



PIONEER
Pioneer Energy Services

**DUAL INDUCTION
LOG**

Company **CASTLE RESOURCES, INC.**
Well **EAGLE 1 MOORE #1**
Field **WILDCAT**
County **DECATUR**
State **KANSAS**

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Field **WILDCAT**
County **DECATUR** State **KANSAS**

Location: API #: 15-039-21242-00-00
SEC 15 TWP 1S RGE 29W
935' FNL & 2460' FWL
Permanent Datum **GROUND LEVEL** Elevation **2581'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**
Other Services
CNL/CDL
MEL/BHCS
Elevation
K.B. 2586'
D.F. N/A
G.L. 2581

Date	9/12/2017		
Run Number	ONE		
Depth Driller	4175'		
Depth Logger	4175'		
Bottom Logged Interval	4174'		
Top Log Interval	200'		
Casing Driller	8.625" @ 207'		
Casing Logger	208'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	2500		
Density / Viscosity	8.7 41		
pH / Fluid Loss	9.7 8.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.60 @ 80		
Rmt @ Meas. Temp	0.45 @ 80		
Rmc @ Meas. Temp	0.81 @ 80		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	0.42 @ 114		
Operating Rig Time	3 HOURS		
Max Rec. Temp. F	114		
Equipment Number	91		
Location	HAYS		
Recorded By	D. SCHMIDT		
Witnessed By	JERRY GREEN		

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

**CEDAR BLUFFS,
200 YARDS SOUTH, 200 WEST,
SOUTH TO LOCATION**

Log Measured From: KELLY BUSHING 5 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew

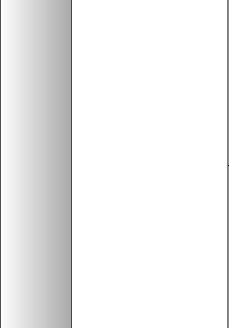
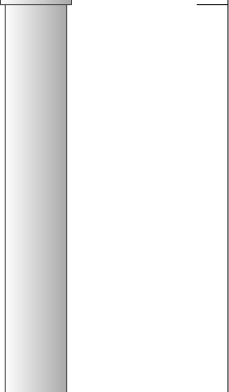
Engineer: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: JERRY GREEN
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	365	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	3759	114	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

			DIL-M&W (PSI 91)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: castle resources_eagle 1 moore_1.db: field/well/STKML/pass5.1 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						



MAIN PASS

Database File

castle resources_eagle 1 moore_1.db

Dataset Pathname

STKML/pass5.1

Presentation Format

dil2in

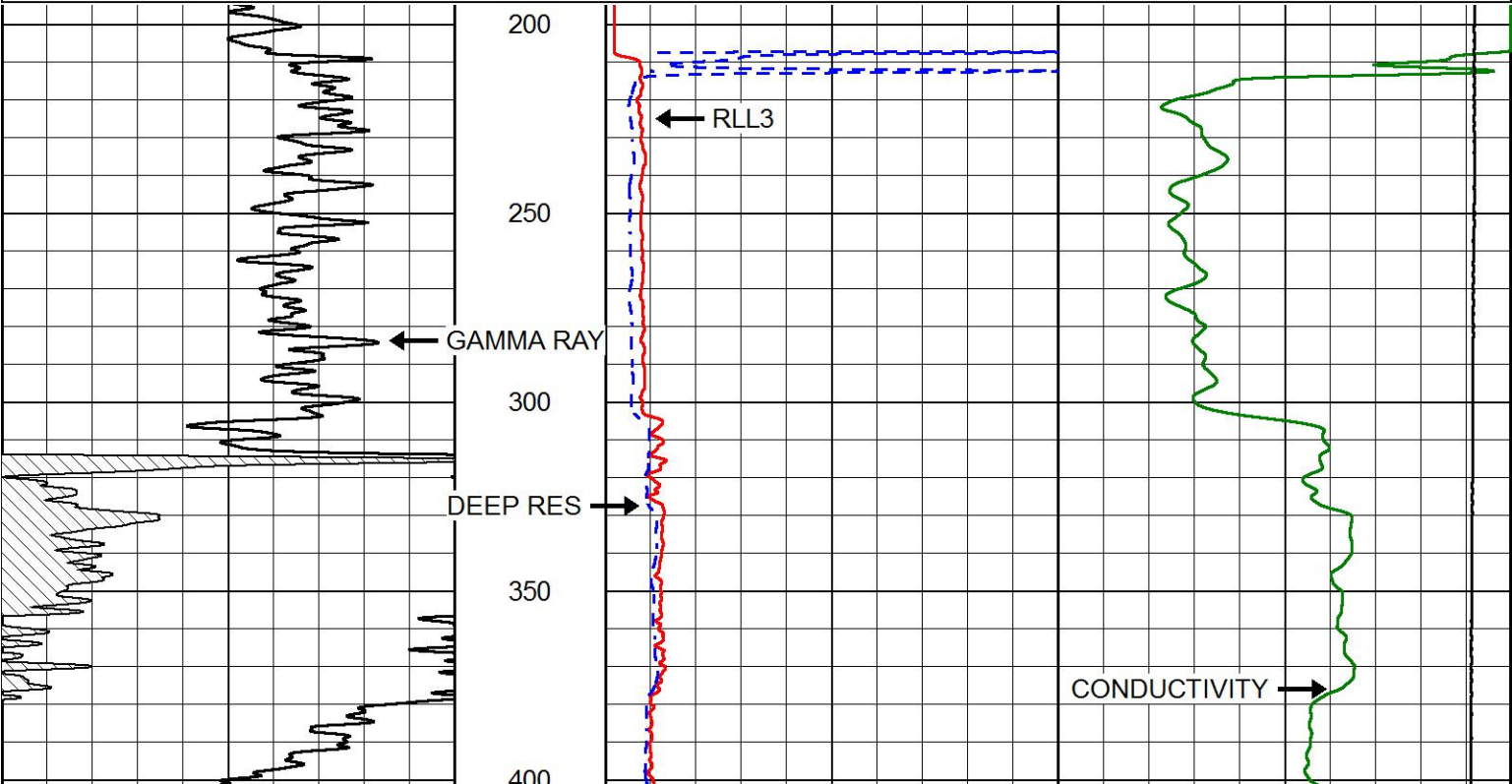
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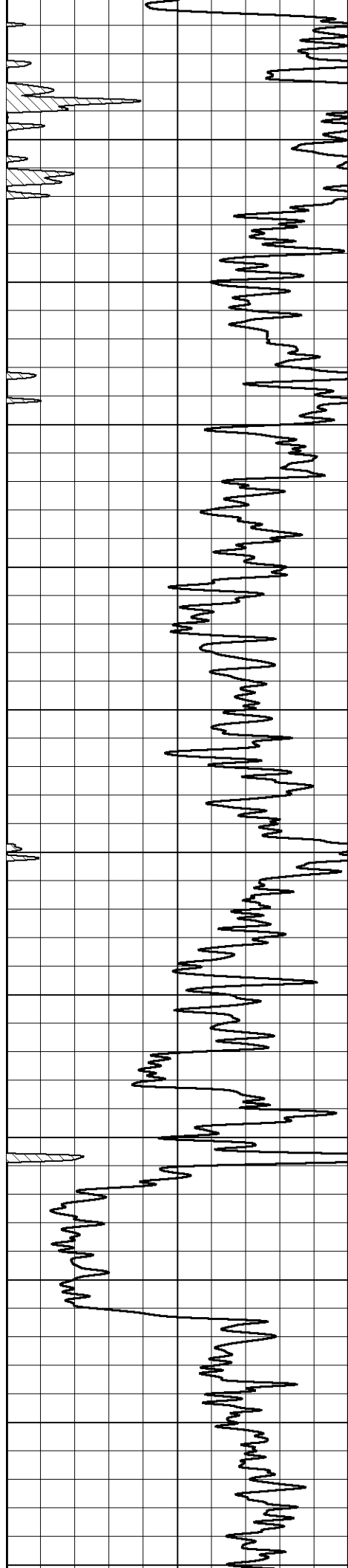
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Charted by

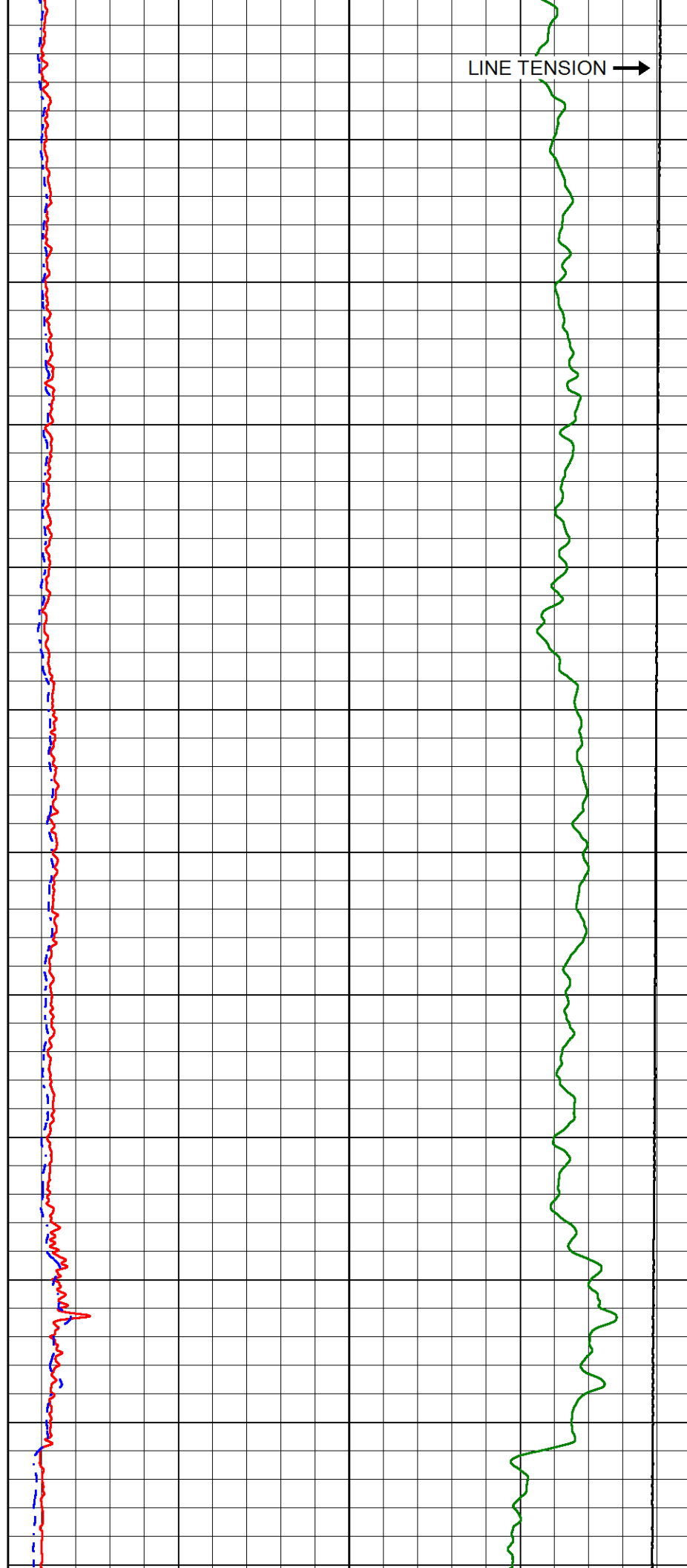
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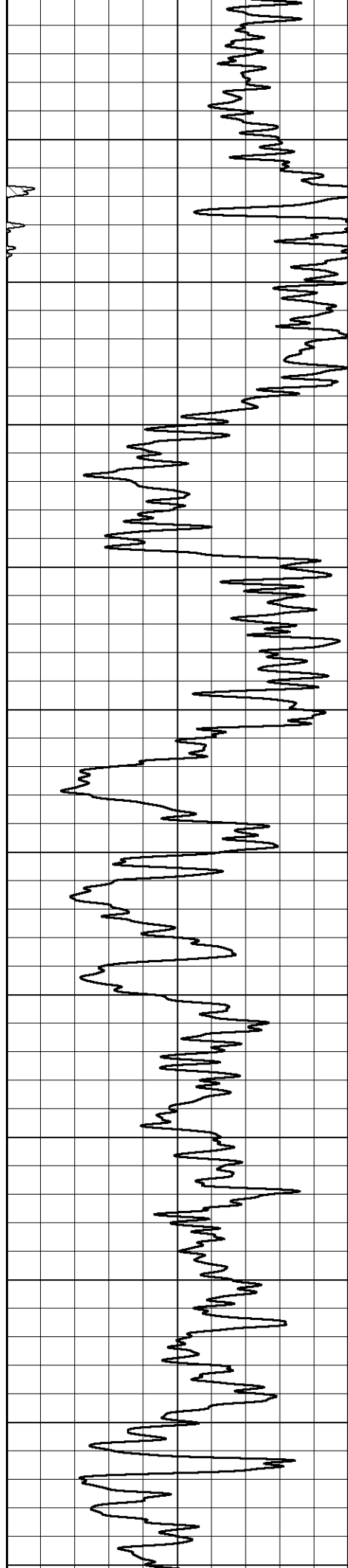
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1000	Conductivity (mmho/m)	0
15000	Line Tension (lb)	0
0	RLL3 (Ohm-m)	50
0	Deep Resistivity (Ohm-m)	50
50	RLL3 (Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500



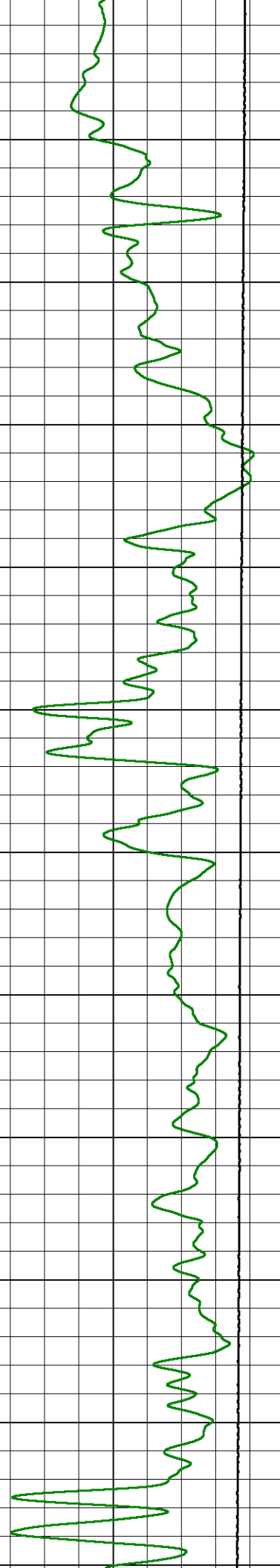
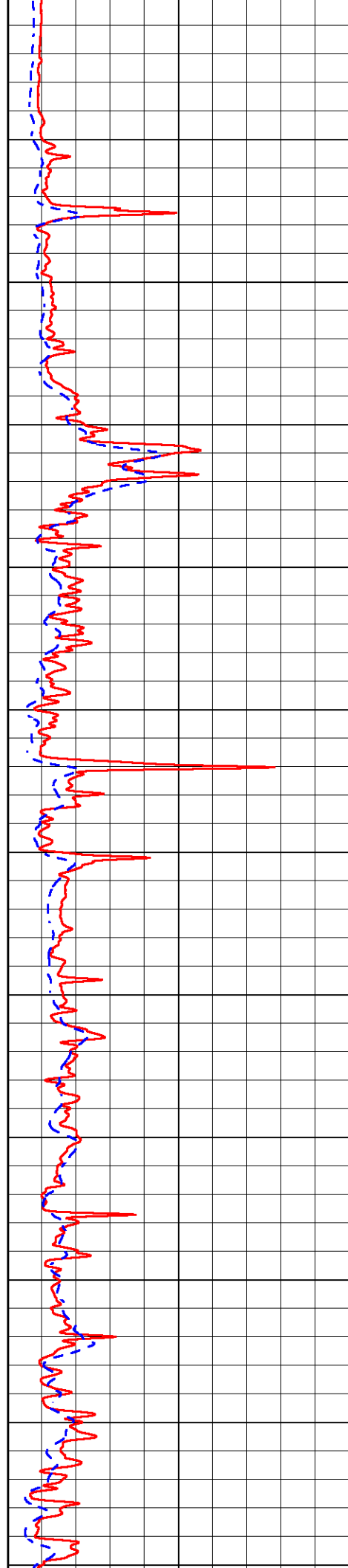


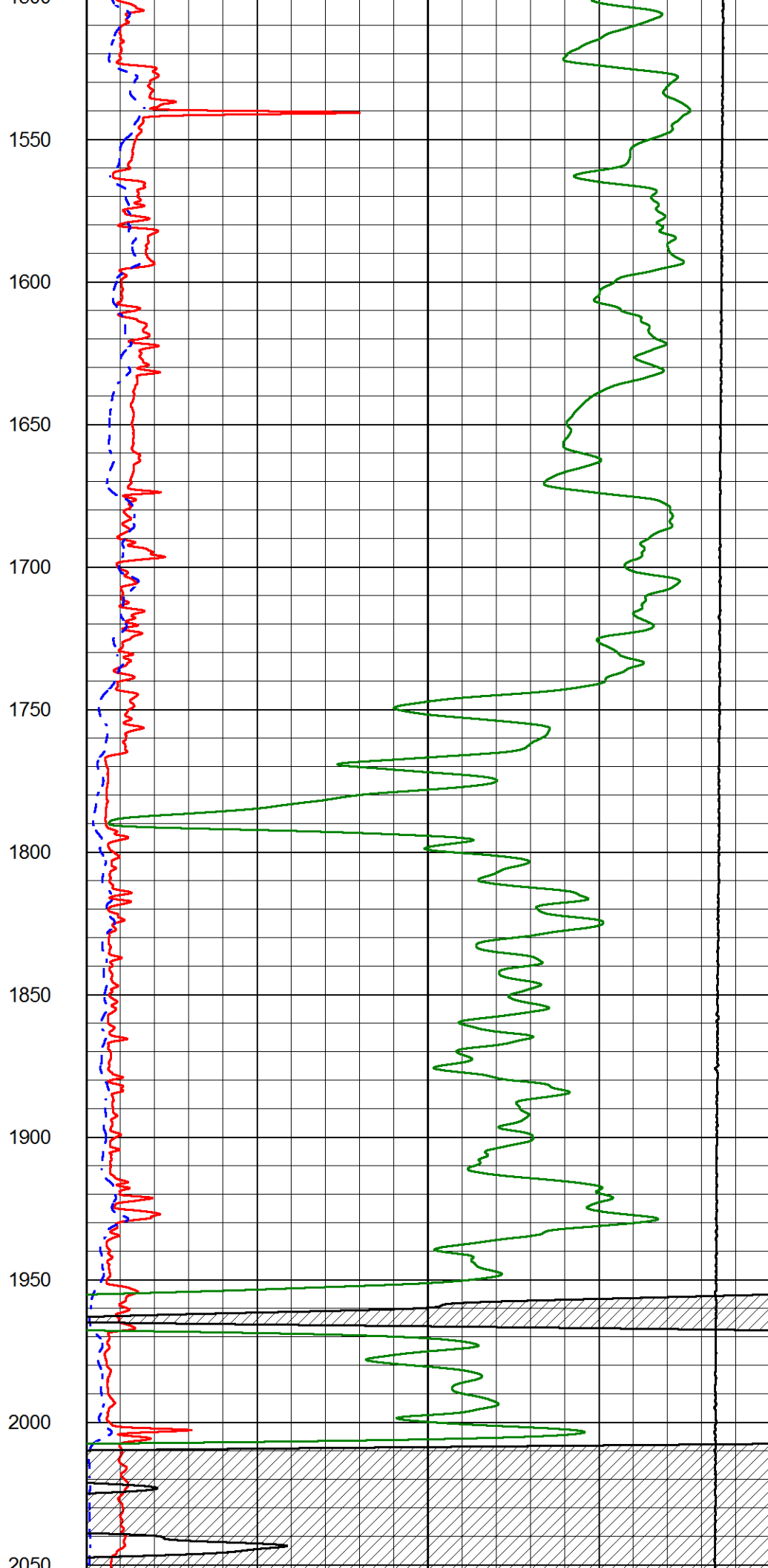
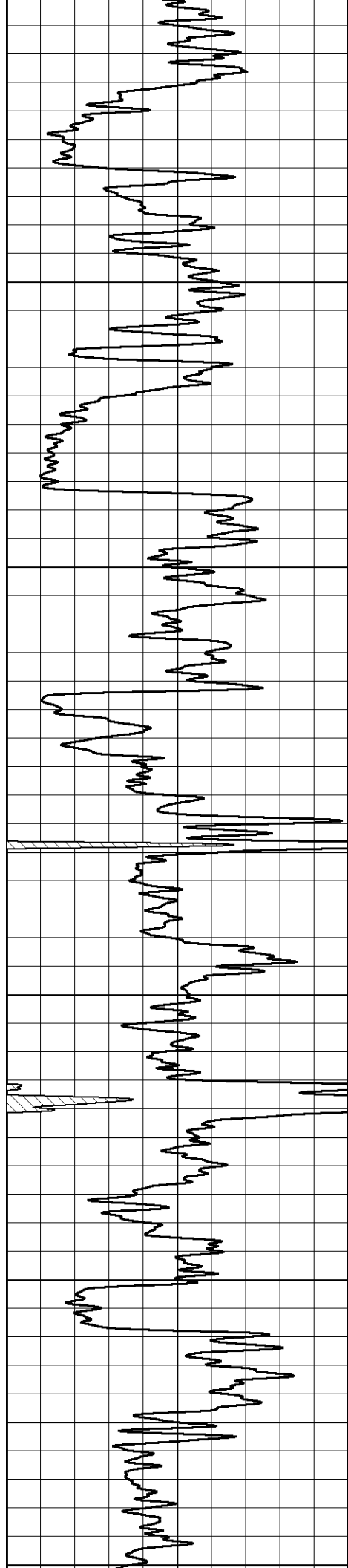
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500
550
600
650
700
750
800
850
900
950

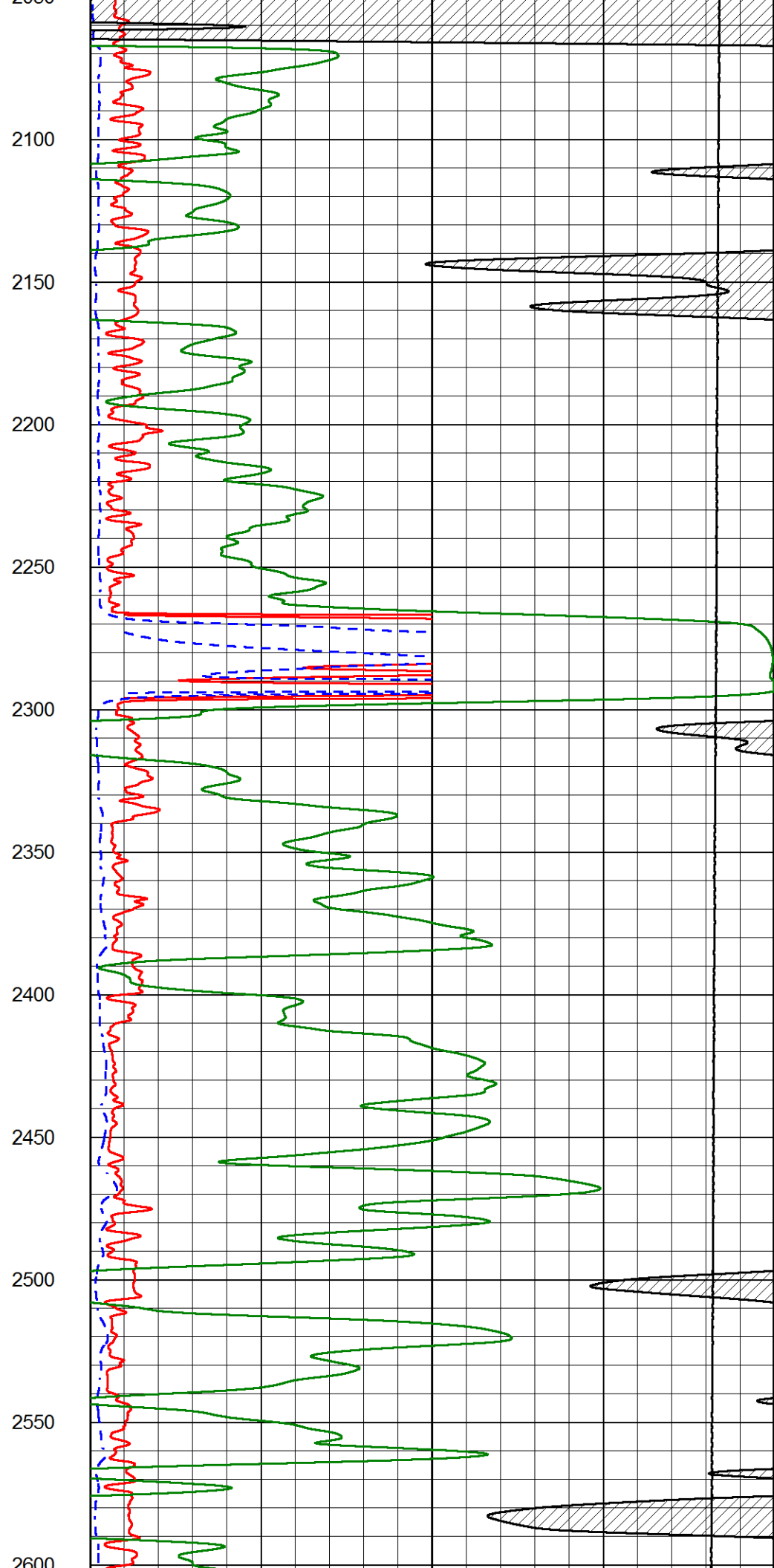
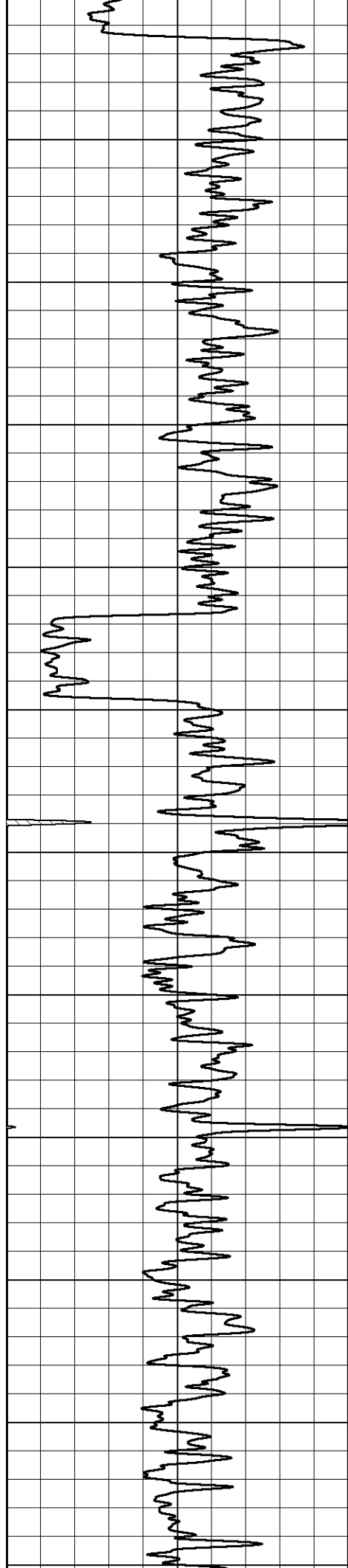


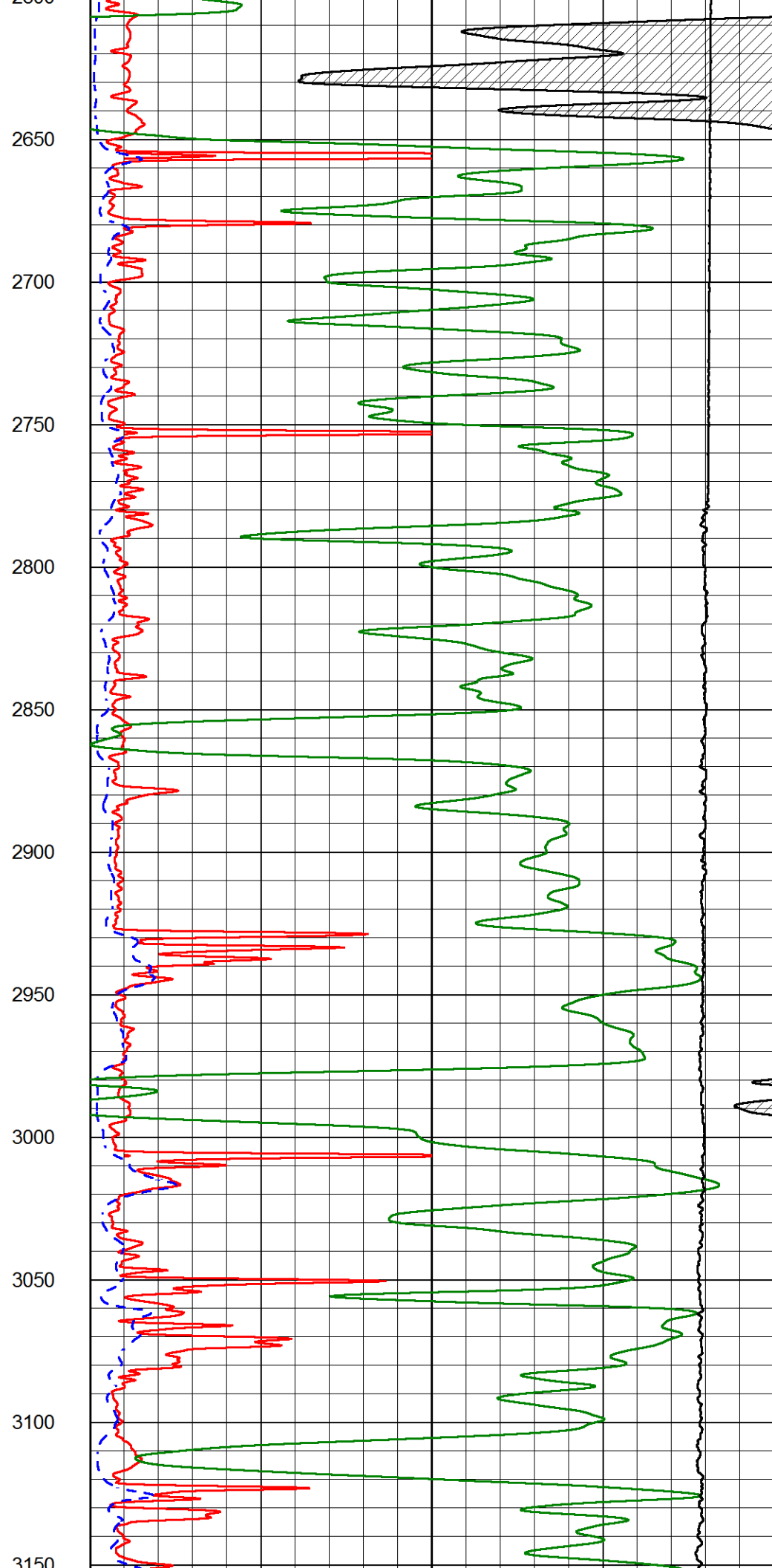
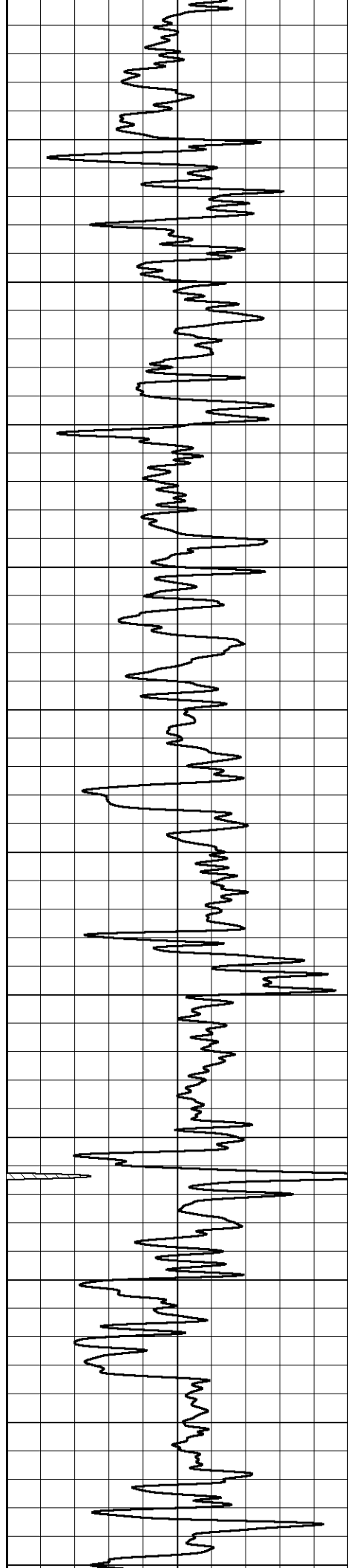


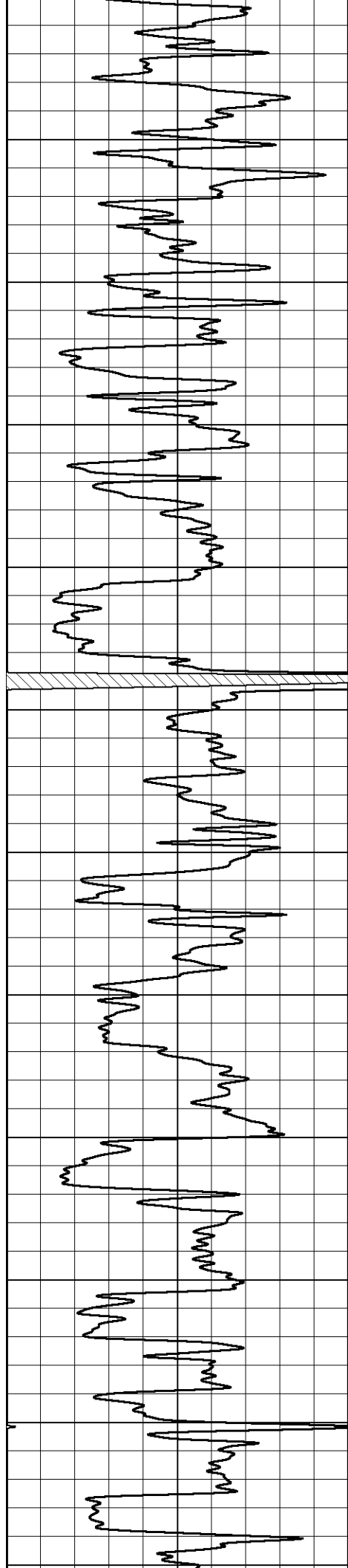
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500



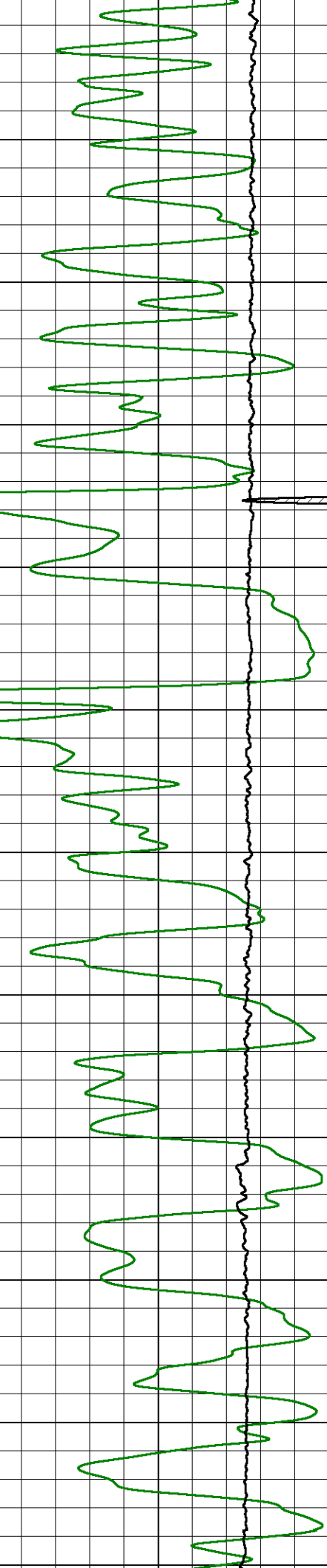
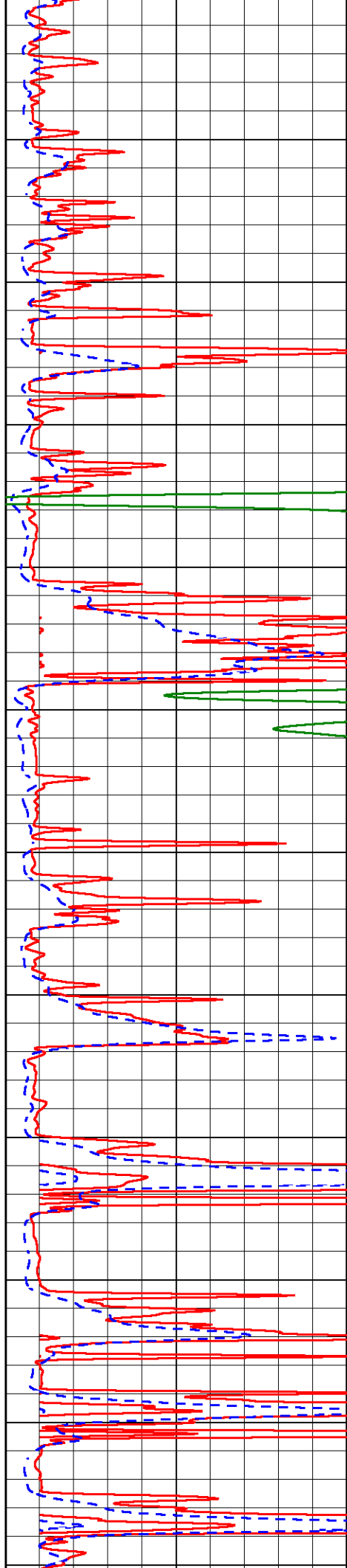


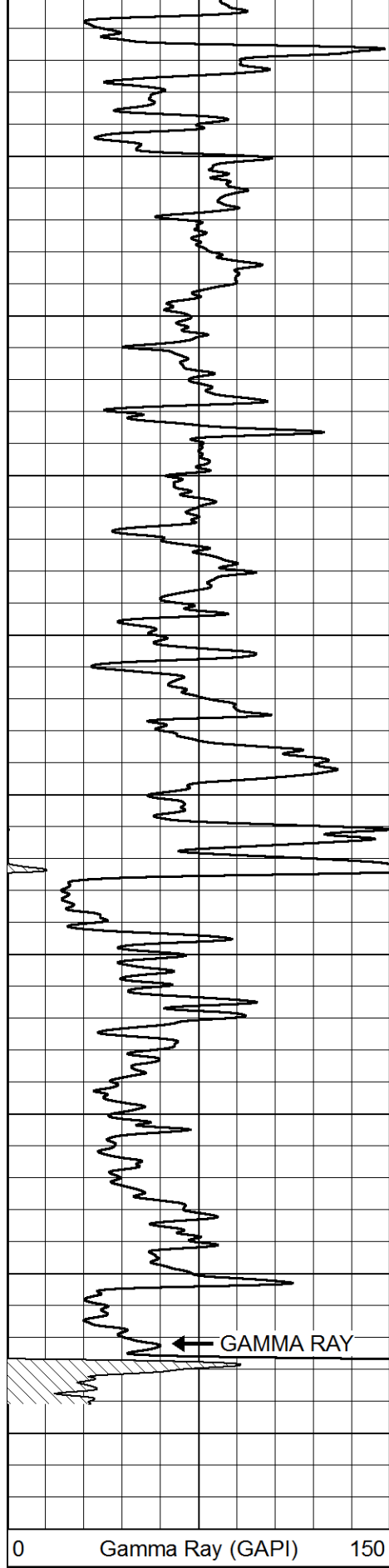




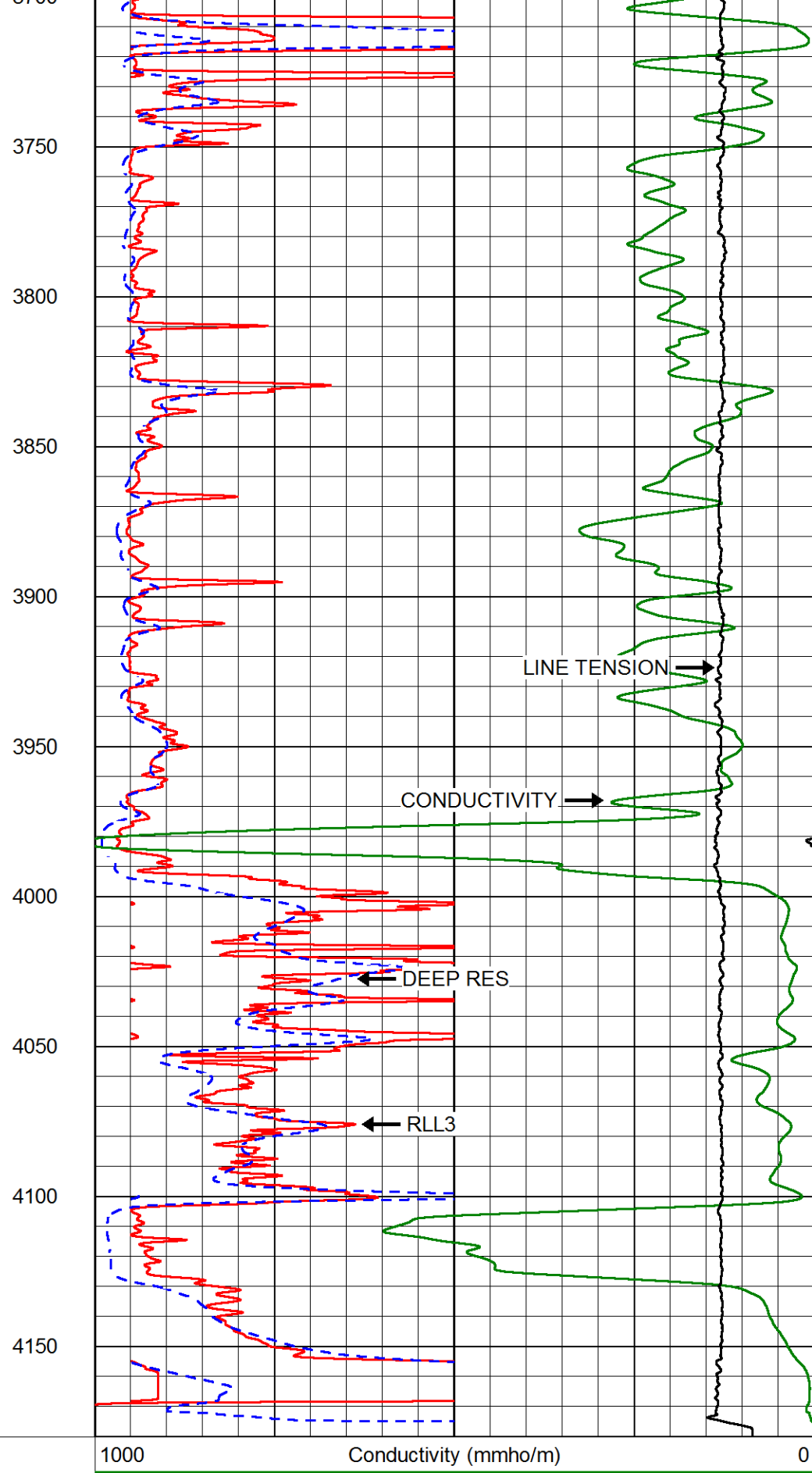


3100
3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700





0 Gamma Ray (GAPI) 150



1000 Conductivity (mmho/m) 0
15000 Line Tension (lb) 0

0 RLL3 (Ohm-m) 50

0 Deep Resistivity (Ohm-m) 50

50 RLL3 (Ohm-m) 500

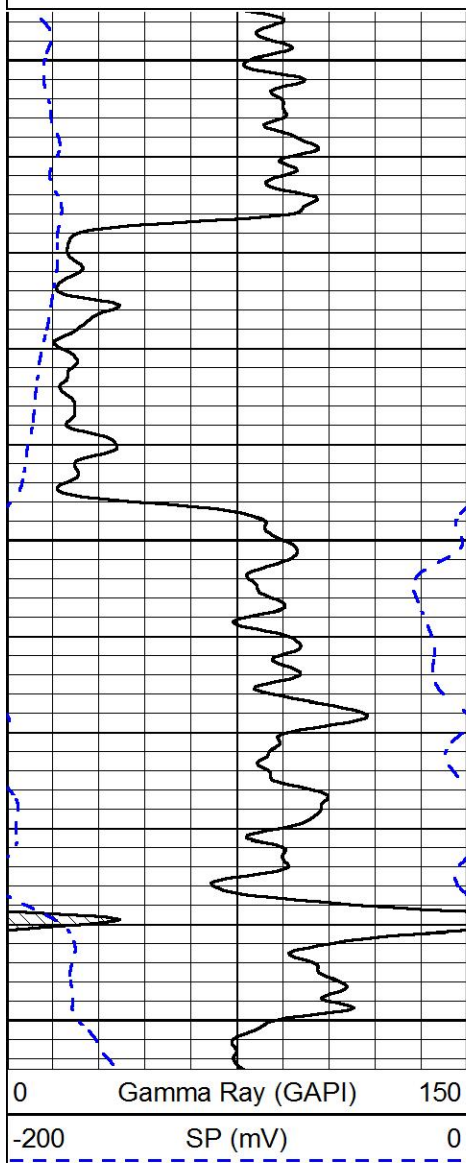
50 Deep Resistivity (Ohm-m) 500

MAIN PASS

Database File castle resources_eagle 1 moore_1.db
 Dataset Pathname STKML/pass5.1
 Presentation Format dil
 Dataset Creation Mon Sep 11 03:22:26 2017
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

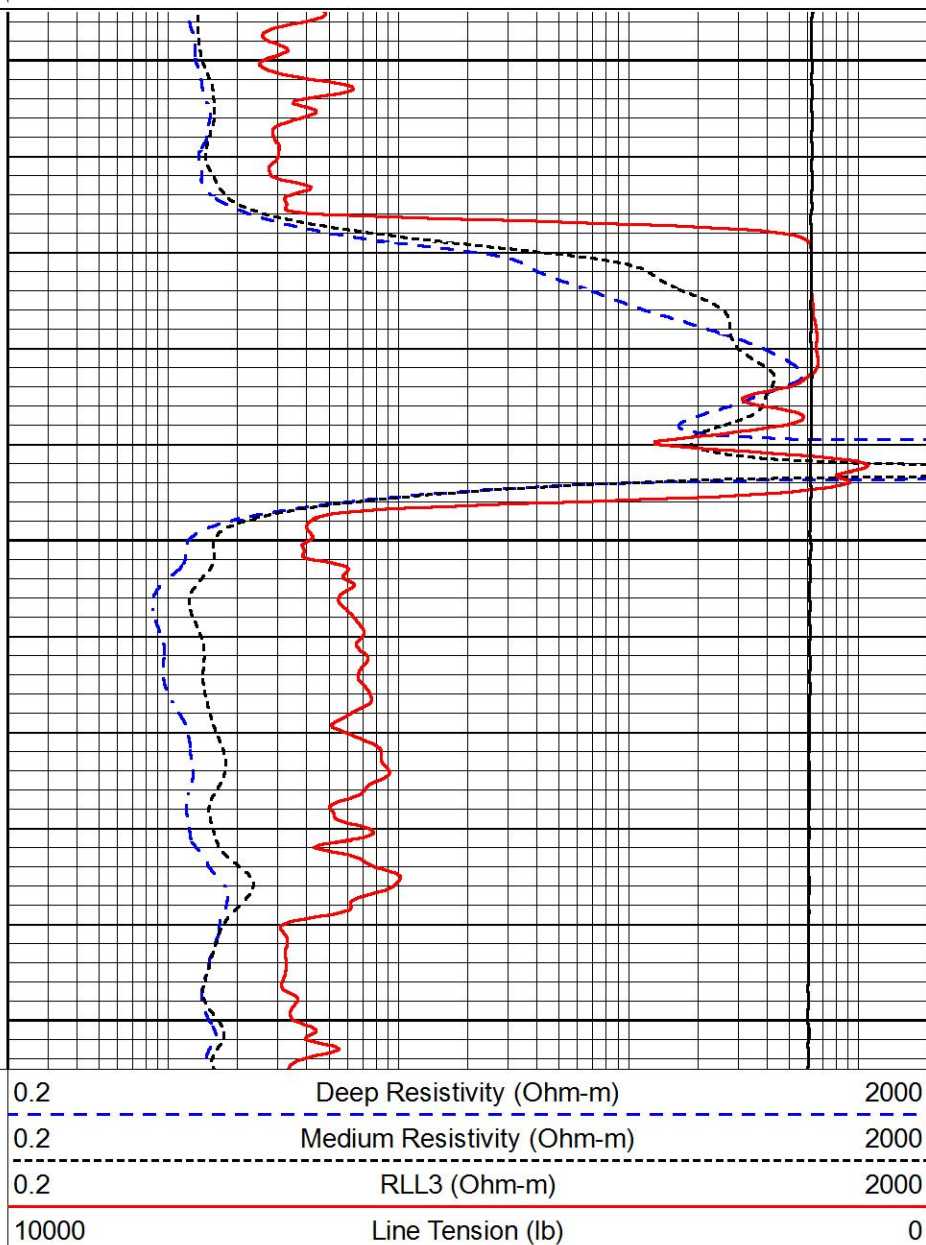
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0



2250

2300

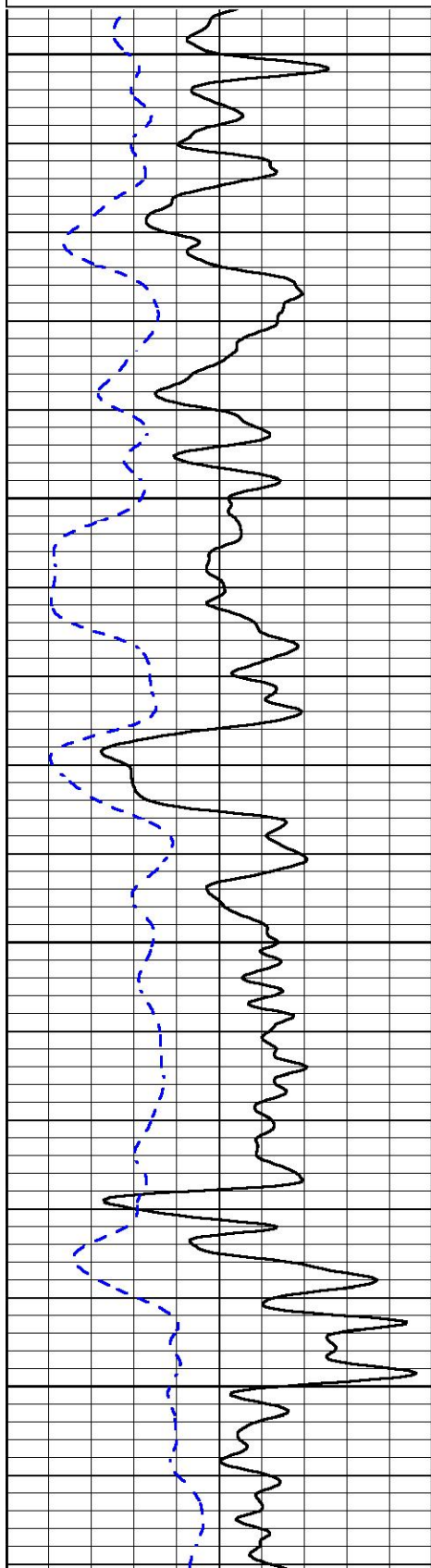
2350



Database File	castle resources_eagle 1 moore_1.db
Dataset Pathname	STKML/pass5.1
Presentation Format	dil
Dataset Creation	Mon Sep 11 03:22:26 2017
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0

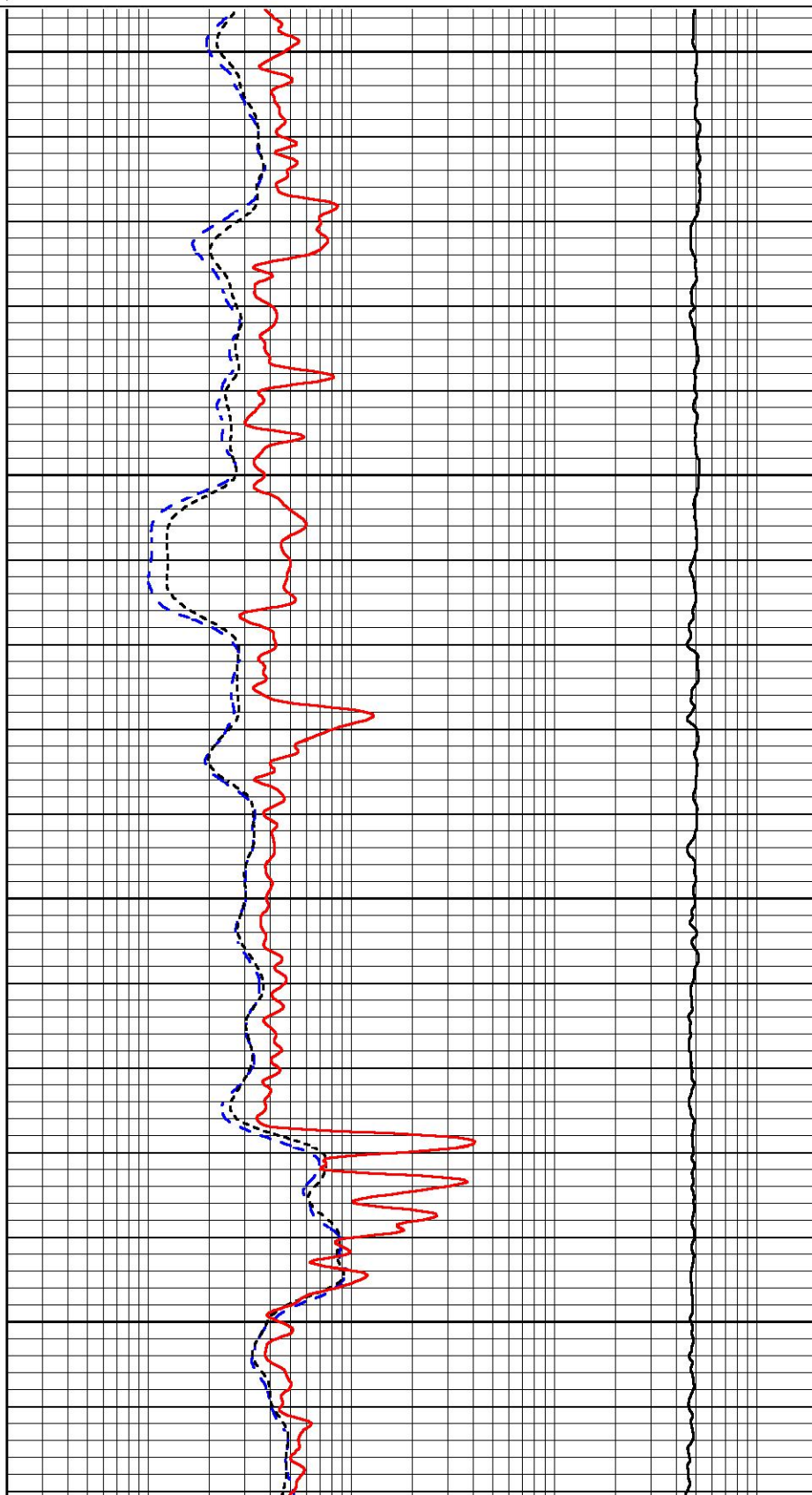


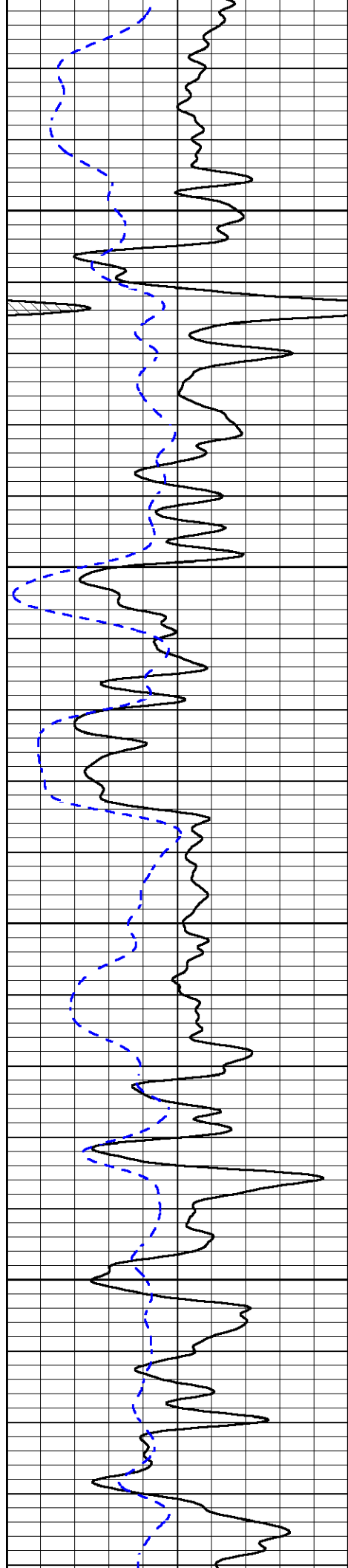
2800

2850

2900

2950



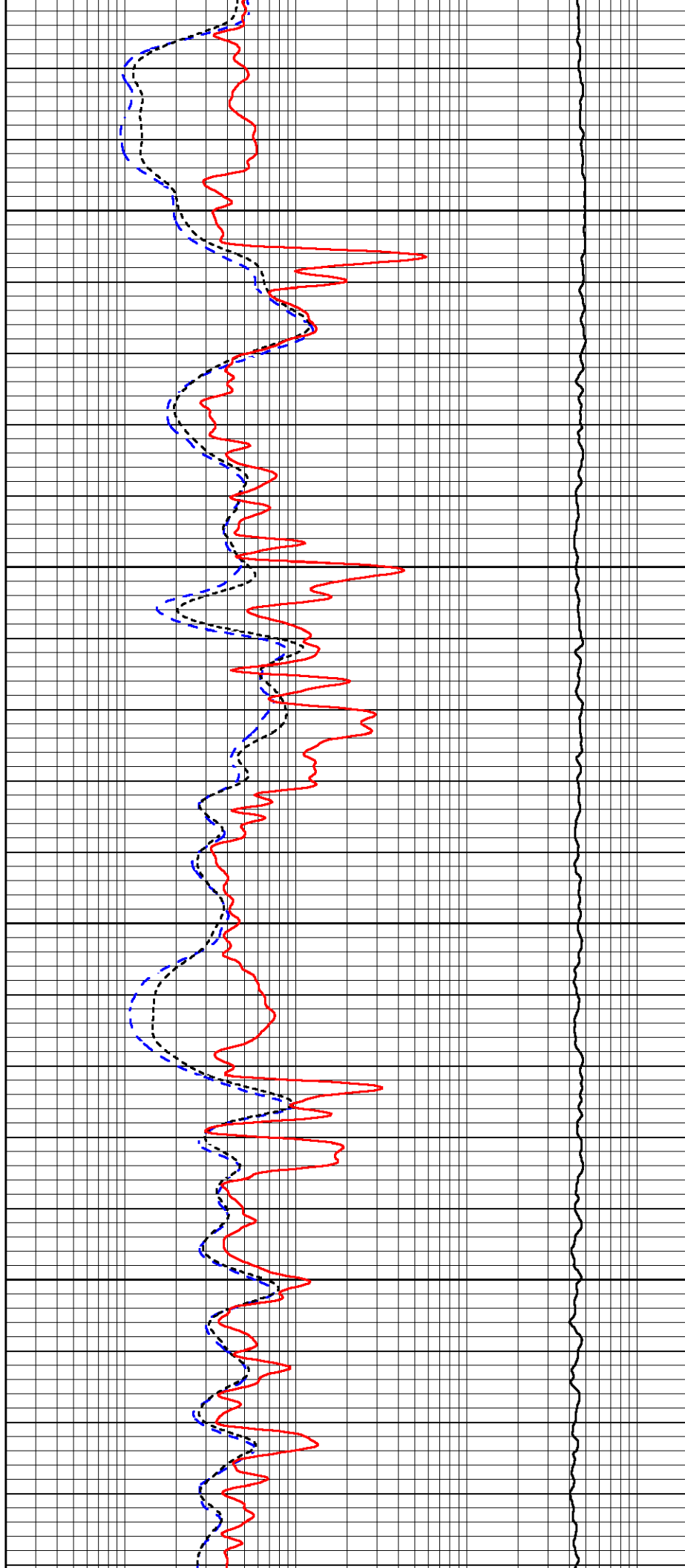


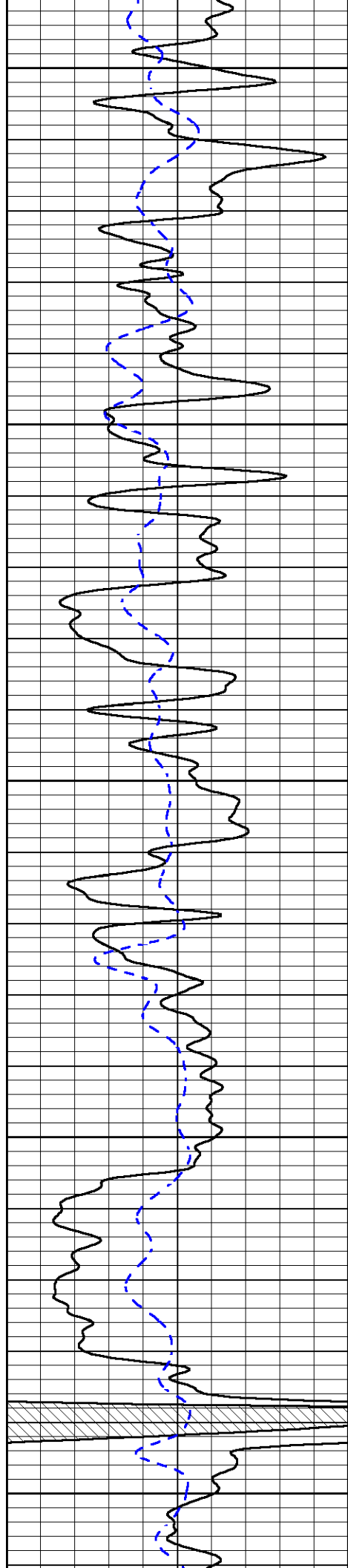
3000

3050

3100

3150





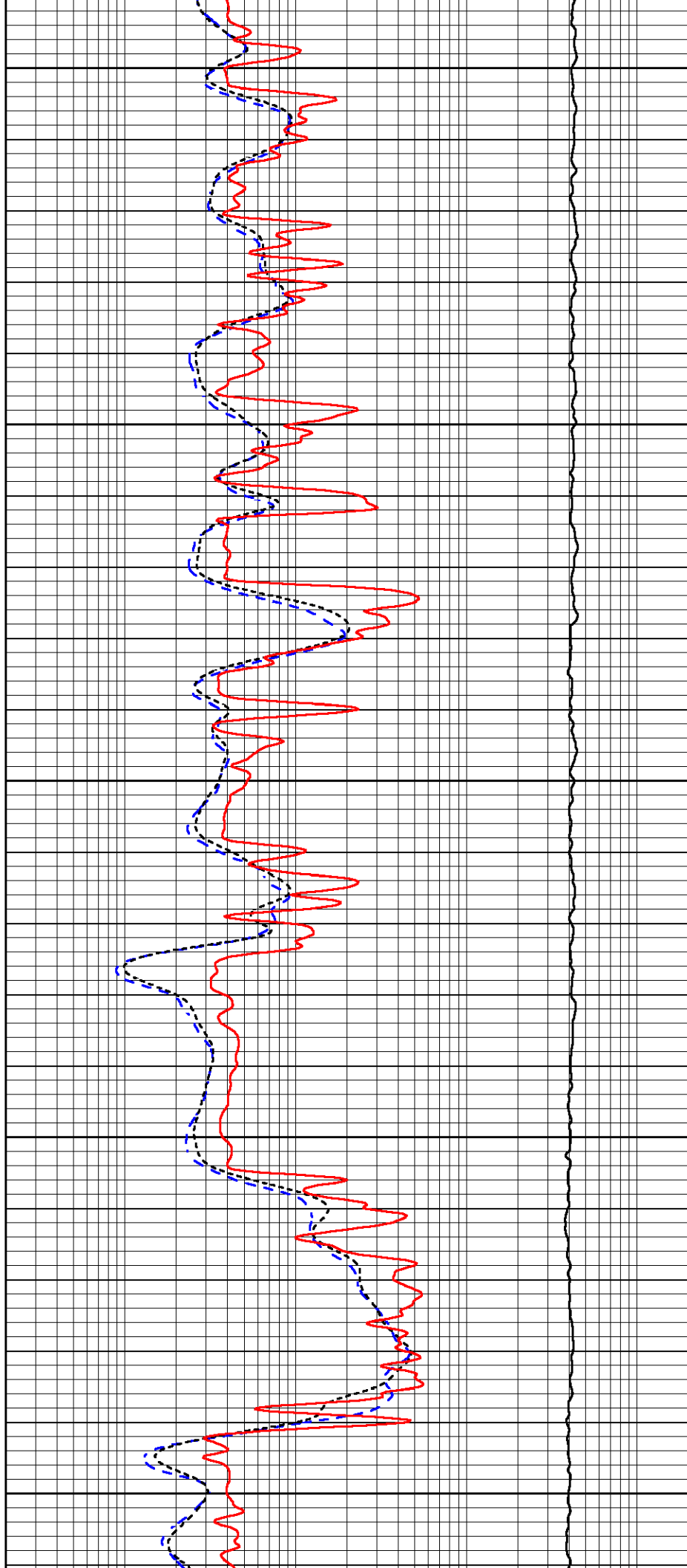
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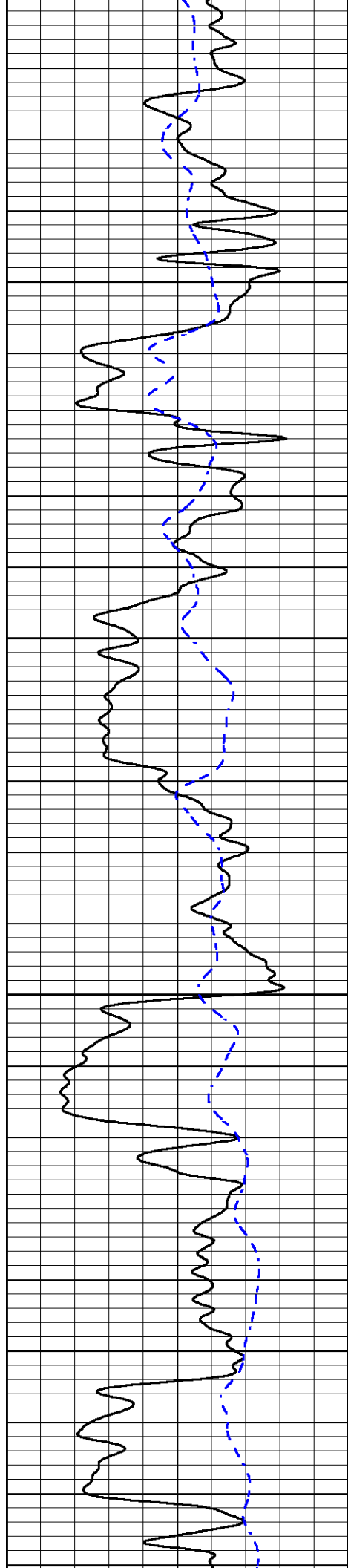
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3300

3350

3400



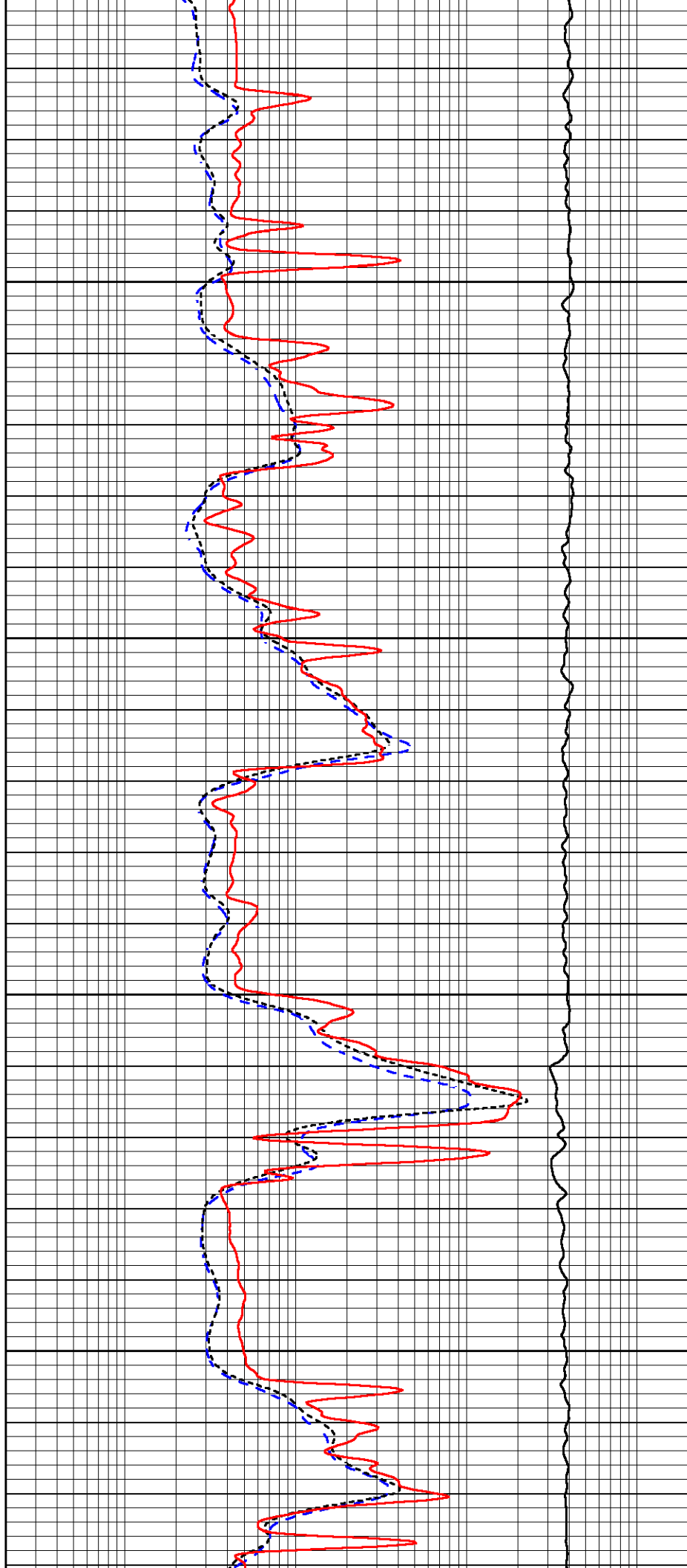


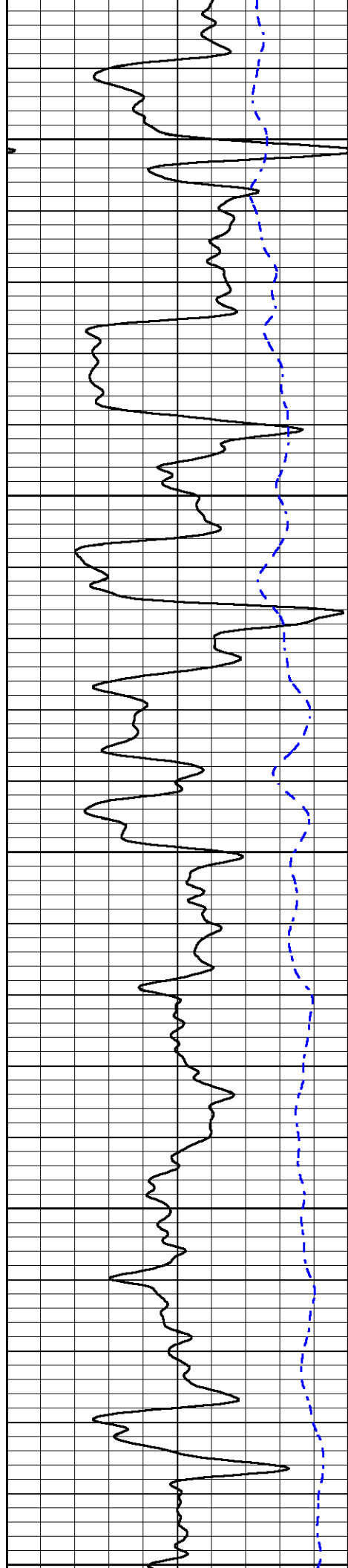
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3500

3550

3600





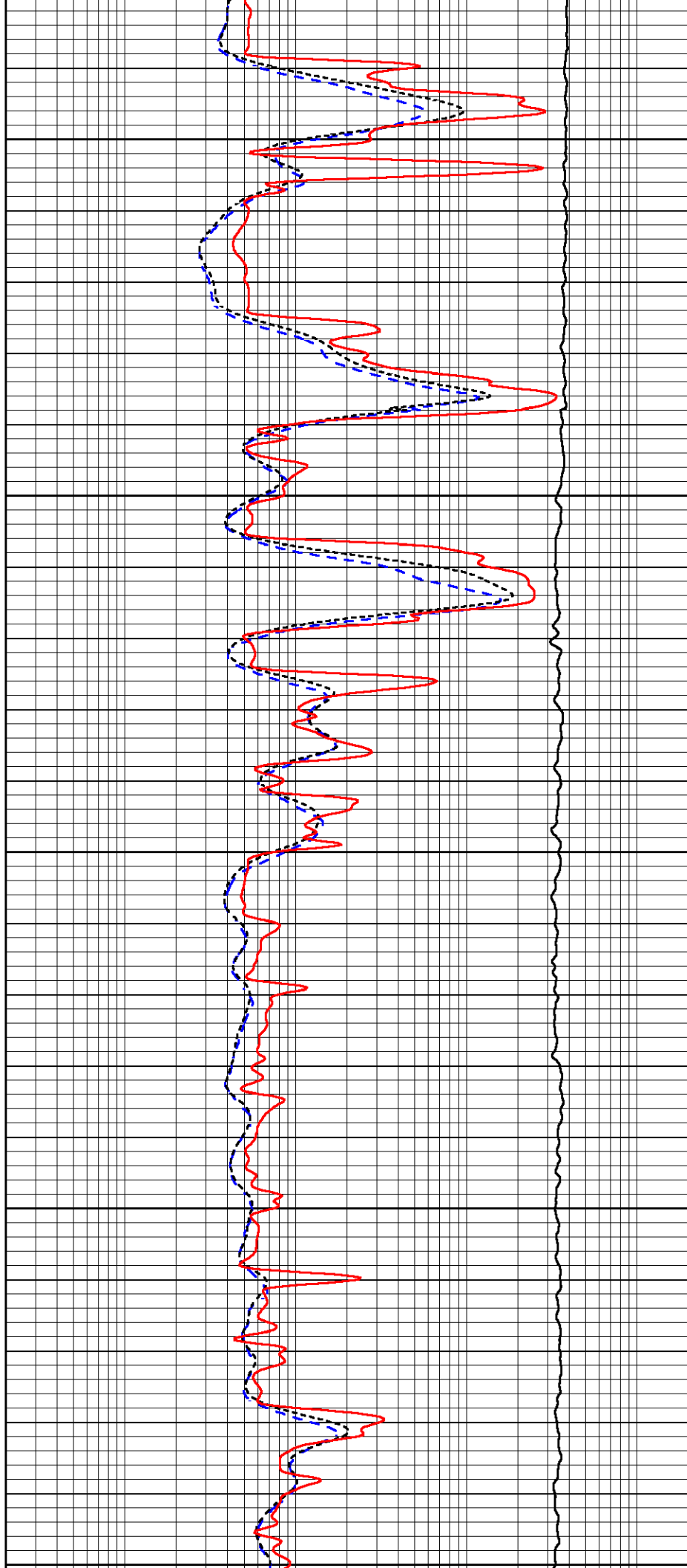
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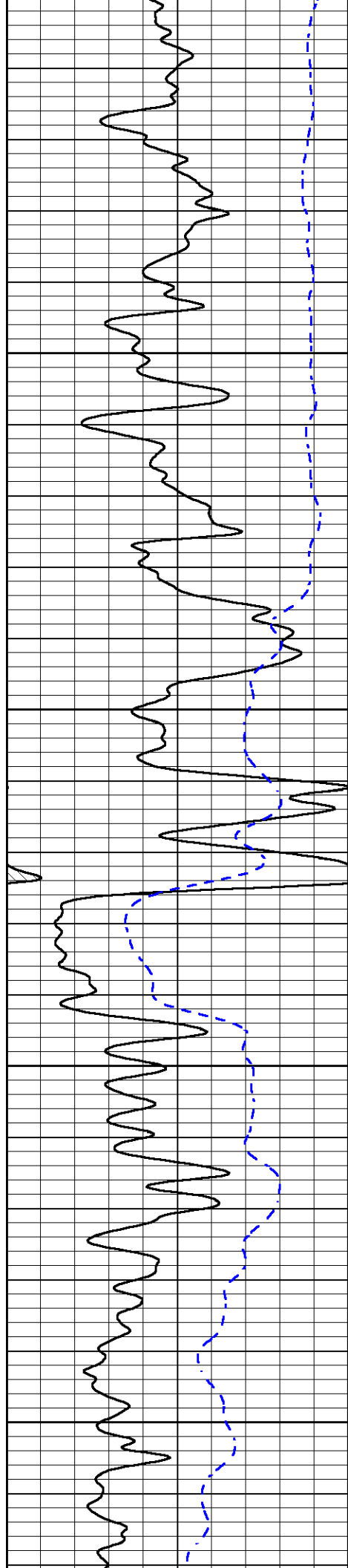
3700

3750

3800

3850



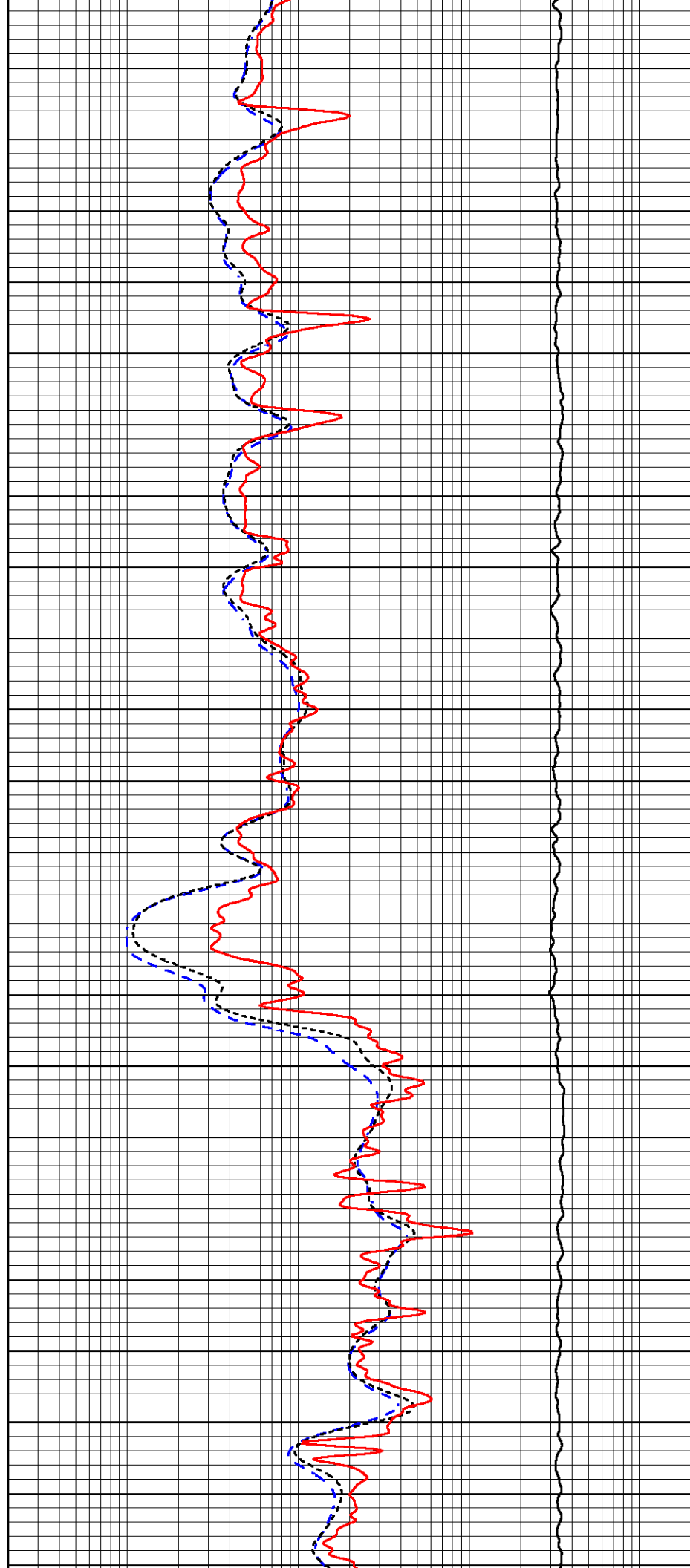


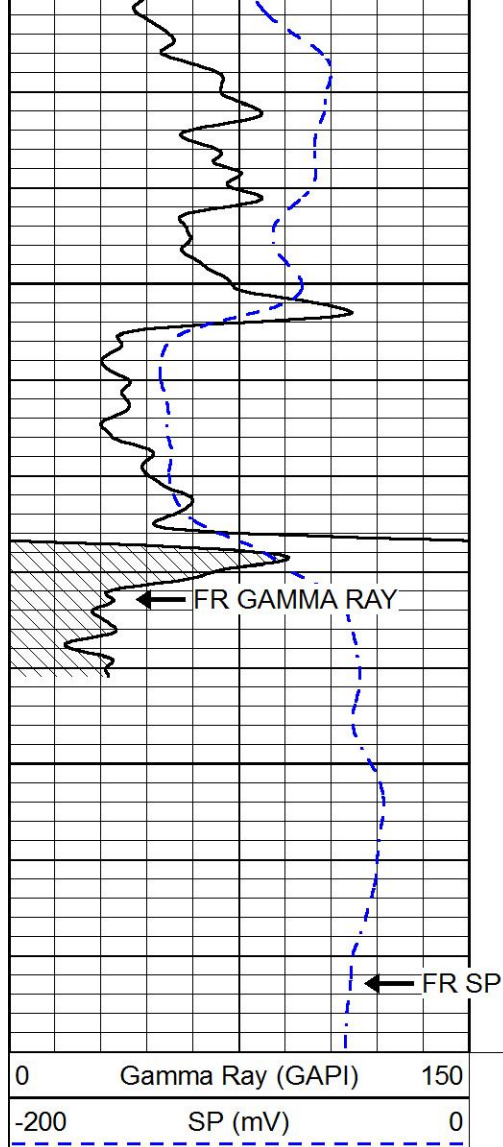
3900

3950

4000

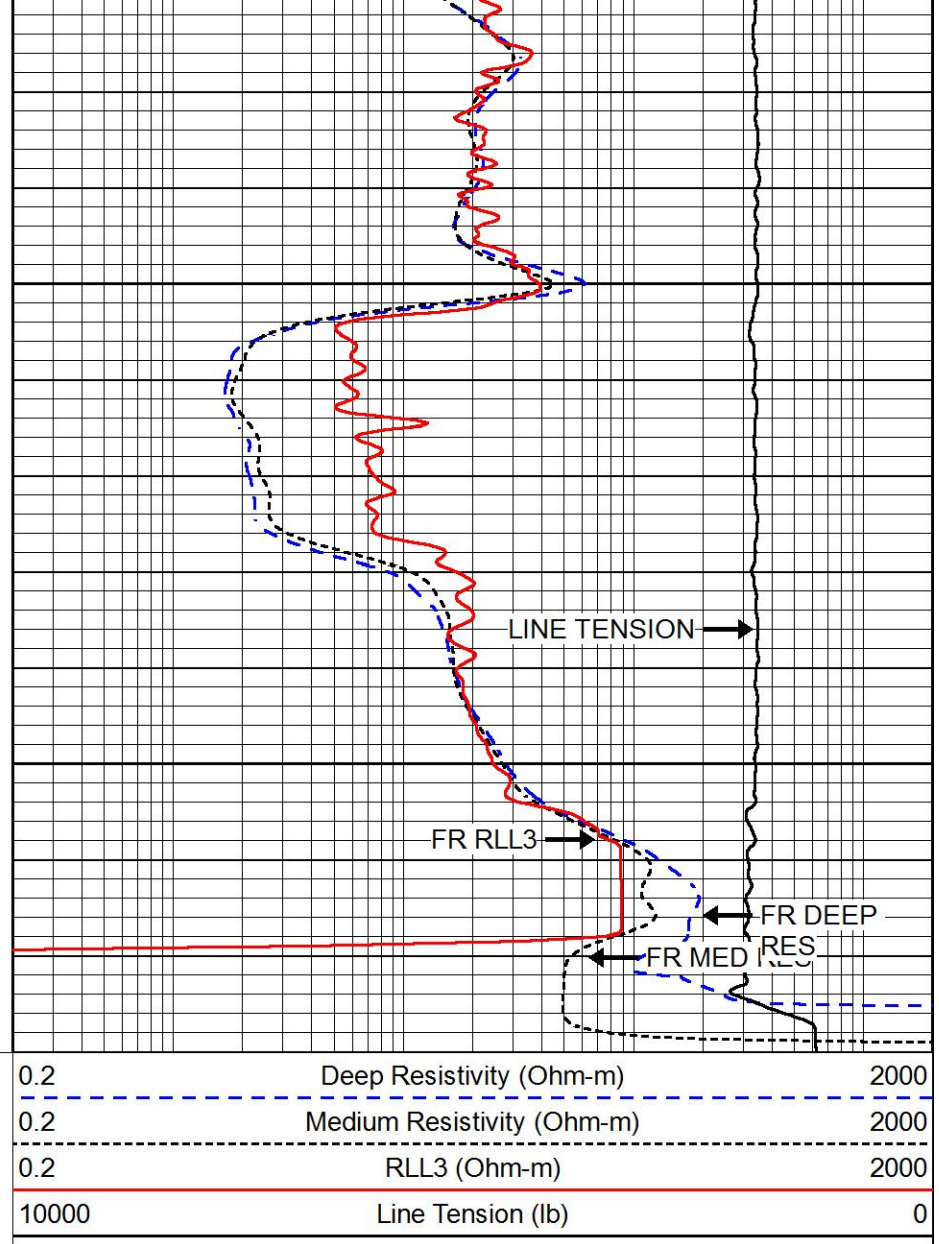
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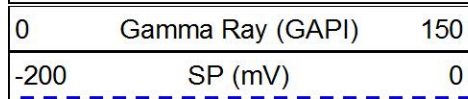
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4150

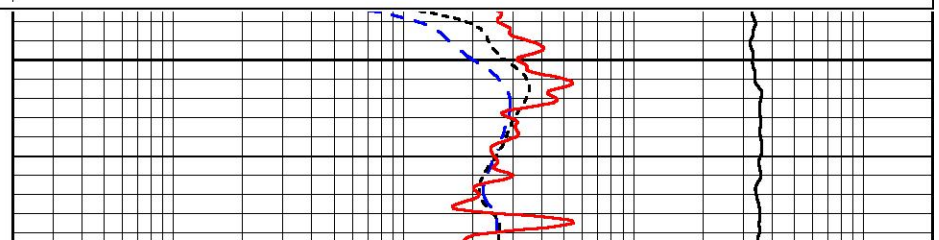
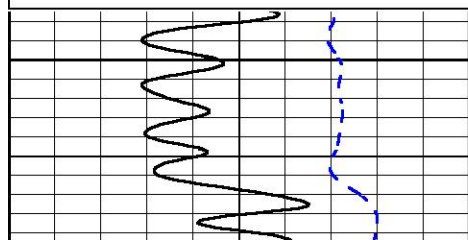
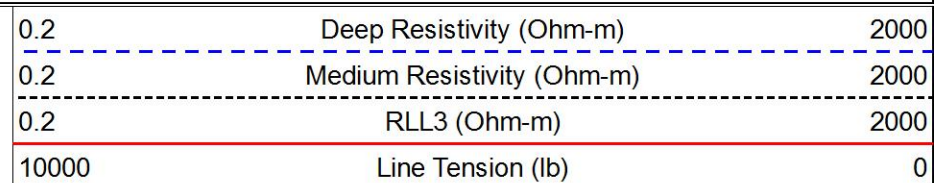


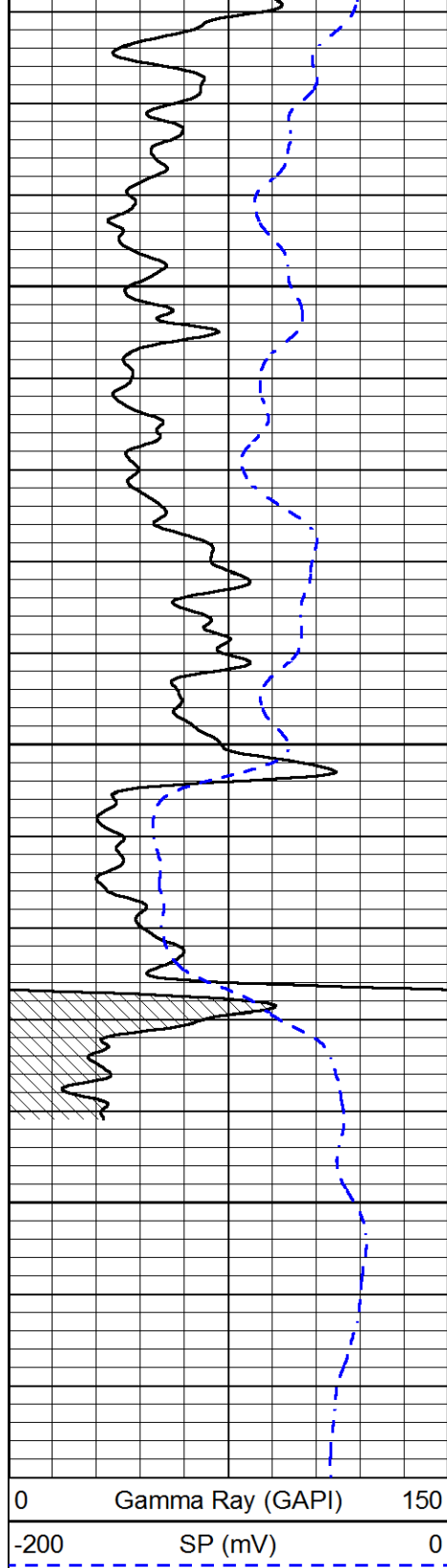
REPEAT SECTION

Database File castle resources_eagle 1 moore_1.db
Dataset Pathname STKML2/pass2.1
Presentation Format dil
Dataset Creation Tue Sep 12 08:21:53 2017
Charted by Depth in Feet scaled 1:240



4000

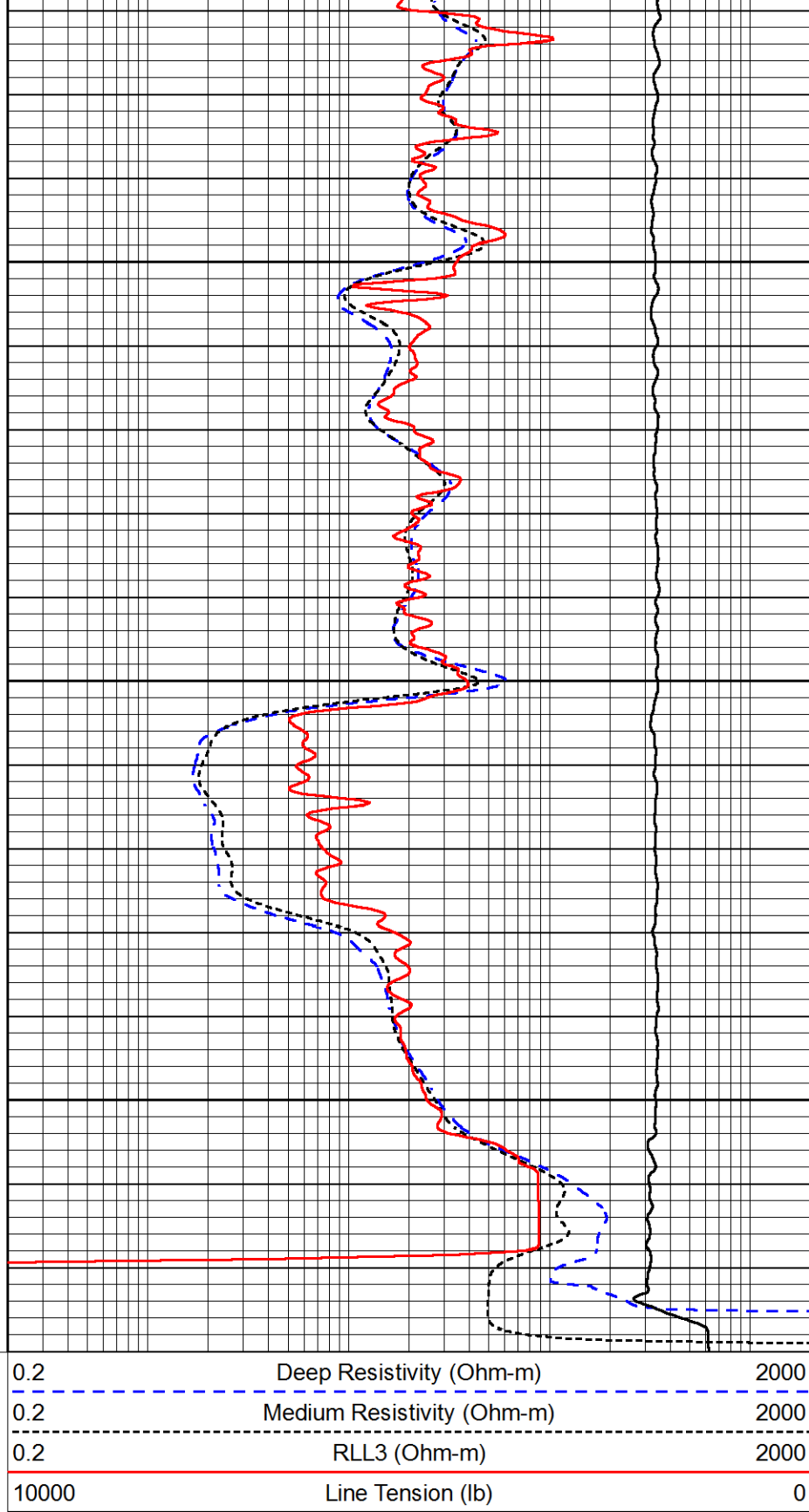




4050

4100

4150



Calibration Report

Database File castle resources_eagle 1 moore_1.db
 Dataset Pathname STKML/pass5.1
 Dataset Creation Mon Sep 11 03:22:26 2017

Dual Induction Calibration Report

Serial-Model:
 Calibration Performed:

PSI 91-M&W
 Wed Sep 06 19:50:36 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.430	-34.500
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-31.000

Microlog Calibration Report

Serial-Model: Performed:	PSI-01-PSIML Wed Sep 06 19:50:56 2017
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	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	32000.0000	-1.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	41000.0000	-1.3000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.2350

Compensated Density Calibration Report

Serial-Model: Source / Verifier: Master Calibration Performed:	90-1031-M&W 16955B / 2ci Wed Sep 06 19:51:03 2017
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Master Calibration							
	Density		Far Detector		Near Detector		
Magnesium	1.755	g/cc	4903.44		6153.79	cps	
Aluminum	2.685	g/cc	934.50		4021.31	cps	
Spine Angle = 75.61			Density/Spine Ratio = 0.543				
	Size		Reading				
Small Ring	8.00	in	1.84				
Large Ring	22.00	in	1.46				

Compensated Neutron Calibration Report

Serial Number: Tool Model: Calibration Performed:	207-MW M&W WED SEP 6 10:30:30 2017
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Detector	Readings		Target		Normalization
Short Space	6240.00	cps	1000.00	cps	1.6025
Long Space	460.00	cps	1000.00	cps	1.9500

Gamma Ray Calibration Report

Serial Number:	89	
Tool Model:	M&W	
Calibration Performed:	Wed Sep 06 19:51:14 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps

Sensitivity:

0.6000

GAPI/cps



PIONEER

Pioneer Energy Services

Company	CASTLE RESOURCES, INC.
Well	EAGLE 1 MOORE #1
Field	WILDCAT
County	DECATUR
State	KANSAS