



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company American Warrior, Inc.
 Well Belleau Unit #1-33
 Field Kenyon
 County Graham State Kansas

Location: API #: 15-065-24309-00-00
 1683 FSL & 1145 FWL
 SEC 33 TWP 7S RGE 21W
 Permanent Datum Ground Level Elevation 2090
 Log Measured From Kelly Bushing
 Drilling Measured From Kelly Bushing
 Other Services
 CNL/CDL
 MEL
 Elevation
 K.B. 2098
 D.F.
 G.L. 2090

Date	2/27/2024
Run Number	One
Depth Driller	3845
Depth Logger	3844
Bottom Logged Interval	3843
Top Log Interval	200
Casing Driller	8:625 @ 228
Casing Logger	226
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	1800
Density / Viscosity	9.1 58
pH / Fluid Loss	10.5 6.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.8 @ 70
Rmt @ Meas. Temp	0.6 @ 70
Rmc @ Meas. Temp	1.08 @ 70
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.49 @ 114
Operating Rig Time	2 Hours
Max Rec. Temp. F	114
Equipment Number	110
Location	HAYS
Recorded By	T. Martin
Witnessed By	Jason Alm

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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.

Bogue, KS, N to 18/24 Junction,
 1/8 E, 1 N, 1/4 E, N into

Log Measured From: Kelly Bushing 8 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: T. Martin	Operator:	Primary Witness: Jason Alm	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Operator	Offset (ft)	Substrate	Description	Length (ft)	O.D. (in)	Weight (lb)
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Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.23		GR-M&W (105)	3.00	3.50	50.00
CNLSC CNSSC	37.13 36.38		CNT-M&W (210)	5.00	3.50	100.00
LCAL	28.21		MWLith-STEP LITHO Short (701-01)	8.40	5.00	250.00
LLW8N	28.21		ML-PSI STKBL ML (402)	7.58	4.00	65.00
LLW7N	28.21					
LLW6N	28.21					
LLW5N	28.21					
LLW4N	28.21					
LLW3N	28.21					
LLW2N	28.21					
LLW1N	28.21					
LSLOCK	27.96		DIL-M&W (506)	18.25	3.50	220.00
LLLOCK	27.96					
PELTMPR	27.96					
LSHVNG	27.96					
LLHVNG	27.96					
LSW8N	27.71					
LSW7N	27.71					
LSW6N	27.71					
LSW5N	27.71					
LSW4N	27.71					
LSW3N	27.71					
LSW2N	27.71					
LSW1N	27.71					
MCAL	19.58					
MI	19.58					
MN	19.58					
RLL3F	15.50					
RLL3	15.50					
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: amwar_belleau unit #1-33.db: field/well/StkMI/pass3.1
 Total length: 42.23 ft
 Total weight: 685.00 lb
 O.D.: 5.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\amwar_belleau unit #1-33.db
 Dataset field/well/StkMI/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	114	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	No	1.5	0	-70	50	Off	3844

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

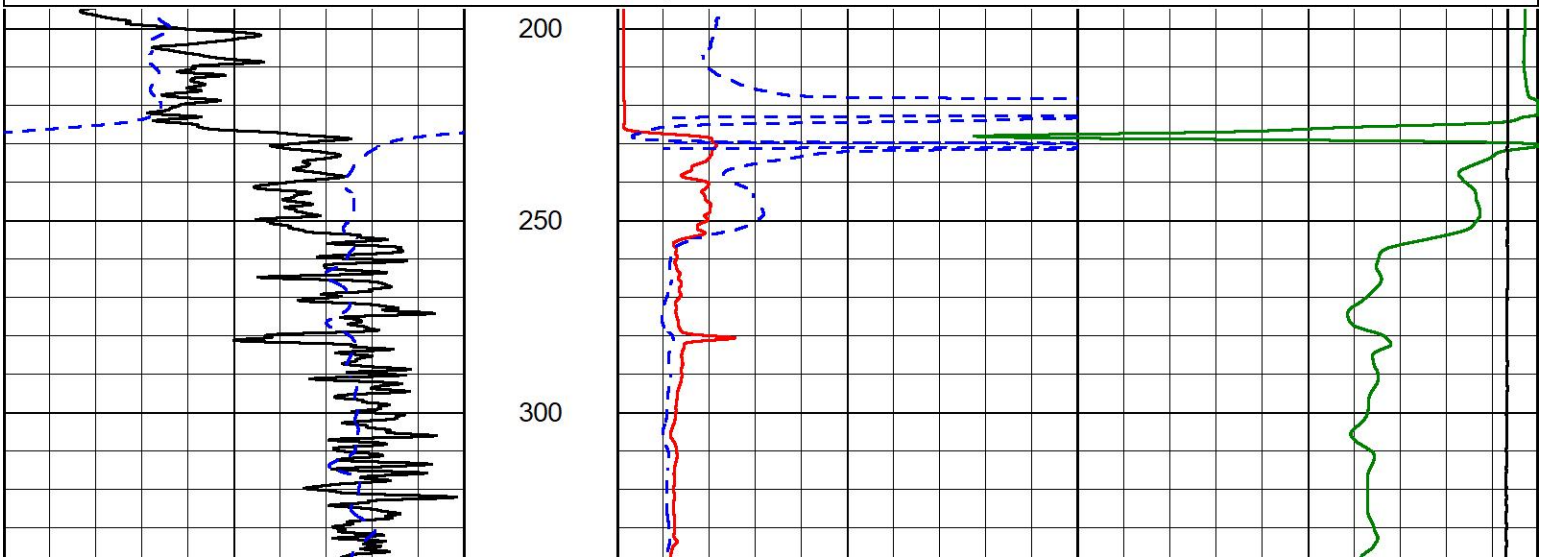


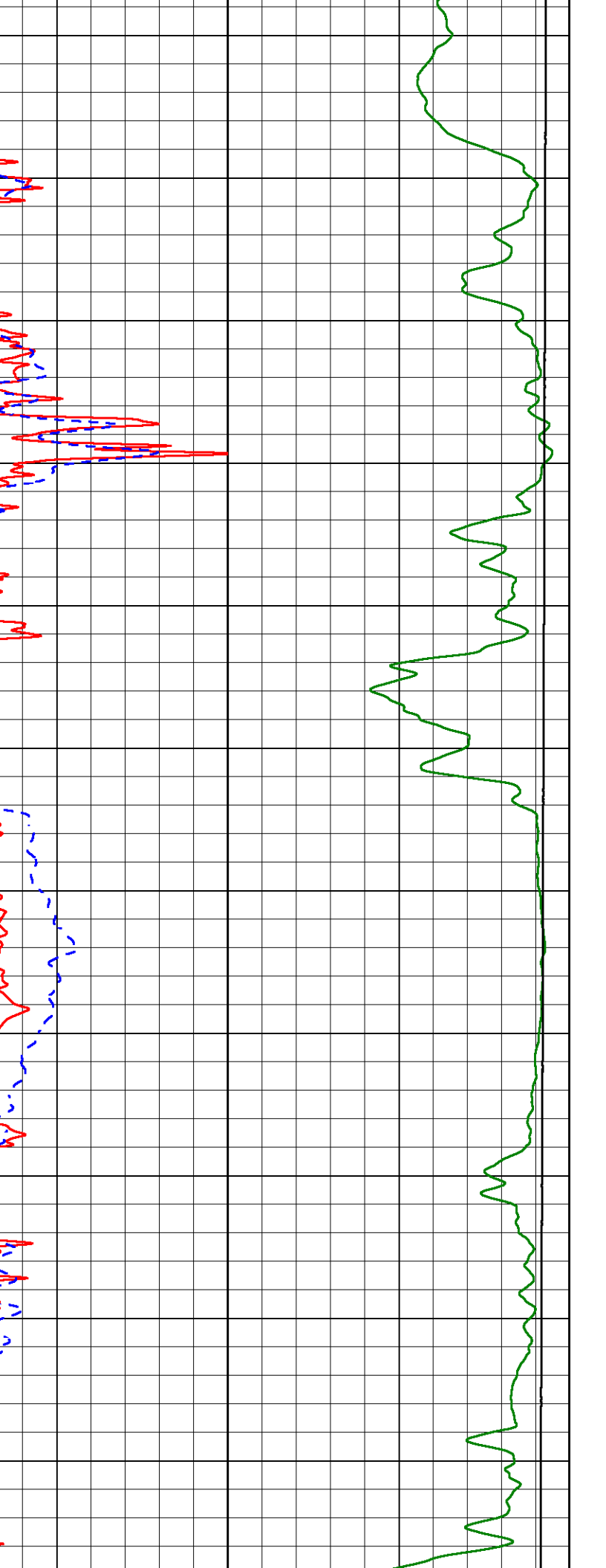
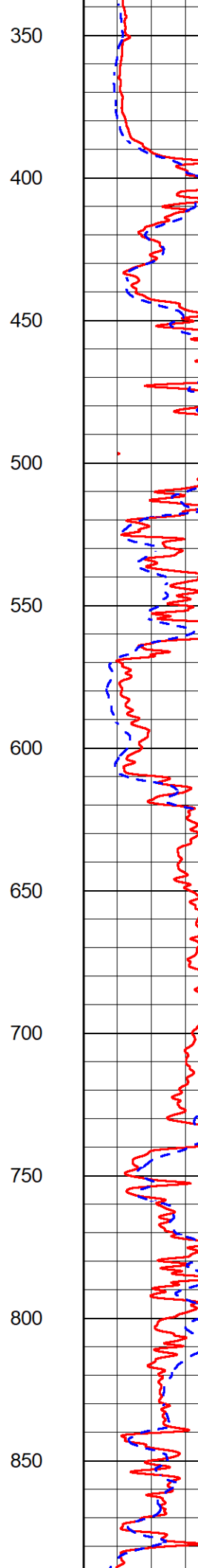
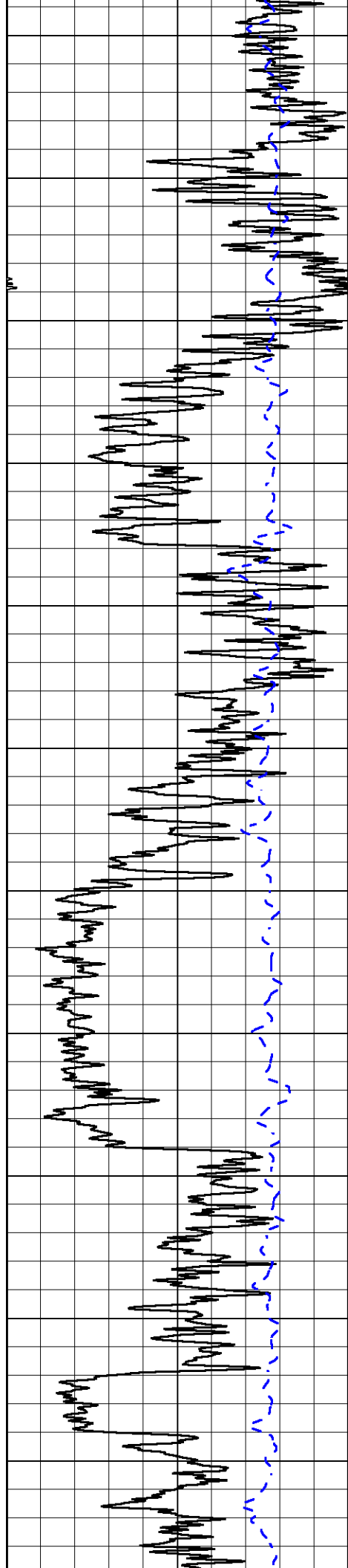
2" SCALE RESISTIVITY

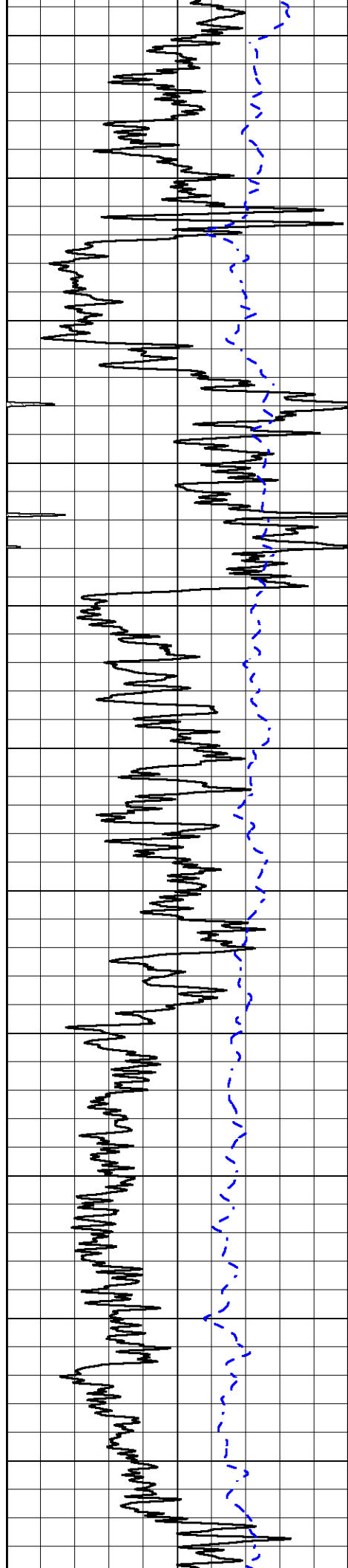
MAIN PASS

Database File amwar_belleau unit #1-33.db
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 Presentation Format _dil2in
 Dataset Creation Tue Feb 27 01:20:21 2024
 Charted by Depth in Feet scaled 1:600

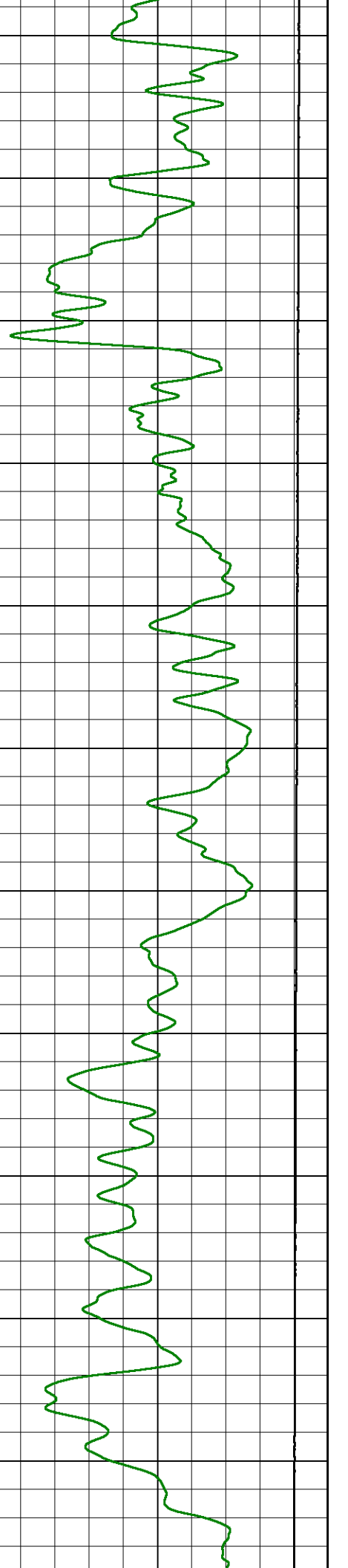
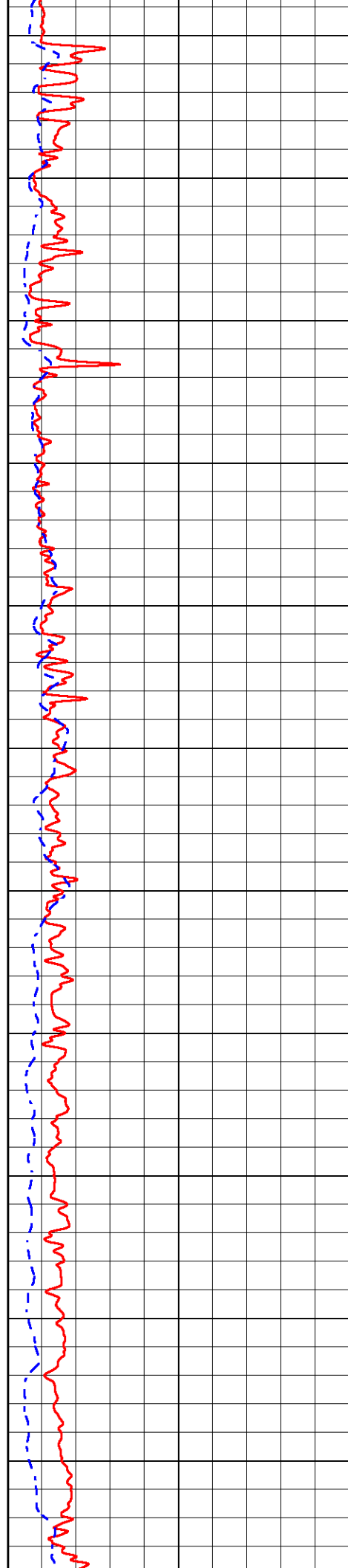
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-200	SP (mV)	0	15000	Line Tension (lb)	0
		0		Shallow Resistivity (Ohm-m)	50
		0		Deep Resistivity (Ohm-m)	50
		Shallow Resistivity			
		50	(Ohm-m)	200	
		50		Deep Resistivity (Ohm-m)	200

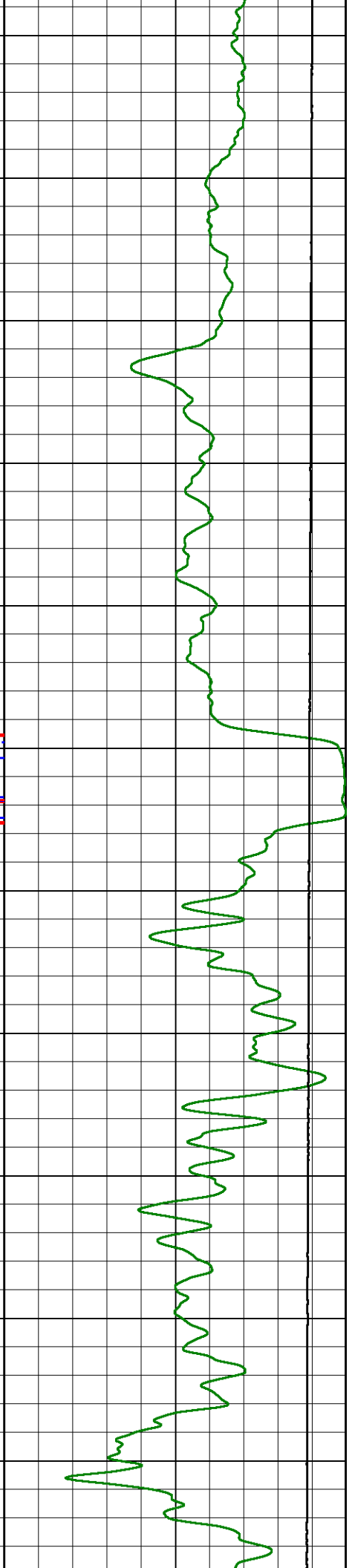
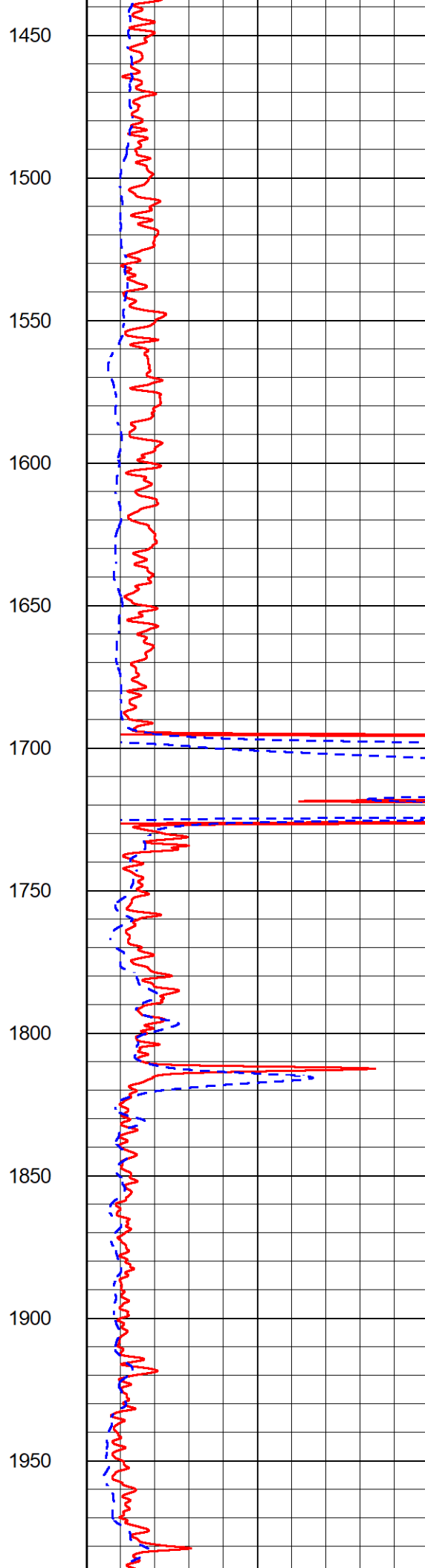
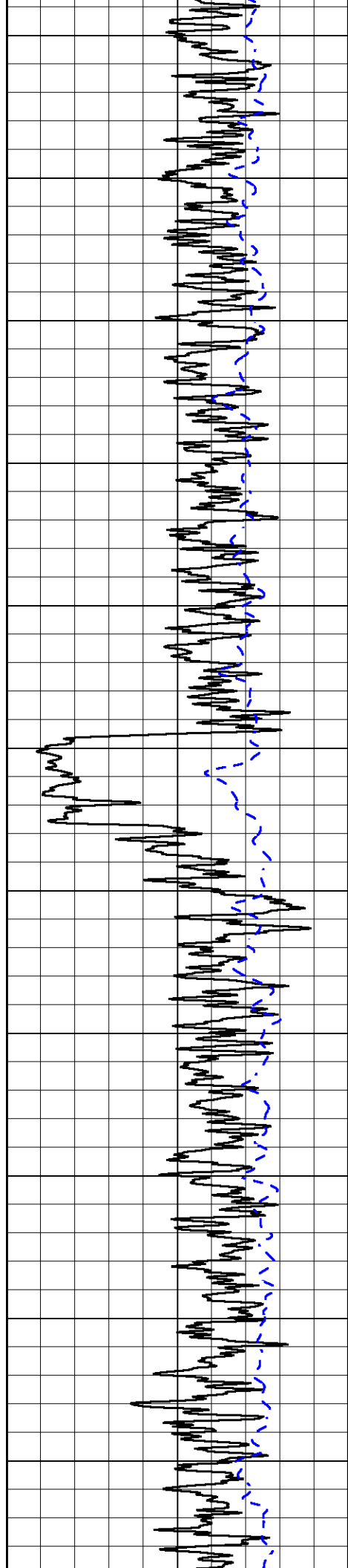


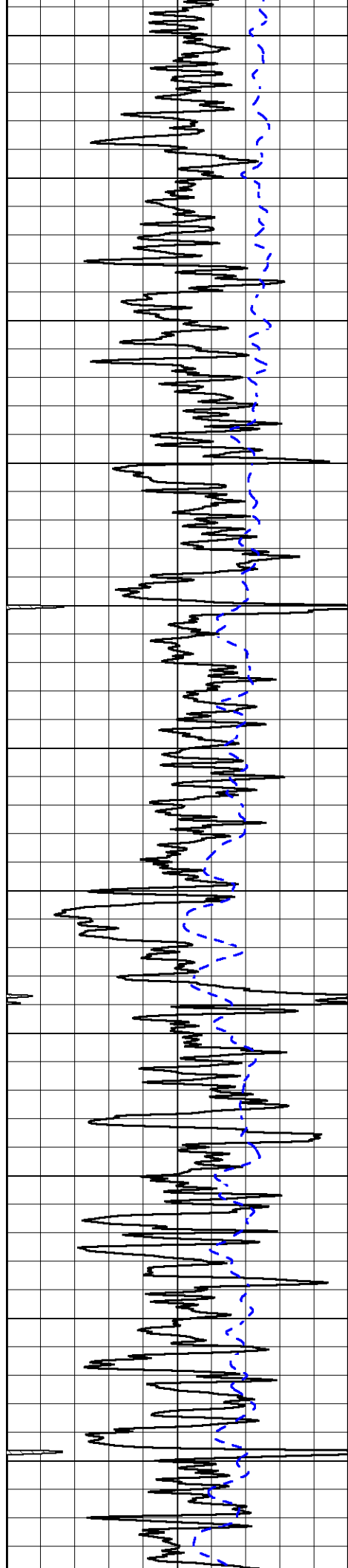




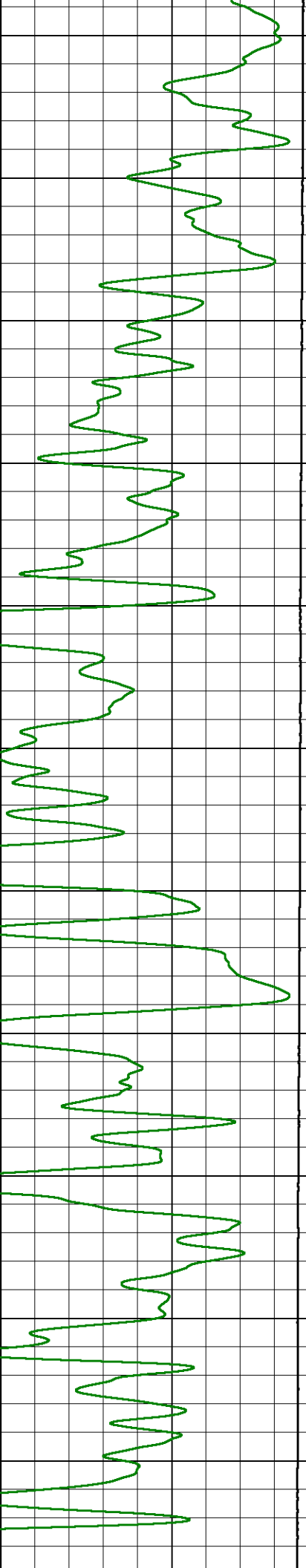
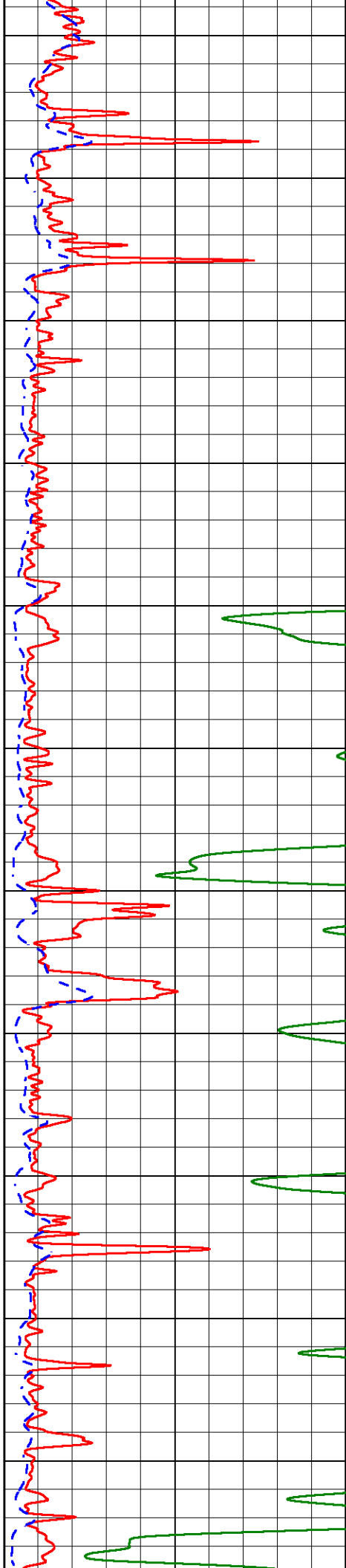
900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400

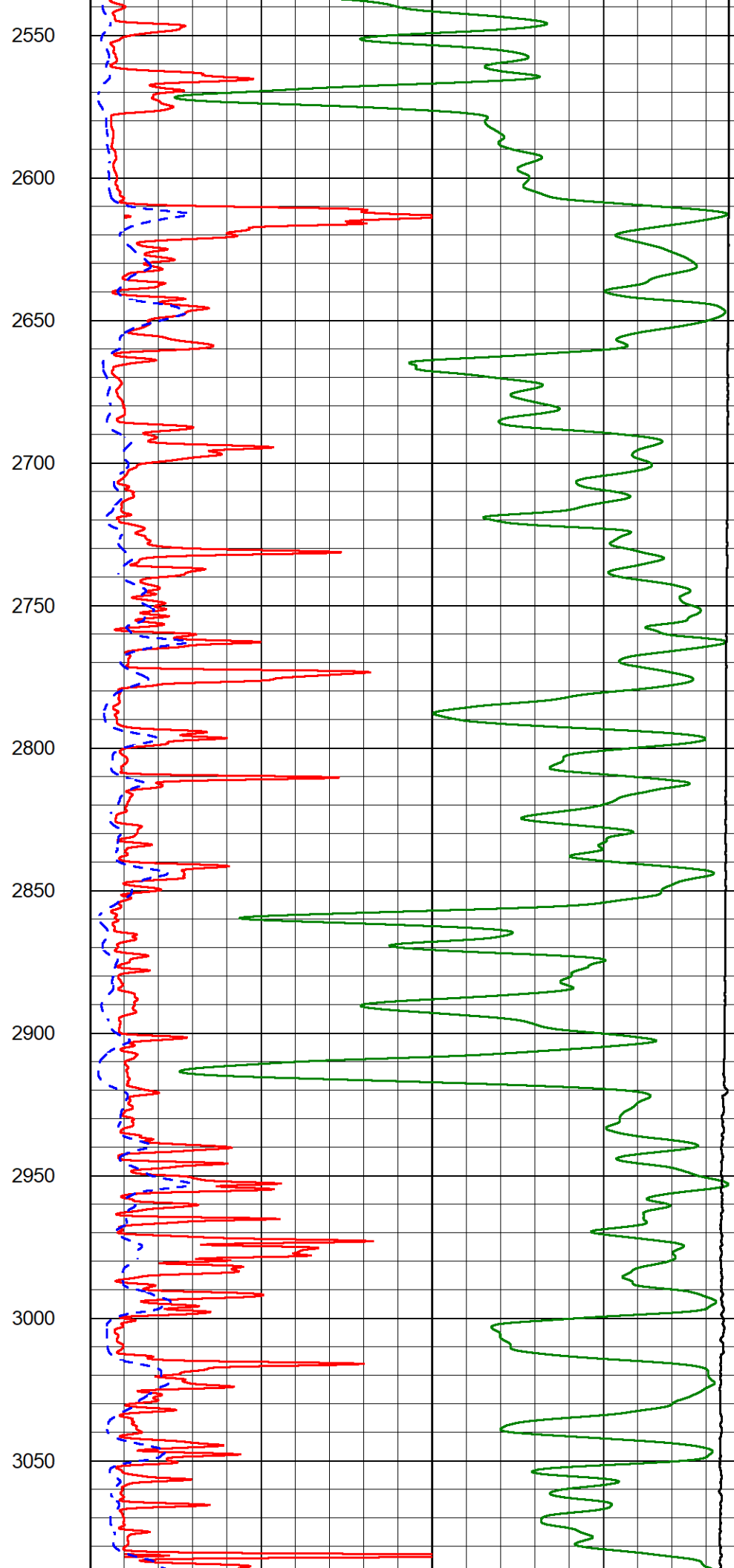
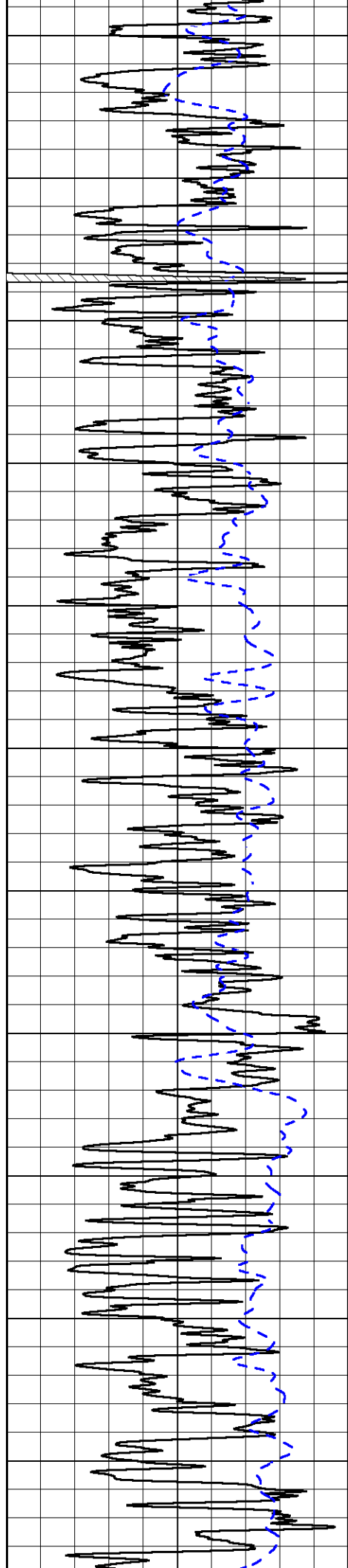


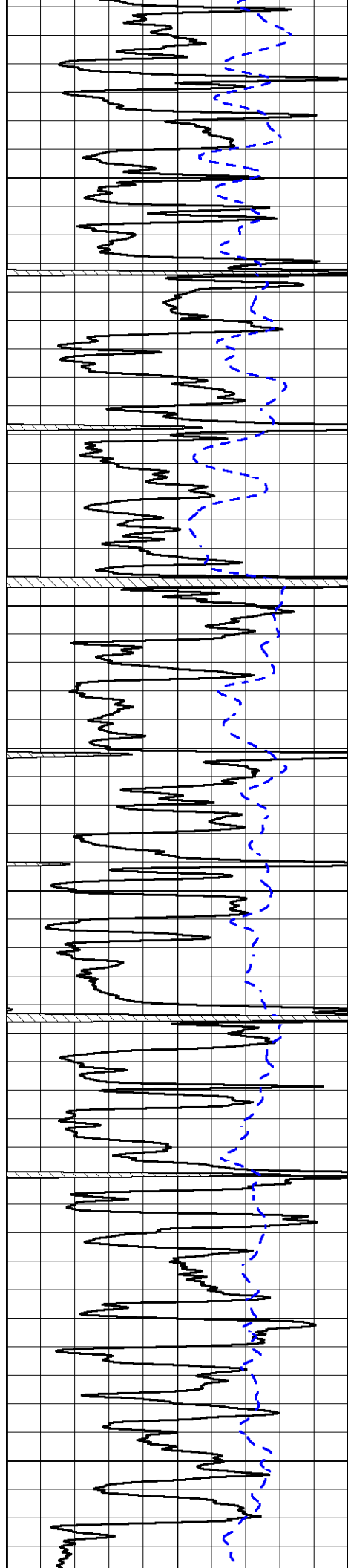




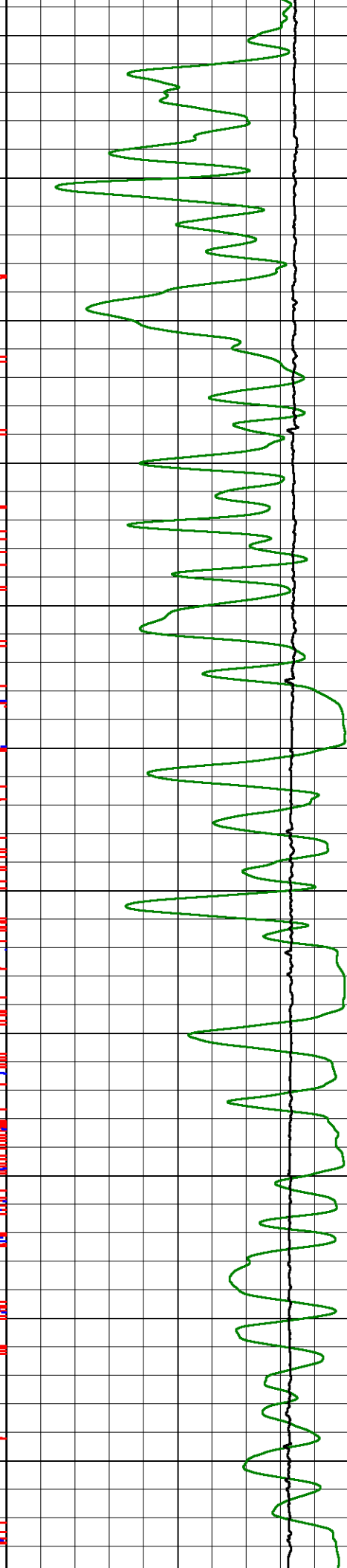
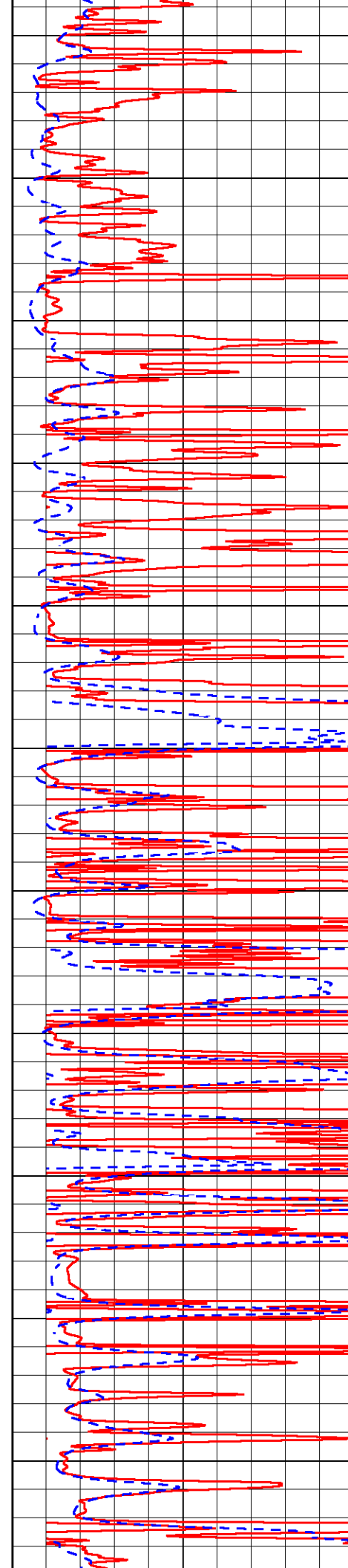
2000
2050
2100
2150
2200
2250
2300
2350
2400
2450
2500

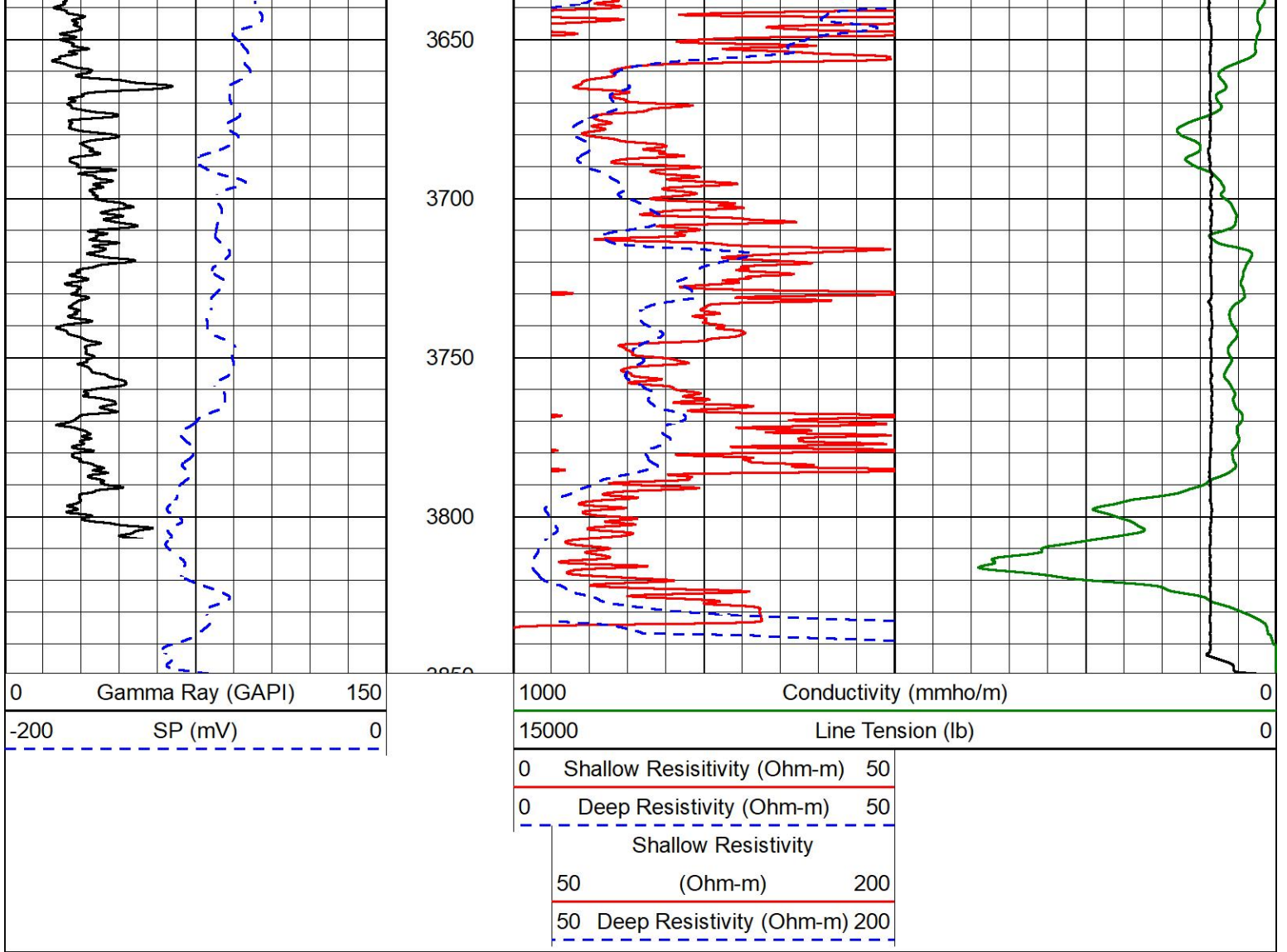






3100
3150
3200
3250
3300
3350
3400
3450
3500
3550
3600



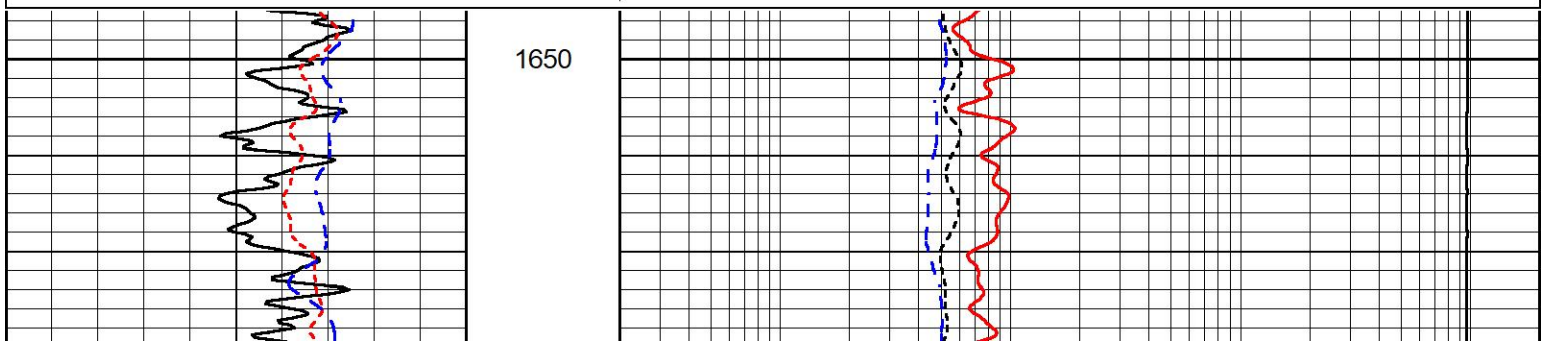
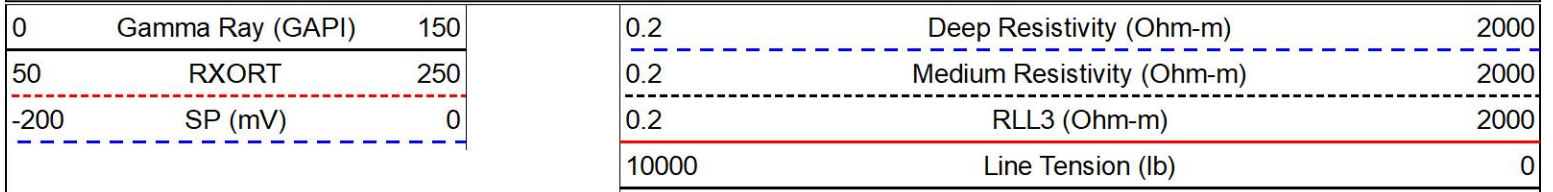


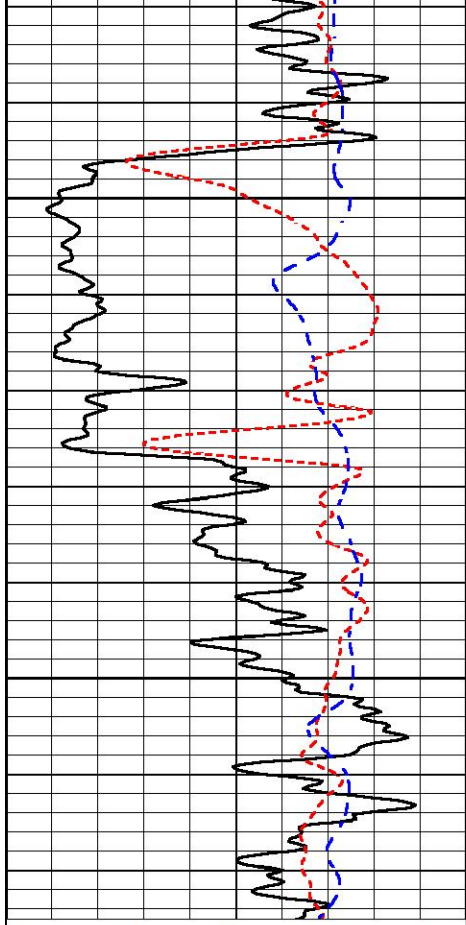
MIDWEST WIRELINE

ANHYDRITE SECTION

MAIN PASS

Database File amwar_belleau unit #1-33.db
 Dataset Pathname StkMI/pass3.4
 Presentation Format _dil
 Dataset Creation Tue Feb 27 01:03:21 2024
 Charted by Depth in Feet scaled 1:240

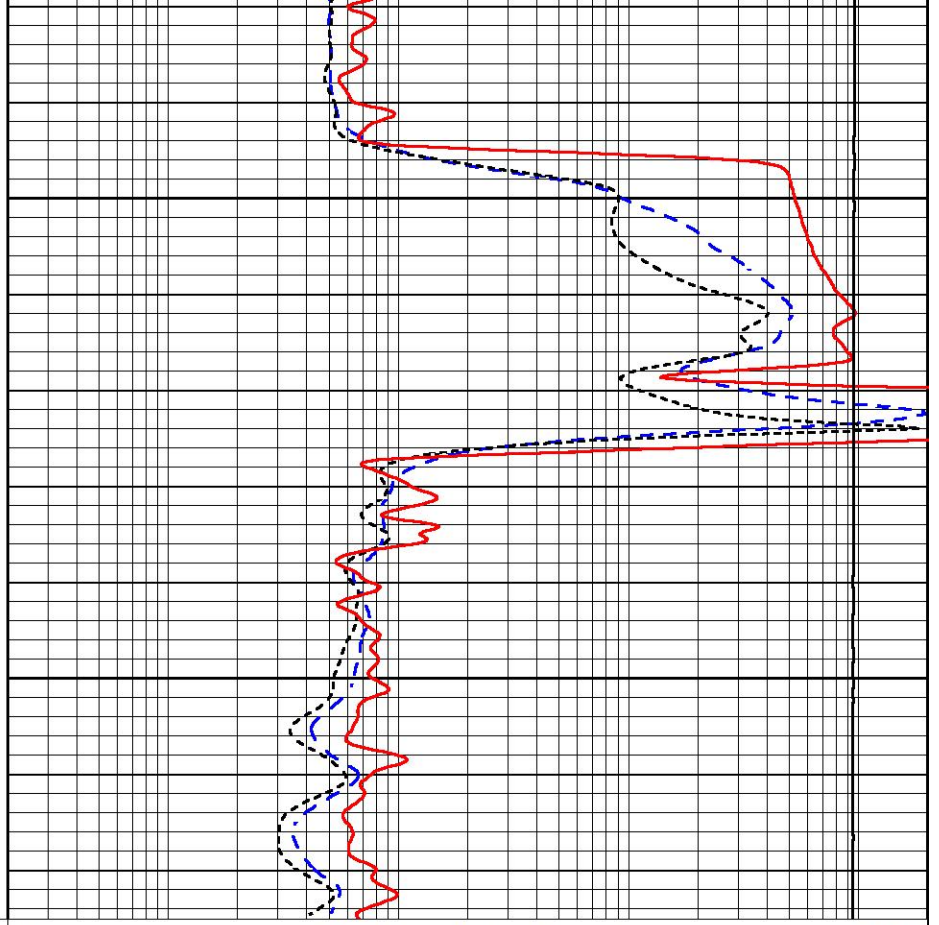




1700

1750

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	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0



MIDWEST WIRELINE

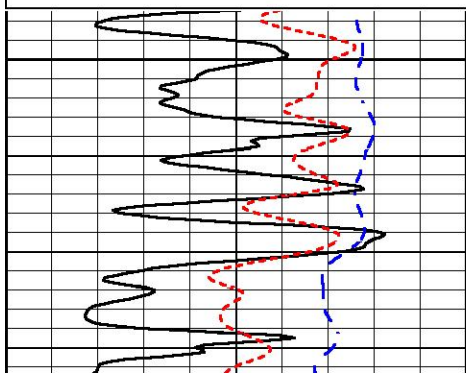
DETAIL SECTION

MAIN PASS

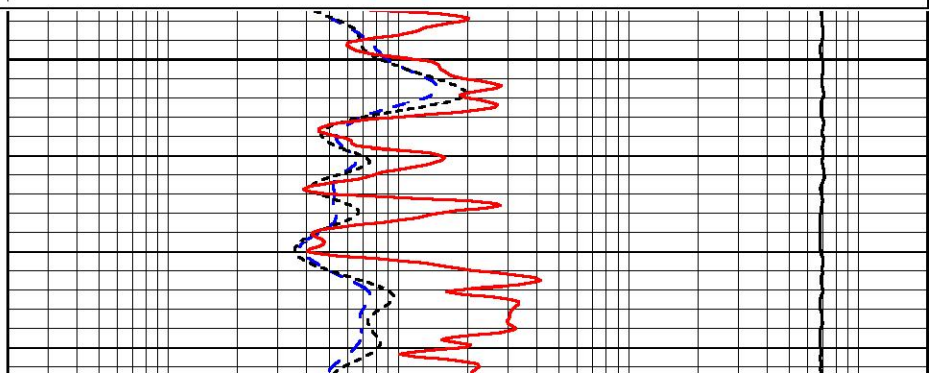
Database File amwar_belleau unit #1-33.db
 Dataset Pathname StkMI/pass3.1
 Presentation Format _dil
 Dataset Creation Tue Feb 27 01:20:43 2024
 Charted by Depth in Feet scaled 1:240

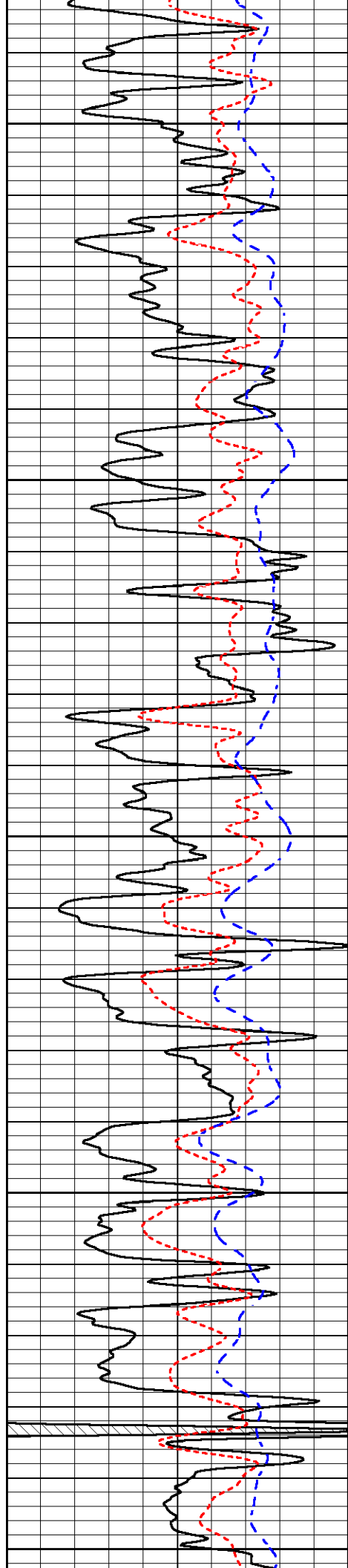
0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

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



2950





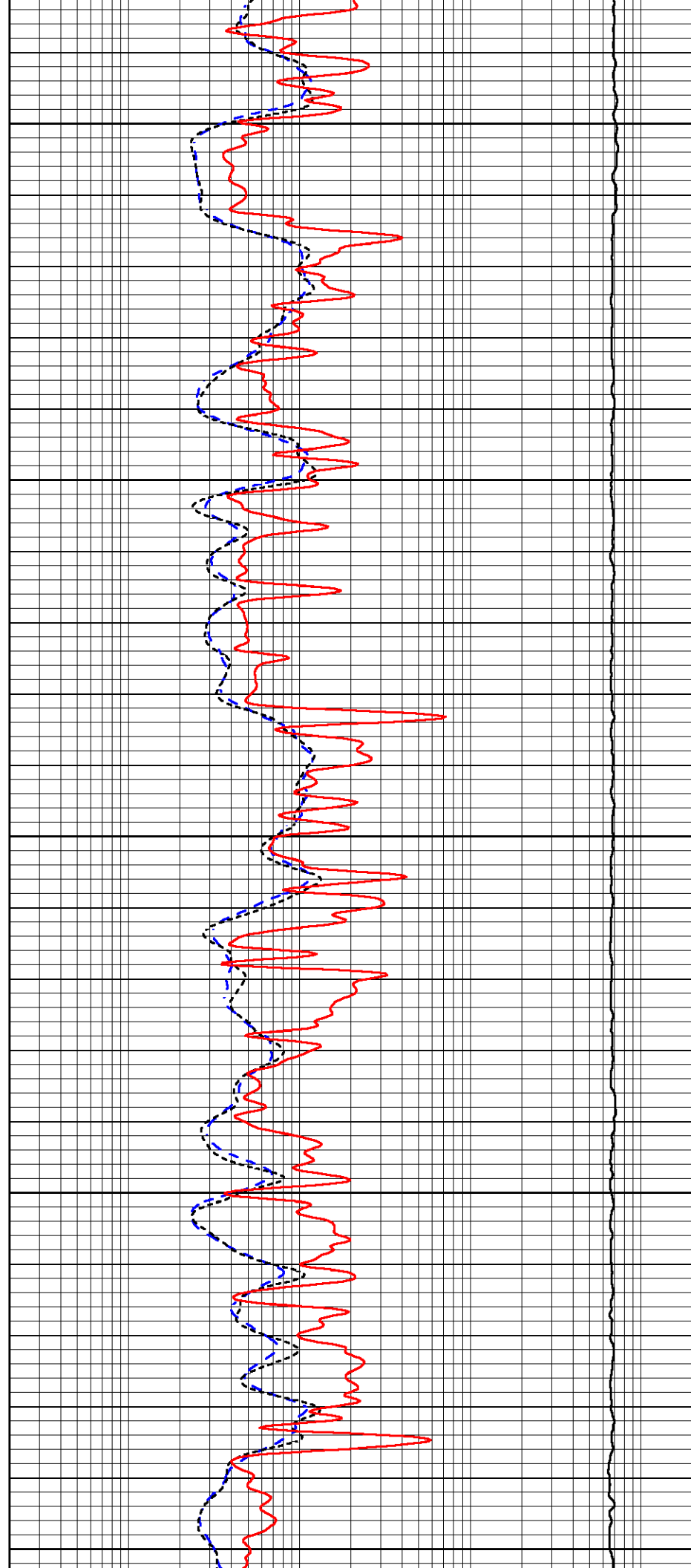
3000

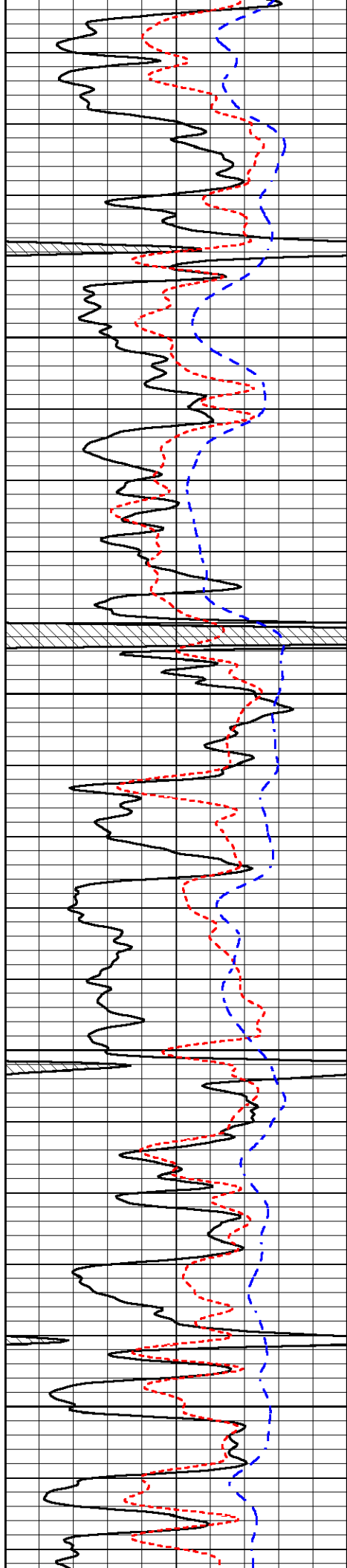
3050

3100

3150

3200



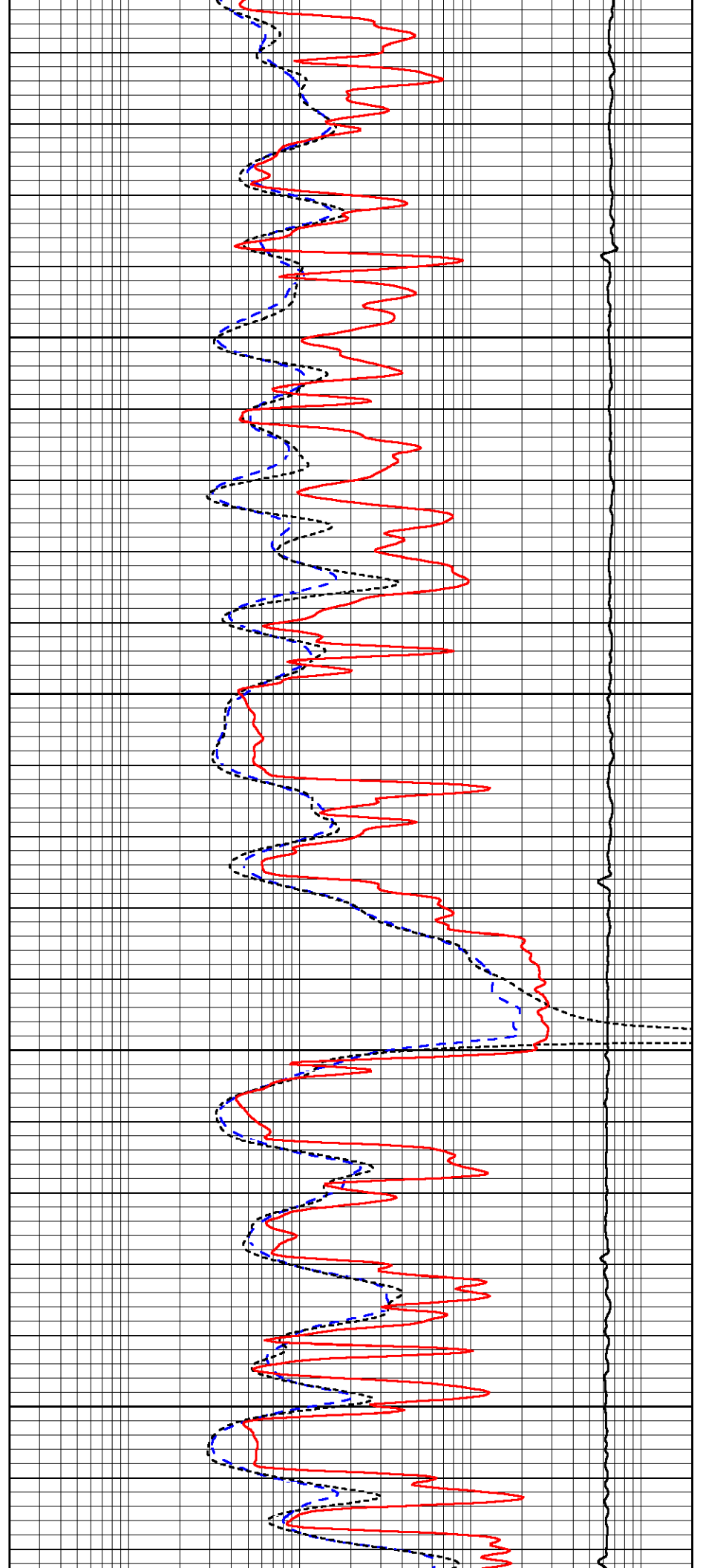


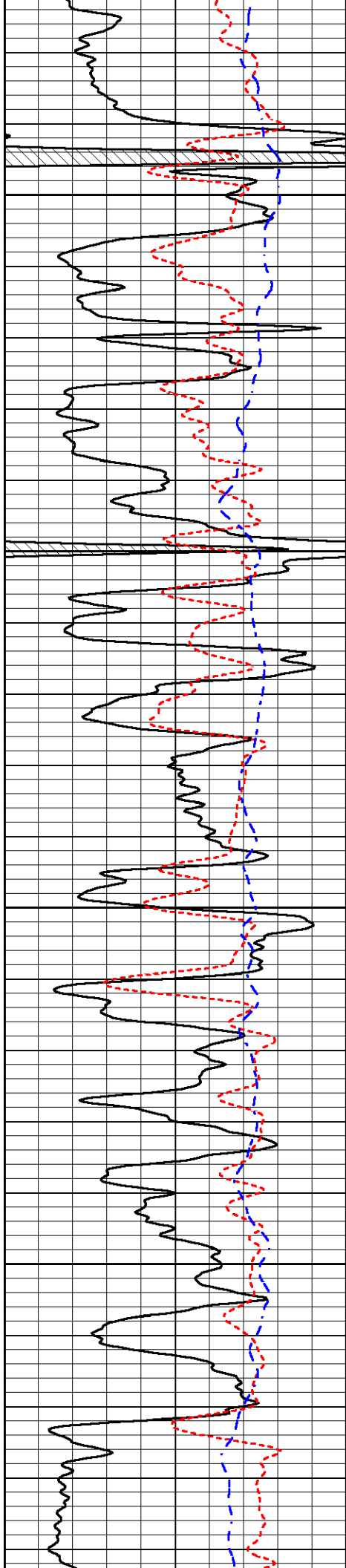
3250

3300

3350

3400



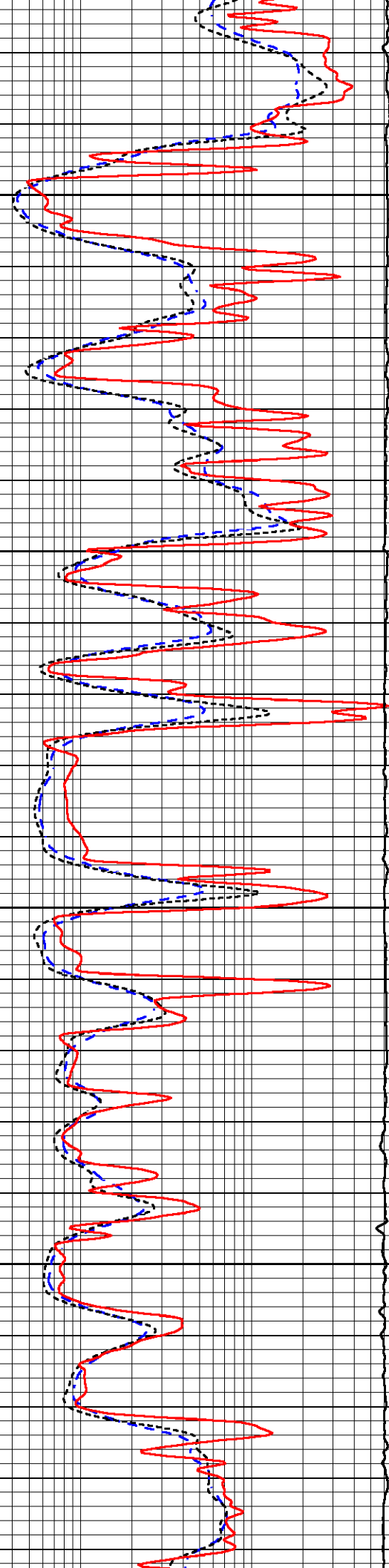


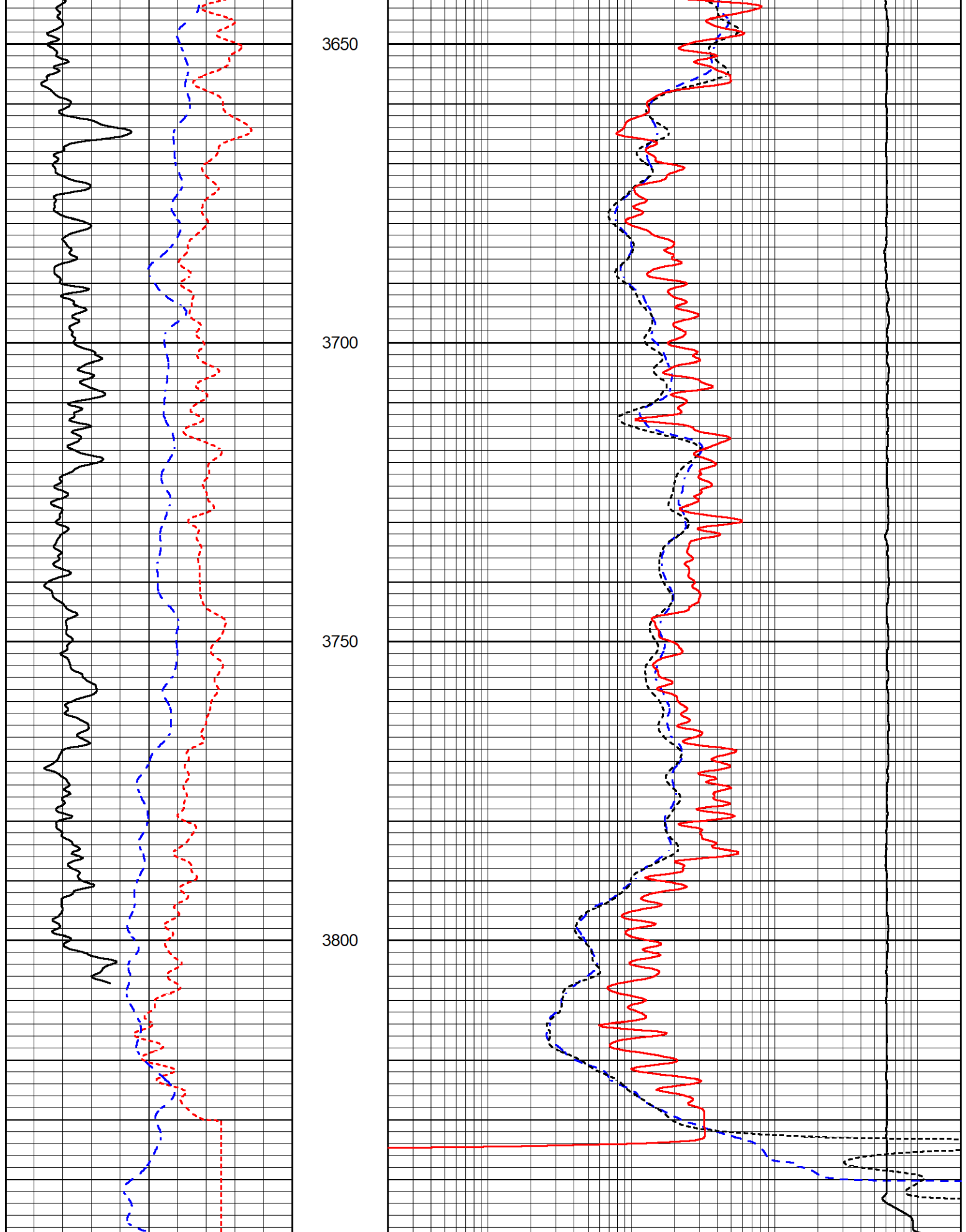
3450

3500

3550

3600





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	RLL3 (Ohm-m)	2000



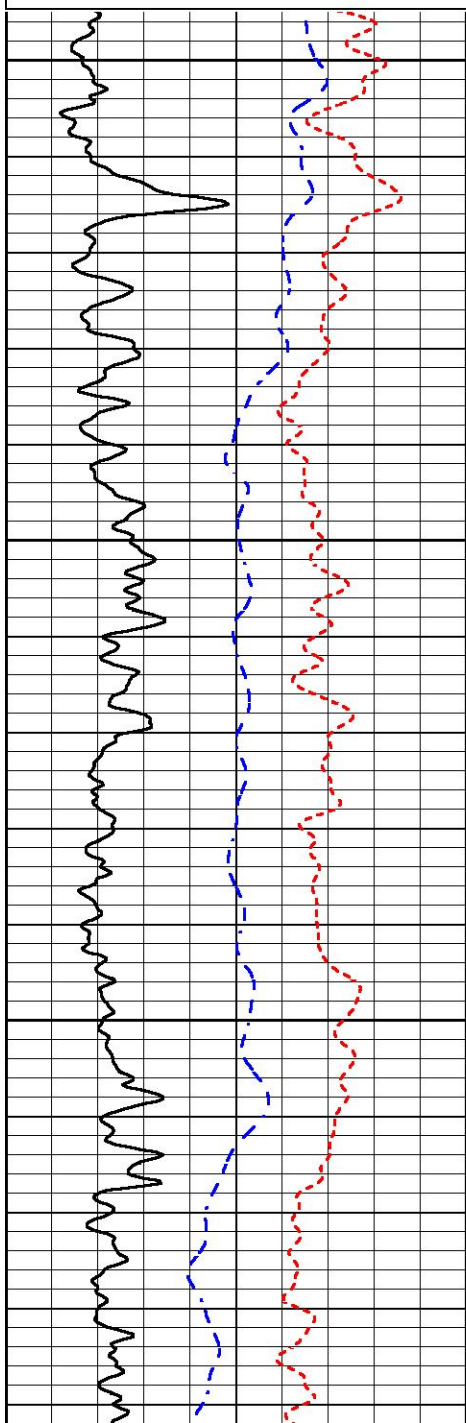
REPEAT SECTION

REPEAT PASS

Database File amwar_belleau unit #1-33.db
 Dataset Pathname StkMI/pass2.1
 Presentation Format _dil
 Dataset Creation Tue Feb 27 00:50:29 2024
 Charted by Depth in Feet scaled 1:240

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

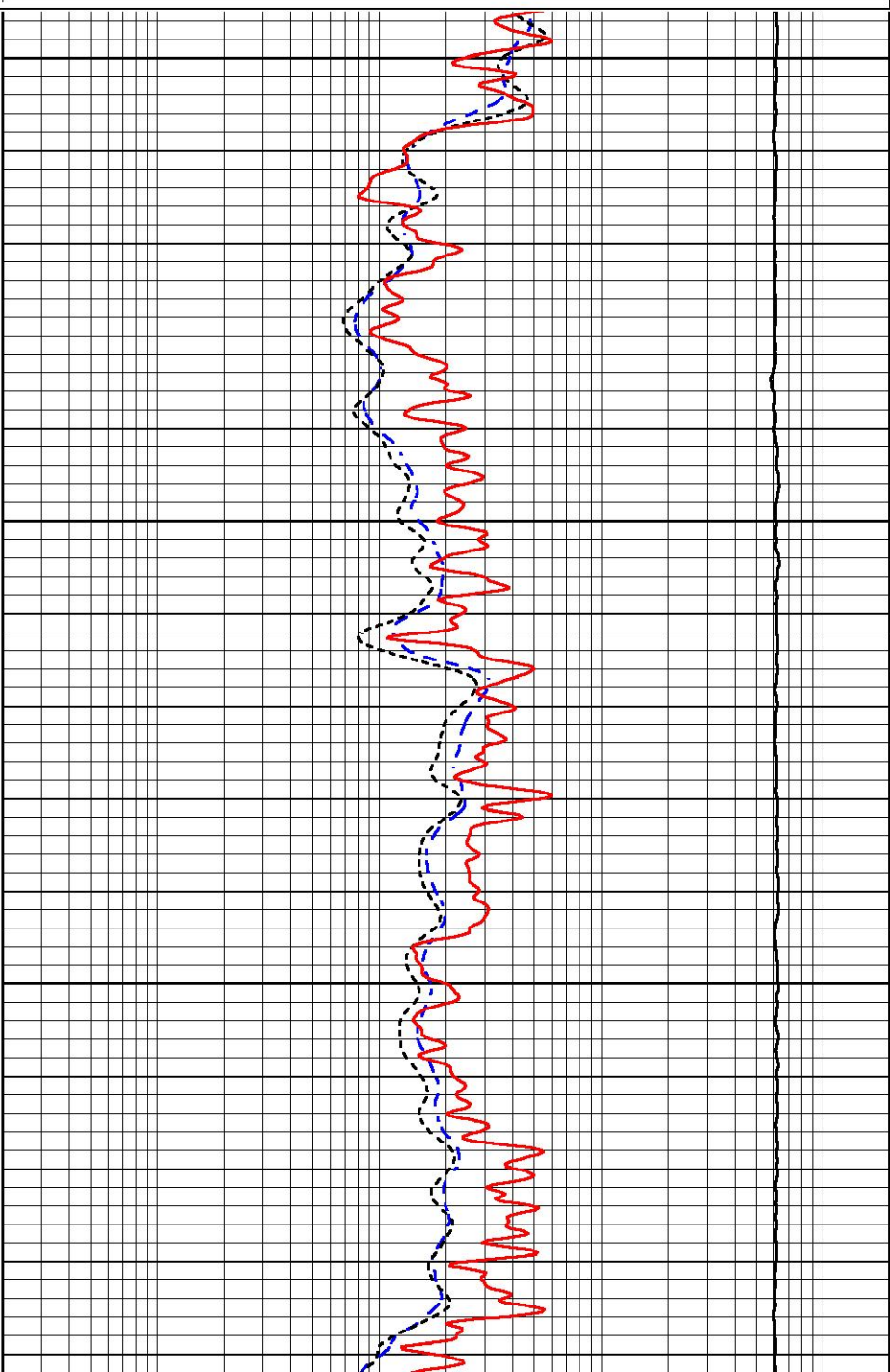
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0

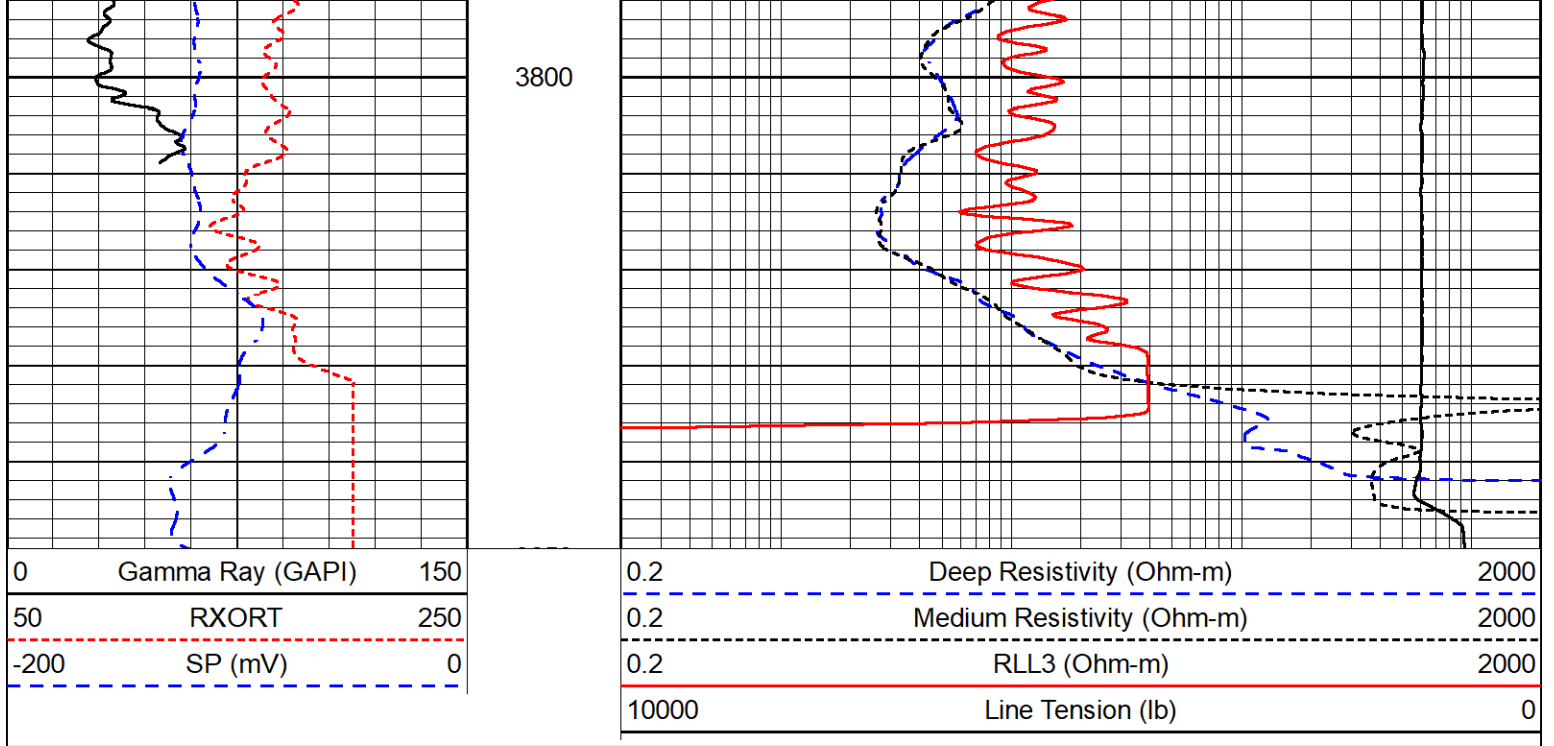


3650

3700

3750





Calibration Report

Database File amwar_belleau unit #1-33.db
 Dataset Pathname StkMI/pass3.1
 Dataset Creation Tue Feb 27 01:20:43 2024

Dual Induction Calibration Report

Serial-Model: 506-M&W
 Surface Cal Performed: Wed Feb 21 00:04:51 2024

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	m	b
Deep	84.211	428.152	0.000	255.800	mmho/m	0.485	-34.500
Medium	141.000	670.654	0.000	255.800	mmho/m	0.435	-21.500

Microlog Calibration Report

Serial-Model: 402-PSI STKBL ML
 Performed: Wed Feb 21 00:05:43 2024

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	14000.0000	-0.6000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	14000.0000	-0.2500
Caliper	1.0046	1.1419	5.5000	20.0000	in	50.0000	-44.5700

LITHODENSITY Calibration Report

Serial Number: 701-01
 Tool Model: STEP LITHO Short
 Performed: Fri Dec 15 13:02:54 2023

Source:

Win1 Win2 Win3 Win4 Win5 Win6 Win7 Win8

Background:

SS: 50 53 200 252 23 67 44 1 cps
 LS: 78 88 332 424 48 131 87 3 cps

Aluminum:

SS: 1069 1323 3068 2763 51 72 47 3 cps
 LS: 1171 2261 4196 1923 57 133 82 6 cps

Magnesium:

SS: 1756 2109 4999 4049 59 72 48 5 cps
 LS: 4803 8914 16228 6562 125 123 85 17 cps

Aluminum+Iron:

SS: 682 909 2535 2363 47 72 47 3 cps
 LS: 682 1582 3537 1707 57 132 82 5 cps

	Density Actual	Calibrated		PE Actual	Calibrated	Quality
Background:						
SS:						0.201
LS:						0.203
Aluminum:						
SS:	2.6000	2.6000	g/cc			0.208
LS:	2.6000	2.6000	g/cc			0.236
Magnesium:						
SS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.205
LS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.183
Aluminum+Iron:						
SS:					6.1800	0.210
LS:					6.1800	0.234

Caliper: Reference: Reading:
 Small Ring: 6.0 in 0.2
 Large Ring: 14.0 in 0.8
 Gain: 12.765
 Offset: 2.525

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: 105
 Tool Model: M&W
 Performed: Sat Oct 21 23:48:19 2023

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps
 Calibrator Reading: 637.0 cps

Sensitivity: 0.6000 GAPI/cps



Company American Warrior, Inc.

Well Belleau Unit #1-33



Field	Kenyon
County	Graham
State	Kansas