PIONEER
Pioneer Energy Services

DUAL IND / DUAL COMP POROSITY LOG

Company EXTRACTION OIL & GAS
Well WALT NO. 16E-20-9C
Field WATTENBERG
County WELD
State COLORADO

Company EXTRACTION OIL & GAS
Well WALT NO. 16E-20-9C
Field WATTENBERG
County WELD
State COLORADO

Location: API # : 05-123-45243-00
2017' FNL & 354' FEL
SEC 17 TWP 7N RGE 67W

Other Services
NONE

Permanent Datum GROUND LEVEL Elevation 5107'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 5132'
D.F. N/A
G.L. 5107'

Date	10/23/2017		
Run Number	ONE		
Depth Driller	16657'		
Depth Logger	6700'		
Bottom Logged Interval	6700'		
Top Log Interval	1550'		
Casing Driller	9.625" @ 1558'		
Casing Logger	1556'		
Bit Size	8.5"		
Type Fluid in Hole	OIL BASED MUD		
Salinity,ppm CL	N/A		
Density / Viscosity	9.45	N/A	
pH / Fluid Loss	N/A	N/A	
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	N/A @ N/A		
Rmf @ Meas. Temp	N/A @ N/A		
Rmc @ Meas. Temp	N/A @ N/A		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	N/A @ N/A		
Operating Rig Time	3 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 # CBE9
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.pioneeres.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:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\extraction_walt_16e_20_9c.db
Dataset field/well/stack/pass2.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	8.5	0	5.5	0	1	2	2.71
NPORSEL	**PERFS**	**SNDERR mmho/m**	**SNDERRM mmho/m**	**SPSHIFT mV**	**SRFTEMP degF**	**SZCOR**	**TDEPTH ft**
Limestone	0	0	0	0	51	Off	6700

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					
			CDL-M&W (239-211)	8.50	4.00	250.00
LSD	20.85					
DCAL	20.83					
SSD	20.35					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00					

CILM	4.70	
SP	0.20	

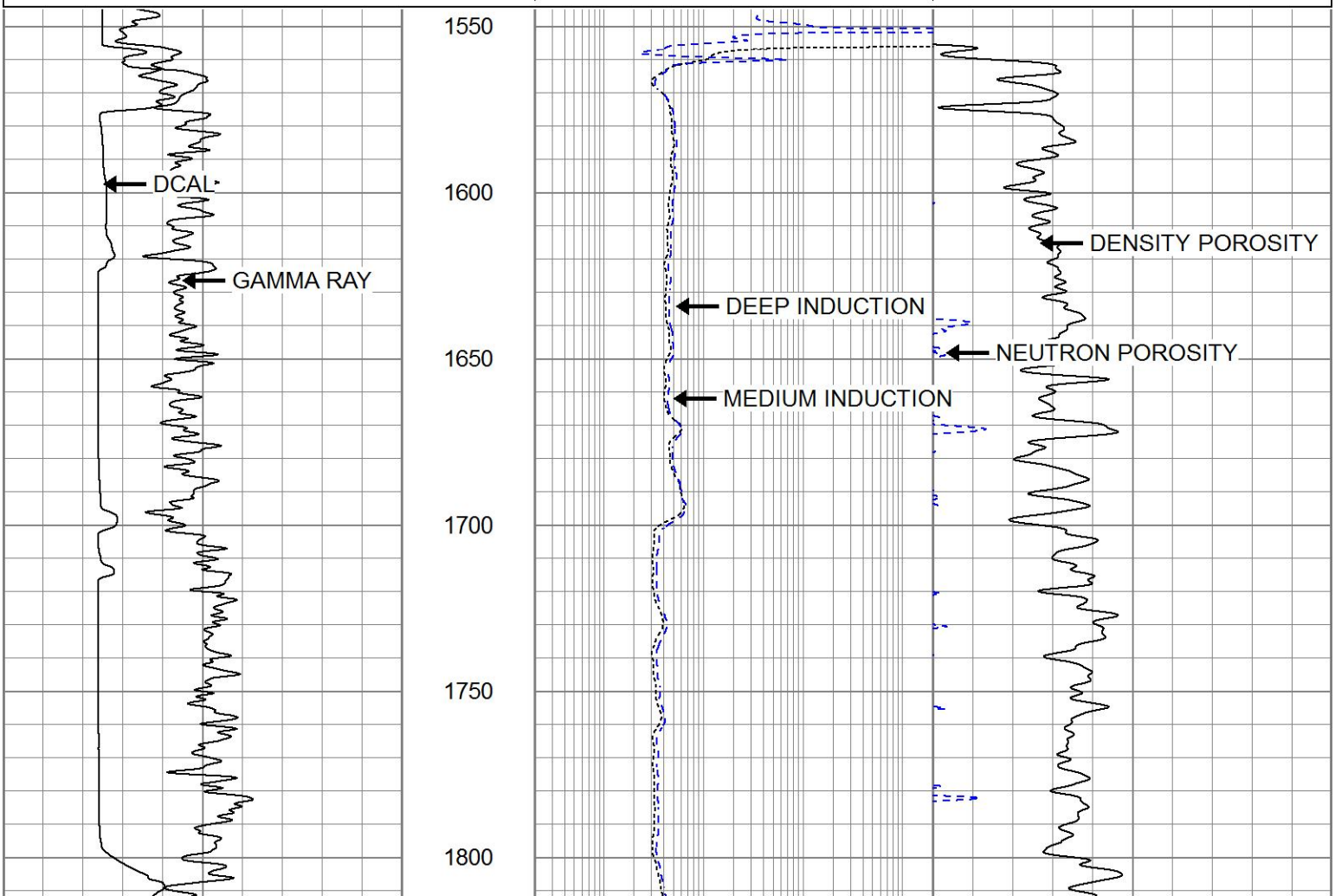
Dataset: extraction_walt_16e_20_9c.db: field/well/stack/pass2.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

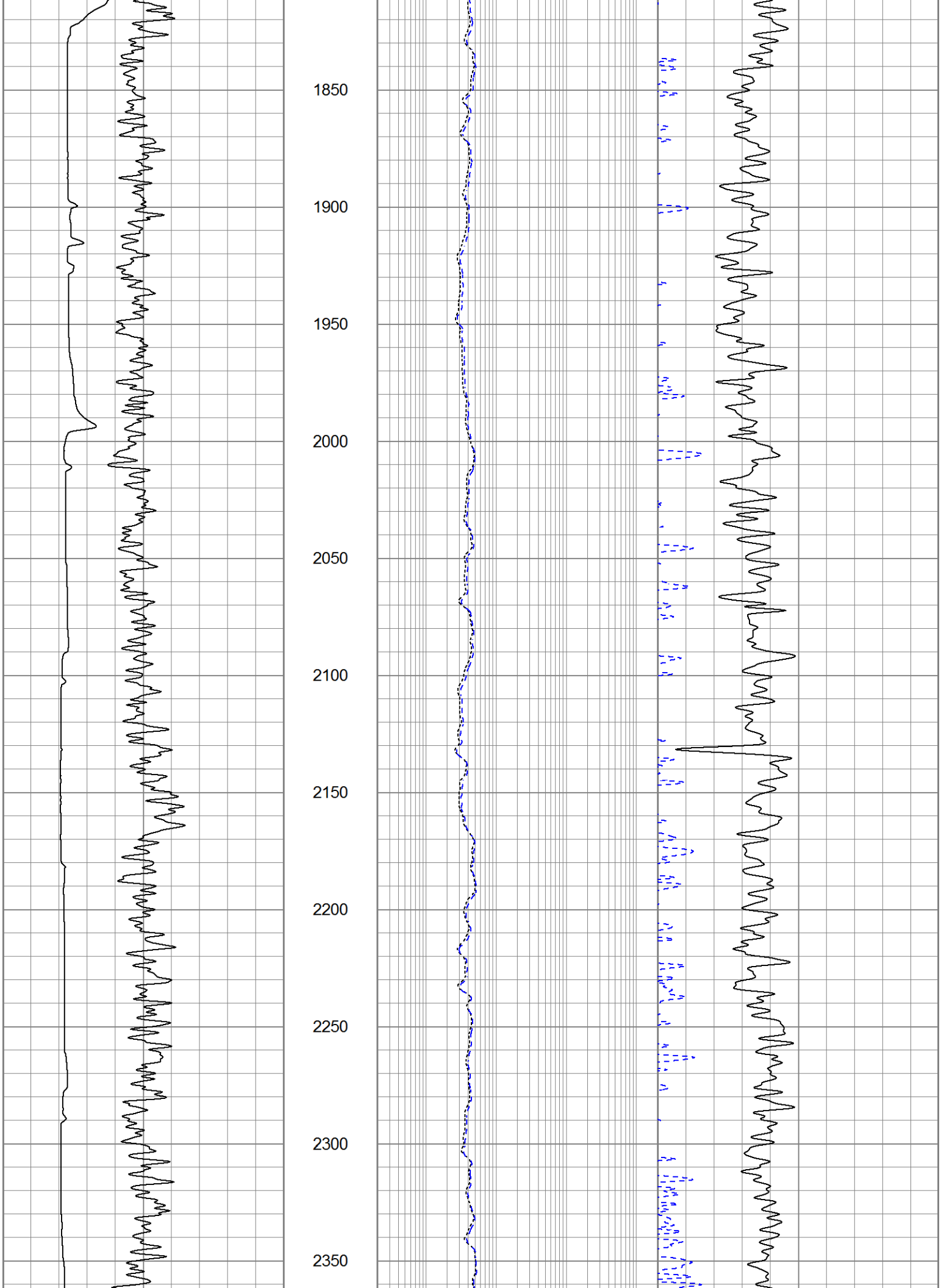
PIONEER
Pioneer Energy Services

MAIN PASS

Database File	extraction_walt_16e_20_9c.db
Dataset Pathname	stack/pass2.1
Presentation Format	split
Dataset Creation	Mon Oct 23 14:34:50 2017
Charted by	Depth in Feet scaled 1:600

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

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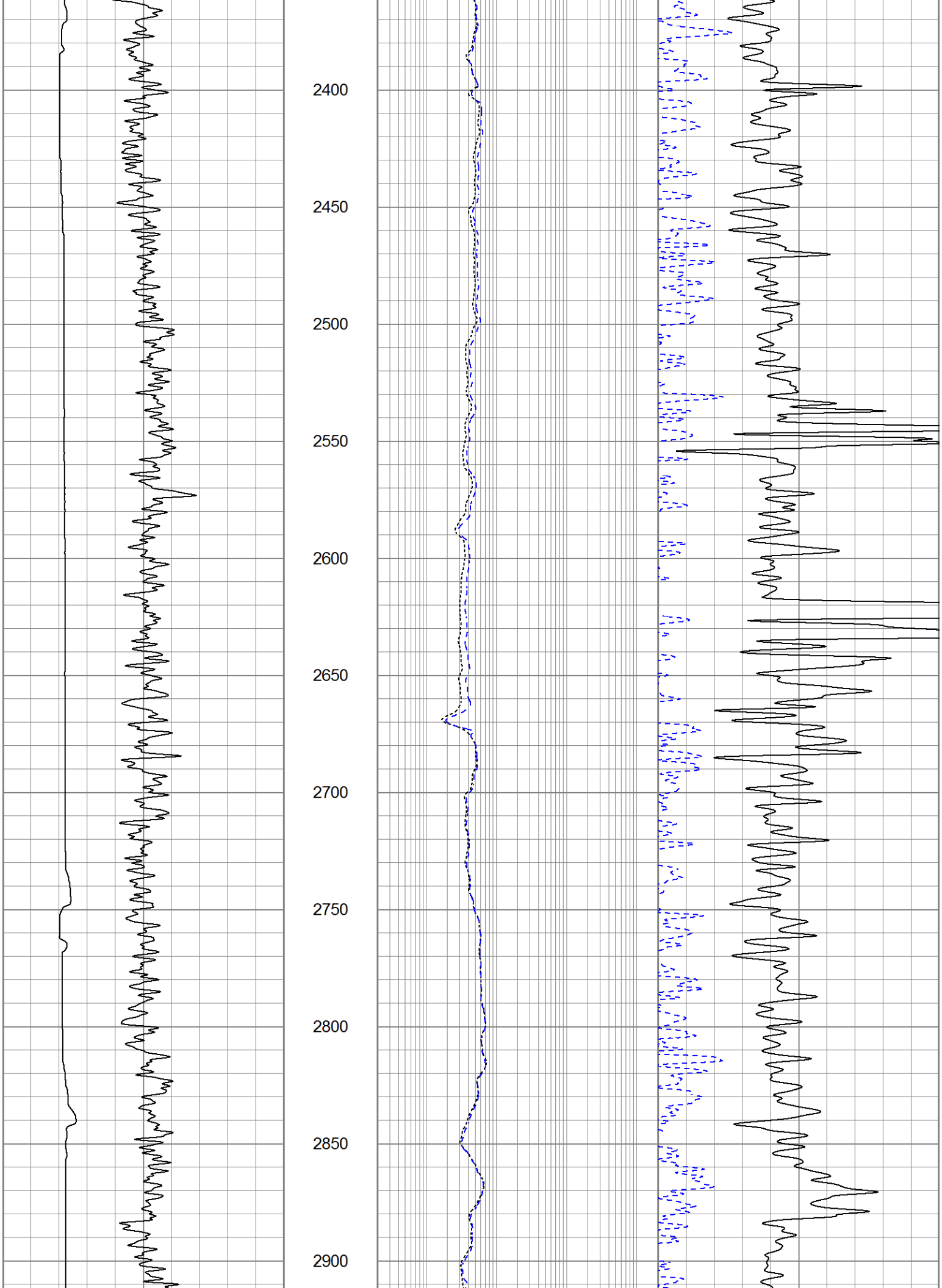
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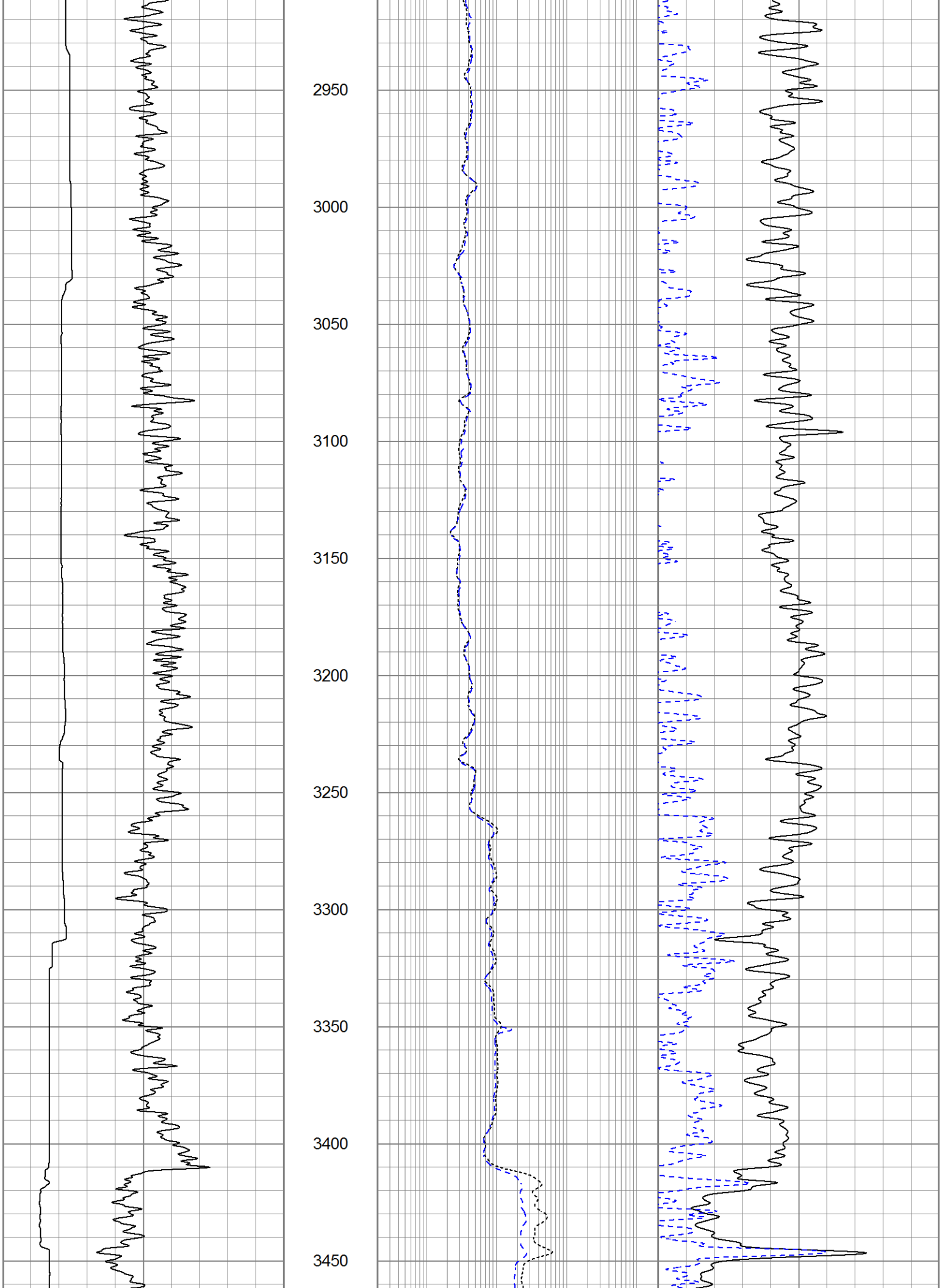
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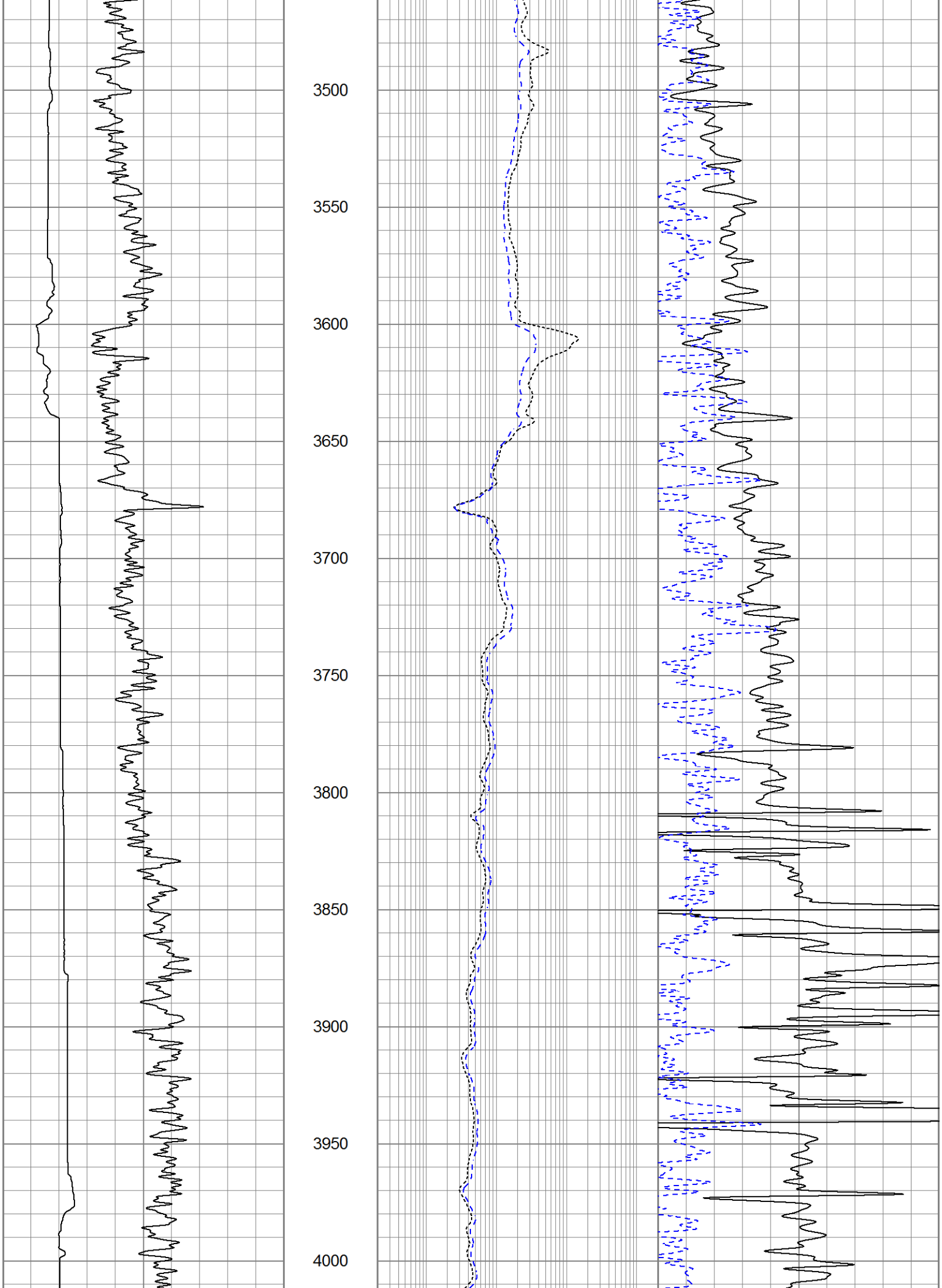
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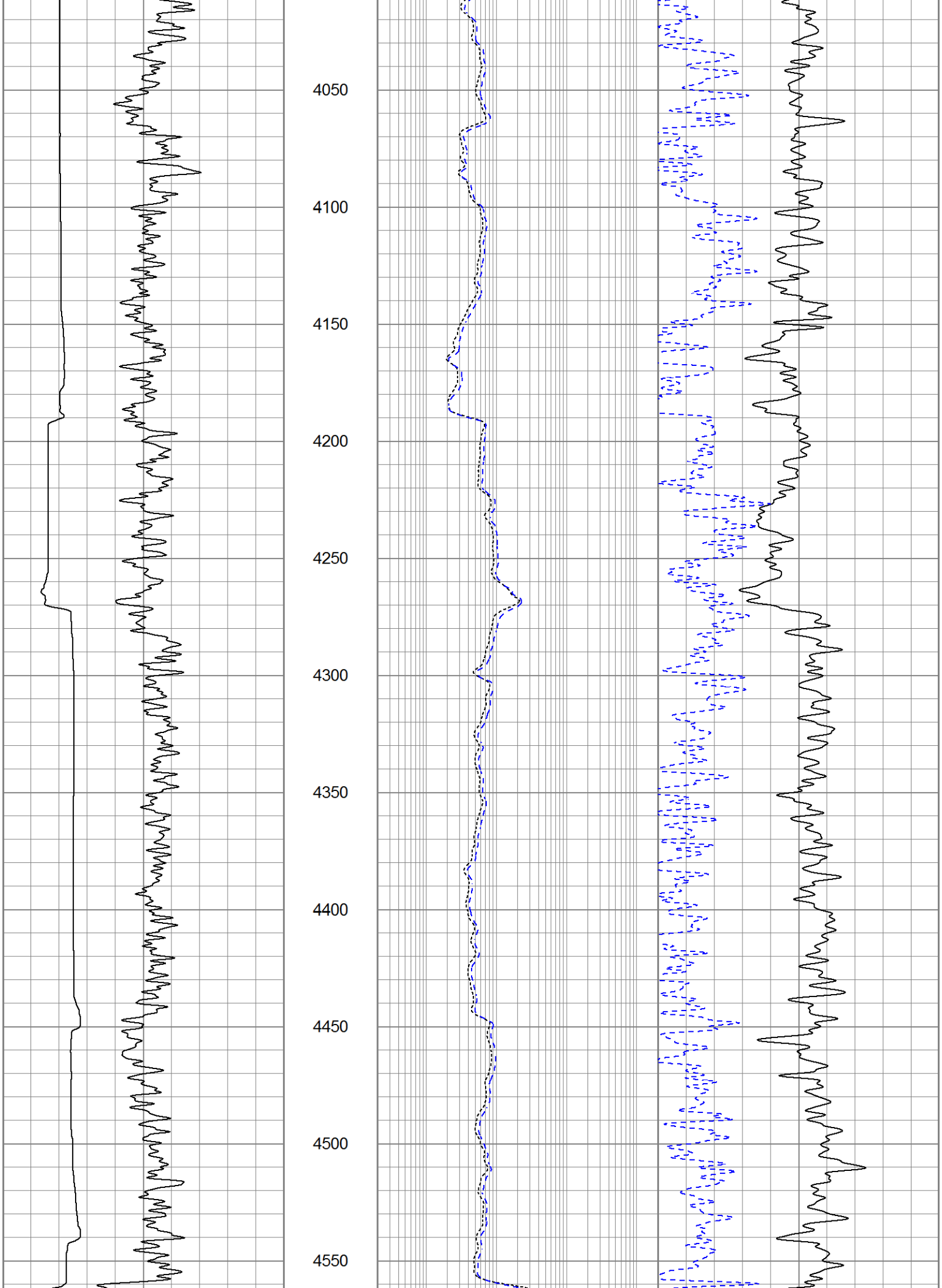
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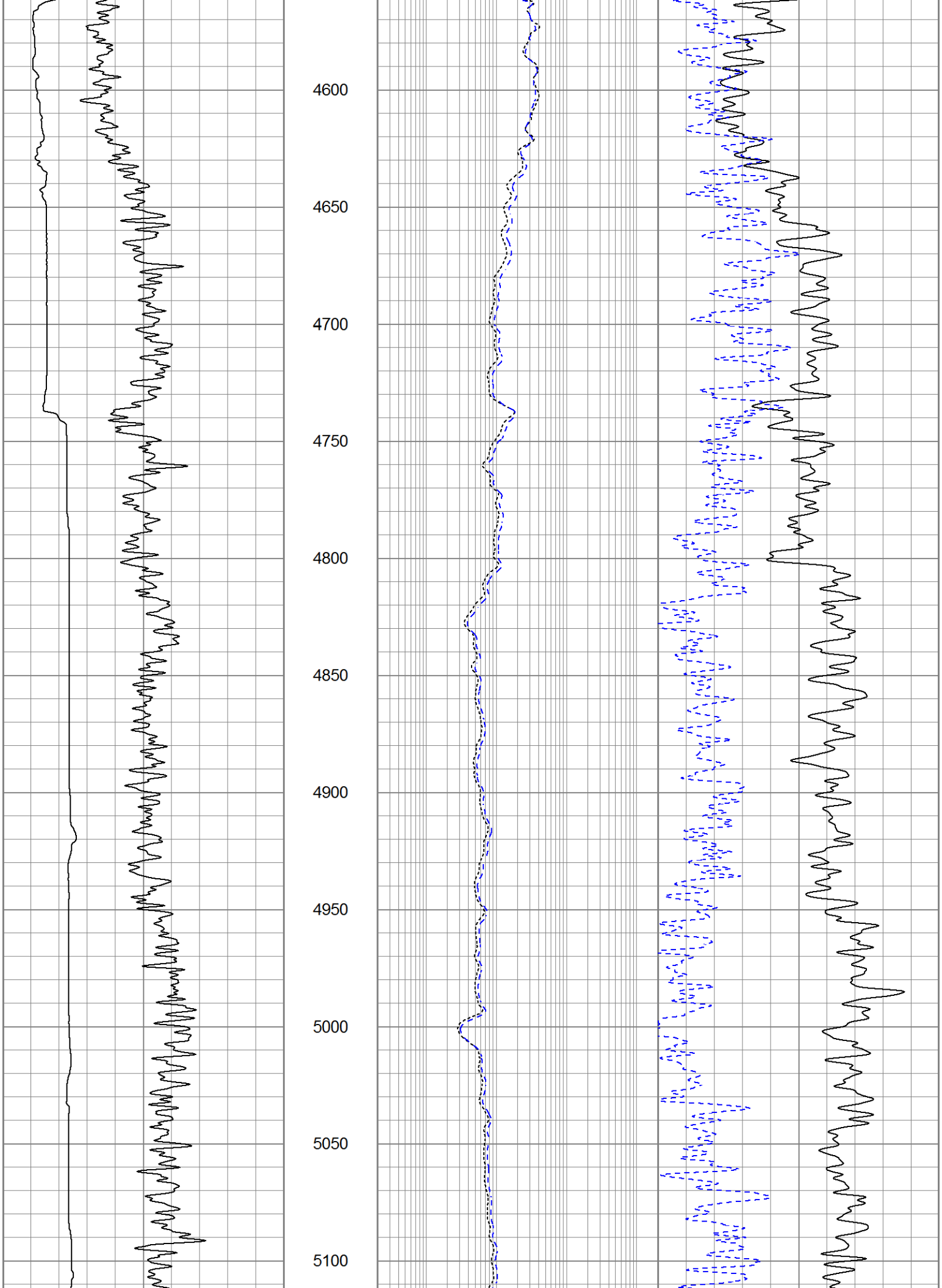
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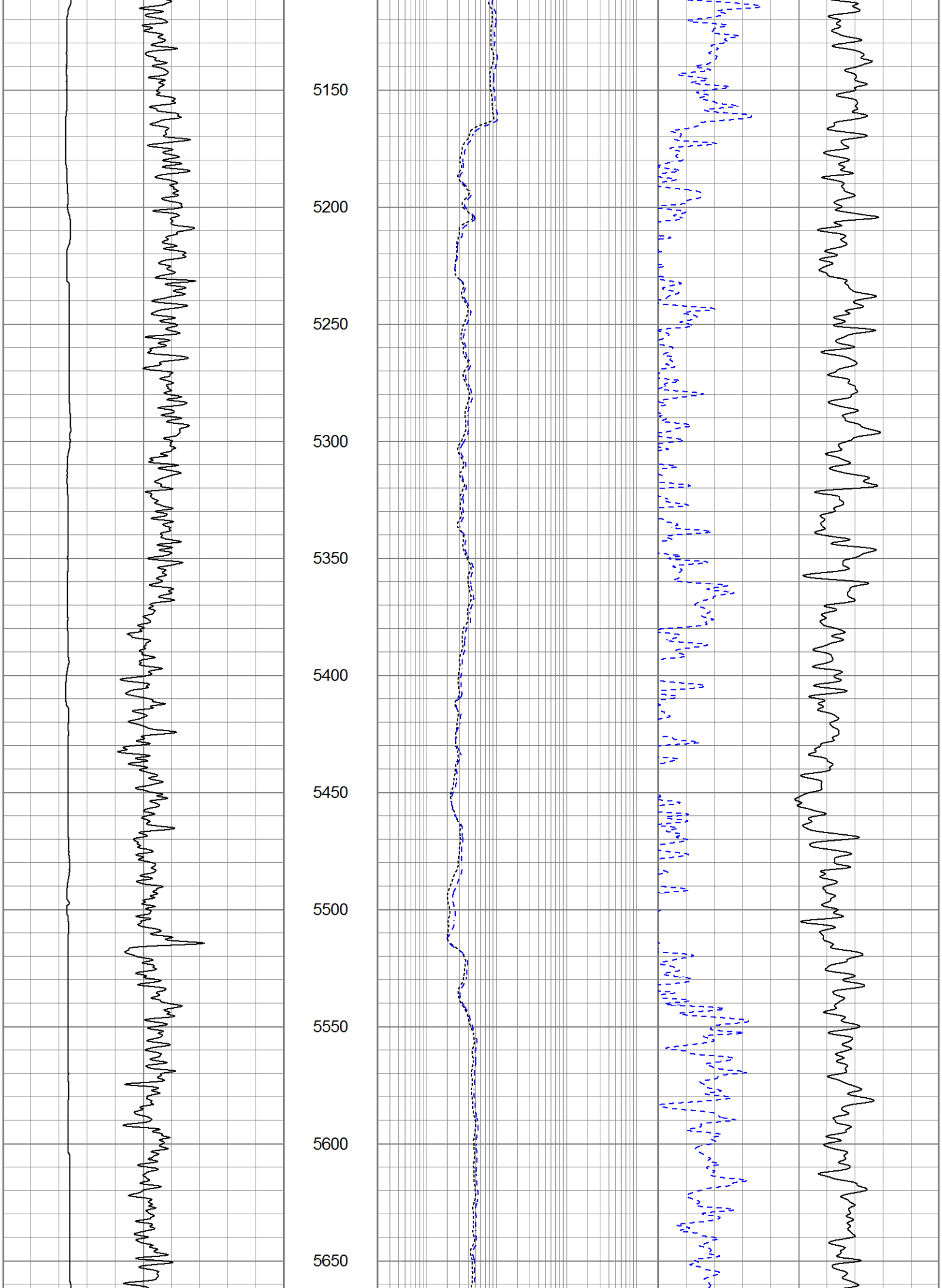
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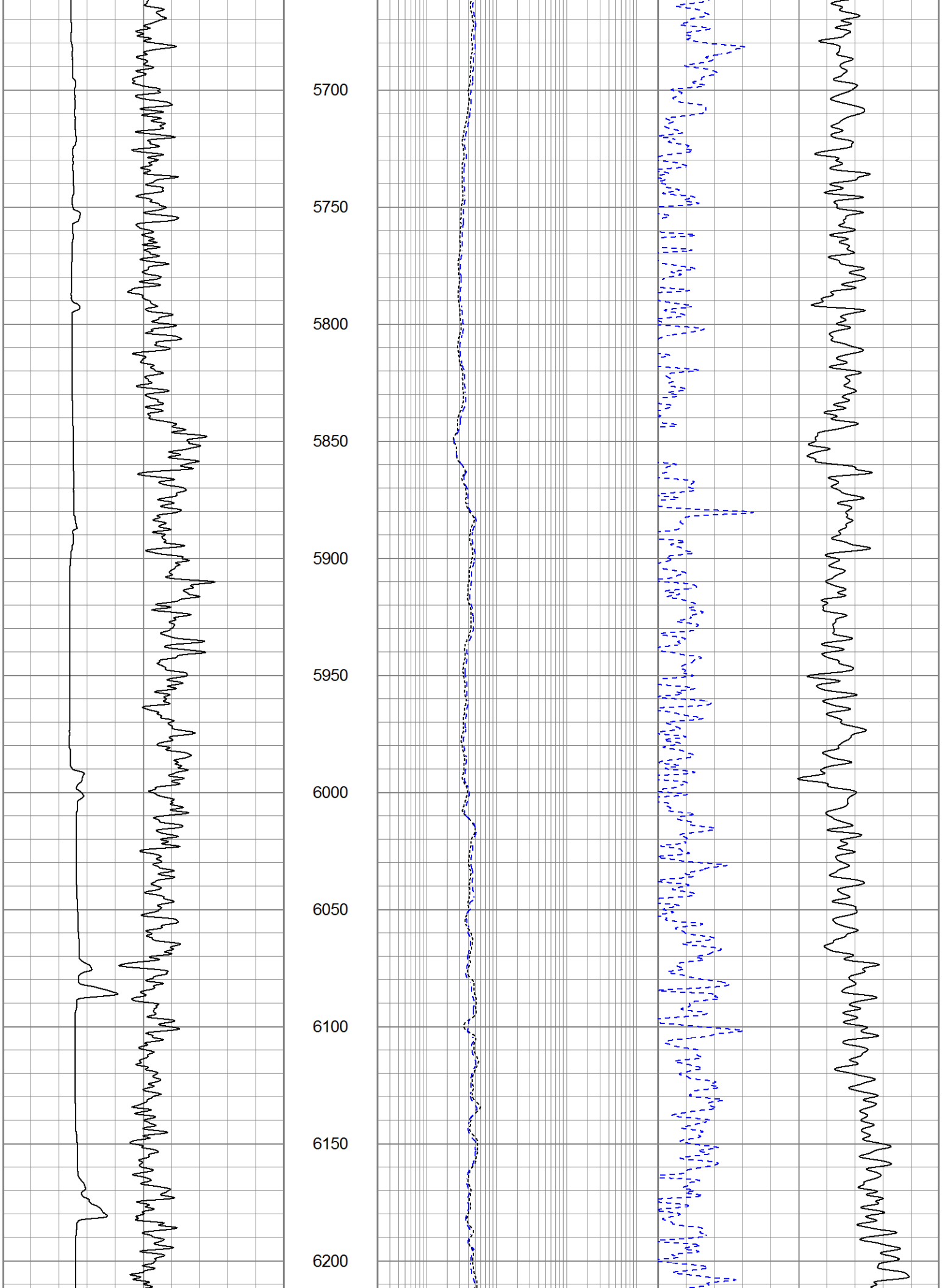
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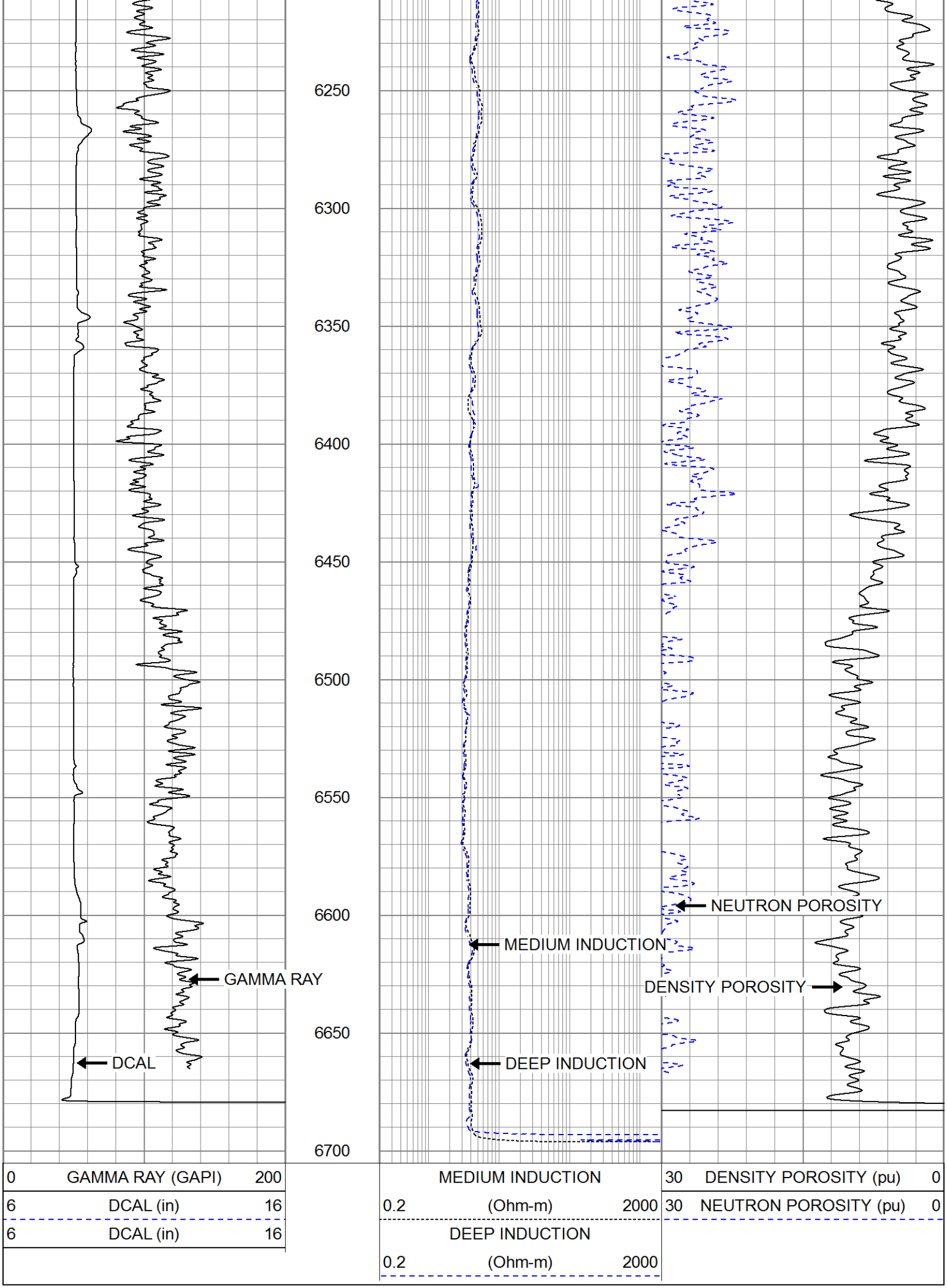
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GAMMA RAY
DCAL
MEDIUM INDUCTION
DEEP INDUCTION
NEUTRON POROSITY
DENSITY POROSITY
0 GAMMA RAY (GAPI) 200
6 DCAL (in) 16
6 DCAL (in) 16
MEDIUM INDUCTION
0.2 (Ohm-m) 2000
DEEP INDUCTION
0.2 (Ohm-m) 2000
30 DENSITY POROSITY (pu) 0
30 NEUTRON POROSITY (pu)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

MAIN PASS

Database File	extraction_walt_16e_20_9c.db
Dataset Pathname	stack/pass2.1
Presentation Format	split
Dataset Creation	Mon Oct 23 14:34:50 2017
Charted by	Depth in Feet scaled 1:240

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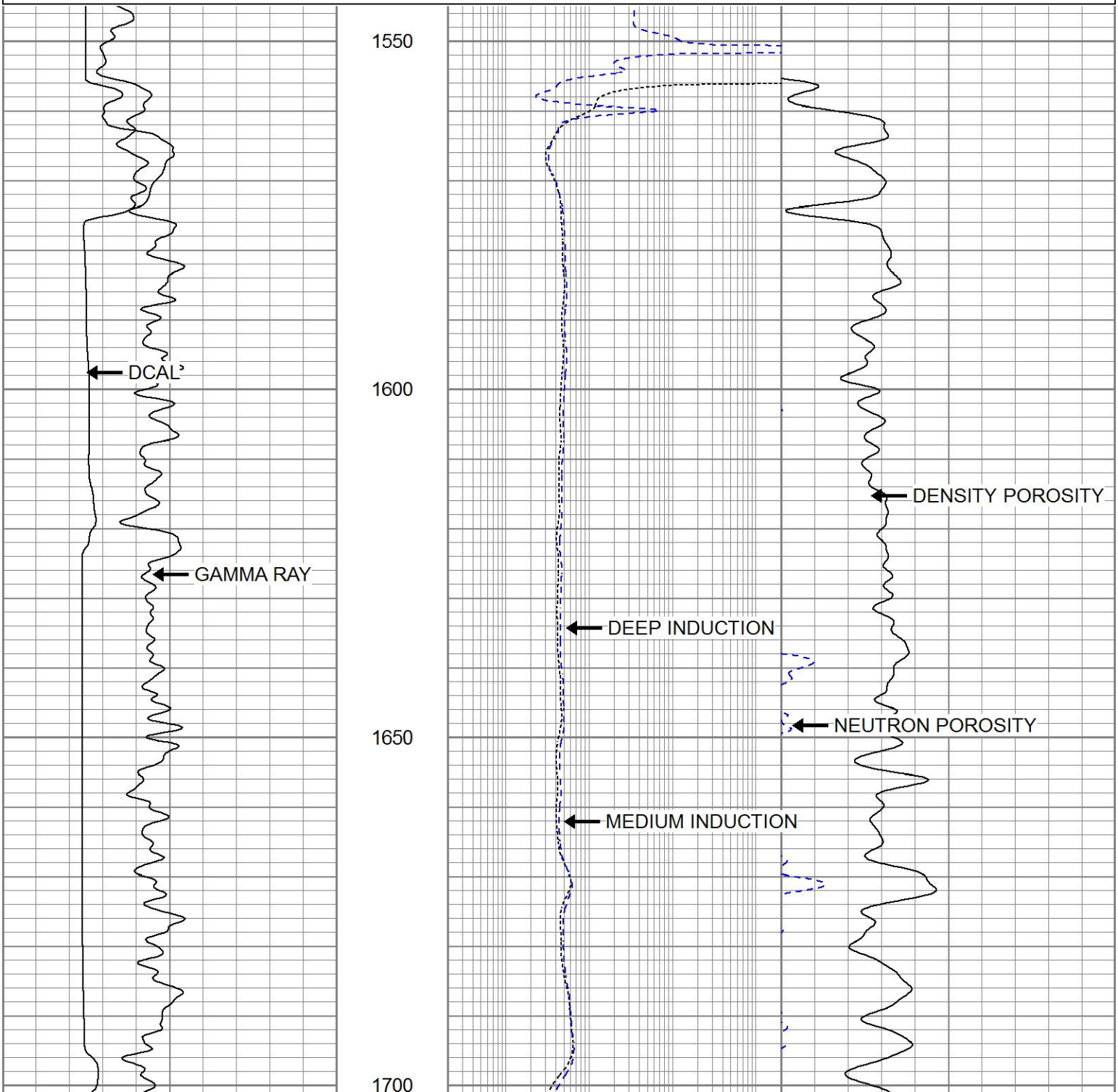
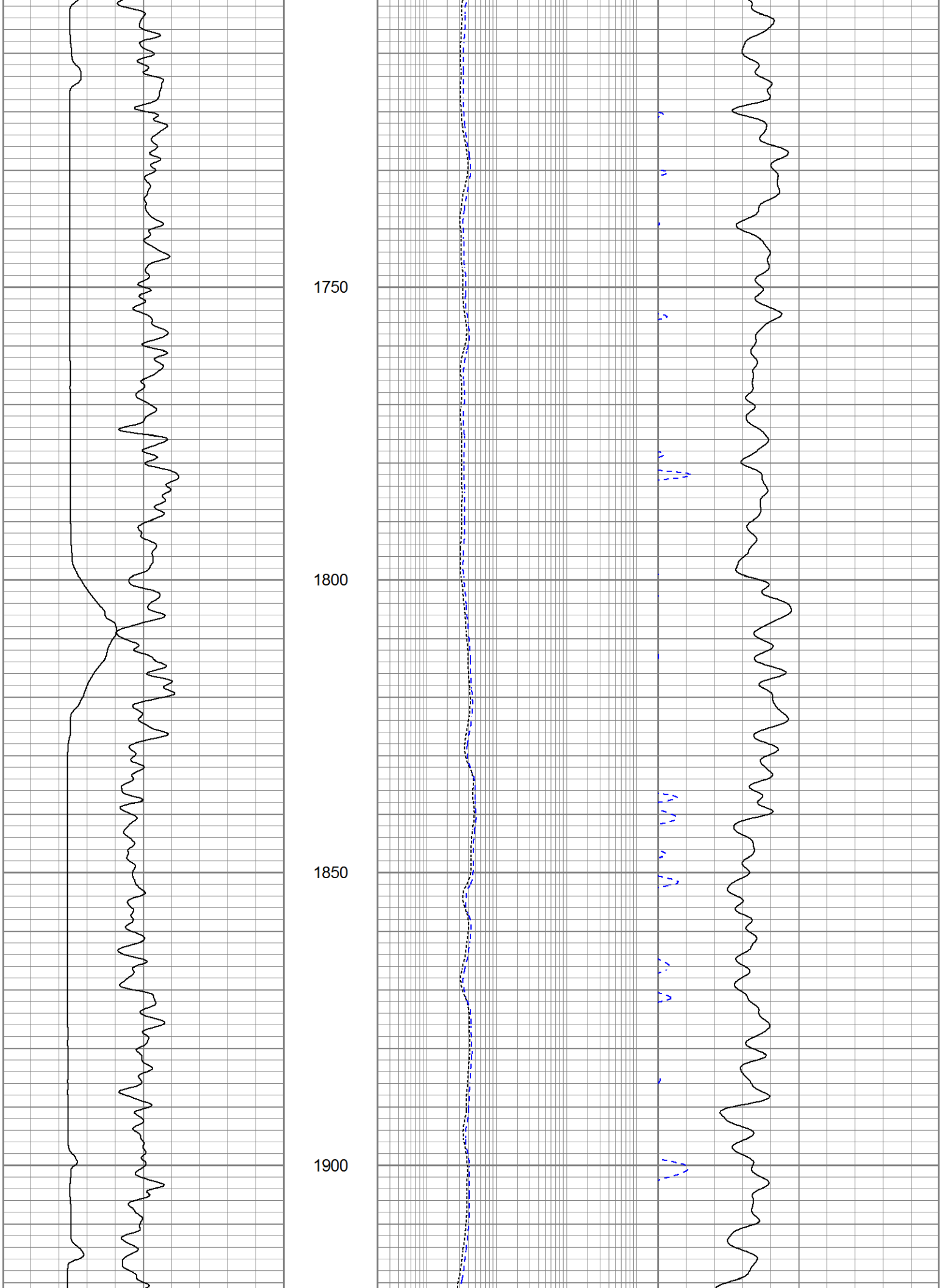
6	DCAL (in)	16	0.2	(Ohm-m)	2000	30	NEUTRON POROSITY (pu)	0
6	DCAL (in)	16		DEEP INDUCTION				
			0.2	(Ohm-m)	2000			

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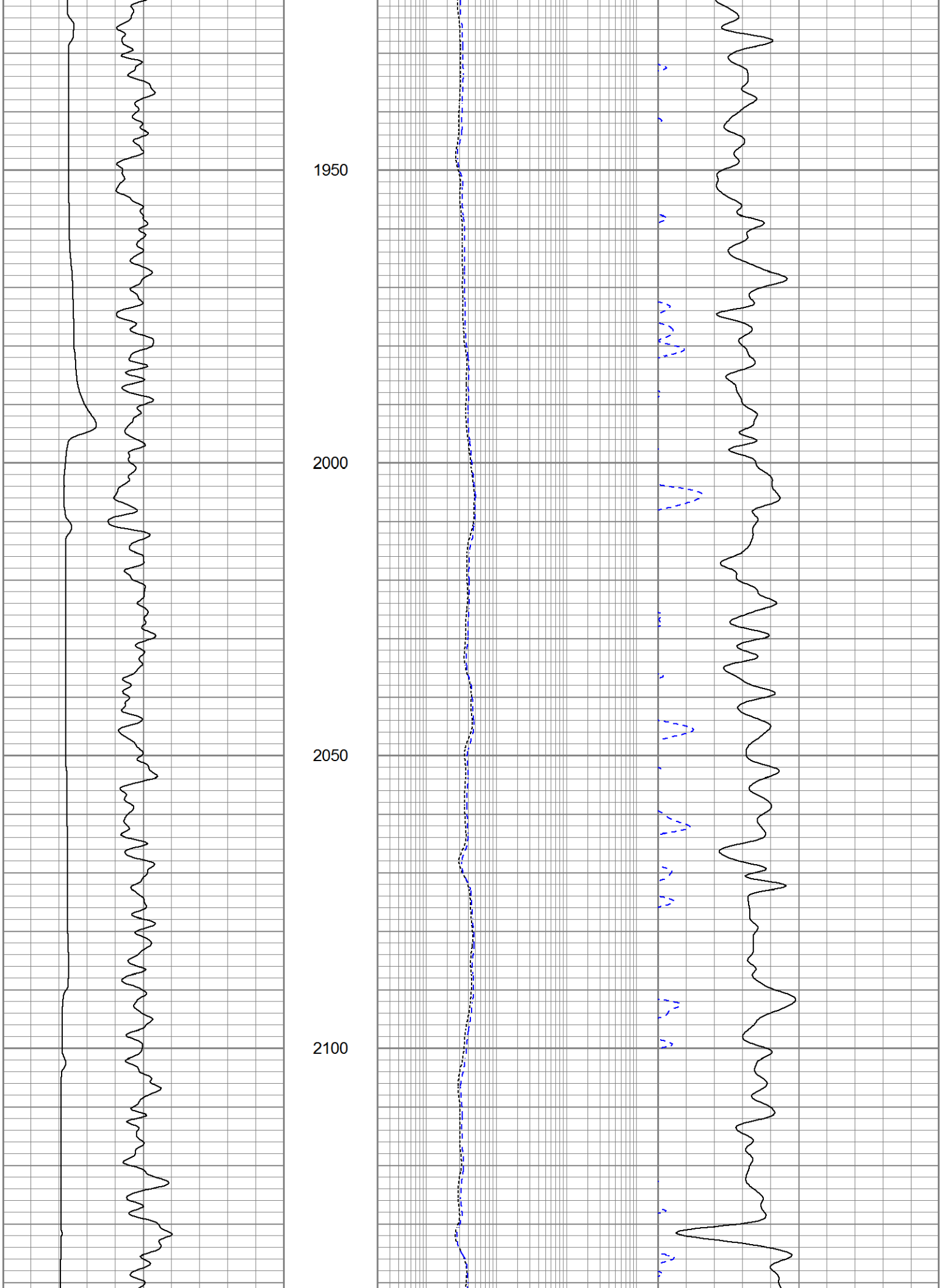
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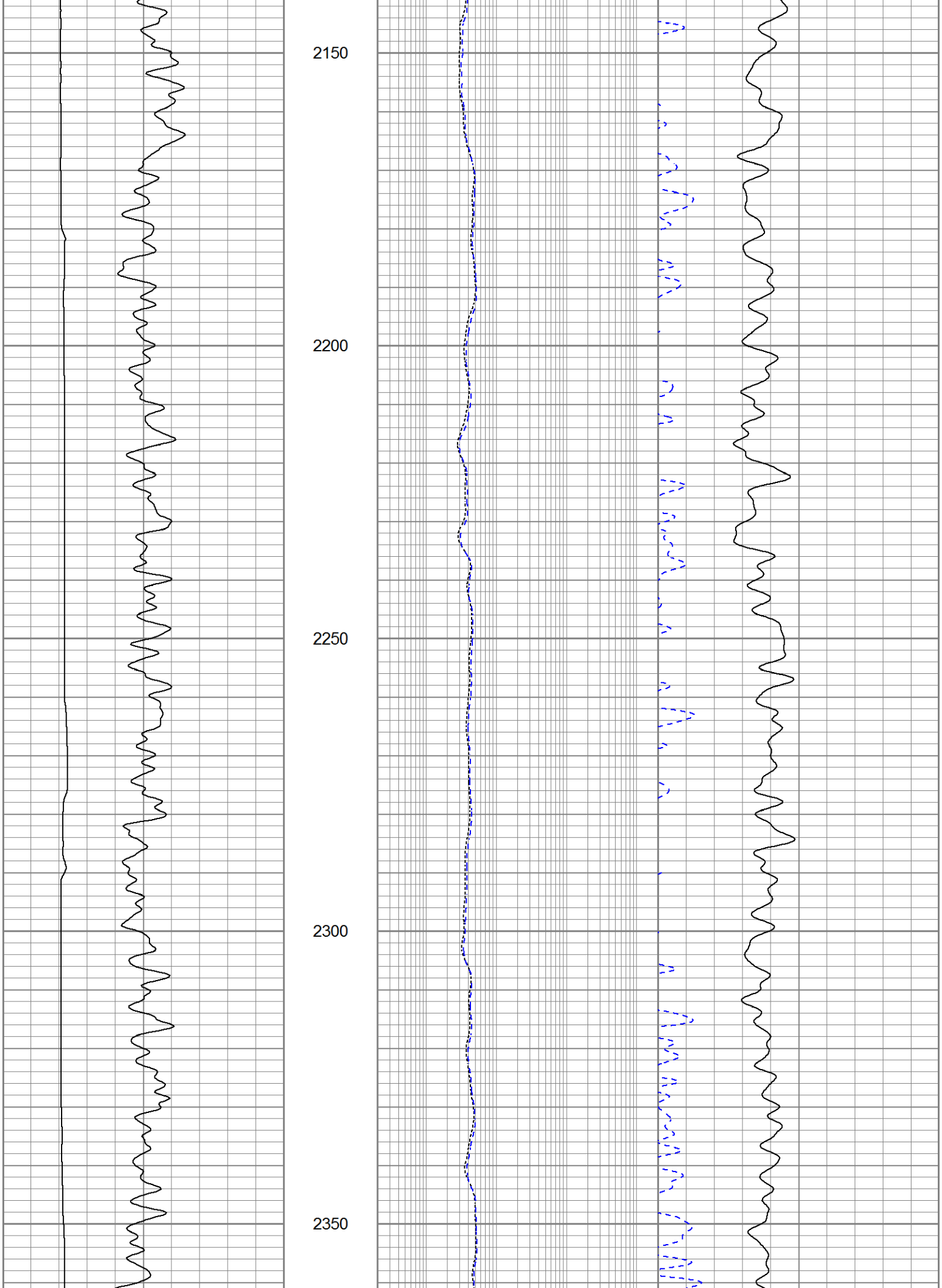
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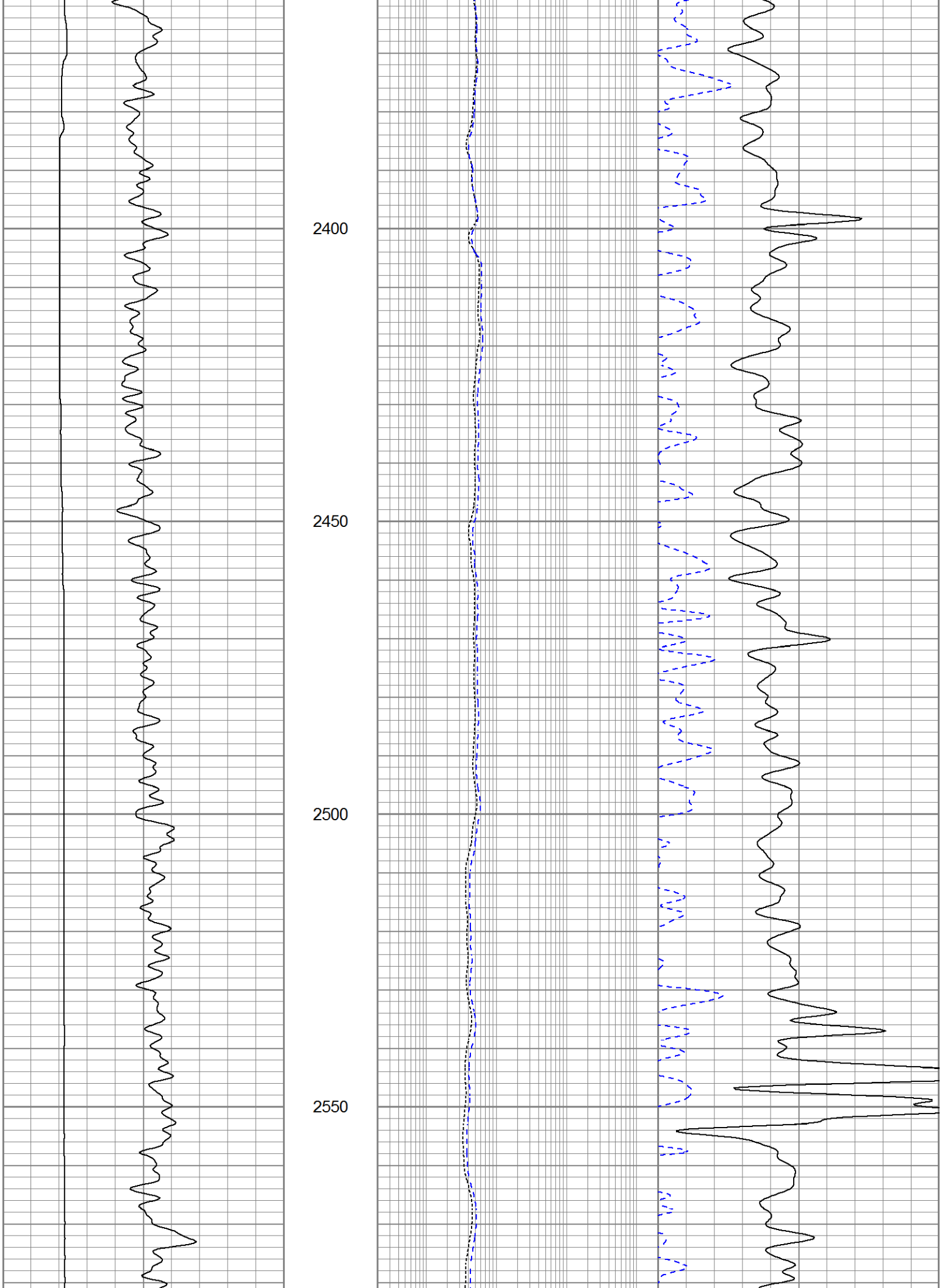
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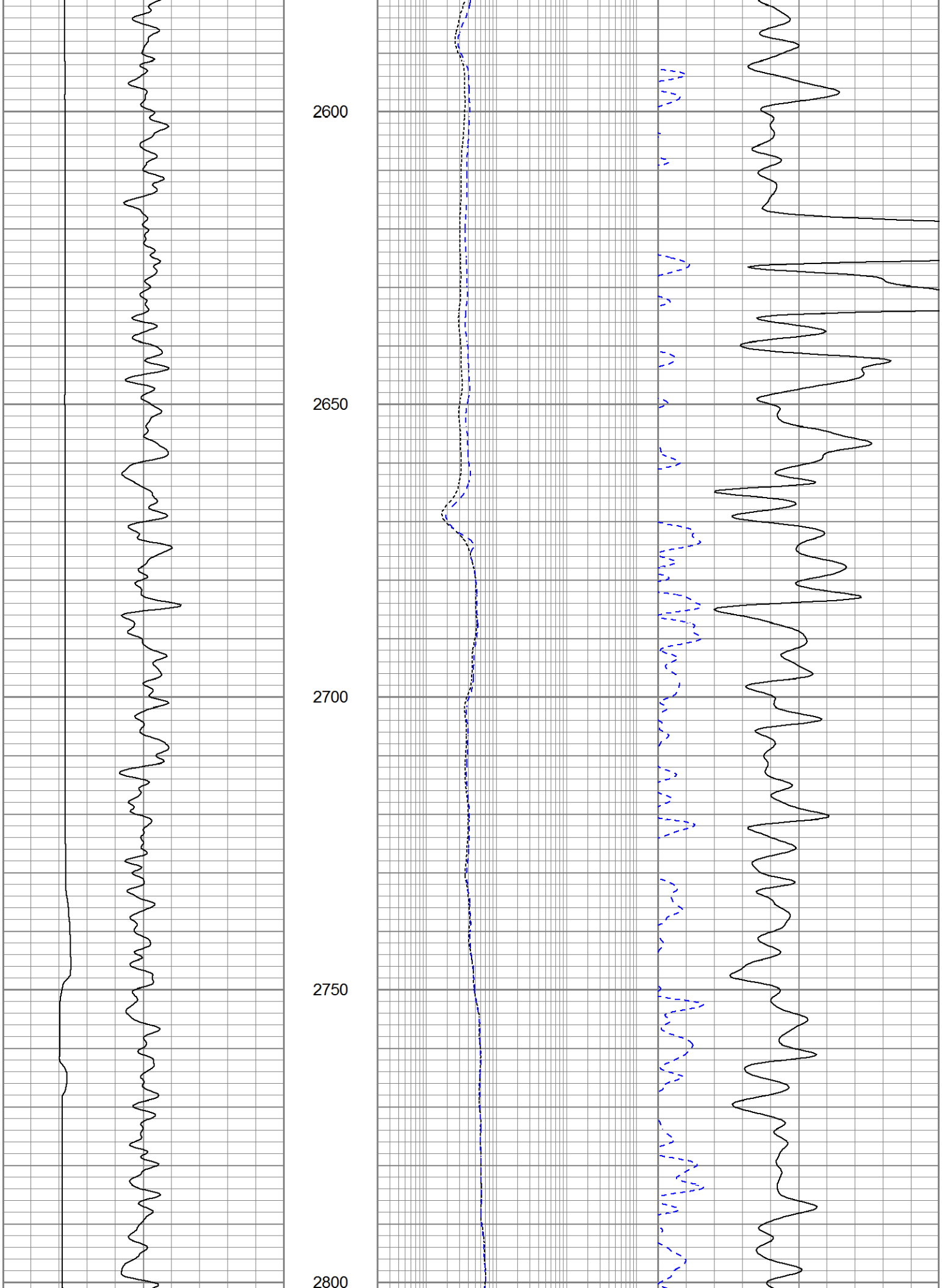
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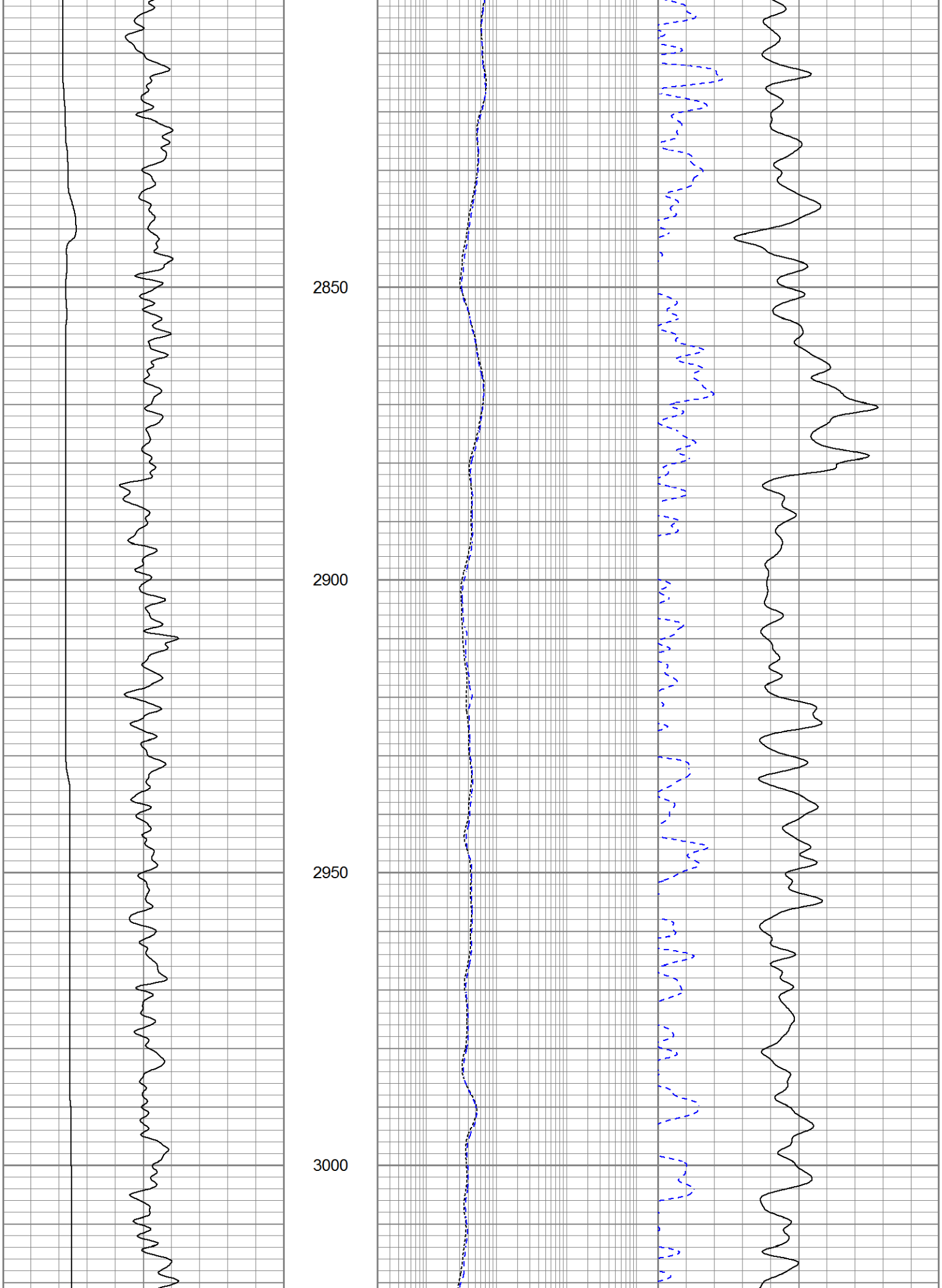
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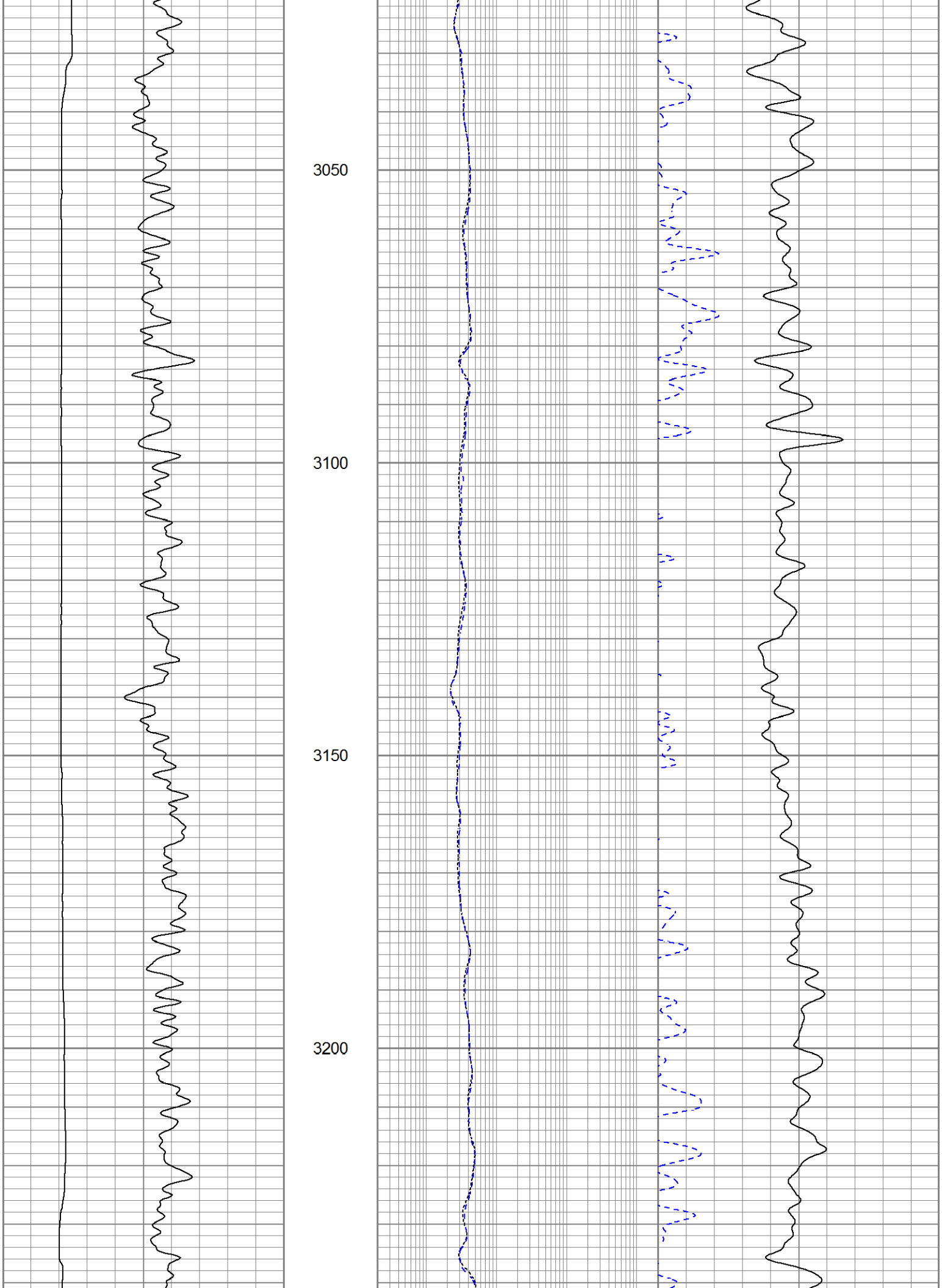
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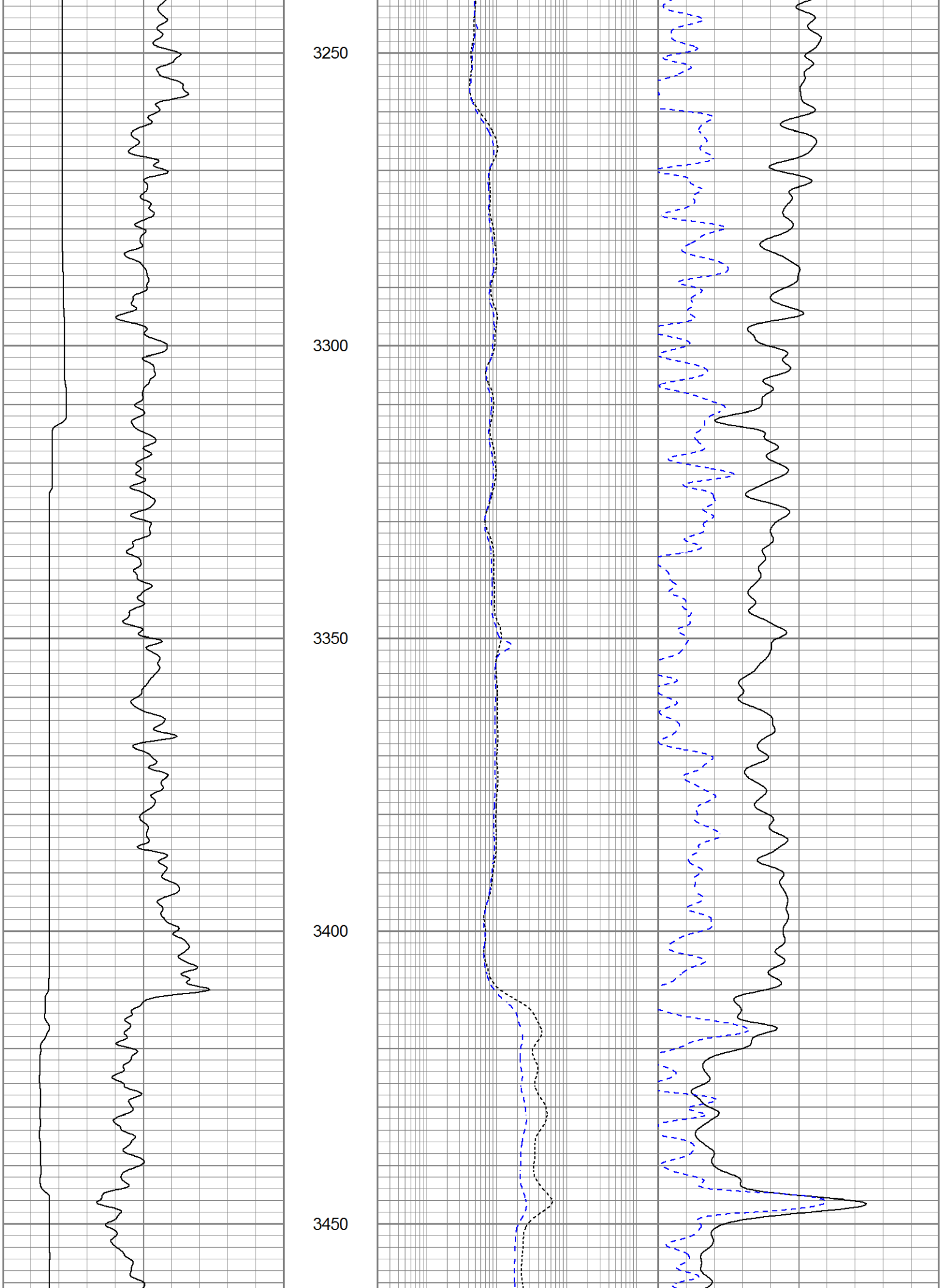
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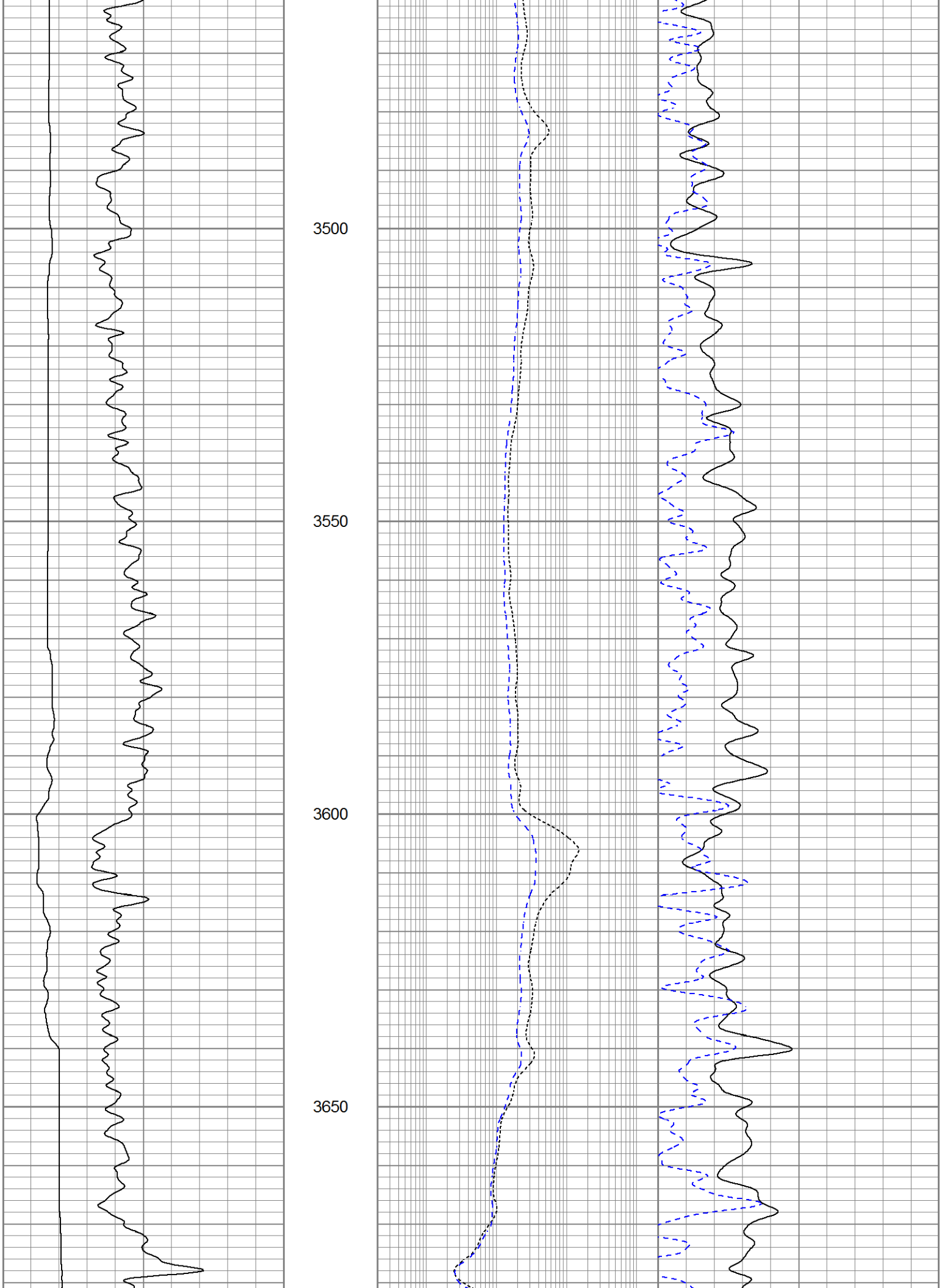
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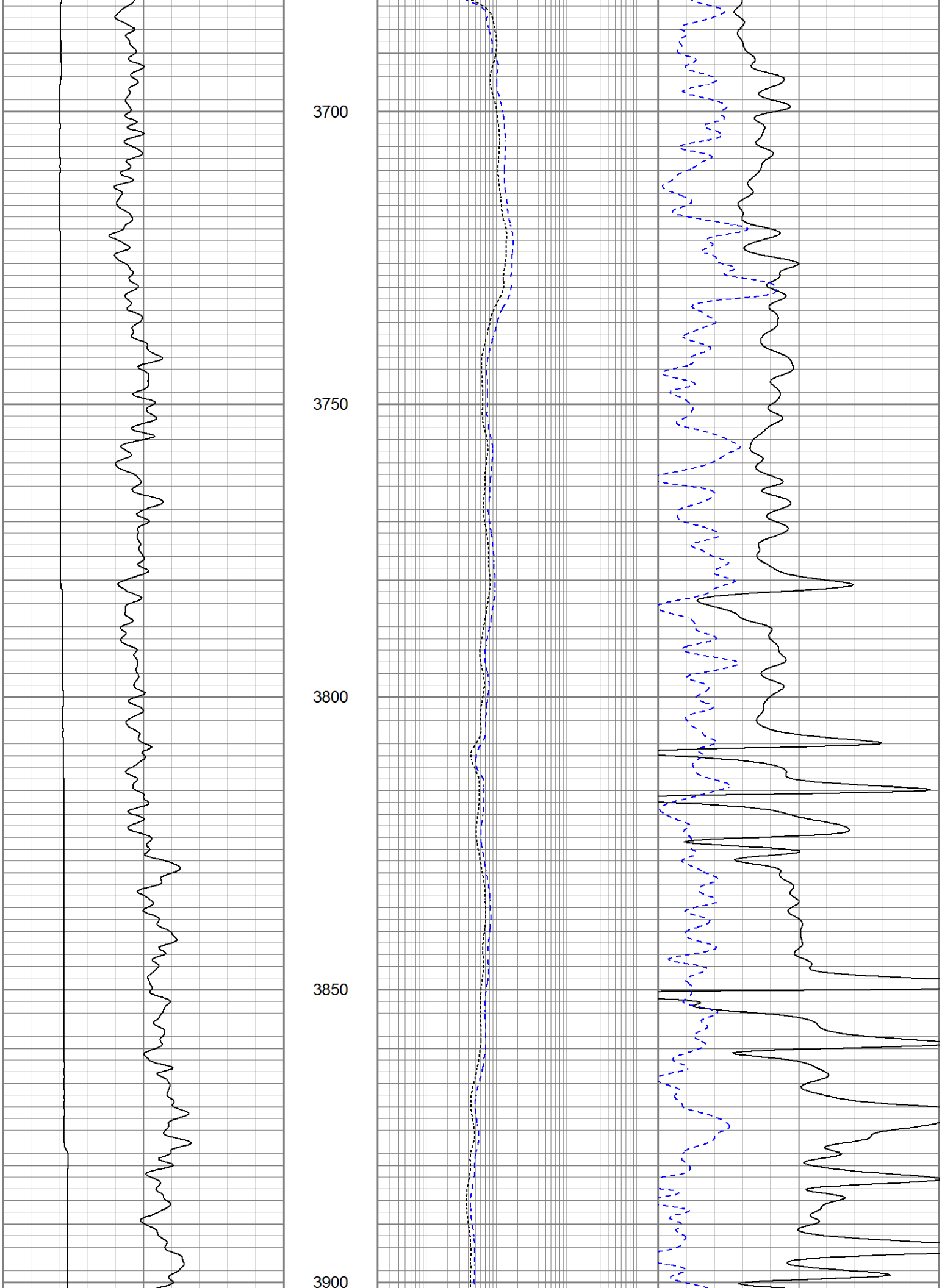
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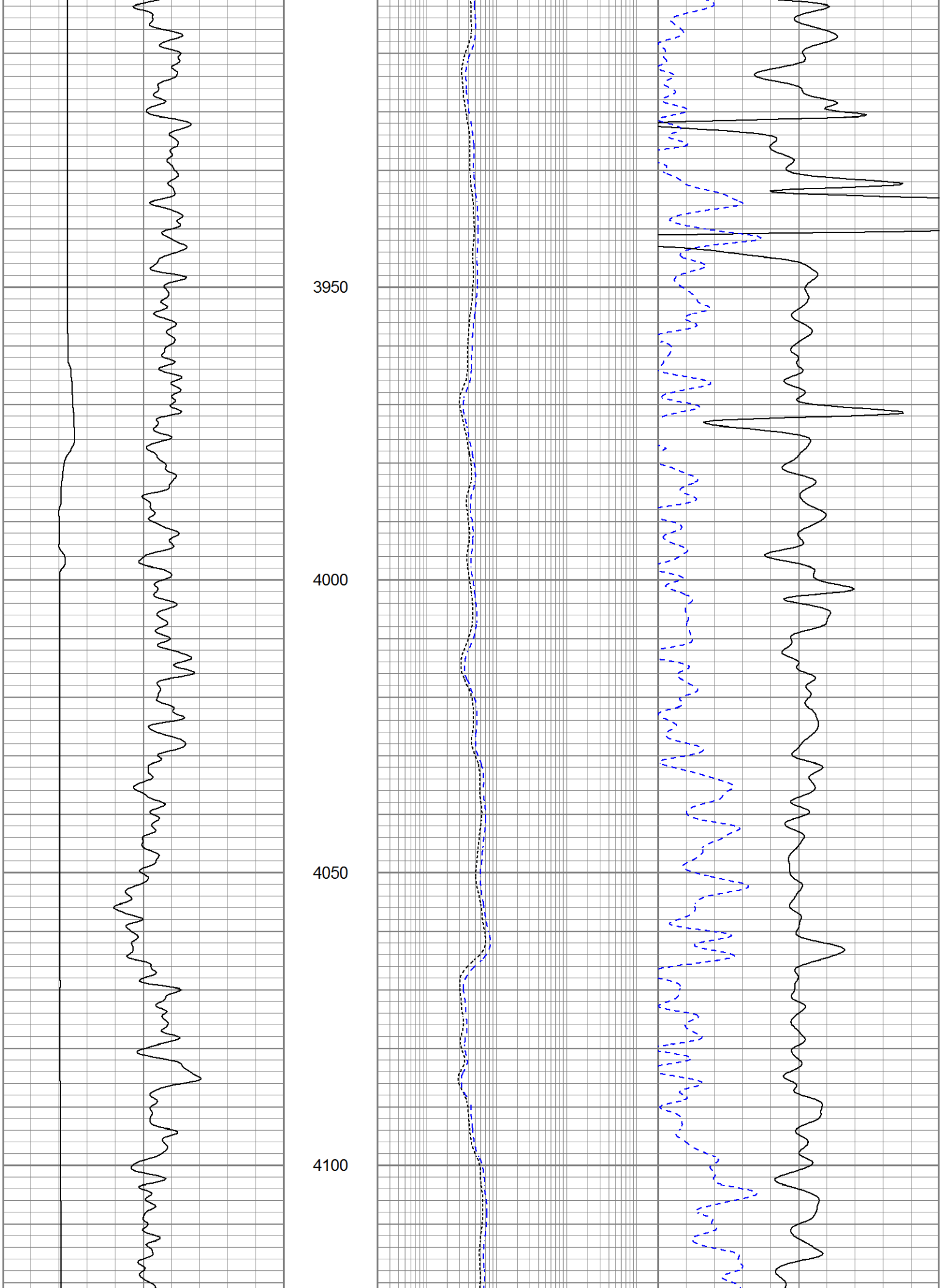
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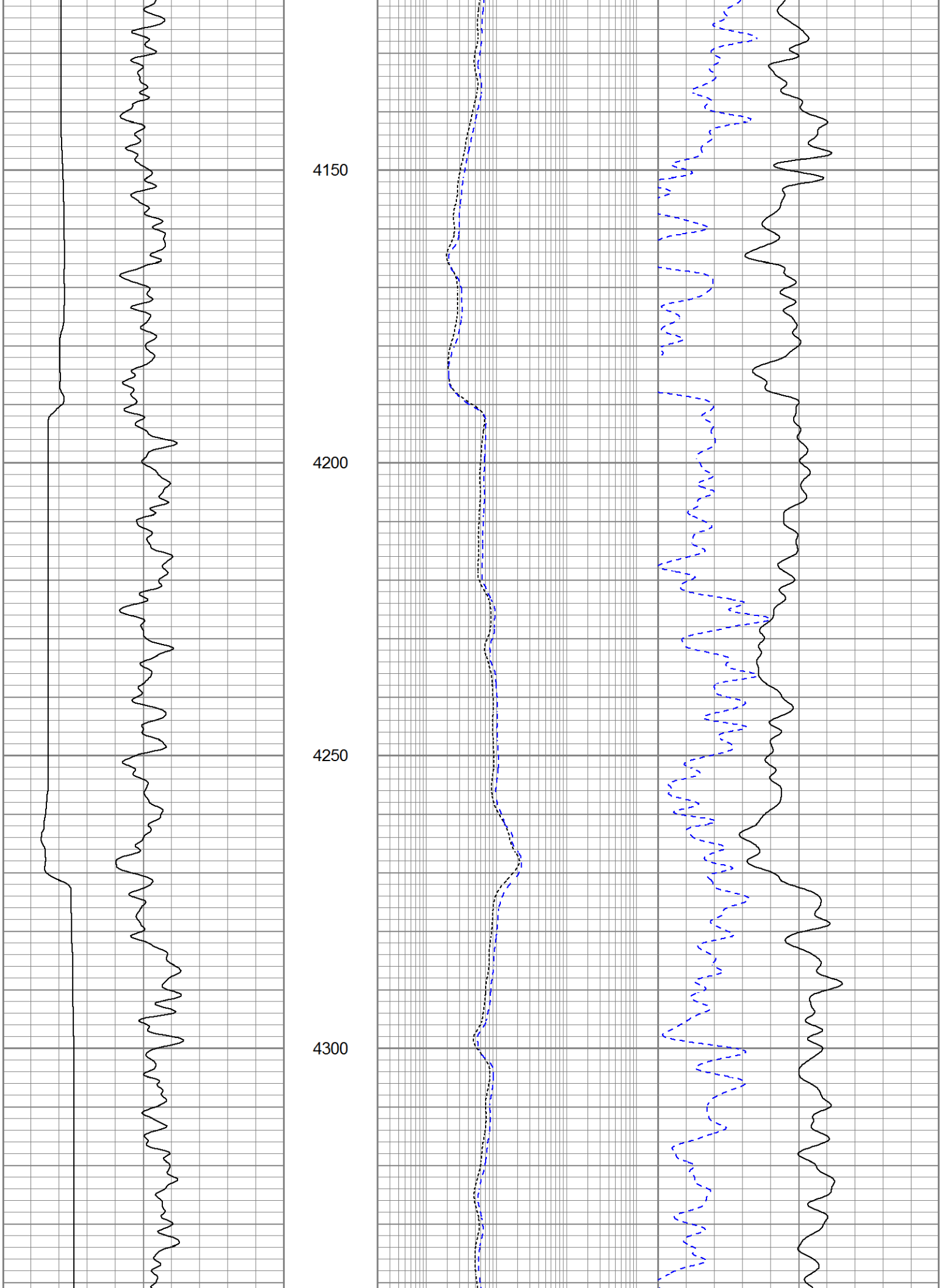
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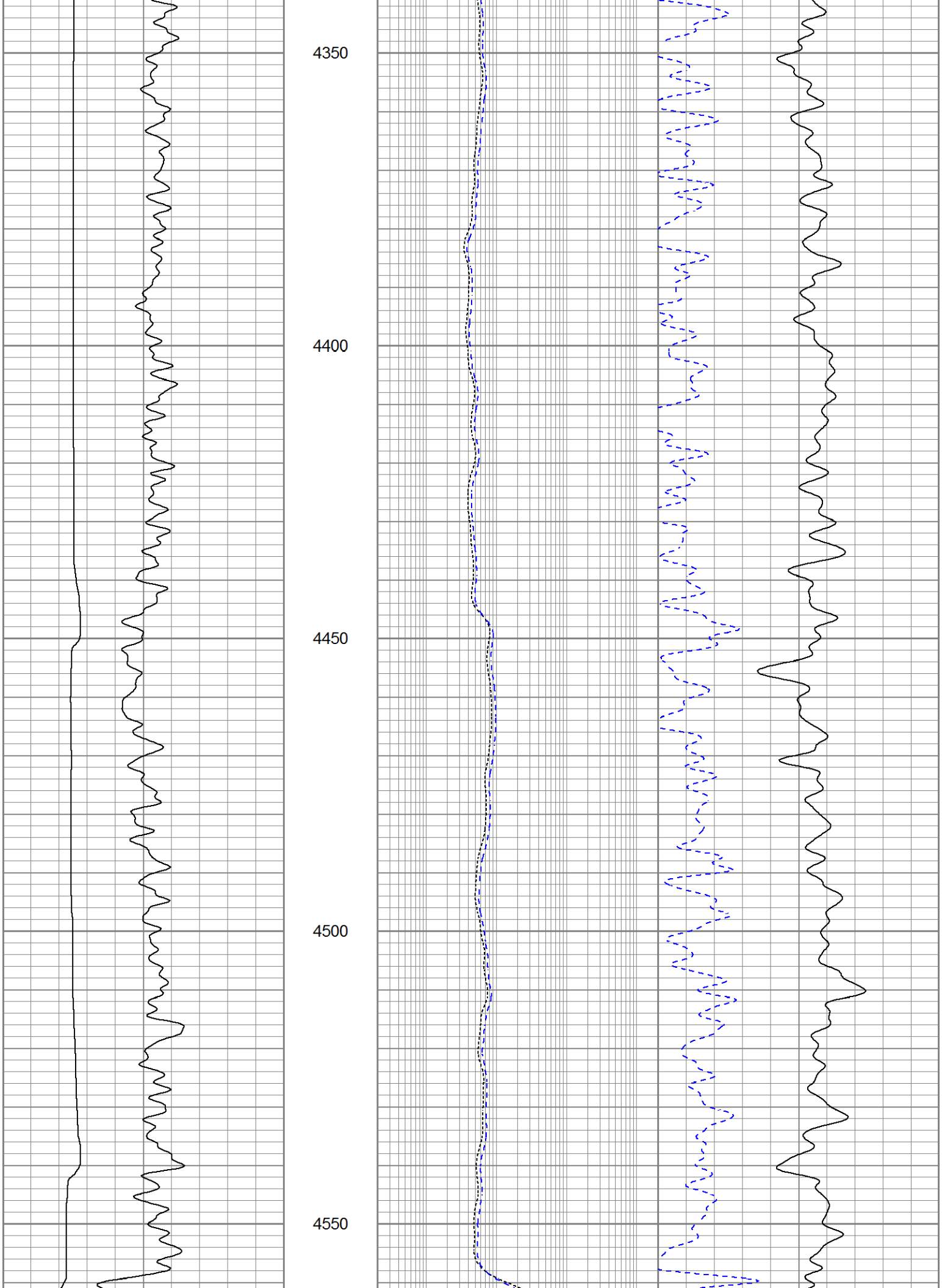
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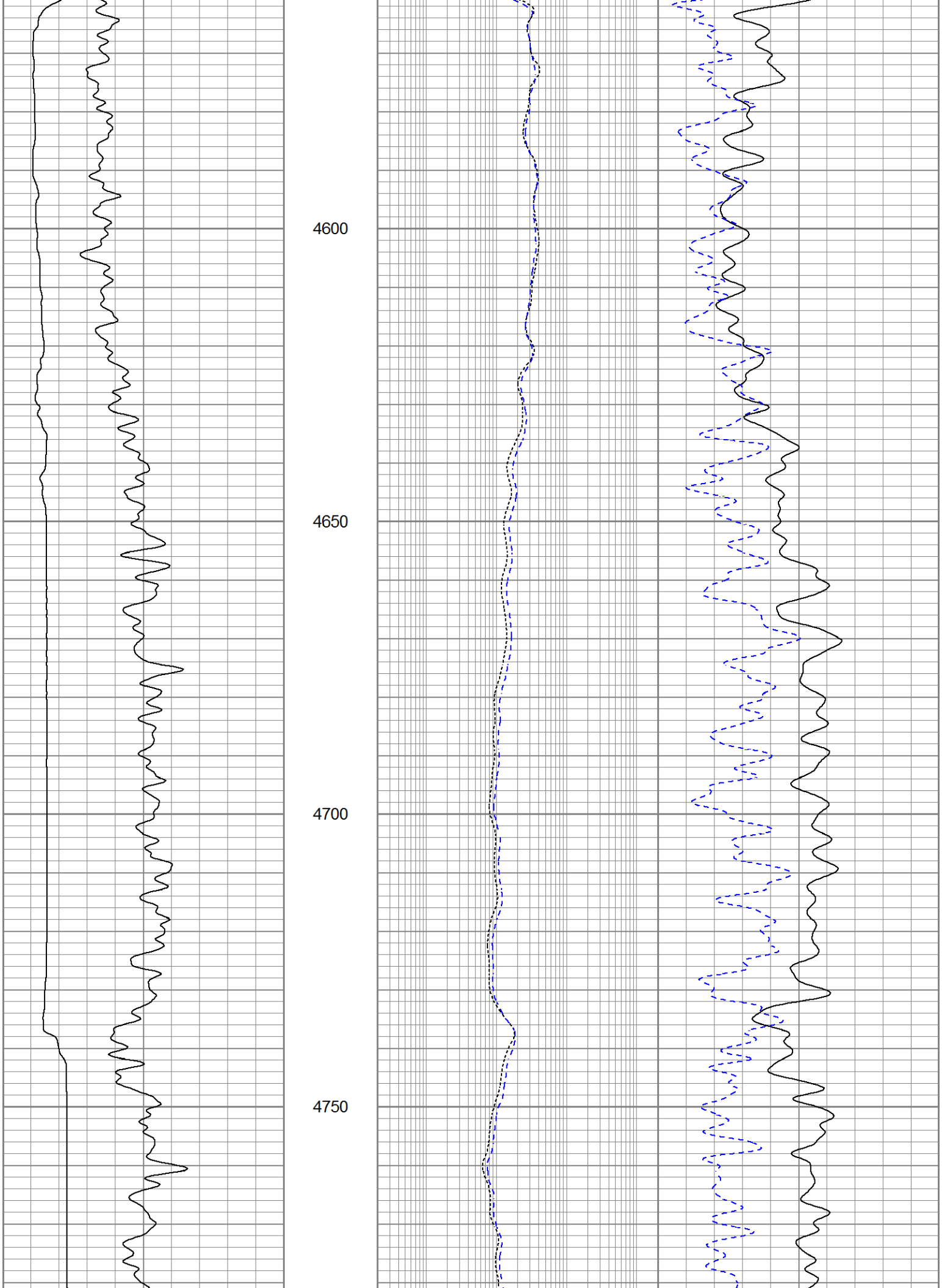
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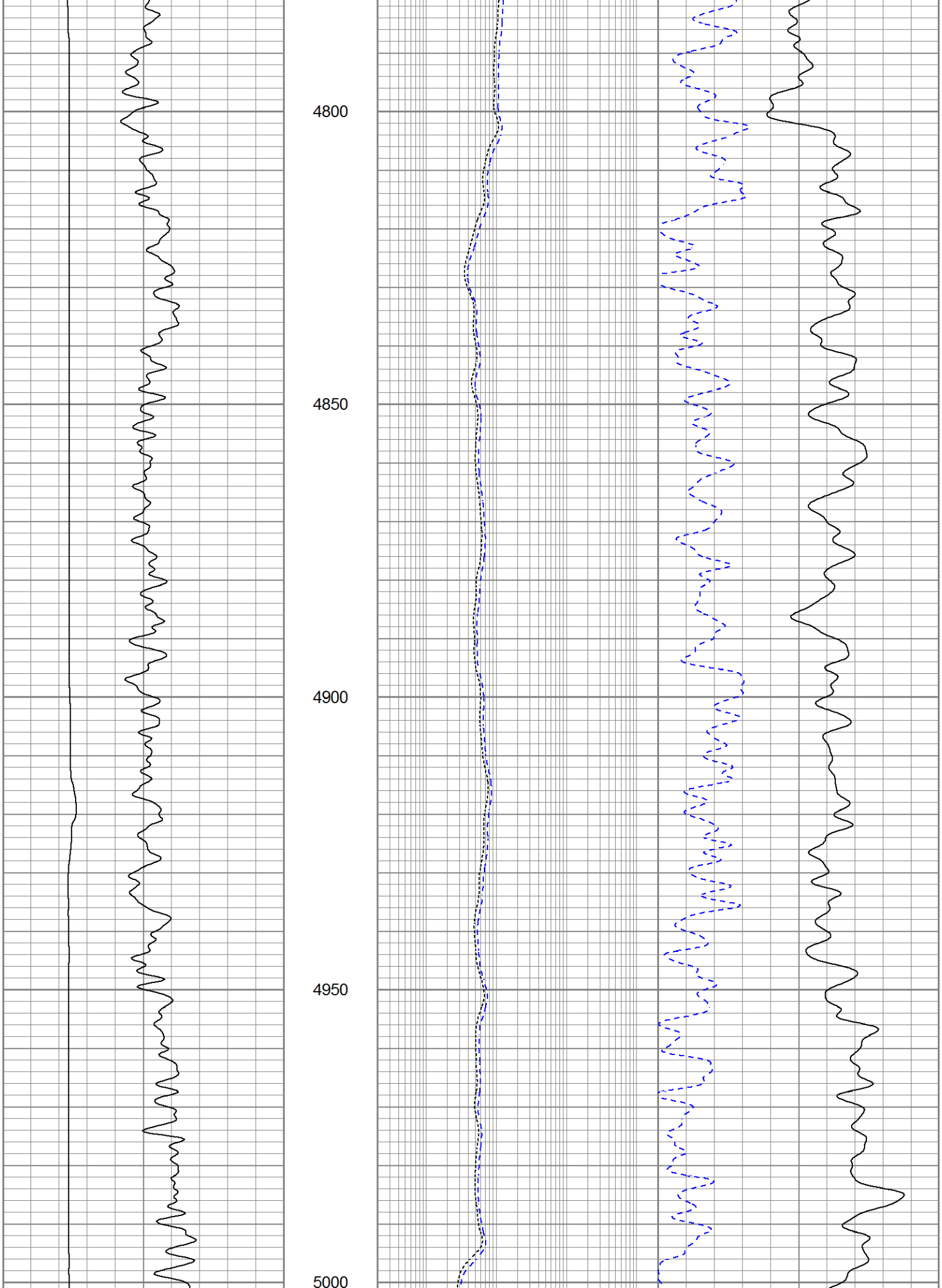
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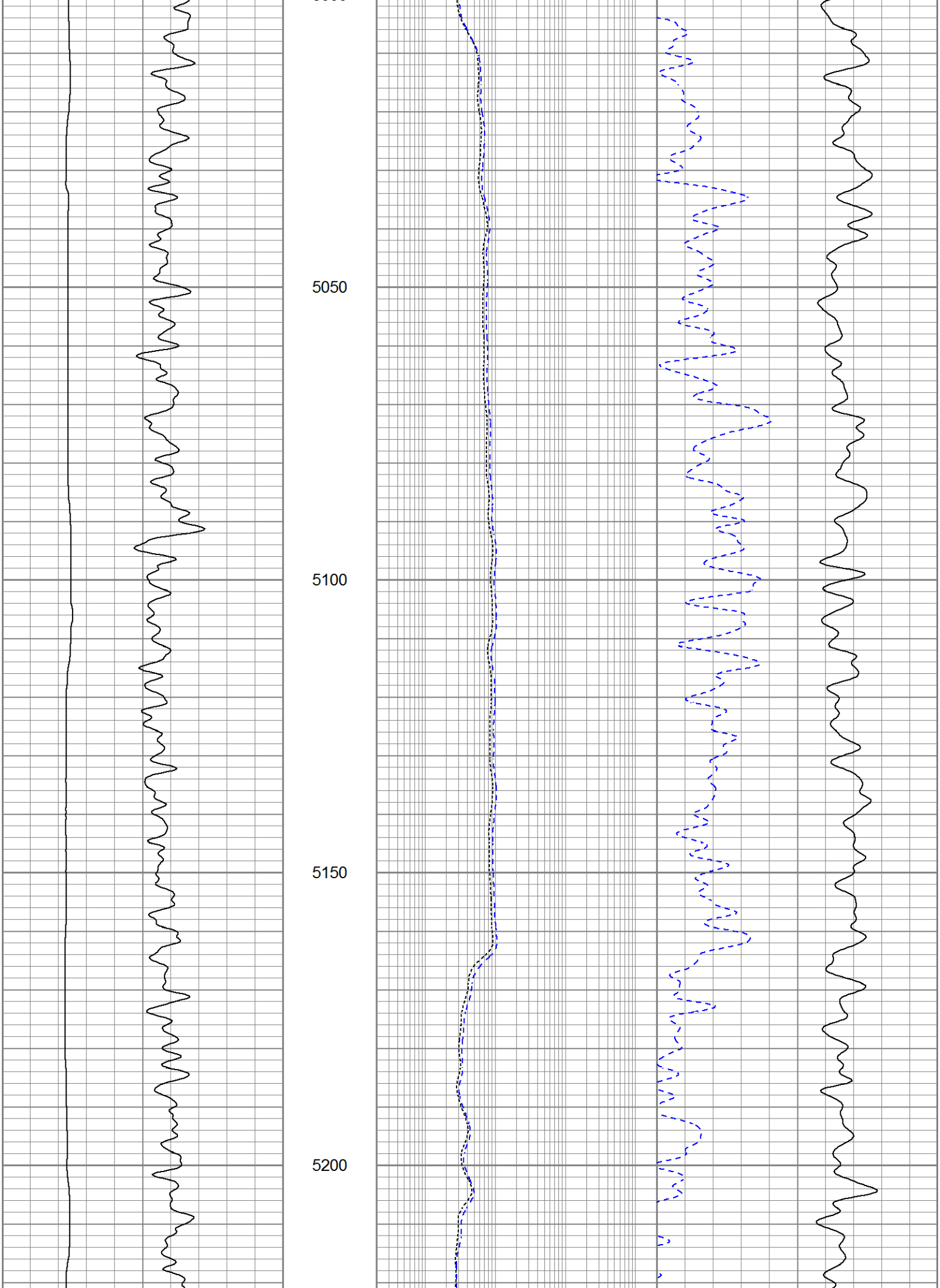
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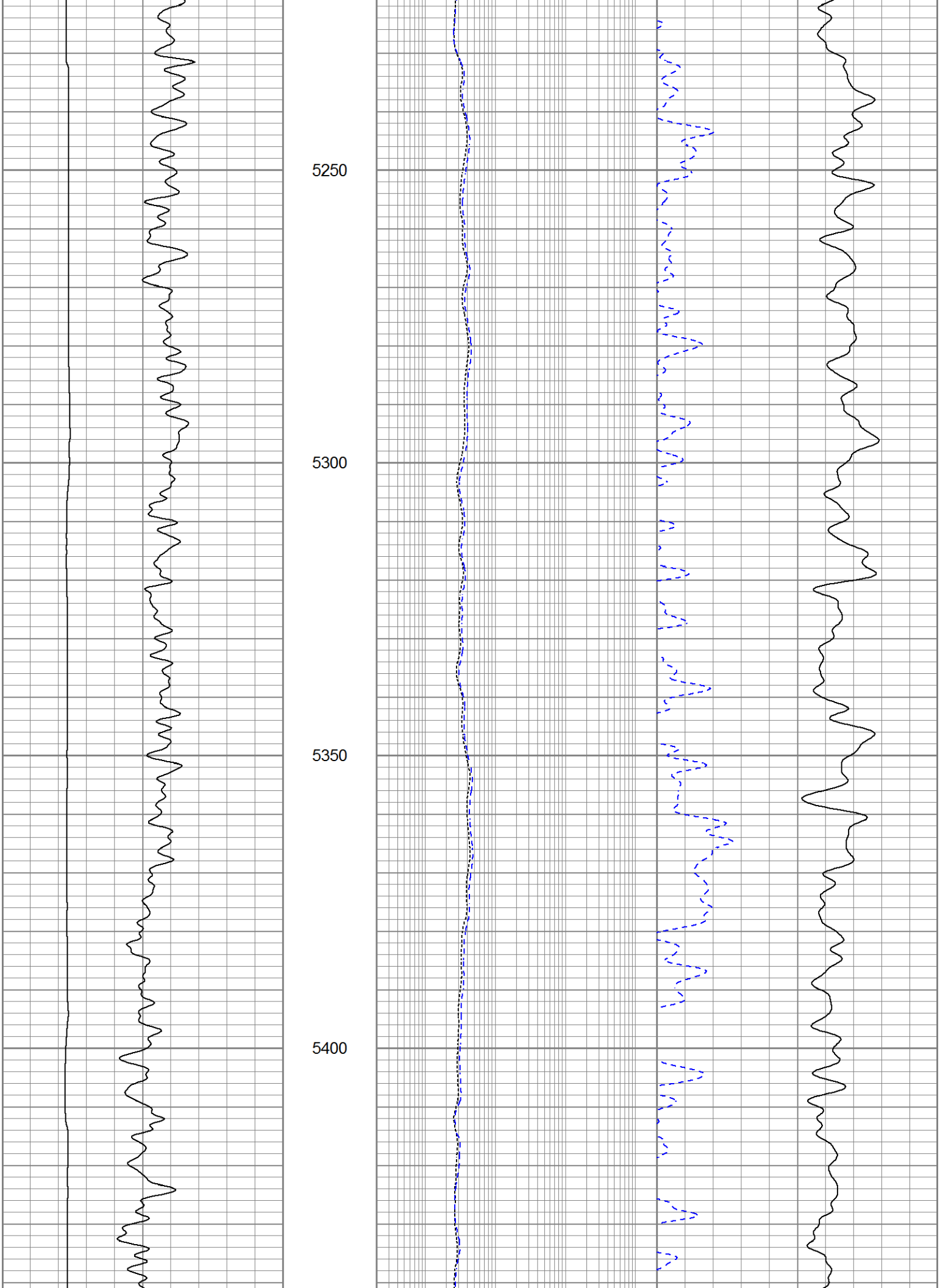
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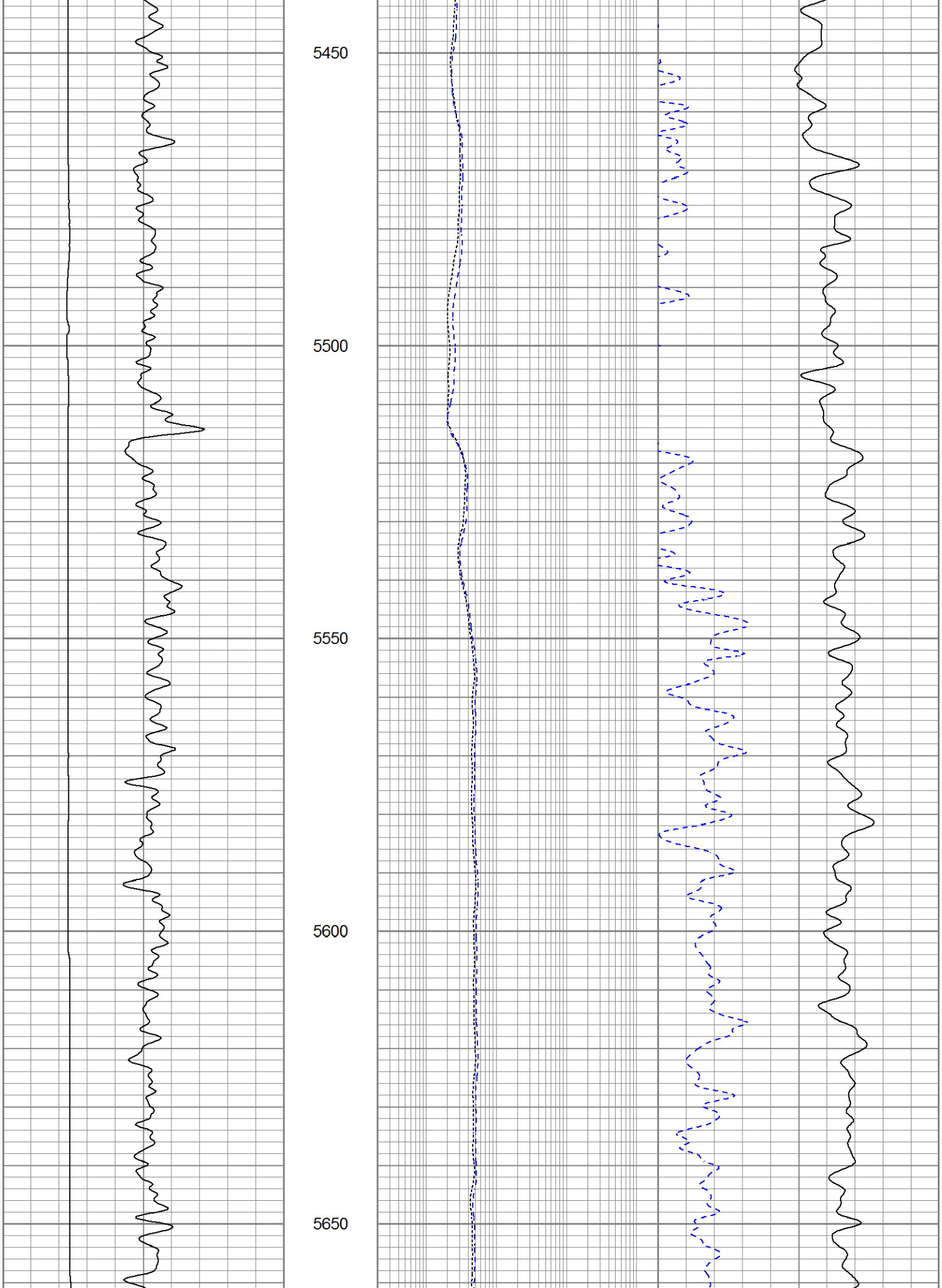
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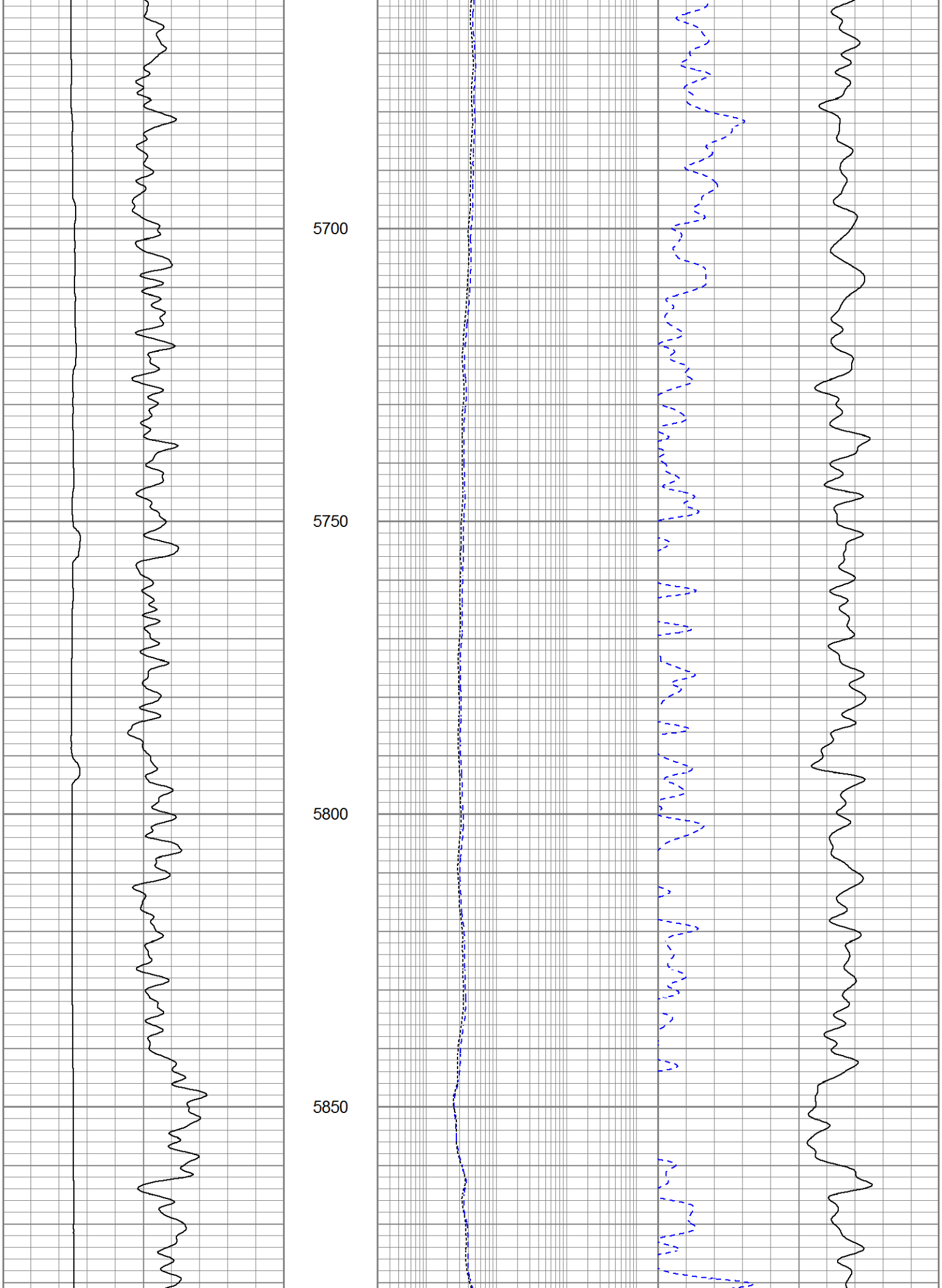
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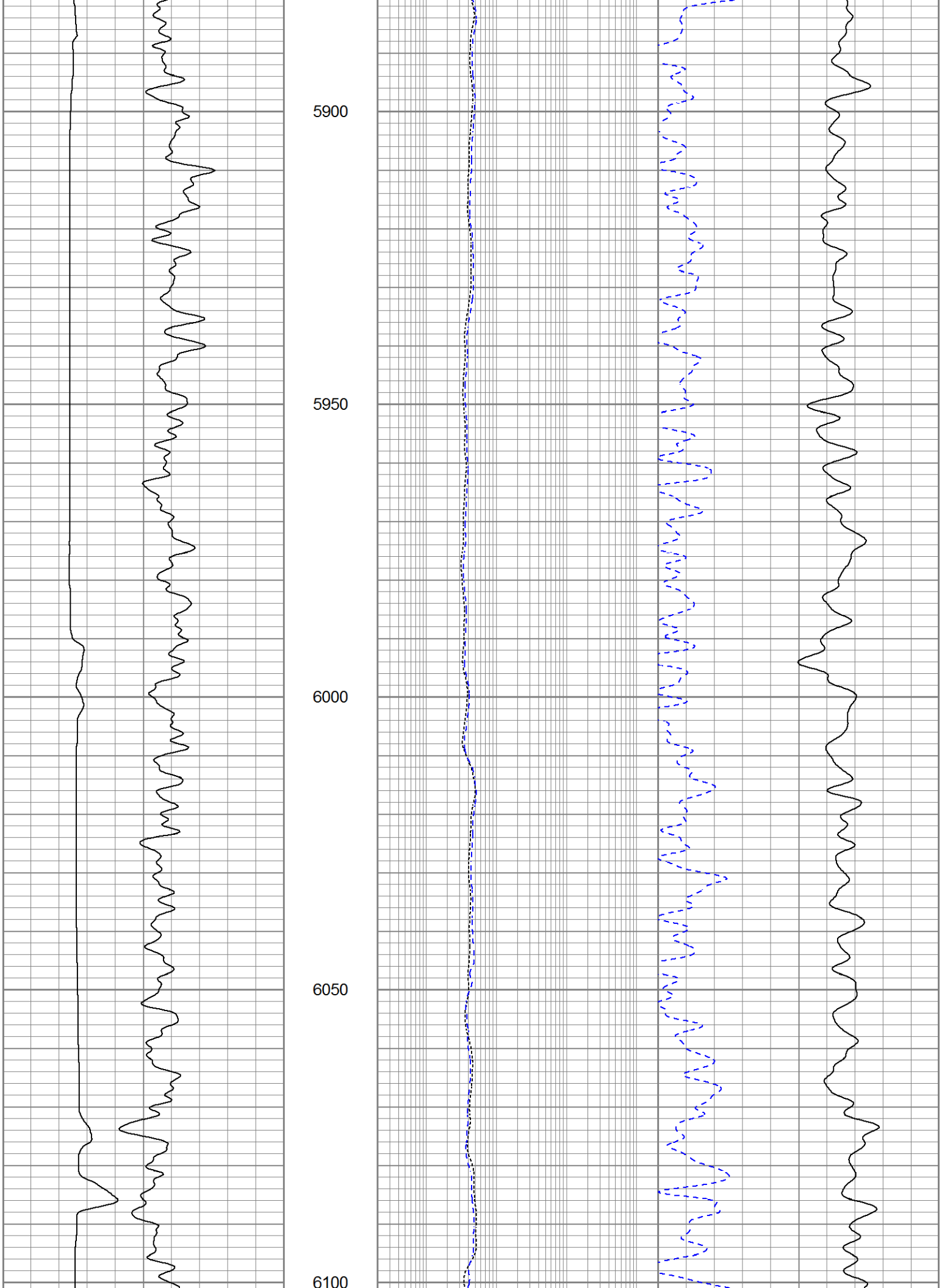
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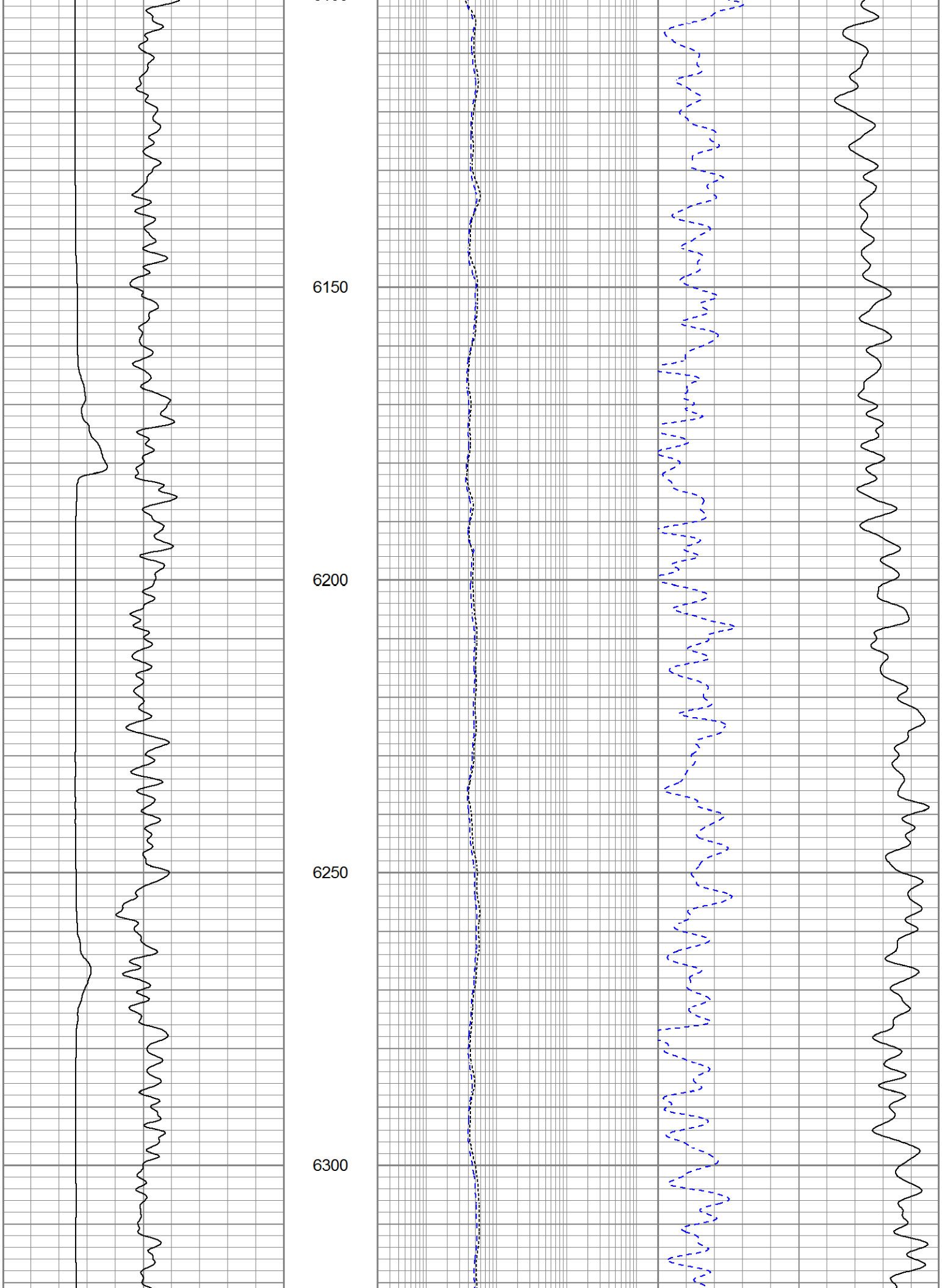
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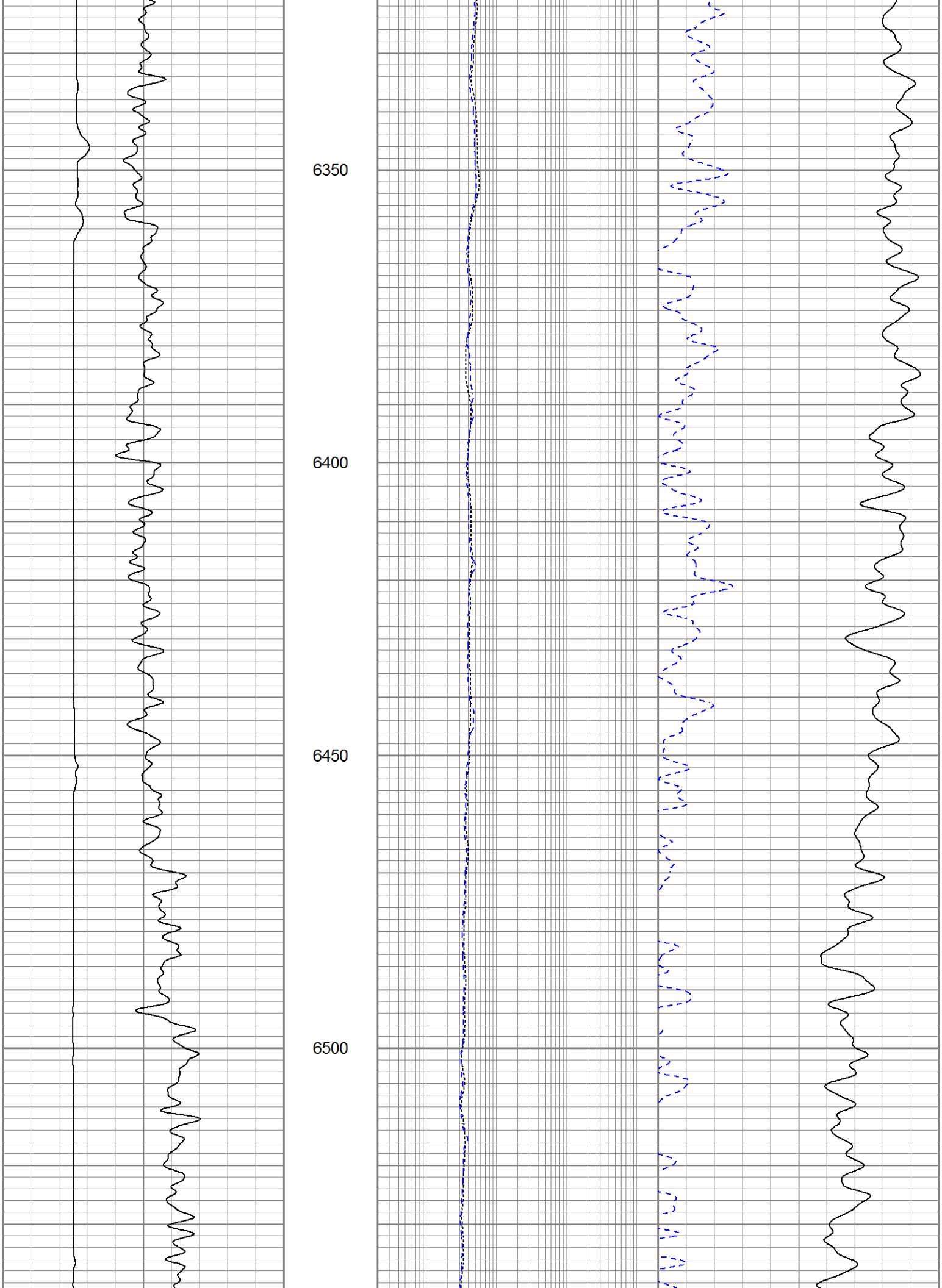
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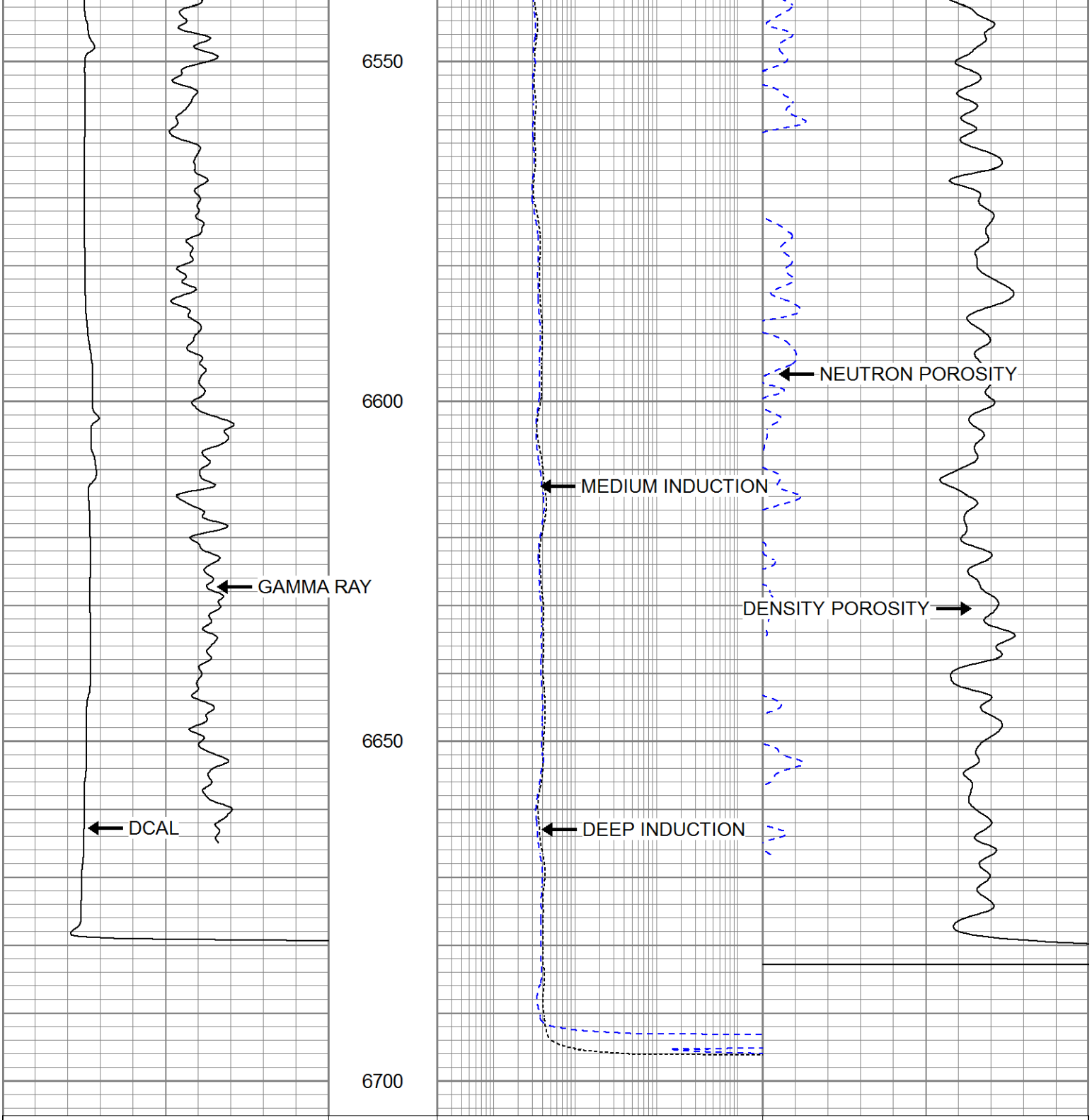

0	GAMMA RAY (GAPI)	200	MEDIUM INDUCTION		30	DENSITY POROSITY (pu)	0
6	DCAL (in)	16	0.2	(Ohm-m) 2000	30	NEUTRON POROSITY (pu)	0
6	DCAL (in)	16	DEEP INDUCTION				
			0.2	(Ohm-m) 2000			

Calibration Report

Database File	extraction_walt_16e_20_9c.db
Dataset Pathname	stack/pass2.1
Dataset Creation	Mon Oct 23 14:34:50 2017

Dual Induction Calibration Report

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

Loop:	Readings Air	Readings Loop	References Air	References Loop		Results Gain	Results 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: 239-211-M&W
Source / Verifier: /
Master Calibration Performed: Sun Oct 22 20:01:14 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3499.97	4447.69	cps
Aluminum	2.675	g/cc	701.87	3045.83	cps

Spine Angle = 76.74 Density/Spine Ratio = 0.557

	Size		Reading
Small Ring	4.00	in	1.75
Large Ring	14.00	in	1.30

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

PIONEER
Pioneer Energy Services

Company EXTRACTION OIL & GAS
Well WALT NO. 16E-20-9C
Field WATTENBERG
County WELD
State COLORADO