



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company Satchell Creek Petroleum, LLC
 Well Worcester "A" #2-34
 Field Last Hope Northeast
 County Graham
 State Kansas

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 Field Last Hope Northeast
 County Graham State Kansas

Location: API #: 15-065-24278
 NE NE SW SE
 1217' FSL & 1448' FEL
 SEC 34 TWP 6S RGE 22W
 Permanent Datum Ground Level Elevation 2267
 Log Measured From Kelly Bushing
 Drilling Measured From Kelly Bushing
 Other Services
 CNL/CDL
 MEL/SON
 Elevation
 K.B. 2274
 D.F. 2272
 G.L. 2267

Date	8/8/2023
Run Number	One
Depth Driller	3900
Depth Logger	3878
Bottom Logged Interval	3878
Top Log Interval	Surface Csg.
Casing Driller	8.625 @ 220
Casing Logger	220
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	1,500 ppm
Density / Viscosity	9.3 57
pH / Fluid Loss	11.0 5.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.2 @ 80
Rmt @ Meas. Temp	.9 @ 80
Rmc @ Meas. Temp	1.62 @ 80
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.84 @ 117
Operating Rig Time	4 Hours
Max Rec. Temp. F	117
Equipment Number	P-108
Location	HAYS
Recorded By	D. Legleiter
Witnessed By	Mr. Sean Deenihan

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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.

Hill City, KS 3 East to Rd.310
 7N to Rd. Y, 3/4 E N Into

Log Measured From: Kelly Bushing 7 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
 785-625-3858

Your Midwest Wireline Crew

Engineer: D. Legleiter
 Operator:
 Operator:
 Operator:

This Log Record Was Witnessed By

Primary Witness: Mr. Sean Deenihan
 Secondary Witness:
 Secondary Witness:
 Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	32.75		GR-M&W (103)	3.00	3.50	50.00
CNLSC CNSSC	29.65 28.90		CNT-M&W (210)	5.00	3.50	100.00
LSD DCAL SSD	20.60 20.58 20.10		CDL-M&W (303-03)	8.50	4.00	250.00
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: satchell_worcester_a_2-34.db: field/well/Stack/pass4.4
 Total length: 34.75 ft
 Total weight: 620.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\satchell_worcester_a_2-34.db
 Dataset field/well/Stack/pass4.4/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	100	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	No	4	17	210	80	Off	0

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

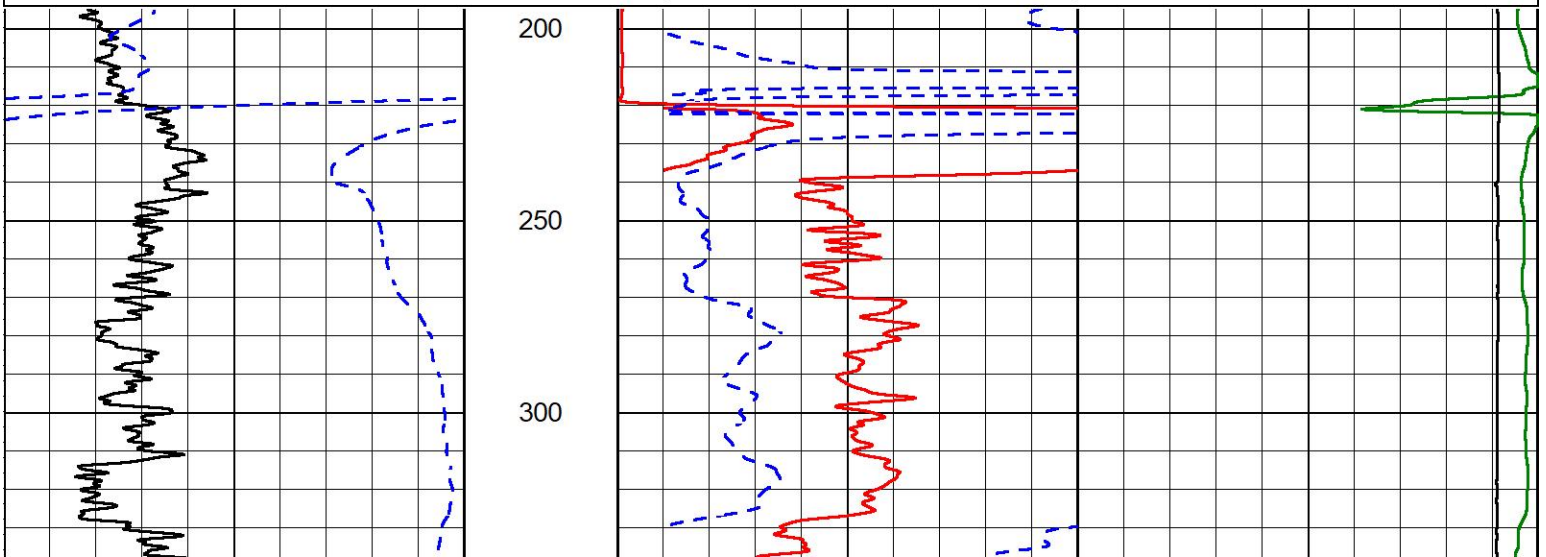


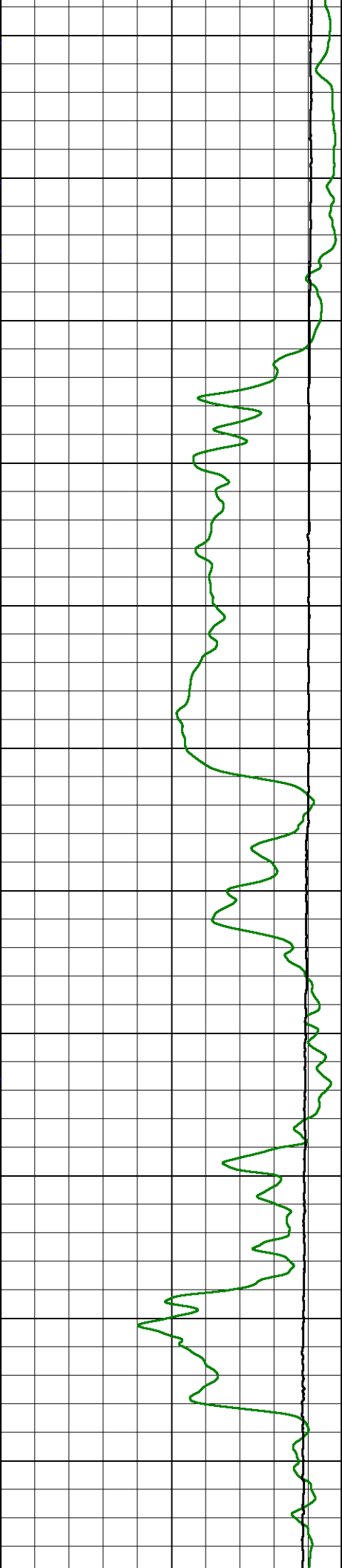
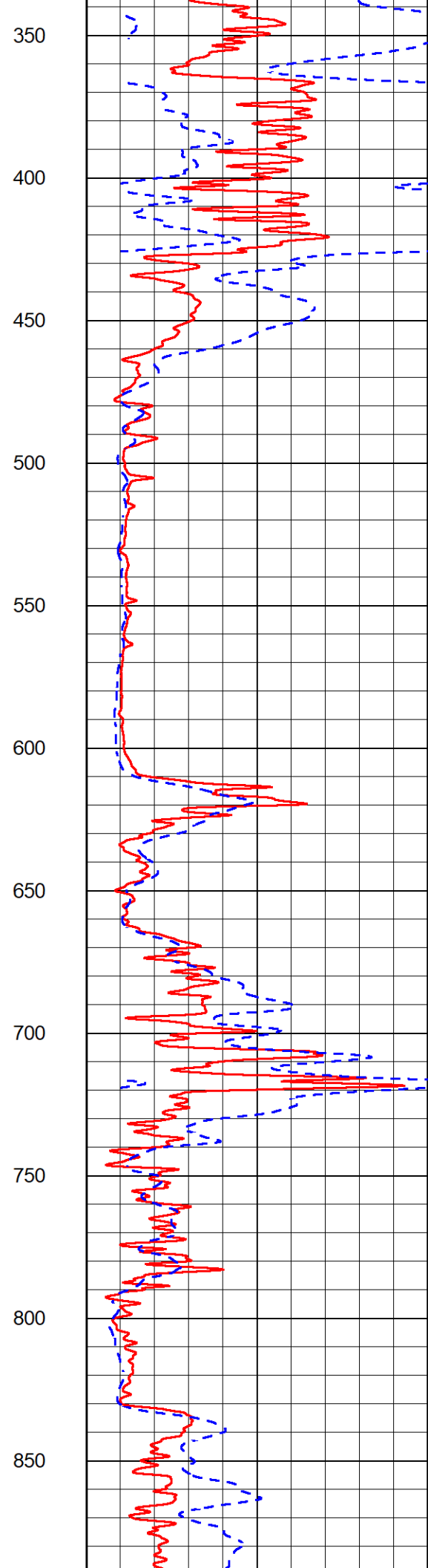
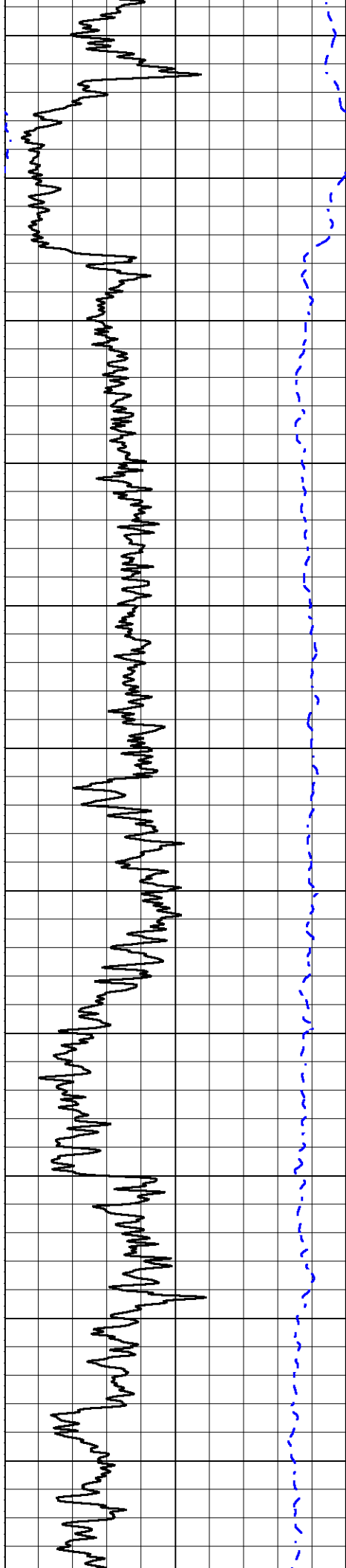
MIDWEST WIRELINE

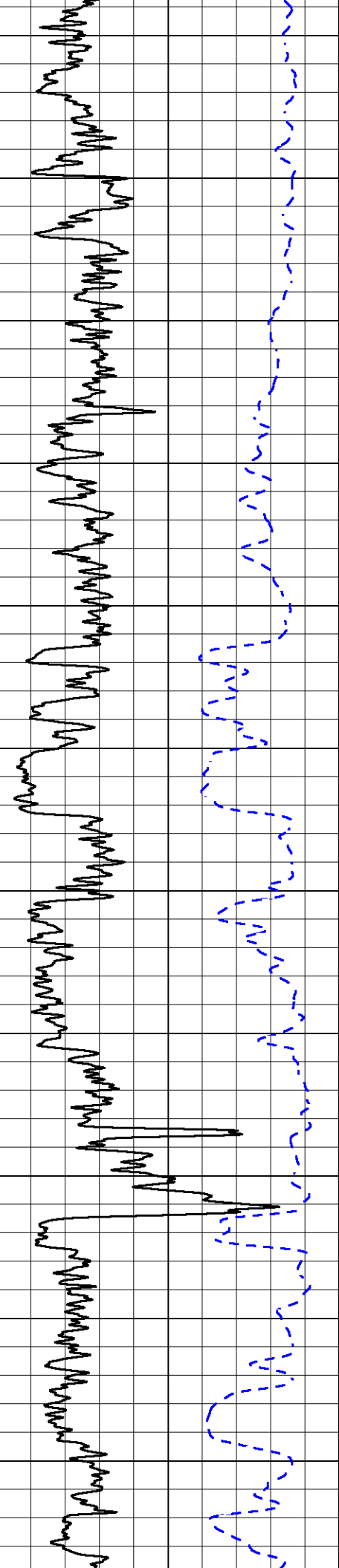
2 Inch Section

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 Charted by Depth in Feet scaled 1:600

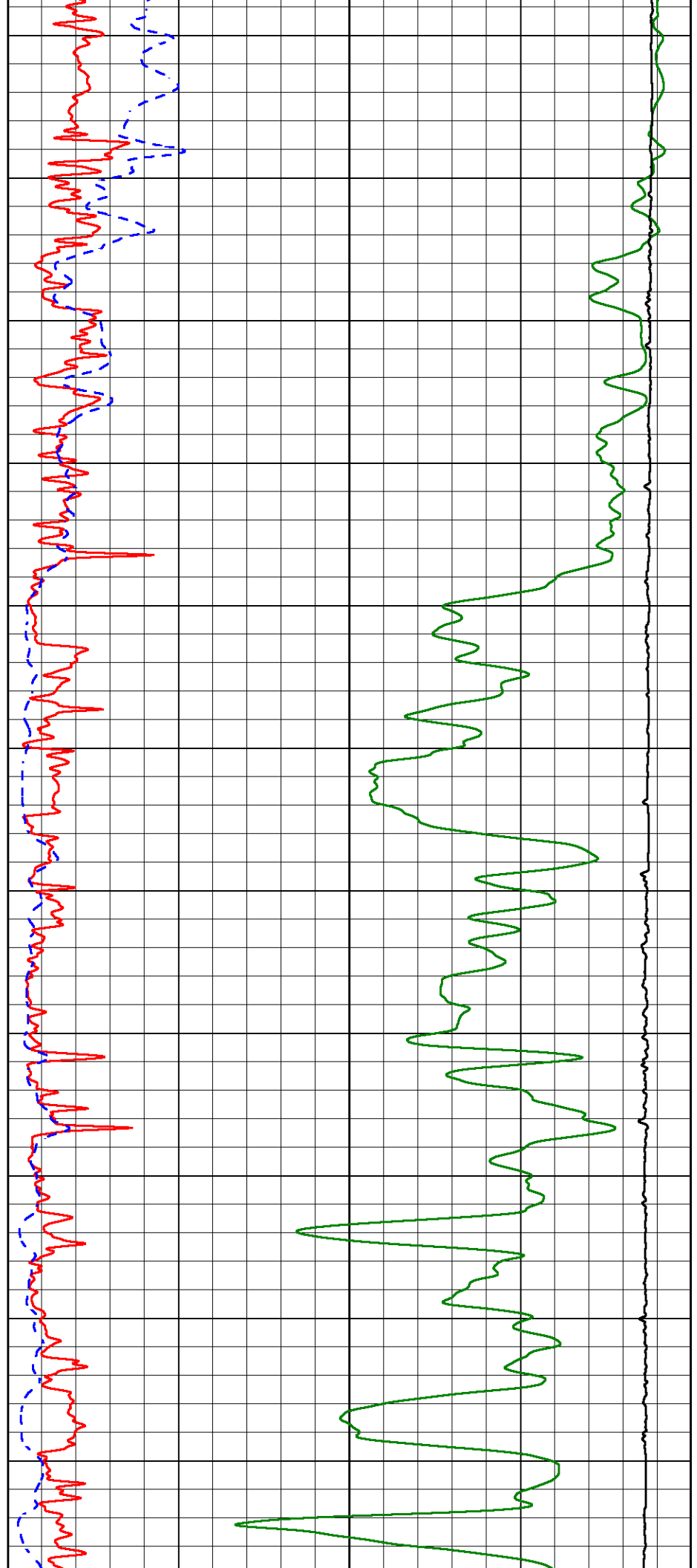
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-200	SP (mV)	0	15000	Line Tension (lb)	0
			0	Shallow Resistivity (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			50	Shallow Resistivity (Ohm-m)	200
			50	Deep Resistivity (Ohm-m)	200

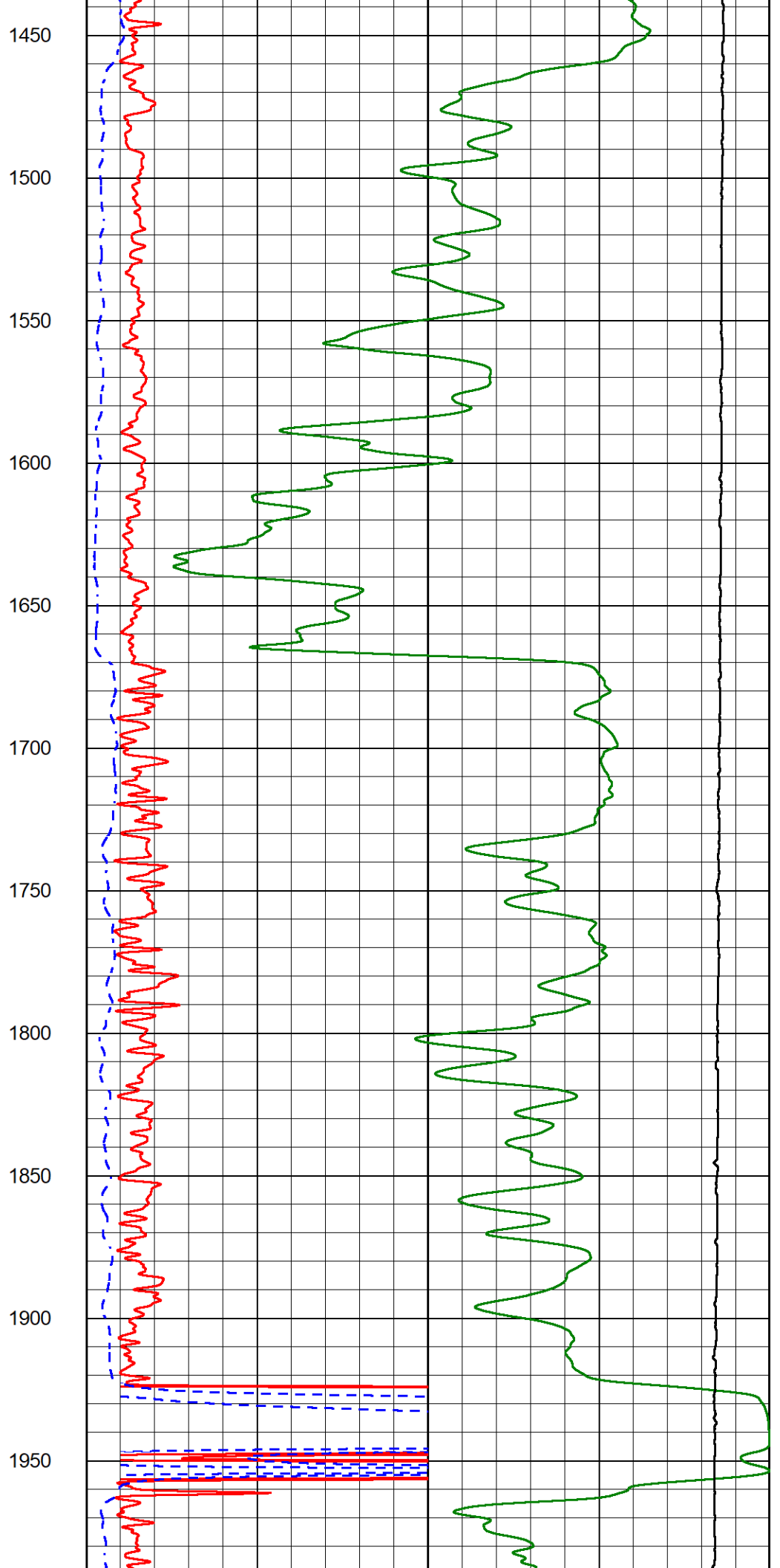
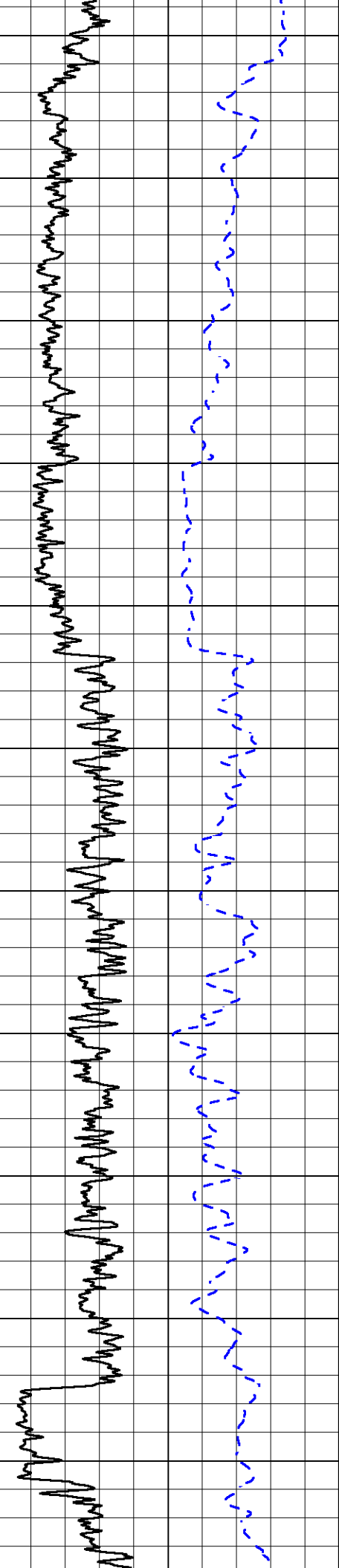


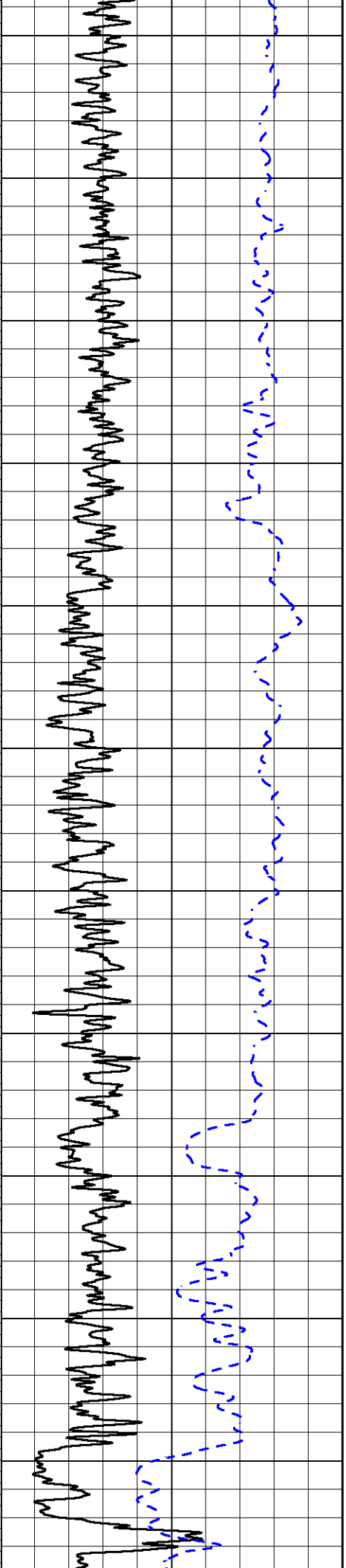




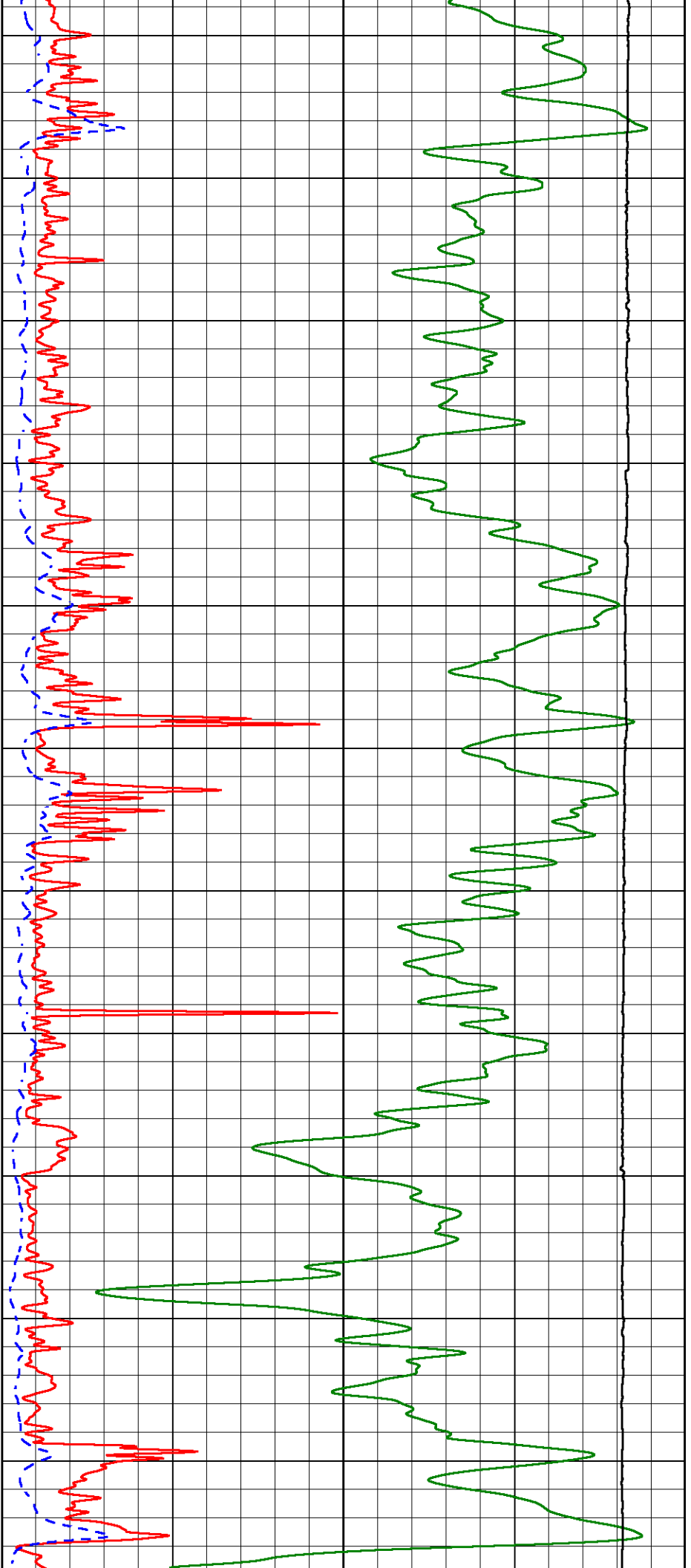
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950
1000
1050
1100
1150
1200
1250
1300
1350
1400

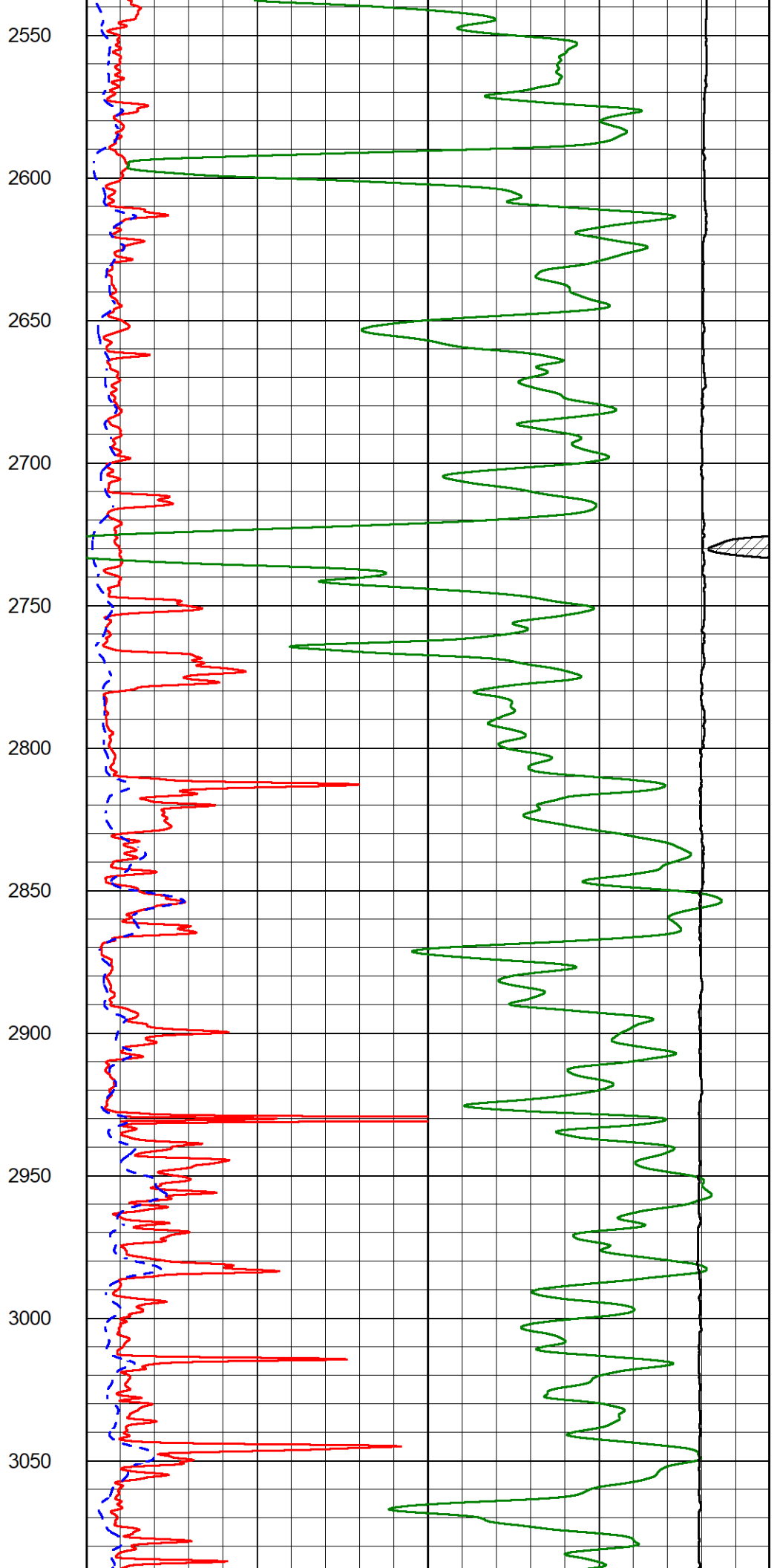
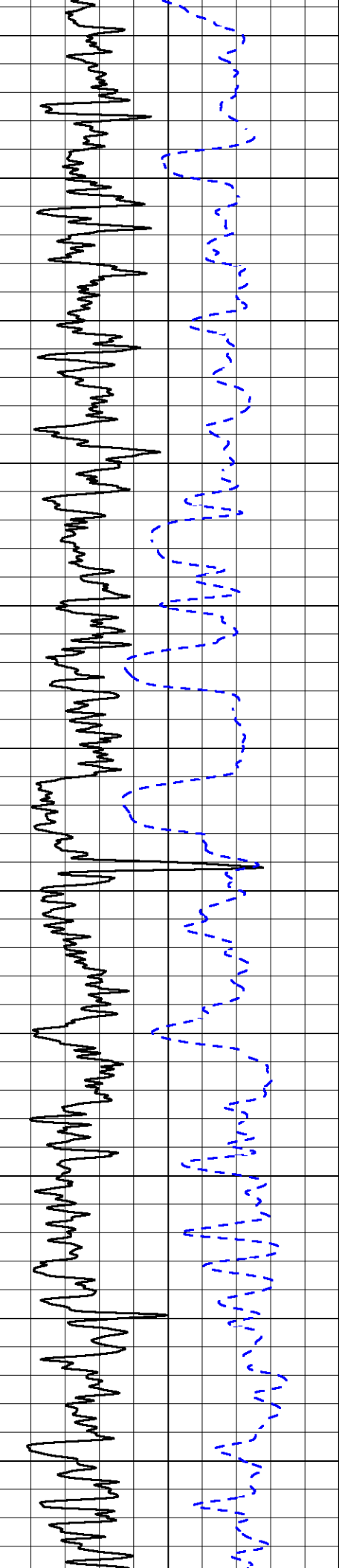


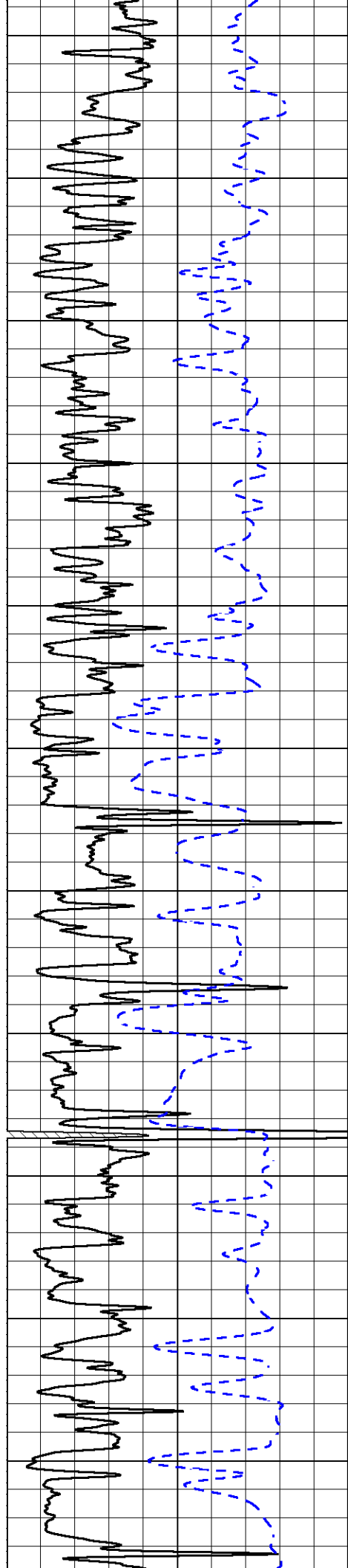




2000
2050
2100
2150
2200
2250
2300
2350
2400
2450
2500







3100

3150

3200

3250

3300

3350

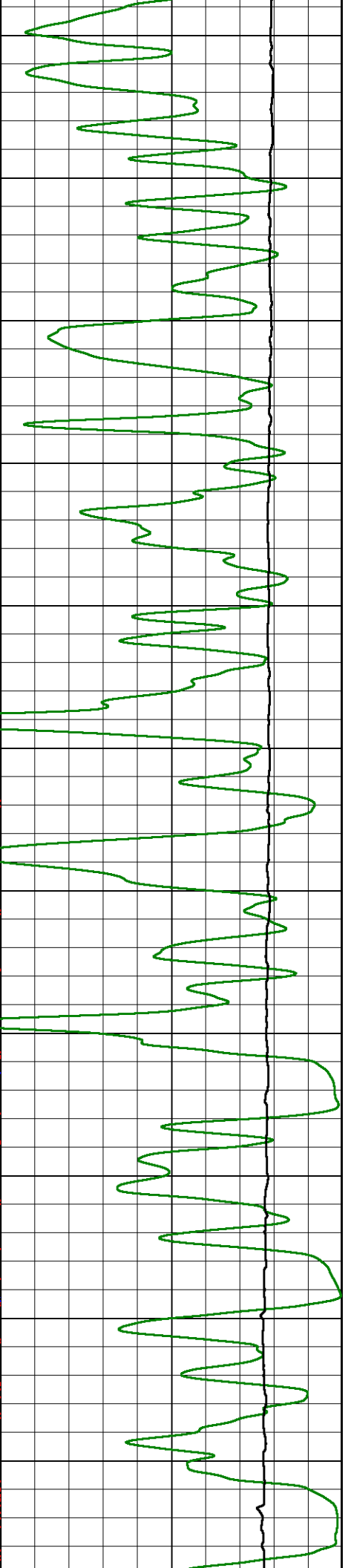
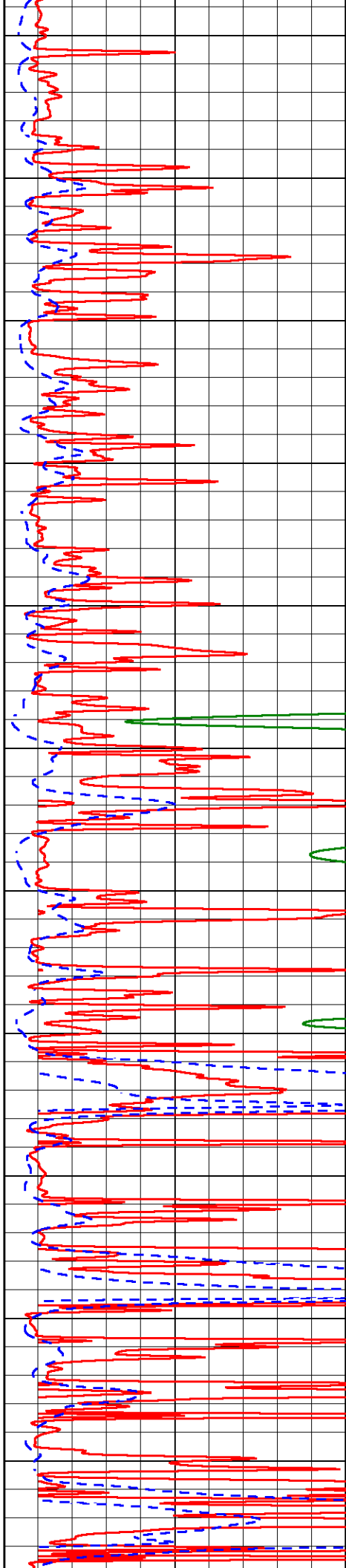
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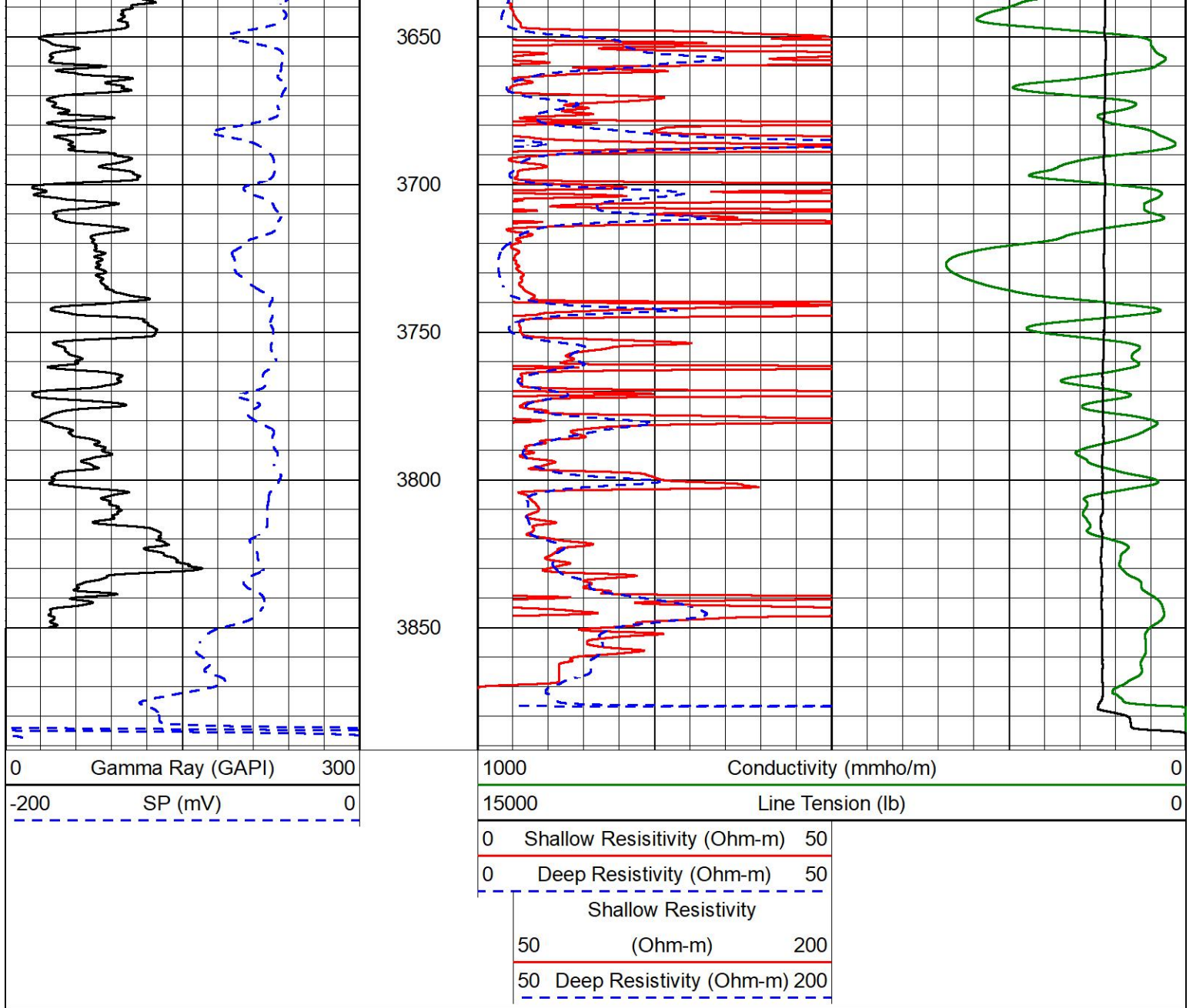
3450

3500

3550

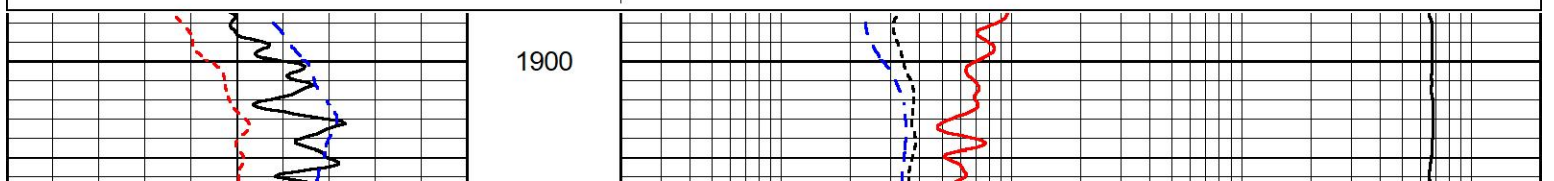
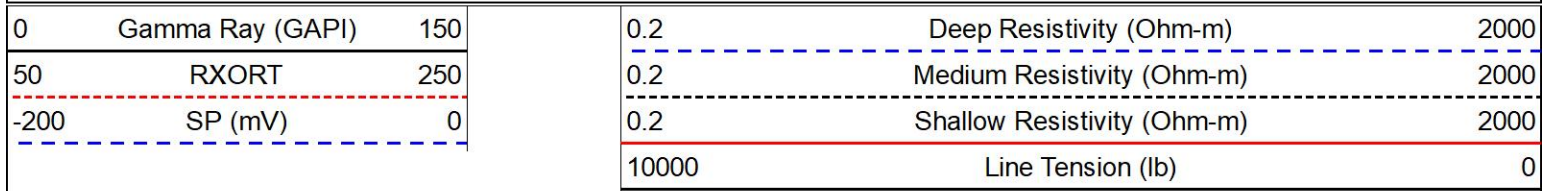
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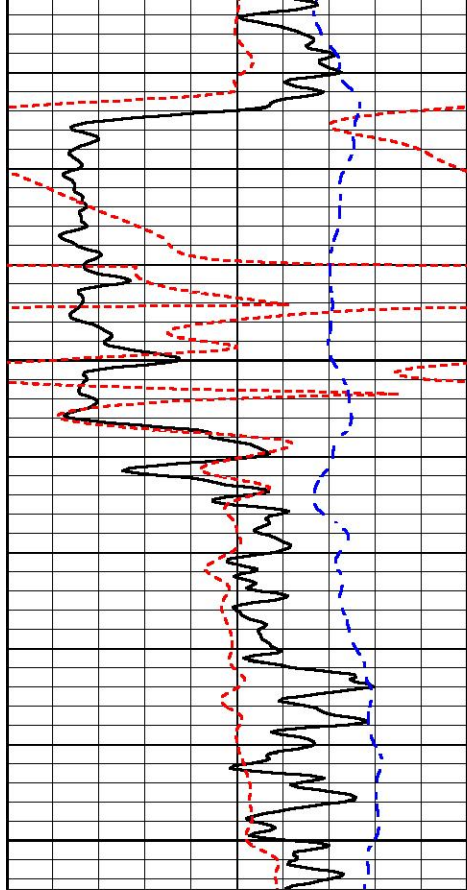




Anhydrite Section

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 Presentation Format _dil
 Dataset Creation Tue Aug 08 18:24:56 2023
 Charted by Depth in Feet scaled 1:240

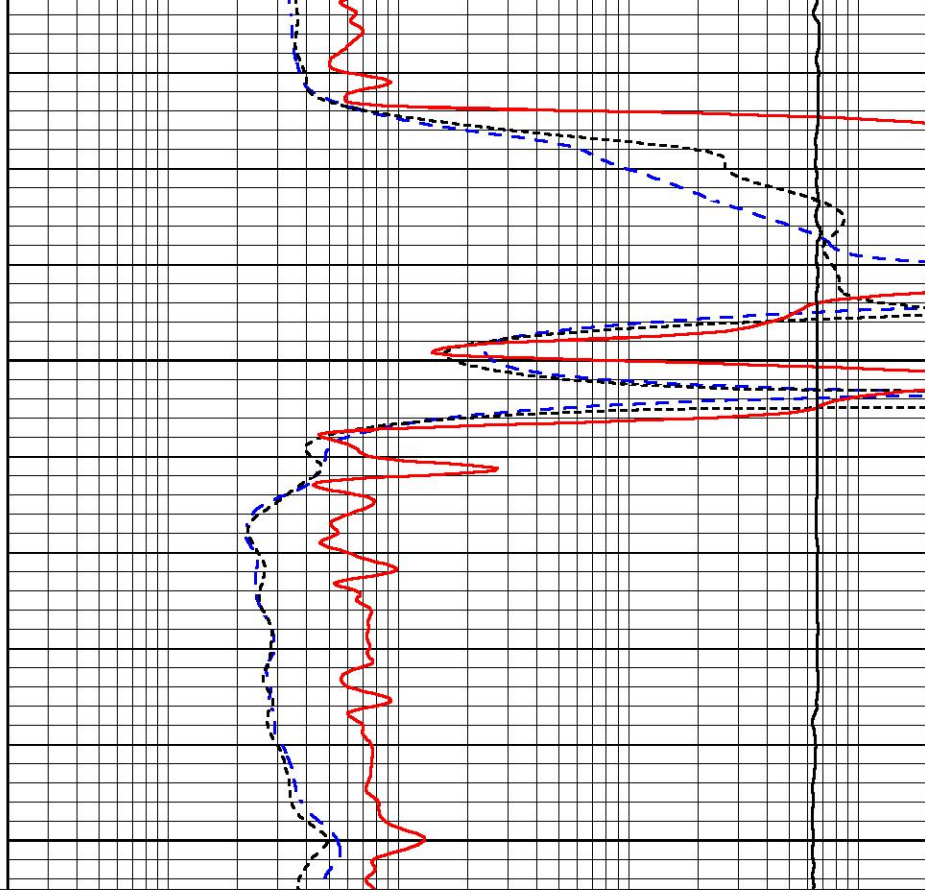




1950

2000

0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0



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

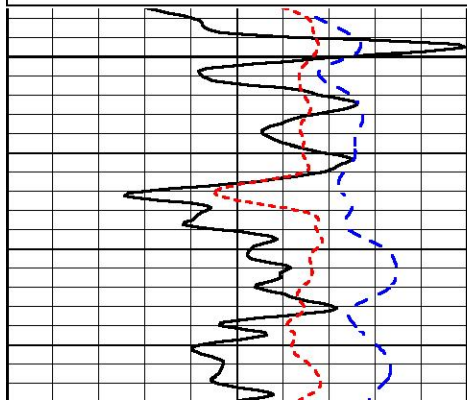


Detail Section

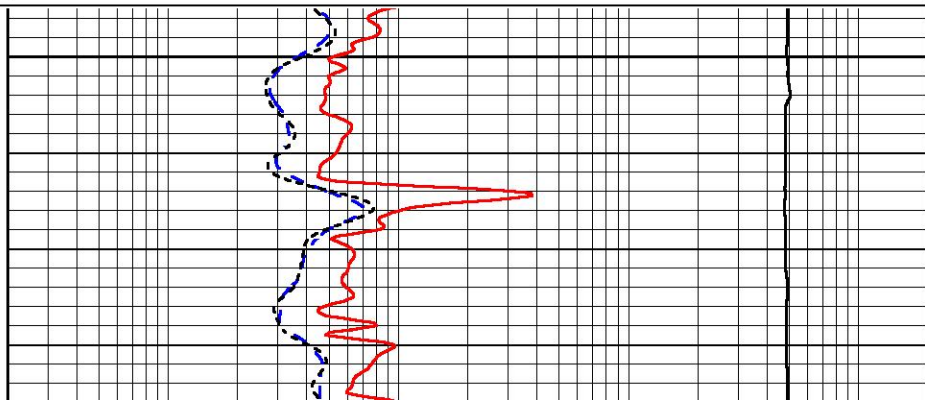
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 Dataset Pathname Stack/pass4.4
 Presentation Format _dil
 Dataset Creation Tue Aug 08 18:22:38 2023
 Charted by Depth in Feet scaled 1:240

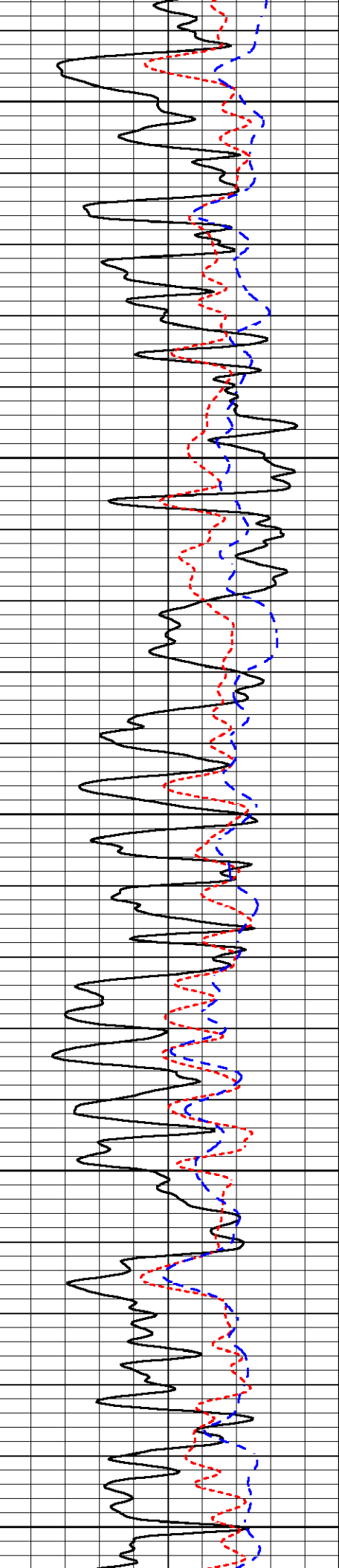
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50	RXORT	250
-200	SP (mV)	0

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



3000





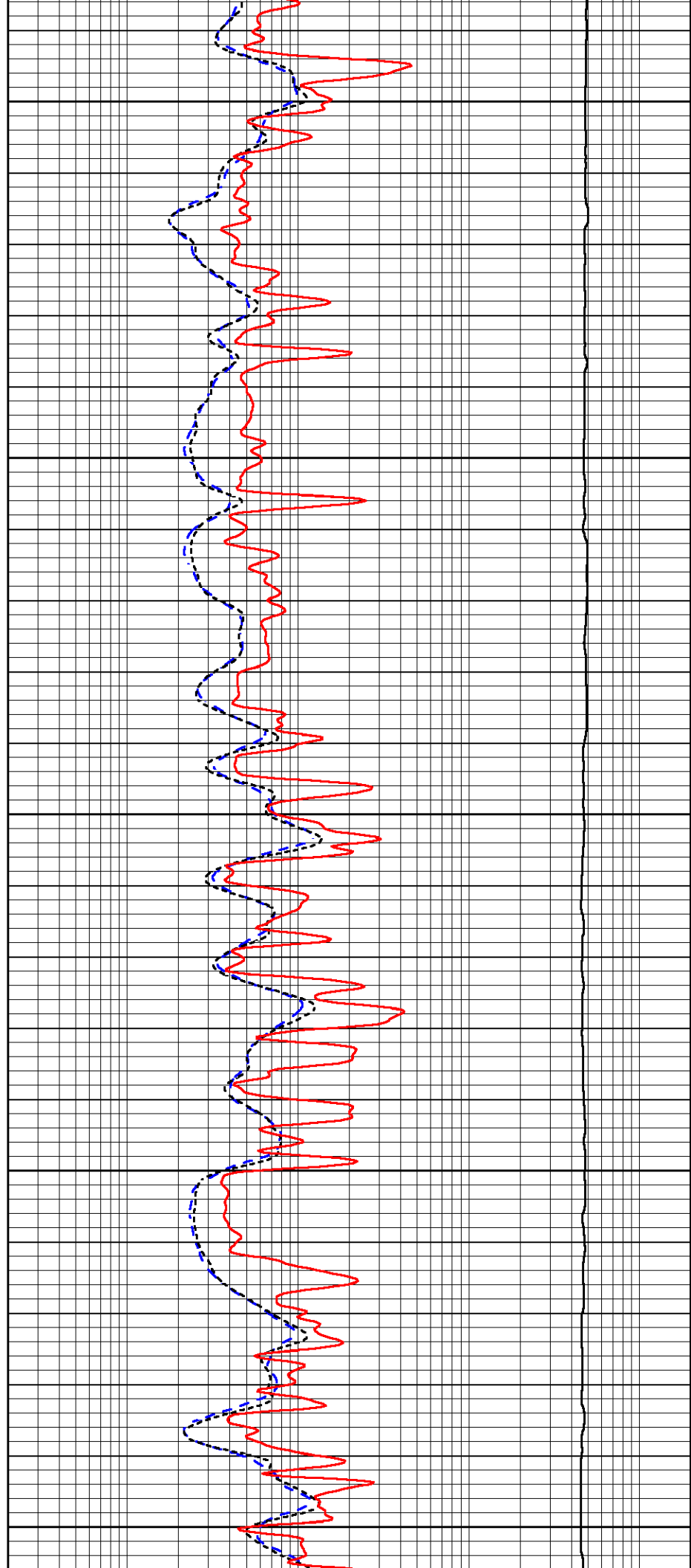
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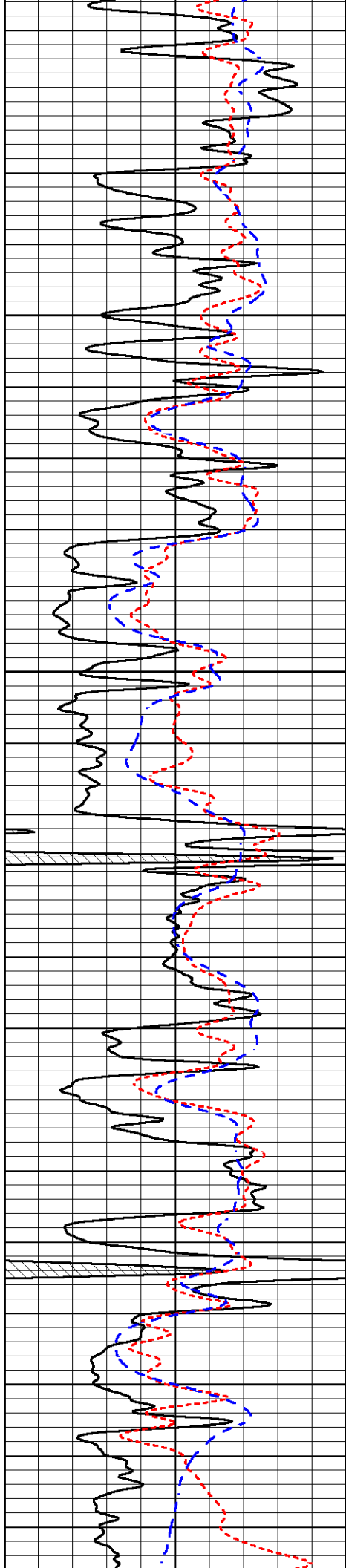
3100

3150

3200

3250



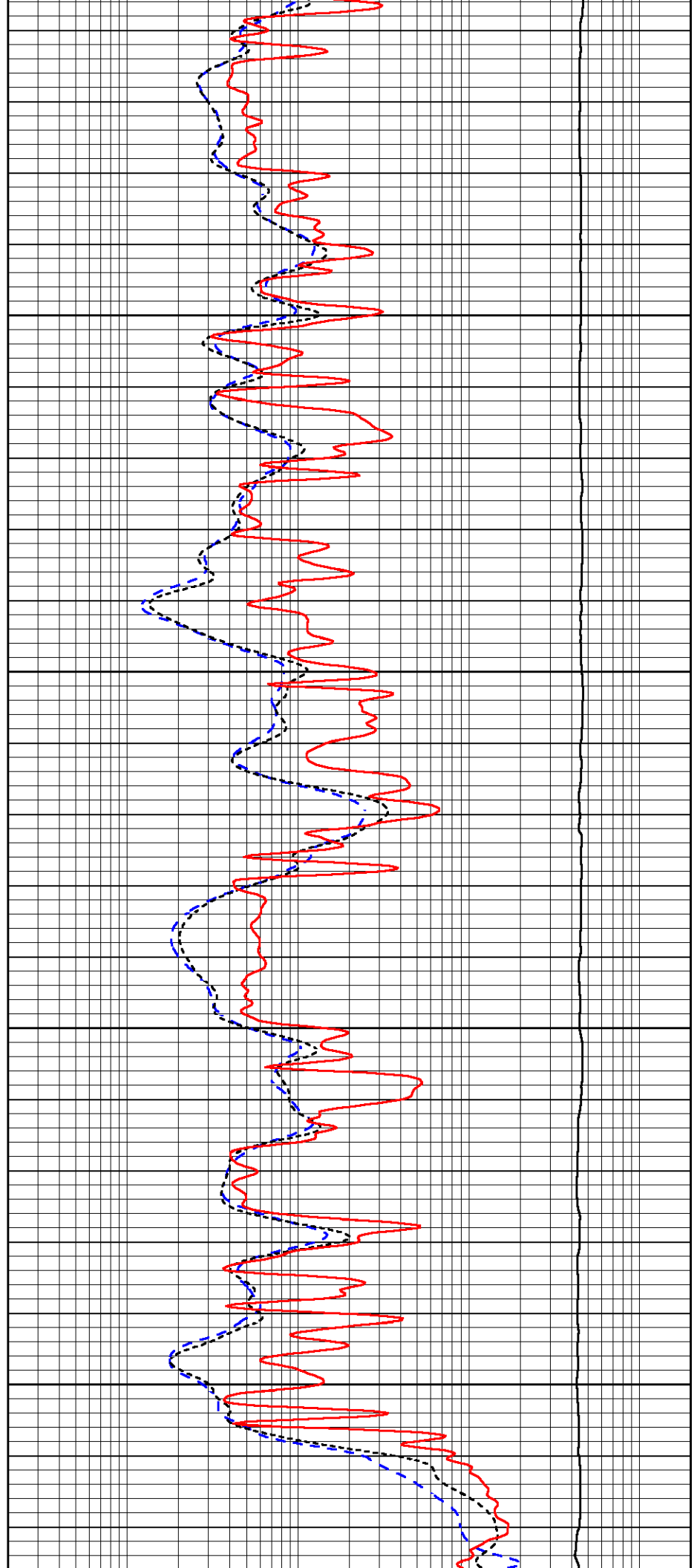


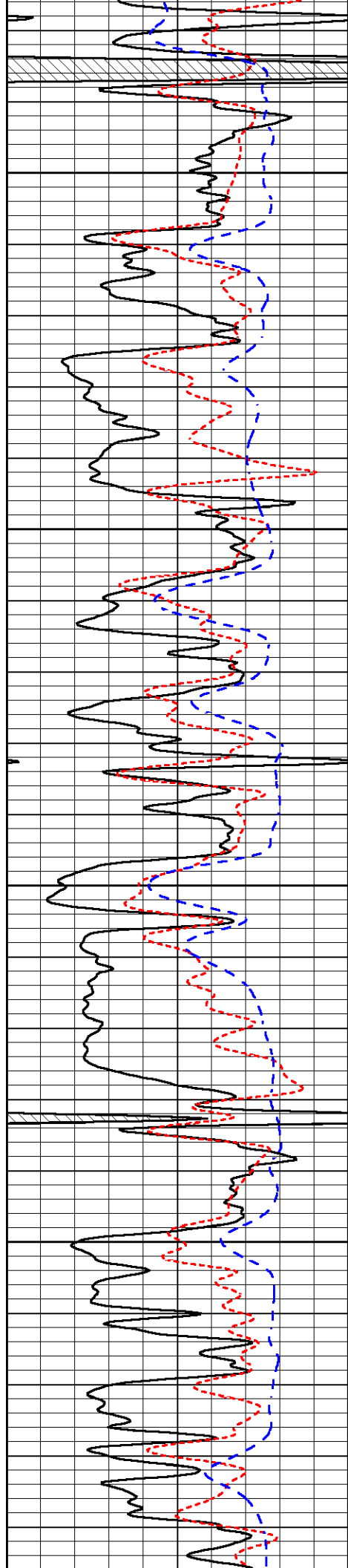
3300

3350

3400

3450



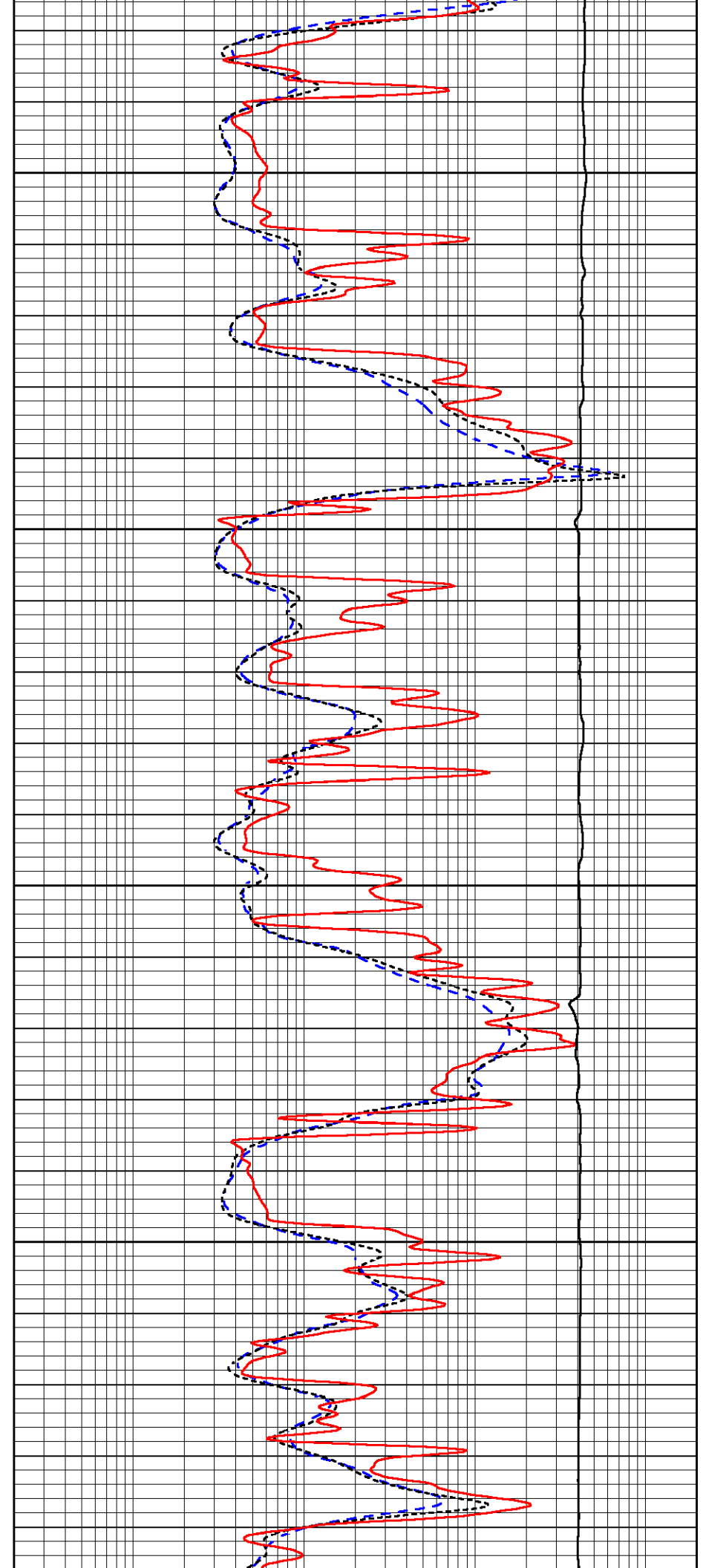


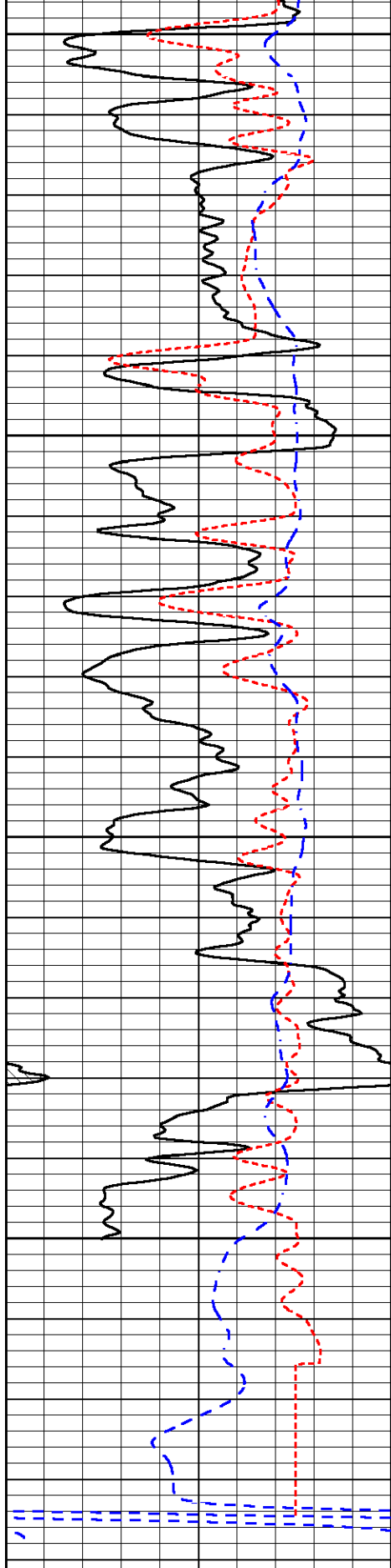
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3550

3600

3650





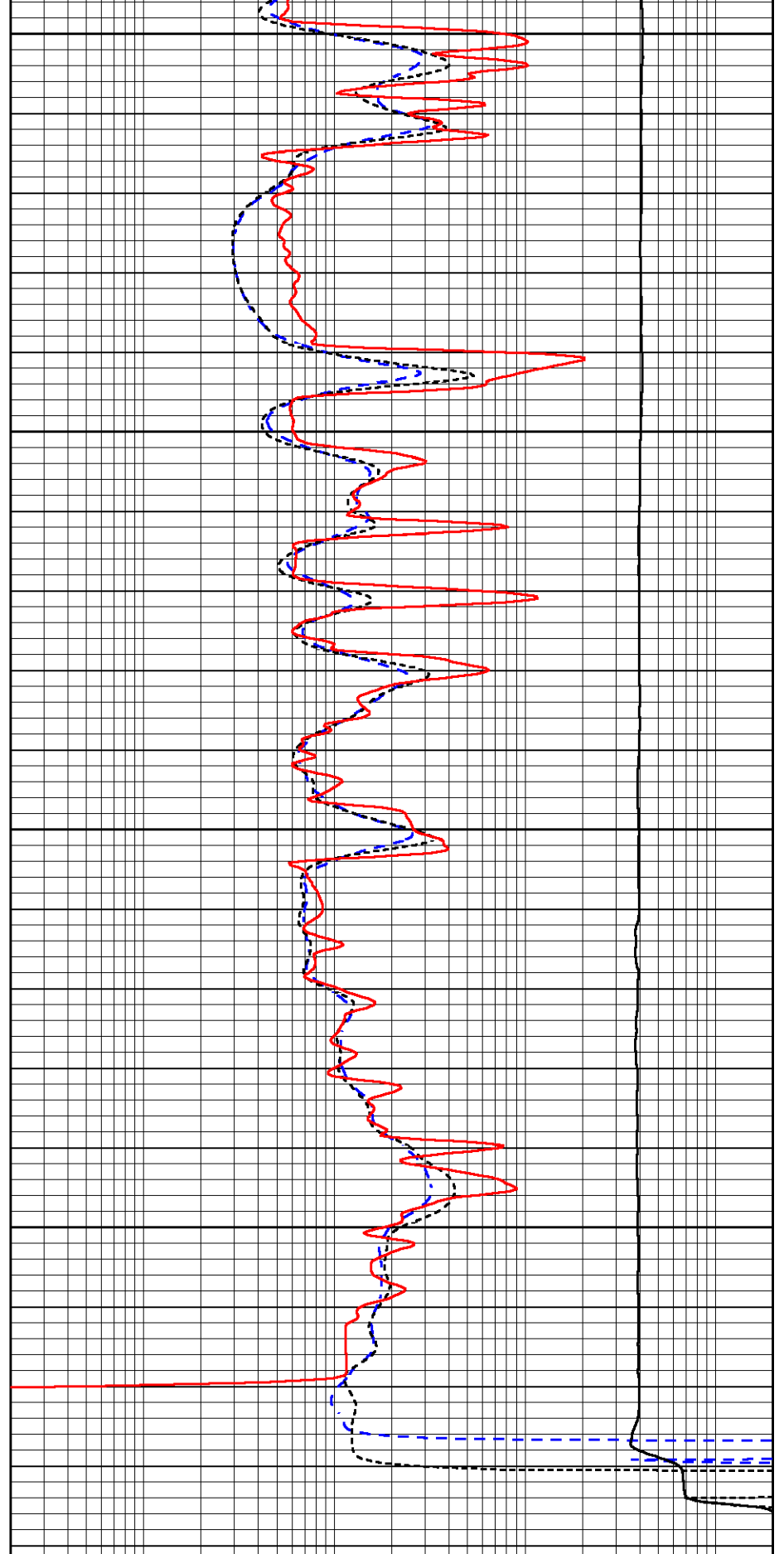
3700

3750

3800

3850

0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0



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



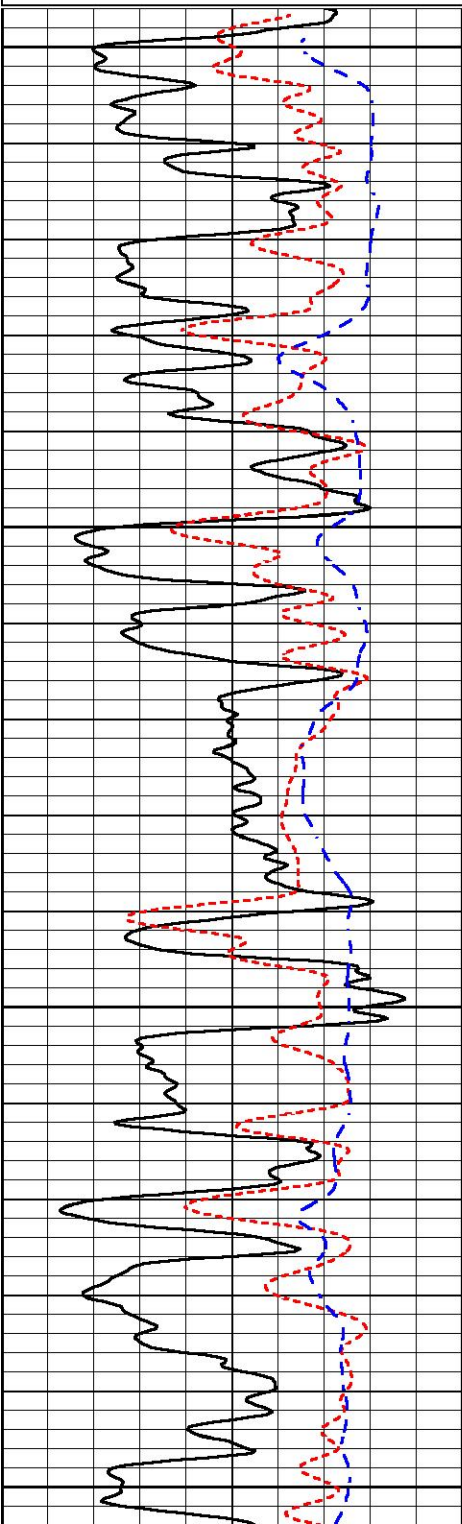
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Repeat Section

Database File satchell_worcester_a_2-34.db
 Dataset Pathname Stack/pass3.5
 Presentation Format _dil
 Dataset Creation Tue Aug 08 17:55:40 2023
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

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

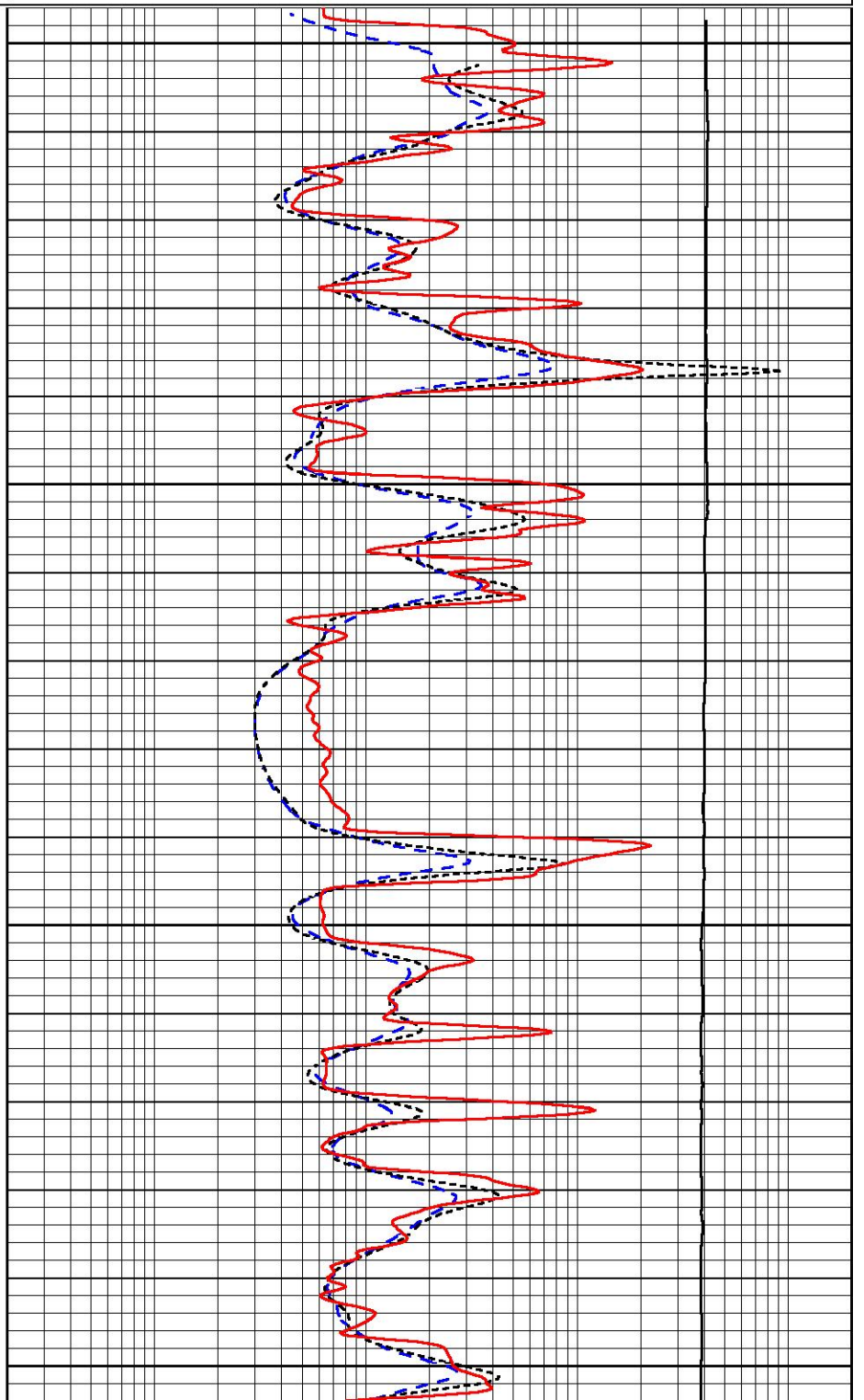


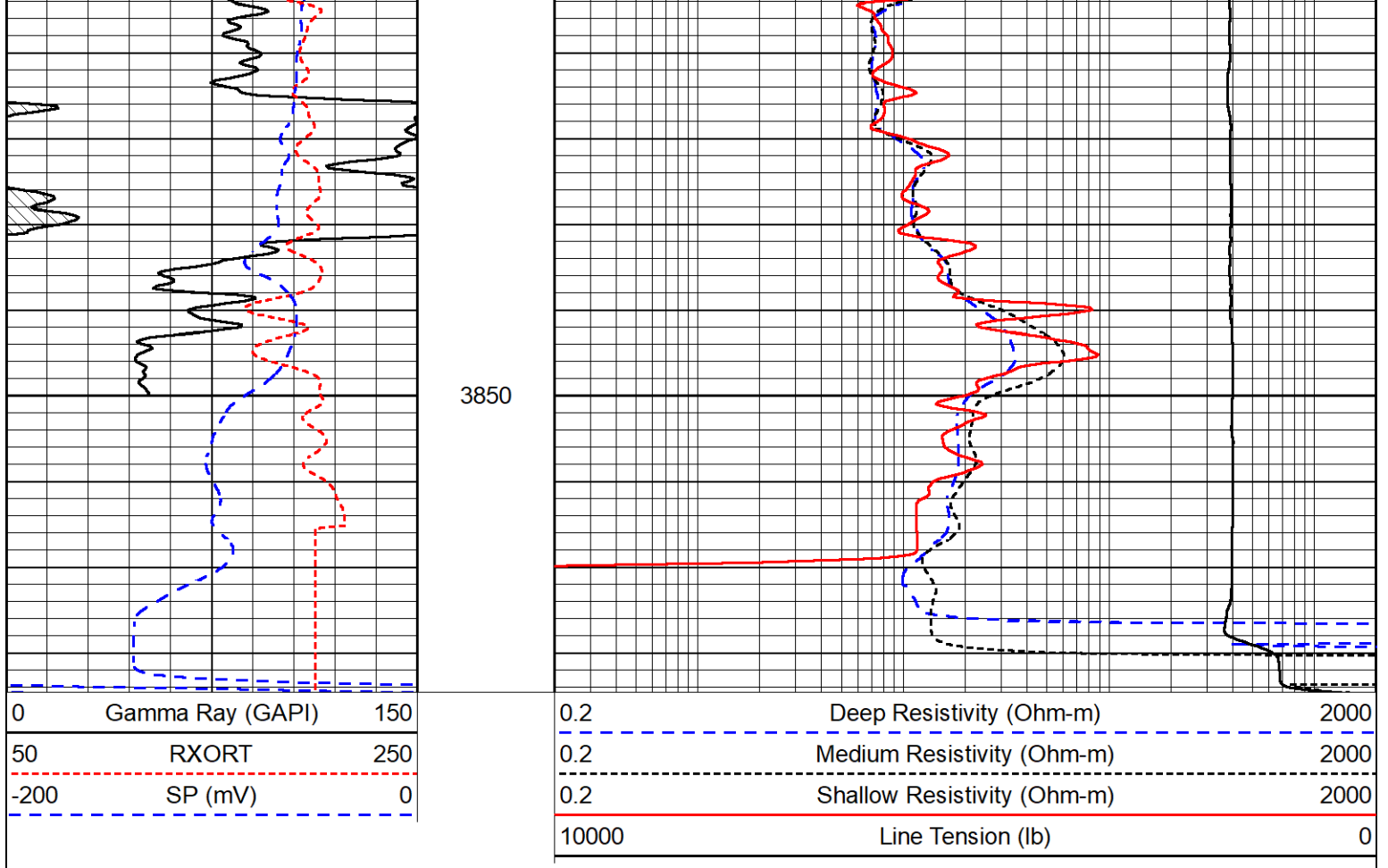
3650

3700

3750

3800





Calibration Report

Database File satchell_worcester_a_2-34.db
 Dataset Pathname Stack/pass4.4
 Dataset Creation Tue Aug 08 18:22:38 2023

Dual Induction Calibration Report

Serial-Model: 505 HT-M&W
 Surface Cal Performed: Mon Jul 24 01:33:00 2023

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	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	0.400	-60.000

Compensated Density Calibration Report

Serial-Model: 303-03-M&W
 Source #: 21170B
 Master Calibration Performed: Wed Jun 21 06:11:17 2023

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4162.25	5570.06	cps
Aluminum	2.590	g/cc	913.18	3747.07	cps

Spine Angle = 75.35

Density/Spine Ratio = 0.533

Spin Angle 10.00

Density/Spin Ratio 0.000

Size

Reading

Small Ring
Large Ring

4.00 in
14.00 in

1.17
1.07

Compensated Neutron Calibration Report

Serial Number: 210
Tool Model: M&W

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 May 26 12:04:43 2023

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.5700 GAPI/cps