

DUAL INDUCTION LOG

Company	BIRD DOG OIL	Company	BIRD DOG OIL
Well	RUTTI-GATES#1-5	Well	RUTTI-GATES#1-5
Field	UNNAMED	Field	UNNAMED
County	STAFFORD	County	STAFFORD
State	KANSAS	State	KANSAS
Location:	API # : 15-185-24056-0000 2310' FSL & 2310' FEL	Other Services CDL/CNL/MEL SON	
Permanent Datum	SEC 5 TWP 22S RGE 13W	Elevation	
Log Measured From	GROUND LEVEL	K.B. 1905	
Drilling Measured From	KELLY BUSHING 9' A.G.L. KELLY BUSHING	D.F. 1903	
		G.L. 1896	
Date	08/25/19		
Run Number	ONE		
Depth Driller	3880		
Depth Logger	3876		
Bottom Logged Interval	3875		
Top Log Interval	00		
Casing Driller	8 5/8" @ 432		
Casing Logger	432		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.1/59		
pH / Fluid Loss	11.0/10.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.5 @ 83F		
Rmt @ Meas. Temp	.4 @ 83F		
Rmc @ Meas. Temp	.64 @ 83F		
Source of Rmt / Rmc	MEASURED		
Rm @ BHT	.36 @ 115F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	///		
Maximum Recorded Temperature	115F		
Equipment Number	1523		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	JUSTIN CARTER		

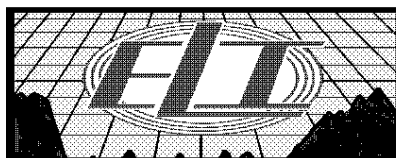
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on 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, HAYS, KS. (785) 628-6395

DIRECTIONS
SOUTH OF GREAT BEND TO K19 WEST 1 1/2 MILE,
NORTH INTO.



MAIN PASS

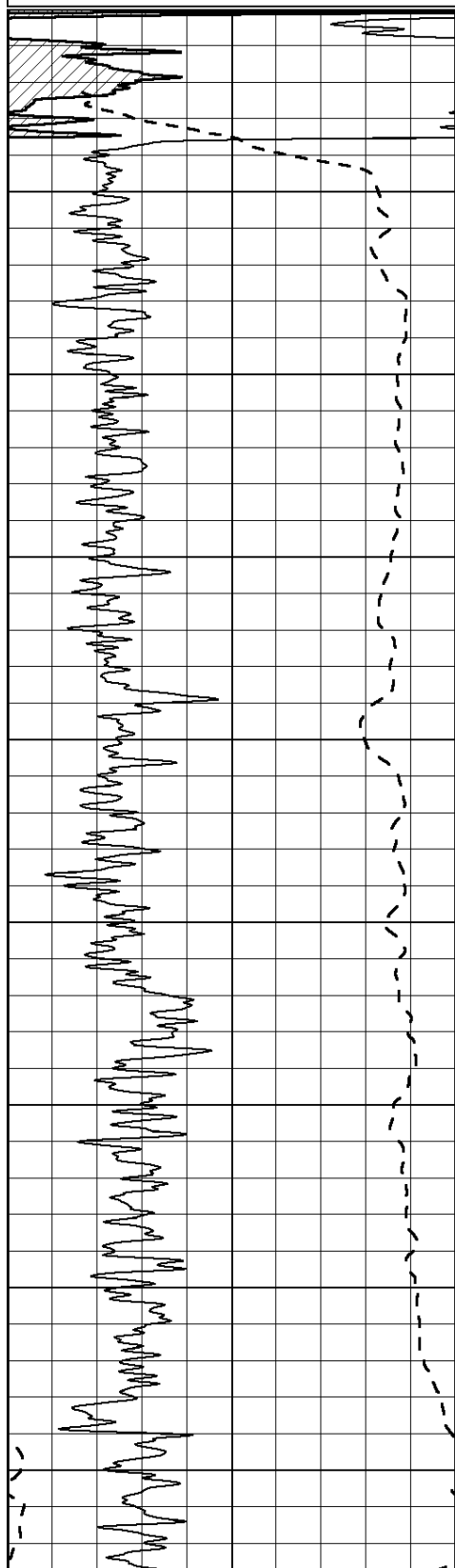
Database File: 4087pe.db
 Dataset Pathname: pass3
 Presentation Format: _dil2
 Dataset Creation: Sun Aug 25 12:16:25 2019 by Log Open-Cased 090629
 Charted by: Depth in Feet scaled 1:600

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

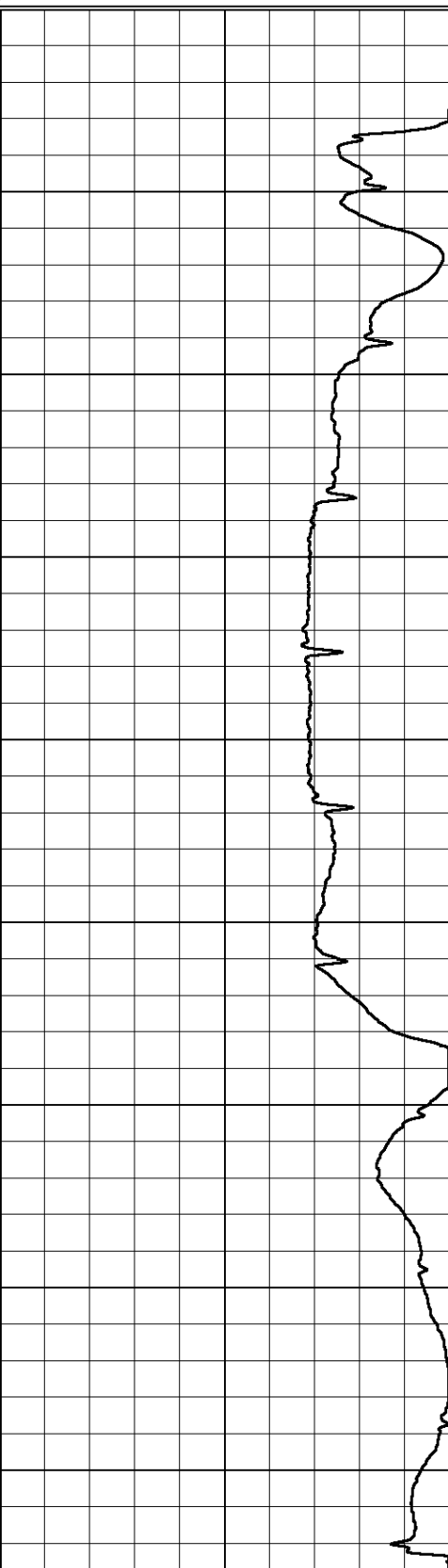
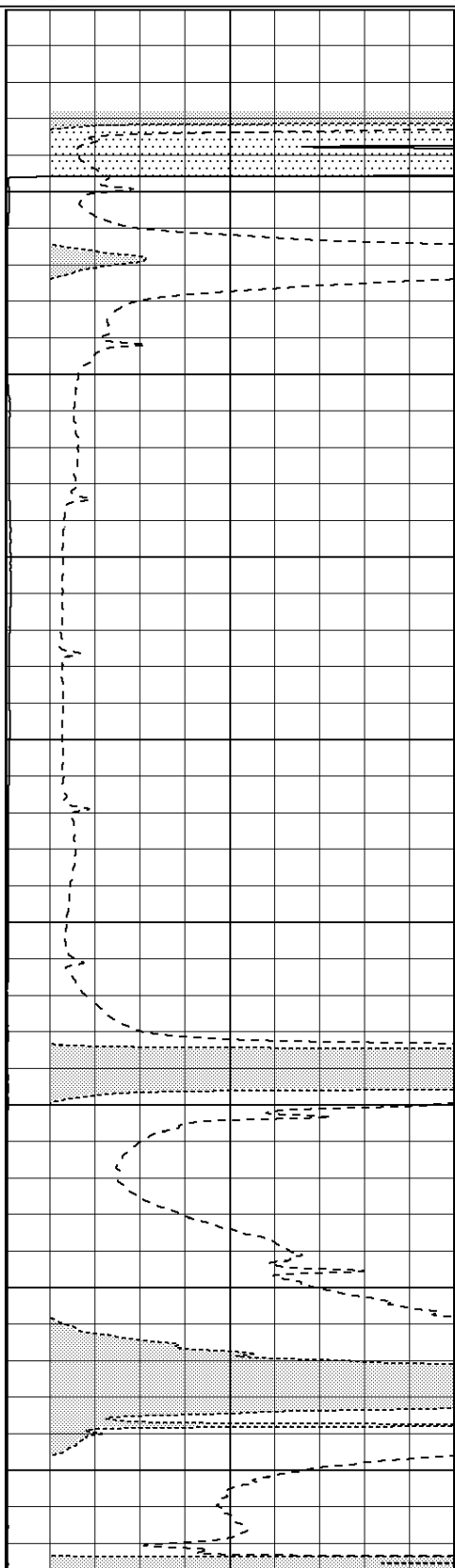
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50

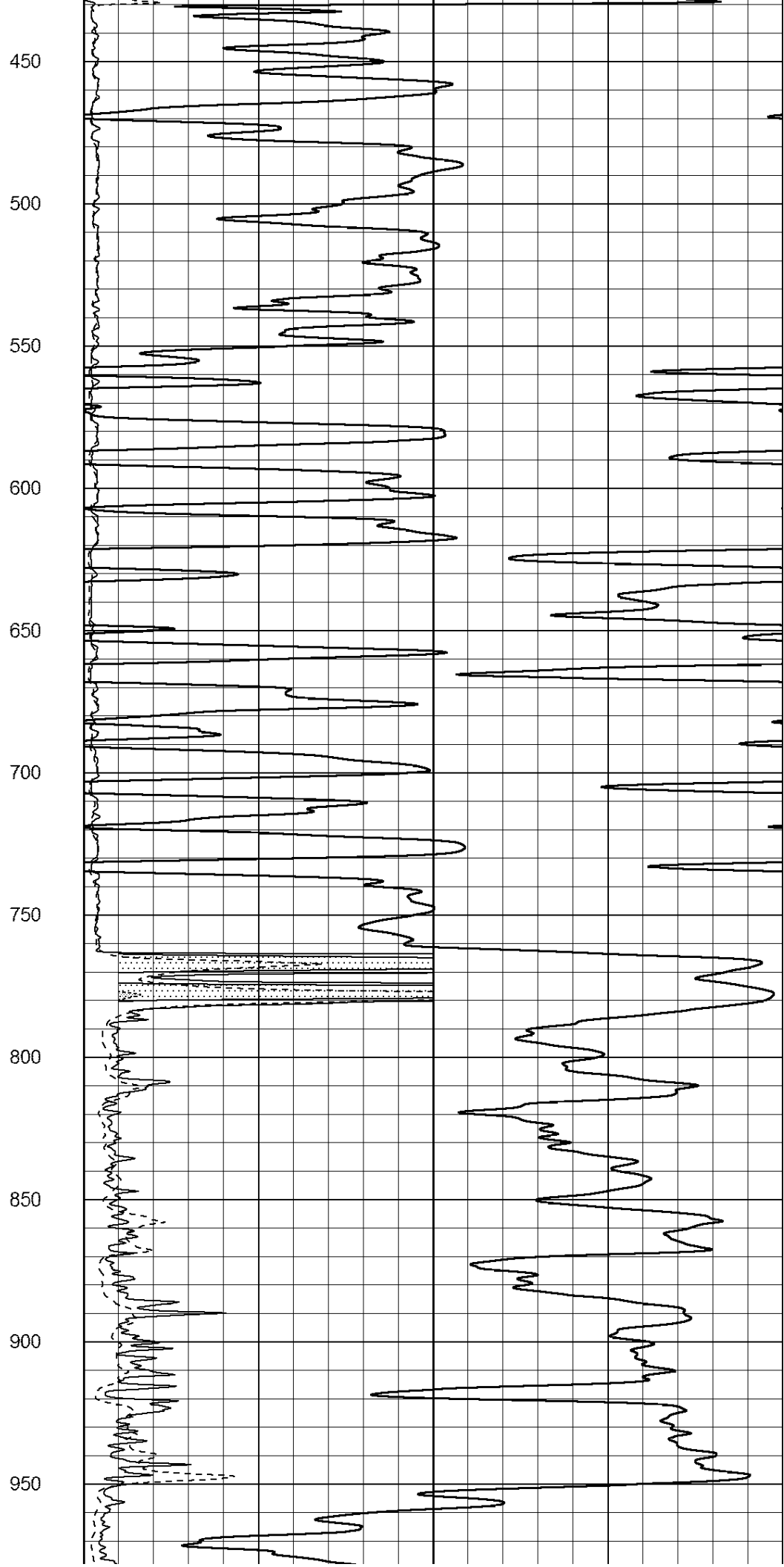
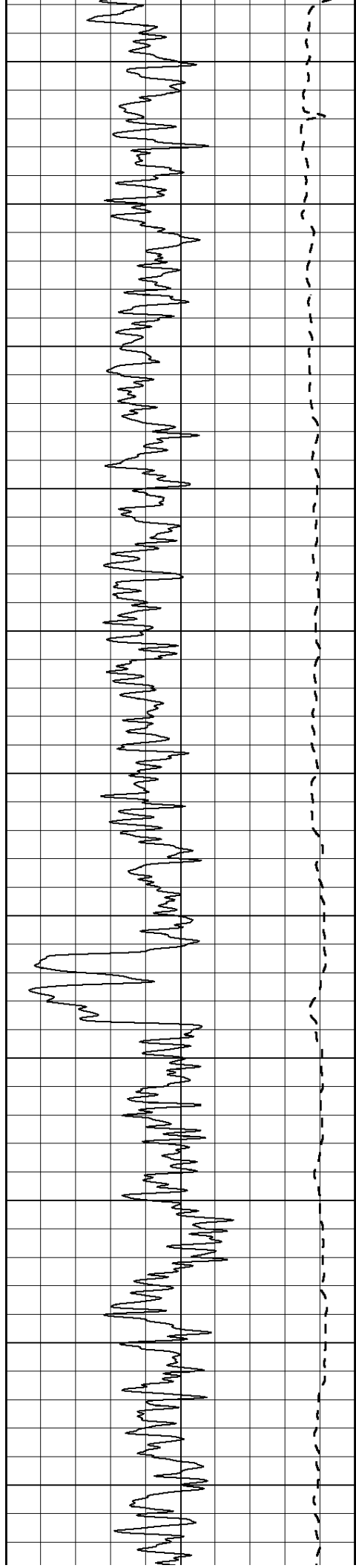
1000	CILD (mmho/m)	0
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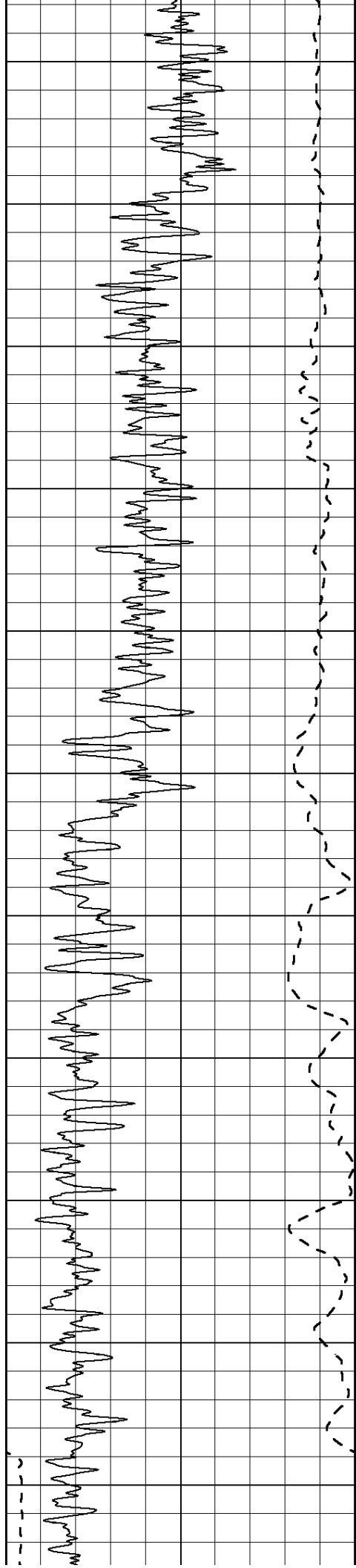
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500



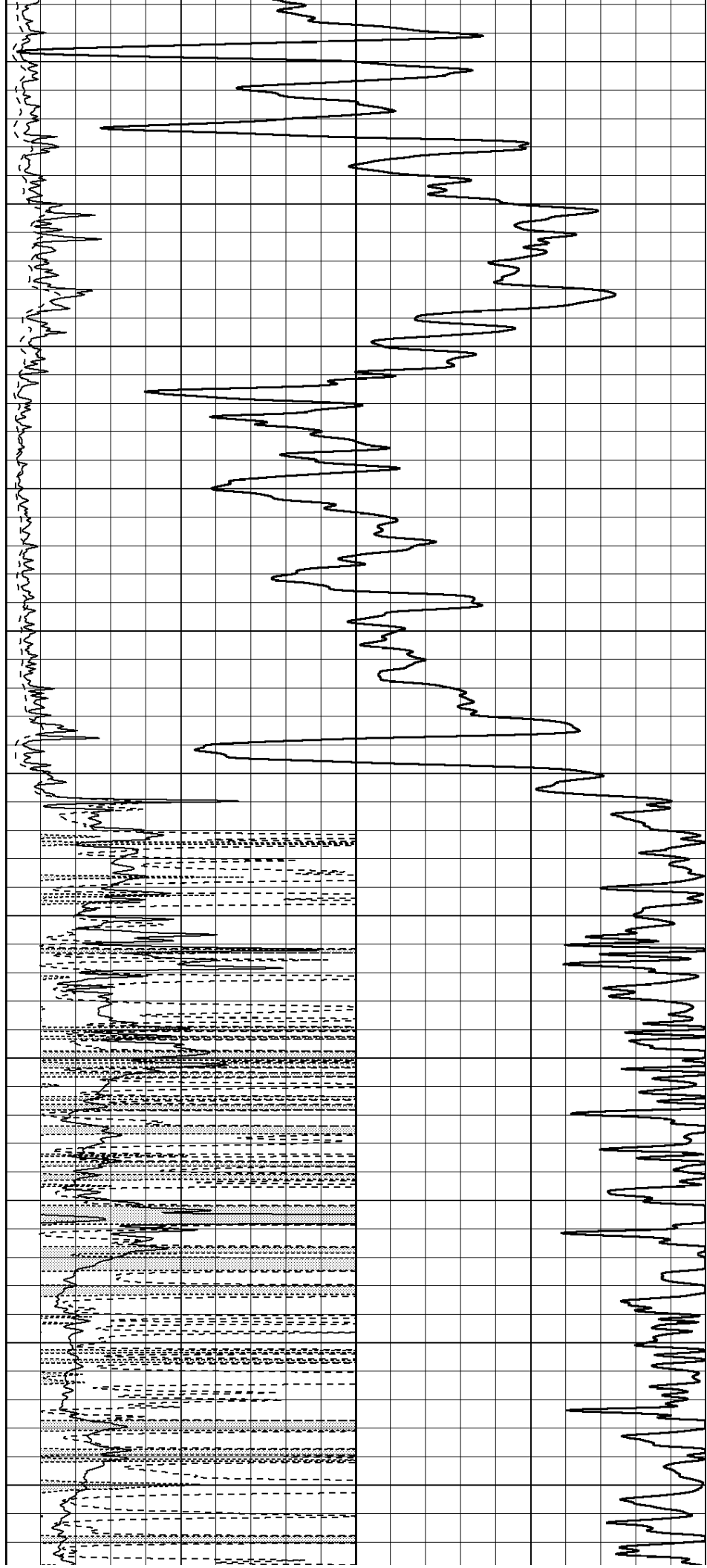
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 50
 100
 150
 200
 250
 300
 350
 400

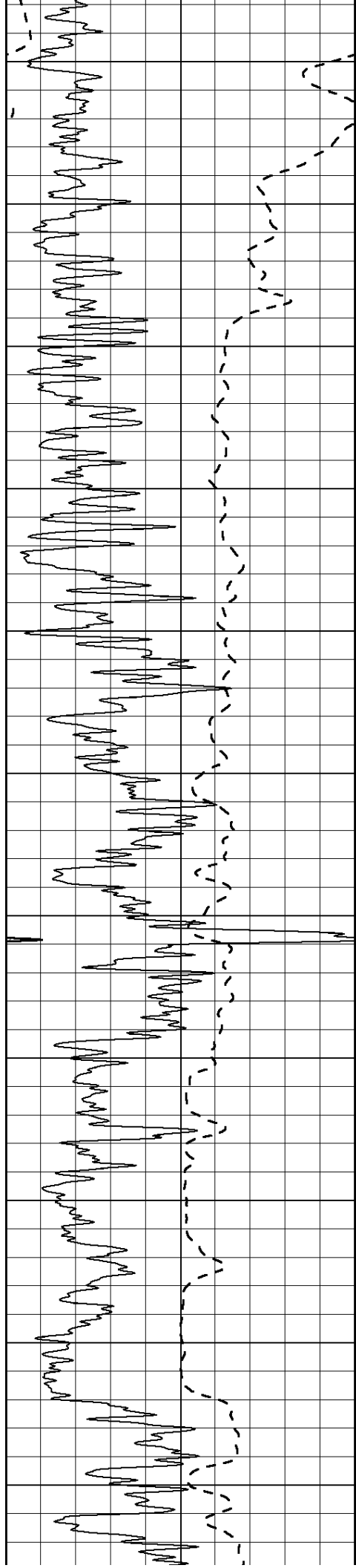




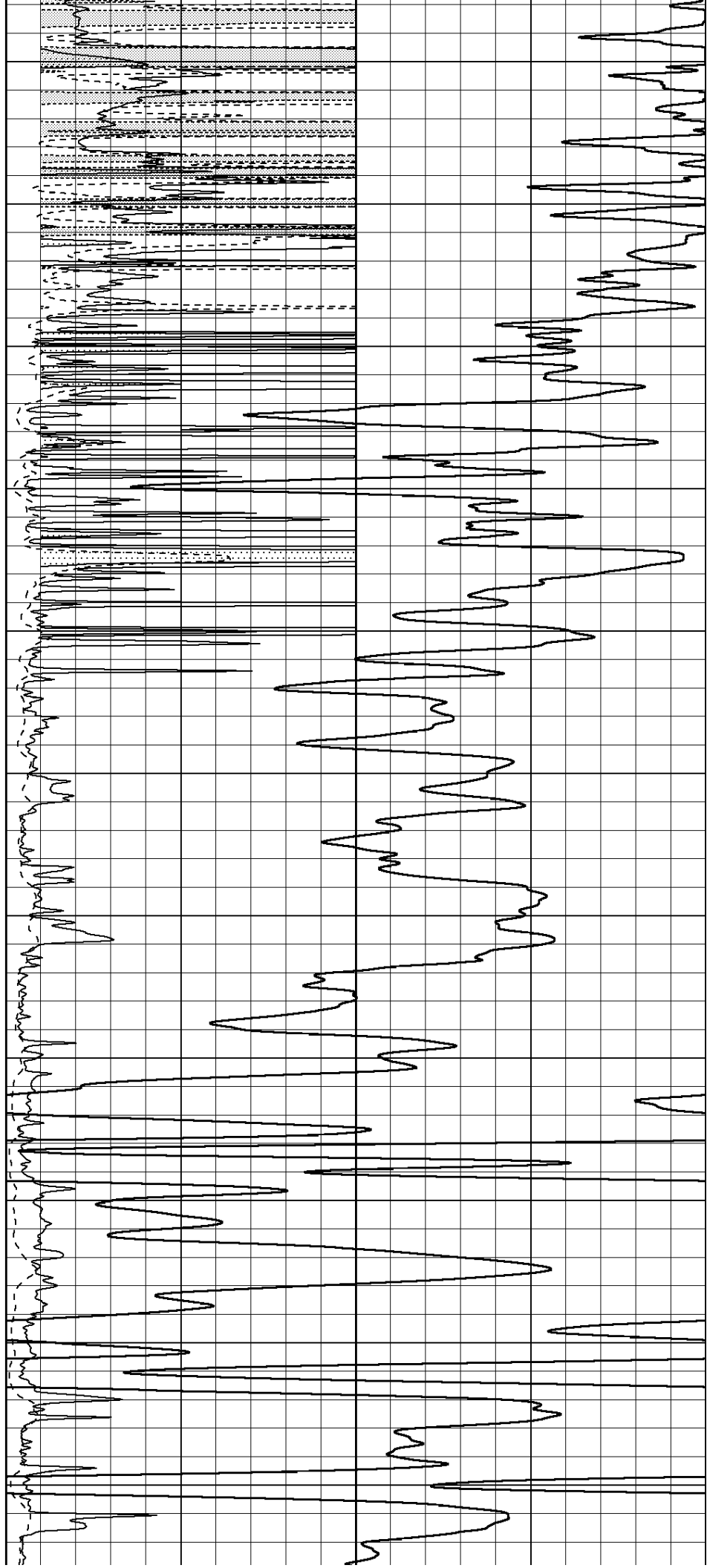


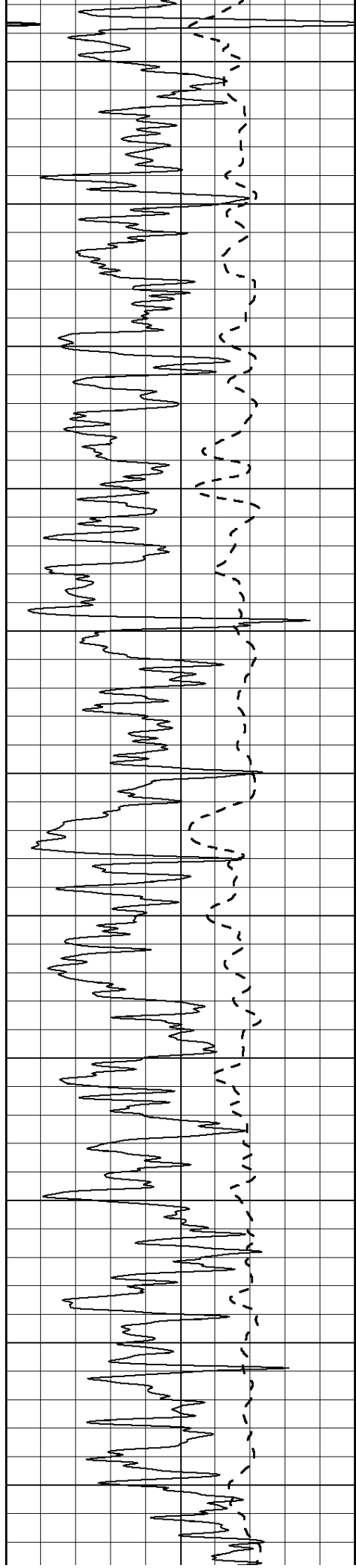
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1100
1150
1200
1250
1300
1350
1400
1450
1500





1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050





2100

2150

2200

2250

2300

2350

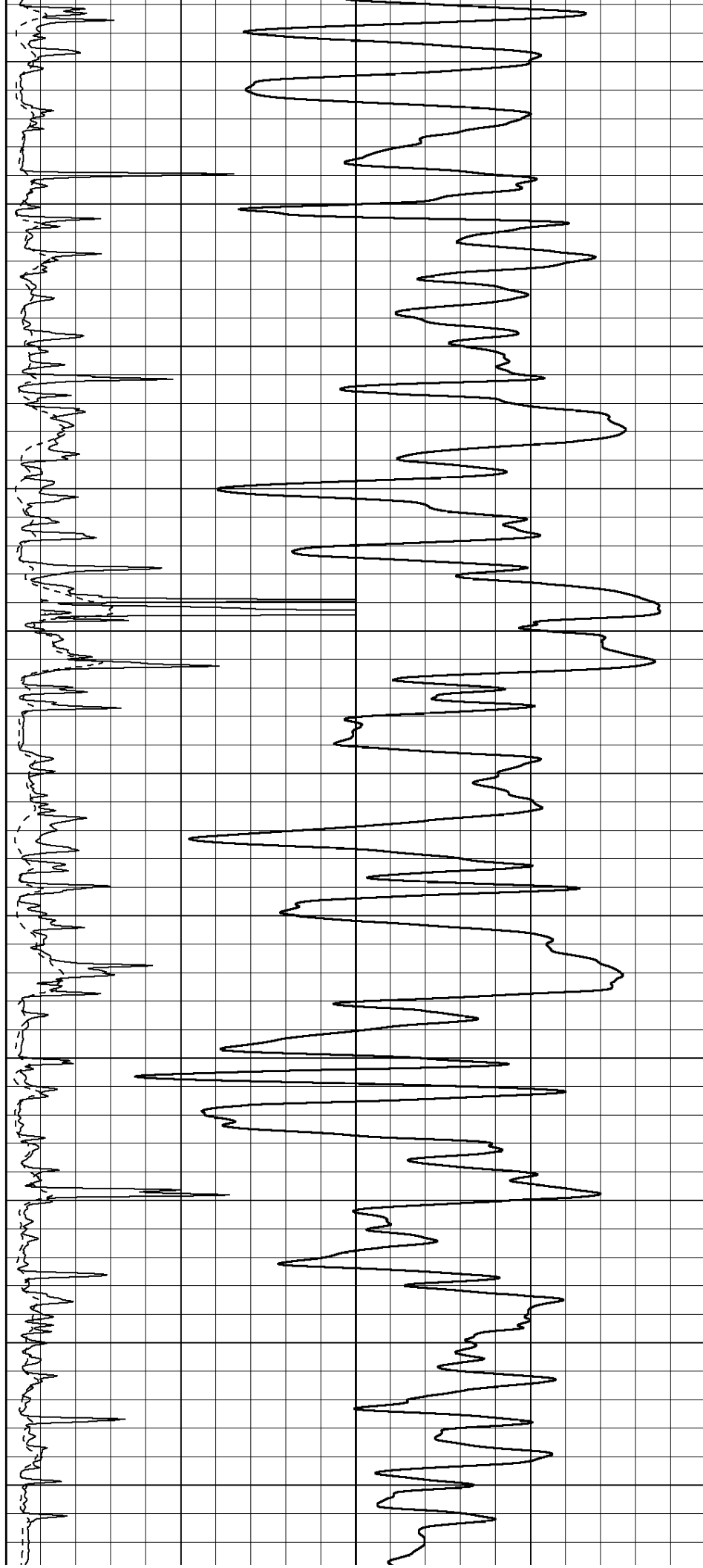
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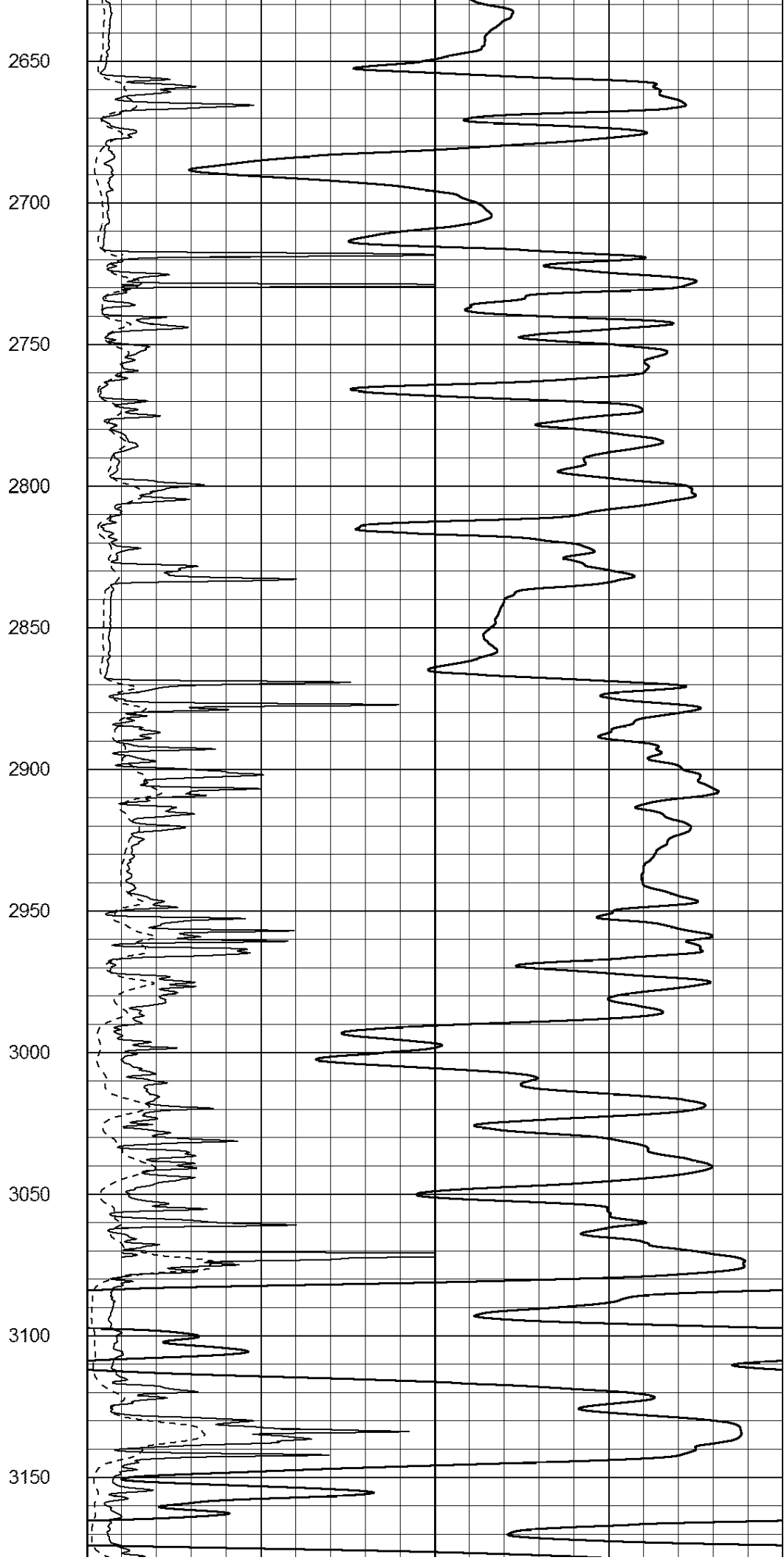
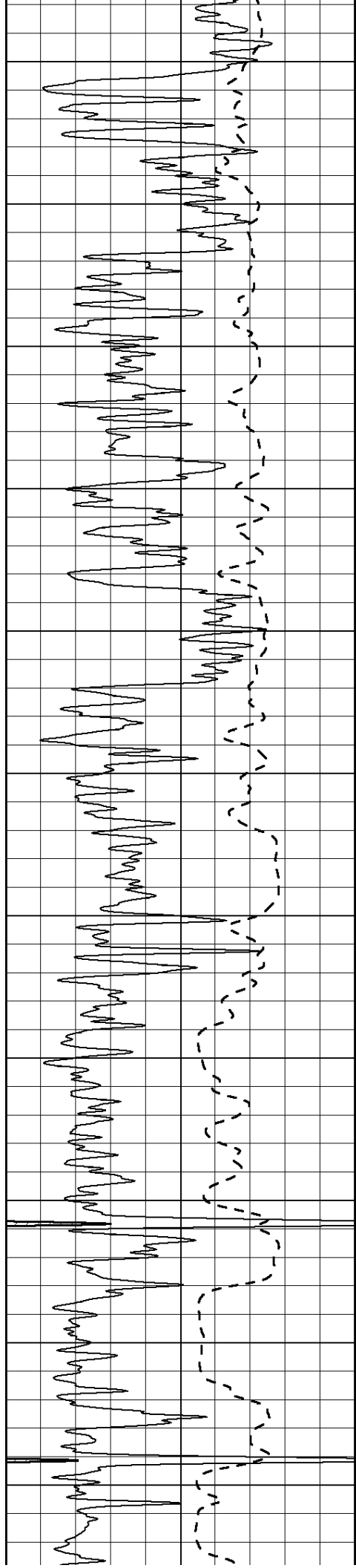
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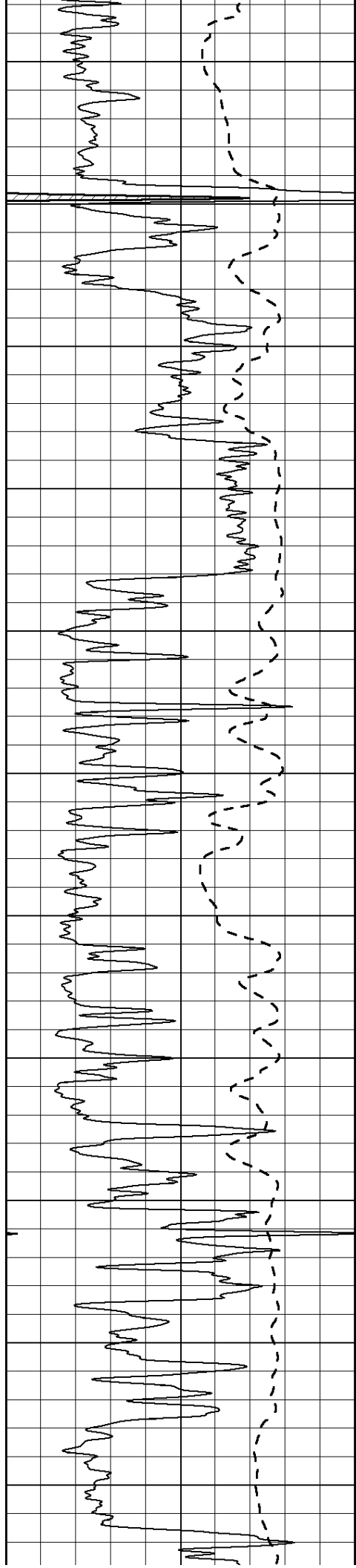
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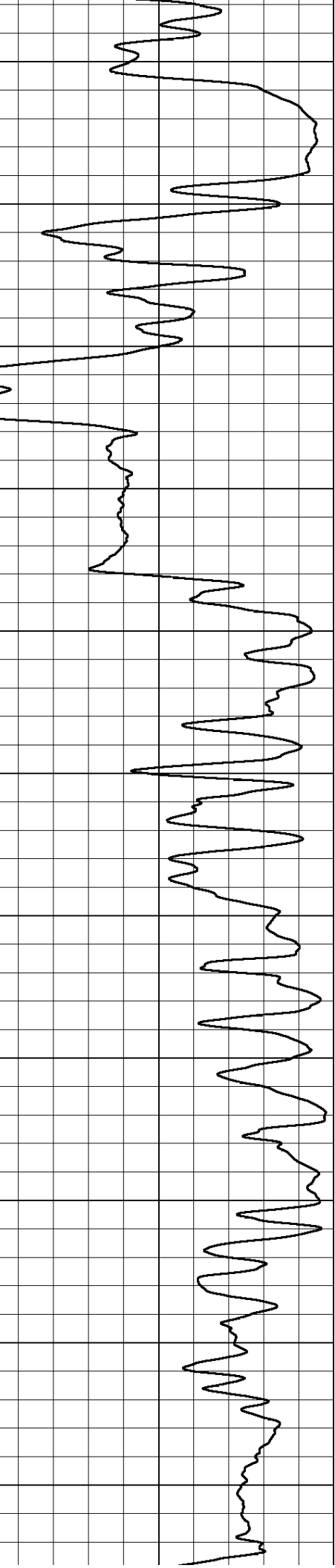
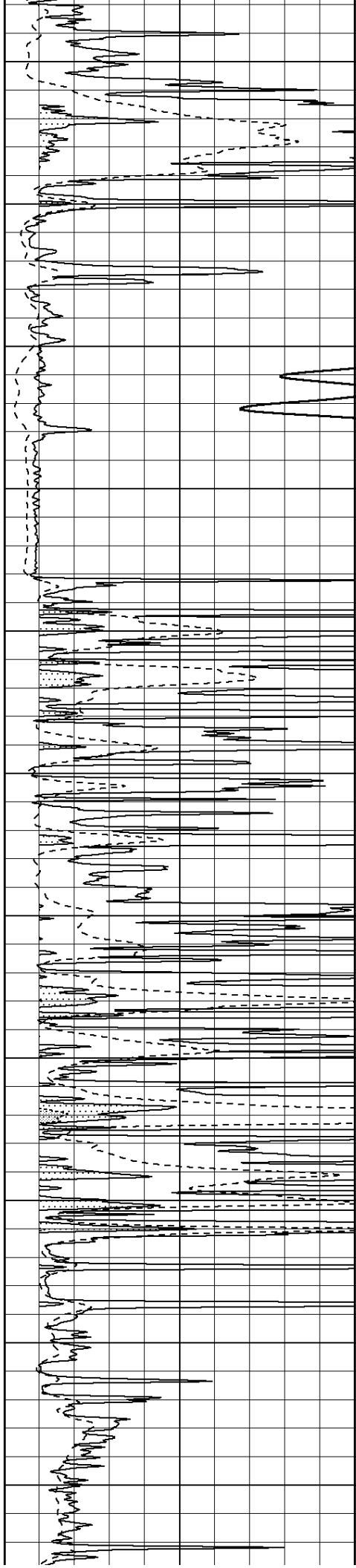
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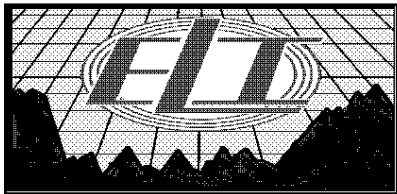
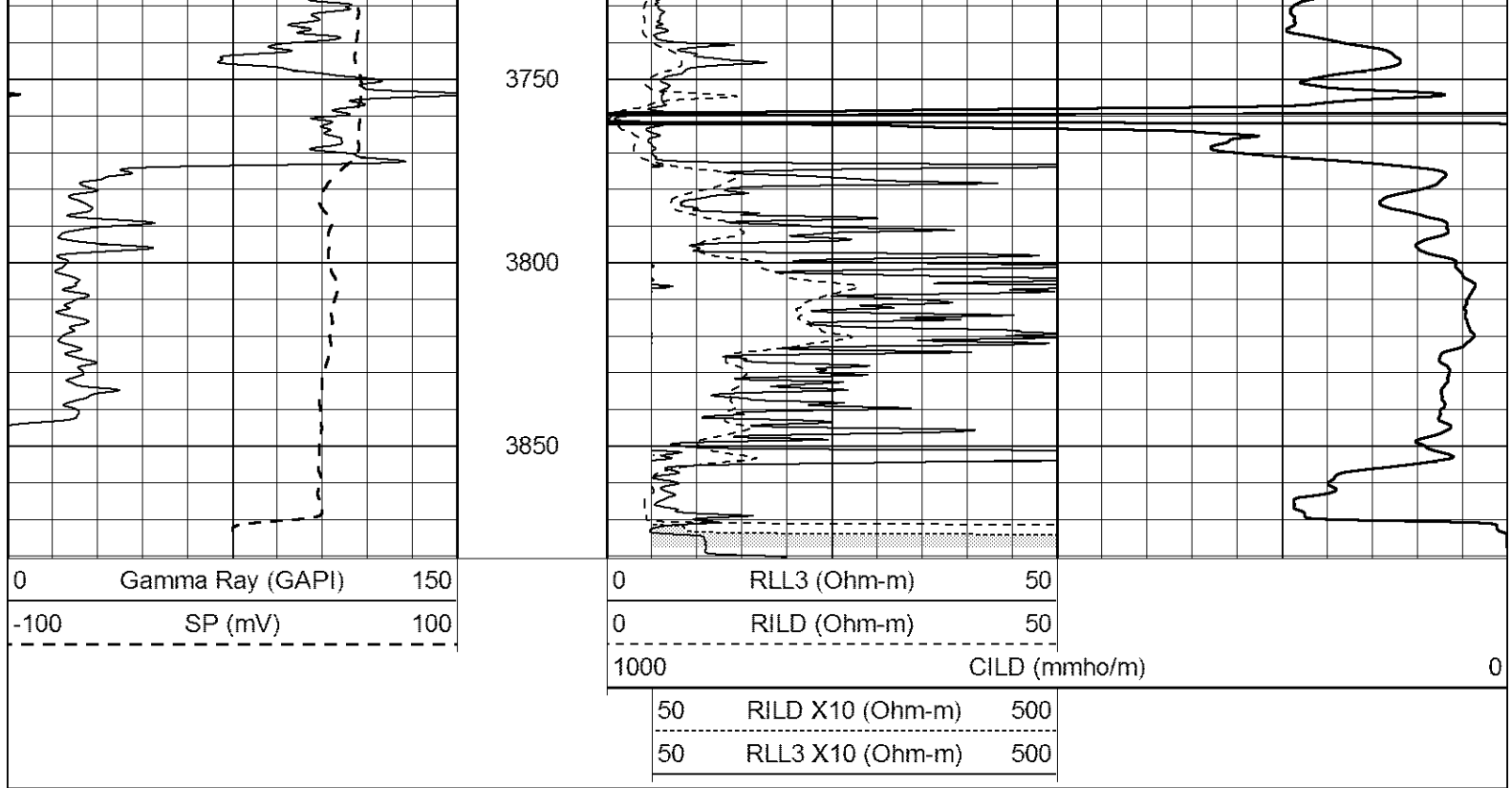






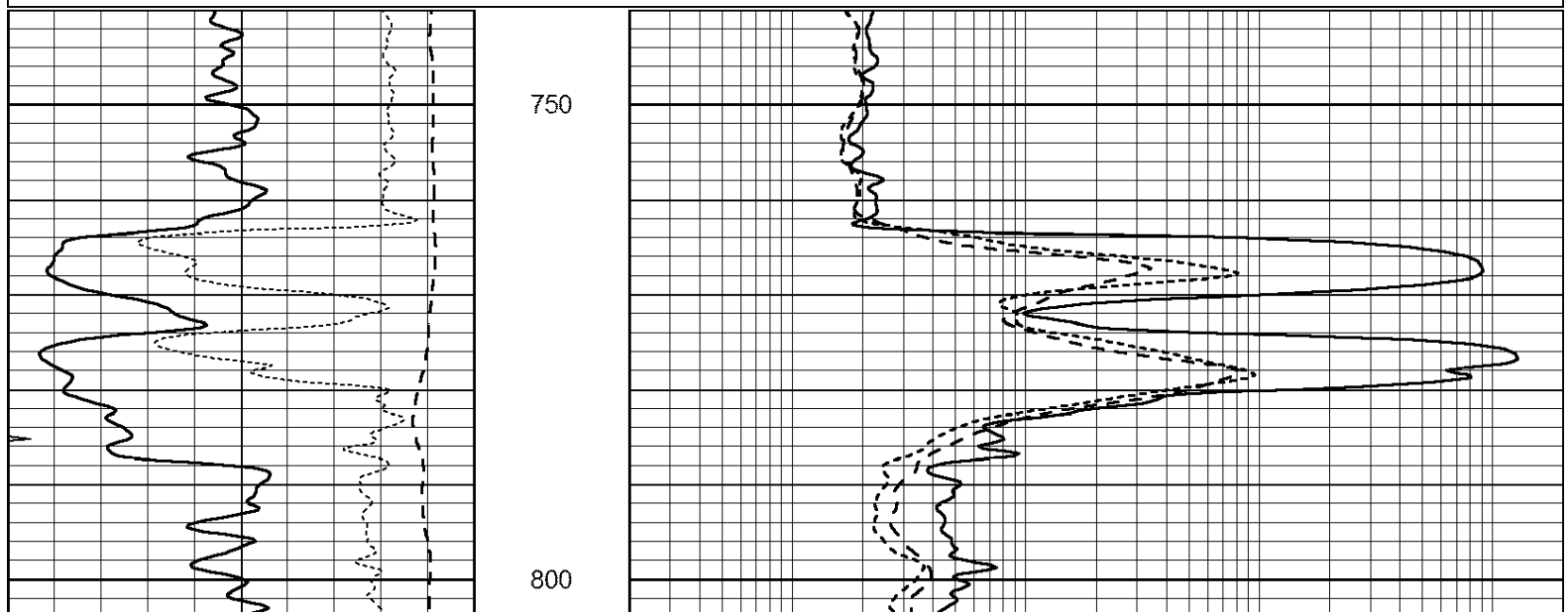
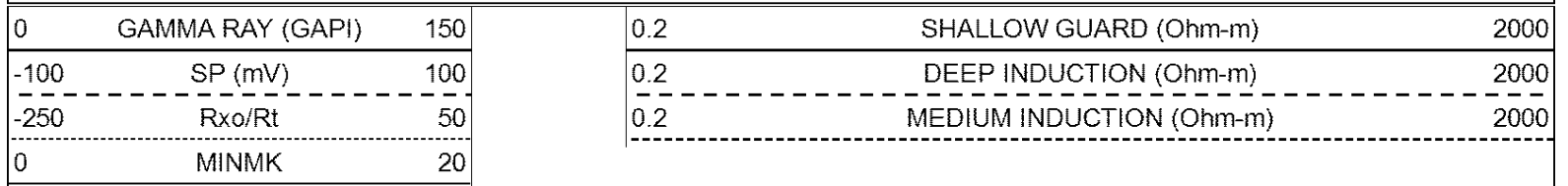
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3500
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3600
3650
3700





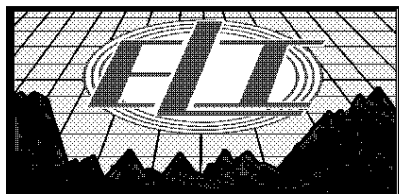
MAIN PASS

Database File: 4087pe.db
 Dataset Pathname: pass3
 Presentation Format: _dil
 Dataset Creation: Sun Aug 25 12:16:25 2019 by Log Open-Cased 090629
 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

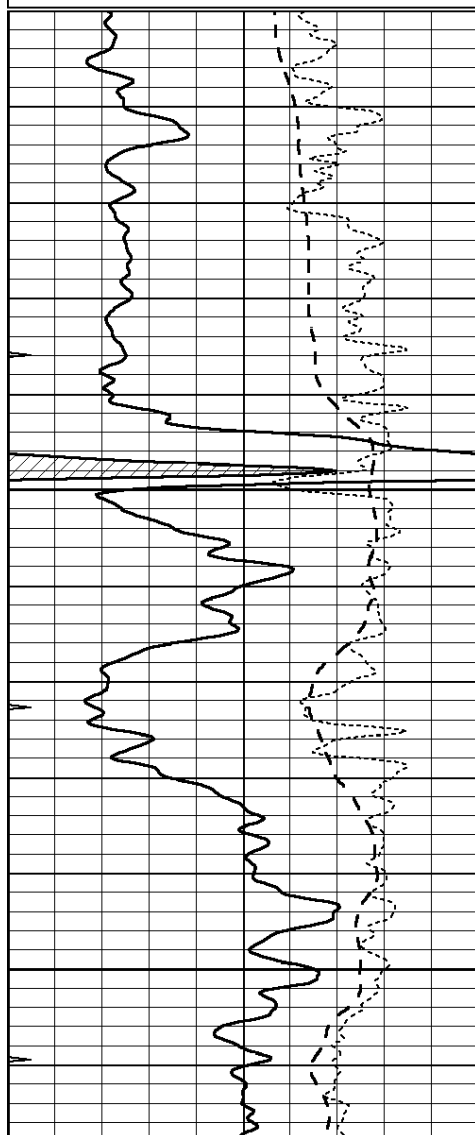


MAIN PASS

Database File: 4087pe.db
 Dataset Pathname: pass3
 Presentation Format: _dil
 Dataset Creation: Sun Aug 25 12:16:25 2019 by Log Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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

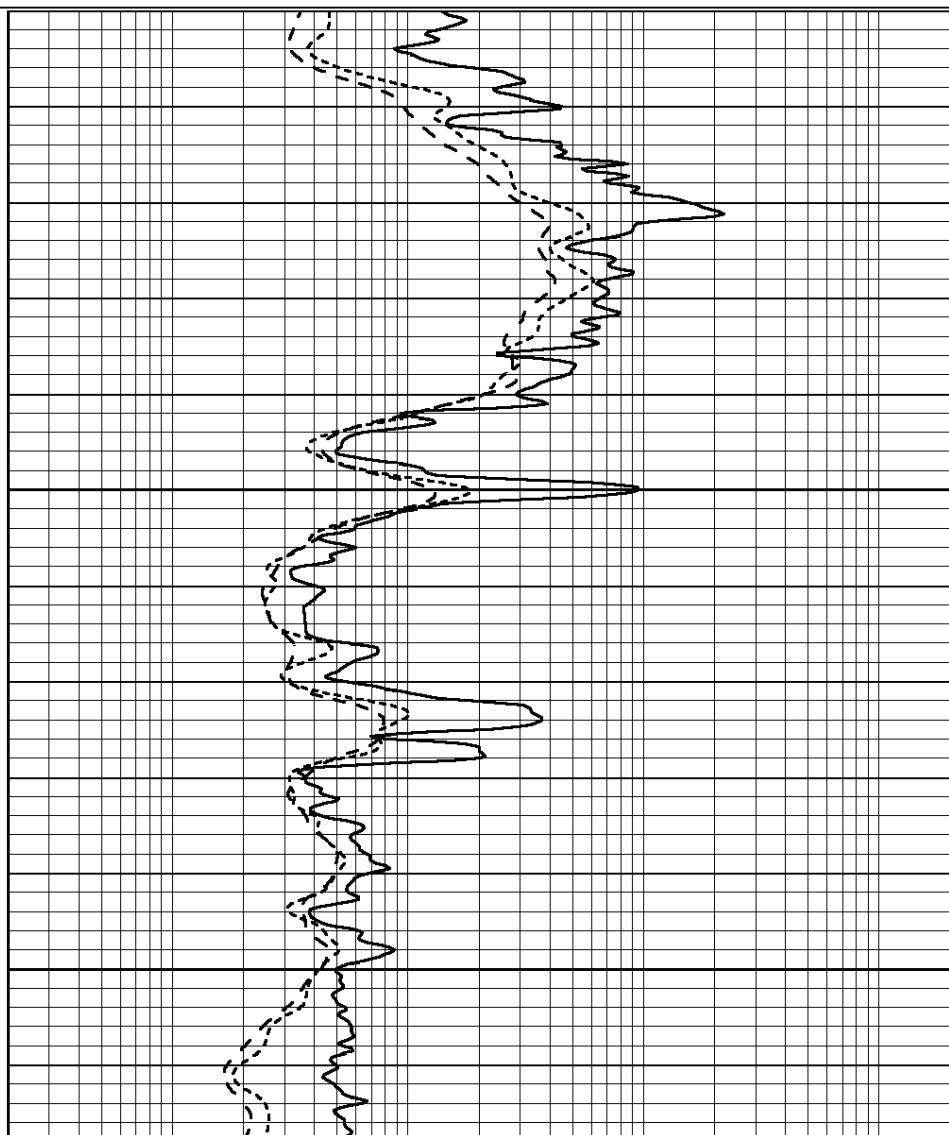
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

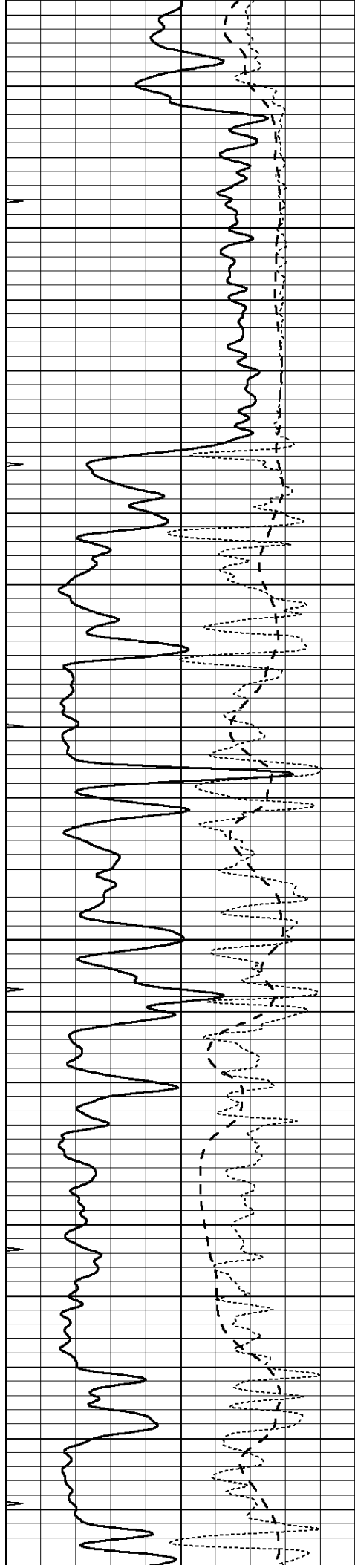


3200

3250

3300



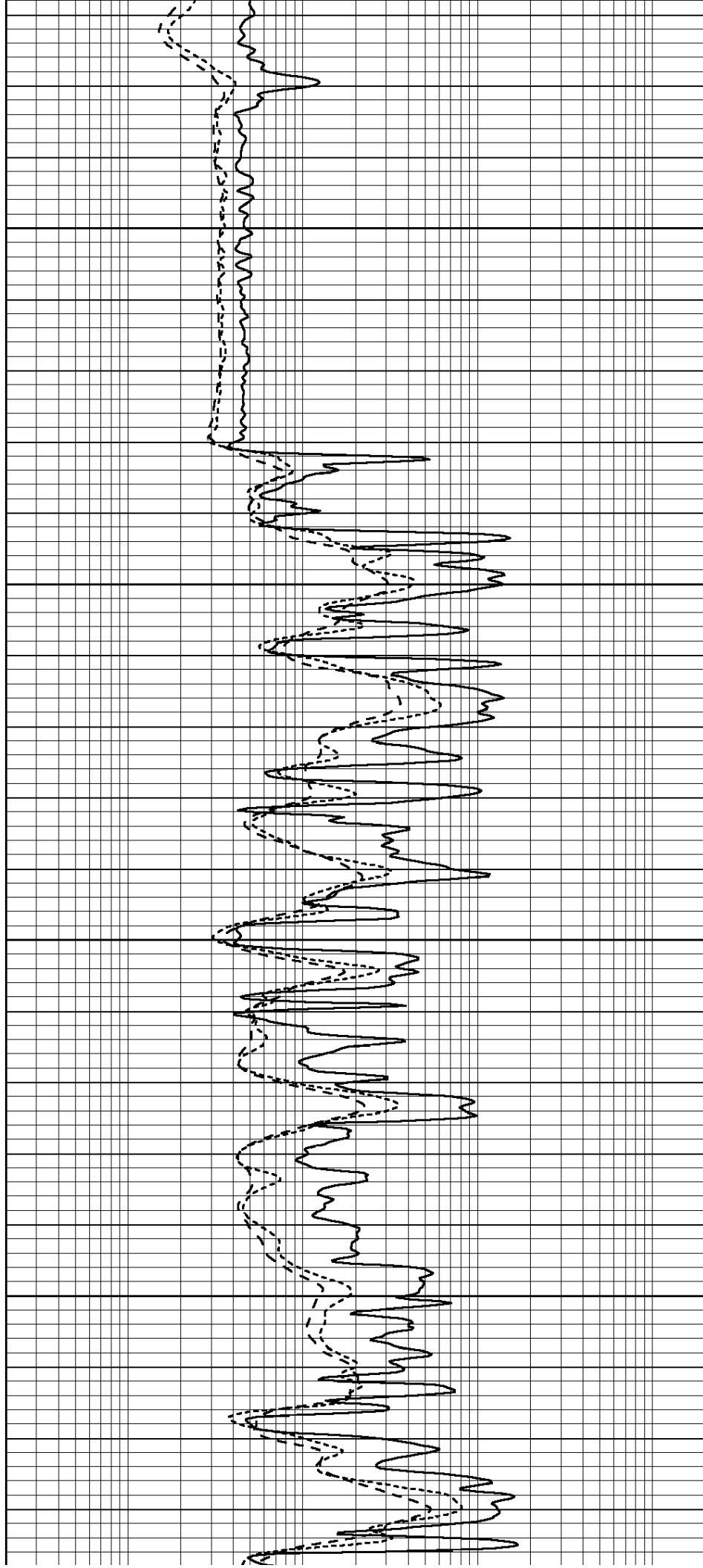


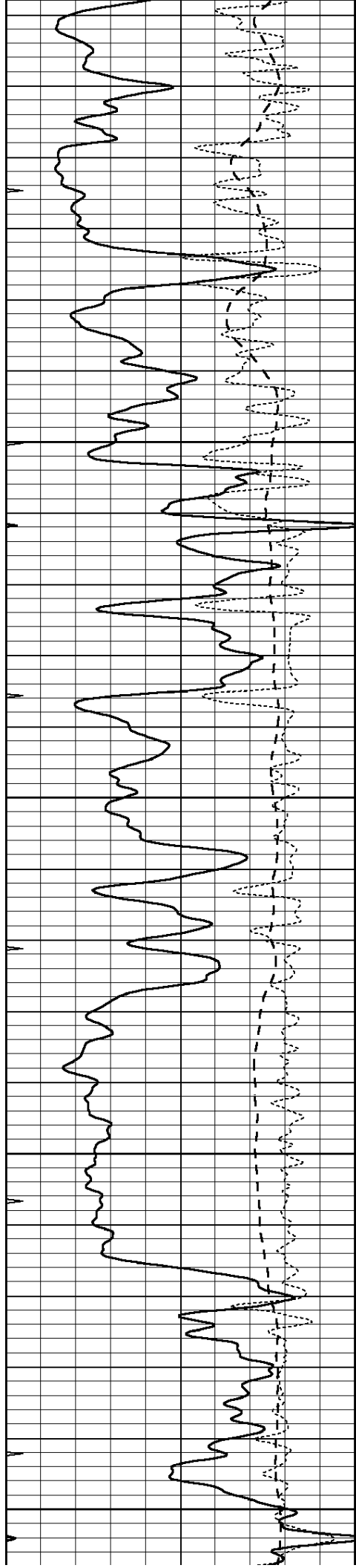
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3400

3450

3500





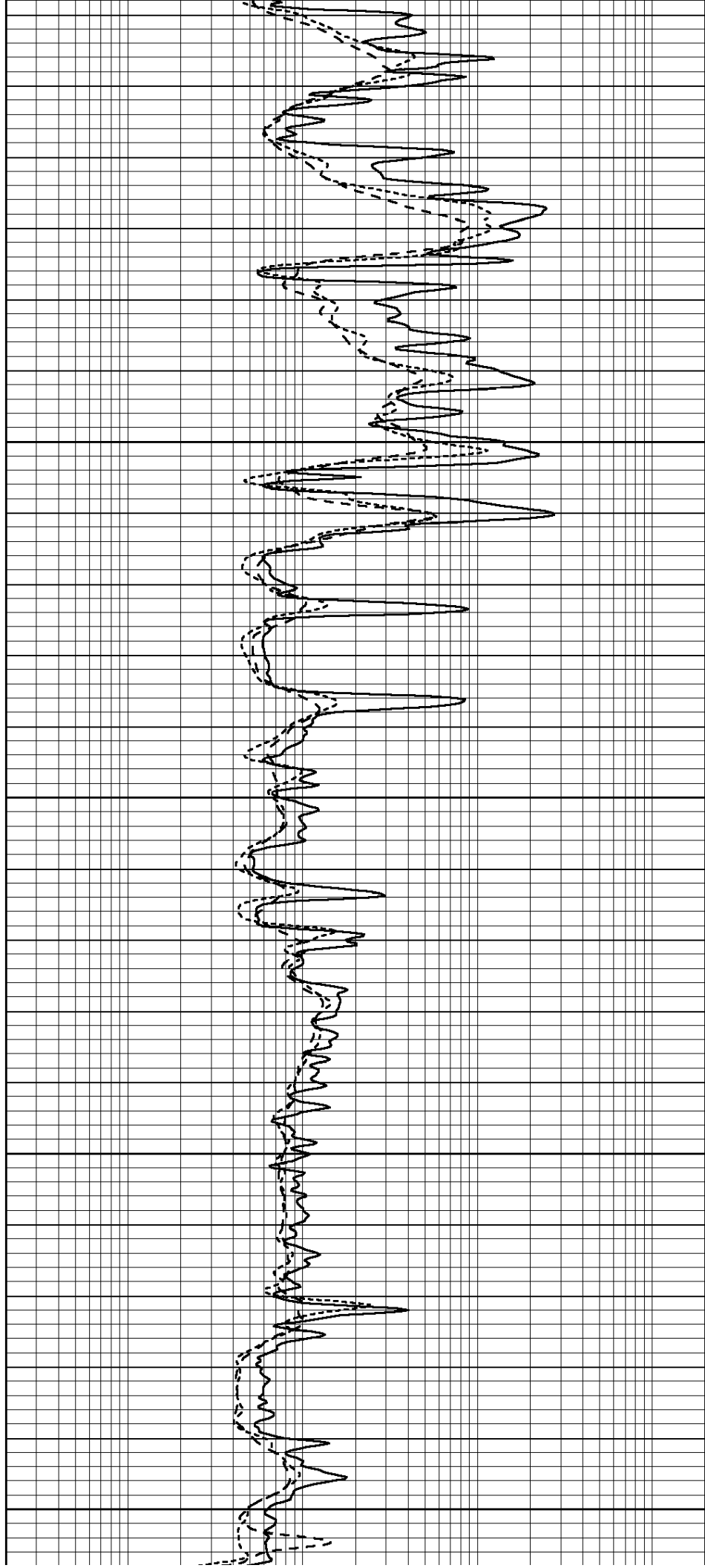
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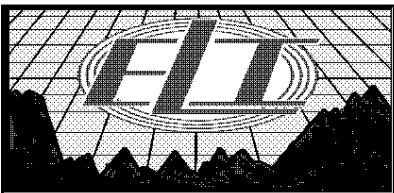
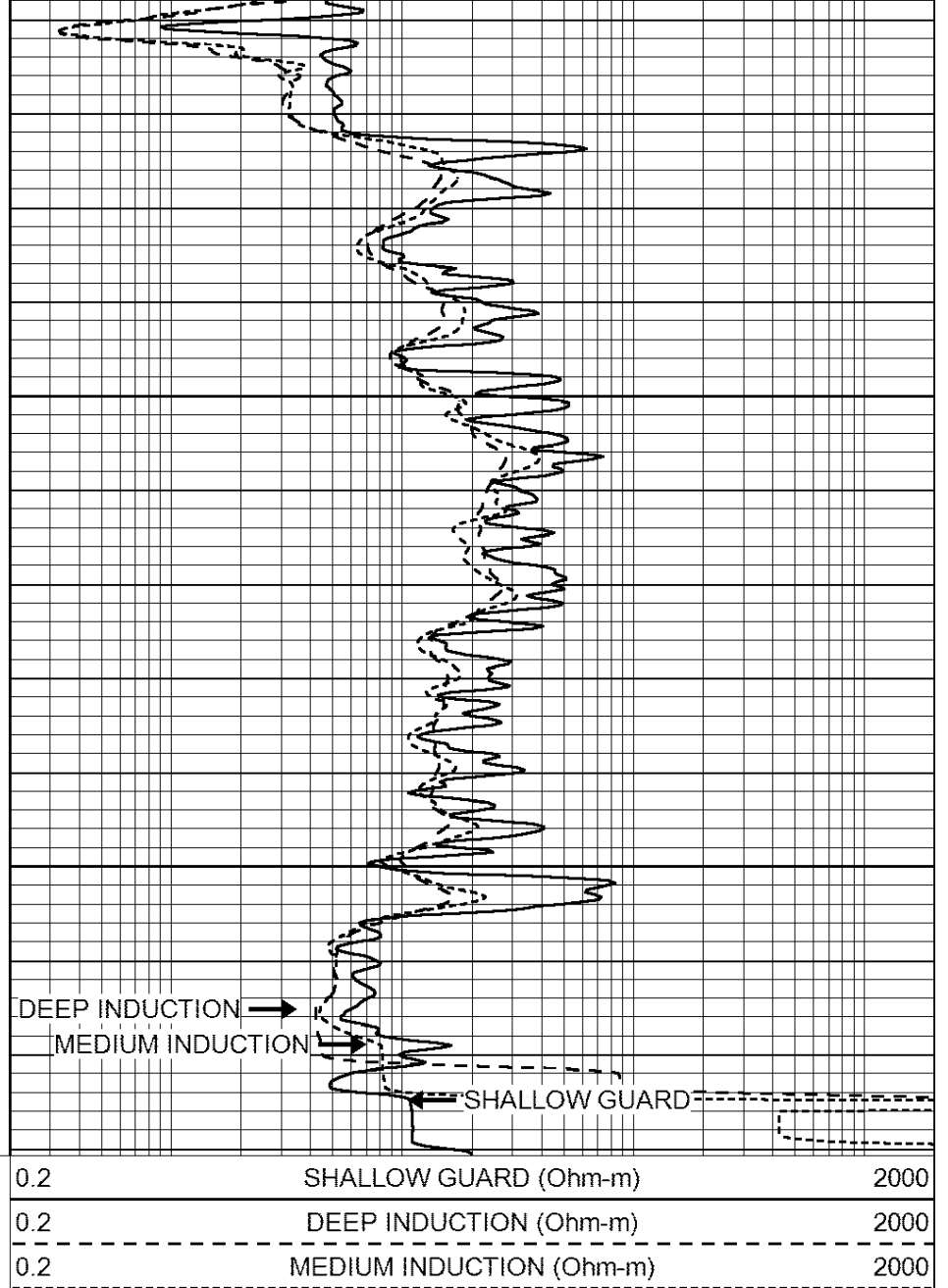
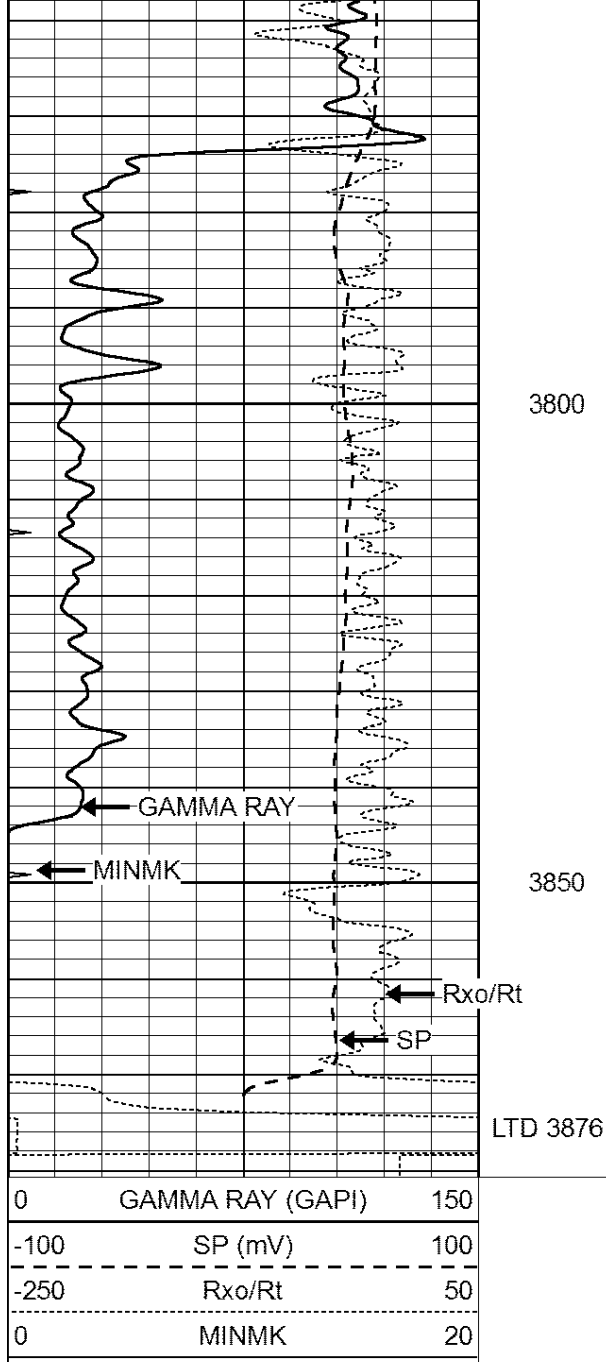
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3700

3750



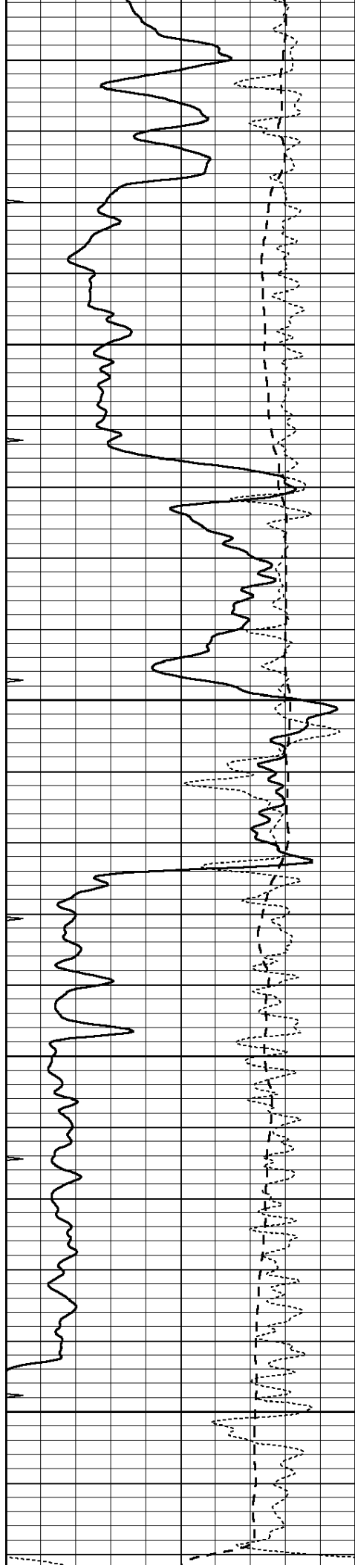


REPEAT SECTION

Database File: 4087pe.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Sun Aug 25 12:21:55 2019
 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

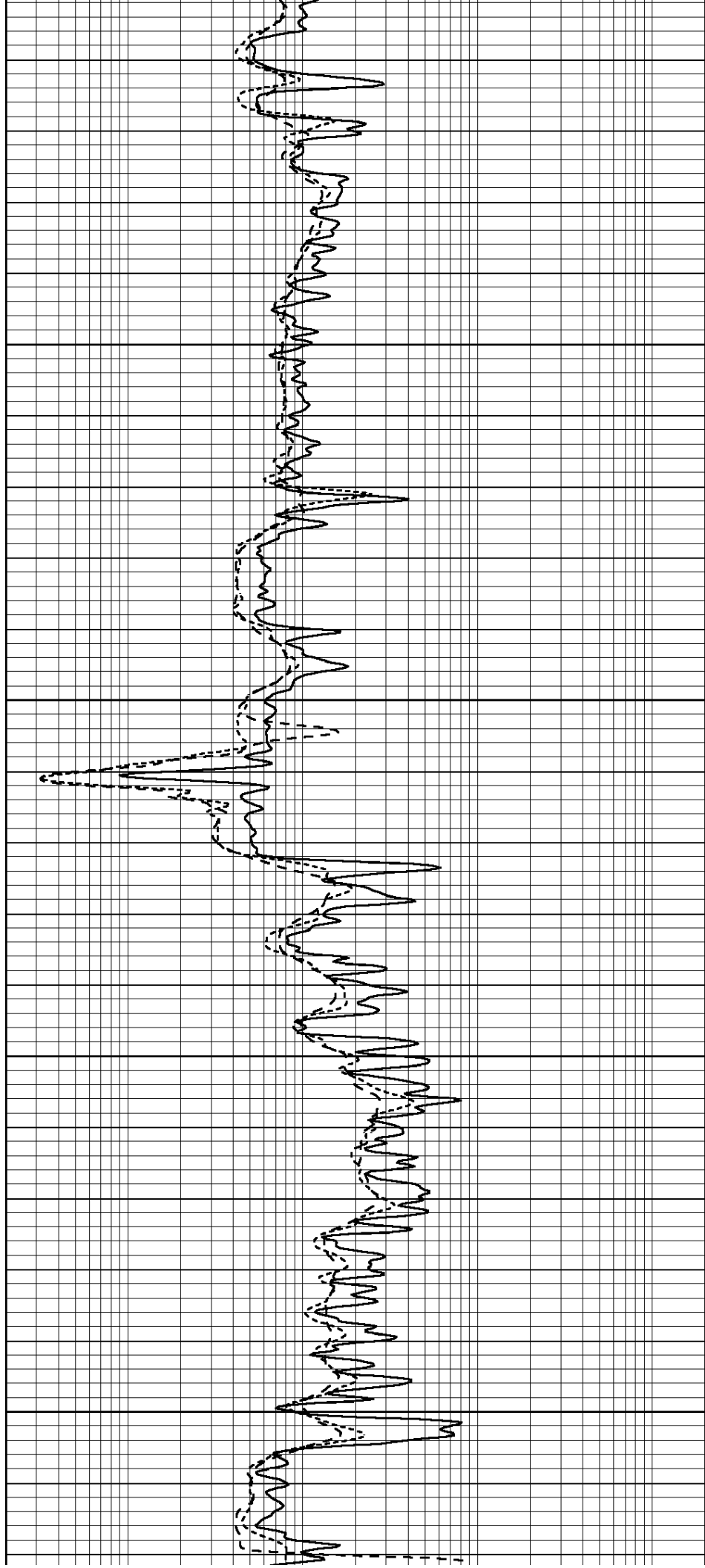


3700

3750

3800

3850



0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			

Calibration Report	
Database File:	4087pe.db
Dataset Pathname:	pass2.1
Dataset Creation:	Sun Aug 25 12:21:55 2019

Dual Induction Calibration Report

Serial-Model:	PROBE8-DILG
Surface Cal Performed:	Mon Sep 10 14:28:35 2018
Downhole Cal Performed:	Mon Sep 10 14:28:38 2018
After Survey Verification Performed:	Mon Sep 10 14:28:40 2018

Surface Calibration								
Readings			References				Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration								
Readings			References				Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	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: 001N	Model: PRB

Master Calibration		Performed Fri Feb 22 10:21:38 2019			
	Background	Magnesium	Aluminum	Sandstone	
Window 1	1650.2	7609.7	2906.5	8386.5	cps
Window 2	1538.2	6635.9	2614.4	7212.4	cps

Window 3	1257.0	3718.7	1765.8	3927.1	cps
Window 4	376.8	375.6	373.4	374.5	cps
Long Space	0.0	5097.7	1076.2	5674.2	cps
Short Space	2.8	1704.3	1106.3	1723.6	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 44.5	Rib Slope	: 0.982	Density/Spine Ratio	: 0.545
Spine Angle	: 74.5	Spine Slope	: 3.599	Spine Intercept	: -18.2

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:		6I			
Tool Model:		G			

CALIBRATION					
Detector		Readings		Target	Normalization
Short Space		1.00	cps	1.00	1.0000
Long Space		1.00	cps	1.00	1.0000

PRE-SURVEY VERIFICATION					
Detector		Readings		Measured	Target
1)	Short Space	cps			
	Long Space	cps		pu	pu
2)	Short Space	cps			
	Long Space	cps		pu	
3)	Short Space	cps			
	Long Space	cps		pu	

POST-SURVEY VERIFICATION					
Detector		Readings		Measured	Target

	Detector:	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Wed Jul 03 12:57:34 2019	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.5700	GAPI/cps