



DUAL INDUCTION LOG

Company	Grunder Oil, LLC	Location:	API # : 15 151 22579	Other Services
Well	Grunder #4		4290' FSL & 440' FEL	ML
Field	Randle			CDNL
County	Pratt			SON
State	KS			Elevation
		SEC 5	TWP 26S	RGE 14W
Permanent Datum	Ground Level			2005'
Log Measured From	KB 7' AGL			
Drilling Measured From	KB			
Date	11/04/2023			
Run Number	One			
Depth Driller	4550'			
Depth Logger	4550'			
Bottom Logged Interval	4548'			
Top Log Interval	00			
Casing Driller	8 5/8"@430'			
Casing Logger	430'			
Bit Size	7 7/8"			
Type Fluid in Hole	Chemical			
Density / Viscosity	9.2/55			
pH / Fluid Loss	9.0/10.4			
Source of Sample	Pit			
Rm @ Meas. Temp	0.9@70degf			
Rmf @ Meas. Temp	0.7@70degf			
Rmc @ Meas. Temp	1.2@70degf			
Source of Rmf / Rmc	Calculated			
Rm @ BHT	0.5@110degf			
Time Circulation Stopped	2:15 P.M.			
Time Logger on Bottom	6:00 P.M.			
Maximum Recorded Temperature	116degf			
Equipment Number	T-605			
Location	HAYS, KS.			
Recorded By	COLBY DREILING			
Witnessed By	KEATON JONES			

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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

Byers, KS Main Street.(NW 70th Ave.) 2 Mi. North. West Into.

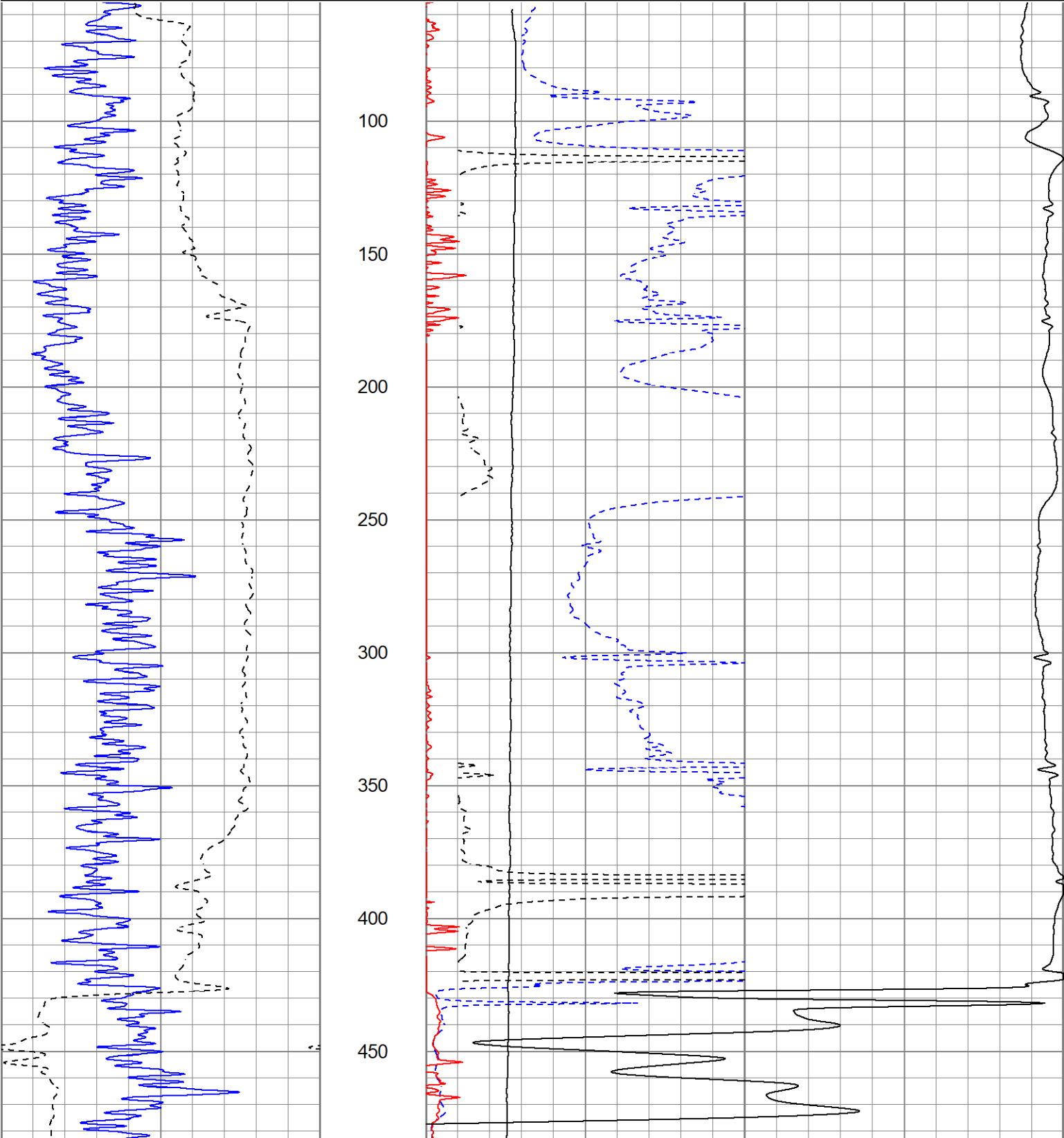
Thanks for using Gemini Wireline LLC
785-625-1182

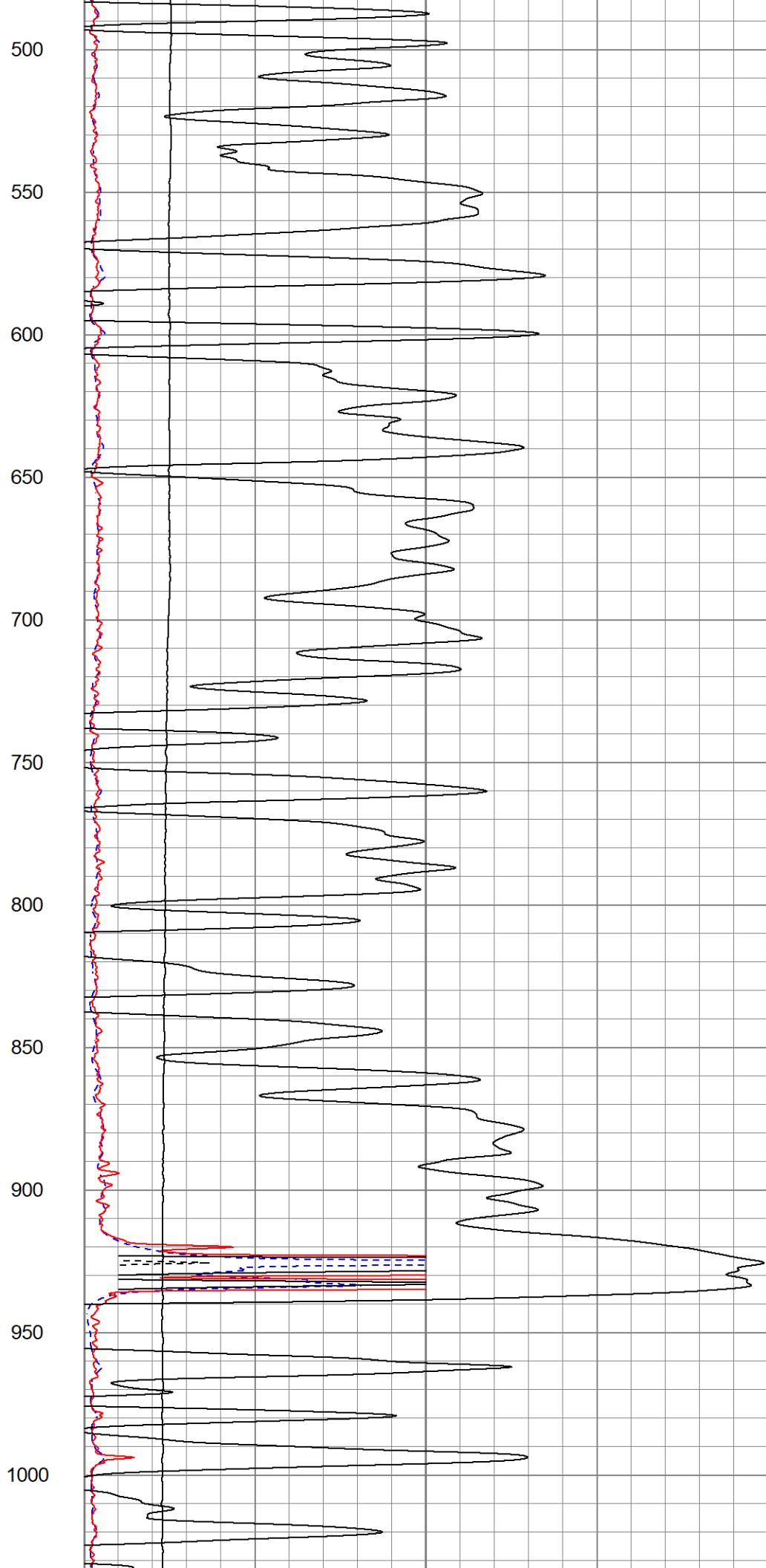
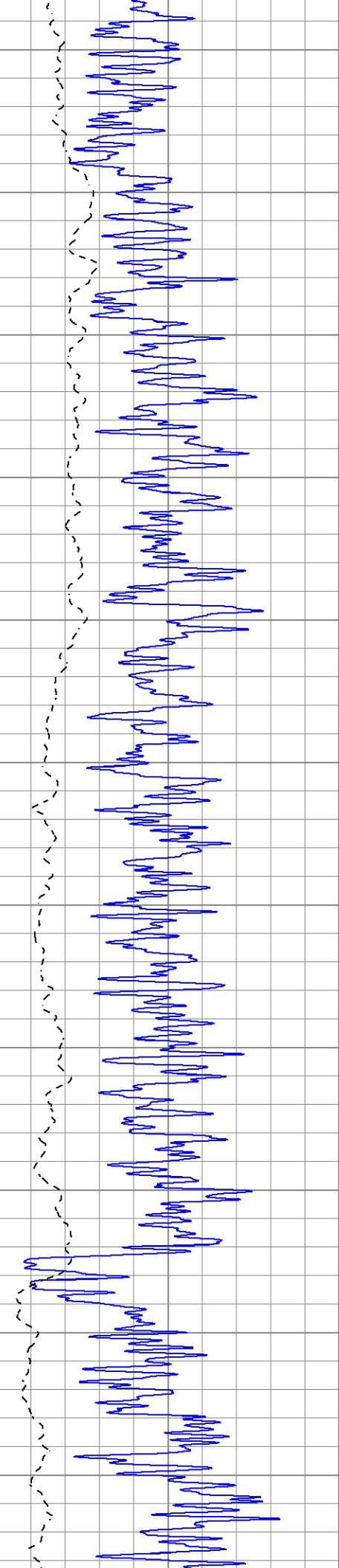


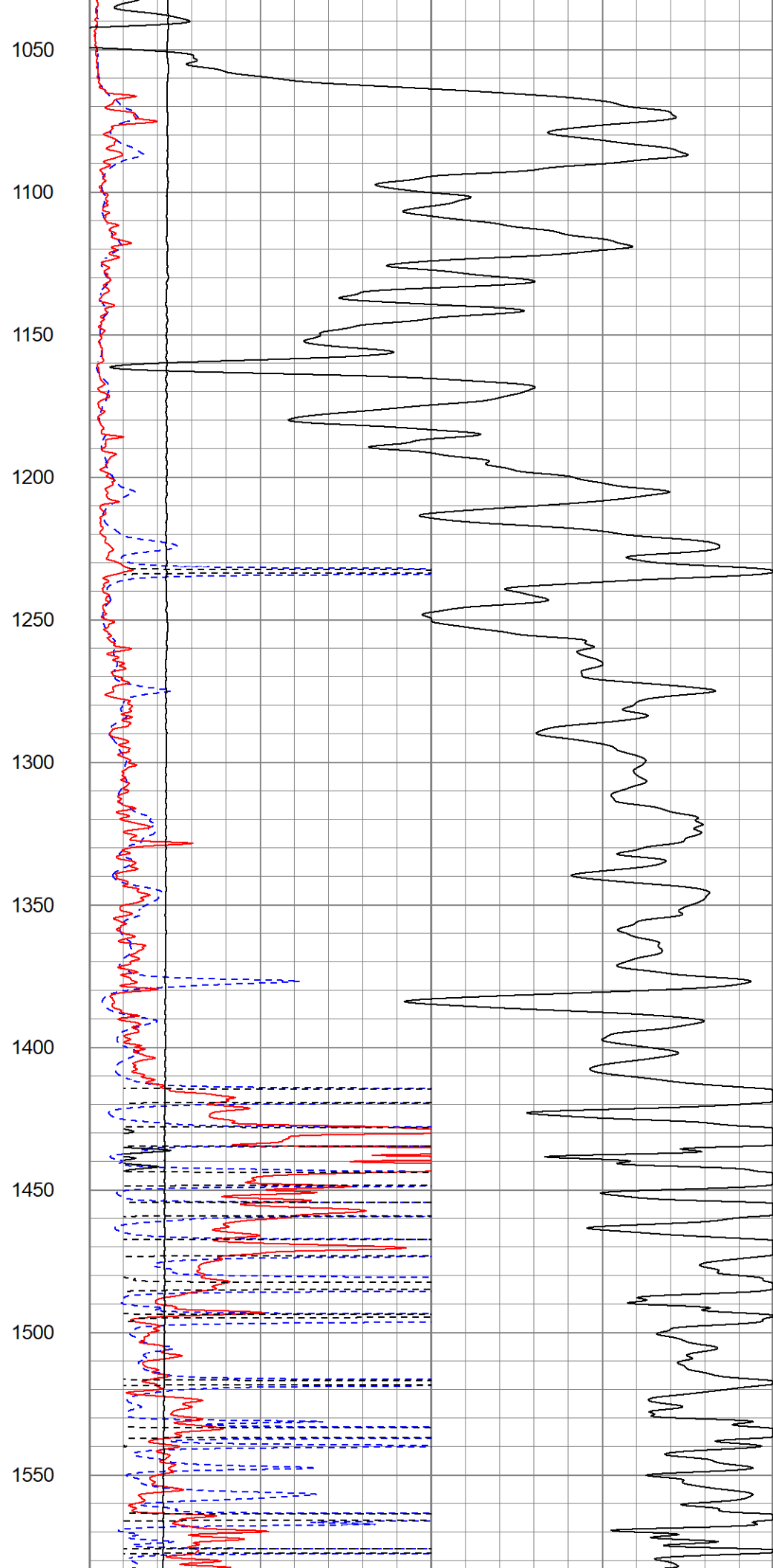
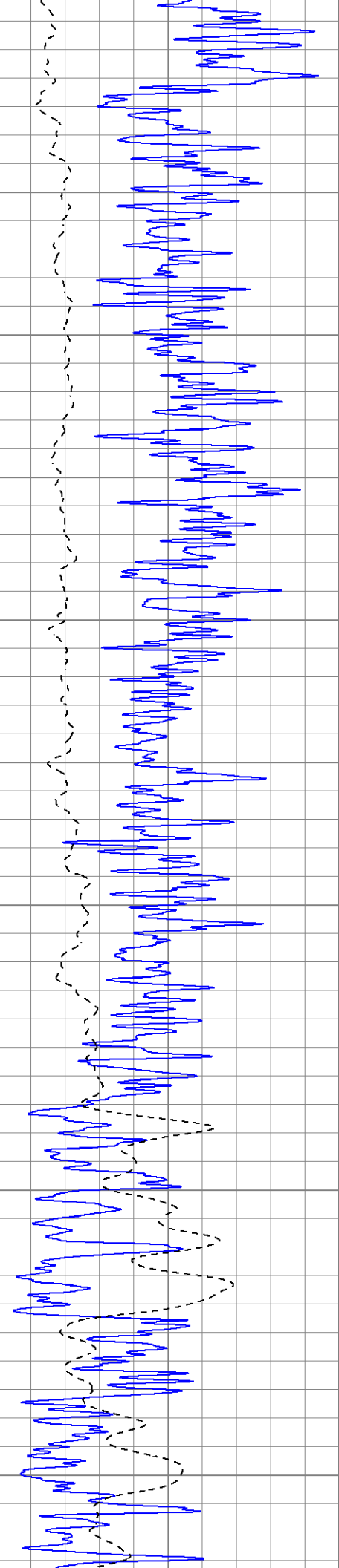
MAIN PASS

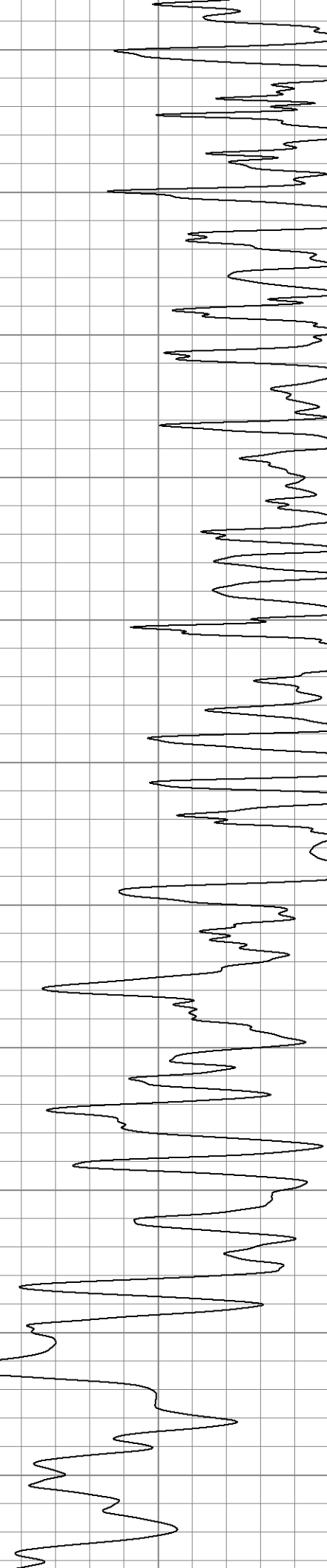
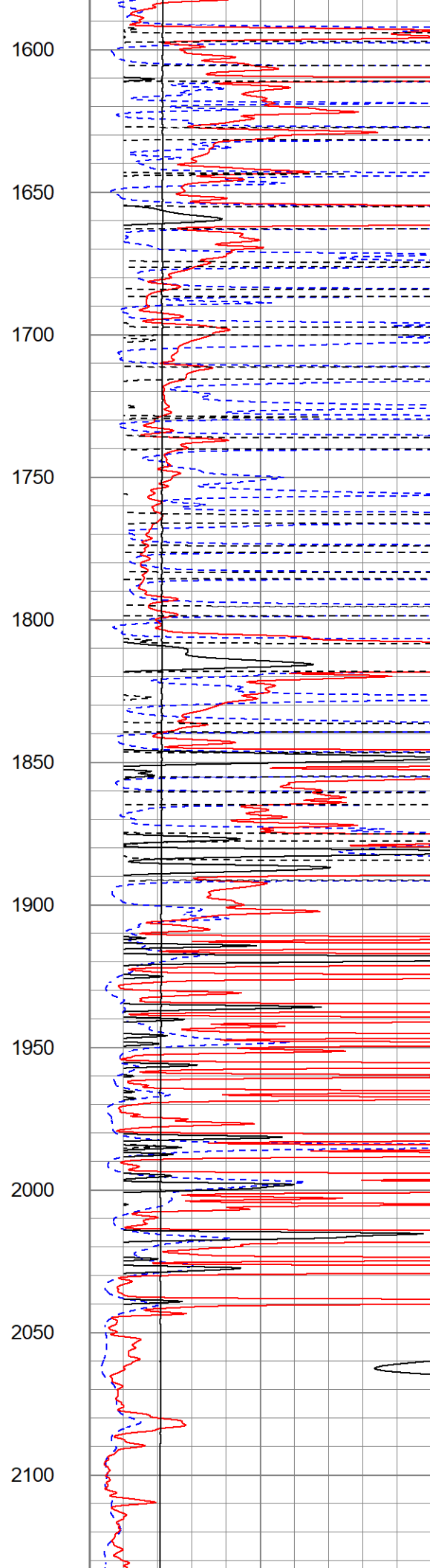
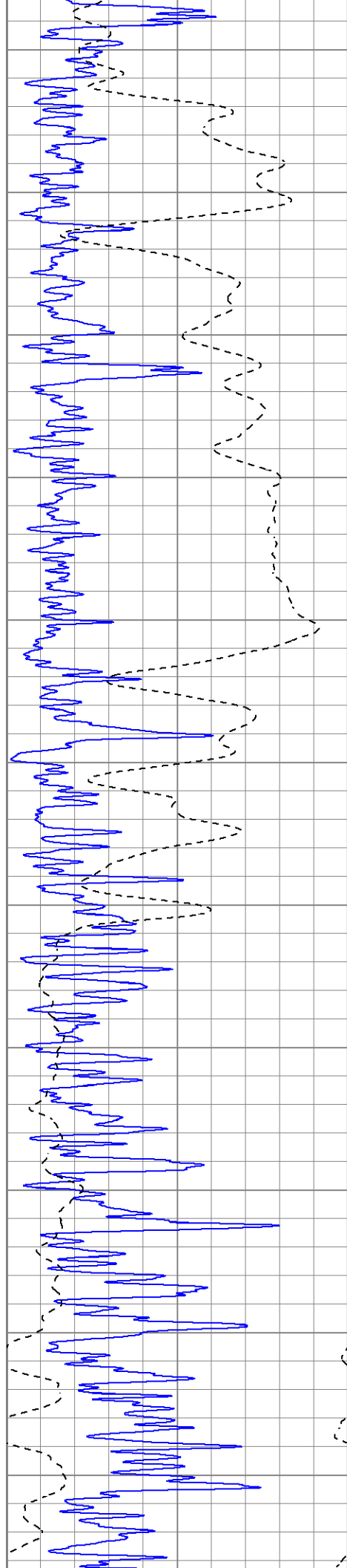
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Dataset Pathname	pass2.1
Presentation Format	kdillinn
Dataset Creation	Sat Nov 04 19:53:38 2023
Charted by	Depth in Feet scaled 1:600

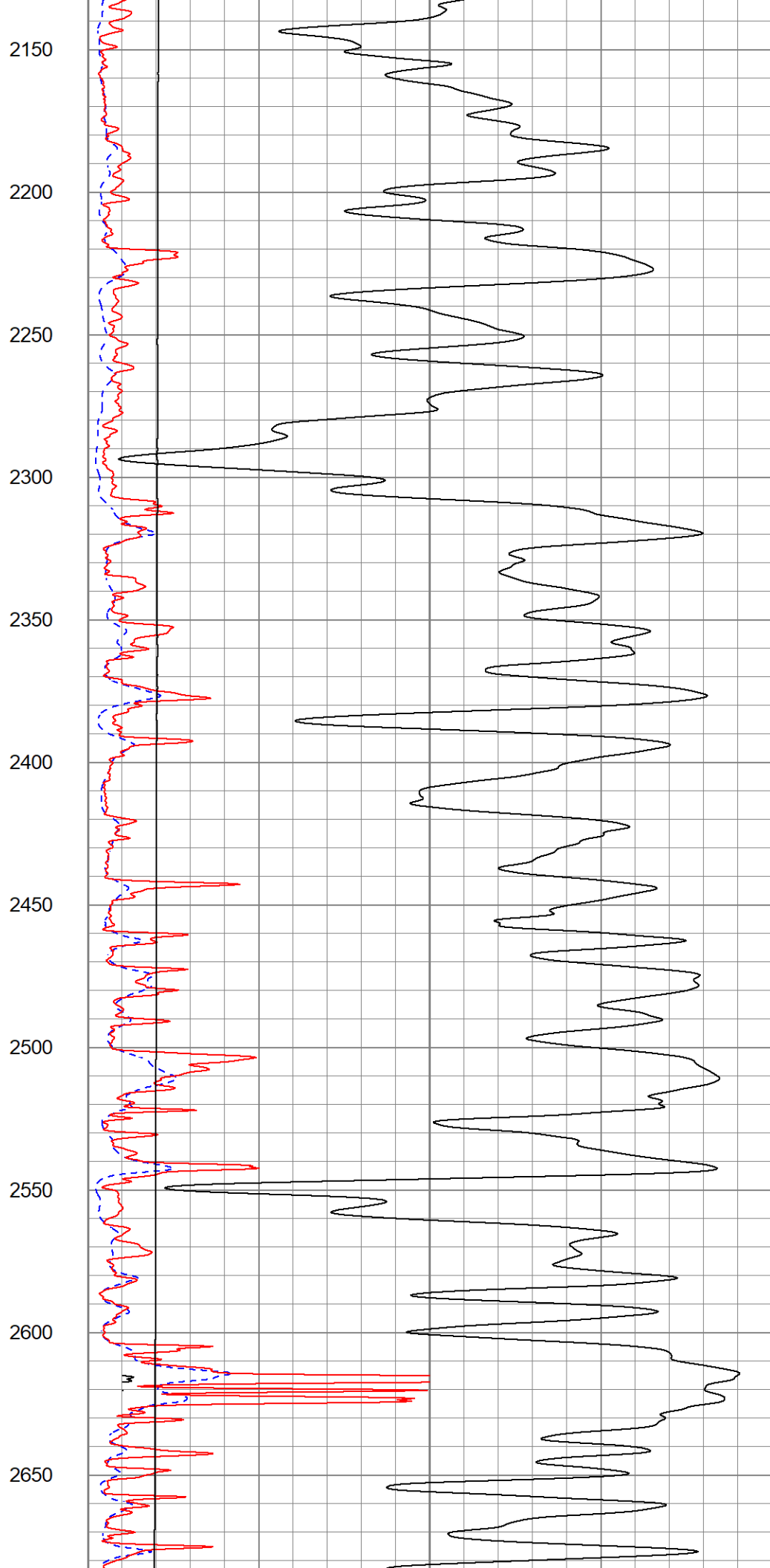
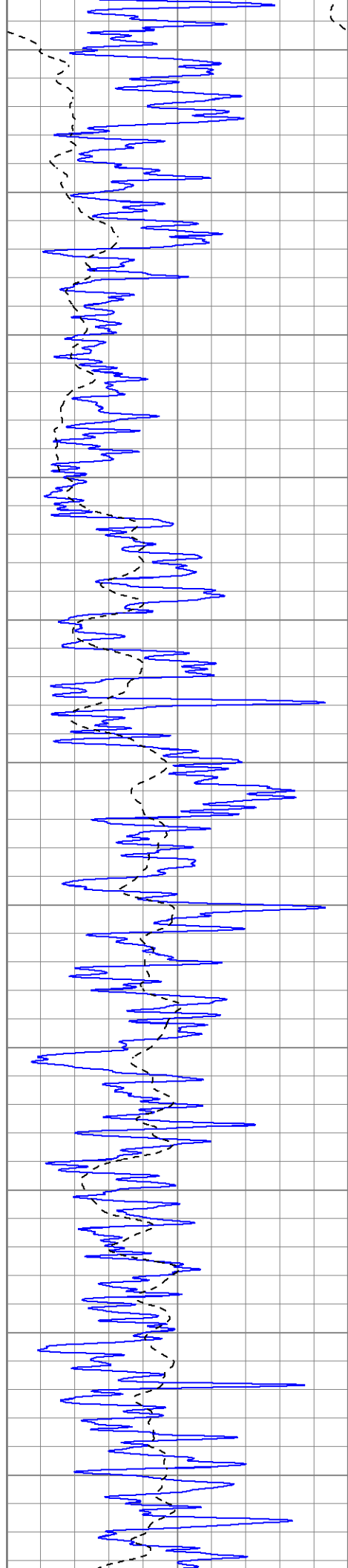
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-100	SP (mV)	100	10000	LTEN (lb)	0
0	RILD (Ohm-m)	50			
0	RLL3 (Ohm-m)	50			
50	RILD x 10 (Ohm-m)	500			
50	RLL3 x 10 (Ohm-m)	500			

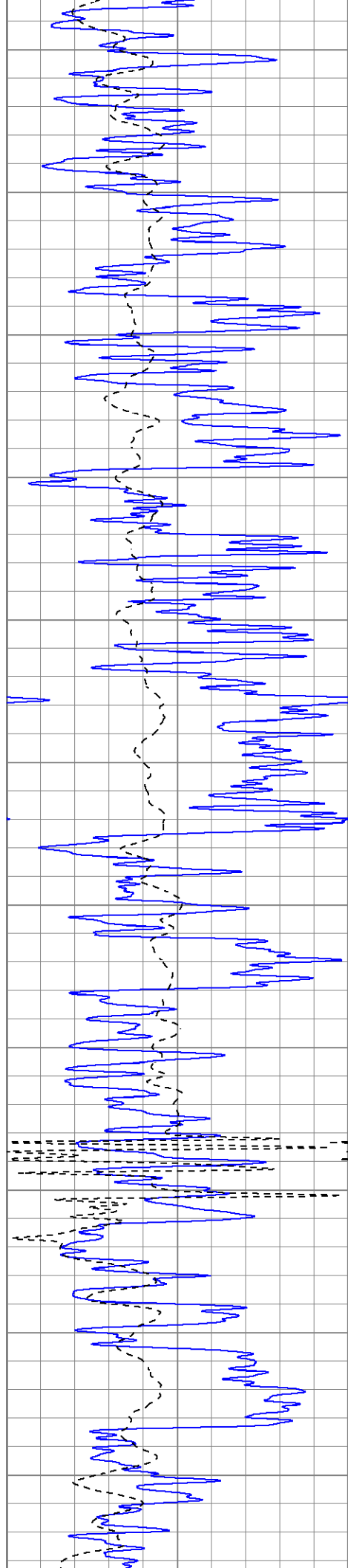




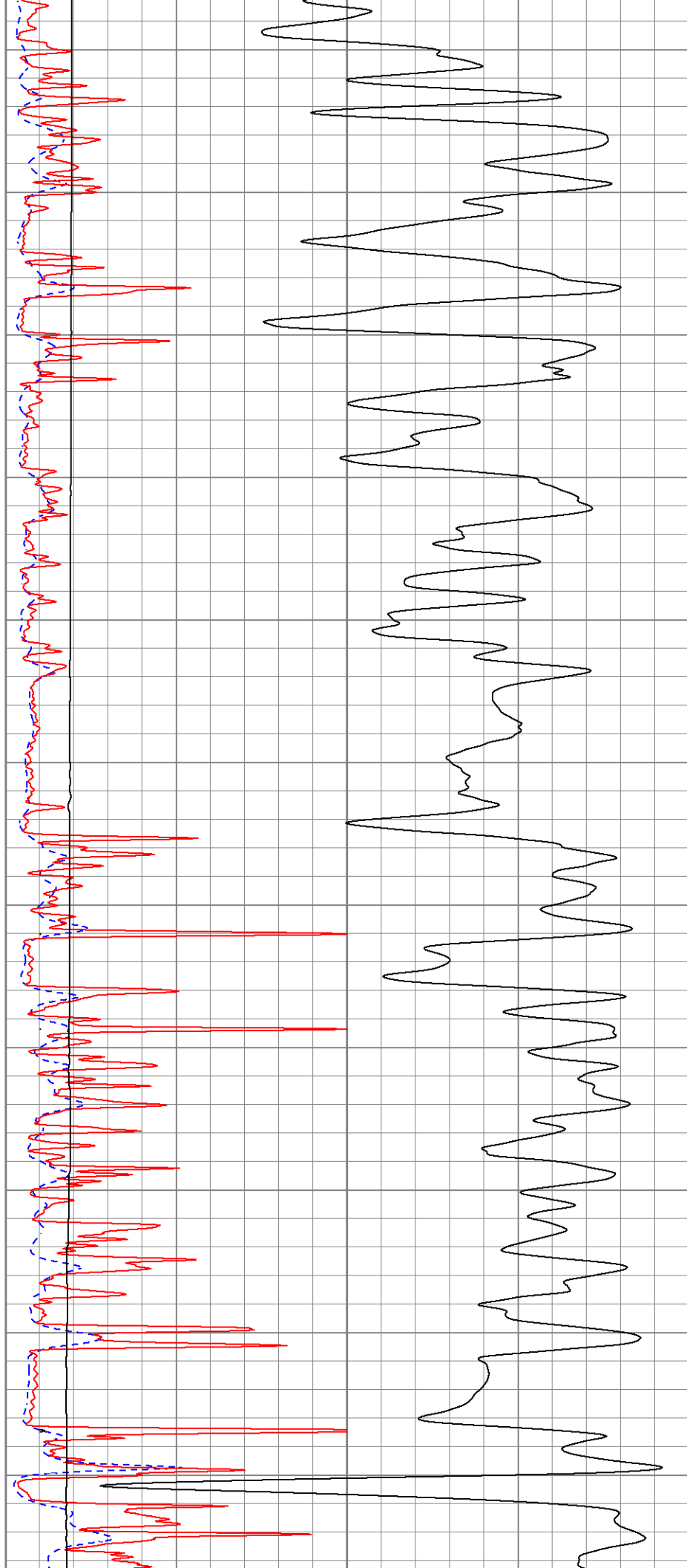


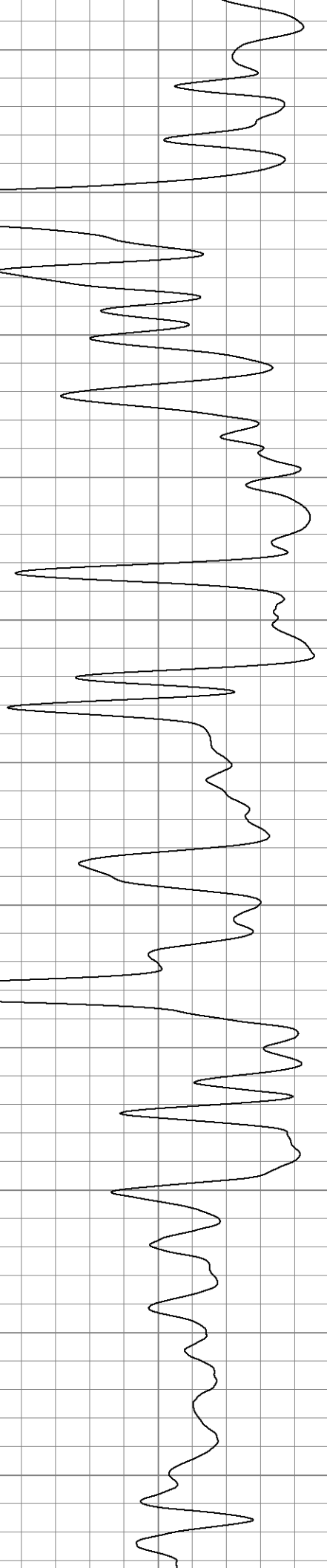
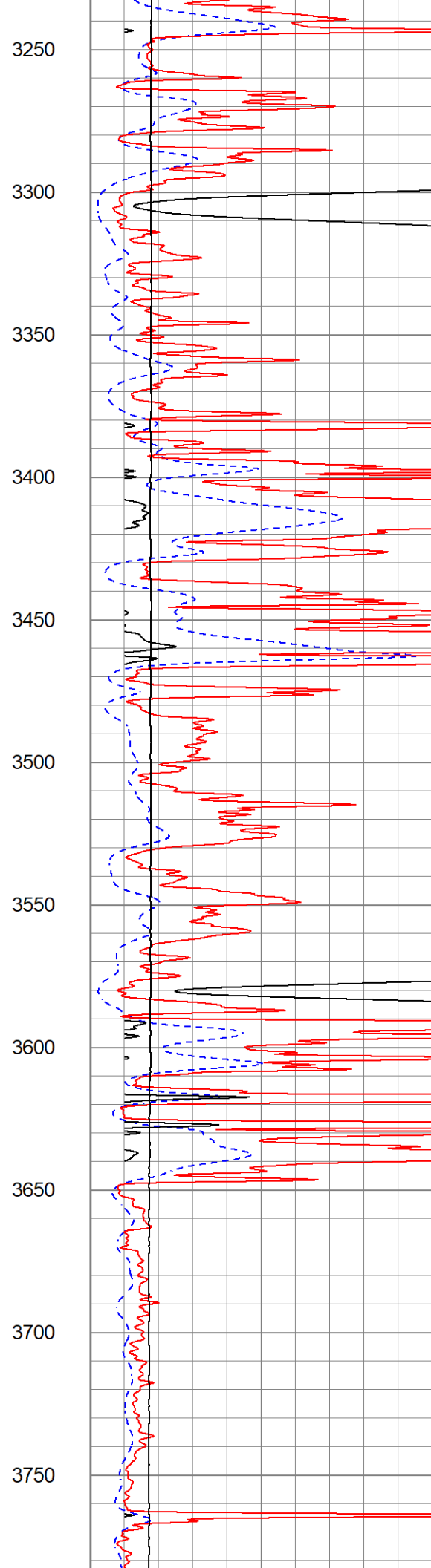
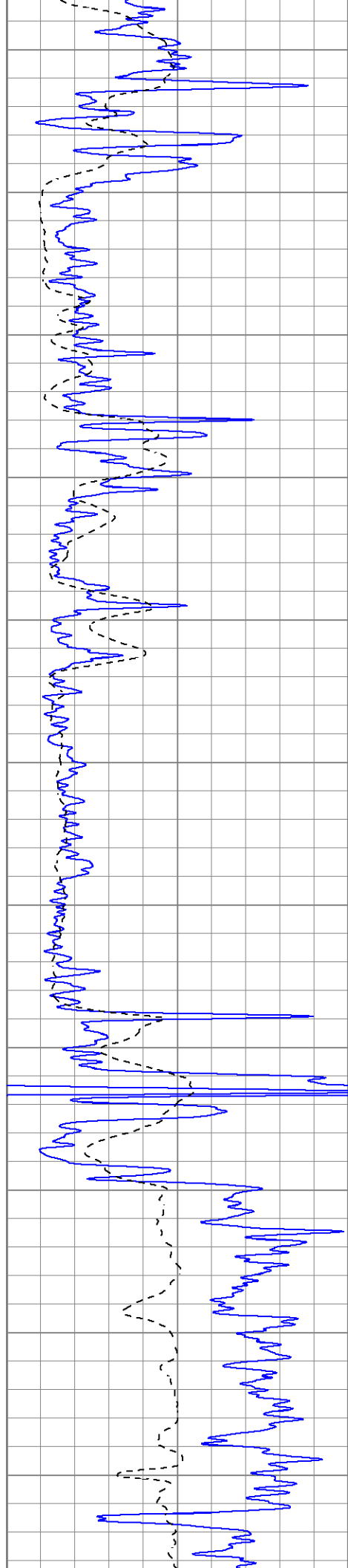


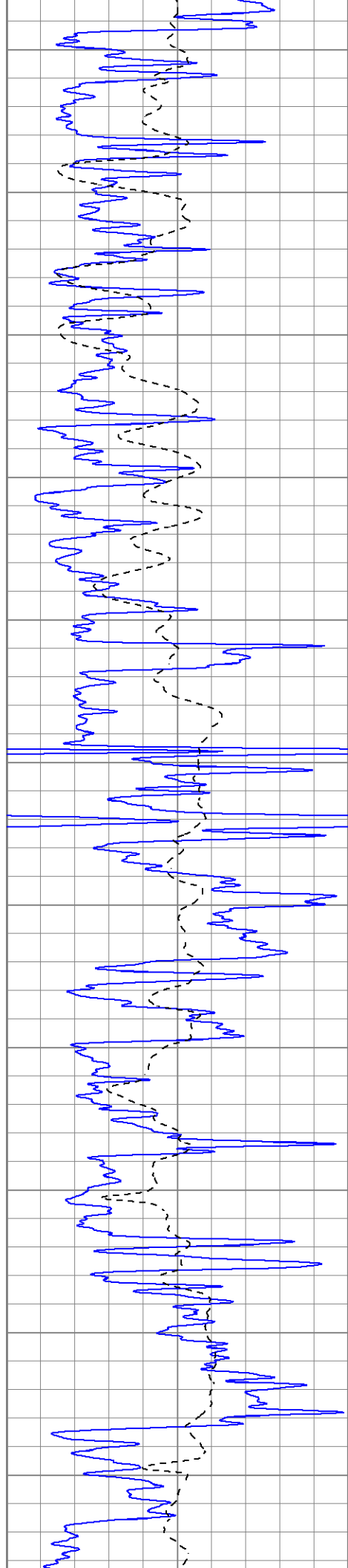




2700
2750
2800
2850
2900
2950
3000
3050
3100
3150
3200







3800

3850

3900

3950

4000

4050

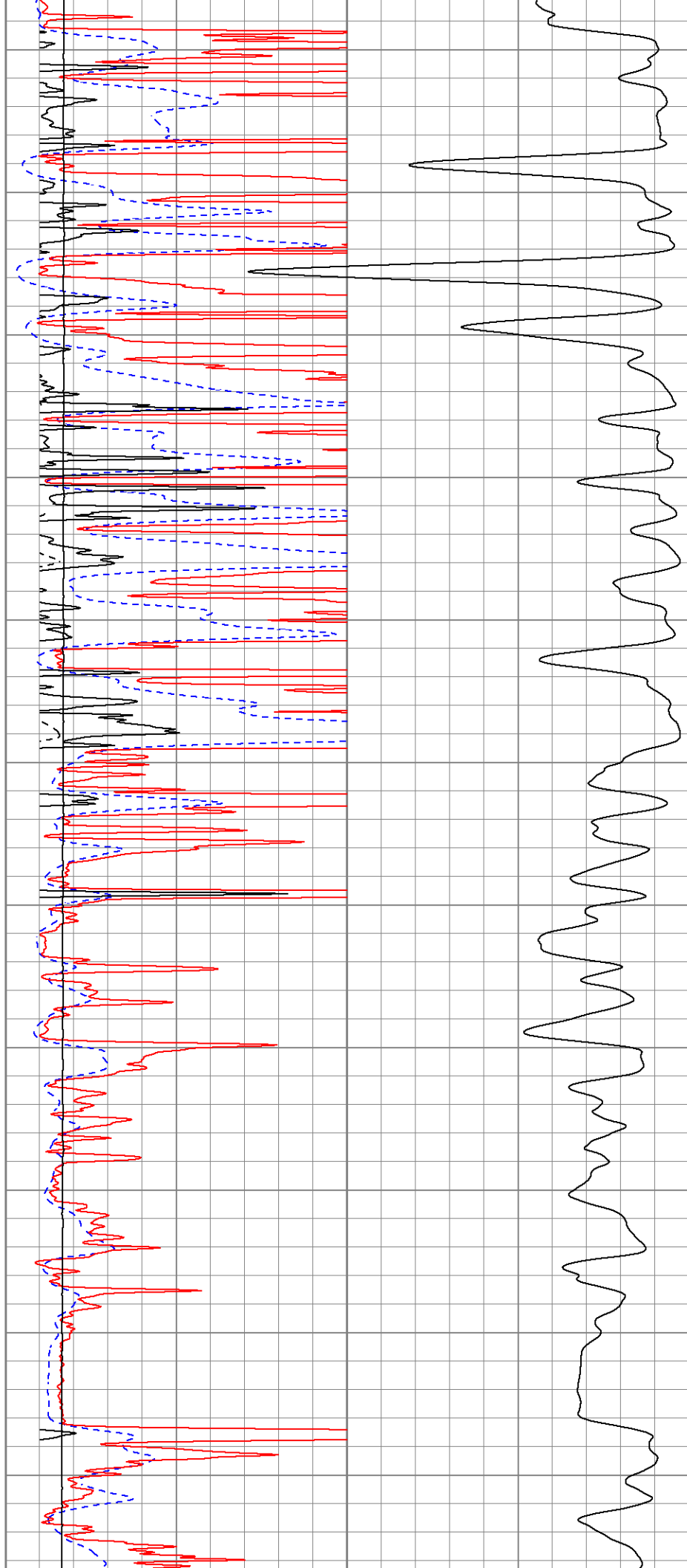
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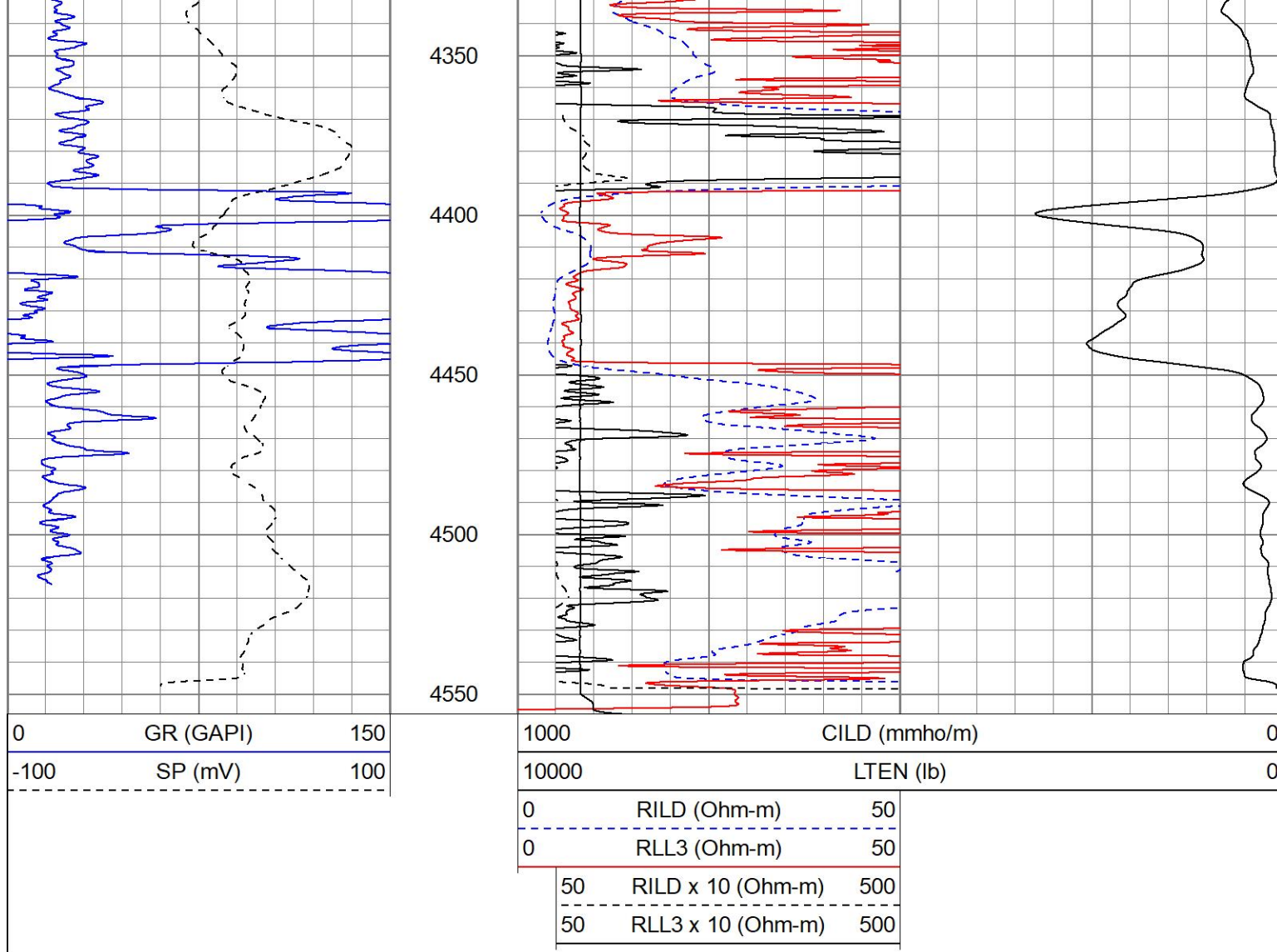
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4200

4250

4300

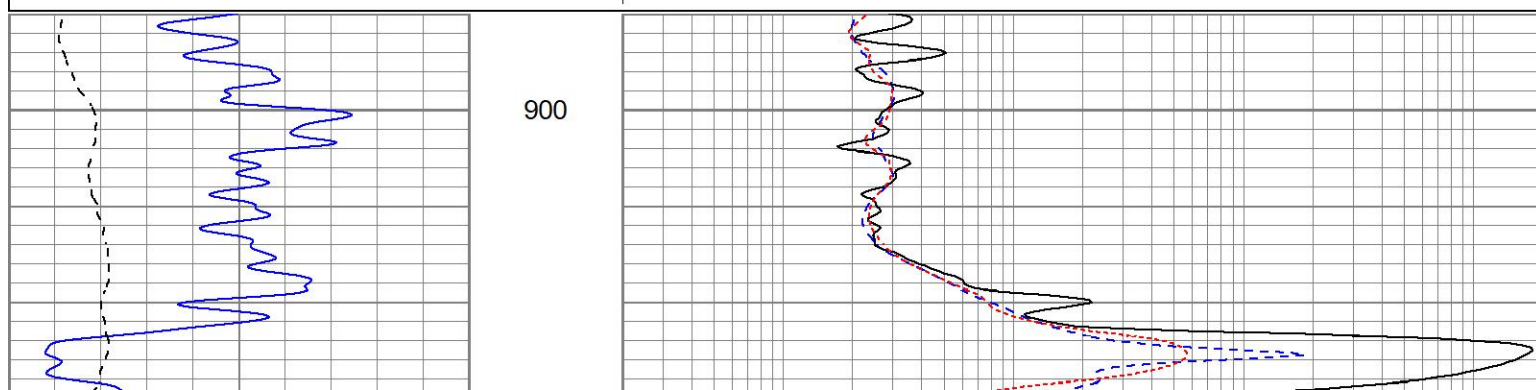


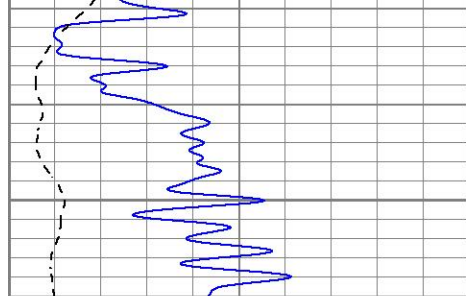


MAIN PASS

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 Dataset Pathname pass2.1
 Presentation Format kdil
 Dataset Creation Sat Nov 04 19:53:38 2023
 Charted by Depth in Feet scaled 1:240

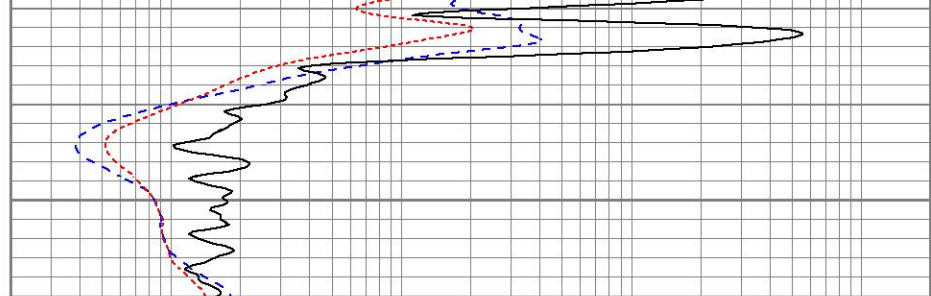
0	GR (GAPI)	150	0.2	RILD (Ohm-m)	2000
-100	SP (mV)	100	0.2	RLL3 (Ohm-m)	2000
			0.2	RILM (Ohm-m)	2000





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

950



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

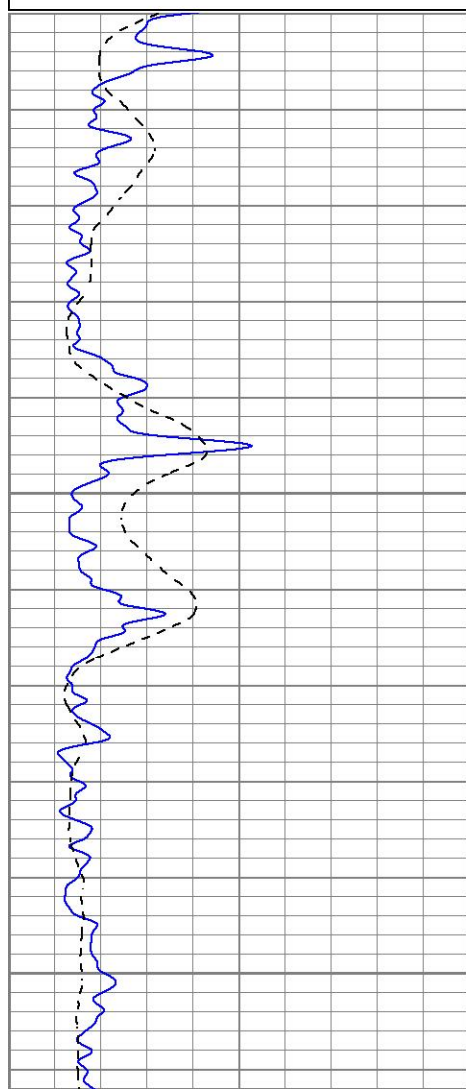


MAIN PASS

Database File gogrunder#4oh.db
 Dataset Pathname pass2.1
 Presentation Format kdil
 Dataset Creation Sat Nov 04 19:53:38 2023
 Charted by Depth in Feet scaled 1:240

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

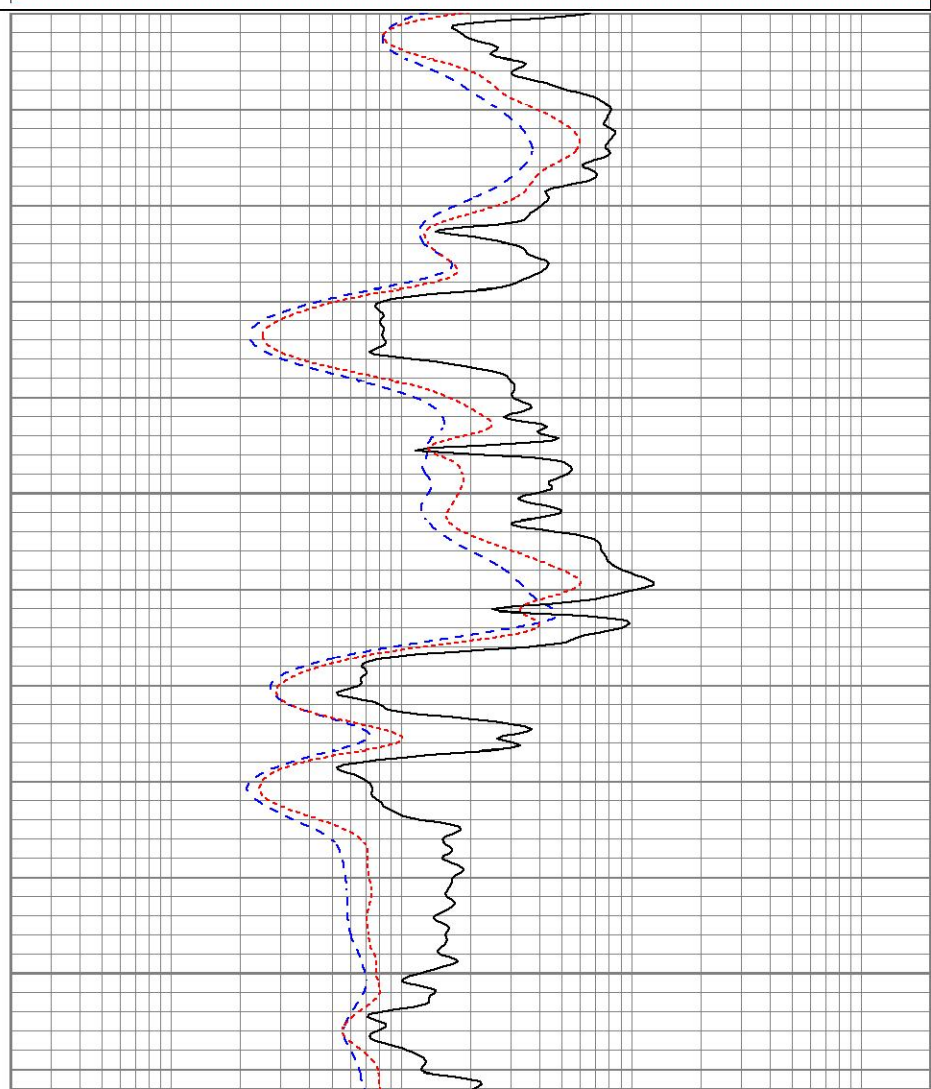
0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

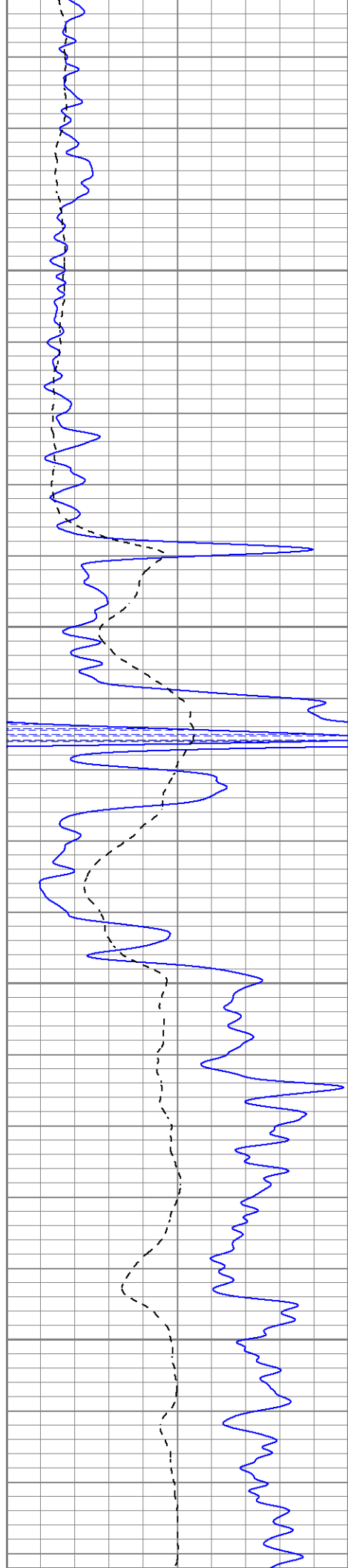


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3450

3500



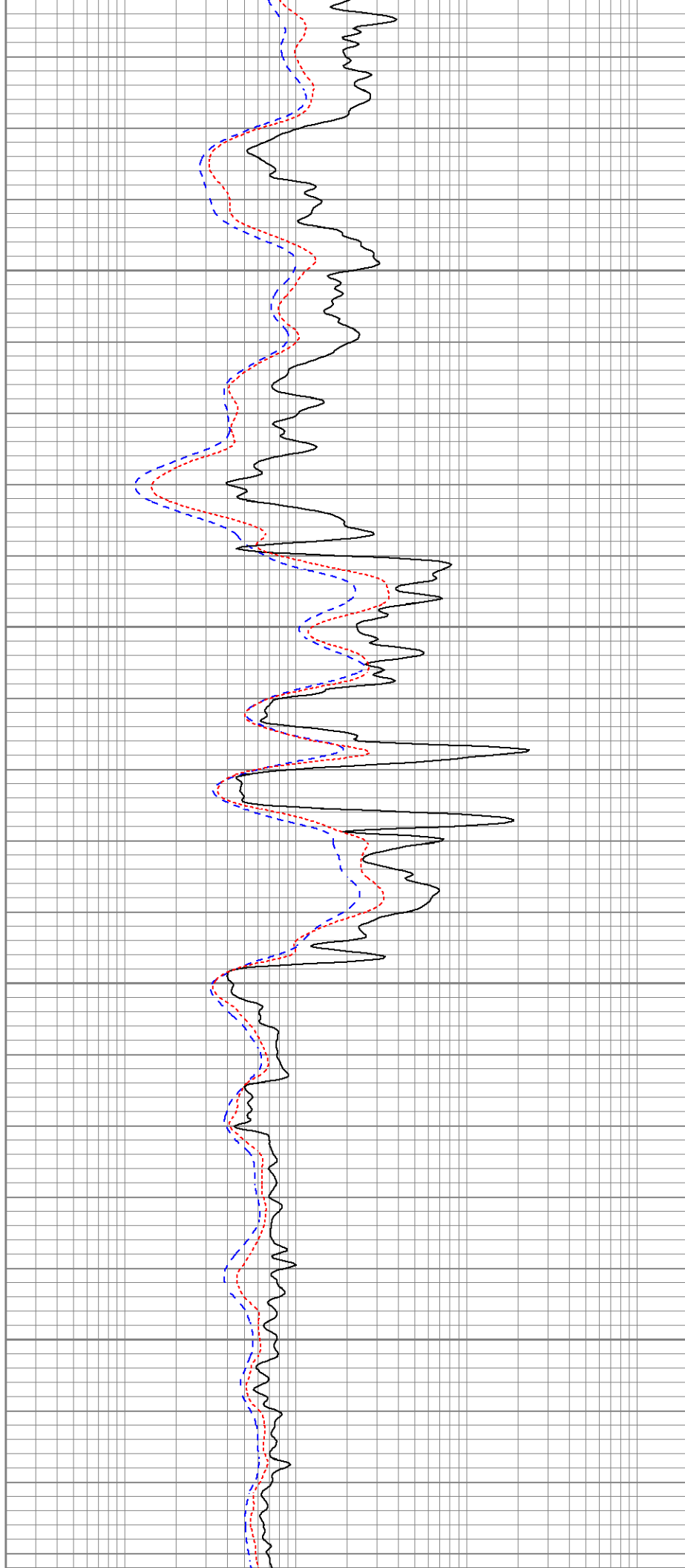


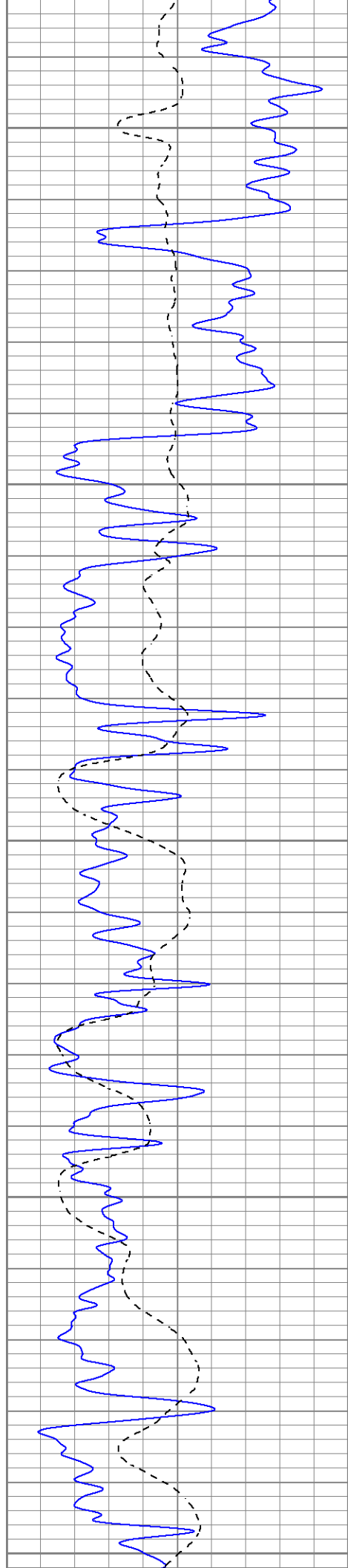
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3700





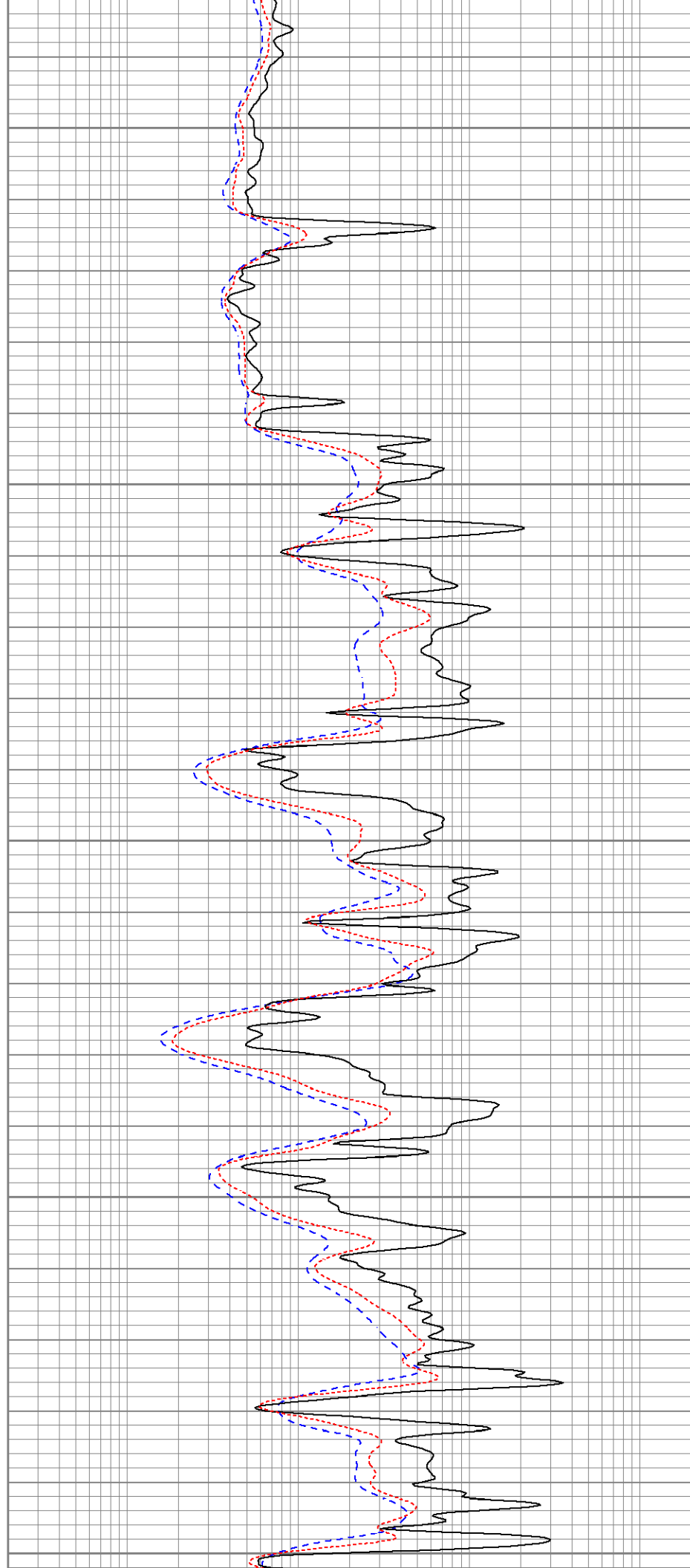
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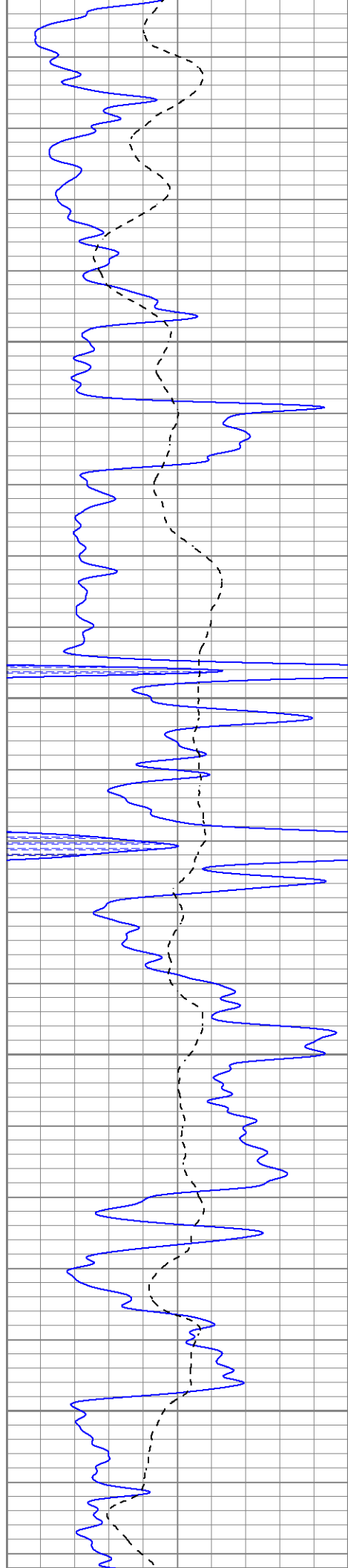
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3850

3900

3950



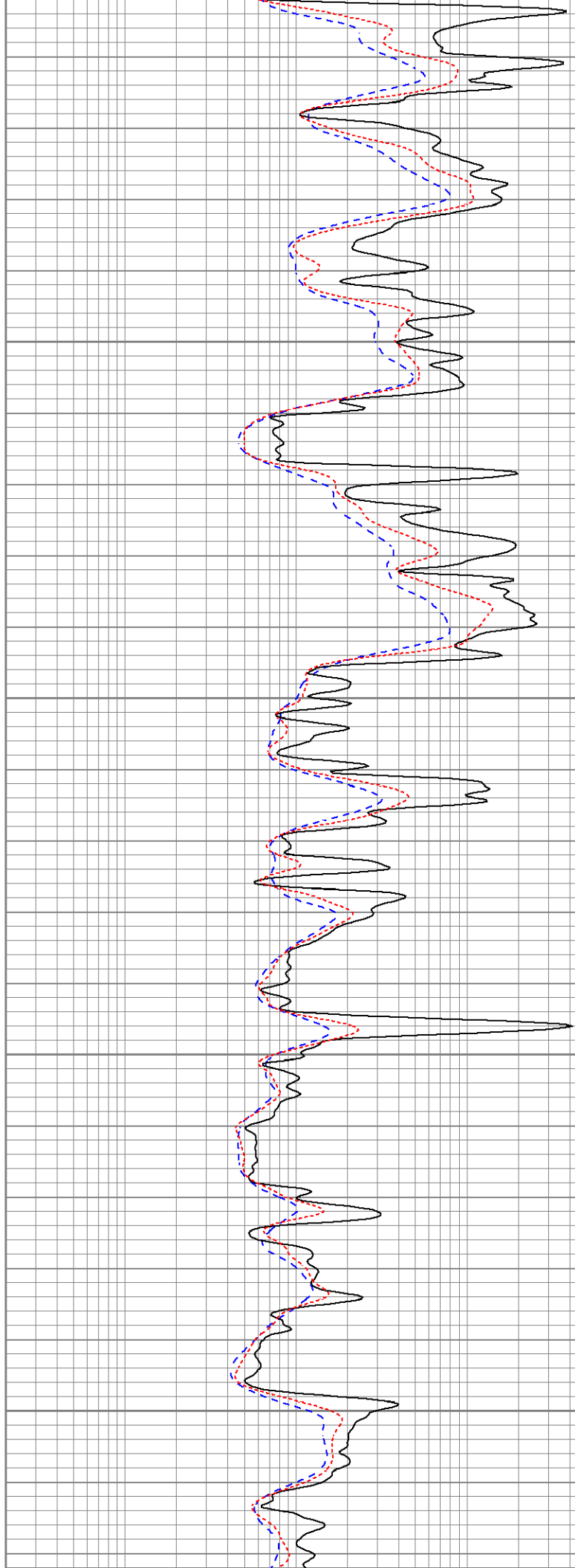


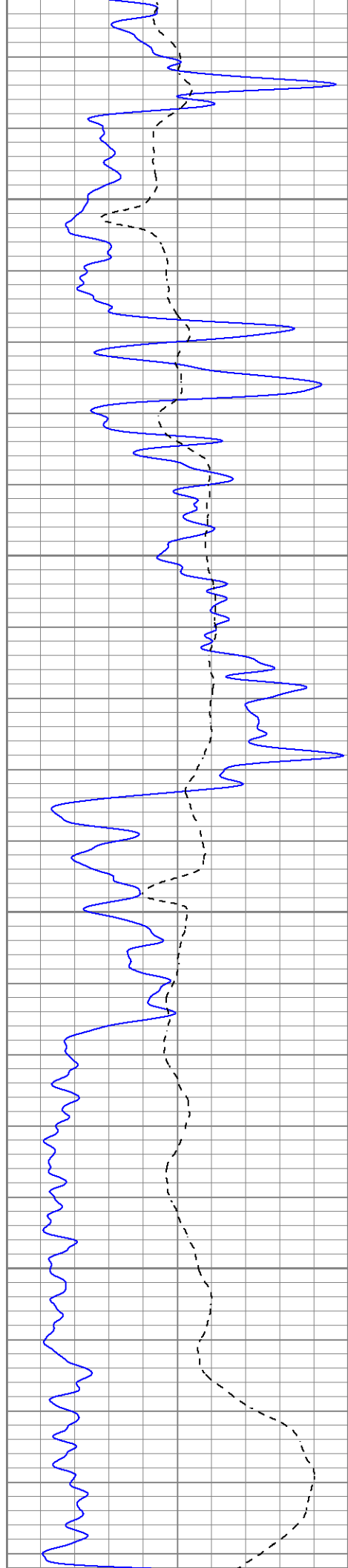
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4050

4100

4150



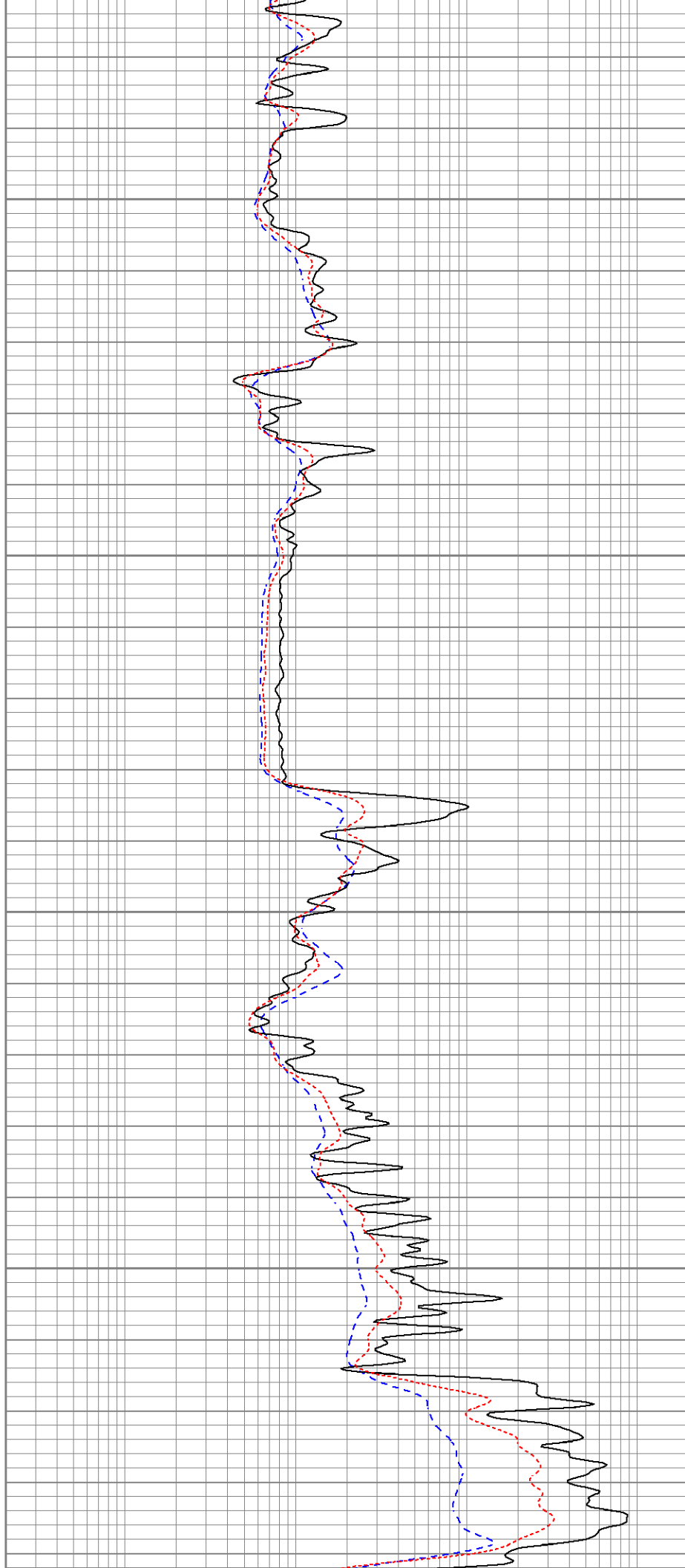


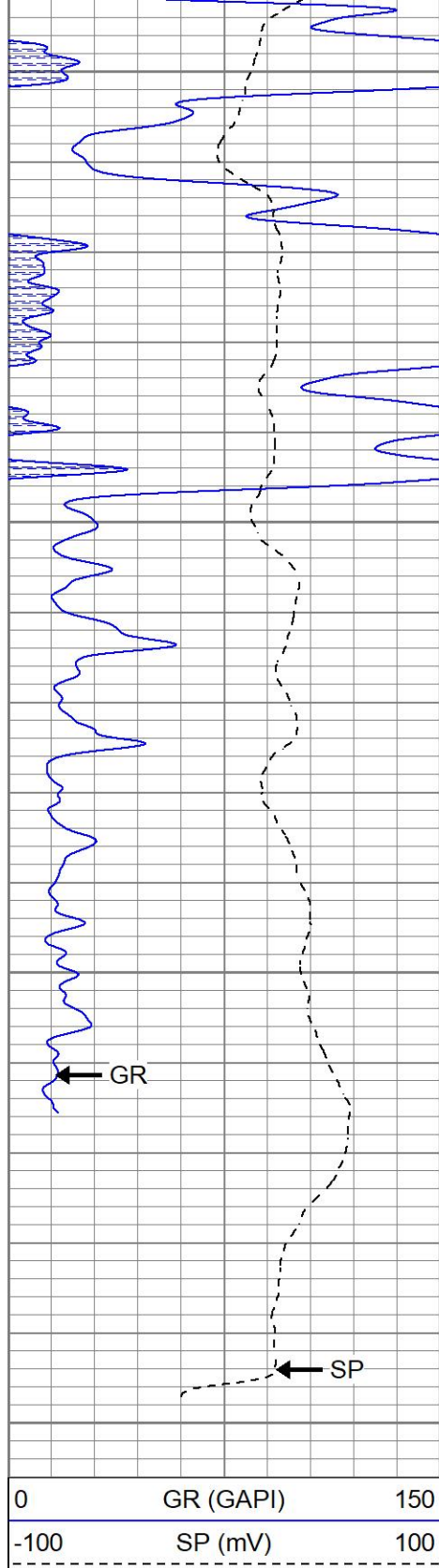
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4250

4300

4350



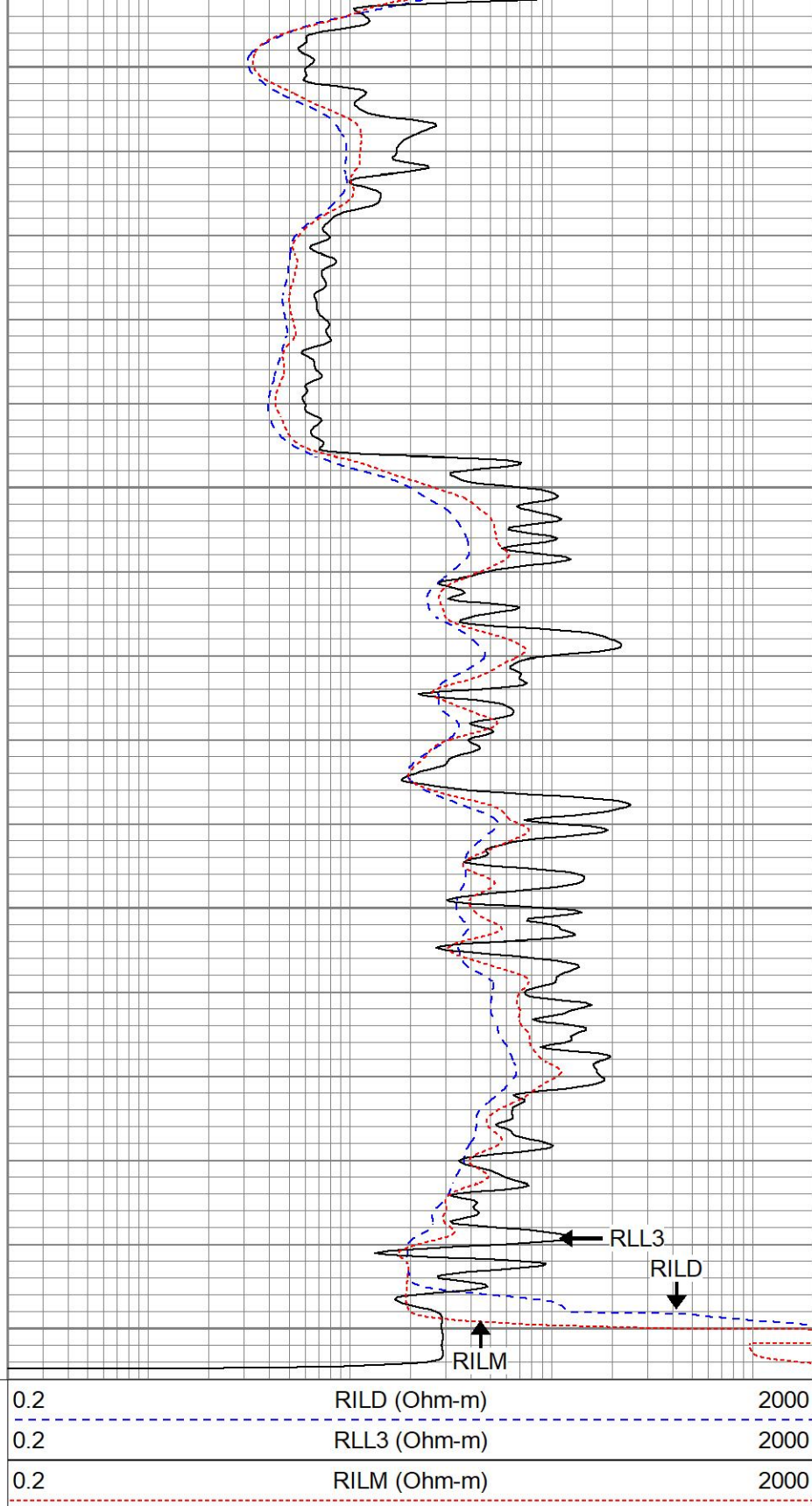


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4450

4500

4550

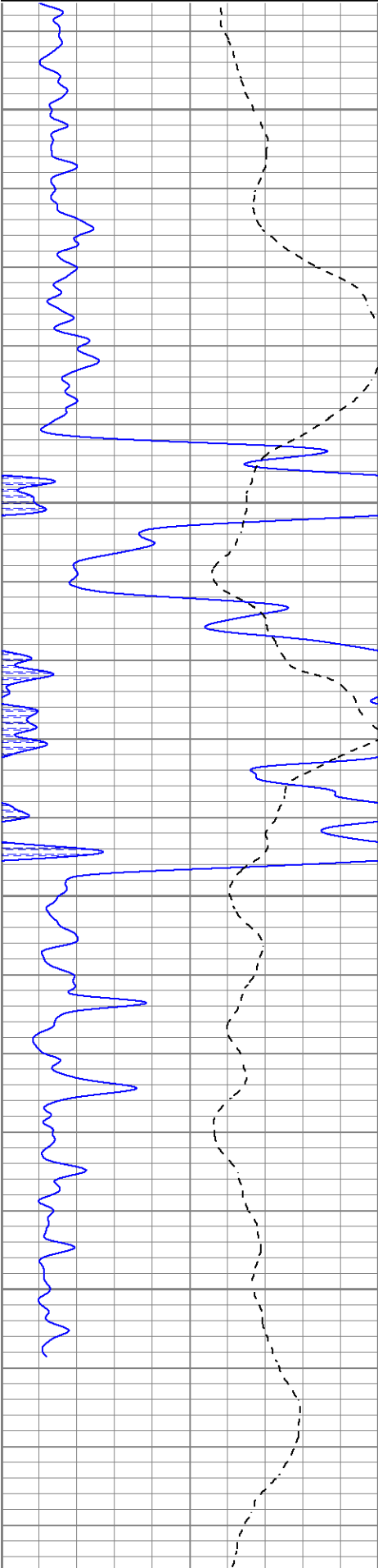


REPEAT SECTION

Database File gogrunder#4oh.db
 Dataset Pathname pass1.1
 Presentation Format kdil
 Dataset Creation Sat Nov 04 19:50:53 2023

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

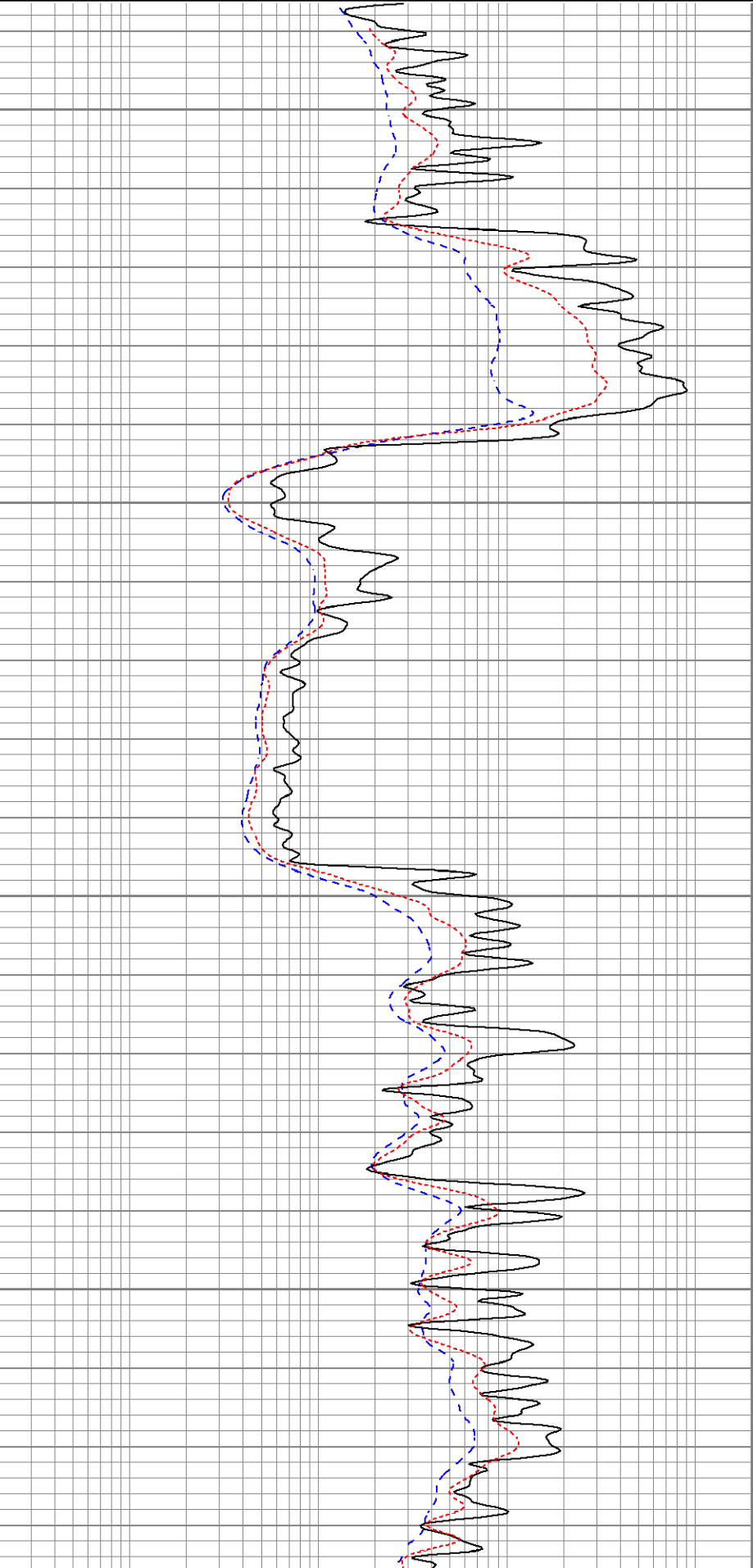


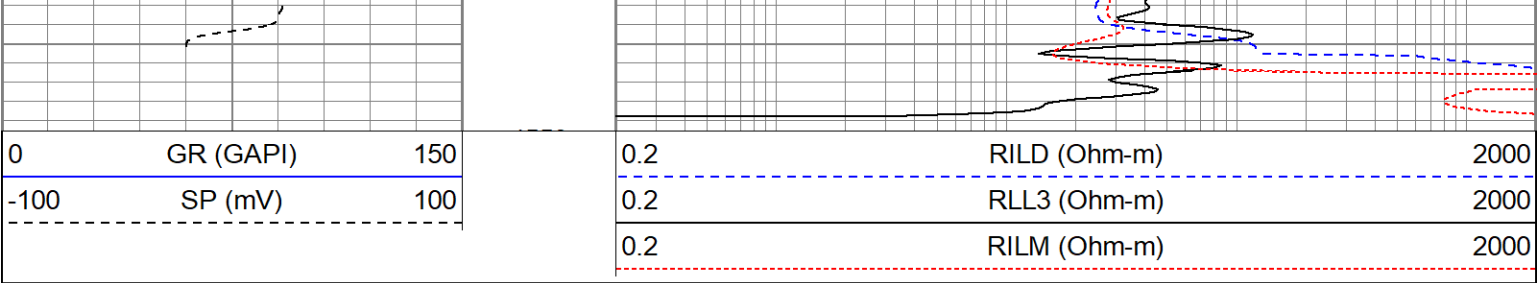
4350

4400

4450

4500





Calibration Report	
Database File	gogrunder#4oh.db
Dataset Pathname	pass2.1
Dataset Creation	Sat Nov 04 19:53:38 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								
Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.018	0.672	V	0.000	350.000	mmho/m	535.475	-9.896
Medium	0.003	0.769	V	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								
Readings				References			Results	
Internal:	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								
Readings				Targets			Results	
Internal:	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	

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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:	(Not Performed)				
Calibrator Value:	1.0	GAPI			

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