



DUAL INDUCTION LOG

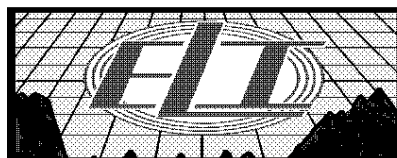
Company	DOWNING-NELSON OIL COMPANY		
Well	ERNIE PFEIFER #1-1		
Field	WEISNER		
County	ELLIS	State	KANSAS
Location:	API # : 15-051-26950-0000		Other Services
SEC 1 TWP 13S RGE 20W		CDL/CNL ML	
Permanent Datum	GROUND LEVEL		Elevation
Log Measured From	KELLY BUSHING 8' A.G.L.		K.B. 2132
Drilling Measured From	KELLY BUSHING		D.F. 2130
			G.L. 2124
Date	07/12/19		
Run Number	ONE		
Depth Driller	3865		
Depth Logger	3865		
Bottom Logged Interval	3864		
Top Log Interval	00		
Casing Driller	8 5/8" @ 221		
Casing Logger	221		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	8.7/49		
pH / Fluid Loss	9.0/9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.6 @ 81F		
Rmt @ Meas. Temp	.45 @ 81F		
Rmc @ Meas. Temp	.72 @ 81F		
Source of Rmt / Rmc	MEASURED		
Rm @ BHT	.42 @ 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	JASON ALM		

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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

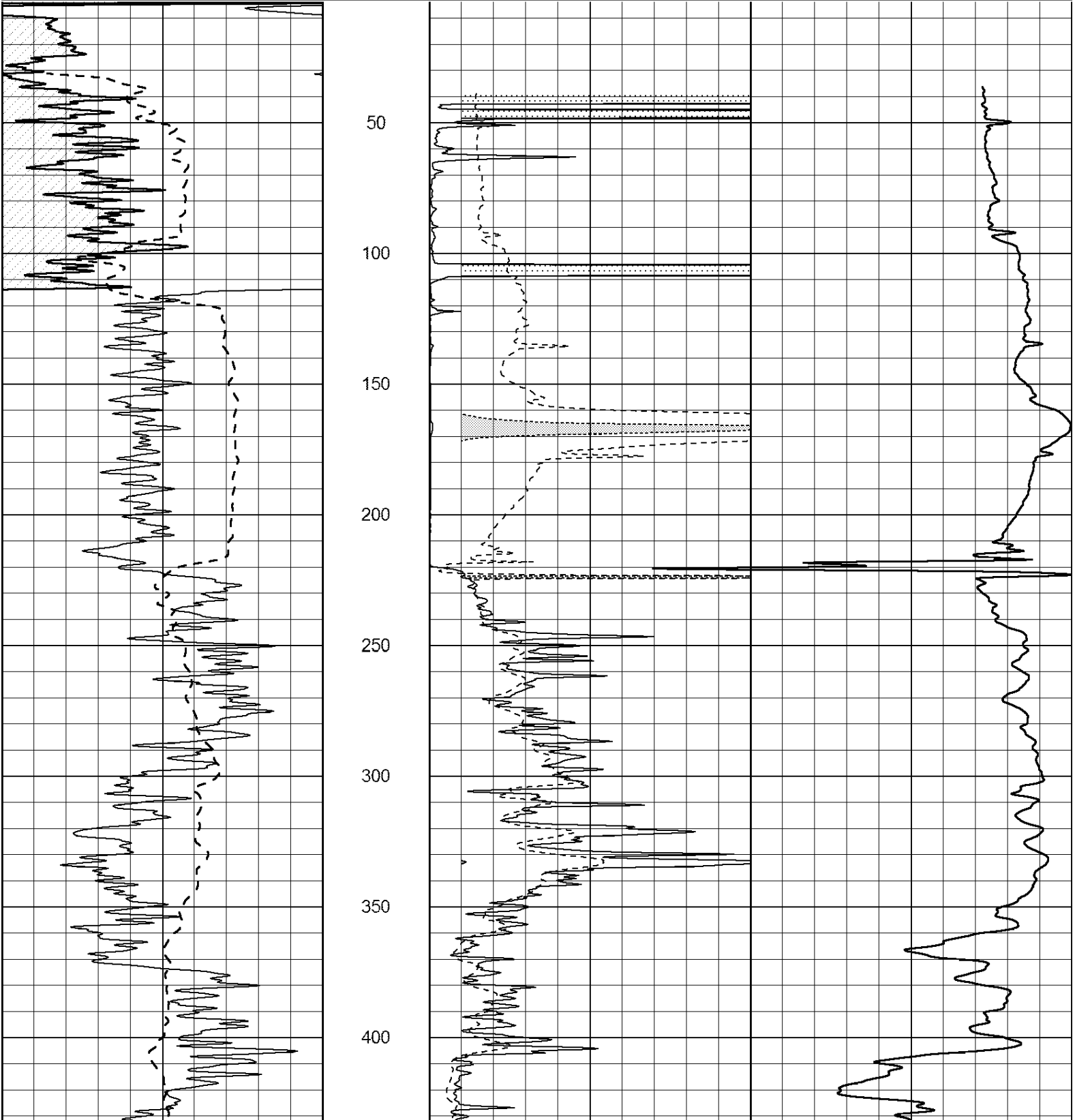
THANK YOU FOR USING ELI WIRELINE, HAYS, KS. (785) 628-6395
DIRECTIONS
YOCEMENTO NORTH TO EMMERAN RD., 4.5 WEST, SOUTH INTO



MAIN PASS

Database File: 3698ddn.db
Dataset Pathname: pass3.1
Presentation Format: _dil2
Dataset Creation: Fri Jul 12 10:31:49 2019
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50
-100	SP (mV)	100	0	RILD (Ohm-m)	50
-----			CILD (mmho/m)		
			1000		0
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500



450

500

550

600

650

700

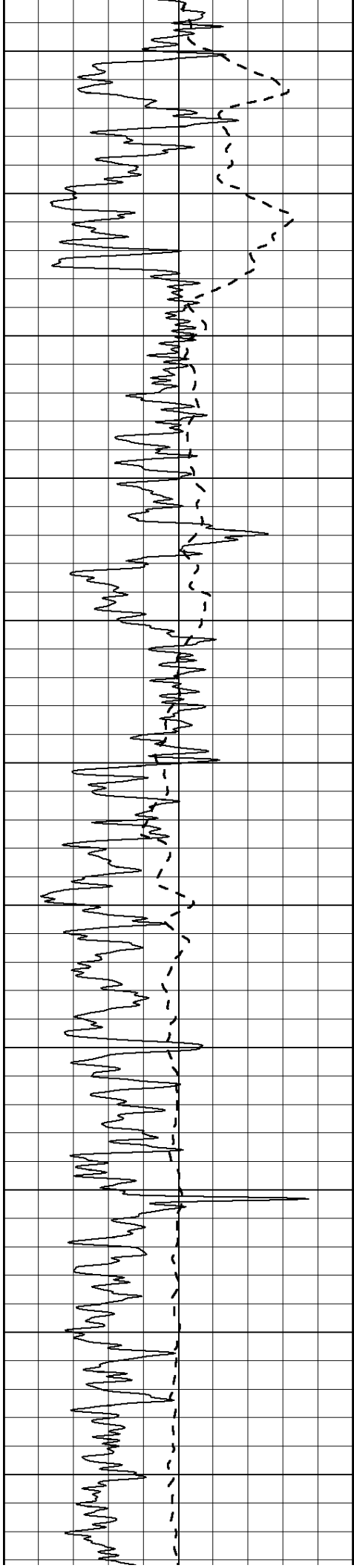
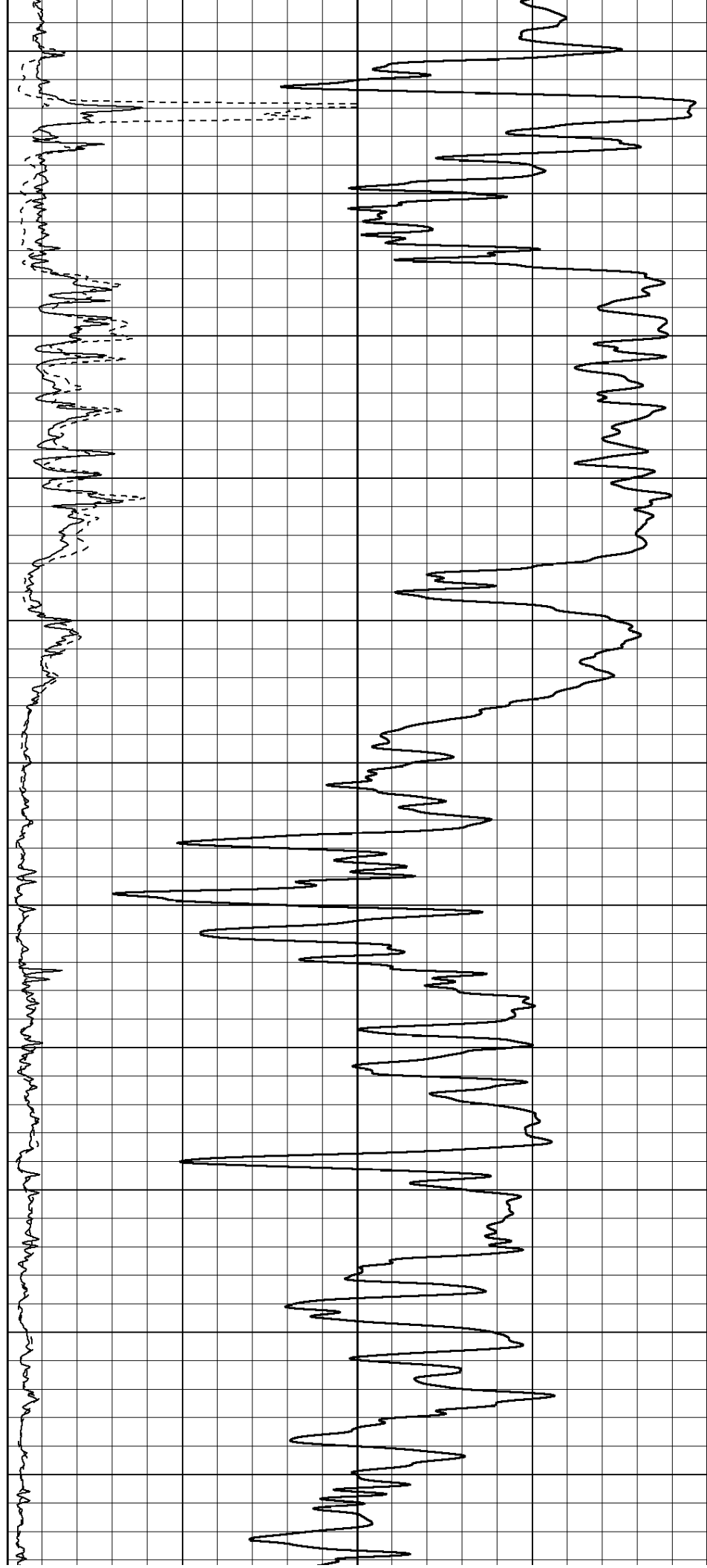
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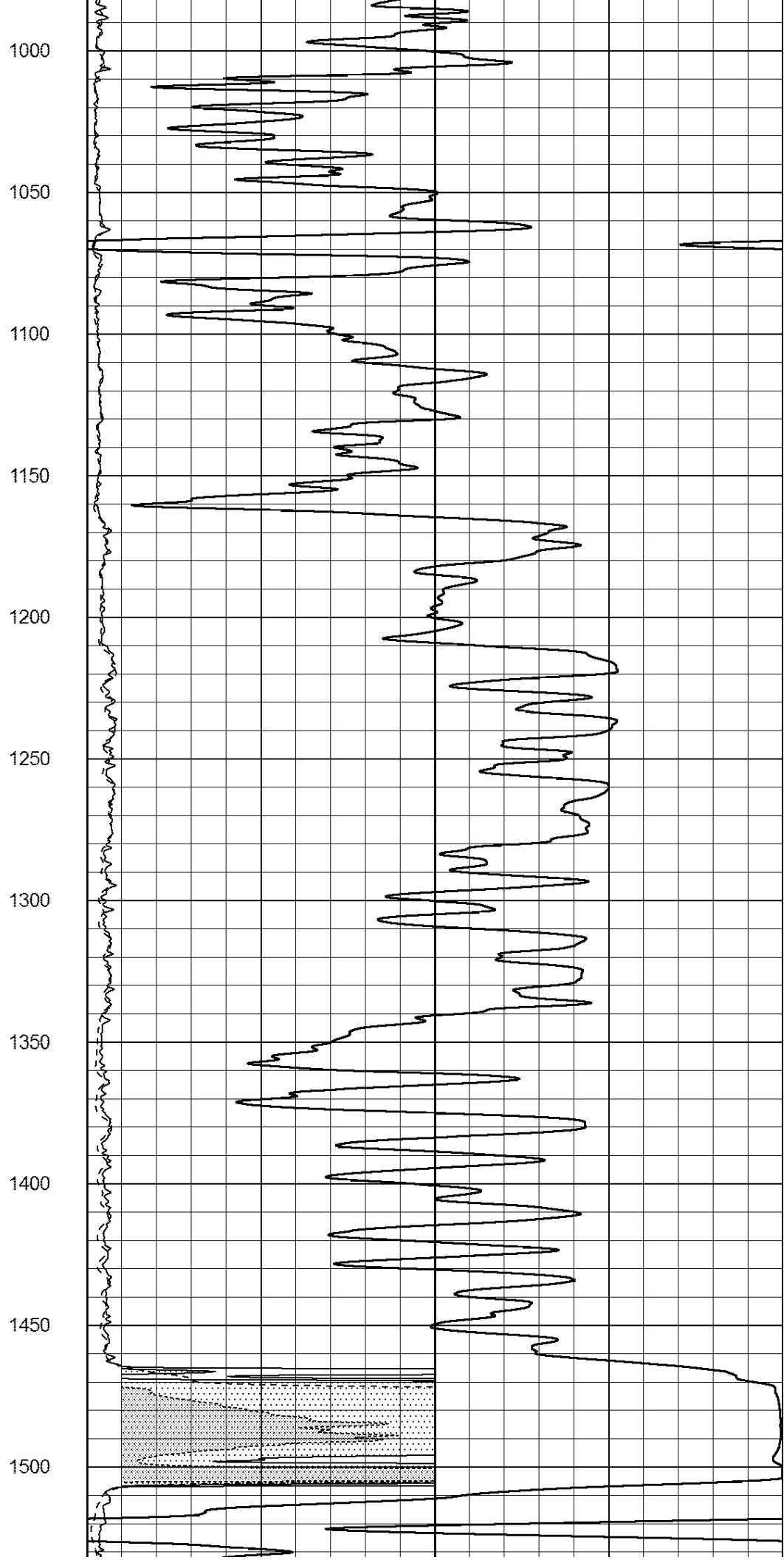
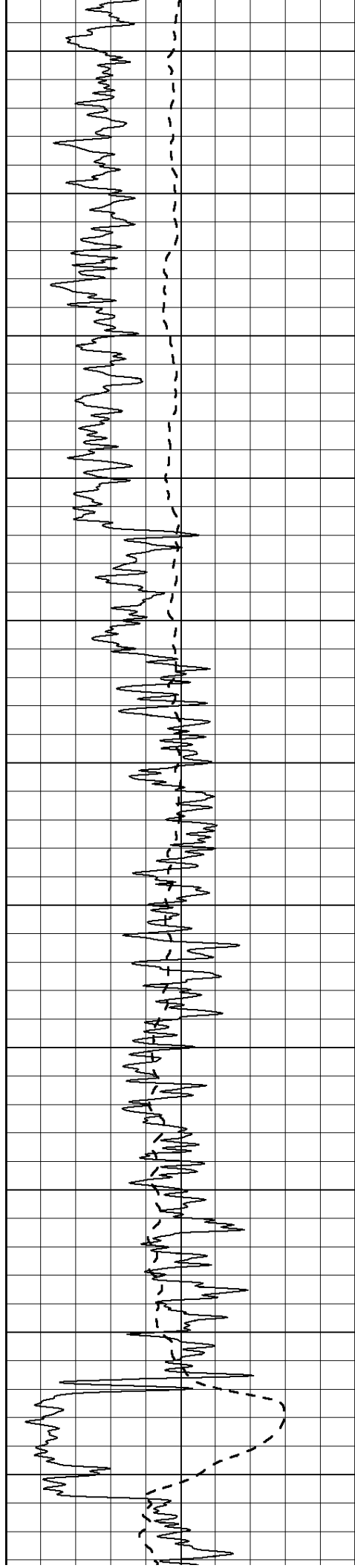
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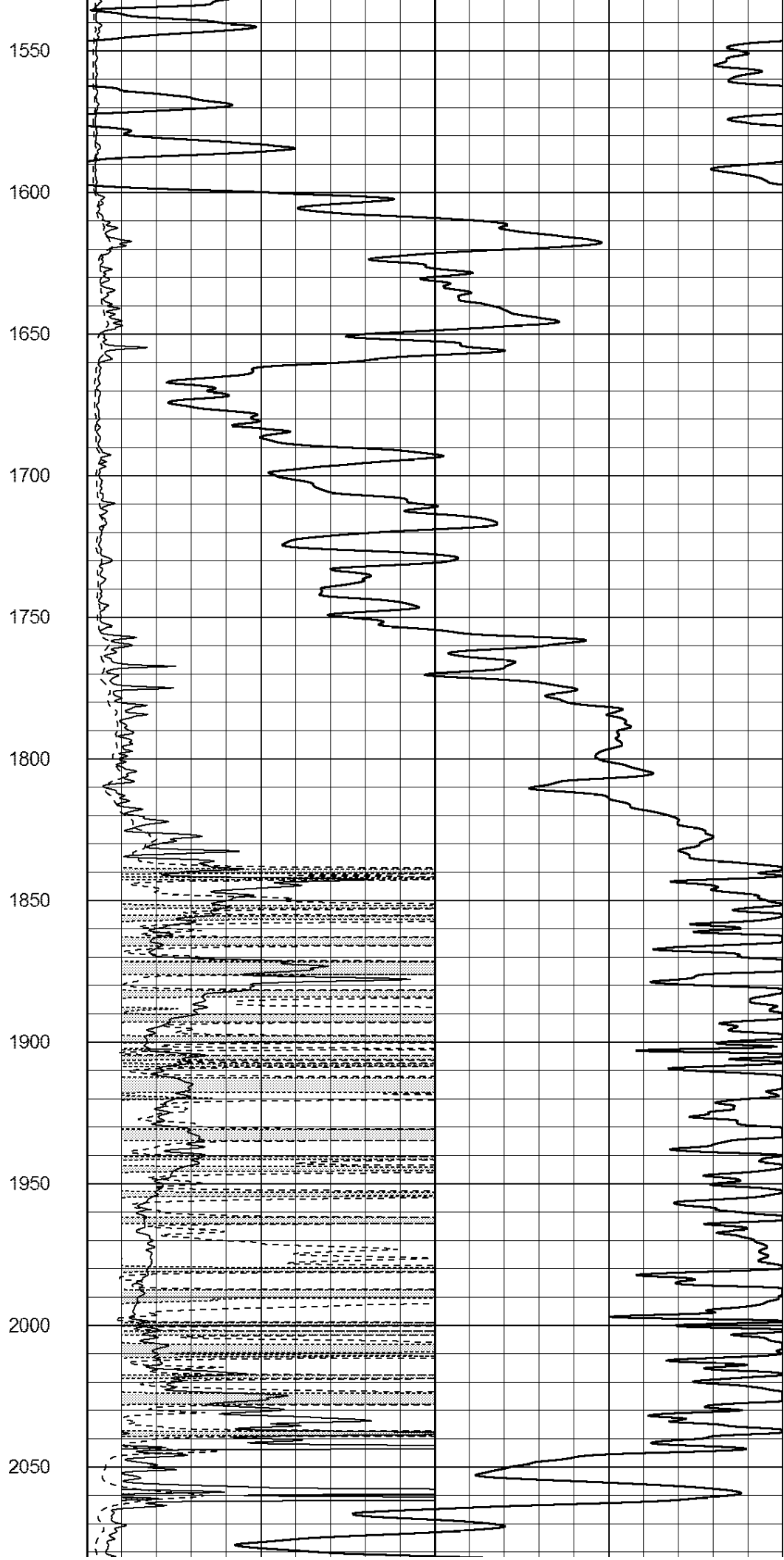
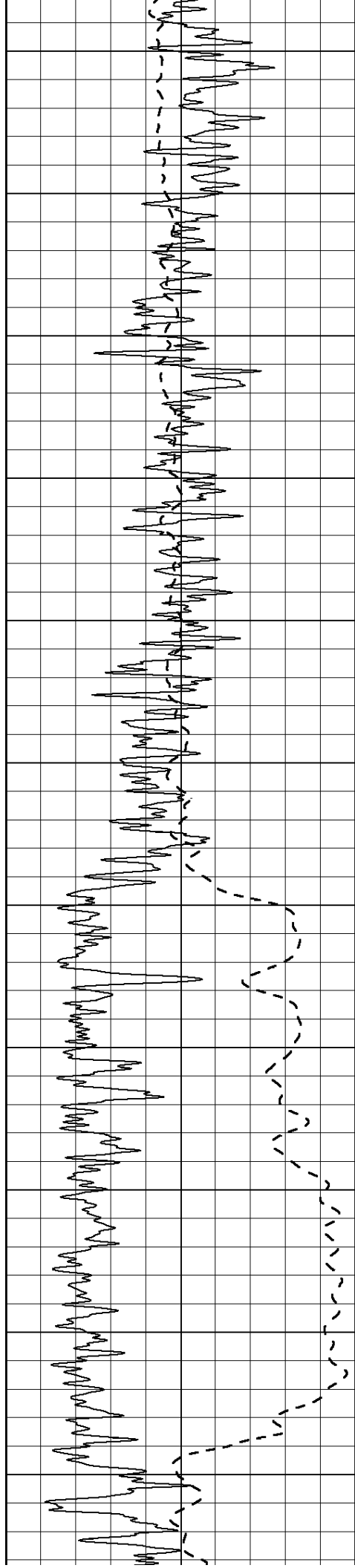
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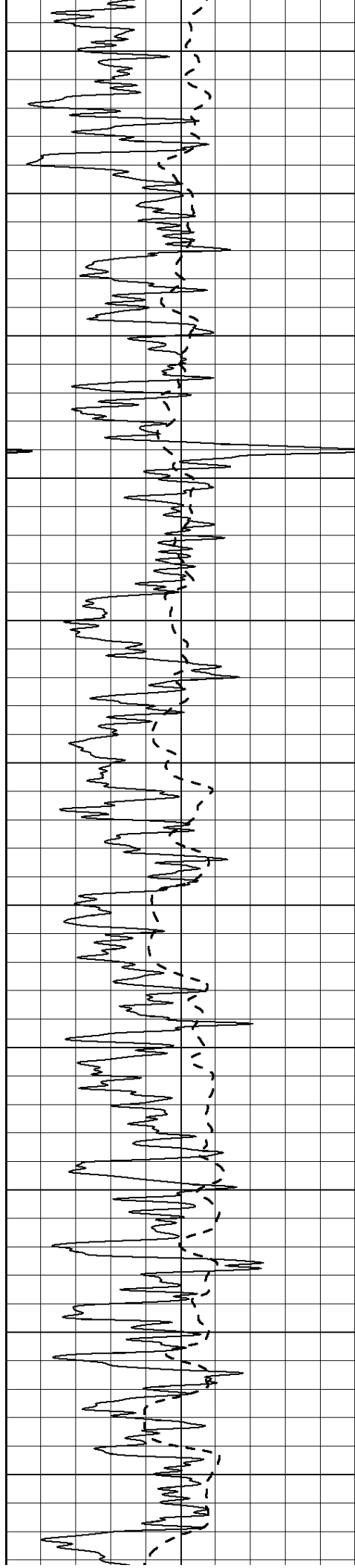
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950









2100

2150

2200

2250

2300

2350

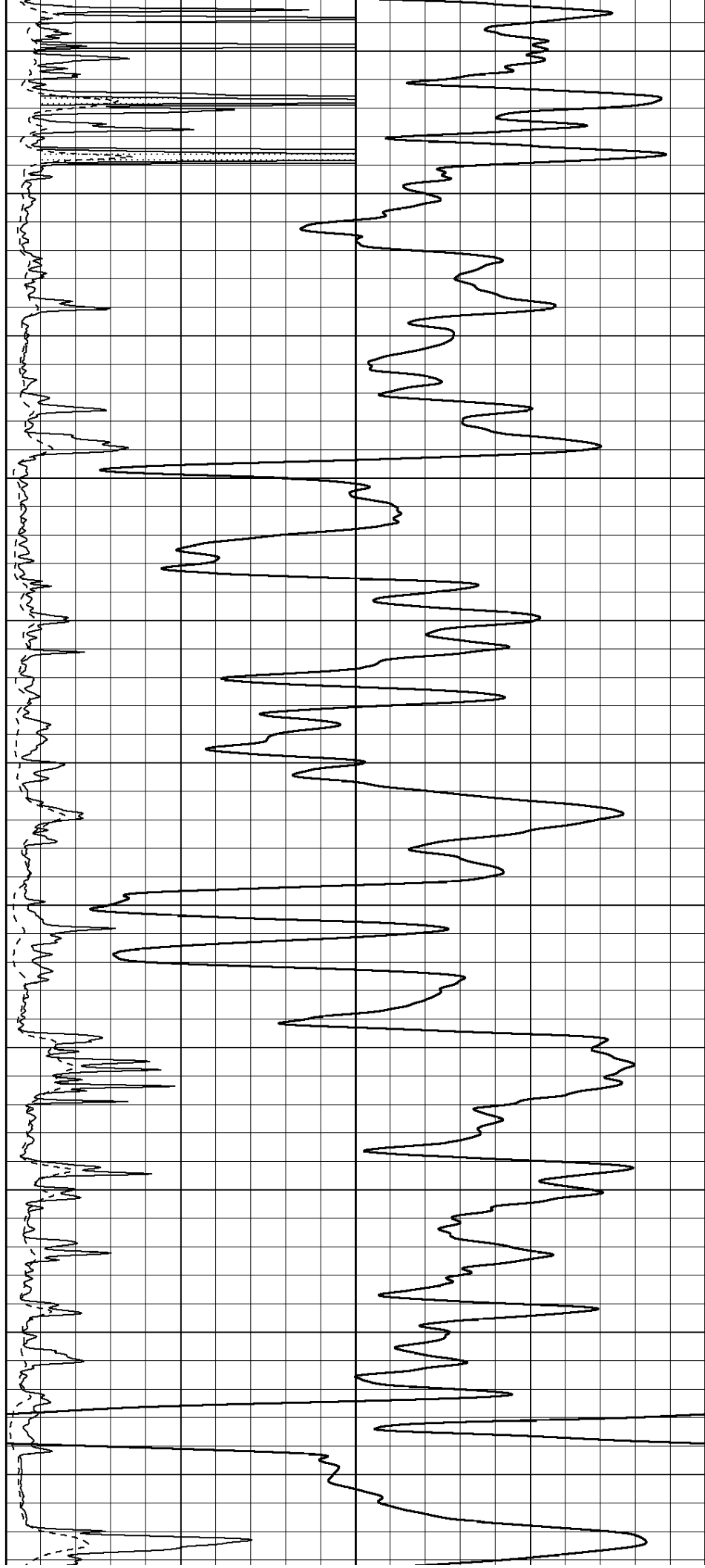
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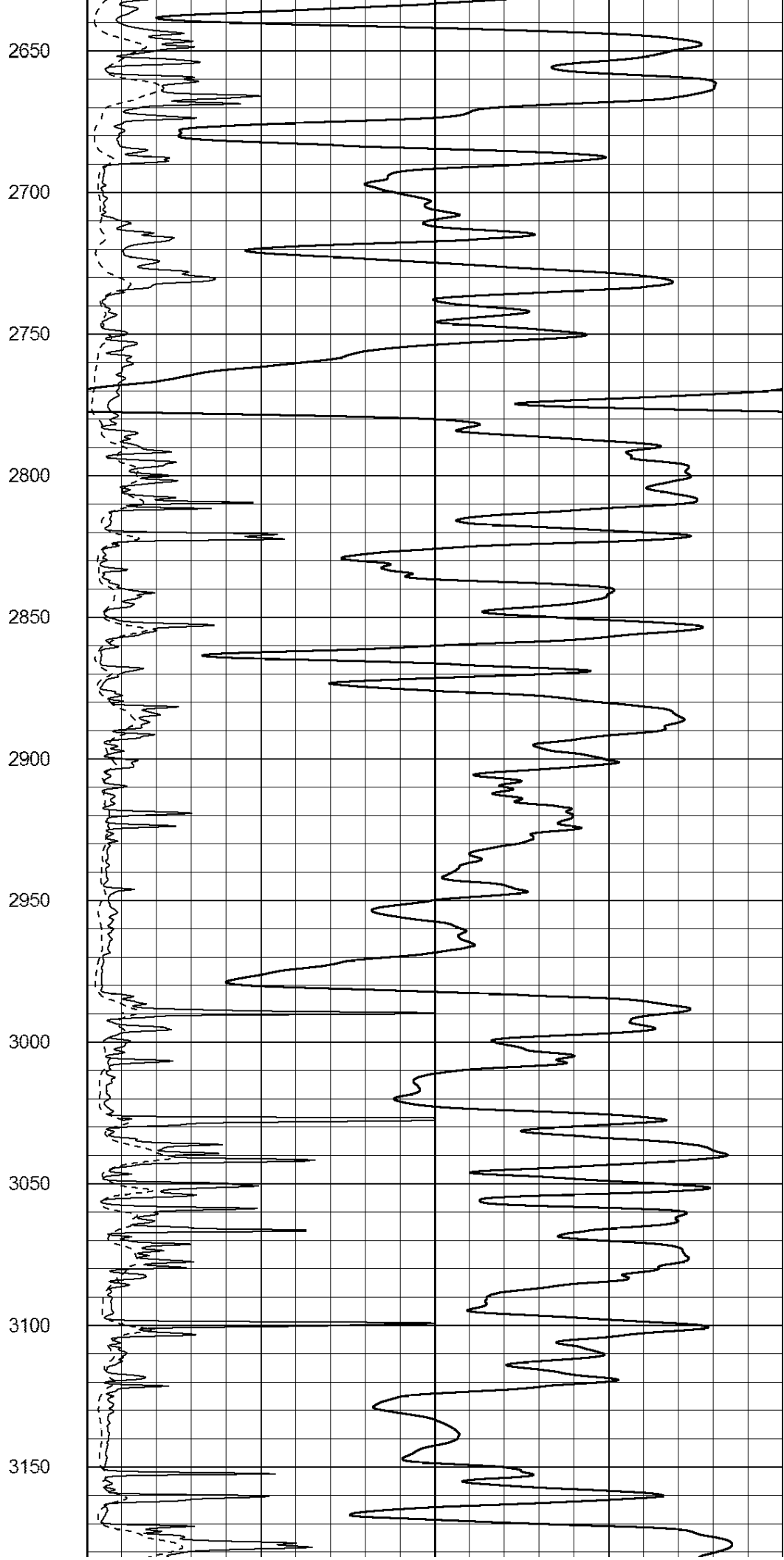
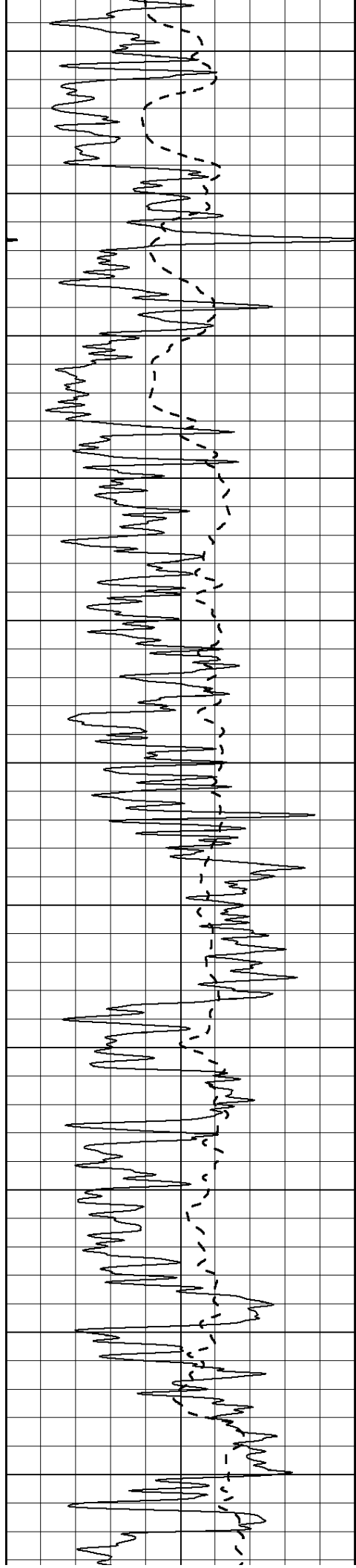
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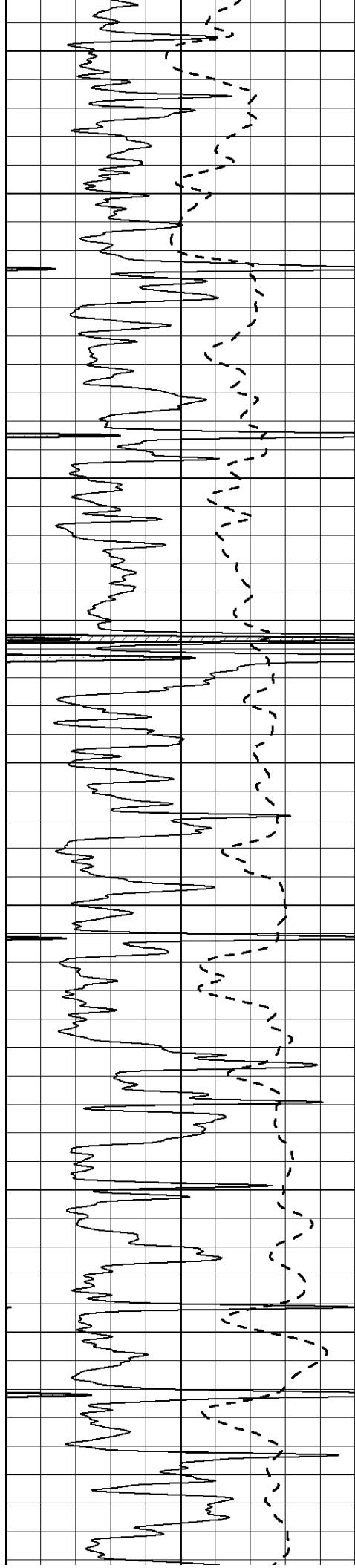
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2550

2600







3200

3250

3300

3350

3400

3450

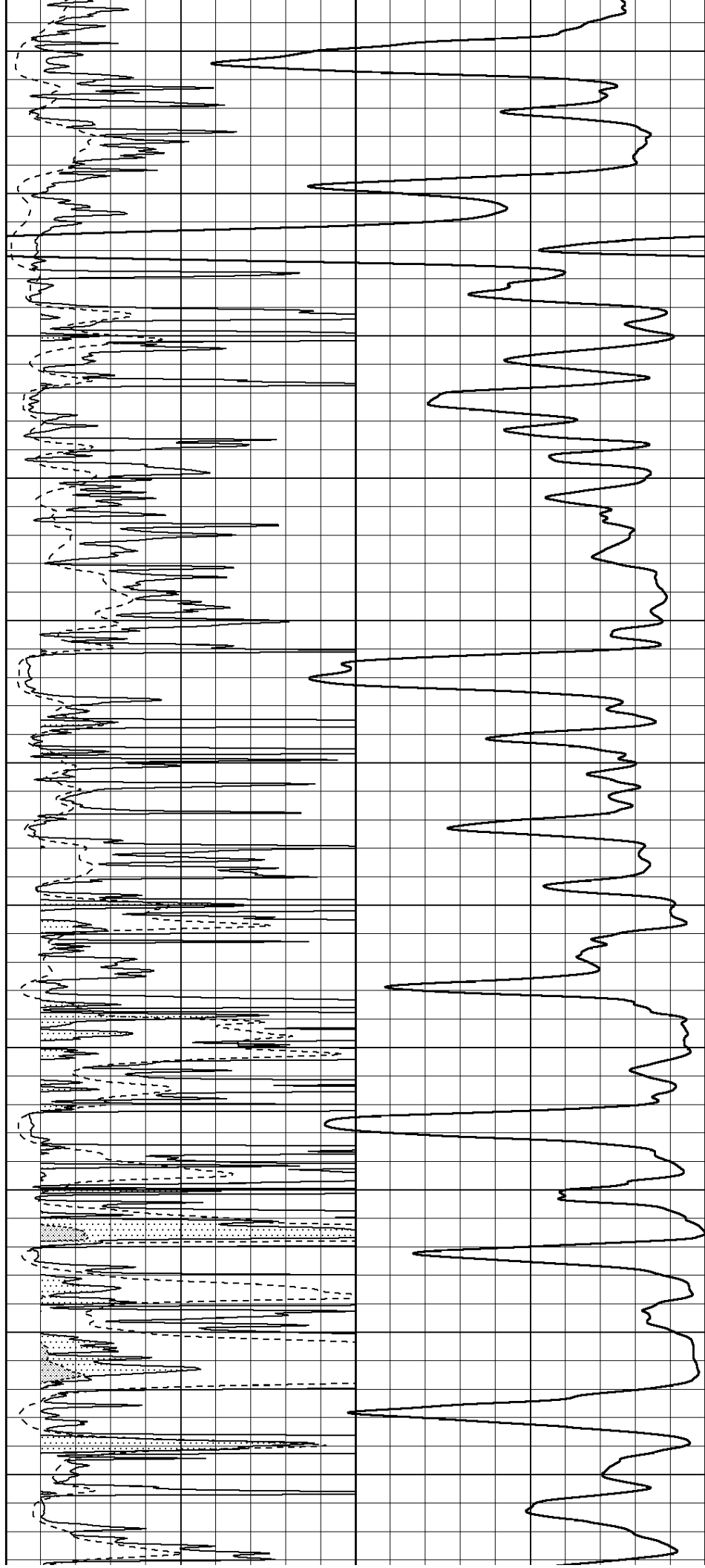
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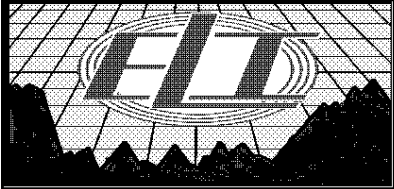
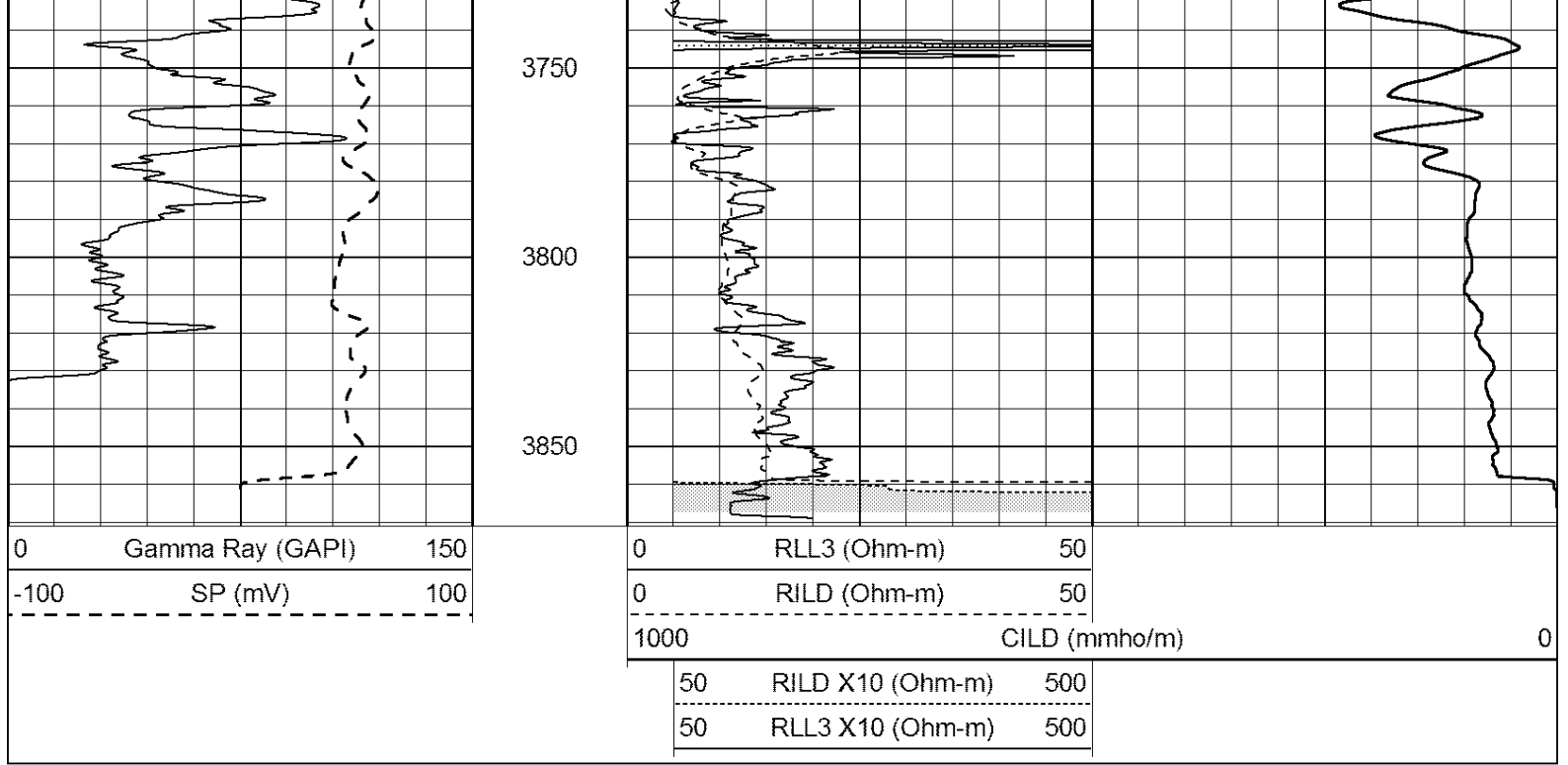
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3650

3700

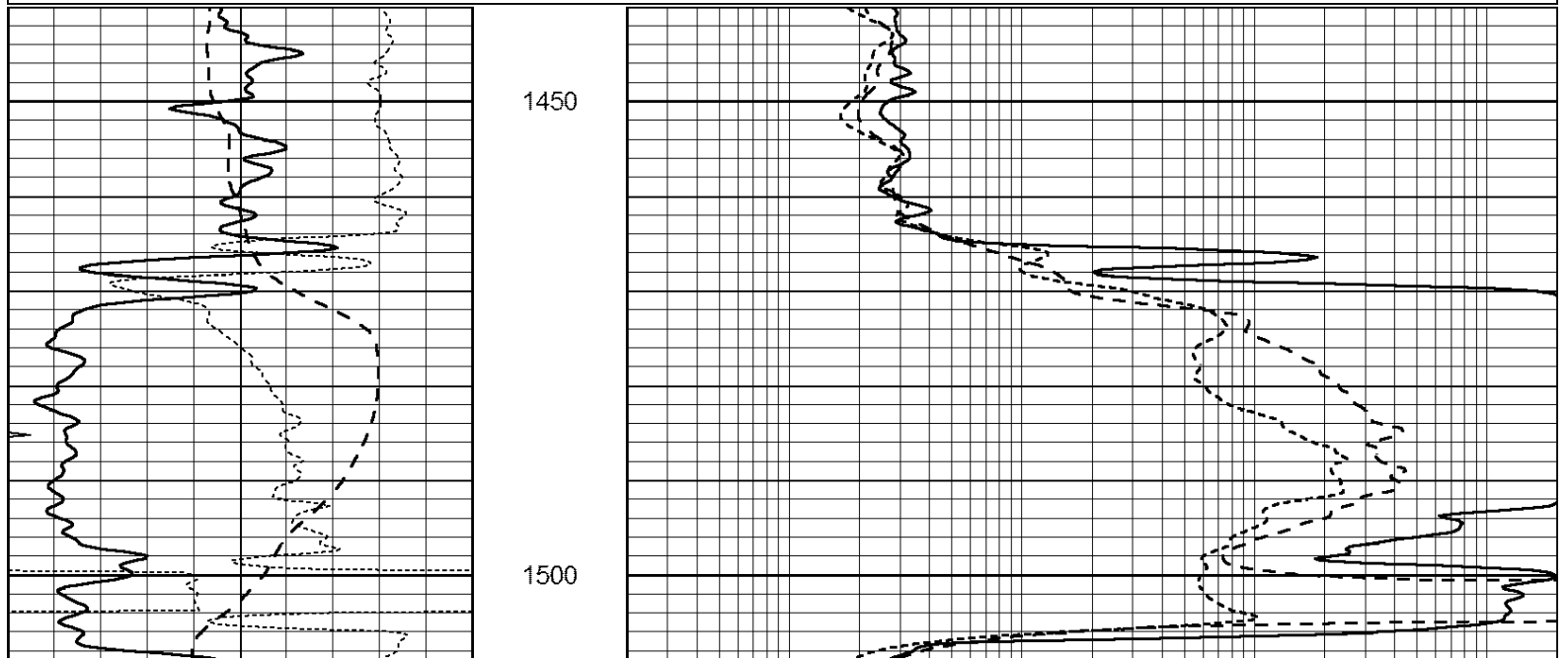




MAIN PASS

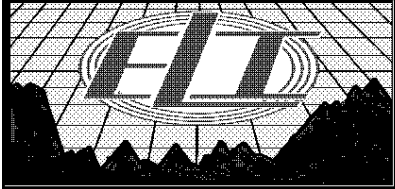
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 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Fri Jul 12 10:31:49 2019
 Charted by: Depth in Feet scaled 1:240

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



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

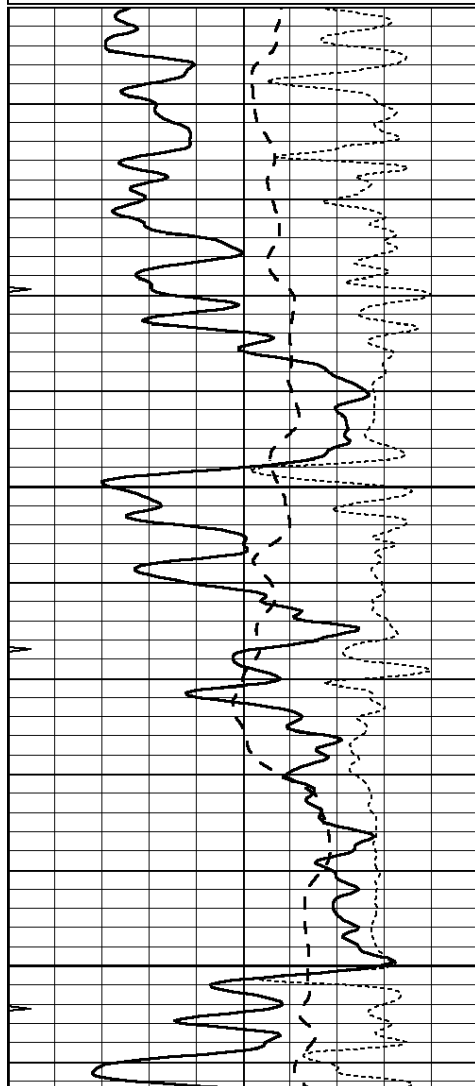


MAIN PASS

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 Dataset Creation: Fri Jul 12 10:31:49 2019
 Charted by: Depth in Feet scaled 1:240

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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

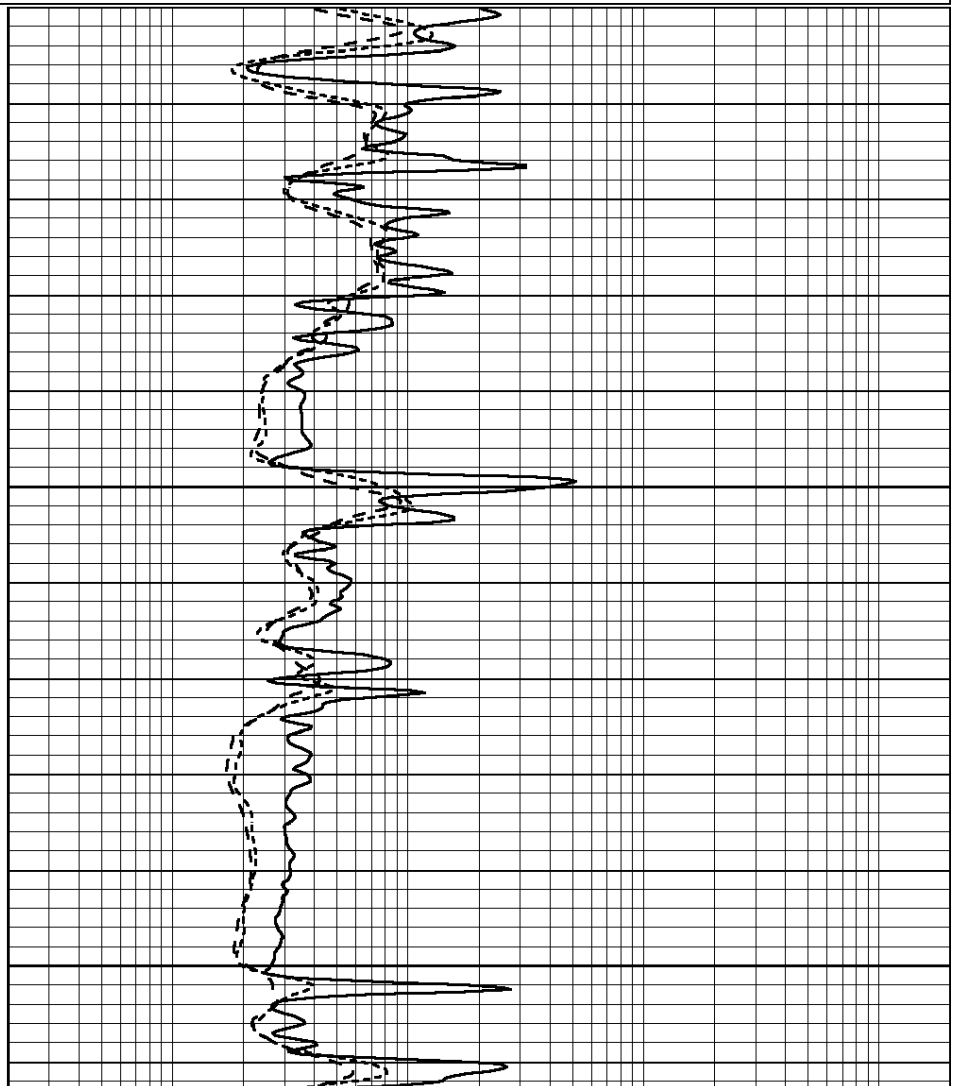
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

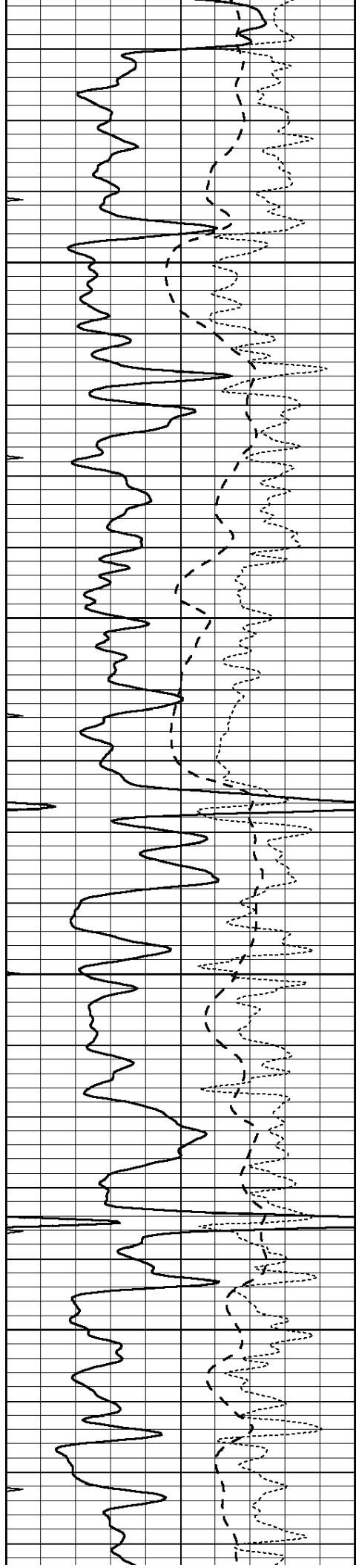


3050

3100

3150



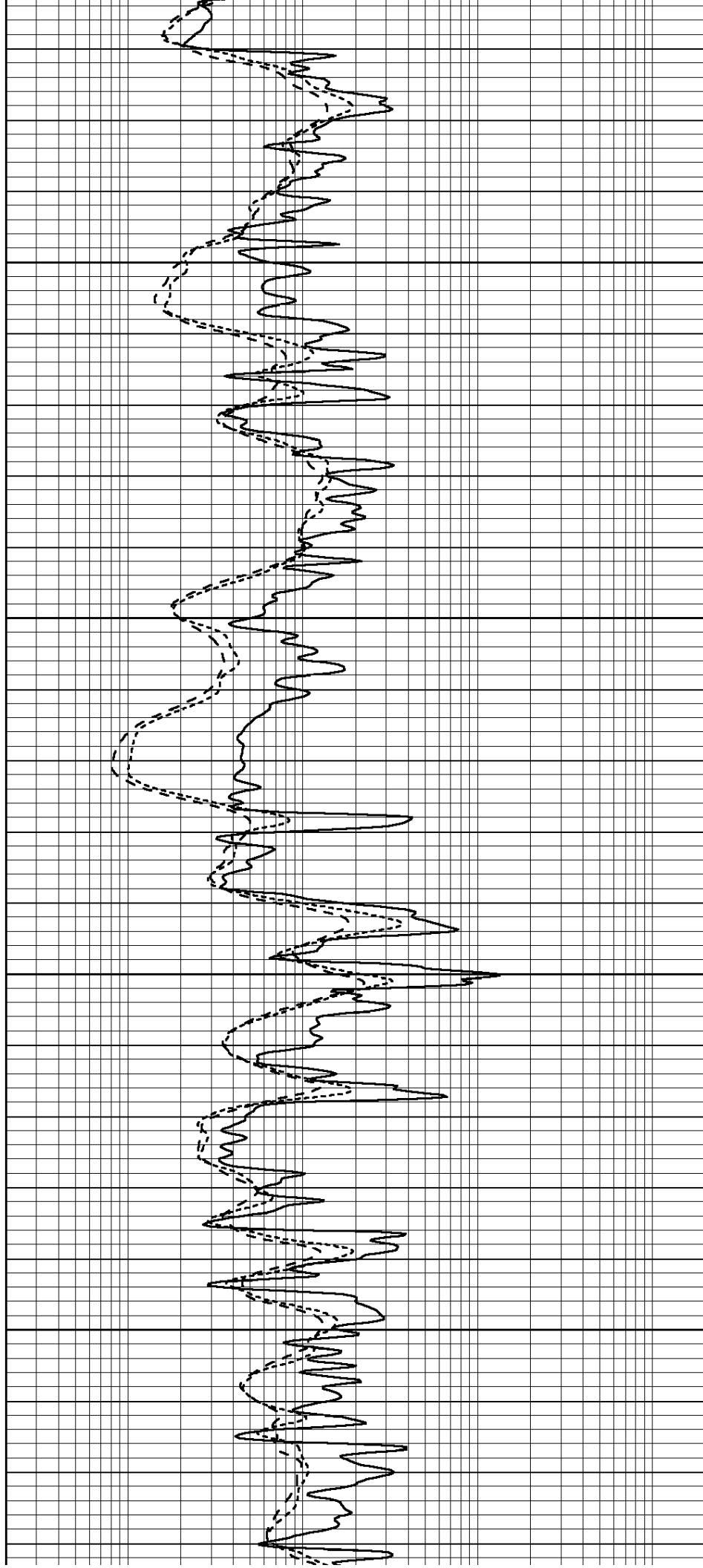


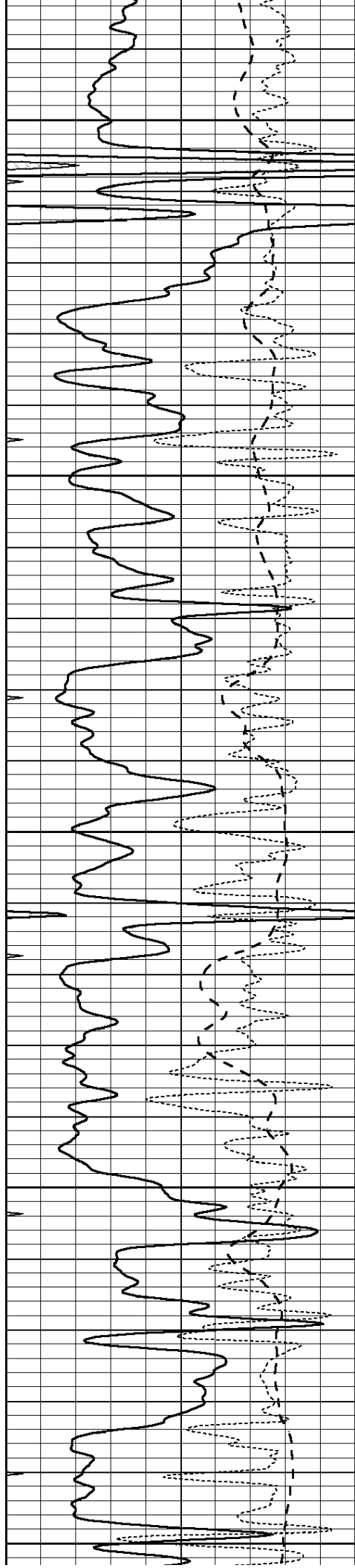
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3250

3300

3350





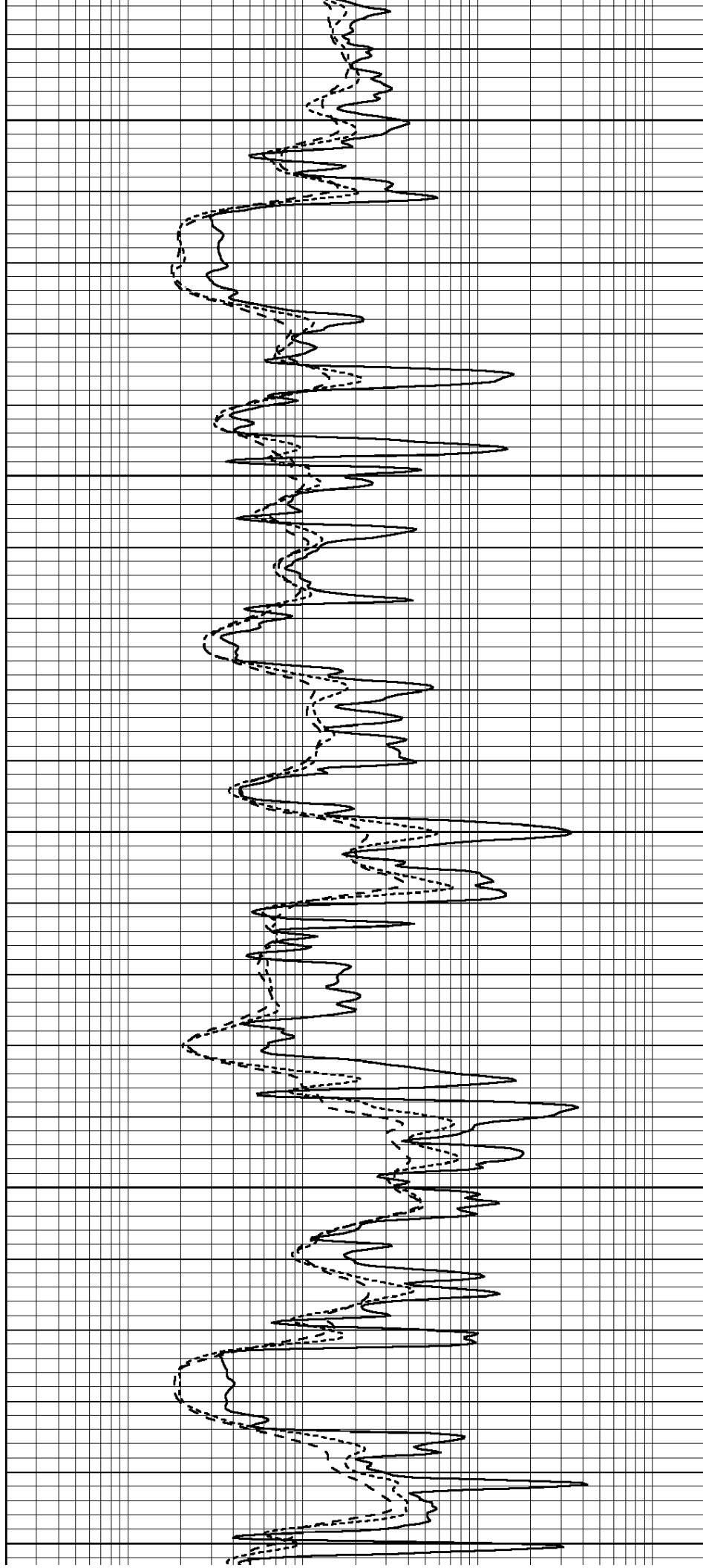
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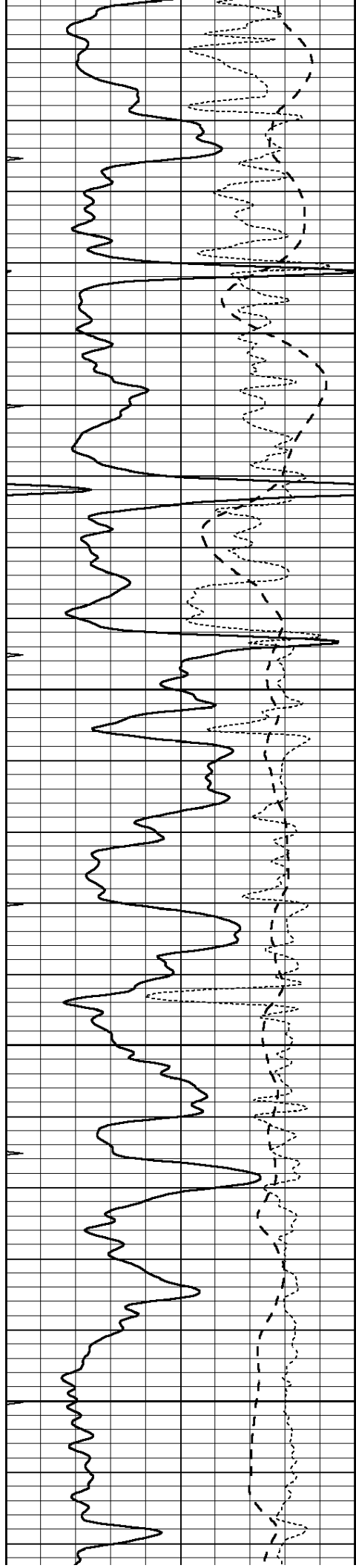
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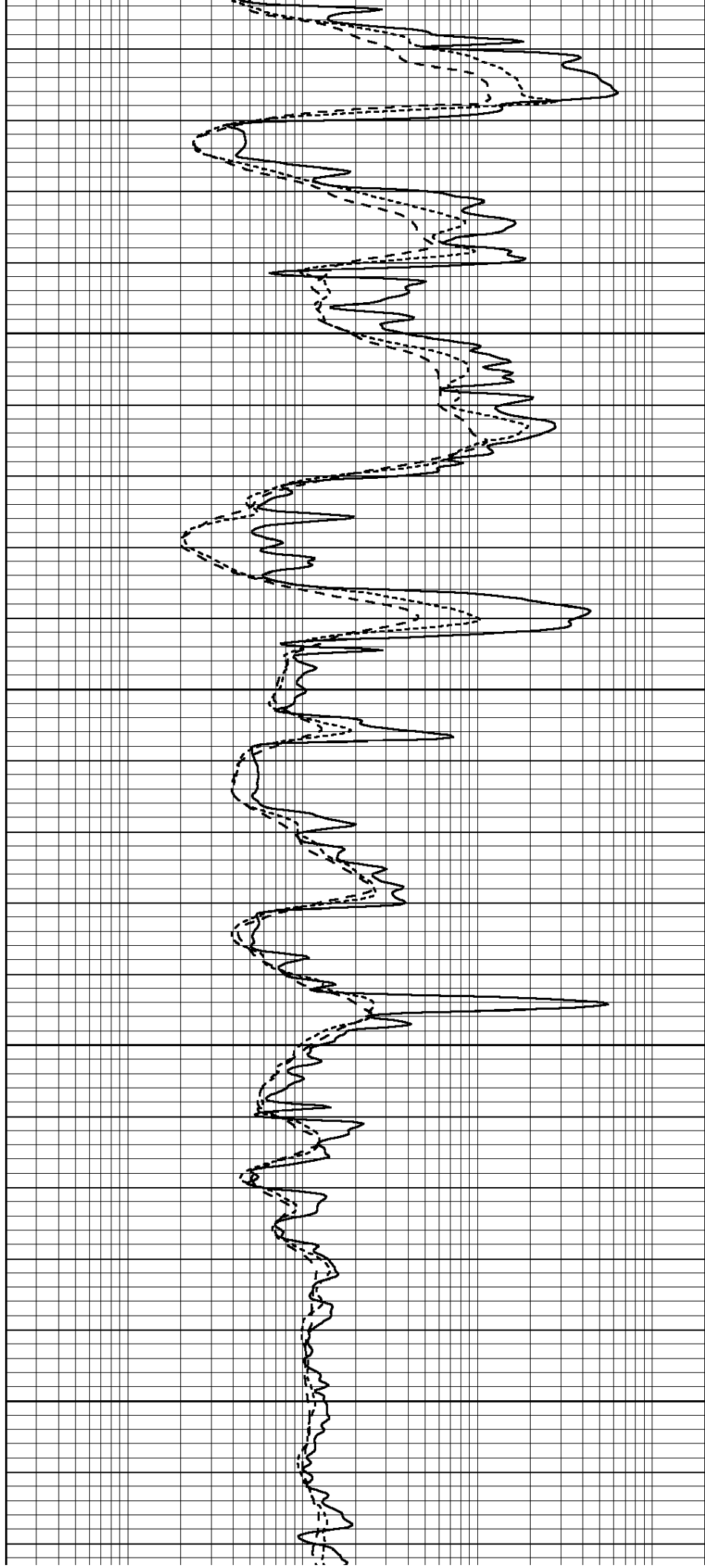


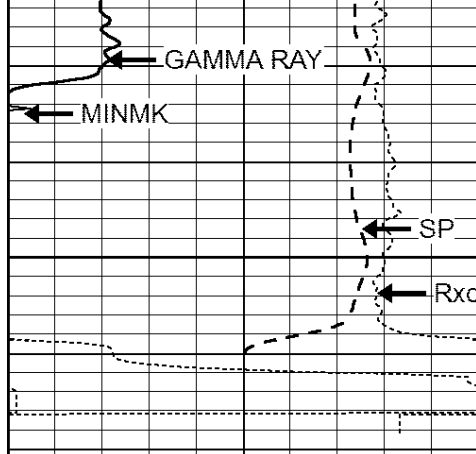
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3700

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3800

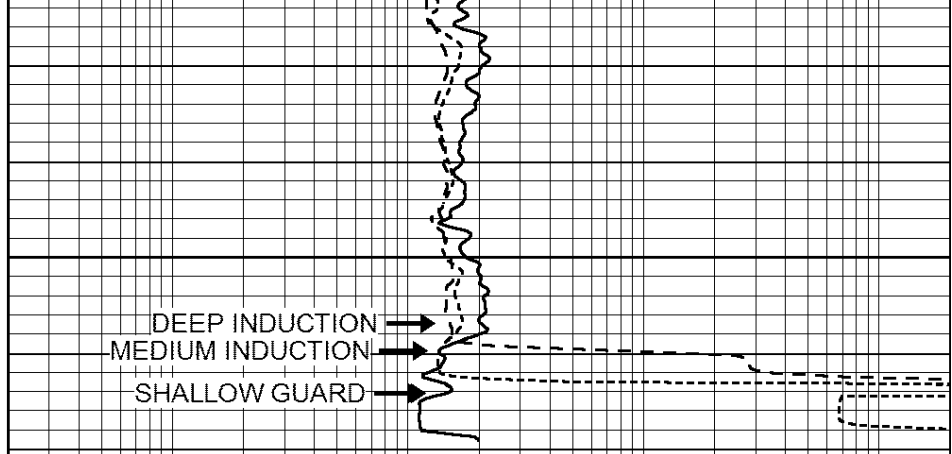




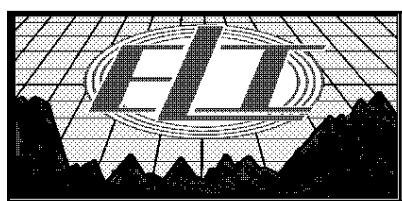
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3850

LTD 3865



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

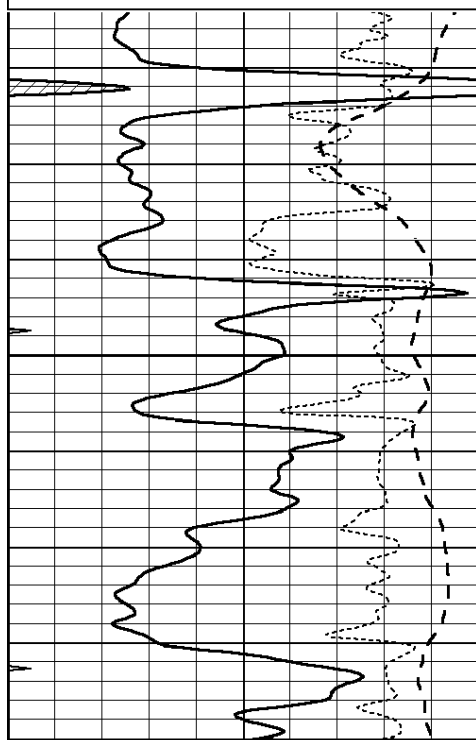


REPEAT SECTION

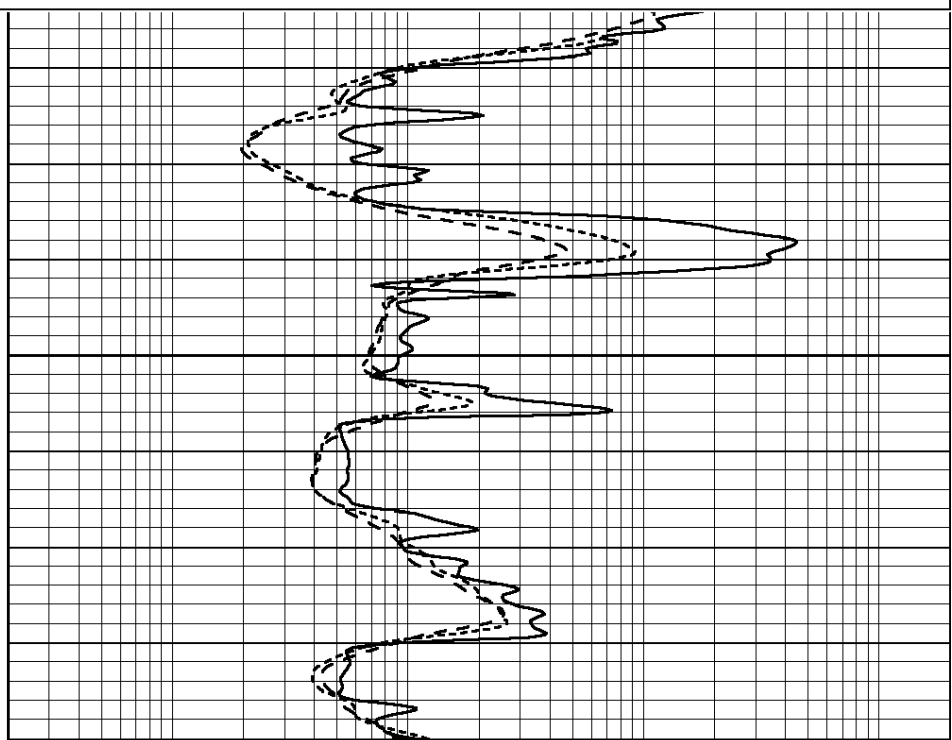
Database File: 3698ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Fri Jul 12 09:50:59 2019 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

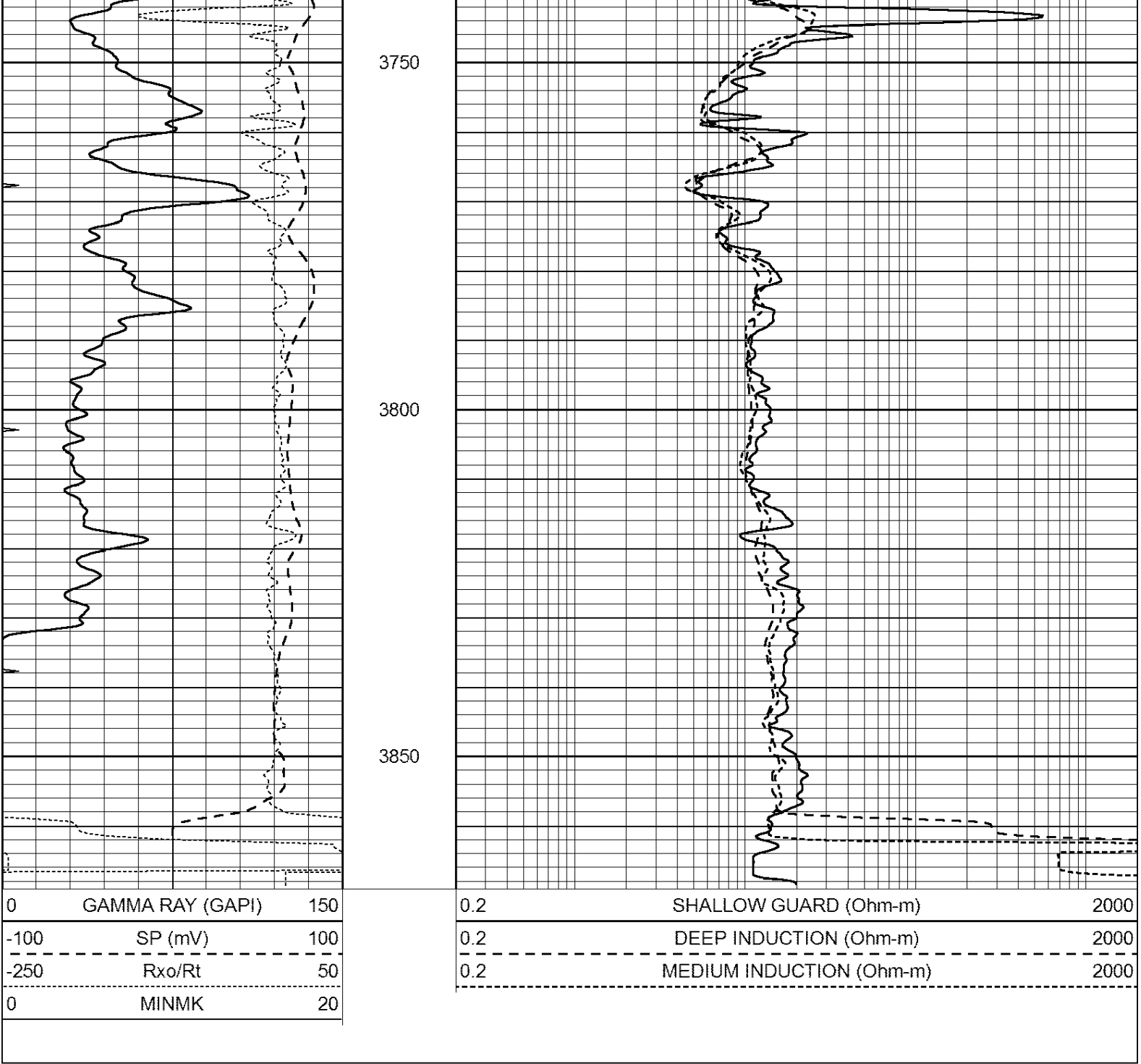
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



3700





Calibration Report								
Database File:	3698ddn.db							
Dataset Pathname:	pass2.1							
Dataset Creation:	Fri Jul 12 09:50:59 2019 by Calc Open-Cased 090629							
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 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	

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	cps	1.0000
	Long Space	1.00	cps	1.00	cps	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
1)	Short Space		cps			
	Long Space		cps		pu	pu
2)	Short Space		cps			
	Long Space		cps		pu	pu
3)	Short Space		cps			
	Long Space		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