



MIDWEST WIRELINE

DUAL INDUCTION
LOG

Company EPOC, LLC Well Eck 'A' SWD #1 Field Hazlett County Butler State Kansas		Company EPOC, LLC Well Eck 'A' SWD #1 Field Hazlett County Butler State Kansas		Location: API #: 15-015-24167-00-00 50 FNL & 1125 FWL SEC 32 TWP 23S RGE 5E Permanent Datum Ground Level Elevation 1475 Log Measured From Kelly Bushing Drilling Measured From Kelly Bushing Other Services CNL/CDL MEL Elevation K.B. 1481 D.F. G.L. 1475	
Date	8/11/2022				
Run Number	One				
Depth Driller	3048				
Depth Logger	3046				
Bottom Logged Interval	3045				
Top Log Interval	200				
Casing Driller	8.625 @ 205				
Casing Logger	209				
Bit Size	7.875				
Type Fluid in Hole	Chemical				
Salinity, ppm CL					
Density / Viscosity					
pH / Fluid Loss					
Source of Sample	FLOWLINE				
Rm @ Meas. Temp	2.2 @ 76				
Rmt @ Meas. Temp	1.65 @ 76				
Rmc @ Meas. Temp	2.97 @ 76				
Source of Rmt / Rmc	CHARTS				
Rm @ BHT	1.57 @ 106				
Operating Rig Time	3 Hours				
Max Rec. Temp. F	106				
Equipment Number	P-108				
Location	HAYS				
Recorded By	D. Schmidt				
Witnessed By	Ray Gilbert	Bill Stout			

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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.

Newton,
East to Purity Springs Rd, 2 South, 1/4 East,
South into

Log Measured From: Kelly Bushing 6 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: Ray Gilbert	
Operator:		Secondary Witness: Bill Stout	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33			GR-M&W (103)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48			CNT-M&W (210)	5.00	3.50	100.00
				CDL-M&W (303-03)	8.50	4.00	250.00
LSD DCAL SSD	28.18 28.17 27.68						
				ML-PSI STKBL ML (401)	7.58	4.00	65.00
MCAL MI MN	19.58 19.58 19.58						
RLL3F RLL3	15.50 15.50						
				DIL-M&W (505 HT)	18.25	3.50	220.00
CILD	8.33						
CILM	4.50						
SP	0.20						
Dataset: epoc_eck a swd 1.db: field/well/stkml/pass3.11 Total length: 42.33 ft Total weight: 685.00 lb O.D.: 4.00 in							

Log Variables

DatabaseC:\ProgramData\Warrior\Data\epoc_eck a swd 1.db
Dataset field/well/stkml/pass3.11/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 106	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 112	degF 70	Off	ft 3046

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

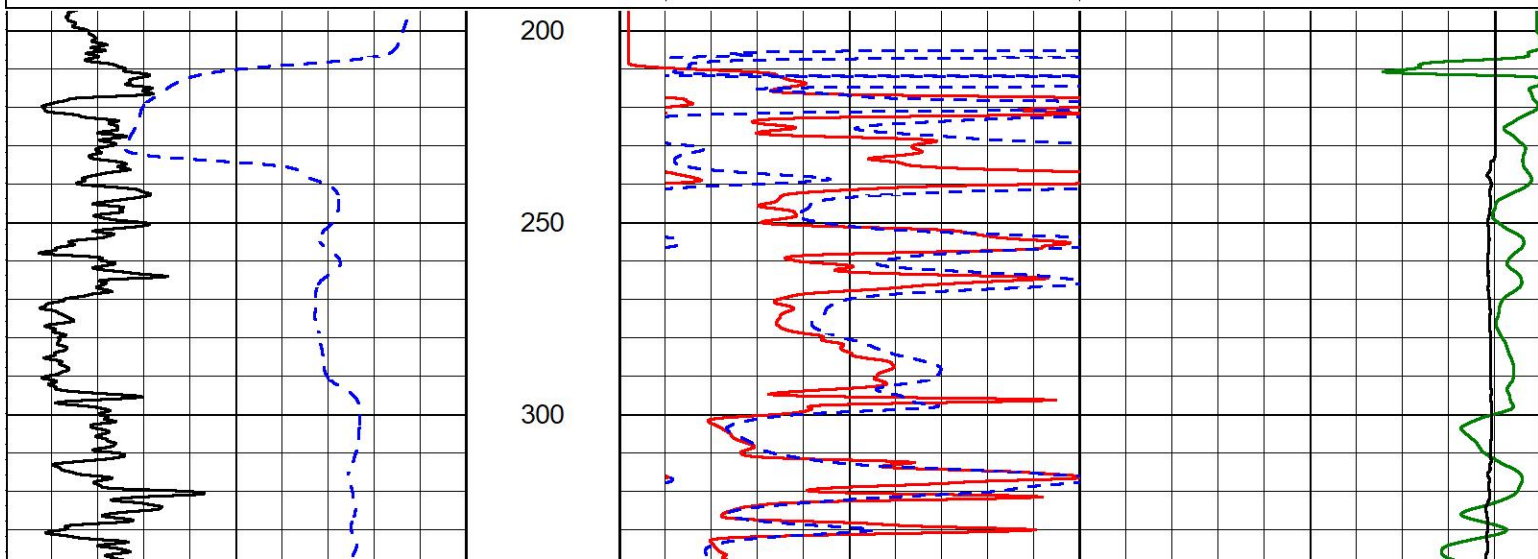


2" SCALE RESISTIVITY

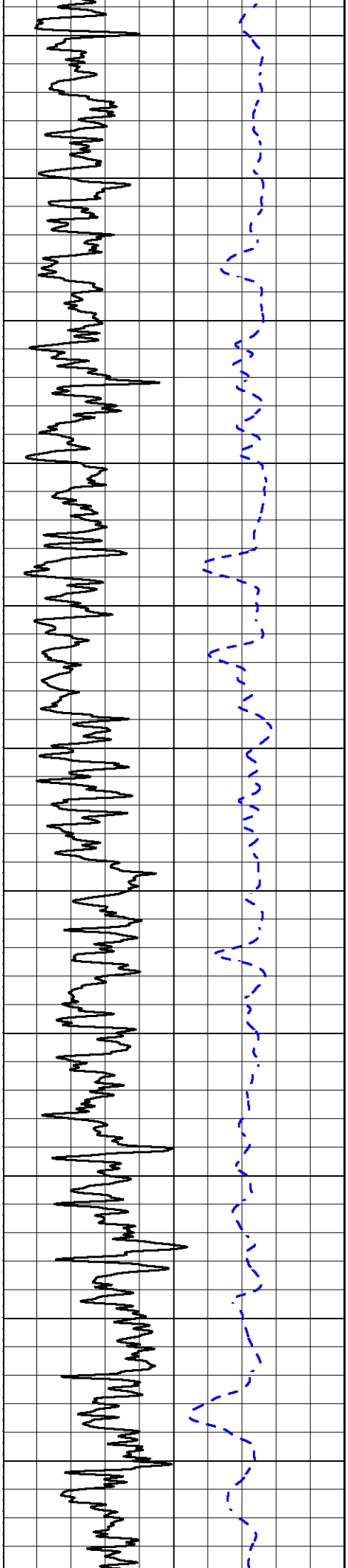
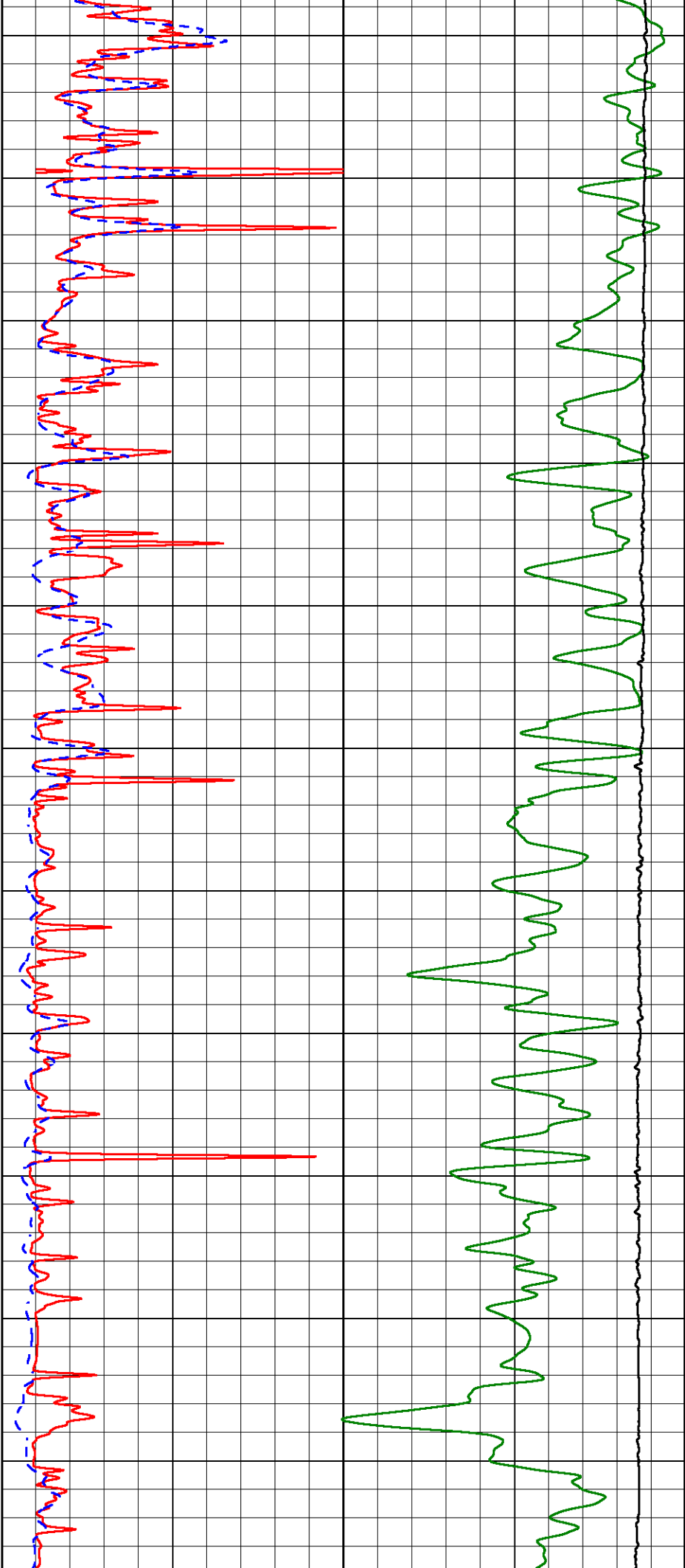
MAIN PASS

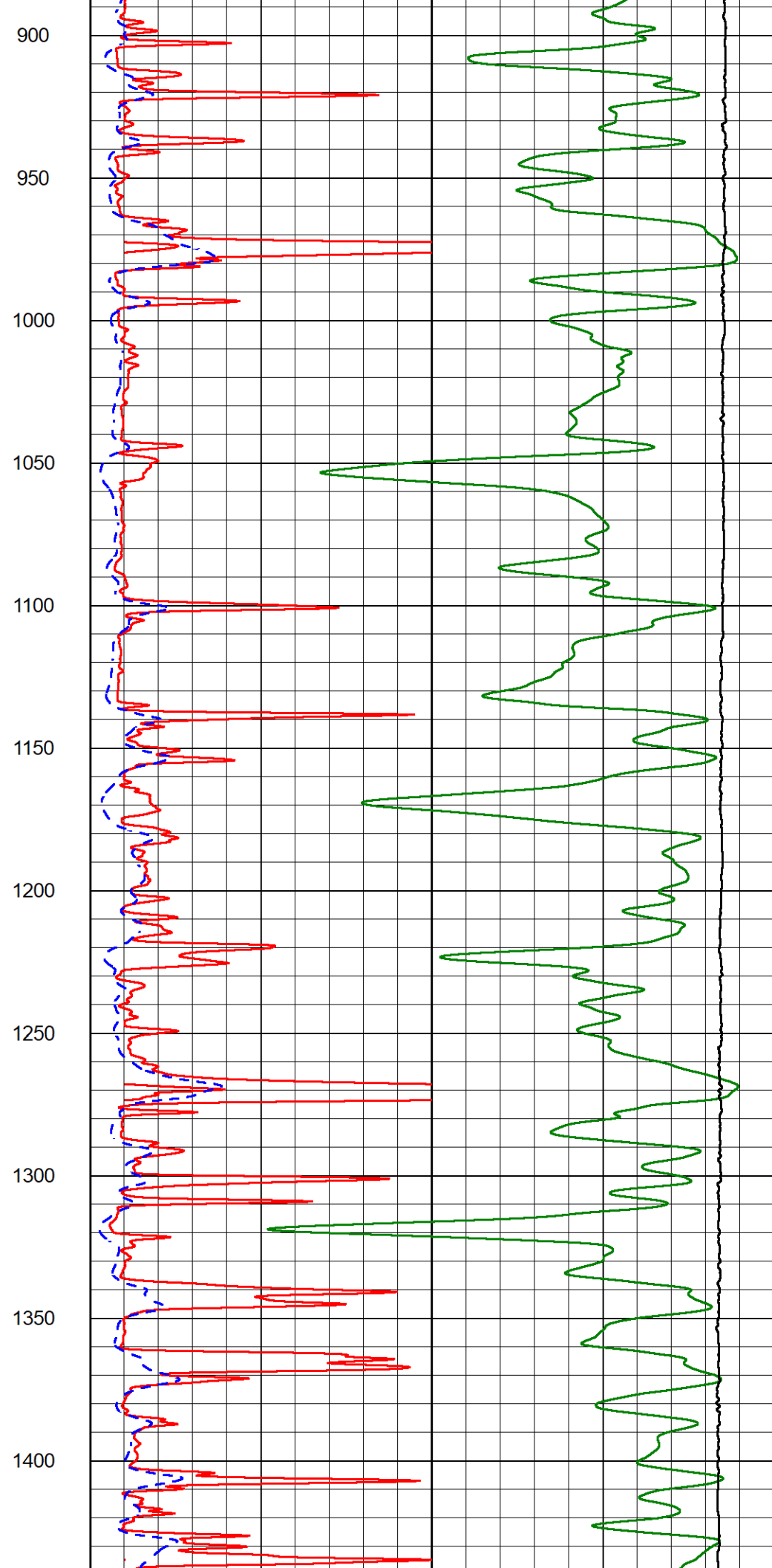
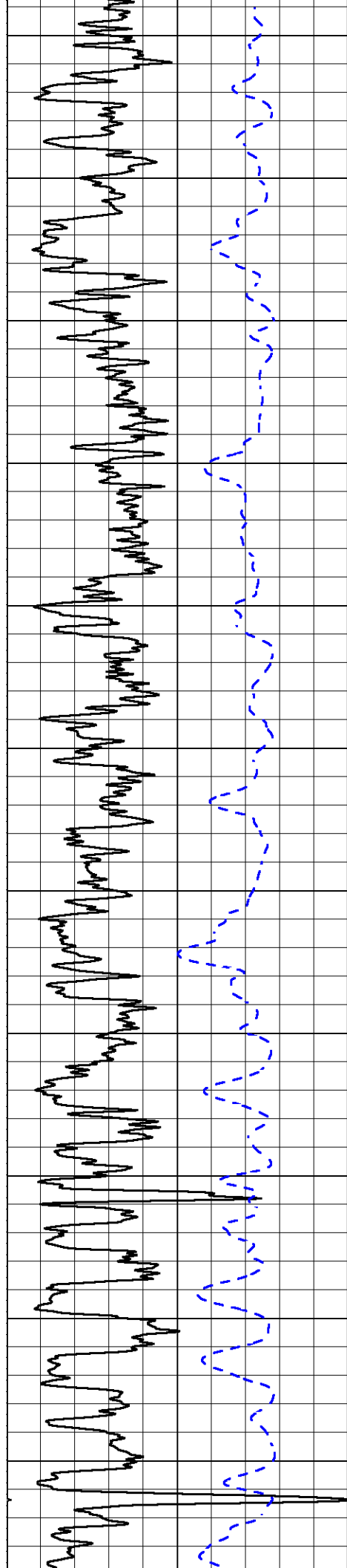
Database File epoc_eck a swd 1.db
Dataset Pathname stkml/pass3.3
Presentation Format _dil2in
Dataset Creation Thu Aug 11 06:50:43 2022
Charted by Depth in Feet scaled 1:600

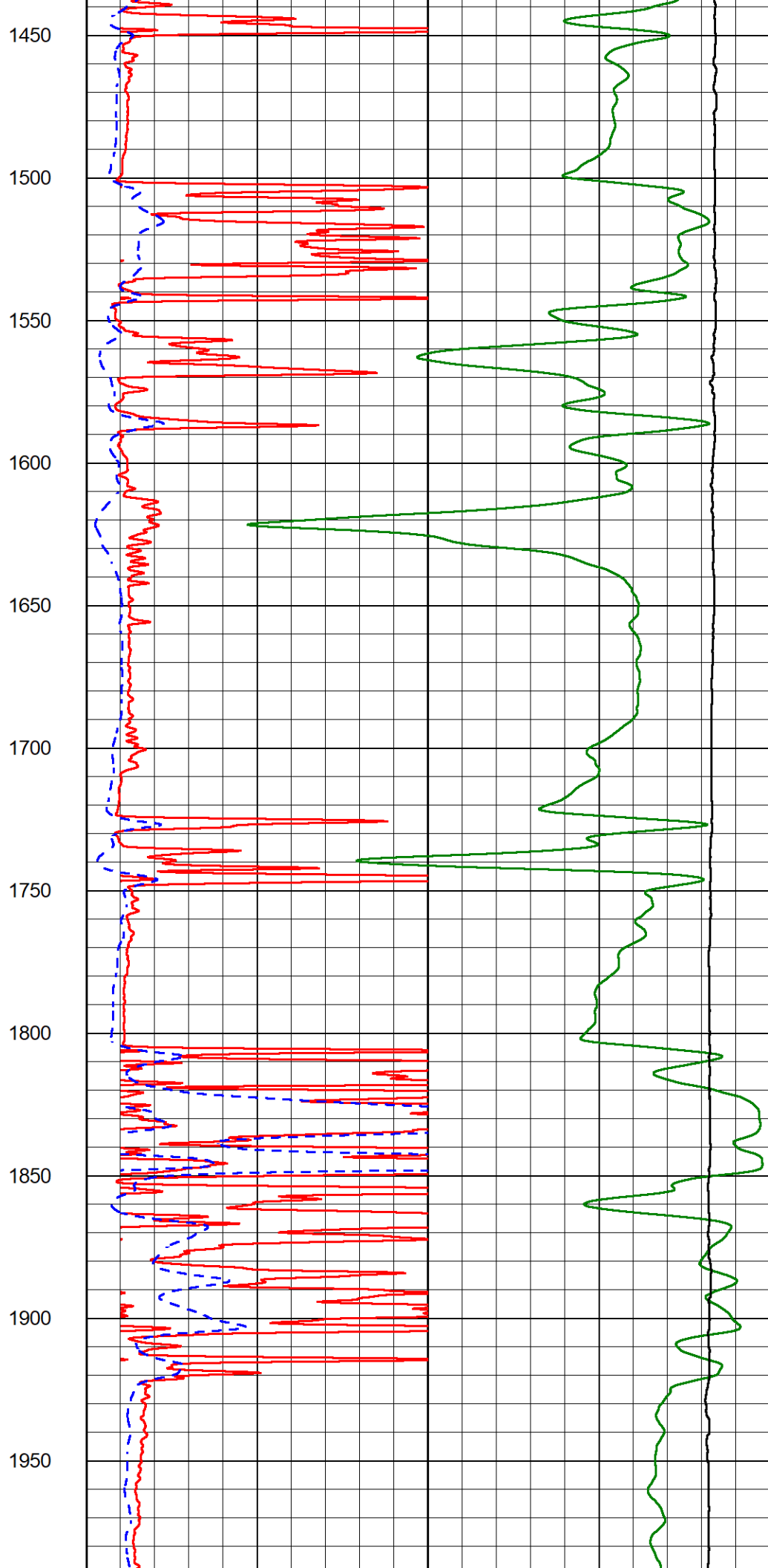
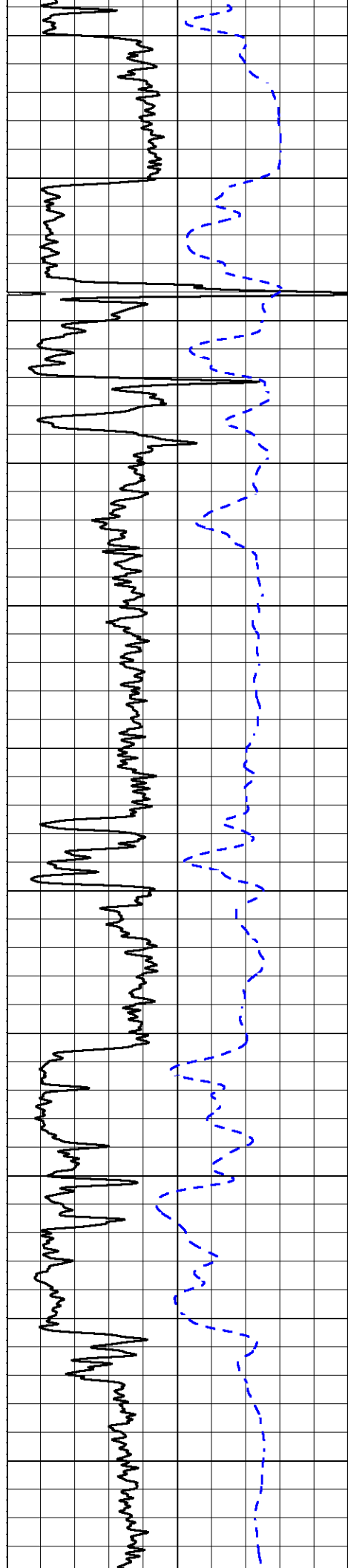
0	Gamma Ray (GAPI)	300	1000	Conductivity (mmho/m)	0
-200	SP (mV)	0	15000	Line Tension (lb)	0
			0	Shallow Resistivity (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			Shallow Resistivity		
			50	(Ohm-m)	200
			50	Deep Resistivity (Ohm-m)	200

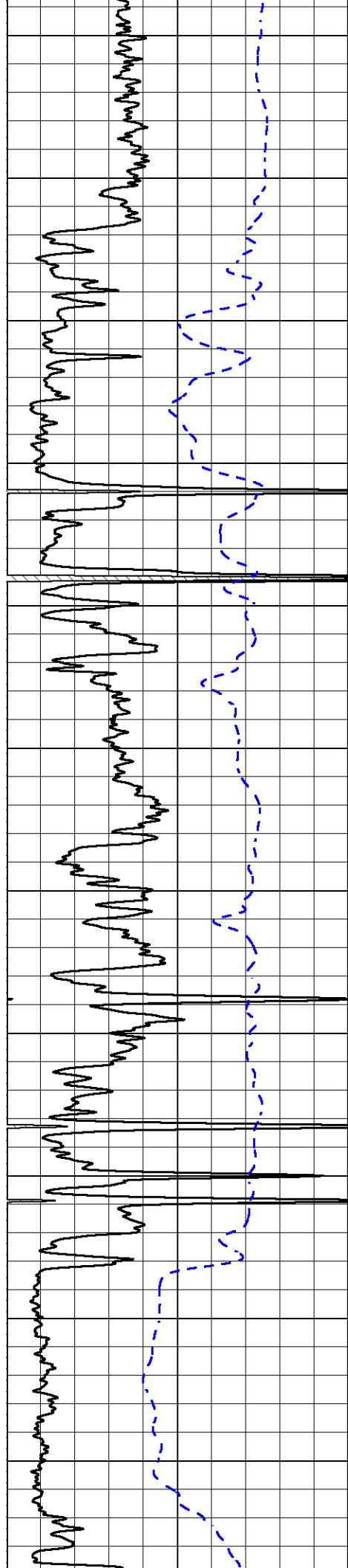


350
400
450
500
550
600
650
700
750
800
850









2000

2050

2100

2150

2200

2250

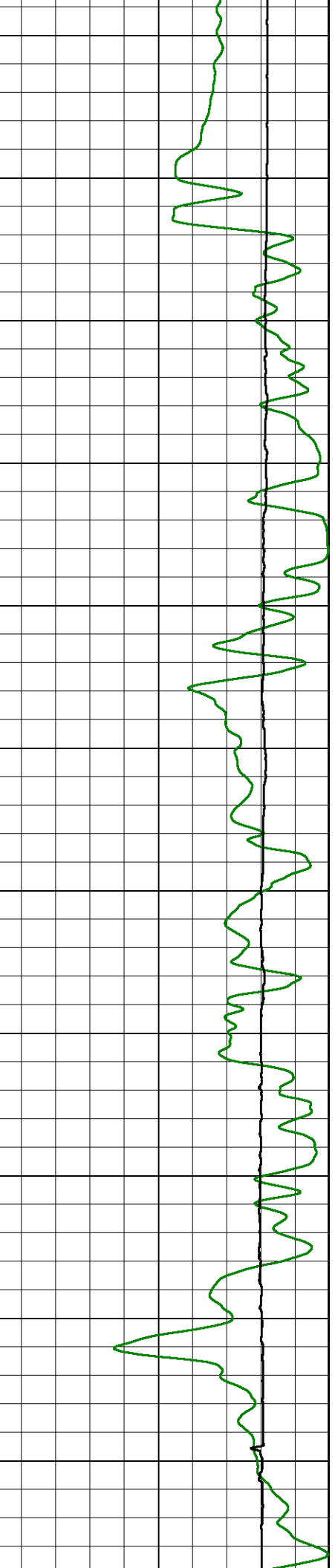
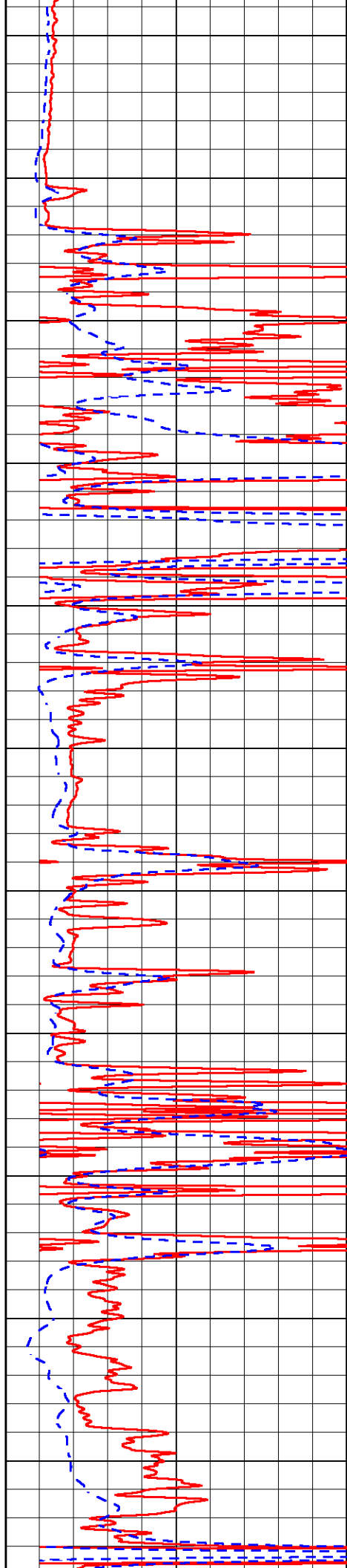
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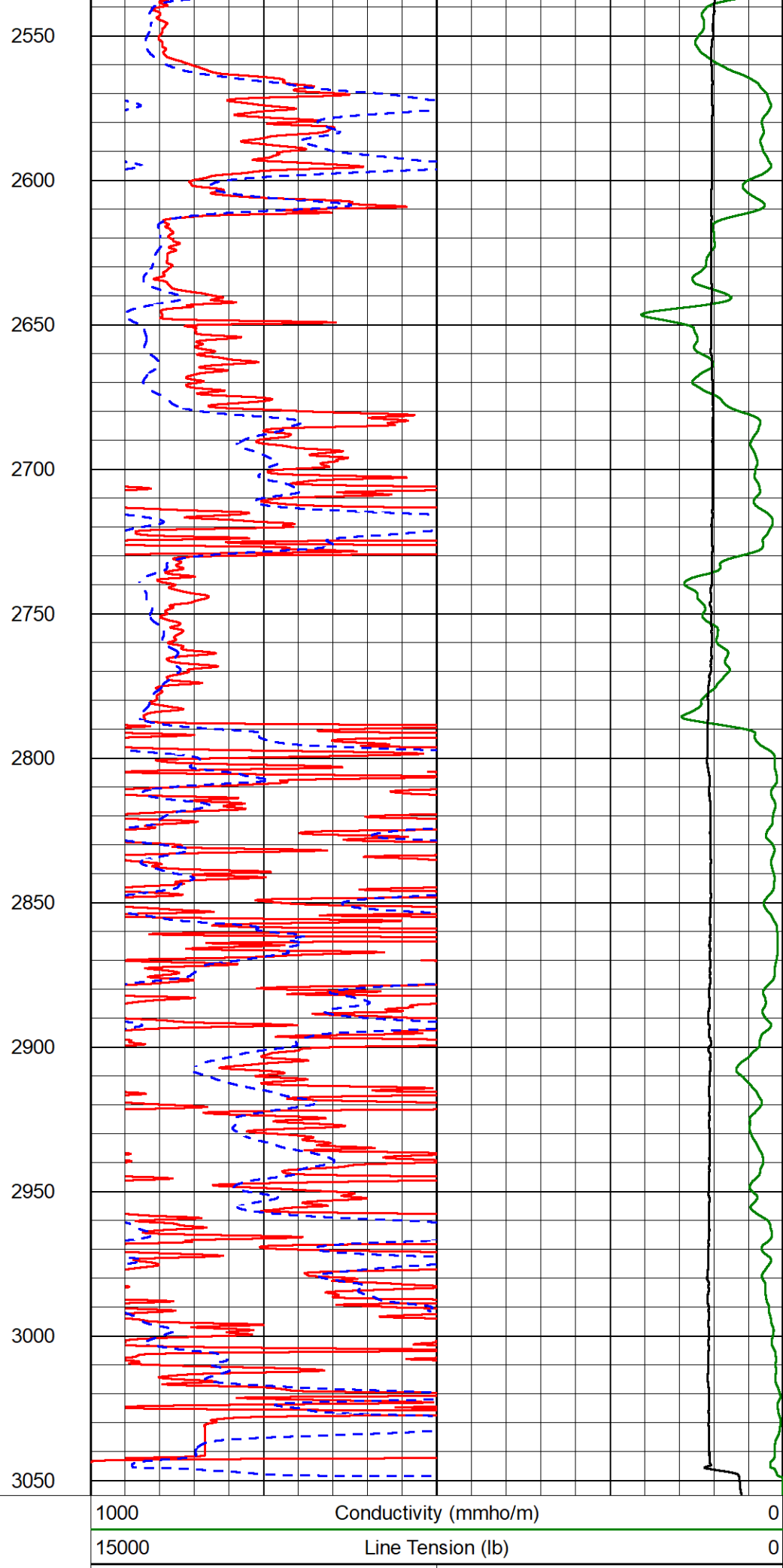
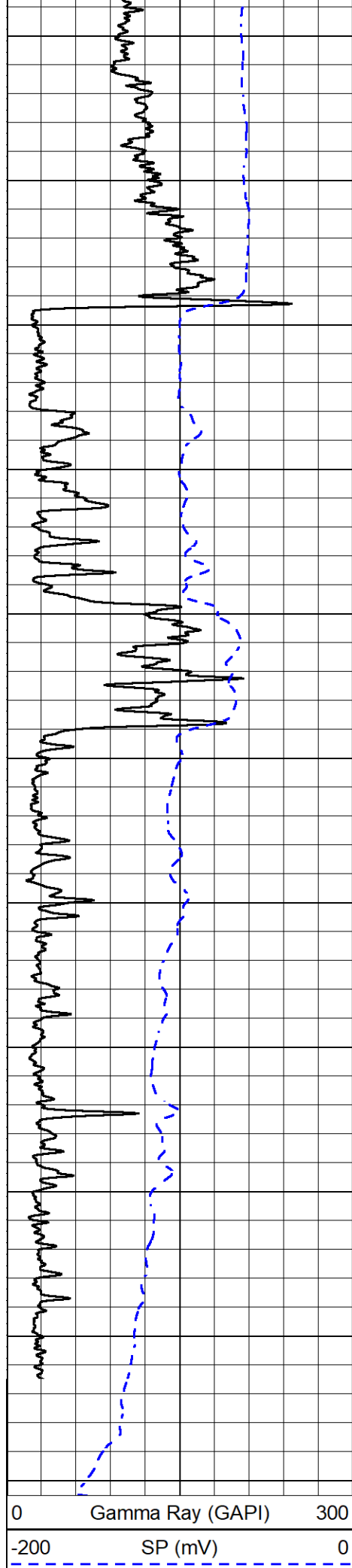
2350

2400

2450

2500





0	Deep Resistivity (Ohm-m)	50
Shallow Resistivity		
50	(Ohm-m)	200
50	Deep Resistivity (Ohm-m)	200



MIDWEST WIRELINE

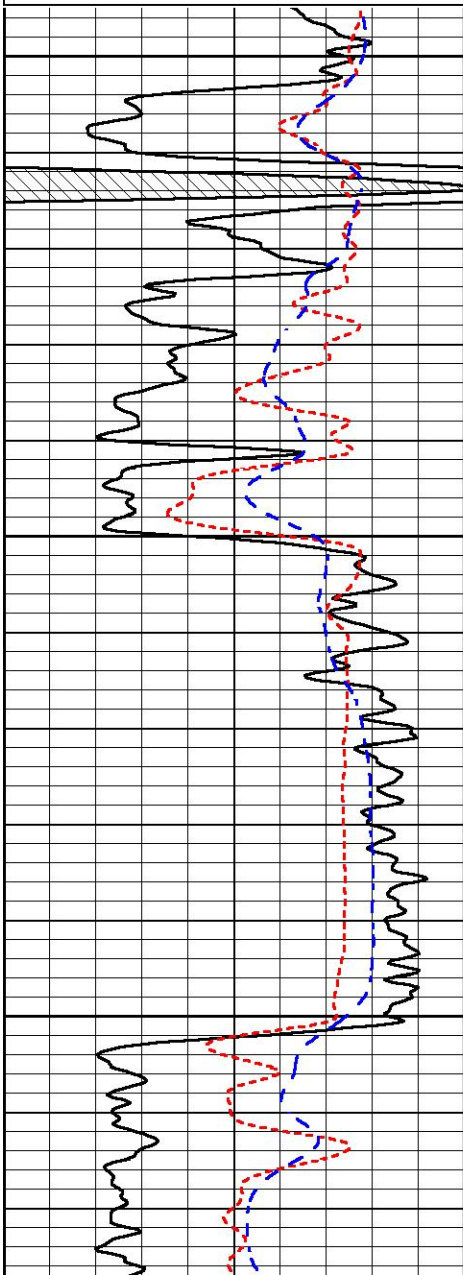
DETAIL SECTION

MAIN PASS

Database File epoc_eck a swd 1.db
Dataset Pathname stkml/pass3.1
Presentation Format _dil
Dataset Creation Thu Aug 11 06:50:23 2022
Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-160	RXORT	40
-200	SP (mV)	0

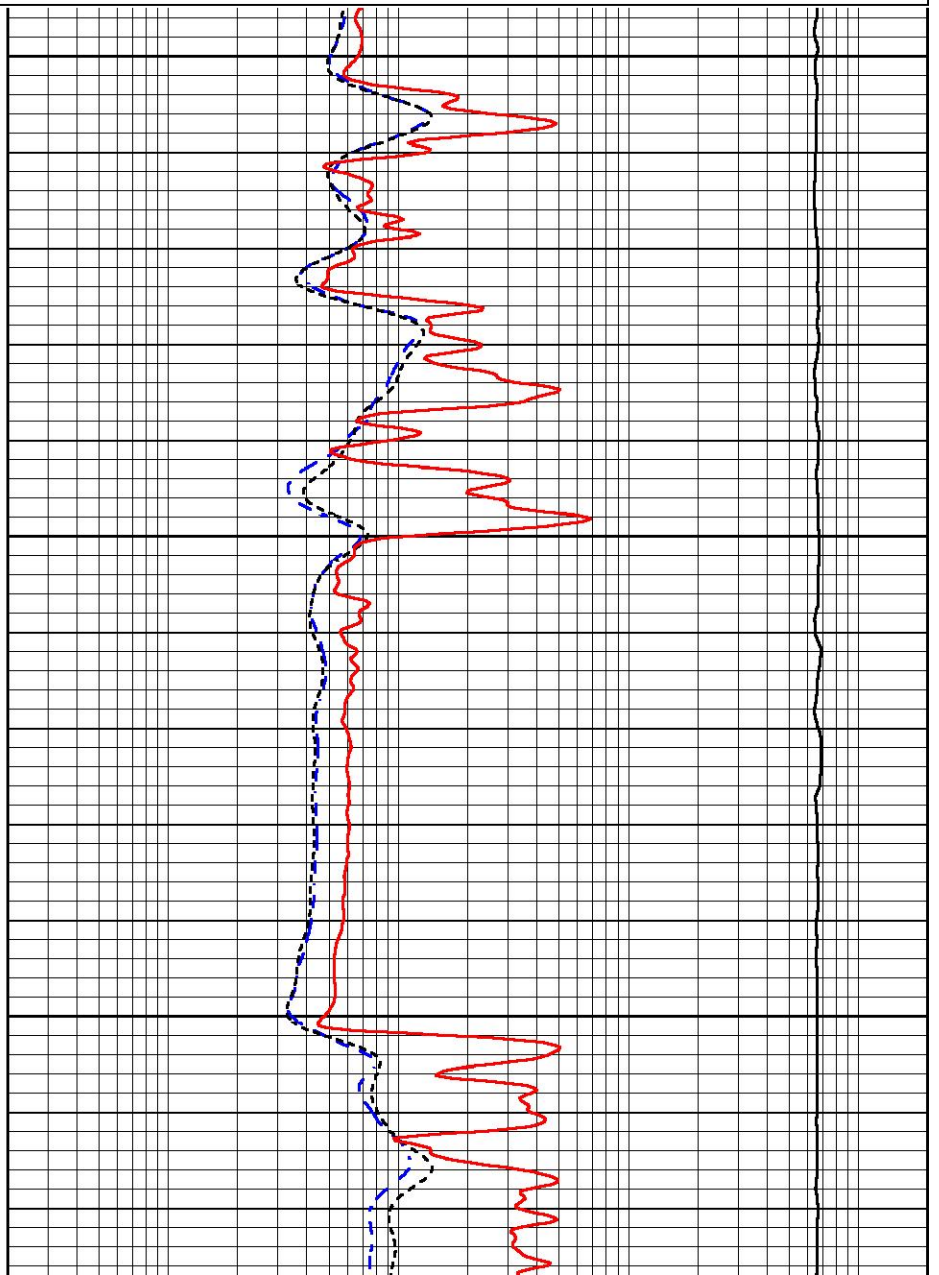
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0

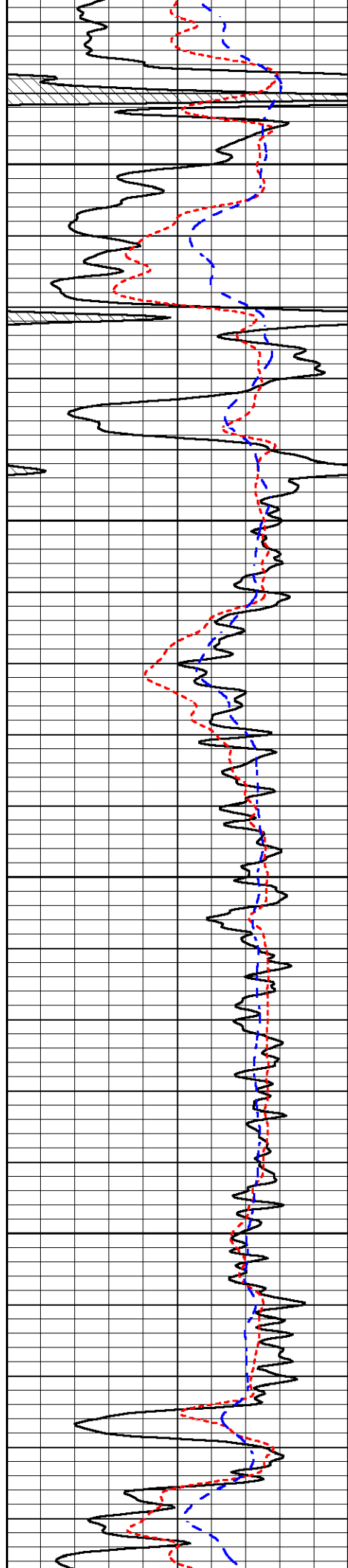


1400

1450

1500



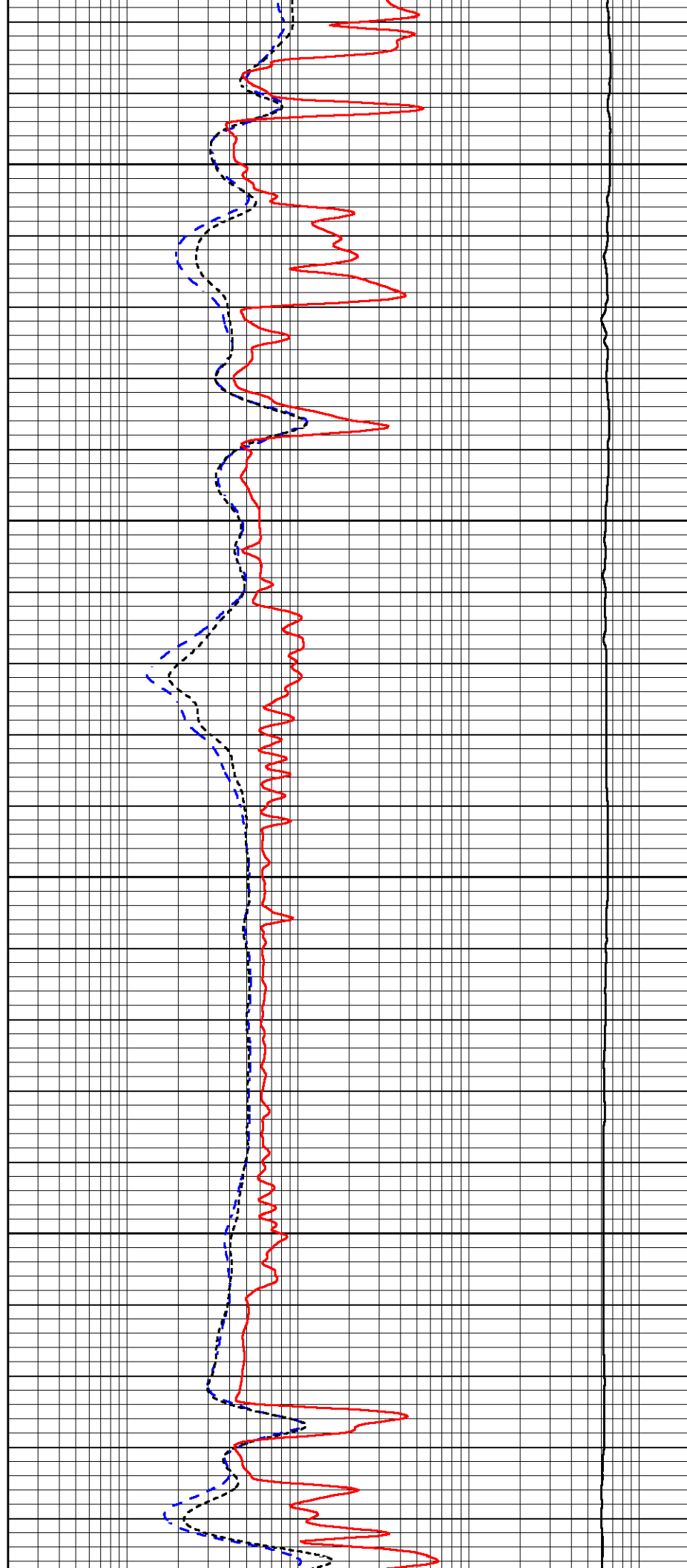


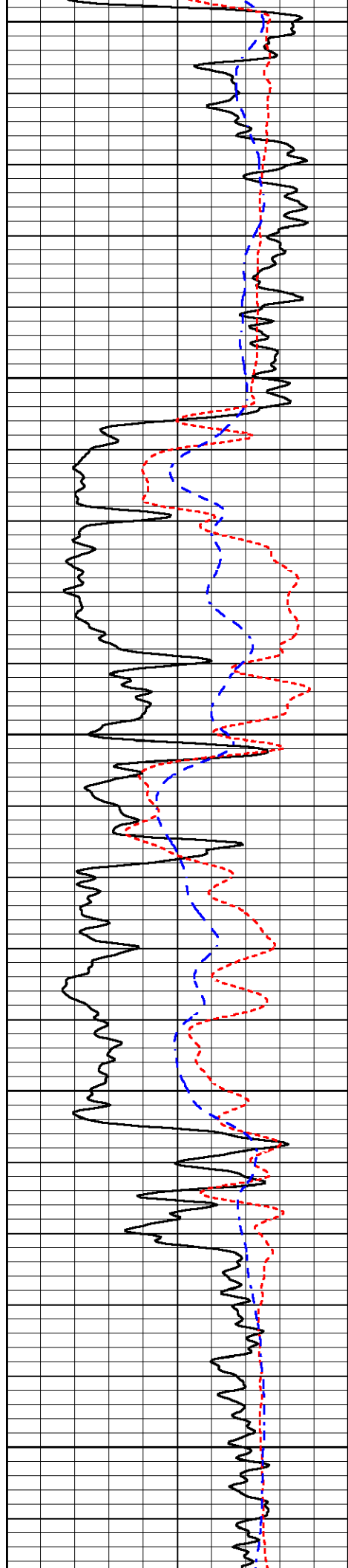
1550

1600

1650

1700





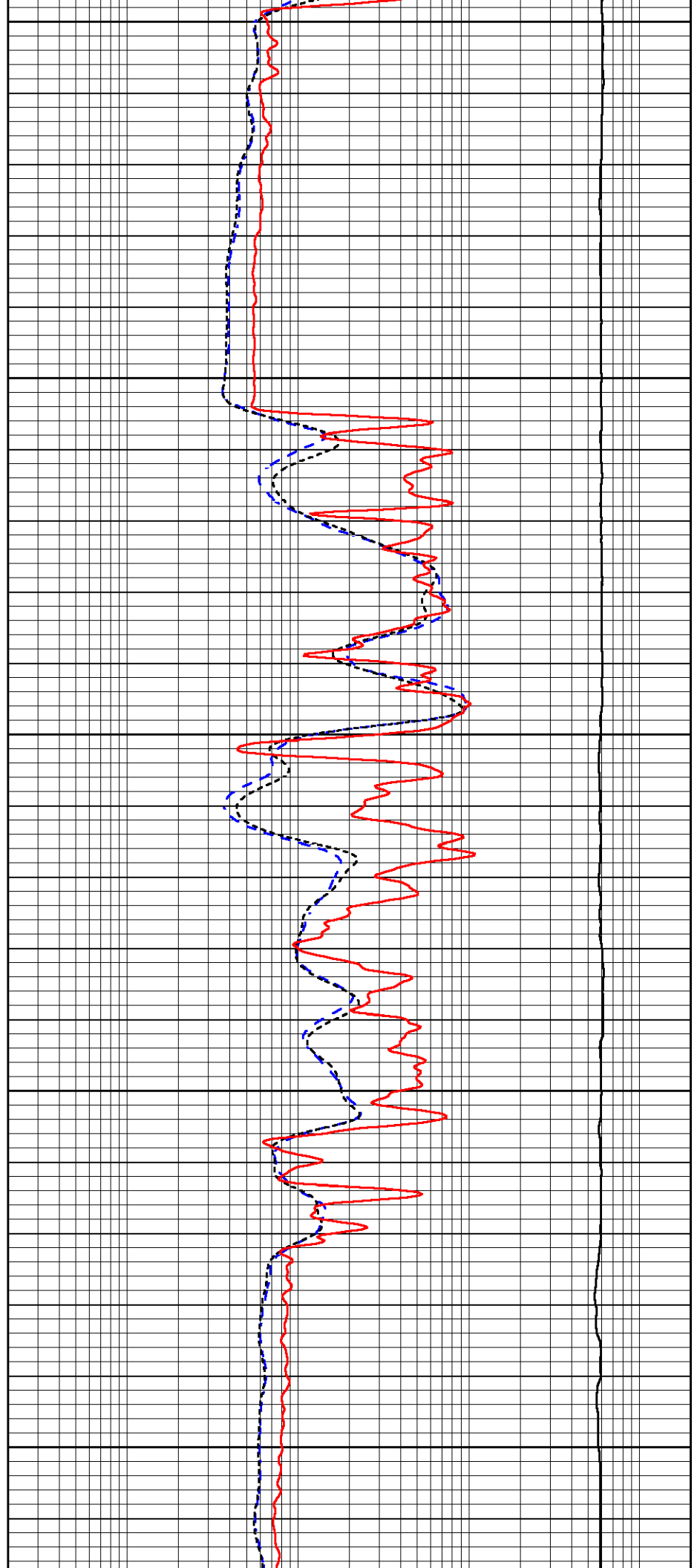
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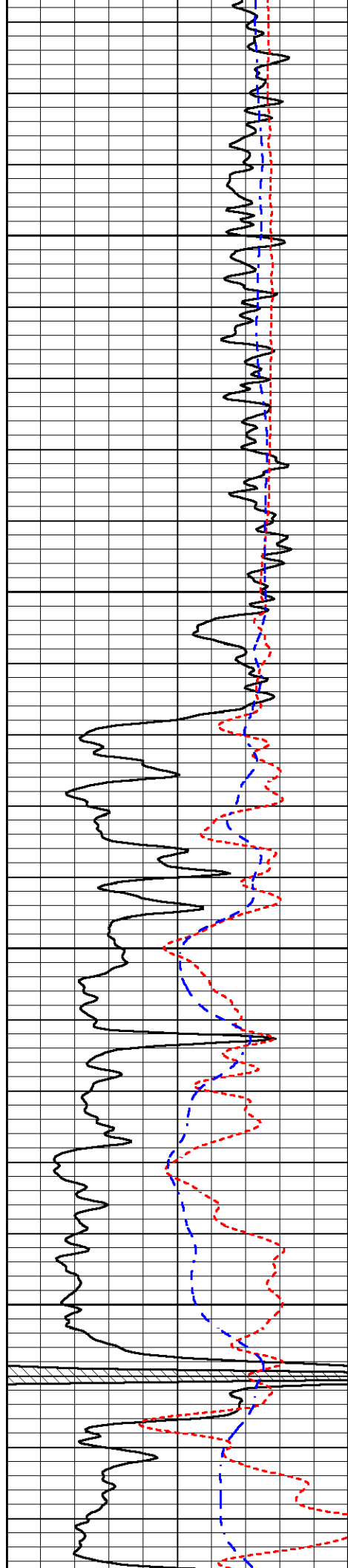
1800

1850

1900

1950



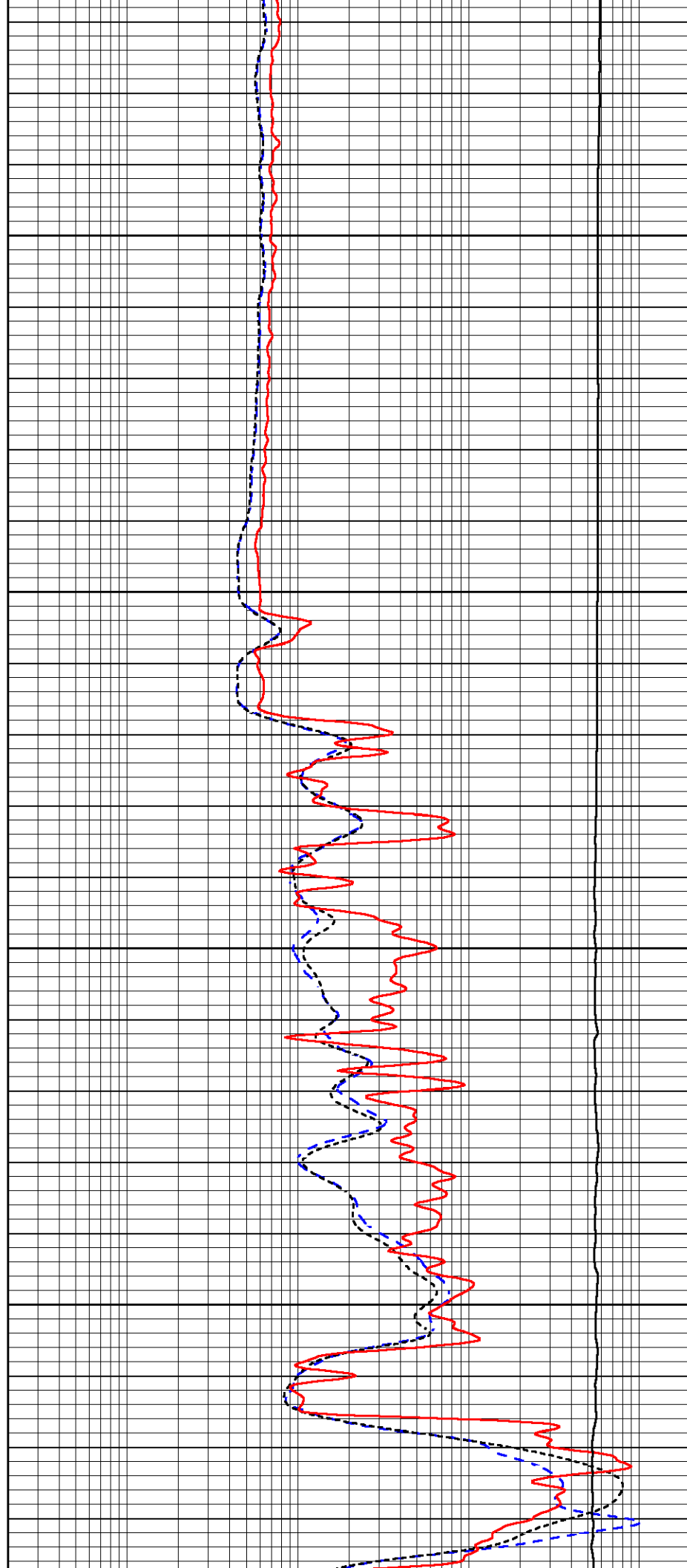


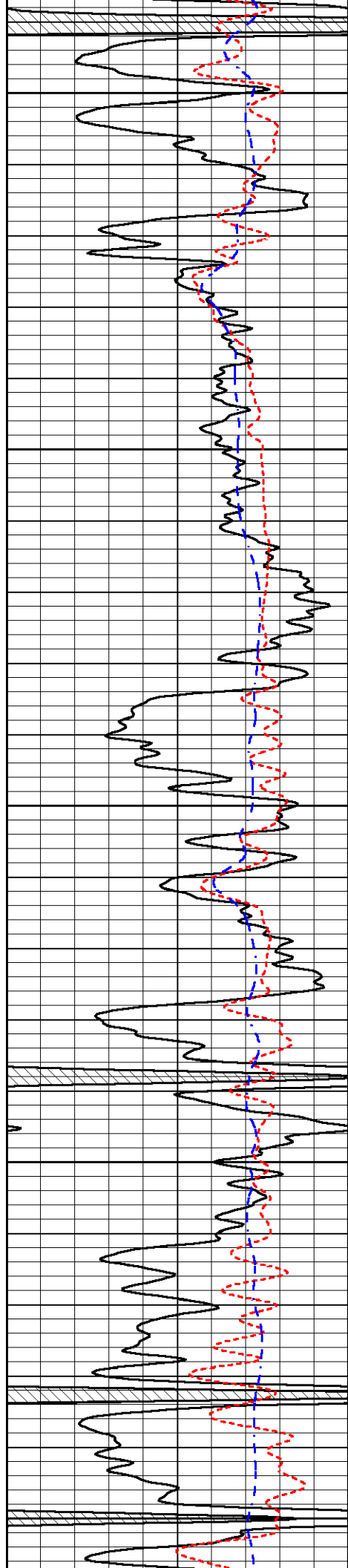
2000

2050

2100

2150





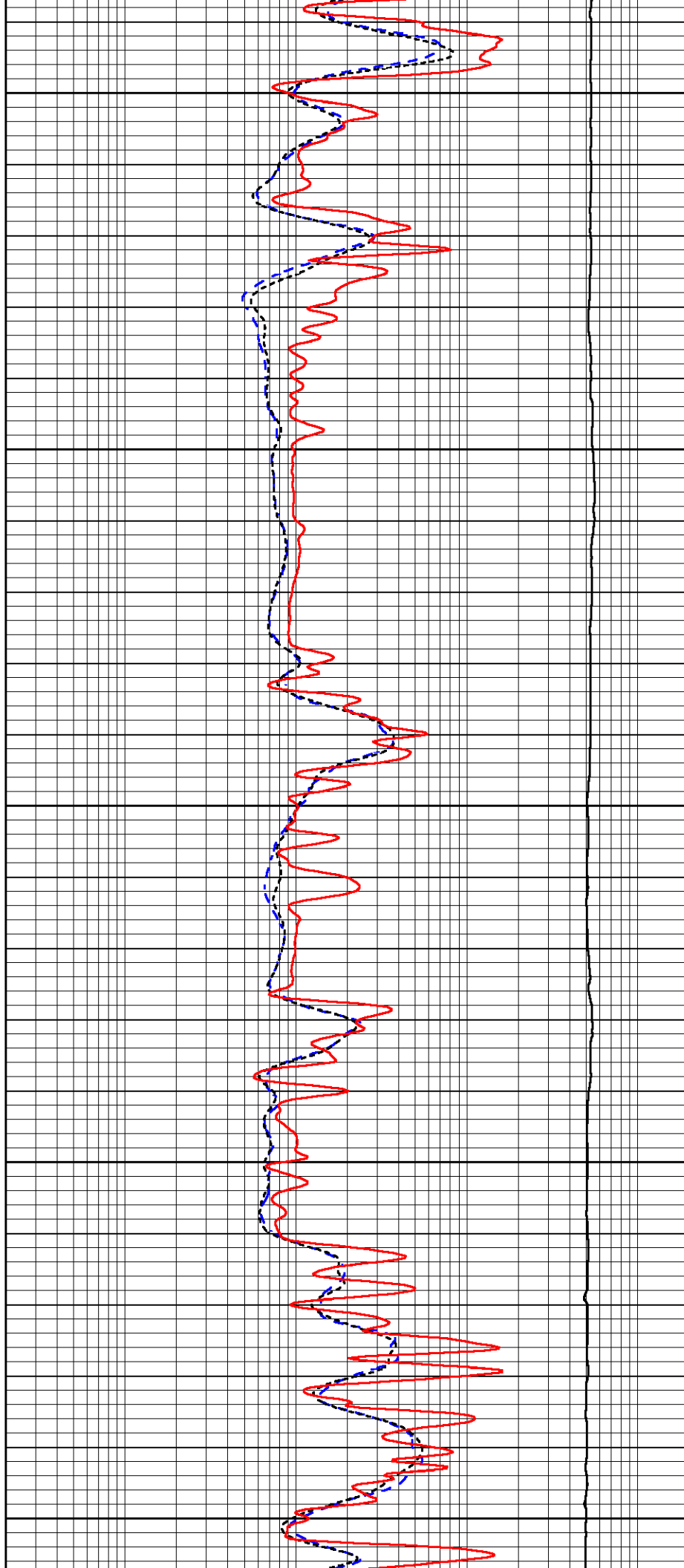
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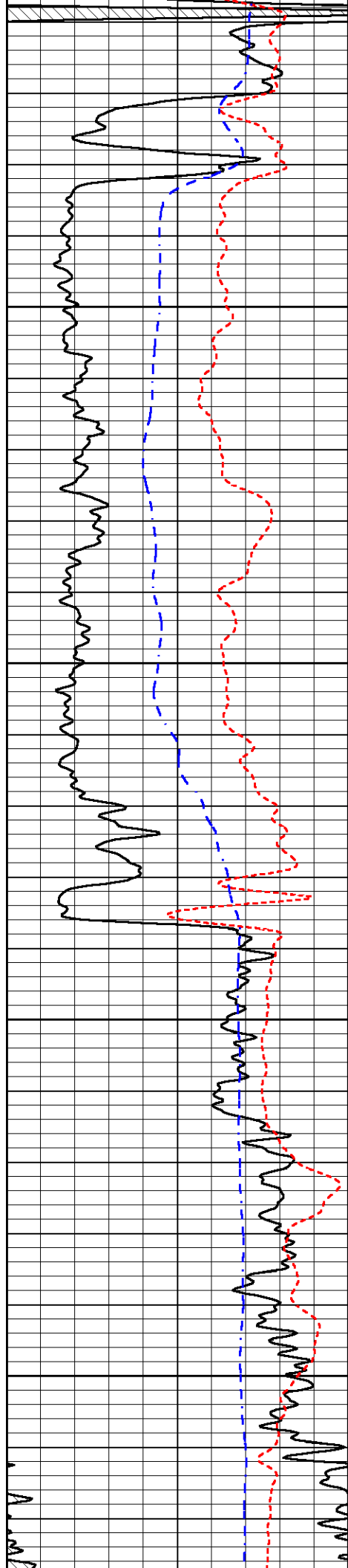
2250

2300

2350

2400



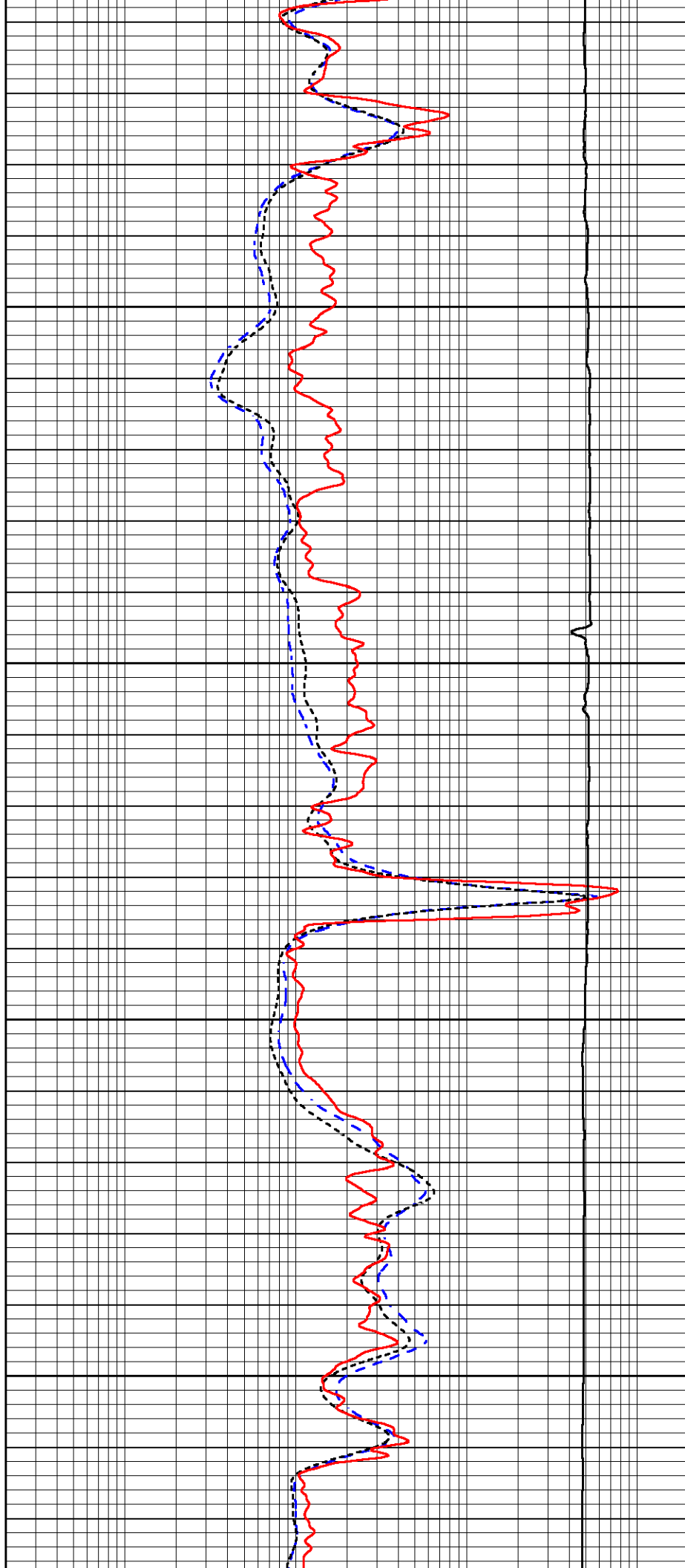


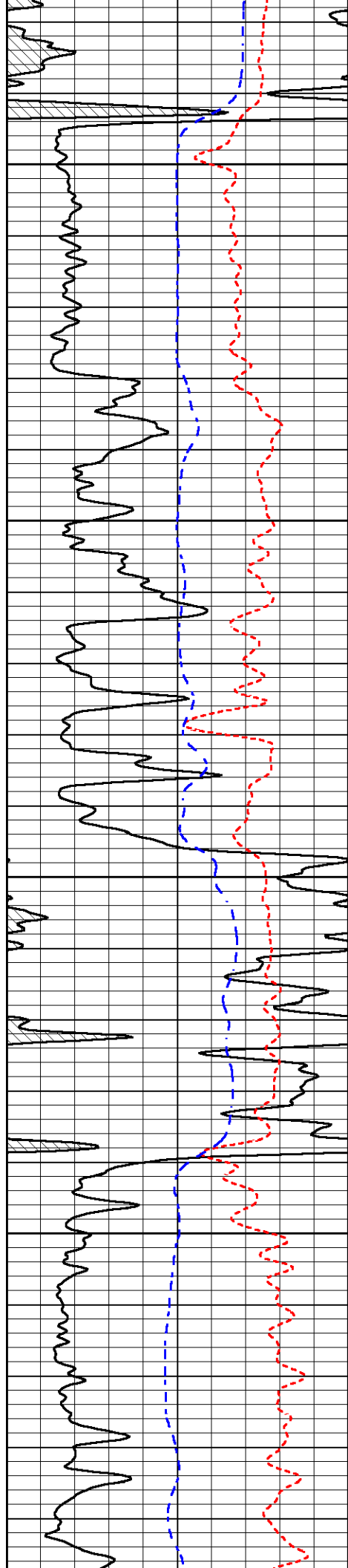
2450

2500

2550

2600



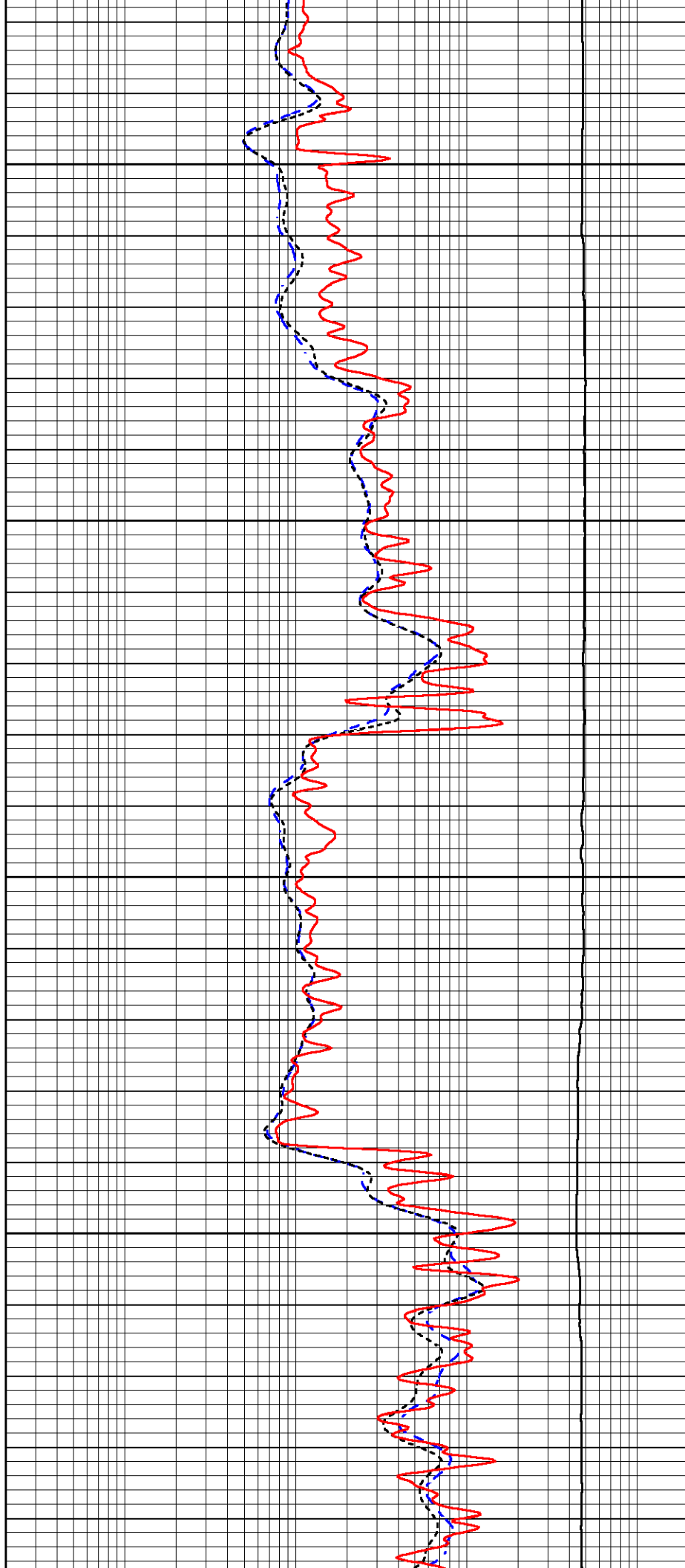


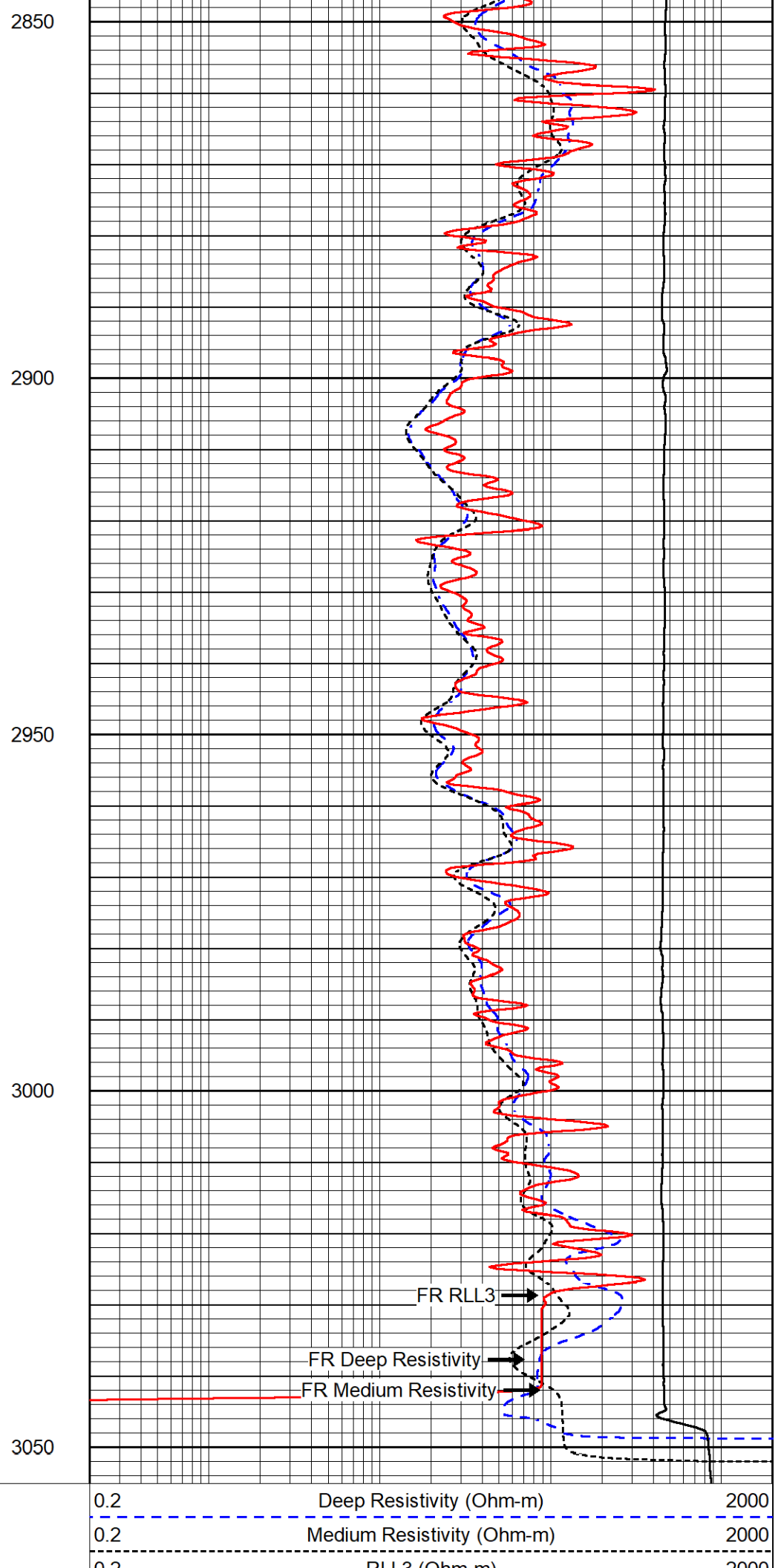
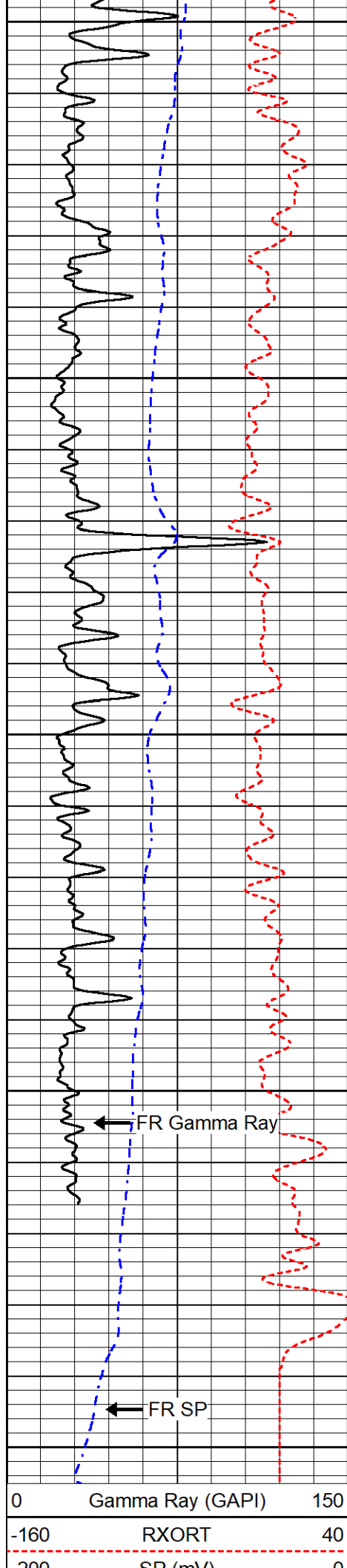
2650

2700

2750

2800





-200	SP (mV)	0
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0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0



MIDWEST WIRELINE

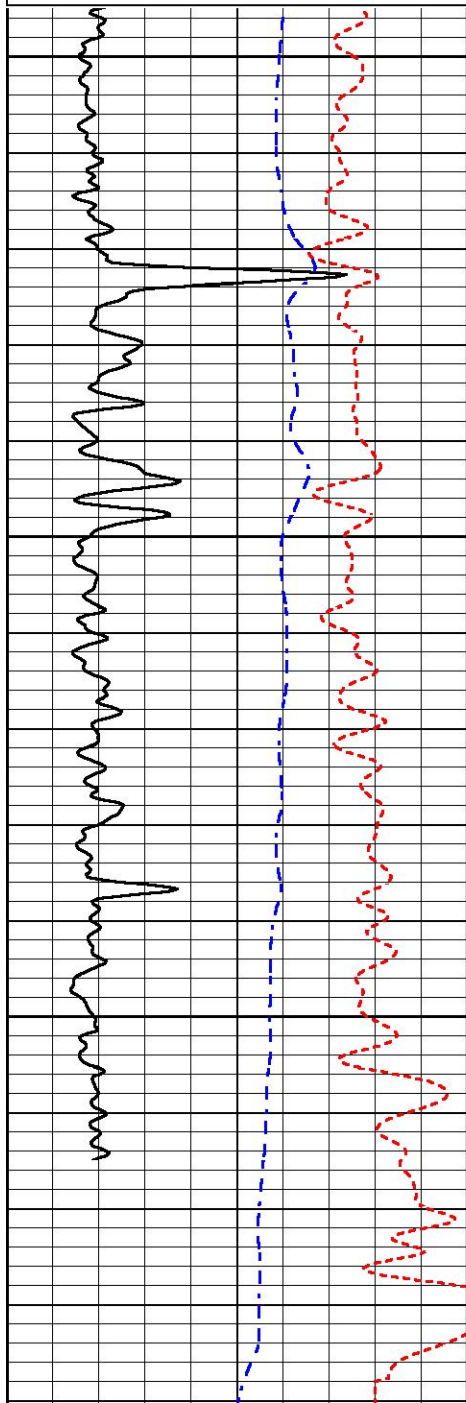
REPEAT SECTION

REPEAT PASS

Database File epoc_eck a swd 1.db
Dataset Pathname stkml/pass2.1
Presentation Format _dil
Dataset Creation Thu Aug 11 06:16:20 2022
Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-160	RXORT	40
-200	SP (mV)	0

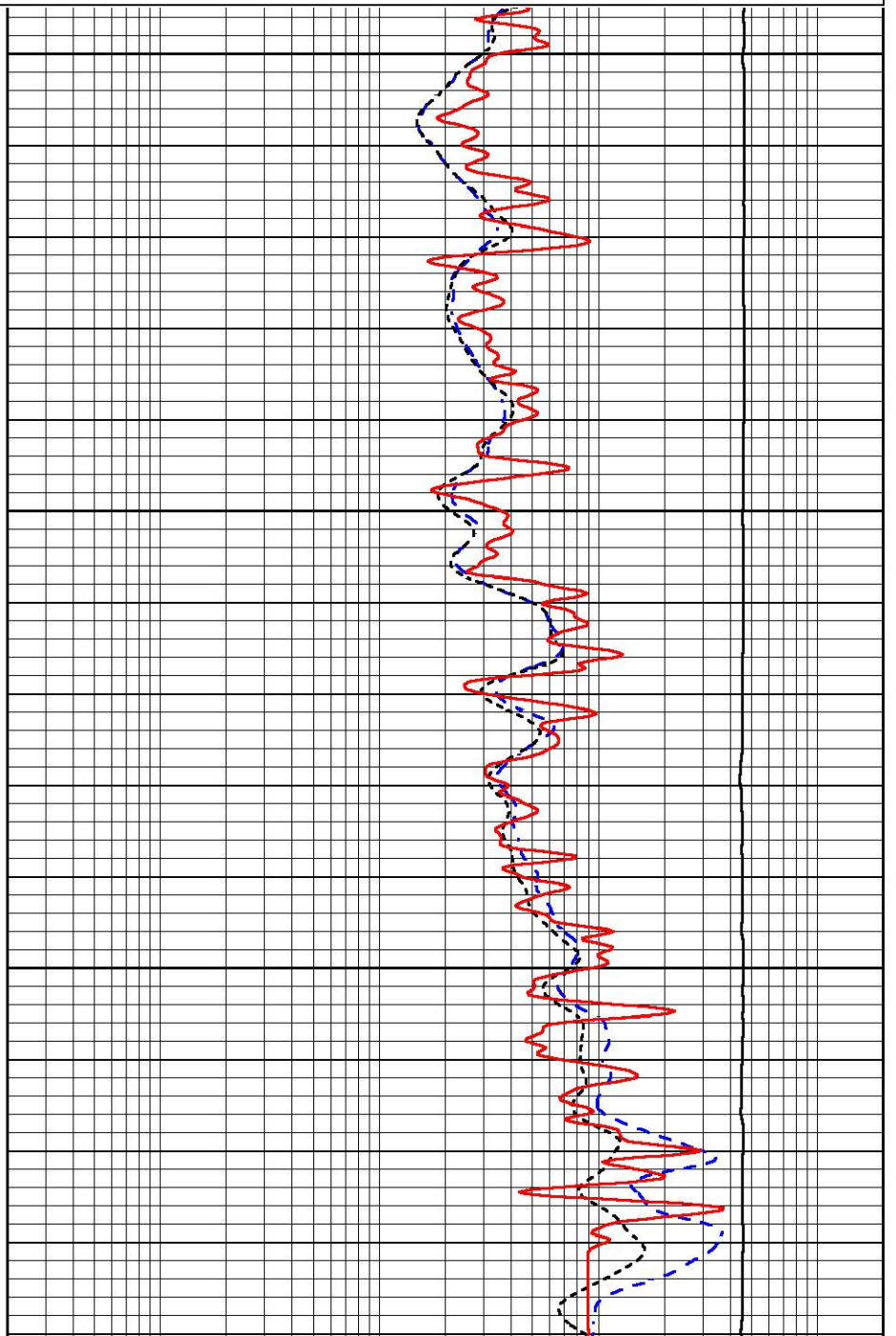
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0

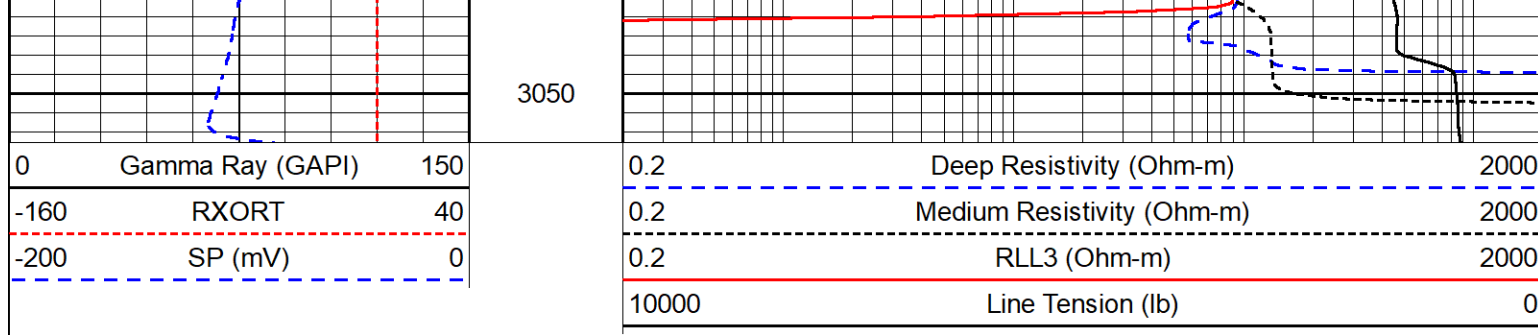


2900

2950

3000





Calibration Report	
Database File	epoc_eck a swd 1.db
Dataset Pathname	stkml/pass3.11
Dataset Creation	Thu Aug 11 06:13:52 2022

Dual Induction Calibration Report

Serial-Model:	505 HT-M&W
Surface Cal Performed:	Wed Feb 2 12:55:14 2022

Readings			References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	167.000	835.000	0.000	255.800	mmho/m	0.480	-55.000
Medium	1348.000	1348.000	0.000	255.800	mmho/m	0.390	-45.000

Microlog Calibration Report

Serial-Model:	401-PSI STKBL ML
Performed:	Mon Aug 1 06:22:24 2022

Readings			References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	11000.0000	-2.0000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	10700.0000	-1.2000
Caliper	1.0049	1.0846	5.5000	20.0000	in	135.0000	-131.1000

Compensated Density Calibration Report

Serial-Model:	303-03-M&W
Source #:	21170B
Master Calibration Performed:	Thu Aug 11 05:43:18 2022

Master Calibration						
	Density			Far Detector	Near Detector	
Magnesium	1.755	g/cc		3841.78	5151.73	cps
Aluminum	2.655	g/cc		700.98	3068.49	cps
Spine Angle = 73.06			Density/Spine Ratio = 0.506			
	Size			Reading		
Small Ring	4.00	in		1.17		
Large Ring	14.00	in		1.04		

Compensated Neutron Calibration Report

Serial-Model:	210-M&W
Source #:	N-1238
Master Calibration Performed:	Fri Dec 3 09:16:24 2021

Master Calibration

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:	103
Tool Model:	M&W
Performed:	Fri Dec 3 12:13:24 2021
Calibrator Value:	500.0 GAPI
Background Reading:	28.0 cps
Calibrator Reading:	986.0 cps
Sensitivity:	0.5700 GAPI/cps



Company	EPOC, LLC
Well	Eck 'A' SWD #1
Field	Hazlett
County	Butler
State	Kanas