

Pulsed Neutron Gamma Ray Casing Collar Log

Company TEP Rocky Mountain LLC
Well Federal RG 442-18-297
Field Sulphur Creek
County Rio Blanco State Colorado

Location: API #: 05-103-12468
SEC 18 TWP 2S RGE 9TW
Permanent Datum Ground Level Elevation 6621'
Log Measured From Kelly Bushing 30 FT
Drilling Measured From Kelly Bushing
Other Services
RBL
Elevation
K.B. 6651'
D.F. 6650'
G.L. 6621'

Company TEP Rocky Mountain LLC
Well Federal RG 442-18-297
Field Sulphur Creek
County Rio Blanco
State Colorado

Date	21-MAY-2021			
Run Number	Two			
Depth Driller	11950 FT			
Depth Logger	11878 FT			
Bottom Logged Interval	11864 FT			
Top Log Interval	6750 FT			
Open Hole Size	8.750"			
Type Fluid	Water			
Density / Viscosity	8.34 lb/gal			
Max. Recorded Temp.	---			
Estimated Cement Top	---			
Time Well Ready	ROA			
Time Logger on Bottom	21:40			
Equipment Number	HD-0331			
Location	Grand Junction, CO			
Recorded By	Z Fisher			
Witnessed By	---			
Borehole Record				
Run Number	Bit	From	To	Size
				Weight
				From
				To
Tubing Record				
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top
Surface Casing	9 5/8	36	J-55	Surface
Intermediate #1	4 1/2	11.6	P-110	Surface
Intermediate #2				
Inner				

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

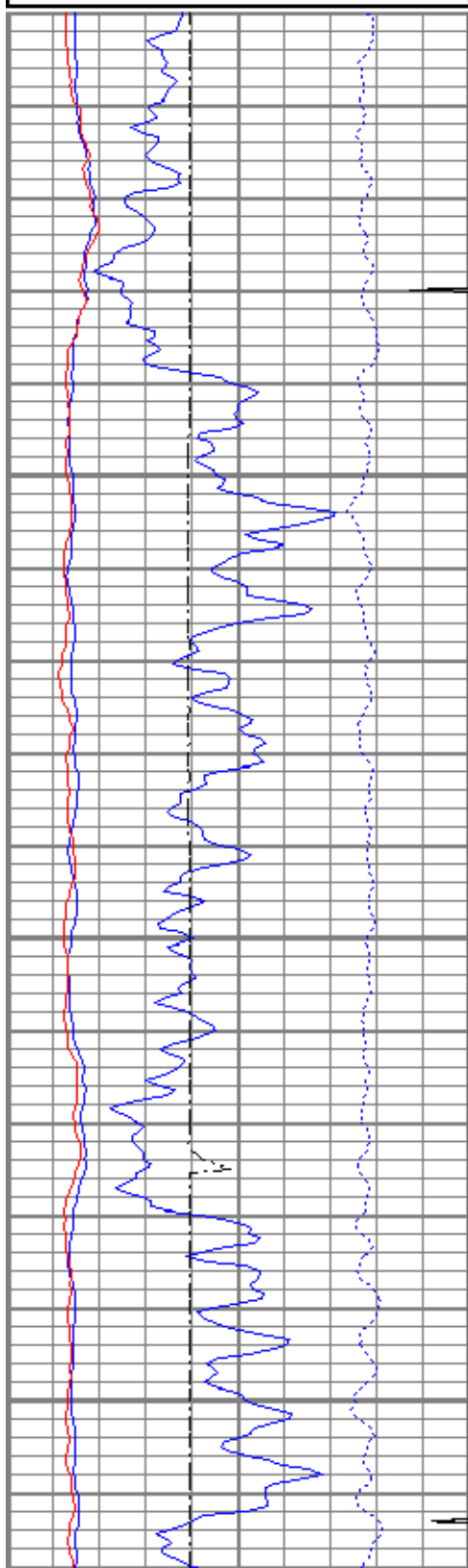
Comments

Log ran as per customer request
Depth referenced to Reliance Bond Log dated 21-MAY-2021
Log ran from 11878 FT to 6750 FT
Pulsed Neutron Data logged with the Hunter RAS Tool
Thank you for choosing Reliance Oilfield Services, LLC!

Database File	tep/federal rg 442-18-297/tep_federal rg 442-18-297_pn_05-21-21.db
Dataset Pathname	runSHIFTED/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Mon May 24 10:56:41 2021
Charted by	Depth in Feet scaled 1:240

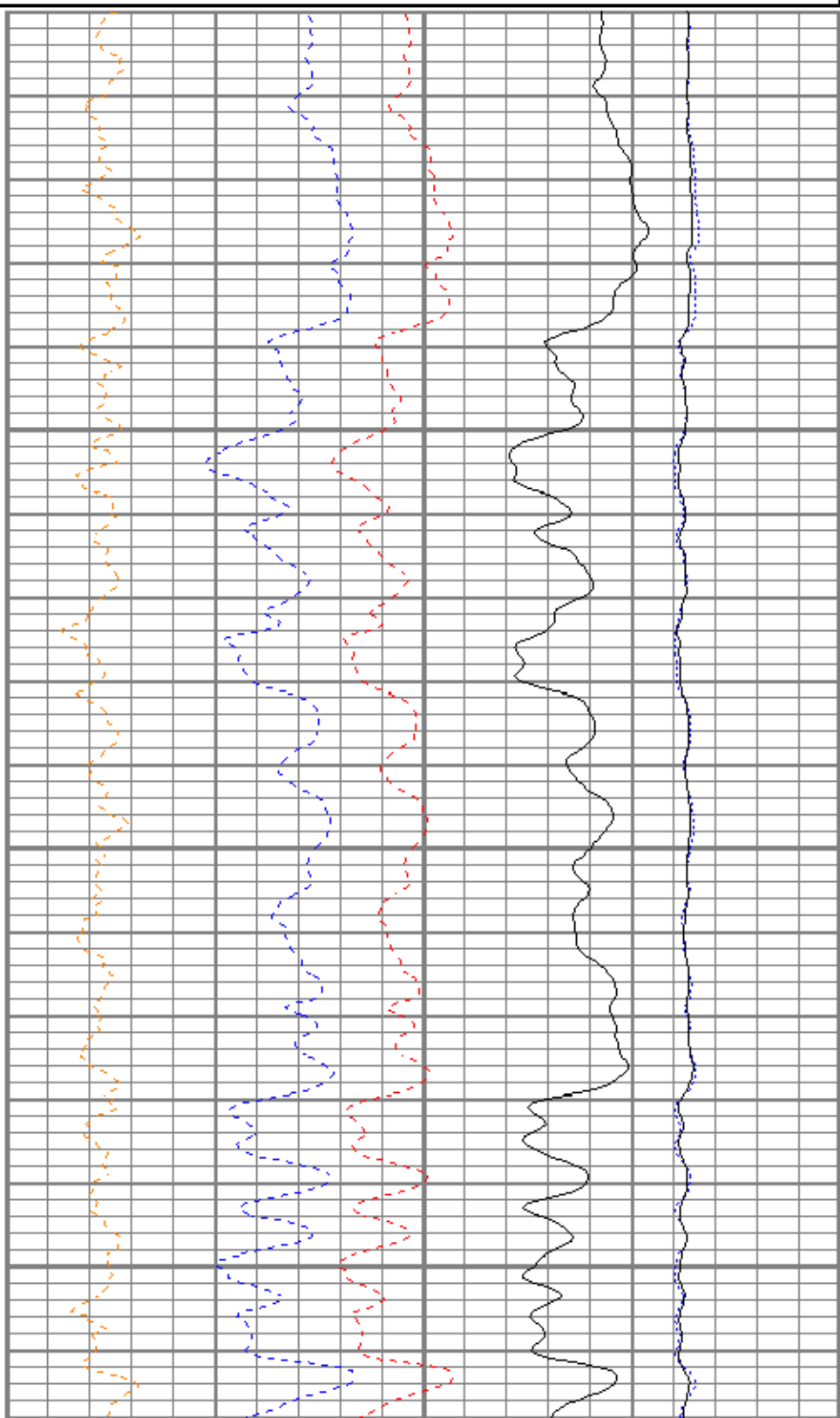
0	GR (GAPI)	150
PN Casing Collar Locator		
-100	Line Speed (ft/min)	100
0	NIRS (cps)	400000
0	BKGN (cps)	4000
0	BKGF (cps)	2000

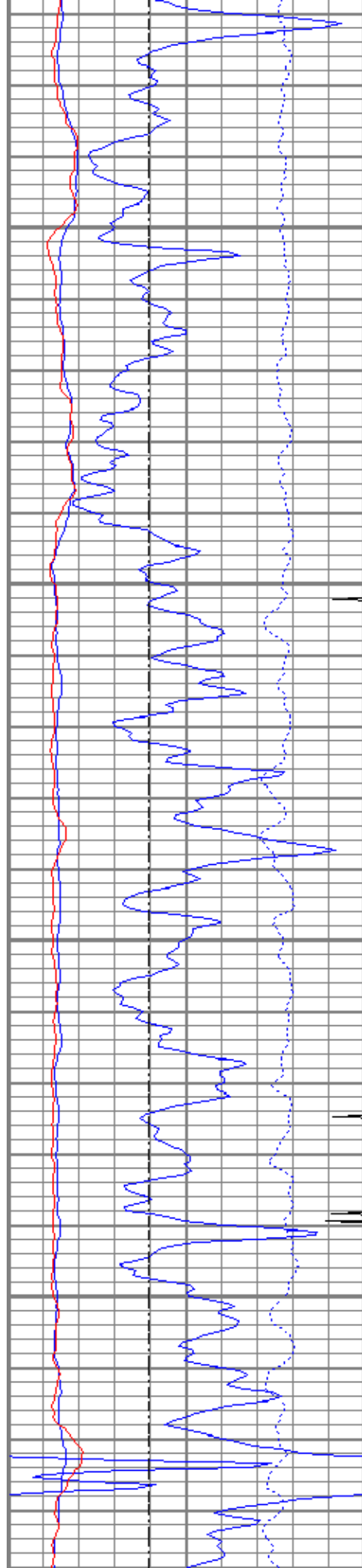
4	RNF2	0
60	SIGMA (cu)	0
4.5	RNFI	-1
1	PN Porosity (Sandstone) (pu)	0
0	FIS2 (cps)	15000
0	NIS2 (cps)	10000



6800

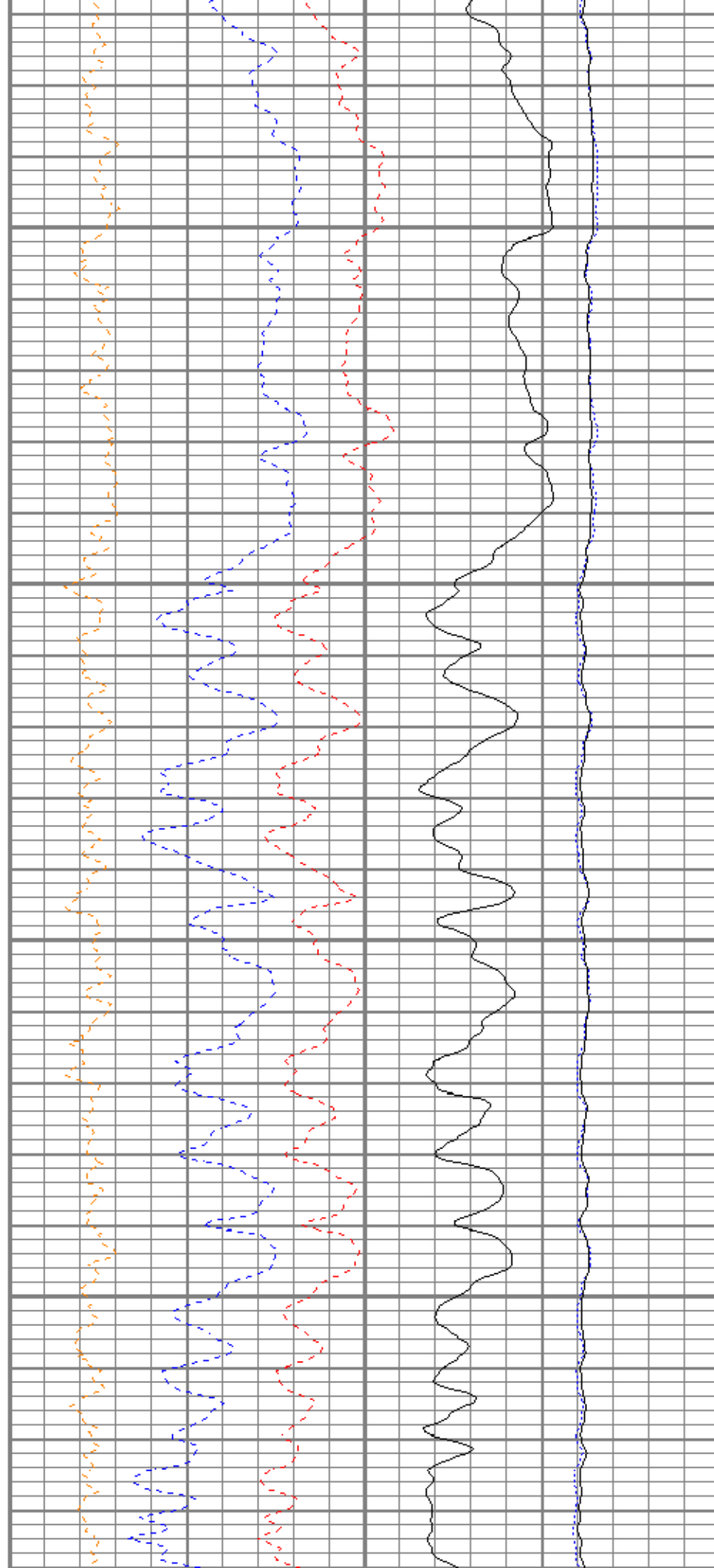
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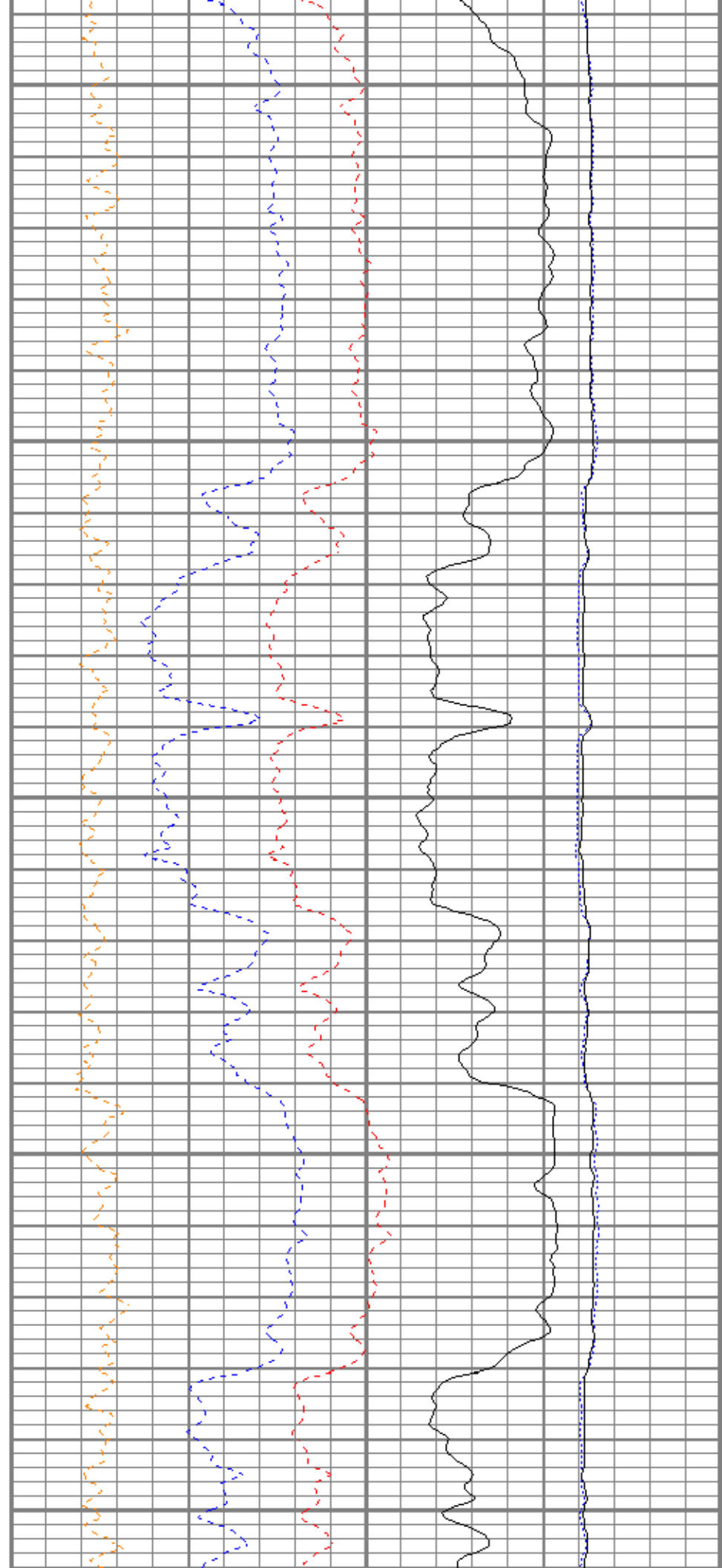
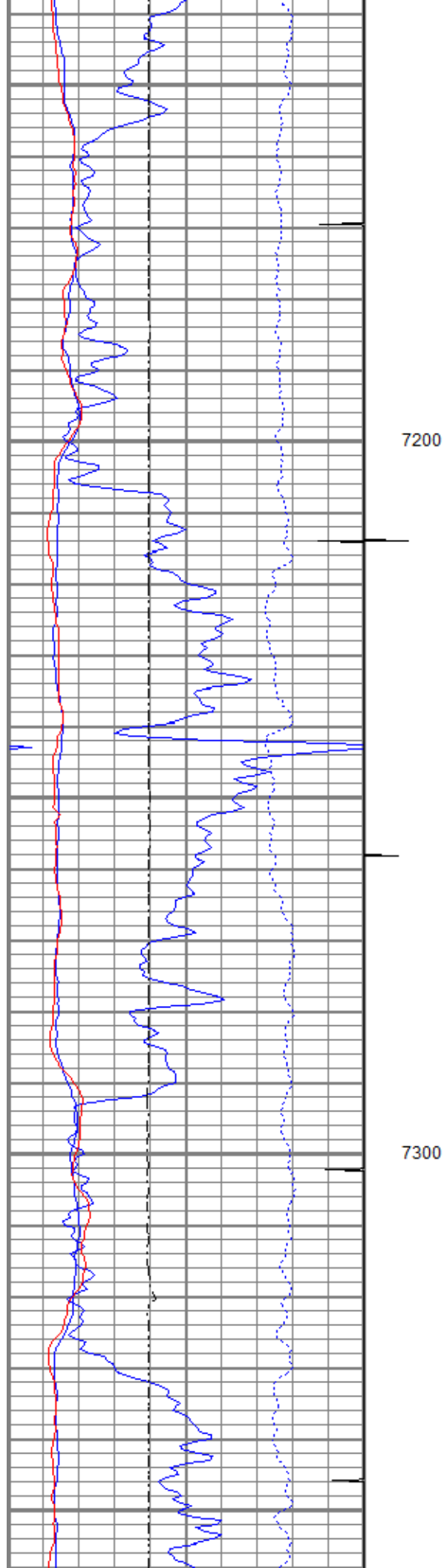


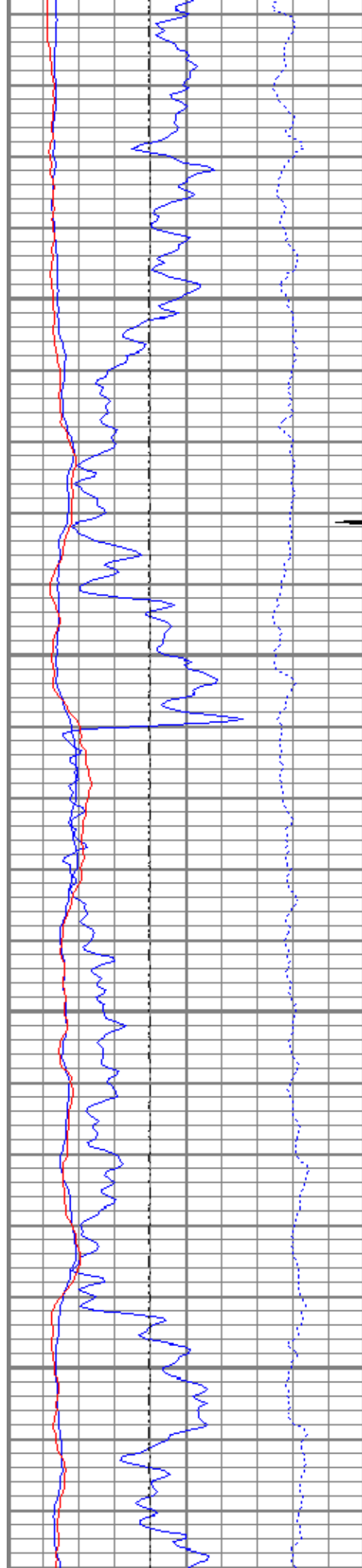


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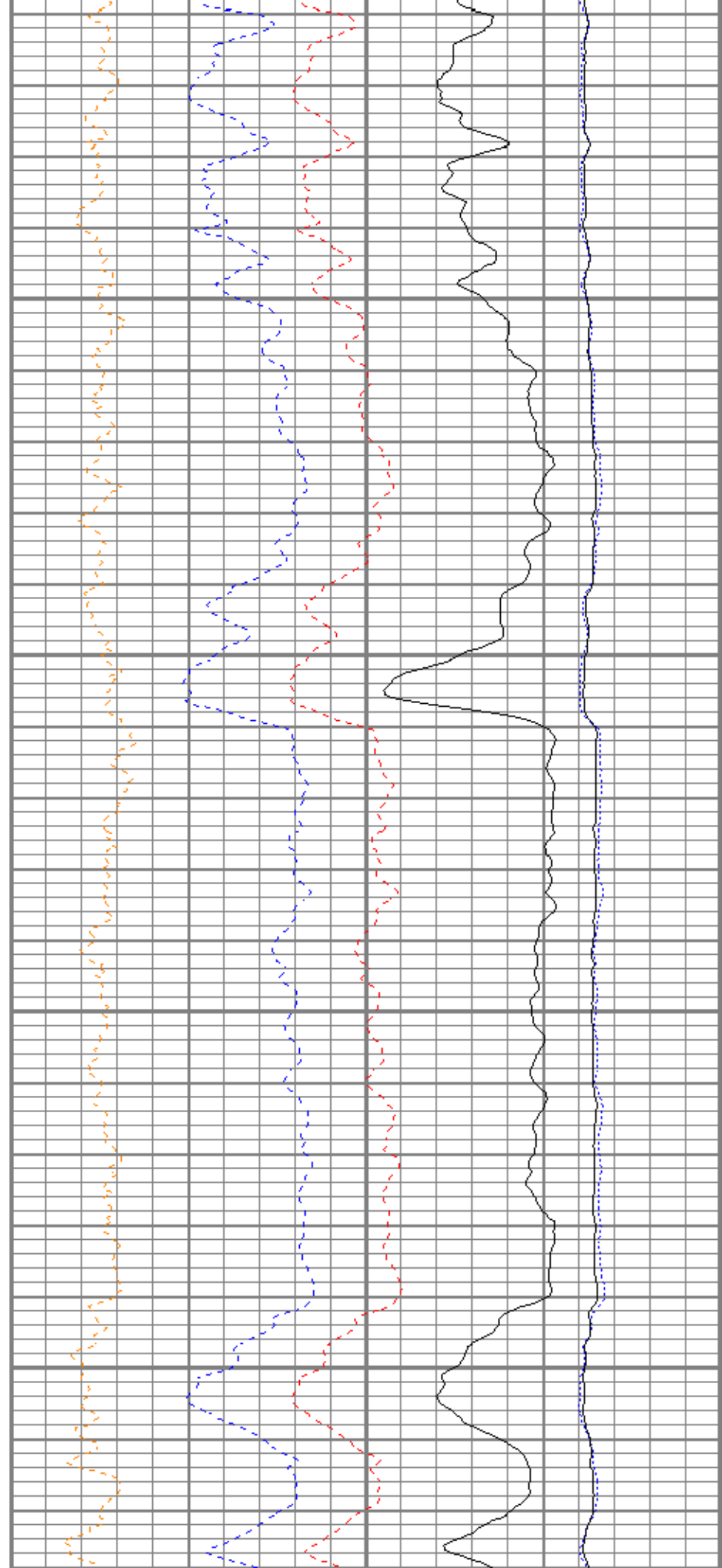


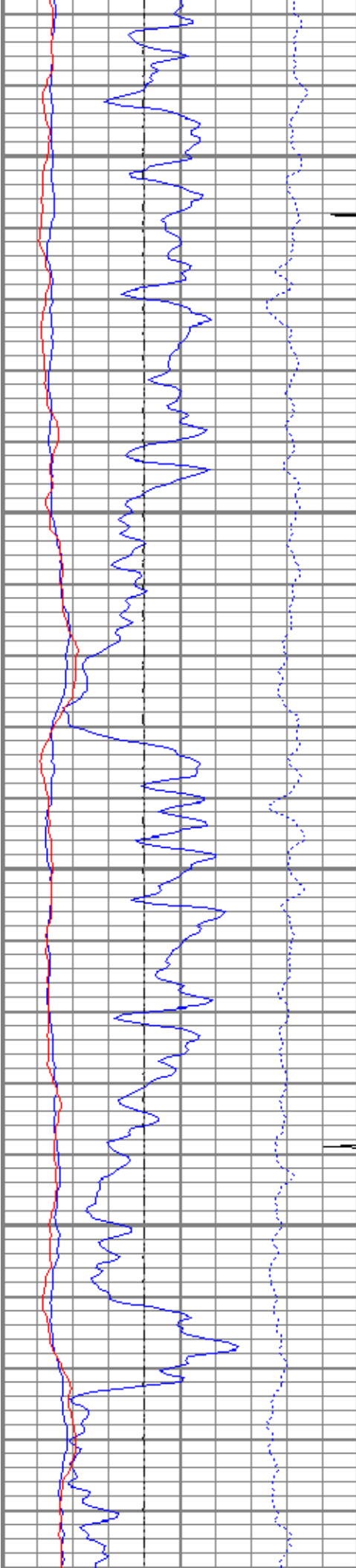




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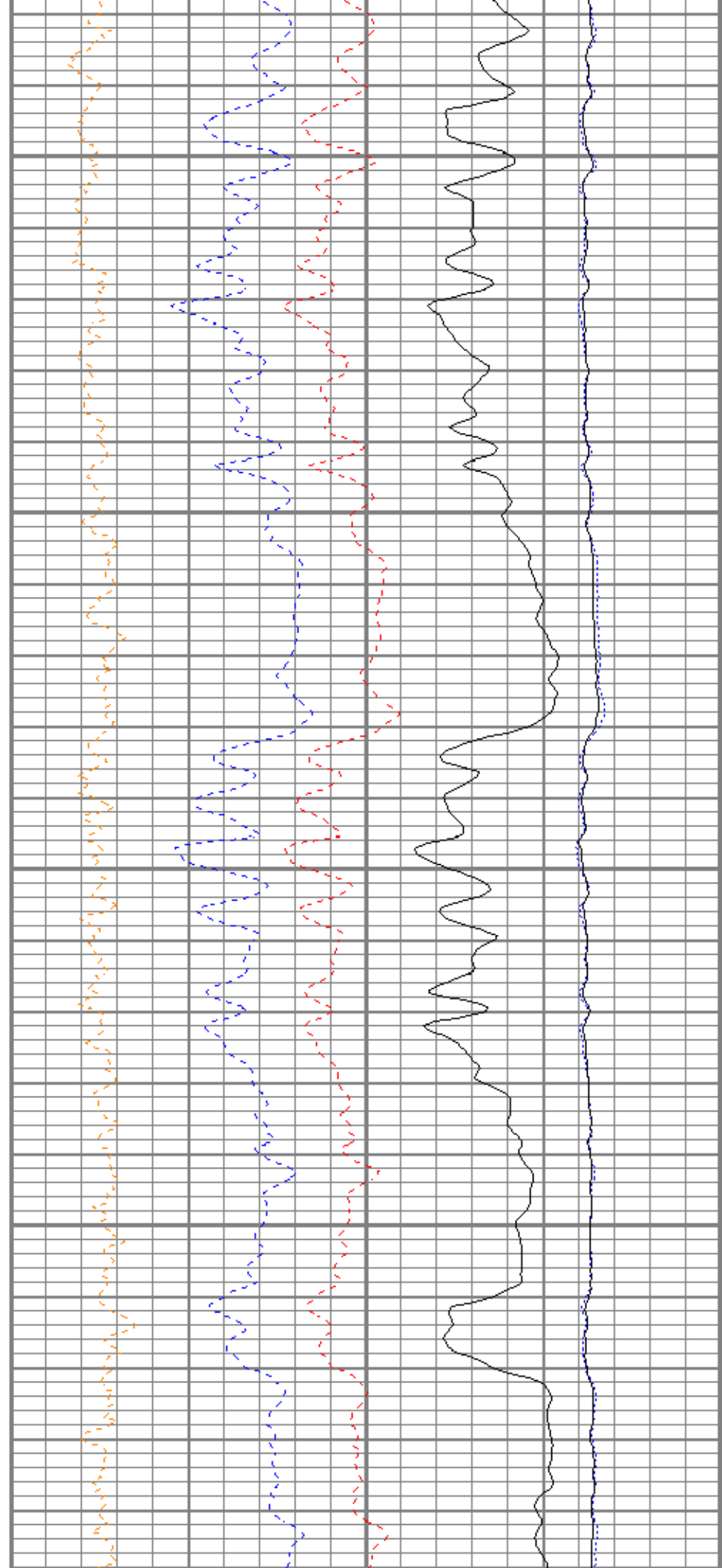
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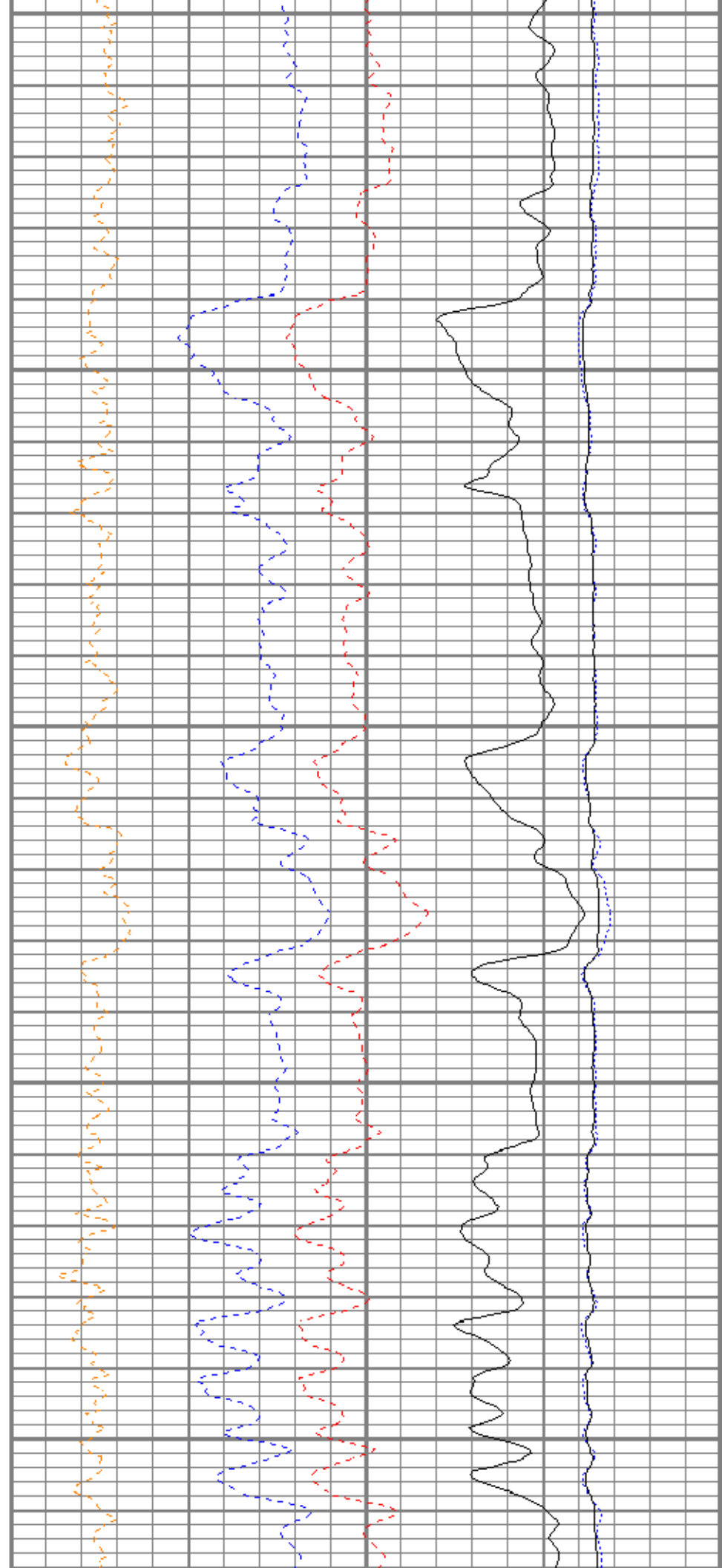
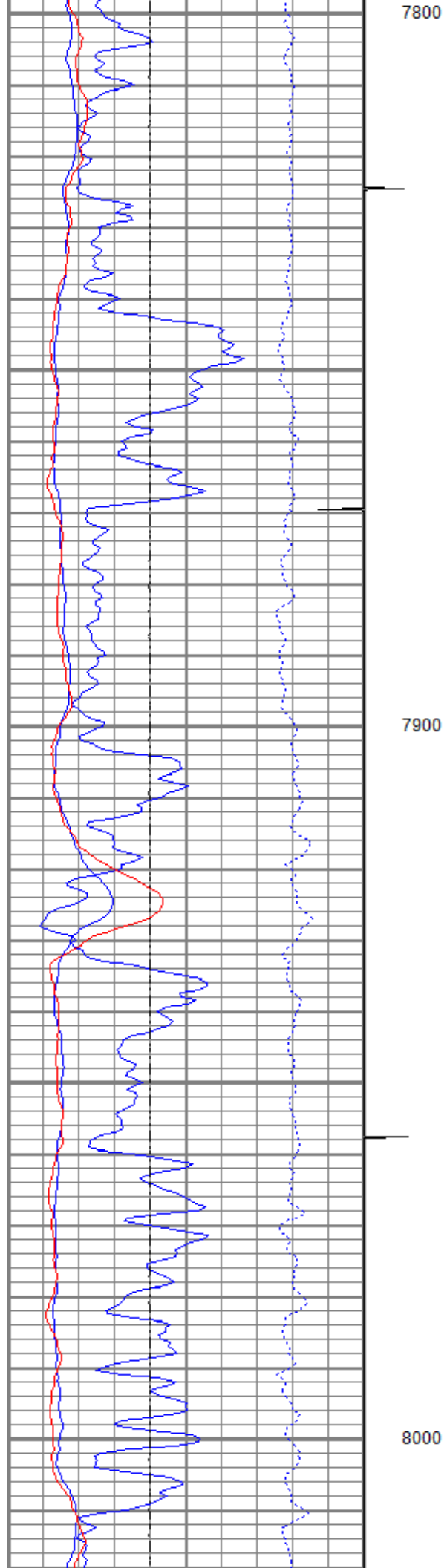


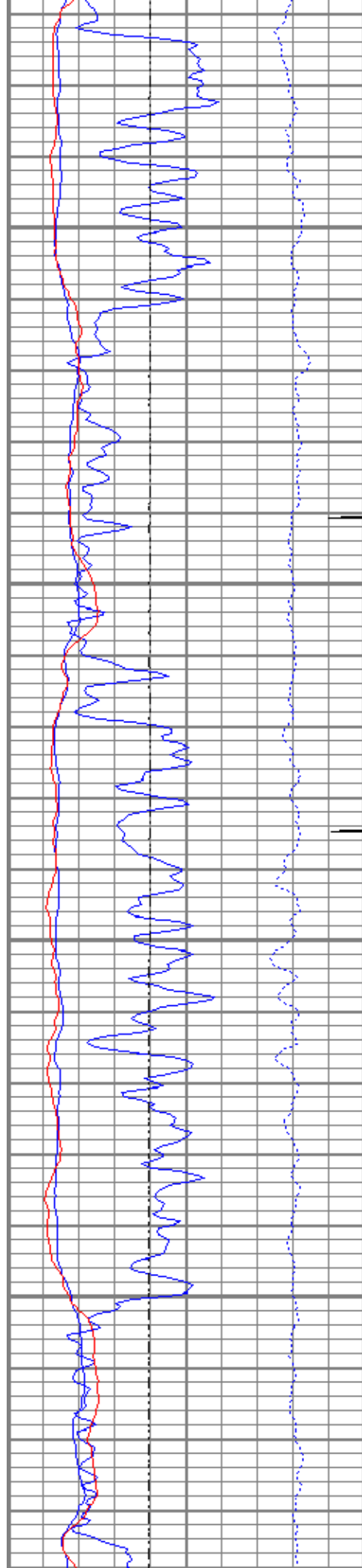


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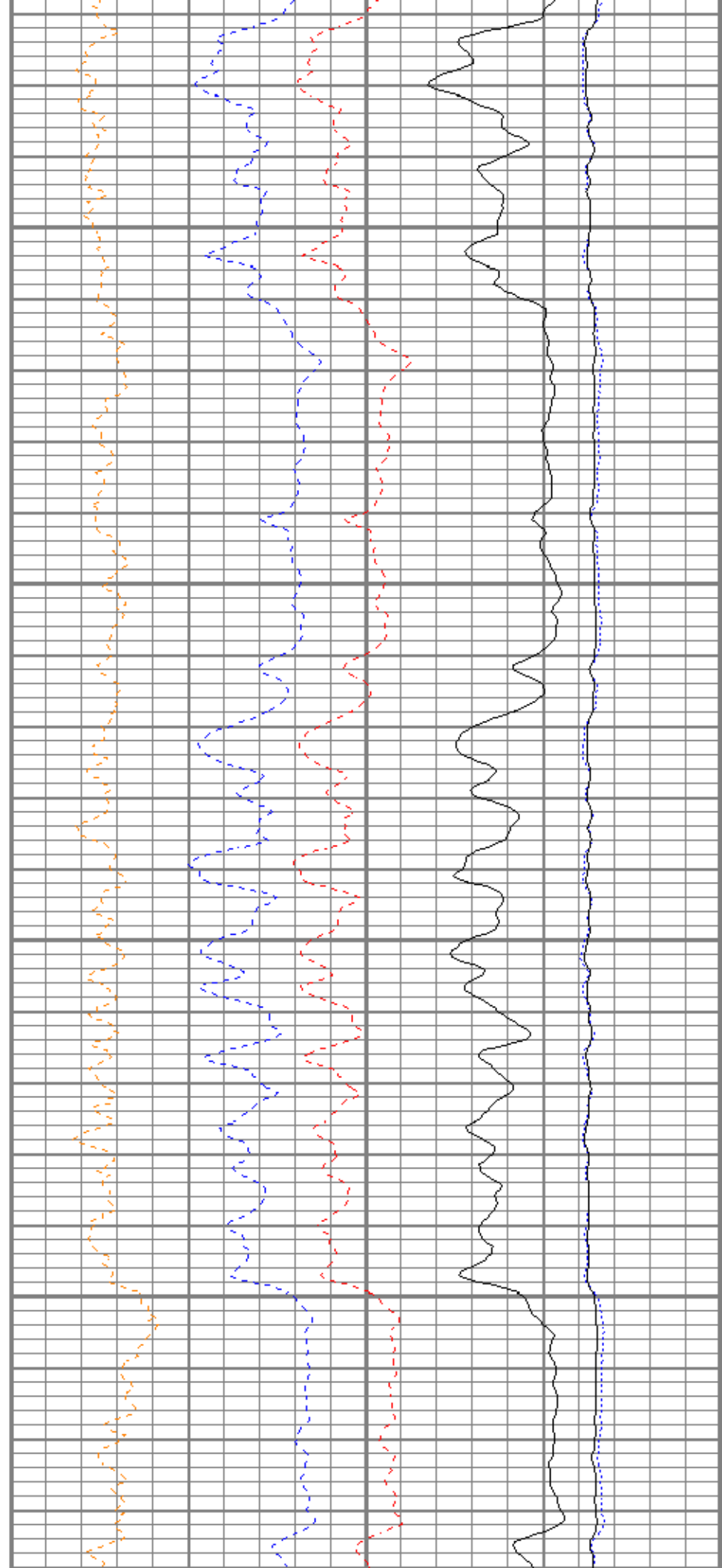


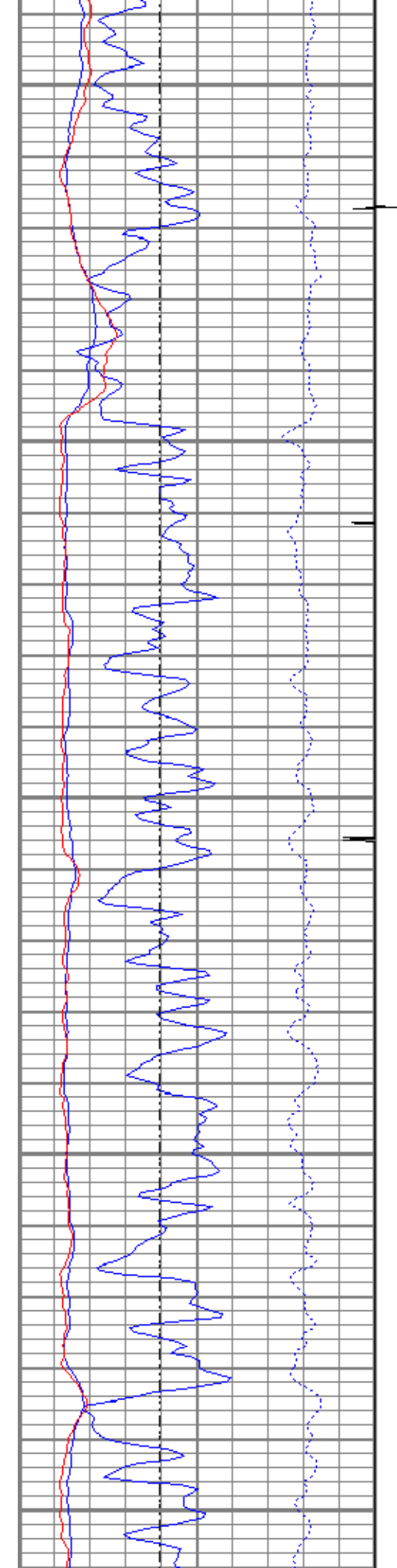




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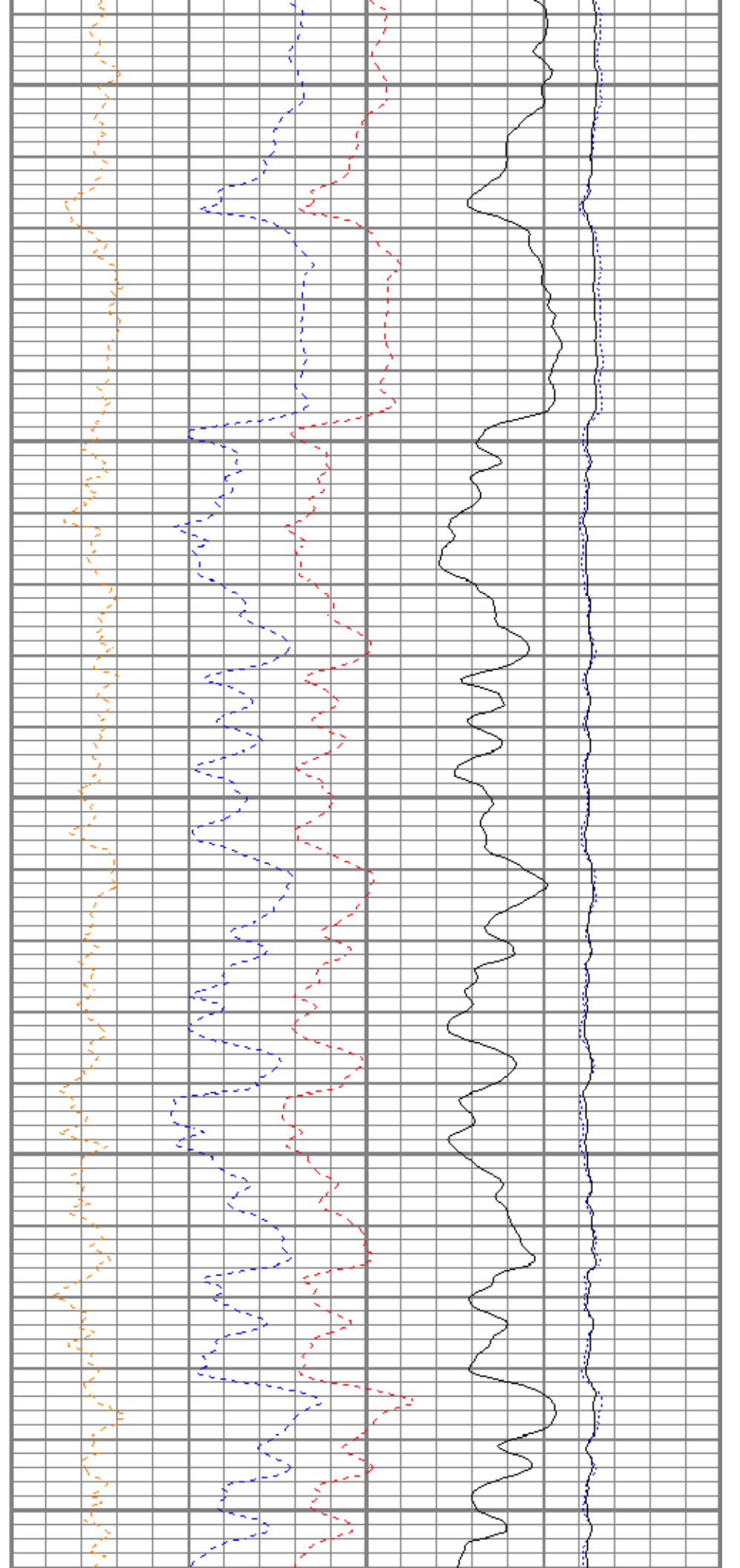
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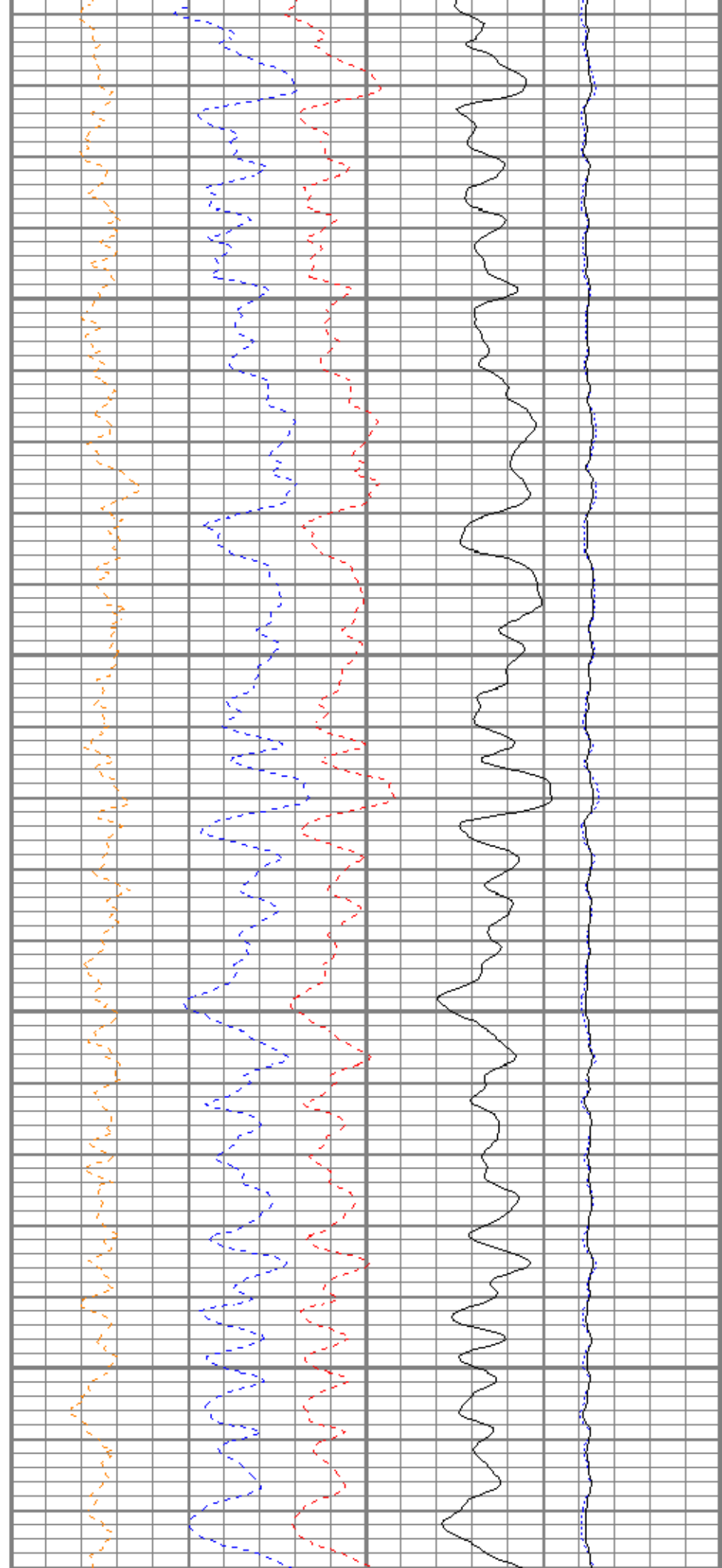
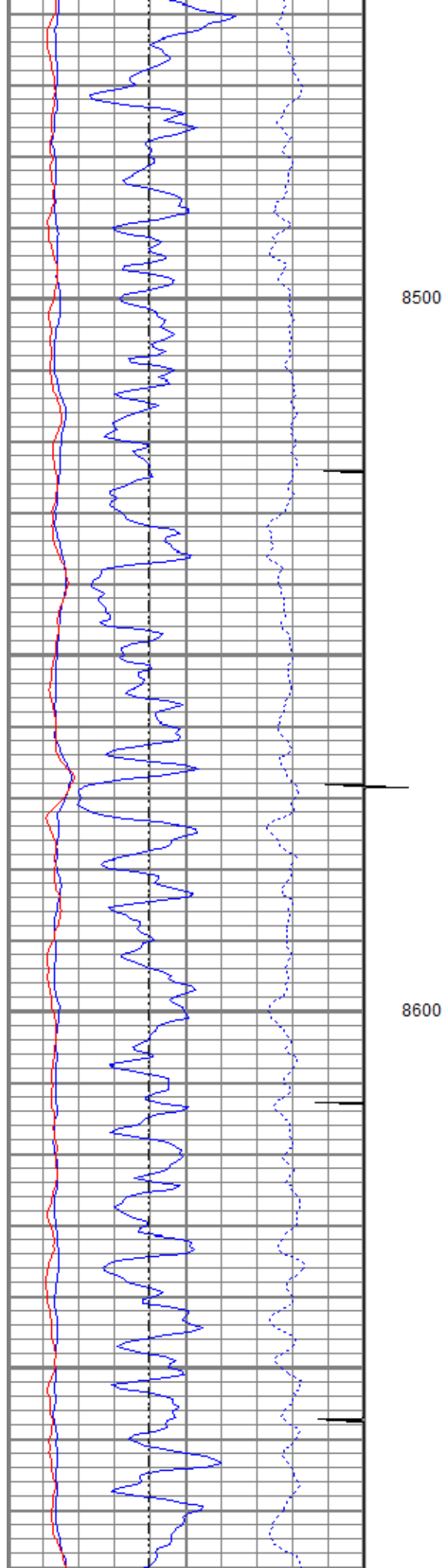


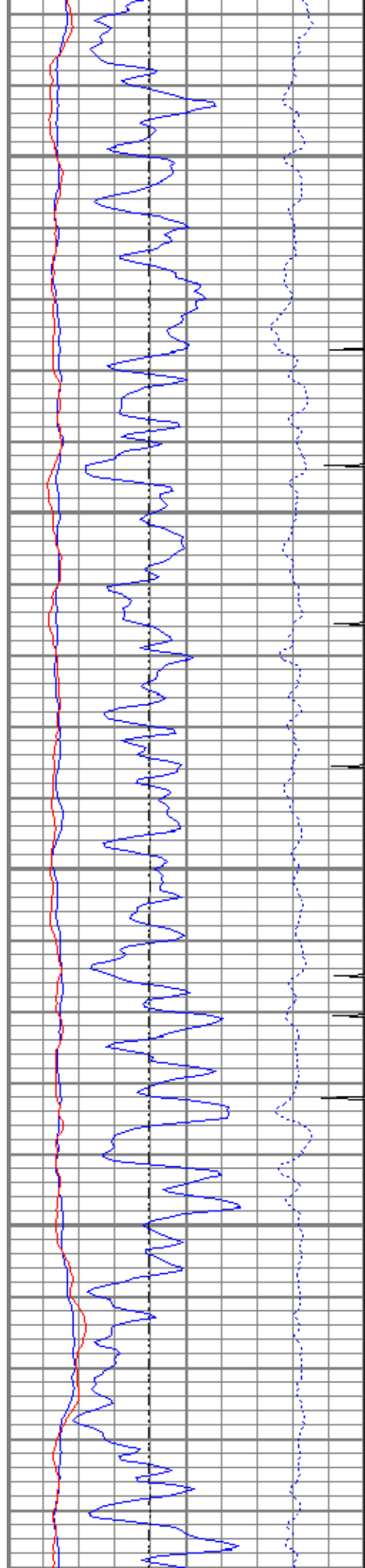


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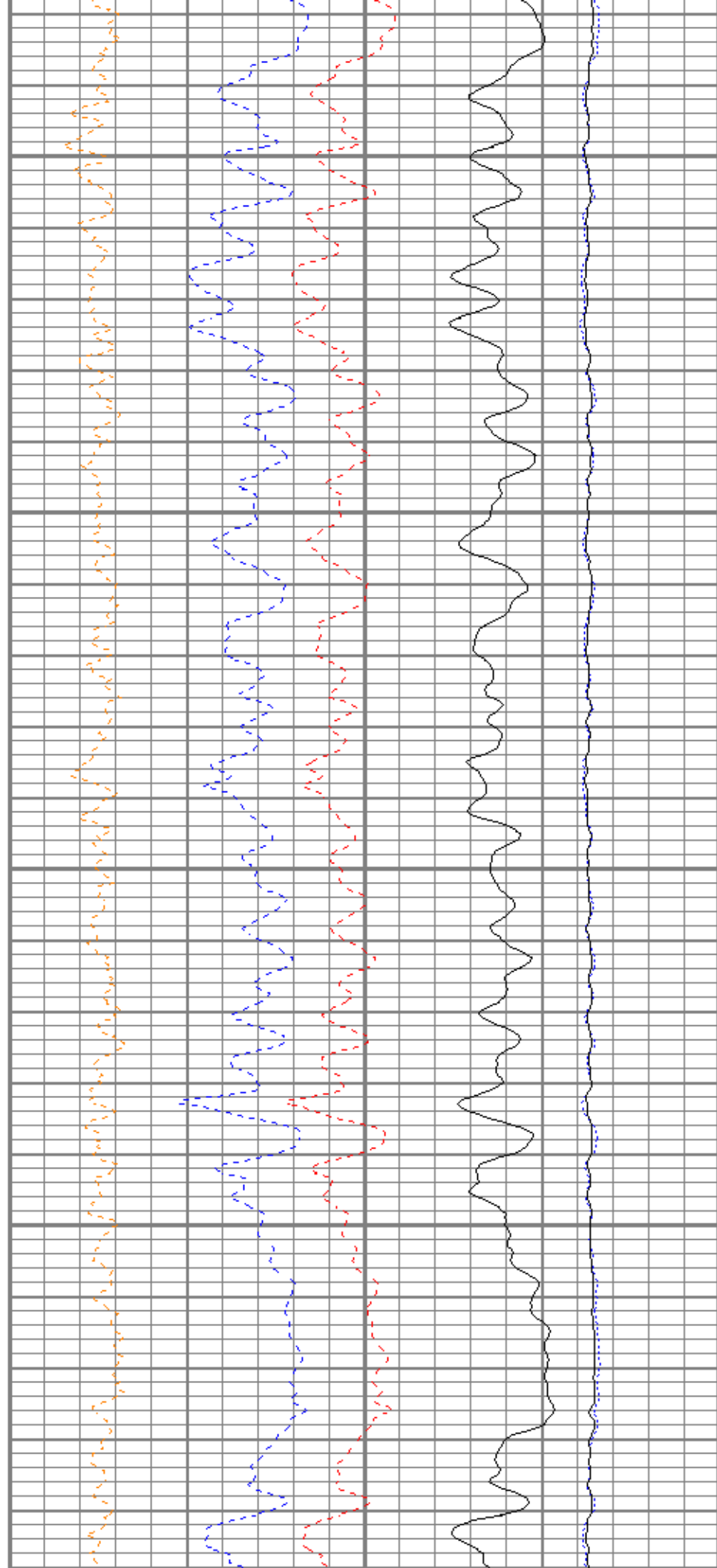


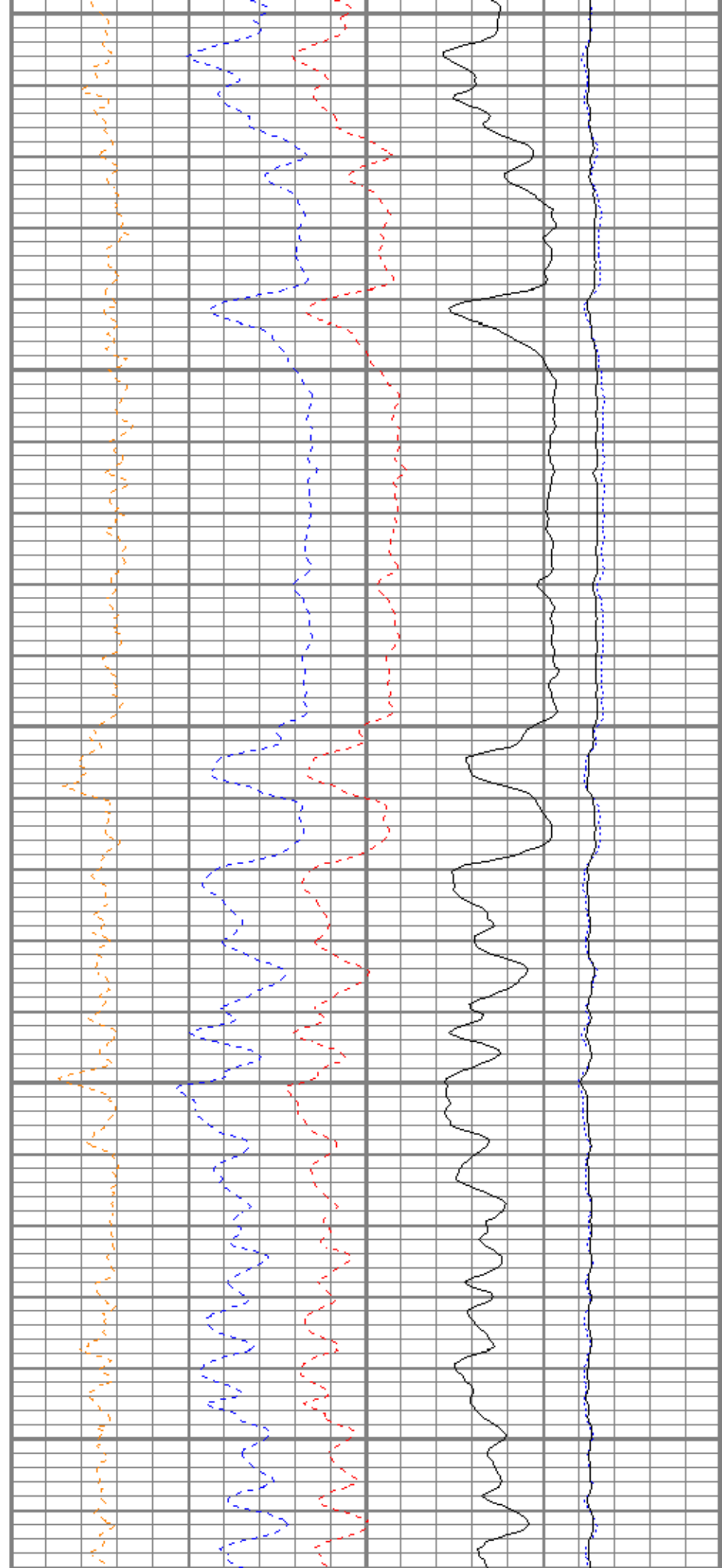
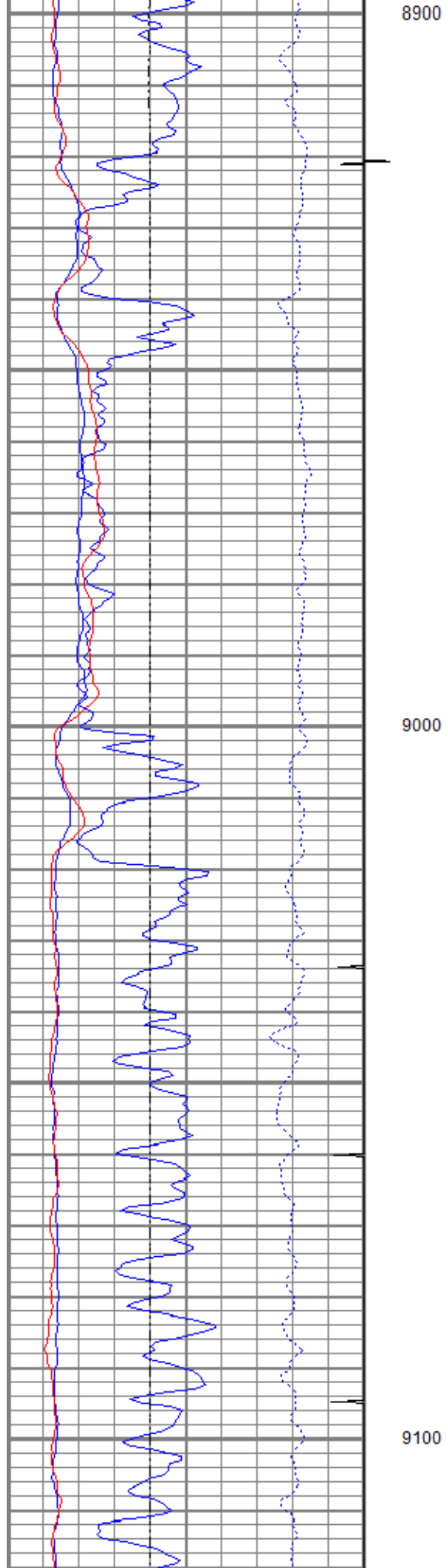


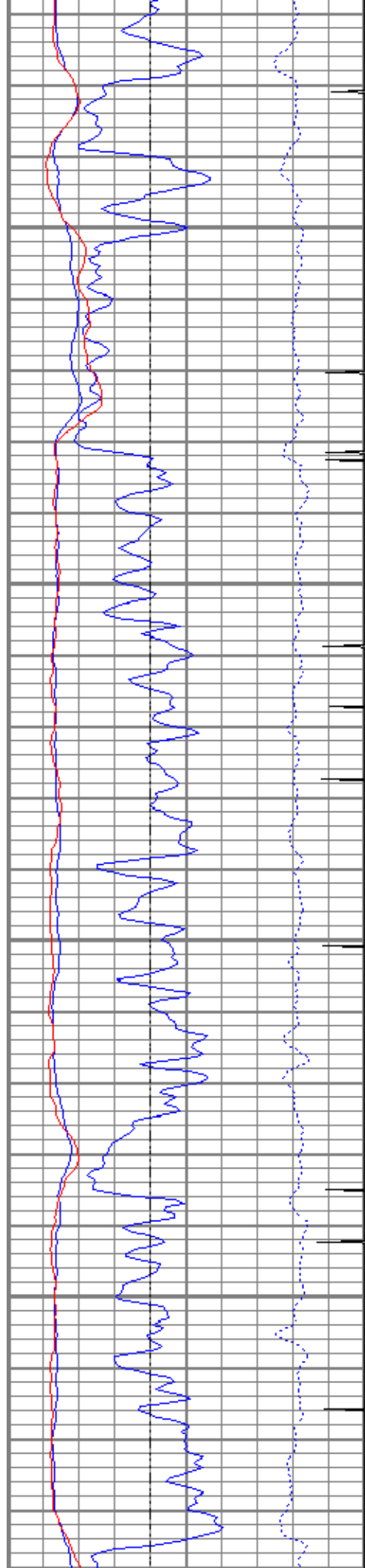


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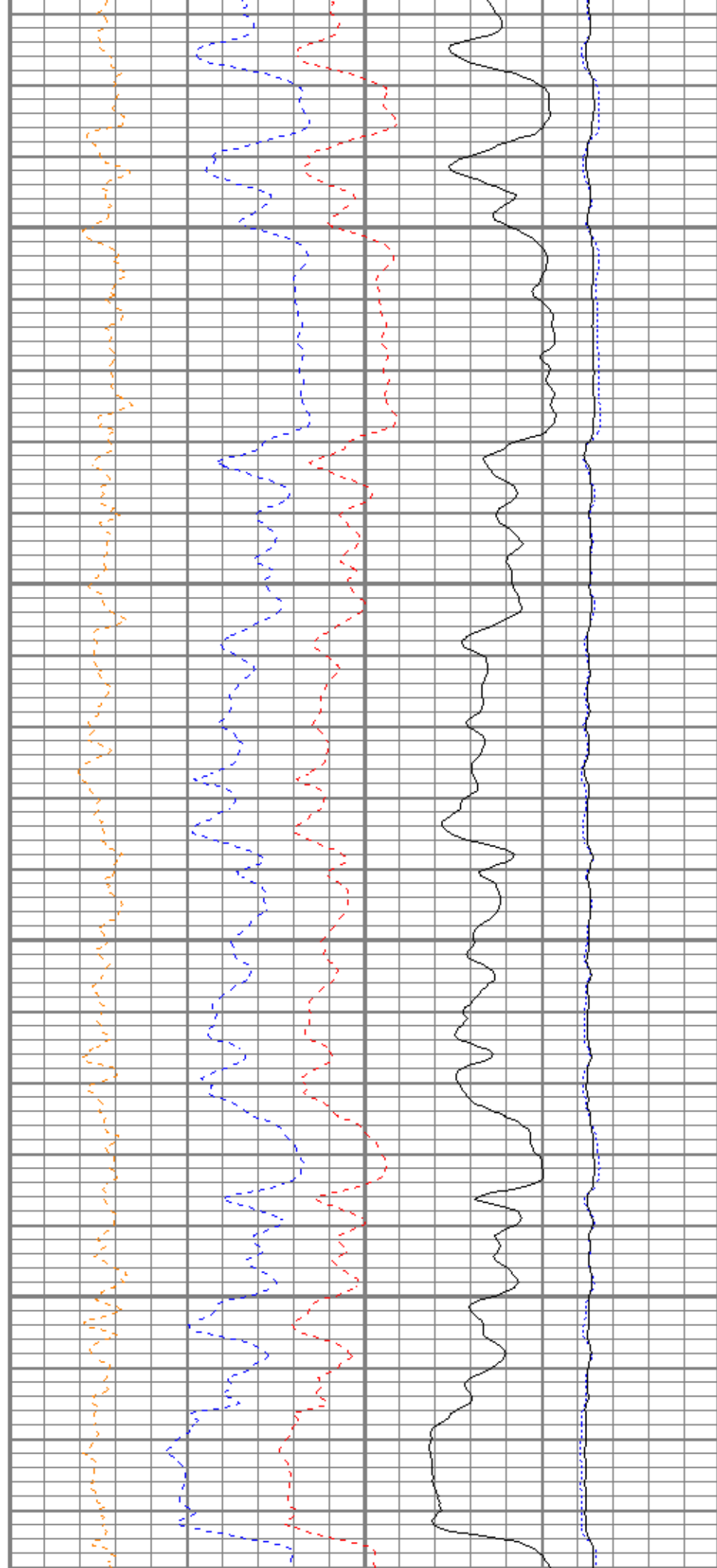


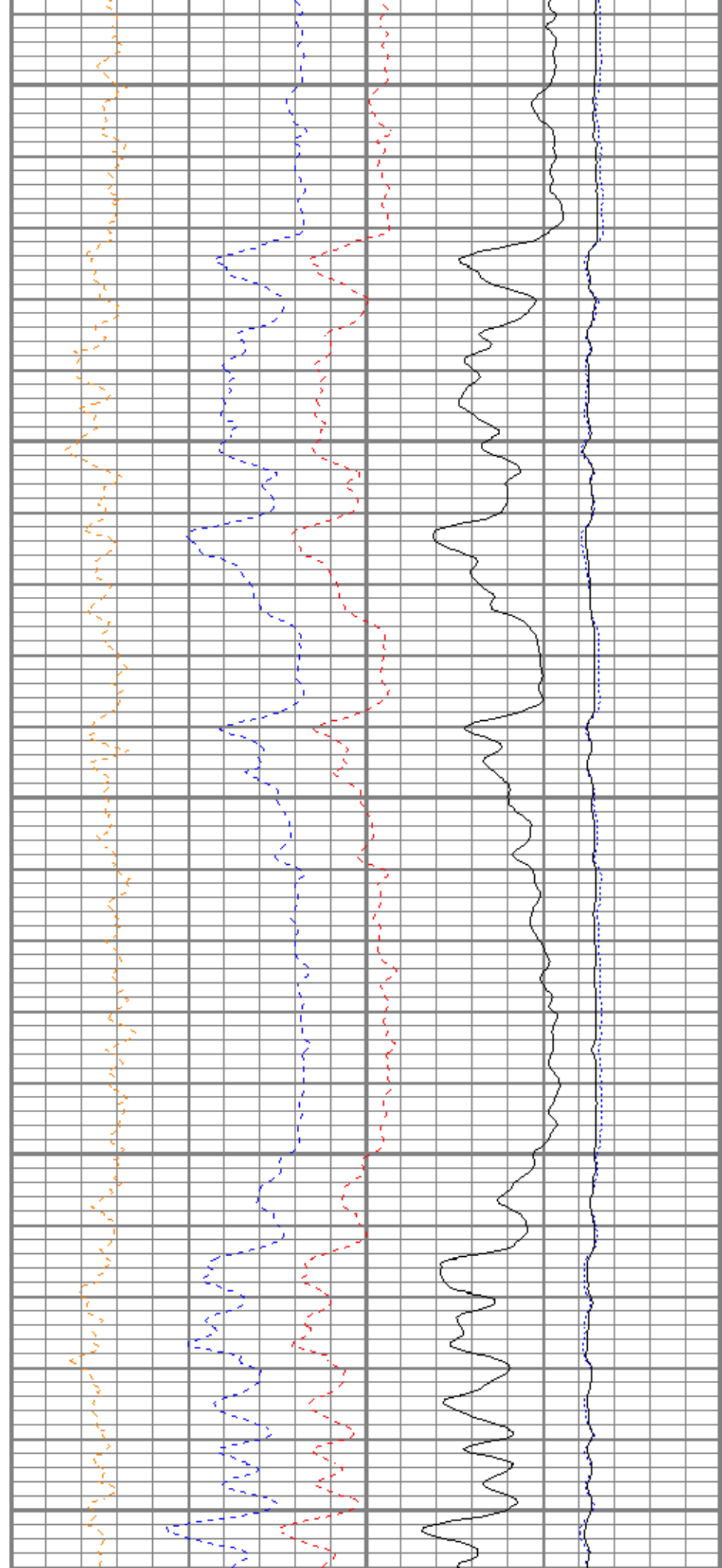
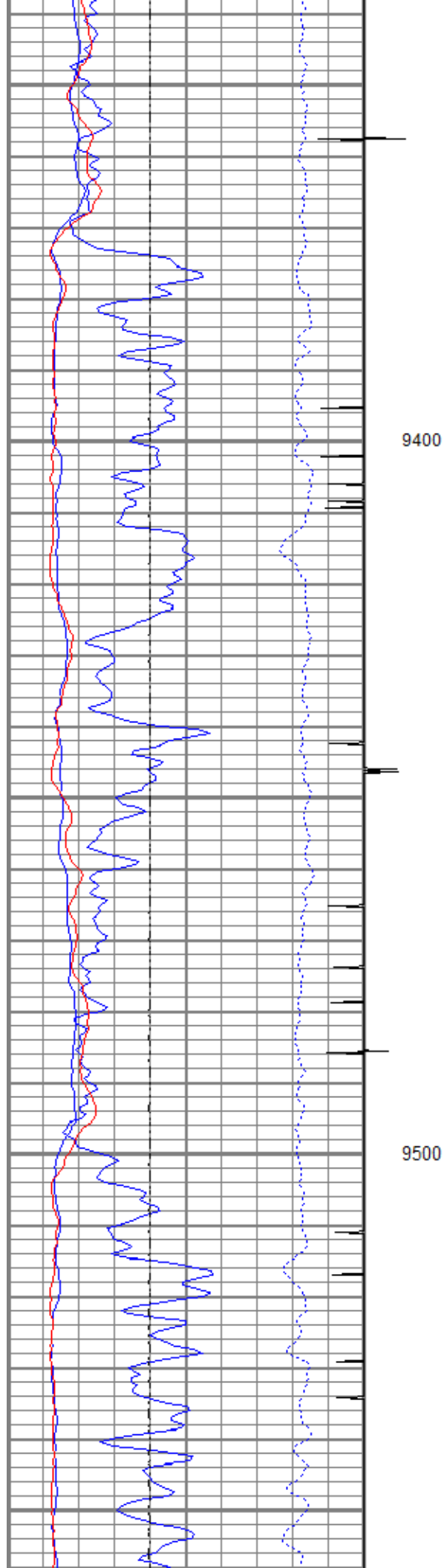


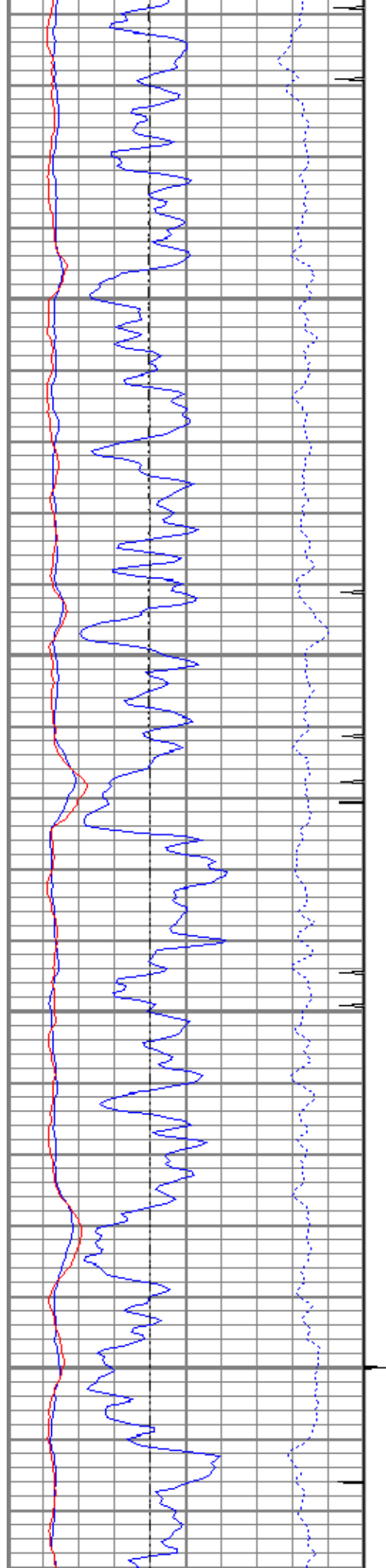


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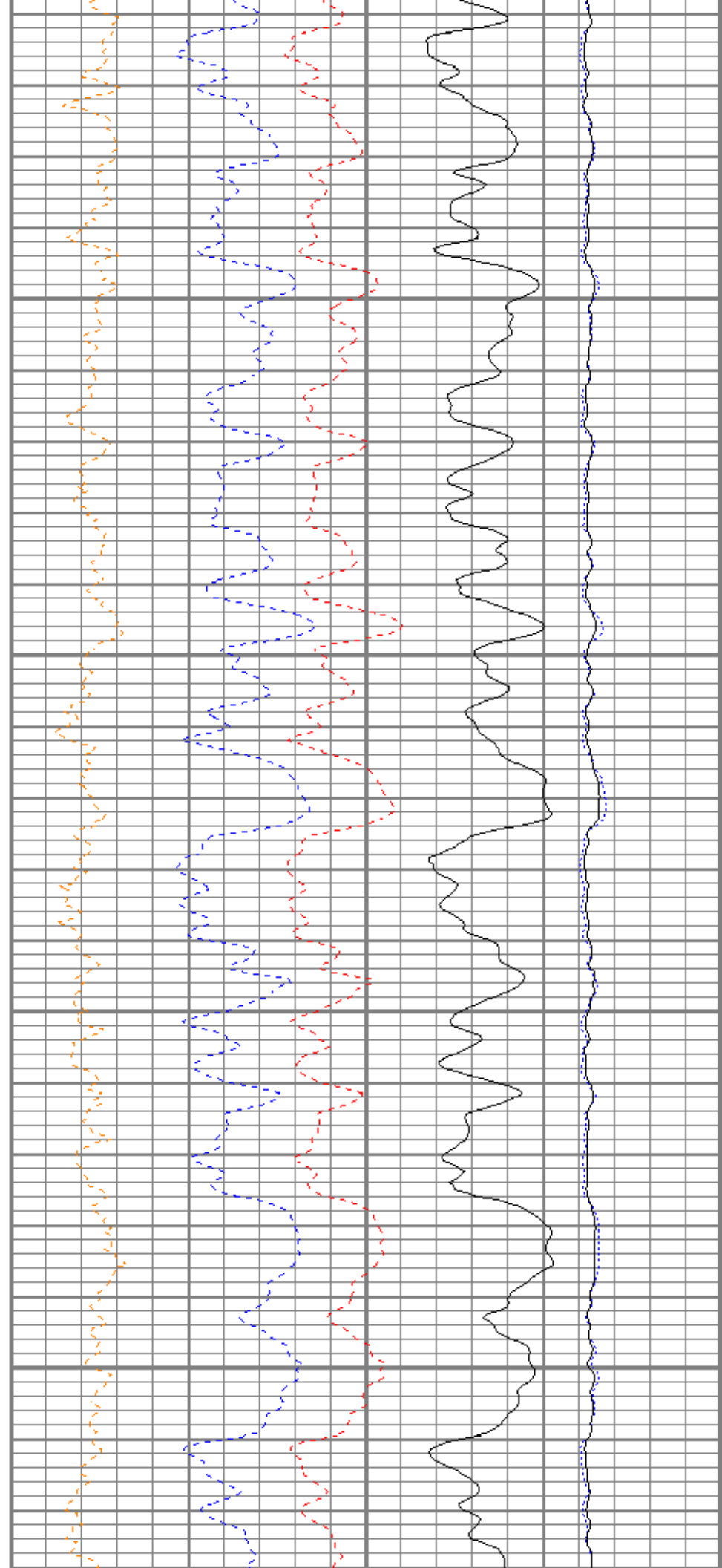


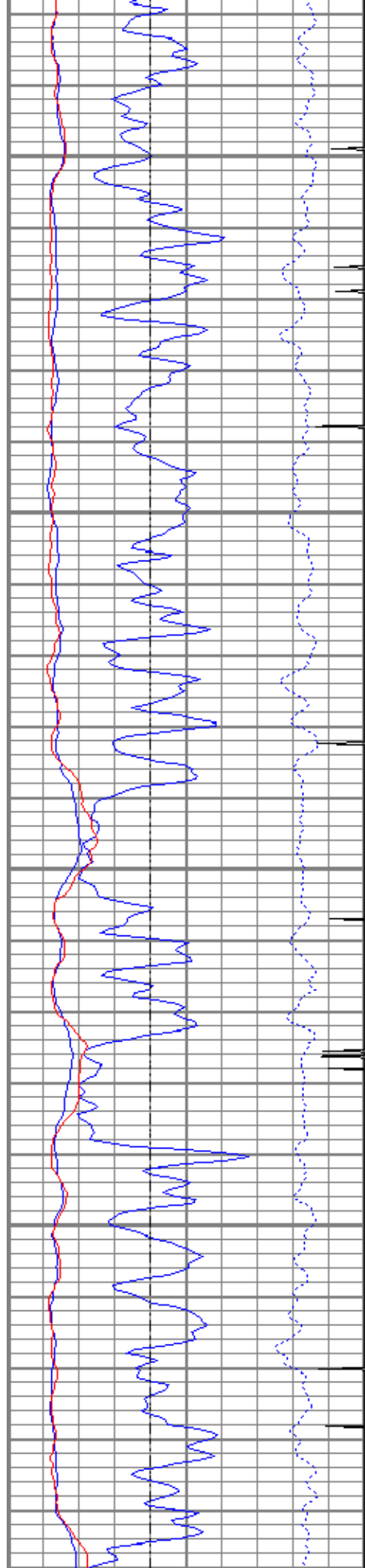




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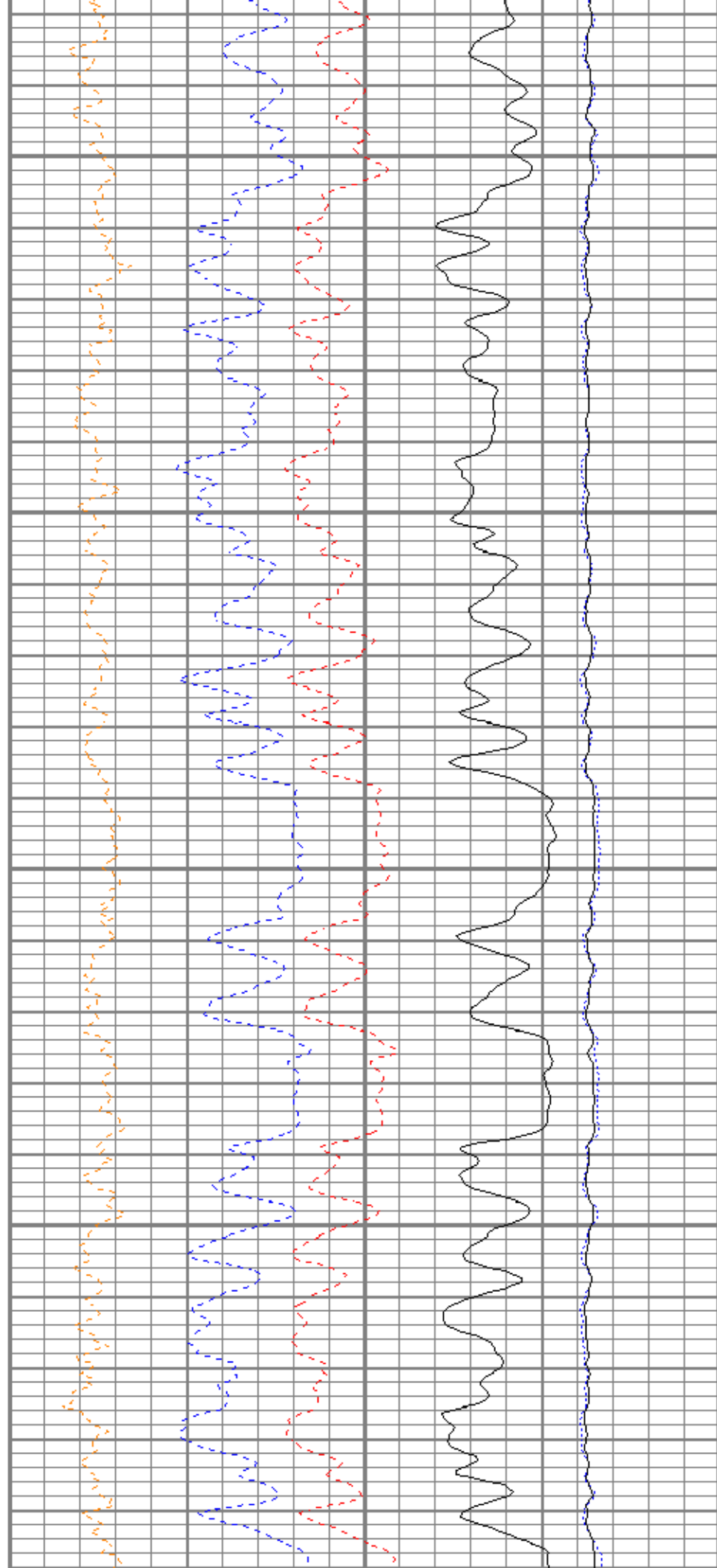
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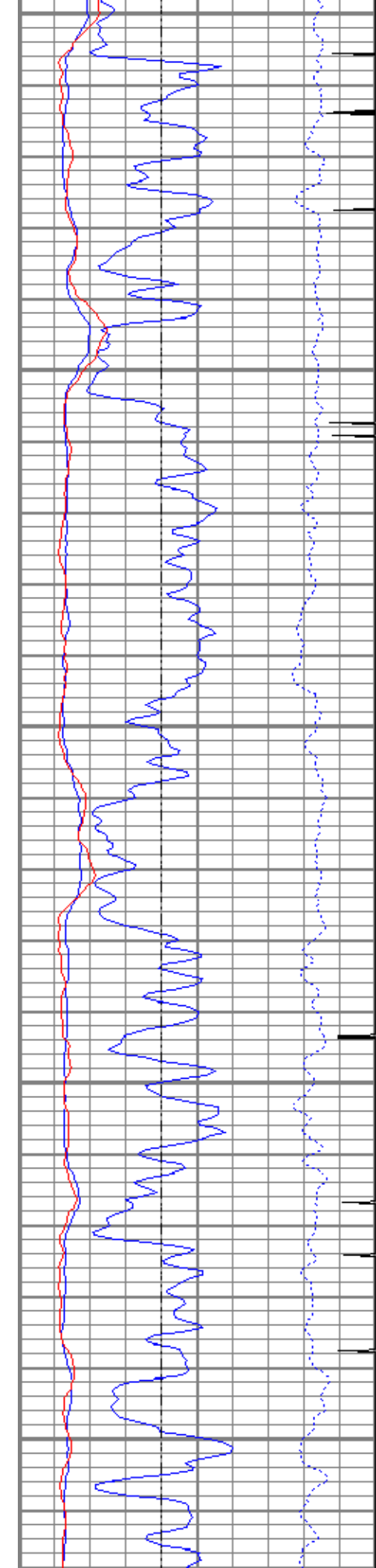




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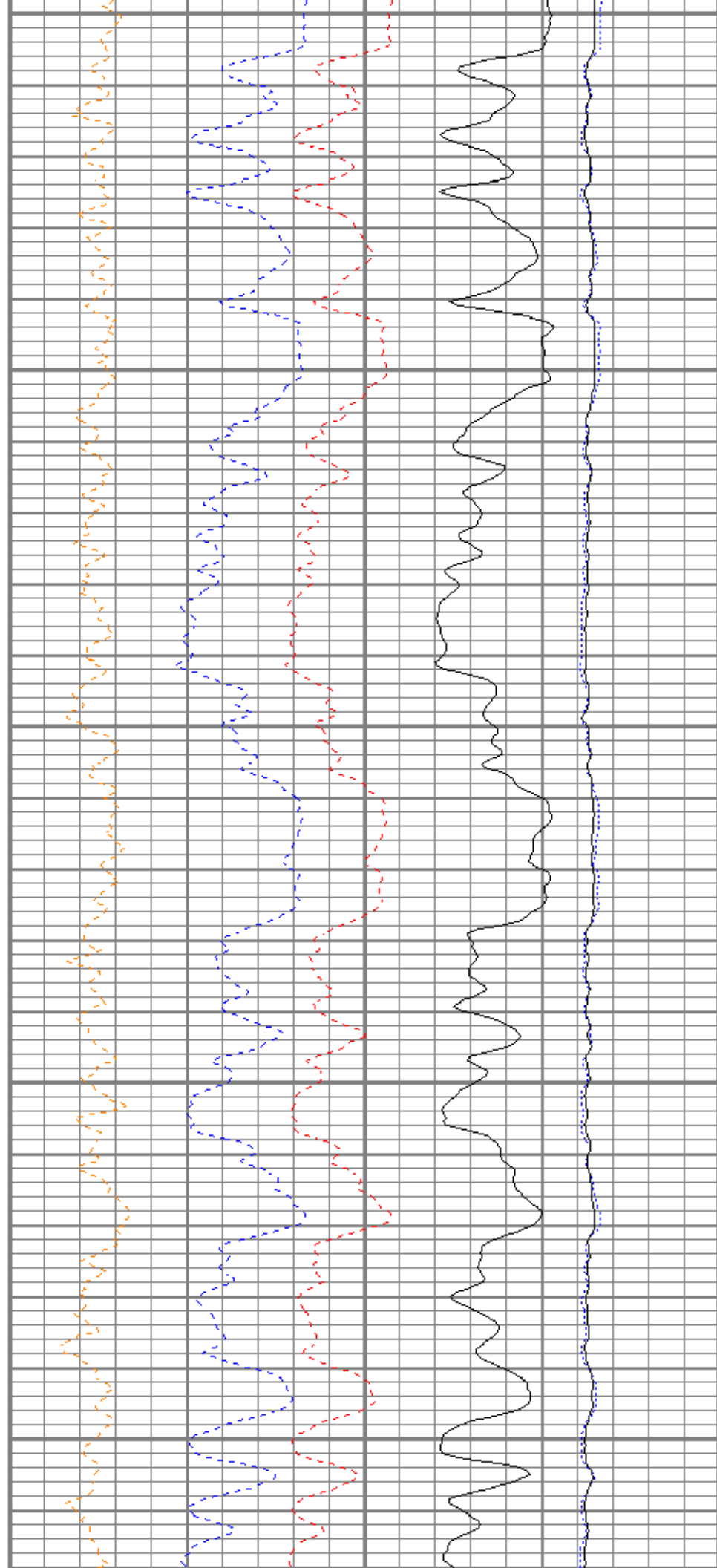


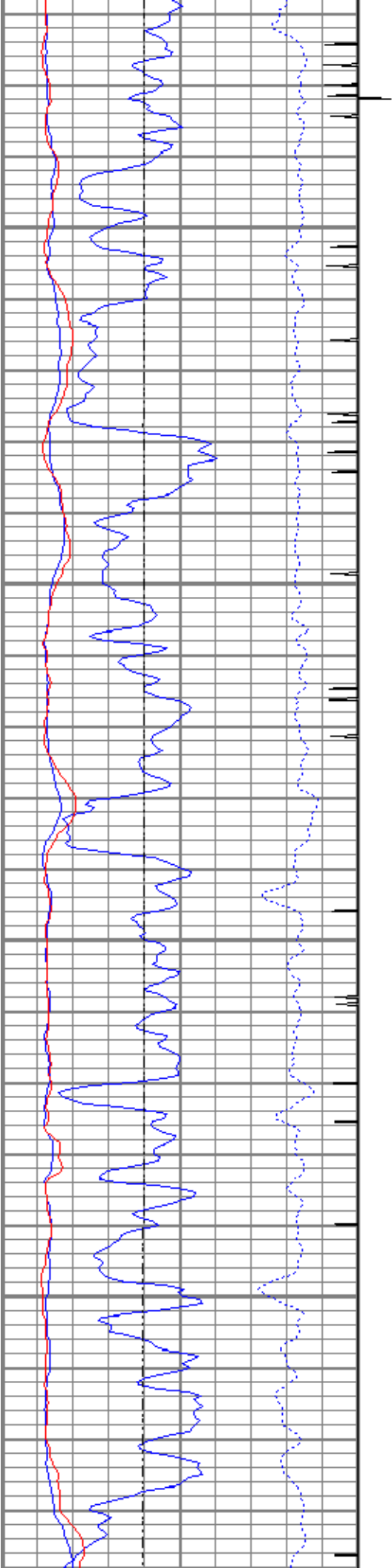


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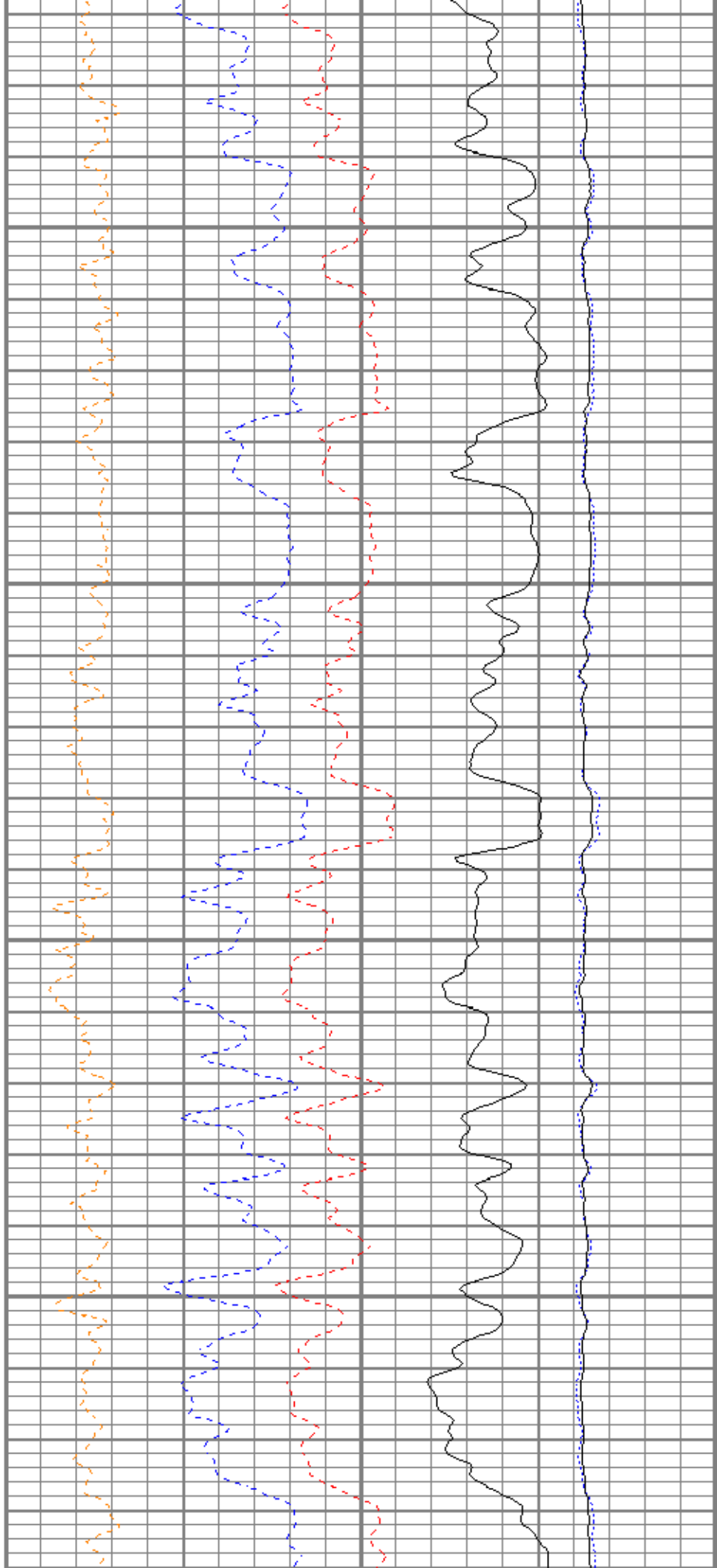
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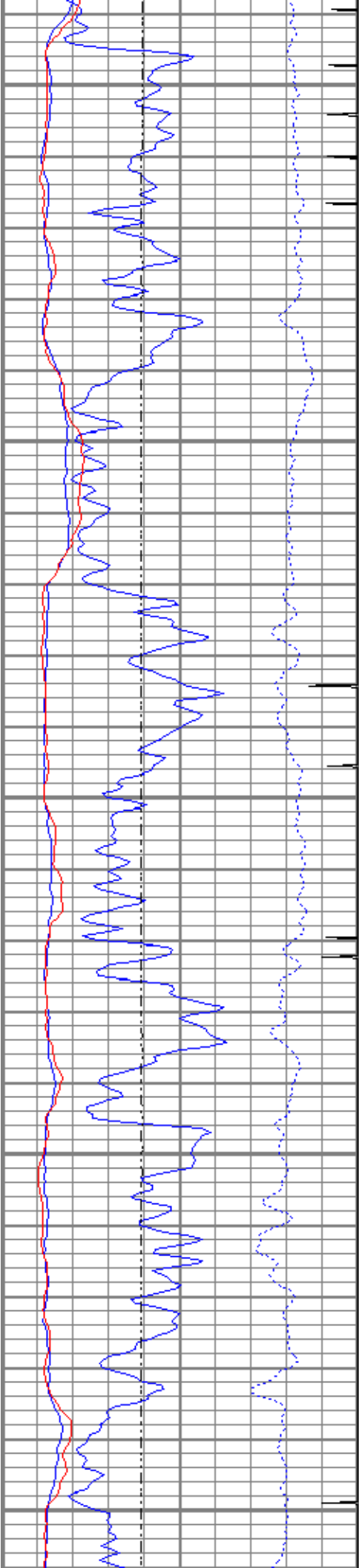




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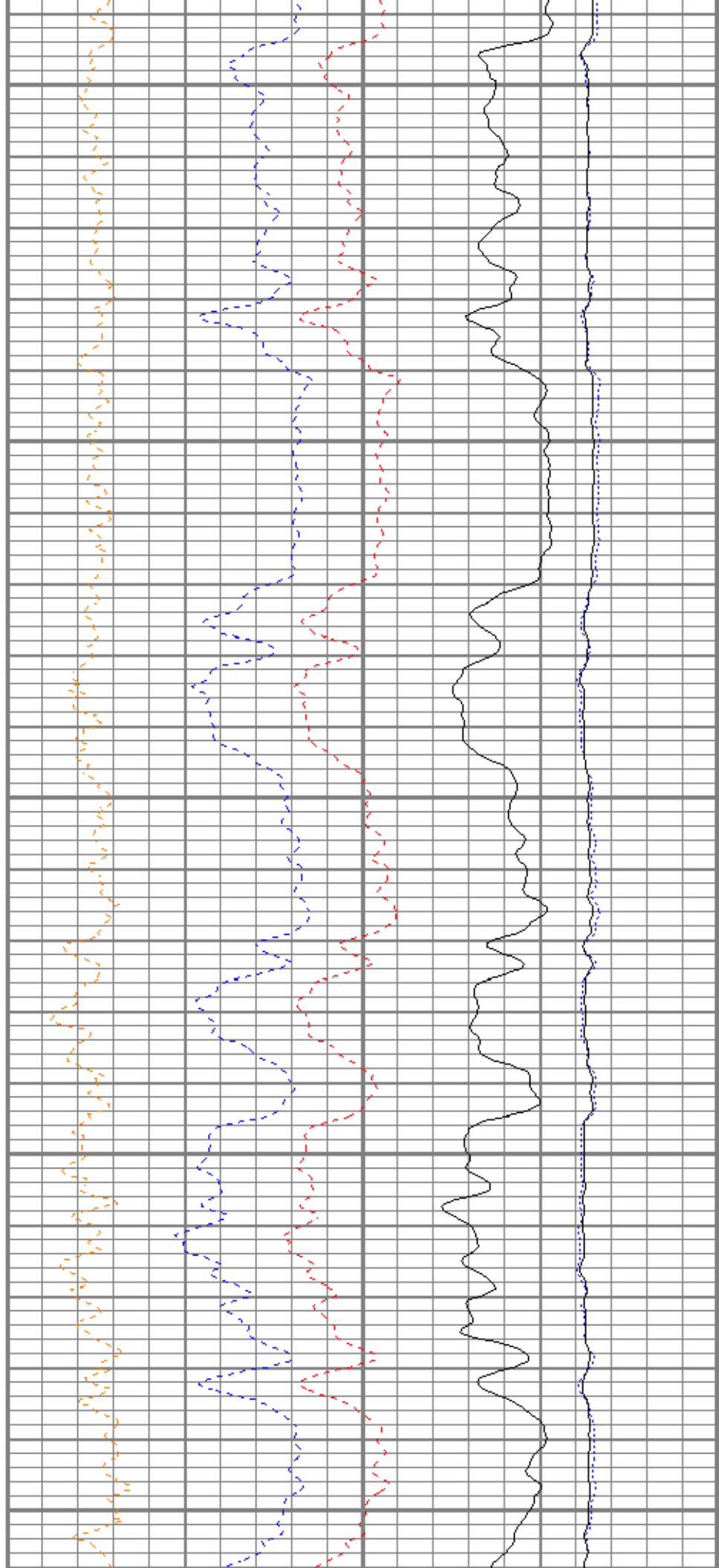
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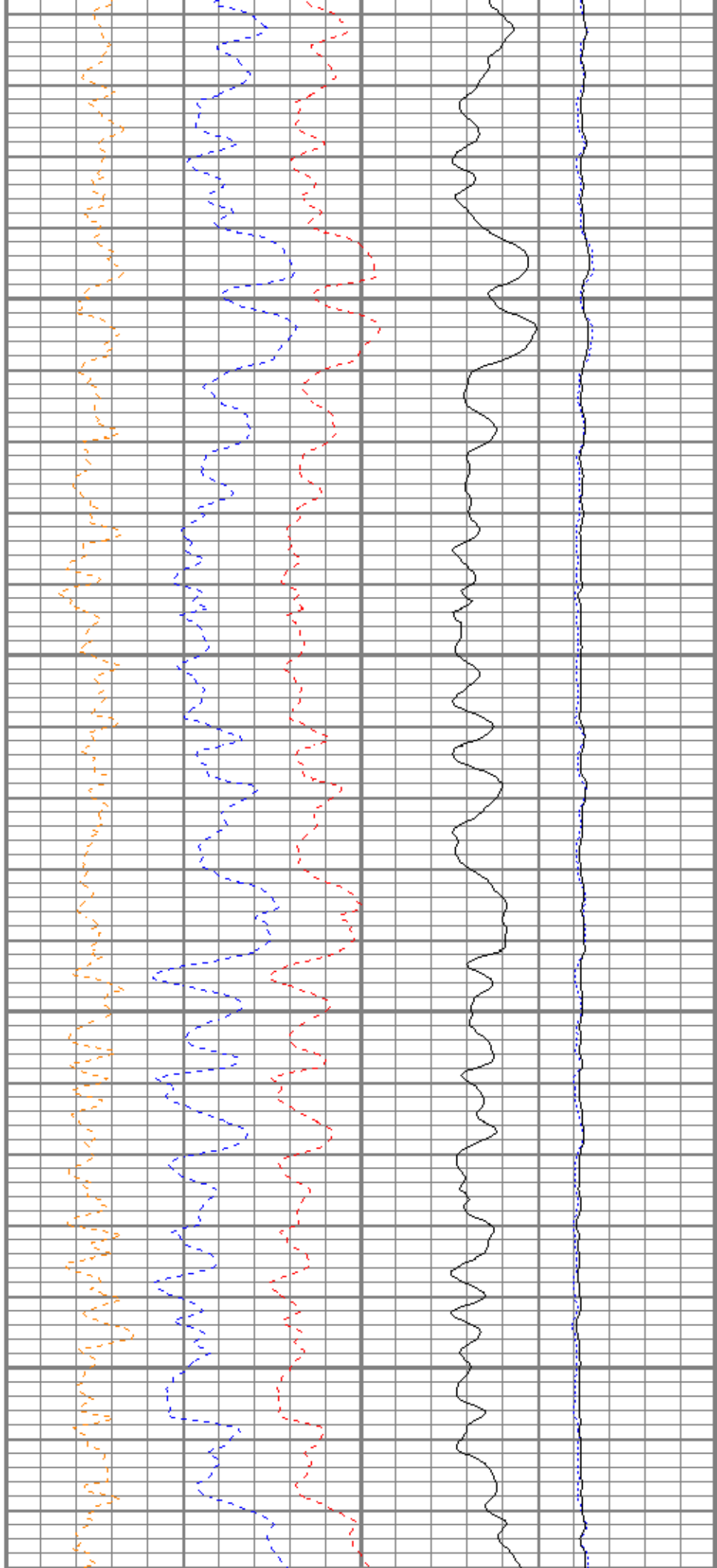
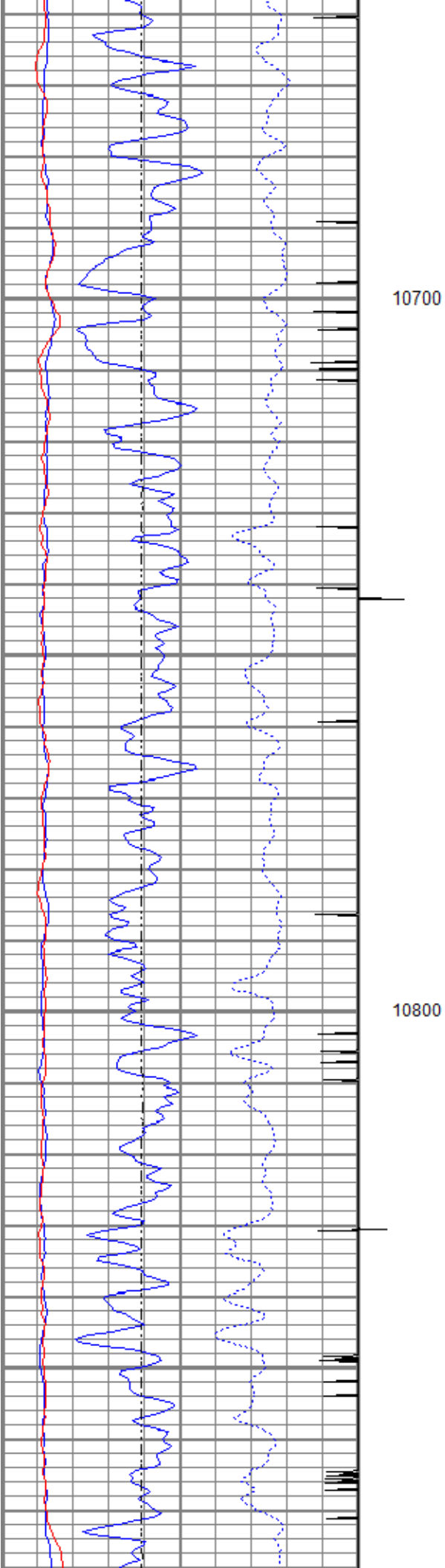


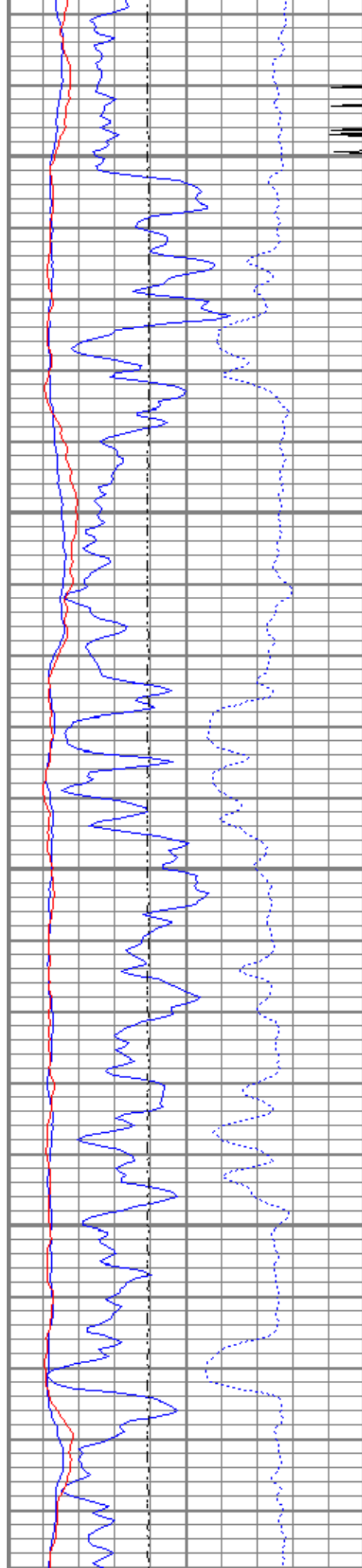


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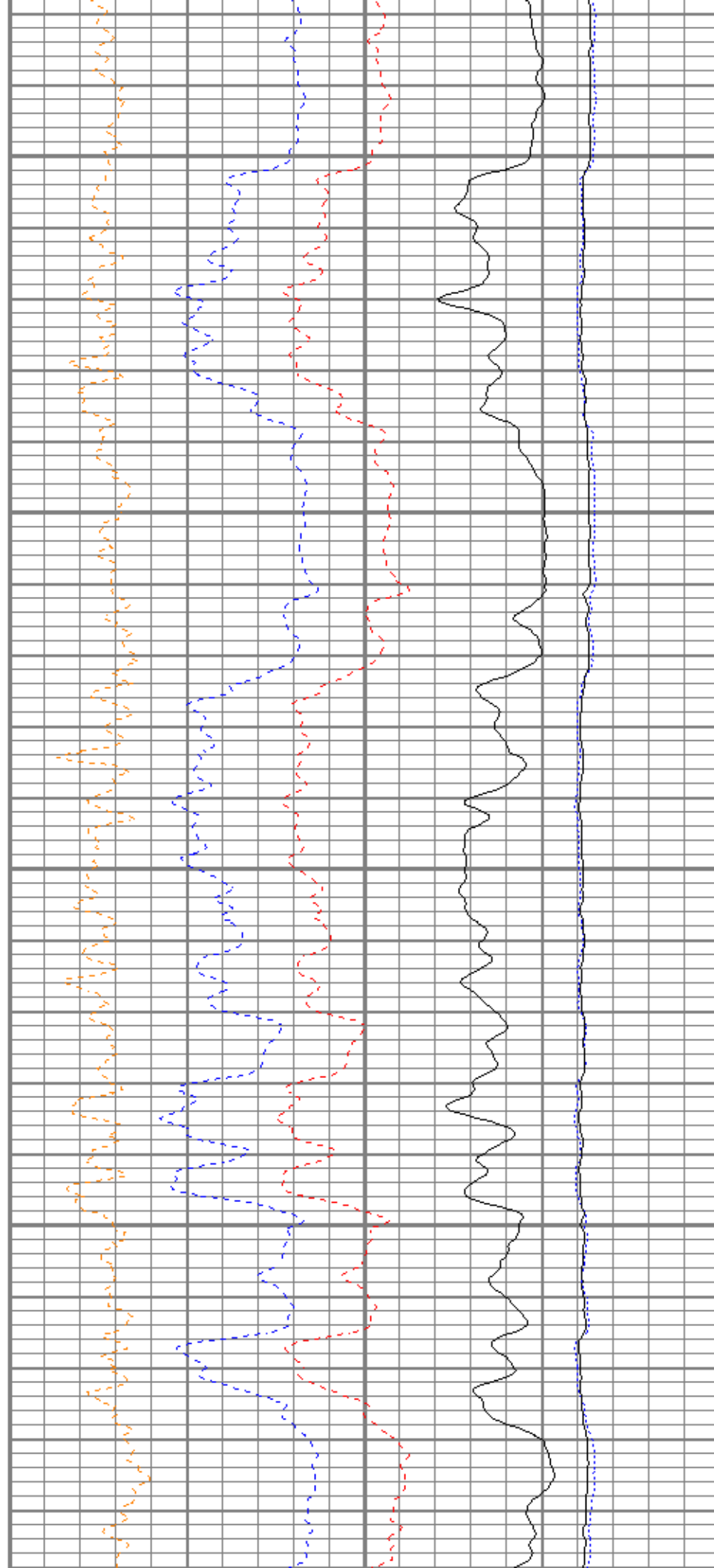


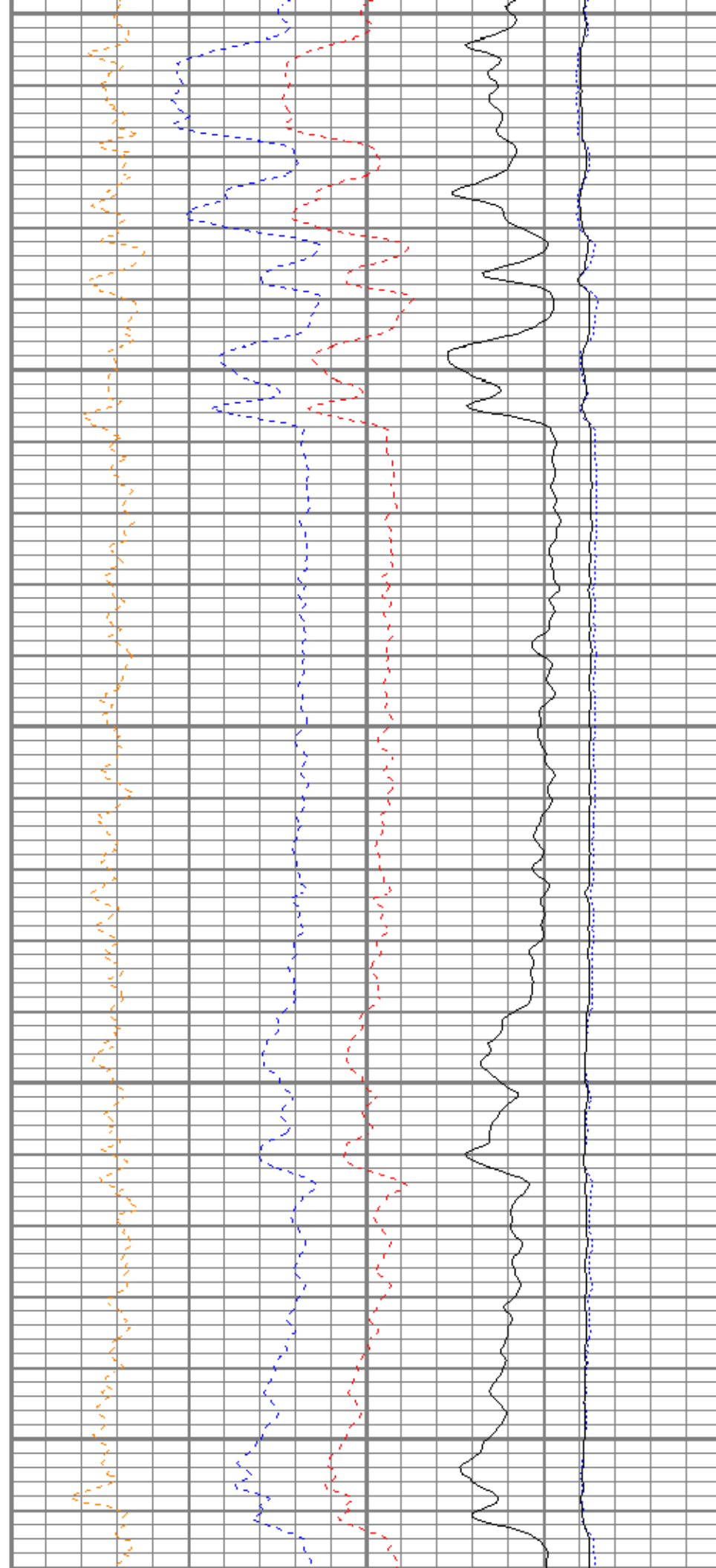
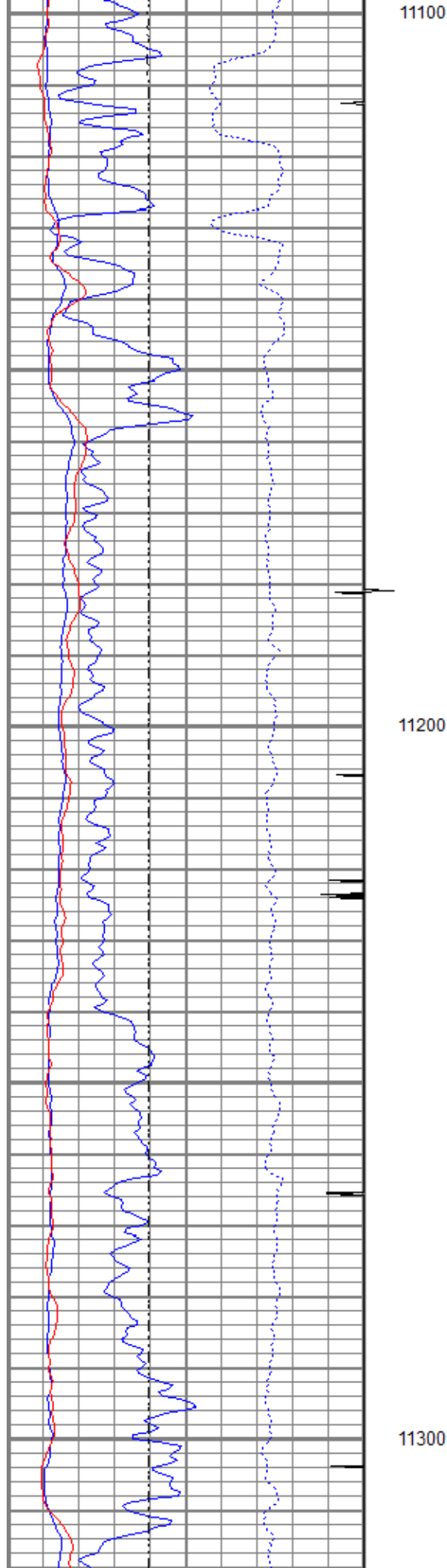


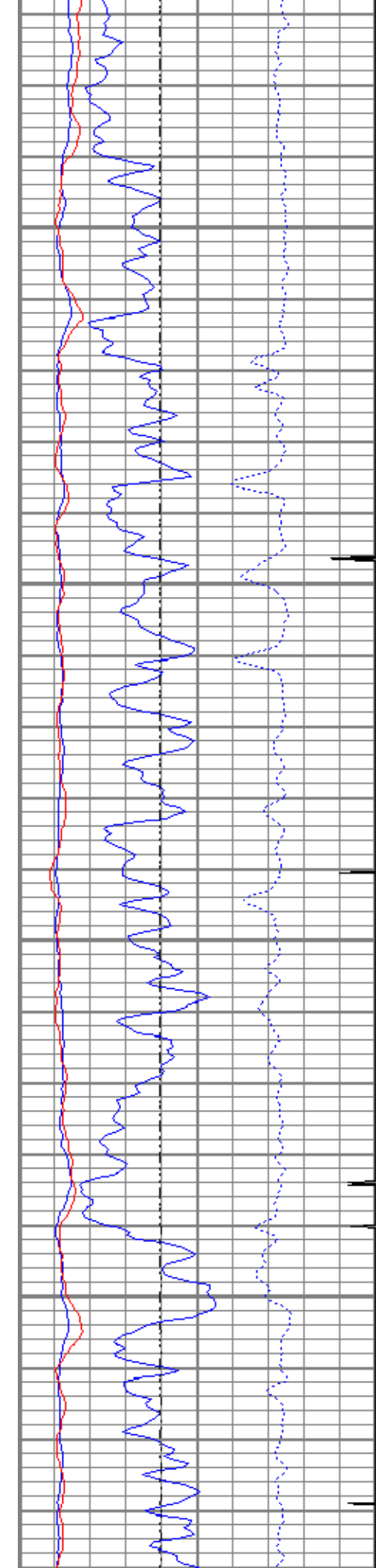


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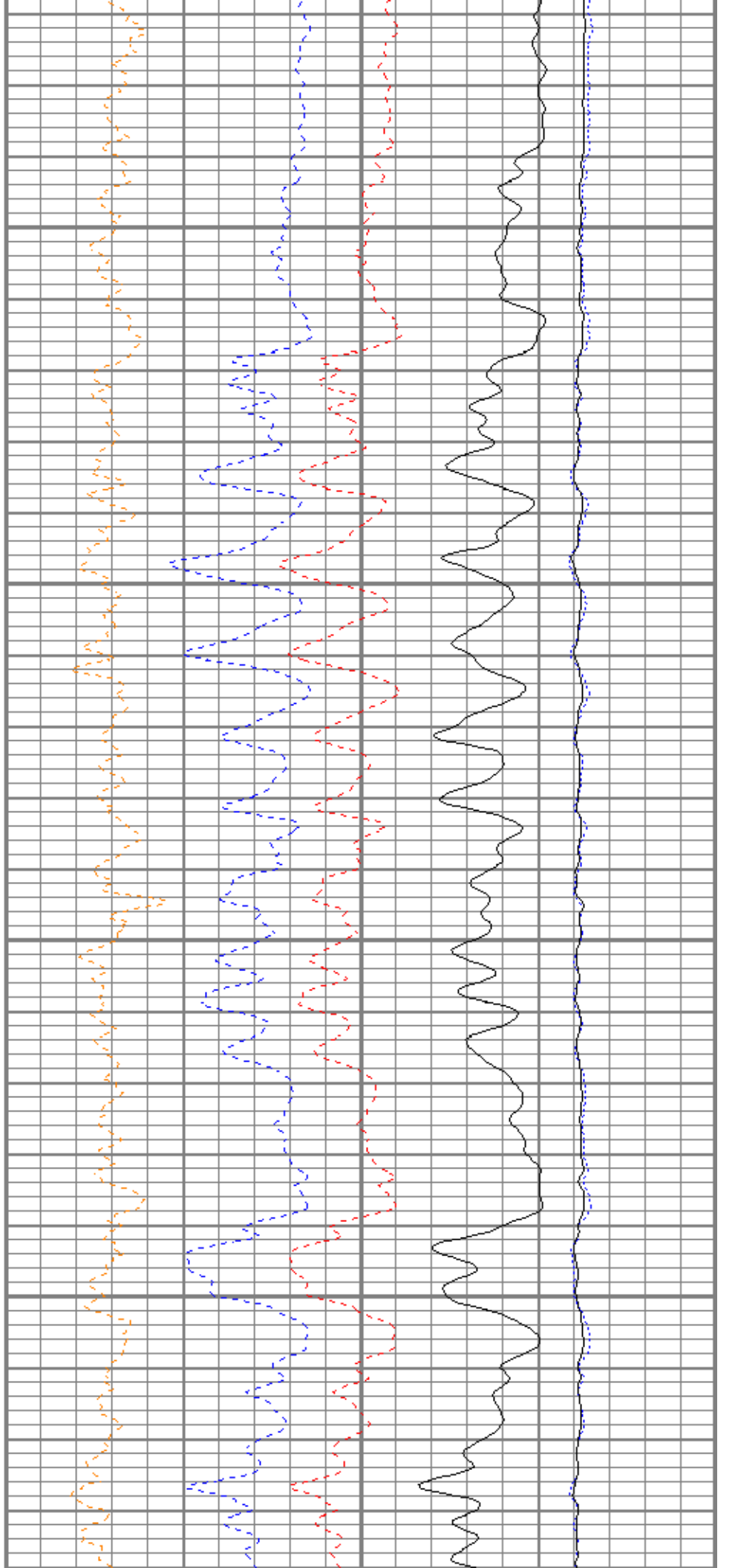


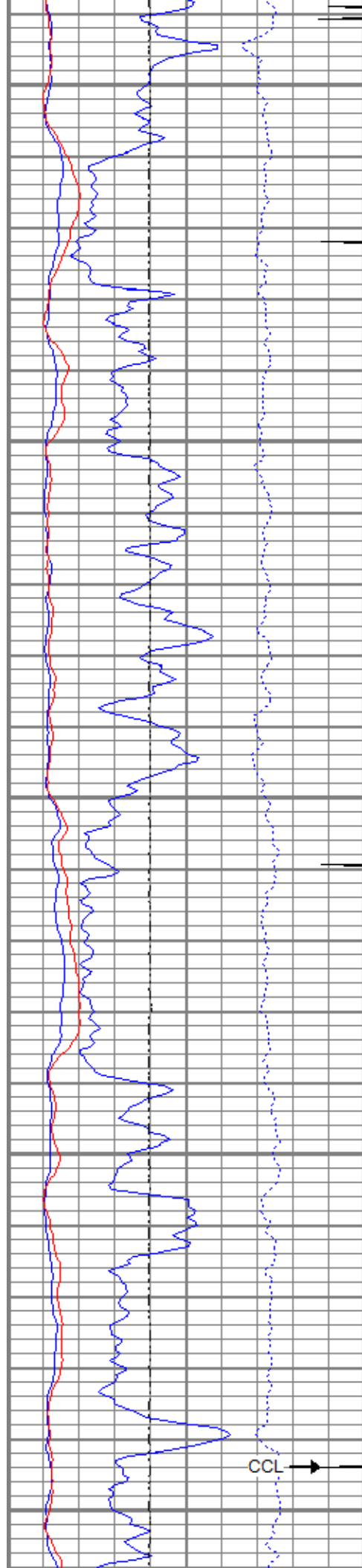




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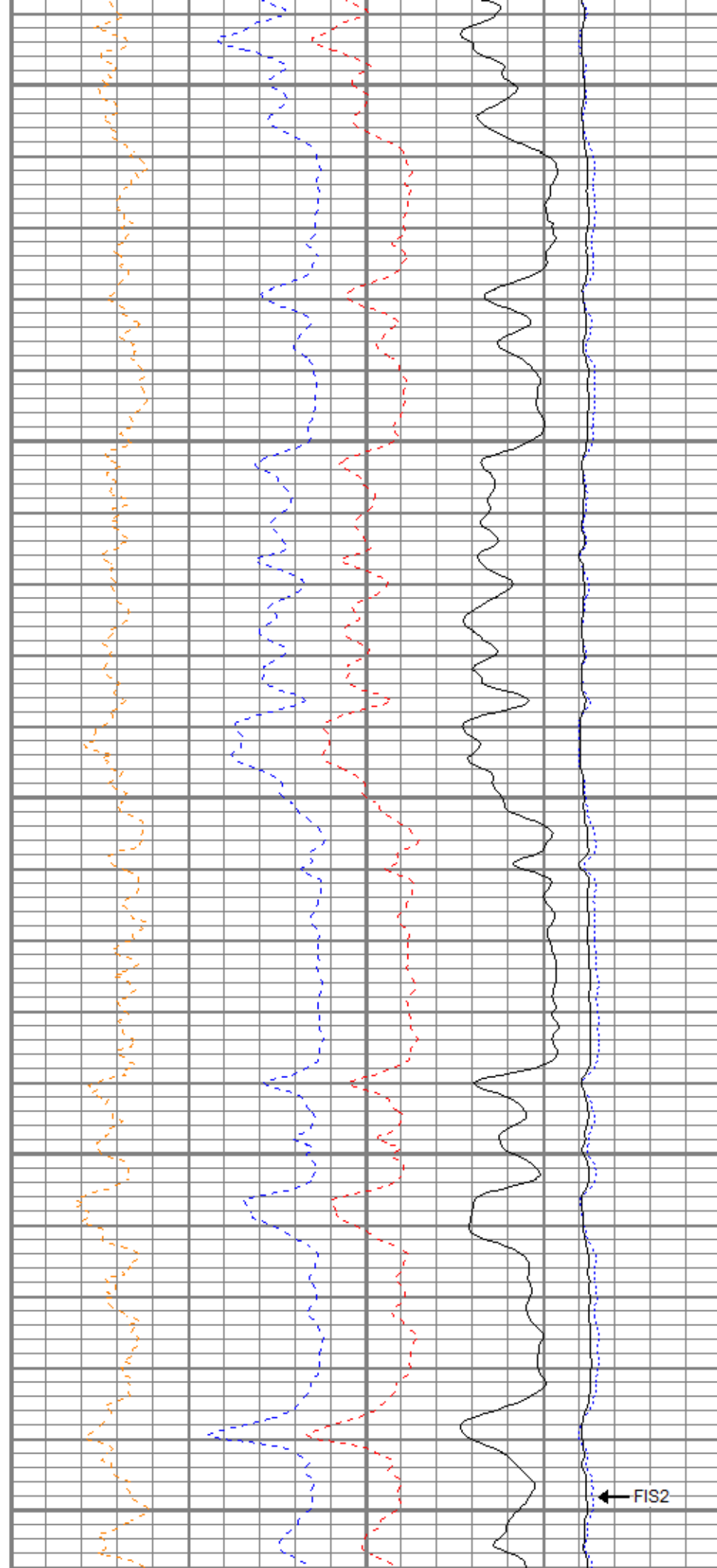




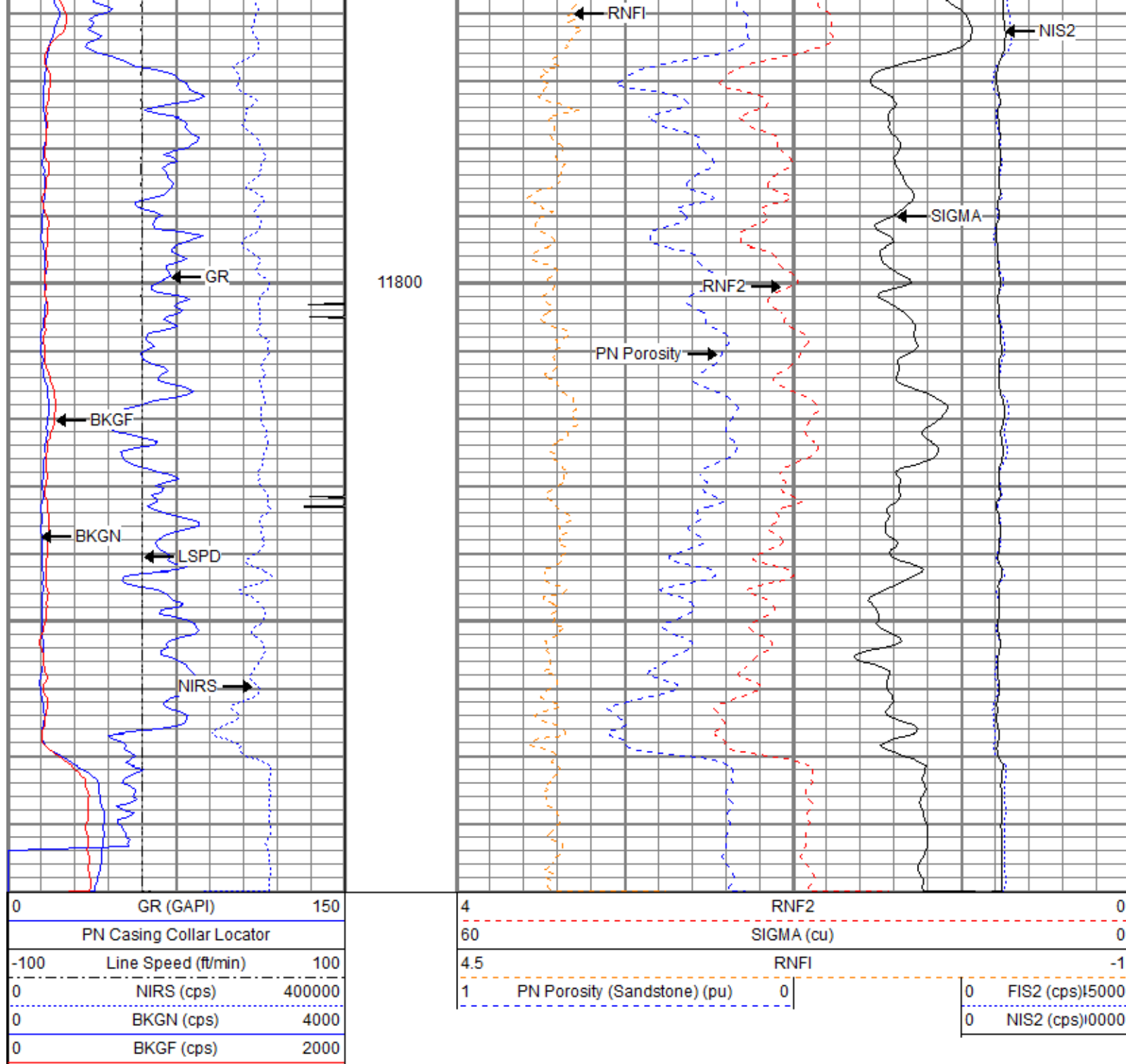
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CCL →

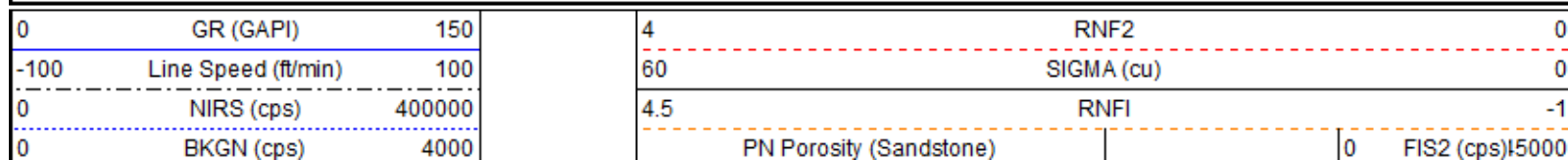


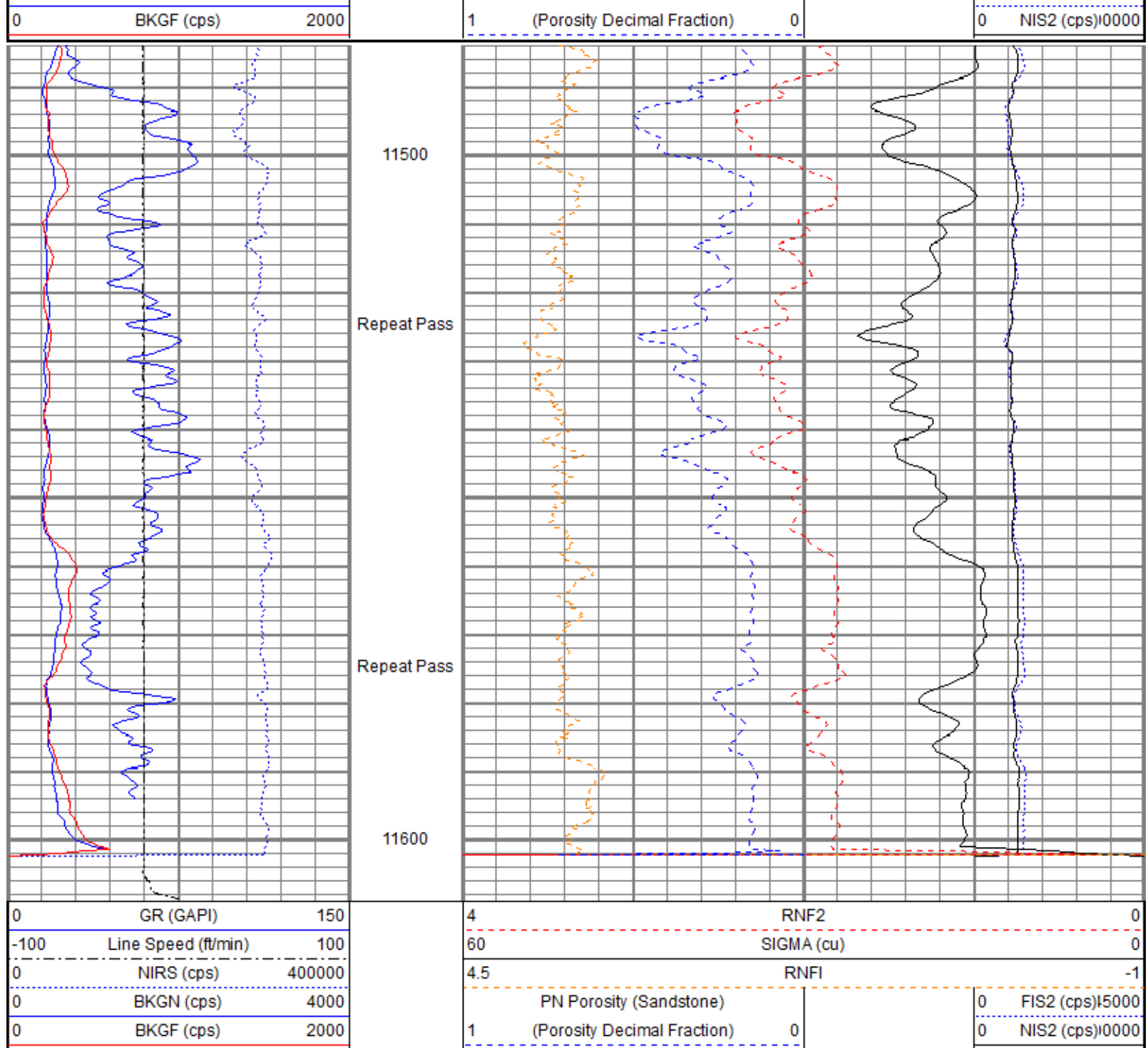
← FIS2




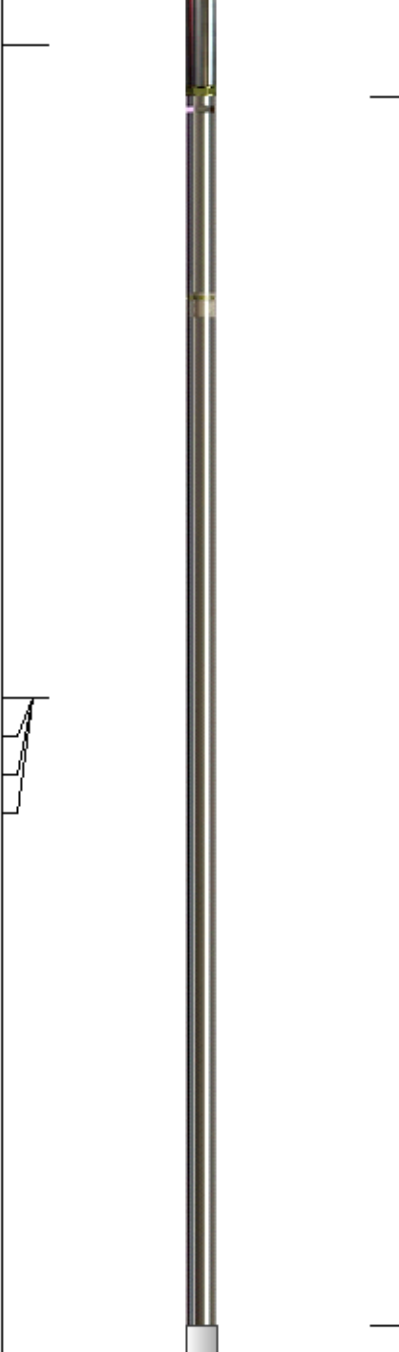
Repeat Pass

Database File tep/federal rg 442-18-297\tep_federal rg 442-18-297_pn_05-21-21.db
 Dataset Pathname main4.2
 Presentation Format ros_pdn_hunter
 Dataset Creation Sat May 22 03:05:46 2021
 Charted by Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
TCUTEMP TCUVOLT GCL_CCL	14.72 14.72 14.00		Titan CHD-16875 GO	1.03	1.69	5.40
			Titan 1-11/16" Assembled Electric Cable Head w/ 1" Fishing Neck			
			HWS_TCU-002 (001704) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
			HWS_GCL-001 (001681) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40

GCL_GR	12.53				
Long	6.28		11.75	1.69	55.82
Far	6.28				
Near	6.28				
Anci	6.28				
			0.28	1.69	0.44
Dataset: tep_federal rg 442-18-297_pn_05-21-21.db: field/well/run1/main4.2 Total length: 18.05 ft Total weight: 85.93 lb O.D.: 1.69 in					

Calibration Report	
Database File	c:\programdata\warrior\data\tep\federal rg 442-18-297\tep_federal rg 442-18-297_pn_05-21-21.db
Dataset Pathname	main4.2
Dataset Creation	Sat May 22 03:05:46 2021
RAS Calibration Report	
Calibration Date:	Sat Jul 11 14:55 2020
Meas #:	003041

Water Tank				
Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	23.1	24.1	0.23
Sigma Far	SIGF	22.8	23.5	0.27

Ratio Near-Long Capture	RNL2	5.79	6.45	0.04
Ratio Near-Long Burst	RNLB	6.49	6.87	0.04
Ratio Near-Far Capture	RNF2	1.85	2.00	0.01
Ratio Near-Far Burst	RNFB	2.03	2.16	0.01
Spectral Hydrogen Index	HIS2	12.84	12.61	0.16
Carbon-Oxygen Ratio	CORS	1.34	1.30	0.05
Ratio Burst-Capture Near	RNBC	1.46	1.73	0.01
Ratio Burst-Capture Far	RFBC	1.50	1.67	0.01

Hydrocarbon Tank

Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	25.7	26.8	0.26
Sigma Far	SIGF	25.1	25.5	0.45
Ratio Near-Long Capture	RNL2	1.78	2.98	0.02
Ratio Near-Long Burst	RNLB	2.57	4.38	0.02
Ratio Near-Far Capture	RNF2	0.98	1.30	0.01
Ratio Near-Far Burst	RNFB	1.30	1.64	0.01
Spectral Hydrogen Index	HIS2	16.68	17.41	0.28
Carbon-Oxygen Ratio	CORS	1.51	1.54	0.04
Ratio Burst-Capture Near	RNBC	2.23	2.46	0.02
Ratio Burst-Capture Far	RFBC	2.09	2.18	0.02

Gamma Ray Calibration Report

Serial Number:	001681	
Tool Model:	001	
Performed:	(Not Performed)	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	
Calibrator Reading:	1.0	
Sensitivity:	1.0000	GAPI/



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