



GAMMA RAY NEUTRON LOG

PIONEER
Pioneer Energy Services

Comp. PDC ENERGY INC.
Well WIEDEMAN FEDERAL #22G-302
Field WATTENBERG
Co. WELD
State COLORADO

Company **PDC ENERGY INC.**
Well **WIEDEMAN FEDERAL #22G-302**
Field **WATTENBERG**
County **WELD** State **COLORADO**

Location: API # : 05-123-43392
SHL: 2185' FSL & 240' FWL
NW SW
SEC 22 TWP 4N RGE 66W
Permanent Datum GL
Log Measured From KB 23' Elevation 4737'
Drilling Measured From KB Above Perm. Datum
K.B. 4760'
D.F. N/A
G.L. 4737'

Other Services
NONE

Date of Service	9 DEC 2017		
Run Number	ONE		
Depth Driller or P8TD	N/A		
Depth Logger	7290'		
Bottom Log Interval	7288'		
Top Log Interval	SURFACE		
Open Hole Size	N/A		
Type Fluid	WATER		
Fluid Level	FULL		
Fluid Density	N/A		
Max. Recorded Temperature	N/A		
Max. Wellhead Pressure	ZERO		
Wellhead Connection	OPEN		
Estimated Cement Top	N/A		
Unit Number	P53		
Wireline Size	9/32		
Location	FORT MORGAN CO		
Recorded By	SCHOENROGGE		
Witnessed By	MR. MYERS		
	Size	Wt/Ft	Top
Tubing Record			Bottom
Surface Casing	9.625"	N/A	SURFACE
Production Casing	5.5	20	SURFACE
Liner Record			N/A

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.
CORRELATED TO CUSTOMER MARKER JOINT AT 6562.8' - 6583.2'

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew

Engineer: SCHOENROGGE
Operator: KOTT
Operator: BECKWITH
Operator:

Tool Data - Services

SEE DIAGRAM

Serial Number

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Cable Head-Titan_144 1 7/16" Titan Cable Head	1.03	1.44	2.00
CCL	8.50					
GR	7.17		GR_CCL-275 Probe GR-CCL-6-Pin (FW1404.819) Probe 2 3/4" Gamma Ray / CCL 6-pin	1404.819	2.75	60.00
			CNT-PRB_DIG (120950) Probe 2.75 Digital CNT	4.58	2.75	69.00
CNLSC	1.77					
CNSSC	1.37					

Dataset:
pdc_wiedeman federal_22g-302_0.db: field/well/run1/pass4

Total length:
10.43 ft

Total weight:
131.00 lb

O.D.:
2.75 in

Top - Bottom

CMTTKCOR	CSTKCOR	SZCOR	CASED?	NPORSEL	CMNTTHCK	SRFTEMP
On	On	On	Yes	Limestone	in 1.5	degF 50
CASETHCK	CASEOD	PERFS	TDEPTH	BOTTEMP	BOREID	
in 0.361	in 5.5	0	ft 7300	degF 200	in 8.5	



MAIN LOG

Database File
pdc_wiedeman federal_22g-302_0.db

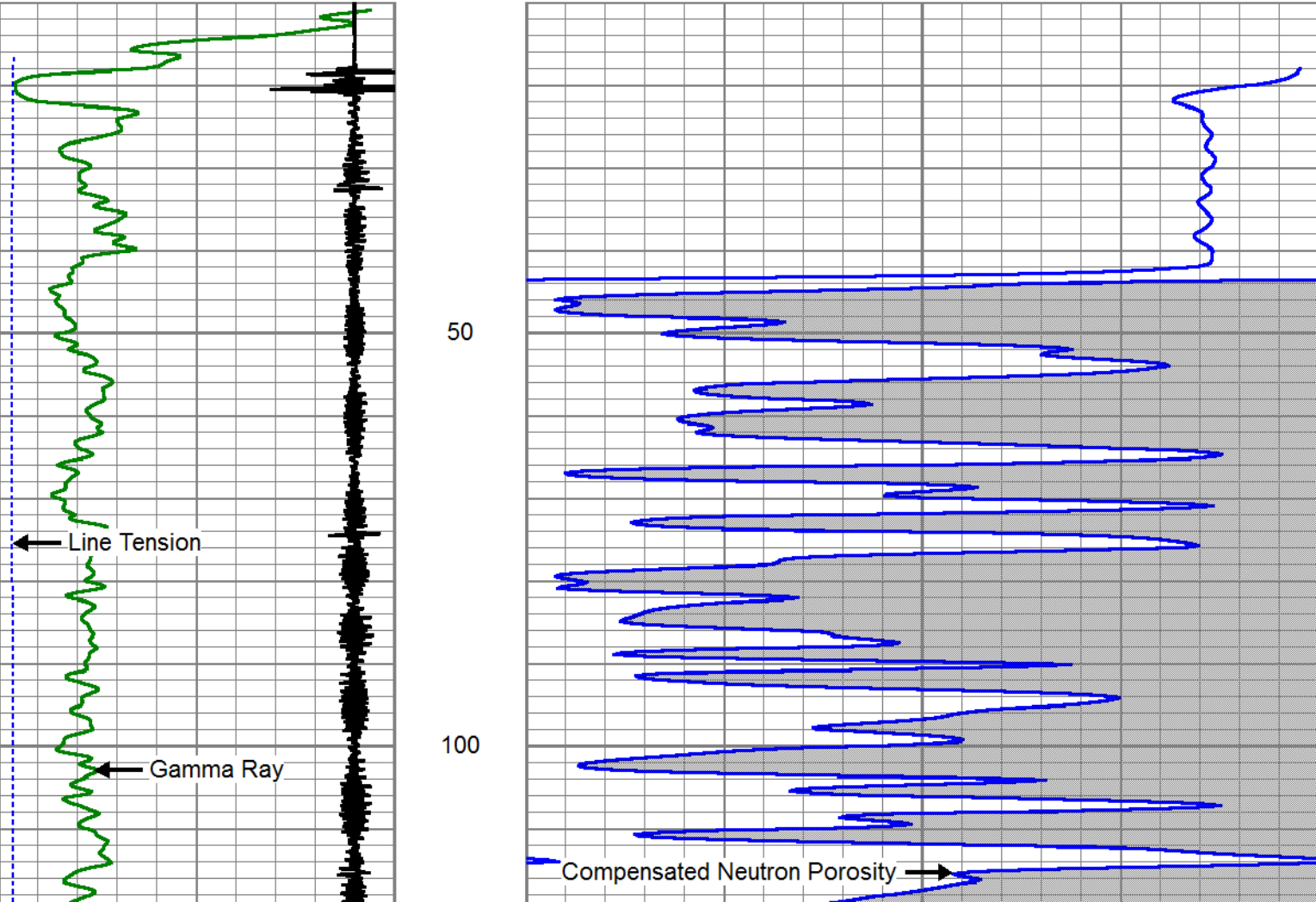
Dataset Pathname
pass4.1

Presentation Format
pinr_cnl

Dataset Creation
Sat Dec 09 14:46:18 2017

Charted by
Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	200	40	Compensated Neutron Porosity (pu)	0
-9	Collars	1			
0	Tension (lb)	3000			



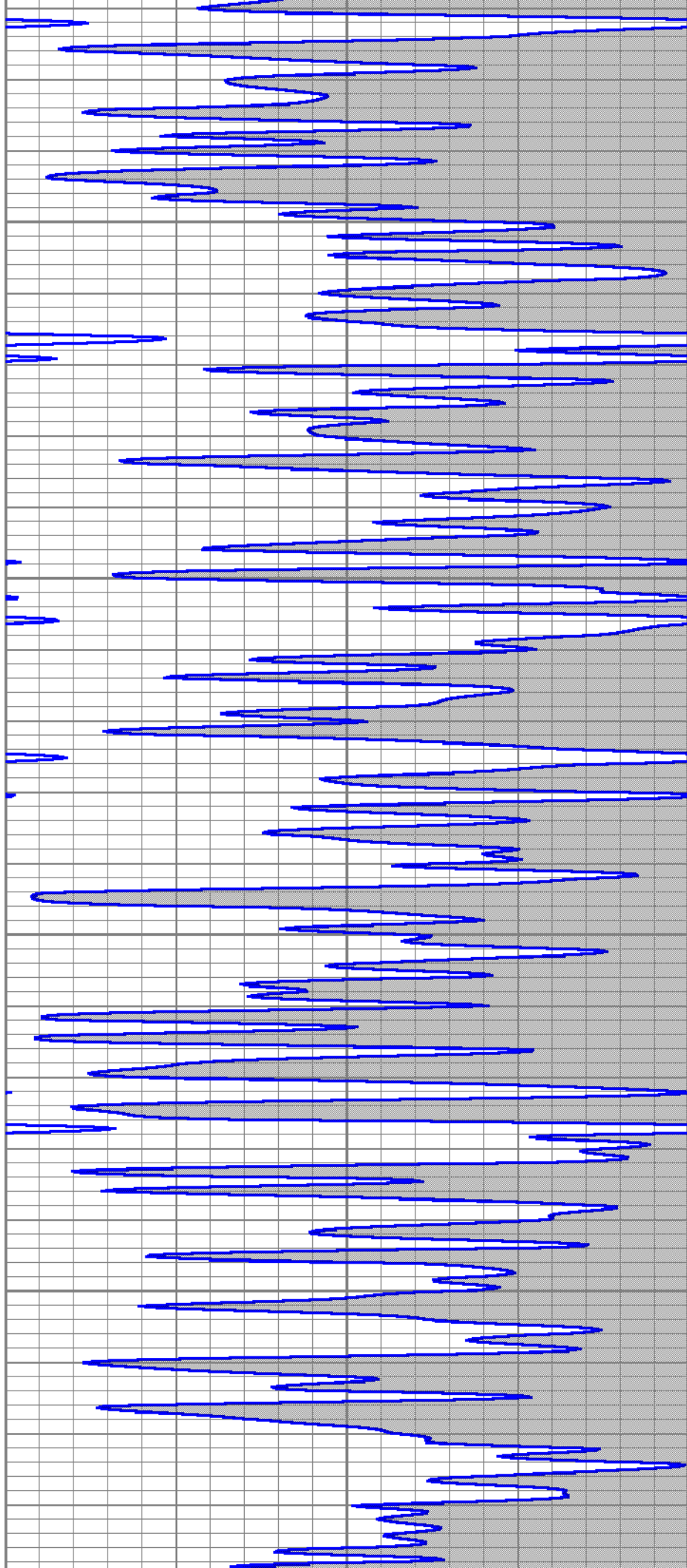
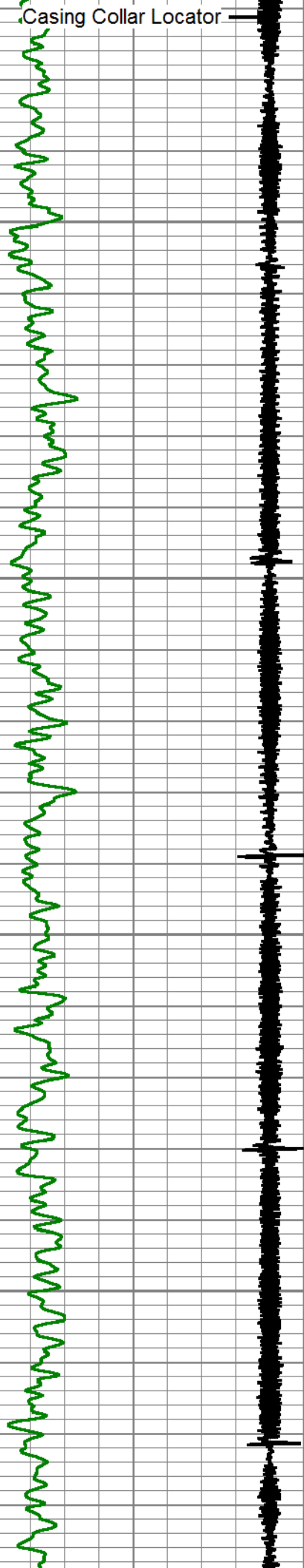
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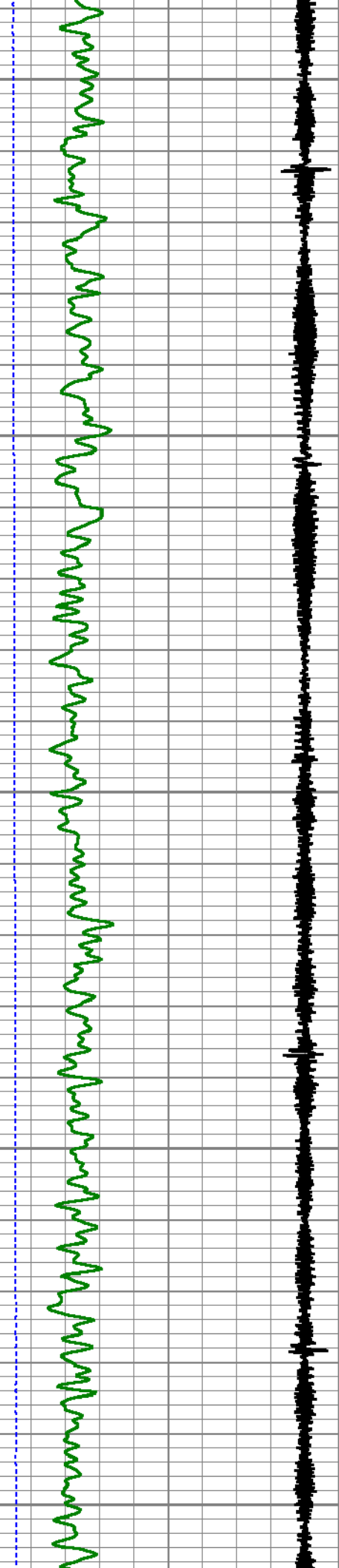
150

200

250

300





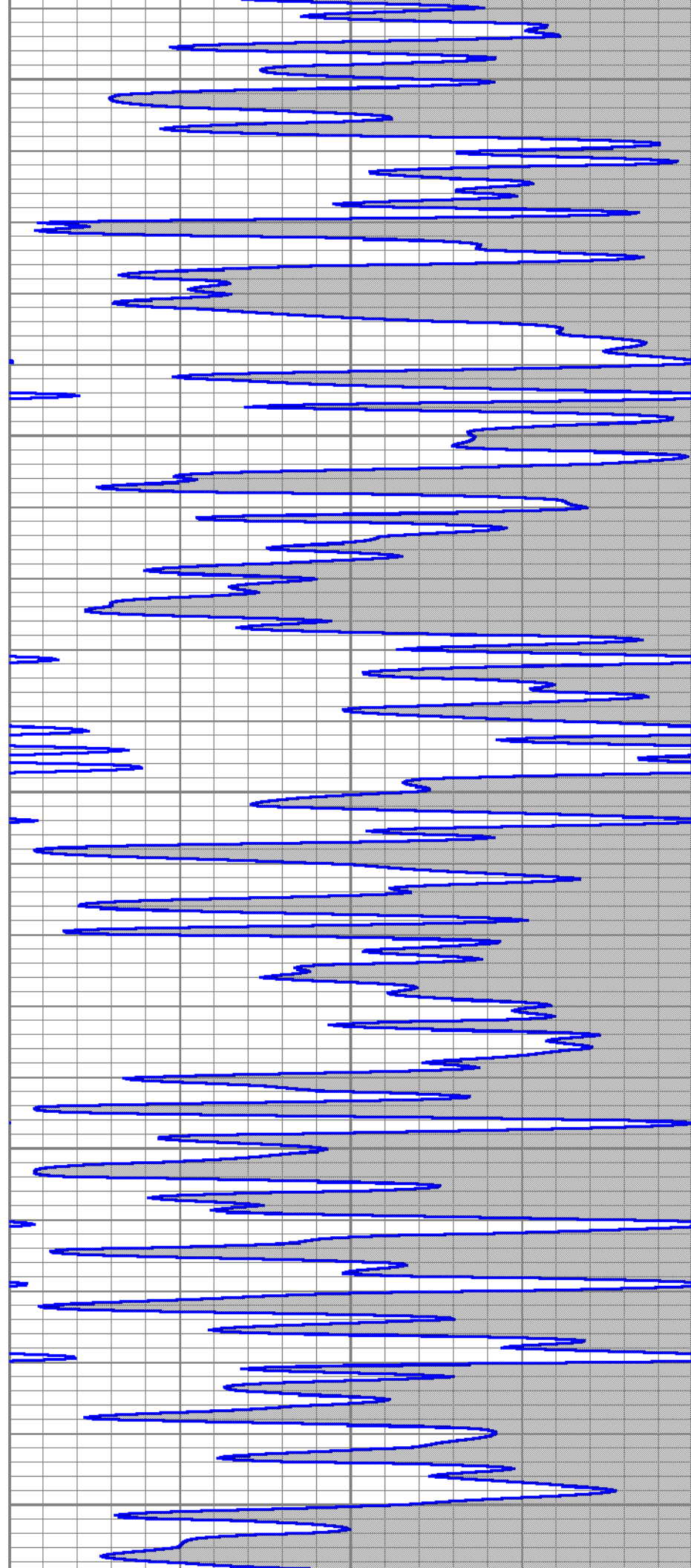
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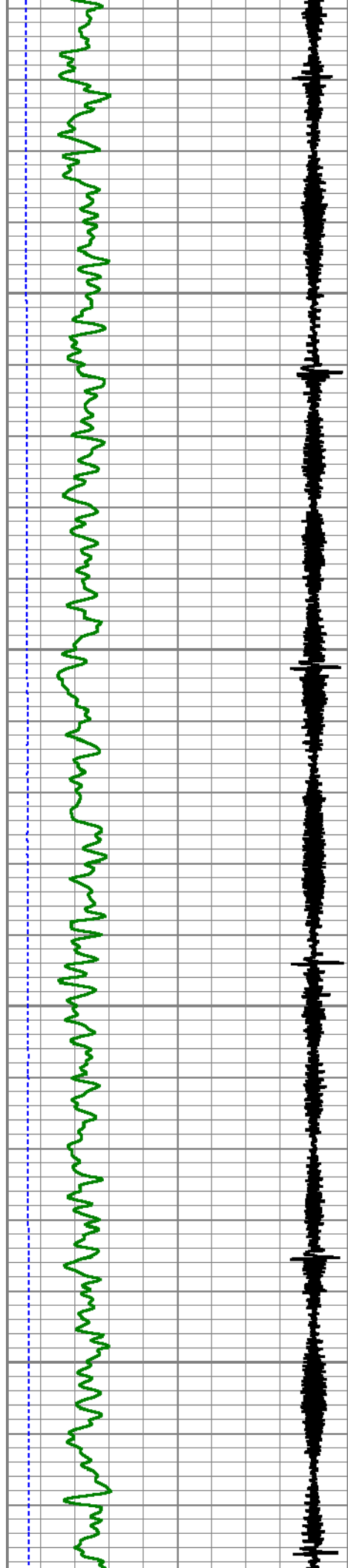
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450

500

550



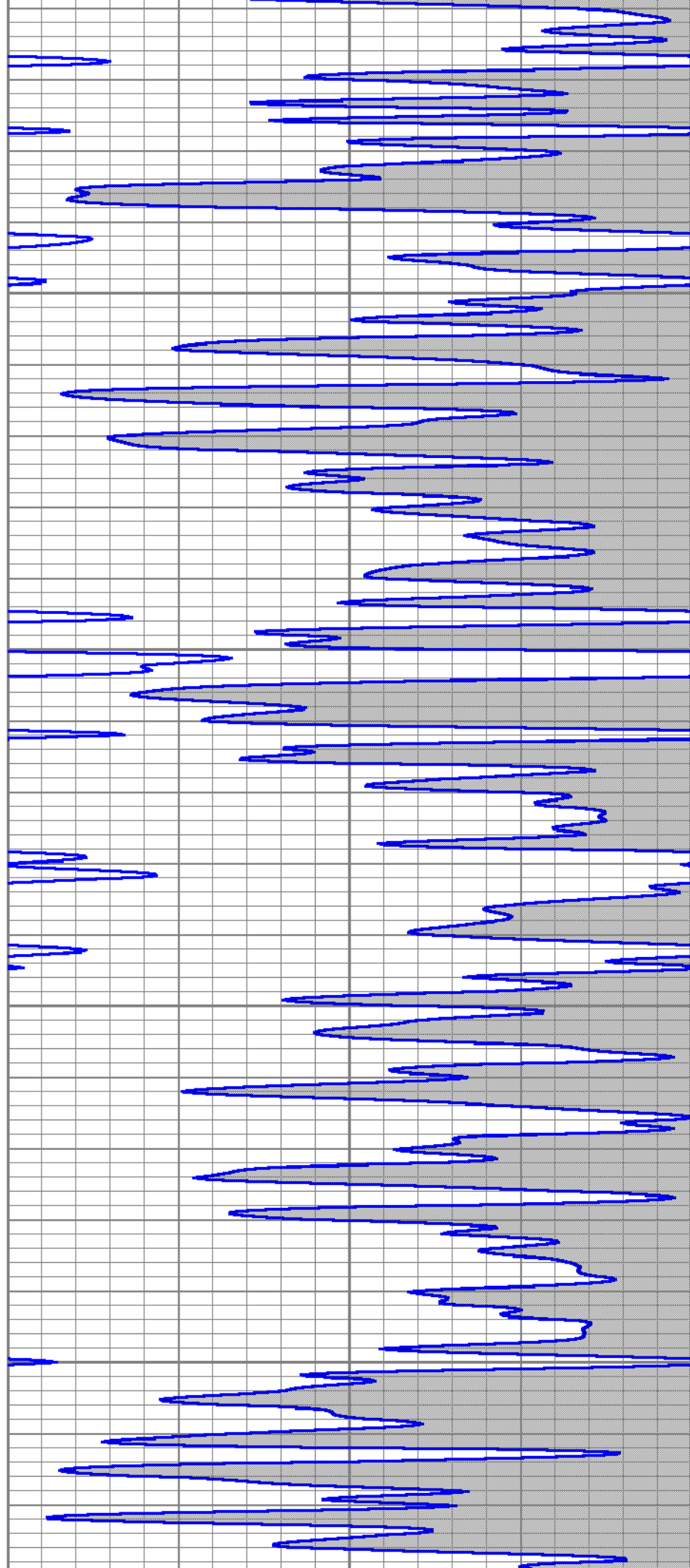


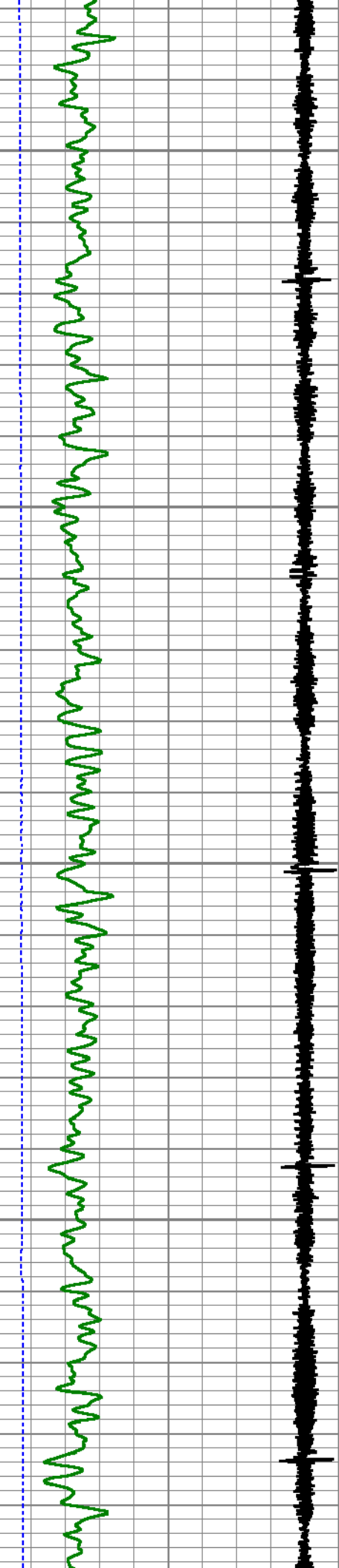
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650

700

750





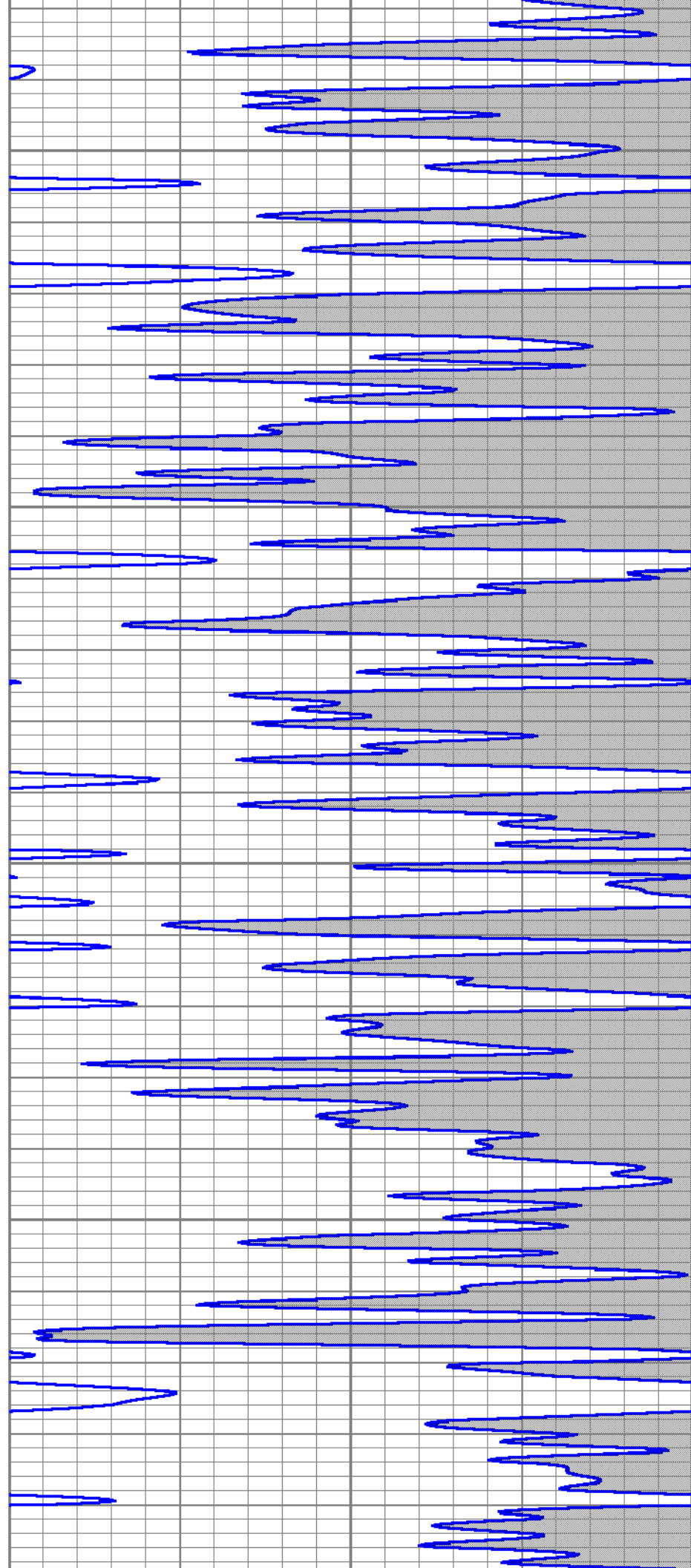
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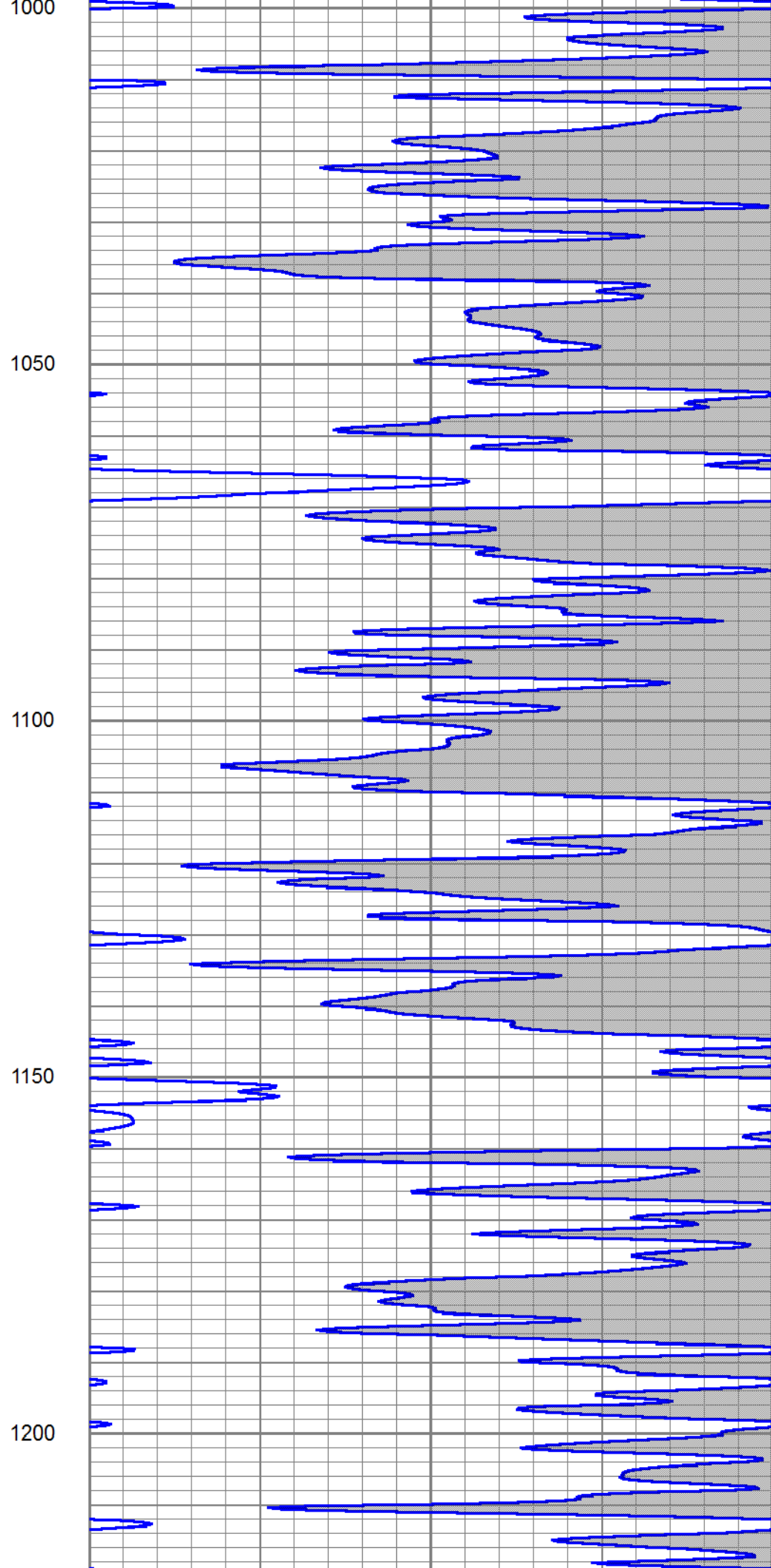
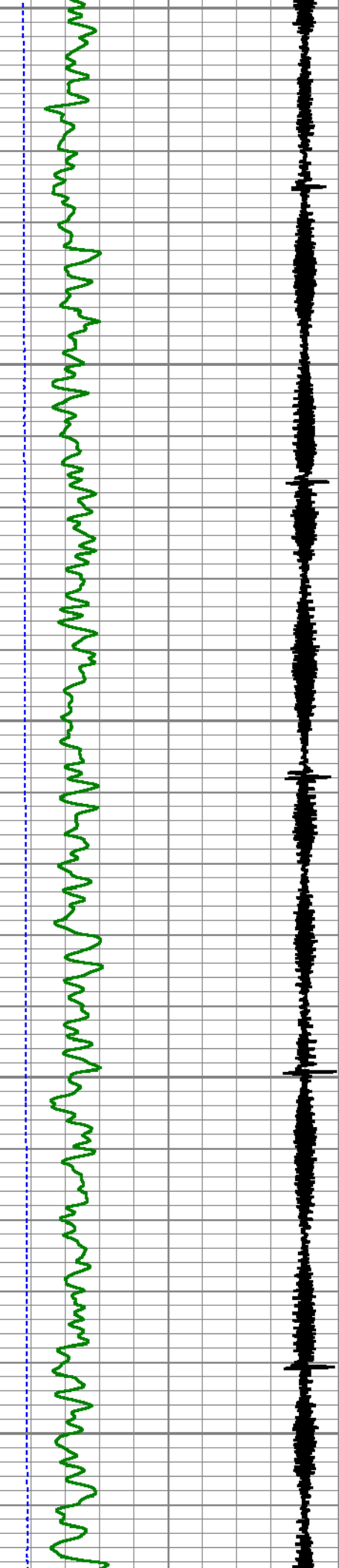
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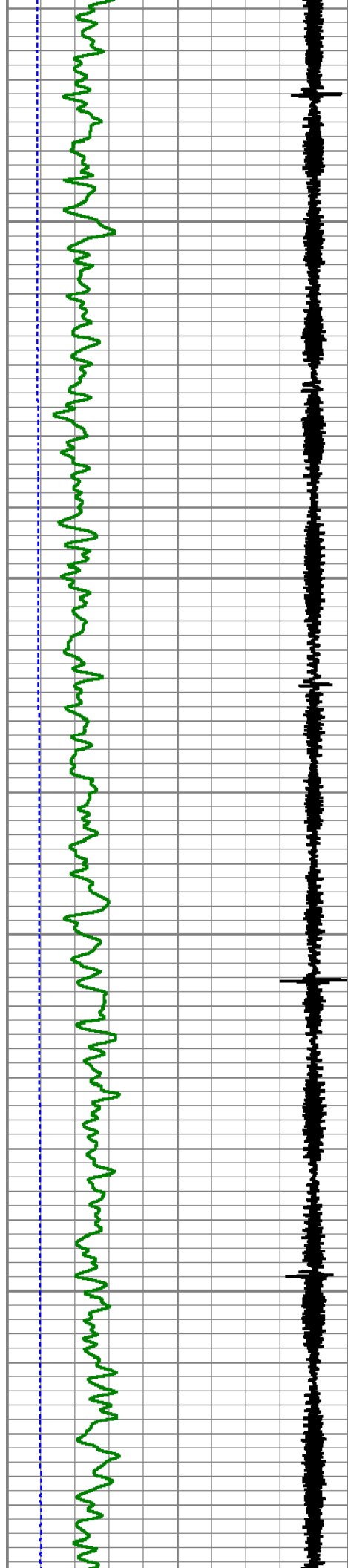
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950

1000





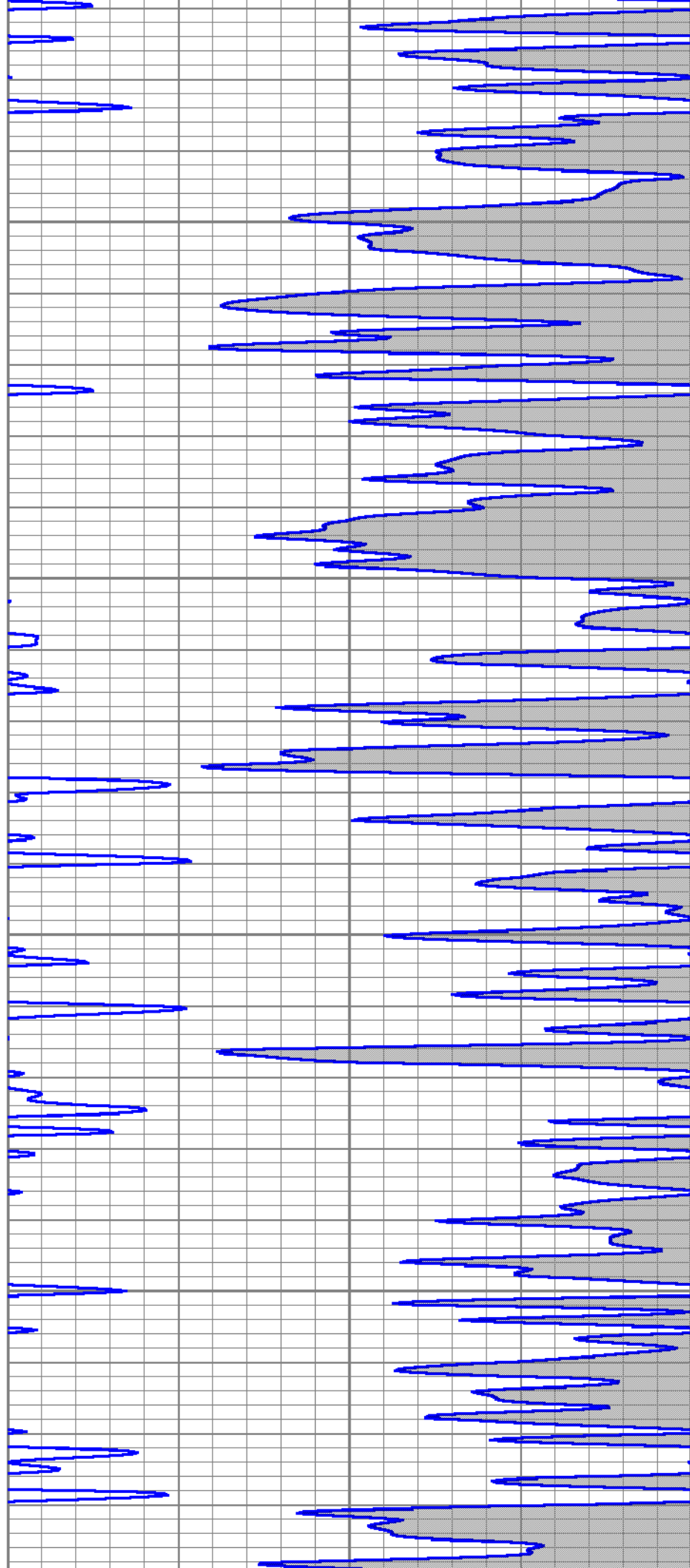


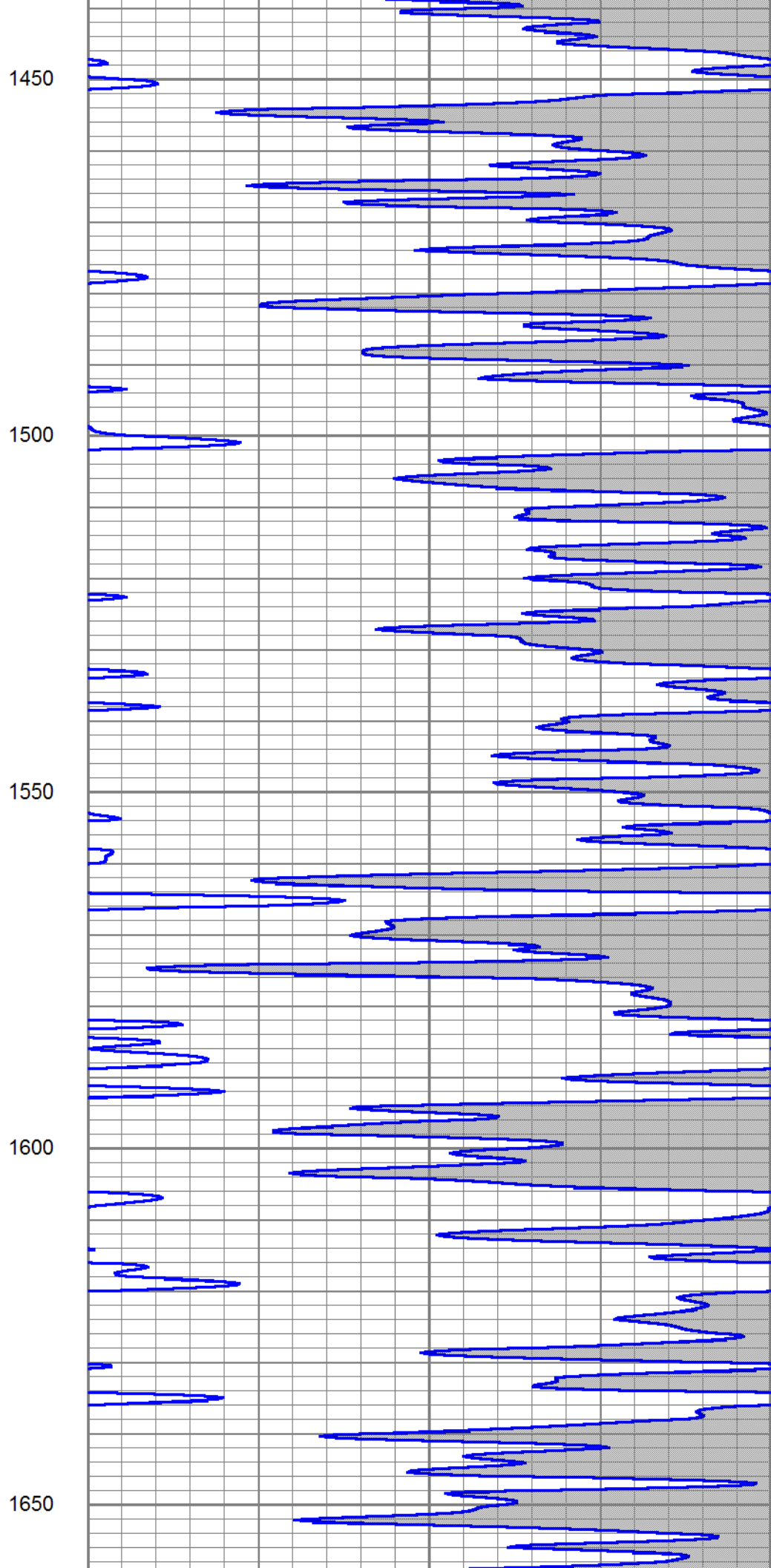
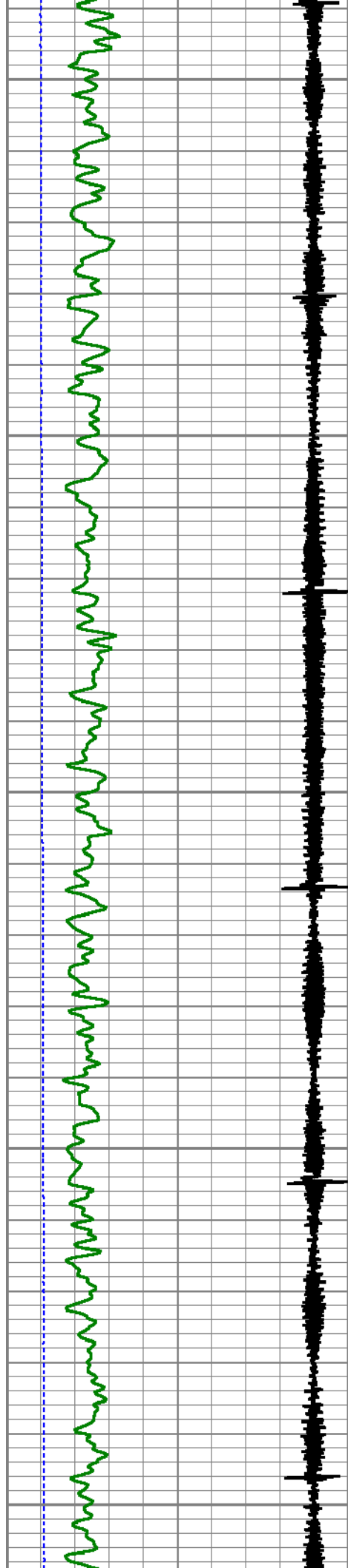
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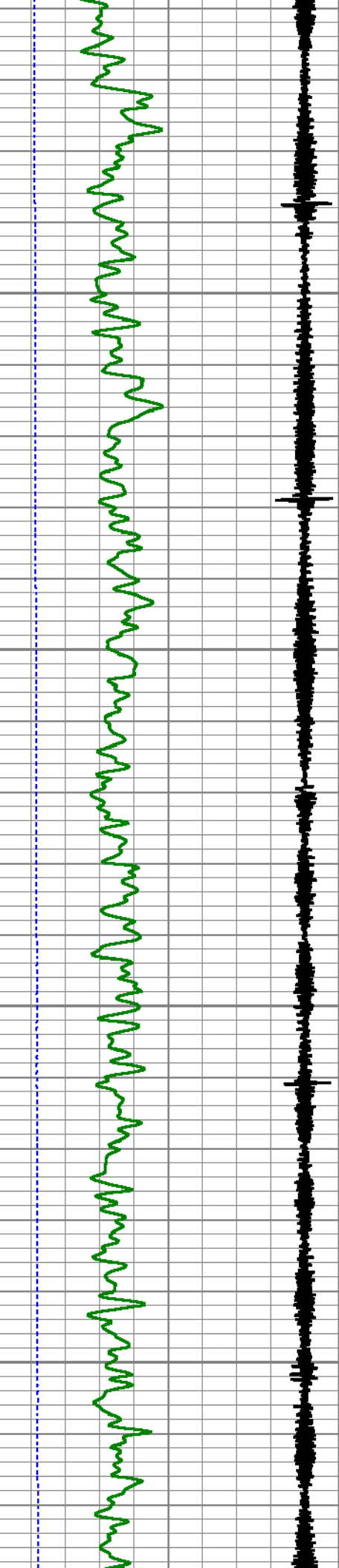
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1350

1400





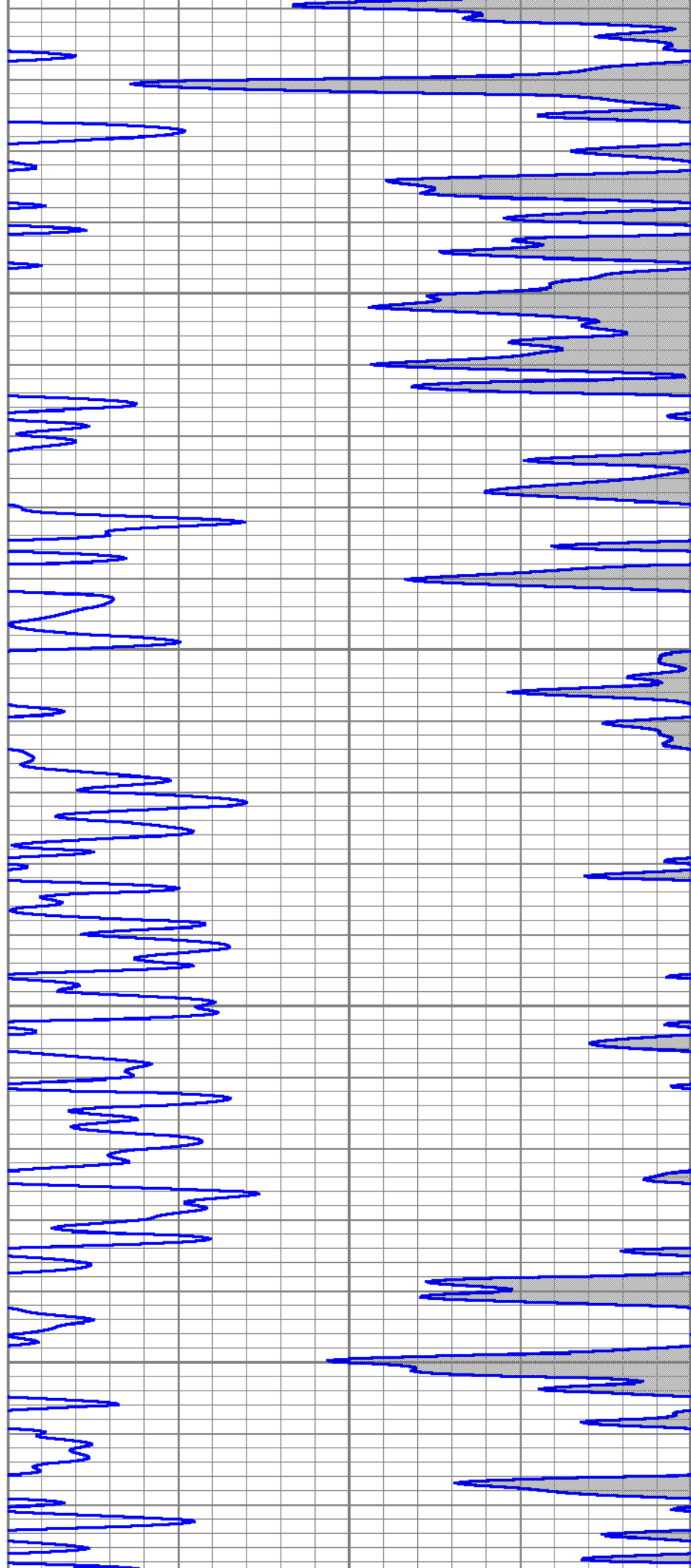


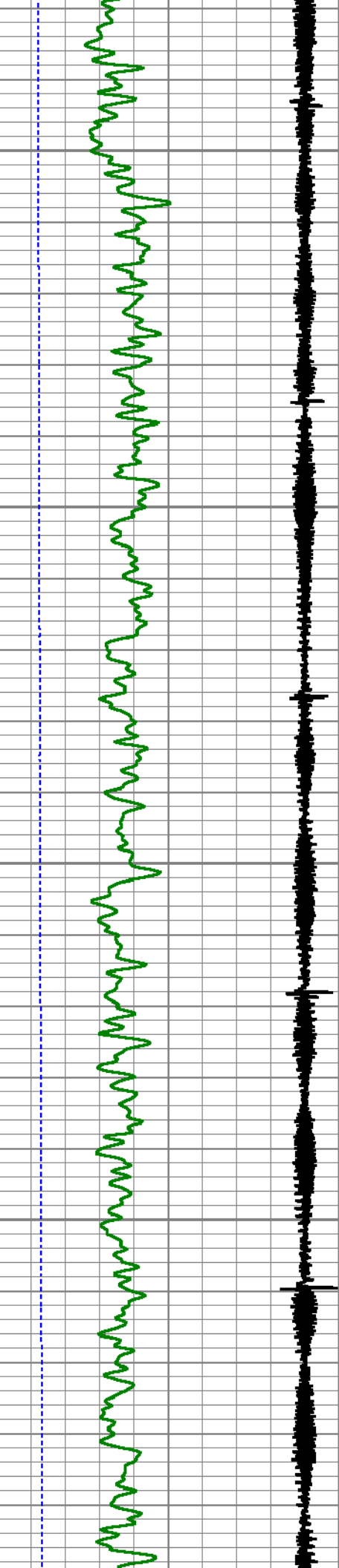
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1750

1800

1850



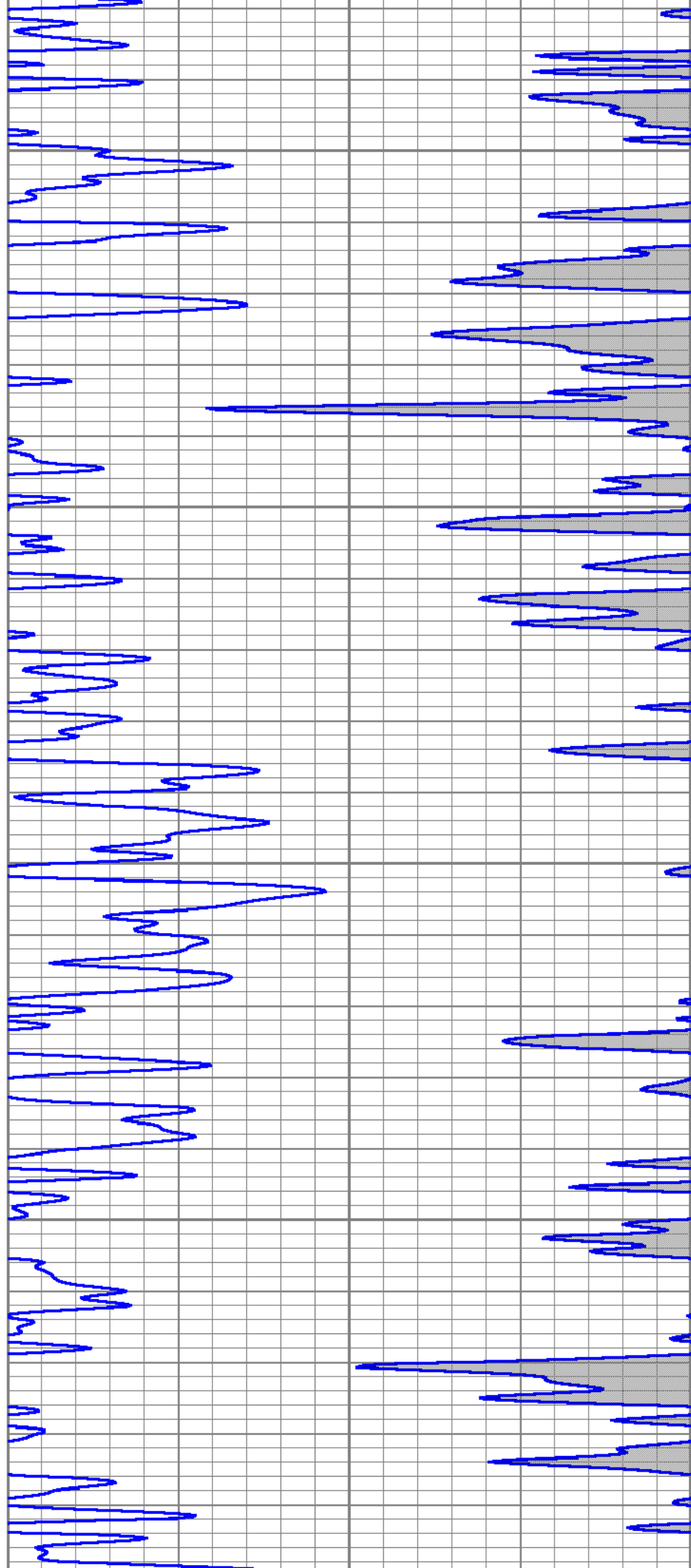


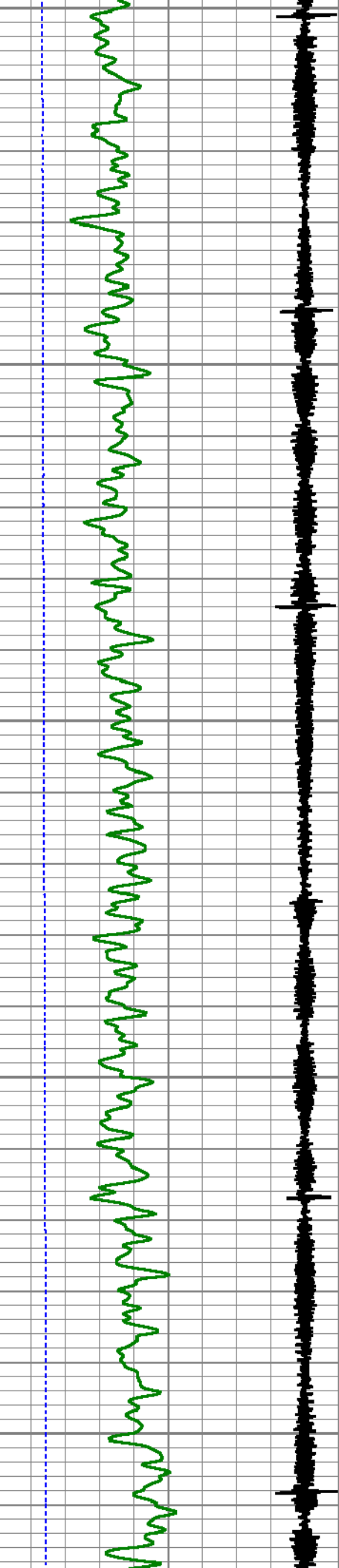
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1950

2000

2050





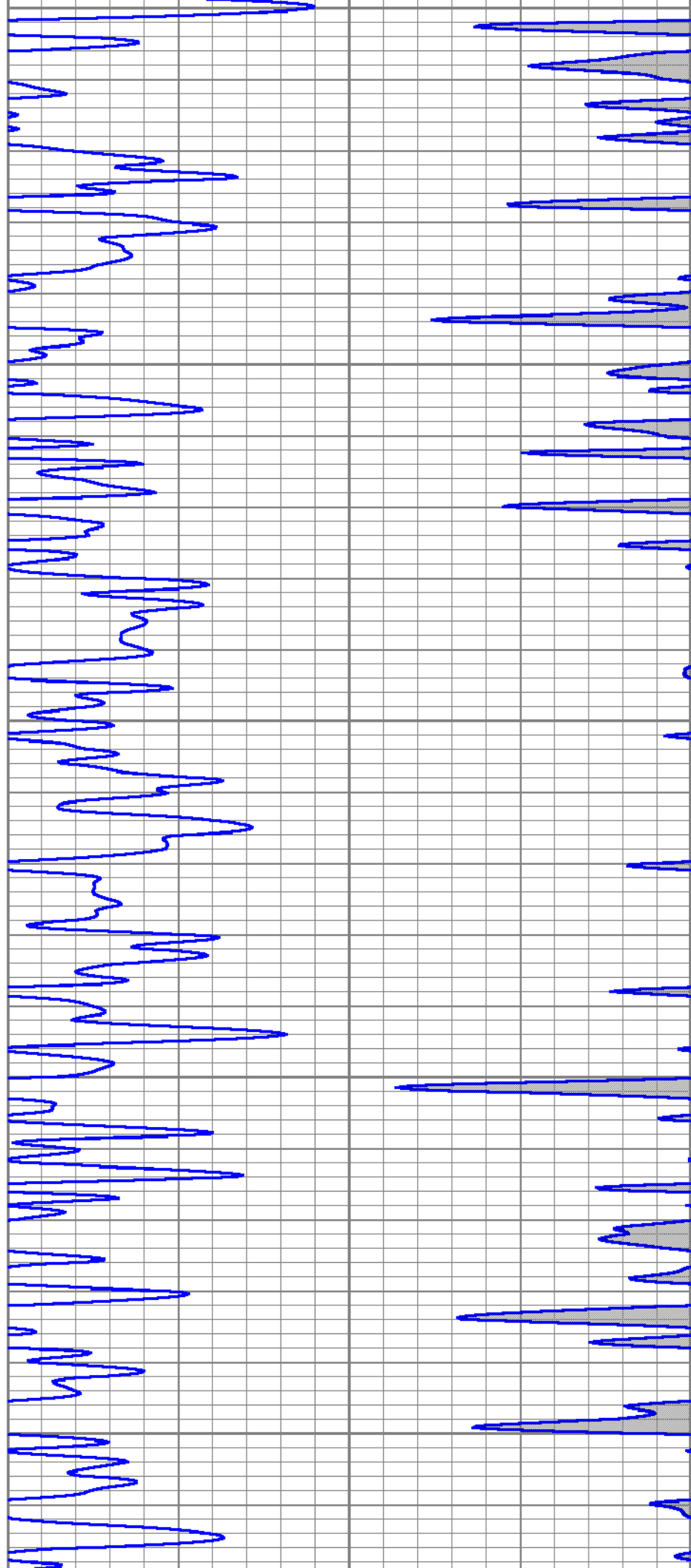
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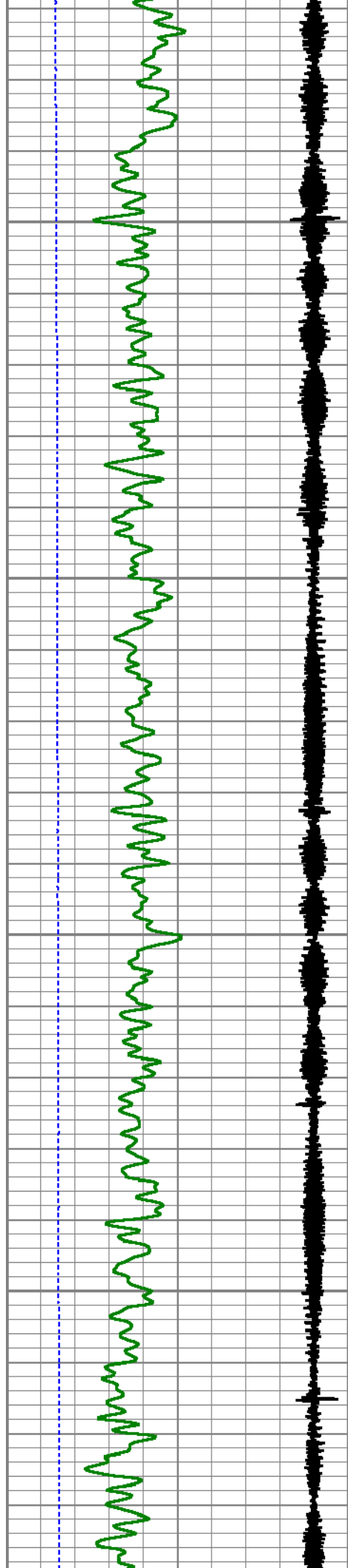
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2200

2250

2300



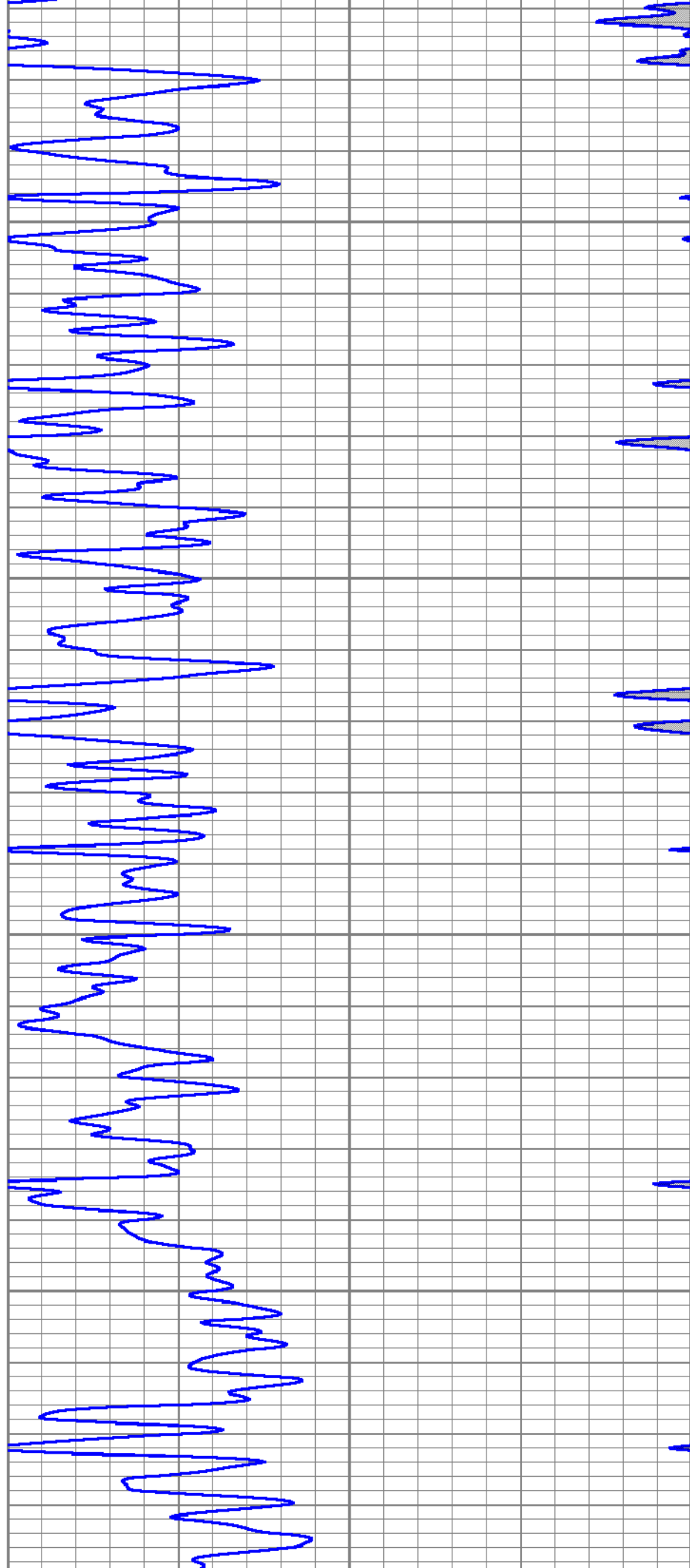


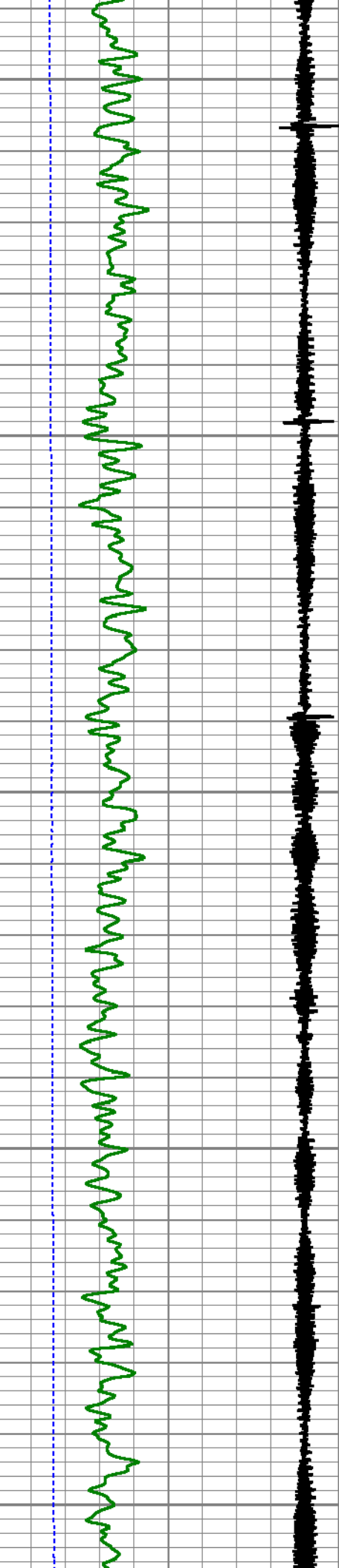
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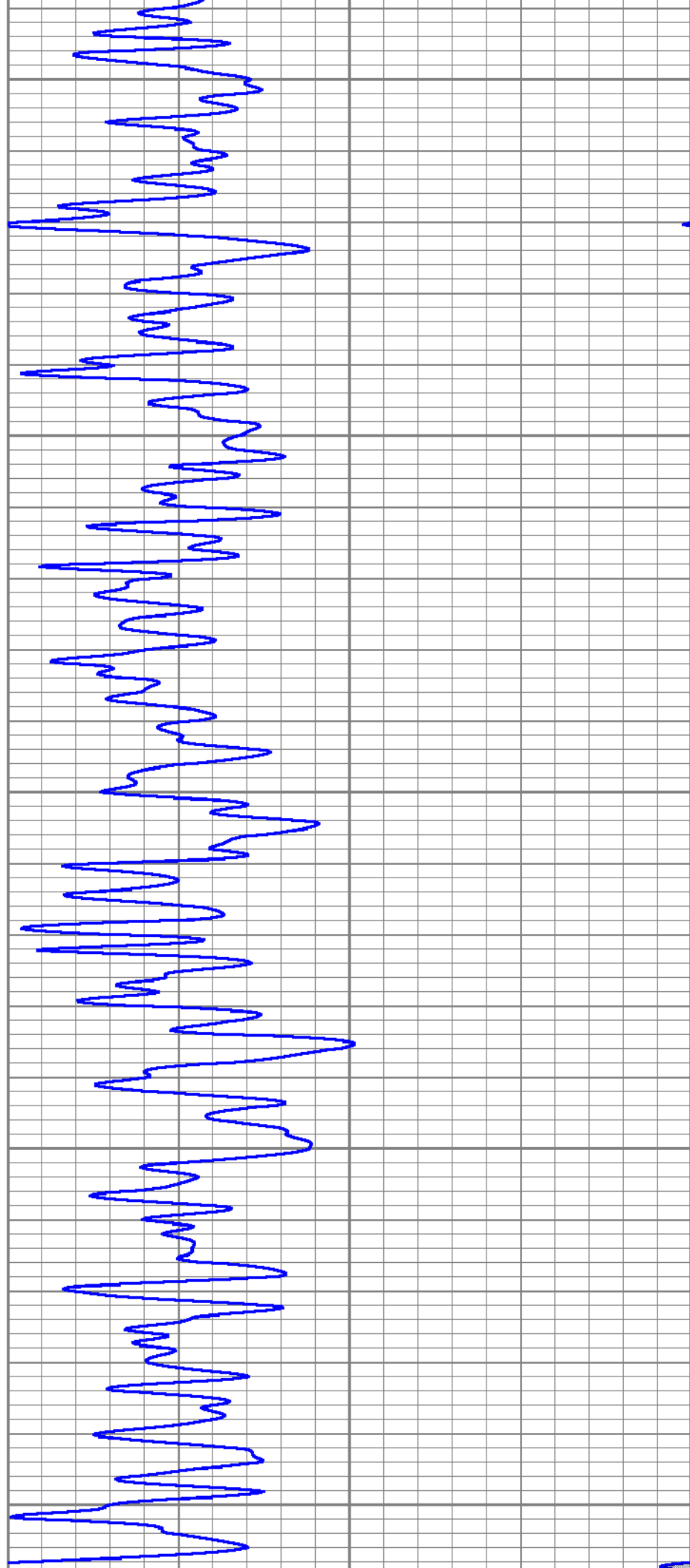
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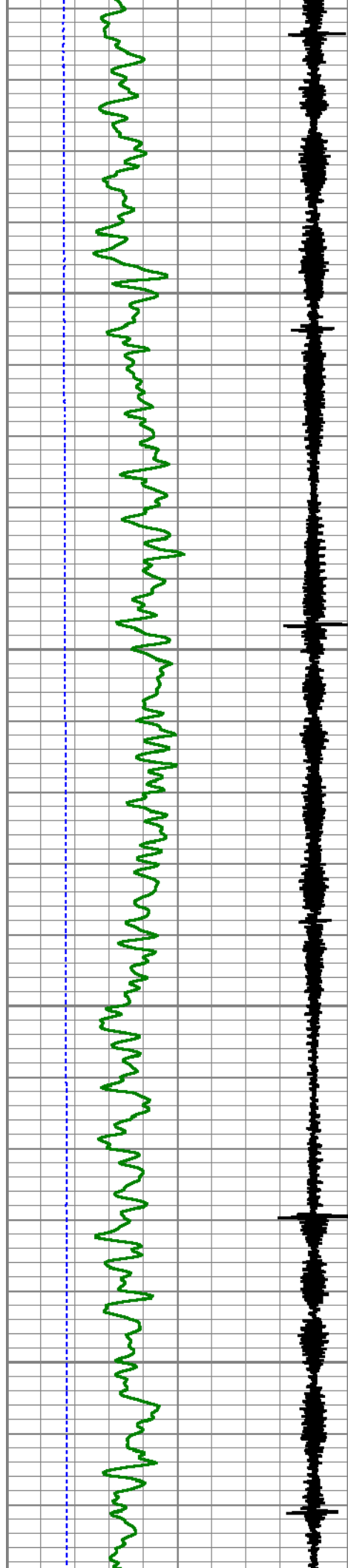
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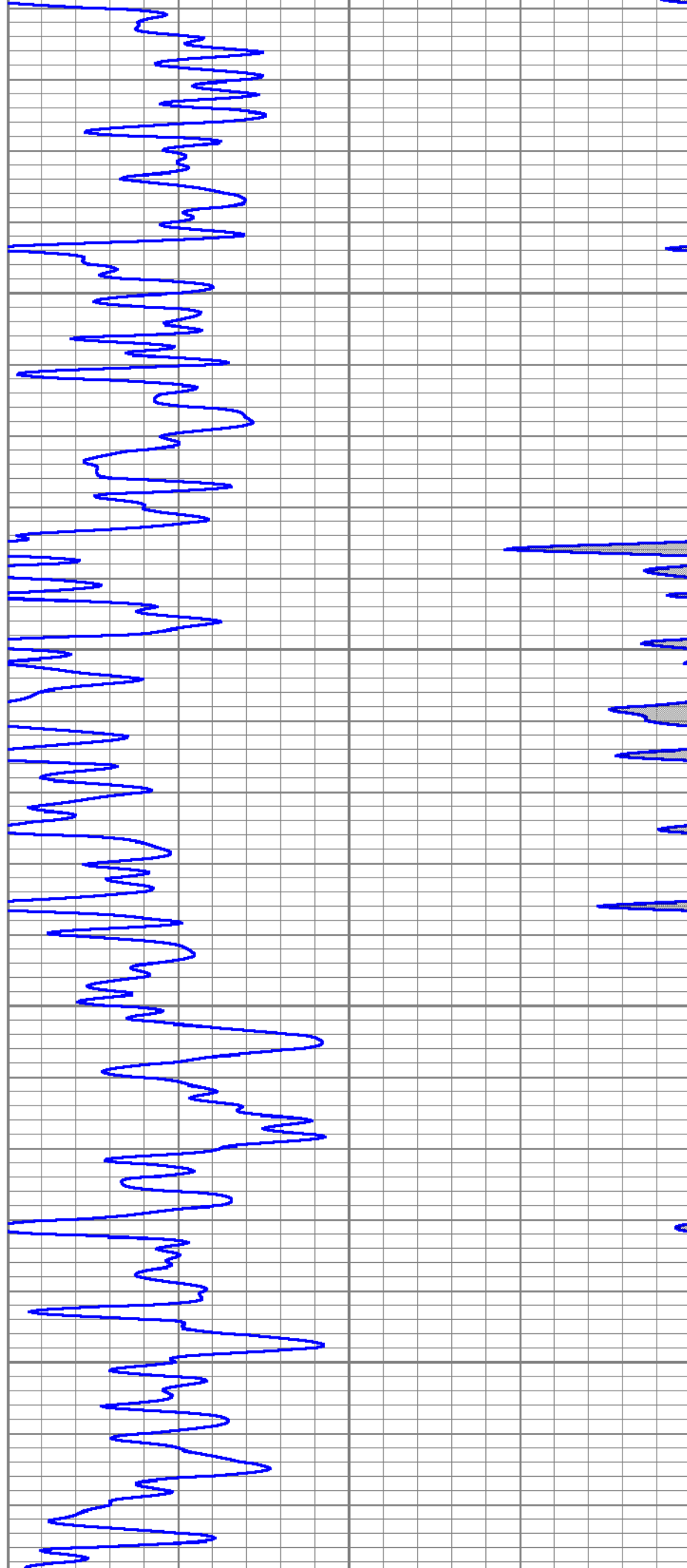


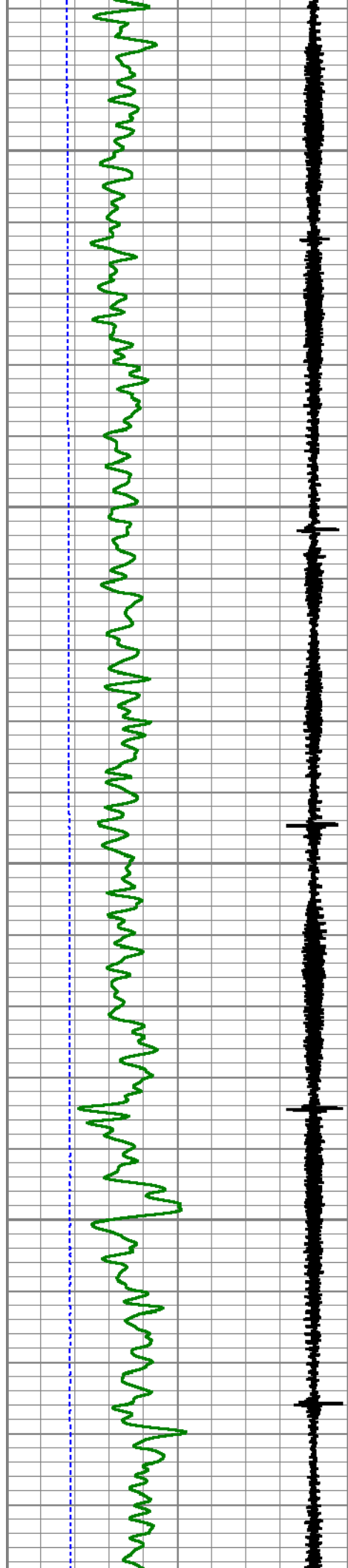
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2950



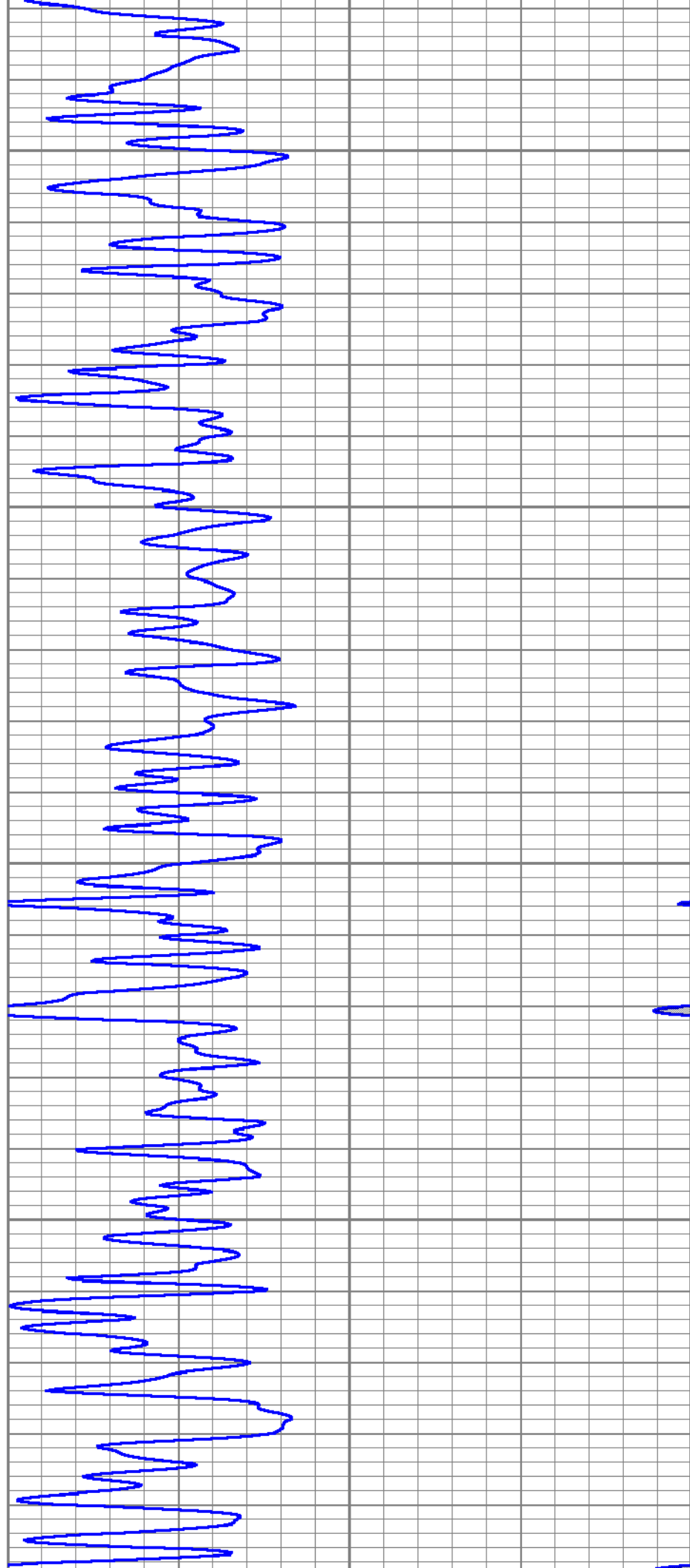


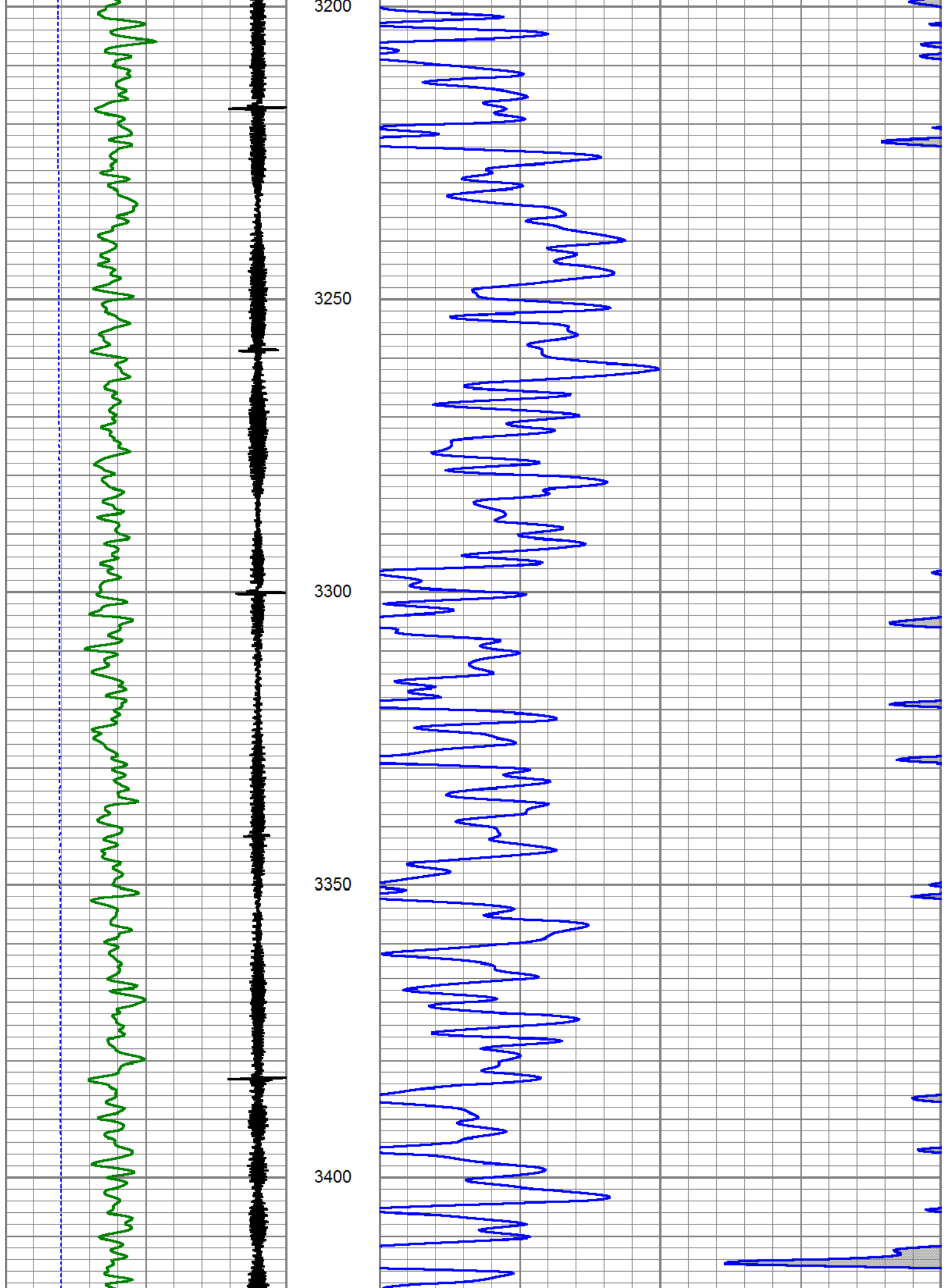
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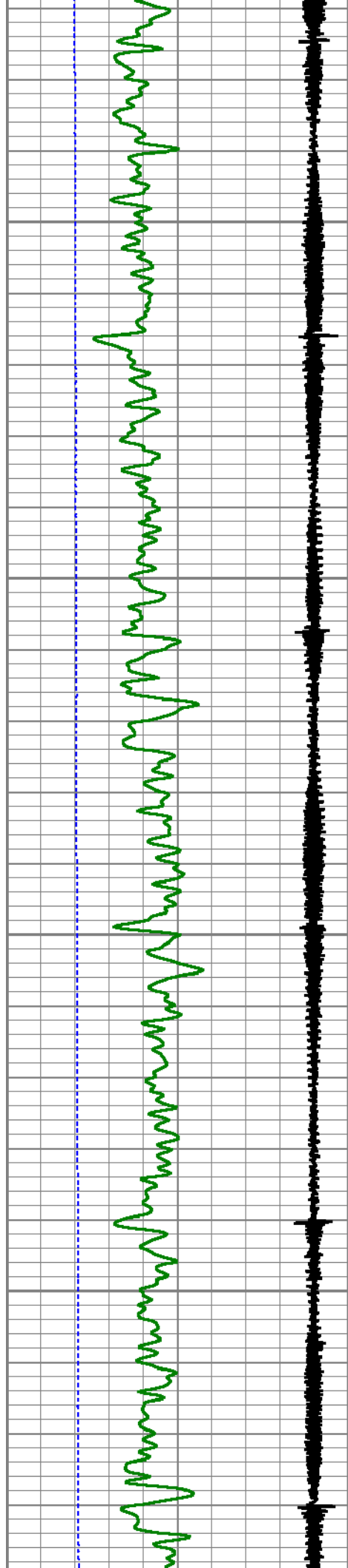
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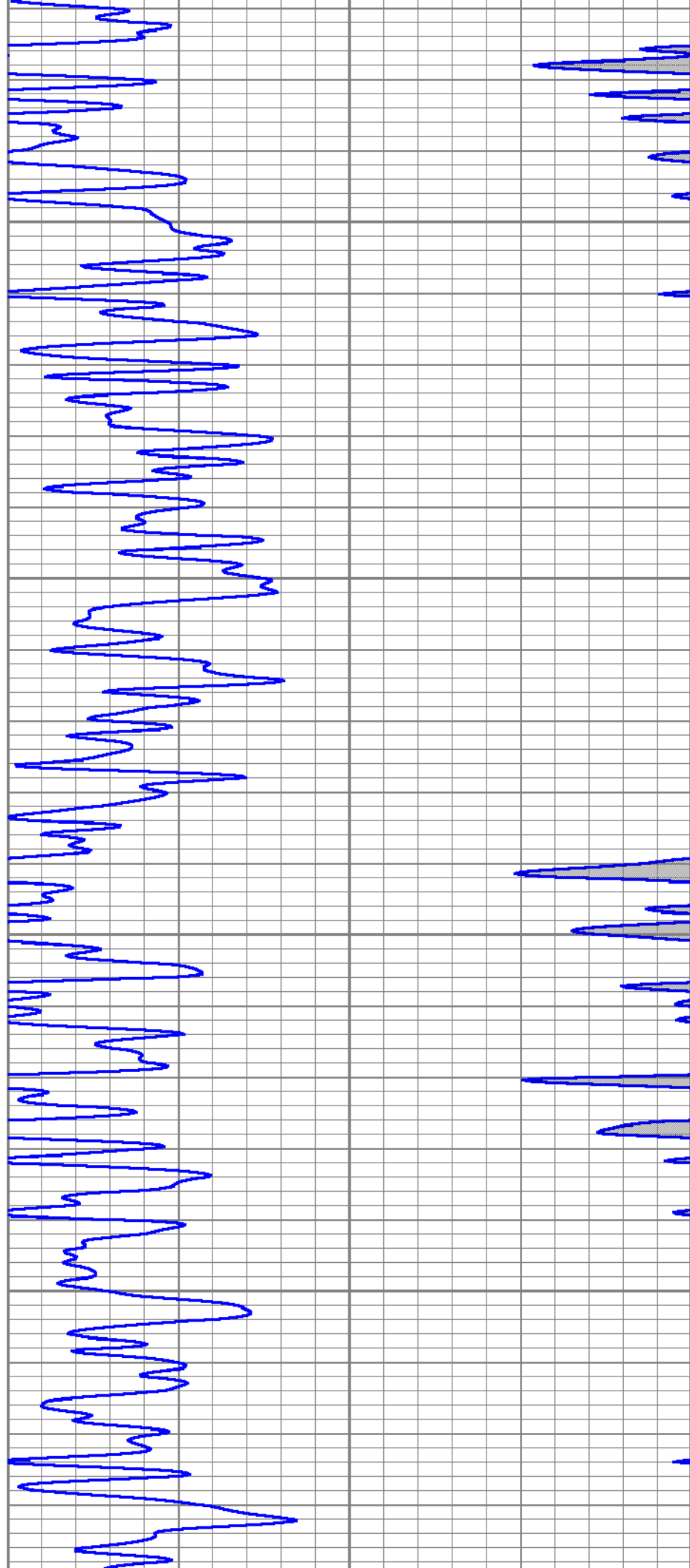


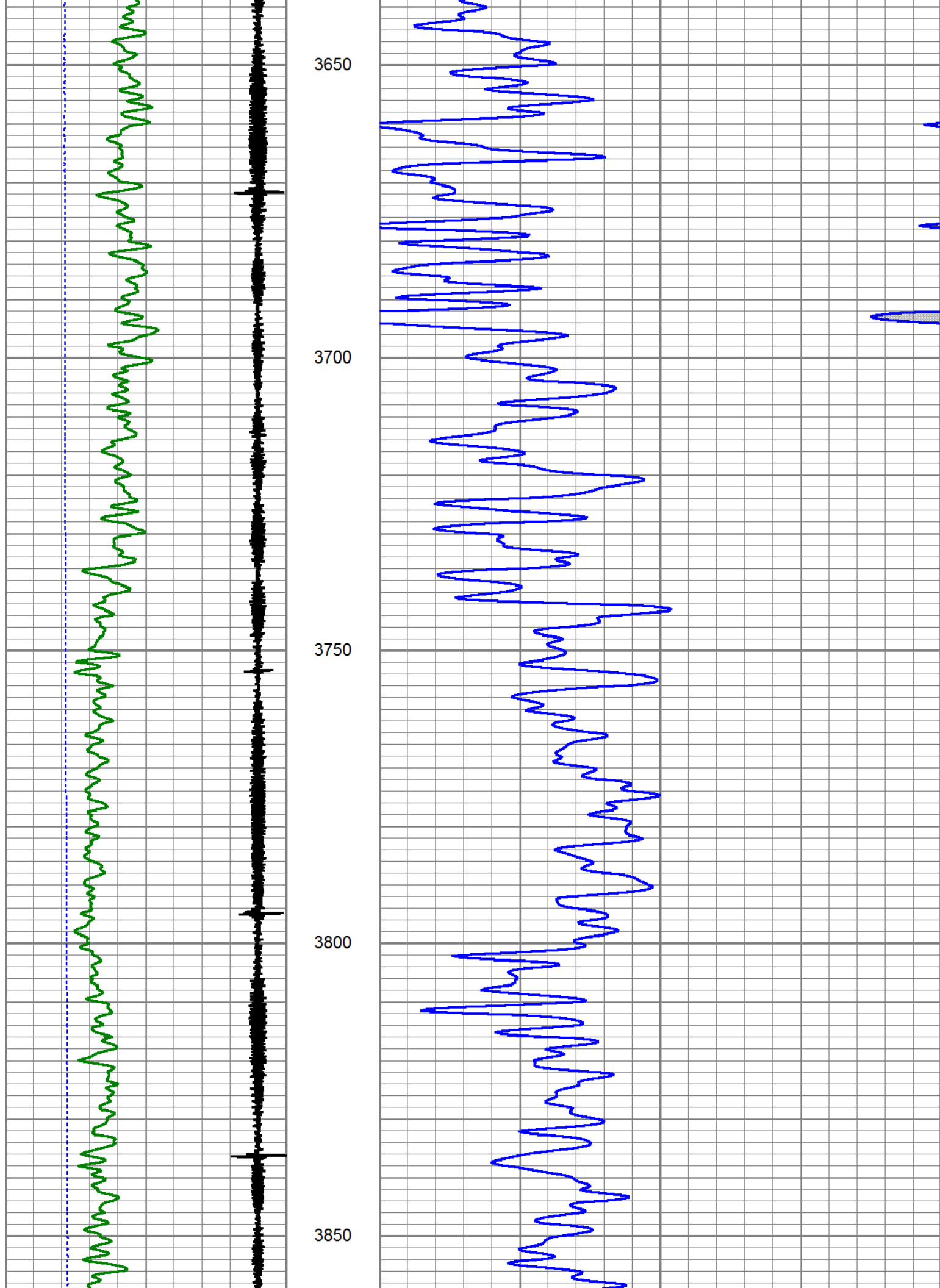
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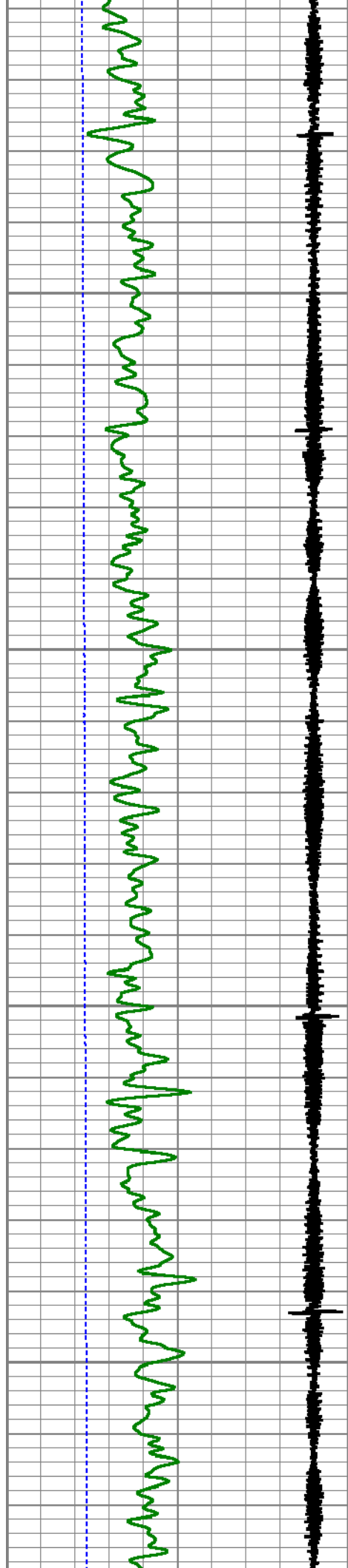
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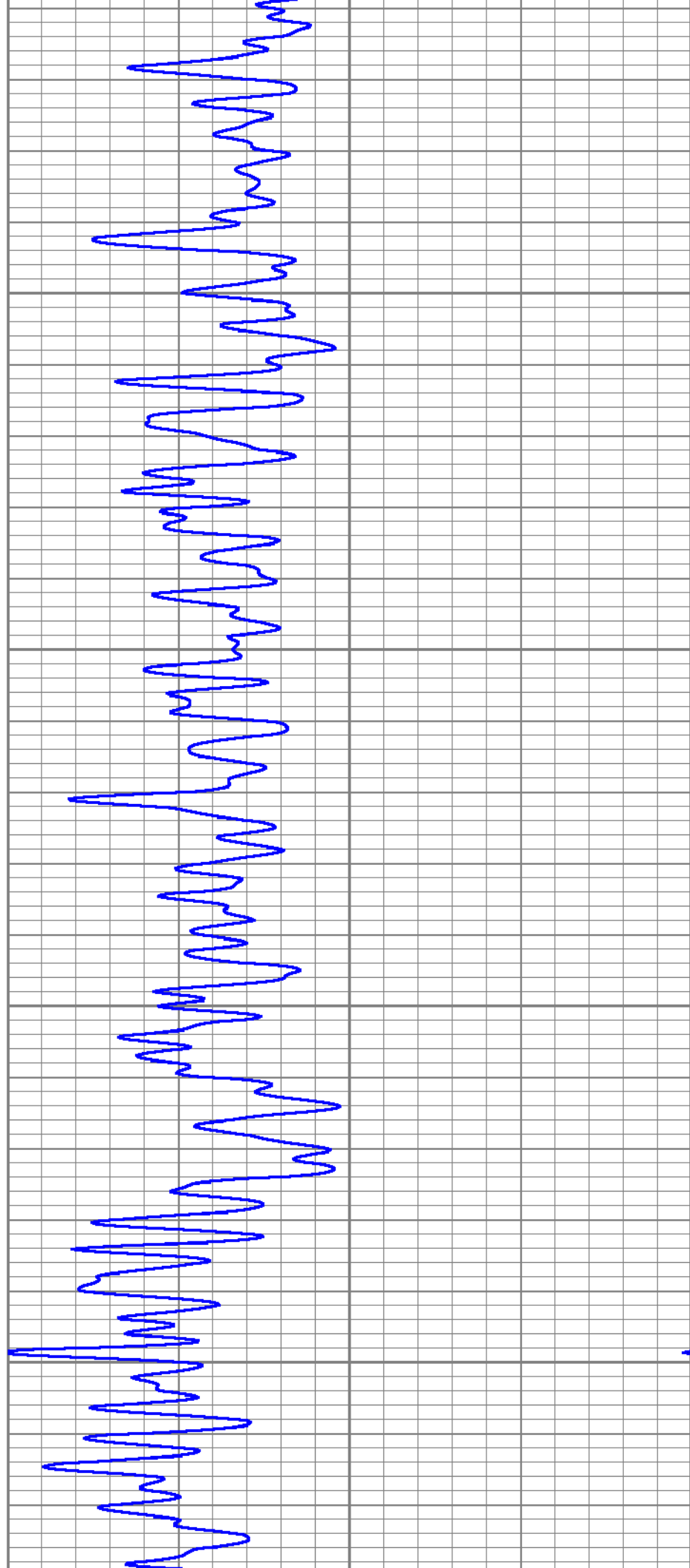


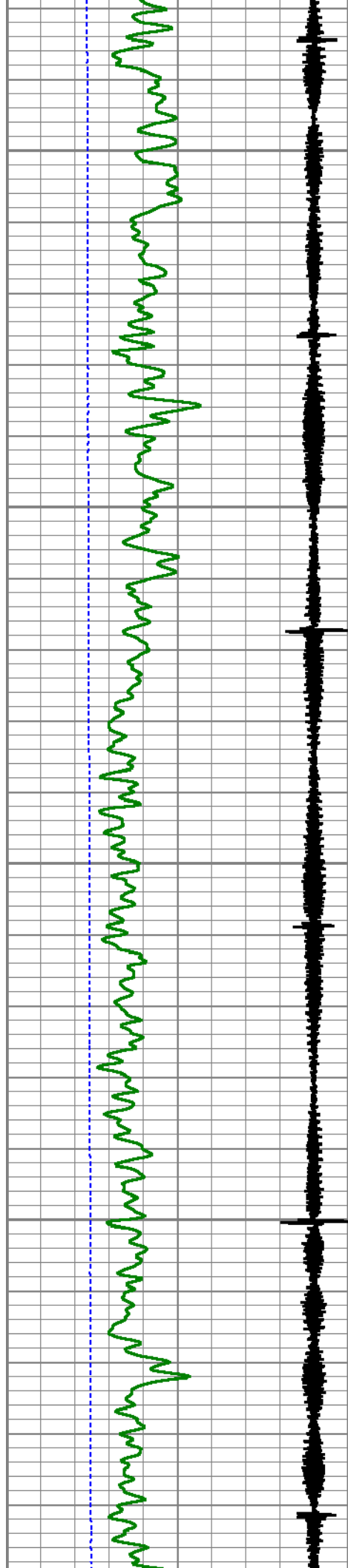
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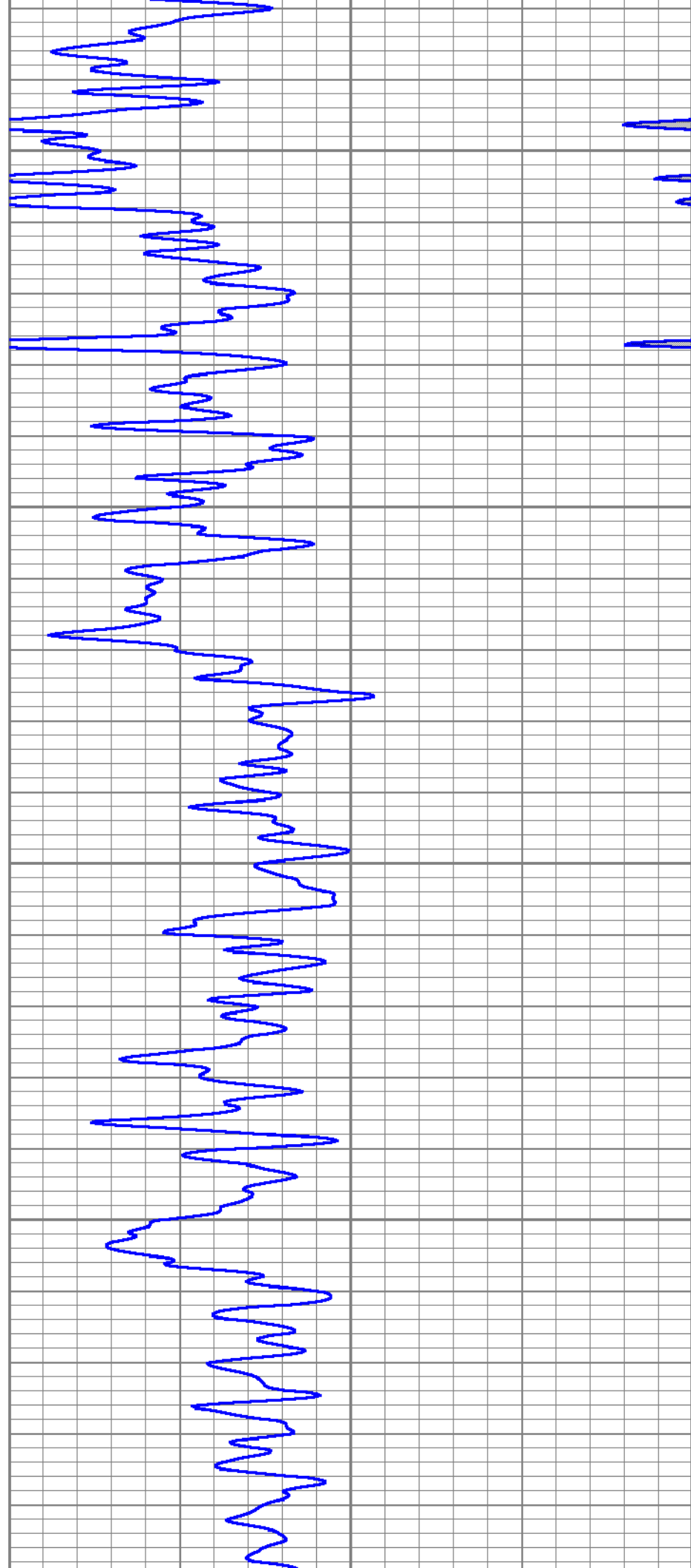


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4150

4200

4250



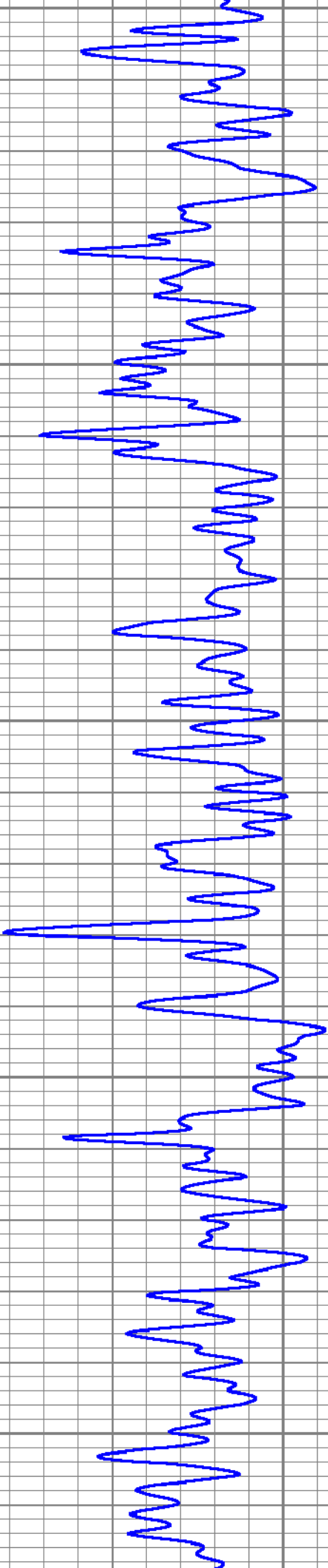
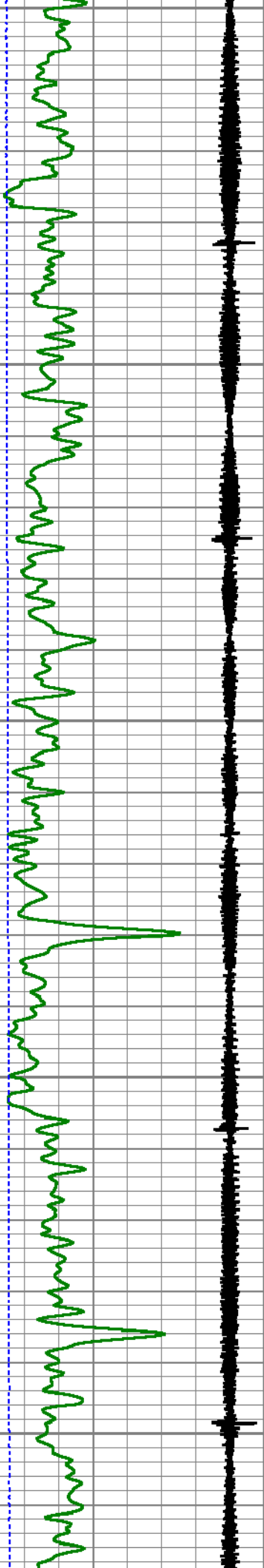
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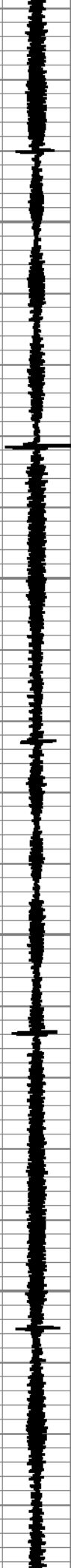
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4500



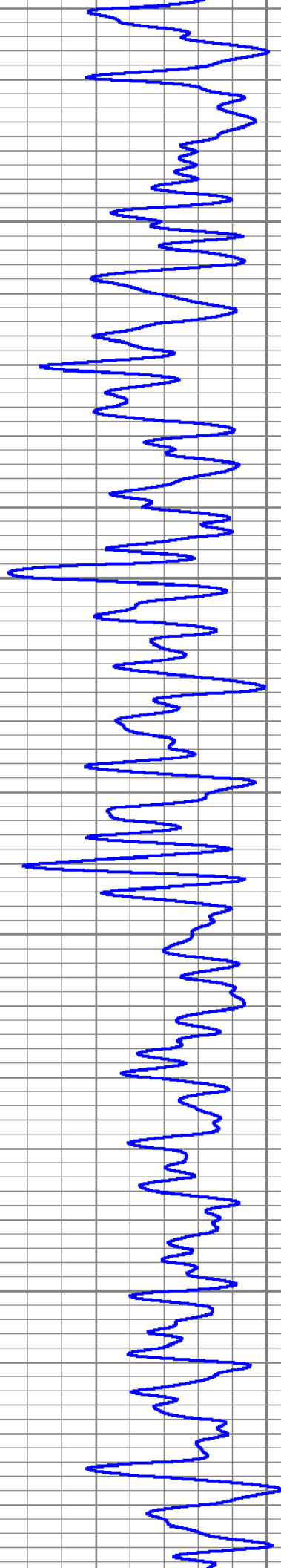


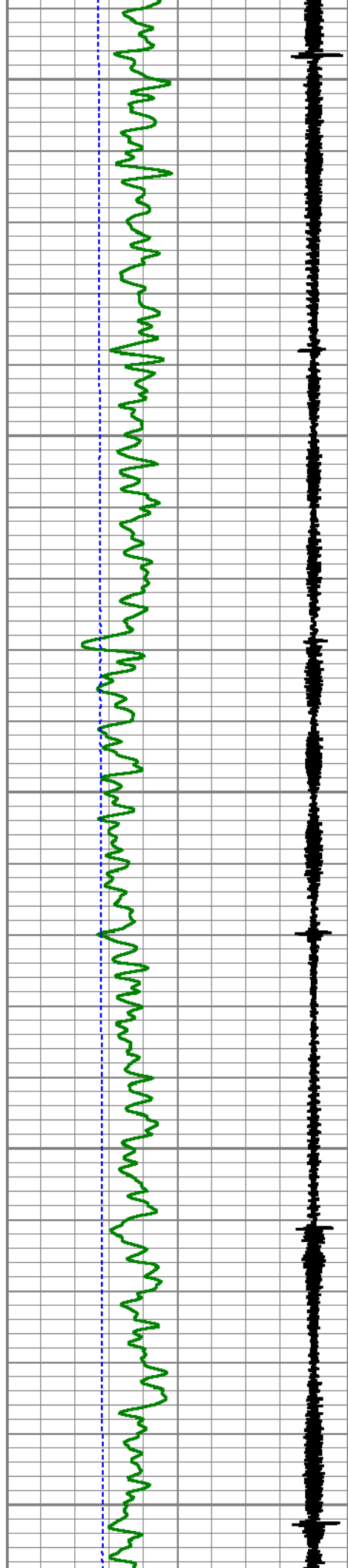
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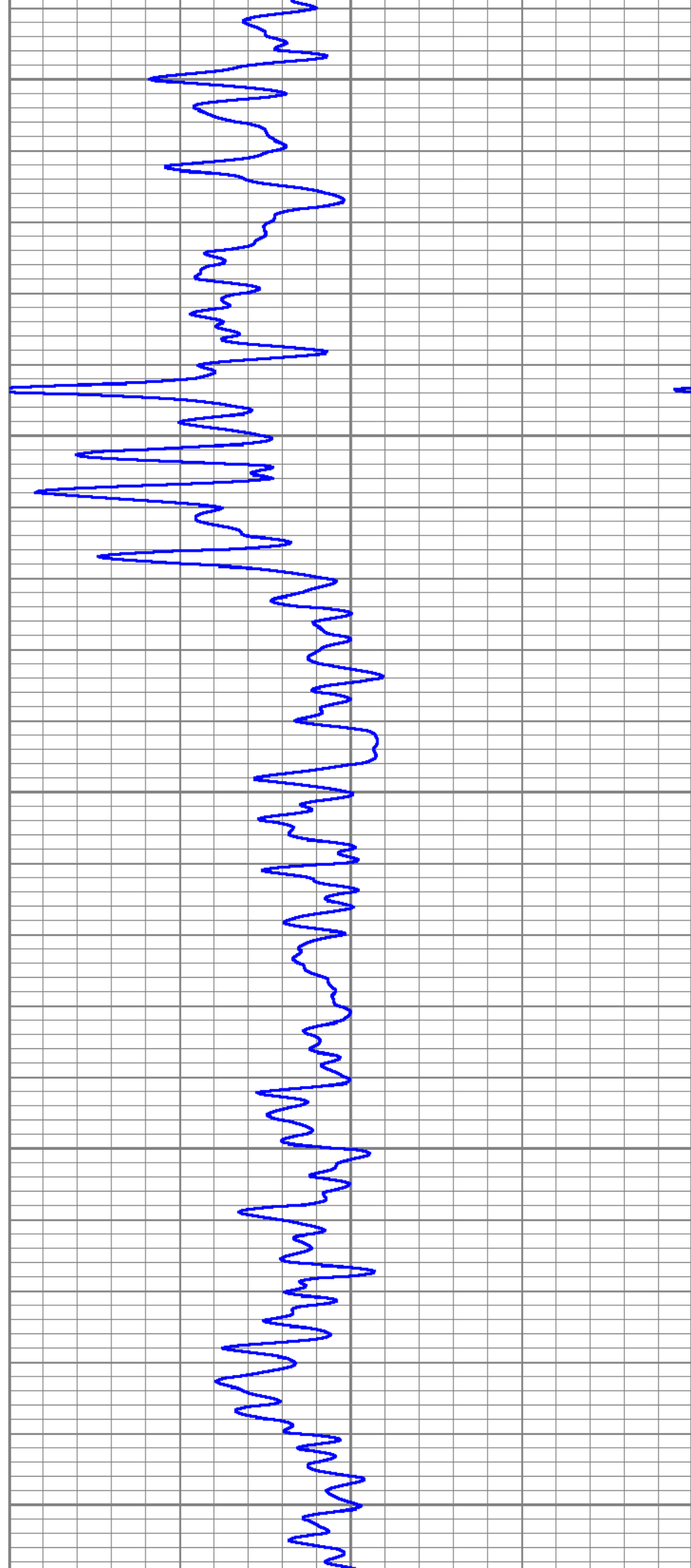
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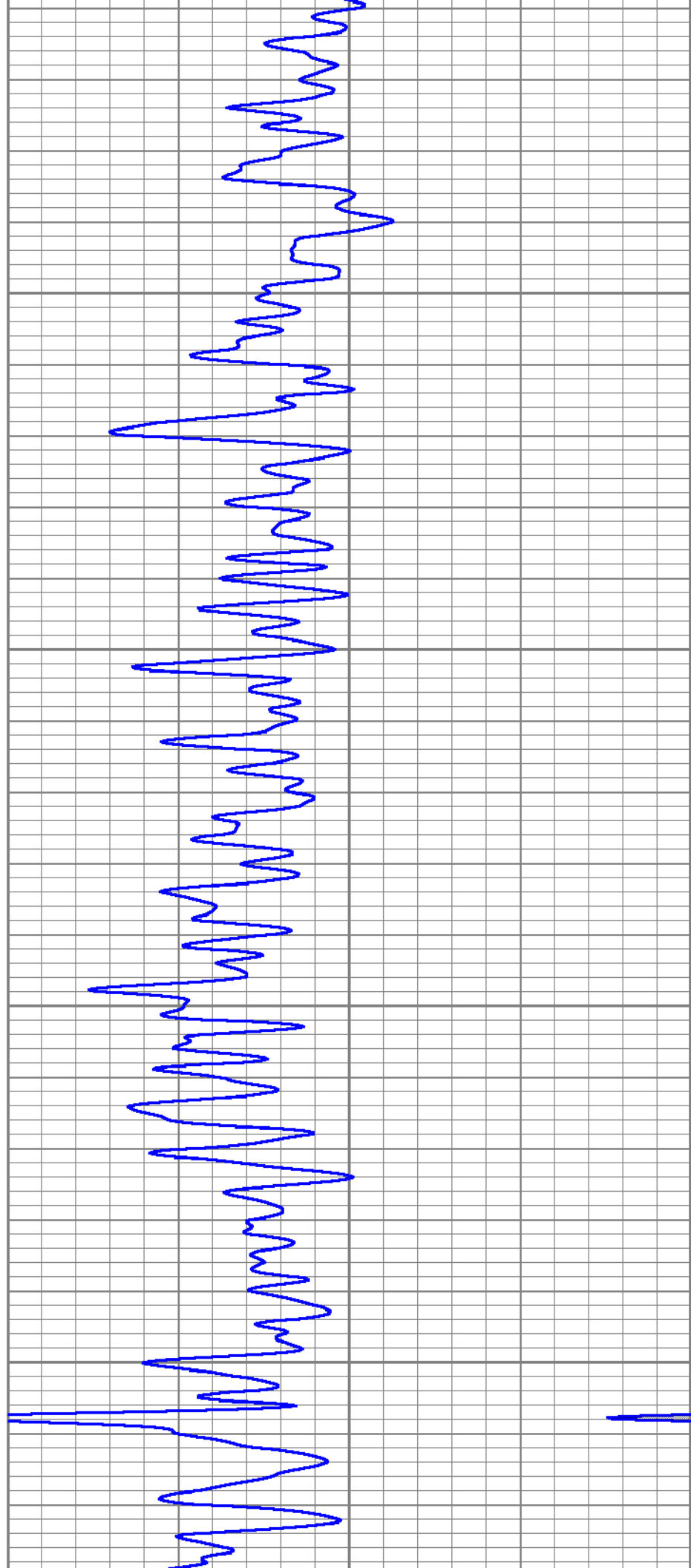
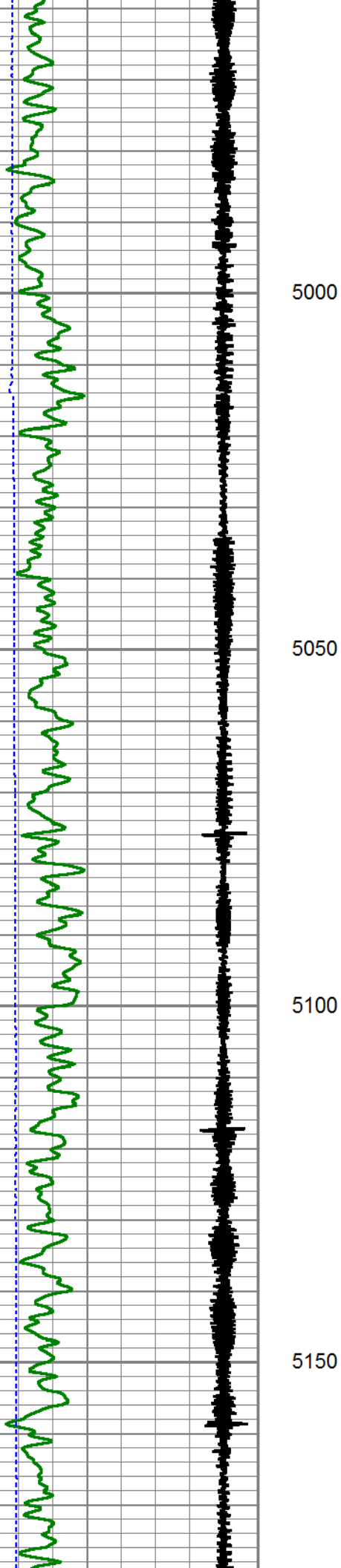
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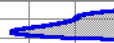
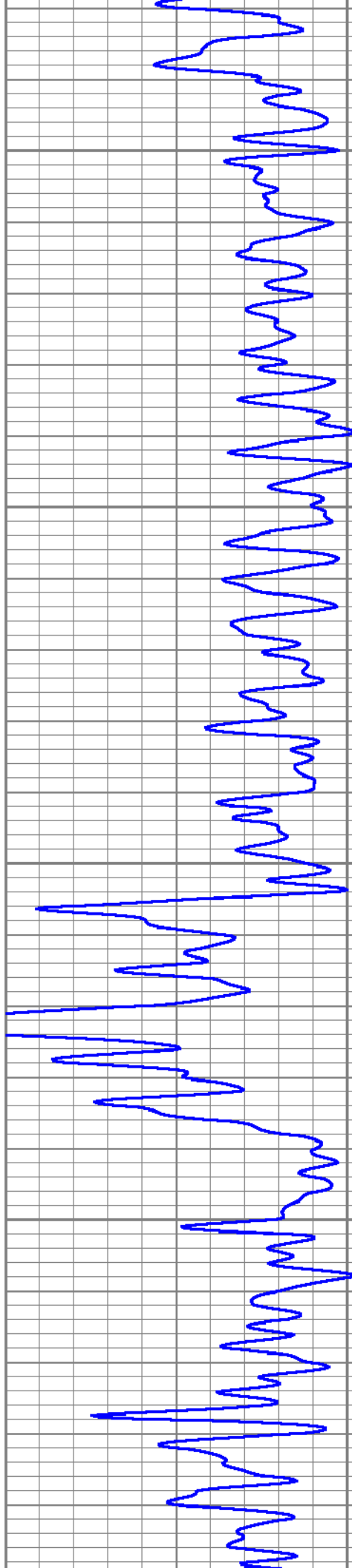


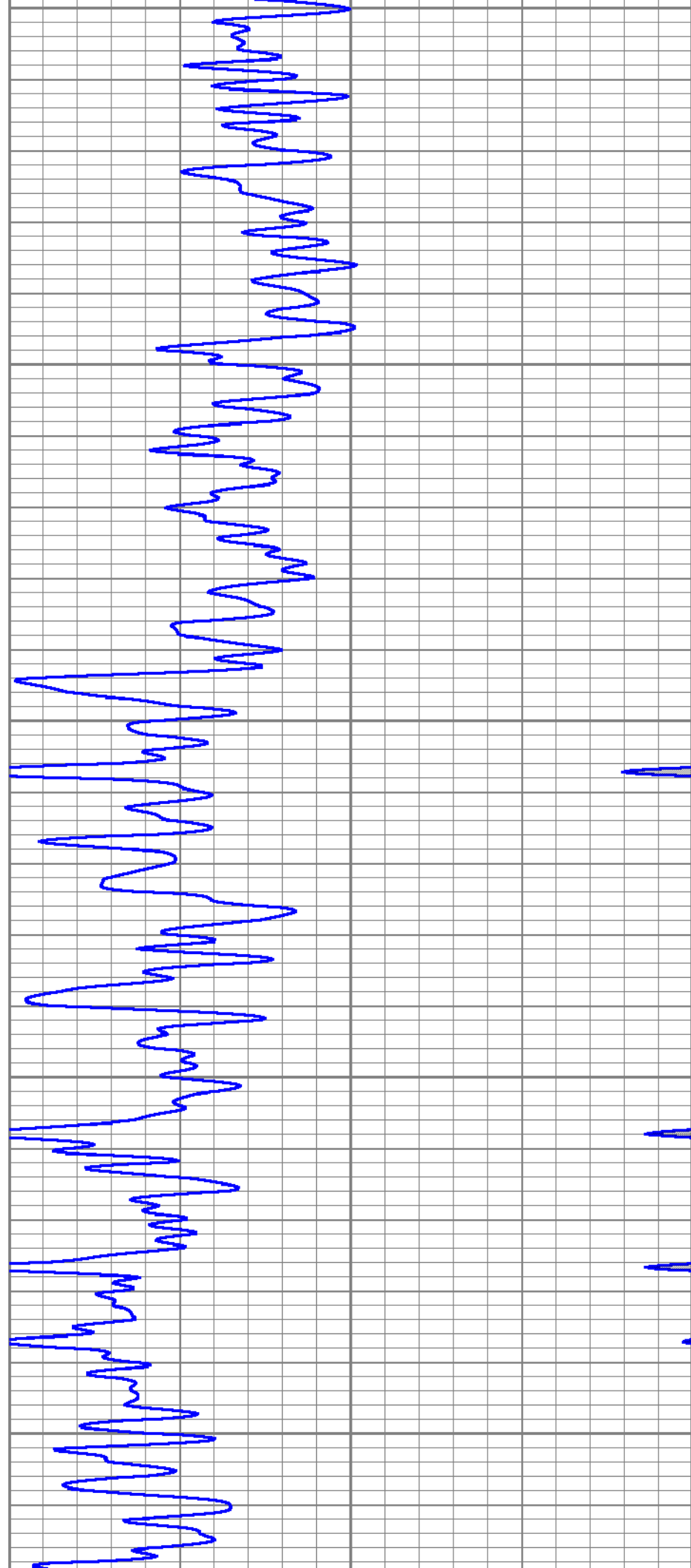
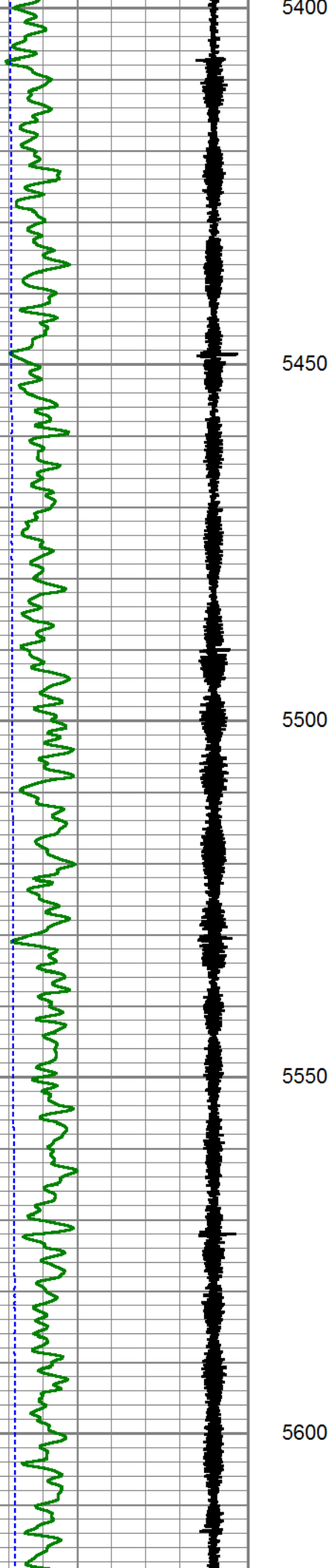
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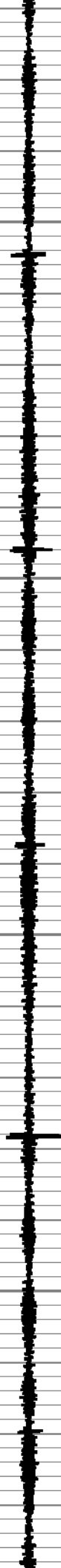
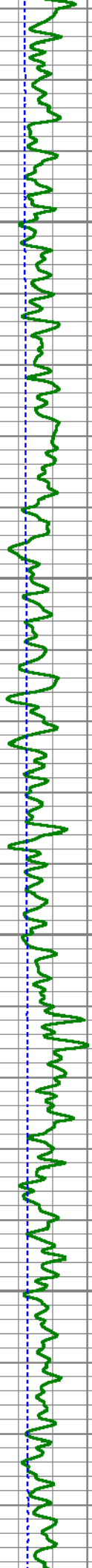
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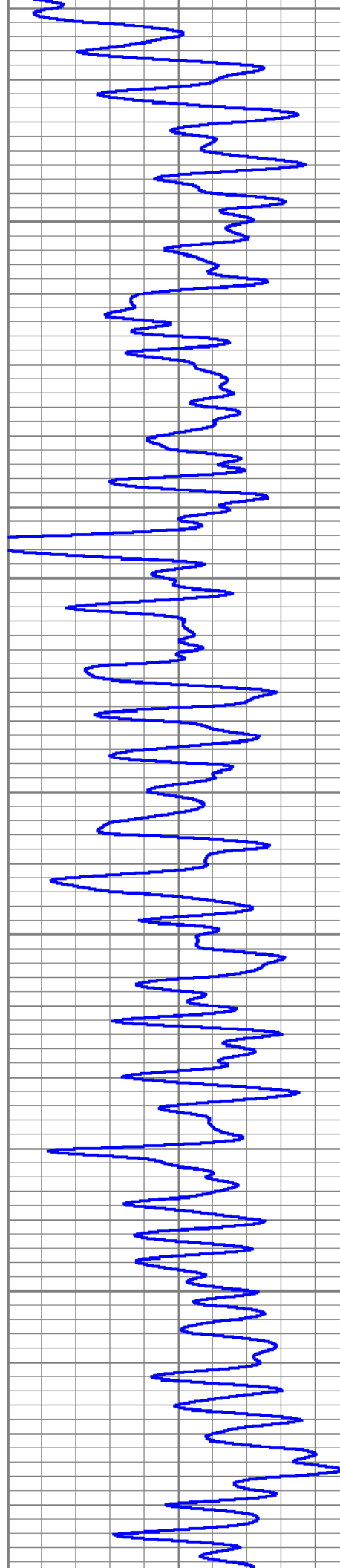


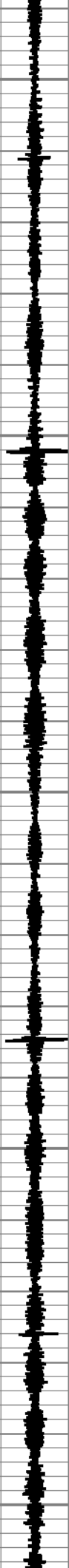
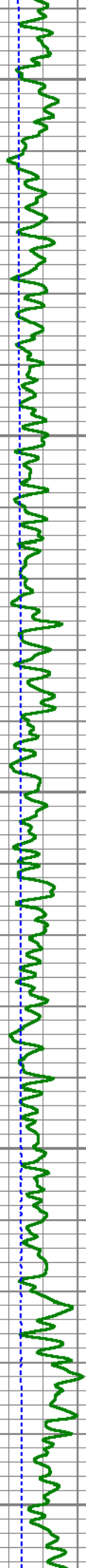
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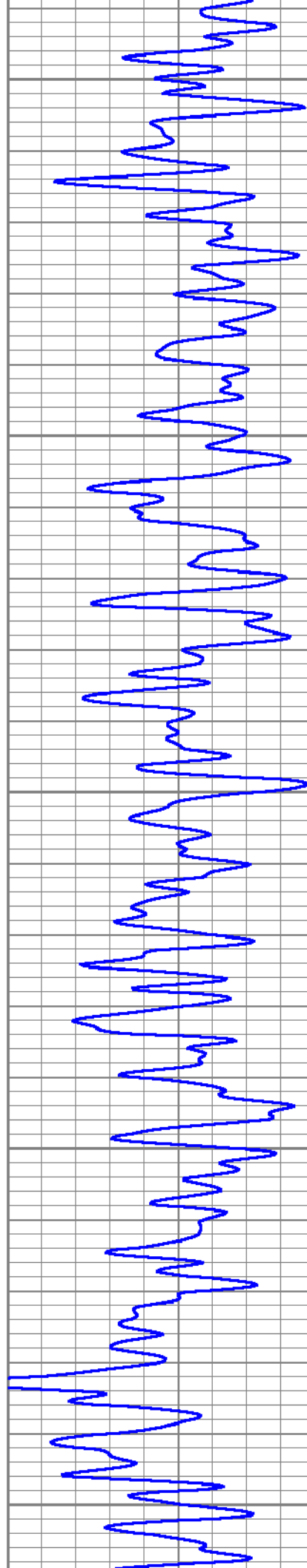
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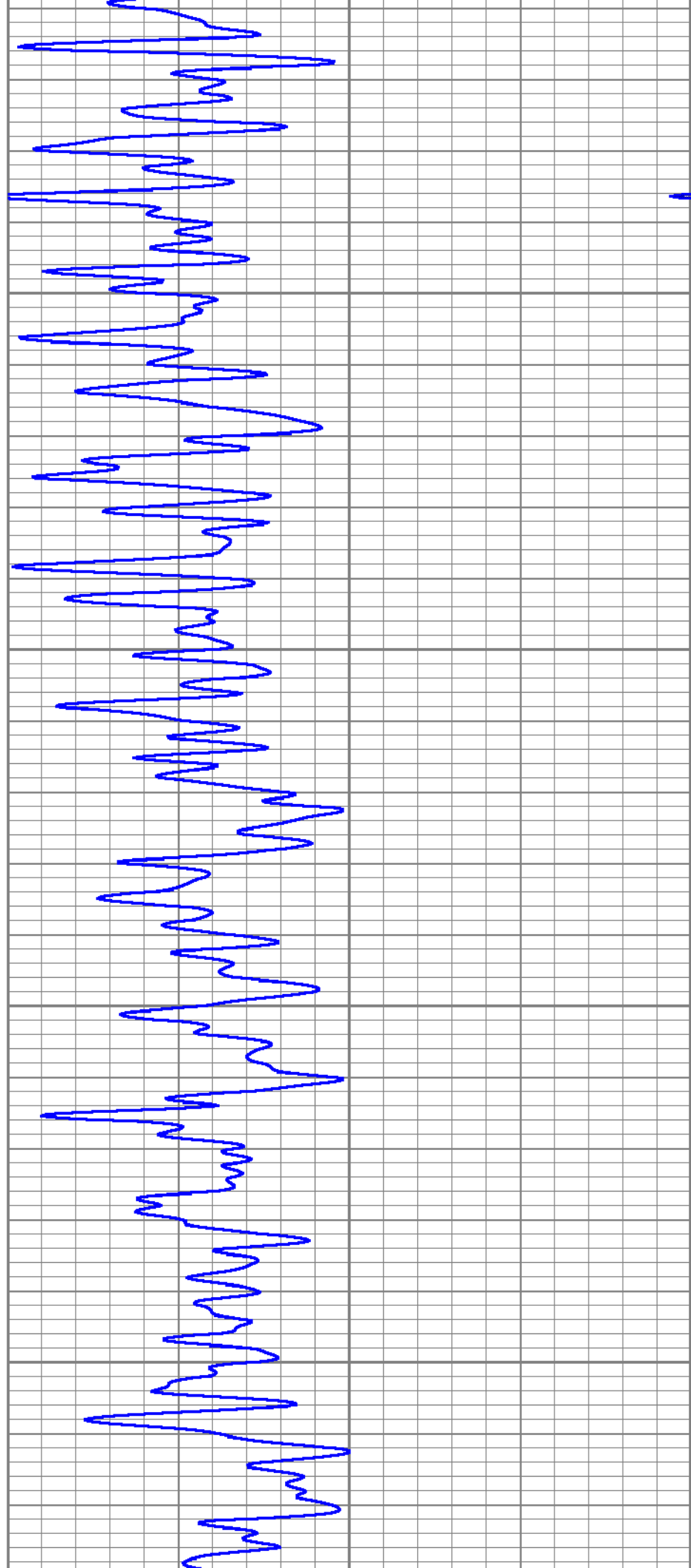
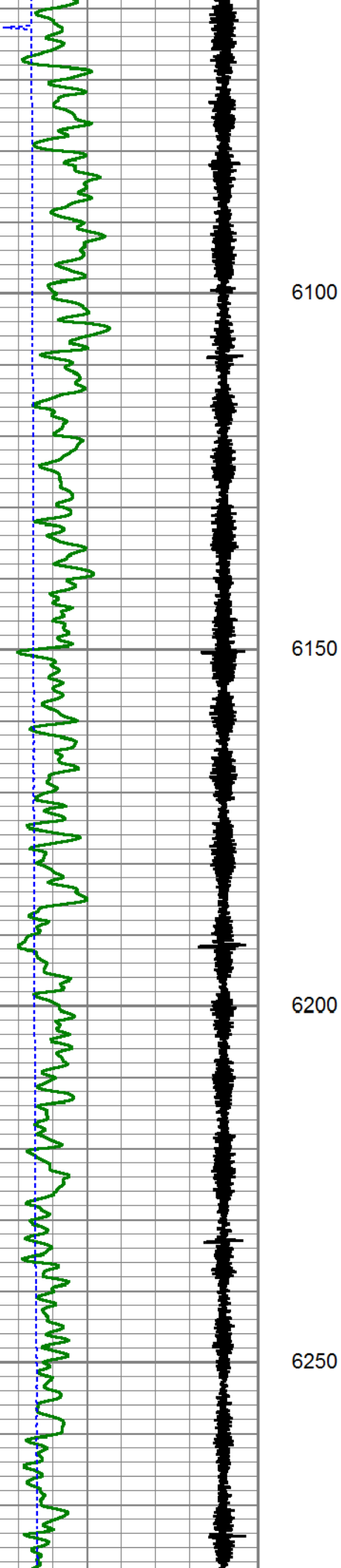
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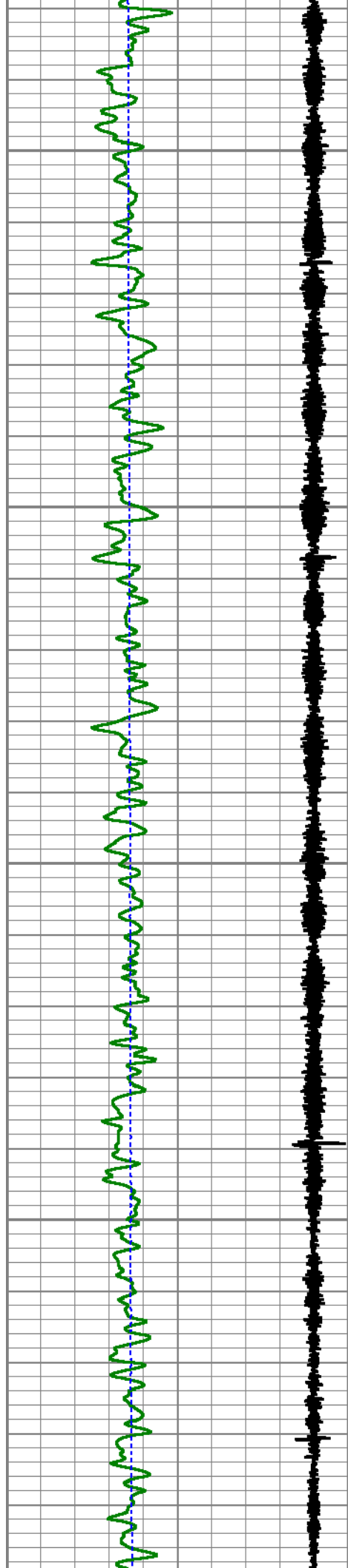
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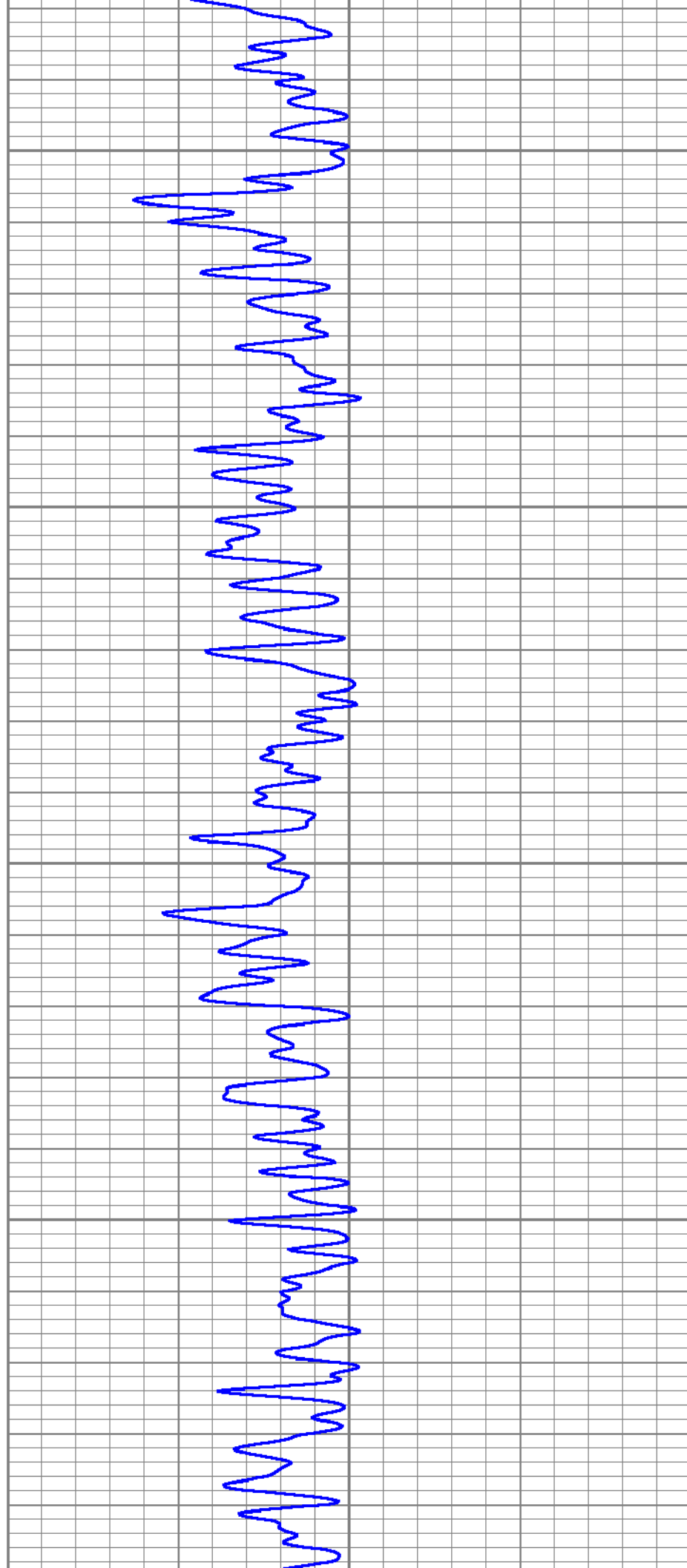


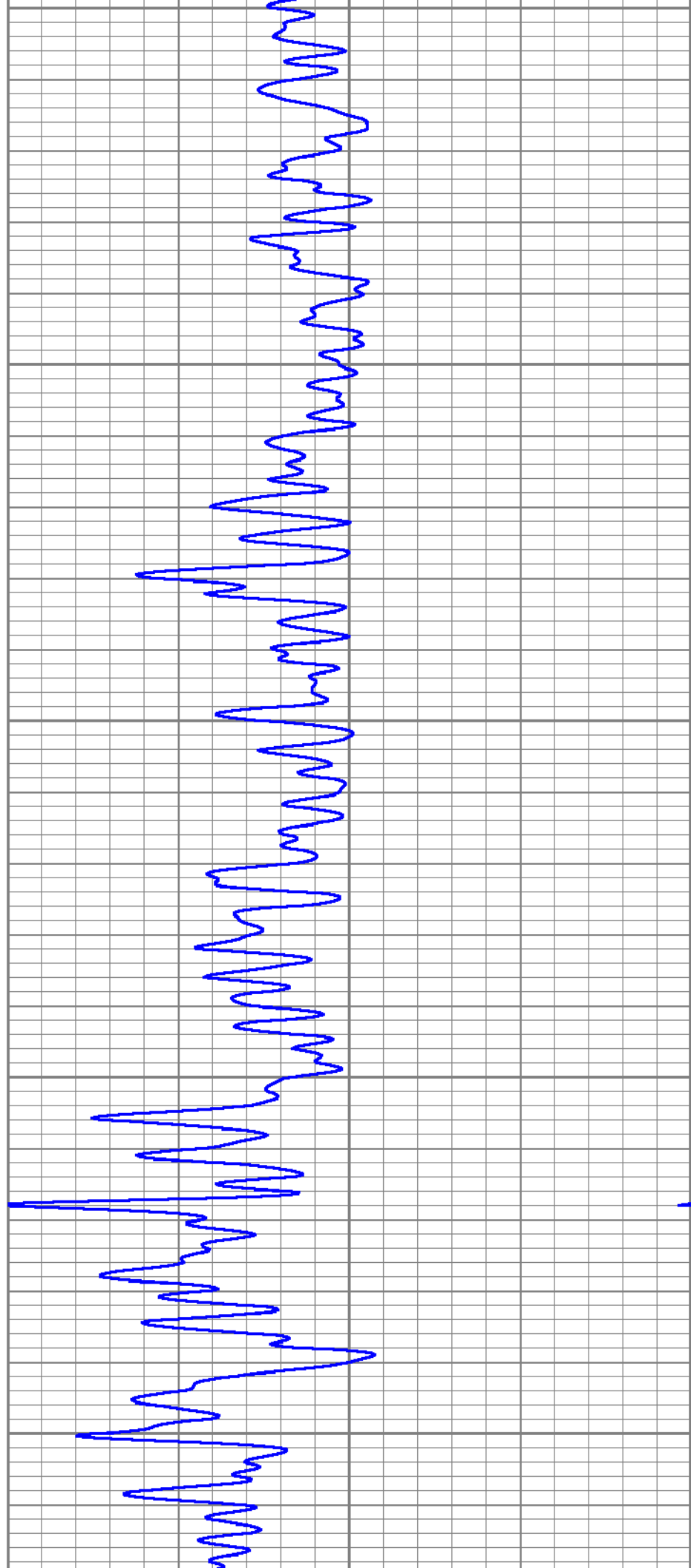
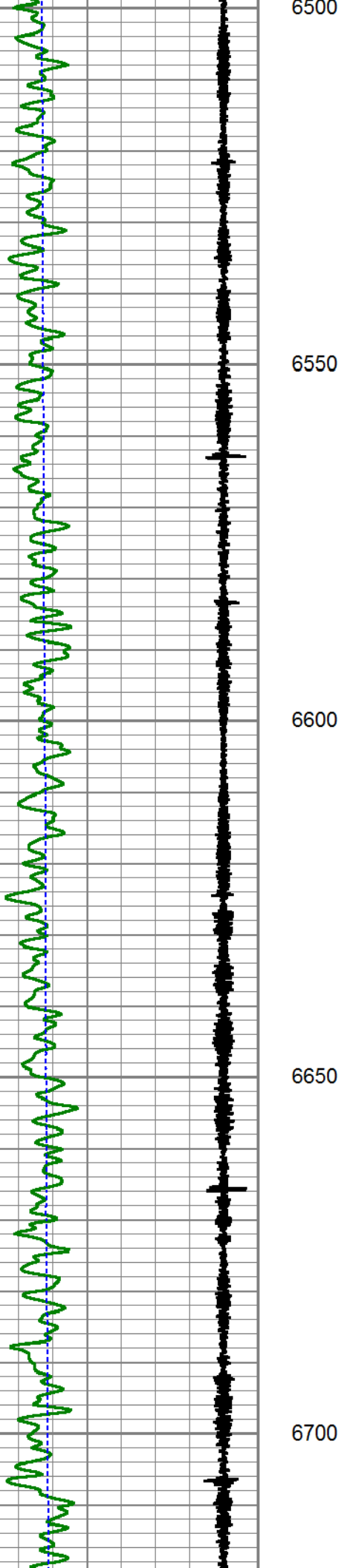
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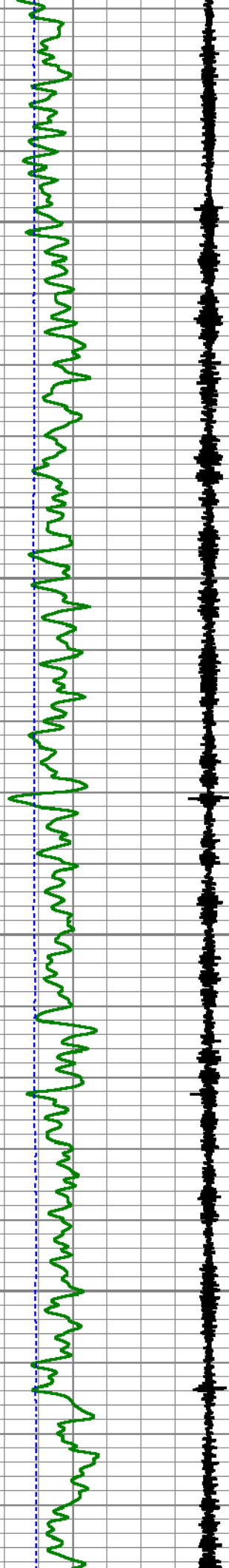
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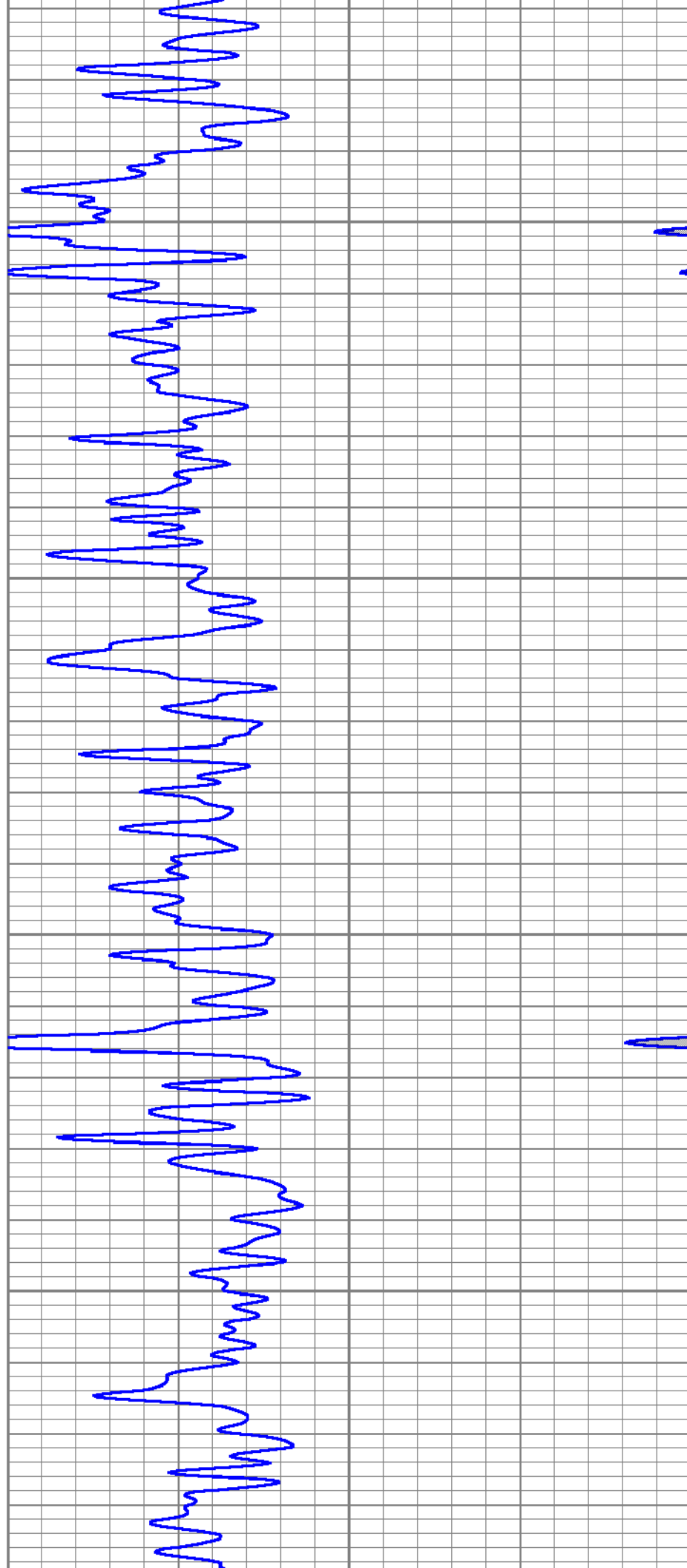


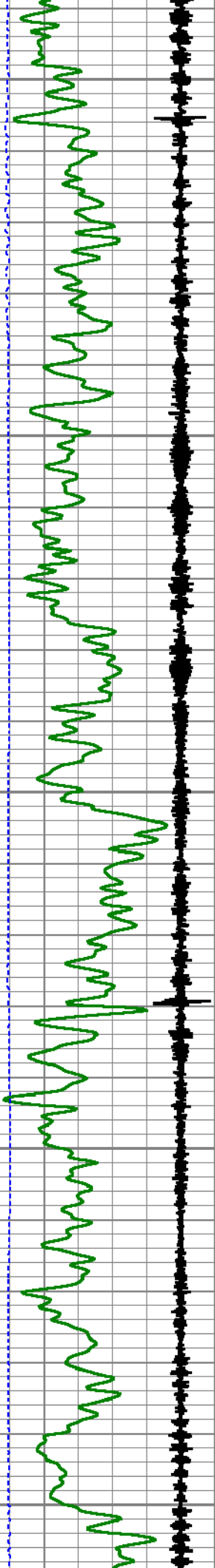
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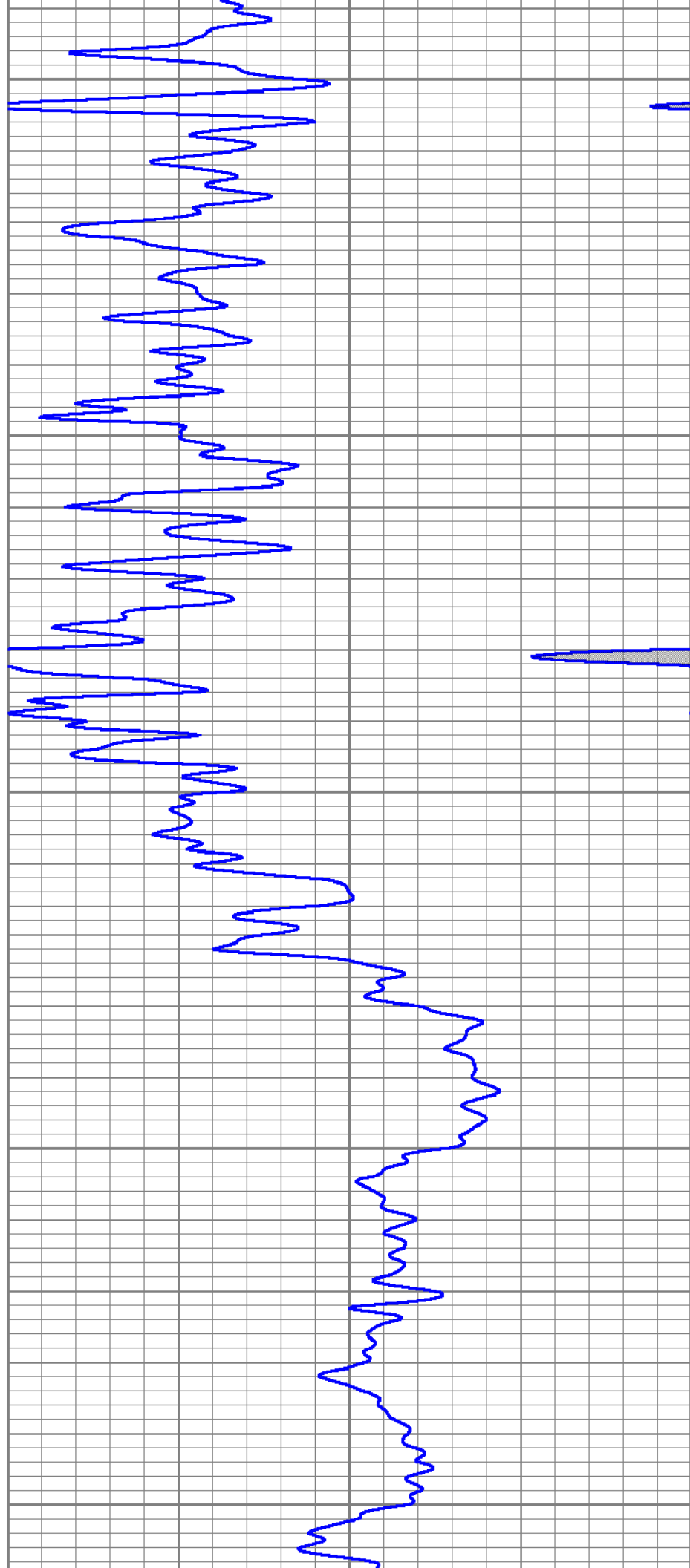
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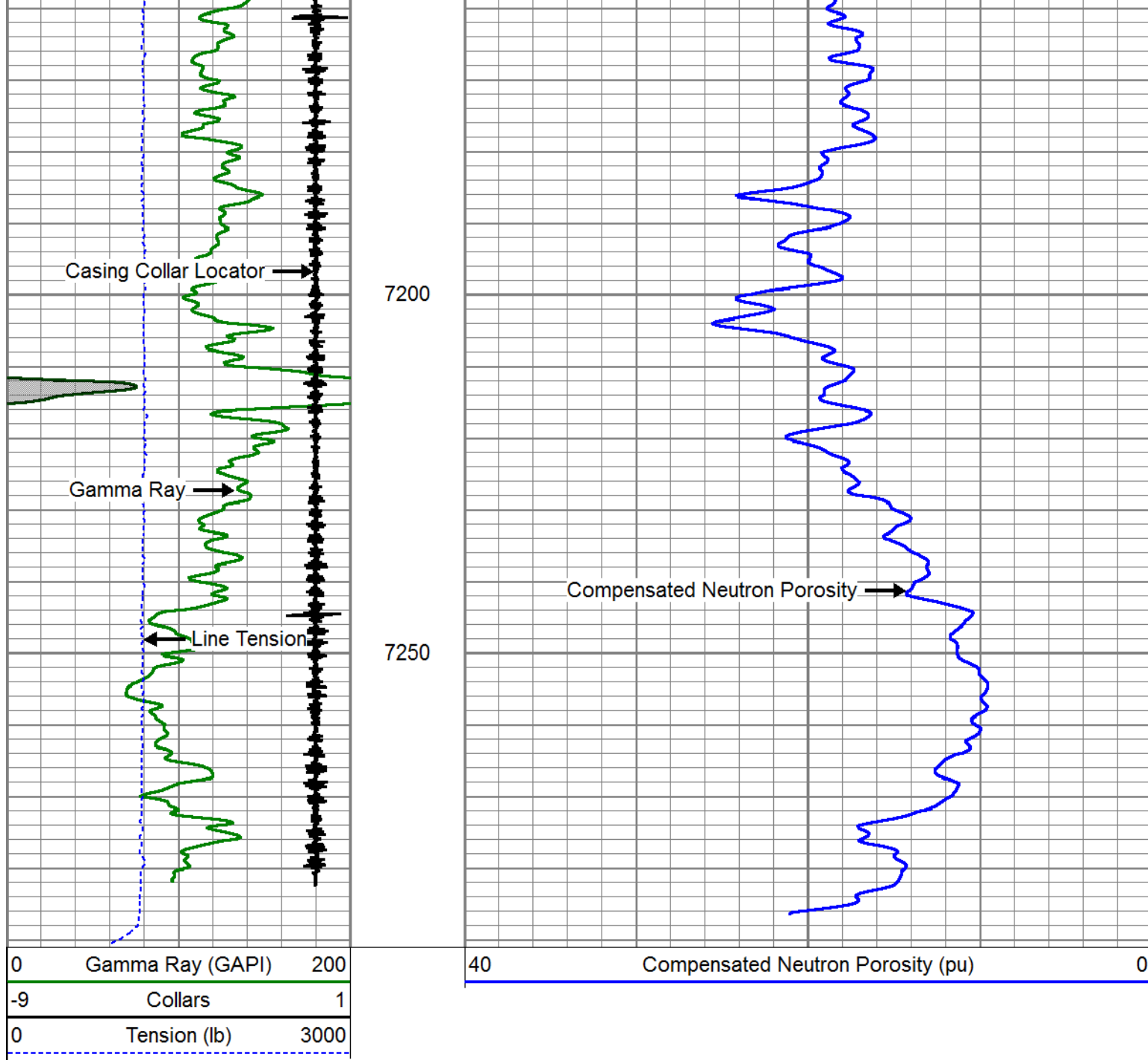
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7050

7100

7150





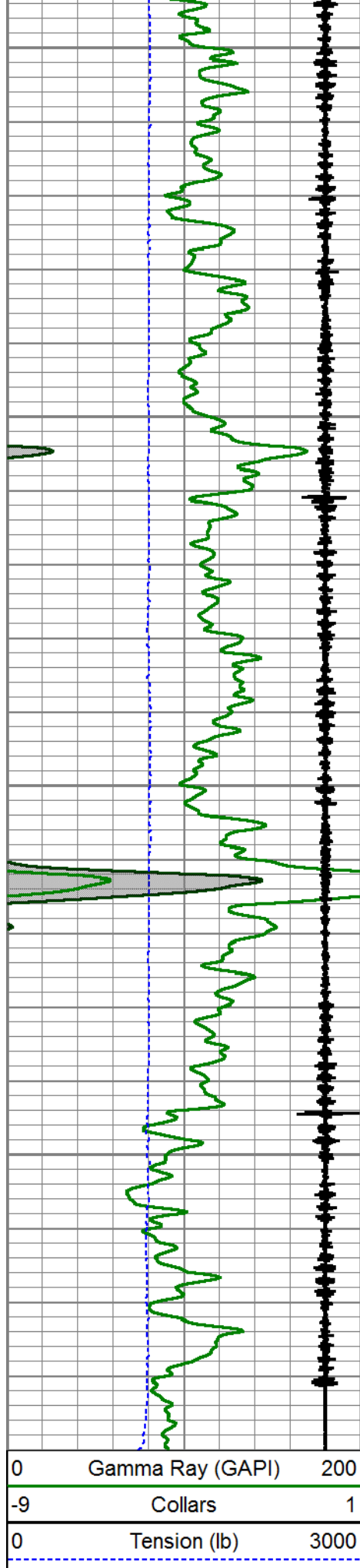


PIONEER
Pioneer Energy Services

REPEAT SECTION

Database File	pdc_wiedeman federal_22g-302_0.db
Dataset Pathname	pass2.3
Presentation Format	pinr_cnl
Dataset Creation	Sat Dec 09 13:32:15 2017
Charted by	Depth in Feet scaled 1:240

Track	Scale
Gamma Ray (GAPI)	0 to 200
Collars	-9 to 1
Tension (lb)	0 to 3000
Compensated Neutron Porosity (pu)	40 to 0



7100

7150

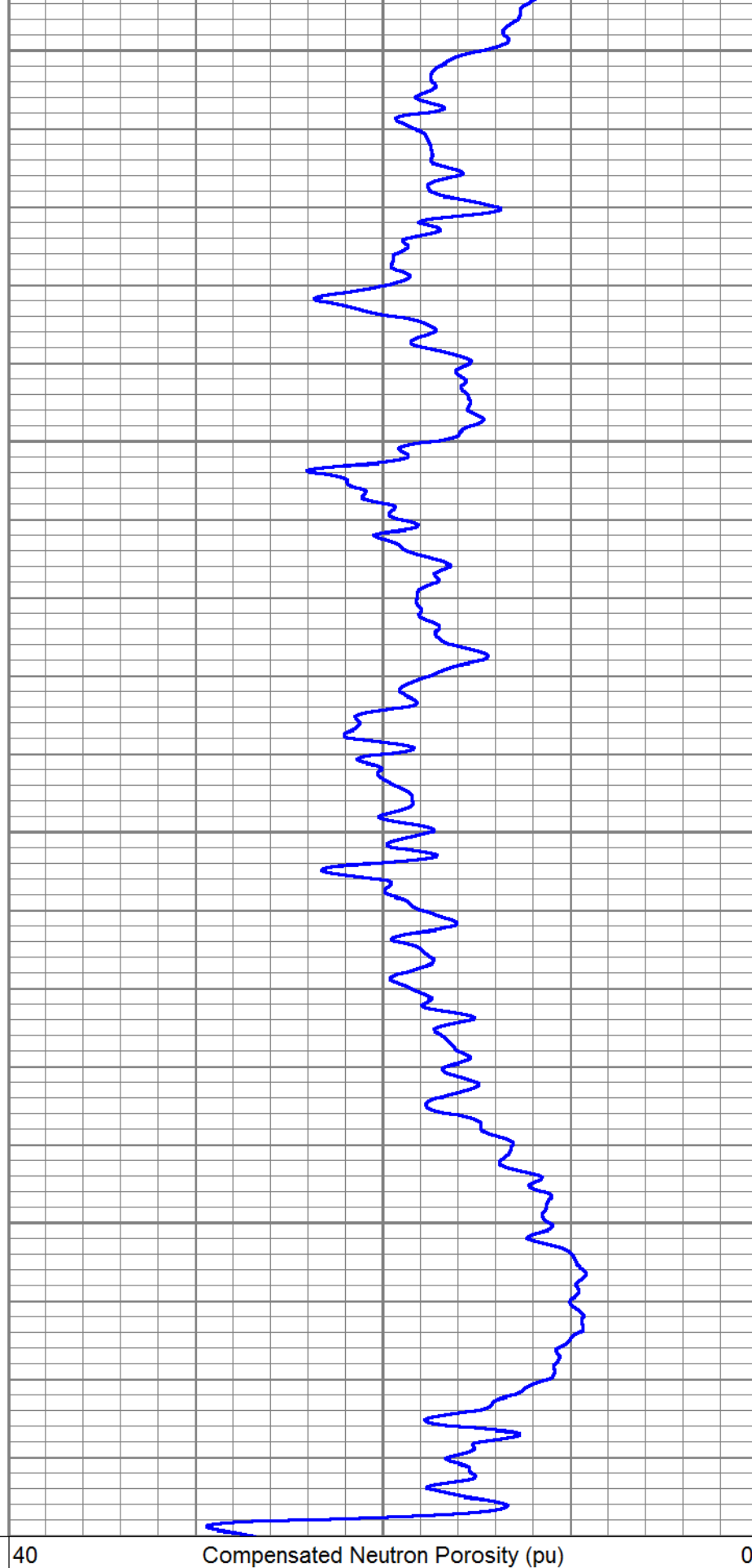
7200

7250

0 Gamma Ray (GAPI) 200

-9 Collars 1

0 Tension (lb) 3000



40 Compensated Neutron Porosity (pu) 0

Calibration Report

Database File pdc_wiedeman federal_22g-302_0.db
Dataset Pathname pass2.3
Dataset Creation Sat Dec 09 13:32:15 2017

Compensated Neutron Calibration Report

Type / Serial: PRB_DIG / 120950
Source / Verifier: /
Temperature:

SHOP CALIBRATION

Tue Nov 20 12:02:13 2012

	Cal Tube	Units
Tank Ratio		SS/LS
Tank Porosity		pu
LS Detector		cps
SS Detector		cps
Tool Ratio		SS/LS
Tool Porosity		pu

Tool Constant =

Field Verifier	SS Detector	LS Detector	Ratio	Porosity
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PRE-SURVEY VERIFICATION

SS Detector	LS Detector	Ratio	Porosity
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POST-SURVEY VERIFICATION

SS Detector	LS Detector	Ratio	Porosity
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Gamma Ray Calibration Report

Serial Number: FW1404-109
Tool Model: 275 Probe GR-CCL-6-Pin
Performed: Sat Dec 09 12:11:51 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.7100 GAPI/cps



Company	PDC ENERGY INC.
Well	WIEDEMAN FEDERAL #22G-302
Field	WATTENBERG
County	WELD
State	COLORADO