



DUAL INDUCTION LOG

PIONEER
Pioneer Energy Services

Company **CARMEN SCHMITT, INC.**
Well **WP UNIT #5-7**
Field **WILDCAT**
County **TREGO** State **KANSAS**

Location: API #: 15-195-23053-00-00

Other Services

SEC 7 TWP 14S RGE 25W
2200' FSL & 2310' FWL

CNL/CDL
MEL

Permanent Datum GROUND LEVEL Elevation 2424'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2429'
D.F. N/A
G.L. 2424'

Date 05/21/2018

Run Number	ONE		
Depth Driller	4340'		
Depth Logger	4343'		
Bottom Logged Interval	4342'		
Top Log Interval	200'		
Casing Driller	8.625" @ 217'		
Casing Logger	216'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	2000		
Density / Viscosity	9.3 57		
pH / Fluid Loss	10.5 6.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.70 @ 68		
Rmt @ Meas. Temp	0.53 @ 68		
Rmc @ Meas. Temp	0.95 @ 68		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	0.40 @ 119		
Operating Rig Time	3 HOURS		
Max Rec. Temp. F	119		
Equipment Number	91		
Location	HAYS		
Recorded By	IAN MABB		
Witnessed By	BRAD RINE		

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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.

COLLYER KANSAS,
SOUTH TO U ROAD, WEST TO FIRST TANK BATTERIES,
NORTH INTO

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

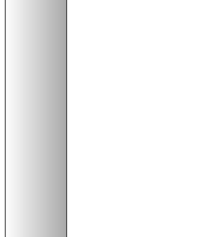
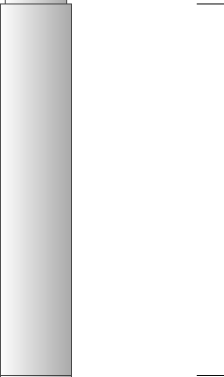
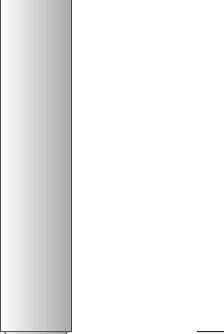
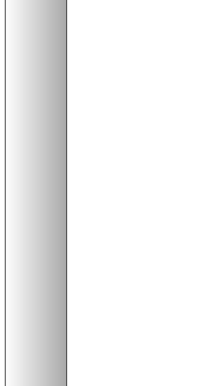
Engineer: IAN MABB
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: BRAD RINE
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	0	0
SNDERR mmho/m 0	SRFTEMP degF 68	CASETHCK in 0	CASEOD in 5.5	PERFS 0	TDEPTH ft 4343	BOTTEMP degF 119	BOREID in 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					

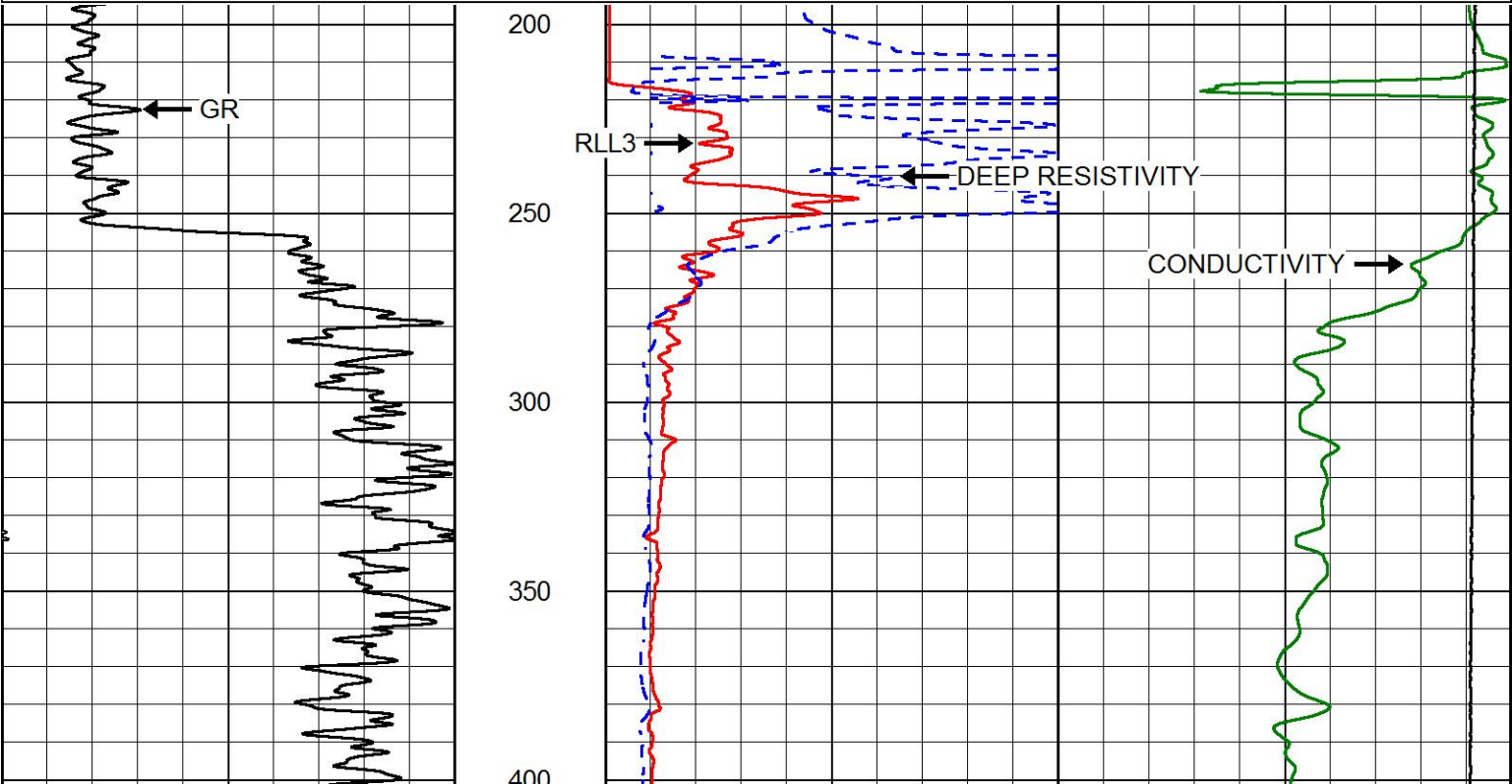
		DIL-PSI HIGH TEMP (933 (HT))		18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: carmen_schmitt_wp_unit_5_7.db: field/well/stkml/pass3.1 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

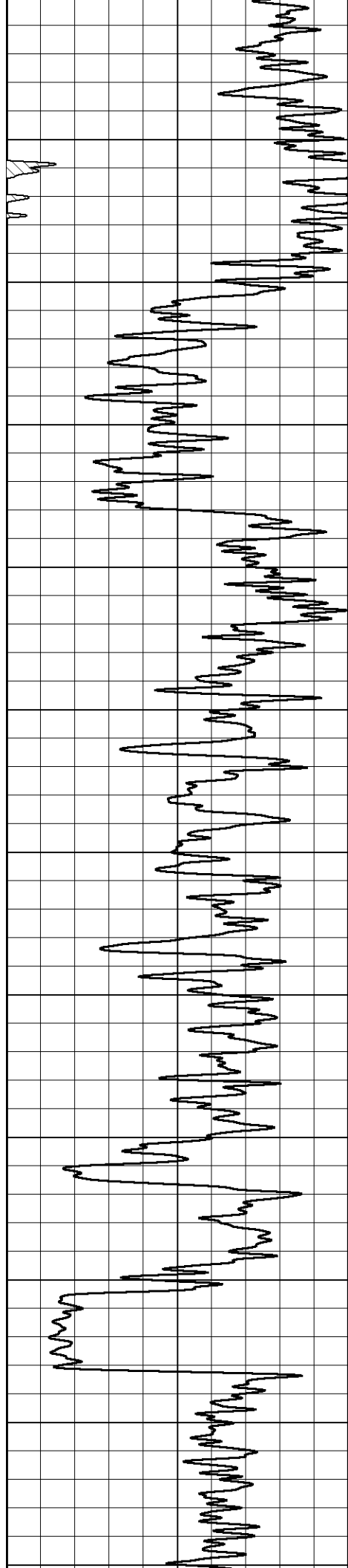


MAIN PASS

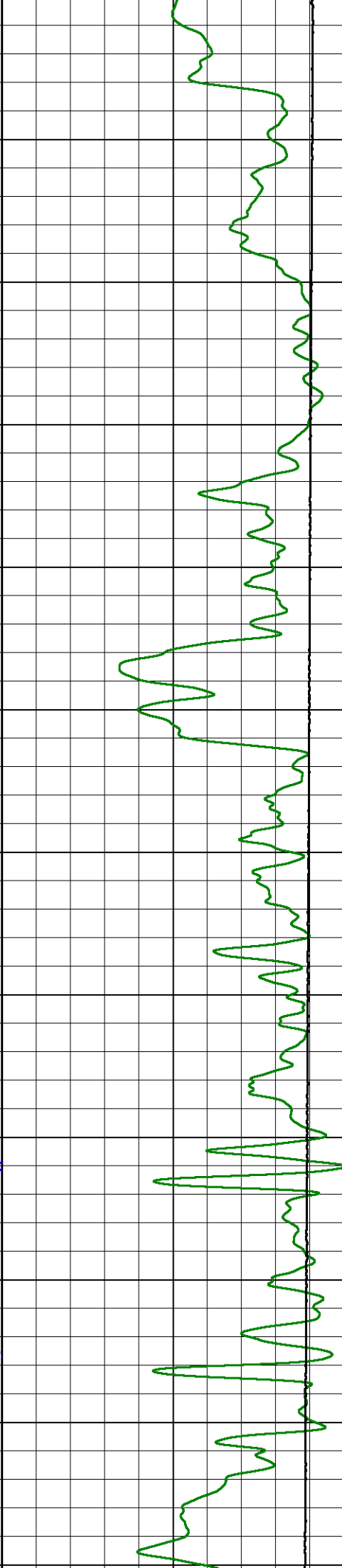
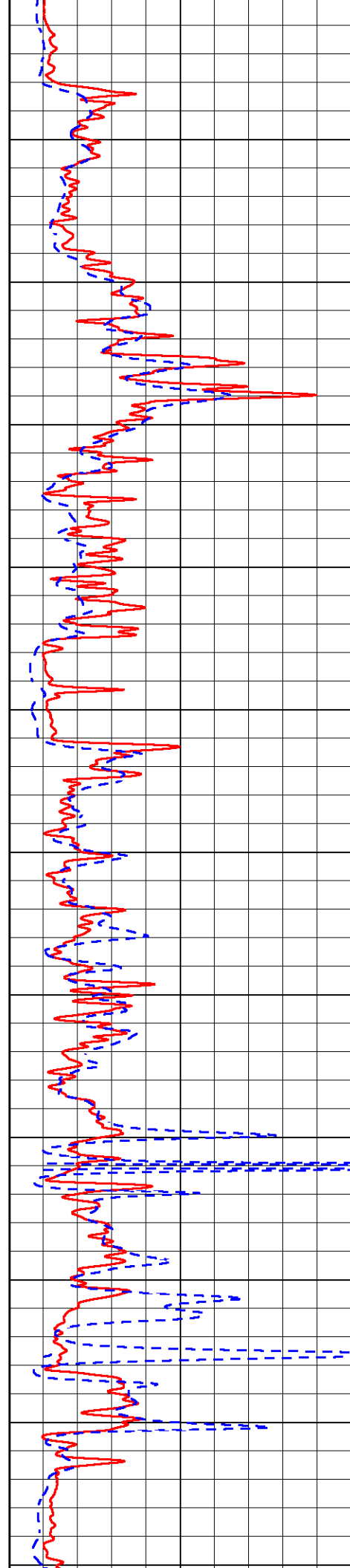
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Presentation Format	dil2in
Dataset Creation	Mon May 21 13:04:17 2018
Charted by	Depth in Feet scaled 1:600

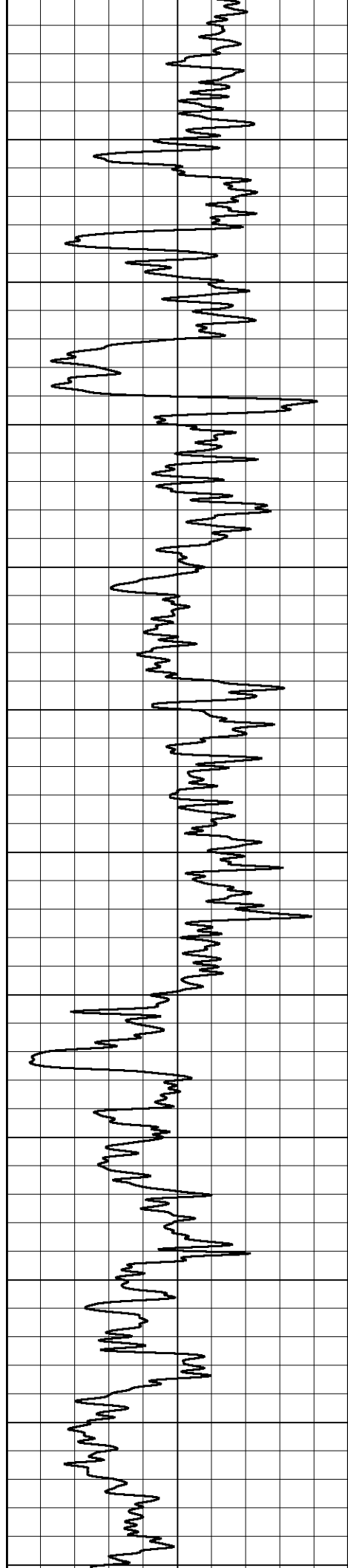
GAMMA RAY 0 (GAPI) 150	1000	CONDUCTIVITY (mmho/m)	0
	15000	Line Tension (lb)	0
	0	RLL3 (Ohm-m)	50
	0	DEEP RESISTIVITY (Ohm-m)	50
	50	RLL3 (Ohm-m)	500
	50	Deep Resistivity (Ohm-m)	500



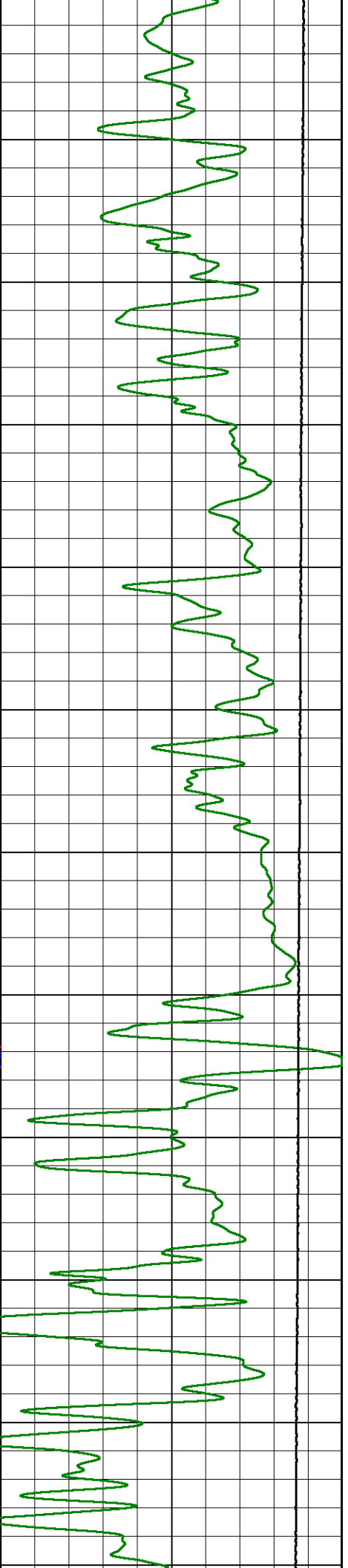
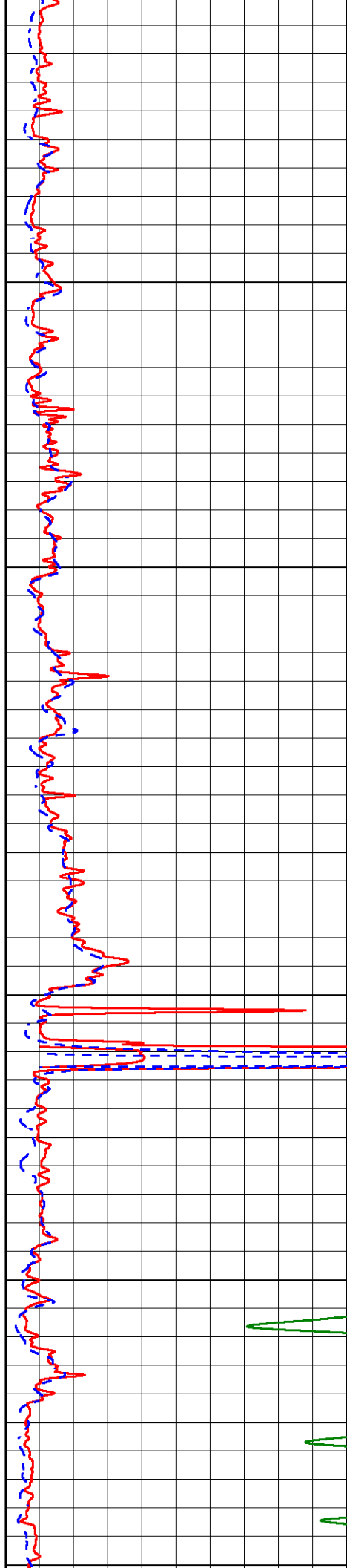


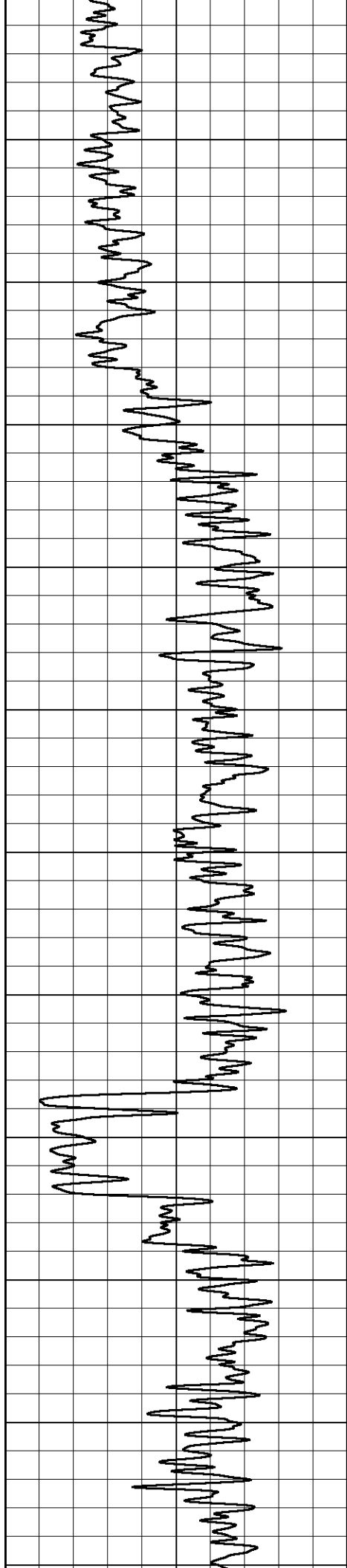
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450
500
550
600
650
700
750
800
850
900
950



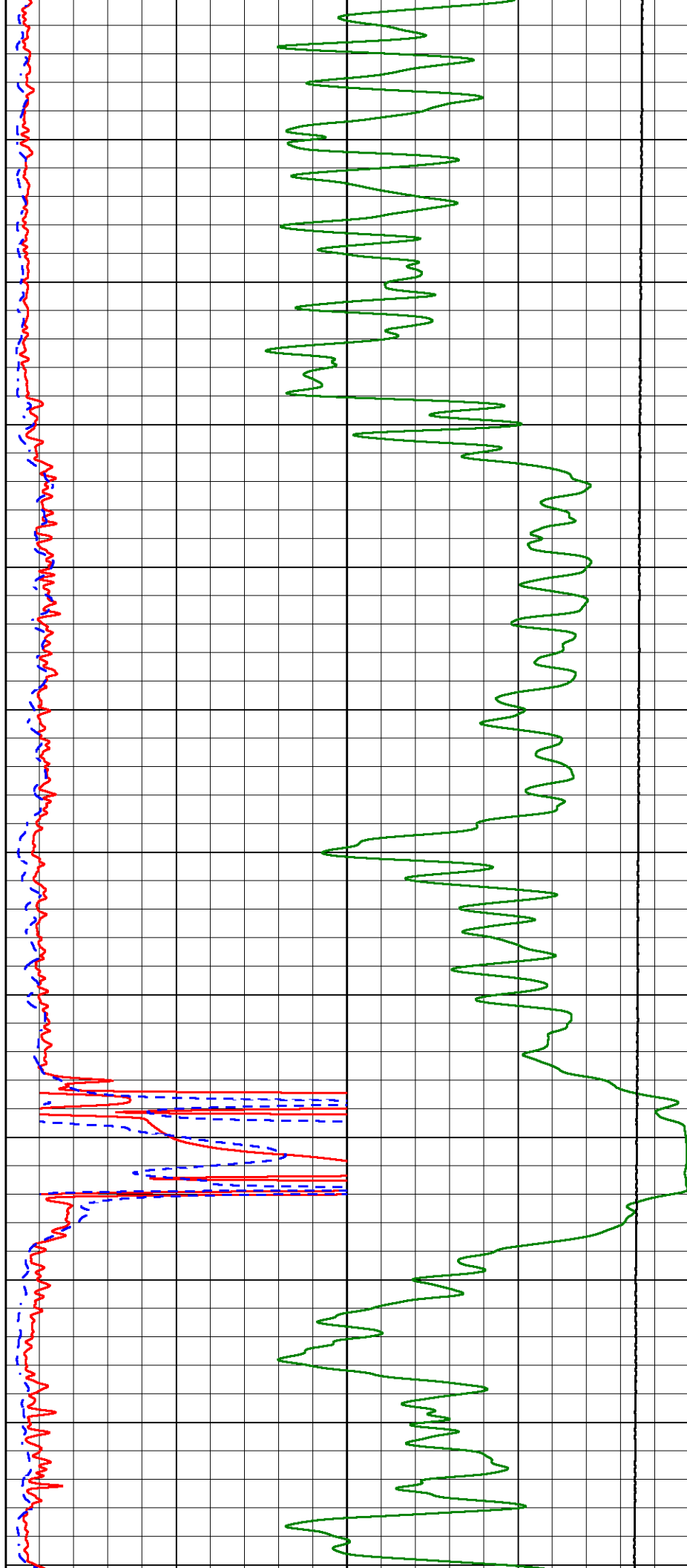


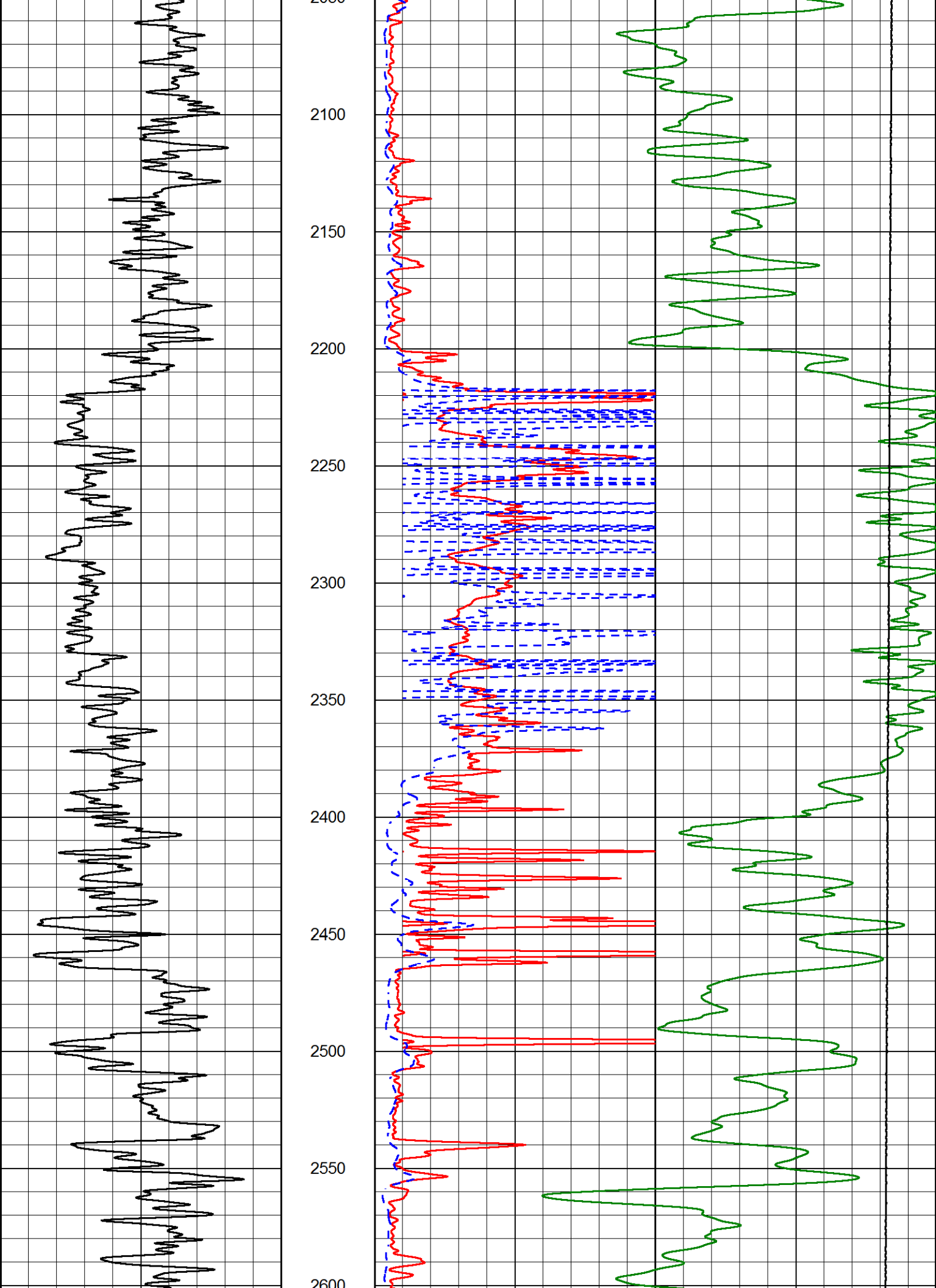
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1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

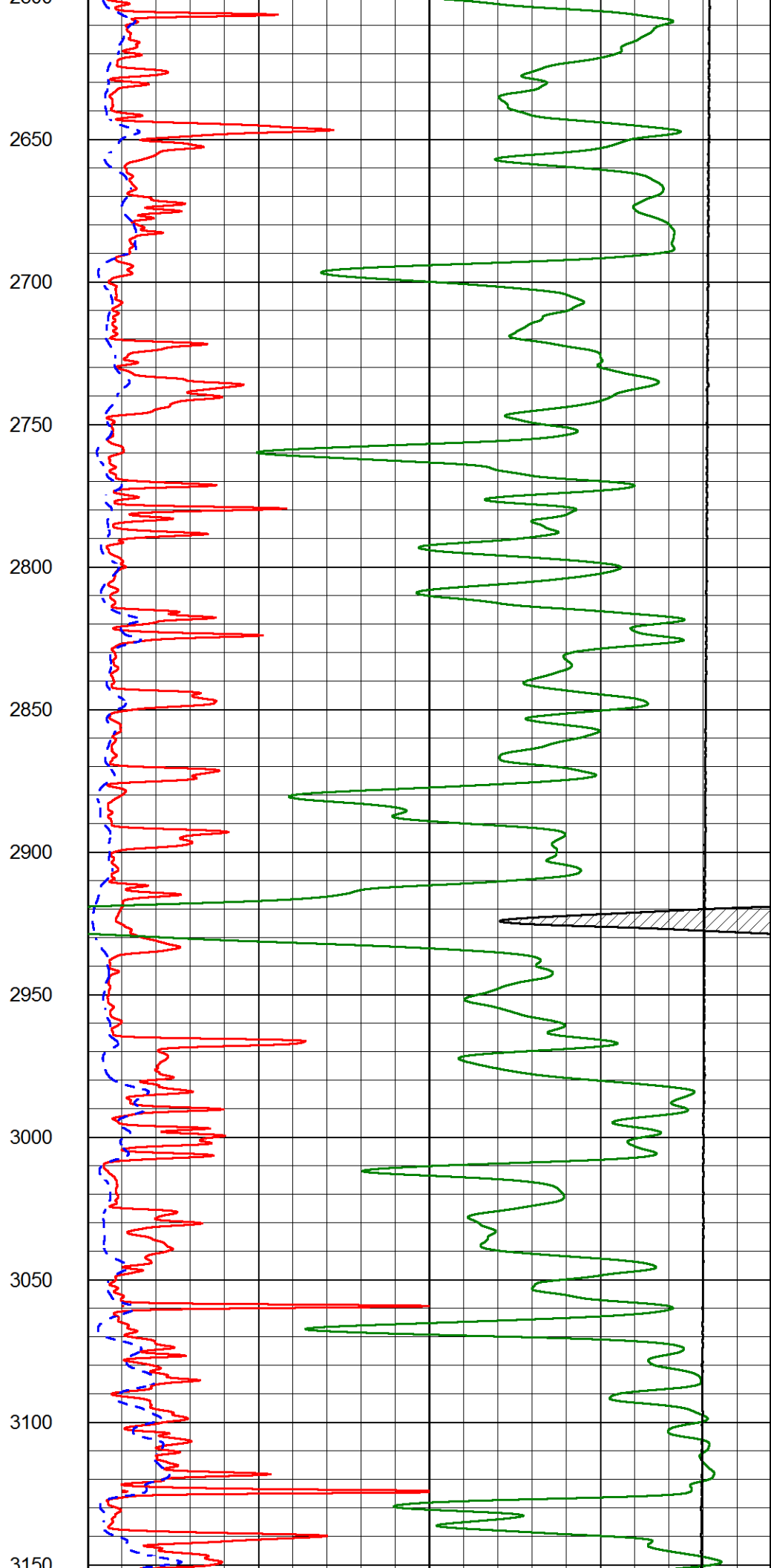
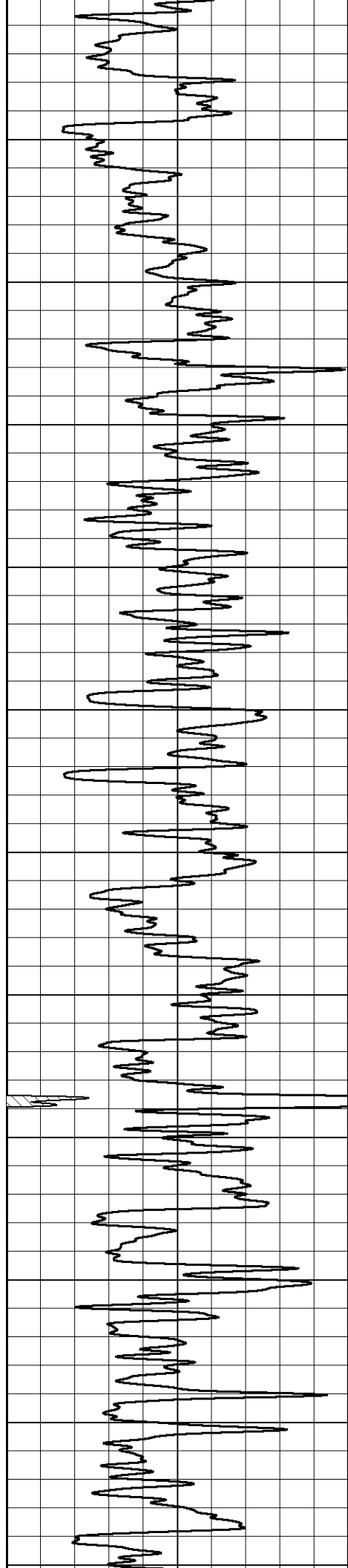


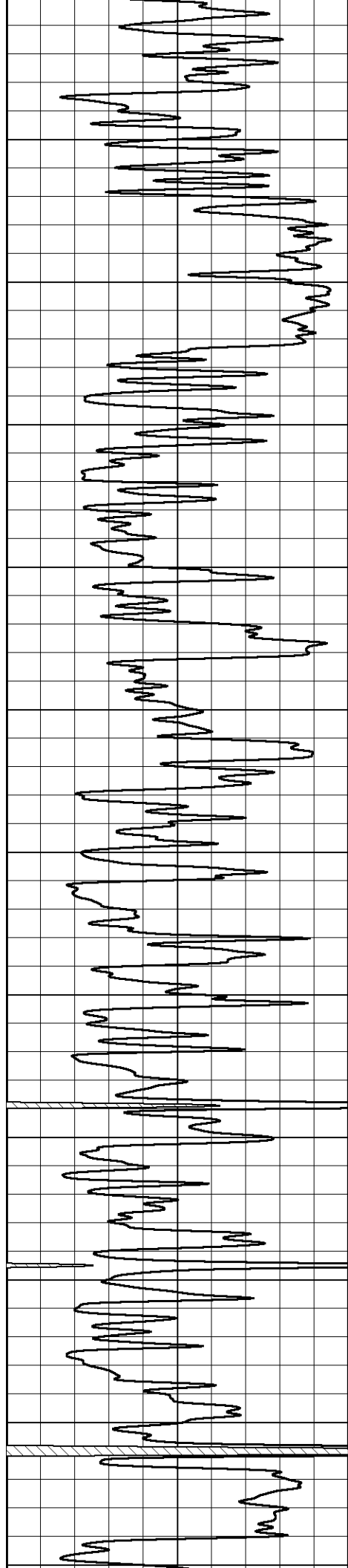


1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050

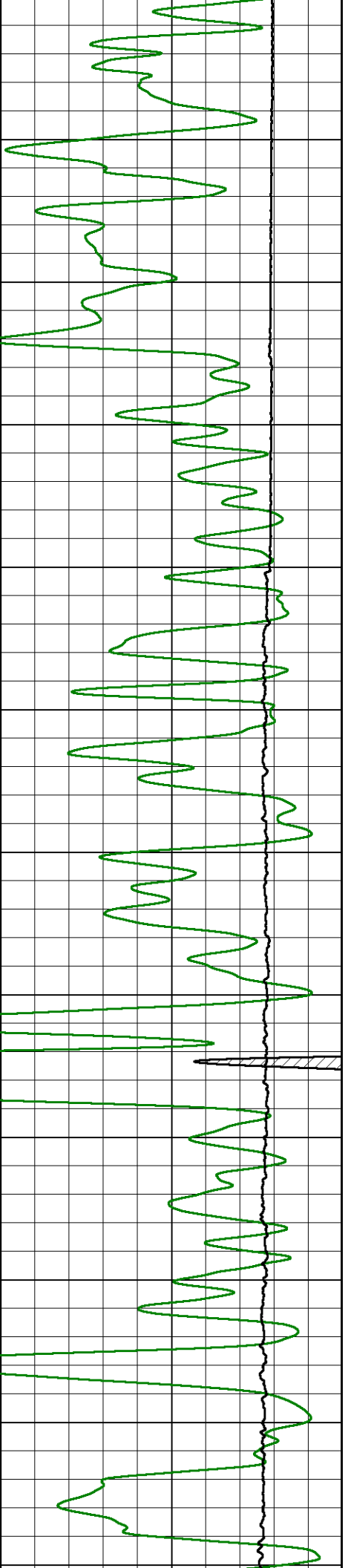
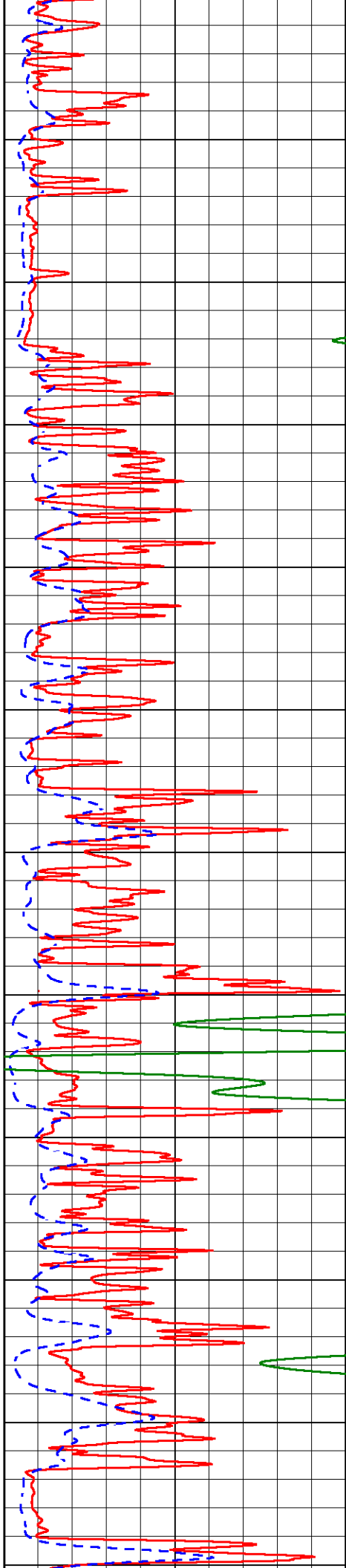


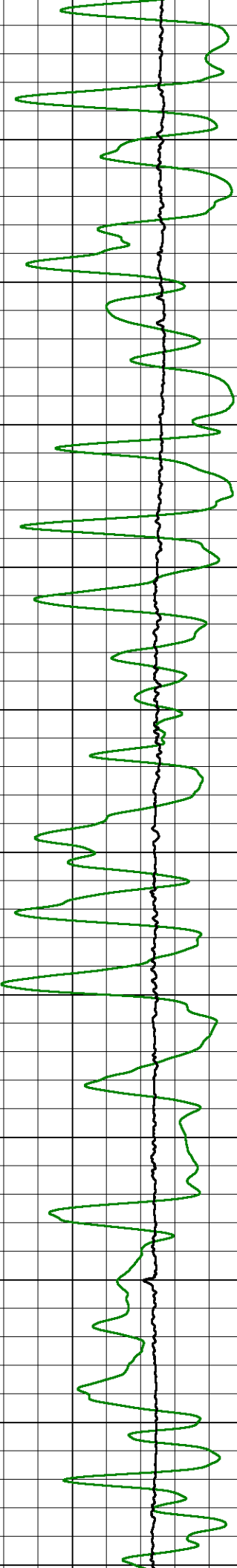
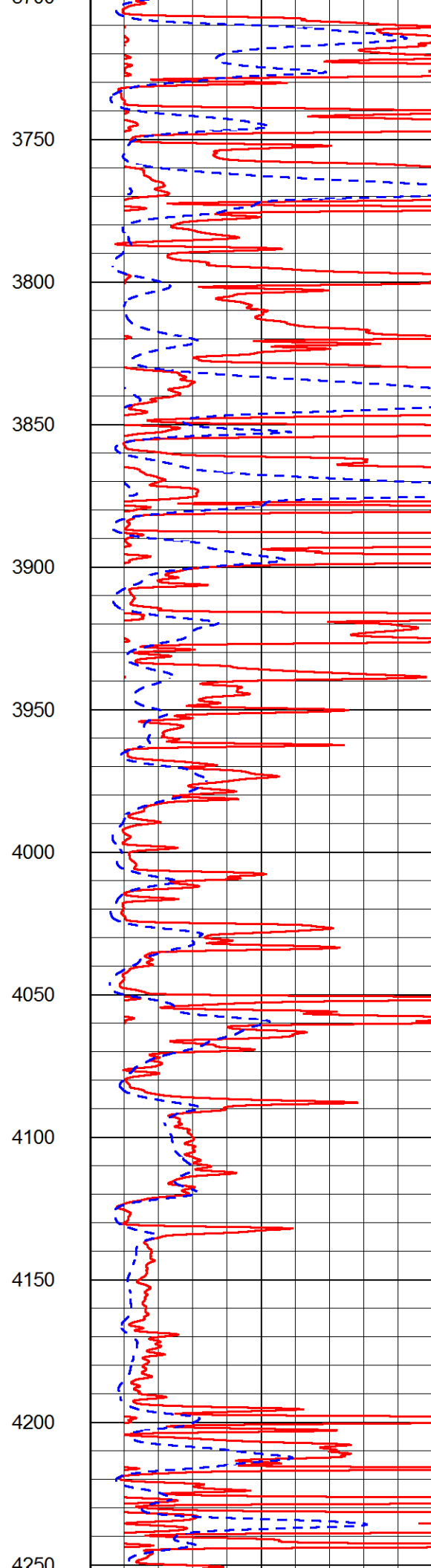
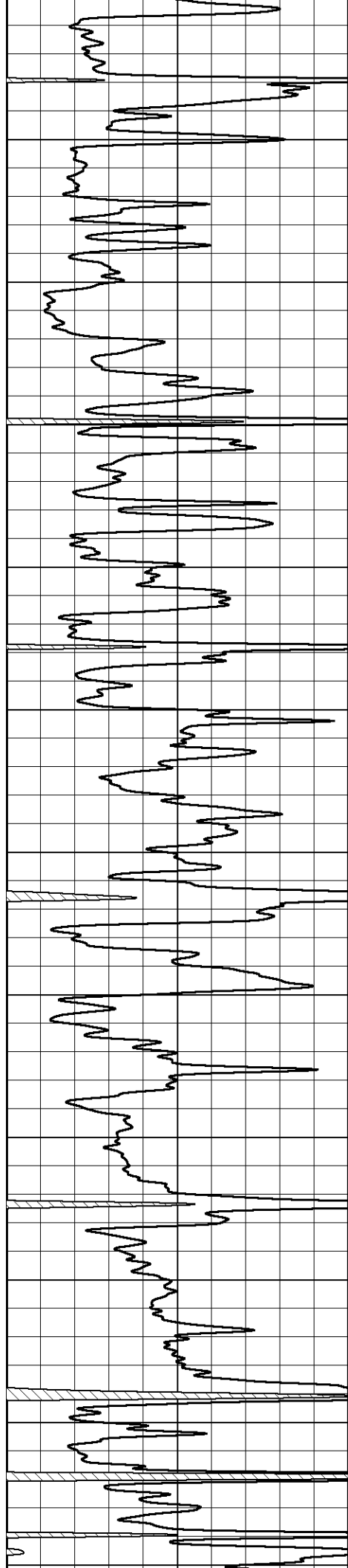


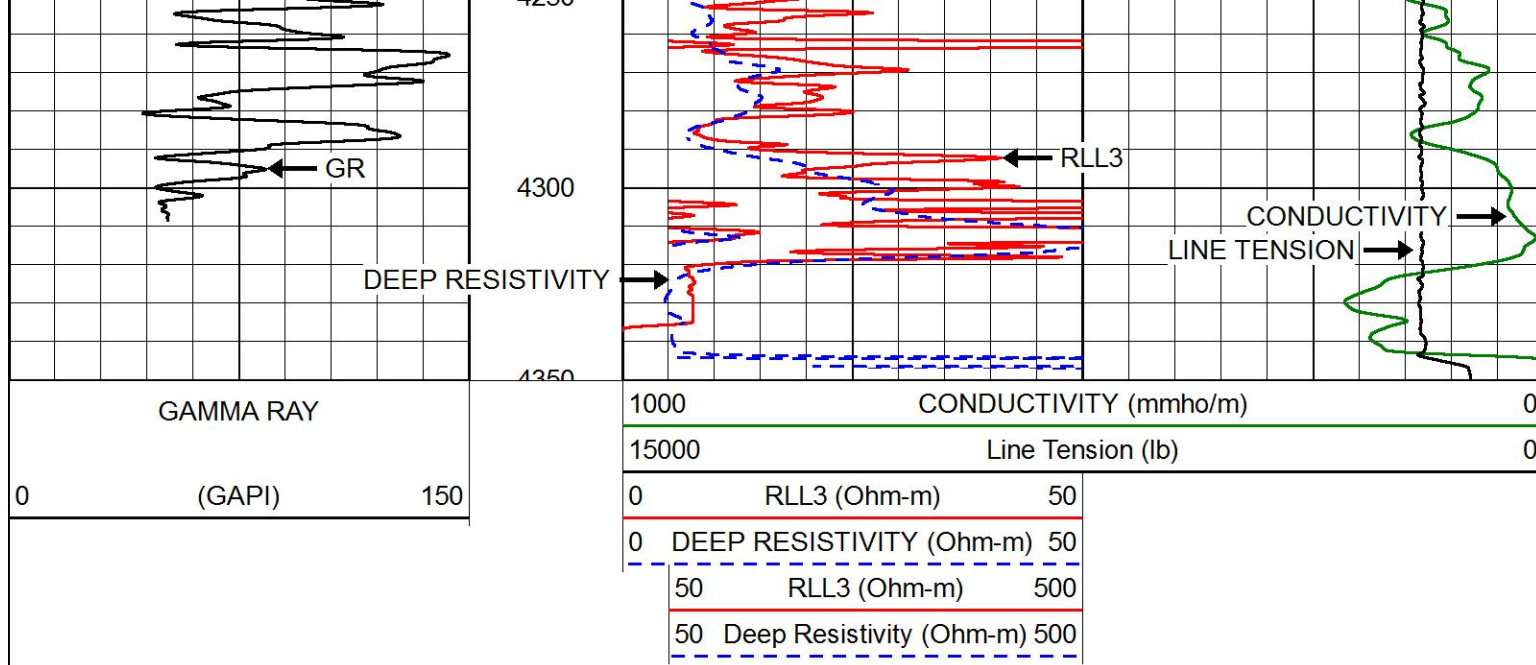




3100
3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700



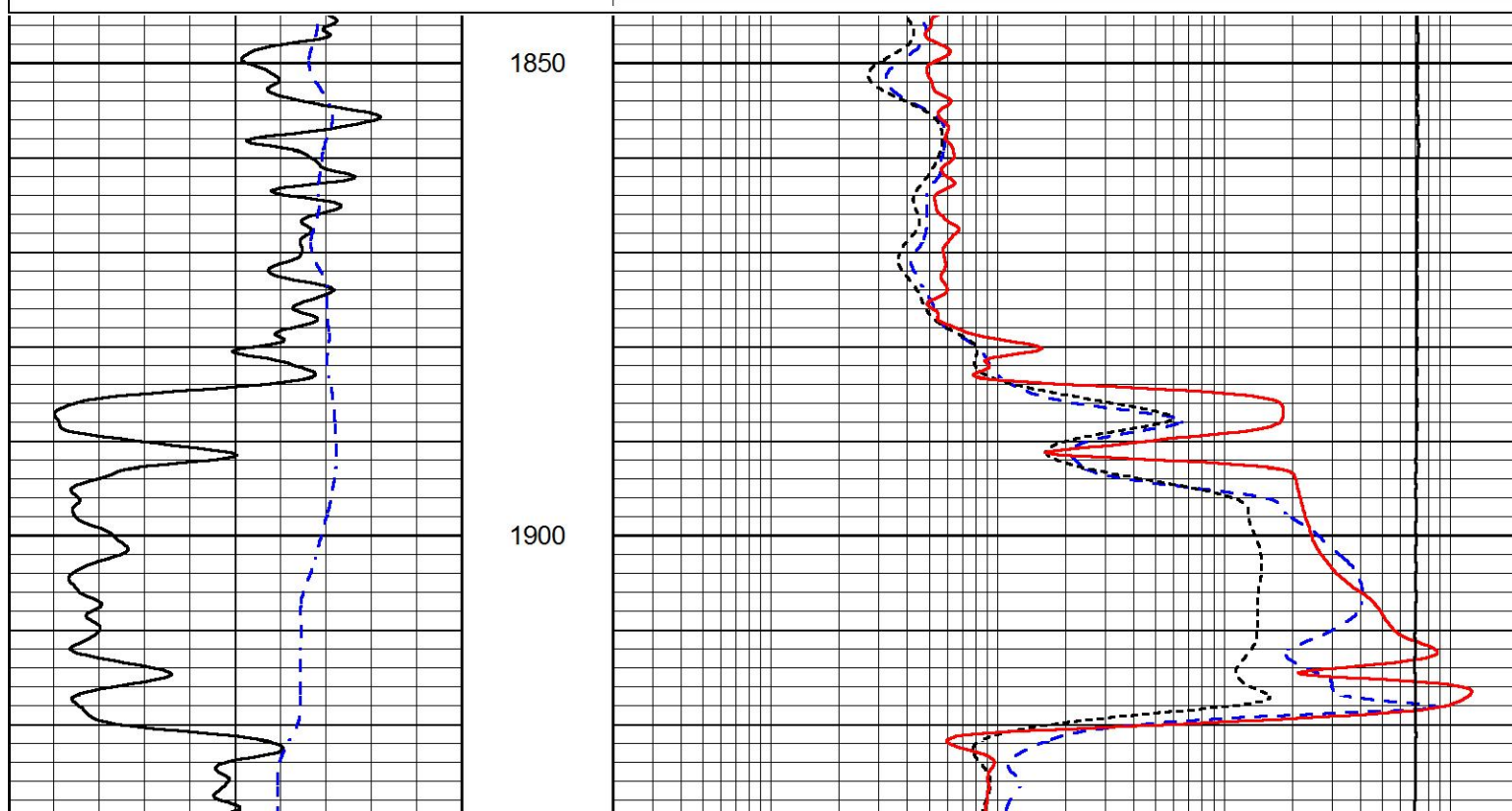


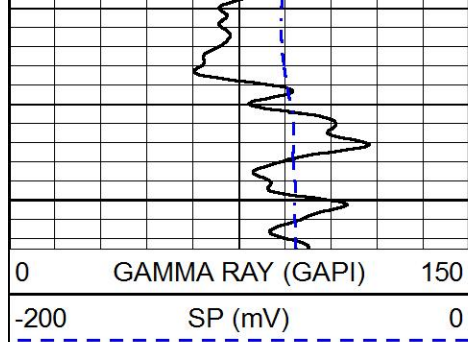


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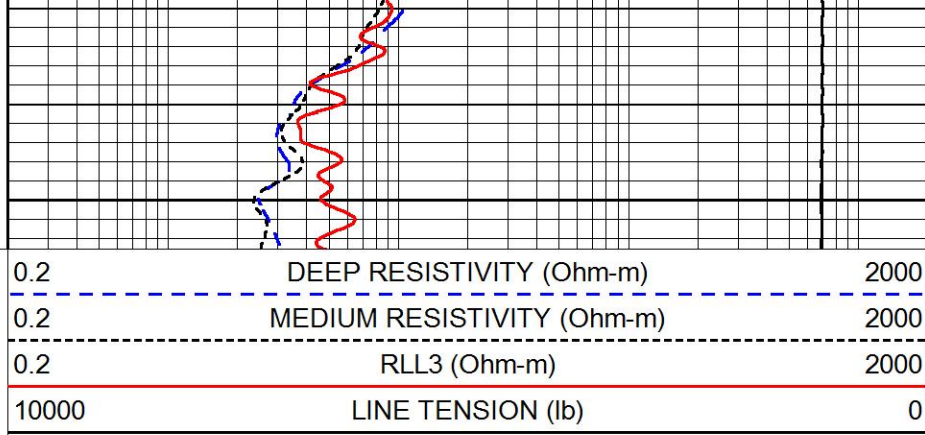
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Dataset Pathname	stkml/pass4.1
Presentation Format	dil
Dataset Creation	Mon May 21 13:04:17 2018
Charted by	Depth in Feet scaled 1:240

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



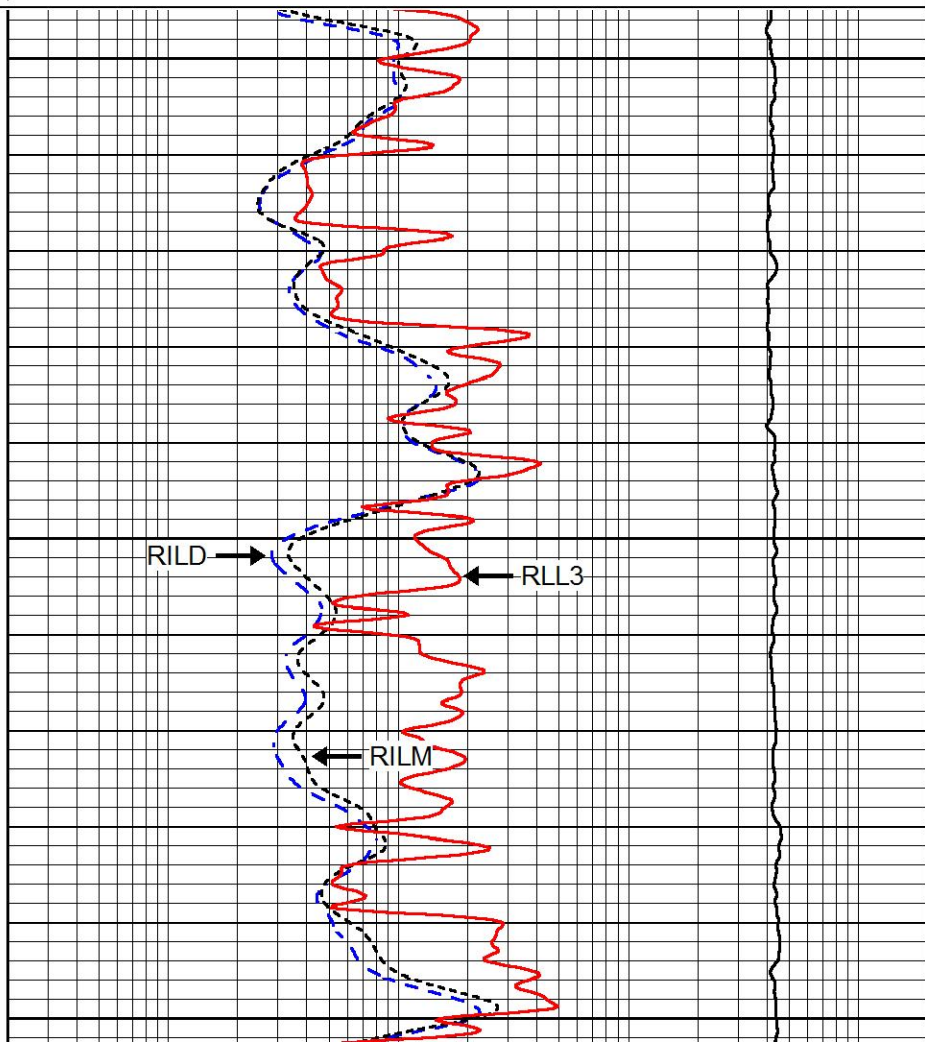
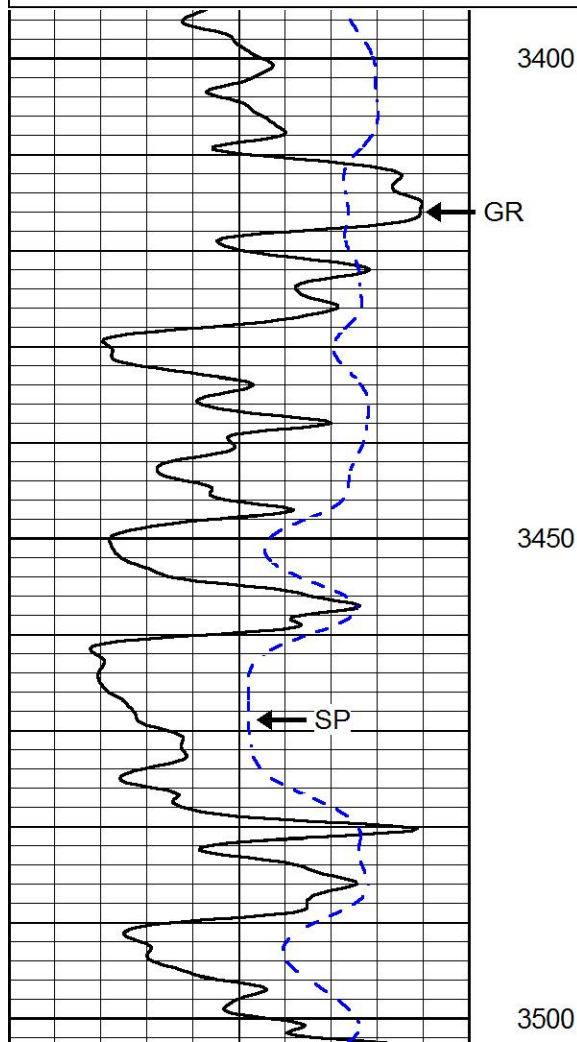
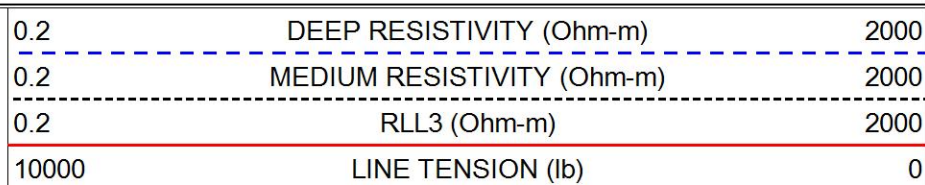
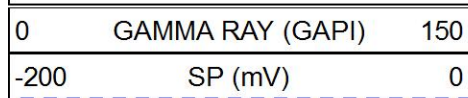


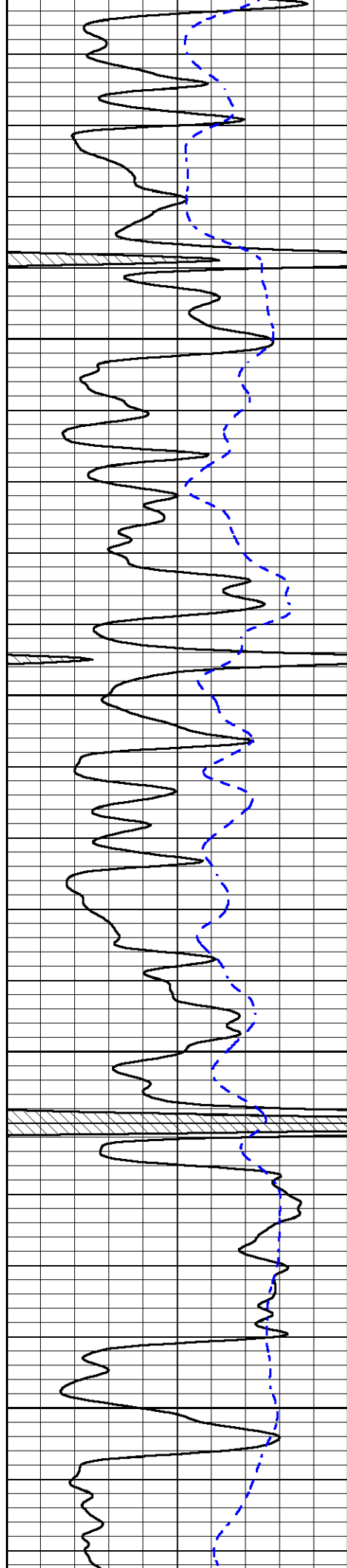
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MAIN PASS

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 Dataset Pathname stkml/pass4.1
 Presentation Format dil
 Dataset Creation Mon May 21 13:04:17 2018
 Charted by Depth in Feet scaled 1:240



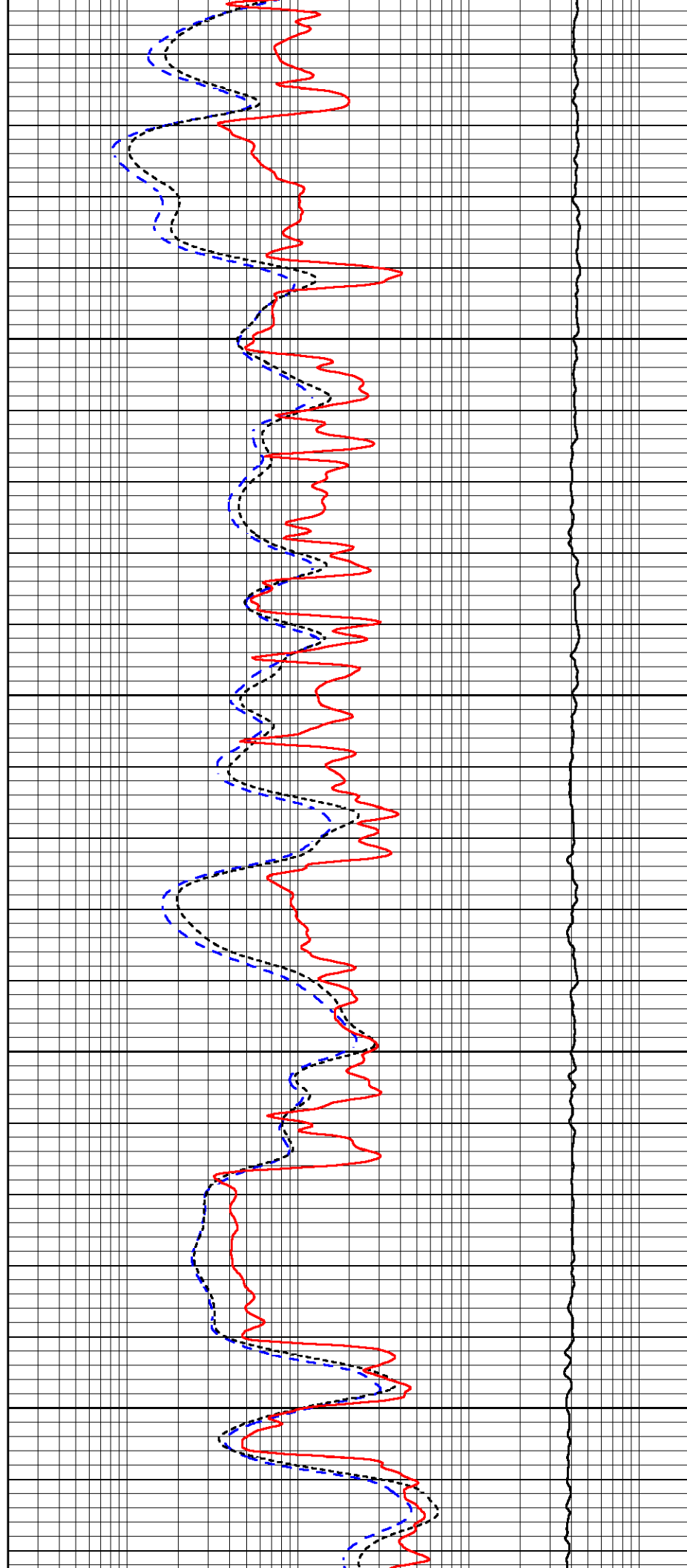


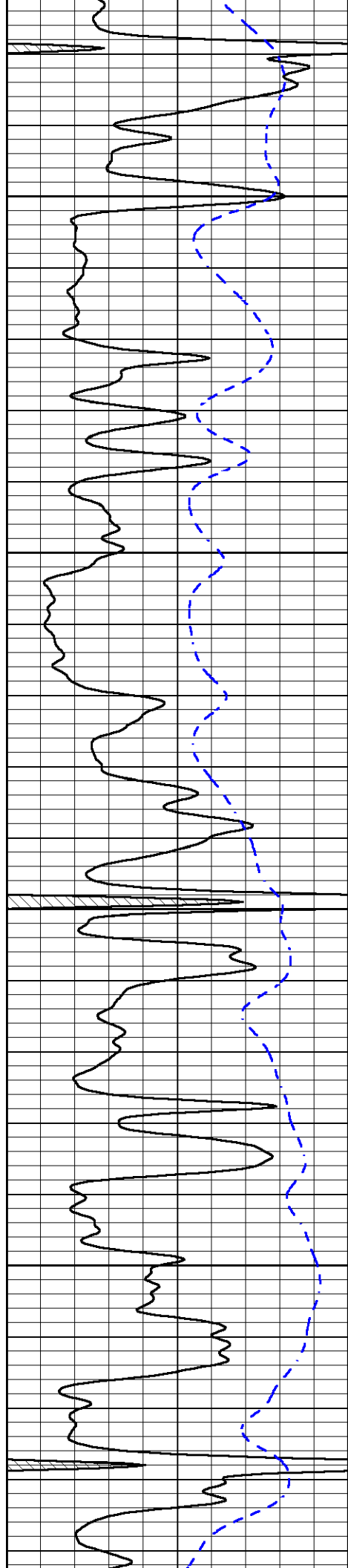
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3600

3650

3700



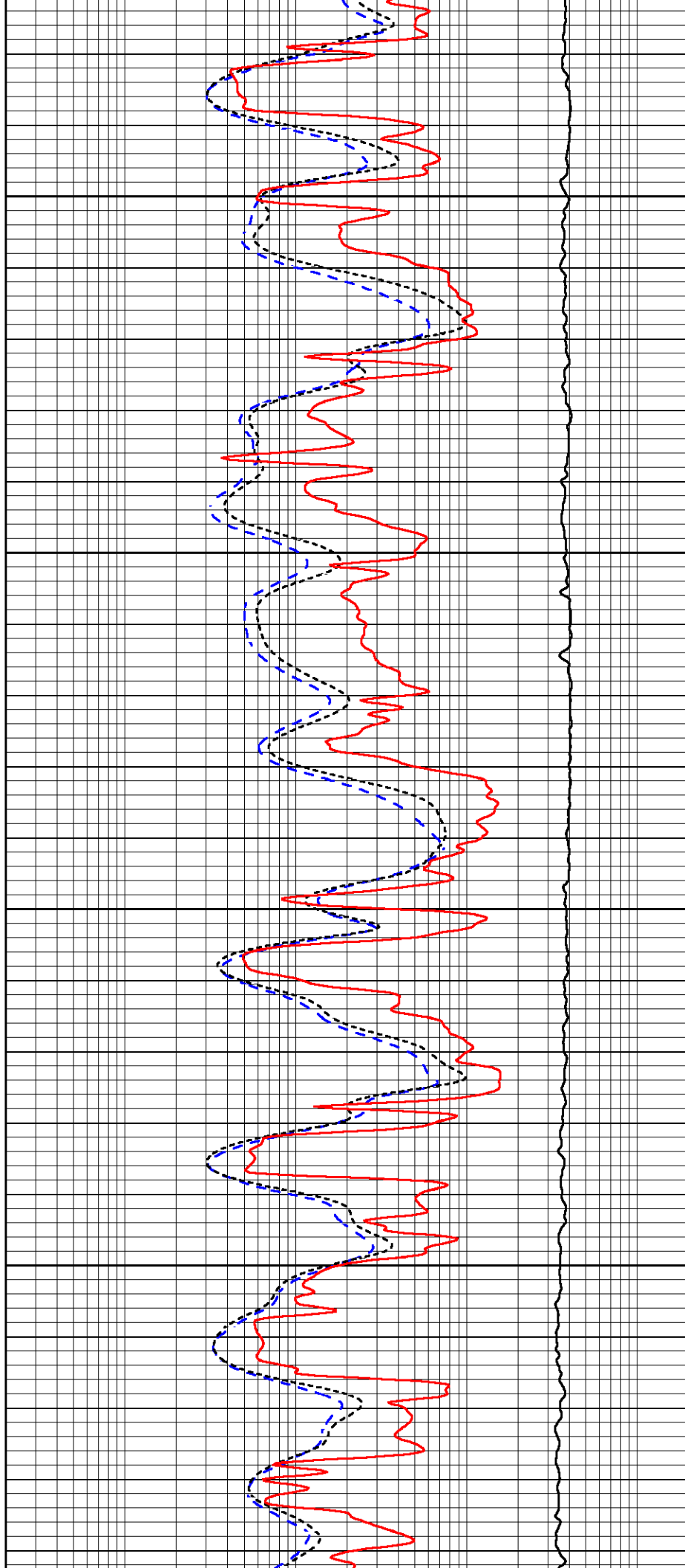


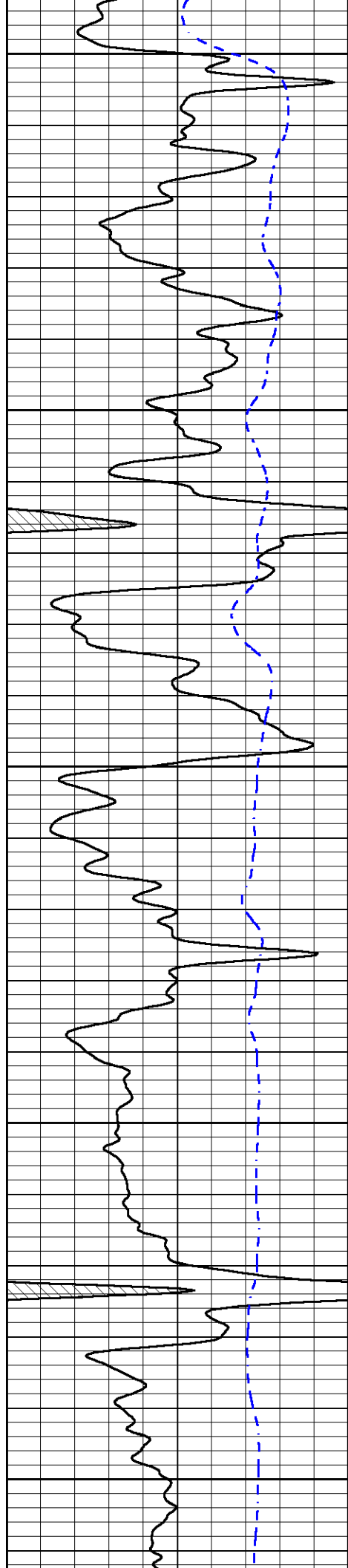
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3800

3850

3900





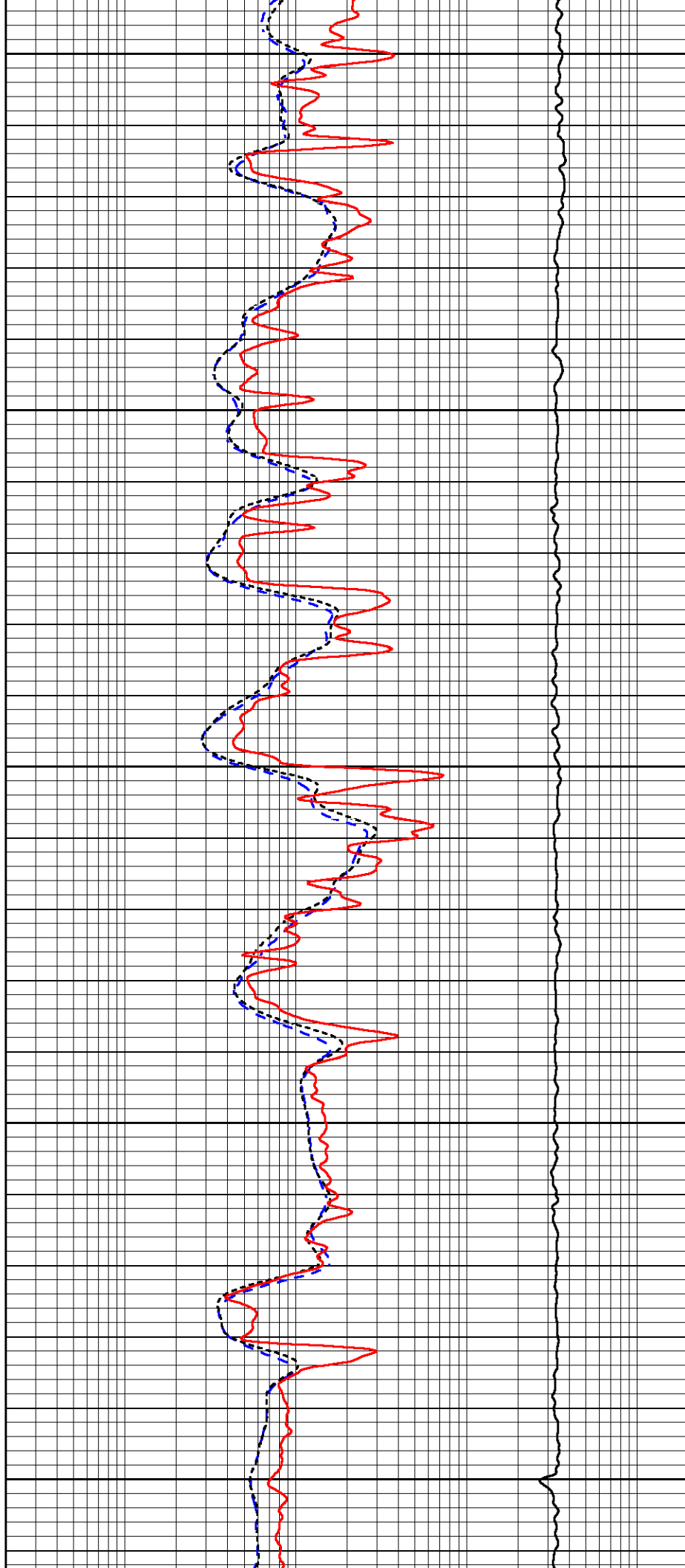
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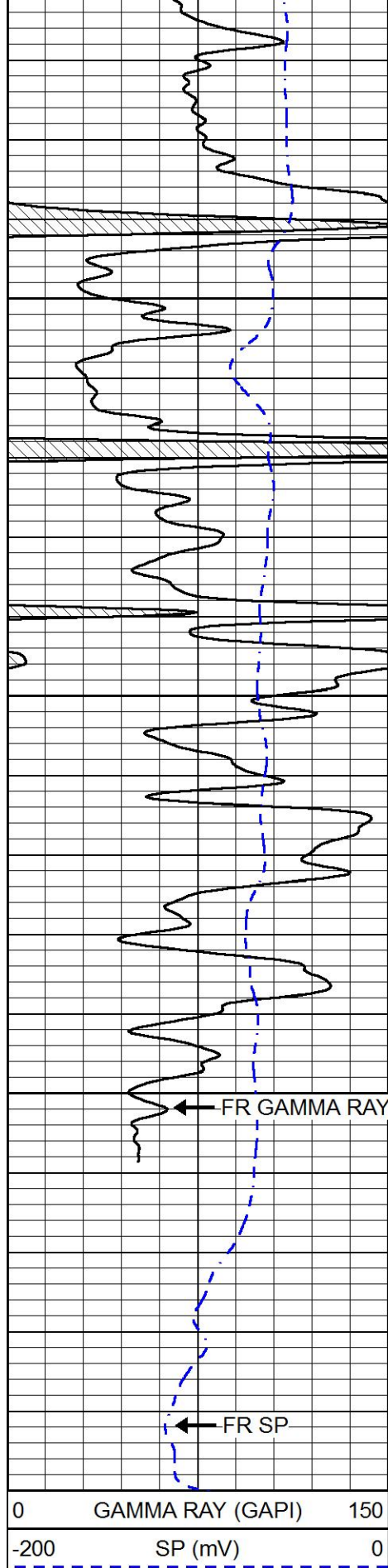
4000

4050

4100

4150



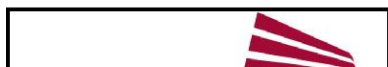
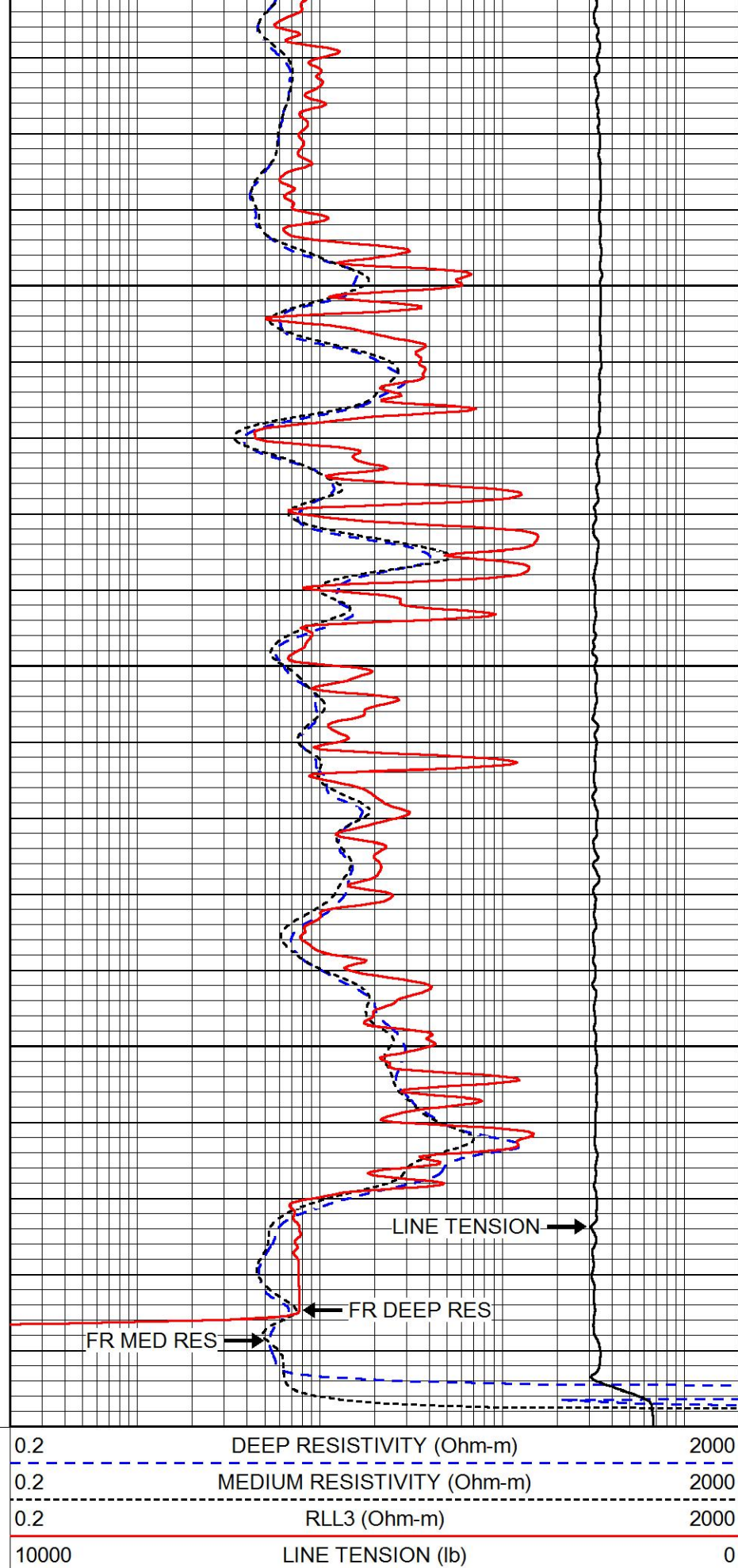


4200

4250

4300

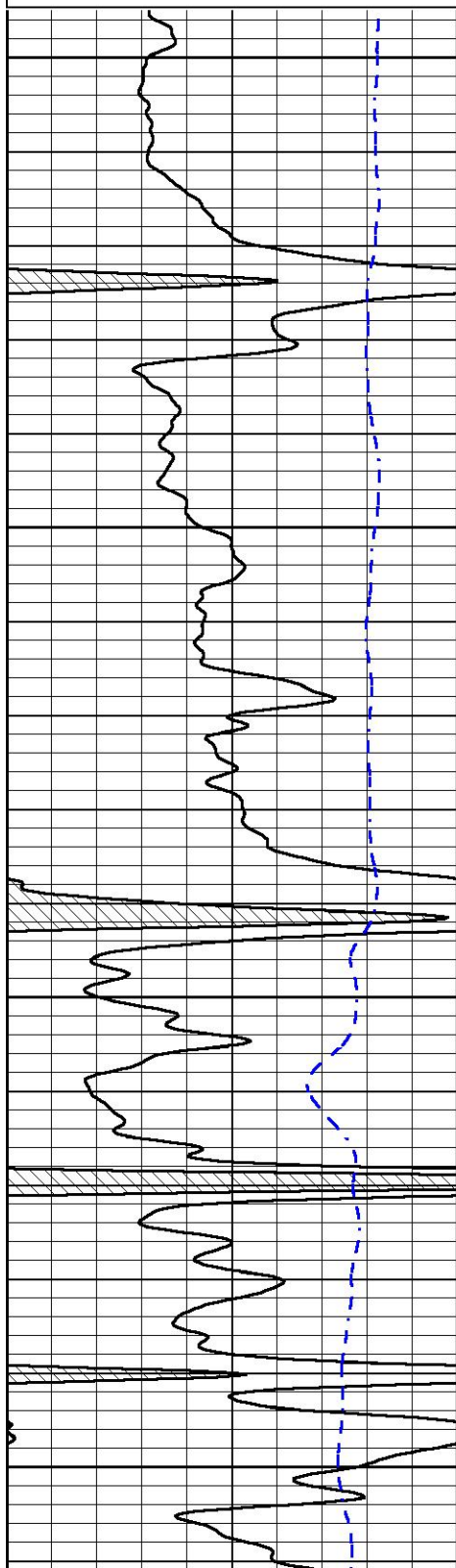
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 Dataset Pathname stkml/pass2.1
 Presentation Format dil
 Dataset Creation Mon May 21 12:28:34 2018
 Charted by Depth in Feet scaled 1:240

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

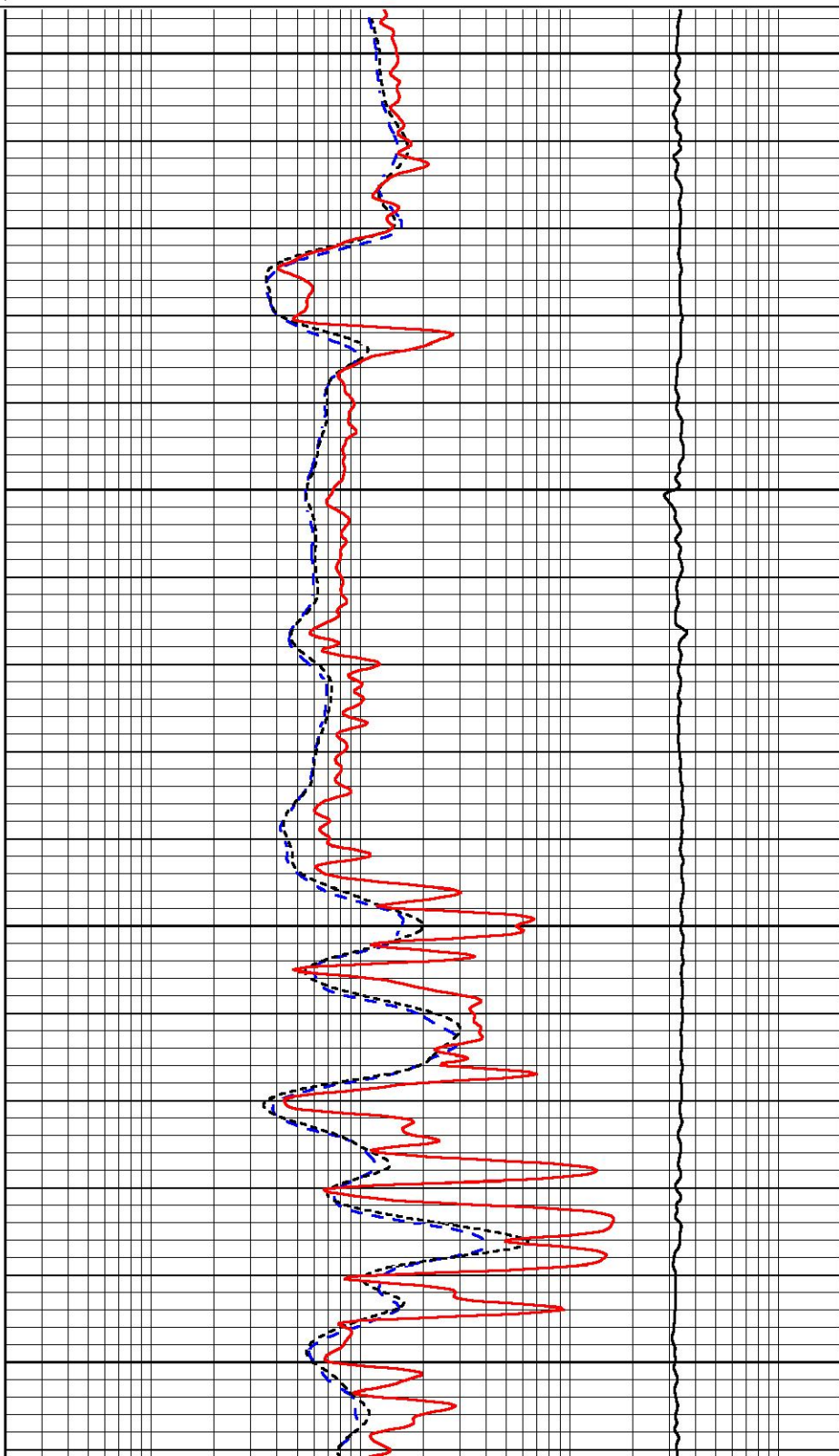


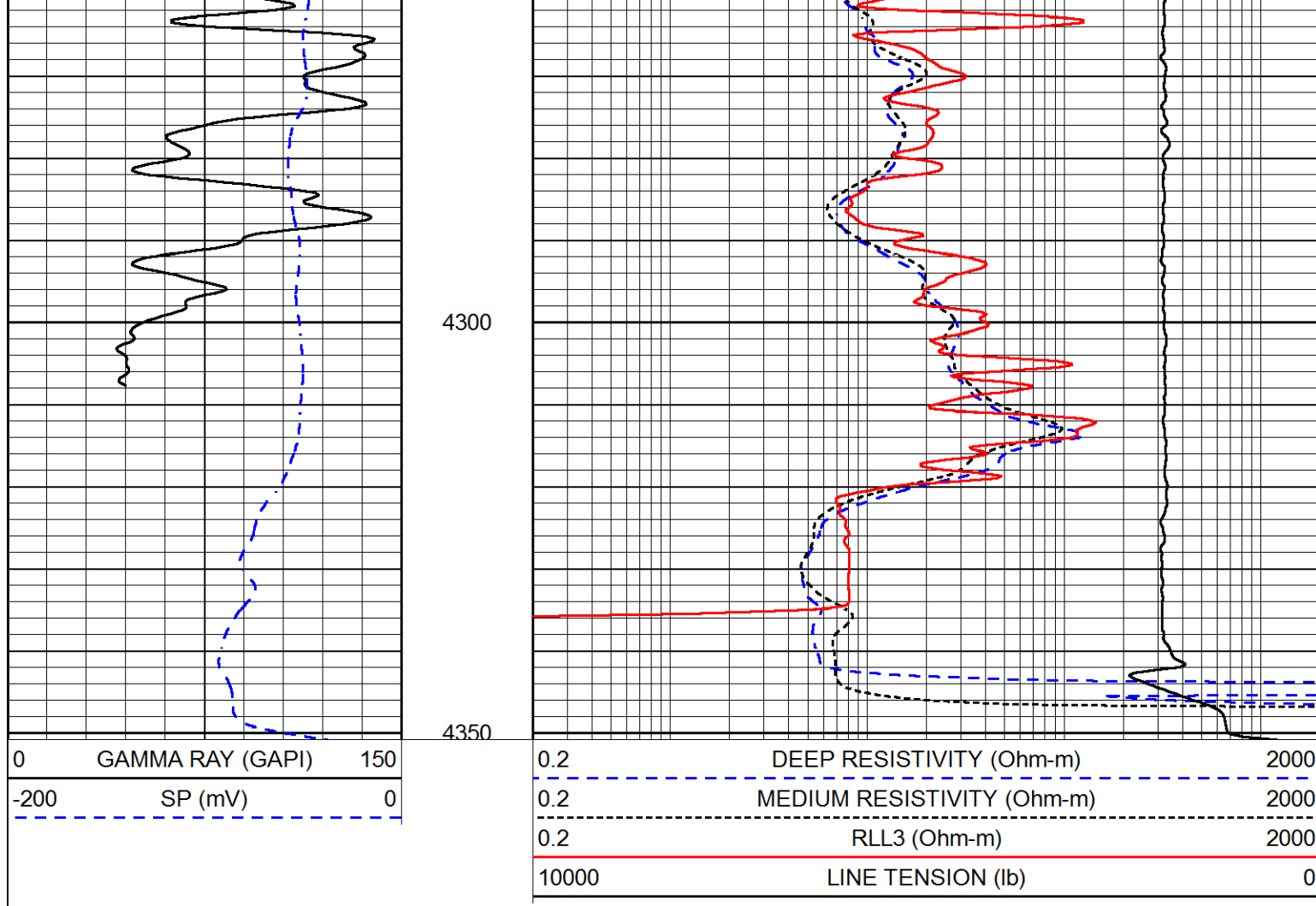
4100

4150

4200

4250





Calibration Report

Database File carmen_schmitt_wp_unit_5_7.db
 Dataset Pathname stkml/pass3.1
 Dataset Creation Mon May 21 12:27:21 2018

Dual Induction Calibration Report

Serial-Model: 933 (HT)-PSI HIGH TEMP
 Calibration Performed: Mon Apr 23 14:01:41 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.000	mmho/m	0.700	-17.000
Medium	142.000	1349.000	0.000	255.000	mmho/m	0.565	-60.500

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	19000.0000	-0.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	24000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.8500

Compensated Density Calibration Report

Serial-Model:	817-947-M&W
Source / Verifier:	16955B / 2ci
Master Calibration Performed:	Tue May 01 14:00:17 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6127.15	5922.31	cps
Aluminum	2.650	g/cc	1141.85	3762.09	cps
Spine Angle = 74.89			Density/Spine Ratio = 0.514		
	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:	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	CARMEN SCHMITT, INC.
Well	WP UNIT #5-7
Field	WILDCAT
County	TREGO
State	KANSAS