



PIONEER
Pioneer Energy Services

**DUAL IND / DUAL COMP
POROSITY LOG**

Company **EXTRACTION OIL & GAS**
Well **DARLENE EAST NO. 29N-20-11C**
Field **GROVER**
County **WELD**
State **COLORADO**

Company **EXTRACTION OIL & GAS**
Well **DARLENE EAST NO. 29N-20-11C**
Field **GROVER**
County **WELD** State **COLORADO**

Location: API #: 05-123-45416-00
363' FSL & 1942' FEL
SEC 29 TWP 12N RGE 61W
Permanent Datum **GROUND LEVEL** Elevation **5247'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**
Other Services
NONE
K.B. 5272'
D.F. N/A
G.L. 5247'

Date	10/12/2017
Run Number	ONE
Depth Driller	17387'
Depth Logger	6820'
Bottom Logged Interval	6819'
Top Log Interval	1500'
Casing Driller	9.625" @ 1597'
Casing Logger	1510'
Bit Size	8.5"
Type Fluid in Hole	OIL BASED MUD
Salinity, ppm CL	N/A
Density / Viscosity	9.7 N/A
pH / Fluid Loss	N/A N/A
Source of Sample	FLOWLINE
Rim @ Meas. Temp	N/A @ N/A
Rimf @ Meas. Temp	N/A @ N/A
Rmc @ Meas. Temp	N/A @ N/A
Source of Rimf / Rmc	CHARTS
Rim @ BHT	N/A @ N/A
Operating Rig Time	2 HOURS
Max Rec. Temp. F	N/A
Equipment Number	108
Location	HAYS
Recorded By	J. HENRICKSON
Witnessed By	TODD STEPHENS

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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.

SO # 17BE

NO FOCUS TOOL DUE TO OIL BASED MUD

Log Measured From: KELLY BUSHING

25 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES

www.pioneerenergy.com

785-625-3858

Your Pioneer Energy Services Crew

Engineer: J. HENRICKSON

Operator:

Operator:

Operator:

This Log Record Was Witnessed By

Primary Witness: TODD STEPHENS

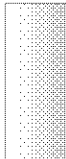

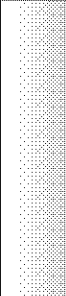
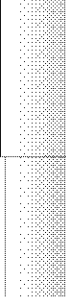

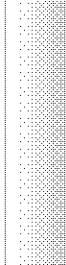
Secondary Witness:

Secondary Witness:

Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 8.5	degF 100	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 0	mmho/m 0	mV 0	degF 58	Off	ft 6820

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC	29.90			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15						
LSD DCAL SSD	20.85			CDL-M&W (168-986)	8.50	4.00	250.00
	20.83						
	20.35						
RLL3	15.80						
RLL3F	15.79						
CILD	8.00			DIL-M&W (1987)	18.50	3.50	220.00

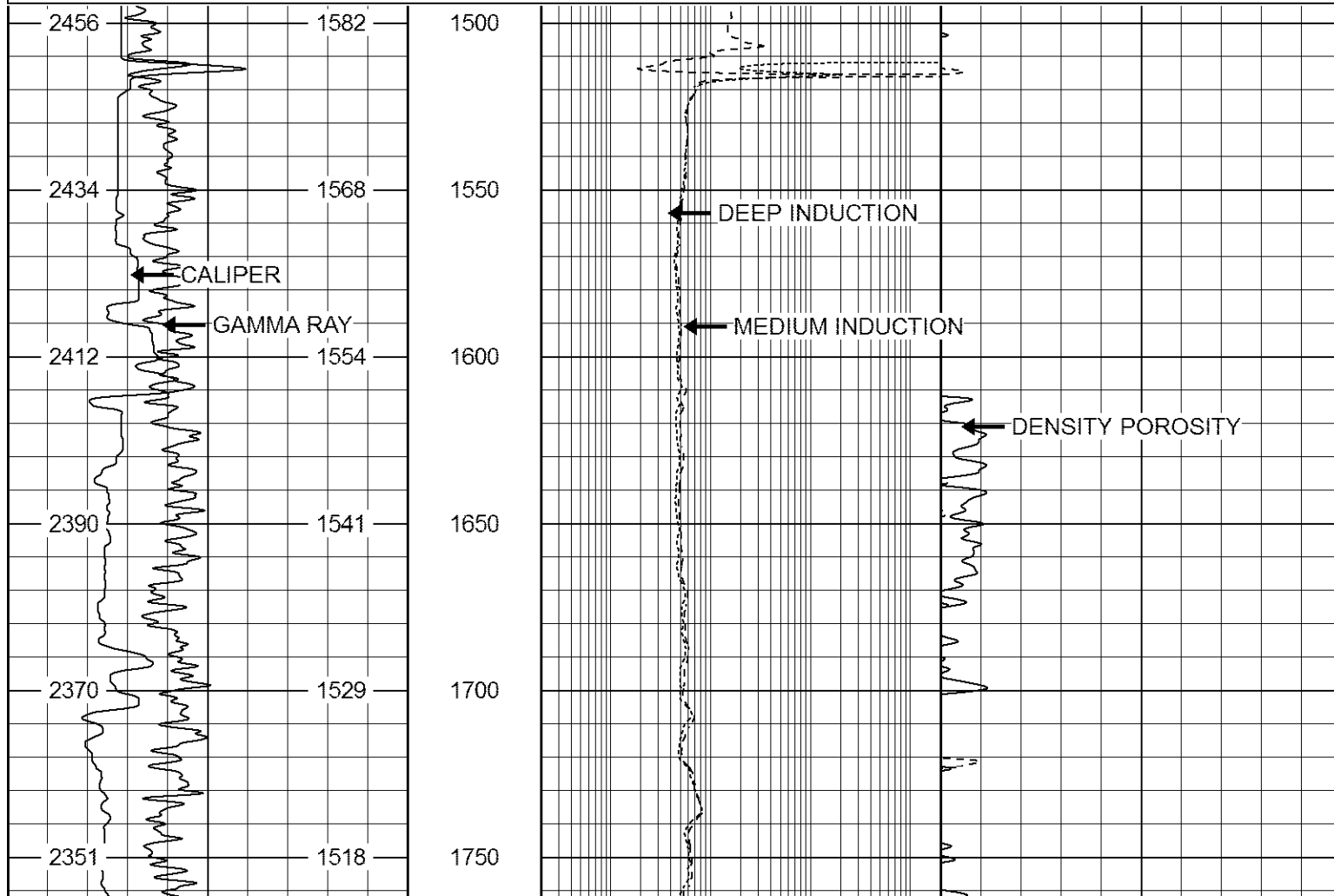
CILM	4.70								
SP	0.20								
Dataset: extraction_darlene_east_29n_20_11c.db: field/well/stack/pass3.1 Total length: 35.50 ft Total weight: 620.00 lb O.D.: 4.00 in									

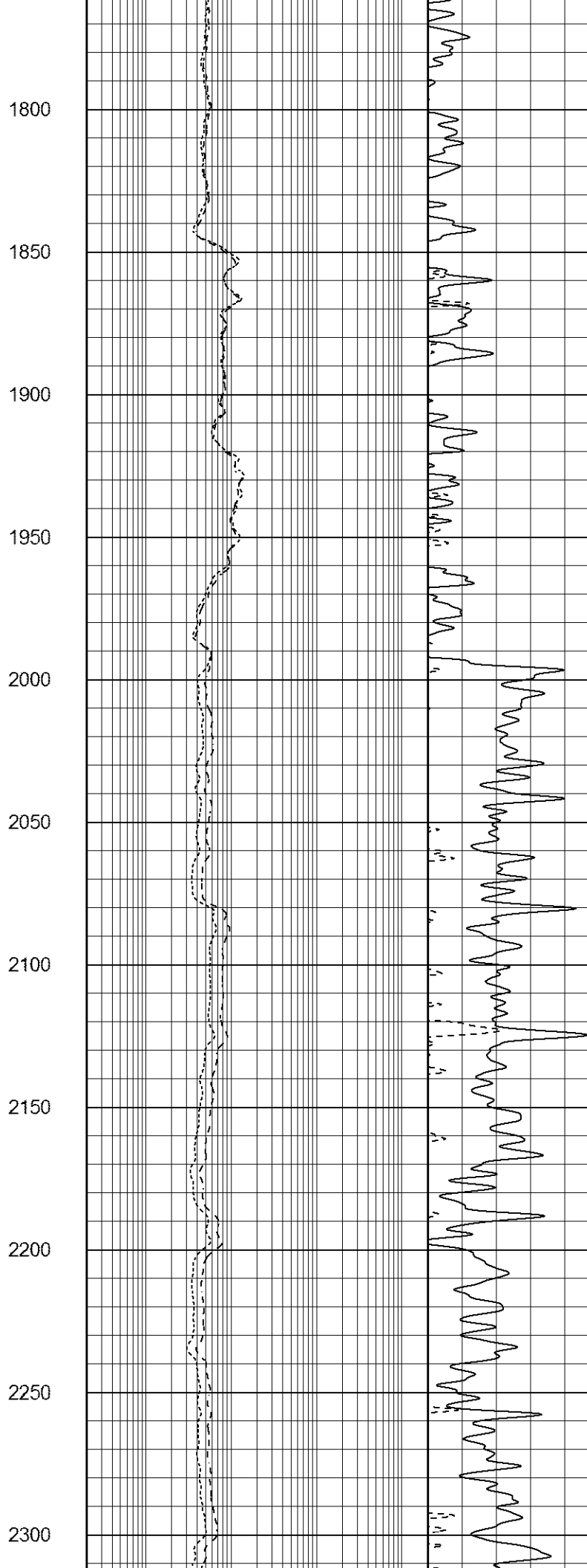
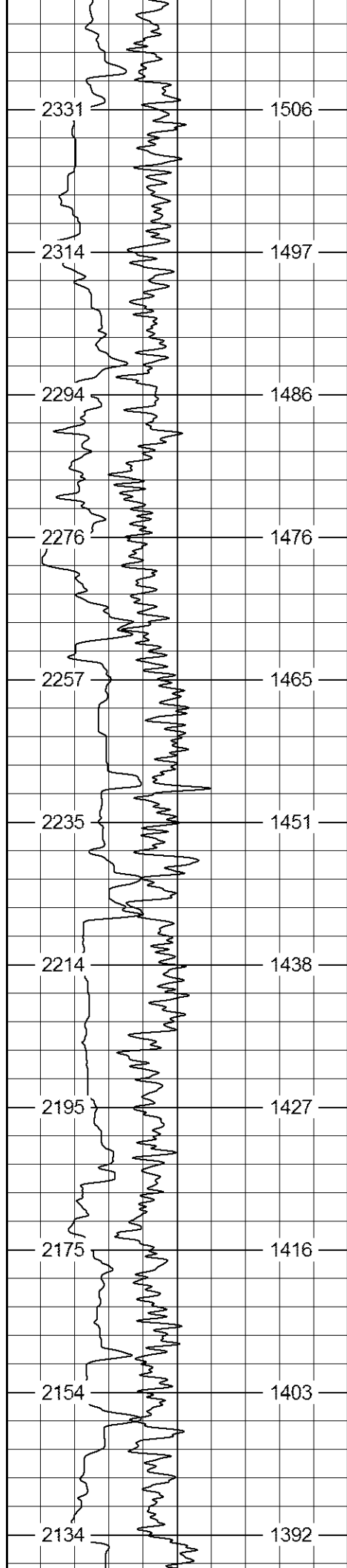


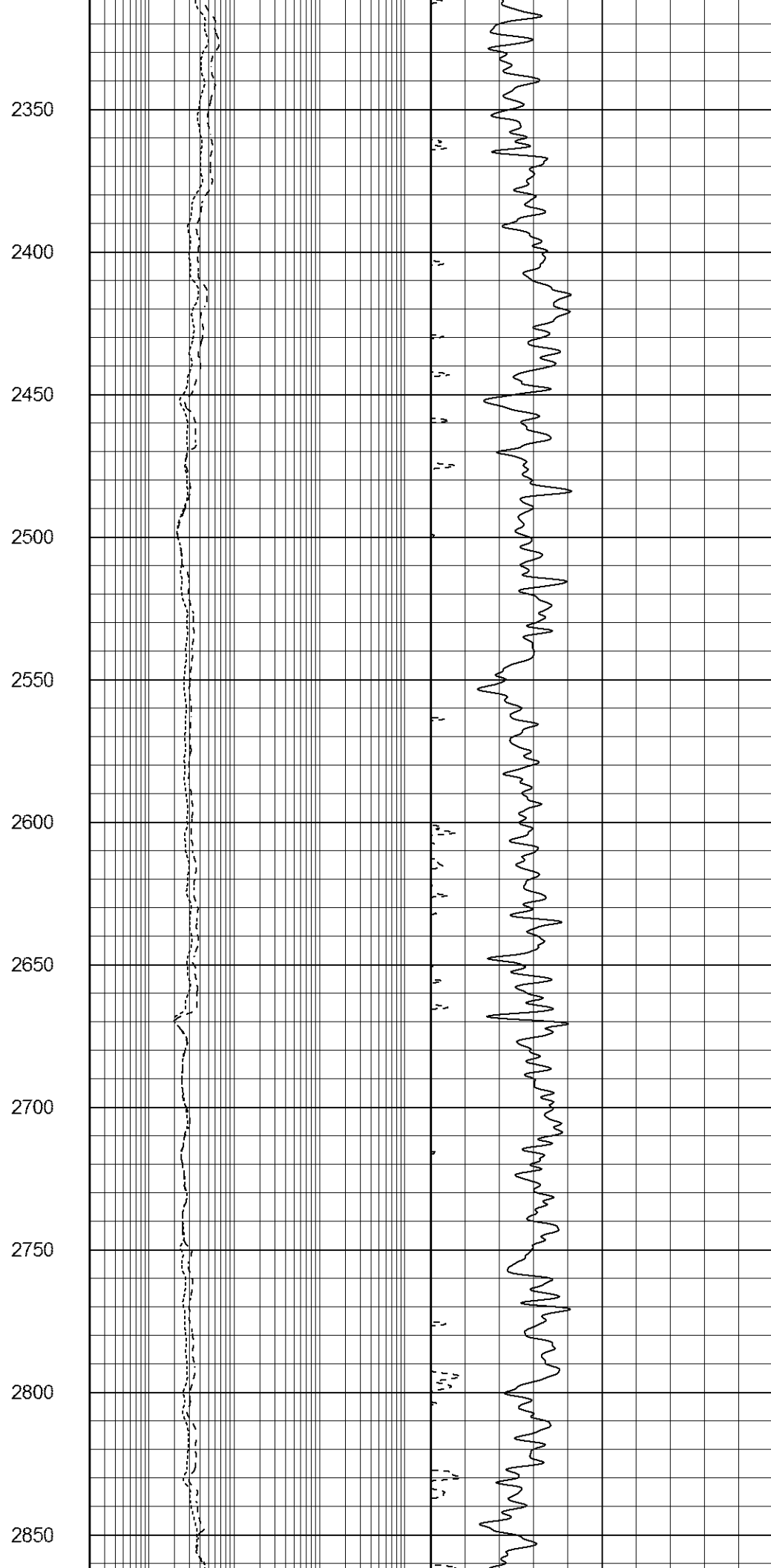
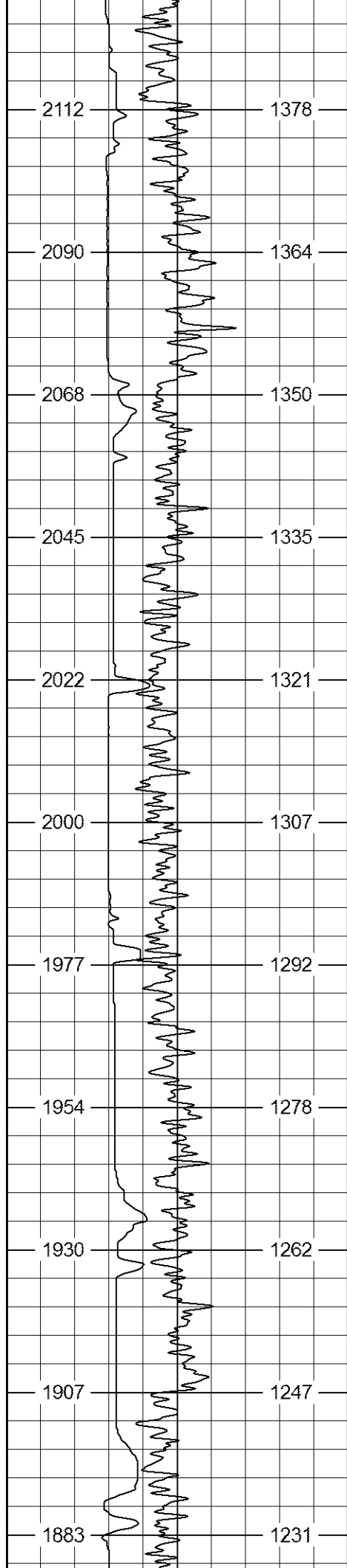
MAIN PASS

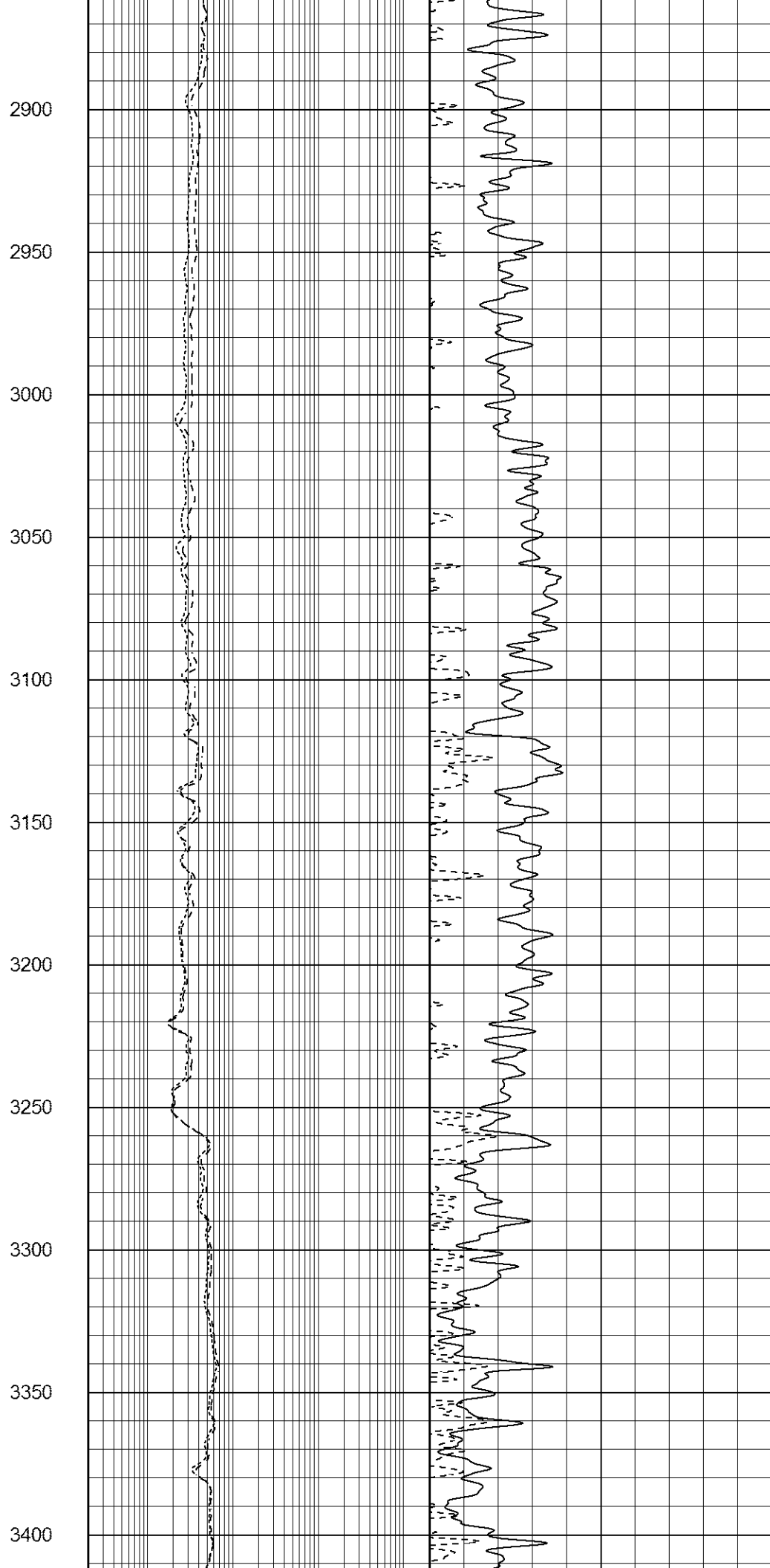
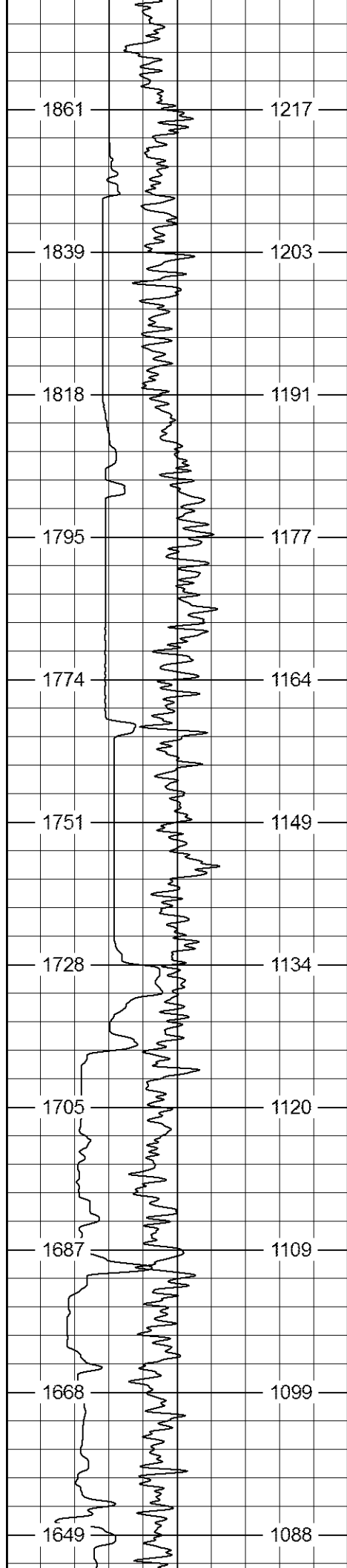
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Presentation Format	split
Dataset Creation	Thu Oct 12 10:48:37 2017
Charted by	Depth in Feet scaled 1:600

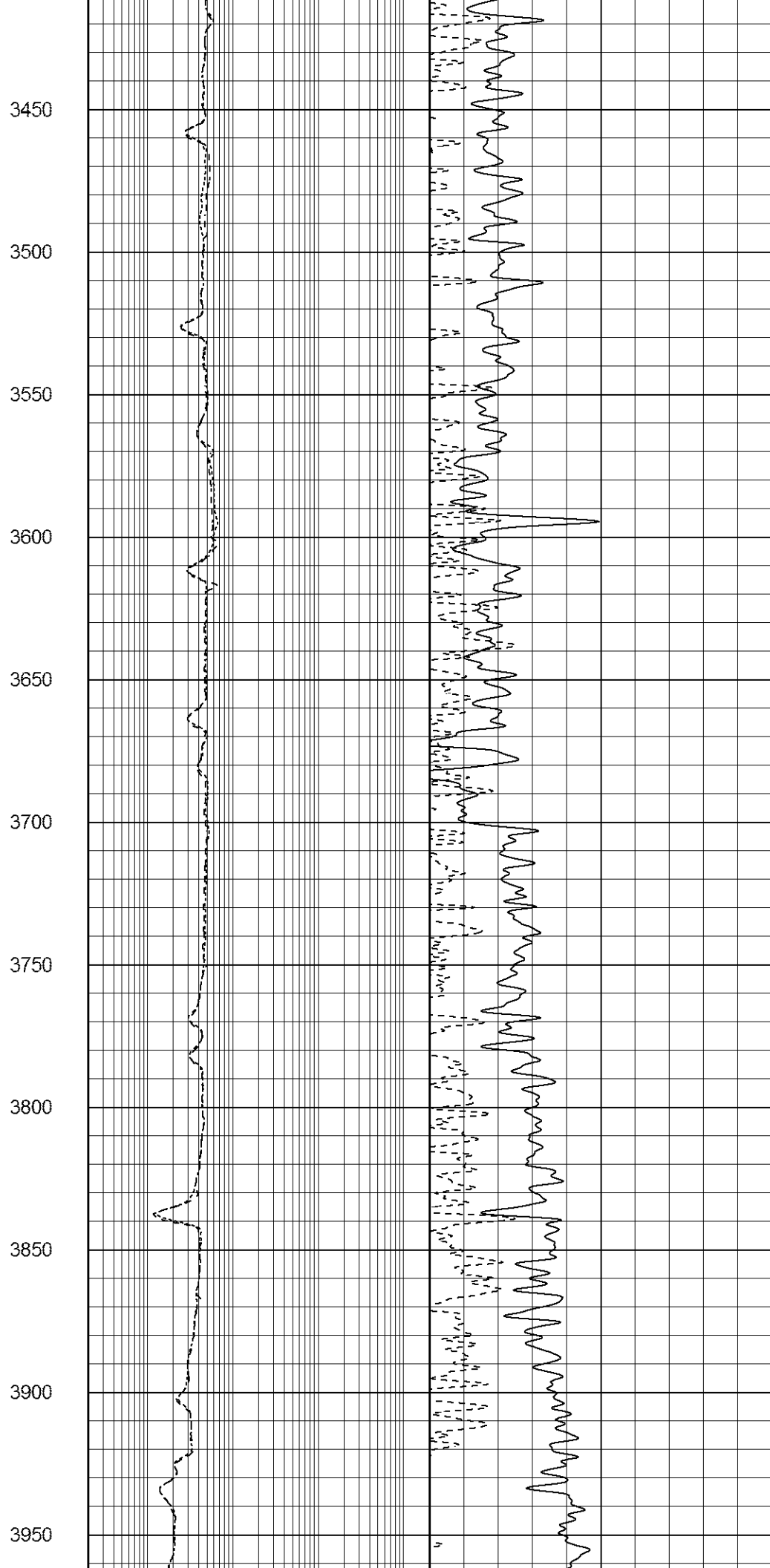
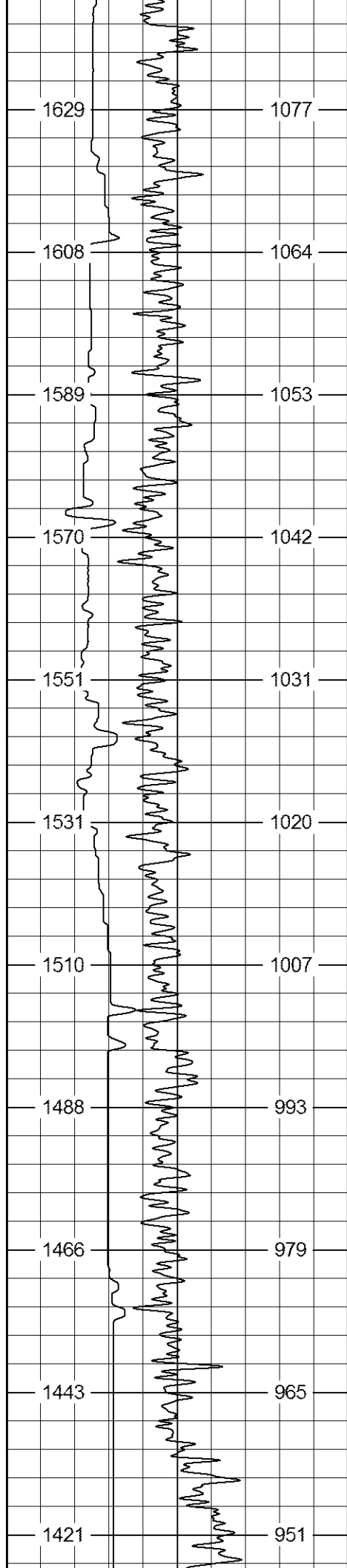
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6	CALIPER (in)	16		0.2 (Ohm-m) 2000	30	NEUTRON POROSITY (pu)	0
6	DCAL (in)	16		DEEP INDUCTION			
				0.2 (Ohm-m) 2000			

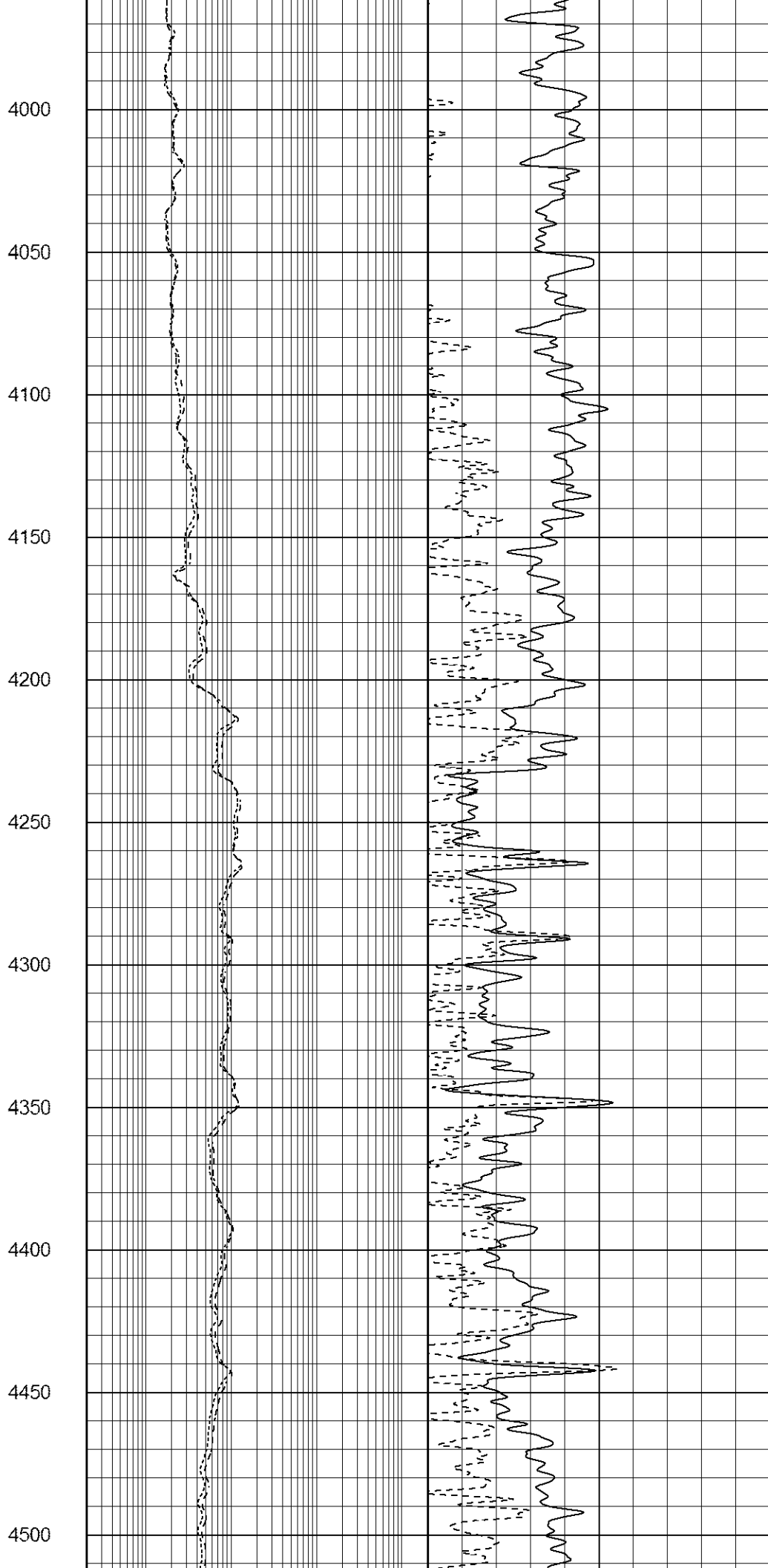
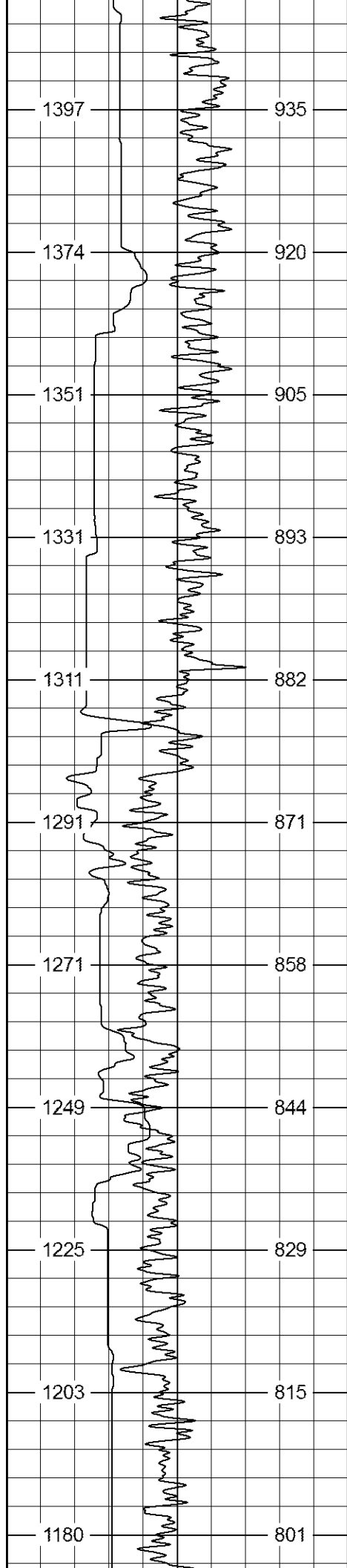


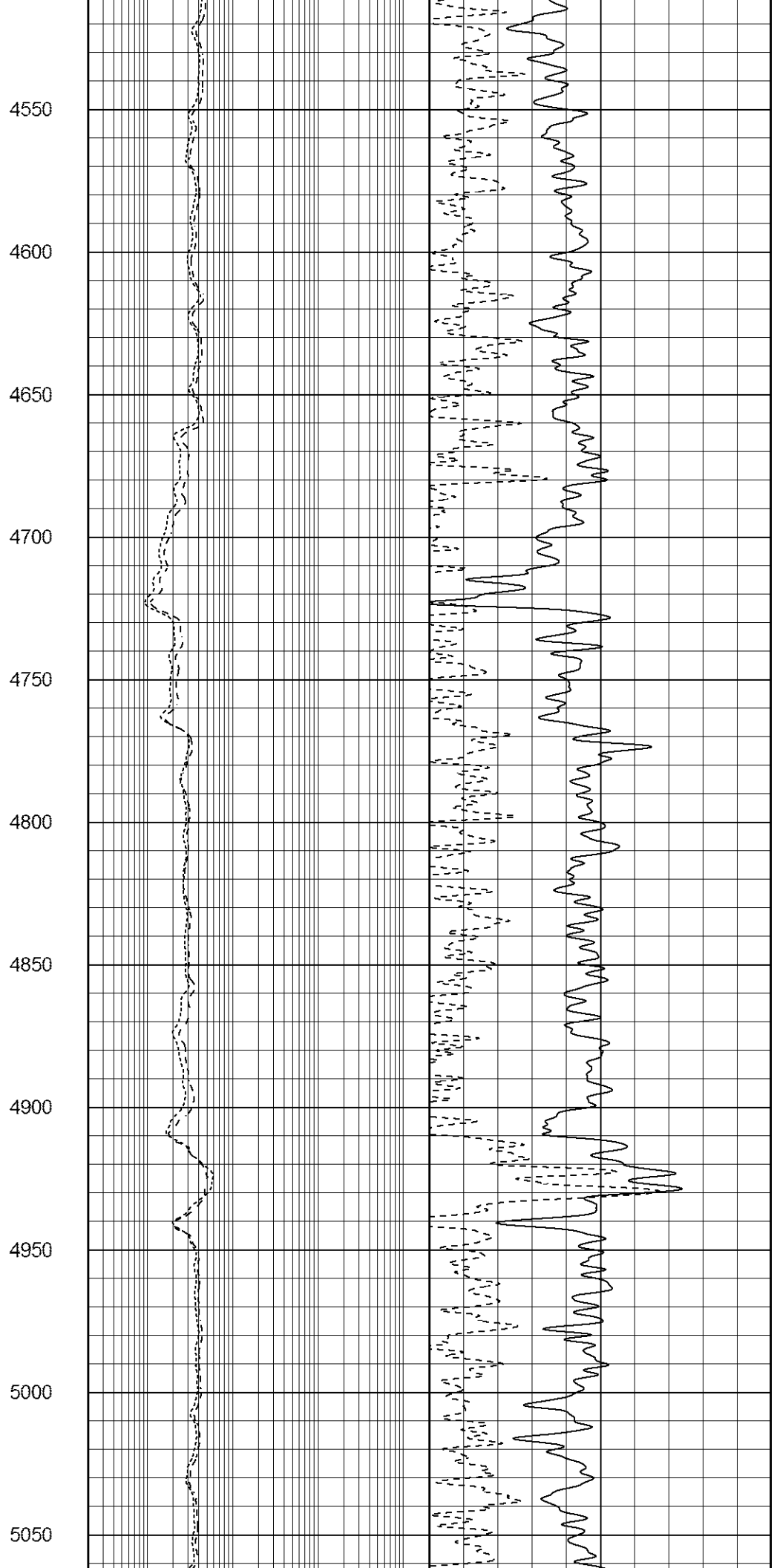
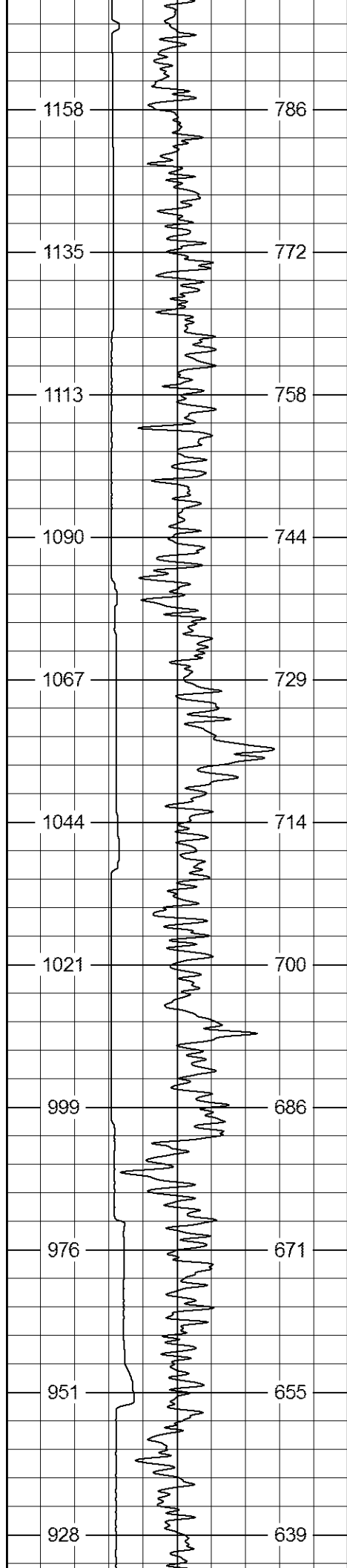


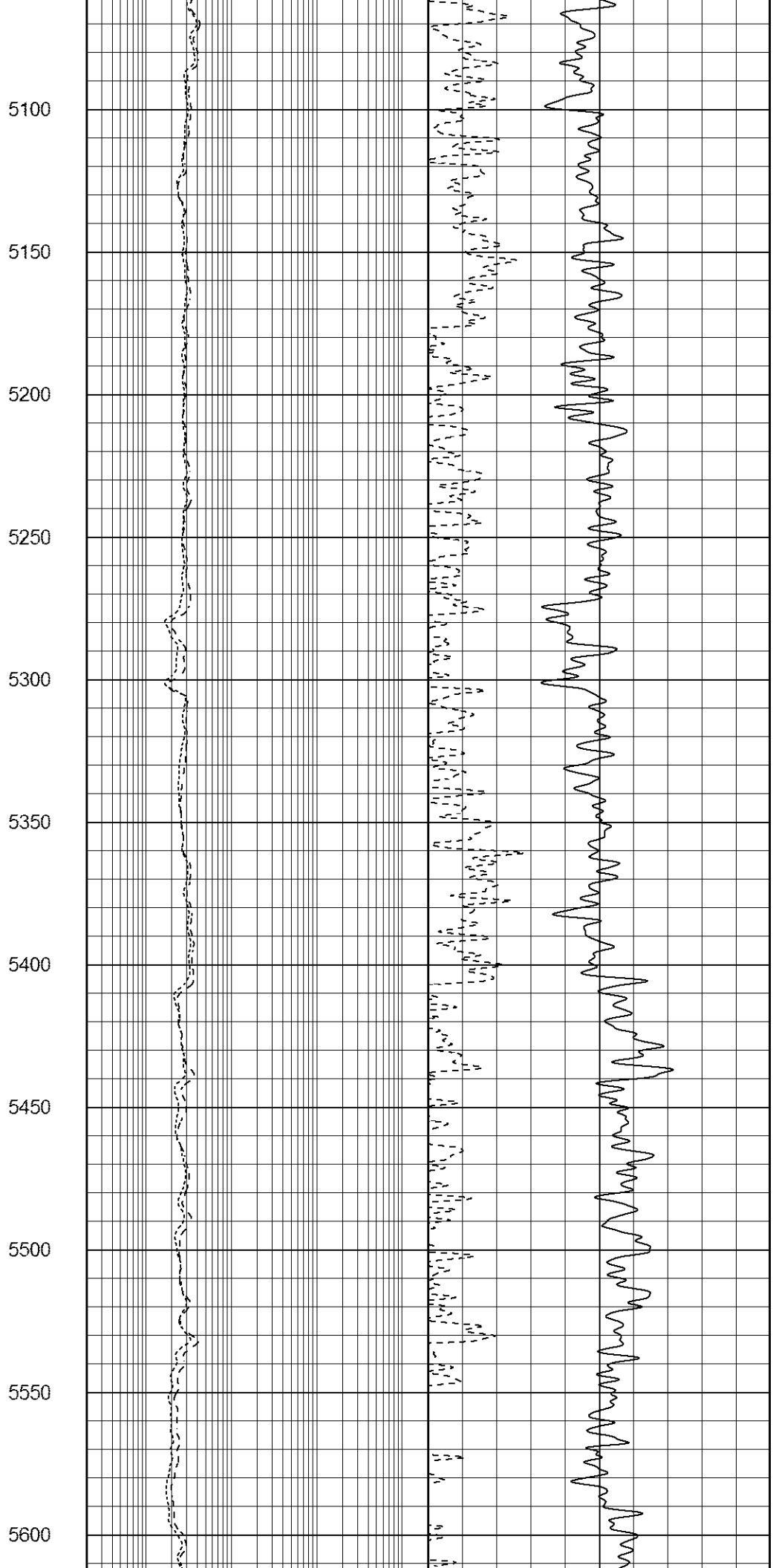
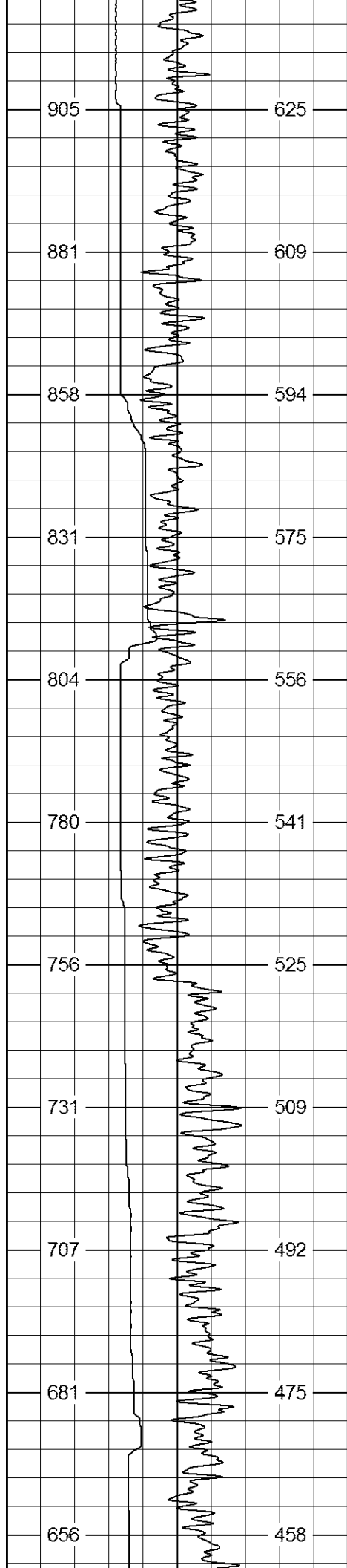


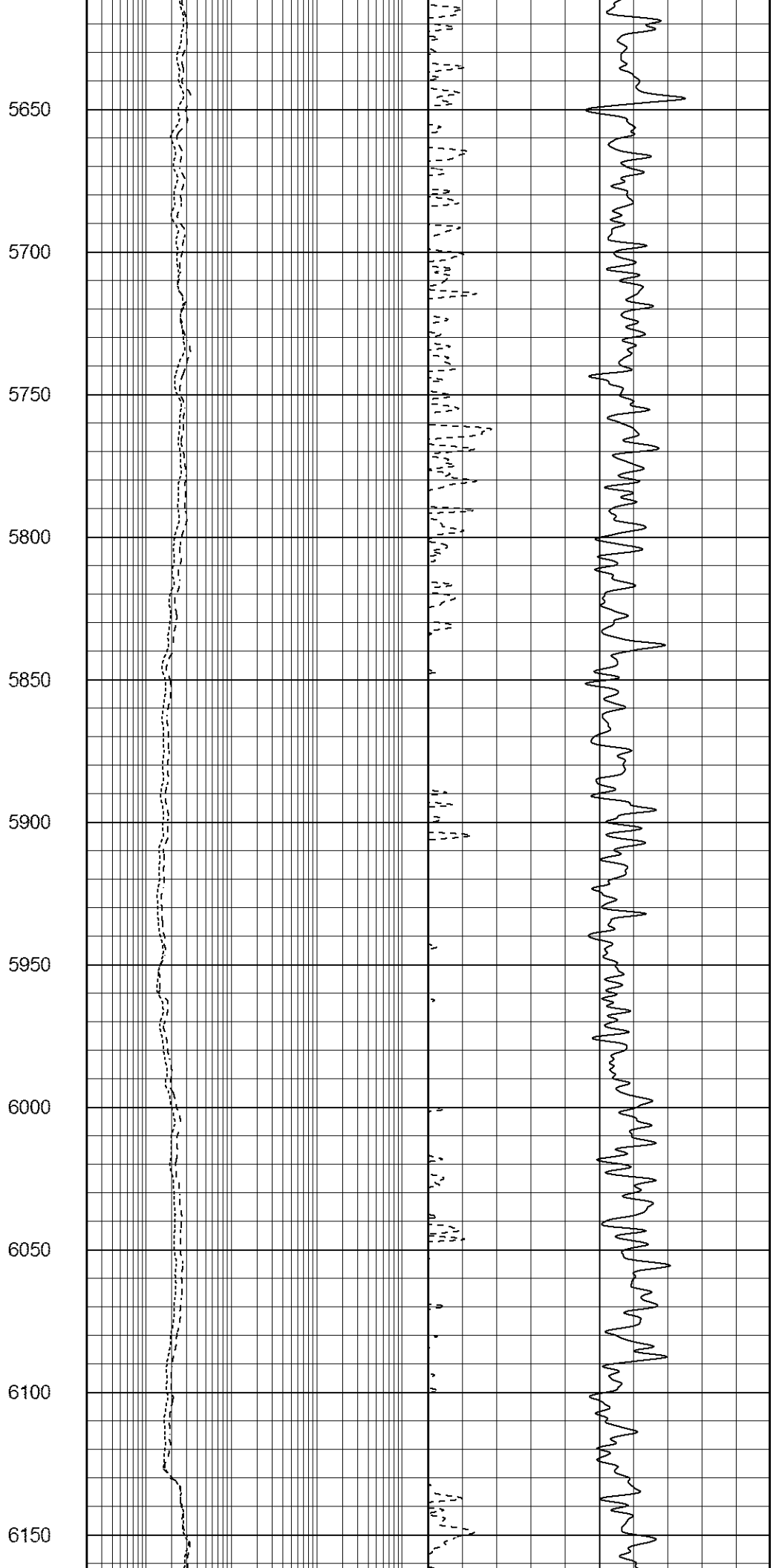
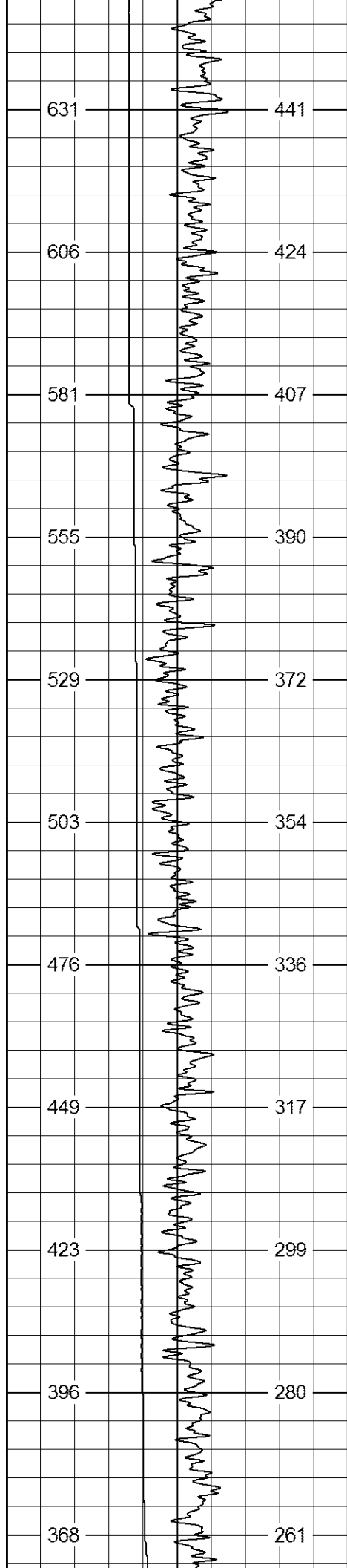


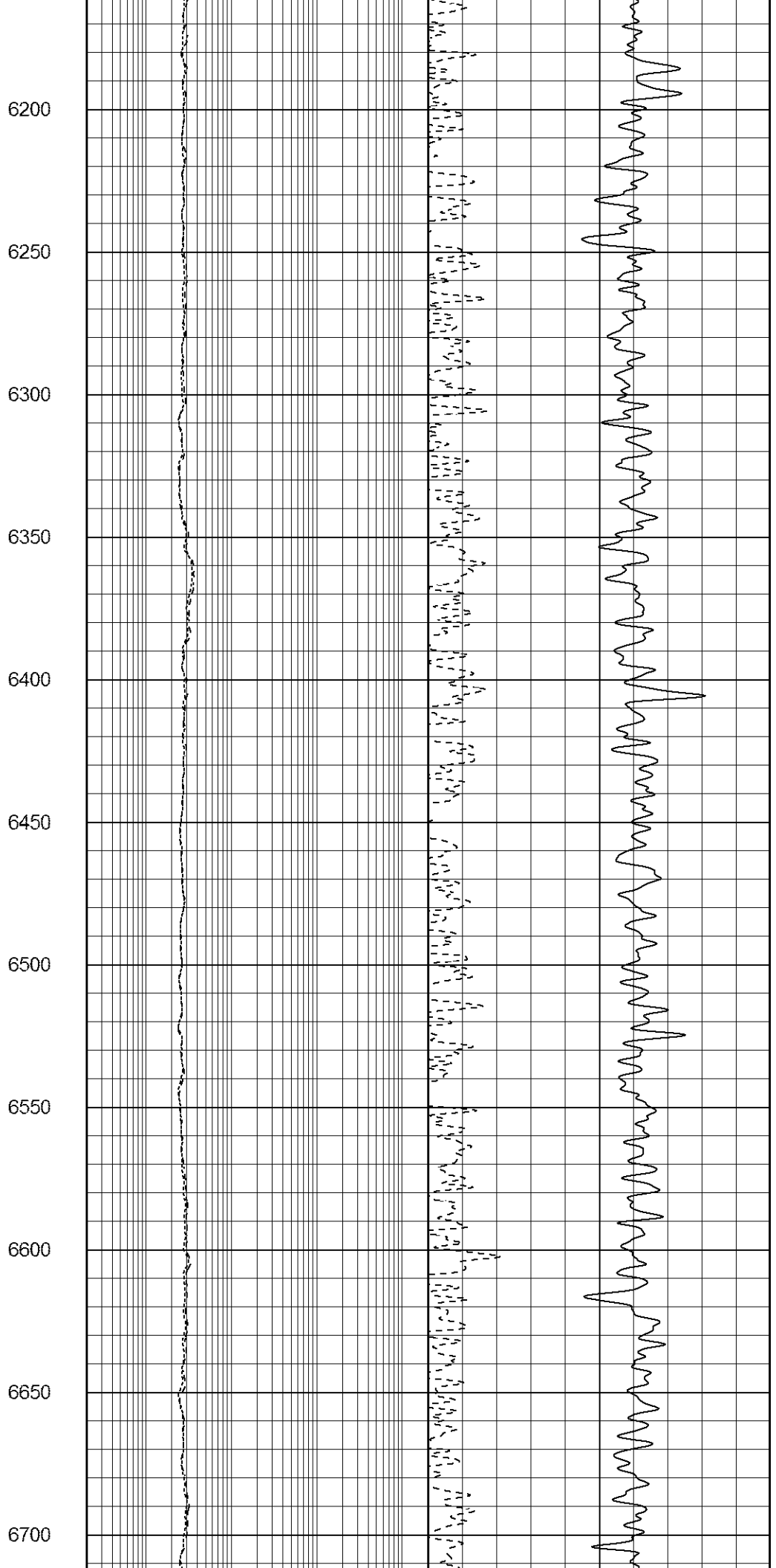
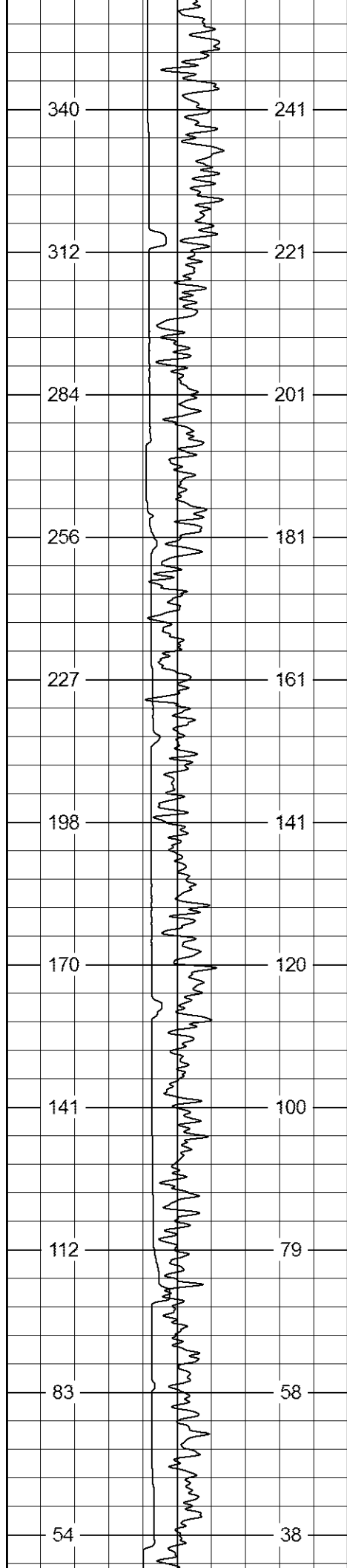


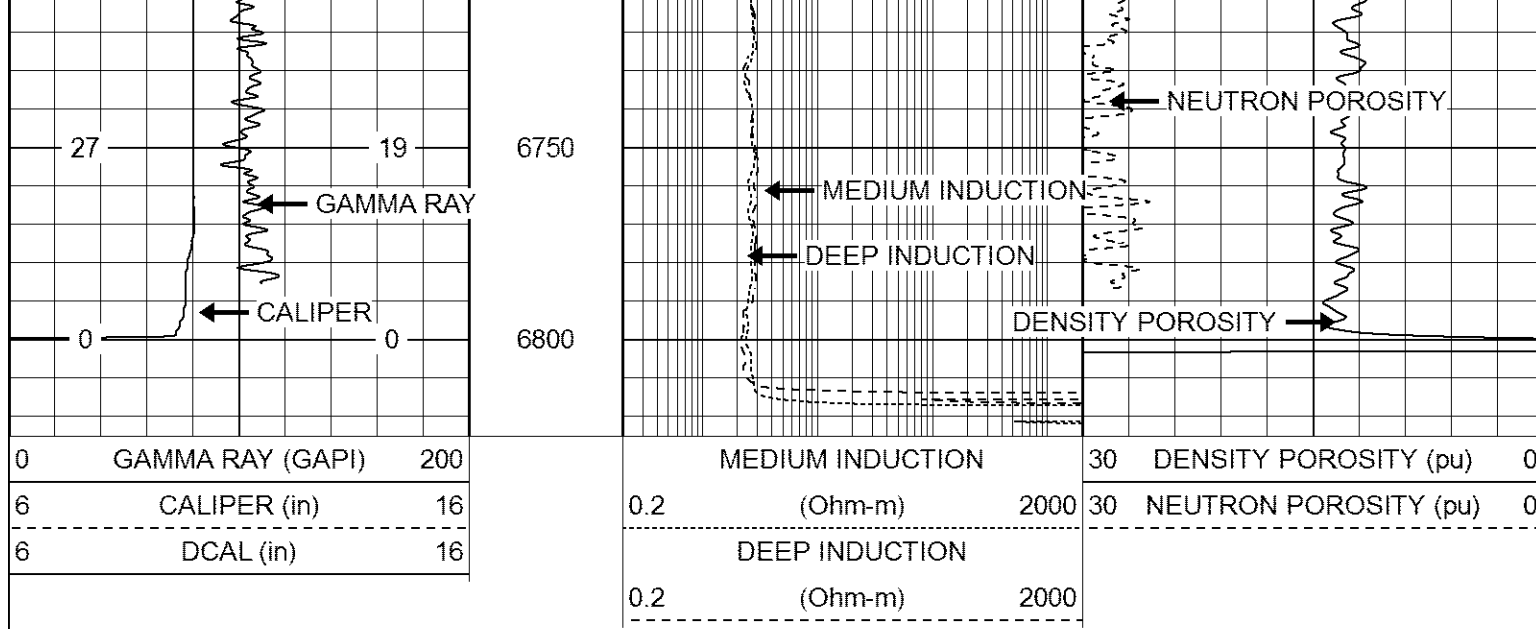













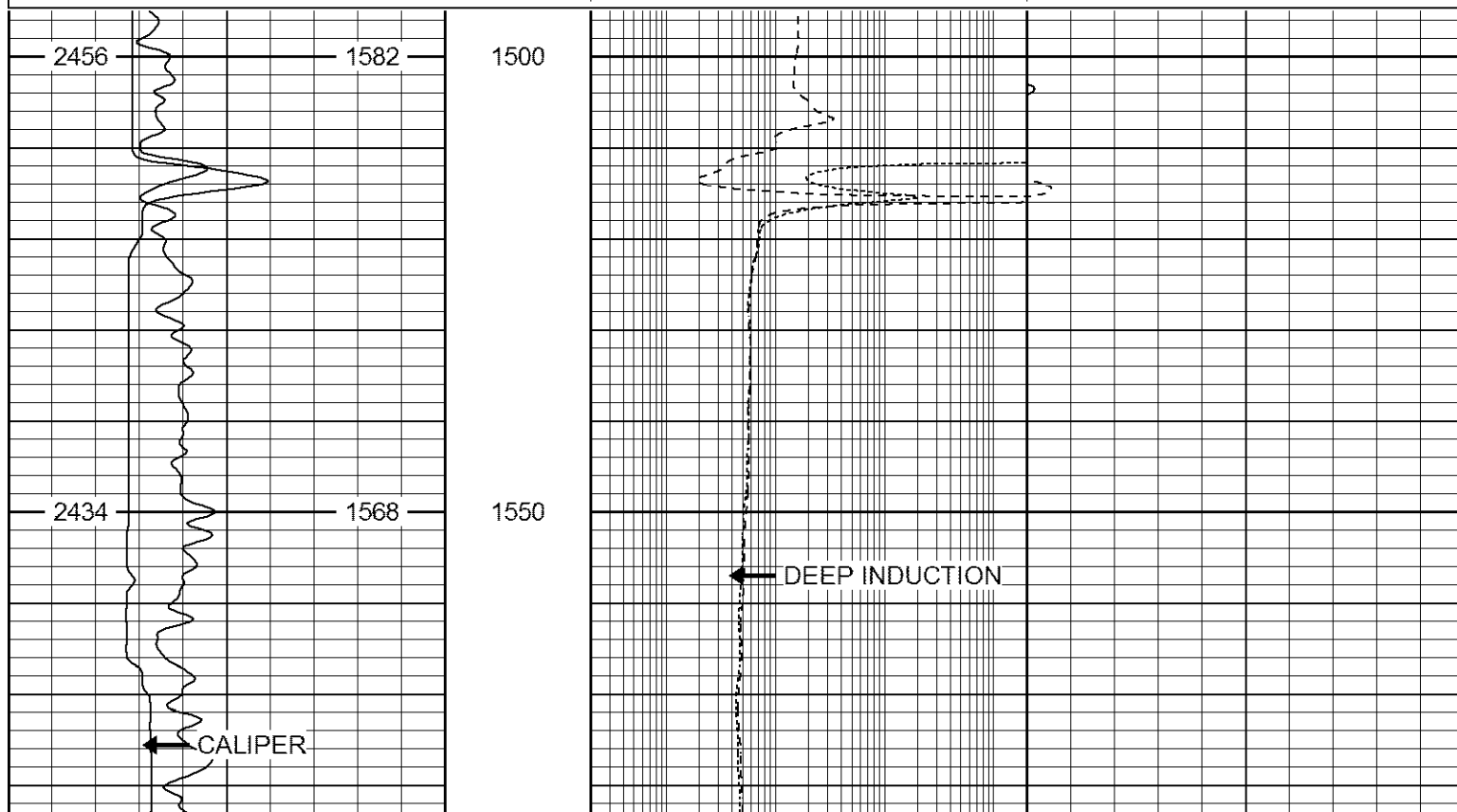


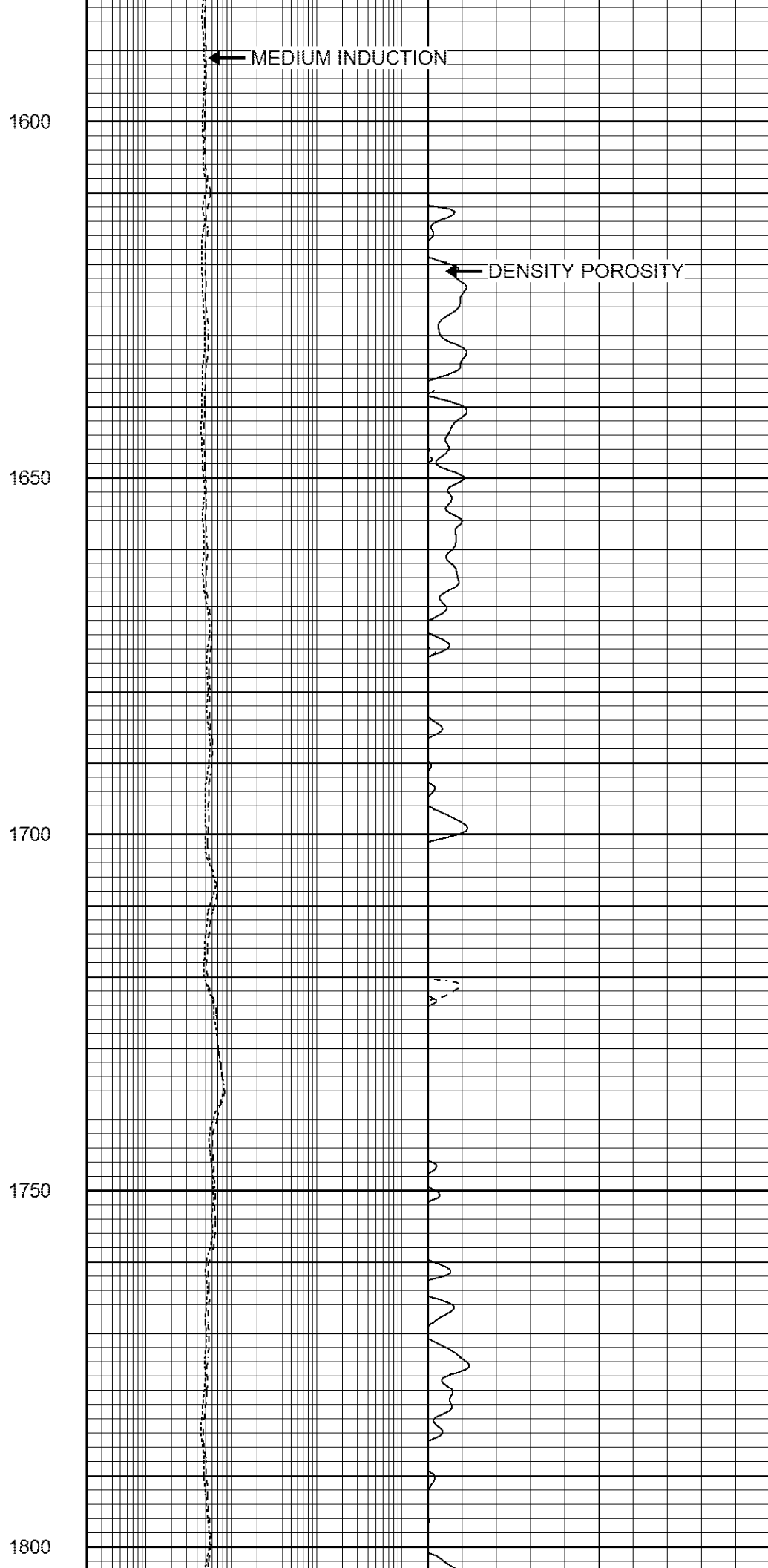
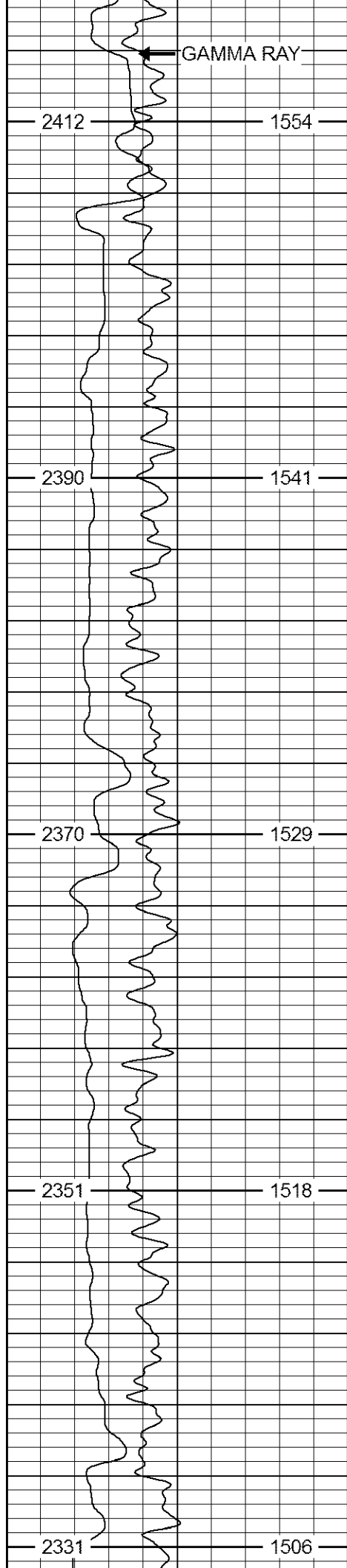
PIONEER
Pioneer Energy Services

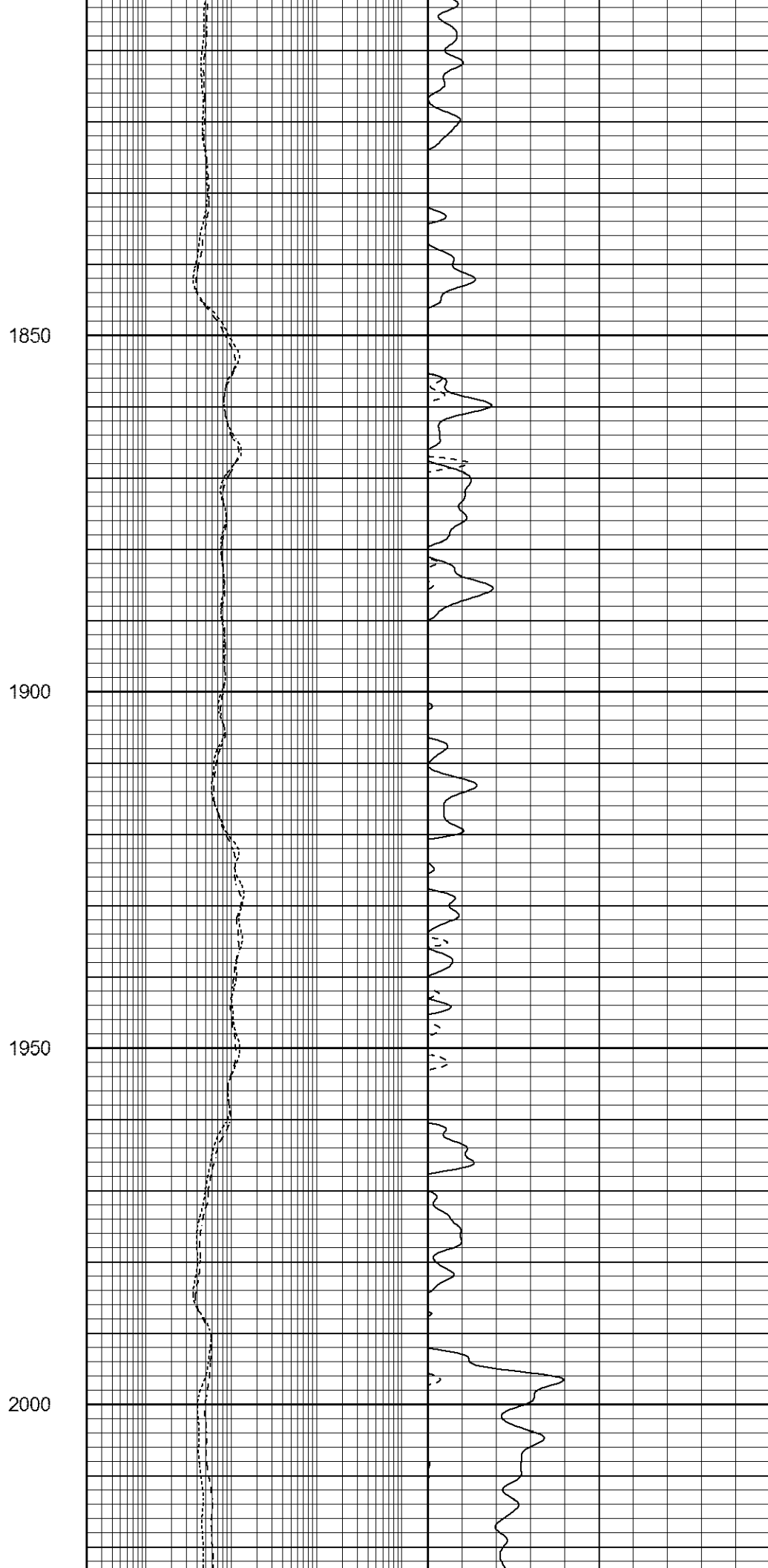
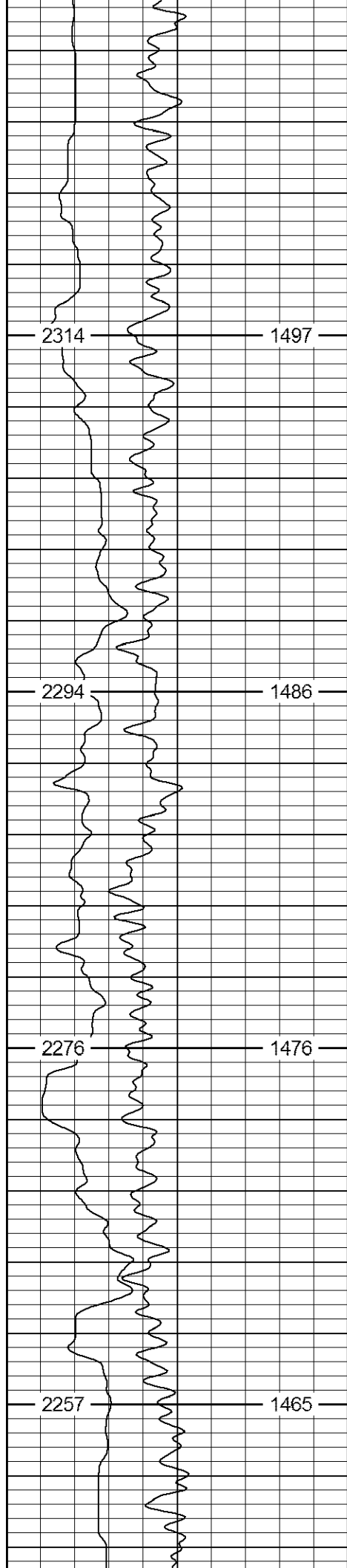
MAIN PASS

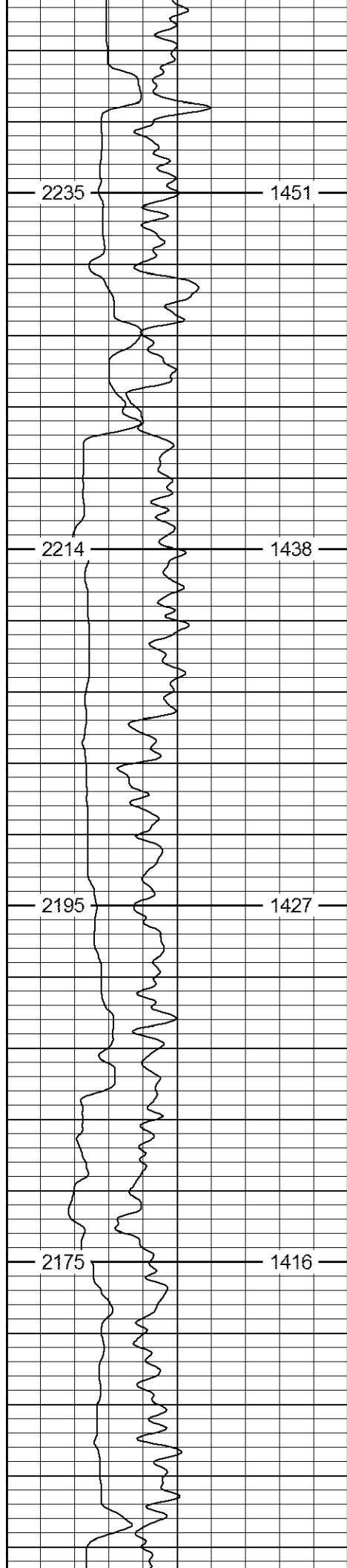
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 Dataset Pathname stack/pass3.1
 Presentation Format split
 Dataset Creation Thu Oct 12 10:48:37 2017
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	200	0.2	MEDIUM INDUCTION (Ohm-m)	2000	30	DENSITY POROSITY (pu)	0
6	CALIPER (in)	16	0.2	DEEP INDUCTION (Ohm-m)	2000	30	NEUTRON POROSITY (pu)	0
6	DCAL (in)	16						







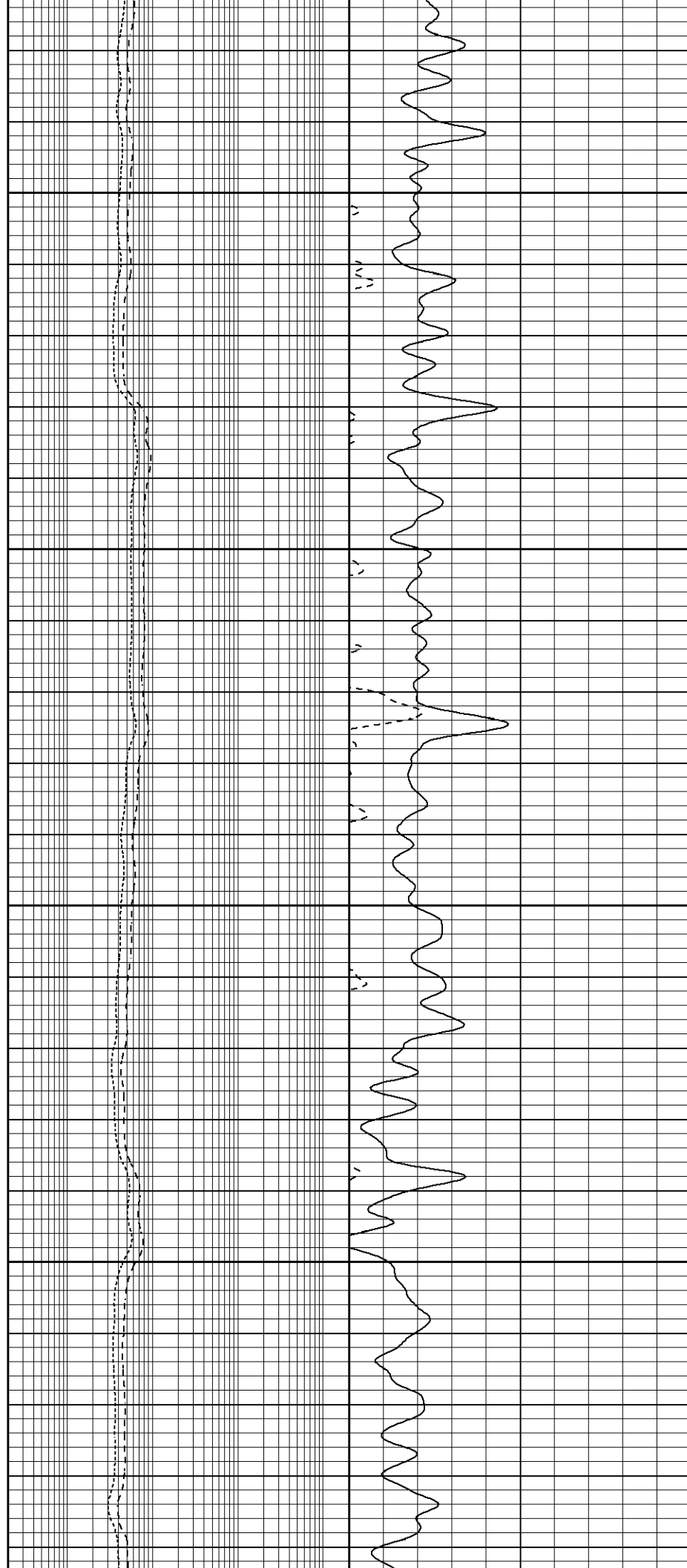


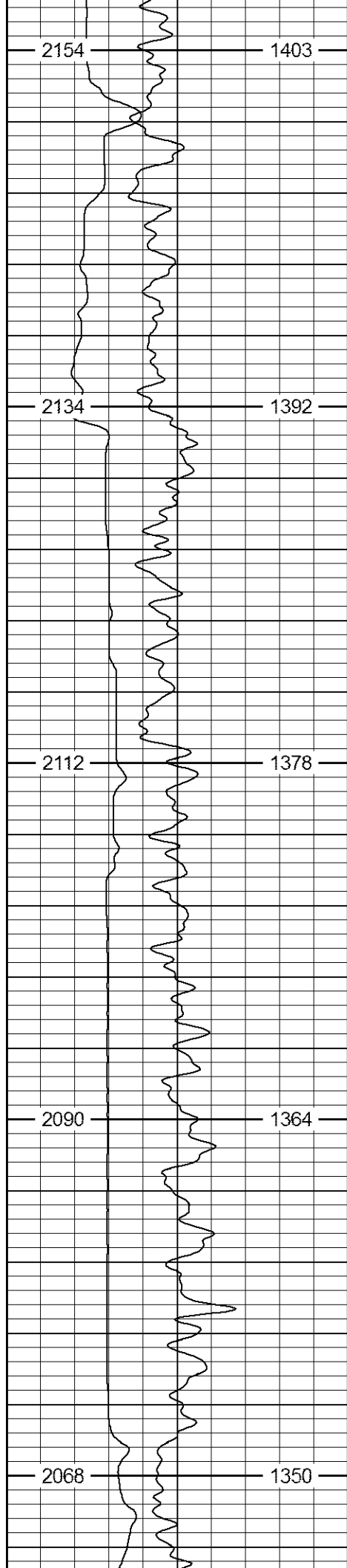
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2200





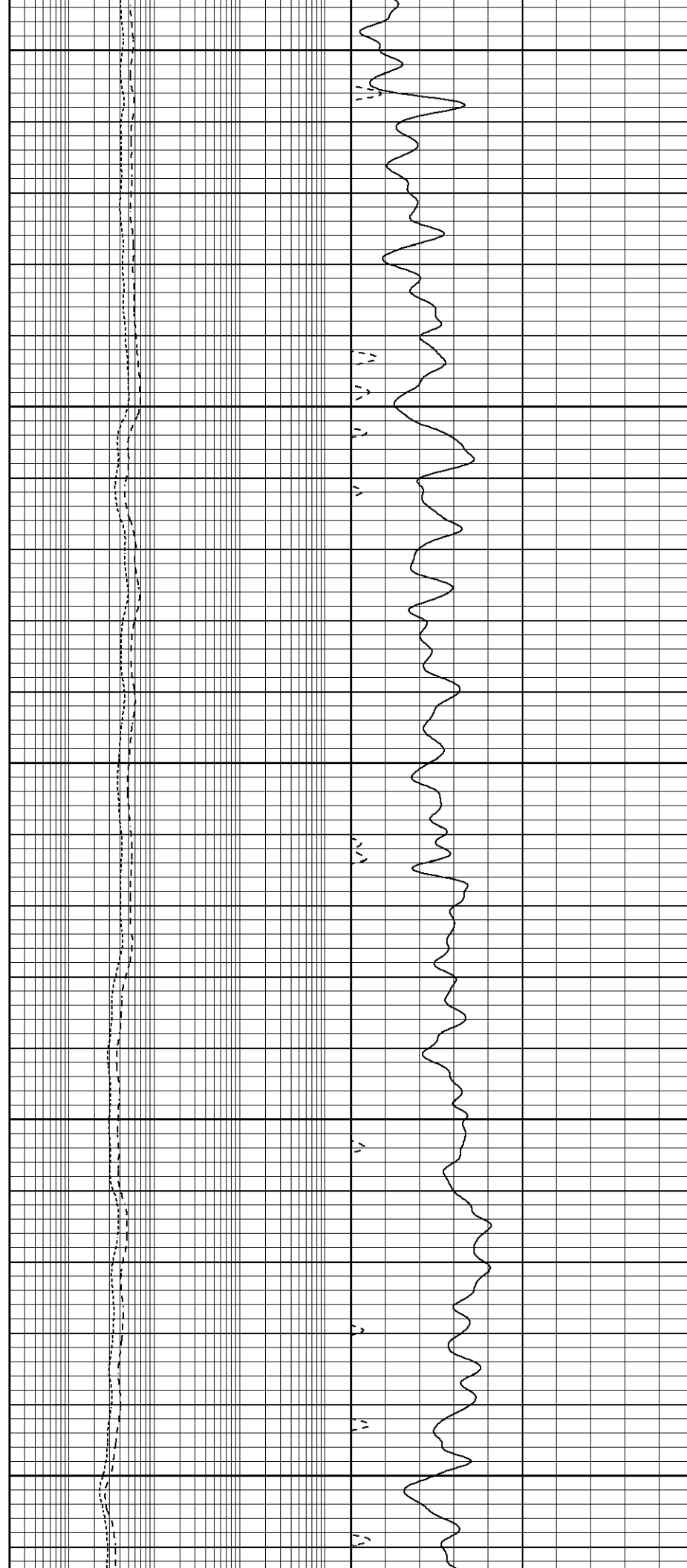
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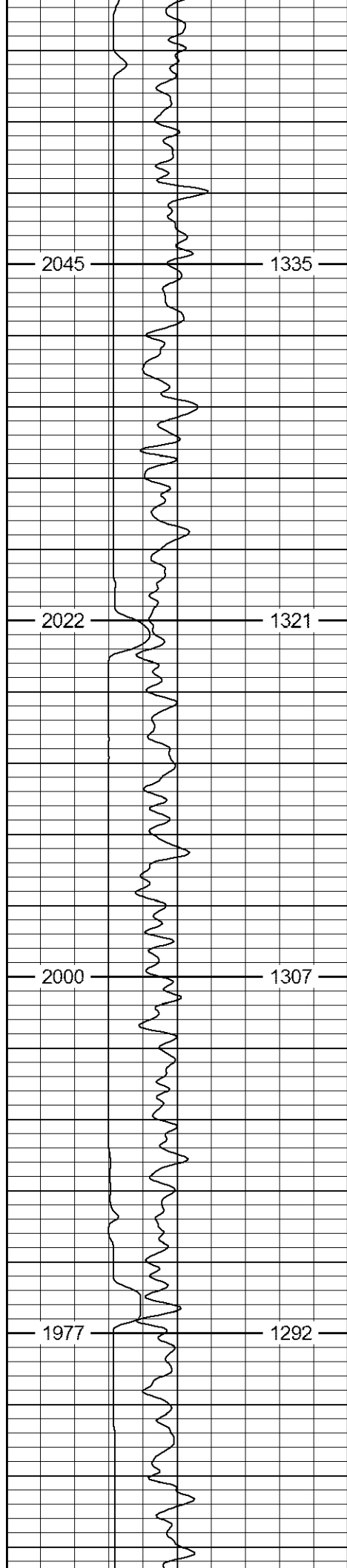
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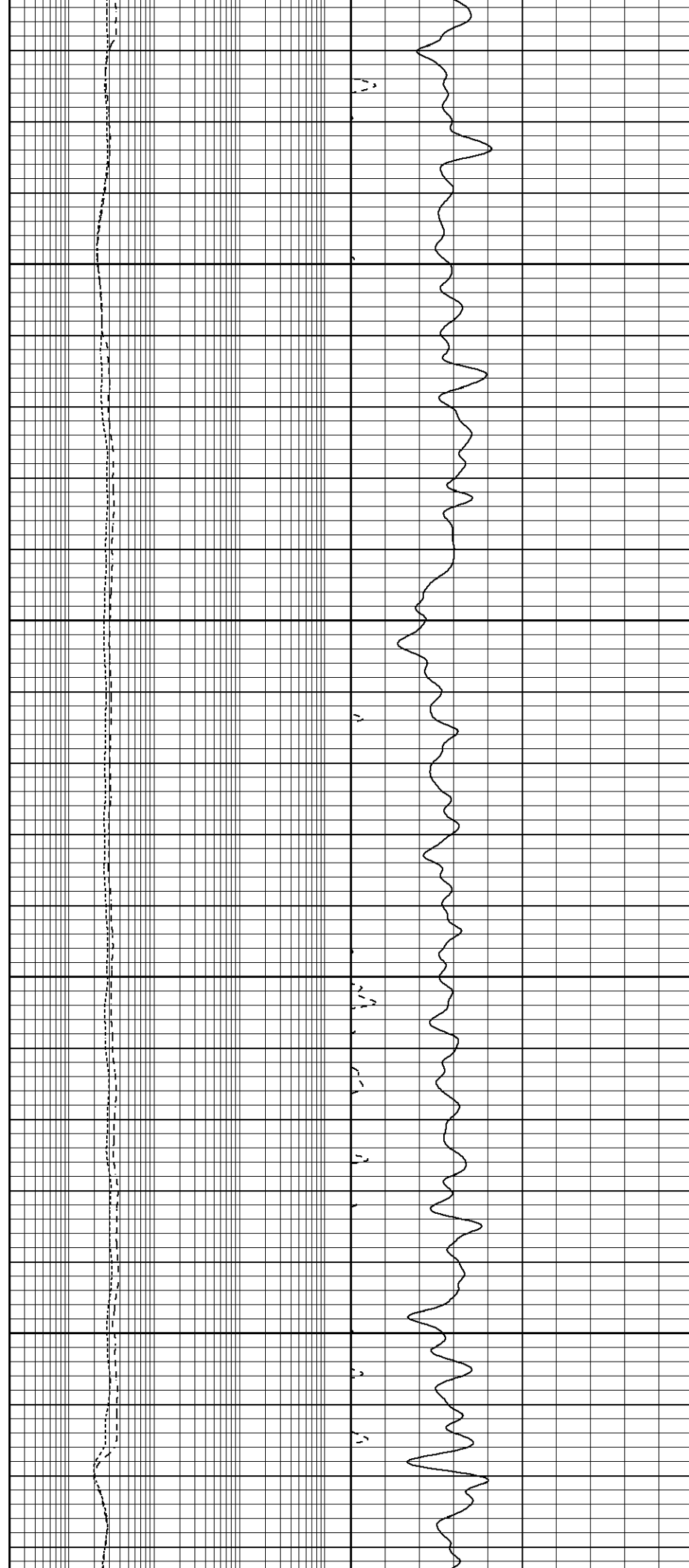


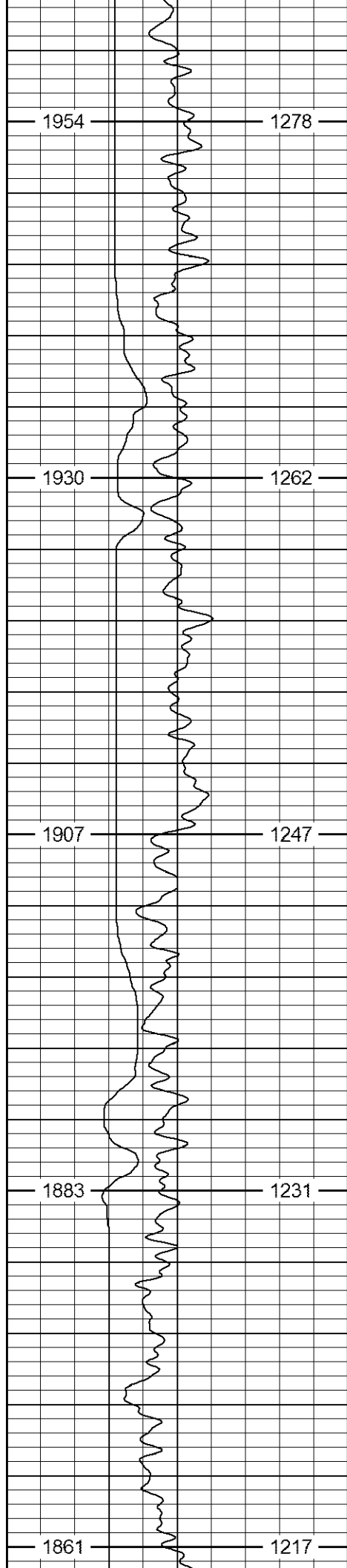
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2650





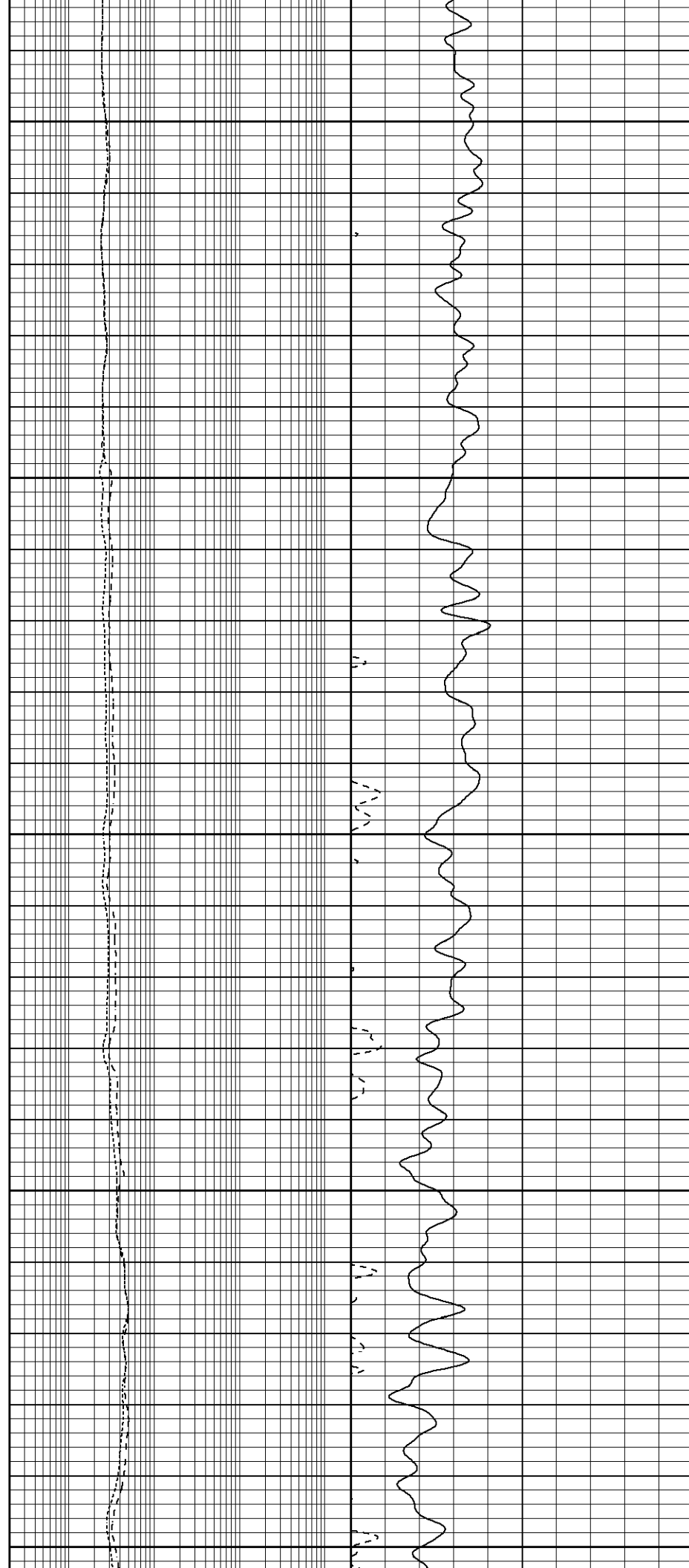
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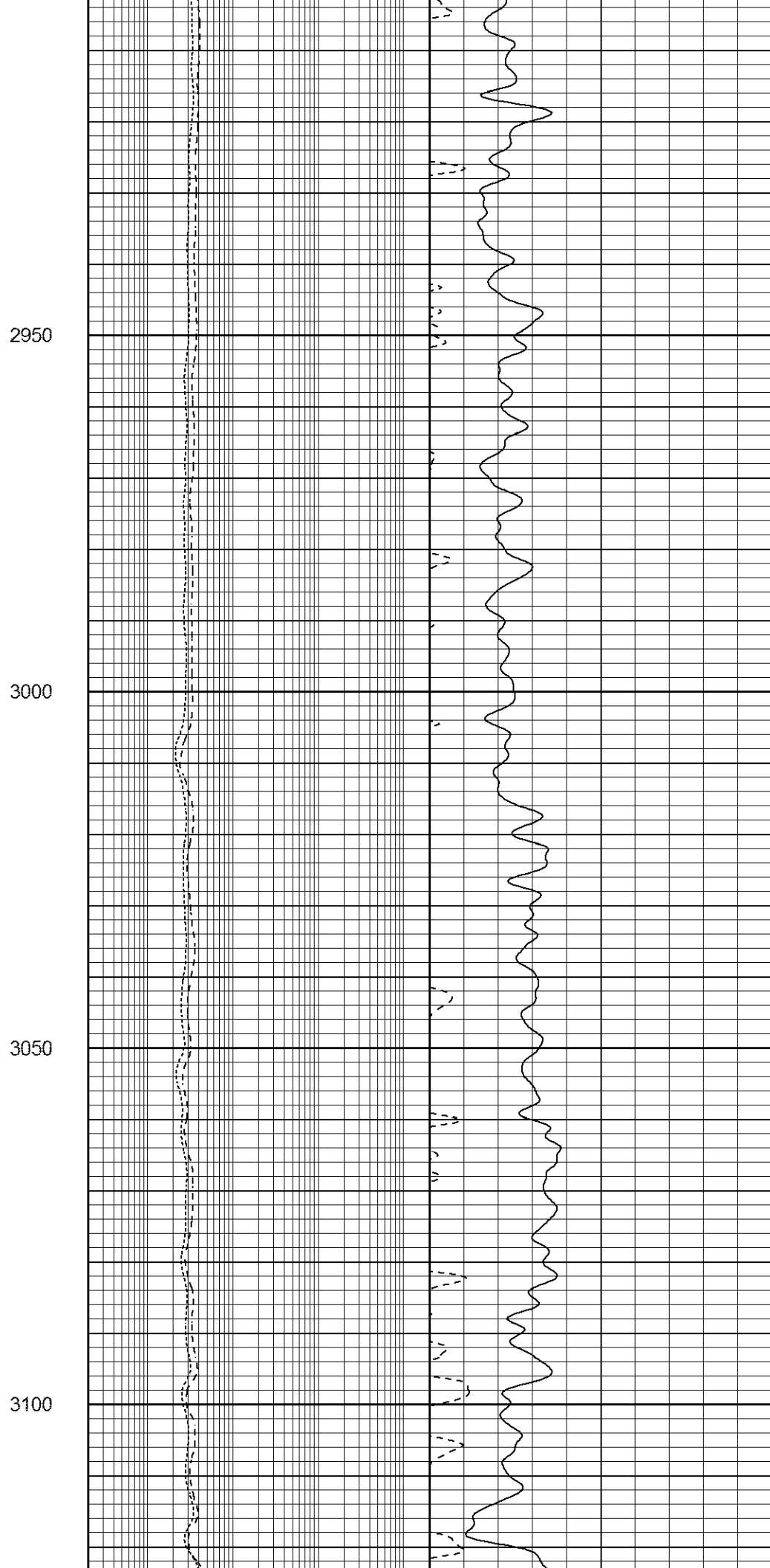
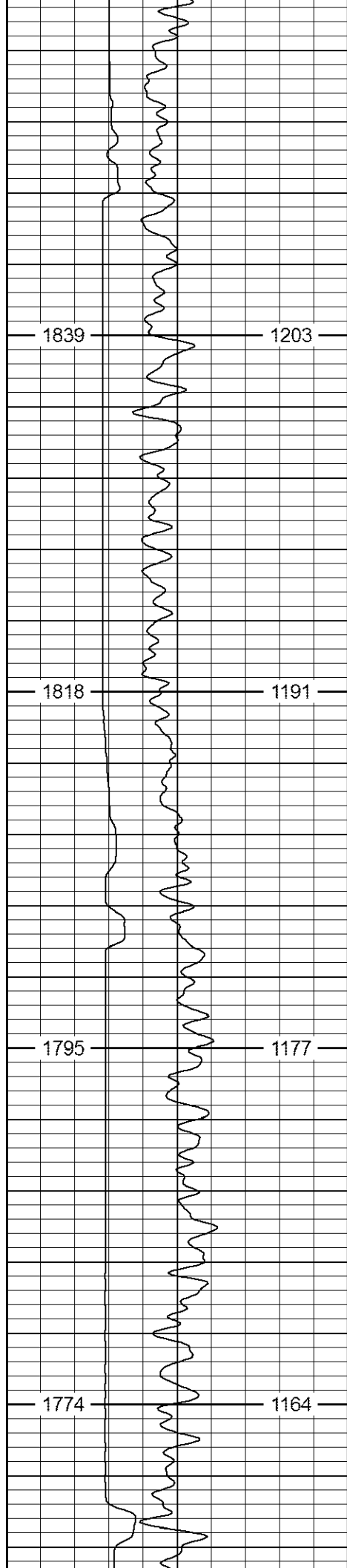
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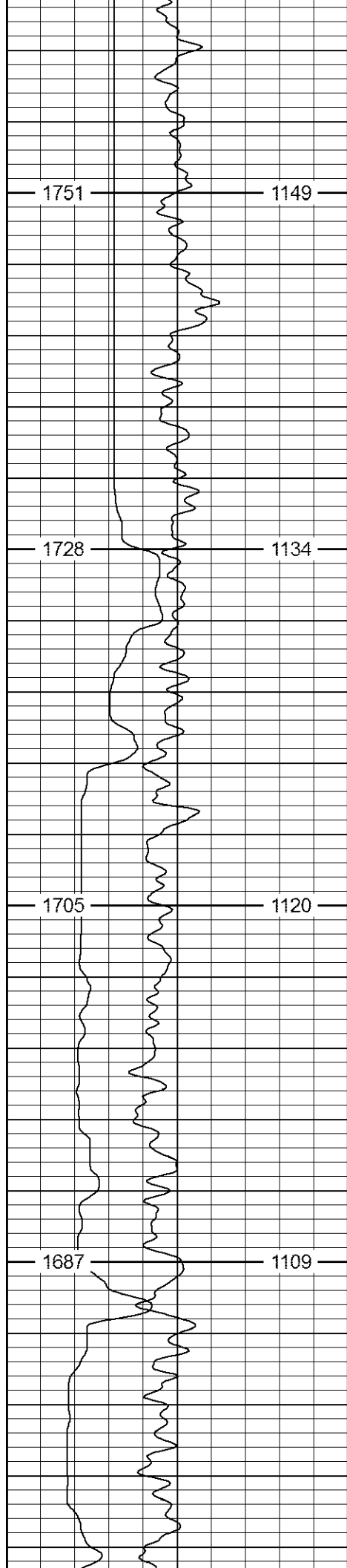
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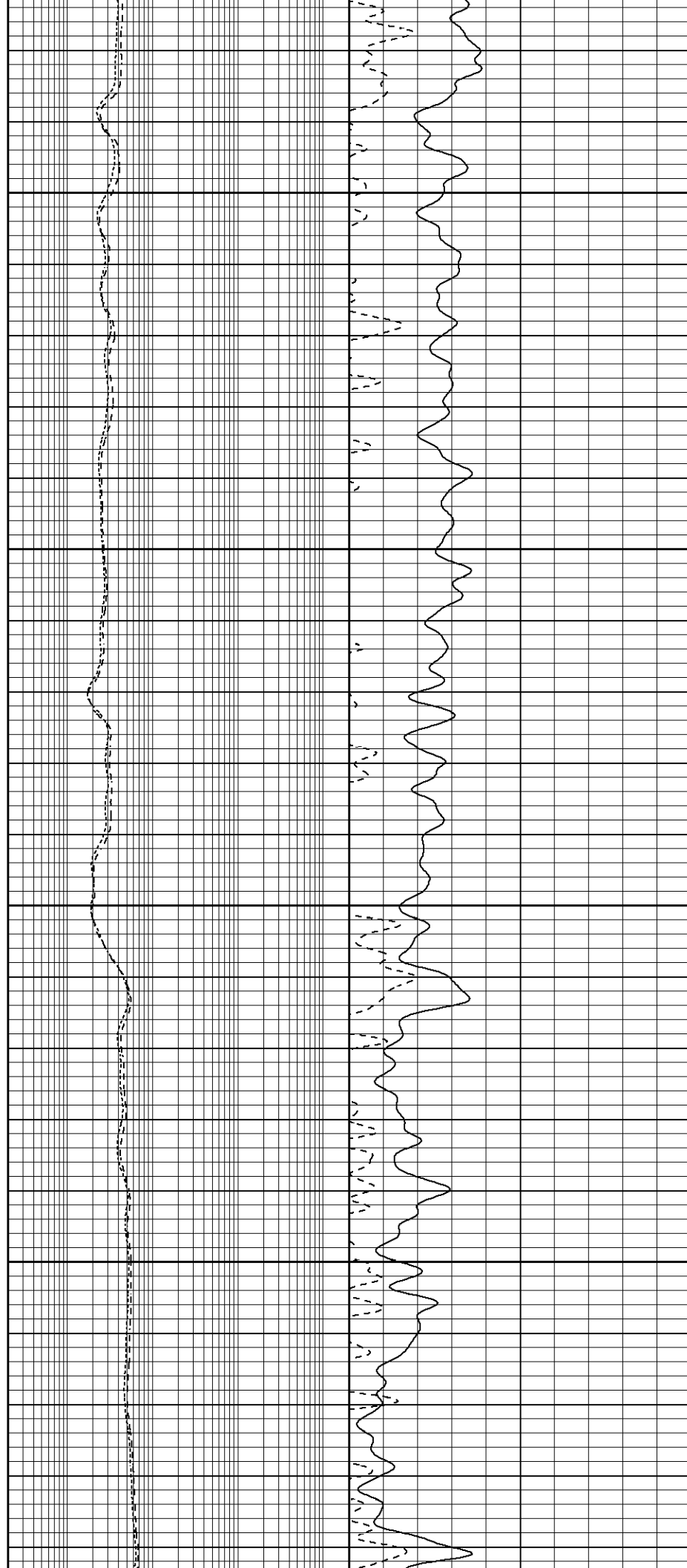


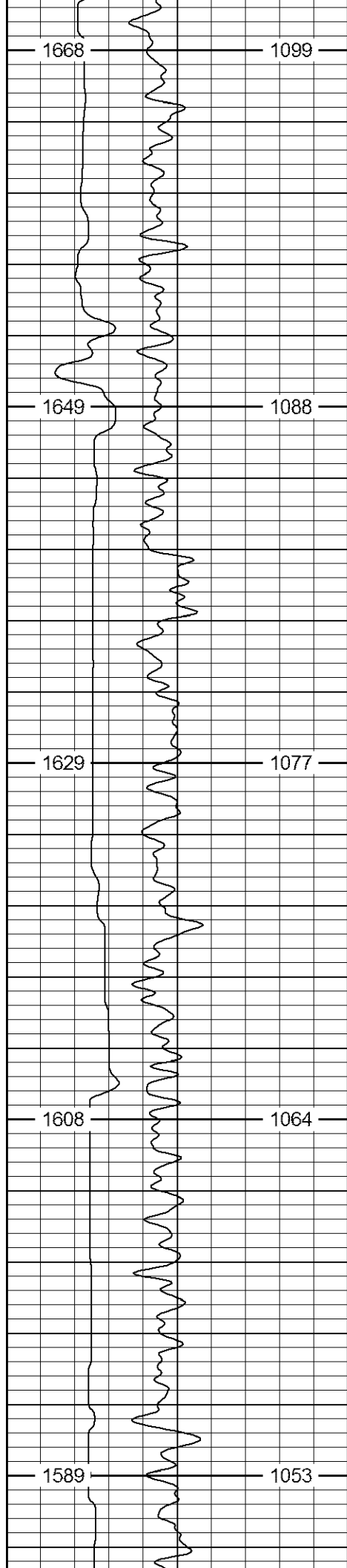
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3300





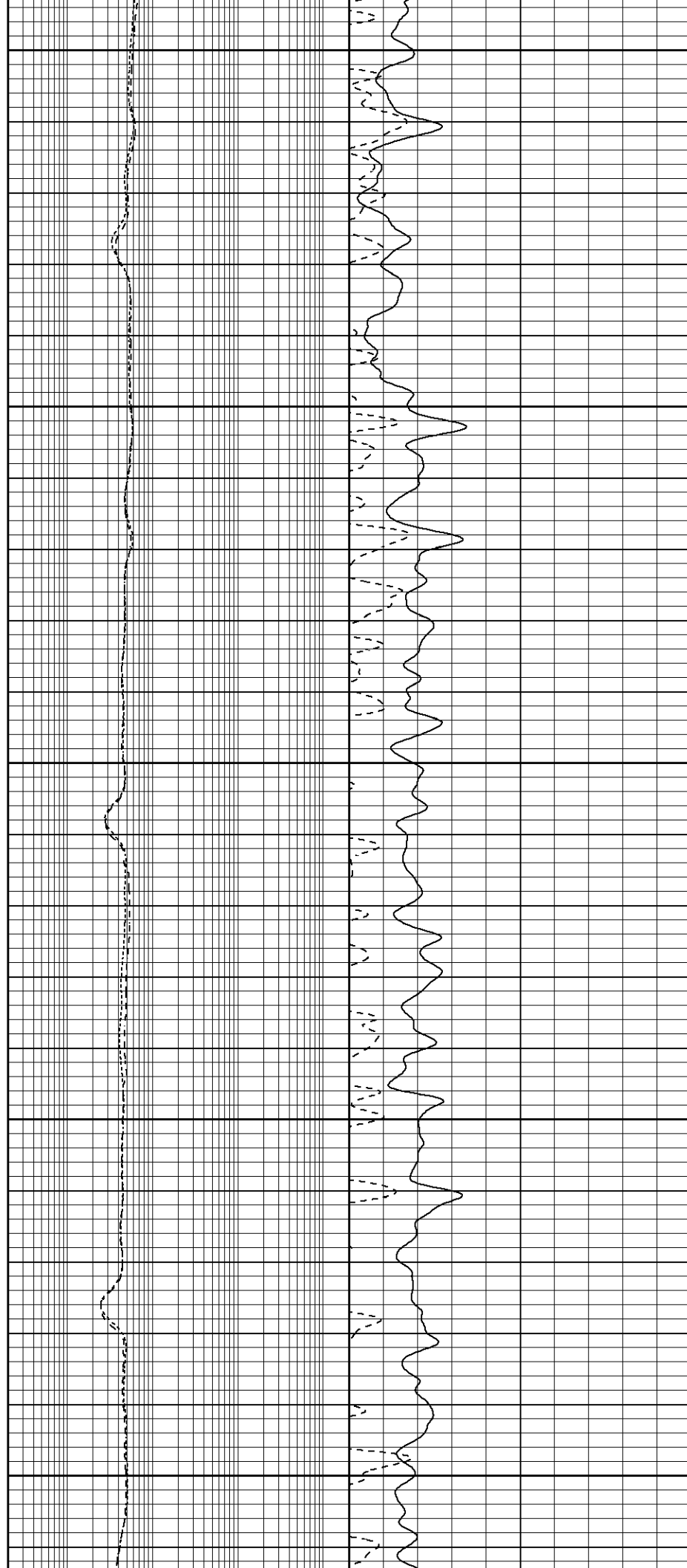
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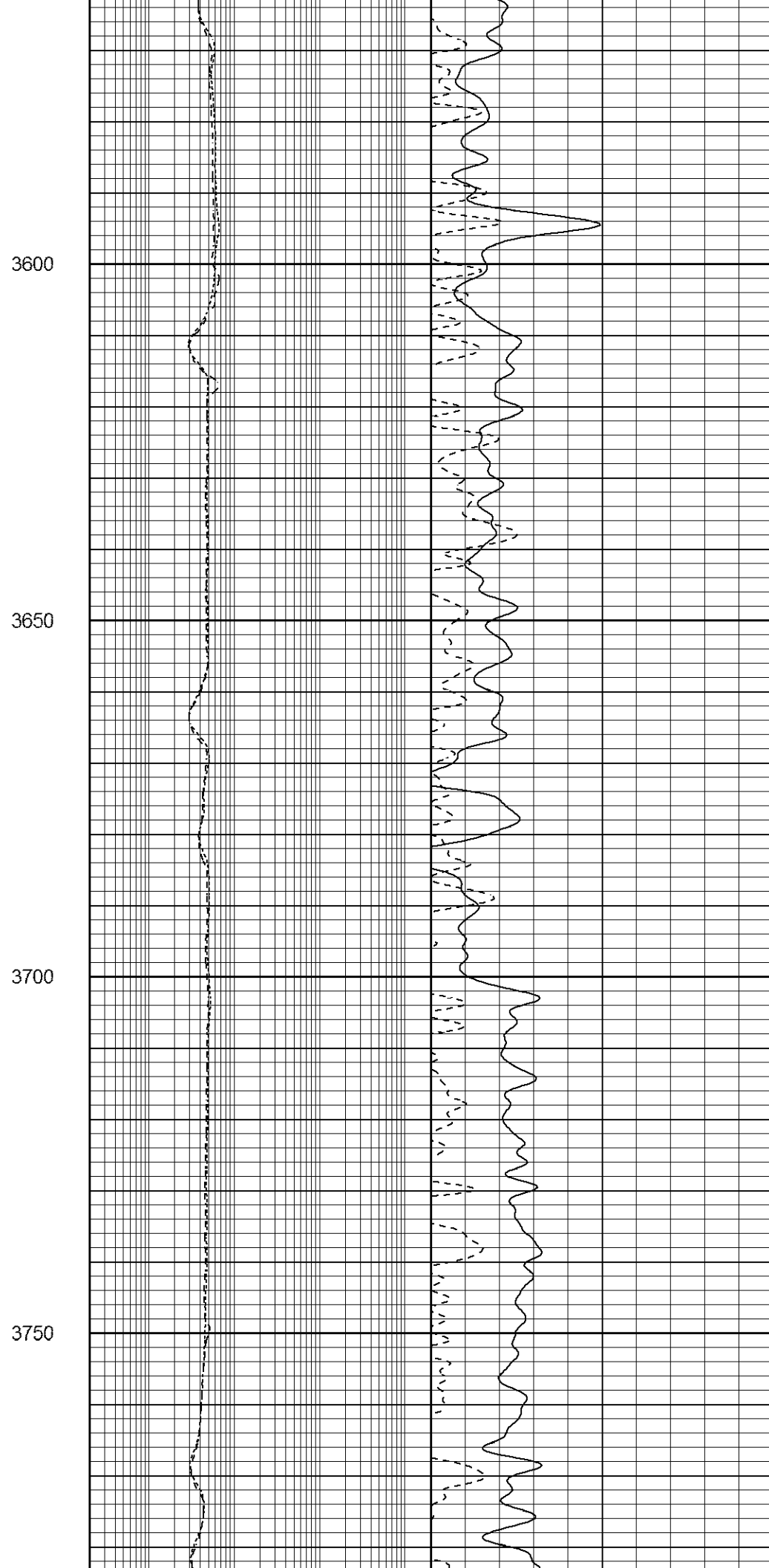
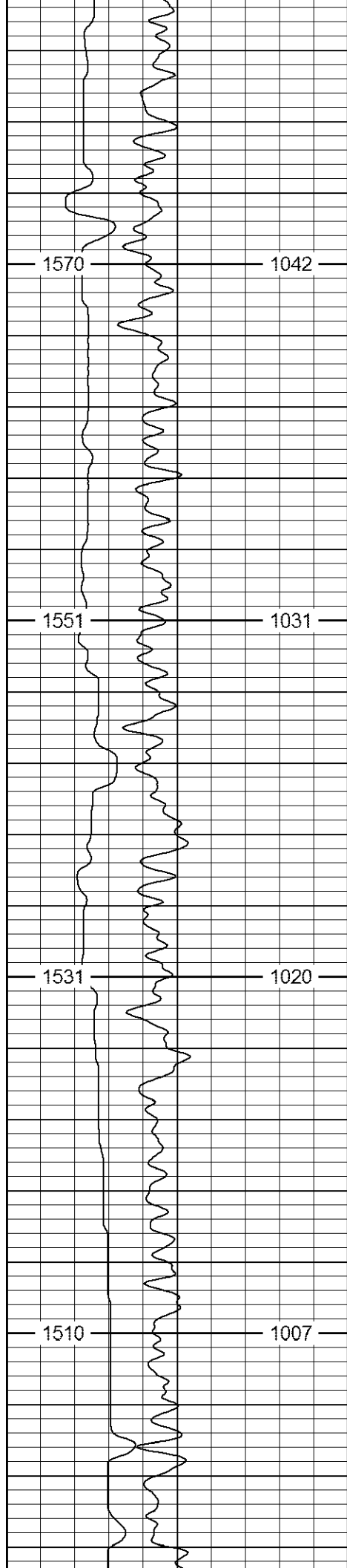
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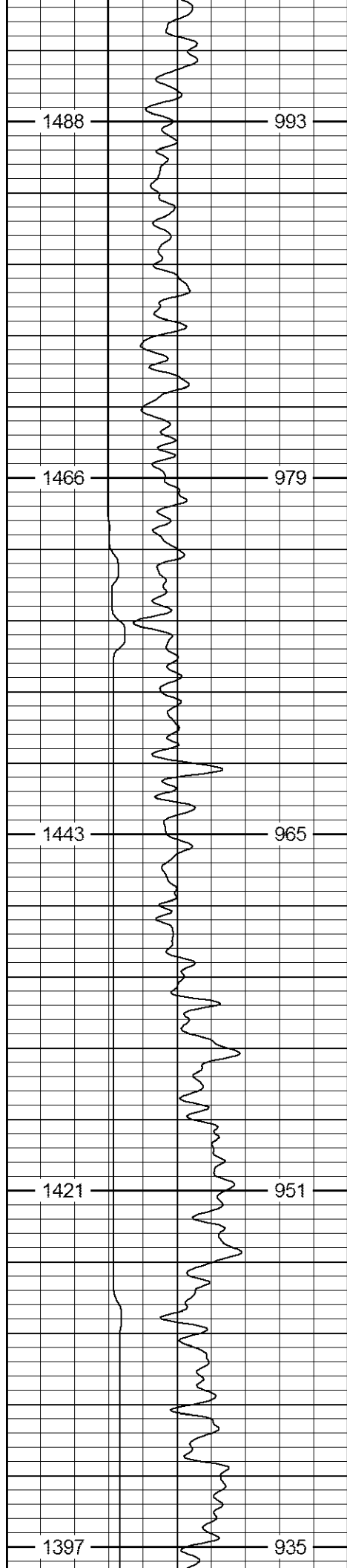
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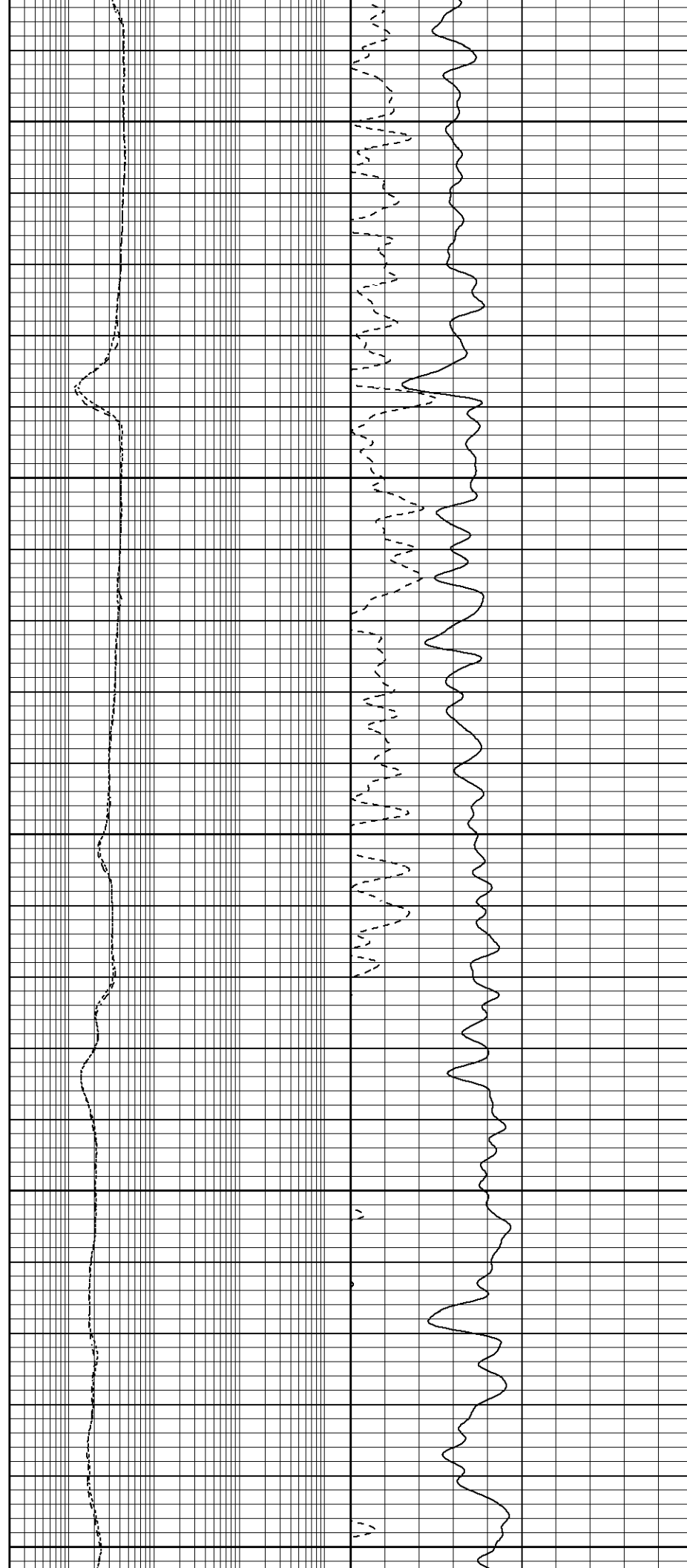
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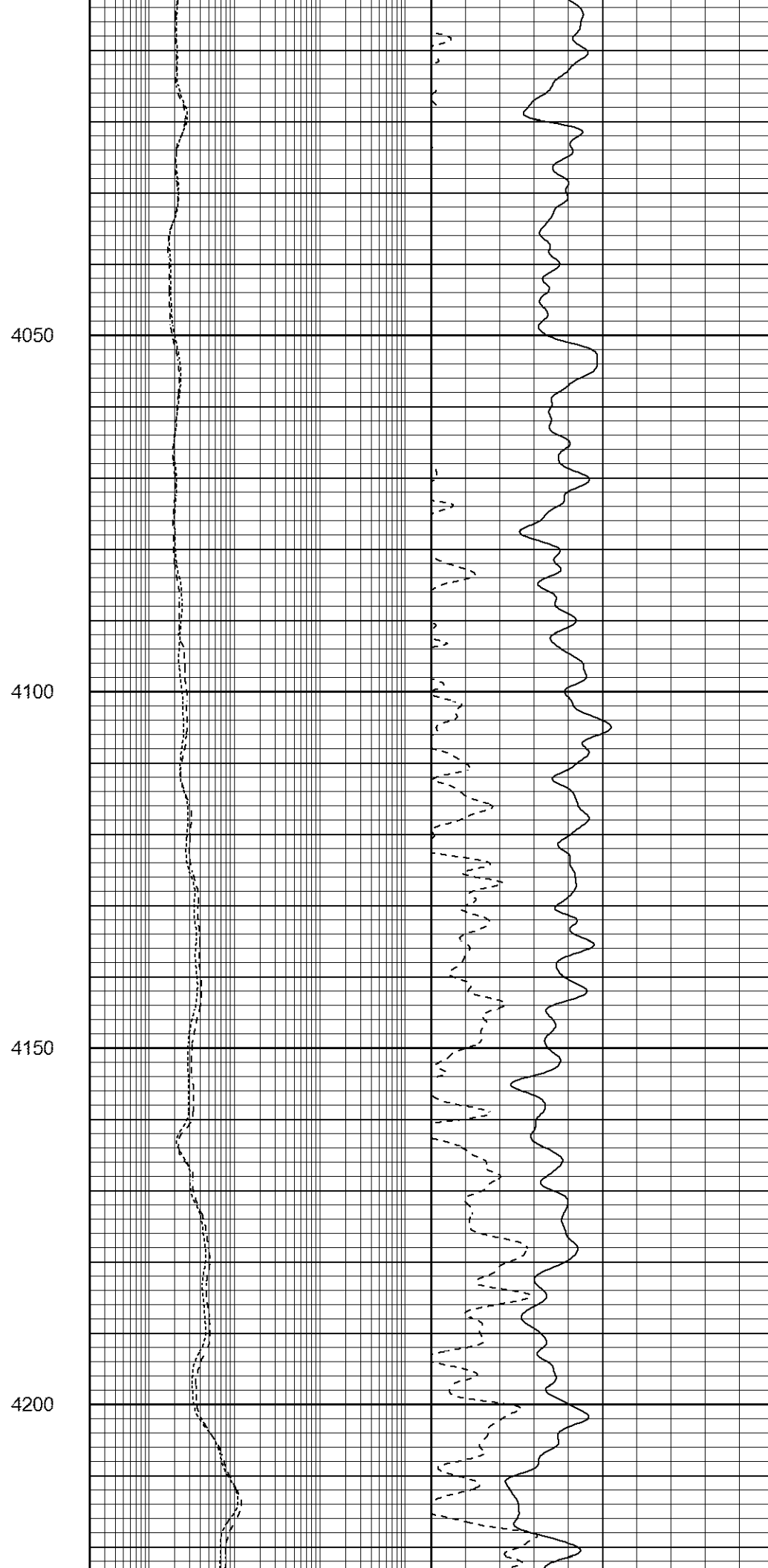
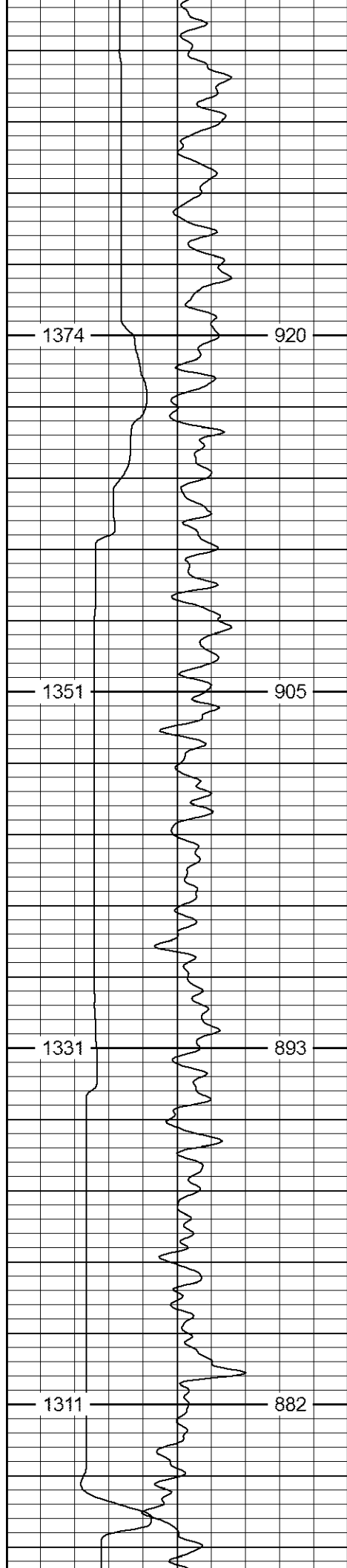
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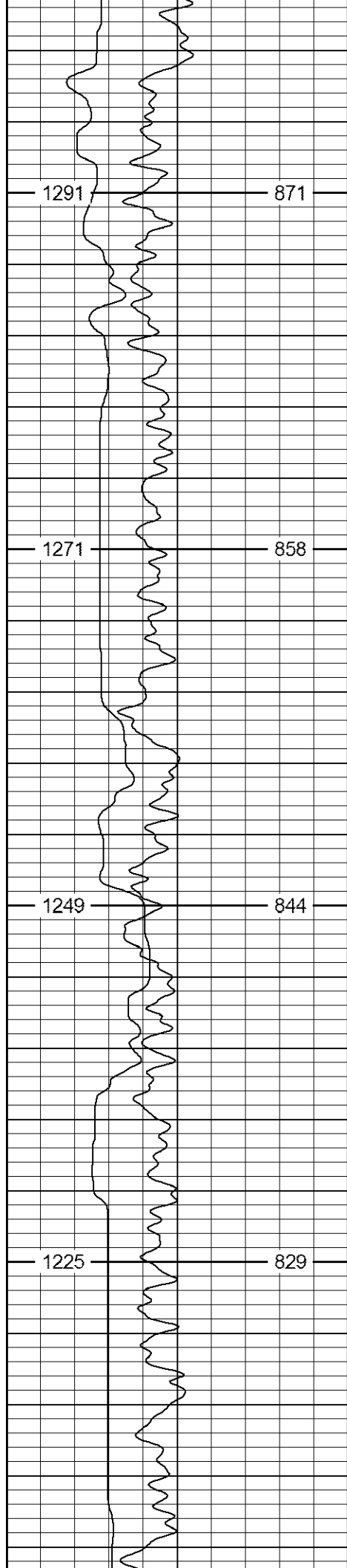
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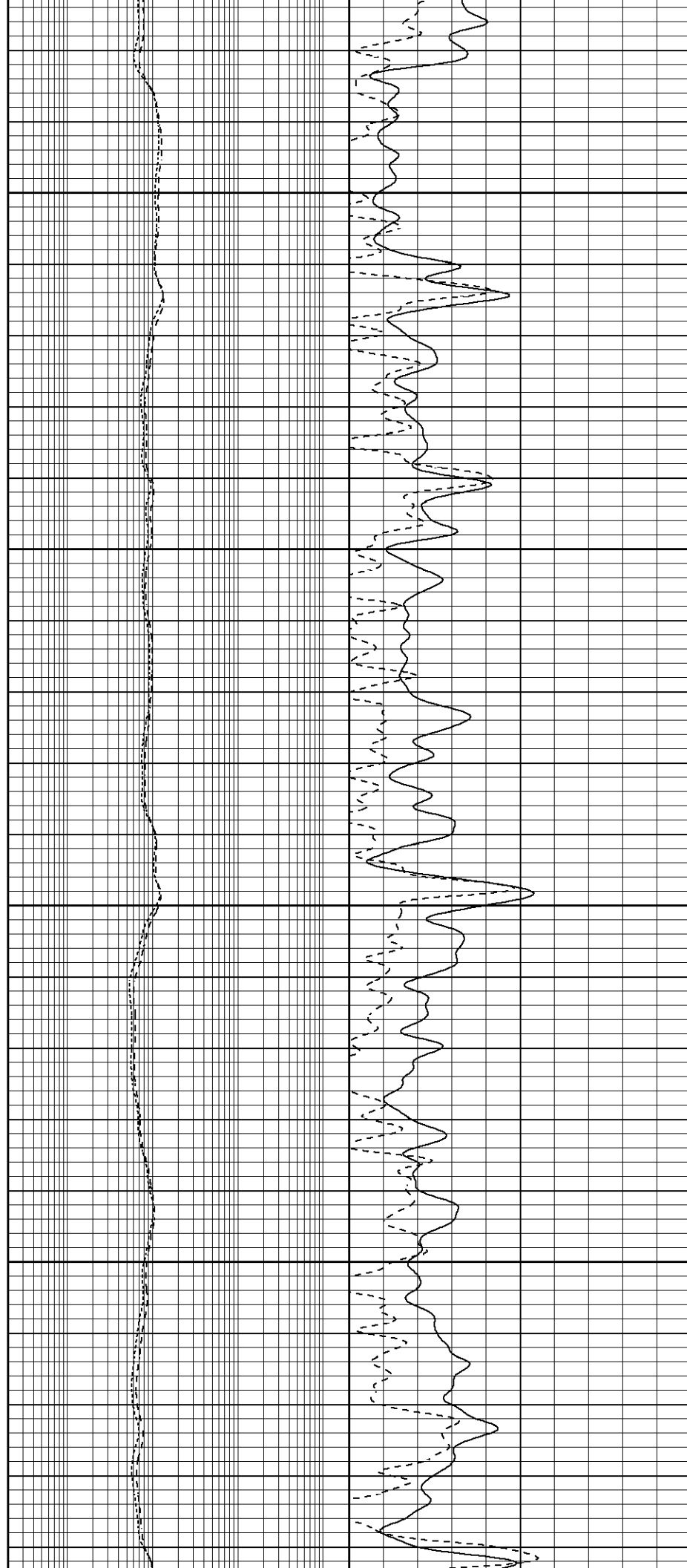


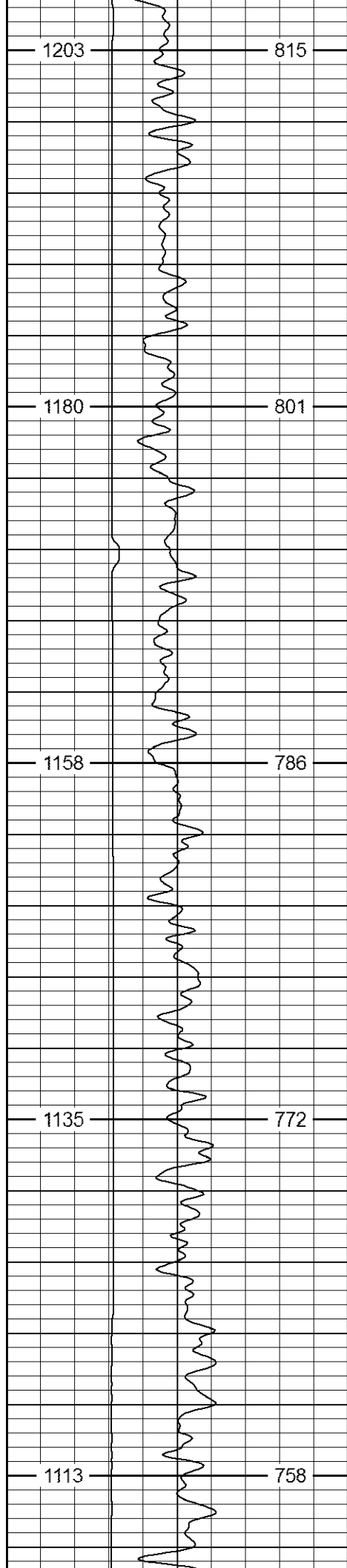
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4400





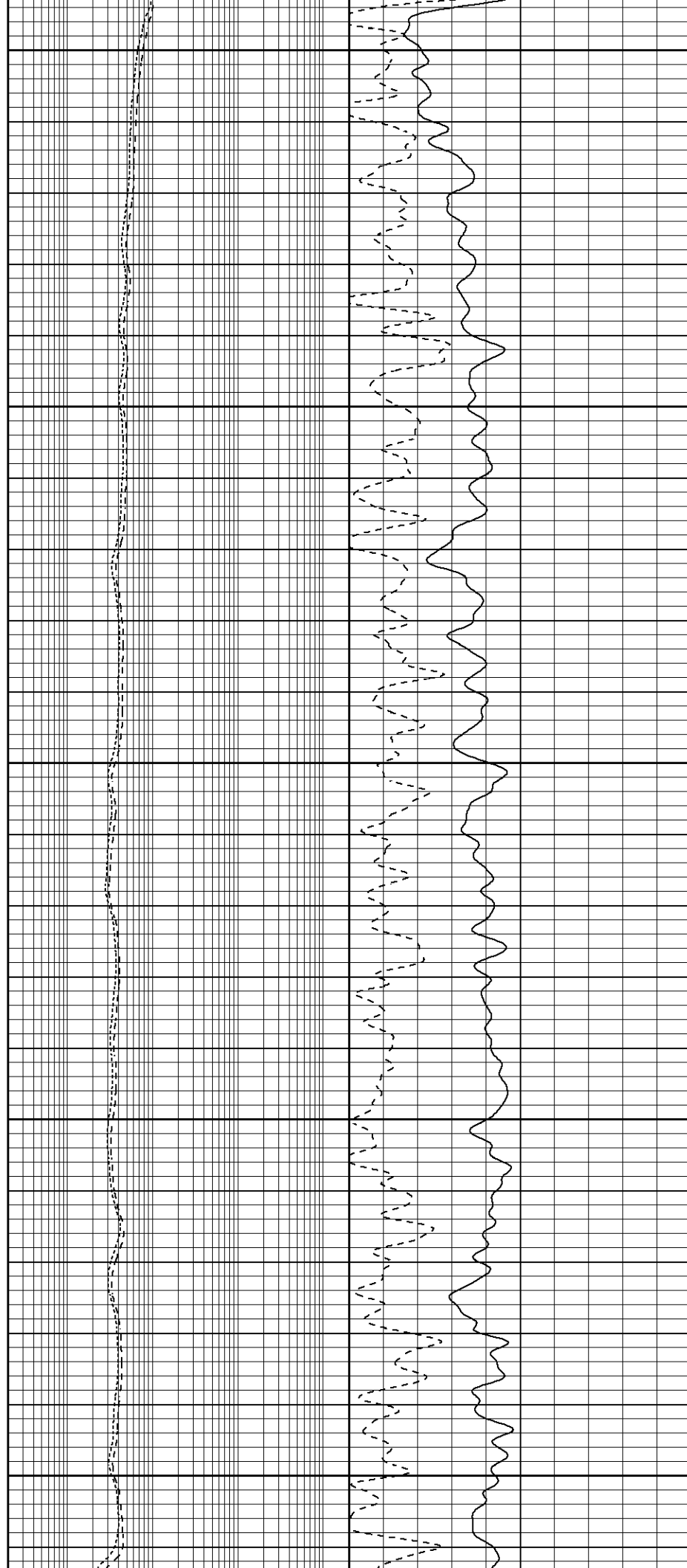
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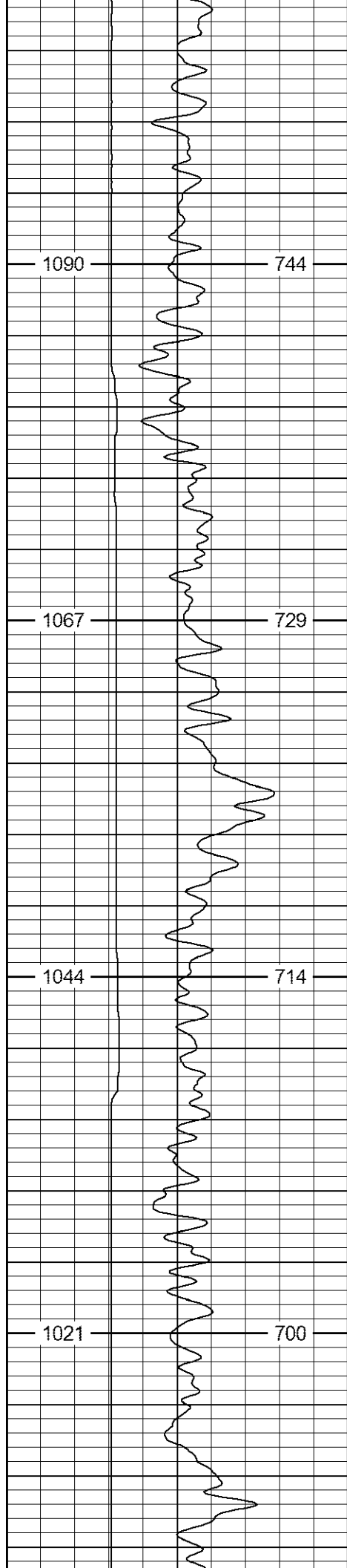
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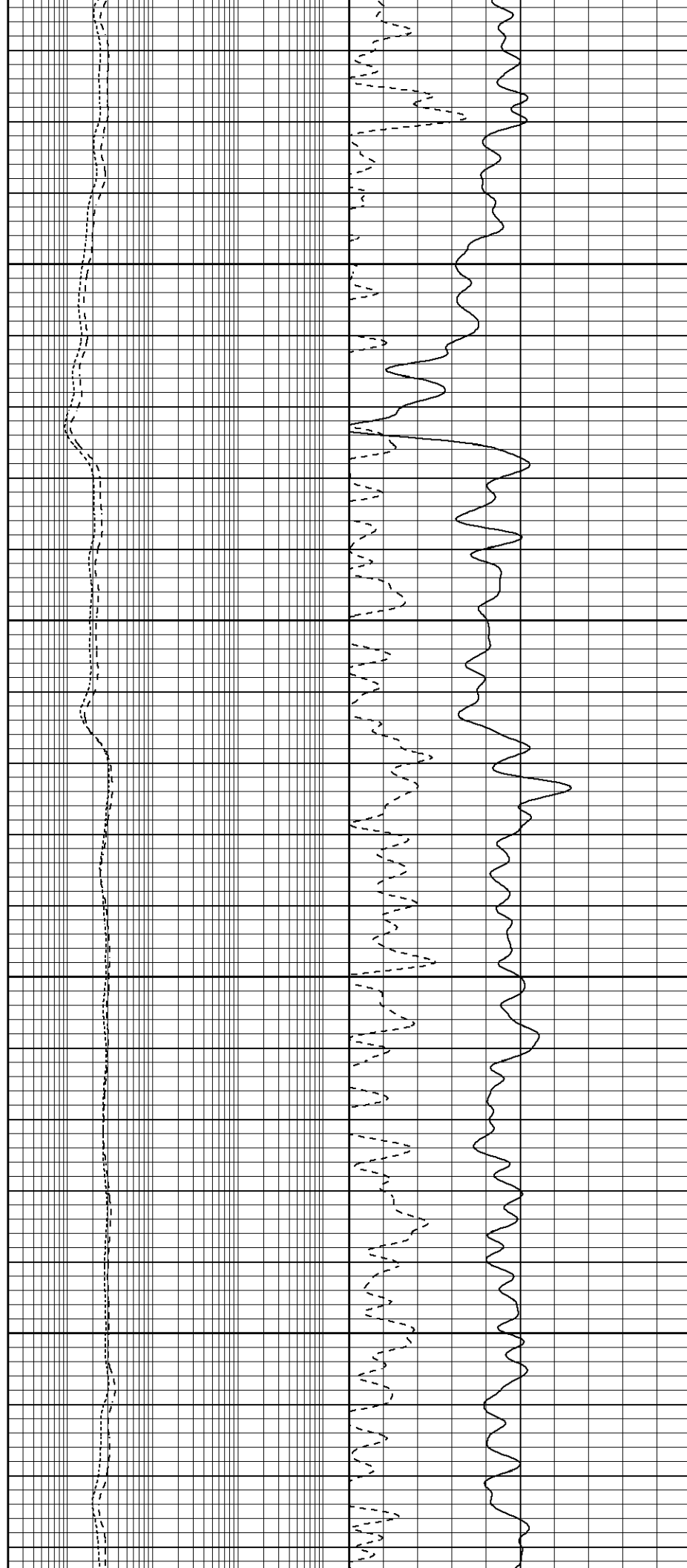


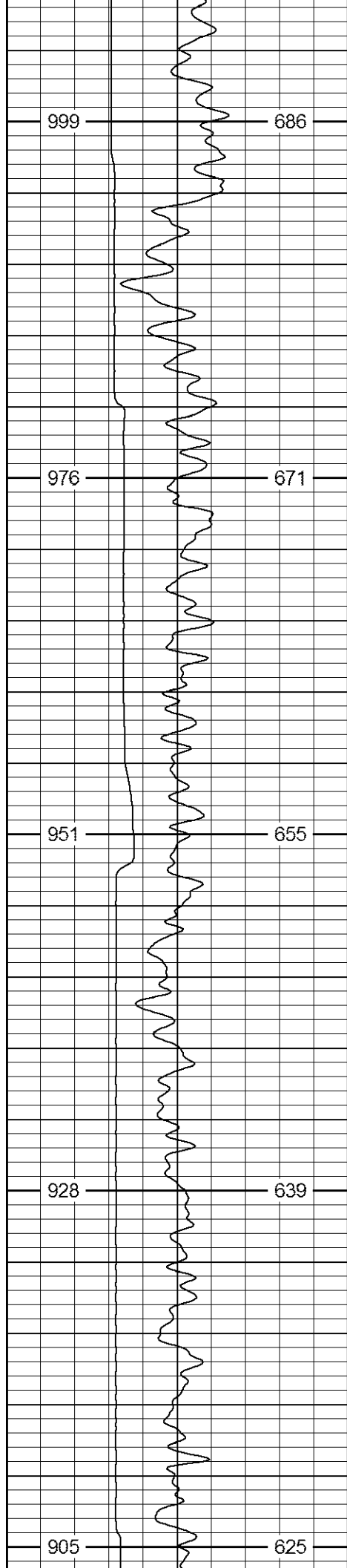
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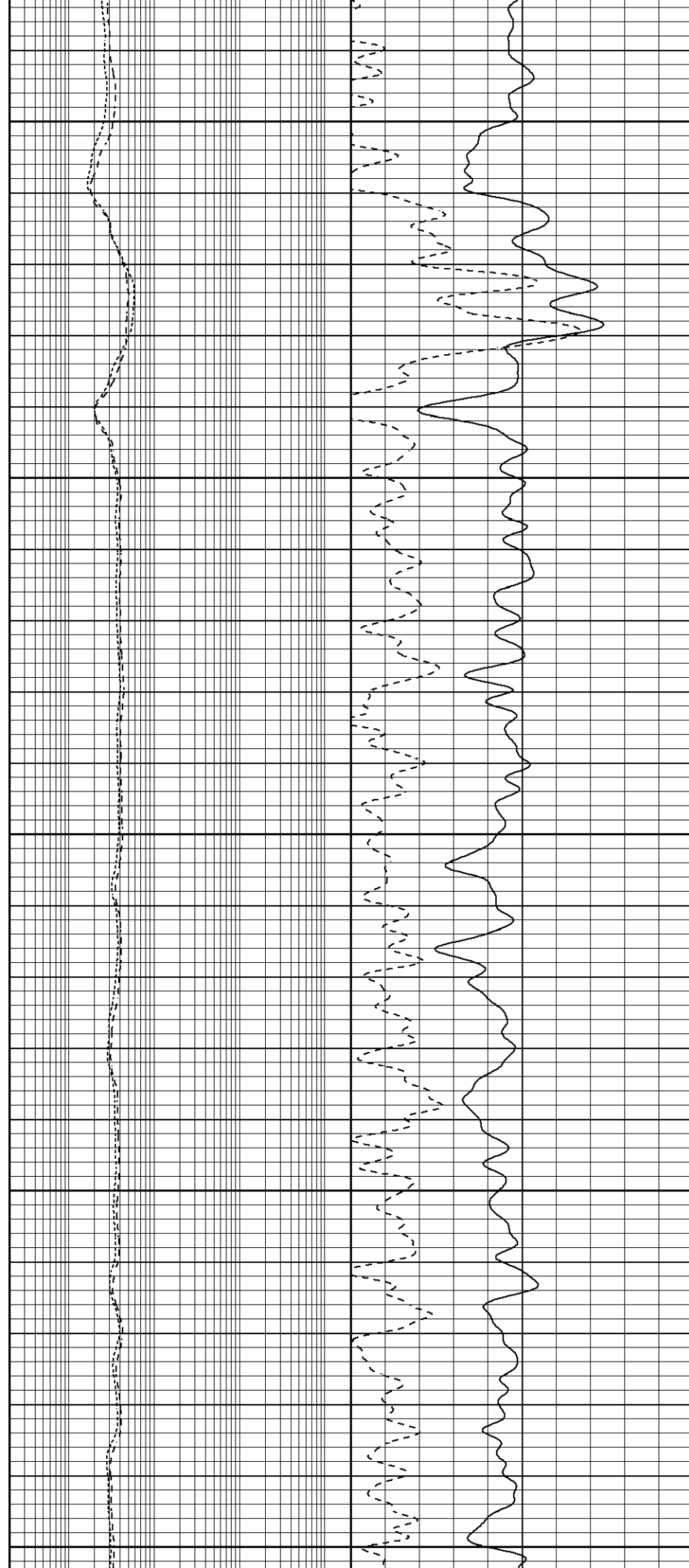
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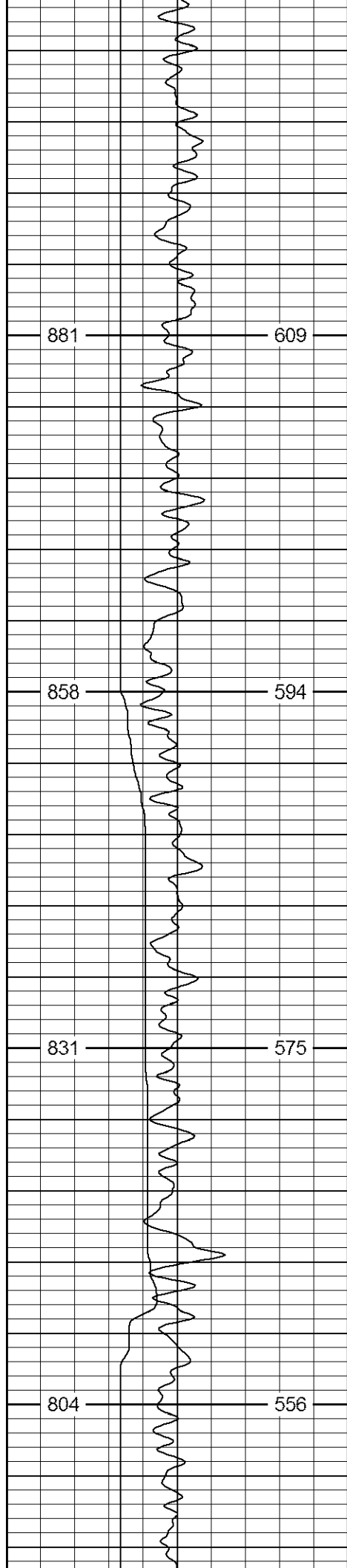
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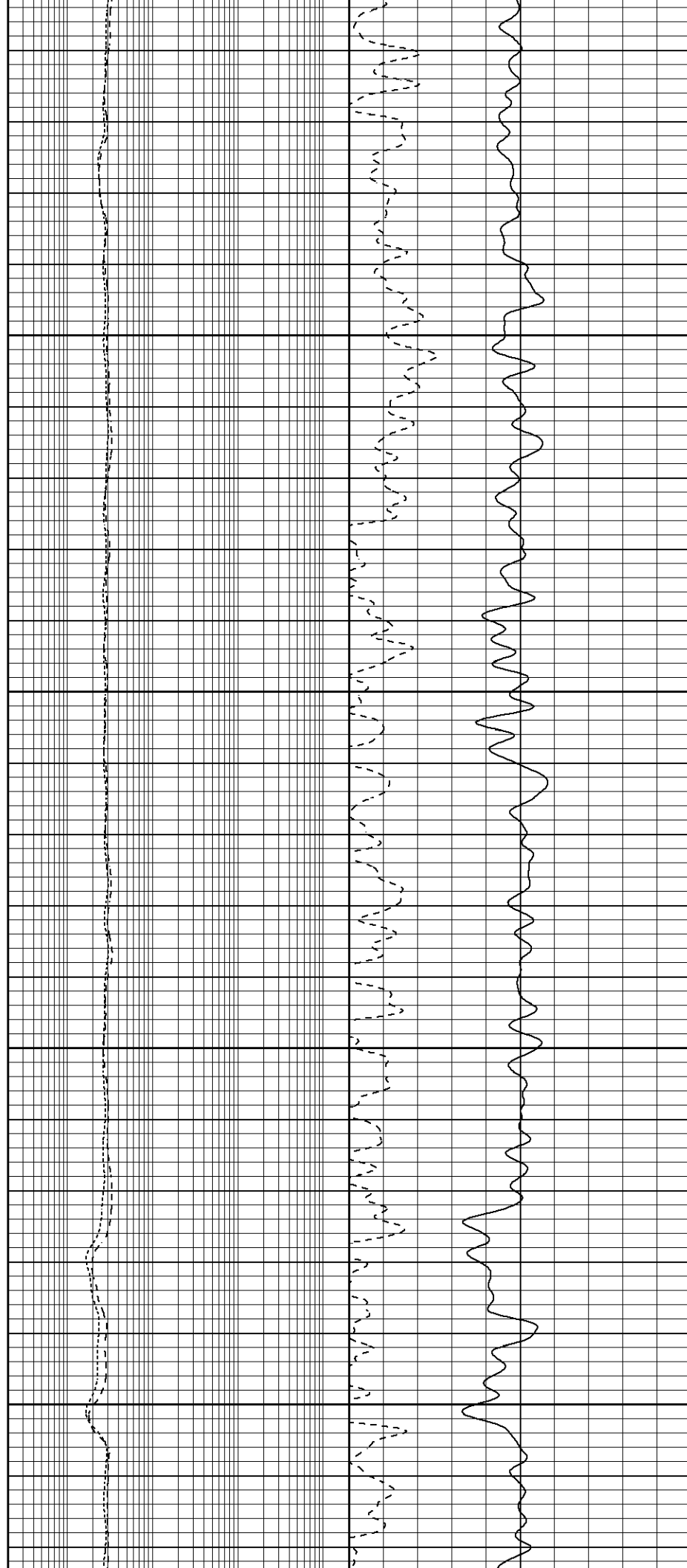


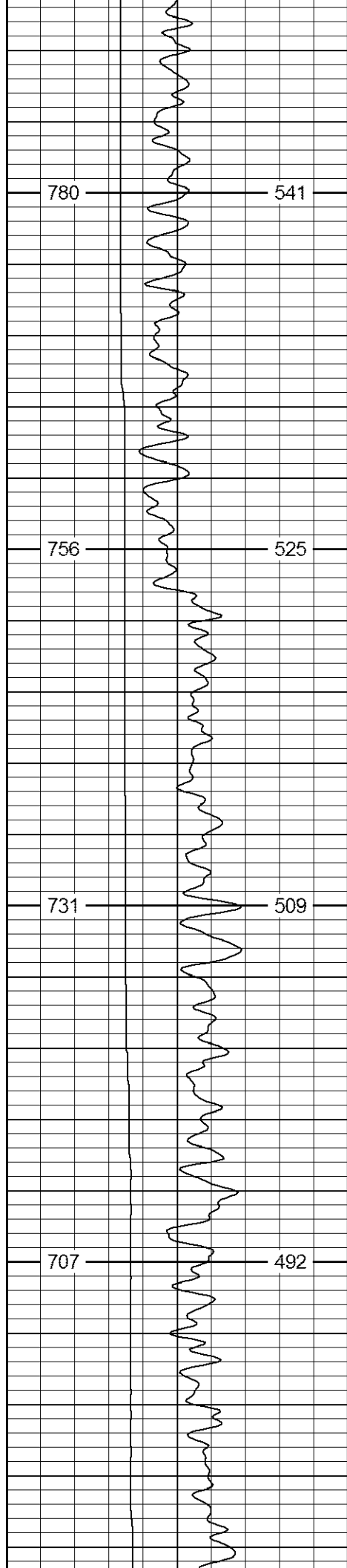
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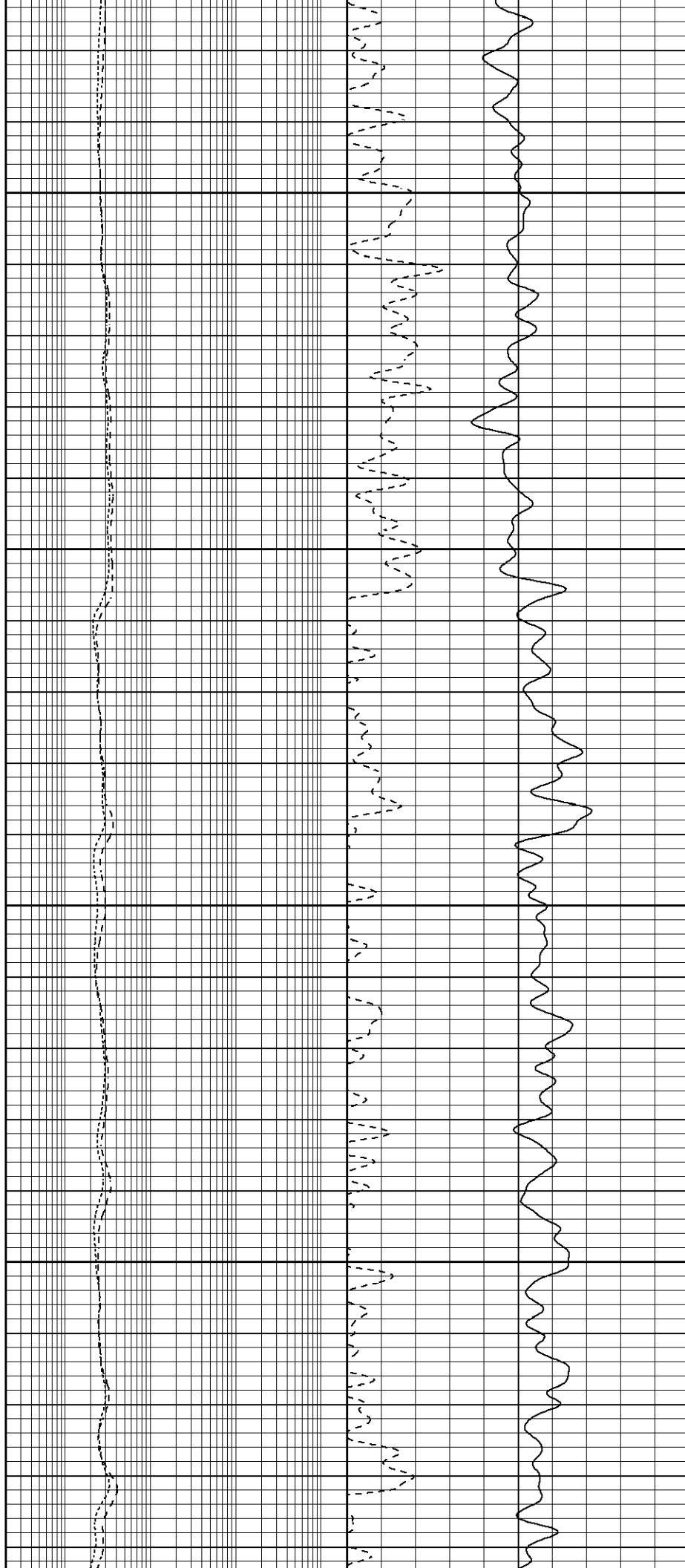


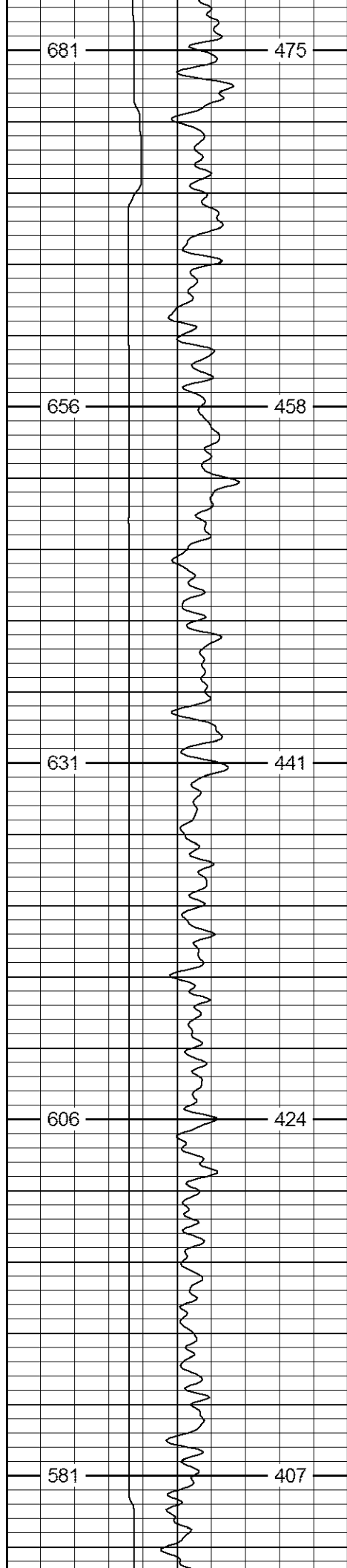
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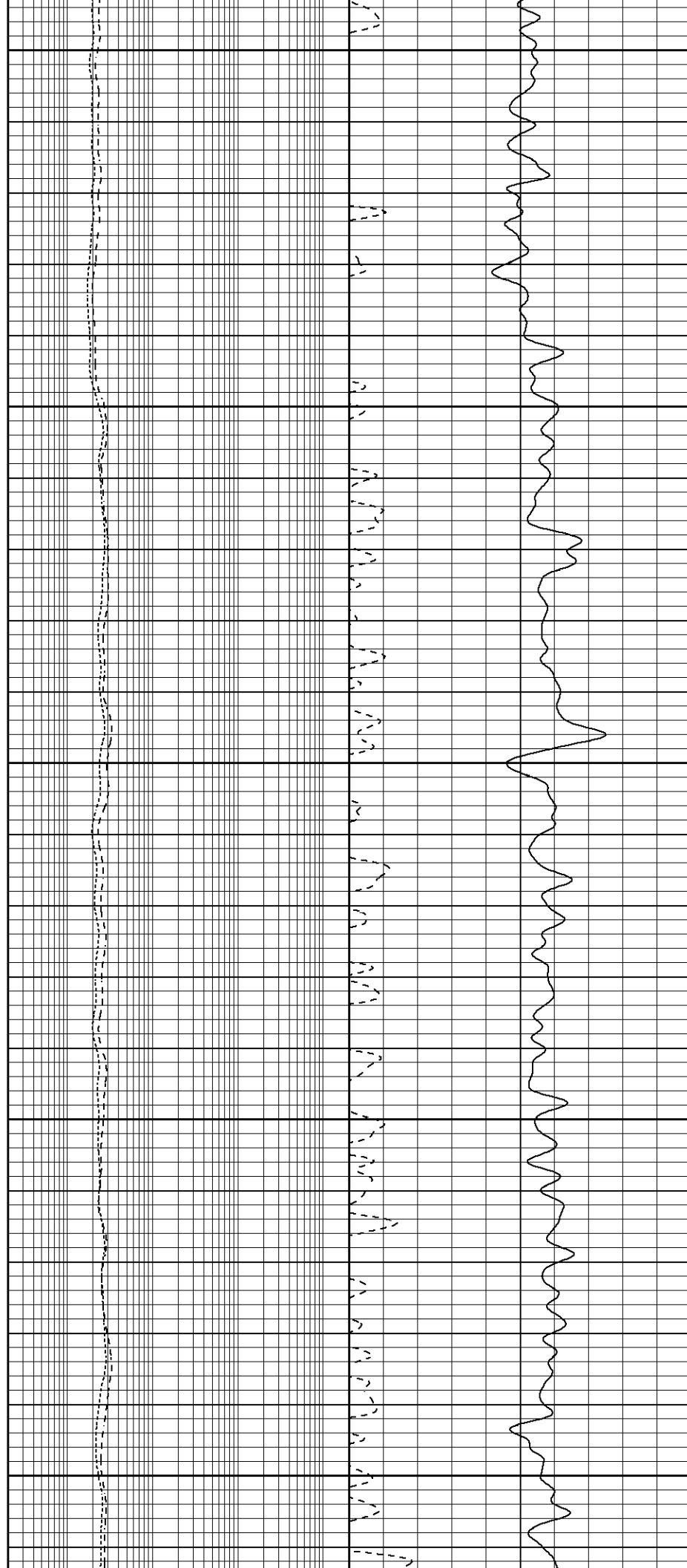
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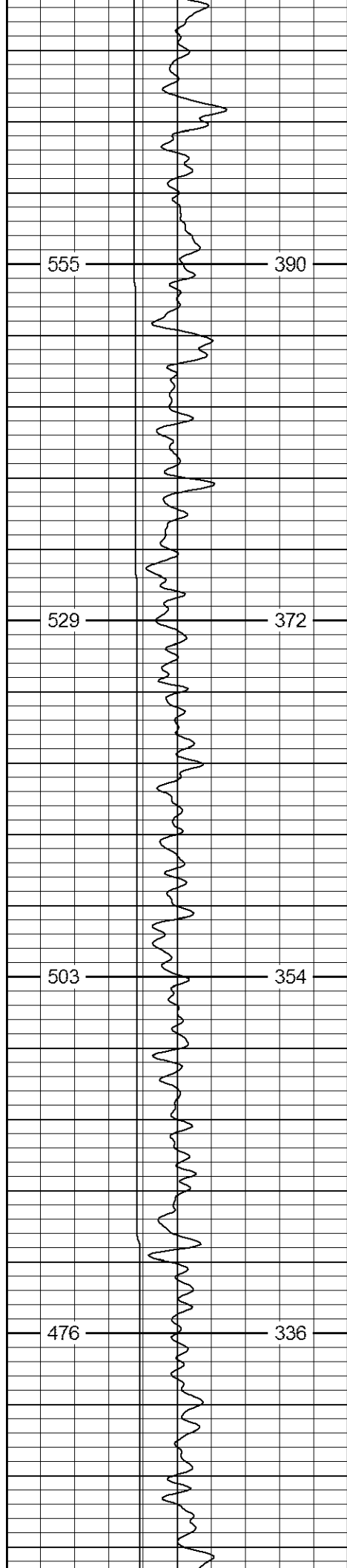
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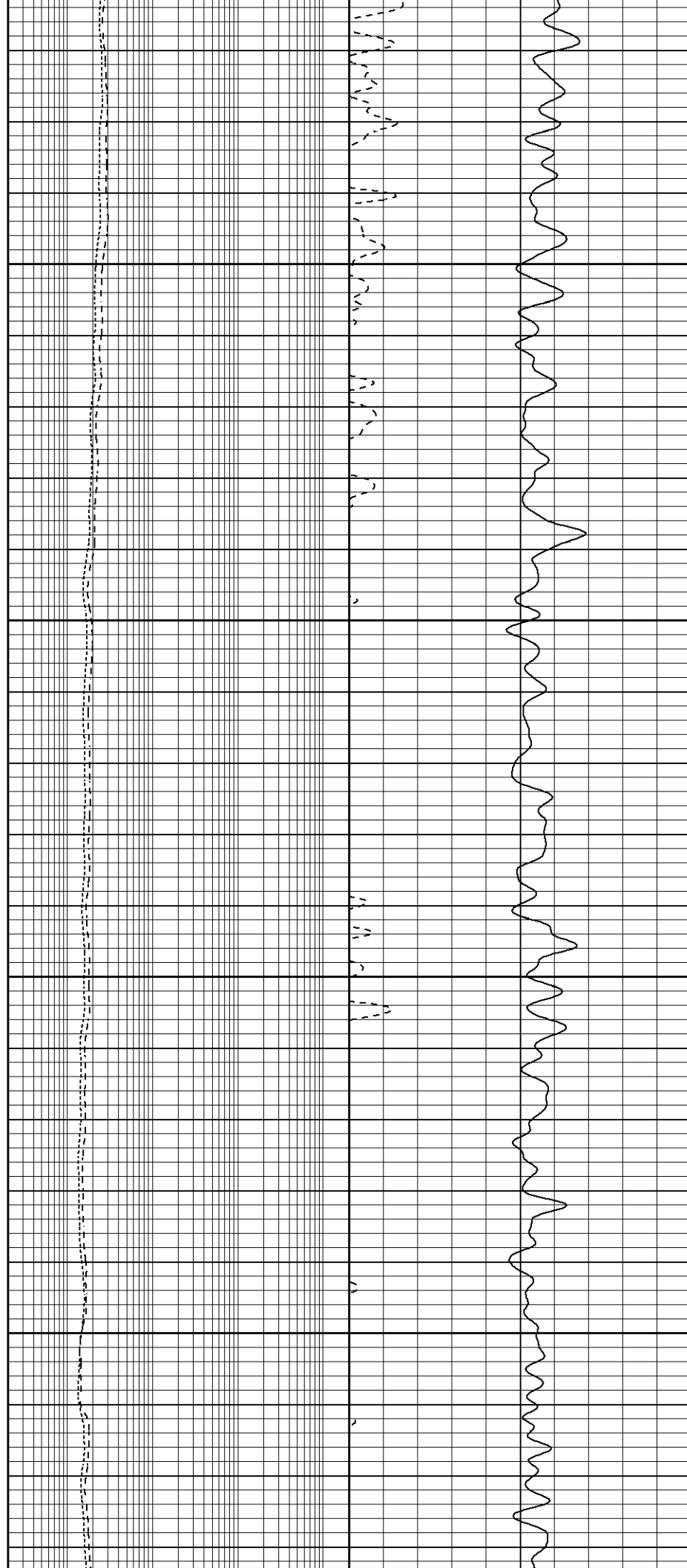


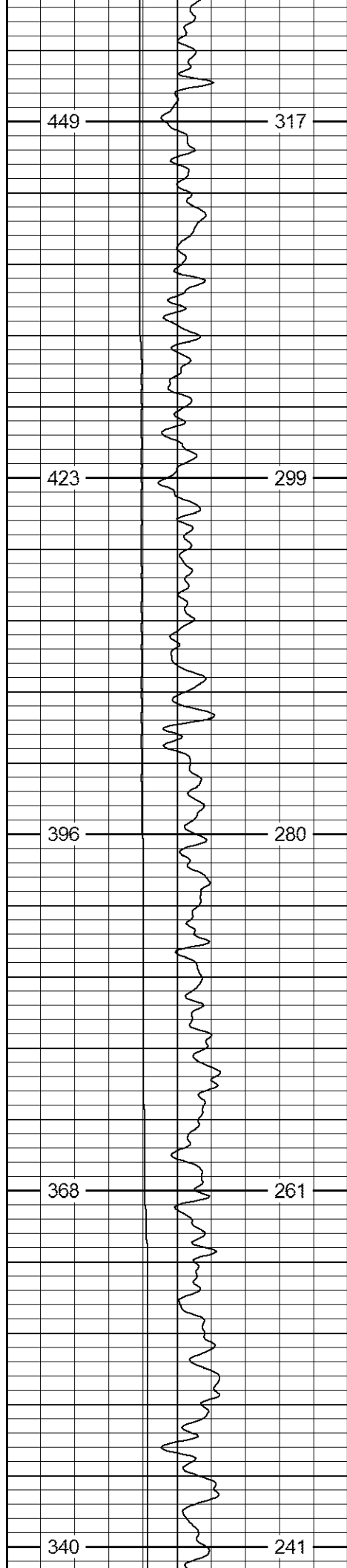
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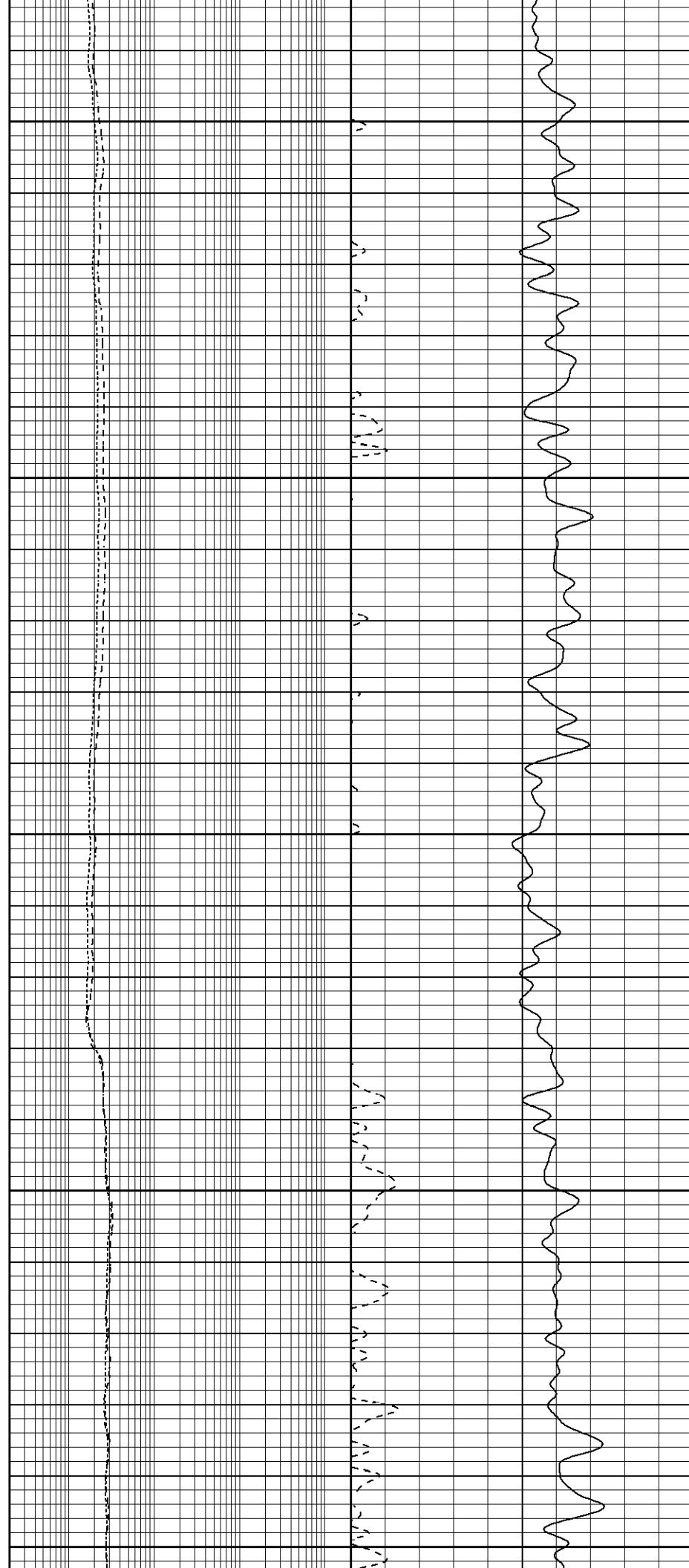
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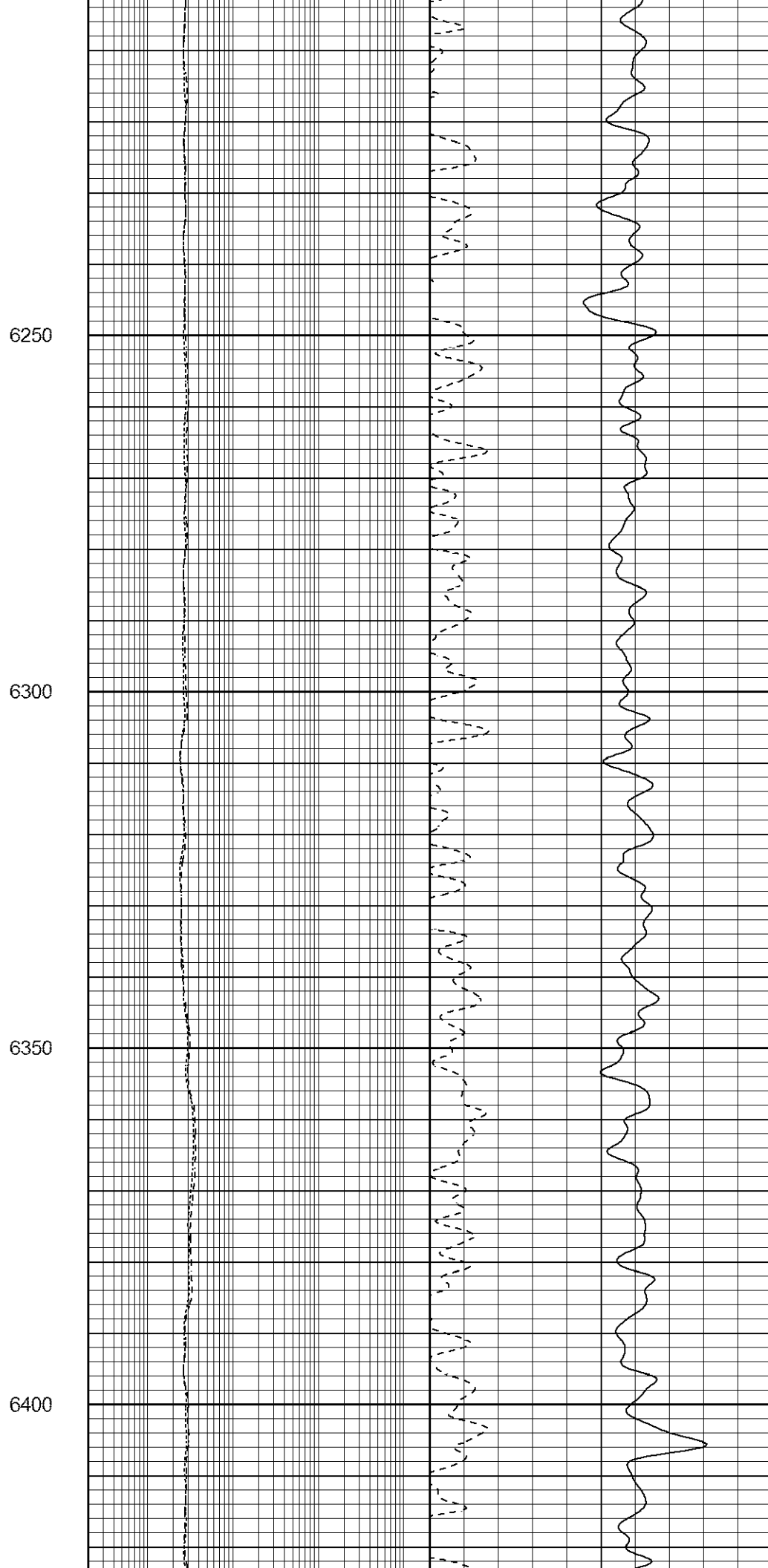
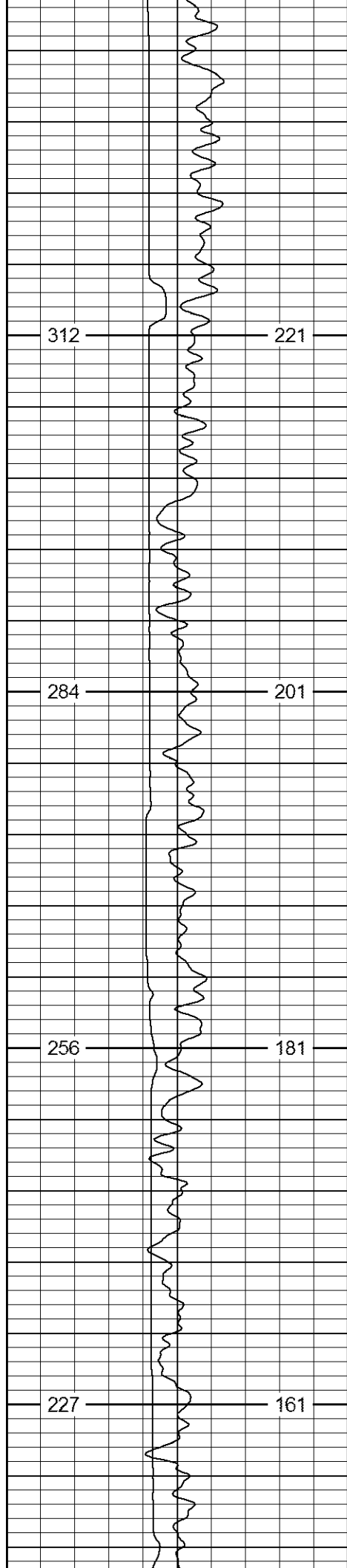
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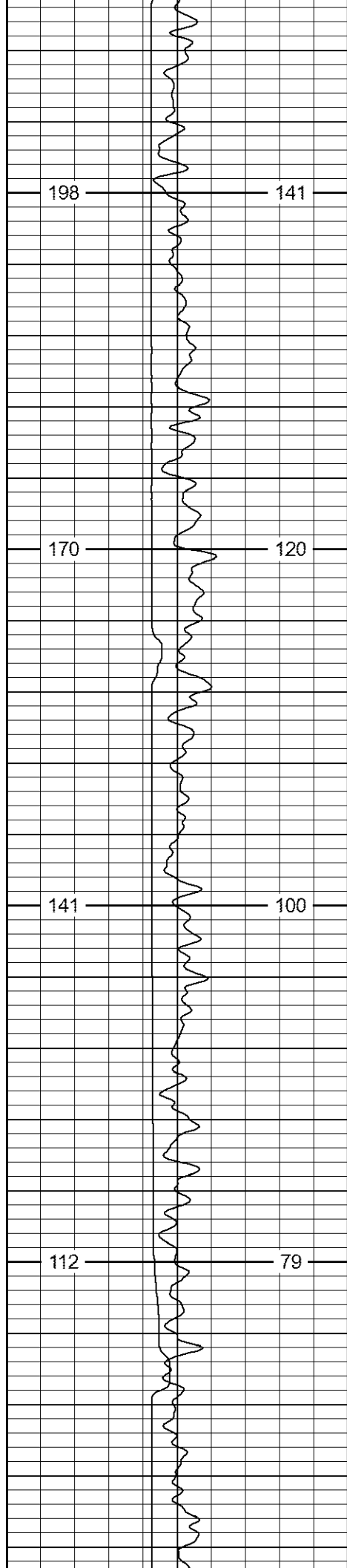
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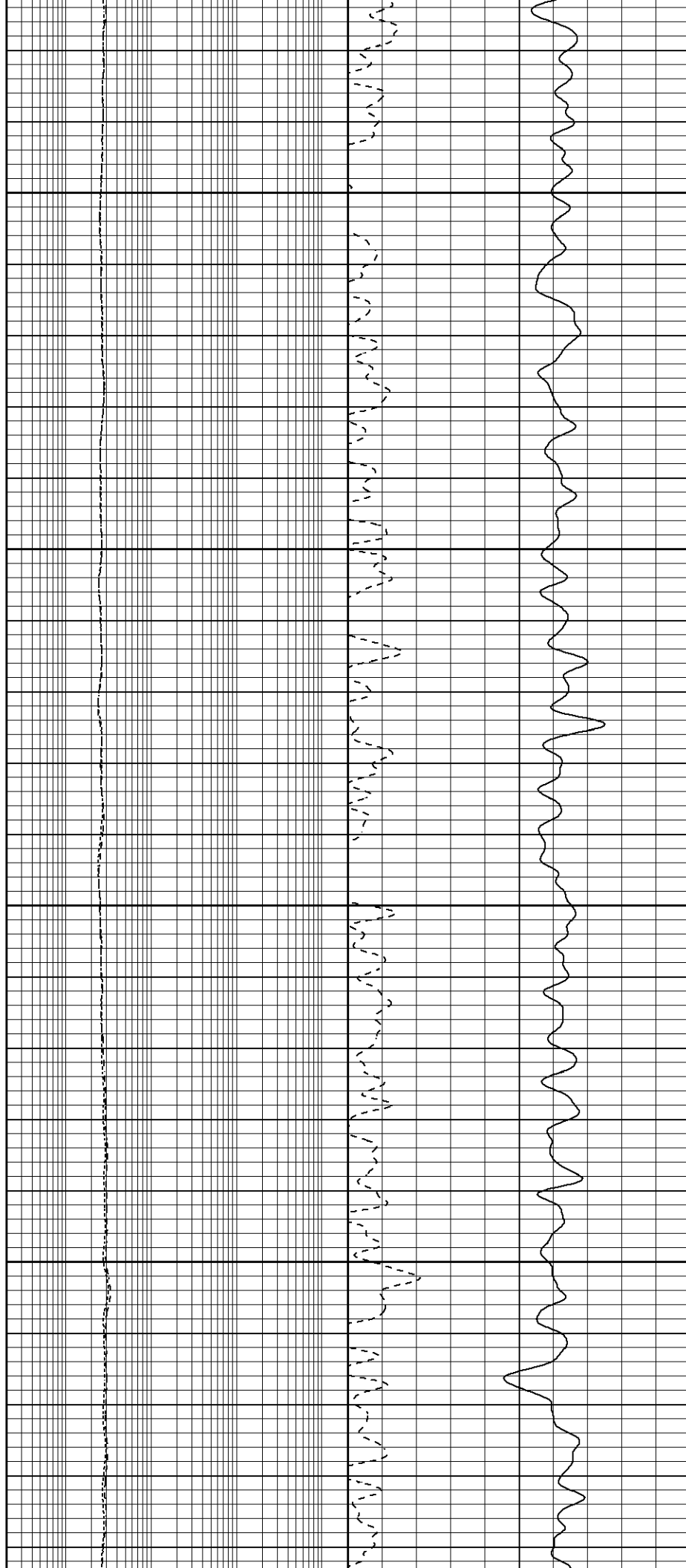


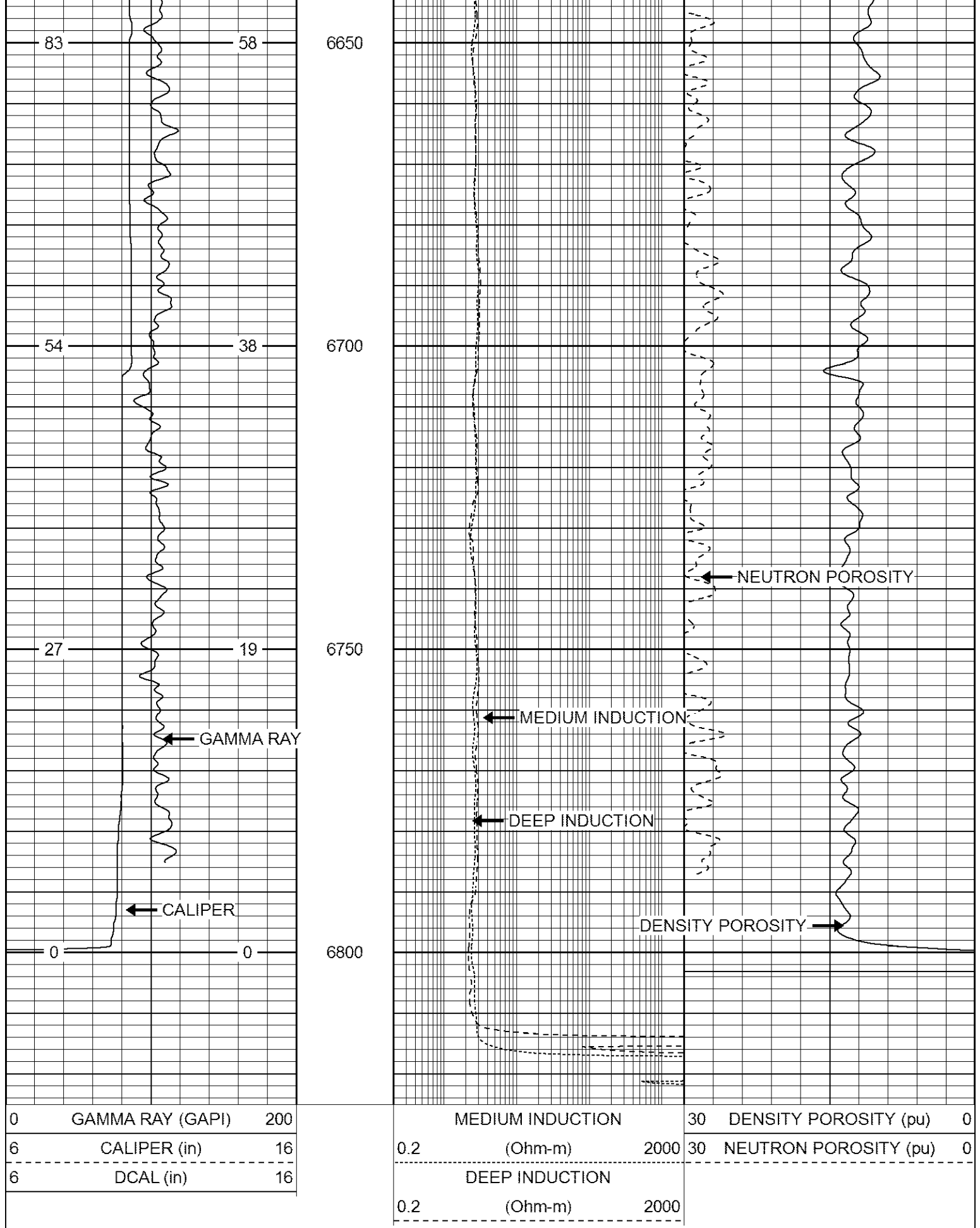
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6500

6550

6600





Calibration Report

Database File extraction_darlene_east_29n_20_11c.db
Dataset Pathname stack/pass3.1

Dual Induction Calibration Report

Serial-Model: 1987-M&W
 Calibration Performed: Tue Apr 11 16:07:38 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model: 168-986-M&W
 Source / Verifier: /
 Master Calibration Performed: Tue Apr 11 16:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.675	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.523		
	Size		Reading		
Small Ring	4.00	in	1.03		
Large Ring	14.00	in	1.23		

Compensated Neutron Calibration Report

Serial Number: tk10-MW
 Tool Model: M&W
 Calibration Performed: Wed Nov 16 11:21:36 2016

Detector	Readings		Target	Normalization
Short Space	6240.00	cps	1000.00 cps	1.6025
Long Space	460.00	cps	1000.00 cps	1.9500

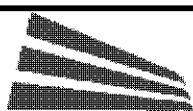
Gamma Ray Calibration Report

Serial Number: 89-M&W
 Tool Model: M&W
 Calibration Performed: Tue Apr 11 16:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps



Company EXTRACTION OIL & GAS
 Well DARLENE EAST NO. 29N-20-11C

PIONEER

Pioneer Energy Services



Well

GROVER

County

WELD

State

COLORADO