



DUAL INDUCTION LOG

Company DARRAH OIL CO.,LLC.

Well YOUNKIN #2-35

Field WILDCAT

County LOGAN State KANSAS

Location: API #: 15-109-21621-0000

2225' FSL & 2223' FEL

Other Services
CDL/CNL
ML/SO

SEC 35 TWP 13S RGE 34W

Permanent Datum GROUND LEVEL Elevation 2802

Log Measured From KELLY BUSHING 11' A.G.L.

Drilling Measured From KELLY BUSHING

Elevation

K.B. 2813

D.F. 2811

G.L. 2802

Date	07/08/21
Run Number	ONE
Depth Driller	4530
Depth Logger	4527
Bottom Logged Interval	4525
Top Log Interval	00
Casing Driller	8 5/8" @ 325
Casing Logger	325
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	NA
pH / Fluid Loss	NA
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.4 @ 80F
Rmf @ Meas. Temp	1.05 @ 80F
Rmc @ Meas. Temp	1.68 @ 80F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.93 @ 121F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	////
Maximum Recorded Temperature	121F
Equipment Number	1523
Location	HAYS, KANSAS
Recorded By	GUS PFANENSTIEL
Witnessed By	SETH EVENSON

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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: OAKLEY KS SOUTH TO QUAIL RD, 7W TO RD 370, 1S TO PLAINS RD, 2W TO 350, 4S TO LARIAT RD, 1W THROUGH RED CATTLE GUARD, 2 MILES NW IN PASTURE

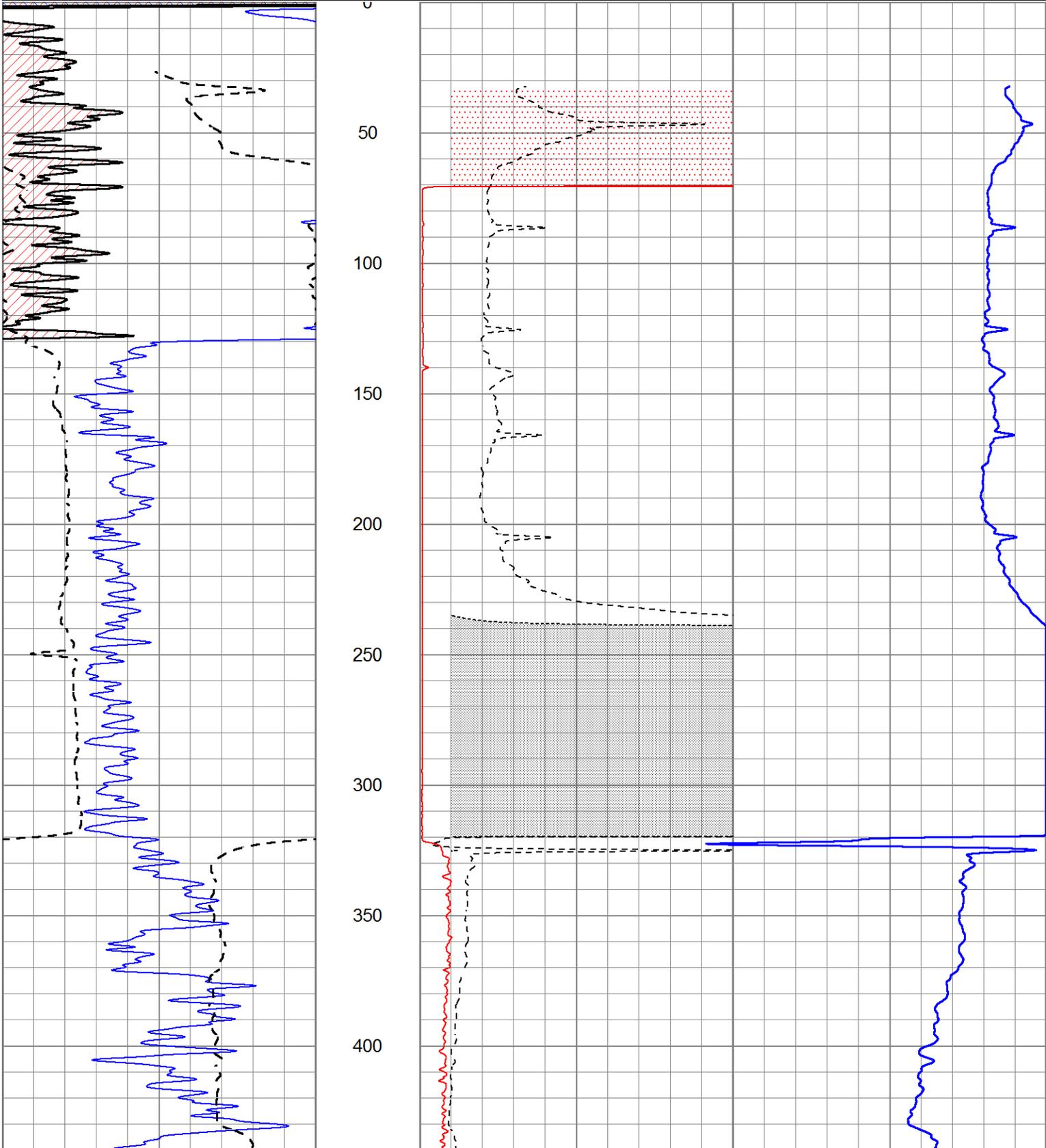


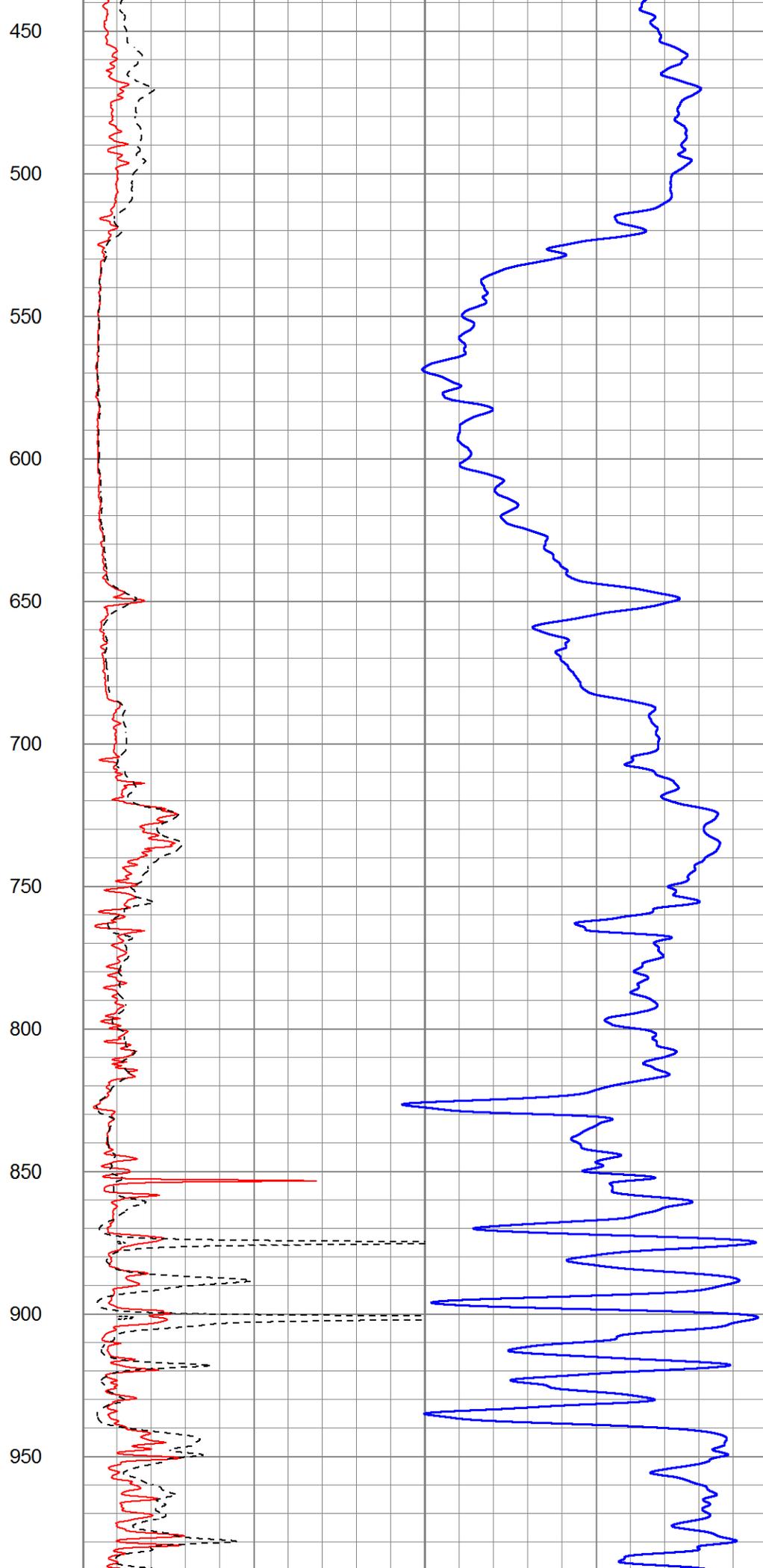
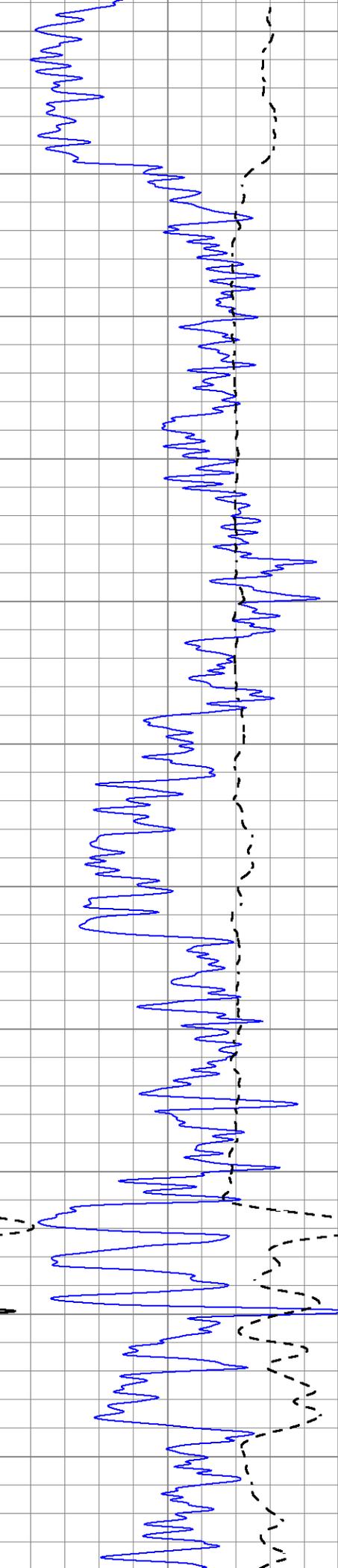
MAIN PASS

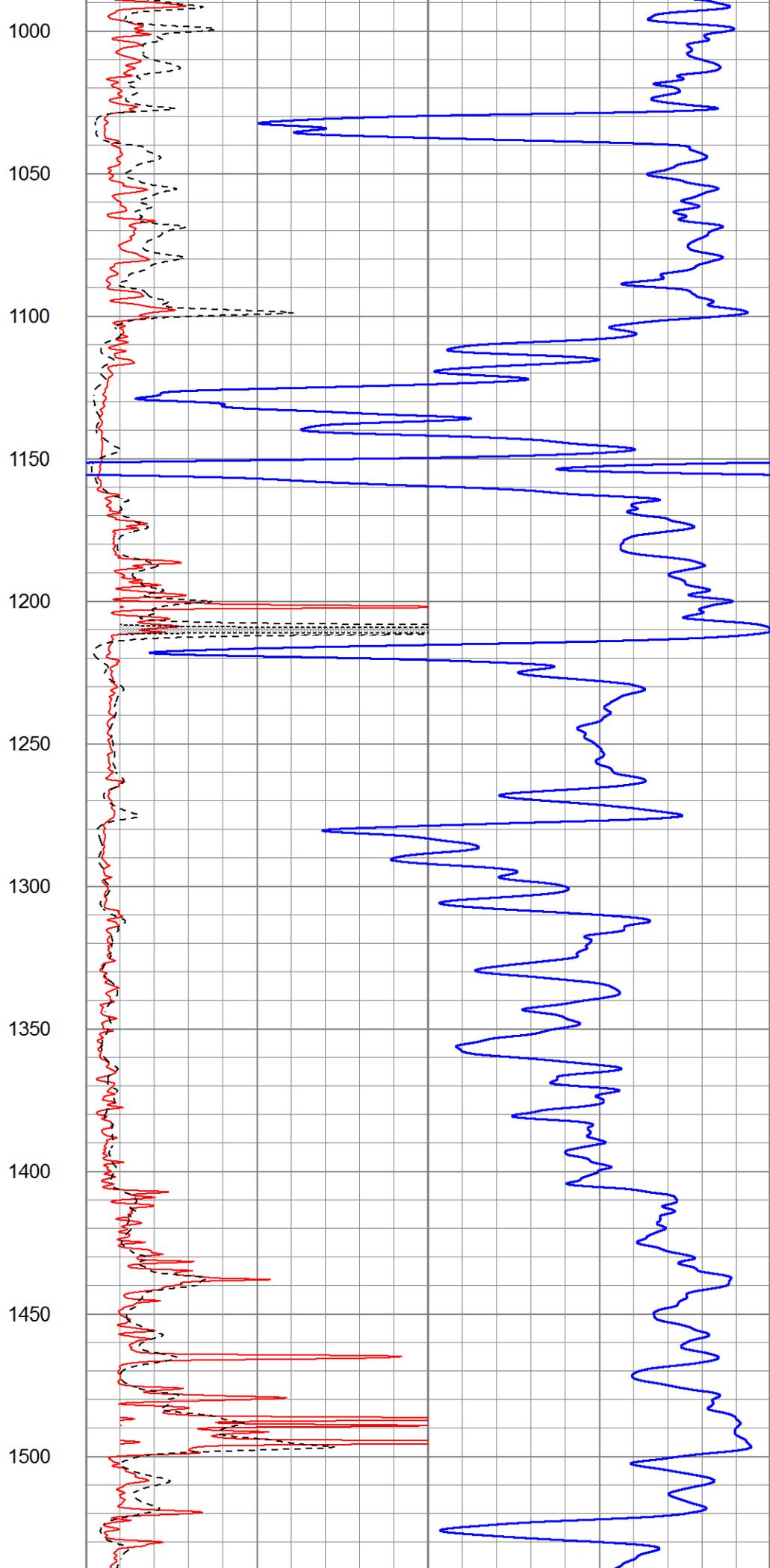
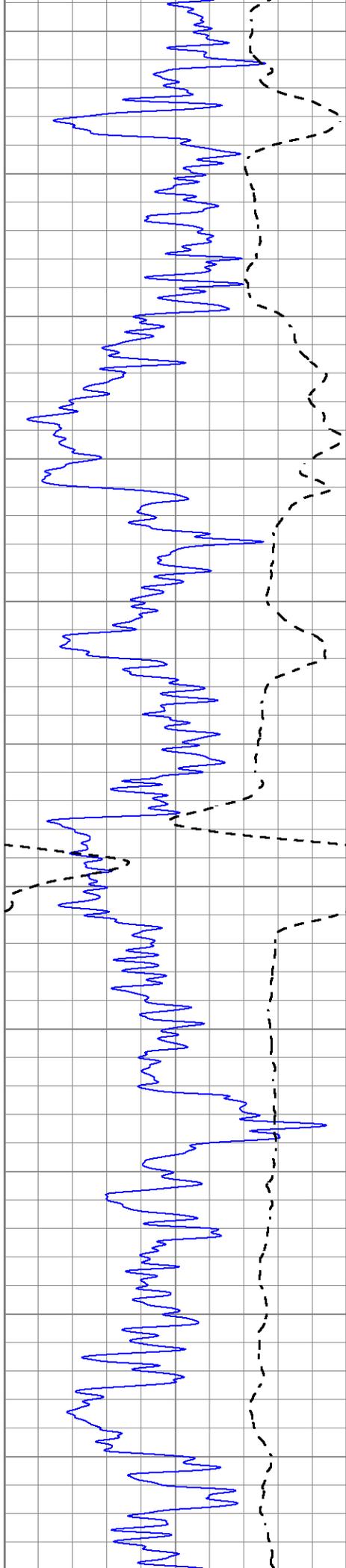
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 Presentation Format _dil2
 Dataset Creation Thu Jul 08 07:14:48 2021
 Charted by Depth in Feet scaled 1:600

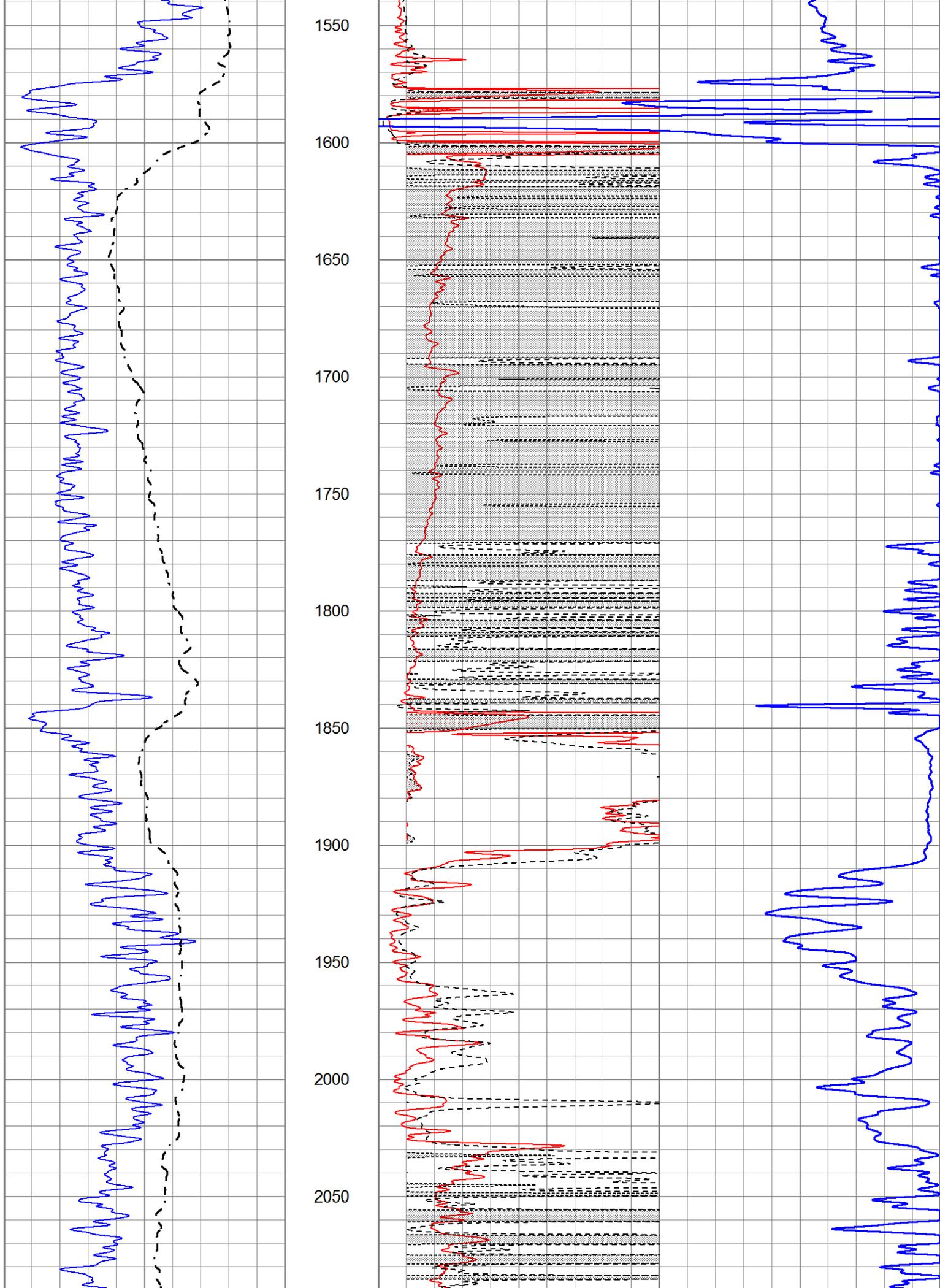
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 -100 SP (mV) 100

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

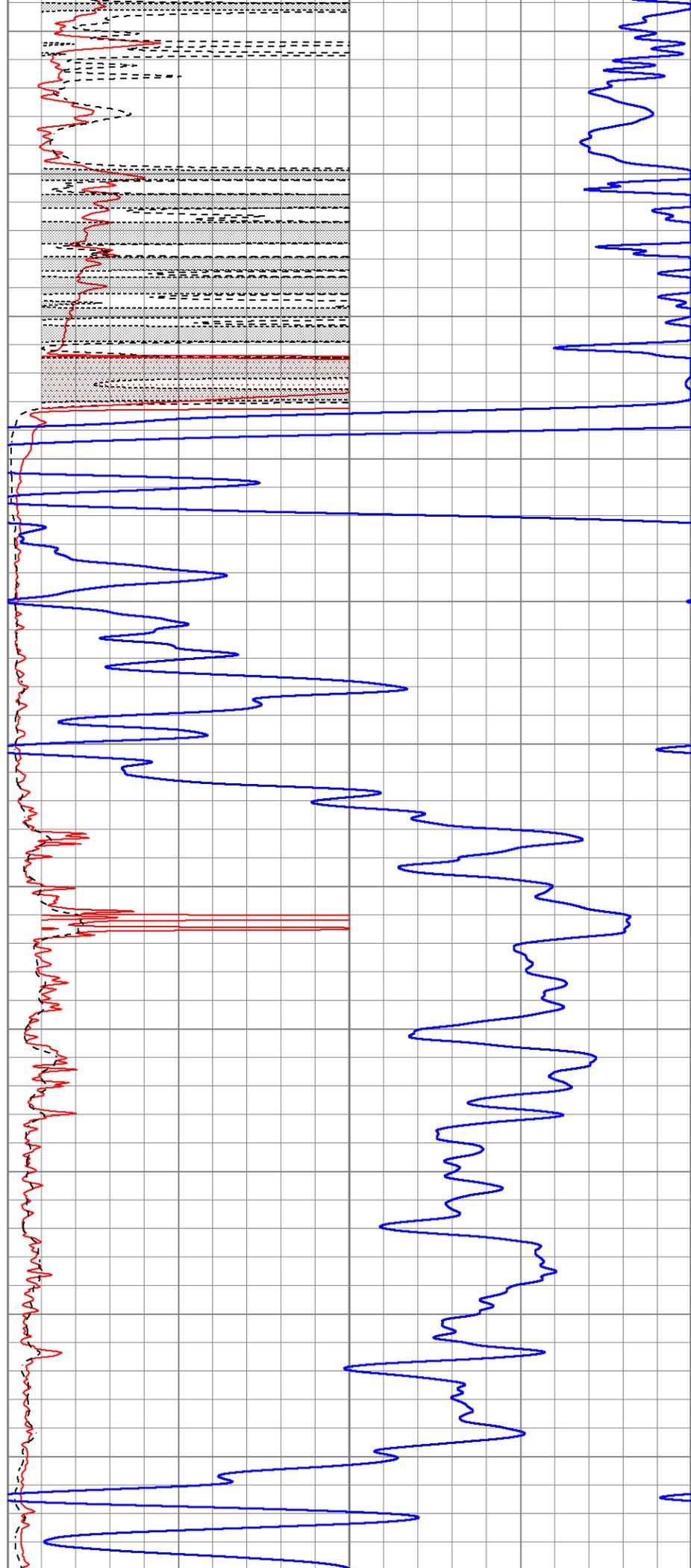


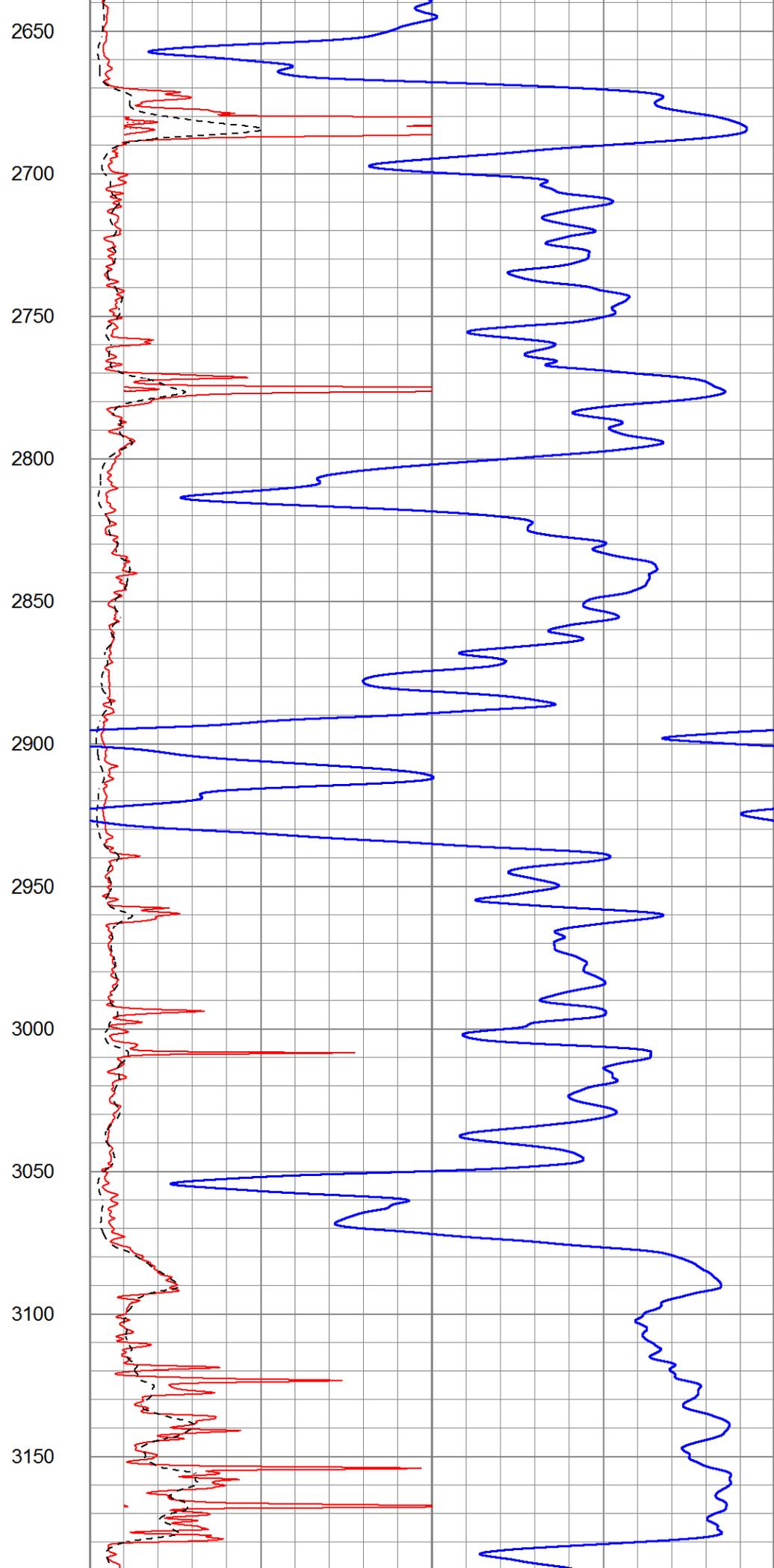
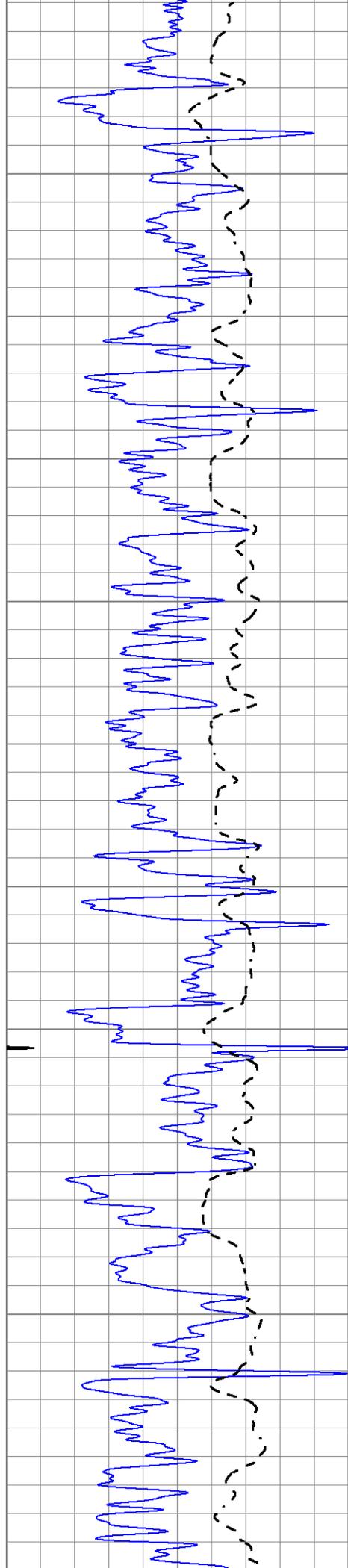


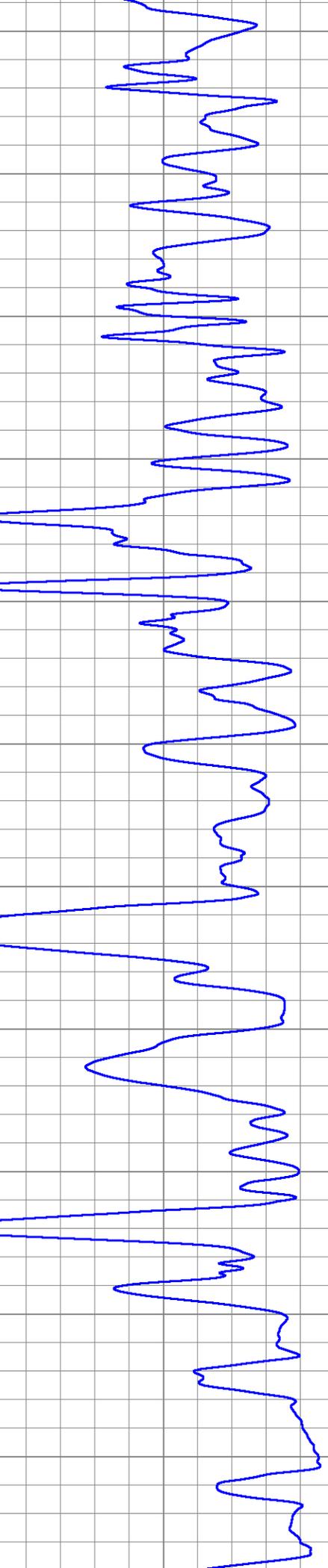
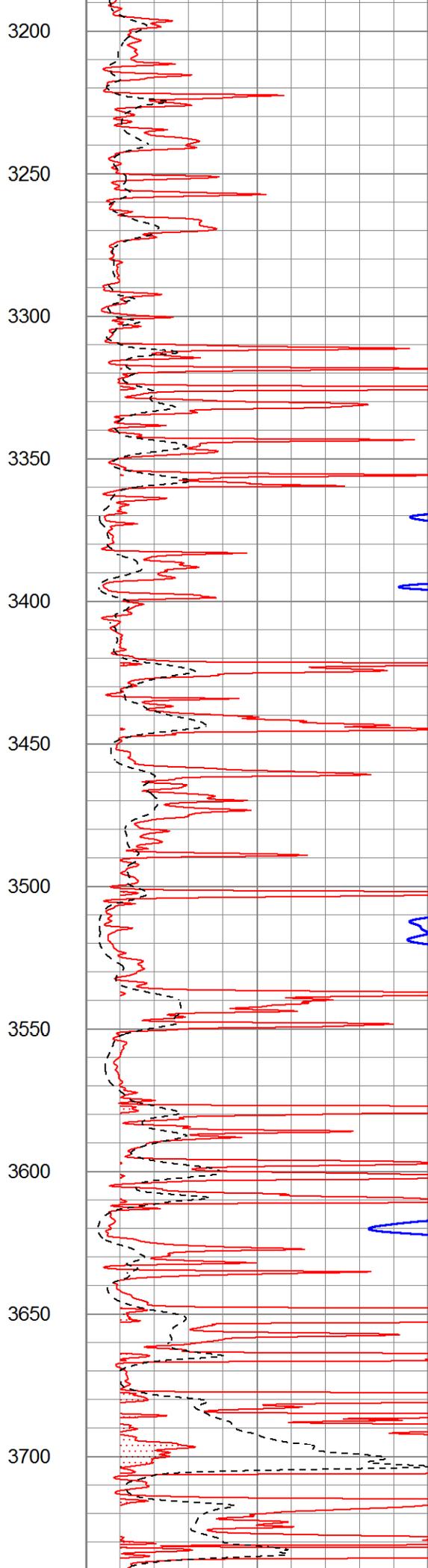
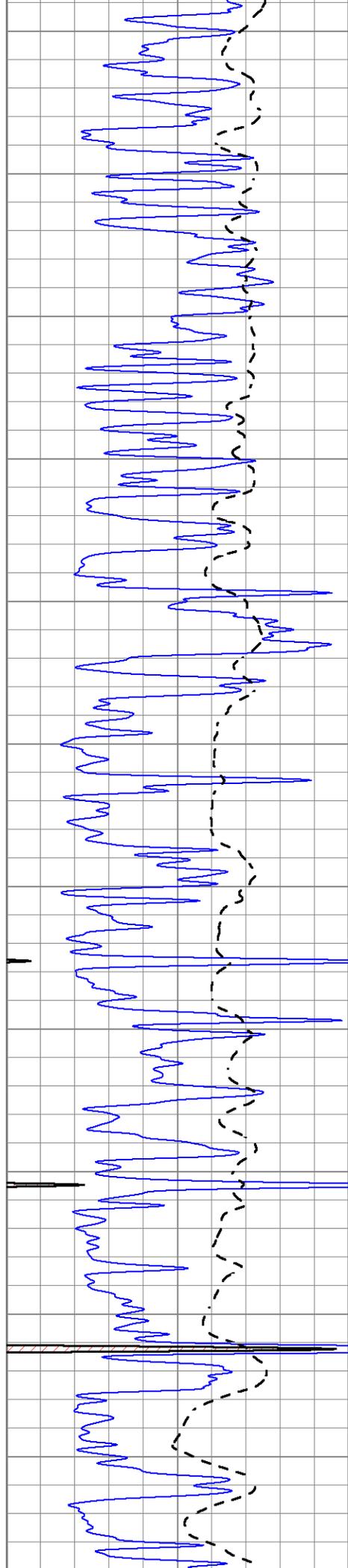


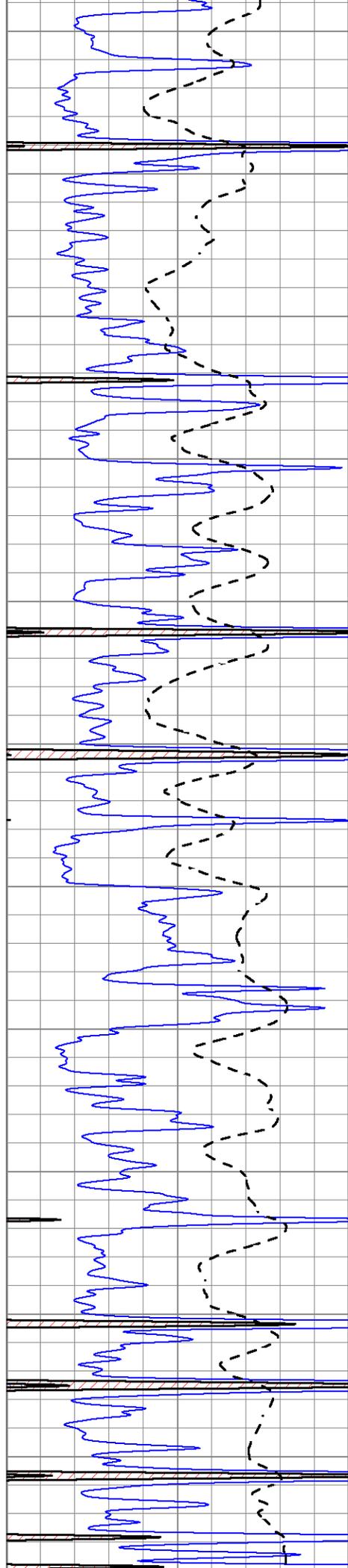


2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600

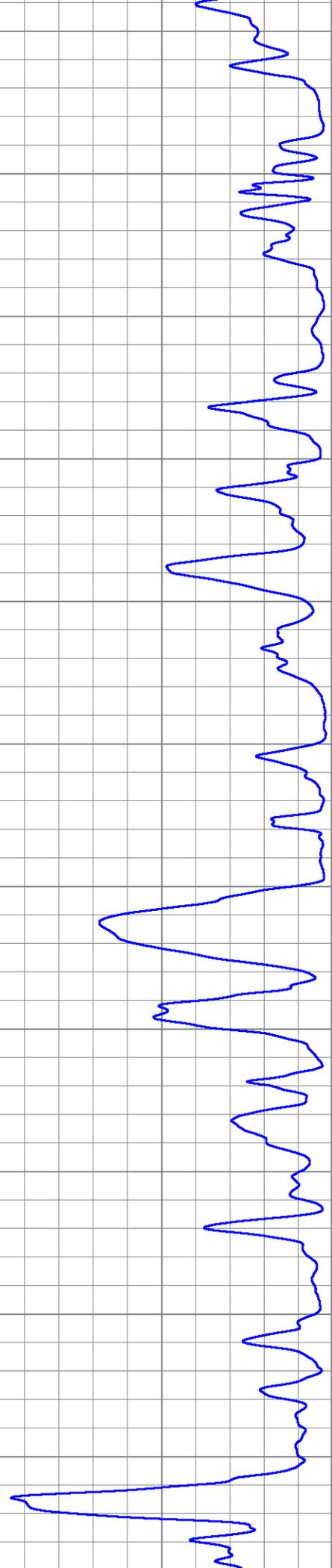
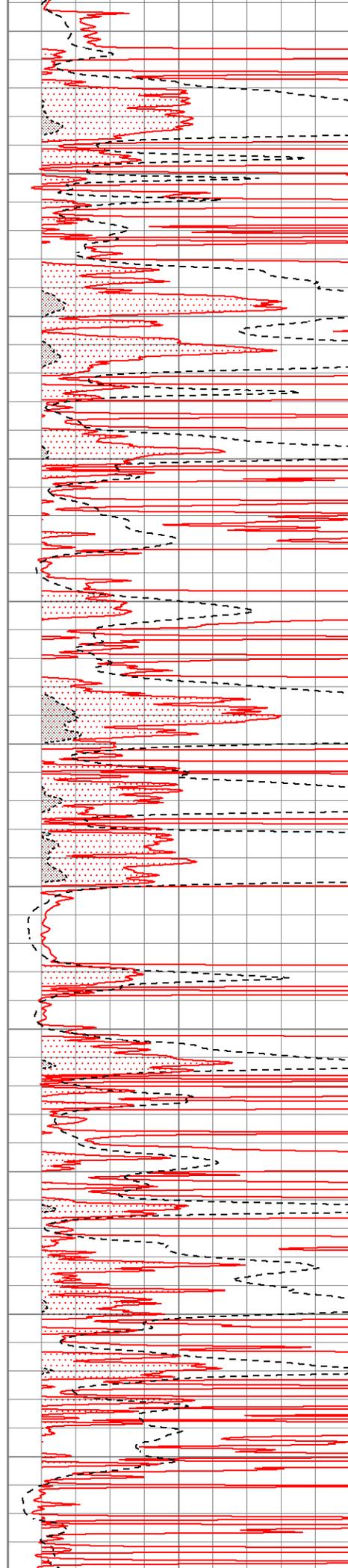


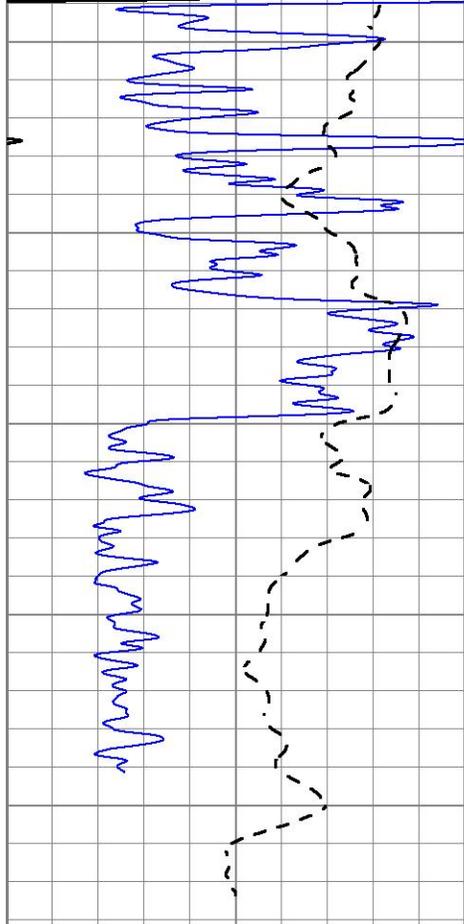




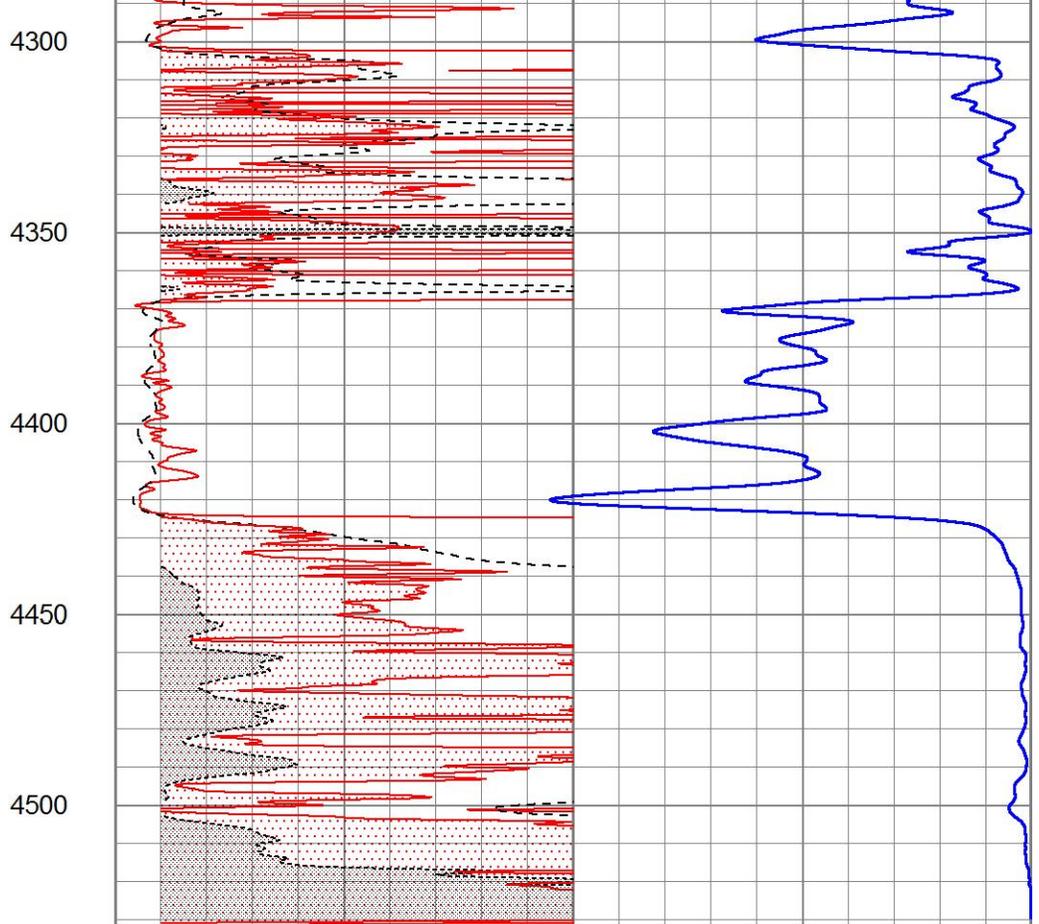


3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250





0	Gamma Ray (GAPI)	150
-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

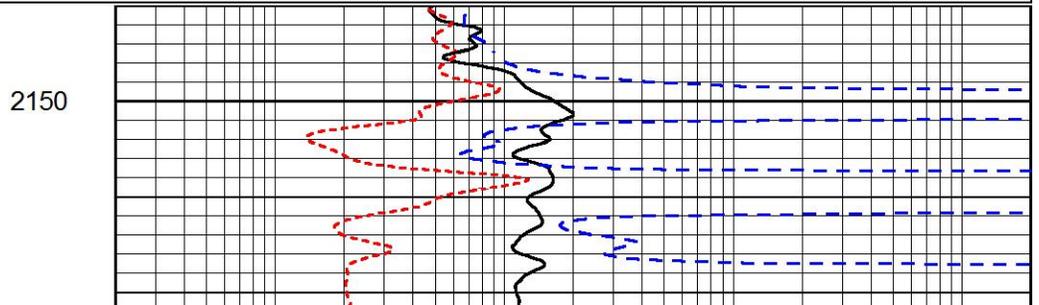
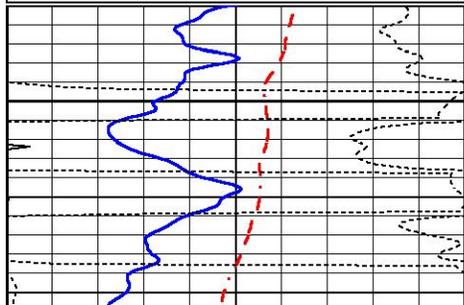


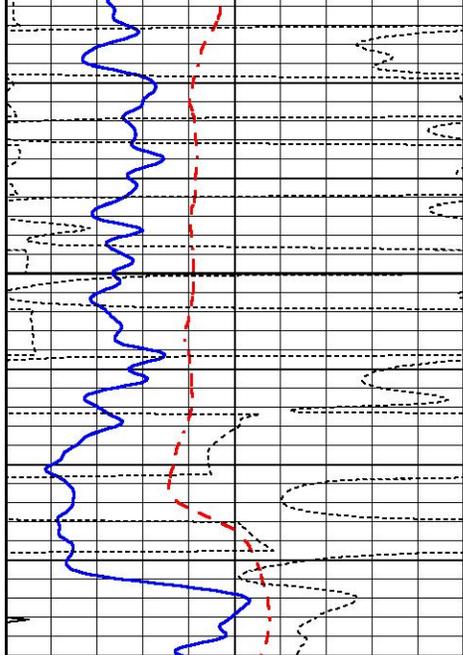
MAIN PASS

Database File 5450pe.db
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 Presentation Format _dil
 Dataset Creation Thu Jul 08 07:14:48 2021
 Charted by Depth in Feet scaled 1:240

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

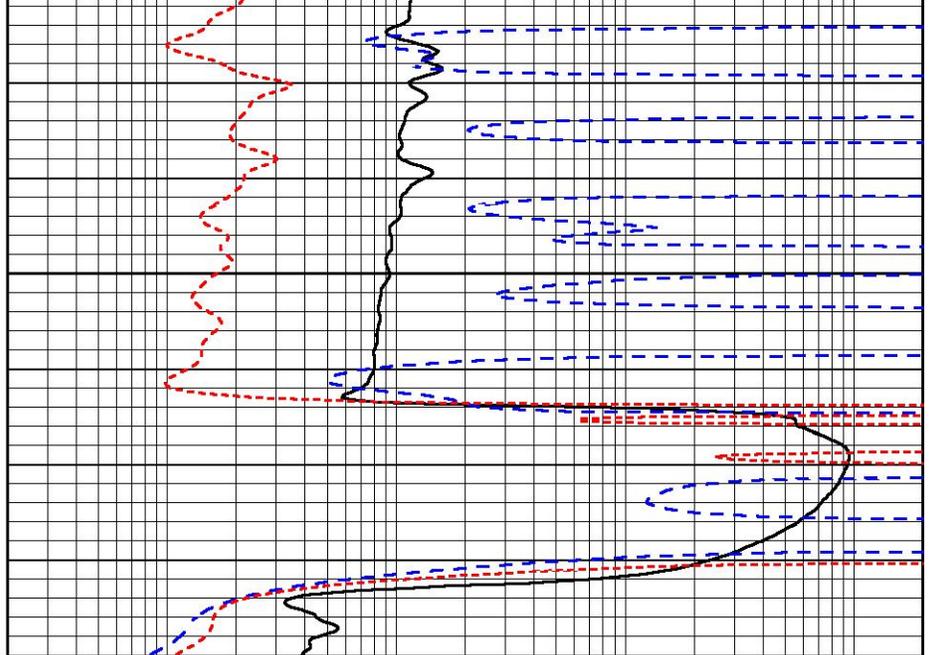
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





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

2200



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

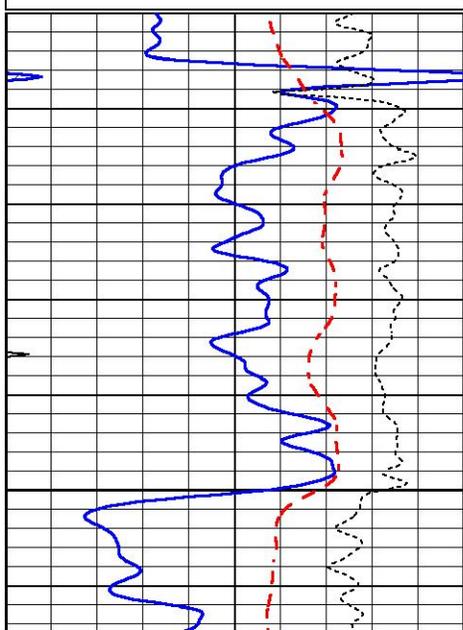


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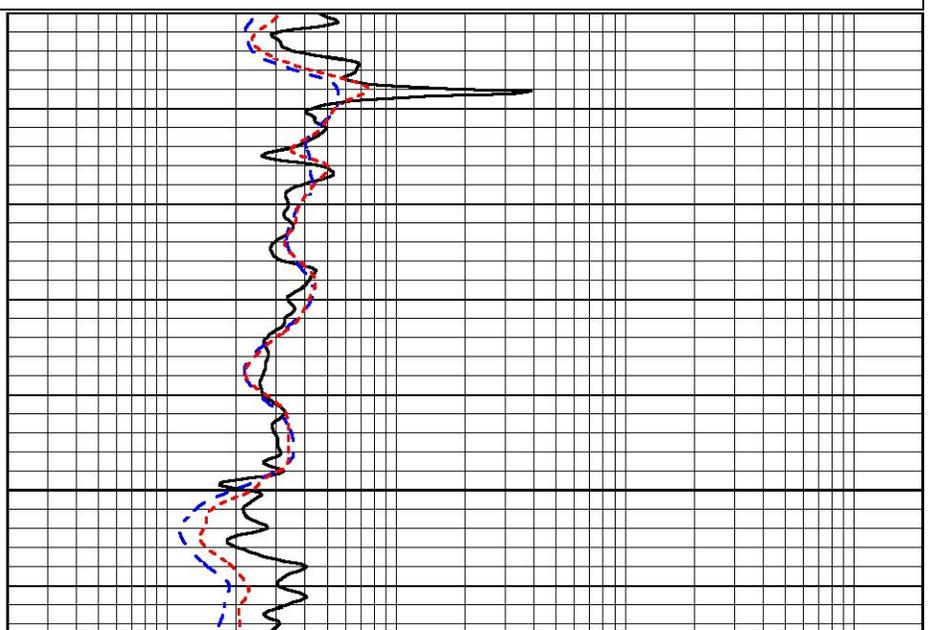
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

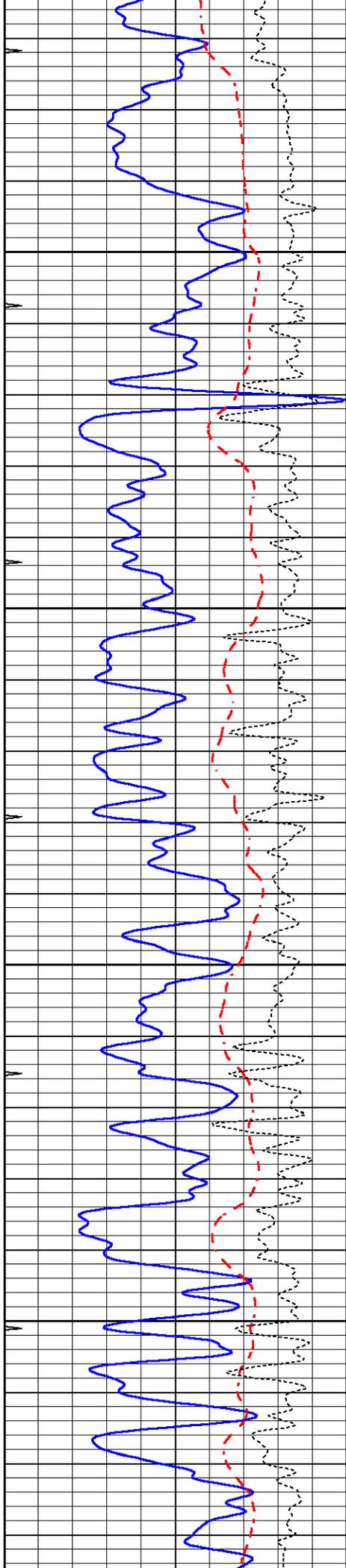
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3000

3050



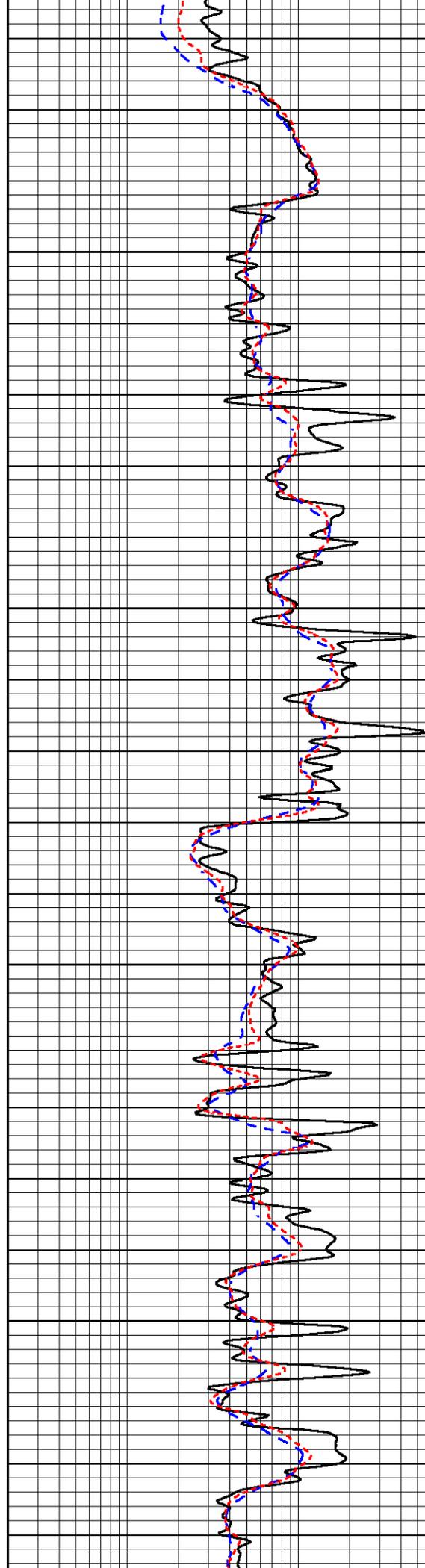


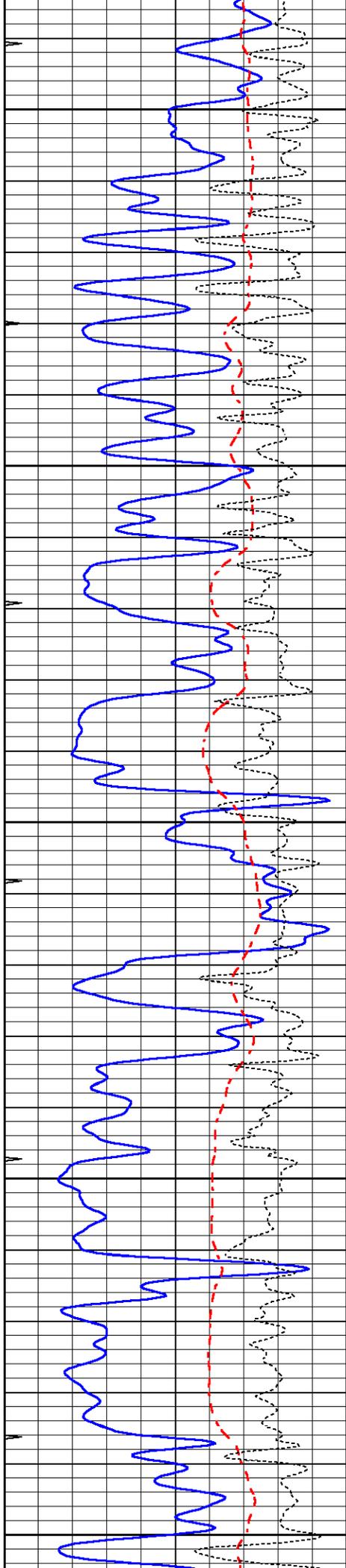
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3150

3200

3250





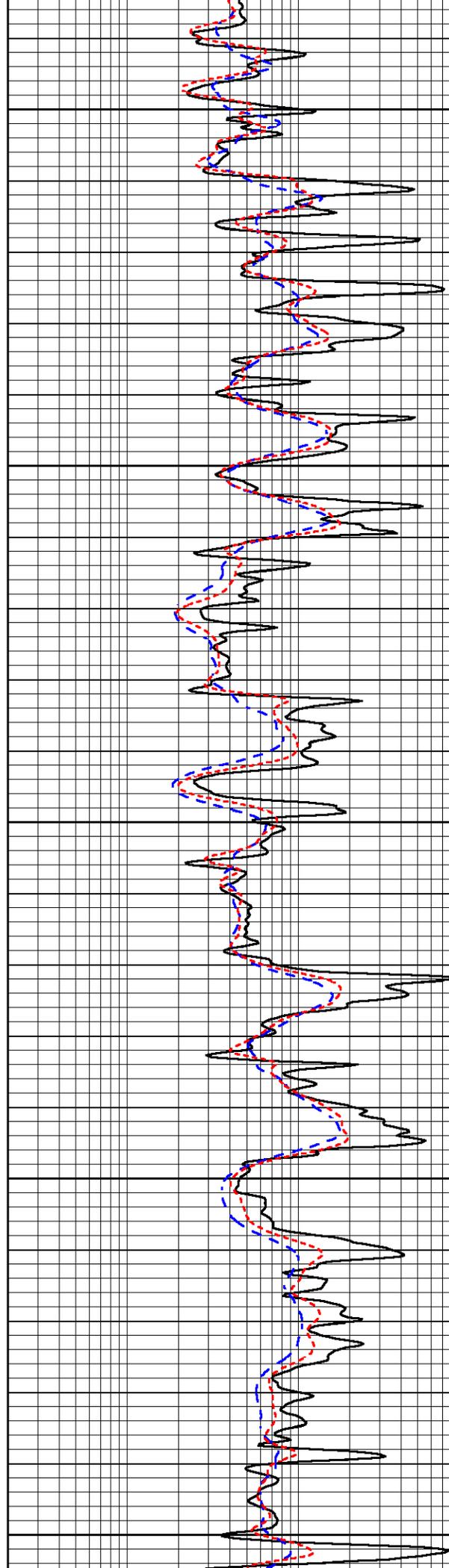
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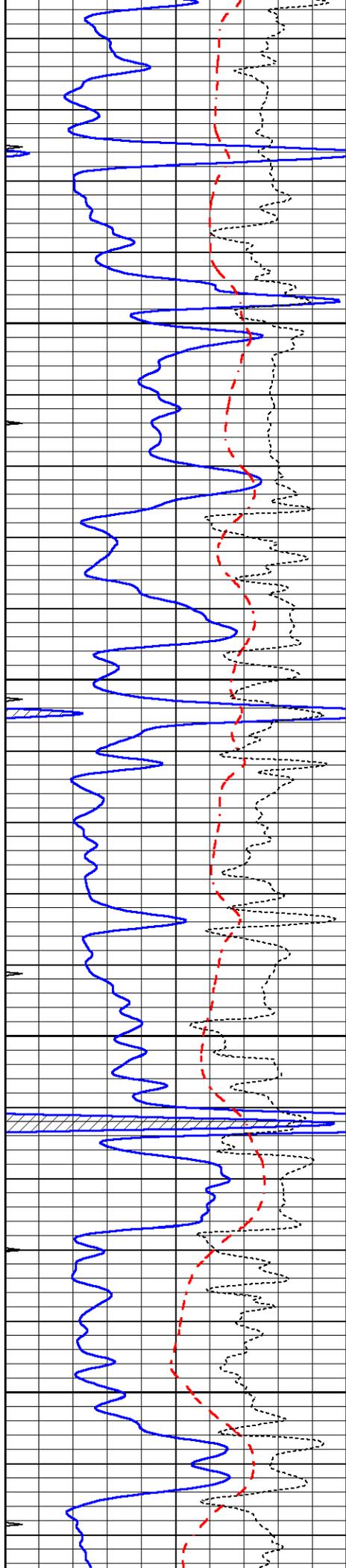
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3400

3450

3500



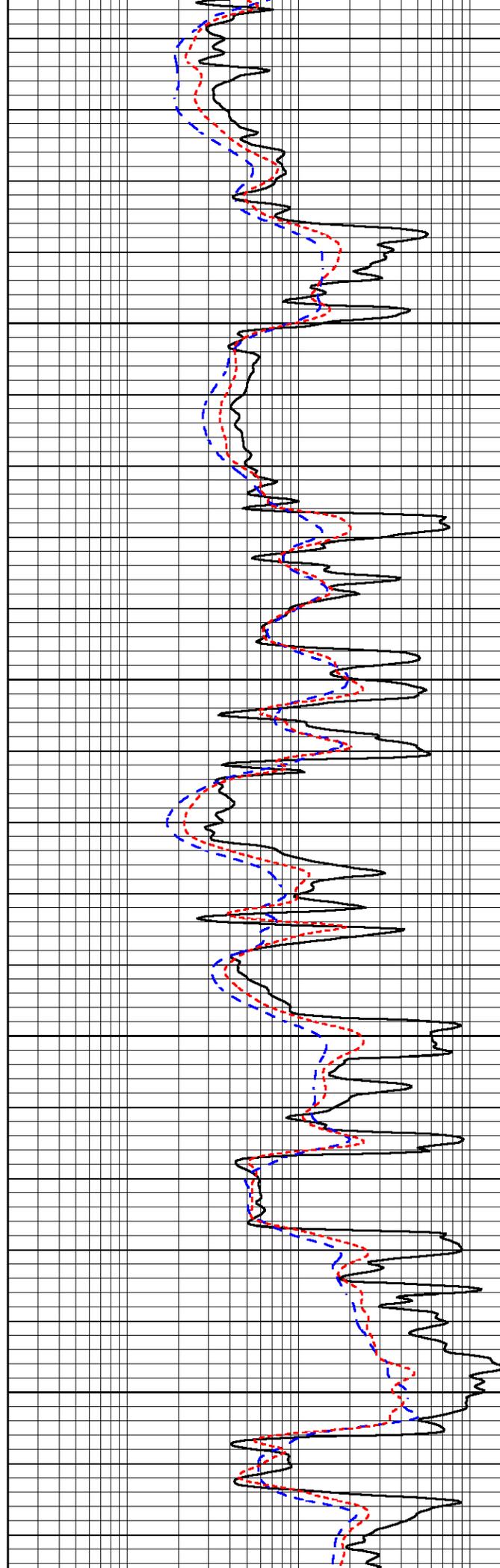


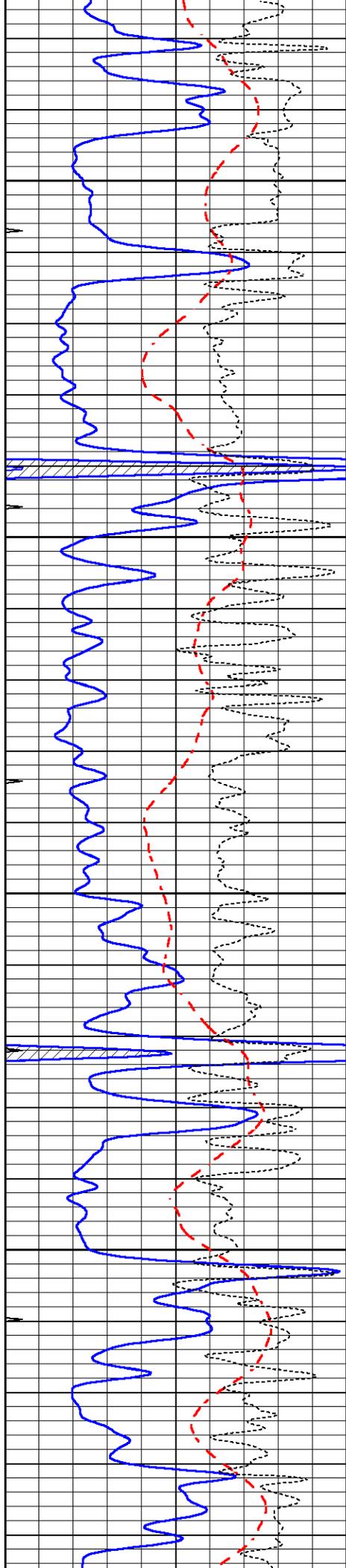
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3600

3650

3700



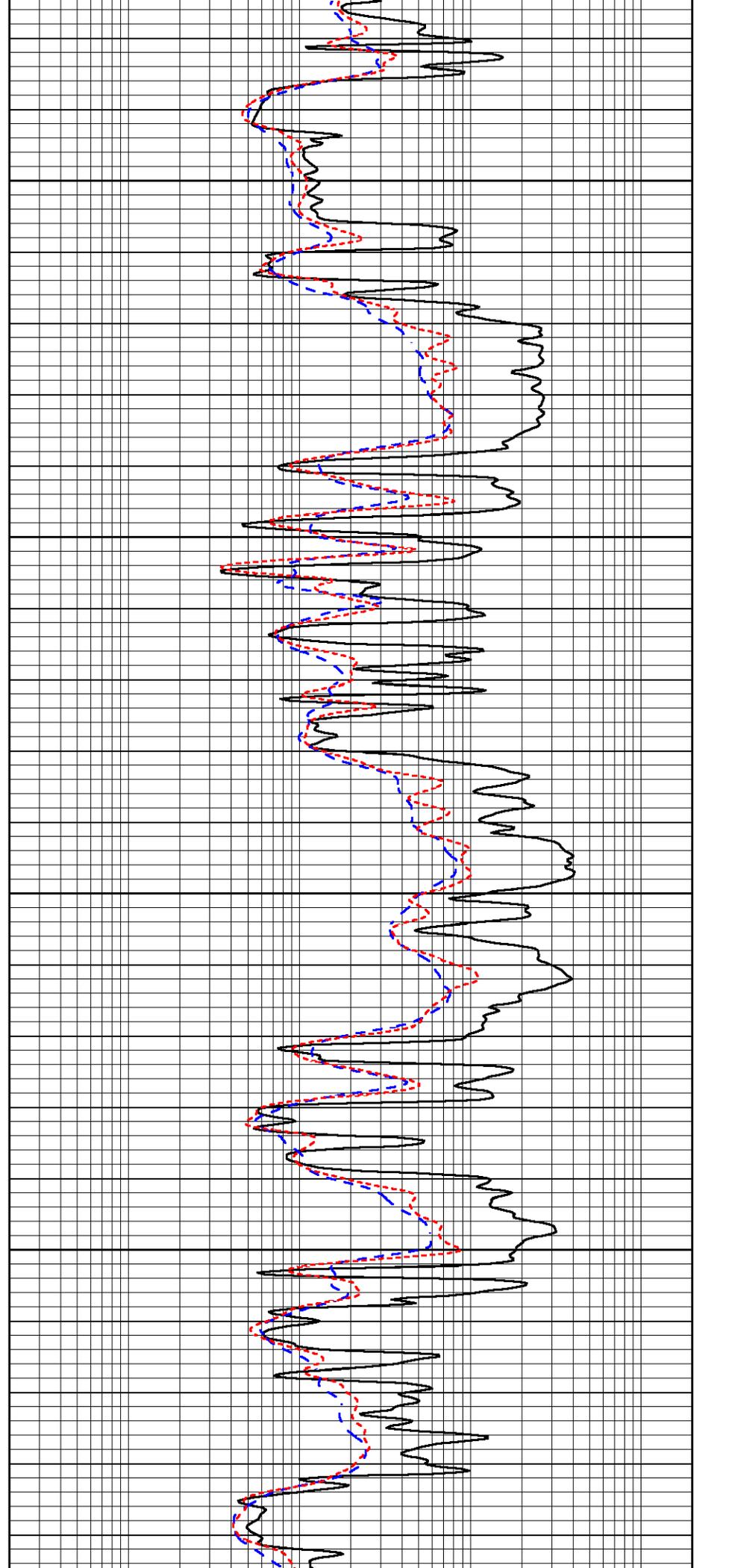


3750

3800

3850

3900

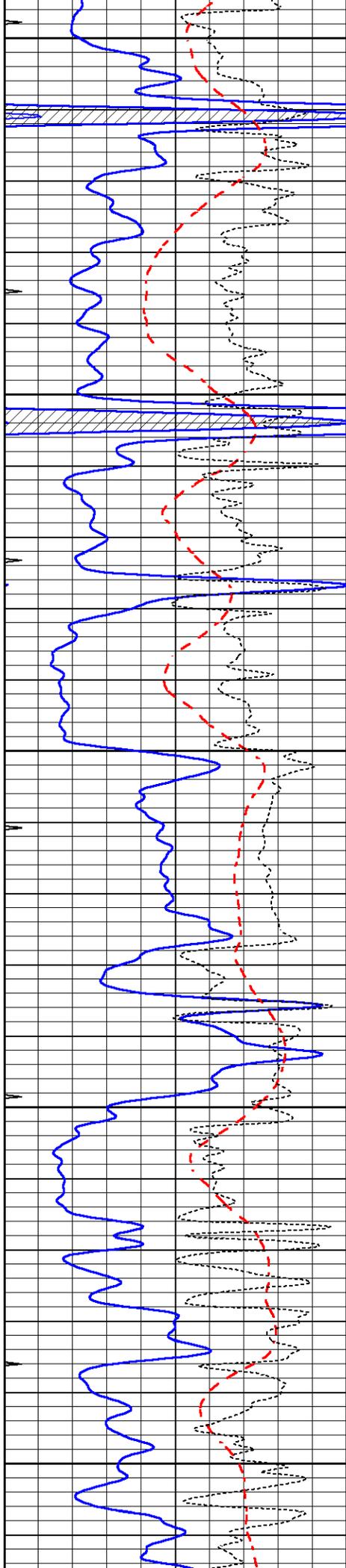


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3800

3850

3900



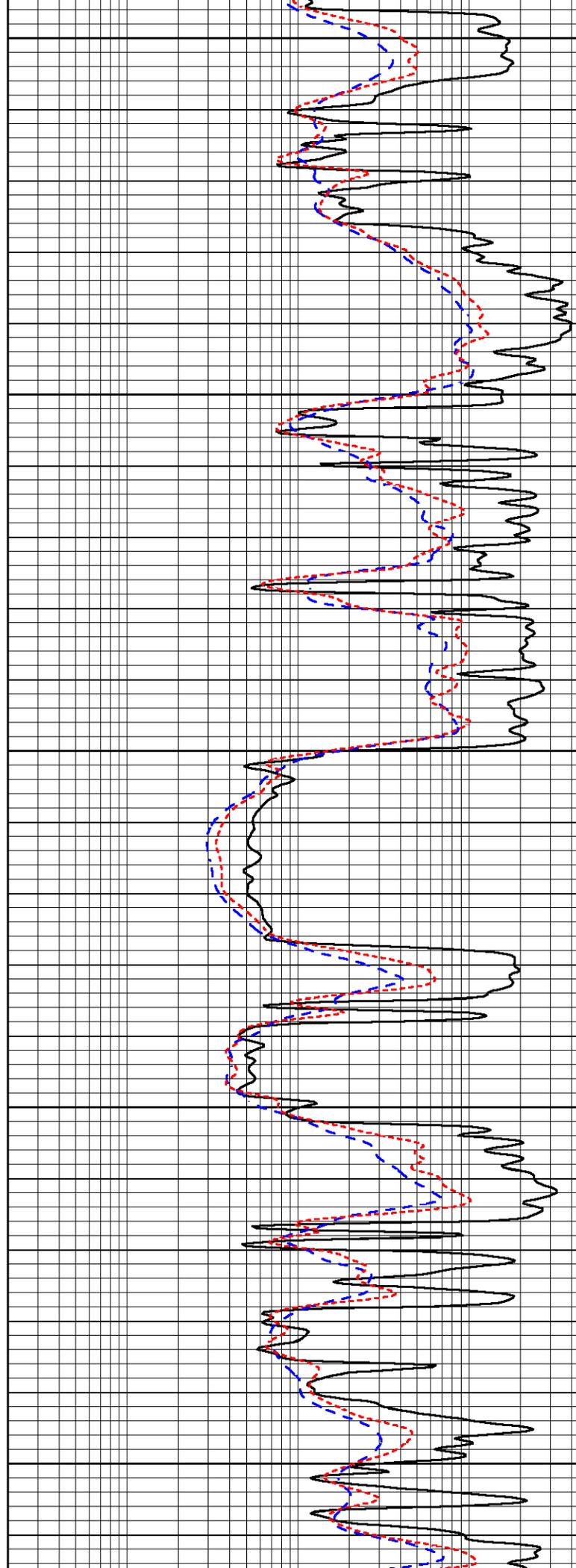
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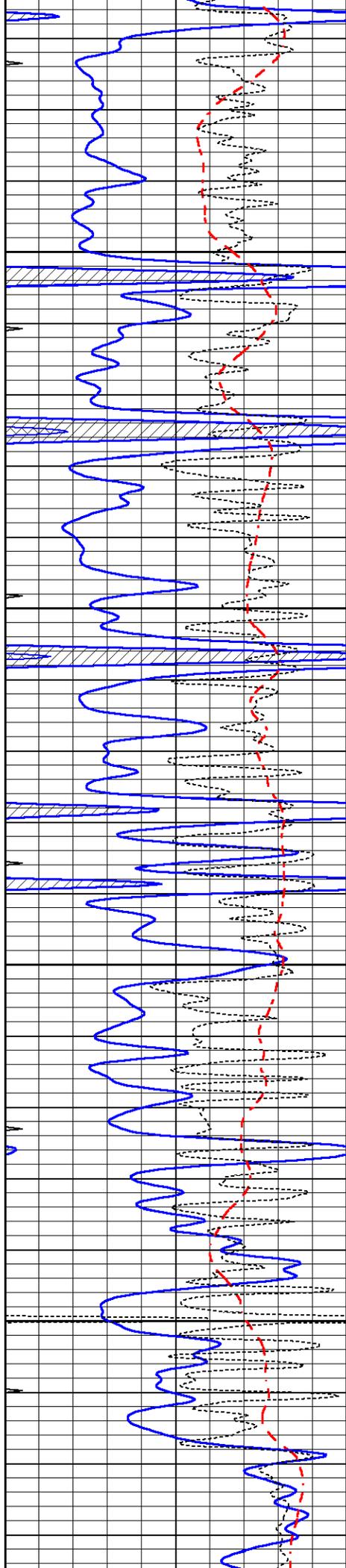
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4050

4100

4150



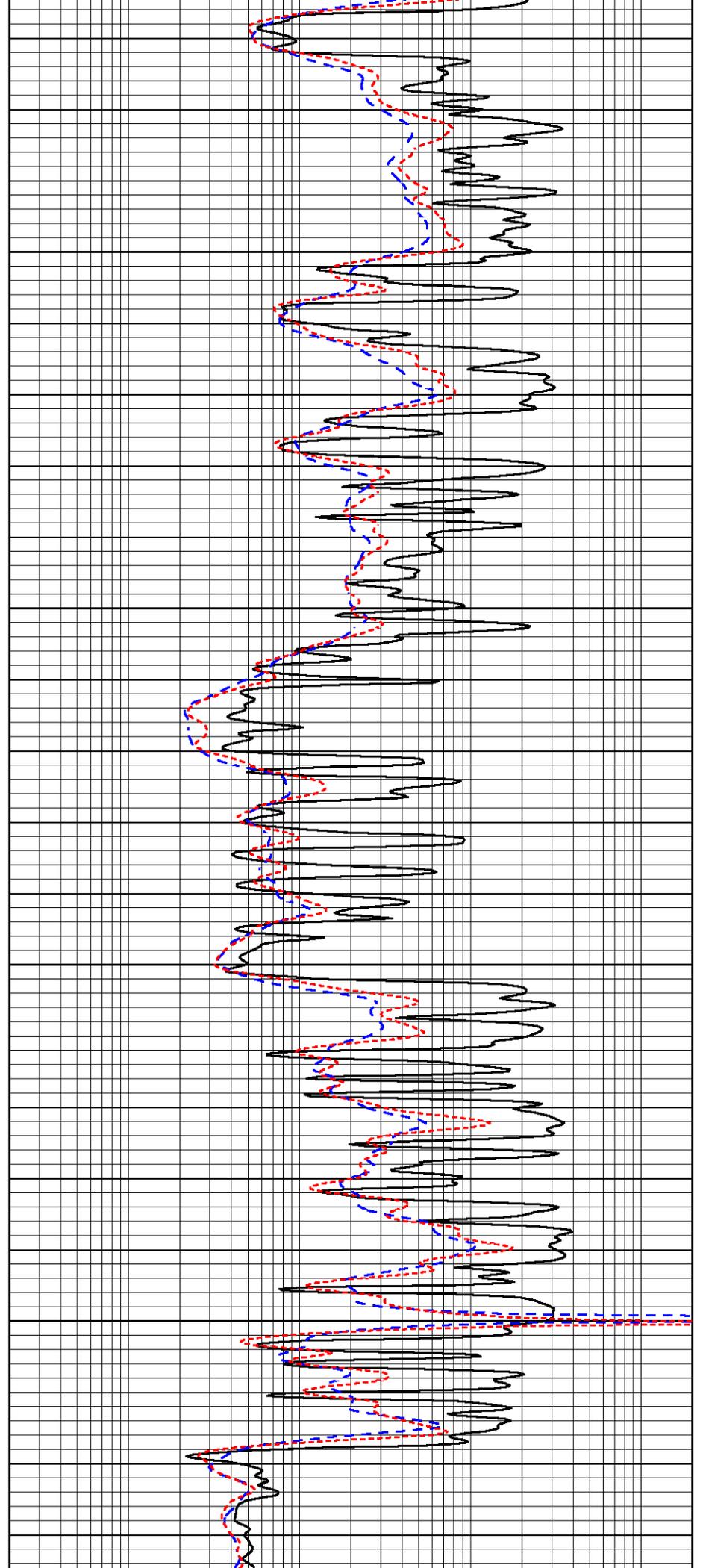


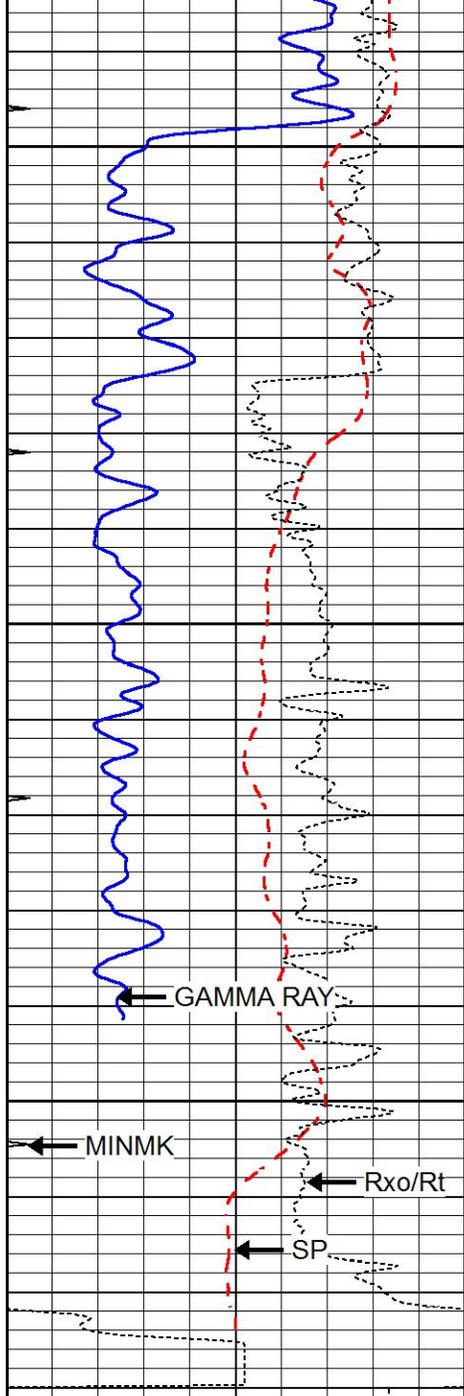
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4250

4300

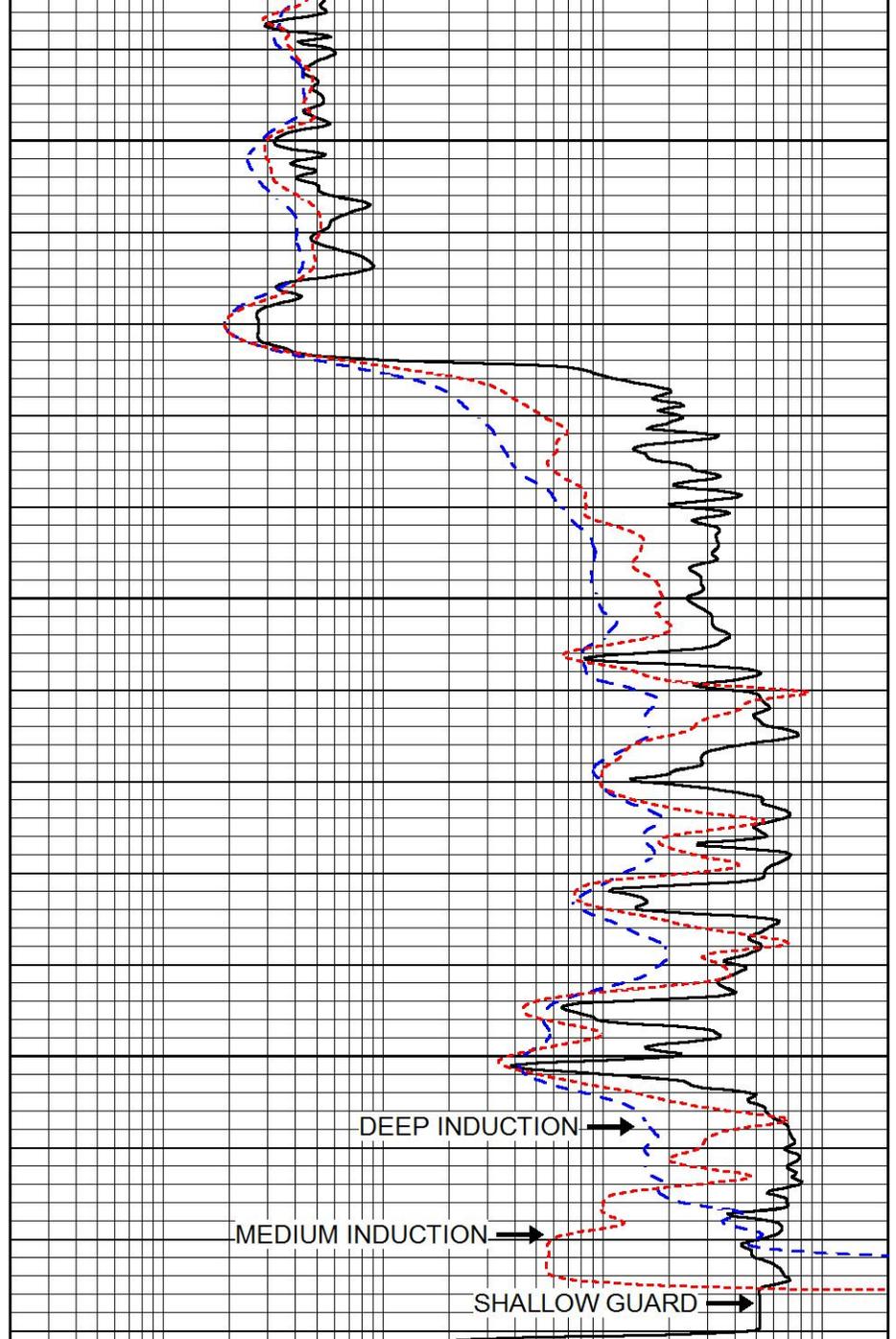
4350





4400
4450
4500
LTD 4527

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

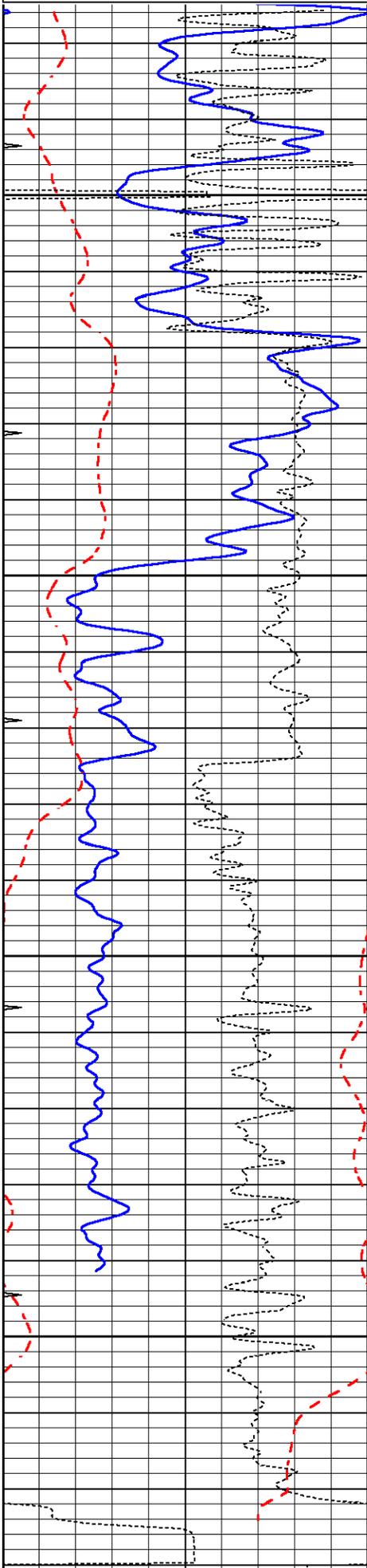
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0	GAMMA RAY (GAPI)	150
100	SP (mV)	100

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

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

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

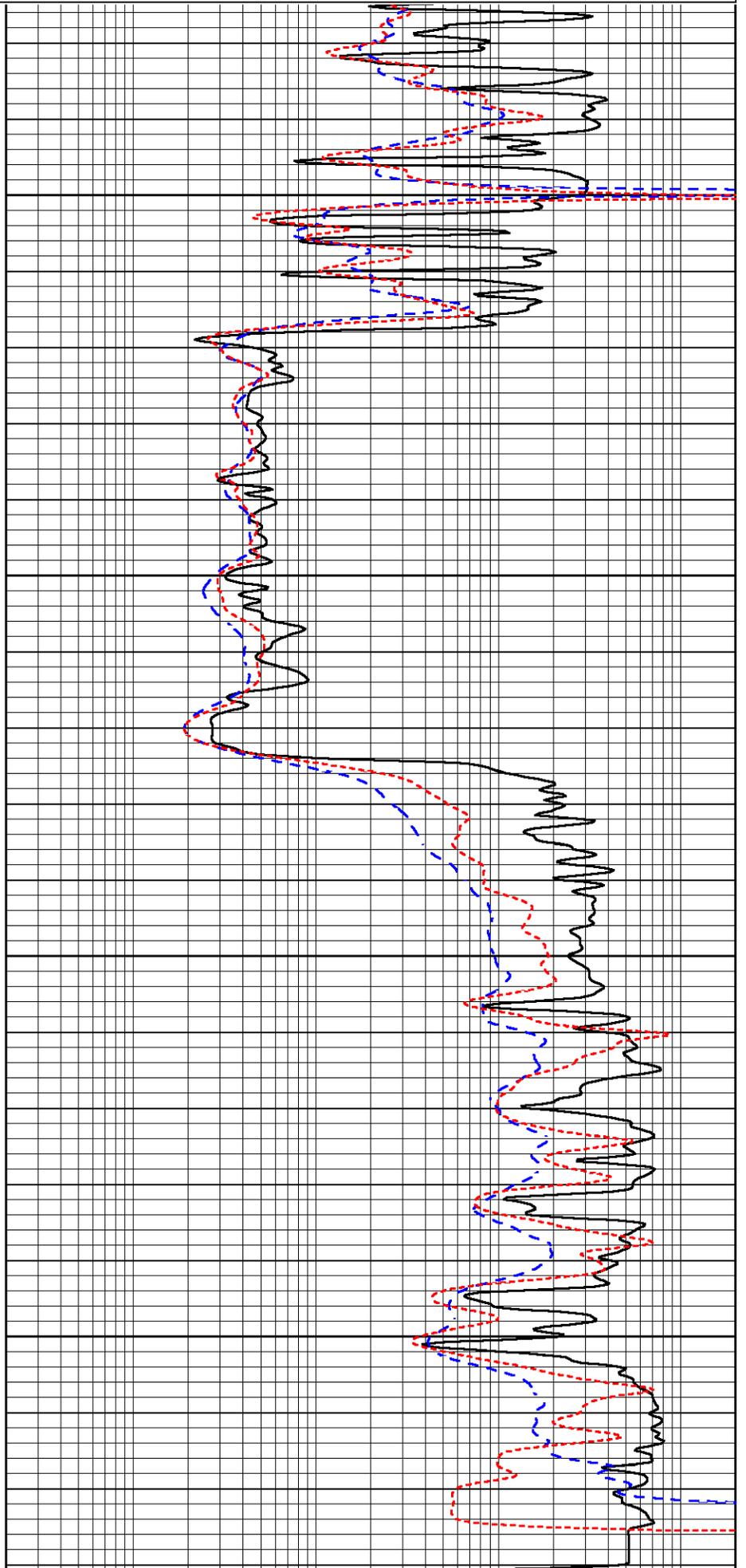


4350

4400

4450

4500



0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-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			

Calibration Report

Database File 5450pe.db
Dataset Pathname pass2RP.1
Dataset Creation Thu Jul 08 08:21:32 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			Air	Loop		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		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: 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		

1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps 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:	0.8000	GAPI/cps