



DUAL INDUCTION LOG

Company DARRAH OIL CO.,LLC.

Well OTT #1-13

Field WILDCAT

County LOGAN State KANSAS

Location: API #: 15-109-21620-0000

1338' FSL & 2232' FWL

SEC 13 TWP 11S RGE 36W

Permanent Datum GROUND LEVEL Elevation 3315
Log Measured From KELLY BUSHING 11' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL

Elevation

K.B. 3326
D.F. 3324
G.L. 3315

Date	06/25/21
Run Number	ONE
Depth Driller	4960
Depth Logger	4961
Bottom Logged Interval	4959
Top Log Interval	00
Casing Driller	8 5/8" @ 330
Casing Logger	330
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4/48
pH / Fluid Loss	11.0/80
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.8@ 80F
Rmf @ Meas. Temp	.60@ 80F
Rmc @ Meas. Temp	.96 @ 80F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.51 @ 124F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	////
Maximum Recorded Temperature	124F
Equipment Number	1523
Location	HAYS, KANSAS
Recorded By	GUS PFANENSTIEL
Witnessed By	SAMAN SHARIFAI

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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

THANK YOU FOR USING ELI WIRELINE, HAYS, KS. (785) 628-6395

DIRECTIONS:WINONA NORTH 2 MILES TO CEDAR CREST RD.
WEST 1.5 MILES, NORTH INTO.

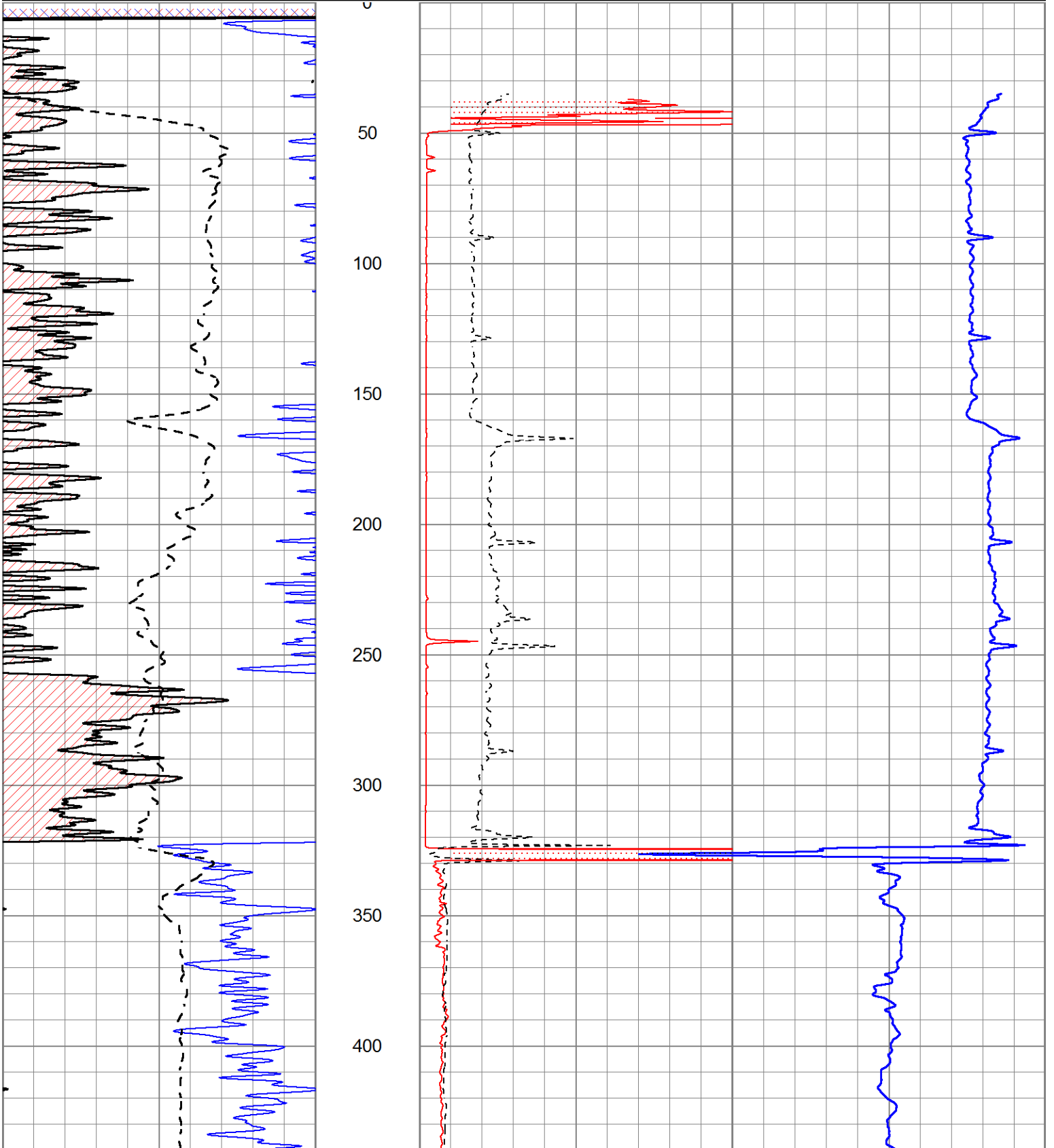


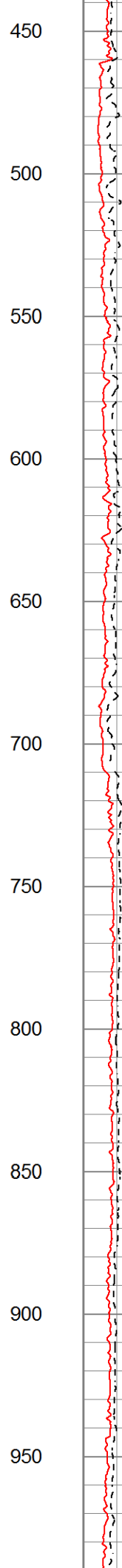
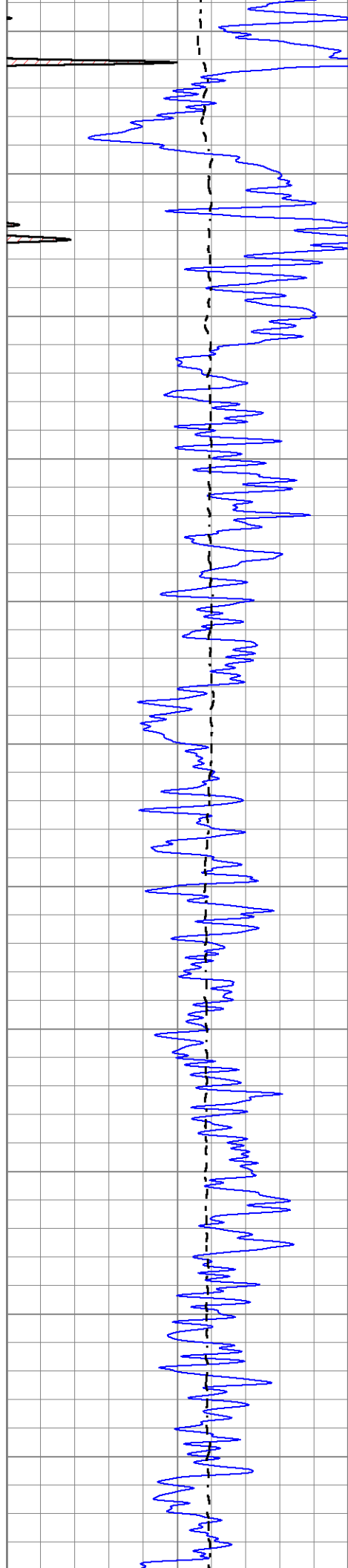
MAIN PASS

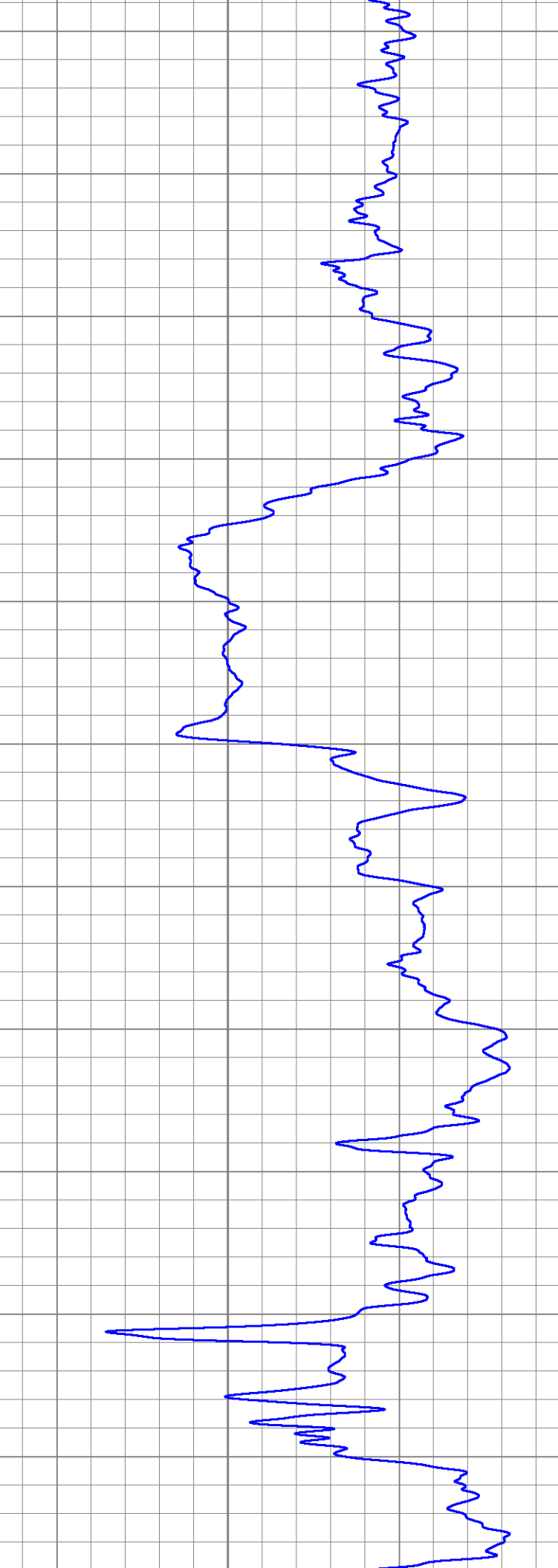
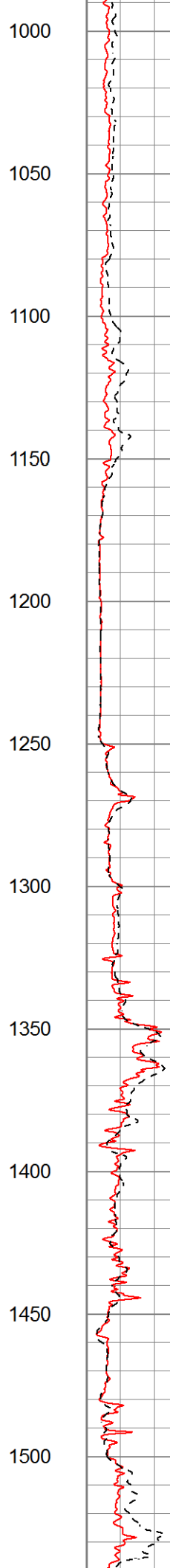
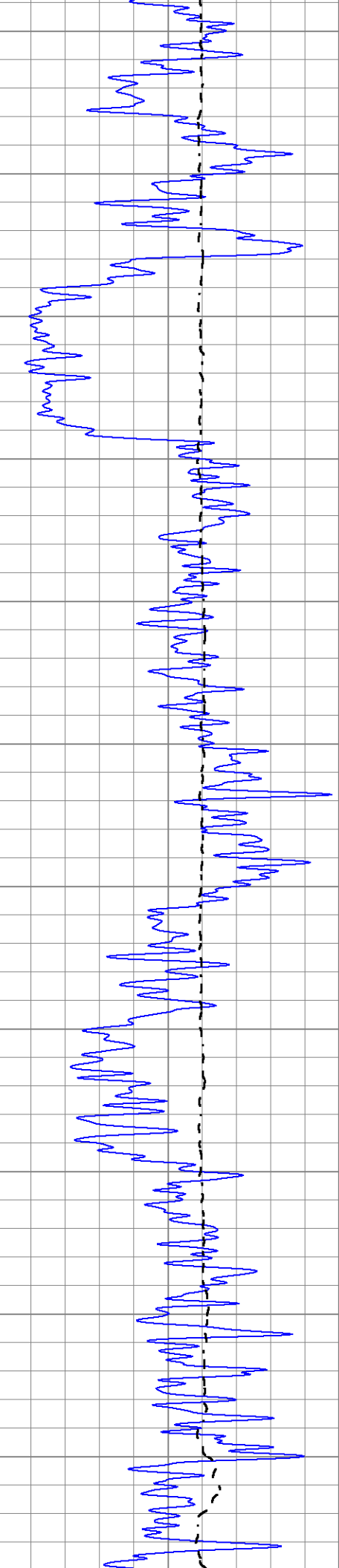
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 Presentation Format _dil2
 Dataset Creation Fri Jun 25 17:34:15 2021
 Charted by Depth in Feet scaled 1:600

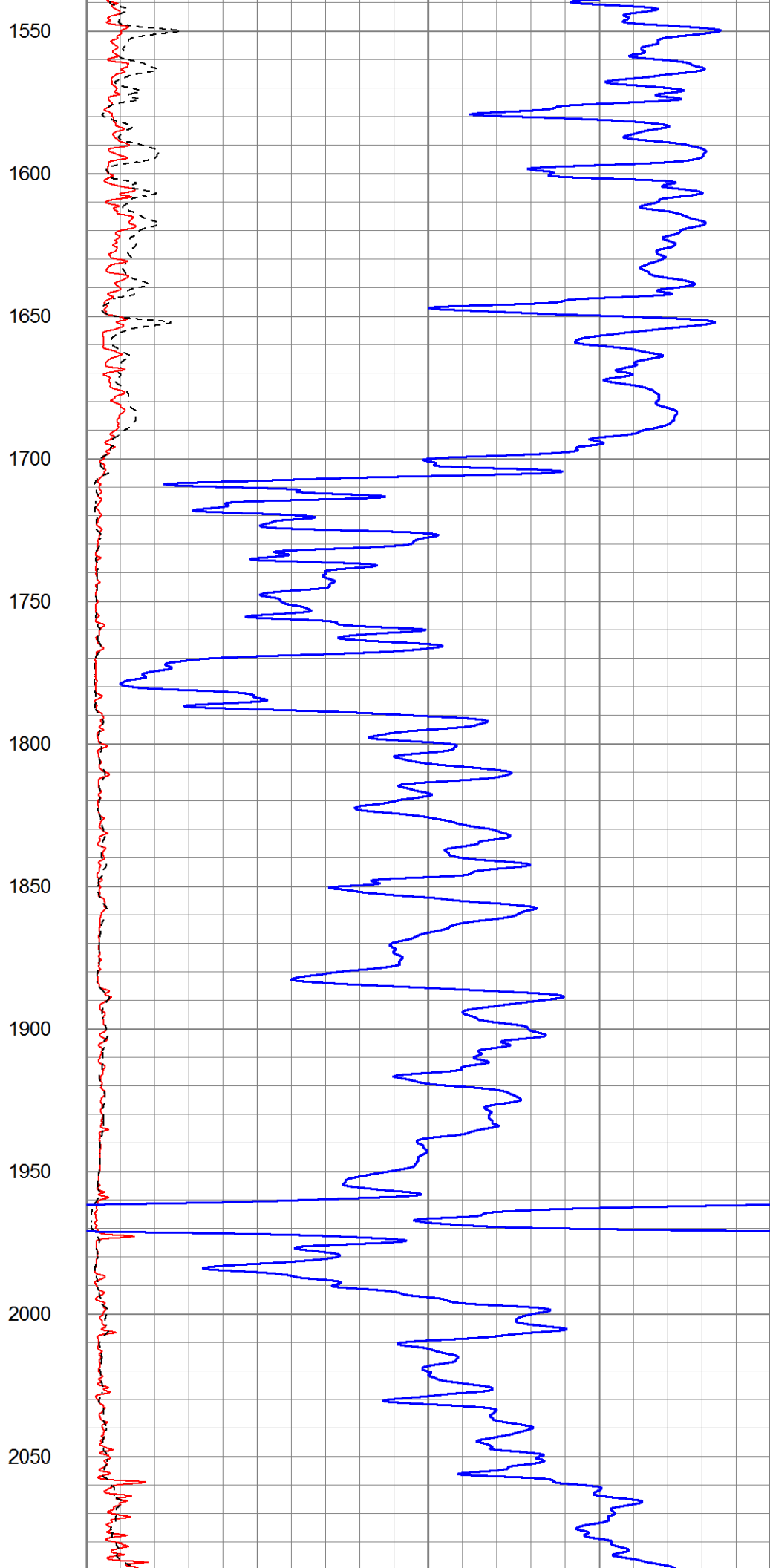
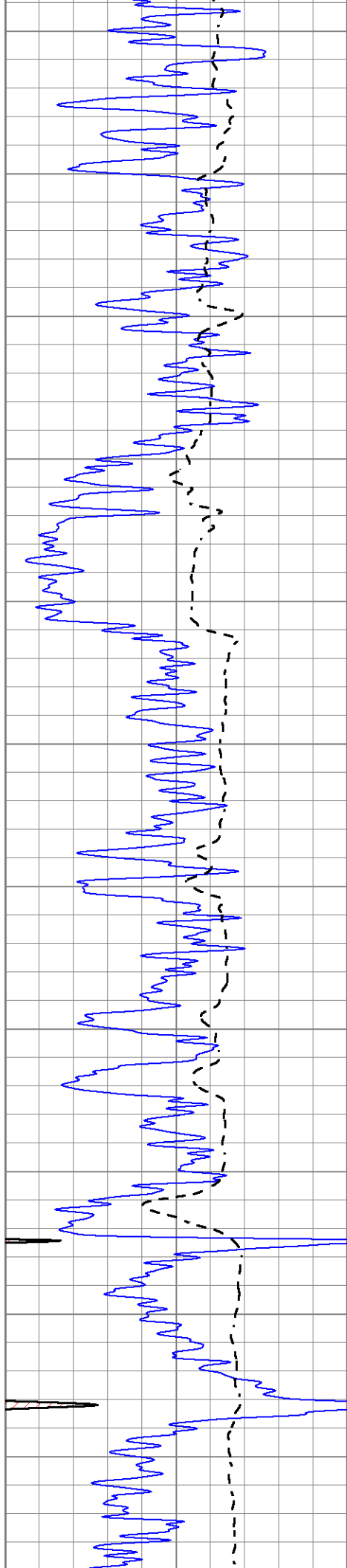
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-100	SP (mV)	100

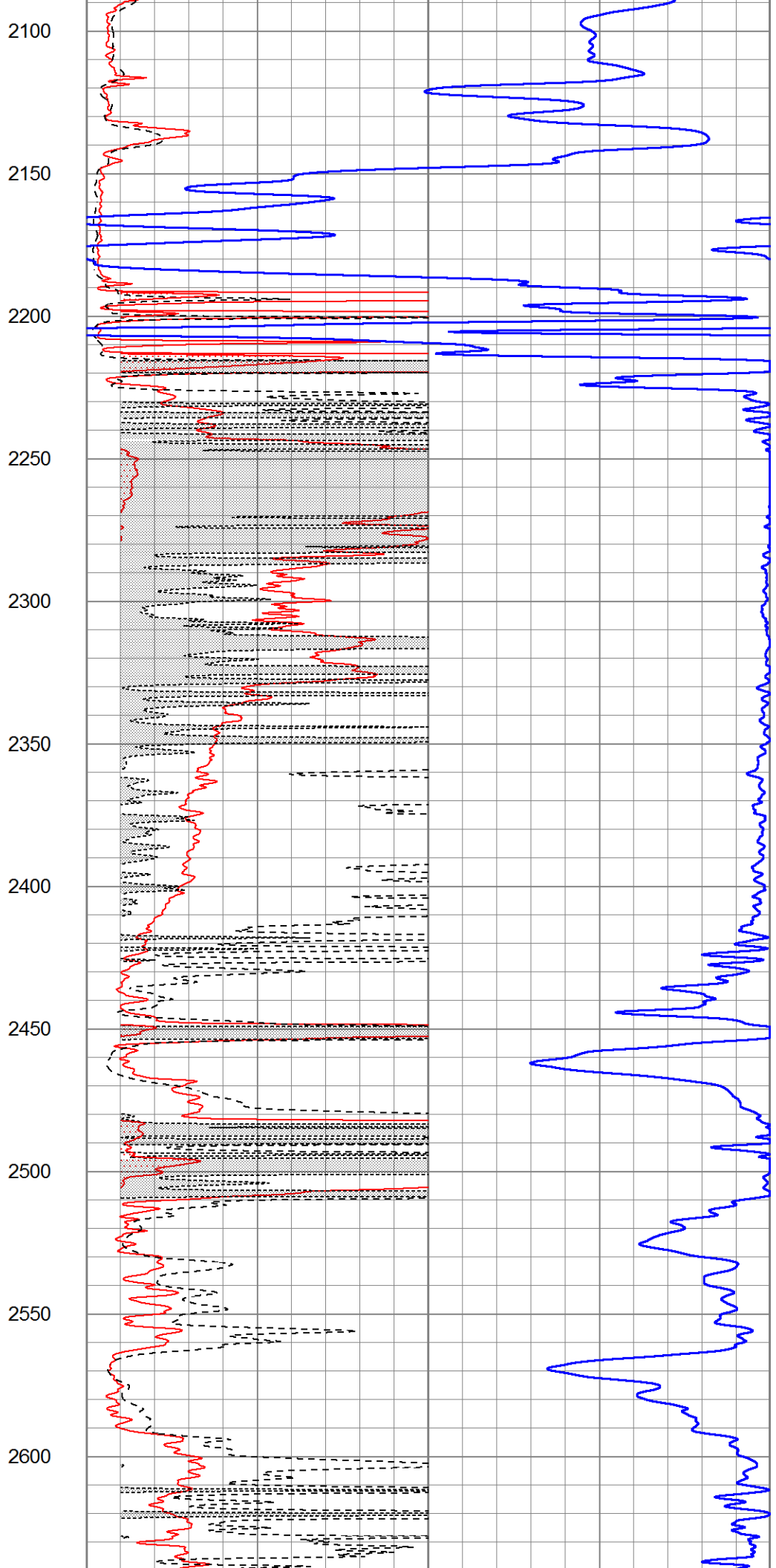
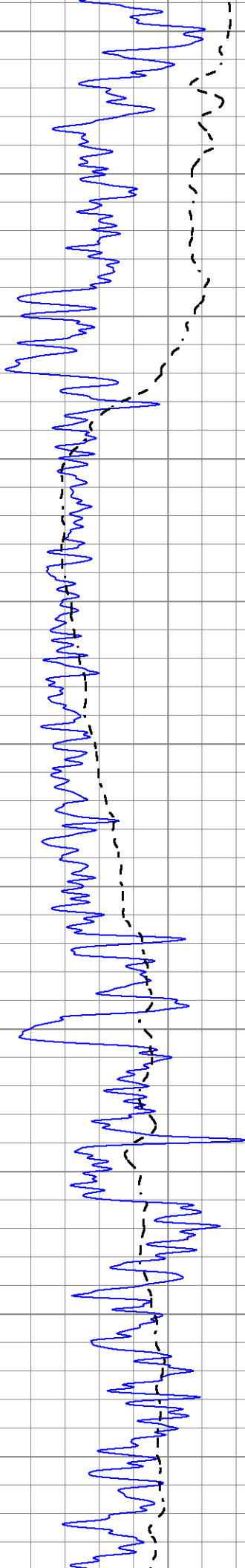
1000	CILD (mmho/m)		0
0	RLL3 (Ohm-m)	50	
0	RILD (Ohm-m)	50	
50	RILD X10 (Ohm-m)	500	
50	RLL3 X10 (Ohm-m)	500	



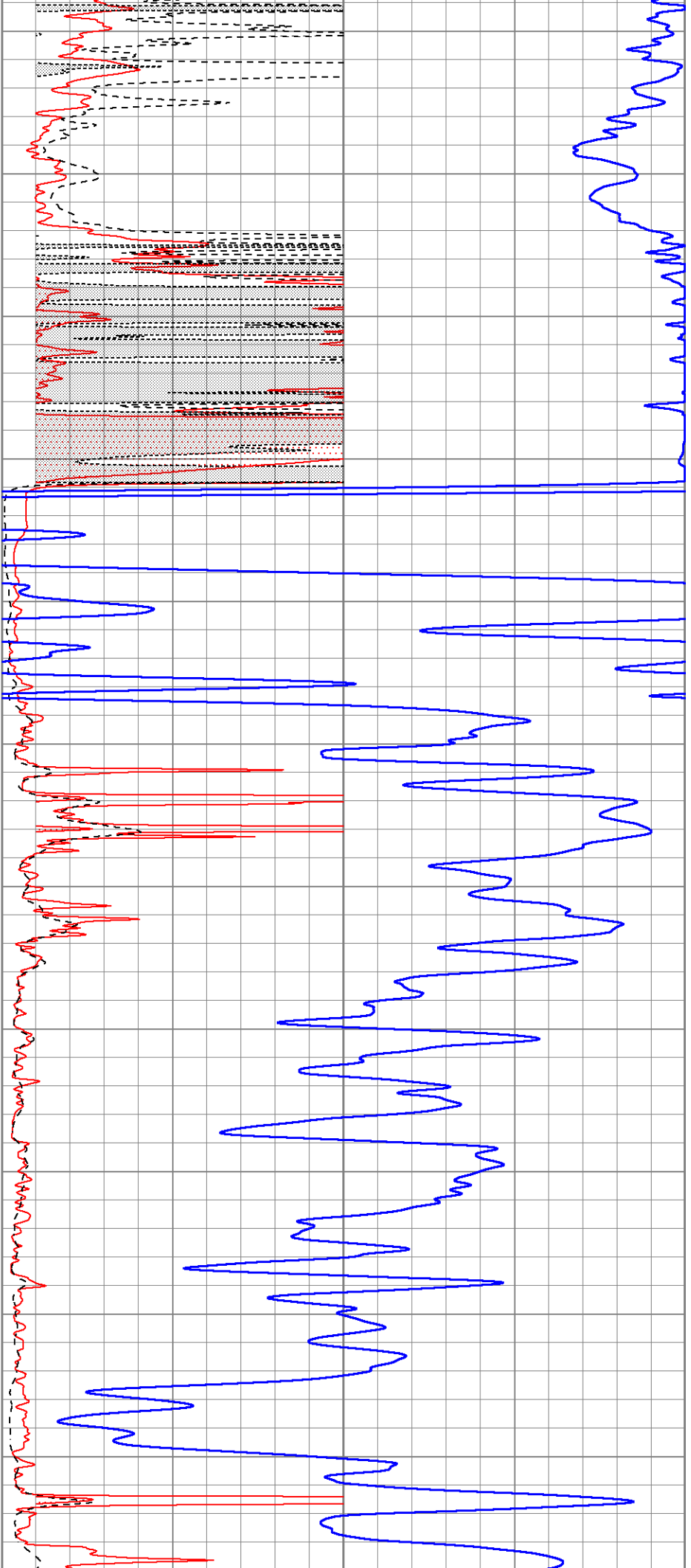




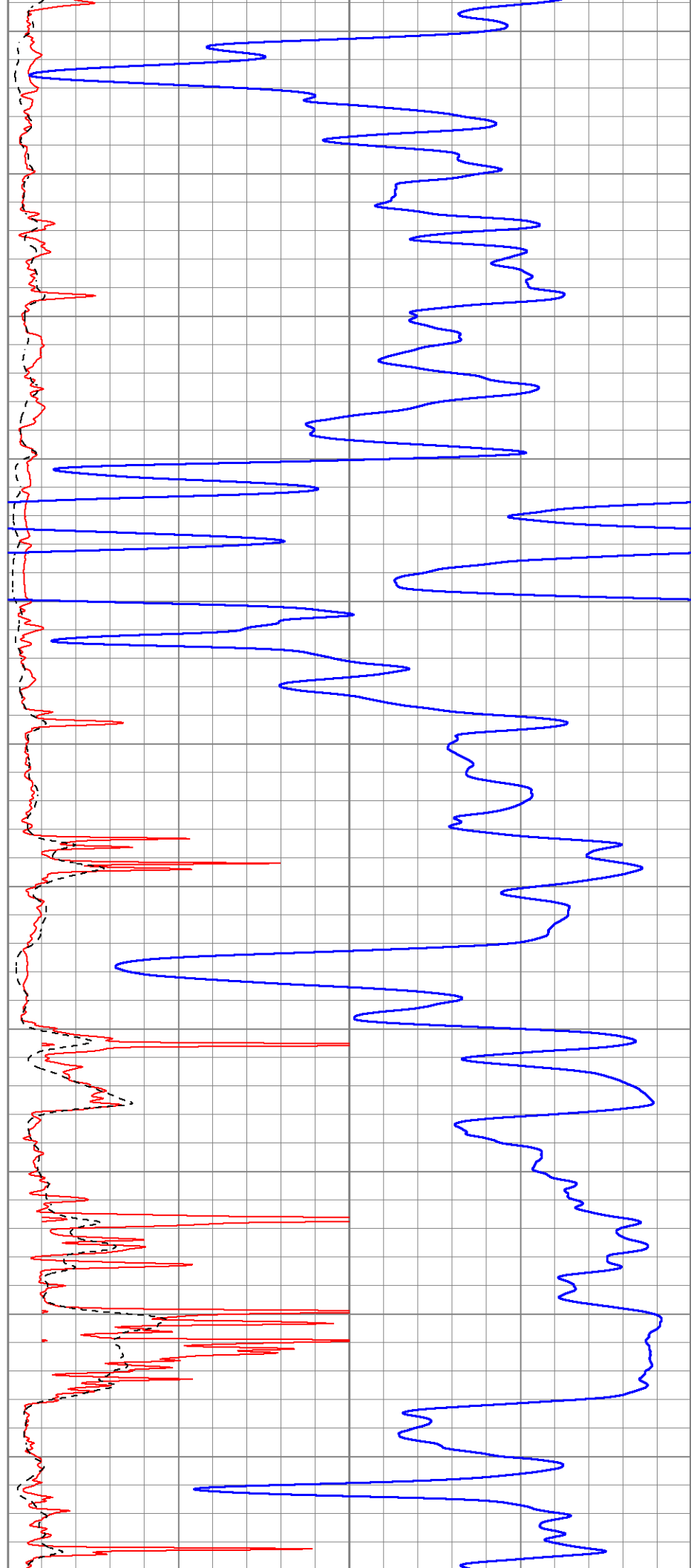
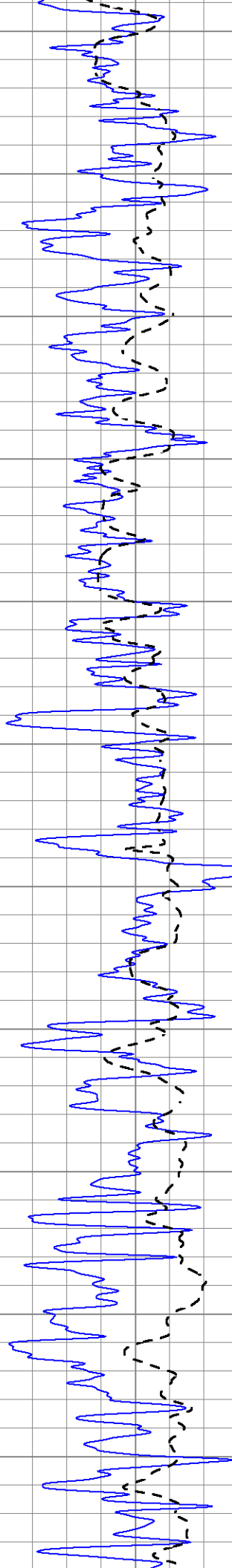


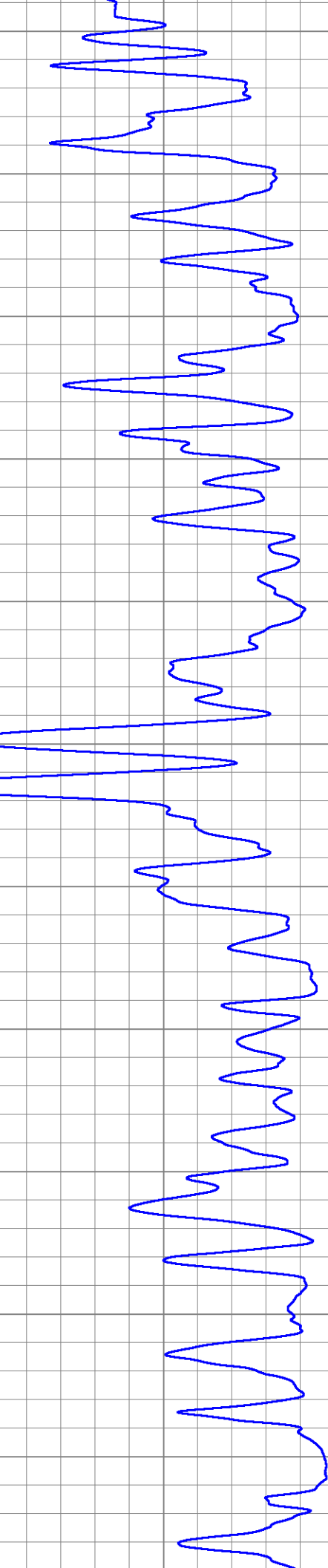
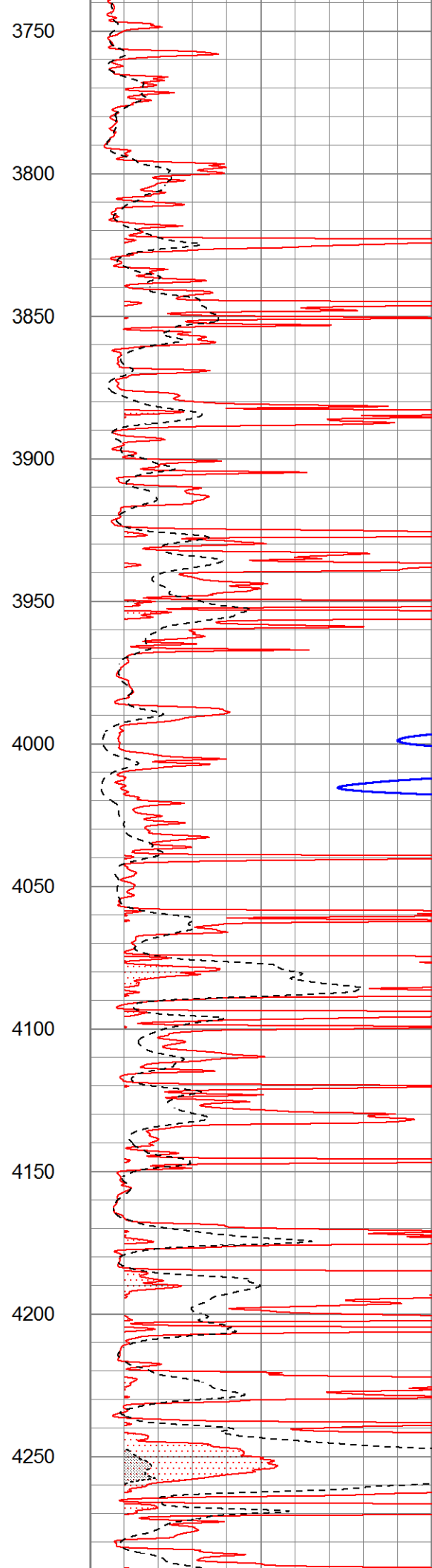
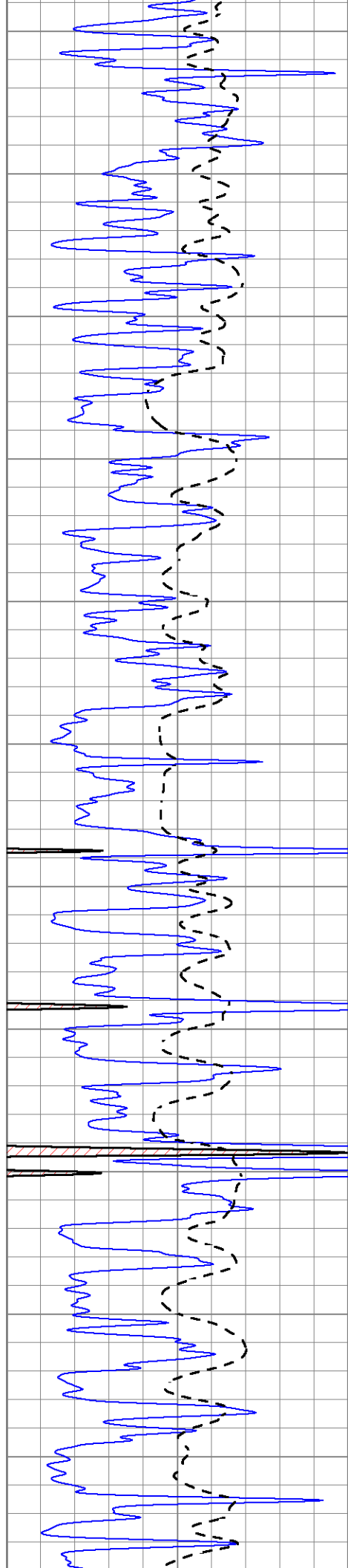


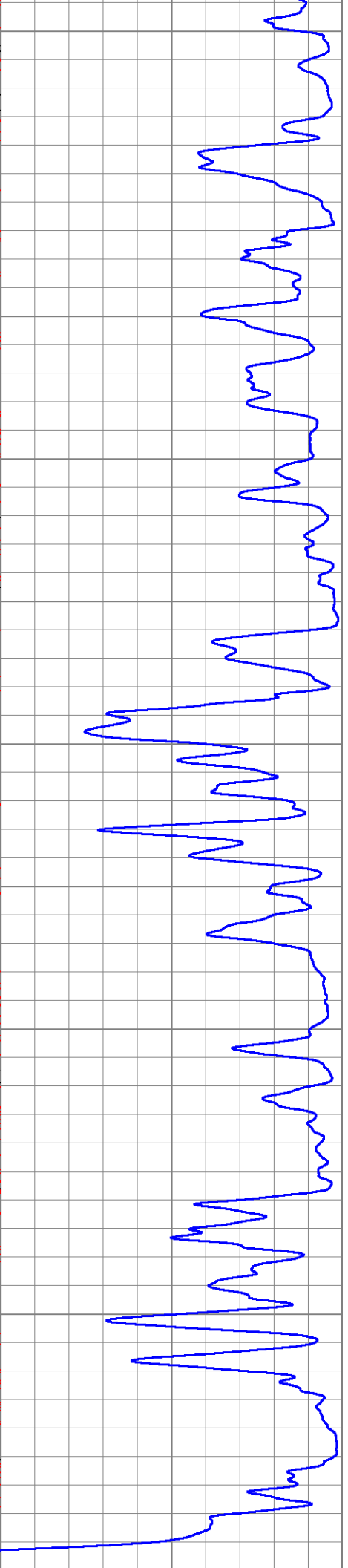
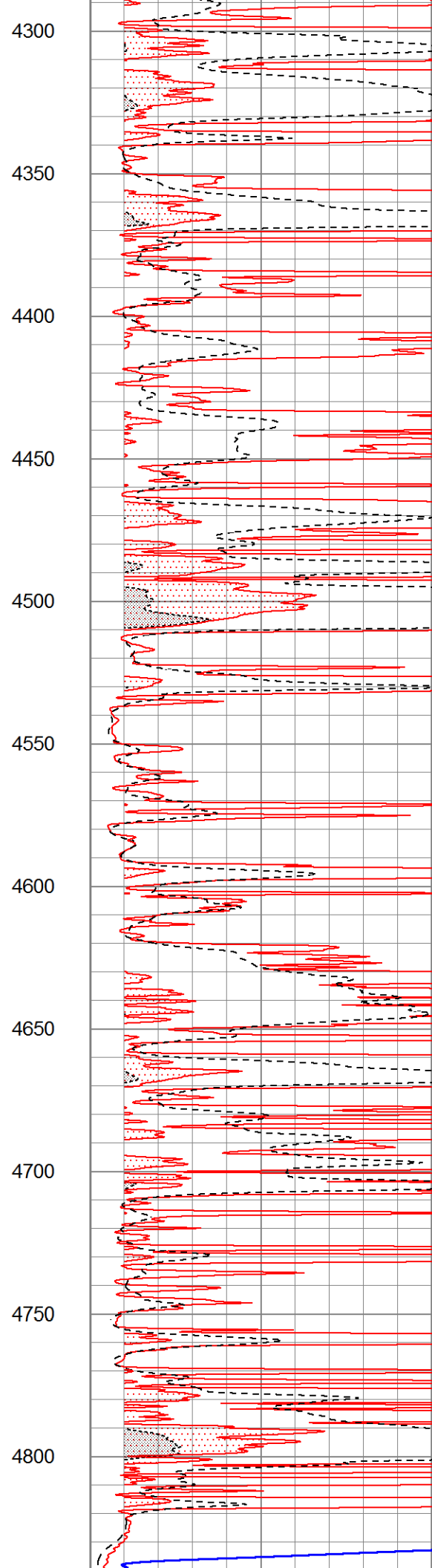
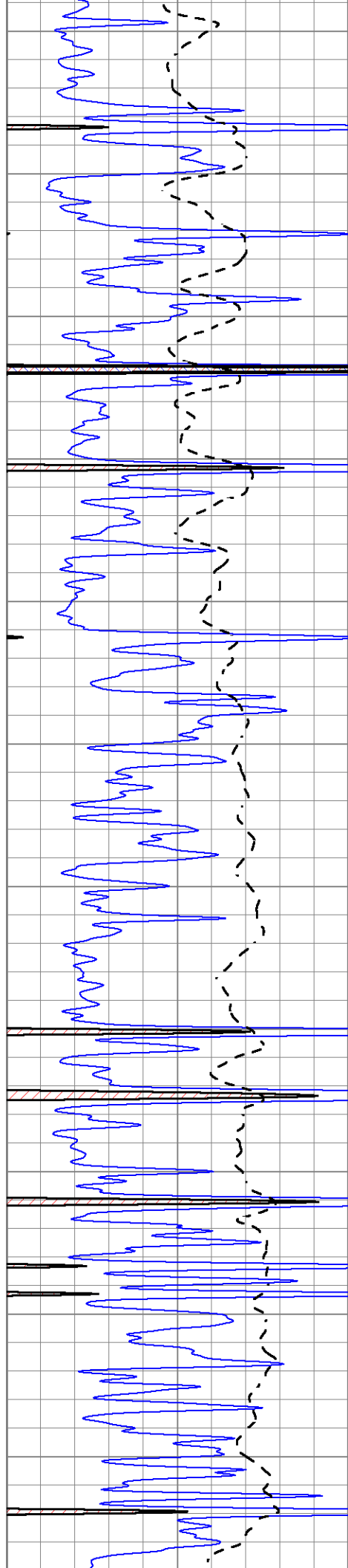
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2700
2750
2800
2850
2900
2950
3000
3050
3100
3150

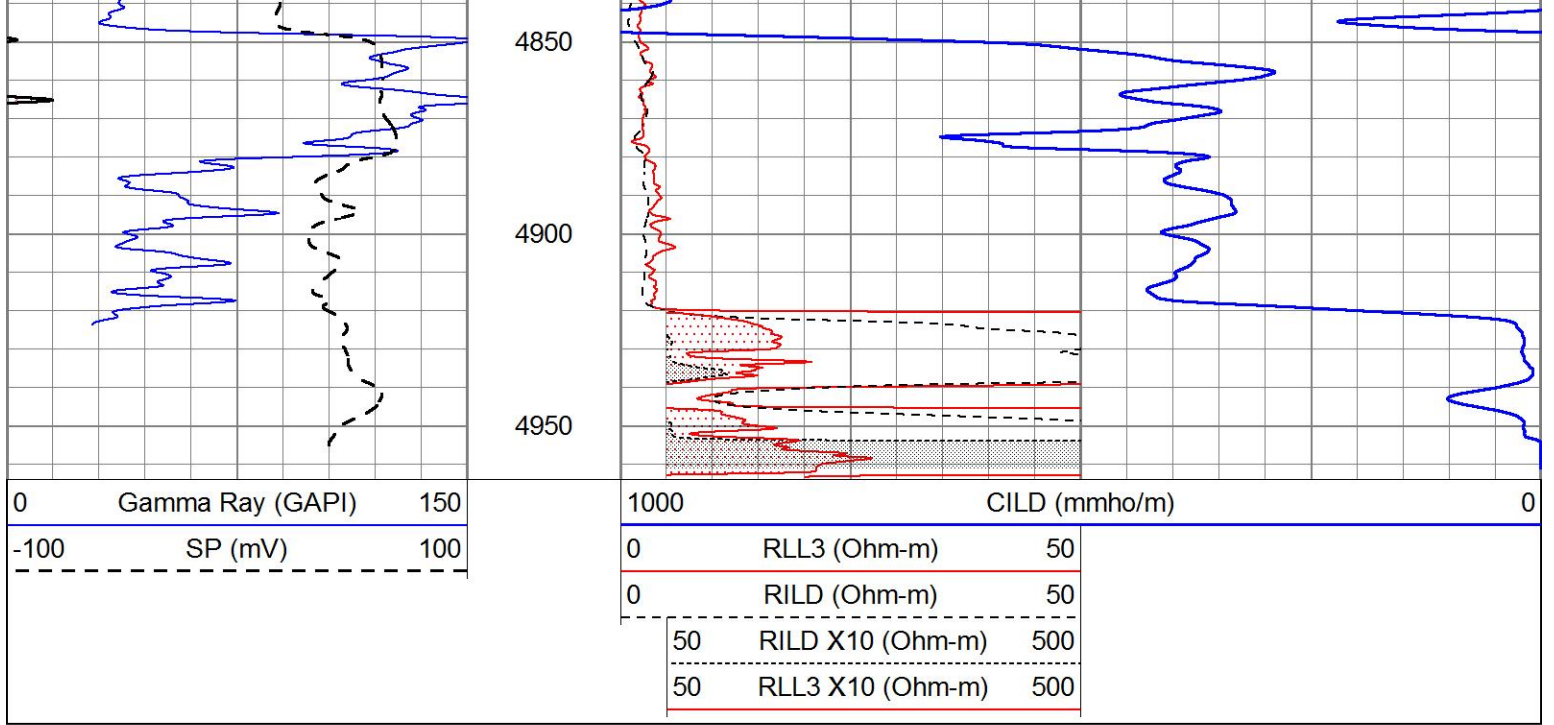


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3300
3350
3400
3450
3500
3550
3600
3650
3700







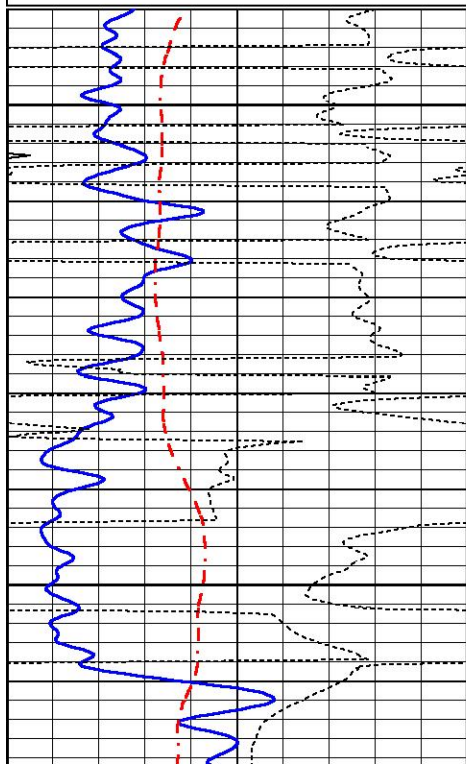


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 Charted by Depth in Feet scaled 1:240

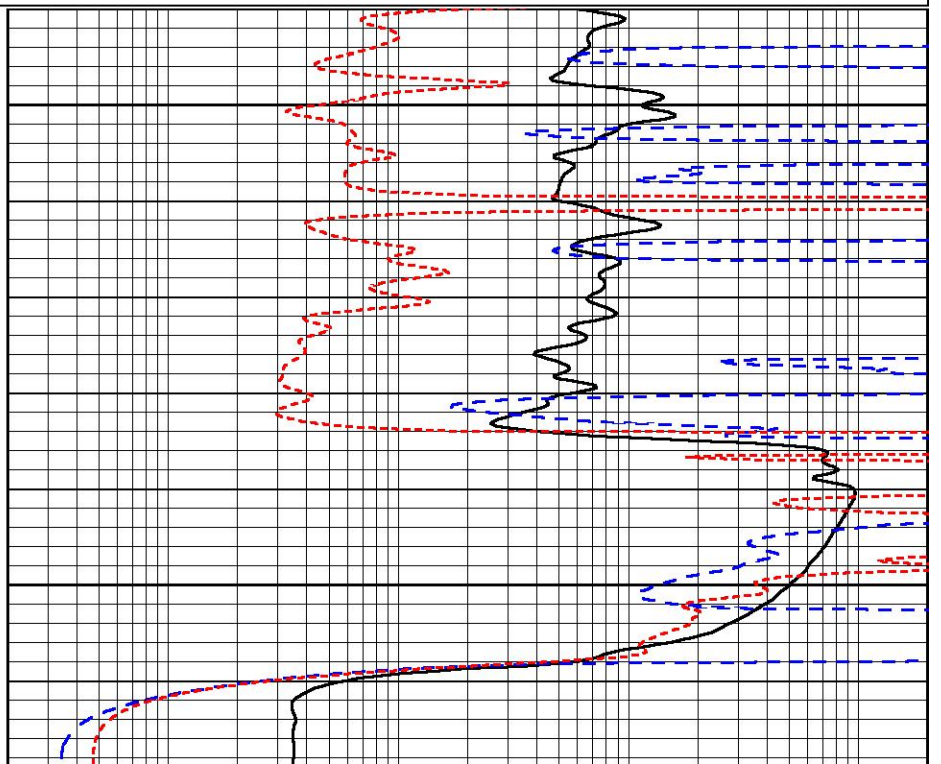
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



2750

2800



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

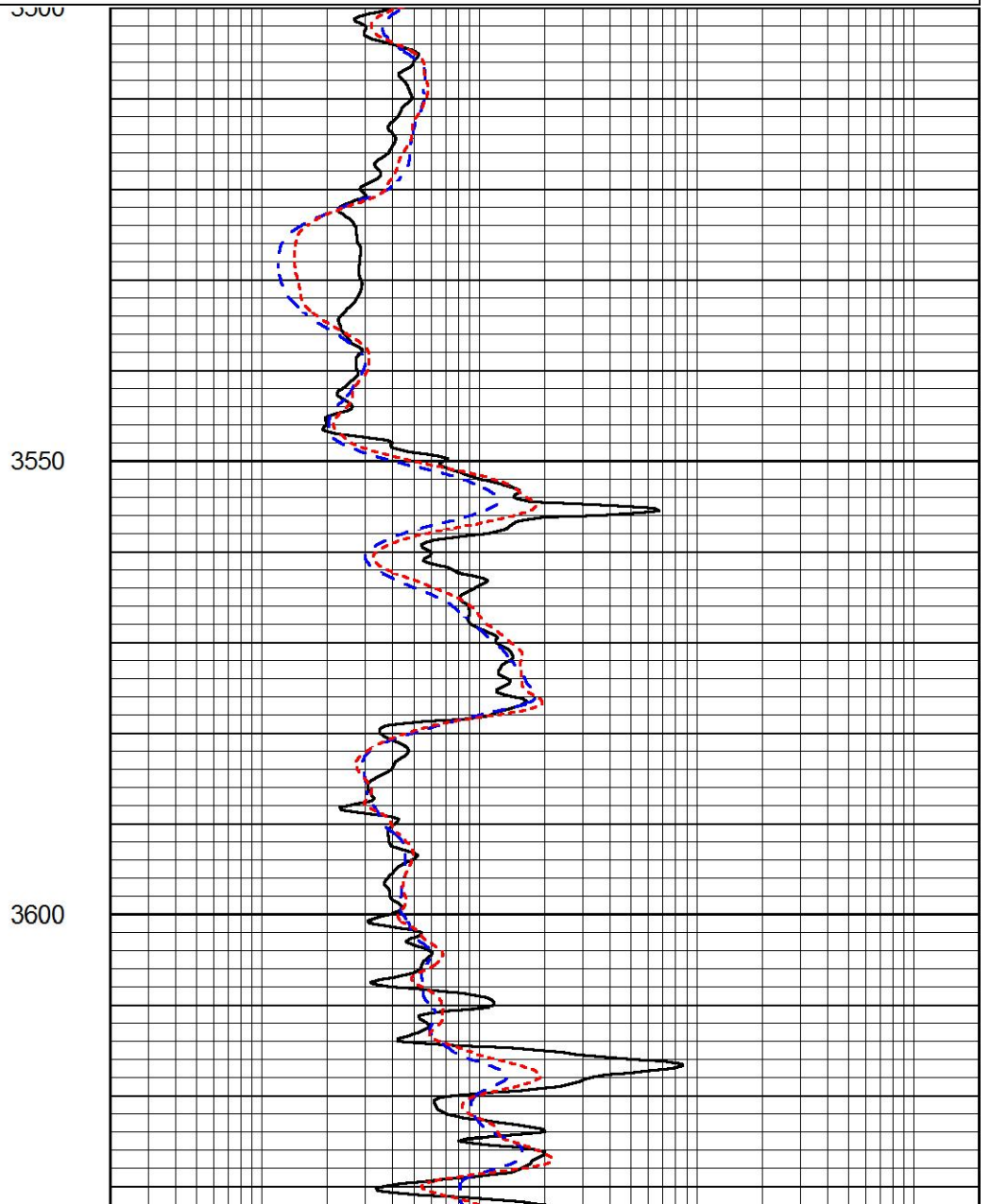
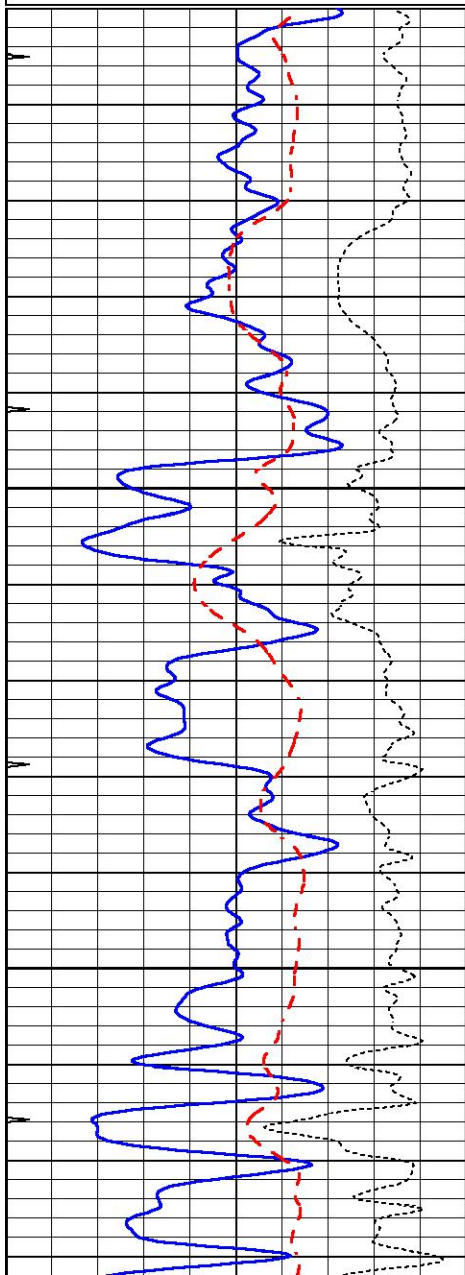


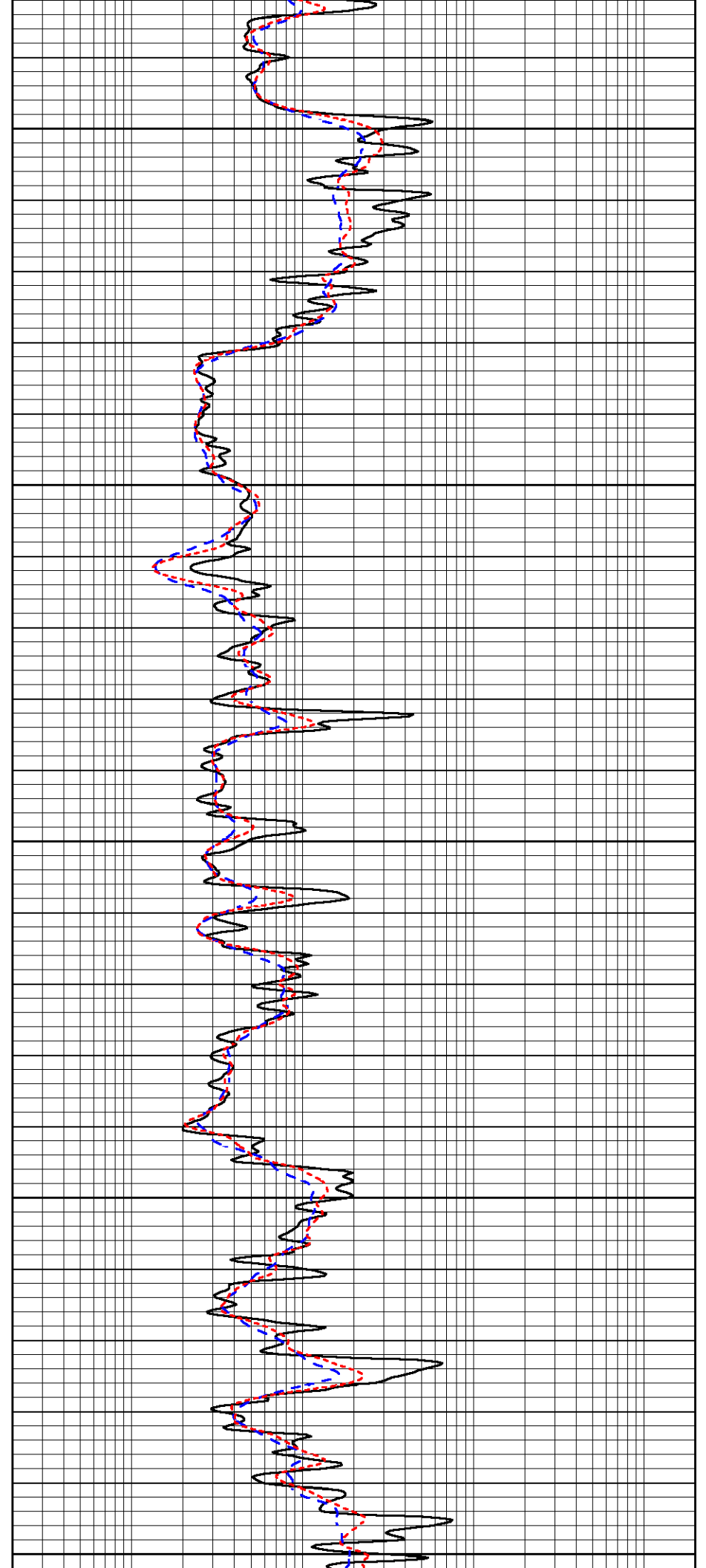
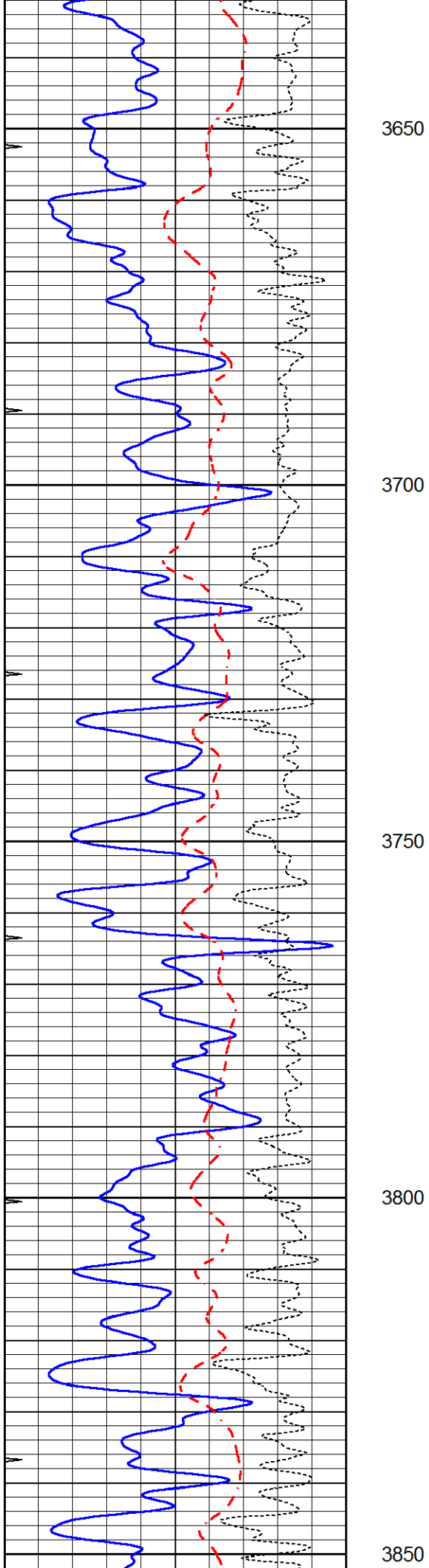
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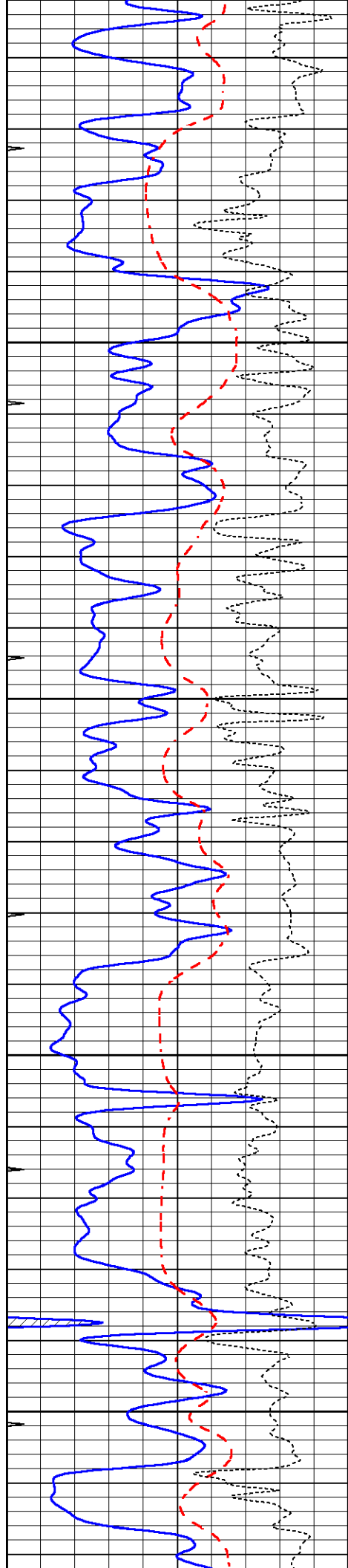
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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





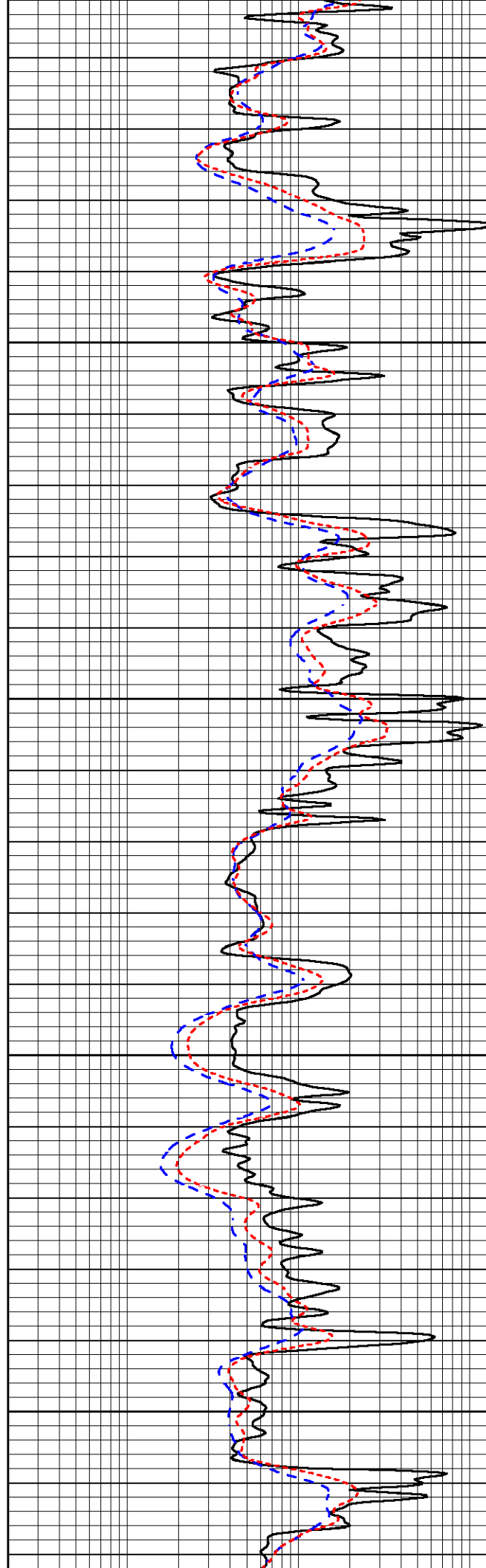


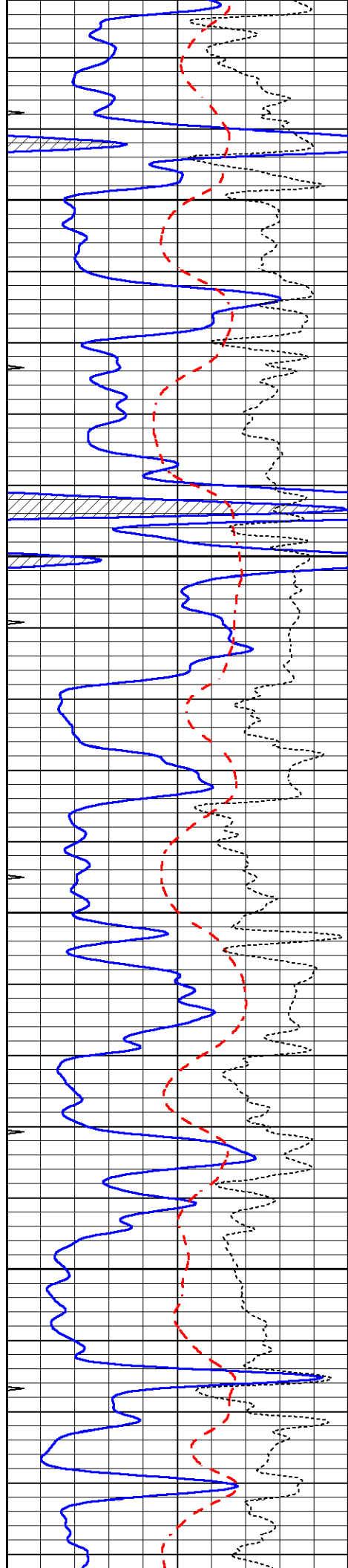
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3950

4000

4050



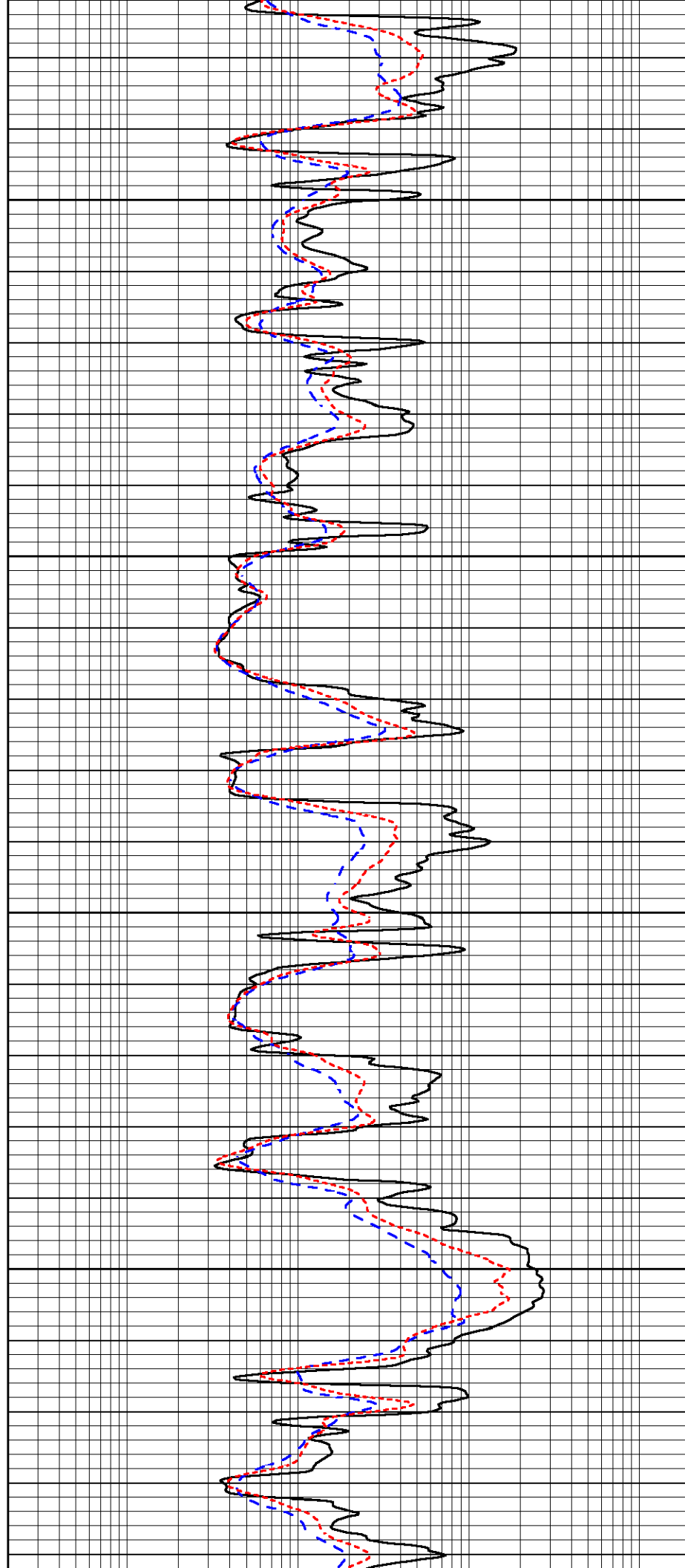


4100

4150

4200

4250

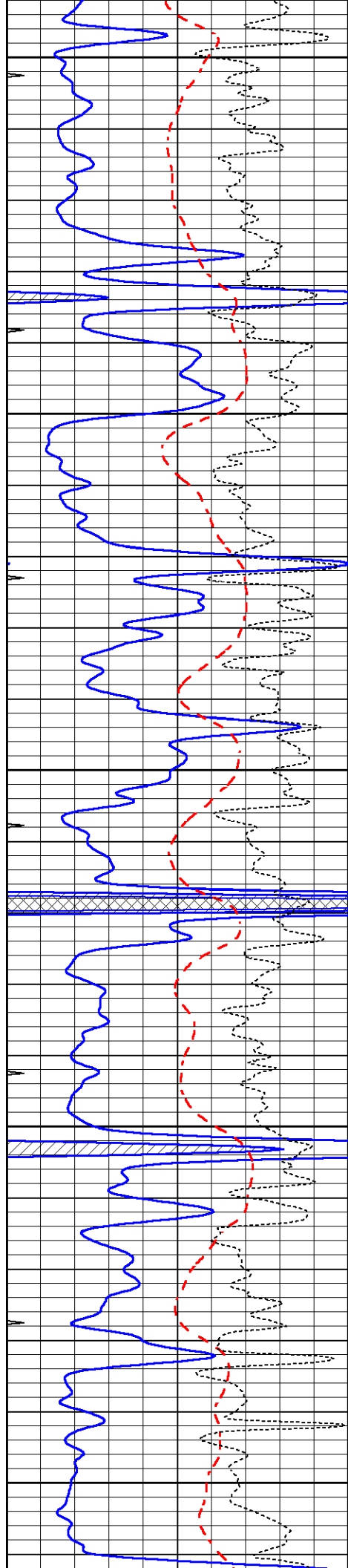


4100

4150

4200

4250



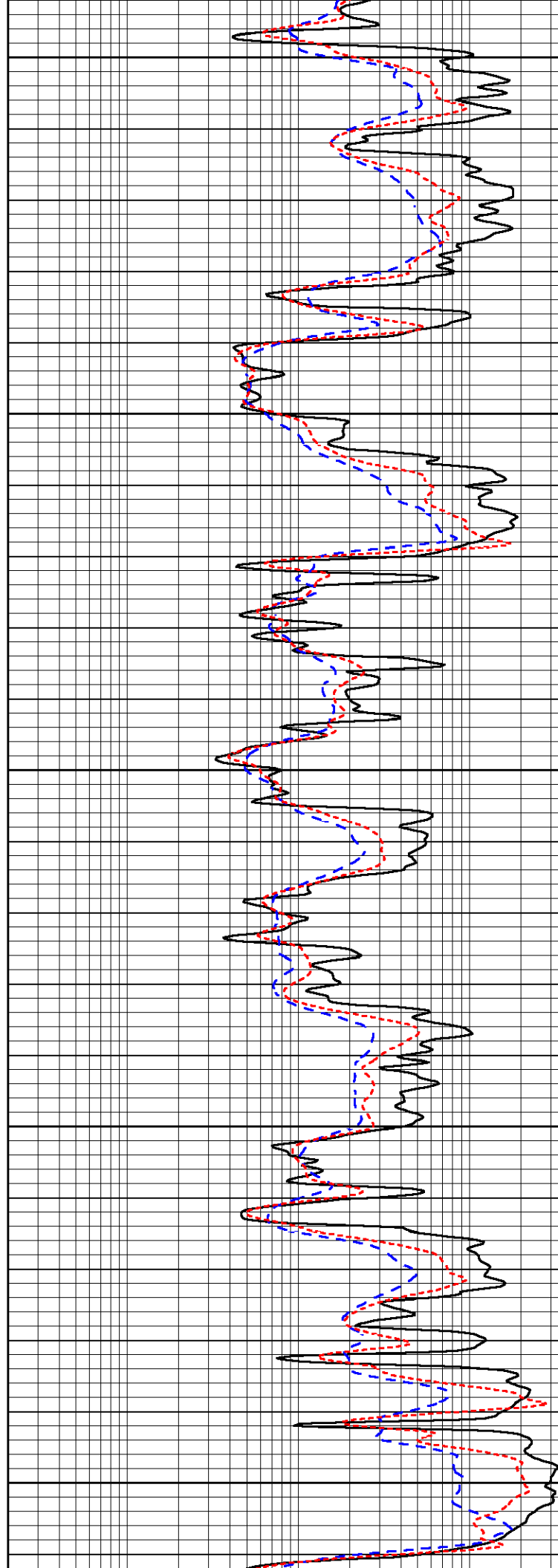
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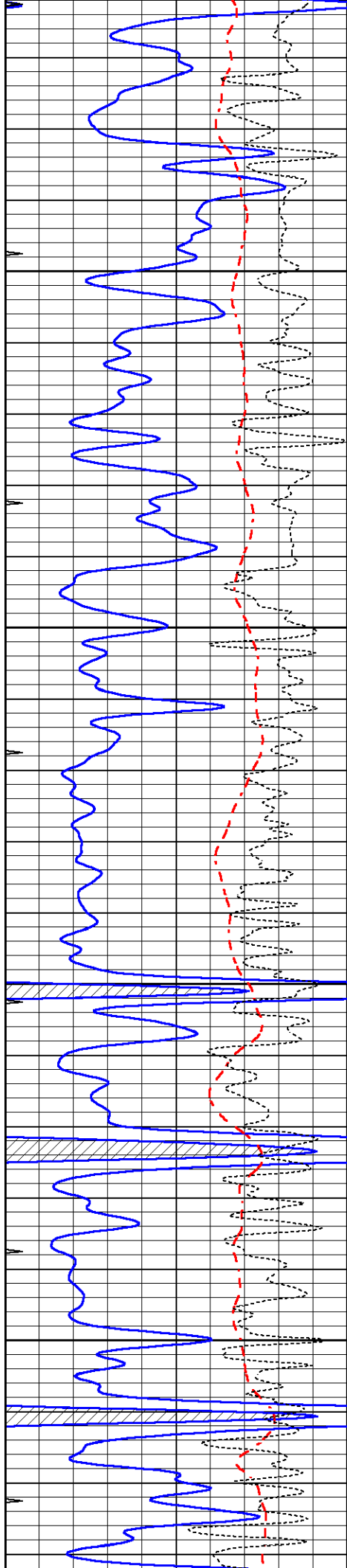
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4450

4500



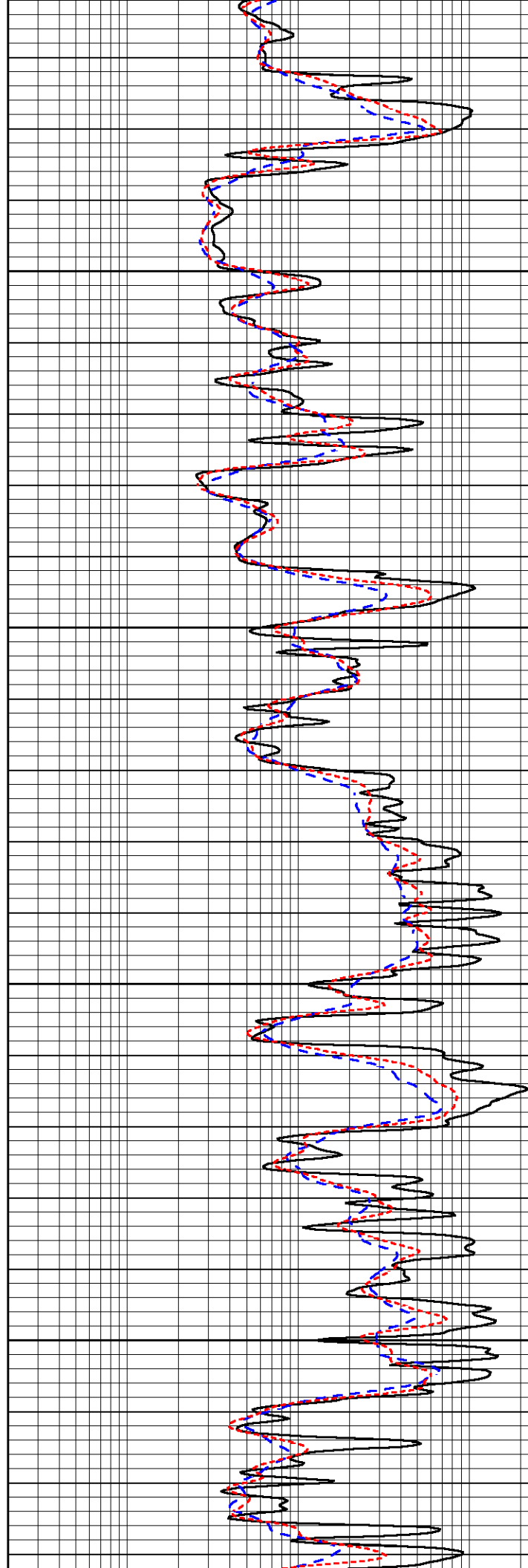


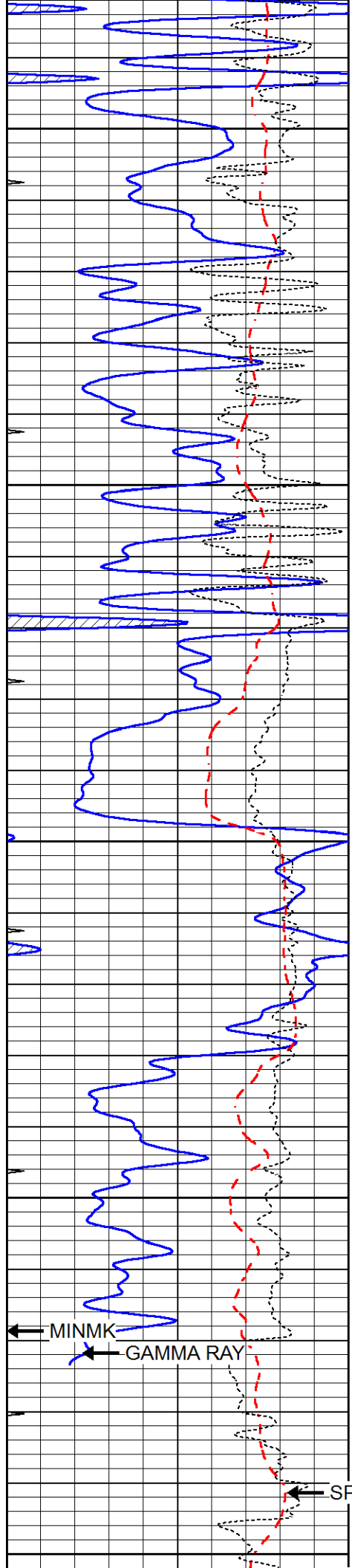
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4600

4650

4700





4750

4800

4850

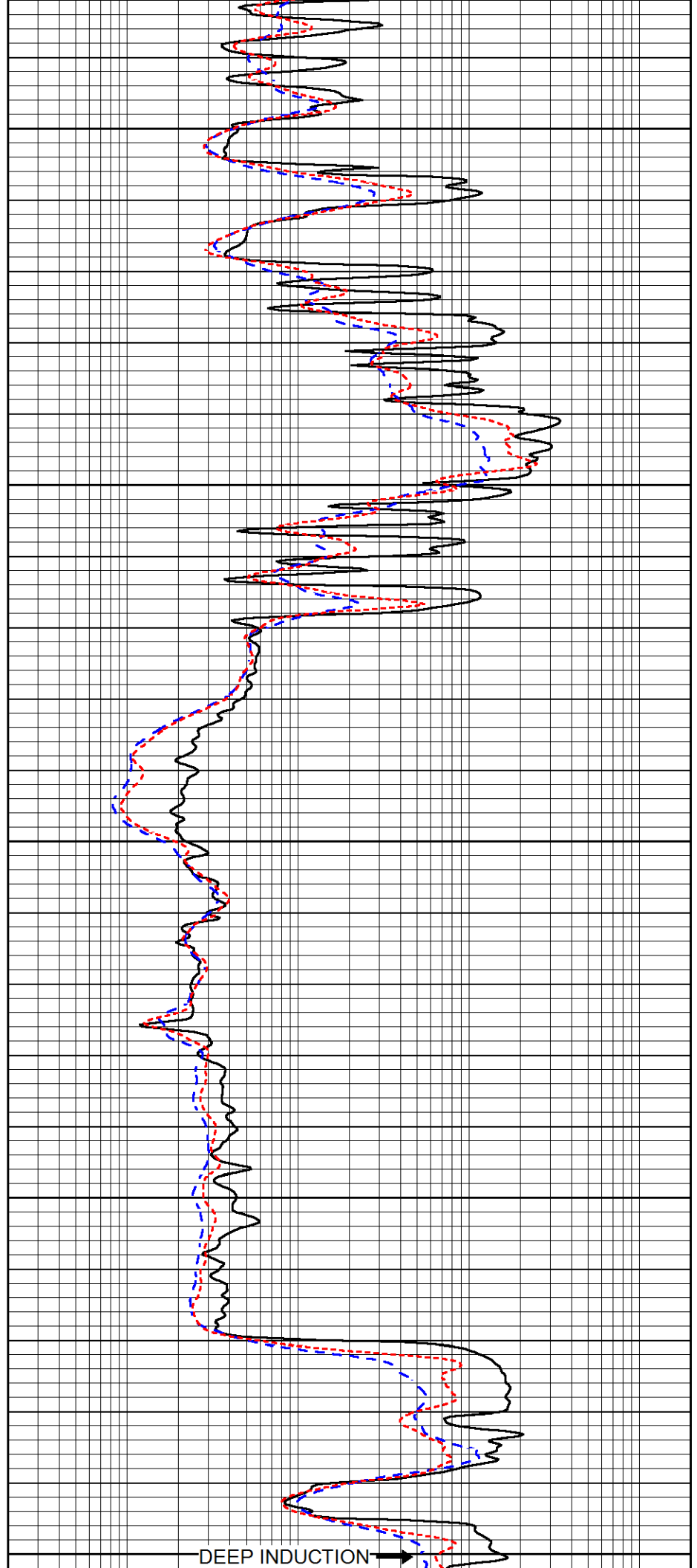
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4950

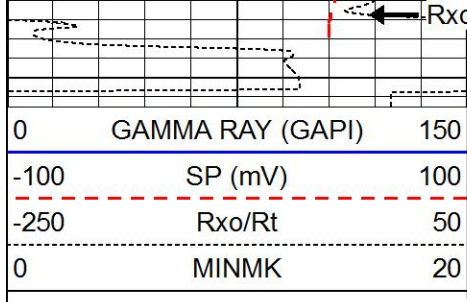
MINMK

GAMMA RAY

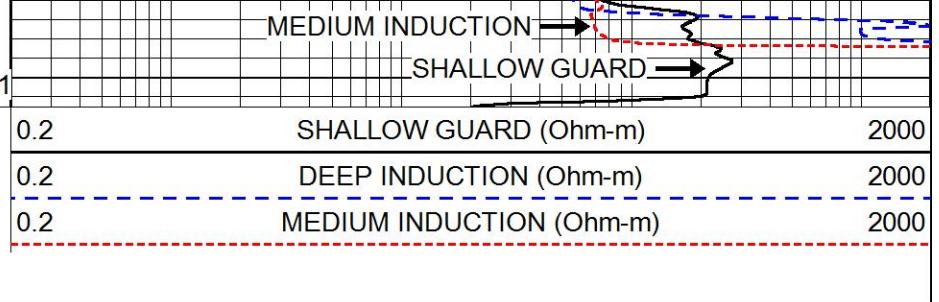
SP



DEEP INDUCTION

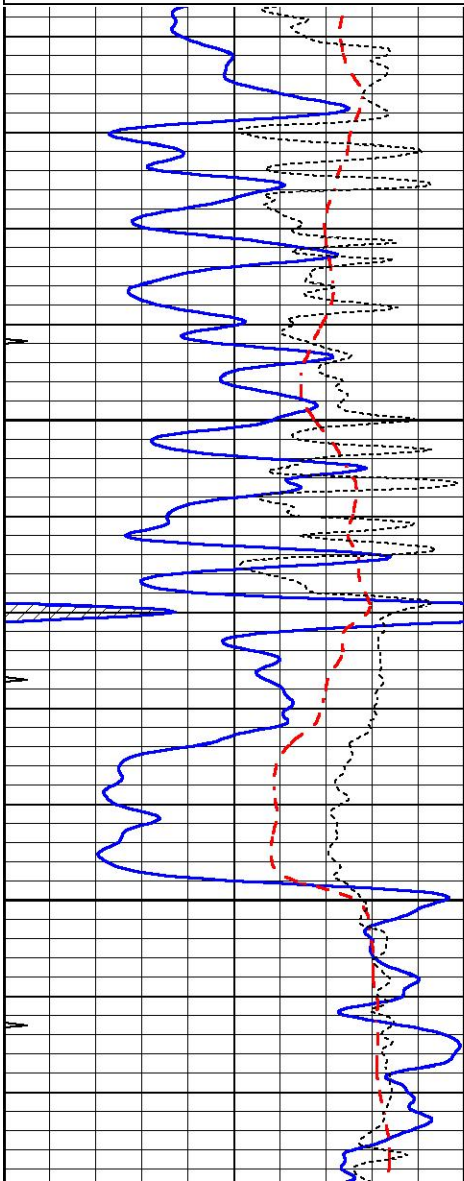
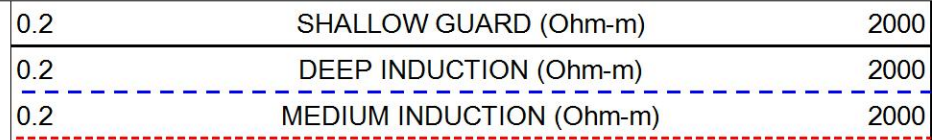
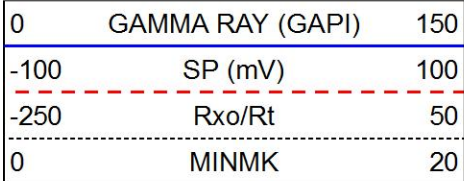


LTD 4961



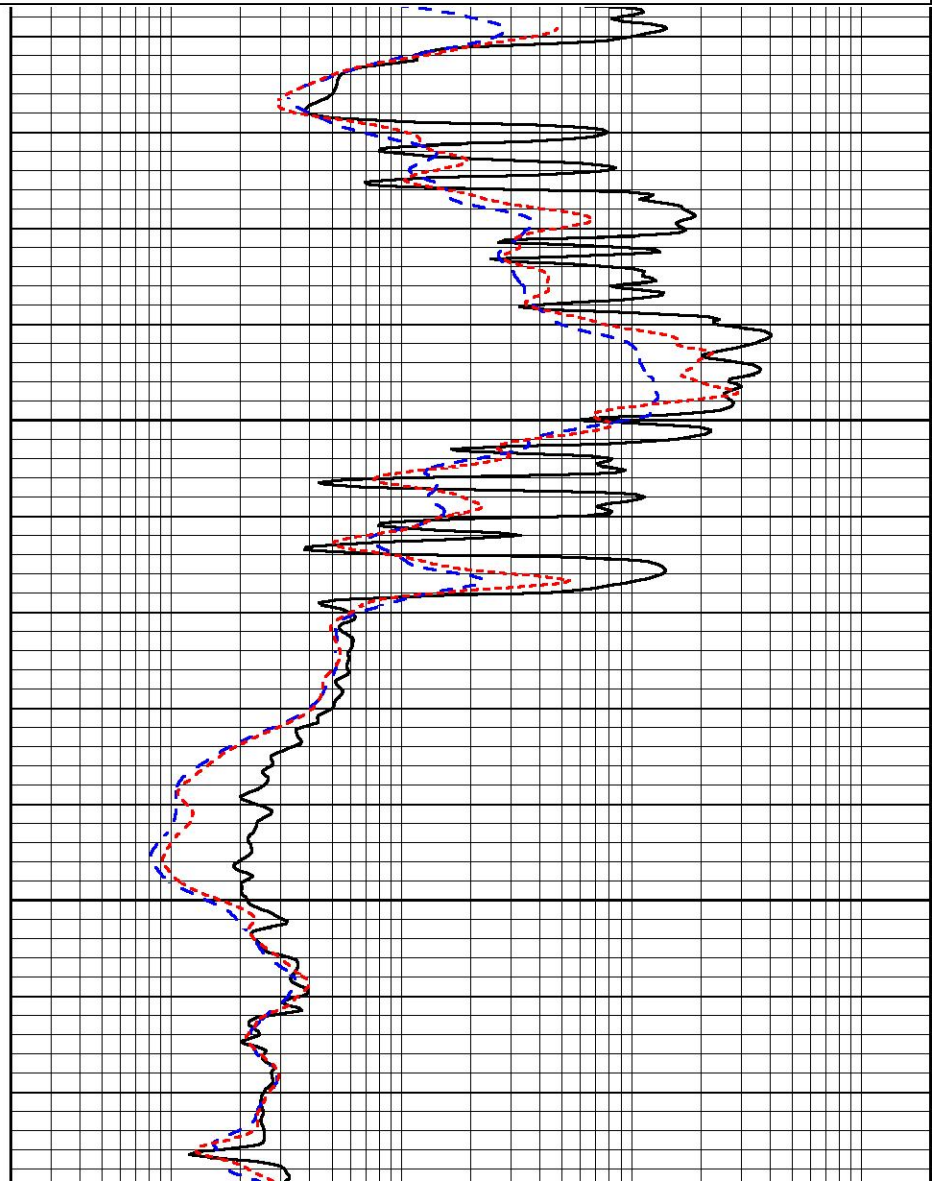
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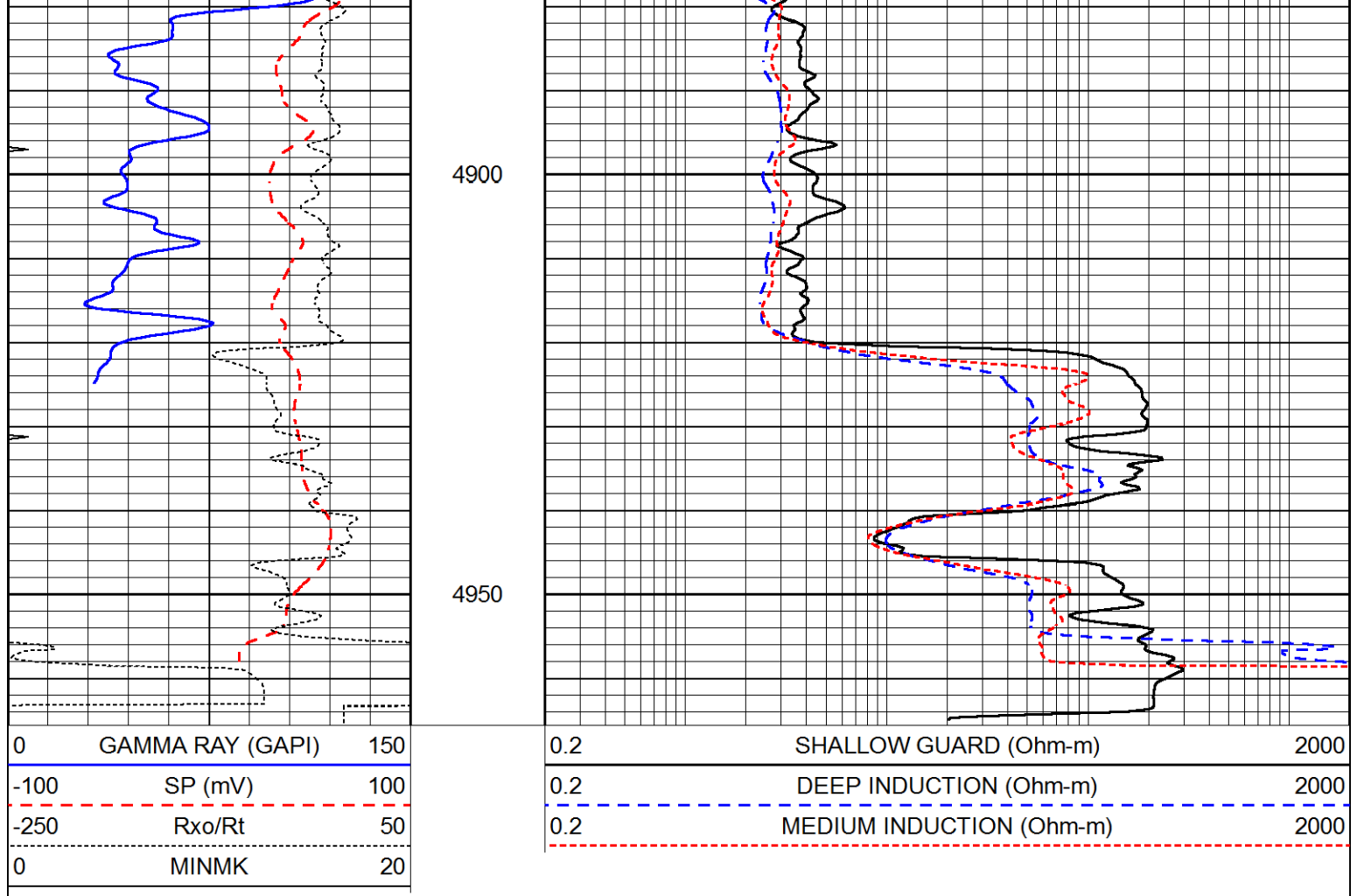
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 Dataset Pathname pass2.1
 Presentation Format _dil
 Dataset Creation Fri Jun 25 16:28:46 2021
 Charted by Depth in Feet scaled 1:240



4800

4850





Calibration Report

Database File 5446pe.db
 Dataset Pathname pass2.1
 Dataset Creation Fri Jun 25 16:28:46 2021

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Mon Sep 10 14:28:35 2018
 Downhole Cal Performed: Mon Sep 10 14:28:38 2018
 After Survey Verification Performed: Mon Sep 10 14:28:40 2018

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop	mmho/m	m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
Internal:	Zero	Cal	V	Zero	Cal	mmho/m	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	V	Zero	Cal	mmho/m	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: 002N Model: PRB

Master Calibration

Performed Tue Mar 10 15:08:00 2020

	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	780.1	6981.9	2088.6	1871.2	cps
Window 2	718.6	5898.2	1813.8	1664.1	cps
Window 3	580.0	2989.5	1088.0	1039.1	cps
Window 4	172.8	175.7	175.3	173.5	cps
Long Space	0.0	5179.6	1095.2	945.5	cps
Short Space	1.1	1228.6	821.2	690.4	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	
Rib Angle	: 45.5	Rib Slope	: 1.016	Density/Spine Ratio	: 0.548
Spine Angle	: 75.5	Spine Slope	: 3.857	Spine Intercept	: -18.9

Before 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	

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: 6I
 Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	1.00 cps	1.00 cps	1.0000
Long Space	1.00 cps	1.00 cps	1.0000

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Thu Jul 30 20:04:35 2020	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.7500	GAPI/cps