



DUAL INDUCTION LOG

Company CHIZUM OIL, LLC
Well LAZY HEART #1-26
Field WILDCAT
County SHERMAN **State** KANSAS

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Field WILDCAT
County SHERMAN
State KANSAS

Location: API #: 15-181-20613-00-00
 440' FNL & 560' FEL
 SEC 26 TWP 7S RGE 37W
 Permanent Datum GROUND LEVEL Elevation 3440'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services: CNL/CDL MEL
 Elevation: K.B. 3448', D.F. N/A, G.L. 3440'

Date	05/03/2018
Run Number	ONE
Depth Driller	5000'
Depth Logger	4996'
Bottom Logged Interval	4995'
Top Log Interval	300'
Casing Driller	8.625" @ 347'
Casing Logger	347'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	7800
Density / Viscosity	9.4 77
pH / Fluid Loss	9.5 9.6
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.65 @ 55
Rmt @ Meas. Temp	0.49 @ 55
Rmc @ Meas. Temp	0.88 @ 55
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.31 @ 116
Operating Rig Time	3 HOURS
Max Rec. Temp. F	116
Equipment Number	91
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	TIM PRIEST

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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.

BREWSTER, KS
 5 SOUTH TO T ROAD,
 3 WEST, 1 NORTH,
 EAST 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: TIM PRIEST Secondary Witness: Secondary Witness: Secondary Witness:
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Log Variables

Database C:\ProgramData\Warrior\Data\chizum_lazyheart#1-26.db
 Dataset field/well/STKML/pass5.1/_vars_

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	280	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	50	0	5.5	0	4997	116	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	37.48		CNT-M&W (207-MW)	5.50	3.50	100.00
CNSSC	36.73					
			CDL-M&W (227-771)	8.50	4.00	250.00
LSD	28.43					
DCAL	28.42					
SSD	27.93					
			ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
MCAL	19.83					
MI	19.83					
MN	19.83					
RLL3F	15.80					
RLL3	15.80					

CILD 8.00

CILM 4.70

SP 0.20

DIL-PSI HIGH TEMP (967 (HT))

18.50

3.50

220.00

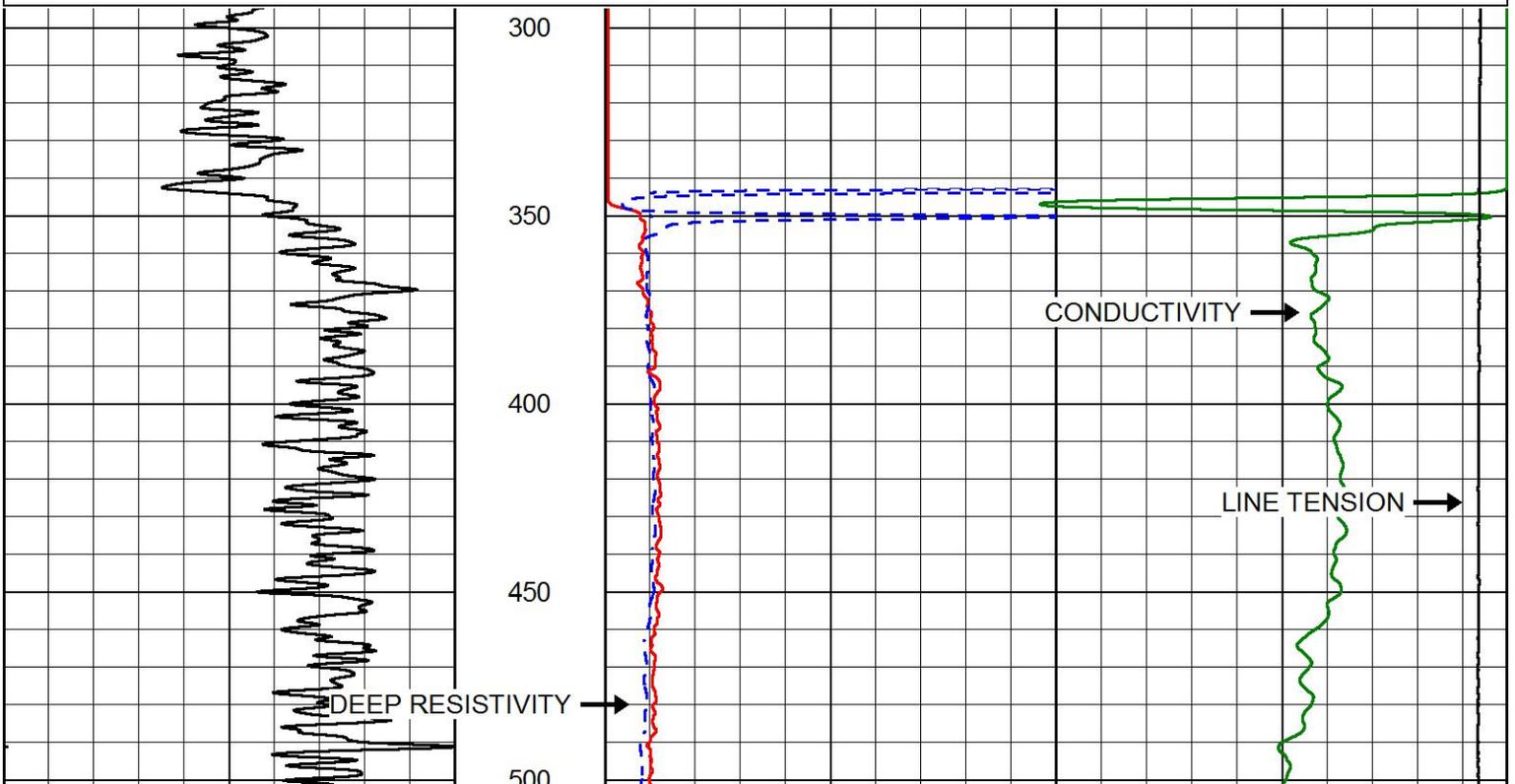
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 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

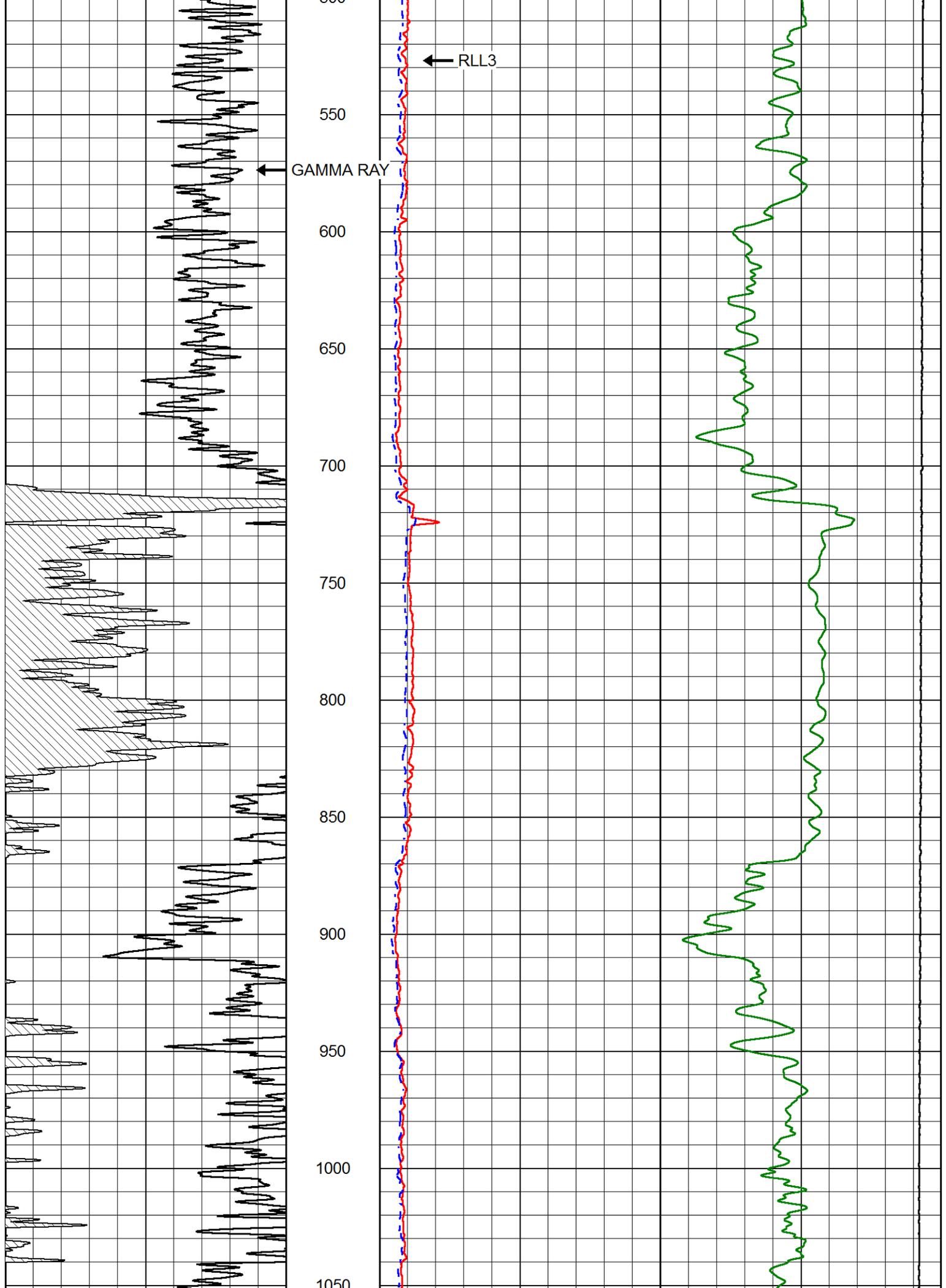


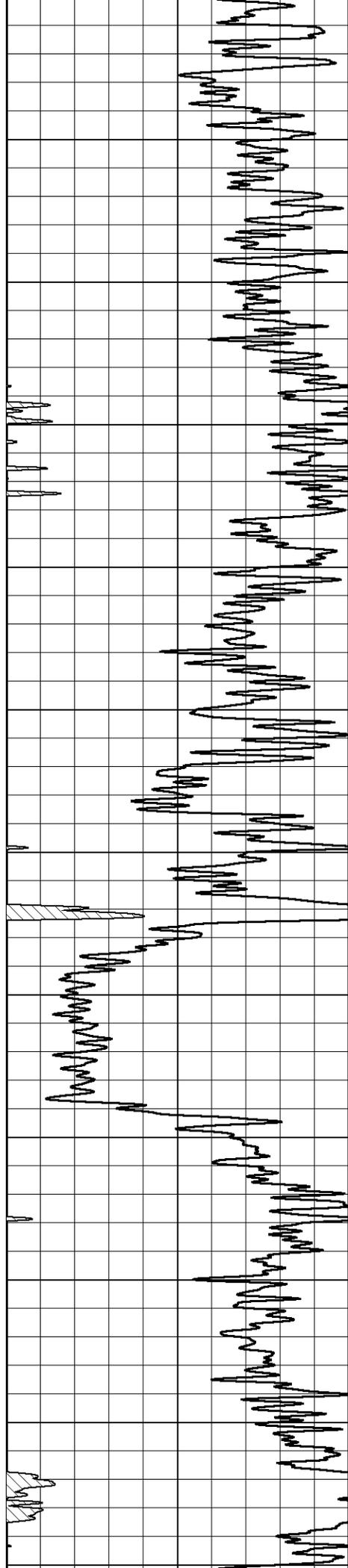
MAIN PASS

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 Presentation Format dil2in
 Dataset Creation Fri May 04 03:37:45 2018
 Charted by Depth in Feet scaled 1:600

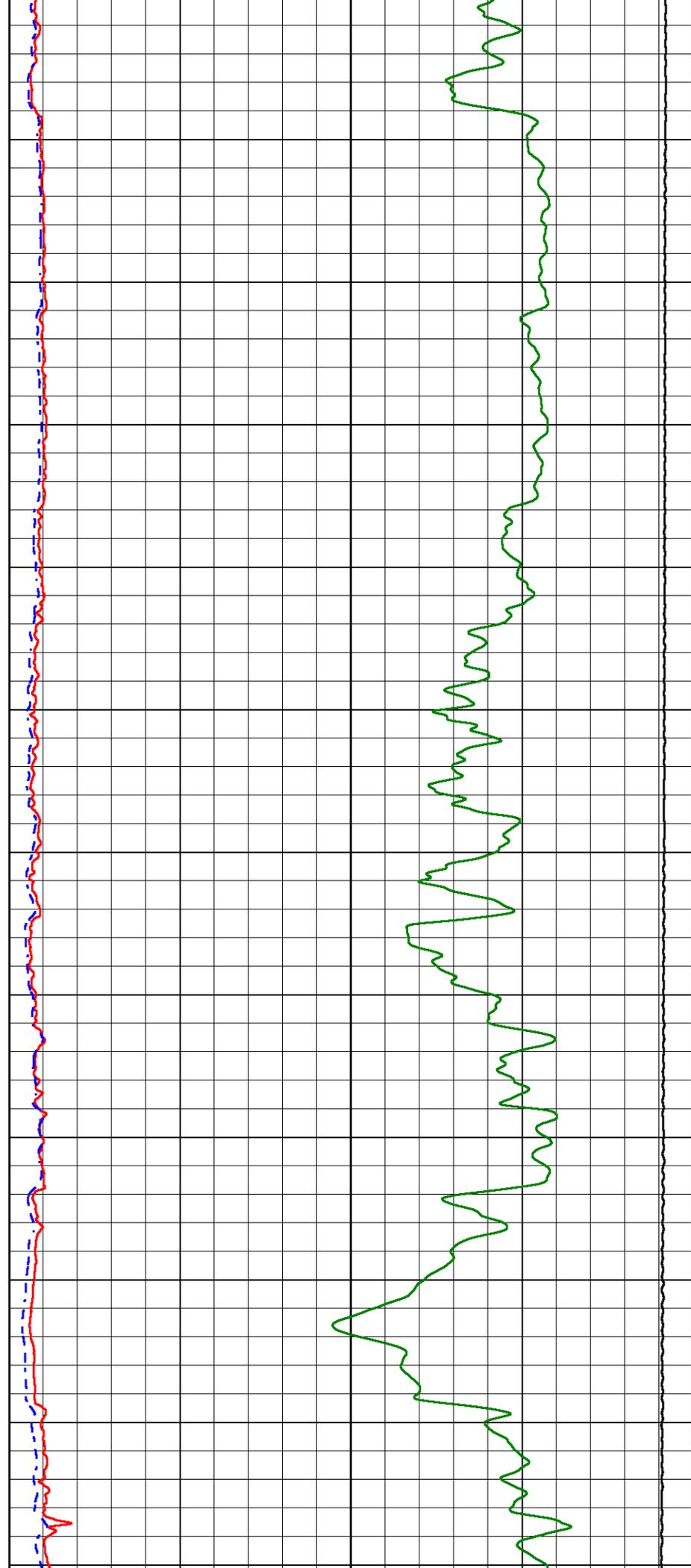
GAMMA RAY (GAPI)	1000	CONDUCTIVITY (mmho/m)	0
	15000	Line Tension (lb)	0
	0	RLL3 (Ohm-m)	50
	0	DEEP RESISTIVITY (Ohm-m)	50
	50	RLL3 (Ohm-m)	500
	50	Deep Resistivity (Ohm-m)	500

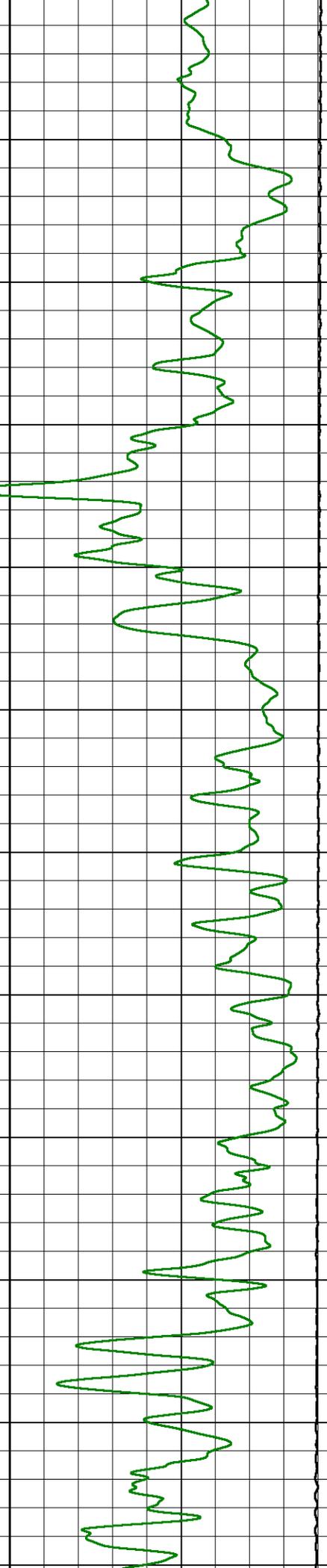
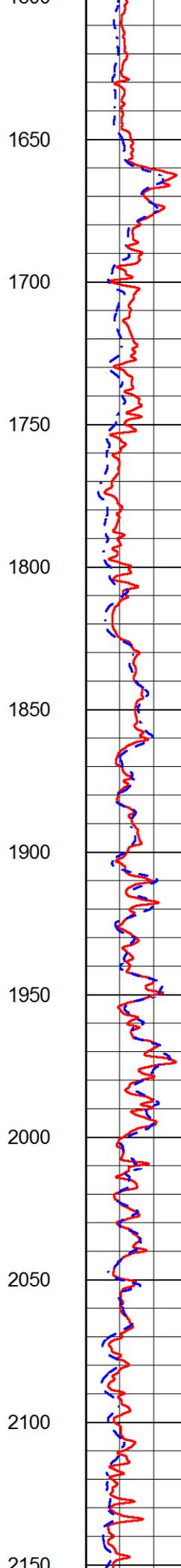
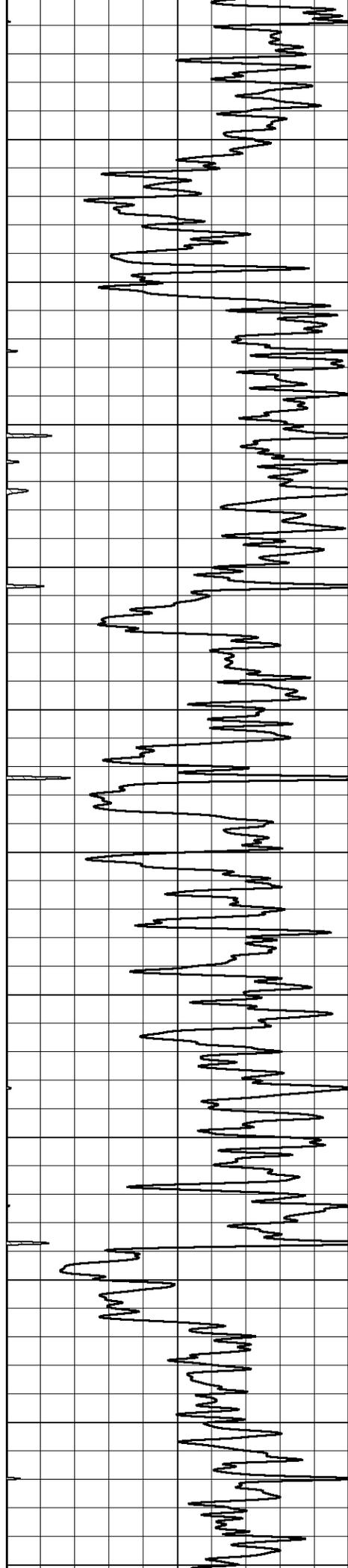


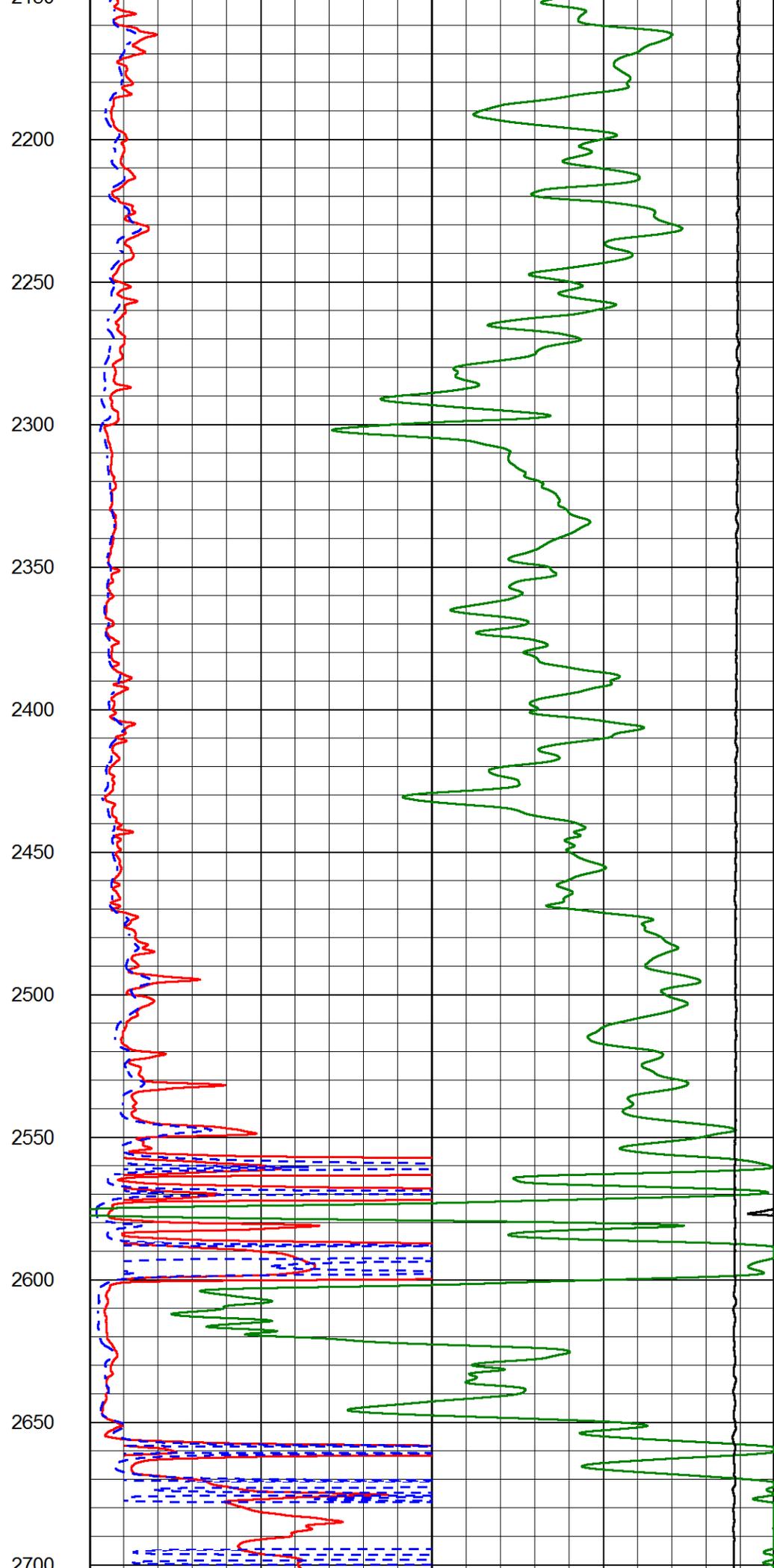
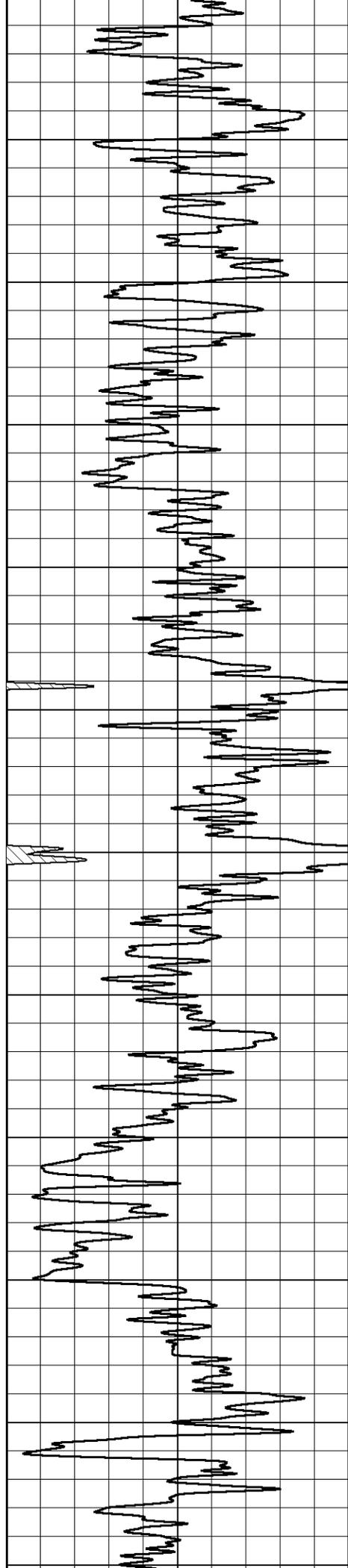


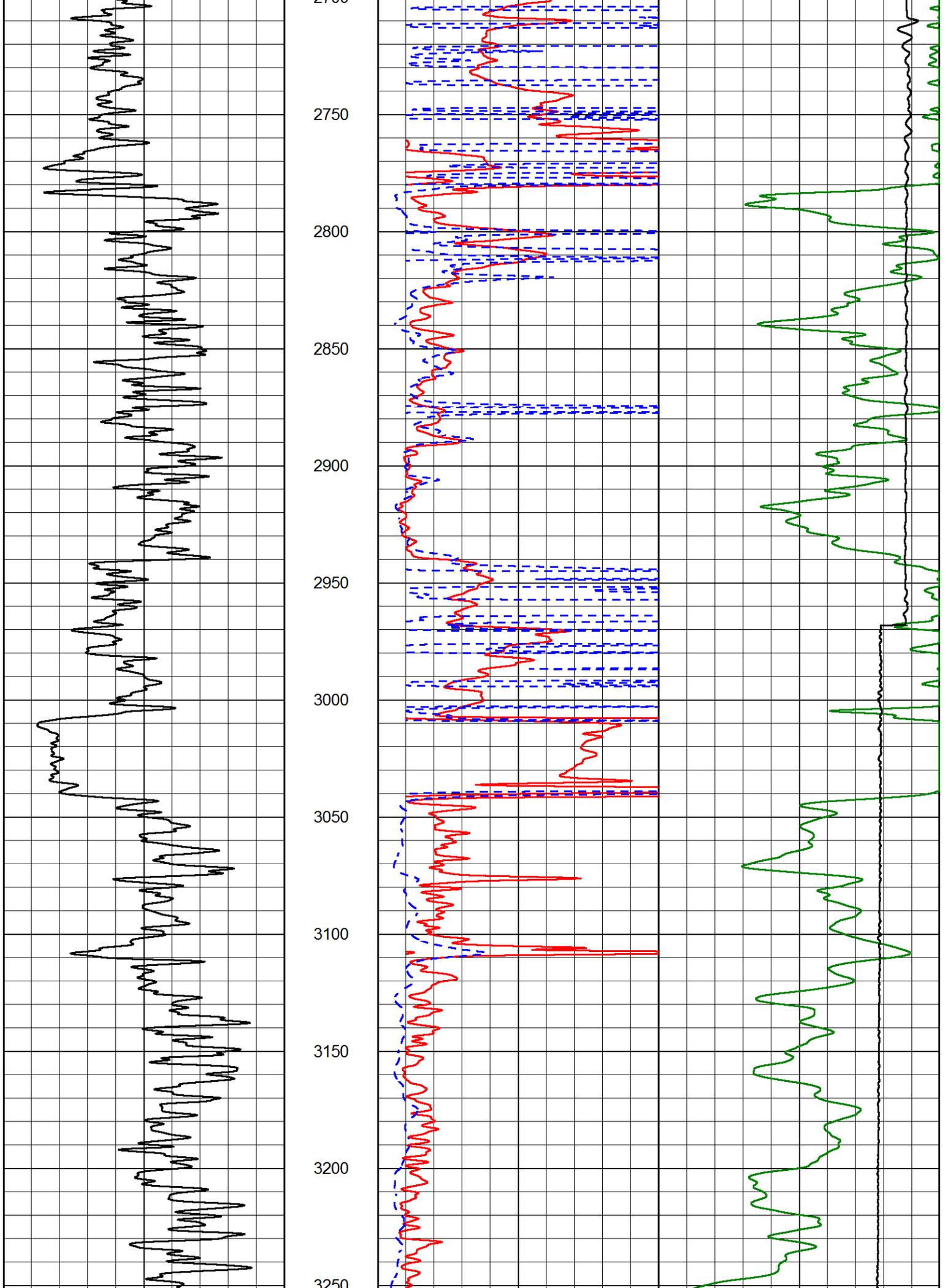


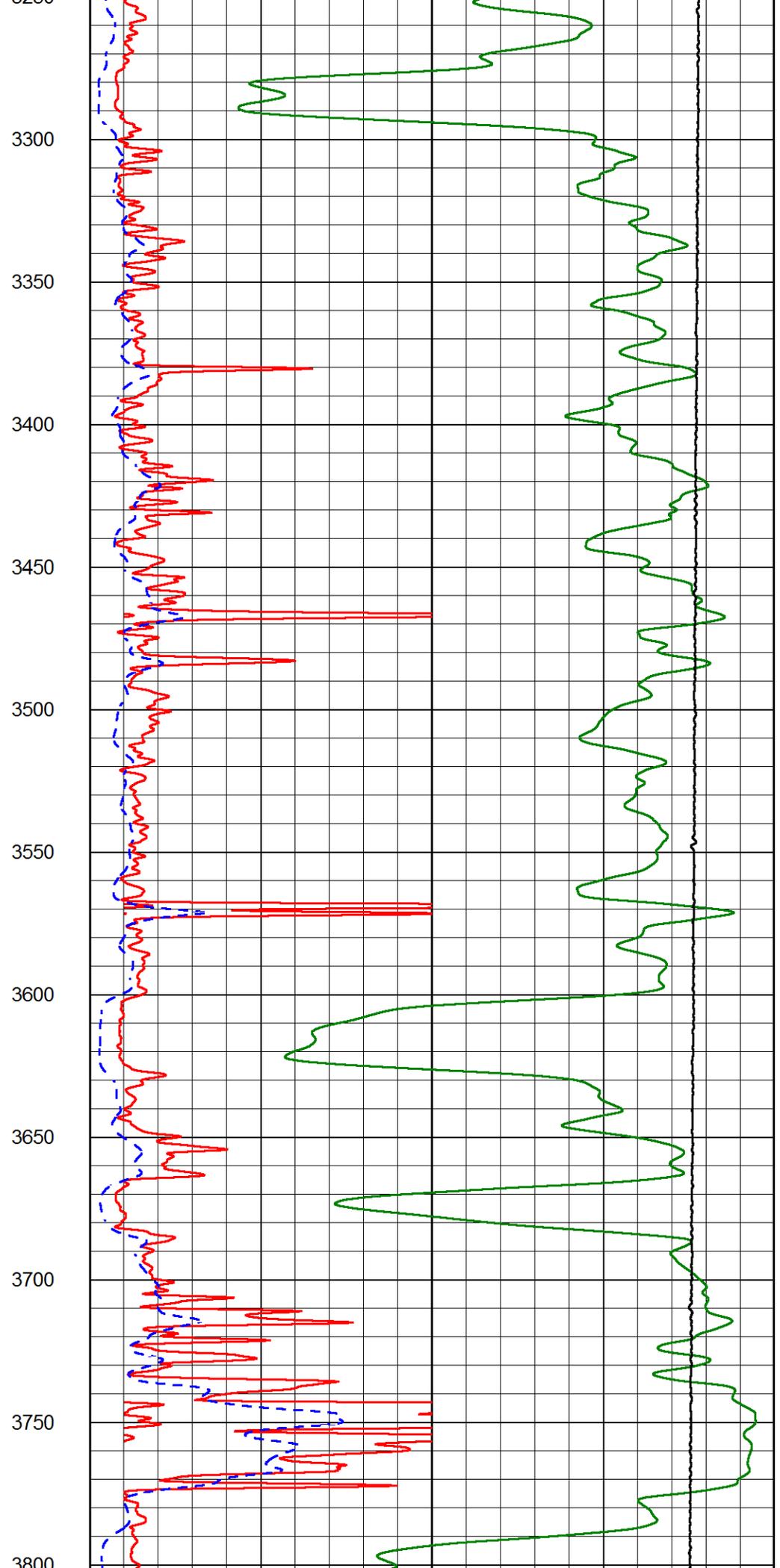
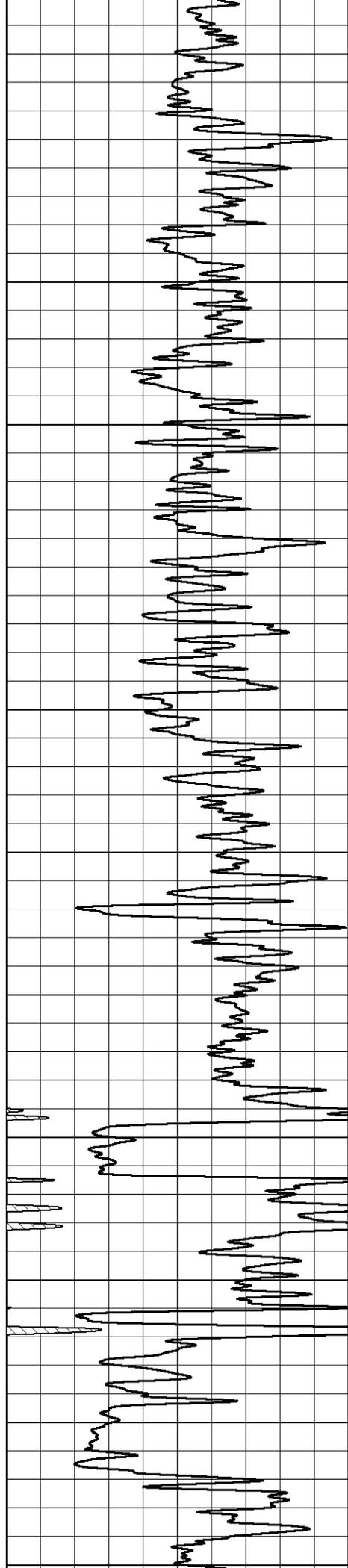
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1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
1600

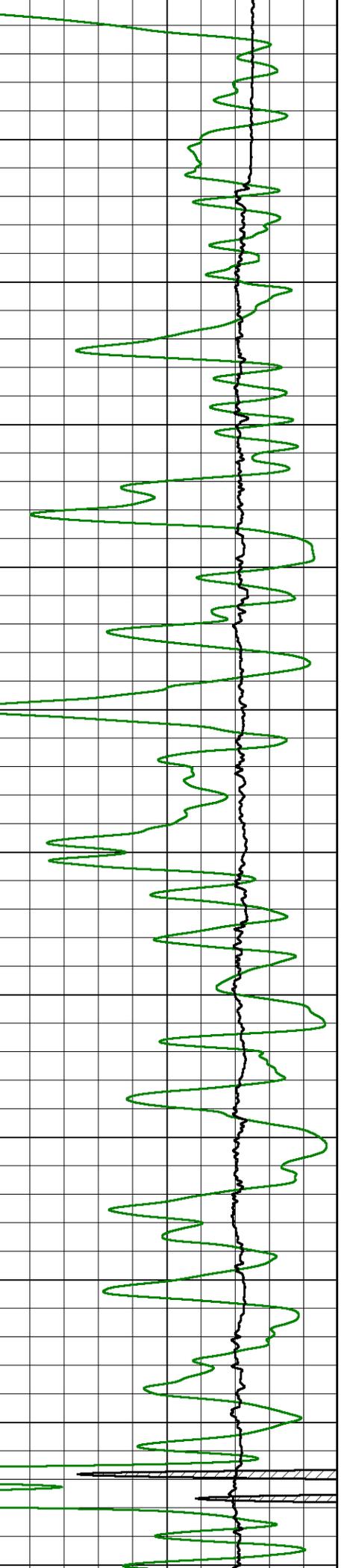
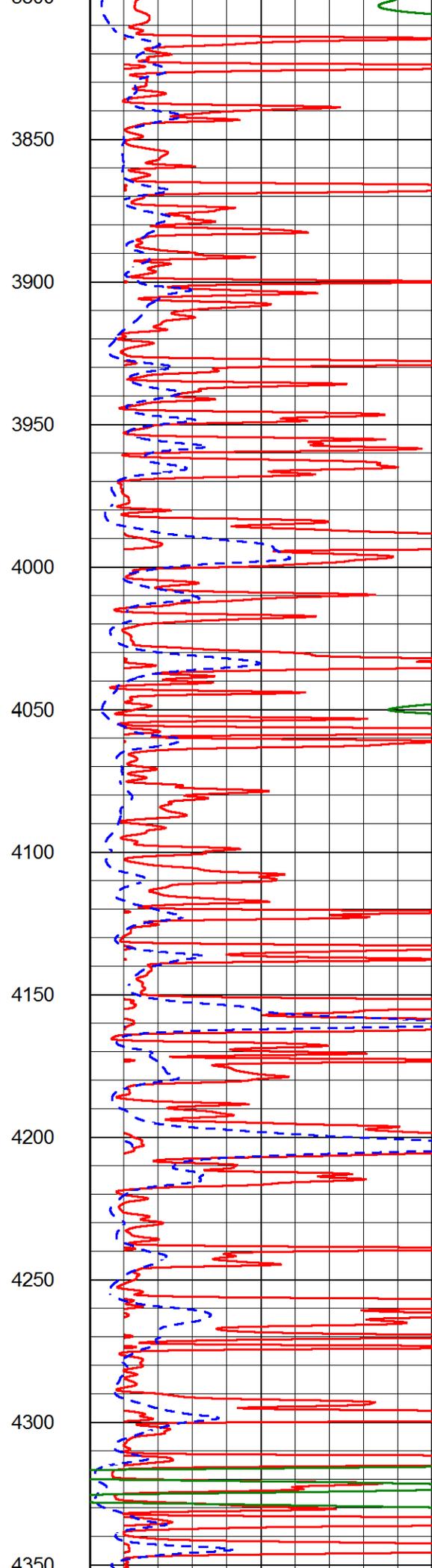
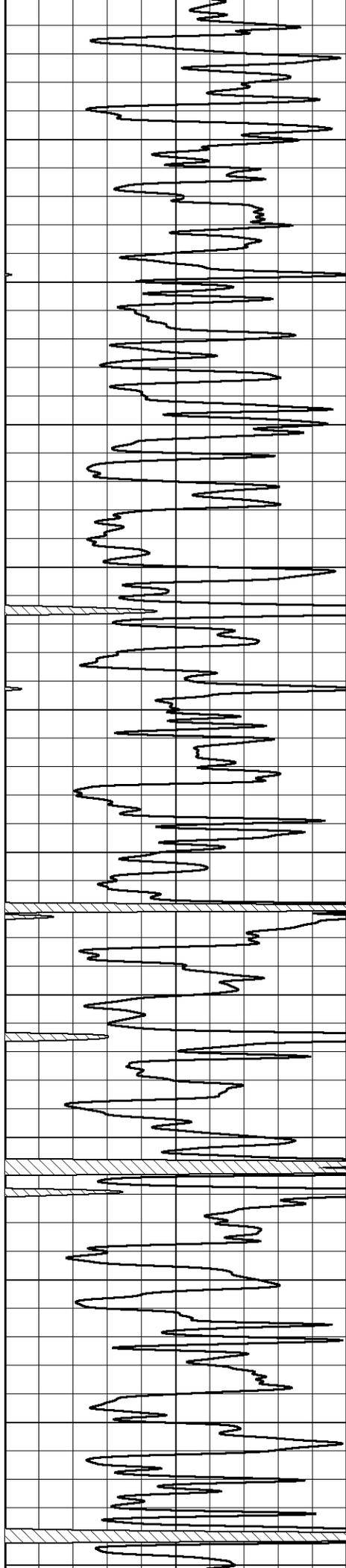


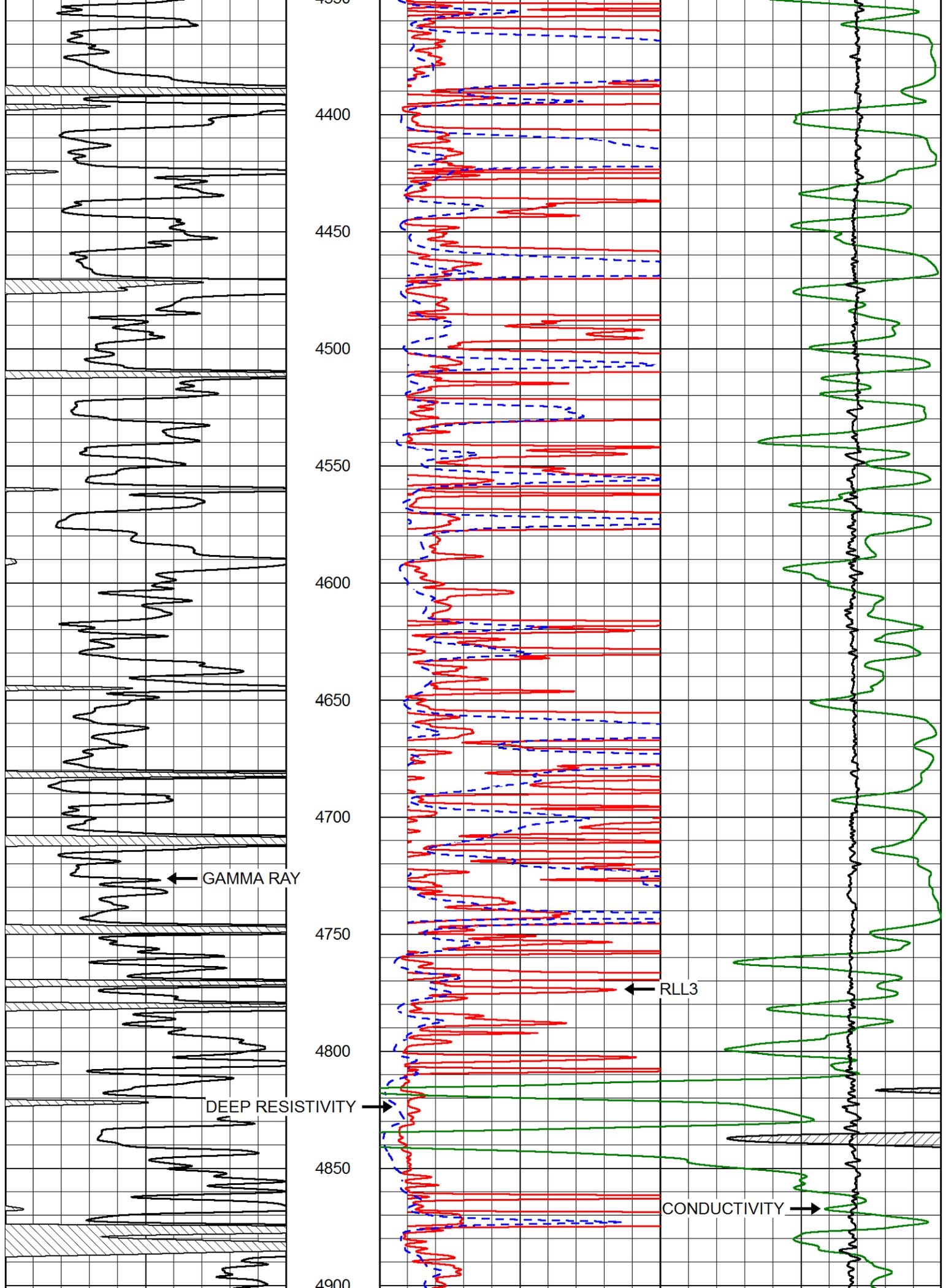


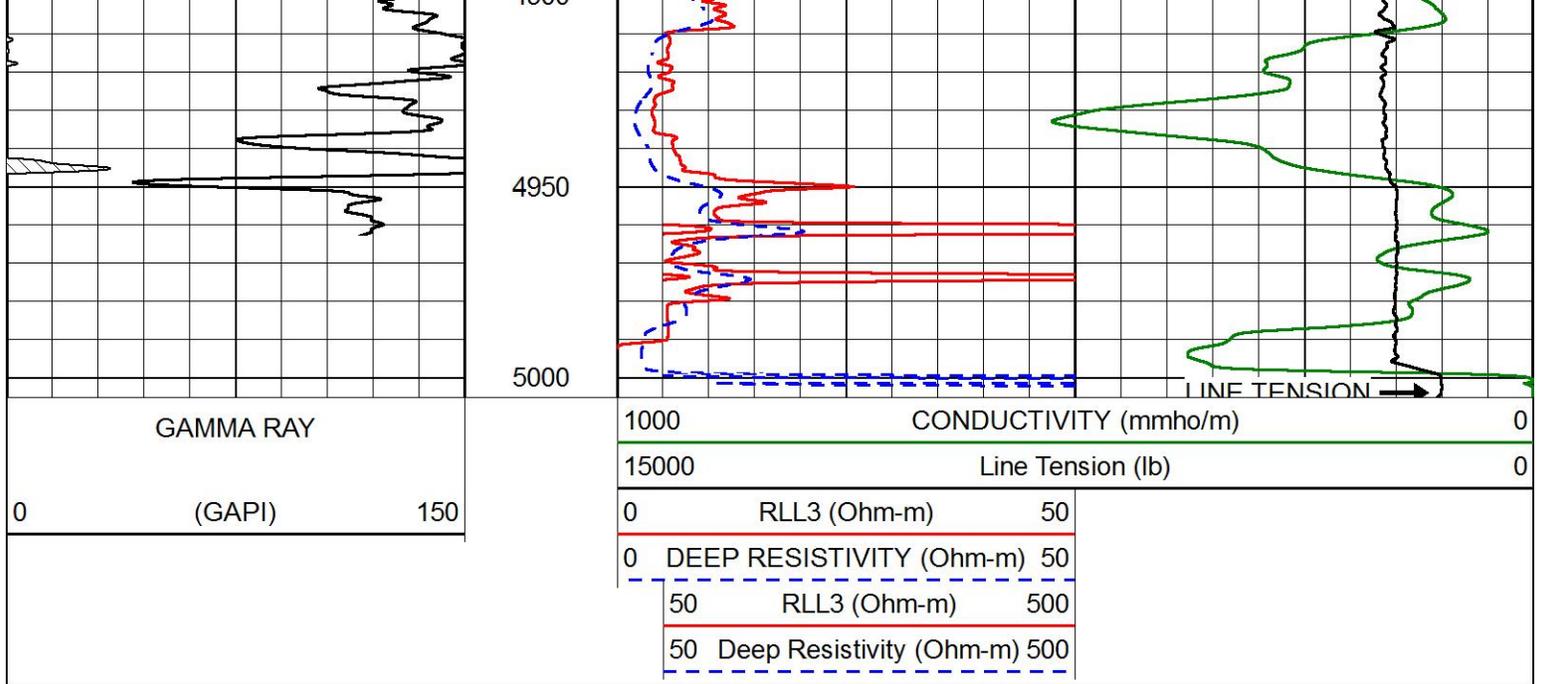








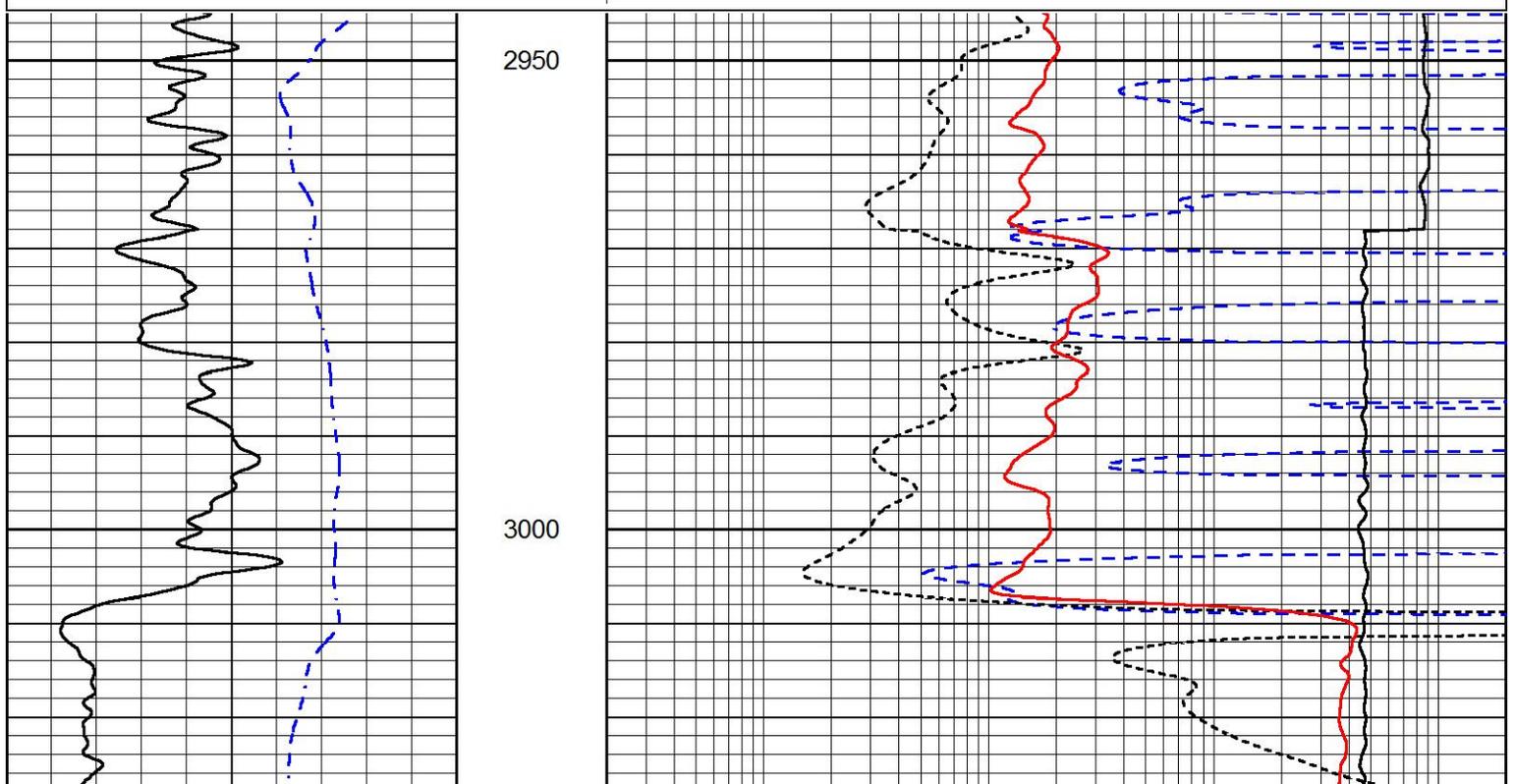


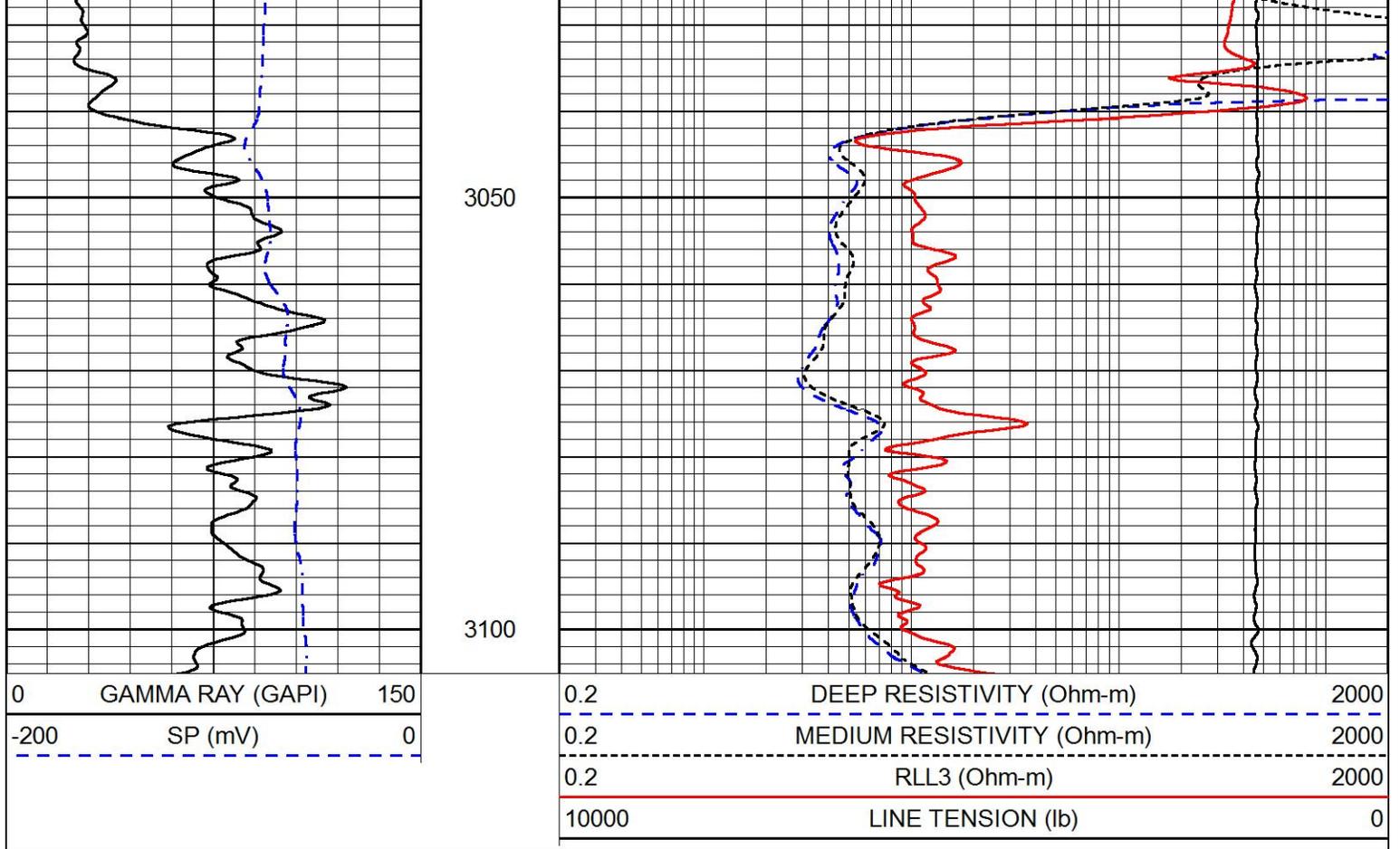



MAIN PASS

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 Presentation Format: dil
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 Charted by: Depth in Feet scaled 1:240

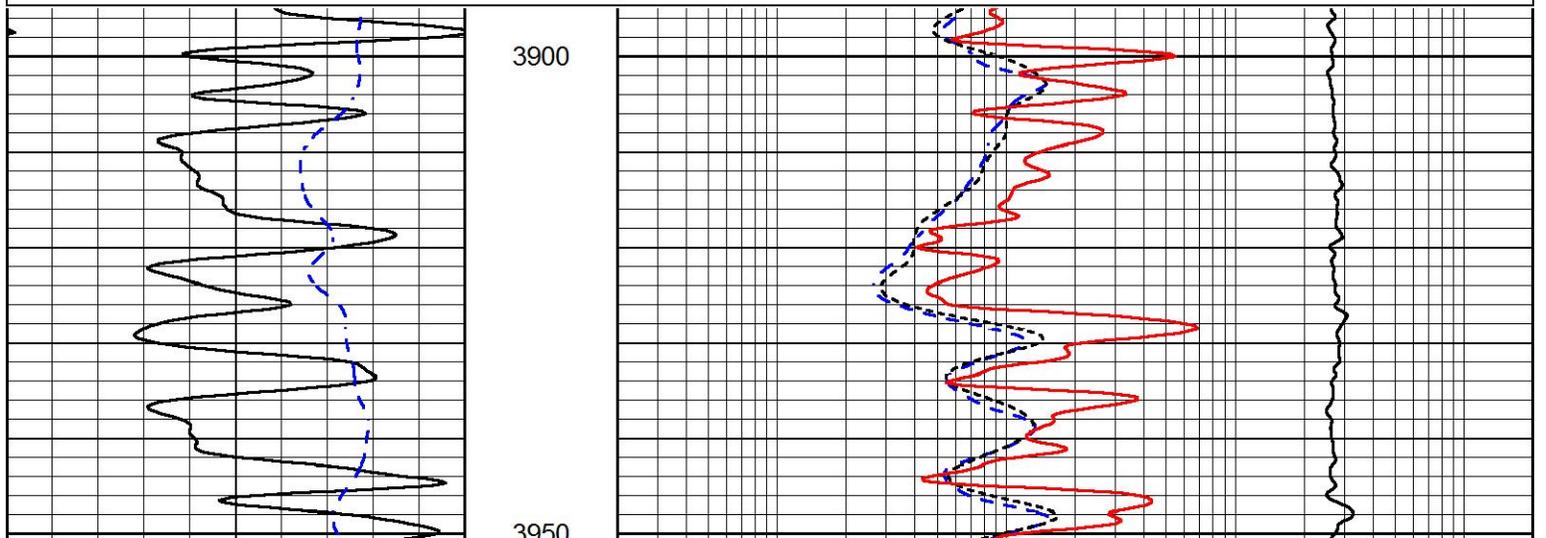
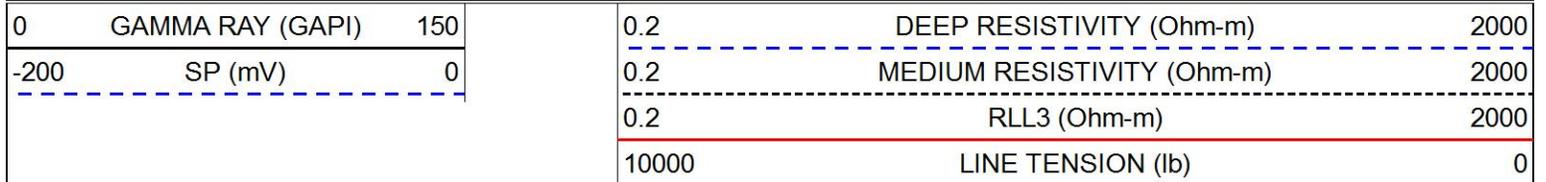
0	GAMMA RAY (GAPI)	150	0.2	DEEP RESISTIVITY (Ohm-m)	2000
-200	SP (mV)	0	0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
			0.2	RLL3 (Ohm-m)	2000
			10000	LINE TENSION (lb)	0

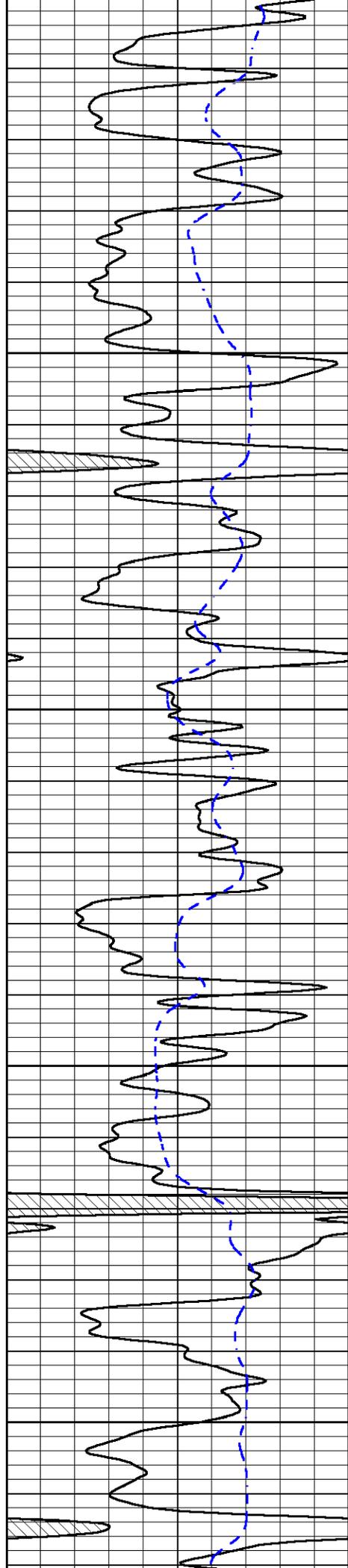




MAIN PASS

Database File chizum_lazyheart#1-26.db
 Dataset Pathname STKML/pass6.1
 Presentation Format dil
 Dataset Creation Fri May 04 03:37:45 2018
 Charted by Depth in Feet scaled 1:240





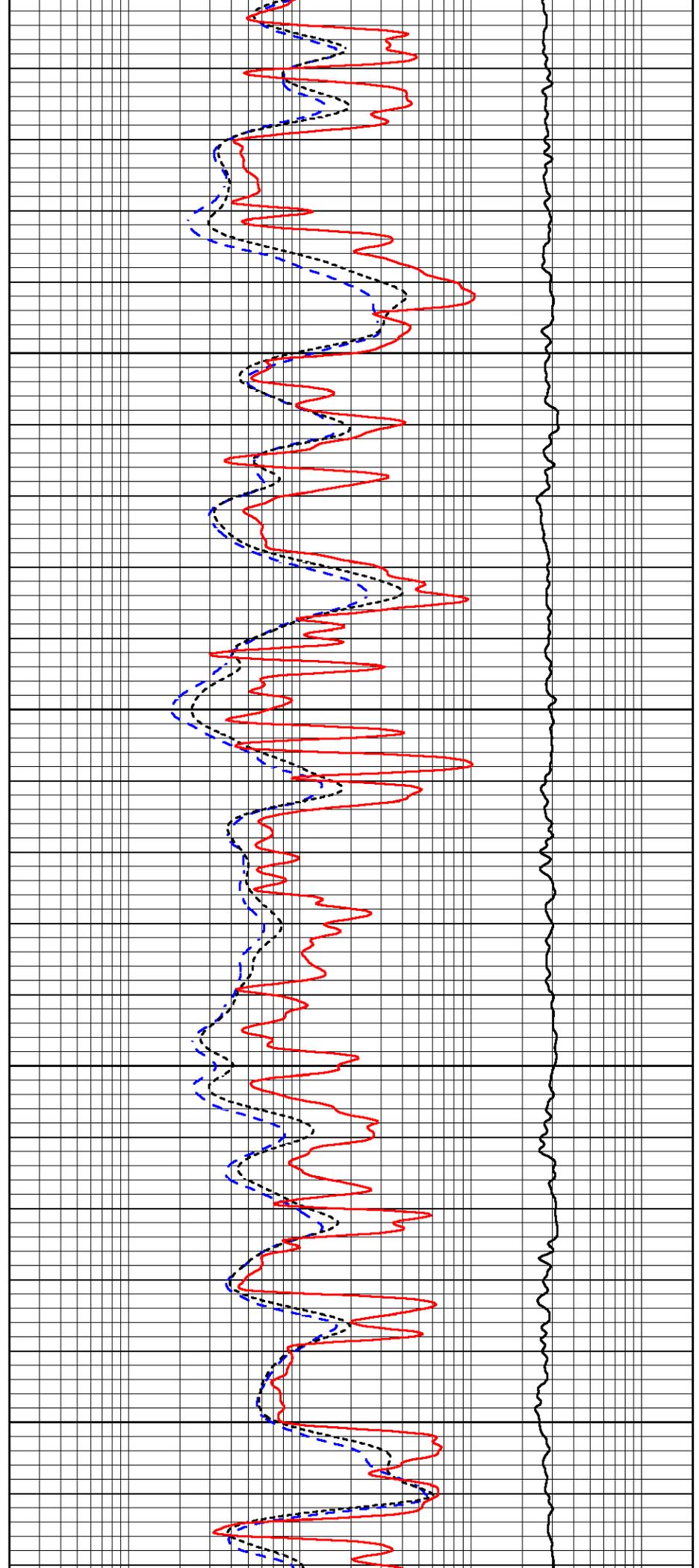
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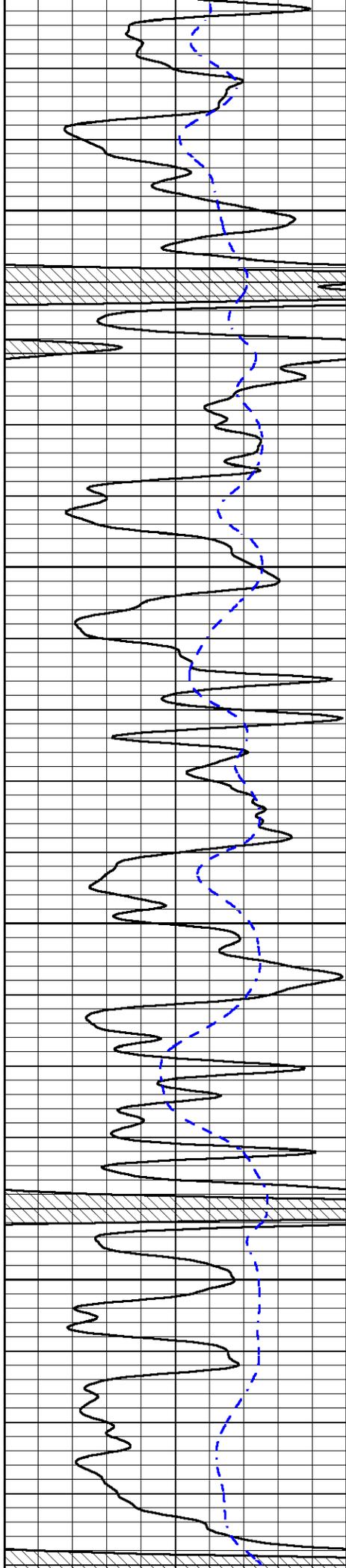
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4050

4100

4150



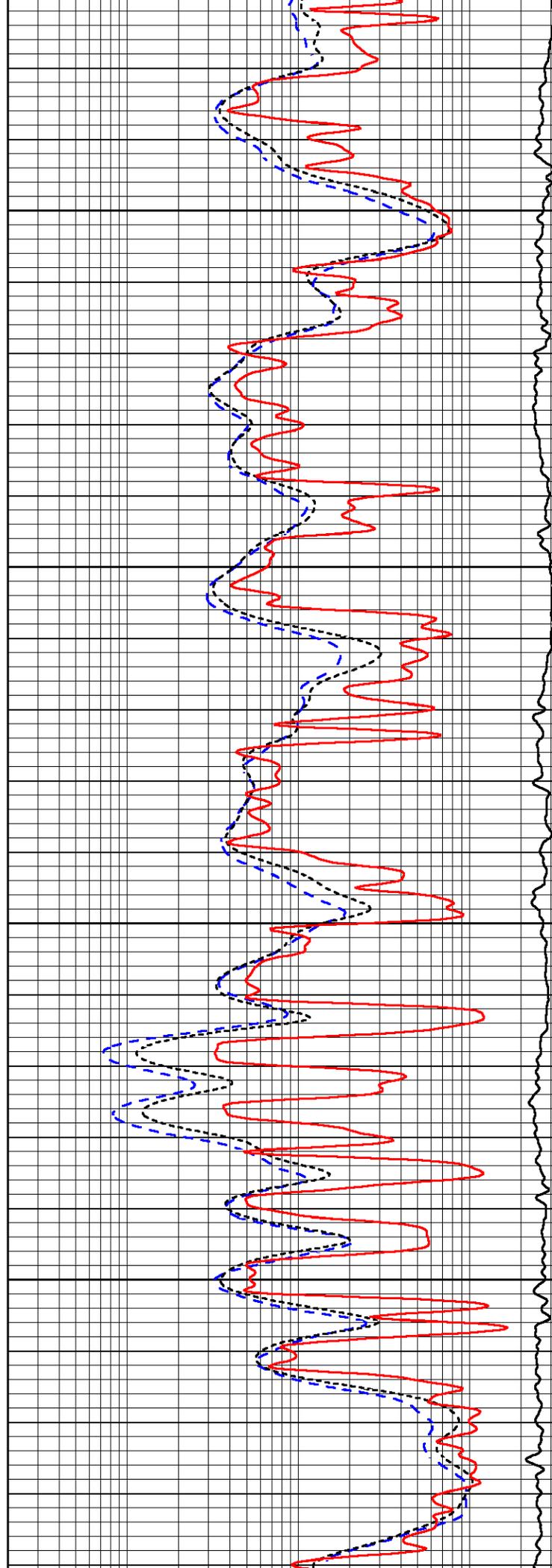


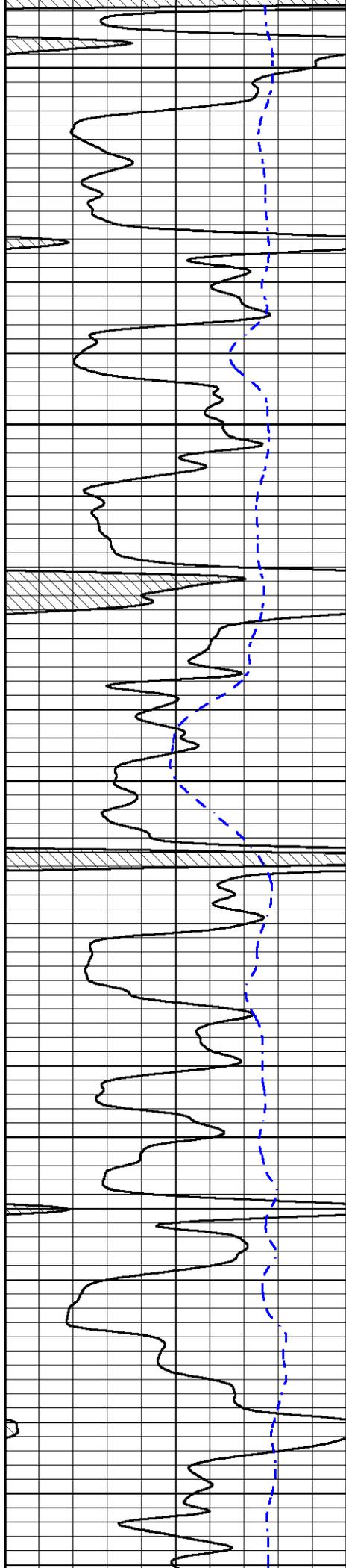
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4250

4300

4350





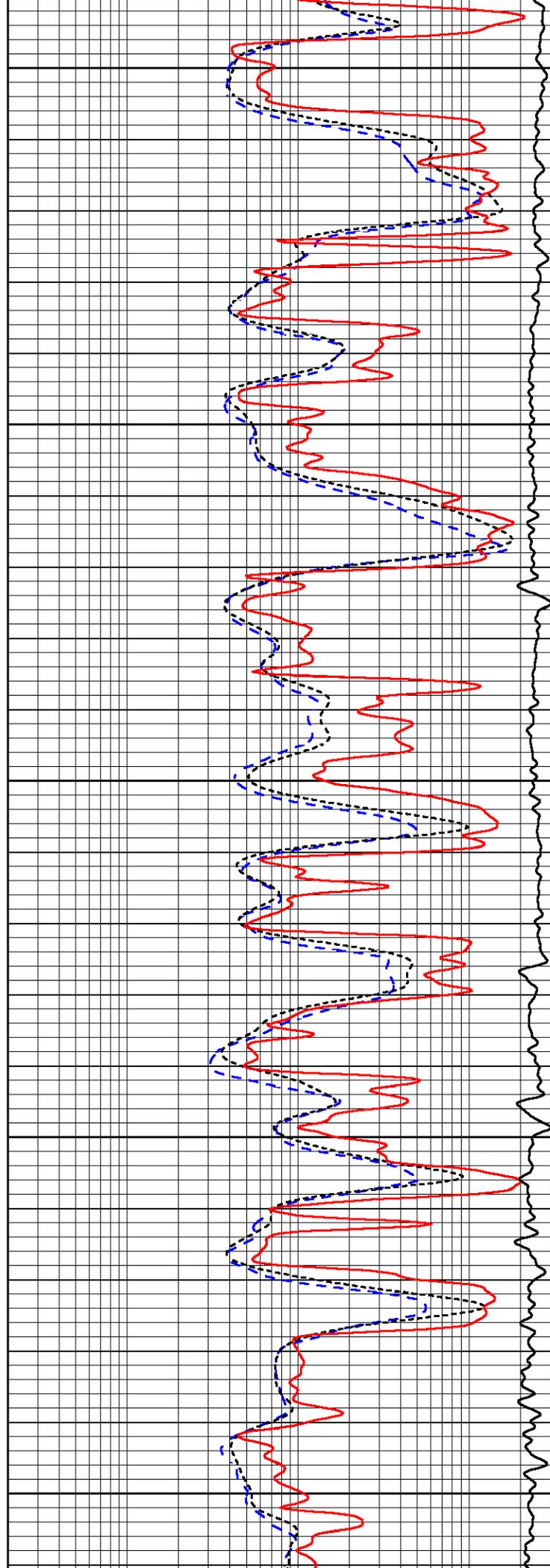
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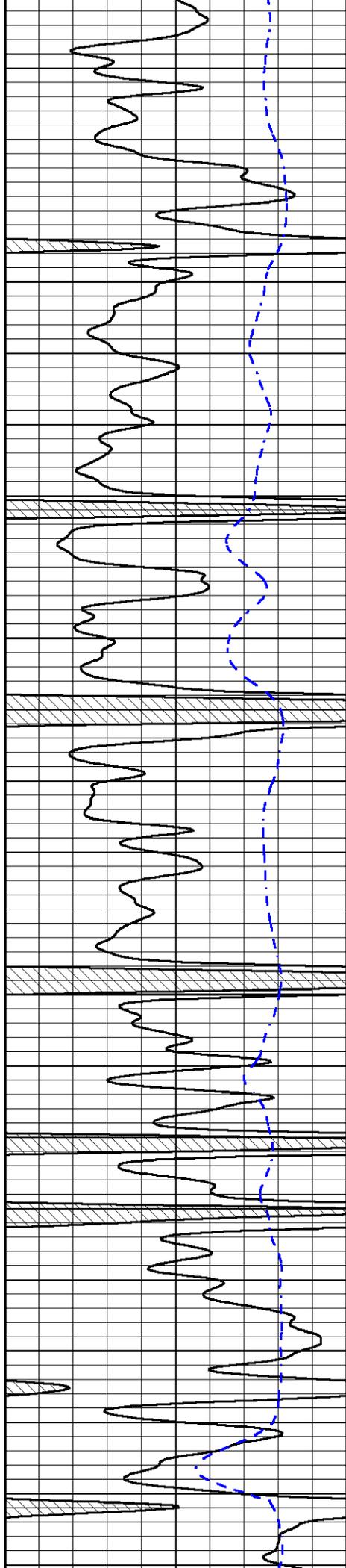
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4600



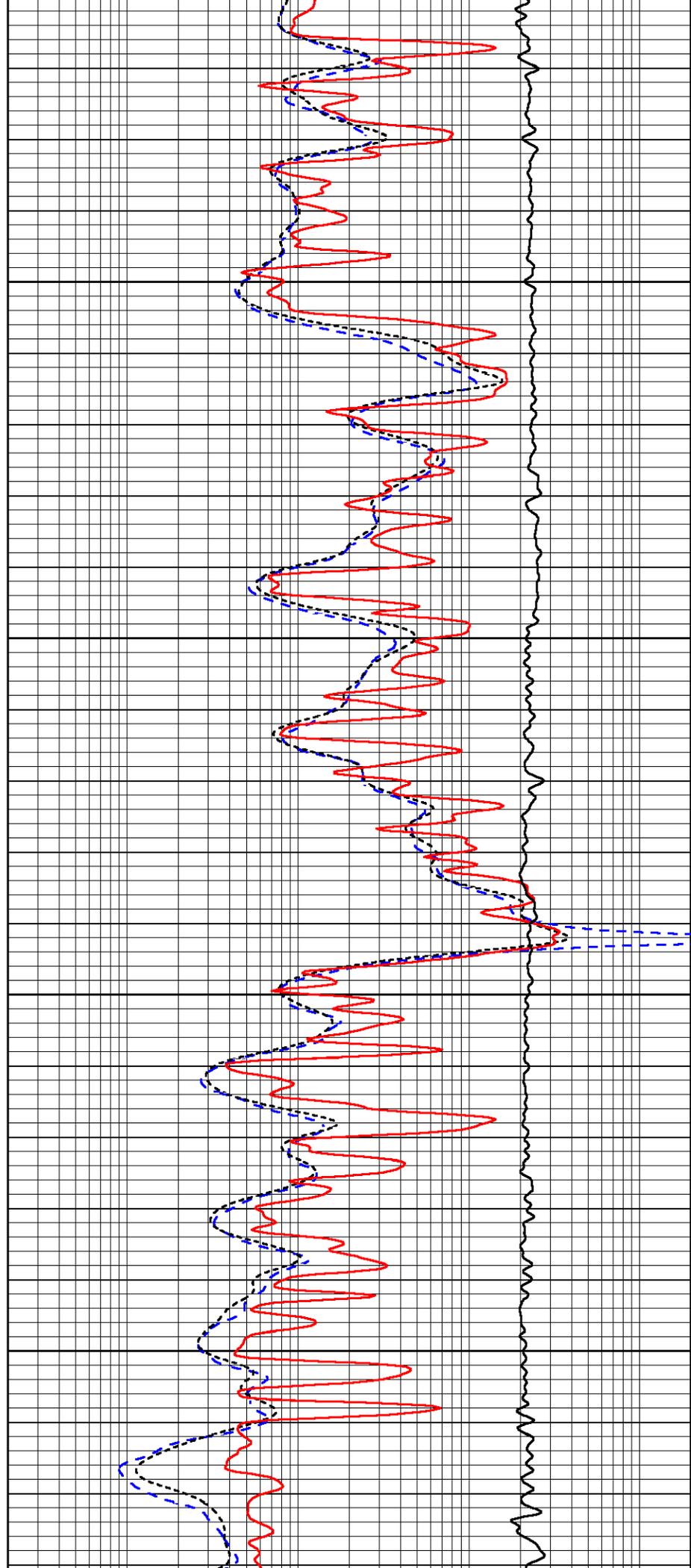


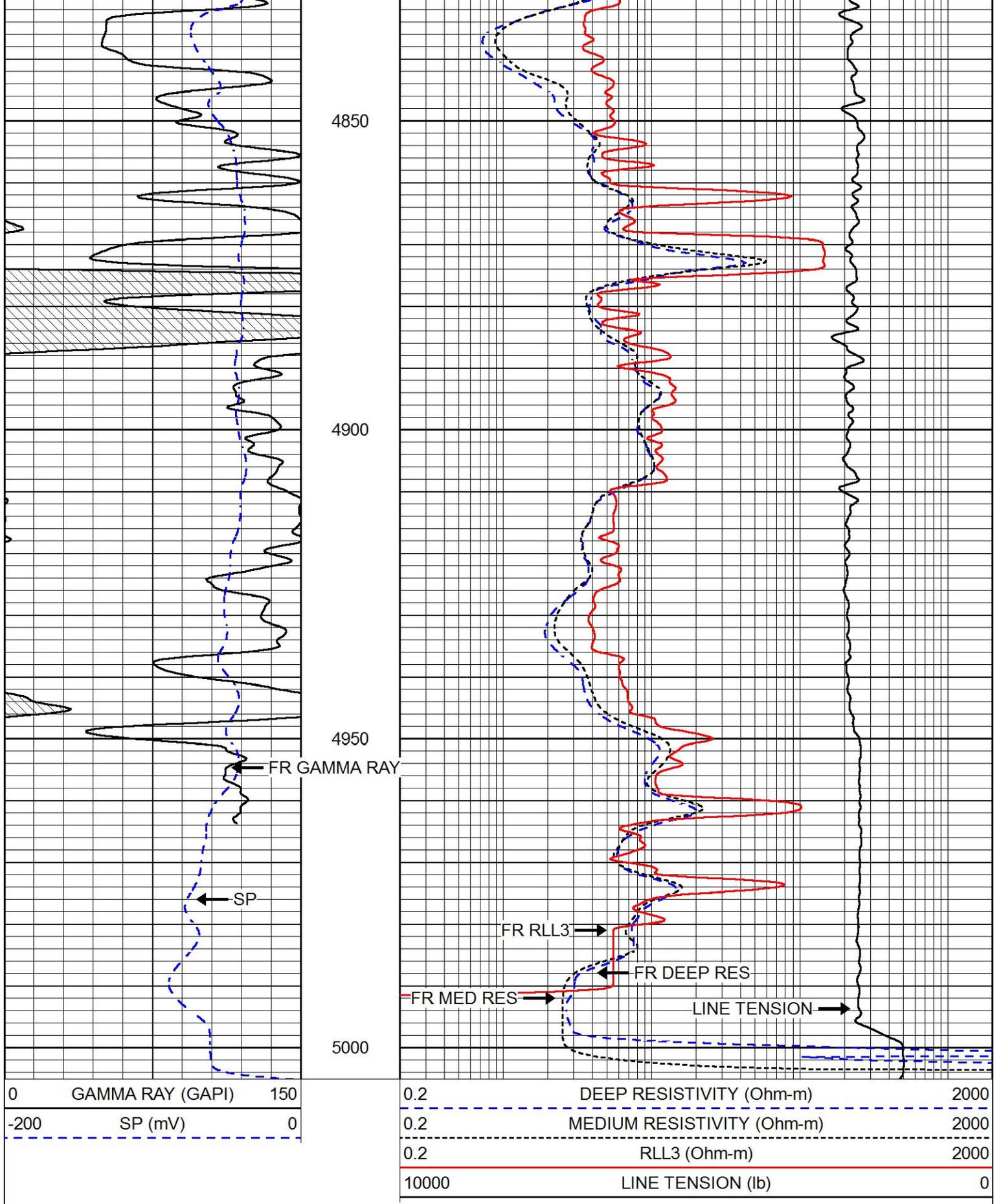
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4700

4750

4800



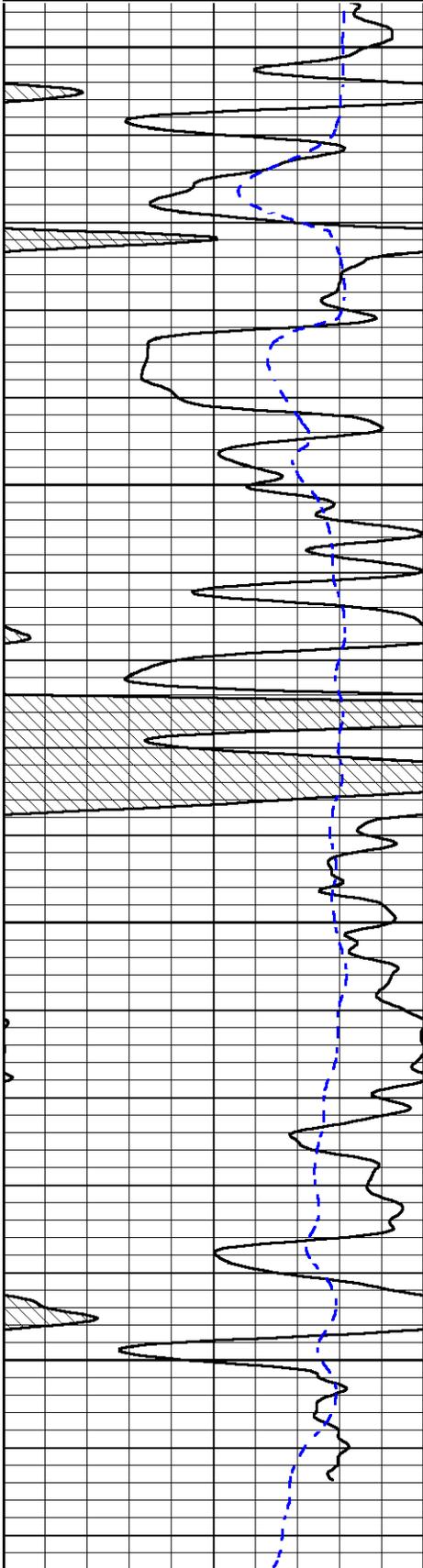


REPEAT SECTION

Database File chizum_lazyheart#1-26.db
 Dataset Pathname STKML/pass3.1
 Presentation Format dil
 Dataset Creation Fri May 04 02:51:03 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

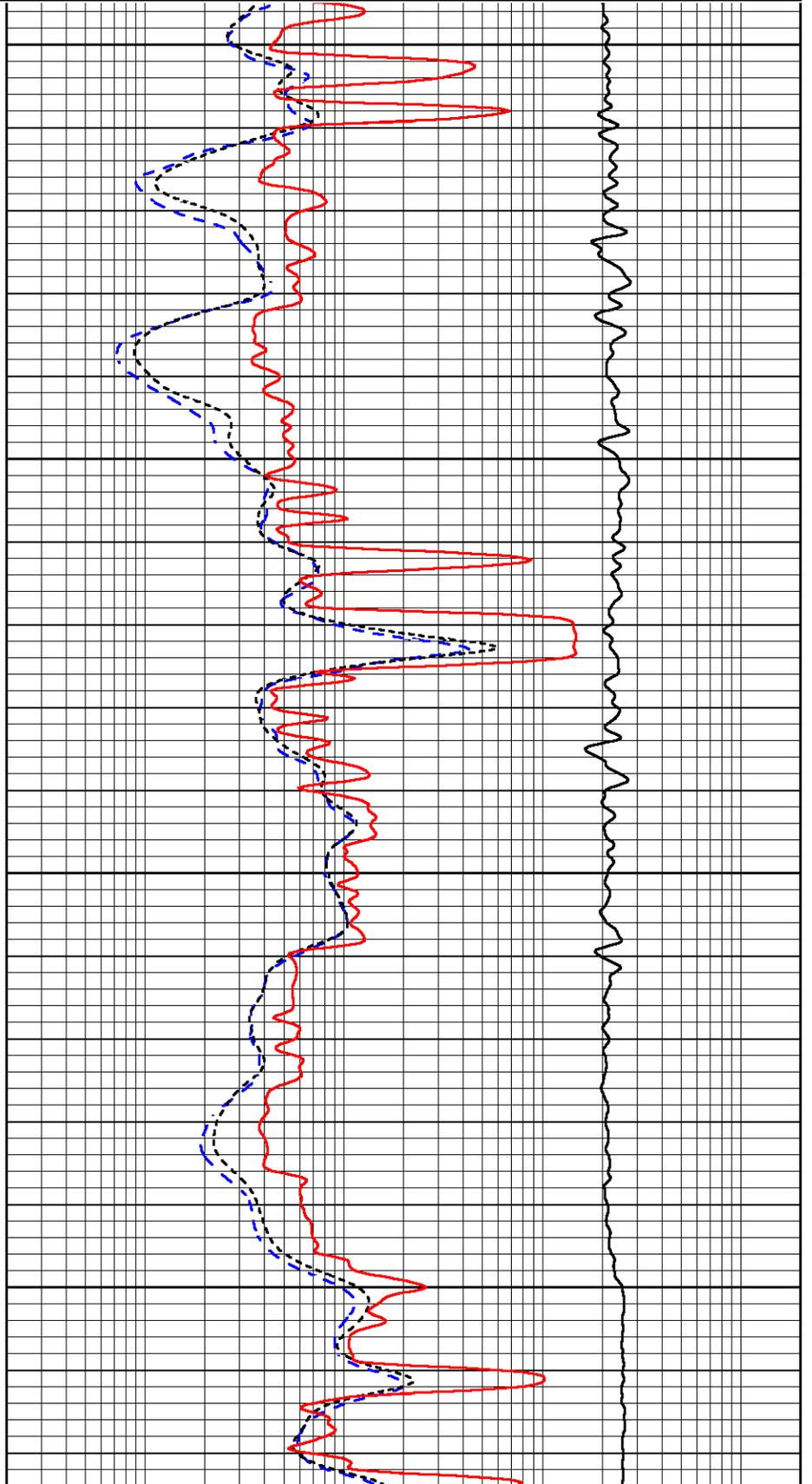


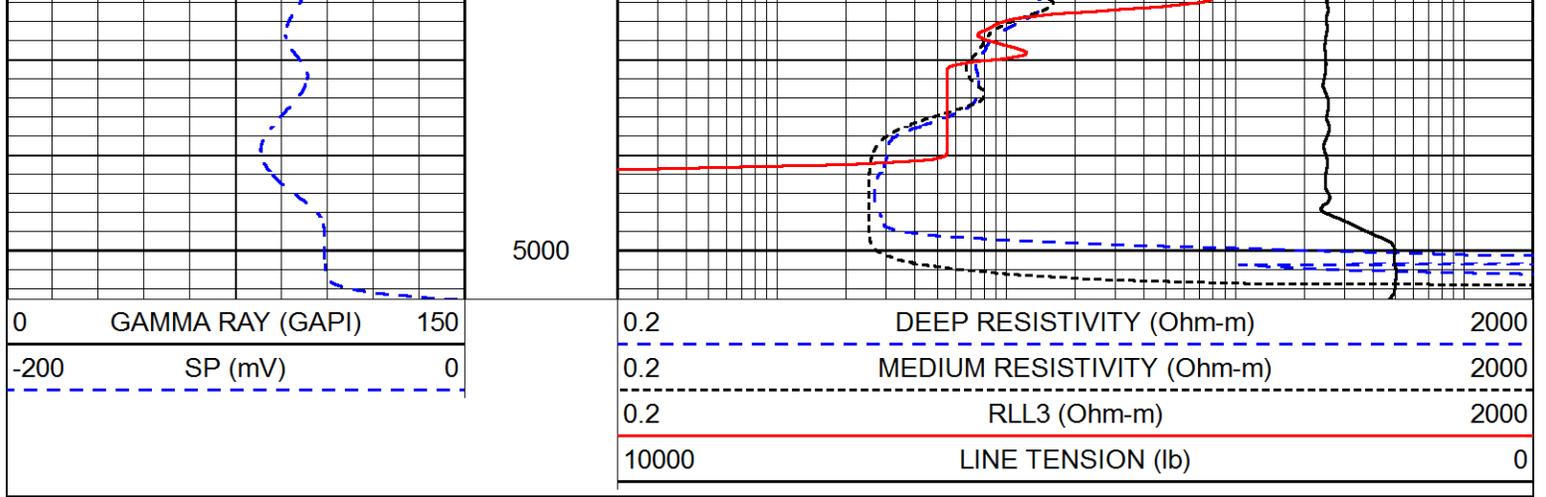
4800

4850

4900

4950





Calibration Report

Database File chizum_lazyheart#1-26.db
 Dataset Pathname STKML/pass5.1
 Dataset Creation Fri May 04 02:48:44 2018

Dual Induction Calibration Report

Serial-Model: 967 (HT)-PSI HIGH TEMP
 Calibration Performed: Fri Mar 09 21:20:21 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.565	-16.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.390	-40.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Mon Apr 16 11:11:21 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	60000.0000	-2.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	73500.0000	-1.4000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.8500

Compensated Density Calibration Report

Serial-Model: 227-771-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Fri Mar 09 21:14:39 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4919.18	6345.34	cps
Aluminum	2.670	g/cc	911.94	4081.94	cps

Spine Angle = 75.33

Density/Spine Ratio = 0.525

	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 APR 16 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	CHIZUM OIL, LLC
Well	LAZY HEART #1-26
Field	WILDCAT
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