



DUAL  
INDUCTION  
LOG

Company MAI OIL OPERATIONS, INC.

Well KULTGEN #18

Field CHEYENNE VIEW

County BARTON State KANSAS

Location: API #: 15-009-26272-0000

1280' FNL & 1350' FWL  
SW - SW - NE - NW

SEC 12 TWP 19S RGE 12W

Permanent Datum GROUND LEVEL Elevation 1799  
Log Measured From KELLY BUSHING 9' A.G.L  
Drilling Measured From KELLY BUSHING

Other Services  
CDL/CNL  
MEL

Elevation

K.B. 1808  
D.F. 1806  
G.L. 1799

Date	9/10/19
Run Number	ONE
Depth Driller	3460
Depth Logger	3458
Bottom Logged Interval	3456
Top Log Interval	00
Casing Driller	8 5/8" @ 392'
Casing Logger	392'
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4/62
pH / Fluid Loss	8.5/16.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.25 @ 94F
Rmf @ Meas. Temp	.18 @ 94F
Rmc @ Meas. Temp	.30 @ 94F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.21 @ 111F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	////
Maximum Recorded Temperature	111F
Equipment Number	3802
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	JIM MUSGROVE

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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  
ELLINWOOD, KS. - 4 NORTH ON 100TH AVE TO 40 RD. - 3/4 WEST - SOUTH INTO

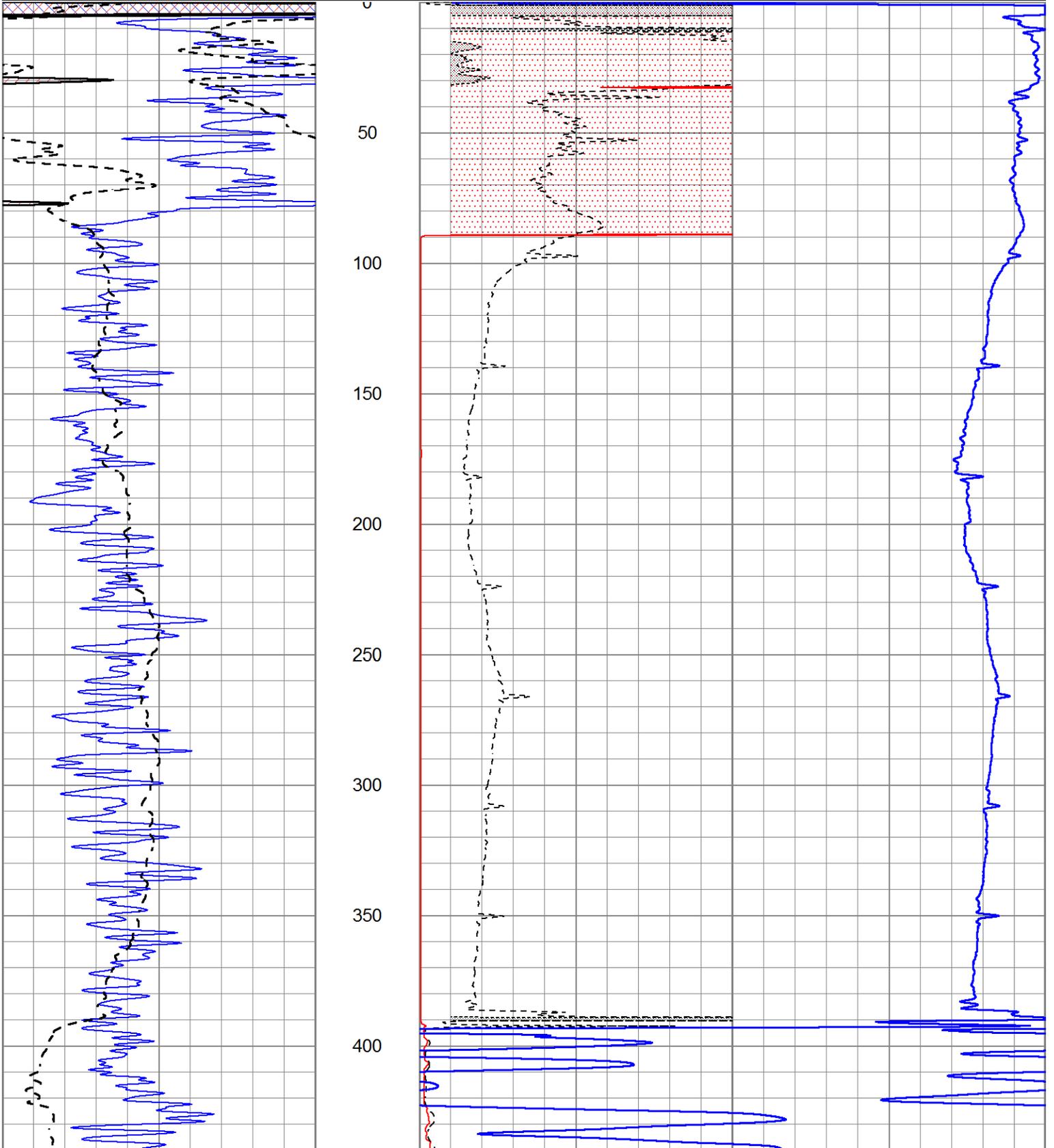


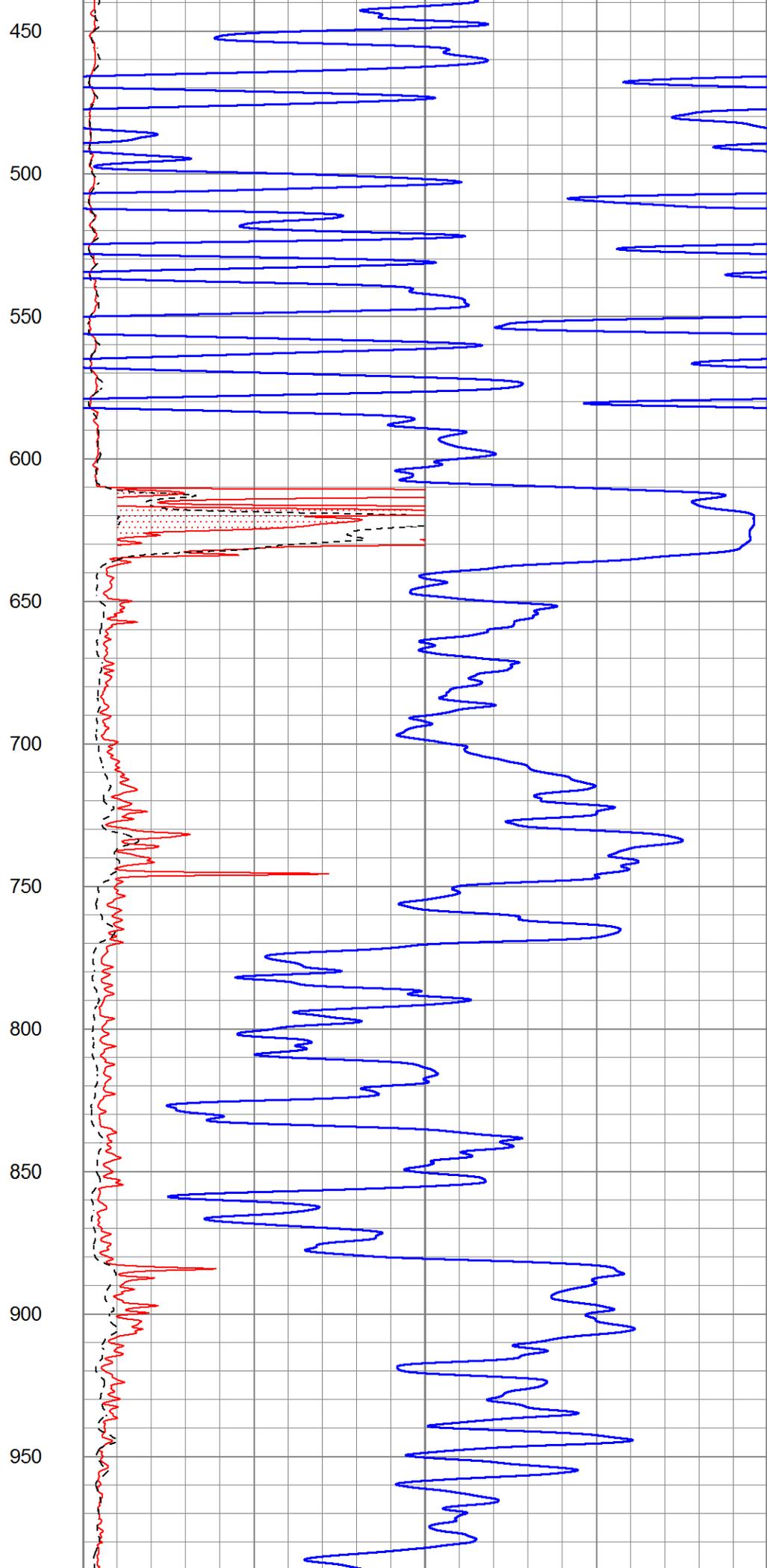
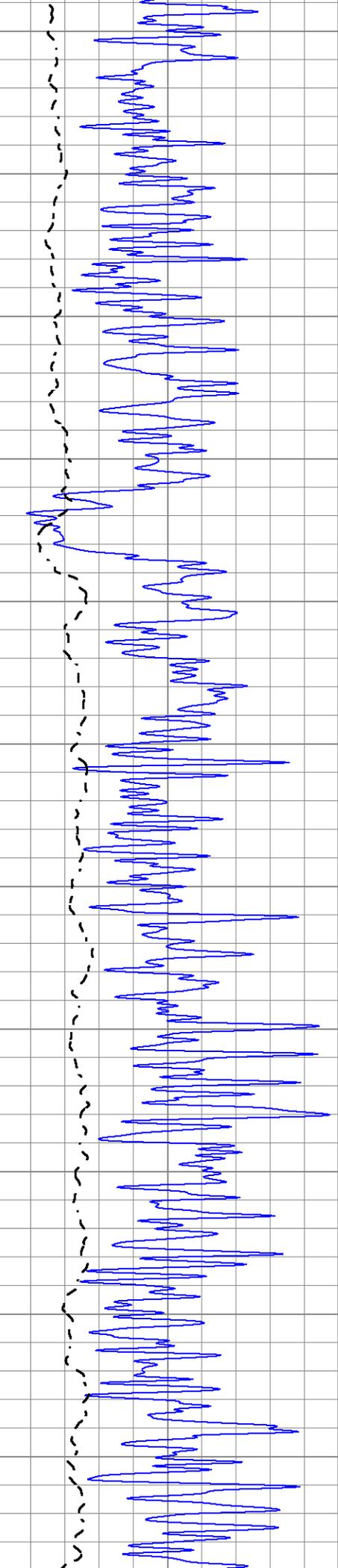
MAIN SECTION

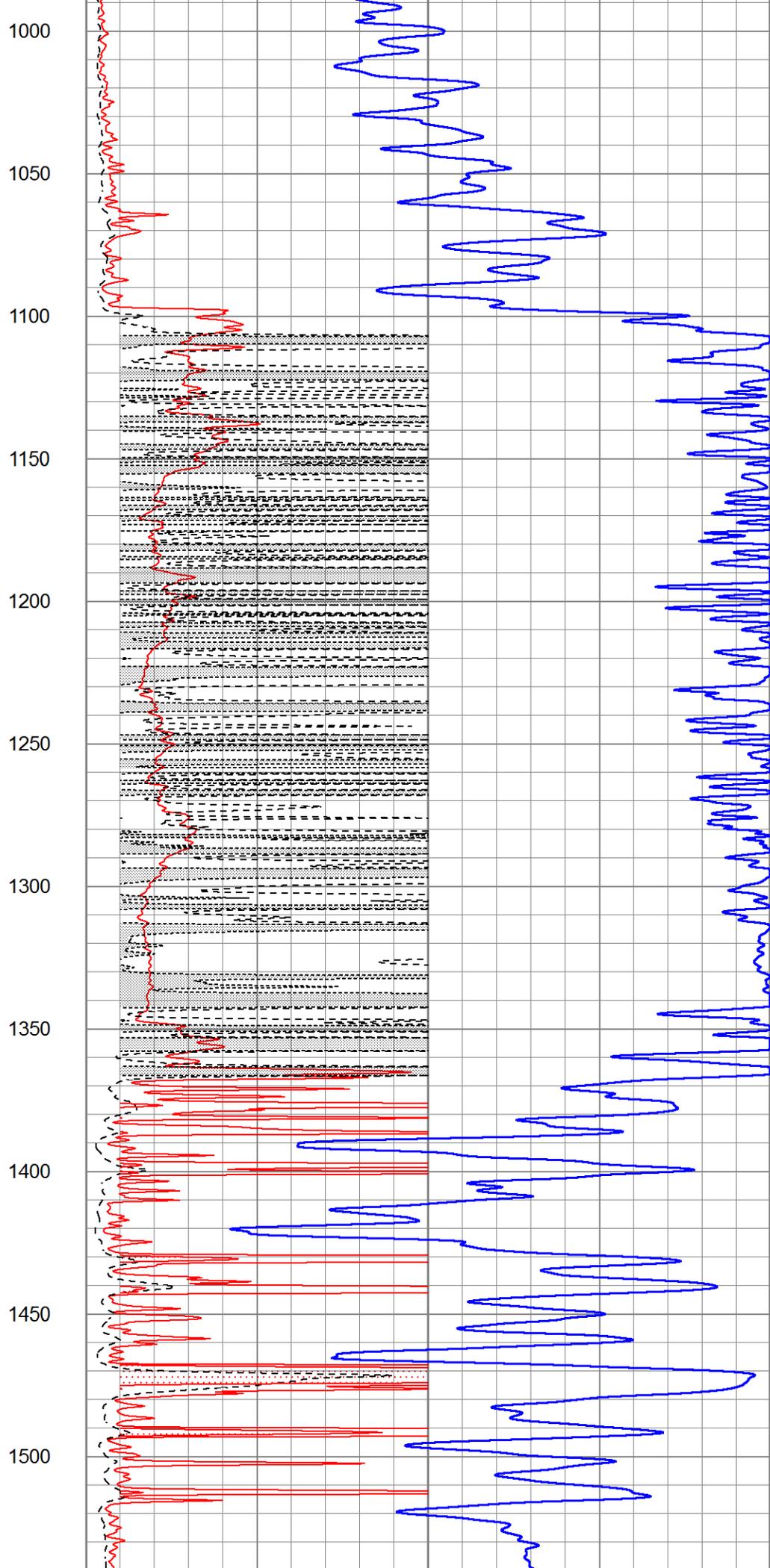
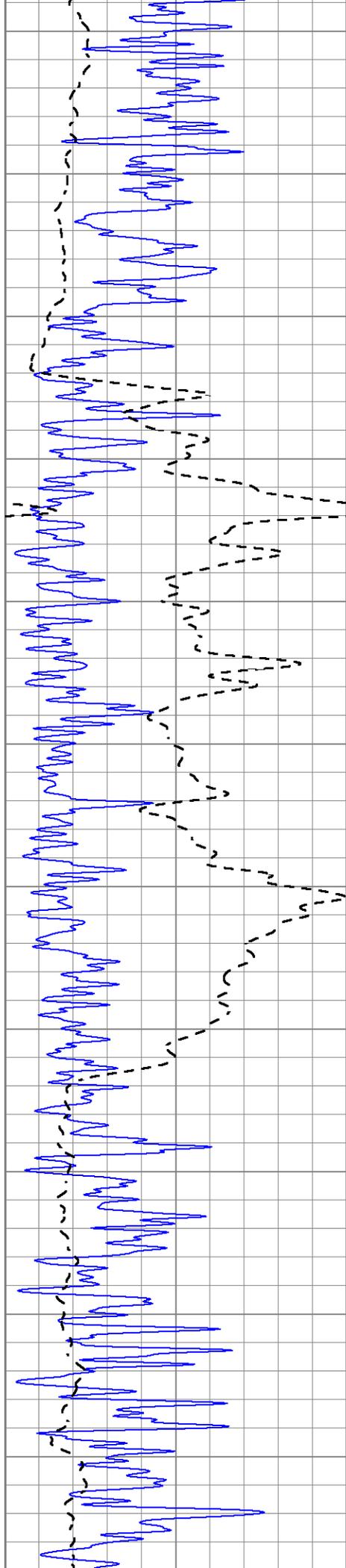
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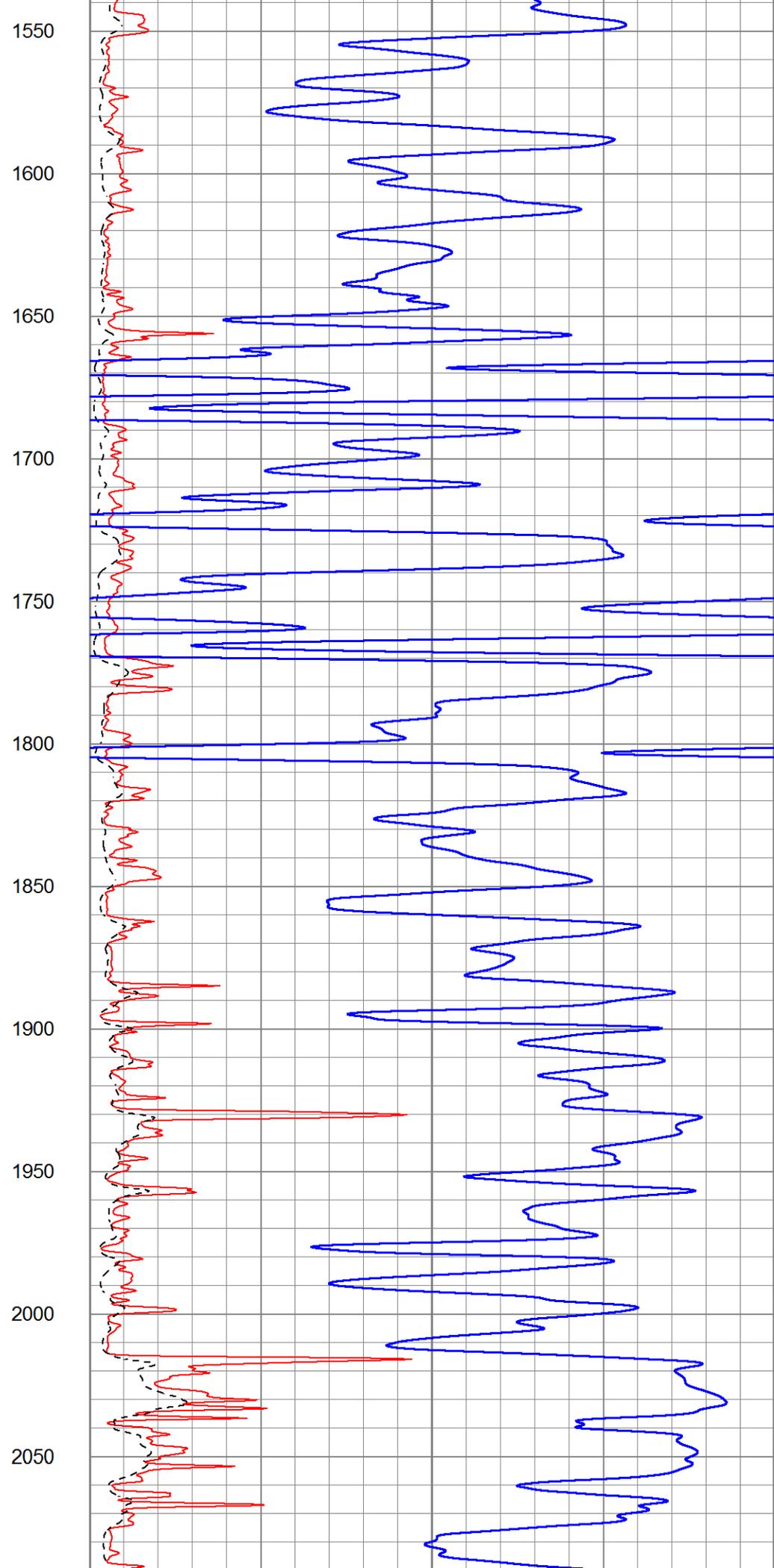
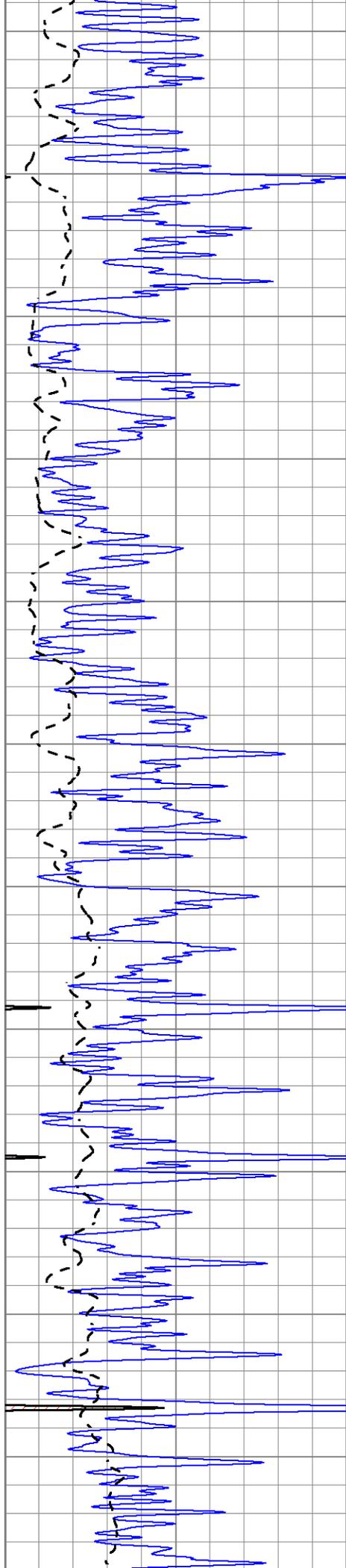
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 -100 SP (mV) 100

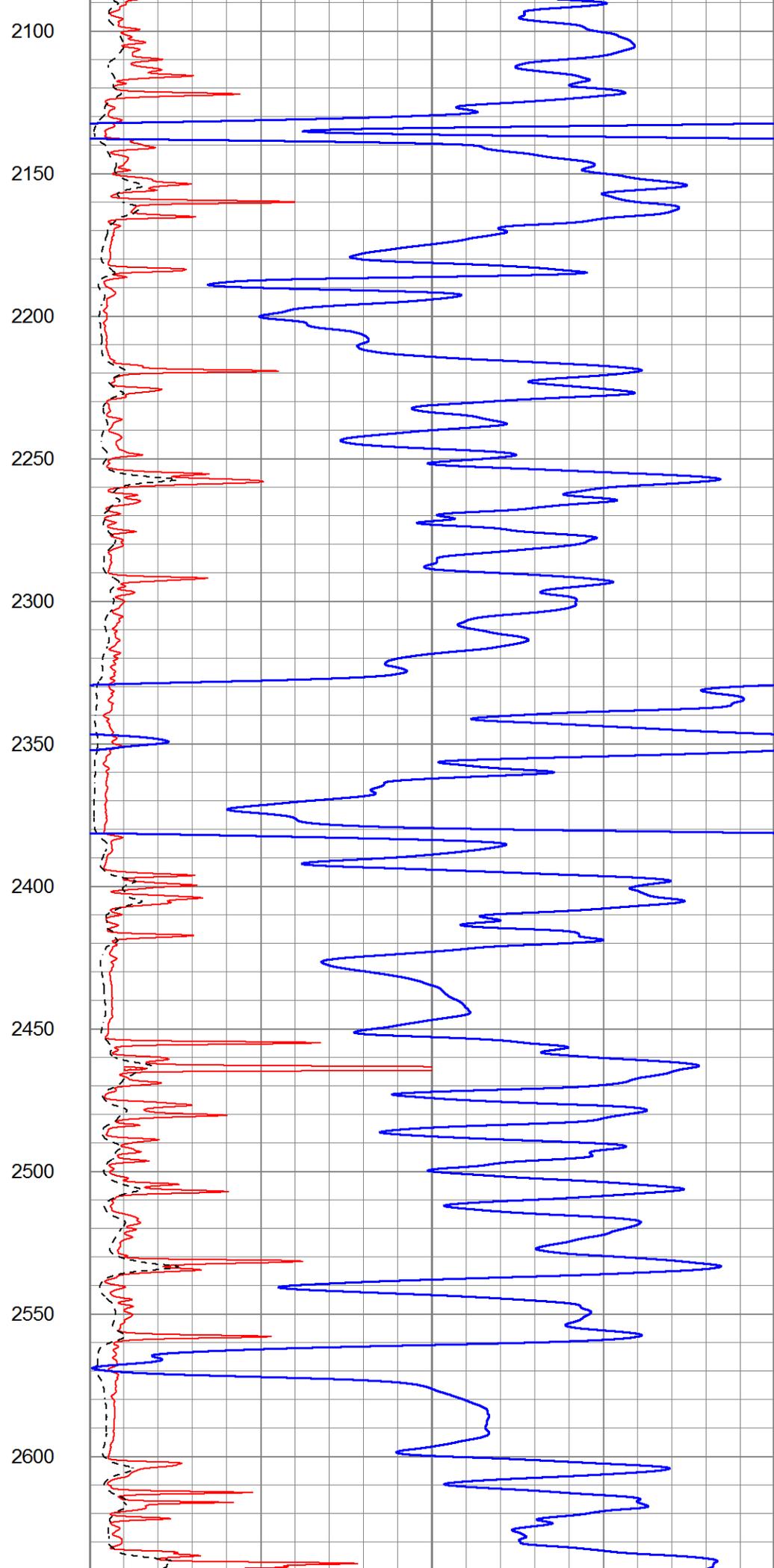
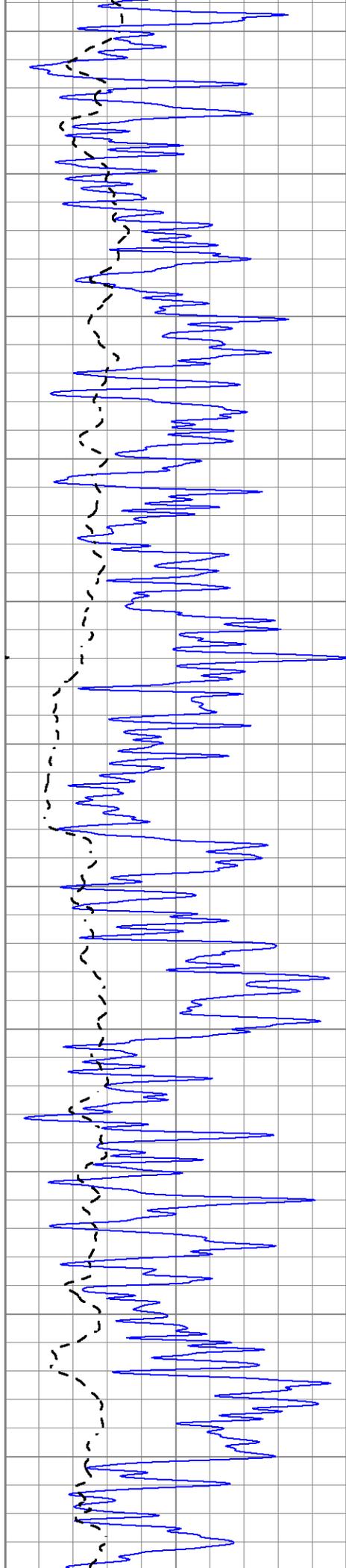
1000 CILD (mmho/m) 0  
 0 RLL3 (Ohm-m) 50  
 0 Deep Induction (Ohm-m) 50  
 50 RILD X10 (Ohm-m) 500  
 50 RLL3 X10 (Ohm-m) 500

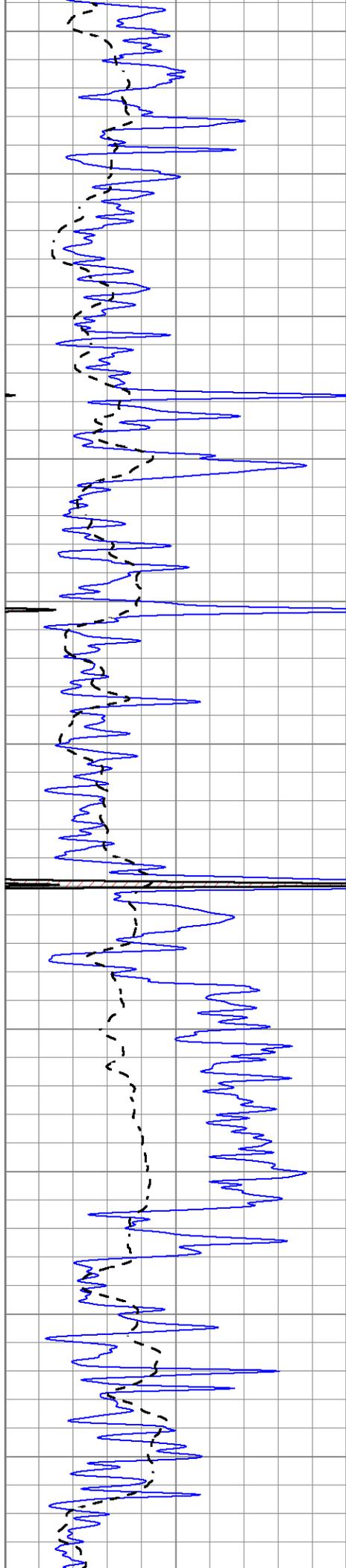












2650

2700

2750

2800

2850

2900

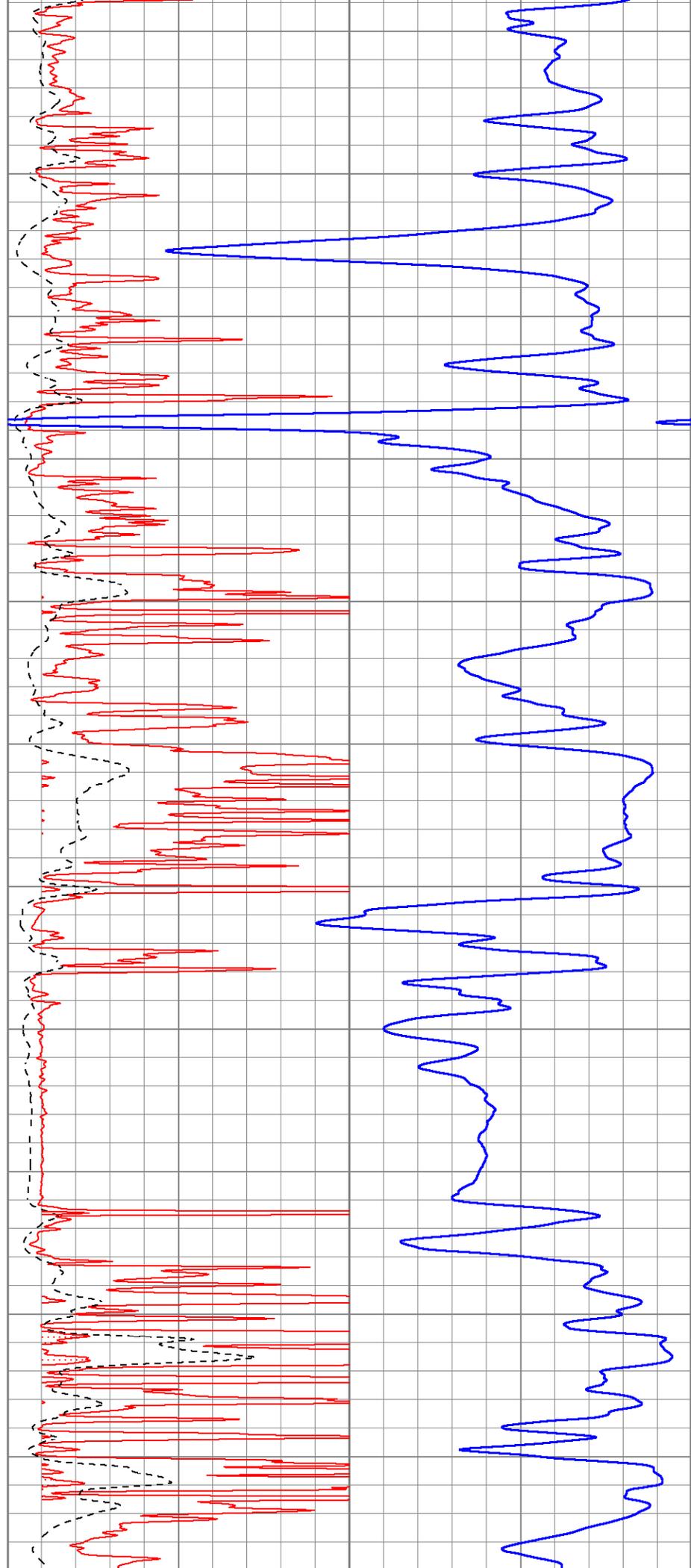
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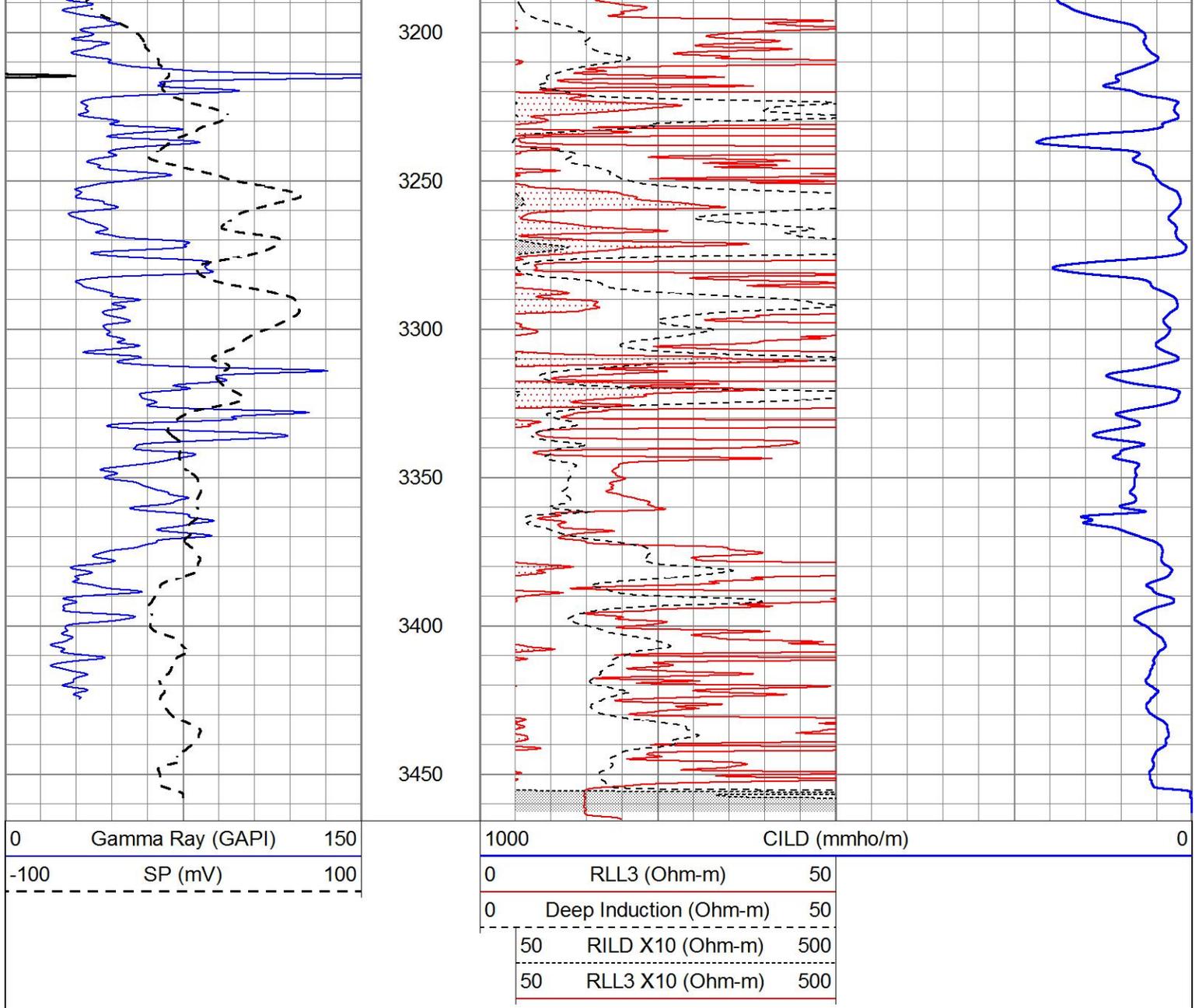
3000

3050

3100

3150



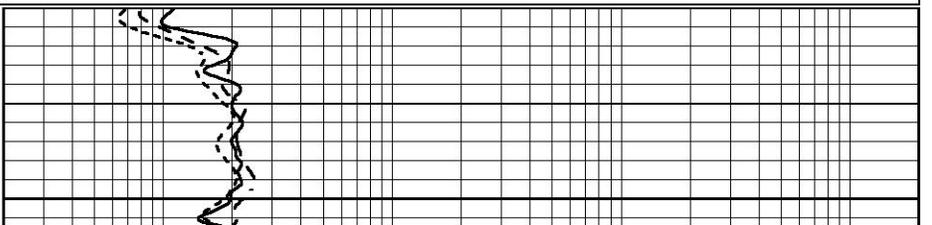
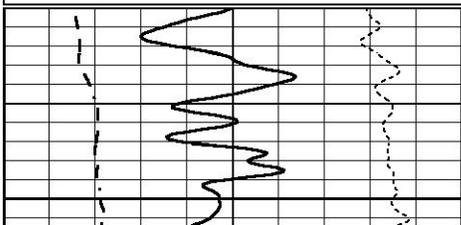


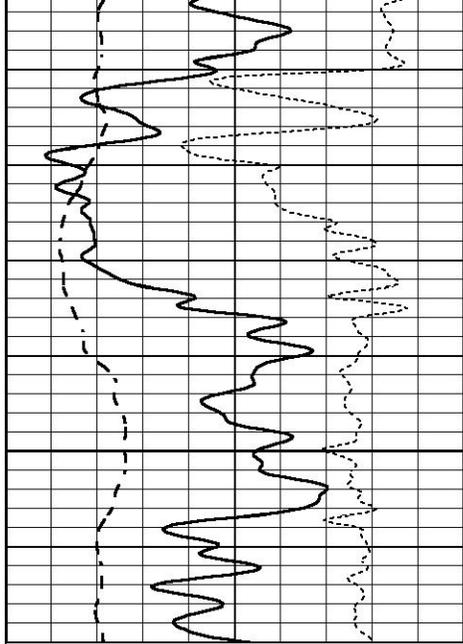
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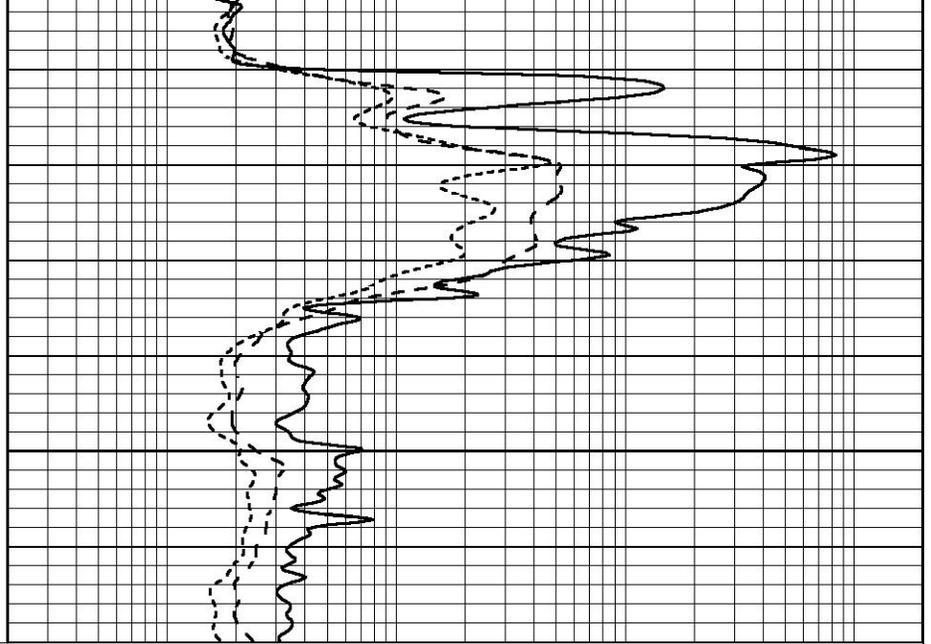
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-100	SP (mV)	100
-250	Rxo/Rt	50

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





650



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

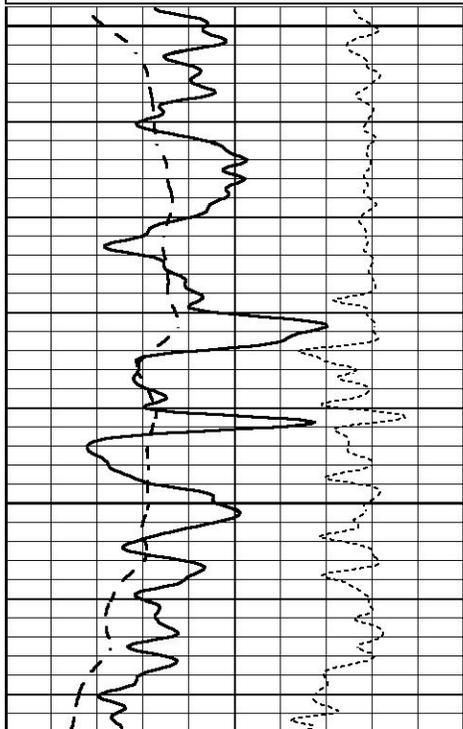


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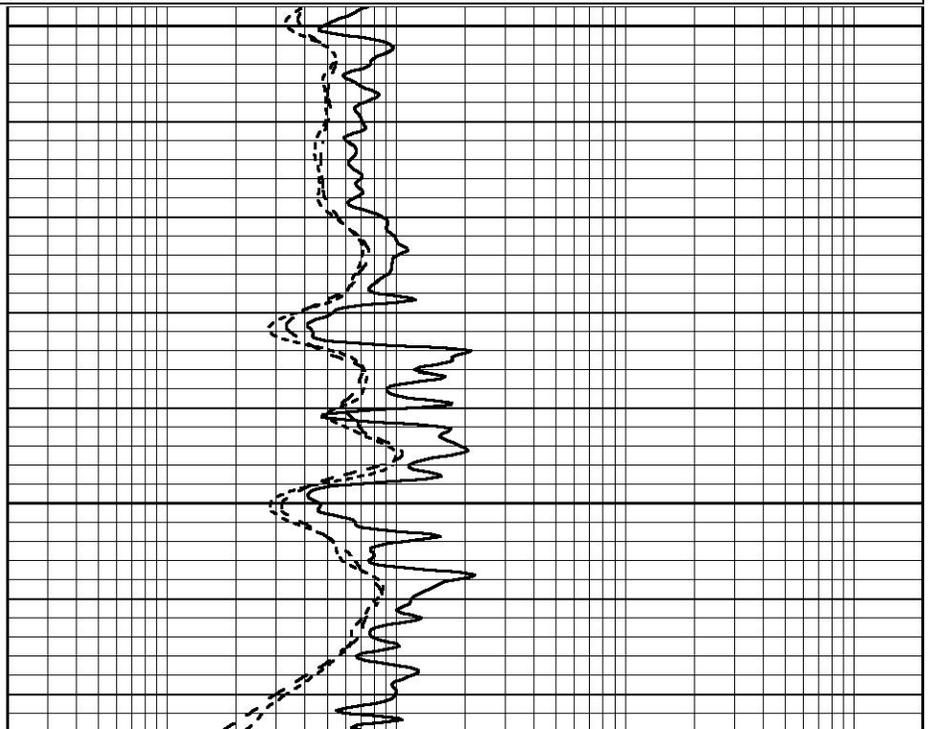
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-100	SP (mV)	100
-250	Rxo/Rt	50

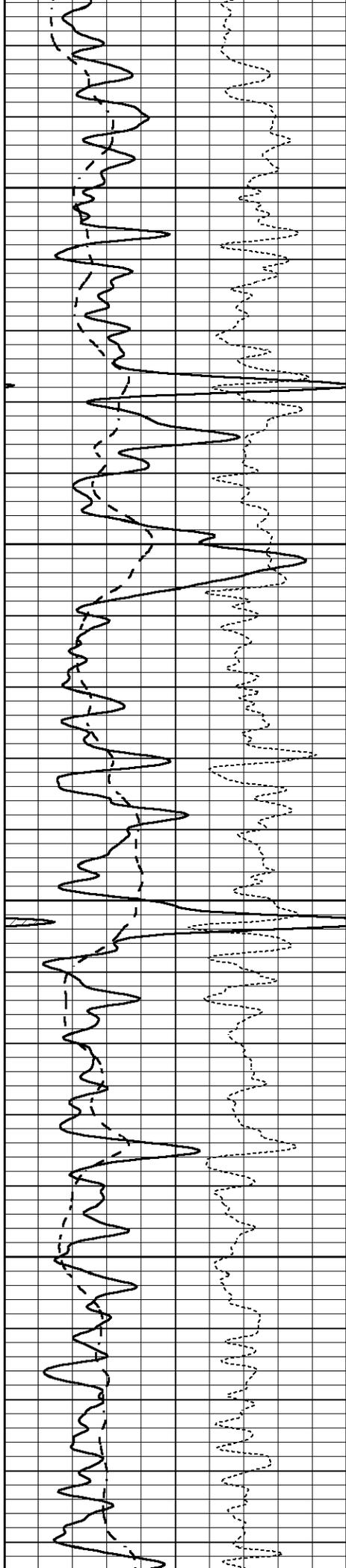
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



2650



2700

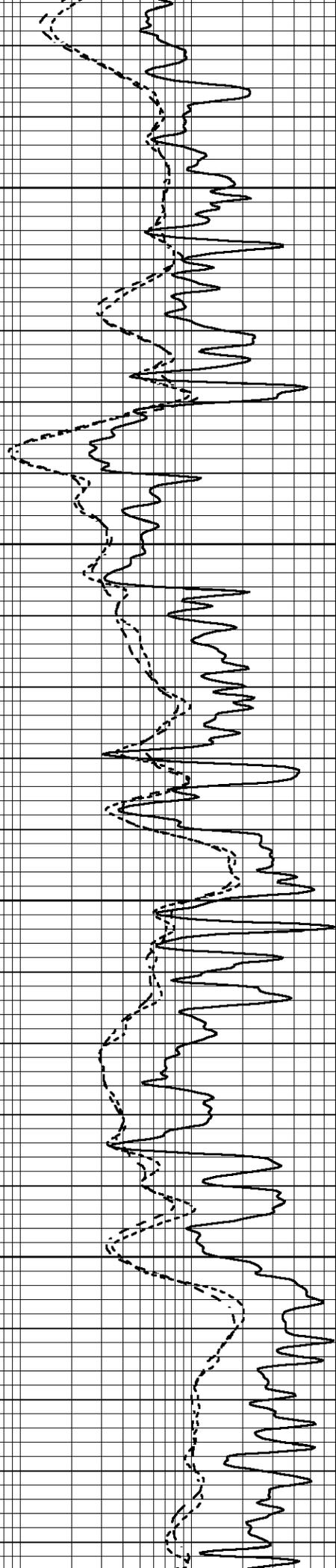


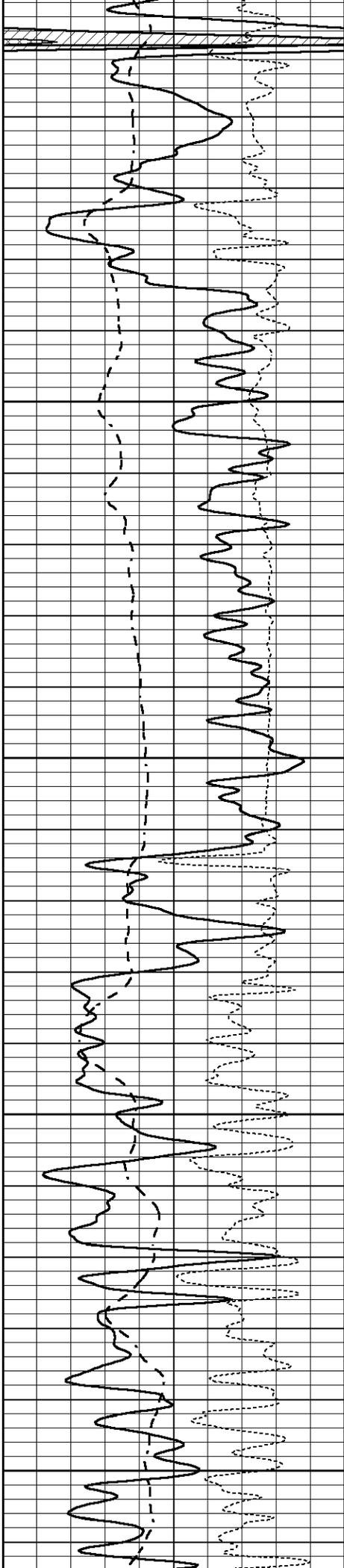
2750

2800

2850

2900





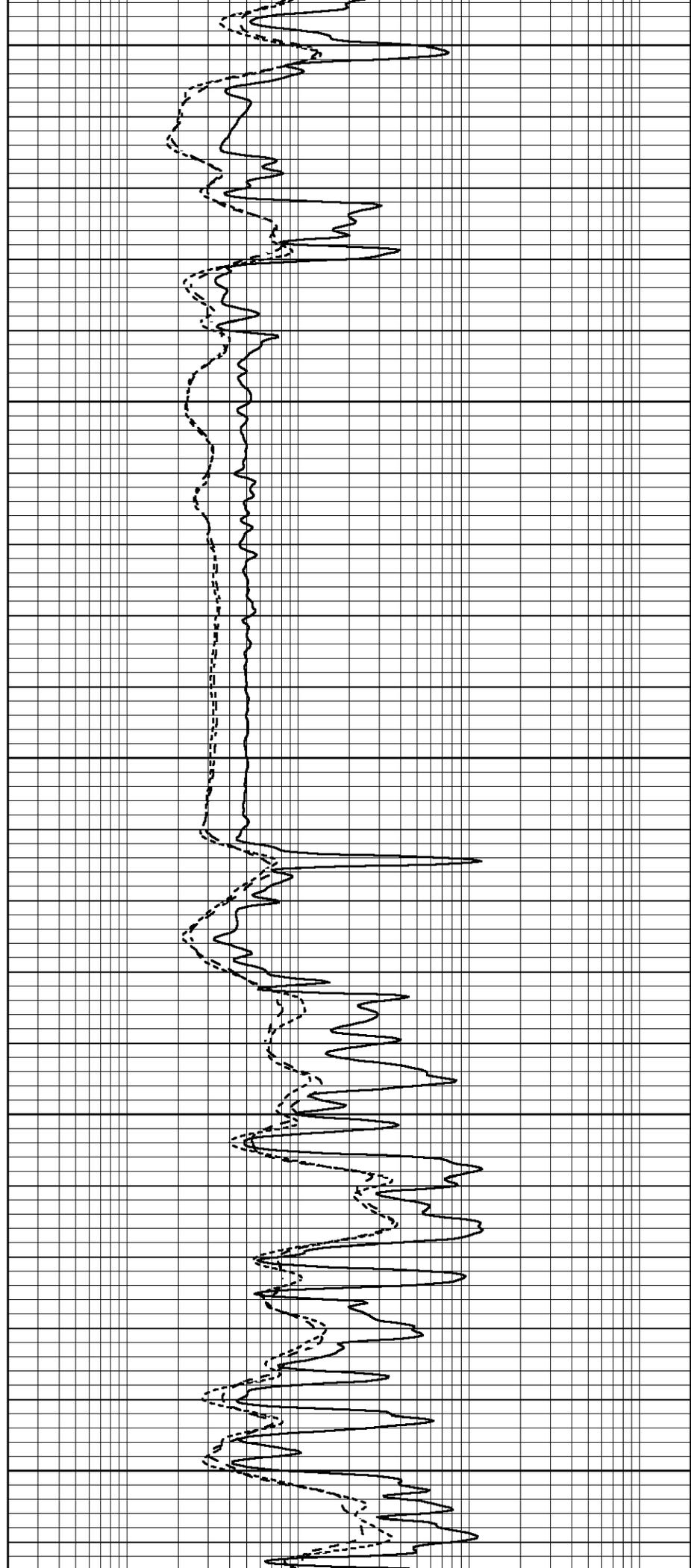
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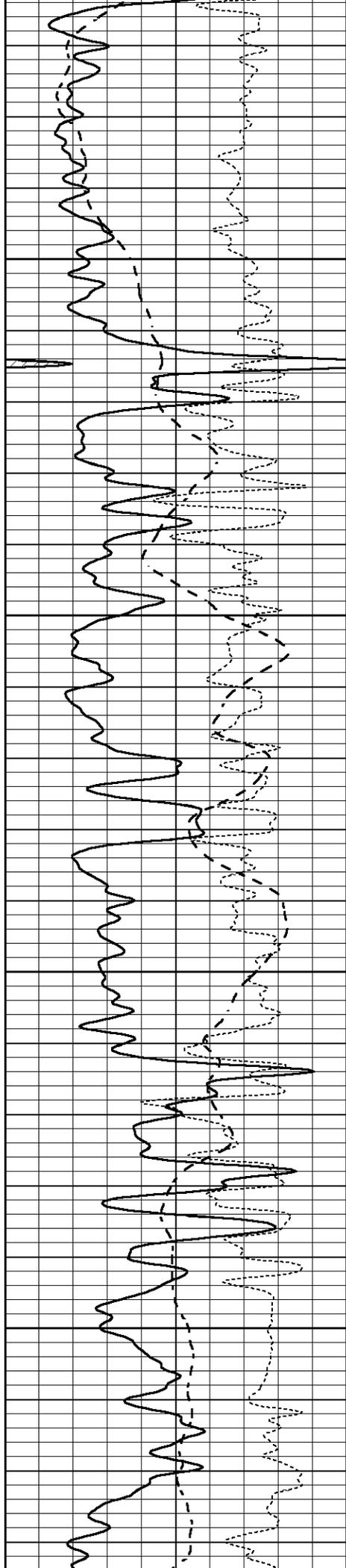
3000

3050

3100

3150



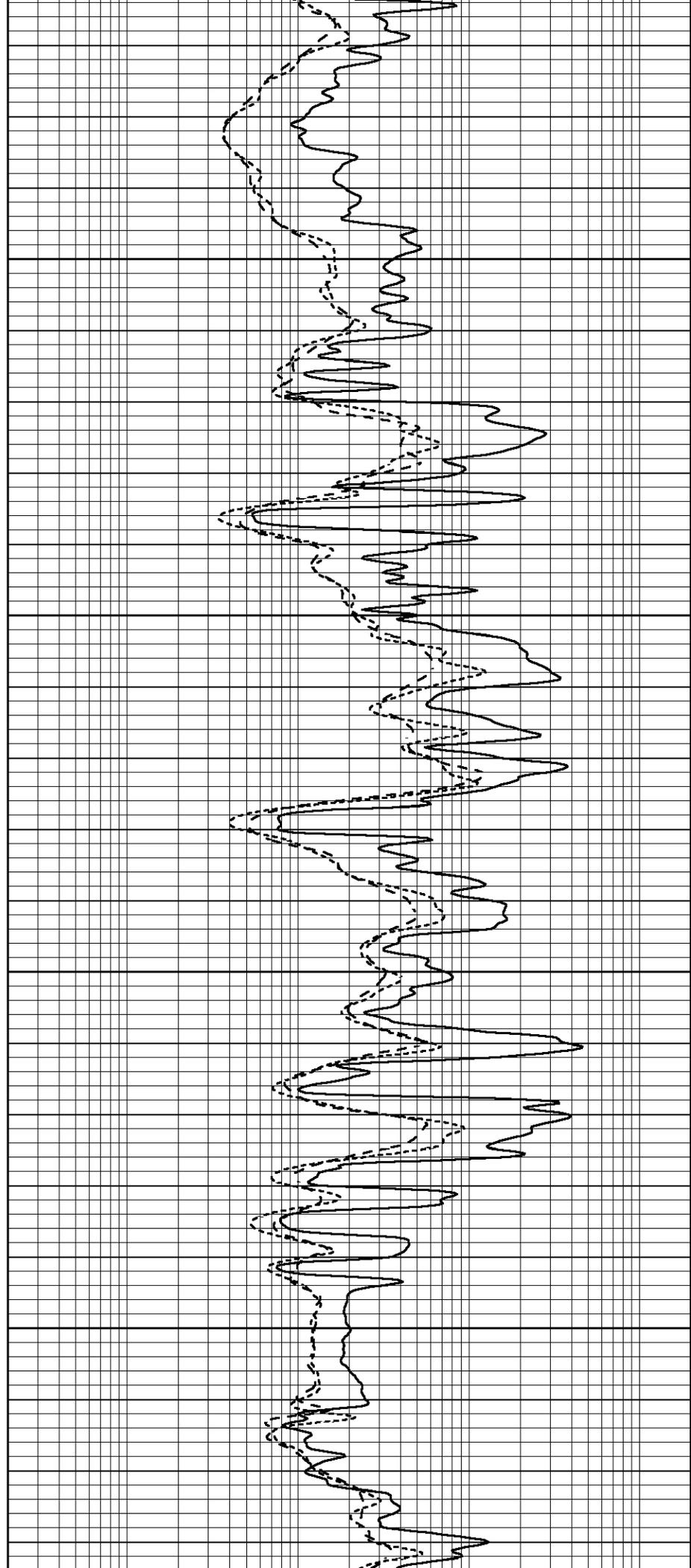


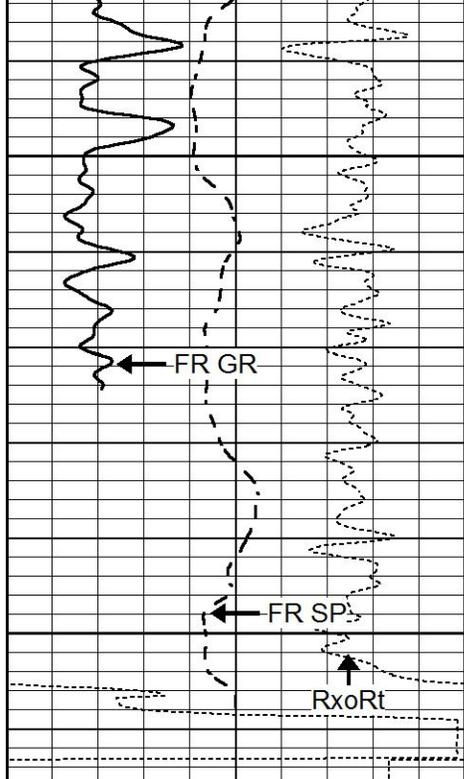
3200

3250

3300

3350





3400

FR GR

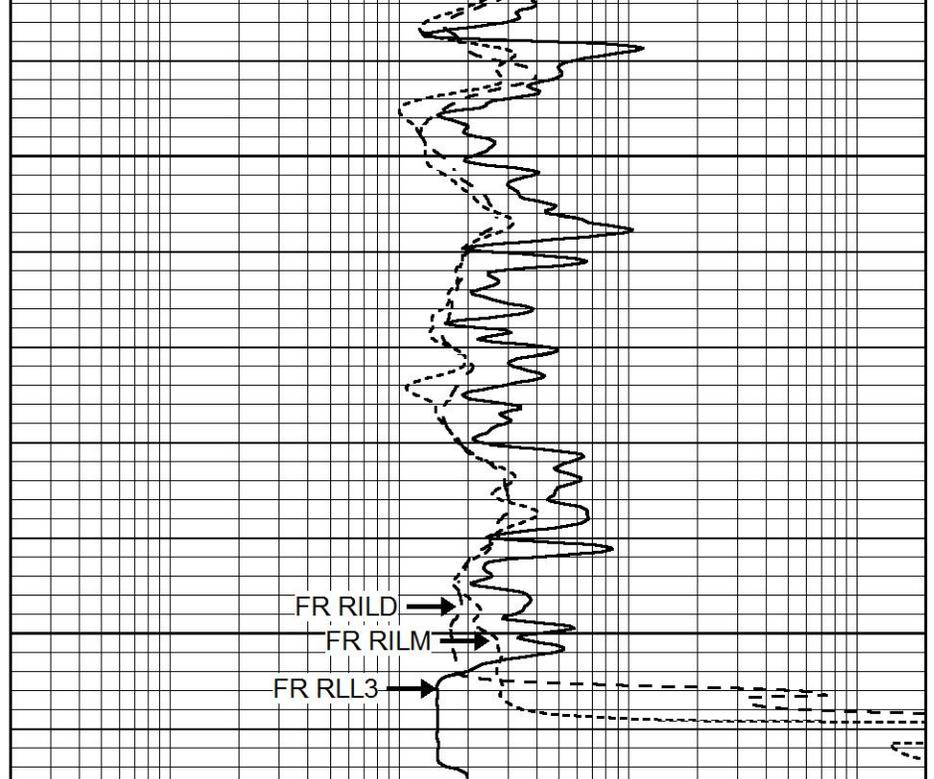
FR SP

Rxo/Rt

3450

LTD 3458

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



FR RILD

FR RILM

FR RLL3

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

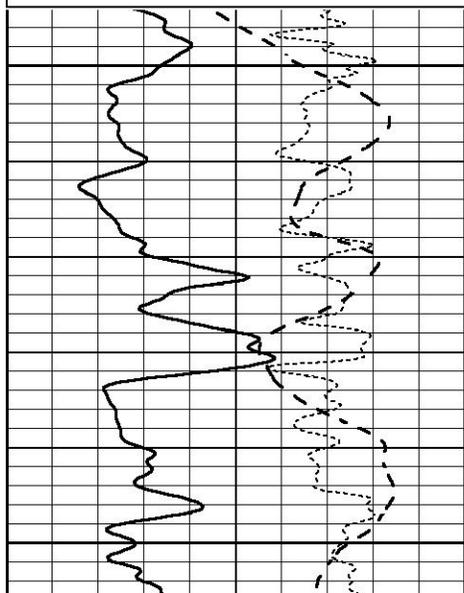


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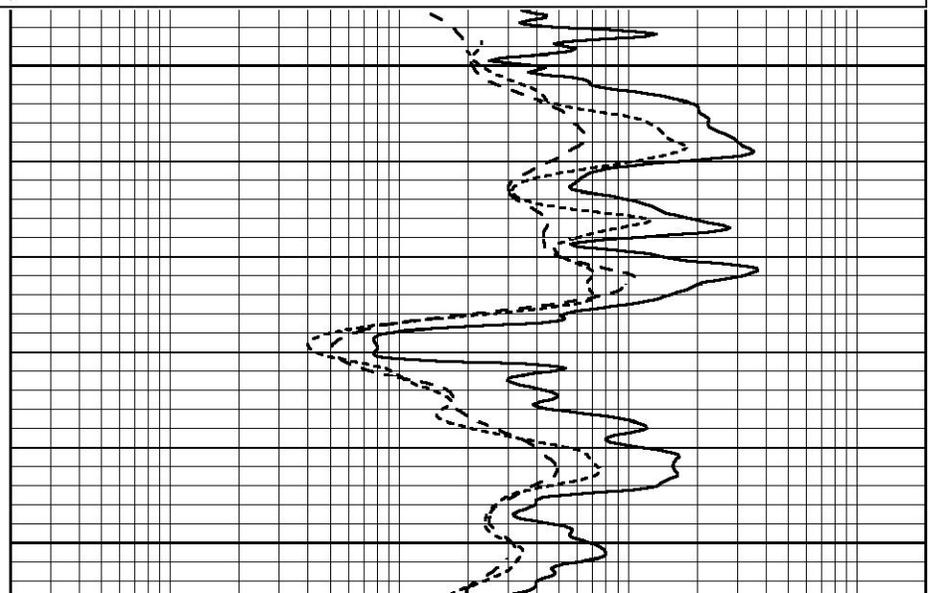
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

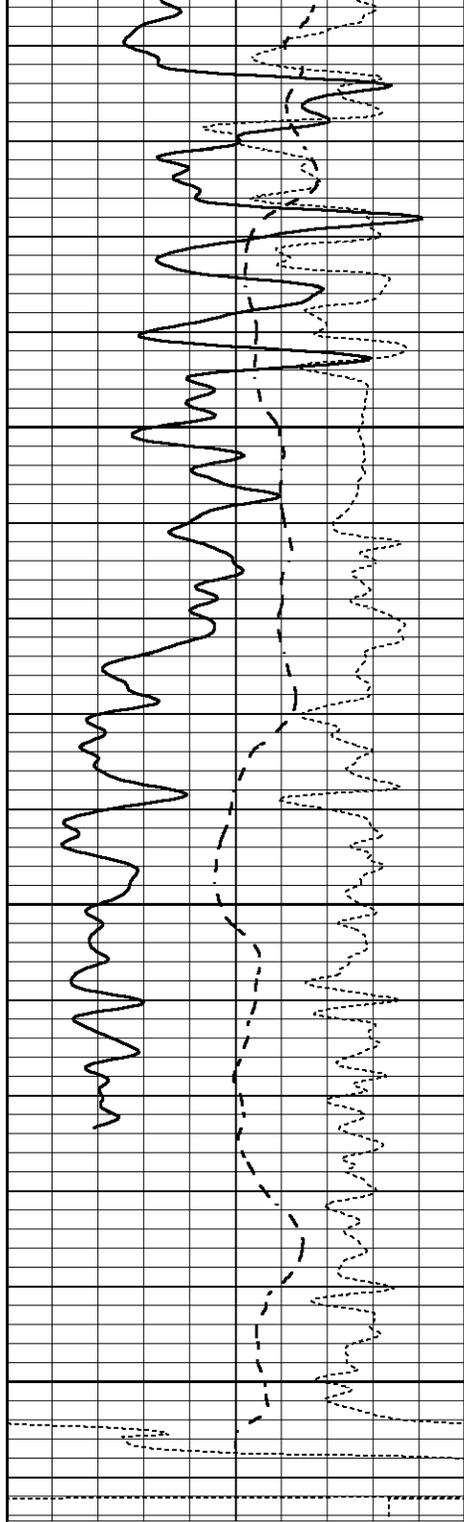
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



3250

3300



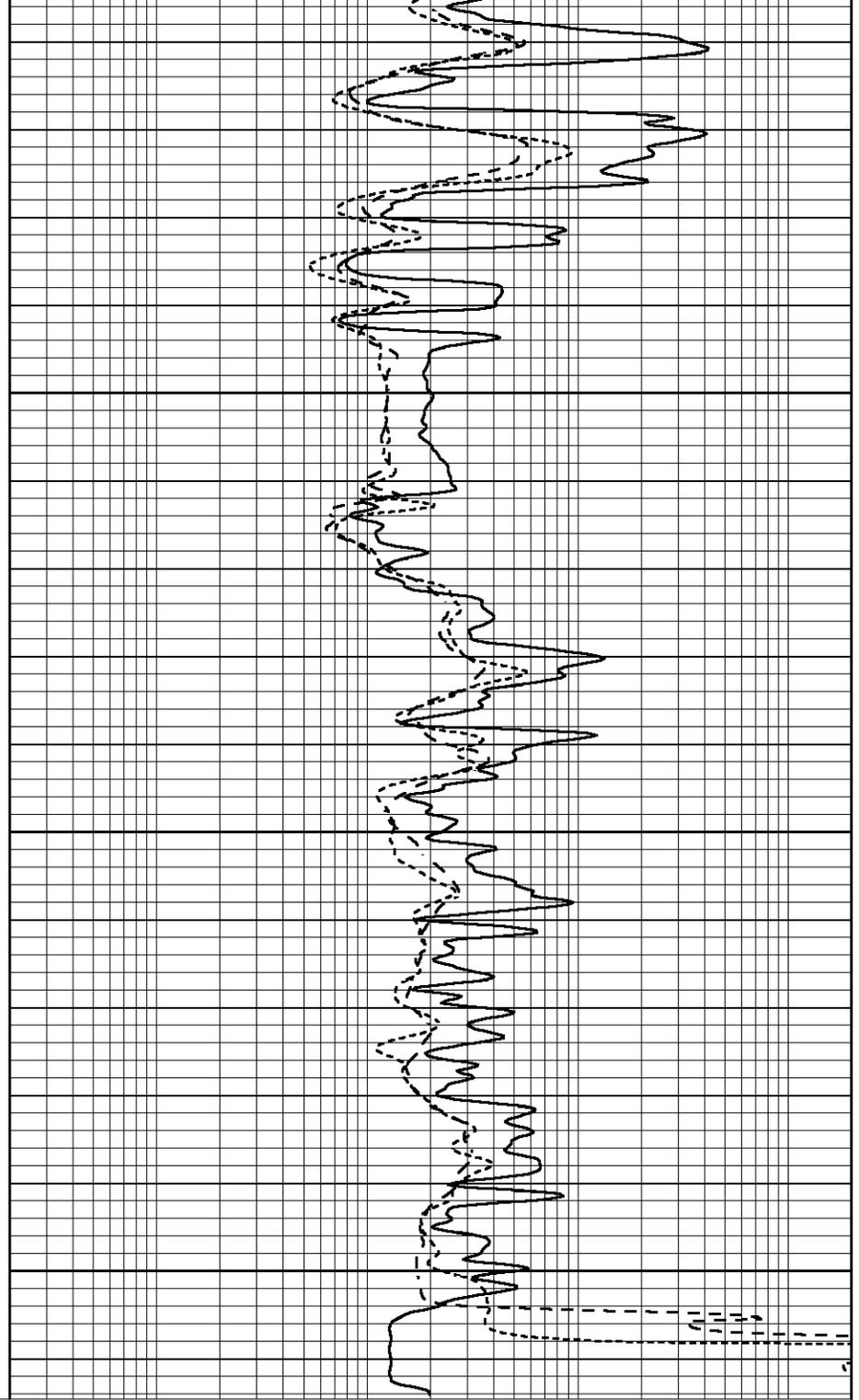


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

3350

3400

3450



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

Calibration Report

Database File 3992ddn8.db  
 Dataset Pathname pass3.1  
 Dataset Creation Tue Sep 10 13:39:51 2019

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			Readings			References			Results	
Loop:	Air	Loop		Air	Loop		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				
		-7.481	V		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				

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 Feb 19 11:45:10 2019
Calibrator Value:	1.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	1.0 cps
Sensitivity:	0.4300 GAPI/cps