PIONEER
Pioneer Energy Services

DUAL COMPENSATED POROSITY / MICRO LOG

Company F.G. HOLL COMPANY, LLC
Well LEROY FARMING TRUST #2-30
Field WILDCAT
County BARTON
State KANSAS

Location: API #: 15-009-26279-00-00
945' FNL & 1400' FWL
SEC 30 TWP 19S RGE 14W

Other Services
DIL
BHCS

Elevation
K.B. 1915'
D.F. N/A
G.L. 1907'

Permanent Datum GROUND LEVEL Elevation 1907'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Date	11/13/2019		
Run Number	ONE		
Type Log	CNL / CDL / ML		
Depth Driller	3625'		
Depth Logger	3626'		
Bottom Logged Interval	3601'		
Top Logged Interval	1700'		
Type Fluid In Hole	CHEMICAL		
Salinity, PPM CL	5900		
Density	9.3		
Level	FULL		
Max. Rec. Temp. F	112 DEG/F		
Operating Rig Time	5 HOURS		
Equipment -- Location	P-108 HAYS		
Recorded By	J. HENRICKSON		
Witnessed By	RENE HUSTEAD		

Borehole Record

Run No.	Bit	From	To
ONE	12.25"	0	844'
TWO	7.875"	844'	TD

Casing Record

Size	Wgt.	From	To
8.625"	23#	0	844'

<<< Fold Here >>>

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.

HEIZER KANSAS
1 WEST, 3 1/2 SOUTH, 1 WEST, 1/4 SOUTH, EAST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneeres.com 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: RENE HUSTEAD
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\fg_holl_leroy_farming_trust_2_30.db
Dataset field/well/stack/pass4.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	112	4.5	0	1	2	2.71

NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	160	0	Off	3625

Variable Description

A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density
NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM : Medium Sonde Error Correction
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
TDEPTH : Total Depth

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (89-M&W)	3.00	3.50	50.00
GR	33.00					
CNLSC	29.90		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15					
			CDL-M&W (979-229)	8.50	4.00	250.00
LSD	20.85					
DCAL	20.83					
SSD	20.35					
RLL3	15.80					
RLL3F	15.79					

			DIL-M&W (55-222)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					

Dataset:	fg_holl_leroy_farming_trust_2_30.db: field/well/stack/pass4.1
Total length:	35.50 ft
Total weight:	620.00 lb
O.D.:	4.00 in

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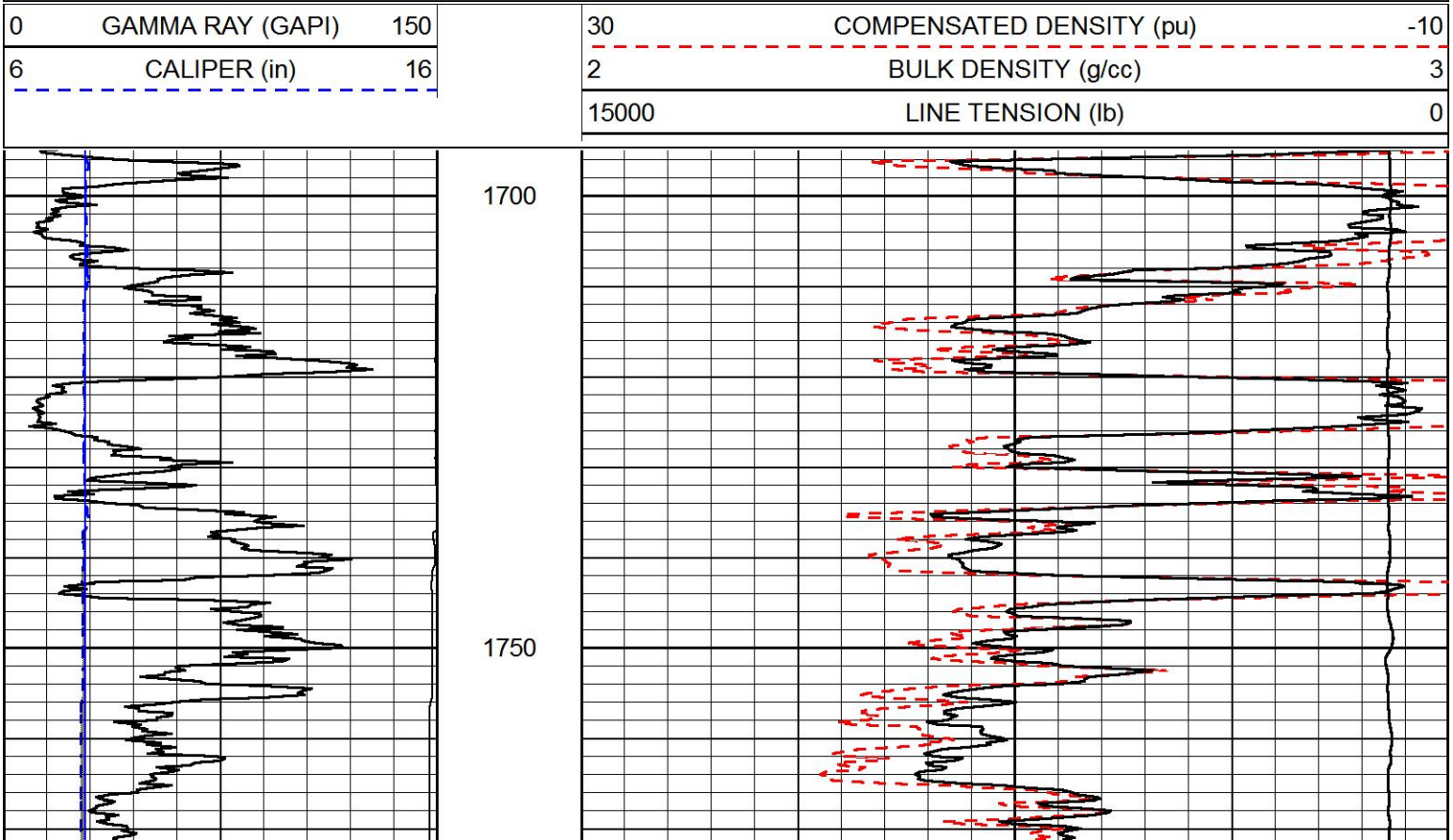
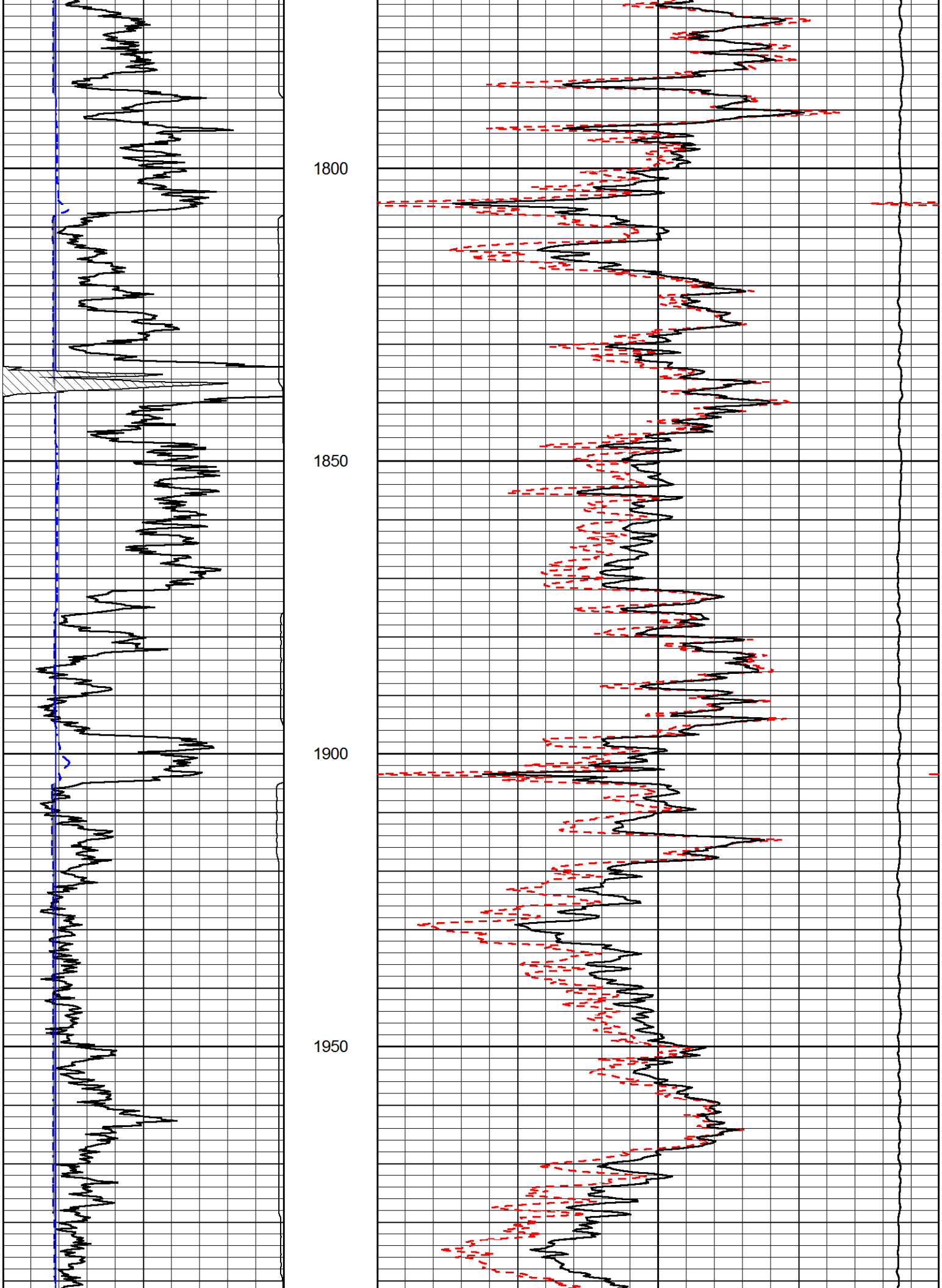
MAIN PASS

Database File	fg_holl_leroy_farming_trust_2_30.db
Dataset Pathname	stack/pass4.1
Presentation Format	cdl
Dataset Creation	Wed Nov 13 18:37:58 2019
Charted by	Depth in Feet scaled 1:240

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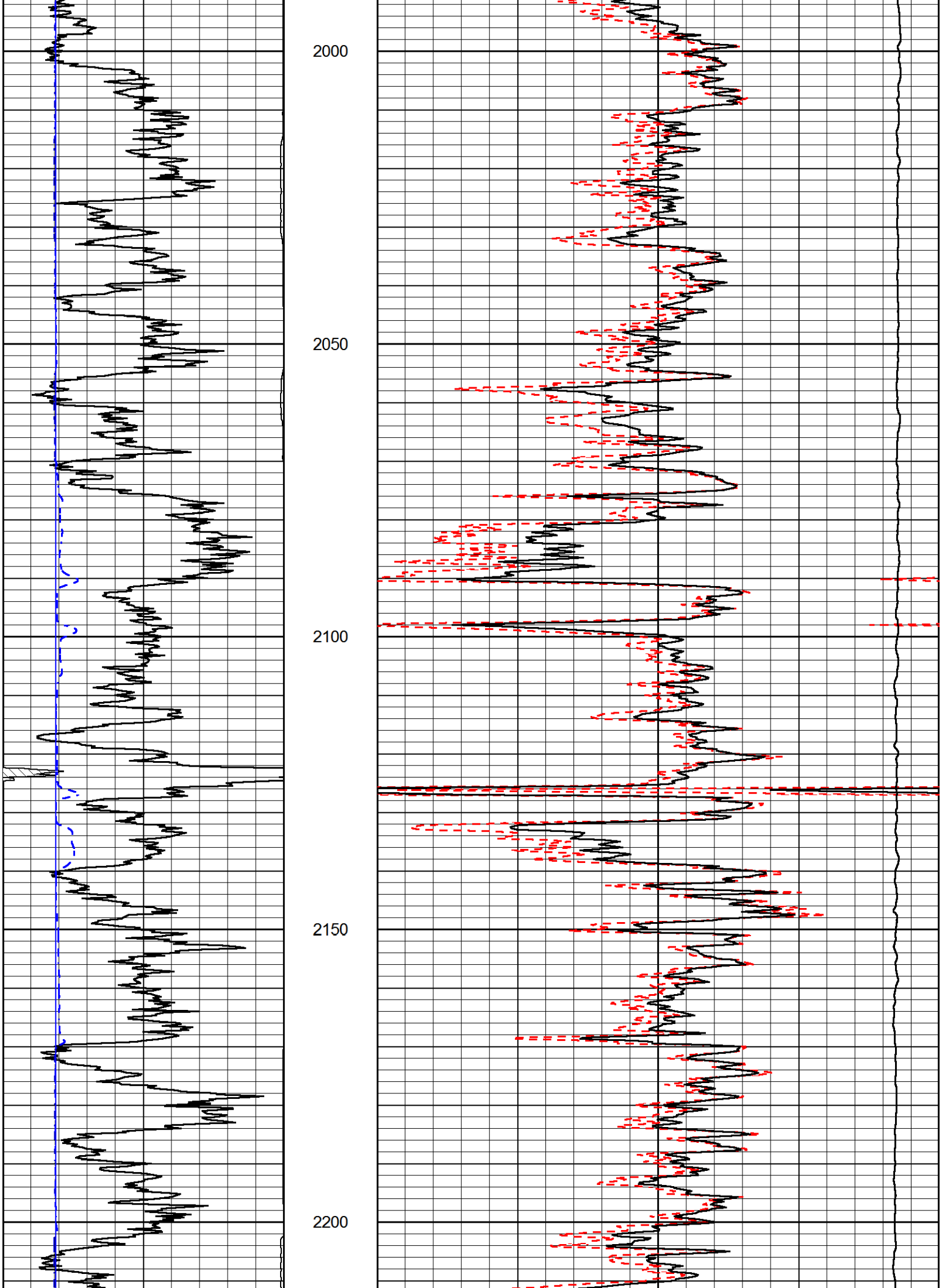
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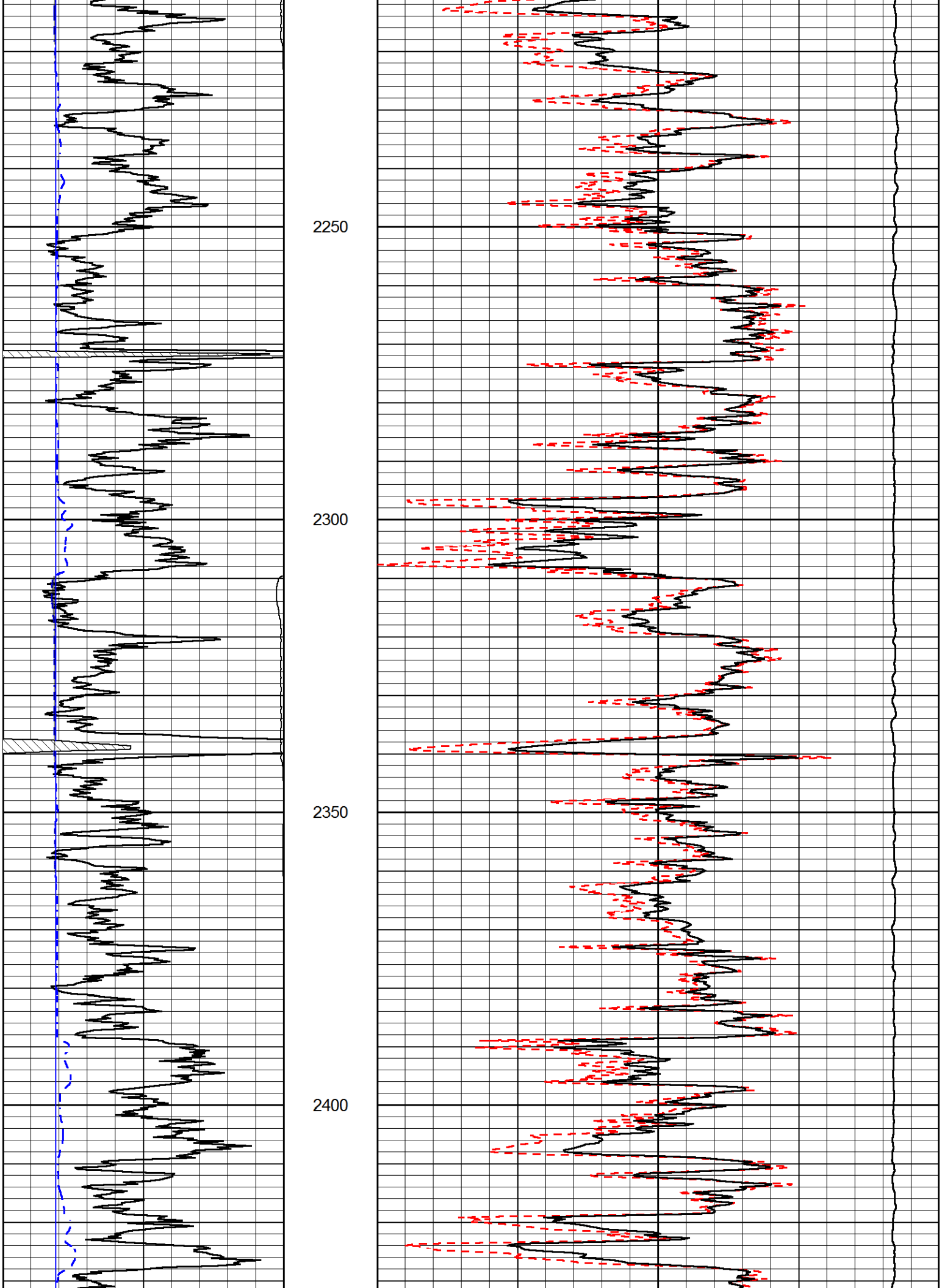
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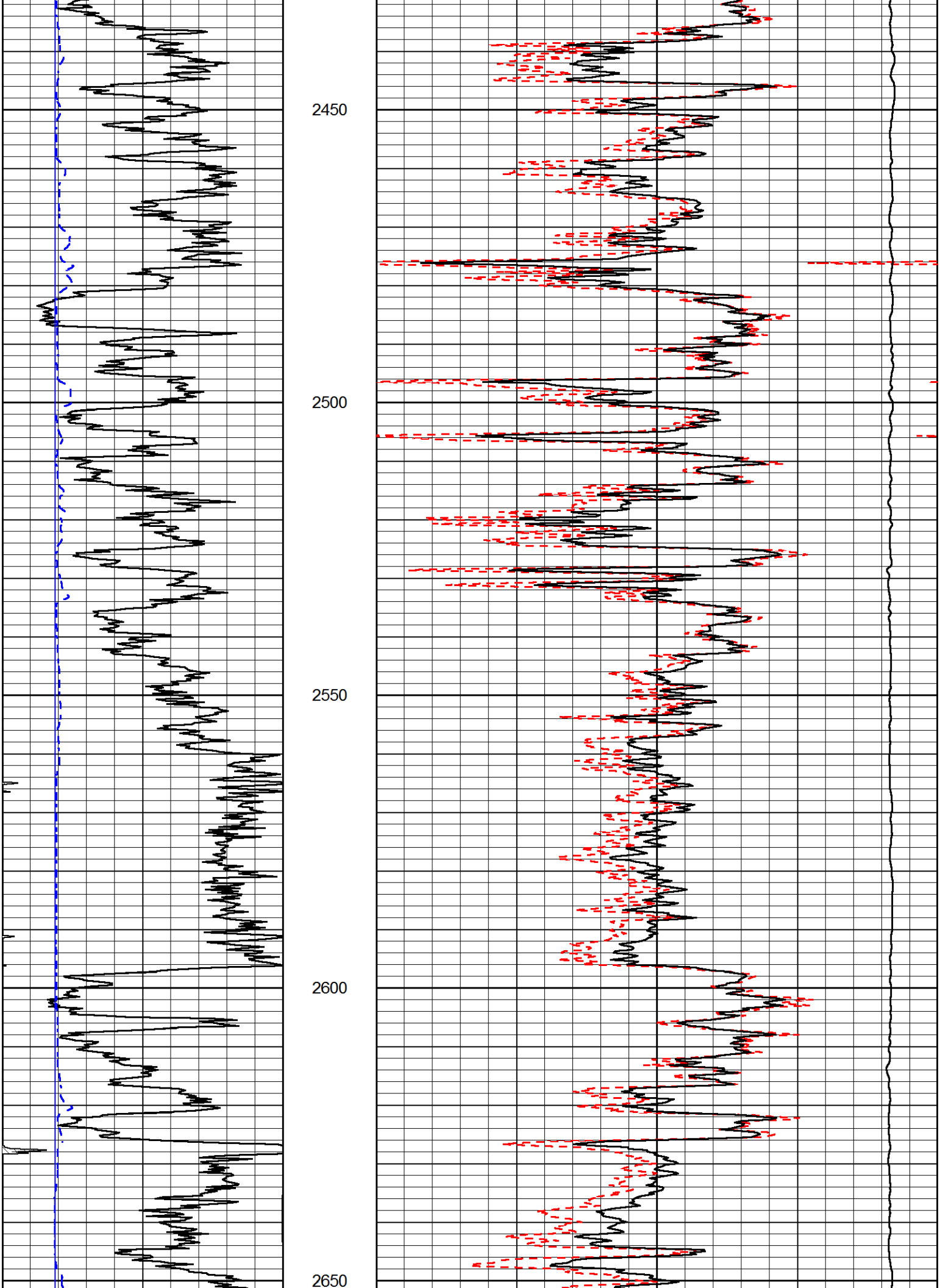
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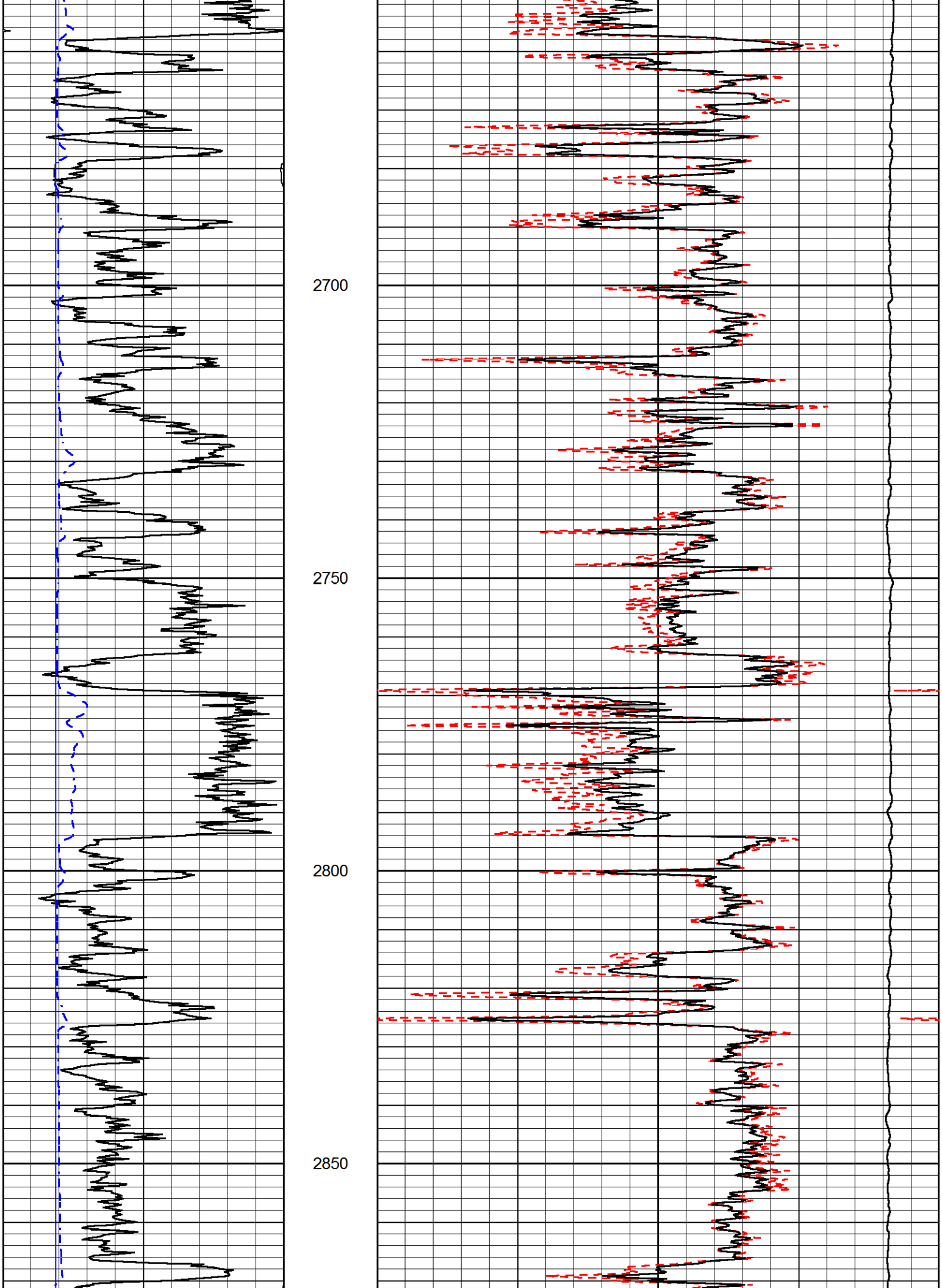
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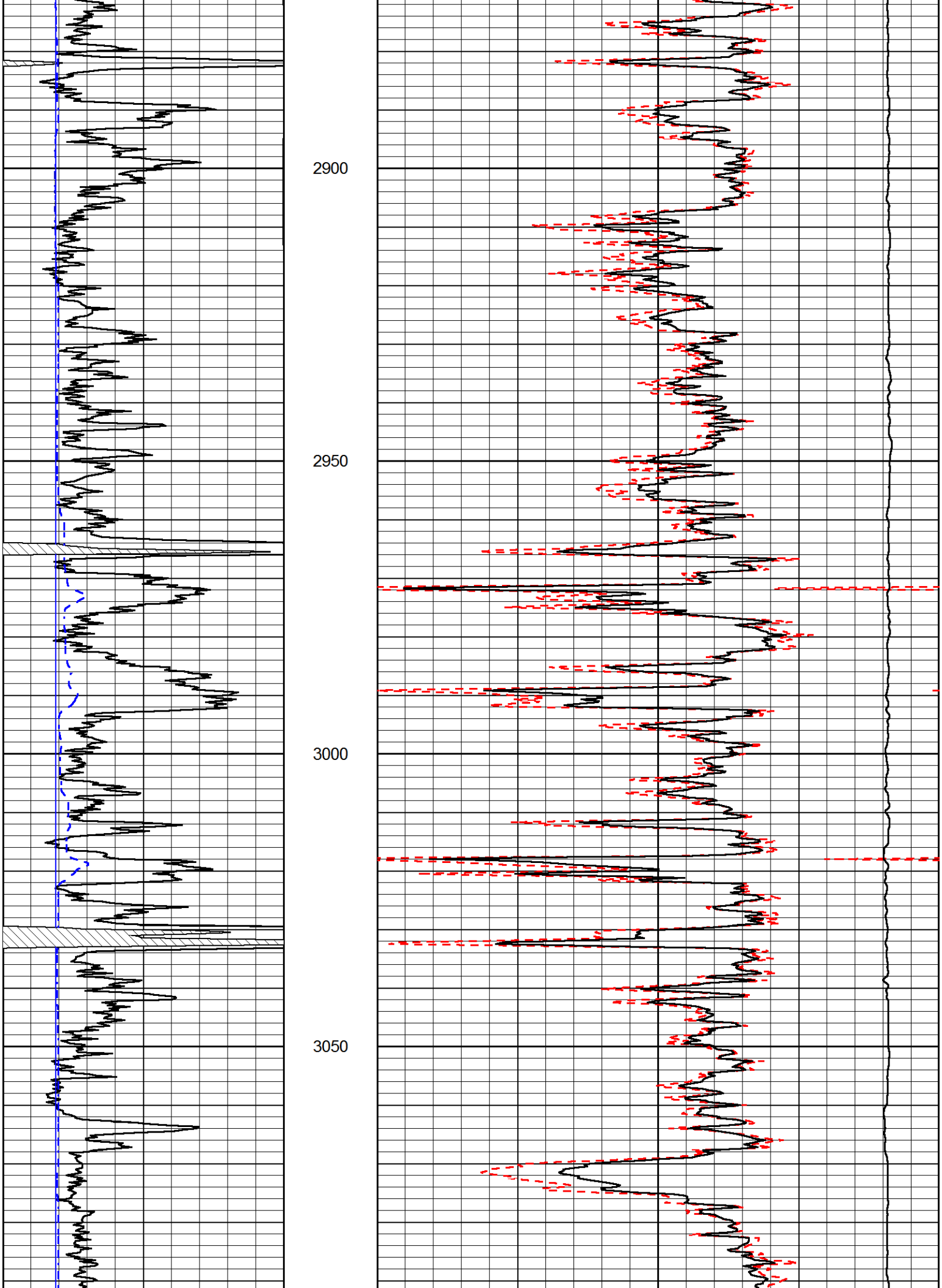
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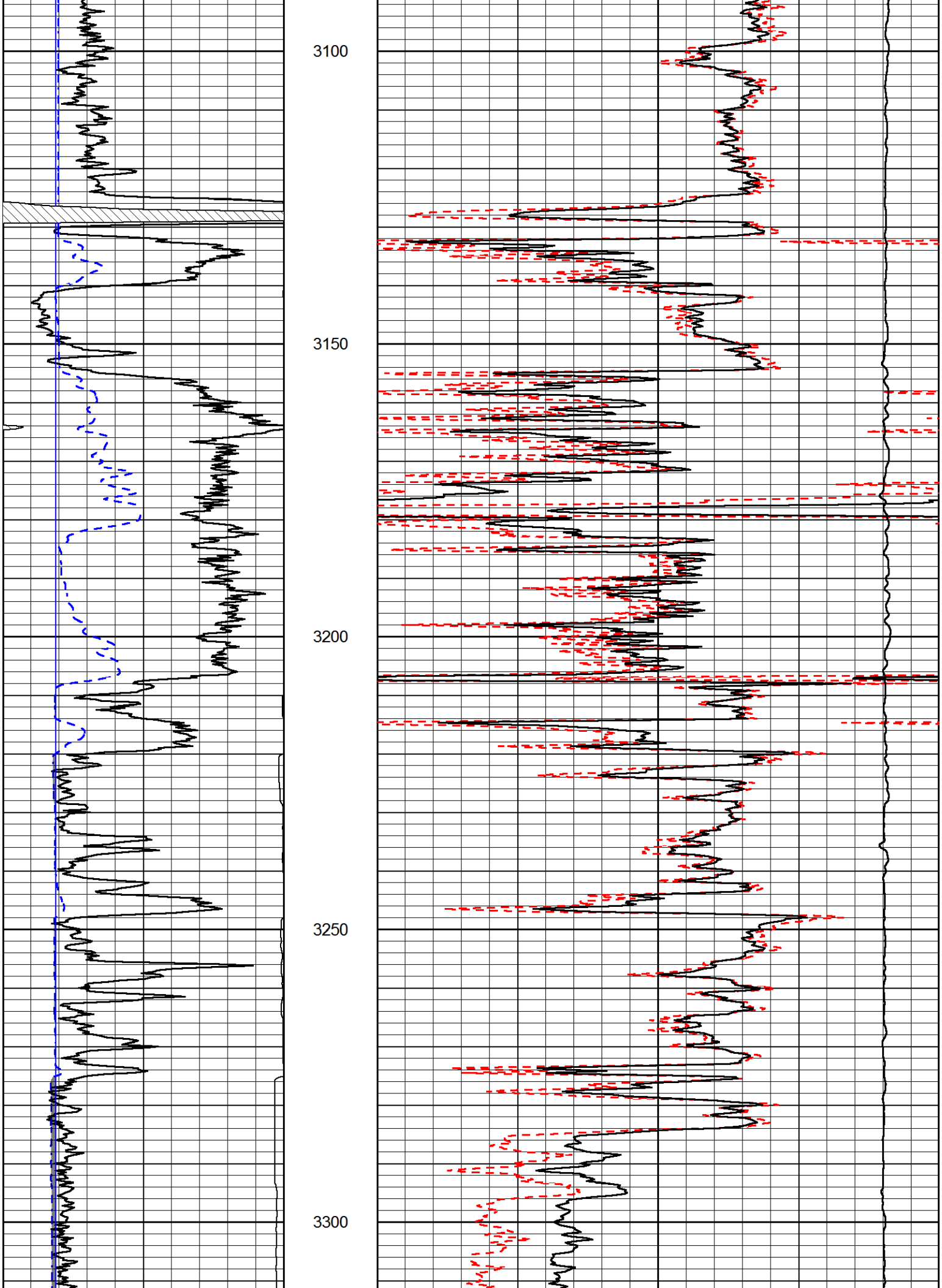
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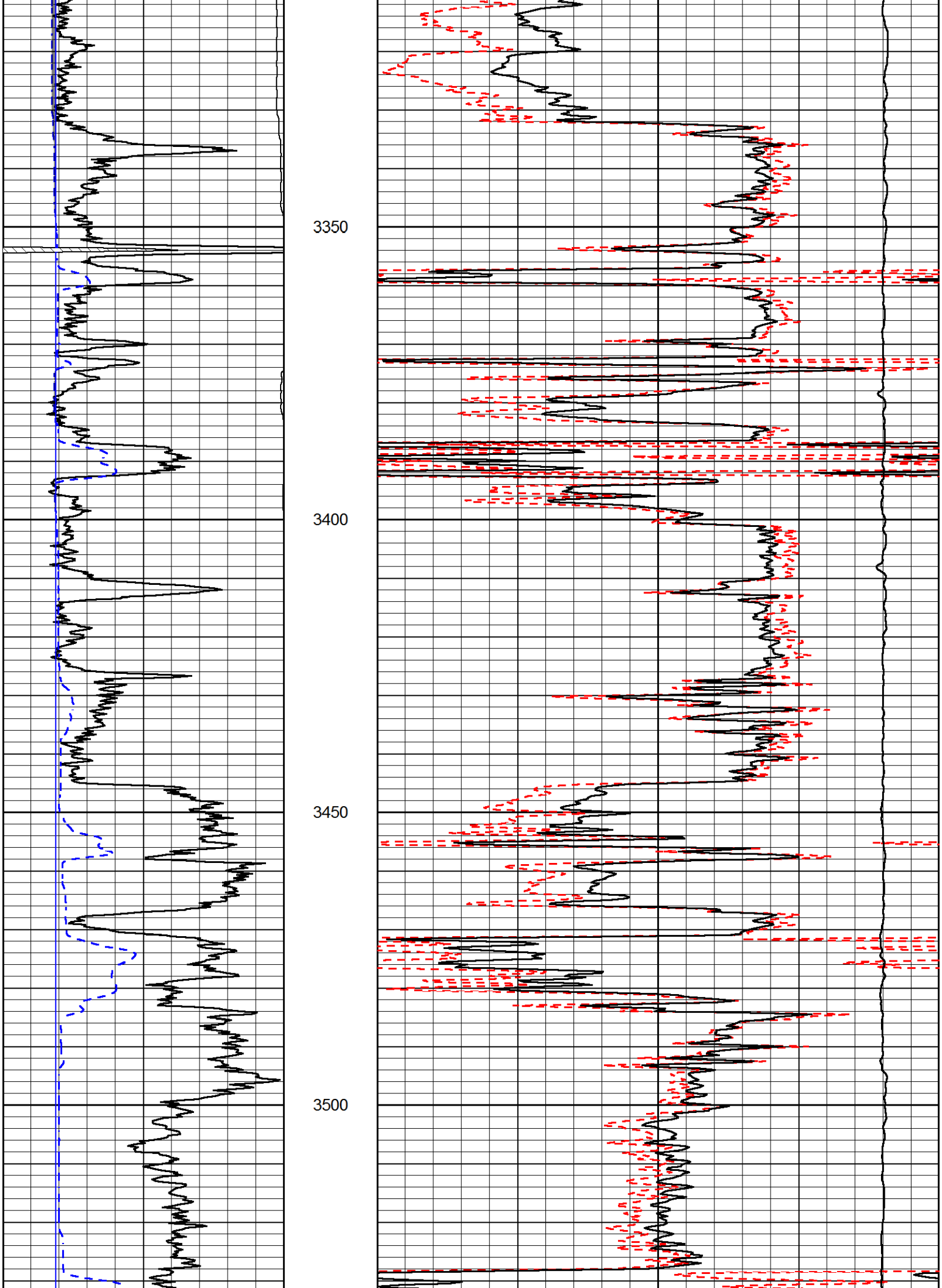
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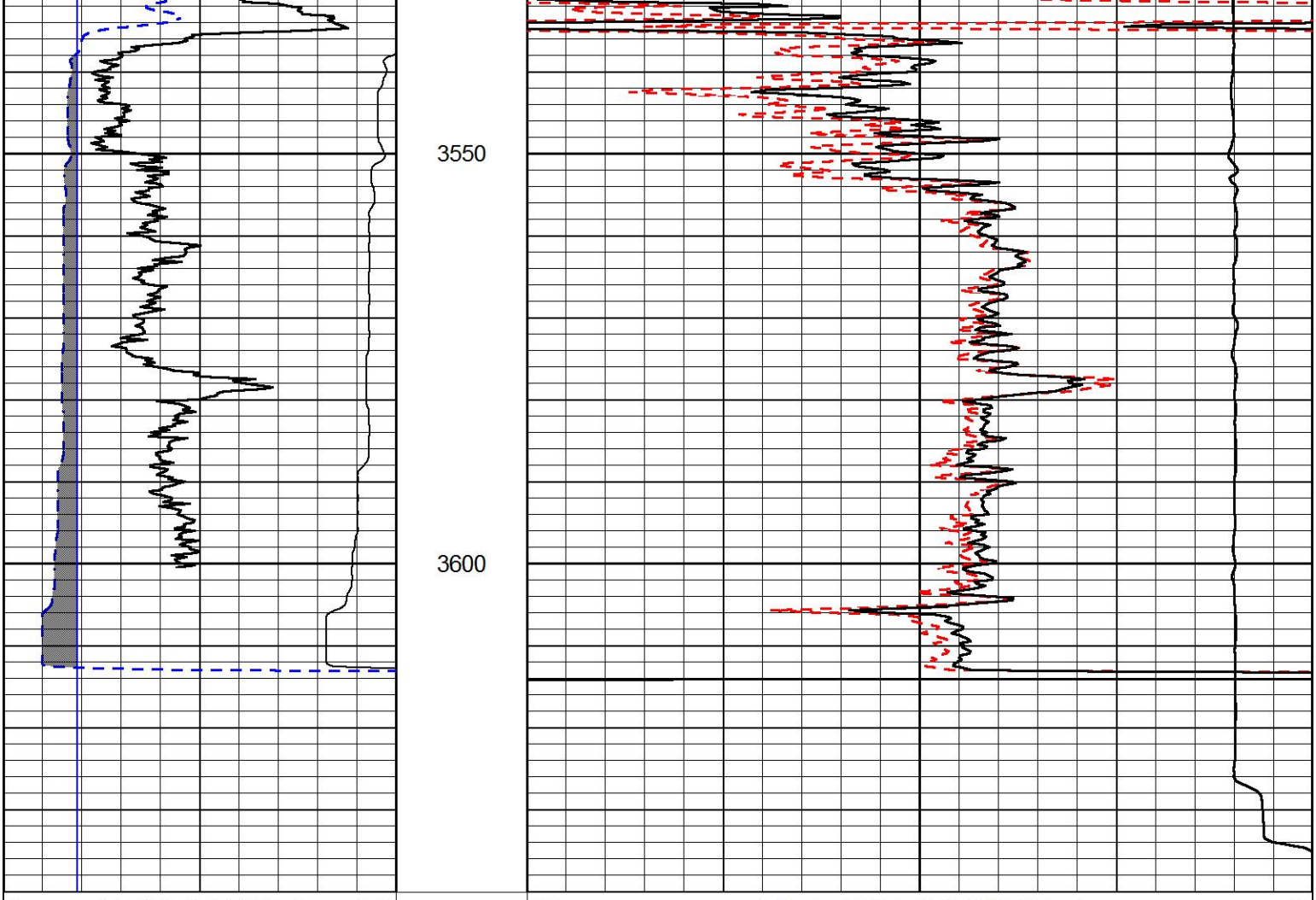

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0

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MAIN PASS

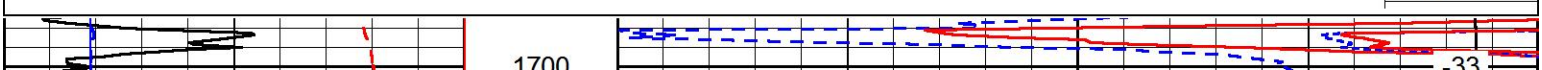
Database File	fg_holl_leroy_farming_trust_2_30.db
Dataset Pathname	stack/pass4.1
Presentation Format	cndlspml
Dataset Creation	Wed Nov 13 18:37:58 2019
Charted by	Depth in Feet scaled 1:240

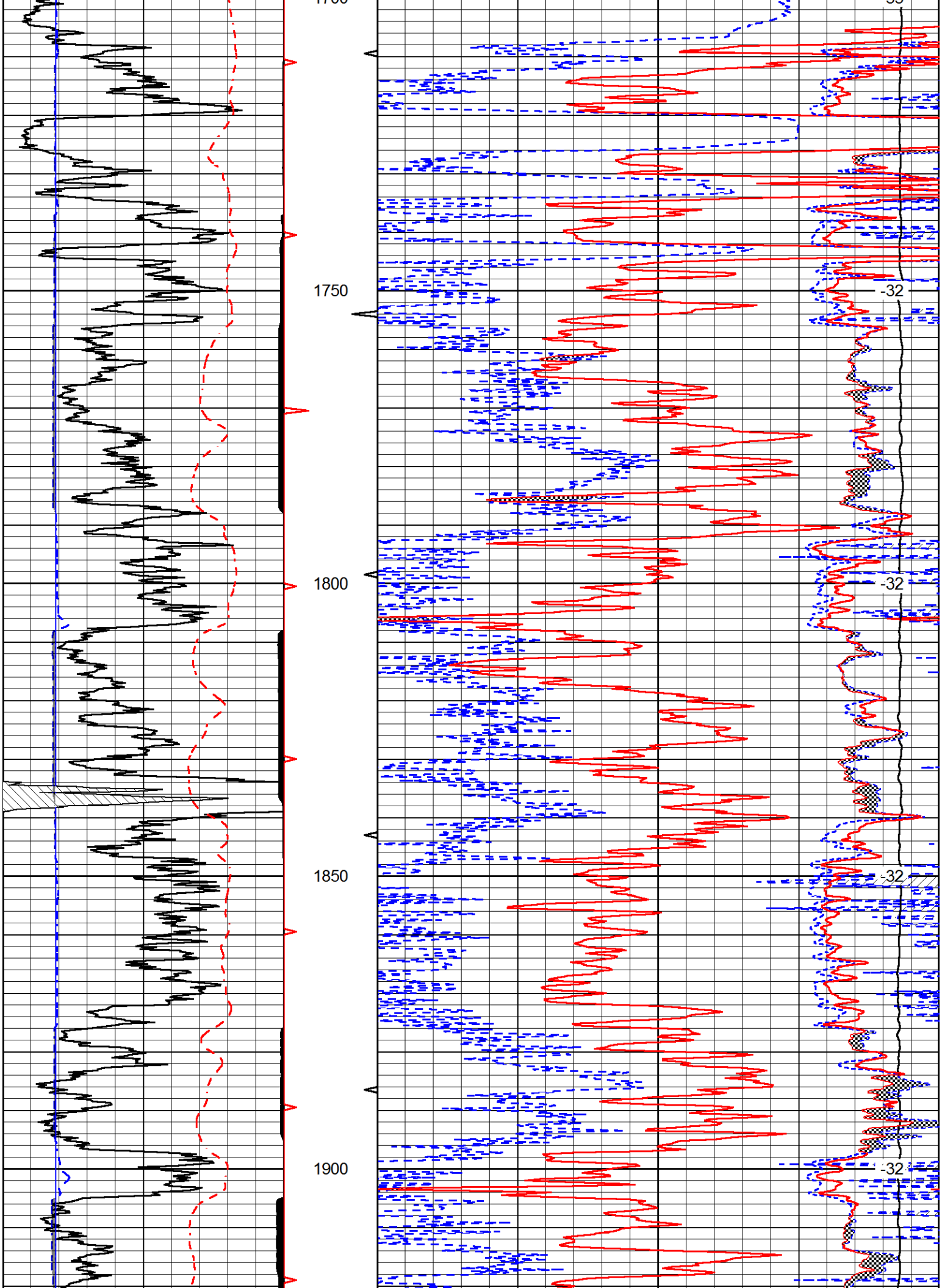
0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16
6	BIT SIZE	16
-200	SP (mV)	0

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 mA) (pu)	-10
15000	LINE TENSION (lb)	0

MICRO NORMAL		
0	(Ohm-m)	20
MICRO INVERSE		
0	(Ohm-m)	20

LSPD
(ft/min)

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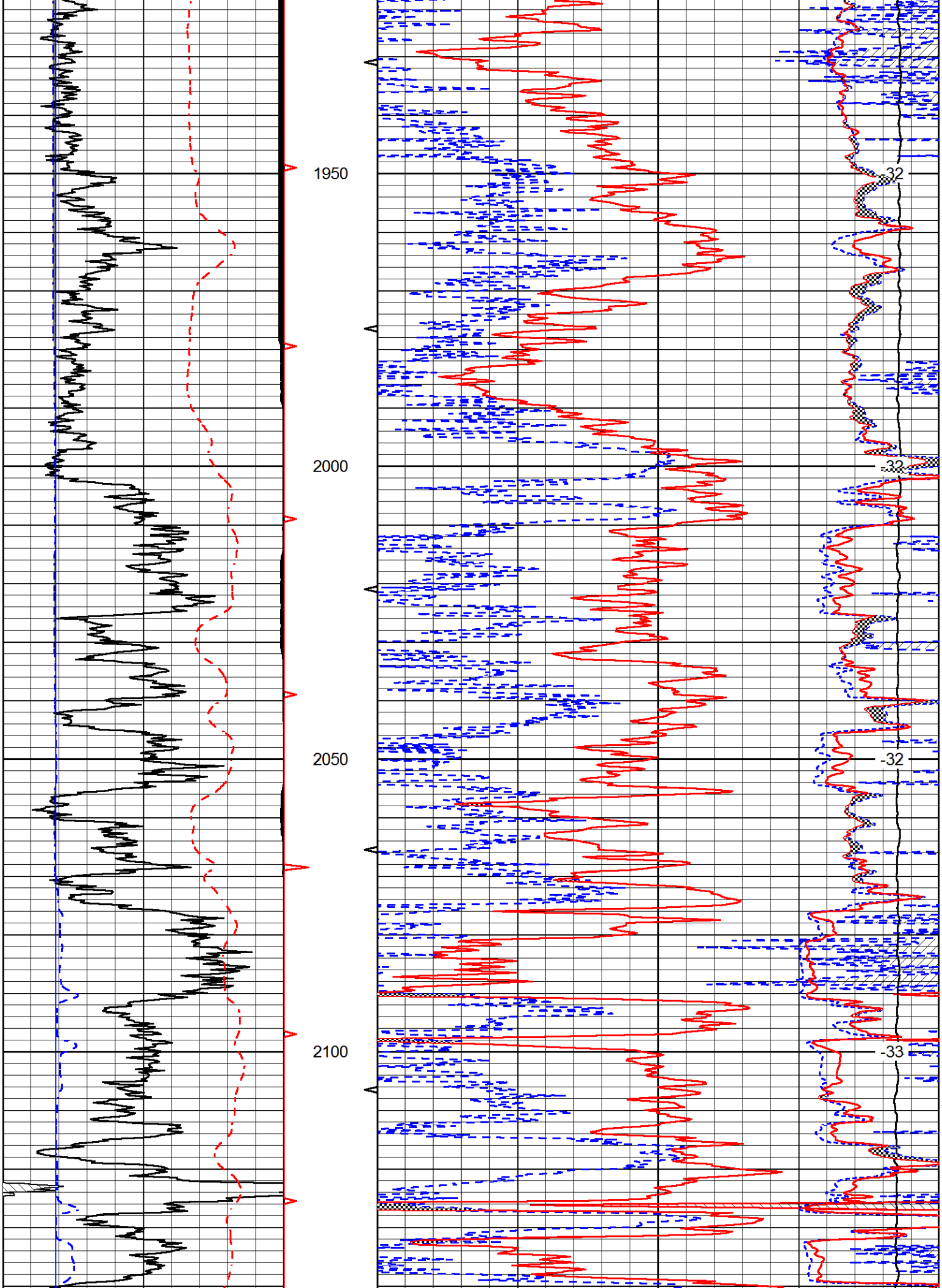
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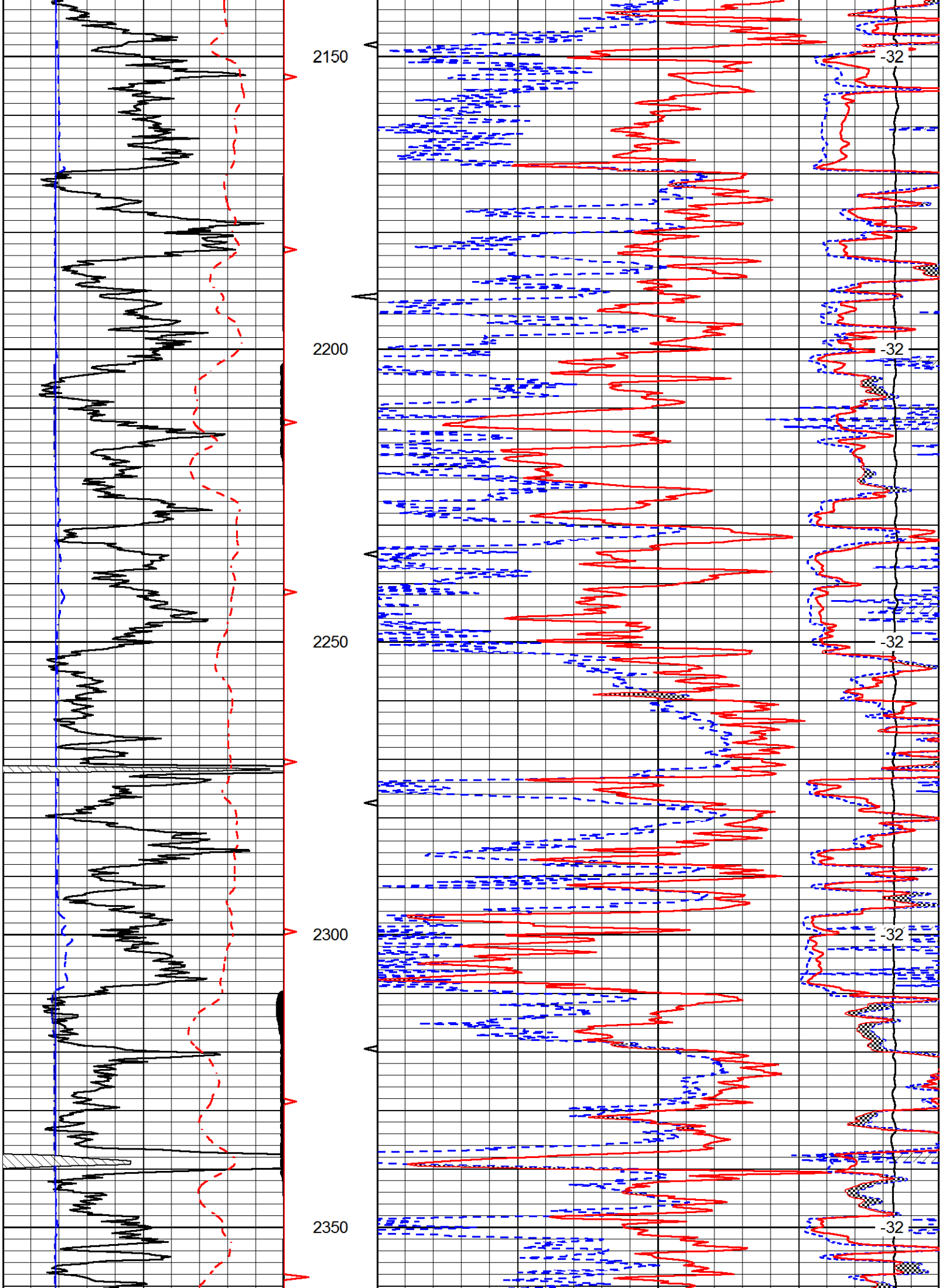
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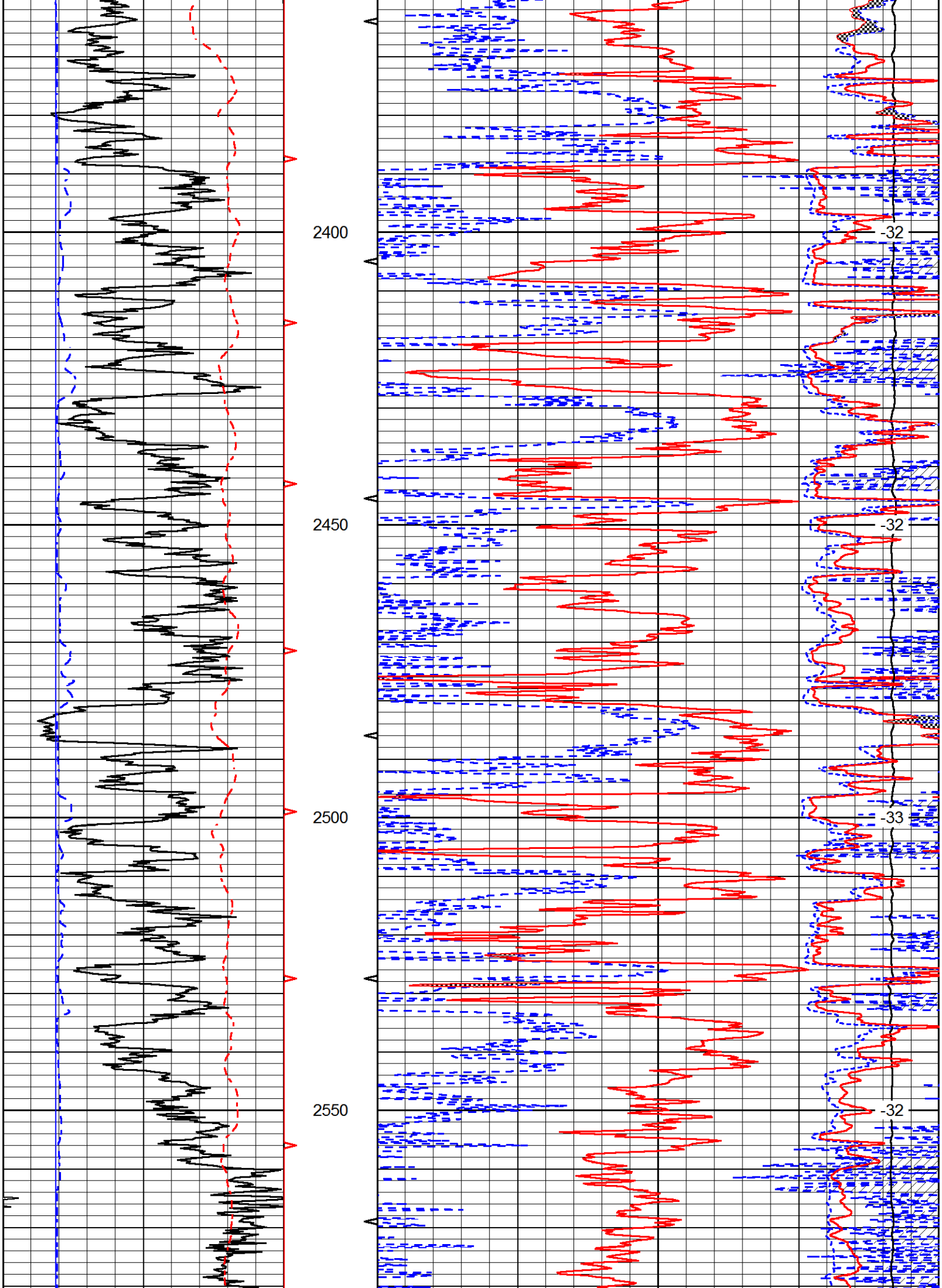
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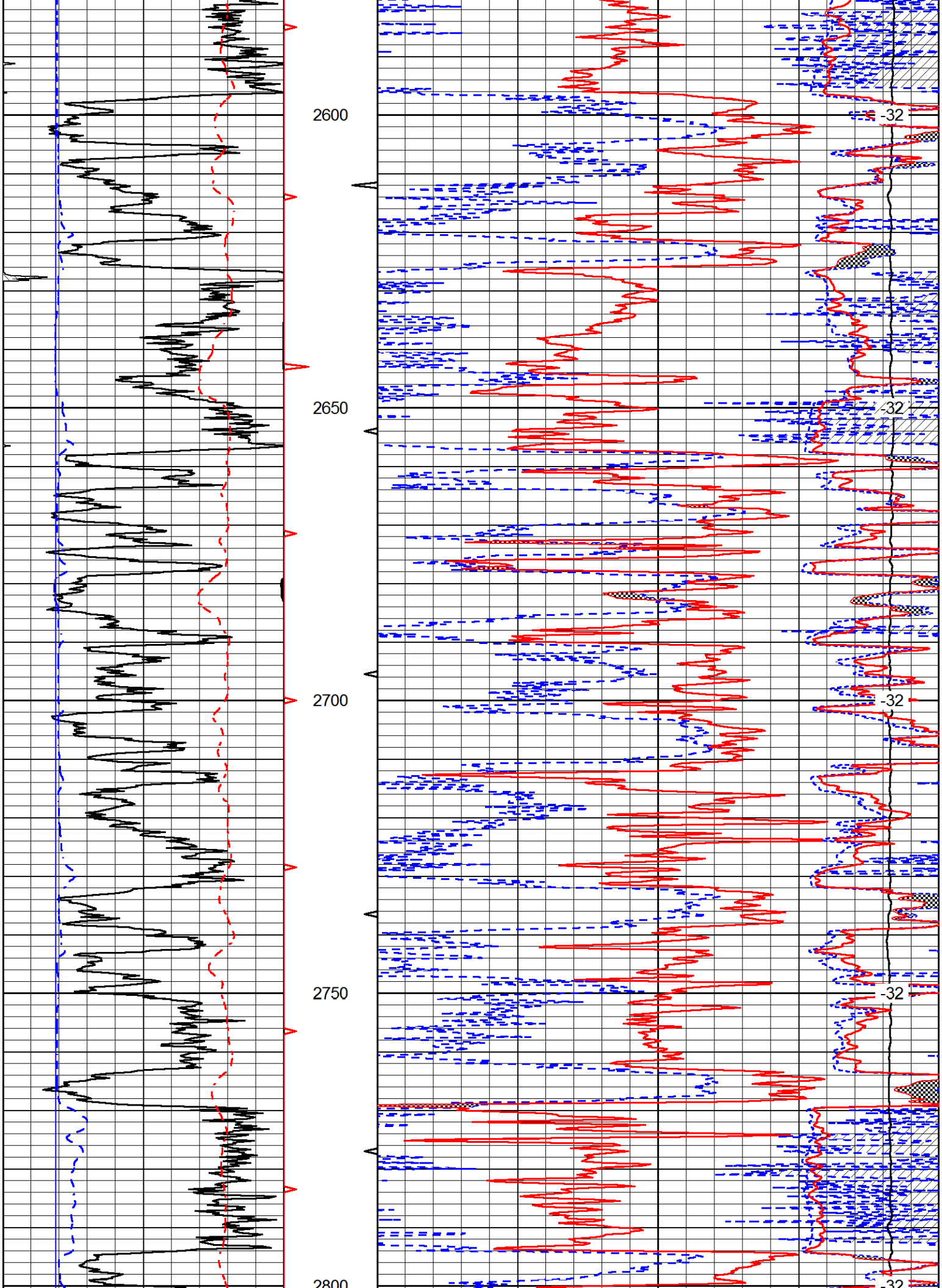
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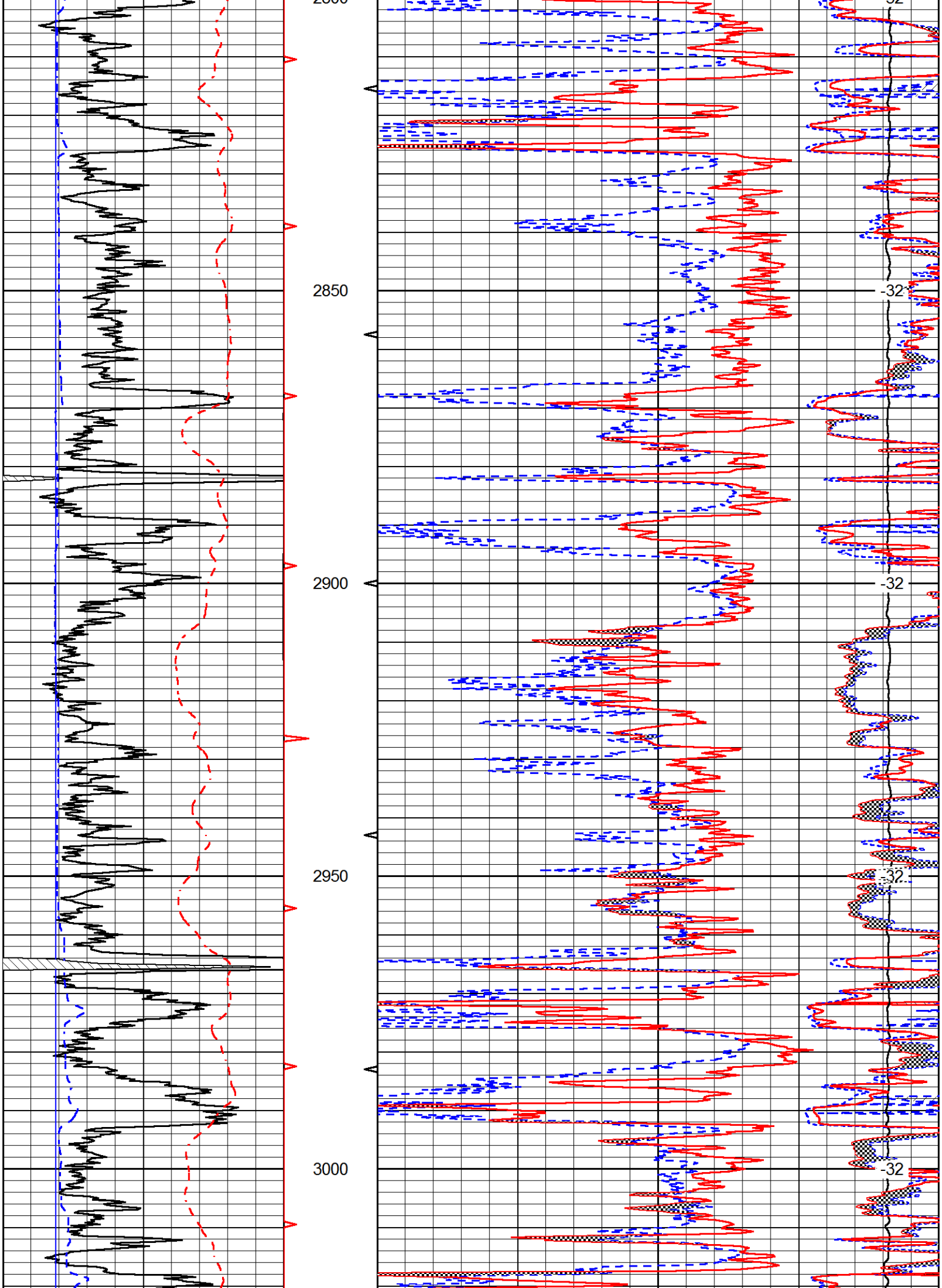
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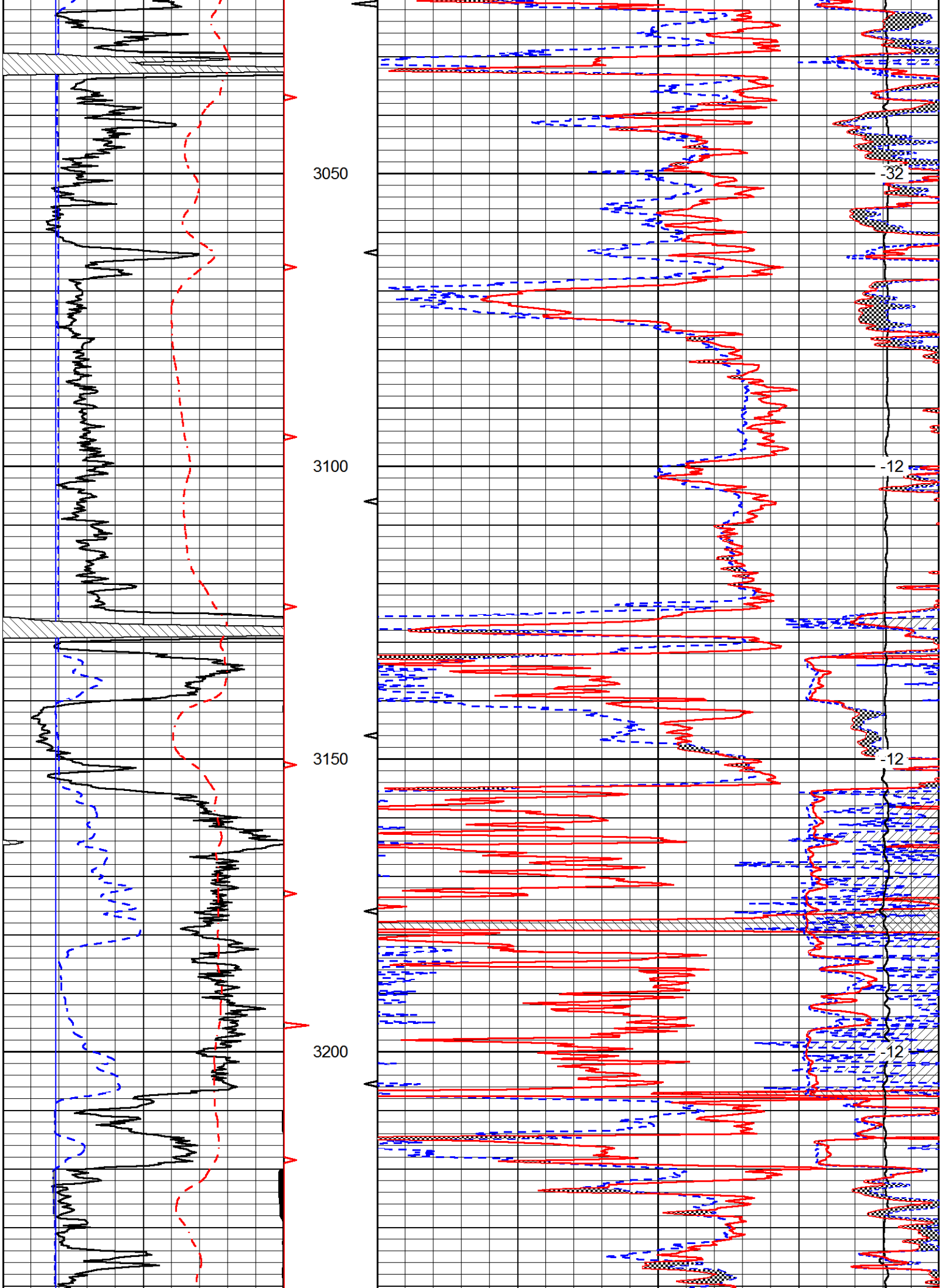
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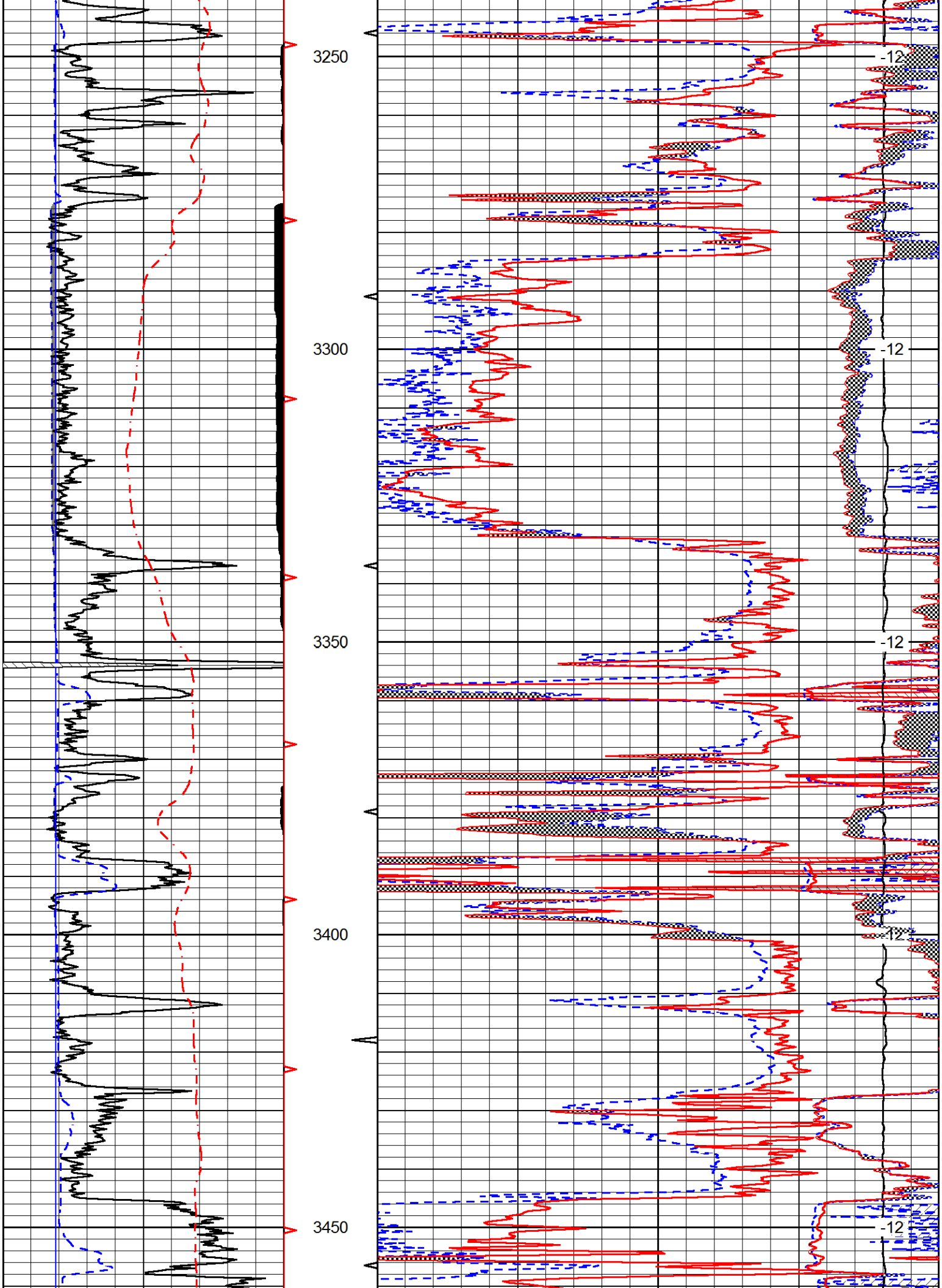
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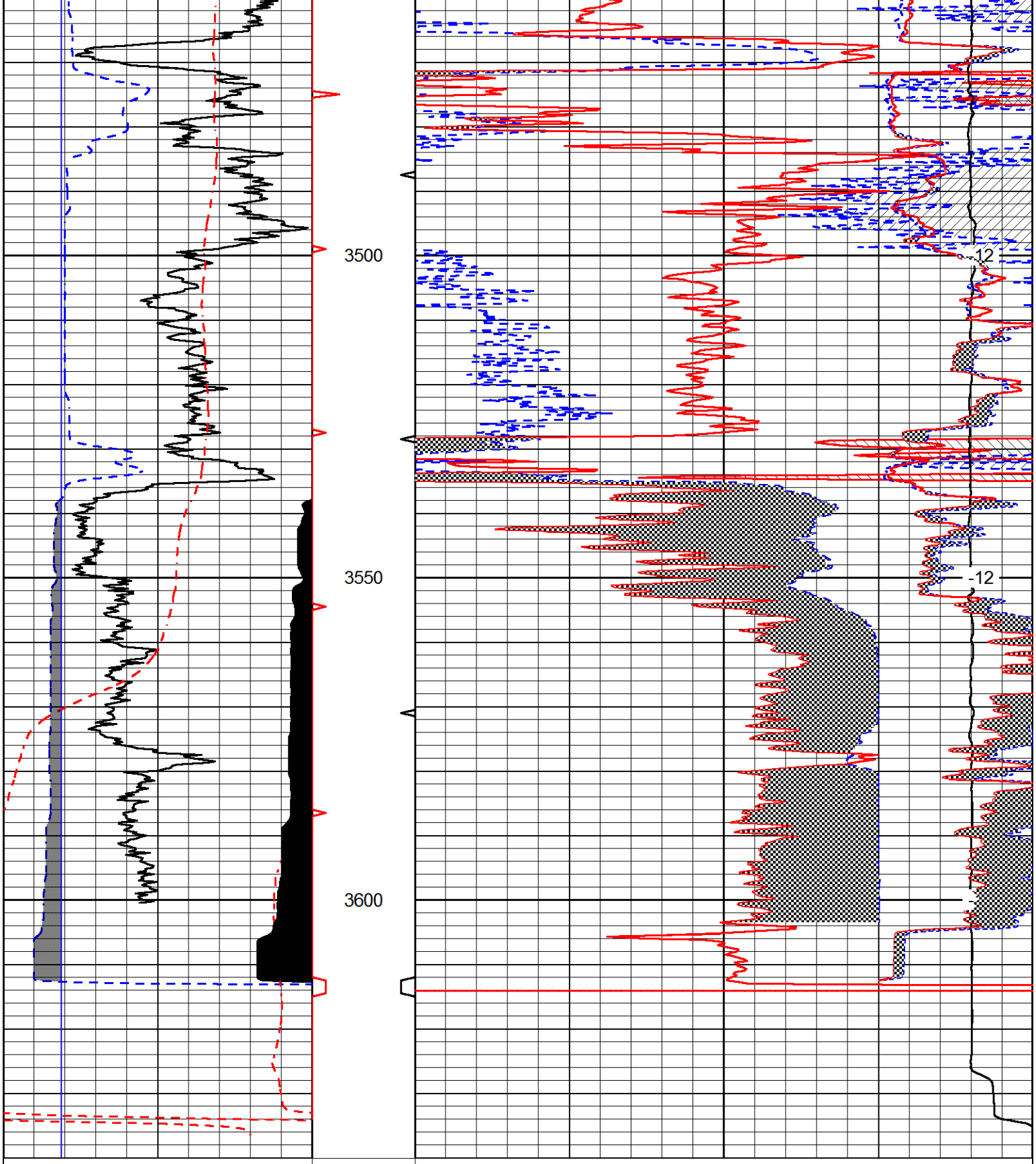

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16
6	BIT SIZE	16
-200	SP (mV)	0

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 mA) (pu)	-10
15000	LINE TENSION (lb)	0

MICRO NORMAL		
0	(Ohm-m)	20
MICRO INVERSE		
0	(Ohm-m)	20

LSPD

(ft/min)

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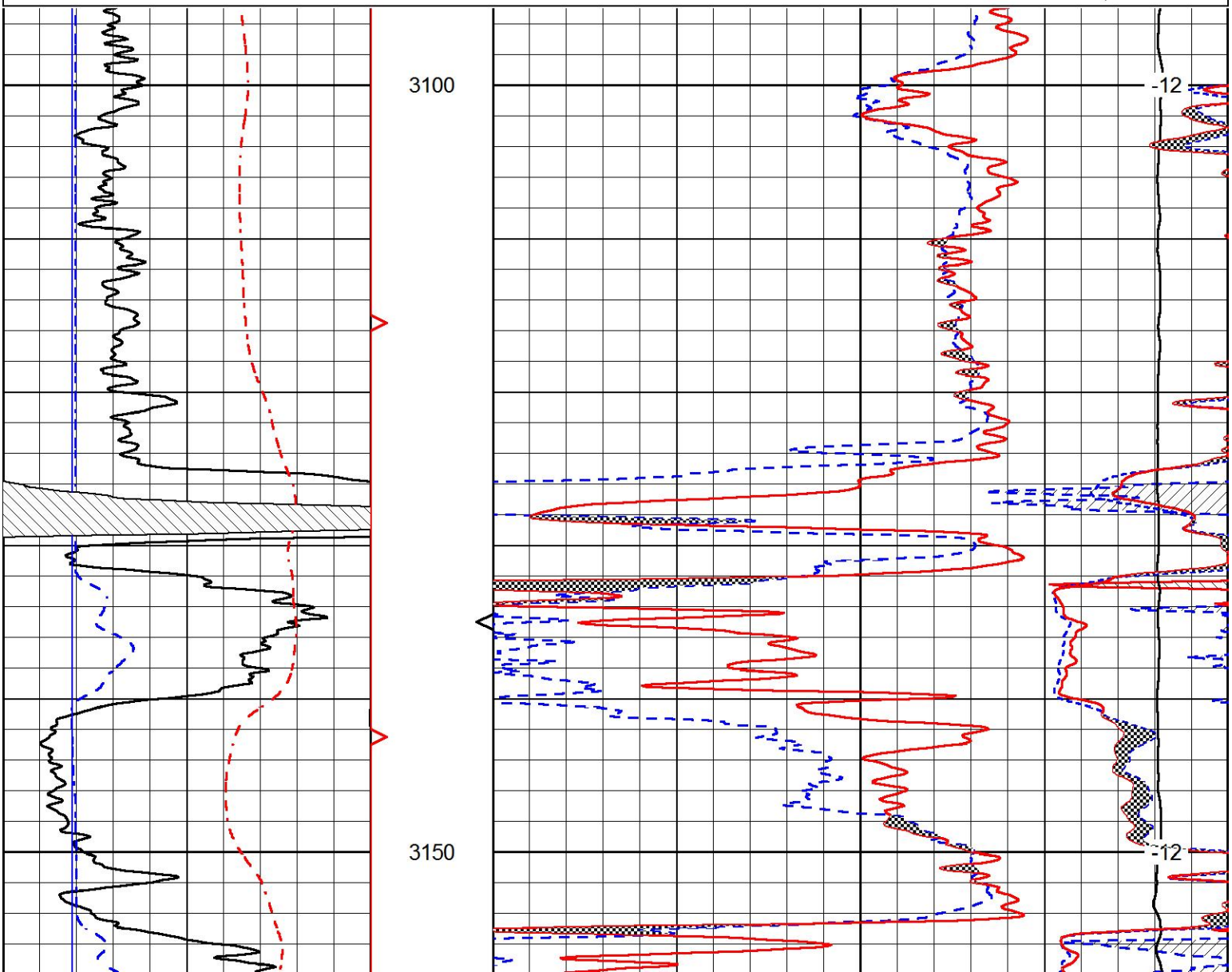
HI RESOLUTION

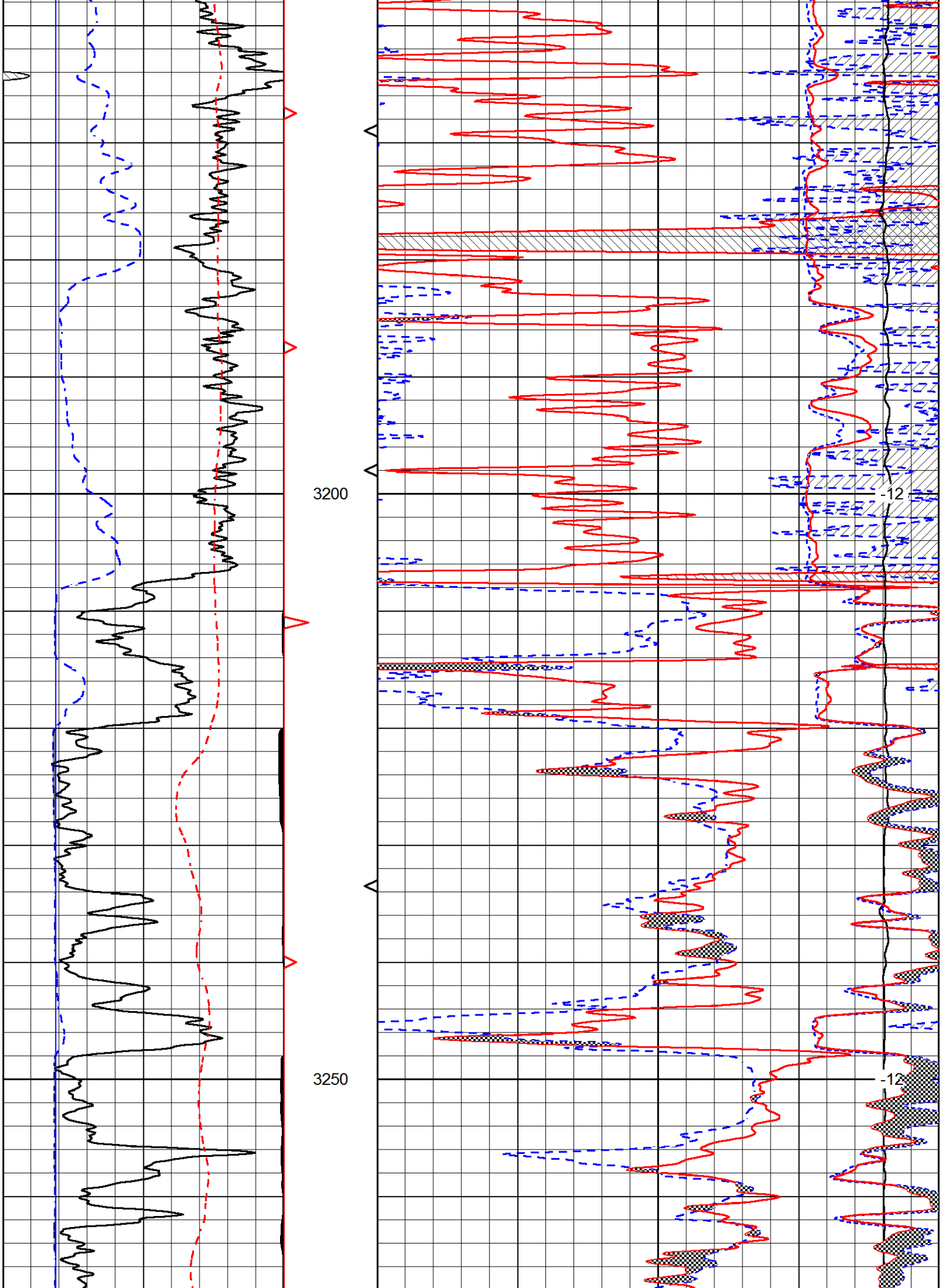
Database File	fg_holl_leroy_farming_trust_2_30.db
Dataset Pathname	stack/pass10.1
Presentation Format	cndlspml
Dataset Creation	Wed Nov 13 17:39:45 2019
Charted by	Depth in Feet scaled 1:120

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16
6	BIT SIZE	16
-200	SP (mV)	0

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 mA) (pu)	-10
15000	LINE TENSION (lb)	0

MICRO NORMAL
0 (Ohm-m) 20
MICRO INVERSE
0 (Ohm-m) 20
LSPD
(ft/min)

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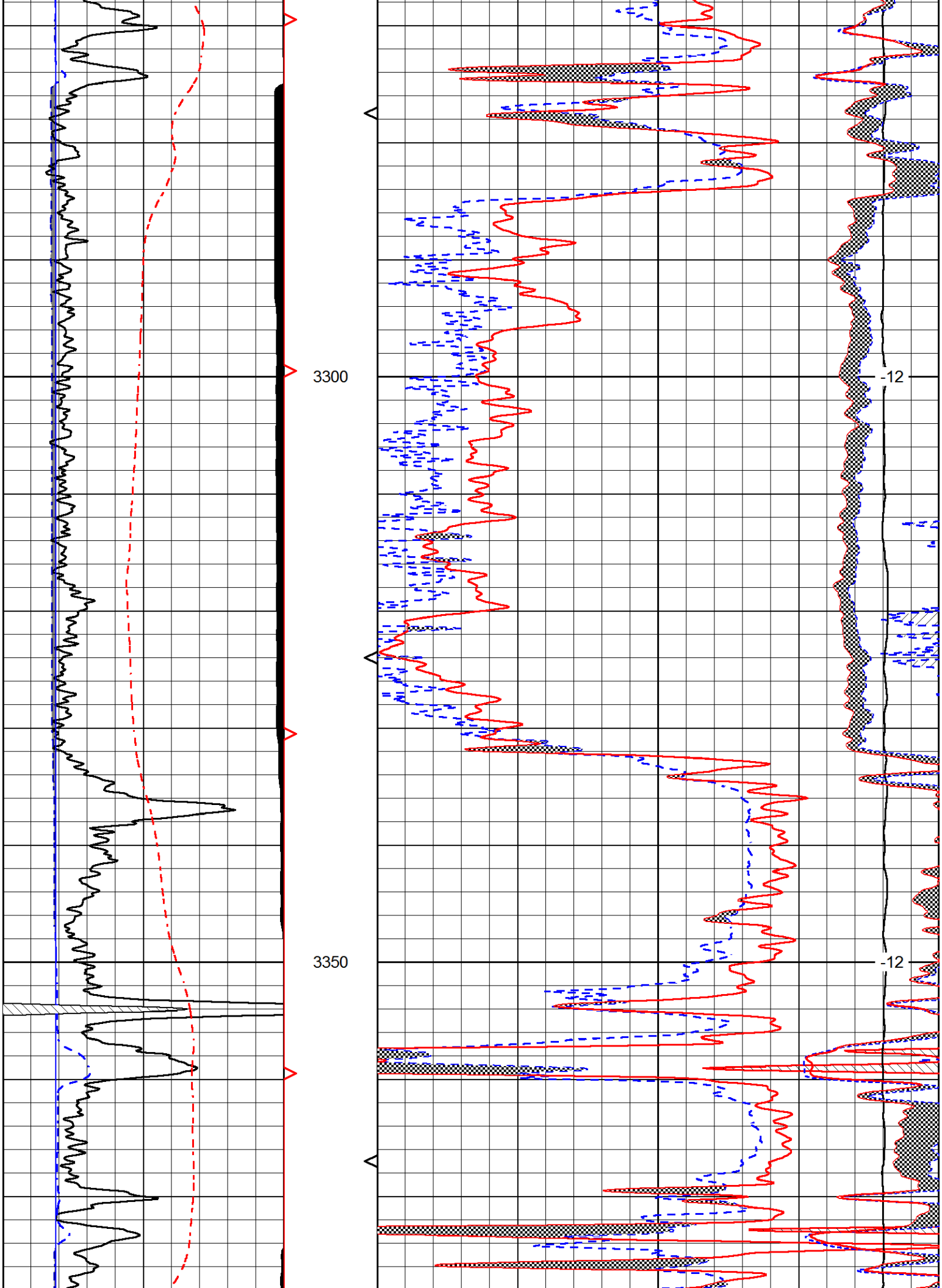
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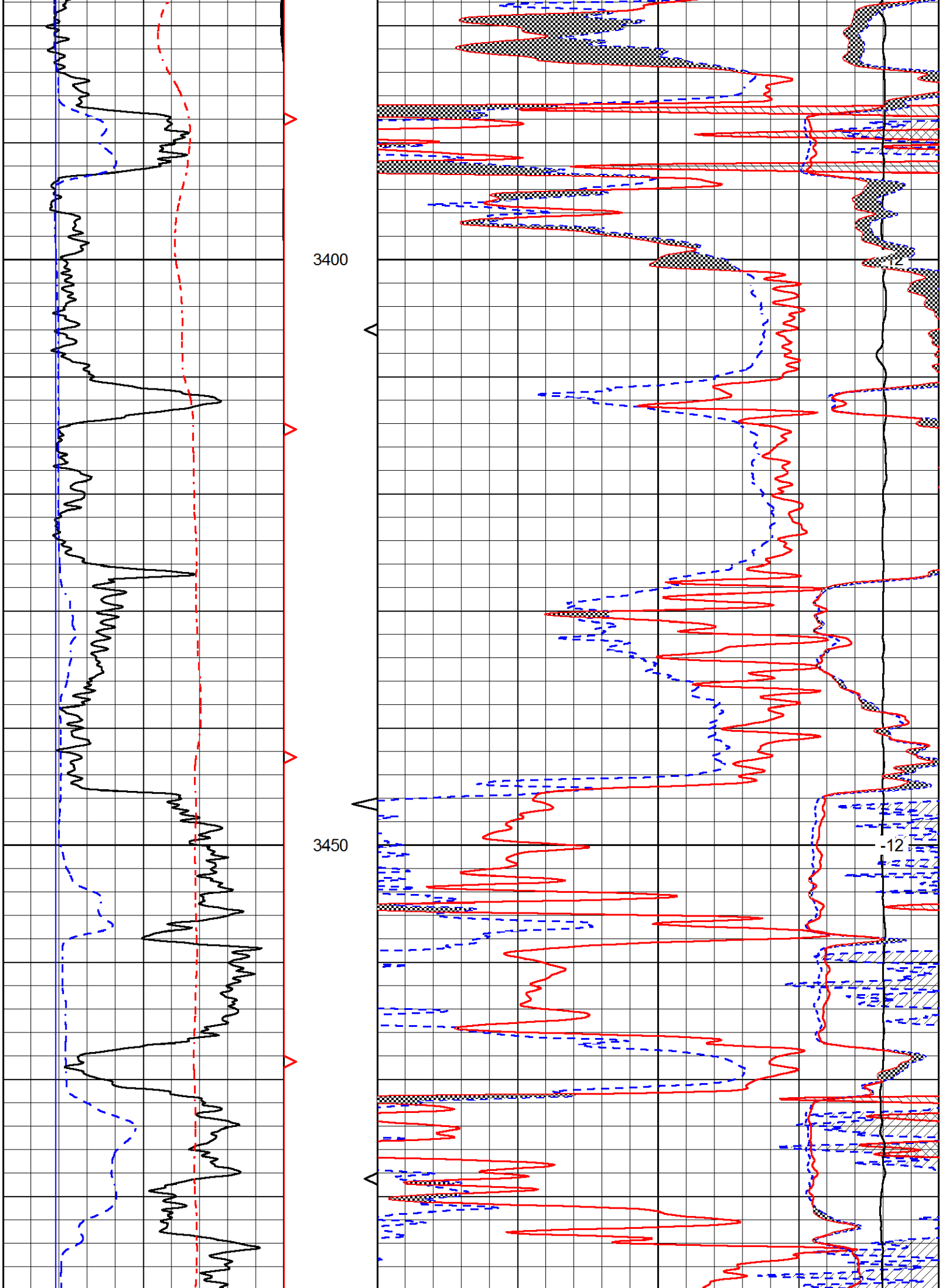
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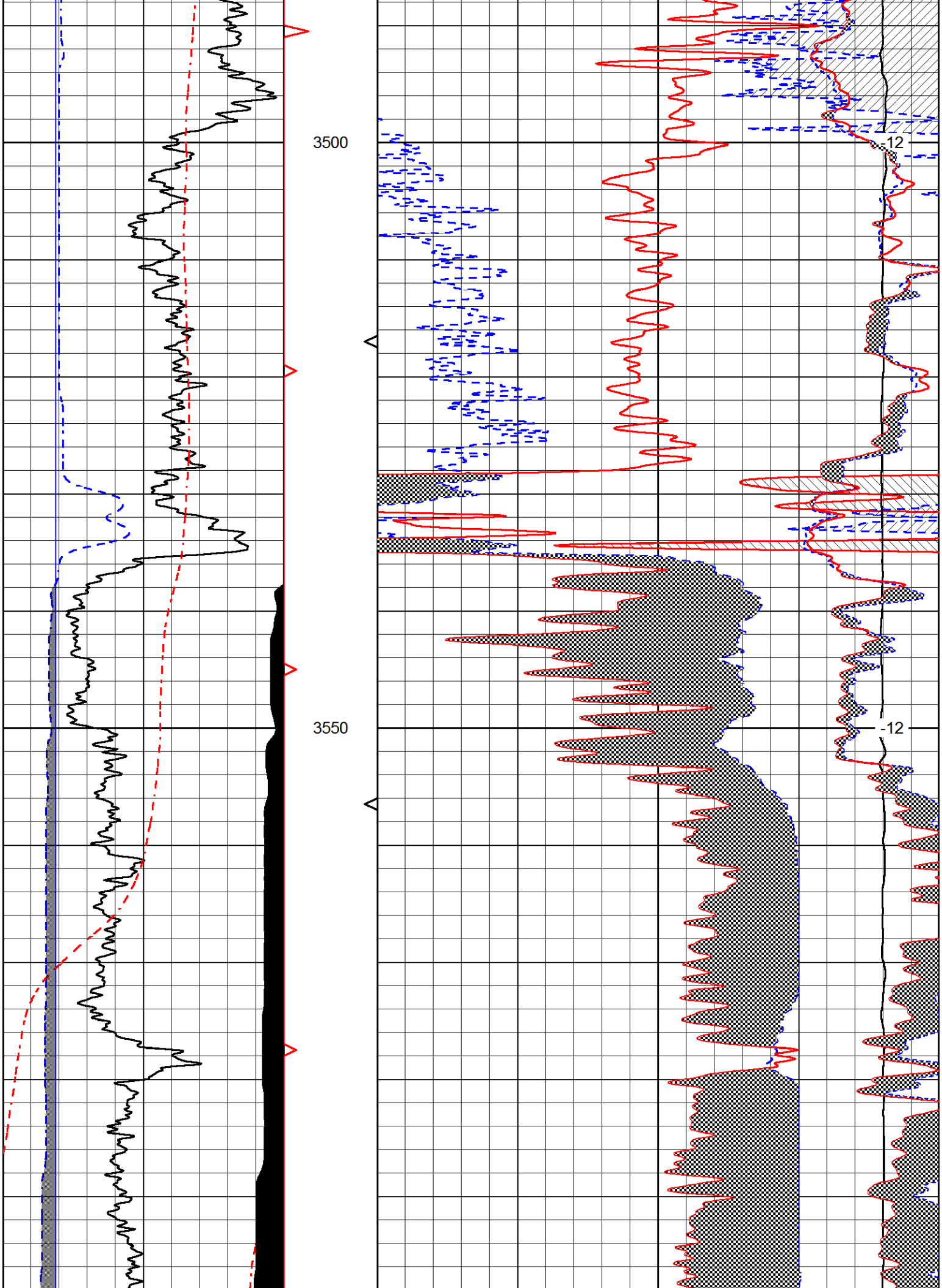
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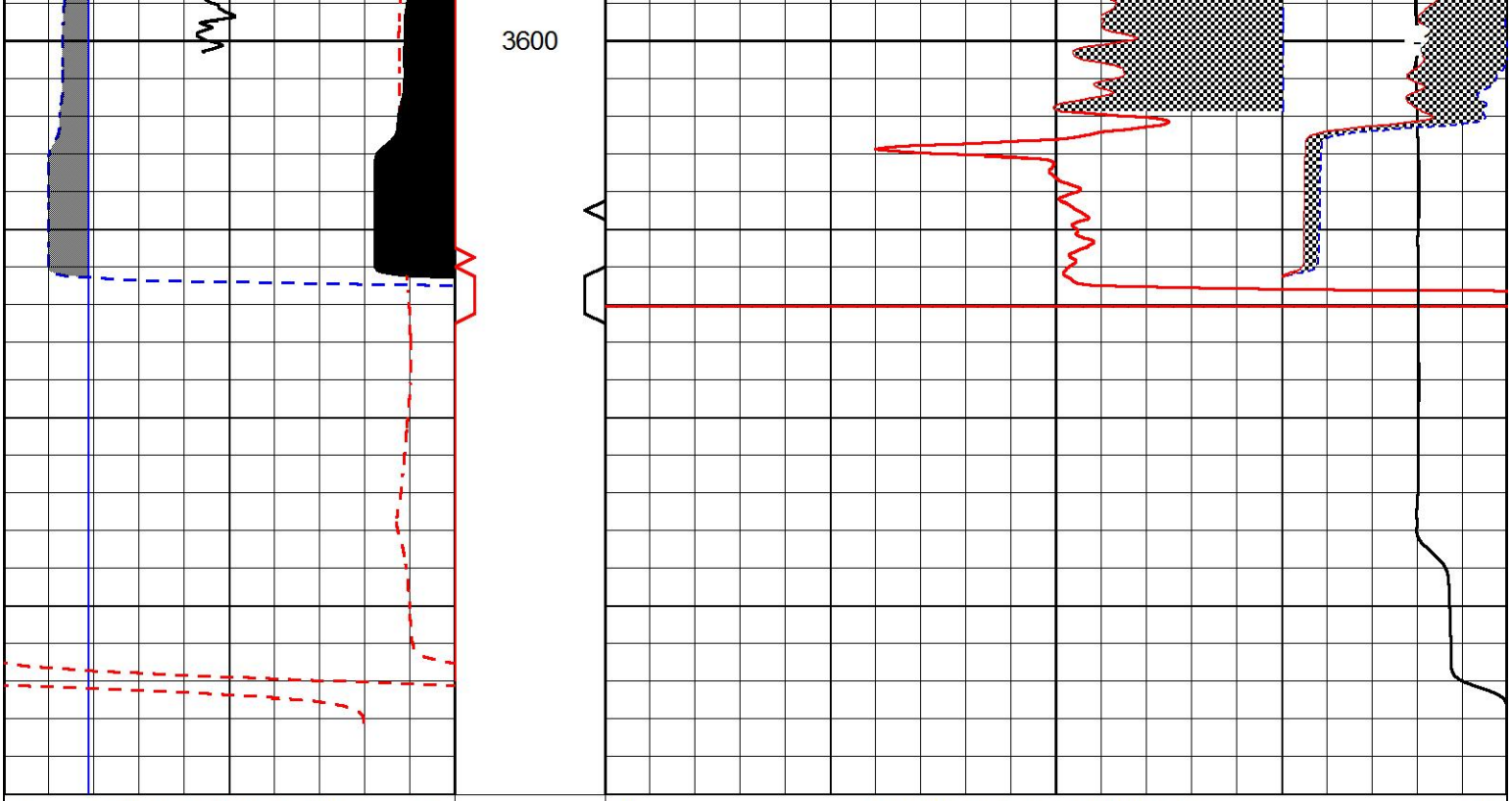

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16
6	BIT SIZE	16
-200	SP (mV)	0

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 mA) (pu)	-10
15000	LINE TENSION (lb)	0

MICRO NORMAL		
0	(Ohm-m)	20
MICRO INVERSE		
0	(Ohm-m)	20
LSPD		
(ft/min)		

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REPEAT SECTION

Database File	fg_holl_leroy_farming_trust_2_30.db
Dataset Pathname	stack/pass3.1
Presentation Format	cndlspml
Dataset Creation	Wed Nov 13 17:36:30 2019
Charted by	Depth in Feet scaled 1:240

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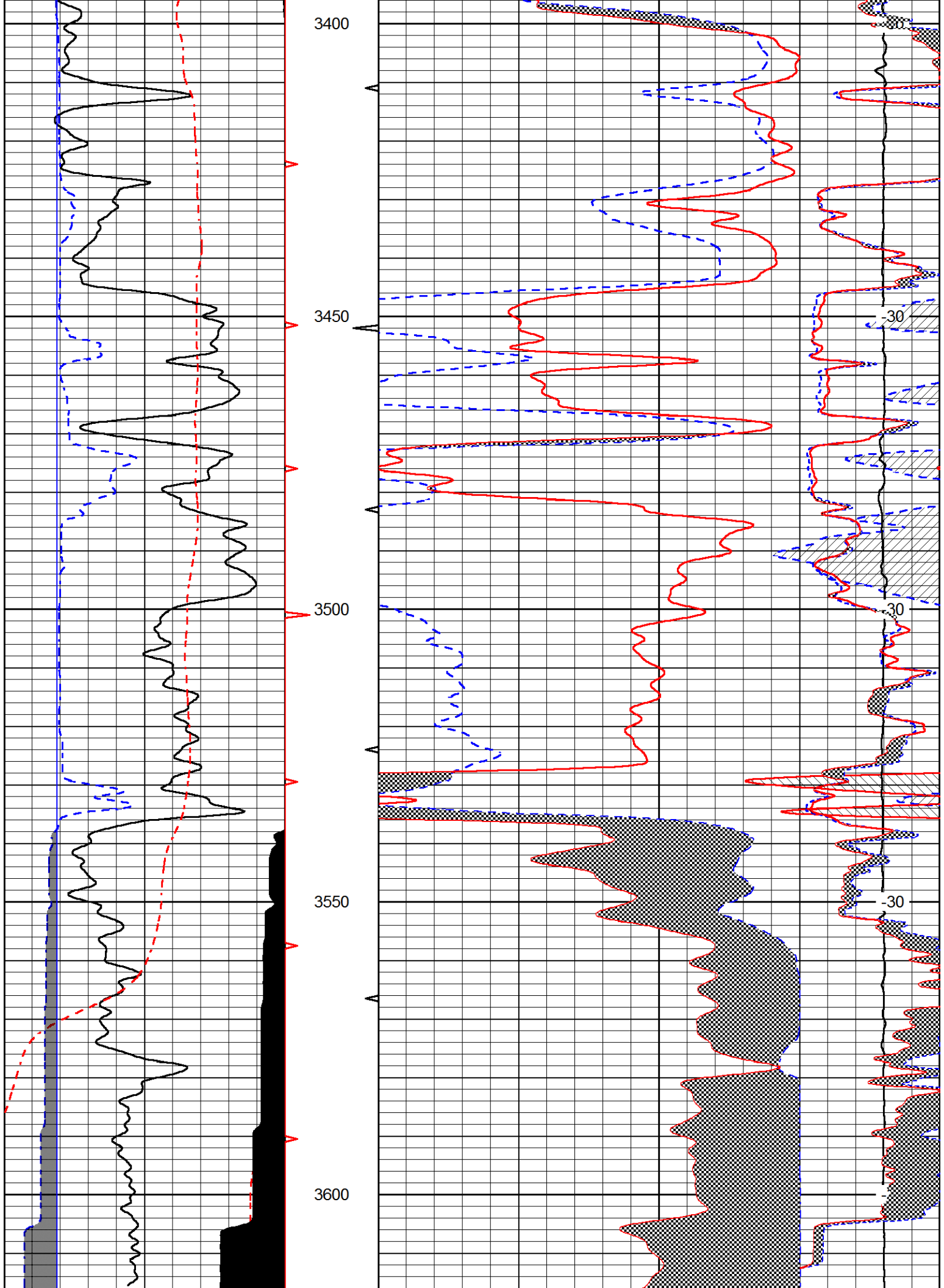
6	CALIPER (in)	16
6	BIT SIZE	16
-200	SP (mV)	0

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 mA) (pu)	-10
15000	LINE TENSION (lb)	0

MICRO NORMAL		
0	(Ohm-m)	20
MICRO INVERSE		
0	(Ohm-m)	20
LSPD		
(ft/min)		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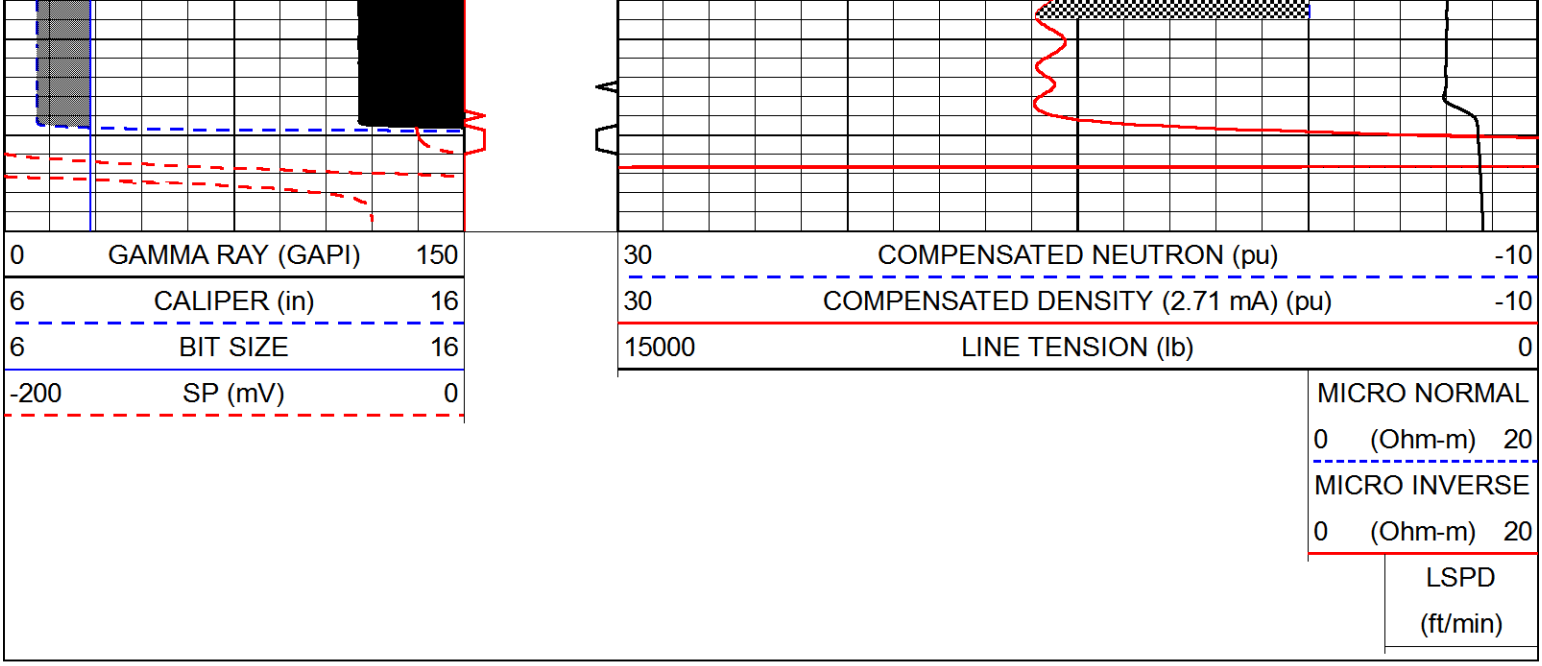

Calibration Report

Database File	fg_holl_leroy_farming_trust_2_30.db
Dataset Pathname	stack/pass4.1
Dataset Creation	Wed Nov 13 18:37:58 2019

Dual Induction Calibration Report

Serial-Model:	55-222-M&W
Calibration Performed:	Sun Oct 27 17:18:15 2019

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.510	-41.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.360	-15.000

Compensated Density Calibration Report

Serial-Model:	979-229-M&W
Source / Verifier:	21170B /
Master Calibration Performed:	Tue Jul 23 10:17:03 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	7680.82	9959.08	cps
Aluminum	2.690	g/cc	1424.07	6427.19	cps

Spine Angle = 75.43

Density/Spine Ratio = 0.537

	Size		Reading
Small Ring	4.00	in	1.15
Large Ring	14.00	in	1.02

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 17:08:01 2017	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

PIONEER
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Company	F.G. HOLL COMPANY, LLC
Well	LEROY FARMING TRUST #2-30
Field	WILDCAT
County	BARTON
State	KANSAS