



DUAL INDUCTION
LOG

Company		HERMAN L. LOEB, LLC.	
Well		NINA #2-10	
Field		FRALICK WEST	
County		KIOWA	State
KANSAS			
Location:		API #: 15-097-21864-0000	
Permanent Datum		GROUND LEVEL Elevation 2312	
Log Measured From		KELLY BUSHING 11' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 10 TWP 28S RGE 20W		Elevation	
		K.B. 2323	
		D.F. 2321	
		G.L. 2312	
Date	11/19/22		
Run Number	ONE		
Depth Driller	5000		
Depth Logger	5000		
Bottom Logged Interval	4998		
Top Log Interval	00		
Casing Driller	8 5/8" @ 535		
Casing Logger	535		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 7.000 PPM	
Density / Viscosity	9.5/55		
pH / Fluid Loss	10.5/10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.80 @ 64F		
Rmf @ Meas. Temp	1.35 @ 64F		
Rmc @ Meas. Temp	2.16 @ 64F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.922 @ 125F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	11:30 P.M.		
Maximum Recorded Temperature	125F		
Equipment Number	3802		
Location	HAYS, KANSAS		
Recorded By	COLE ROBEN		
Witnessed By	JON CHRISTENSEN		

<<< Fold Here >>>

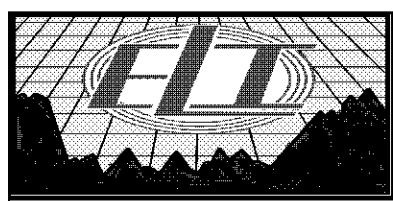
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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:

FROM MULLINVILLE GO NORTH ON TENTH AVENUE FOR 1.5 MILES, WEST ON 15 ST FOR 1.5 MILE NORTH ON SEVENTH AVE 1 MILE, EAST INTO



MAIN SECTION

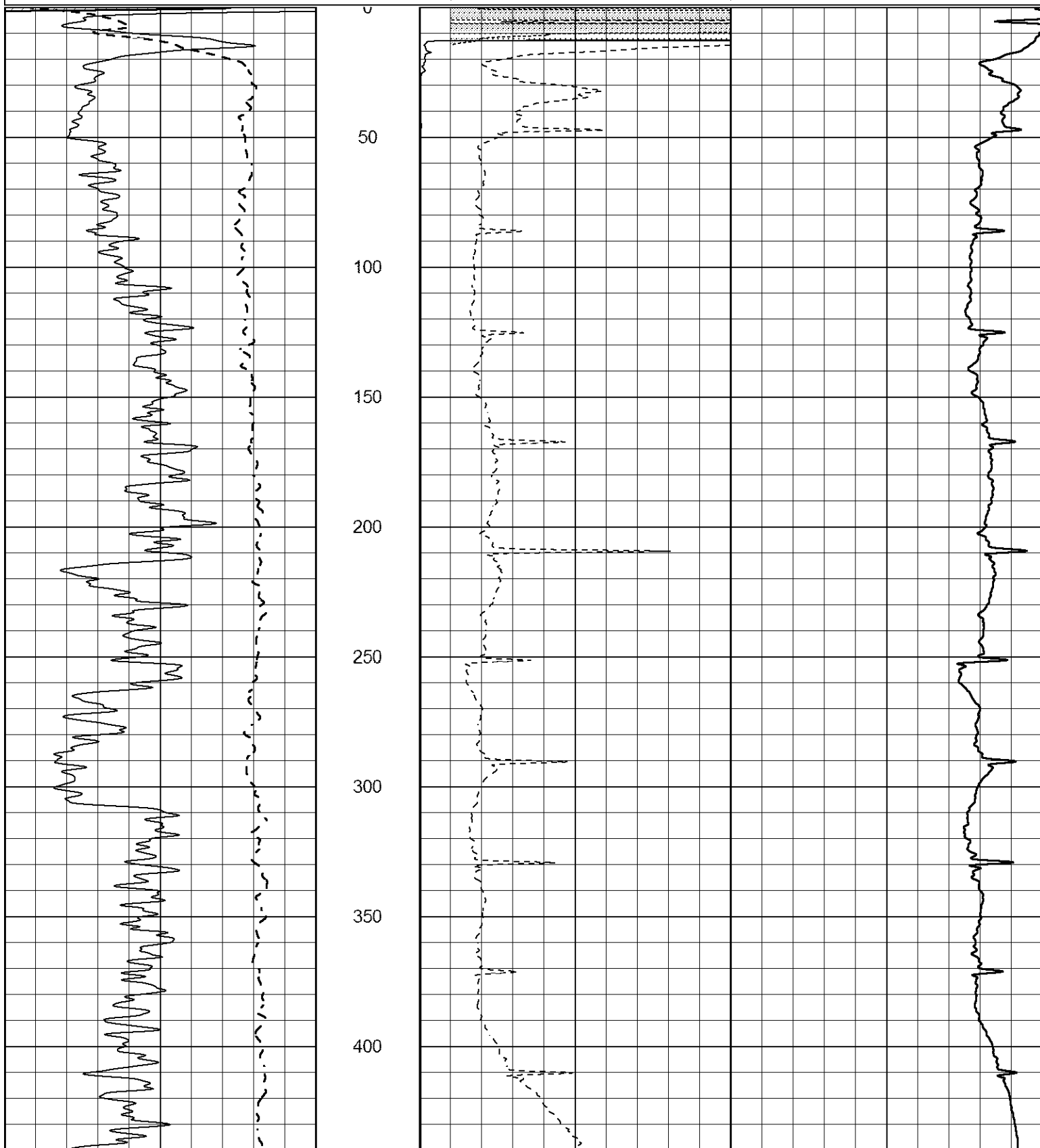
Database File 7379pe.db
Dataset Pathname pass3M
Presentation Format _dil2
Dataset Creation Sun Nov 20 01:17:49 2022
Charted by Depth in Feet scaled 1:600

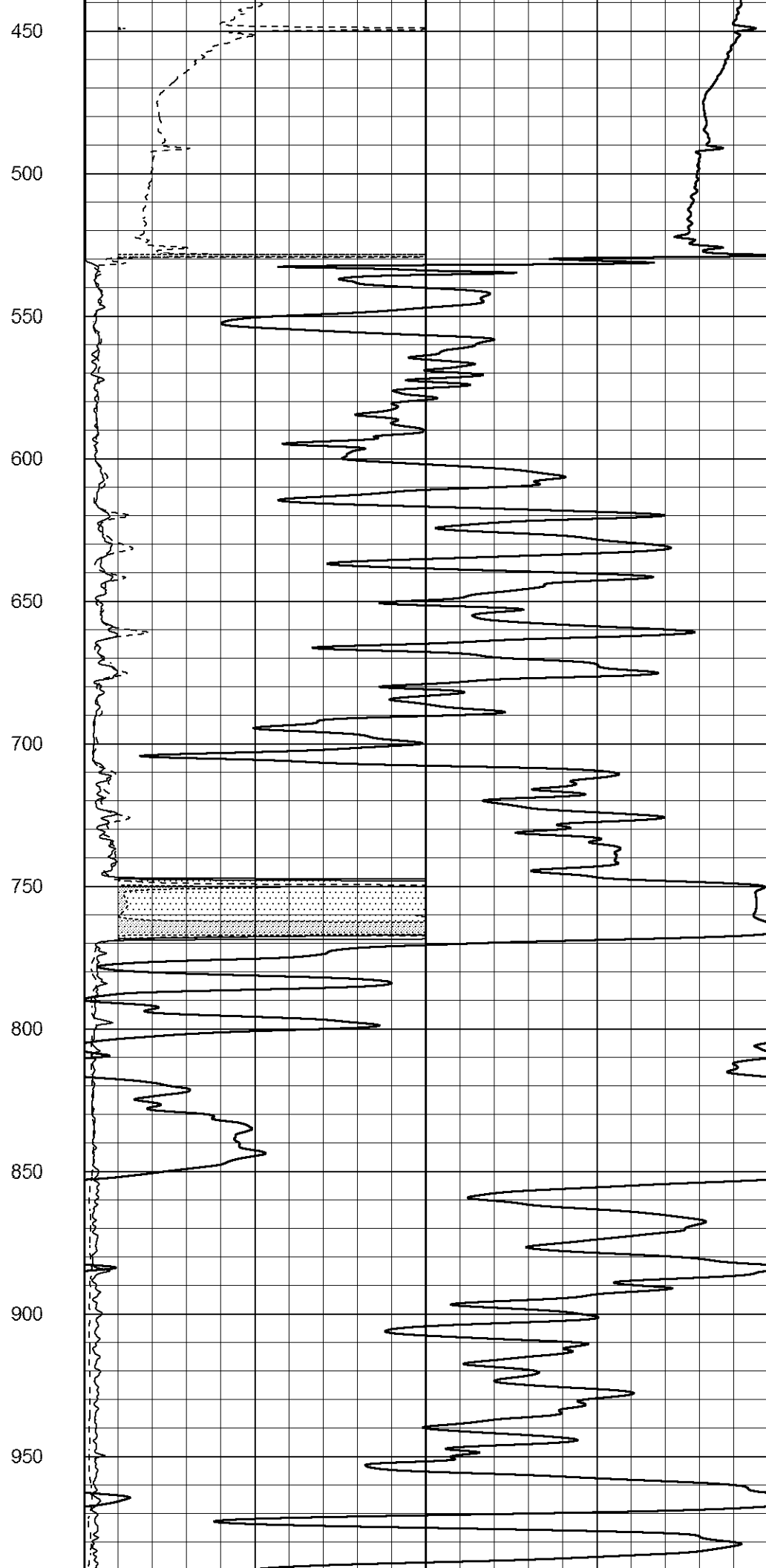
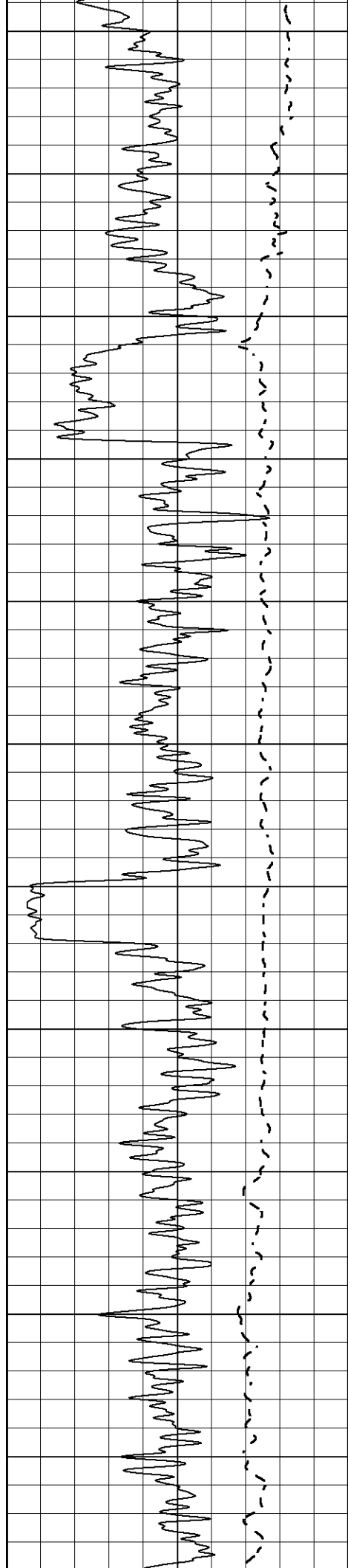
0 Gamma Ray (GAPI) 150
-100 SP (mV) 100

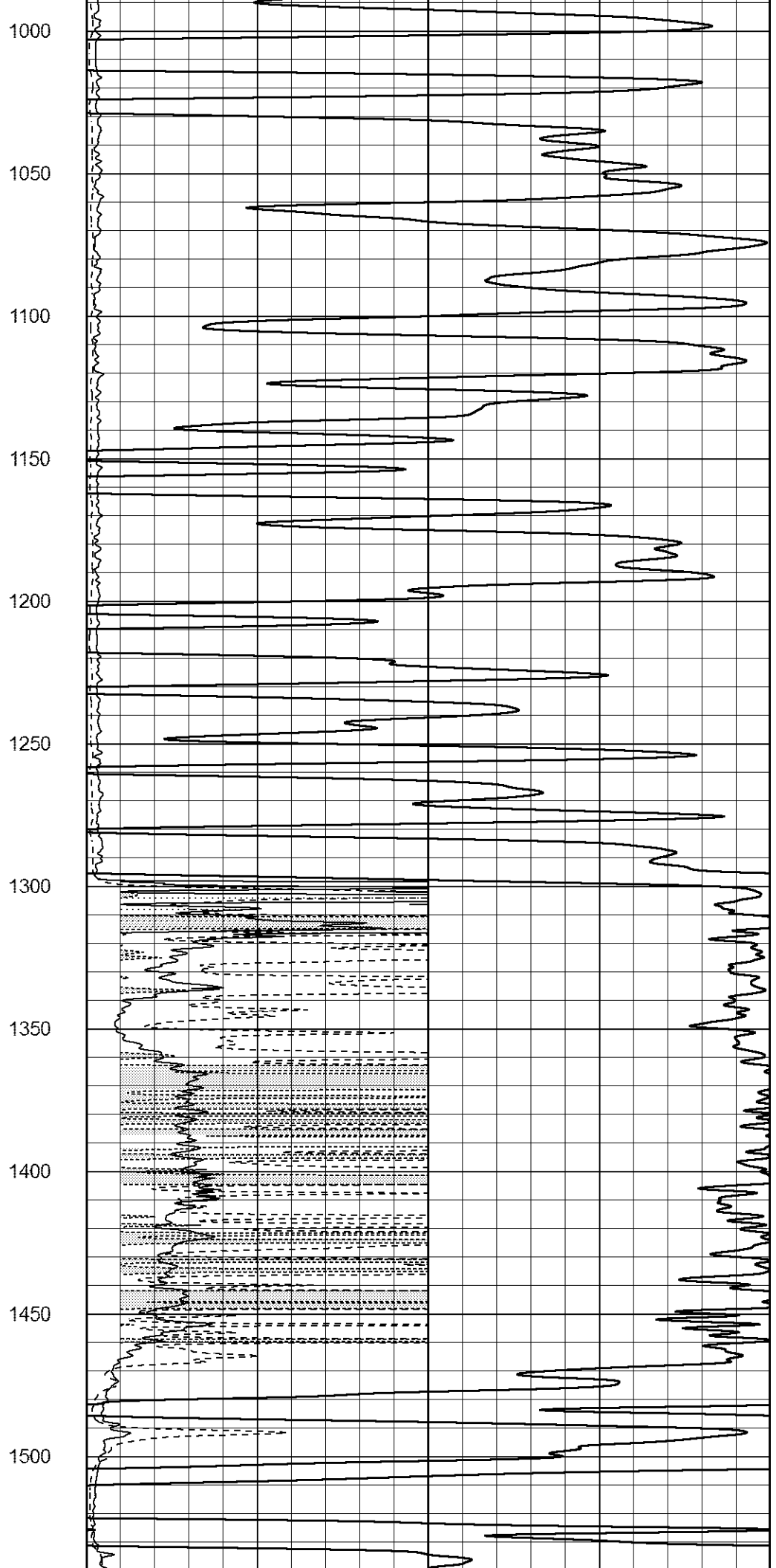
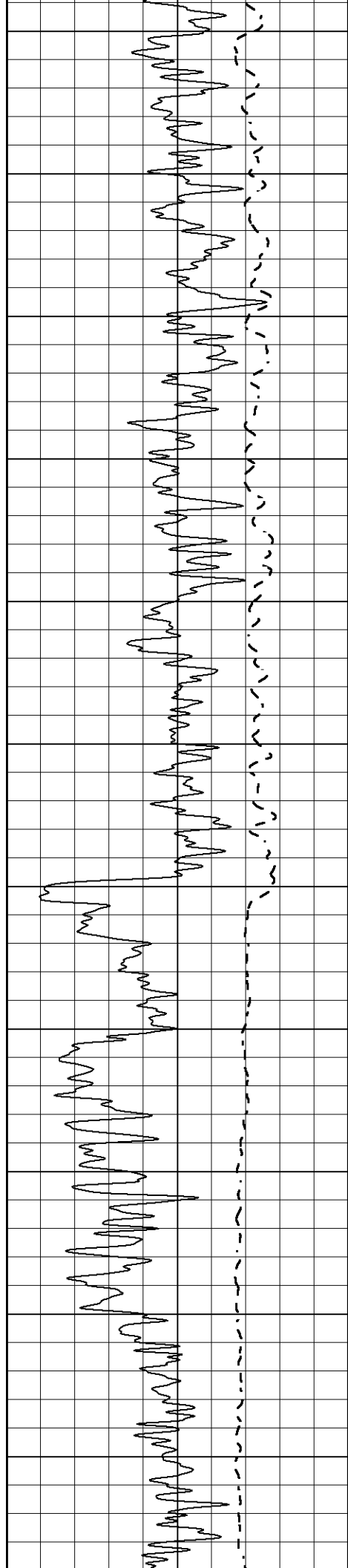
1000 CILD (mmho/m) 0
0 RLL3 (Ohm-m) 50
0 Deep Induction (Ohm-m) 50

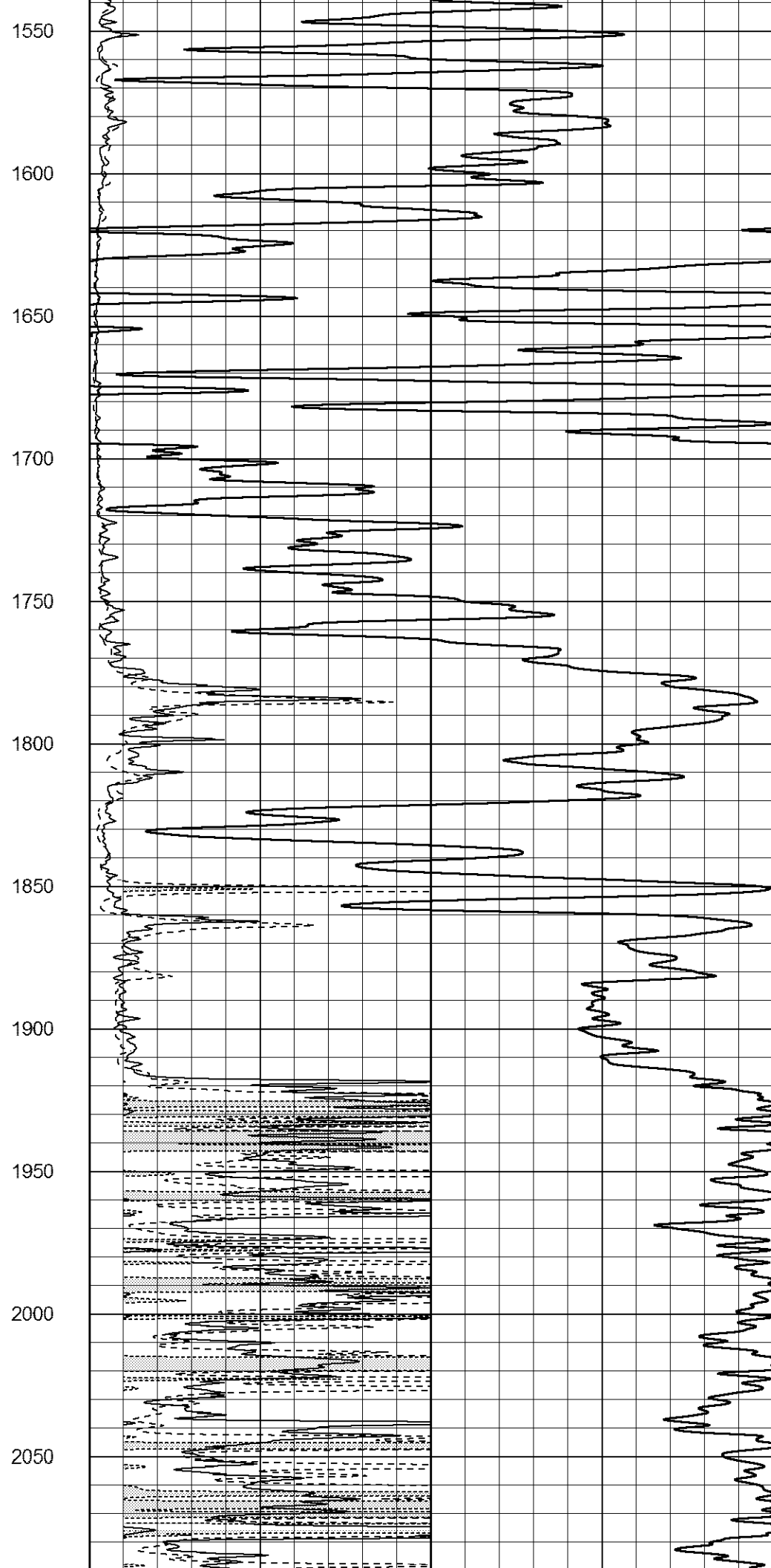
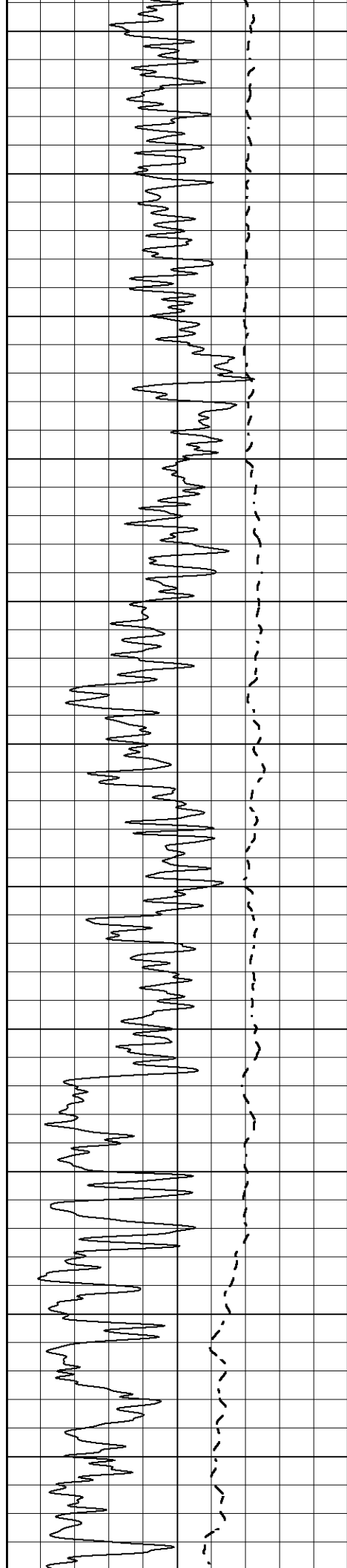
50 RILD X10 (Ohm-m) 500

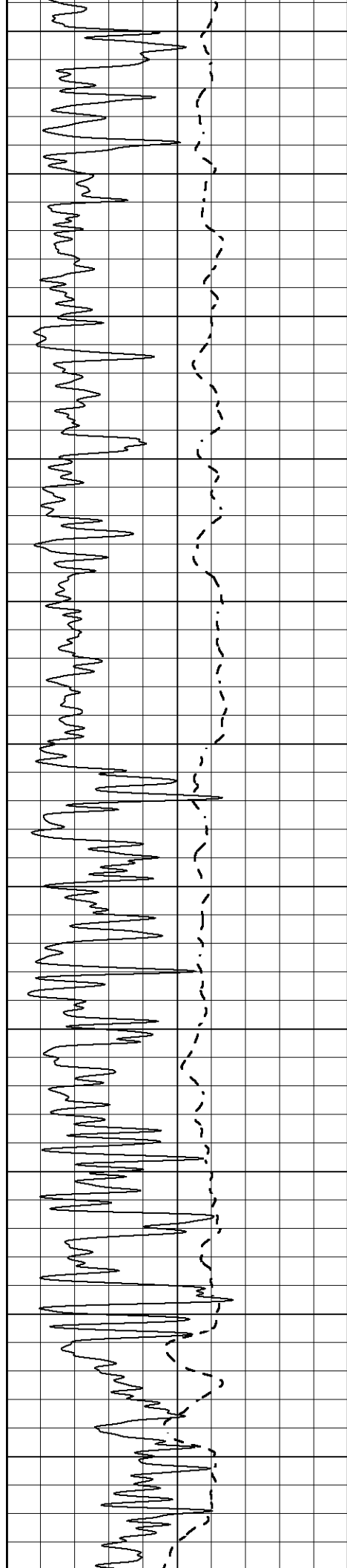
50 RLL3 X10 (Ohm-m) 500











2100

2150

2200

2250

2300

2350

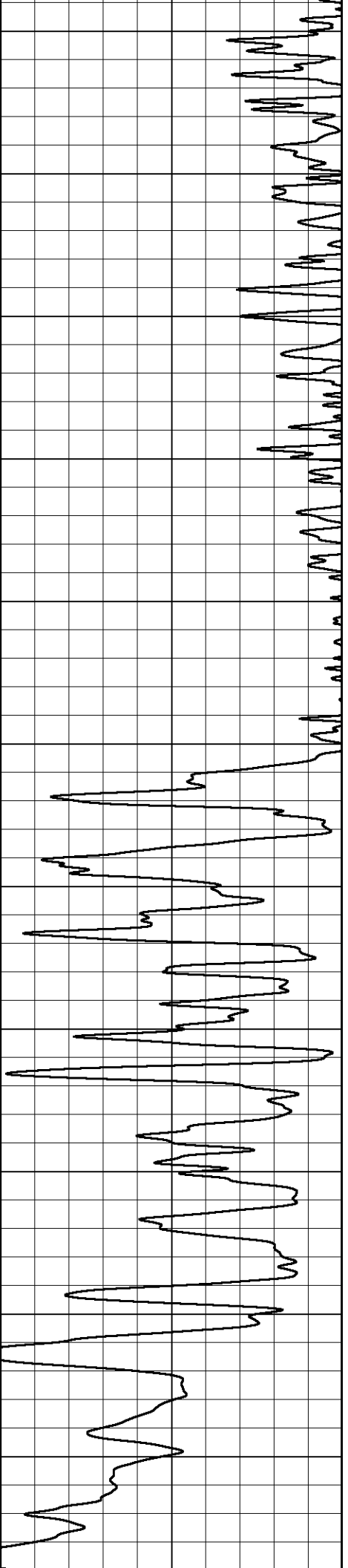
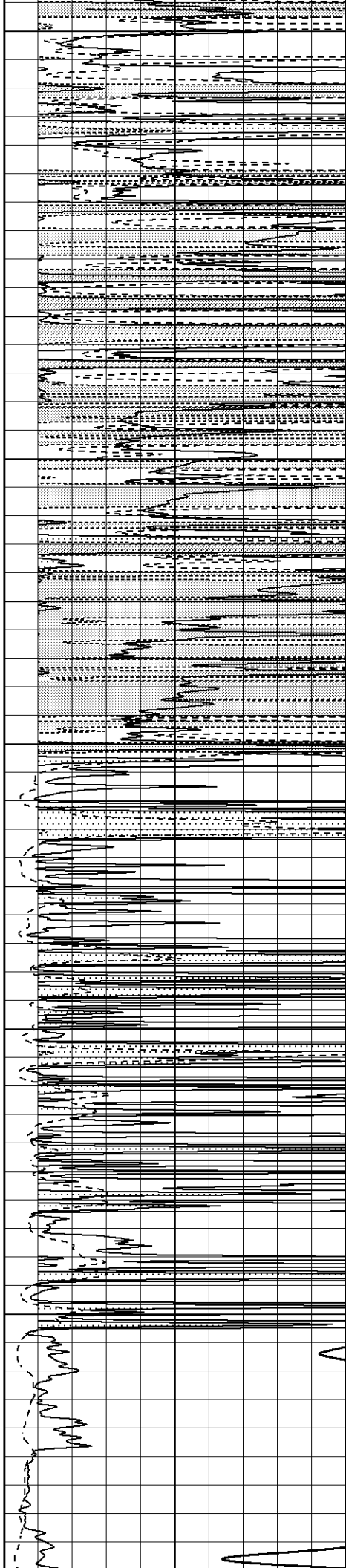
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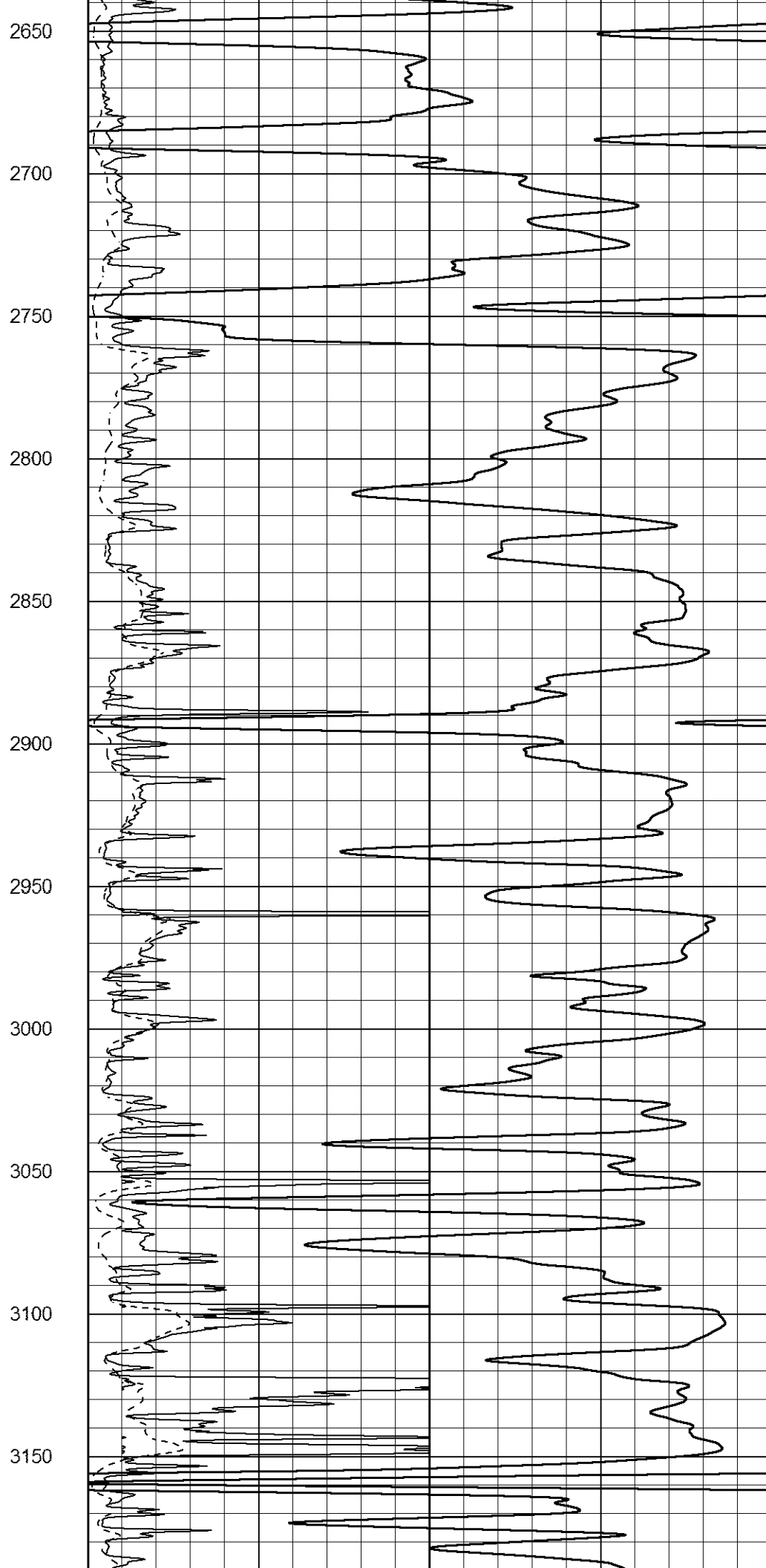
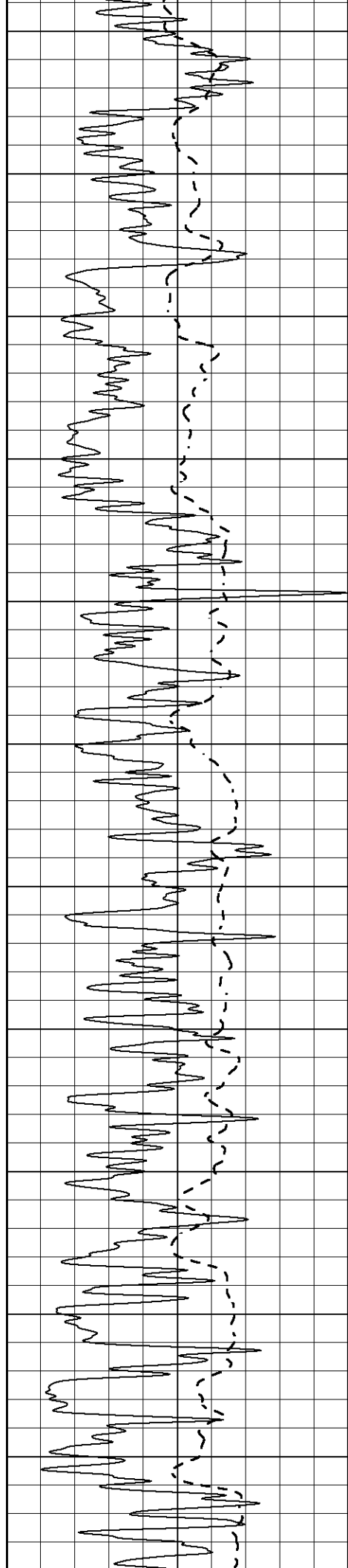
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2500

2550

2600





3200

3250

3300

3350

3400

3450

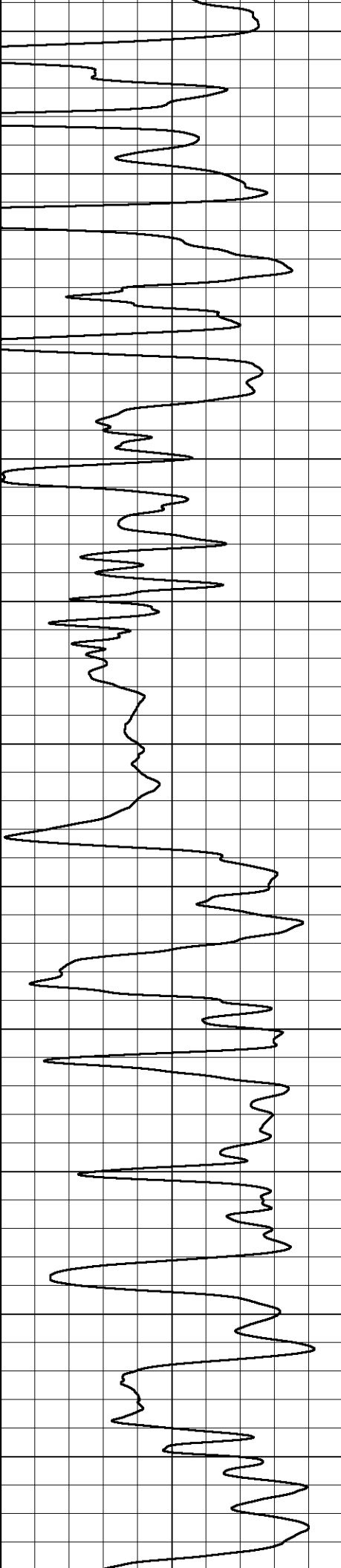
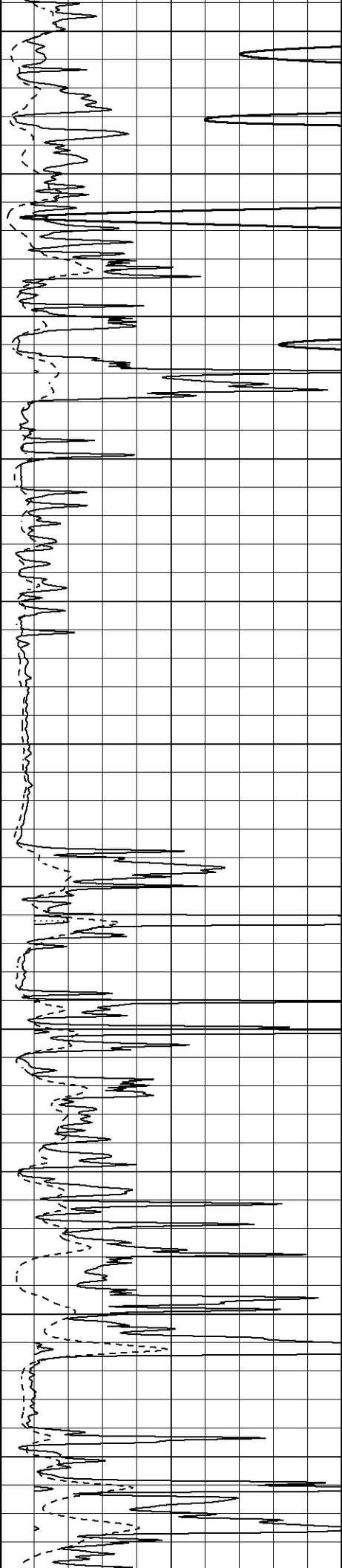
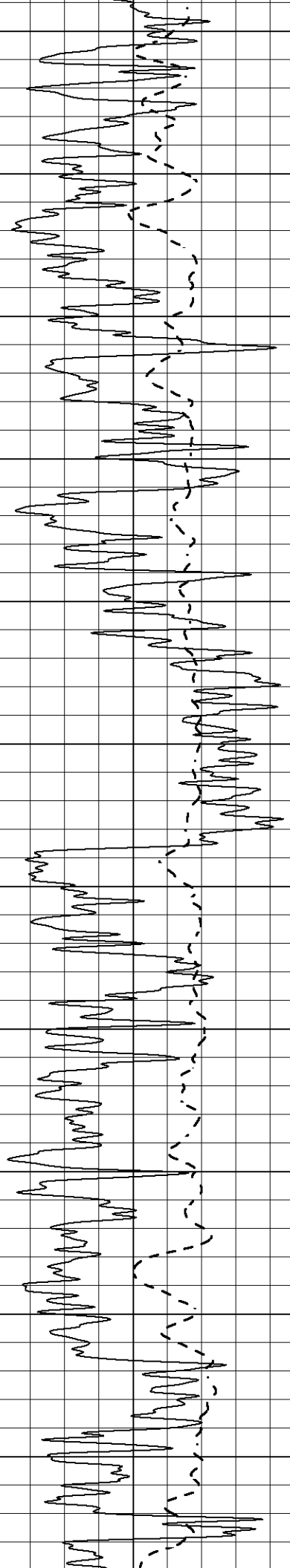
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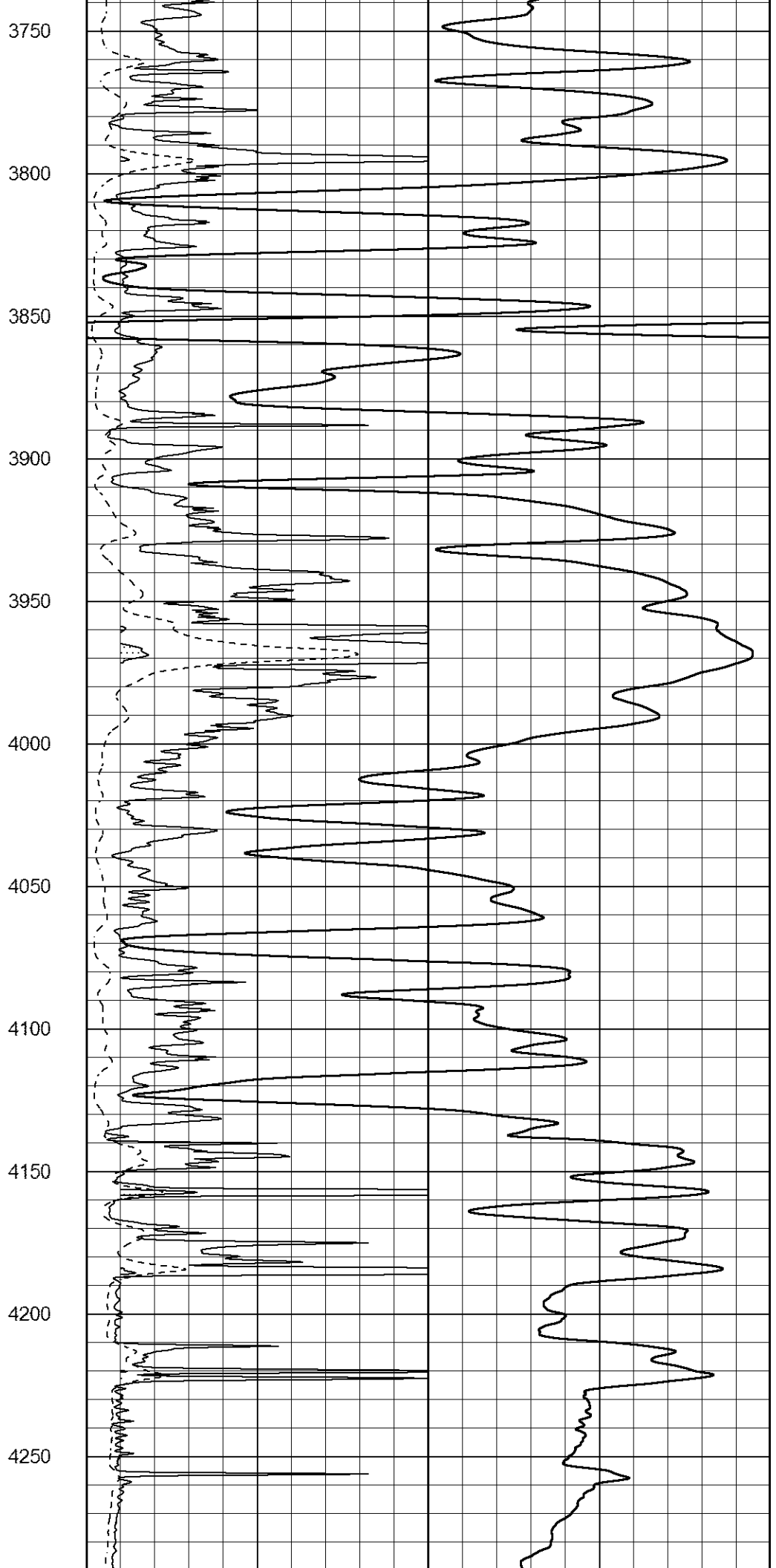
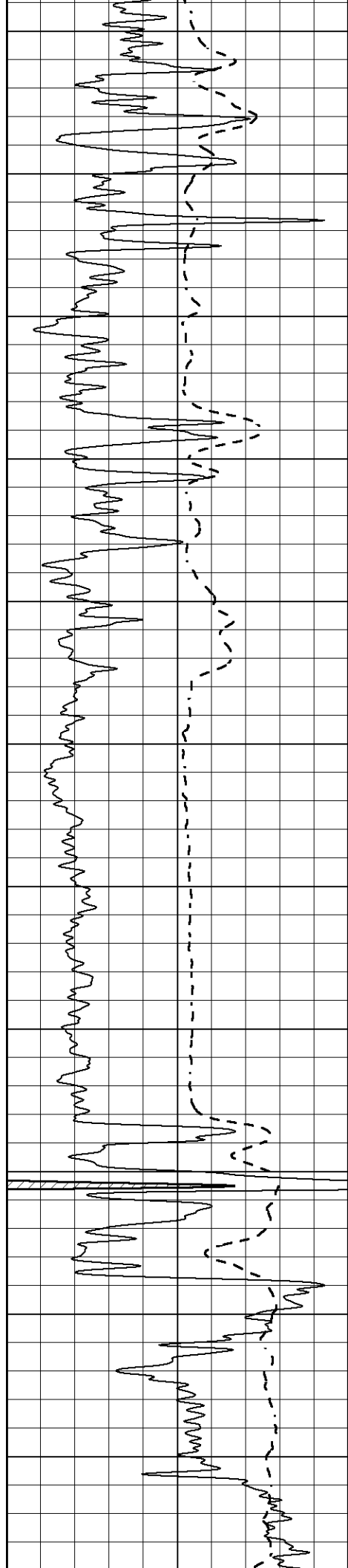
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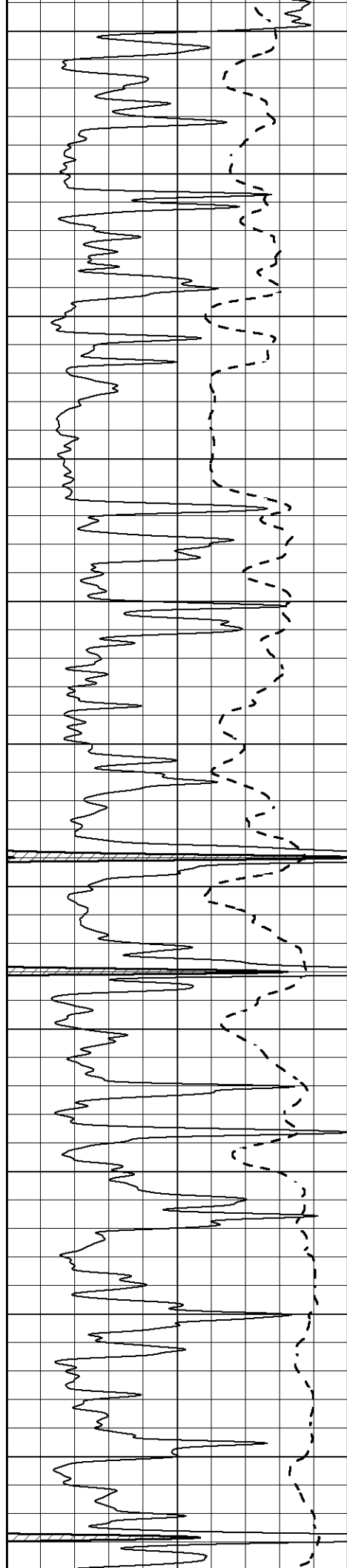
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3650

3700







4300

4350

4400

4450

4500

4550

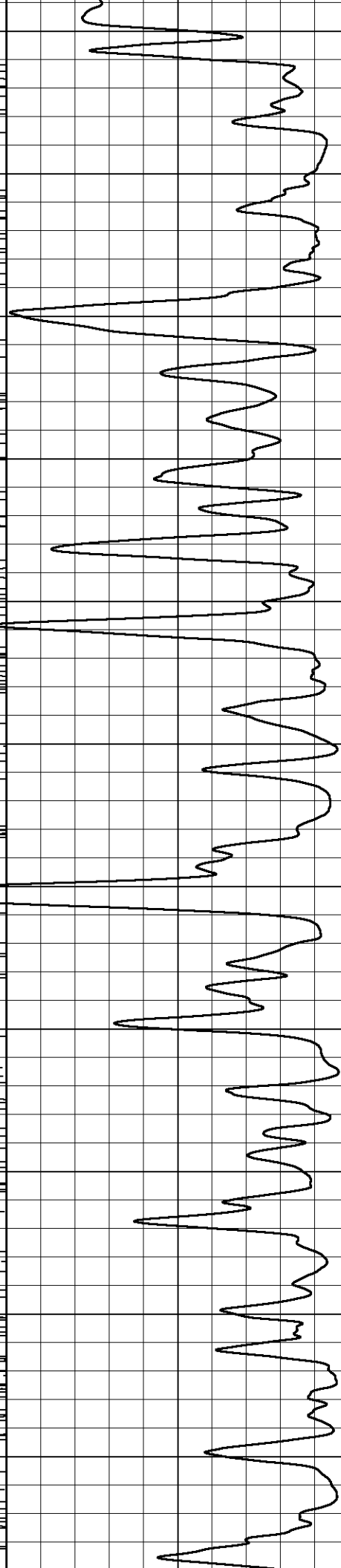
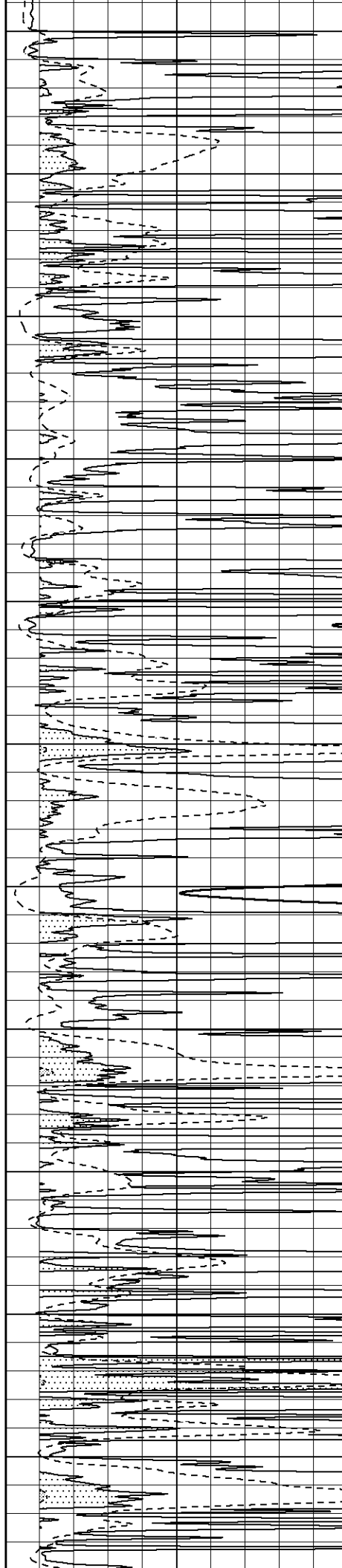
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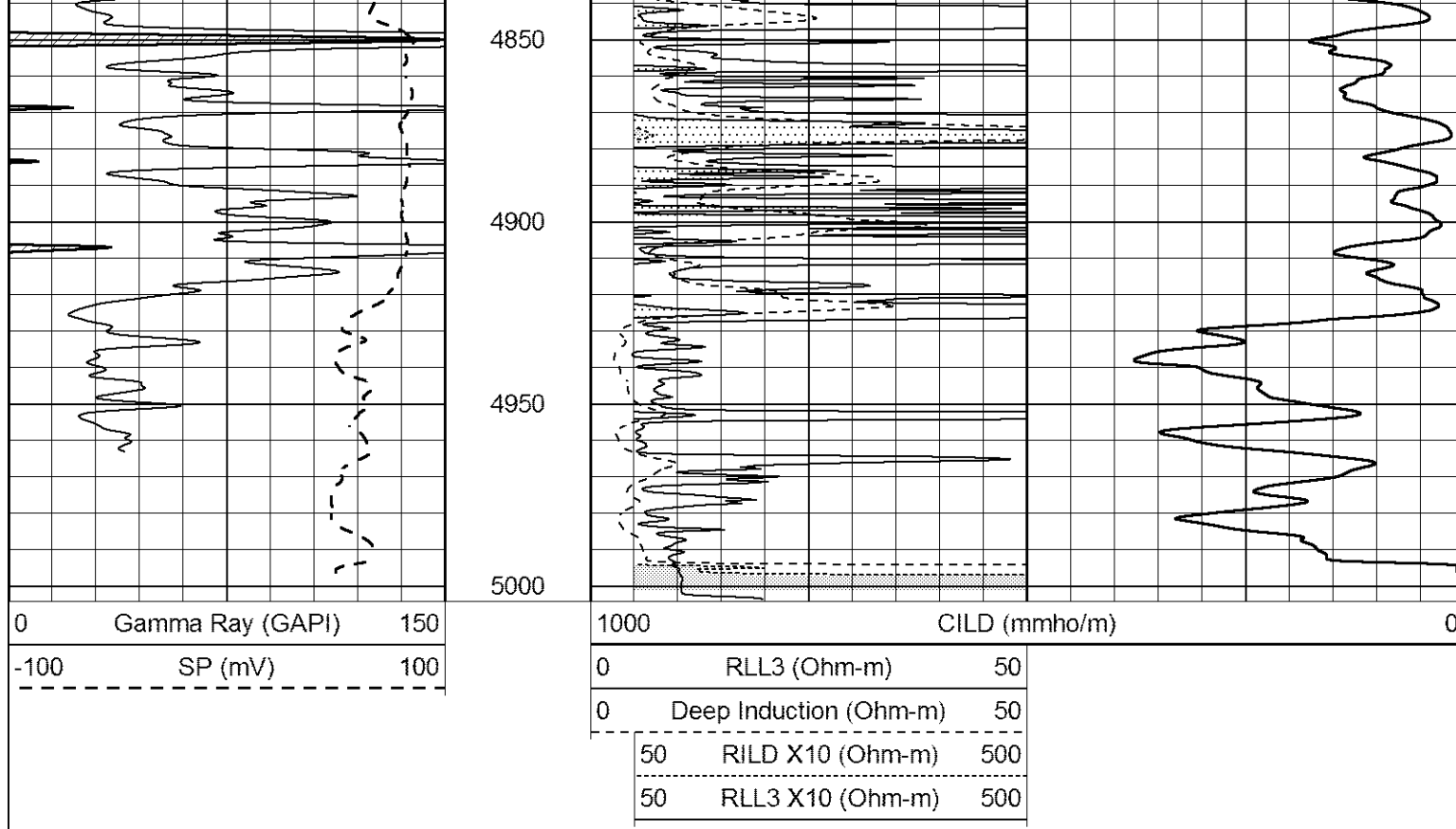
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4700

4750

4800

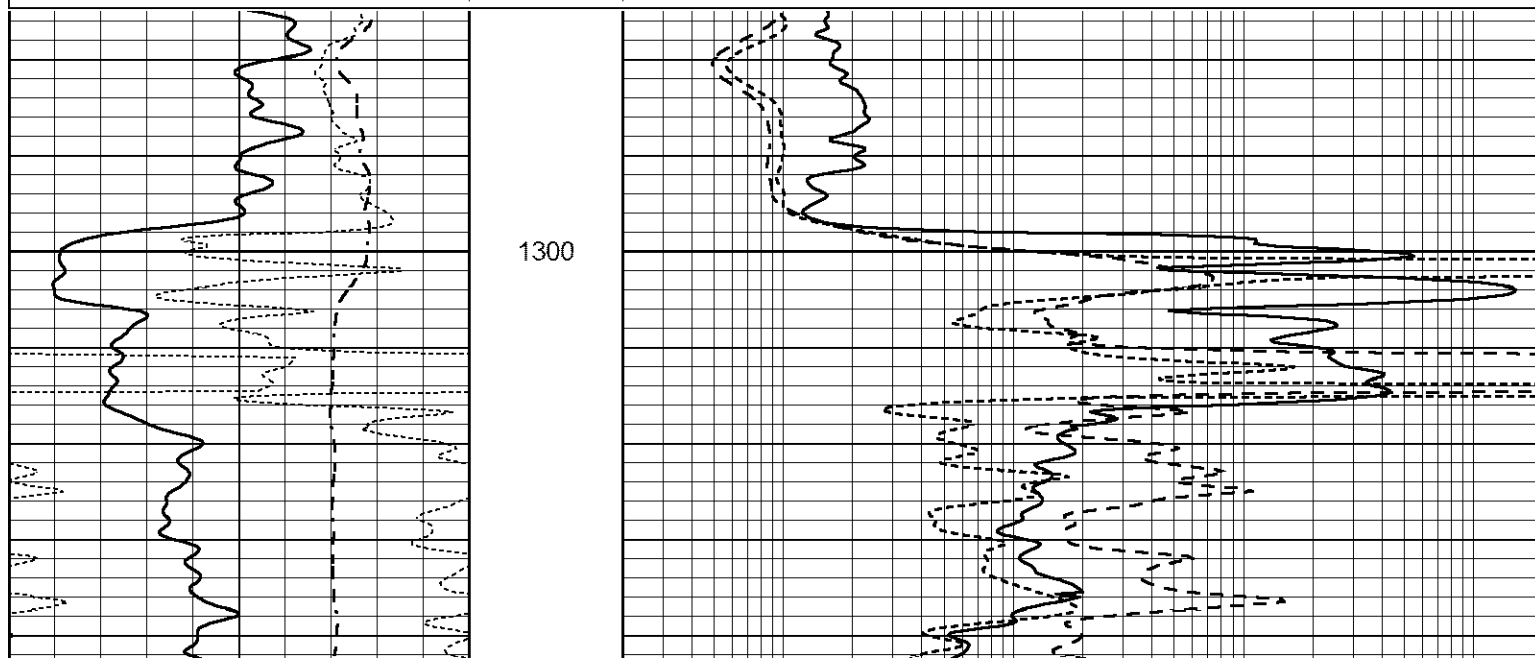




ANHYDRITE

Database File 7379pe.db
 Dataset Pathname pass3A
 Presentation Format _dil
 Dataset Creation Sun Nov 20 01:27:27 2022
 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
-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

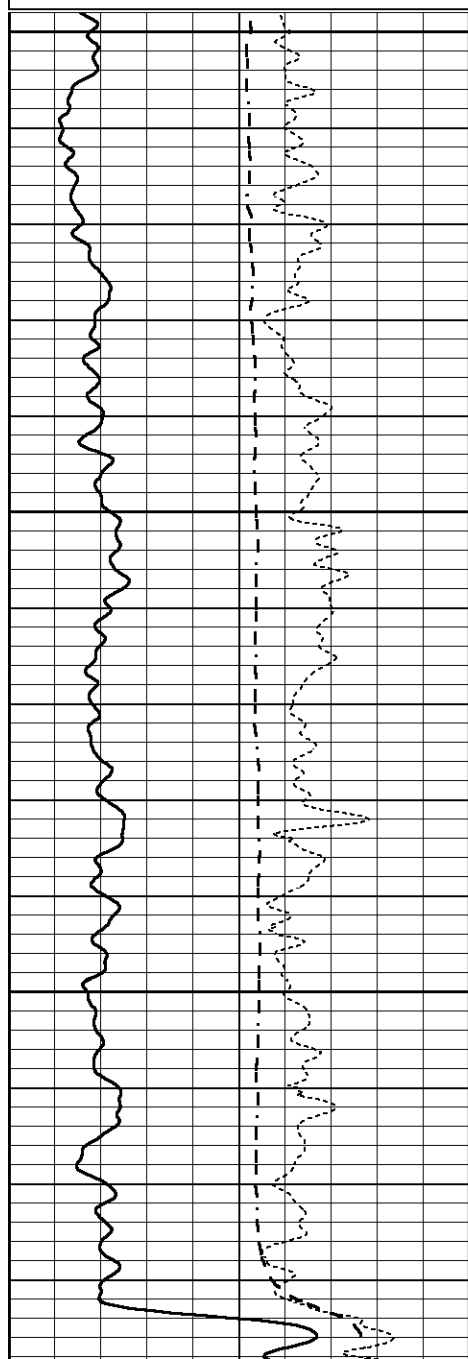


MAIN SECTION

Database File 7379pe.db
 Dataset Pathname pass3.2
 Presentation Format _dil
 Dataset Creation Sun Nov 20 00:57:03 2022
 Charted by Depth in Feet scaled 1:240

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

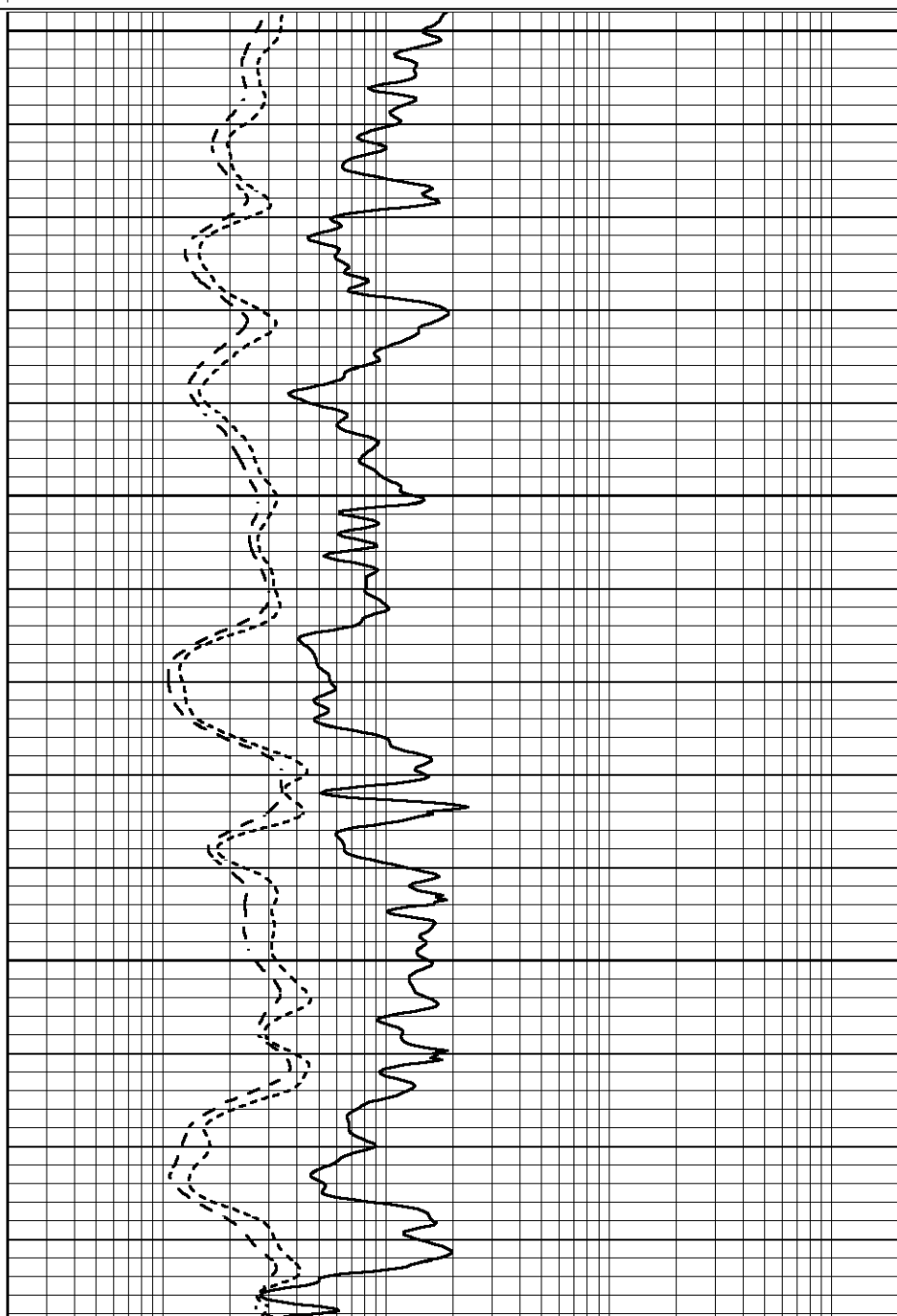
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

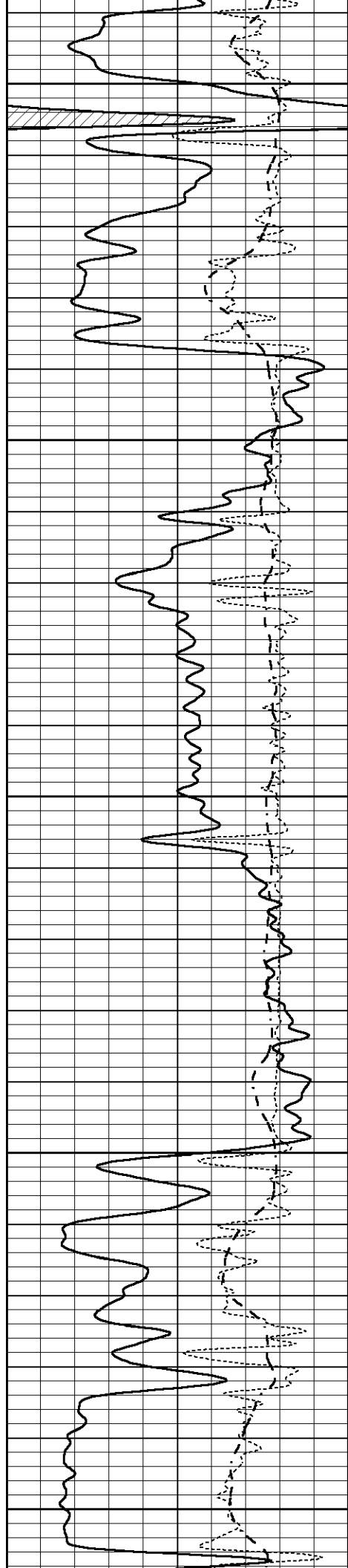


4000

4050

4100





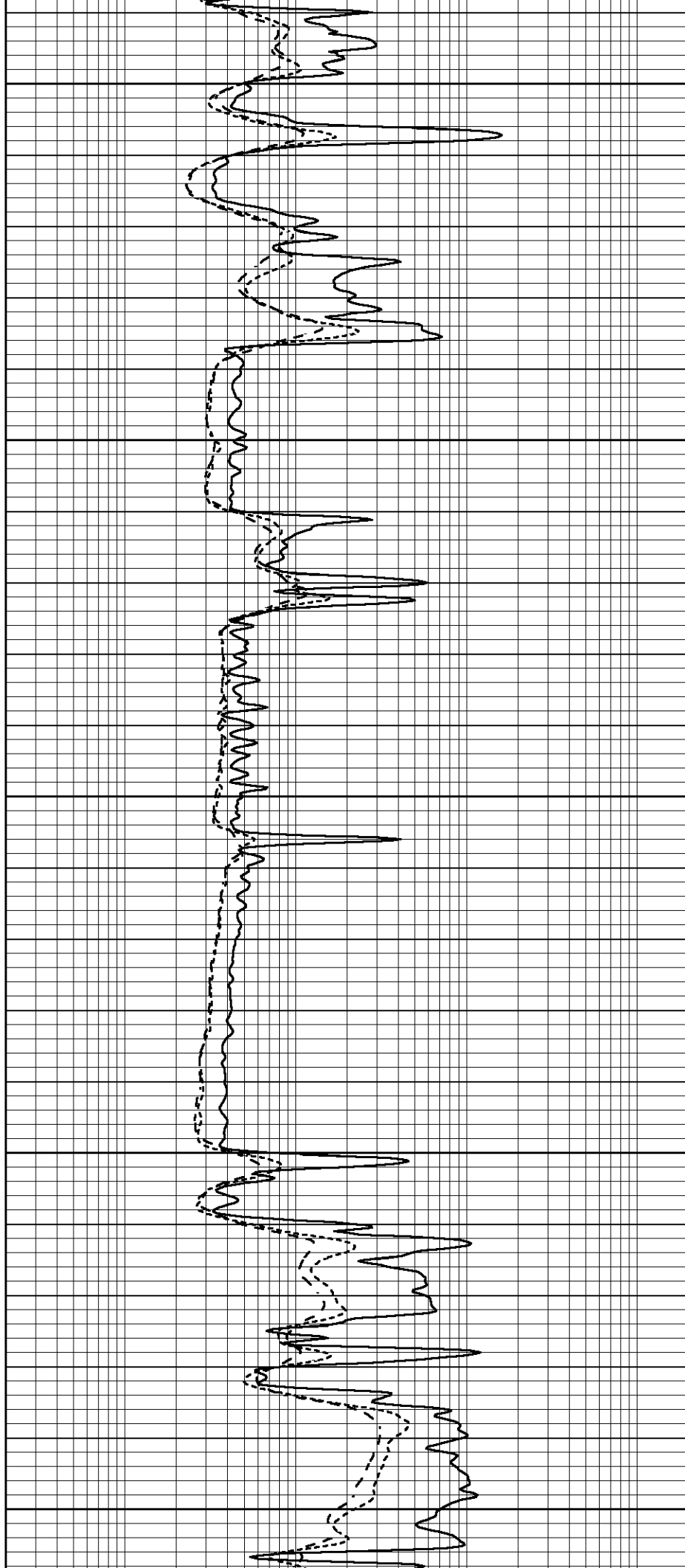
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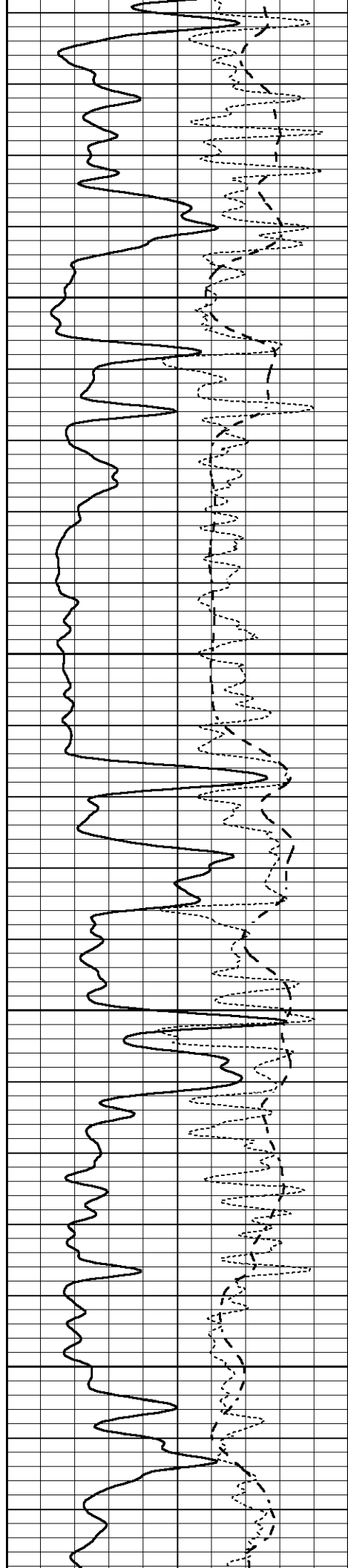
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4250

4300

4350



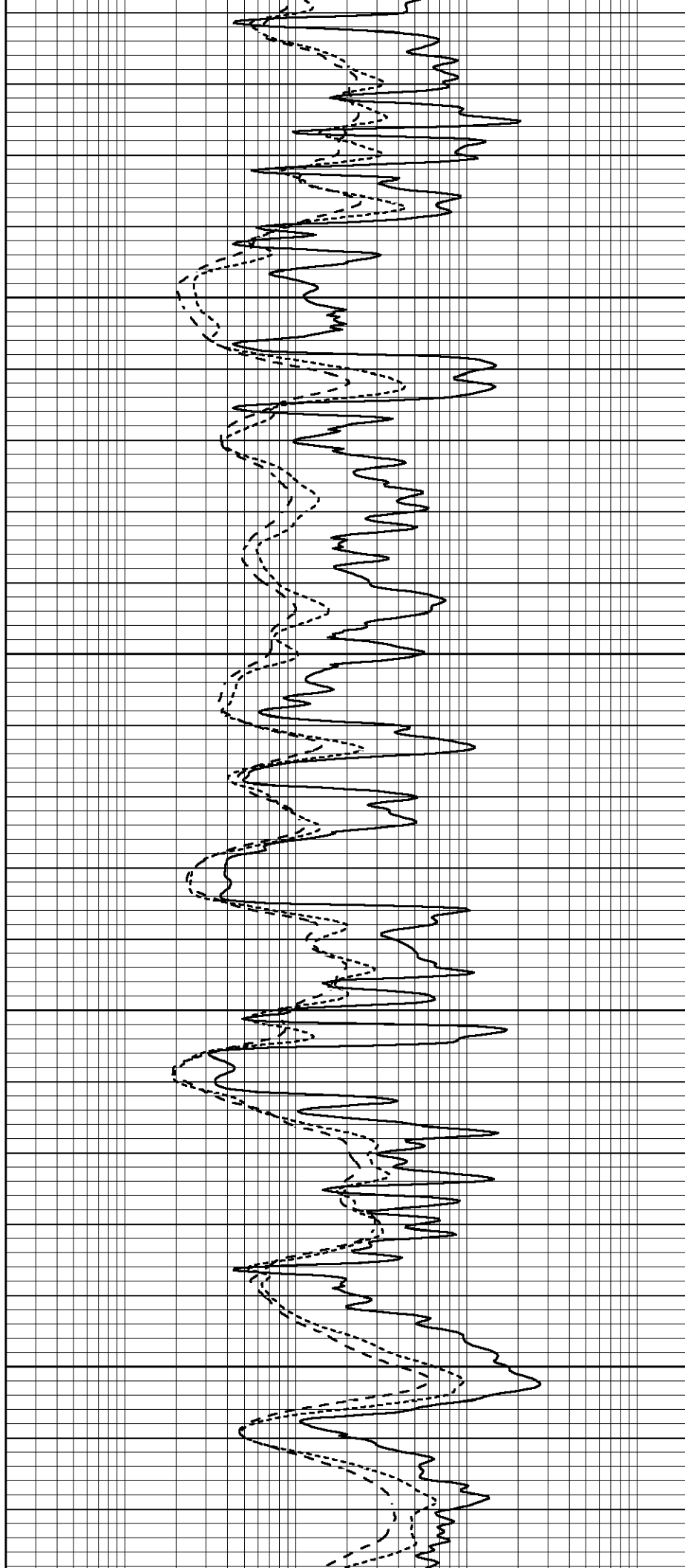


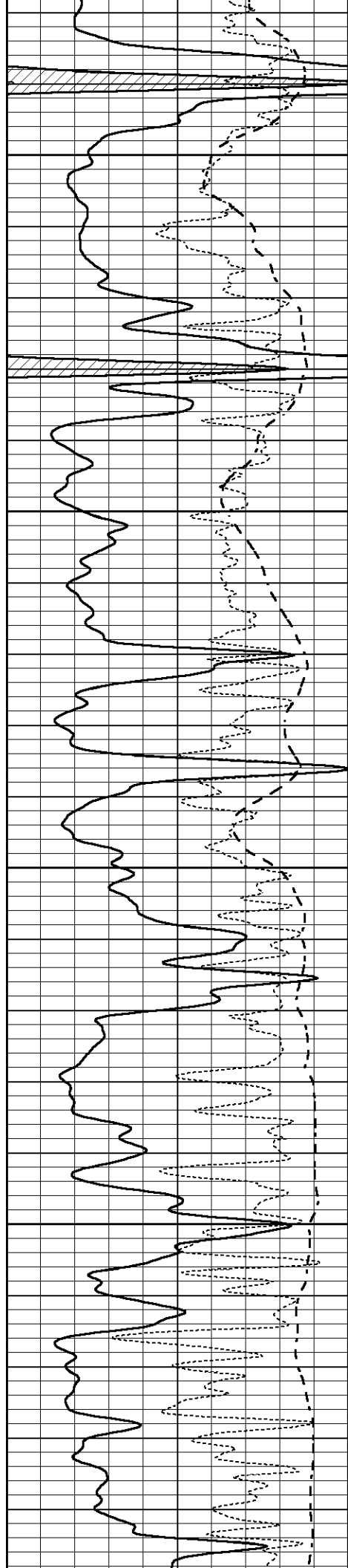
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4500

4550



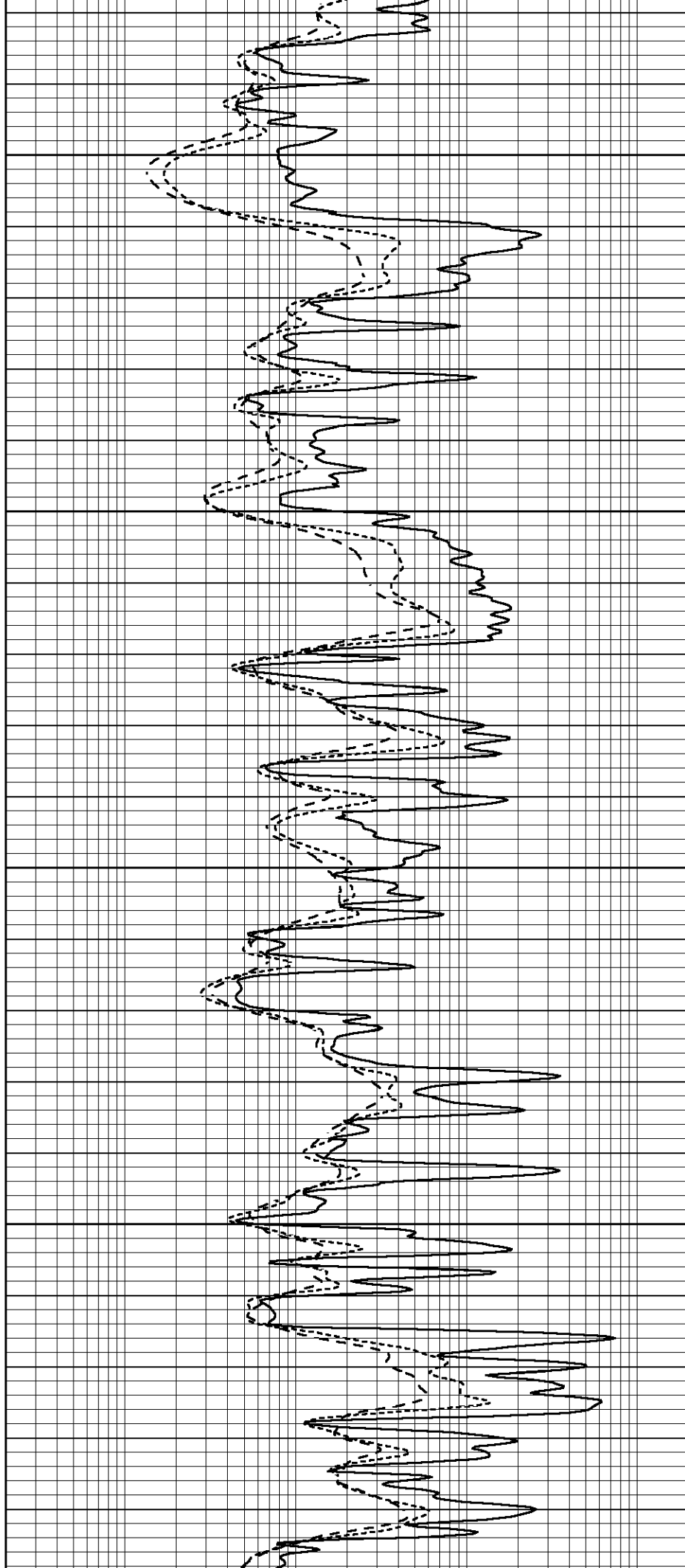


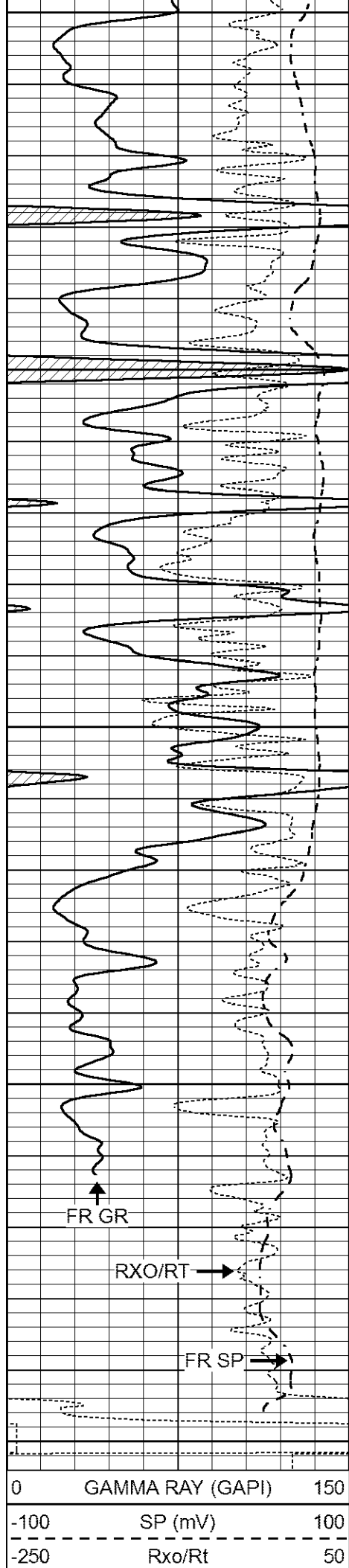
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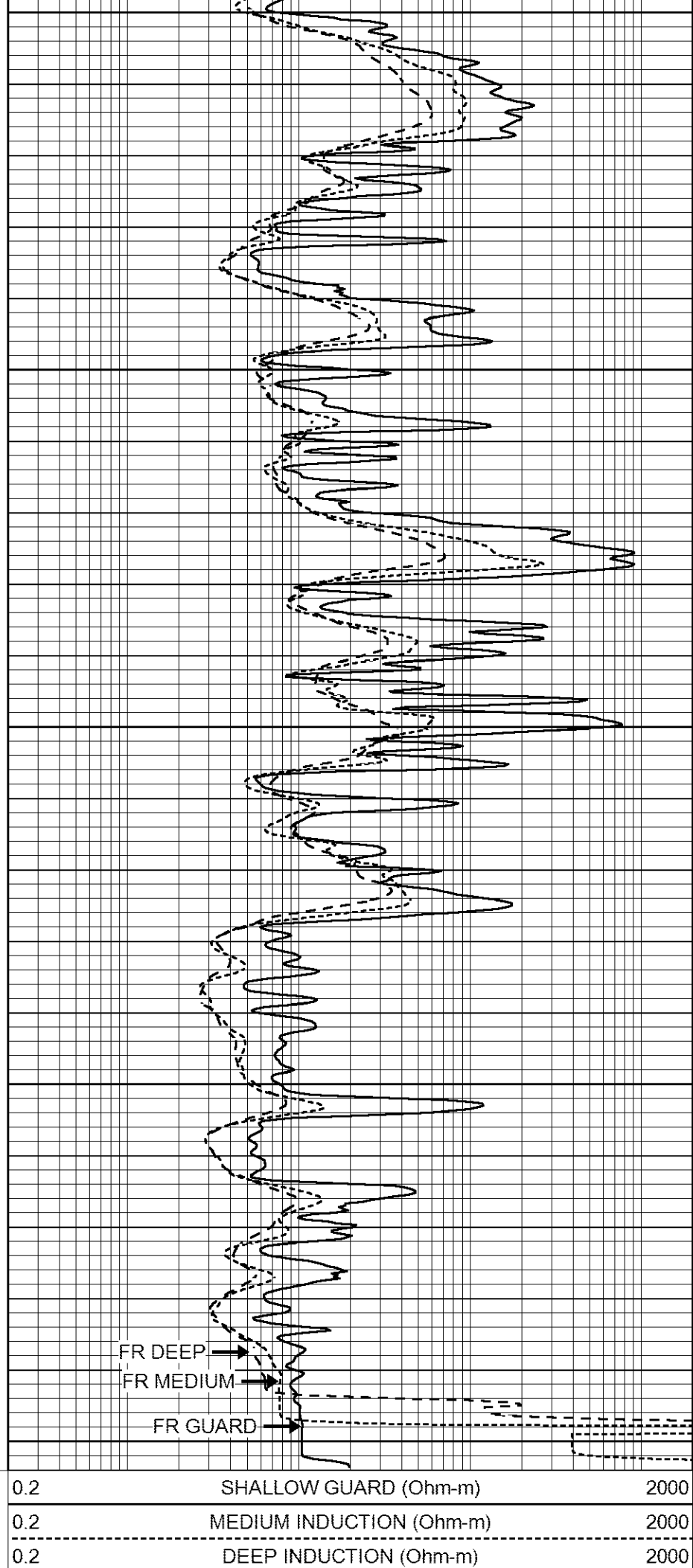
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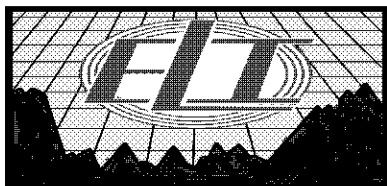




4800
4850
4900
4950
5000
LTD 5000



FR GR
RXO/RT
FR SP
FR DEEP
FR MEDIUM
FR GUARD

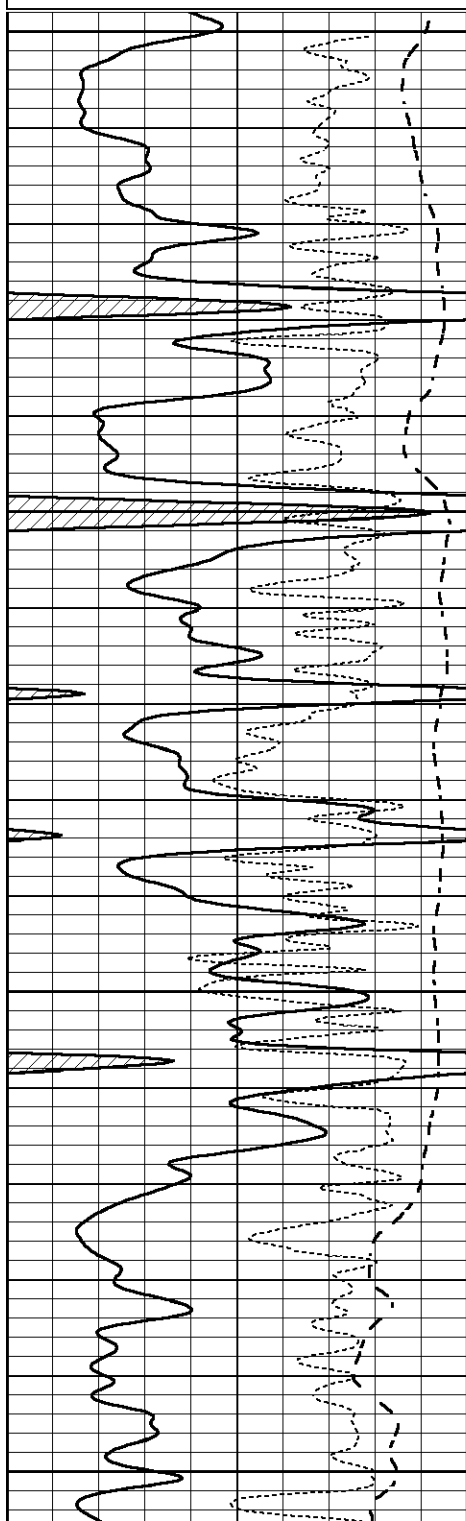


REPEAT SECTION

Database File 7379pe.db
Dataset Pathname pass2RR
Presentation Format _dil
Dataset Creation Sun Nov 20 01:05:22 2022
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

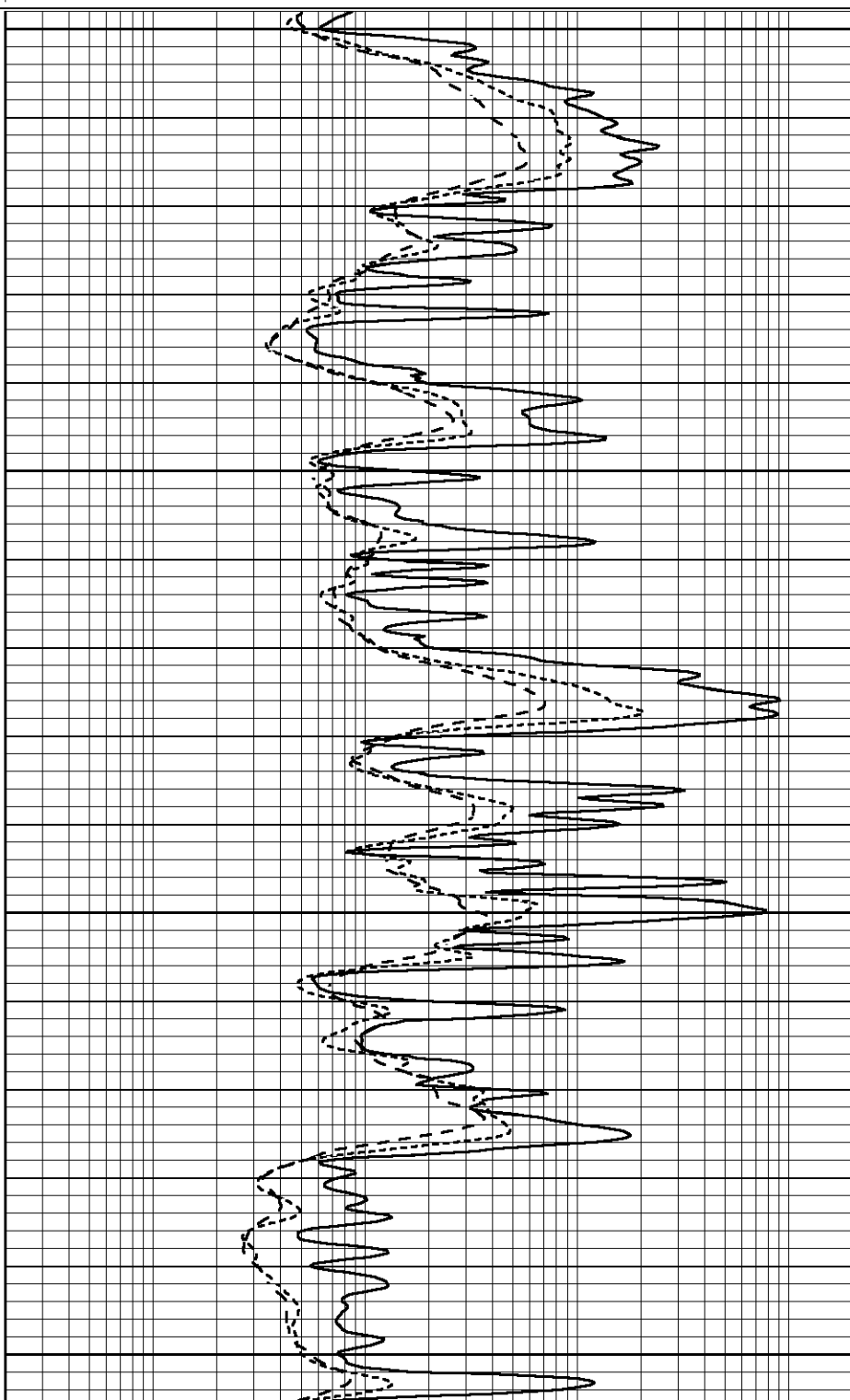


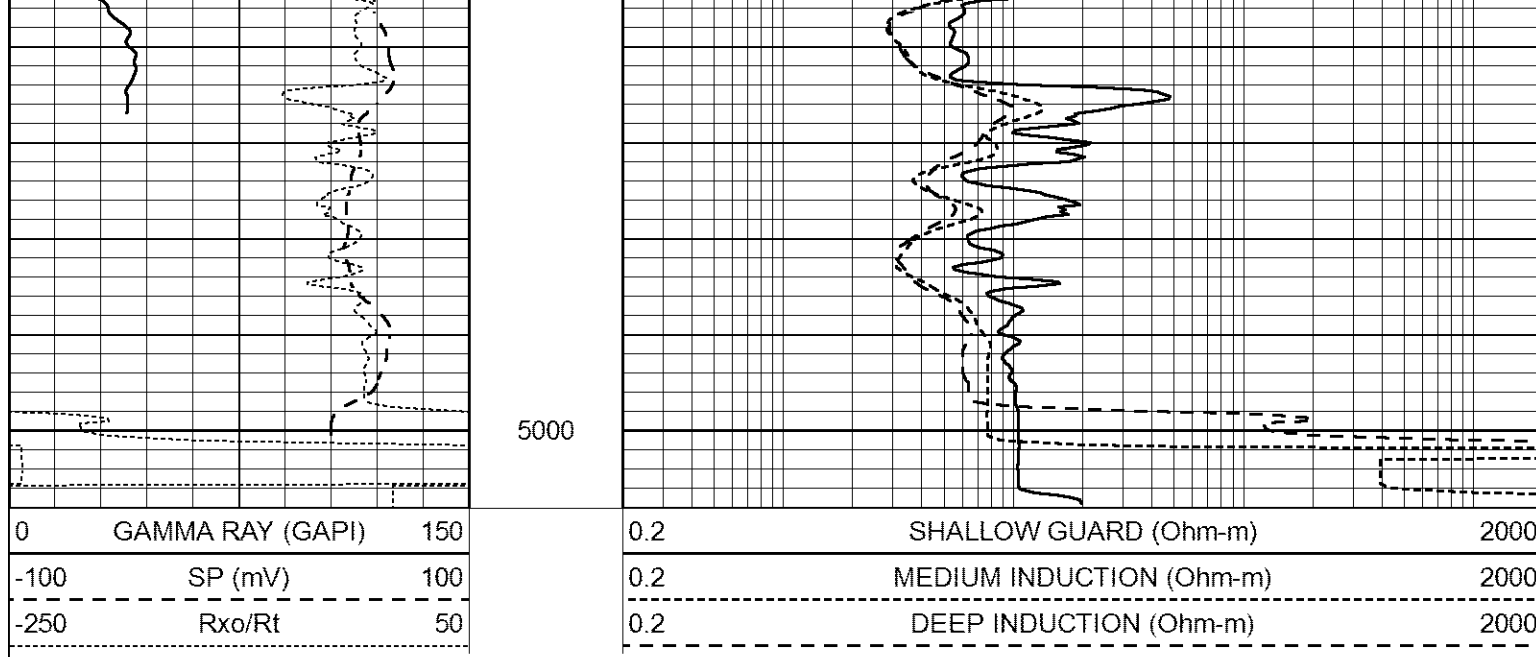
4800

4850

4900

4950





Calibration Report

Database File 7379pe.db
 Dataset Pathname pass3M
 Dataset Creation Sun Nov 20 01:17:49 2022

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
 Surface Cal Performed: Thu Jun 30 01:48:00 2022
 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	650.000	-3.000
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	-10.500
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

Litho Density Calibration Report

Serial: 140704

Model: V4_10P

Source Number: 74GBq-19

Master Calibration

Performed: Tue Oct 25 14:02:07 2022

	Background	Aluminum	Magnesium		
Window 1	501.98	5377.33	23235.87	cps	
Window 2	38.66	1167.13	5462.52	cps	
Window 4	219.95	1265.38	5296.65	cps	
Window 5	535.47	7345.58	14269.59	cps	
Window 6	42.48	1172.64	2113.12	cps	
Window 8	252.82	2368.74	4743.90	cps	
Bulk Density	-	2.6020	1.6830	g/cc	
Pe	-	3.0000	2.5070	b/e	
LS Alpha:	: -1.8018	SS Alpha:	: -0.8503	LS CPE:	: 1.2527
LS Beta:	: 116585.8005	SS Beta:	: 19984.2984	SS CPE:	: 1.5732

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: Tue Oct 25 14:02:07 2022

Results	Readings	References (in)		Gain	Offset
Low	High	Low	High		
9378.6	12243.0	8.0	14.0	0.0	-11.9

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:	Thu May 26 08:56:46 2022	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5500	GAPI/cps