



# DUAL INDUCTION LOG

Company HERMAN L. LOEB, LLC.  
 Well #1-16 CLAYTON - ZIMMERMAN  
 Field FRALICK WEST  
 County KIOWA  
 State KANSAS

Company HERMAN L. LOEB, LLC.  
 Well #1-16 CLAYTON - ZIMMERMAN  
 Field FRALICK WEST  
 County KIOWA State KANSAS

Location: API #: 15-097-21872-0000  
 1091' FSL & 2480' FEL  
 SEC 16 TWP 28S RGE 20W  
 Permanent Datum GROUND LEVEL Elevation 2320  
 Log Measured From KELLY BUSHING 11' A.G.L.  
 Drilling Measured From KELLY BUSHING  
 Other Services CDL/CNL/PE MEL  
 Elevation K.B. 2331 D.F. 2329 G.L. 2320

Date	2/9/24
Run Number	ONE
Depth Driller	5025
Depth Logger	5026
Bottom Logged Interval	5024
Top Log Interval	00
Casing Driller	8.675@519
Casing Logger	519
Bit Size	7.785
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.0/56
pH / Fluid Loss	10.5/9.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.540@74F
Rmf @ Meas. Temp	.405@74F
Rmc @ Meas. Temp	.648@74F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.317@126F
Time Circulation Stopped	2.5 HOURS
Time Logger on Bottom	8:00 P.M.
Maximum Recorded Temperature	126F
Equipment Number	922339
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	JON CHRISTENSEN
	JEREMEY PASEK

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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.

15-097-21872-0000 Comments

THANK YOU FOR USING ELI WIRELINE HAYS. KANSAS (785) 628-6395  
 DIRECTIONS  
 MULLINVILLE, KS., (HWY 400 & MAIN ST.) 1 1/2 N. TO "15 ST.", 1 1/2W., S. INTO

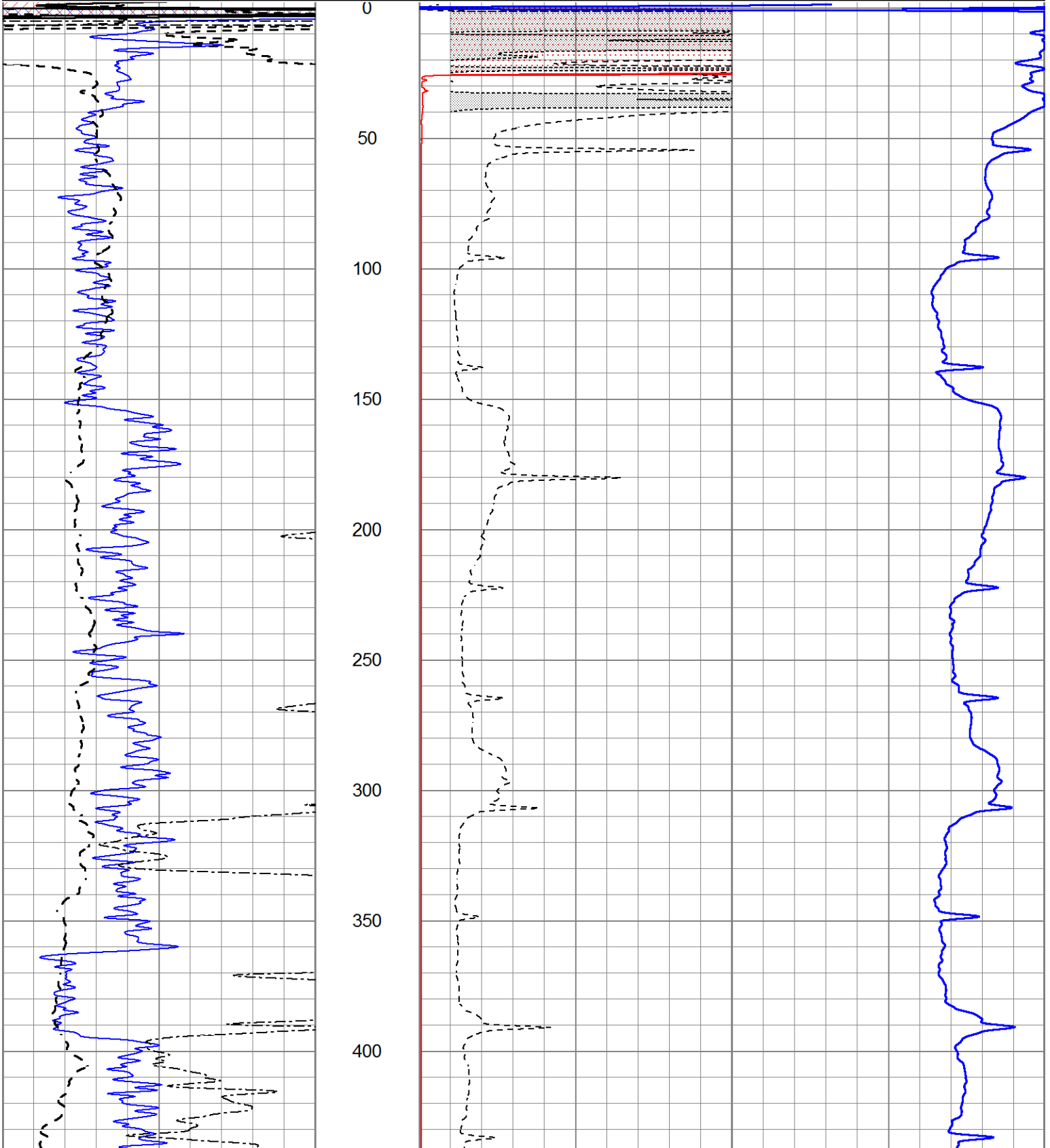


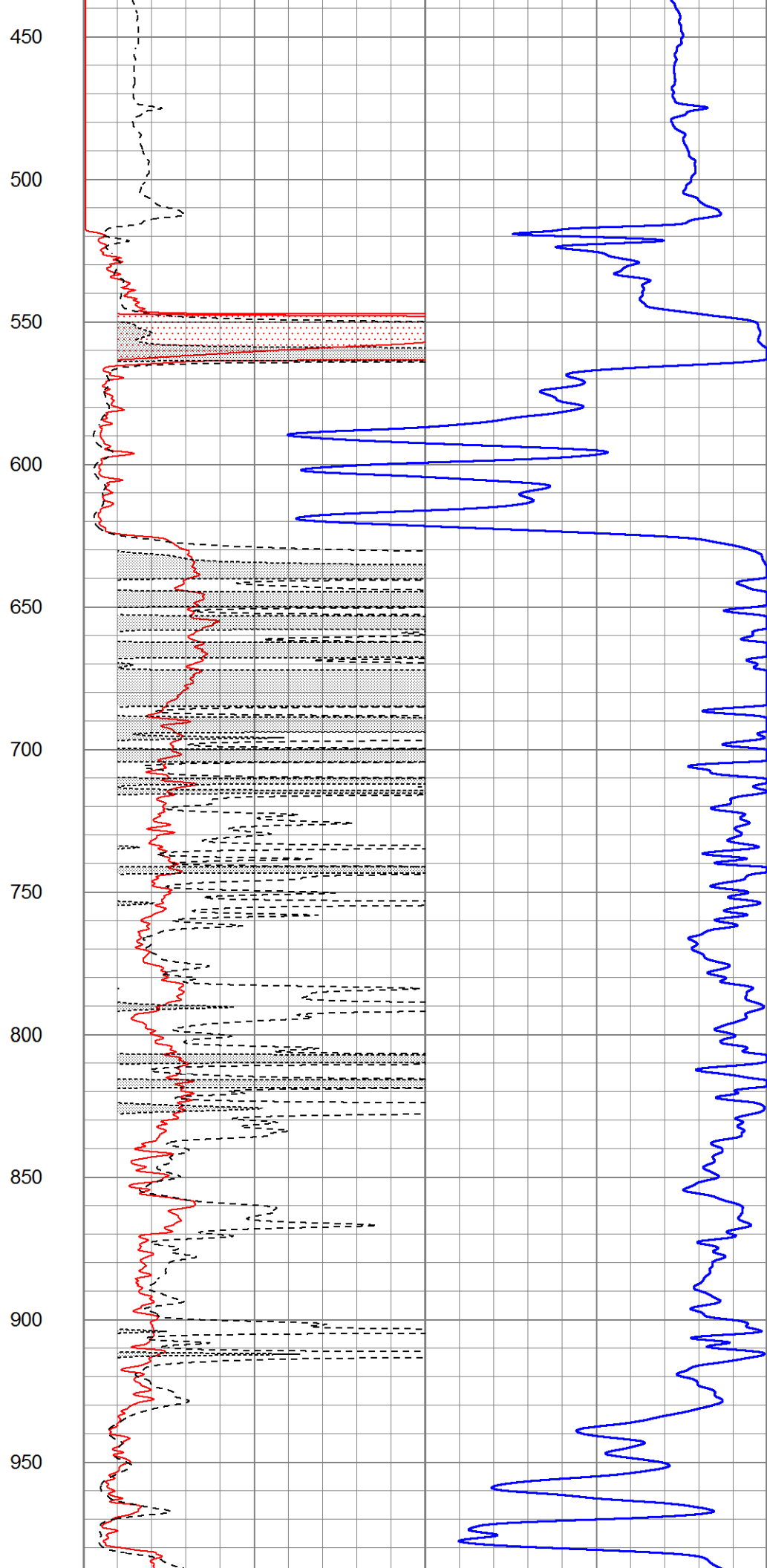
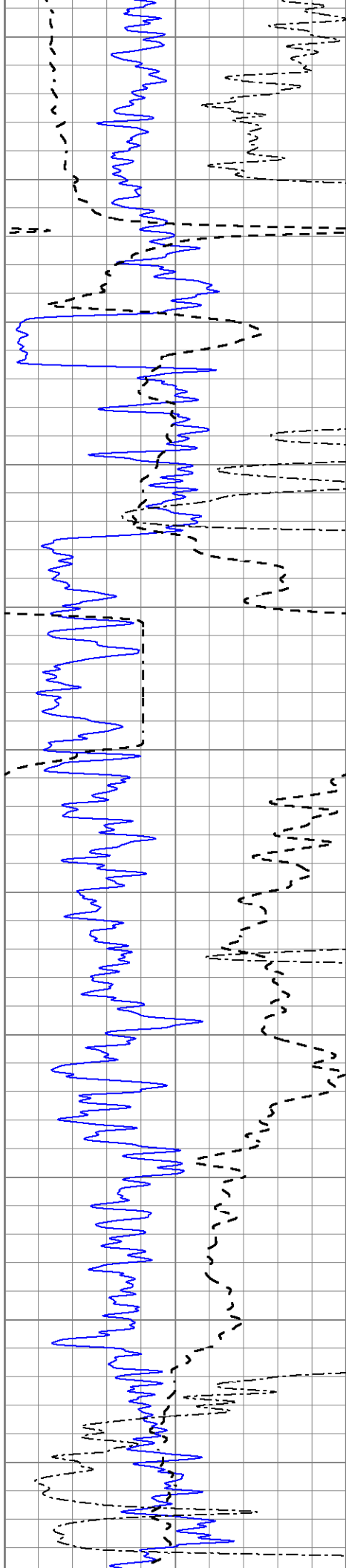
# MAIN SECTION

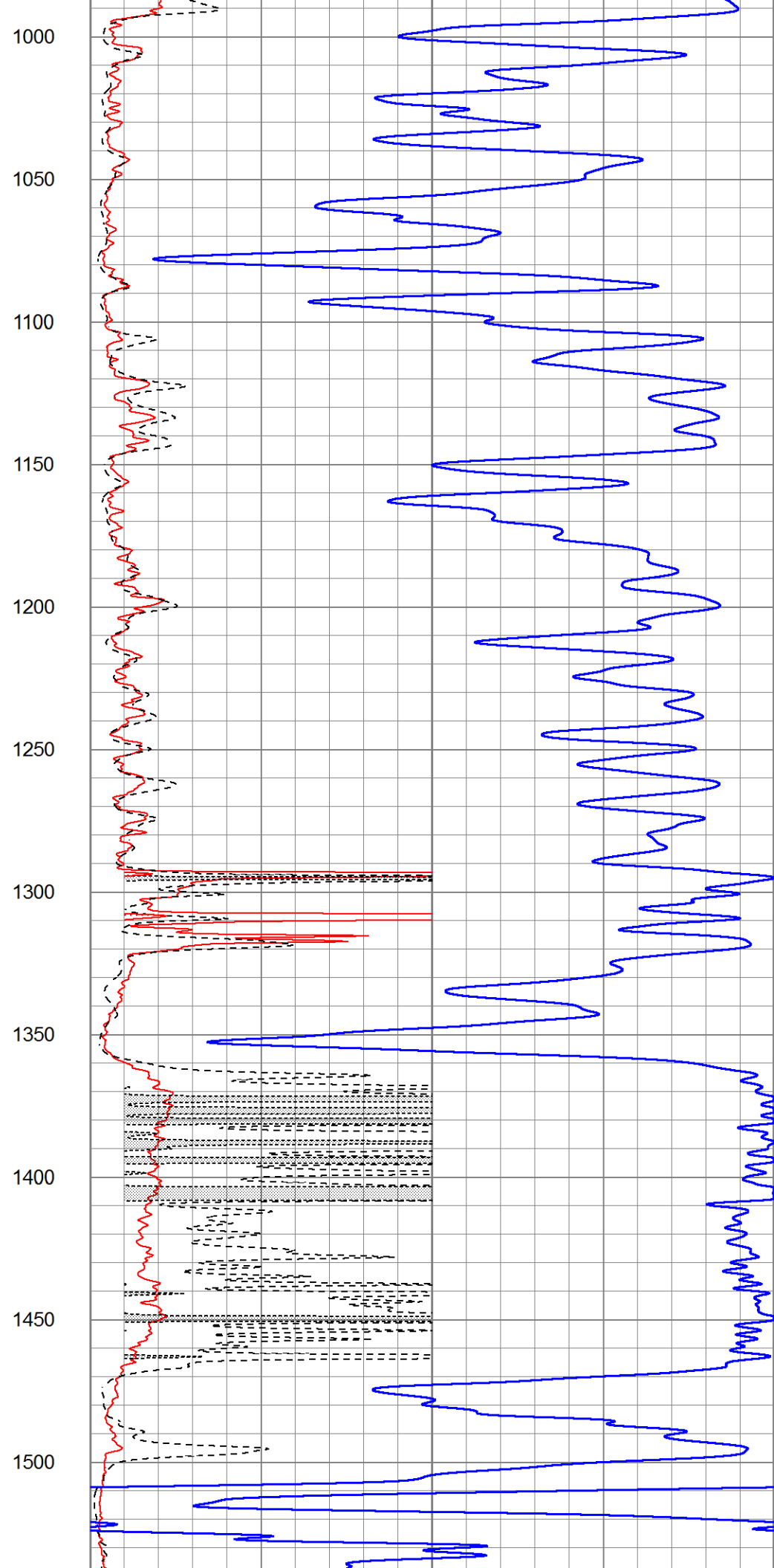
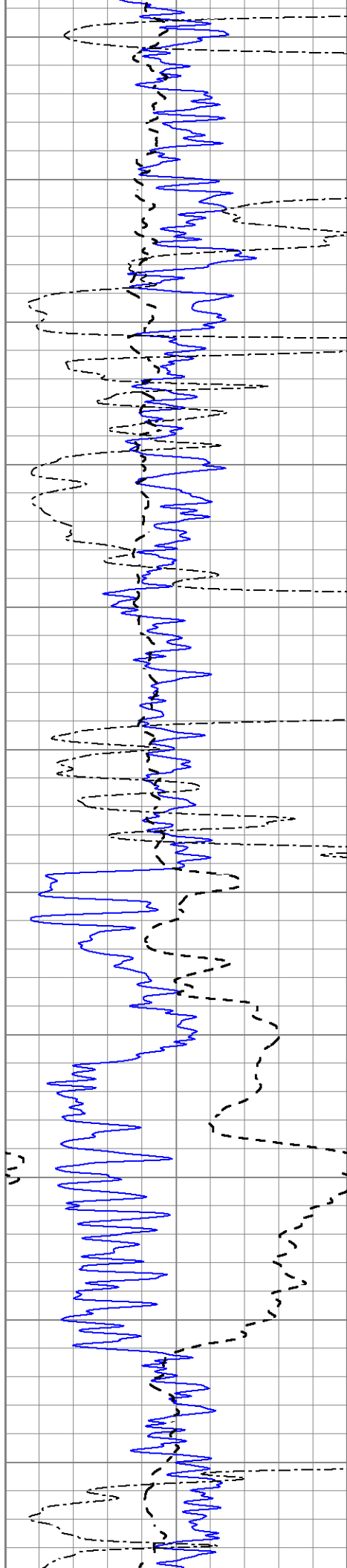
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 Dataset Pathname pass3.1M  
 Presentation Format \_dil2  
 Dataset Creation Fri Feb 09 21:39:15 2024  
 Charted by Depth in Feet scaled 1:600

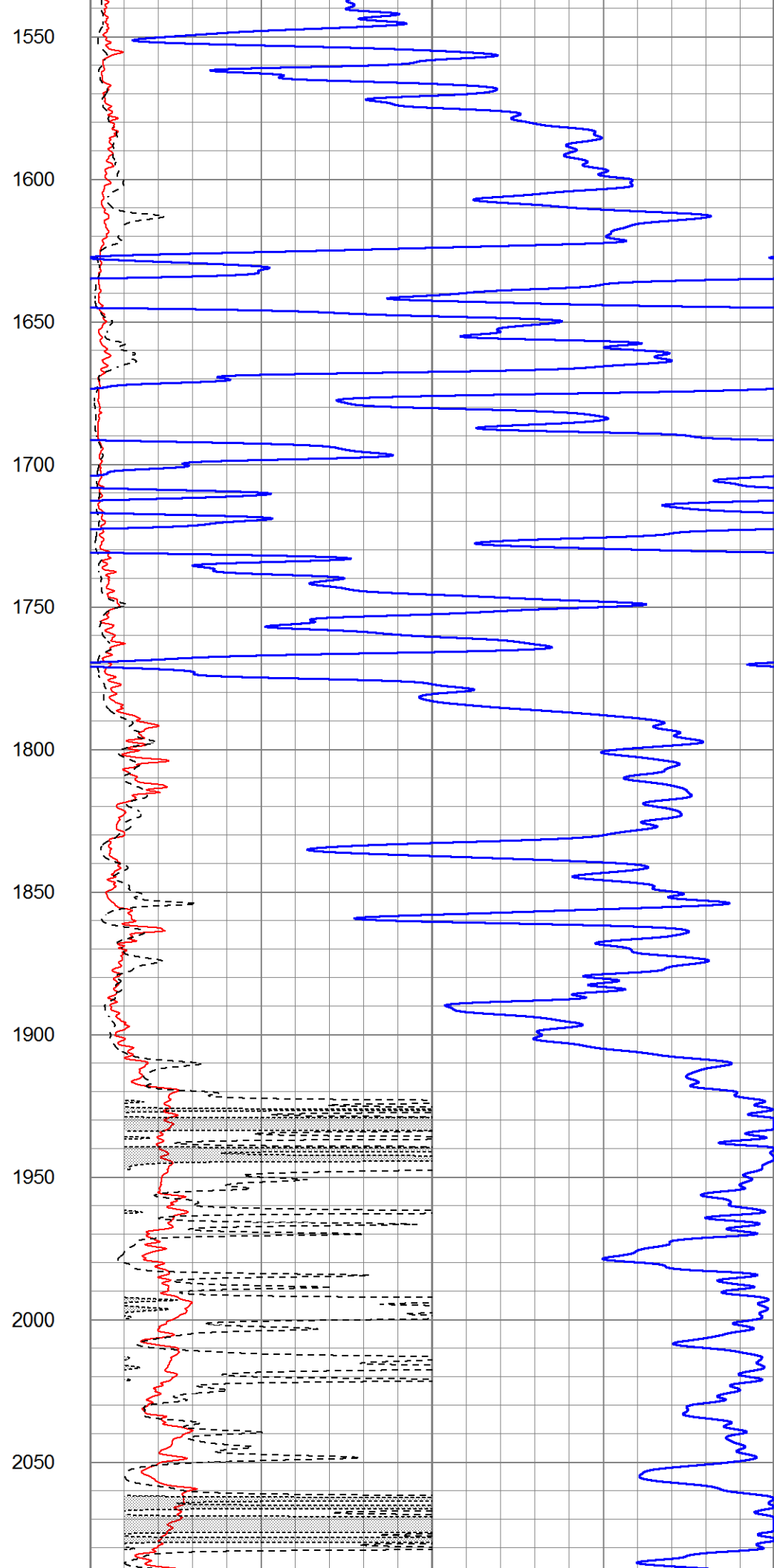
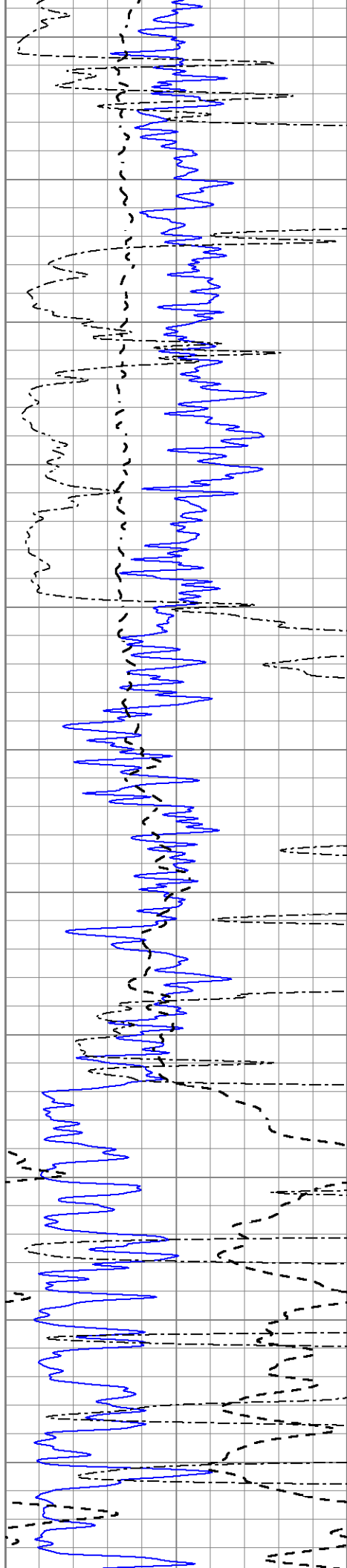
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-100	SP (mV)	100
0	RWA (Ohm-m)	1

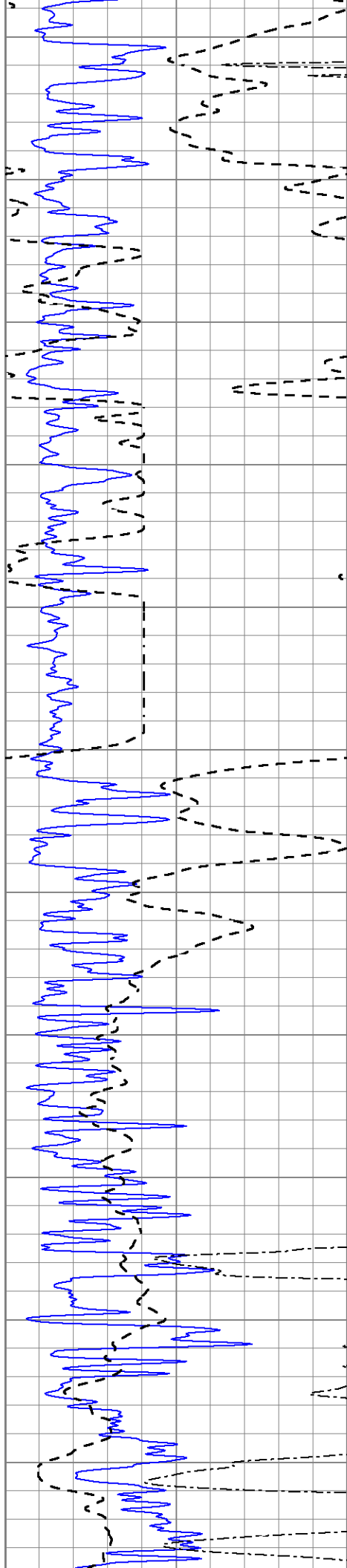
1000	CILD (mmho/m)	0
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500











2100

2150

2200

2250

2300

2350

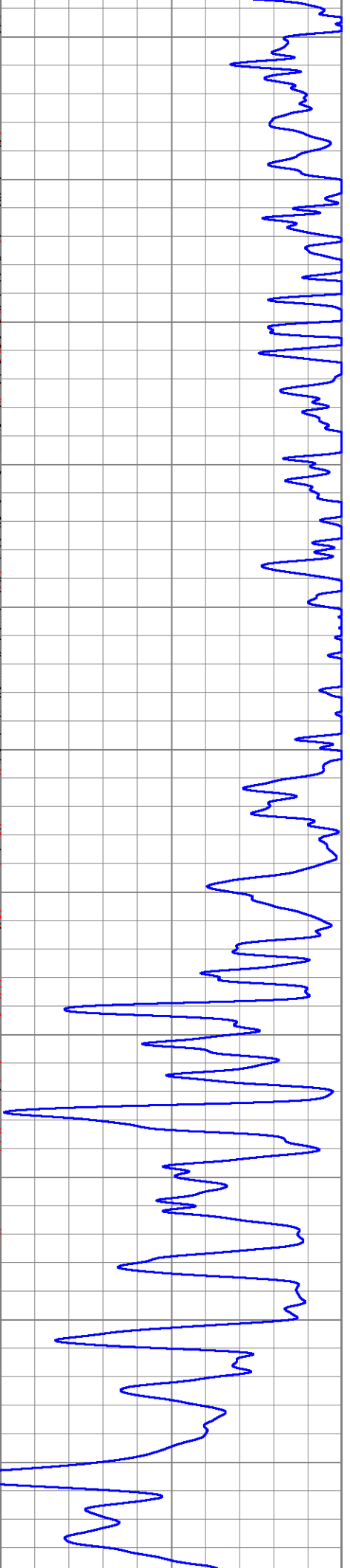
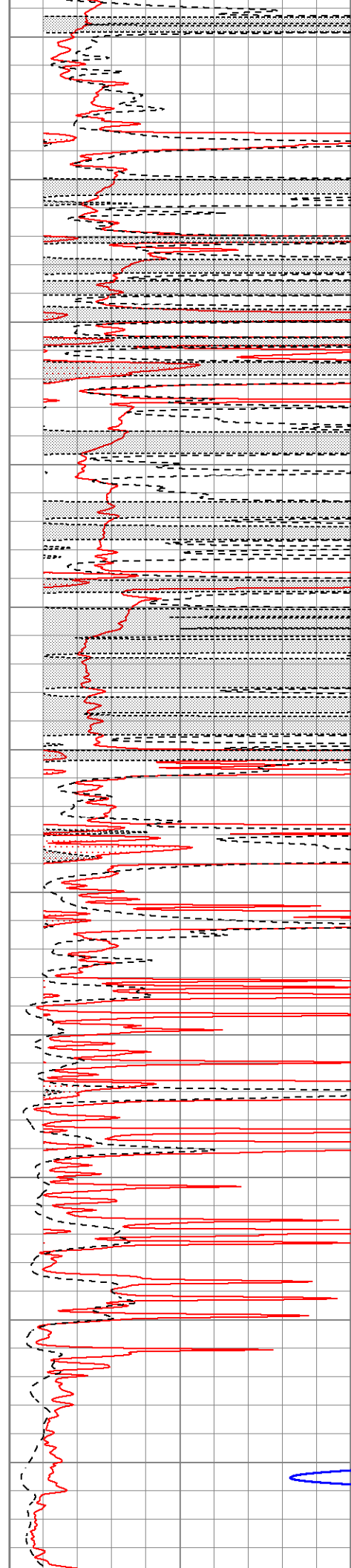
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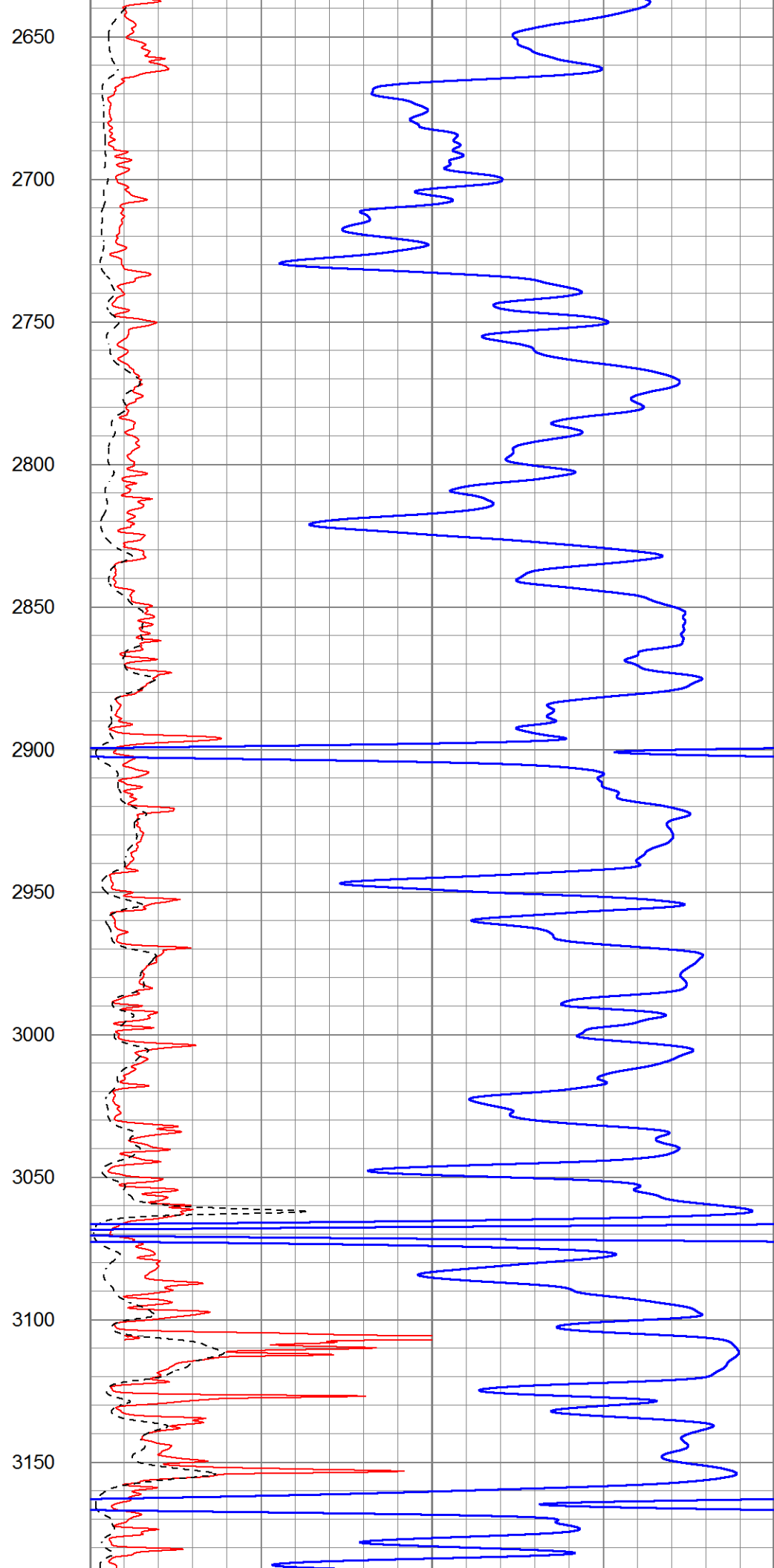
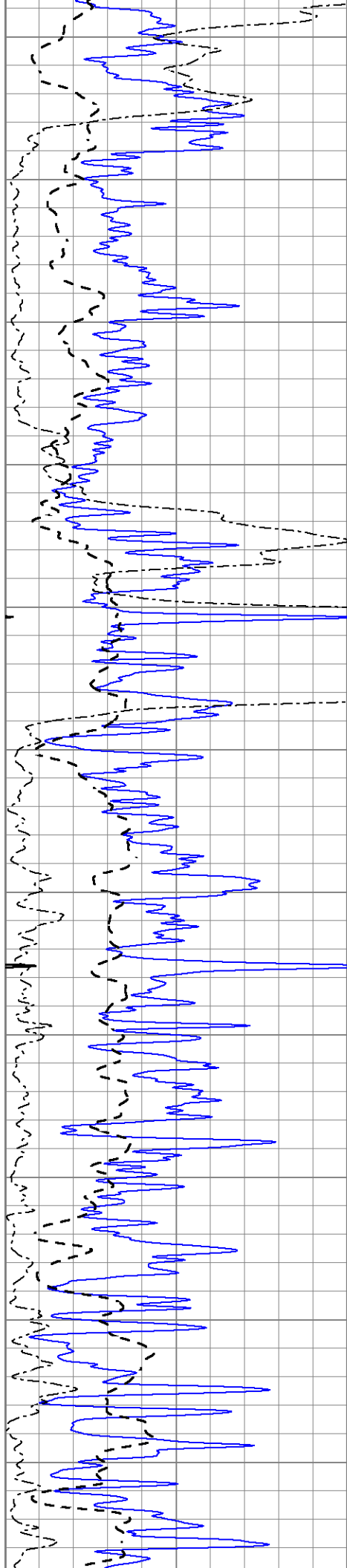
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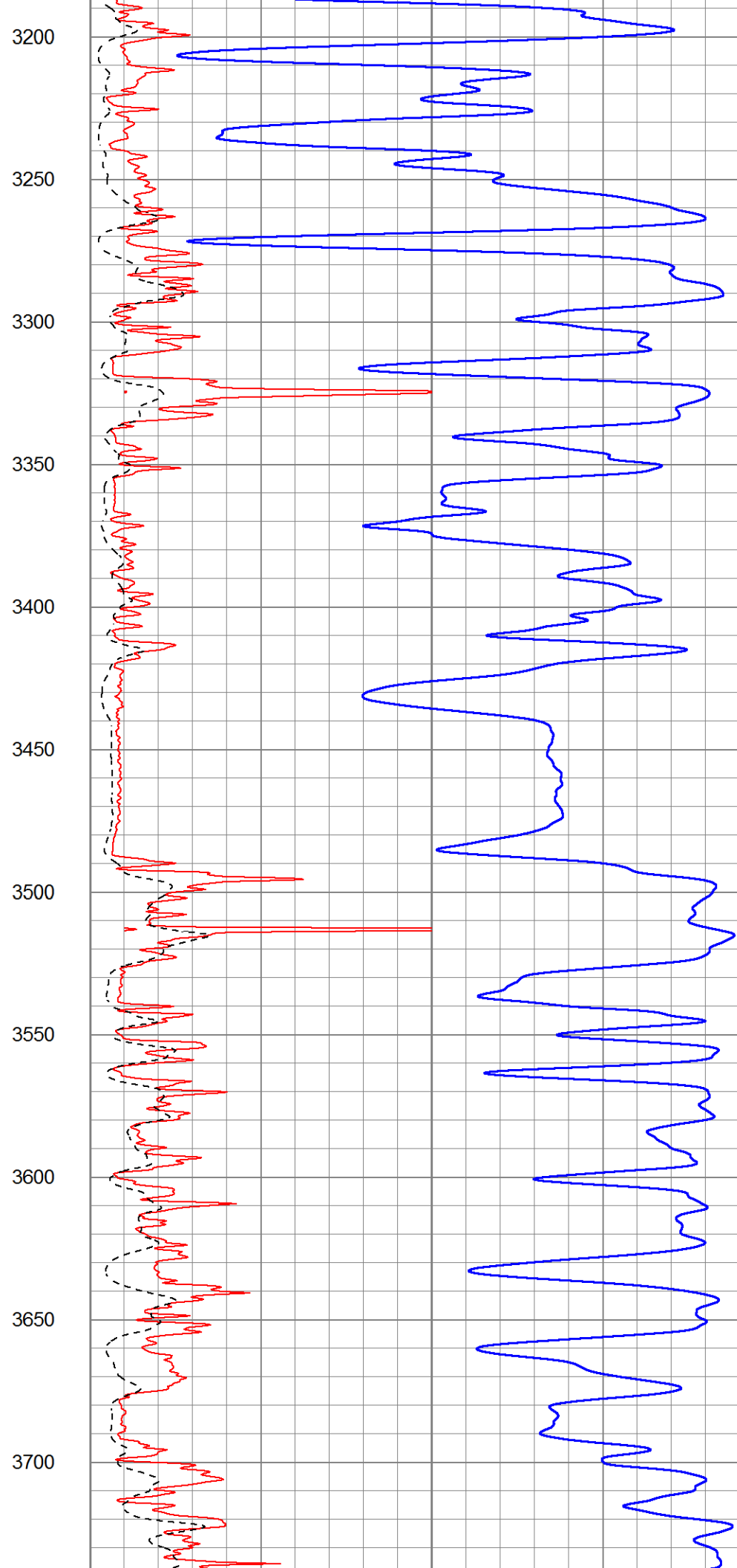
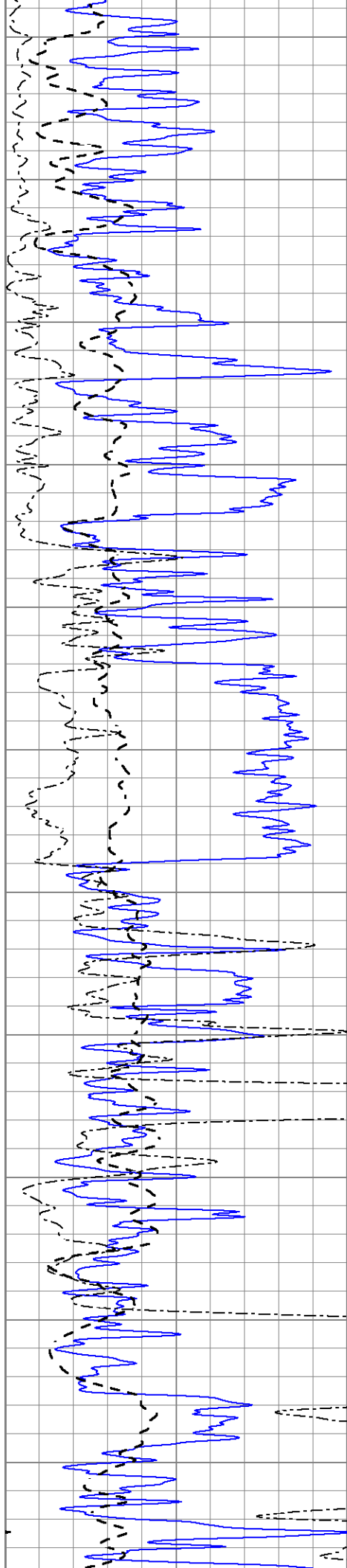
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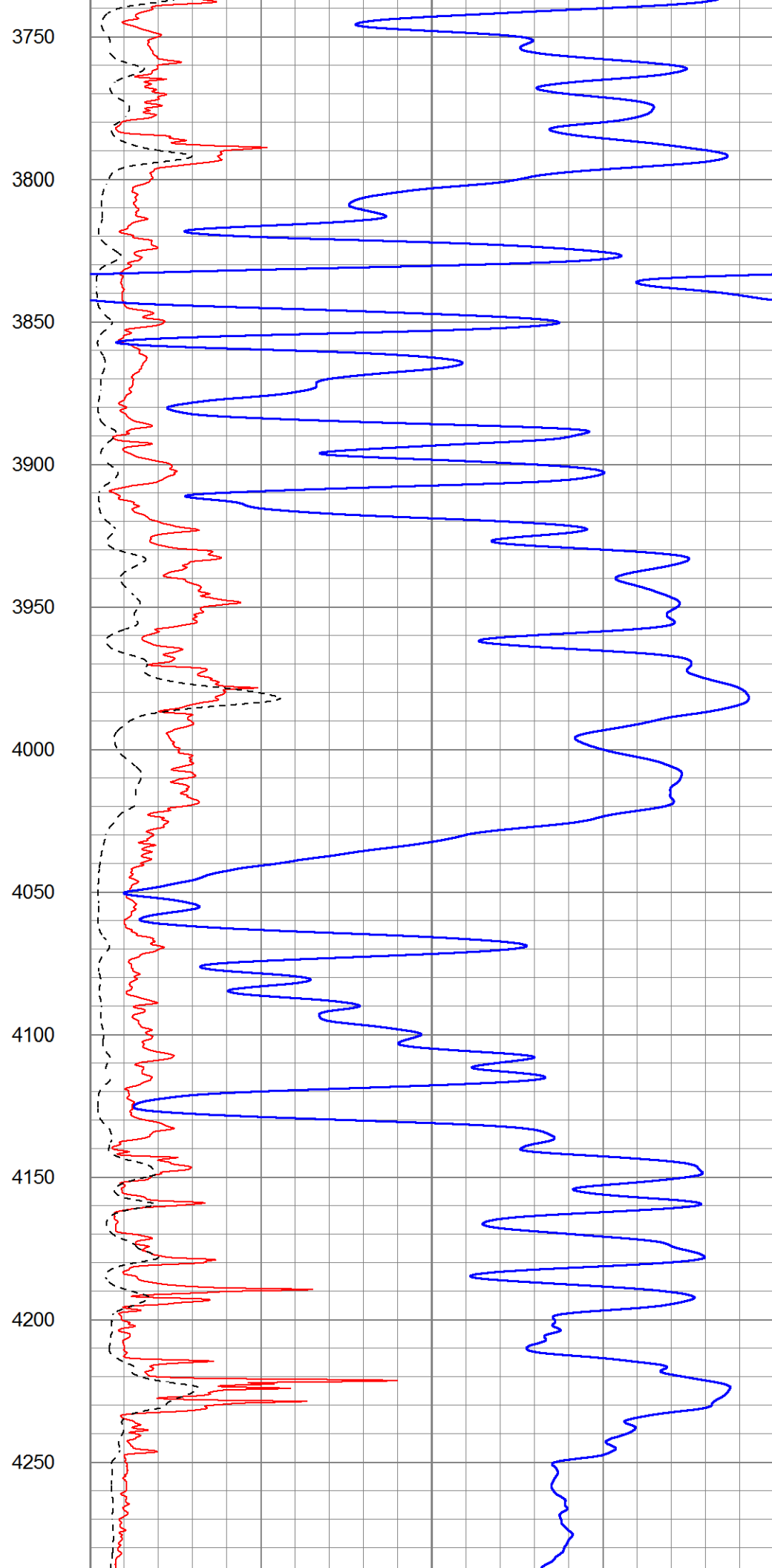
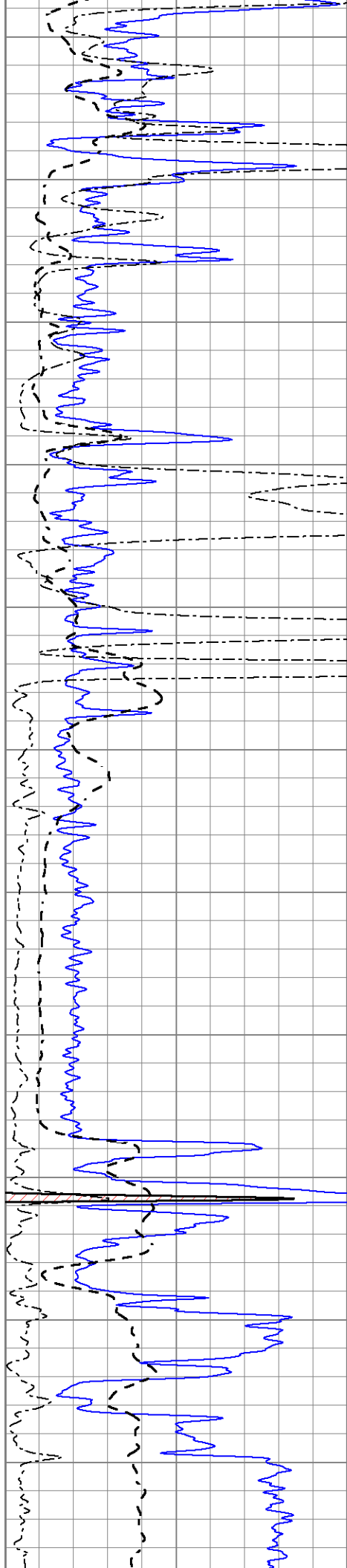
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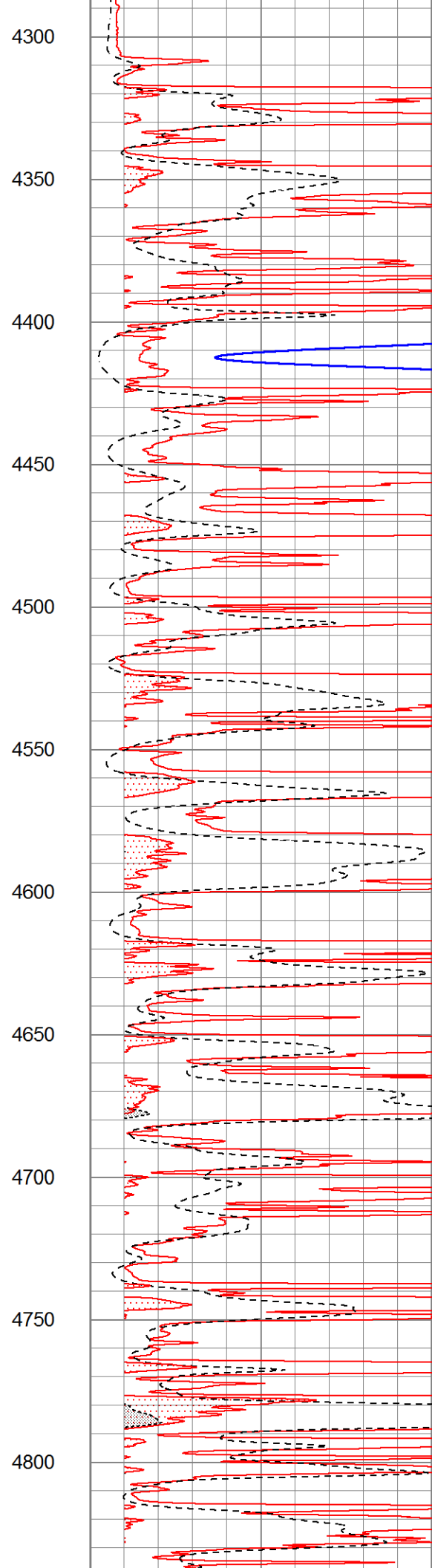
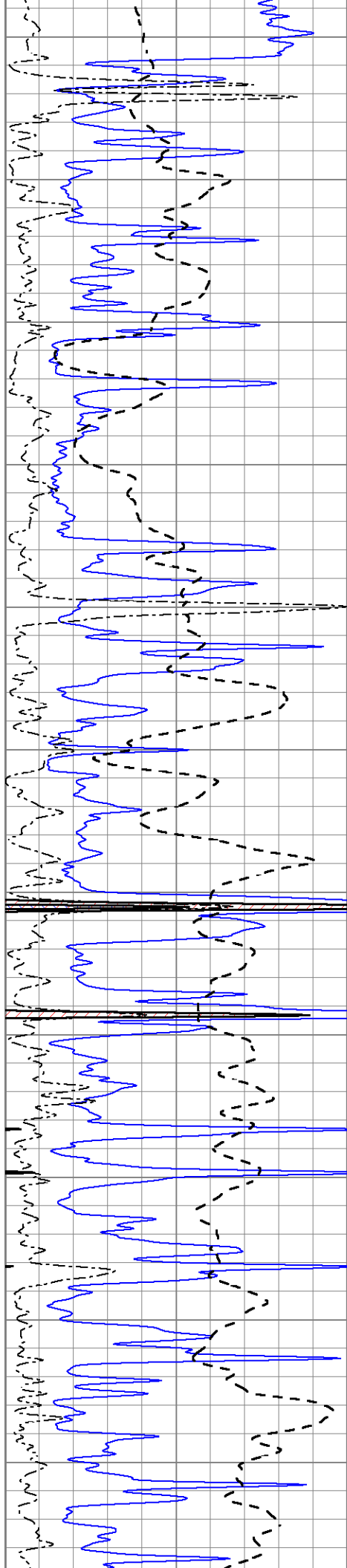
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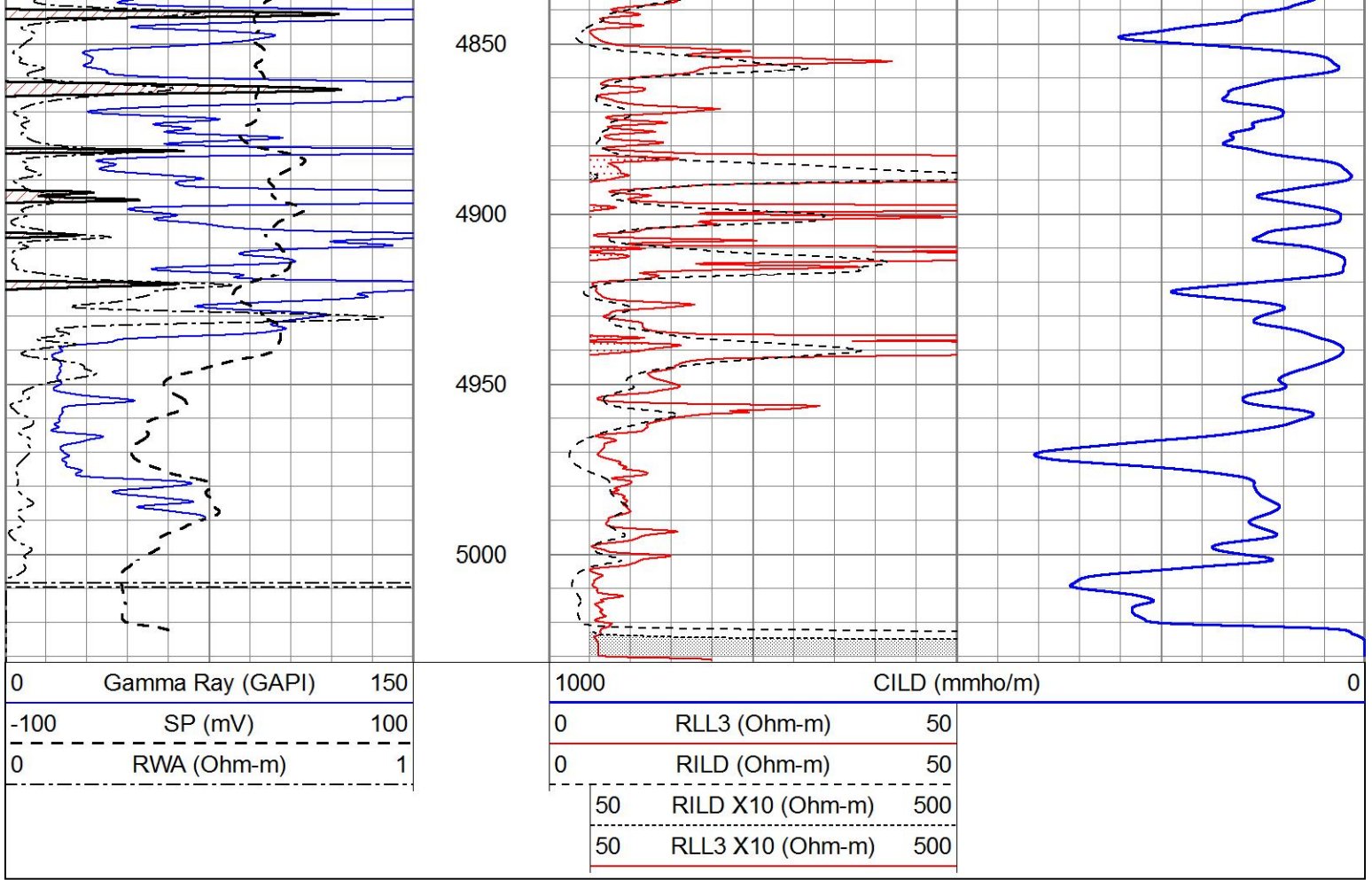








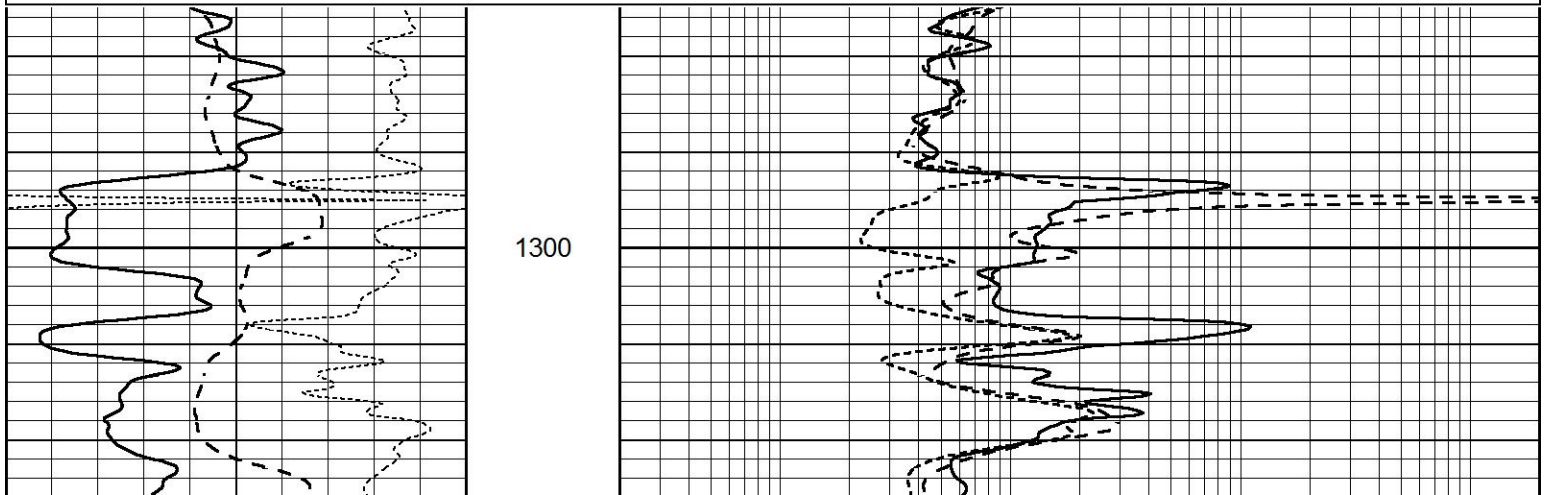


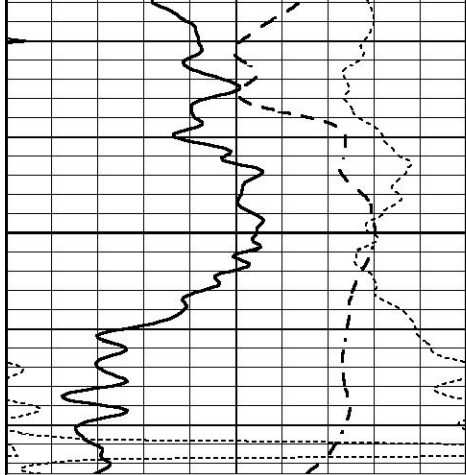


# ANHYDRITE

Database File 8409pe.db  
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 Presentation Format \_dil  
 Dataset Creation Fri Feb 09 21:39:38 2024  
 Charted by Depth in Feet scaled 1:240

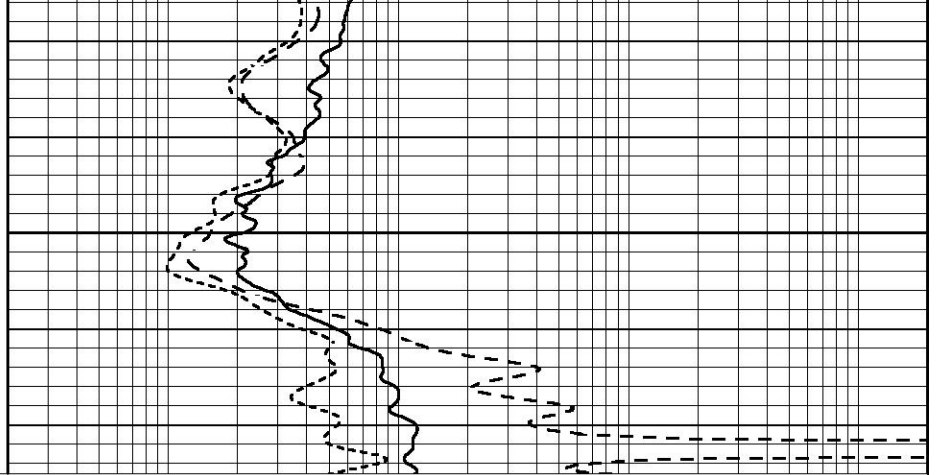
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-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			





1350

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20



0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

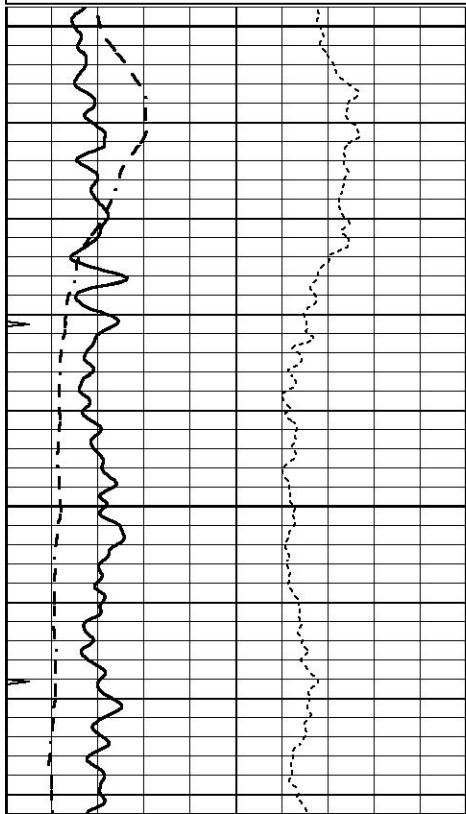


# MAIN SECTION

Database File 8409pe.db  
 Dataset Pathname pass3.1M  
 Presentation Format \_dil  
 Dataset Creation Fri Feb 09 21:39:15 2024  
 Charted by Depth in Feet scaled 1:240

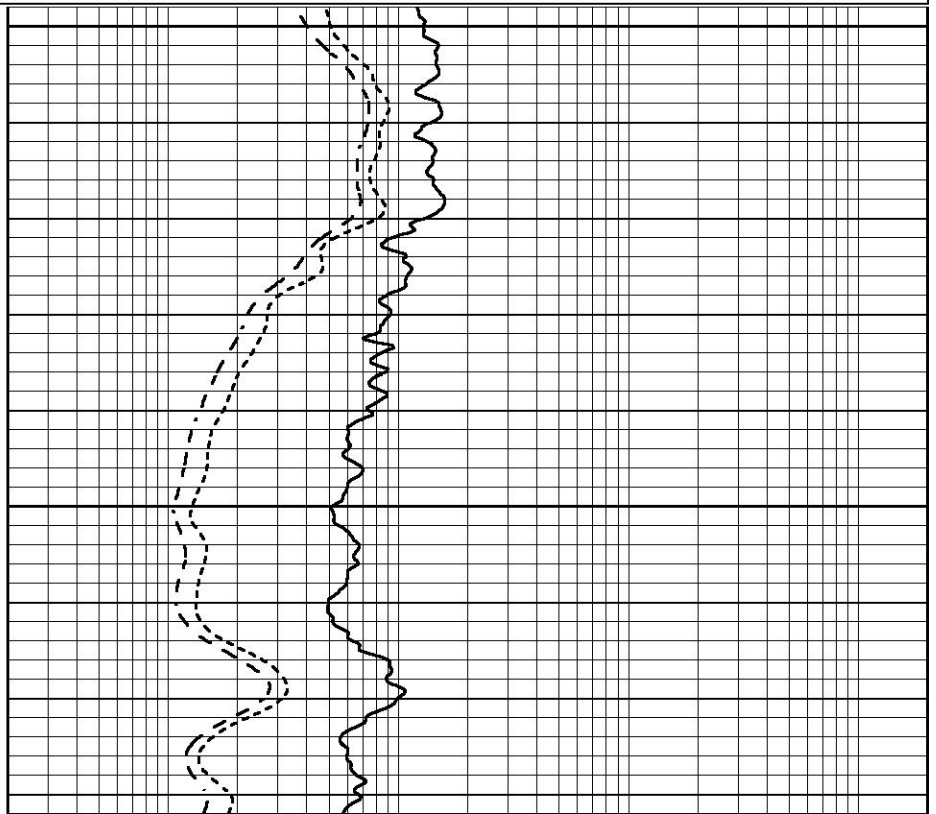
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

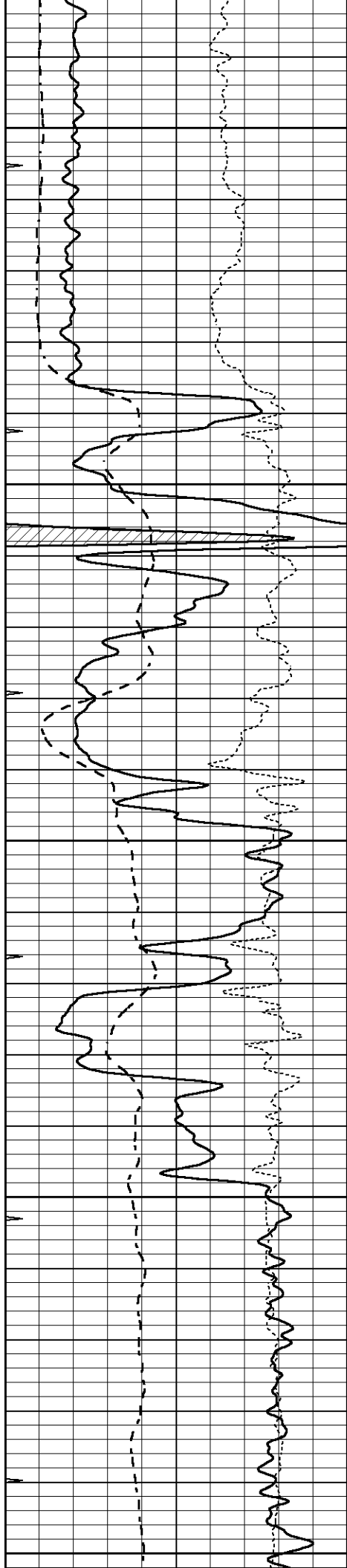
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



4000

4050





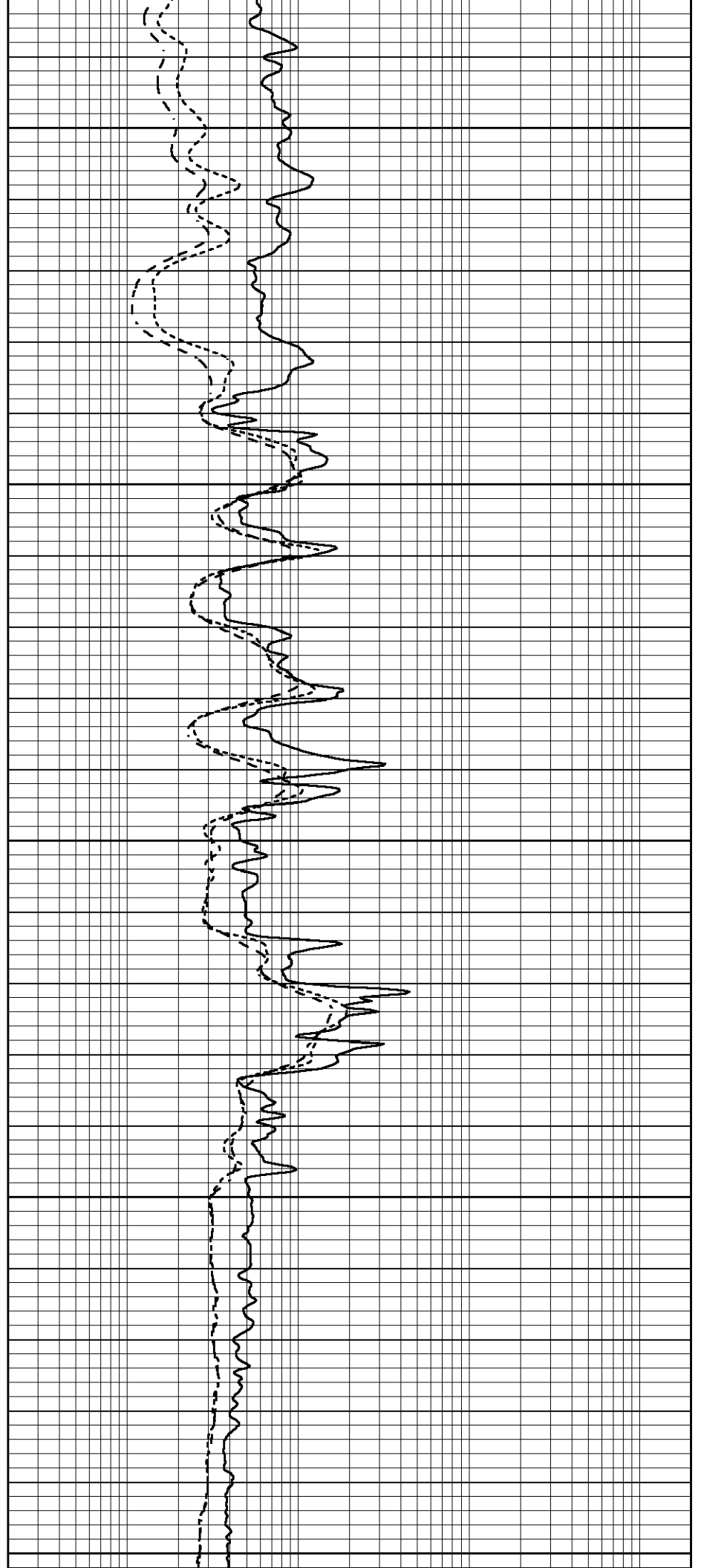
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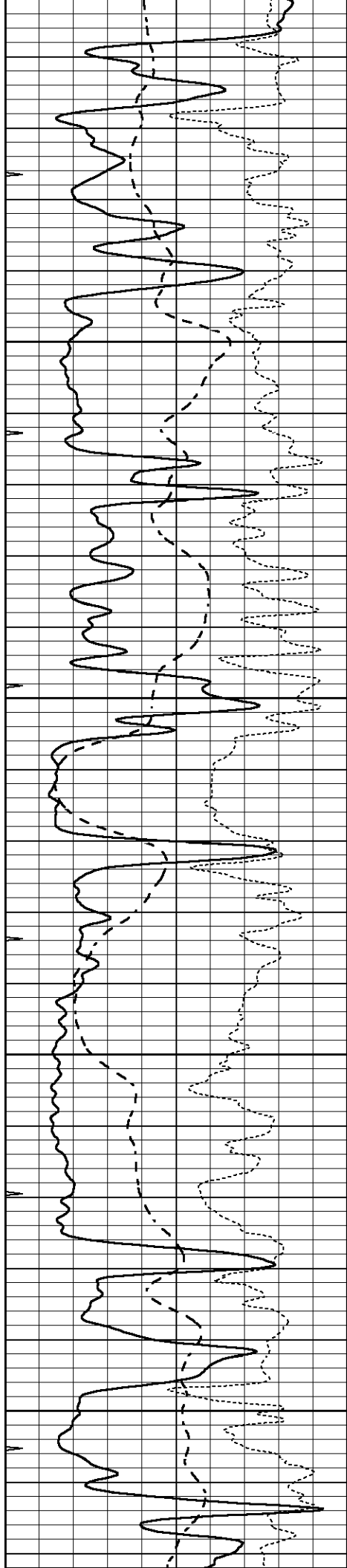
4150

4200

4250

4300



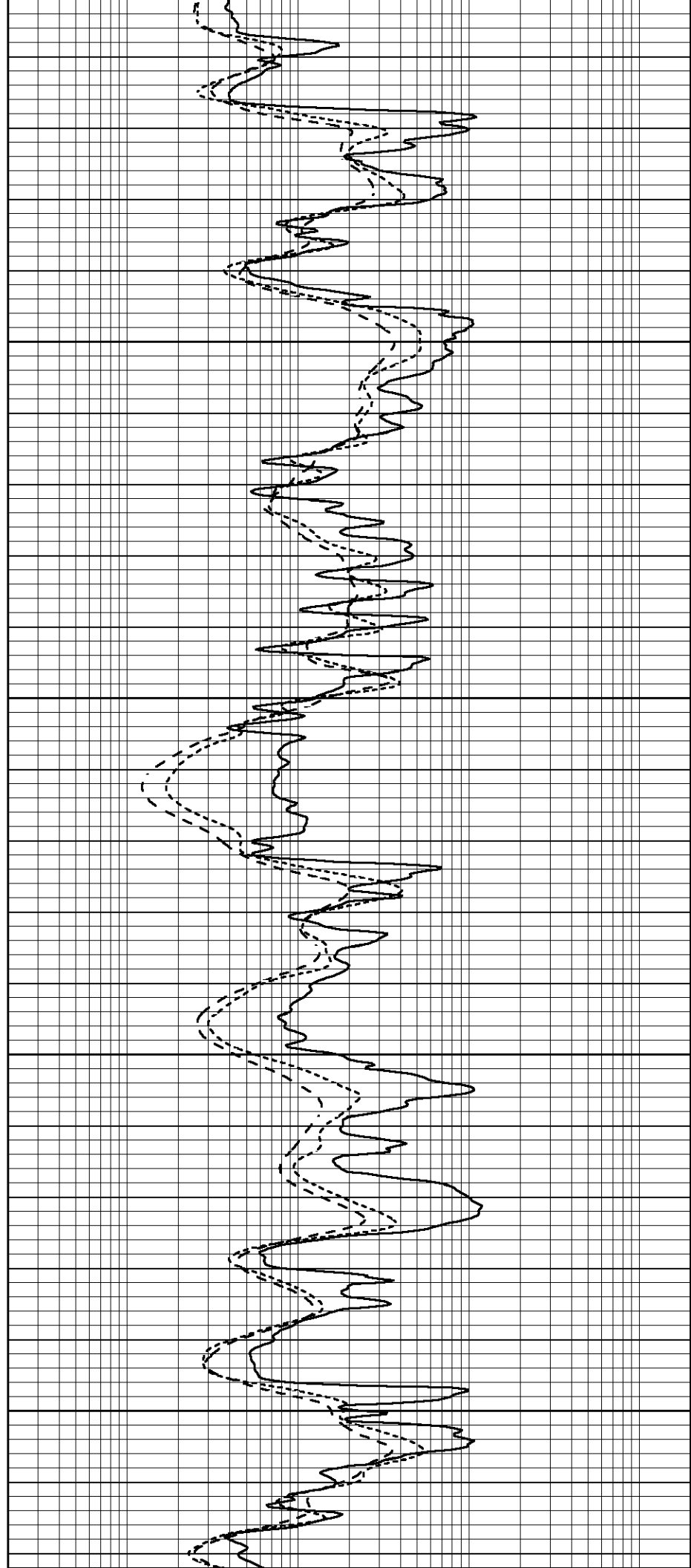


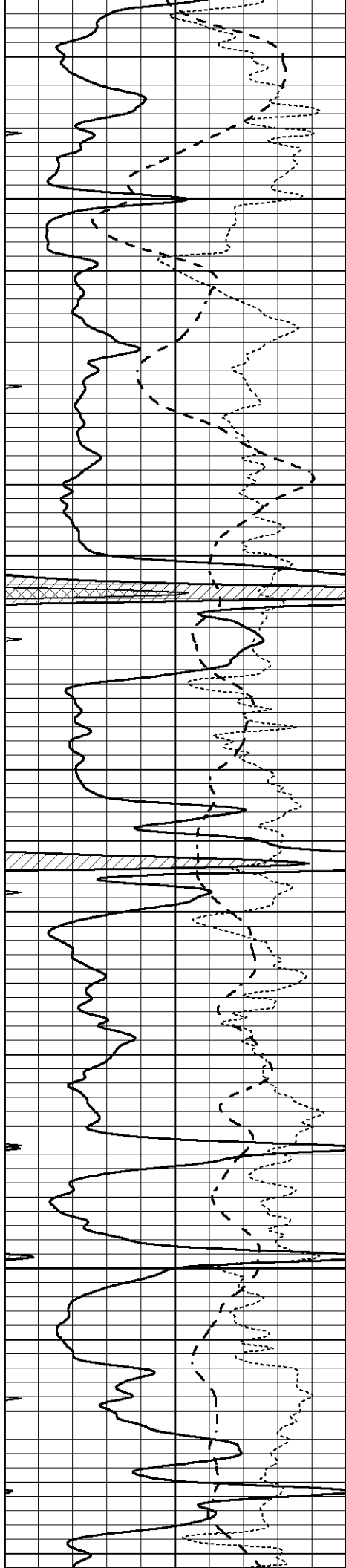
4350

4400

4450

4500



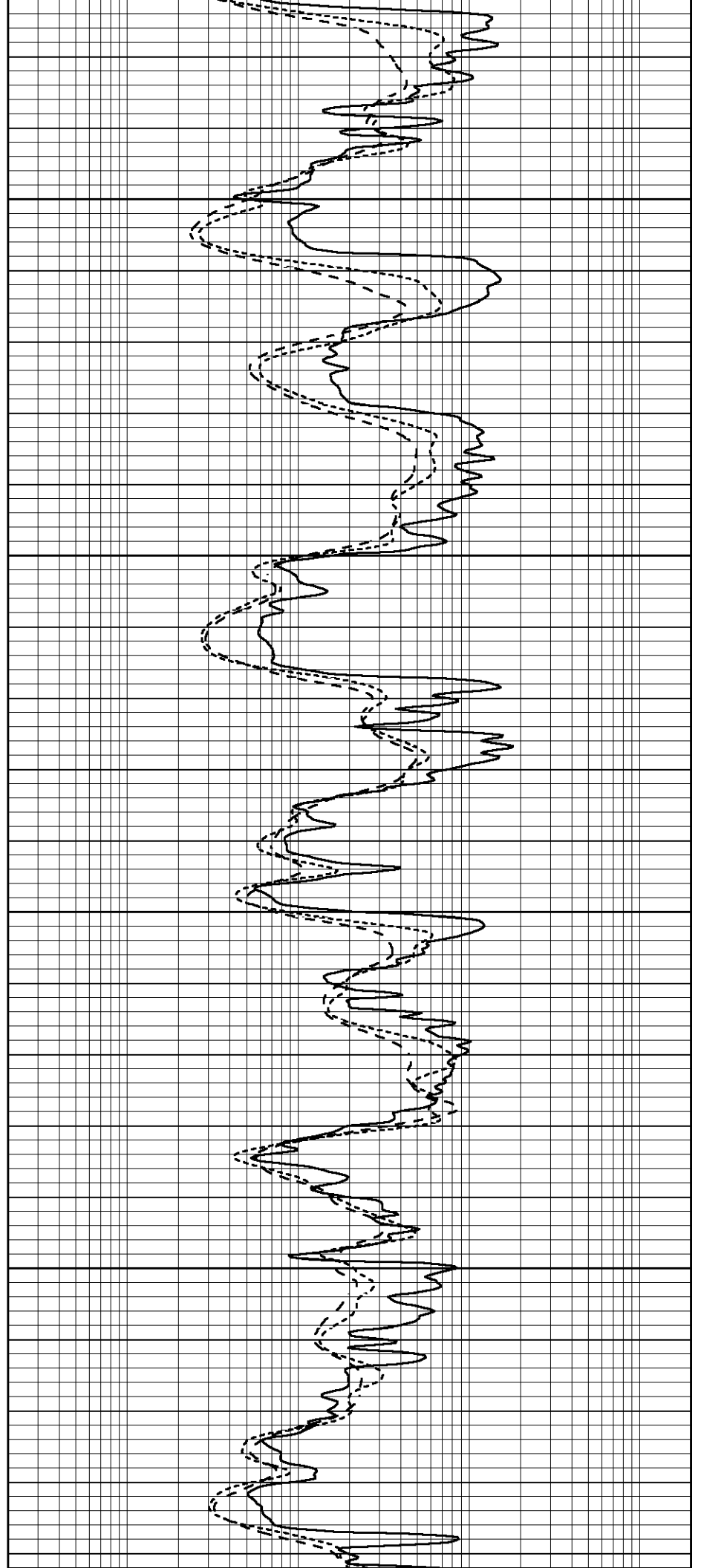


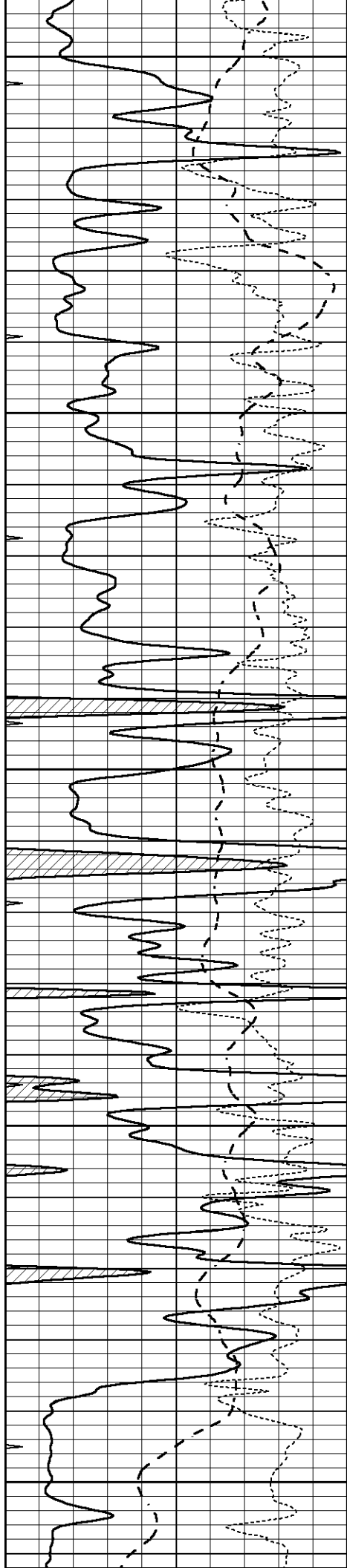
4550

4600

4650

4700





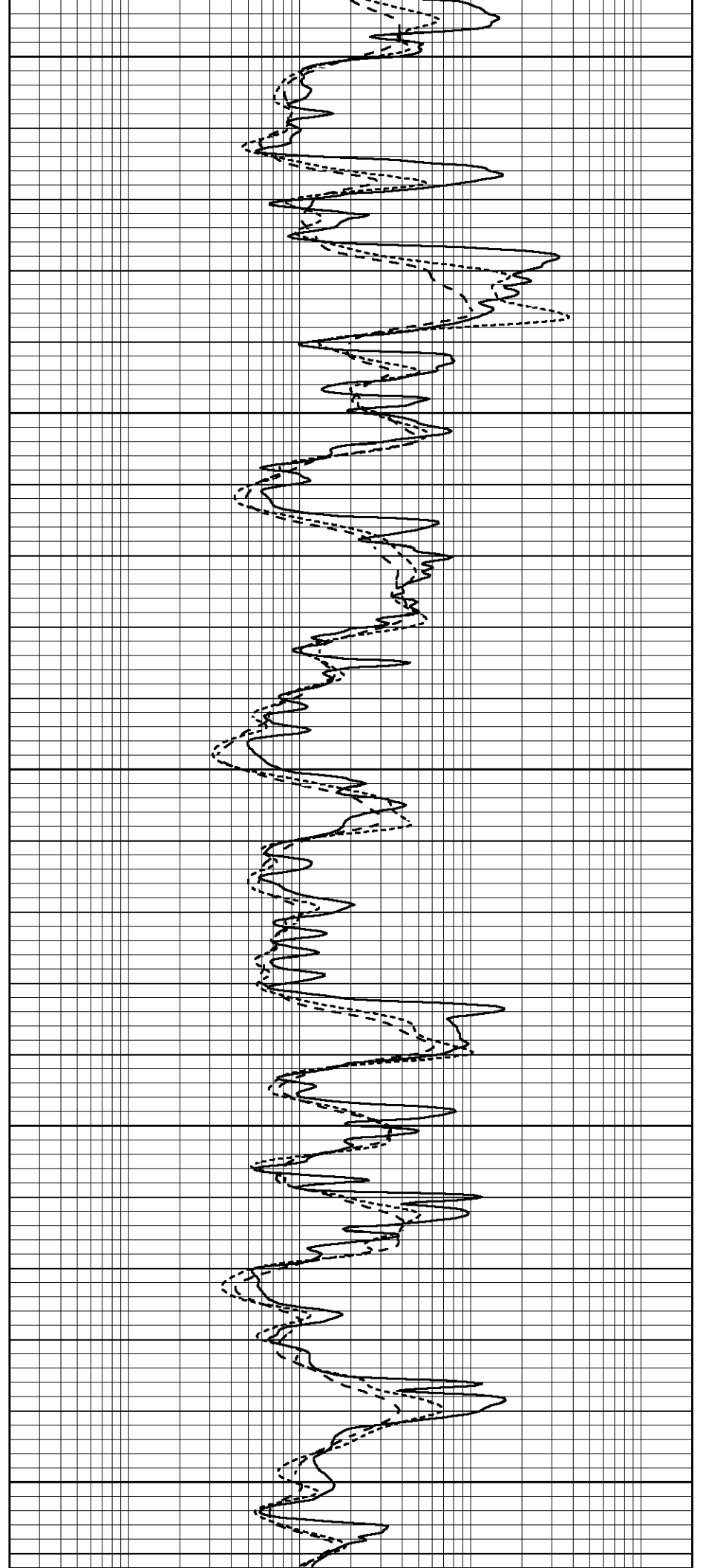
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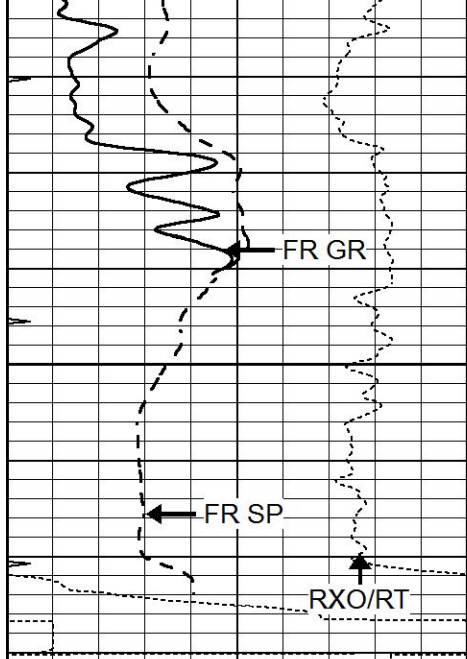
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4850

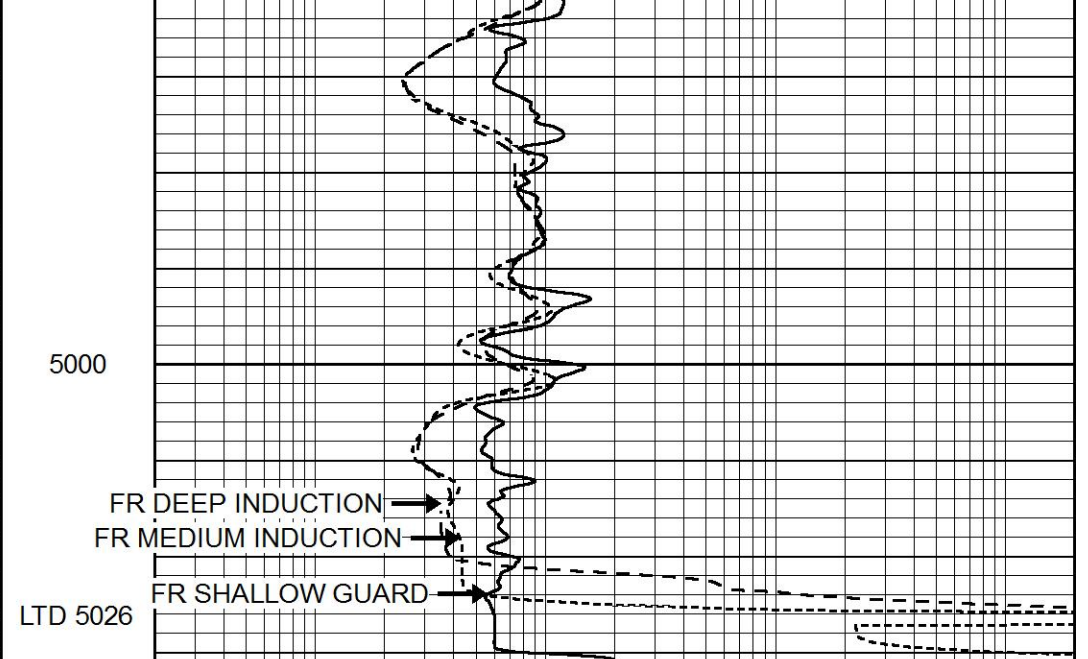
4900

4950





0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20



0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

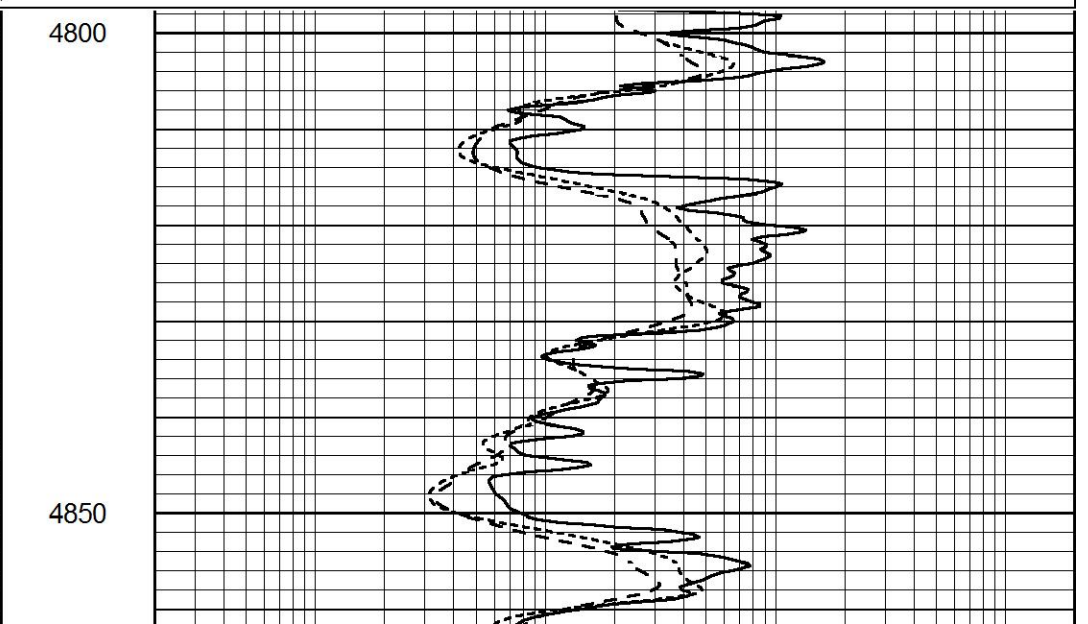
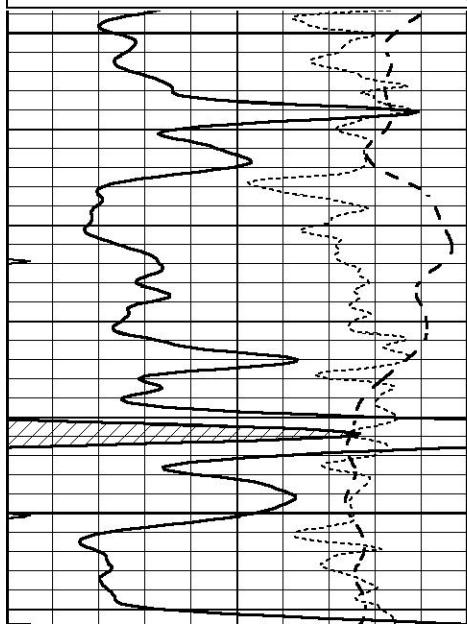


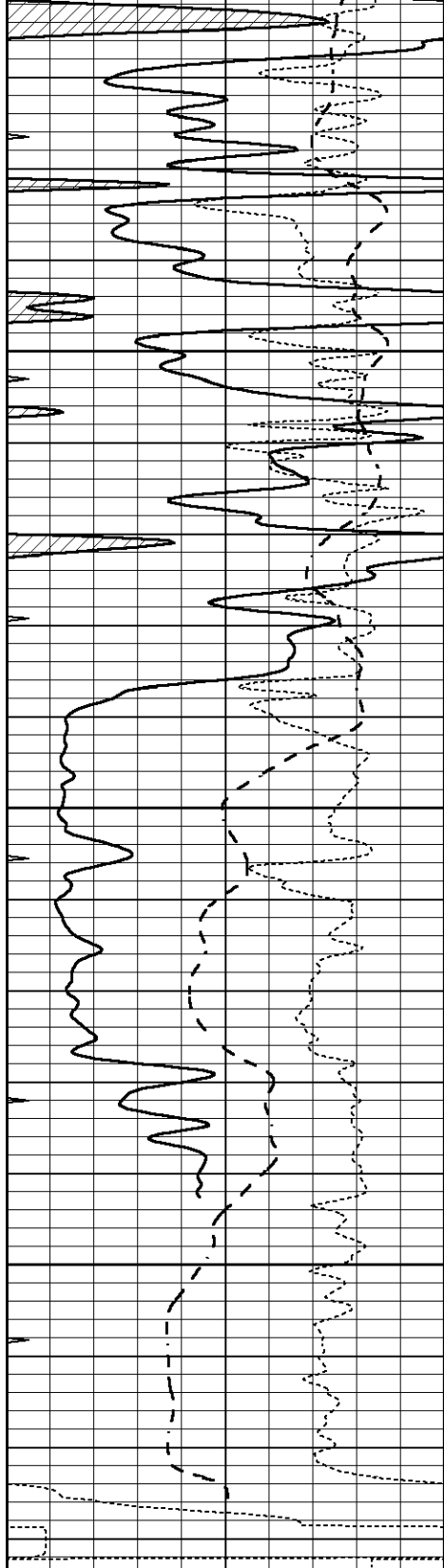
# REPEAT SECTION

Database File 8409pe.db  
 Dataset Pathname pass2.1R  
 Presentation Format \_dil  
 Dataset Creation Fri Feb 09 21:43:13 2024  
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

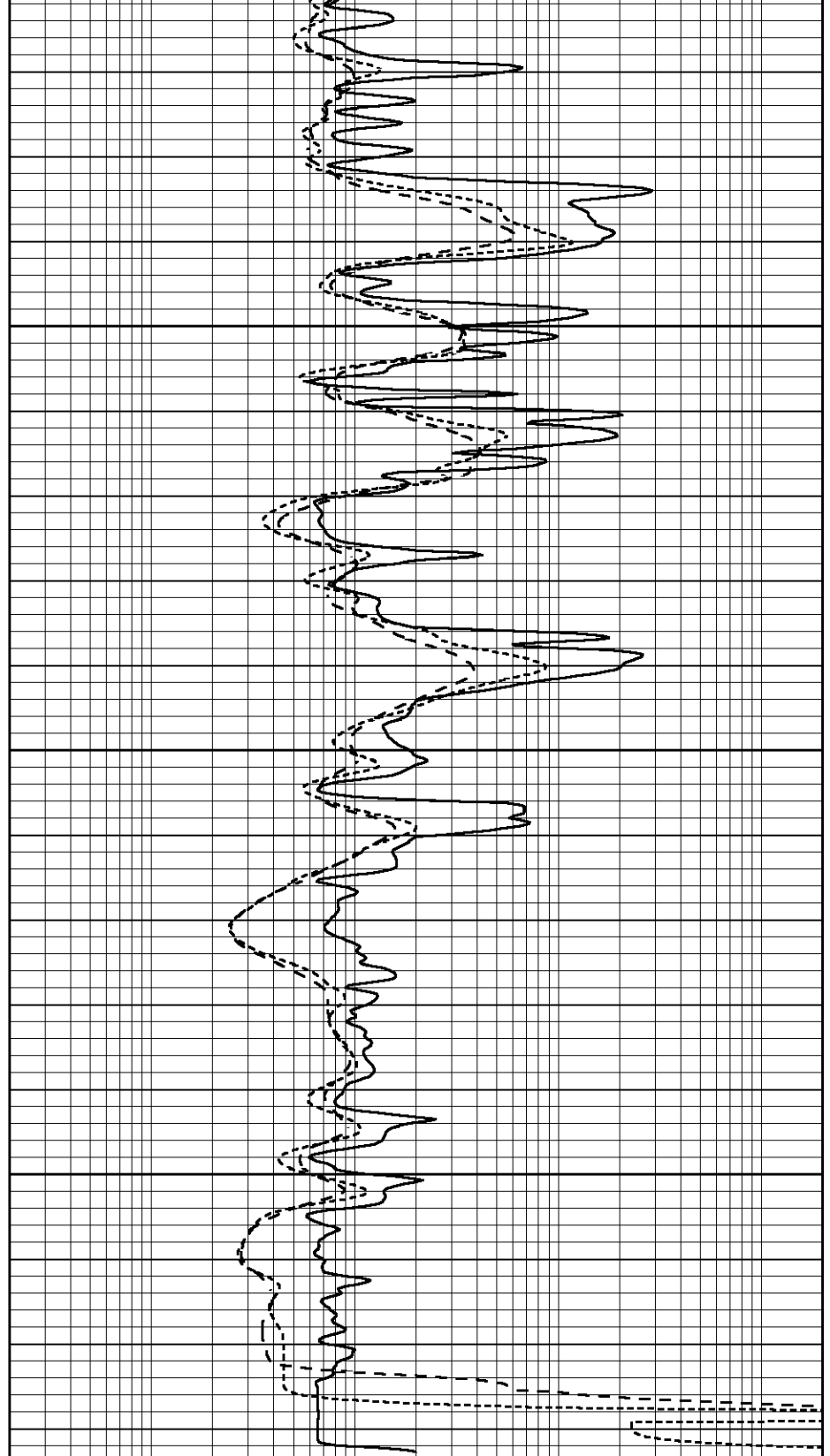
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





4900  
4950  
5000

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20



0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

Calibration Report

Database File 8409pe.db  
 Dataset Pathname pass3.1M  
 Dataset Creation Fri Feb 09 21:39:15 2024

Dual Induction Calibration Report

Serial-Model:  
 Surface Cal Performed:  
 Downhole Cal Performed:  
 After Survey Verification Performed:

PROBE8-DILG  
 Fri Jan 26 14:23:03 2024  
 Mon Aug 14 00:39:25 2023  
 Mon Jul 28 11:08:27 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	660.000	4.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	650.000	-8.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration

Readings				References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	mmho-m		

After Survey Verification

Readings				Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Litho Density Calibration Report  
 Serial: 001 Model: PRB

Master Calibration

Performed Tue Aug 02 14:54:49 2022

	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	1540.1	9840.1	3279.8	3001.8	cps
Window 2	1435.6	8495.4	2920.3	2720.3	cps
Window 3	1167.4	4527.9	1868.6	1810.1	cps
Window 4	344.6	343.5	346.7	342.3	cps
Long Space	0.0	7059.8	1484.8	1284.7	cps
Short Space	3.3	2502.7	1618.3	1368.5	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	
Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio	: 0.544
Spine Angle	: 74.4	Spine Slope	: 3.576	Spine Intercept	: -19.1

Before Survey Verification

Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	cps

Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification

Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

Compensated Neutron Calibration Report

Serial Number: 070808PMC  
Tool Model: NABORS

PRE-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number: 070558  
Tool Model: OPEN\_GR  
Performed: Wed Dec 20 03:59:02 2023

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps