DUAL INDUCTION LOG

Company L.D. DRILLING. INC.
Well MALCOLM #3-16
Field SAND PIT
County HODGEMAN State KANSAS

Location: API # : 15-083-21982-0000

845' FSL & 2310' FWL

SEC 16 TWP 21S RGE 23W

Other Services
CDL/CNL
ML

Elevation
K.B. 2390
D.F. 2388
G.L. 2385

Permanent Datum GROUND LEVEL Elevation 2385
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Company L.D. DRILLING. INC.
Well MALCOLM #3-16
Field SAND PIT
County HODGEMAN
State KANSAS

Date	04/09/21		
Run Number	ONE		
Depth Driller	4740		
Depth Logger	4740		
Bottom Logged Interval	4738		
Top Log Interval	00		
Casing Driller	8 5/8" @ 261		
Casing Logger	261		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.5/47		
pH / Fluid Loss	10.5/12.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.75@ 60F		
Rmf @ Meas. Temp	.56@ 60F		
Rmc @ Meas. Temp	.90 @ 60F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.37@ 123F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	////		
Maximum Recorded Temperature	123F		
Equipment Number	1523		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	KIM SHOEMAKER		

<<< Fold Here >>>

Comments

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

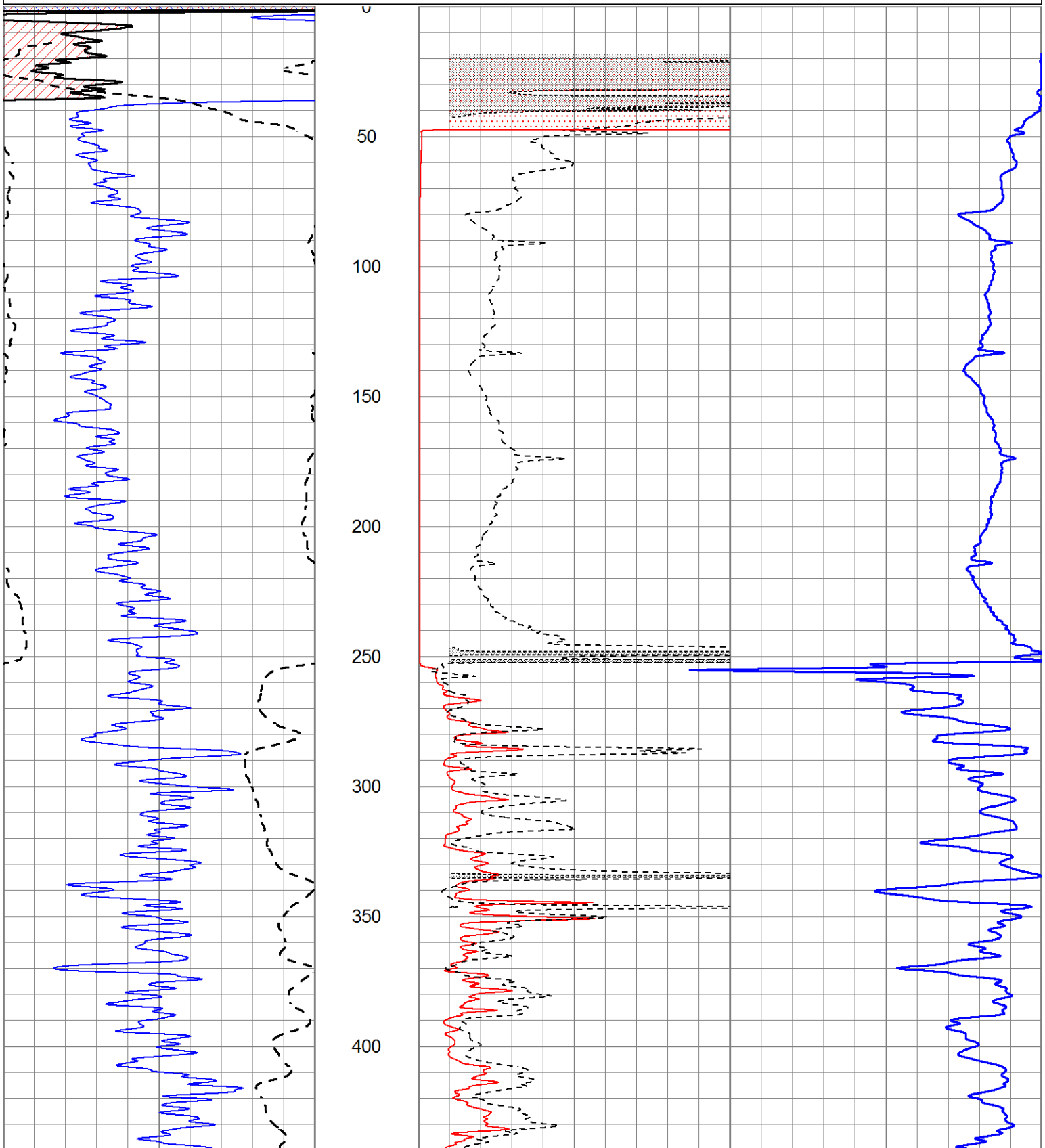
DIRECTIONS: NESS CITY SOUTH TO COUNTY LINE TO V RD.
2 1/4 EAST, NORTH INTO.

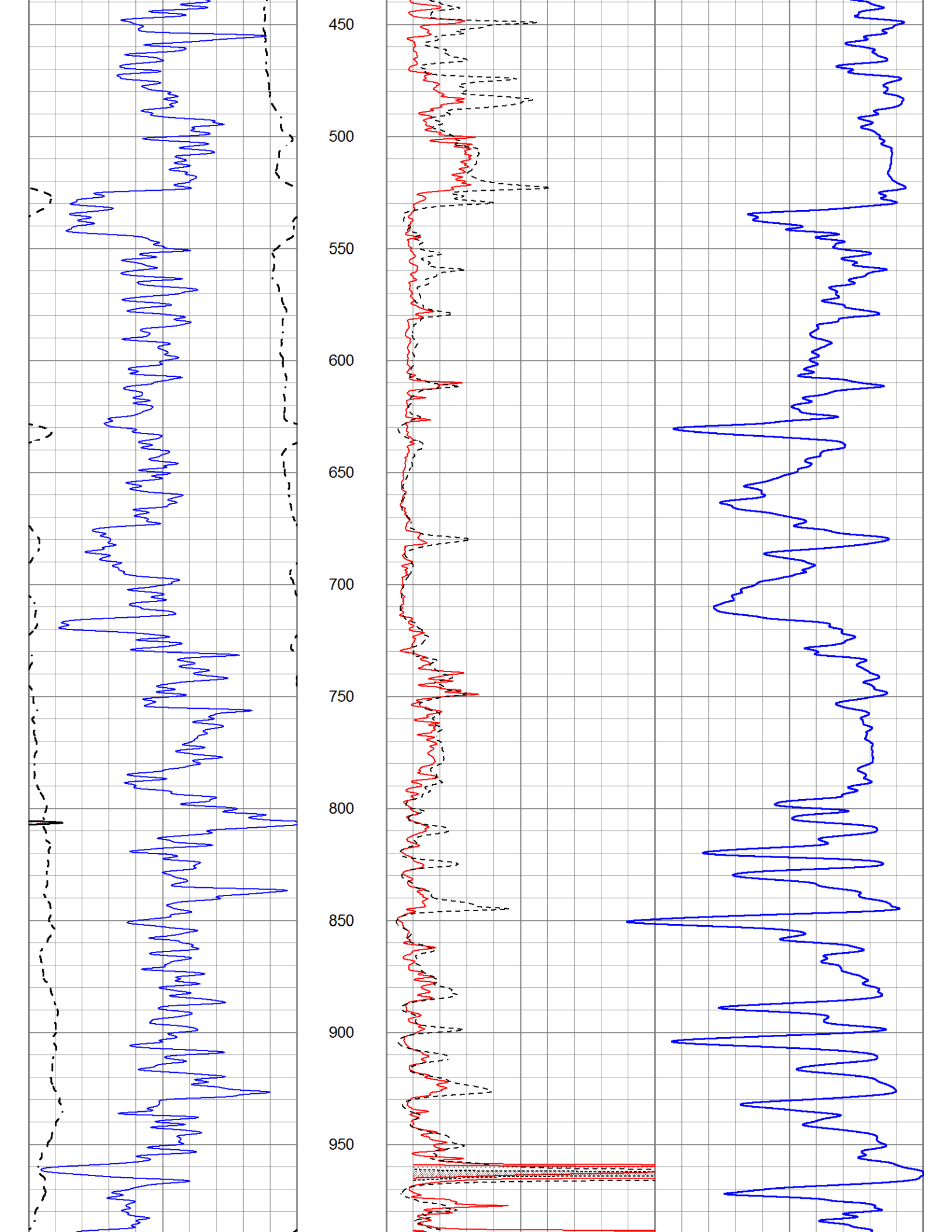
MAIN PASS

Database File	5428ddn.db
Dataset Pathname	pass3.1
Presentation Format	_dil2
Dataset Creation	Fri Apr 09 07:43:52 2021
Charted by	Depth in Feet scaled 1:600

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

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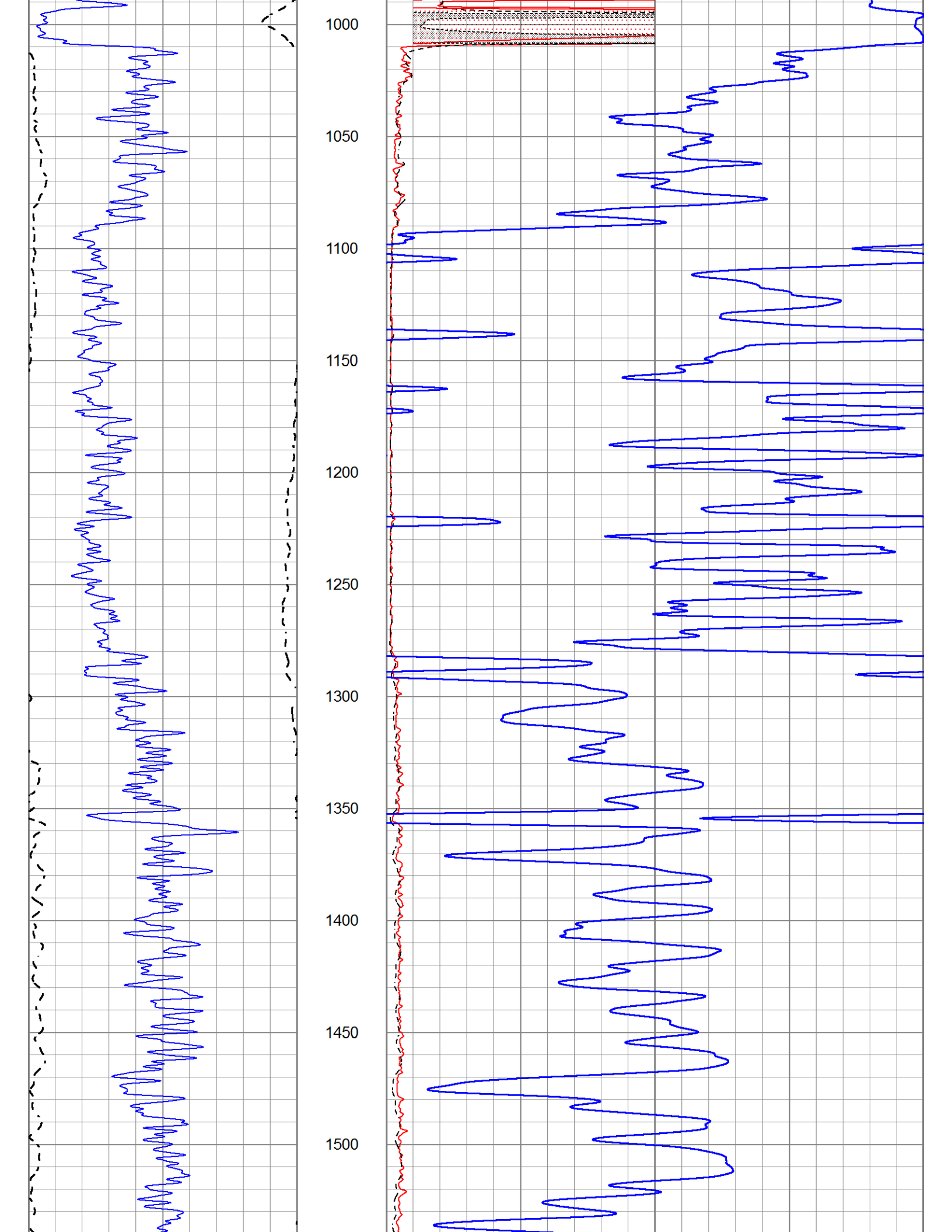
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1200
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1300
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1450
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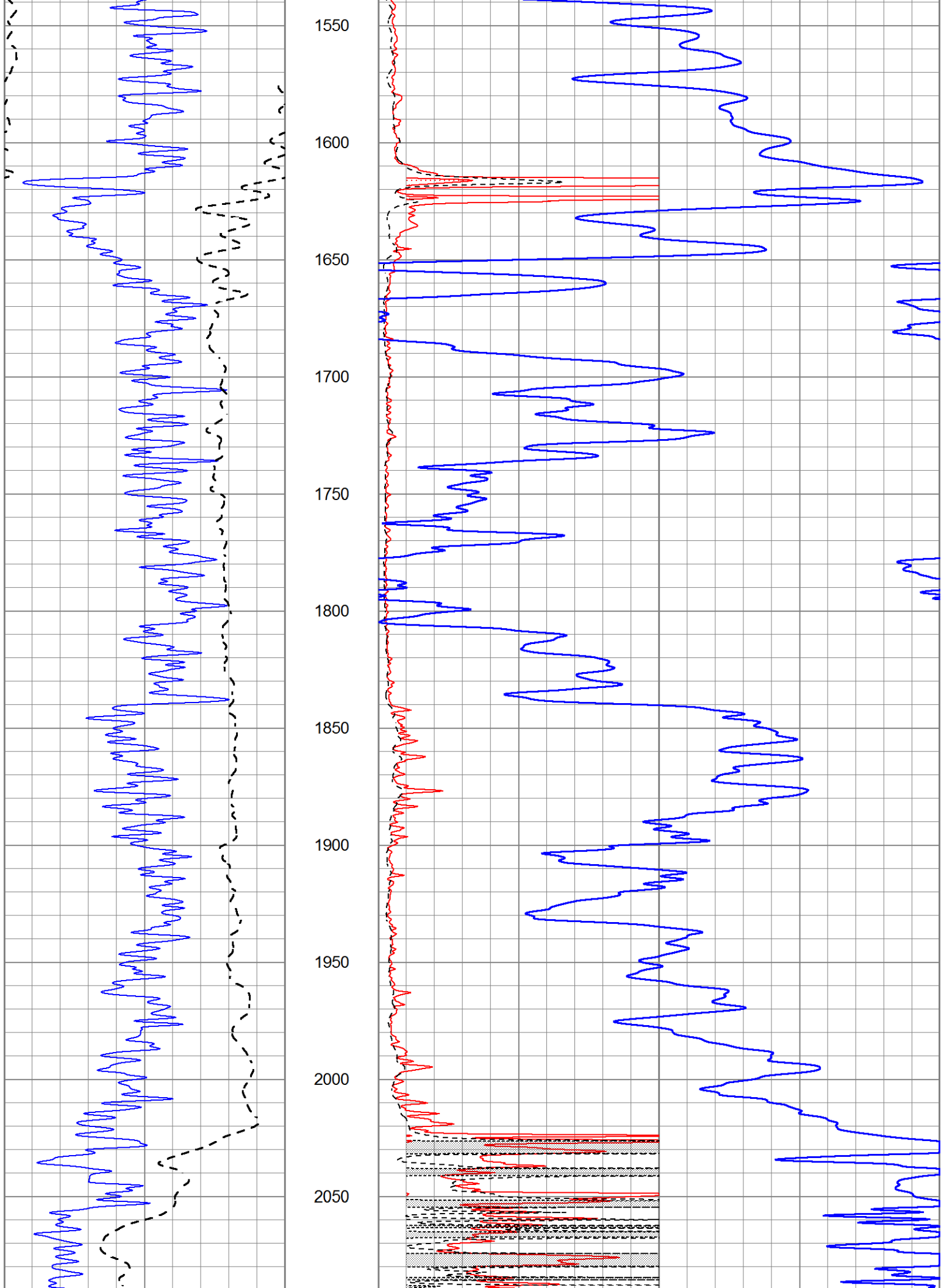
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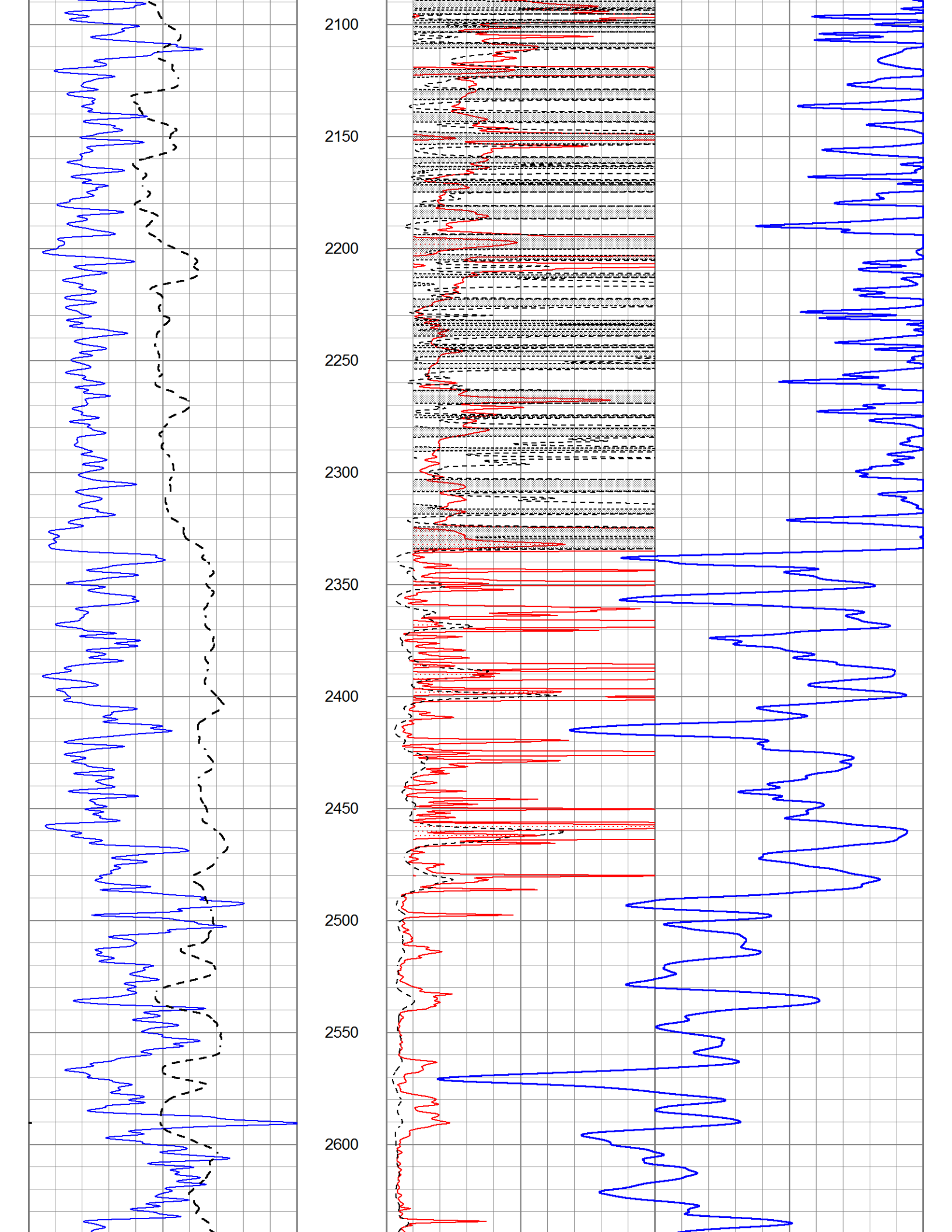
1800
1850
1900
1950
2000
2050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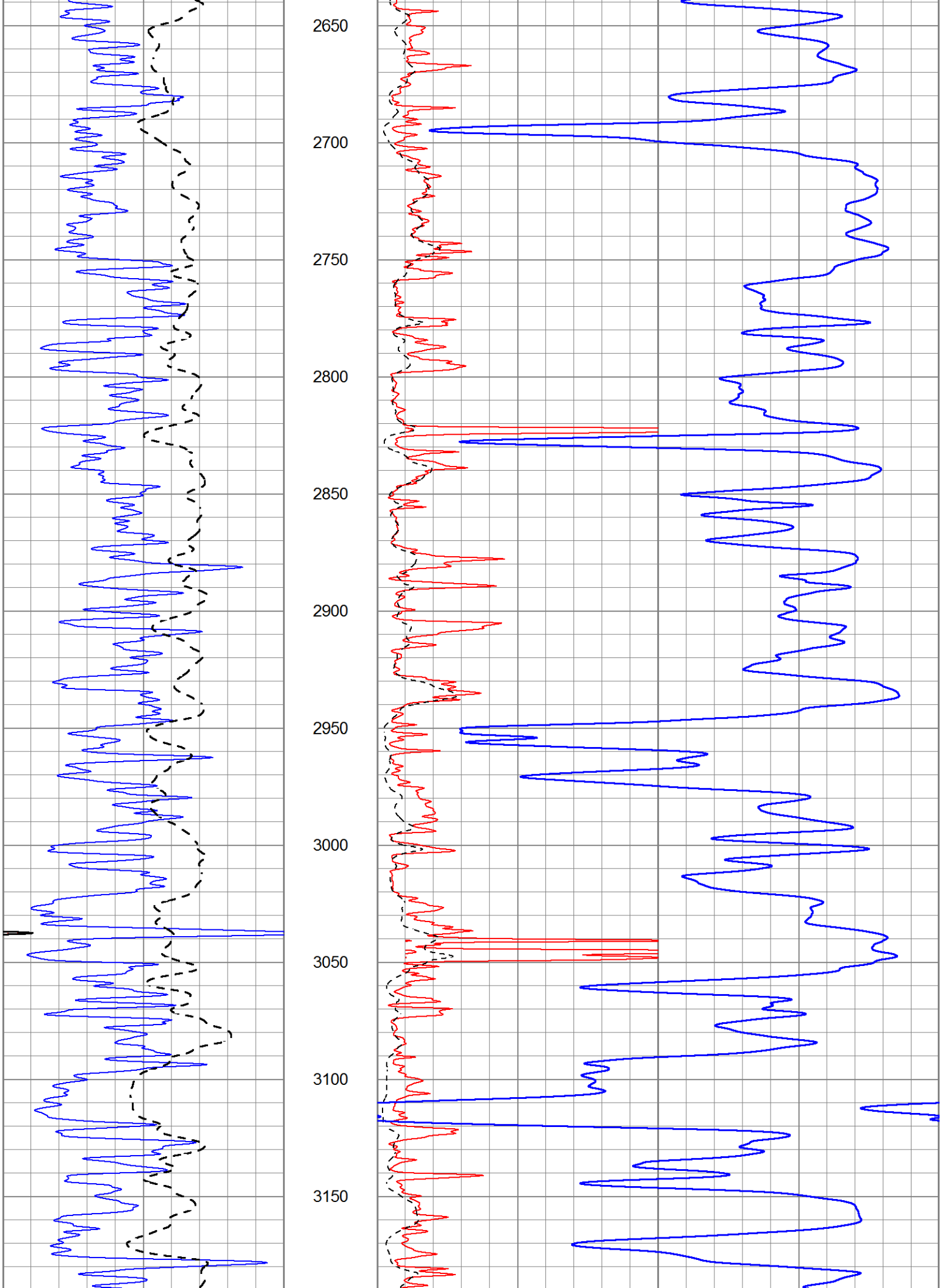
2400
2450
2500
2550
2600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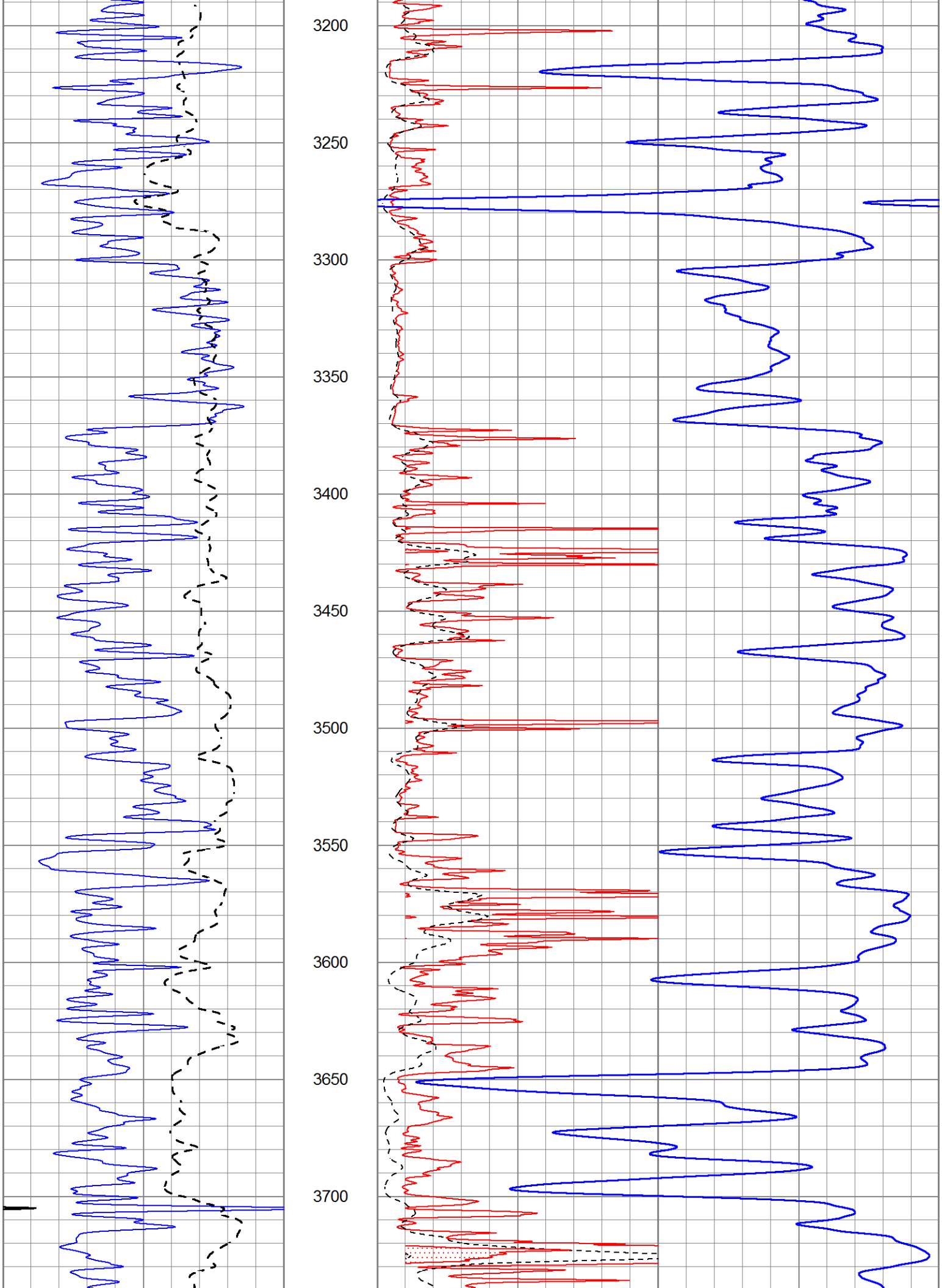
3150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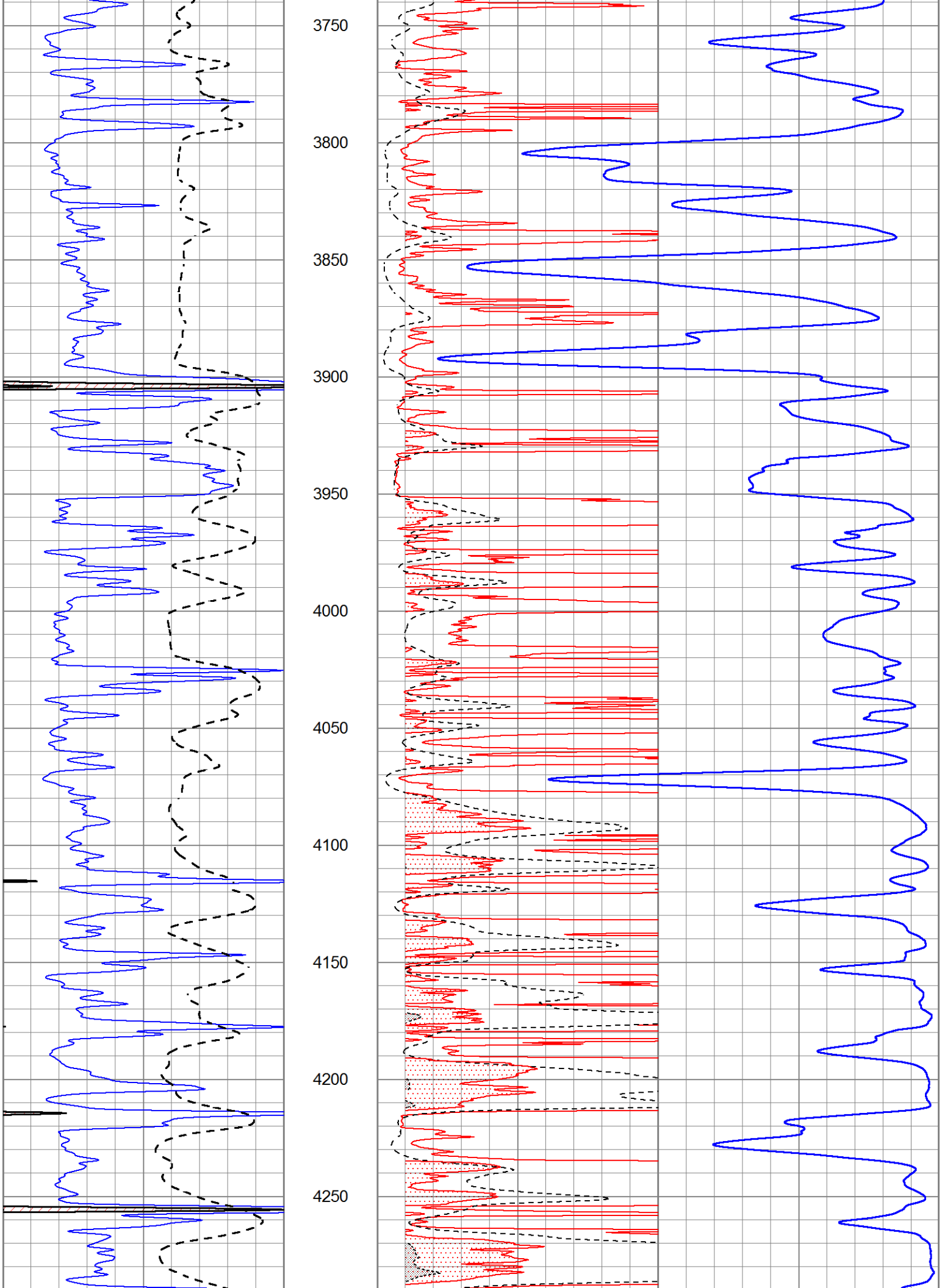
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4050
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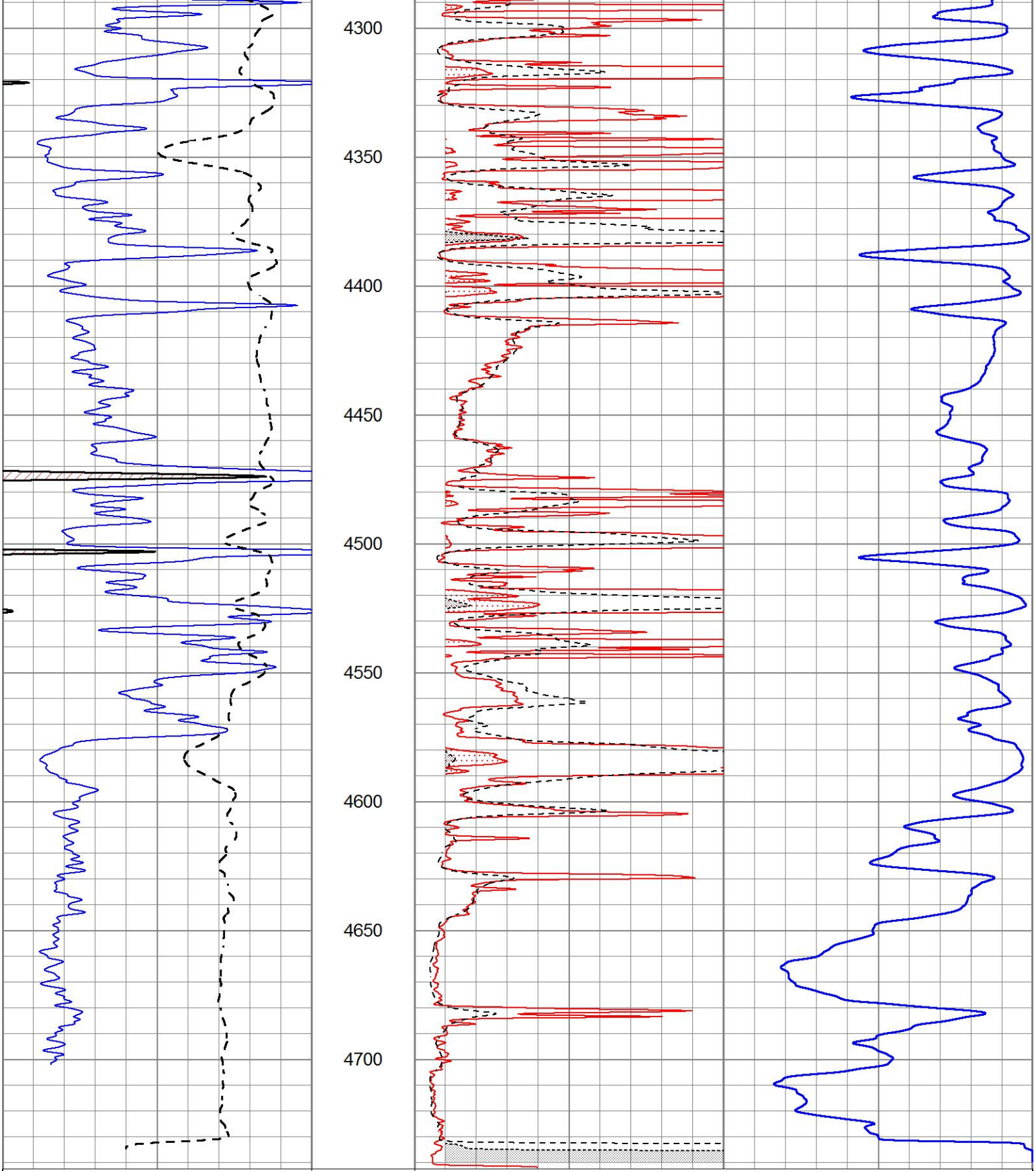
4150
4200
4250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4350
4400
4450
4500
4550
4600
4650
4700
0 Gamma Ray (GAPI) 150
-100 SP (mV) 100
1000 CILD (mmho/m) 0
0 RLL3 (Ohm-m) 50
0 RILD (Ohm-m) 50
50 RILD X10 (Ohm-m) 500
50 RLL3 X10 (Ohm-m) 500

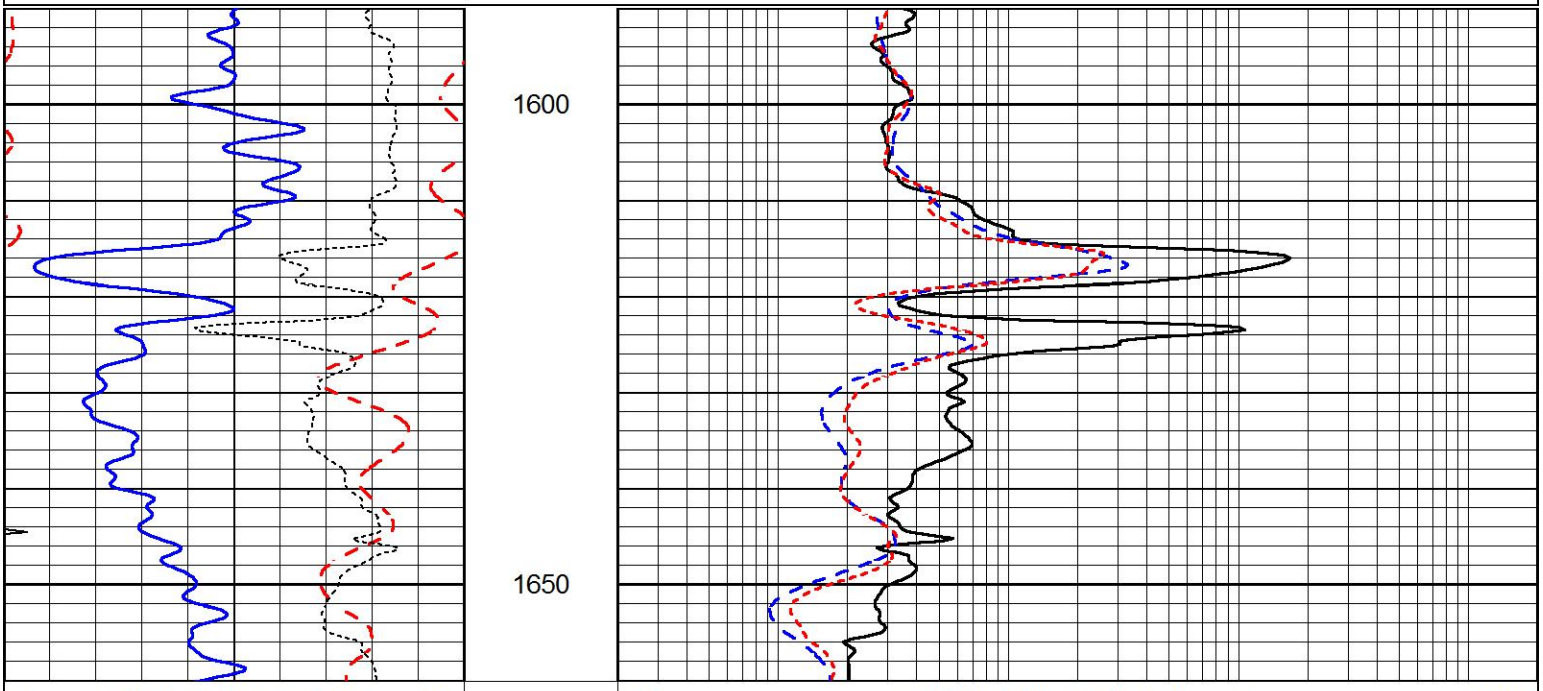
MAIN PASS

MAIN PASS

Database File	5428ddn.db
Dataset Pathname	pass3.1
Presentation Format	_dil
Dataset Creation	Fri Apr 09 07:43:52 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

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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Dataset Pathname	pass3.1
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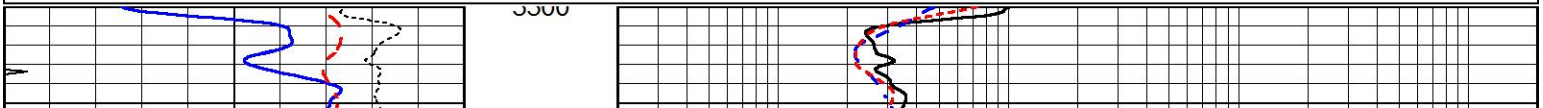
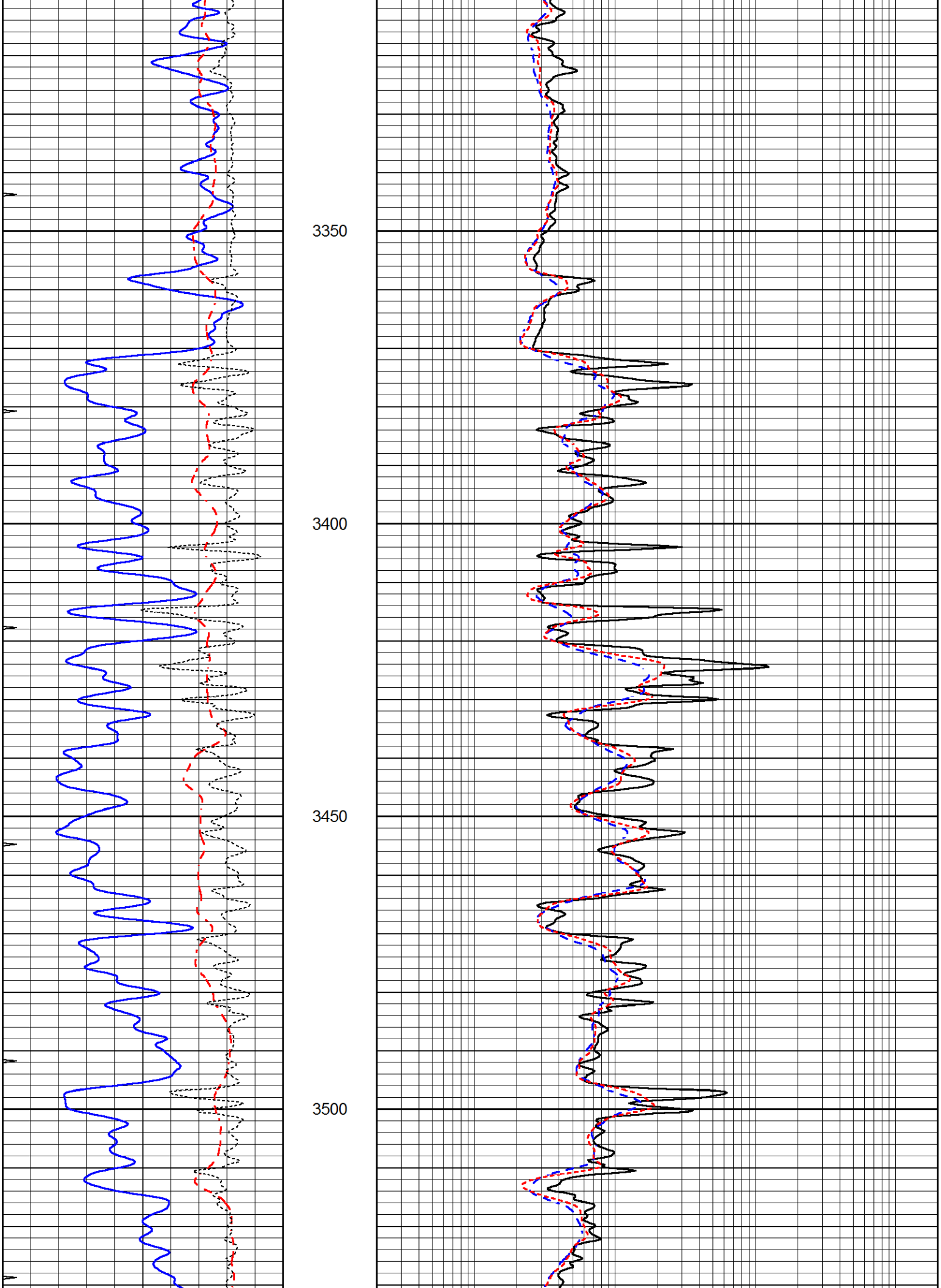
Dataset Creation	Fri Apr 09 07:43:52 2021
Charted by	Depth in Feet scaled 1:240

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

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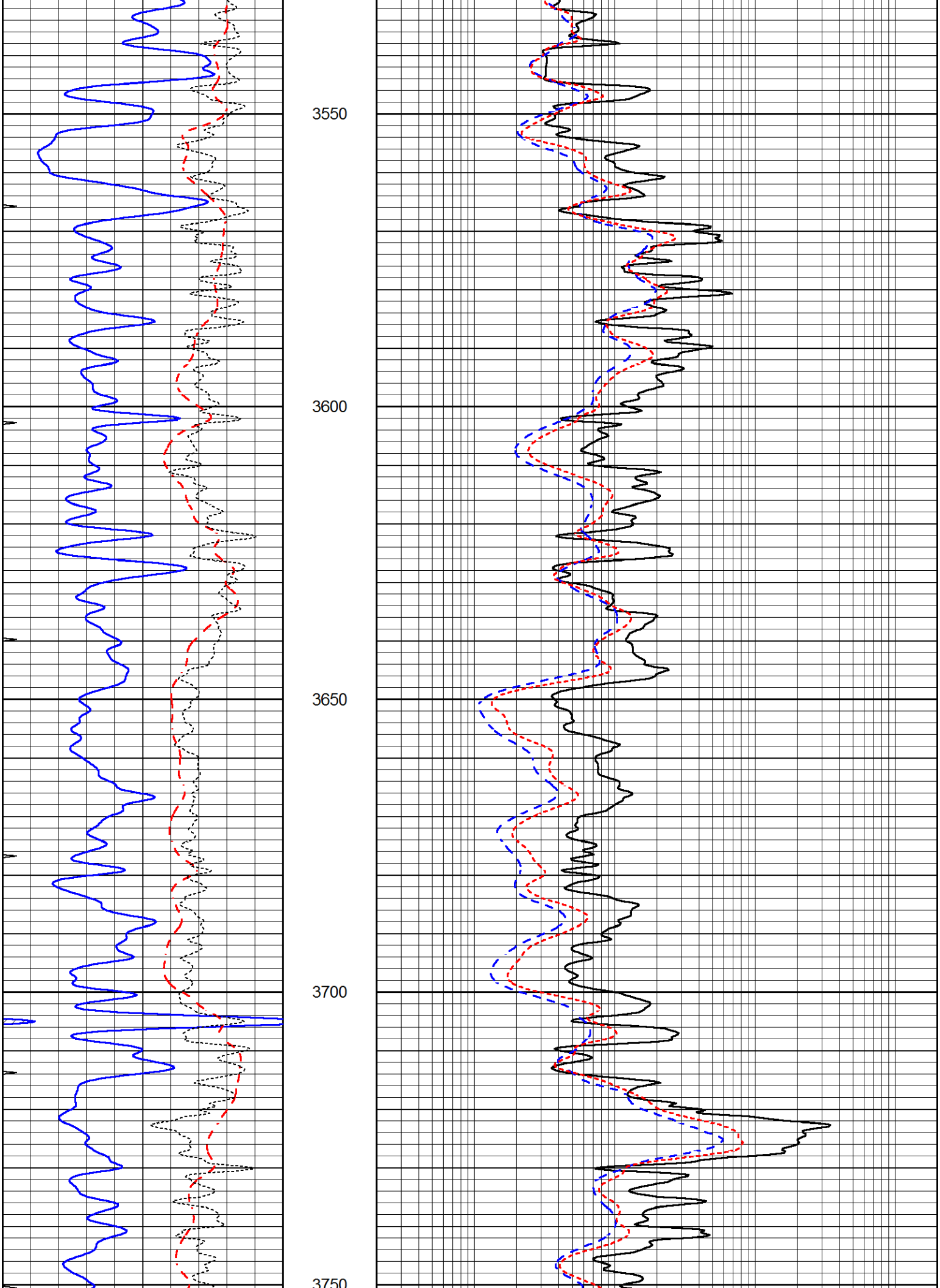
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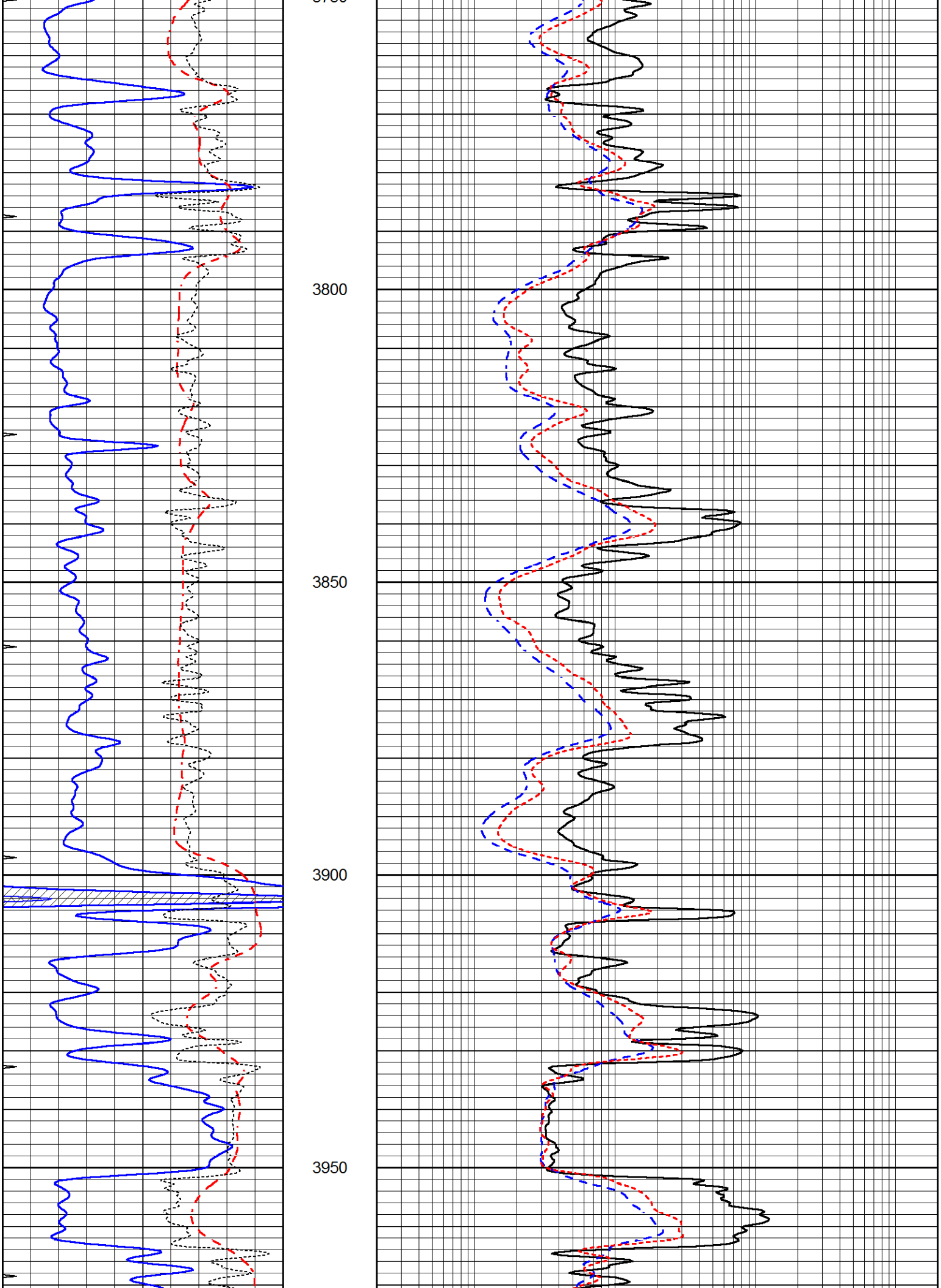
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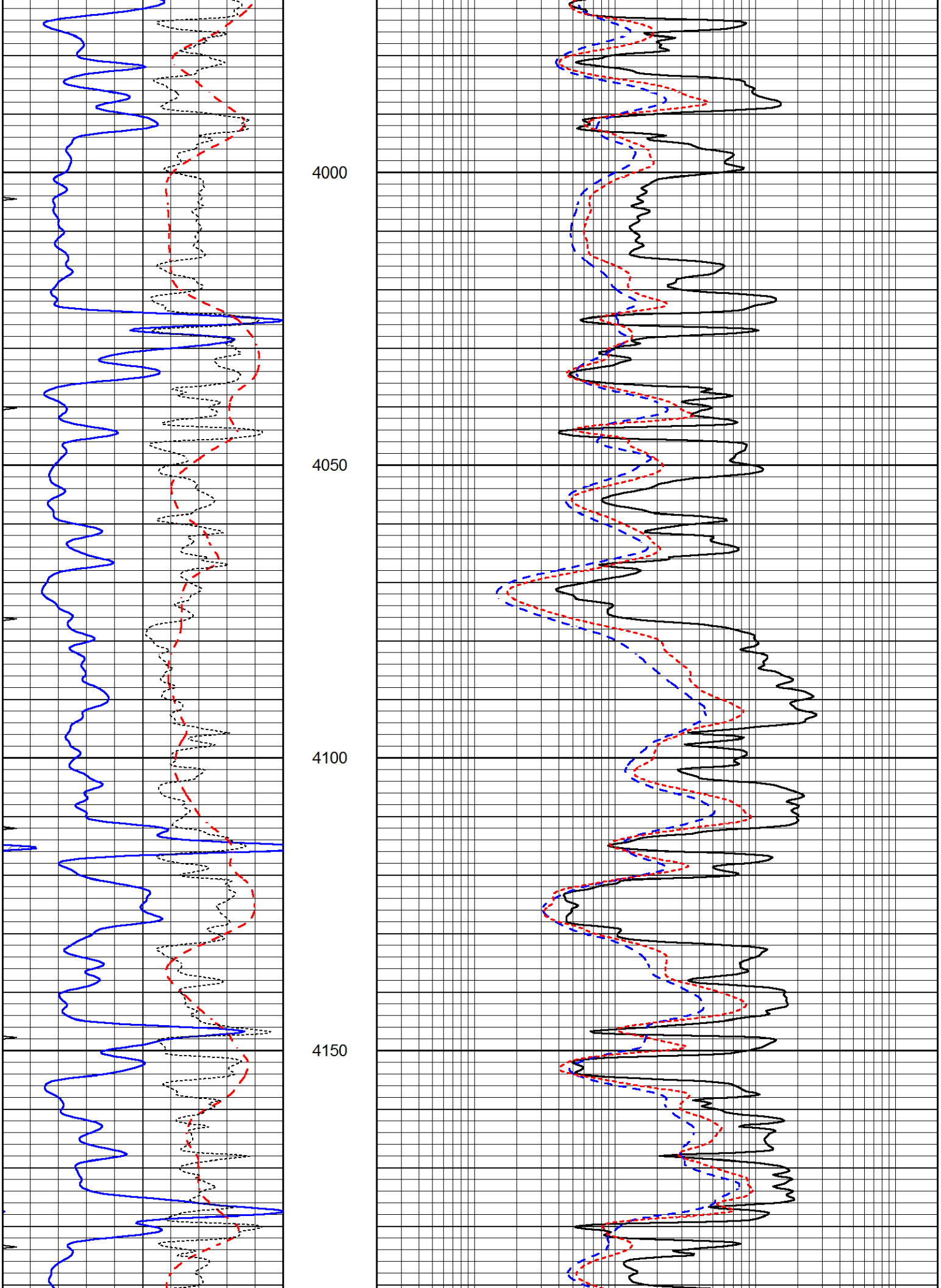
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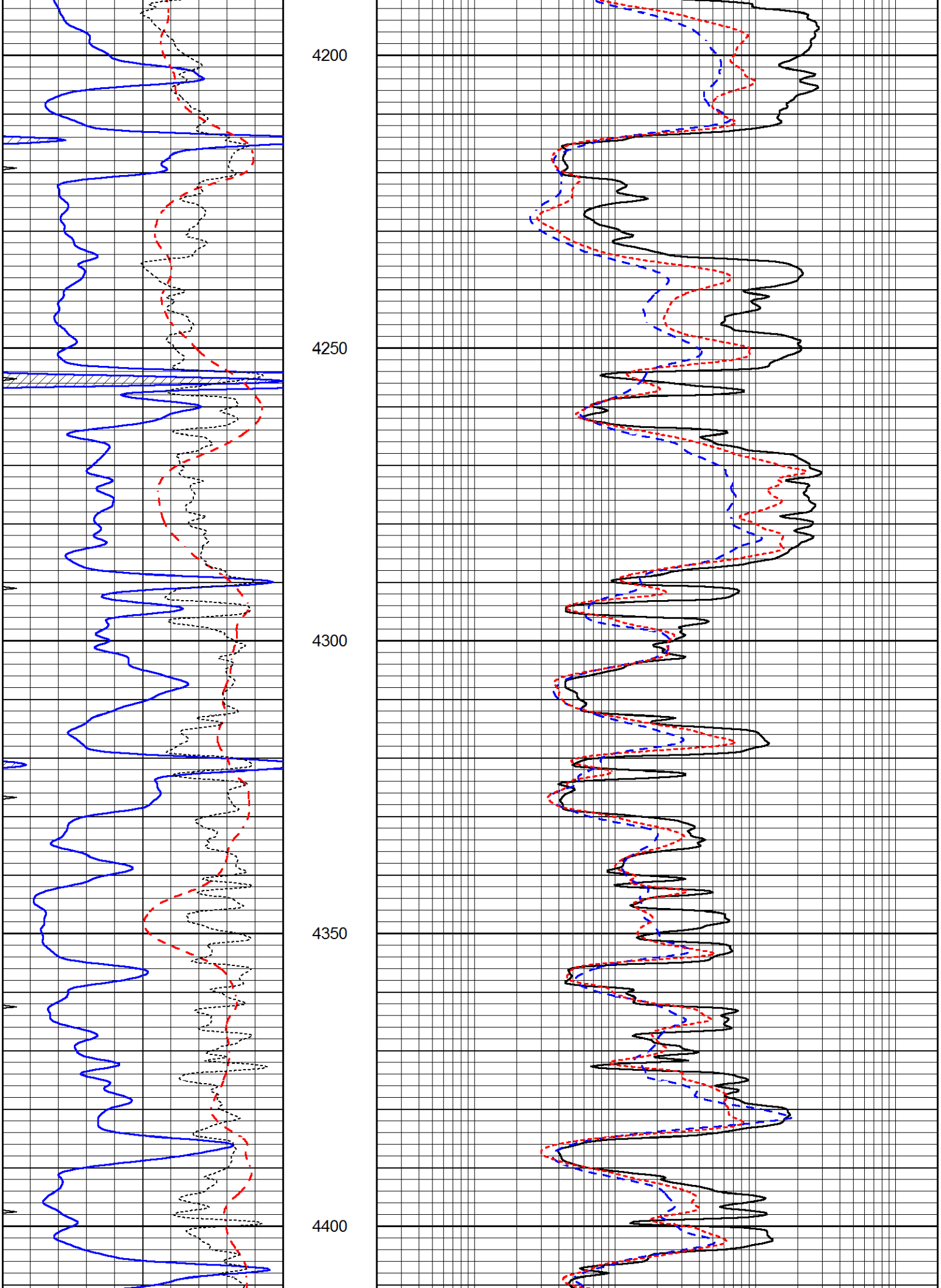
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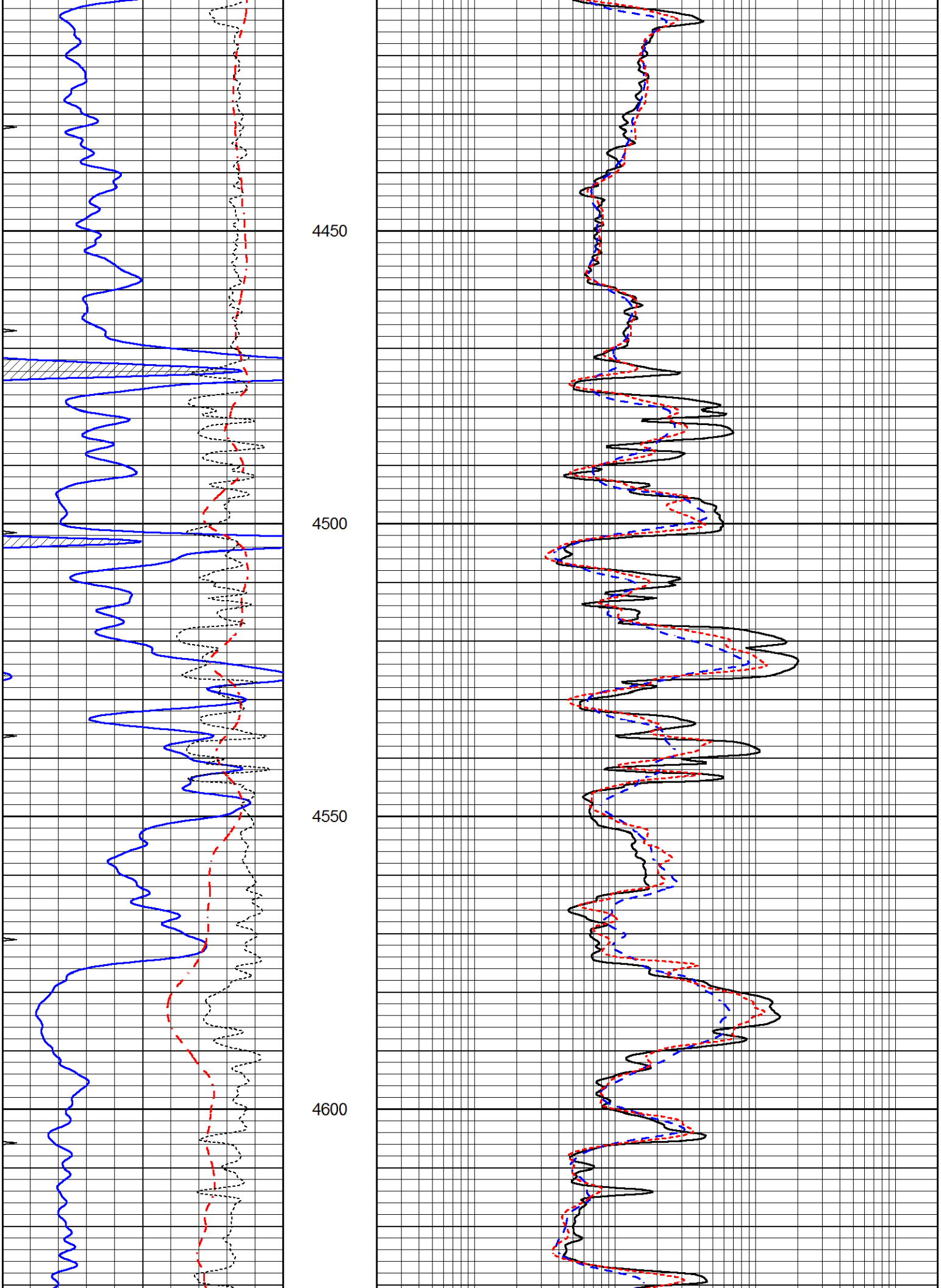
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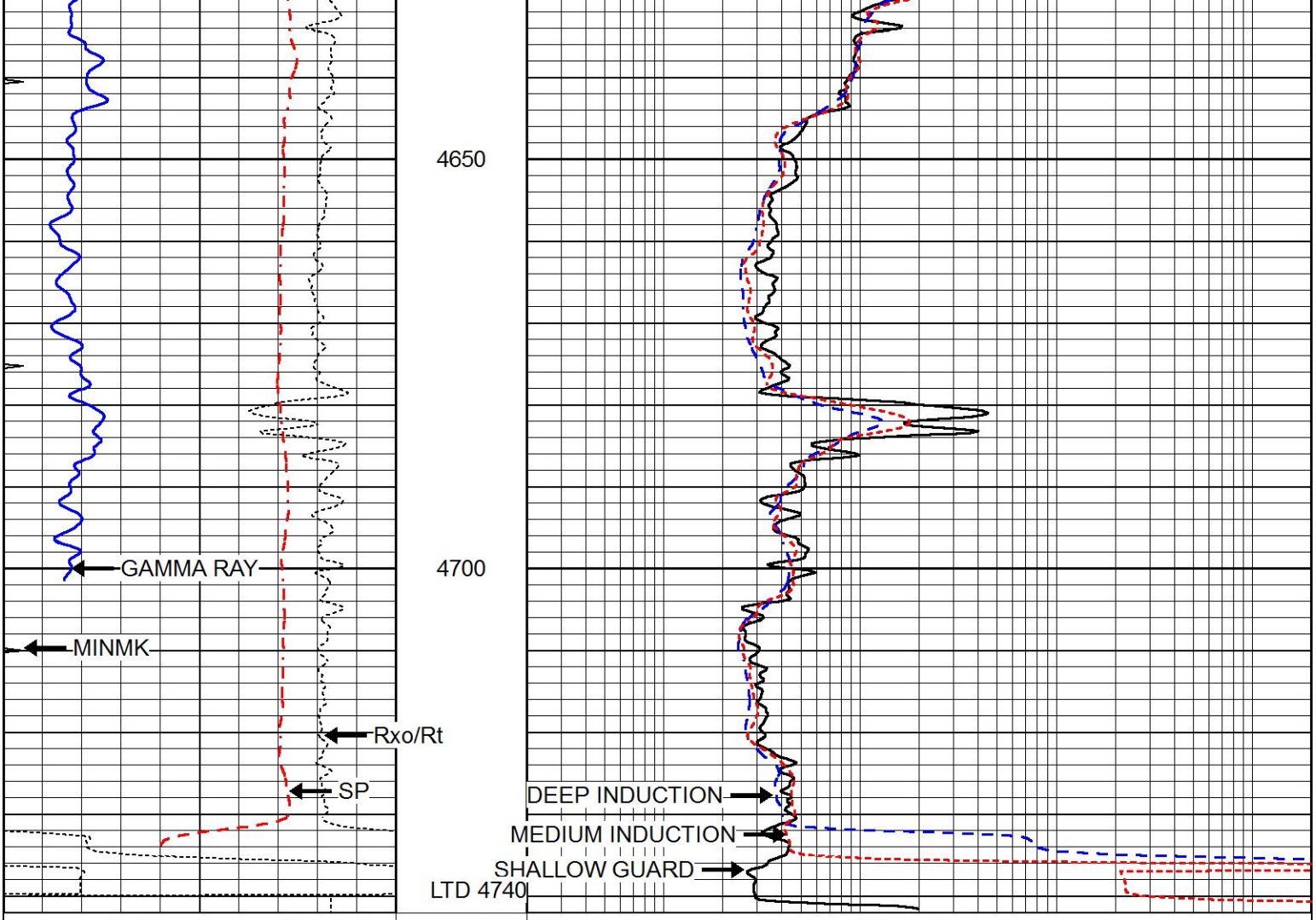
4600



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

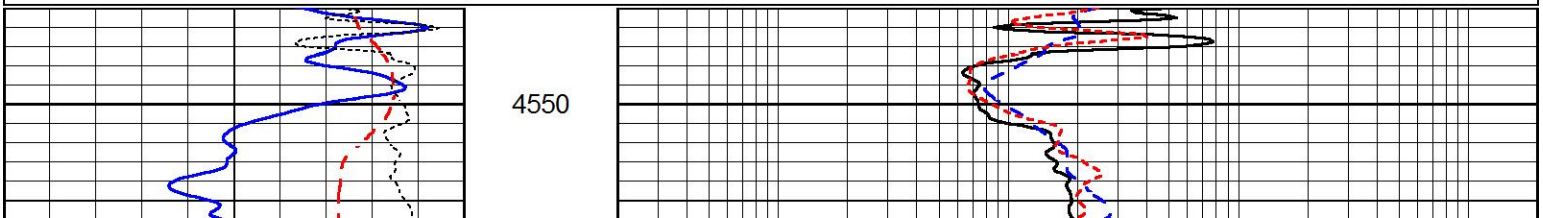
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

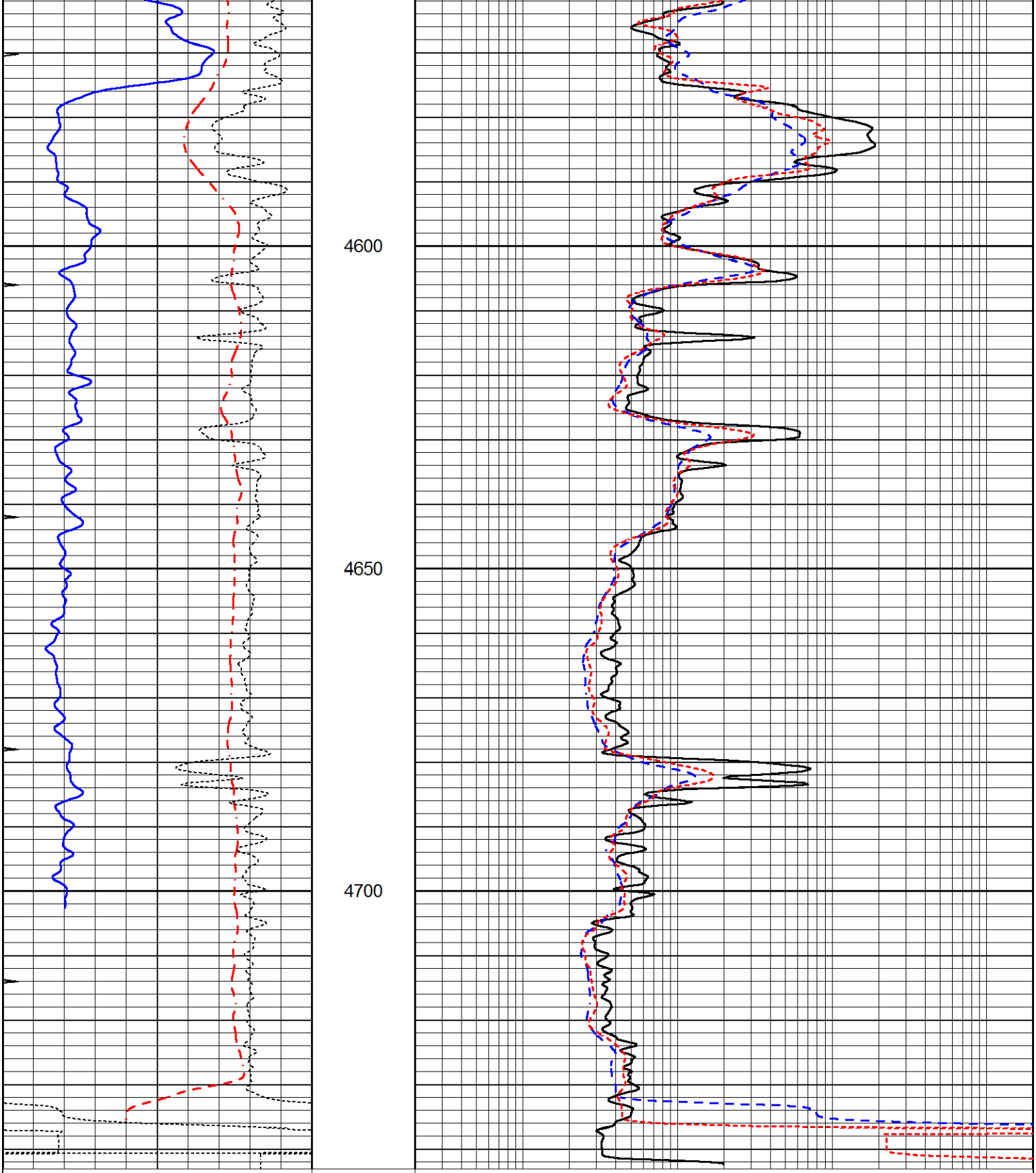
REPEAT SECTION

Database File	5428ddn.db
Dataset Pathname	pass2.1
Presentation Format	_dil
Dataset Creation	Fri Apr 09 07:43:17 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





Calibration Report

Database File	5428ddn.db
Dataset Pathname	pass2.1
Dataset Creation	Fri Apr 09 07:43:17 2021

Dataset Creation Fri Apr 09 07:43:17 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

	Readings			References			Results	
Loop:	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				
	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

Performed:	Thu Jul 30 20:04:55 2020	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.7500	GAPI/cps