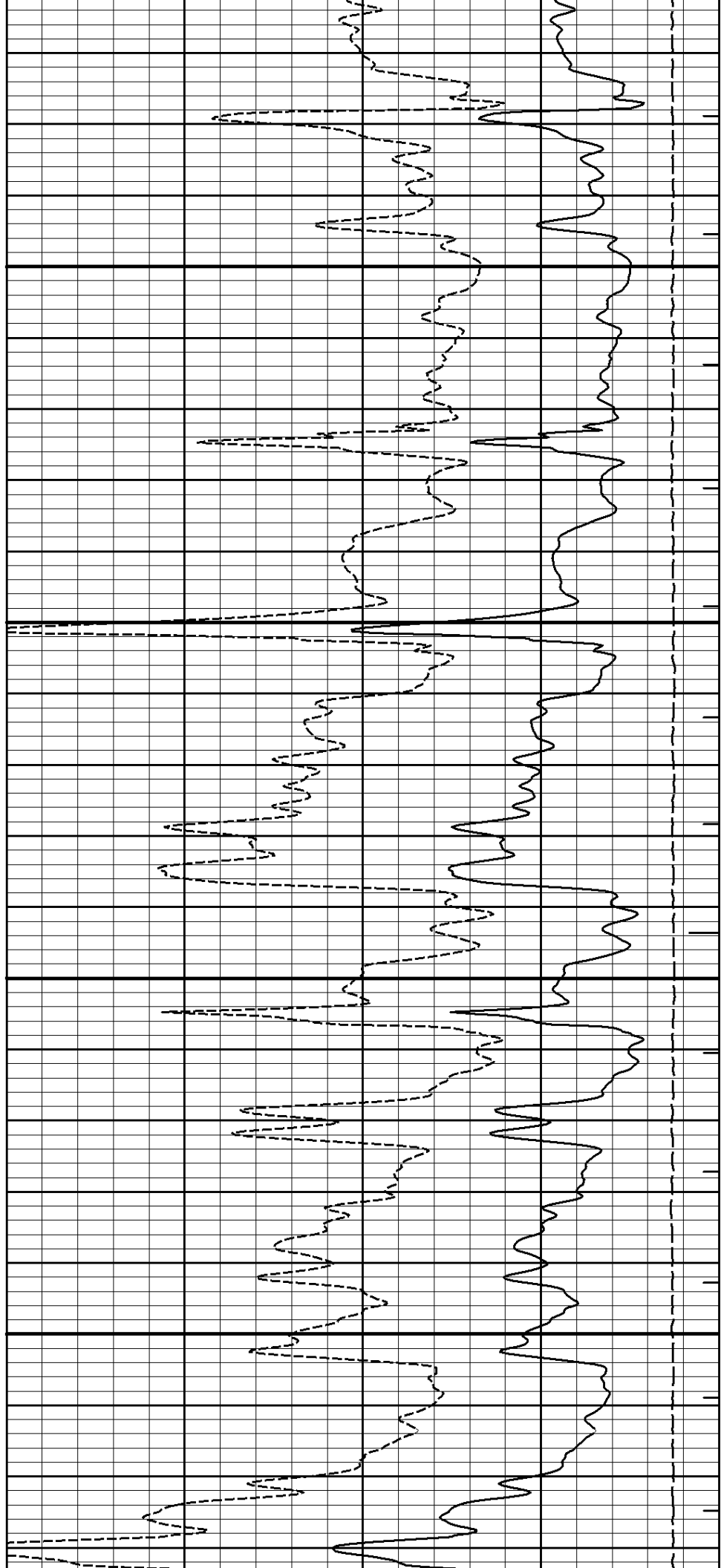
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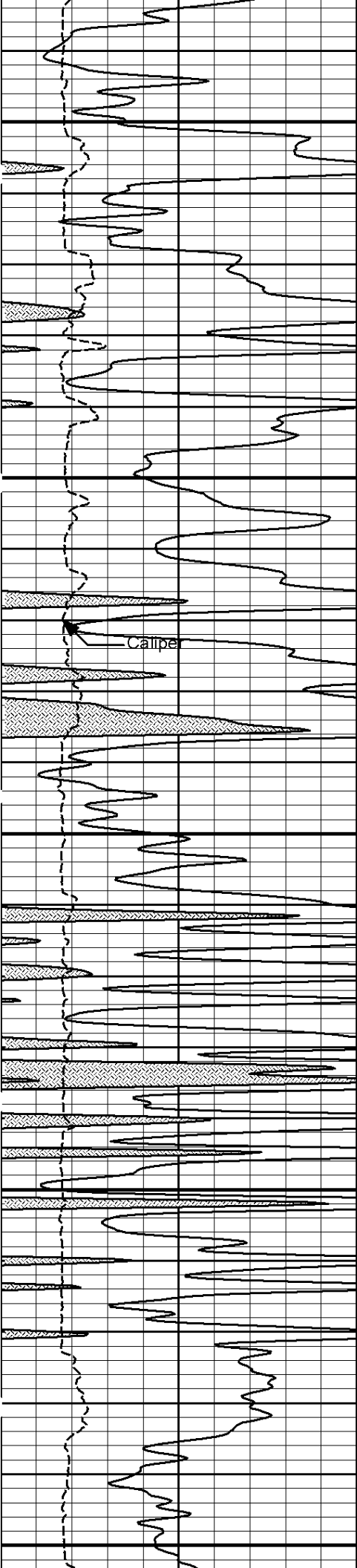




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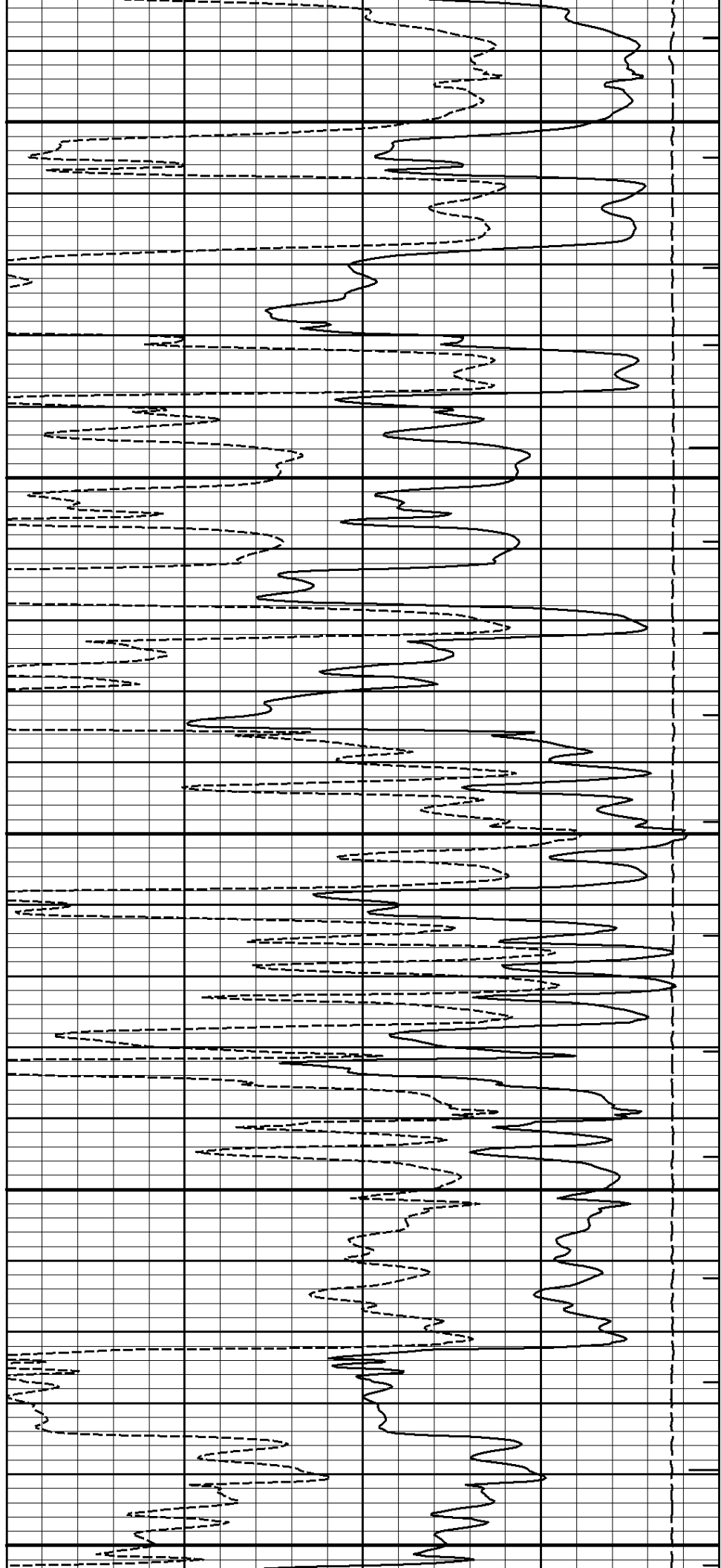
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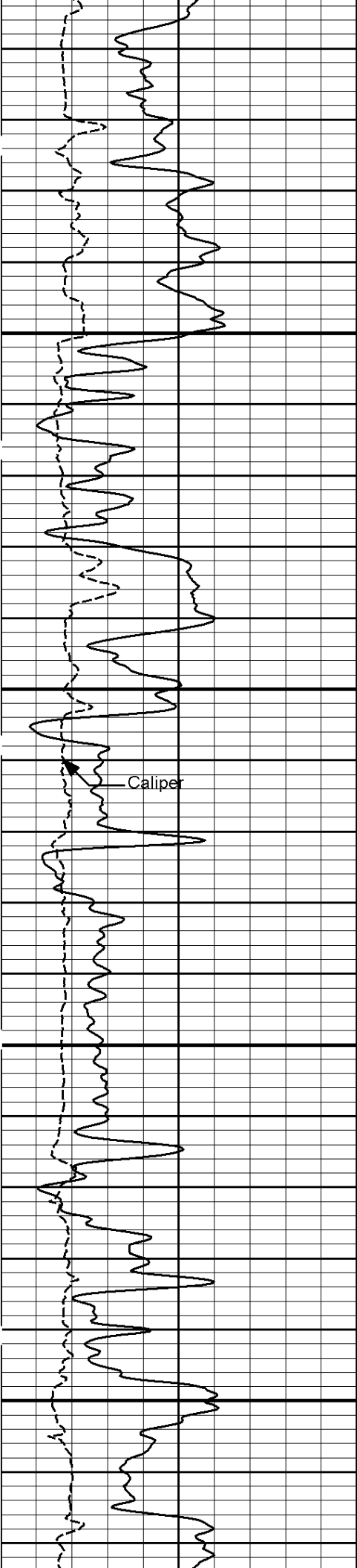




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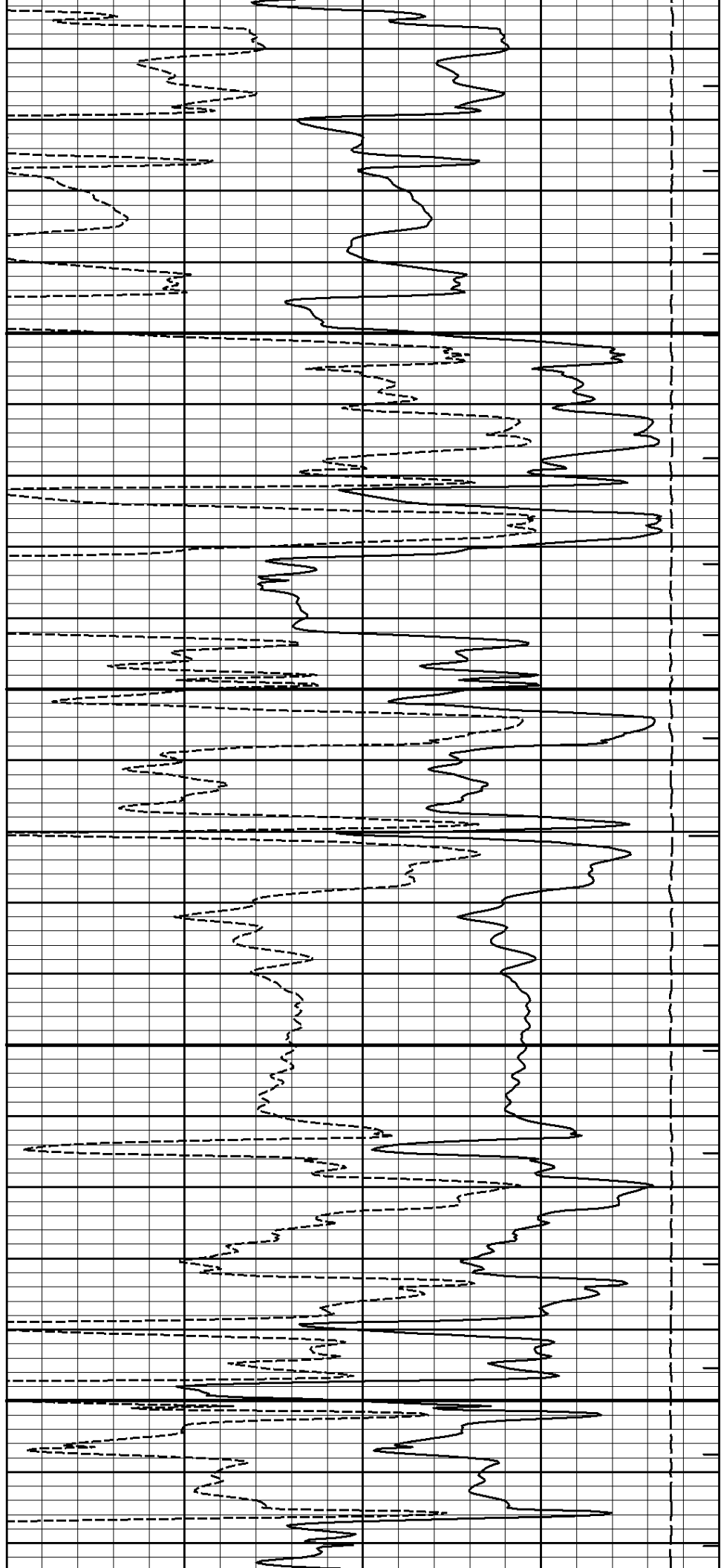
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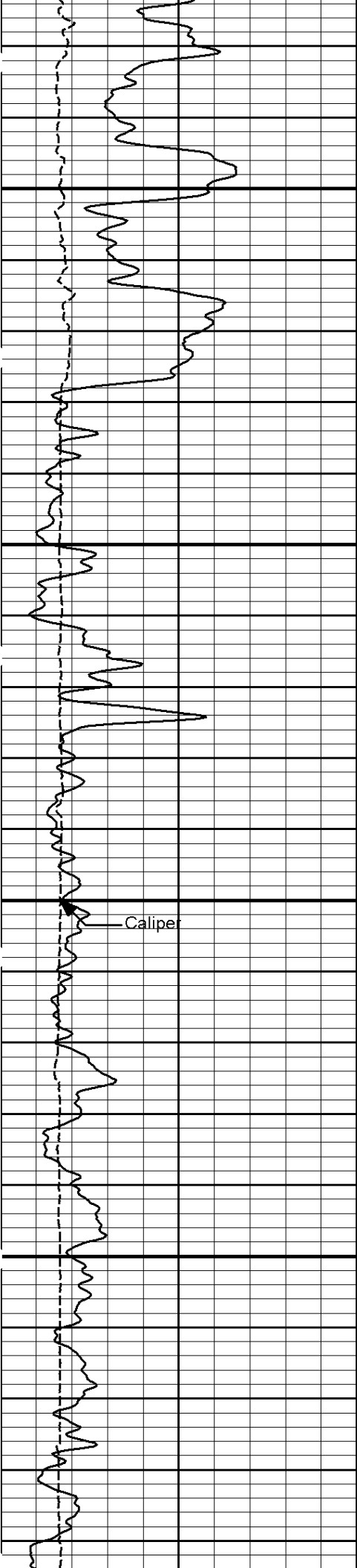




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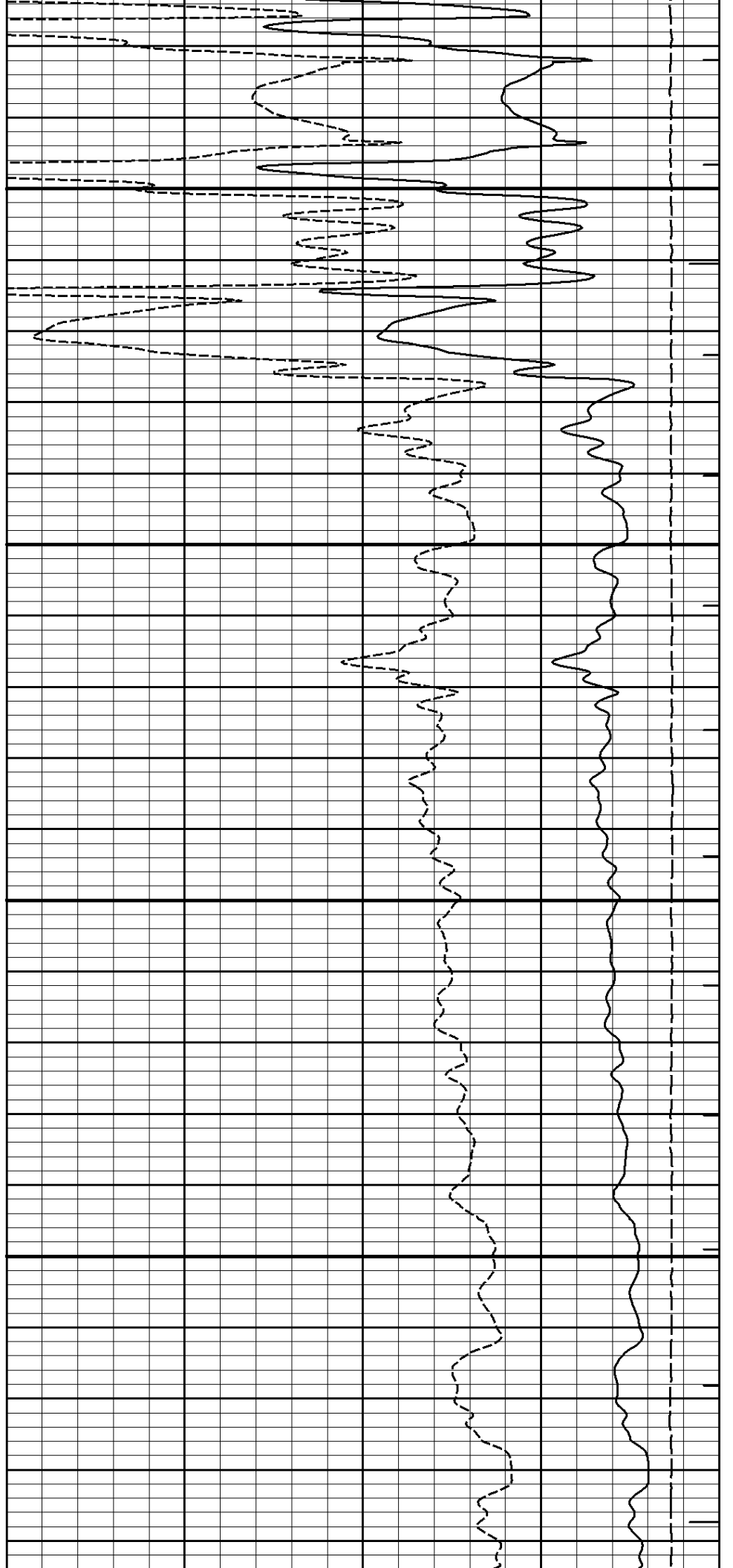
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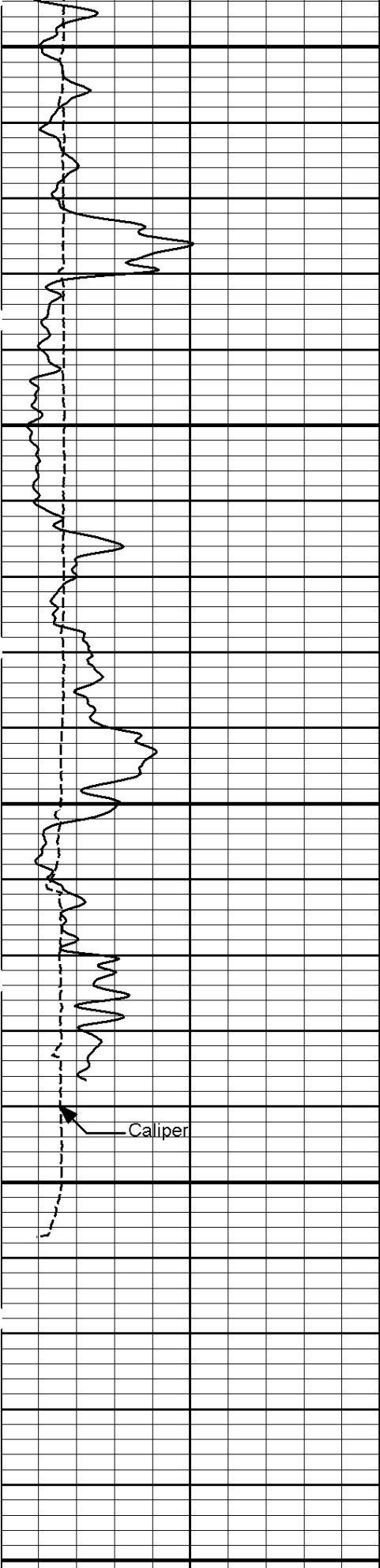




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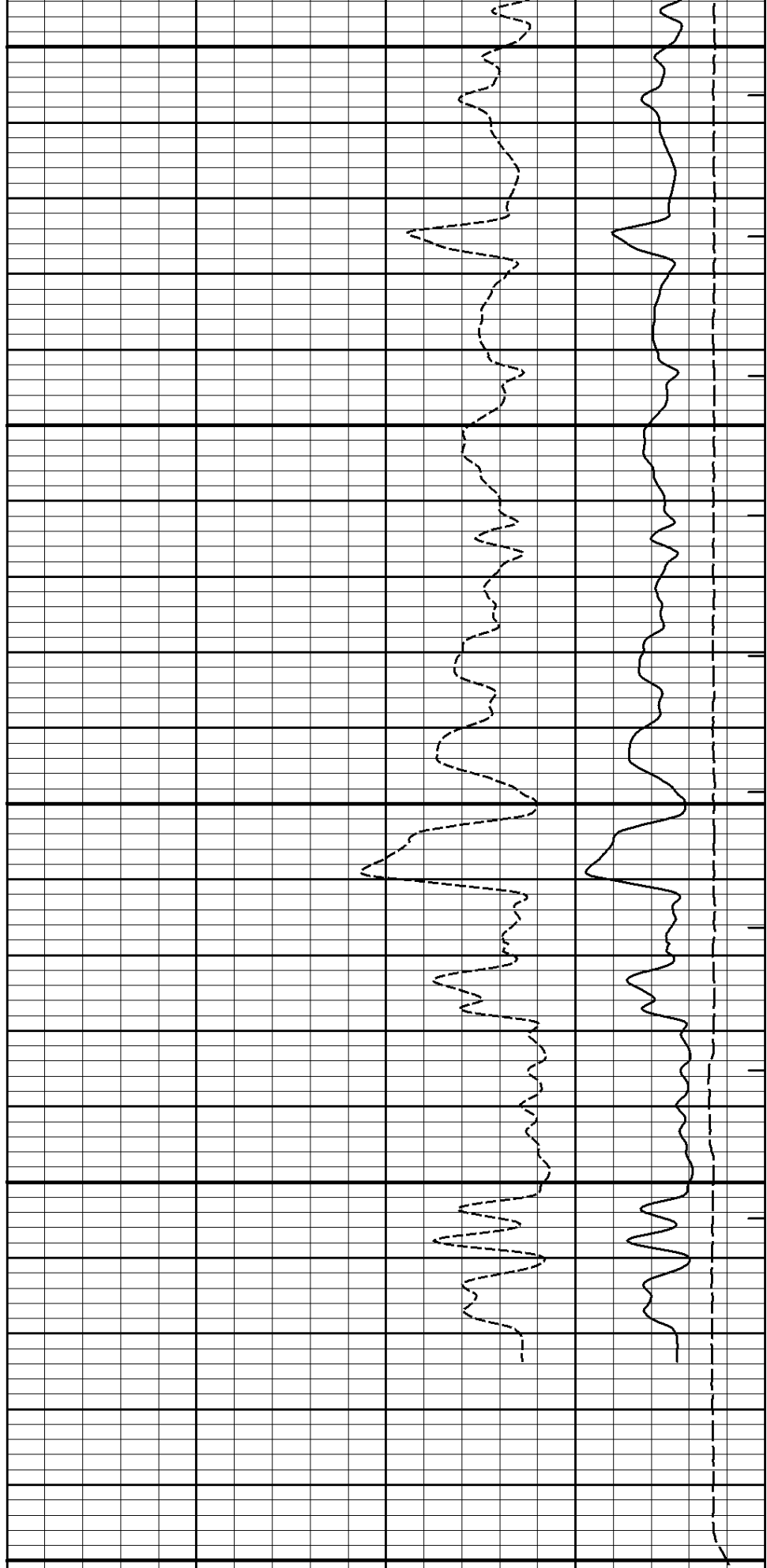
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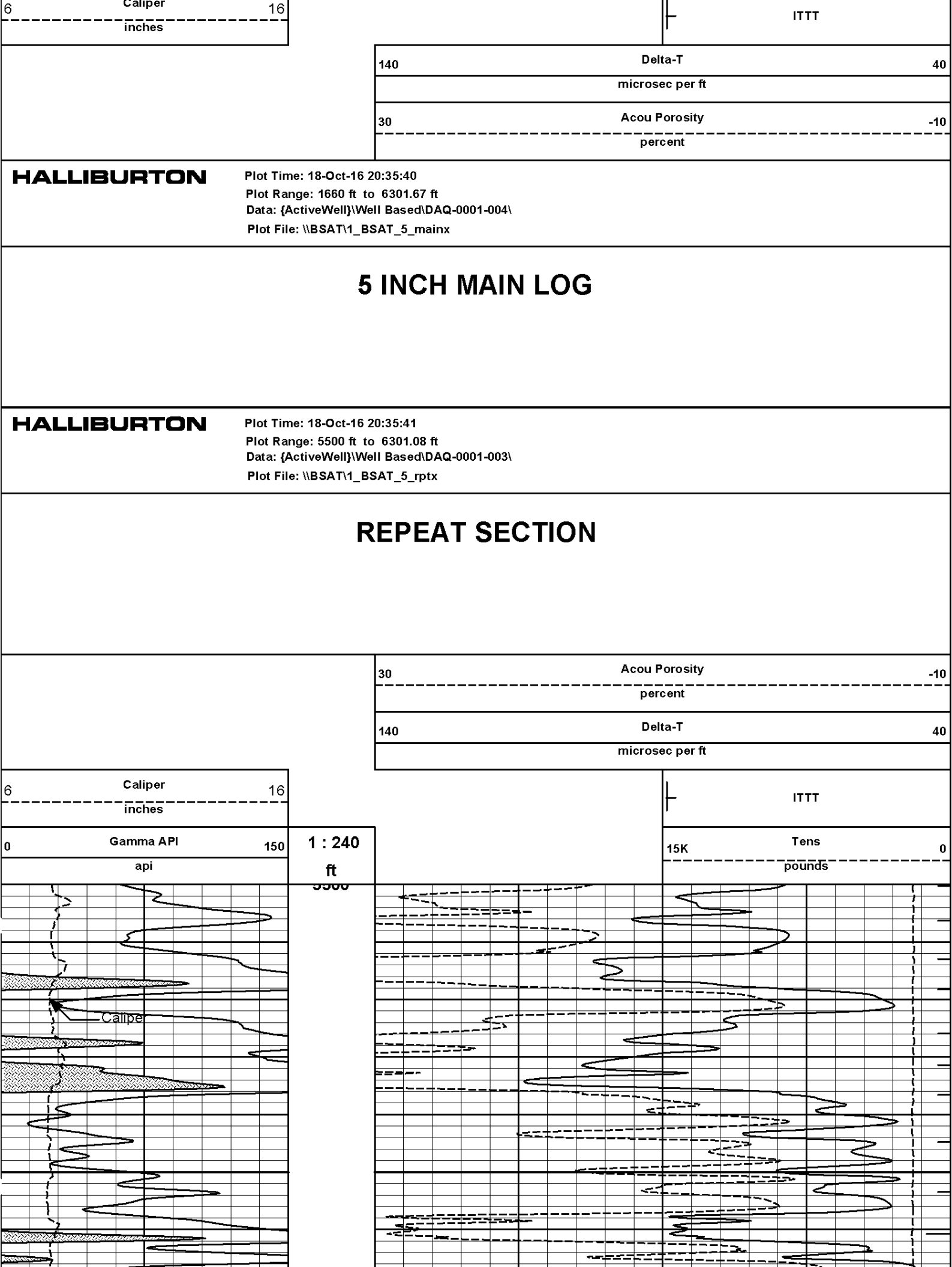
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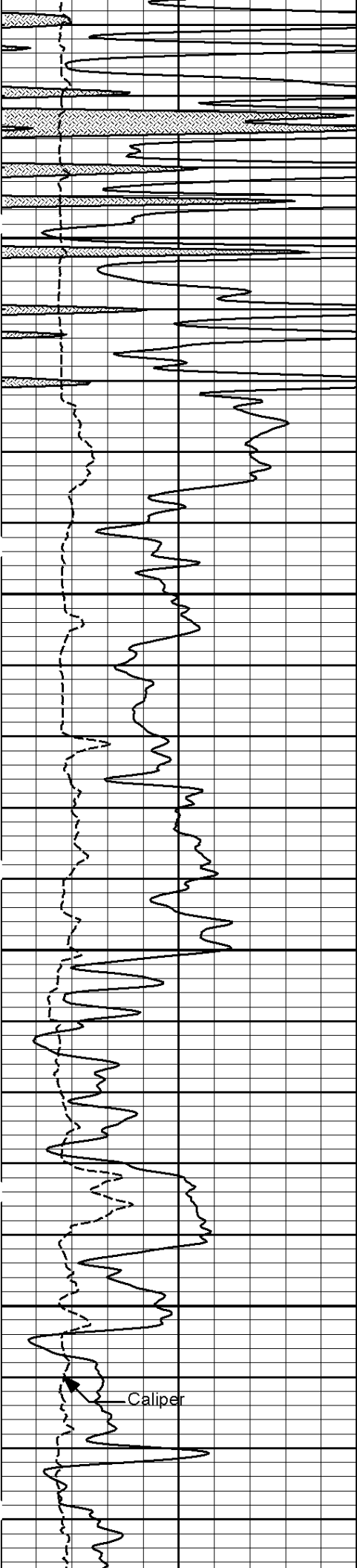
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api		

1 : 240
ft



15K	Tens	0
pounds		

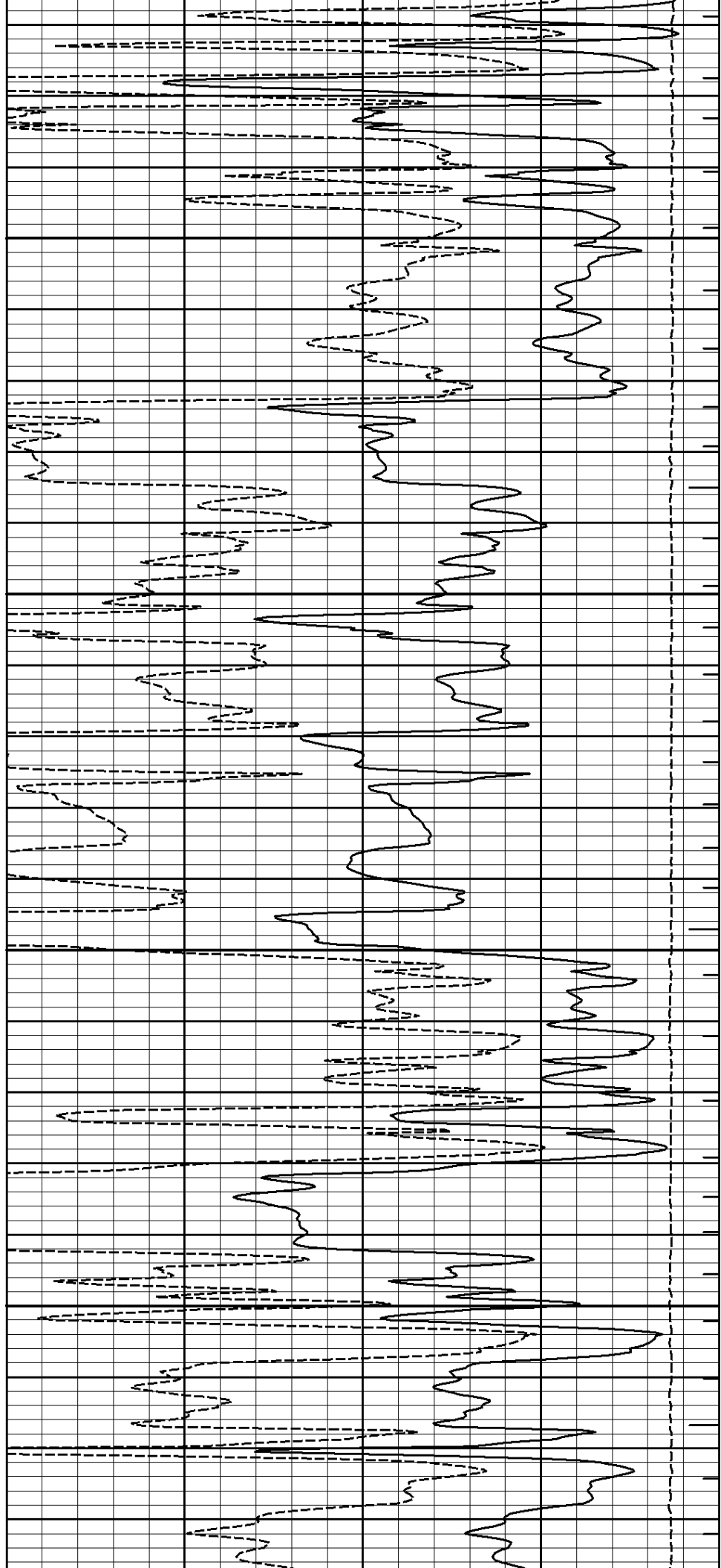


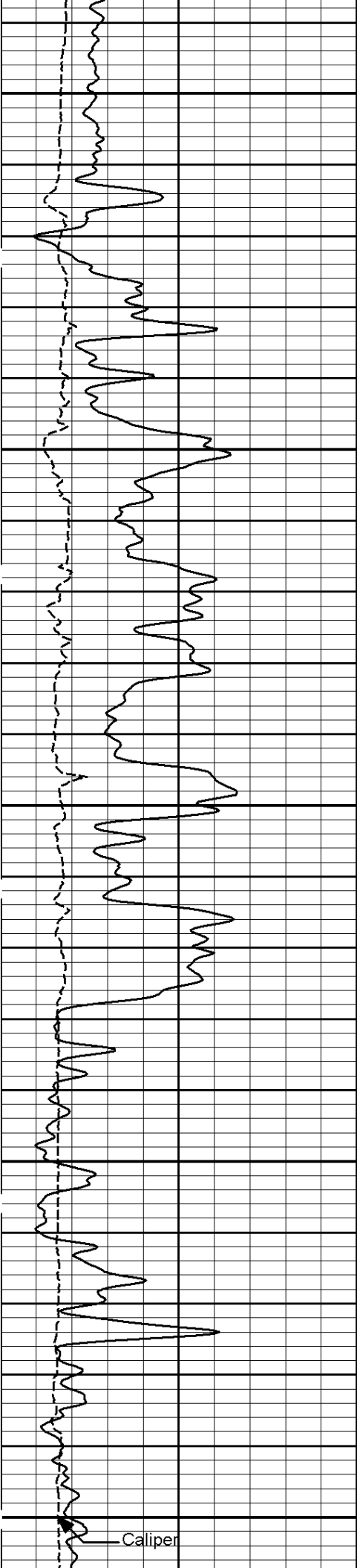


5600

5700

Caliper

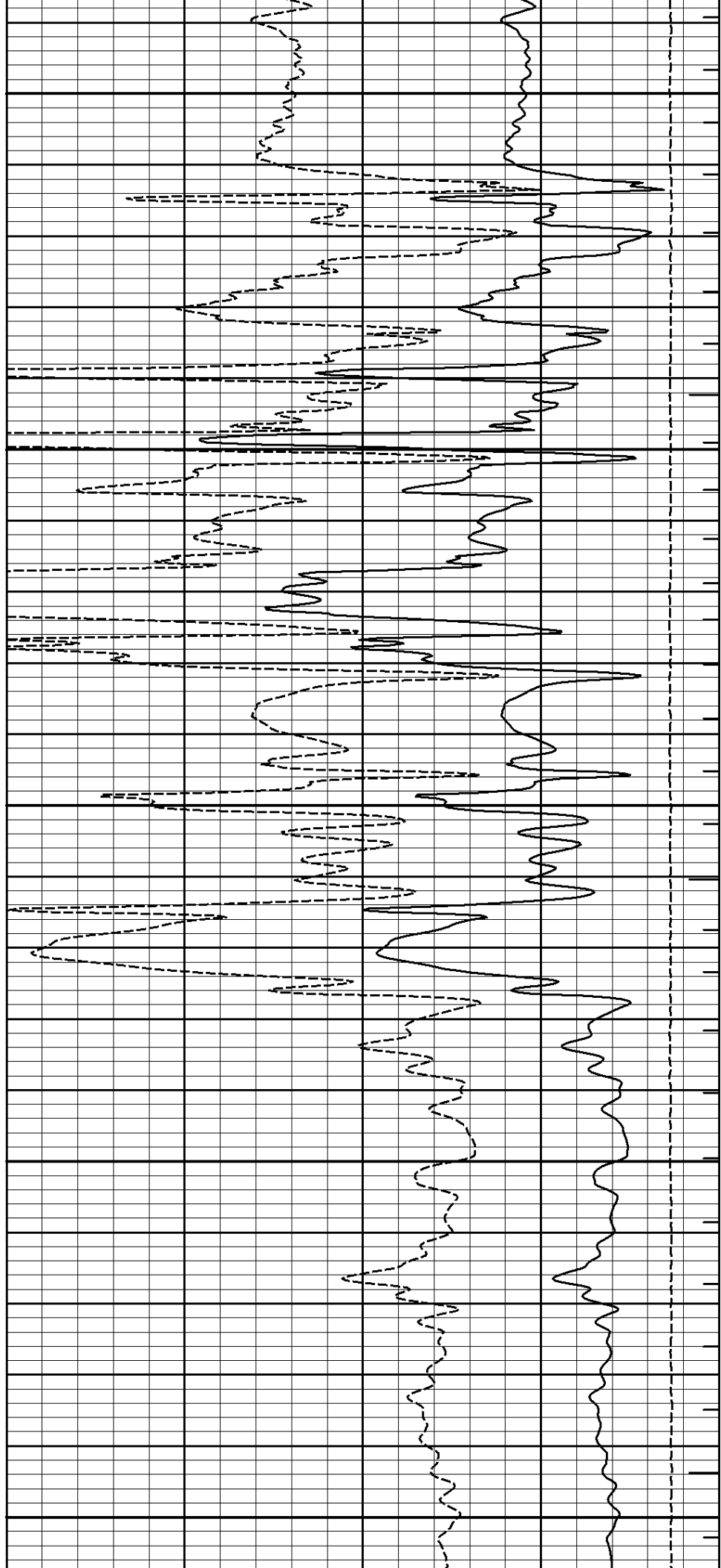


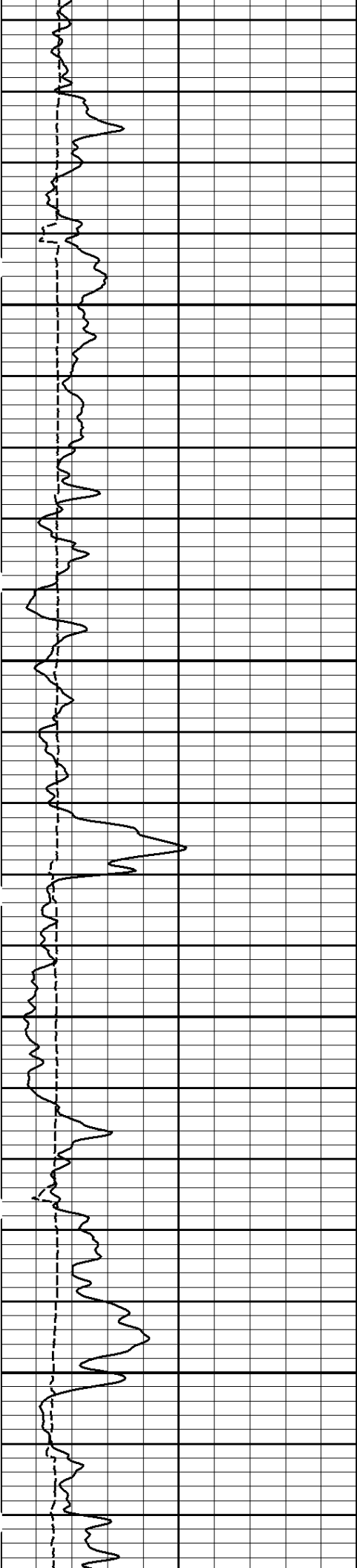


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5900

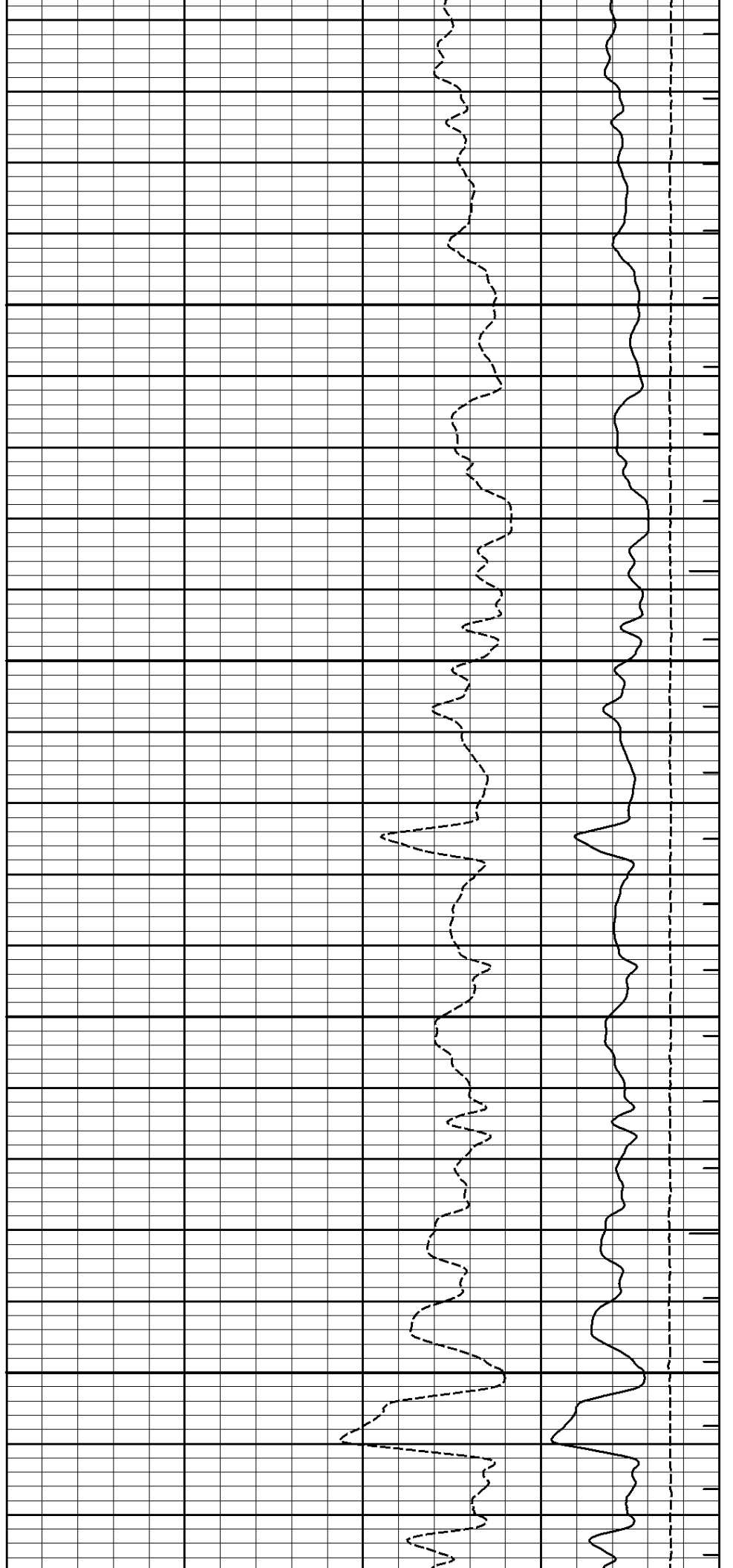
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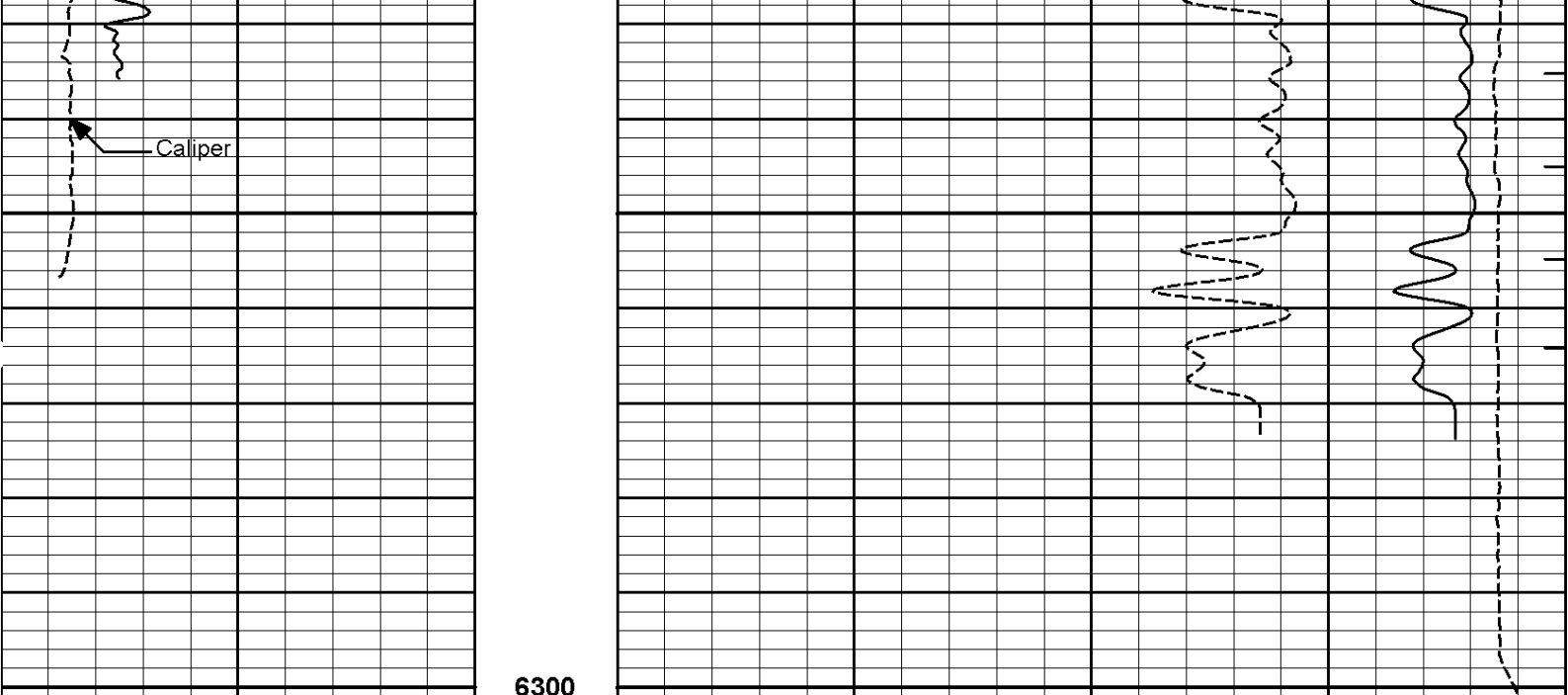




6100

6200





0	Gamma API	150	1 : 240	15K	Tens	0
	api		ft		pounds	
6	Caliper	16			ITTT	
	inches					
			140		Delta-T	40
					microsec per ft	
			30		Acou Porosity	-10
					percent	

HALLIBURTON Plot Time: 18-Oct-16 20:35:42
Plot Range: 5500 ft to 6301.08 ft
Data: {ActiveWell}\Well Based\DAQ-0001-003\
Plot File: \\BSAT\1_BSAT_5_rptx

REPEAT SECTION

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	8.800	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	1800.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	BMUD	Mud Resistivity	2.000	ohmm

SHARED	RMCD	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	CSTR	Compressive Strength	1000.00	psia
SHARED	ST	Surface Temperature	75.0	degF
SHARED	TD	Total Well Depth	6293.00	ft
SHARED	BHT	Bottom Hole Temperature	150.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	CBM Temperature Master Tool	GTET	
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	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
Rwa / CrossPlot	ROIN	Input for RO Calculation	Rwa	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
GTET	BHSM	Borehole Size Source Tool	SDLT	
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	DNTT	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	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
SDLT	CLOK	Process Caliper Outputs?	Yes	
Microlog Pad	MLOK	Process MicroLog 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
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Pore Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	Limestone 47.6	
BSAT	DTSH	Delta -T Shale	100.00	uspf

BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
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	RMAX	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	
BOTTOM_____				
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COMPANY	RAYDON EXPLORATION INC.		
WELL	PARITY 1-27		
FIELD	WILDCAT		
COUNTY	SEWARD	STATE	KANSAS
HALLIBURTON		BOREHOLE COMPENSATED SONIC LOG	