



DUAL INDUCTION LOG

Company DARRAH OIL COMPANY, LLC.

Well OTTLEY #3-12

Field CHALK BUTTES

County LOGAN State KANSAS

Location: API #: 15-109-21634-0000

SEC 12 TWP 14S RGE 32W

Permanent Datum GROUND LEVEL Elevation 2849

Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL/PE
MEL/SONIC
Elevation
K.B. 2858
D.F. 2856
G.L. 2849

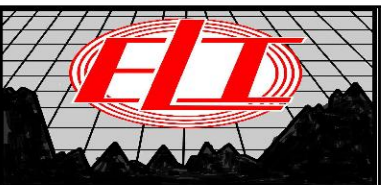
Date	7/7/22
Run Number	ONE
Depth Driller	4625
Depth Logger	4618
Bottom Logged Interval	4616
Top Log Interval	00
Casing Driller	8 5/8"@217'
Casing Logger	217
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.5/59
pH / Fluid Loss	9.5/9.6
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.00@82F
Rmf @ Meas. Temp	.750@82F
Rmc @ Meas. Temp	1.20@82F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.672@122F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	7.45 A.M.
Maximum Recorded Temperature	122F
Equipment Number	8916
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	MACKLIN ARMSTRONG

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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., 20S. ON HWY 83 TO "JAYHAWK RD.", 1E.,1N., E. INTO

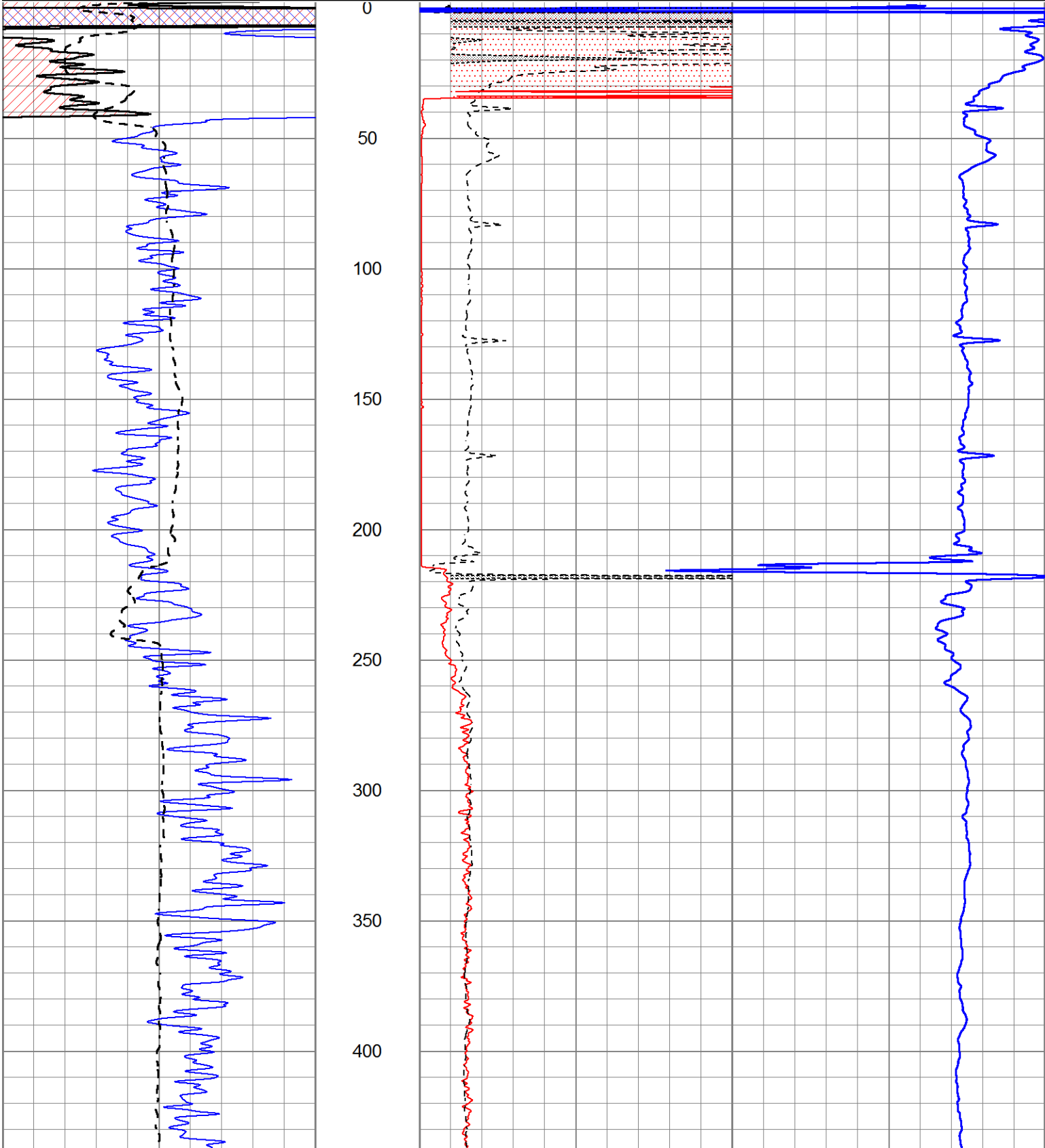


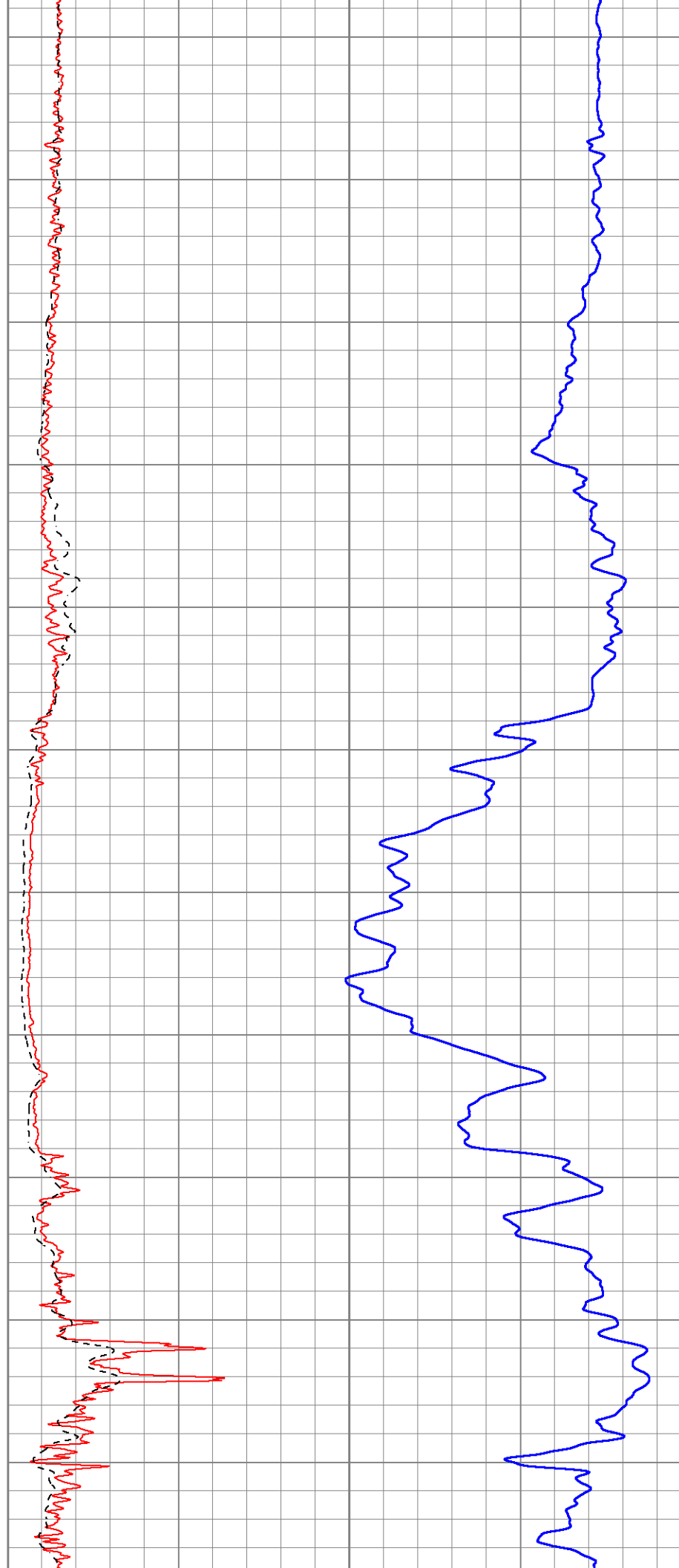
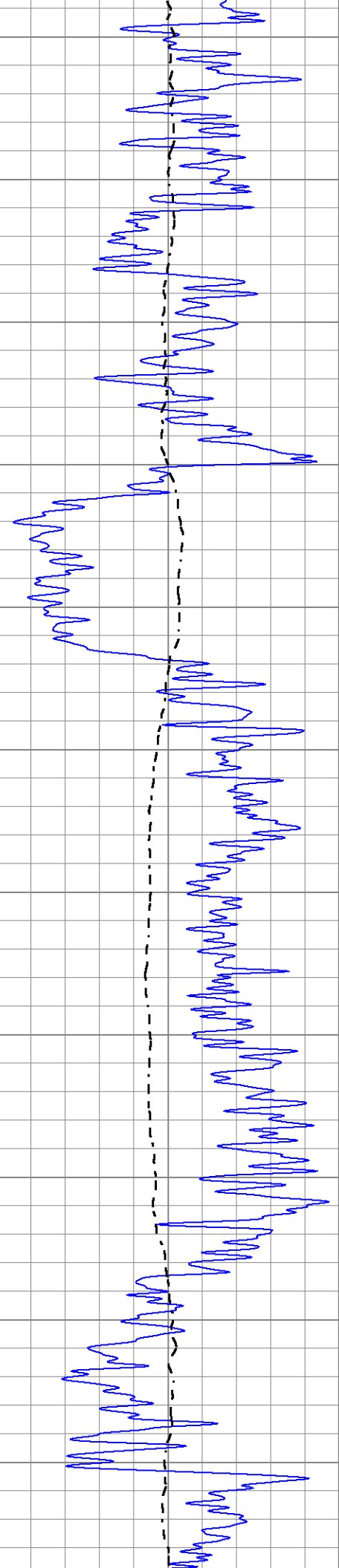
MAIN SECTION

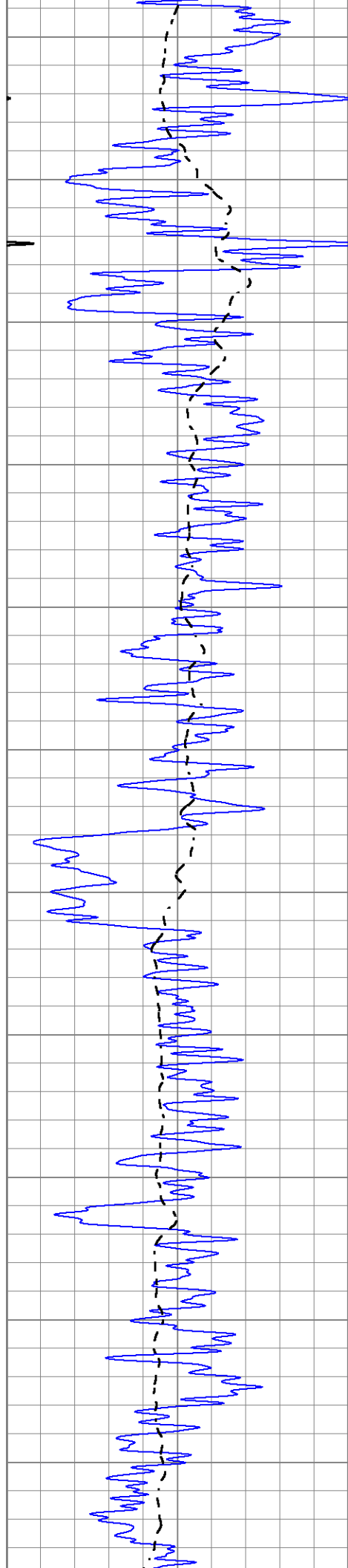
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 Presentation Format _dil2
 Dataset Creation Thu Jul 07 09:39:23 2022
 Charted by Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 150
 -100 SP (mV) 100

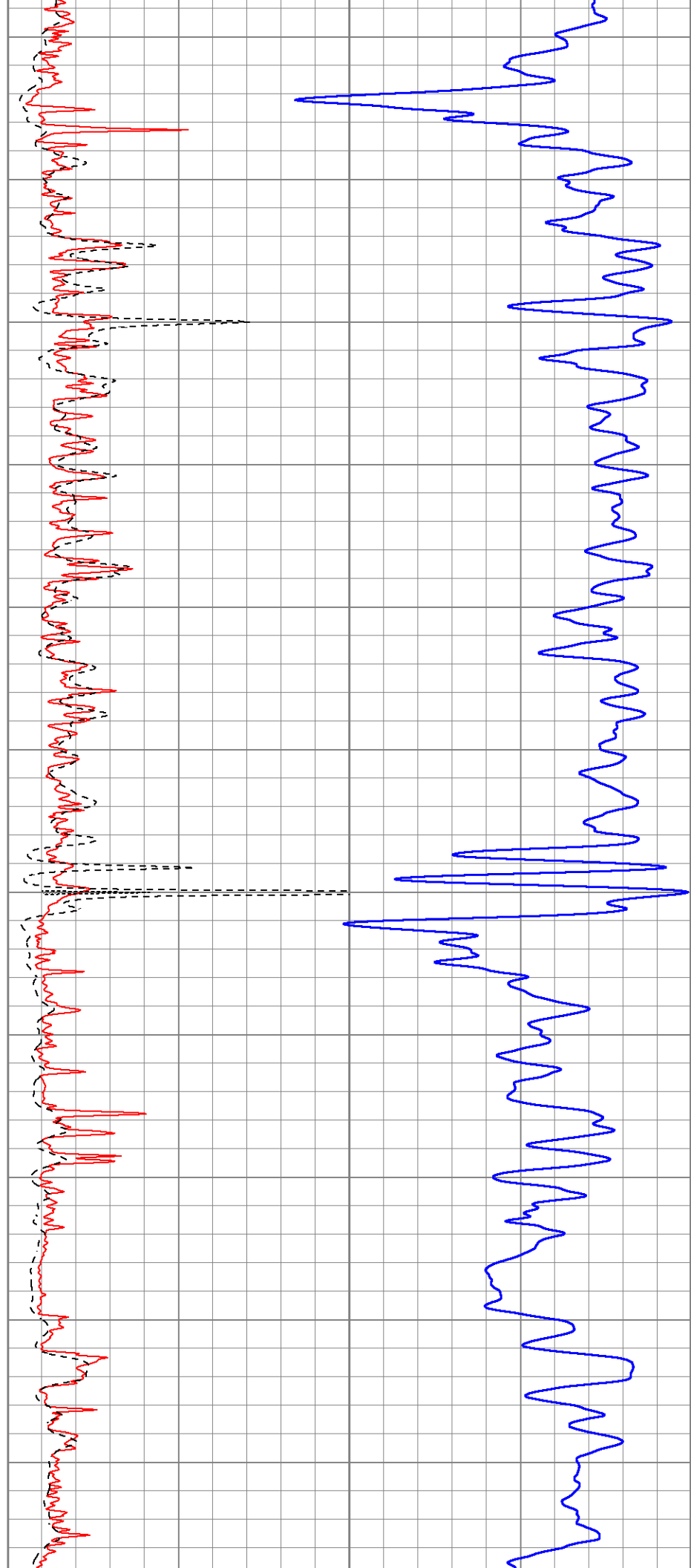
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 0 RLL3 (Ohm-m) 50
 0 RILD (Ohm-m) 50
 50 RILD X10 (Ohm-m) 500
 50 RLL3 X10 (Ohm-m) 500

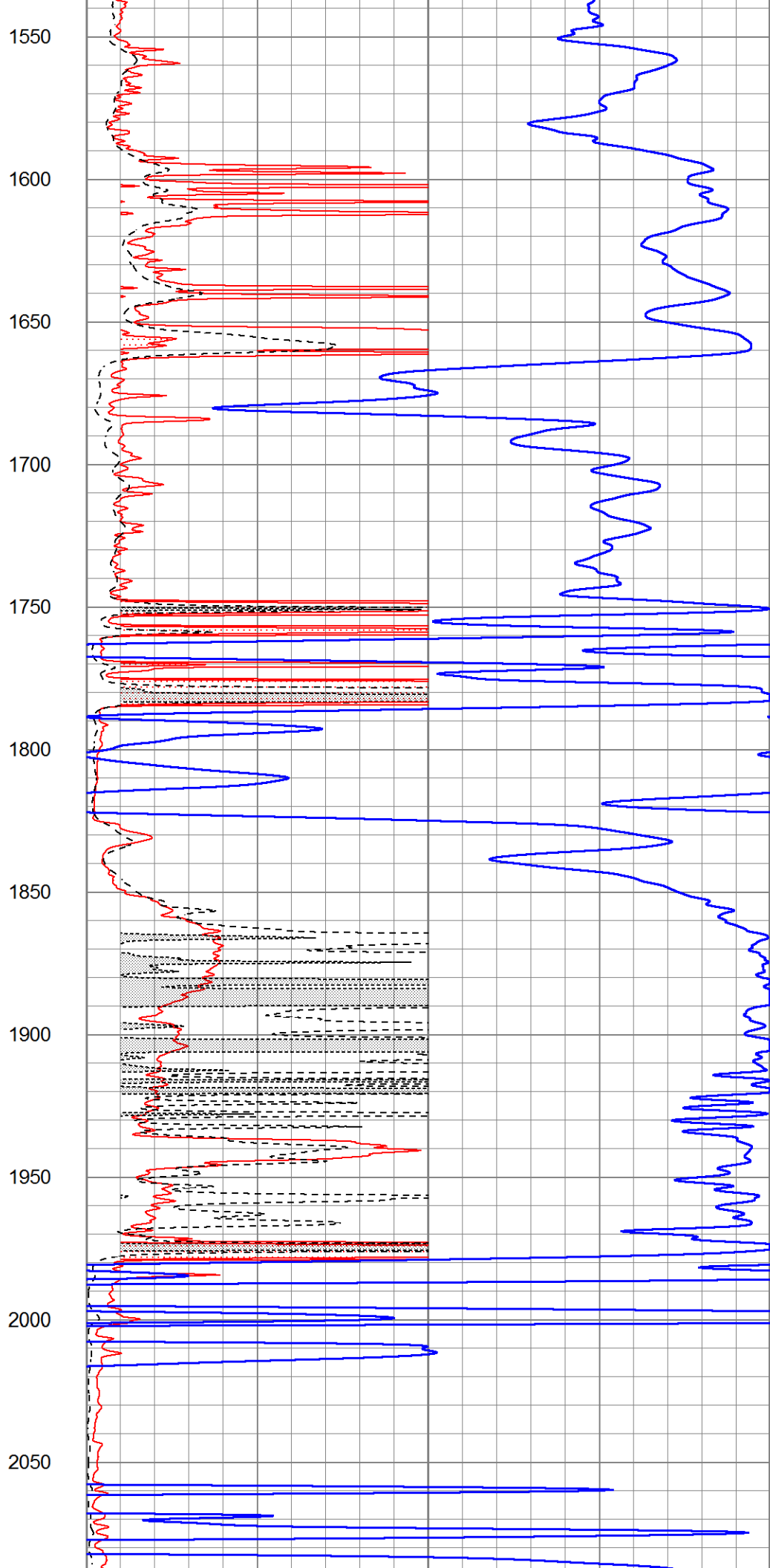
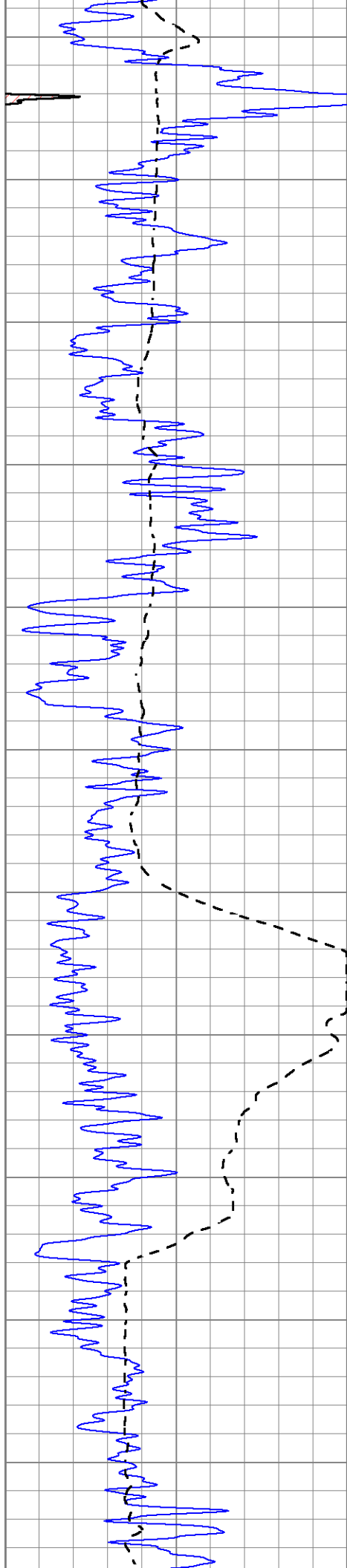


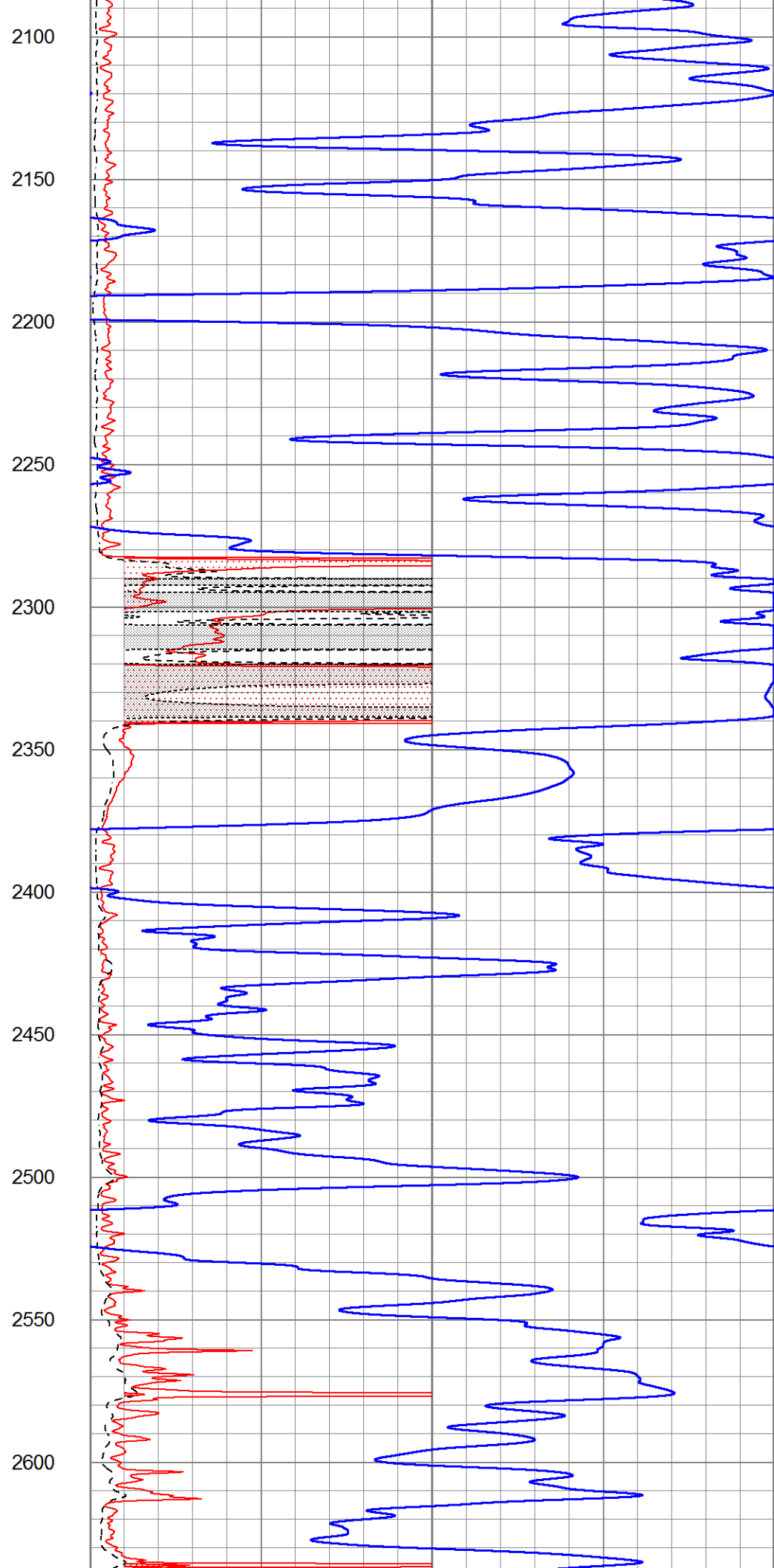
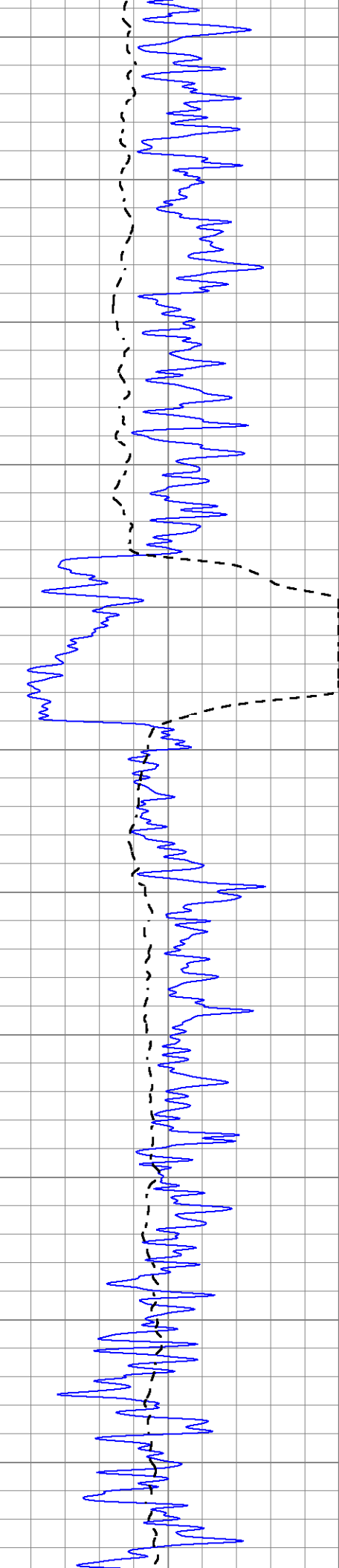


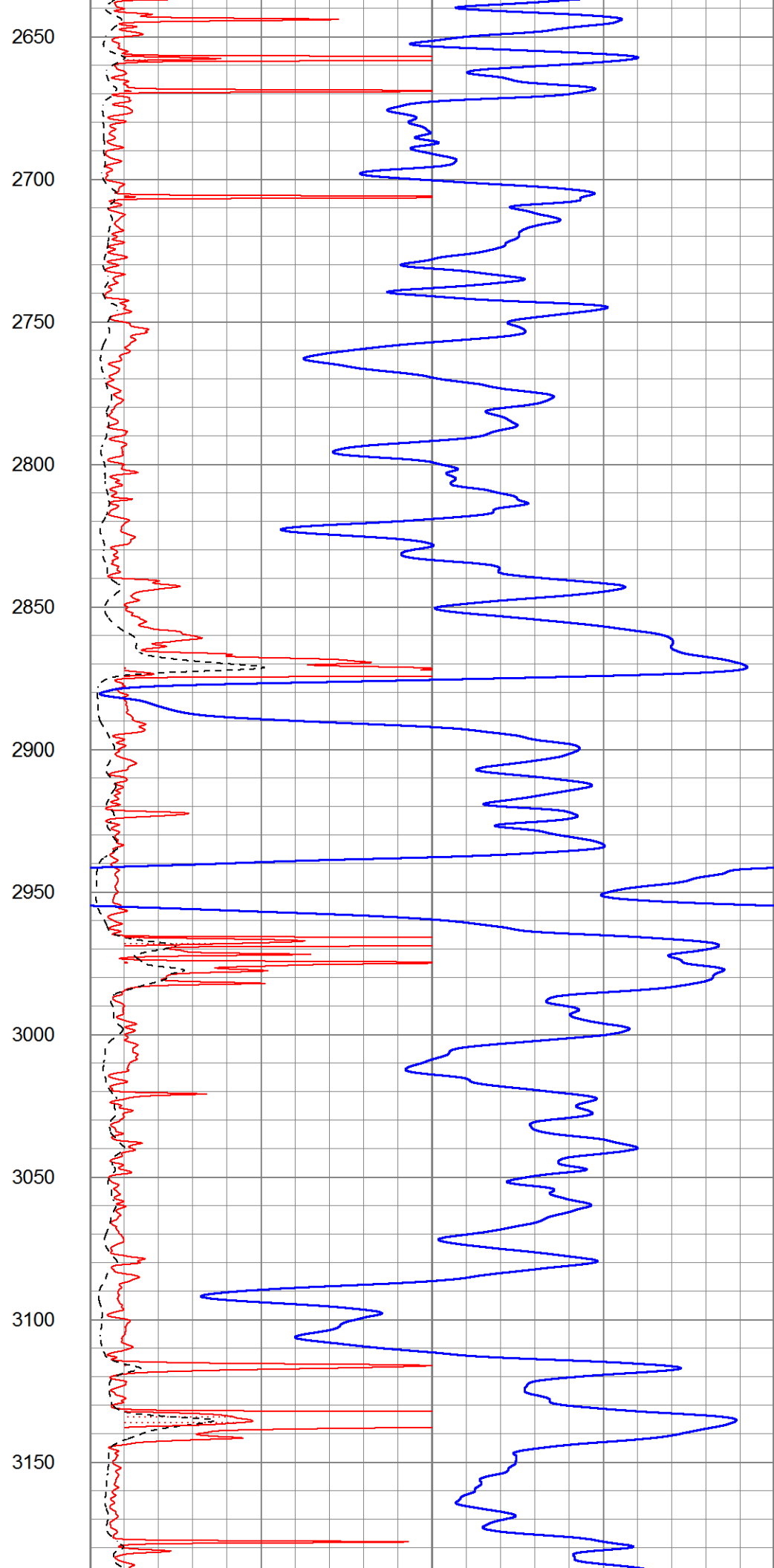
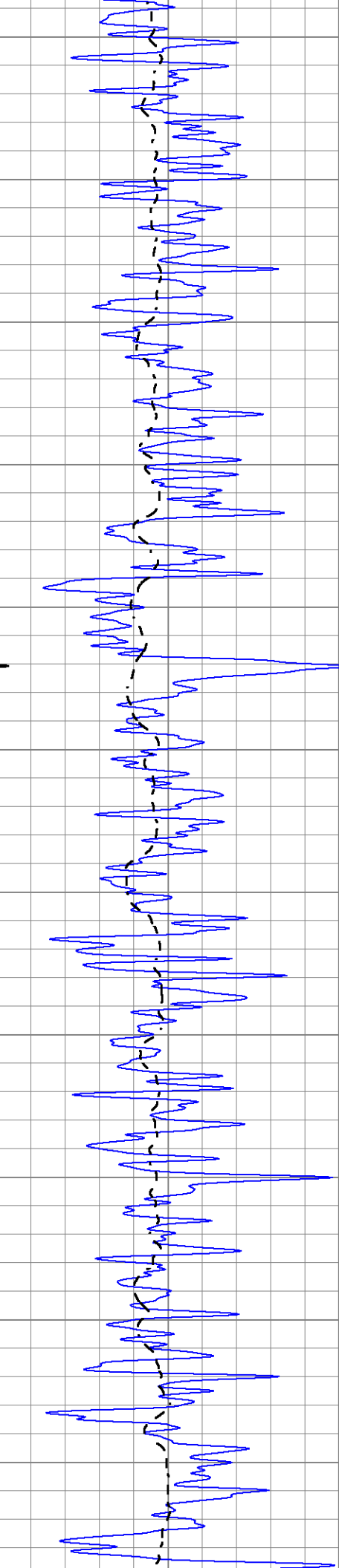


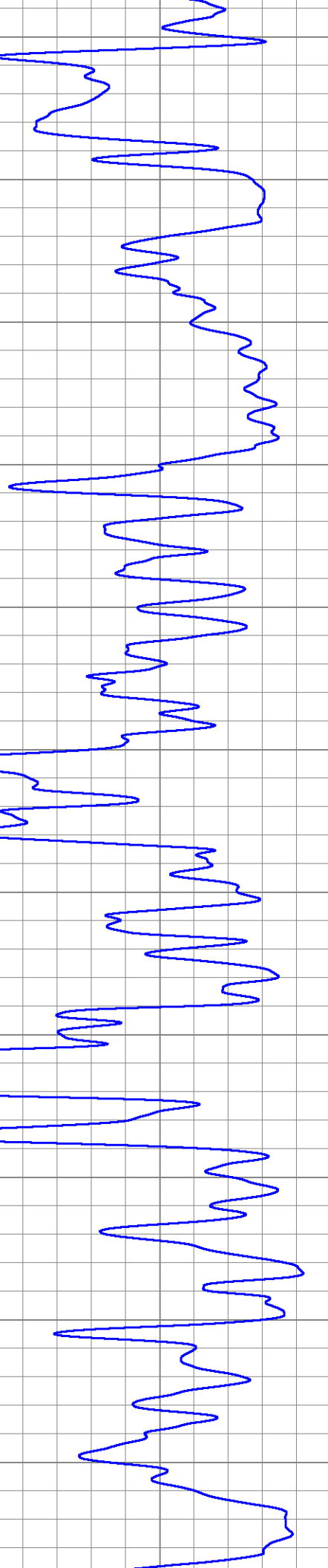
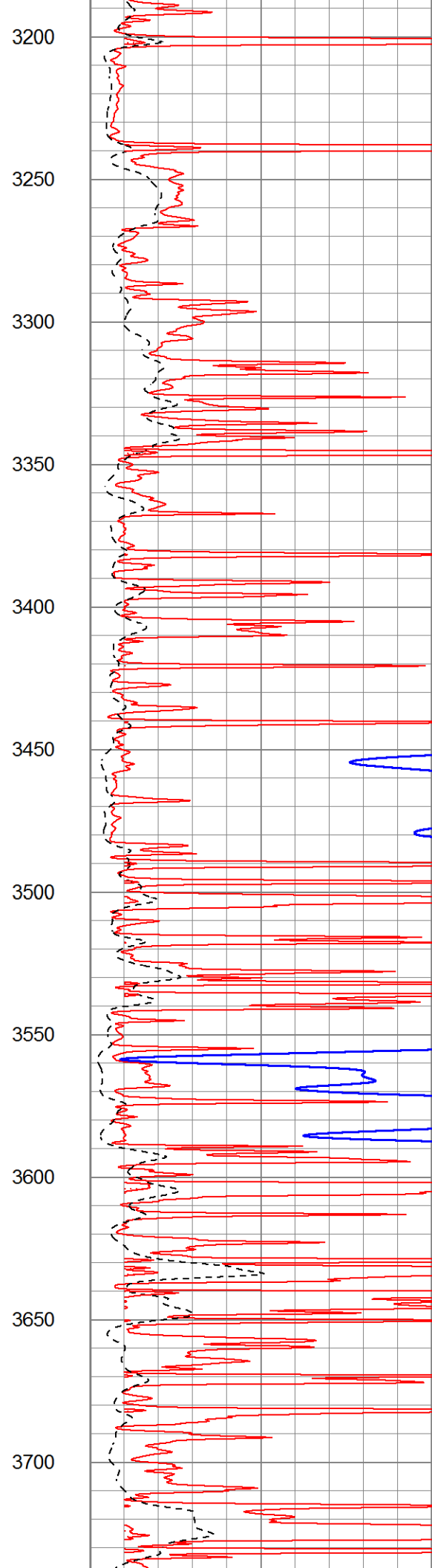
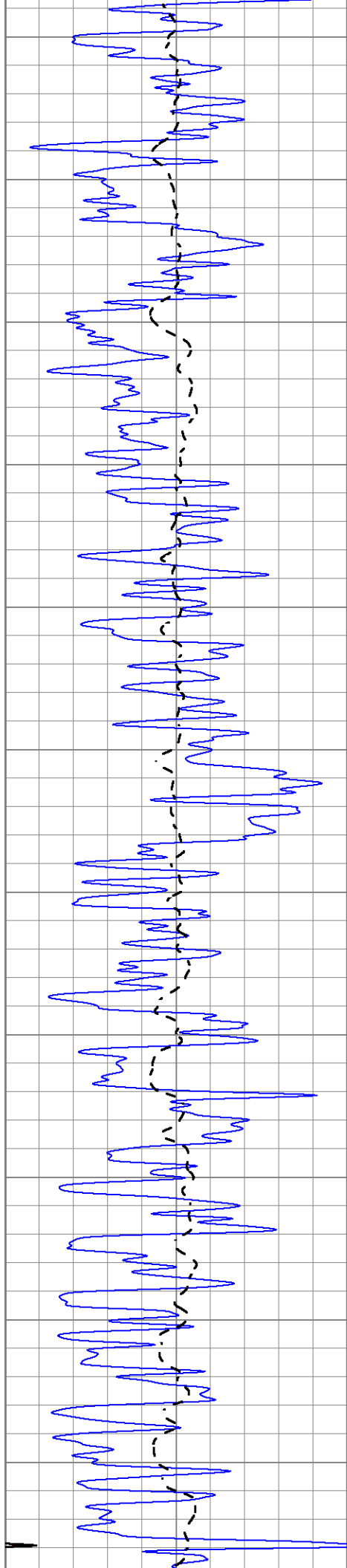
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1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

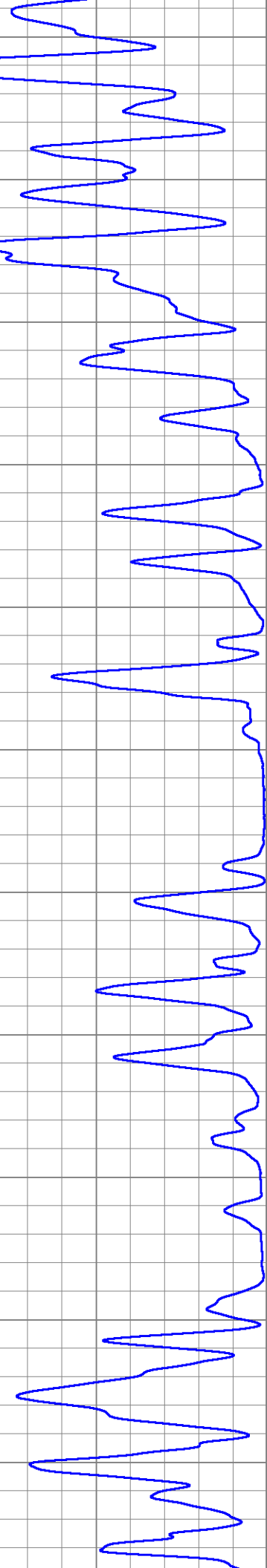
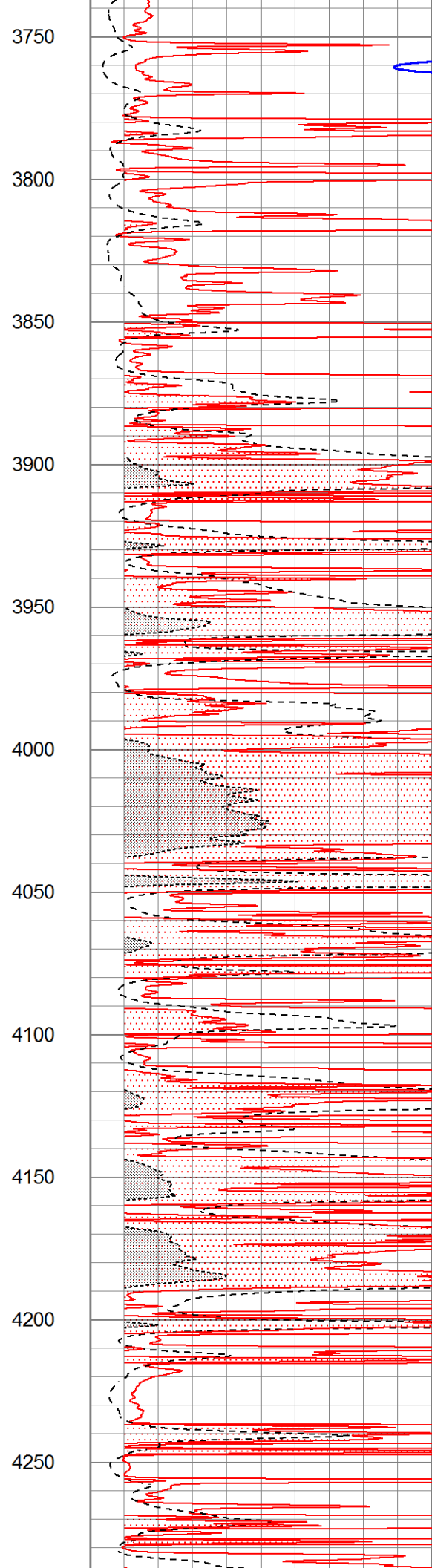
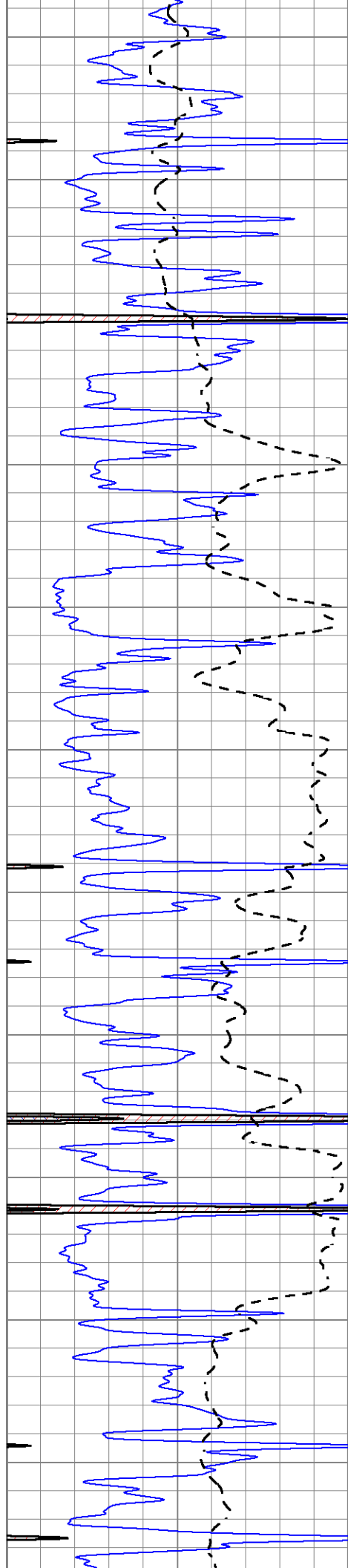


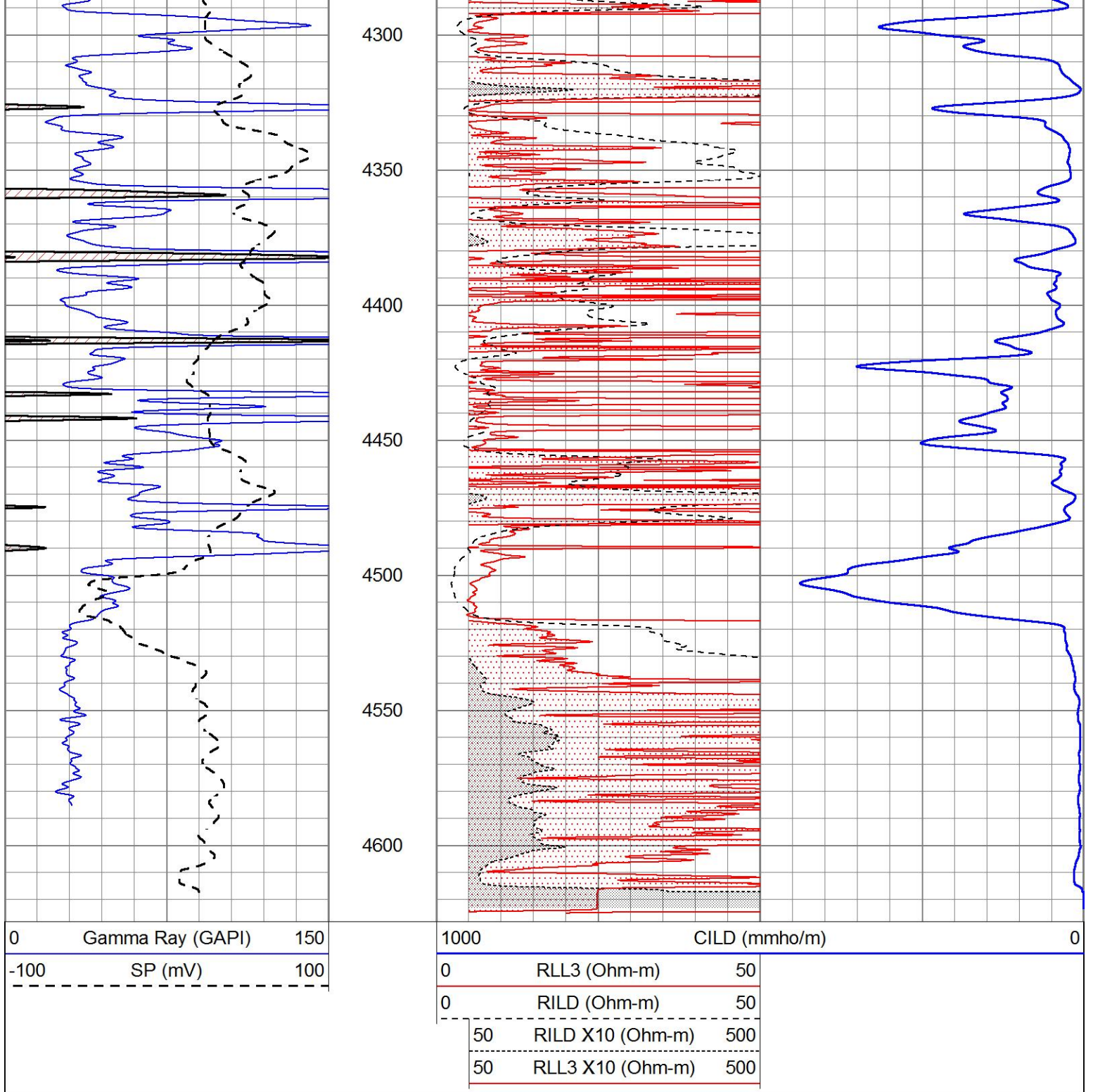










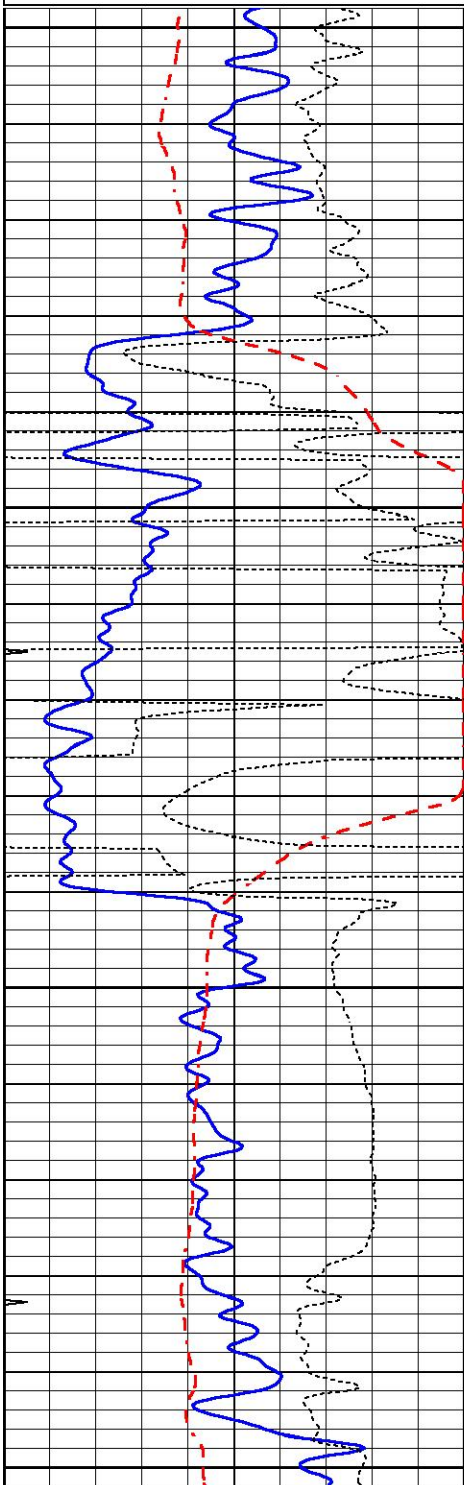


ANHYDRITE

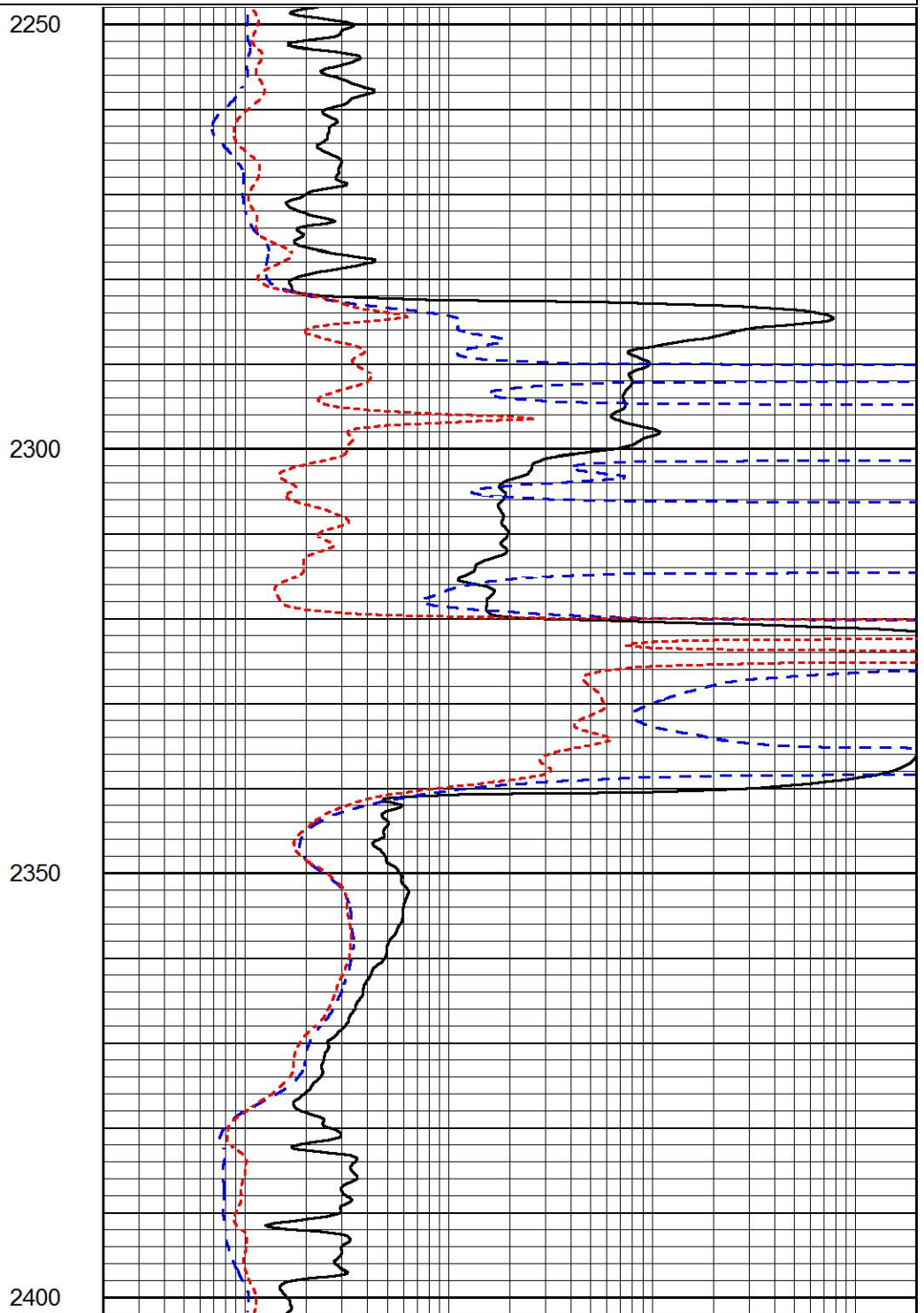
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 Dataset Creation Thu Jul 07 09:39:33 2022
 Charted by Depth in Feet scaled 1:240



0 MINMK 20



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



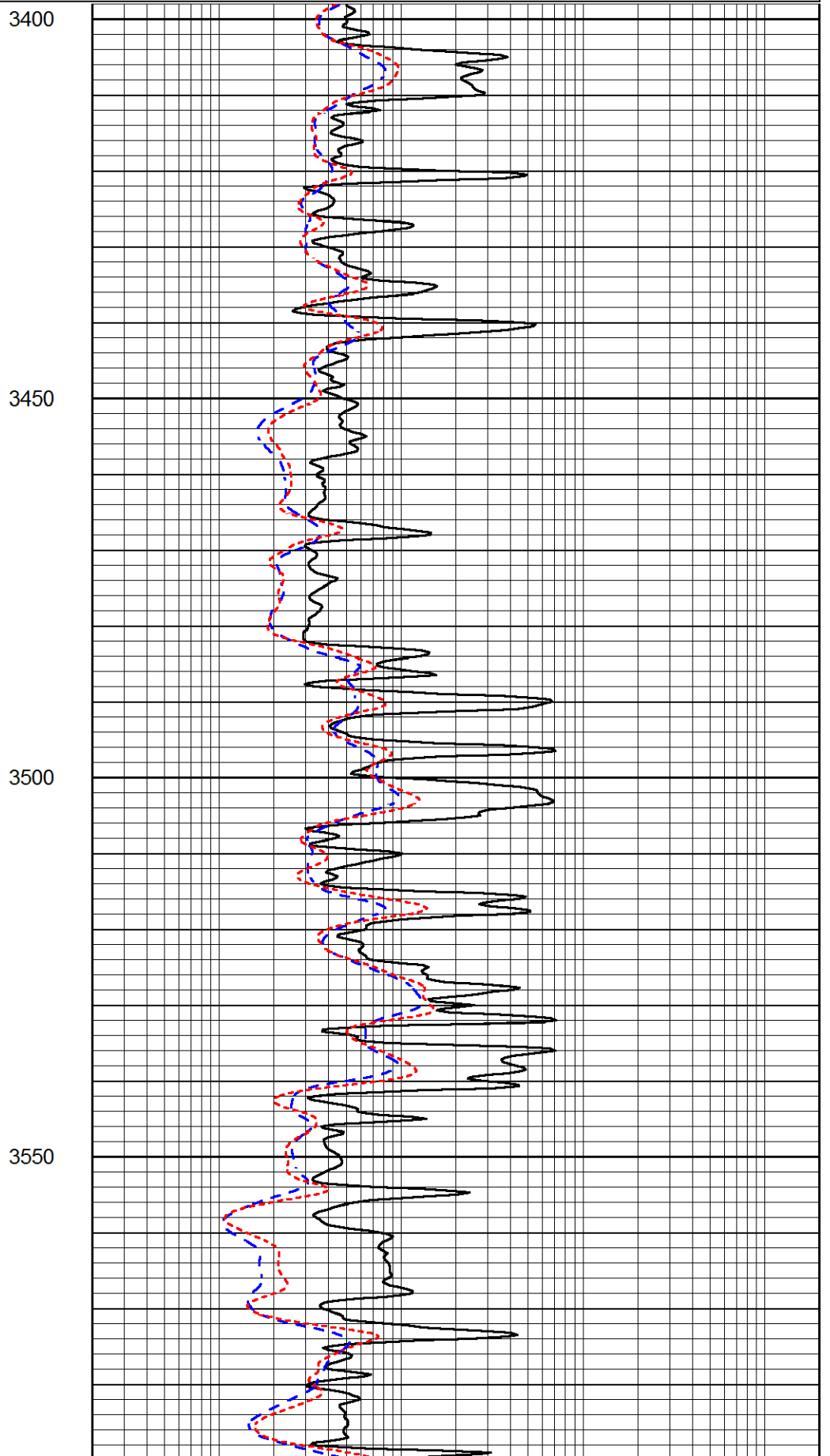
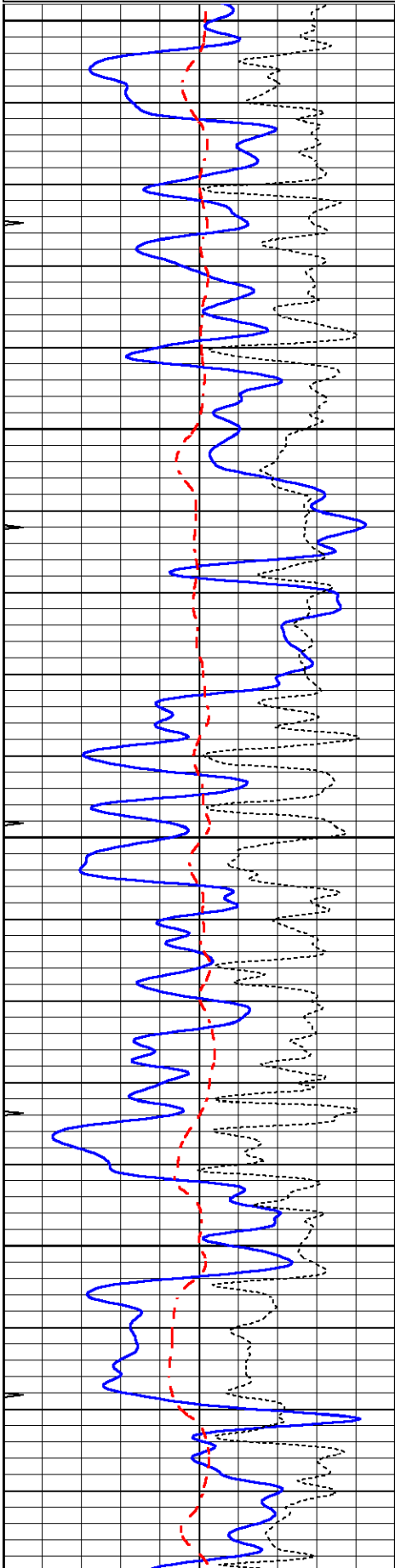
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0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

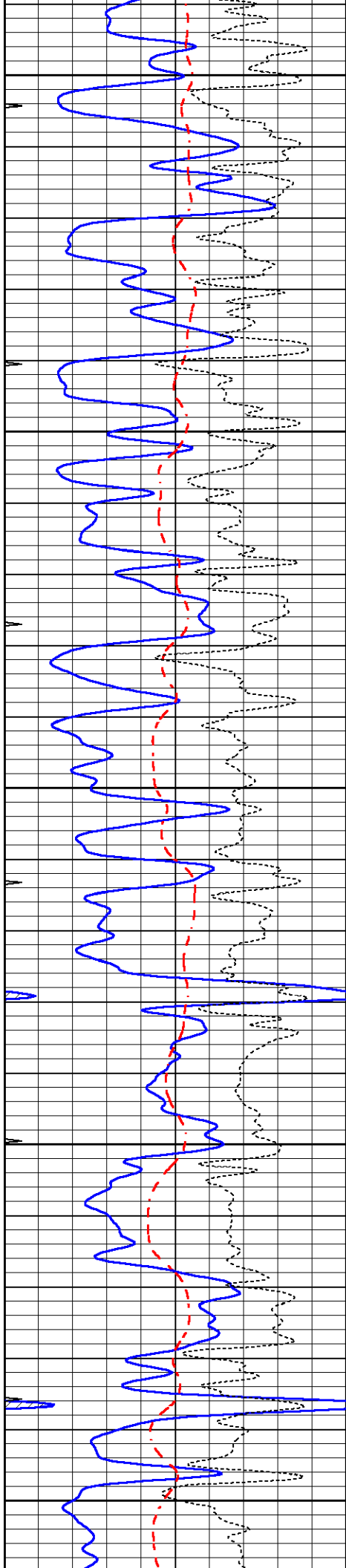


MAIN SECTION

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





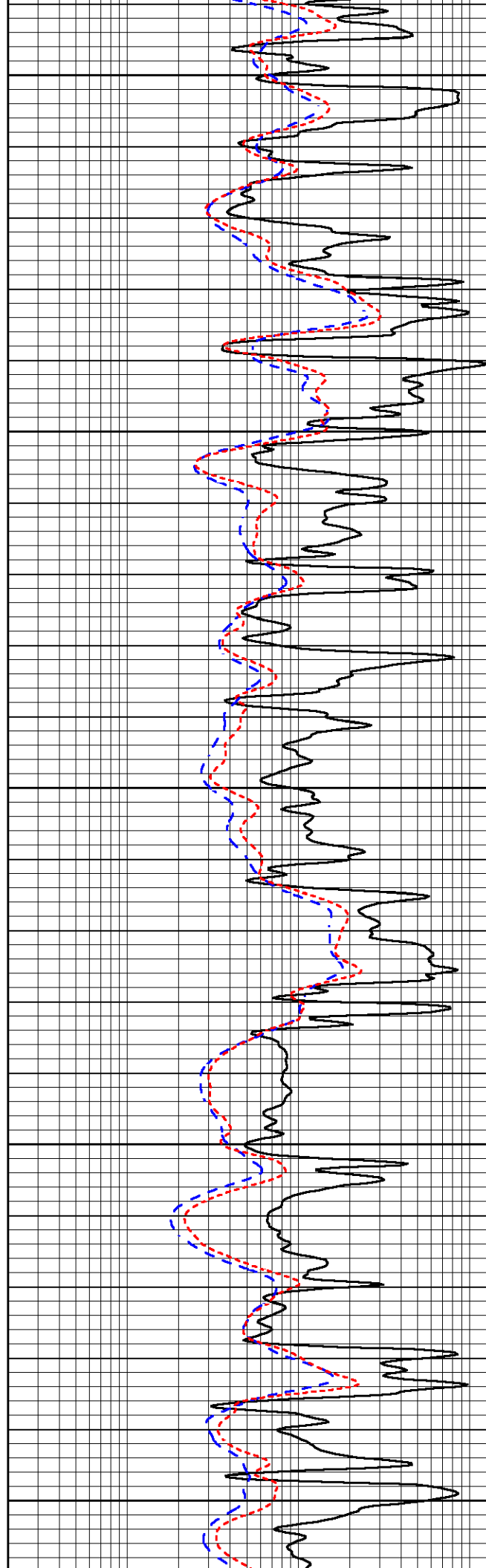
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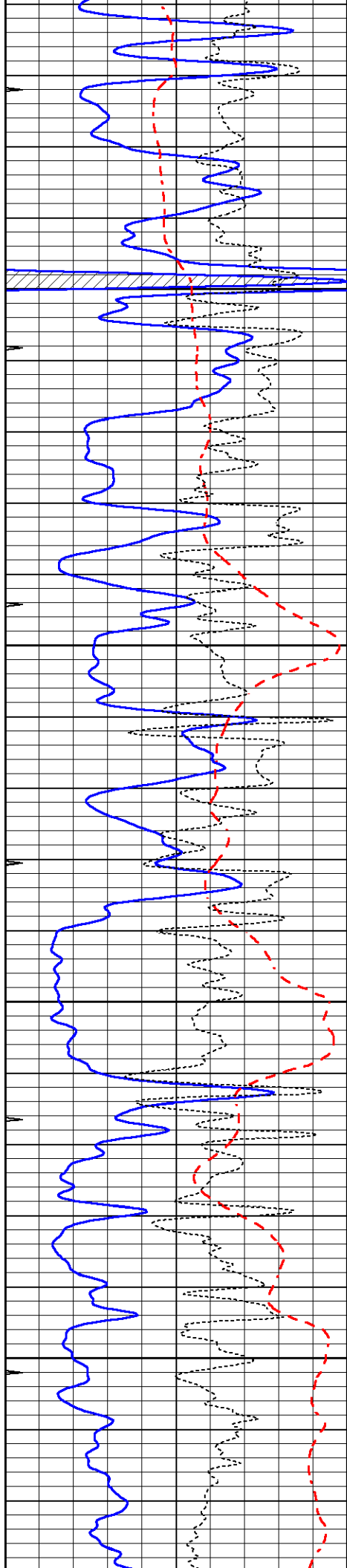
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3700

3750

3800



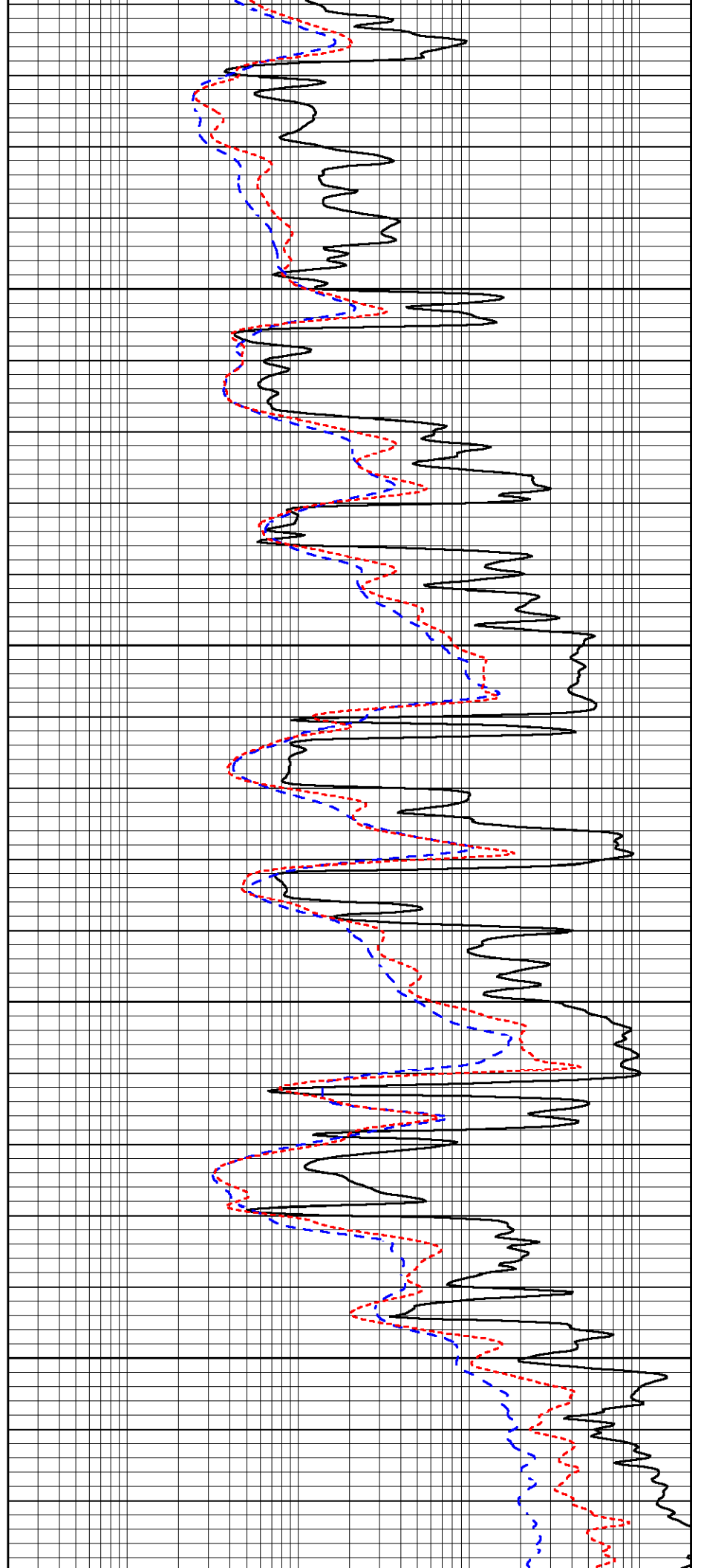


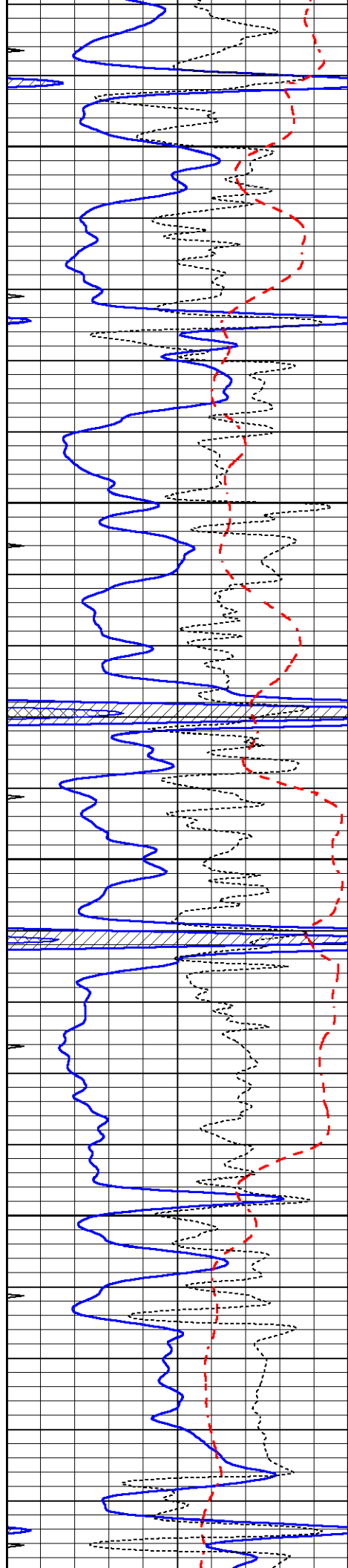
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3900

3950

4000





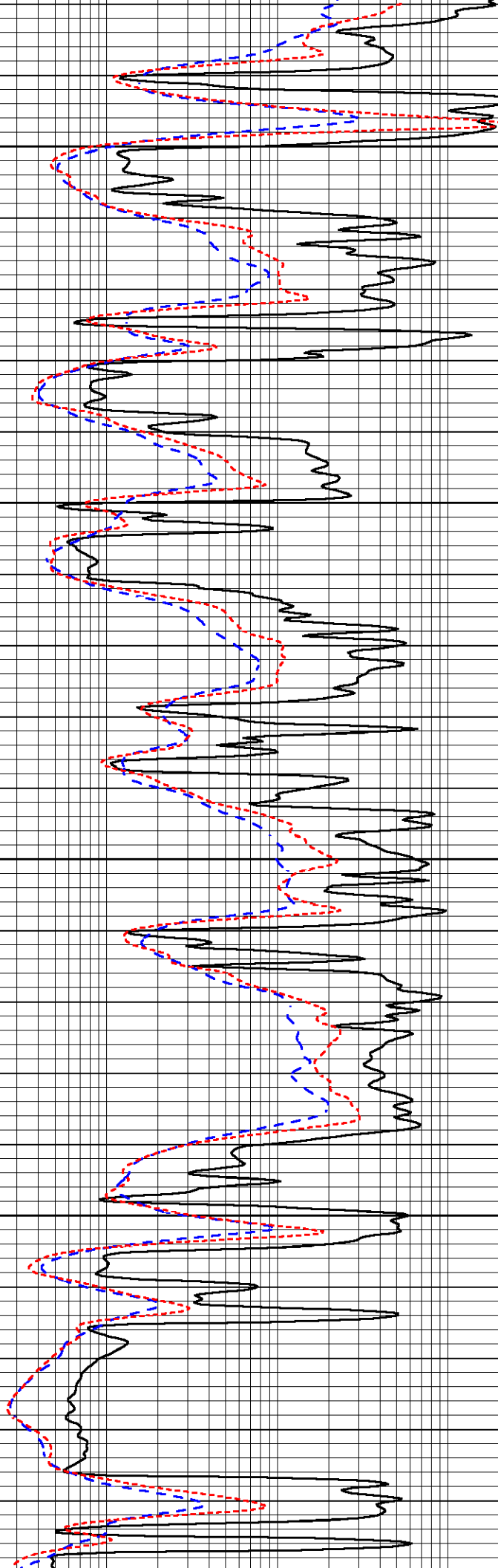
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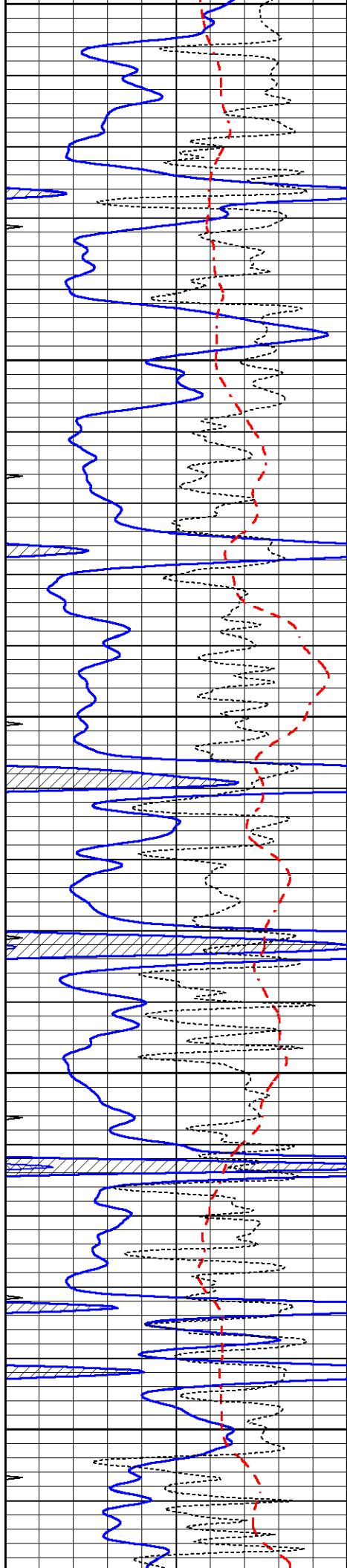
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4150

4200

4250





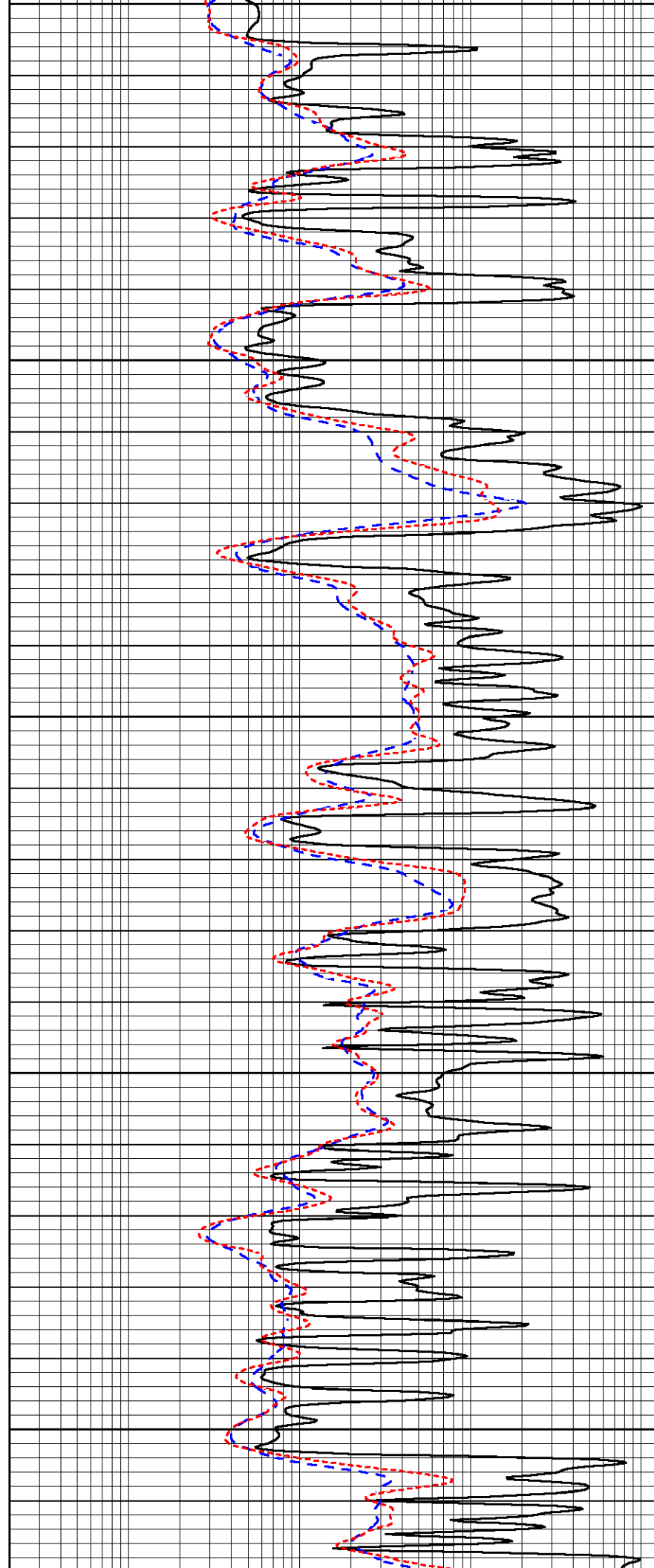
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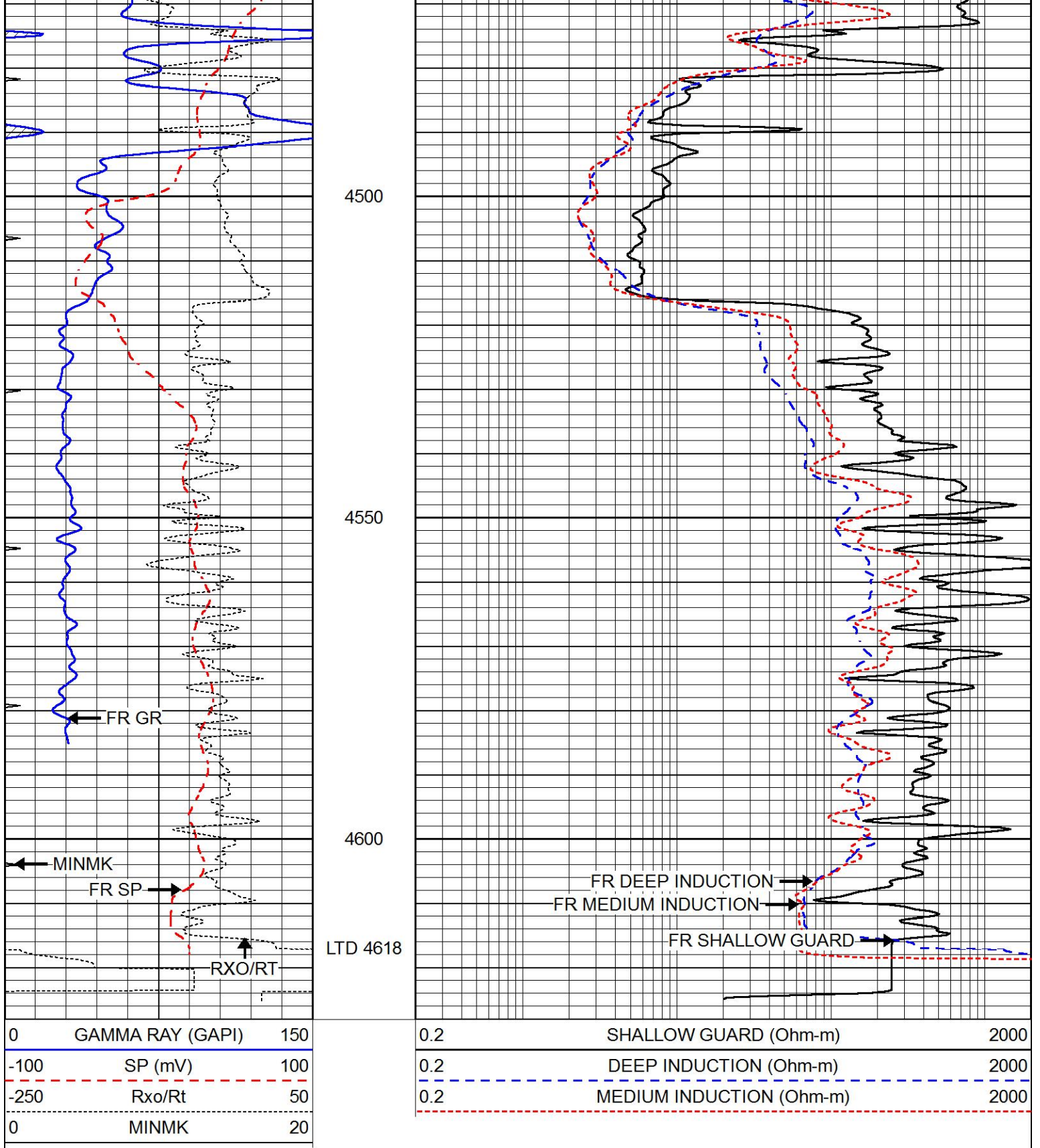
4300

4350

4400

4450



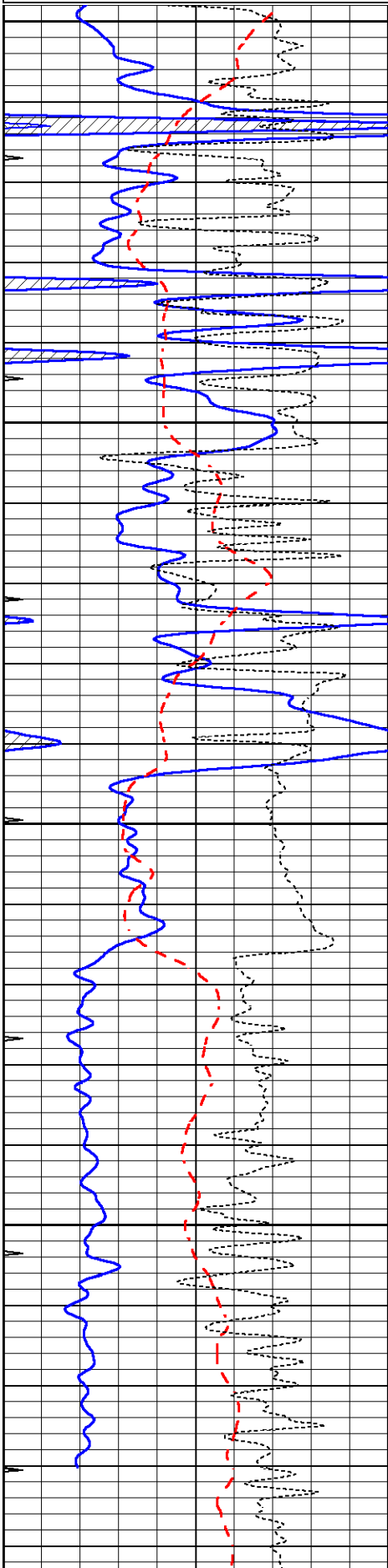


REPEAT SECTION

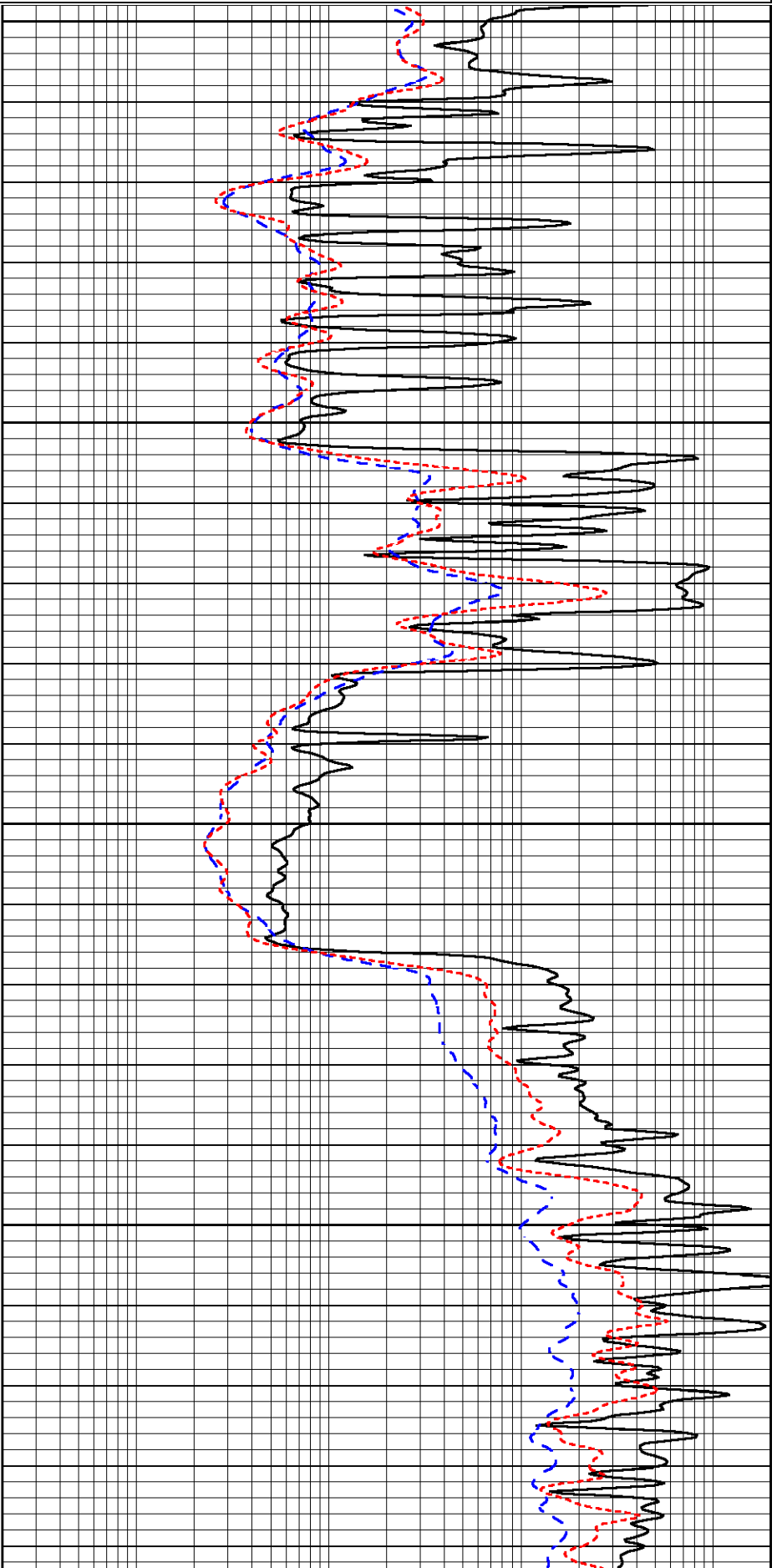
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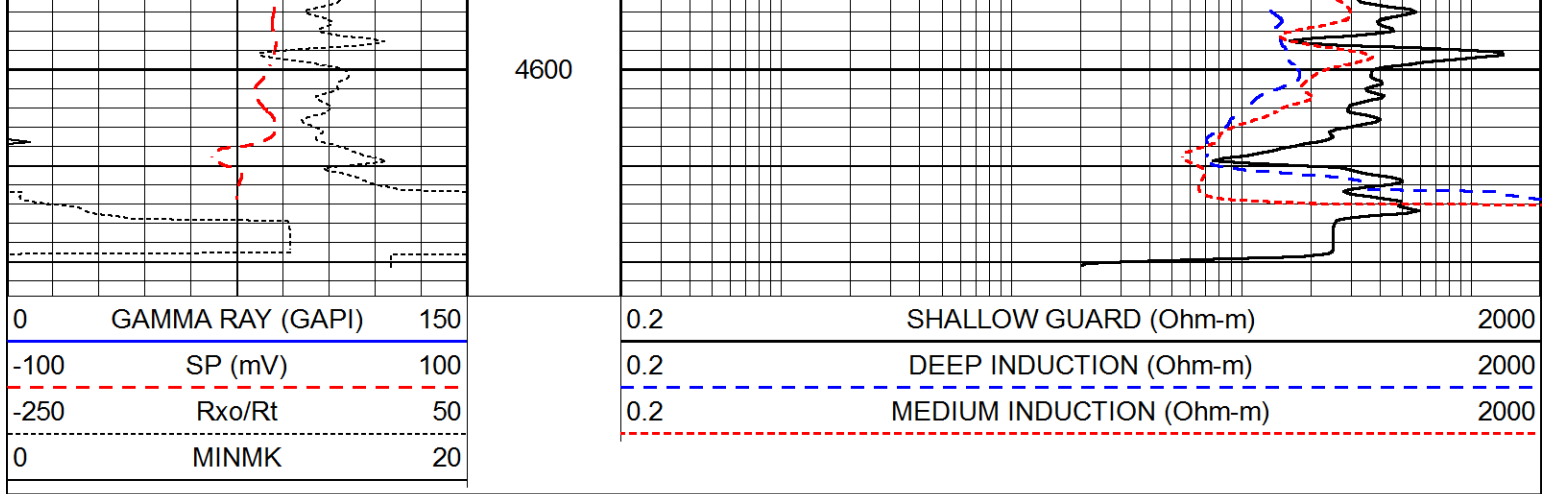
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



4400
4450
4500
4550





Calibration Report

Database File 6707pe.db
 Dataset Pathname pass3.1M
 Dataset Creation Thu Jul 07 09:39:23 2022

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Thu Jul 07 08:32:30 2022
 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	2.000	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	600.000	-10.000	
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

	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

	Background	Magnesium	Aluminum	Aluminum+Fe	
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

	Background	Magnesium	Aluminum	Aluminum+Fe	
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 Long Space	cps cps	pu
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POST-SURVEY VERIFICATION				
	Detector	Readings	Measured	Target
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:	Mon Jun 20 01:31:16 2022	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.8500	GAPI/cps