



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company The Bill Bowman Oil Company		Company The Bill Bowman Oil Company	
Well	Clark B #1	Well	Clark B #1
Field	Hoxie East	Field	Hoxie East
County	Sheridan	County	Sheridan
State	Kansas	State	Kansas
Location: API #: 15-179-21468-00-00		Other Services	
1571' FNL & 771' FEL		CNL/CDL MEL	
Permanent Datum	Ground Level	Elevation	2763'
Log Measured From	Kelly Bushing	K.B.	2768'
Drilling Measured From	Kelly Bushing	D.F.	N/A
		G.L.	2763'
Date	8/16/2020		
Run Number	One		
Depth Driller	4125'		
Depth Logger	4126'		
Bottom Logged Interval	4125'		
Top Log Interval	250'		
Casing Driller	8.625" @ 261'		
Casing Logger	260'		
Bit Size	7.875"		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	700		
Density / Viscosity	9.0 57		
pH / Fluid Loss	11.0 5.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.2 @ 68		
Rmt @ Meas. Temp	.90 @ 68		
Rmc @ Meas. Temp	1.62 @ 68		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	.70 @ 117		
Operating Rig Time	2 Hours		
Max Rec. Temp. F	117 Deg/F		
Equipment Number	P-108		
Location	HAYS		
Recorded By	J. Henrickson		
Witnessed By	Jerry Green	Bill Bowman	

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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.

Hoxie Kansas
2 1/2 South, 2 West, South 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

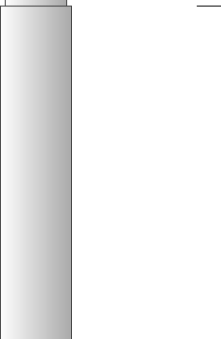
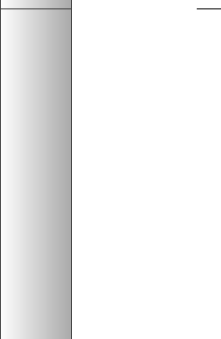
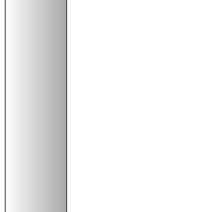
Engineer: J. Henrickson
Operator: T. Martin
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Jerry Green
Secondary Witness: Bill Bowman
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 117	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 5	mV 185	degF 74	Off	ft 4126

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	44.50			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC	41.40			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	40.65						
LSD	32.35			CDL-M&W (915-956)	8.50	4.00	250.00
DCAL	32.33			ML-PSI UDM ML (UDM-01)	11.50	4.00	215.00
SSD	31.85			Stackable Microlog Tools			
MCAL	20.87						
MI	20.87						
MN	20.87						
RLL3	15.80						
RLL3F	15.79						
CILD	8.00			DIL-M&W (55-222)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: bowman_clark_b_1.db: field/well/stackml/pass3.1
Total length: 47.00 ft
Total weight: 835.00 lb
O.D.: 4.00 in



MIDWEST WIRELINE

MAIN PASS

Database File bowman_clark_b_1.db
Dataset Pathname stackml/pass3.1
Presentation Format dil2in
Dataset Creation Sun Aug 16 07:12:02 2020
Charted by Depth in Feet scaled 1:600

0 GAMMA RAY (GAPI) 150

2000 CILD (mmho/m)

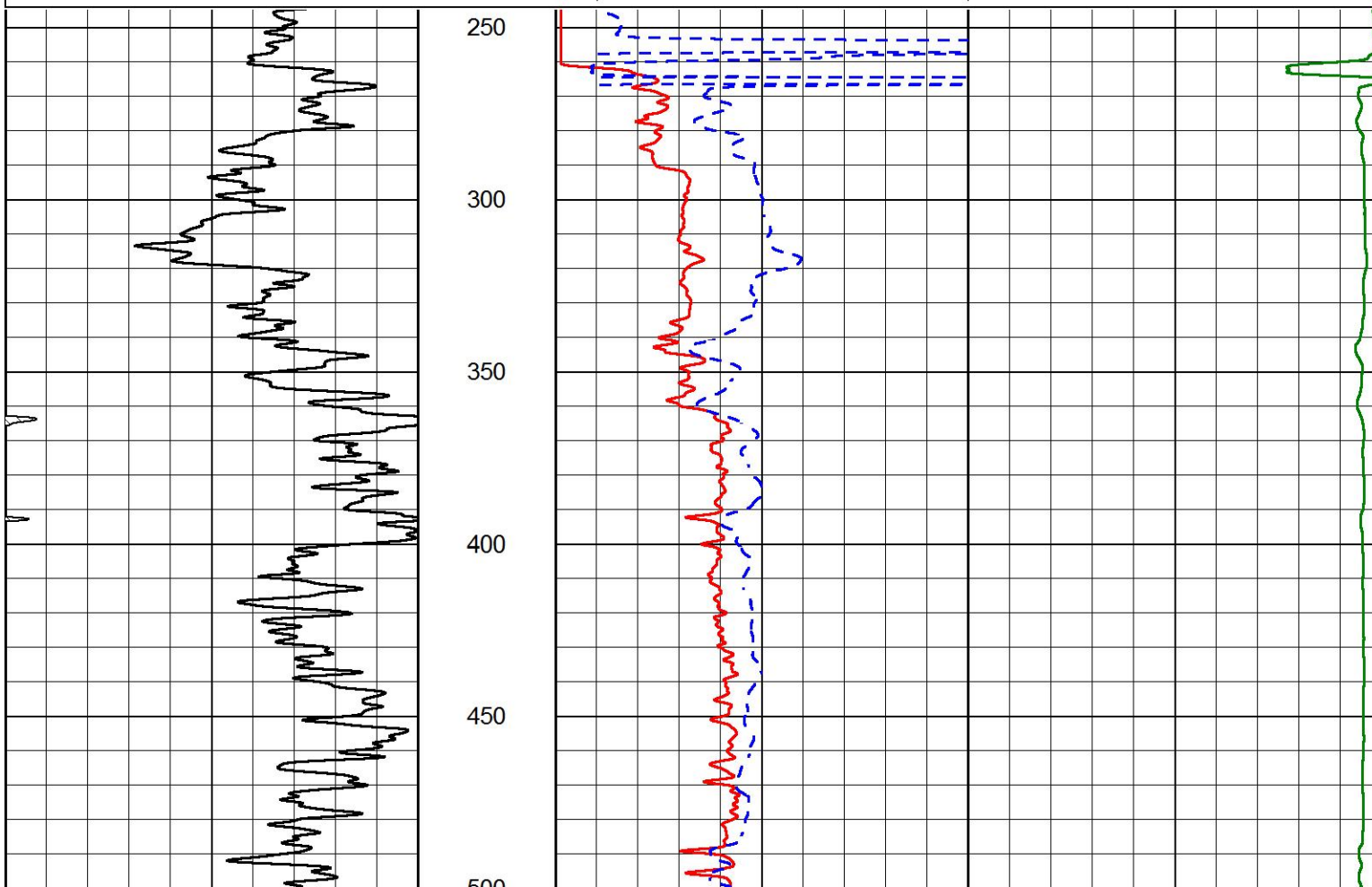
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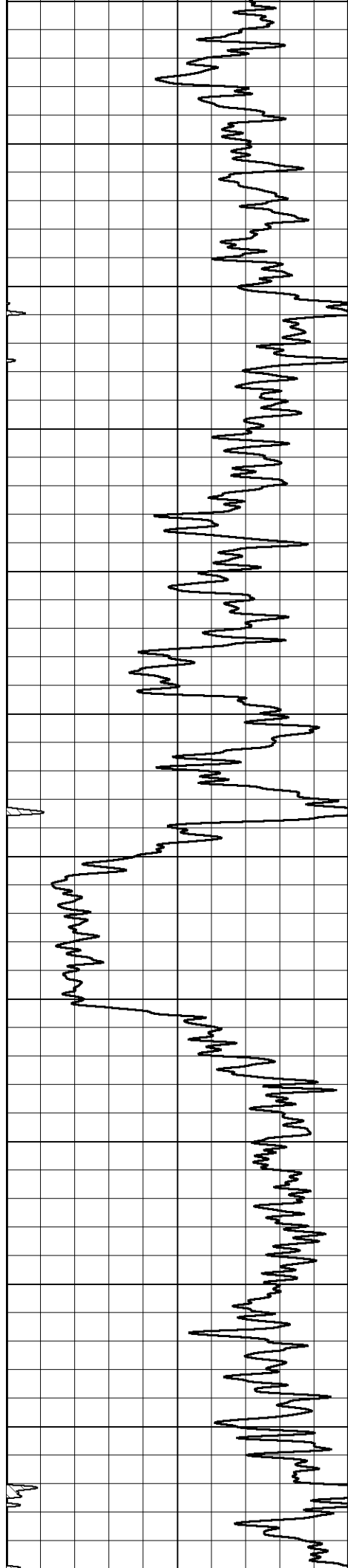
0 RLL3 (Ohm-m) 50

0 DEEP RESISTIVITY (Ohm-m) 50

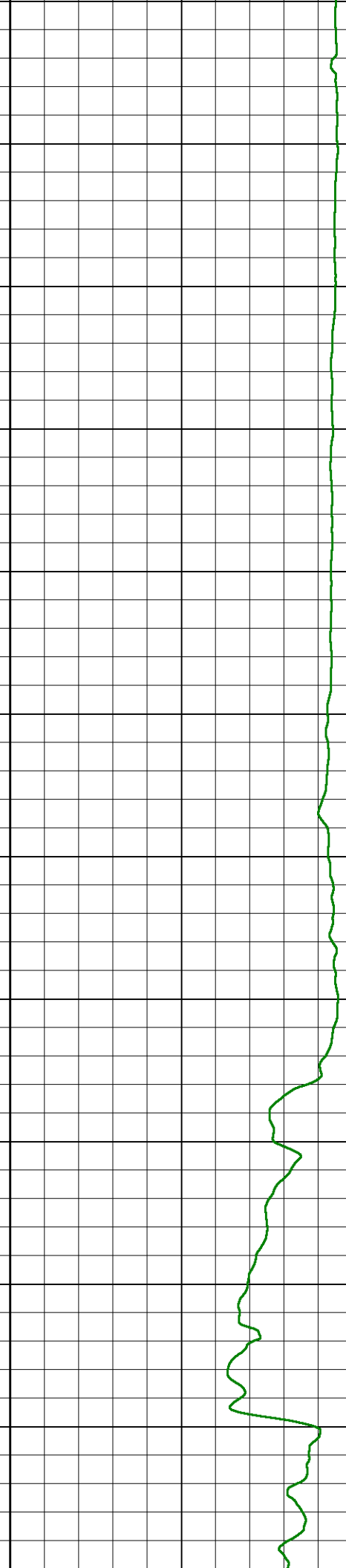
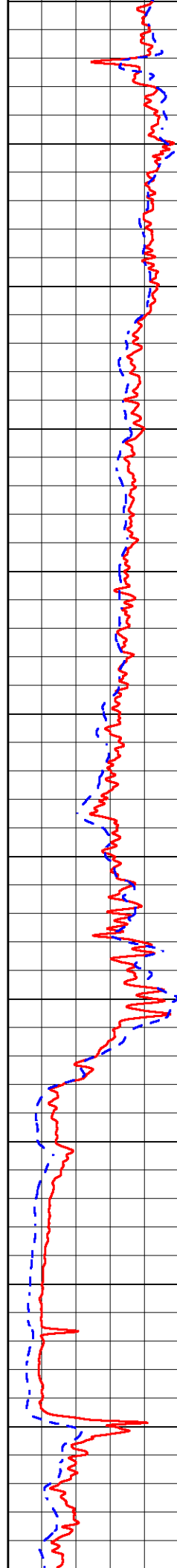
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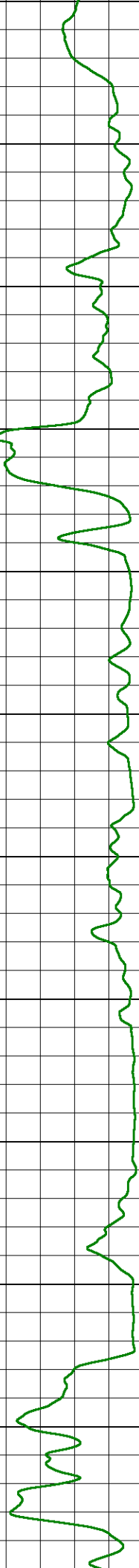
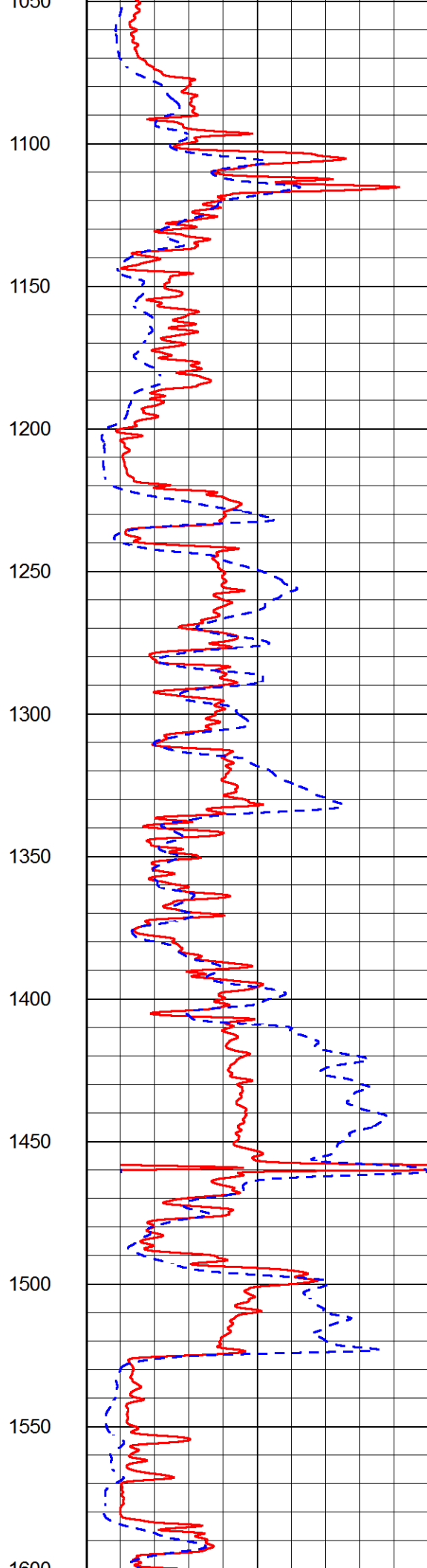
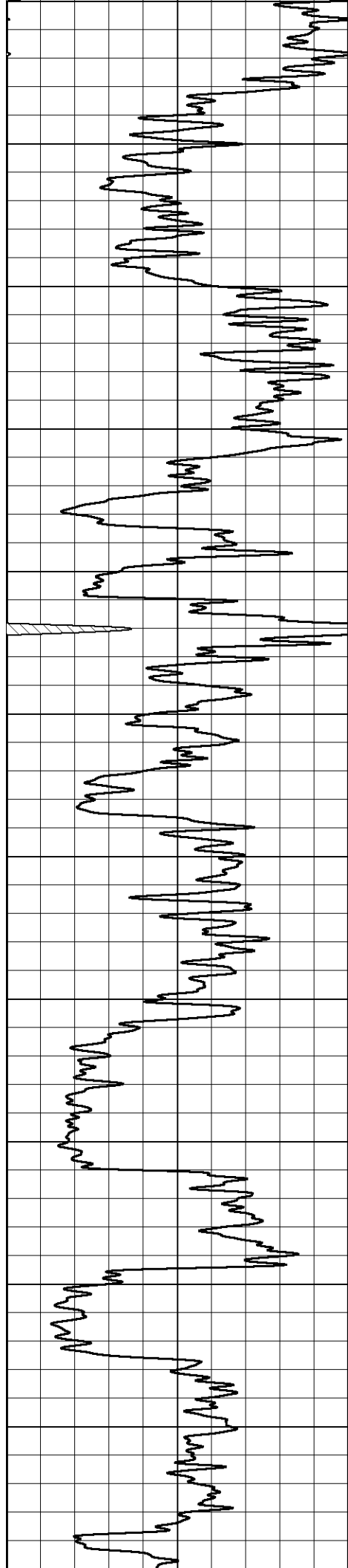
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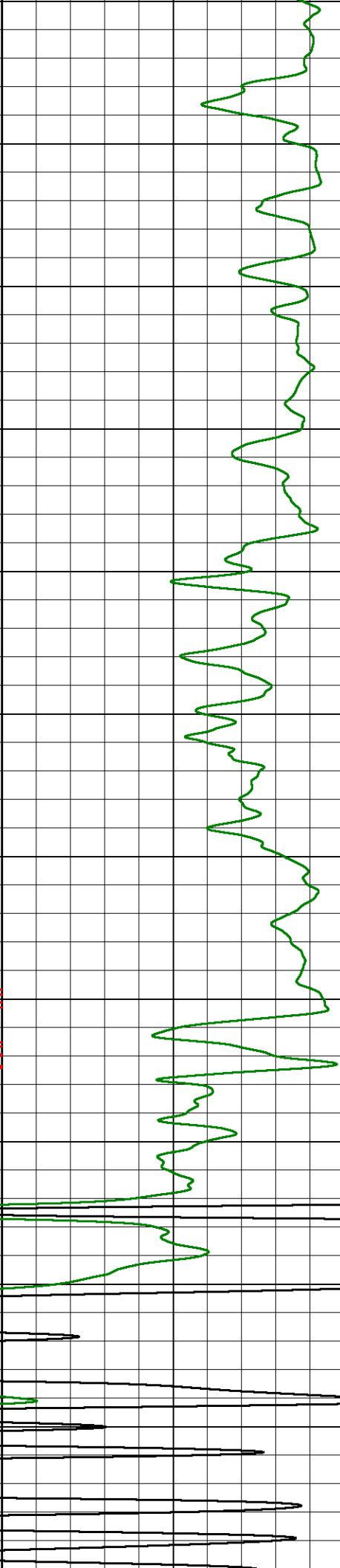
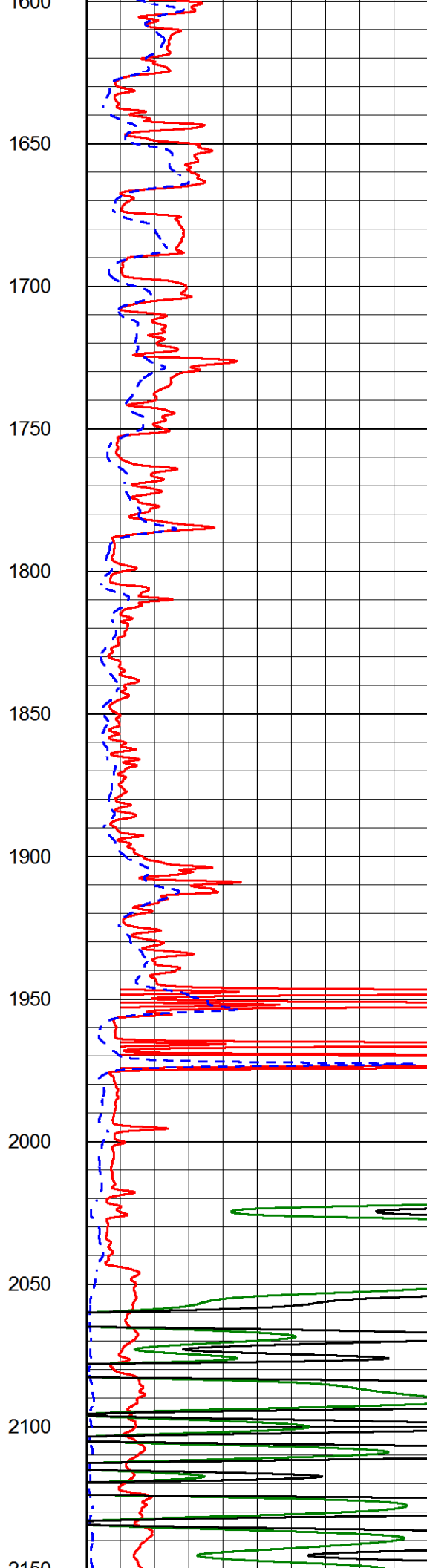
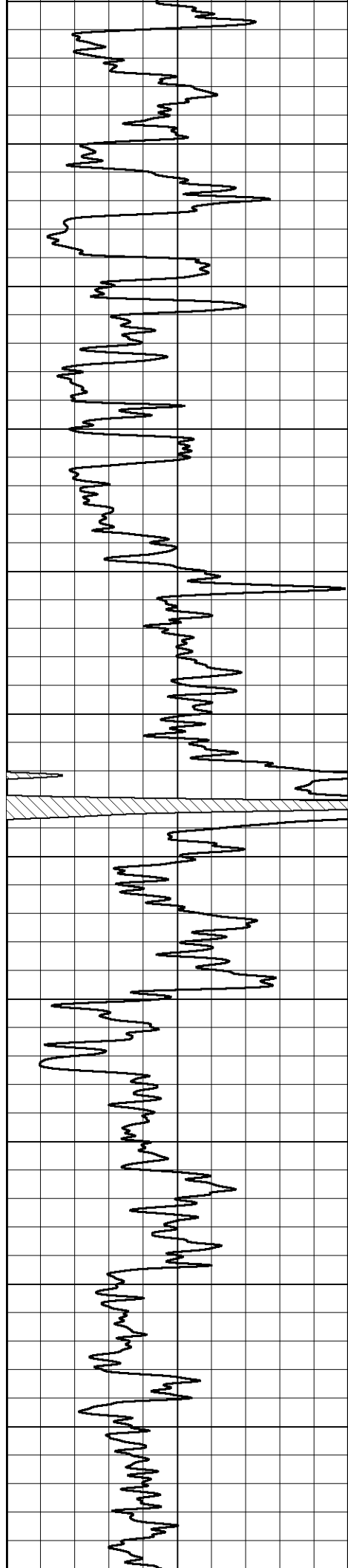


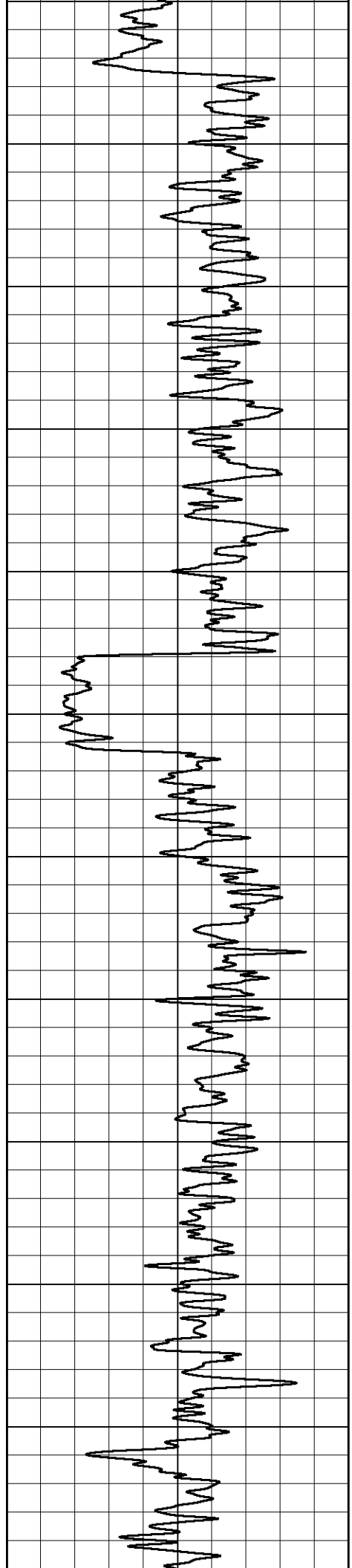
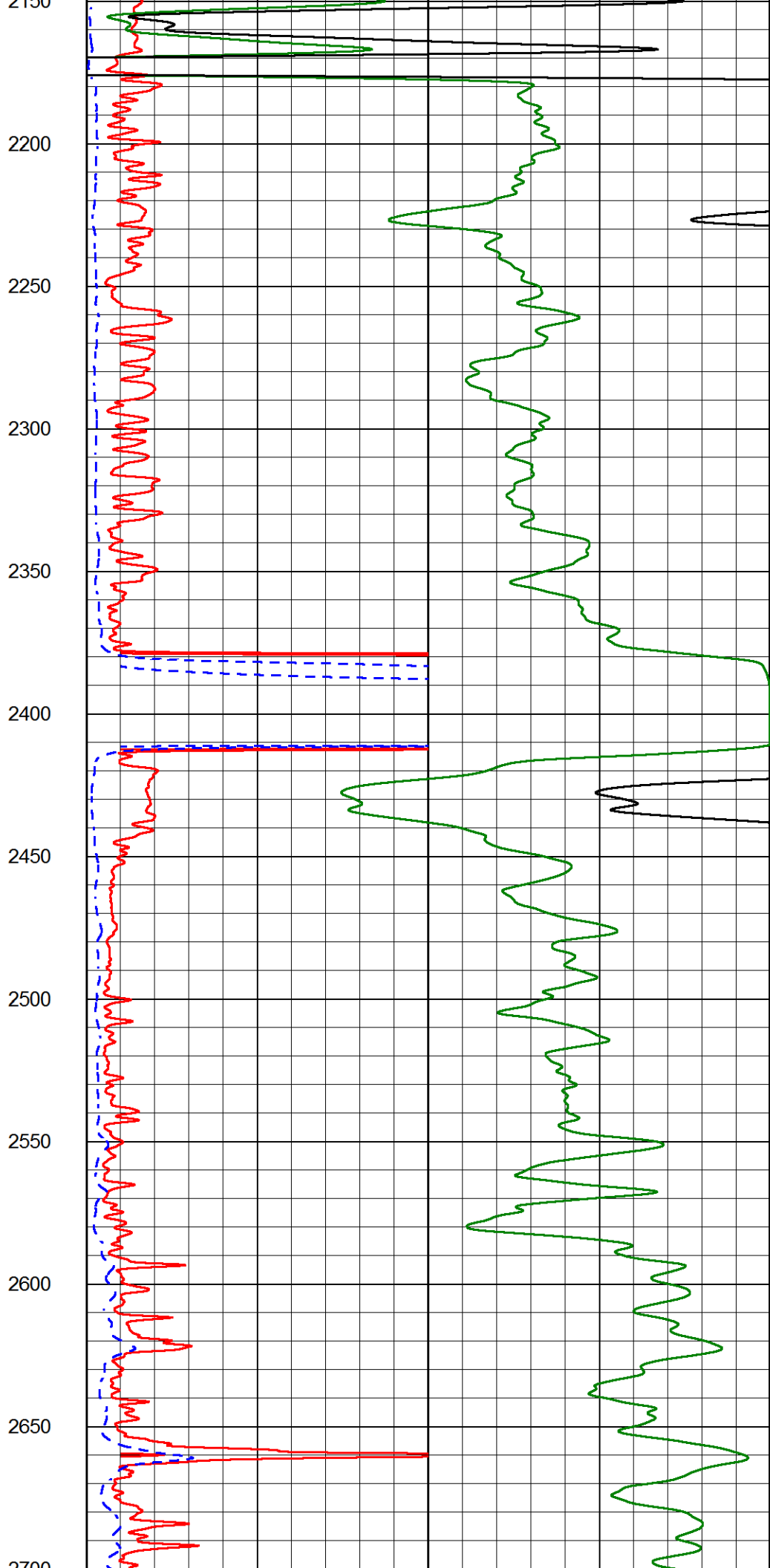


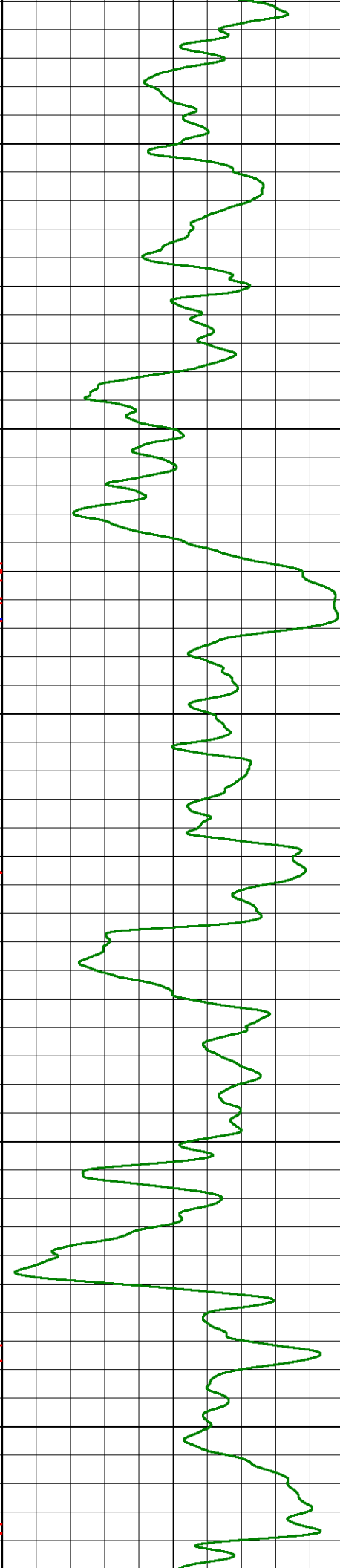
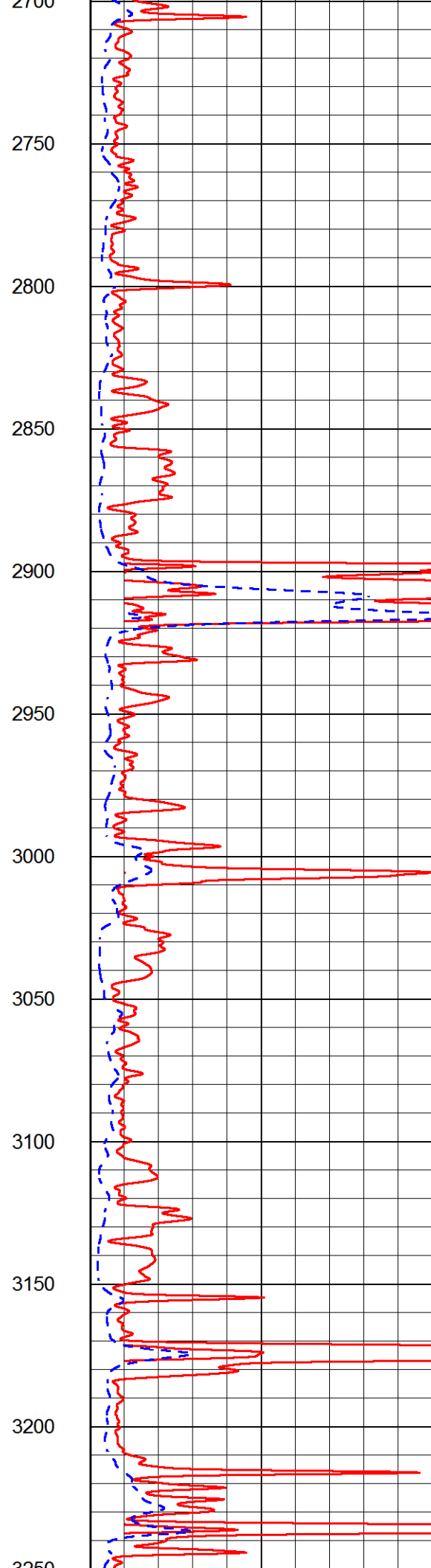
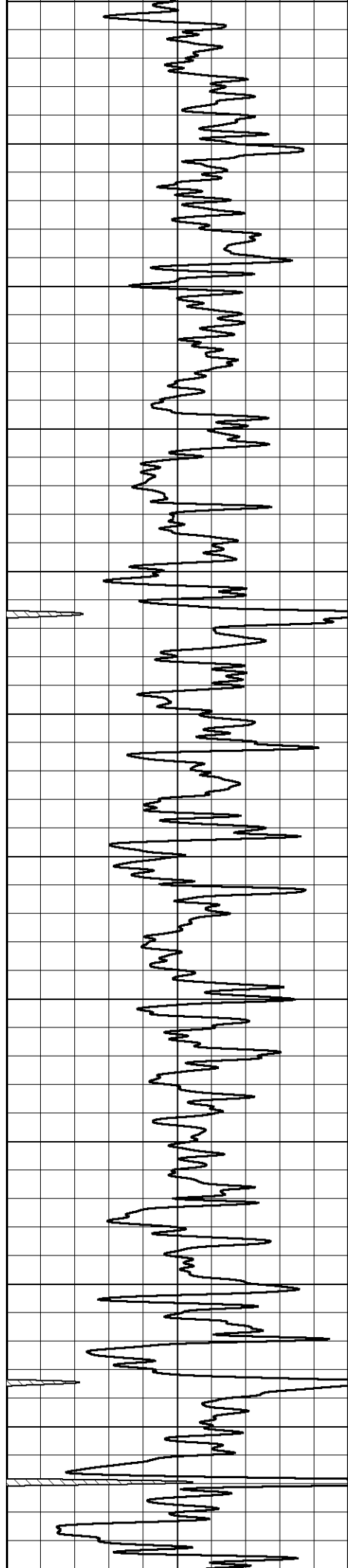
500
550
600
650
700
750
800
850
900
950
1000
1050

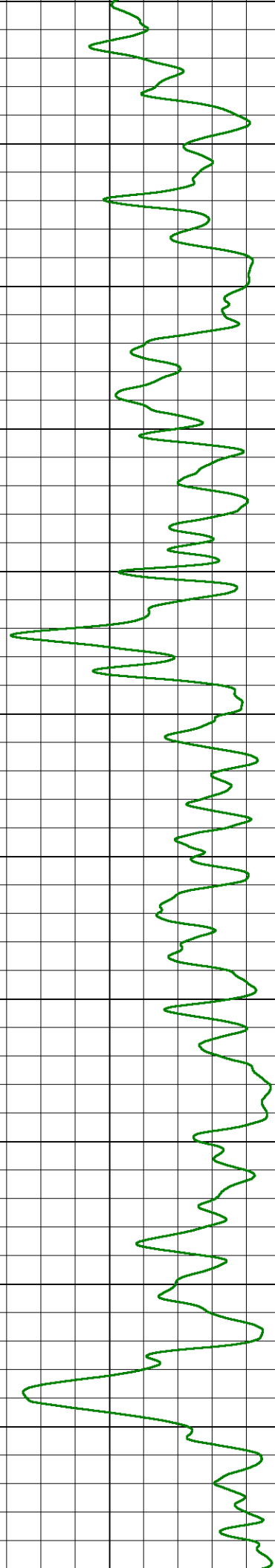
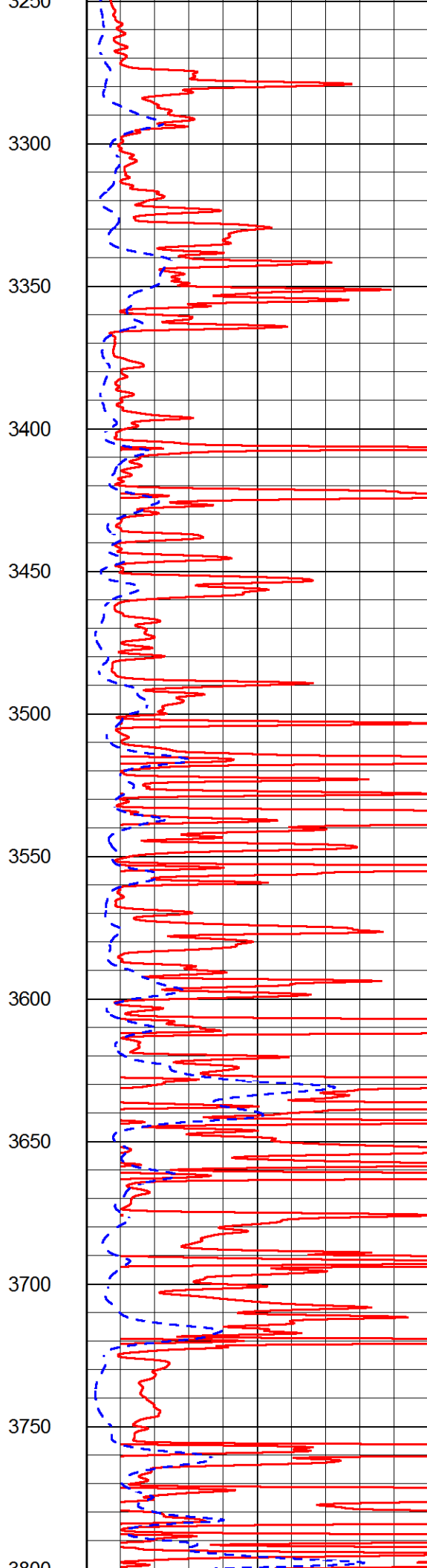
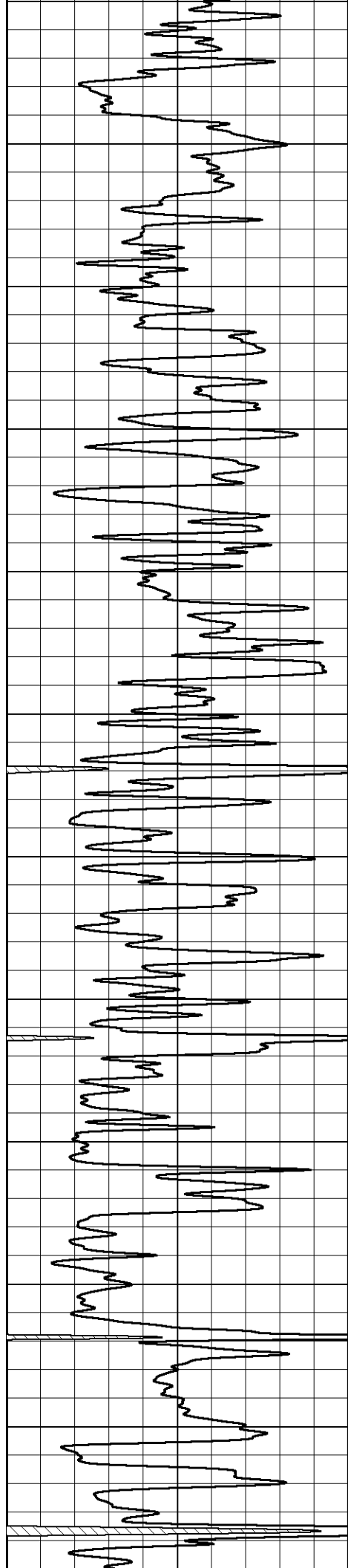


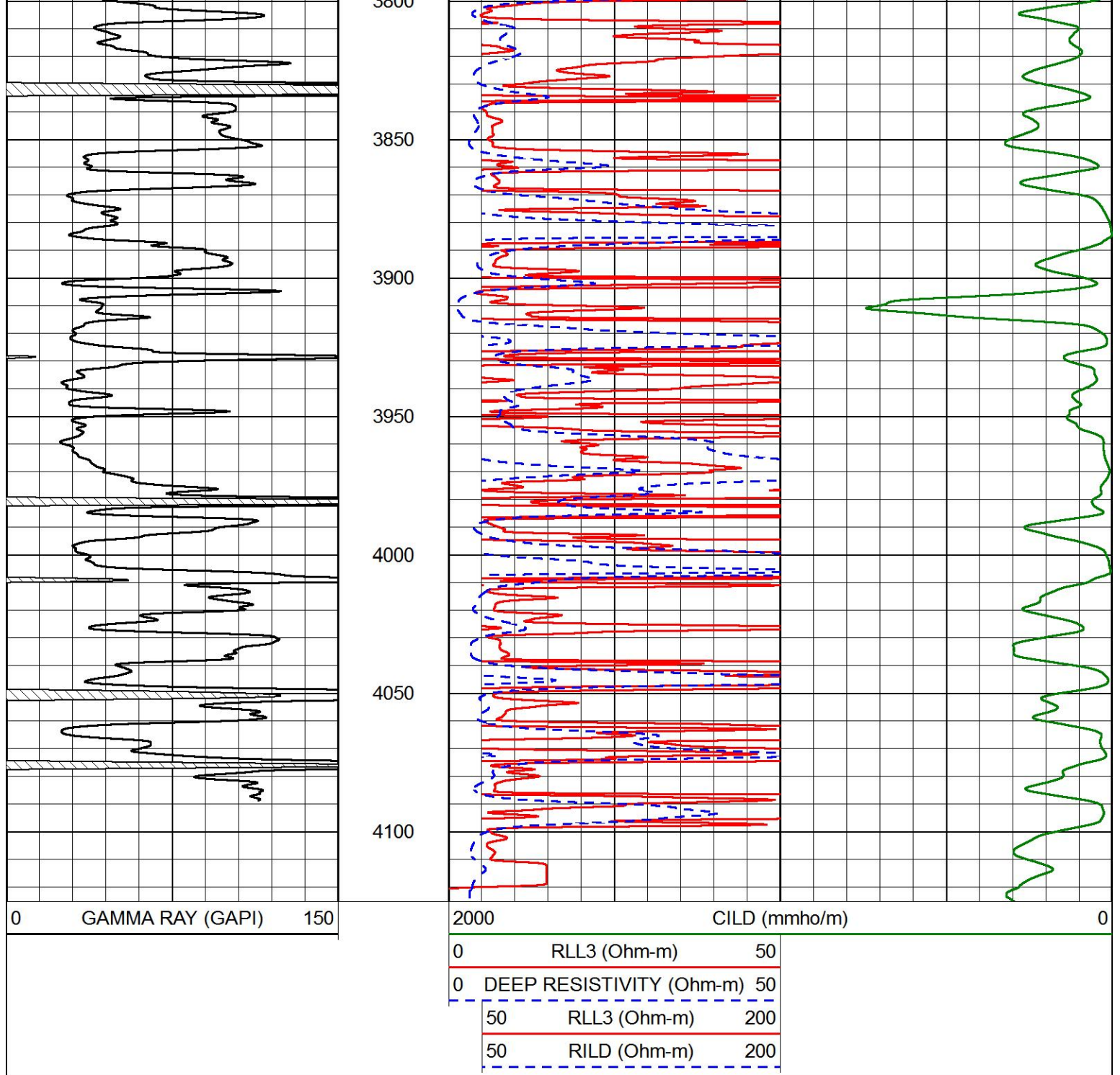












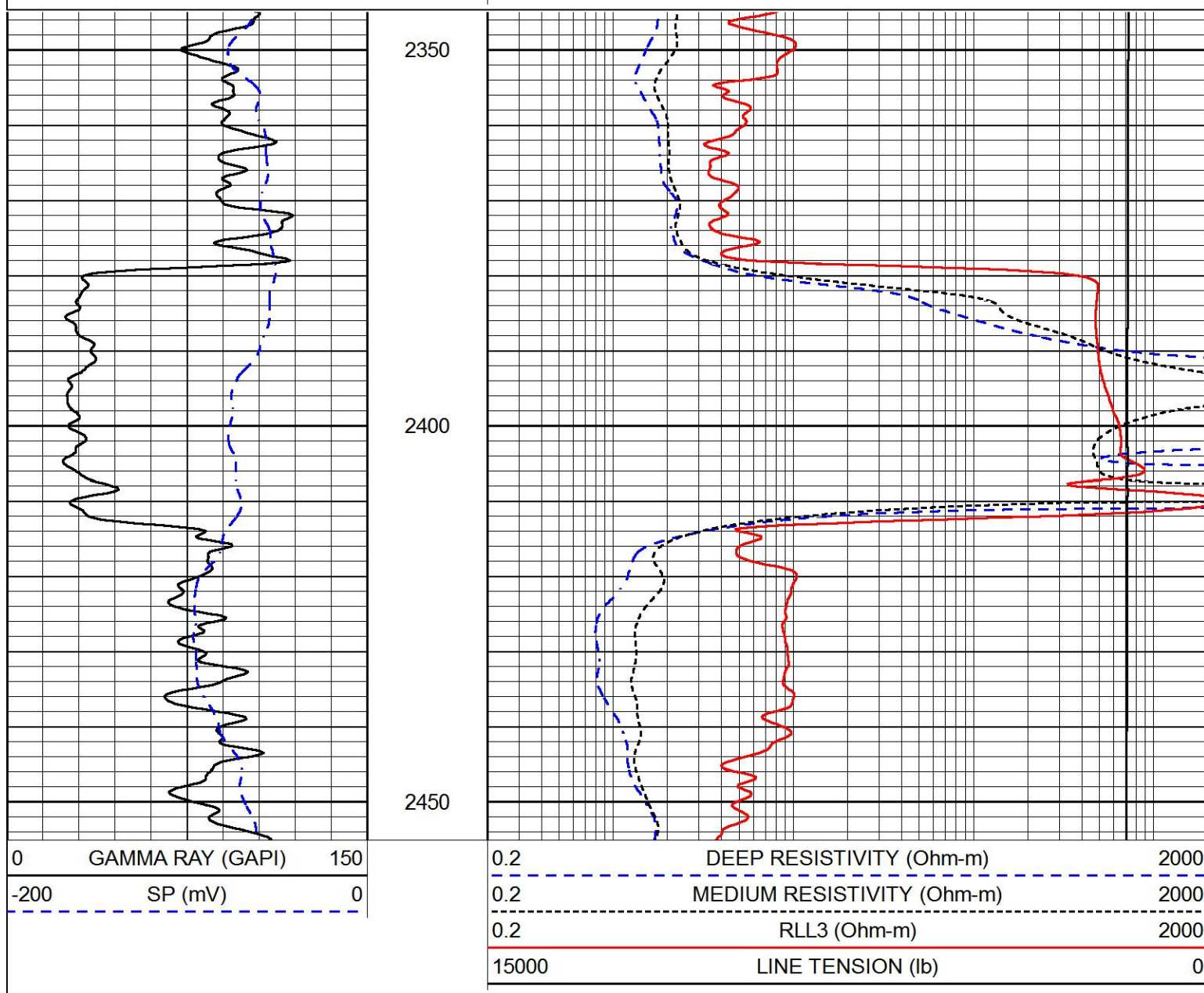
MIDWEST WIRELINE

MAIN PASS

Database File bowman_clark_b_1.db
Dataset Pathname stackml/pass3.1
Presentation Format dil
Dataset Creation Sun Aug 16 07:12:02 2020
Charted by Depth in Feet scaled 1:240

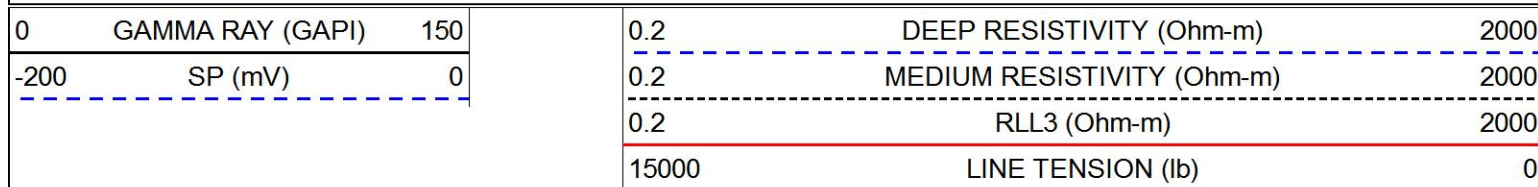
0 GAMMA RAY (GAPI) 150
-200 SP (mV) 0

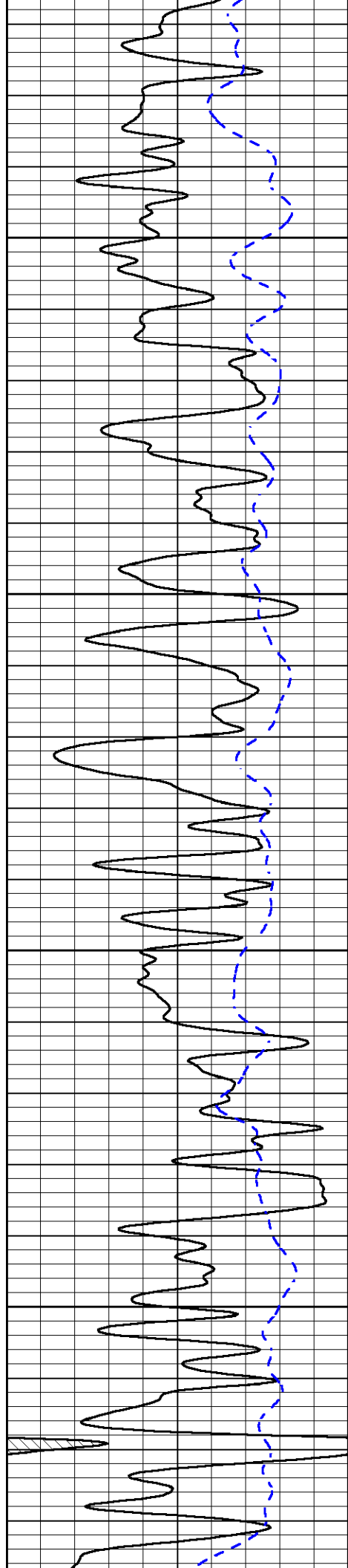
0.2 DEEP RESISTIVITY (Ohm-m) 2000
0.2 MEDIUM RESISTIVITY (Ohm-m) 2000
0.2 RLL3 (Ohm-m) 2000
15000 LINE TENSION (lb) 0



MAIN PASS

Database File: bowman_clark_b_1.db
 Dataset Pathname: stackml/pass3.1
 Presentation Format: dil
 Dataset Creation: Sun Aug 16 07:12:02 2020
 Charted by: Depth in Feet scaled 1:240



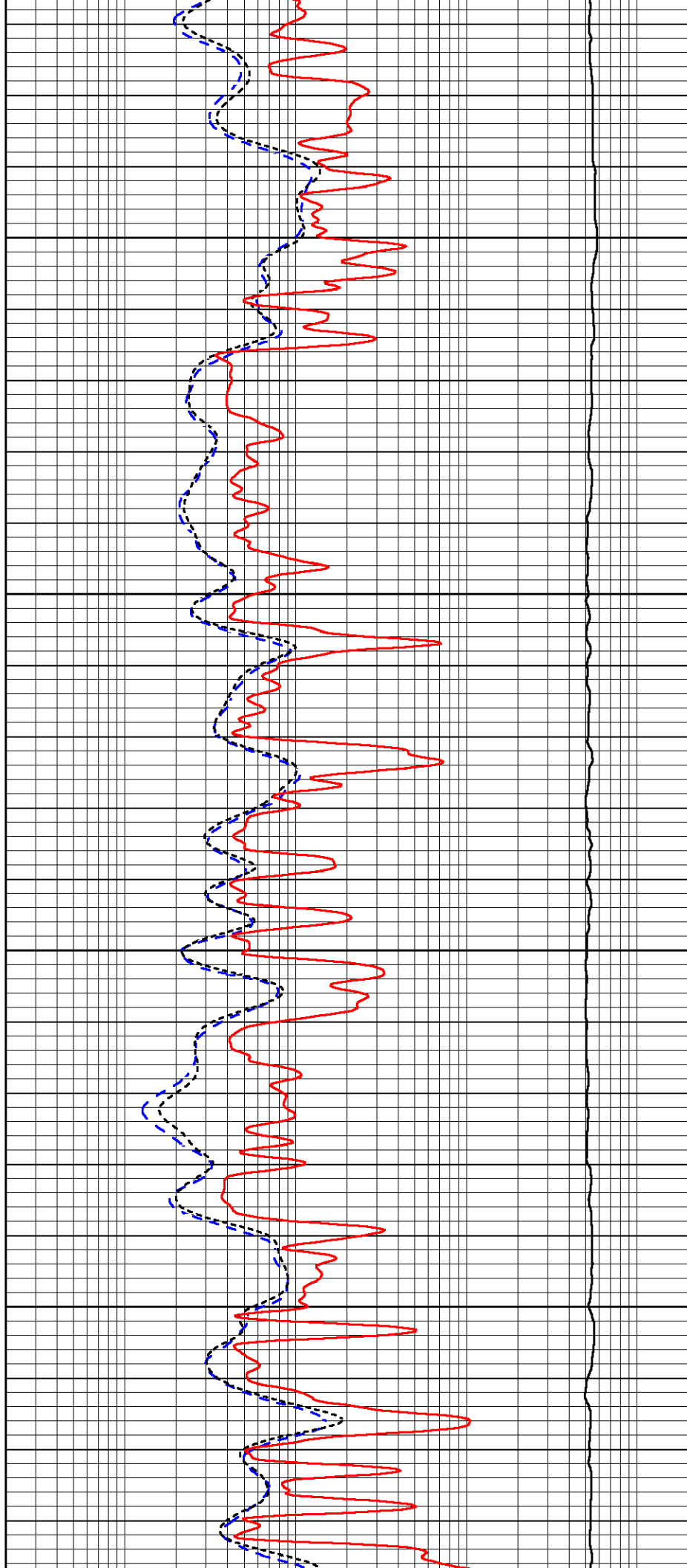


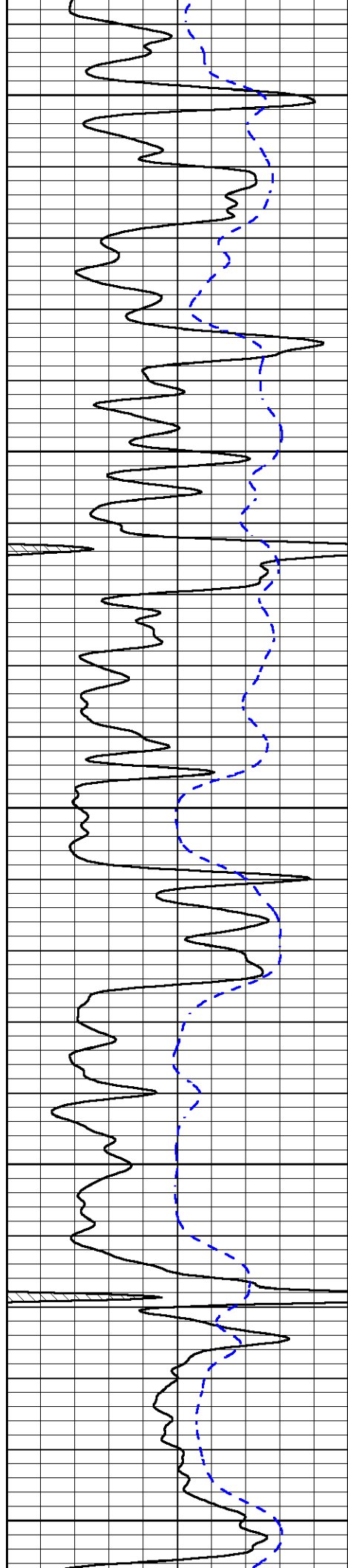
3350

3400

3450

3500





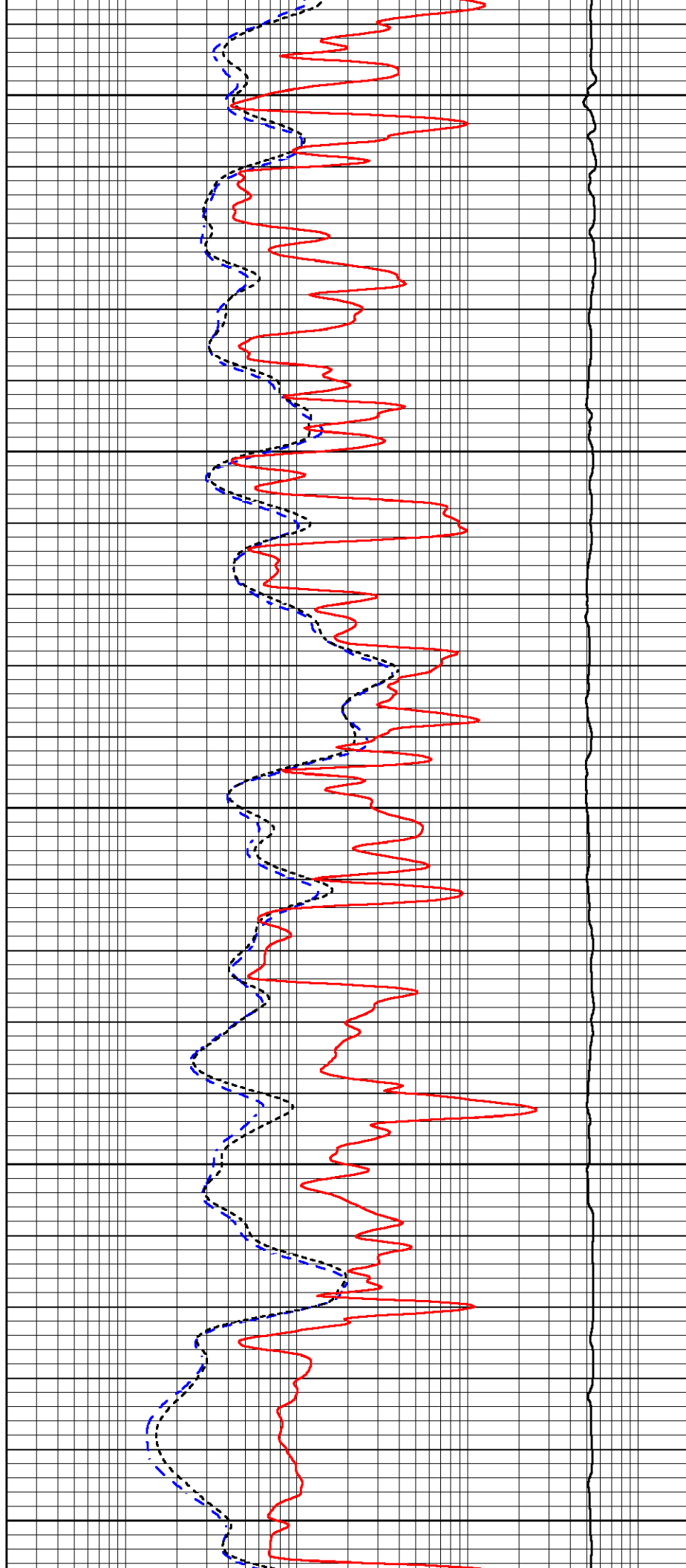
3550

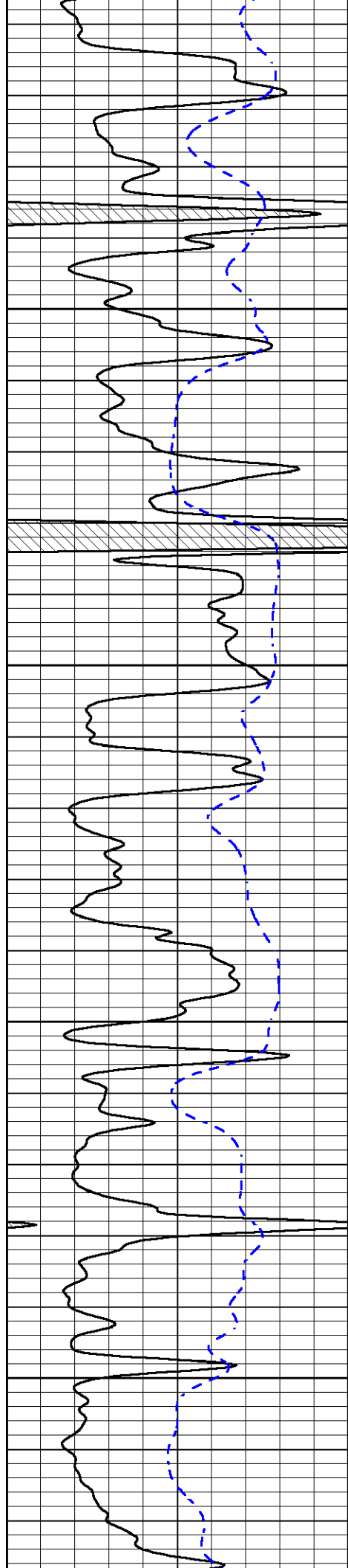
3600

3650

3700

3750



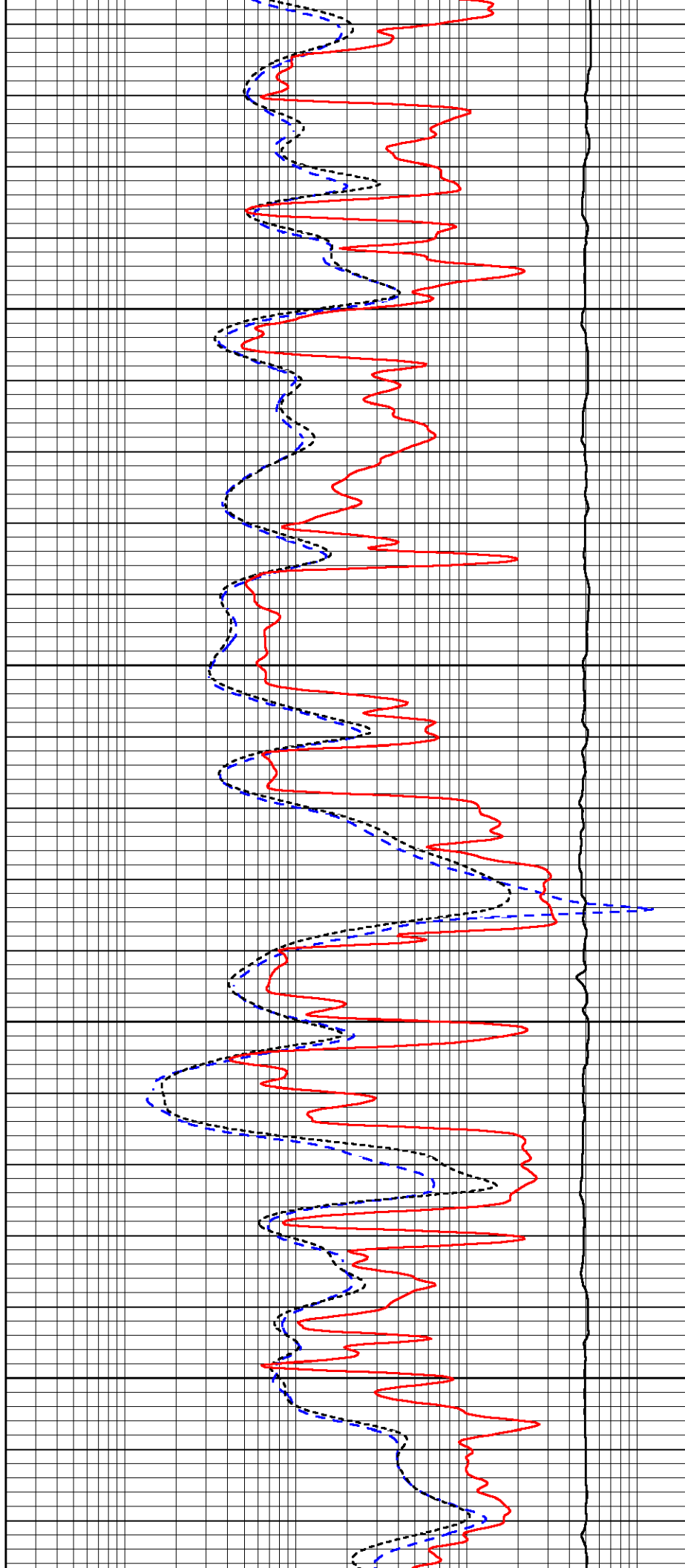


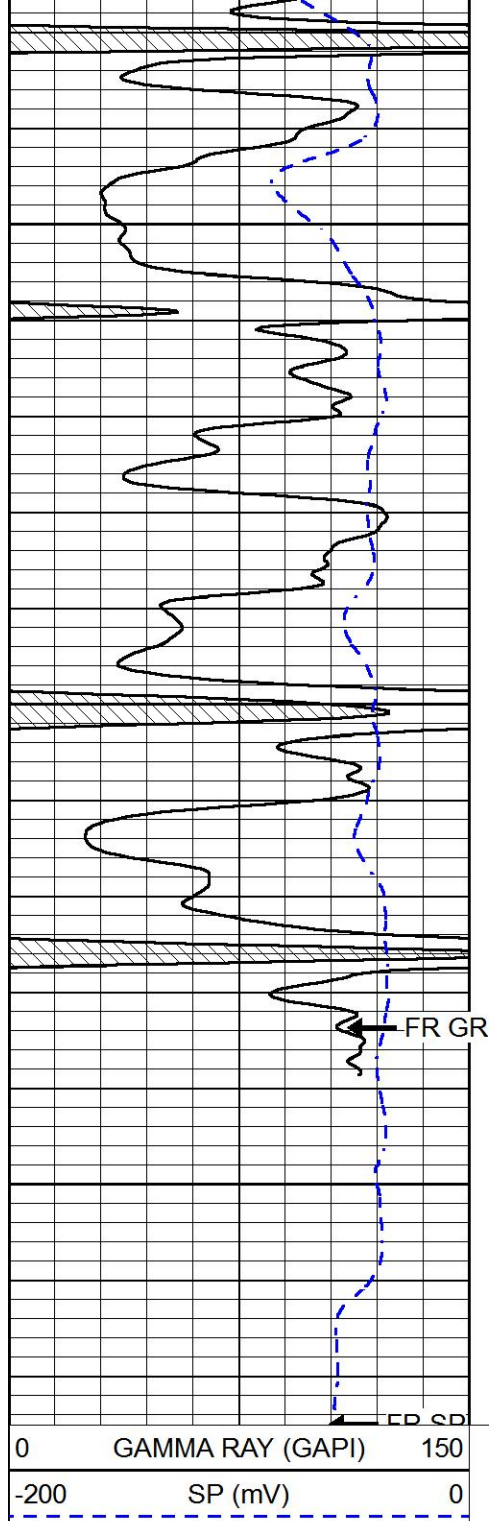
3800

3850

3900

3950

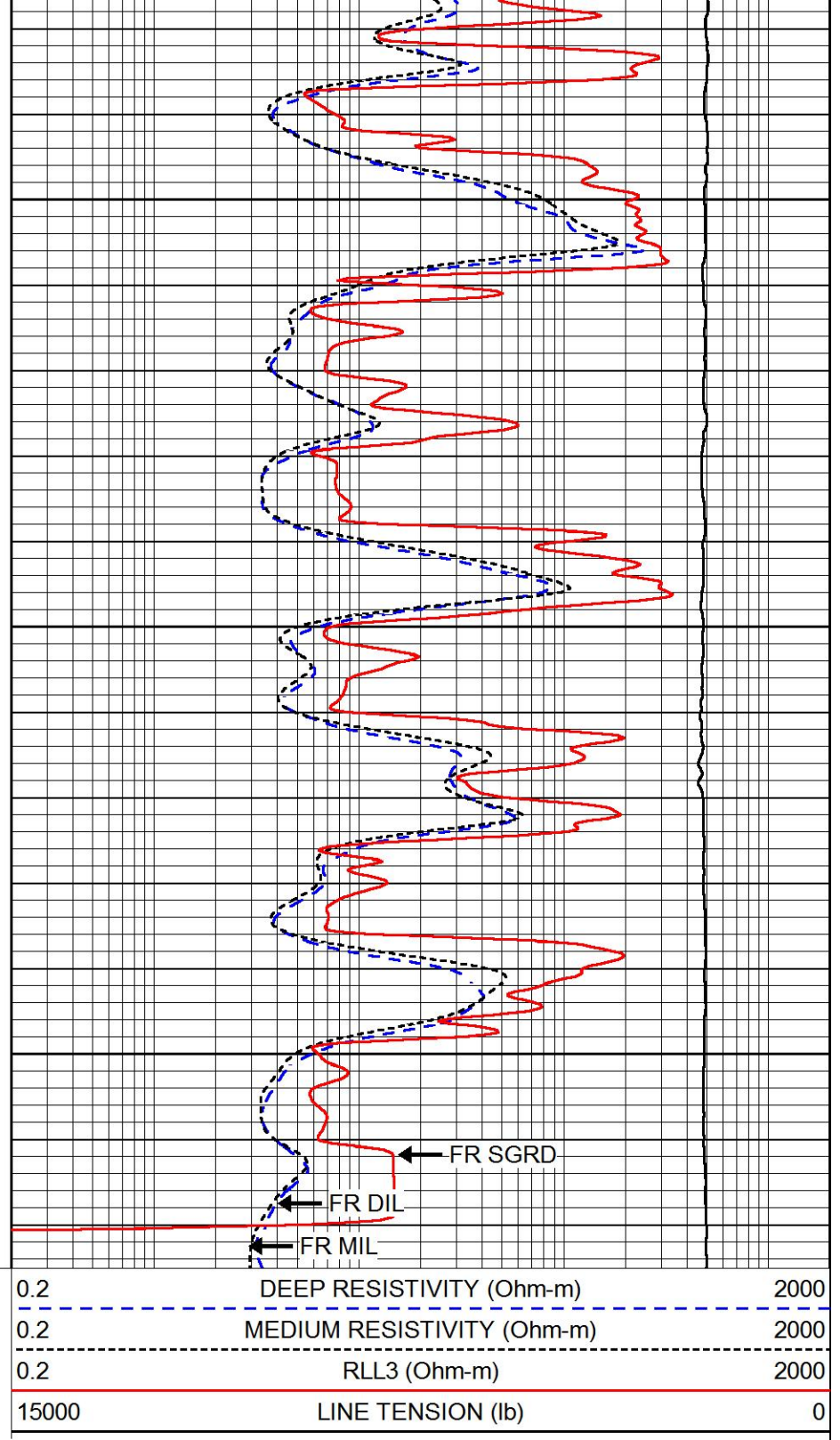




4000

4050

4100

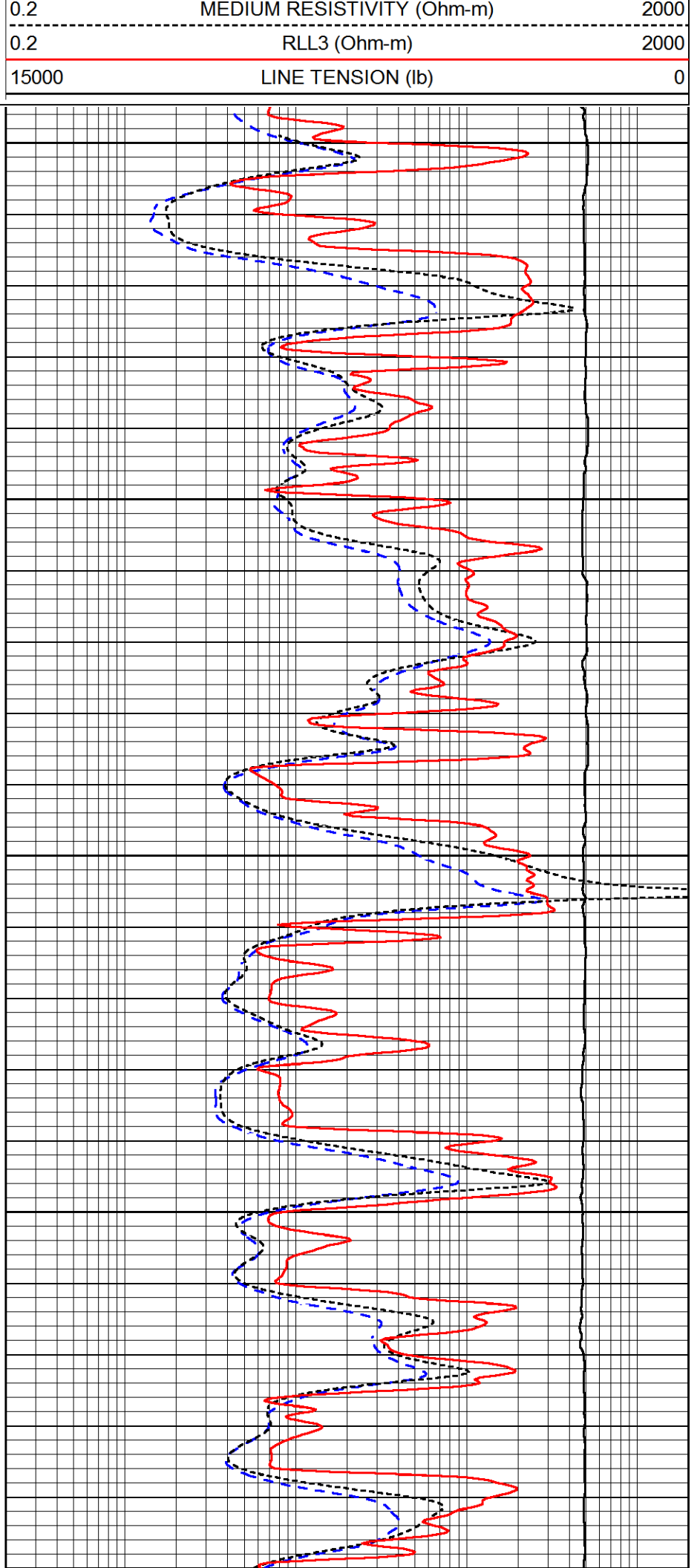
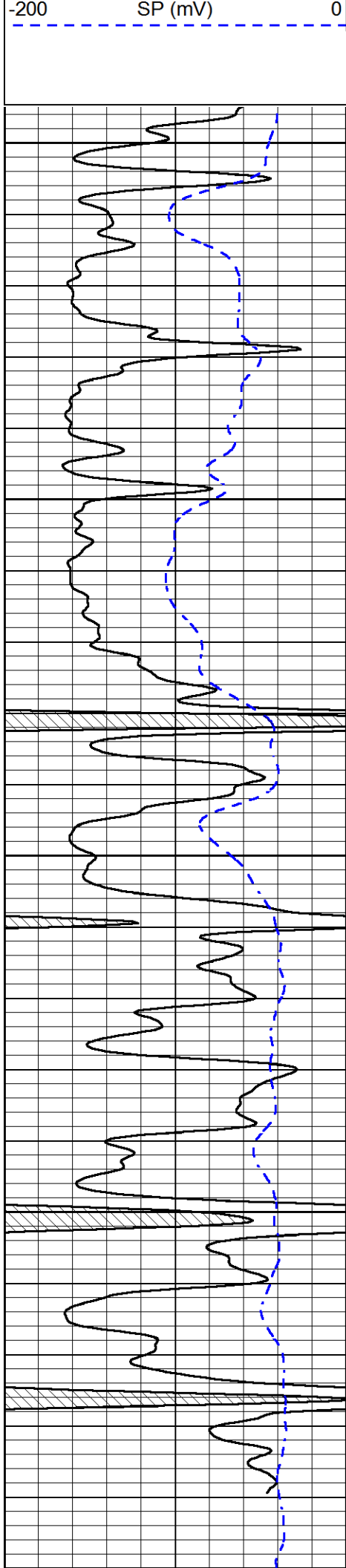


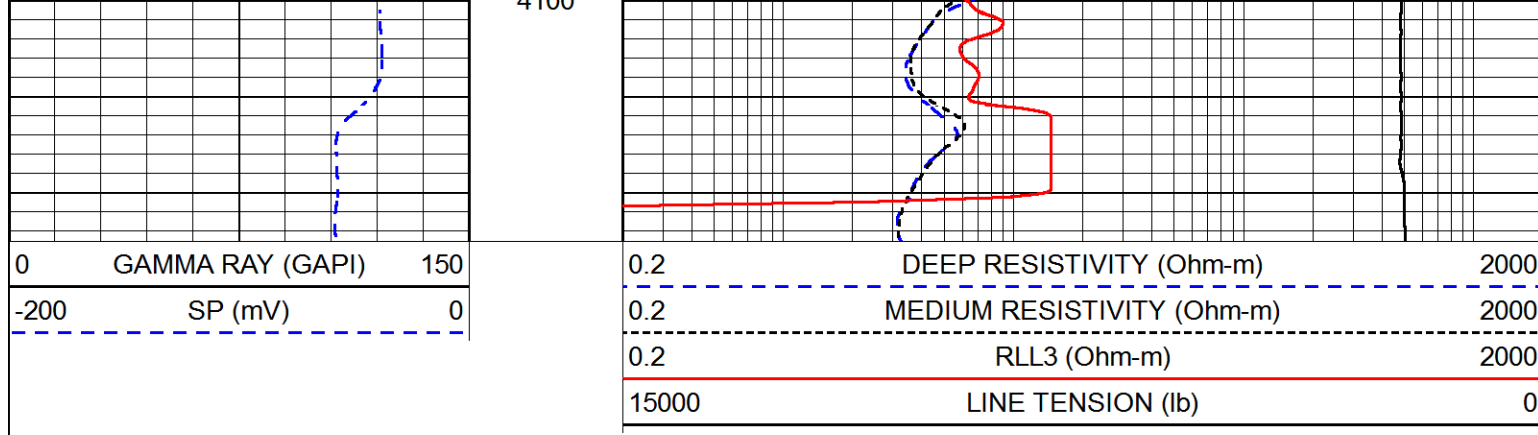
REPEAT SECTION

Database File bowman_clark_b_1.db
 Dataset Pathname stackml/pass2.1
 Presentation Format dil
 Dataset Creation Sun Aug 16 07:13:43 2020
 Charted by Depth in Feet scaled 1:240

0 150
GAMMA RAY (GAPI)

0.2 2000
DEEP RESISTIVITY (Ohm-m)





Calibration Report

Database File bowman_clark_b_1.db
 Dataset Pathname stackml/pass3.1
 Dataset Creation Sun Aug 16 07:12:02 2020

Dual Induction Calibration Report

Serial-Model: 55-222-M&W
 Calibration Performed: Tue Dec 10 05:11:10 2019

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.500	-41.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.390	-15.000

Microlog Calibration Report

Serial-Model: UDM-01-PSI UDM ML
 Performed: Fri May 31 06:10:42 2019

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	20000.0000	0.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	20000.0000	0.0000
Caliper	1.3766	1.0818	8.0000	22.0000	in	-47.4839	69.6000

Compensated Density Calibration Report

Serial-Model: 915-956-M&W
 Source / Verifier: /
 Master Calibration Performed: Thu Mar 19 09:21:34 2020

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3668.53	4669.61	cps
Aluminum	2.675	g/cc	710.88	3056.05	cps

Spine Angle = 75.51

Density/Spine Ratio = 0.543

Size

Reading

Small Ring	4.00	in	1.17
Large Ring	14.00	in	1.05

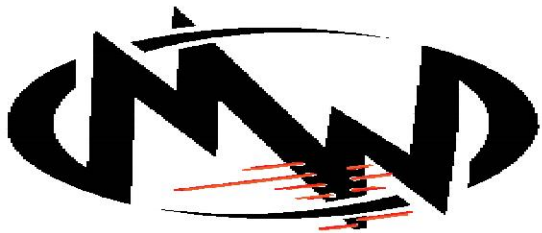
Compensated Neutron Calibration Report

Serial Number:	tk10-MW
Tool Model:	M&W
Calibration Performed:	Wed Nov 16 11:21:36 2016

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:	89-M&W
Tool Model:	M&W
Calibration Performed:	Tue Dec 10 05:11:34 2019
Calibrator Value:	1000.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	6.2 cps
Sensitivity:	0.5200 GAPI/cps



MIDWEST WIRELINE

Company	The Bill Bowman Oil Company
Well	Clark B #1
Field	Hoxie East
County	Sheridan
State	Kansas