



DUAL INDUCTION LOG

Company		WOOLSEY OPERATING COMPANY, LLC.	
Well	MILLS "A" #1		
Field	MULBERRY		
County	BARBER		
State	KANSAS		
Location:	API # : 15-007-24369-0000		Other Services CDL/CNL/PE
	2200' FSL & 725' FWL		
SEC 31 TWP 30S RGE 14W		Elevation	
Permanent Datum	GROUND LEVEL	Elevation	1763
Log Measured From	KELLY BUSHING 13' A.G.L		
Drilling Measured From	KELLY BUSHING		
Date	7/23/20		
Run Number	ONE		
Depth Driller	3980		
Depth Logger	3978		
Bottom Logged Interval	3976		
Top Log Interval	00		
Casing Driller	8 5/8" @ 311		
Casing Logger	311		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6000 PPM	
Density / Viscosity	9.3/53		
pH / Fluid Loss	11.0/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.50 @ 95F		
Rmf @ Meas. Temp	.37 @ 95F		
Rmc @ Meas. Temp	.60 @ 95F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.40 @ 116F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	///		
Maximum Recorded Temperature	116F		
Equipment Number	3802		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	BILL KLAVER		

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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.

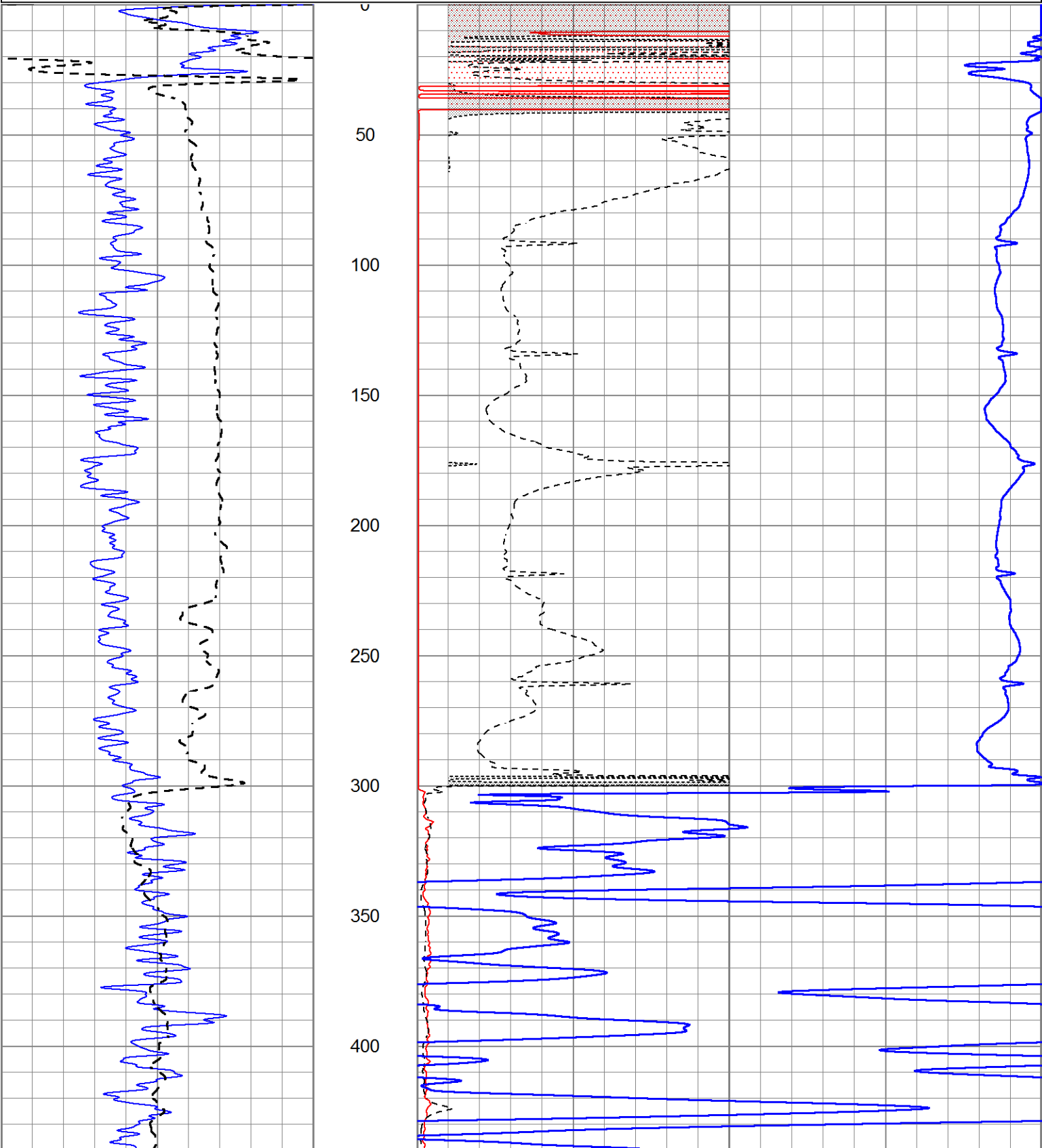
Comments

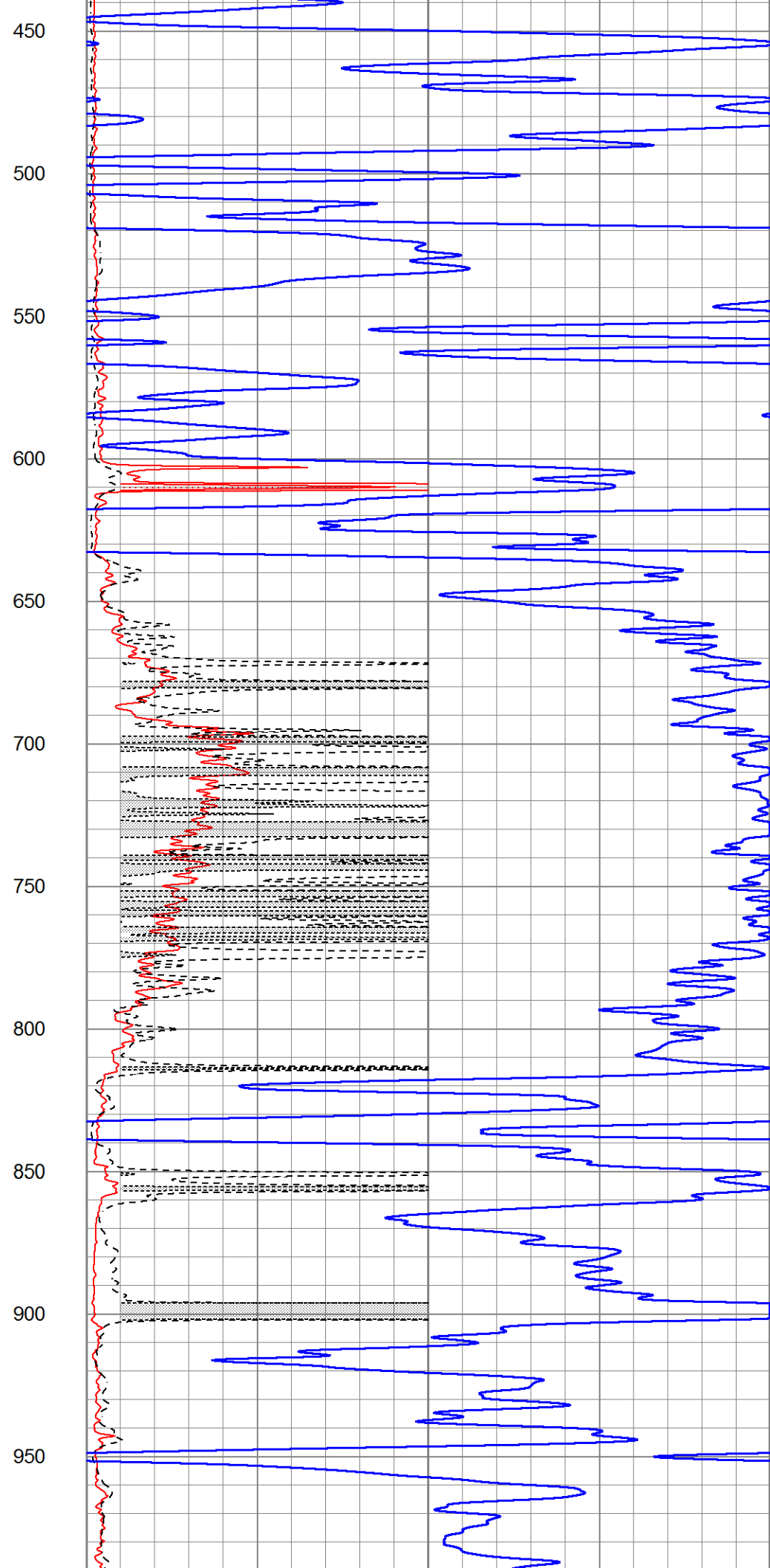
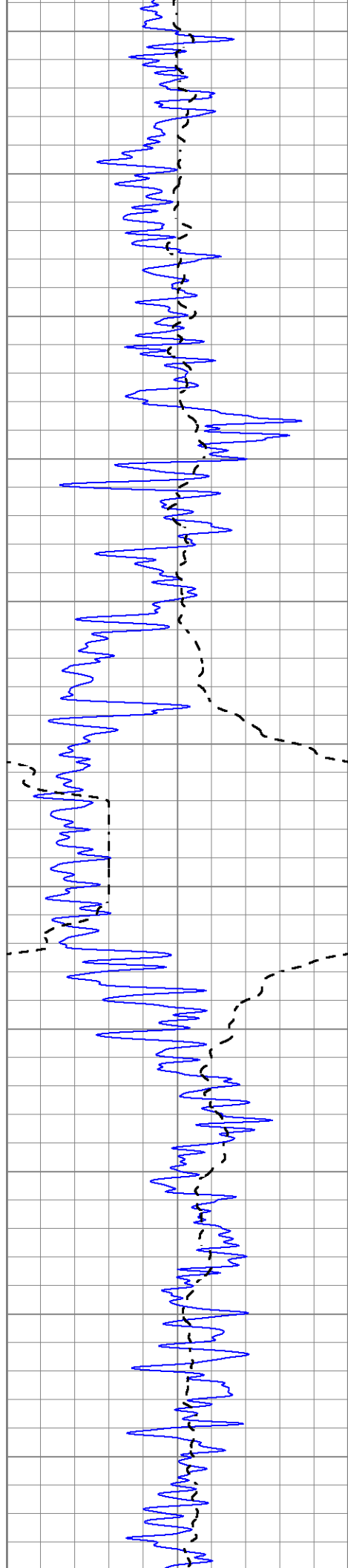
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
SUN CITY, KS. - 1/2 EAST TO SOUTHEAST CURVE - STAY EAST AT CURVE ON
DIRT ROAD AND NORTH INTO EAST OF CEMETARY

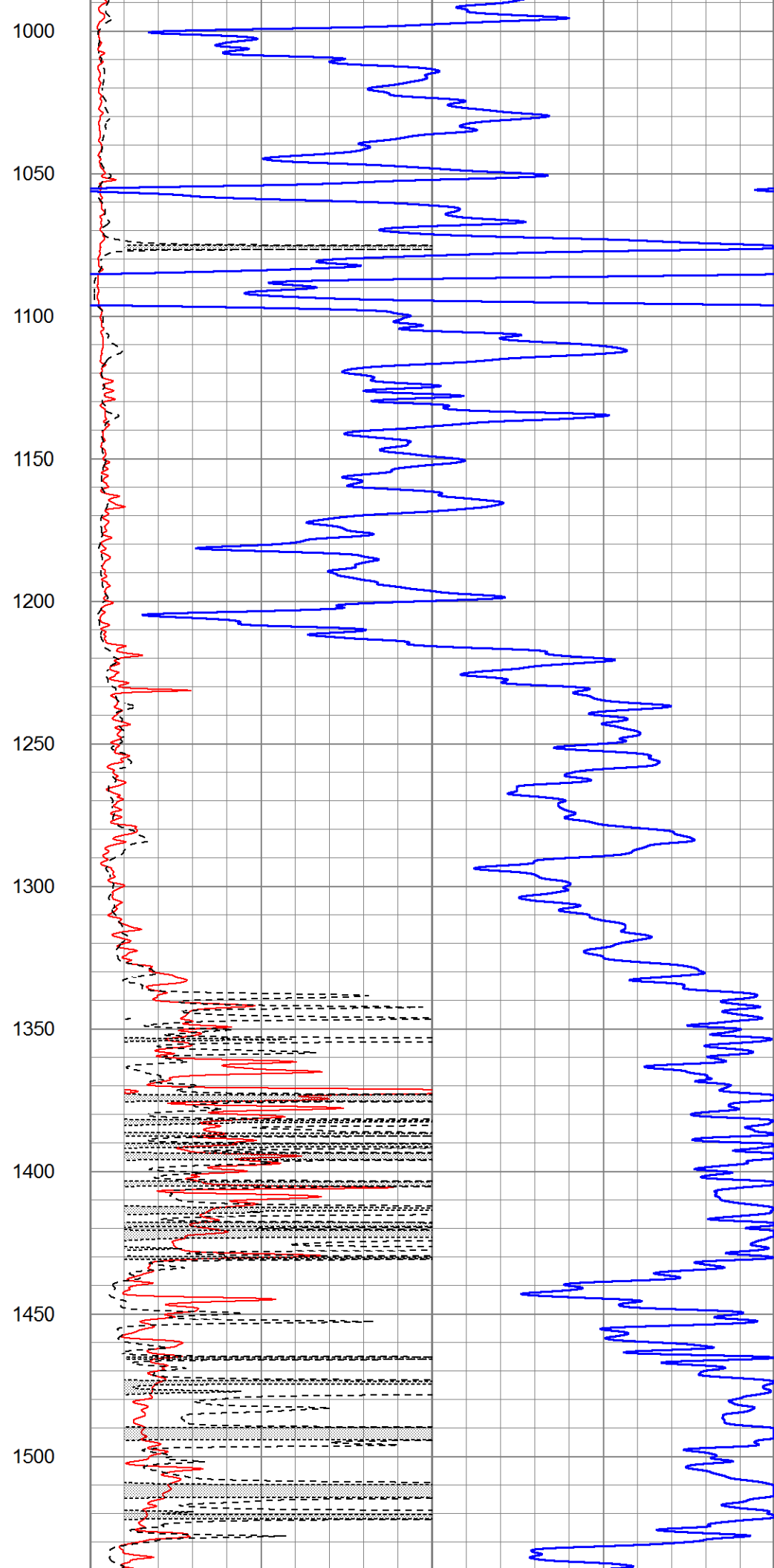
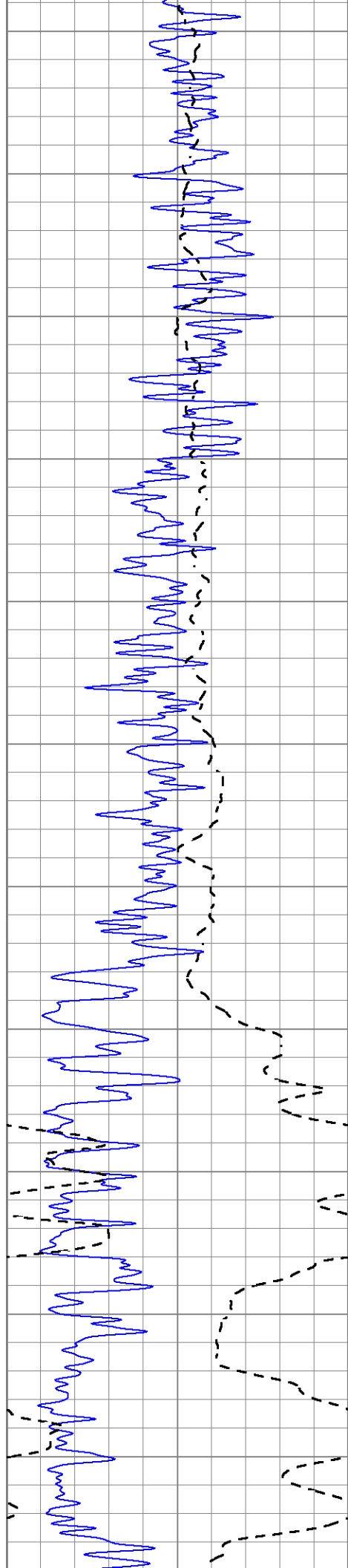


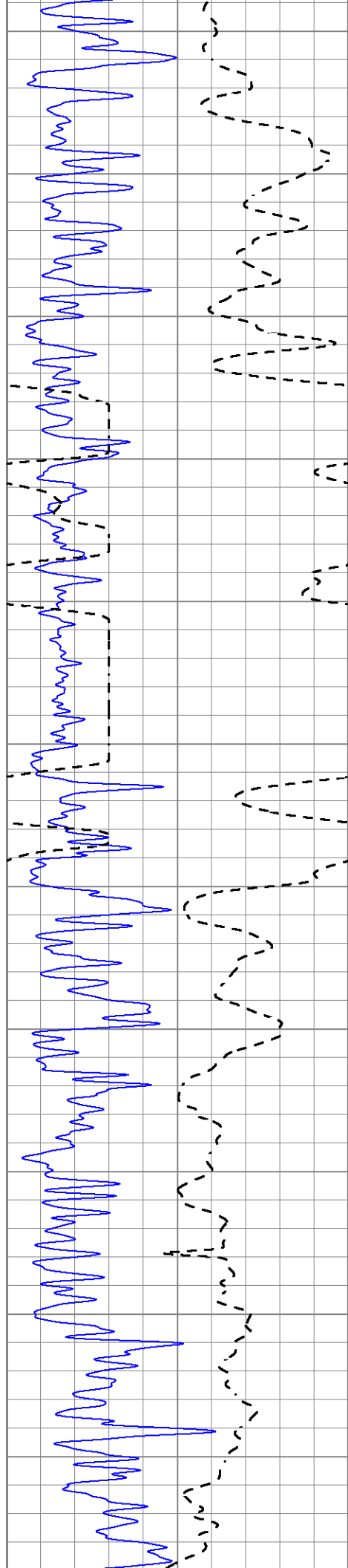
MAIN SECTION

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









1550

1600

1650

1700

1750

1800

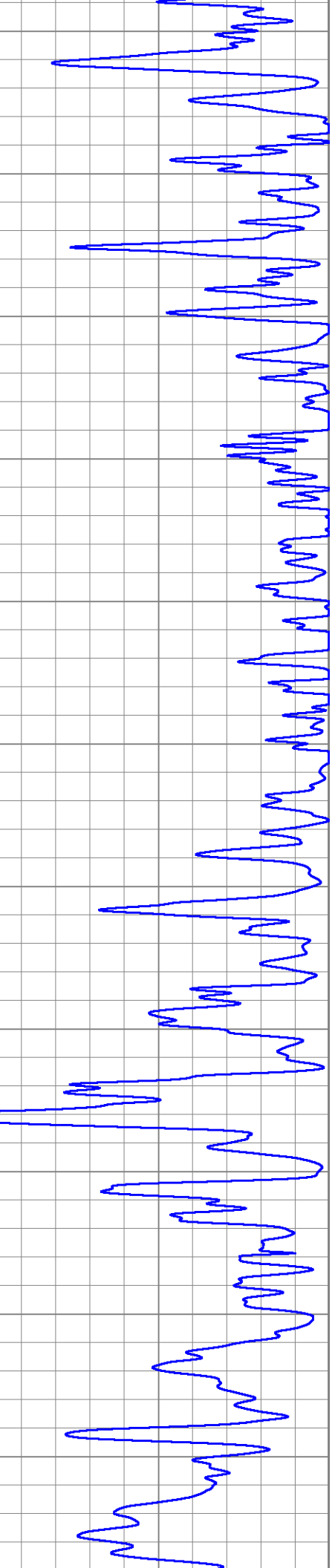
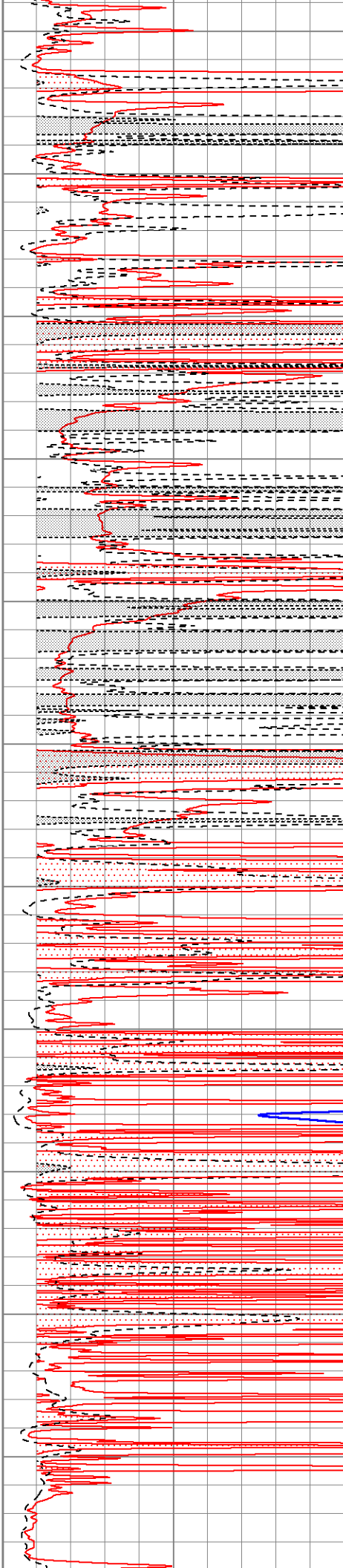
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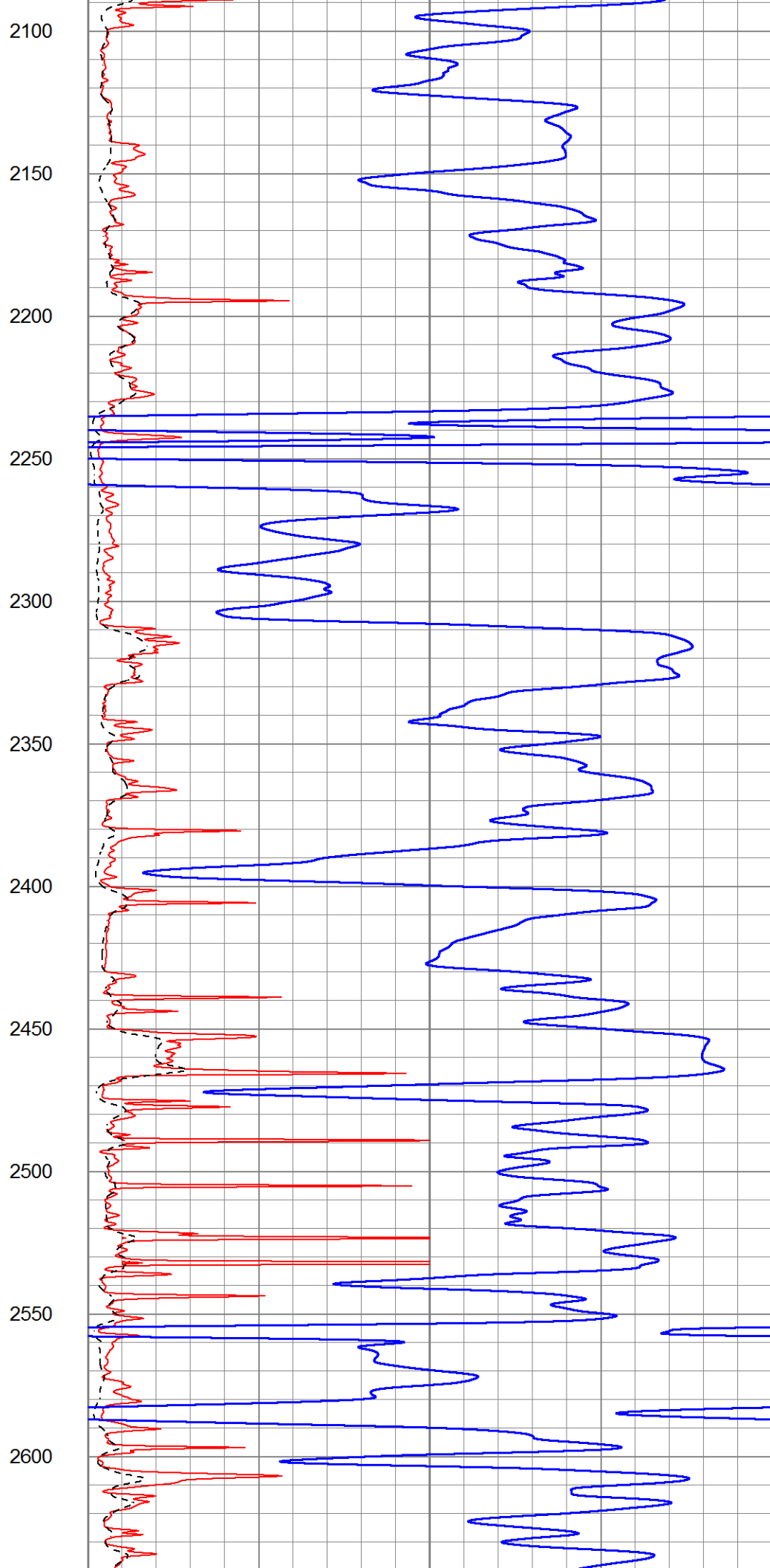
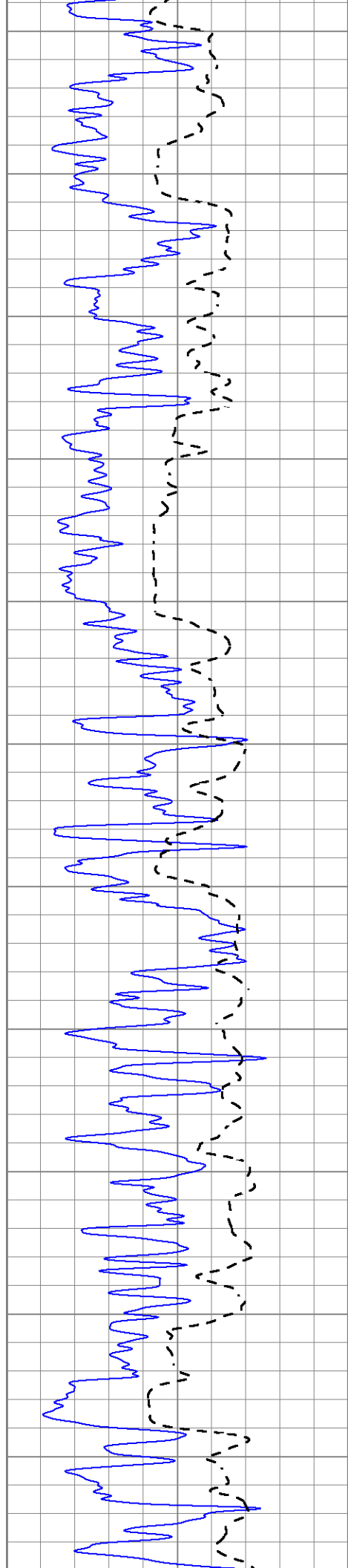
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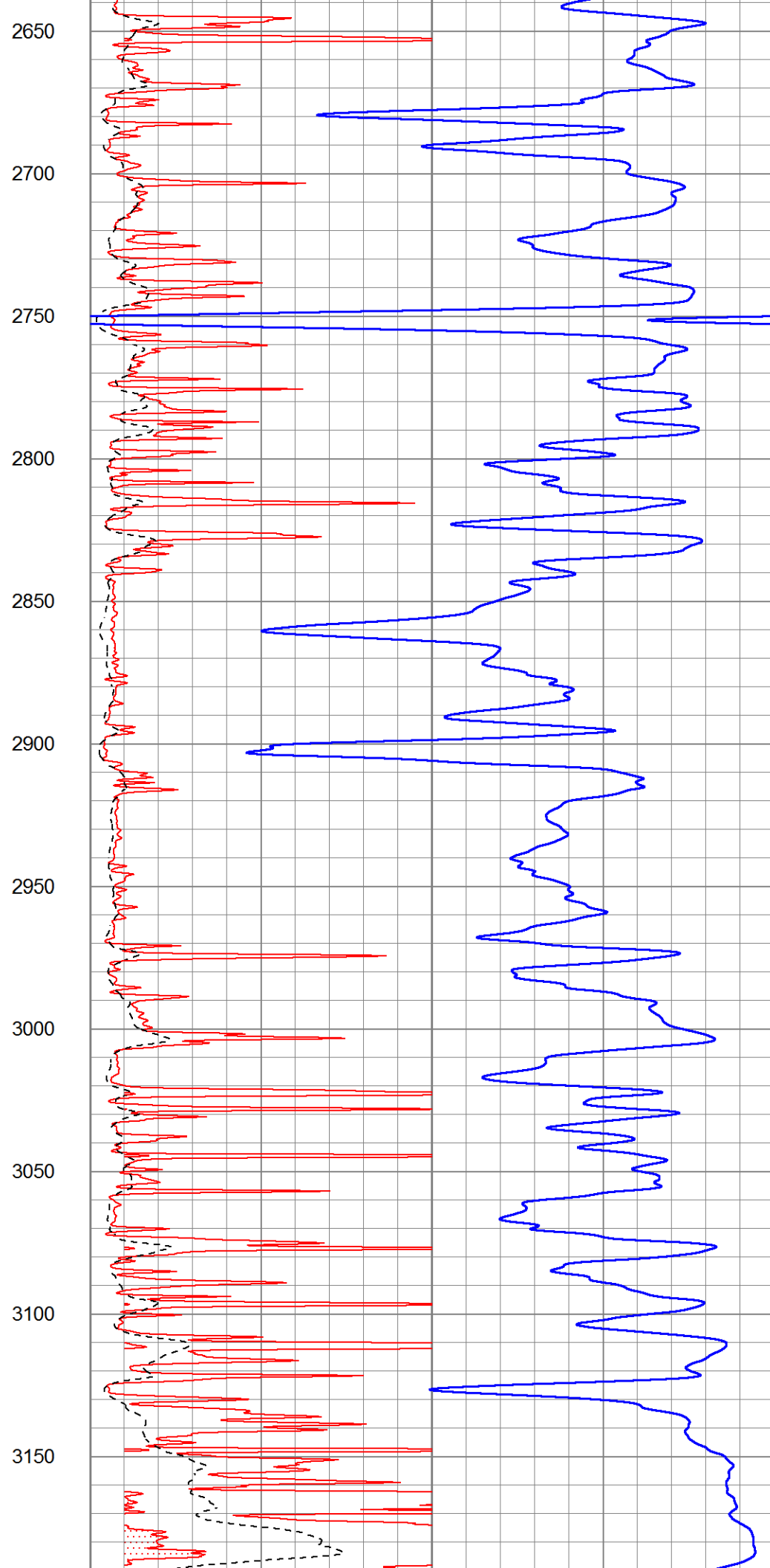
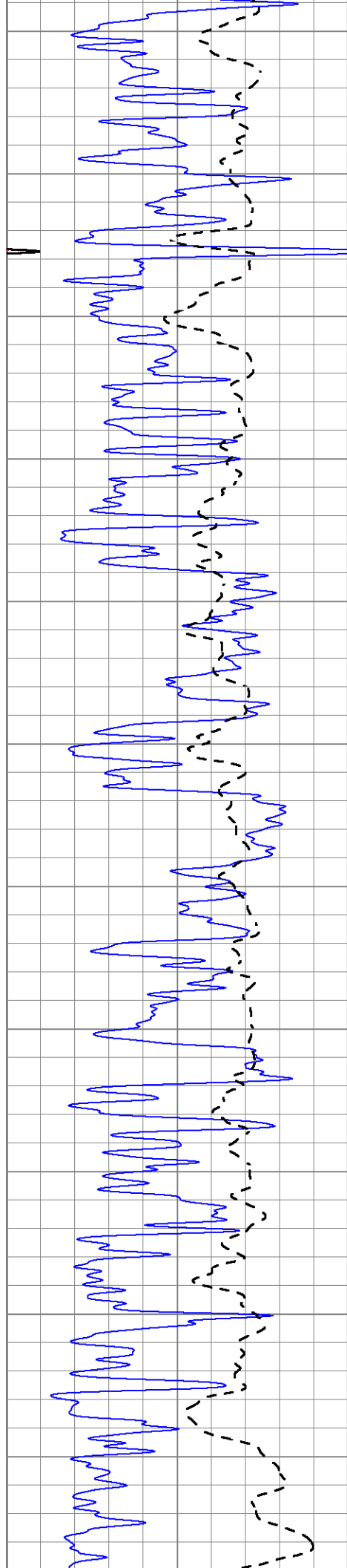
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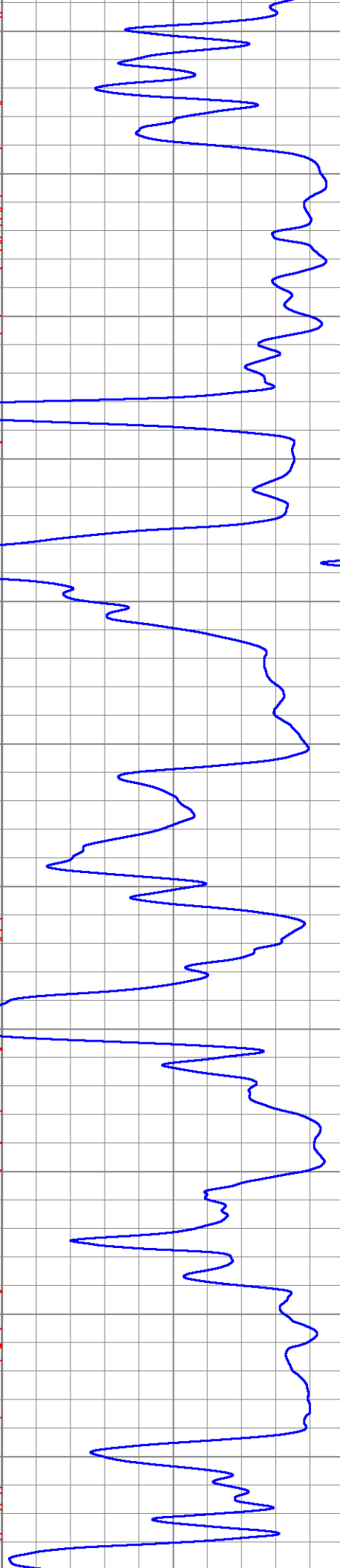
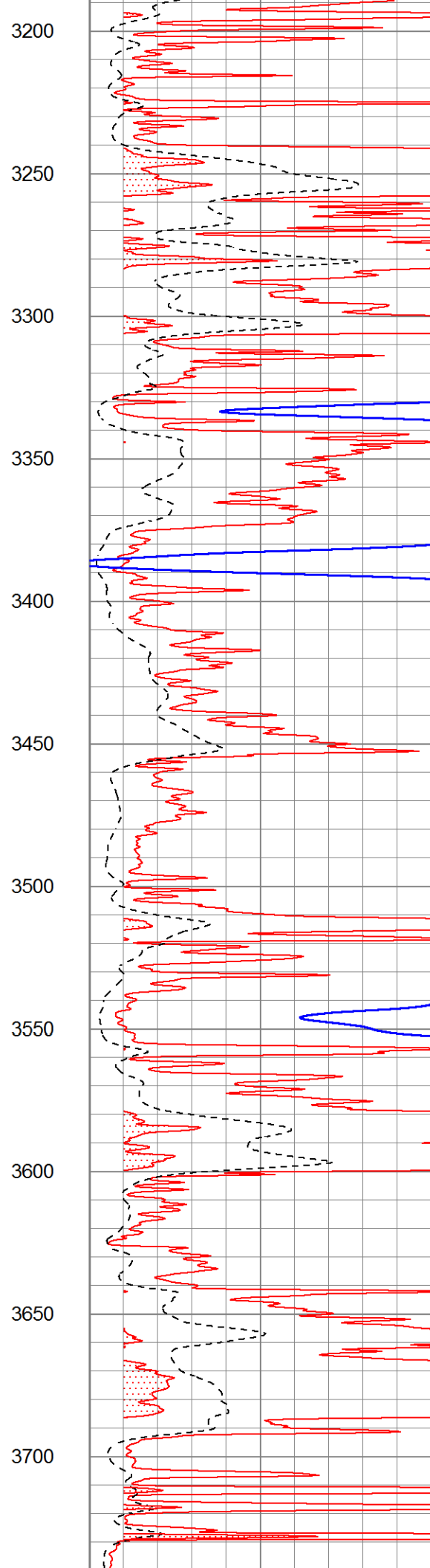
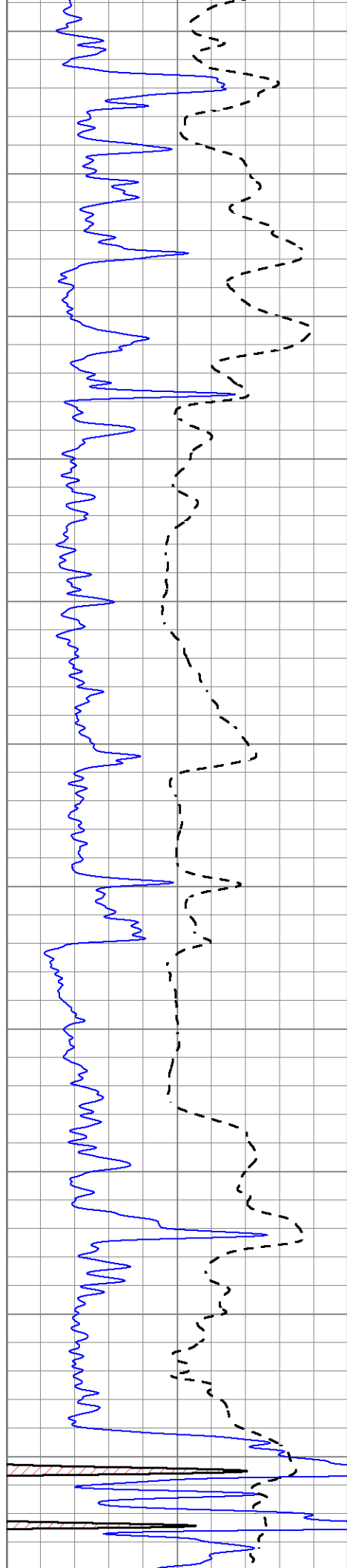
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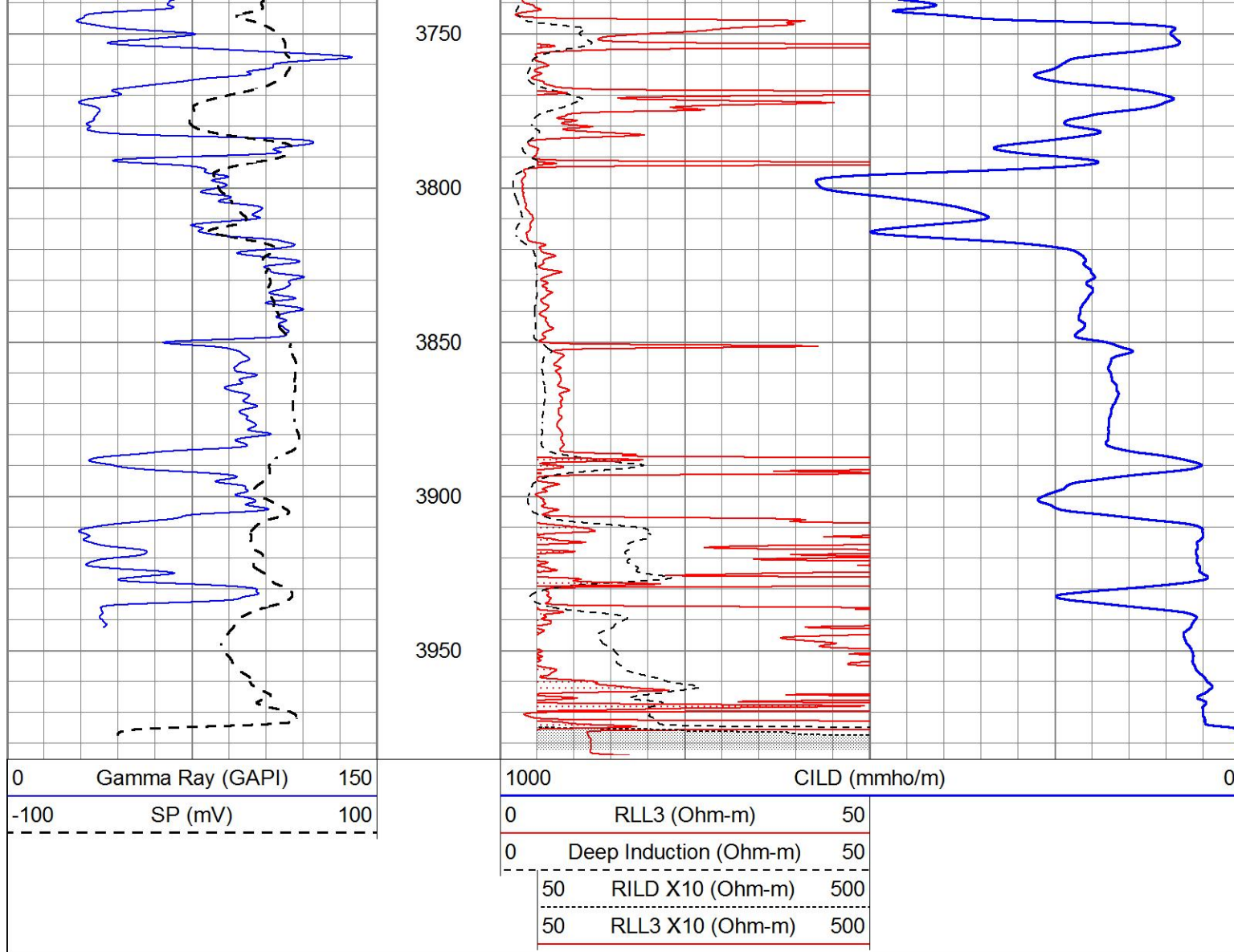
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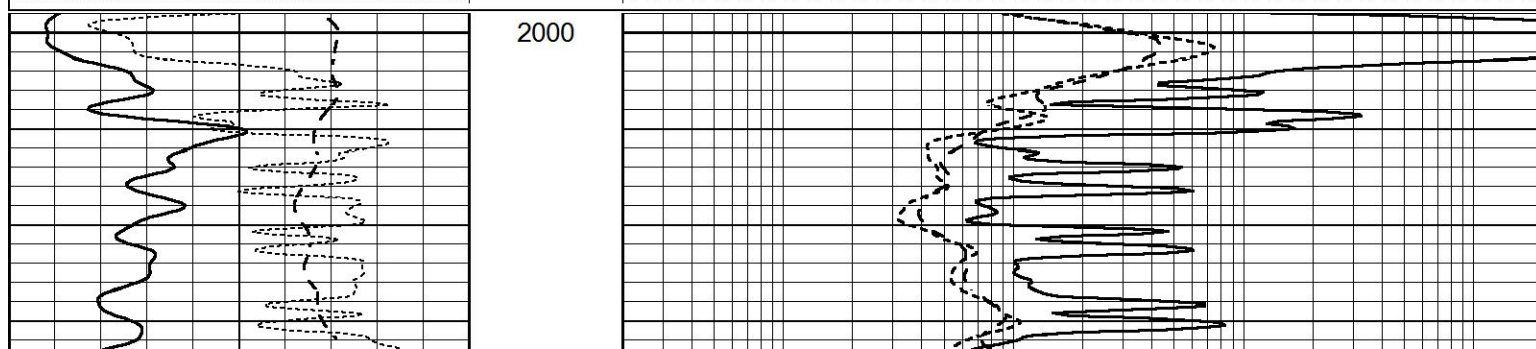




MAIN SECTION

Database File 4746pe.db
 Dataset Pathname pass3.1
 Presentation Format _dil
 Dataset Creation Thu Jul 23 17:59:50 2020
 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





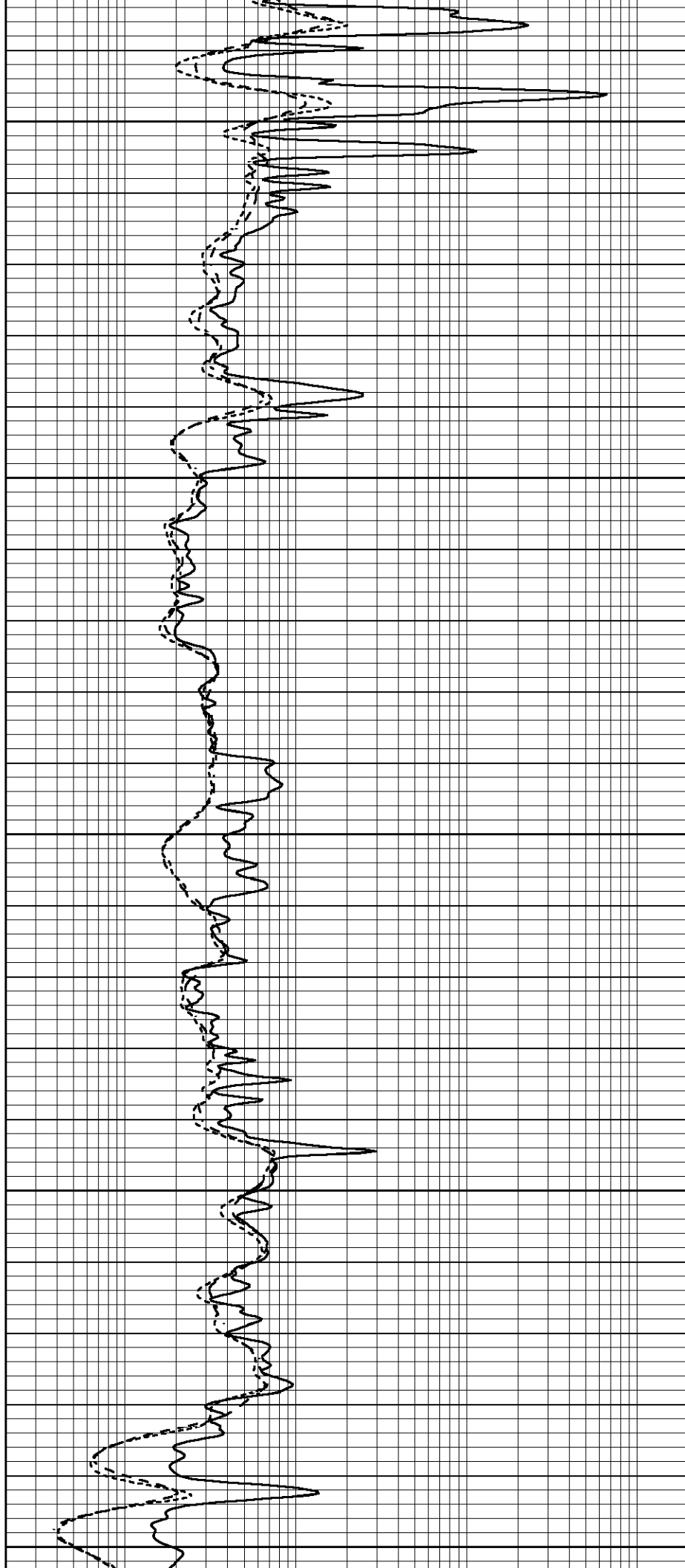
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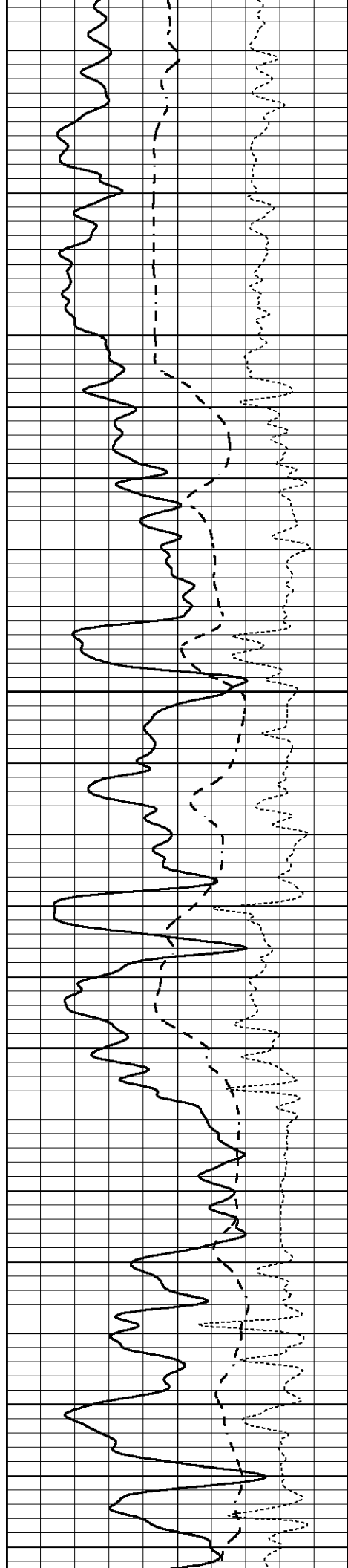
2100

2150

2200

2250



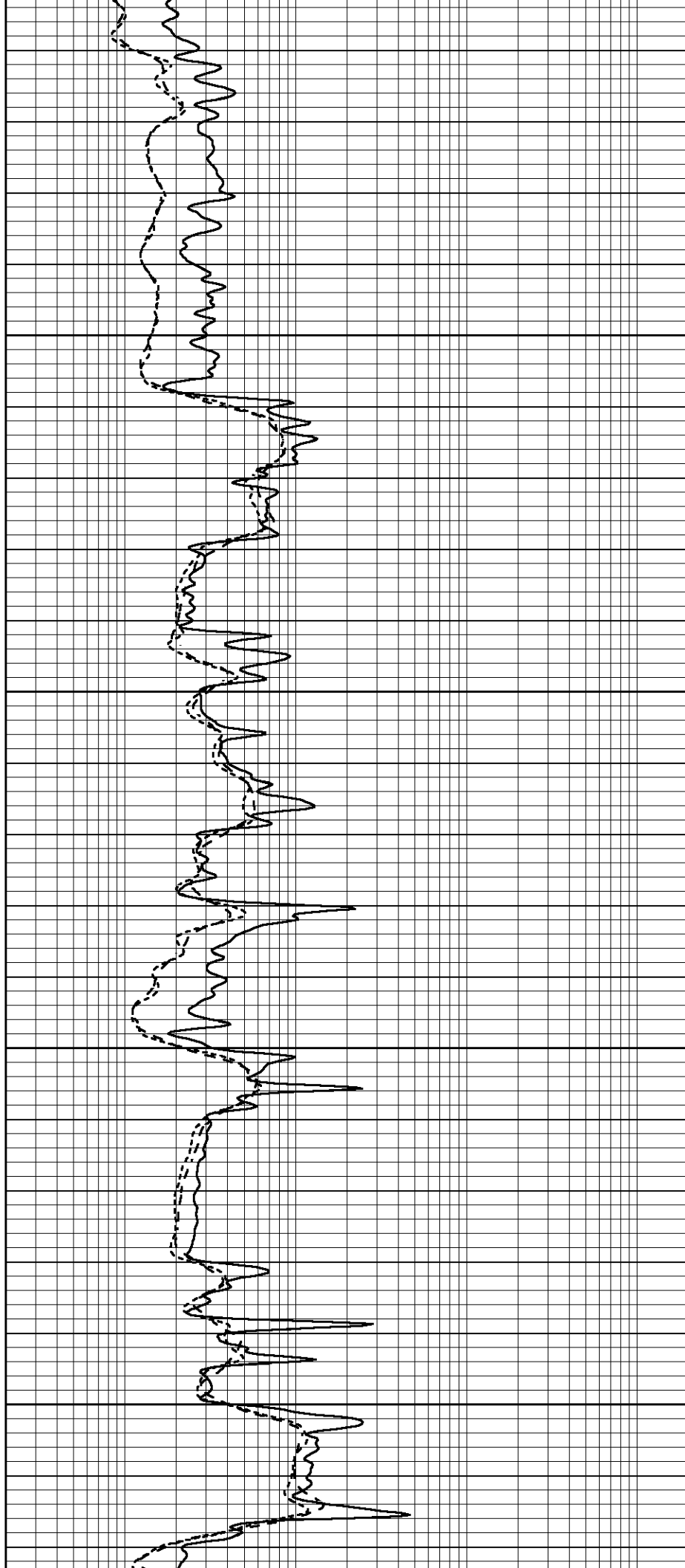


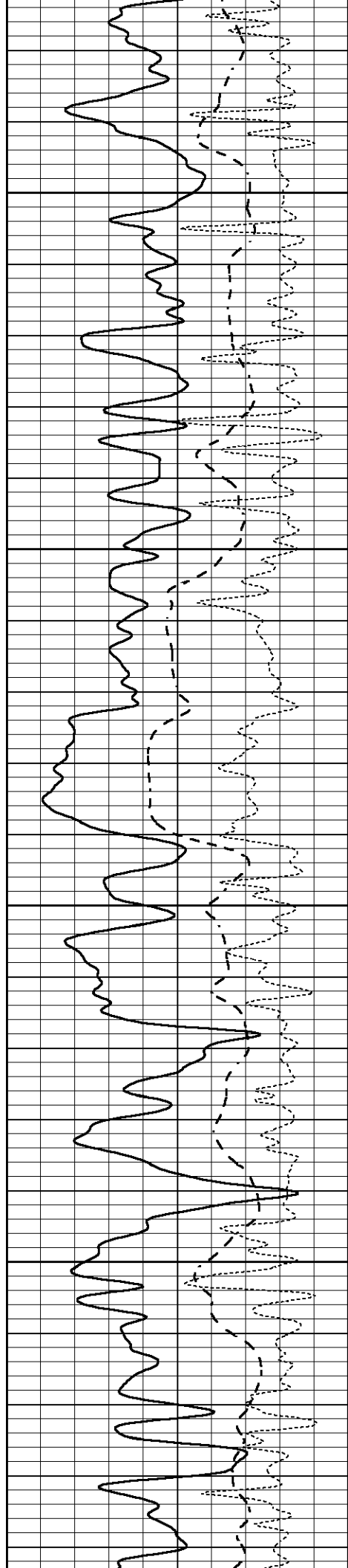
2300

2350

2400

2450



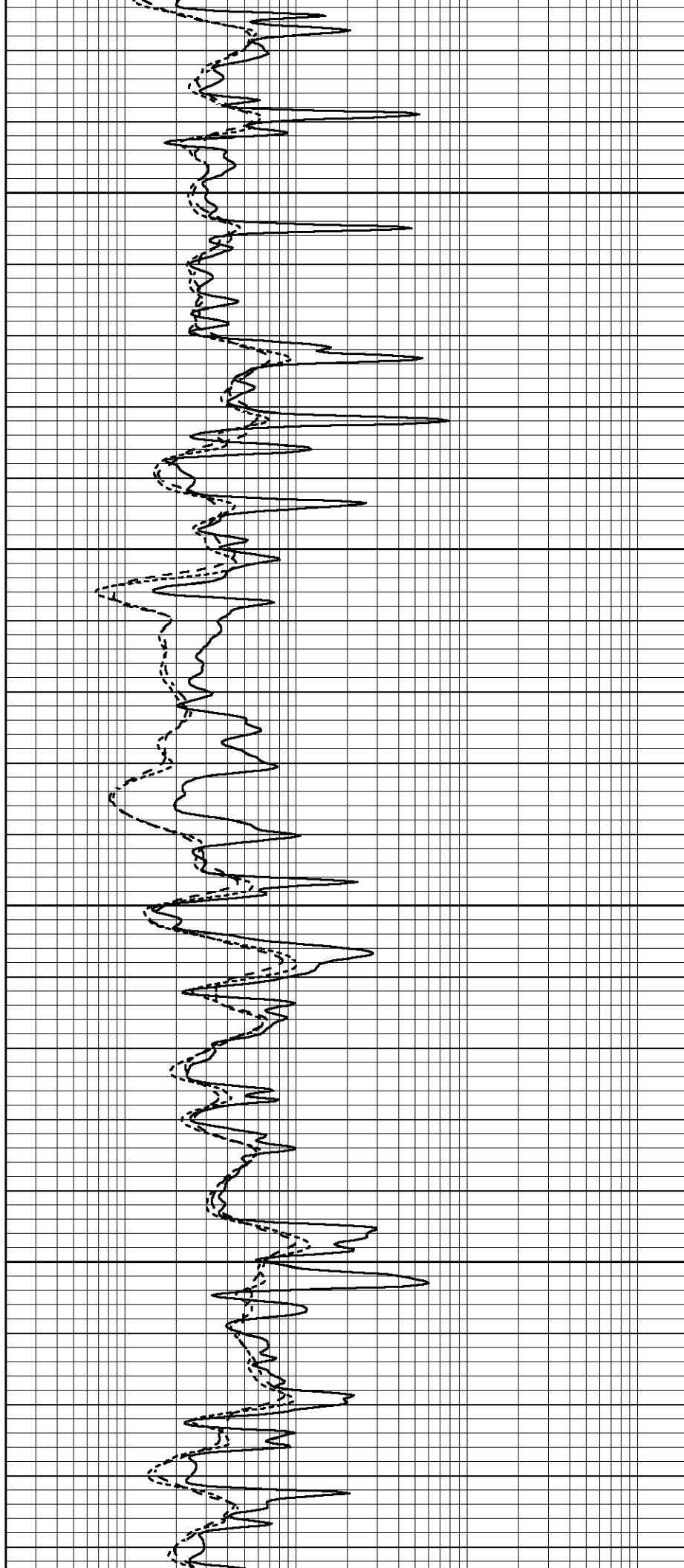


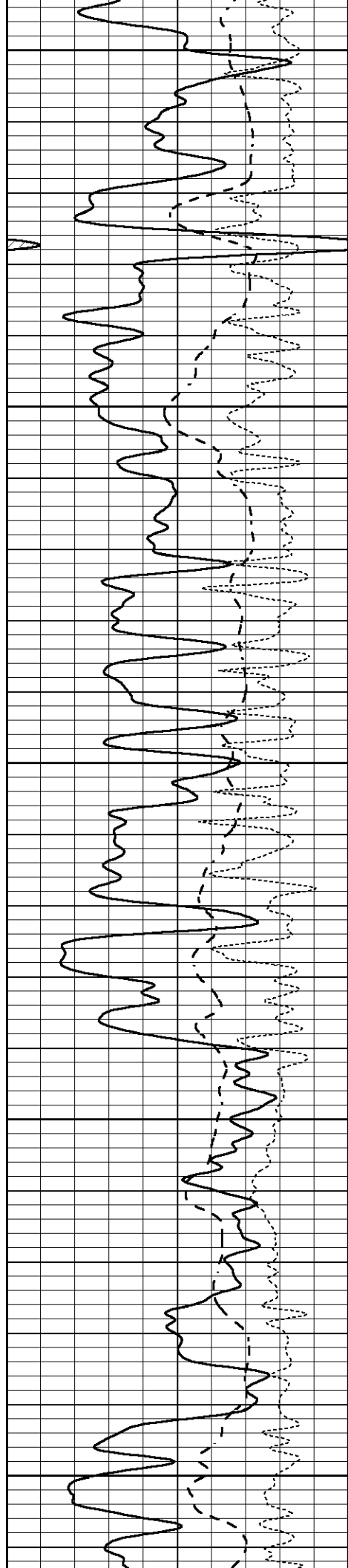
2500

2550

2600

2650





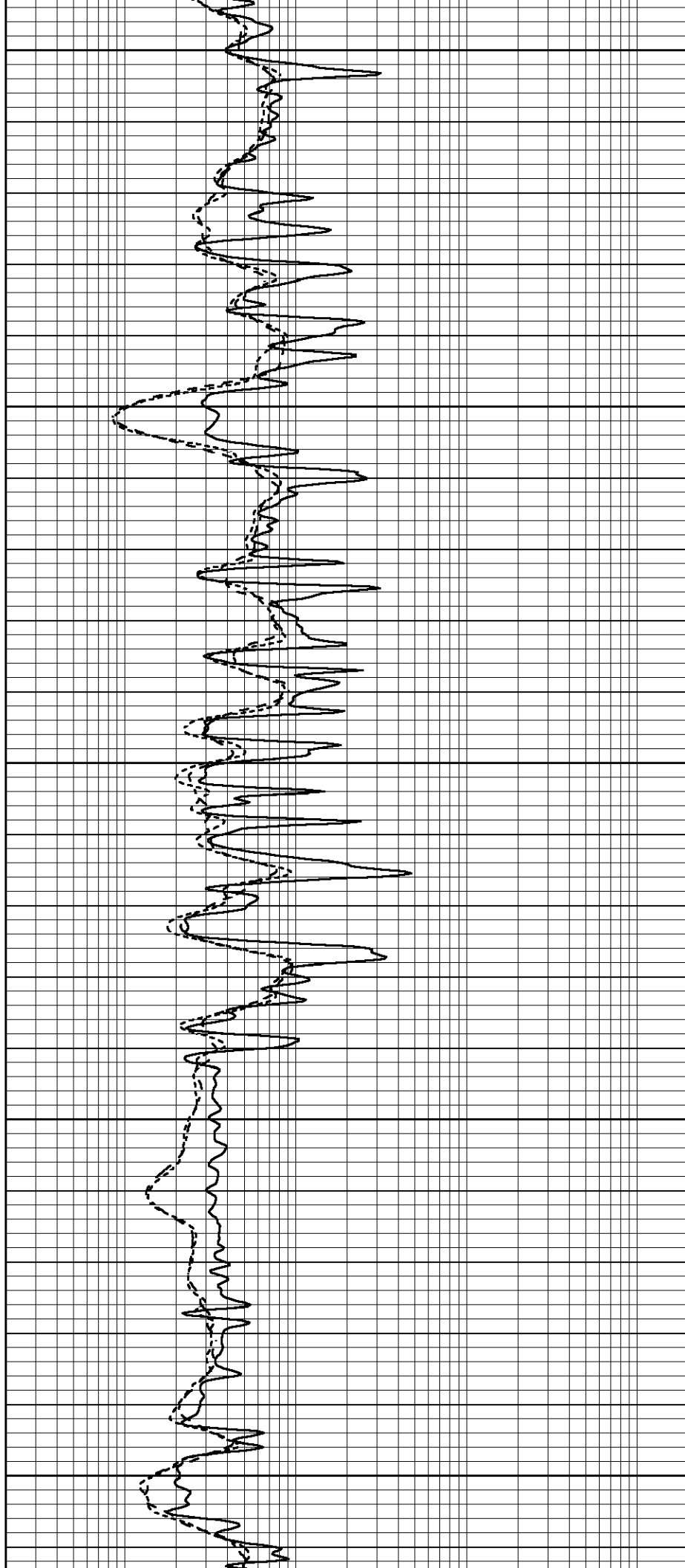
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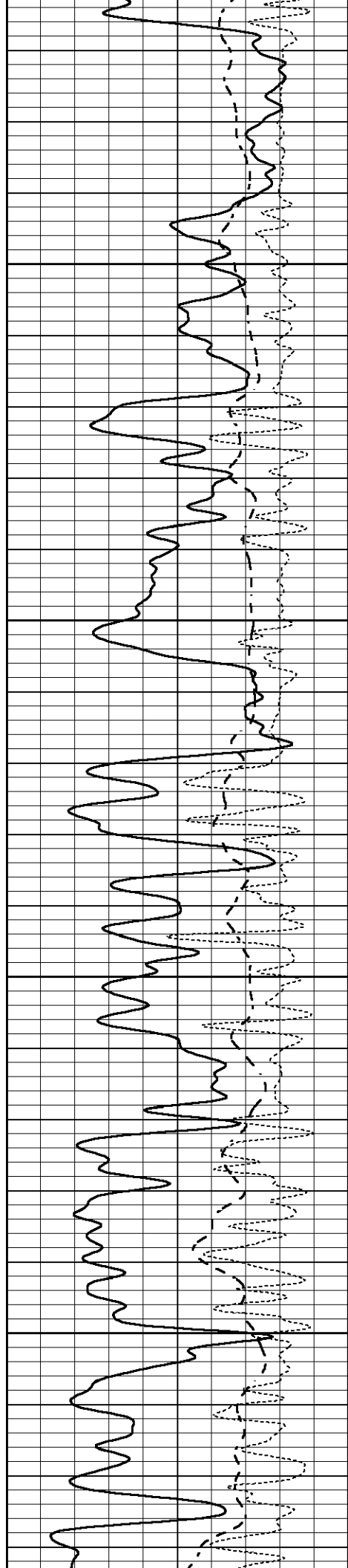
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2800

2850

2900



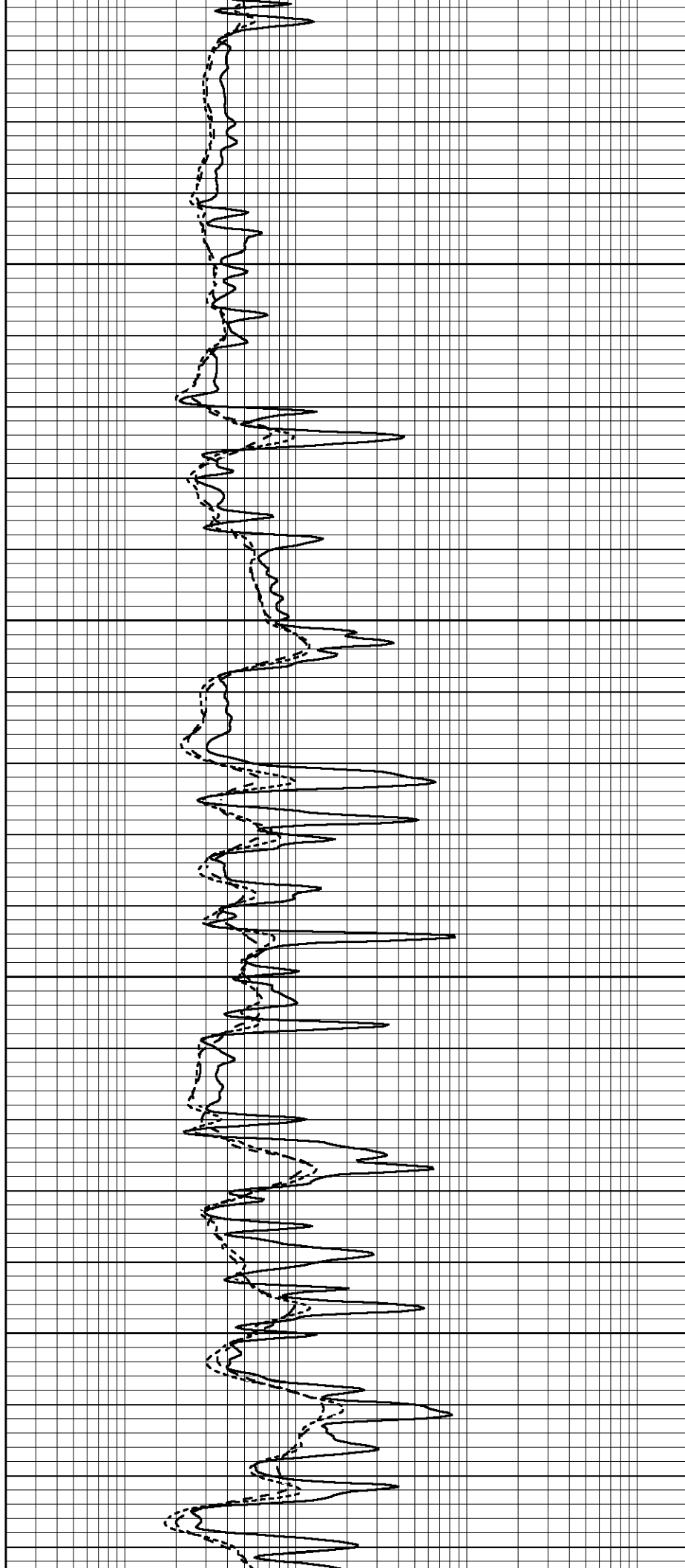


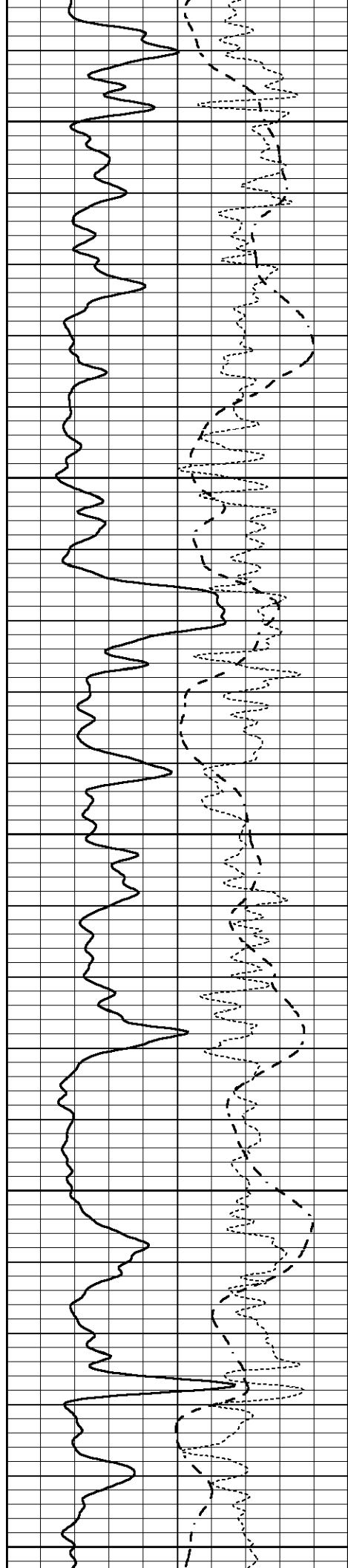
2950

3000

3050

3100





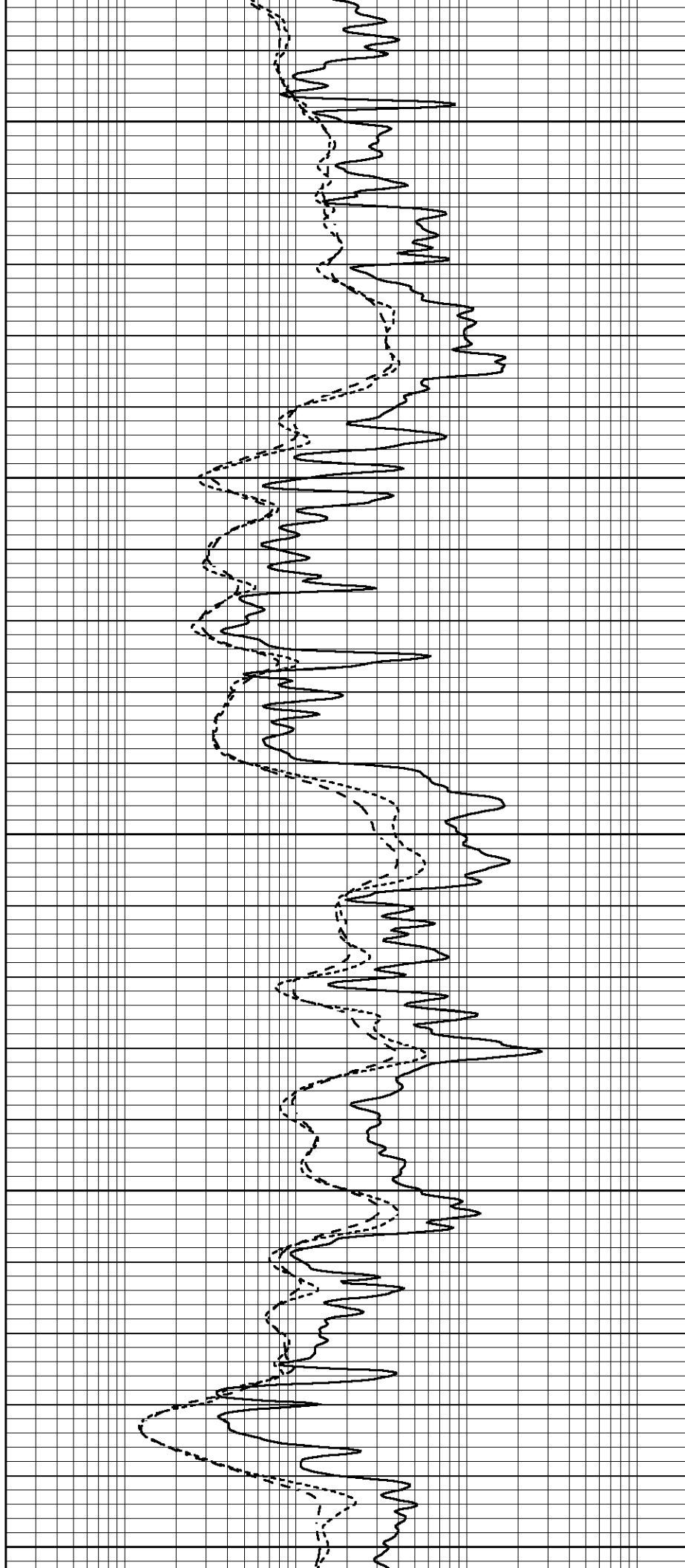
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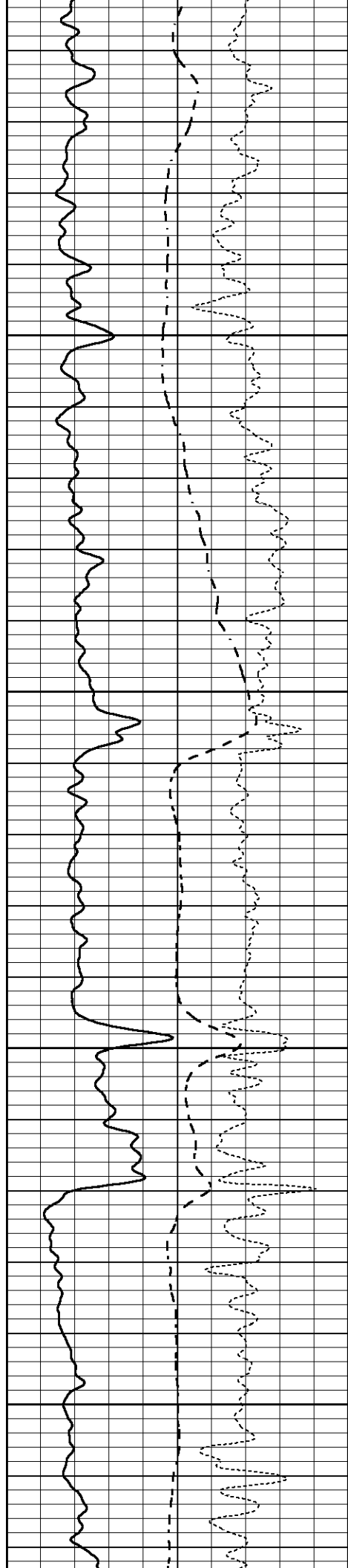
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3250

3300

3350



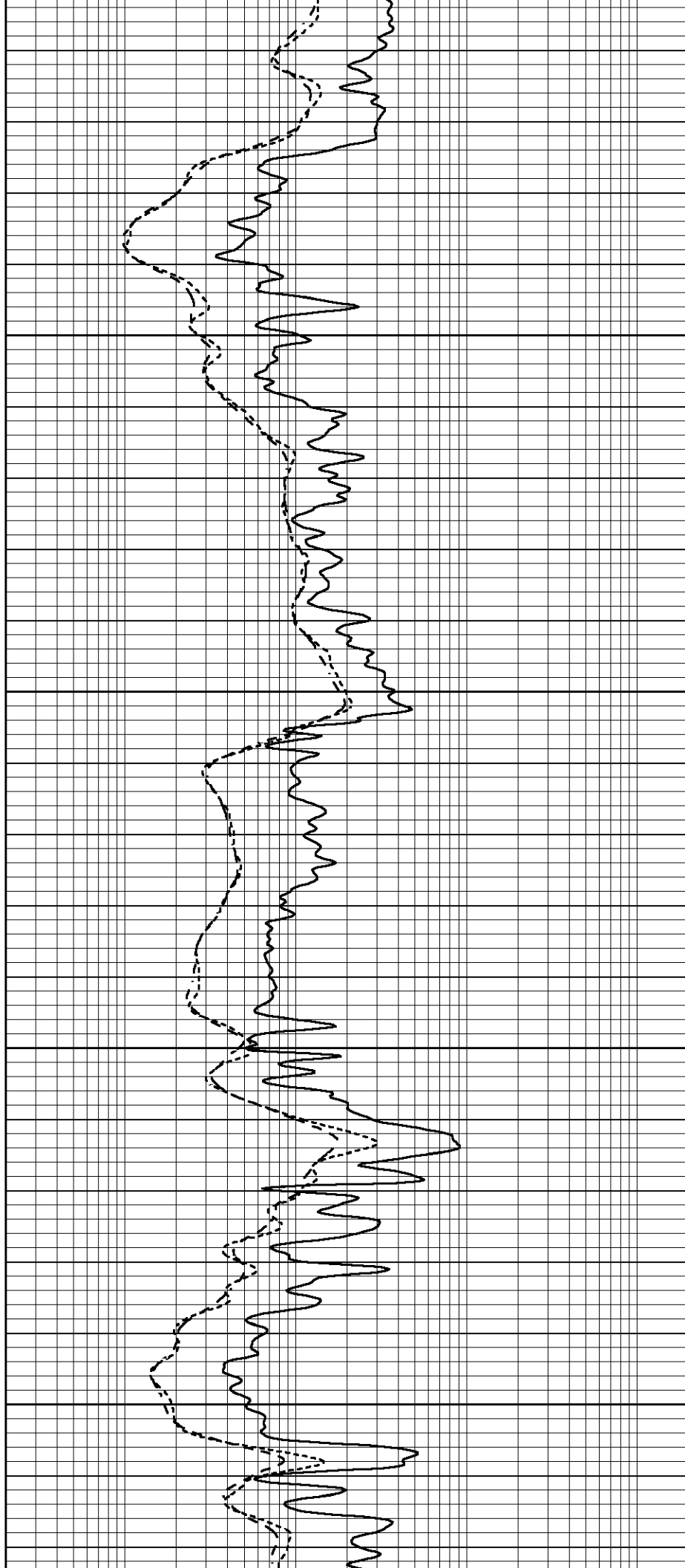


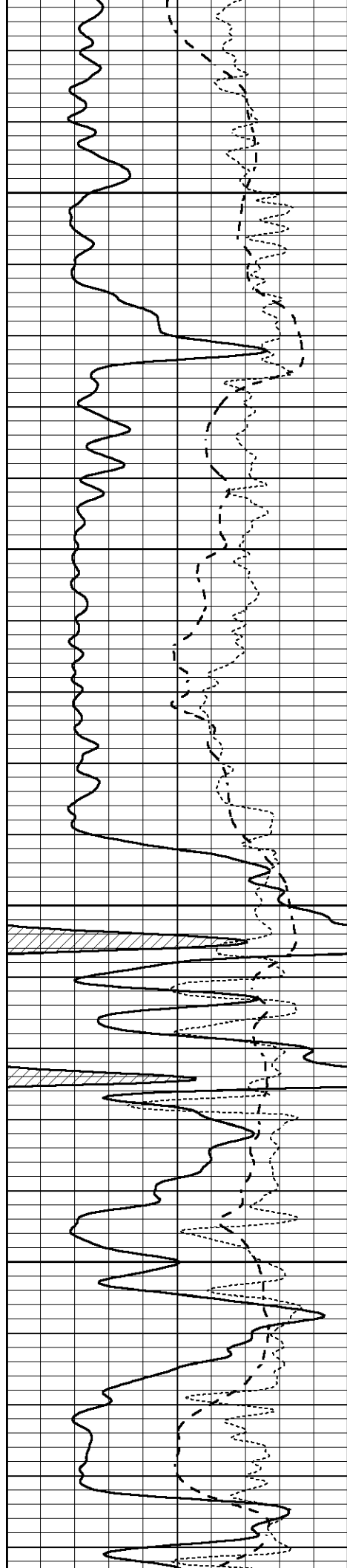
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3450

3500

3550



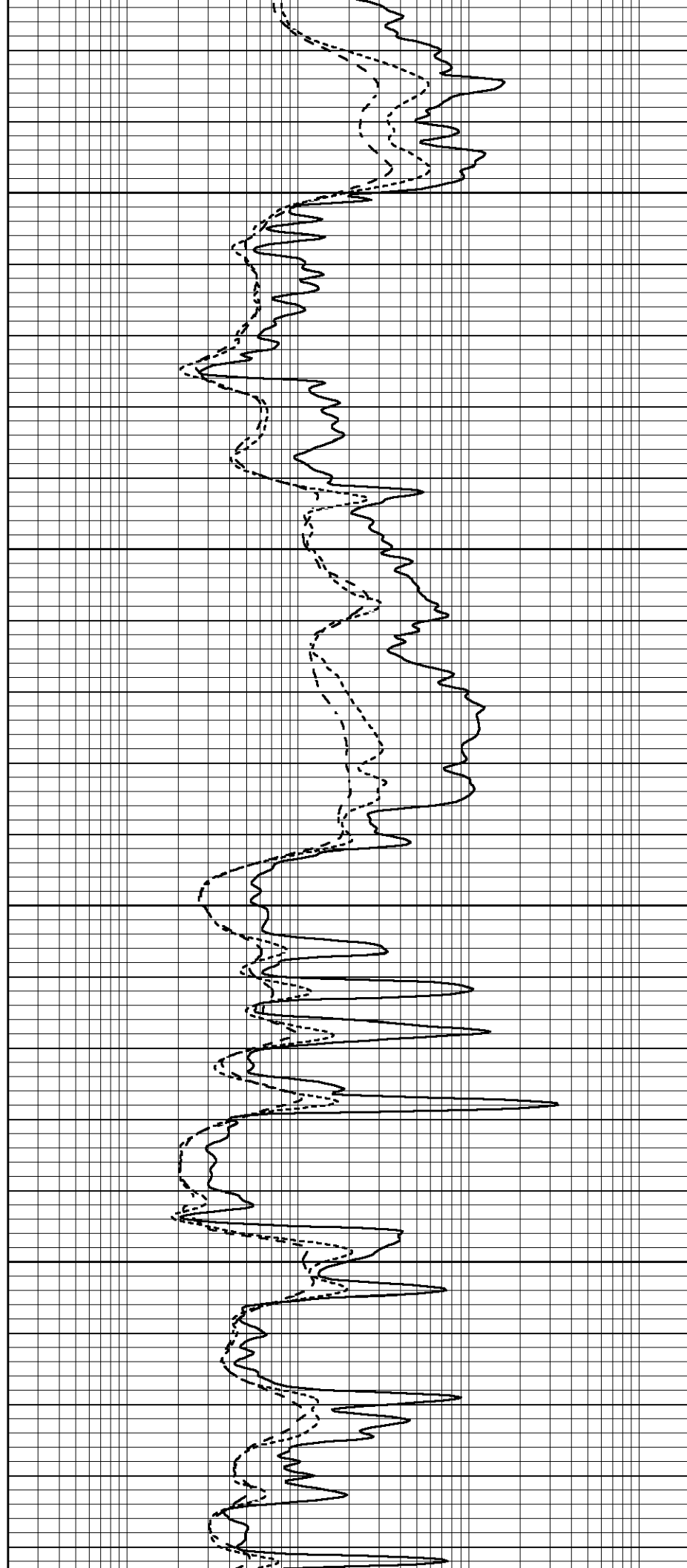


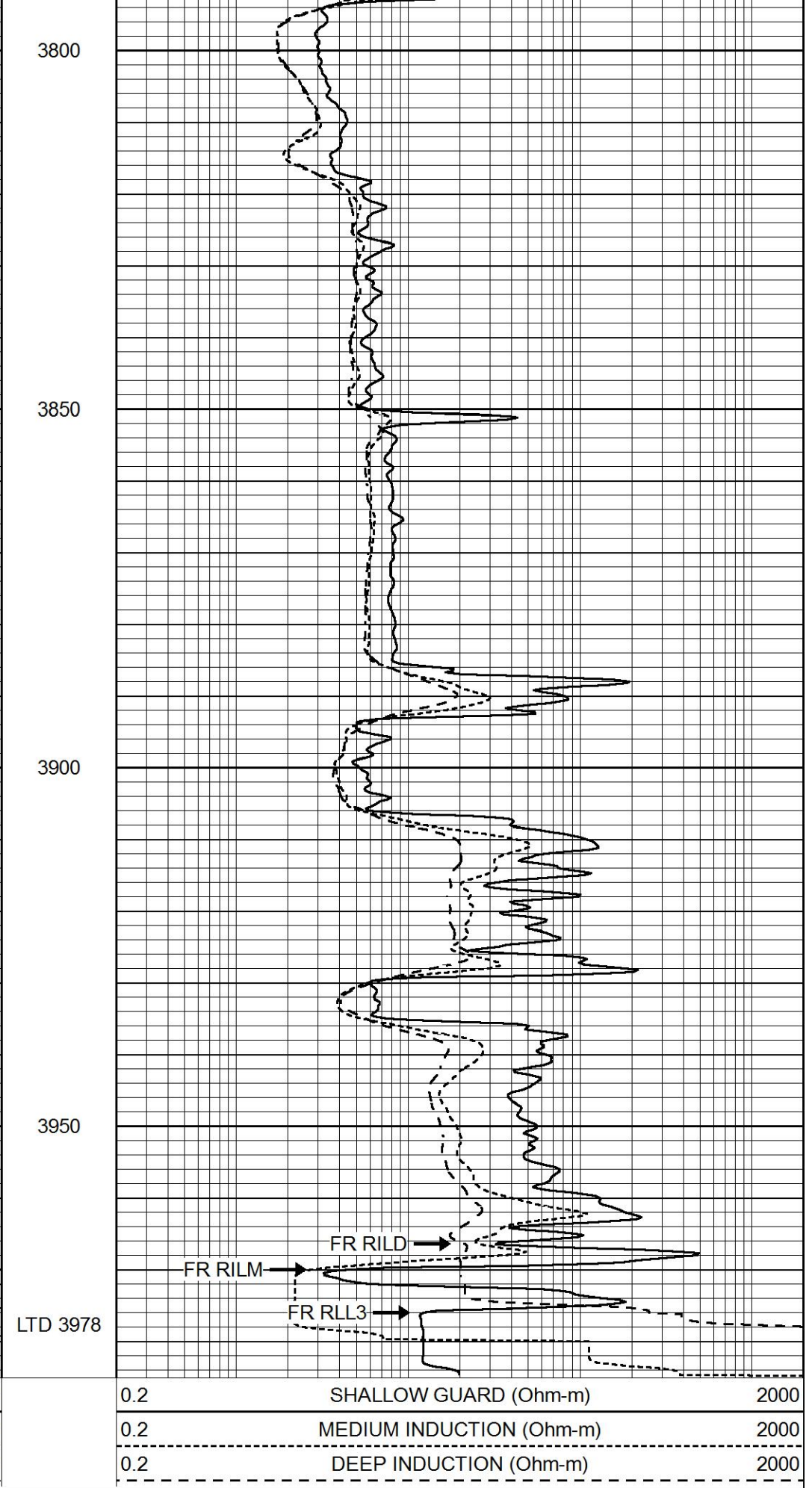
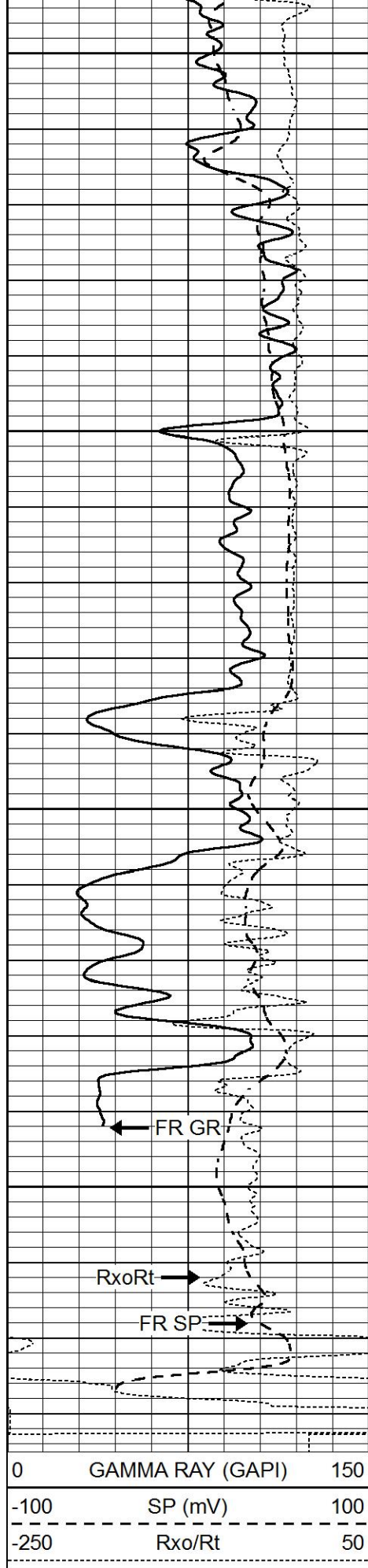
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3650

3700

3750





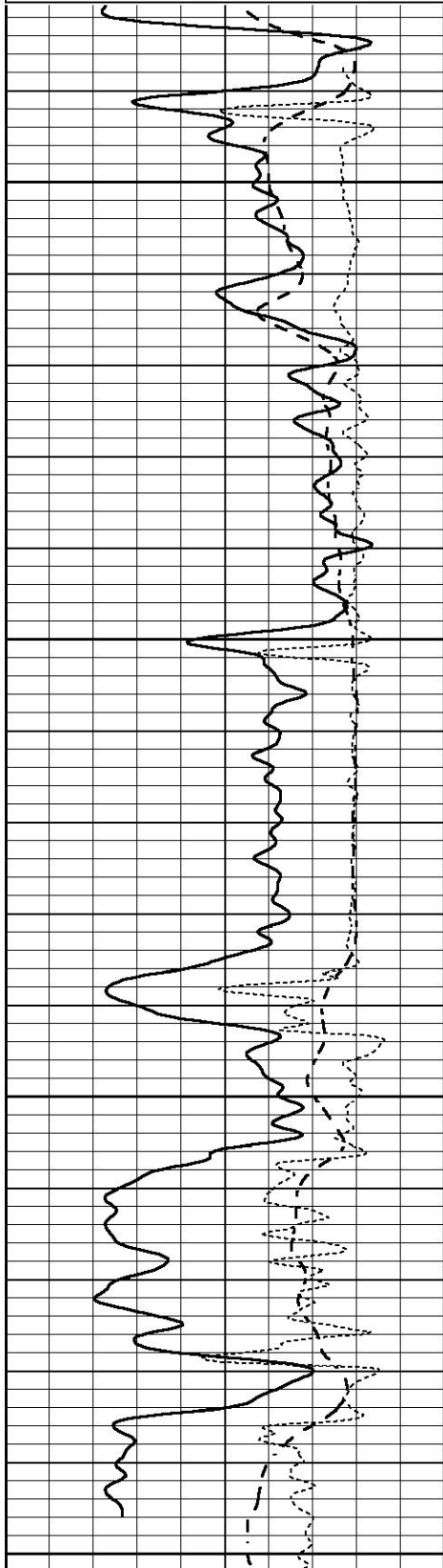


REPEAT SECTION

Database File 4746pe.db
Dataset Pathname pass2.1
Presentation Format _dil
Dataset Creation Thu Jul 23 17:26:02 2020
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

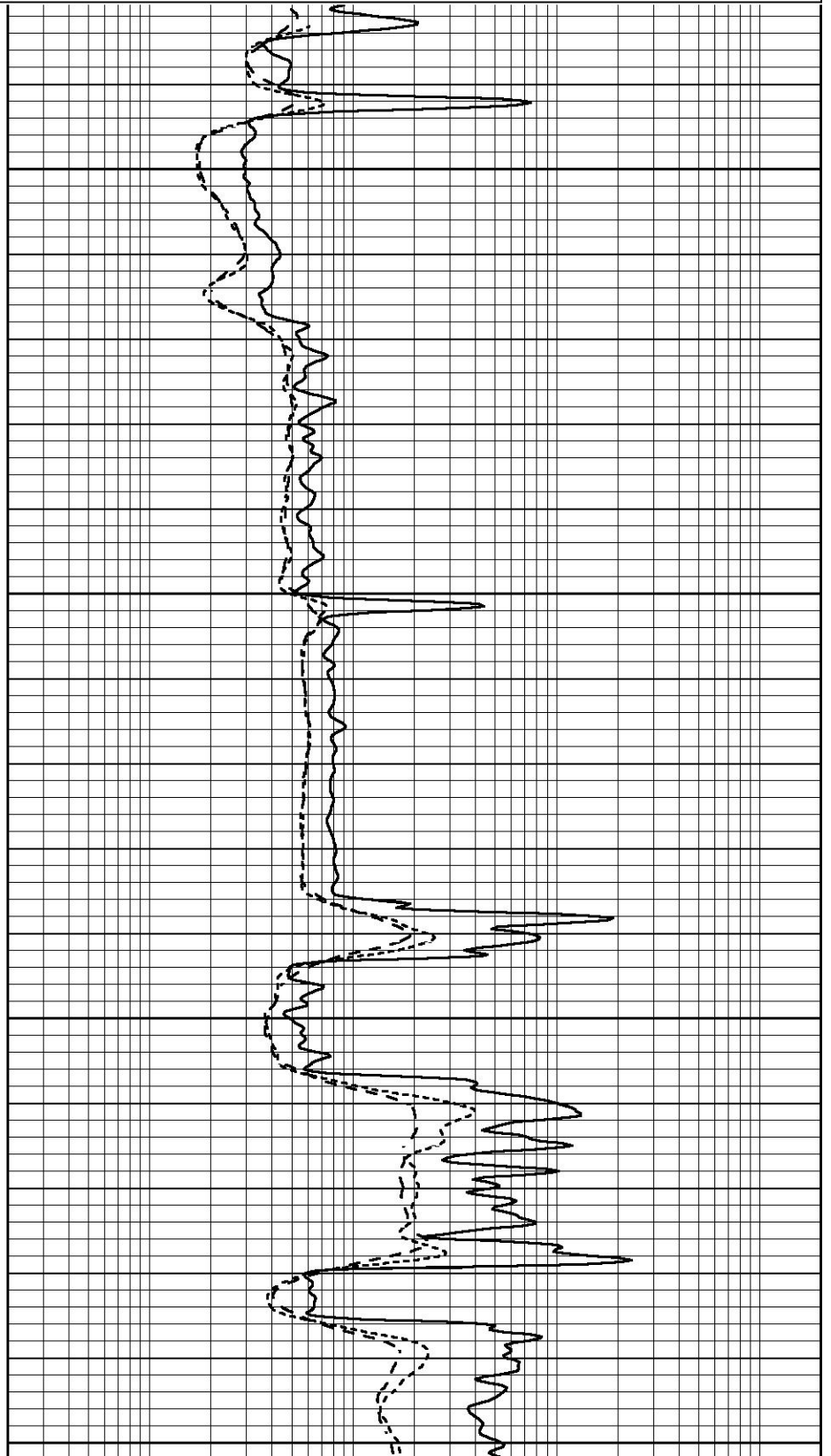


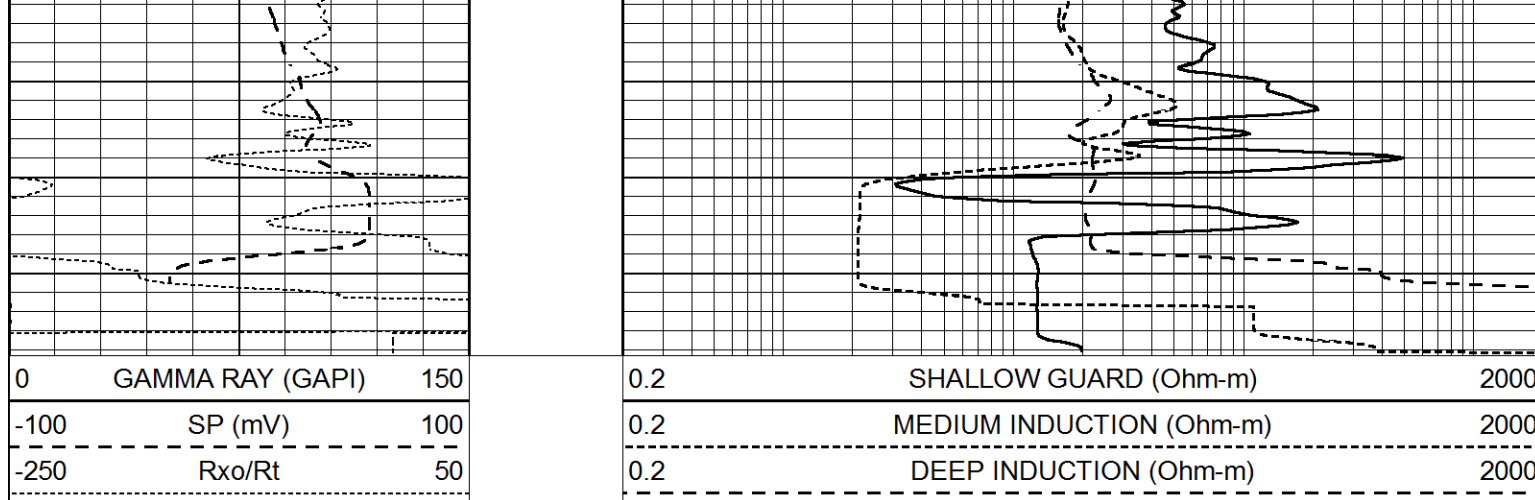
3800

3850

3900

3950





Calibration Report

Database File	4746pe.db
Dataset Pathname	pass2.1
Dataset Creation	Thu Jul 23 17:26:02 2020

Dual Induction Calibration Report

Serial-Model:	FW1410-56-Probe
Surface Cal Performed:	Mon Jun 15 22:52:02 2020
Downhole Cal Performed:	Tue Jul 25 12:15:37 2017
After Survey Verification Performed:	Tue Jul 25 12:15:38 2017

Surface Calibration

Readings			References			Results		
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.008	0.765	V	1.000	400.000	mmho/m	400.061	-3.201
Medium	-0.056	0.761	V	1.000	464.000	mmho/m	425.187	32.510
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.005	0.624	V	0.000	400.000	mmho/m	645.611	-3.034
Medium	0.012	0.721	V	0.000	464.000	mmho/m	653.591	-7.532

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	-0.647	301.329	mmho/m	-0.780	336.378	mmho/m	1.117	-0.058
Medium	38.256	411.013	mmho/m	39.046	441.706	mmho/m	1.080	-2.280
LL3		7.471	V		2500.000	Ohm-m		
		0.001	V		20.000	Ohm-m		
		-7.085	V		5000.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-0.647	301.329	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	38.256	411.013	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: 140703

Model: V4 10P

Master Calibration

Performed: Thu May 21 10:43:15 2020

	Background	Aluminum	Magnesium	
Window 1	531.08	5459.71	23833.72	cps
Window 2	42.08	1230.06	5814.64	cps
Window 4	232.81	1236.34	5296.40	cps
Window 5	564.62	8687.43	16546.07	cps
Window 6	44.20	1453.03	2846.27	cps
Window 8	270.67	2786.28	5209.33	cps
Bulk Density	-	2.6020	1.6830	g/cc
Pe	-	3.0000	2.5070	b/e
LS Alpha:	: -1.8459	SS Alpha:	: -0.7701	LS CPE:
LS Beta:	: 125609.8082	SS Beta:	: 19396.7594	SS CPE:

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: Thu May 21 10:43:15 2020

Results	Readings	References (in)		Gain	Offset
Low	High	Low	High		
4564.4	7712.2	8.0	14.0	0.0	-0.7

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:	Tue Dec 10 10:02:55 2019		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.4800	GAPI/cps	