



DUAL INDUCTION LOG

Company FG HOLL COMPANY, LLC
Well MILLARD TRUST #2-31
Field WILDCAT
County BARTON **State** KANSAS

Company FG HOLL COMPANY, LLC
Well MILLARD TRUST #2-31
Field WILDCAT
County BARTON
State KANSAS

Location: API #: 15-009-26226-00-00
 180' E OF NE NE SE
 2310' FSL & 150' FEL
 SEC 31 TWP 18S RGE 13W
Permanent Datum GROUND LEVEL Elevation 1881'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Other Services
 CNL/CDL
 MEL/BHCS
Elevation
 K.B. 1889'
 D.F. N/A
 G.L. 1881'

Date	8/24/2018
Run Number	ONE
Depth Driller	3650'
Depth Logger	3651'
Bottom Logged Interval	3650'
Top Log Interval	0'
Casing Driller	8.625" @ 856'
Casing Logger	851'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	9400
Density / Viscosity	8.8 58
pH / Fluid Loss	11.0 8.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.40 @ 80
Rmt @ Meas. Temp	0.30 @ 80
Rmc @ Meas. Temp	0.54 @ 80
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.28 @ 113
Operating Rig Time	6 HOURS
Max Rec. Temp. F	113
Equipment Number	91
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	RYAN GREENBAUM

<<< Fold Here >>>

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.

HOISINGTON,
SOUTH TO 50 RD, 1 WEST, 1/8 NORTH,
WEST INTO

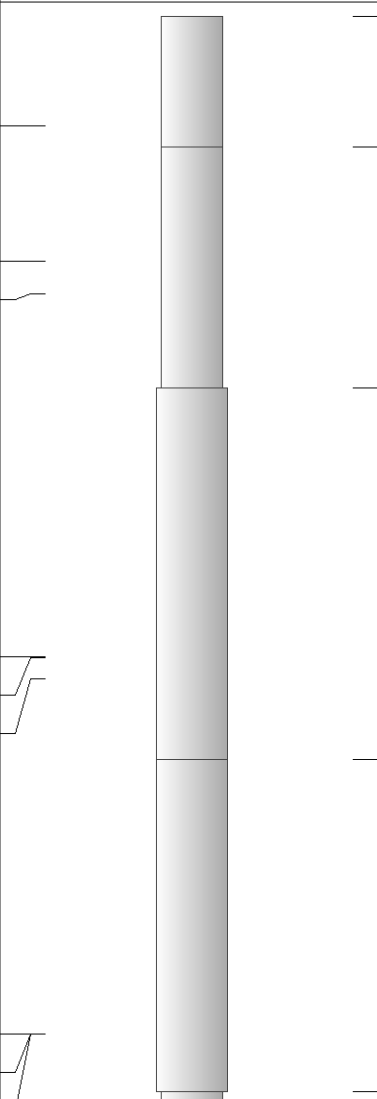
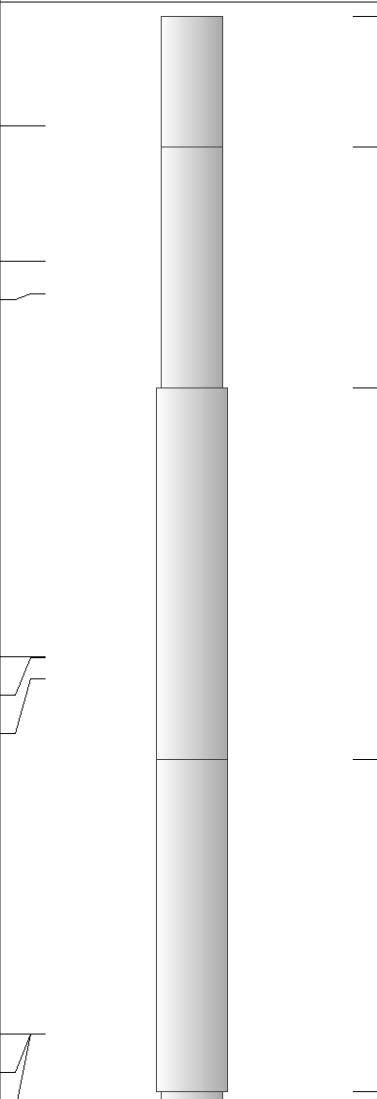
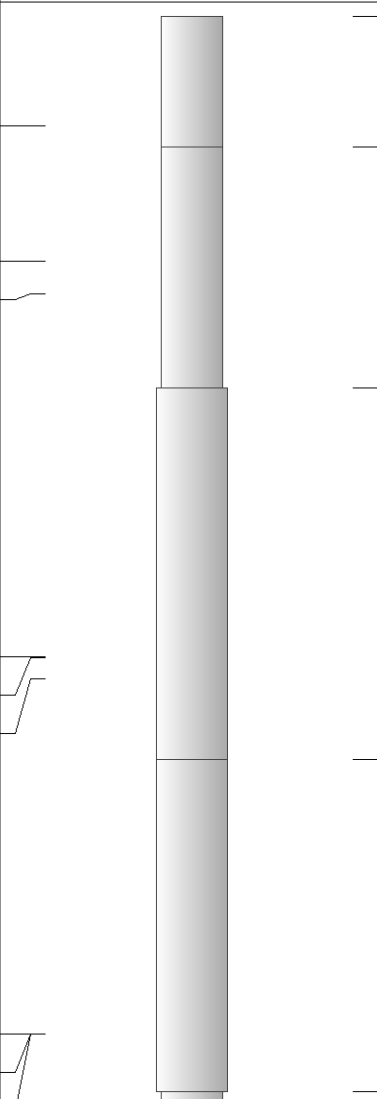
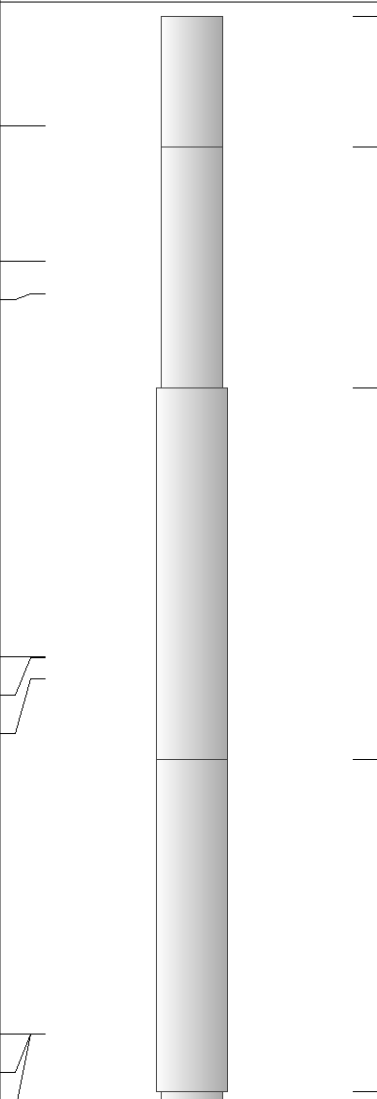
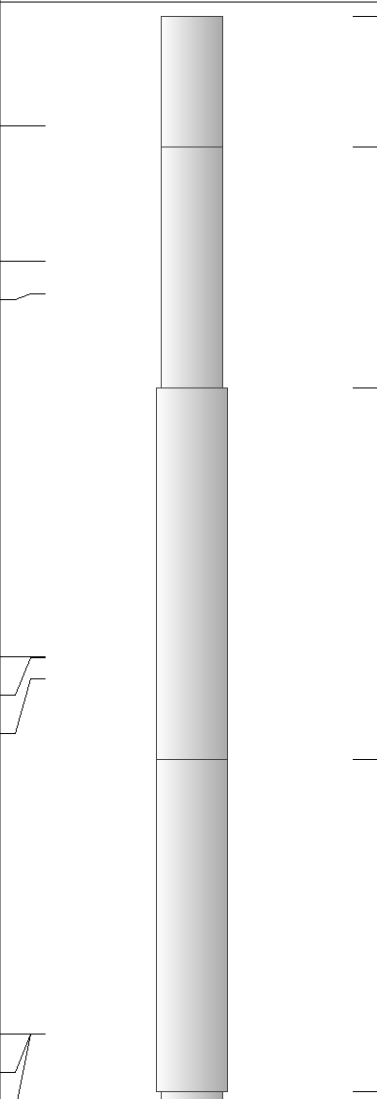
Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

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: RYAN GREENBAUM 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	615	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	3651	113	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 (817-947)	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					

CILD	8.00		DIL-PSI HIGH TEMP (967 (HT))	18.50	3.50	220.00
CILM	4.70					
SP	0.20					

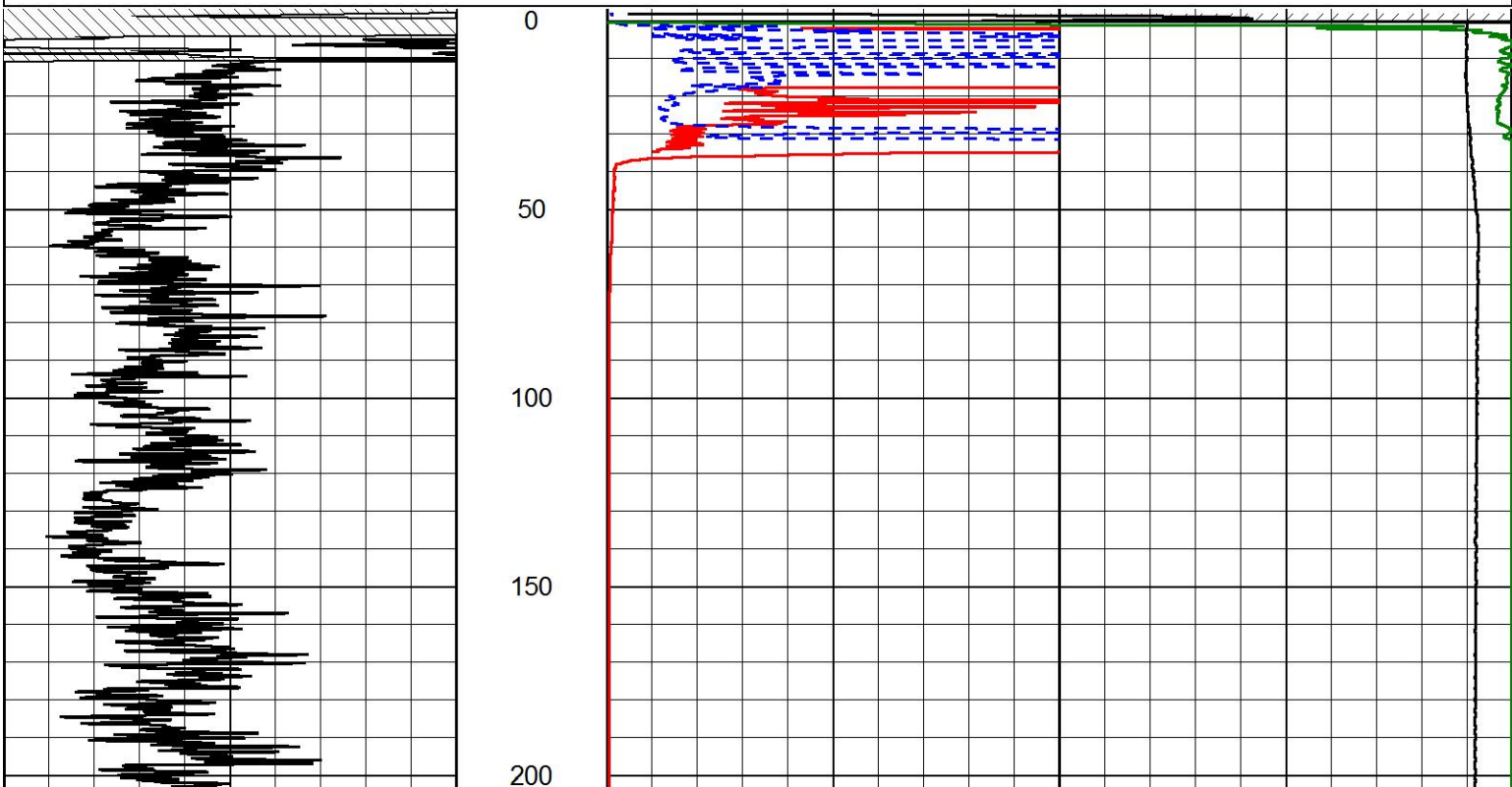
Dataset: fg holl_millard trust 2-31.db: field/well/STKML/pass5.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

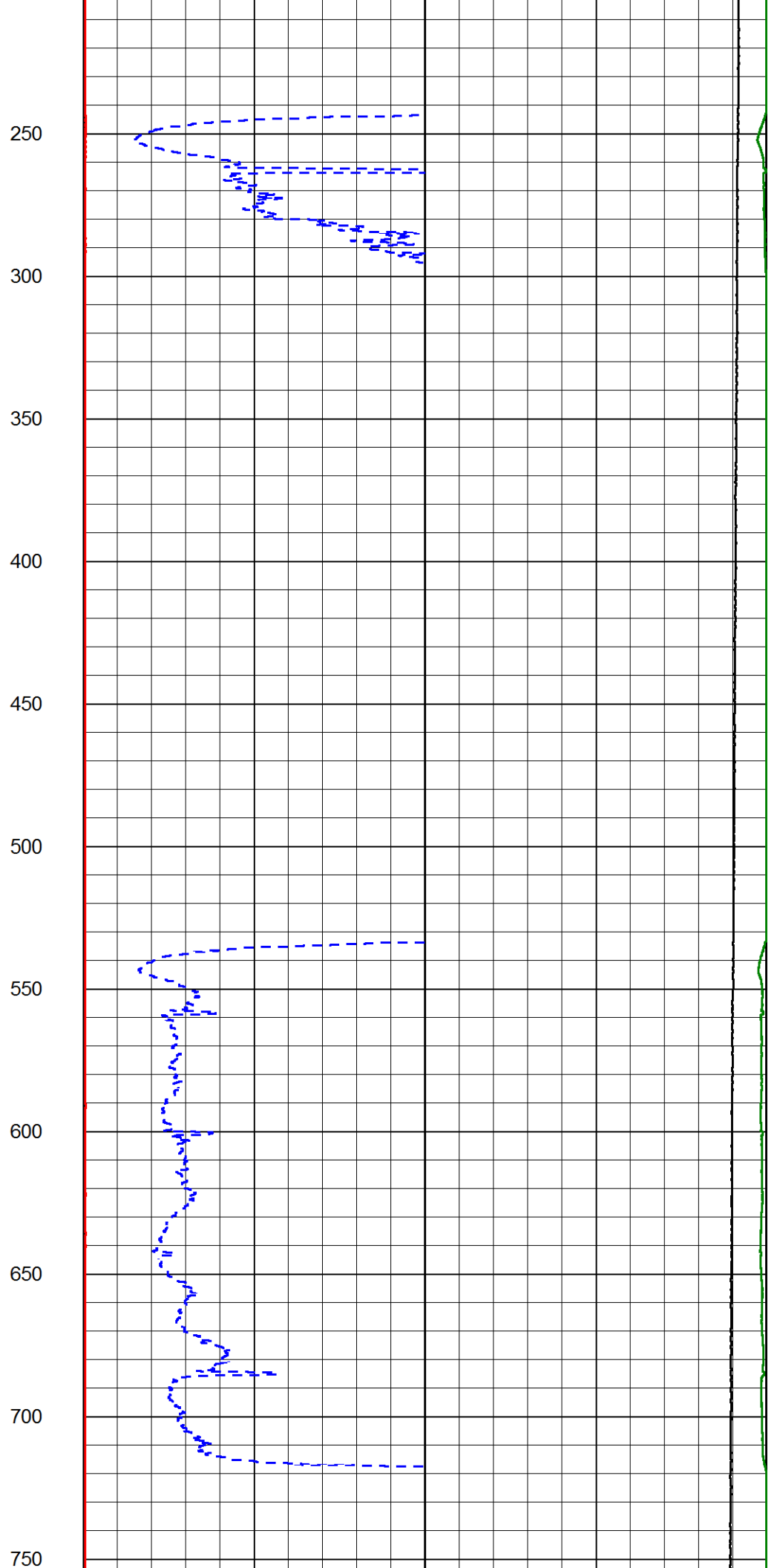
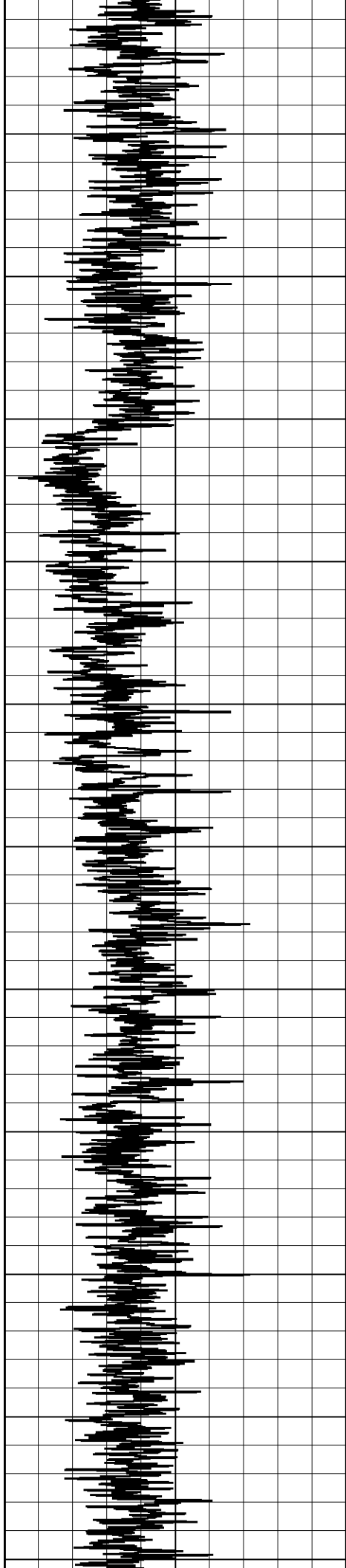


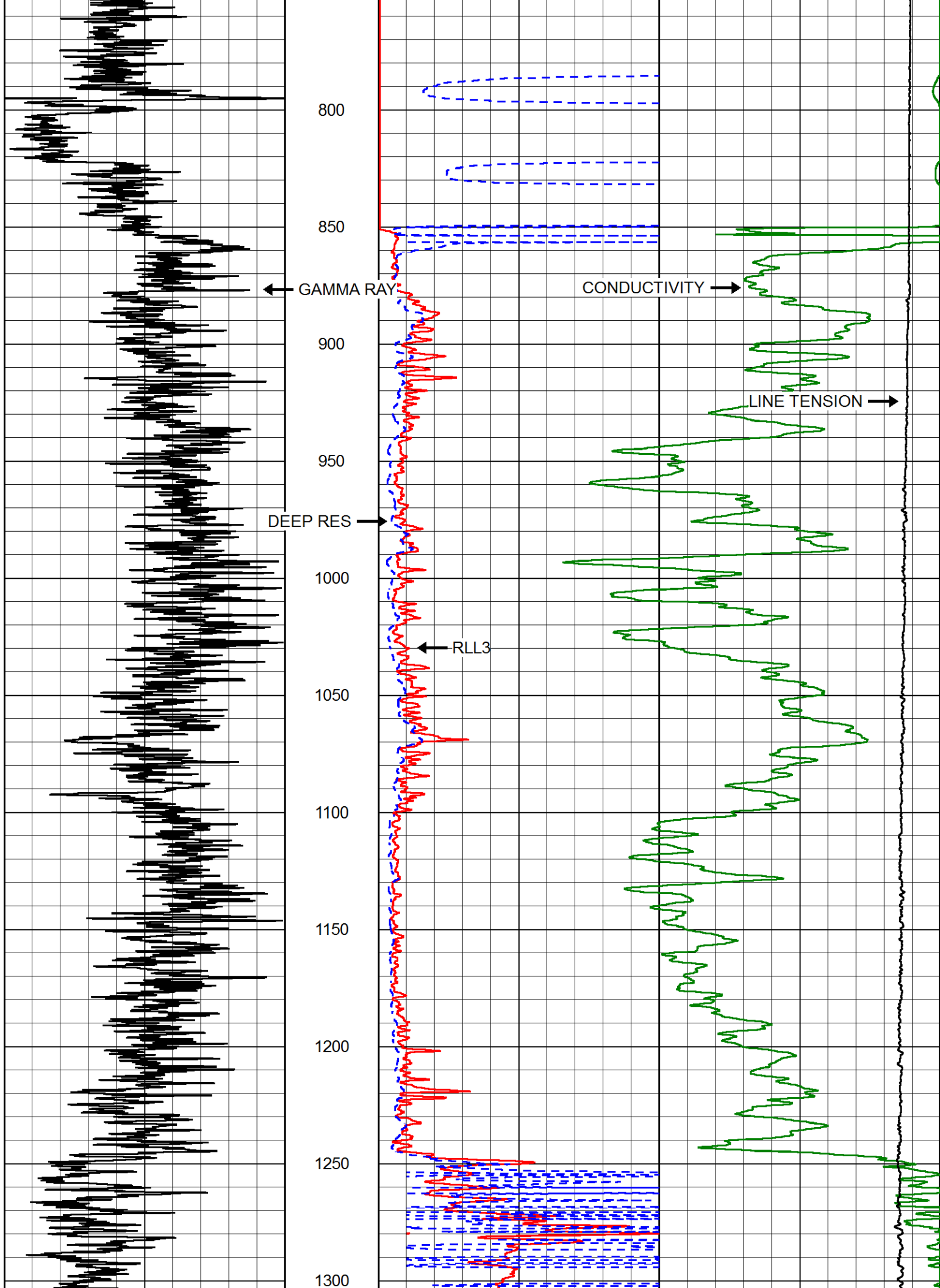
MAIN PASS

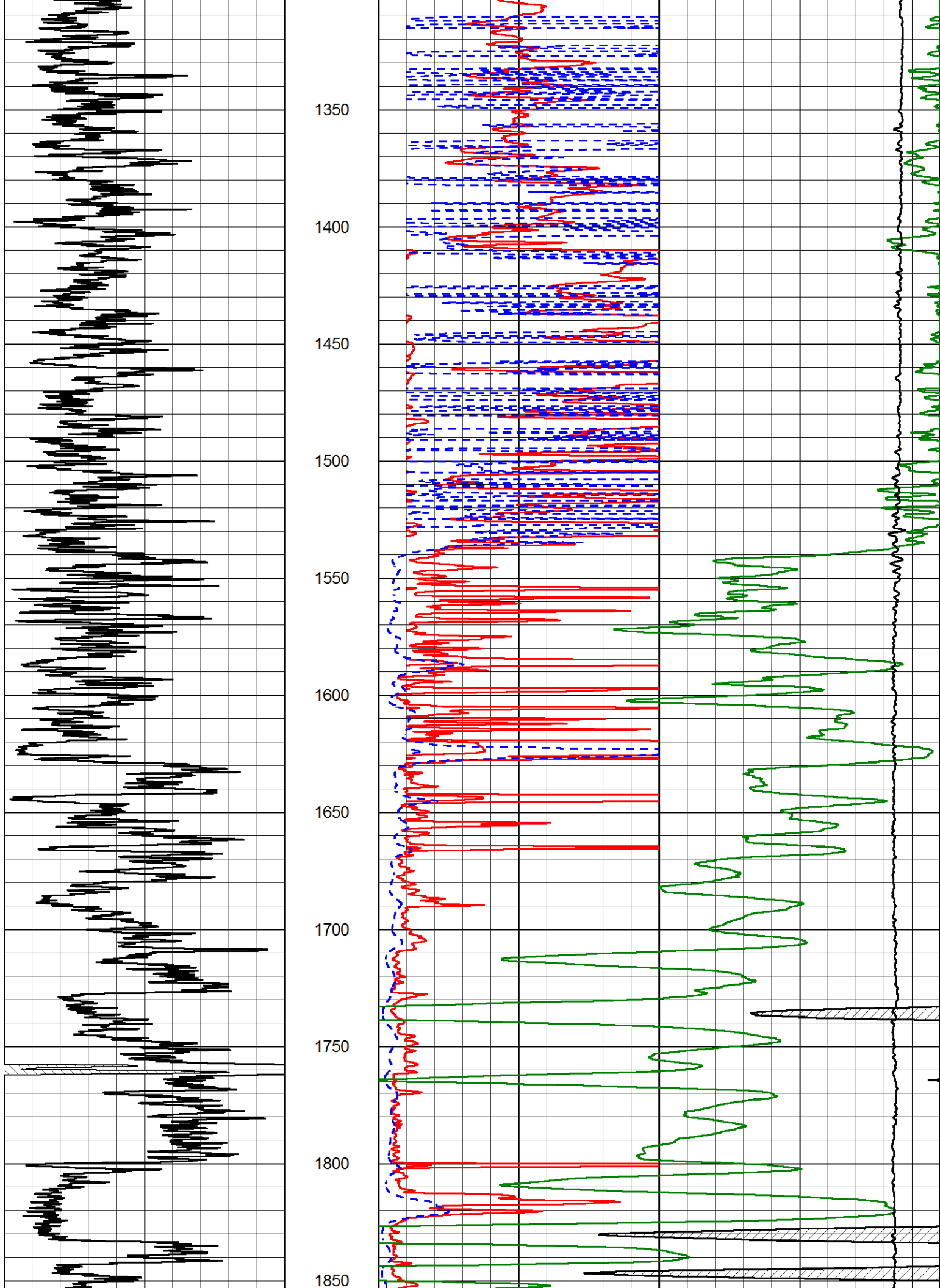
Database File fg holl_millard trust 2-31.db
 Dataset Pathname STKML/pass5.3
 Presentation Format dil2in
 Dataset Creation Fri Aug 24 14:04:37 2018
 Charted by Depth in Feet scaled 1:600

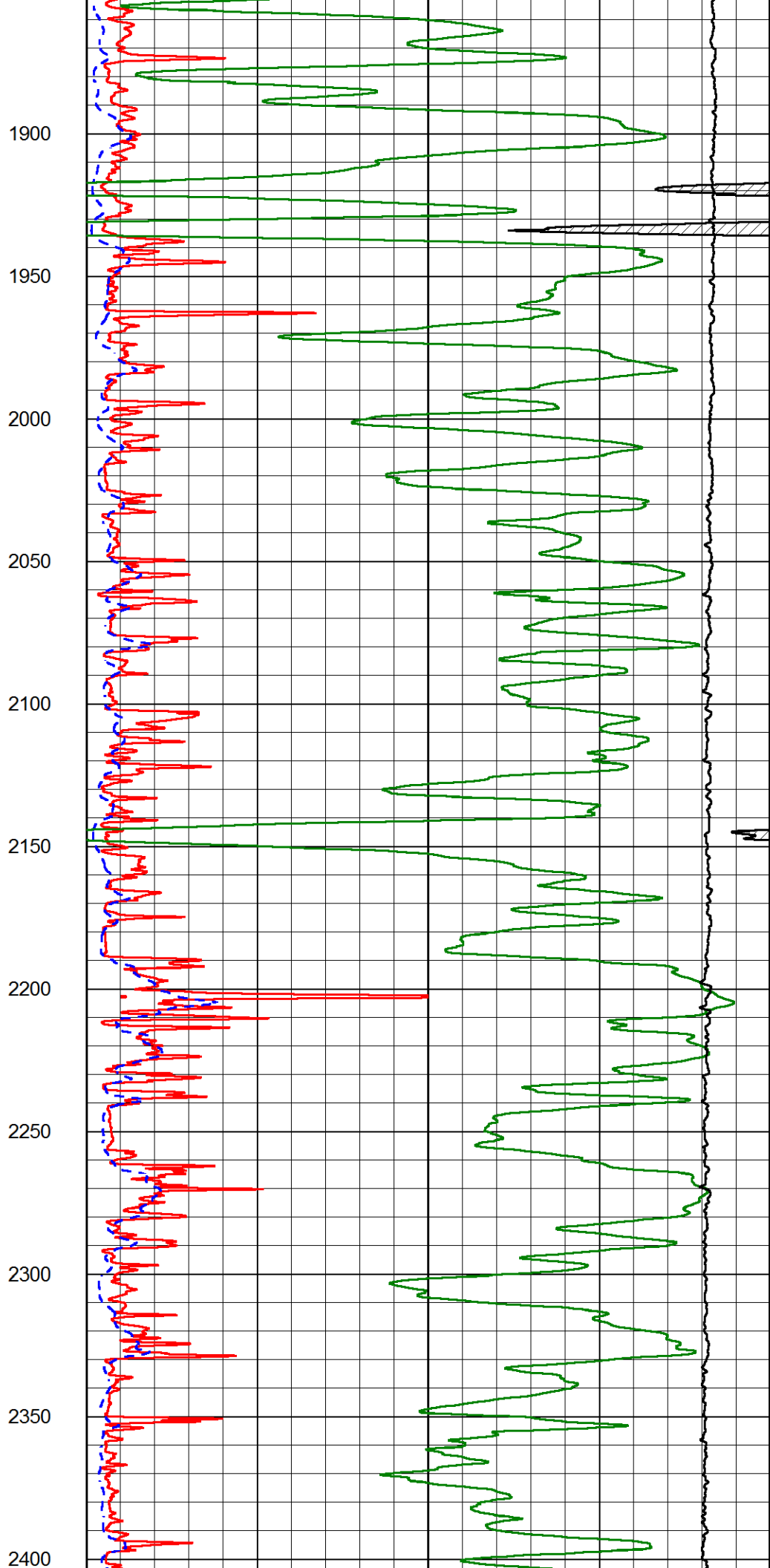
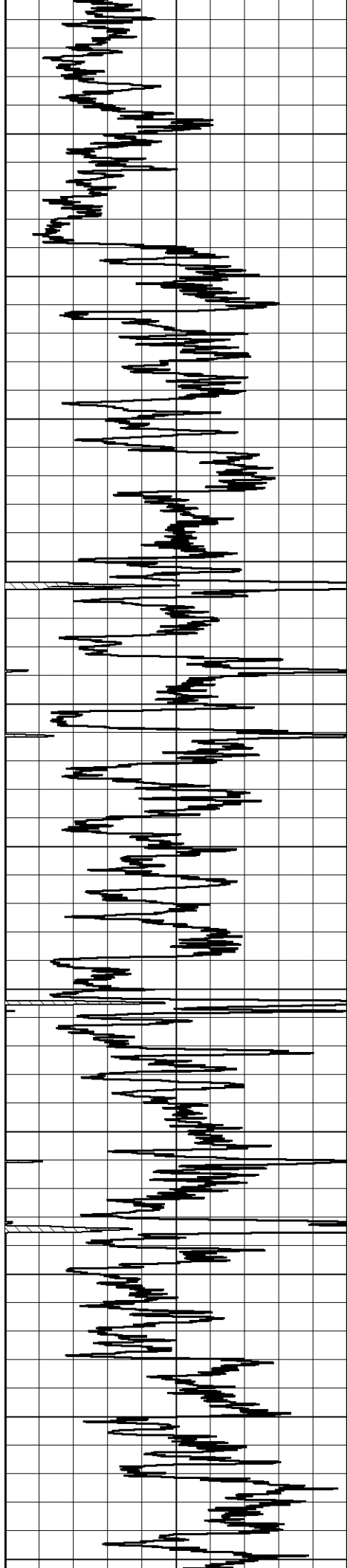
GAMMA RAY 0 (GAPI) 150	1000	CONDUCTIVITY (mmho/m)	0
	15000	Line Tension (lb)	0
	0	RLL3 (Ohm-m)	50
	0	DEEP RESISTIVITY (Ohm-m)	50
	50	RLL3 (Ohm-m)	500
	50	Deep Resistivity (Ohm-m)	500

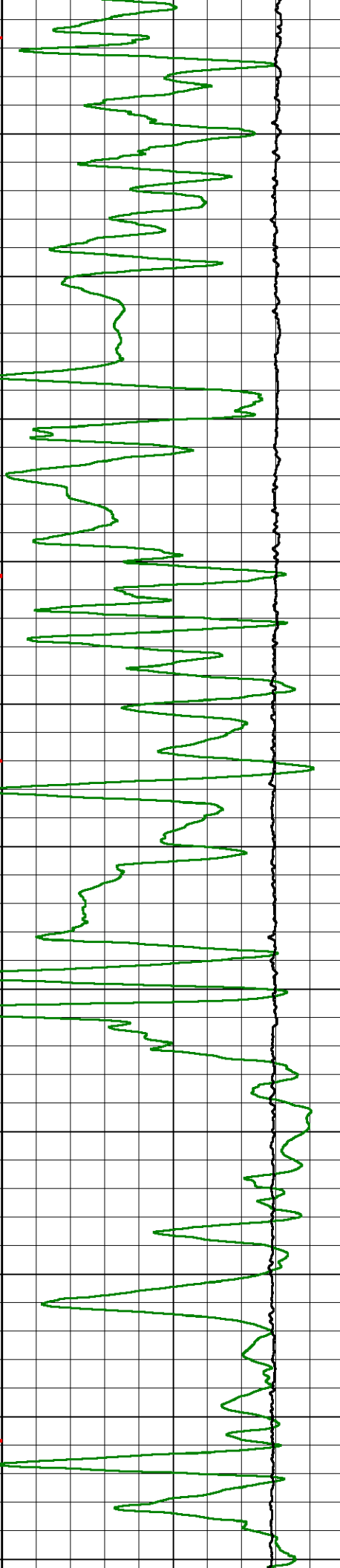
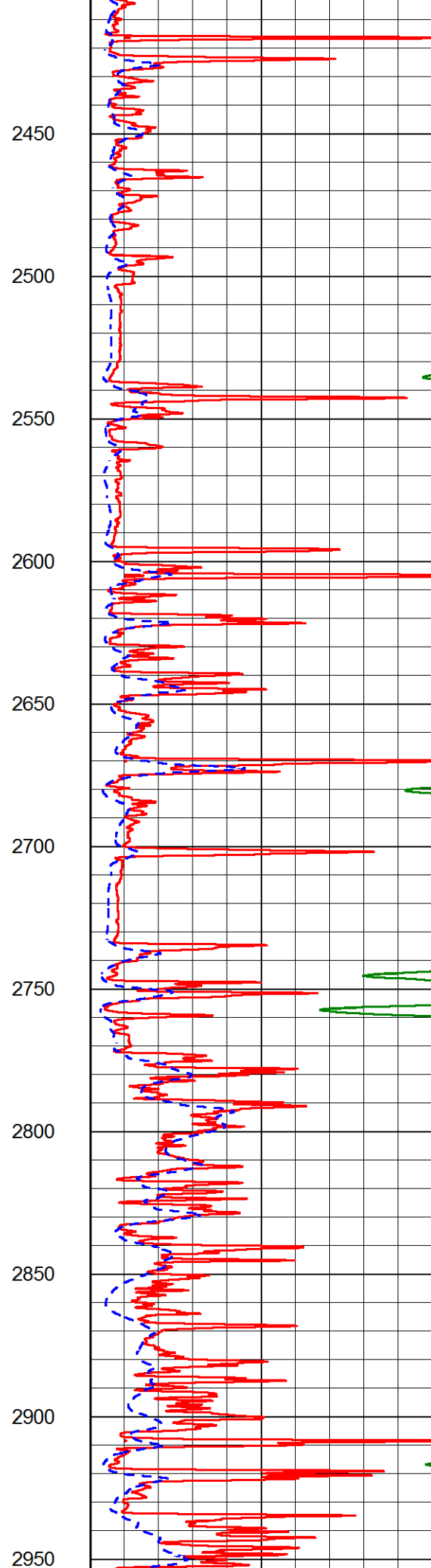
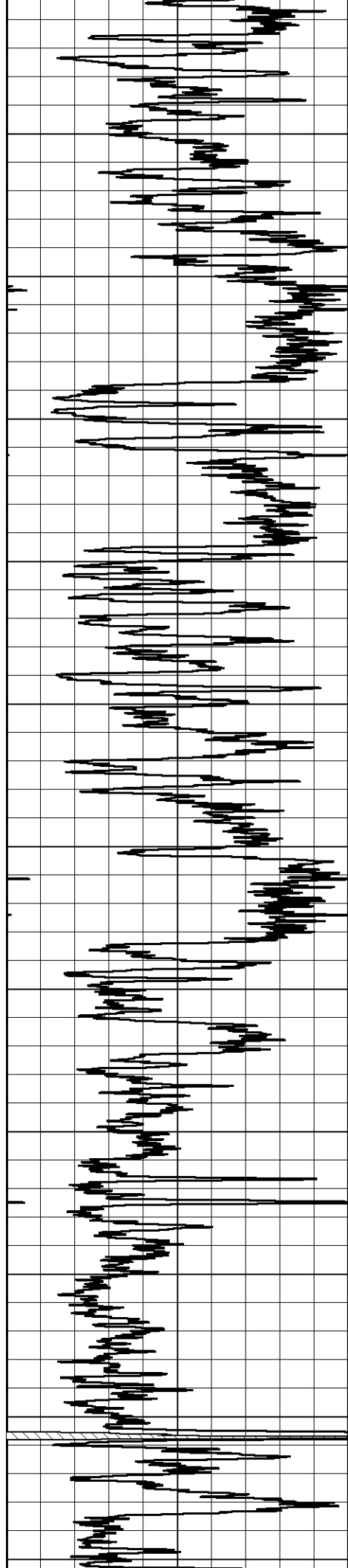


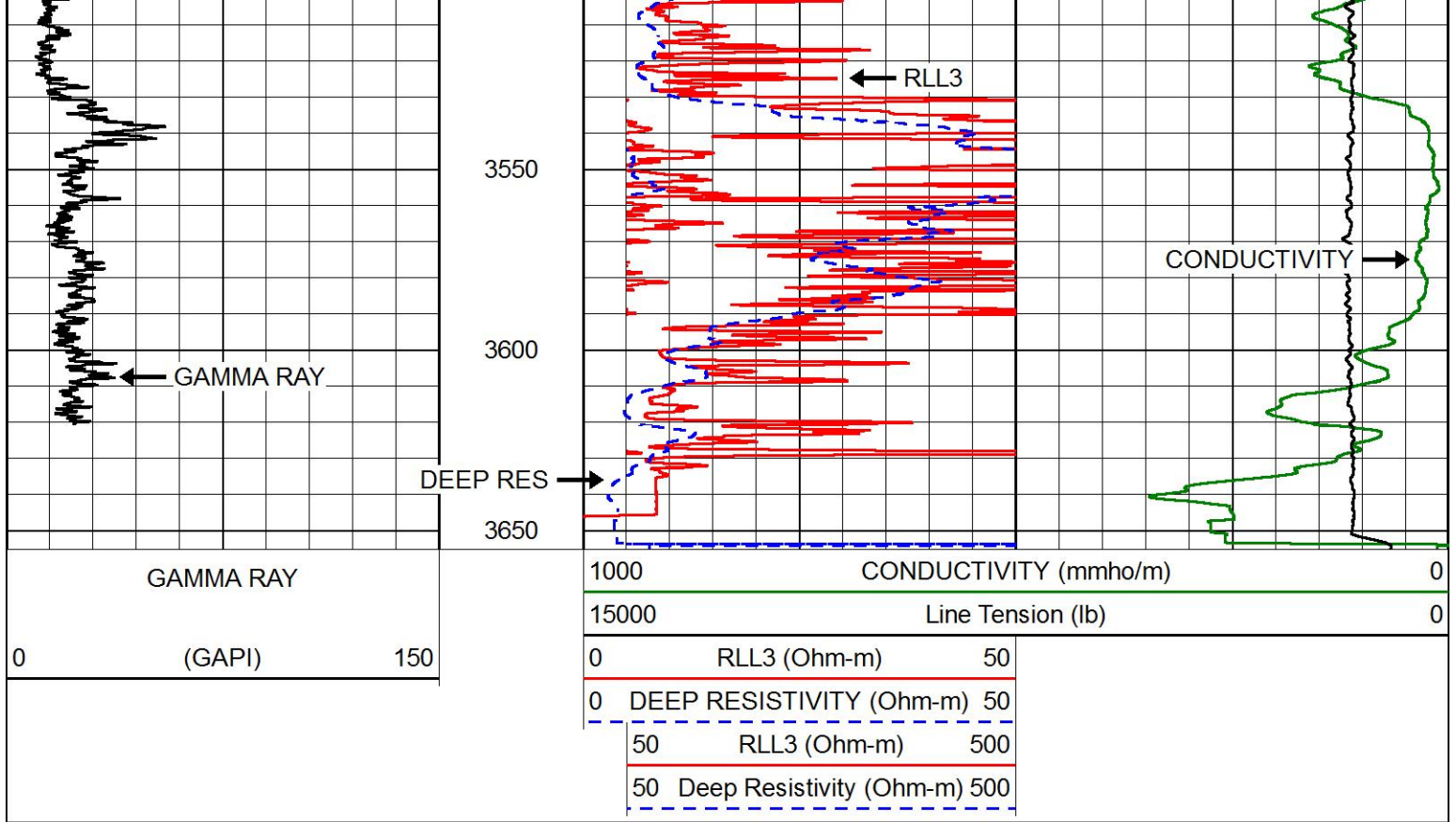








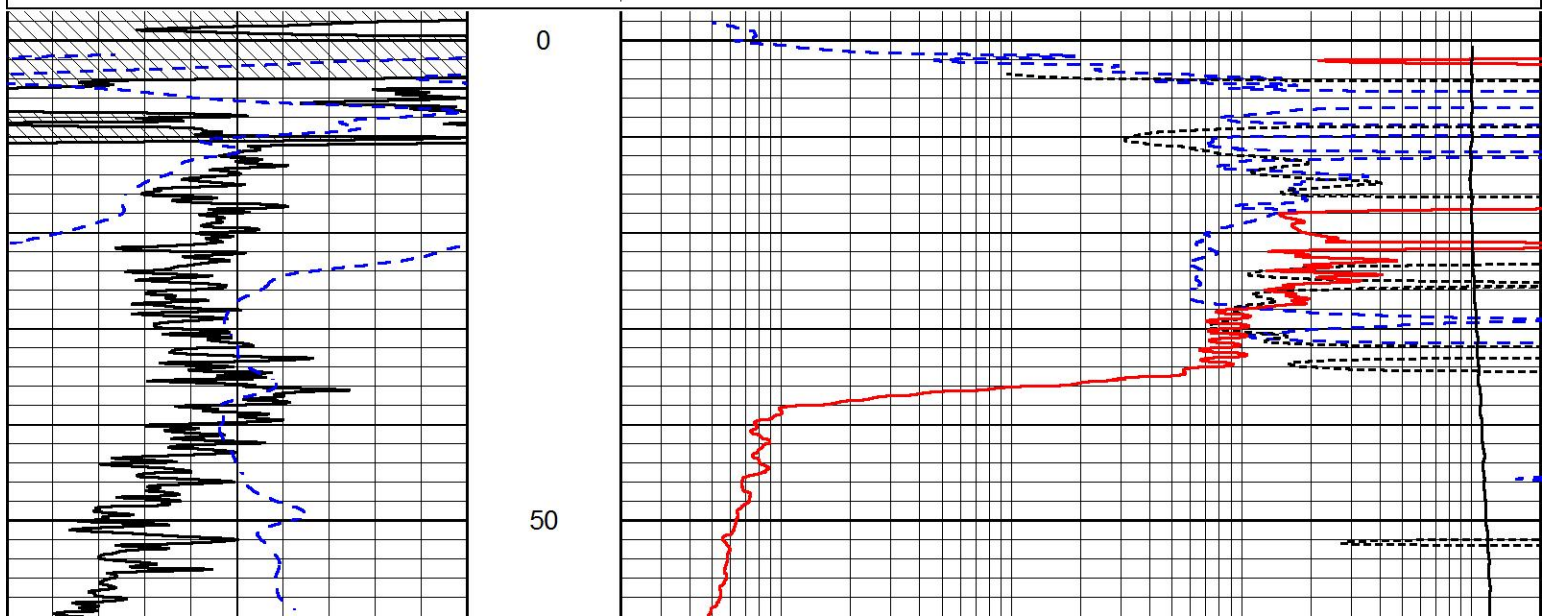


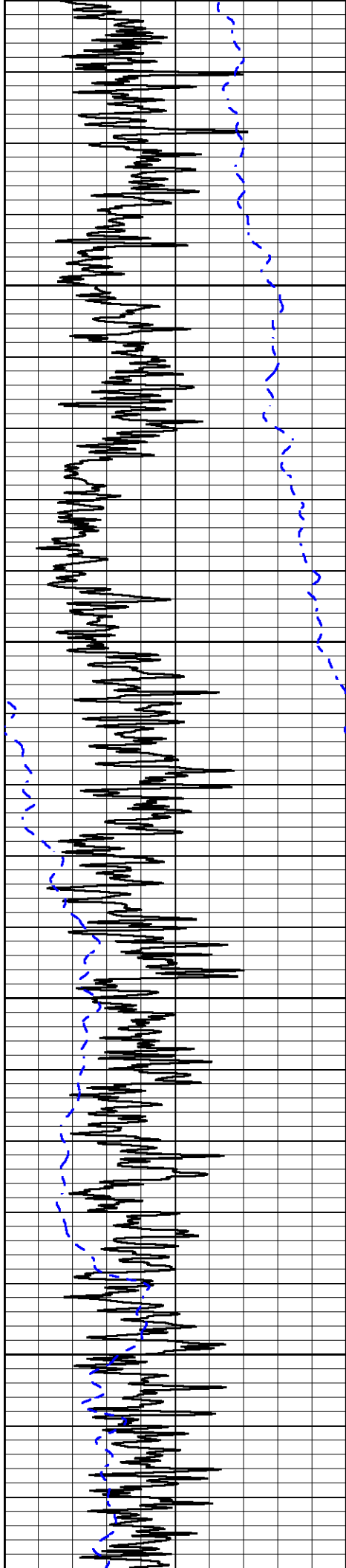


MAIN PASS

Database File fg holl_millard trust 2-31.db
 Dataset Pathname STKML/pass5.3
 Presentation Format dil
 Dataset Creation Fri Aug 24 14:04:37 2018
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	DEEP RESISTIVITY (Ohm-m)	2000
-200	SP (mV)	0	0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
			0.2	RLL3 (Ohm-m)	2000
			10000	LINE TENSION (lb)	0



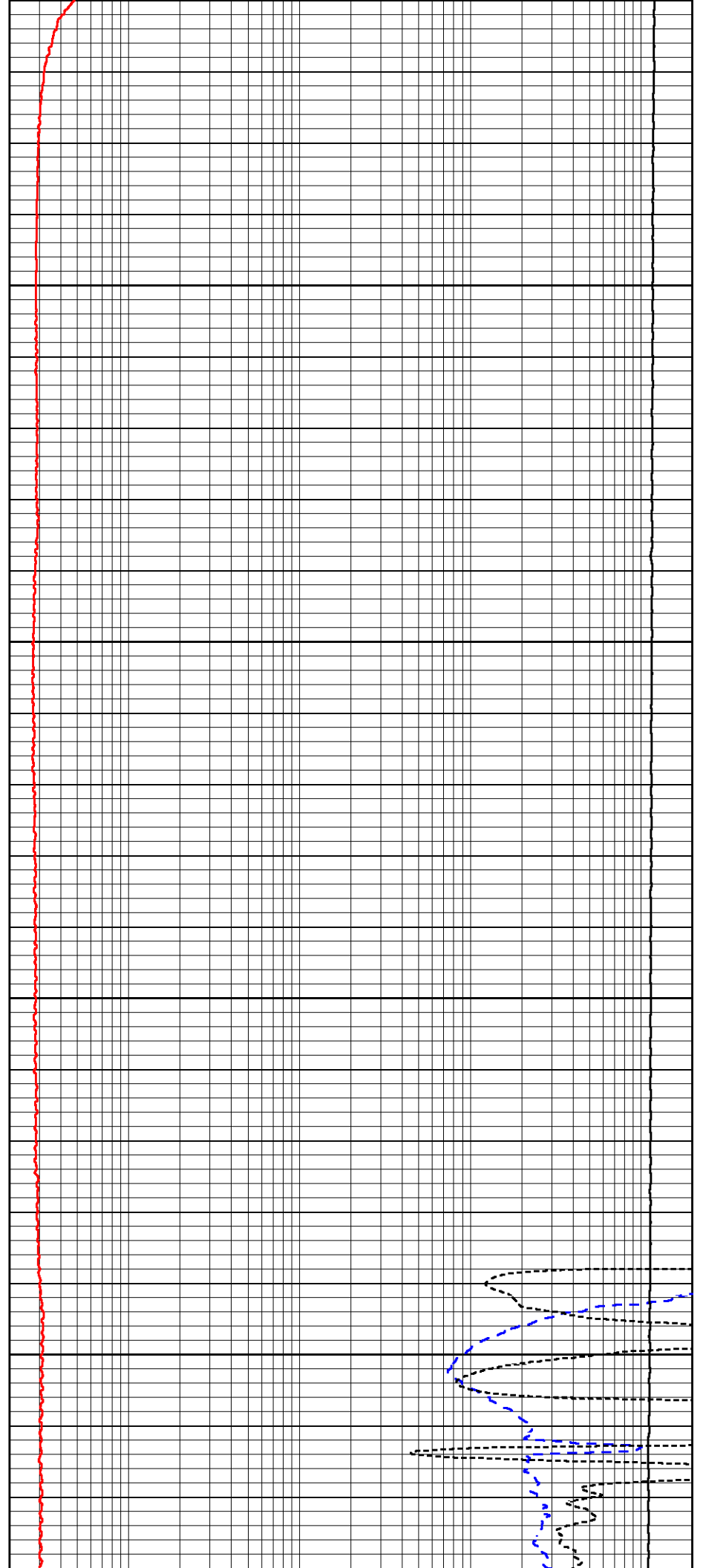


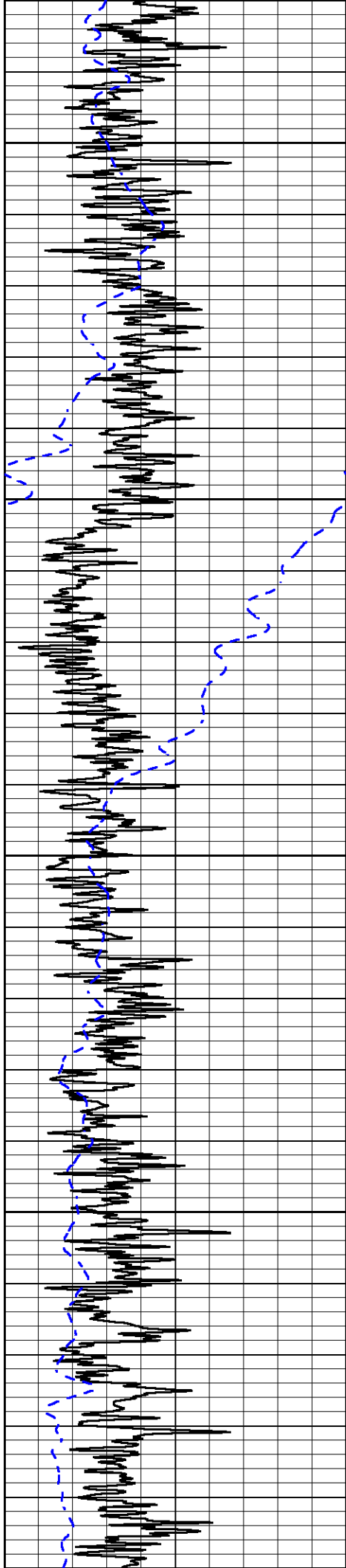
100

150

200

250





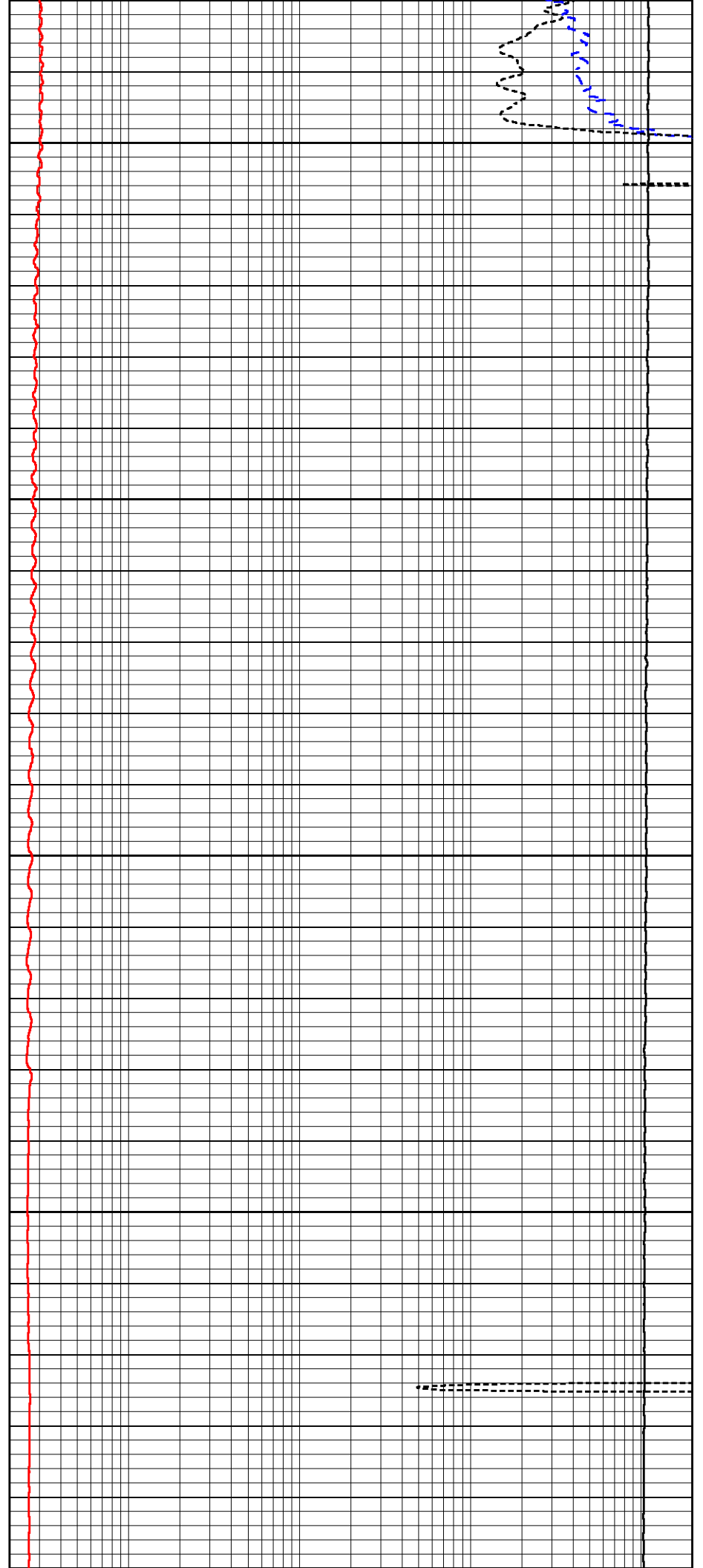
300

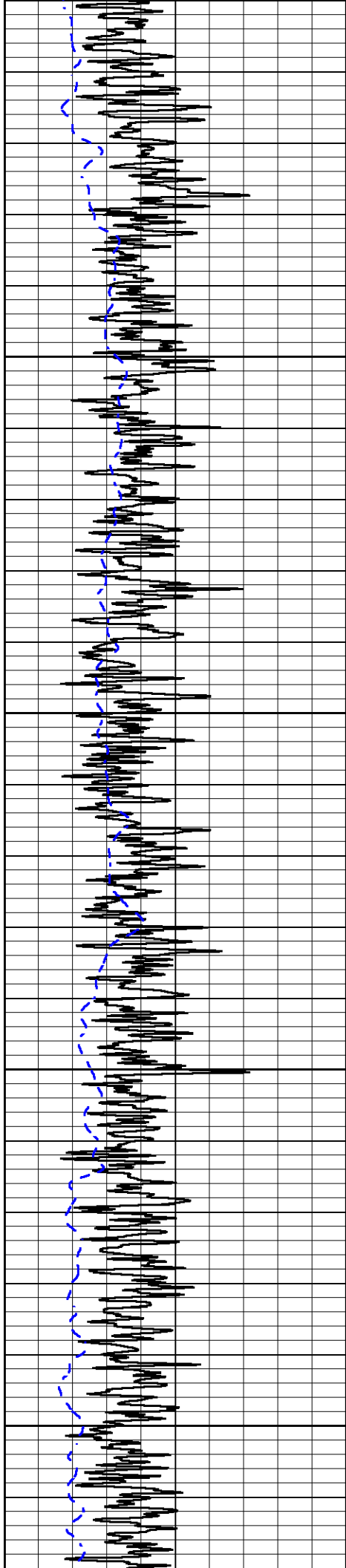
350

400

450

500





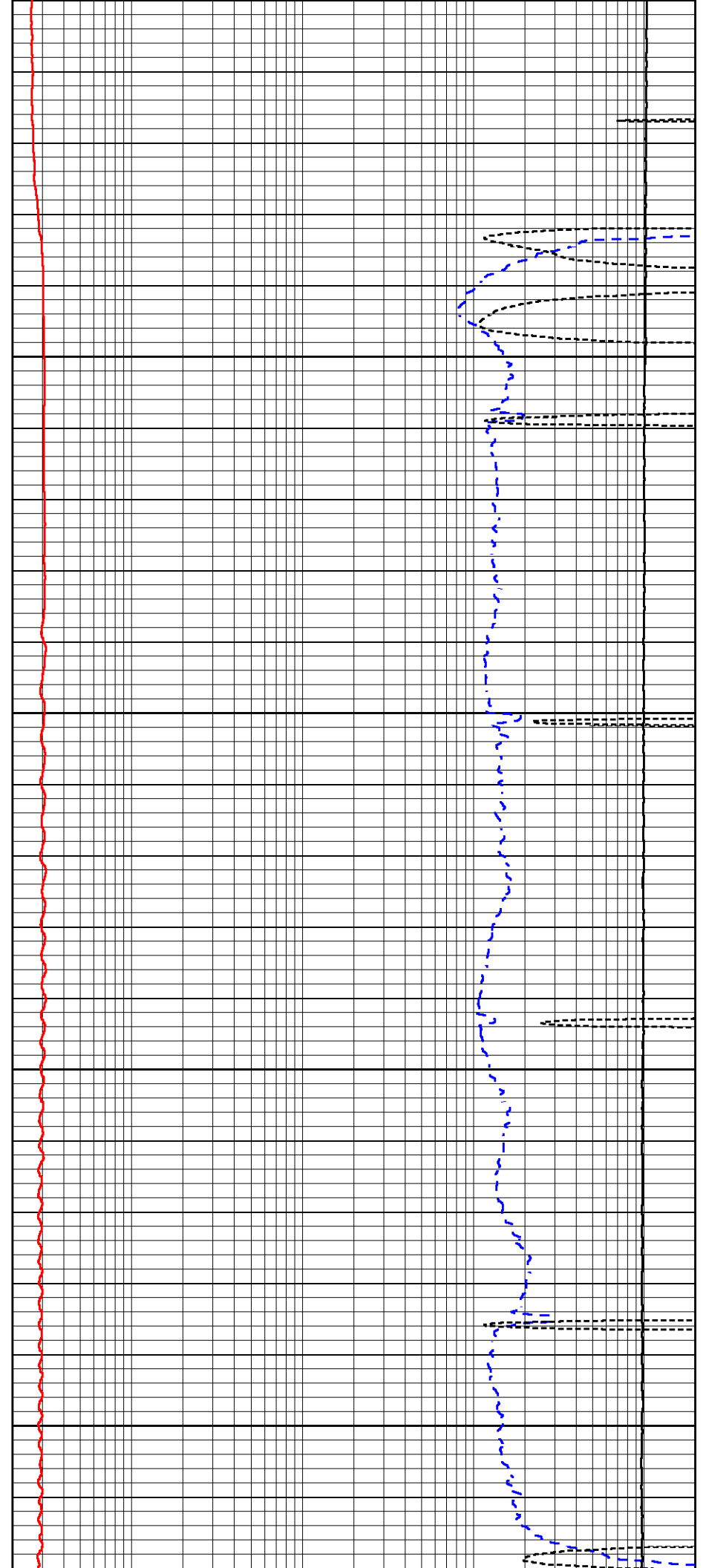
500

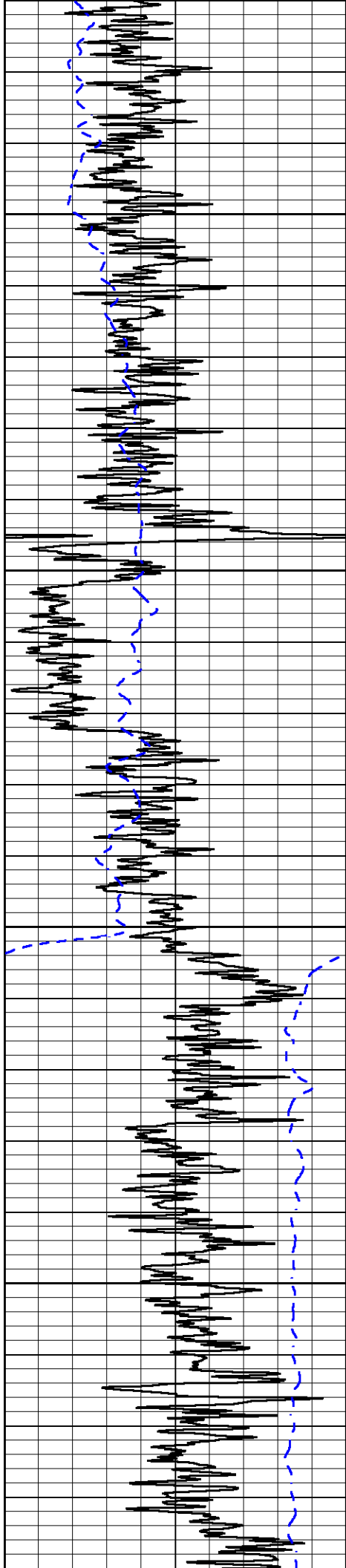
550

600

650

700



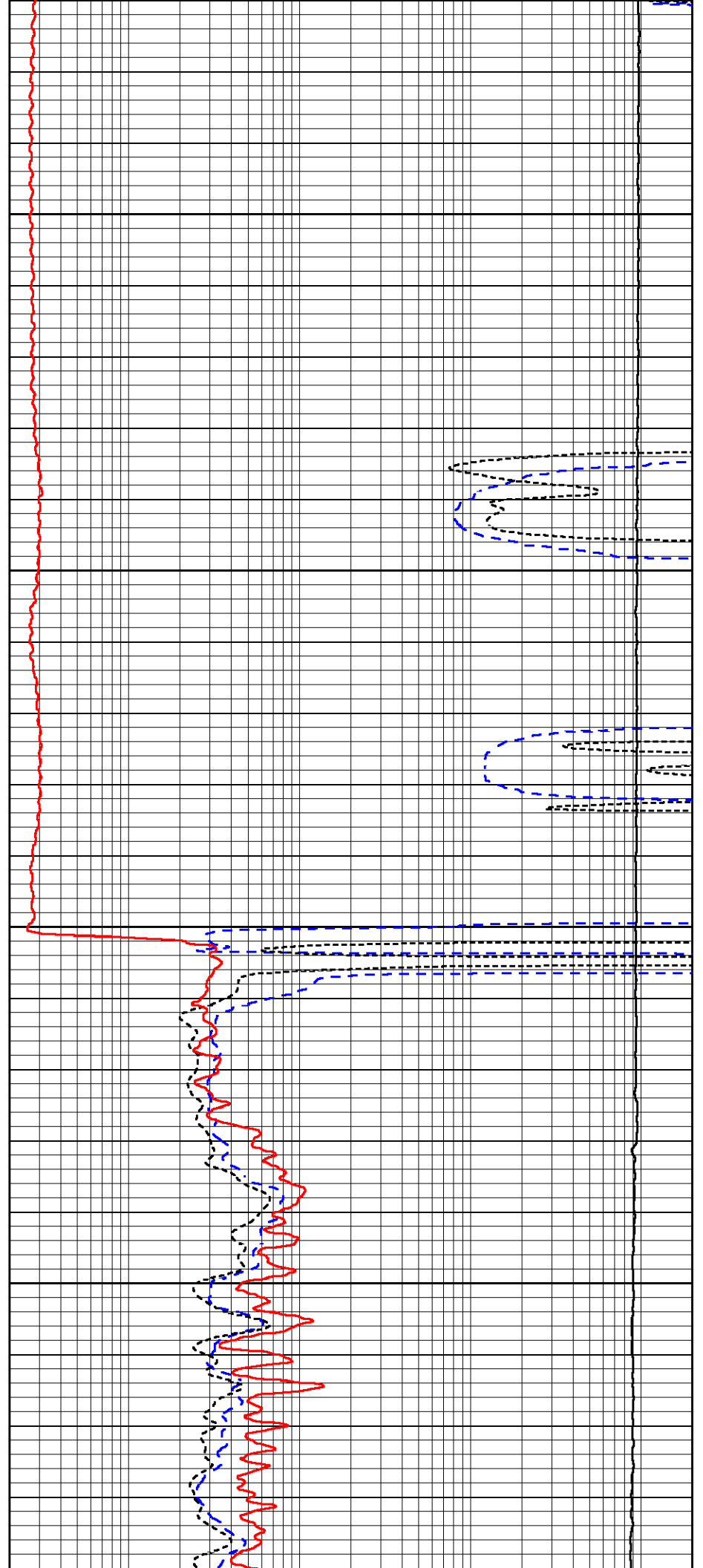


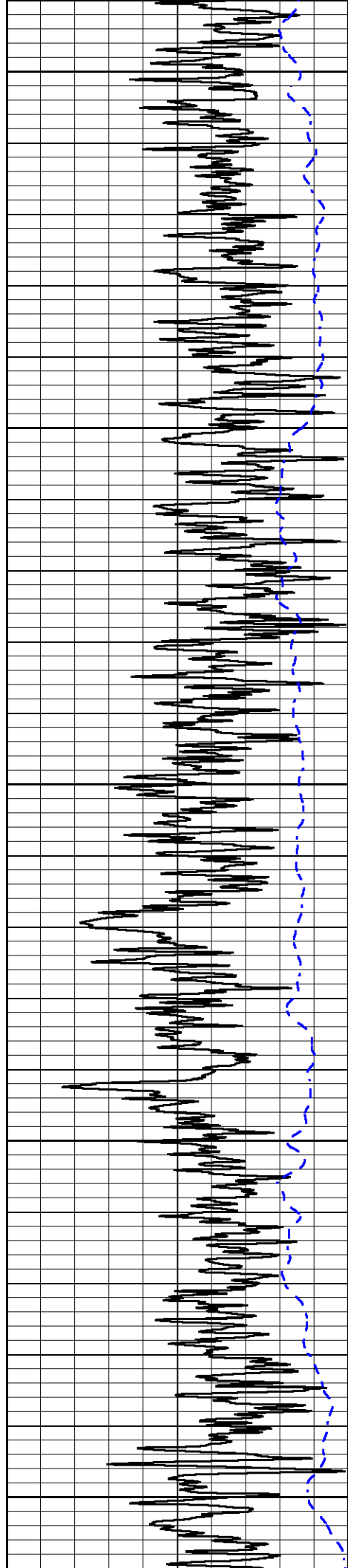
750

800

850

900





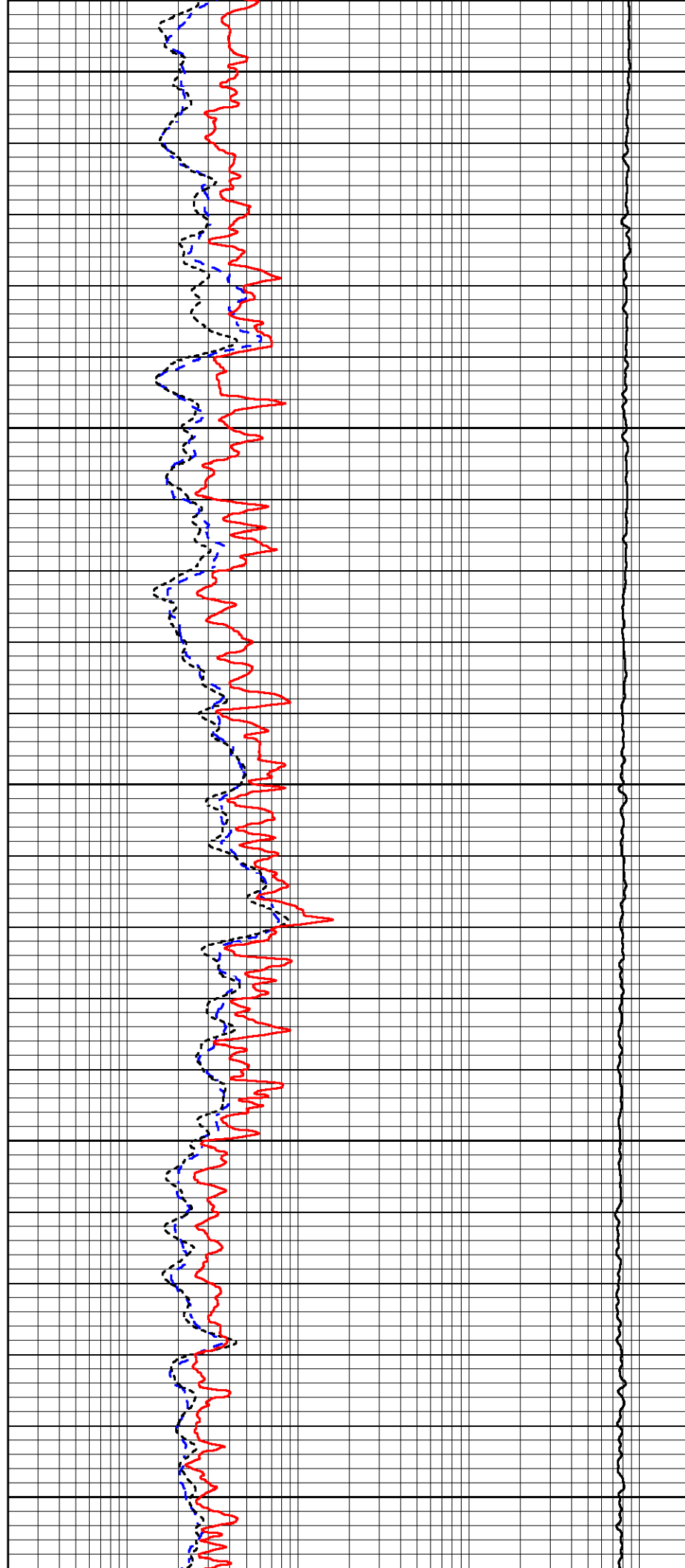
950

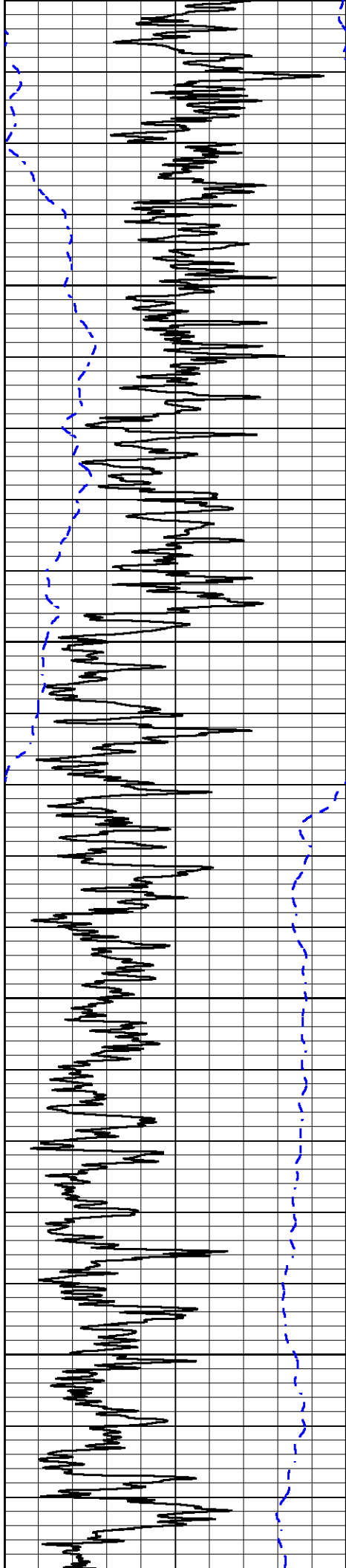
1000

1050

1100

1150



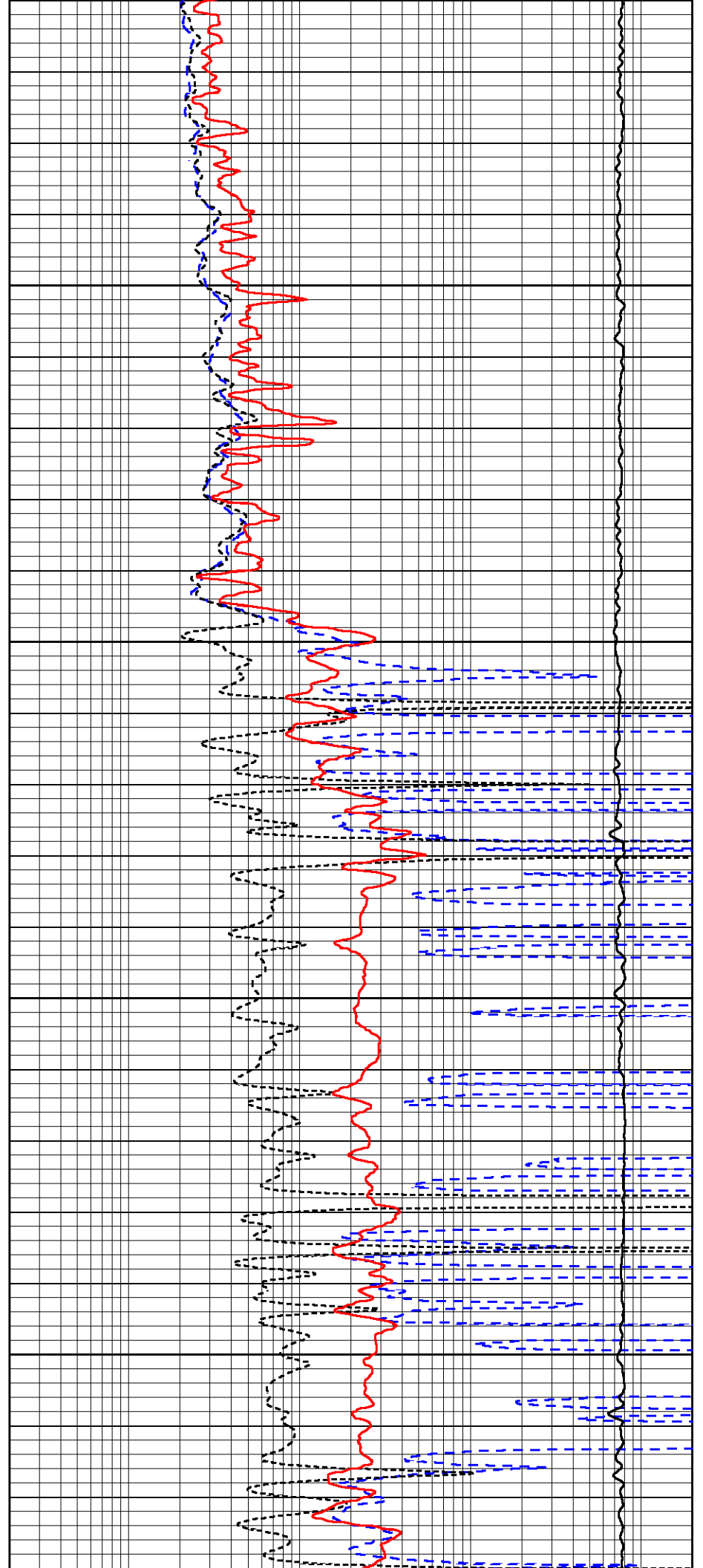


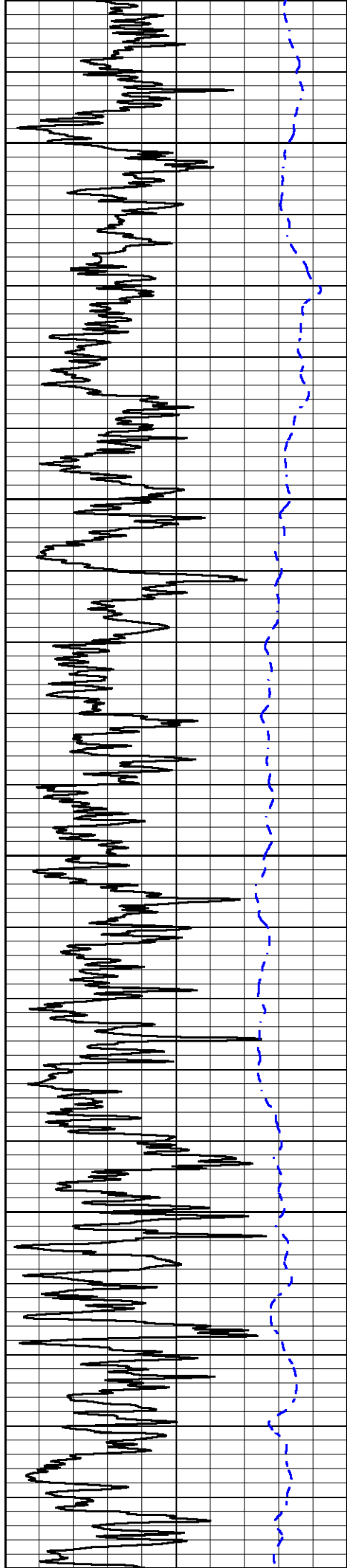
1200

1250

1300

1350





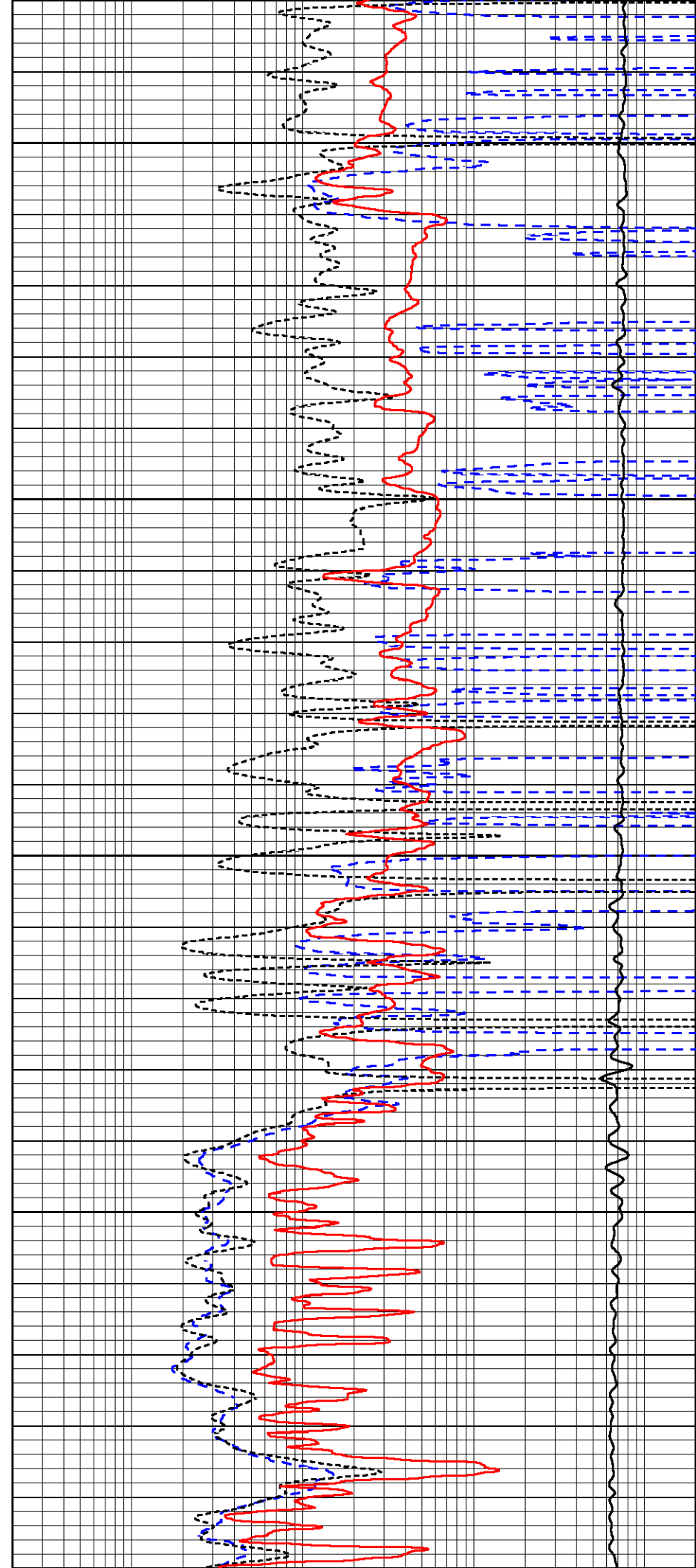
1400

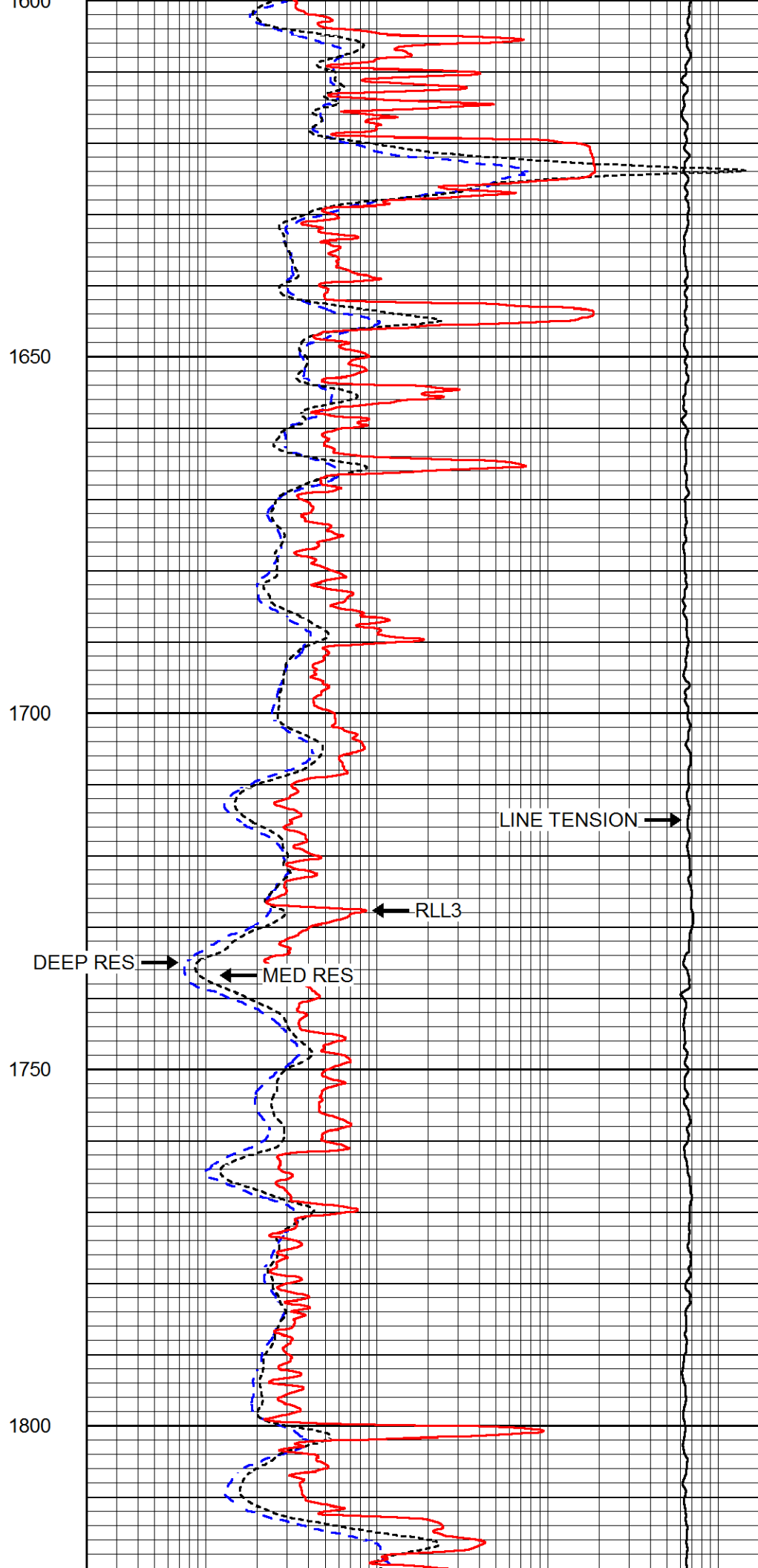
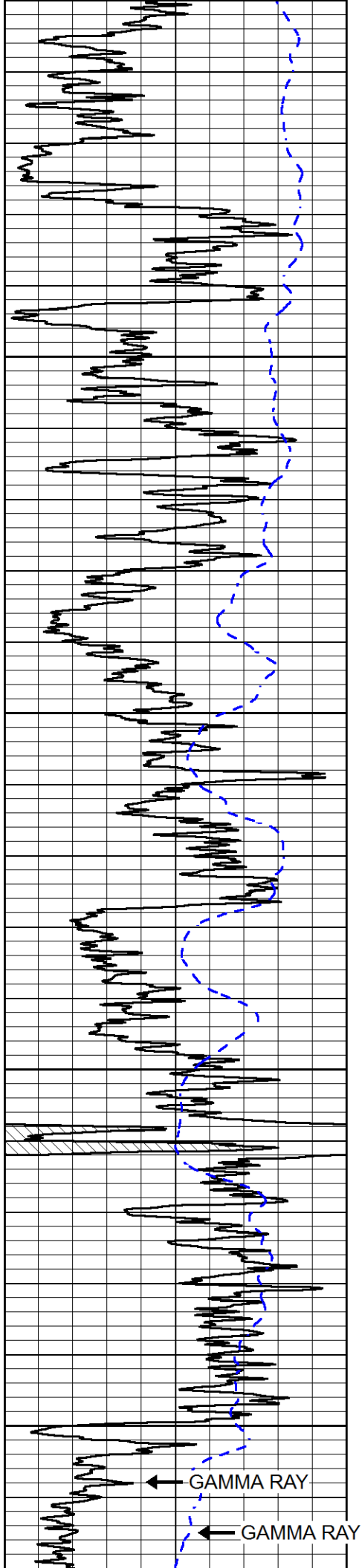
1450

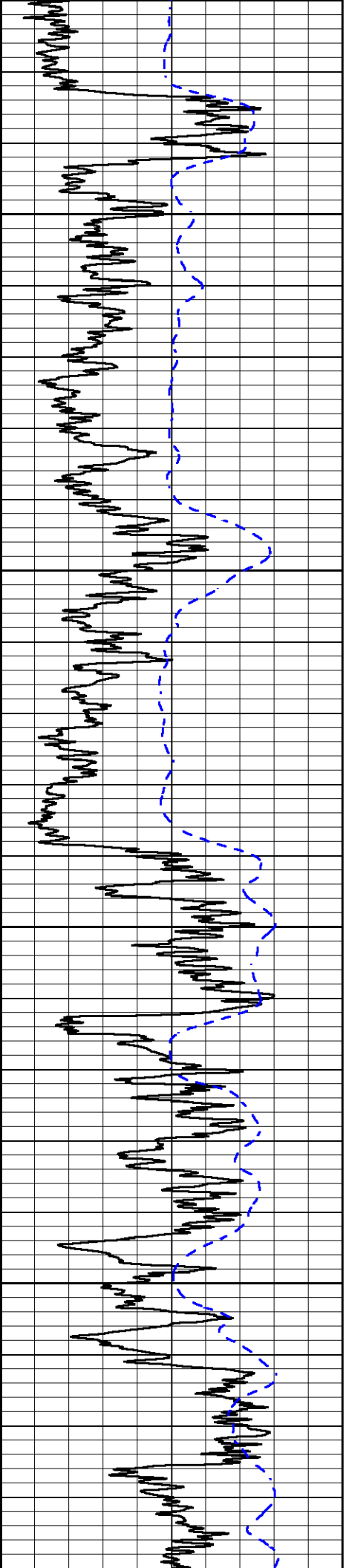
1500

1550

1600





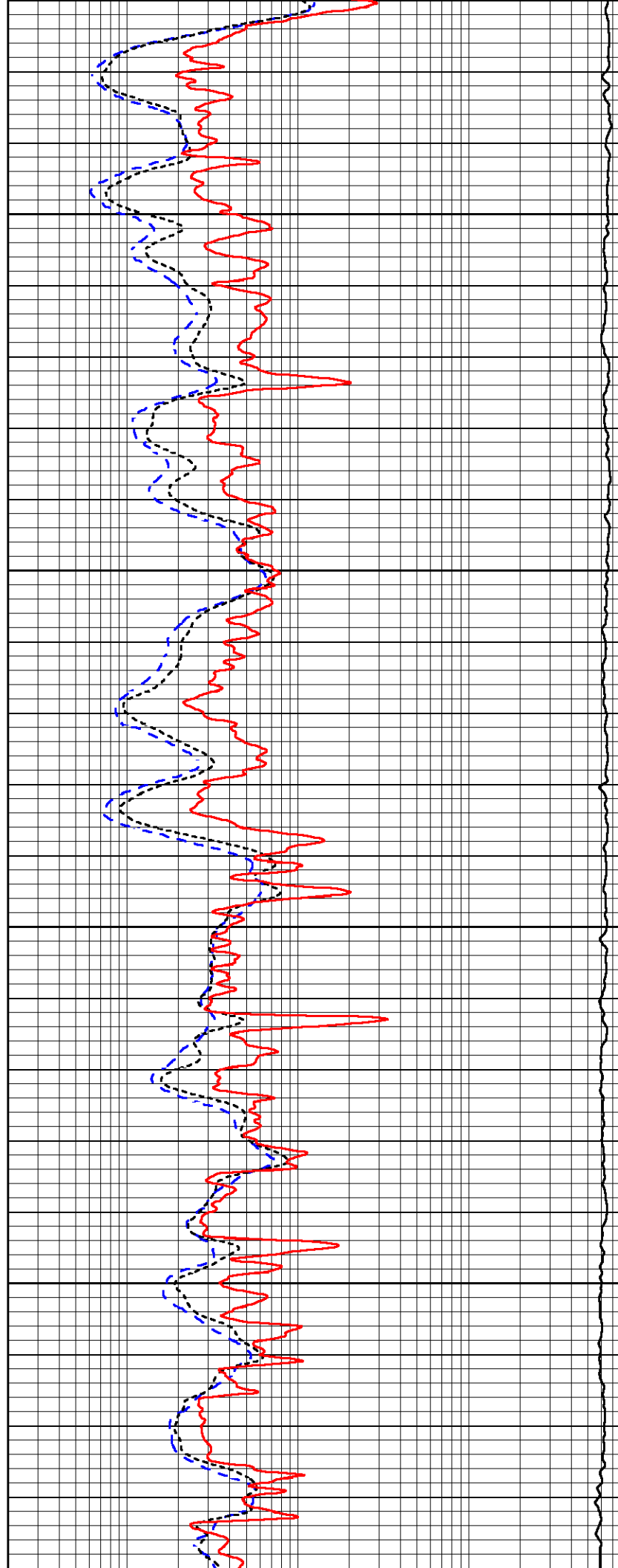


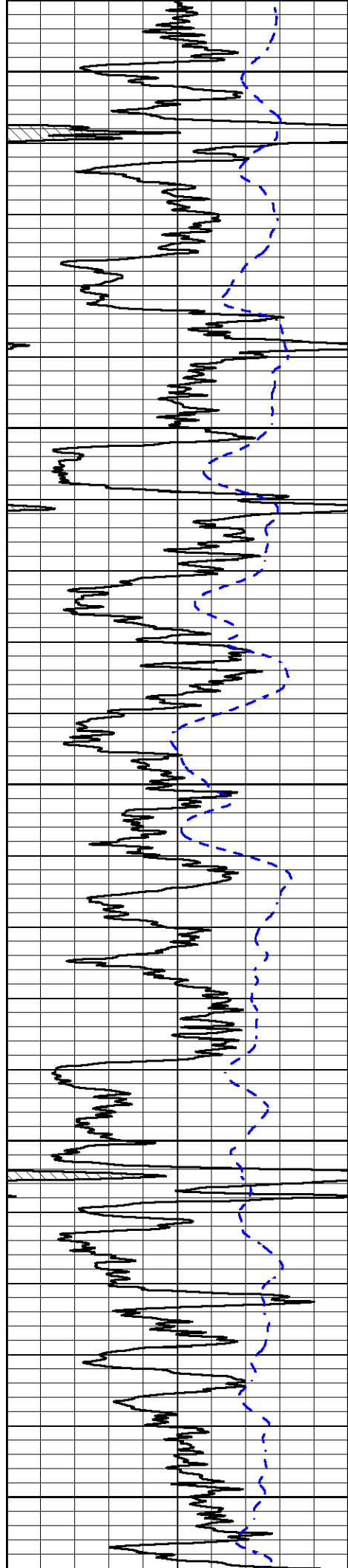
1850

1900

1950

2000





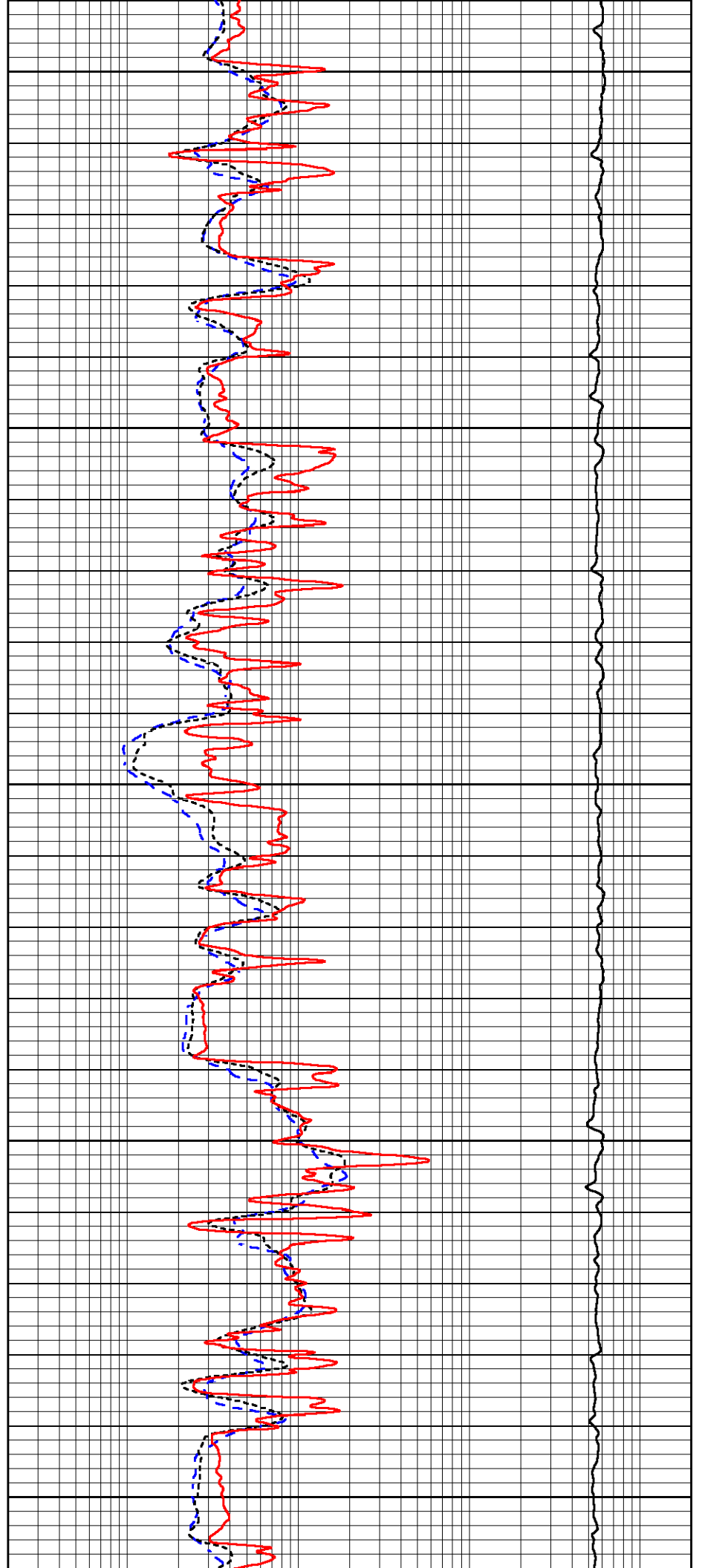
2050

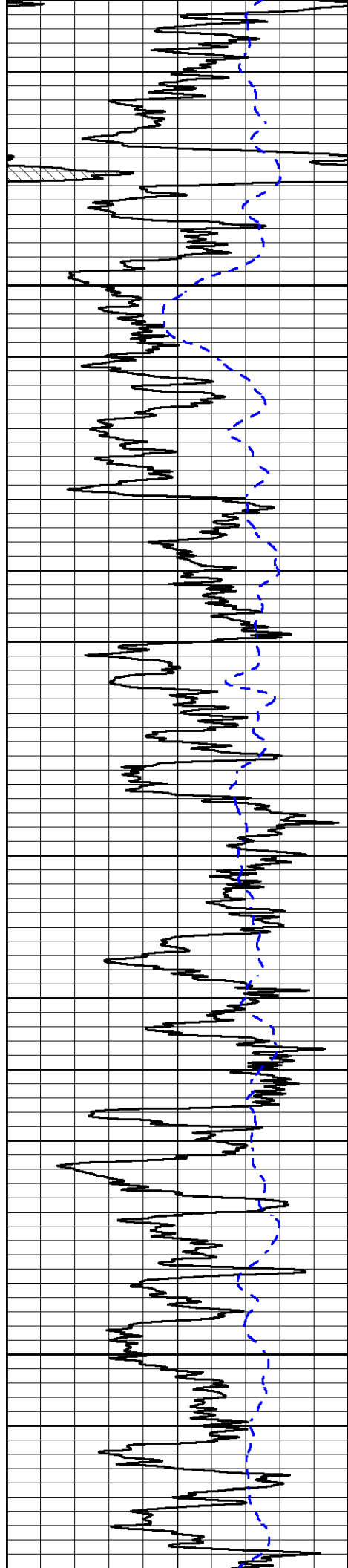
2100

2150

2200

2250



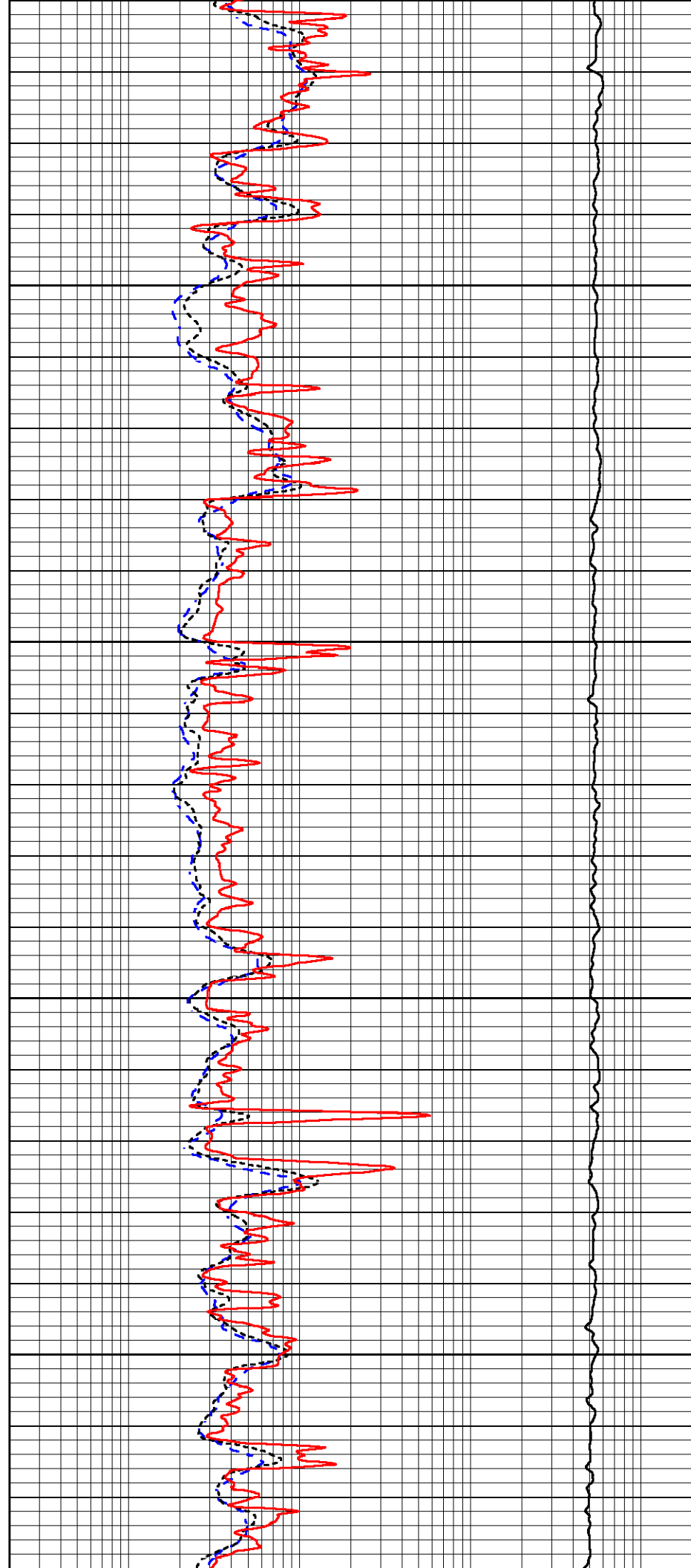


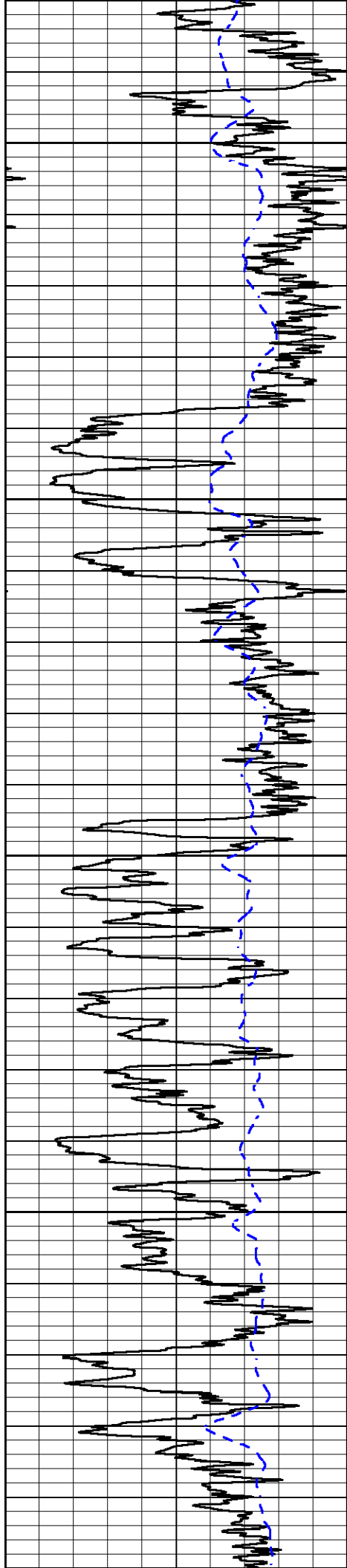
2300

2350

2400

2450





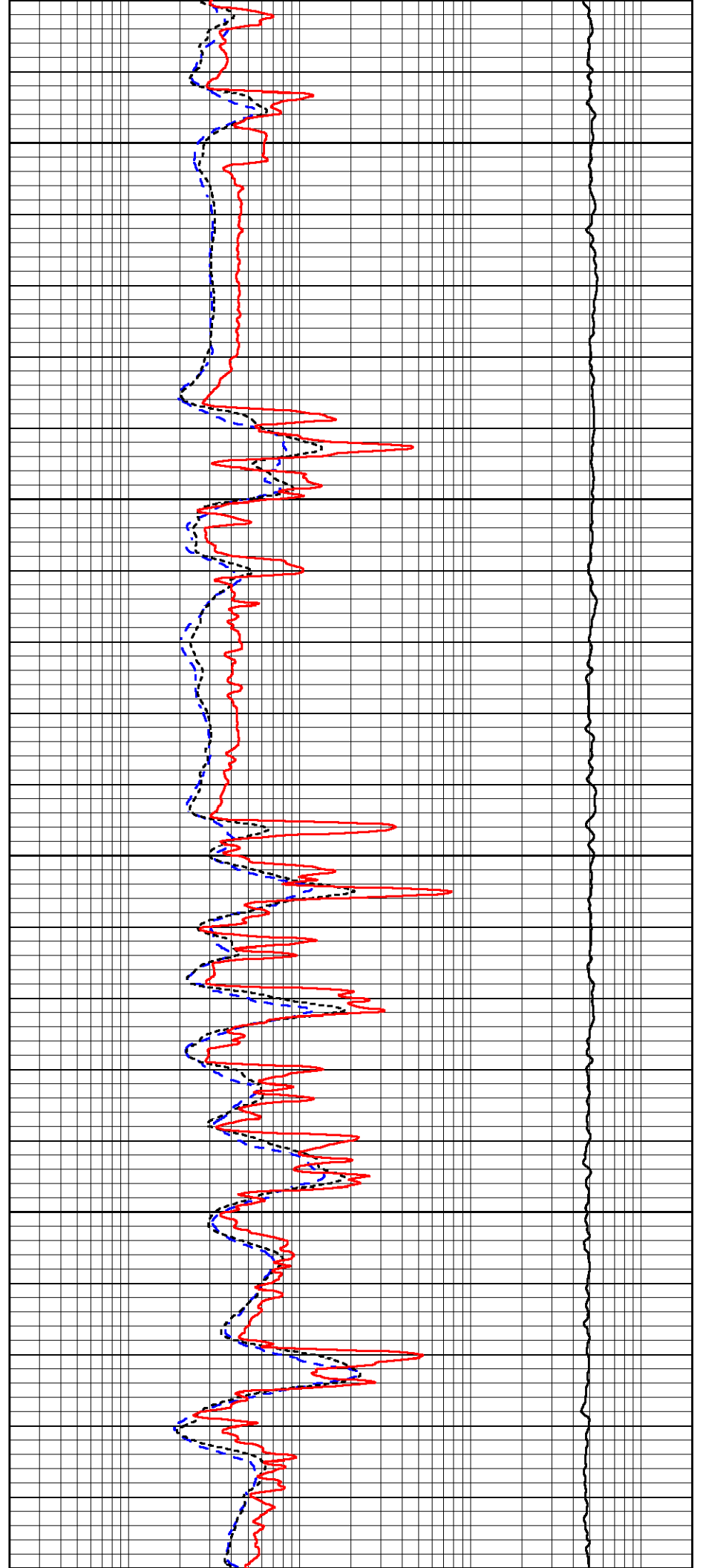
2500

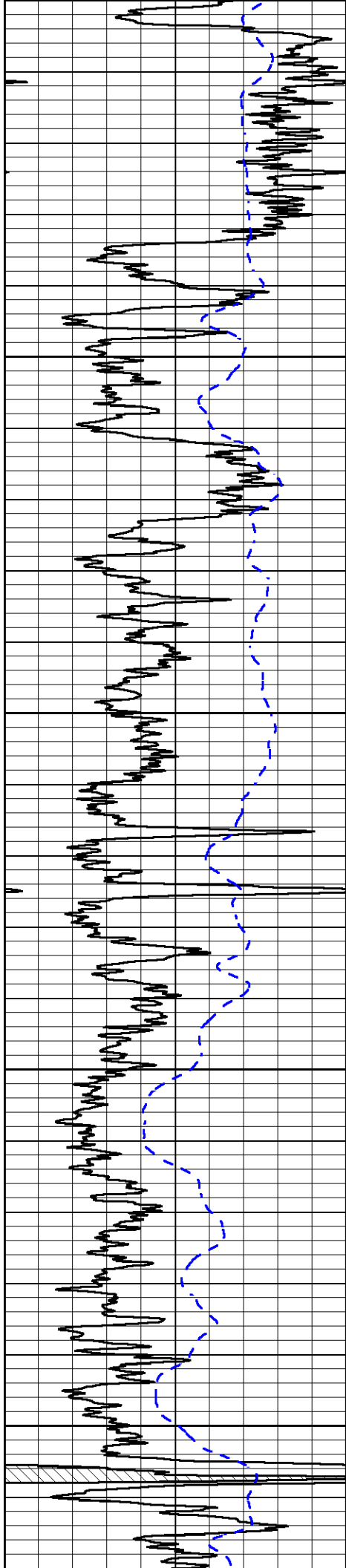
2550

2600

2650

2700





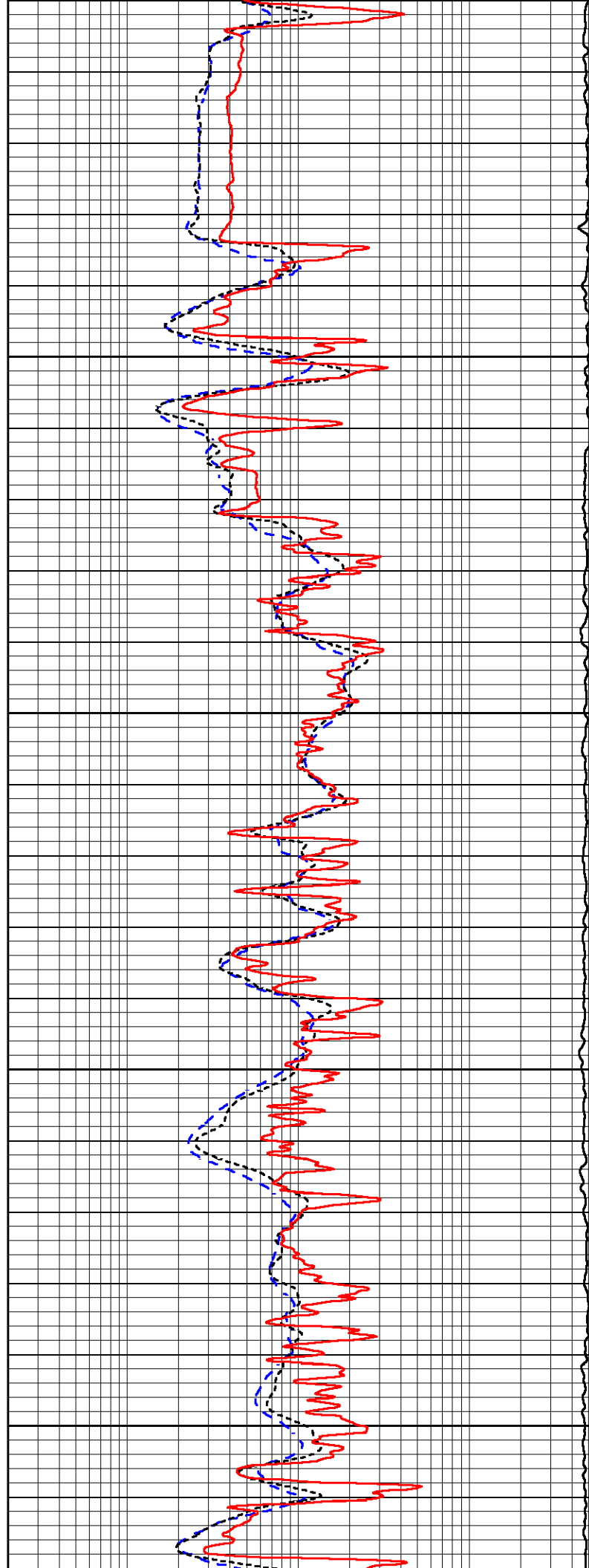
2700

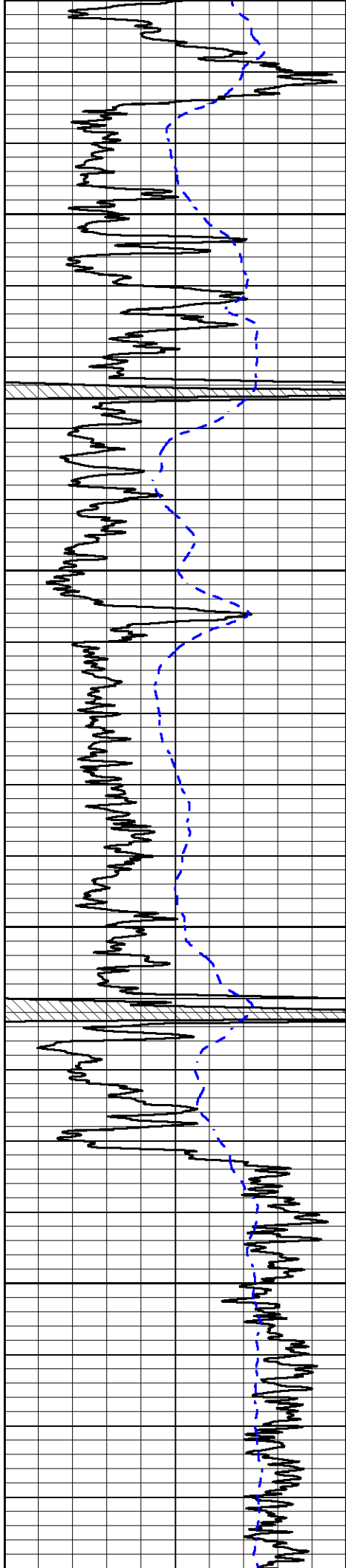
2750

2800

2850

2900



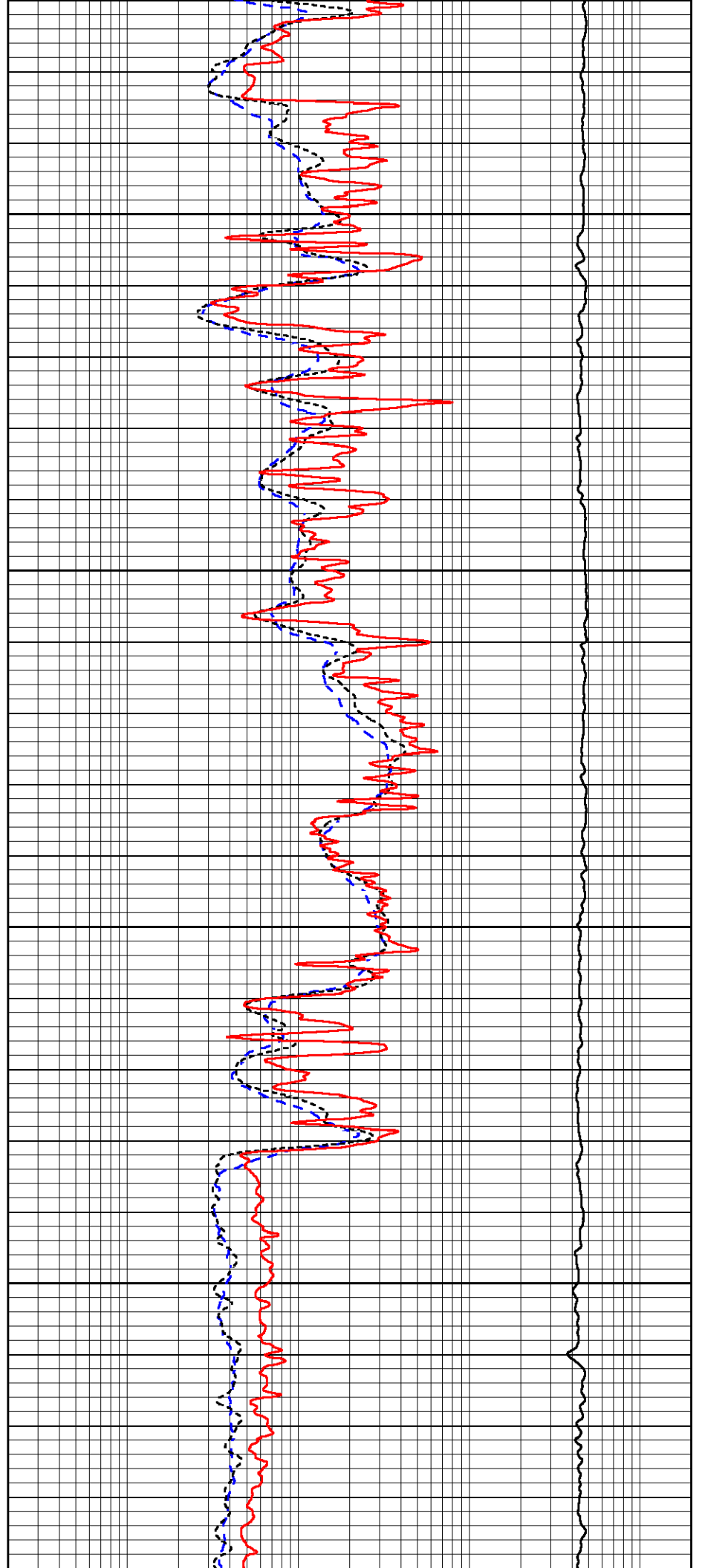


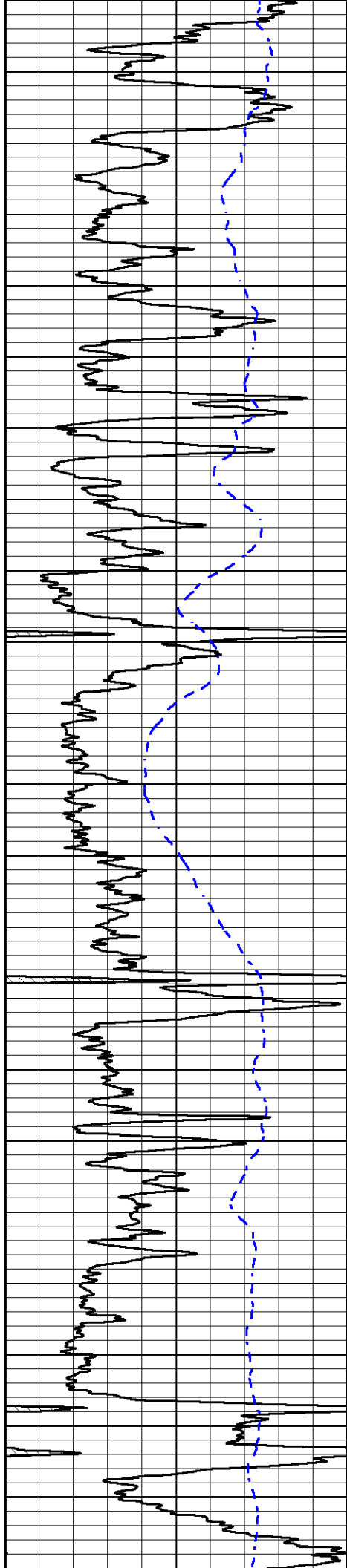
2950

3000

3050

3100





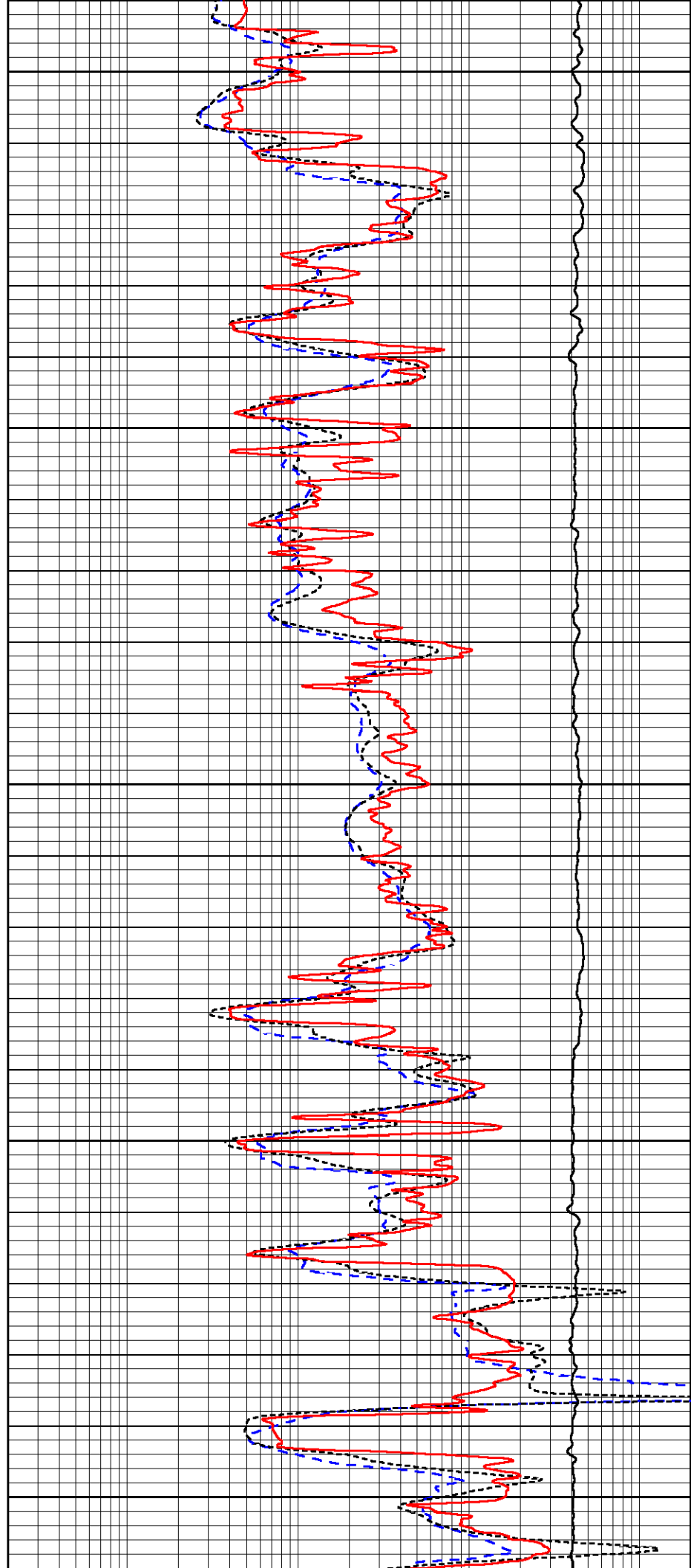
3150

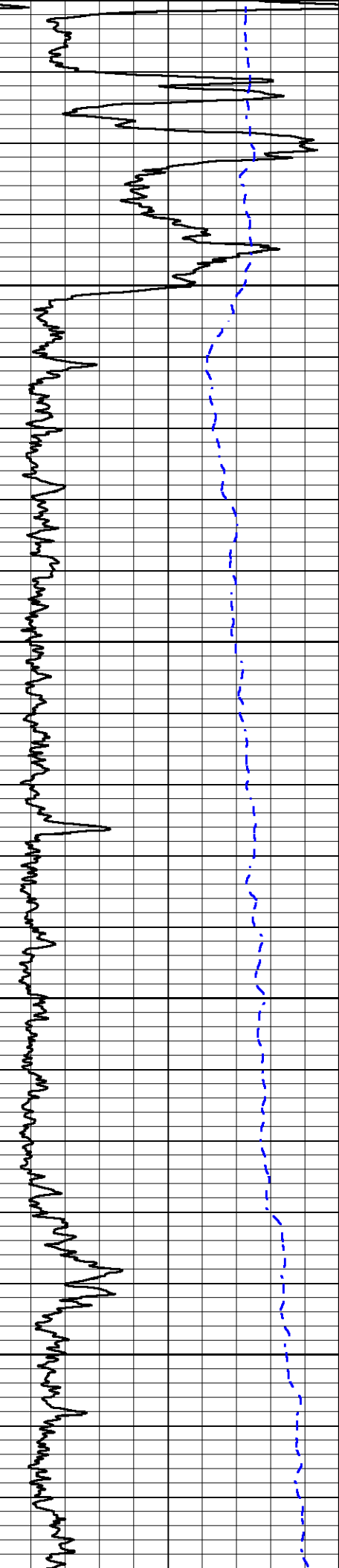
3200

3250

3300

3350



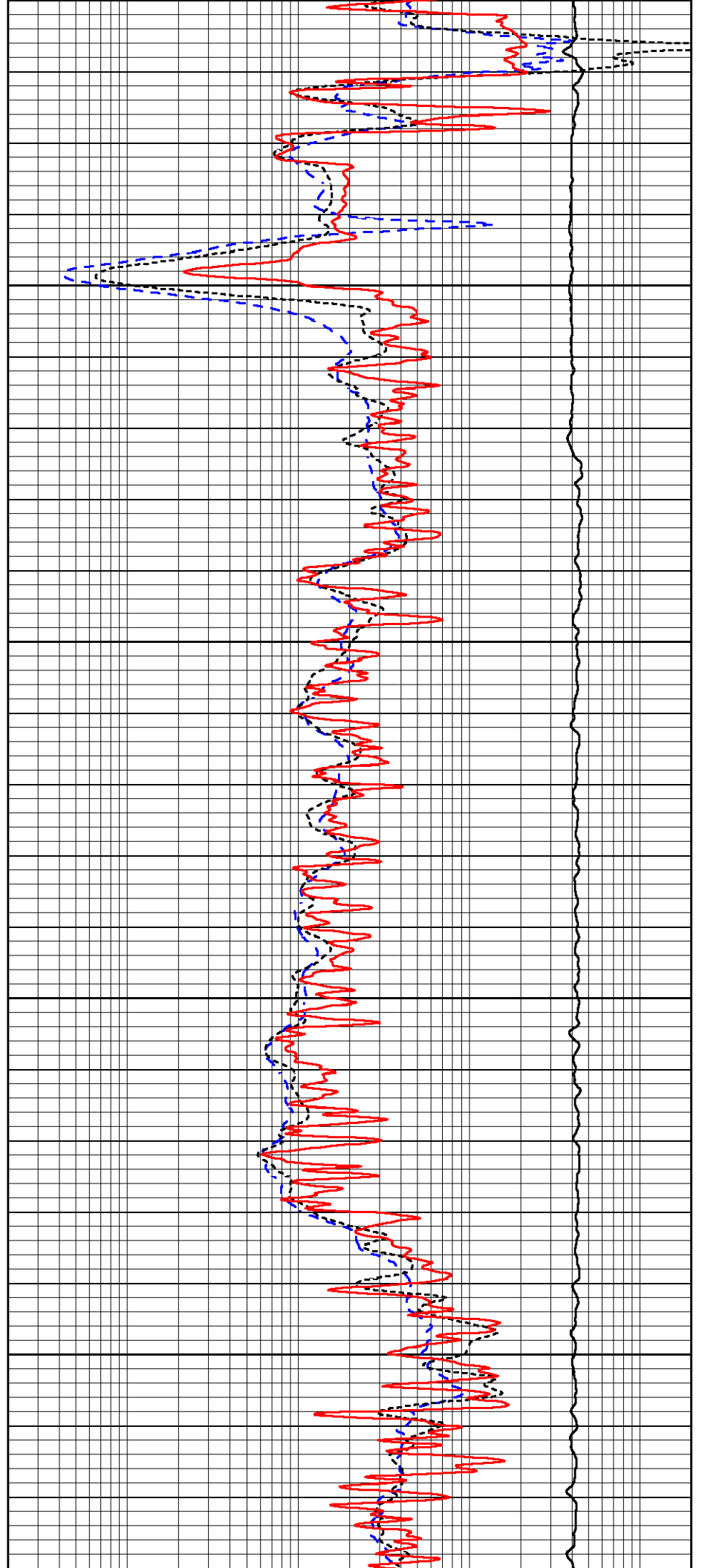


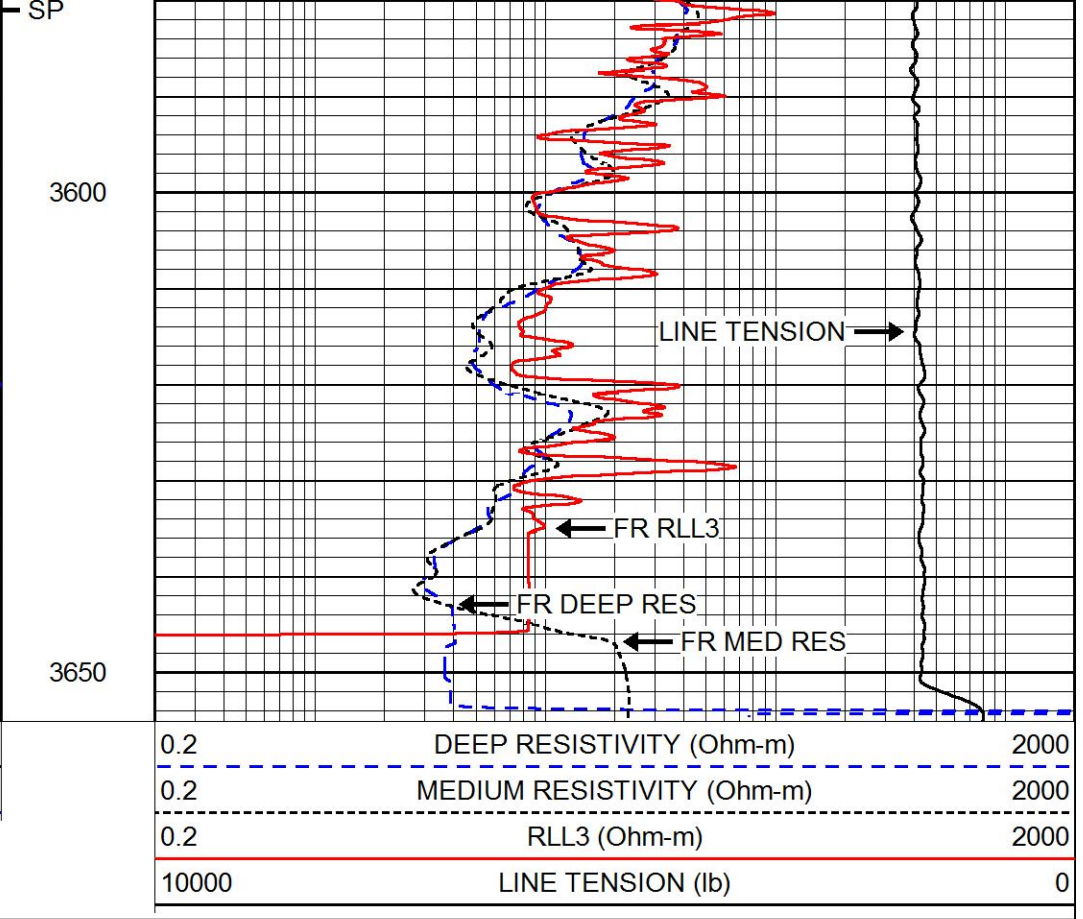
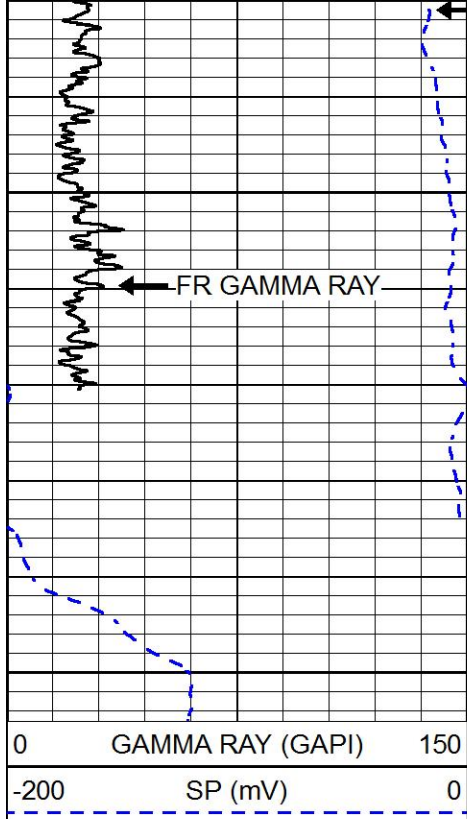
3400

3450

3500

3550

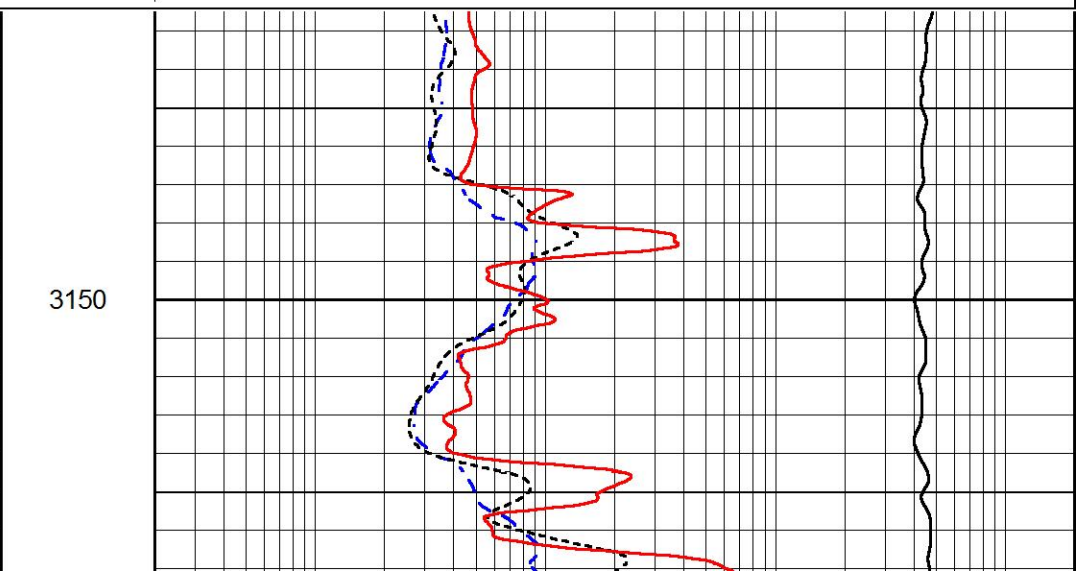
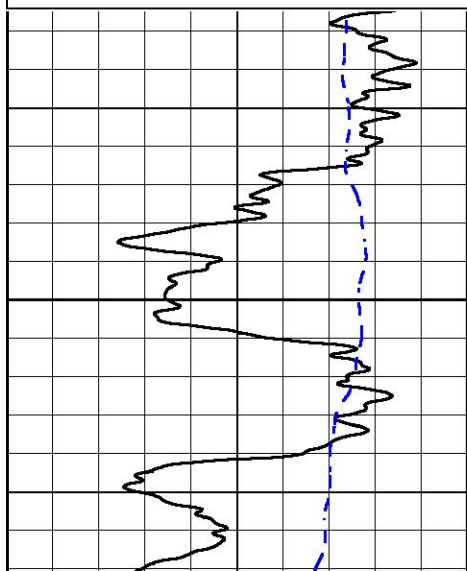
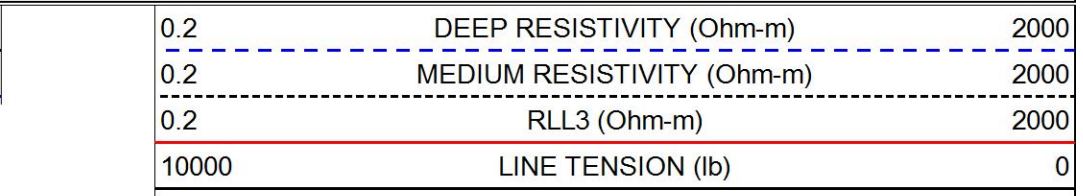
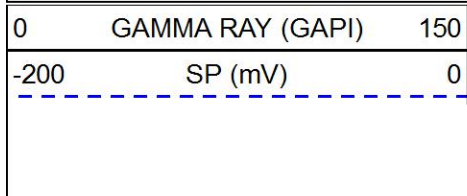


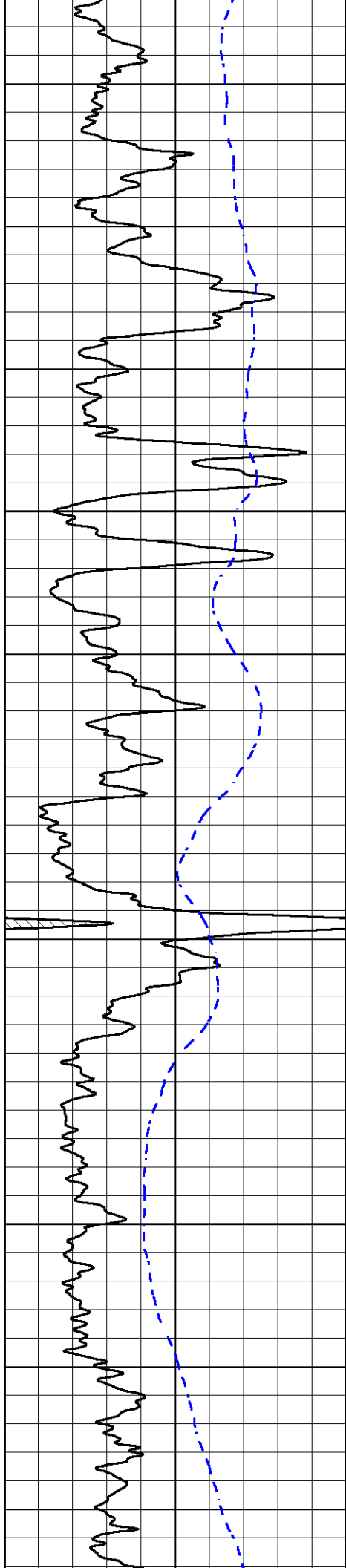


MAIN PASS

HIGH RESOLUTION

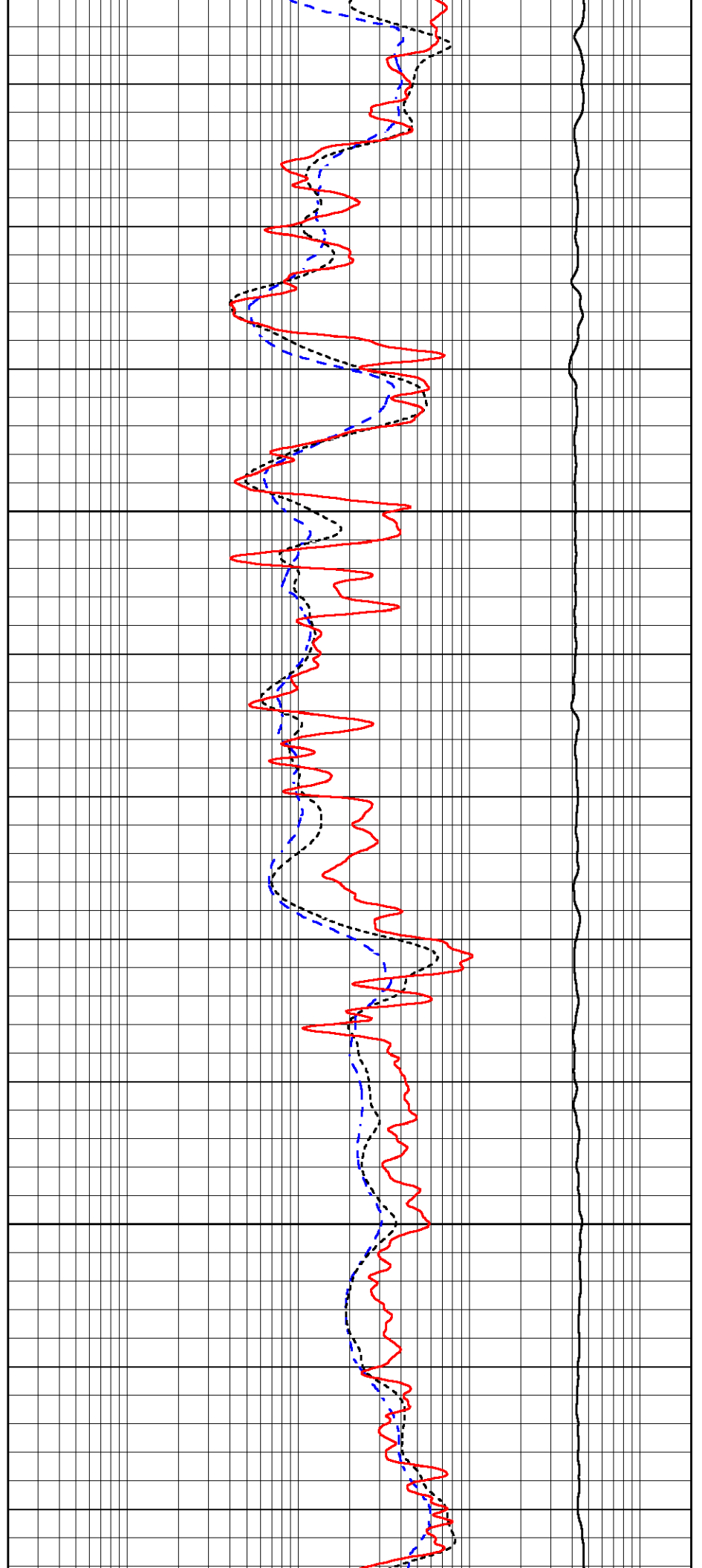
Database File fg holl_millard trust 2-31.db
 Dataset Pathname STKML/pass3.4
 Presentation Format dil
 Dataset Creation Fri Aug 24 14:07:07 2018
 Charted by Depth in Feet scaled 1:120

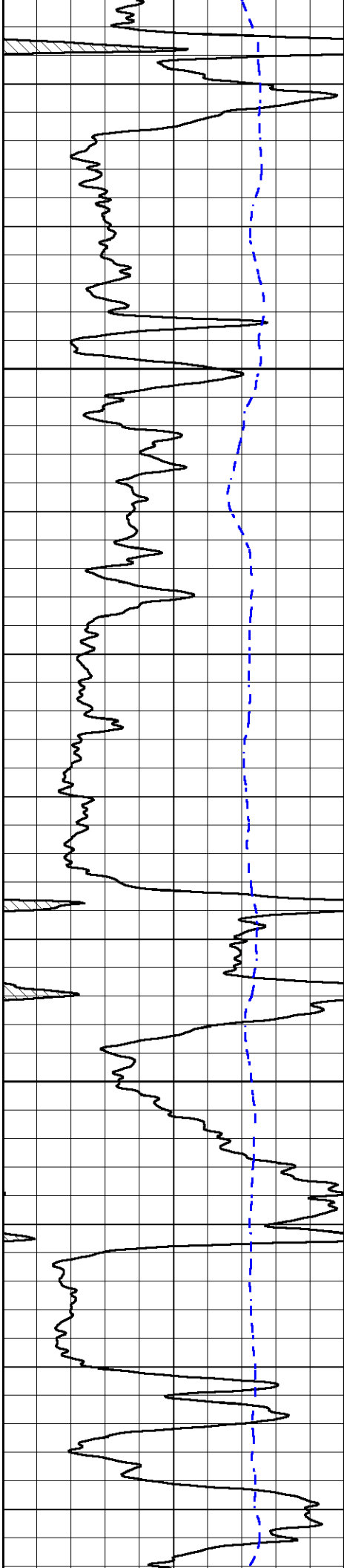




3200

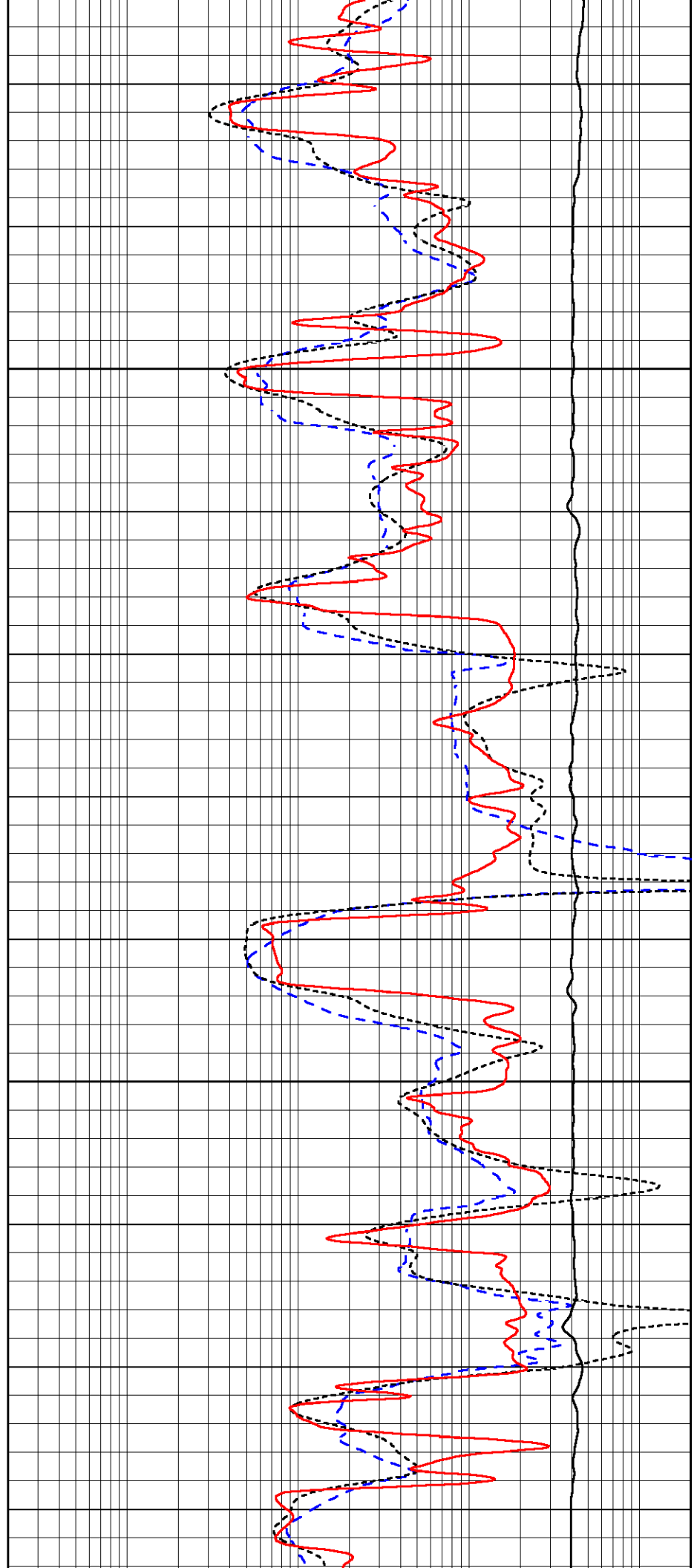
3250

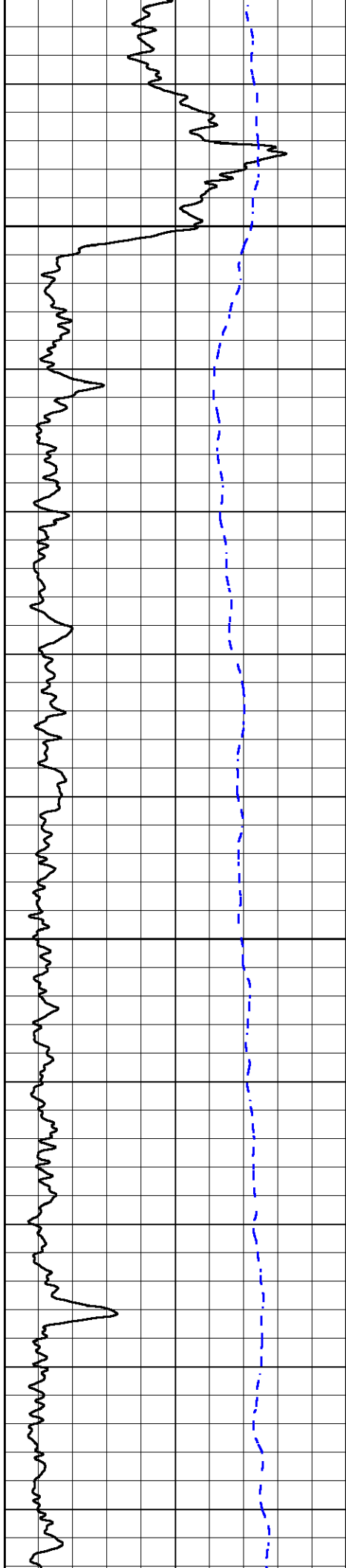




3300

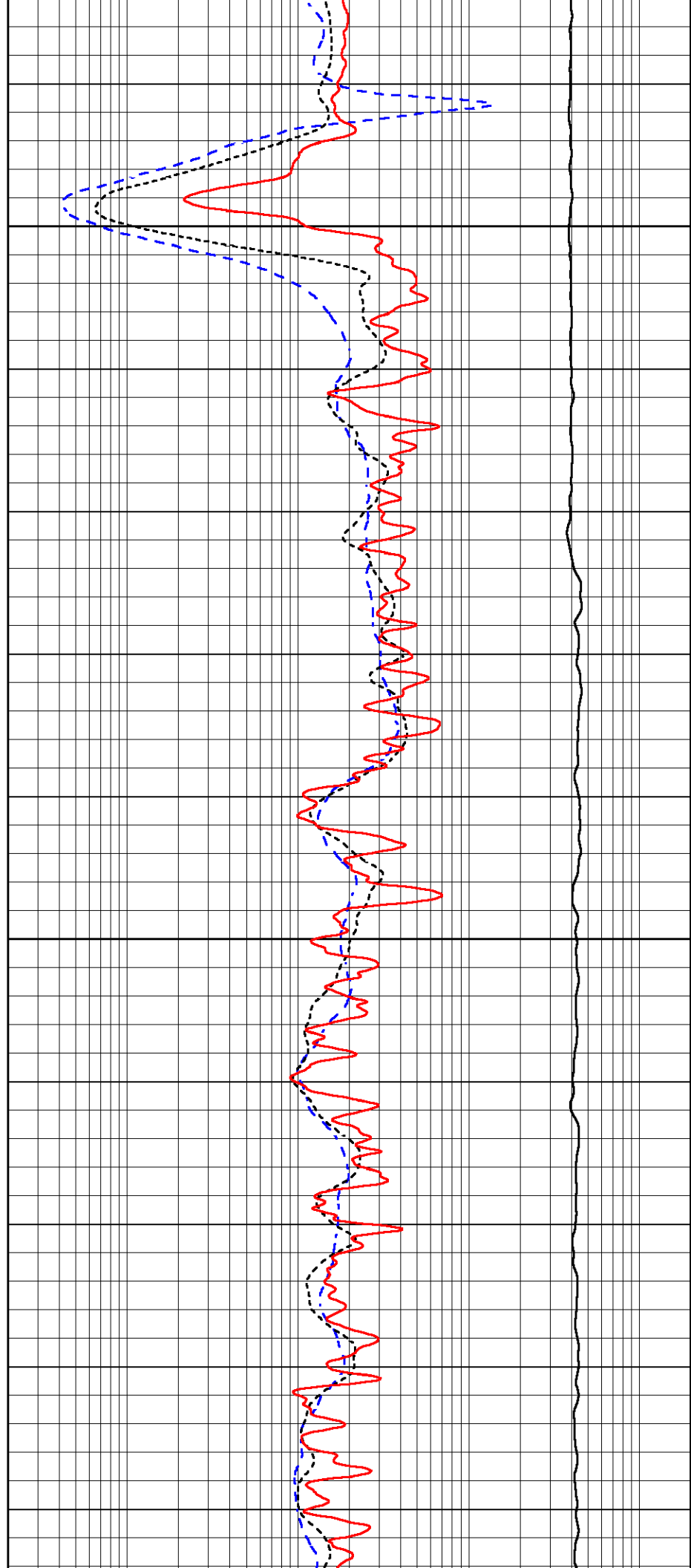
3350

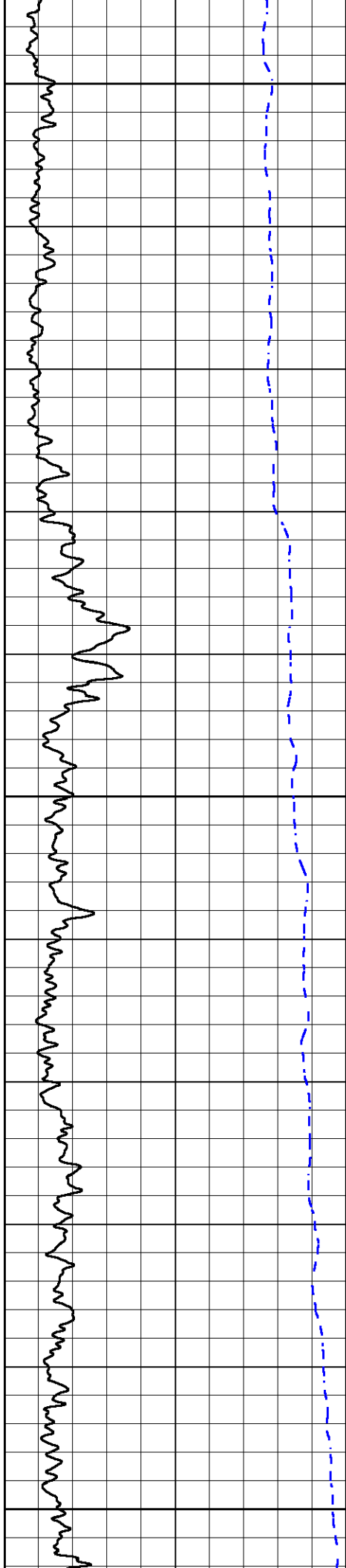




3400

3450

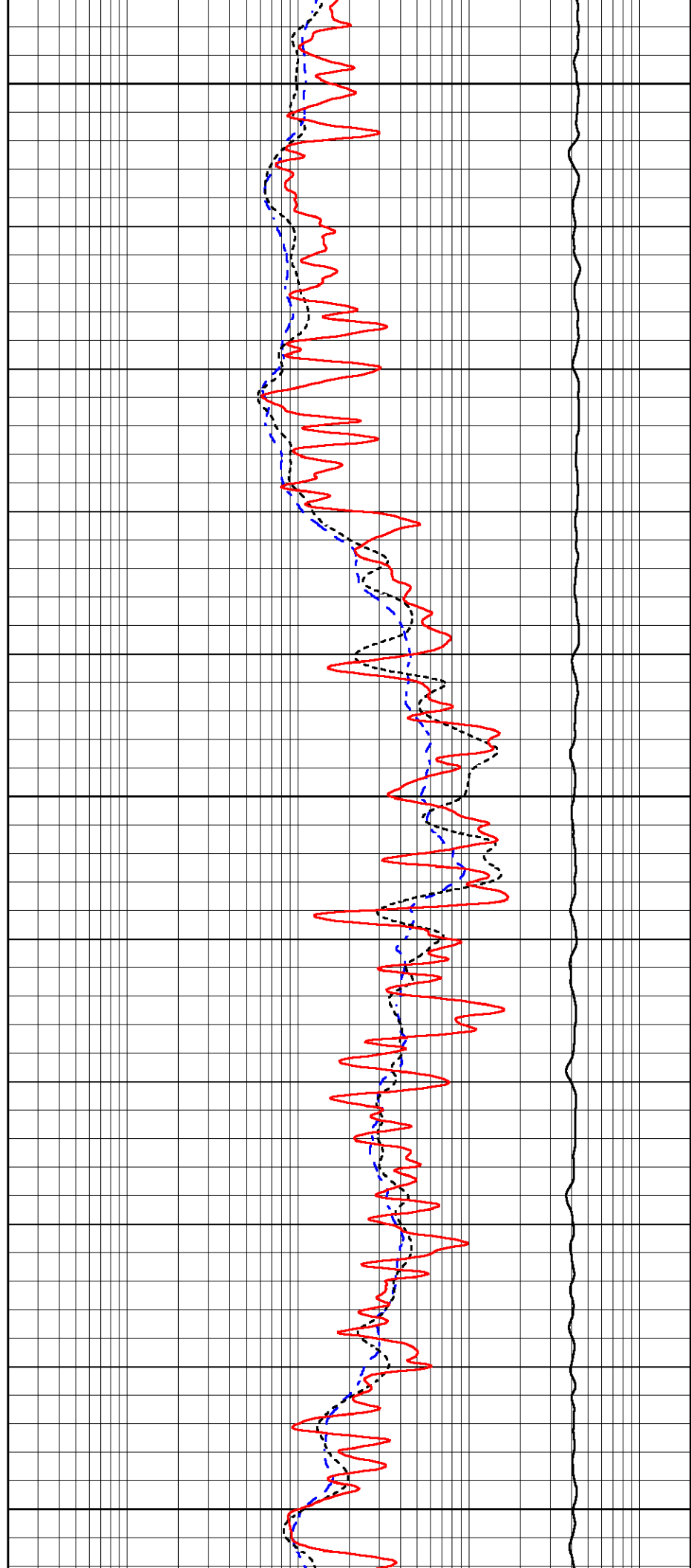


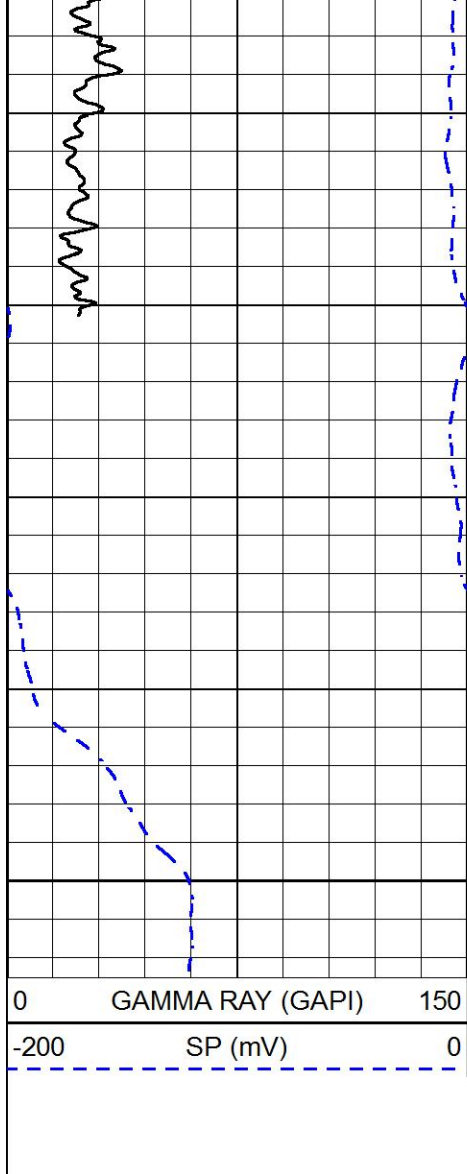


3500

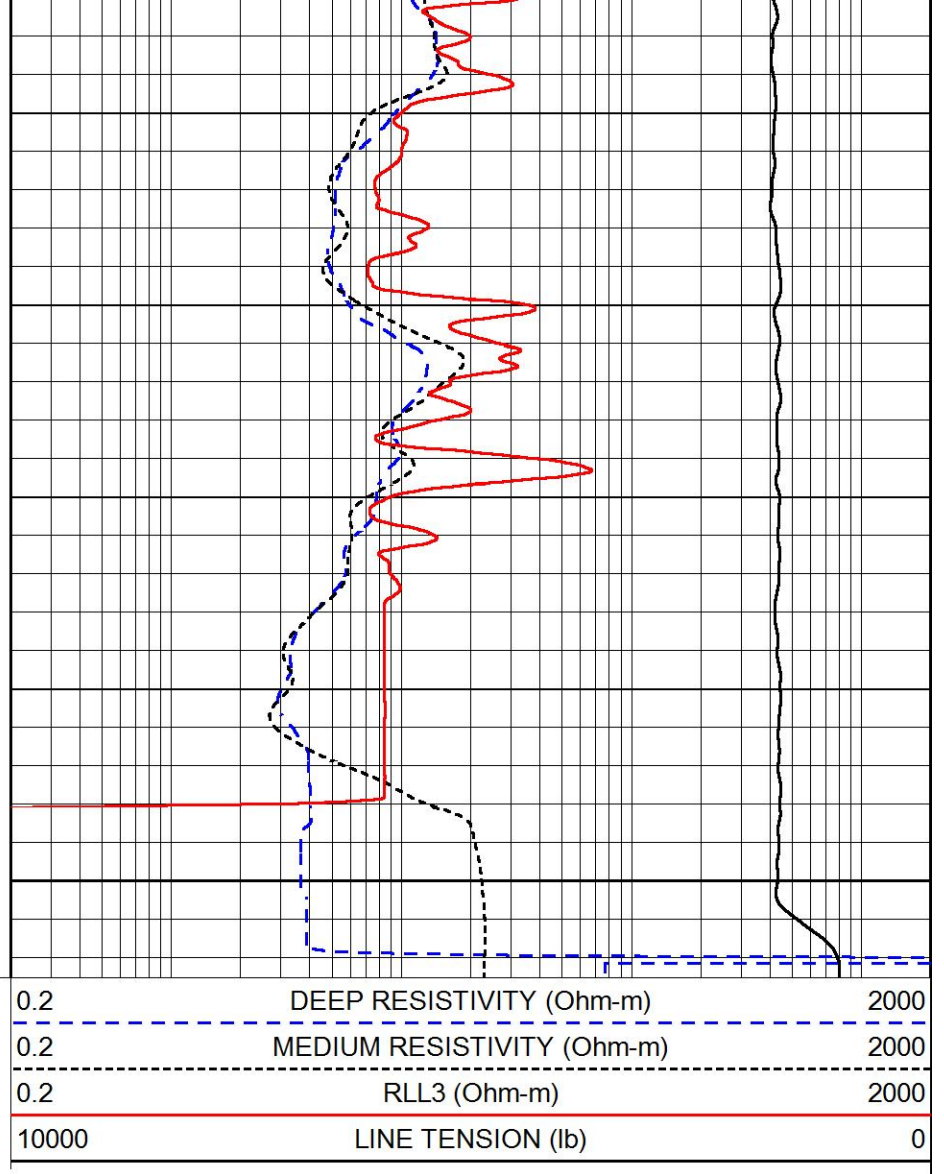
3550

3600



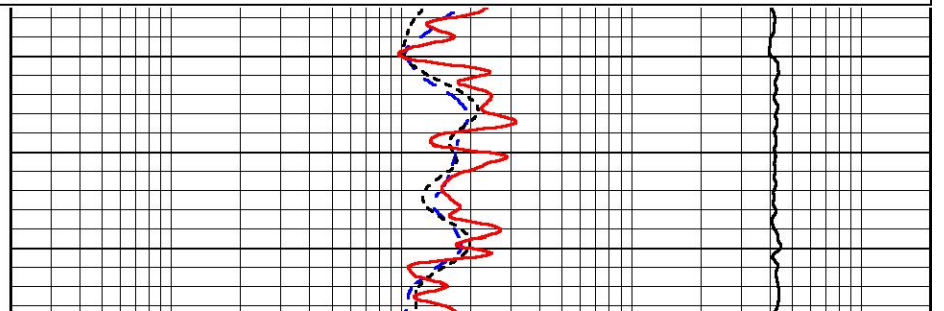
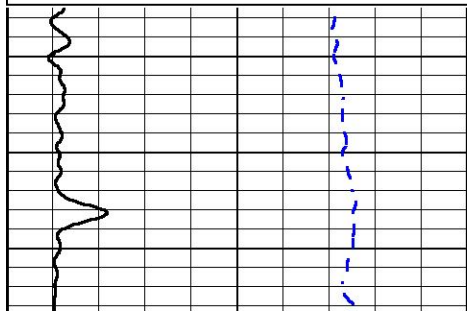
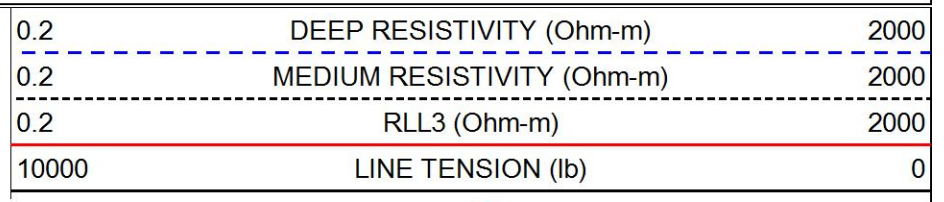
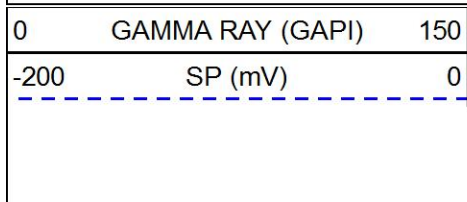


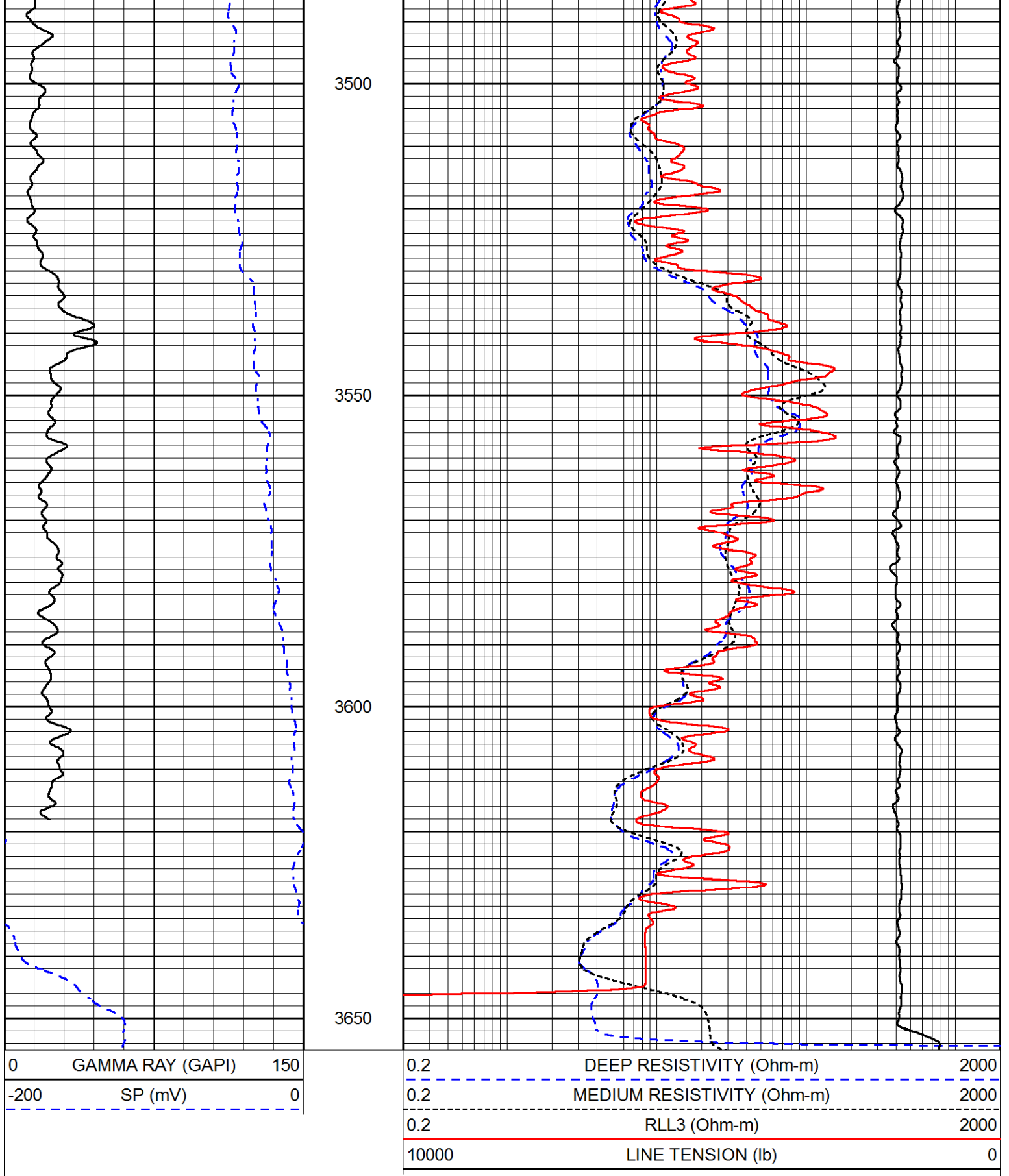
3650



REPEAT SECTION

Database File fg holl_millard trust 2-31.db
 Dataset Pathname STKML/pass2.1
 Presentation Format dil
 Dataset Creation Fri Aug 24 13:24:20 2018
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File fg holl_millard trust 2-31.db
 Dataset Pathname STKML/pass5.1
 Dataset Creation Fri Aug 24 13:44:46 2018

Dual Induction Calibration Report

Serial-Model:
Calibration Performed:

967 (H1)-PSI HIGH TEMP
Fri Aug 24 11:15:17 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.565	-23.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.390	-39.000

Microlog Calibration Report

Serial-Model:
Performed:

PSI-01-PSIML
Fri Aug 24 11:15:30 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	25000.0000	-0.8000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	30000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-66.0000

Compensated Density Calibration Report

Serial-Model:
Source / Verifier:
Master Calibration Performed:

817-947-M&W
16955B / 2ci
Fri Aug 24 11:16:00 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6127.15	5922.31	cps
Aluminum	2.670	g/cc	1141.85	3762.09	cps
Spine Angle = 74.89			Density/Spine Ratio = 0.526		
	Size		Reading		
Small Ring	4.50	in	1.02		
Large Ring	15.00	in	1.15		

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: FRI AUG 24 10:30:30 2018

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: Fri Aug 24 11:16:10 2018

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	FG HOLL COMPANY, LLC
Well	MILLARD TRUST #2-31
Field	WILDCAT
County	BARTON
State	KANSAS