



MIDWEST WIRELINE

DUAL INDUCTION
LOG

Company The Bill Bowman Oil Company		Company The Bill Bowman Oil Company	
Well	PL Hilgers #1	Well	PL Hilgers #1
Field	Baumgarten	Field	Baumgarten
County	Rooks	County	Rooks
State	Kansas	State	Kansas
Location: API #: 15-163-24458-00-00		Other Services	
1650 FNL & 1650 FWL		CNL/CDL MEL	
Permanent Datum	Ground Level	Elevation	2188
Log Measured From	Kelly Bushing	K.B.	2193
Drilling Measured From	Kelly Bushing	D.F.	
		G.L.	2188
Date	9/11/2022		
Run Number	One		
Depth Driller	3698		
Depth Logger	3698		
Bottom Logged Interval	3697		
Top Log Interval	200		
Casing Driller	8.625 @ 227		
Casing Logger	221		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	2300		
Density / Viscosity	9.1	52	
pH / Fluid Loss	11.0	5.4	
Source of Sample	Flowline		
Rm @ Meas. Temp	0.74 @ 80		
Rmt @ Meas. Temp	0.56 @ 80		
Rmc @ Meas. Temp	1.00 @ 80		
Source of Rmt / Rmc	Charts		
Rm @ BHT	0.52 @ 113		
Operating Rig Time	2 Hours		
Max Rec. Temp. F	113		
Equipment Number	P-24		
Location	Hays		
Recorded By	D. Schmidt		
Witnessed By	Roger Moses		

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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.

Plainville,
4 East, 3/4 North,
East into

Log Measured From: Kelly Bushing5 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: Roger Moses	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33			GR-M&W (106)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48			CNT-M&W (207-MW)	5.00	3.50	100.00
LSD DCAL SSD	28.18			CDL-M&W (307-11)	8.50	4.00	250.00
	28.17			ML-PSIML (402)	7.58	4.00	65.00
	27.68						
MCAL MI MN	19.58						
	19.58			RLL3F RLL3	15.50	15.50	
	19.58						
RLL3F RLL3	15.50 15.50			DIL-M&W (501 HT)	18.25	3.50	220.00
CILD	8.33						
CILM	4.50						
SP	0.20						
Dataset: bowman_hilger 1.db: field/well/stkml/pass3.12 Total length: 42.33 ft Total weight: 685.00 lb O.D.: 4.00 in							

Log Variables

DatabaseC:\ProgramData\Warrior\Data\bowman_hilger 1.db
Dataset field/well/stkml/pass3.12/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in	degF	in	in	g/cc	2	g/cc
	7.875	113	5.5	0	1		2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m	mmho/m	mV	degF	Off	ft
		0	0	85	60		3698

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



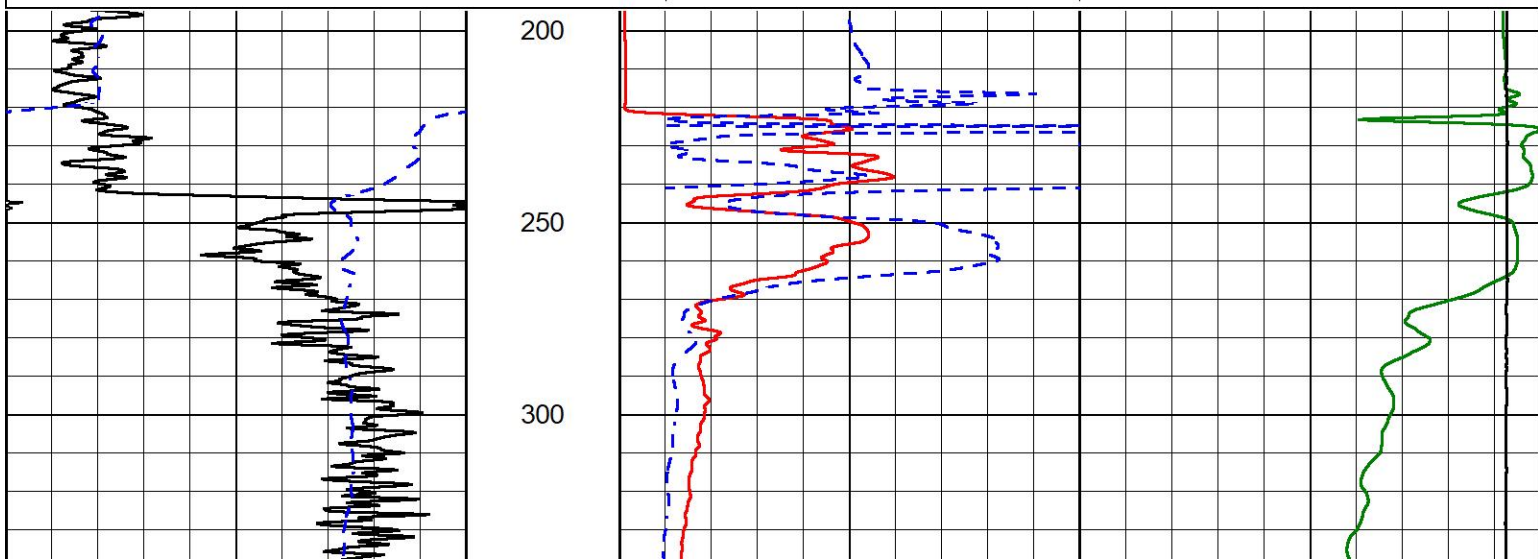
2" SCALE RESISTIVITY

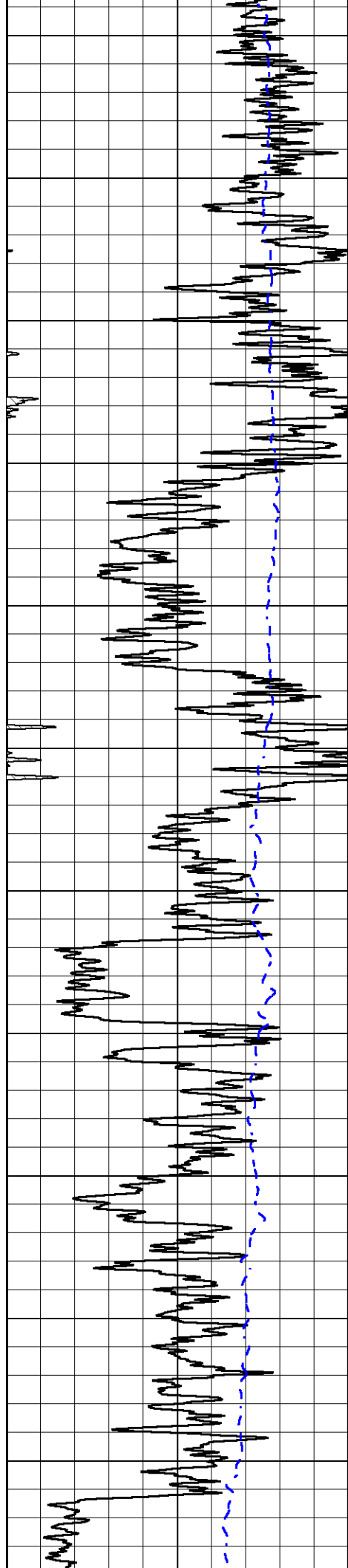
MAIN PASS

Database File bowman_hilger 1.db
Dataset Pathname stkml/pass3.3
Presentation Format _dil2in
Dataset Creation Sun Sep 11 05:28:01 2022
Charted by Depth in Feet scaled 1:600

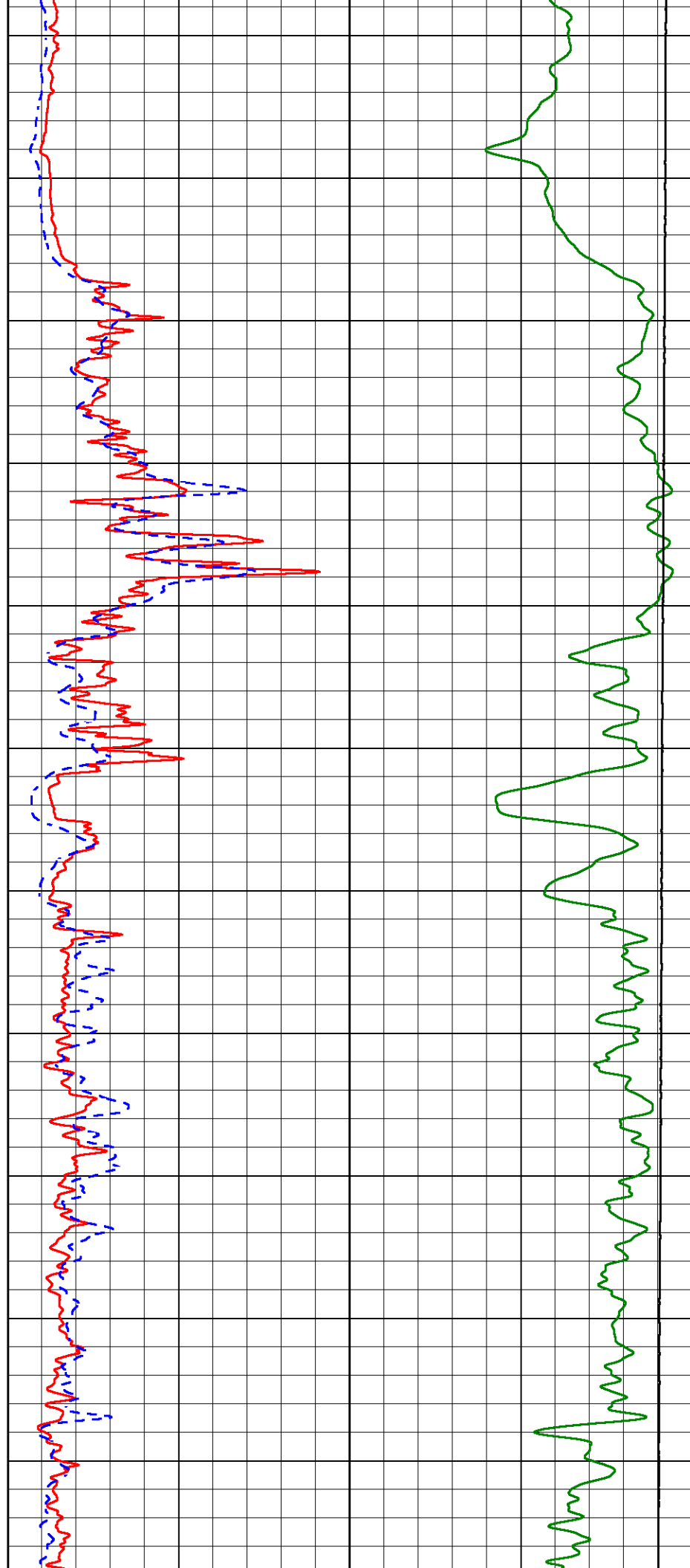
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-200	SP (mV)	0

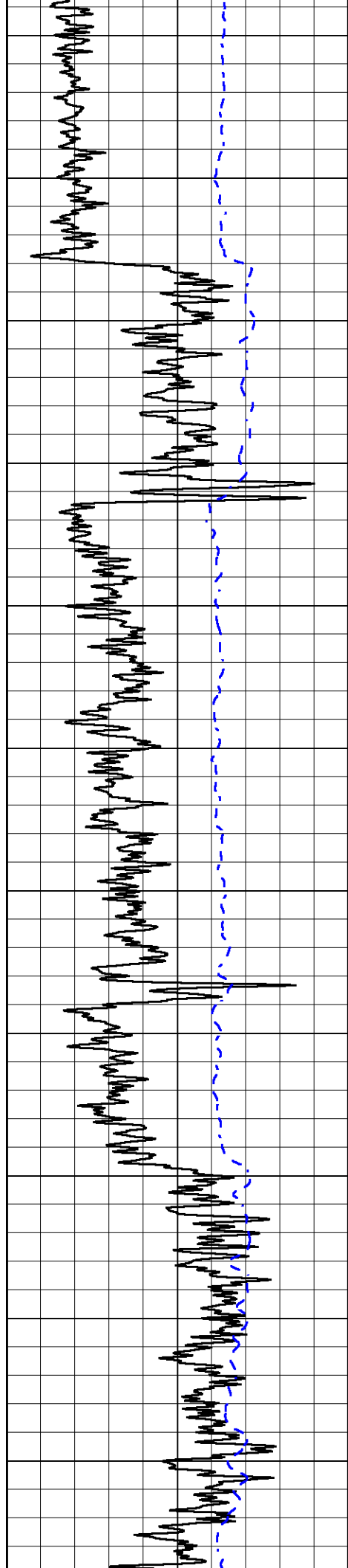
1000	Conductivity (mmho/m)	0
15000	Line Tension (lb)	0
0	Shallow Resistivity (Ohm-m)	50
0	Deep Resistivity (Ohm-m)	50
50	Shallow Resistivity (Ohm-m)	200
50	Deep Resistivity (Ohm-m)	200



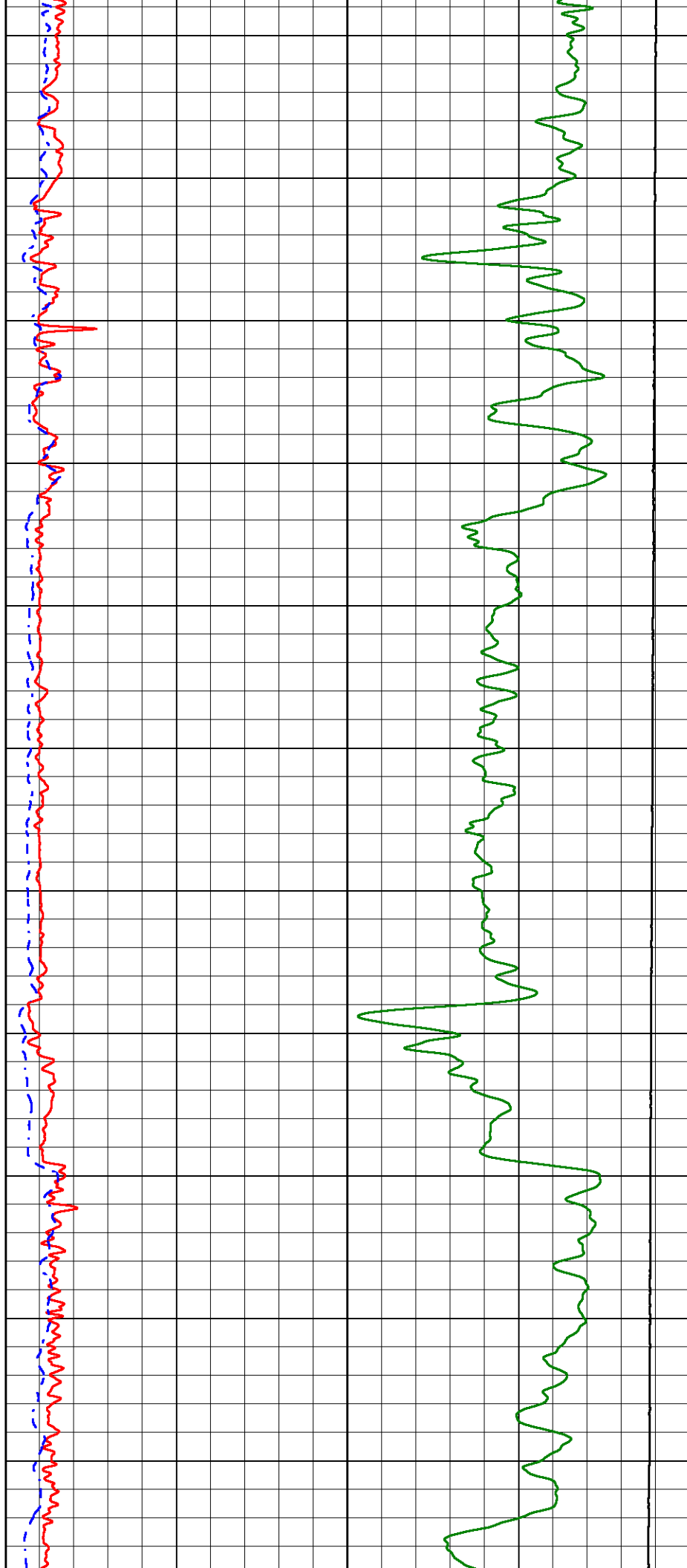


350
400
450
500
550
600
650
700
750
800
850

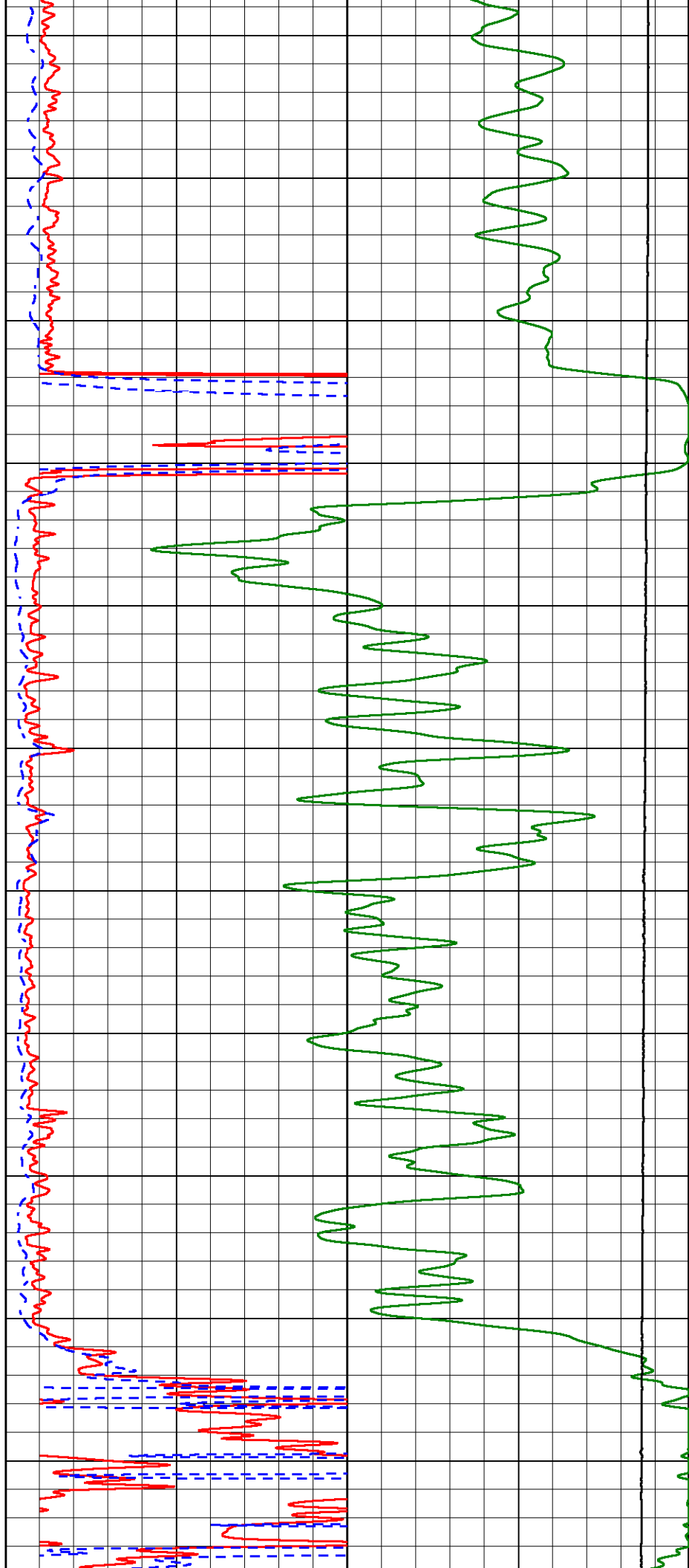
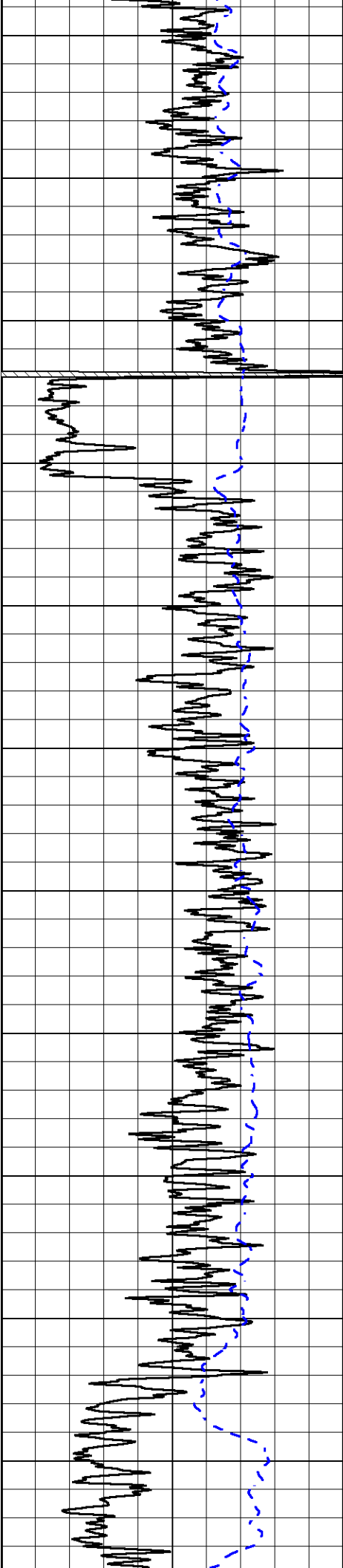


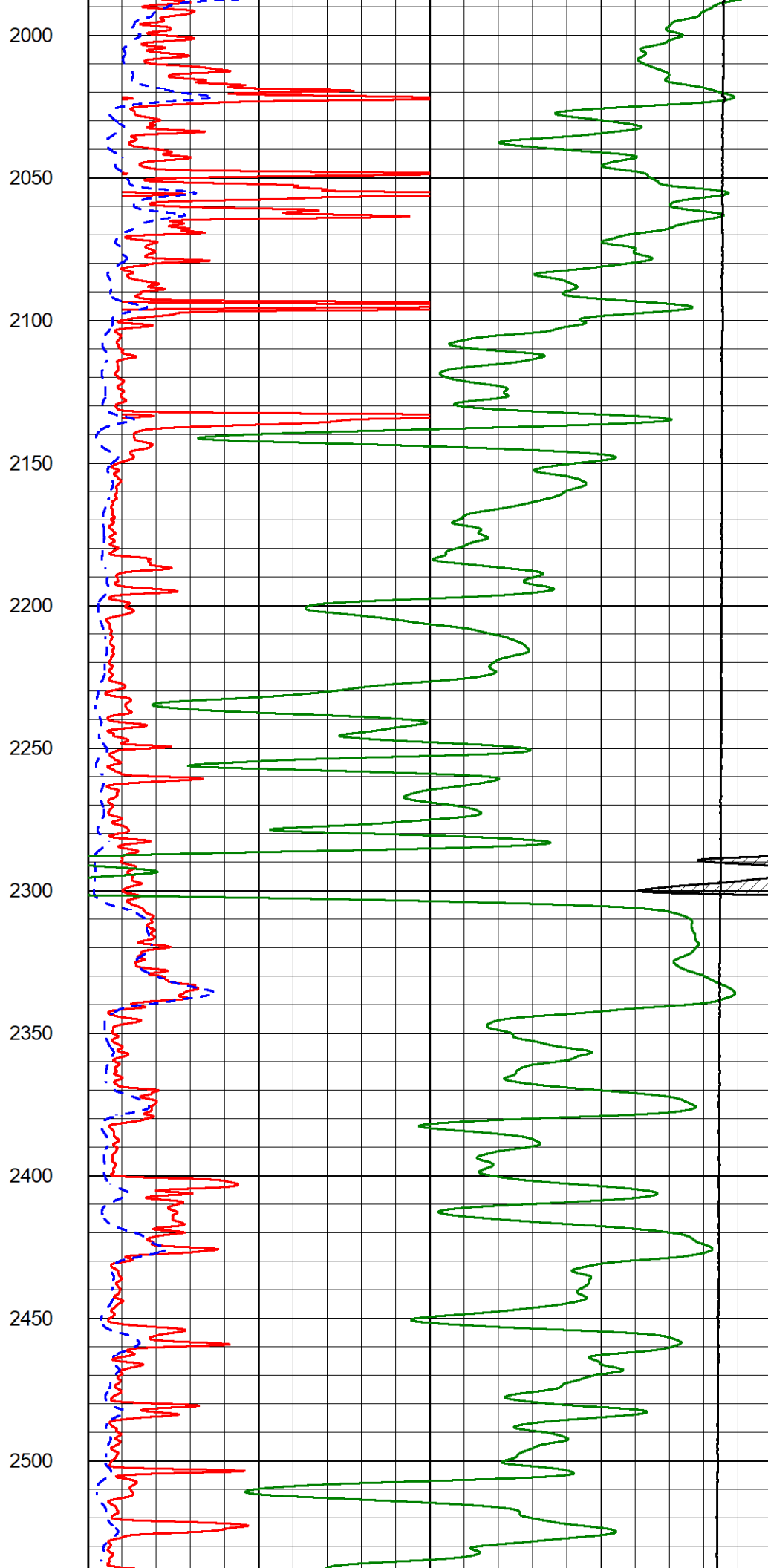
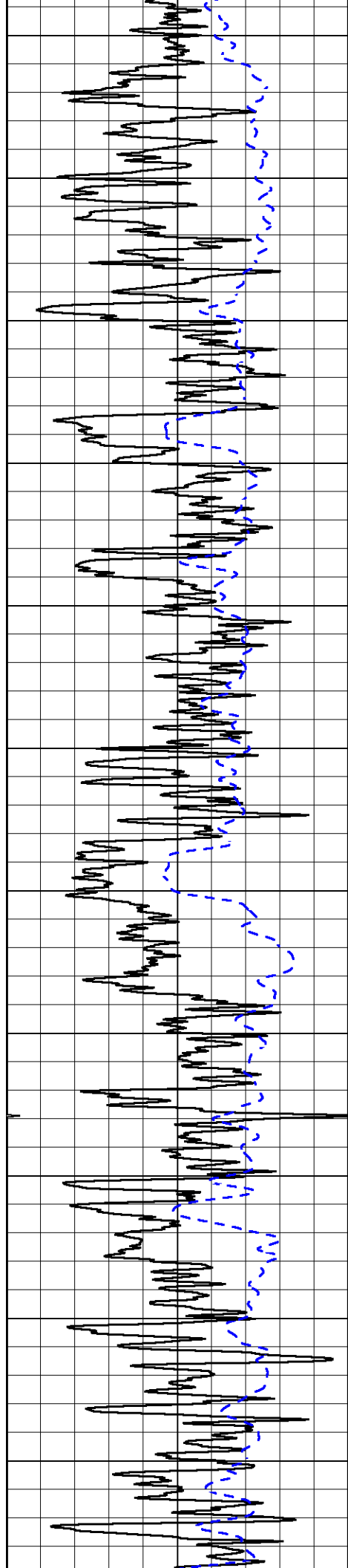


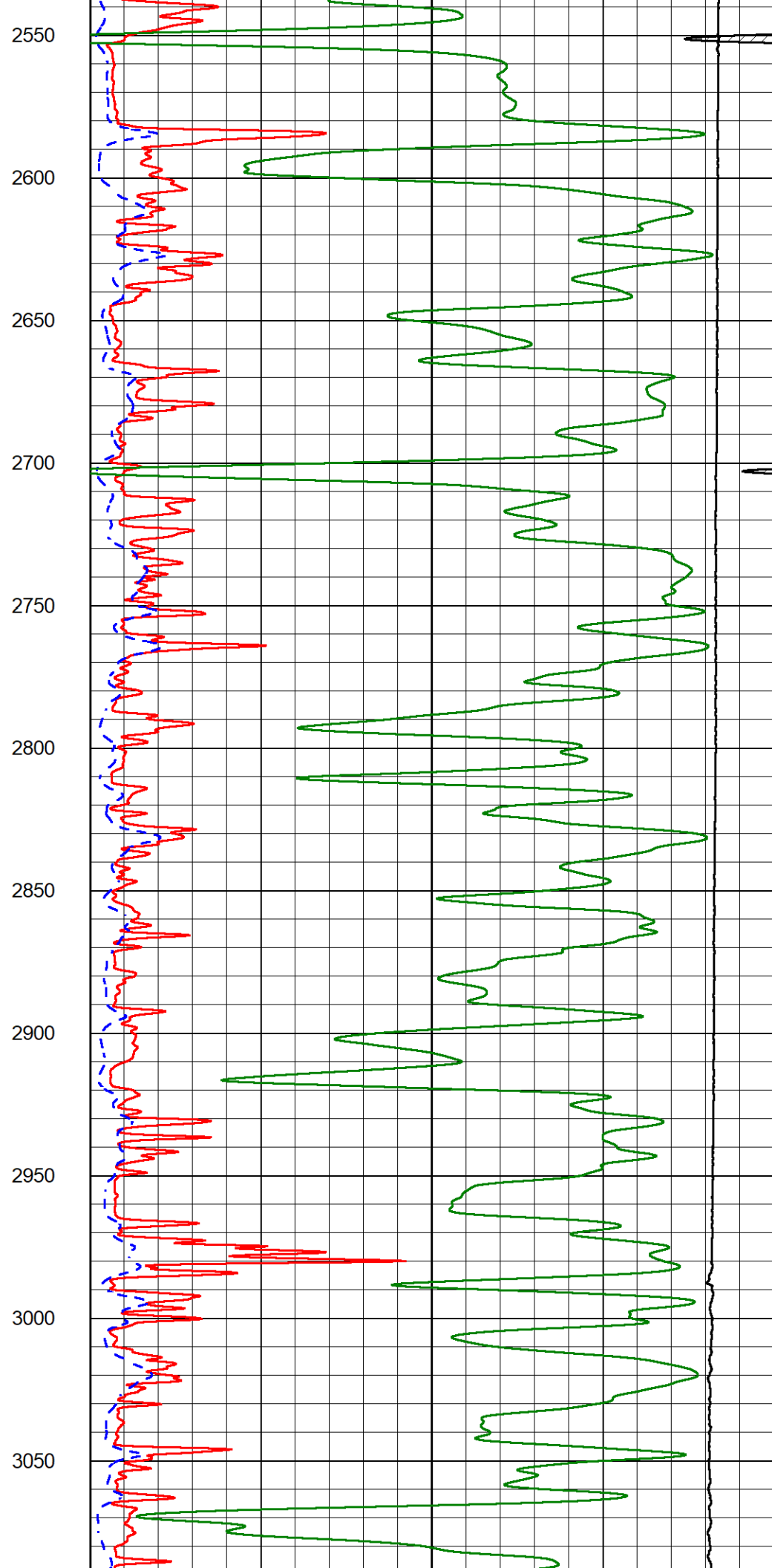
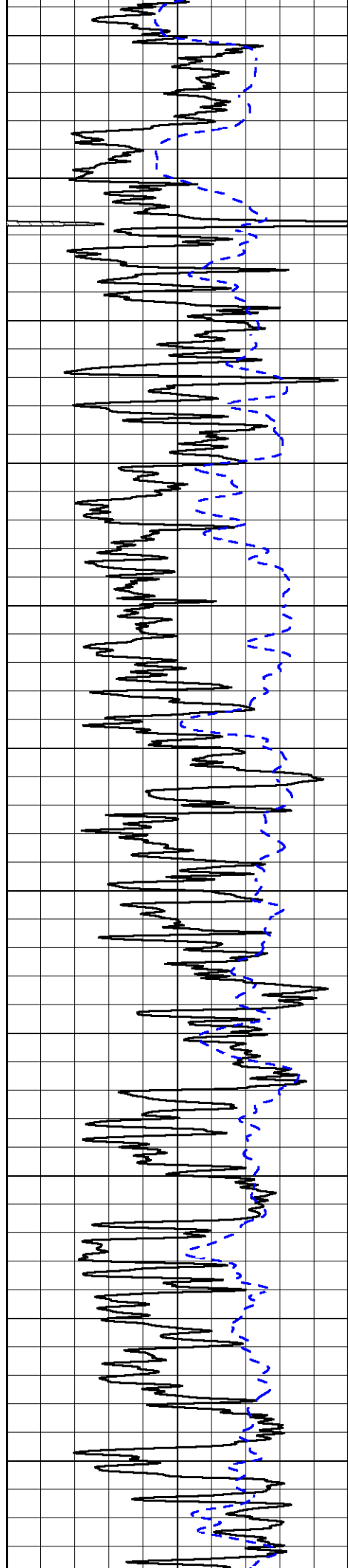
900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400

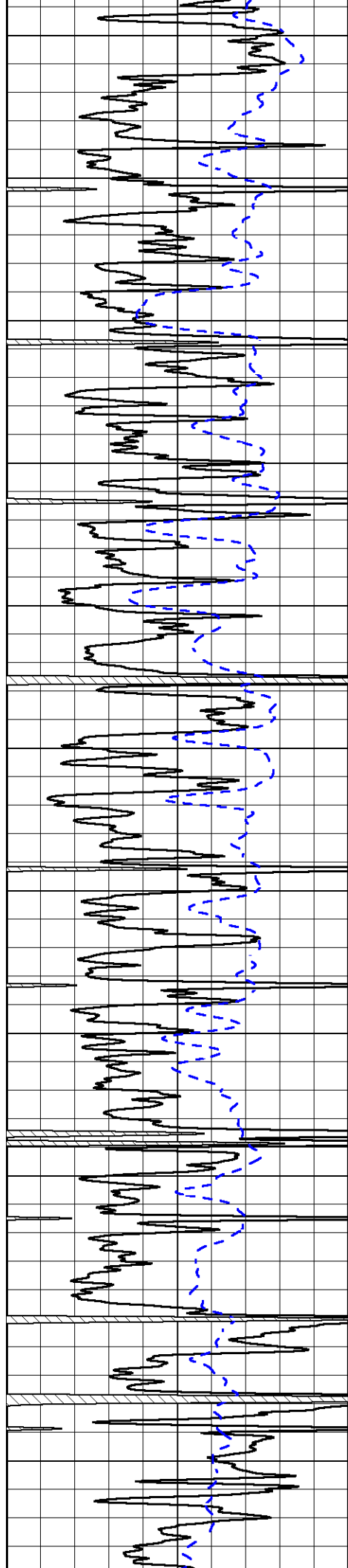


1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950









3100

3150

3200

3250

3300

3350

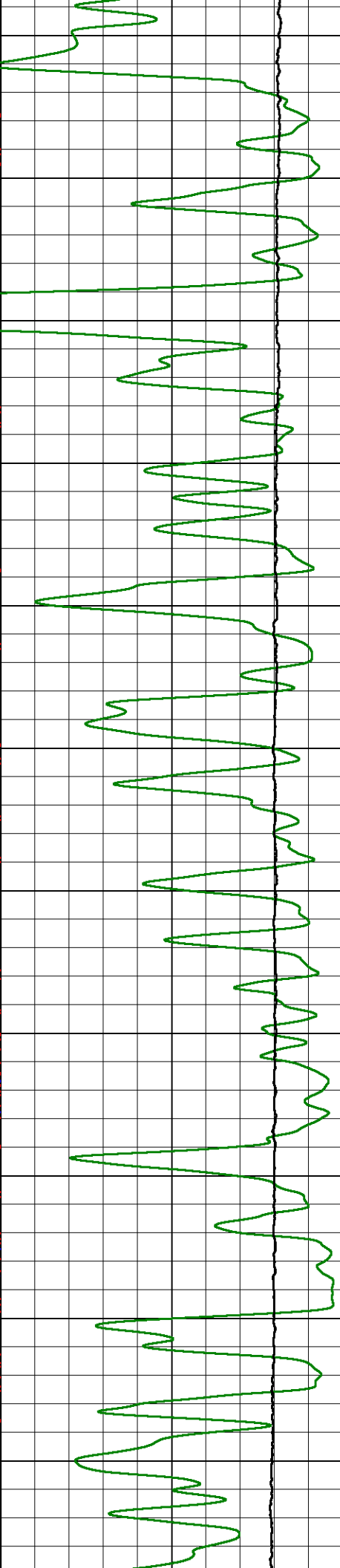
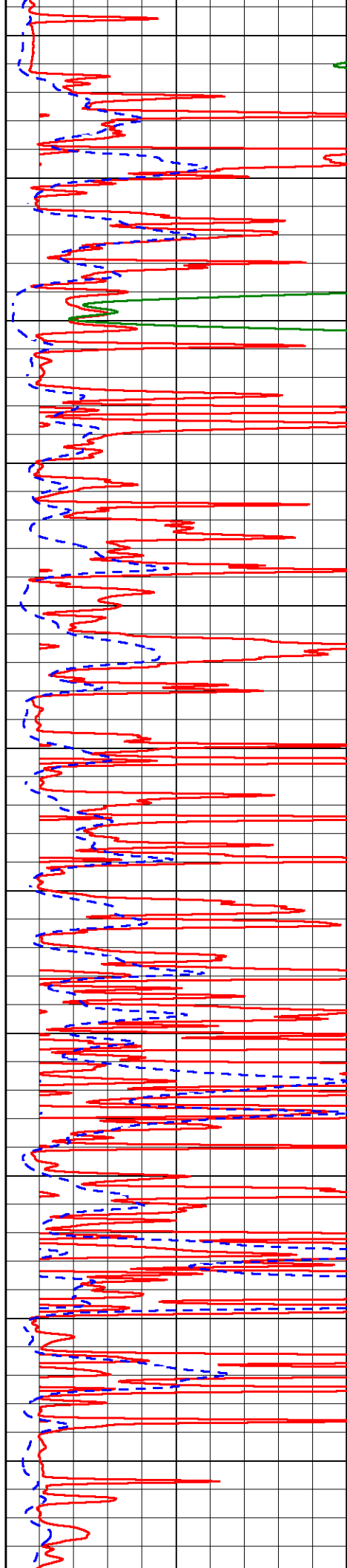
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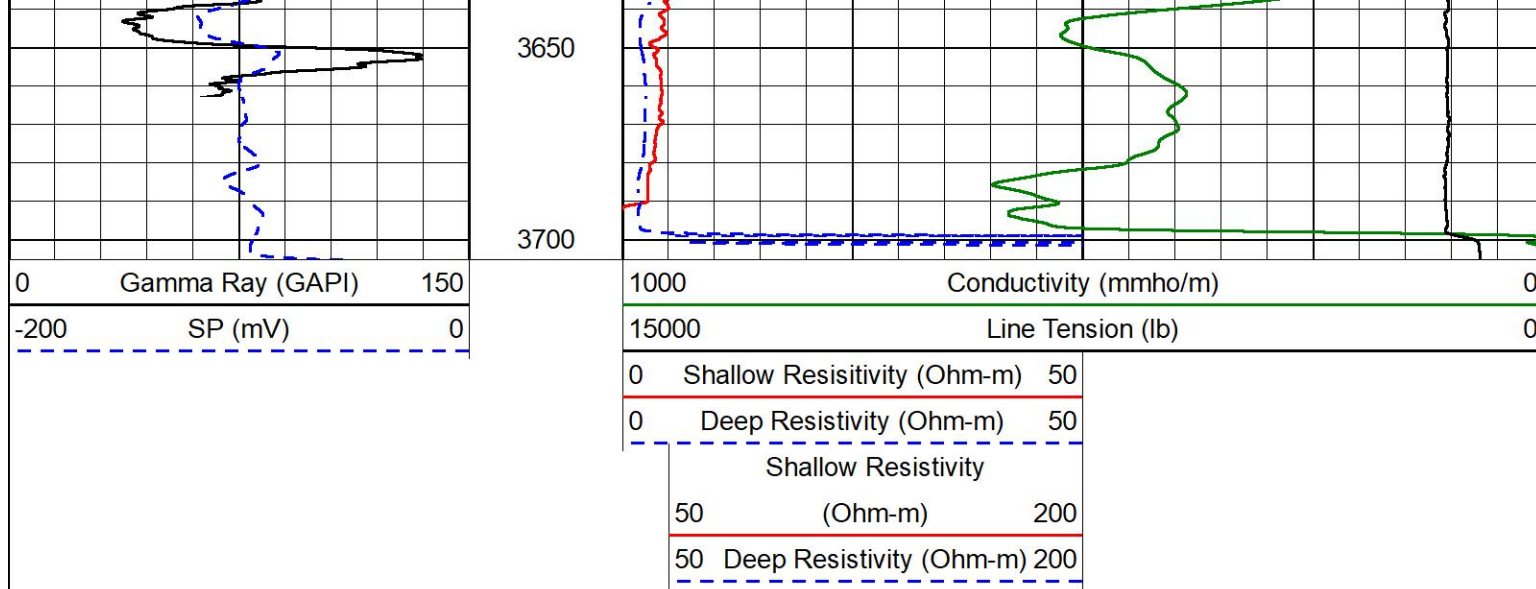
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3500

3550

3600



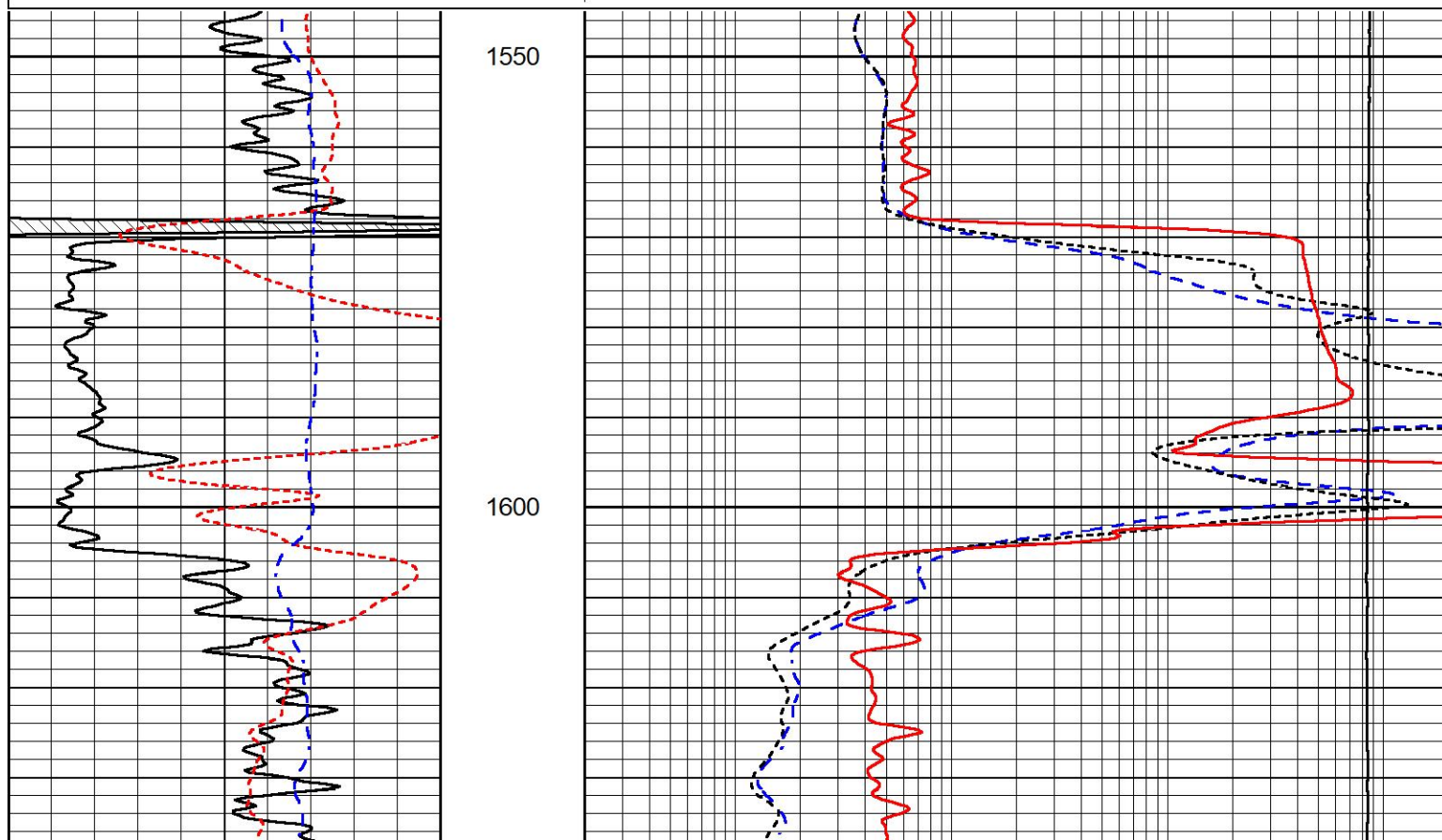
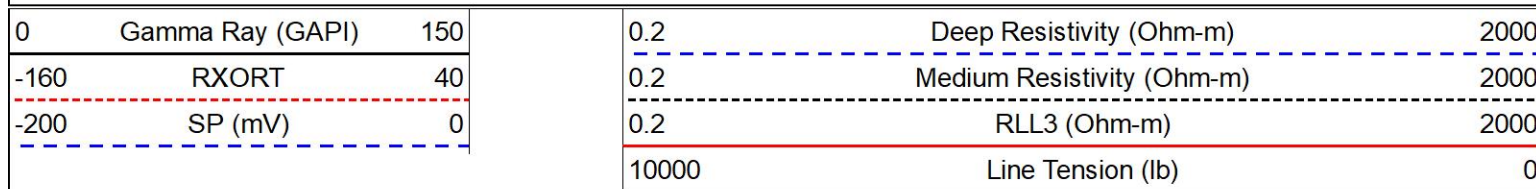


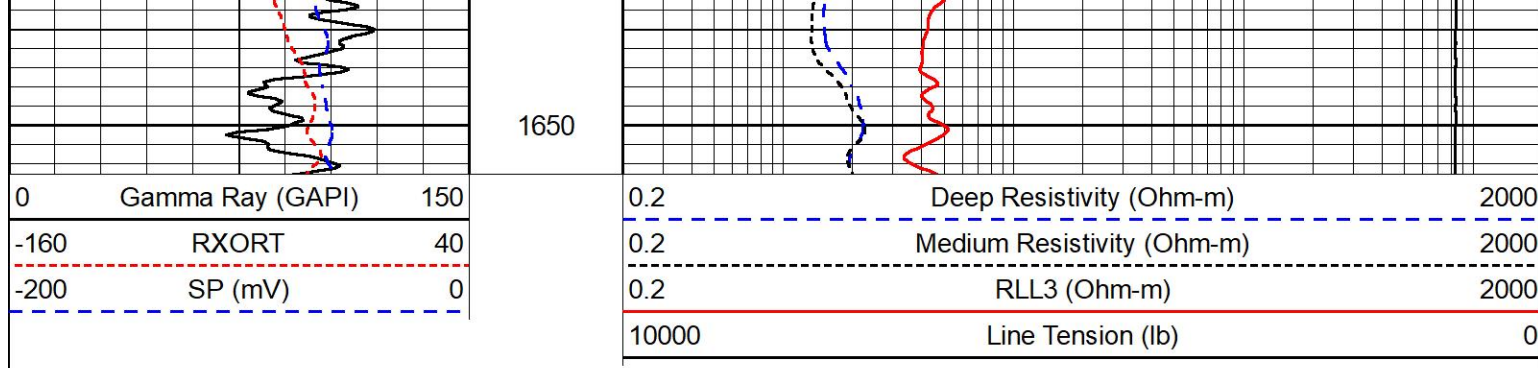
MIDWEST WIRELINE

ANHYDRITE SECTION

MAIN PASS

Database File bowman_hilger 1.db
 Dataset Pathname stkml/pass3.4
 Presentation Format _dil
 Dataset Creation Sun Sep 11 05:28:36 2022
 Charted by Depth in Feet scaled 1:240



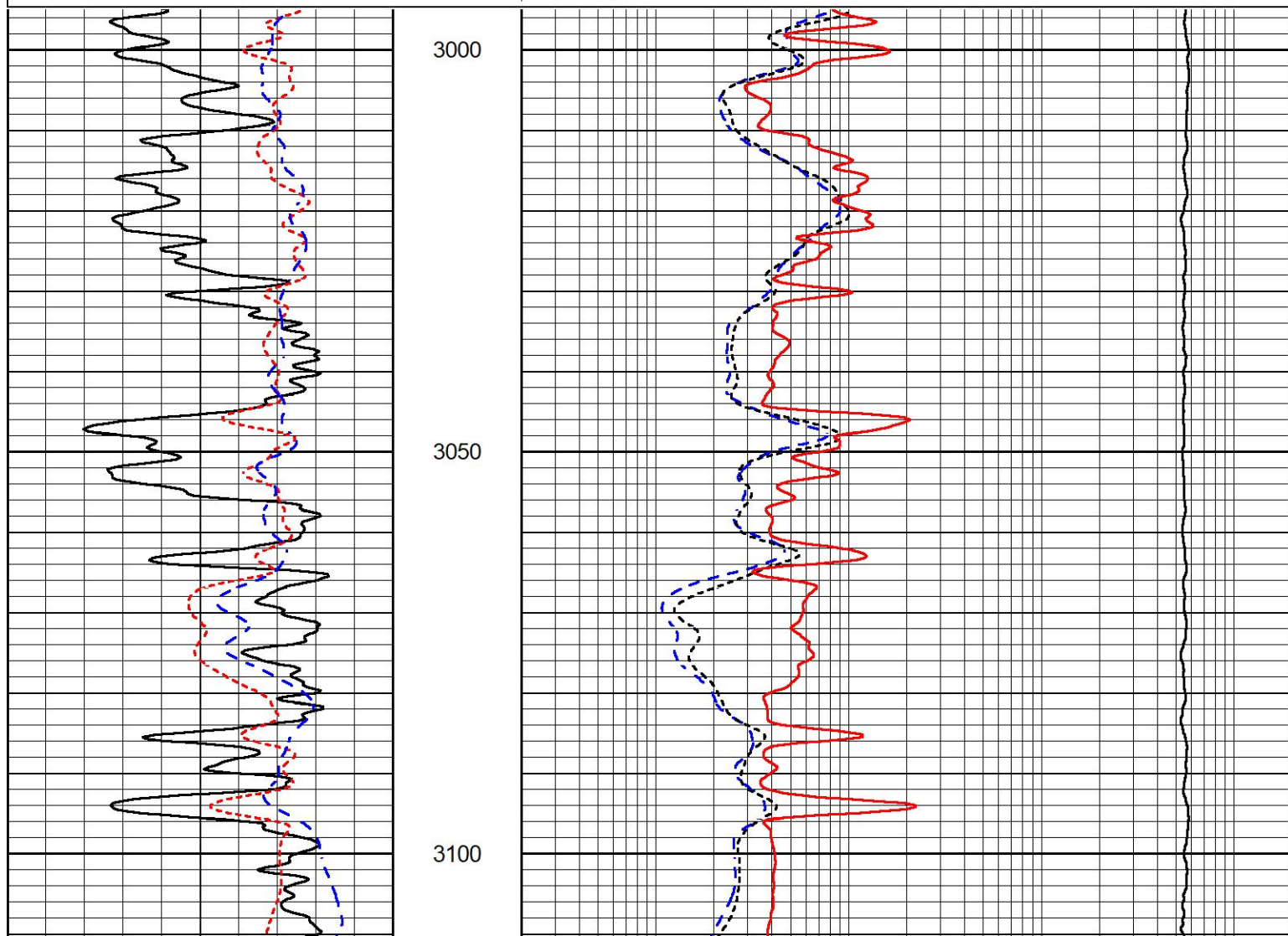
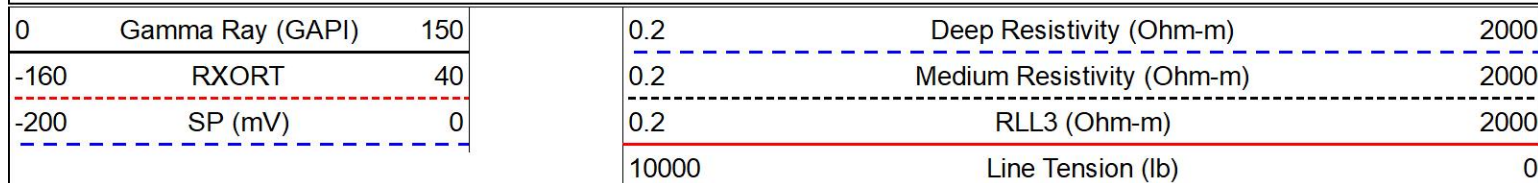


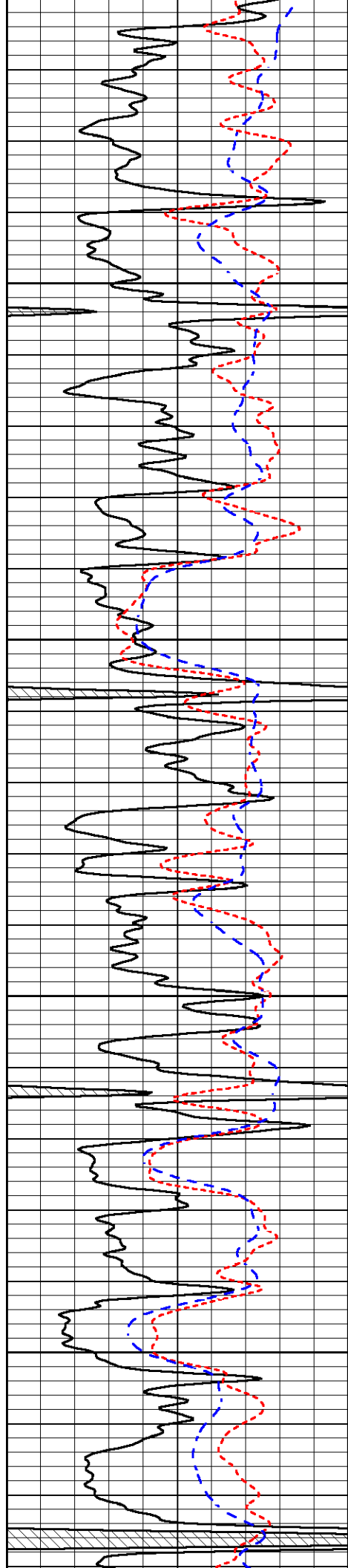
MIDWEST WIRELINE

DETAIL SECTION

MAIN PASS

Database File bowman_hilger 1.db
 Dataset Pathname stkml/pass3.1
 Presentation Format _dil
 Dataset Creation Sun Sep 11 05:23:21 2022
 Charted by Depth in Feet scaled 1:240



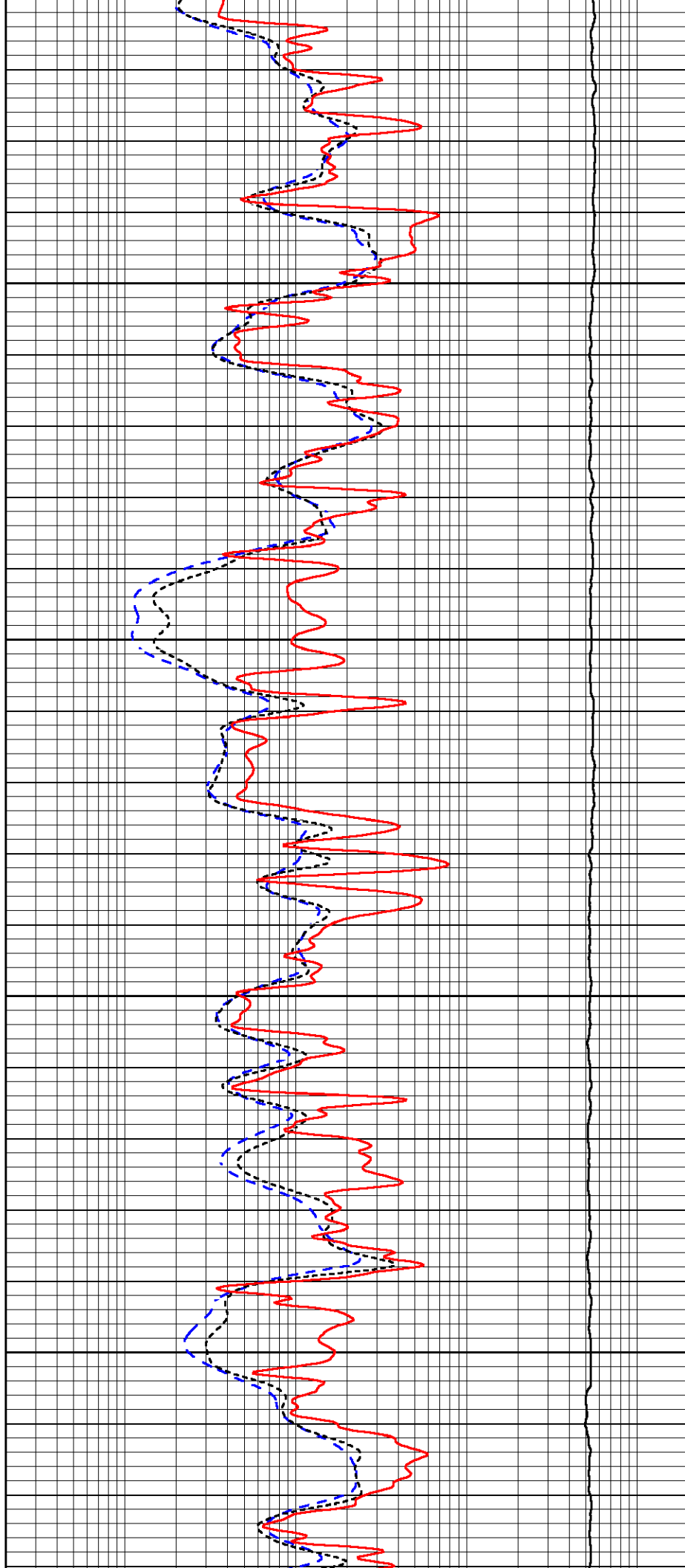


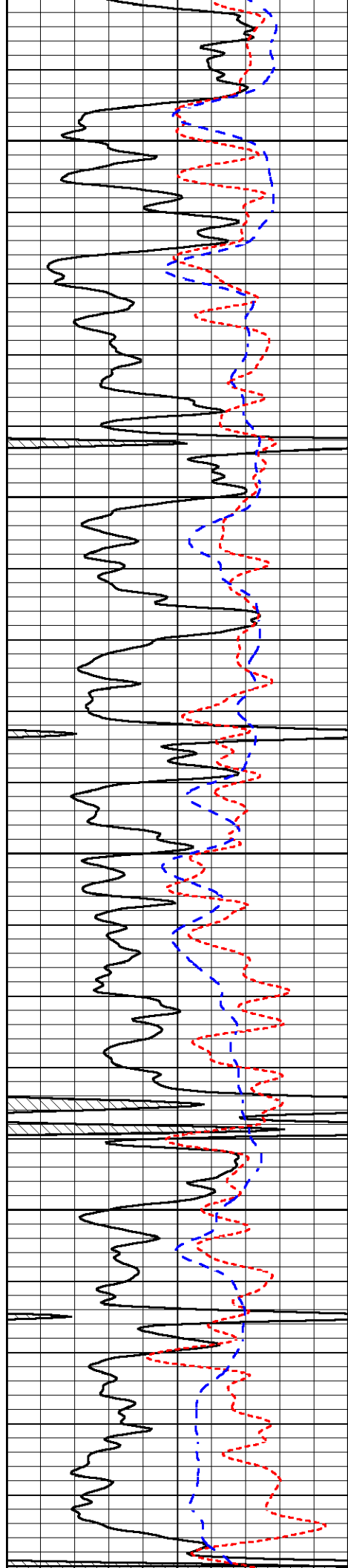
3150

3200

3250

3300





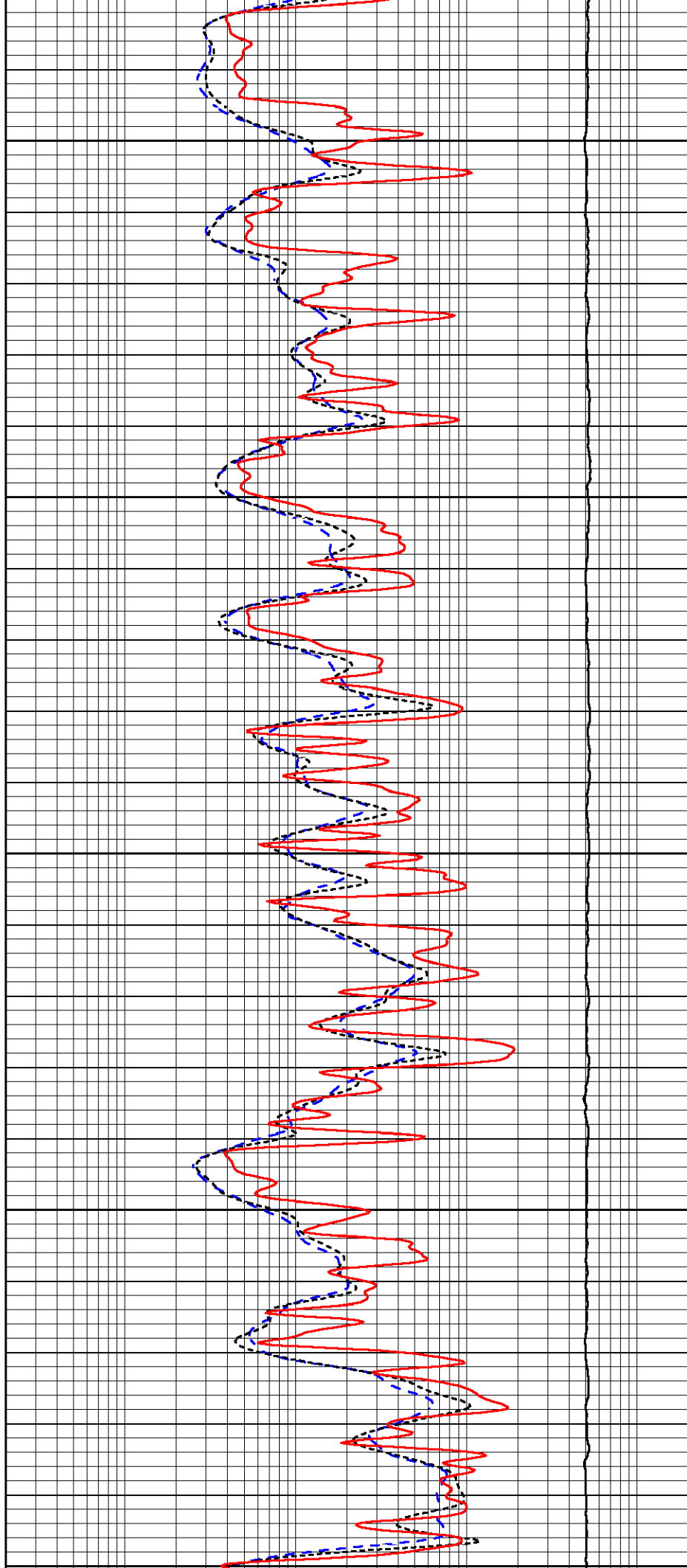
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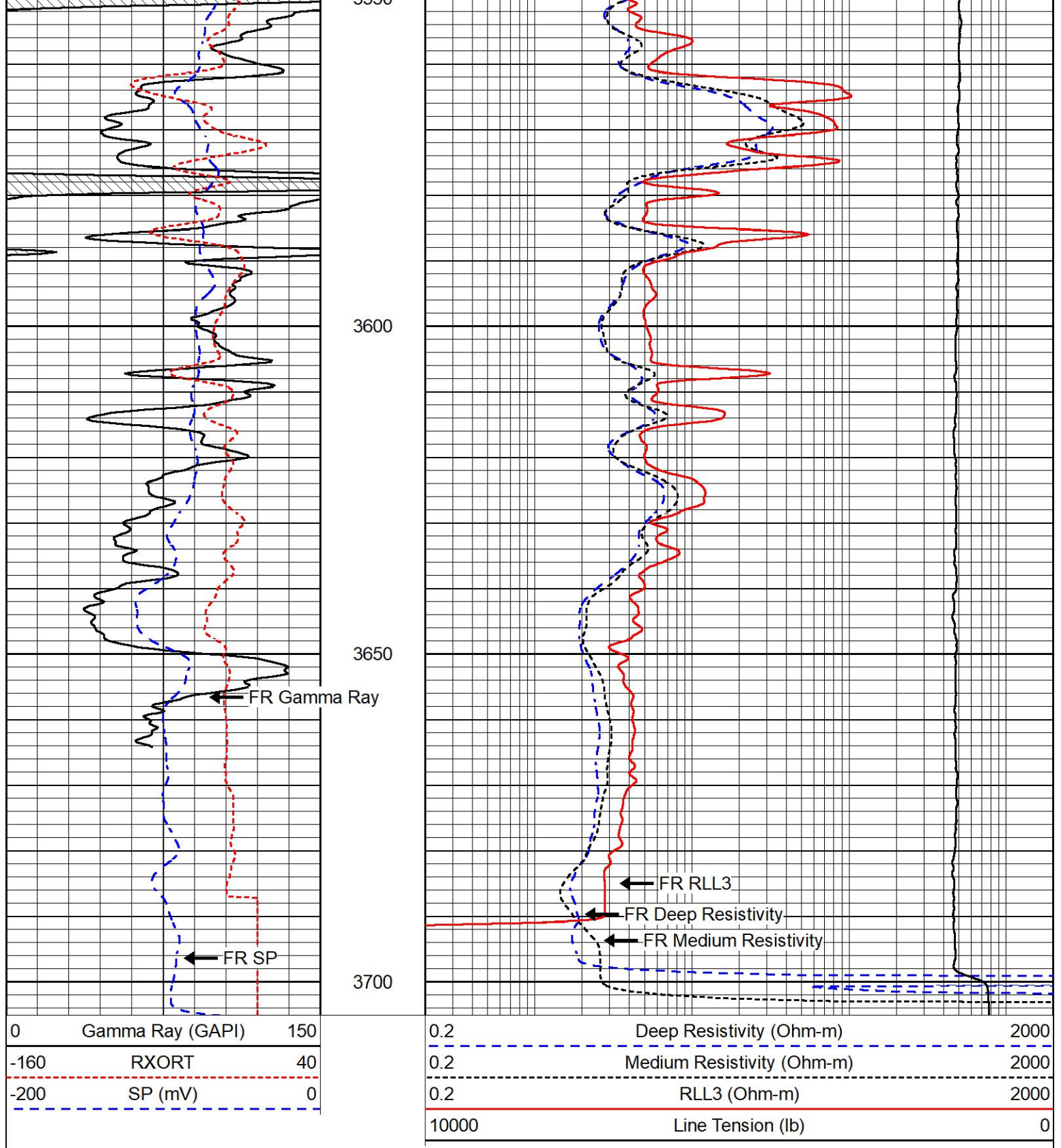
3400

3450

3500

3550



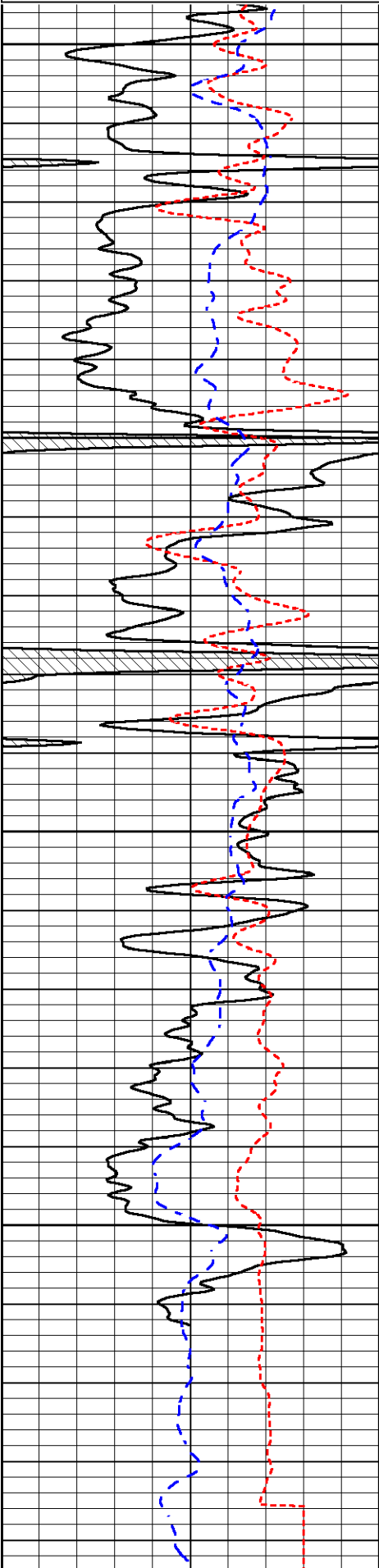


REPEAT SECTION

REPEAT PASS

Database File bowman_hilger 1.db
 Dataset Pathname stkml/pass2.1
 Presentation Format _dil
 Dataset Creation Sun Sep 11 05:04:16 2022
 Charted by Depth in Feet scaled 1:240

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



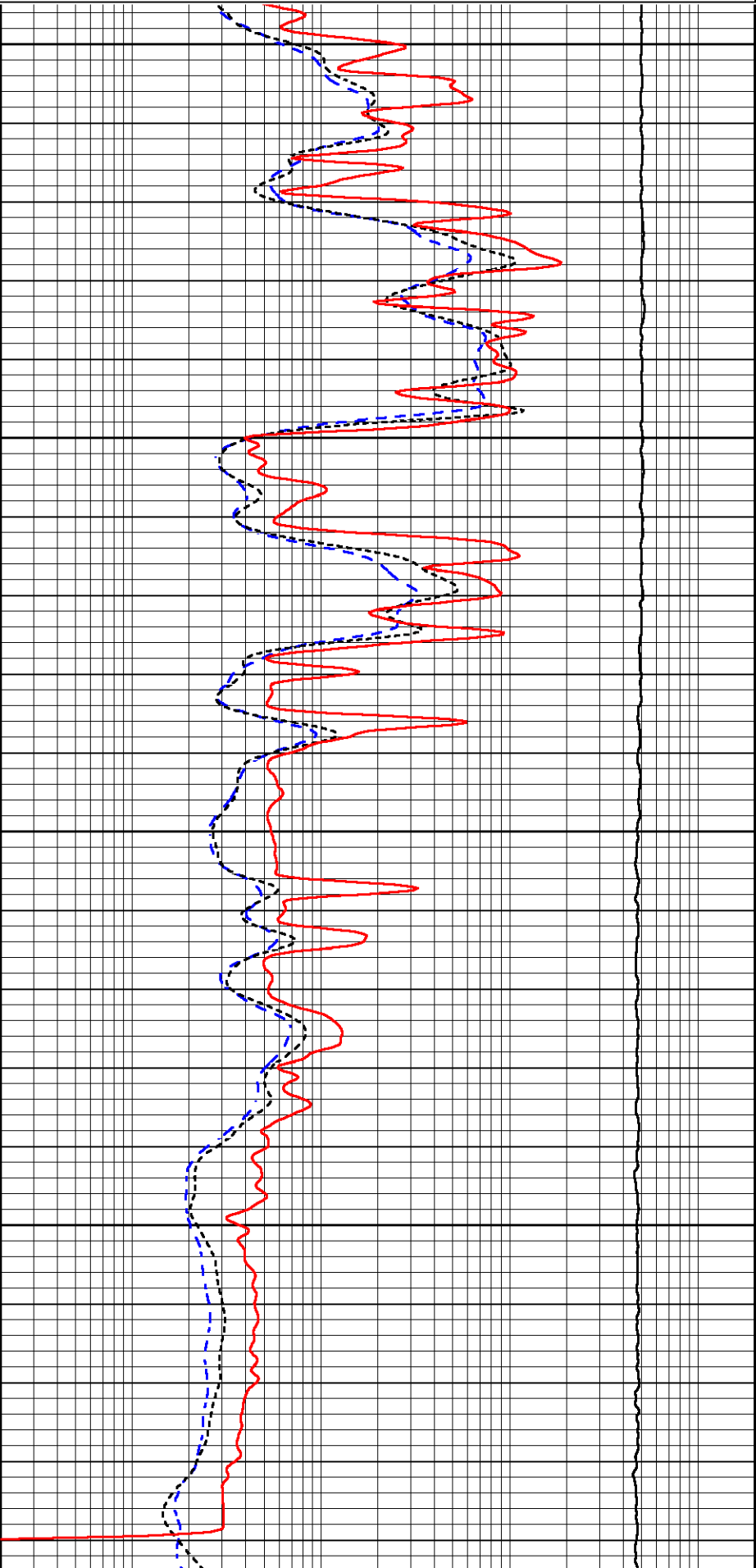
3500

3550

3600

3650

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



3700					
0	Gamma Ray (GAPI)	150	0.2	Deep Resistivity (Ohm-m)	2000
-160	RXORT	40	0.2	Medium Resistivity (Ohm-m)	2000
-200	SP (mV)	0	0.2	RLL3 (Ohm-m)	2000
			10000	Line Tension (lb)	0

Calibration Report	
Database File	bowman_hilger 1.db
Dataset Pathname	stkml/pass3.12
Dataset Creation	Sun Sep 11 04:51:03 2022

Dual Induction Calibration Report

Serial-Model:	501 HT-M&W
Surface Cal Performed:	Sat Aug 27 21:37:29 2022

Readings			References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	83.639	487.104	0.000	183.000	mmho/m	0.455	-41.000
Medium	113.335	1585.690	0.000	442.000	mmho/m	0.305	-35.000

Microlog Calibration Report

Serial-Model:	402-PSIML
Performed:	Fri Sep 9 11:18:26 2022

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	12000.0000	-1.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	14000.0000	-1.2000
Caliper	1.0052	1.0858	5.0000	16.5000	in	80.0000	-74.7000

Compensated Density Calibration Report
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Serial-Model:	307-11-M&W
Source #:	20762B
Master Calibration Performed:	Sat Aug 27 10:20:16 2022

Master Calibration					
Density			Far Detector	Near Detector	
Magnesium	1.755	g/cc	3600.52	4768.22	cps
Aluminum	2.670	g/cc	693.98	3106.20	cps
Spine Angle = 75.41			Density/Spine Ratio = 0.538		
Size			Reading		
Small Ring	6.00	in	1.16		
Large Ring	18.00	in	1.01		

Compensated Neutron Calibration Report
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		Serial Number: Tool Model:	207-MW M&W
CALIBRATION			
	Detector	Readings	Target
	Short Space	6240.00 cps	1000.00 cps
	Long Space	460.00 cps	1000.00 cps
			Normalization
			1.6025
			1.9500
PRE-SURVEY VERIFICATION			
	Detector	Readings	Measured
	Target		
1)	Short Space	cps	
	Long Space	cps	pu
2)	Short Space	cps	
	Long Space	cps	pu
3)	Short Space	cps	
	Long Space	cps	pu
POST-SURVEY VERIFICATION			
	Detector	Readings	Measured
	Target		
1)	Short Space	cps	
	Long Space	cps	pu
2)	Short Space	cps	
	Long Space	cps	pu
3)	Short Space	cps	
	Long Space	cps	pu
Gamma Ray Calibration Report			
Serial Number:		106	
Tool Model:		M&W	
Performed:		Fri Dec 3 15:10:46 2021	
Calibrator Value:		500.0	GAPI
Background Reading:		24.0	cps
Calibrator Reading:		637.0	cps
Sensitivity:		0.5500	GAPI/cps

	Company	The Bill Bowman Oil Company
	Well	PL Hilgers #1
	Field	Baumgarten
	County	Rooks
	State	Kansas