



# DUAL INDUCTION LOG

Company Sutherland Energy LLC  
 Well MCMU #2  
 Field Unnamed  
 County Grant  
 State KANSAS

Company Sutherland Energy LLC  
 Well MCMU #2  
 Field Unnamed  
 County Grant State KANSAS

Location: API #: 15-067-21876  
 991' FNL & 2928' FEL  
 SEC 3 TWP 30S RGE 35W  
 Permanent Datum Ground Level Elevation 2952'  
 Log Measured From KB 13' AGL  
 Drilling Measured From KB  
 Other Services  
 ML  
 CDNL  
 Elevation  
 K.B. 2965'  
 D.F. 2964'  
 G.L. 2952'

Date	12/30/23
Run Number	One
Depth Driller	5450'
Depth Logger	5440'
Bottom Logged Interval	5438'
Top Log Interval	Surface
Casing Driller	8 5/8" @ 1706'
Casing Logger	1706'
Bit Size	7 7/8"
Type Fluid in Hole	Chemical
Density / Viscosity	9.0/48
pH / Fluid Loss	11/7.2
Source of Sample	Pit
Rm @ Meas. Temp	2.7 @ 60degf
Rmf @ Meas. Temp	2.2 @ 60degf
Rmc @ Meas. Temp	3.5 @ 60degf
Source of Rmf / Rmc	Calculated
Rm @ BHT	3.5 @ 60degf
Time Circulation Stopped	6:45 PM
Time Logger on Bottom	10:00 p.m
Maximum Recorded Temperature	118degf
Equipment Number	T-605
Location	Hays, KS.
Recorded By	COLBY DREILING
Witnessed By	Duane Sutherland

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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

37.4728106,-101.1257323

Thanks for using Gemini Wireline LLC  
 785-625-1182



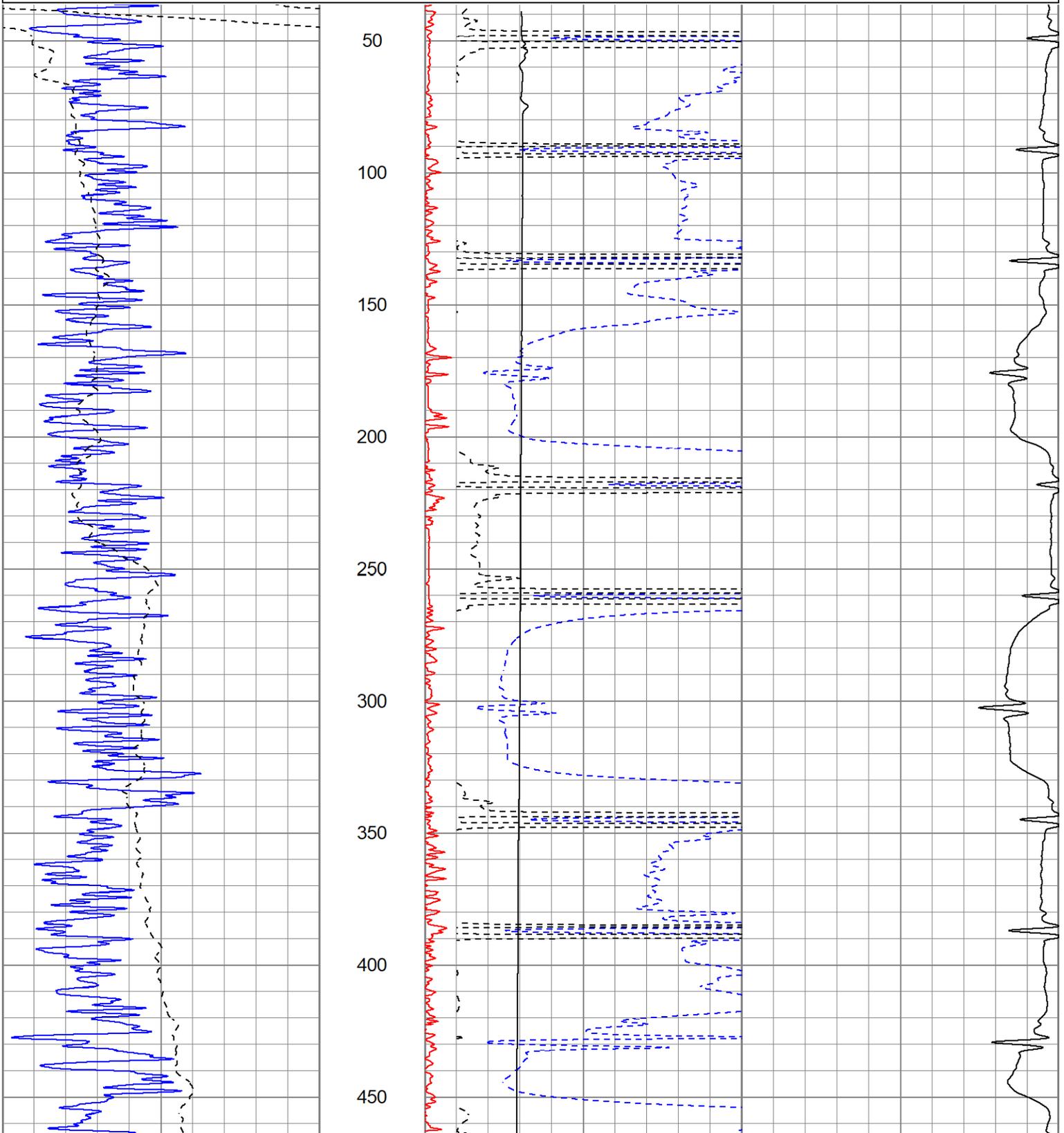
# MAIN PASS

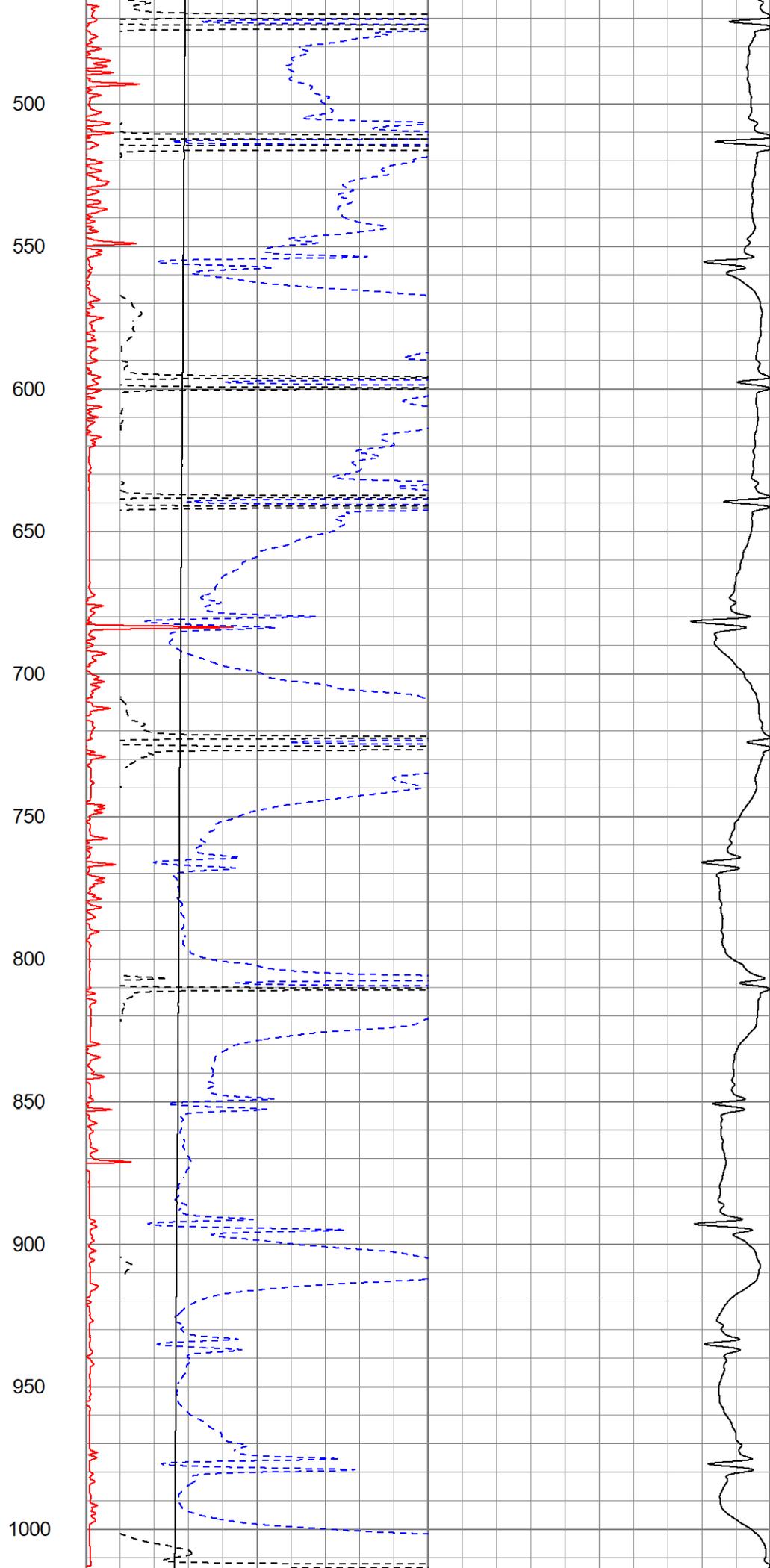
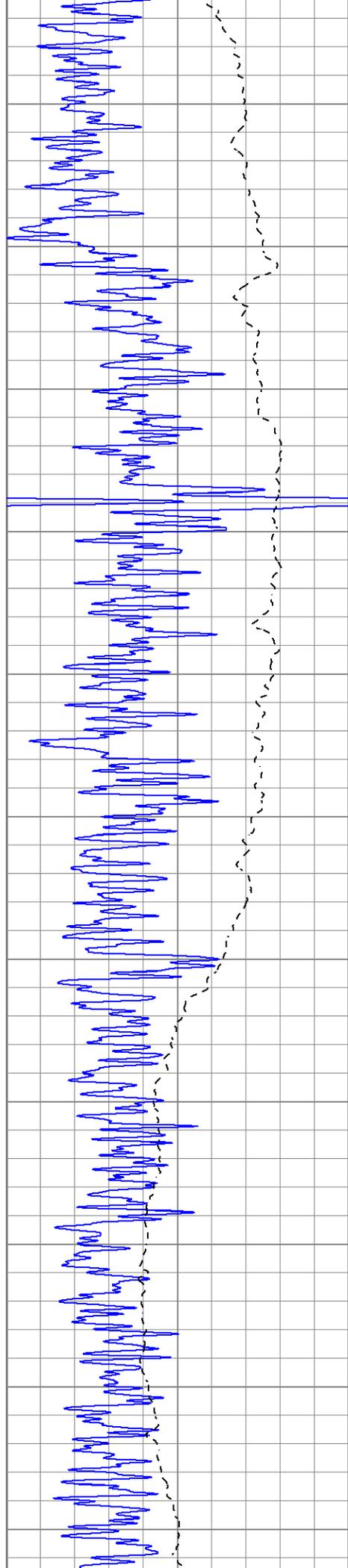
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 Dataset Creation Sat Dec 30 23:54:33 2023  
 Charted by Depth in Feet scaled 1:600

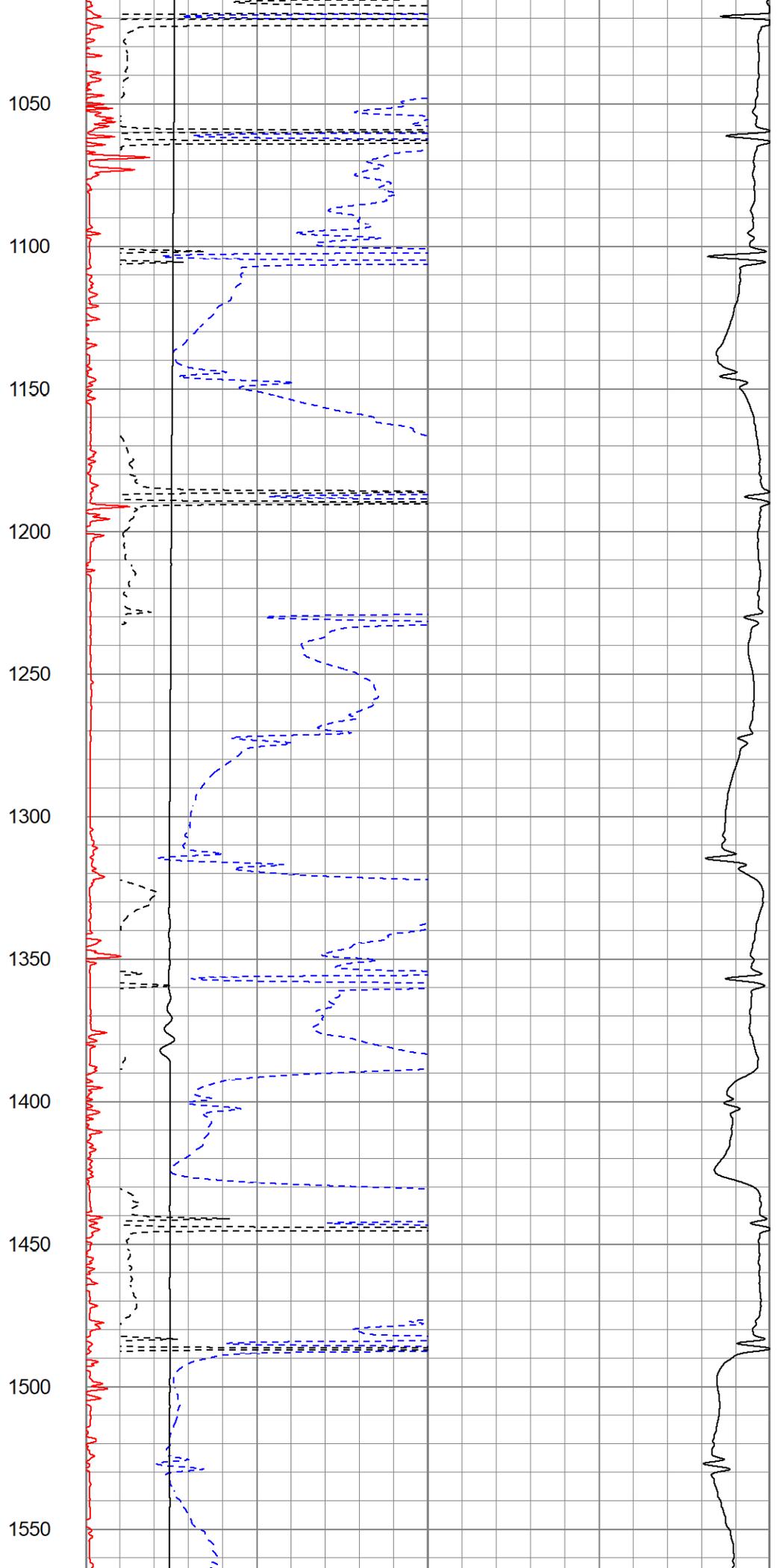
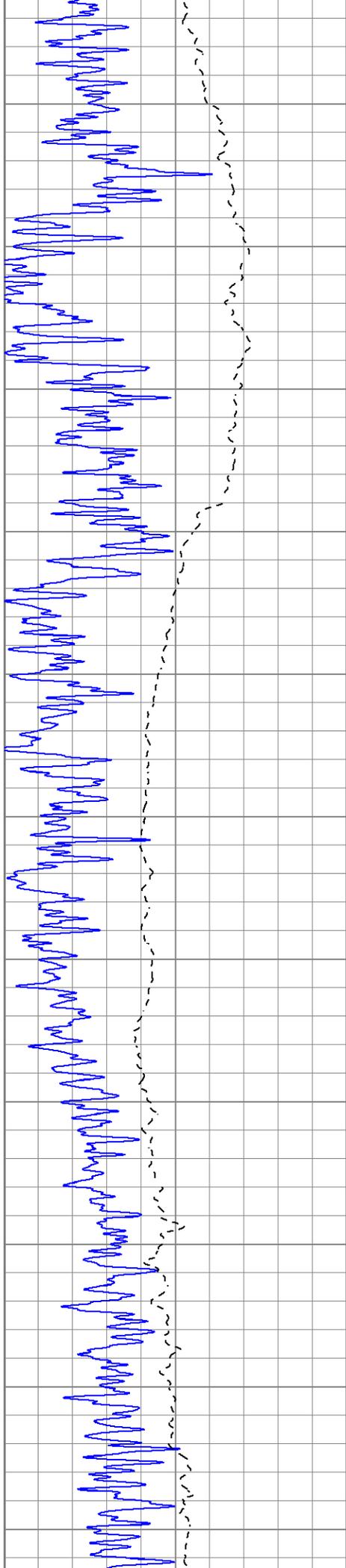
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-100	SP (mV)	100

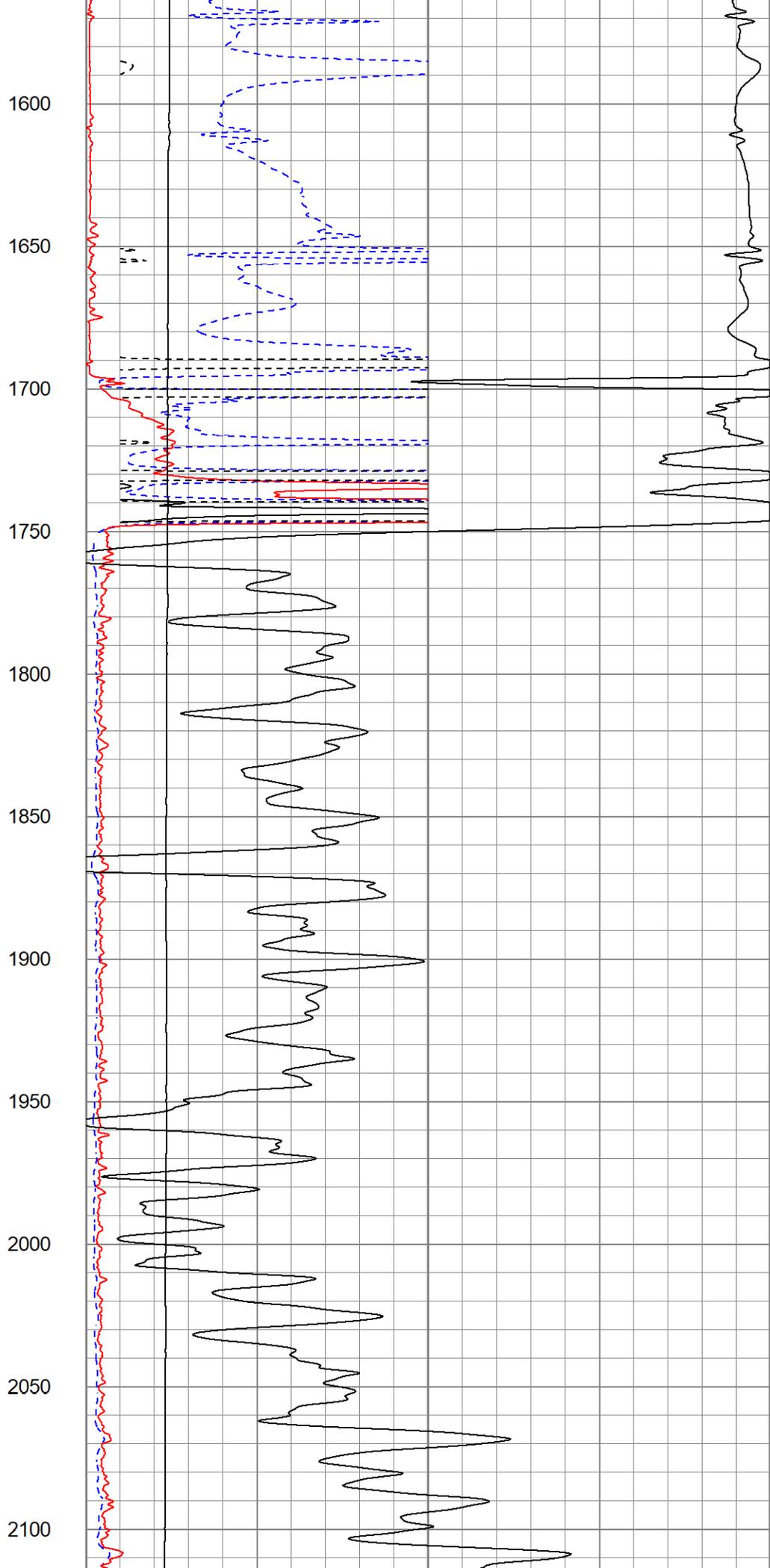
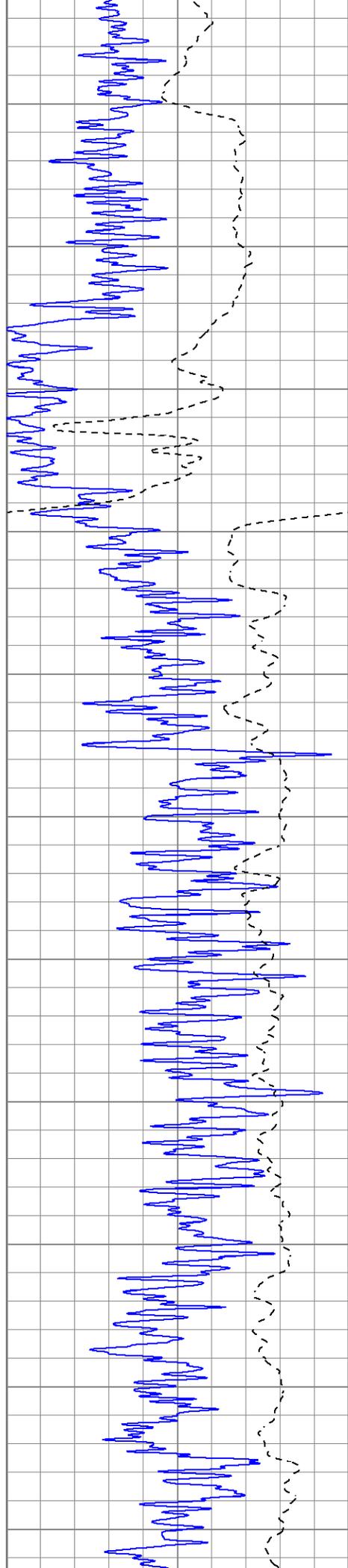
1000	CILD (mmho/m)	0
10000	LTEN (lb)	0

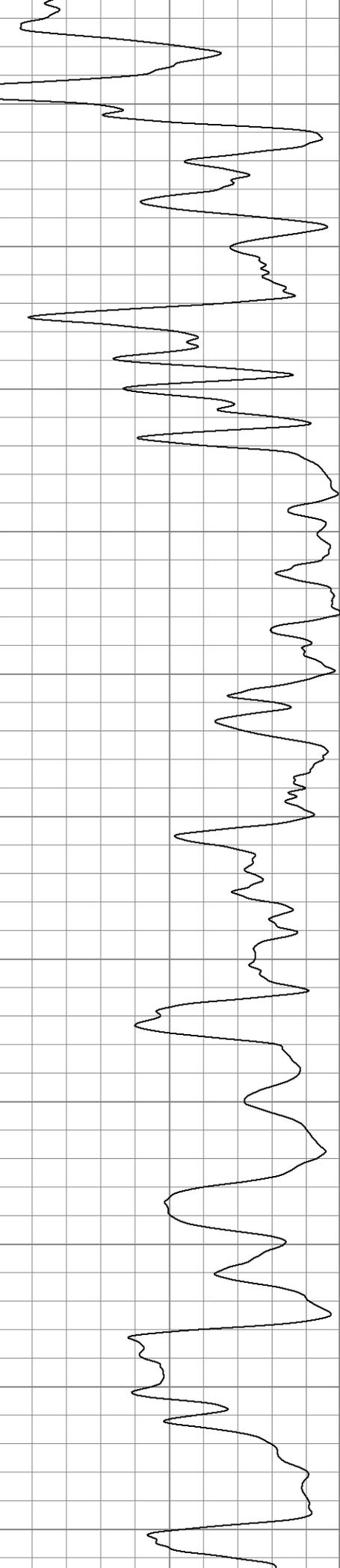
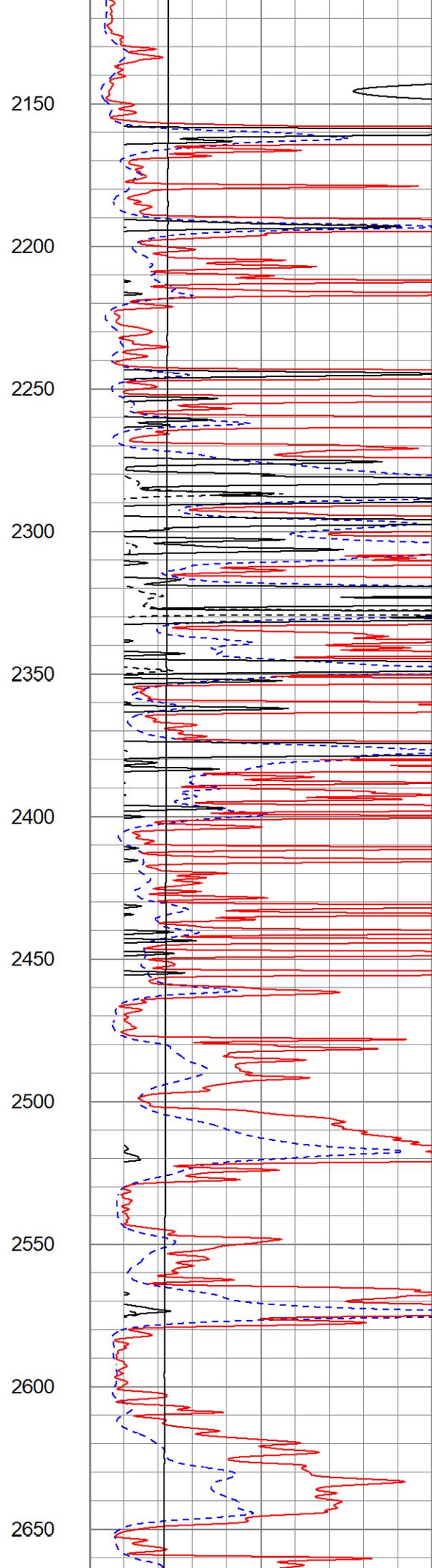
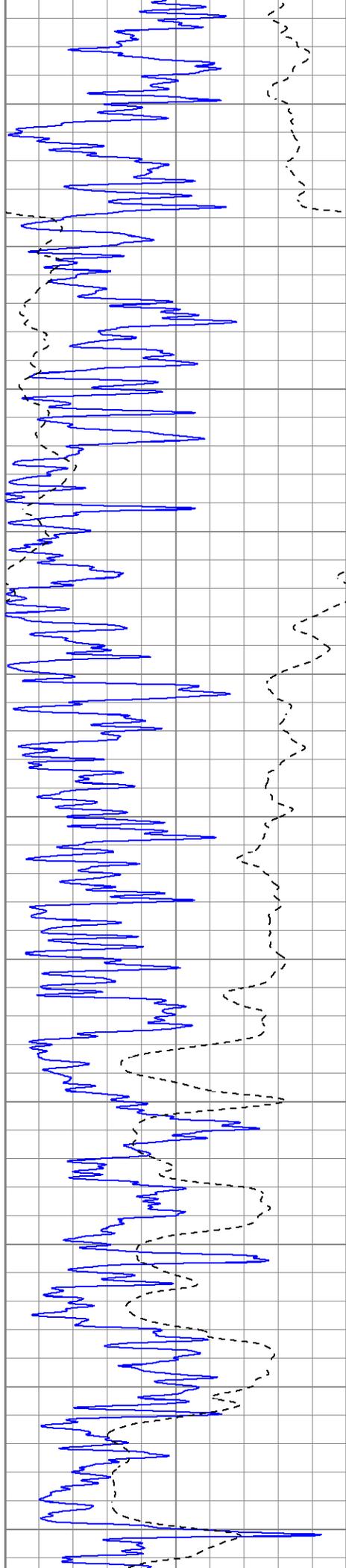
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0	RLL3 (Ohm-m)	50
50	RILD x 10 (Ohm-m)	500
50	RLL3 x 10 (Ohm-m)	500

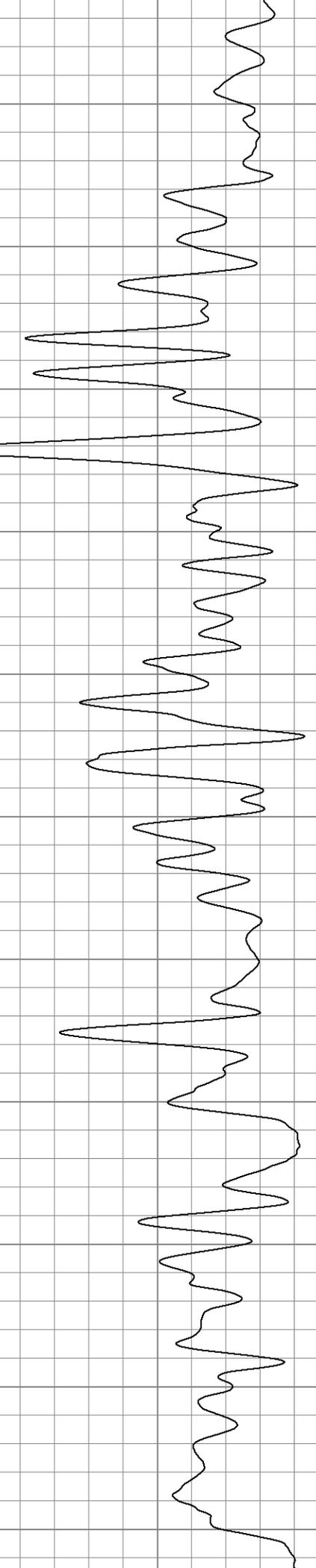
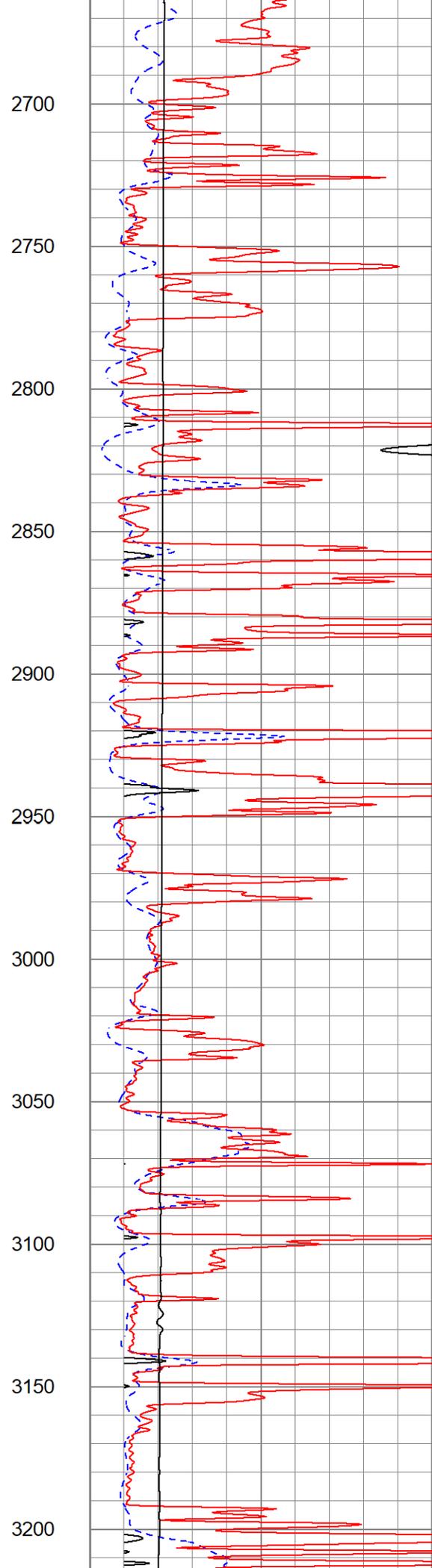
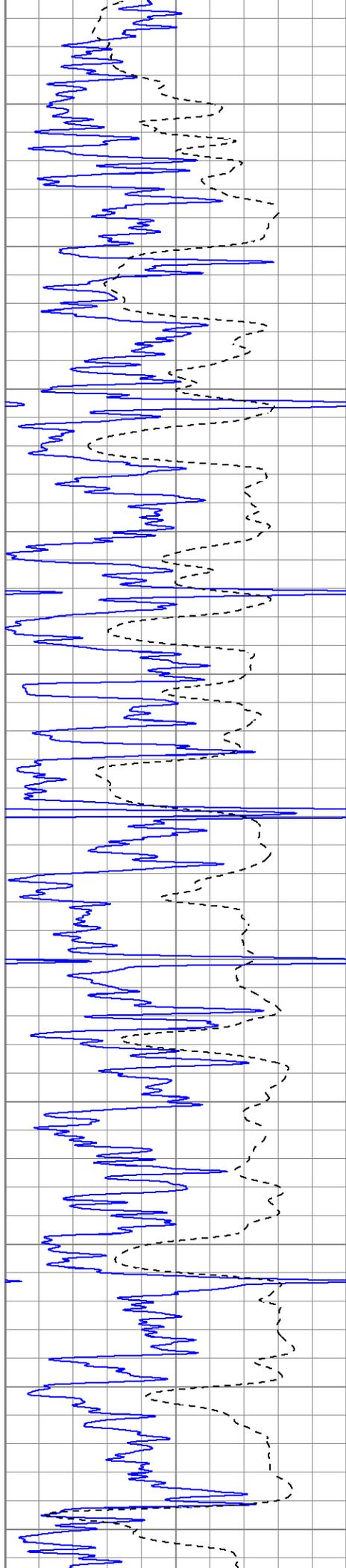


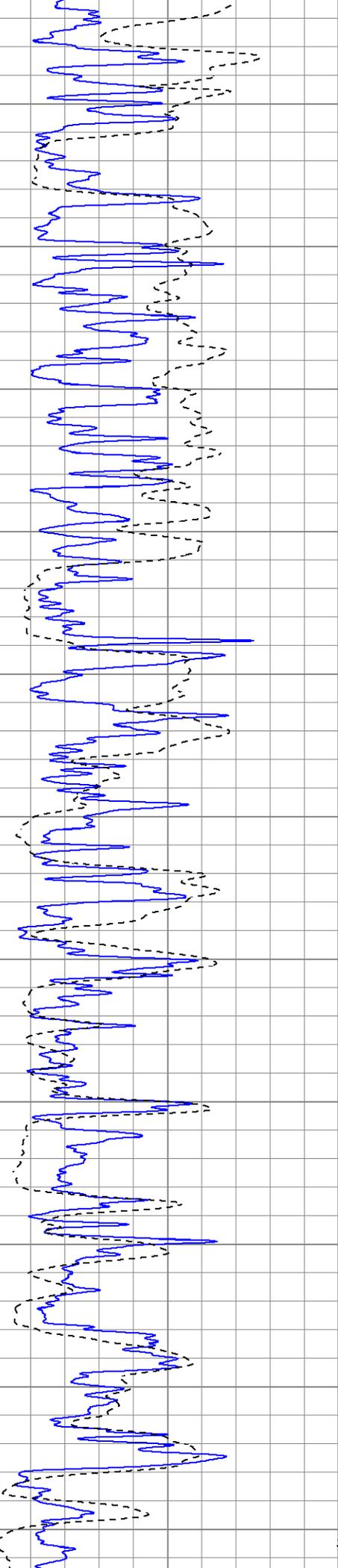












3250

3300

3350

3400

3450

3500

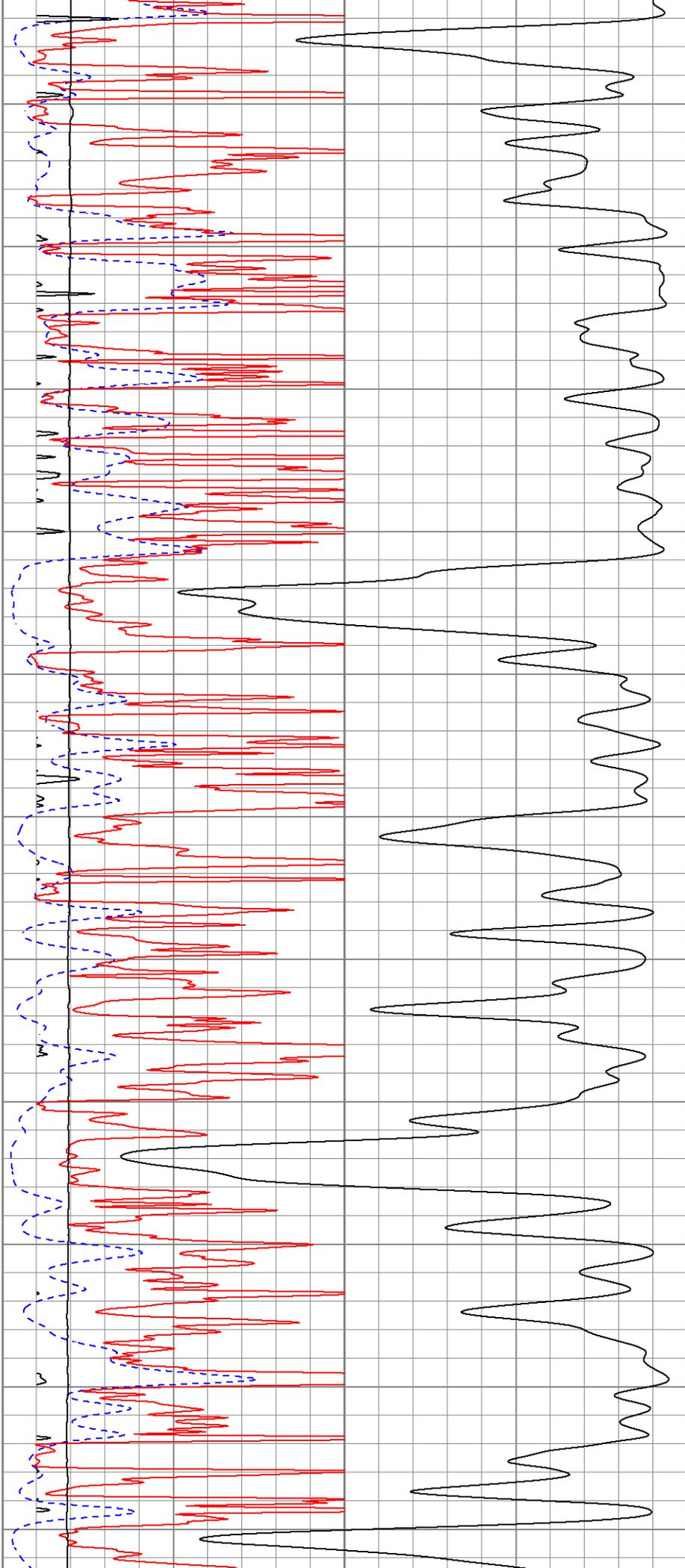
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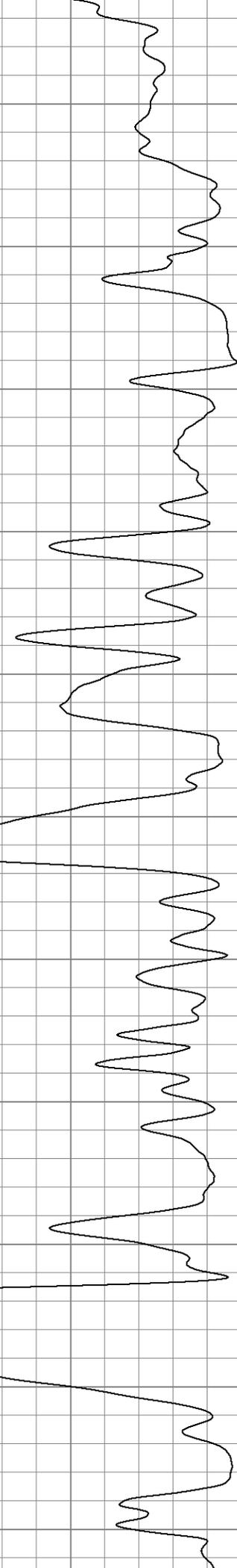
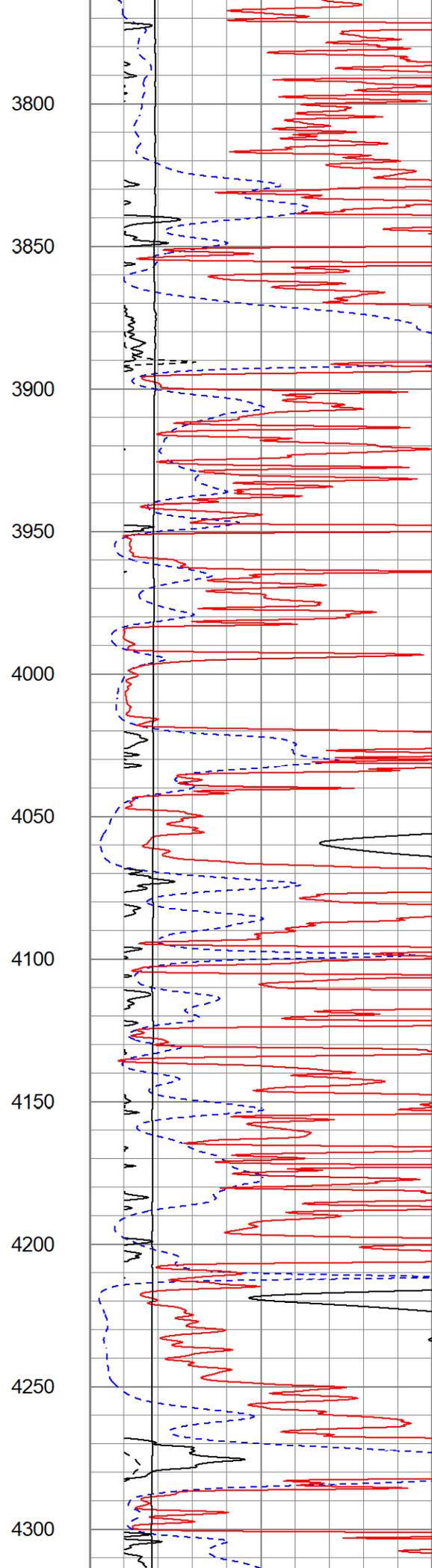
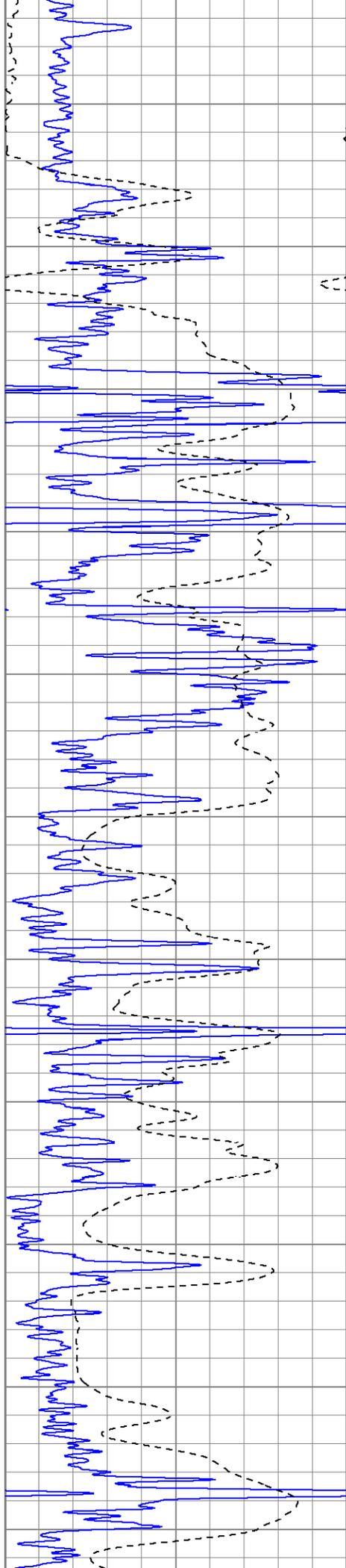
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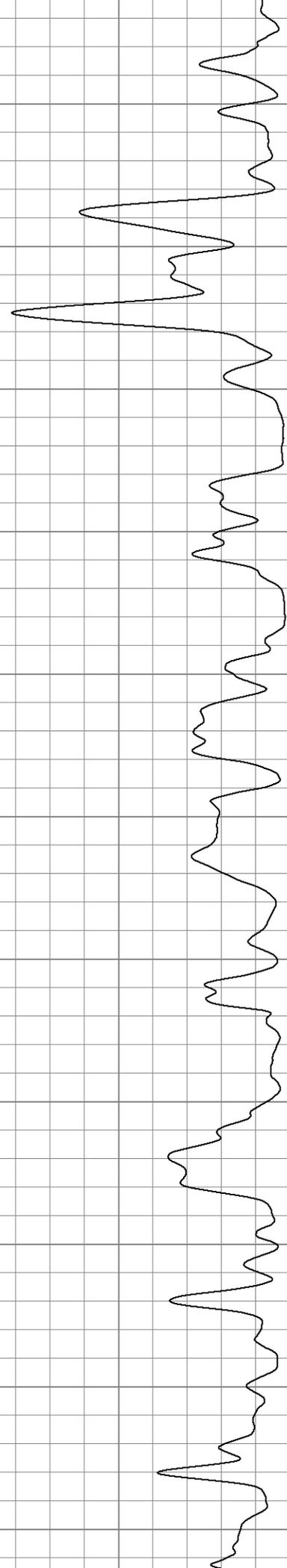
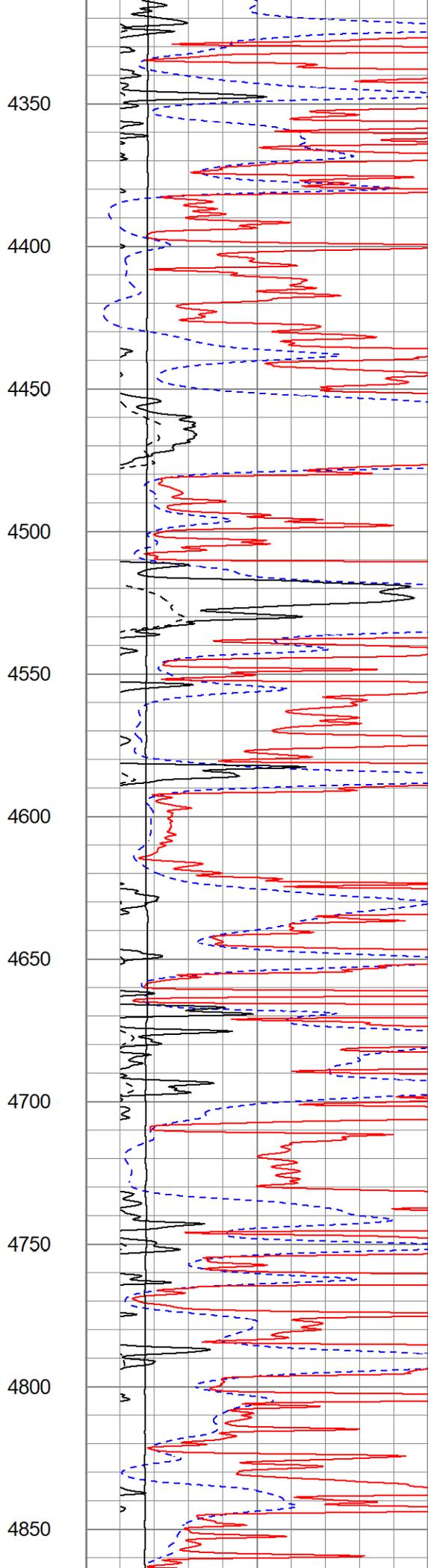
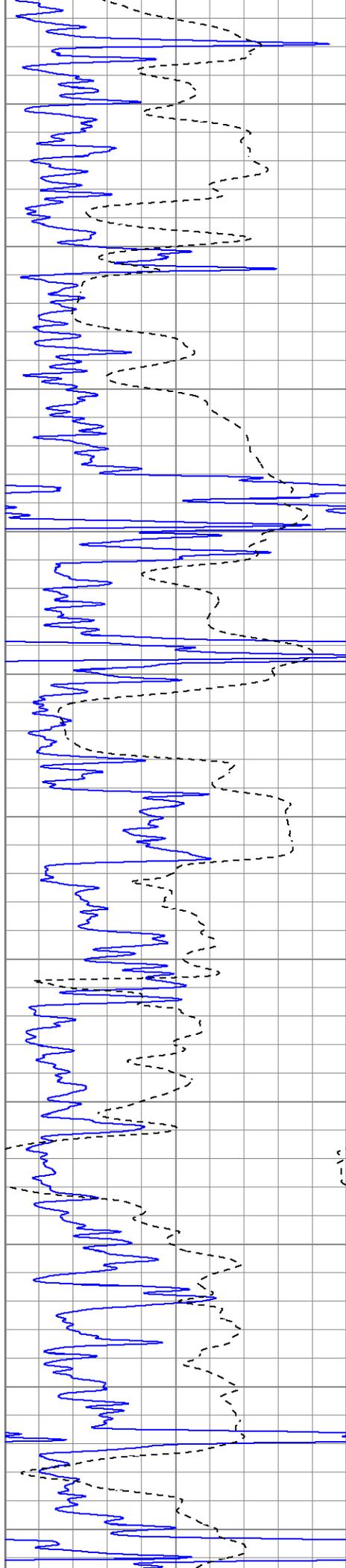
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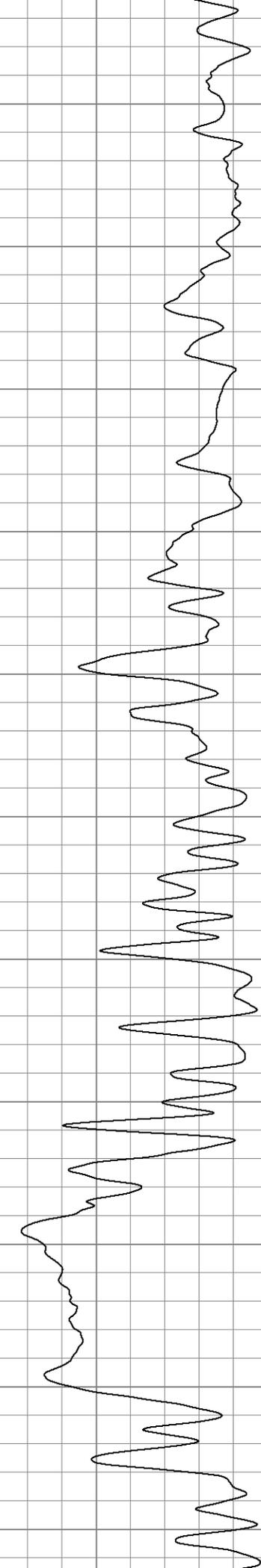
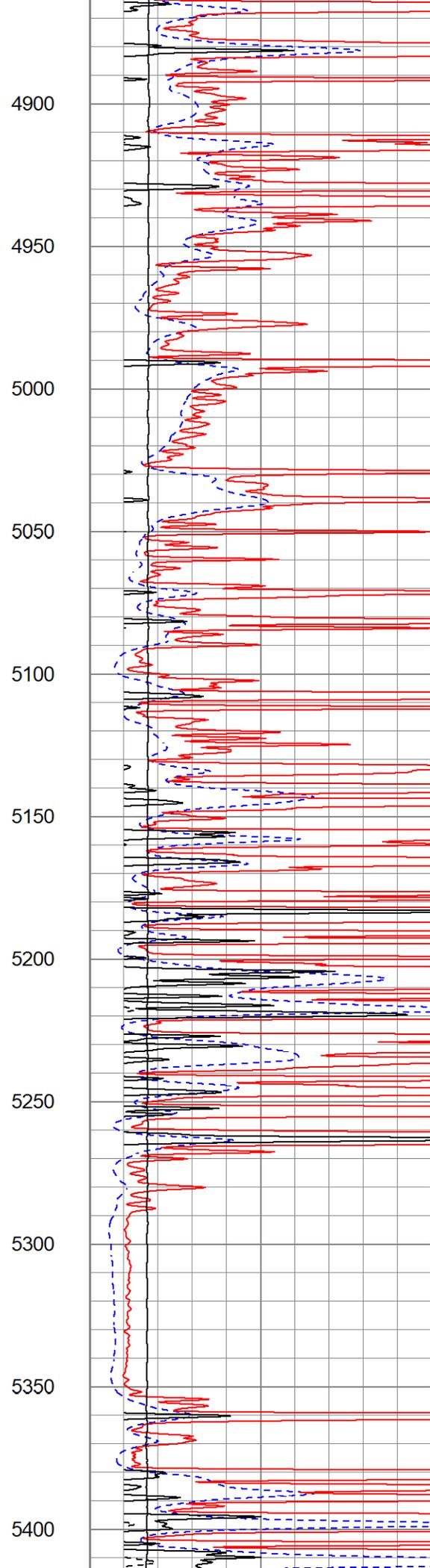
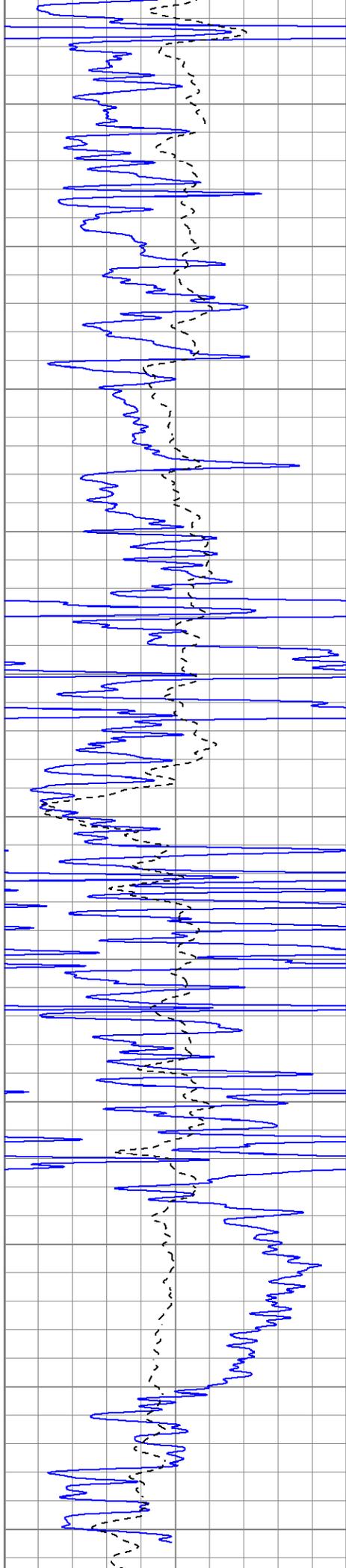
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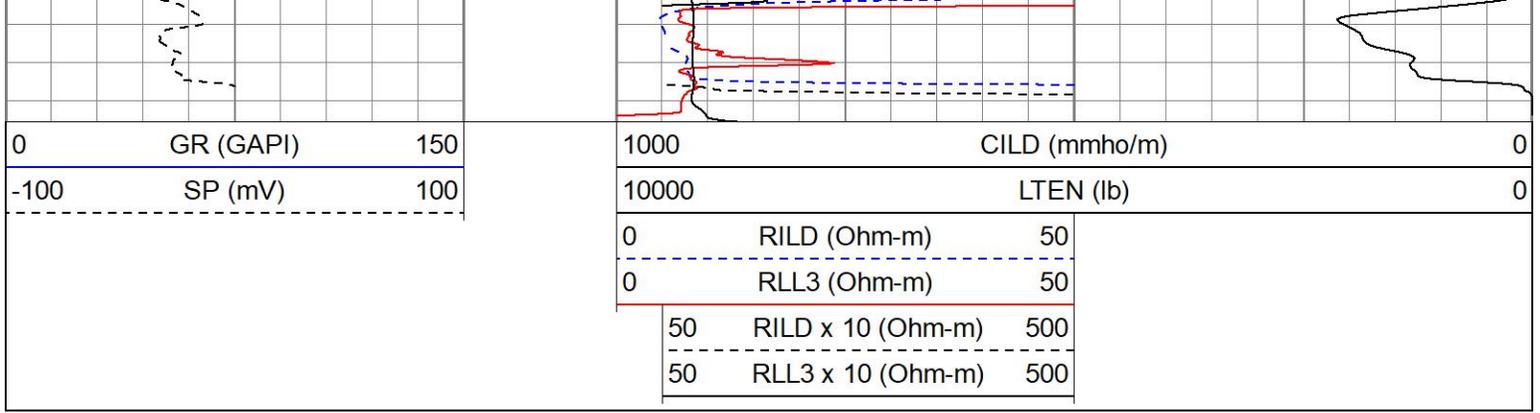
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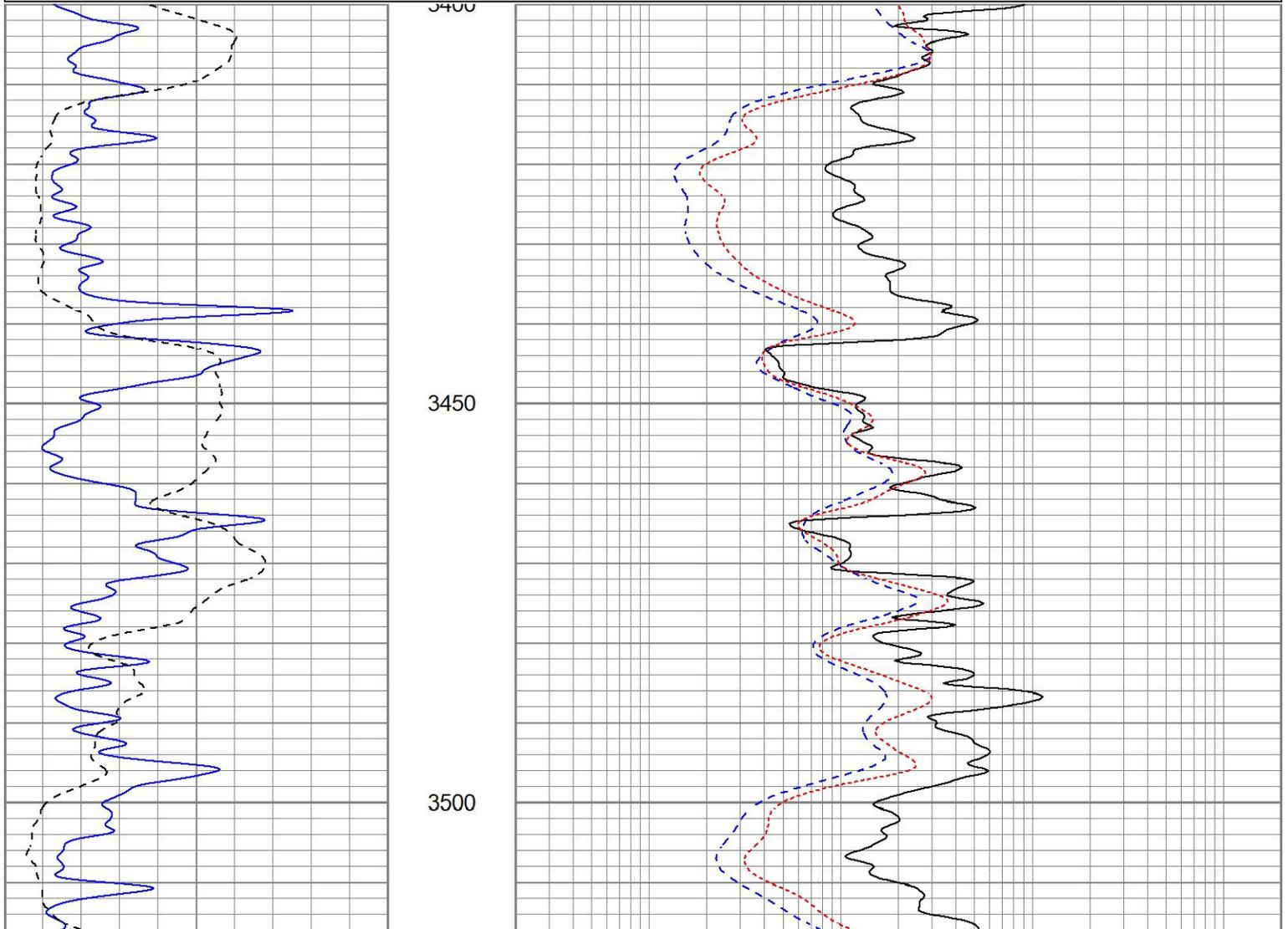


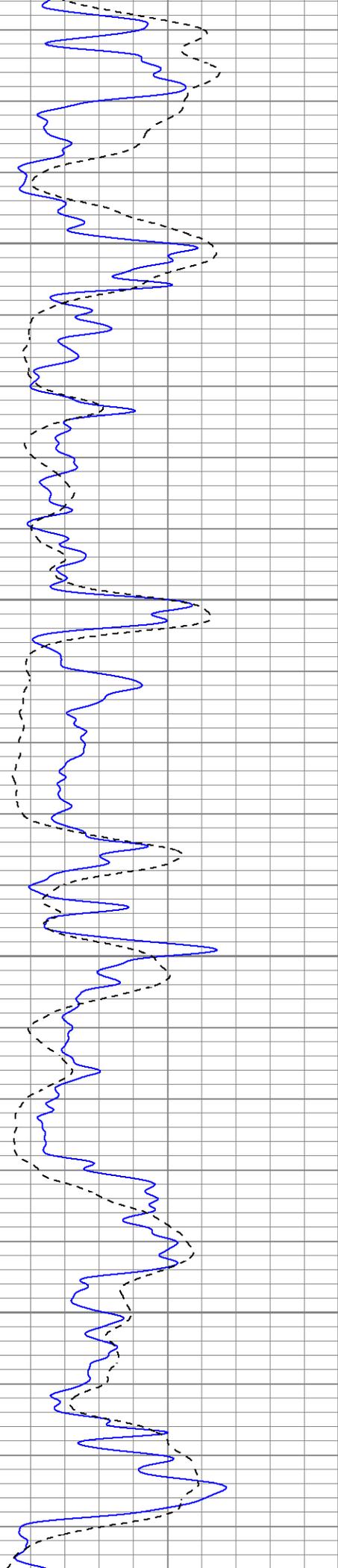


# MAIN PASS

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 Presentation Format kdil  
 Dataset Creation Sat Dec 30 23:54:33 2023  
 Charted by Depth in Feet scaled 1:240

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-100	SP (mV)	100	0.2	RLL3 (Ohm-m)	2000
			0.2	RILM (Ohm-m)	2000



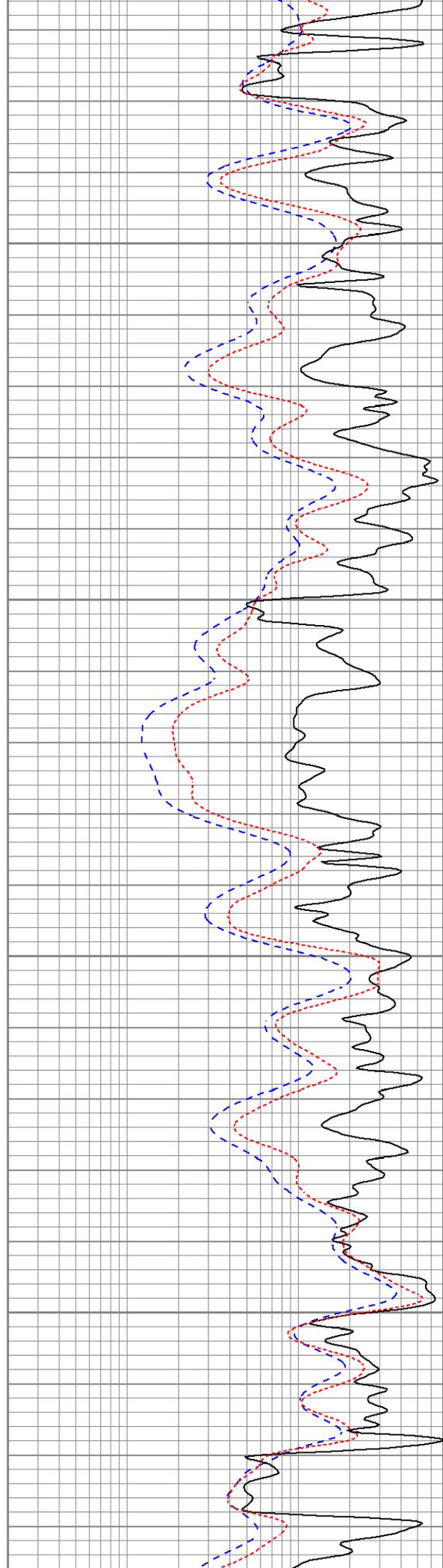


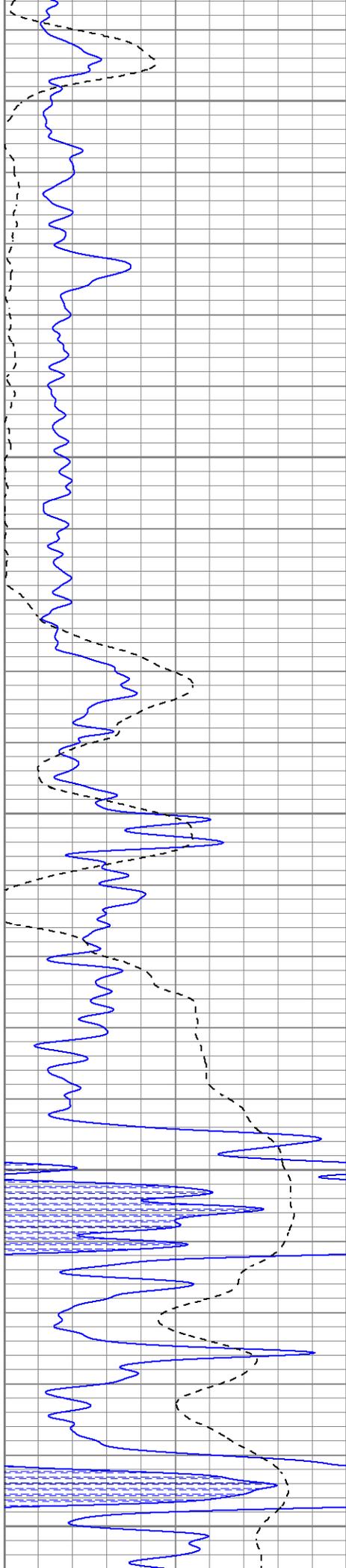
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3600

3650

3700





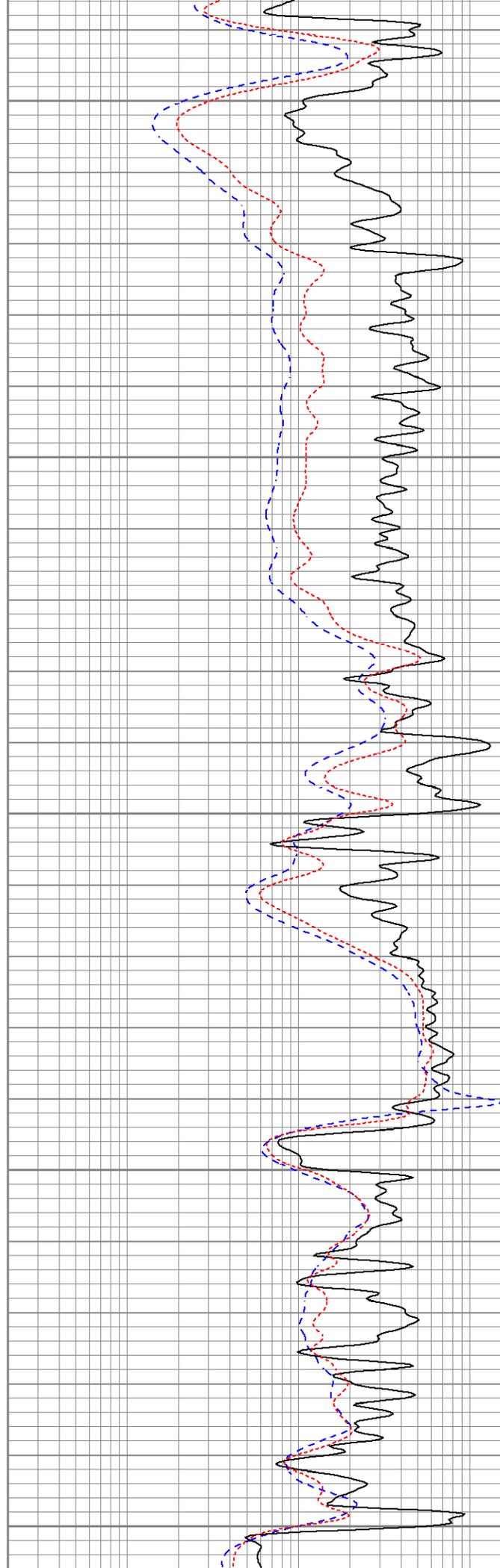
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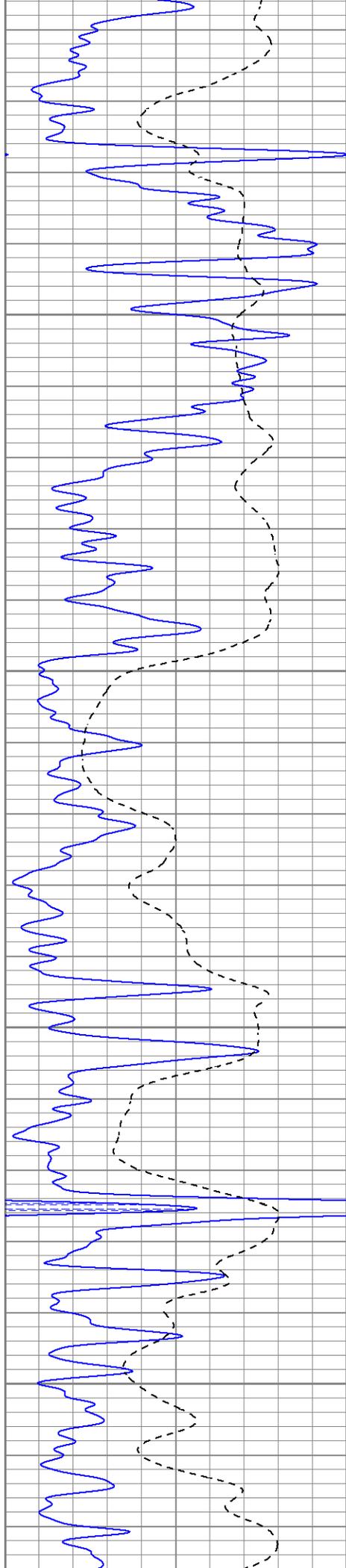
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3850

3900

3950



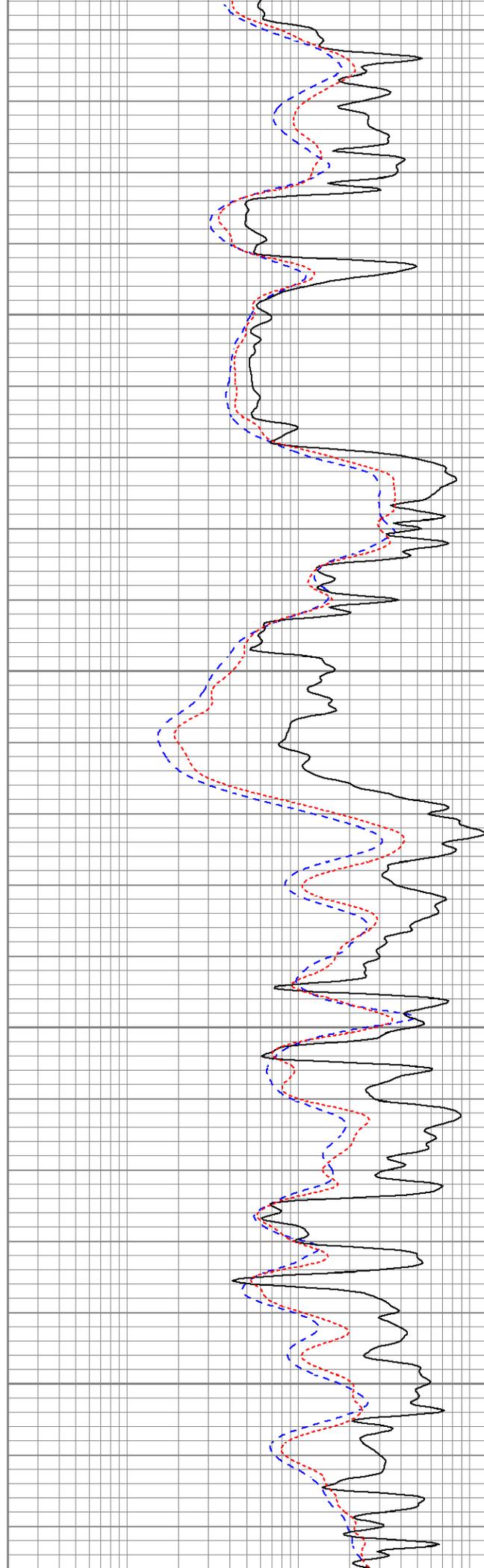


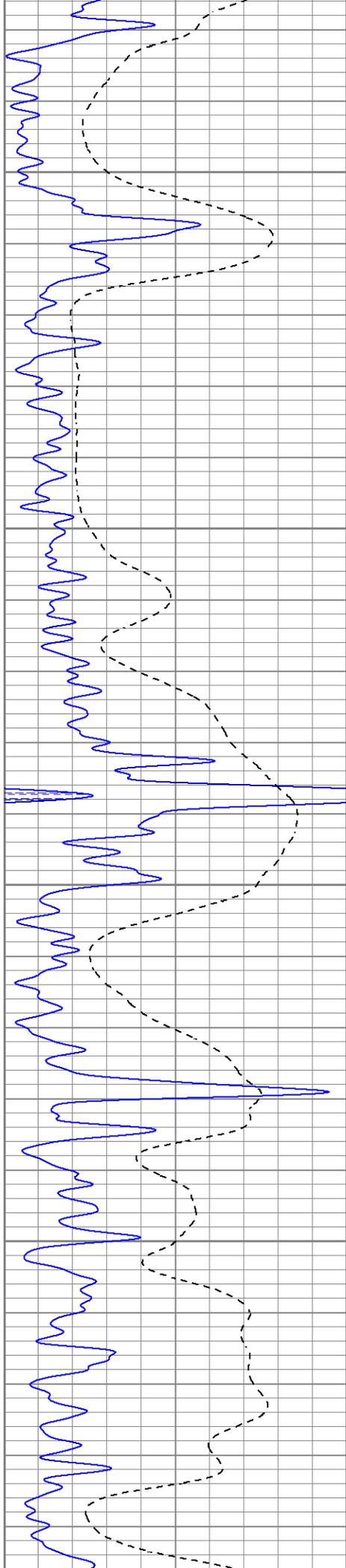
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4050

4100

4150



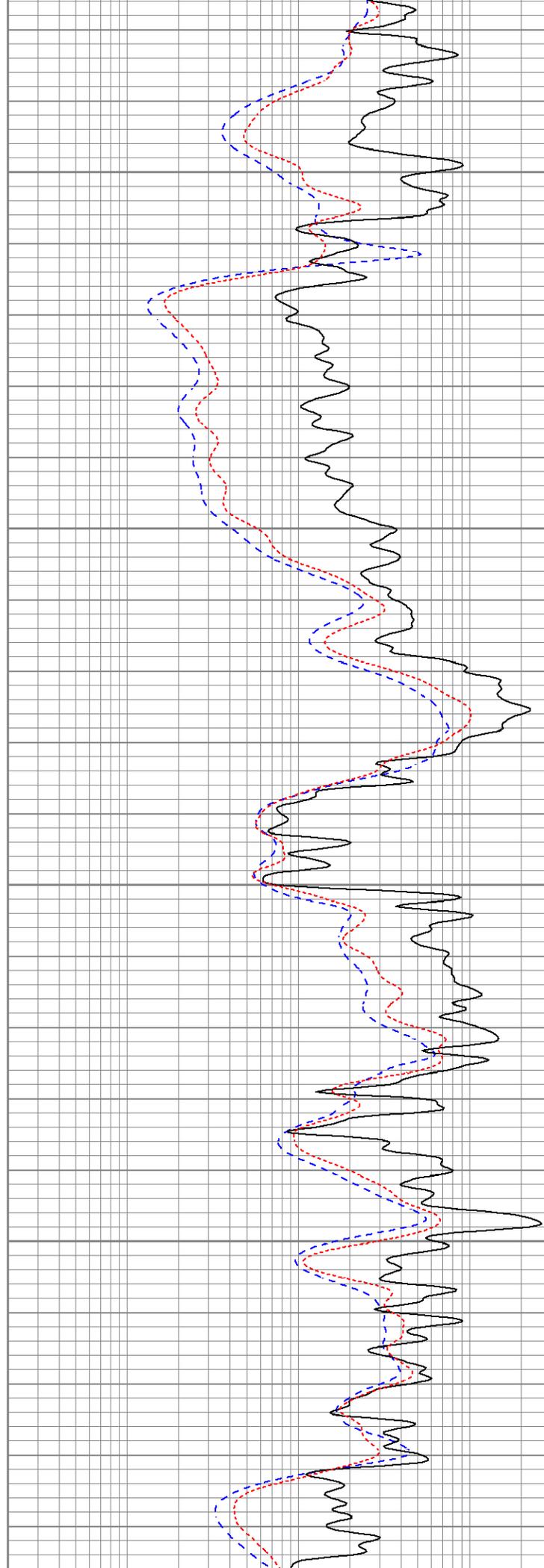


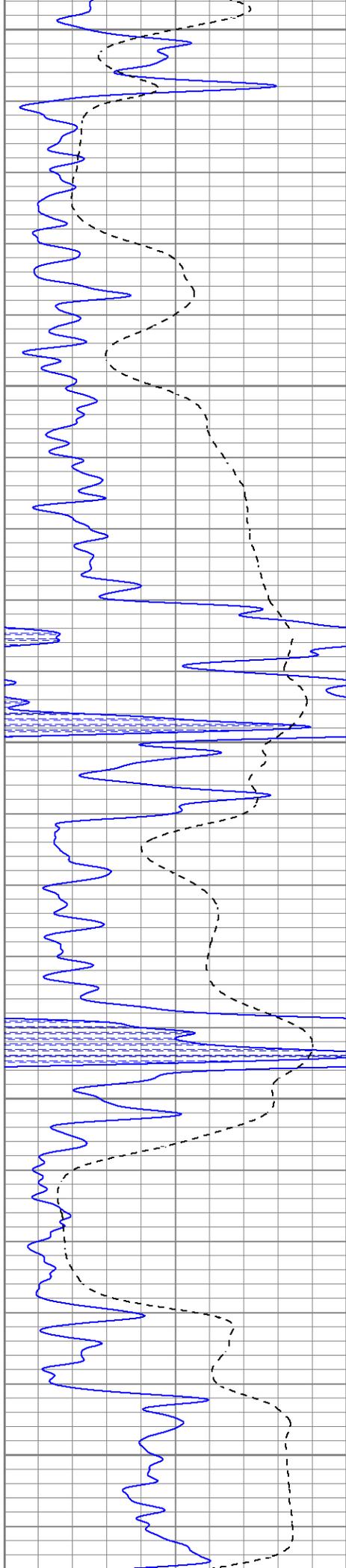
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4300

4350





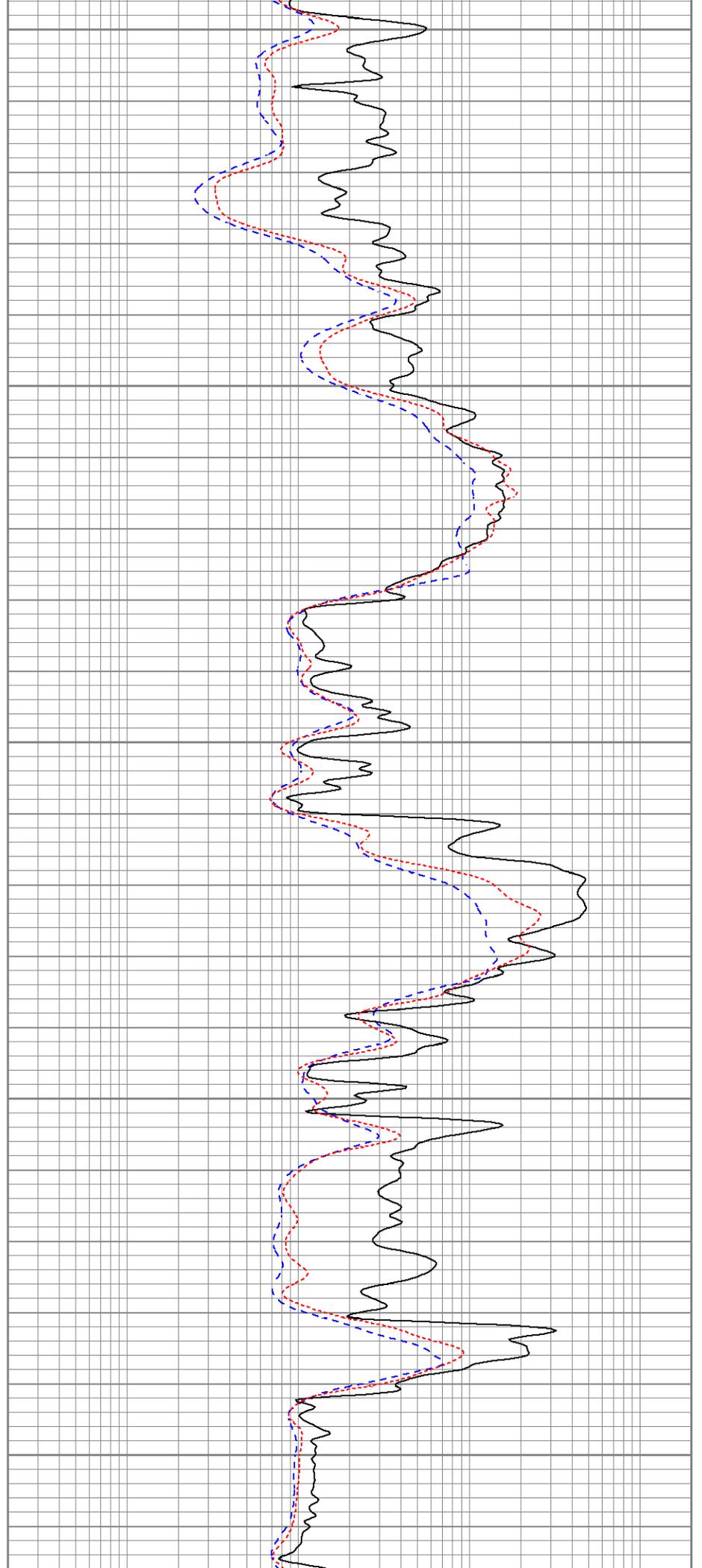
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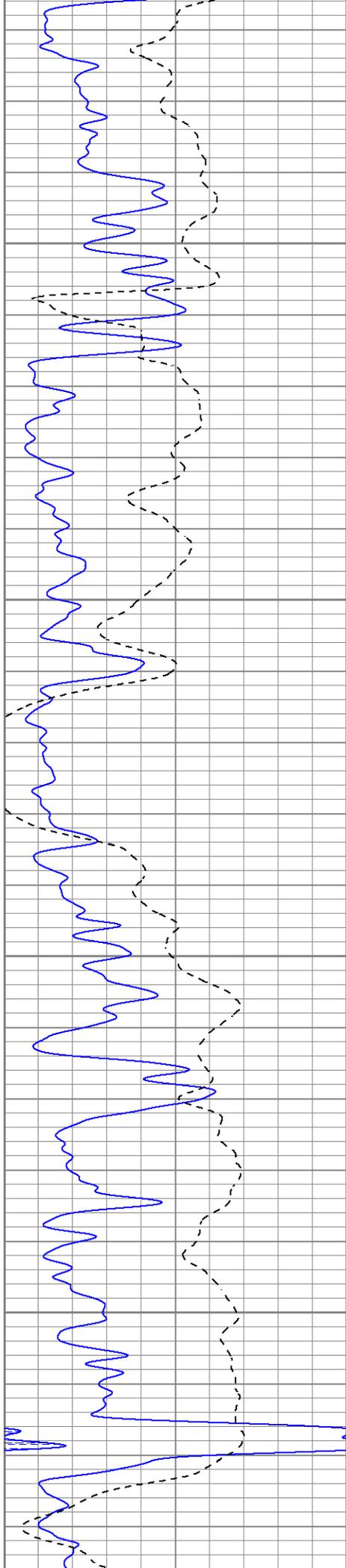
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4600



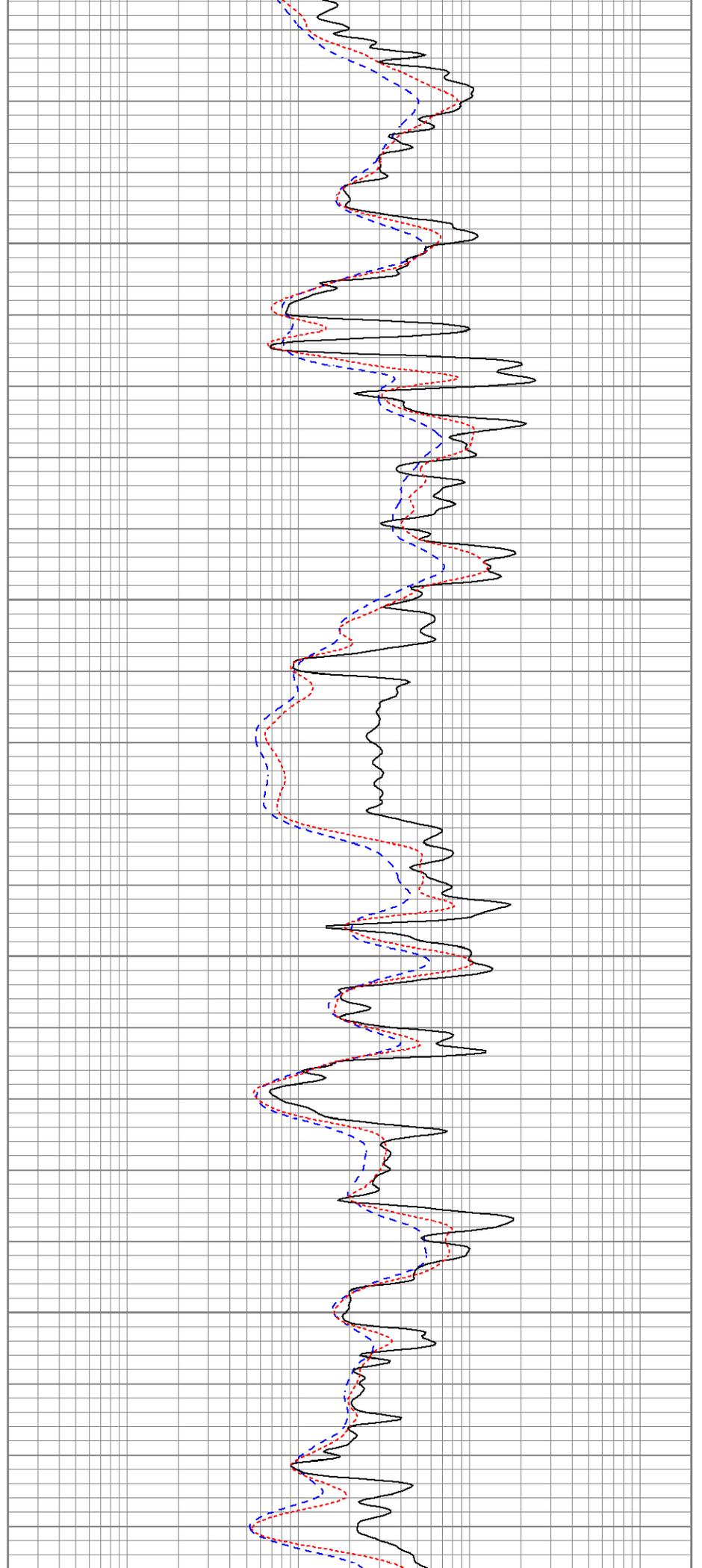


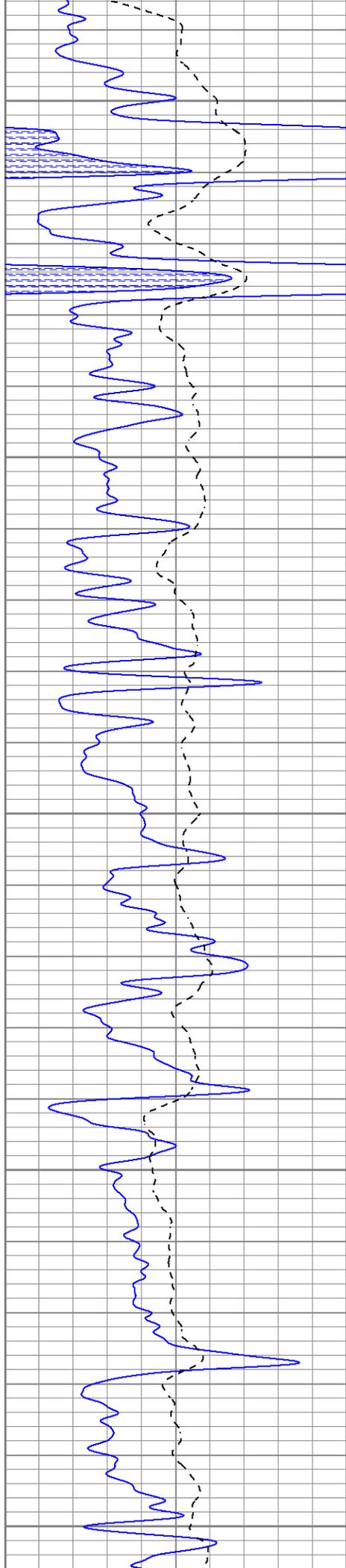
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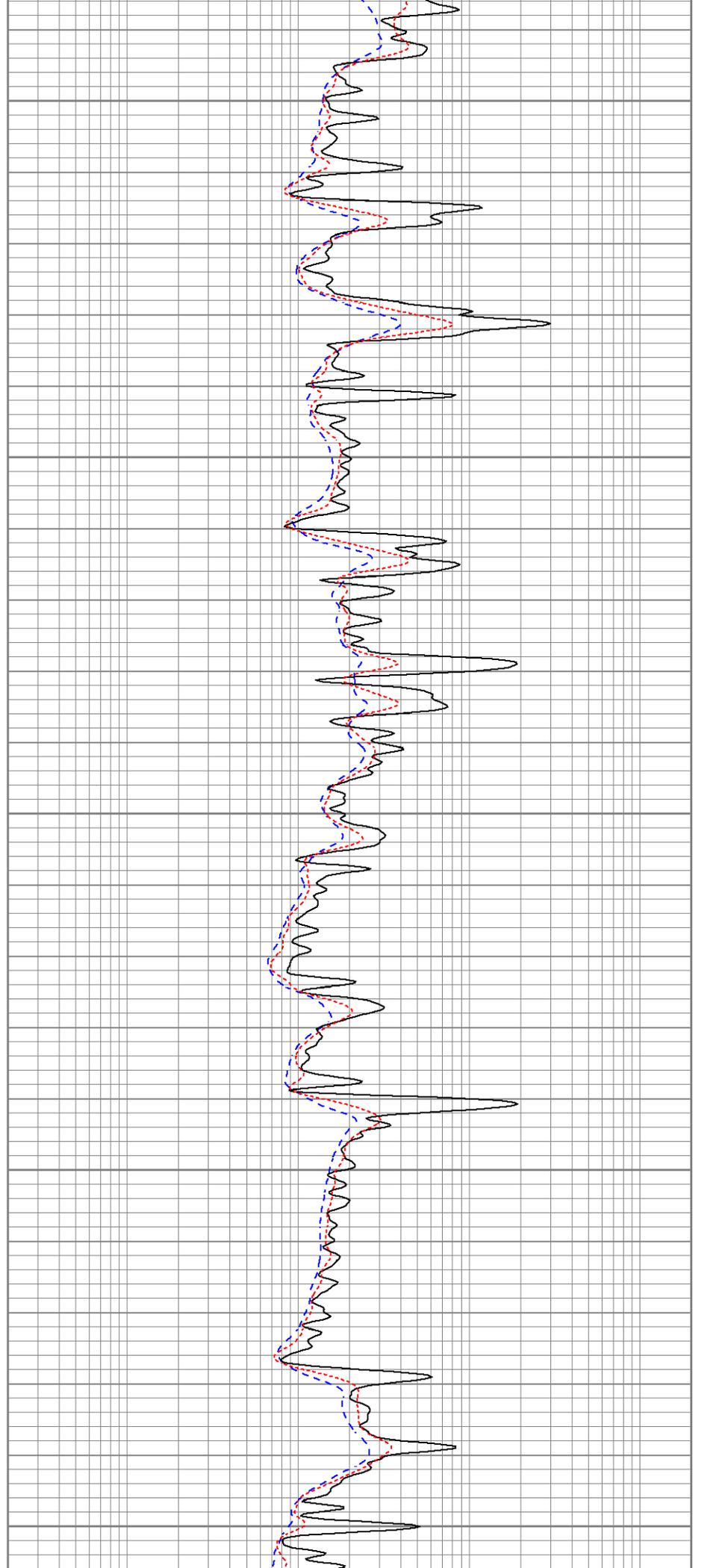
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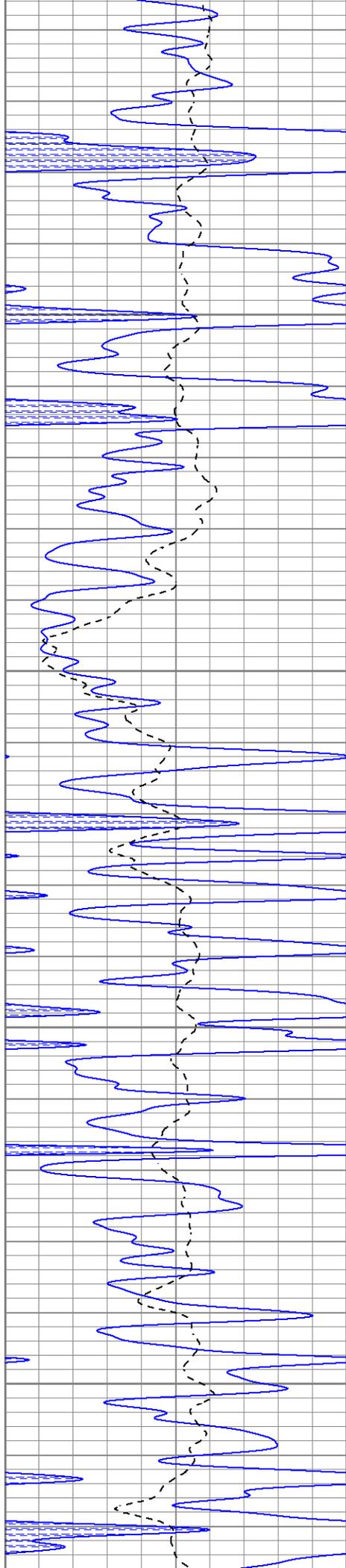
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5000

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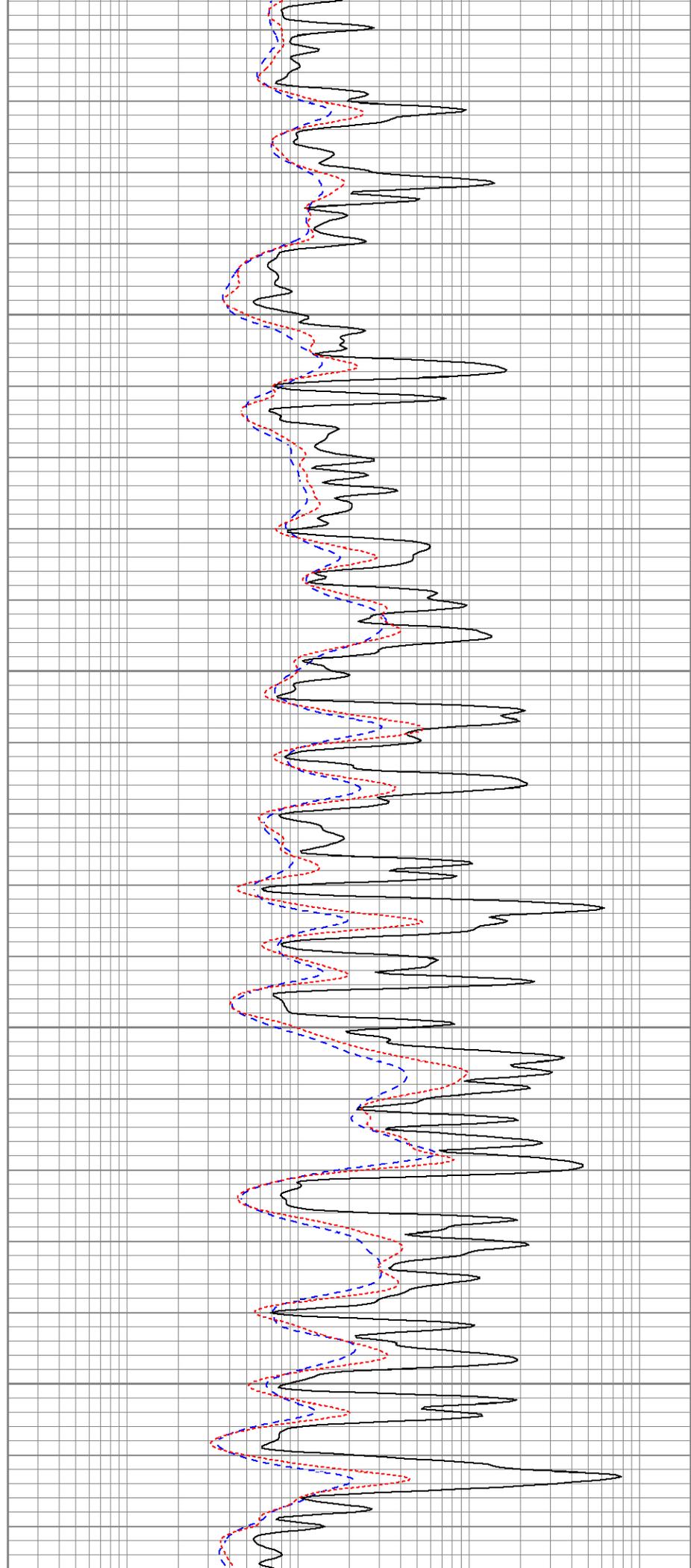


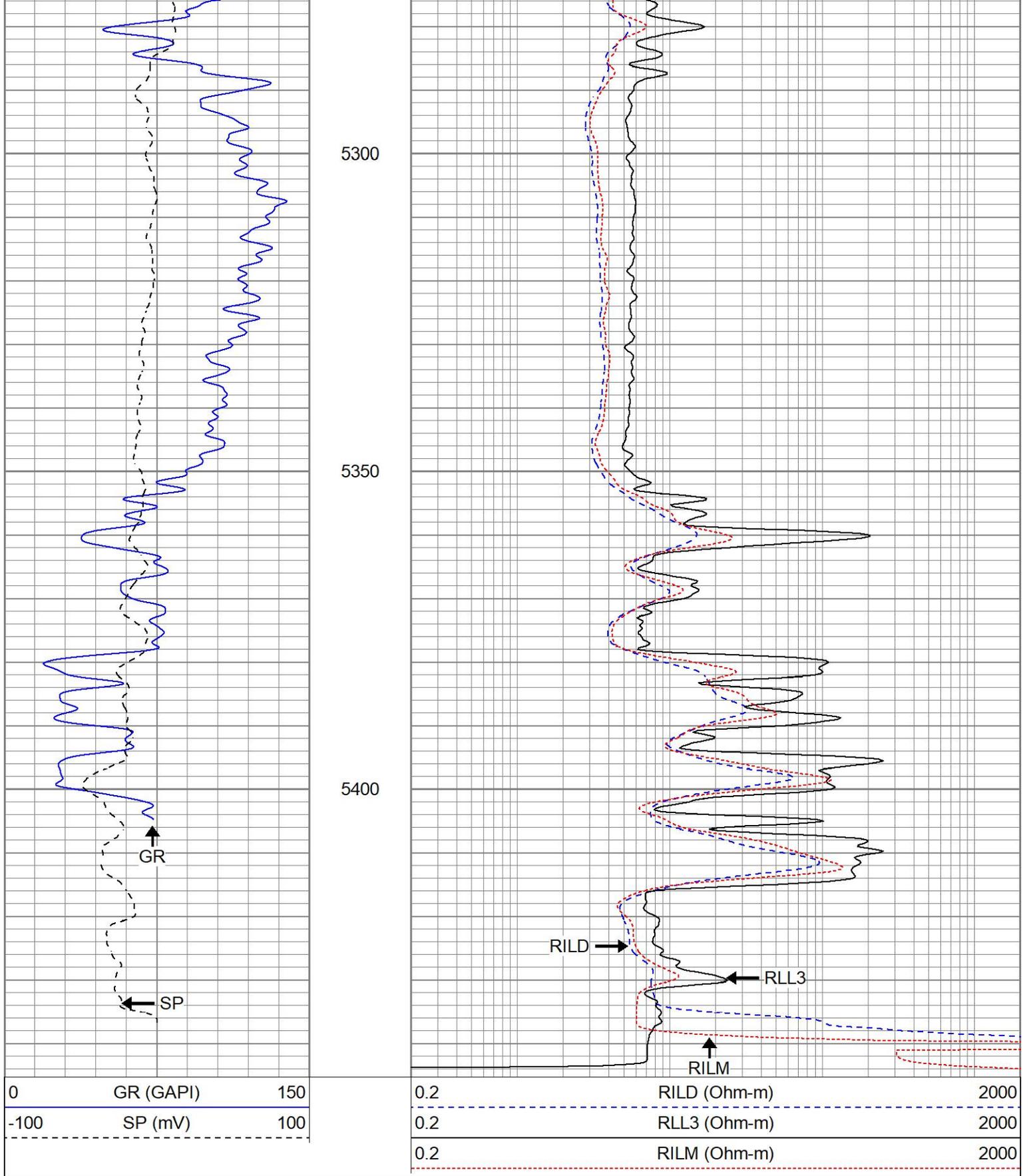
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5150

5200

5250



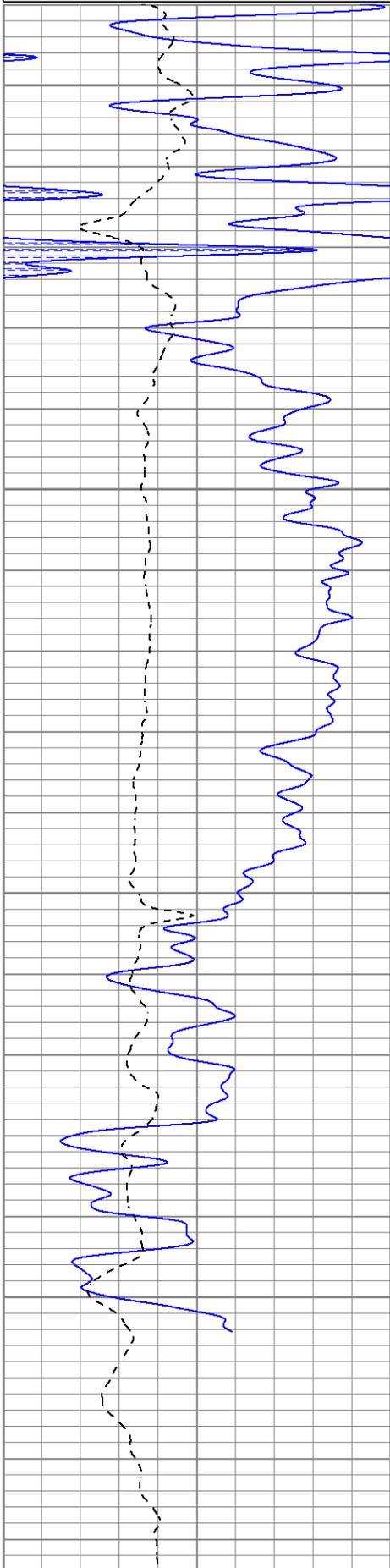


# REPEAT SECTION

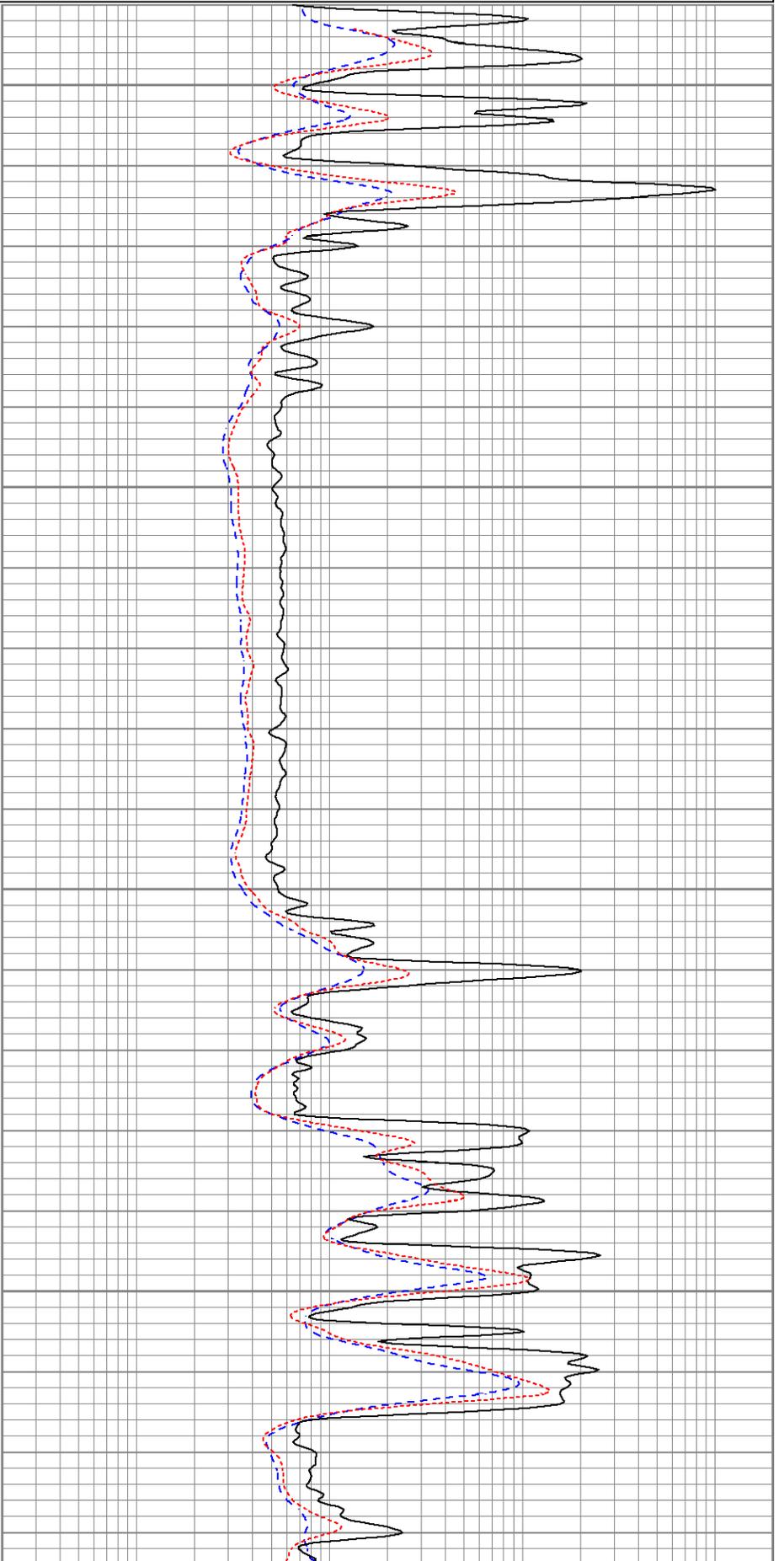
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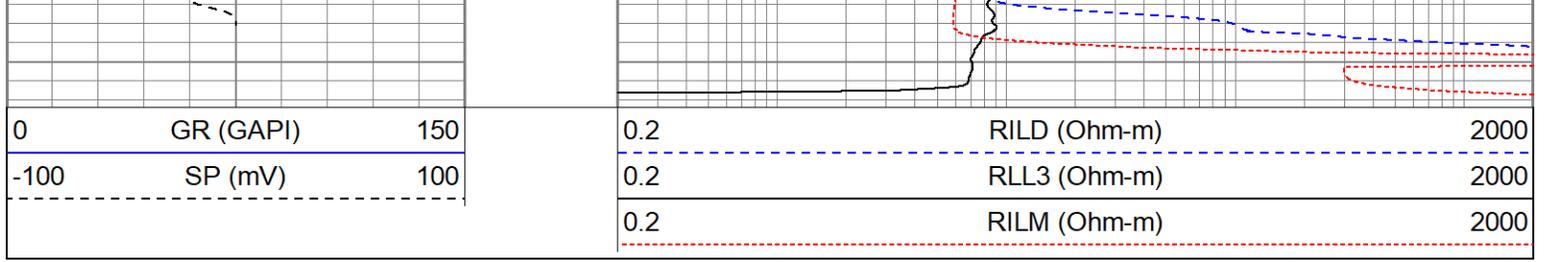
0	GR (GAPI)	150
-100	SP (mV)	100

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000



5250  
5300  
5350  
5400





0	GR (GAPI)	150
-100	SP (mV)	100

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

### Calibration Report

Database File semcmu#2oh.db  
 Dataset Pathname pass3.1  
 Dataset Creation Sat Dec 30 23:54:33 2023

### Dual Induction Calibration Report

Serial-Model: 1842-ADM  
 Surface Cal Performed: Mon Sep 20 22:00:42 2021  
 Downhole Cal Performed: Thu Sep 14 13:06:48 2023  
 After Survey Verification Performed: Thu Sep 14 13:02:29 2023

#### Surface Calibration

Loop:	Readings			V	References			Results	
	Air	Loop			Air	Loop		m	b
Deep	0.018	0.672			0.000	350.000	mmho/m	535.475	-9.896
Medium	0.003	0.769			0.000	400.000	mmho/m	522.607	-1.745
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.018	0.672	V	0.000	350.000	mmho/m	535.240	-9.549	
Medium	0.003	0.768	V	0.000	550.000	mmho/m	718.637	-2.088	

#### Downhole Calibration

Internal:	Readings			V	References			Results	
	Zero	Cal			Zero	Cal		m	b
Deep	-0.210	349.810	mmho/m		-0.343	349.810	mmho/m	1.000	-0.133
Medium	6.952	396.760	mmho/m		-0.226	399.745	mmho/m	1.026	-7.360
Shallow	2.495	0.026	V		500.000	2.000	Ohm-m	201.711	-3.319

#### After Survey Verification

Internal:	Readings			V	Targets			Results	
	Zero	Cal			Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m		32.030	5.643	mmho/m	1.000	-0.133
Medium	0.000	0.000	mmho/m		6.952	396.760	mmho/m	1.026	-7.360
Shallow	0.000	0.000	Ohm-m		500.000	2.000	Ohm-m	1.000	0.000

### Admyr Lithodensity Calibration Report

Serial-Model: 1C-C  
 Source: Blue2  
 Master Calibration Performed: Tue Aug 30 10:20:37 2022

#### Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.670	g/cc	6362.49	3546.71	cps
Aluminium	2.640	g/cc	1733.54	2362.69	cps

Aluminium+Sleeve	2.617	g/cc	1657.01	2197.69	cps
Spine Angle = 72.65			Density/Spine Ratio = 0.712		
	PE		NLITH	NHARD	
Magnesium	2.000	barn	2520.00	1620.00	cps
Aluminium	3.000	barn	1926.00	1699.00	cps
Aluminium+Sleeve	5.000	barn	915.00	1230.00	cps
M = 0.370			B = -0.079	R = 0.999	
	Size		Reading		
Small Ring	8.00	in	8.61	V	
Large Ring	14.30	in	12.40	V	

### Neutron Calibration Report

Serial Number: AD5139  
 Tool Model: ADMY5139  
 Performed: (Not Performed)

Calibrator Value: 1 NAPI  
 Calibrator Reading: 1 cps  
 Sensitivity: 1 NAPI/cps

### Temperature Calibration Report

Serial Number: WithMC  
 Tool Model: WMC  
 Performed: Fri Apr 19 12:15:04 2019

	Reference	Reading
Low Reference:	0.00 degF	0.00 degF
High Reference:	1.00 degF	1.00 degF
Gain:	1.00	
Offset:	0.00	
Delta Spacing	1	

### Inclinometer Calibration Report

Performed: Wed May 5 19:20:48 2021

	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	205.00	1843.00	-1.00	1.00	gee
Y Accelerometer	205.00	1843.00	-1.00	1.00	gee
Z Accelerometer					gee

### Gamma Ray Calibration Report

Serial Number: WithMC  
 Tool Model: WMC  
 Performed: Sat Nov 11 16:49:39 2023

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps  
 Sensitivity: 1.0000 GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	38.31		CHD-STD	0.50	1.69	1.00
ACCY	37.15		ADT-WMC (WithMC) Admyr Telemetry With Mudcell	4.58	3.50	120.00
ACCX	37.15					
SSTAT	36.73					
PSTAT	35.90					
ASTAT	35.90					
GRD	35.06		NEU-ADMY5139 (AD5139) Admyr NEU DIGITAL	5.65	3.50	50.00
TEMP	35.06					
NEU	31.03					
LSTAT	21.88					
LS_HV	21.86					
LS8	21.86		ADT1LITH-C (1C) Real Time Litho Tool	9.29	3.50	240.00
LS7	21.86					
LS6	21.86					
LS5	21.86					
NHARD	21.86					
LSD	21.86					
LS2	21.86					
NLITH	21.86					
LSV	21.61					
DCAL	21.61					
SS_HV	21.27					
SSV	21.27					
SS8	21.27		DIL-ADM (1842) Dual Induction	19.71	4.00	300.00
SS7	21.27					
SS6	21.27					
SS5	21.27					
SS4	21.27					
SSD	21.27					
SS2	21.27					
SS1	21.27					
SP	10.60					
CILD	10.60					
CILM	6.89	Dataset:	semcmu#2oh.db: field/well/run1/pass3.1			
RLL3	1.70	Total length:	39.73 ft			
TR_Mon	0.00	Total weight:	711.00 lb			
		O.D.:	4.00 in			