



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company **Griffin Management LLC**
 Well **Mary #4B**
 Field **N/A**
 County **Pratt** State **Kansas**

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 Well **Mary #4B**
 Field **N/A**
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Location: **API #: 15-151-22517-00-00**
NE - SE - SE - NW
2257' FNL & 2263' FWL
SEC 33 TWP 29S RGE 15W
 Permanent Datum **Ground Level** Elevation **1960'**
 Log Measured From **Kelly Bushing**
 Drilling Measured From **Kelly Bushing**
 Other Services **CNL / CDL MEL**
 Elevation **1971'**
 K.B. **1971'**
 D.F. **1960'**
 G.L. **1960'**

Date	8/26/2020
Run Number	One
Depth Driller	4800'
Depth Logger	4796'
Bottom Logged Interval	4795'
Top Log Interval	250'
Casing Driller	8.625" @ 265'
Casing Logger	264'
Bit Size	7.875"
Type Fluid in Hole	Chemical
Salinity, ppm CL	6000
Density / Viscosity	9.6 48
pH / Fluid Loss	10.0 8.9
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.75 @ 82
Rmt @ Meas. Temp	0.56 @ 82
Rmc @ Meas. Temp	1.01 @ 82
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.5 @ 124
Operating Rig Time	2.5 Hours
Max Rec. Temp. F	148 Deg F
Equipment Number	P-24
Location	HAYS
Recorded By	T. Martin
Witnessed By	Eli J. Felts

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

Pratt, KS, appx 15 W to SW 140th Ave, 9.5 S to SW 110th St,
 1 E, S & E into

Log Measured From: Kelly Bushing 11 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
 785-625-3858

Your Midwest Wireline Crew		This Log Record Was Witnessed By	
Engineer: T. Martin	Operator: M. Hiss	Operator:	Operator:
Operator:	Operator:	Primary Witness: Eli J. Felts	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:

Company	Offset (ft)	Depth	Description	Length (ft)	C.D. (in)	Weight (lb)
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Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (233-M&W)	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 (952-828)	18.50	3.50	220.00
CILM	4.70					
SP	0.20					

Dataset: griffin management_mary 4b_20200826.db: field/well/StkMI/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin management_mary 4b_20200826.db
 Dataset field/well/StkMI/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	100	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	155	0	Off	0

Variable Description

A : Cement Factor (a)
 BOREID : Borehole I.D.
 BOTTEMP : Bottom Hole Temperature
 CASEOD : Casing O.D.
 CASETHCK : Casing Thickness
 FLUIDDEN : Fluid Density
 M : Cement Exp (m)
 MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
 PERFS : Perforation Flag
 SNDERR : Deep Sonde Error Correction
 SNDERRM : Medium Sonde Error Correction
 SPSHIFT : S.P. Baseline Offset
 SRFTEMP : Surface Temperature
 SZCOR : CN Size Cor. ?
 TDEPTH : Total Depth

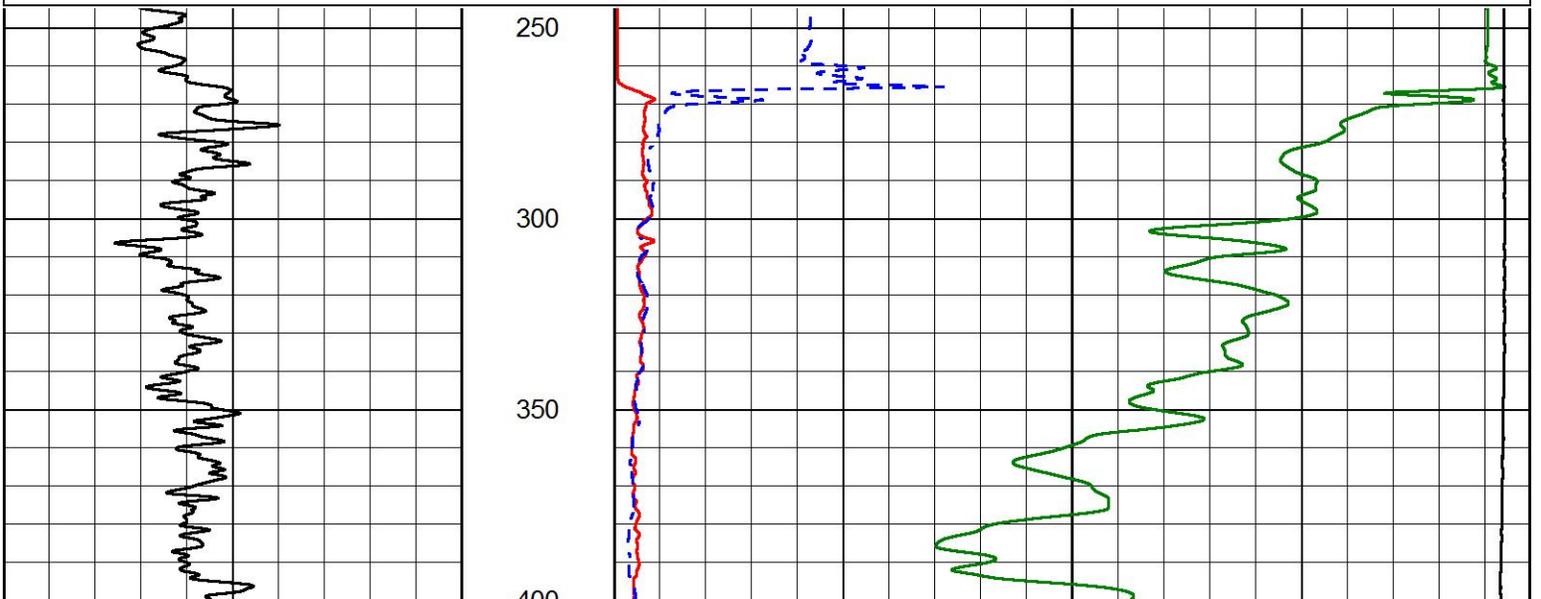


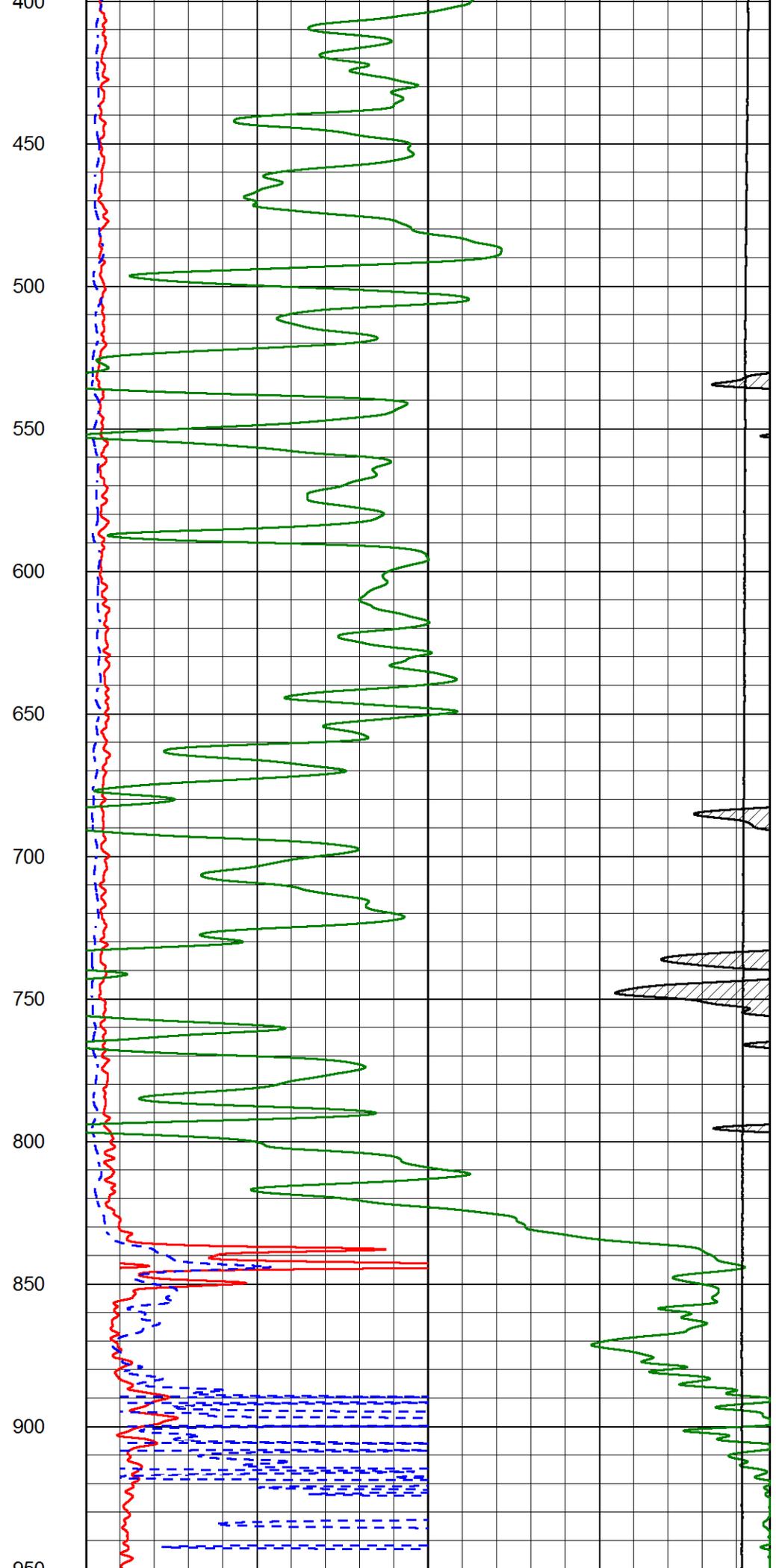
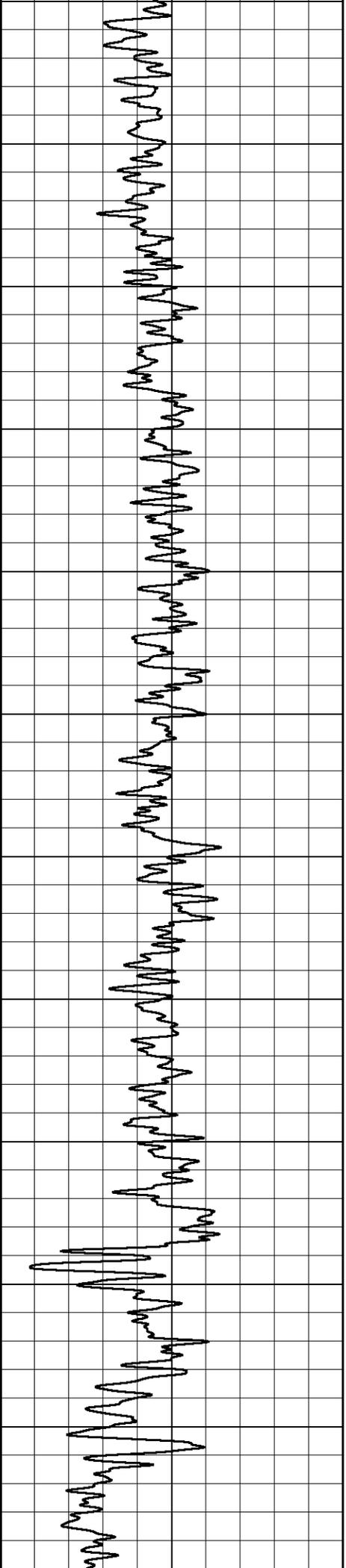
2" SCALE RESISTIVITY

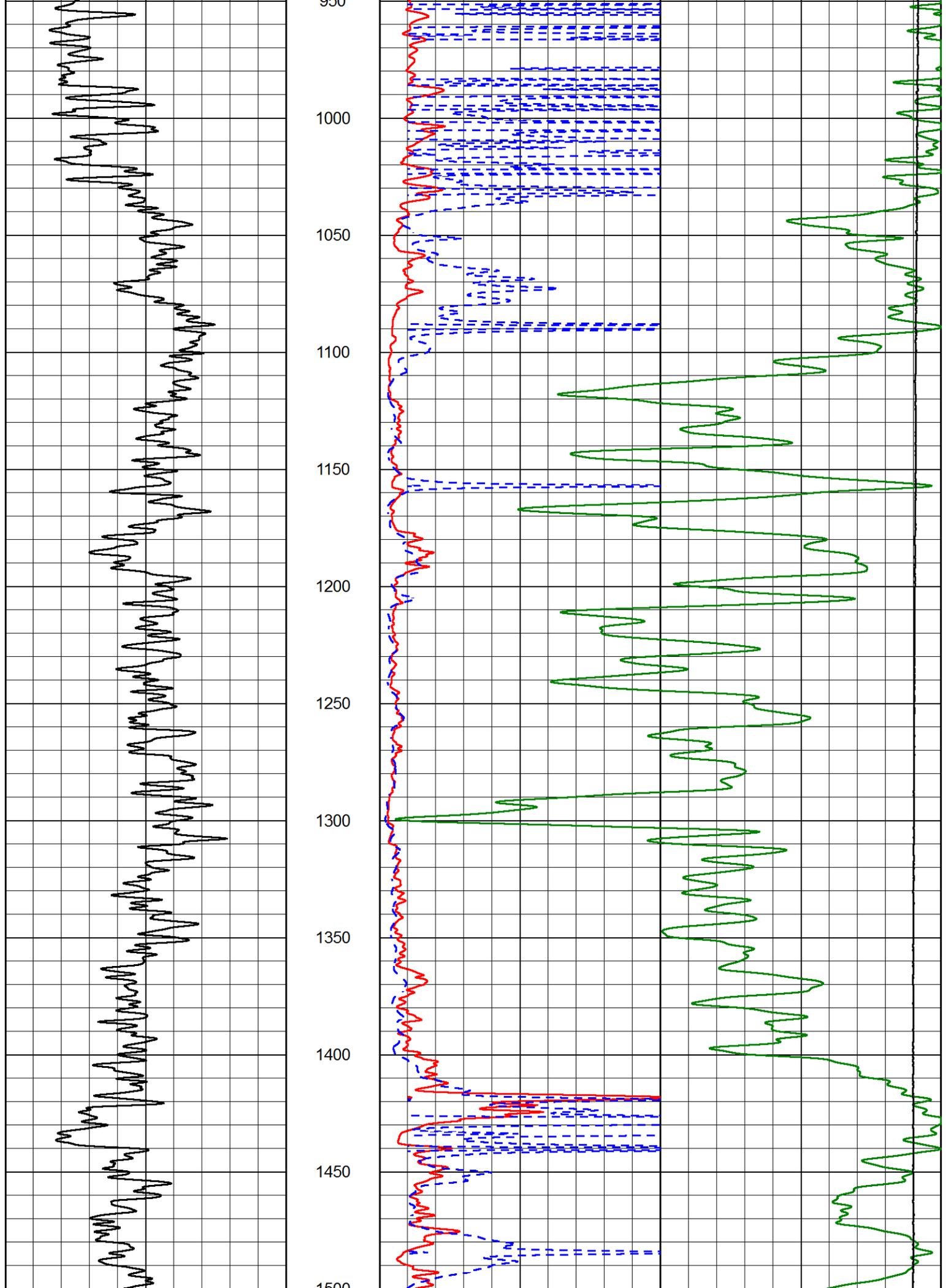
MAIN PASS

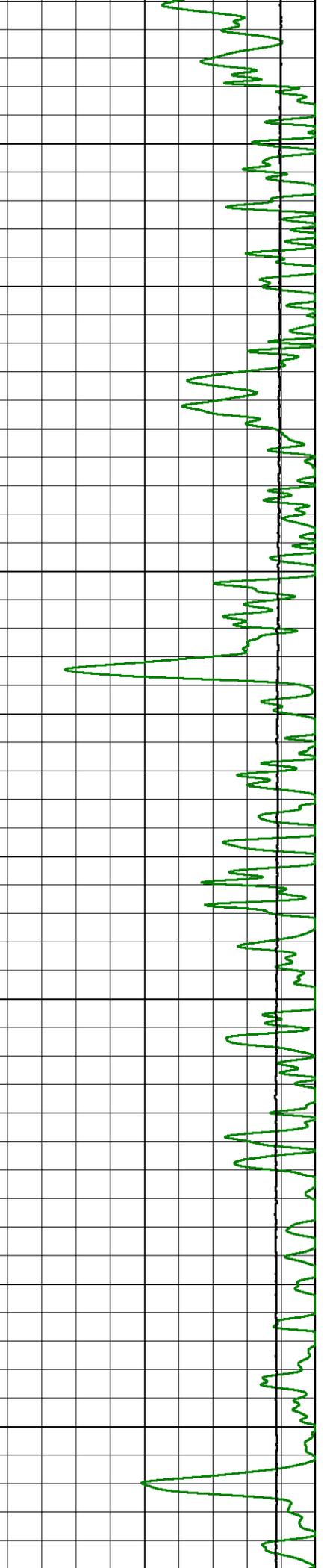
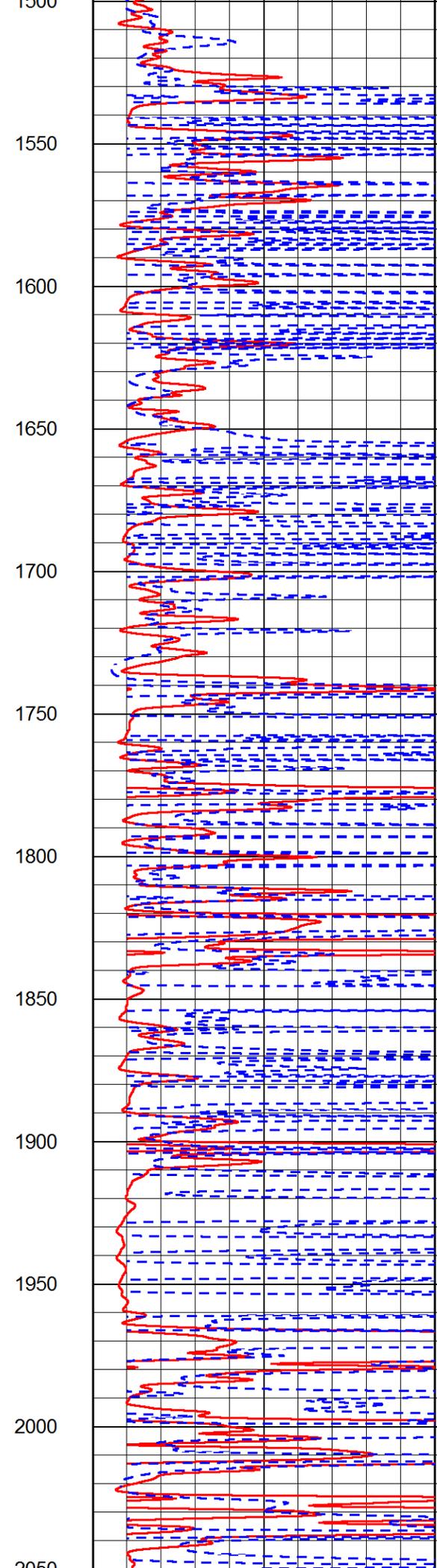
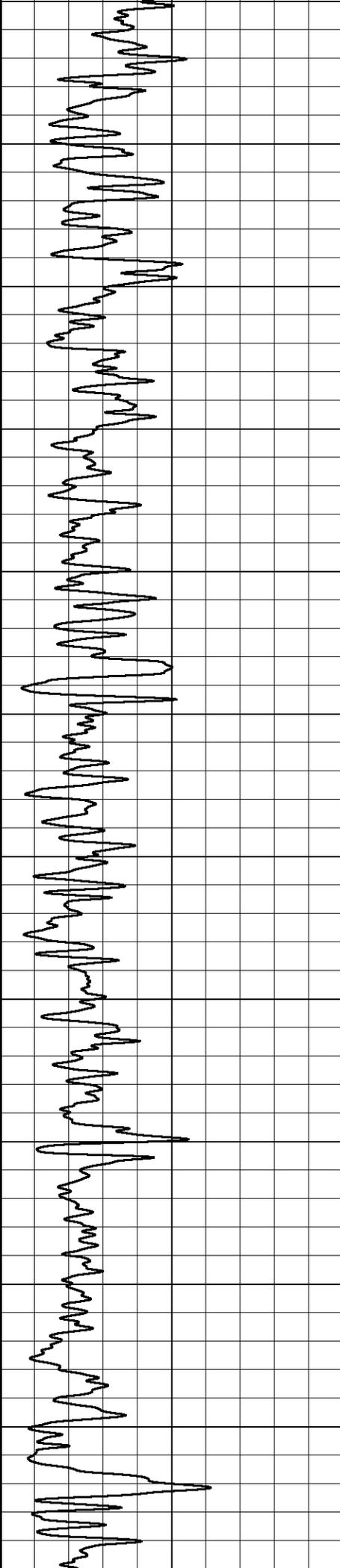
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 Dataset Pathname StkMI/pass3.2
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 Dataset Creation Thu Aug 27 00:26:03 2020
 Charted by Depth in Feet scaled 1:600

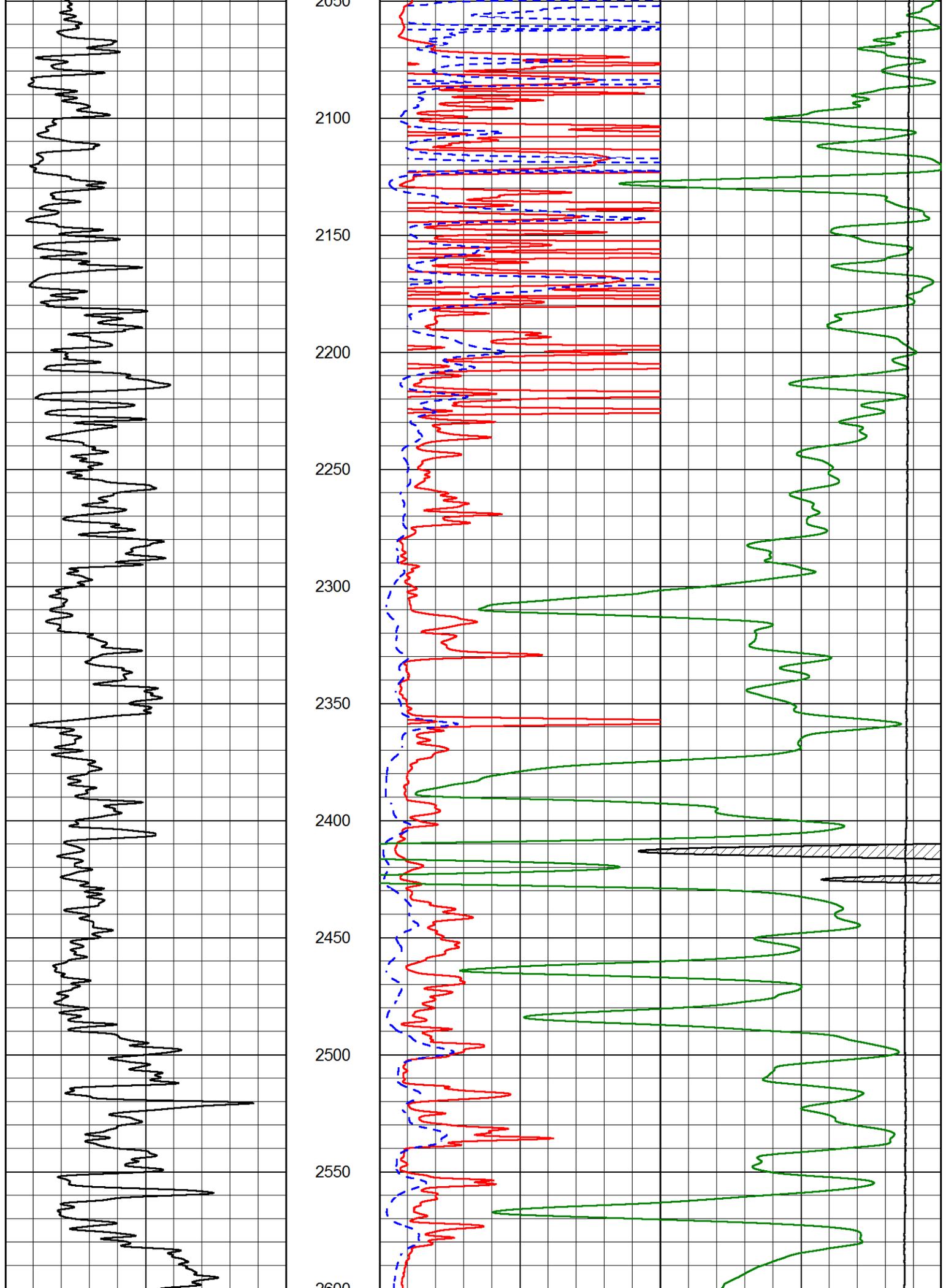
GAMMA RAY (GAPI)	1000	CONDUCTIVITY (mmho/m)	0
	15000	Line Tension (lb)	0
	0	RLL3 (Ohm-m)	50
	0	RILD (Ohm-m)	50
	50	RLL3 (Ohm-m)	200
	50	Deep Resistivity (Ohm-m)	200

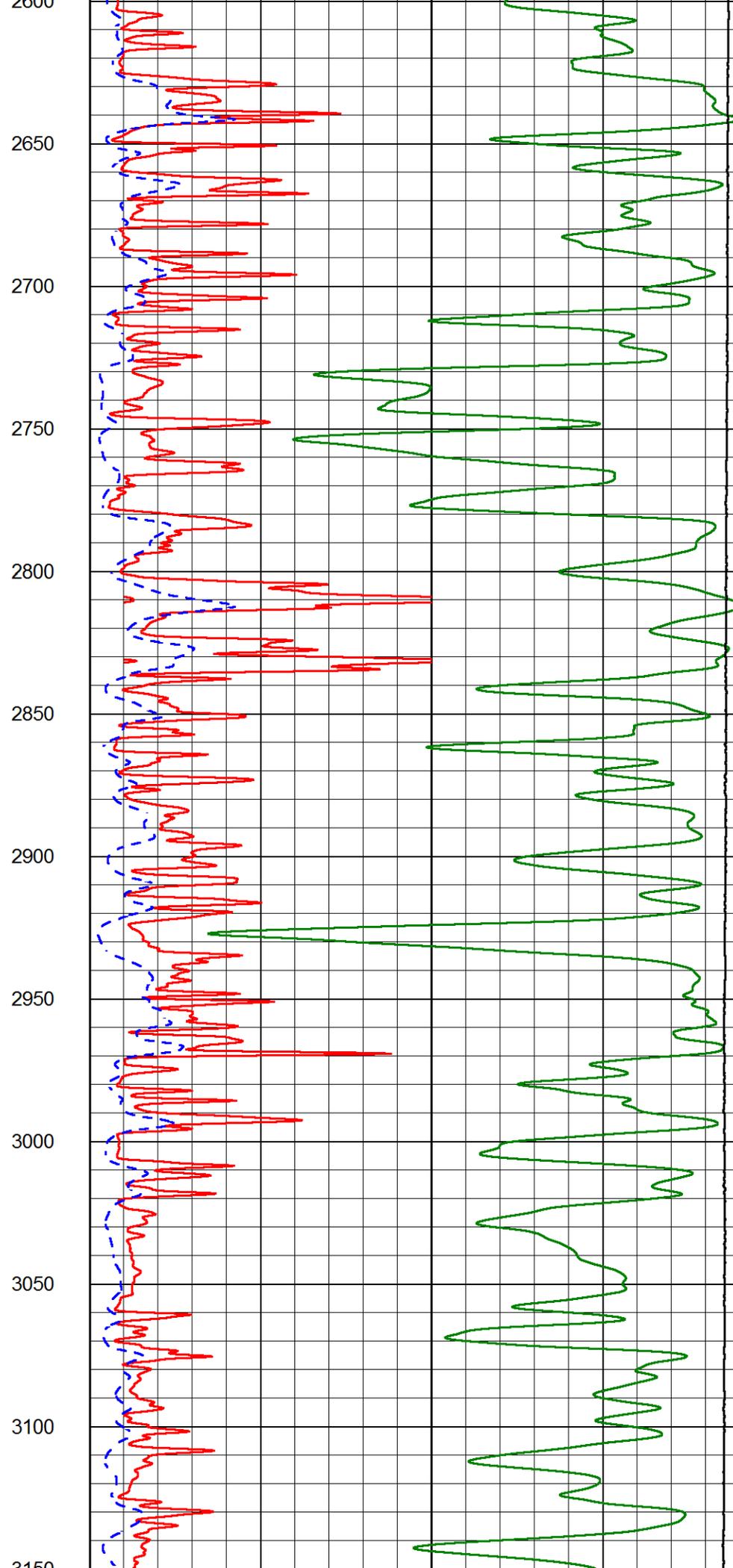
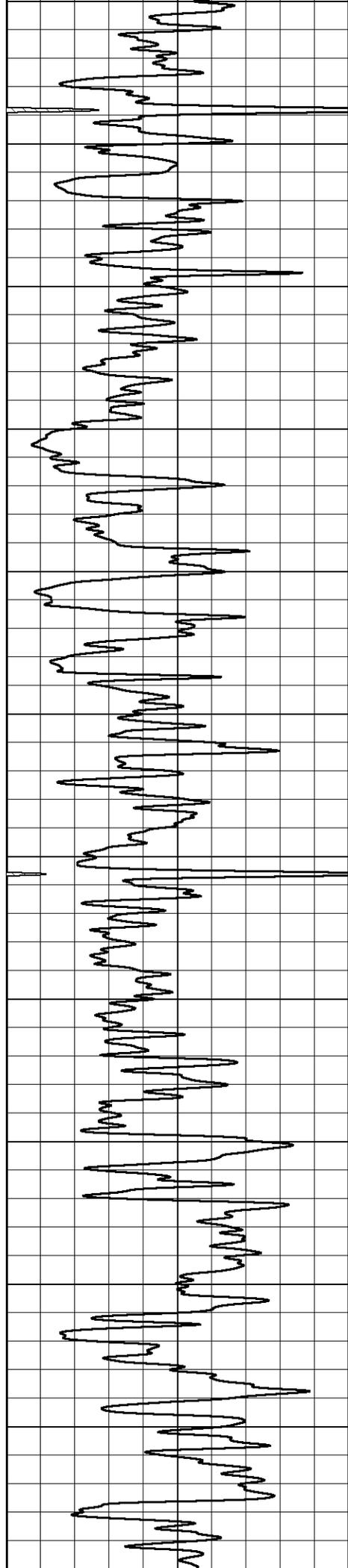


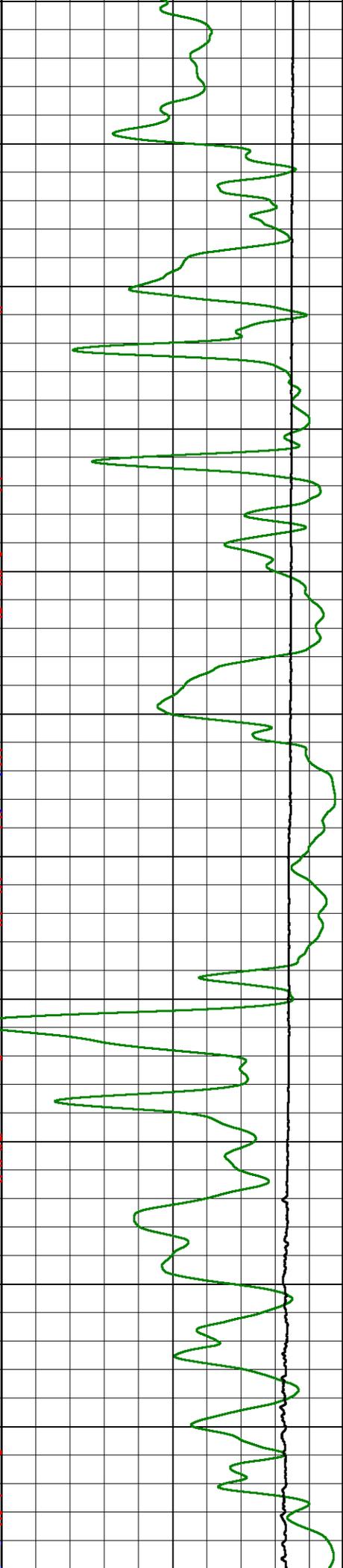
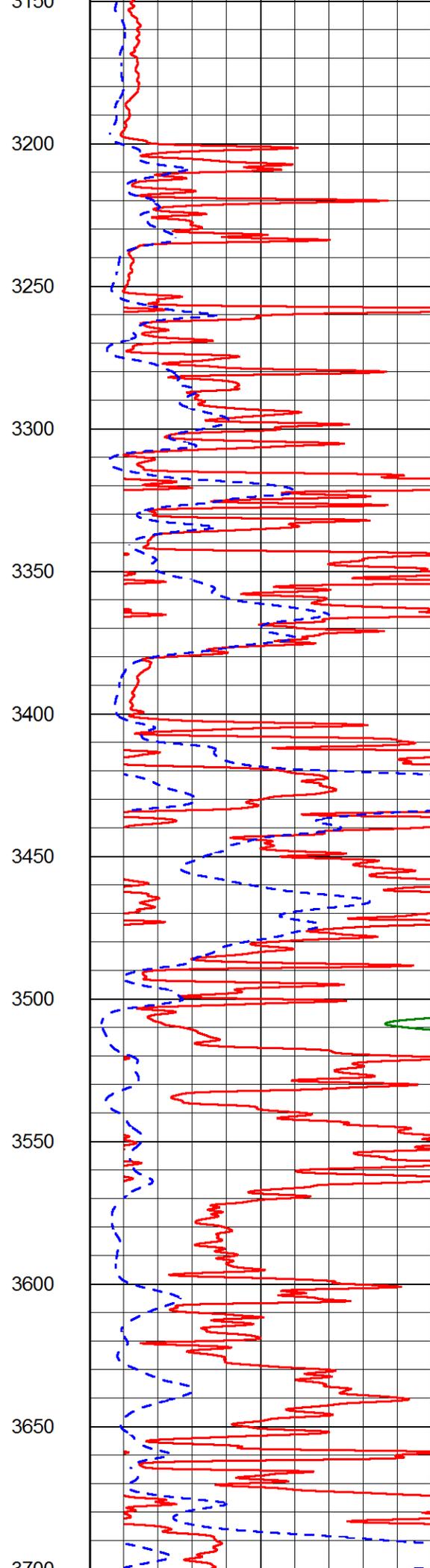
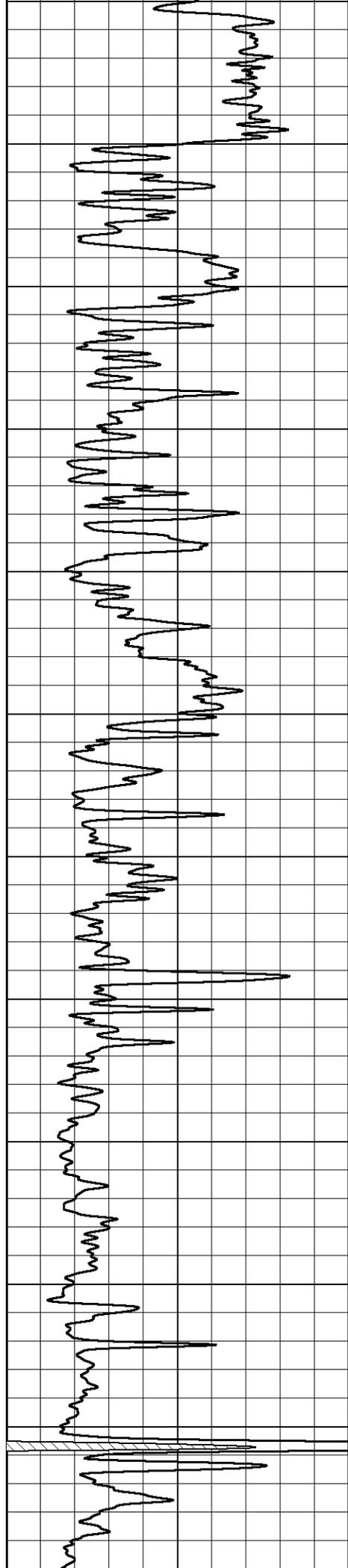


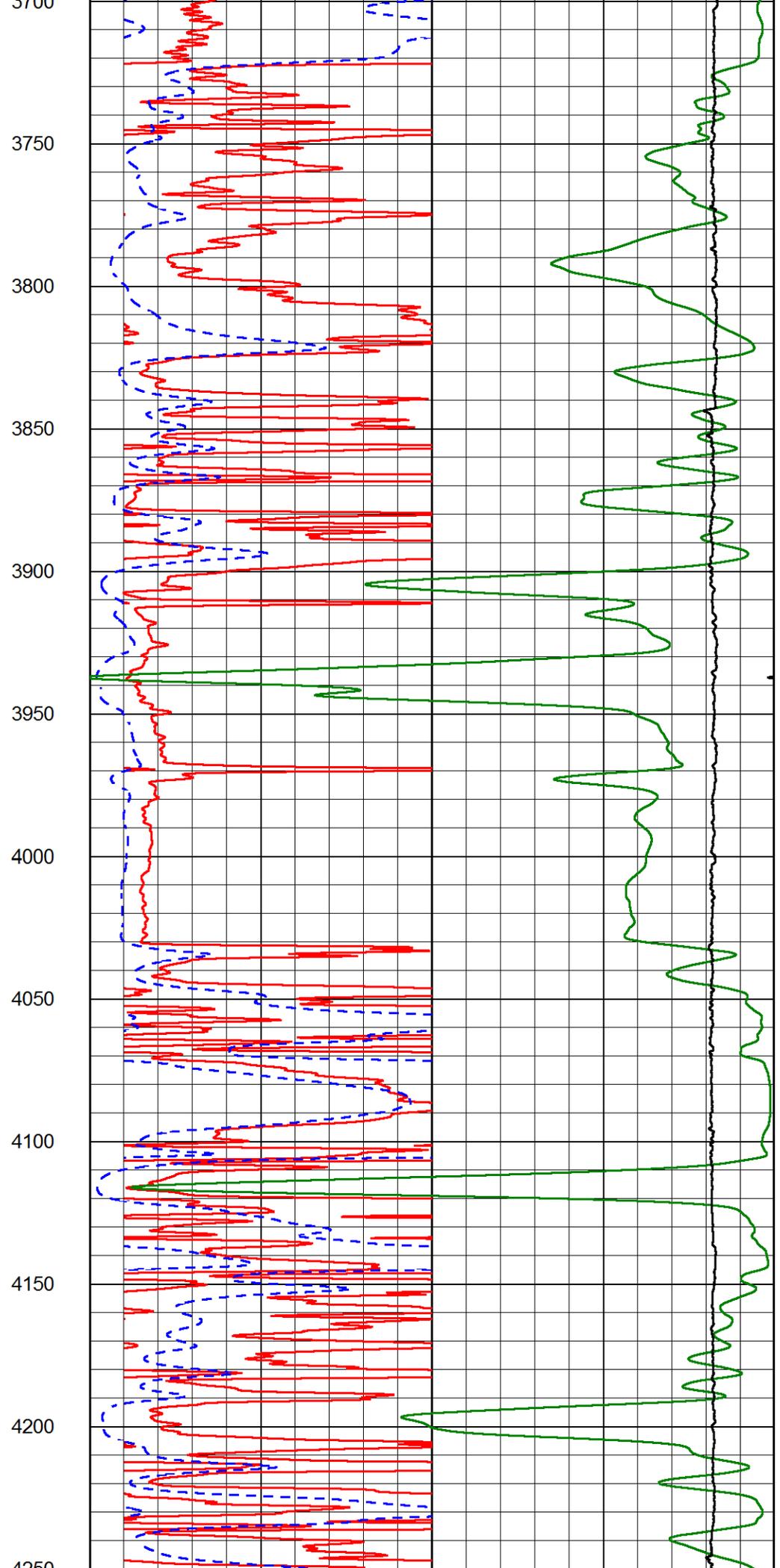
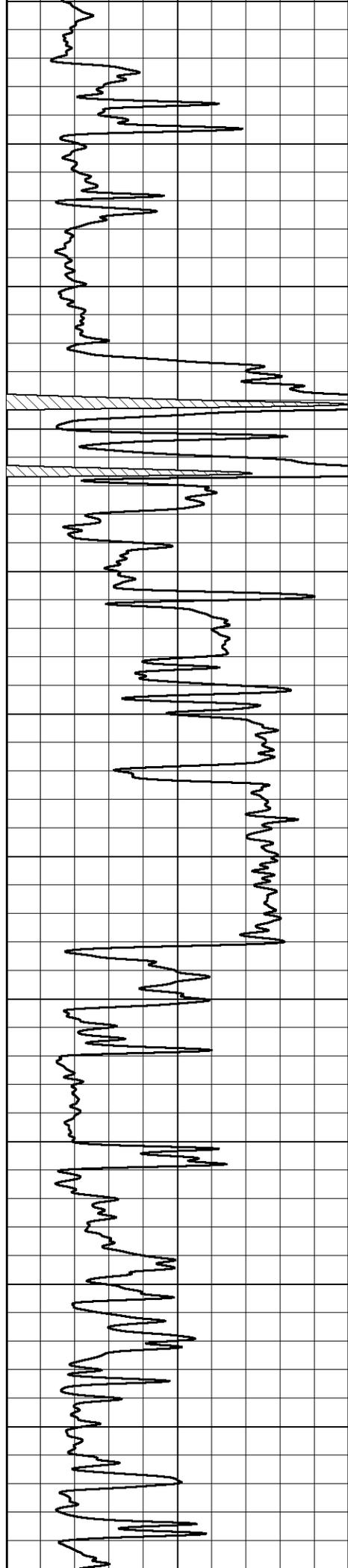


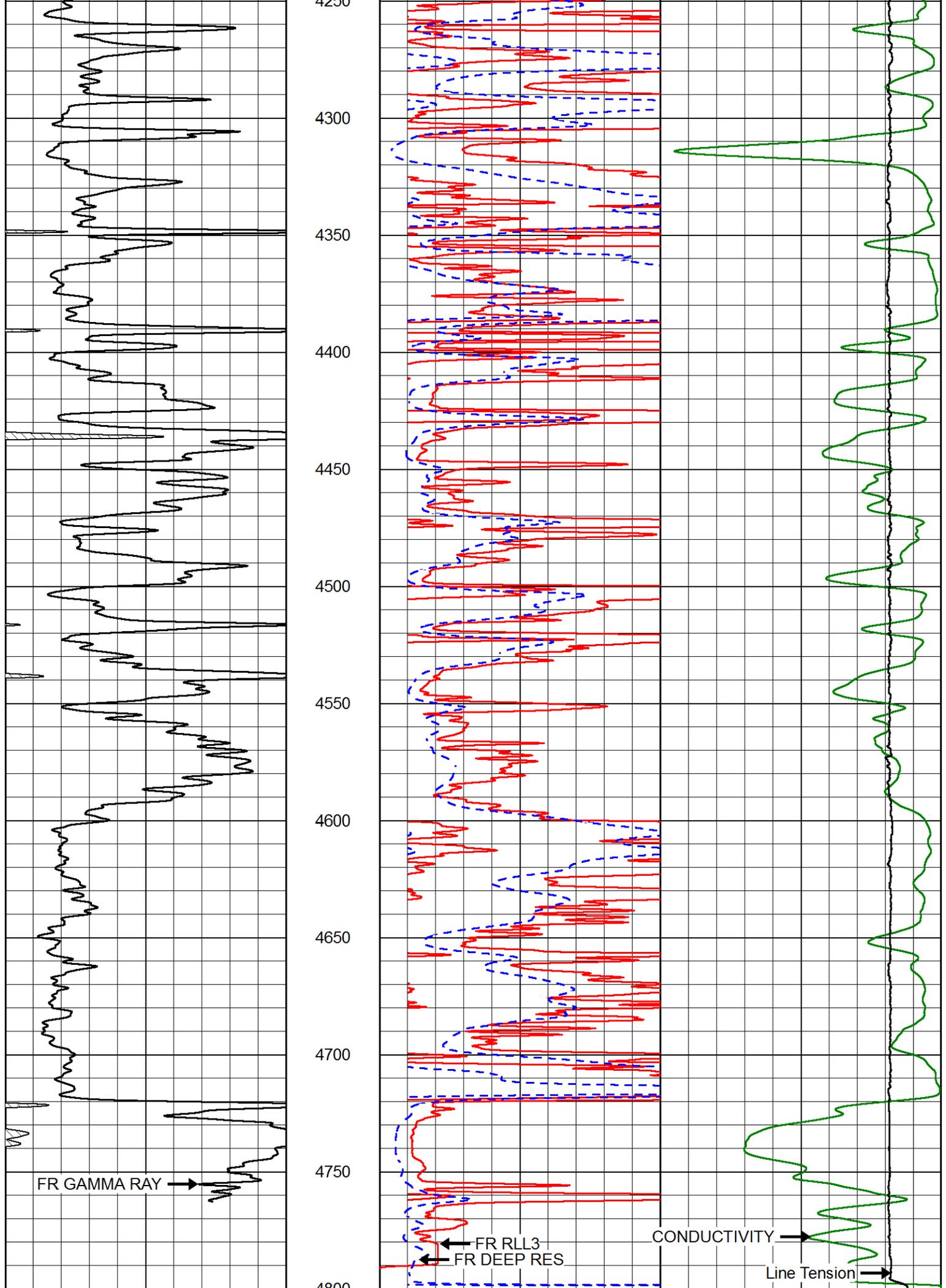












GAMMA RAY		4800	1000	CONDUCTIVITY (mmho/m)	0
(GAPI)			15000	Line Tension (lb)	0
0		150	0	RLL3 (Ohm-m)	50
			0	RILD (Ohm-m)	50
			50	RLL3 (Ohm-m)	200
			50	Deep Resistivity (Ohm-m)	200

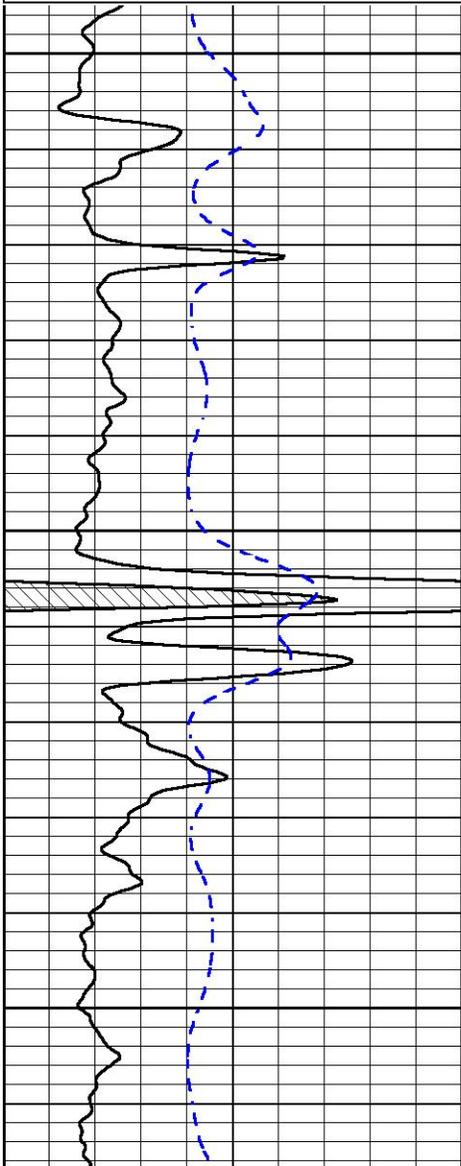


MAIN PASS

Database File griffin management_mary 4b_20200826.db
 Dataset Pathname StkMI/pass3.1
 Presentation Format _dil
 Dataset Creation Thu Aug 27 00:26:35 2020
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

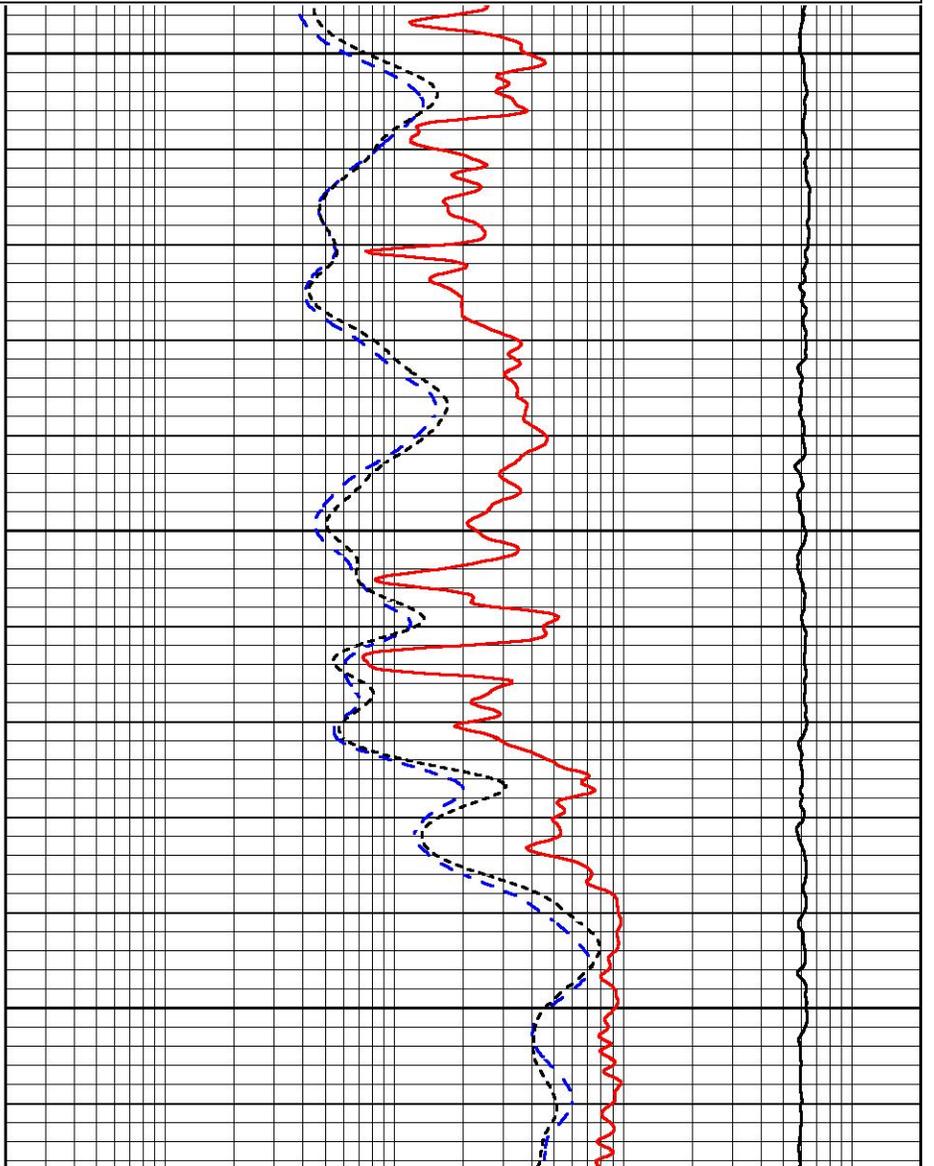
0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	LINE TENSION (lb)	0

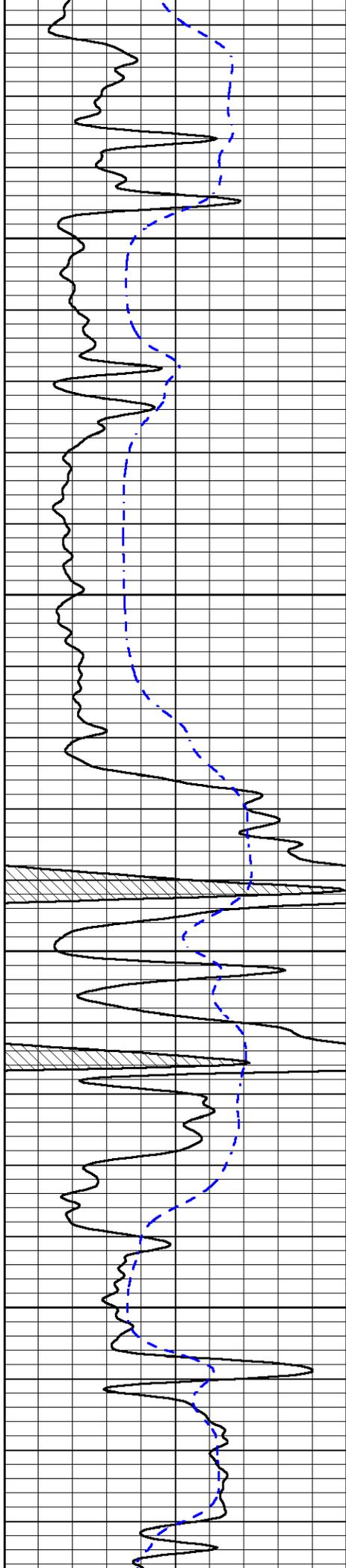


3600

3650

3700



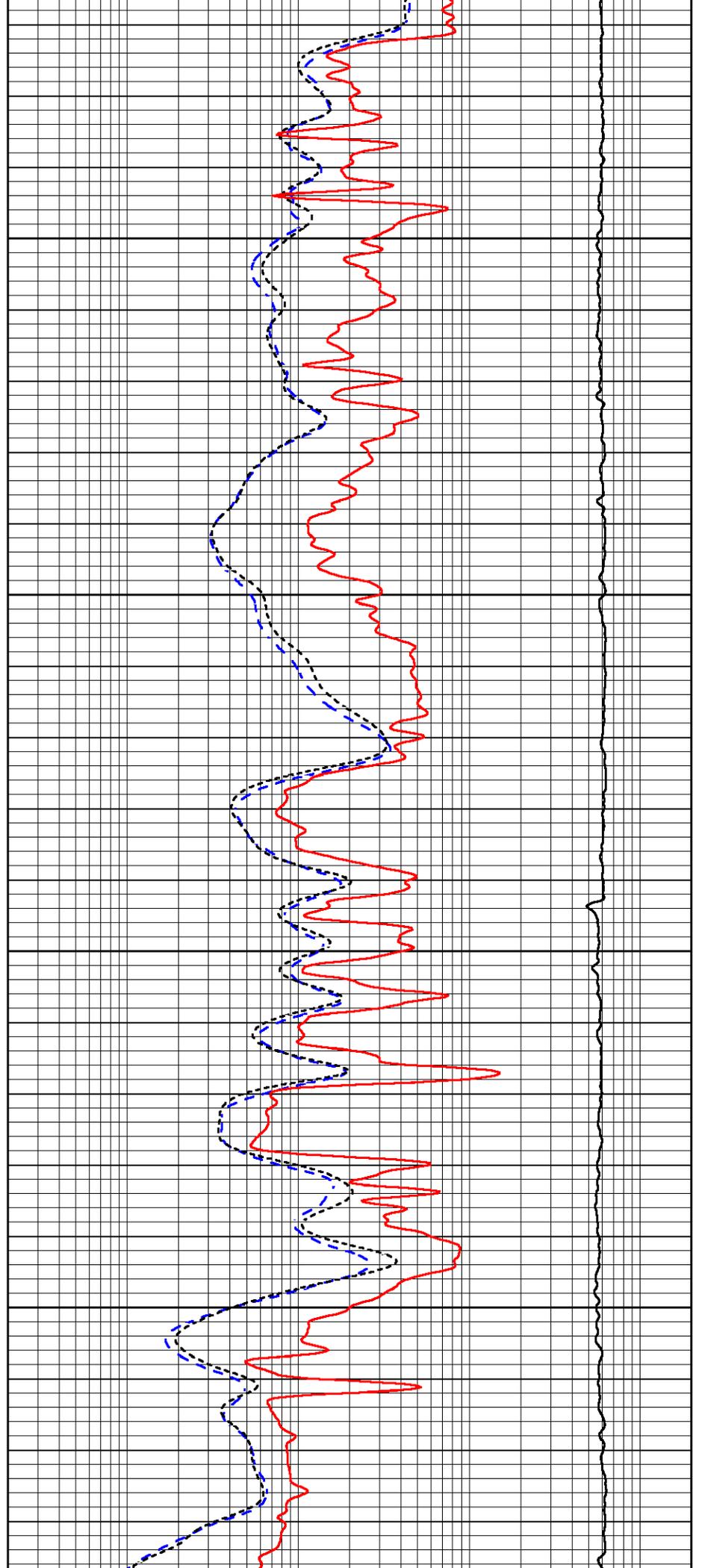


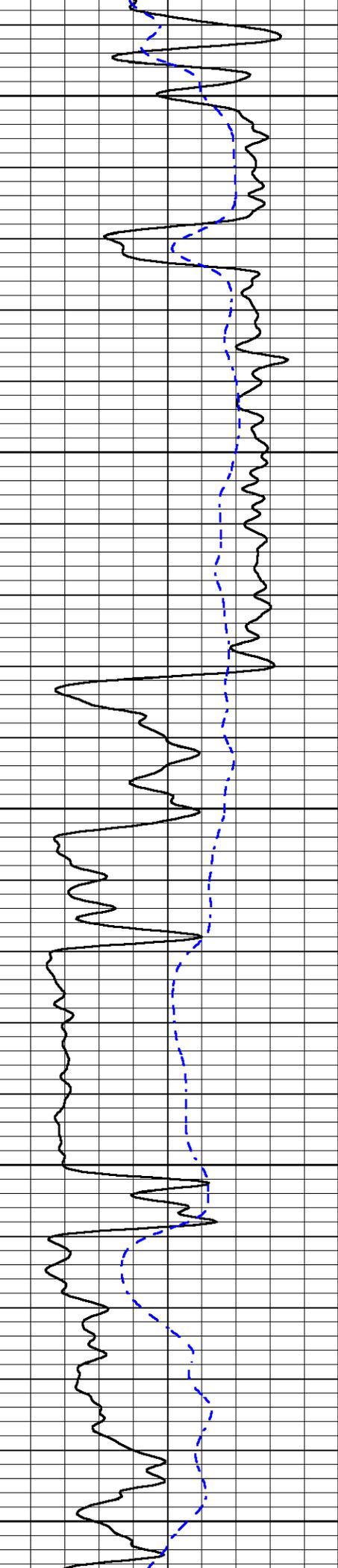
3750

3800

3850

3900





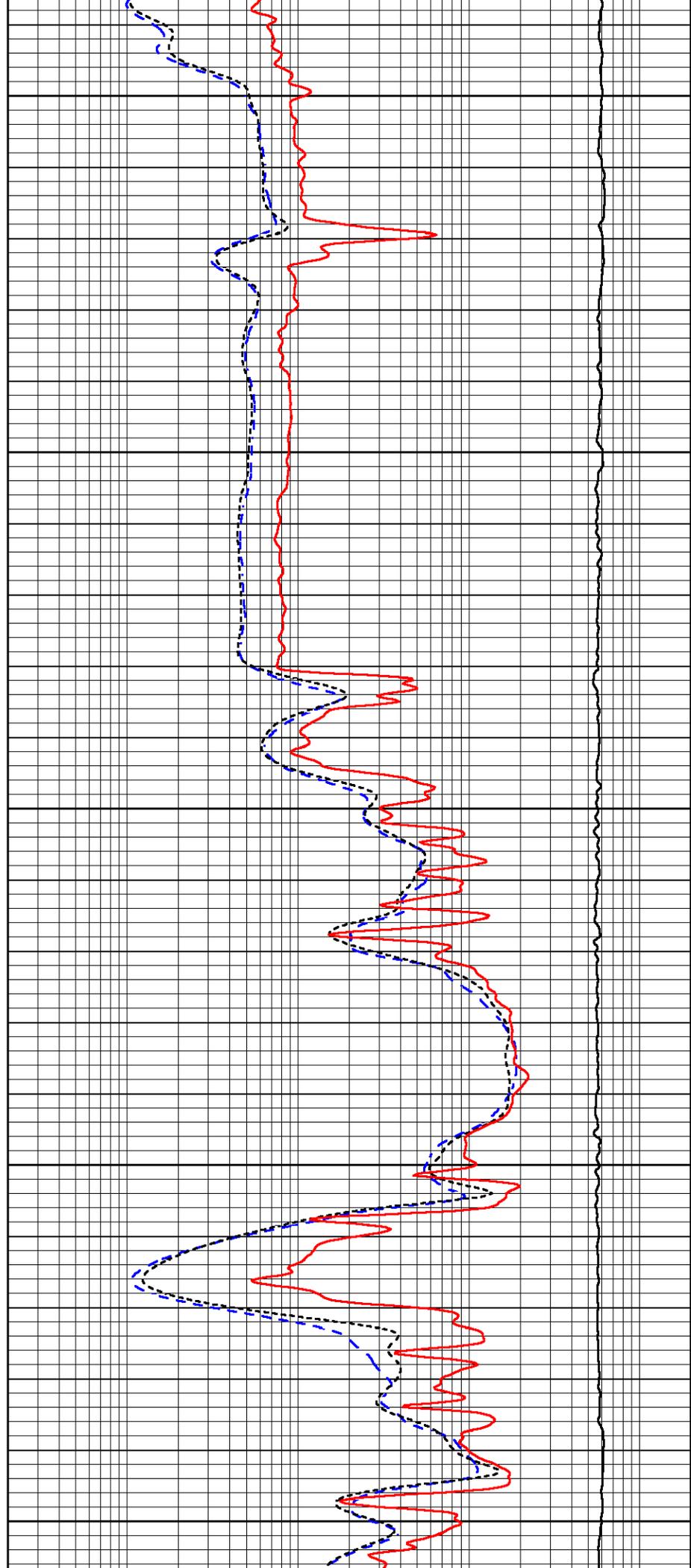
3950

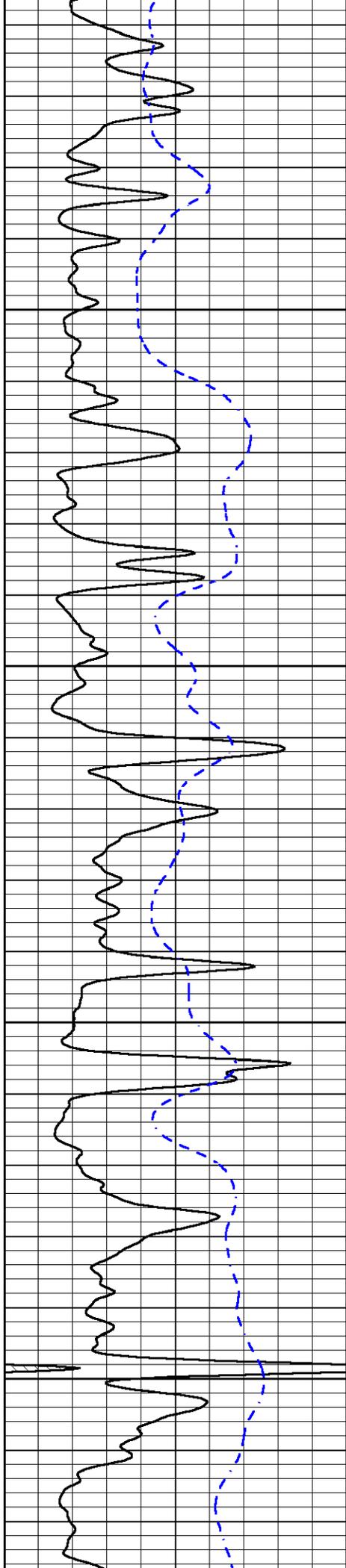
4000

4050

4100

4150



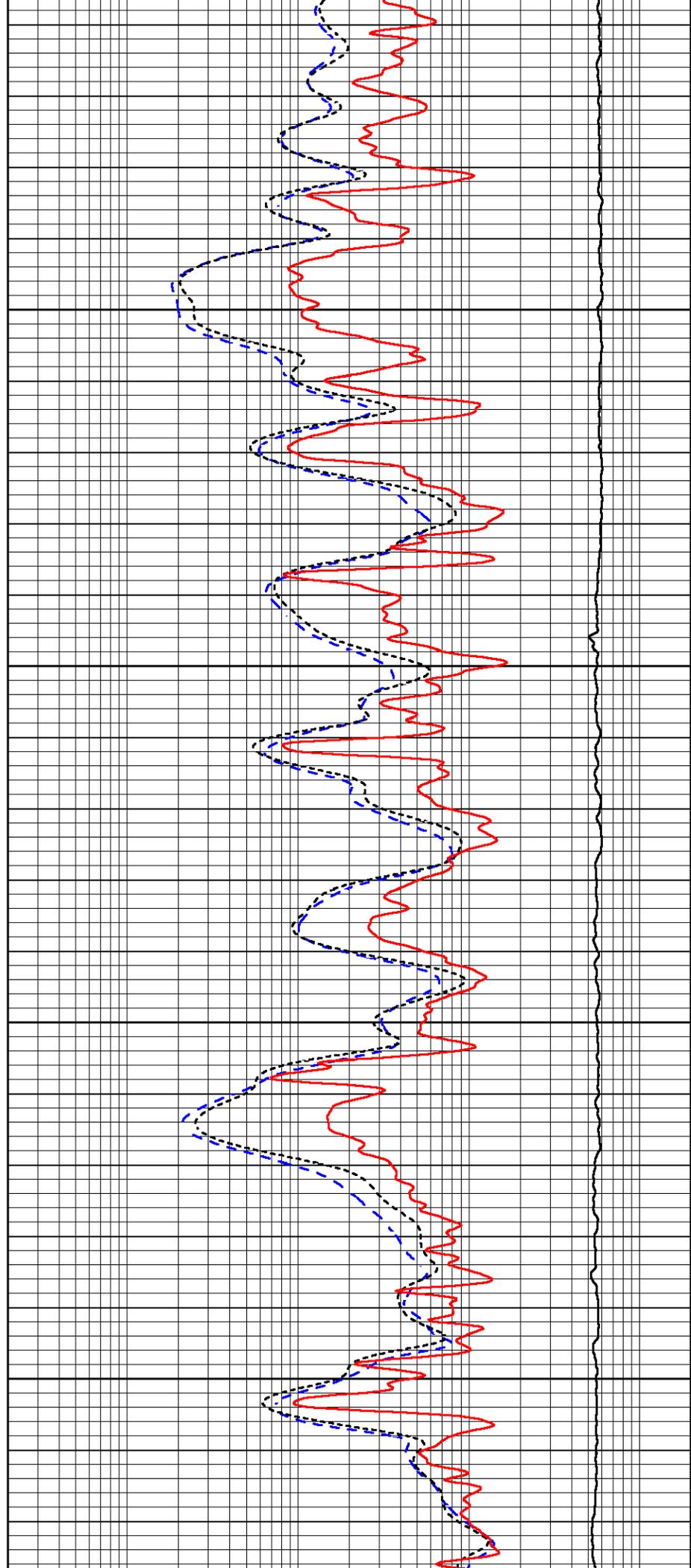


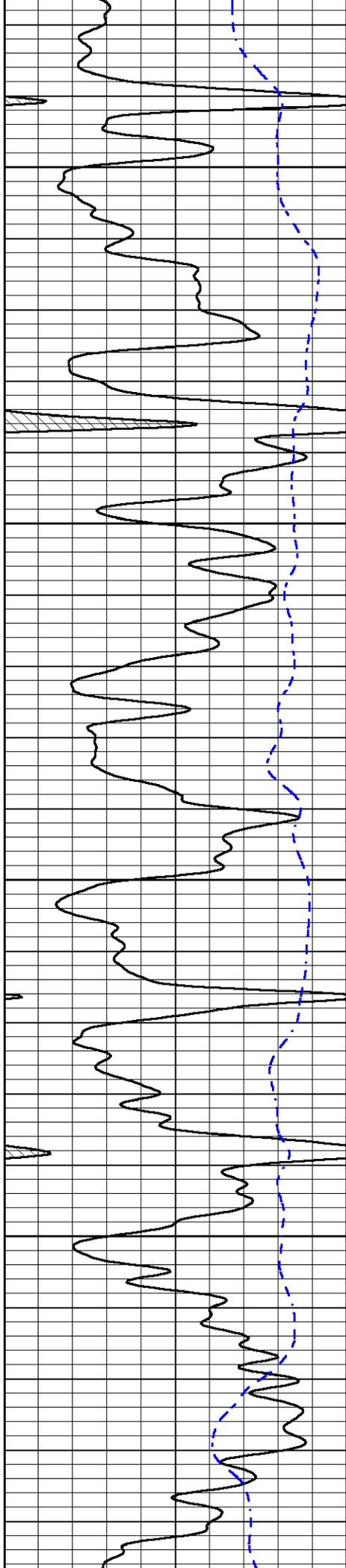
4200

4250

4300

4350



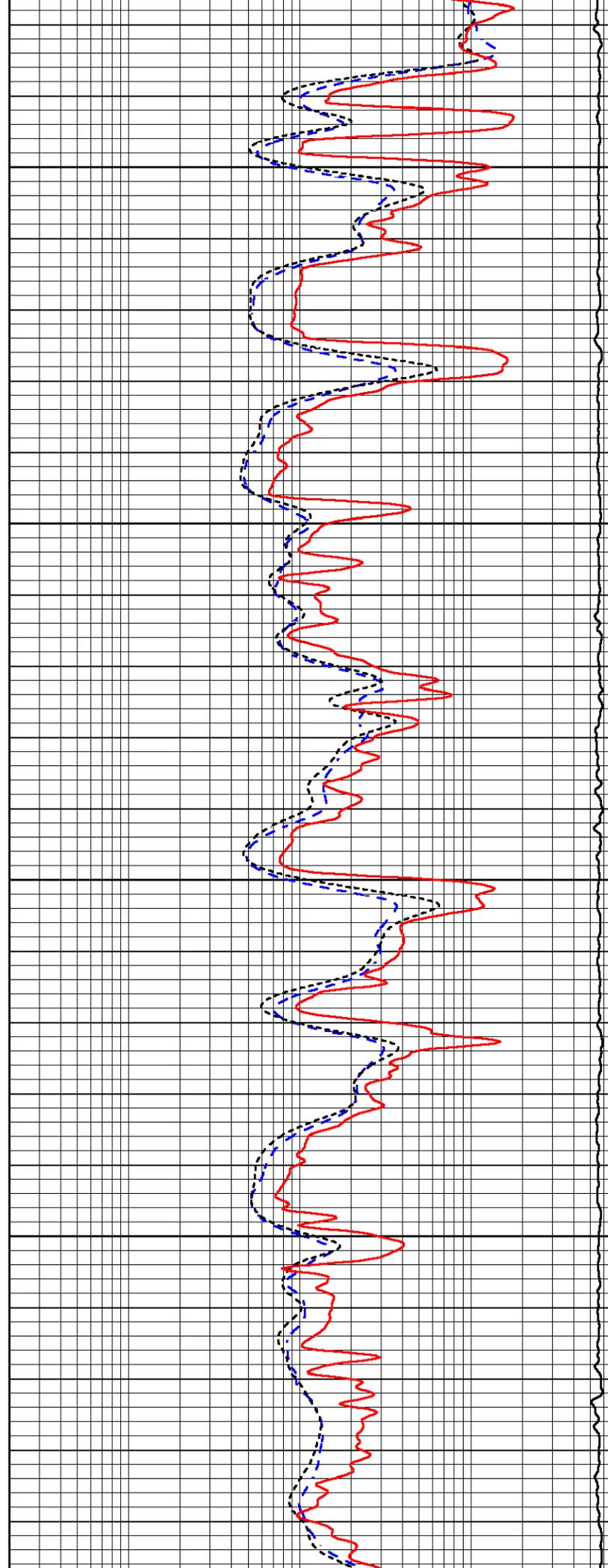


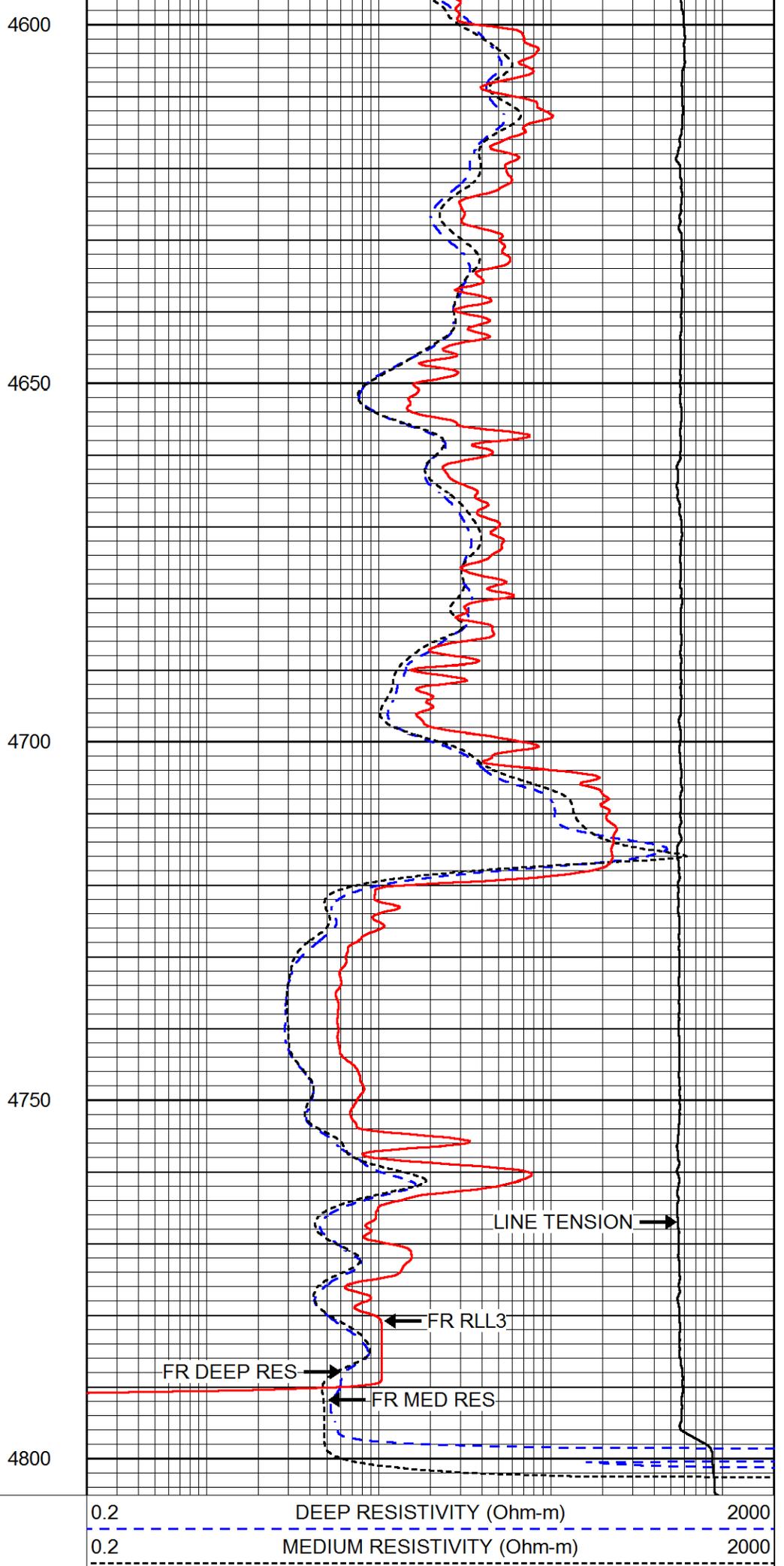
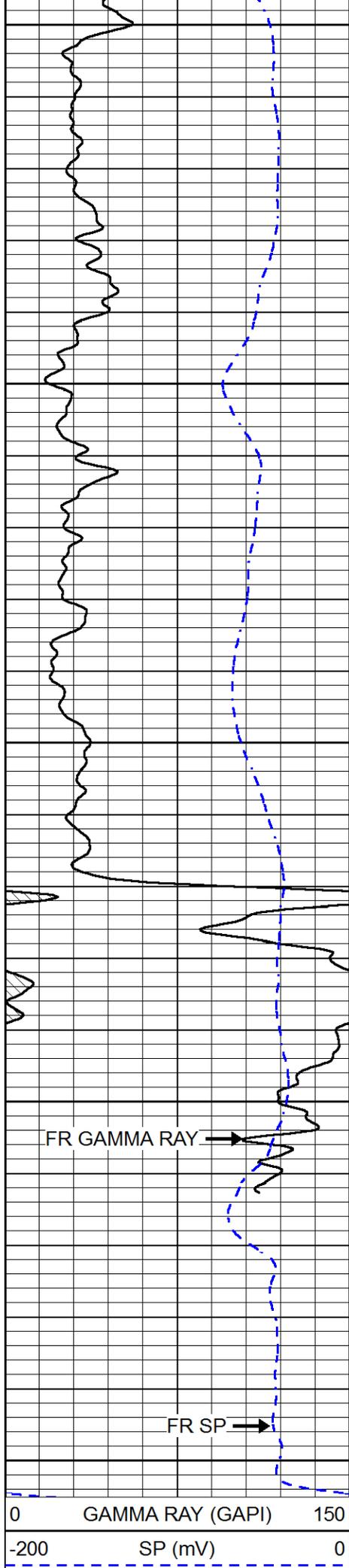
4400

4450

4500

4550





0.2	RLL3 (Ohm-m)	2000
10000	LINE TENSION (lb)	0

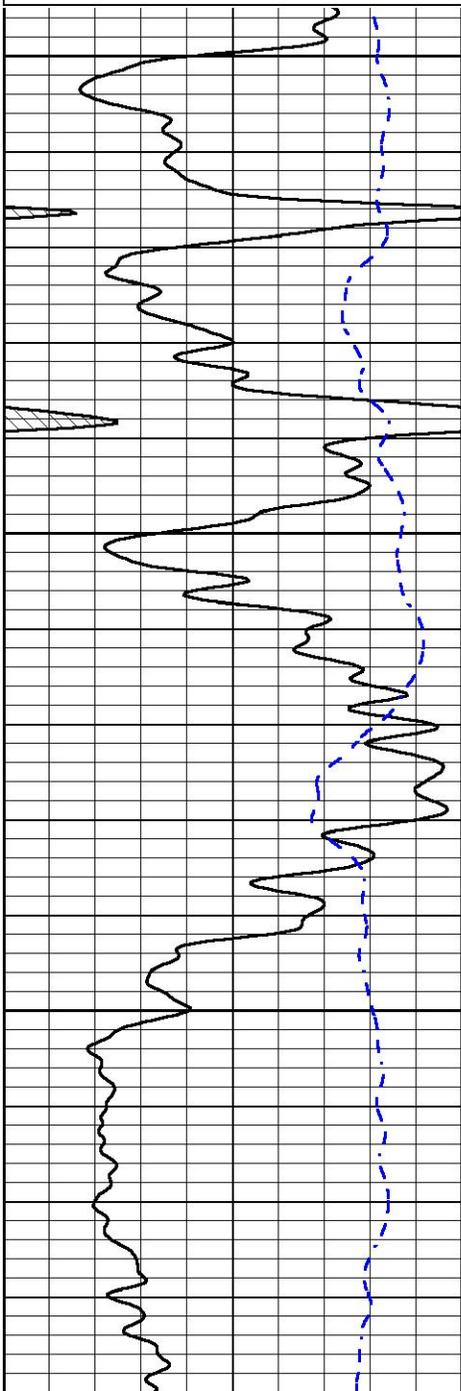


REPEAT SECTION

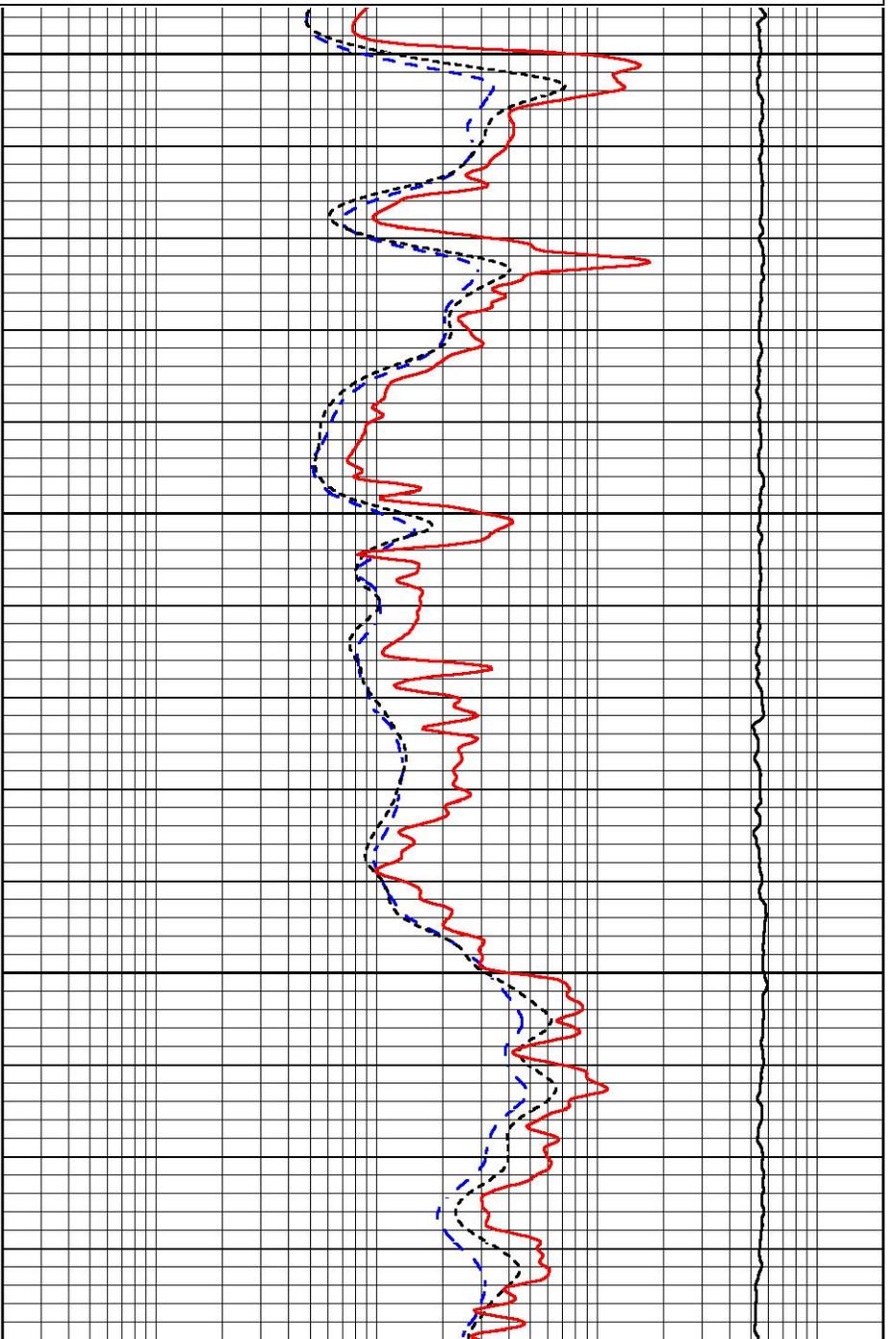
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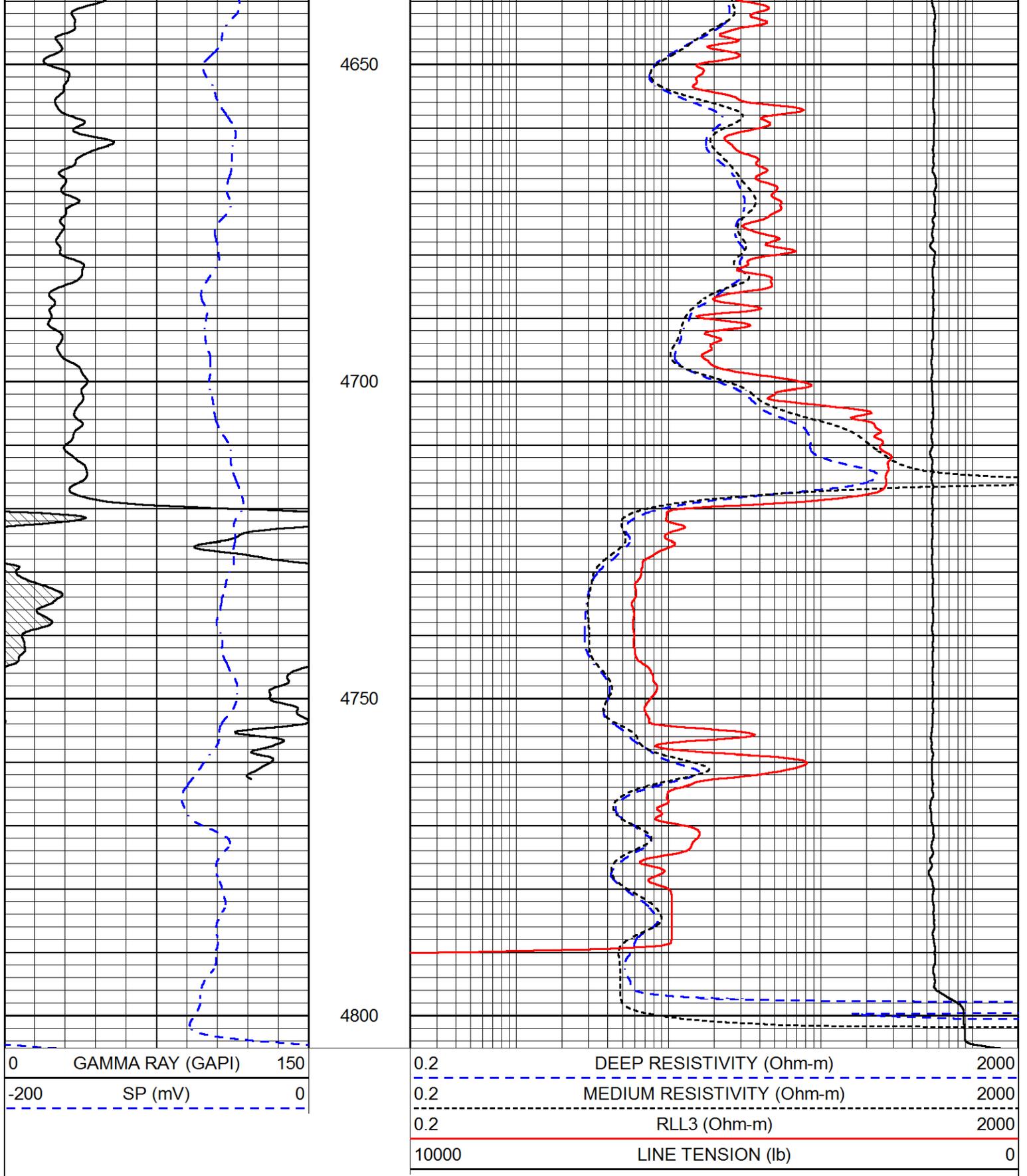
0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

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



4500
4550
4600





Calibration Report

Database File griffin management_mary 4b_20200826.db
Dataset Pathname StkMI/pass3.19
Dataset Creation Thu Aug 27 00:01:34 2020

Dual Induction Calibration Report

Serial-Model: 952-828-PSI HIGH TEMP
Calibration Performed: Sun Jun 28 00:00:04 2020

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.000	mmho/m	0.455	-30.000
Medium	0.000	1348.000	142.000	255.000	mmho/m	0.325	-28.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Tue Jun 16 01:32:04 2020

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	18500.0000	-1.7500
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	20000.0000	-1.3000
Caliper	1.0033	1.0841	5.0000	16.5000	in	142.3500	-138.5300

Compensated Density Calibration Report

Serial-Model: 817-947-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Tue Sep 24 21:18:50 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6127.15	5922.31	cps
Aluminum	2.680	g/cc	1141.85	3762.09	cps
Spine Angle = 74.89			Density/Spine Ratio = 0.532		
	Size		Reading		
Small Ring	4.50	in	1.02		
Large Ring	14.50	in	1.23		

Compensated Neutron Calibration Report

Serial Number: 207-MW
 Tool Model: M&W
 Calibration Performed: WED FEB 13 10:30:30 2019

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: 233-M&W
 Tool Model: M&W
 Calibration Performed: Fri Feb 07 01:42:40 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps

Background Reading:

1.0

cps

Sensitivity:

0.5350

GAPI/cps



Company	Griffin Management LLC
Well	Mary #4B
Field	N/A
County	Pratt
State	Kansas