

DUAL INDUCTION LOG

Company	ABERCROMBIE ENERGY, LLC.		
Well	GM #1-32		
Field	WILDCAT		
County	LANE	State	KANSAS
Location:	API # : 15-101-22626-0000		Other Services CDL/CNL/PE MEL
Permanent Datum Log Measured From Drilling Measured From		GROUND LEVEL Elevation 2682 K.B. 2689 D.F. 2687 G.L. 2682	
SEC 32 TWP 17S RGE 27W			
1320' FSL & 1650' FEL E/2 - W/2 - SE			
Date	4/27/19		
Run Number	ONE		
Depth Driller	4660		
Depth Logger	4664		
Bottom Logged Interval	4662		
Top Log Interval	00		
Casing Driller	8 5/8"@343'		
Casing Logger	343		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4,100 PPM	
Density / Viscosity	9.4/58		
pH / Fluid Loss	11.0/8.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.950@62F		
Rinf @ Meas. Temp	.713@62F		
Rmc @ Meas. Temp	1.14@62F		
Source of Rinf / Rmc	MEASUREMENT		
Rim @ BHT	.483@122F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	7:45 A.M.		
Maximum Recorded Temperature	122F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	WES HANSEN		

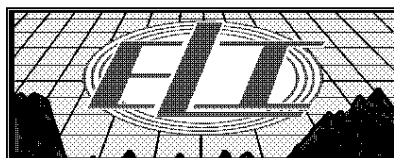
<<< Fold Here >>>

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 HAYS, KANSAS (785) 628-6395
DIRECTIONS

ALAMOTA, KS. (HWY 96 & TURKEY RED RD.), 3 1/2N. TO CURVE, 1W., 1/2N. TO TANK BATTERIES, W.
ON TRAIL THEN BACK S. INTO



MAIN SECTION

Database File: 3616pe.db
Dataset Pathname: pass3.3
Presentation Format: dil2
Dataset Creation: Sun Apr 28 09:06:09 2019 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1

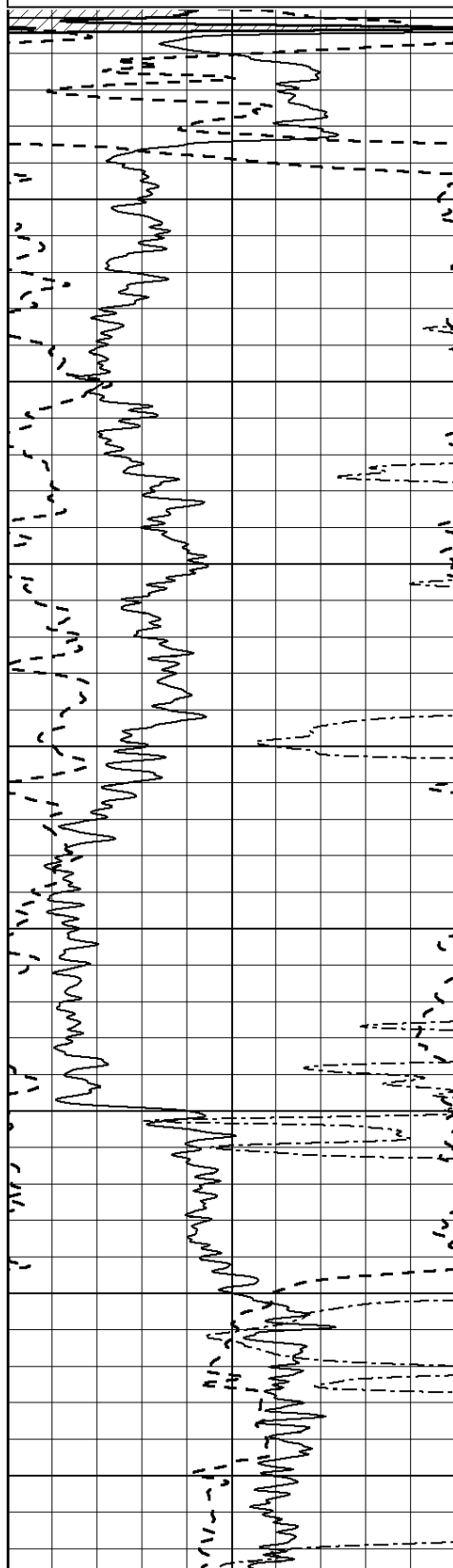
0	RLL3 (Ohm-m)	50
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0	RILD (Ohm-m)	50
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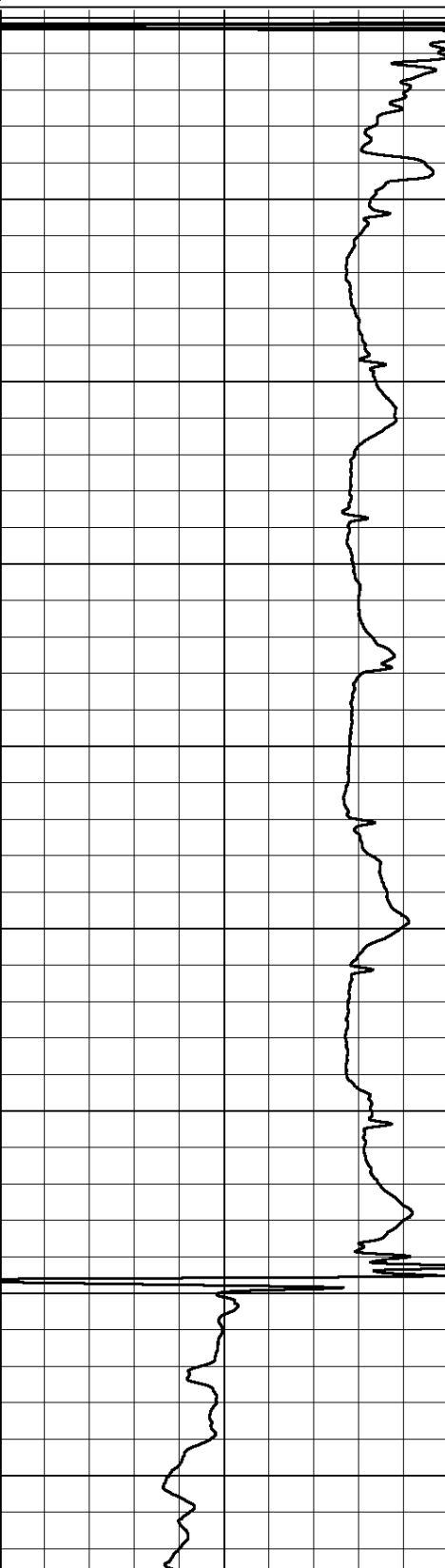
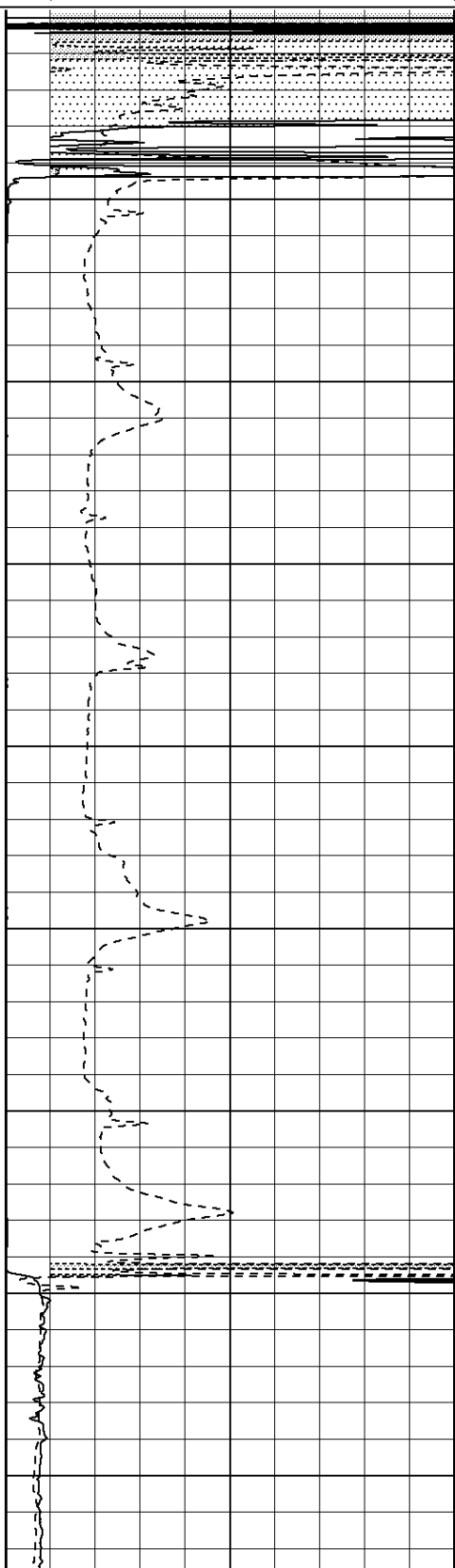
1000	CILD (mmho/m)	0
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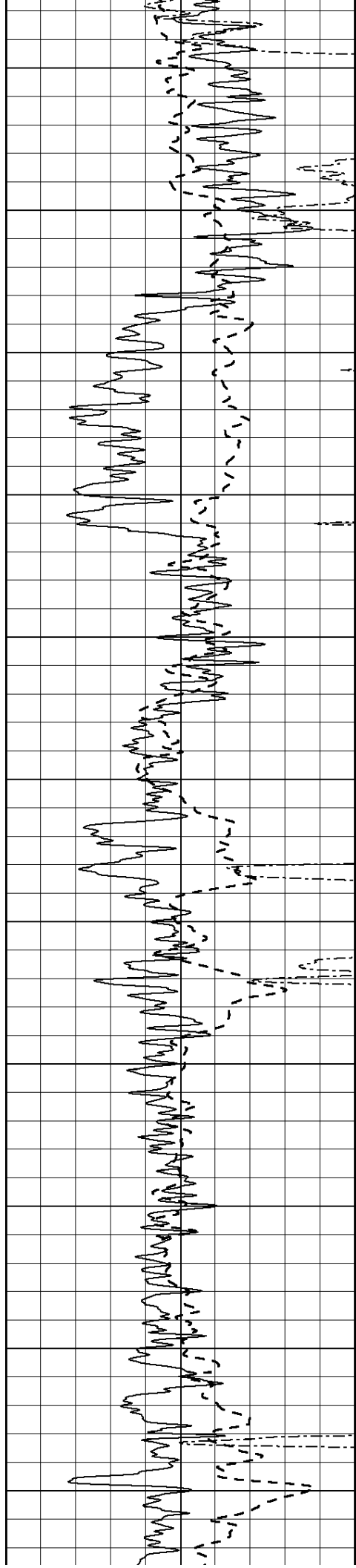
50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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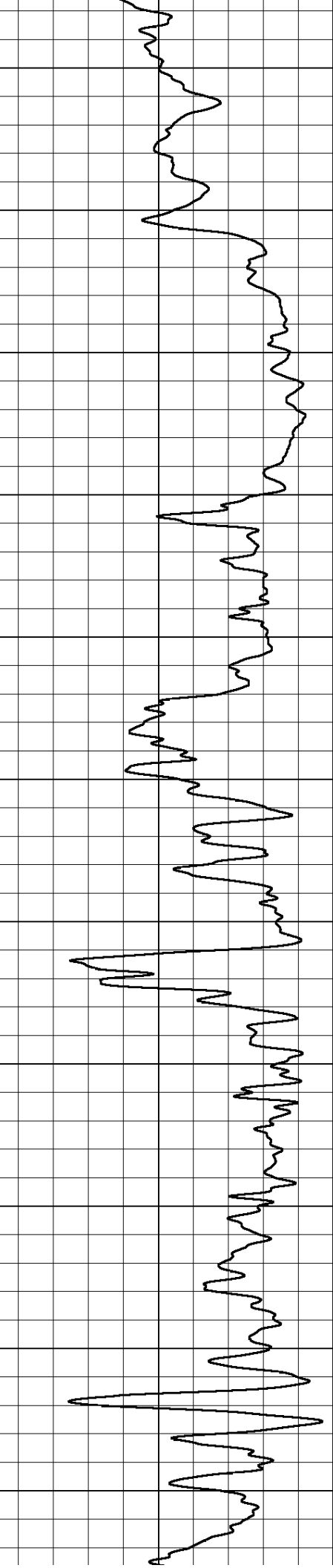
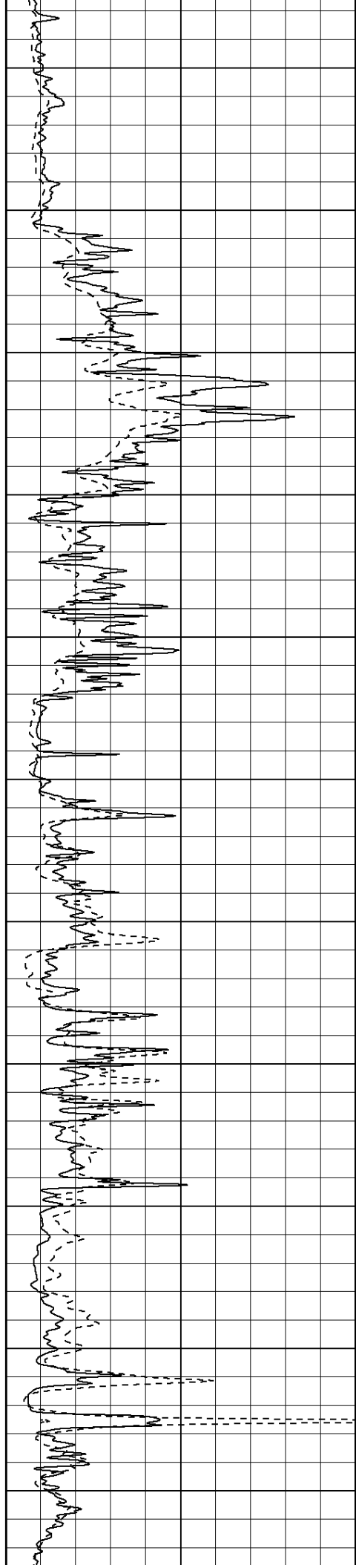


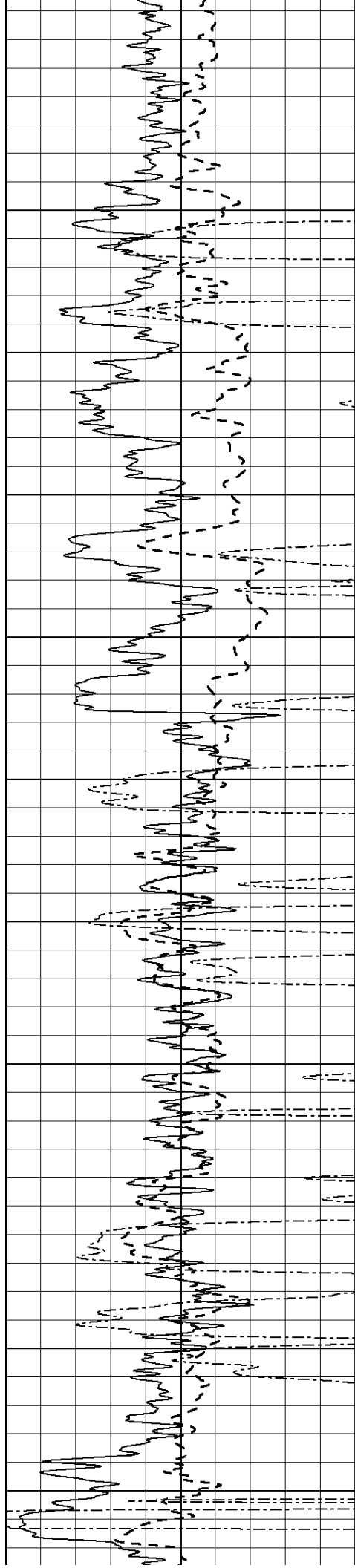
0
50
100
150
200
250
300
350
400





450
500
550
600
650
700
750
800
850
900
950





1000

1050

1100

1150

1200

1250

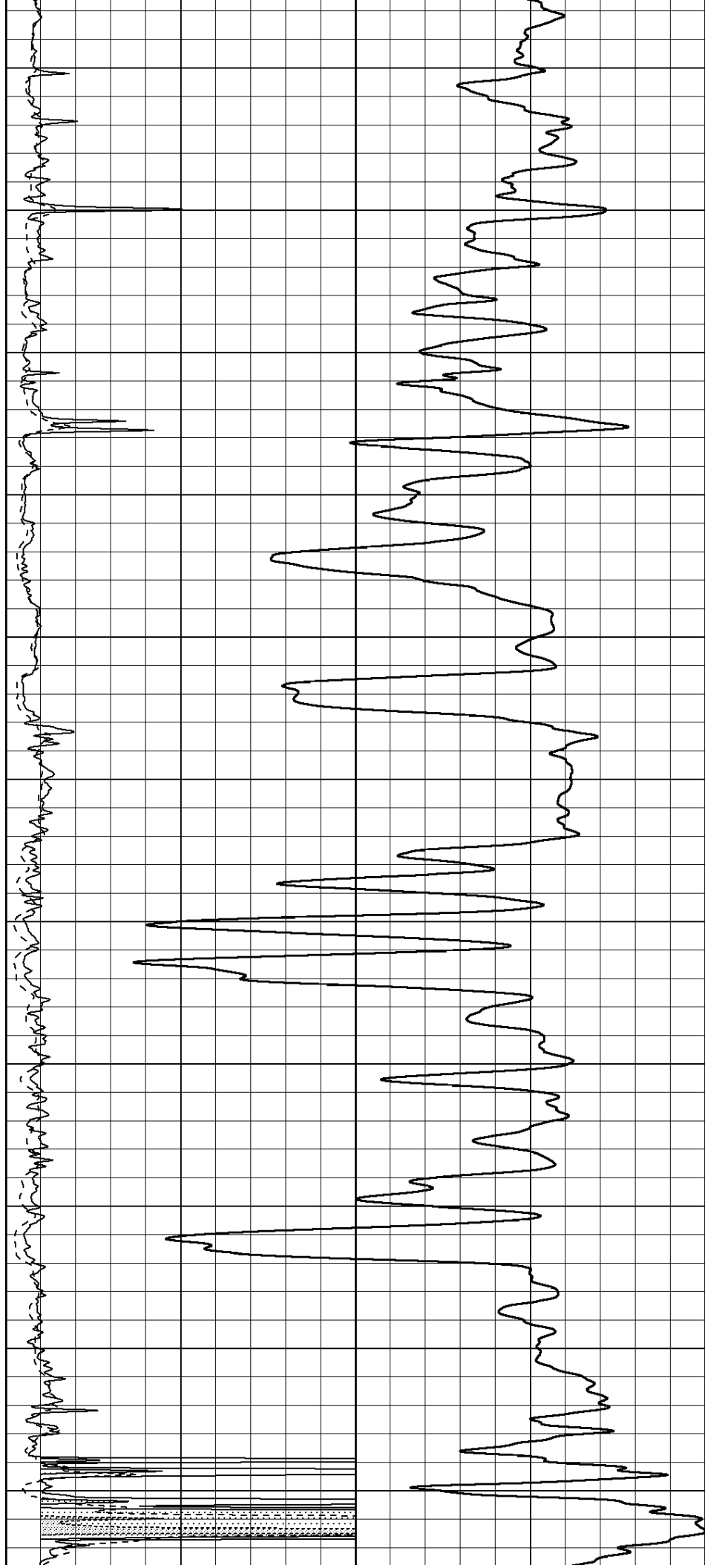
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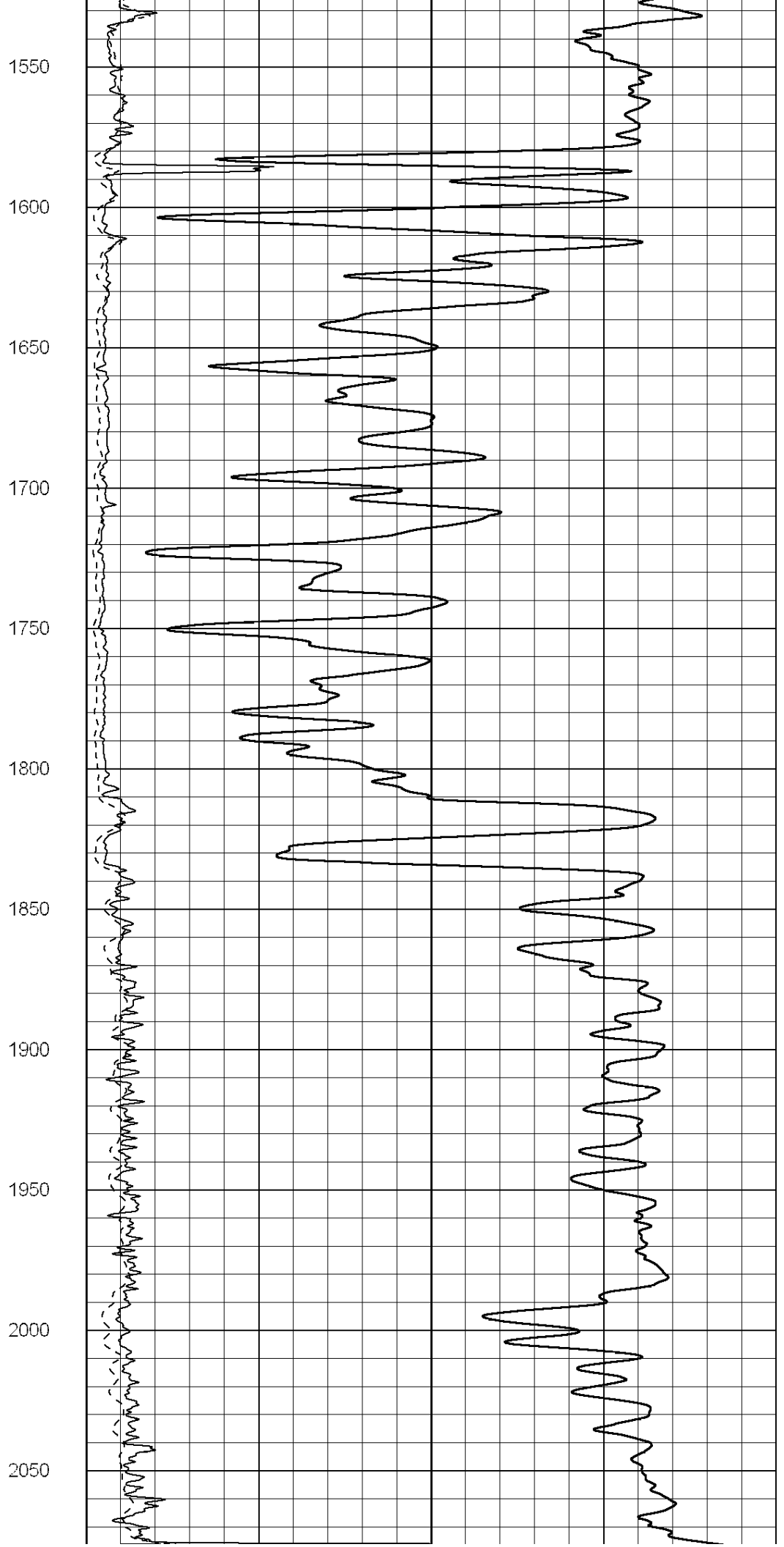
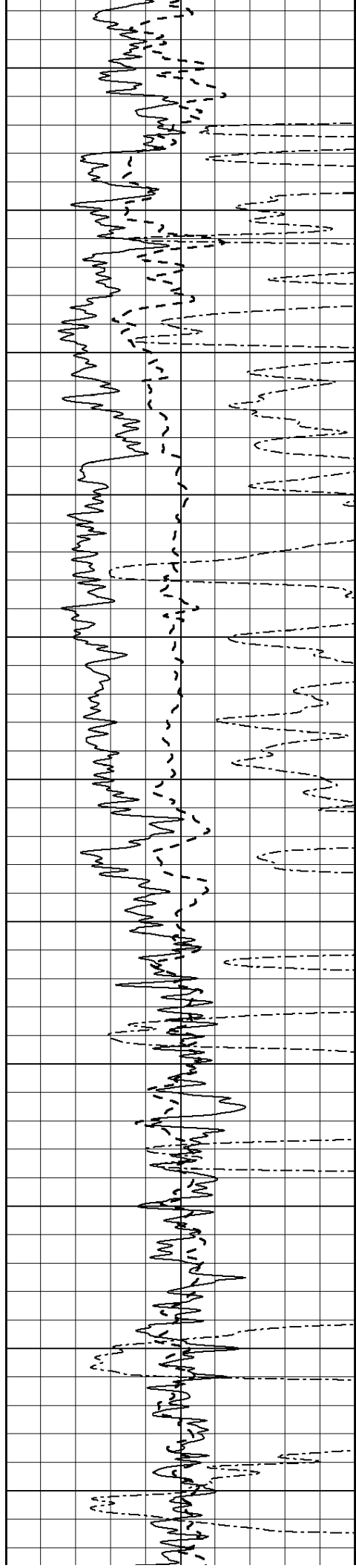
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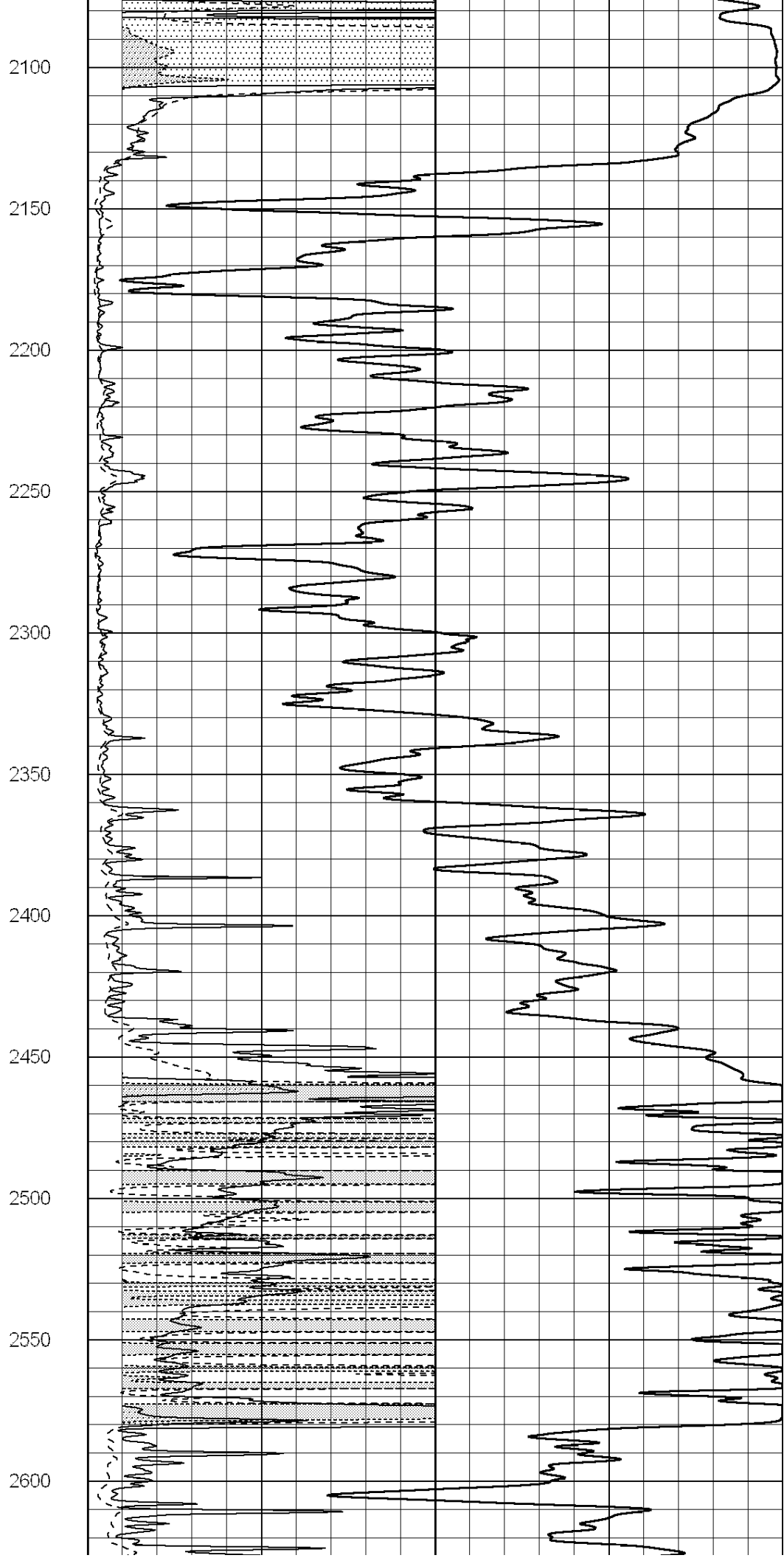
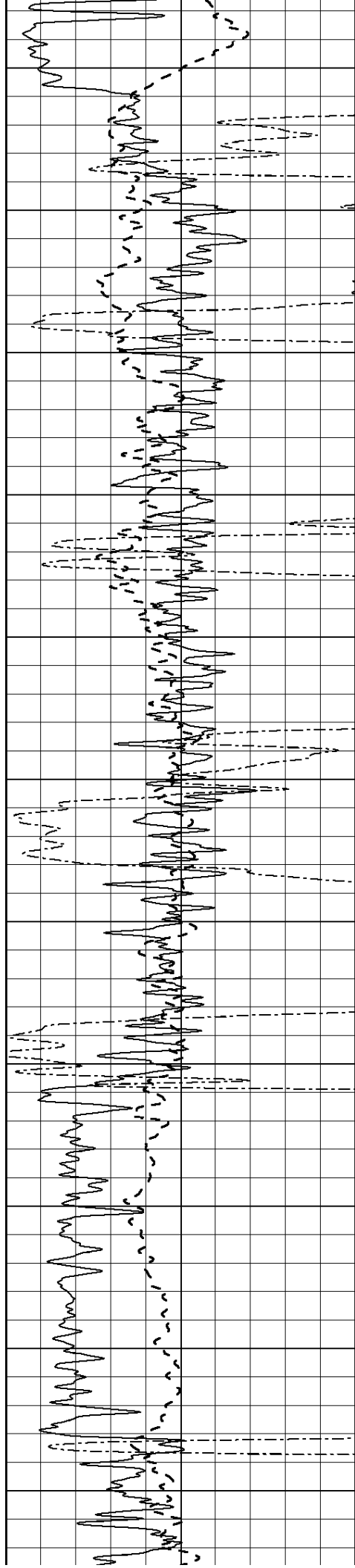
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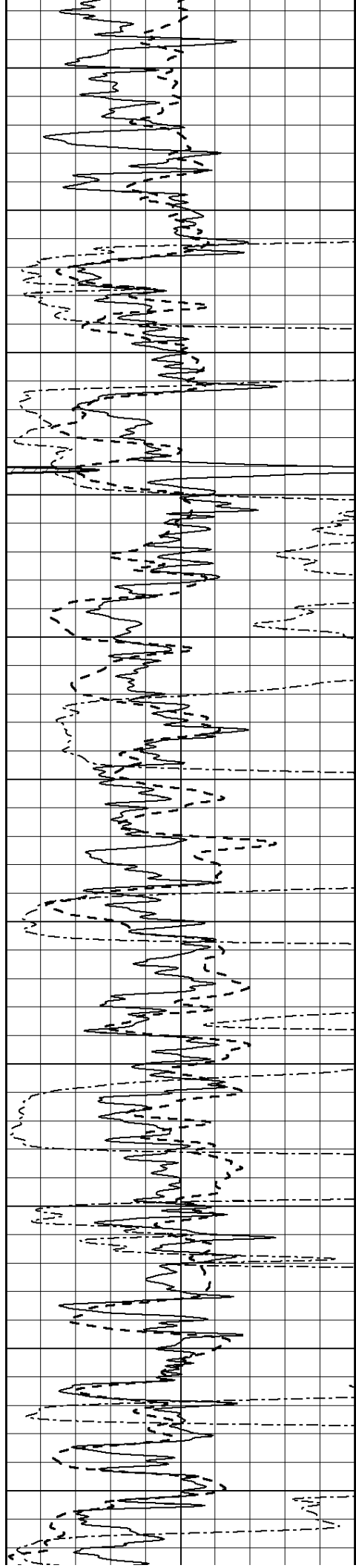
1450

1500









2650

2700

2750

2800

2850

2900

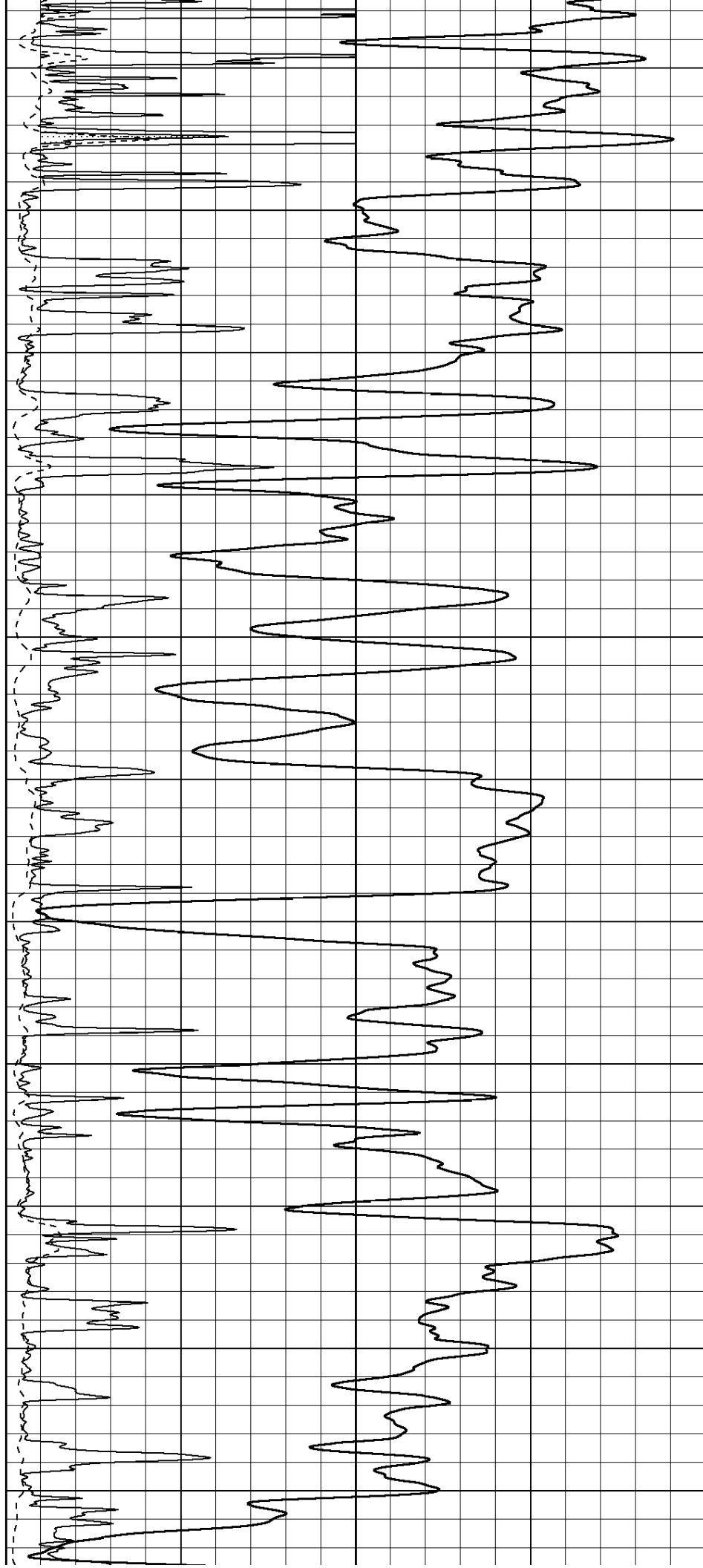
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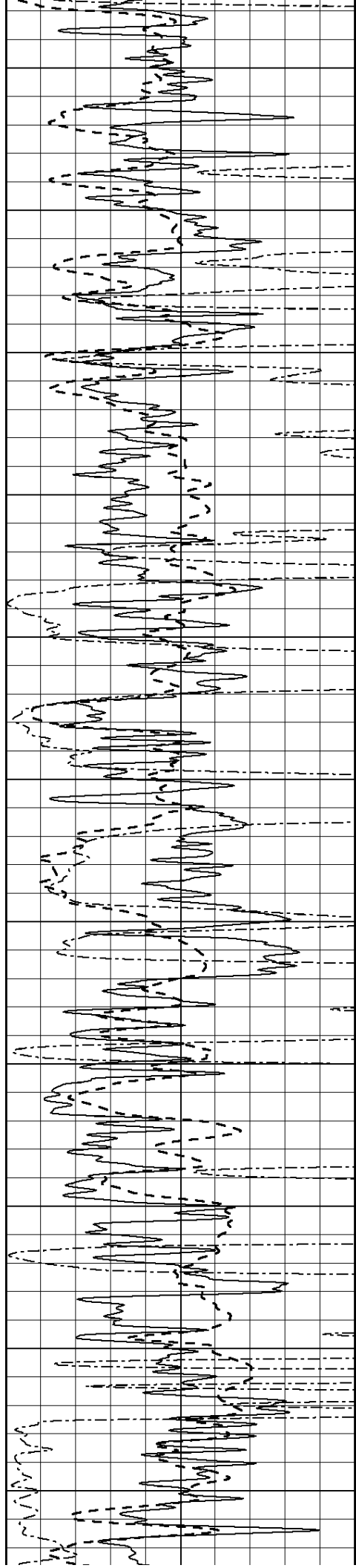
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

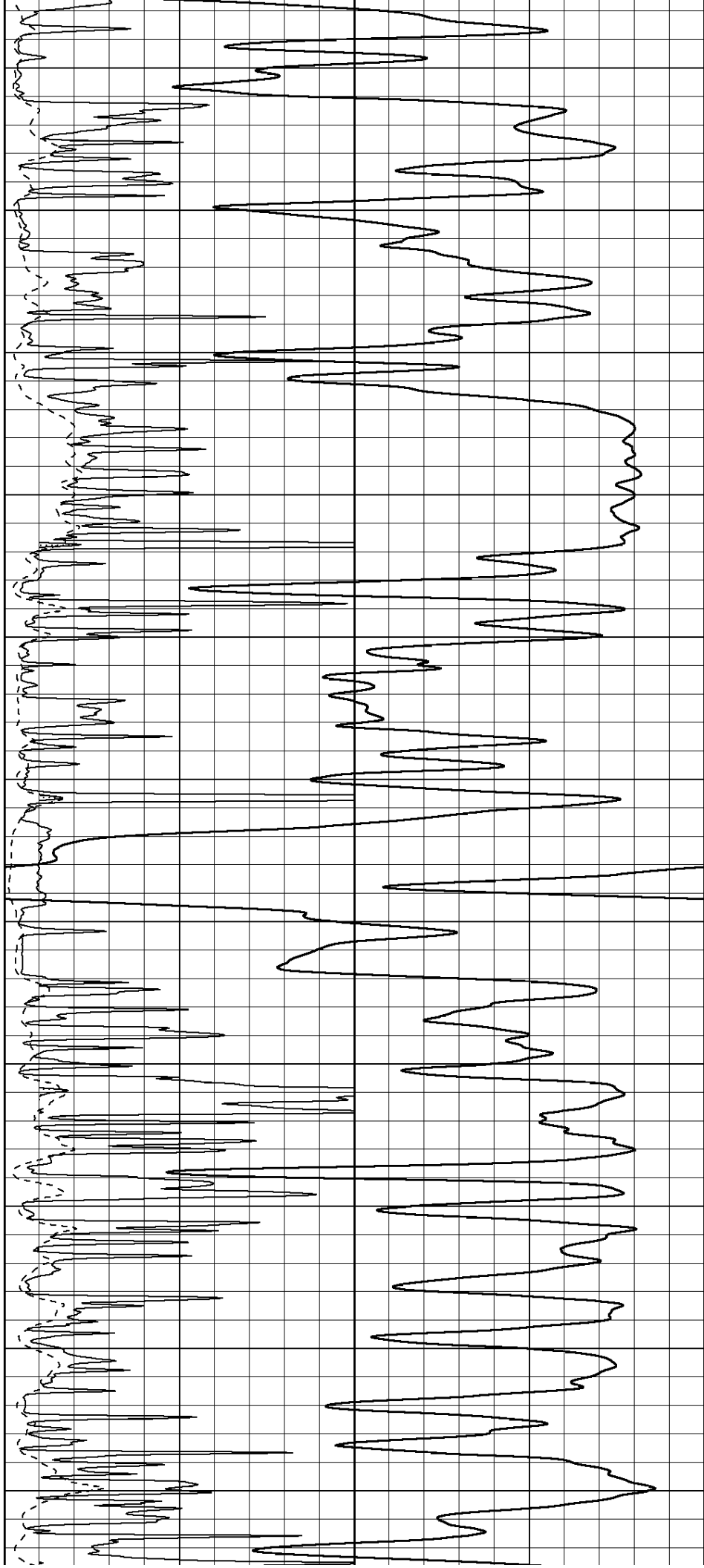
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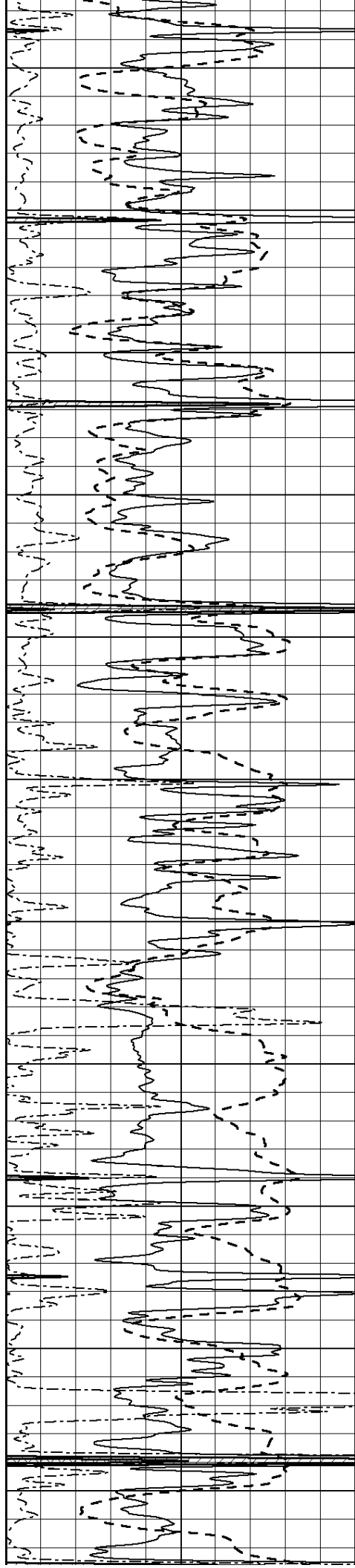
3550

3600

3650

3700





3750

3800

3850

3900

3950

4000

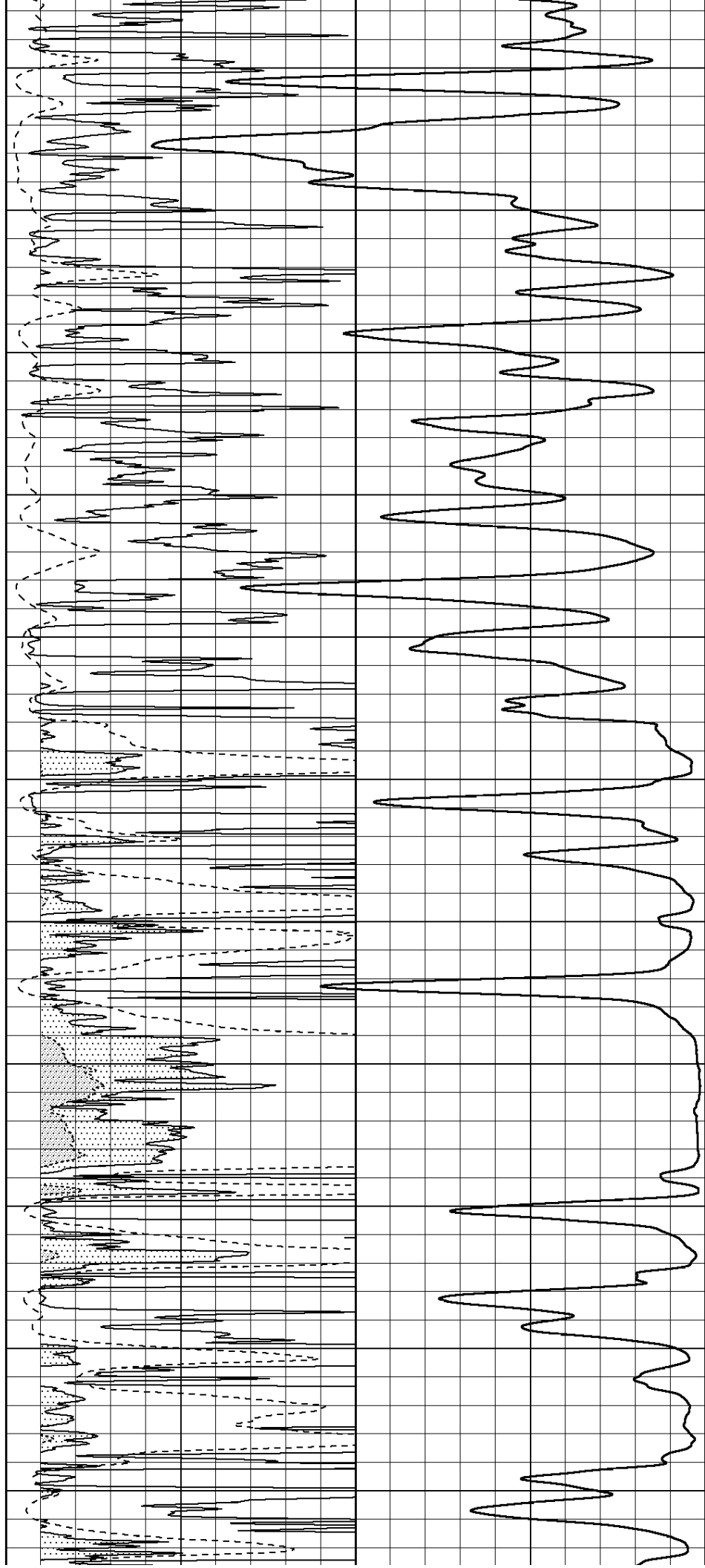
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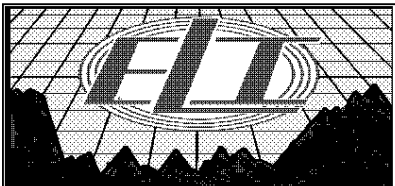
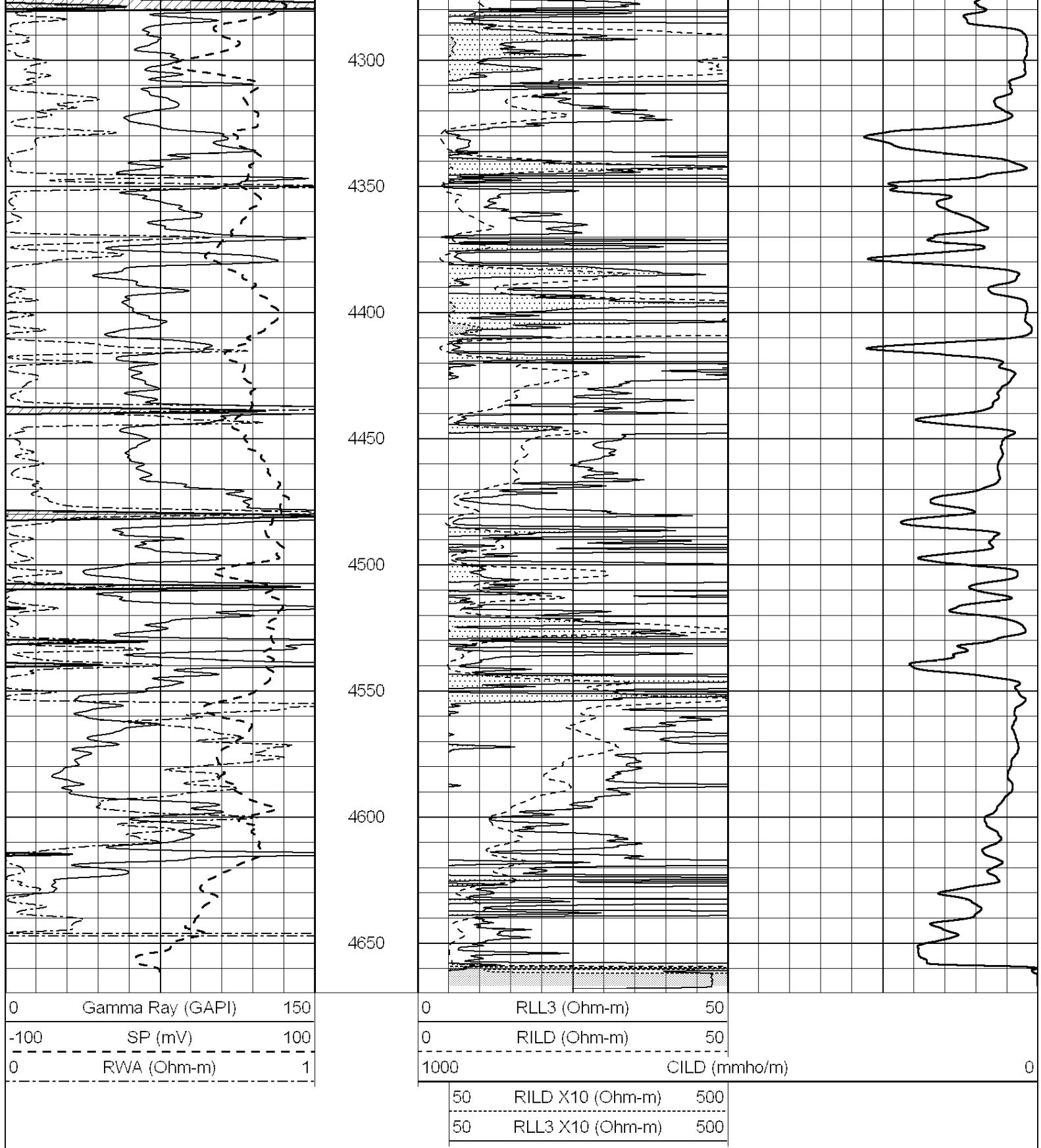
4100

4150

4200

4250



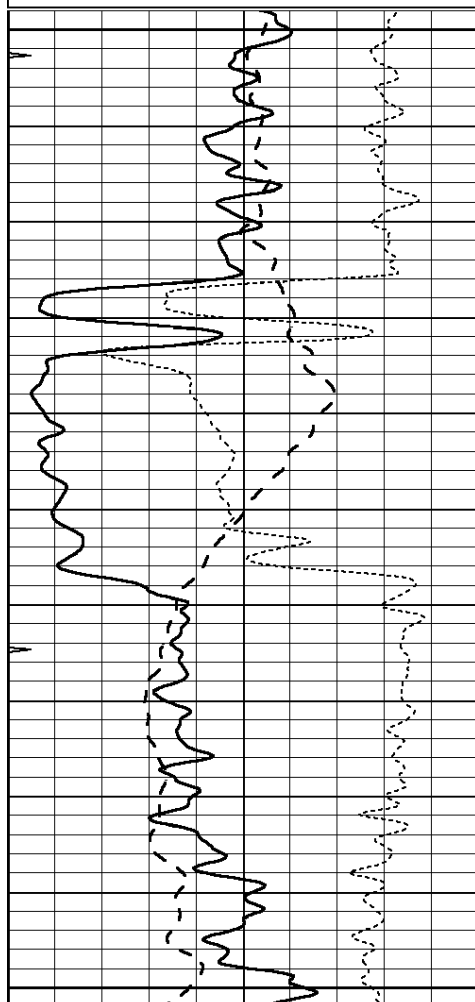


ANHYDRITE

Database File: 3616pe.db
Dataset Pathname: pass3.4
Presentation Format: _dil

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

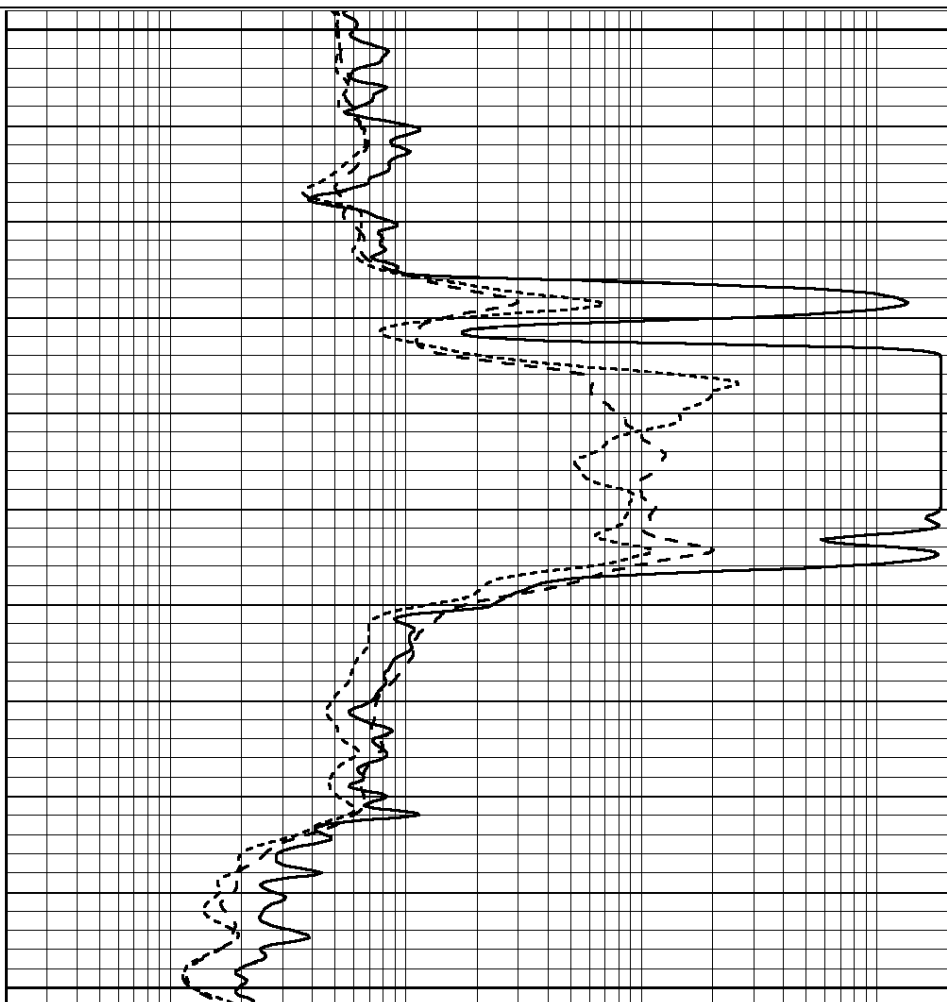
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



2050

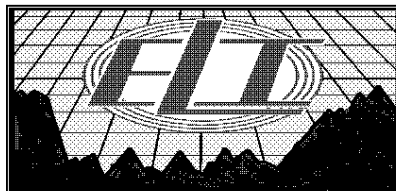
2100

2150



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

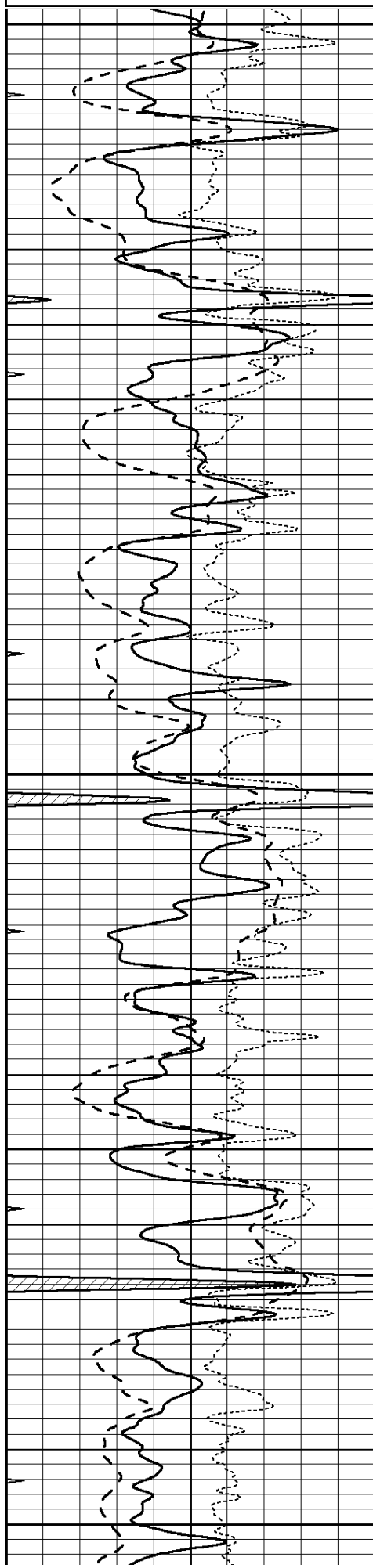


MAIN SECTION

Database File: 3616pe.db
 Dataset Pathname: pass3.3
 Presentation Format: _dil
 Dataset Creation: Sun Apr 28 09:06:09 2019 by Calc SOC 120430
 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	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



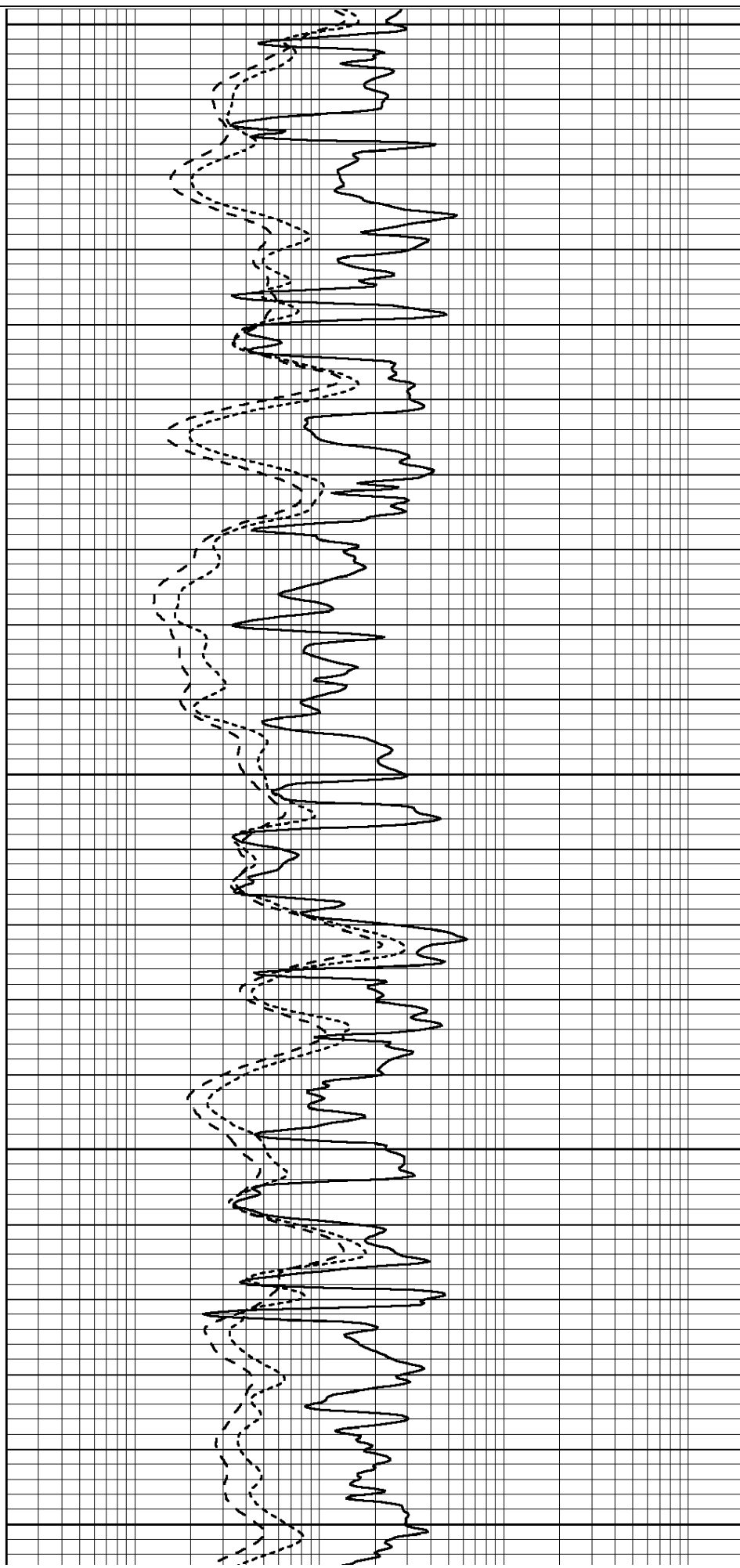
3700

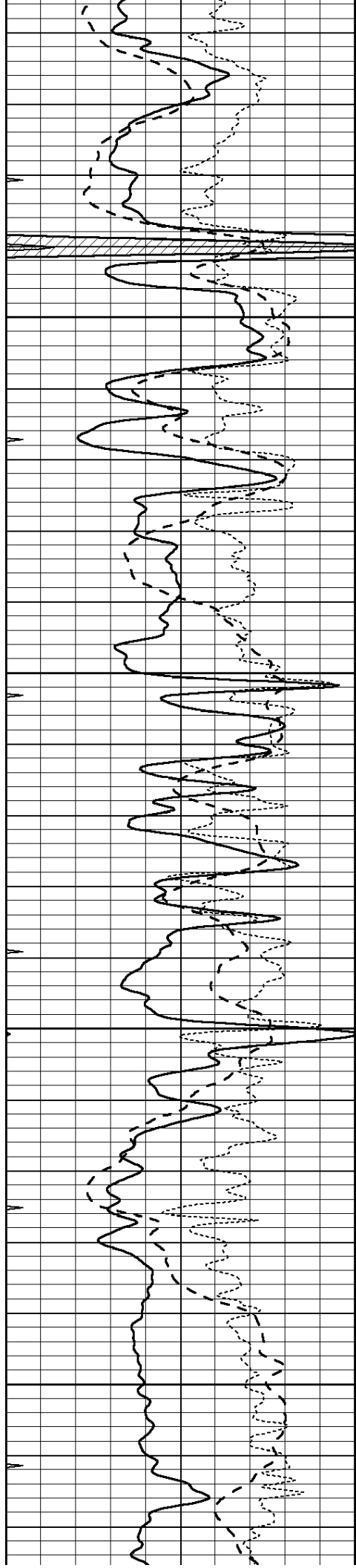
3750

3800

3850

3900



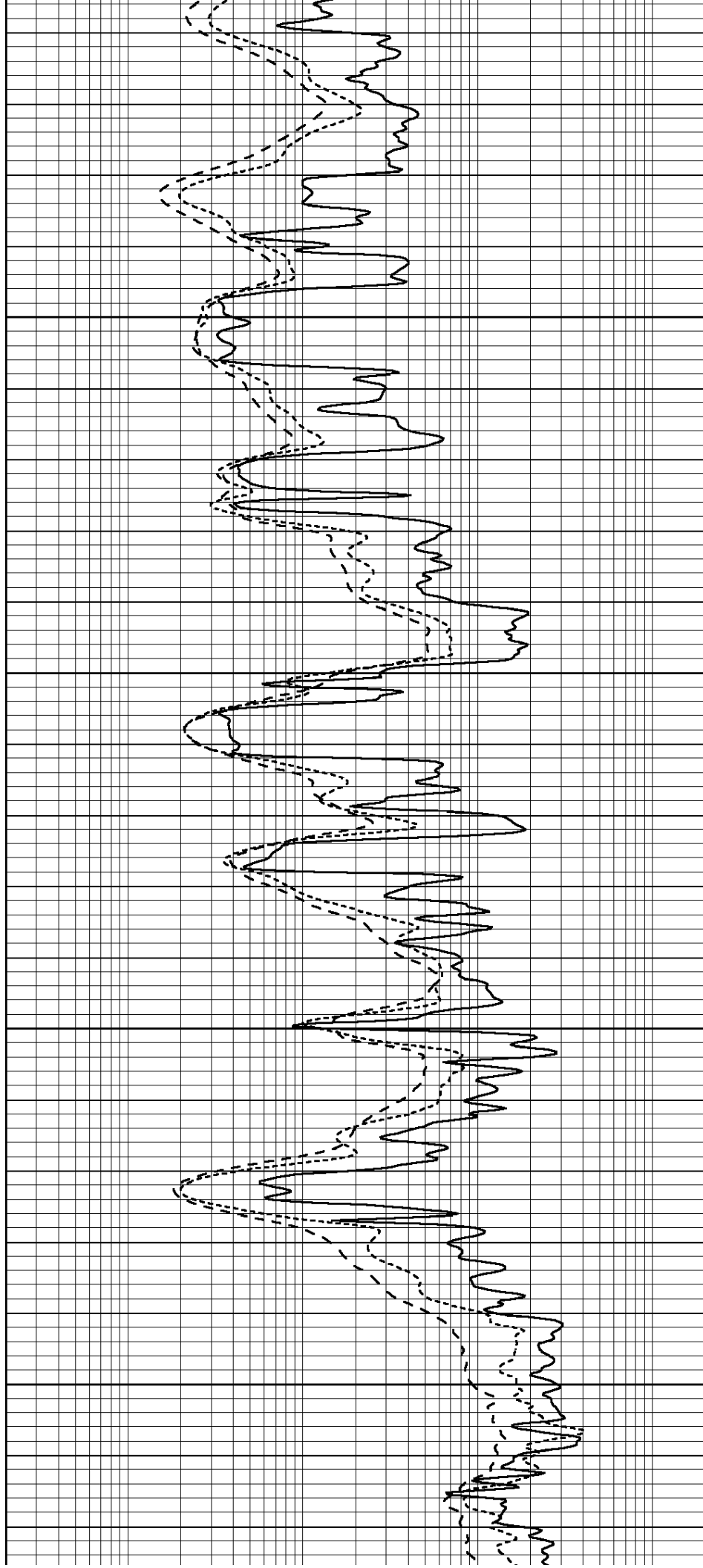


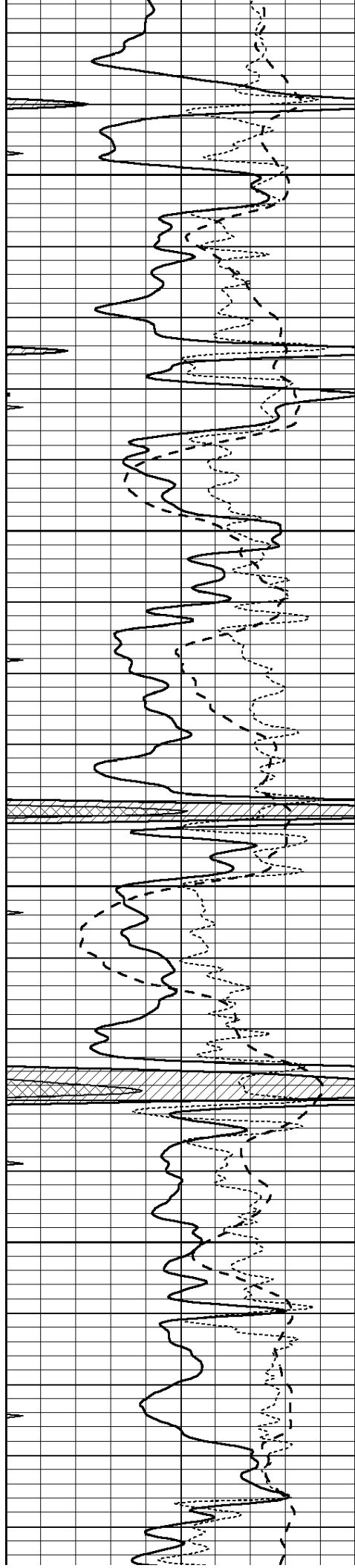
3950

4000

4050

4100



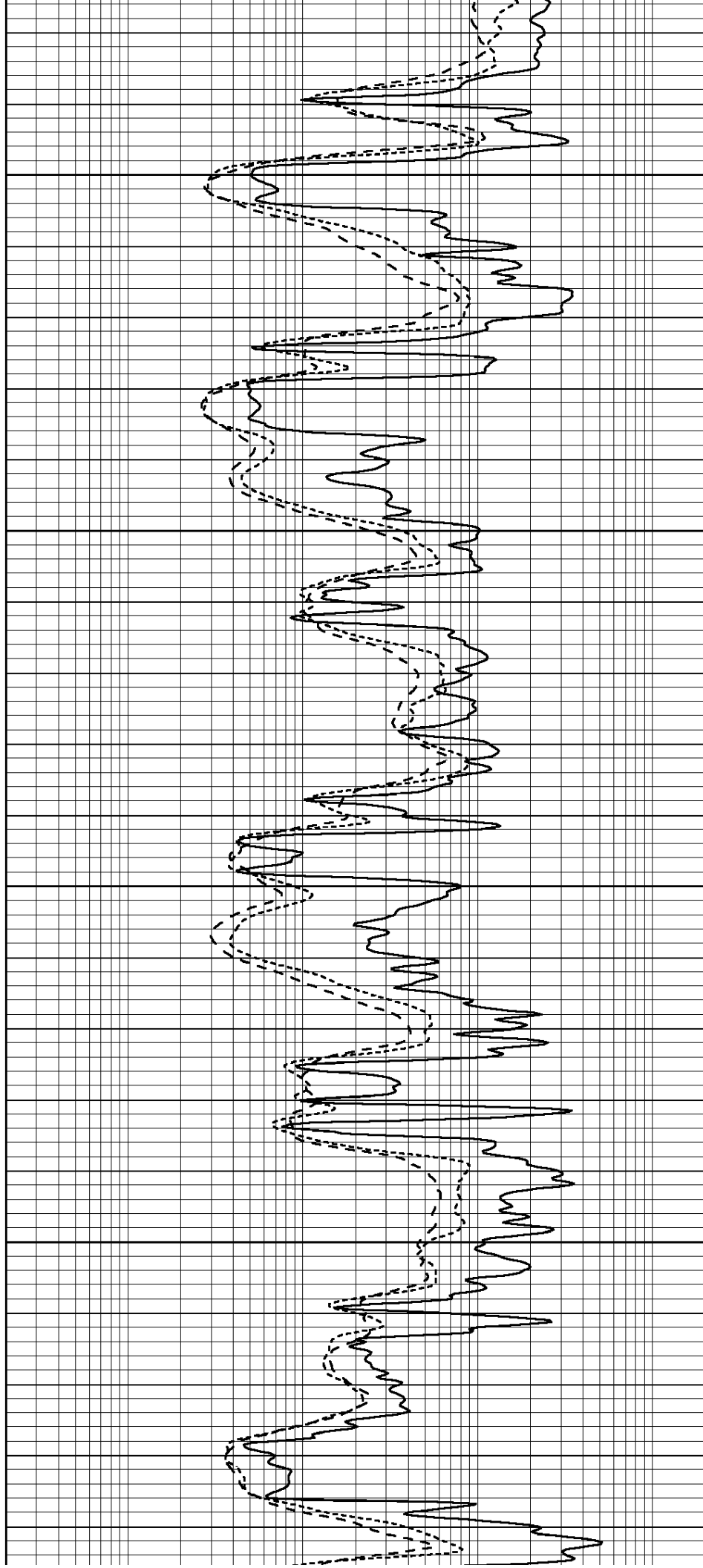


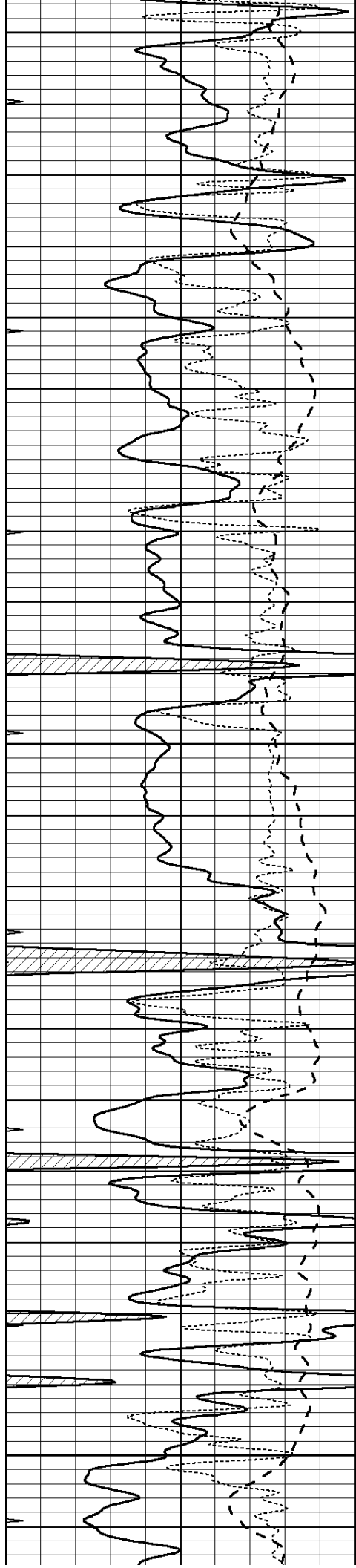
4150

4200

4250

4300





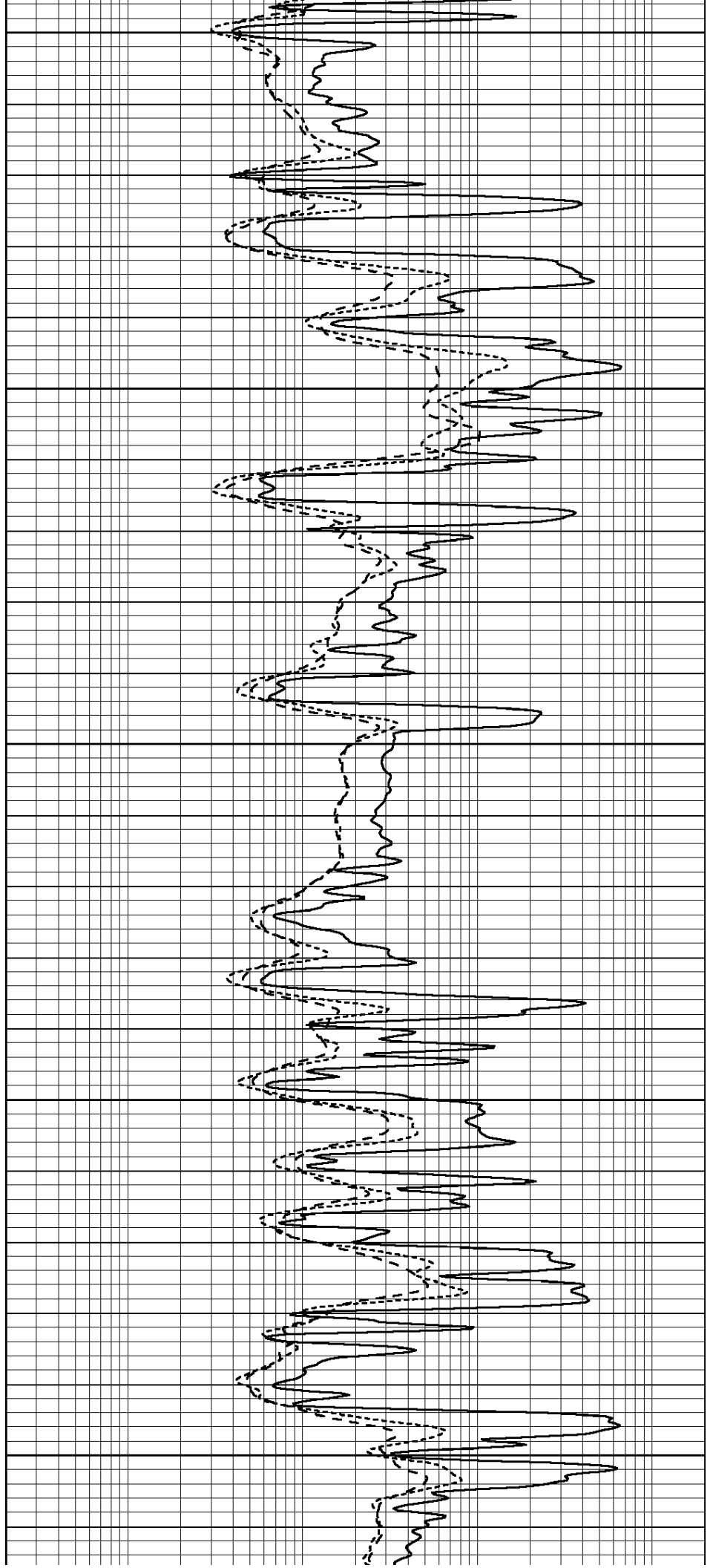
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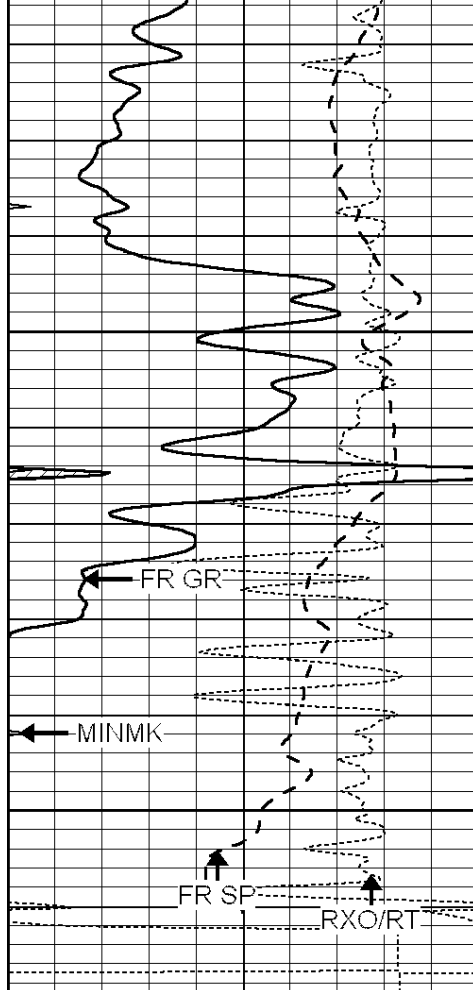
4400

4450

4500

4550



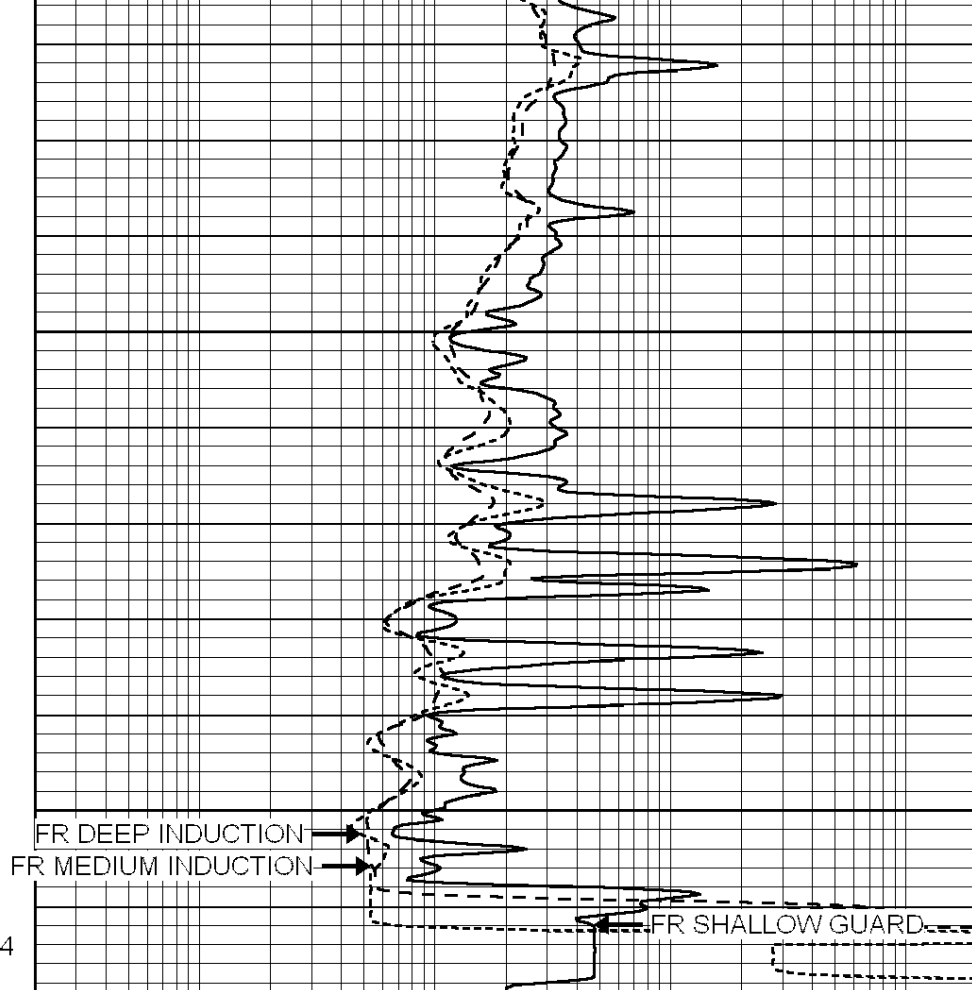


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

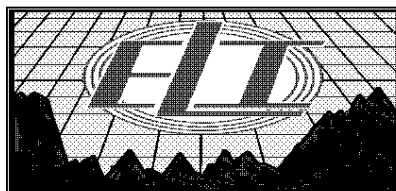
4600

4650

LTD 4664



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



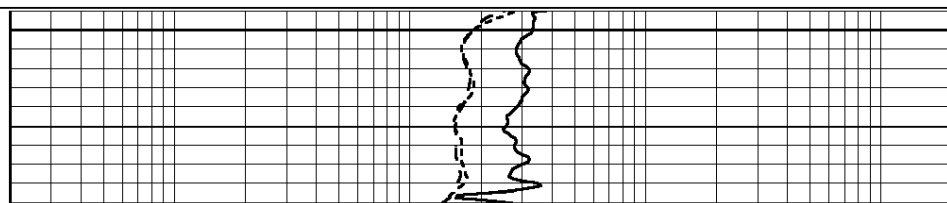
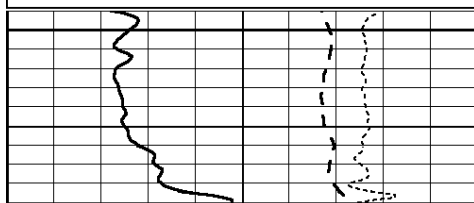
REPEAT SECTION

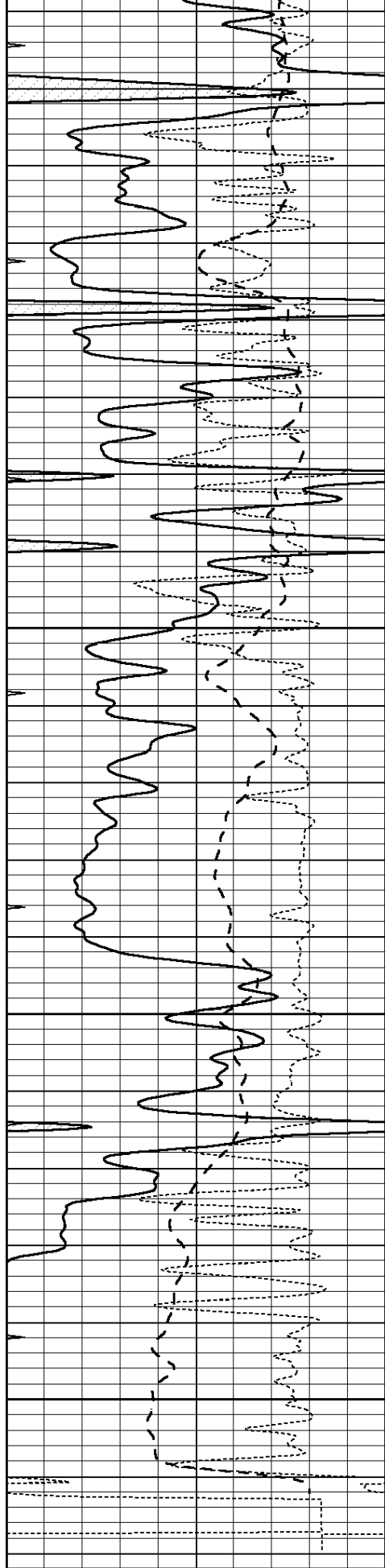
Database File: 3616pe.db
 Dataset Pathname: pass2.3
 Presentation Format: _dil
 Dataset Creation: Sun Apr 28 07:58:43 2019 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

4450





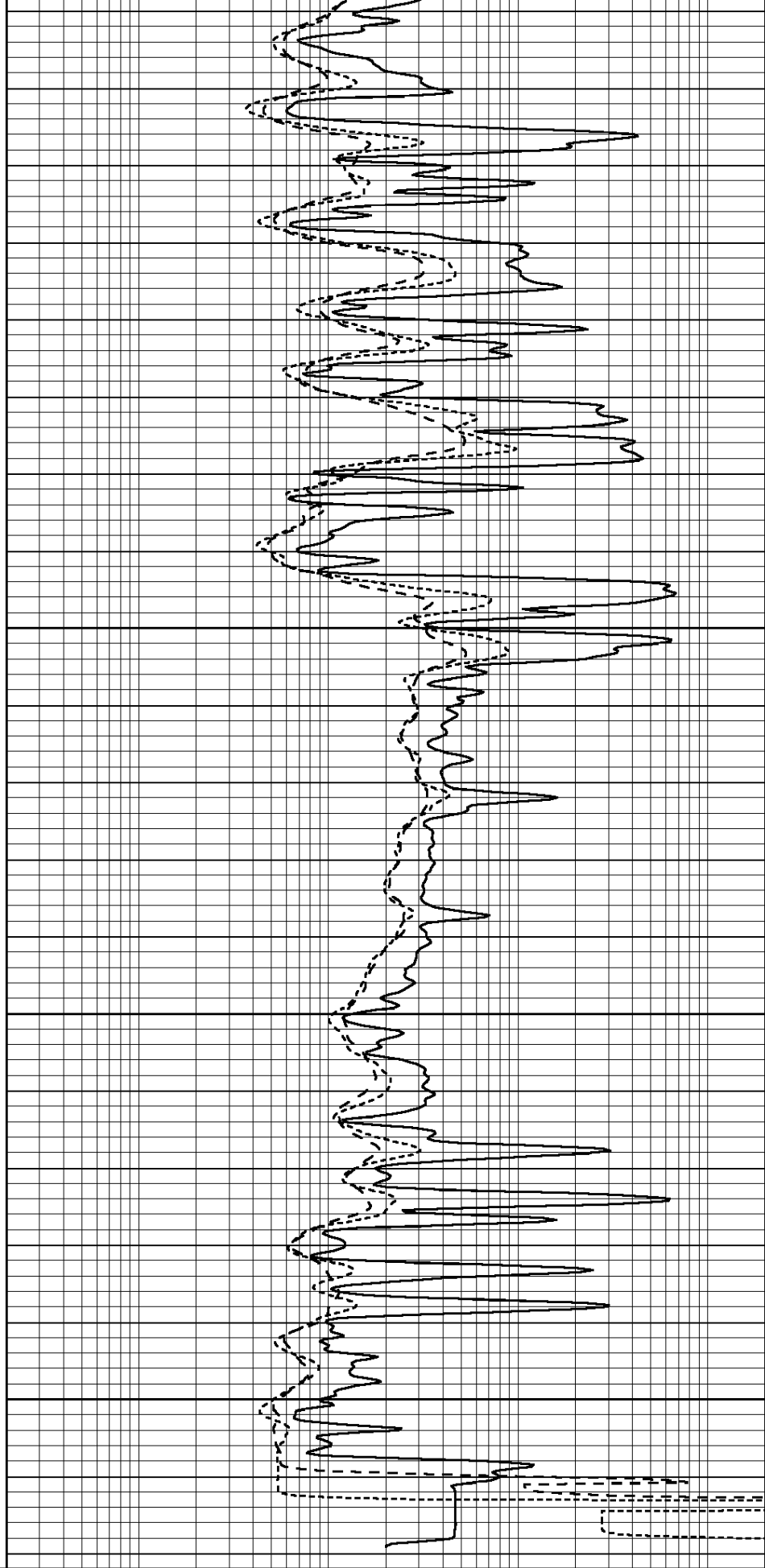
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINIMK	20

4500

4550

4600

4650



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

Calibration Report

Database File: 1598ddn.db
 Dataset Pathname: pass4
 Dataset Creation: Wed Aug 30 02:13:00 2017 by Log SOC 120430

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Wed Aug 30 00:06:33 2017
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008
 After Survey Verification Performed: Mon Jul 28 12:02:56 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-44.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

Downhole Calibration

Readings				References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	mmho-m		

After Survey Verification

Readings				Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Litho Density Calibration Report

Serial: 002 Model: PRB

Master Calibration

Performed Mon Aug 21 11:27:42 2017

	Background	Magnesium	Aluminum	Sandstone	
Window 1	837.1	10632.5	2945.1	12110.1	cps
Window 2	772.0	9117.4	2570.1	10197.3	cps
Window 3	631.7	4669.0	1481.9	5042.9	cps
Window 4	187.0	187.5	185.9	189.9	cps
Long Space	0.0	8345.4	1798.1	9425.3	cps
Short Space	1.1	1927.9	1285.9	2050.2	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	

Rib Angle : 45.2 Rib Slope : 1.008 Density/Spine Ratio : 0.558
 Spine Angle : 75.2 Spine Slope : 3.790 Spine Intercept : -19.6

Before Survey Verification					
Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification					
Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

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Compensated Neutron Calibration Report
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Serial Number:	070808
Tool Model:	Probe

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:	070558	
Tool Model:	OPEN_GR	
Performed:	Wed May 31 00:09:32 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps