



DUAL
INDUCTION
LOG

Company RL INVESTMENT, LLC.
Well PFEIFER #8
Field STRUSS NORTHWEST
County GRAHAM State KANSAS

Location: API #: 15-065-24186-0000
2170' FNL & 640' FEL
SEC 36 TWP 10S RGE 25W
Permanent Datum GROUND LEVEL Elevation 2439
Log Measured From KELLY BUSHING 7' A.G.L
Drilling Measured From KELLY BUSHING
Other Services CDL/CNL MEL
Elevation K.B. 2446
D.F. 2444
G.L. 2439

Date	6/4/20
Run Number	ONE
Depth Driller	4320
Depth Logger	4318
Bottom Logged Interval	4316
Top Log Interval	00
Casing Driller	8 5/8" @ 221'
Casing Logger	220
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.3/51
pH / Fluid Loss	10.0/8.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.85 @ 93F
Rmf @ Meas. Temp	0.63 @ 93F
Rmc @ Meas. Temp	1.02 @ 93F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	0.66 @ 119F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	////
Maximum Recorded Temperature	119F
Equipment Number	3802
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	RICHARD BELL

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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 SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
WAKEENEY, KS. - NORTH TO GRAHAM COUNTY RD. C - 9 WEST TO RD. 170
1 SOUTH TO RD. B - 3/4 WEST - SOUTH INTO

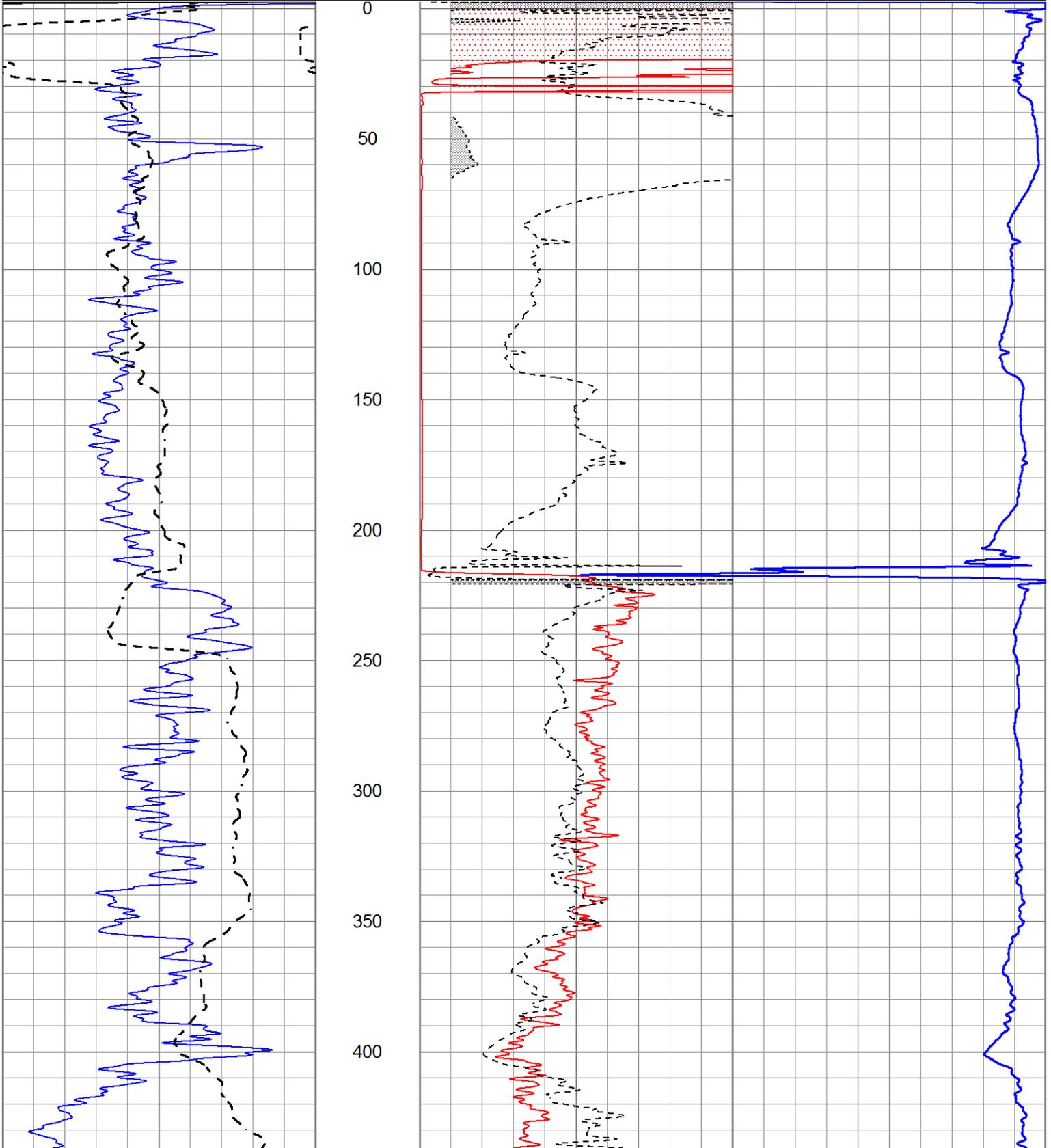


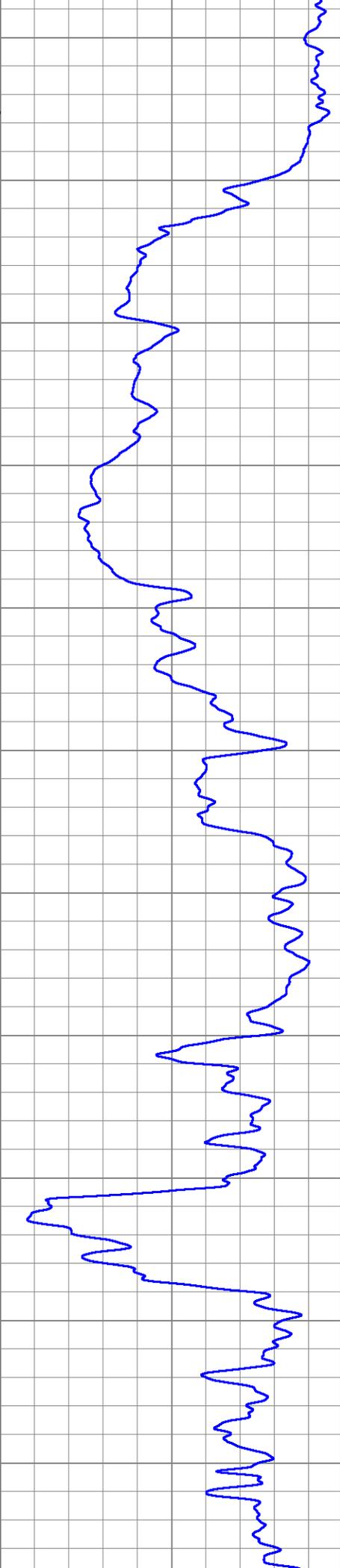
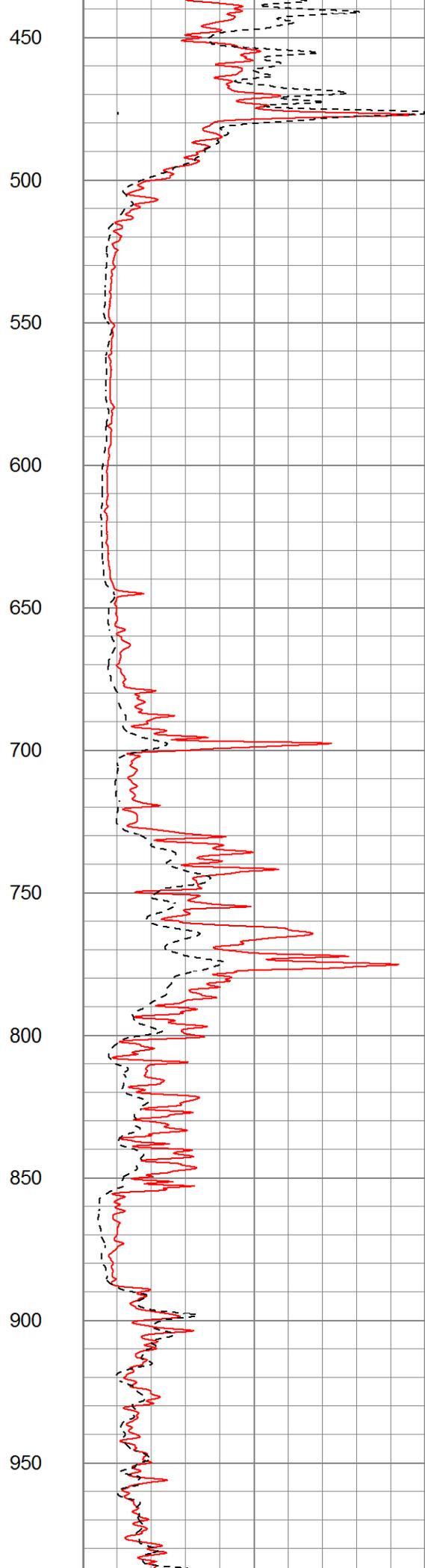
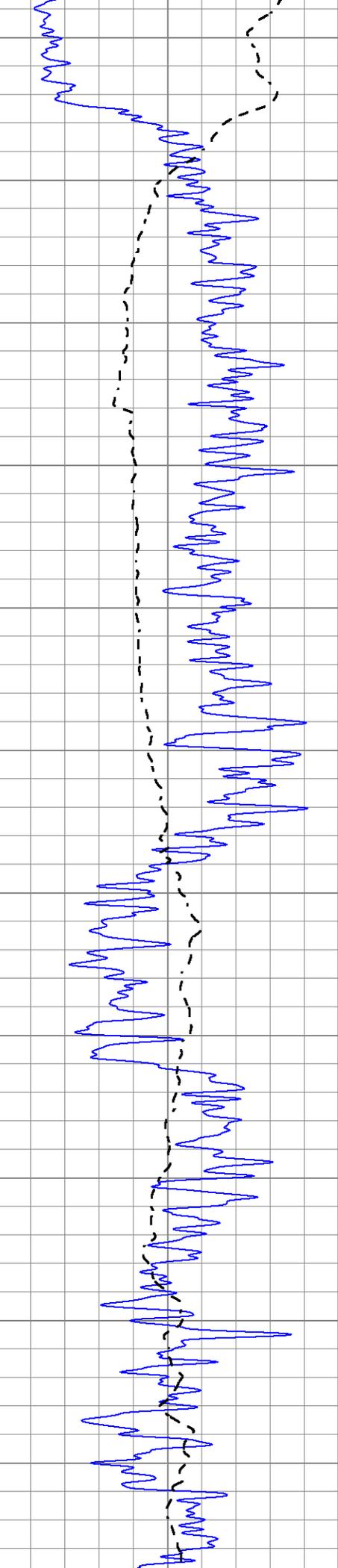
MAIN SECTION

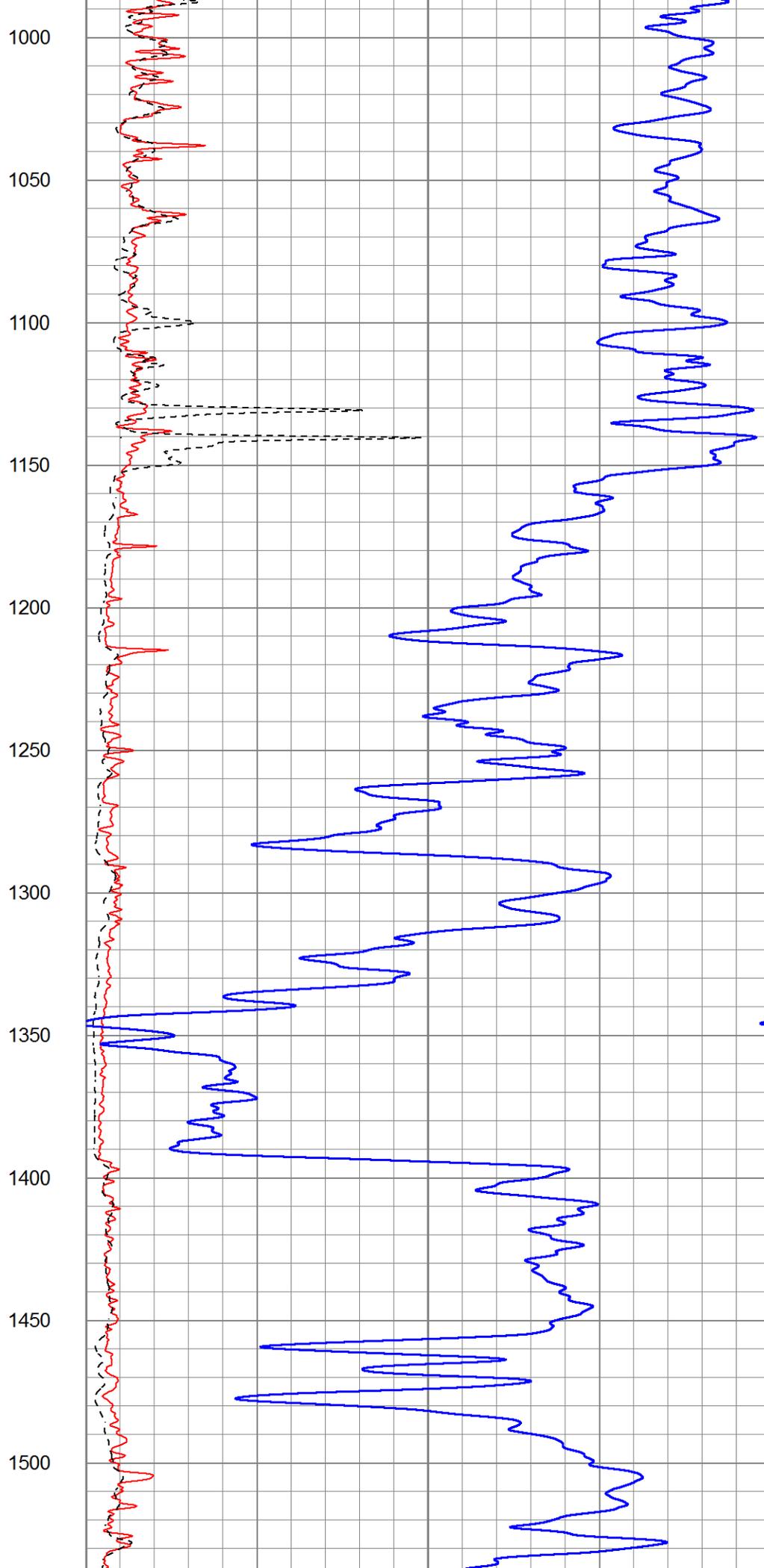
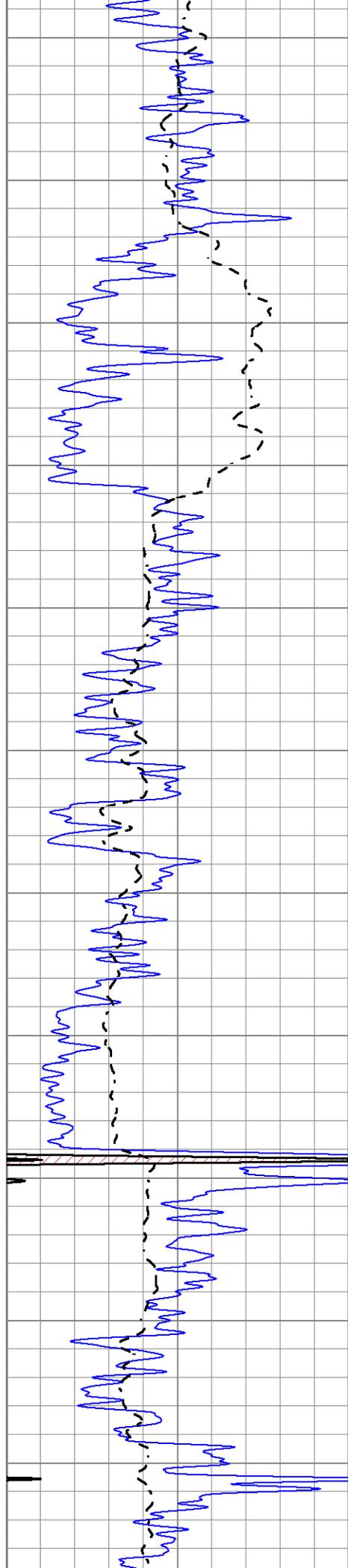
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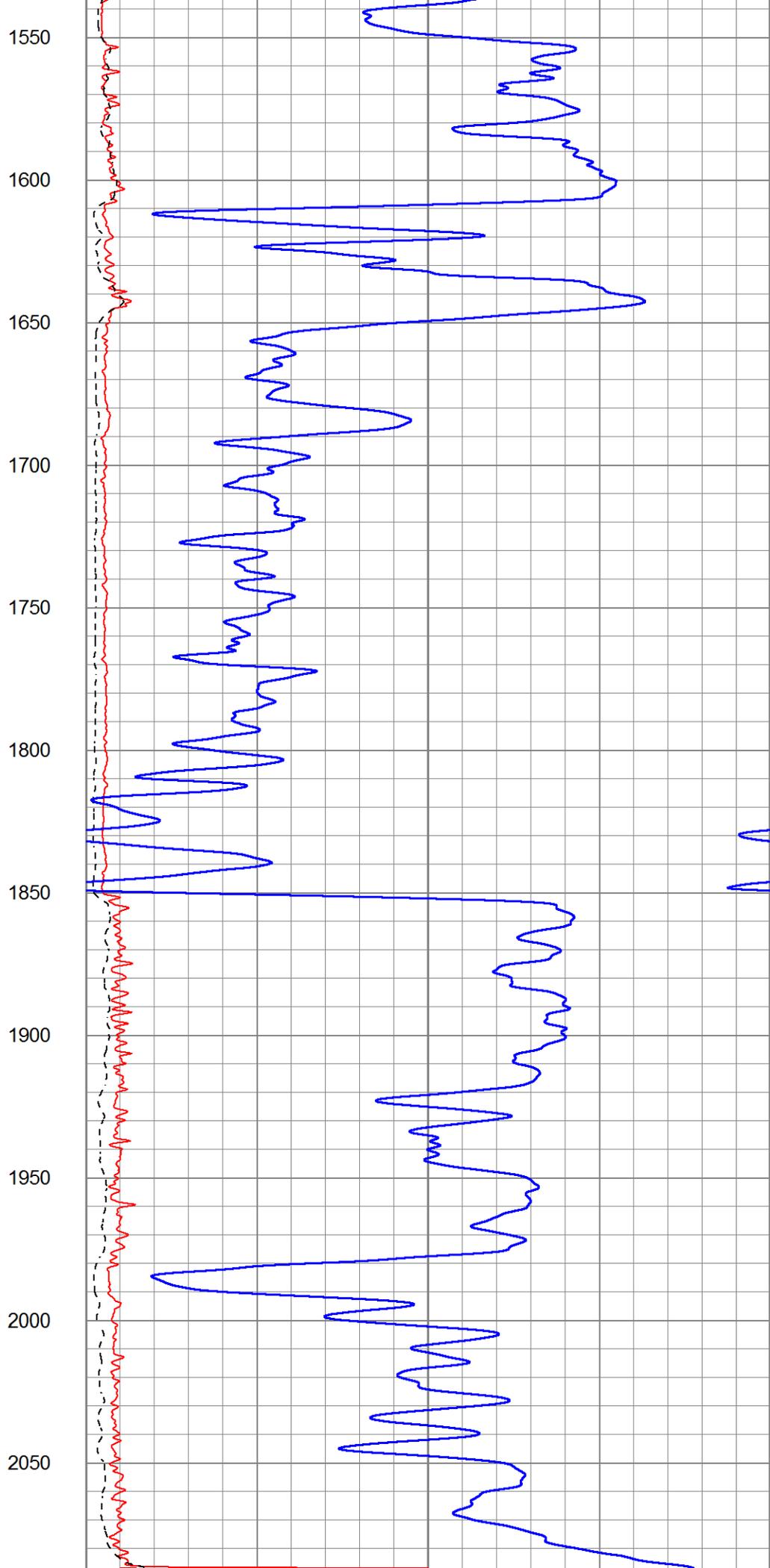
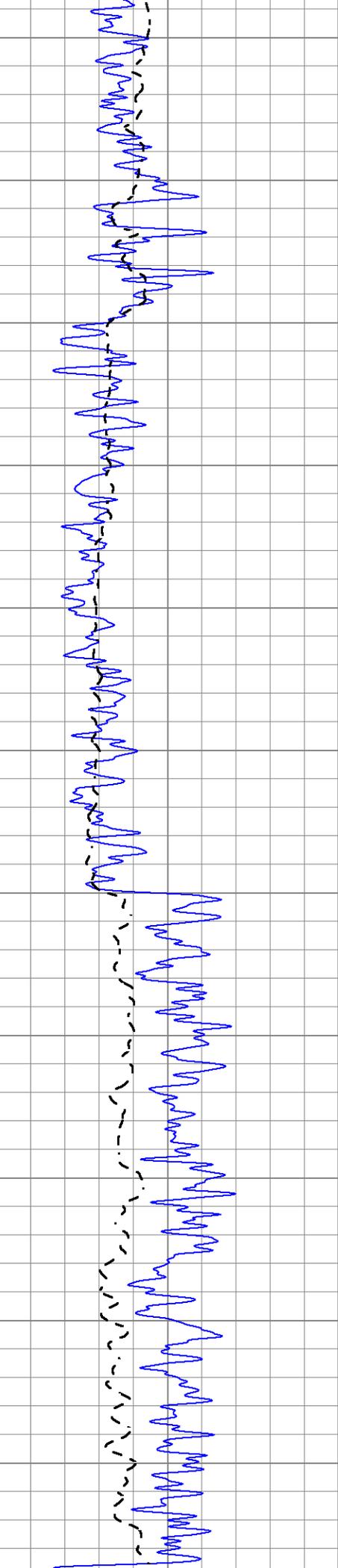
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-100	SP (mV)	100

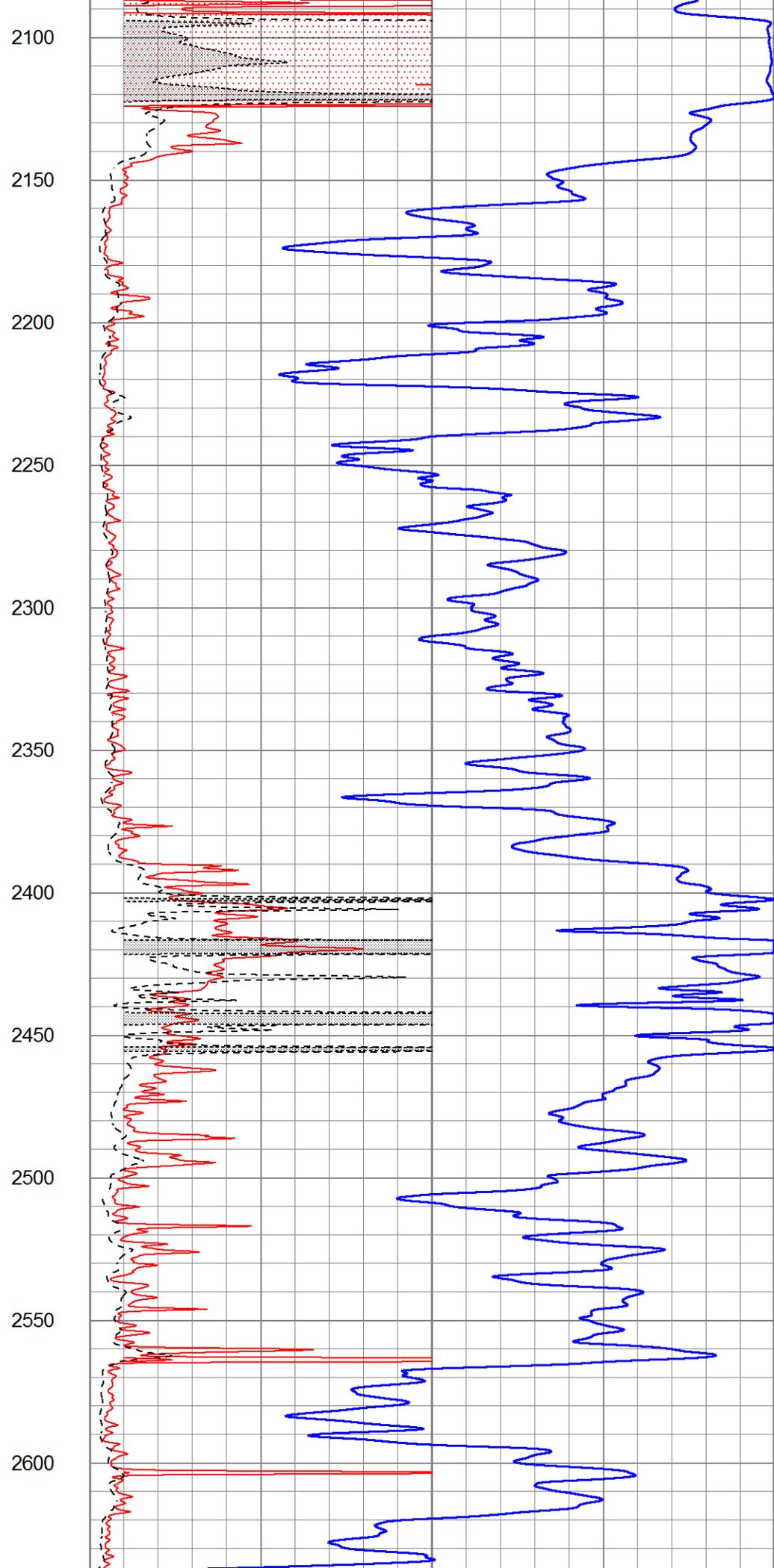
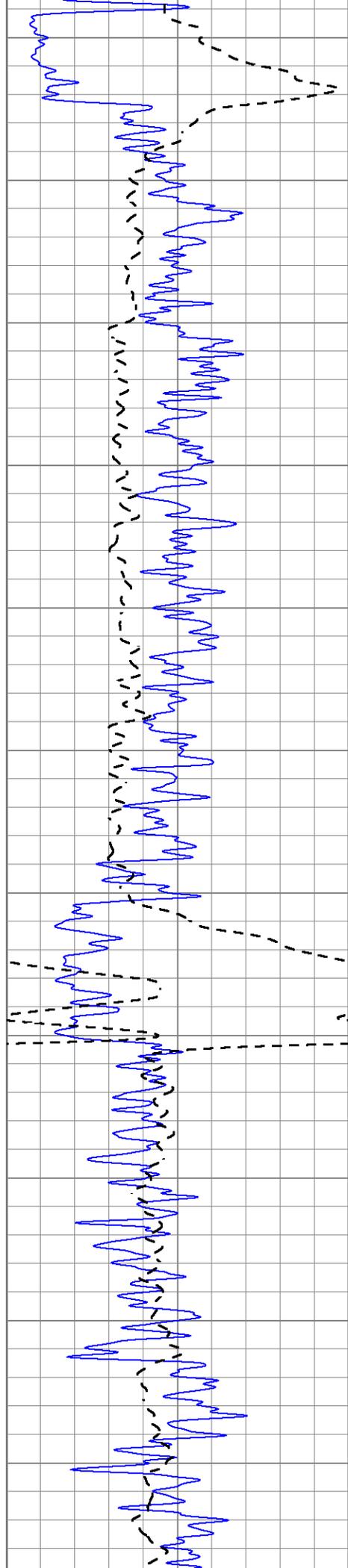
1000	CILD (mmho/m)	0
0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

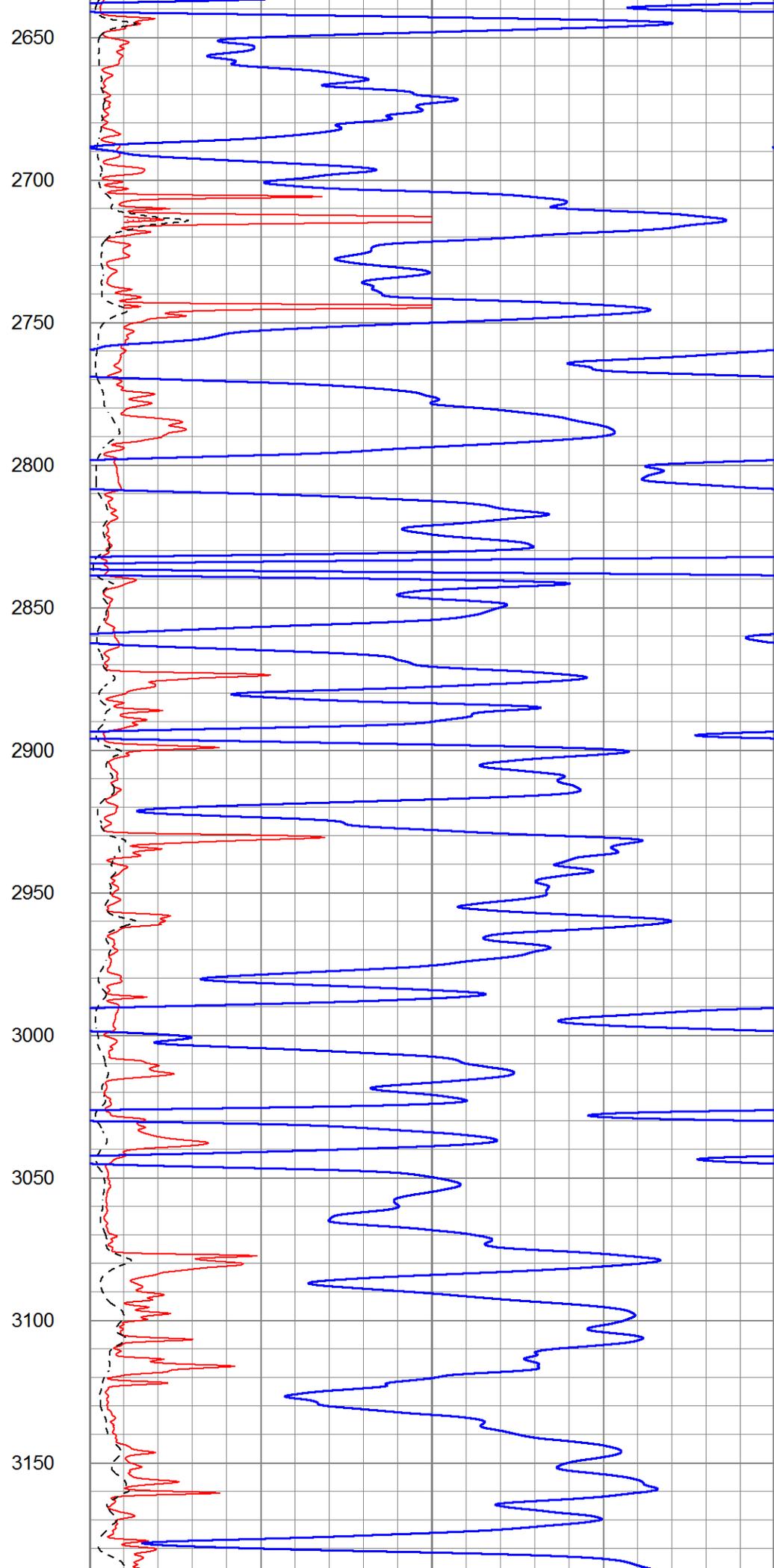
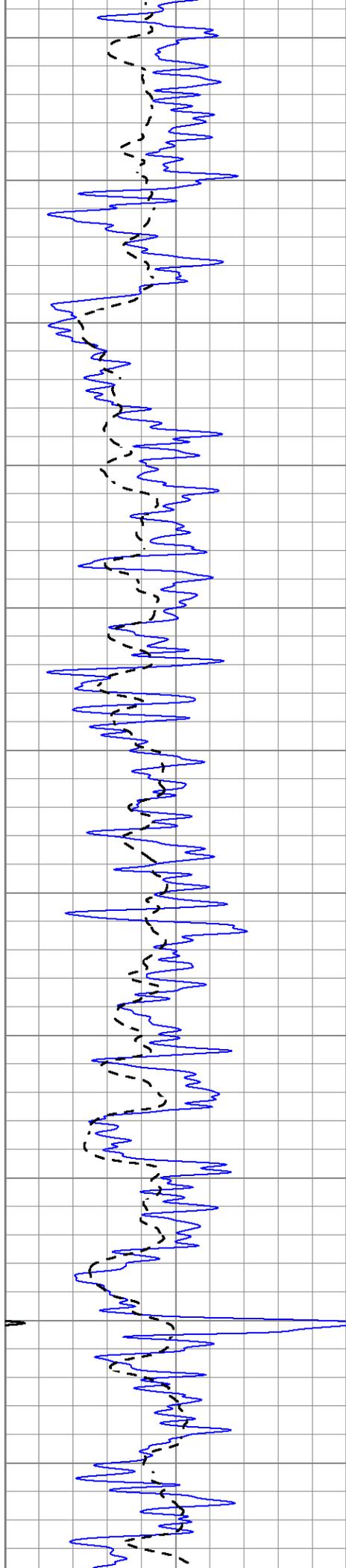


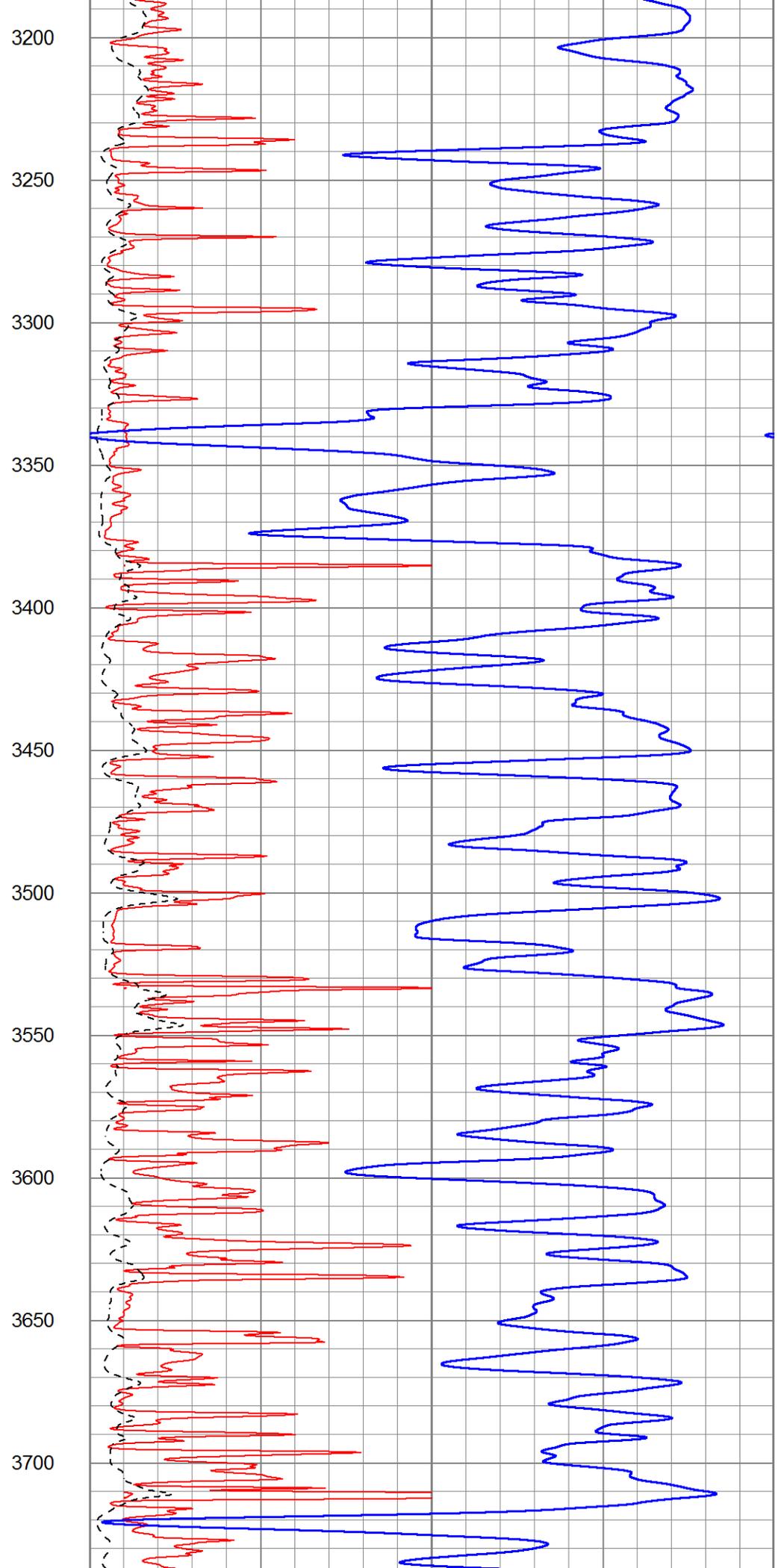
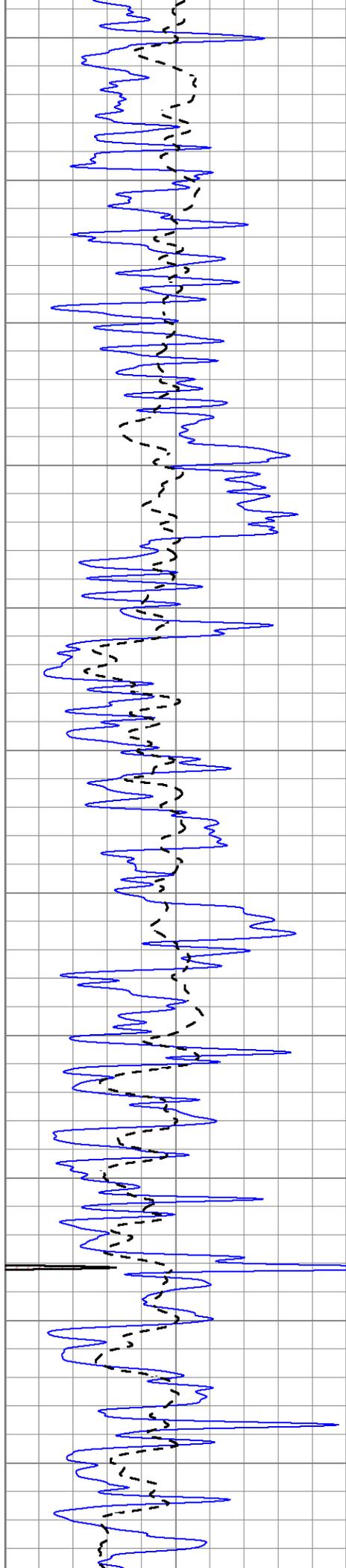


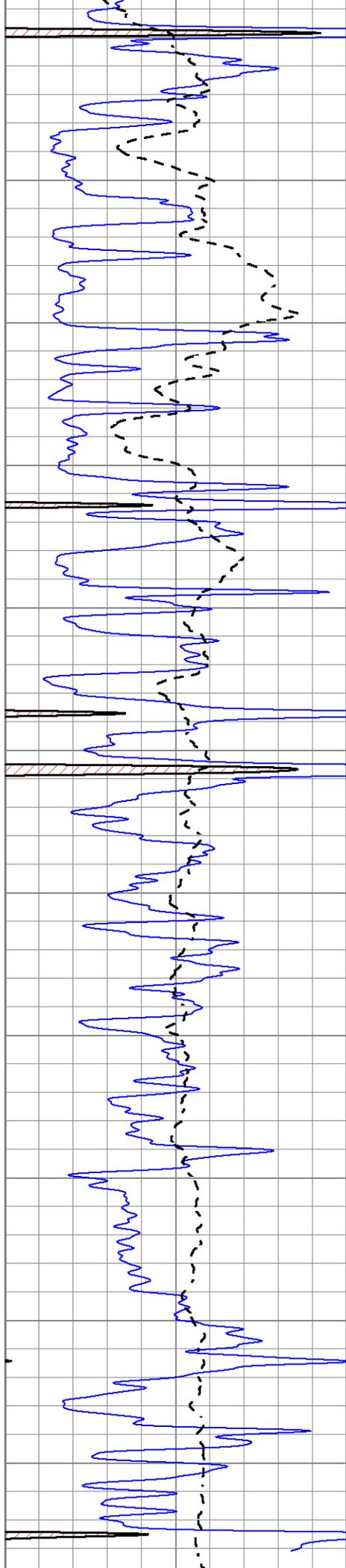












3750

3800

3850

3900

3950

4000

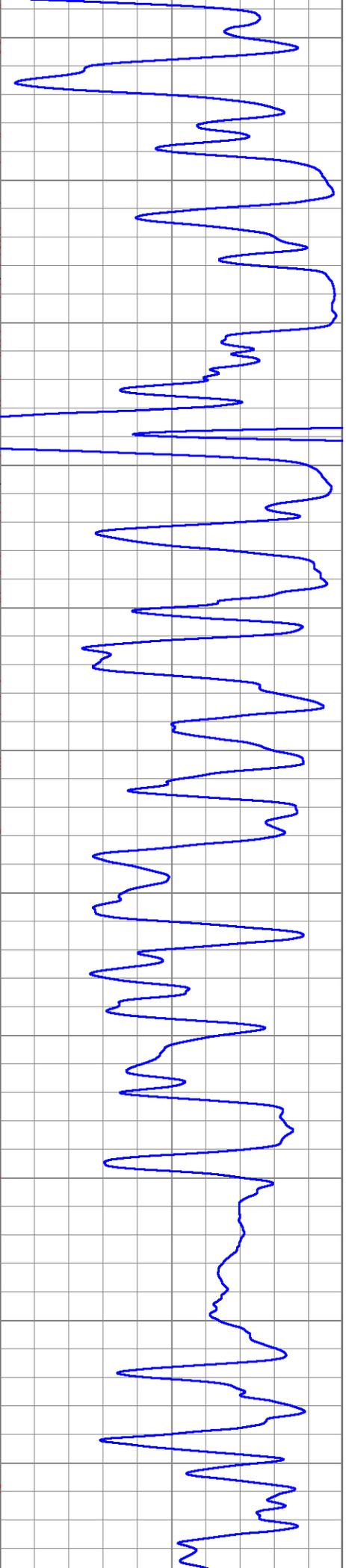
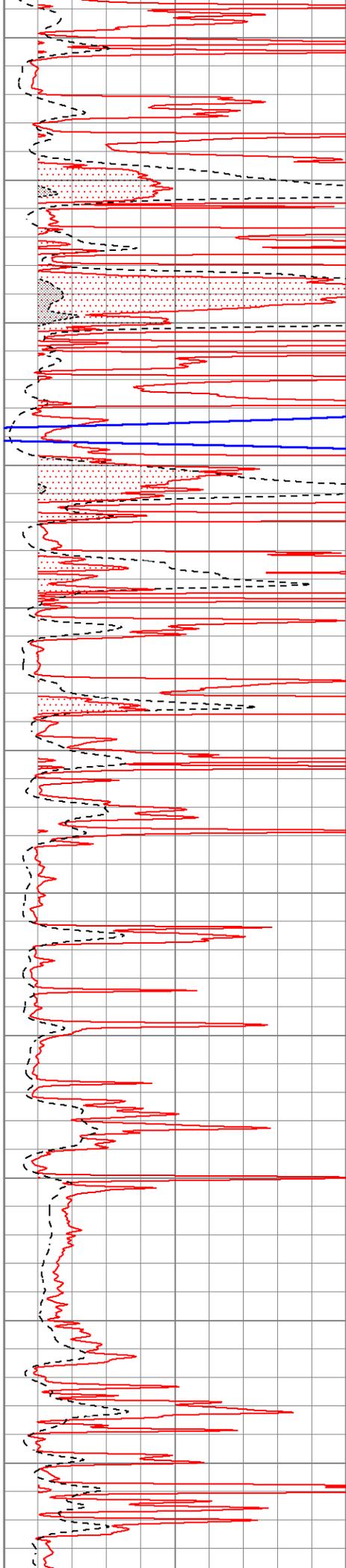
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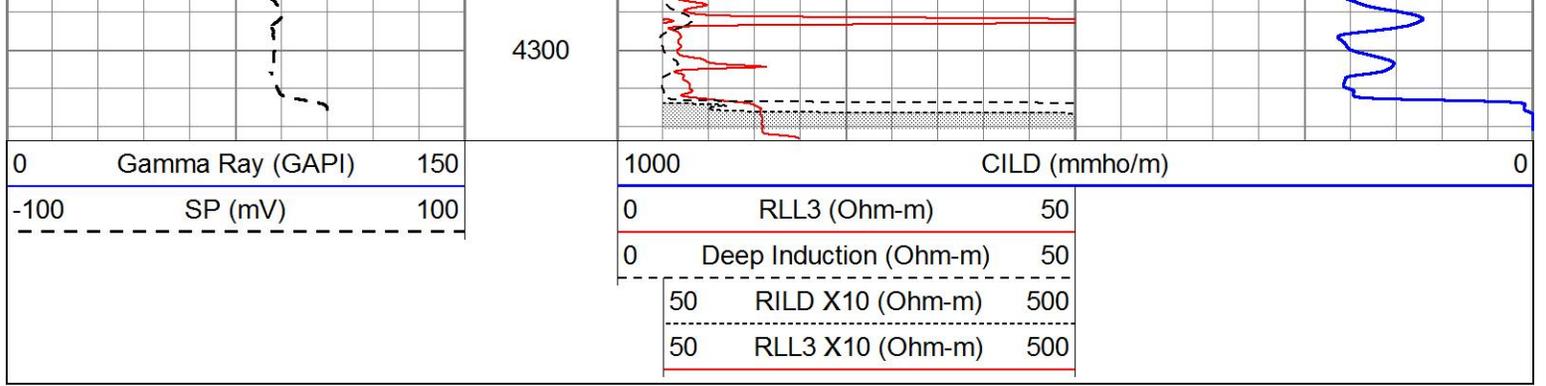
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4150

4200

4250

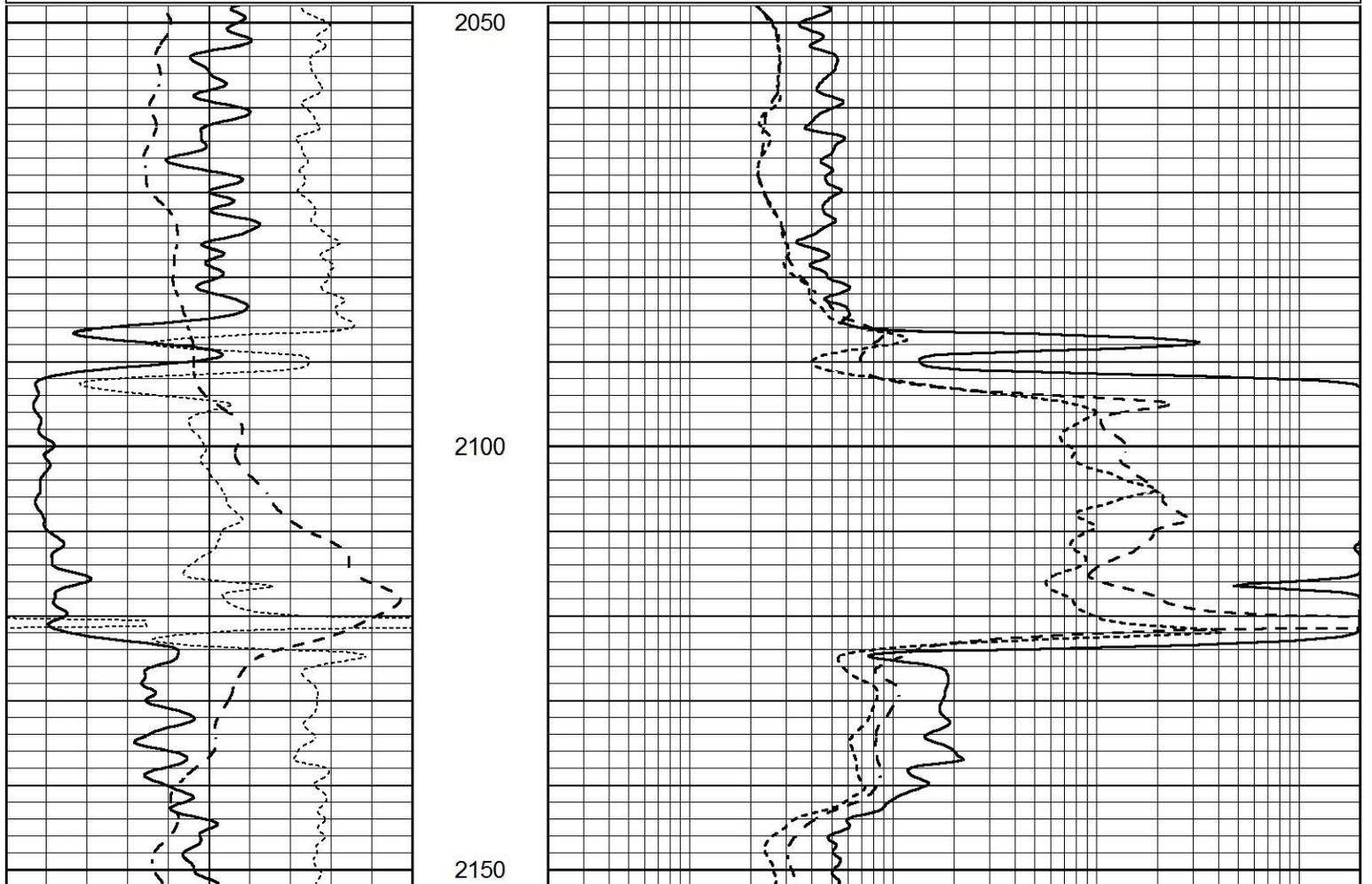




ANHYDRITE

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 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000



0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000

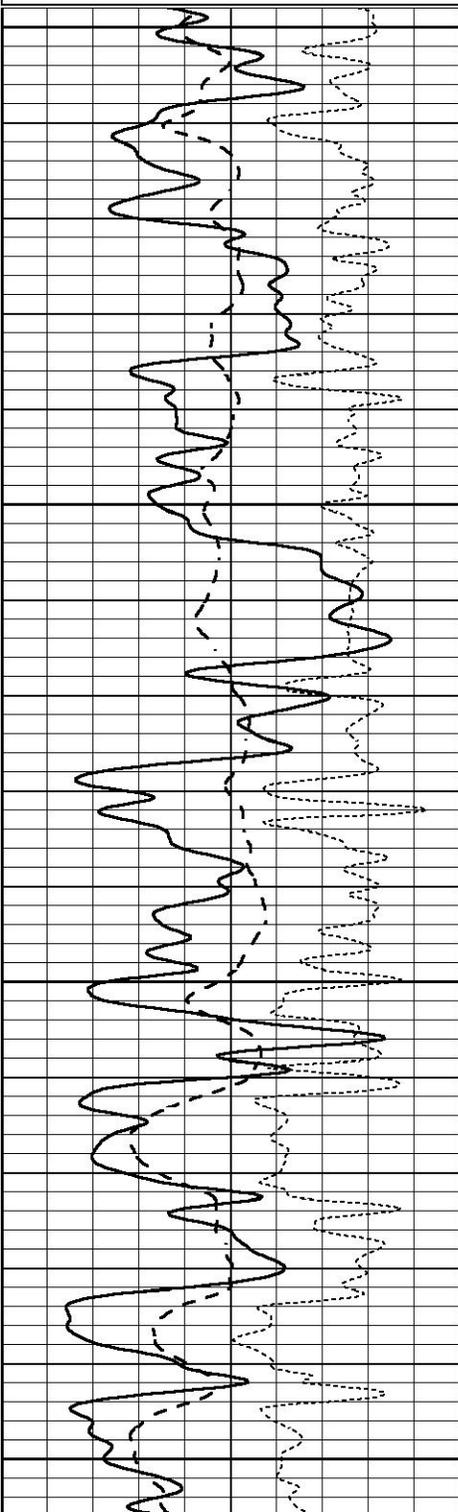


MAIN SECTION

Database File 4737ddn.db
Dataset Pathname pass3.1
Presentation Format _dil
Dataset Creation Thu Jun 04 22:43:33 2020
Charted by Depth in Feet scaled 1:240

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

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

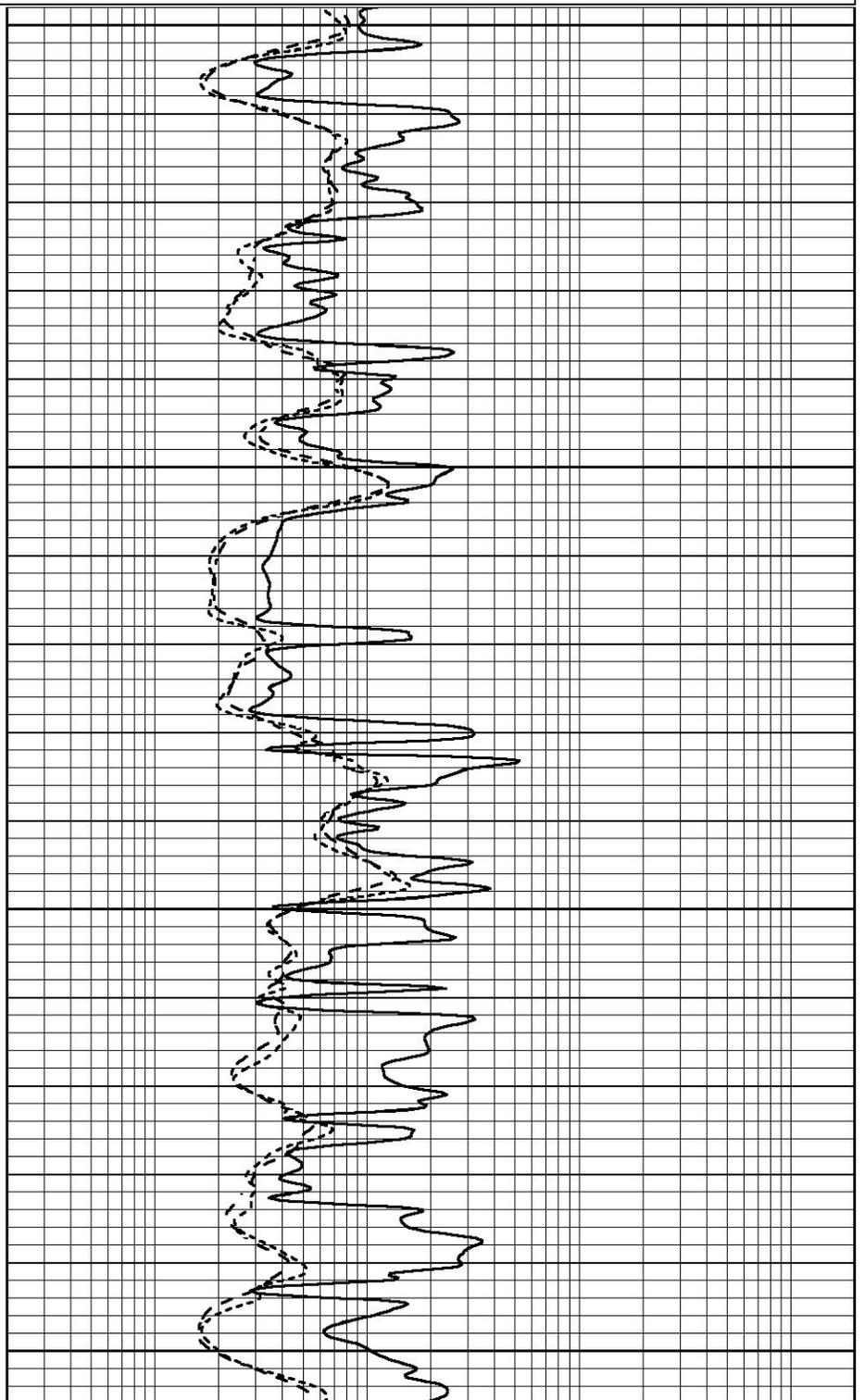


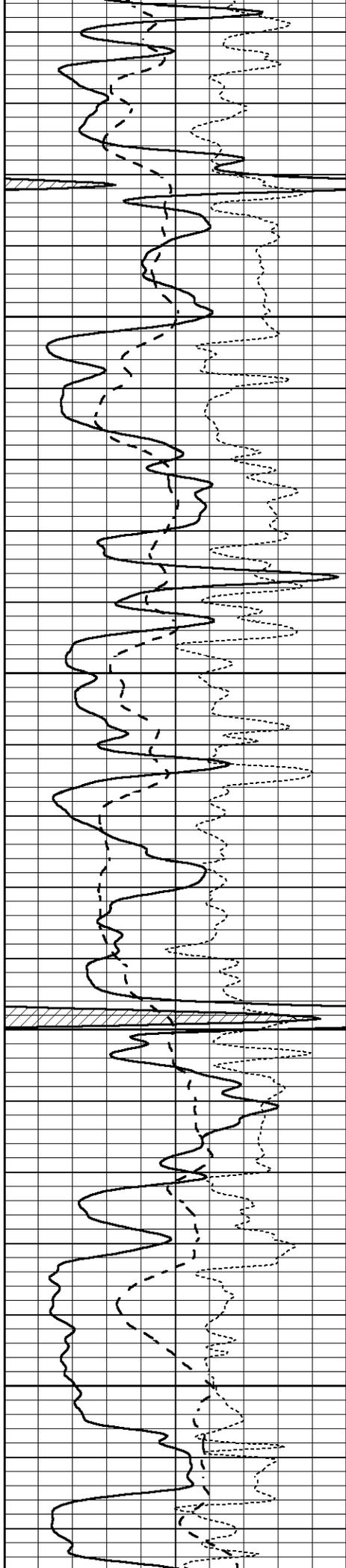
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3500

3550

3600



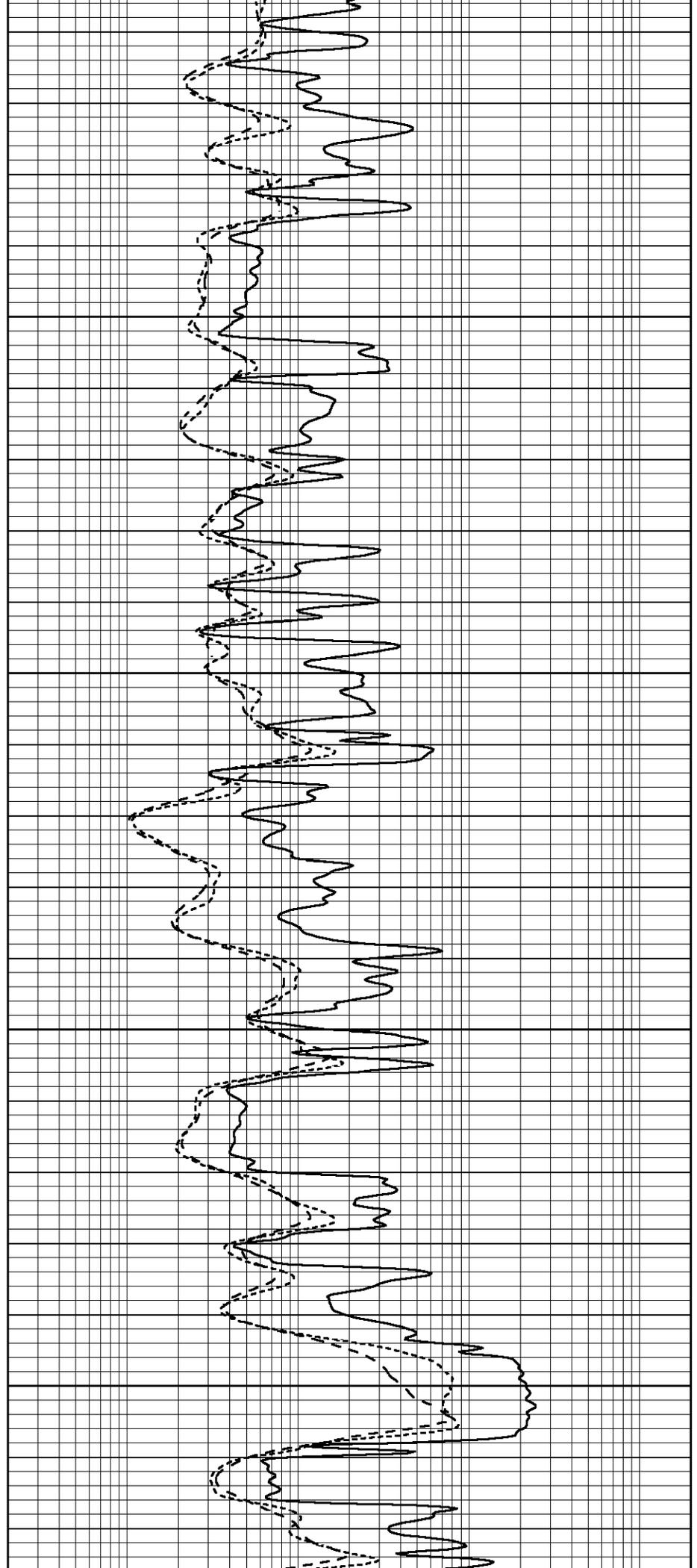


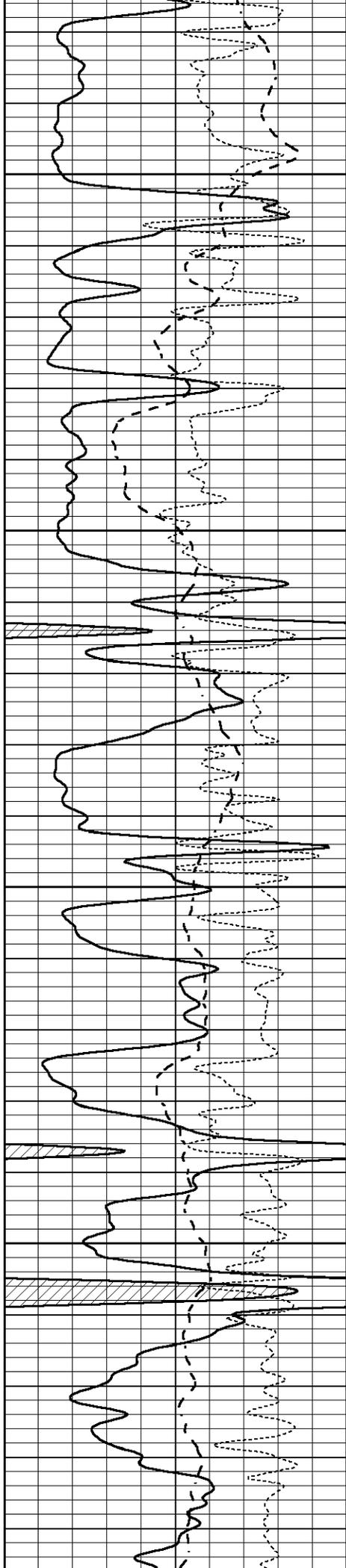
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3700

3750

3800



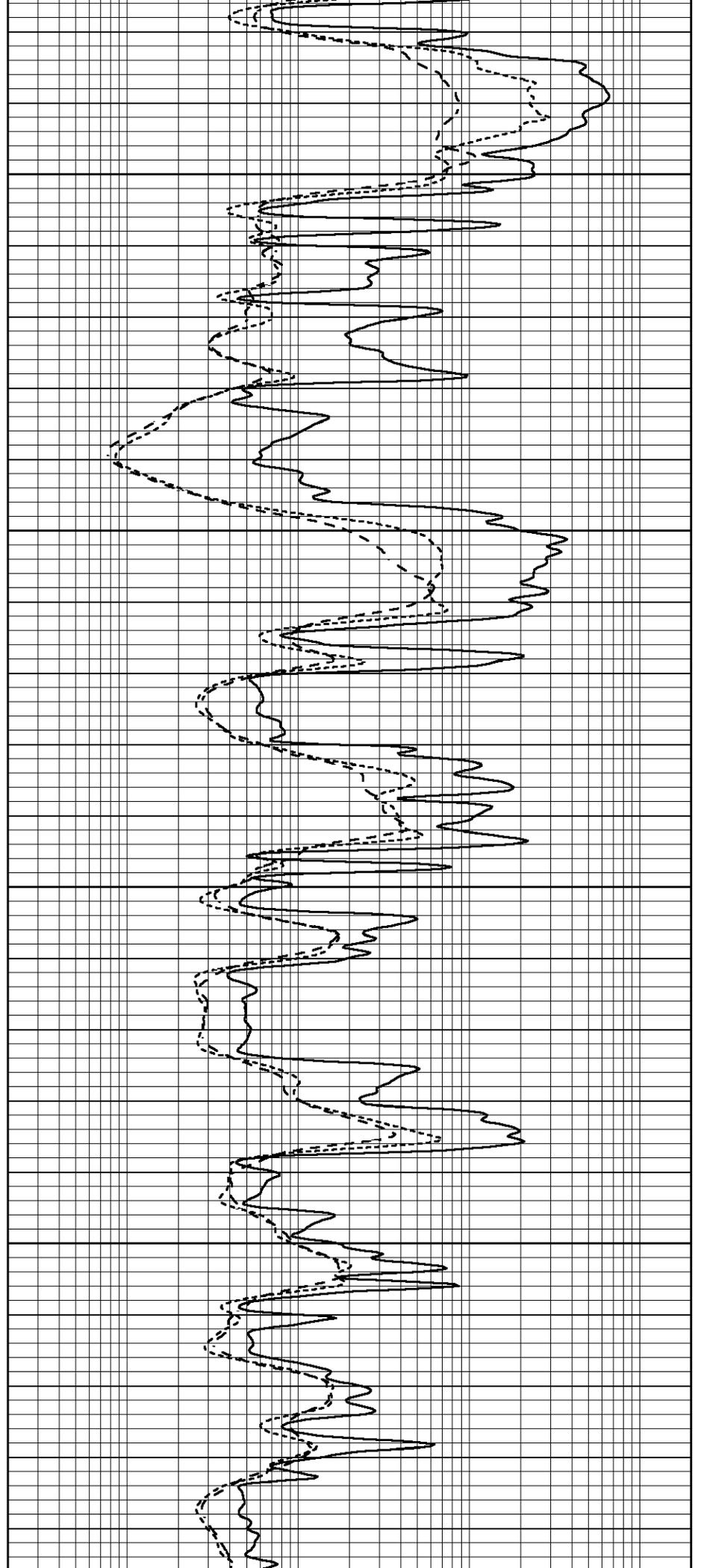


3850

3900

3950

4000



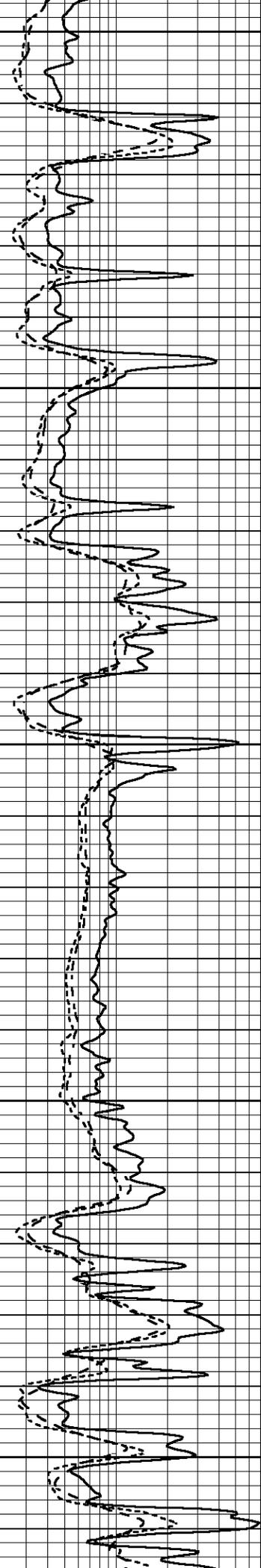
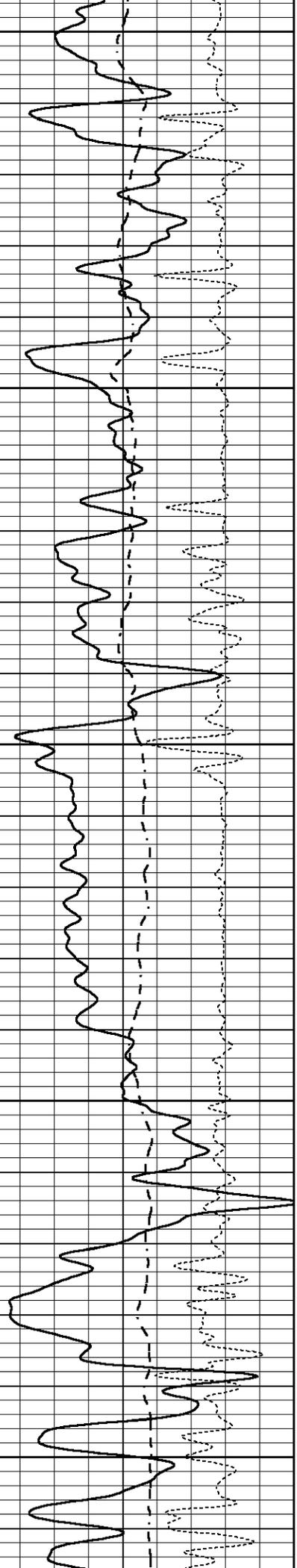
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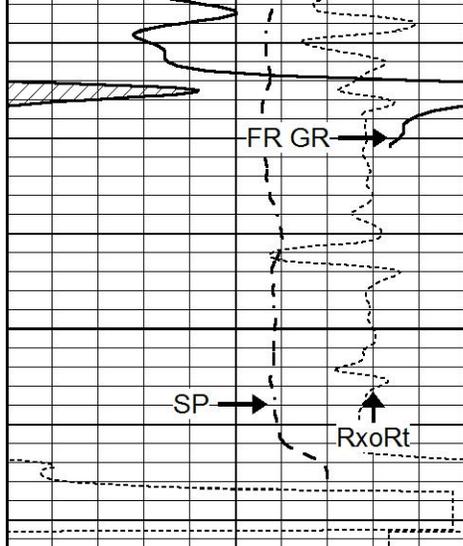
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4150

4200

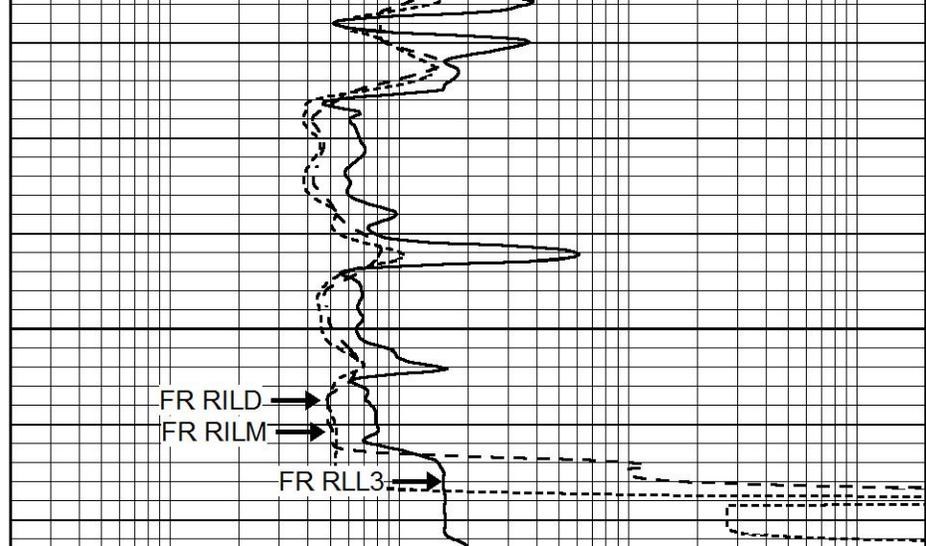
4250





4300
LTD 4318

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



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

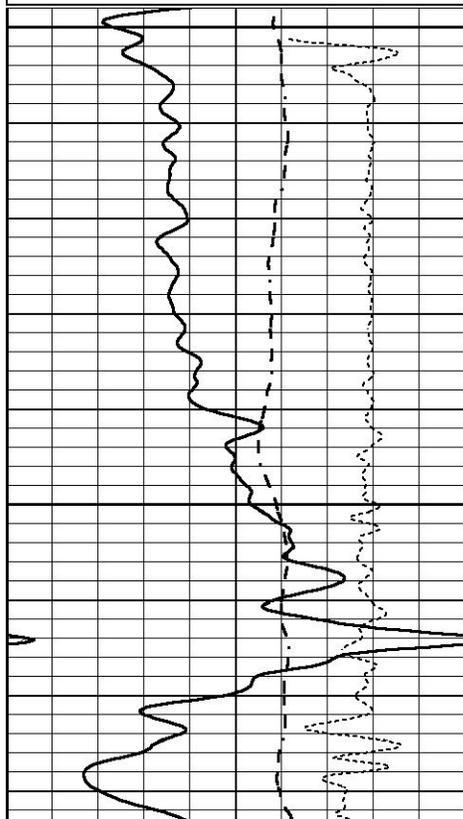


REPEAT SECTION

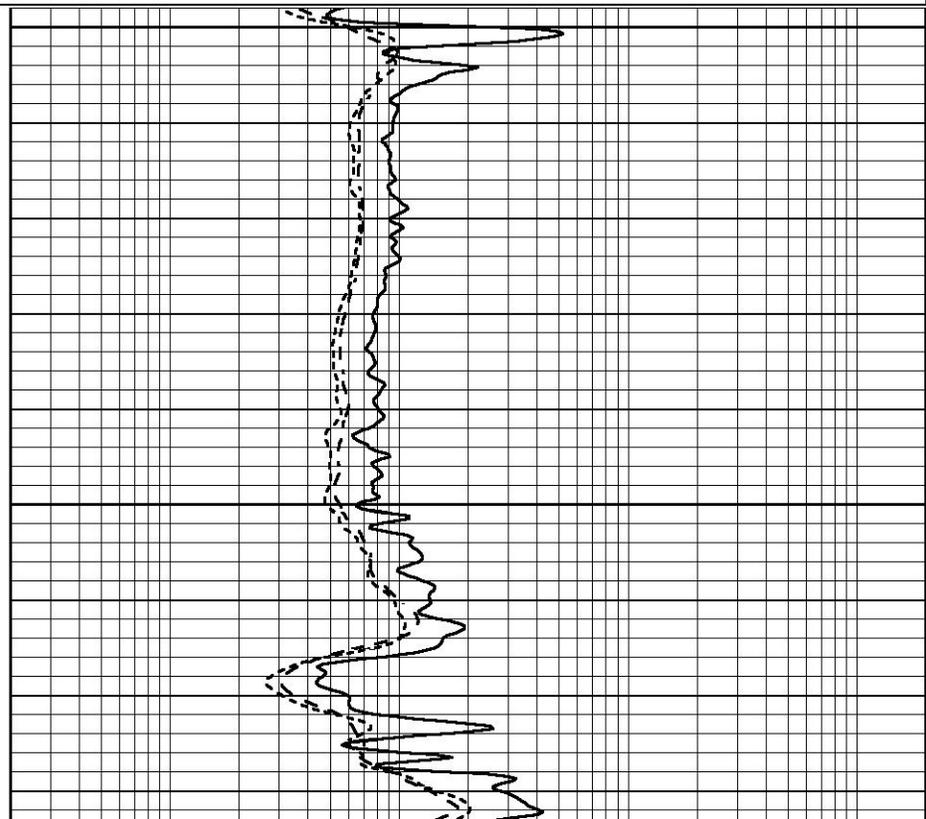
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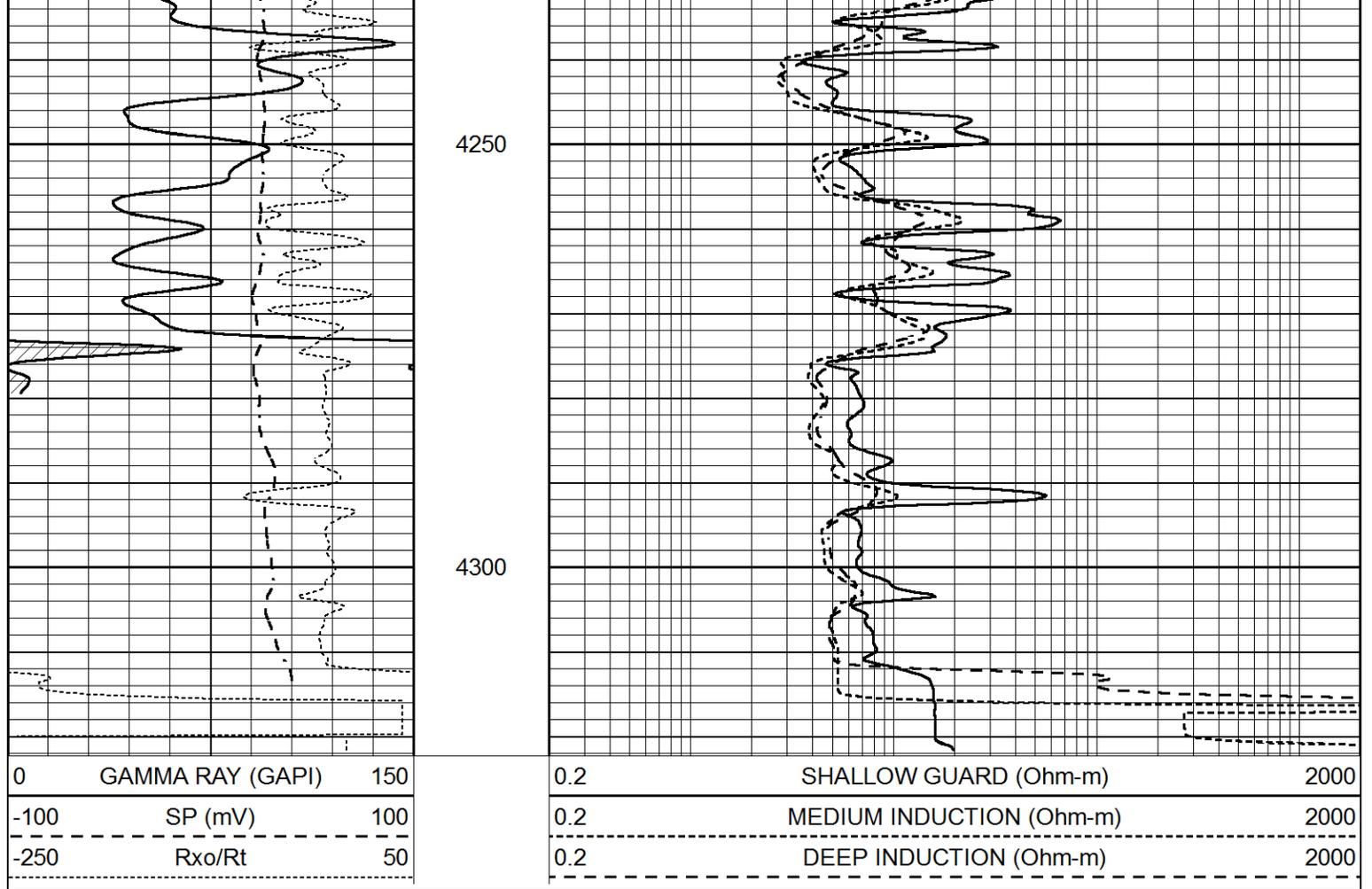
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

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



4150
4200





Calibration Report

Database File 4737ddn.db
 Dataset Pathname pass2.1
 Dataset Creation Thu Jun 04 22:46:15 2020

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
 Surface Cal Performed: Tue Feb 19 11:44:18 2019
 Downhole Cal Performed: Tue Feb 19 11:44:24 2019
 After Survey Verification Performed: Tue Feb 19 11:44:27 2019

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop	mmho/m	m	b
Deep	0.011	0.656	V	1.000	400.000	mmho/m	618.595	-5.524
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	1.197
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.649	V	0.000	400.000	mmho/m	623.784	-4.595
Medium	0.004	0.743	V	0.000	464.000	mmho/m	627.284	-2.251

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	-0.824	395.917	mmho/m	-0.976	397.550	mmho/m	1.004	-0.149
Medium	3.565	471.327	mmho/m	3.468	471.590	mmho/m	1.001	-0.099
LL3		7.503	V		1500.000	Ohm-m		
		0.001	V		20.000	Ohm-m		

0.001 V 20.000 Ohm-m
 -7.481 3745.000 mmho-m

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-0.824	395.917	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	3.565	471.327	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1500.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		3745.000	mmho-m		

Litho Density Calibration Report
 Serial: 140703
 Model: V4_10P
 Source Number: 74GBq-19

Master Calibration

Performed: Thu May 21 10:43:15 2020

	Background	Aluminum	Magnesium		
Window 1	531.08	5459.71	23833.72	cps	
Window 2	42.08	1230.06	5814.64	cps	
Window 4	232.81	1236.34	5296.40	cps	
Window 5	564.62	8687.43	16546.07	cps	
Window 6	44.20	1453.03	2846.27	cps	
Window 8	270.67	2786.28	5209.33	cps	
Bulk Density	-	2.6020	1.6830	g/cc	
Pe	-	3.0000	2.5070	b/e	
LS Alpha:	: -1.8459	SS Alpha:	: -0.7701	LS CPE:	: 1.1427
LS Beta:	: 125609.8082	SS Beta:	: 19396.7594	SS CPE:	: 1.5007

Before Survey Background Counts Verification

Performed: Wed Dec 31 18:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

After Survey Background Counts Verification

Performed: Wed Dec 31 18:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

Lithodensity Caliper Calibration

Performed: Thu May 21 10:43:15 2020

Results	Readings		References (in)		Gain	Offset
	Low	High	Low	High		
	4564.4	7712.2	8.0	14.0	0.0	-1.1

Before Survey Caliper Verification

Performed:

	Reference	Reading
Caliper (in)	_____	_____

After Survey Caliper Verification	Performed:	
	Reference	Reading
Caliper (in)	_____	_____

Compensated Neutron Calibration Report

Serial Number:	080621PMC
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:	7	
Tool Model:	Probe1	
Performed:	Tue Dec 10 10:02:55 2019	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.4800	GAPI/cps