56 ARM IMAGING CALIPER LOG

Company SOUTHERN CALIFORNIA GAS COMPANY
Well FERNANDO FEE 32A
Field ALISO CANYON
County LOS ANGELES
State CALIFORNIA

Company SOUTHERN CALIFORNIA GAS COMPANY
Well FERNANDO FEE 32A
Field ALISO CANYON
County LOS ANGELES
State CALIFORNIA

Location: API # : 04-037-21872

SEC 27 TWP 03N RGE 16W

Other Services
HRVRT

Elevation
K.B. 2013.9
D.F. 2012.9
G.L. 1995

Permanent Datum	GROUND LEVEL	Elevation 1995
Log Measured From	KB	
Drilling Measured From	KB	

Date	03/30/2016
Run Number	1
Service Order	US106646
Depth Driller	7500
Depth Logger	7086
Bottom Logged Interval	7081
Top Log Interval	SURFACE
Type Fluid	KCL
Density / Viscosity	8.6
Max. Recorded Temp.	N/A
Estimated Cement Top	N/A
Time Well Ready	10:30
Time Logger on Bottom	1500
Equipment Number	4243
Location	OKC, OK
Recorded By	B. DEAL/T. ENGLEHART
Witnessed By	T. MCMAHON

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	13.375	54.5	SURFACE	990
Prot. String				
Production String	8.625	36	SURFACE	7022
Liner	7.0	26	6566	7250

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In making interpetations of logs, our employees will give the customer the benefit of their best judgement. But since all interpetations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

Comments

LOG TIED INTO SLB CCL RAN MARCH 30, 2016

LOGGING SPEED 30 FT/MIN

REPEATED DEFECTS FROM 6000' - 5800'
RELOGGED 8 5/8" CASING FOR CONFIRMATION

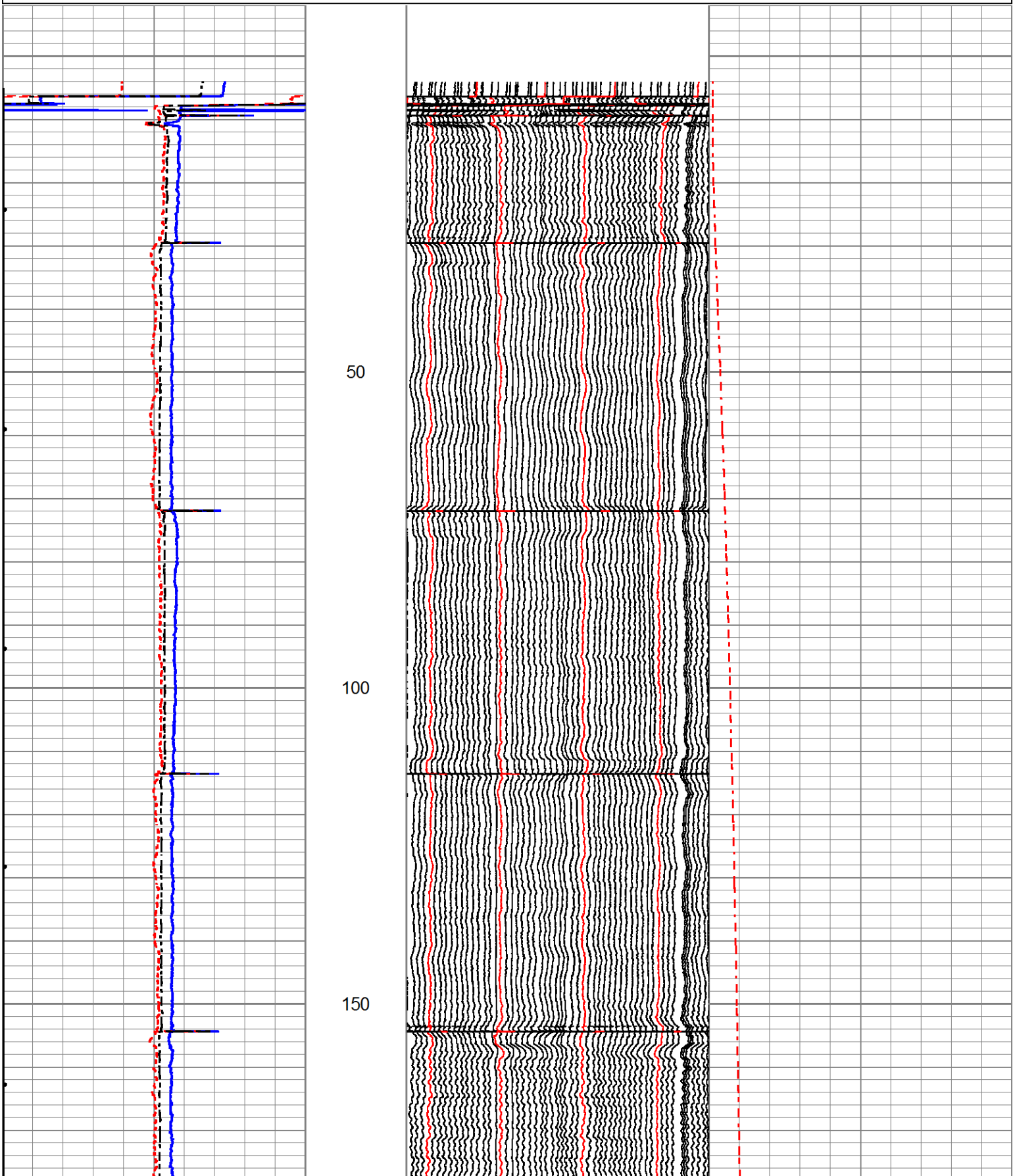
8 5/8" MAIN PASS

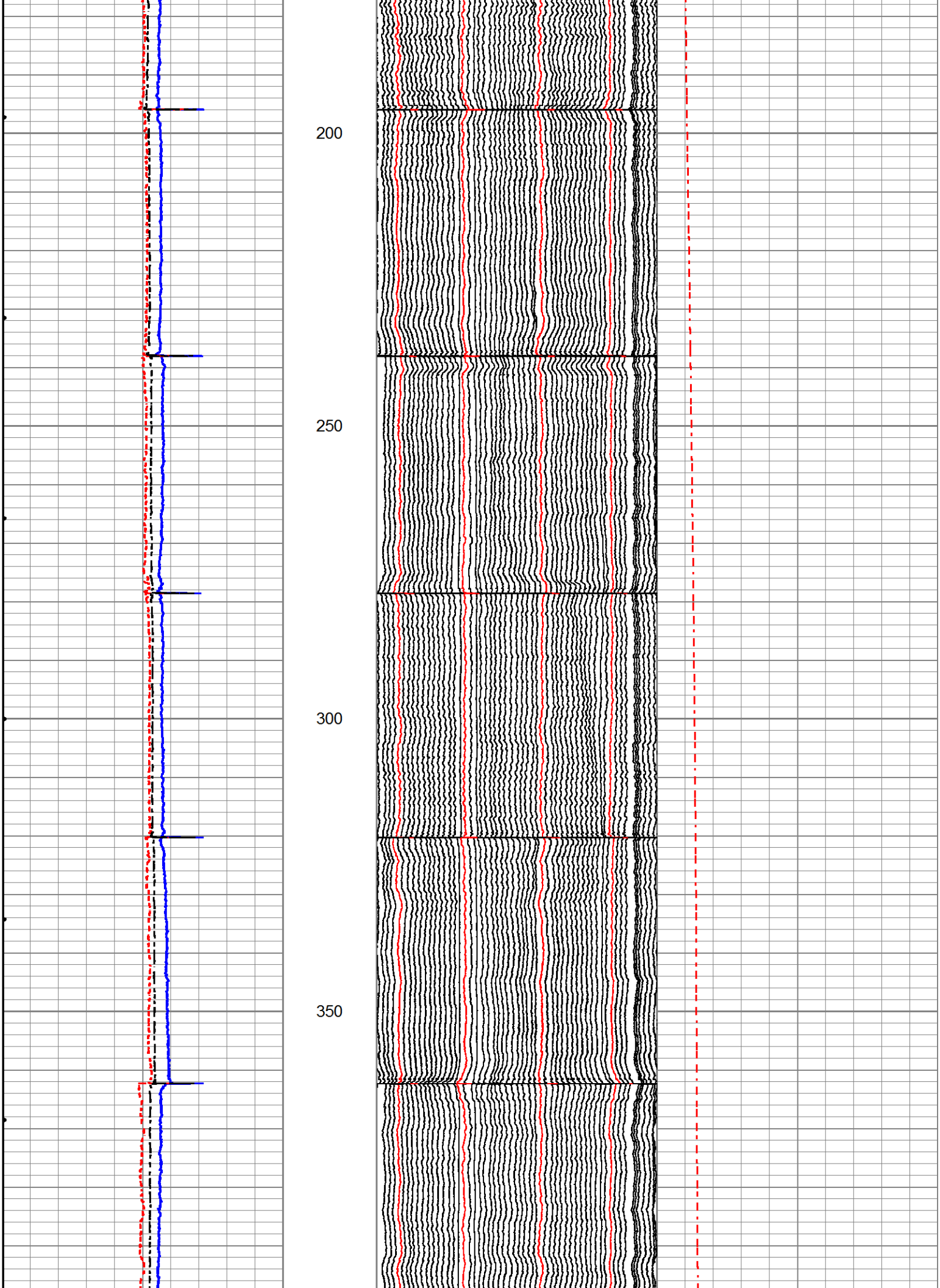
Database File	fernando_fee_32a.db
Dataset Pathname	merge1
Presentation Format	56_858_36
Dataset Creation	Fri Apr 01 09:14:52 2016
Charted by	Depth in Feet scaled 1:240

6.825	Max ID (in)	8.825
6.825	Min ID (in)	8.825
6.825	IDAV (in)	8.825

56 RADII .05" INC.

70 WTEMP (degF) 170

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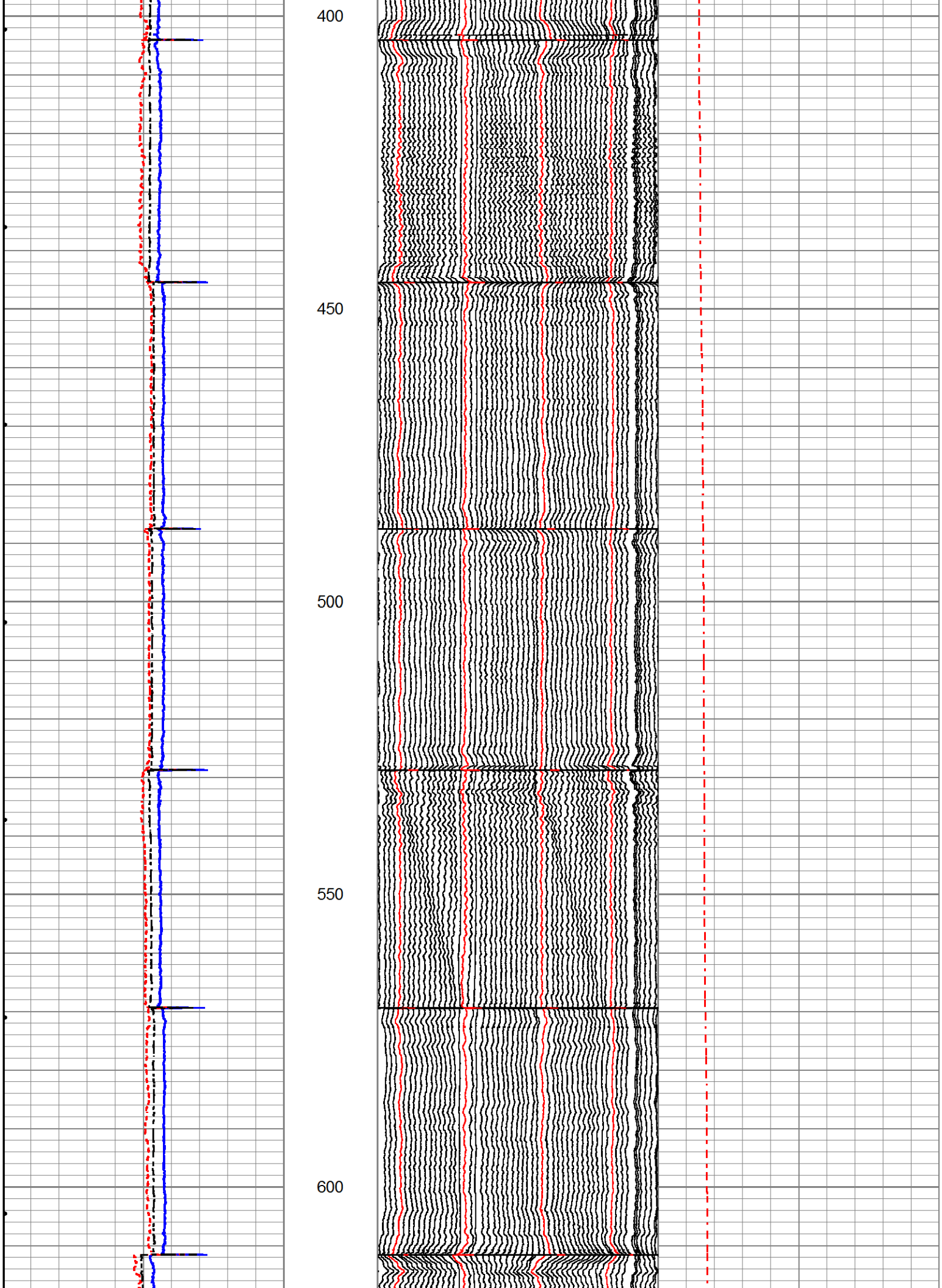
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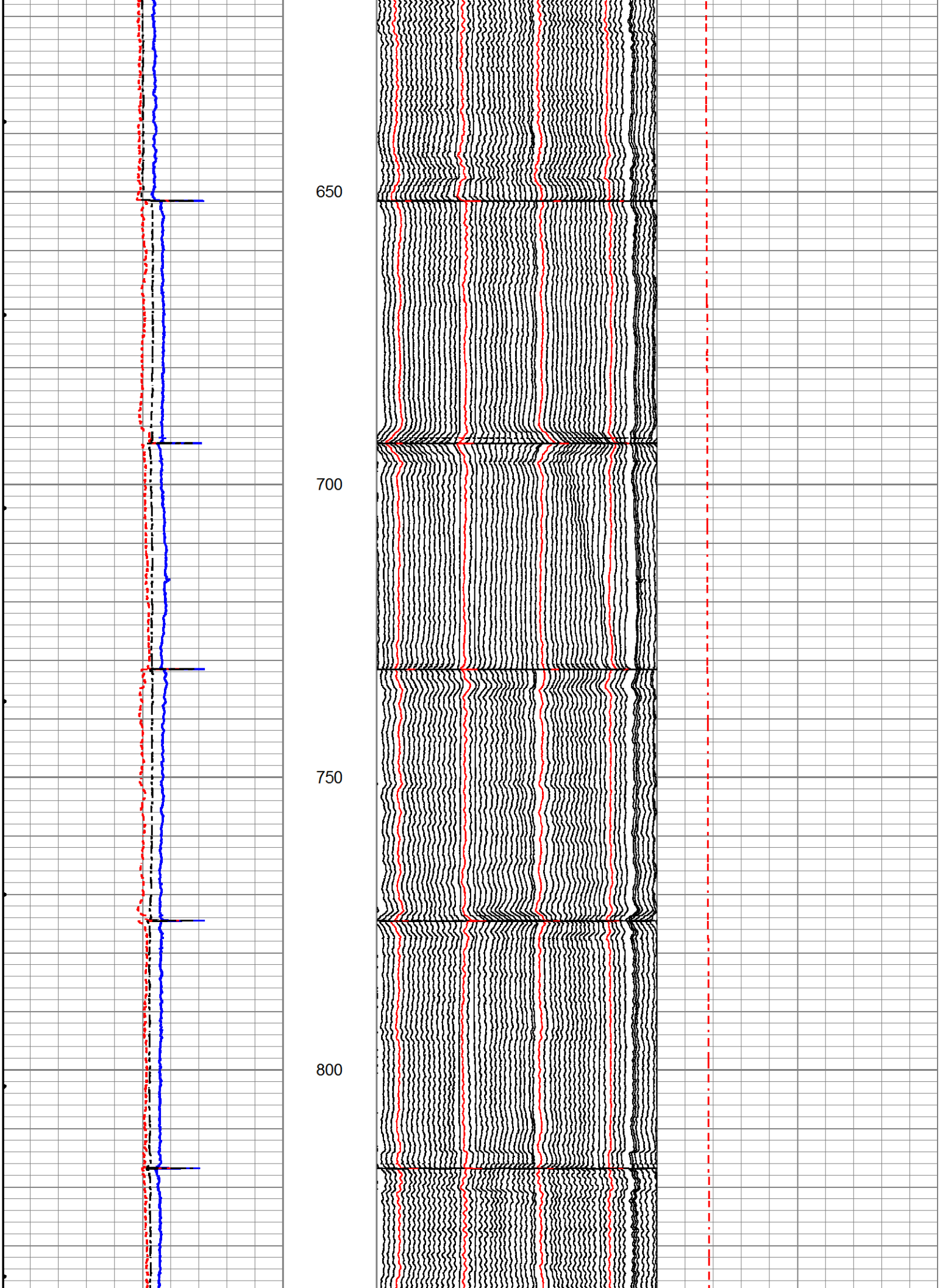
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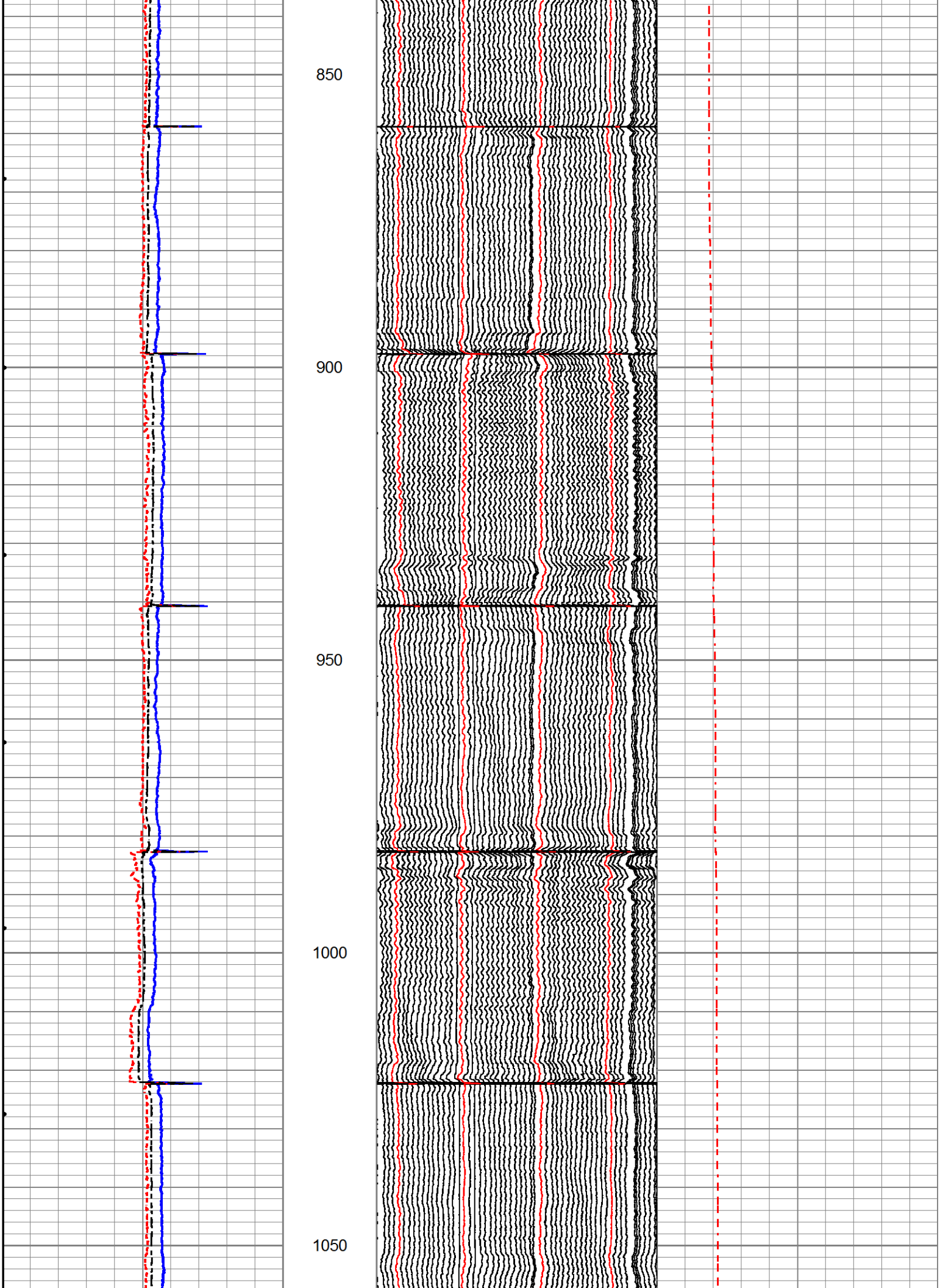
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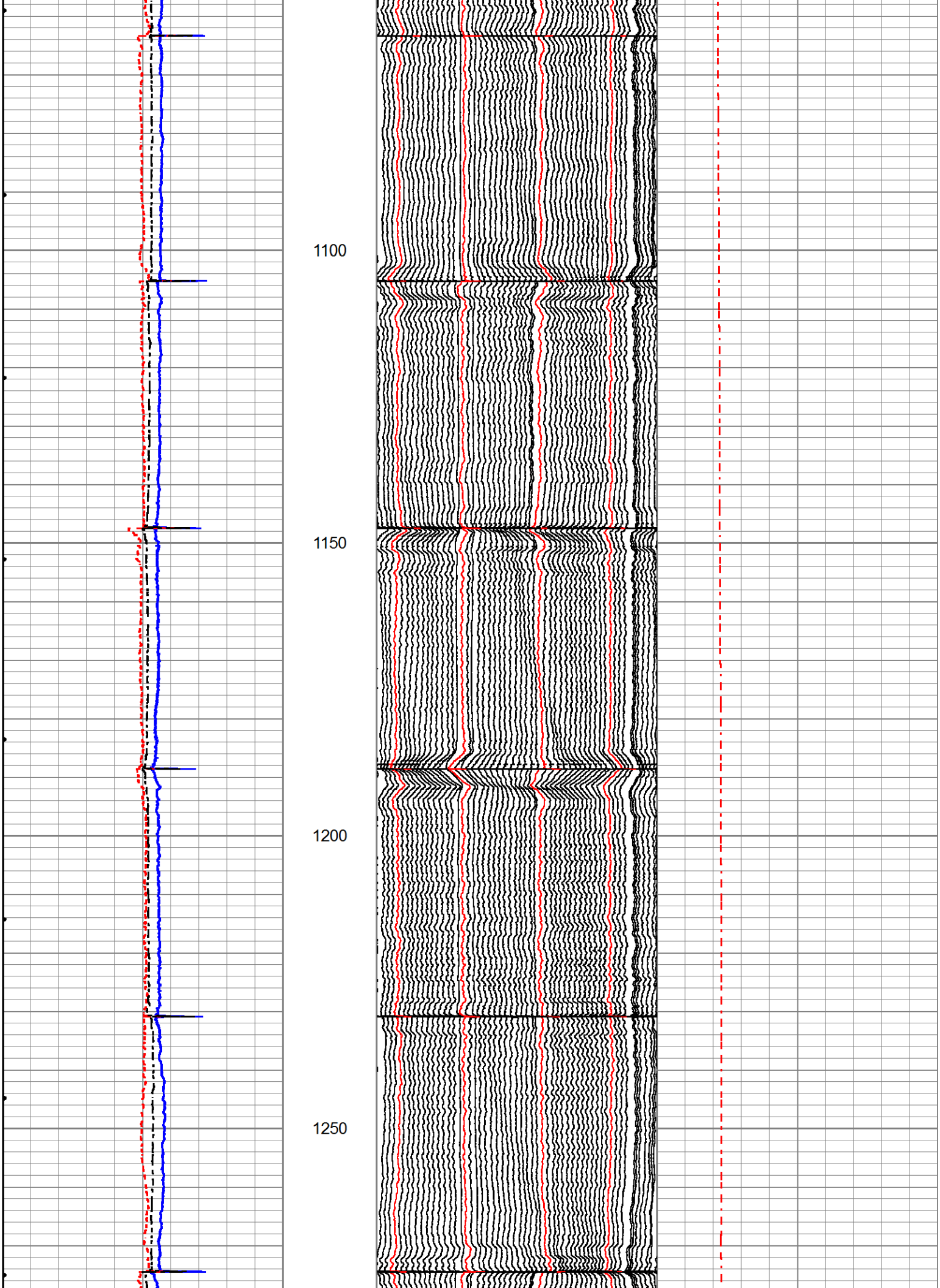
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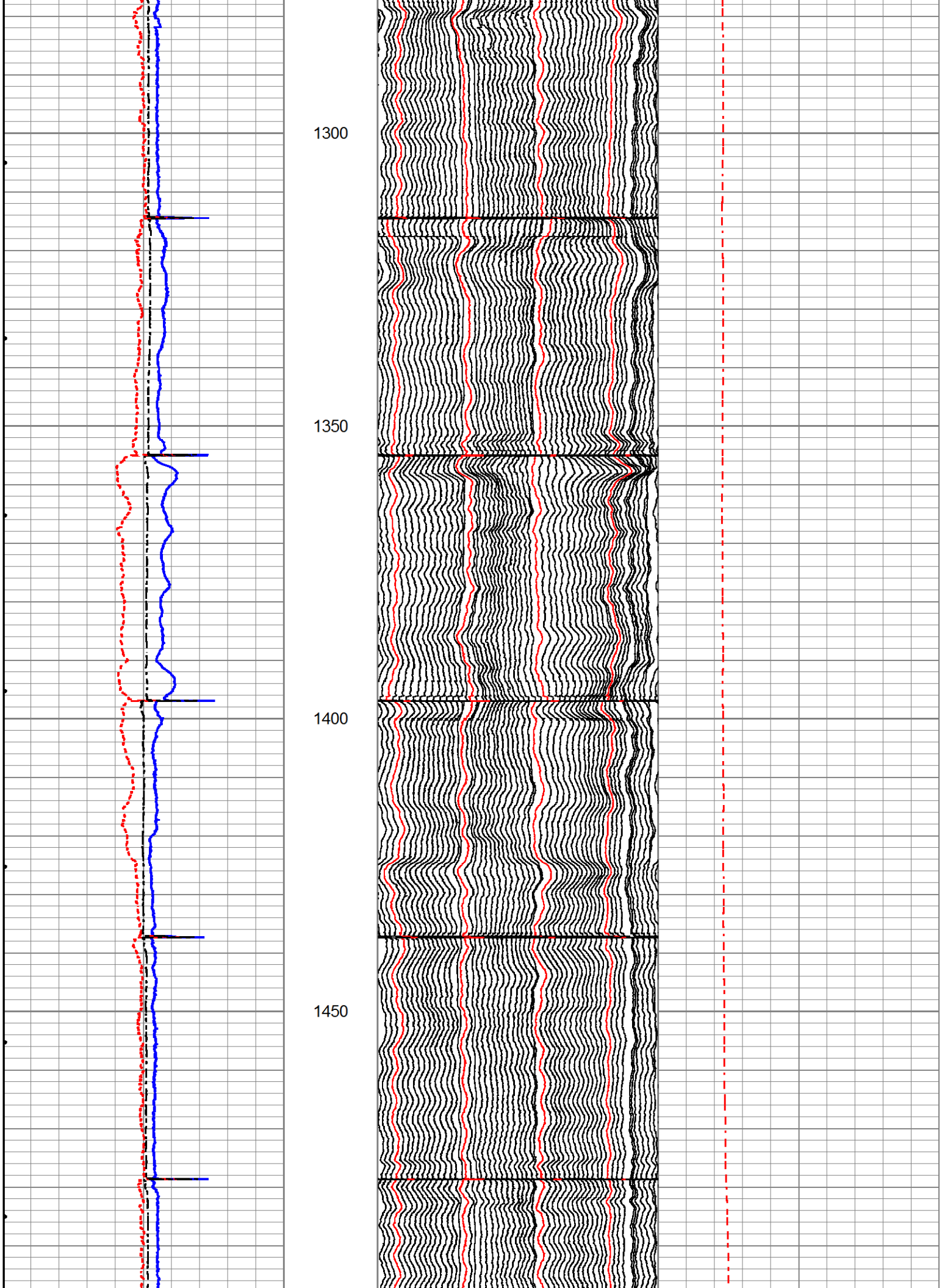
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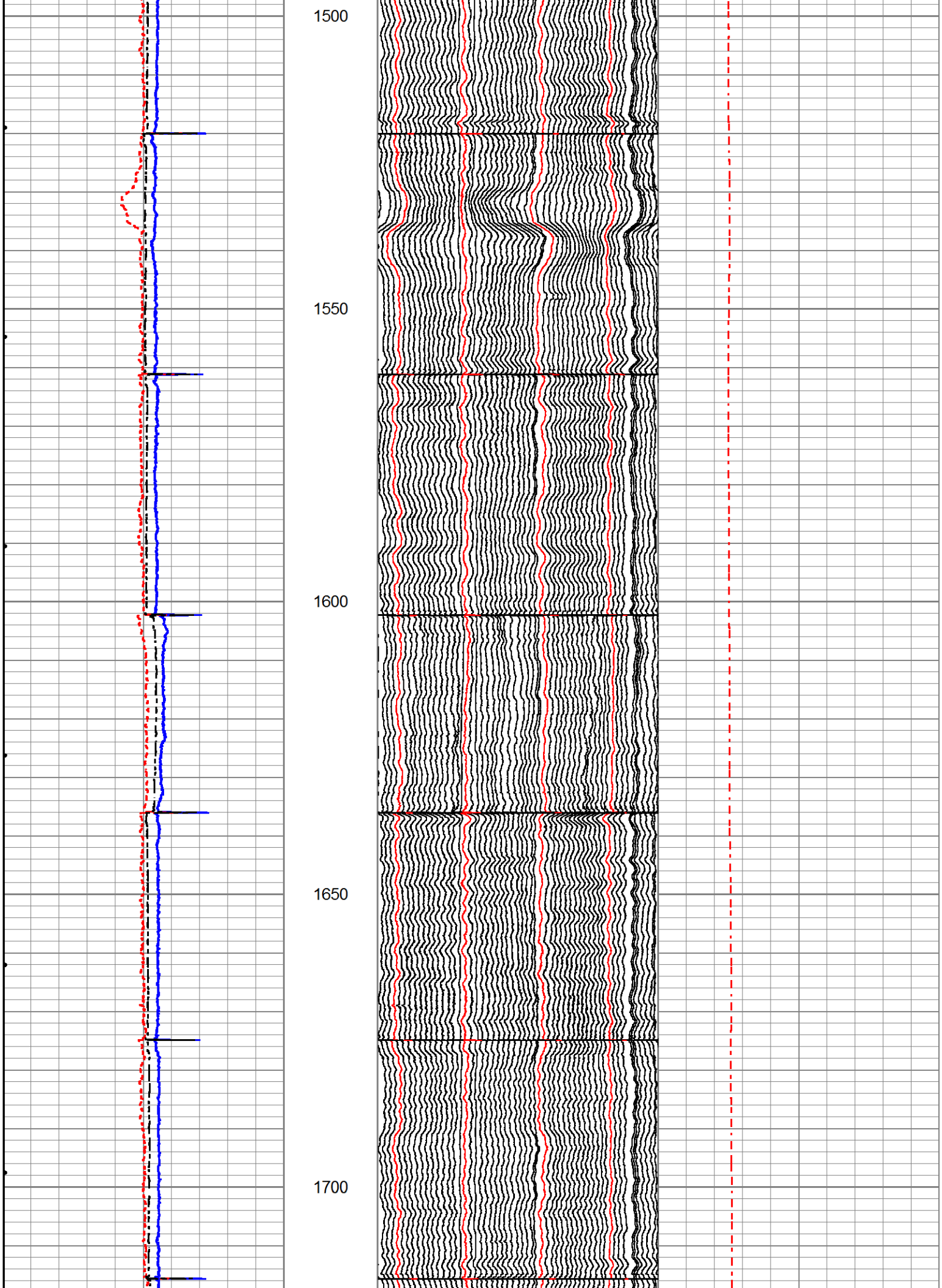
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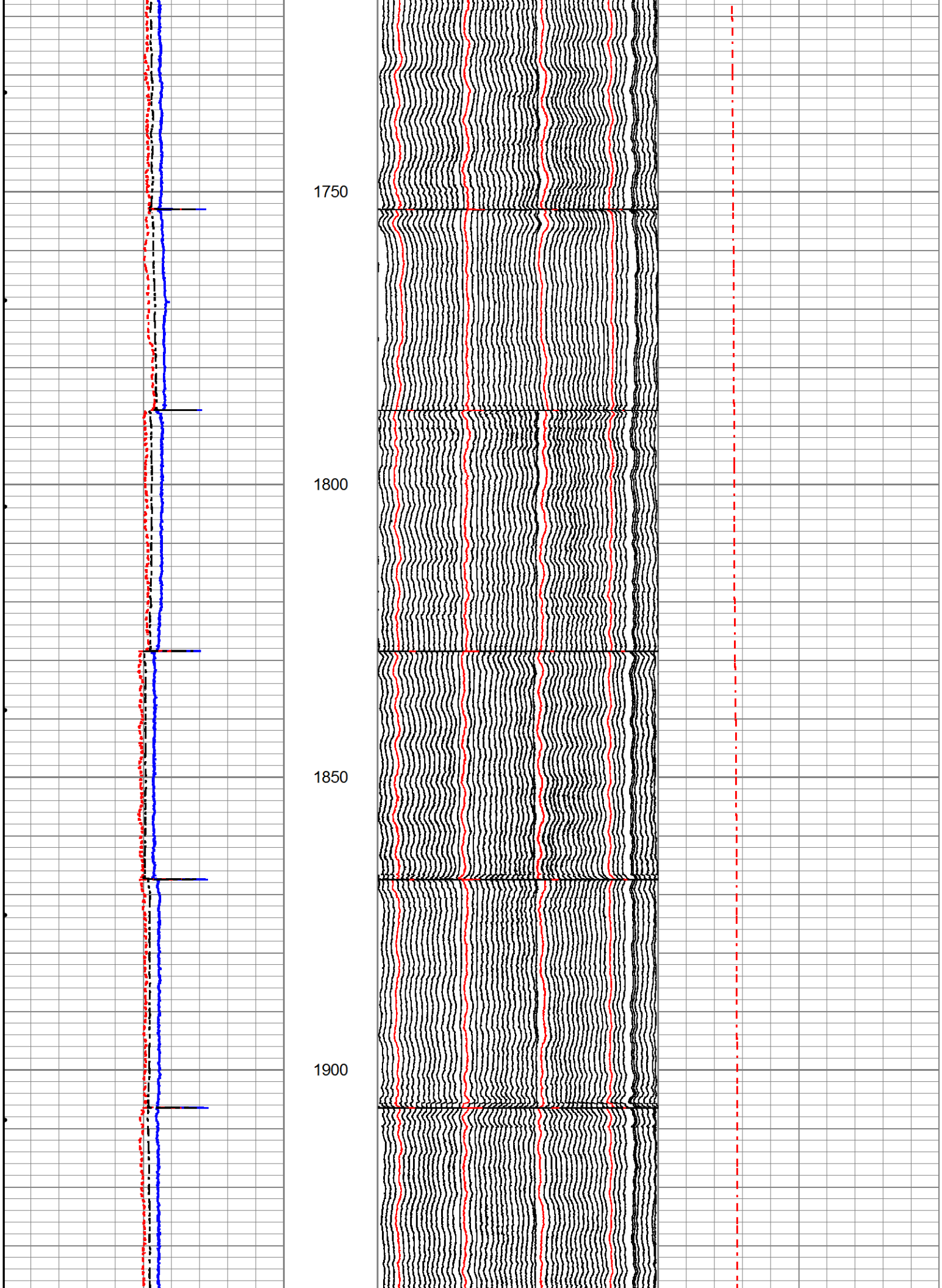
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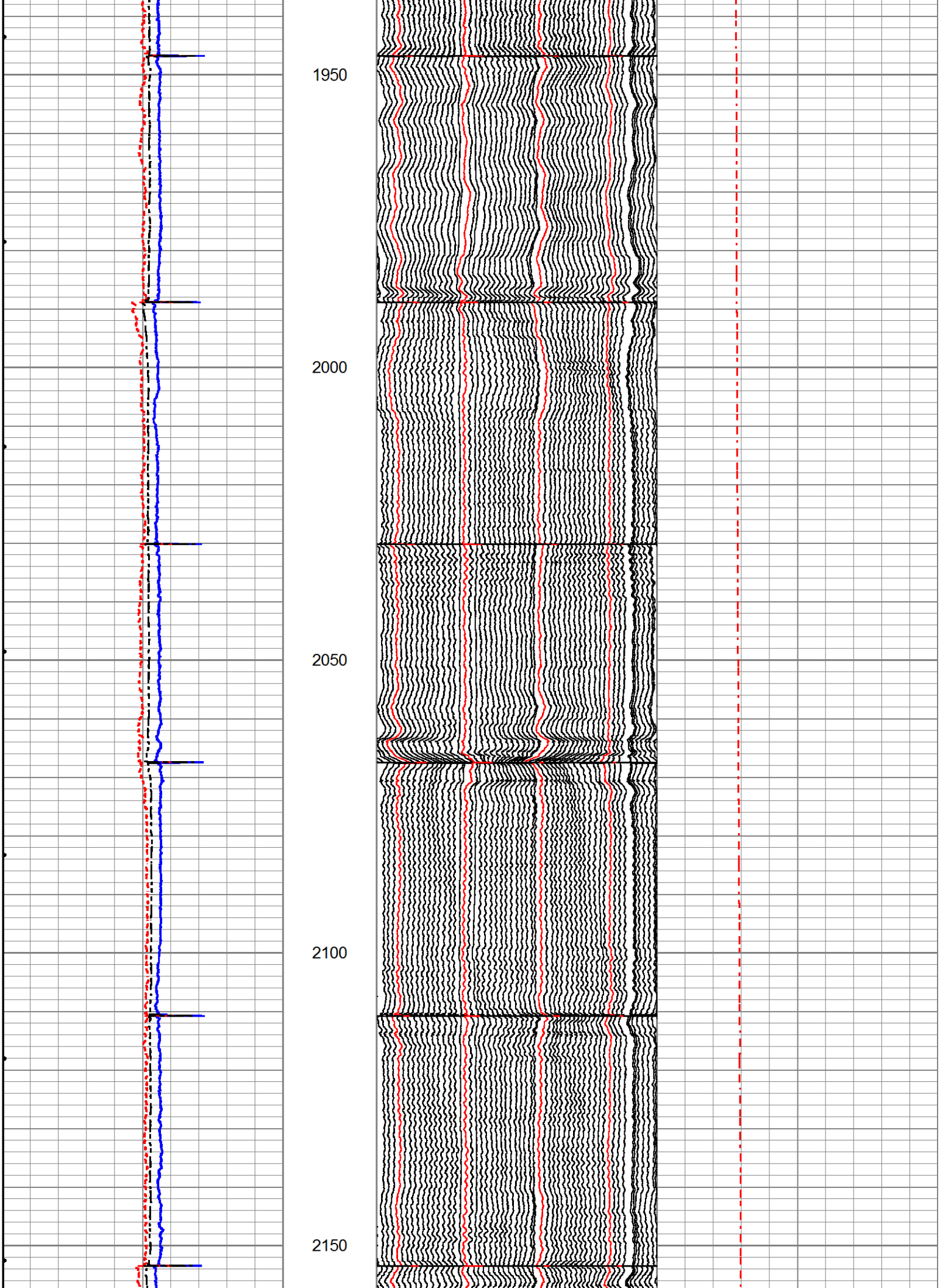
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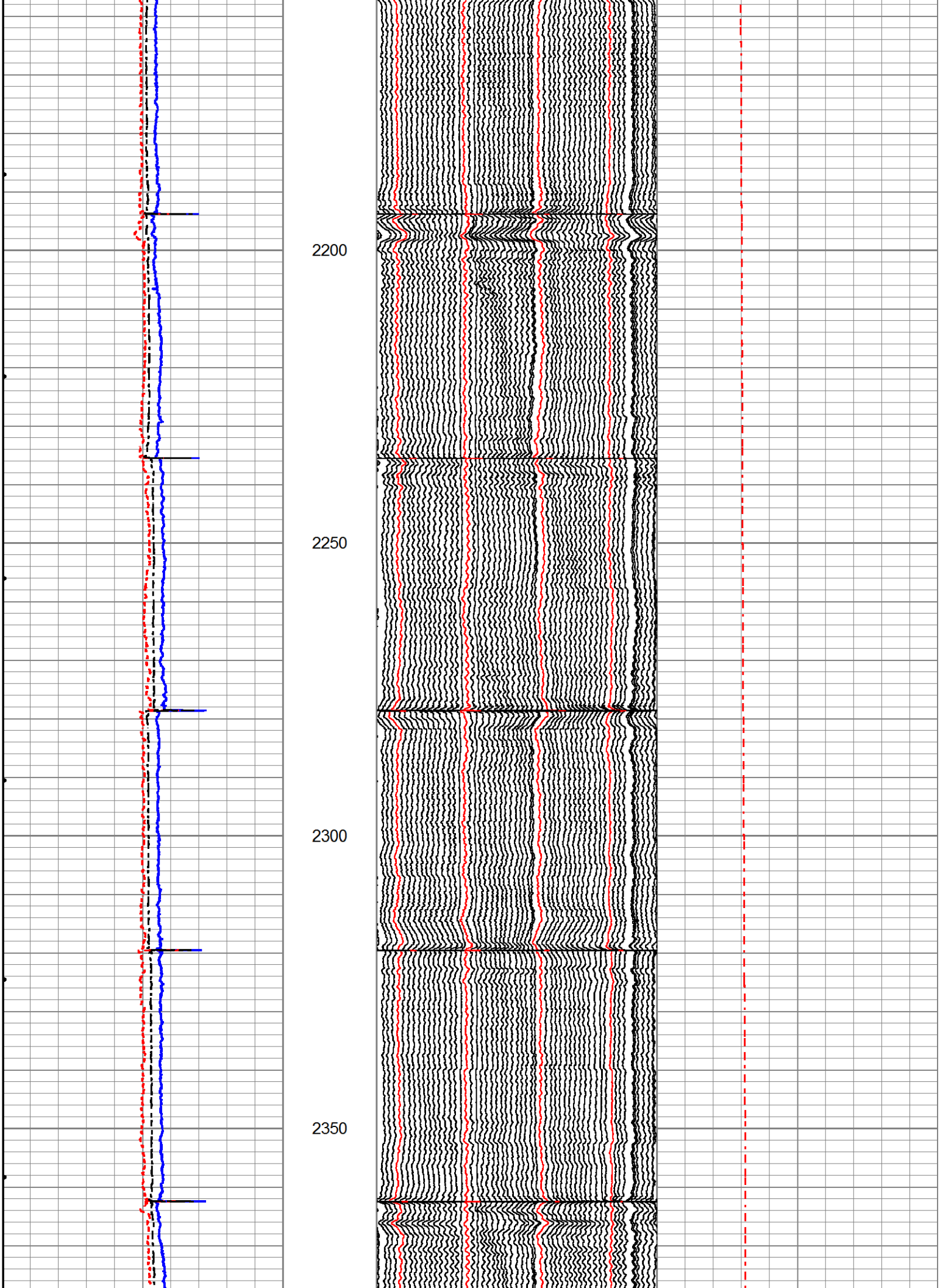
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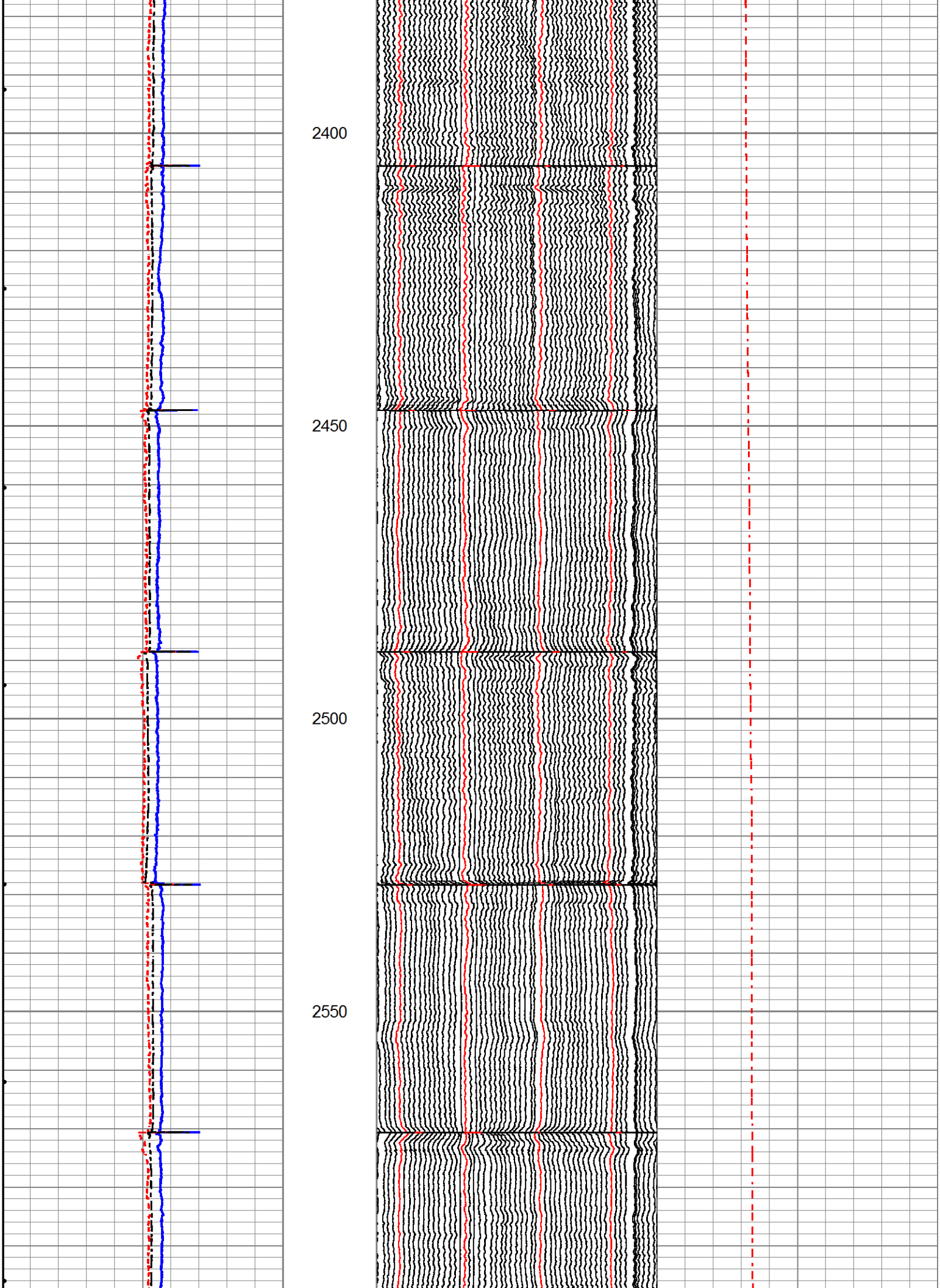
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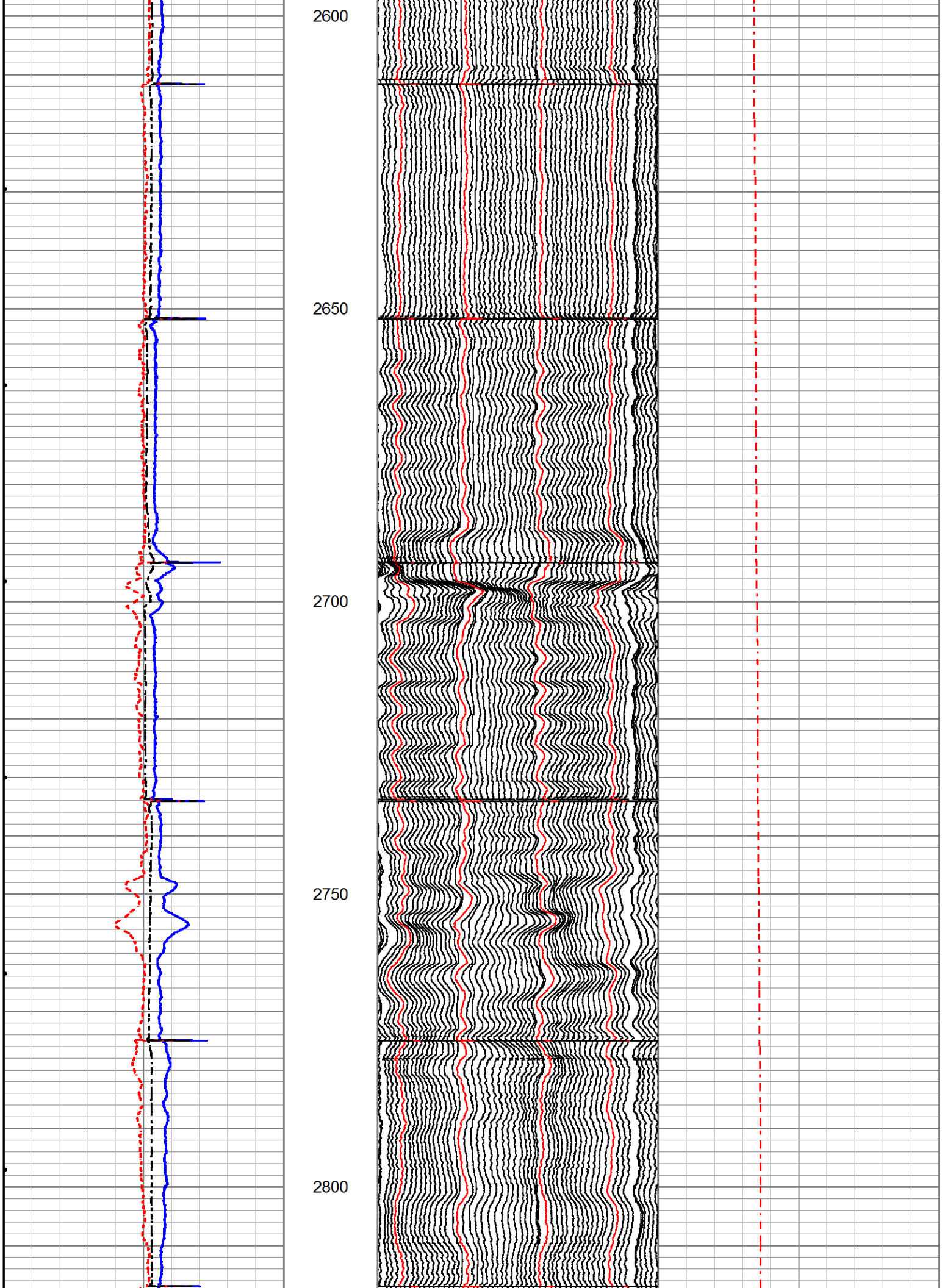
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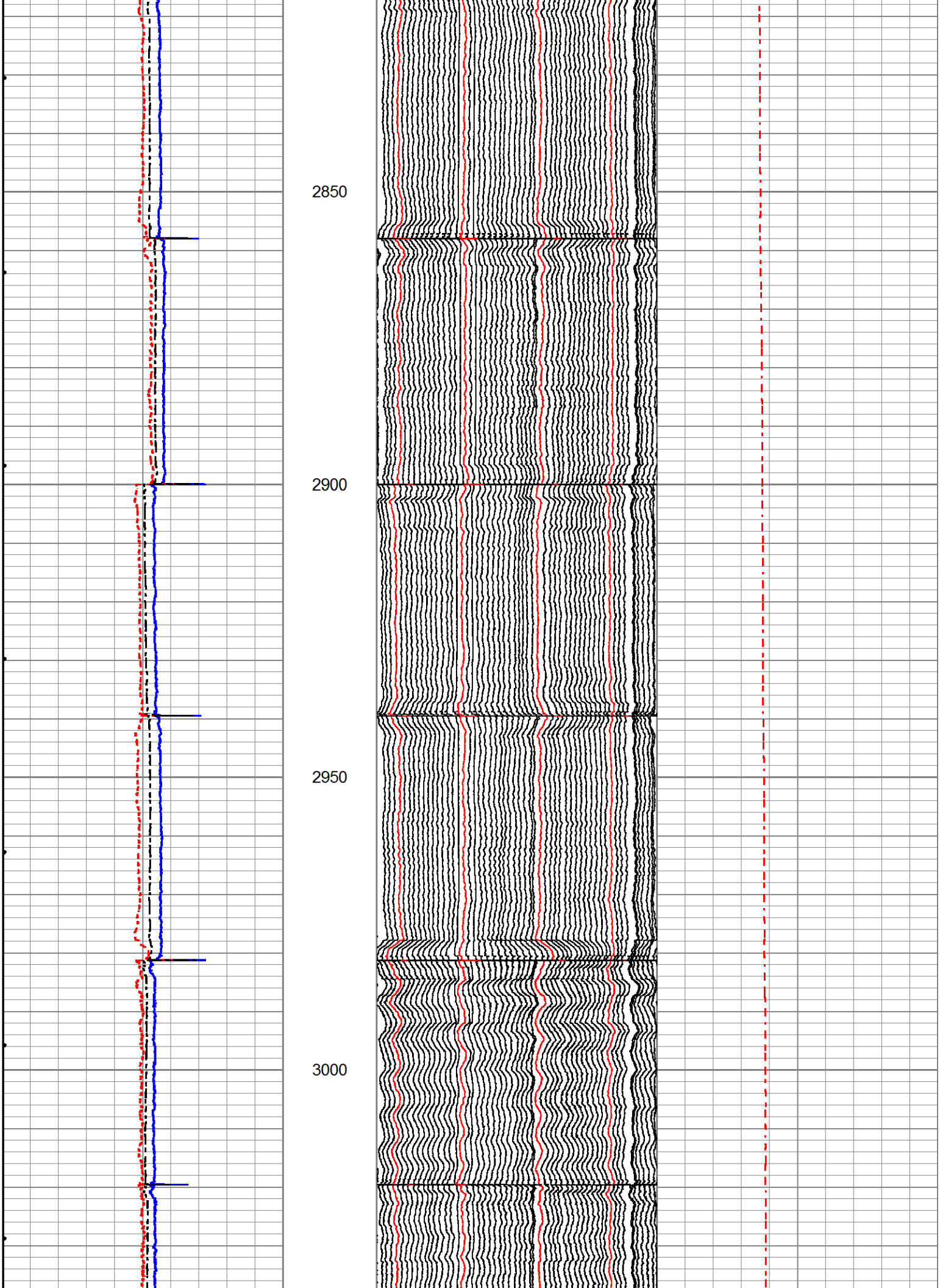
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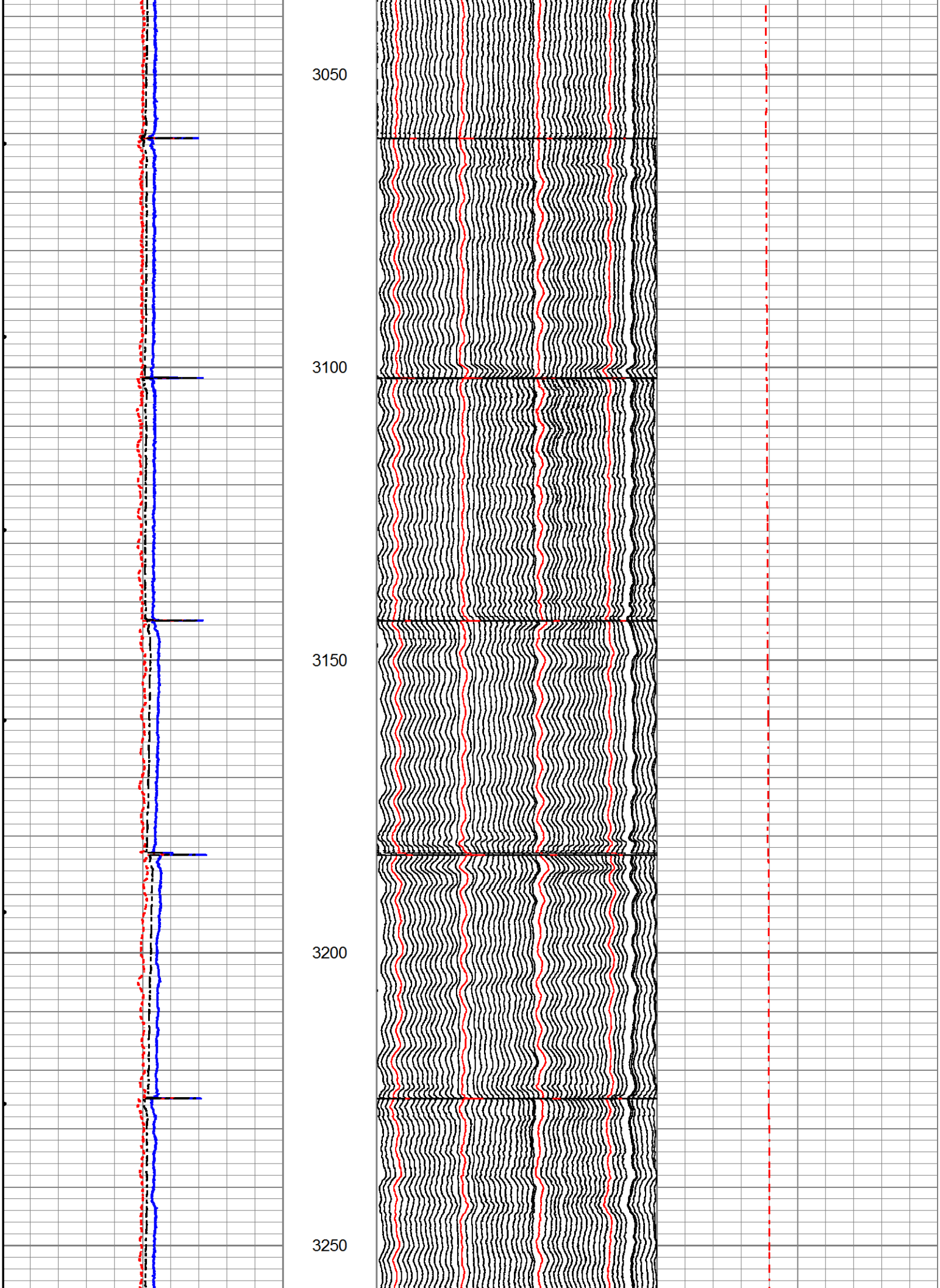
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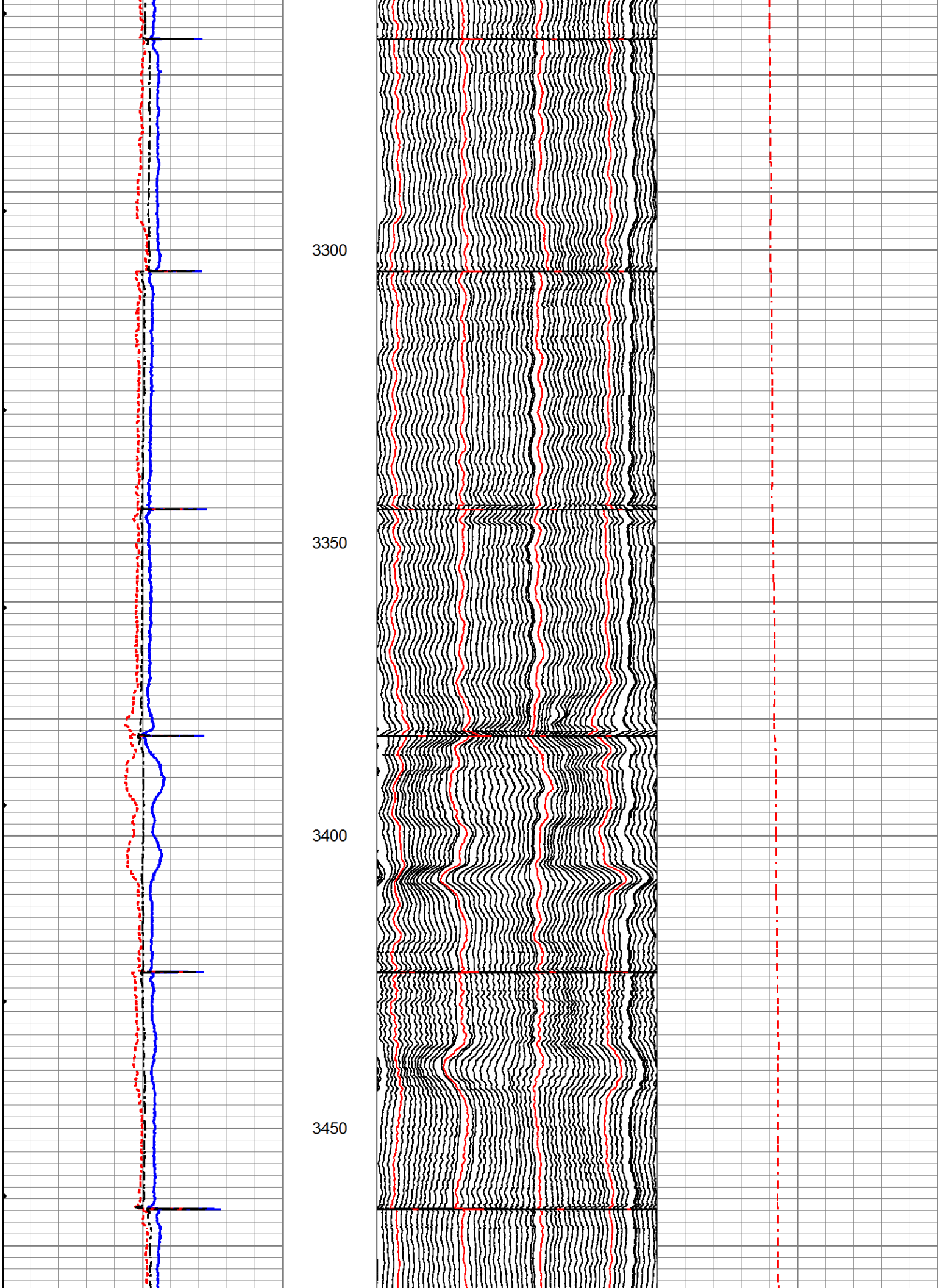
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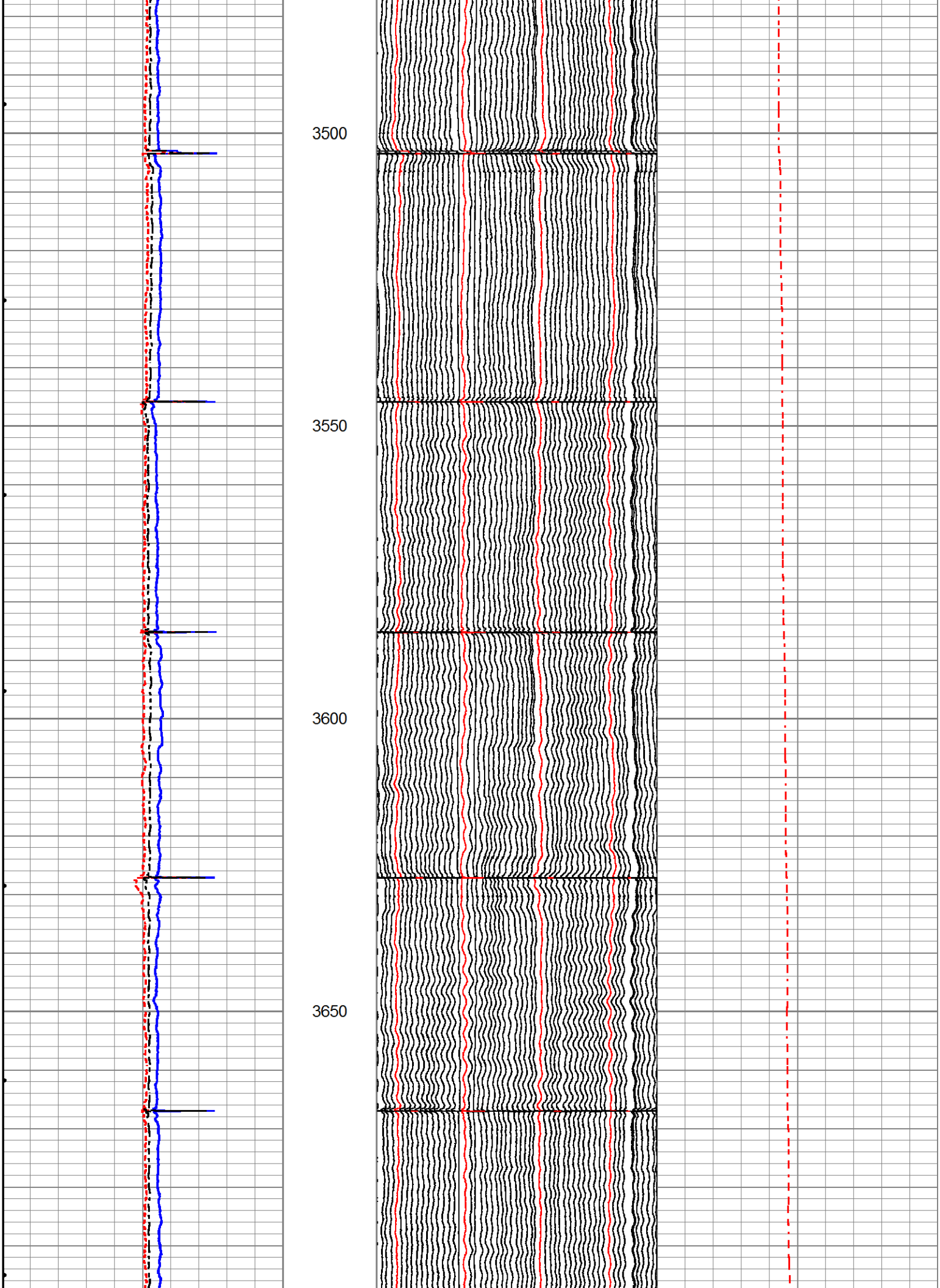
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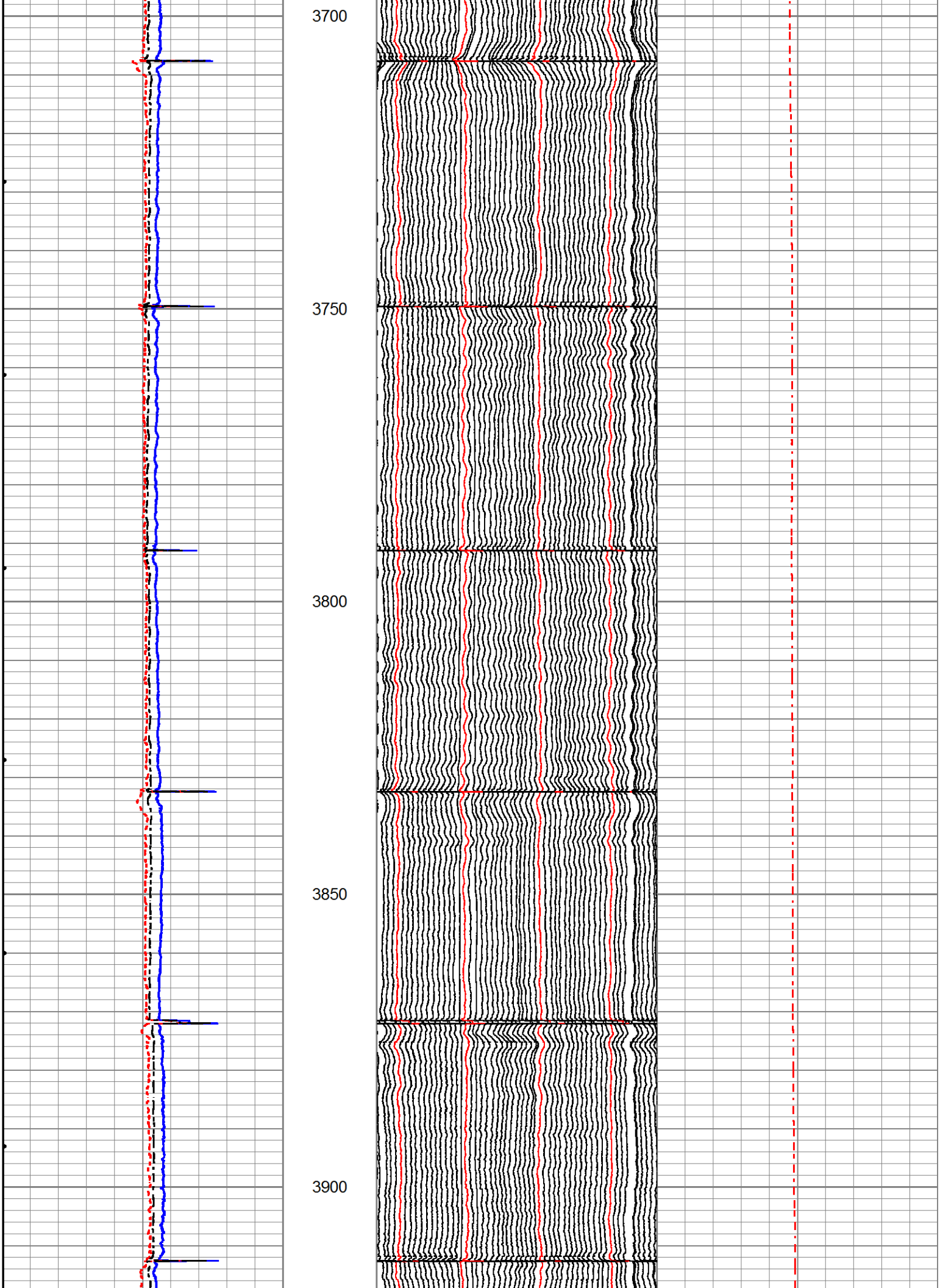
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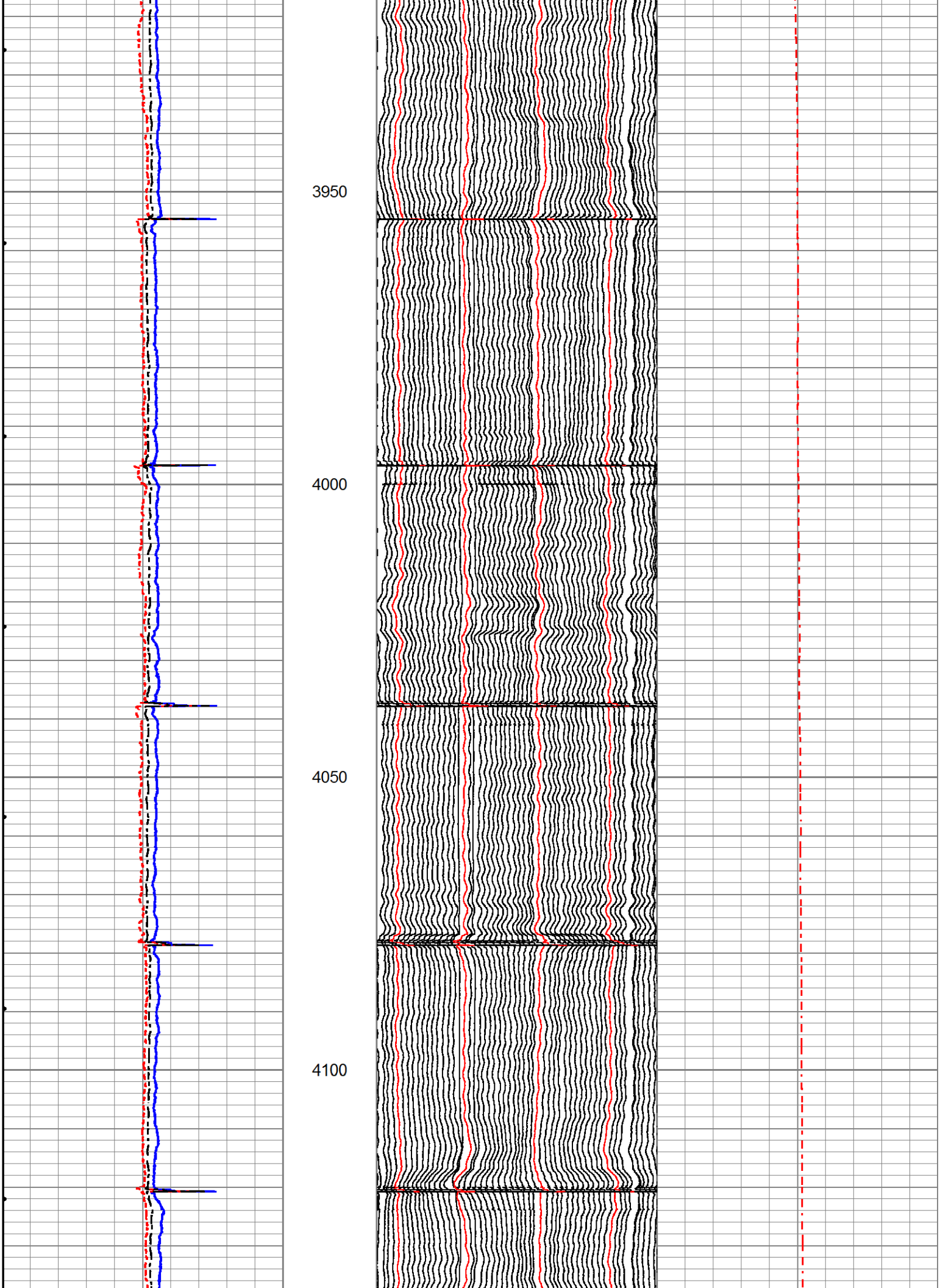
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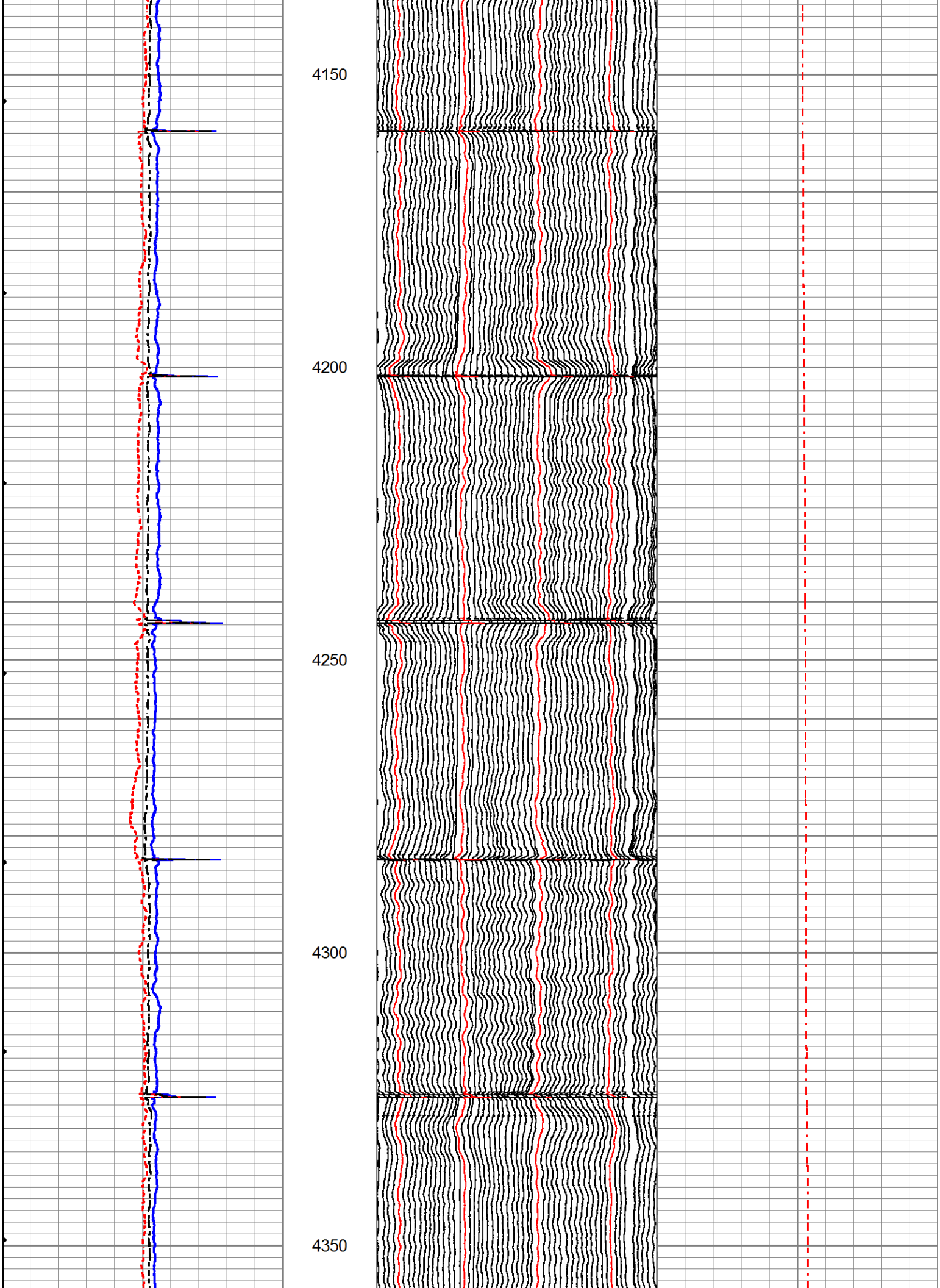
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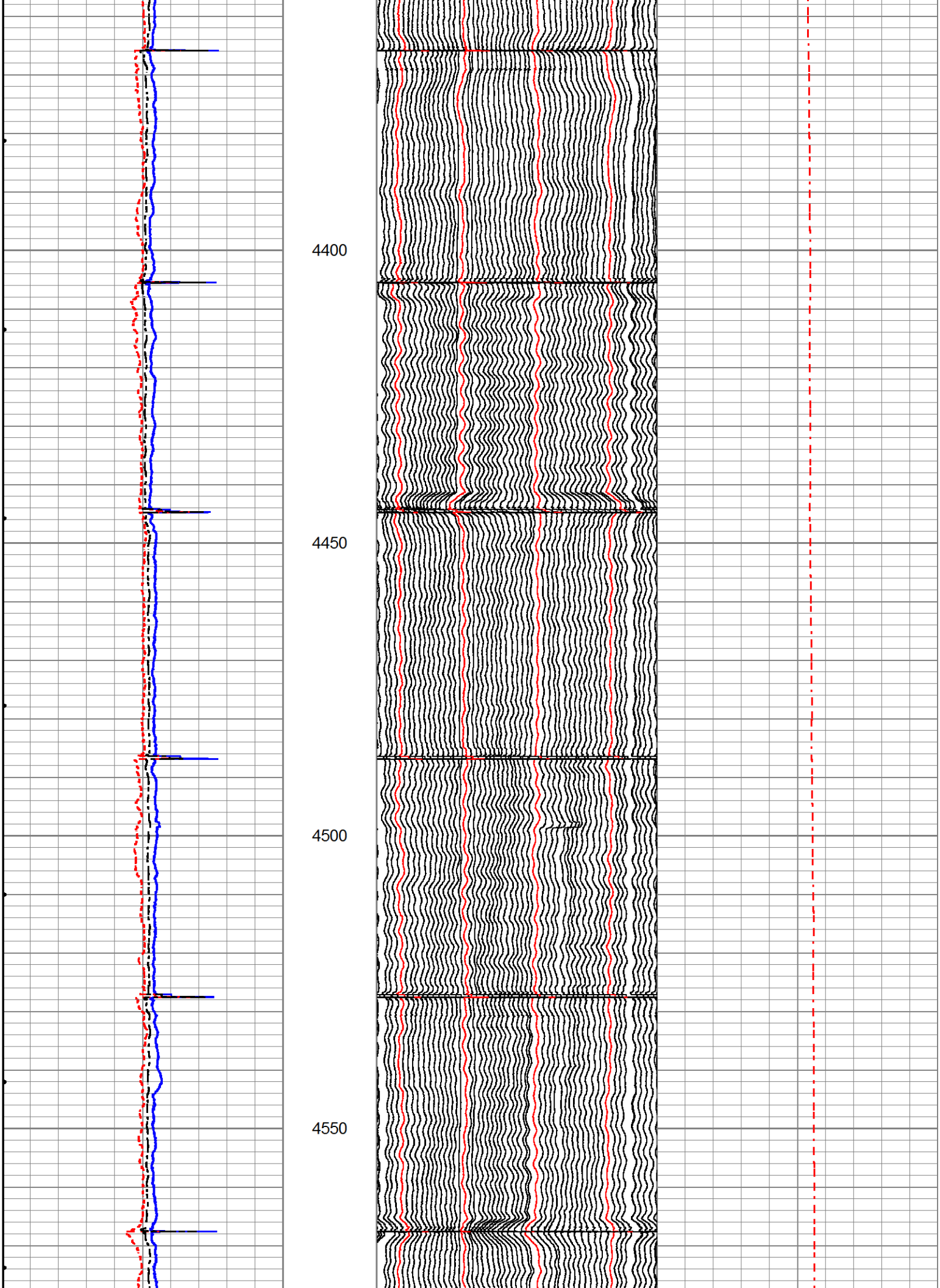
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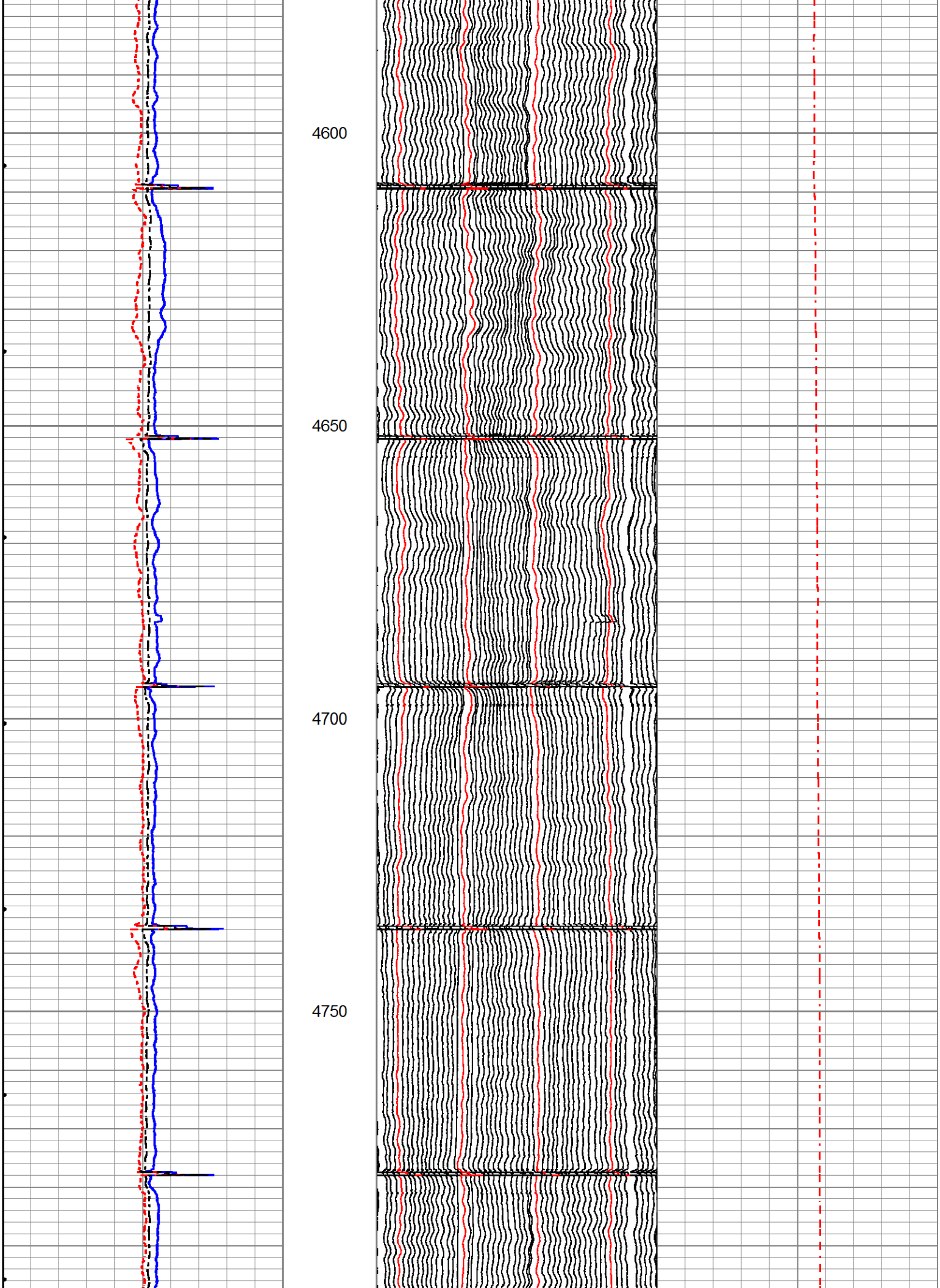
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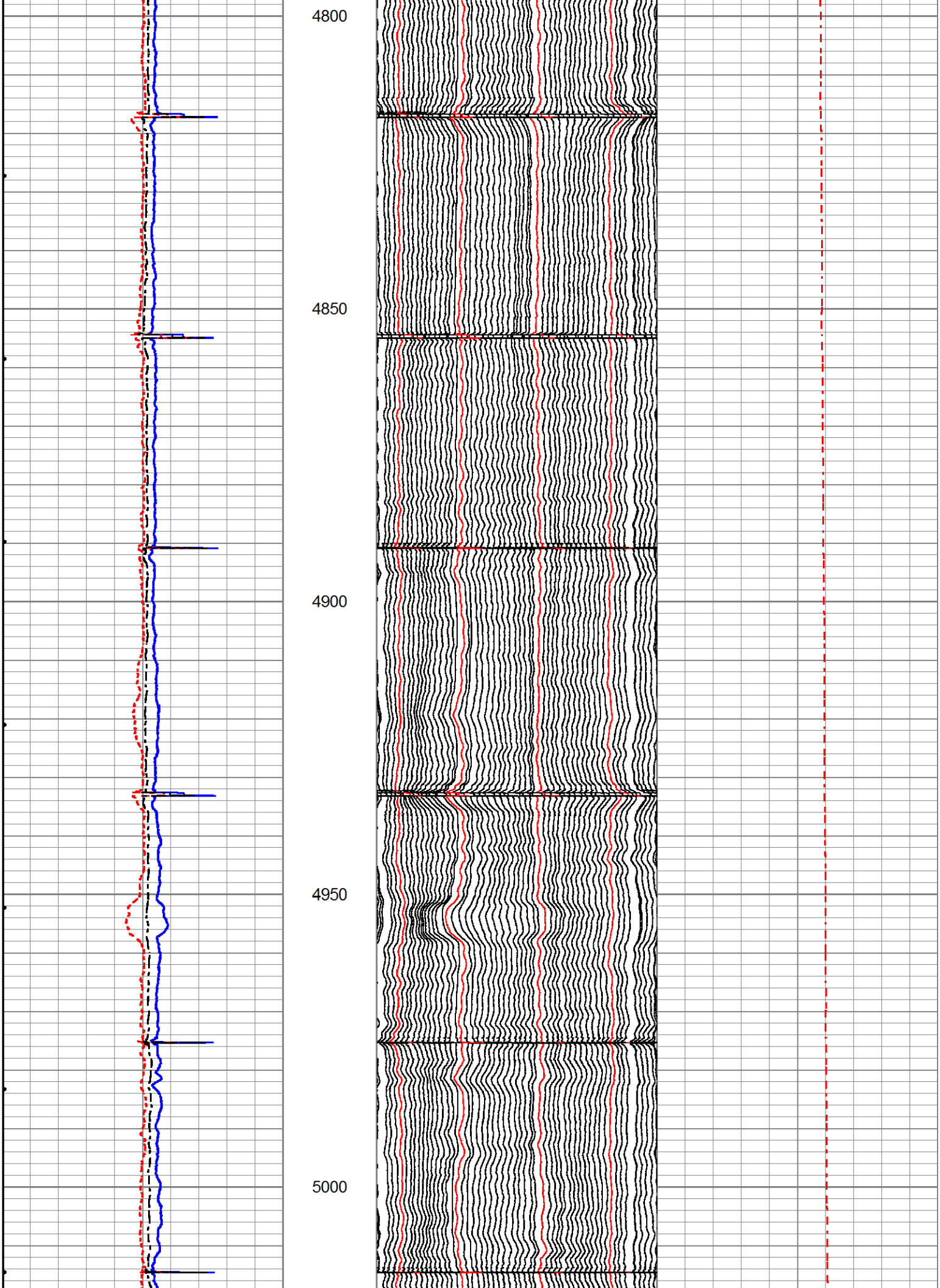
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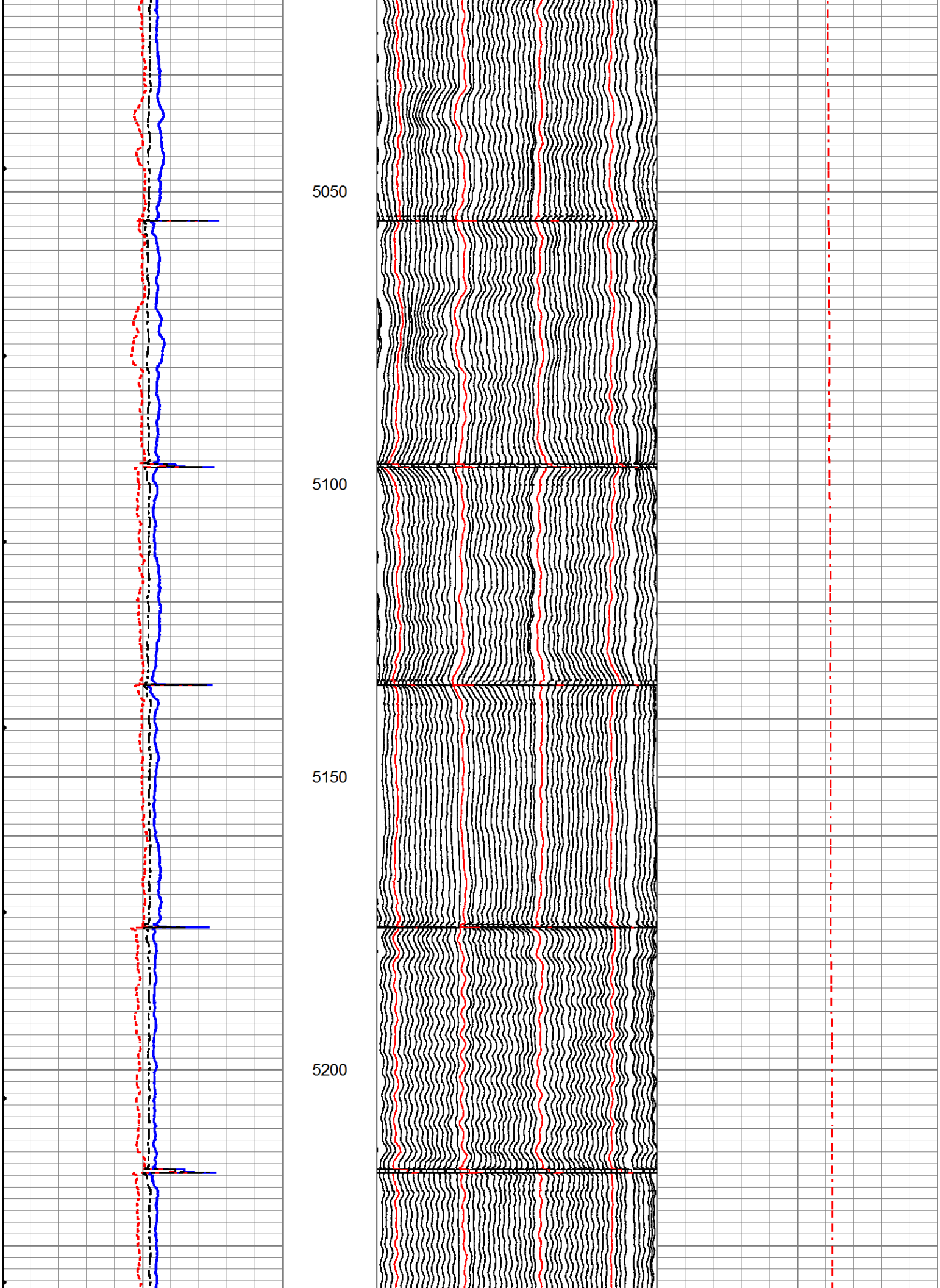
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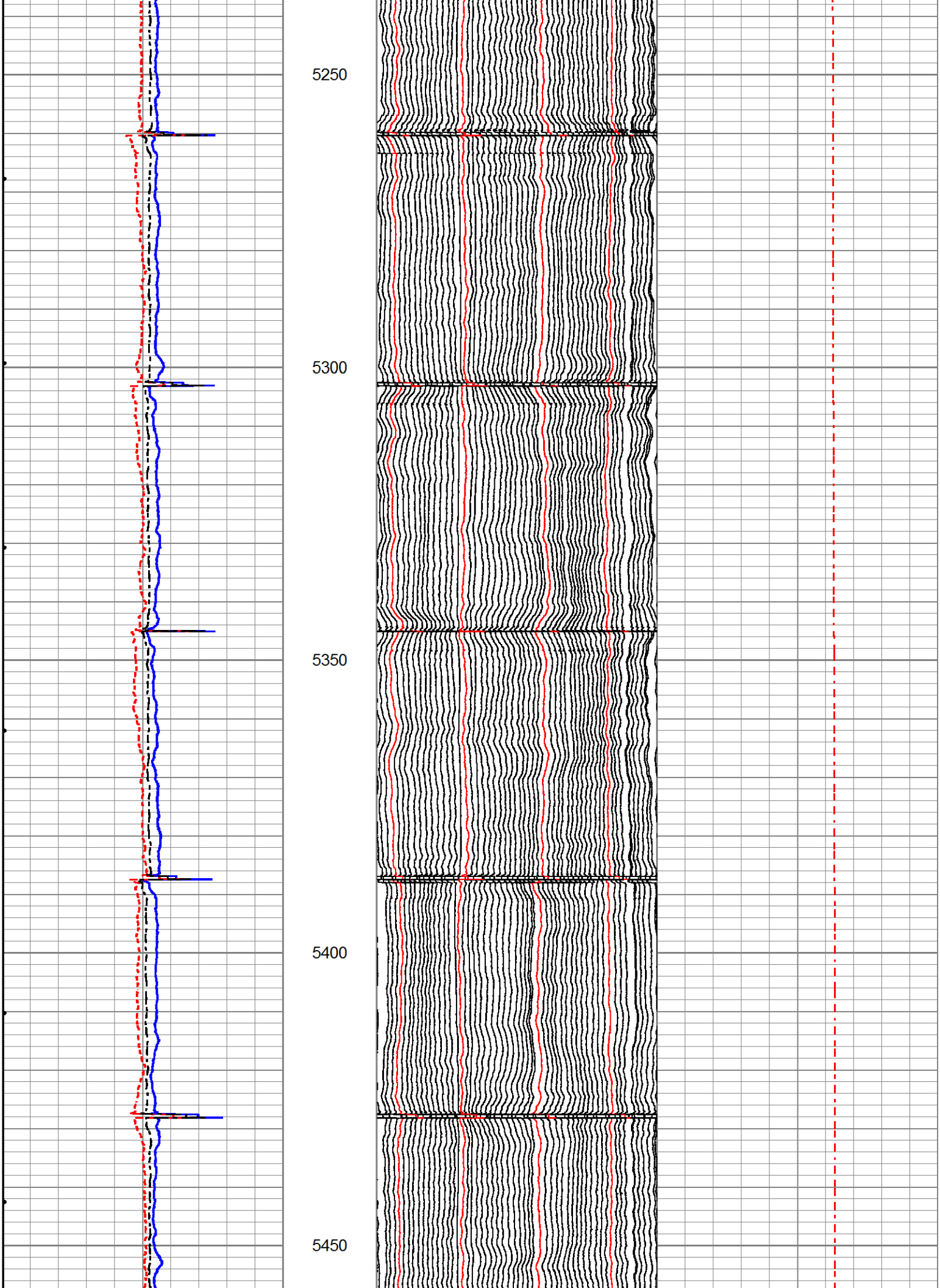
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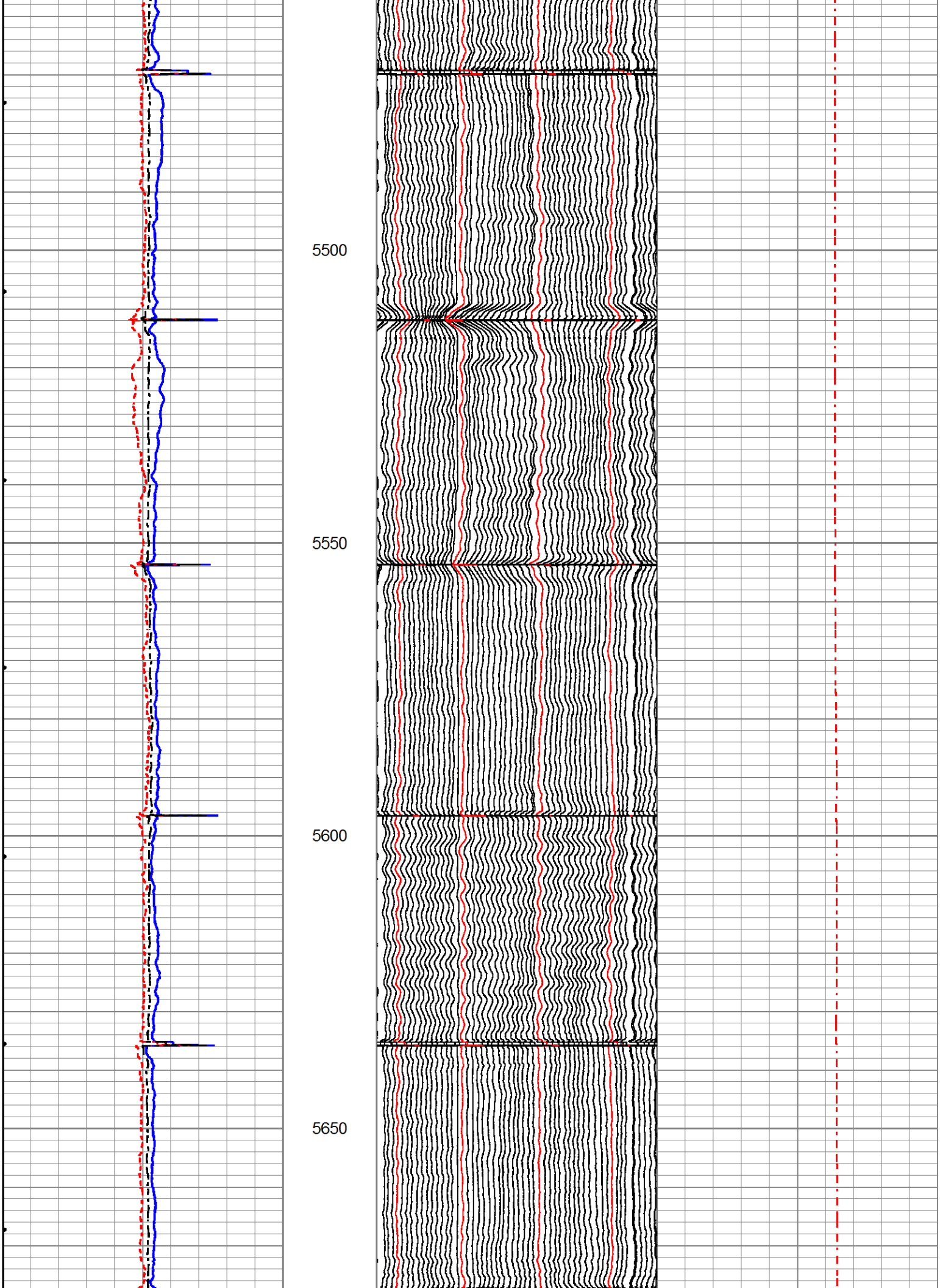
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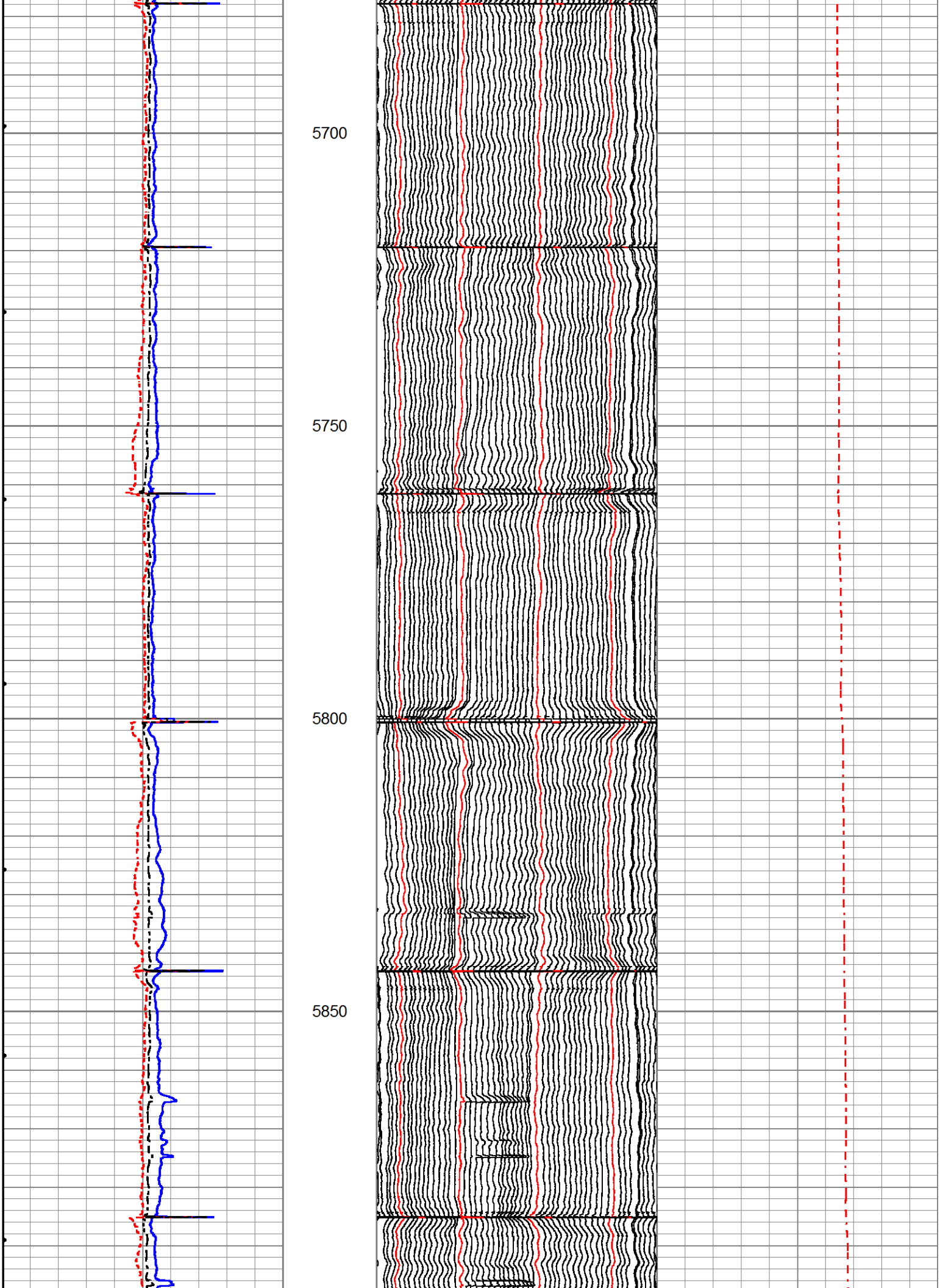
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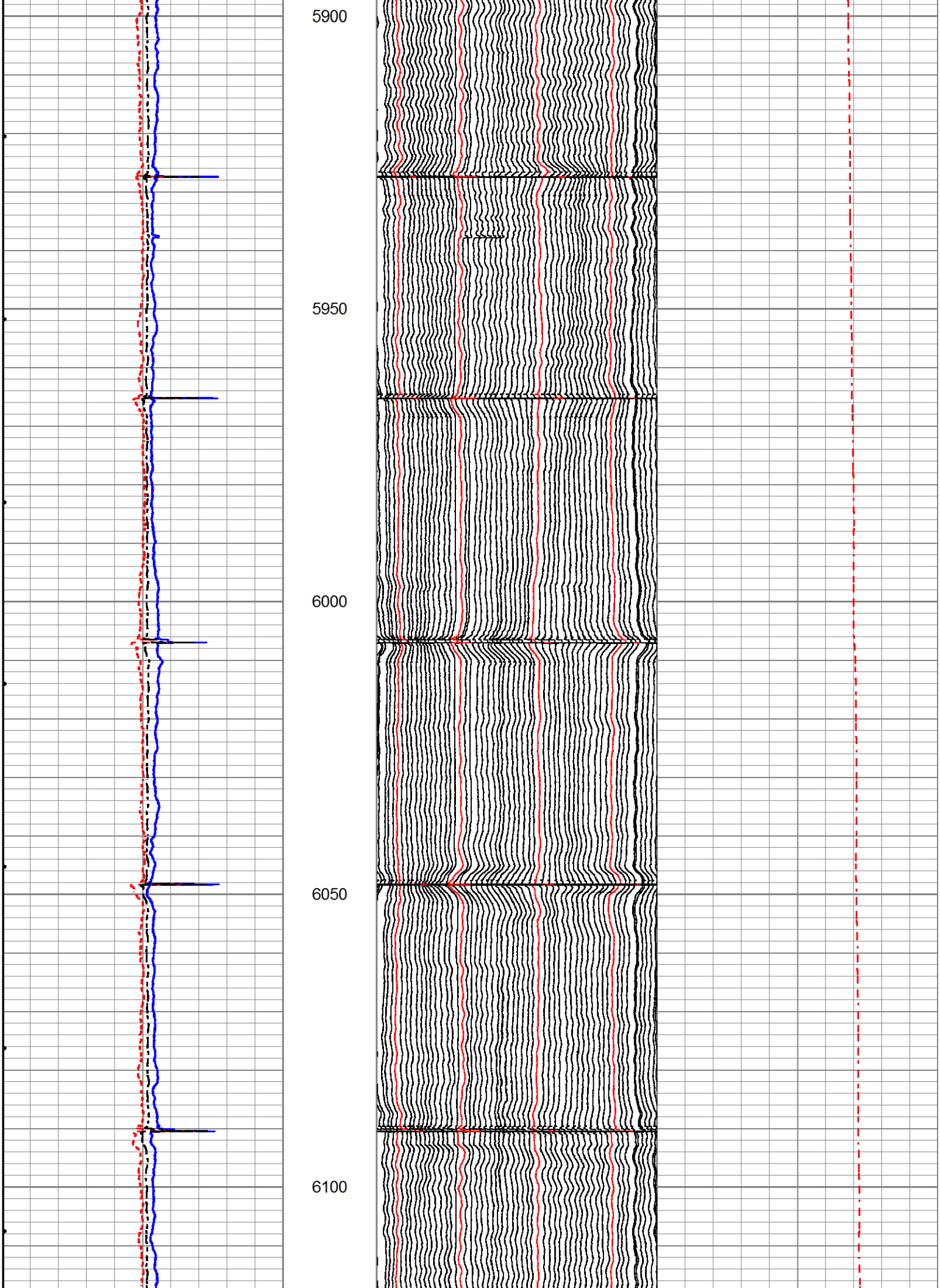
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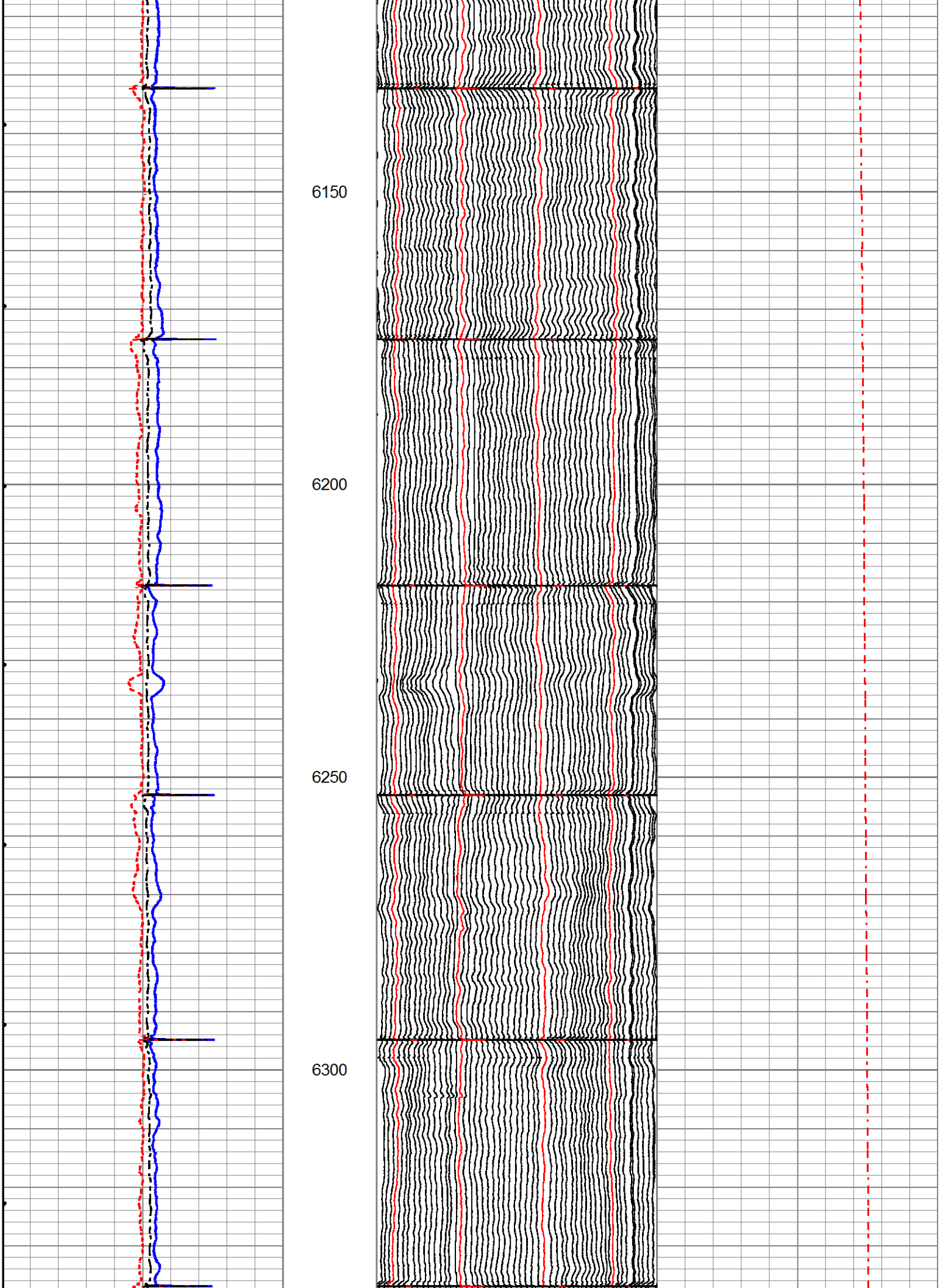
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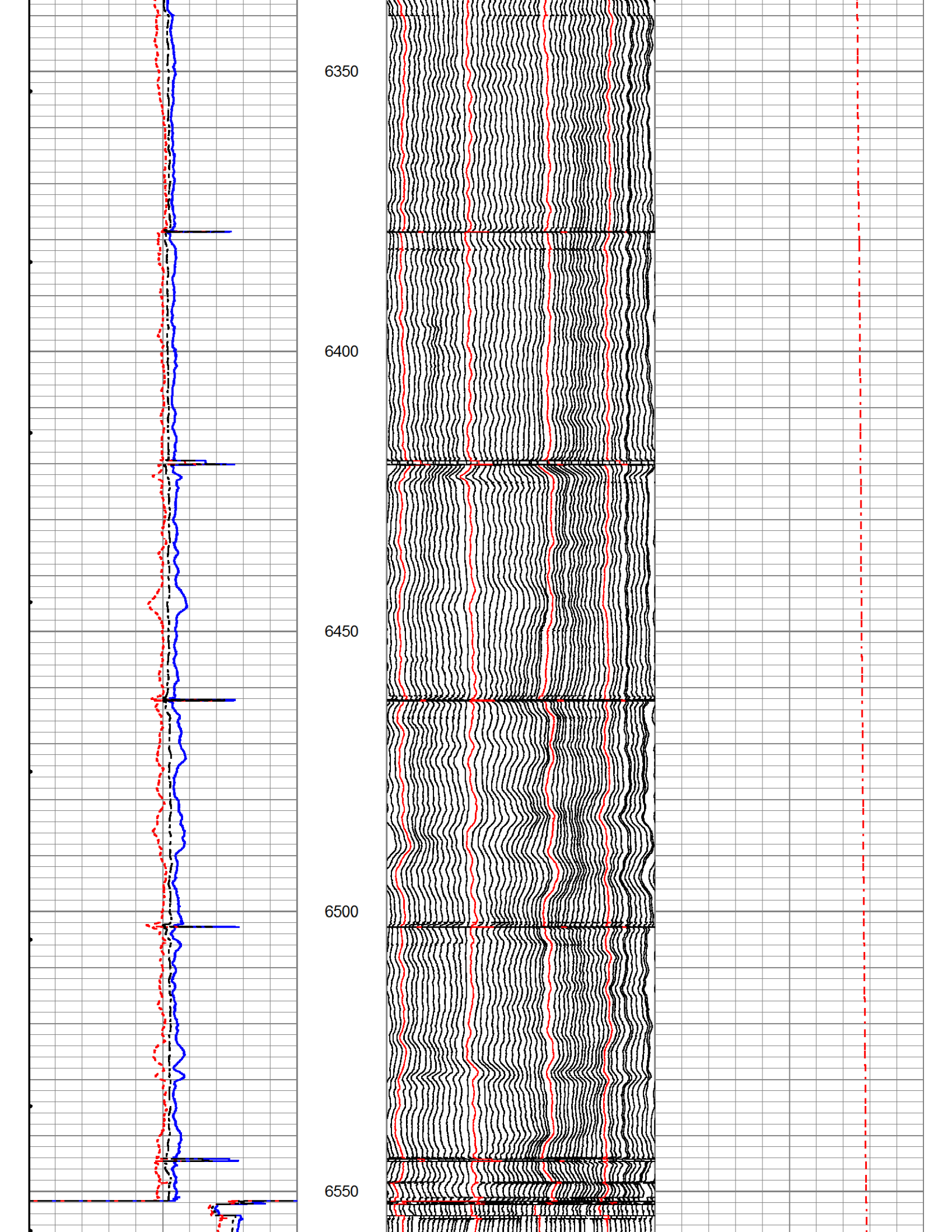
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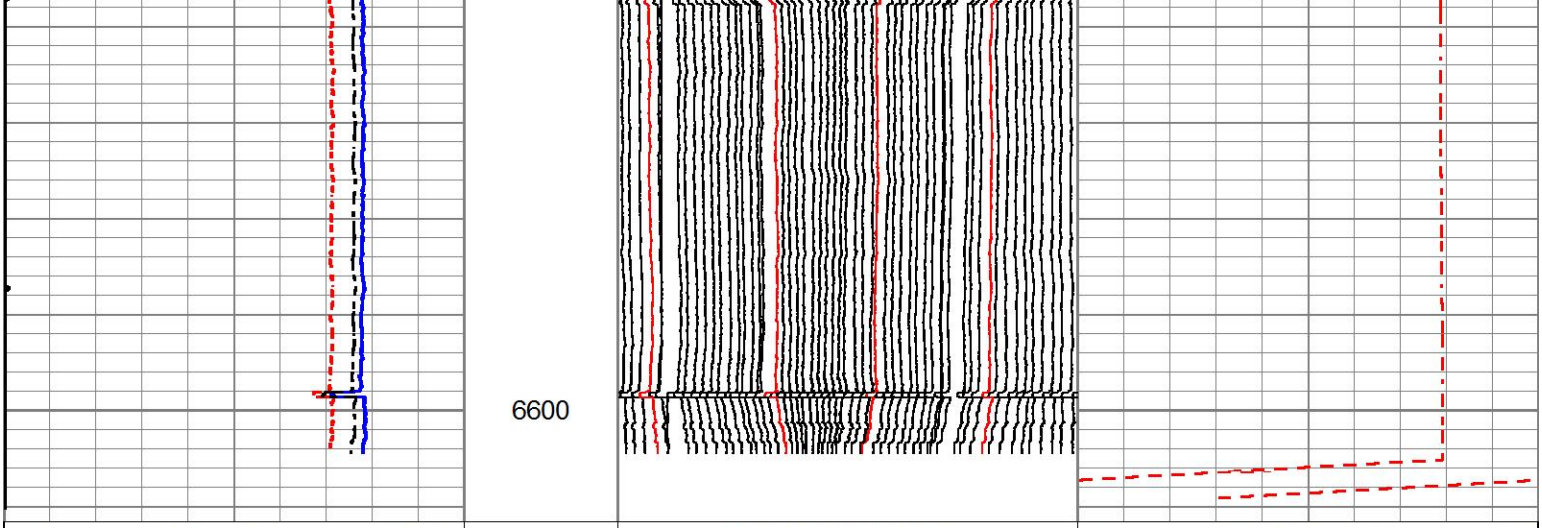

6.825	Max ID (in)	8.825
6.825	Min ID (in)	8.825
6.825	IDAV (in)	8.825

56 RADII .05" INC.

70	WTEMP (degF)	170

REPEAT 8 5/8

Database File	fernando_fee_32a.db
Dataset Pathname	pass4
Presentation Format	56_858_36
Dataset Creation	Thu Mar 31 16:25:57 2016
Charted by	Depth in Feet scaled 1:240

6.825	Max ID (in)	8.825
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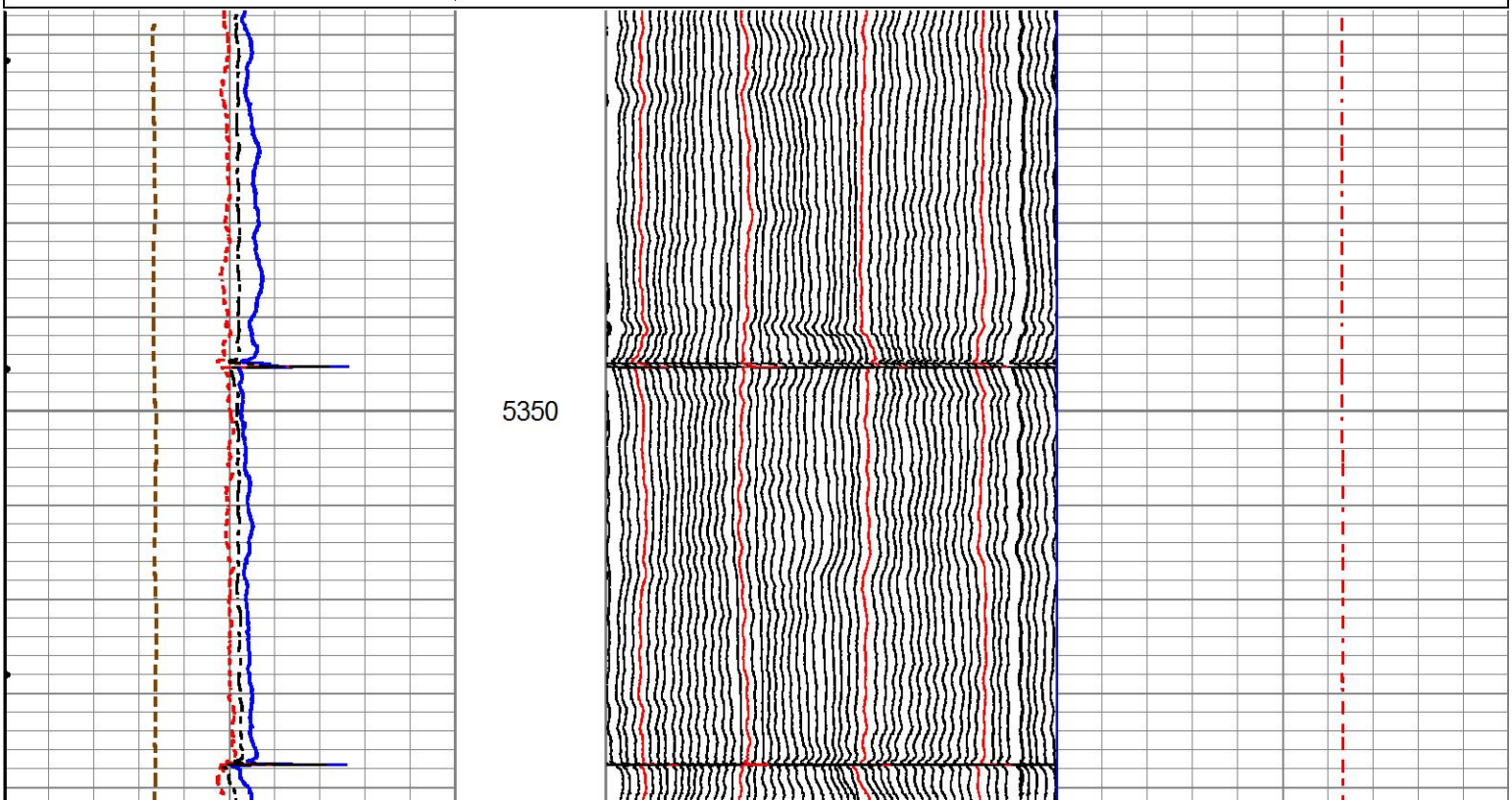
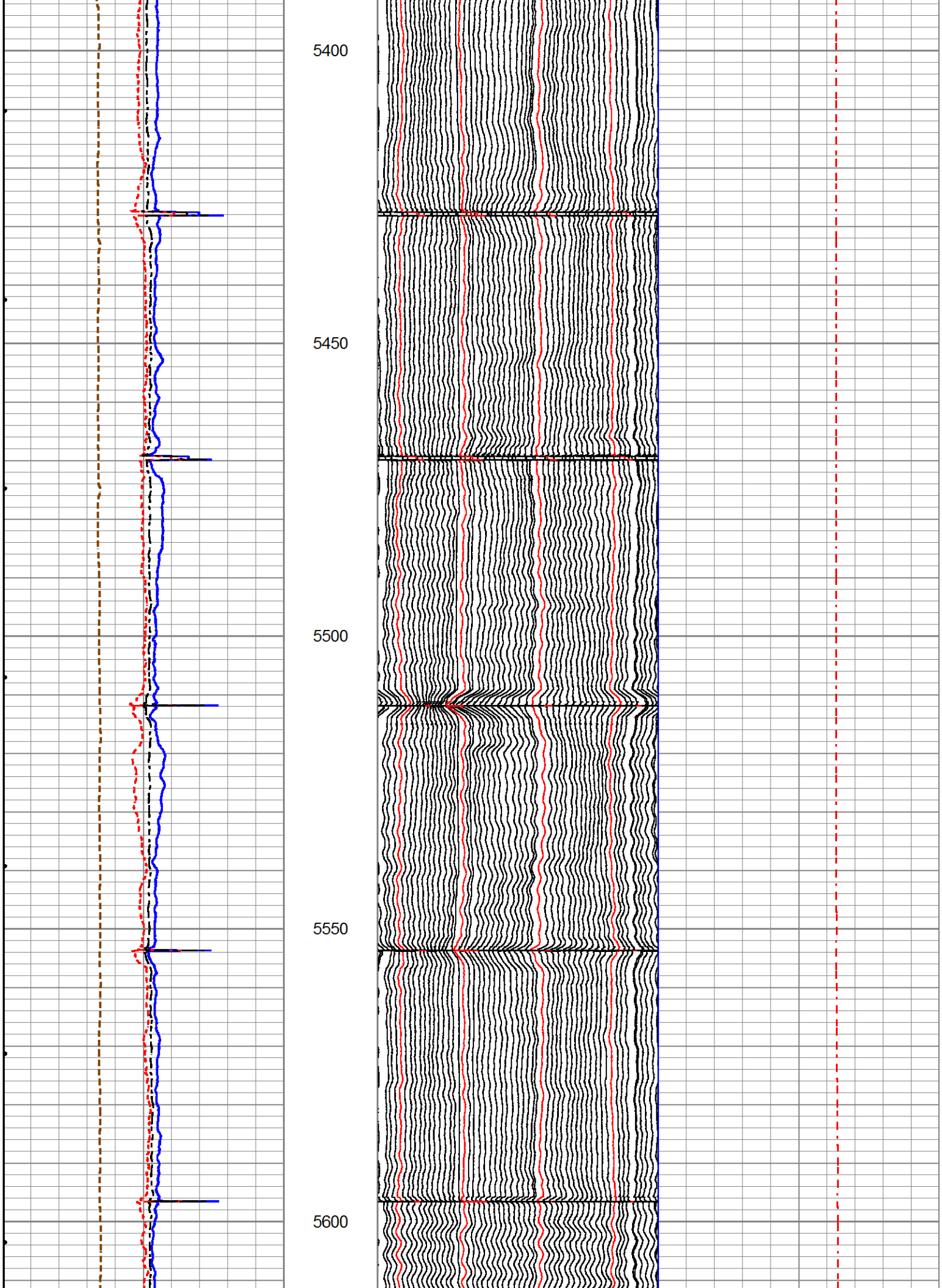
6.825	IDAV (in)	8.825
0	LINE TENSION (lb)	3000

56 RADII .05" INC.

70	WTEMP (degF)	170
0	DEVI (deg)	60

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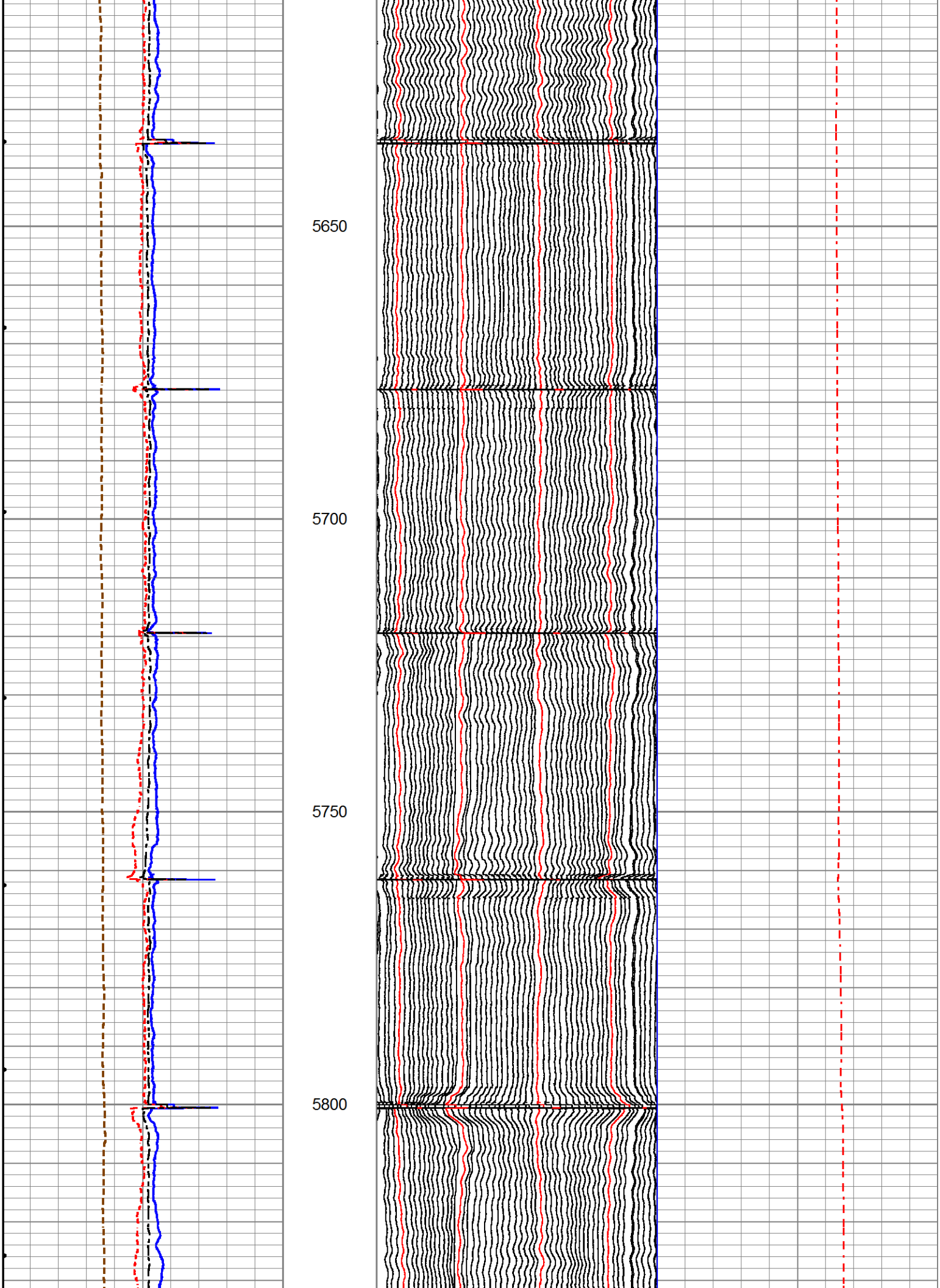
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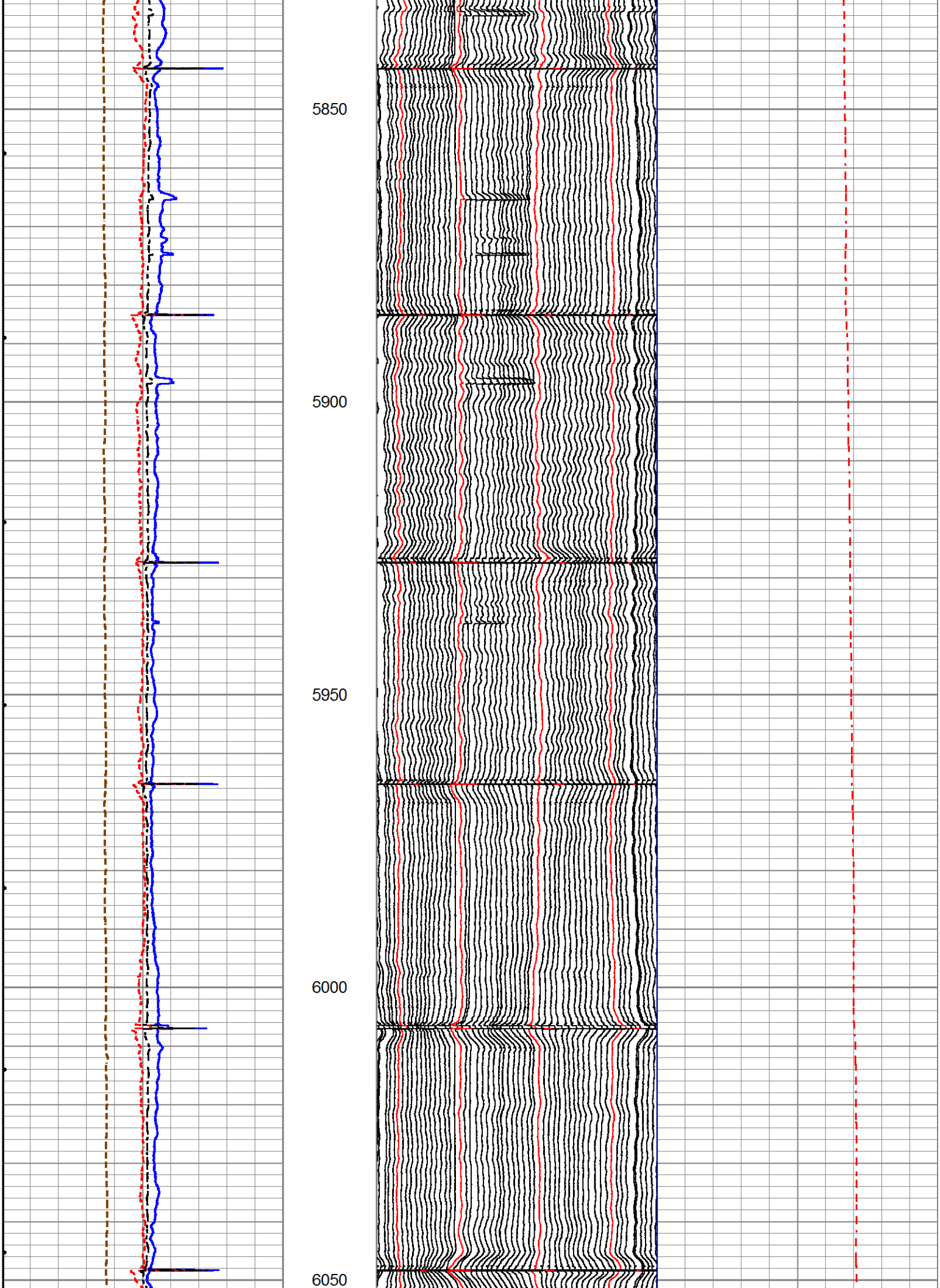
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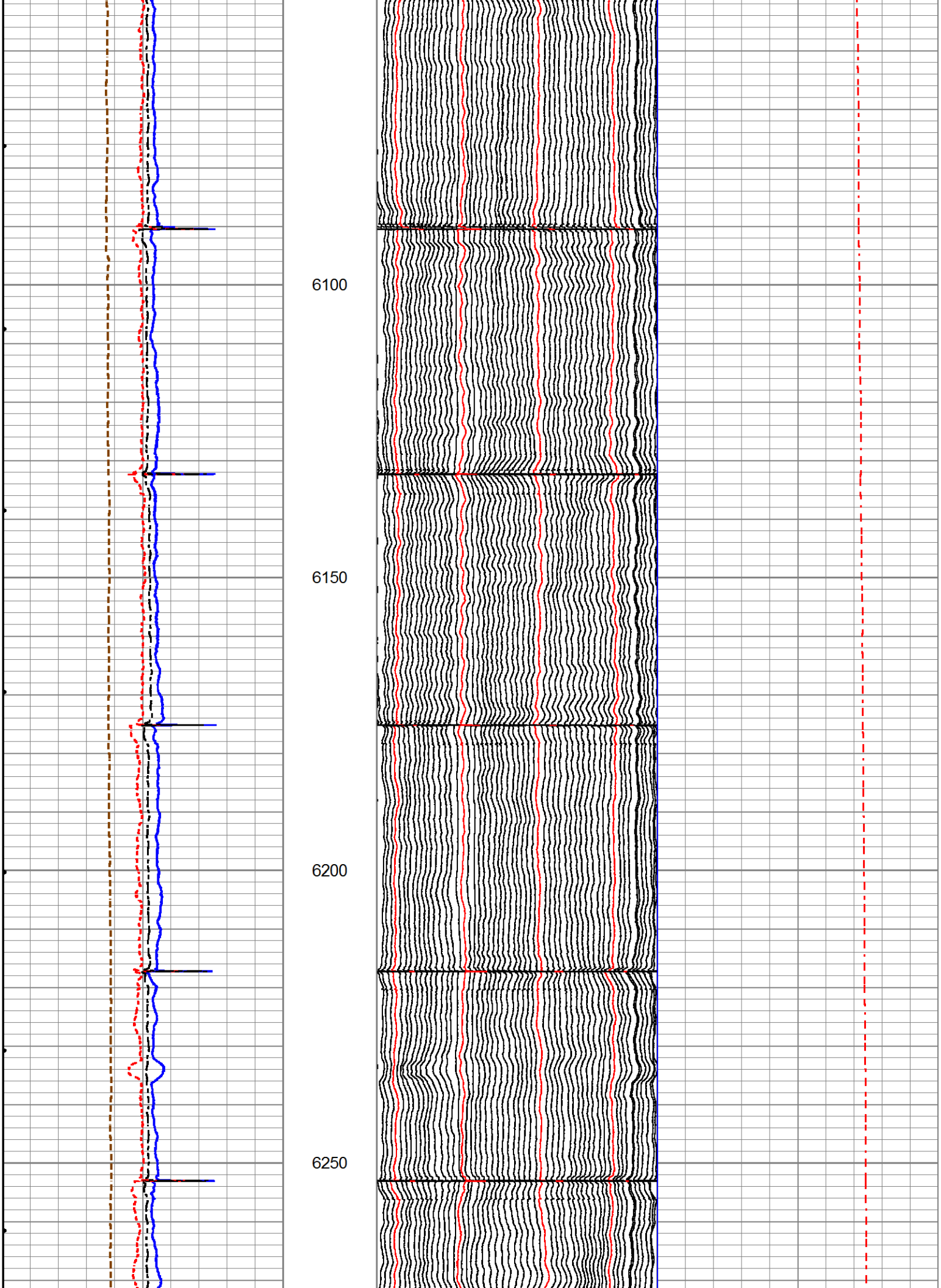
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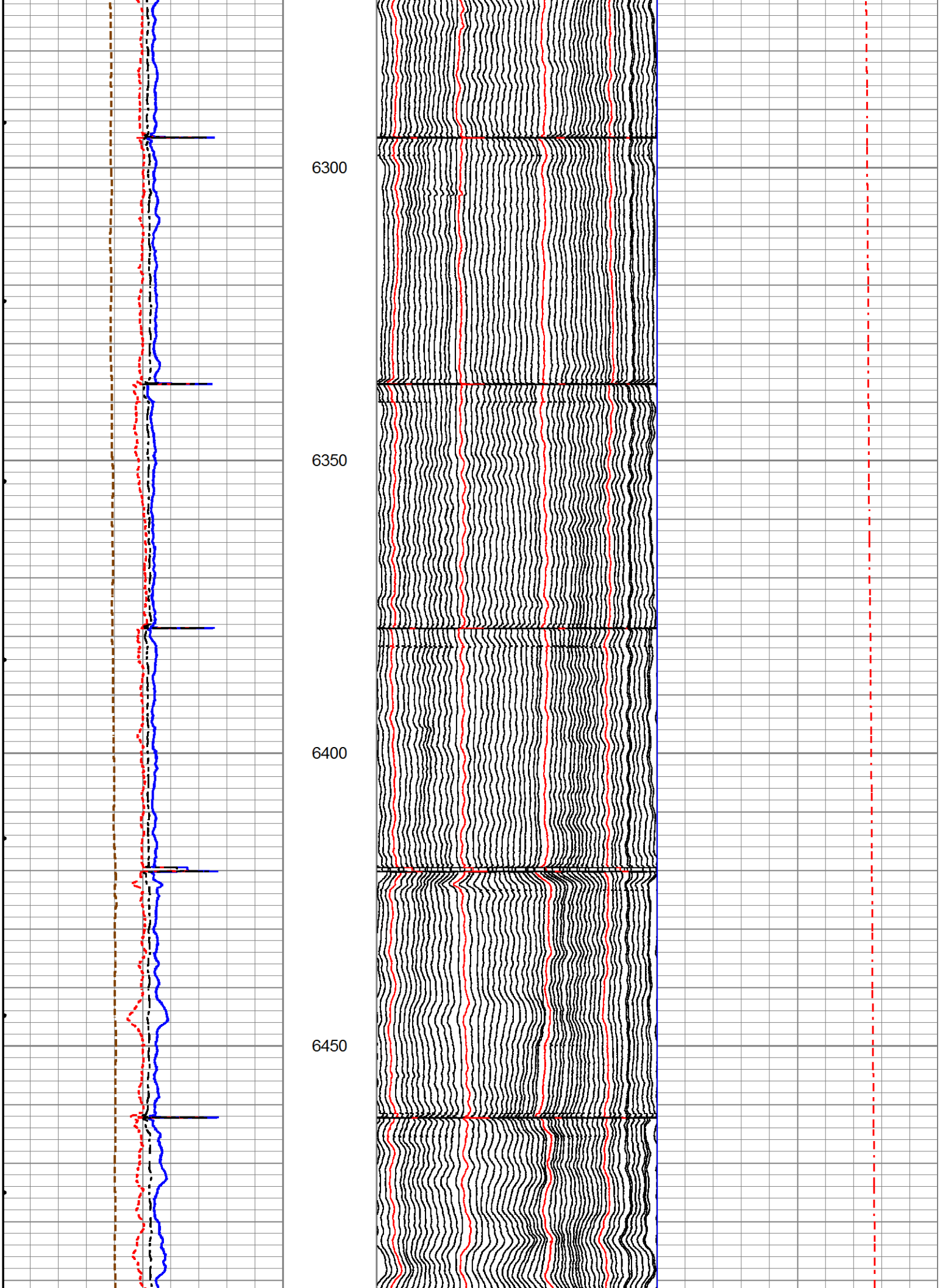
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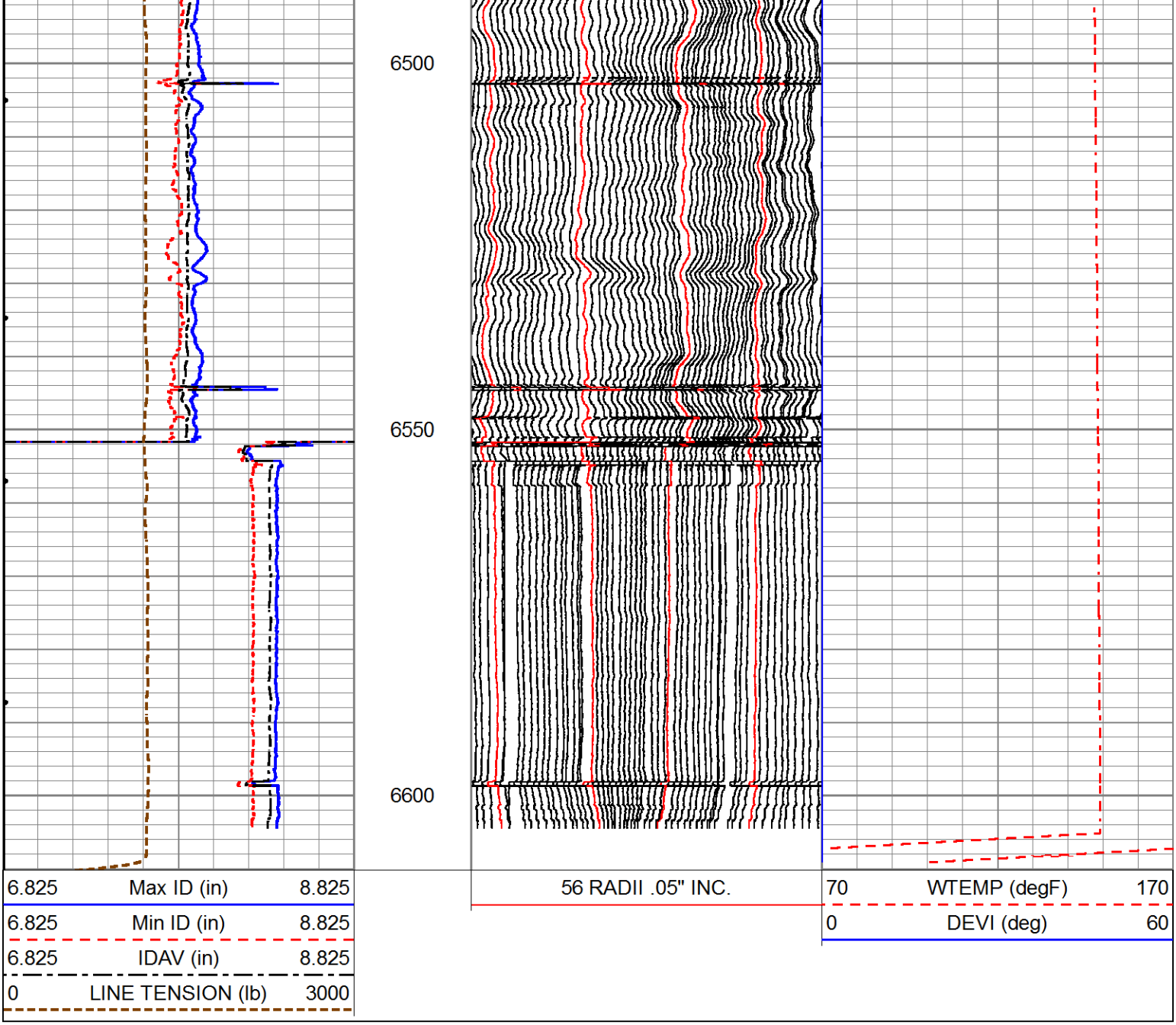


Calibration Report

Database File	fernando_fee_32a.db
Dataset Pathname	merge8
Dataset Creation	Fri Apr 01 15:55:22 2016

GOWell 56 Arm Calibration Report

Serial Number:			10111				
Tool Model:			56				
Performed:			Thu Mar 31 14:59:15 2016				
Ref ID:	7.00	8.00	9.00	9.25	-	Offset	in
Arm1	7.07	8.10	9.02	9.30	-	0.00	in
Arm2	7.08	8.15	9.08	9.34	-	0.00	in
Arm3	7.22	8.23	9.16	9.42	-	0.00	in
Arm4	7.20	8.21	9.16	9.45	-	0.00	in
Arm5	7.18	8.21	9.16	9.43	-	0.00	in
Arm6	7.07	8.11	9.07	9.35	-	0.00	in
Arm7	7.07	8.11	9.05	9.32	-	0.00	in
Arm8	7.29	8.30	9.25	9.53	-	0.00	in
Arm9	7.23	8.24	9.18	9.44	-	0.00	in
Arm10	7.17	8.21	9.17	9.44	-	0.00	in

Arm11	6.99	8.03	8.98	9.23	-	0.00	in
Arm12	7.04	8.07	9.04	9.30	-	0.00	in
Arm13	7.13	8.15	9.11	9.35	-	0.00	in
Arm14	6.74	7.80	8.81	9.06	-	0.00	in
Arm15	7.04	8.07	9.02	9.27	-	0.00	in
Arm16	6.98	8.01	8.99	9.23	-	0.00	in
Arm17	6.85	7.89	8.90	9.12	-	0.00	in
Arm18	7.12	8.09	9.03	9.24	-	0.00	in
Arm19	7.02	8.03	9.02	9.25	-	0.00	in
Arm20	6.94	7.96	8.97	9.19	-	0.00	in
Arm21	6.98	7.98	8.99	9.21	-	0.00	in
Arm22	6.94	7.95	8.97	9.19	-	0.00	in
Arm23	7.01	8.01	9.04	9.25	-	0.00	in
Arm24	7.10	8.08	9.11	9.33	-	0.00	in
Arm25	7.29	8.27	9.30	9.51	-	0.00	in
Arm26	7.18	8.14	9.16	9.37	-	0.00	in
Arm27	7.09	8.05	9.07	9.29	-	0.00	in
Arm28	7.05	8.02	9.05	9.27	-	0.00	in
Arm29	7.06	8.03	9.08	9.29	-	0.00	in
Arm30	6.96	7.93	9.02	9.25	-	0.00	in

* Bad

GOWell 56 Arm Calibration Report

Serial Number:
Tool Model:
Performed:

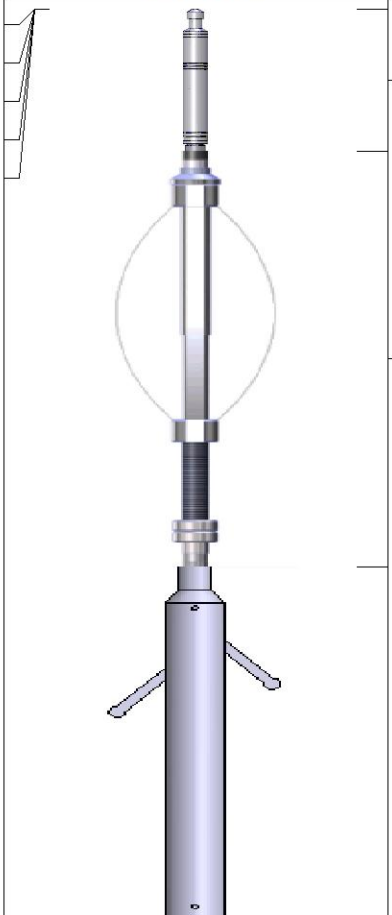
Ref ID:	7.00	8.00	9.00	9.25	-	Offset	in
Arm31	7.04	7.99	9.02	9.23		0.00	in
Arm32	7.02	7.96	9.02	9.25		0.00	in
Arm33	7.02	7.98	9.03	9.26		0.00	in
Arm34	7.11	8.06	9.10	9.33		0.00	in
Arm35	7.13	8.07	9.09	9.31		0.00	in
Arm36	7.08	8.06	9.12	9.35		0.00	in
Arm37	7.08	8.03	9.07	9.31		0.00	in
Arm38	7.06	8.03	9.07	9.31		0.00	in
Arm39	7.07	8.03	9.05	9.29		0.00	in
Arm40	7.14	8.12	9.17	9.42		0.00	in
Arm41	7.10	8.08	9.08	9.33		0.00	in
Arm42	7.30	8.32	9.34	9.59		0.00	in
Arm43	7.09	8.08	9.05	9.30		0.00	in
Arm44	7.16	8.15	9.15	9.41		0.00	in
Arm45	7.08	8.05	9.04	9.30		0.00	in
Arm46	7.12	8.13	9.13	9.40		0.00	in
Arm47	7.08	8.08	9.06	9.35		0.00	in
Arm48	7.25	8.30	9.30	9.59		0.00	in
Arm49	7.11	8.11	9.09	9.36		0.00	in
Arm50	7.21	8.24	9.22	9.50		0.00	in
Arm51	7.06	8.06	9.02	9.30		0.00	in
Arm52	7.22	8.25	9.22	9.50		0.00	in
Arm53	7.13	8.12	9.06	9.34		0.00	in
Arm54	7.35	8.38	9.34	9.61		0.00	in
Arm55	7.17	8.14	9.09	9.37		0.00	in
Arm56	7.29	8.31	9.27	9.55		0.00	in
Arm57							in
Arm58							in
Arm59							in
Arm60							in

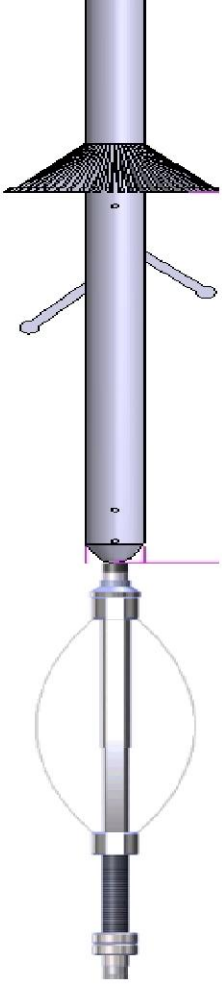
* Bad

GOWell 56 Arm Verification Report

	Pre Verification	Post Verification	Casing Check
Performed:	Fri Apr 01 15:48:54 2016	Fri Apr 01 15:31:58 2016	Fri Apr 01 15:40:41 2016

Ref ID:	7.83	8.76	6.37	in
Min.	7.74	8.70	6.30	in
Max.	7.89	8.89	6.44	in
Avg.	7.85	8.82	6.40	in
Dia1	7.89	8.87	6.44	in
Dia2	7.85	8.82	6.40	in
Dia3	7.87	8.86	6.41	in
Dia4	7.87	8.87	6.42	in
Dia5	7.86	8.87	6.42	in
Dia6	7.86	8.88	6.40	in
Dia7	7.86	8.89	6.41	in
Dia8	7.86	8.86	6.40	in
Dia9	7.87	8.85	6.42	in
Dia10	7.87	8.84	6.41	in
Dia11	7.86	8.83	6.42	in
Dia12	7.87	8.83	6.42	in
Dia13	7.87	8.81	6.42	in
Dia14	7.86	8.81	6.44	in
Dia15	7.89	8.81	6.43	in
Dia16	7.86	8.80	6.39	in
Dia17	7.86	8.79	6.40	in
Dia18	7.83	8.87	6.39	in
Dia19	7.83	8.79	6.38	in
Dia20	7.78	8.76	6.35	in
Dia21	7.84	8.80	6.39	in
Dia22	7.84	8.80	6.40	in
Dia23	7.88	8.83	6.44	in
Dia24	7.81	8.77	6.36	in
Dia25	7.74	8.70	6.30	in
Dia26	7.85	8.84	6.42	in
Dia27	7.84	8.85	6.41	in
Dia28	7.77	8.74	6.30	in

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
BPRES	13.61					
PPRES	13.61					
TOTBBL	13.61		CHD-STNDRD Standard Cable Head	1.03	1.45	10.00
PRATE	13.61					
LTENUSR	13.61					
			CENT-3' In-Line 2. 3/4" Probe In-Line Standard GOI Centralizer	3.00	2.75	30.00

			XIPEMAC-56 (10111) Hotwell 56 Arm caliper	6.58	3.50	100.00
Meas	5.67					
Aux1	3.00		CENT-3' In-Line 2. 3/4" Probe In-Line Standard GOI Centralizer	3.00	2.75	30.00

Dataset:	fernando_fee_32a.db: field/well/run1/merge8
Total length:	13.61 ft
Total weight:	170.00 lb
O.D.:	3.50 in

BAKER HUGHES

Company	SOUTHERN CALIFORNIA GAS COMPANY
Well	FERNANDO FEE 32A
Field	ALISO CANYON
County	LOS ANGELES
State	CALIFORNIA