



MIDWEST WIRELINE

DUAL INDUCTION
LOG

Company Russell Oil, Inc. Well Hockersmith 'C' #15-1 Field Rumback County Logan State Kansas		Company Russell Oil, Inc. Well Hockersmith 'C' #15-1 Field Rumback County Logan State Kansas		Location: API #: 15-109-21612-00-00 1675' FNL & 1150' FWL SEC 15 TWP 11S RGE 32W Permanent Datum Ground Level Elevation 3051' Log Measured From Kelly Bushing Drilling Measured From Kelly Bushing Other Services CNL/CDL MEL K.B. 3056' D.F. N/A G.L. 3051'	
Date	3/10/2021	Run Number	One		
Depth Driller	4694'				
Depth Logger	4696'				
Bottom Logged Interval	4695'				
Top Log Interval	300'				
Casing Driller	8.625" @ 305'				
Casing Logger	306'				
Bit Size	7.875"				
Type Fluid in Hole	Chemical				
Salinity, ppm CL	3000				
Density / Viscosity	9.4 57				
pH / Fluid Loss	11.0 8.0				
Source of Sample	FLOWLINE				
Rm @ Meas. Temp	0.60 @ 60				
Rmt @ Meas. Temp	0.45 @ 60				
Rmc @ Meas. Temp	0.81 @ 60				
Source of Rmt / Rmc	CHARTS				
Rm @ BHT	0.29 @ 123				
Operating Rig Time	3 Hours				
Max Rec. Temp. F	123				
Equipment Number	P-24				
Location	HAYS				
Recorded By	D. Schmidt				
Witnessed By	Kitt Noah				

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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.

Oakley,
Hwy 83 and Old 40, 1.2 South,
East into

Log Measured From: Kelly Bushing 5 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: D. Schmidt		Primary Witness: Kitt Noah	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	

Log Variables

DatabaseC:\ProgramData\Warrior\Data\russell_hockersmith c 15-1.db
Dataset field/well/stkml/pass3.3/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 100	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 0	mmho/m 0	mV 403	degF 0	Off	ft 4696

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

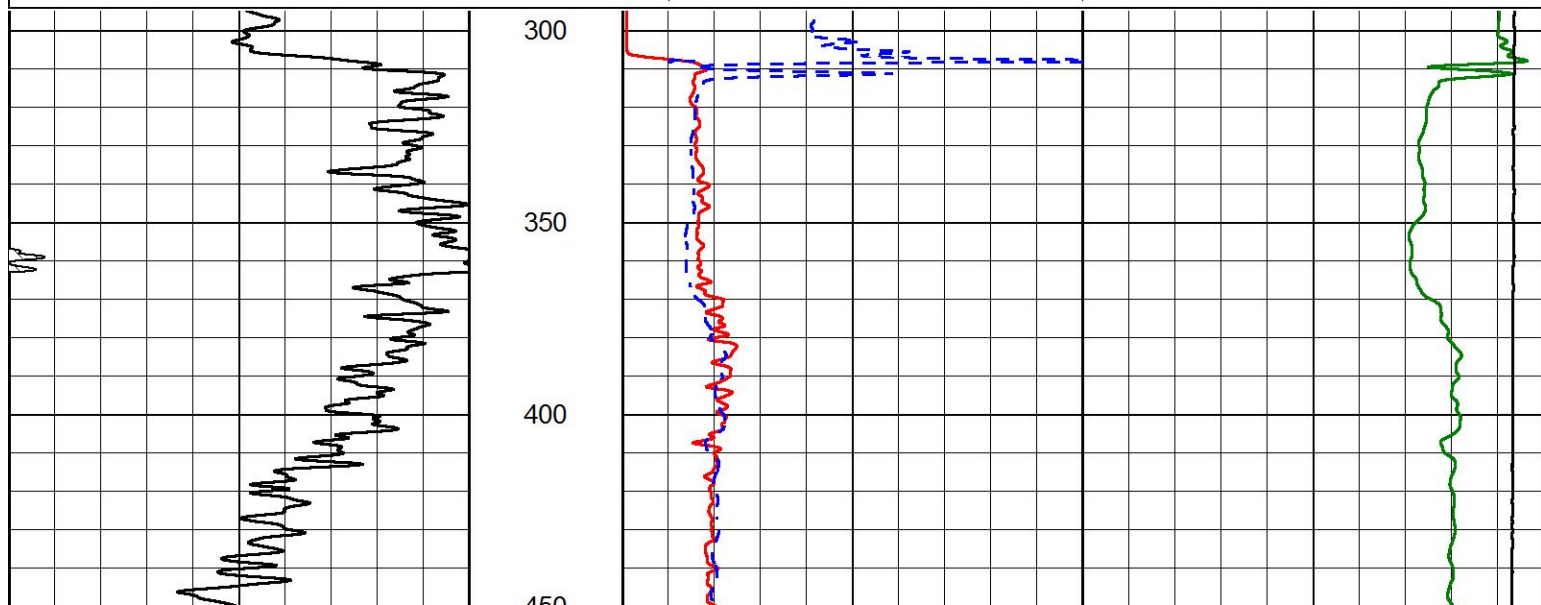


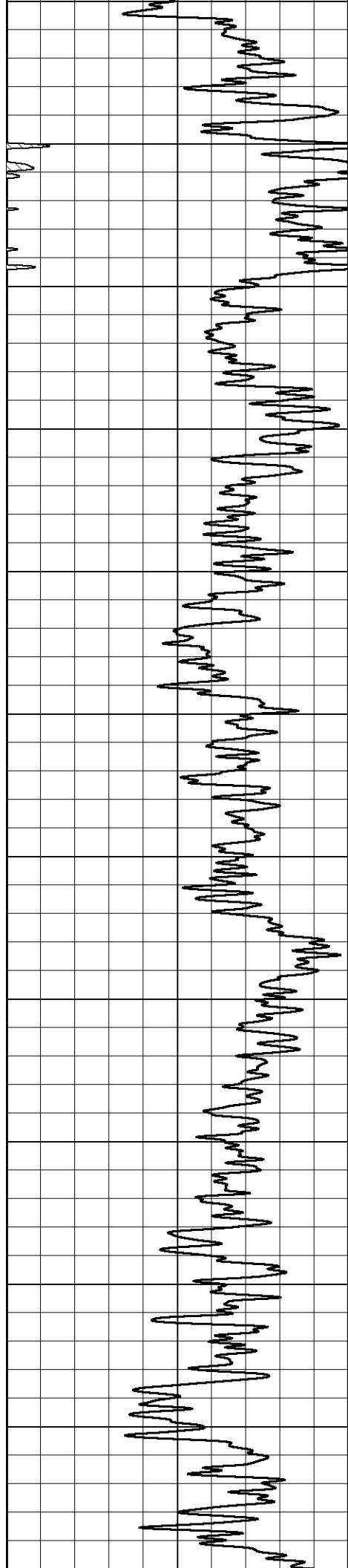
MIDWEST WIRELINE

MAIN PASS

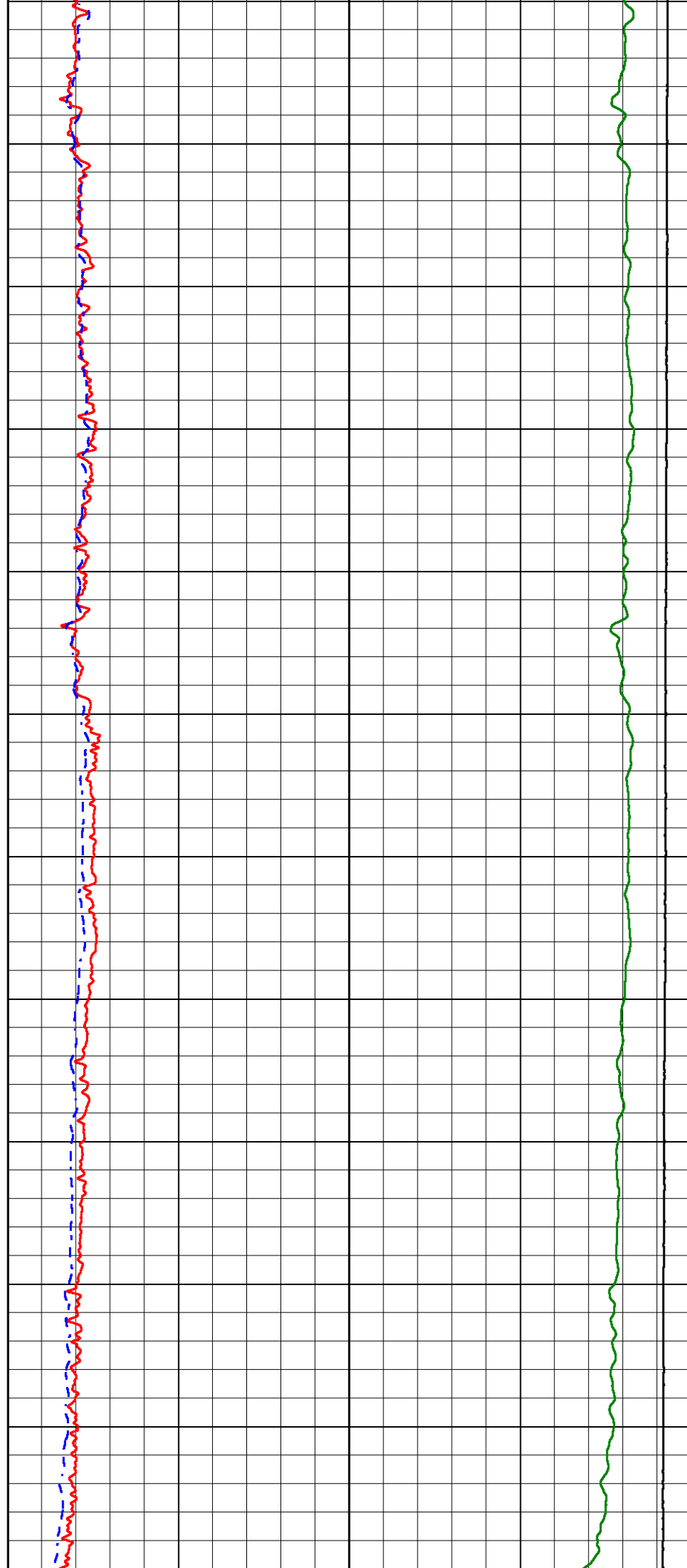
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Dataset Creation Wed Mar 10 22:19:13 2021
Charted by Depth in Feet scaled 1:600

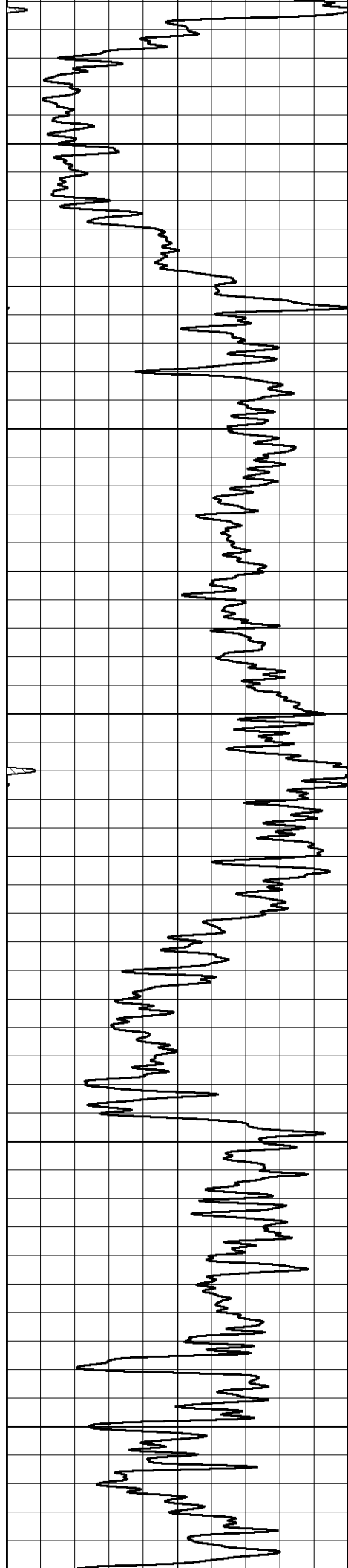
GAMMA RAY		1000 CONDUCTIVITY (mmho/m)		0
		15000 Line Tension (lb)		0
0	(GAPI)	0	RLL3 (Ohm-m)	50
		0	RILD (Ohm-m)	50
		50	RLL3 (Ohm-m)	200
		50	Deep Resistivity (Ohm-m)	200



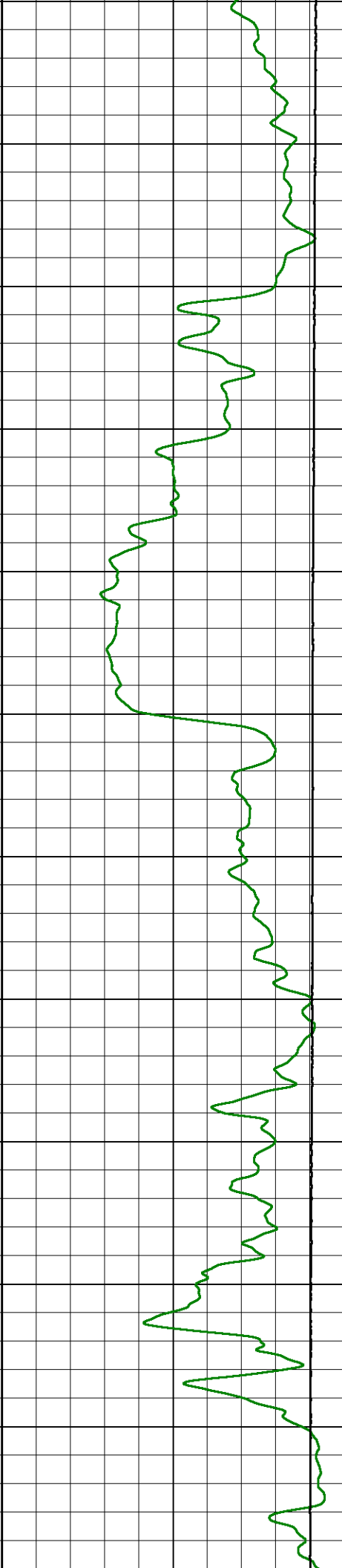
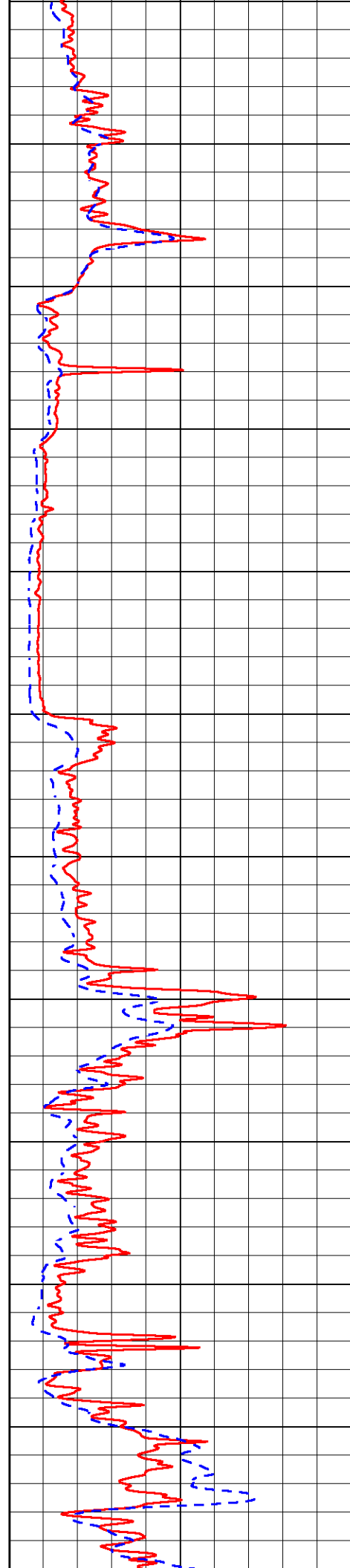


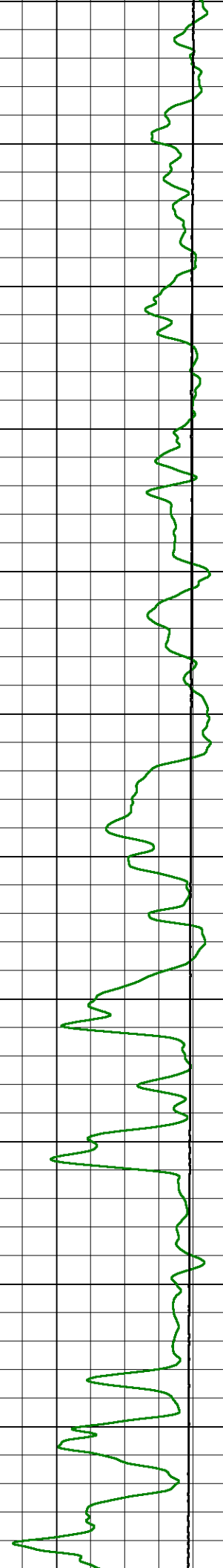
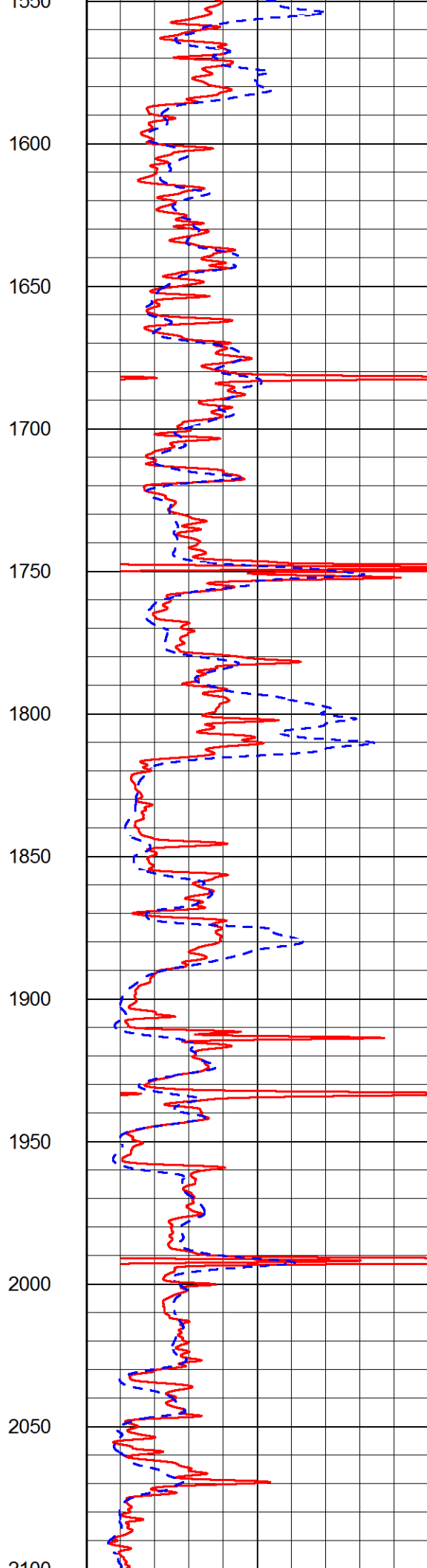
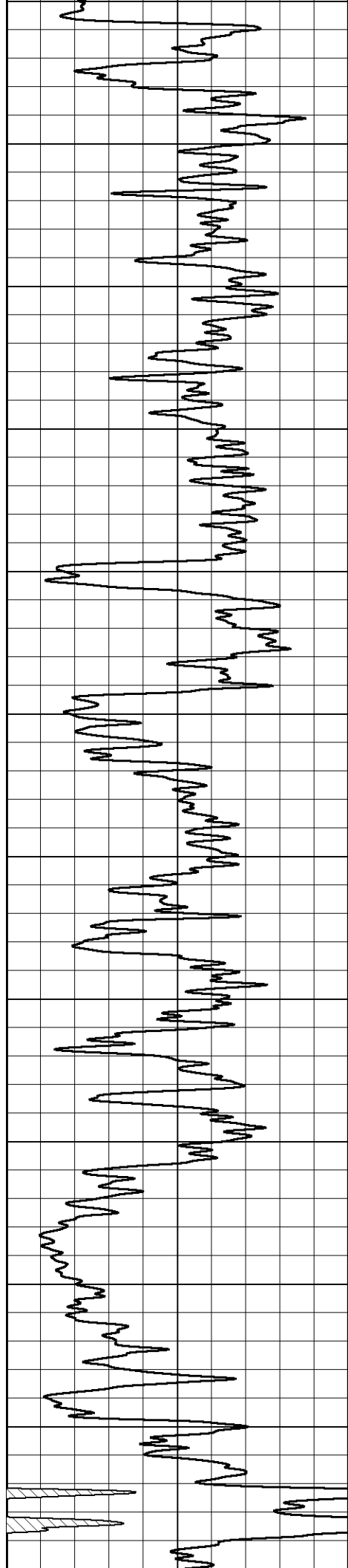
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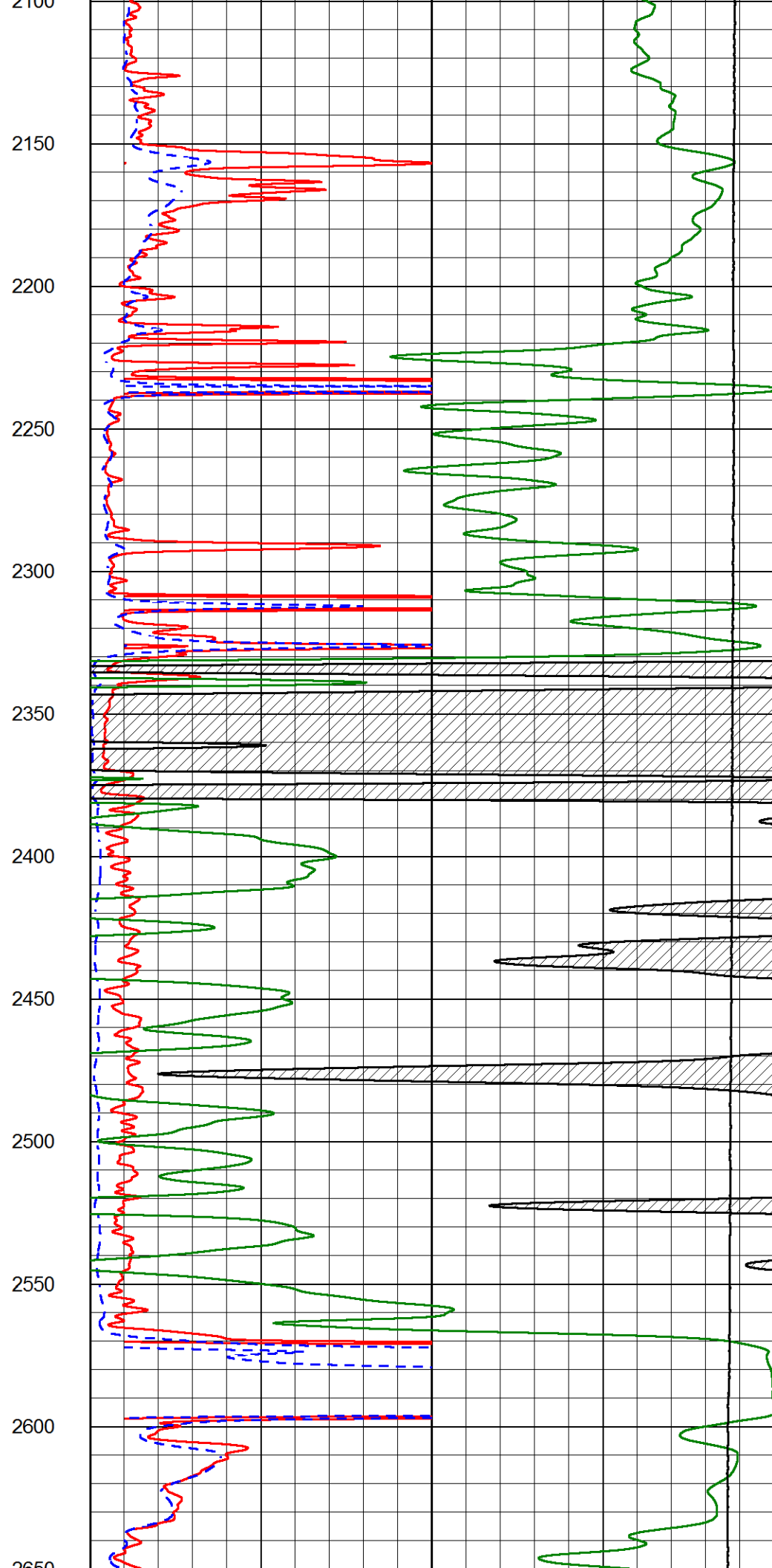
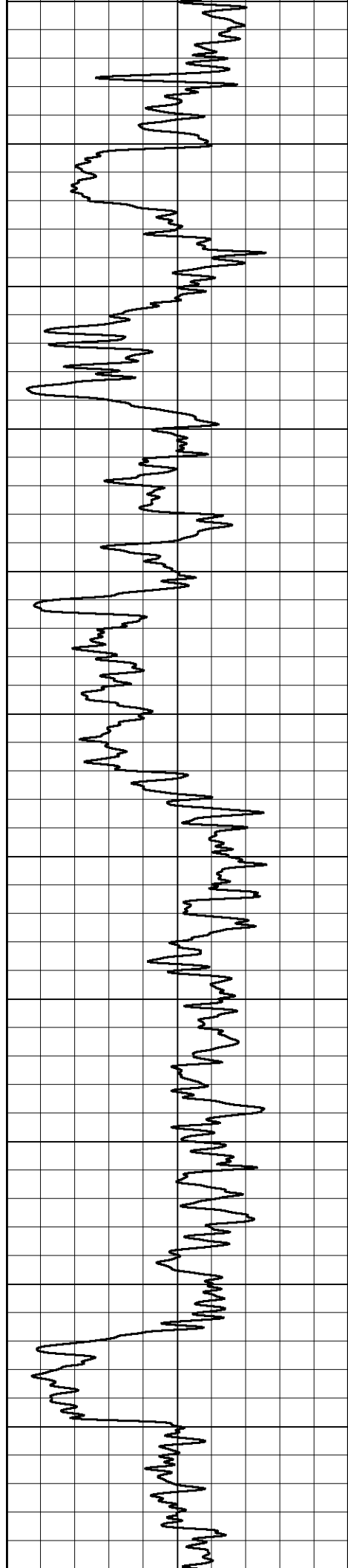


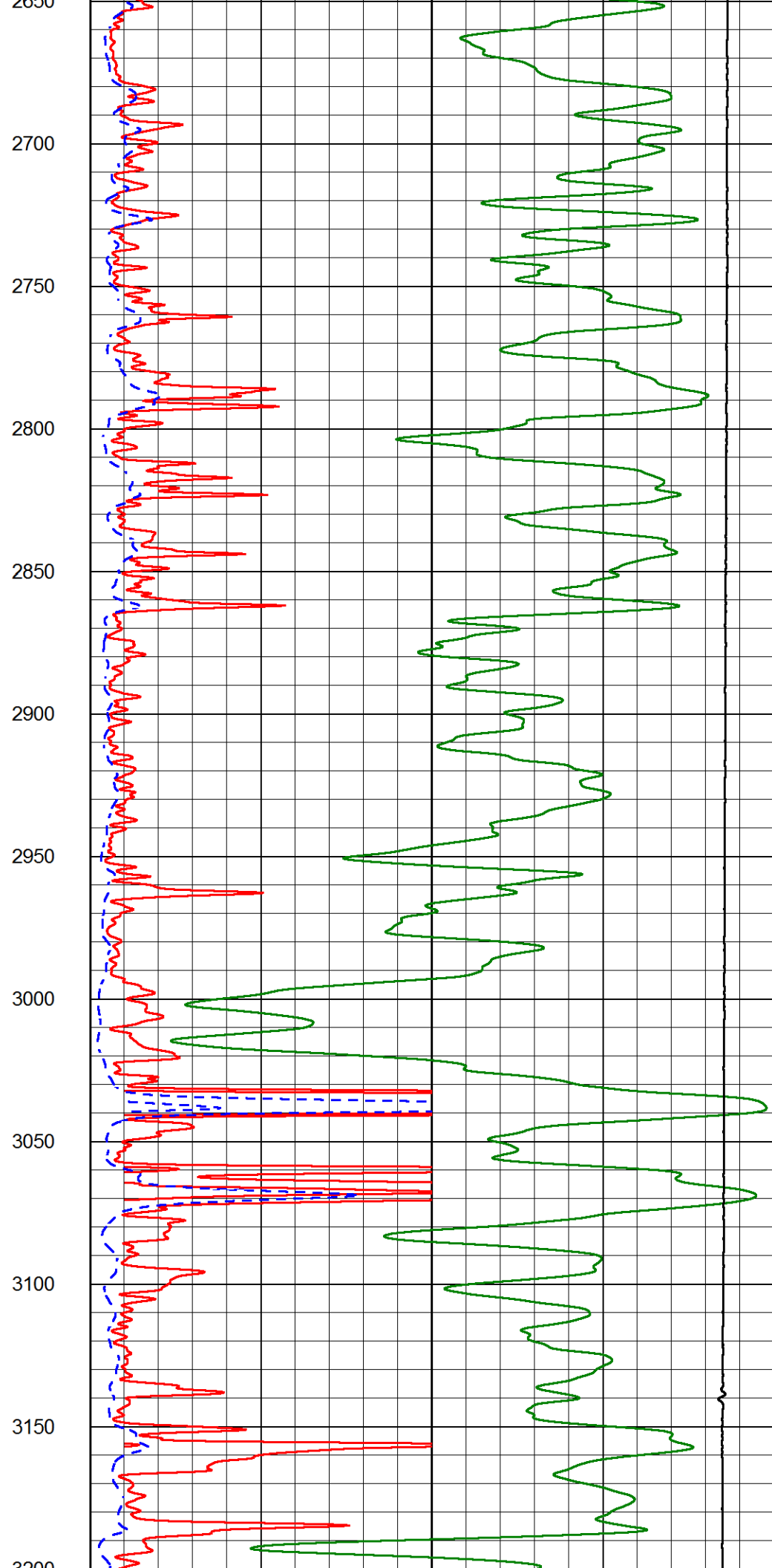
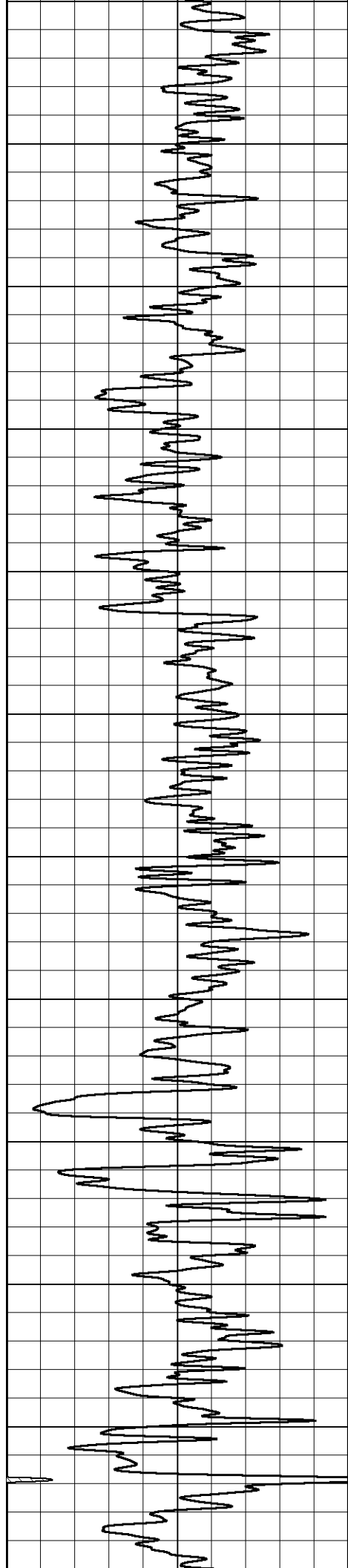


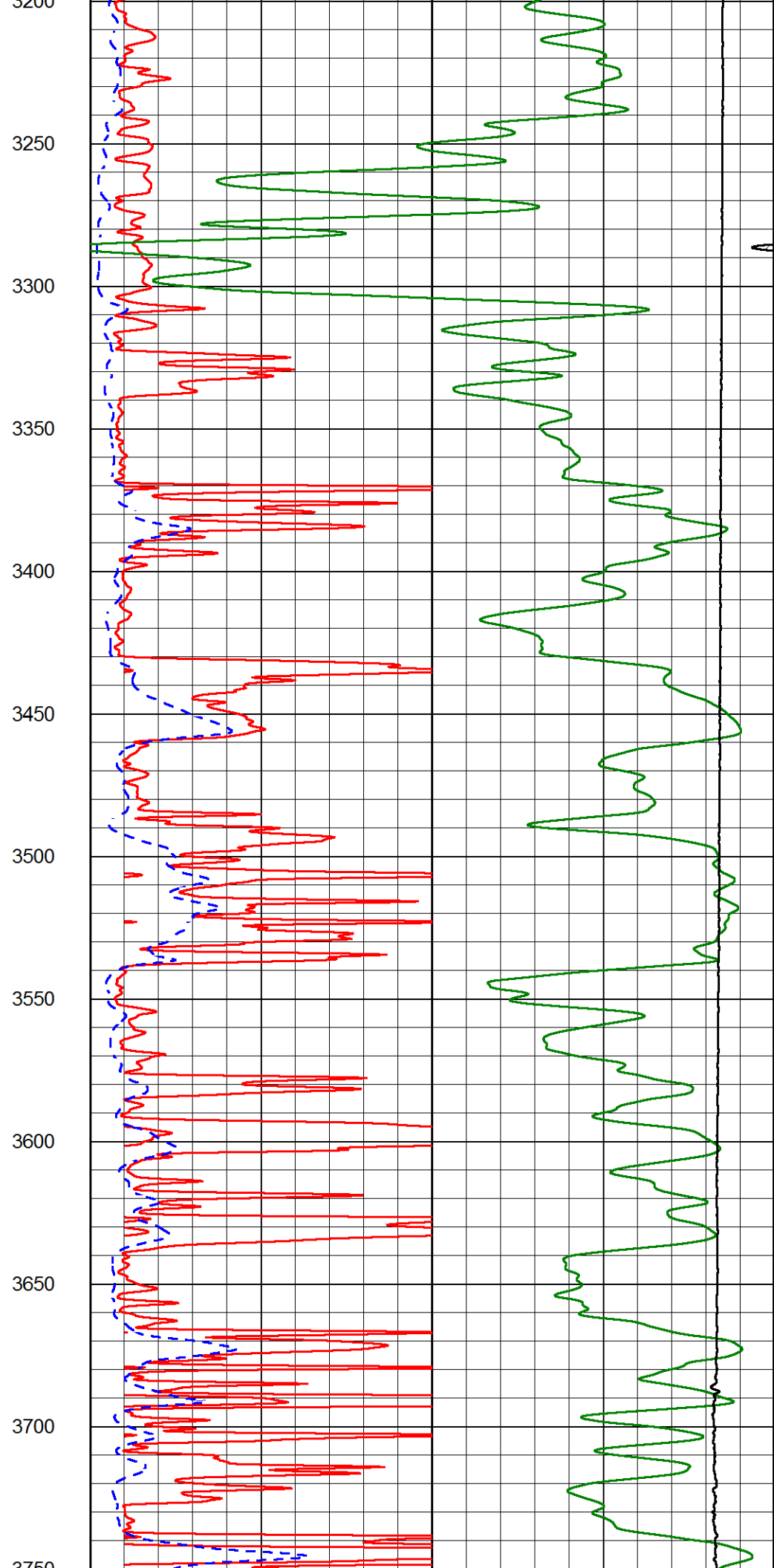
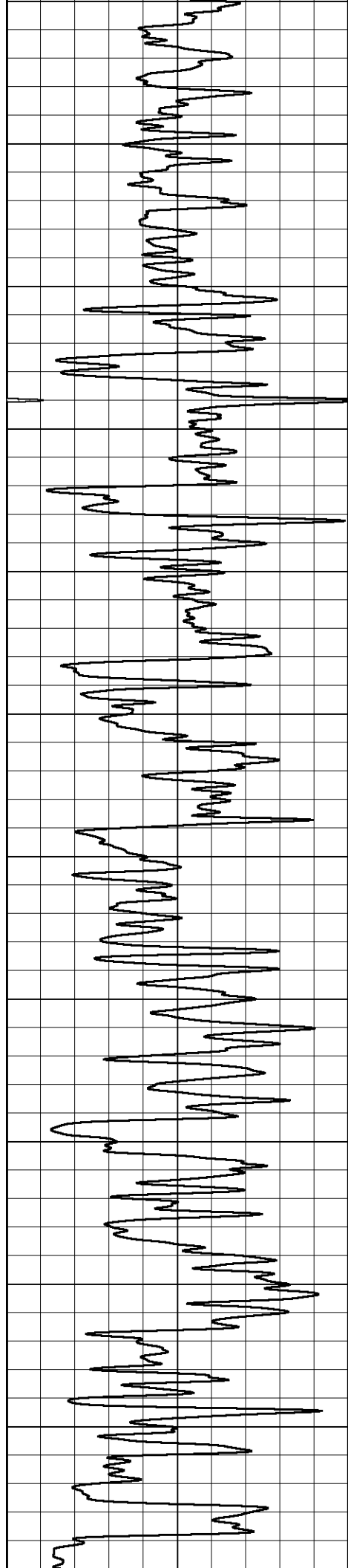
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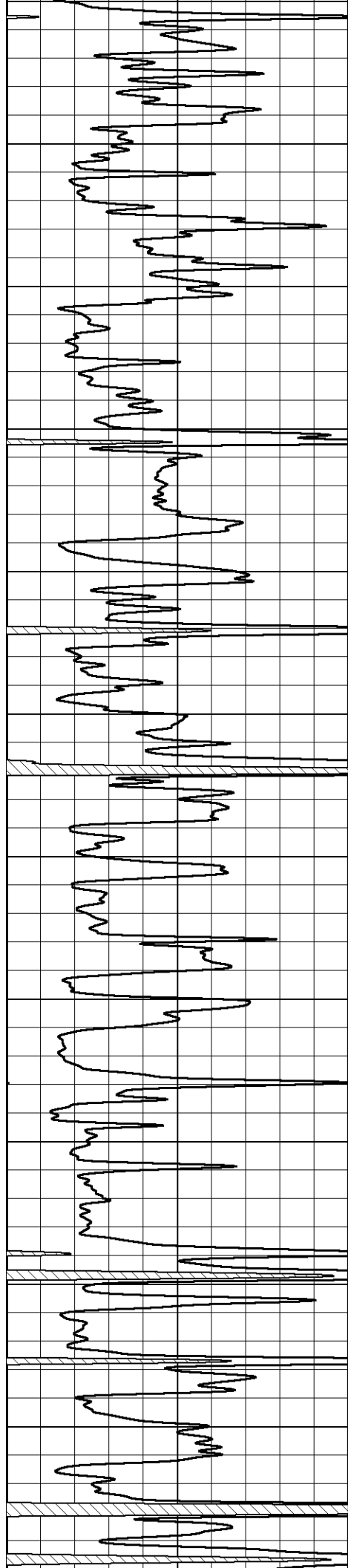




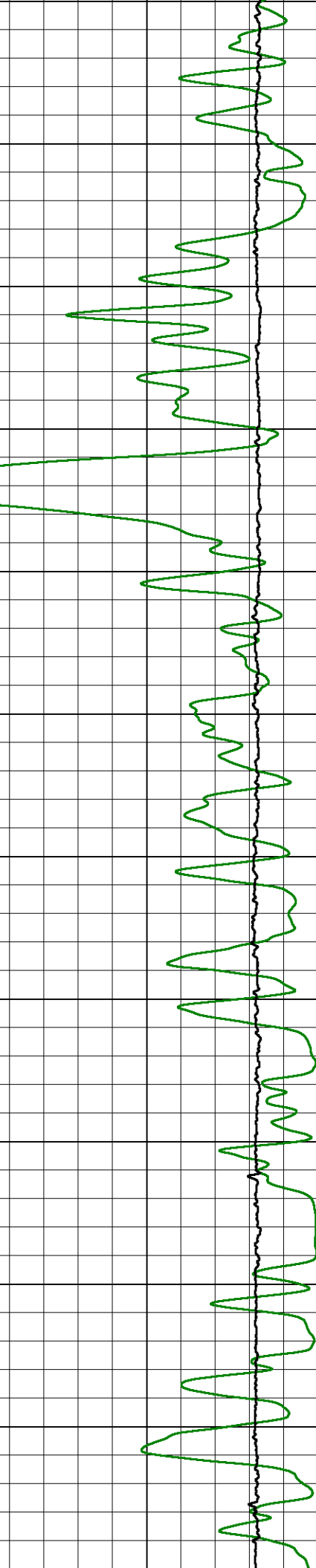
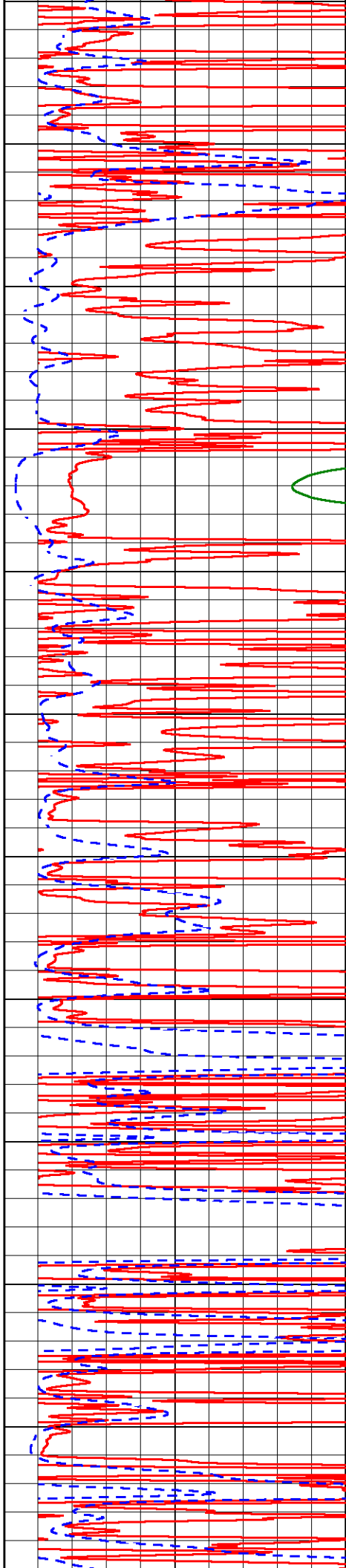


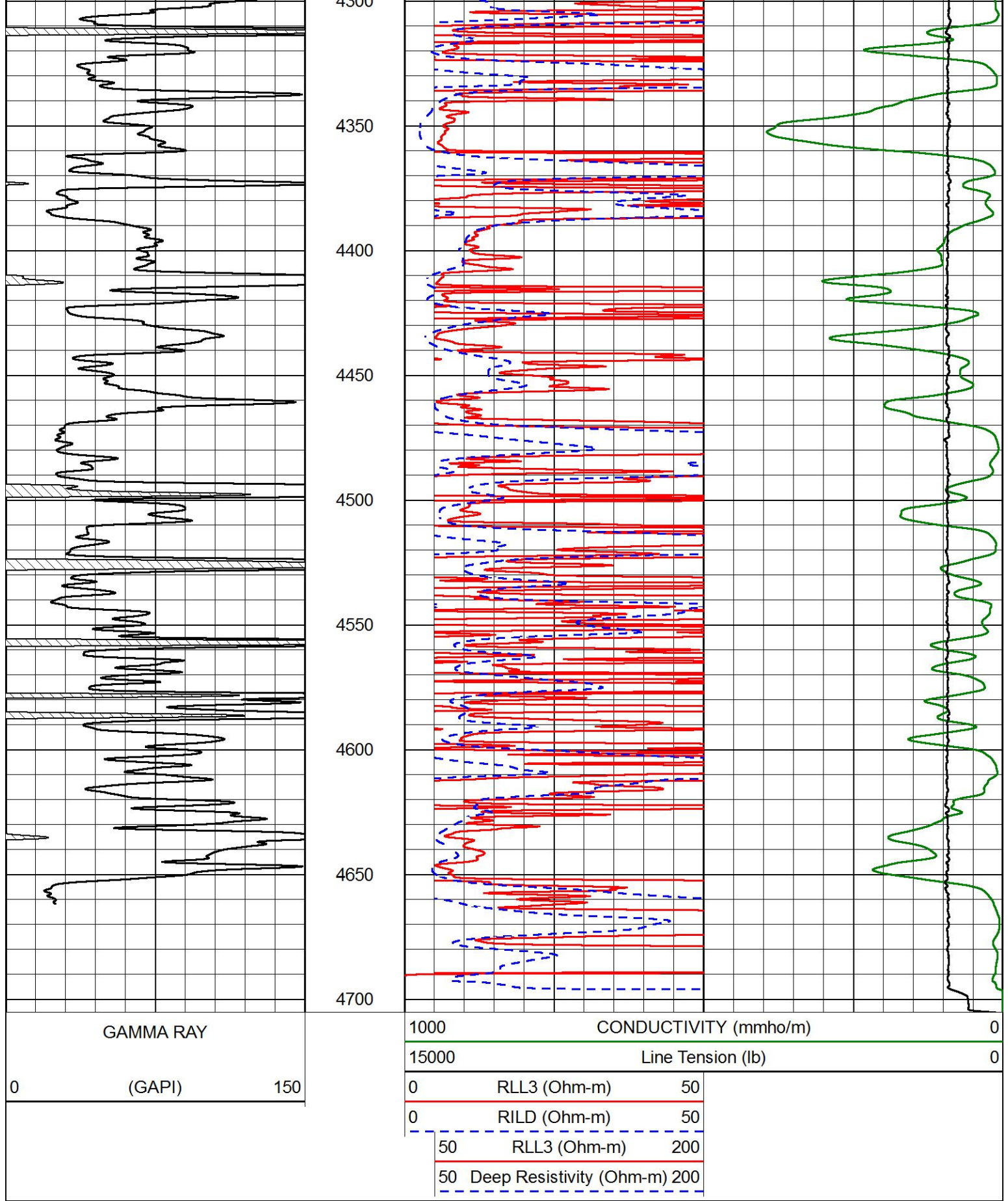






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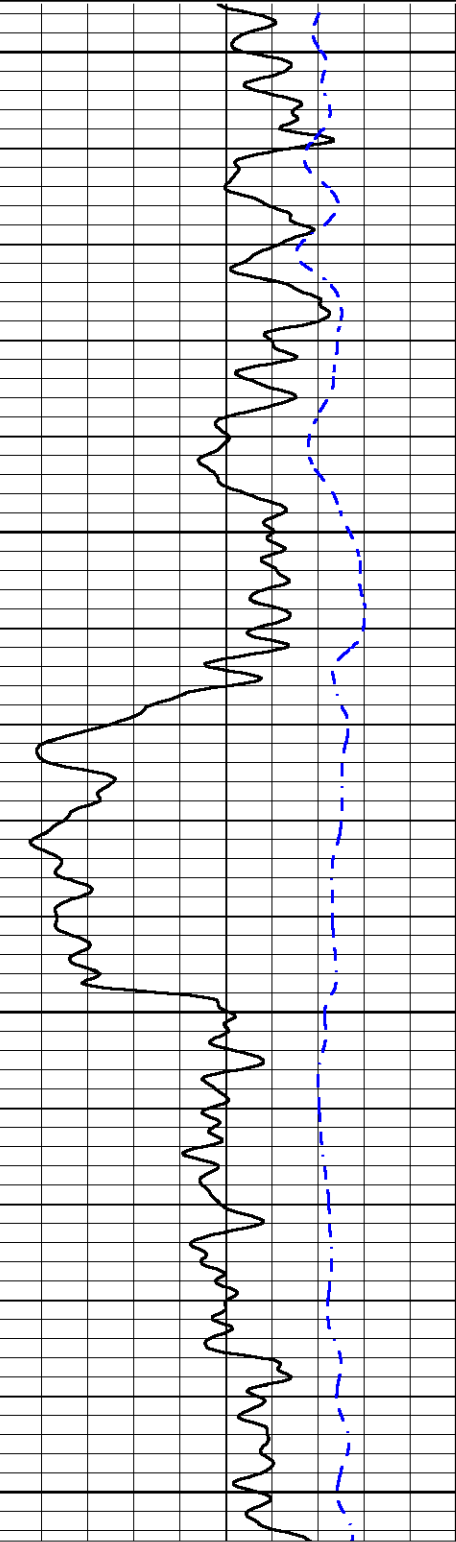


MAIN PASS

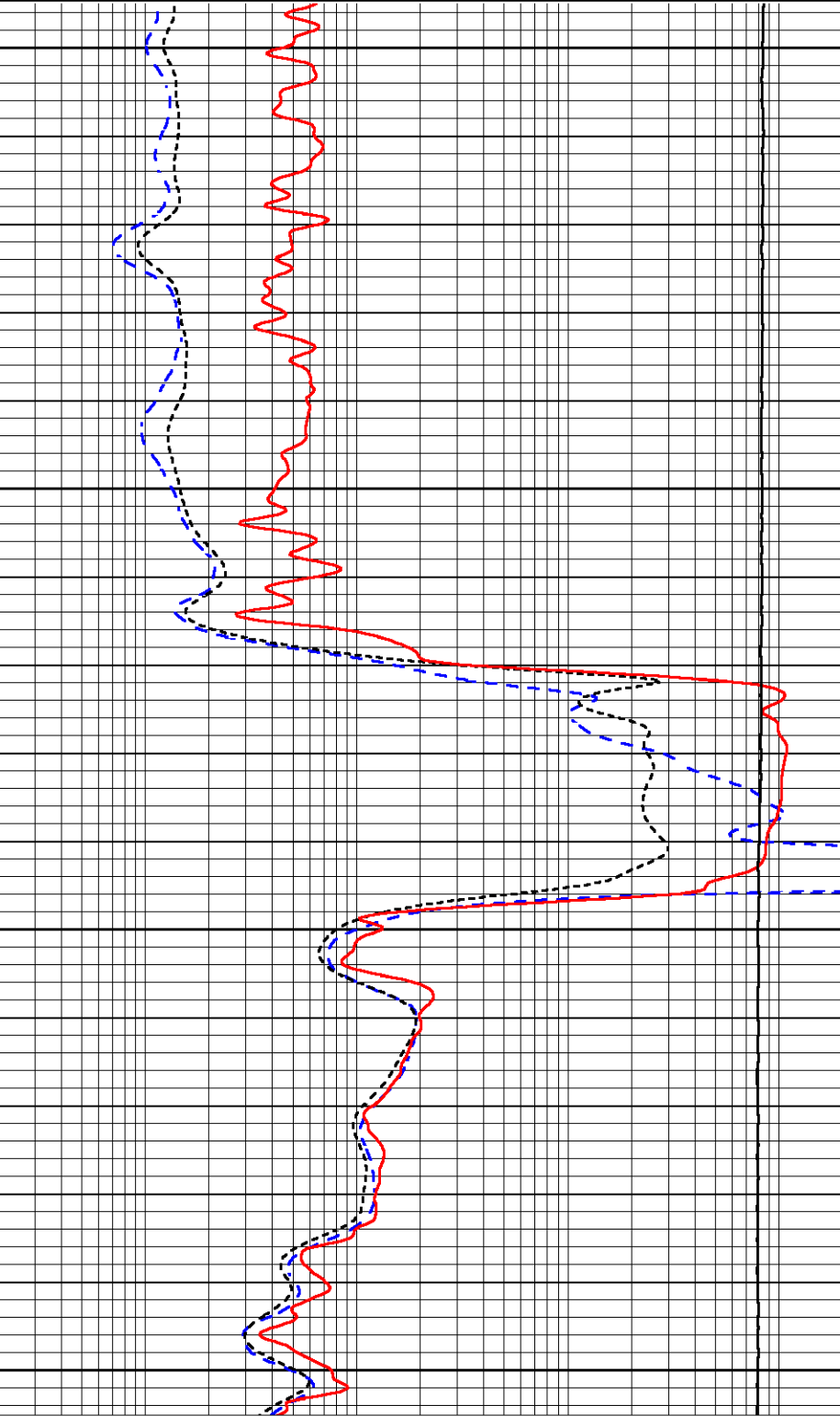
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Presentation Format _dil
Dataset Creation Wed Mar 10 22:19:13 2021
Charted by Depth in Feet scaled 1:240

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



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

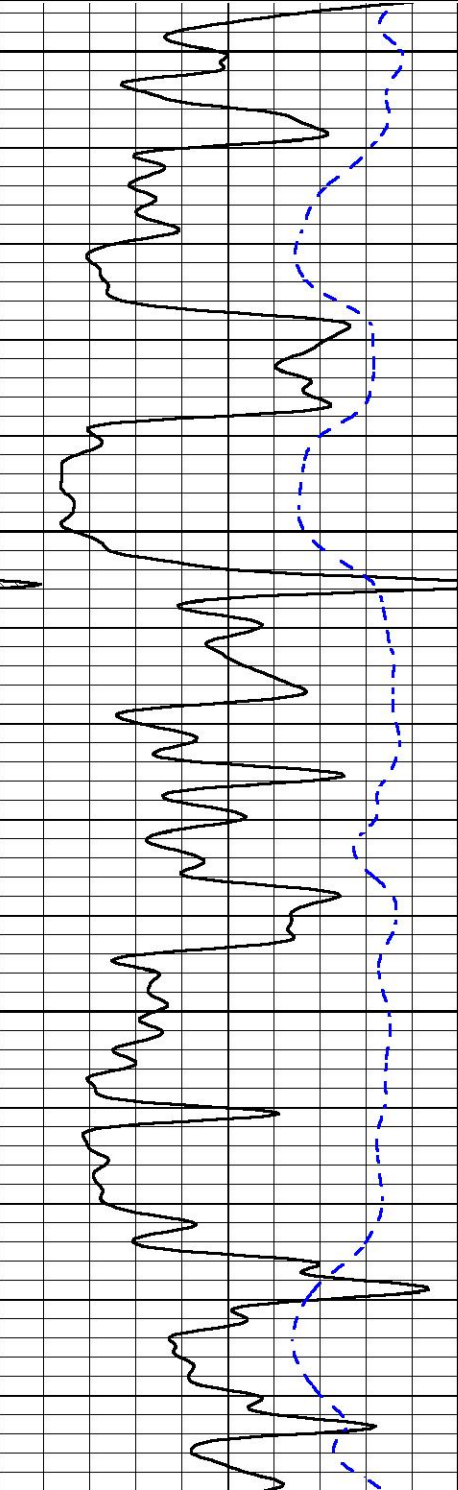


MAIN PASS

Database File russell_hockersmith c 15-1.db
Dataset Pathname stkml/pass3.1
Presentation Format _dil
Dataset Creation Wed Mar 10 21:40:21 2021
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

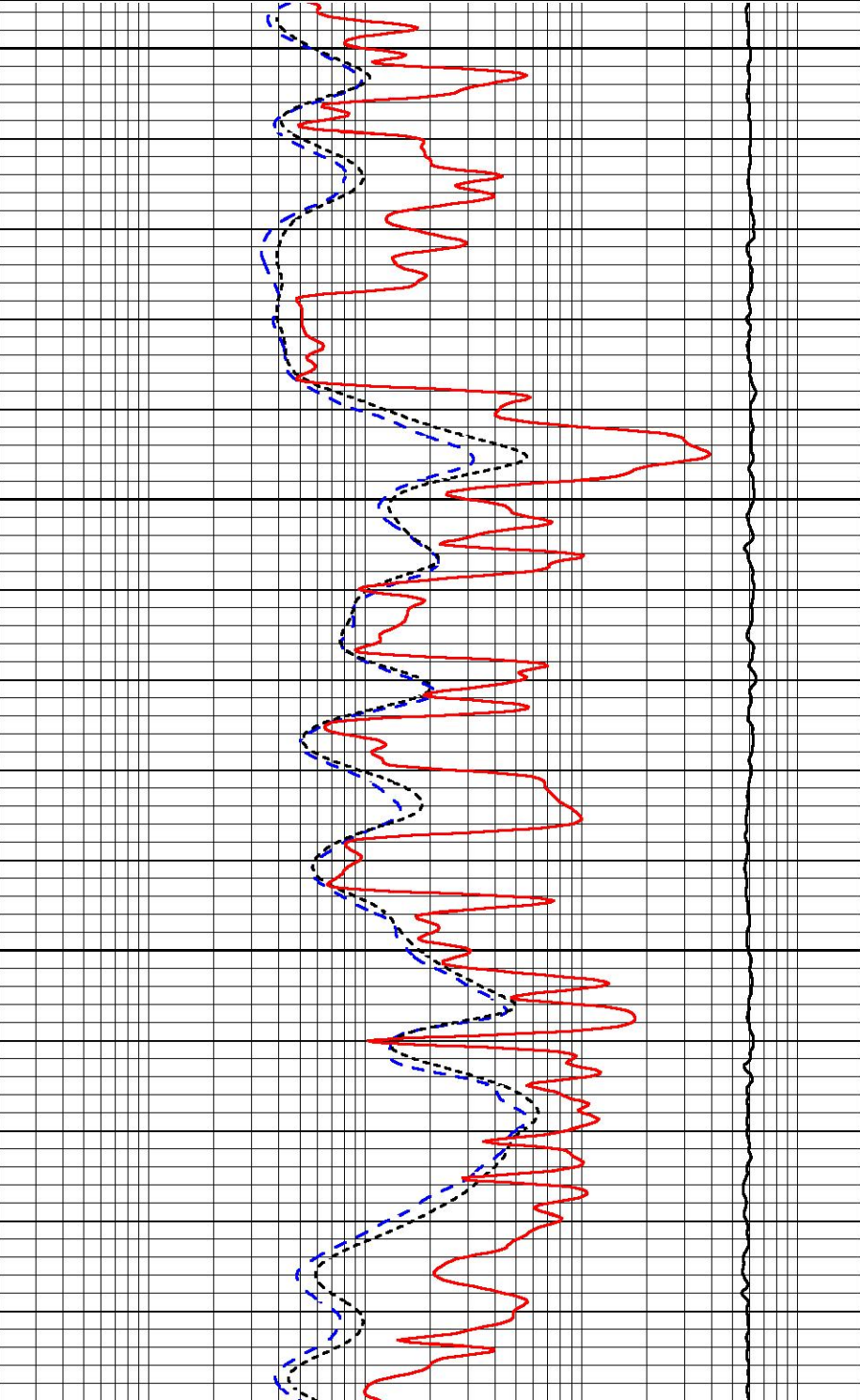


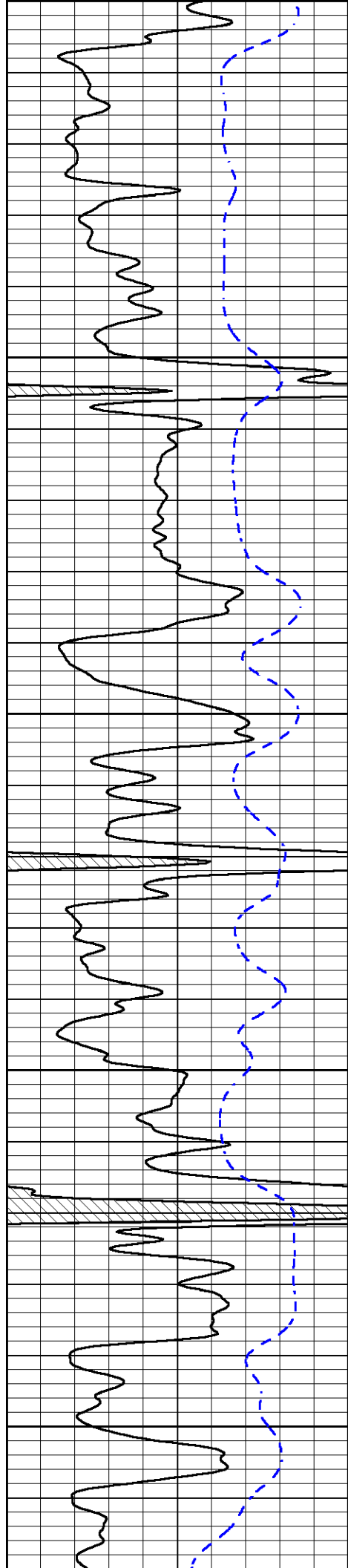
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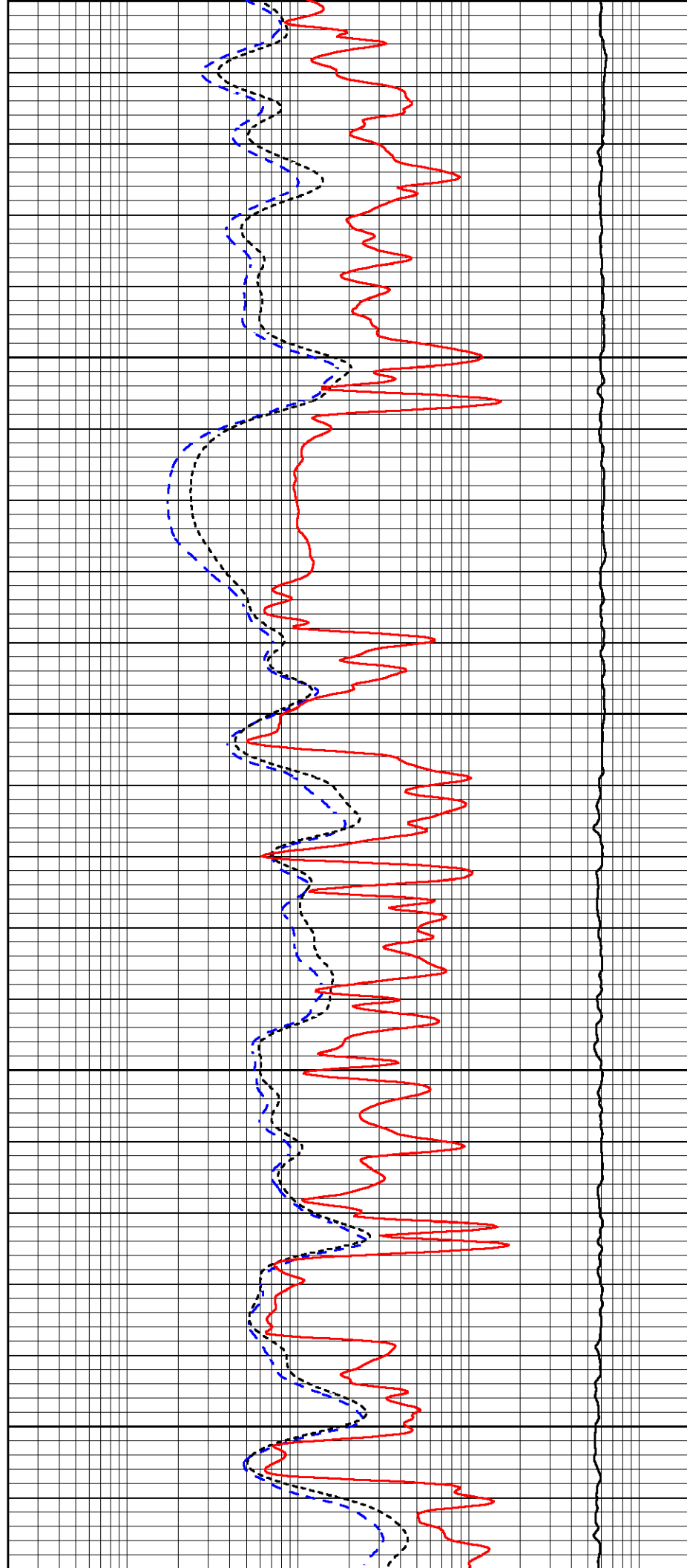
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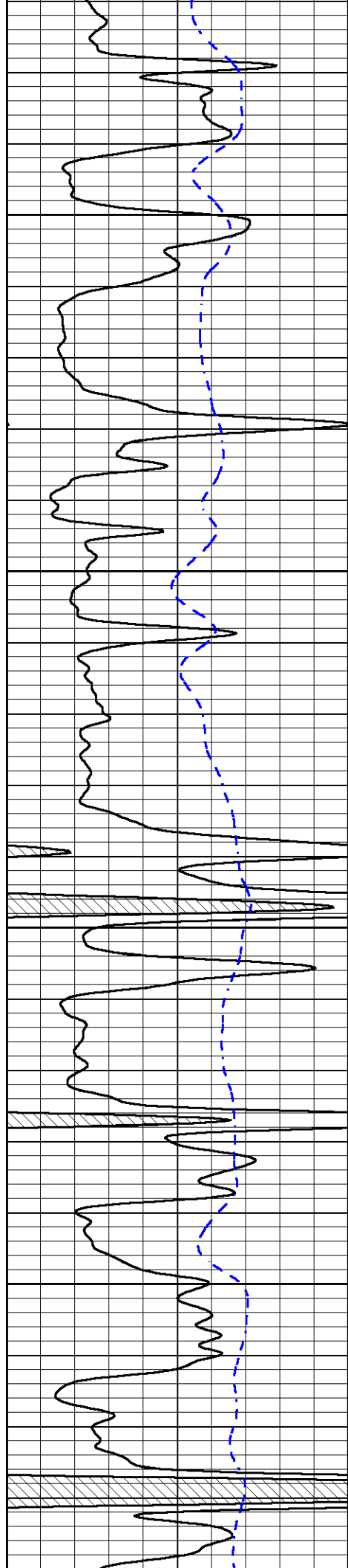
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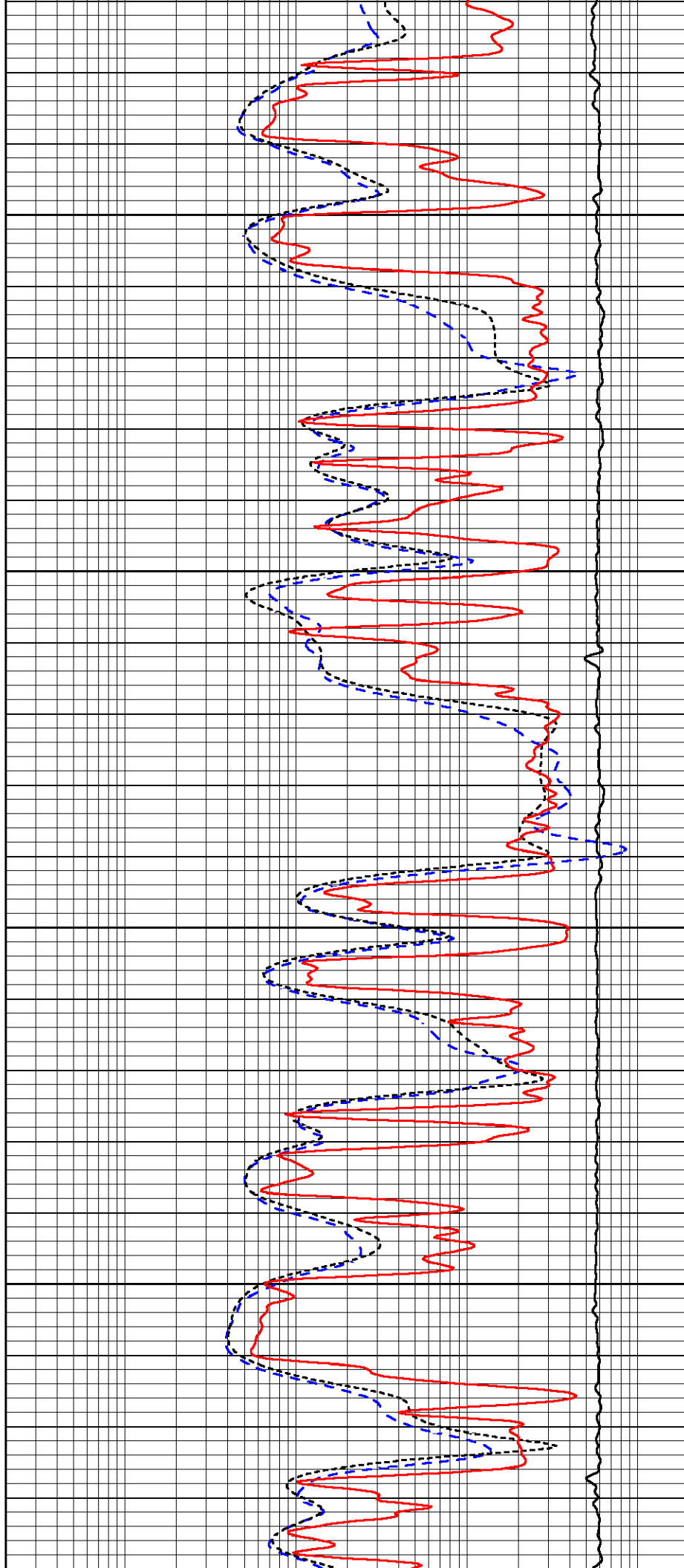


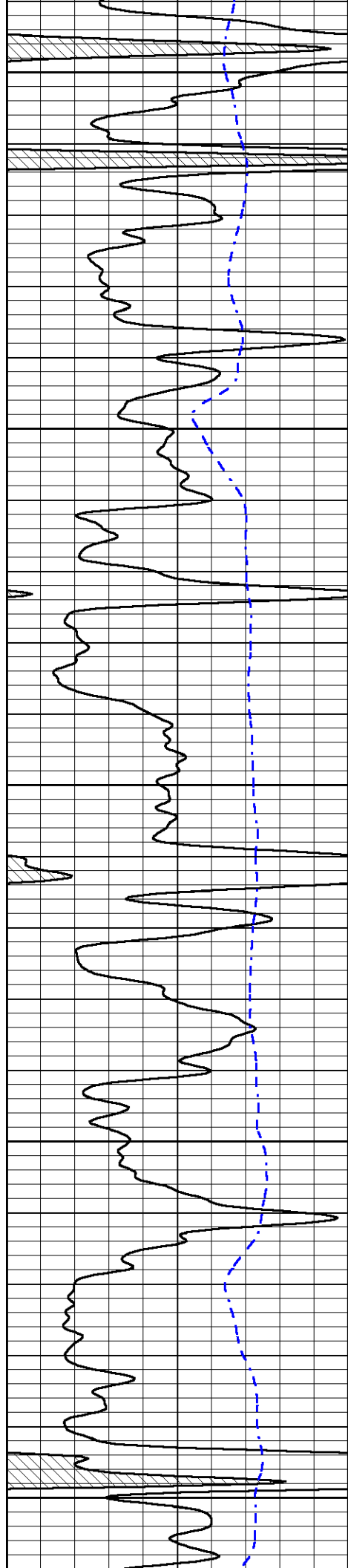
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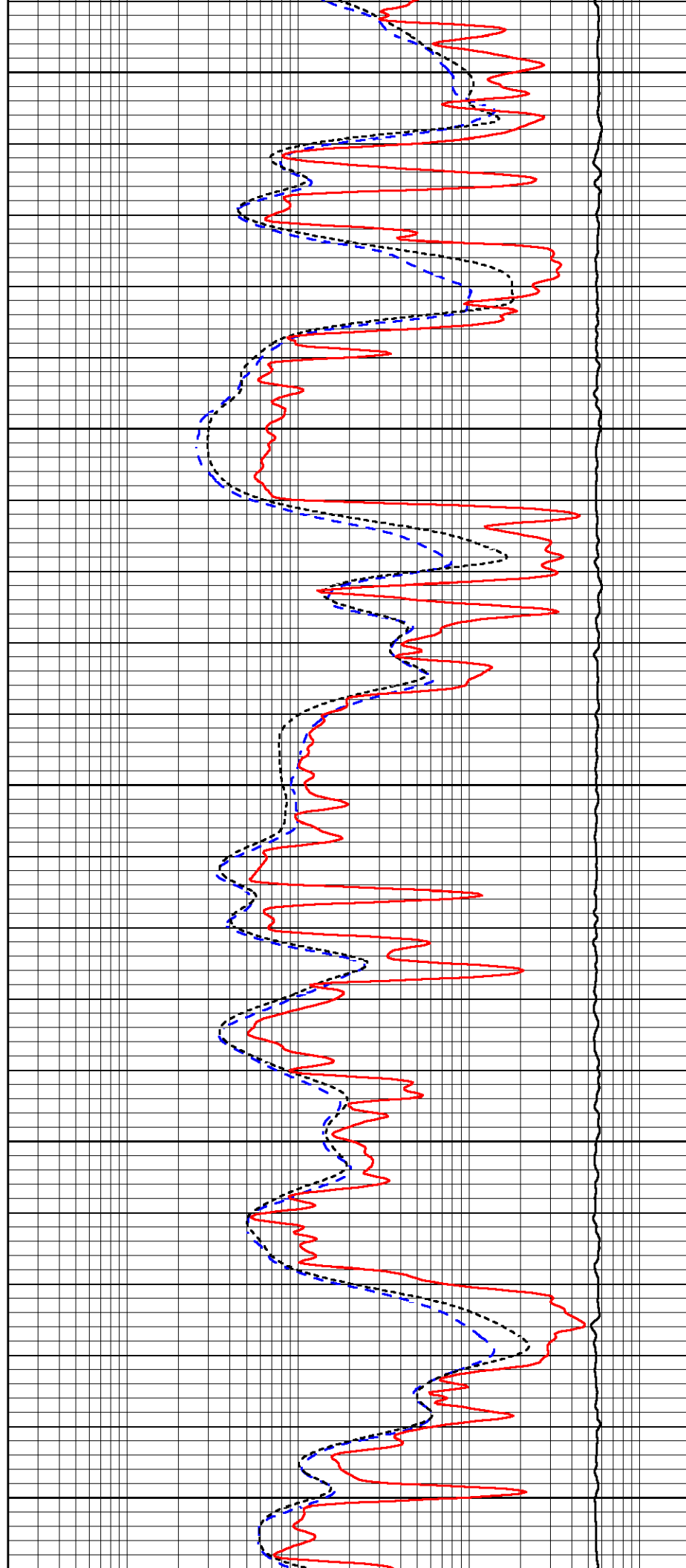
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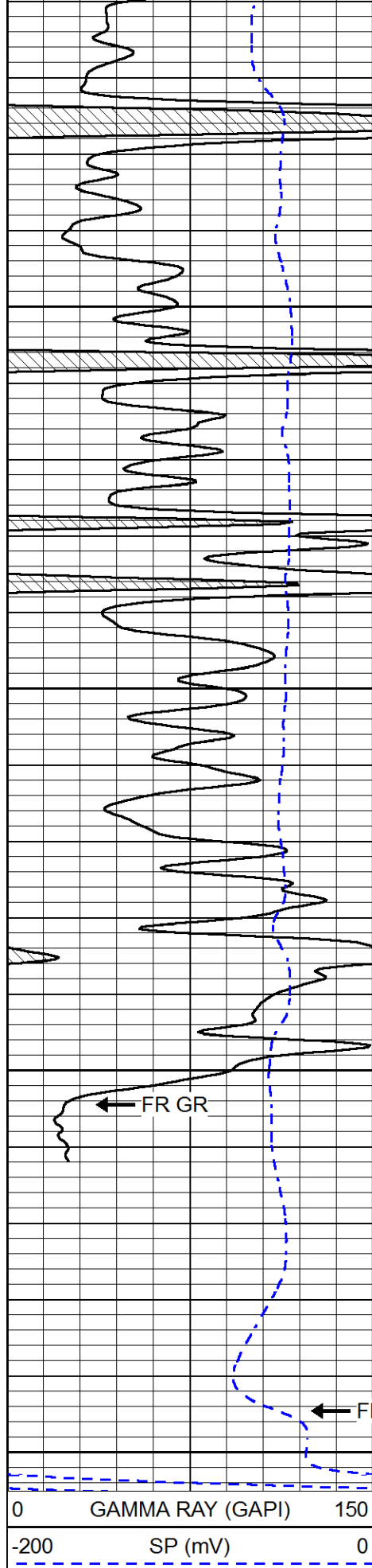
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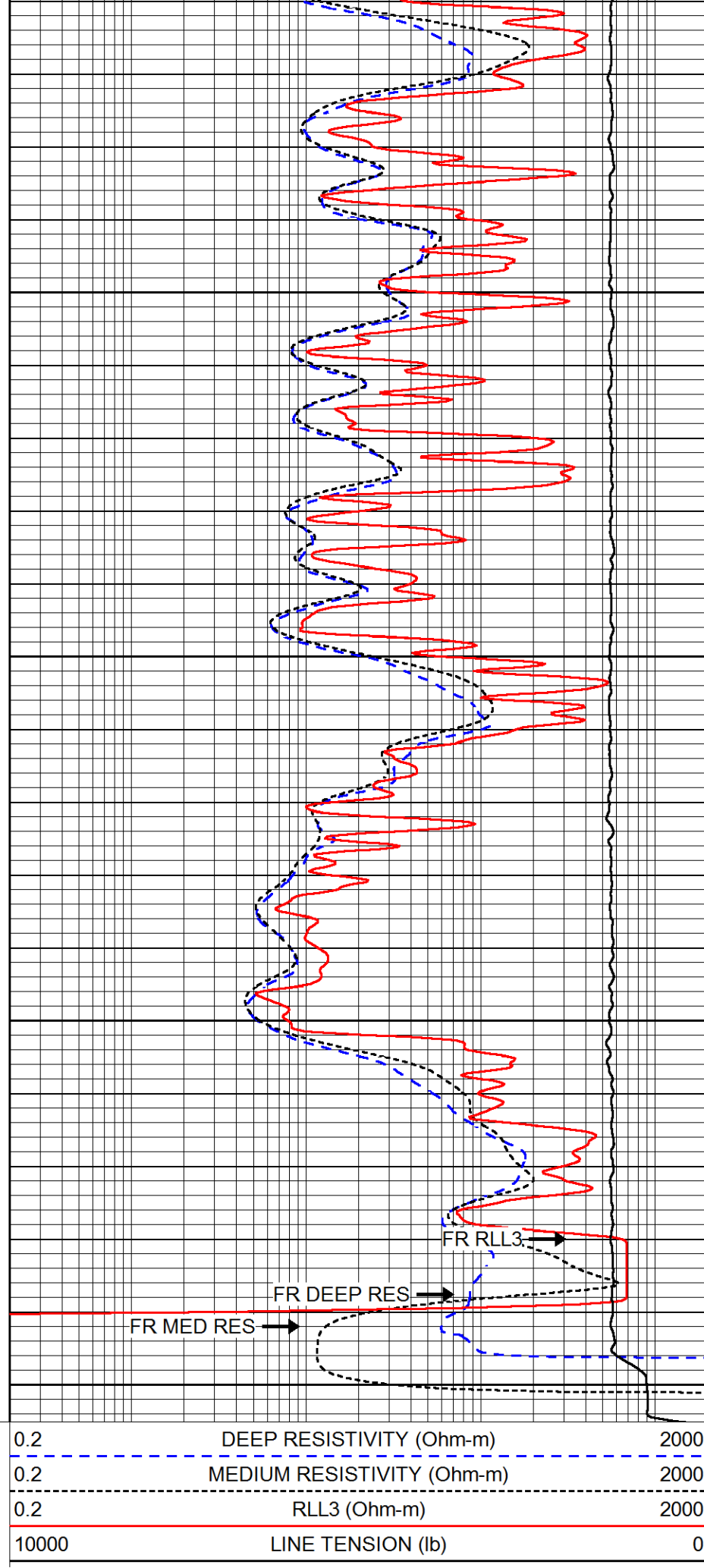


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4650

4700





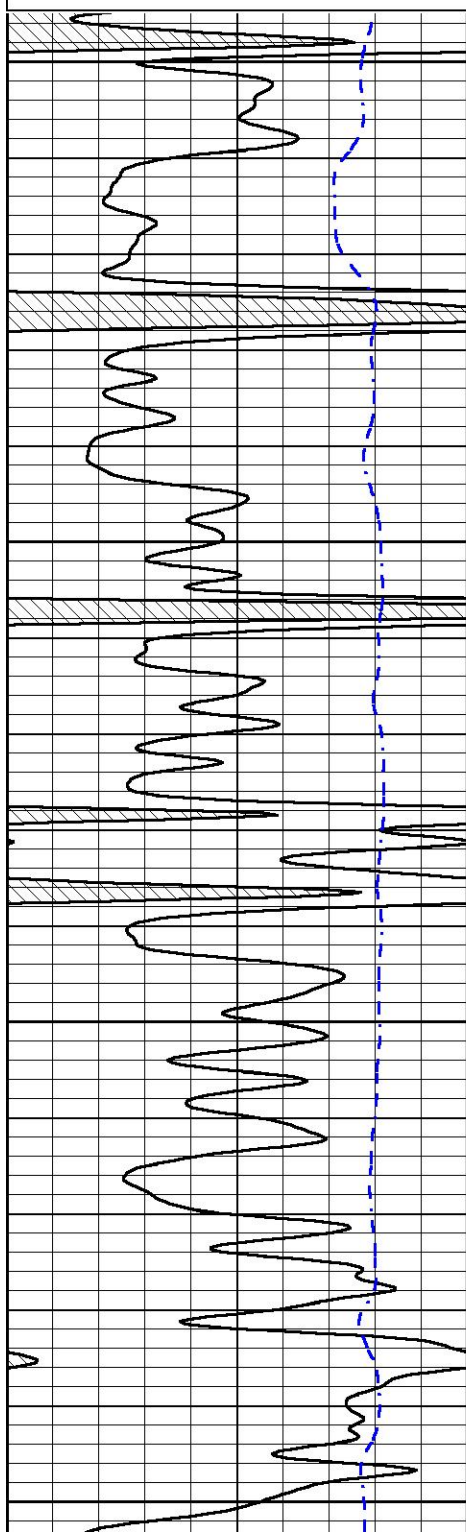
MIDWEST WIRELINE

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

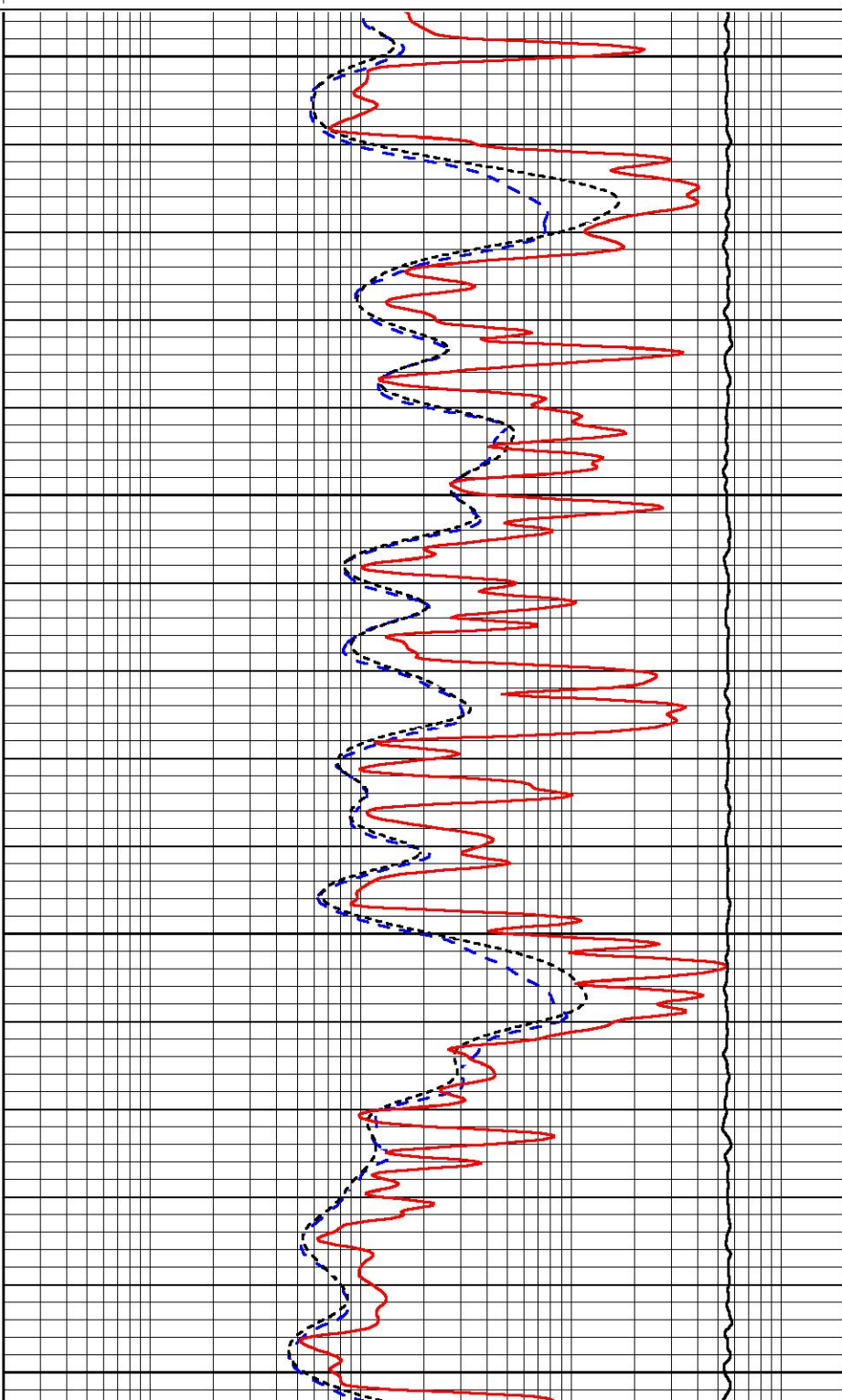


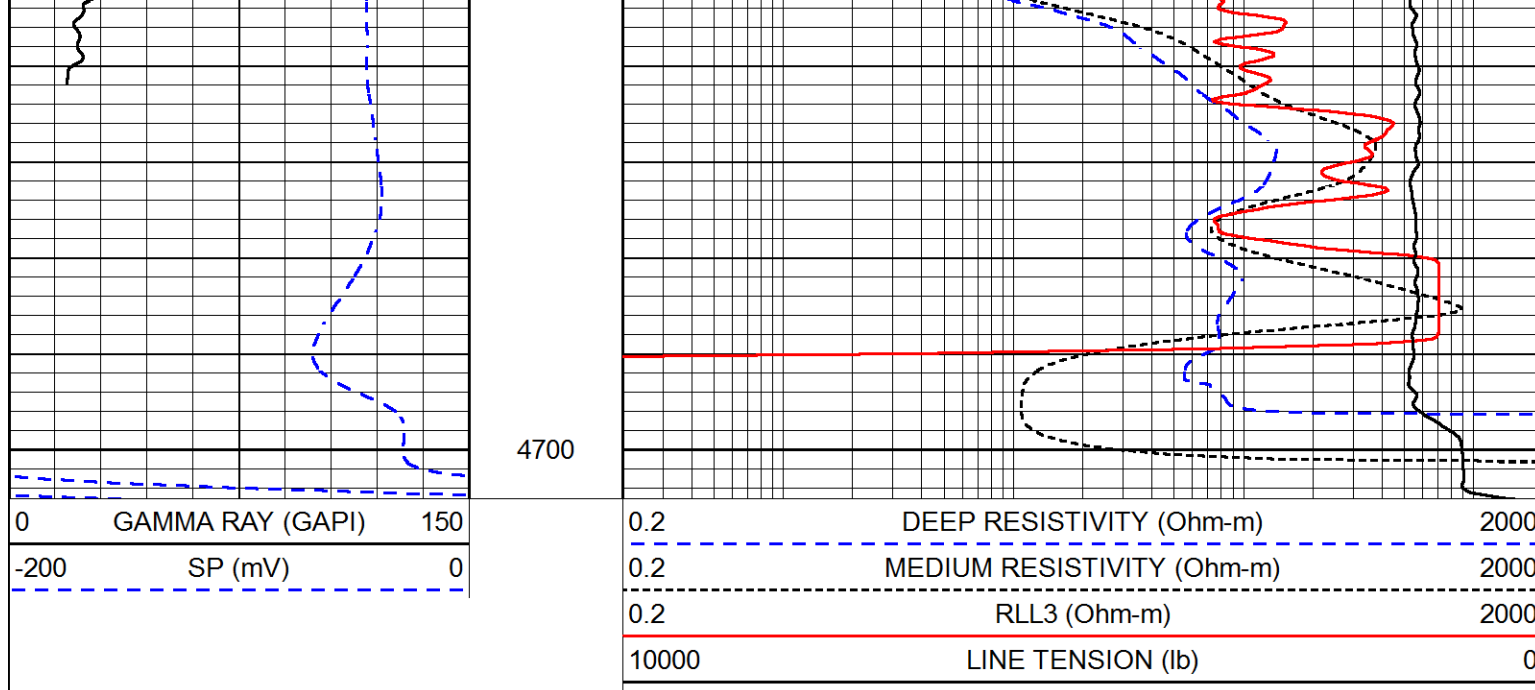
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Calibration Report

Database File russell_hockersmith c 15-1.db
 Dataset Pathname stkml/pass3.3
 Dataset Creation Wed Mar 10 21:25:37 2021

Dual Induction Calibration Report

Serial-Model: 952-828-PSI HIGH TEMP
 Calibration Performed: Wed Mar 10 20:07:20 2021

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.000	mmho/m	0.465	-34.500
Medium	0.000	1348.000	142.000	255.000	mmho/m	0.325	-31.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Wed Mar 03 05:24:59 2021

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	14000.0000	-1.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	13000.0000	-0.5000
Caliper	1.0033	1.0841	5.0000	16.5000	in	142.3500	-138.6500

Compensated Density Calibration Report

Serial-Model: 817-947-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Wed Mar 03 05:25:05 2021

Master Calibration

Density

Far Detector

Near Detector

	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	14.50	in		1.23		

Compensated Neutron Calibration Report
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Serial Number:	207-MW
Tool Model:	M&W
Calibration Performed:	WED MAR 3 7:30:30 2021

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:	Wed Mar 03 05:25:33 2021	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5500	GAPI/cps