



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **RITCHIE EXPLORATION, INC.**
Well **#1 BEATON 6D**
Field **WILDCAT**
County **LANE**
State **KANSAS**

Company **RITCHIE EXPLORATION, INC.**
Well **#1 BEATON 6D**
Field **WILDCAT**
County **LANE** State **KANSAS**

Location: API #: 15-101-22598-0000

2225' FSL & 2035' FEL

SEC 6 TWP 20S RGE 30W

Permanent Datum **GROUND LEVEL** Elevation **2901'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Other Services
CNL/CDL
MEL
Elevation
K.B. 2909'
D.F. N/A
G.L. 2901'

Date	01/16/2018		
Run Number	ONE		
Depth Driller	4750'		
Depth Logger	4749'		
Bottom Logged Interval	4748'		
Top Log Interval	200'		
Casing Driller	8.625" @ 222'		
Casing Logger	218'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	3500		
Density / Viscosity	9.2 50		
pH / Fluid Loss	9.5 7.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.60 @ 40		
Rmf @ Meas. Temp	0.45 @ 40		
Rmc @ Meas. Temp	0.81 @ 40		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	0.19 @ 124		
Operating Rig Time	3 HOURS		
Max Rec. Temp. F	124		
Equipment Number	91		
Location	HAYS		
Recorded By	D. SCHMIDT		
Witnessed By	MAX LOVELY		

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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.

DIGHTON,
WEST TO ARAPAHOE ROAD, 9 1/2 SOUTH,
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

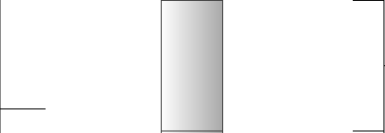
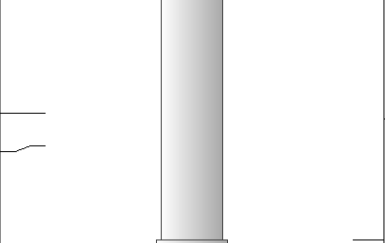
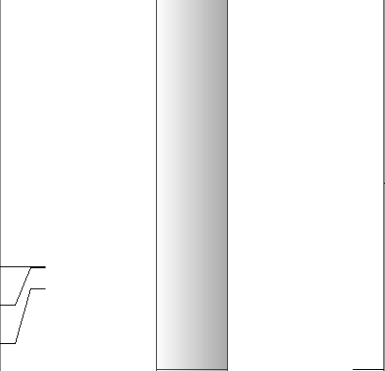
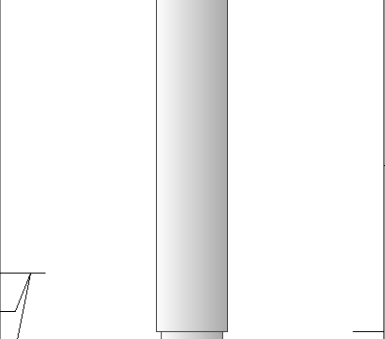
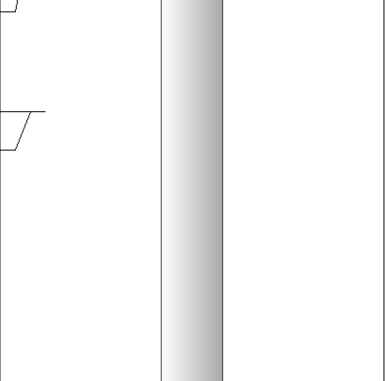
Engineer: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: MAX LOVELY
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	250	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	1	0	5.5	0	4749	124	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					

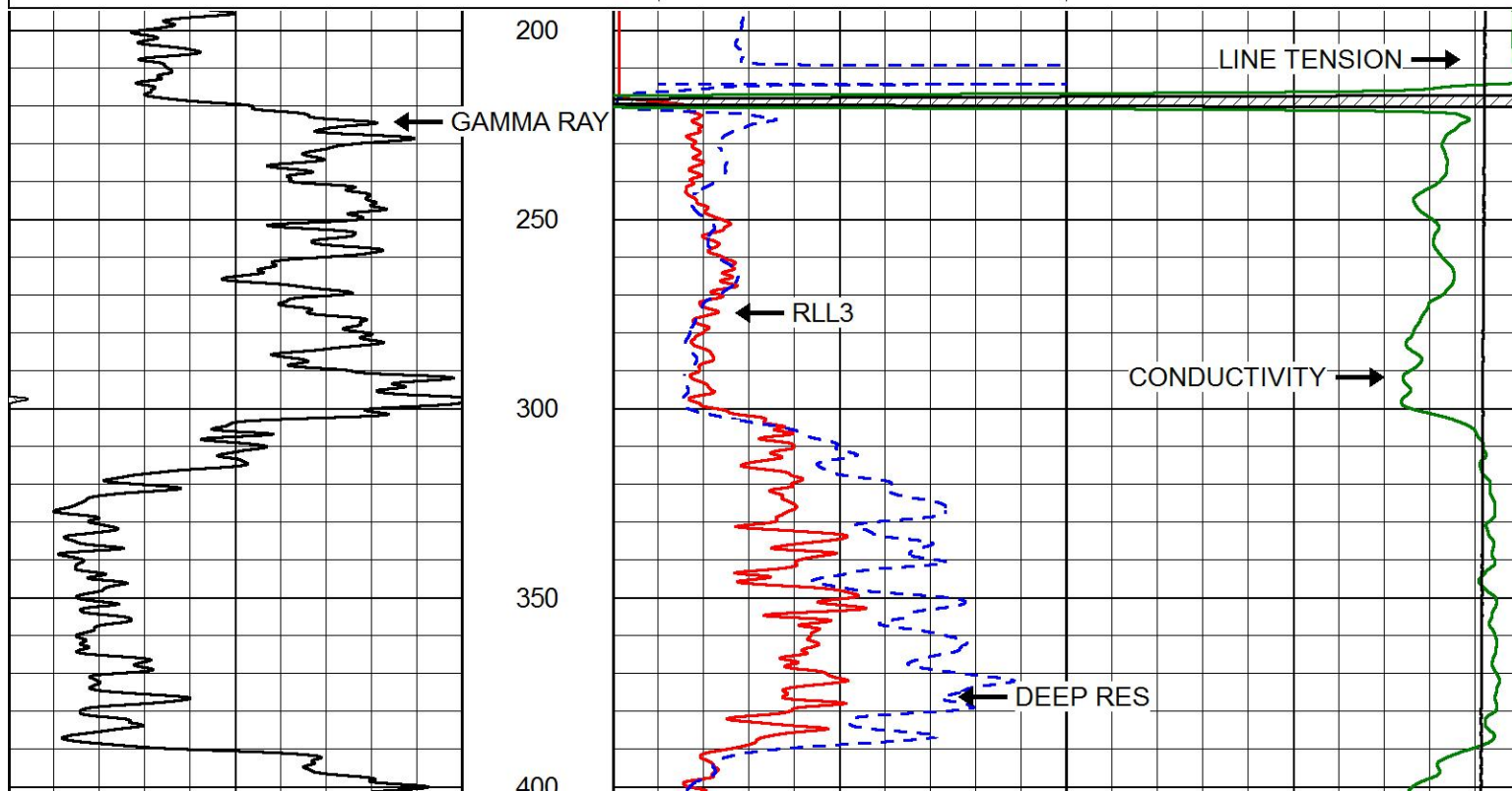
			DIL-M&W (PSI 91)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: ritchie_#1beaton6d.db: field/well/STKML/pass3.6 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

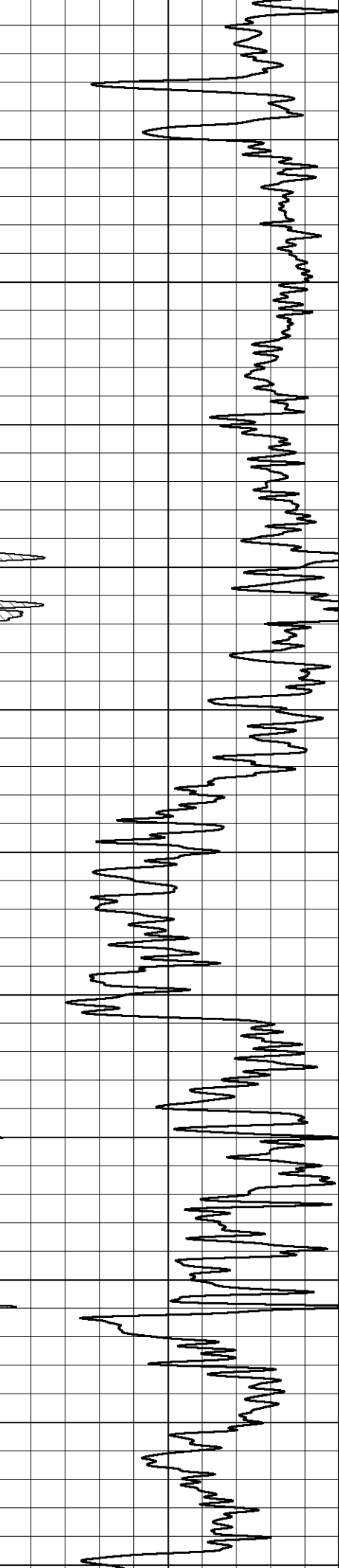


MAIN PASS

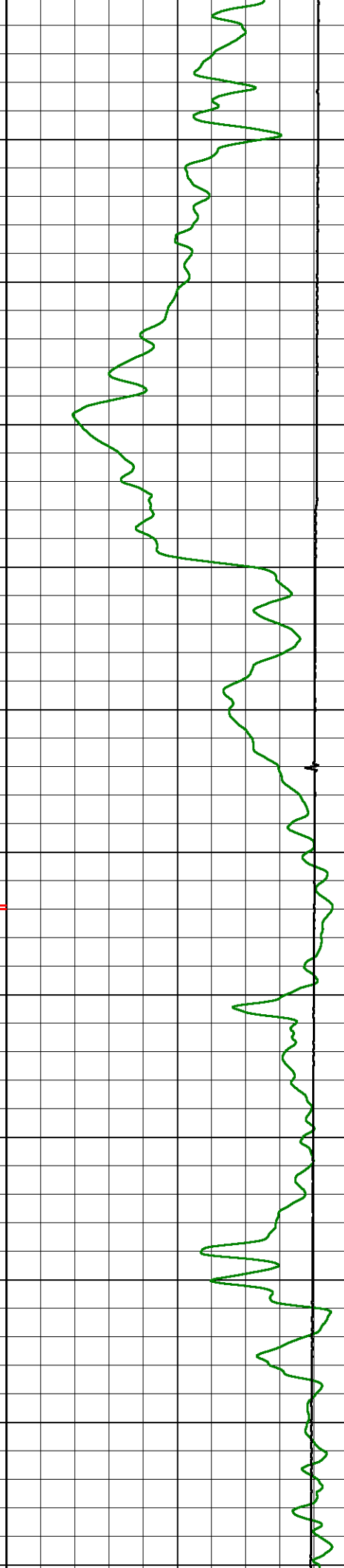
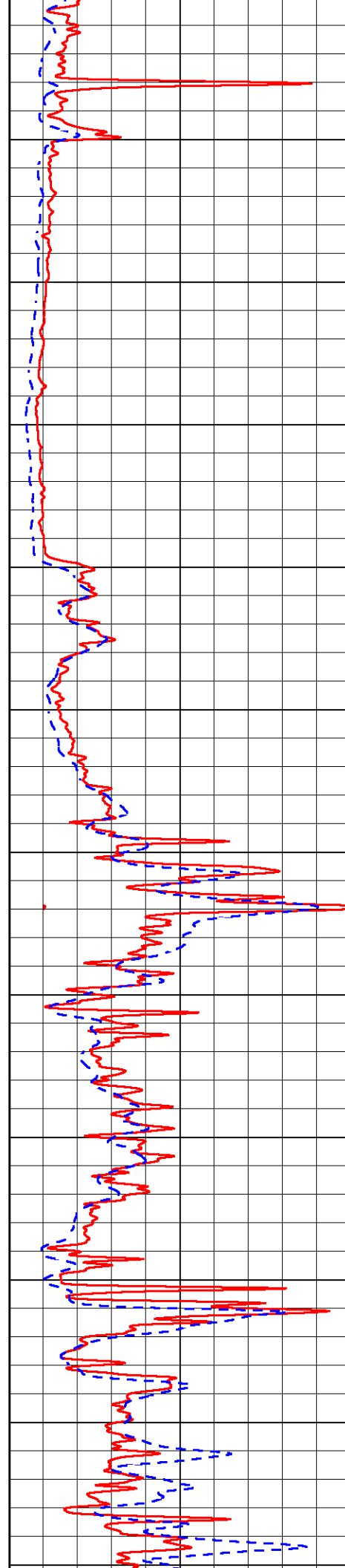
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Presentation Format	dil2in
Dataset Creation	Tue Jan 16 05:27:46 2018
Charted by	Depth in Feet scaled 1:600

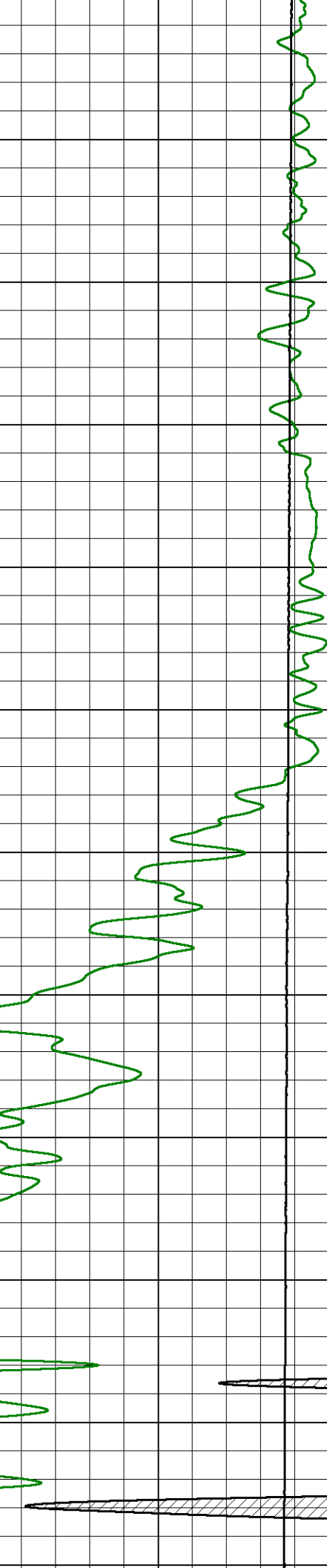
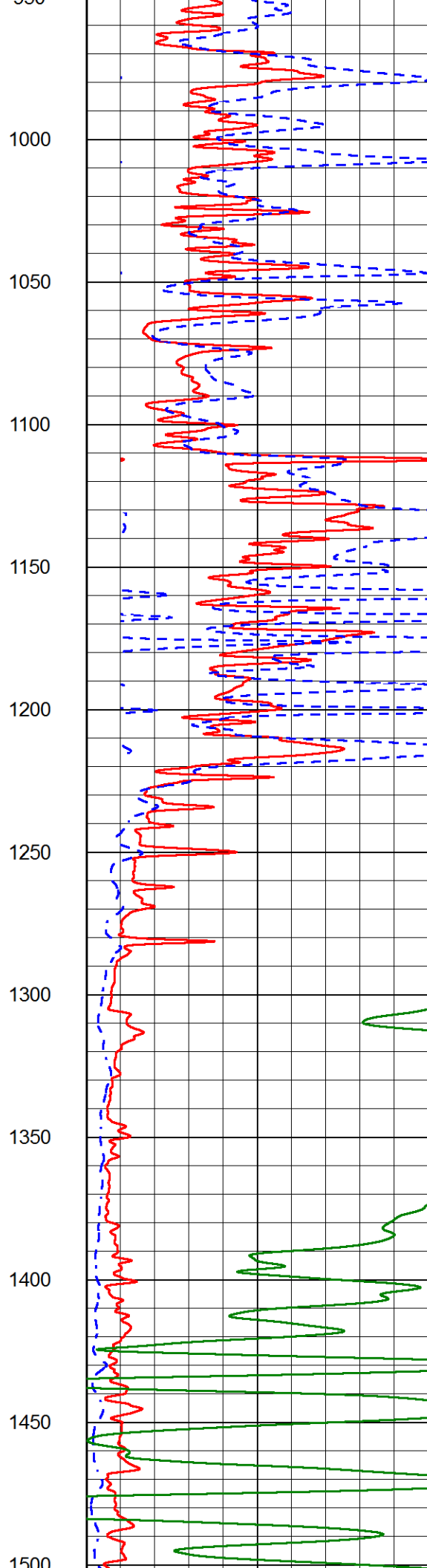
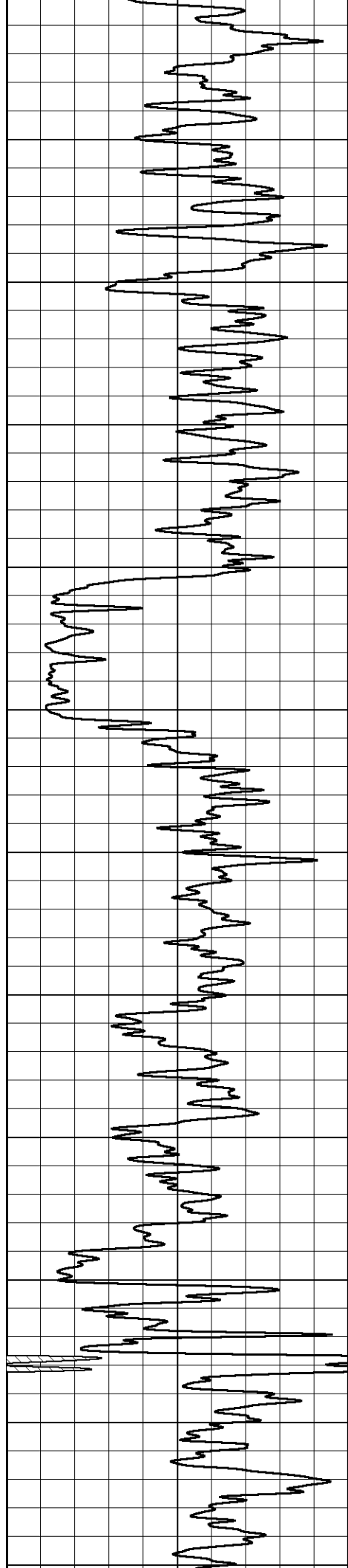
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			15000	Line Tension (lb)	0
			0	RLL3 (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			50	RLL3 (Ohm-m)	500
			50	Deep Resistivity (Ohm-m)	500

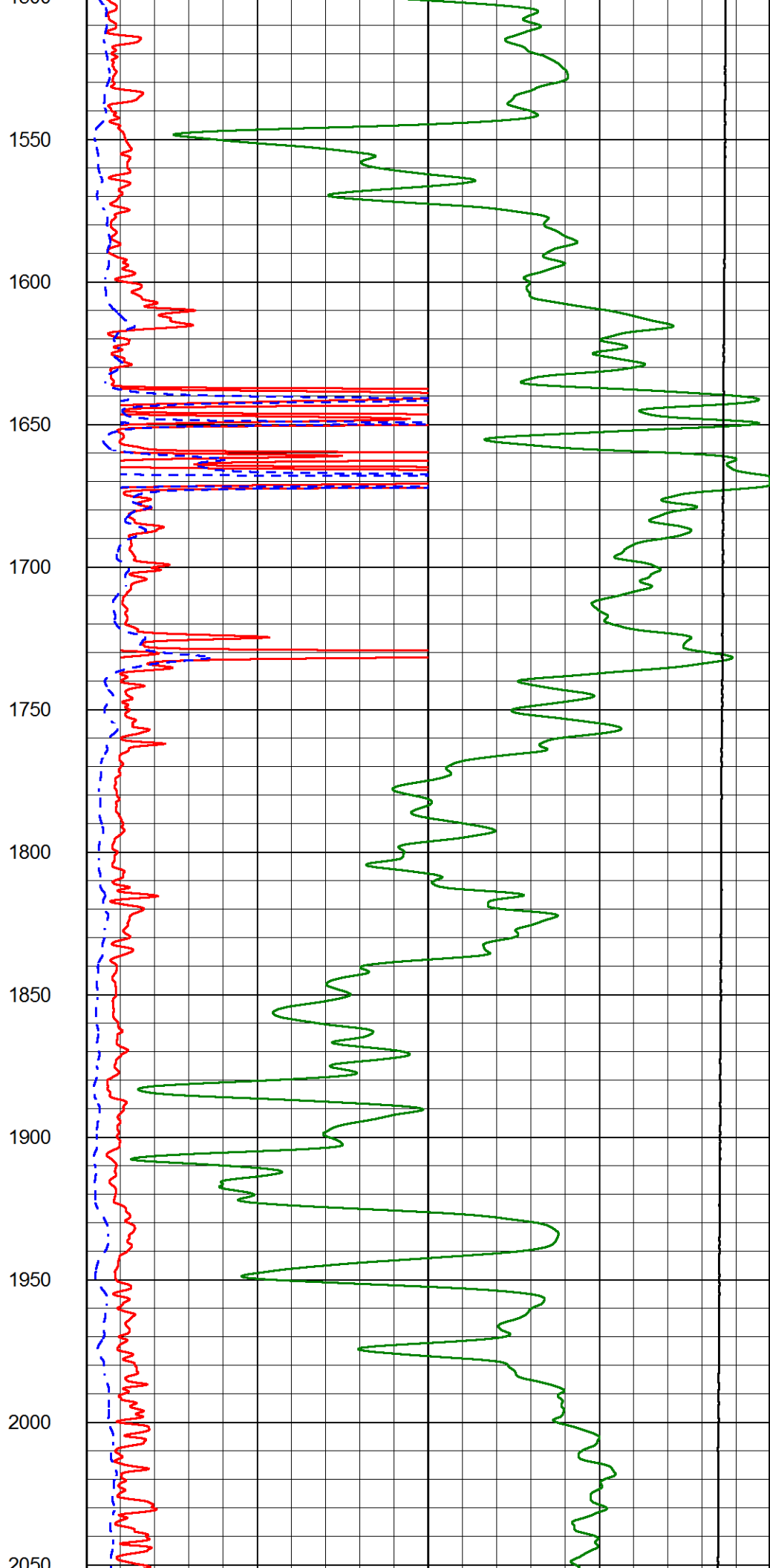
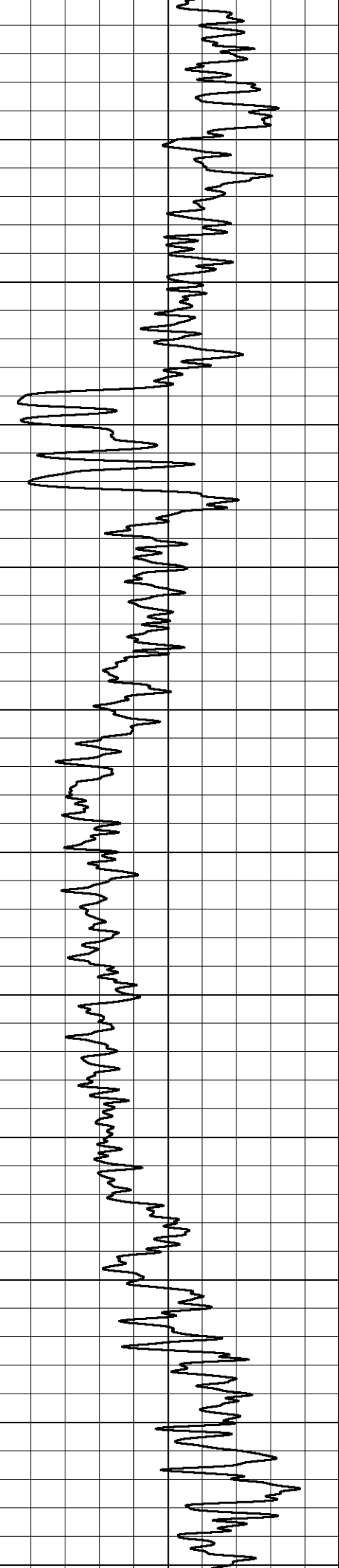


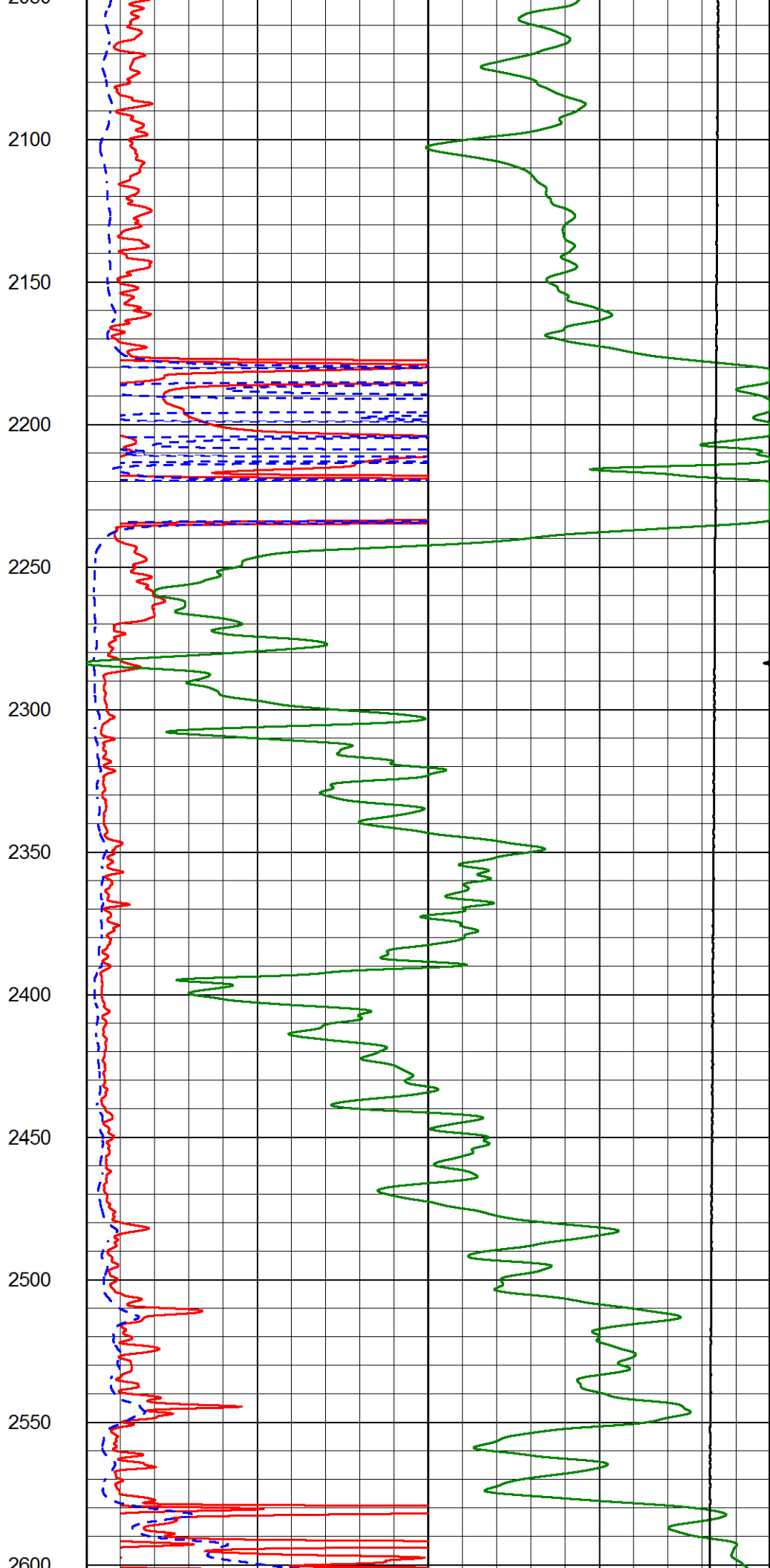
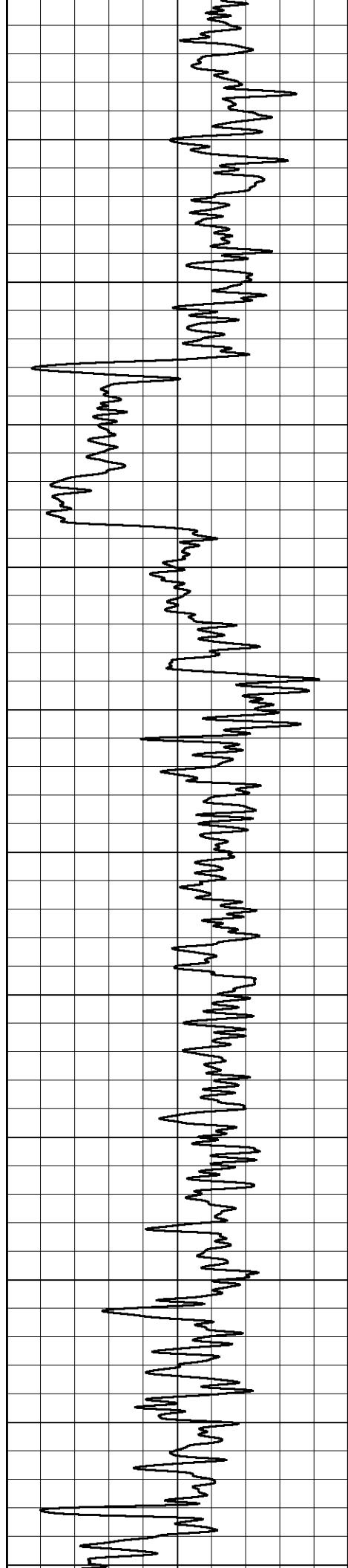


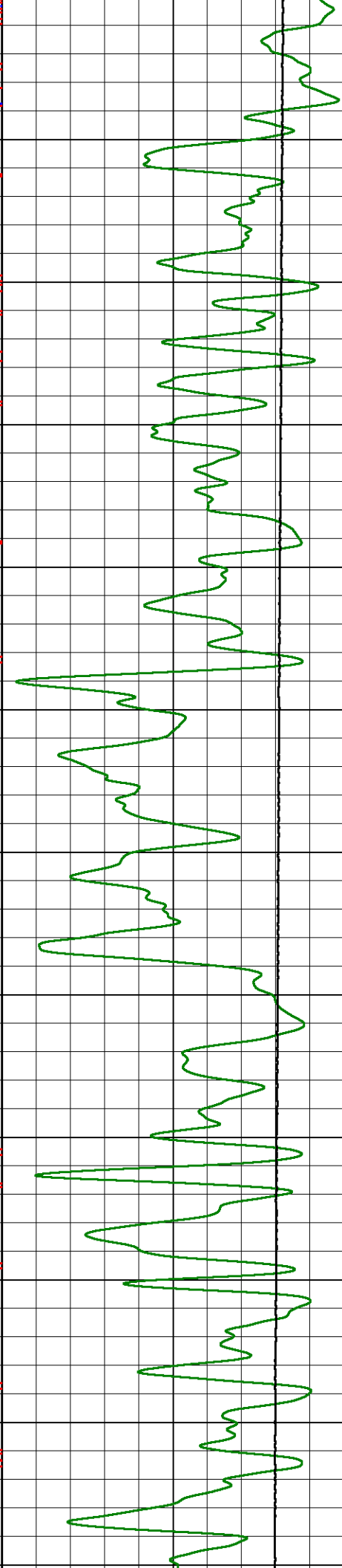
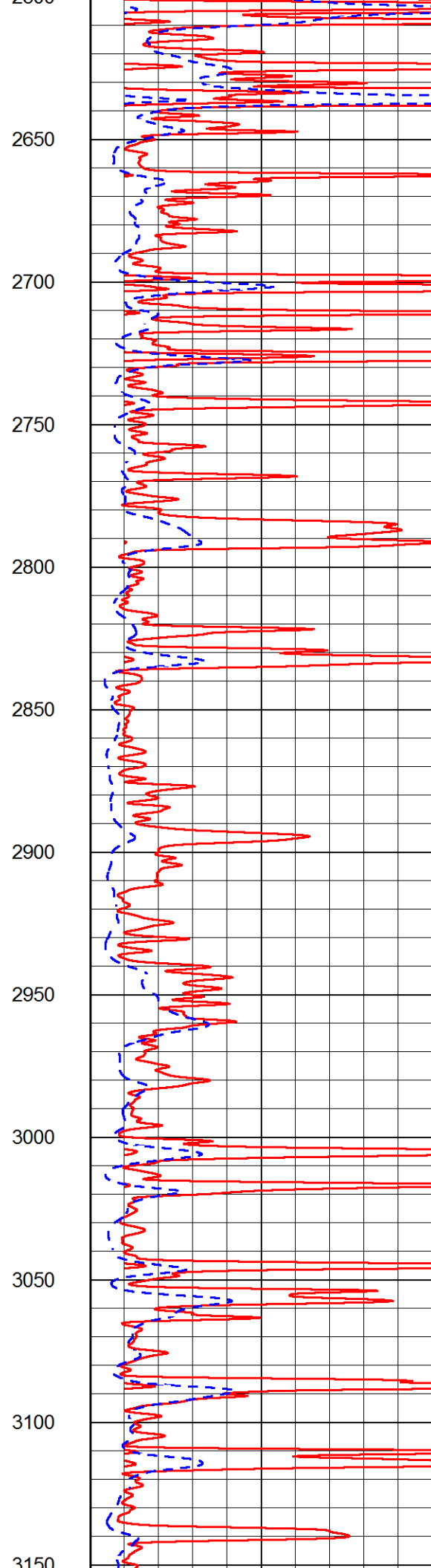
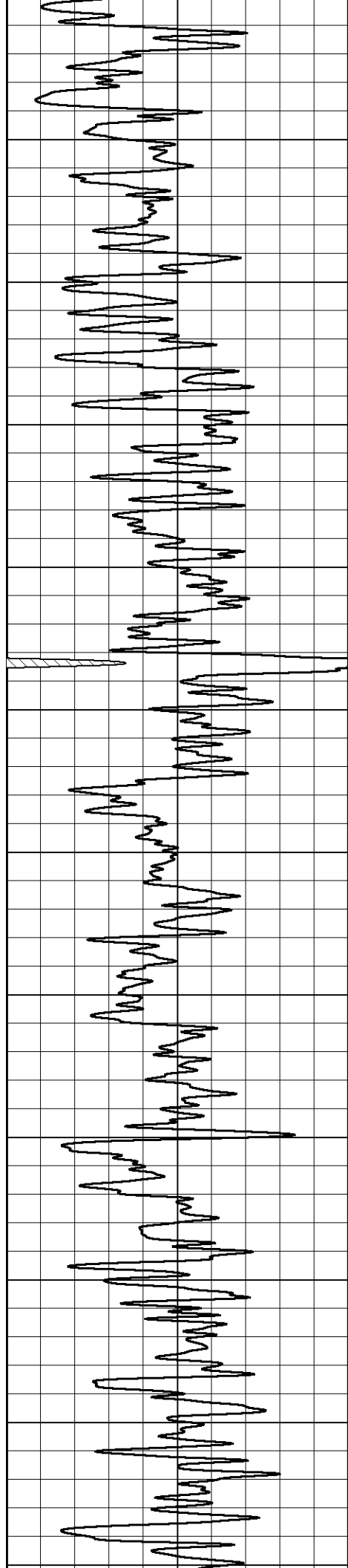
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450
500
550
600
650
700
750
800
850
900
950

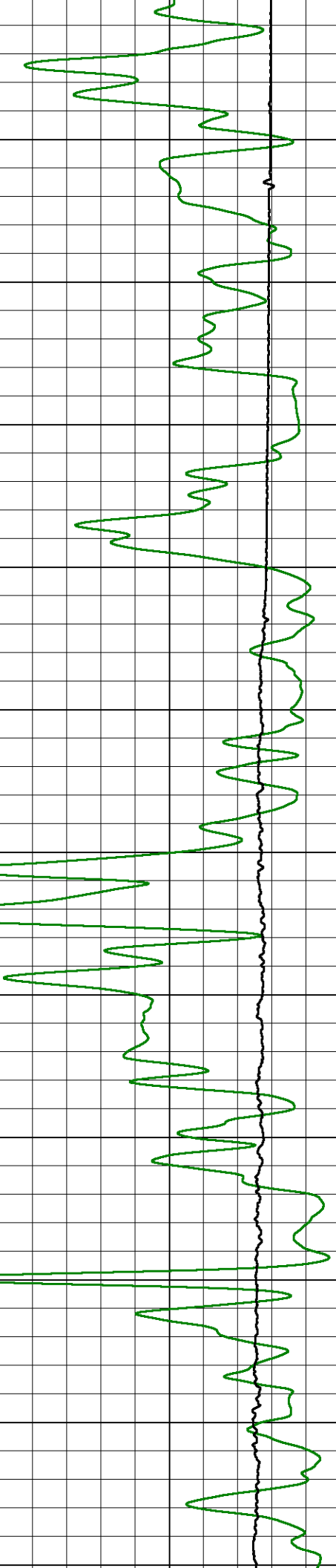
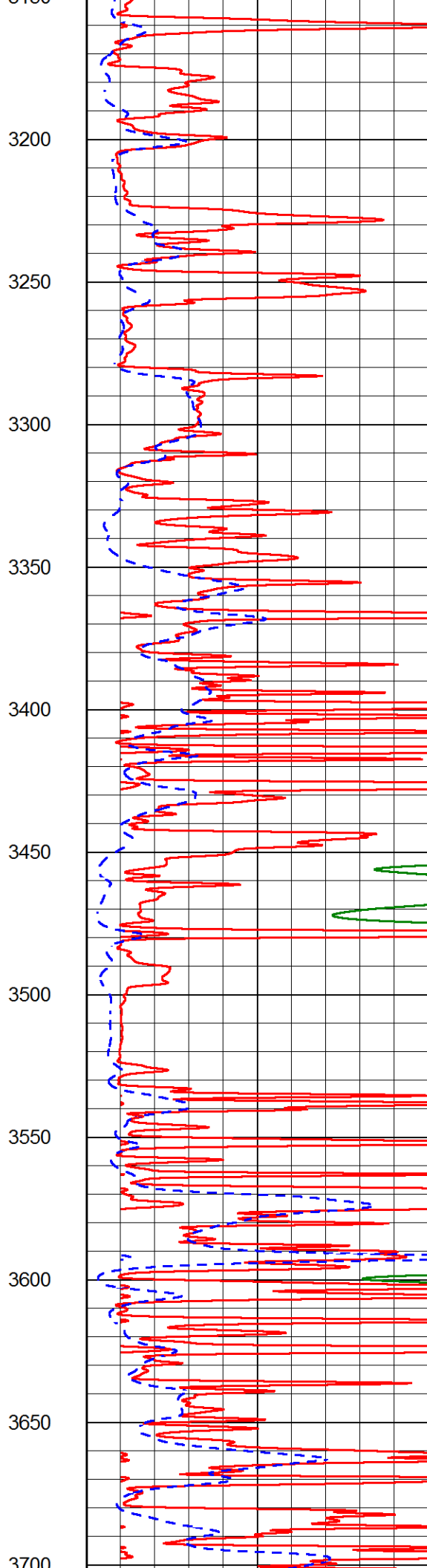
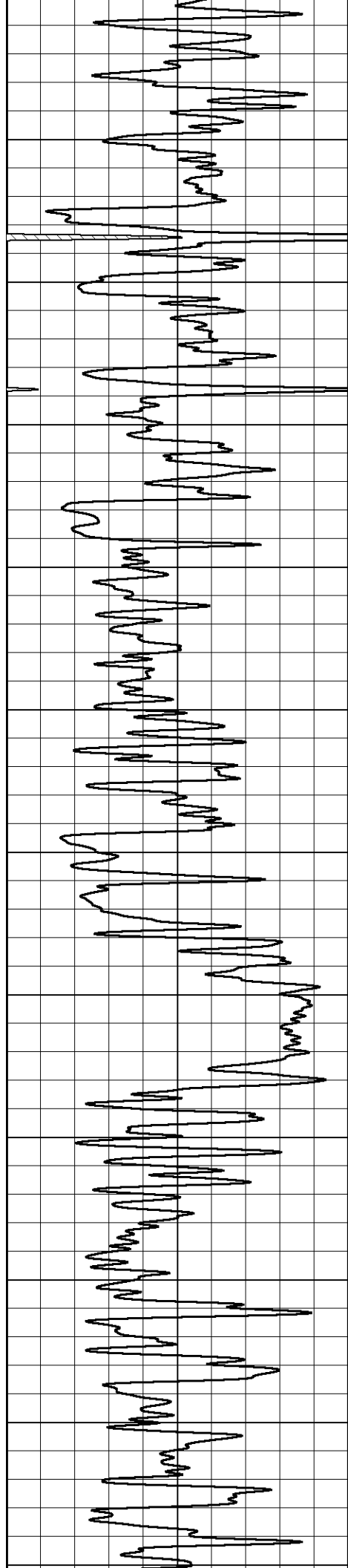


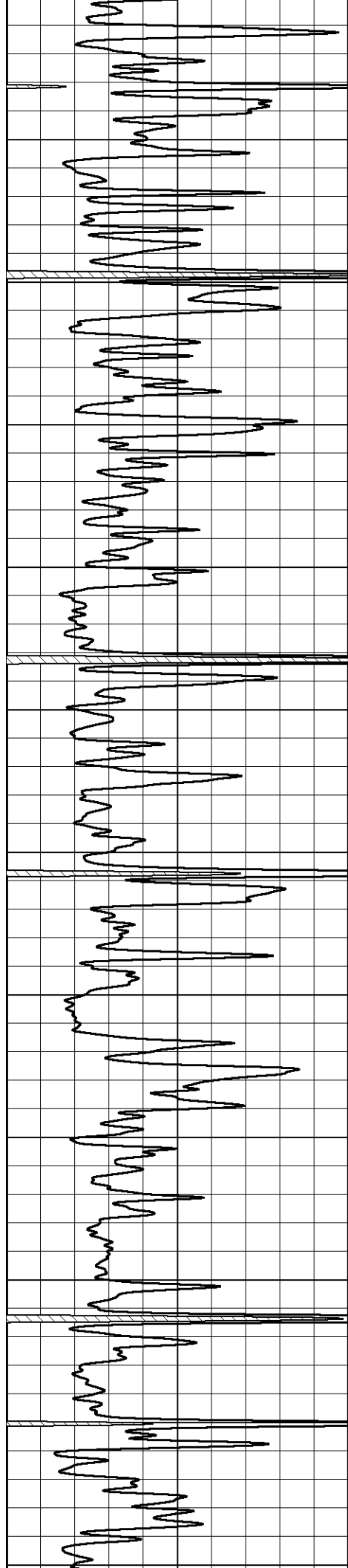




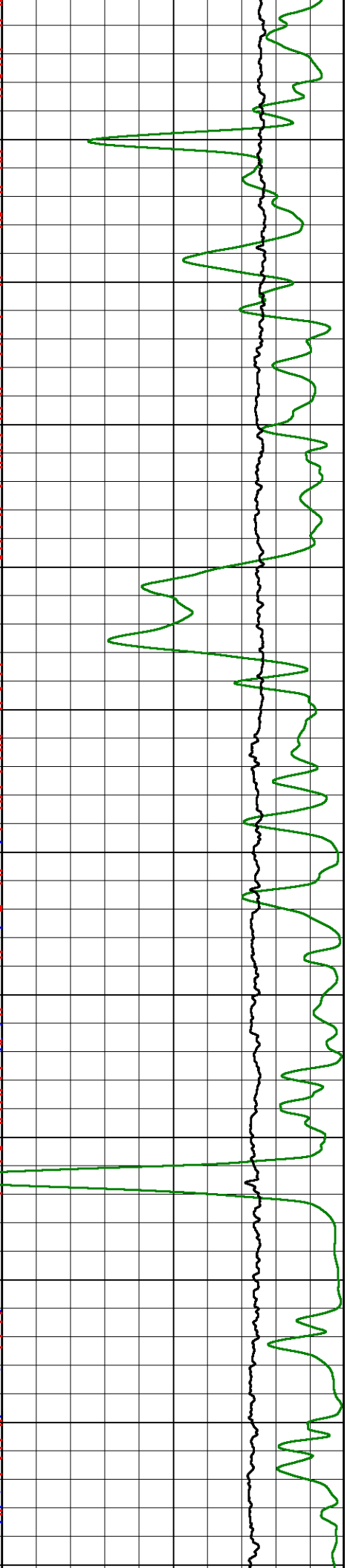
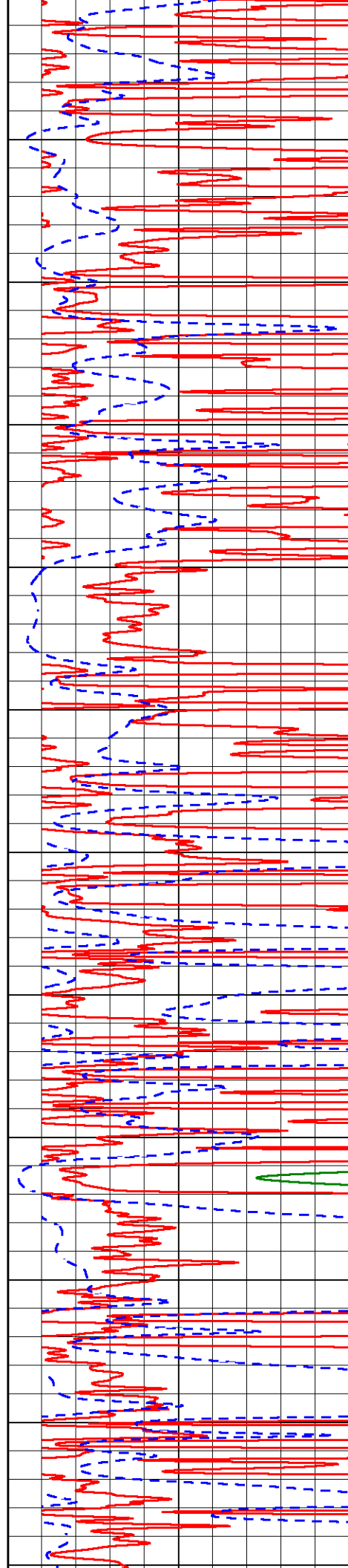


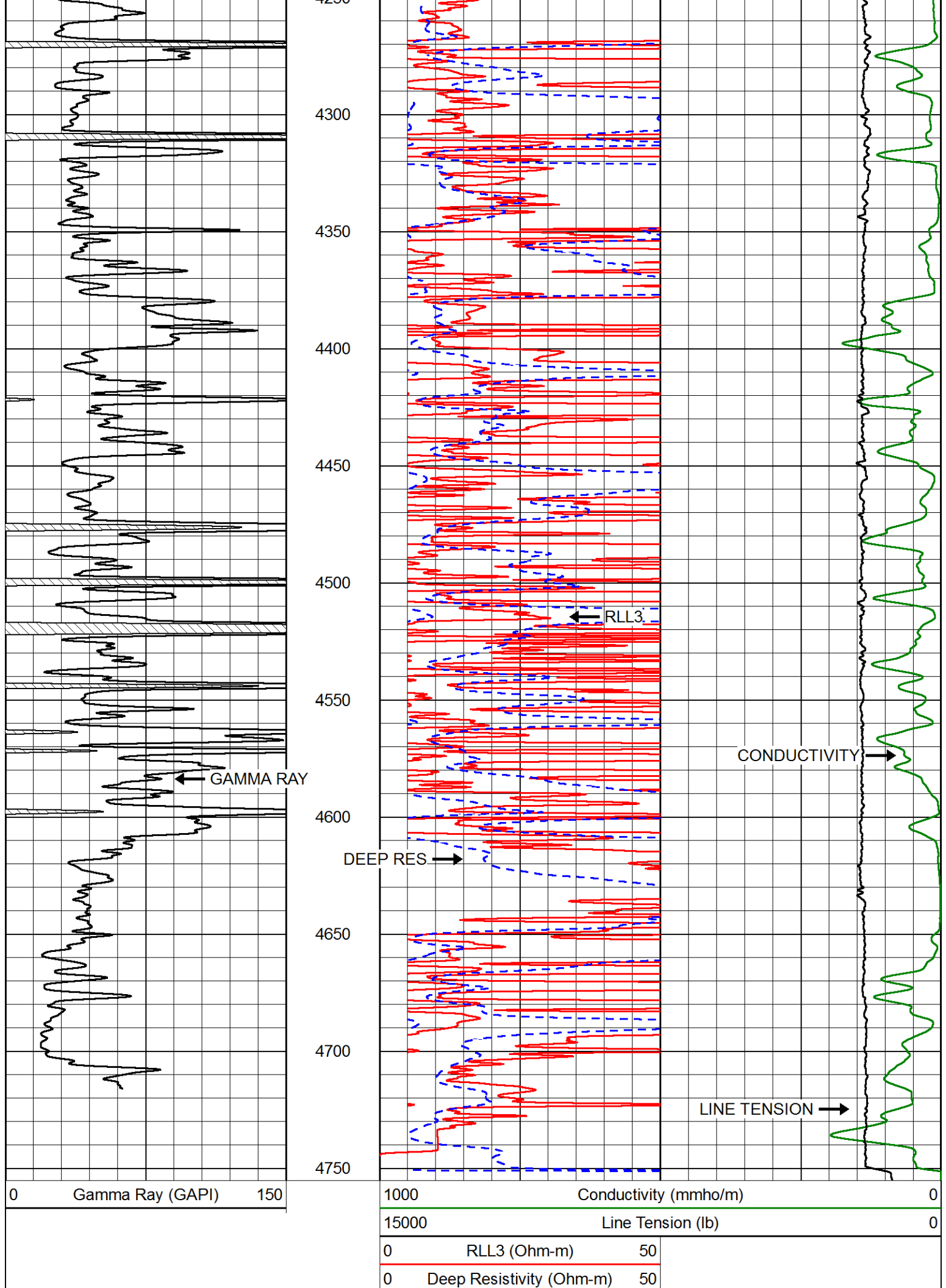






3700
3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250





50	RLL3 (Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500

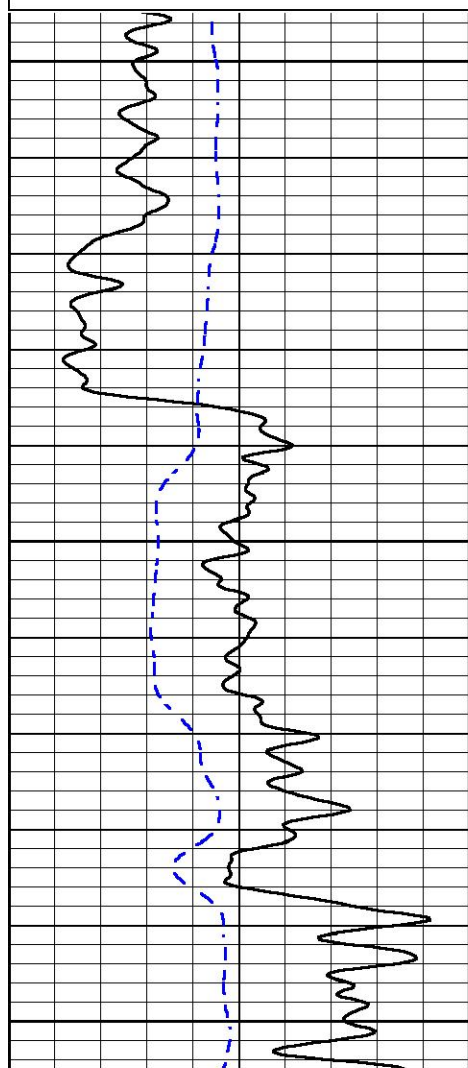


MAIN PASS

Database File ritchie_#1beaton6d.db
Dataset Pathname STKML/pass4.1
Presentation Format dil
Dataset Creation Tue Jan 16 05:27:46 2018
Charted by Depth in Feet scaled 1:240

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

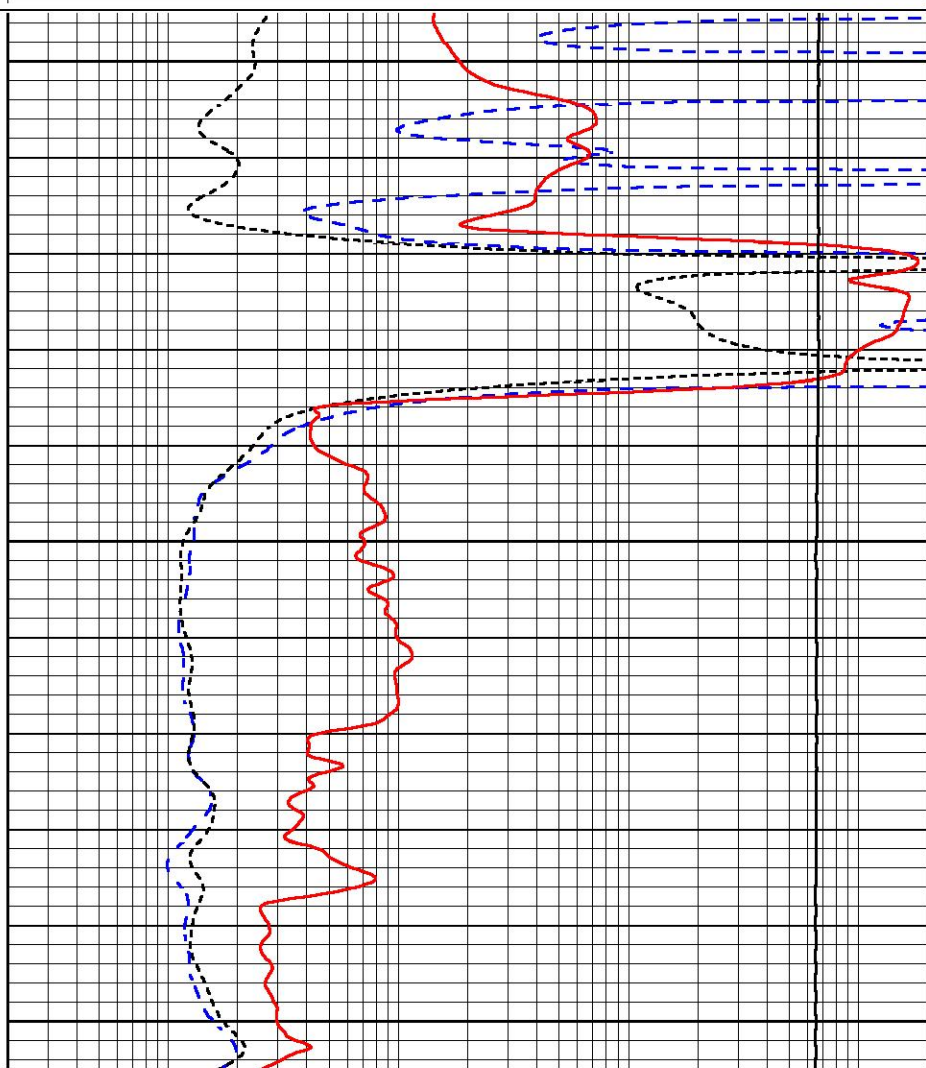
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0



2200

2250

2300



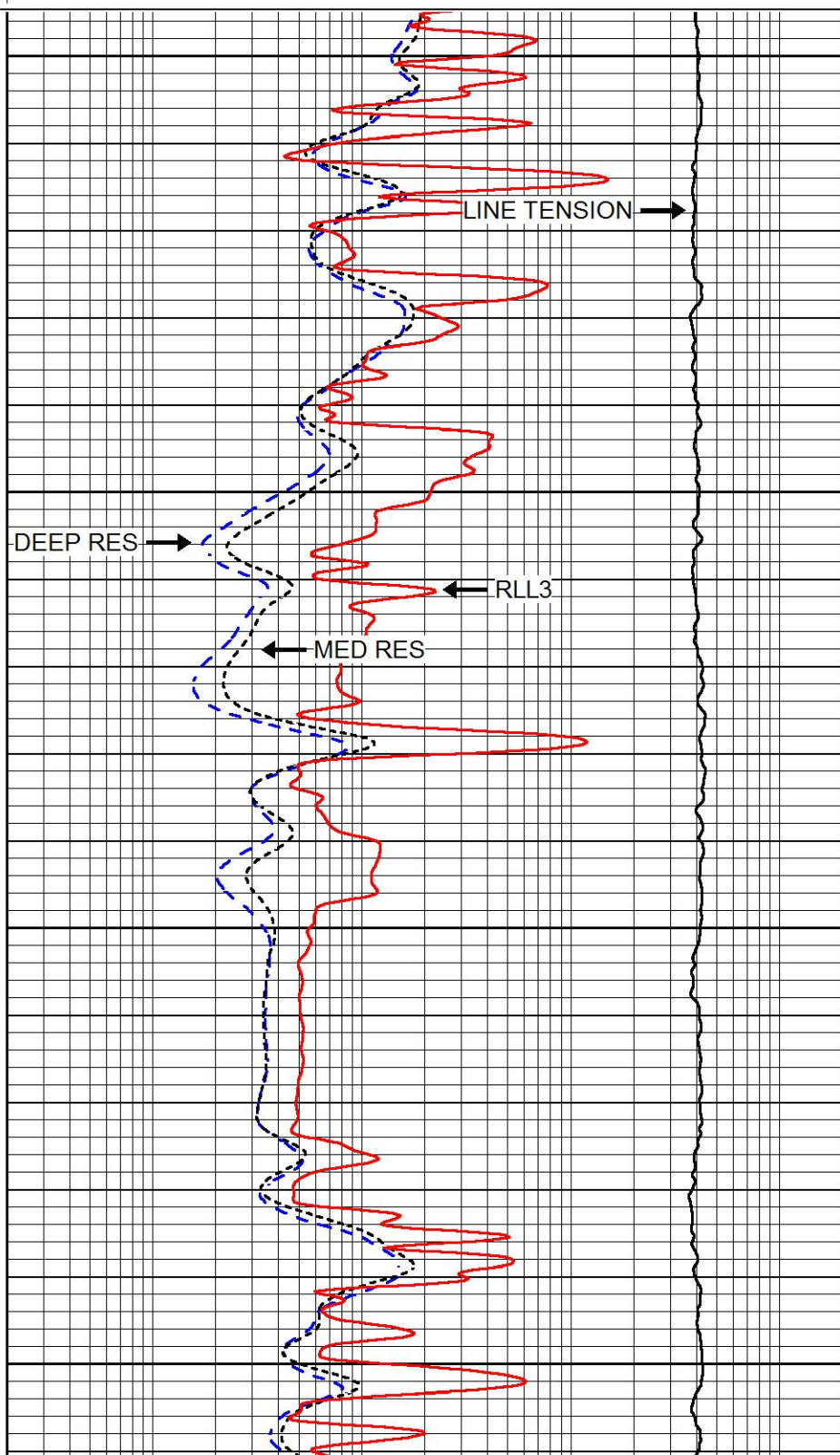
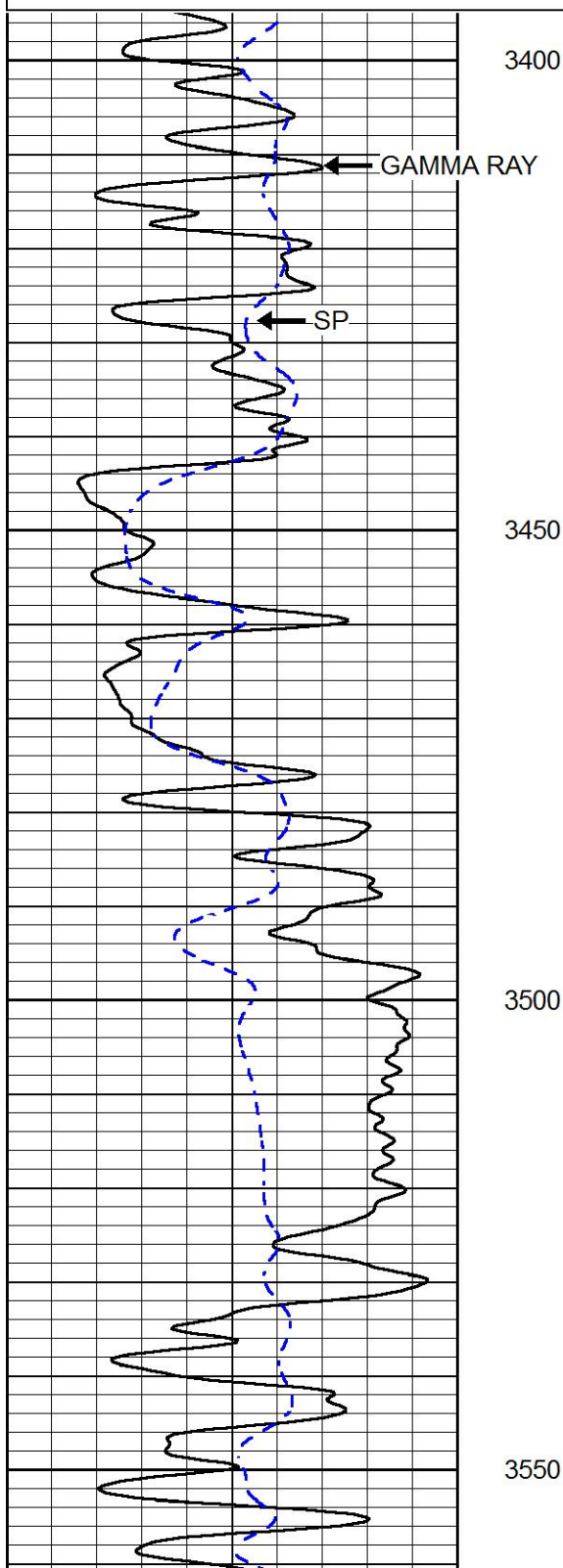
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-200	SP (mV)	0

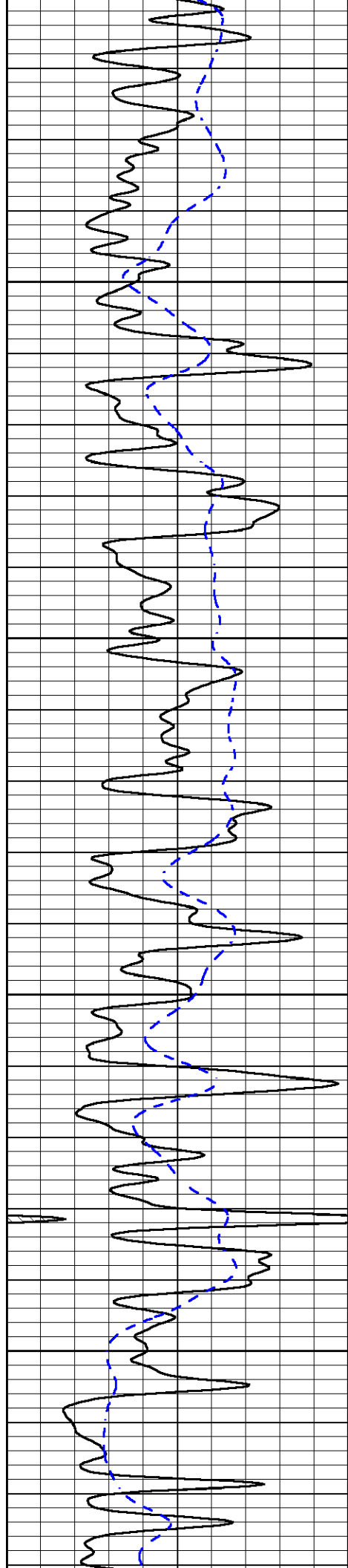
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0

Database File ritchie_#1beaton6d.db
 Dataset Pathname STKML/pass3.1
 Presentation Format dil
 Dataset Creation Tue Jan 16 04:49:43 2018
 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



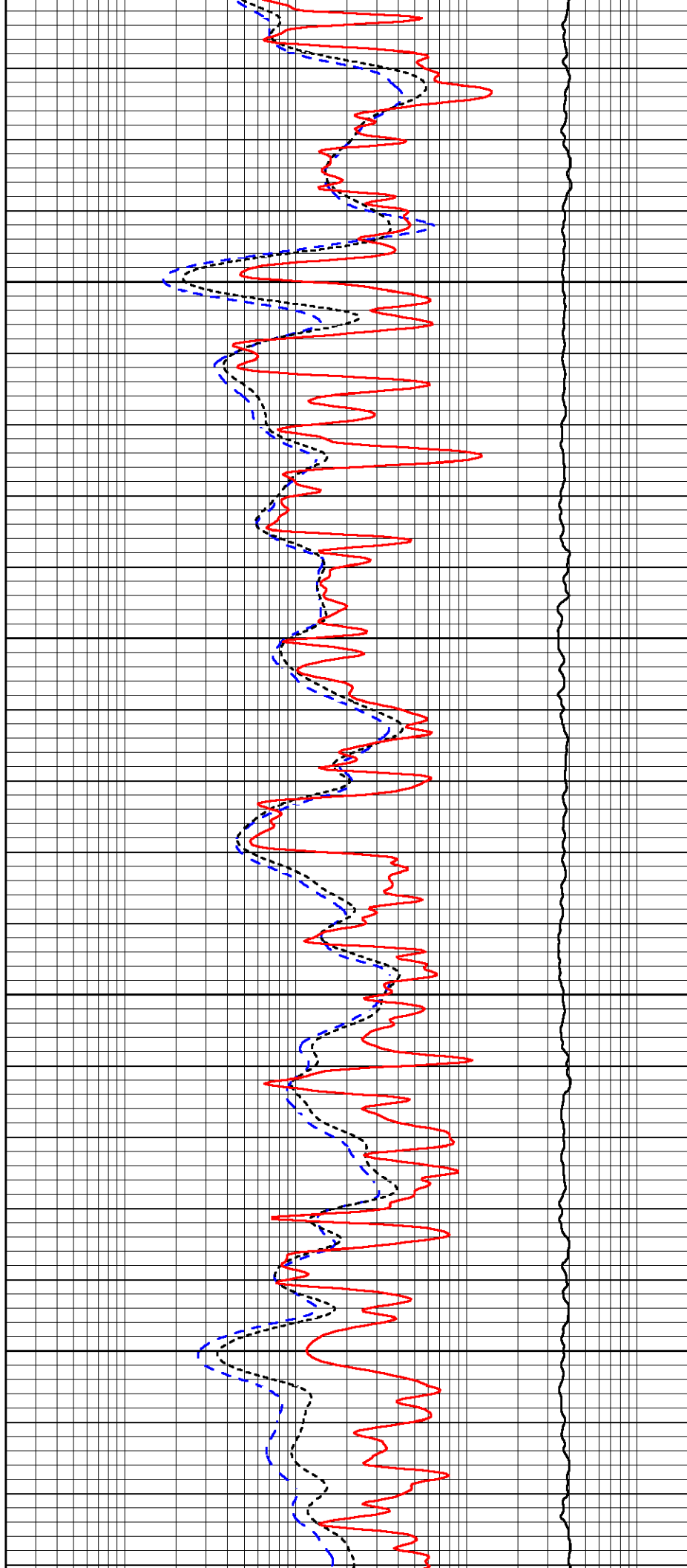


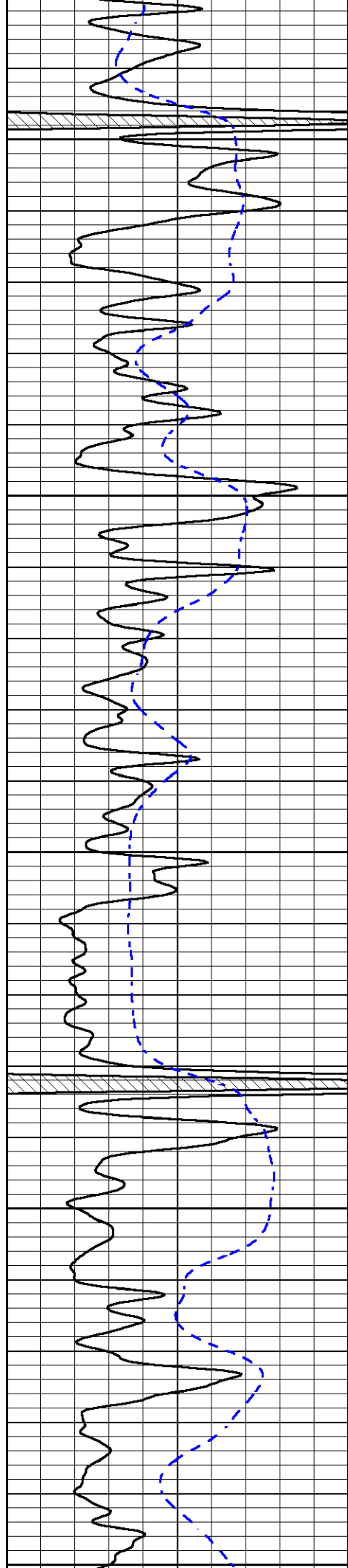
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3650

3700

3750





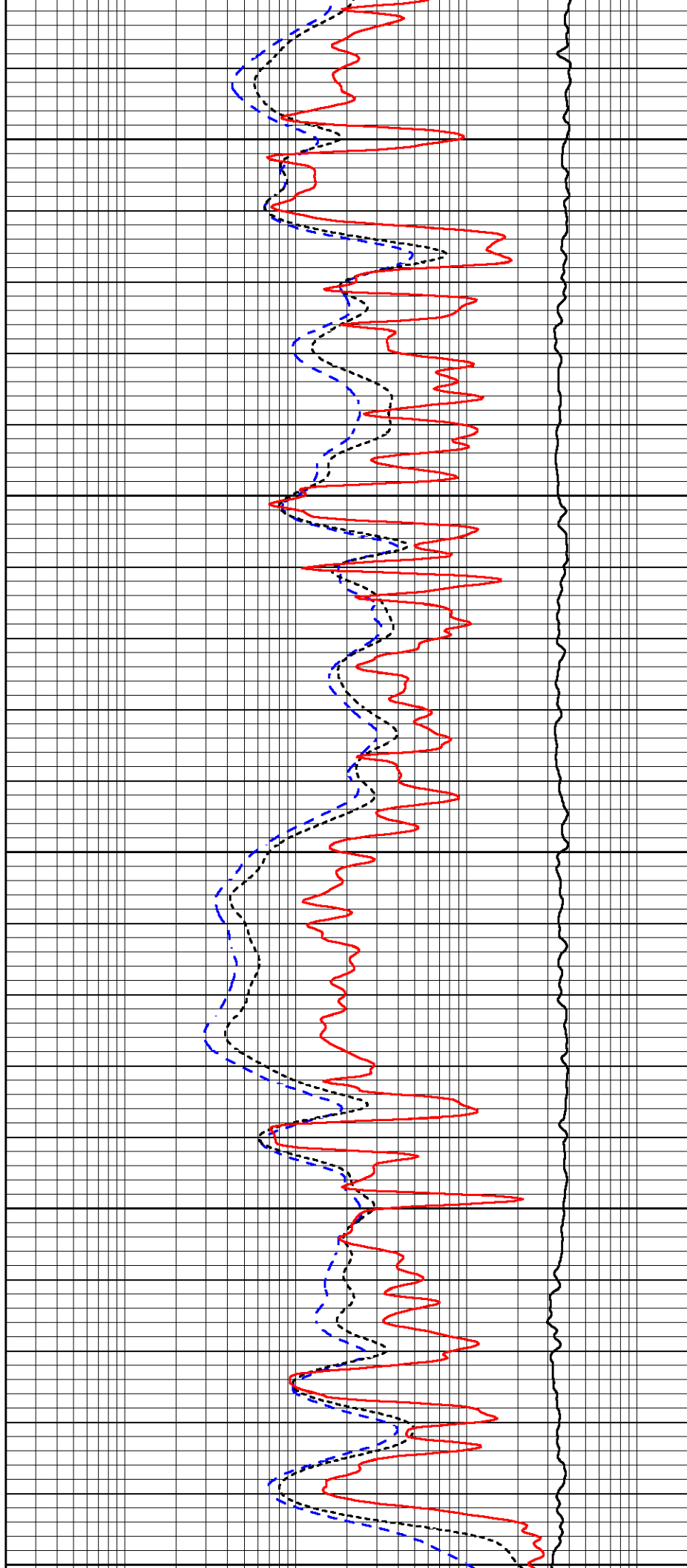
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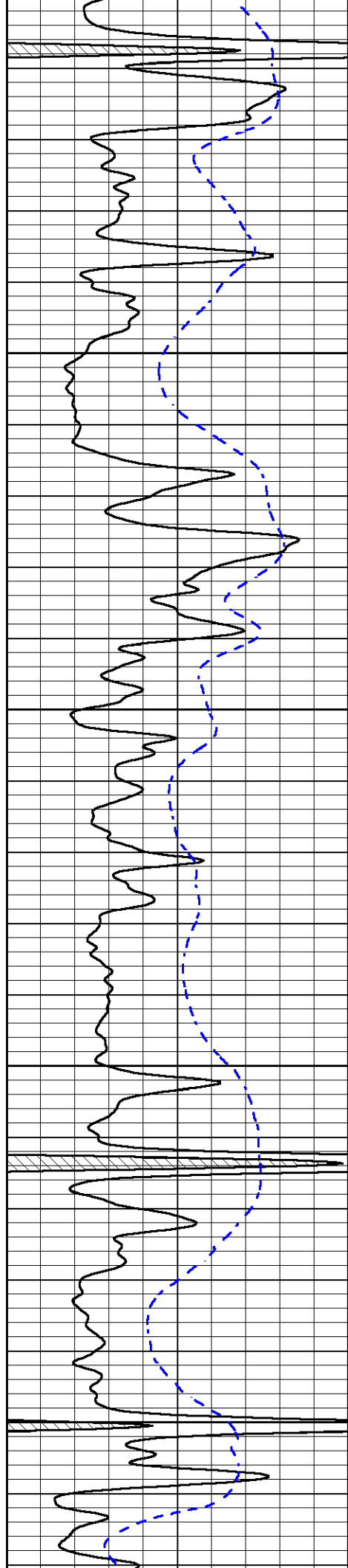
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3900

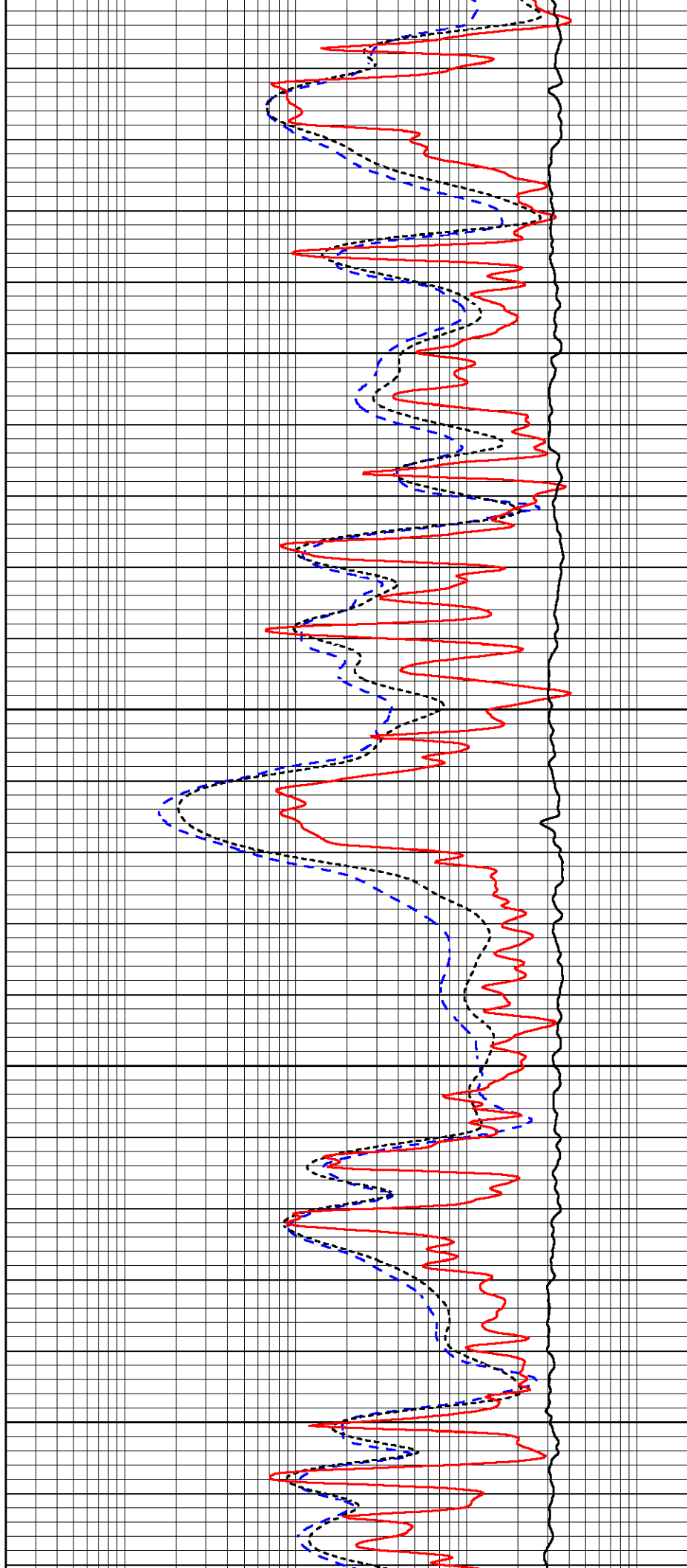
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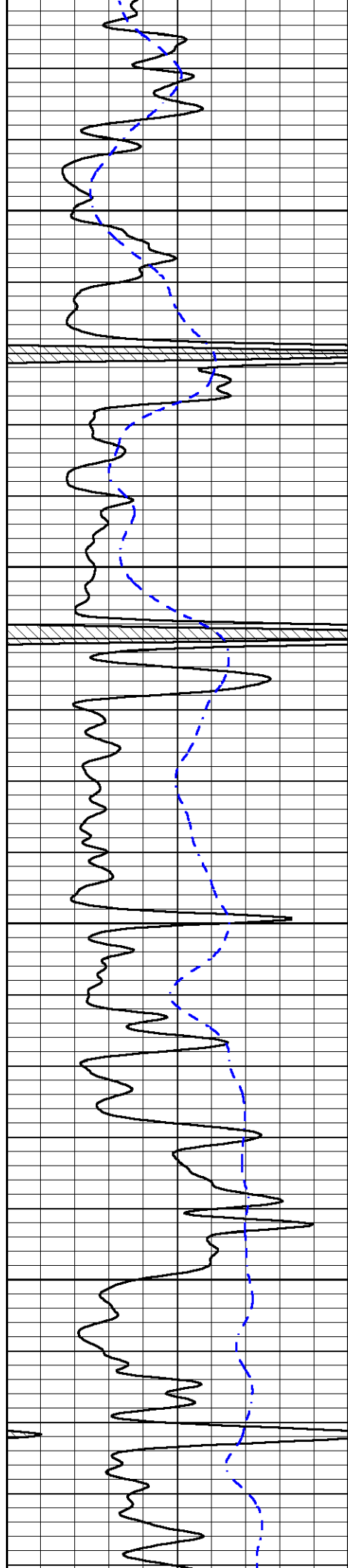
4000





4000
4050
4100
4150
4200



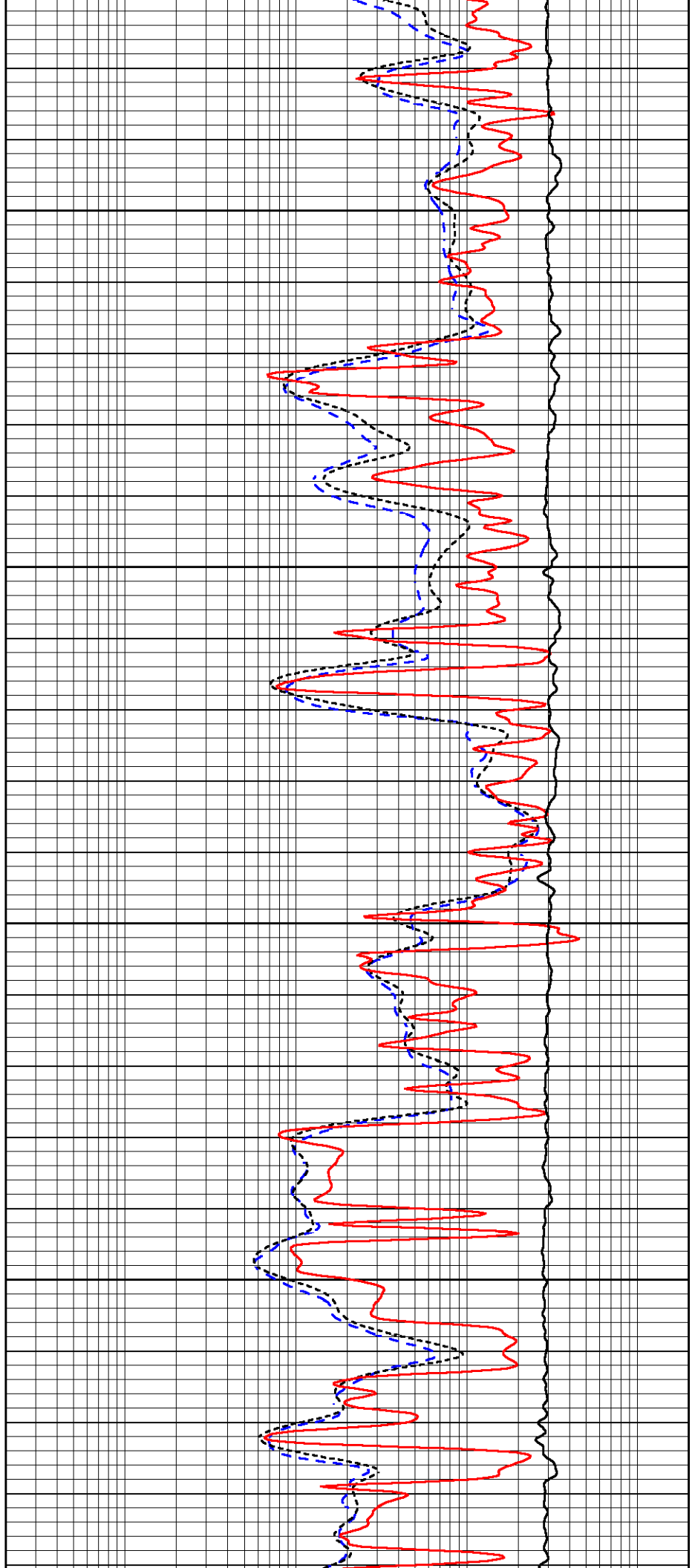


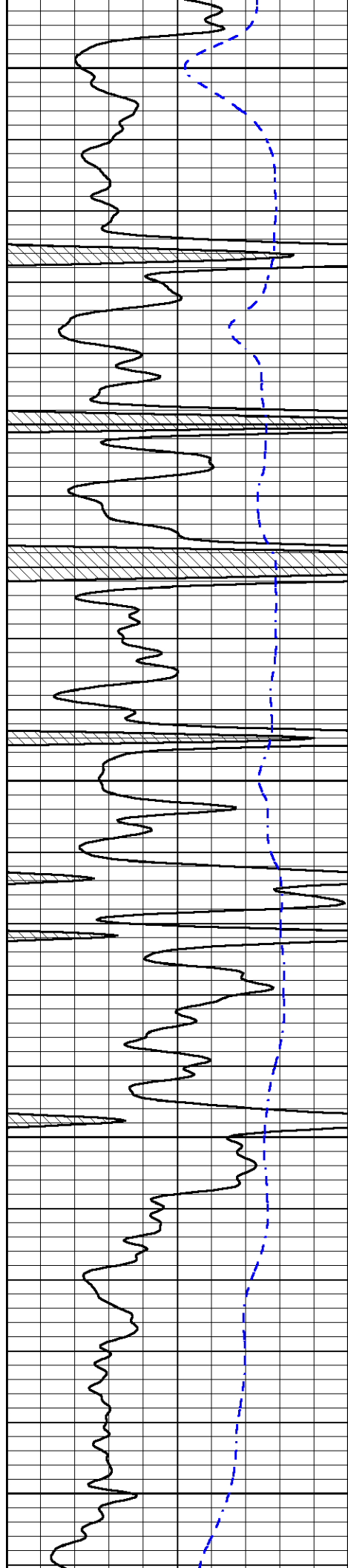
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4300

4350

4400





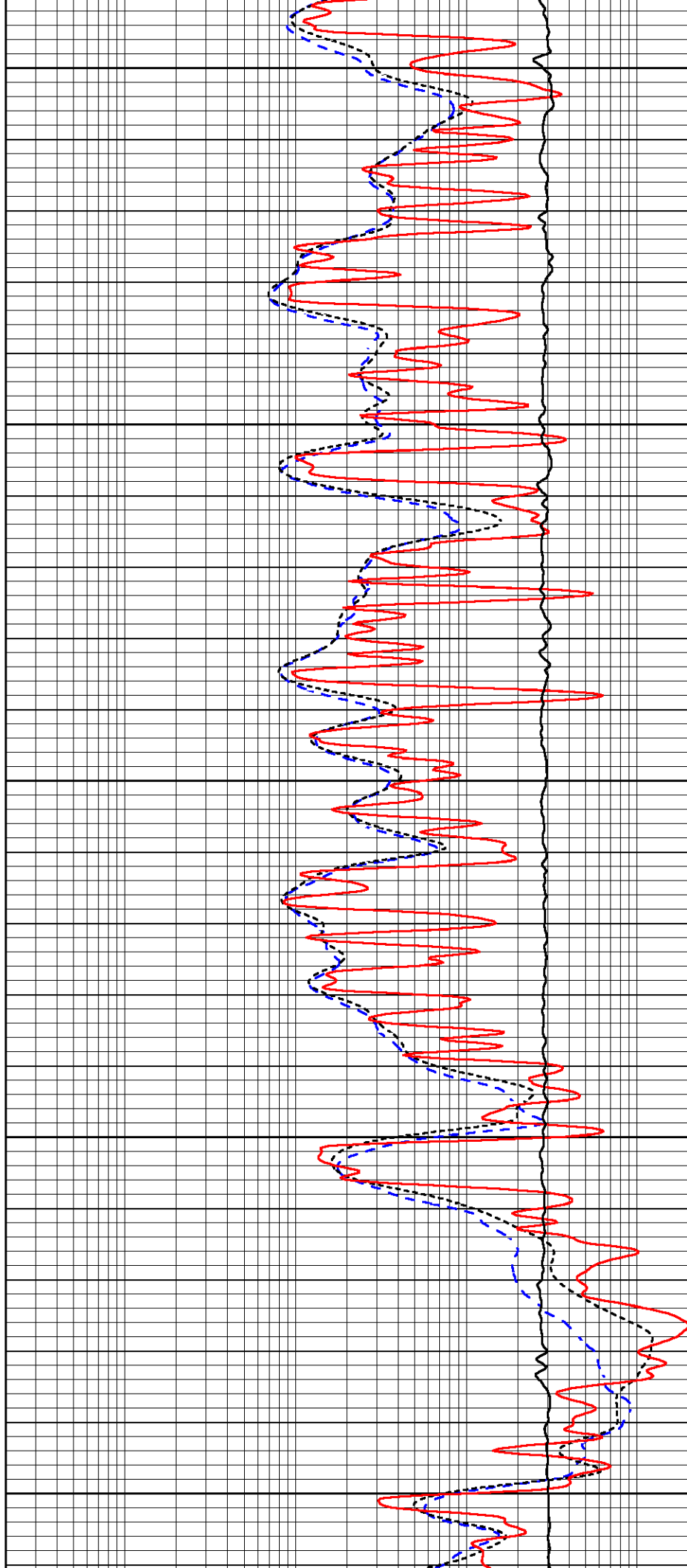
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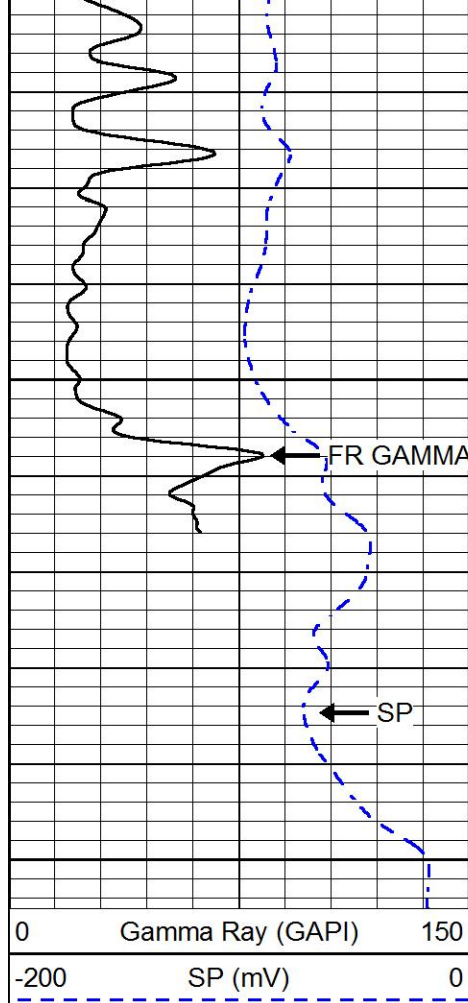
4500

4550

4600

4650



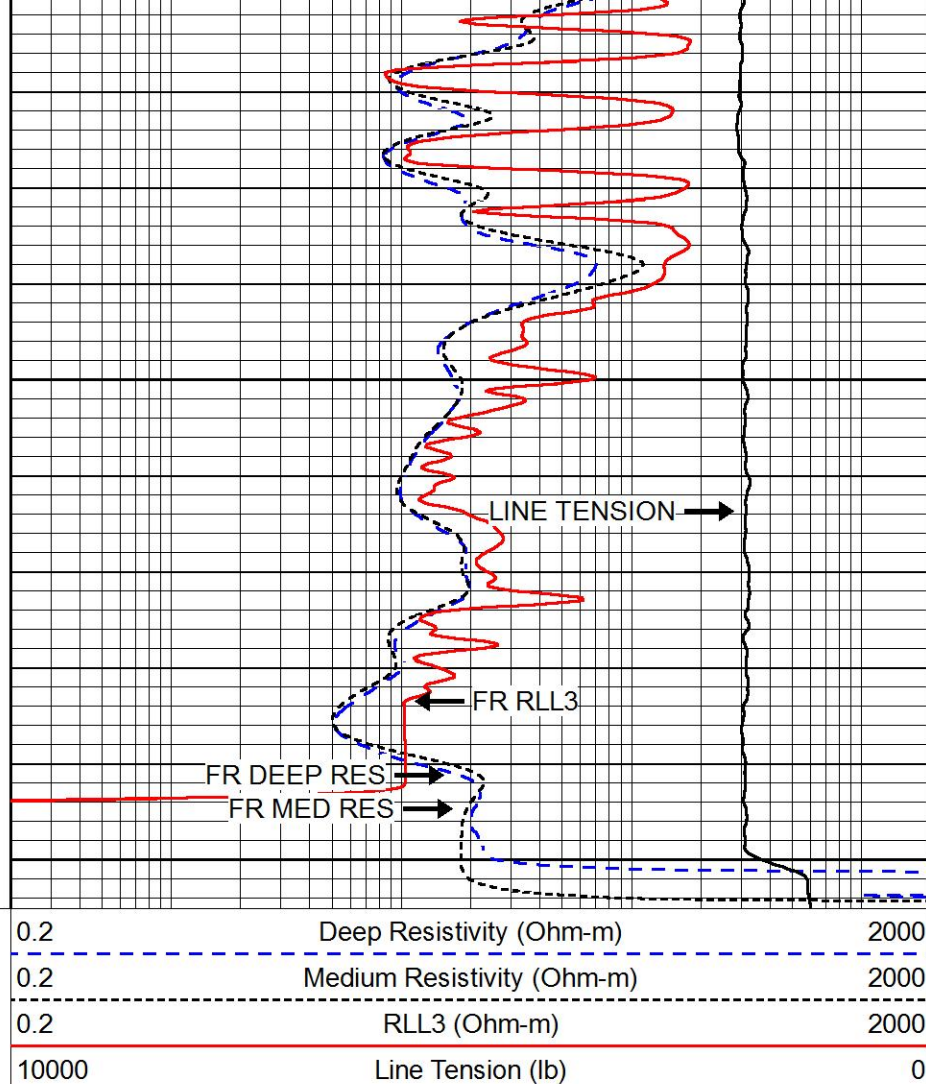


4700

FR GAMMA RAY

SP

4750



LINE TENSION

FR RLL3

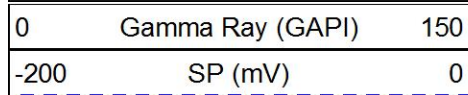
FR DEEP RES

FR MED RES

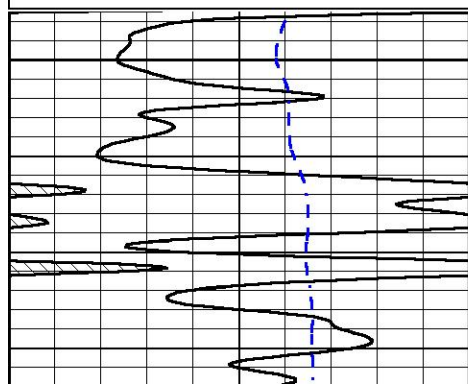
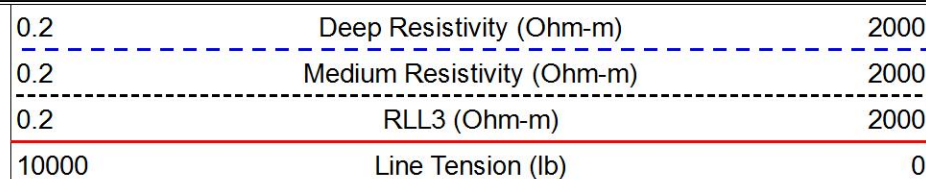


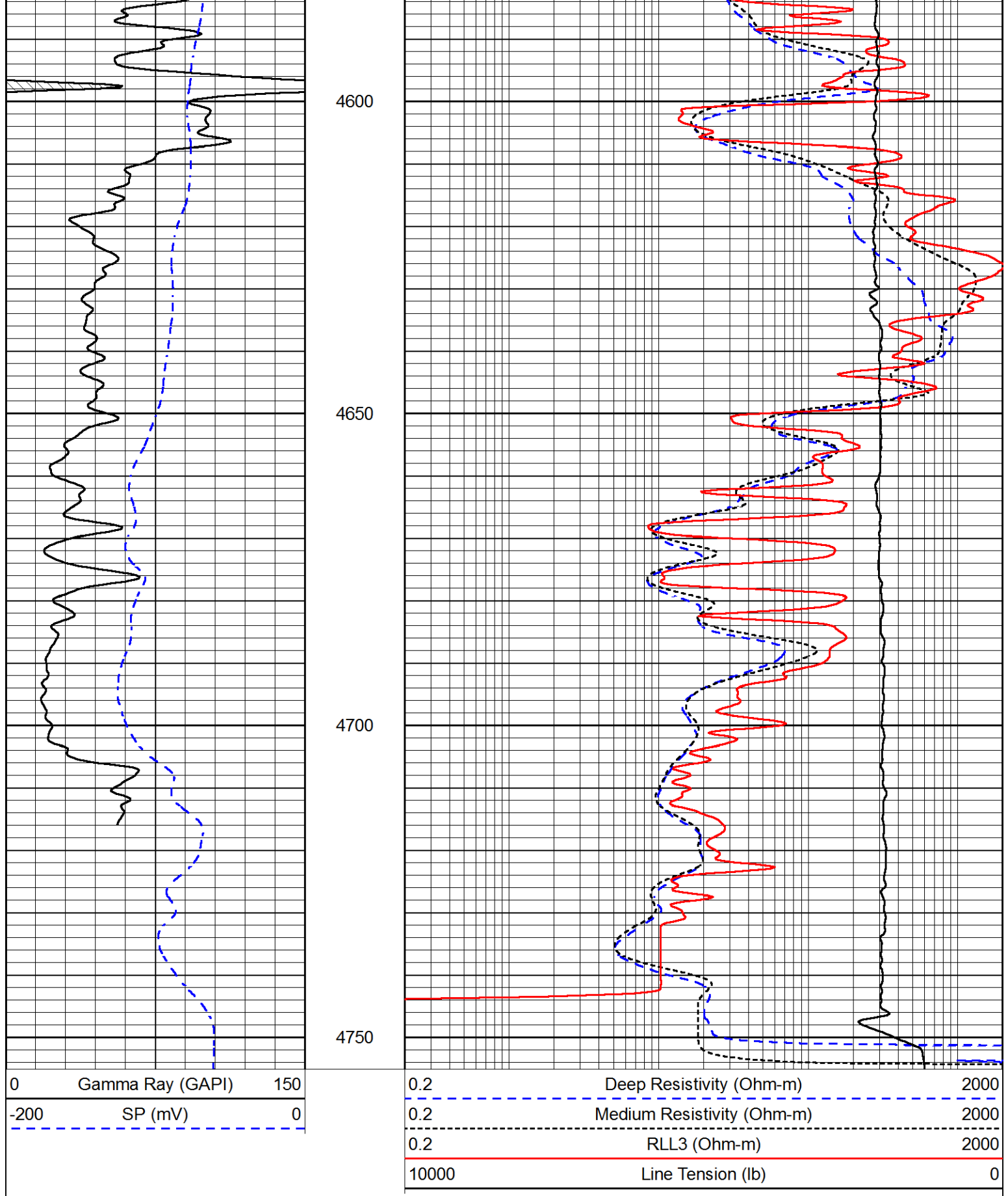
REPEAT SECTION

Database File ritchie_#1beaton6d.db
Dataset Pathname STKML/pass2.4
Presentation Format dil
Dataset Creation Tue Jan 16 04:13:32 2018
Charted by Depth in Feet scaled 1:240



4550





Calibration Report

Database File ritchie_#1beaton6d.db
Dataset Pathname STKML/pass3.6
Dataset Creation Tue Jan 16 04:17:03 2018

Serial-Model:
Calibration Performed:

PSI 91-M&W
Mon Jan 15 11:19:44 2018

Readings			References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.565	-16.500
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.390	-39.500

Microlog Calibration Report

Serial-Model:
Performed:

PSI-01-PSIML
Mon Jan 15 11:19:55 2018

Readings			References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	25000.0000	-2.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	31000.0000	-1.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.5000

Compensated Density Calibration Report

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

90-1031-M&W
16955B / 2ci
Mon Jan 15 11:20:34 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
Spine Angle = 75.61			Density/Spine Ratio = 0.517		
	Size		Reading		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: MON JAN 15 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: Mon Jan 15 11:20:44 2018

Calibrator Value: 1.0 GAPI

Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps



Company	RITCHIE EXPLORATION, INC.
Well	#1 BEATON 6D
Field	WILDCAT
County	LANE
State	KANSAS