

DUAL INDUCTION LOG

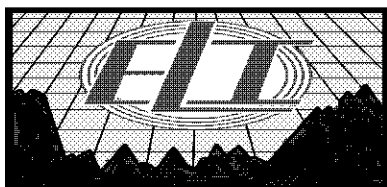
Company	EDISON OPERATING COMPANY, LLC.	
Well	O'CONNOR #1-8	
Field	KNOCHE SOUTH	
County	STAFFORD	
State	KANSAS	
Company	EDISON OPERATING COMPANY, LLC.	
Well	O'CONNOR #1-8	
Field	KNOCHE SOUTH	
County	STAFFORD	
State	KANSAS	
Location:	API # : 15-185-24053-0000	
Permanent Datum	GROUND LEVEL Elevation : 1885	
Log Measured From	KELLY BUSHING 10' A.G.L.	
Drilling Measured From	KELLY BUSHING	
SEC 8	TWP 24S	RGE 12W
330' FSL & 1545' FEL		Other Services CDL/CNL/PE MEL/SON
Elevation		K.B. 1895 D.F. 1893 G.L. 1885
Date	5/25/19	
Run Number	ONE	
Depth Driller	4140	
Depth Logger	4141	
Bottom Logged Interval	4139	
Top Log Interval	00	
Casing Driller	8 5/8" @ 418	
Casing Logger	417	
Bit Size	7 7/8	
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 10400 PPM
Density / Viscosity	9.2/50	
pH / Fluid Loss	10.0/10.4	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	.40 @ 92F	
Rmf @ Meas. Temp	.30 @ 92F	
Rmc @ Meas. Temp	.48 @ 92F	
Source of Rmf / Rmc	MEASUREMENT	
Rm @ BHT	.31 @ 117F	
Time Circulation Stopped	2 HOURS	
Time Logger on Bottom	////	
Maximum Recorded Temperature	117F	
Equipment Number	3802	
Location	HAYS, KANSAS	
Recorded By	JASON CAPPELLUCCI	
Witnessed By	DEREK PATTERSON	

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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
STAFFORD, KS. - 3 WEST TO RD 50 - 2 NORTH TO RD. 10 - 1/4 WEST - NORTH INTO

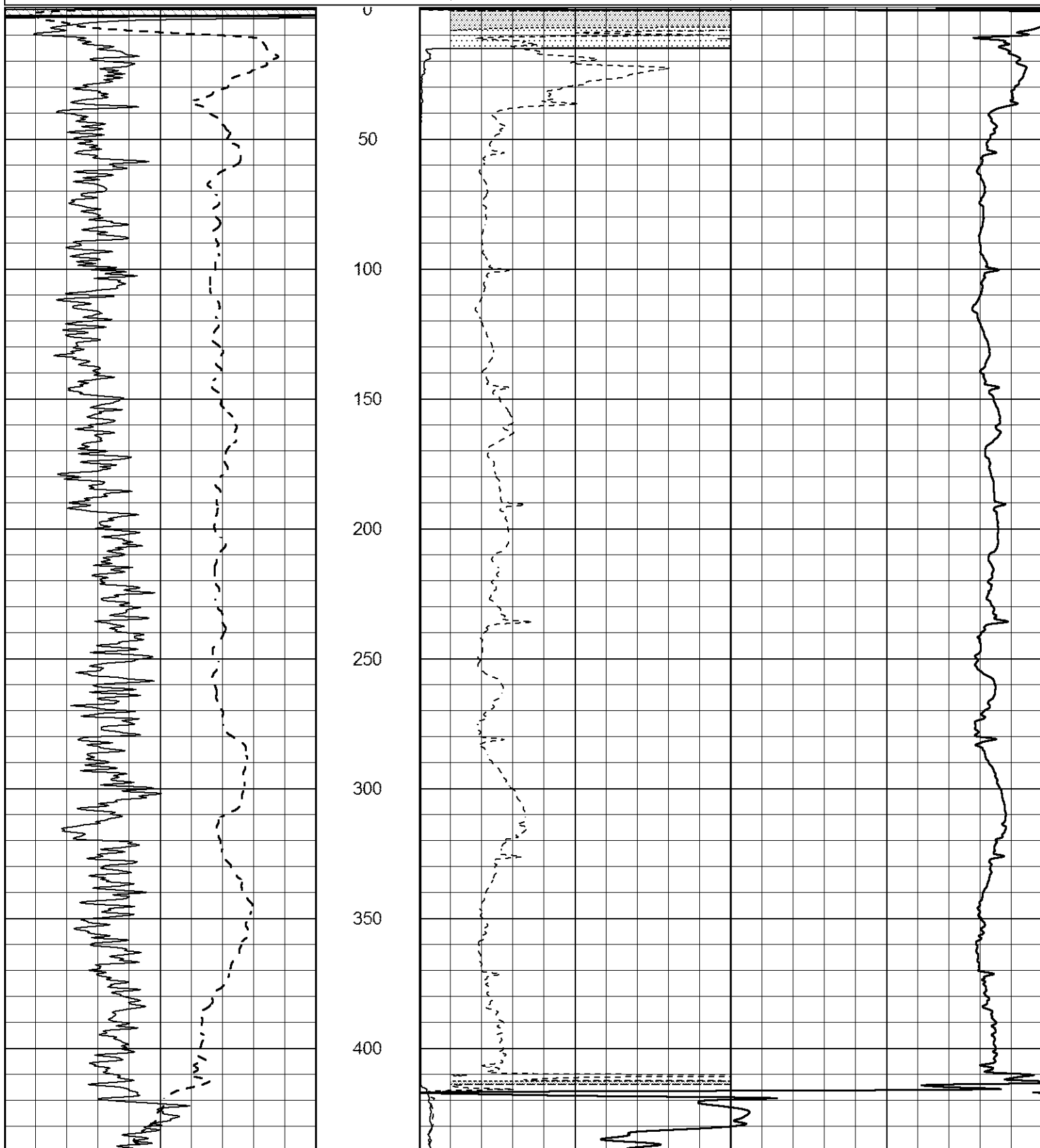


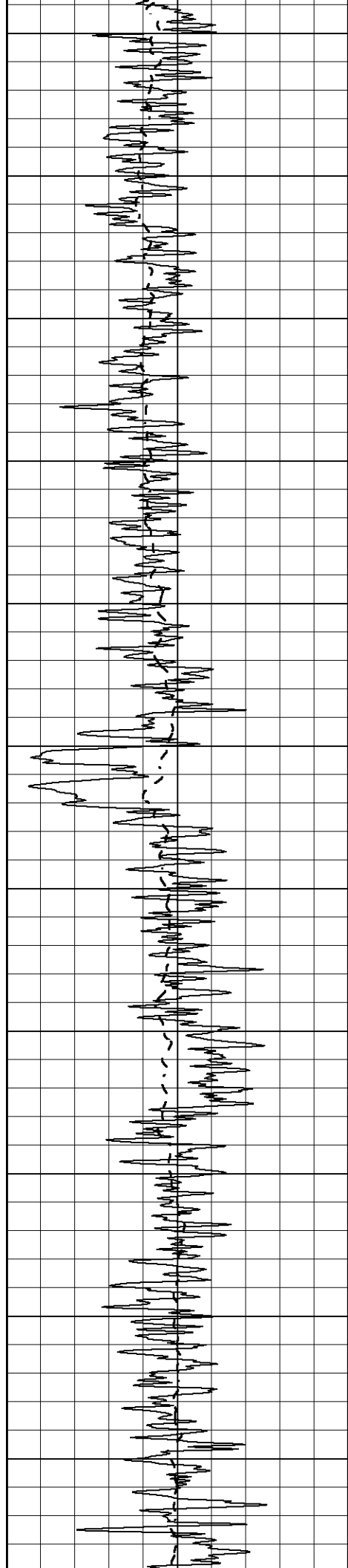
MAIN SECTION

Database File 3640pe8.db
Dataset Pathname pass3.2
Presentation Format _dil2
Dataset Creation Sat May 25 15:05:05 2019
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 Deep Induction (Ohm-m) 50
50 RILD X10 (Ohm-m) 500
50 RLL3 X10 (Ohm-m) 500





450

500

550

600

650

700

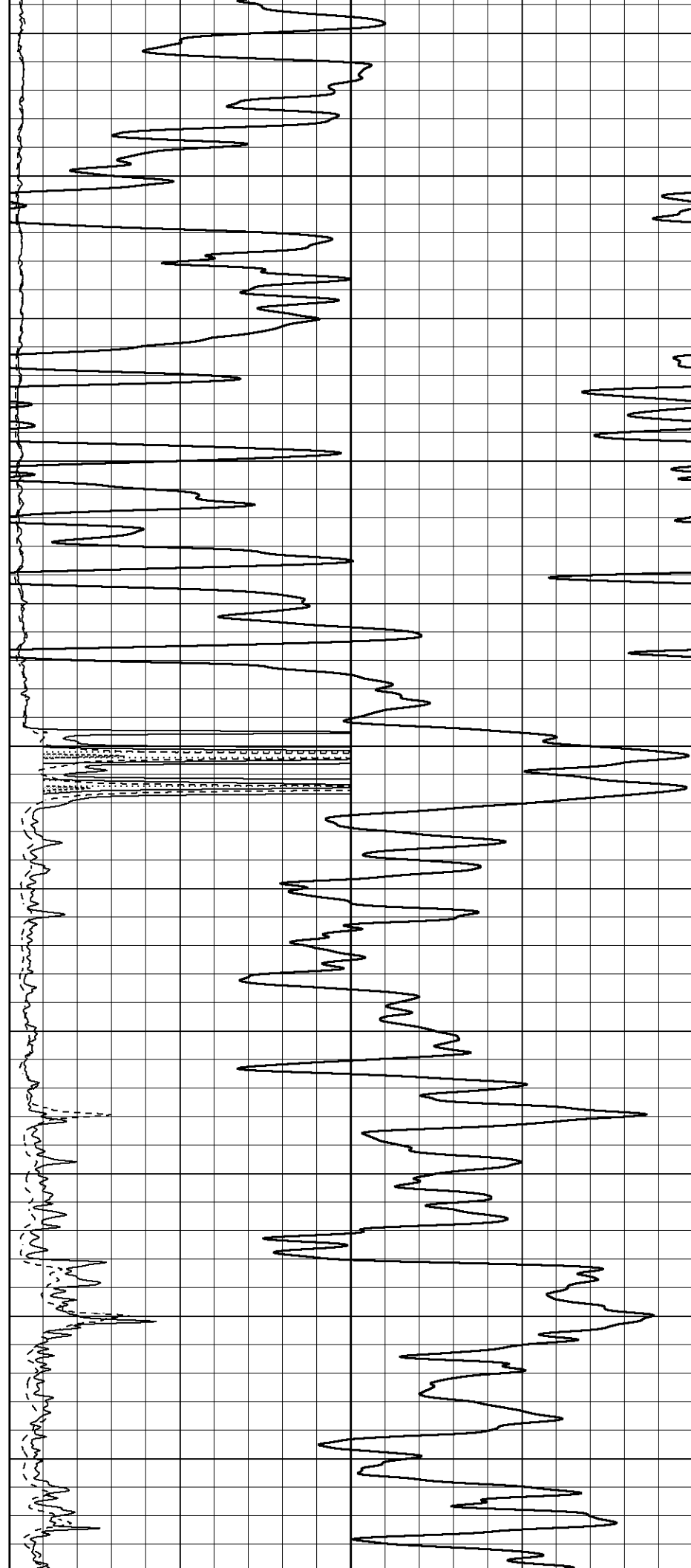
750

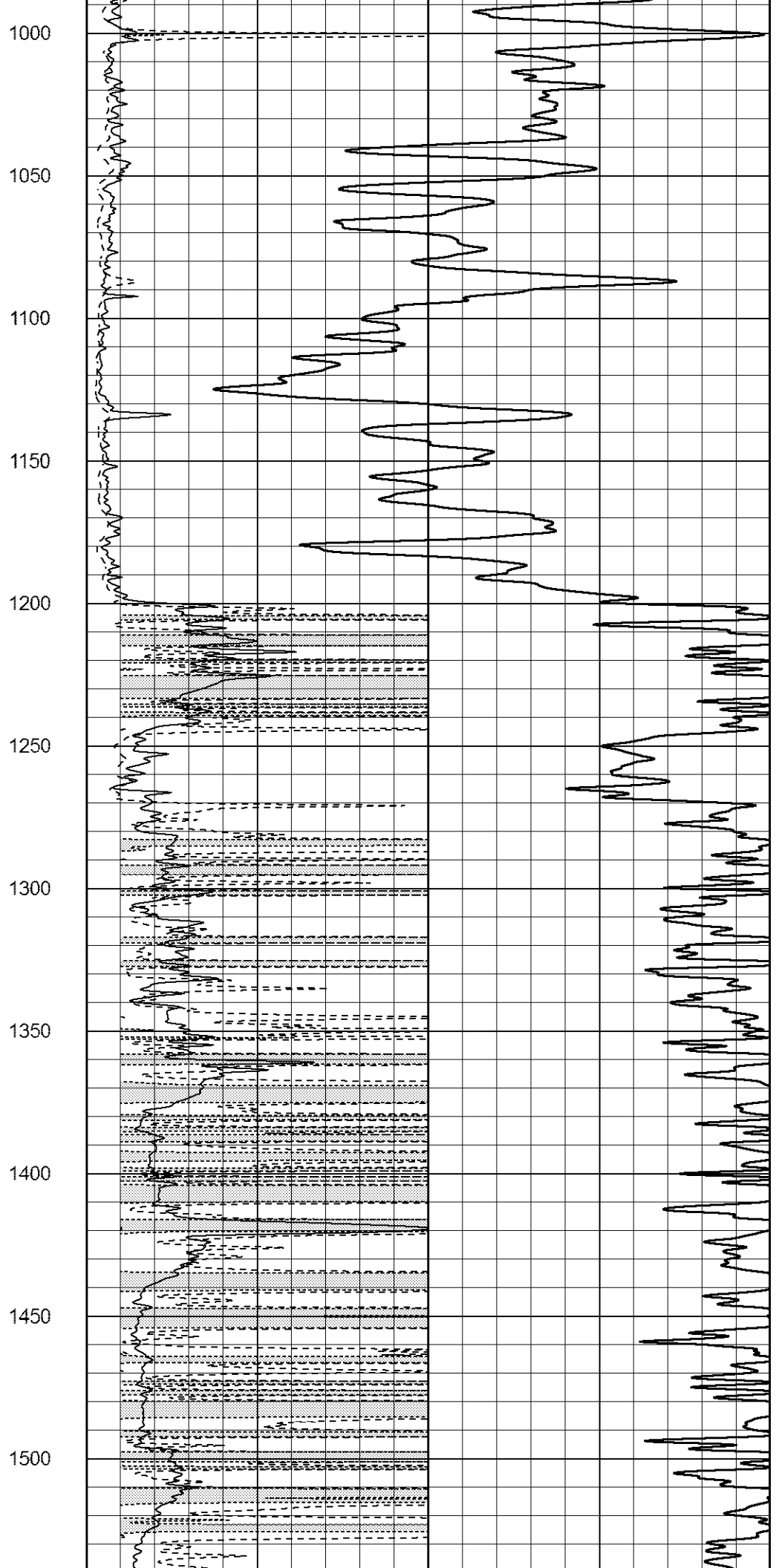
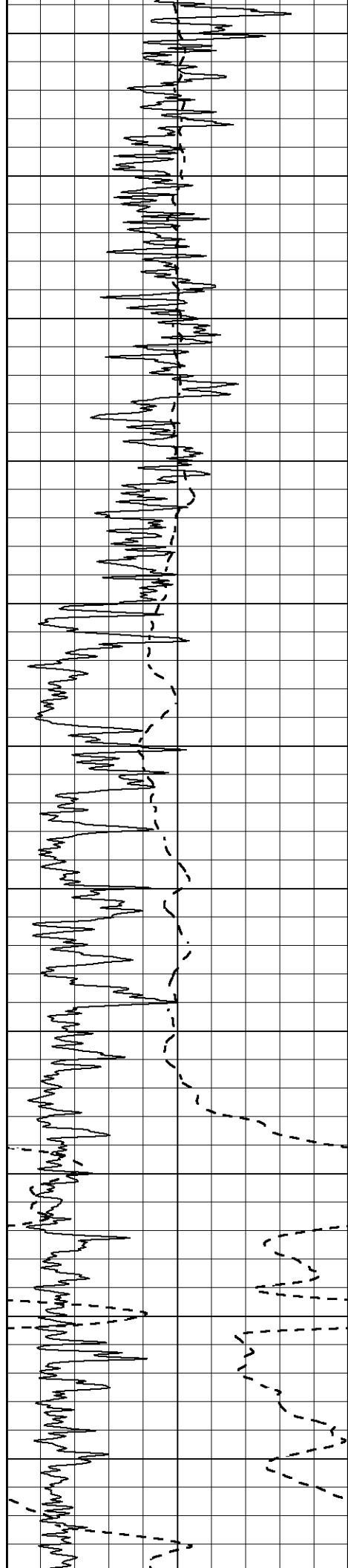
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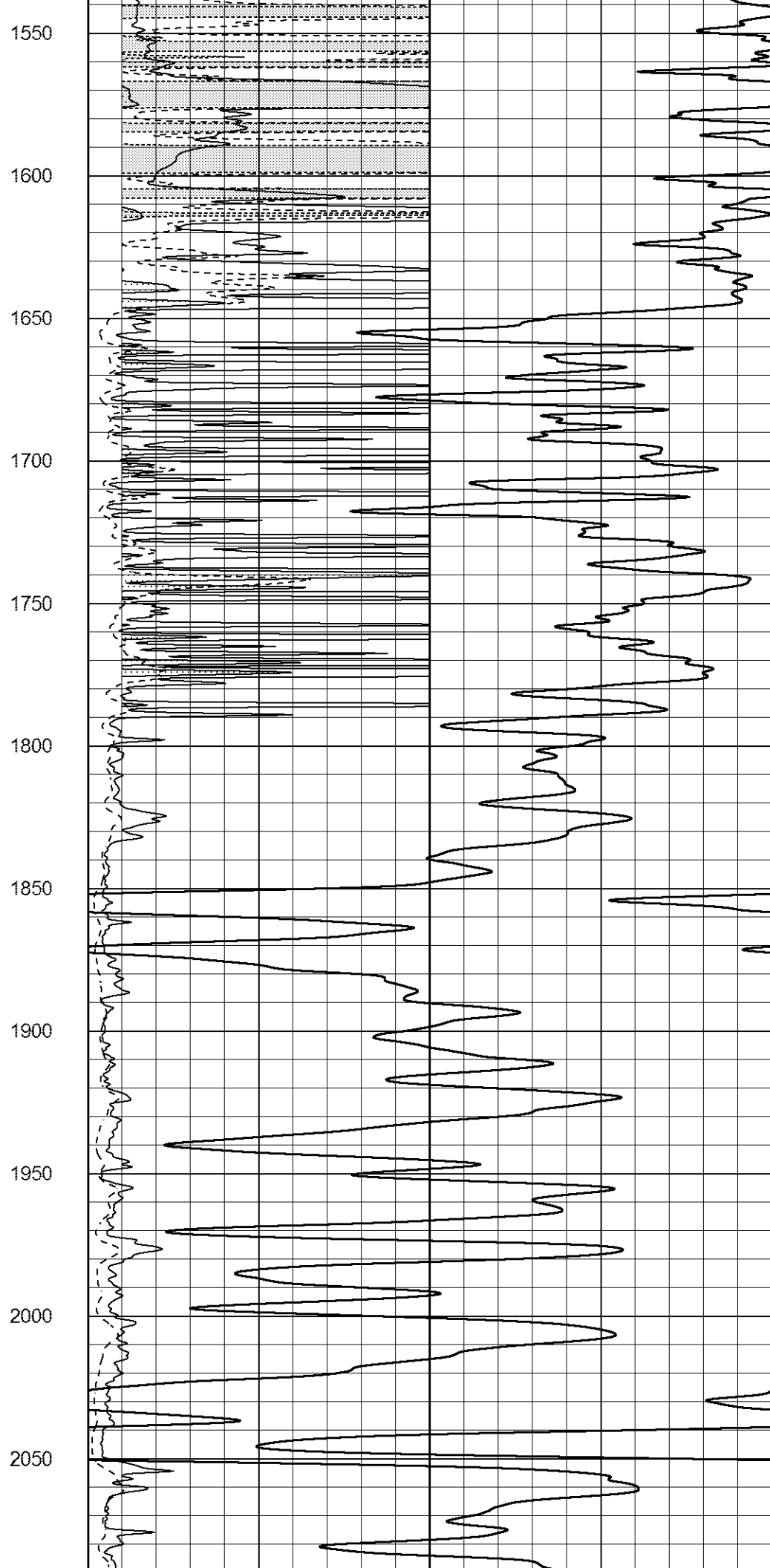
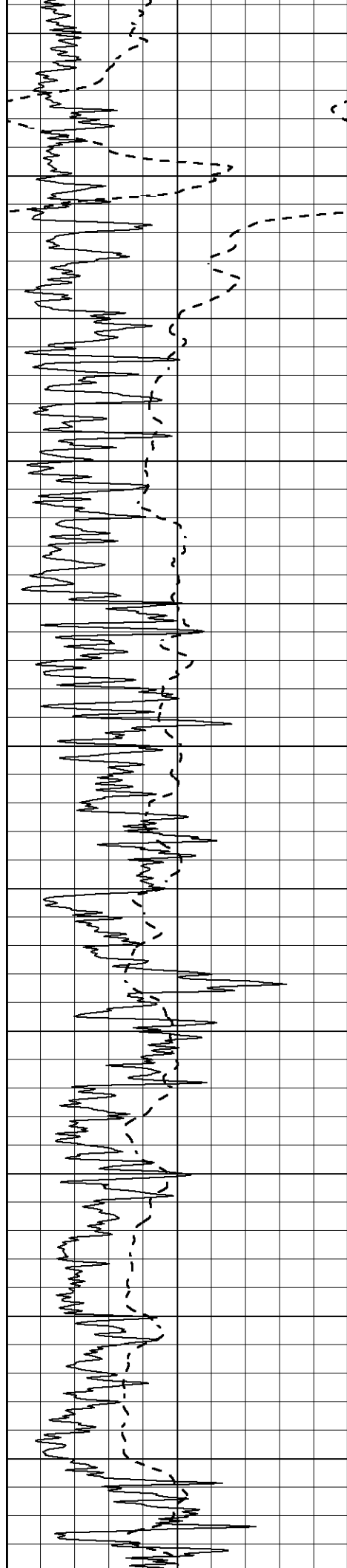
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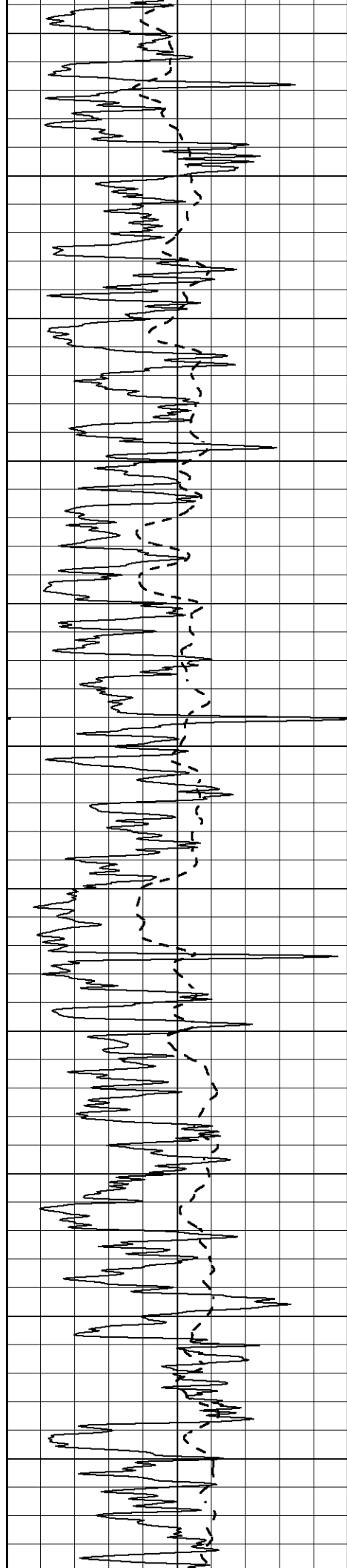
900

950









2100

2150

2200

2250

2300

2350

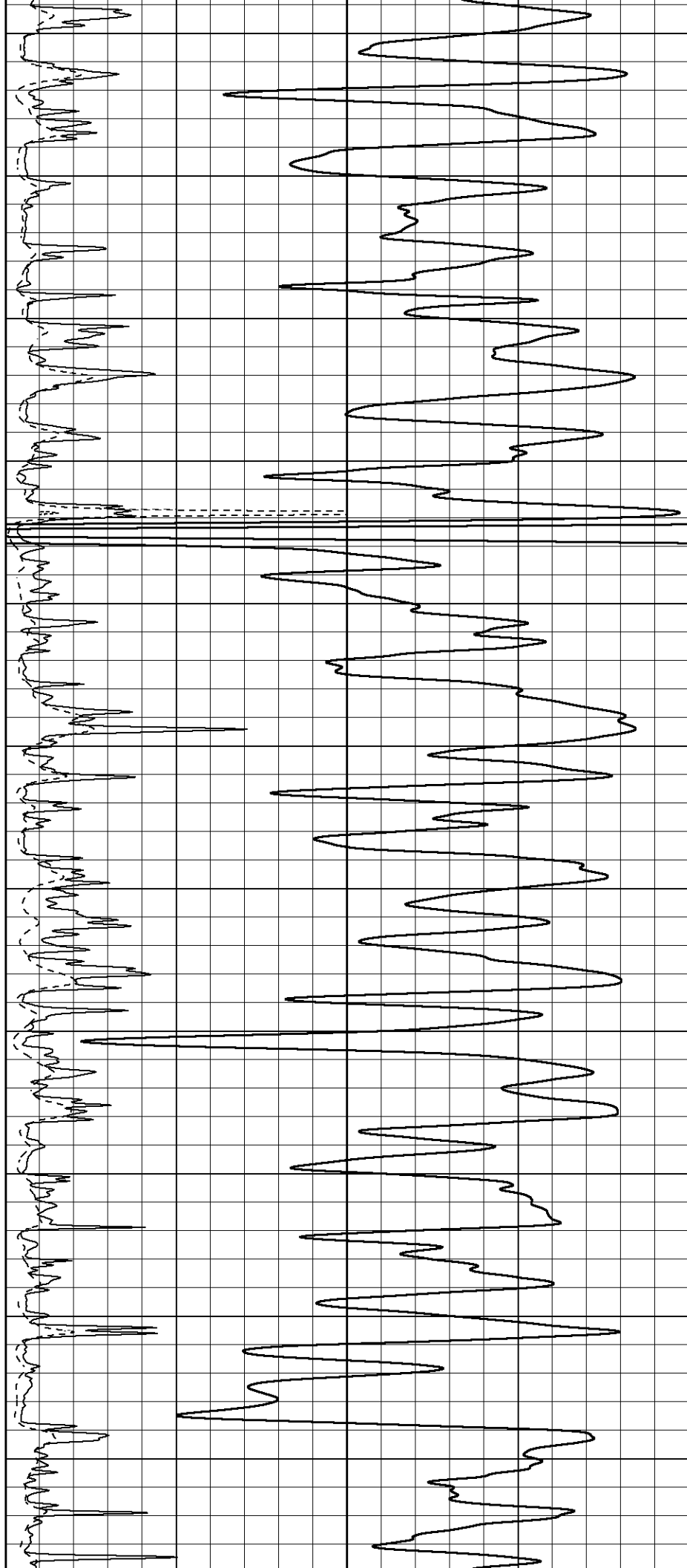
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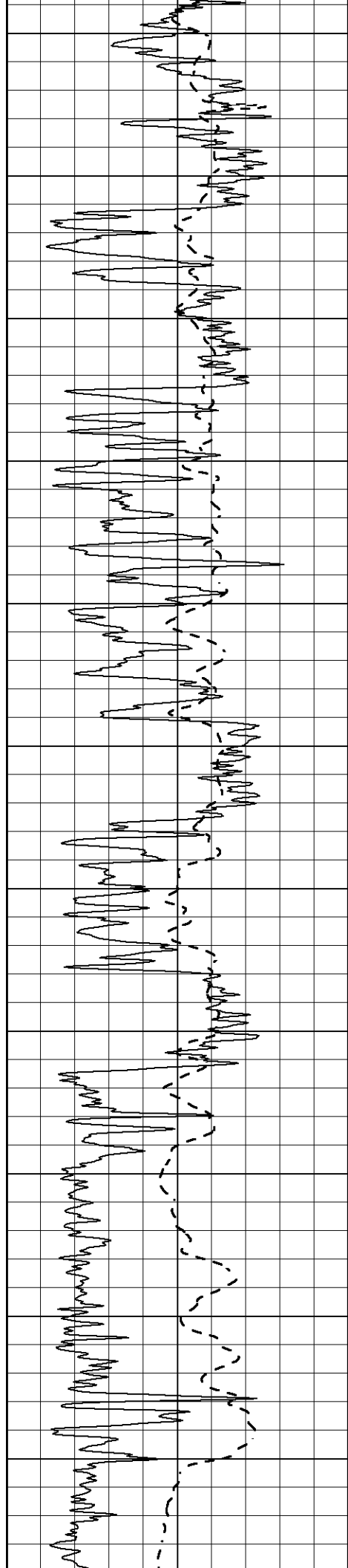
2450

2500

2550

2600





2650

2700

2750

2800

2850

2900

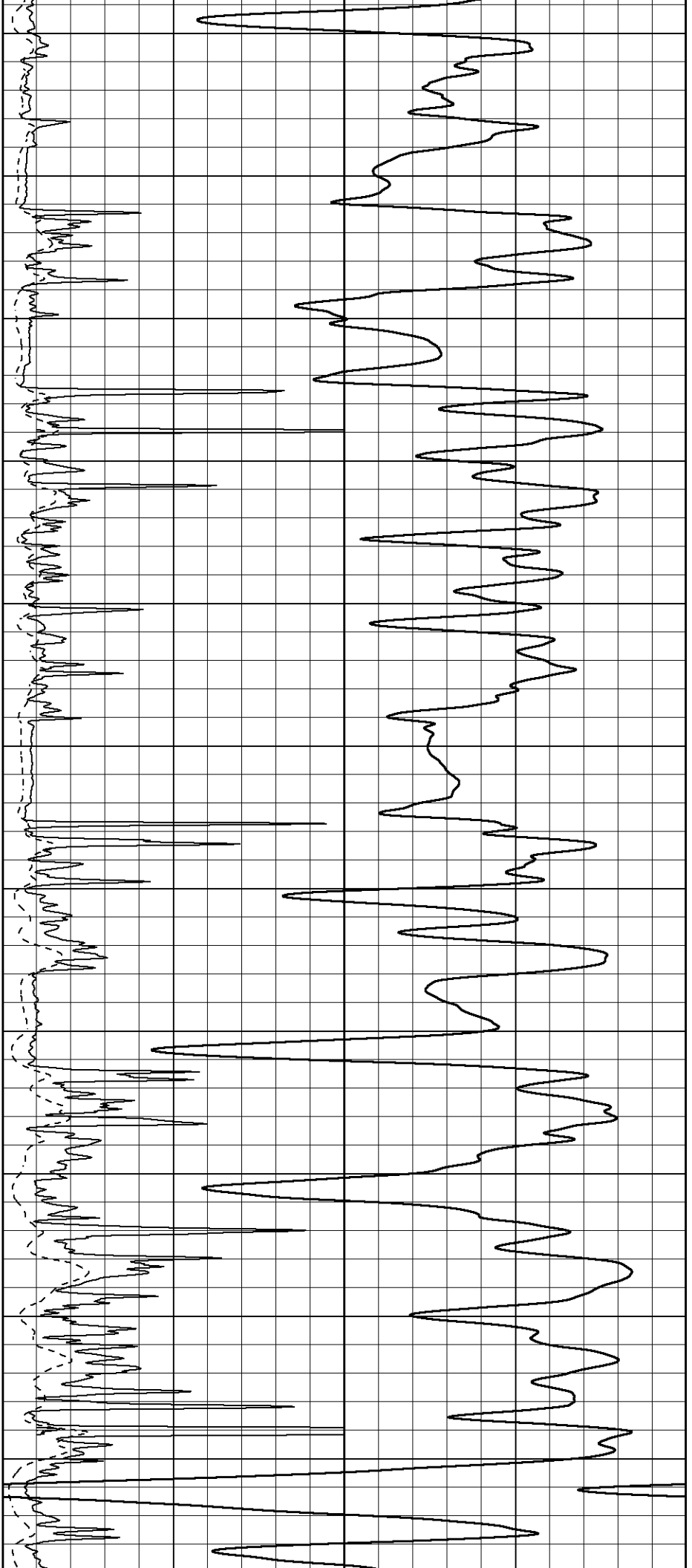
2950

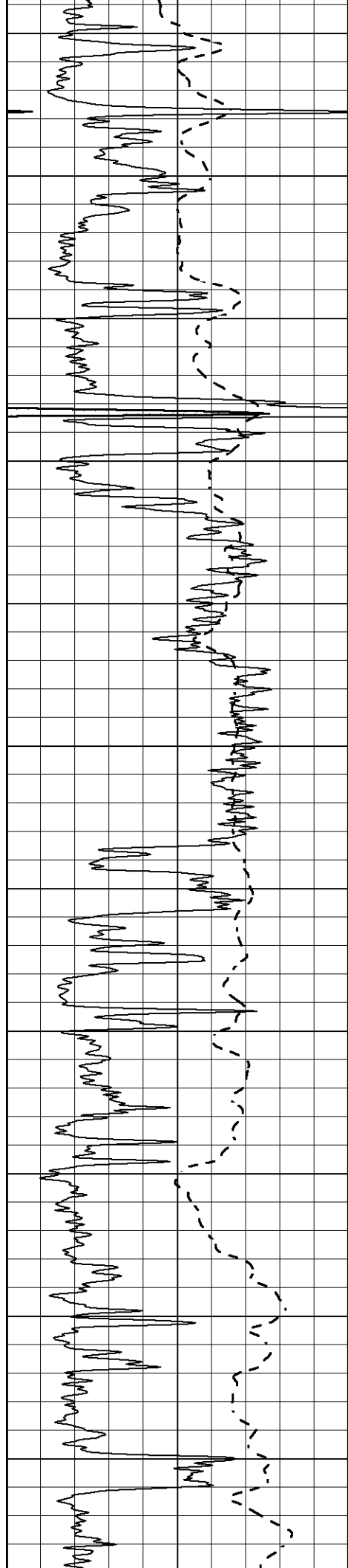
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

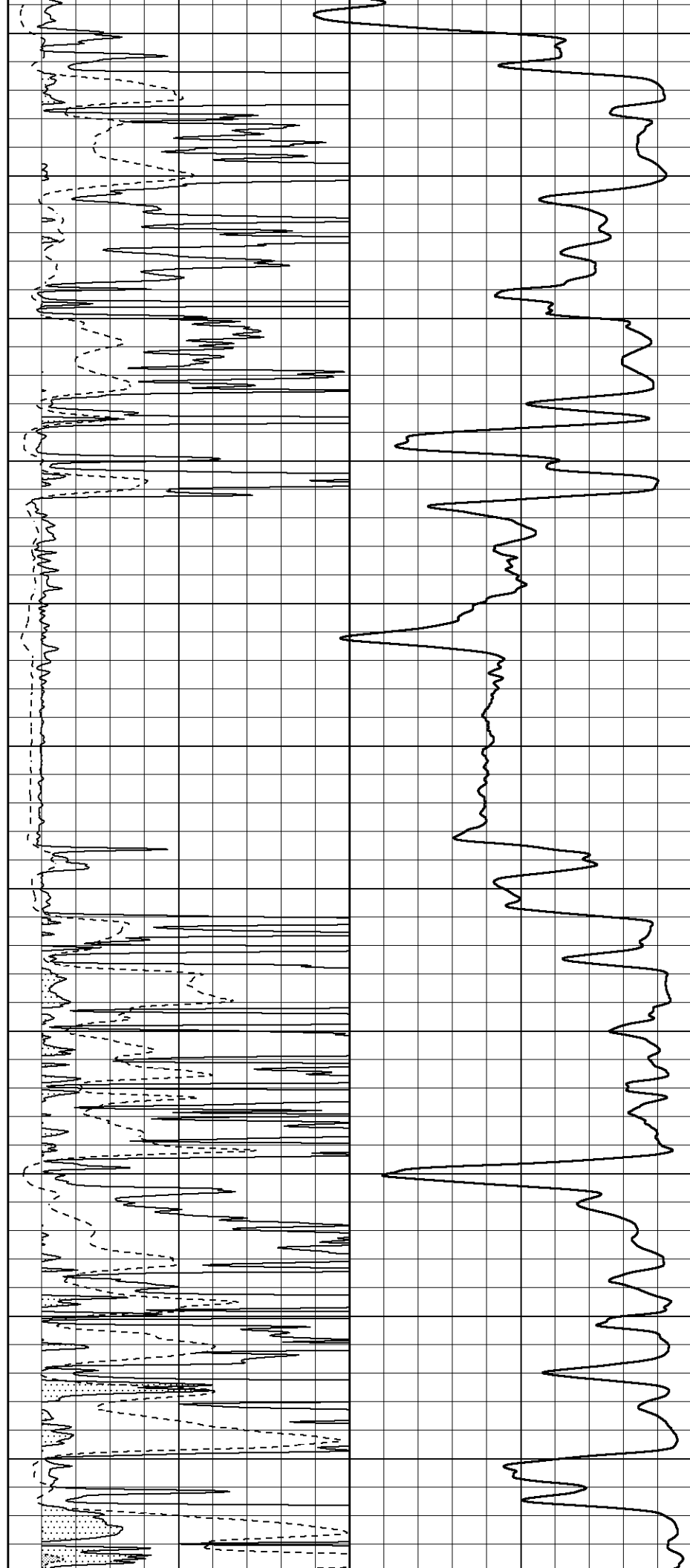
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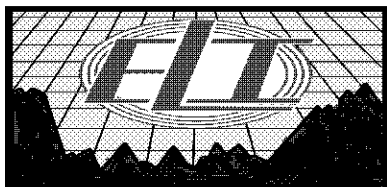
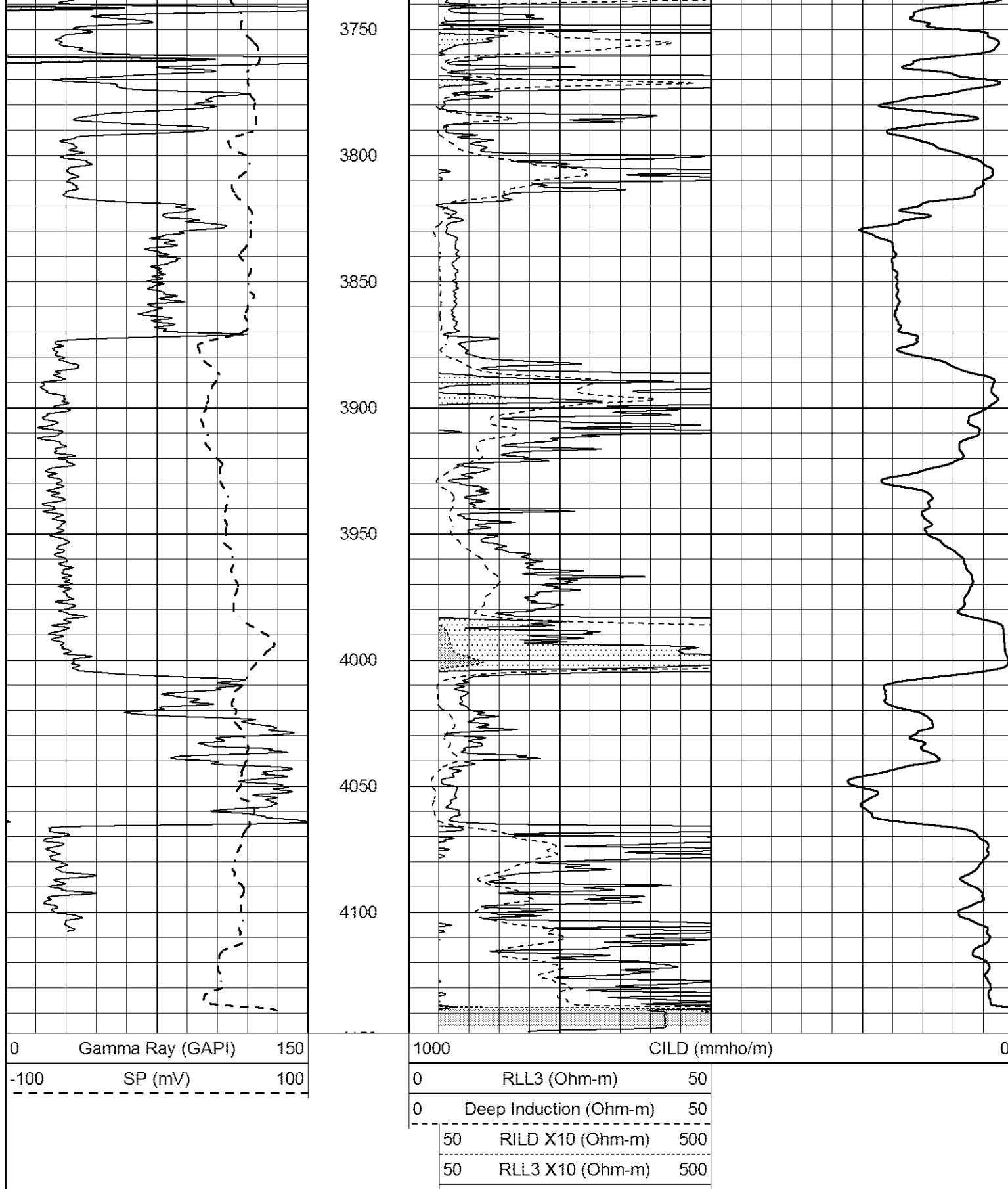
3550

3600

3650

3700



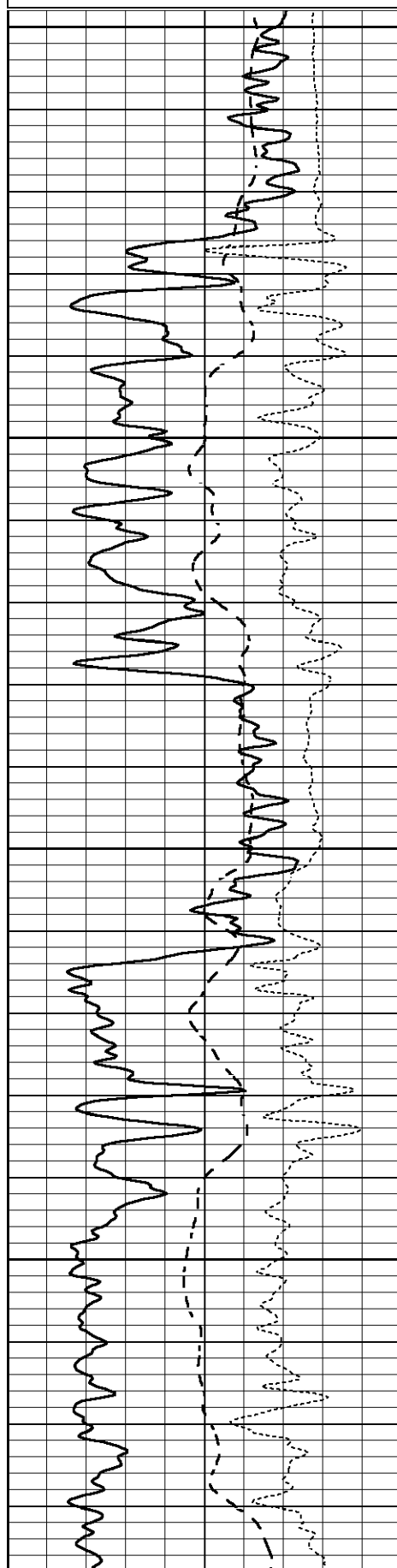


MAIN SECTION

pass3.1
_dil
Sat May 25 14:21:18 2019
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

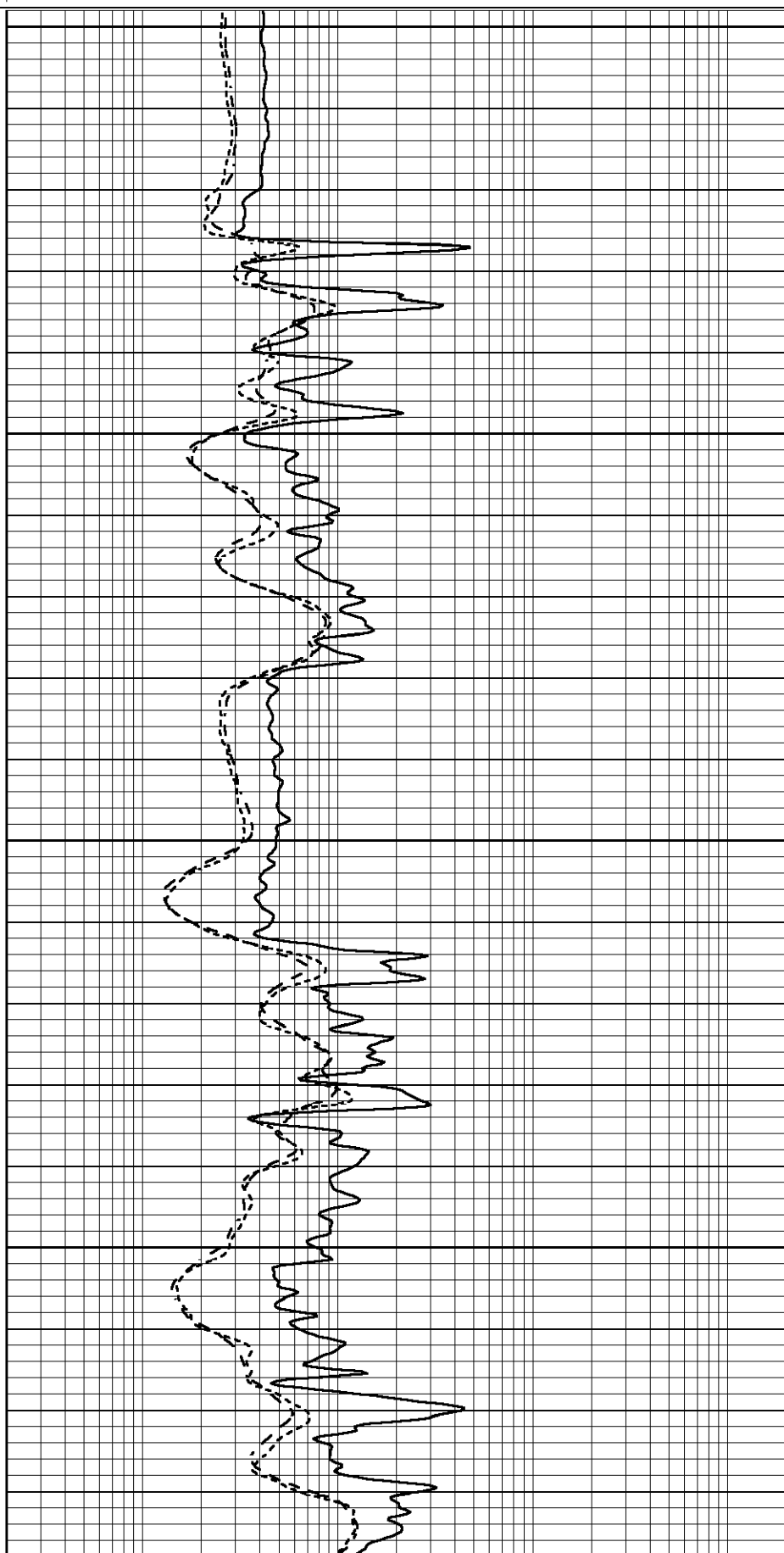


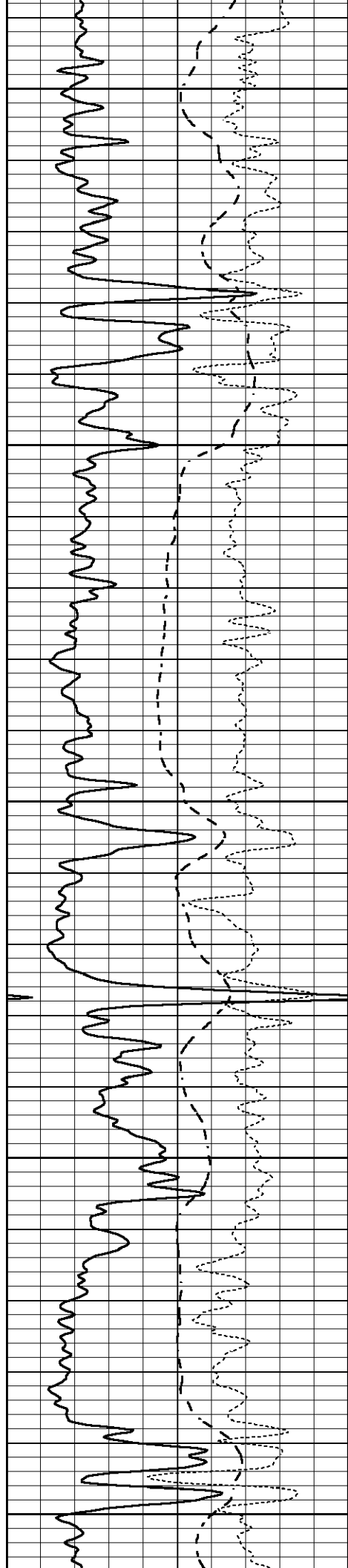
2900

2950

3000

3050





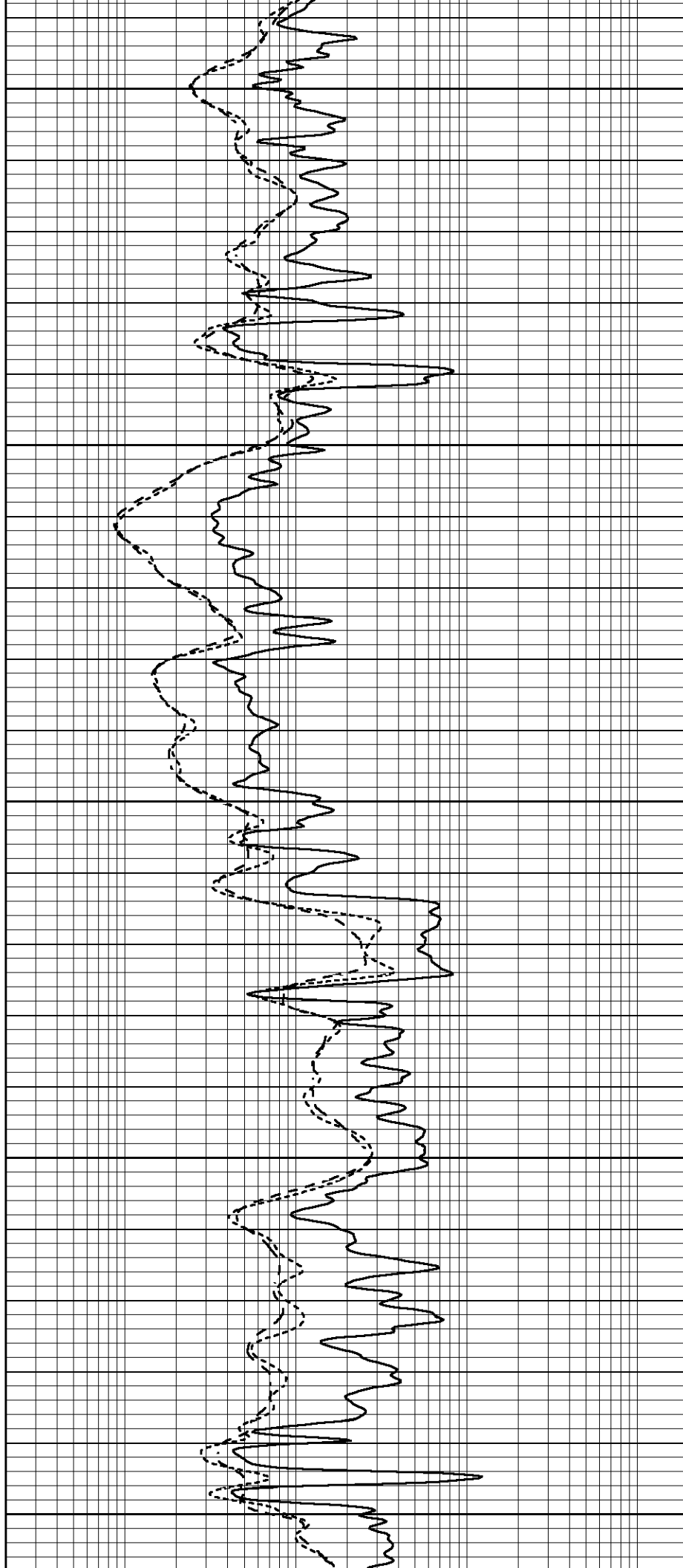
3100

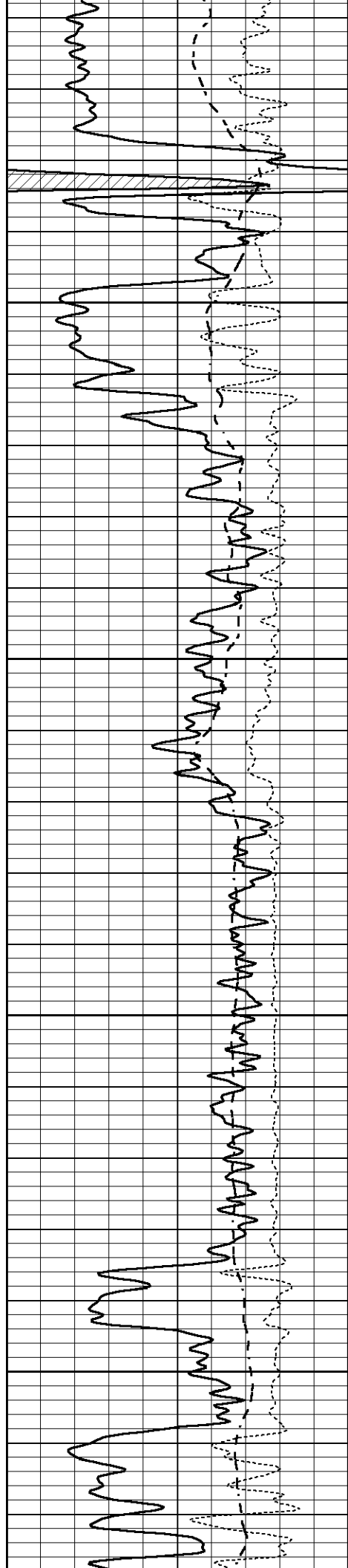
3150

3200

3250

3300



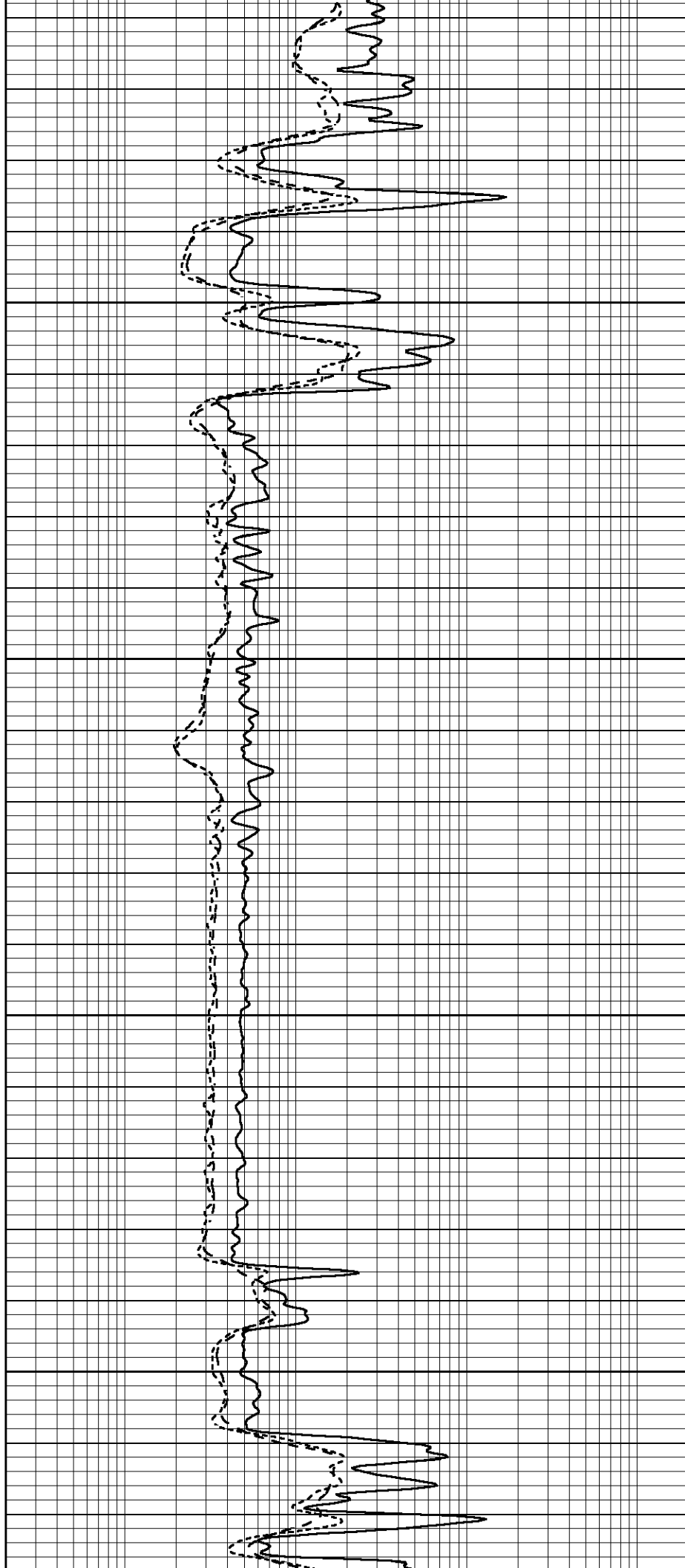


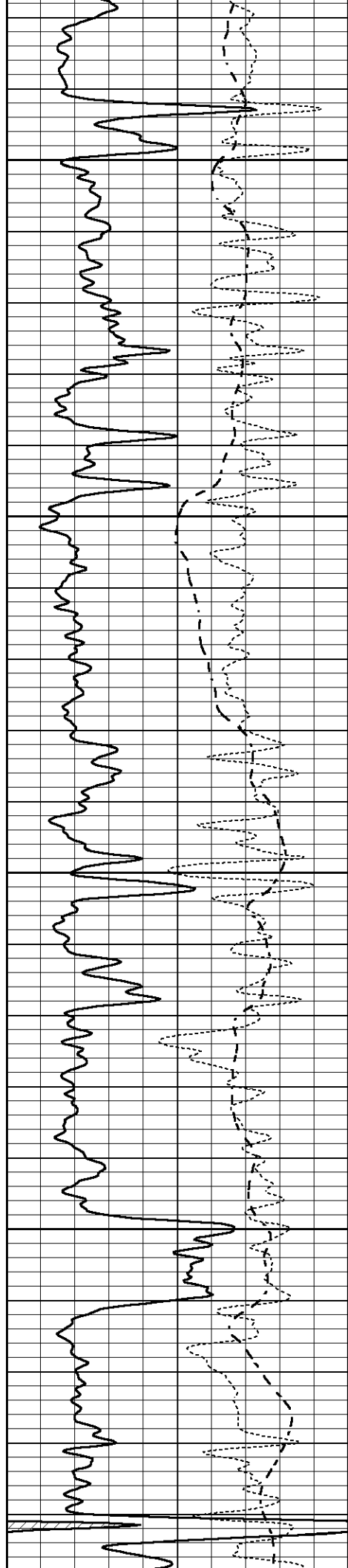
3350

3400

3450

3500



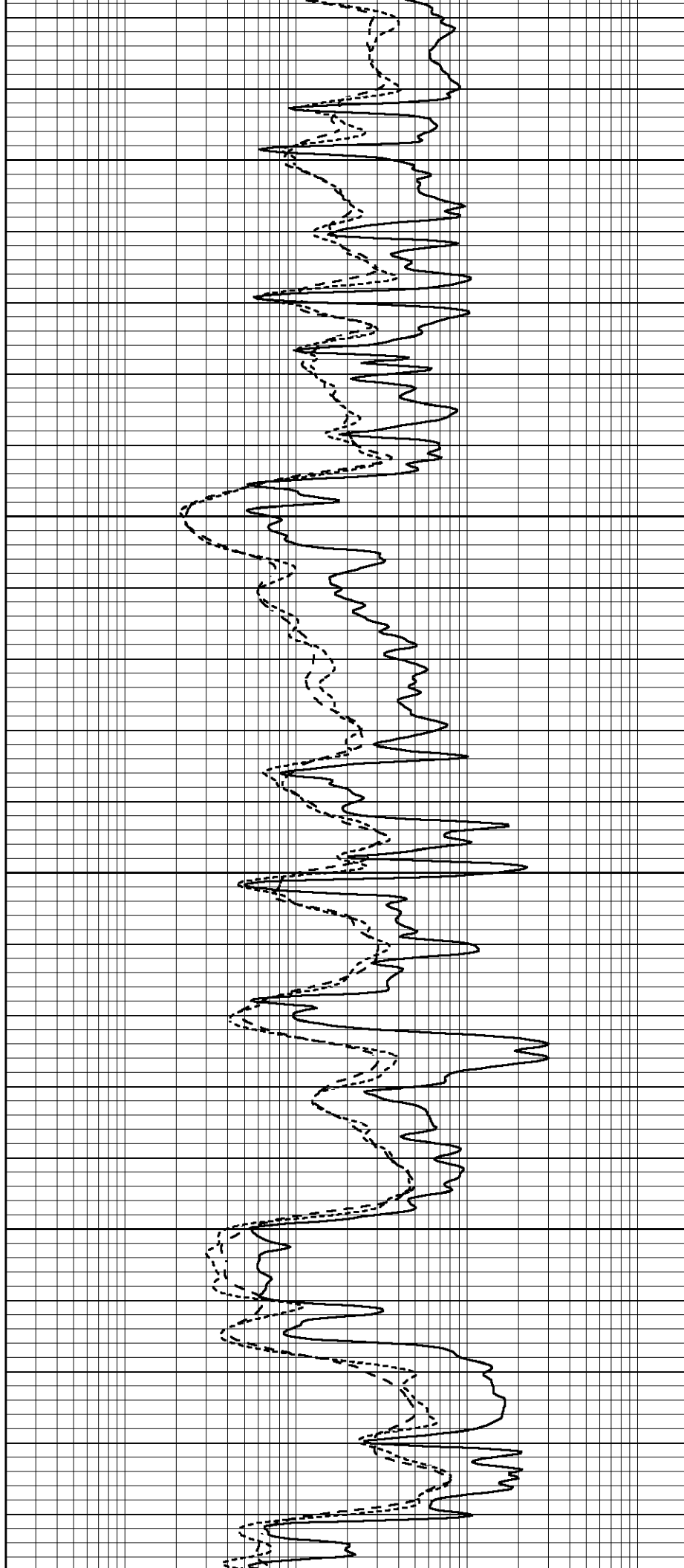


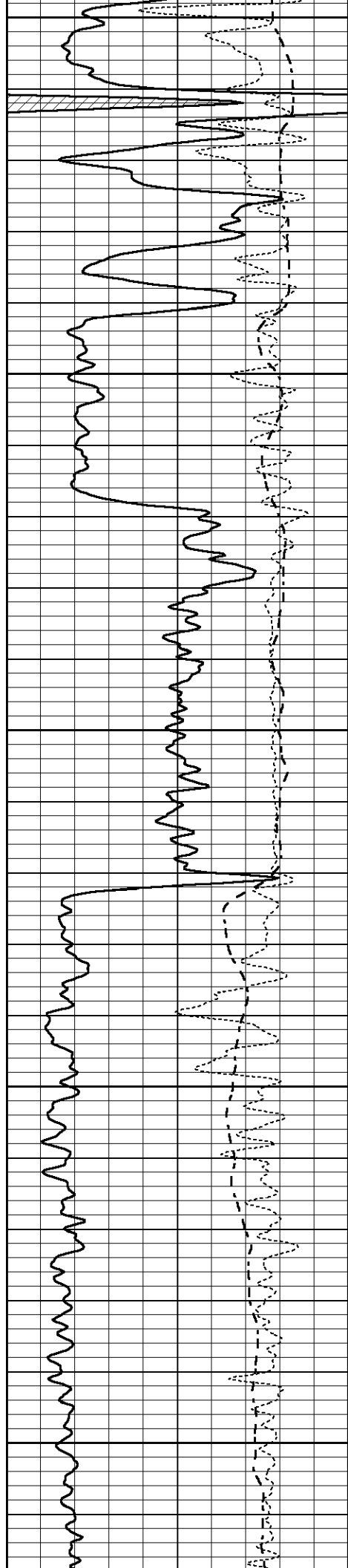
3550

3600

3650

3700





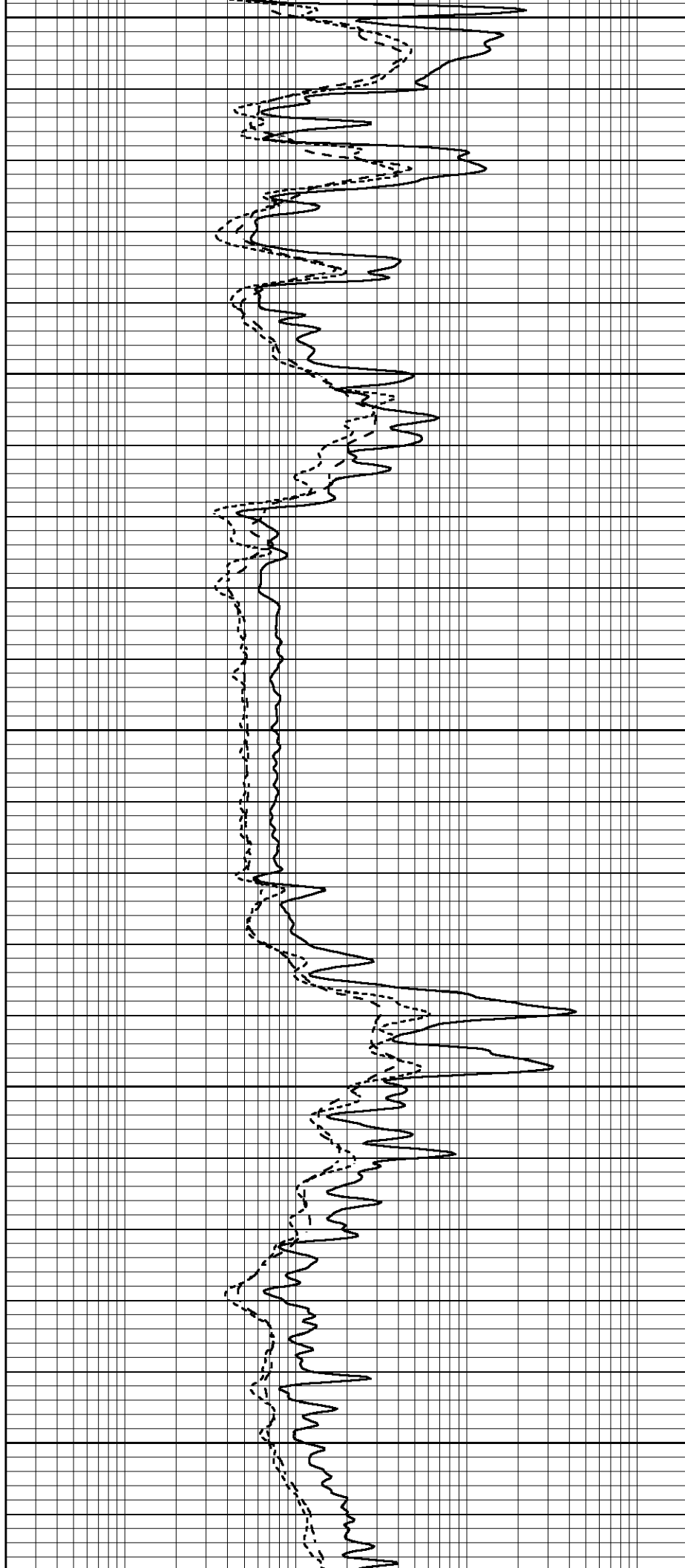
3750

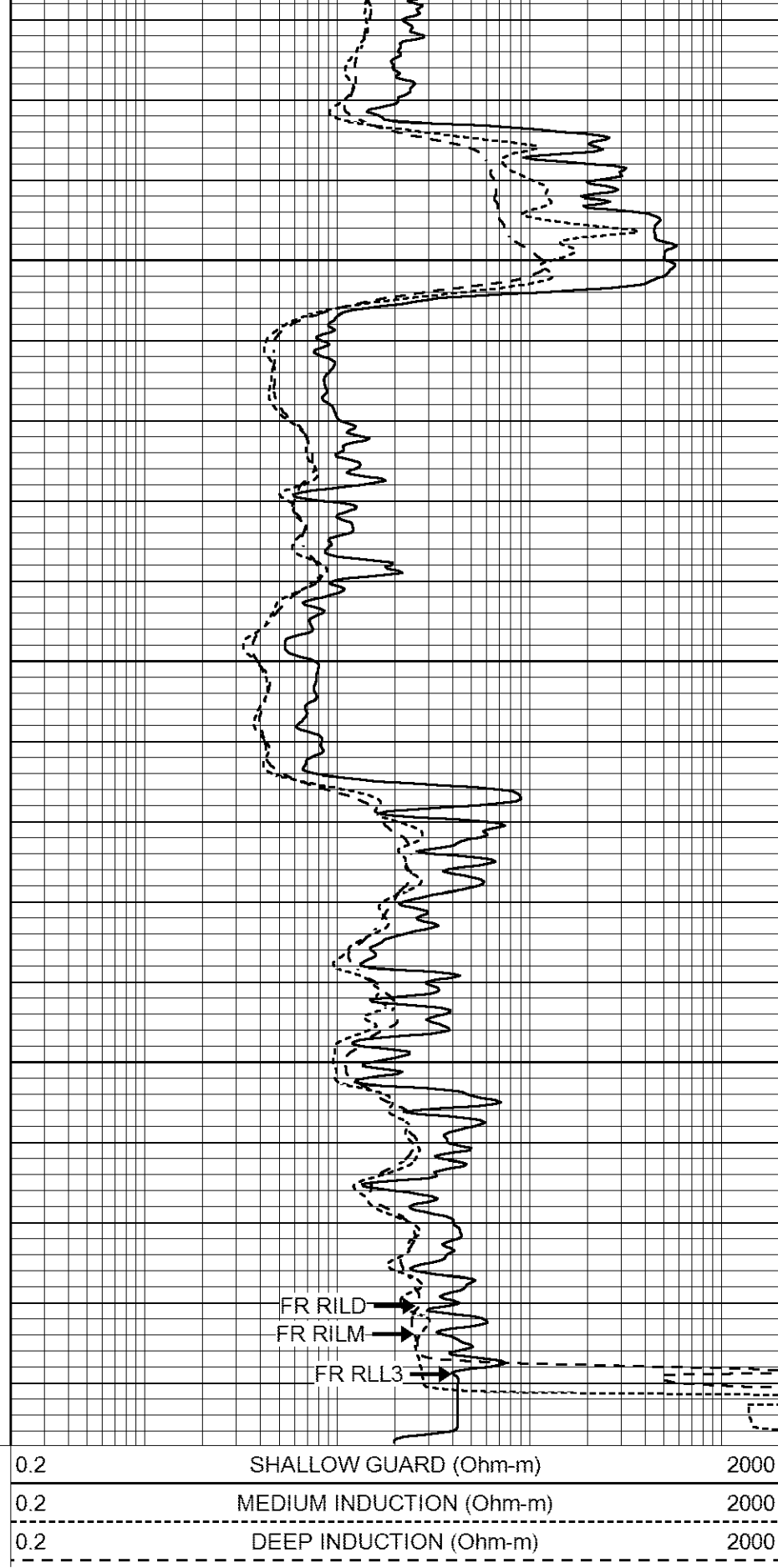
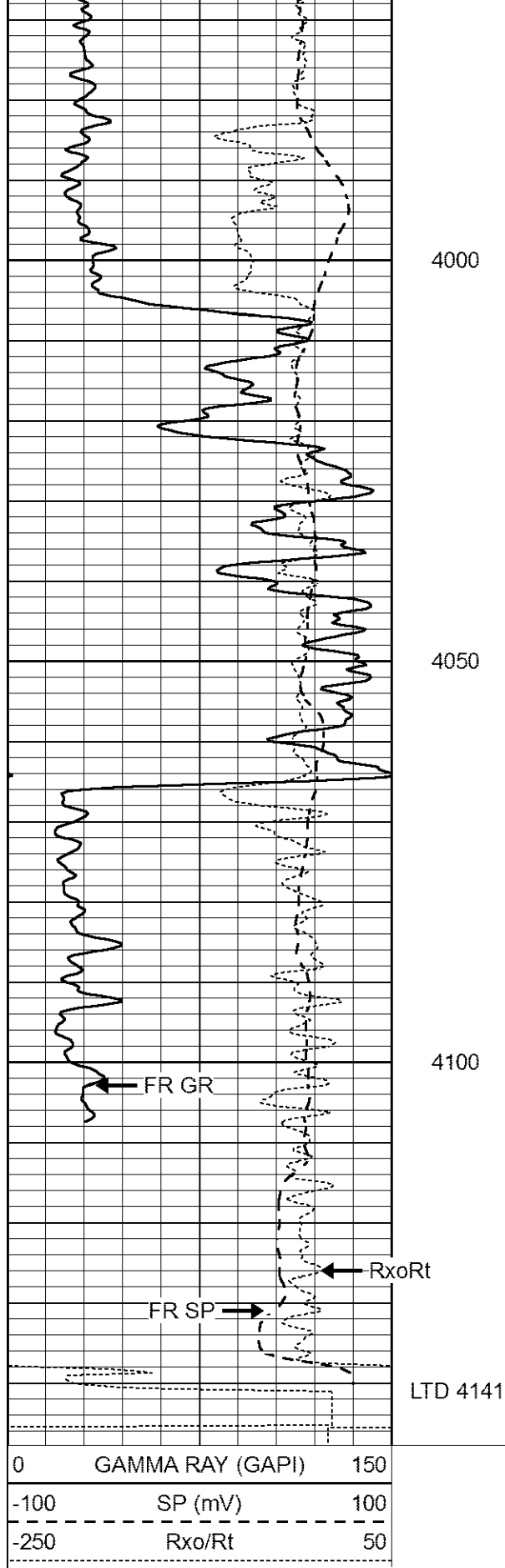
3800

3850

3900

3950

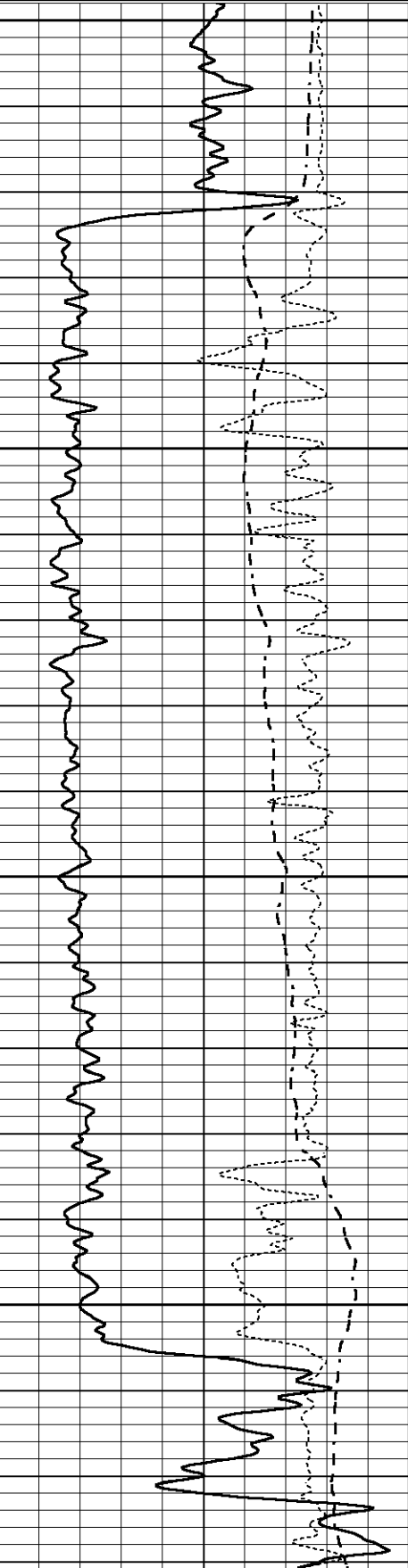




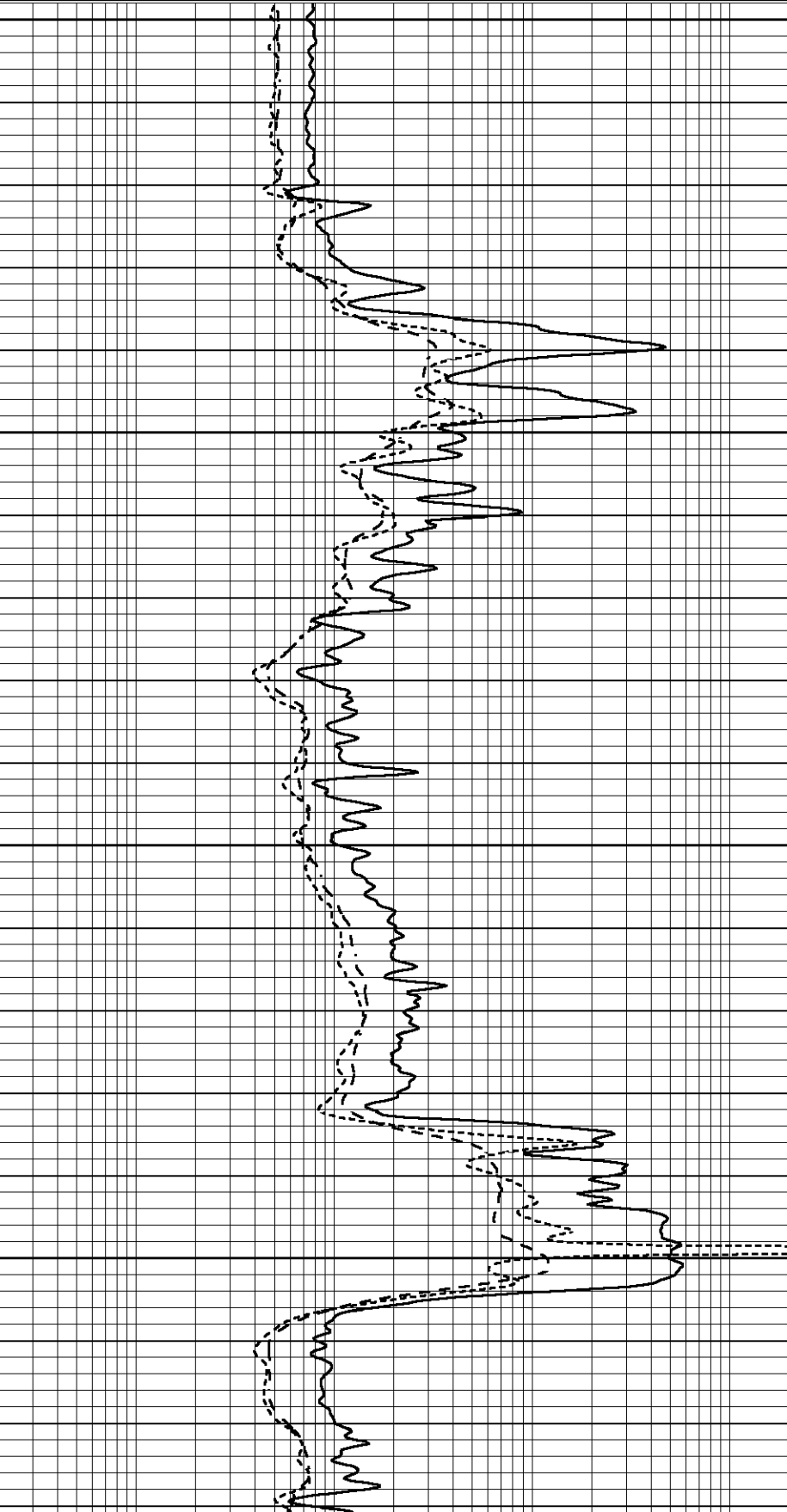
REPEAT SECTION

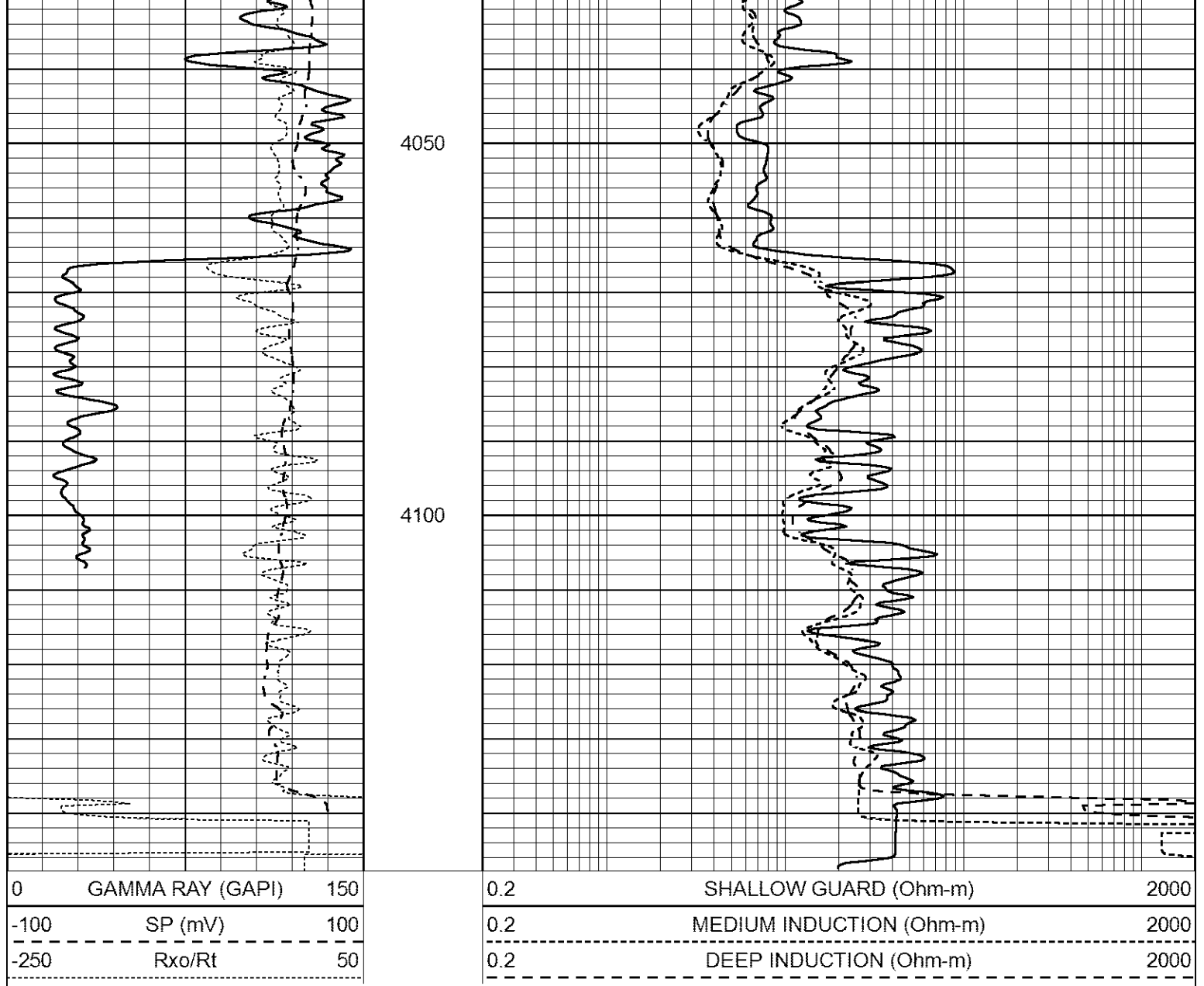
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

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



3850
3900
3950
4000





Calibration Report									
Database File	3640pe8.db								
Dataset Pathname	pass2.1								
Dataset Creation	Sat May 25 13:48:20 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
Medium	3.565	471.327	mmho/m		3.468	471.590	mmho/m	-0.149
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
Medium	0.000	0.000	mmho/m		3.565	471.327	mmho/m	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: 140704 Model: V4_10P Source Number: 74GBq-19								
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Master Calibration			Performed: Fri Jan 18 10:53:52 2019					
	Background	Aluminum	Magnesium					
Window 1	563.20	5403.39	24190.50	cps				
Window 2	44.78	1243.51	6049.93	cps				
Window 4	247.62	1222.40	5239.60	cps				
Window 5	568.17	8975.27	17094.80	cps				
Window 6	44.48	1484.88	2922.28	cps				
Window 8	270.82	2877.34	5377.89	cps				
Bulk Density	-	2.6020	1.6830	g/cc				
Pe	-	3.0000	2.5070	b/e				
LS Alpha:	: -1.8641	SS Alpha:	: -0.7692	LS CPE:		: 1.1004		
LS Beta:	: 127931.7253	SS Beta:	: 20075.8142	SS CPE:		: 1.5209		

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: Fri Jan 18 10:53:52 2019					
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Results	Readings		References (in)			
<u>Low</u>	<u>High</u>		<u>Low</u>	<u>High</u>	<u>Gain</u>	<u>Offset</u>
90.2	3611.6		8.0	14.0	0.0	7.8
Before Survey Caliper Verification						
Reference		Reading		Performed:		
Caliper (in)						
After Survey Caliper Verification						
Reference		Reading		Performed:		
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 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		