



**DUAL  
INDUCTION  
LOG**

Company MAI OIL OPERATIONS, INC.  
Well RICHARDS #15  
Field MENDOTA  
County ELLIS State KANSAS

Location: API #: 15-051-26943-0000  
680' FSL & 1915' FEL  
SW-NE-SW-SE  
SEC 6 TWP 11S RGE 20W  
Permanent Datum GROUND LEVEL Elevation 2090  
Log Measured From KELLY BUSHING 8' A.G.L  
Drilling Measured From KELLY BUSHING  
Elevation  
K.B. 2098  
D.F. 2096  
G.L. 2090

Date	1/21/19	Run Number	ONE
Depth Driller	3770	Depth Driller	3770
Bottom Logged Interval	3768	Top Log Interval	00
Casing Driller	8 5/8" @ 261	Casing Logger	260
Bit Size	7 7/8"	Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4/57	PH / Fluid Loss	10.0/8.0
Source of Sample	FLOWLINE	Rim @ Meas. Temp	.80 @ 65F
Rim @ Meas. Temp	.60 @ 65F	Rimc @ Meas. Temp	.96 @ 65F
Source of Rmf / Rmc	MEASUREMENT	Rim @ BHT	.45 @ 114F
Time Circulation Stopped	2 HOURS	Time Logger on Bottom	////
Maximum Recorded Temperature	114F	Equipment Number	3802
Location	HAYS, KANSAS	Recorded By	JASON CAPPELLUCCI
Witnessed By	WYATT URBAN		

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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  
ELLIS, KS. - NORTH TO COUNTY LINE - 3 WEST FROM THE CURVE WEST  
TO RD. 100 - 1 SOUTH - EAST INTO

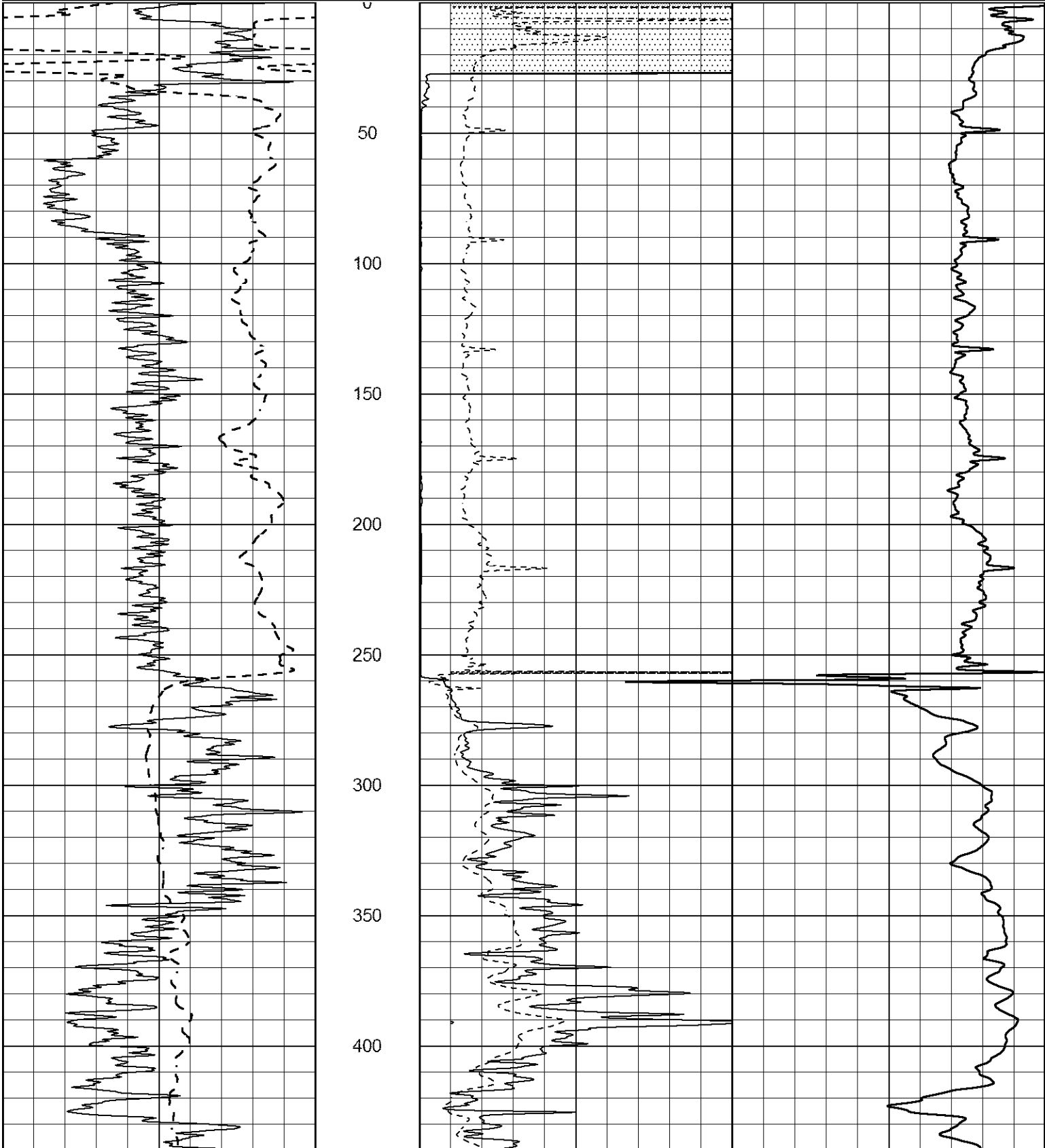


**MAIN SECTION**

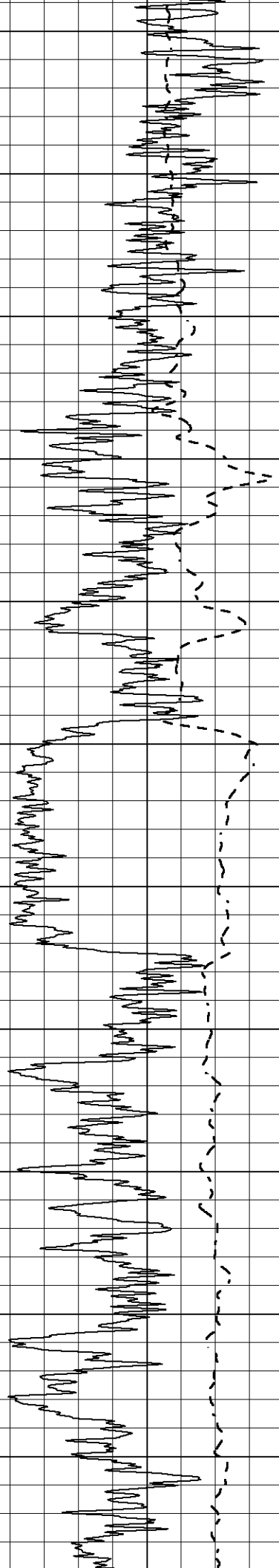
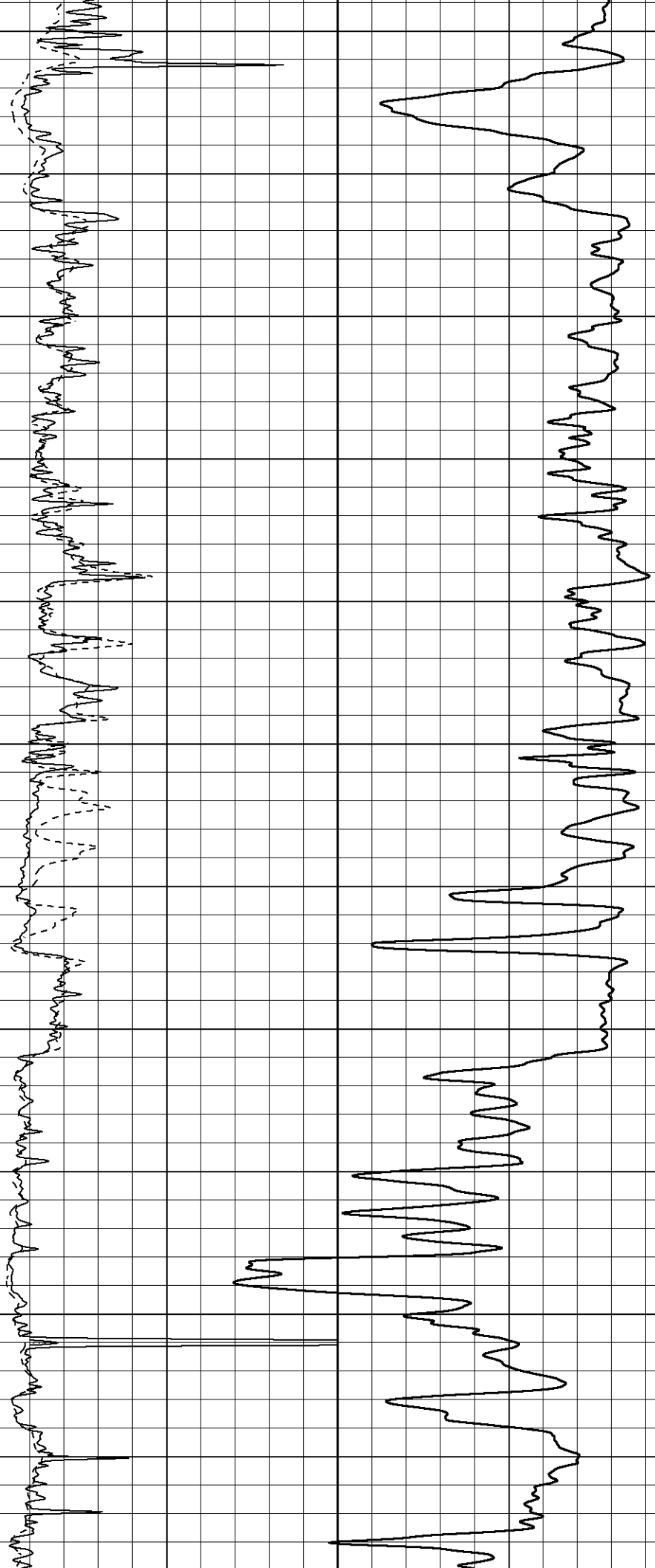
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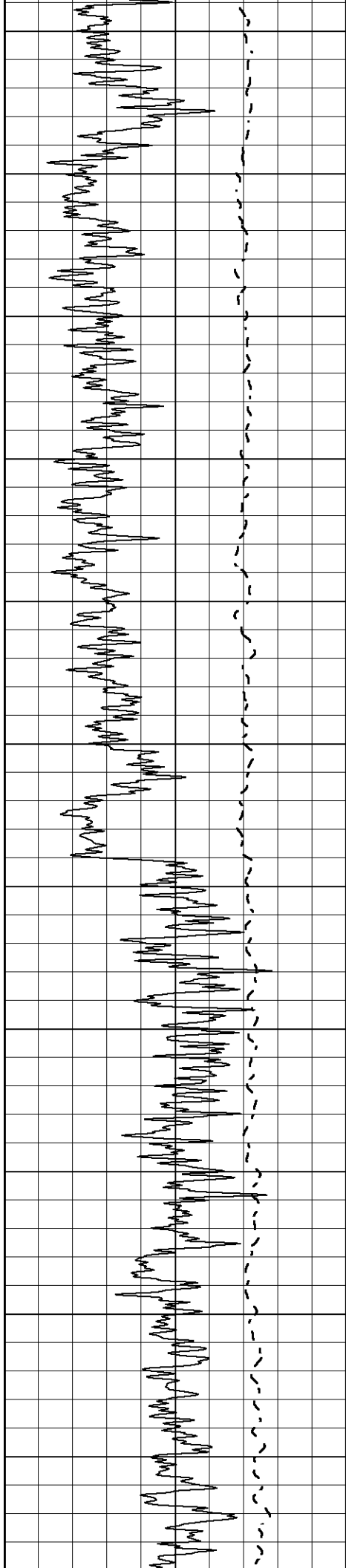
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 -100 SP (mV) 100

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



450  
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750  
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850  
900  
950





1000

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1100

1150

1200

1250

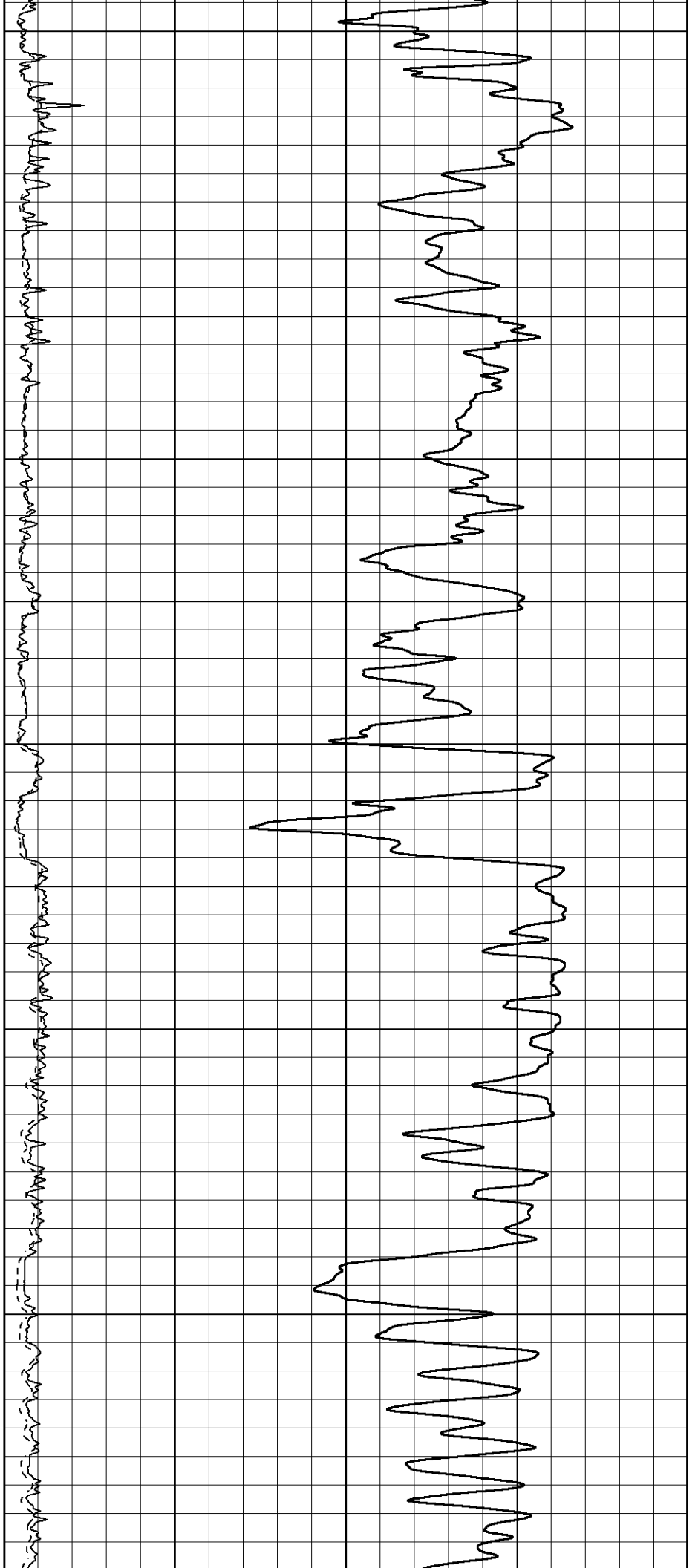
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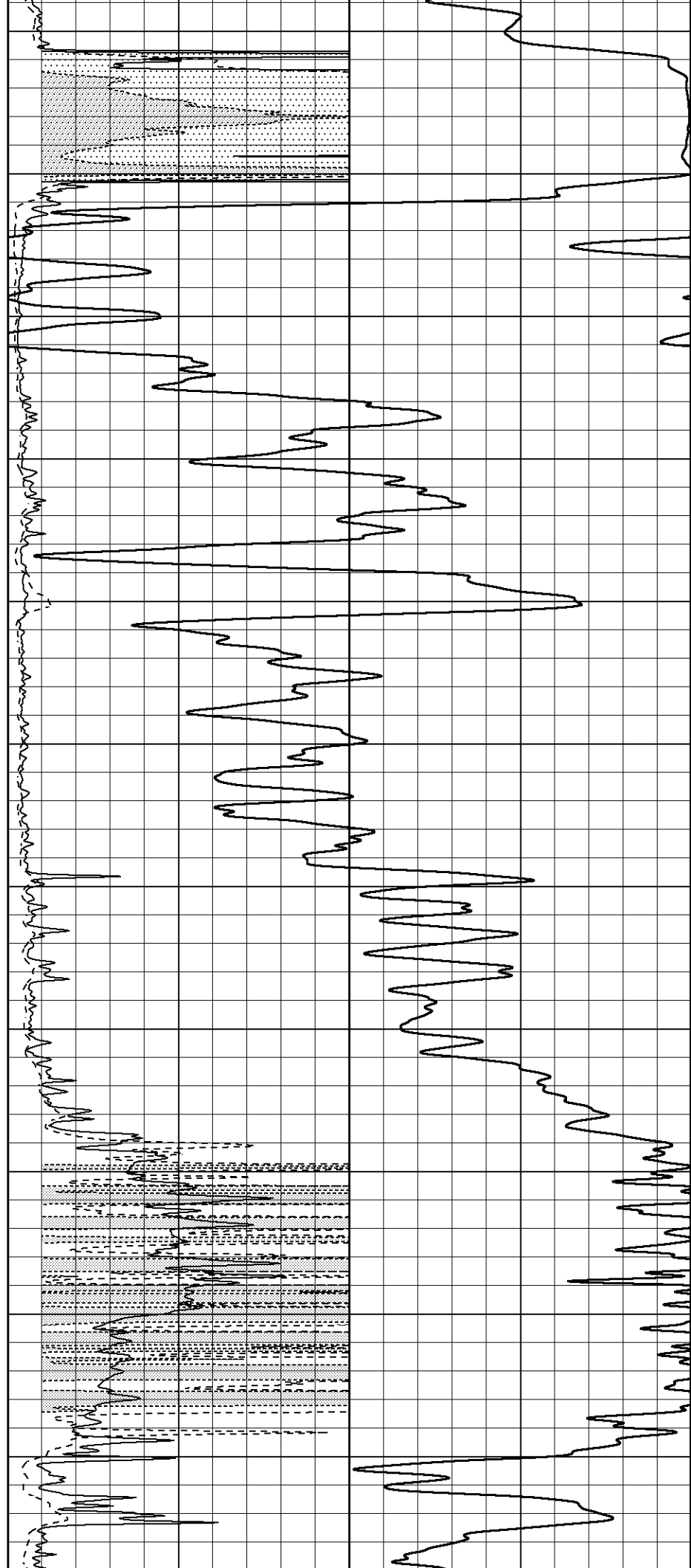
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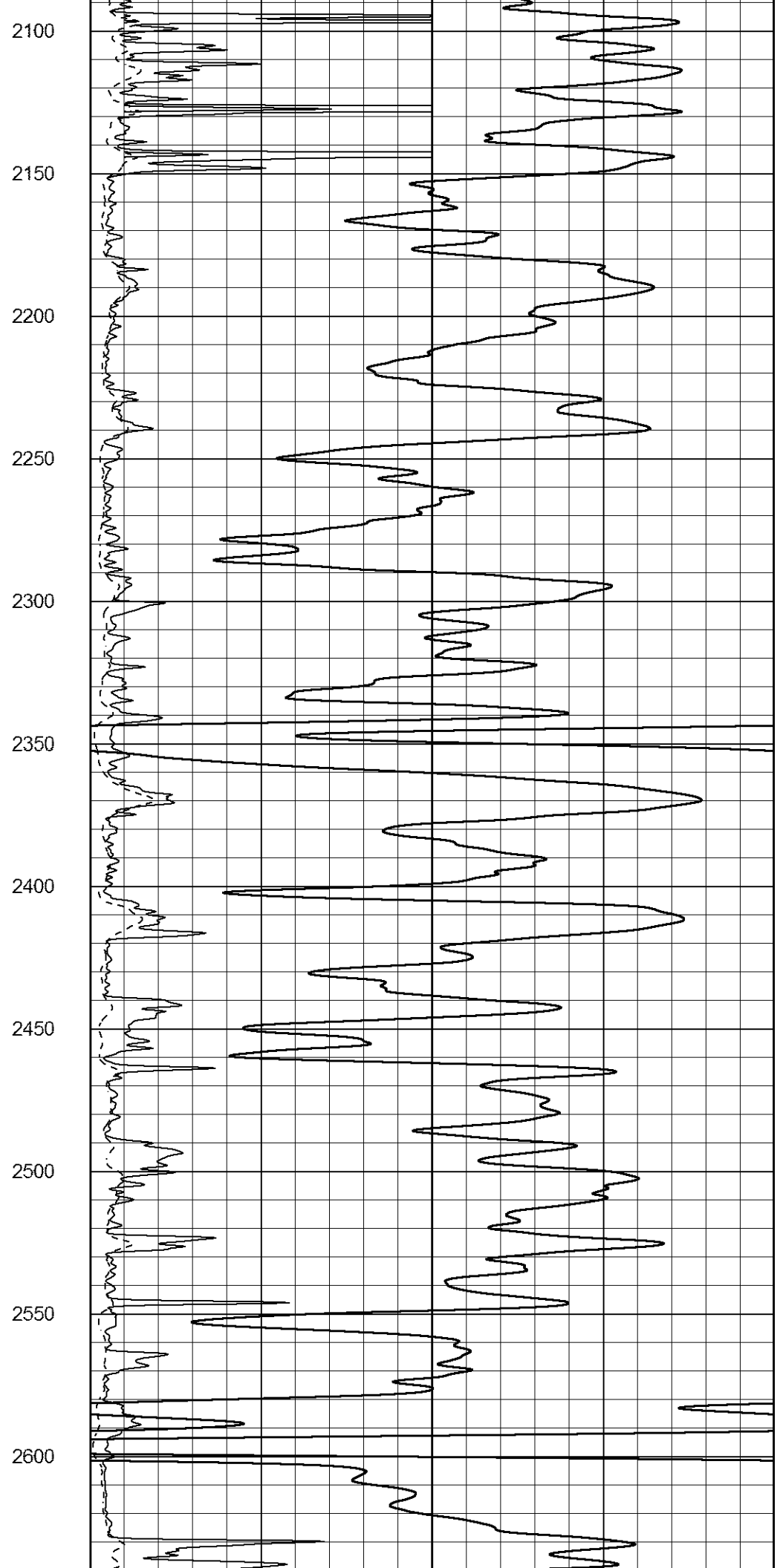
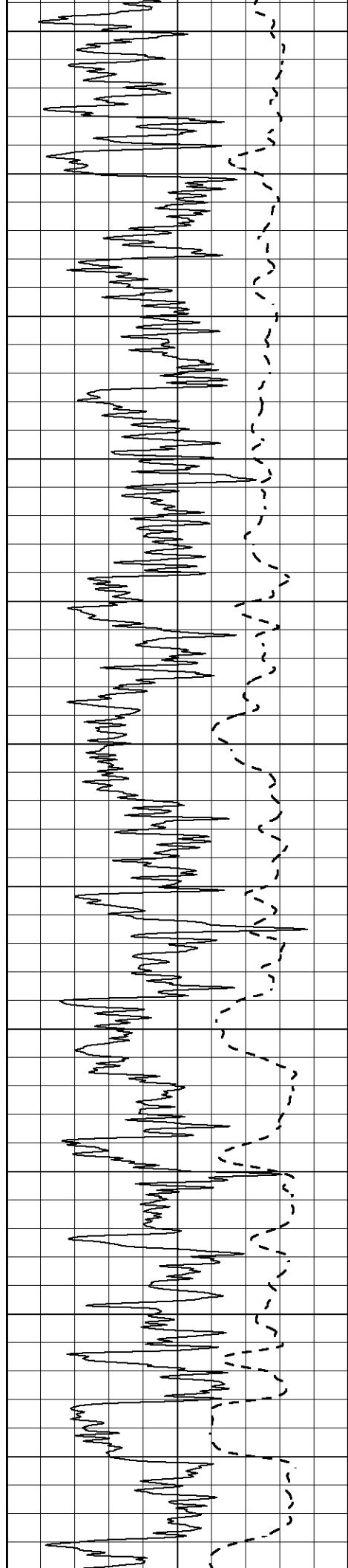
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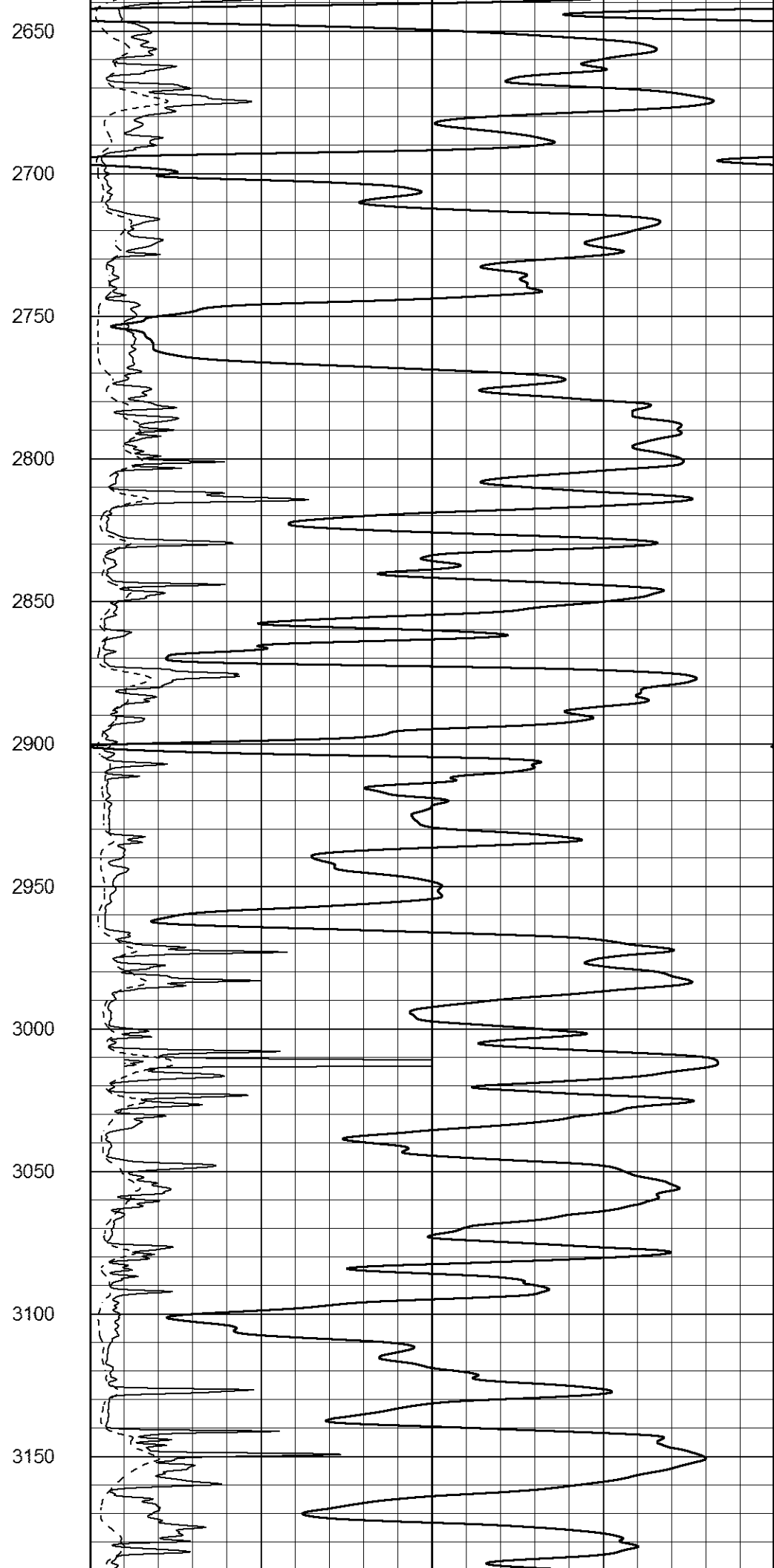
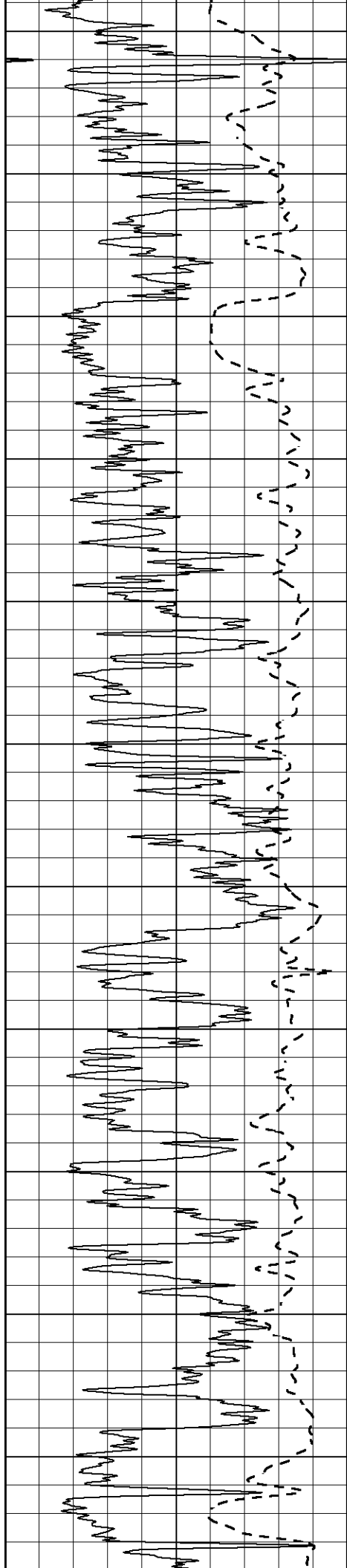
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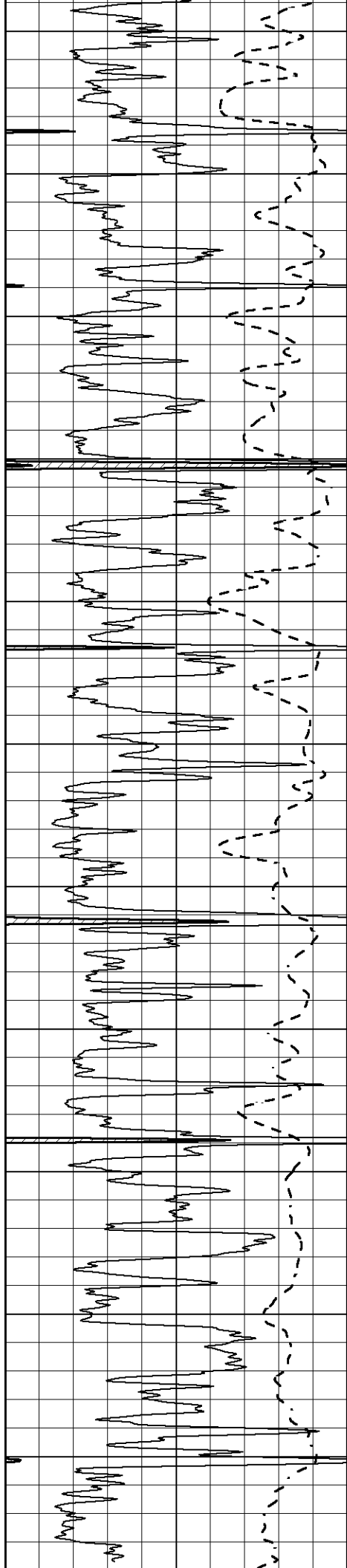


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1600  
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1900  
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2050









3200

3250

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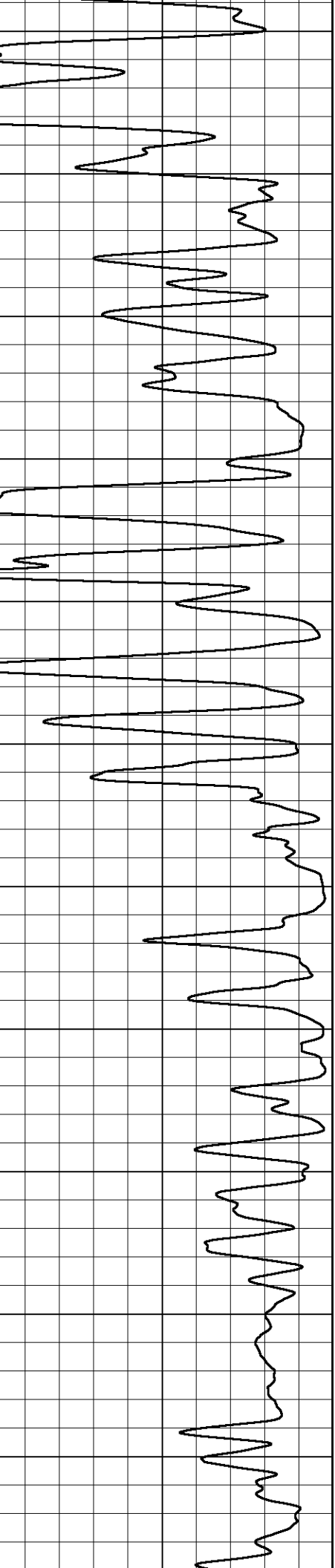
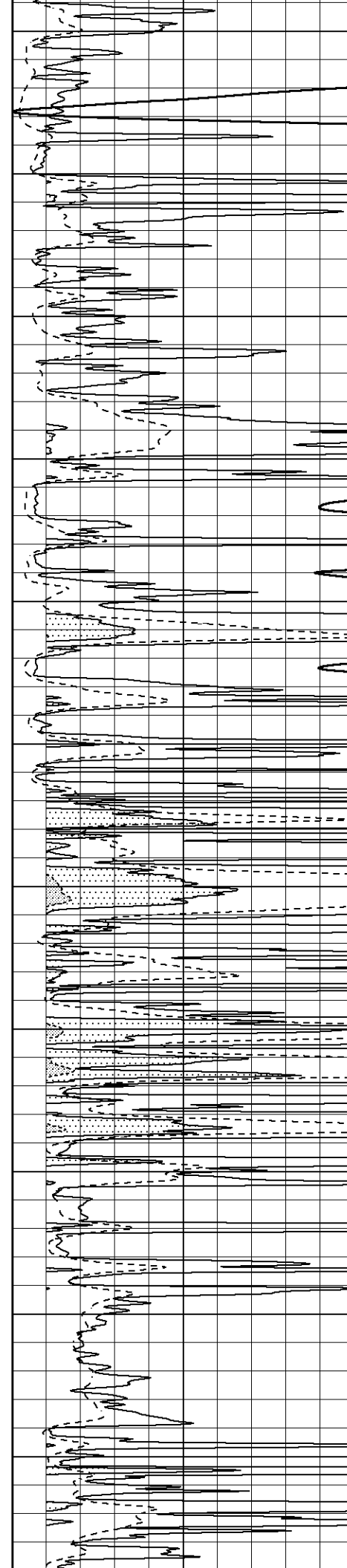
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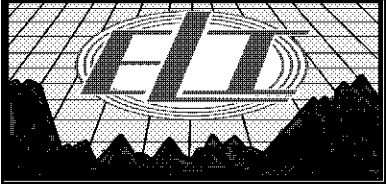
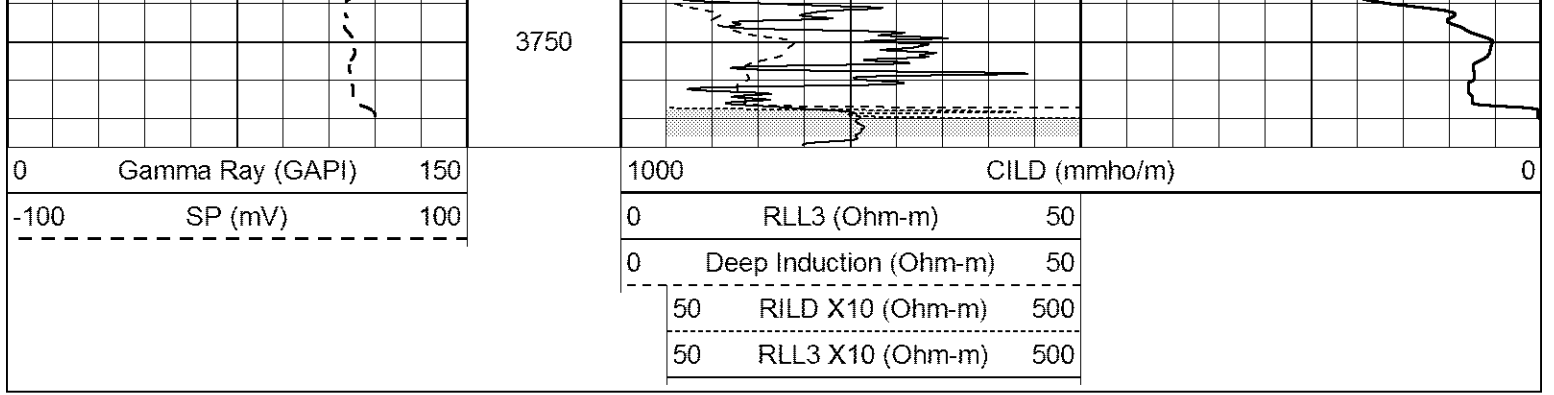
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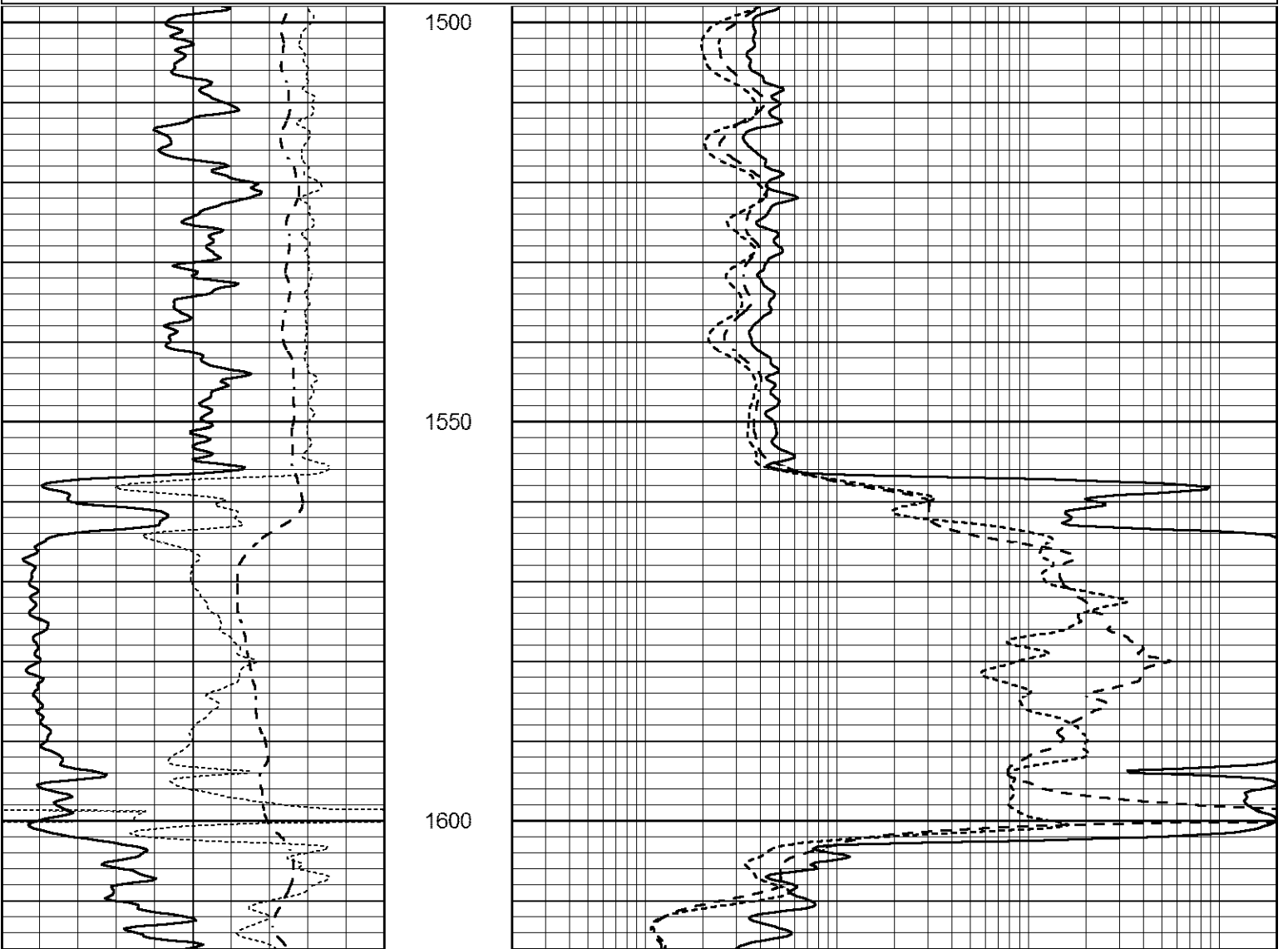


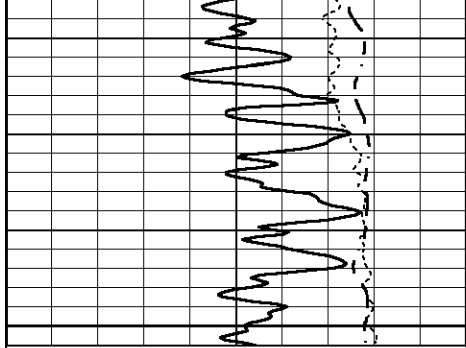


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 Charted by Depth in Feet scaled 1:240

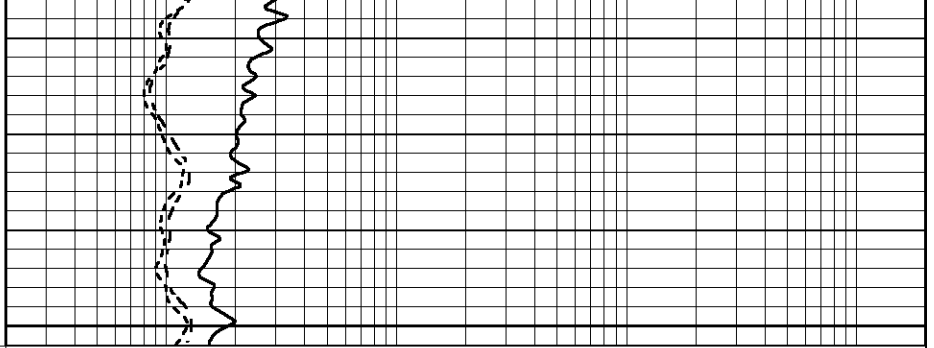
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-100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000



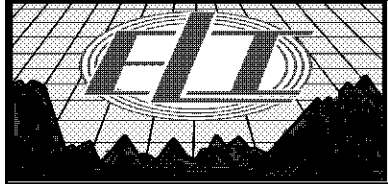


1650

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

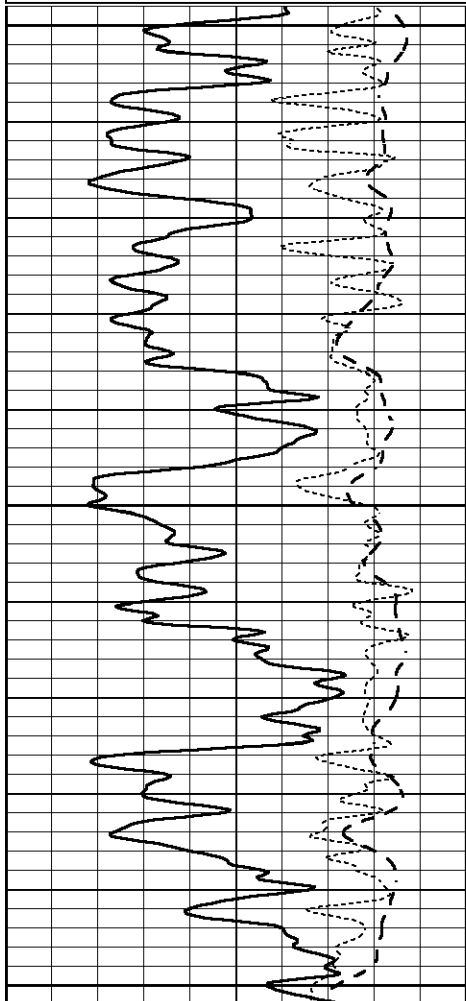


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 Dataset Pathname pass3.1  
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0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

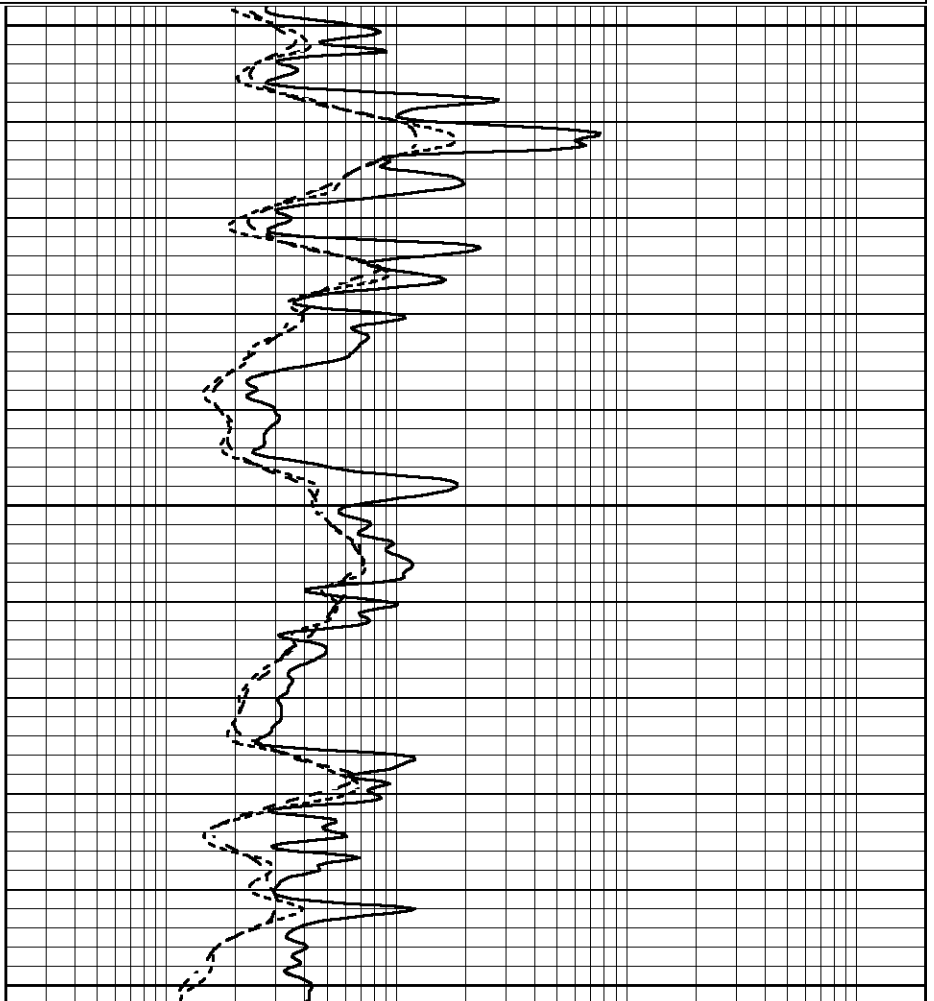
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0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

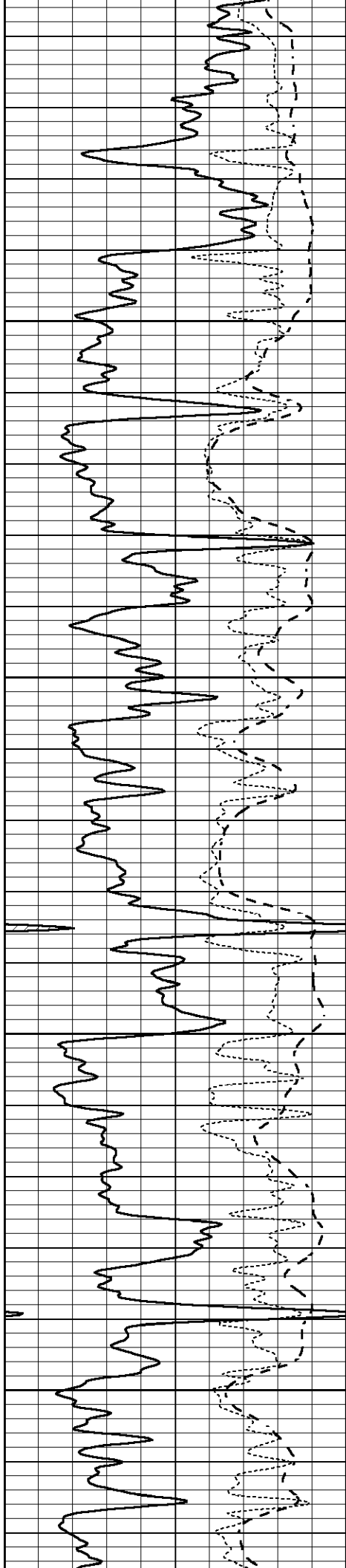


3000

3050

3100



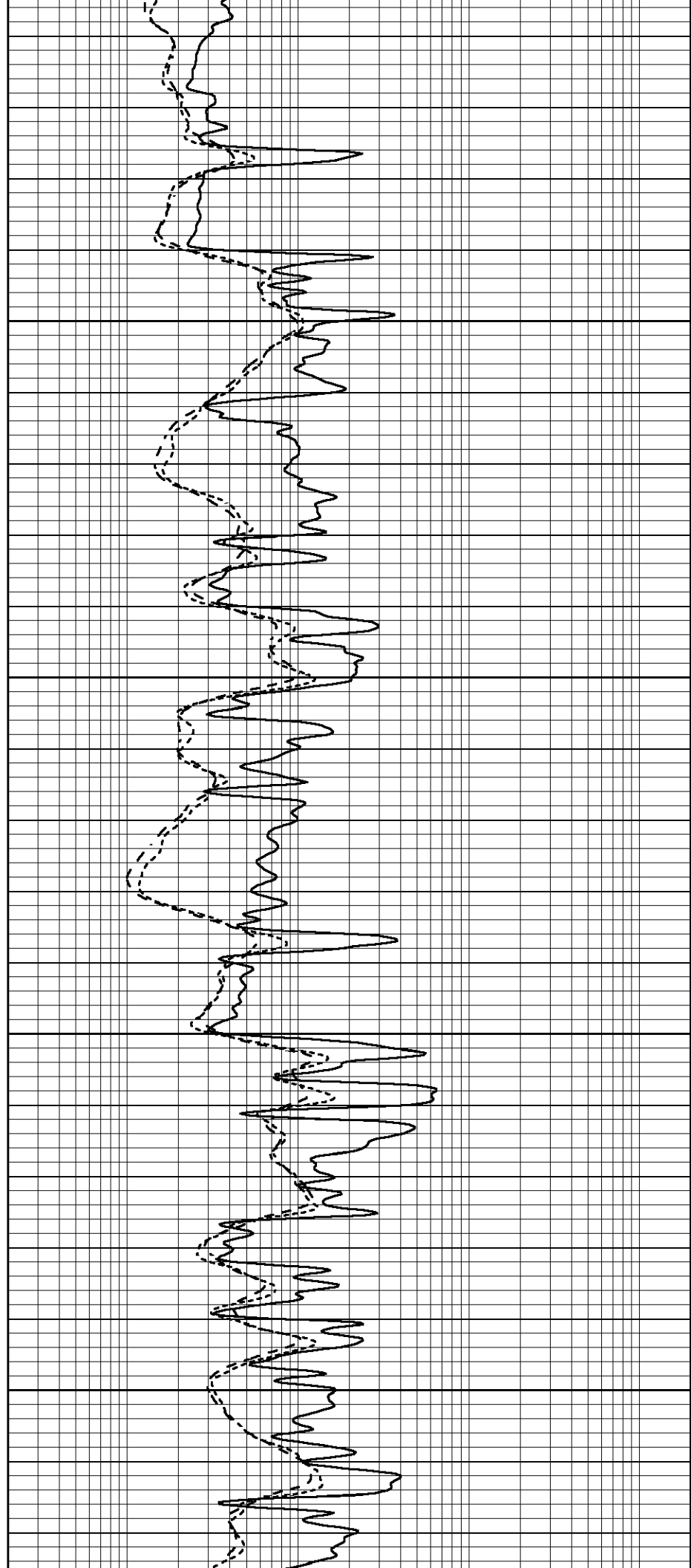


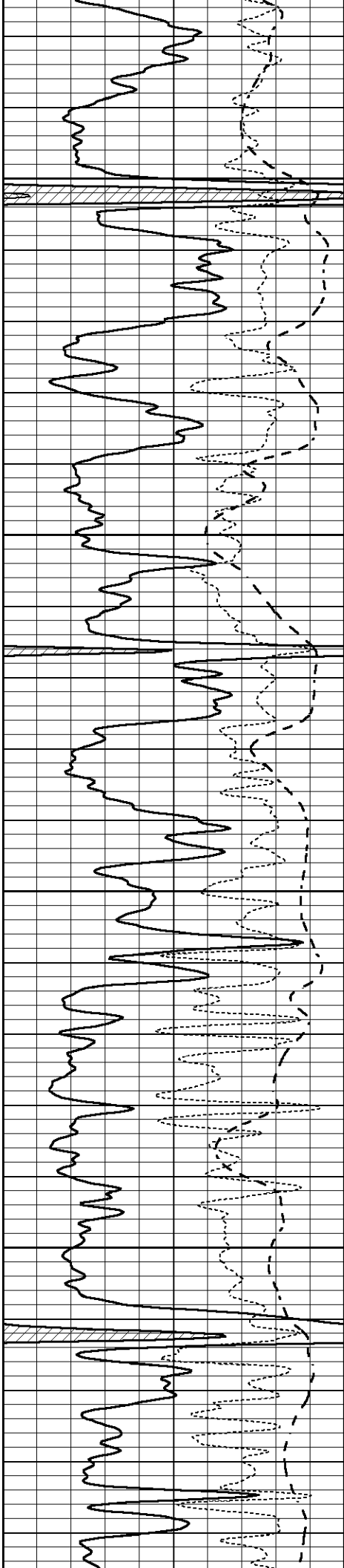
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3200

3250

3300



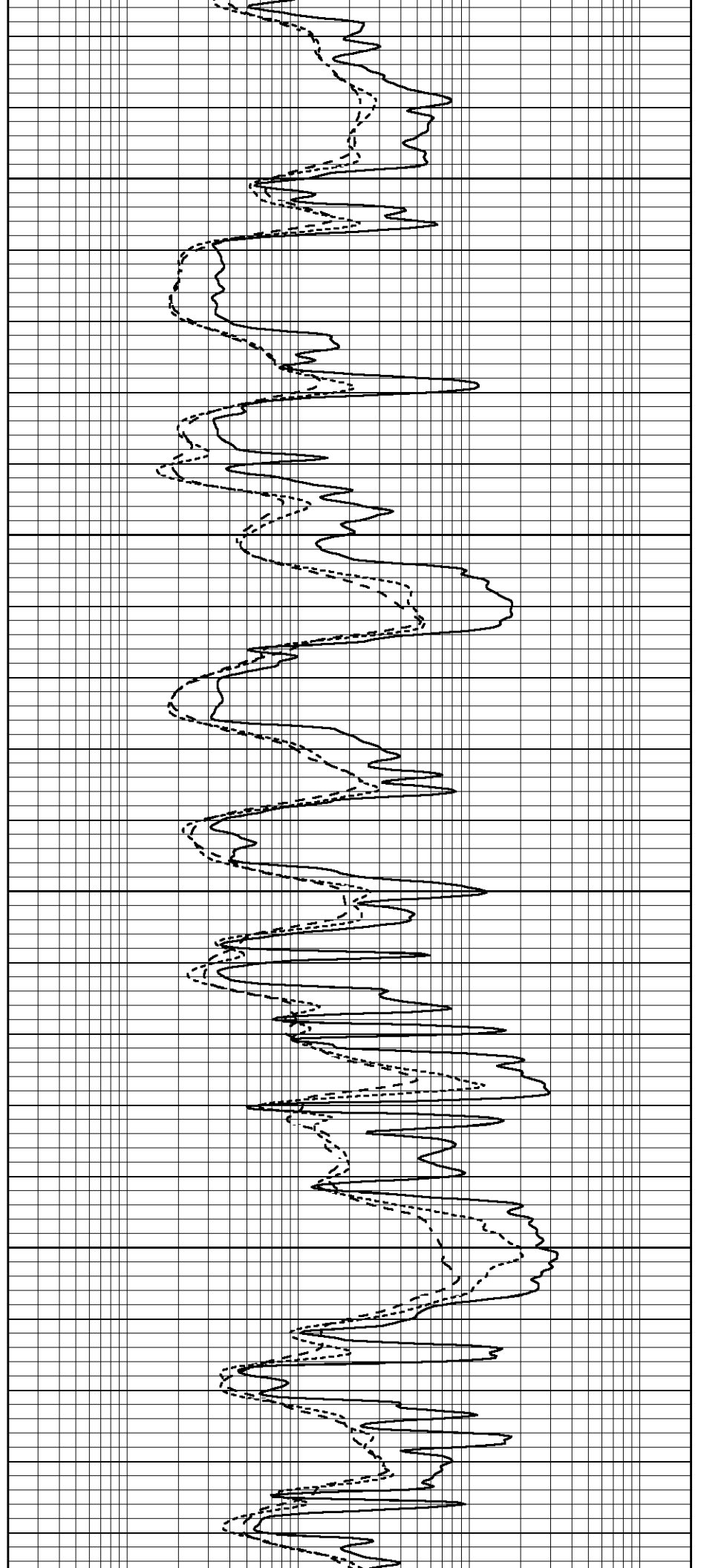


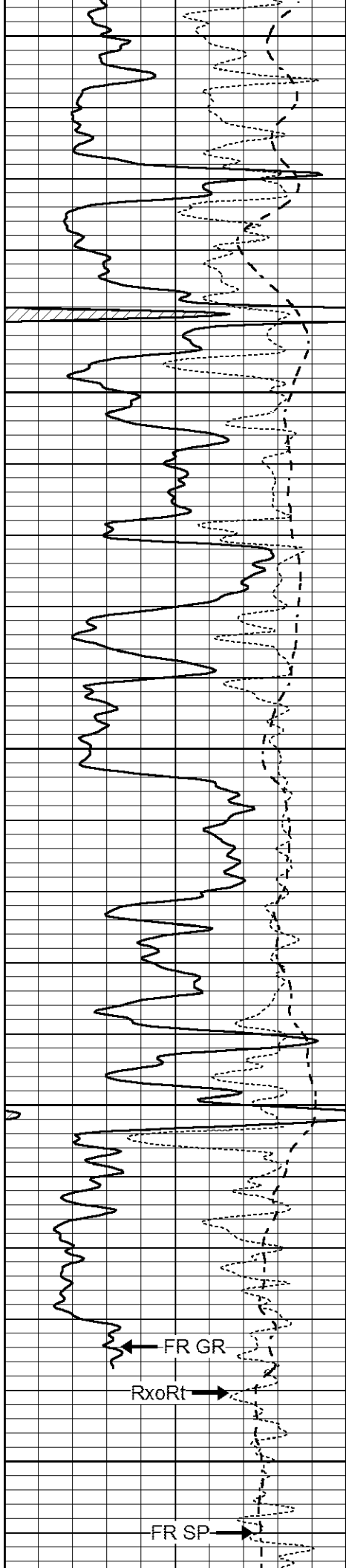
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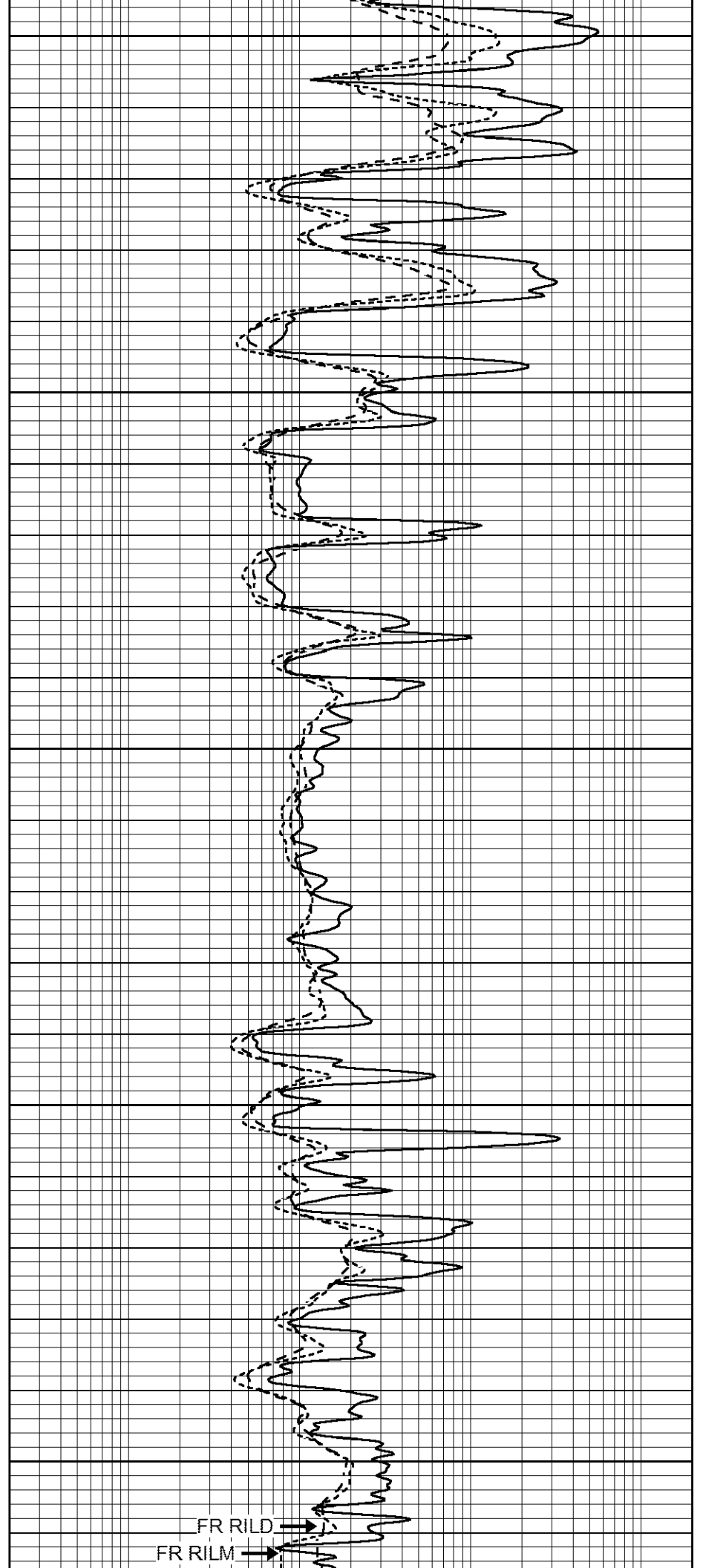
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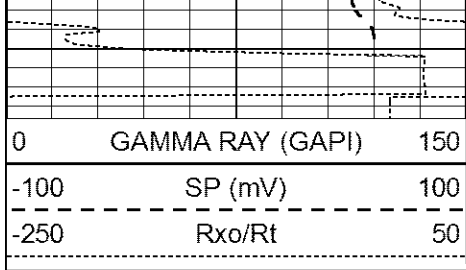
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3750



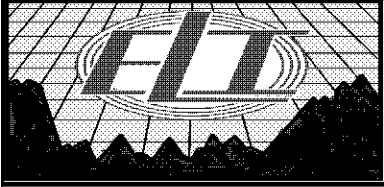
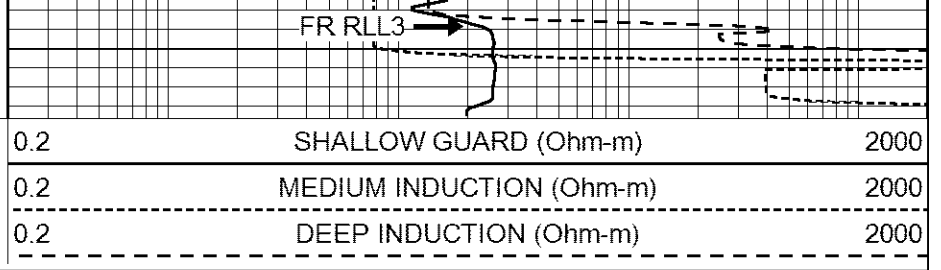
FR RILD

FR RILM



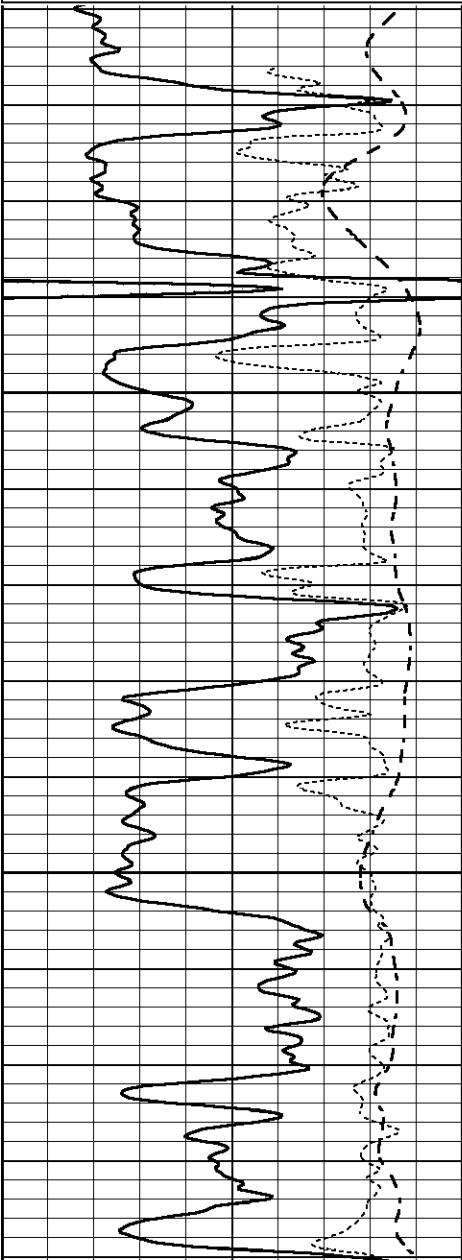
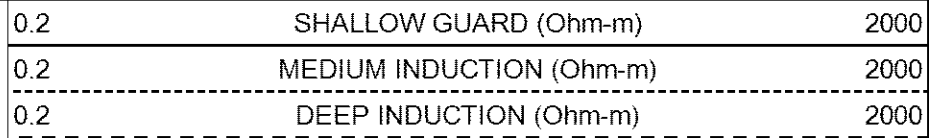
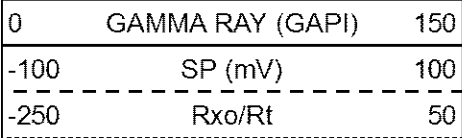
LTD 3770

FR RLL3



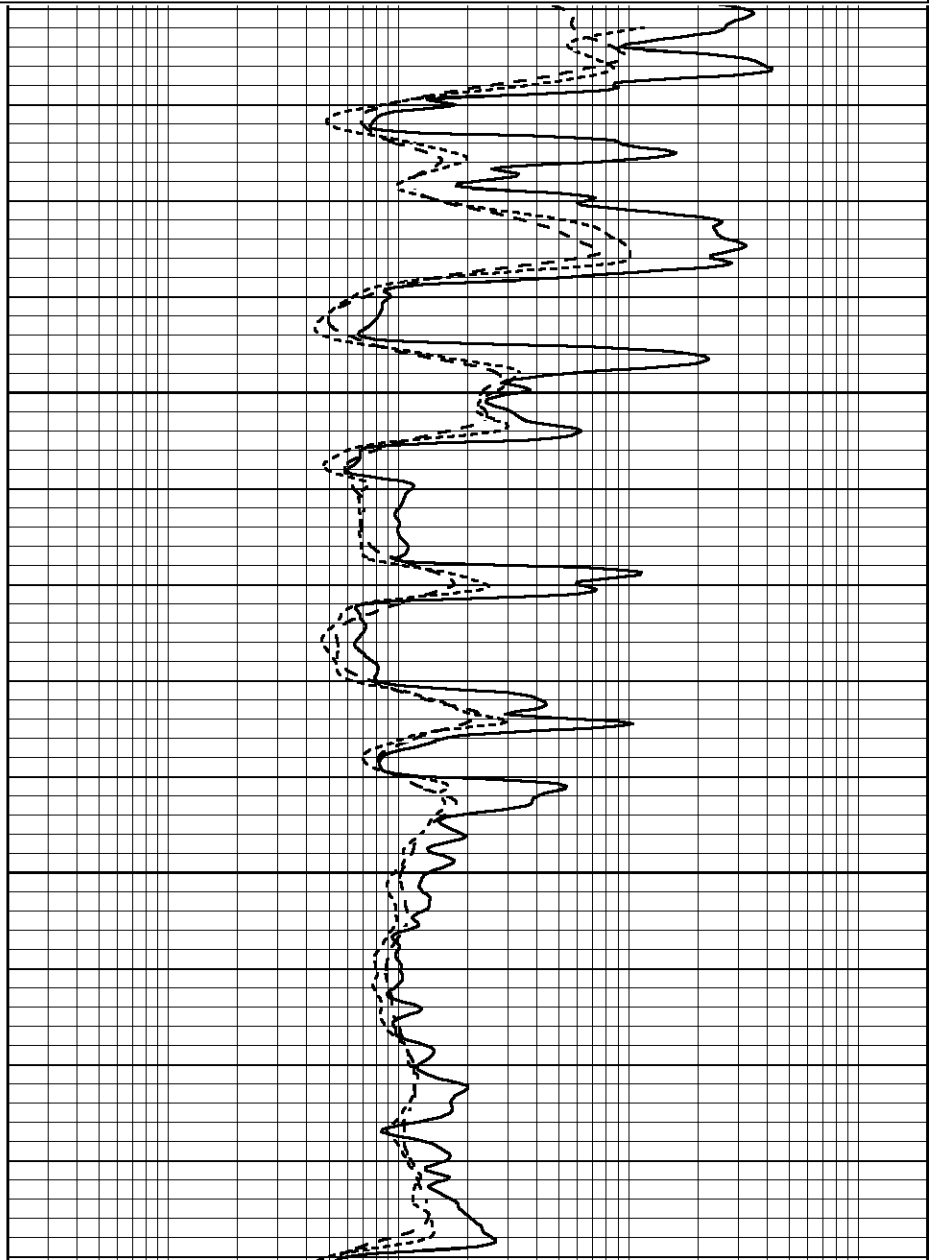
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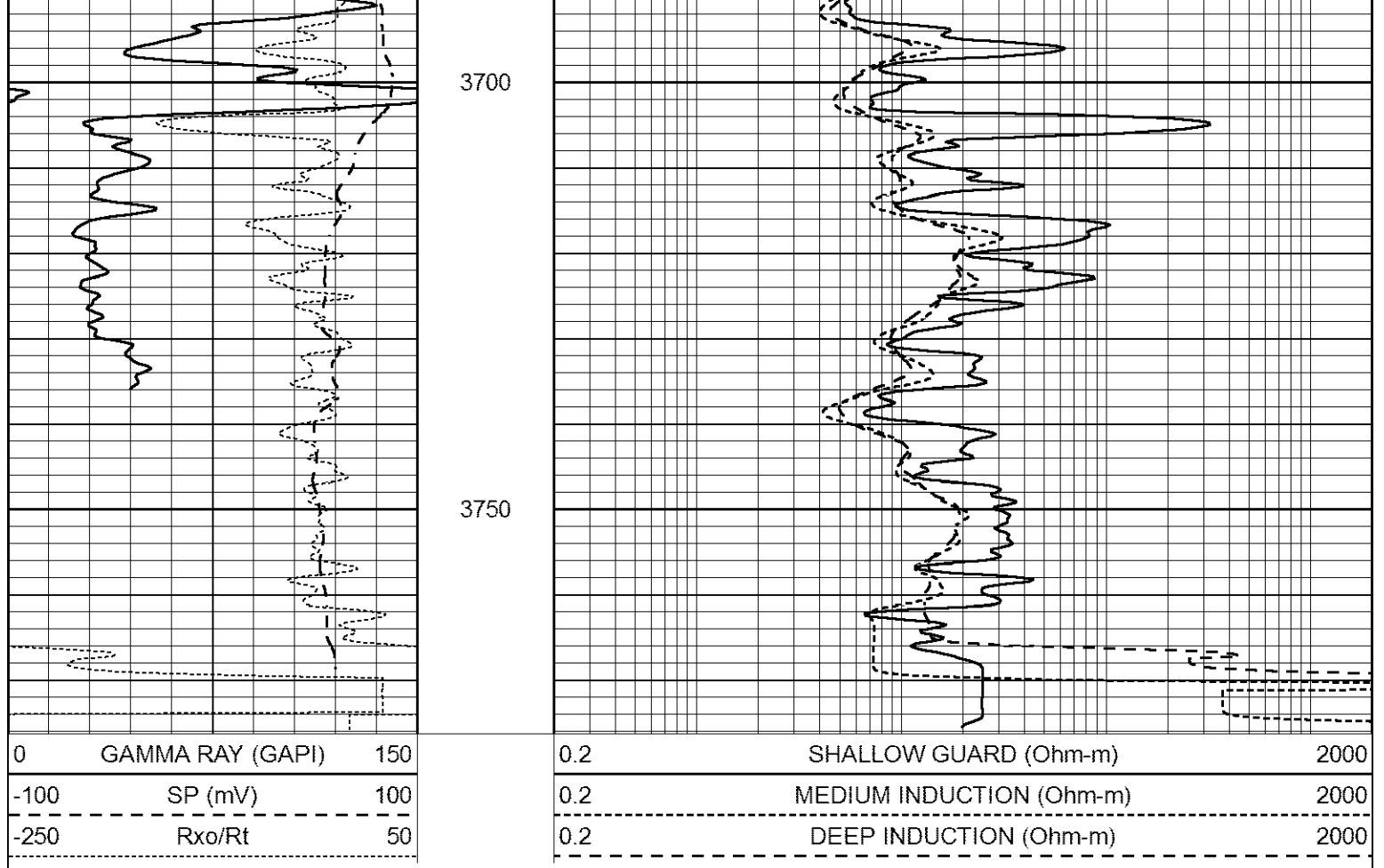
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 Dataset Creation Mon Jan 21 18:12:42 2019  
 Charted by Depth in Feet scaled 1:240



3600

3650





### Calibration Report

Database File 3437ddn8.db  
 Dataset Pathname pass2.1  
 Dataset Creation Mon Jan 21 18:12:42 2019

### Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe  
 Surface Cal Performed: Mon May 22 14:23:32 2017  
 Downhole Cal Performed: Thu Mar 12 09:29:20 2015  
 After Survey Verification Performed: Thu Mar 12 09:29:20 2015

#### 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	V	Zero	Cal	mmho/m	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	mmho/m	Zero	Cal	mmho/m	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		



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:	Wed Dec 05 01:26:33 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.4300	GAPI/cps