



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **BEREXCO, LLC**
Well **PETRACEK #7**
Field **PETRACEK**
County **DECATUR** State **KANSAS**

Location: API #: 15-039-21257-00-00

Other Services

1330' FNL & 2530' FWL
SEC 9 TWP 4S RGE 27W

CNL/CDL
MEL

Permanent Datum GROUND LEVEL Elevation 2660'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2668'
D.F. N/A
G.L. 2660'

Date 3/16/2019

Run Number ONE

Depth Driller 3860'

Depth Logger 3860'

Bottom Logged Interval 3859'

Top Log Interval 300'

Casing Driller 8.625" @ 325'

Casing Logger 327'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 1800

Density / Viscosity 9.1 75

pH / Fluid Loss 10.5 6.4

Source of Sample FLOWLINE

Rm @ Meas. Temp 0.80 @ 60

Rmt @ Meas. Temp 0.60 @ 60

Rmc @ Meas. Temp 1.08 @ 60

Source of Rmt / Rmc CHARTS

Rm @ BHT 0.42 @ 115

Operating Rig Time 3 HOURS

Max Rec. Temp. F 115

Equipment Number P-24

Location HAYS

Recorded By D. SCHMIDT

Witnessed By BRYAN BYNOG

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, 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.

JENNINGS,
WEST TO 1330 RD, 2 NORTH, 3/4 WEST, 1 NORTH, 3/4 WEST,
SOUTH INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew

Engineer: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: BRYAN BYNOG
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 115	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 285	degF 40	Off	ft 3860

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58			GR-M&W (89)	3.00	3.50	50.00
CNLSC	37.48			CNT-M&W (207-MW)	5.50	3.50	100.00
CNSSC	36.73						
LSD	28.43			CDL-M&W (96-916)	8.50	4.00	250.00
DCAL	28.42			ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
SSD	27.93						
MCAL	19.83						
MI	19.83						
MN	19.83						
RLL3F	15.80						
RLL3	15.80						
CILD	8.00			DIL-PSI HIGH TEMP (967 (HT))	18.50	3.50	220.00

CILM

4.70

SP

0.20

Dataset: berexco_petracek 7.db: field/well/STKML/pass3.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in



MAIN PASS

Database File berexco_petracek 7.db
Dataset Pathname STKML/pass4.1
Presentation Format dil2in
Dataset Creation Sat Mar 16 16:54:20 2019
Charted by Depth in Feet scaled 1:600

GAMMA RAY

0 (GAPI) 150

1000 CONDUCTIVITY (mmho/m) 0

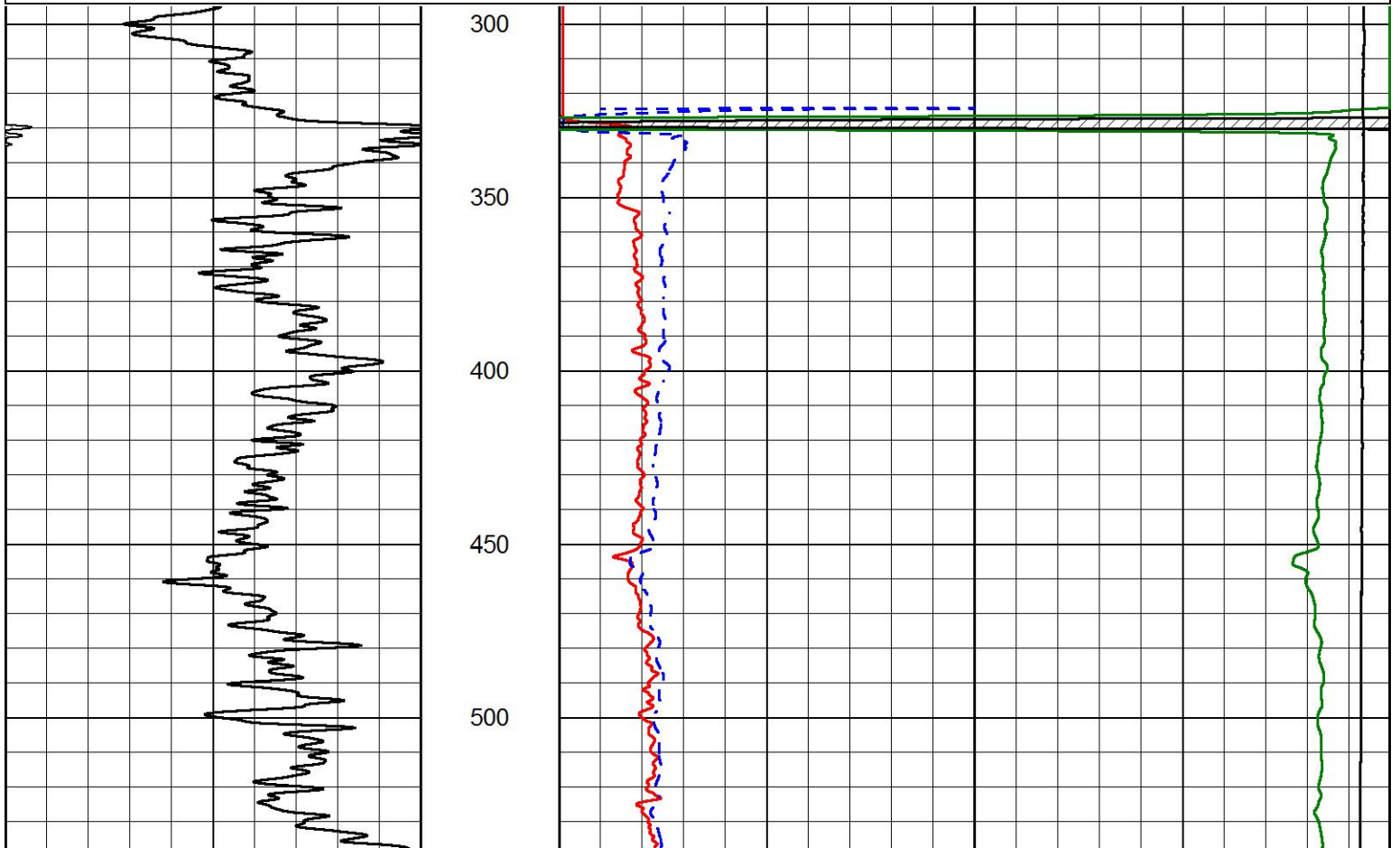
15000 Line Tension (lb) 0

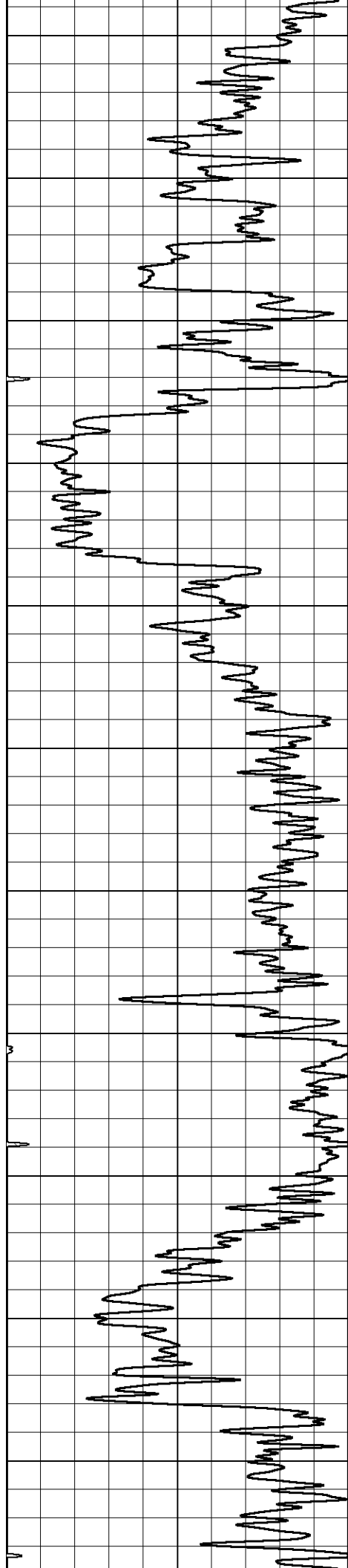
0 RLL3 (Ohm-m) 50

0 DEEP RESISTIVITY (Ohm-m) 50

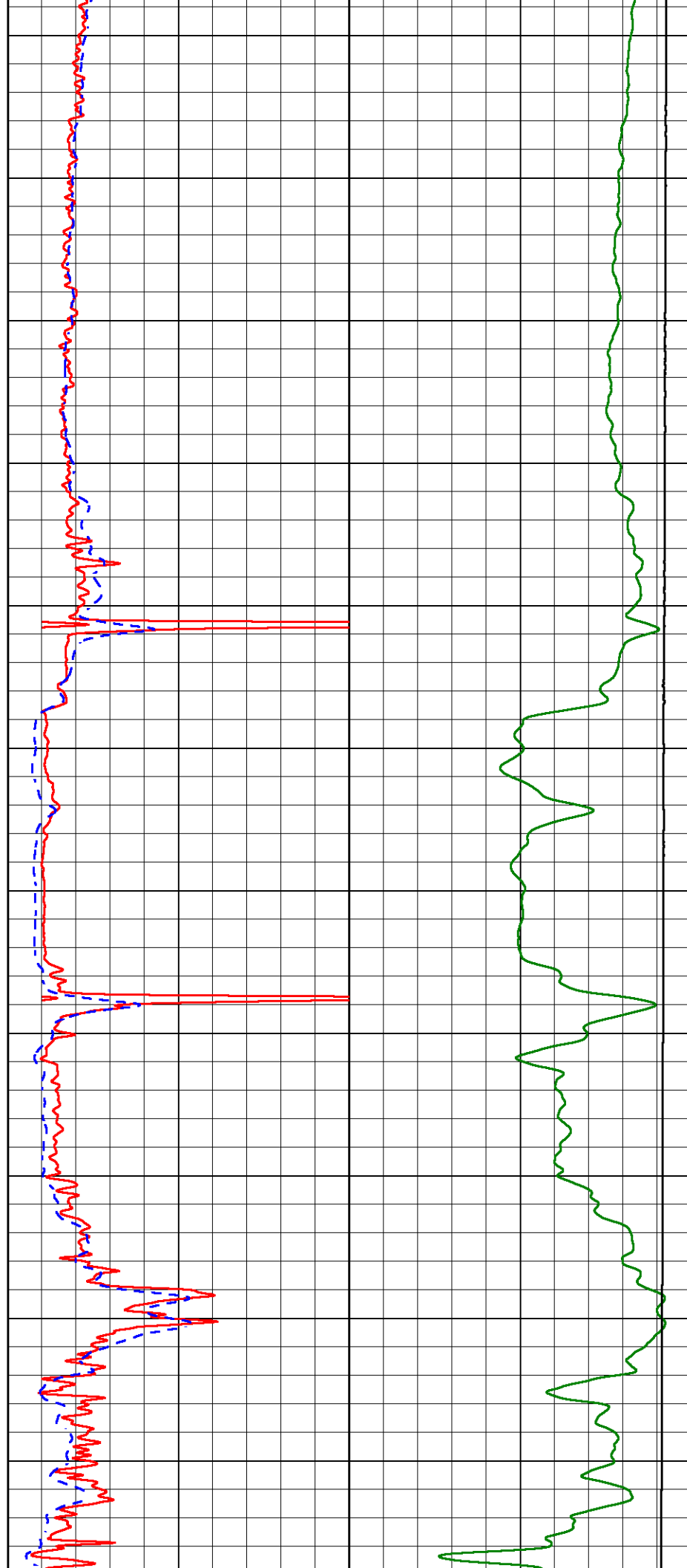
50 RLL3 (Ohm-m) 500

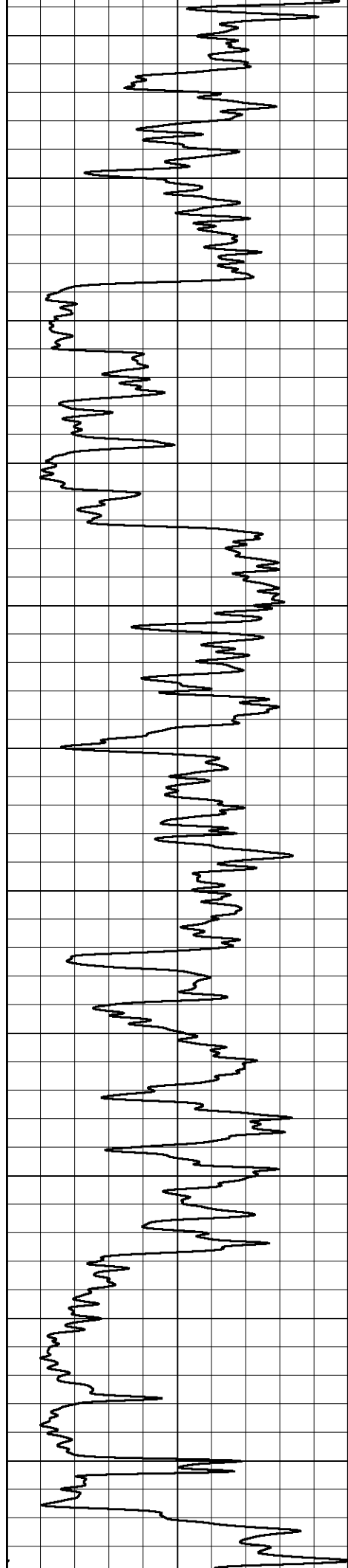
50 Deep Resistivity (Ohm-m) 500



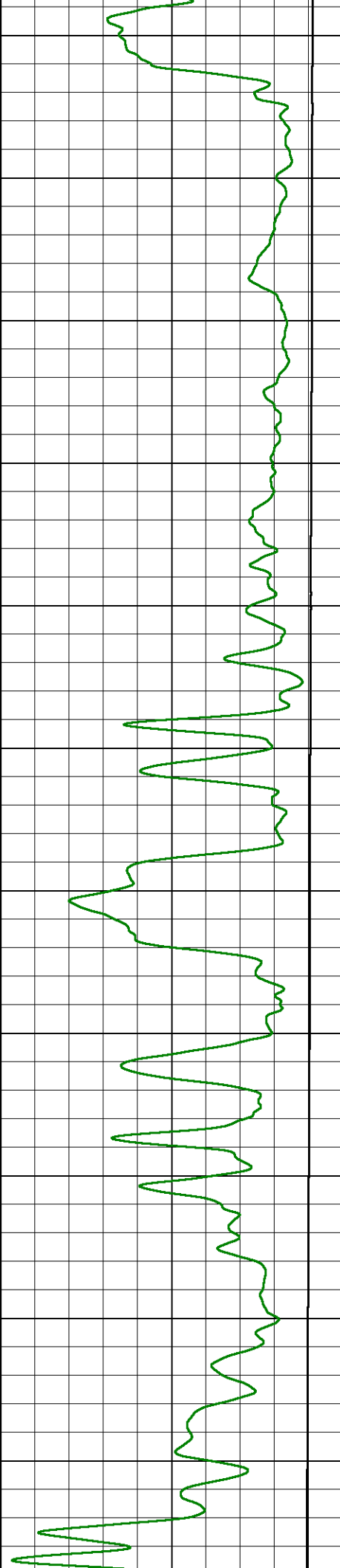
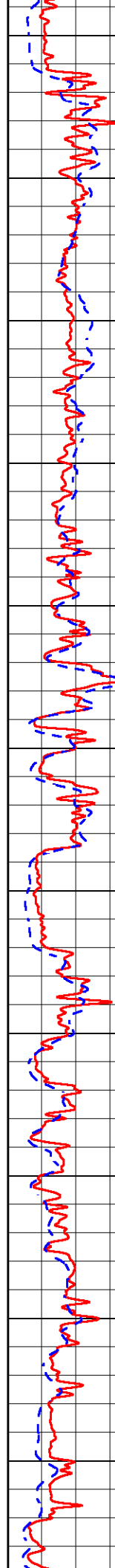


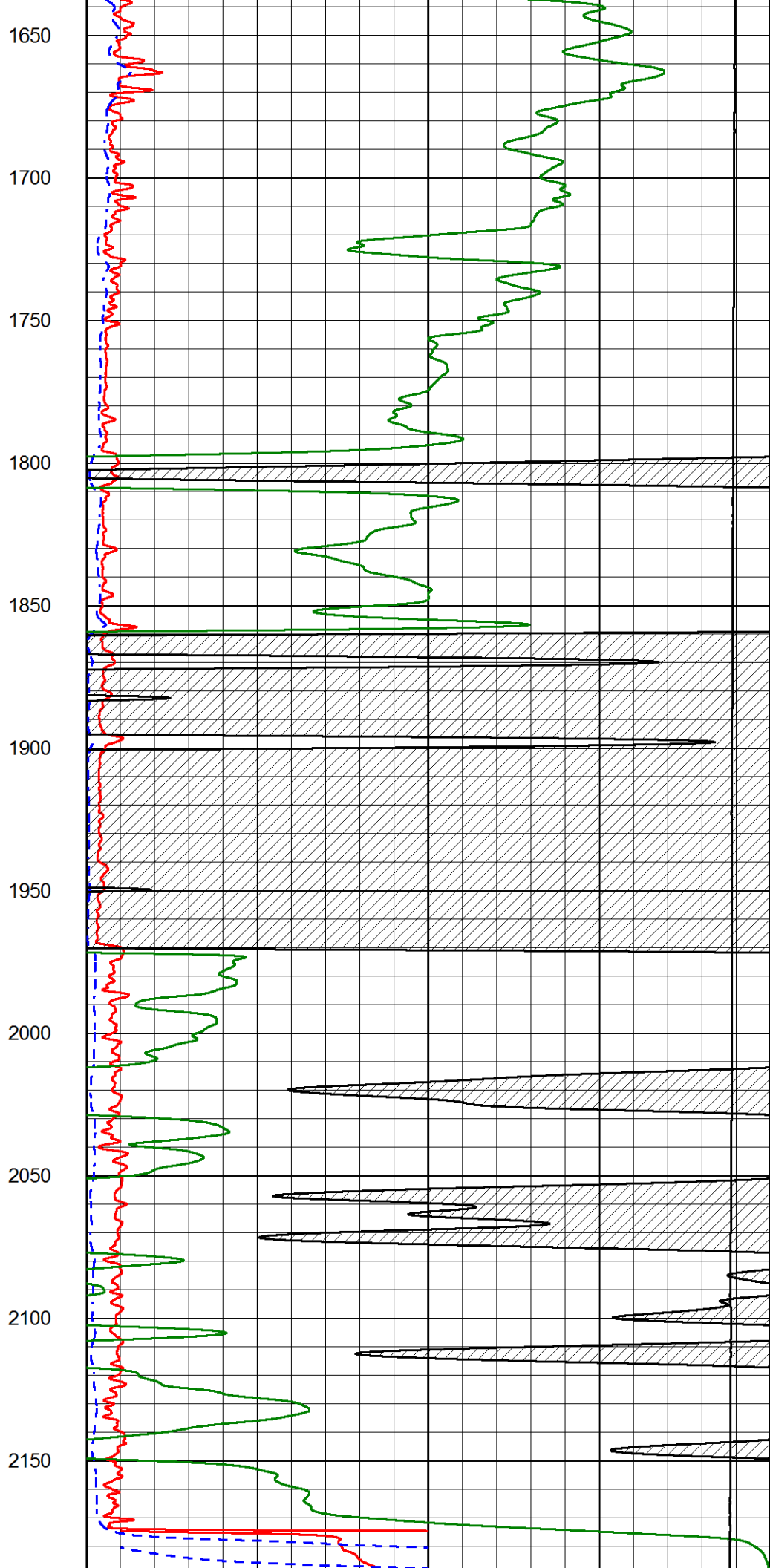
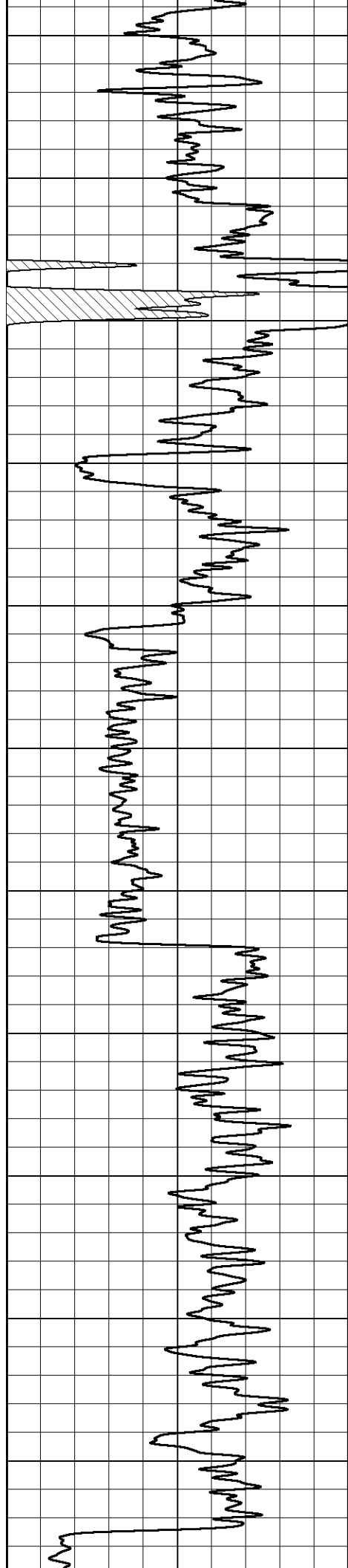
550
600
650
700
750
800
850
900
950
1000
1050

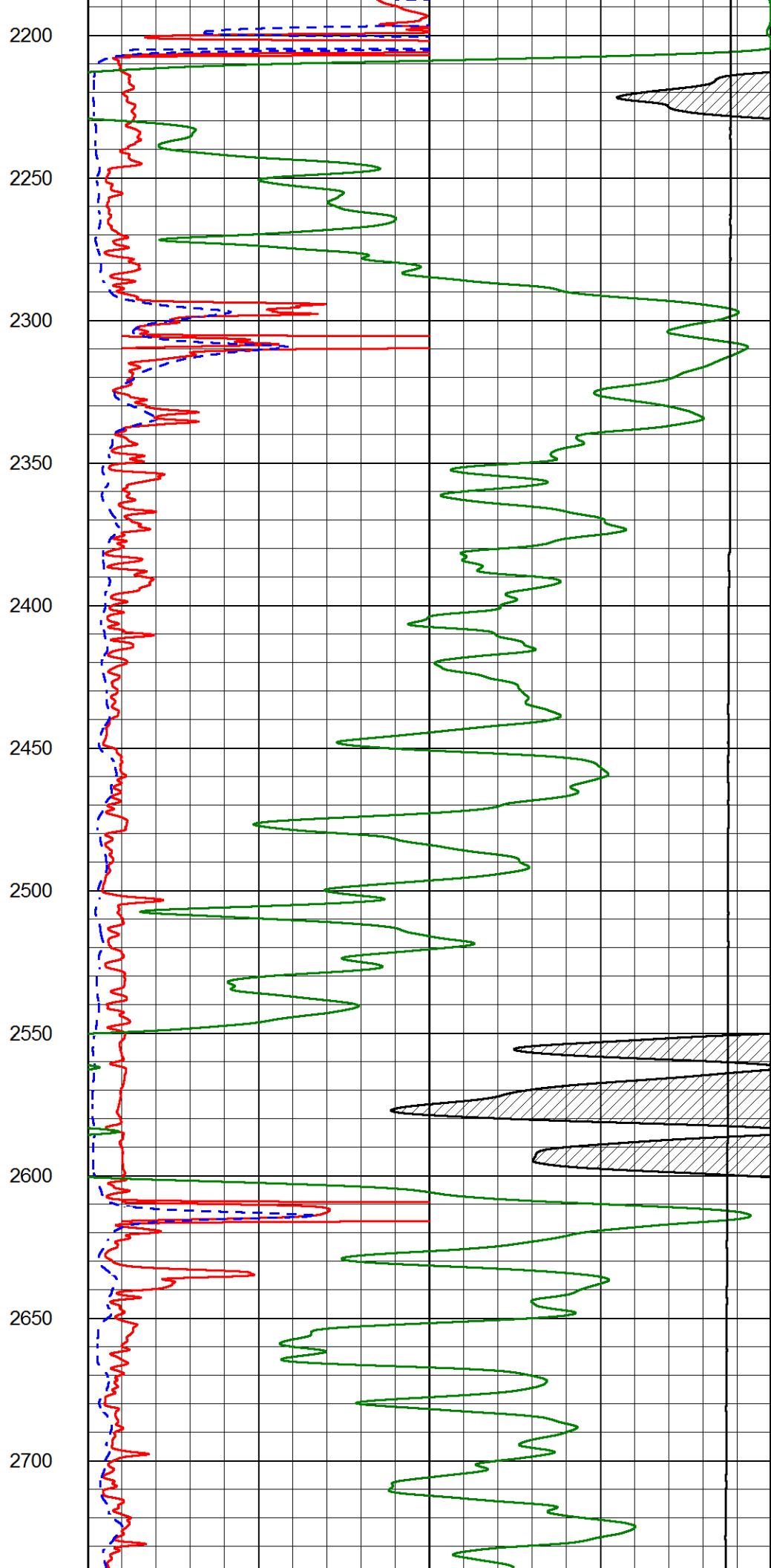
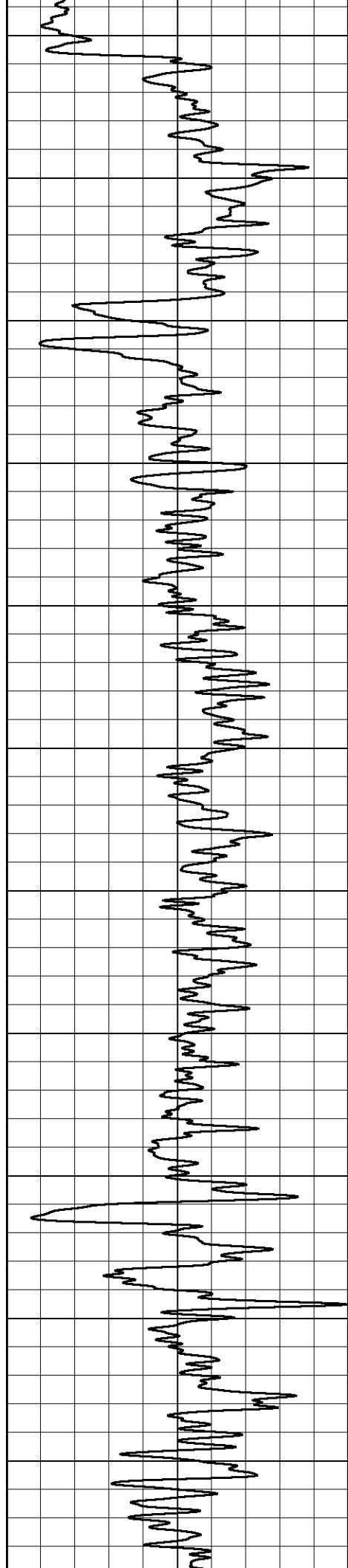


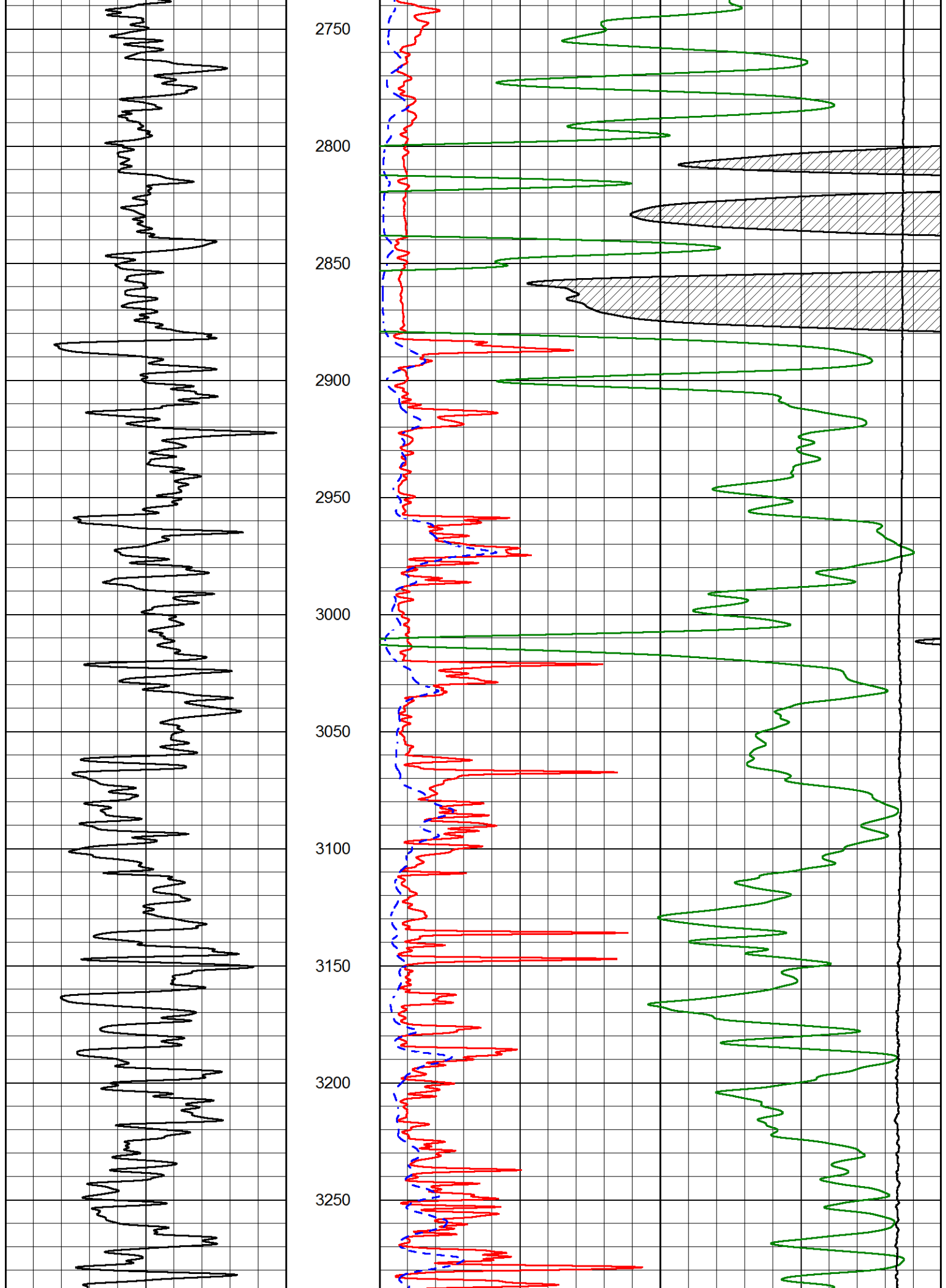


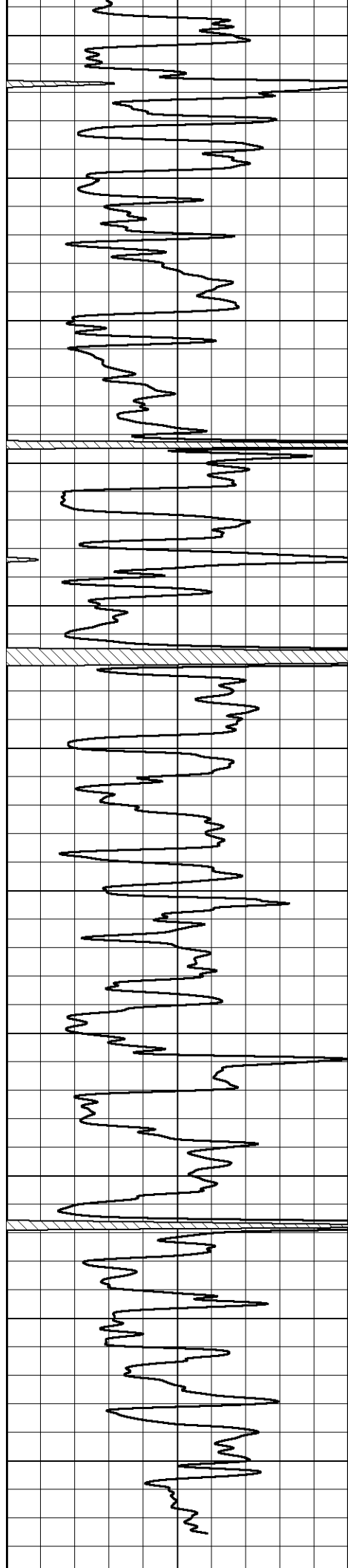
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
1600











3300

3350

3400

3450

3500

3550

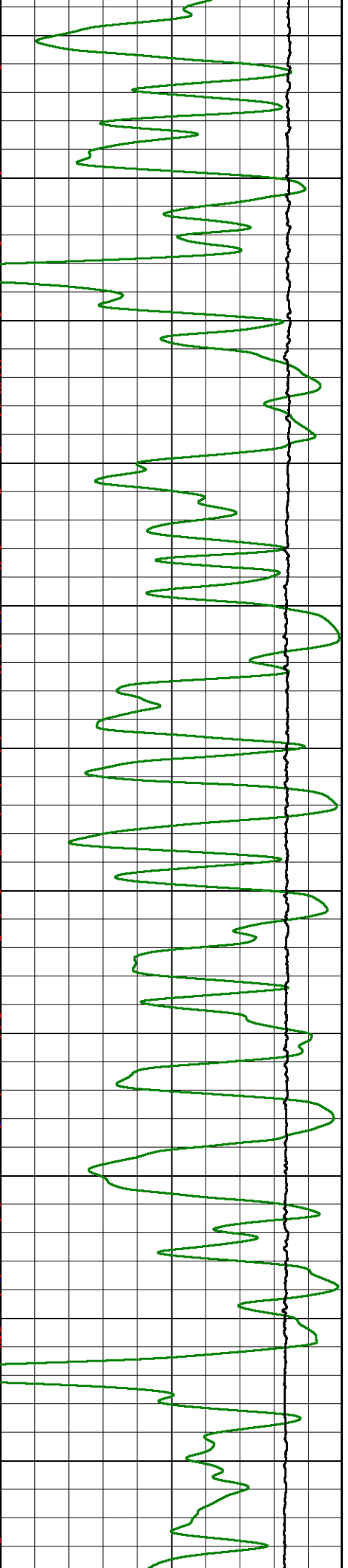
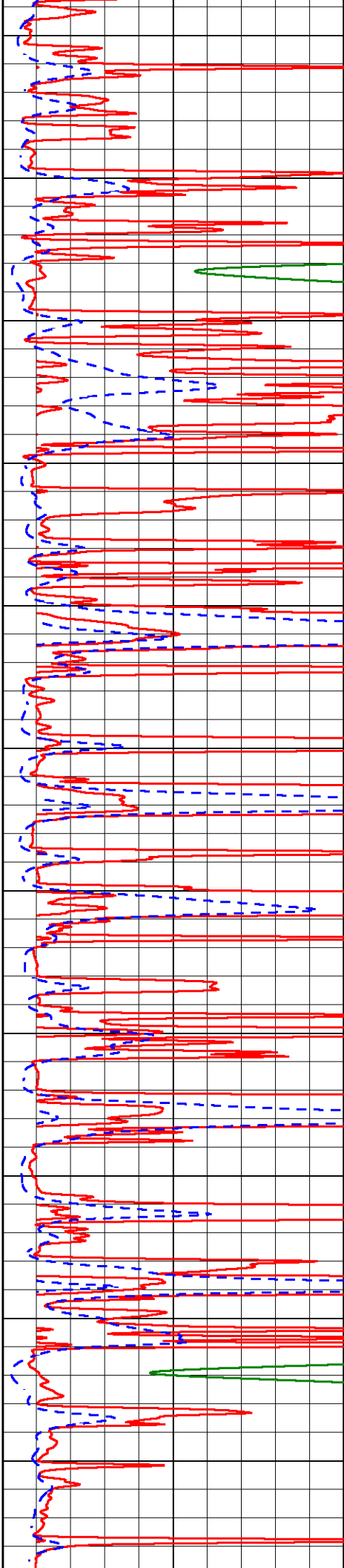
3600

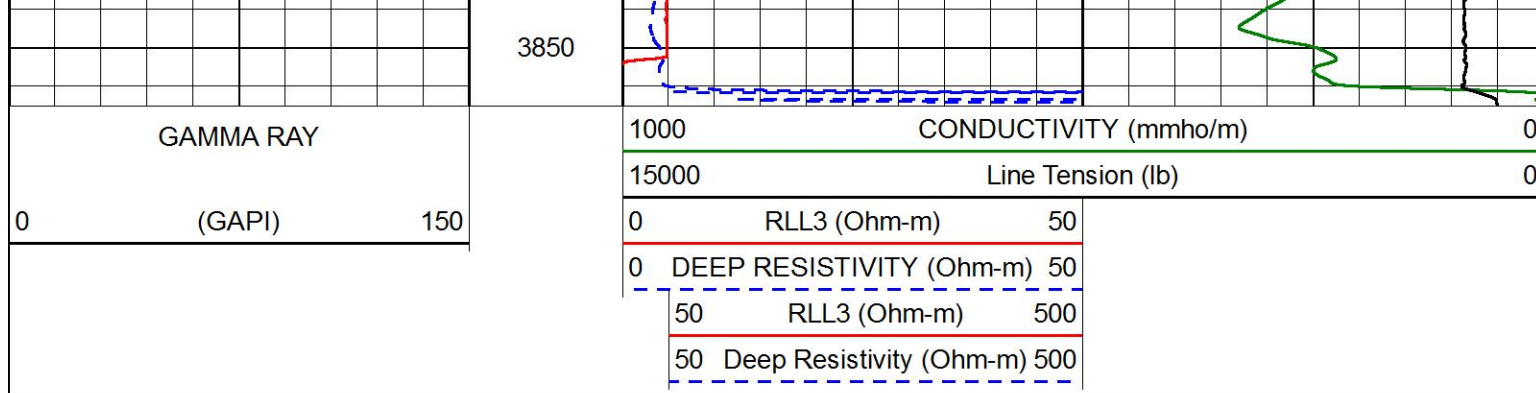
3650

3700

3750

3800

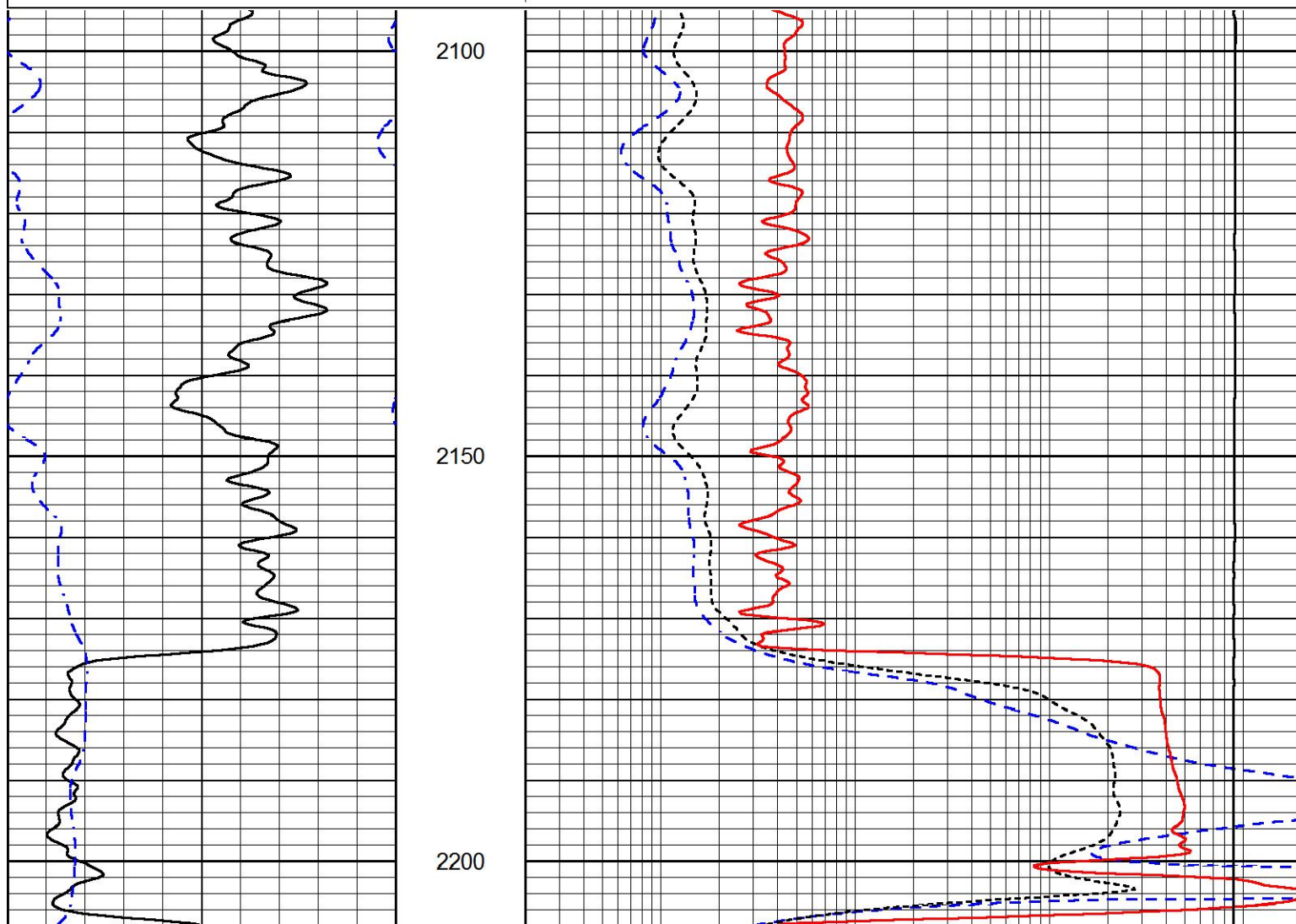
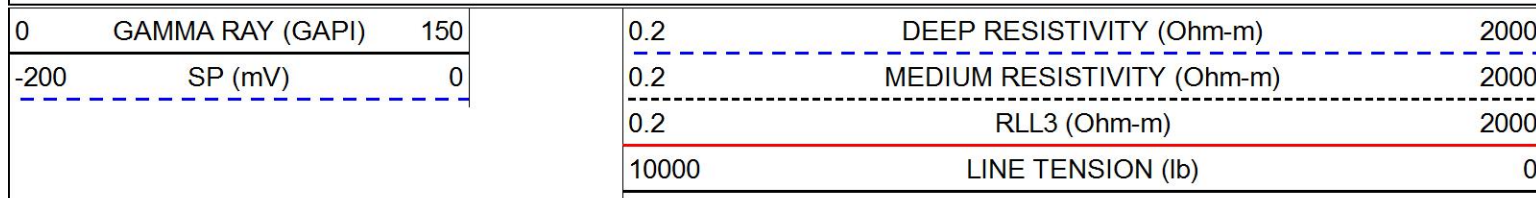


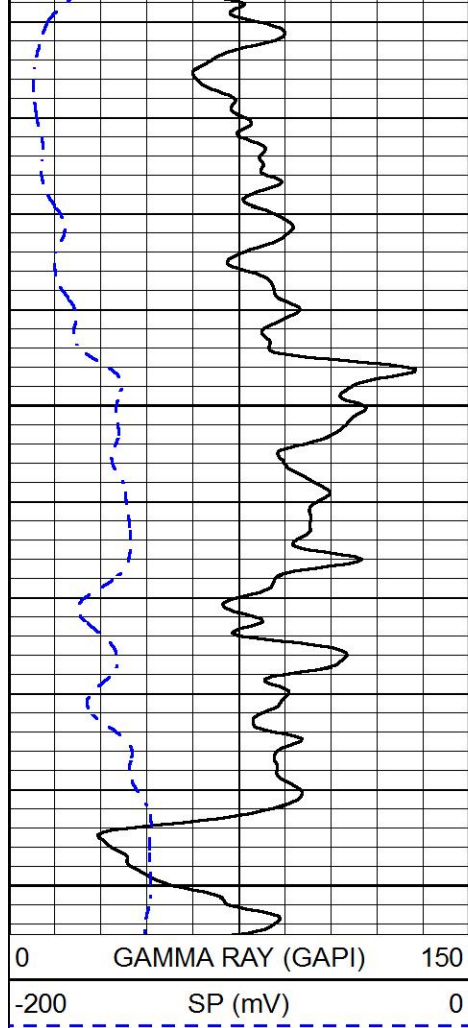


PIONEER
Pioneer Energy Services

MAIN PASS

Database File	berexco_petracek 7.db
Dataset Pathname	STKML/pass4.1
Presentation Format	dil
Dataset Creation	Sat Mar 16 16:54:20 2019
Charted by	Depth in Feet scaled 1:240

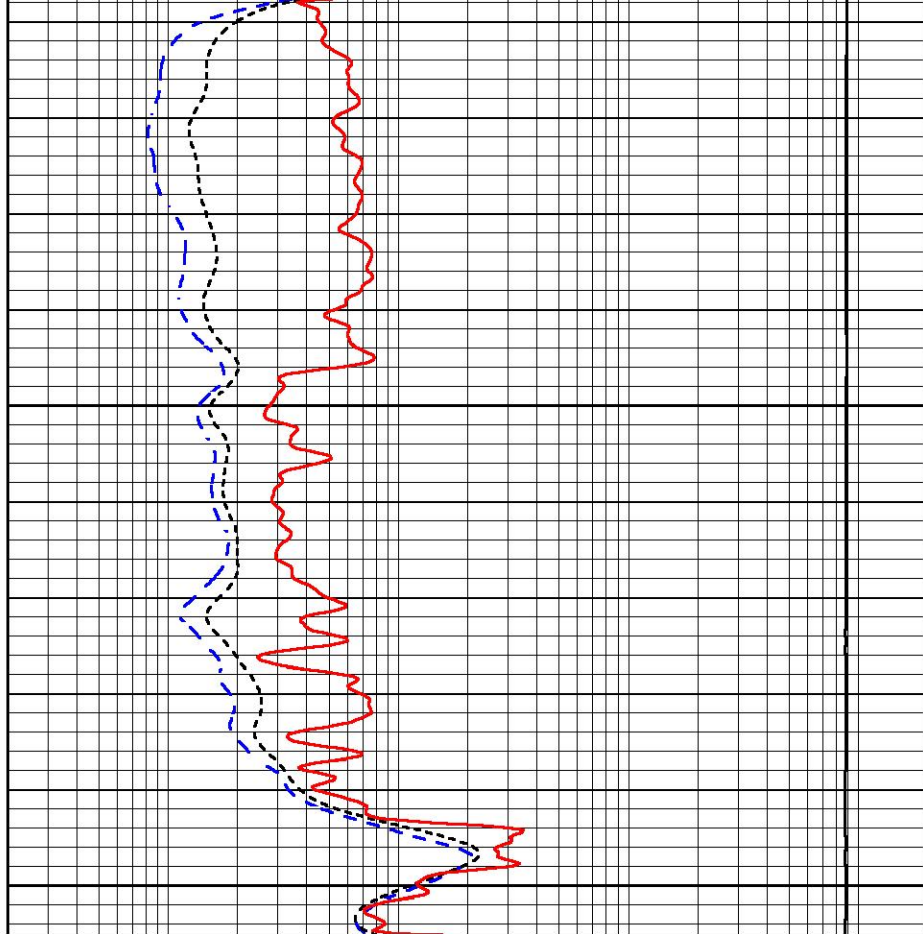




2250

2300

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
10000 LINE TENSION (lb) 0

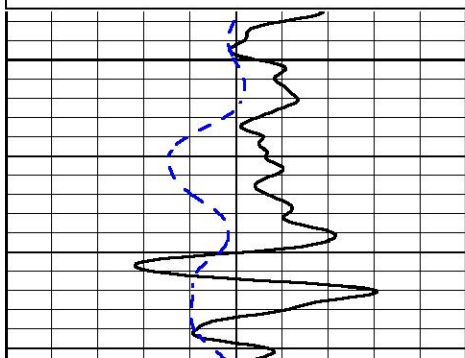


MAIN PASS

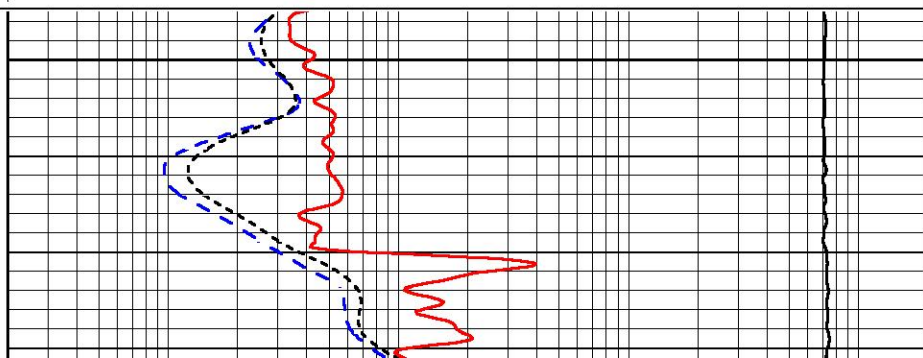
Database File berexco_petracek 7.db
Dataset Pathname STKML/pass3.1
Presentation Format dil
Dataset Creation Sat Mar 16 15:58:19 2019
Charted by Depth in Feet scaled 1:240

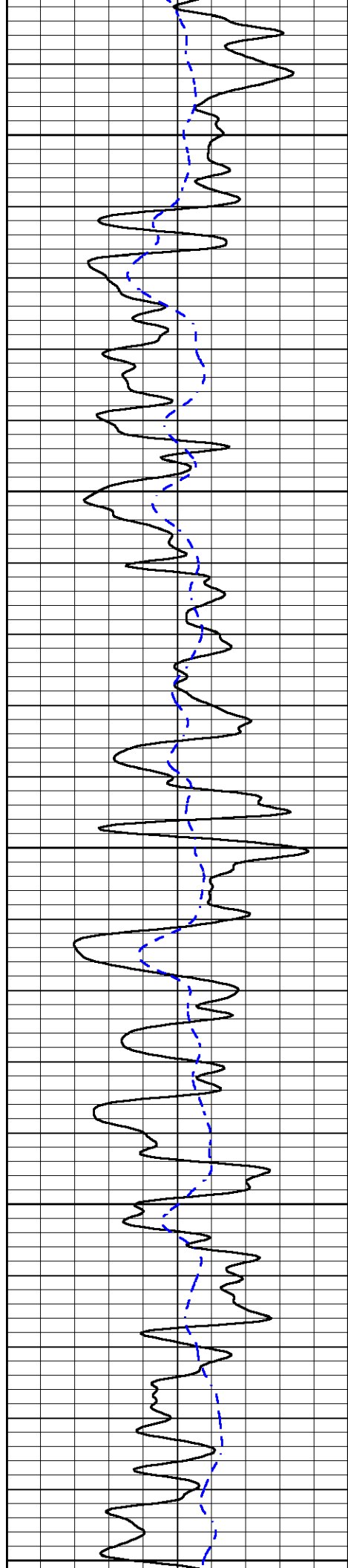
0 GAMMA RAY (GAPI) 150
-200 SP (mV) 0

0.2 DEEP RESISTIVITY (Ohm-m) 2000
0.2 MEDIUM RESISTIVITY (Ohm-m) 2000
0.2 RLL3 (Ohm-m) 2000
10000 LINE TENSION (lb) 0



3000





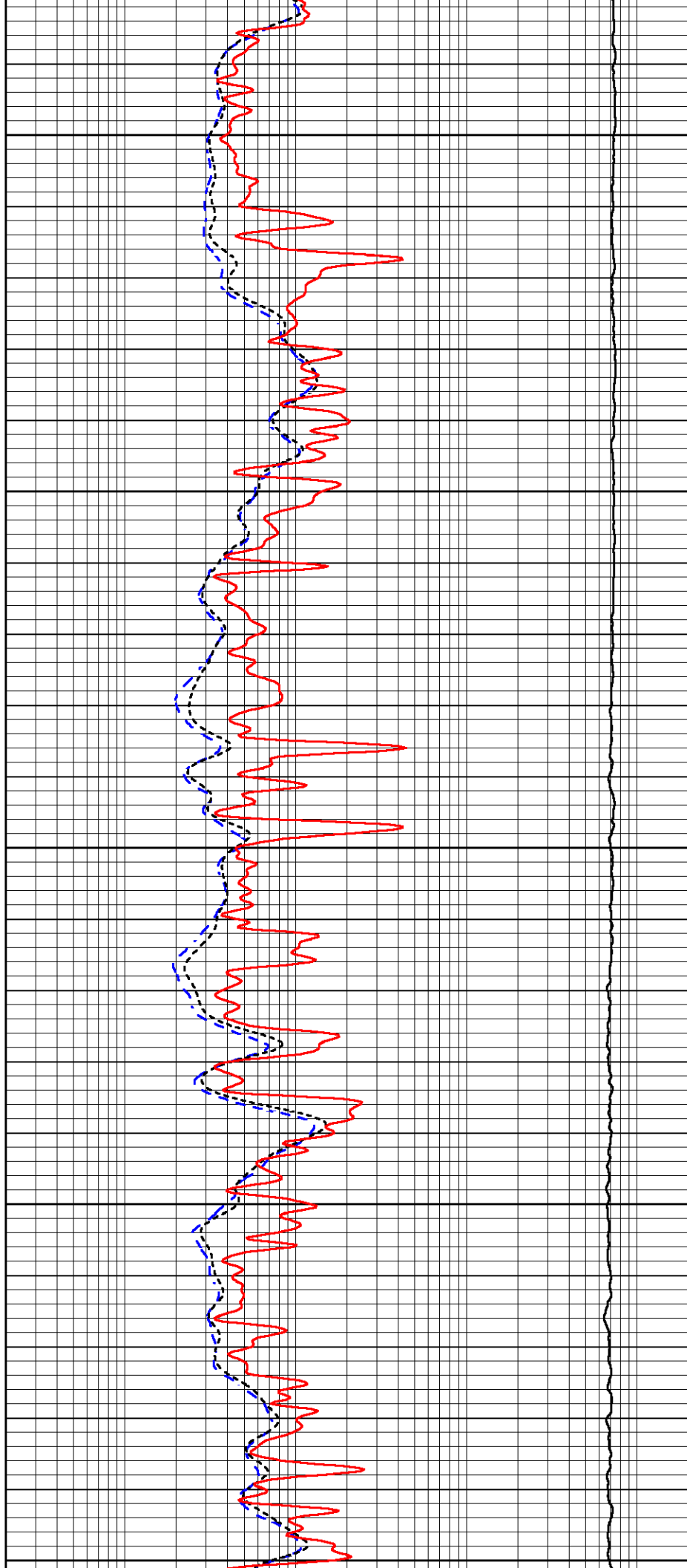
3050

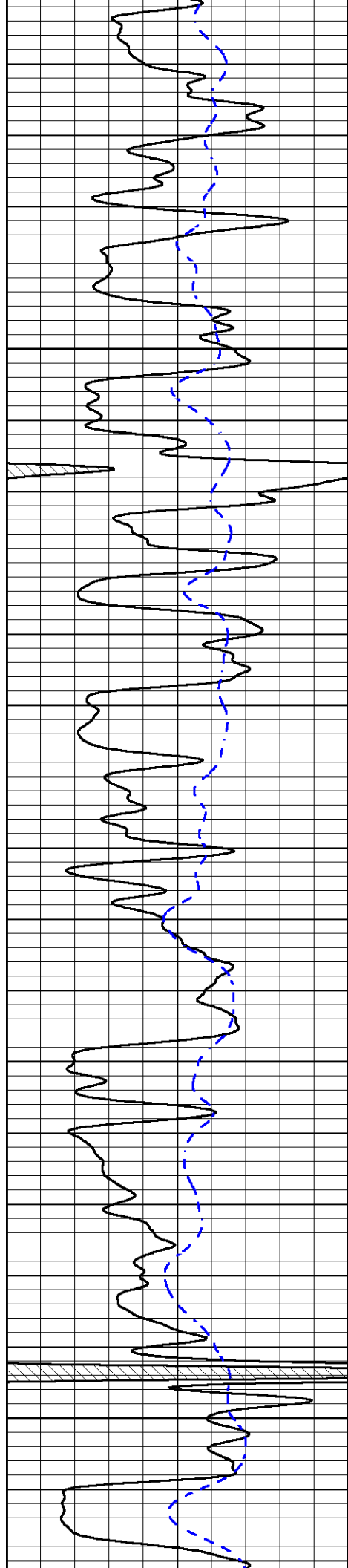
3100

3150

3200

3250



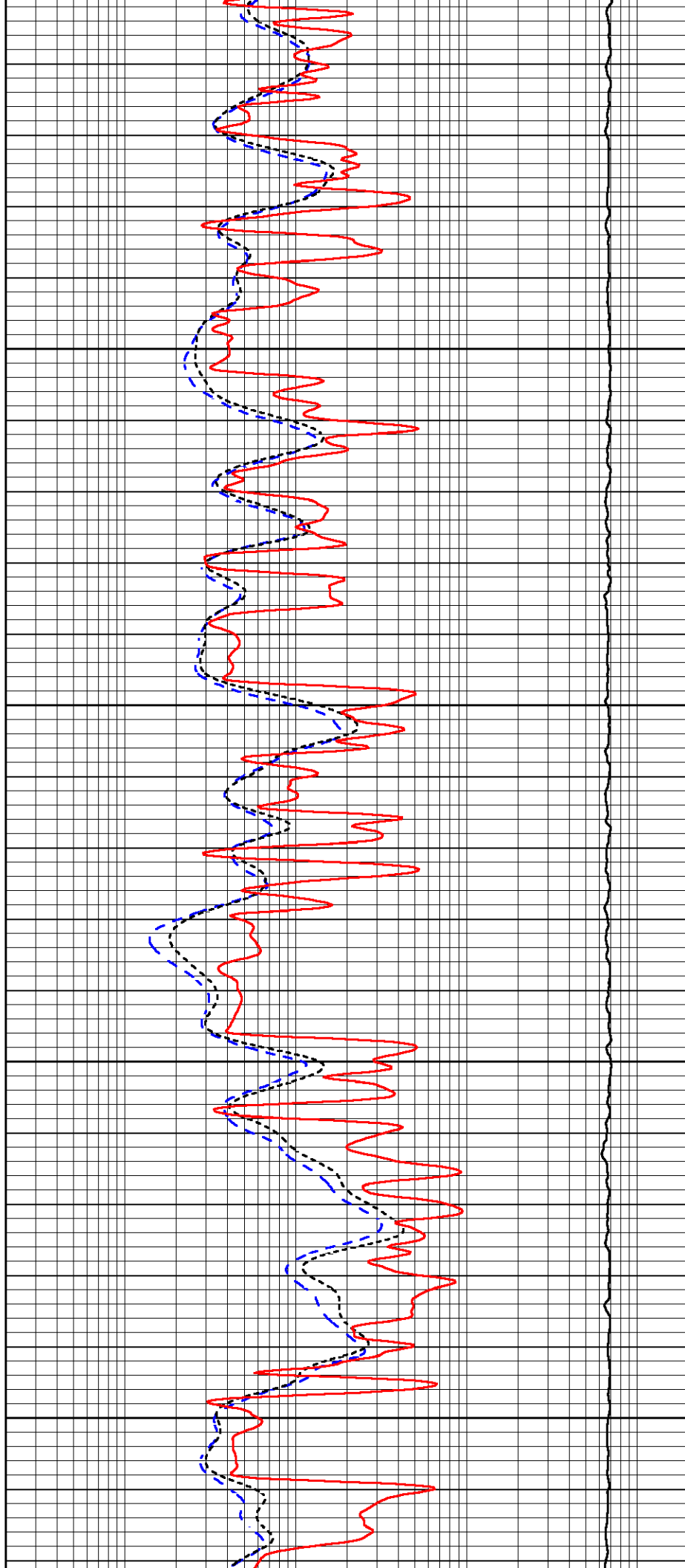


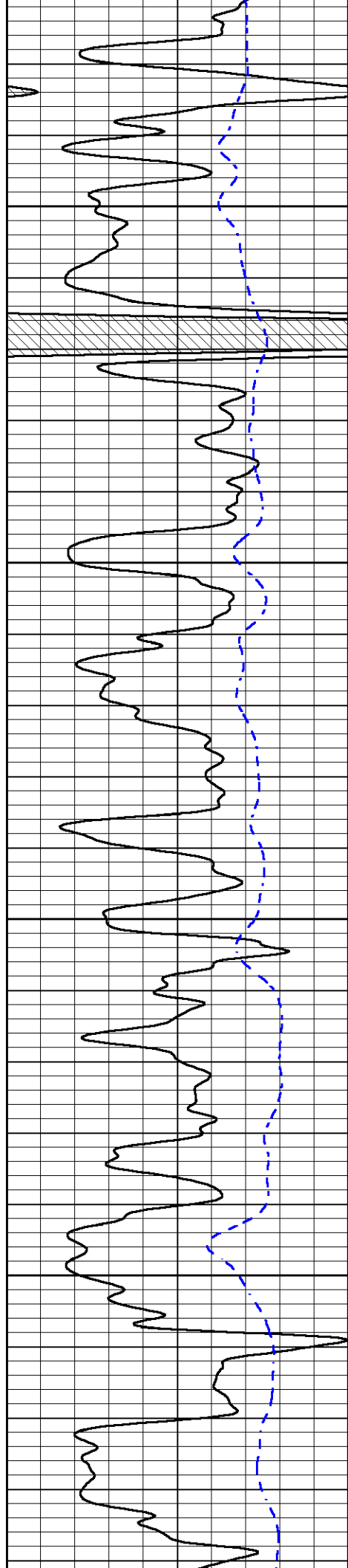
3300

3350

3400

3450



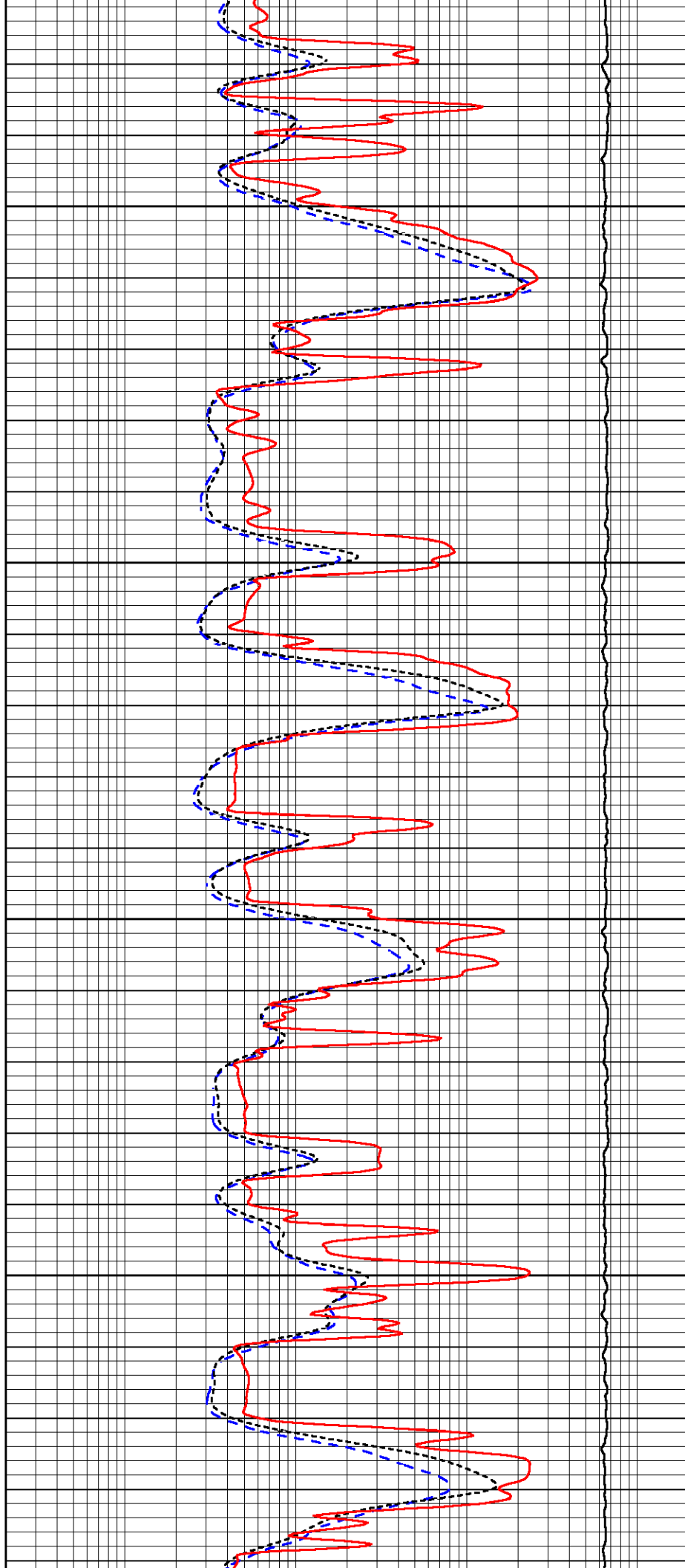


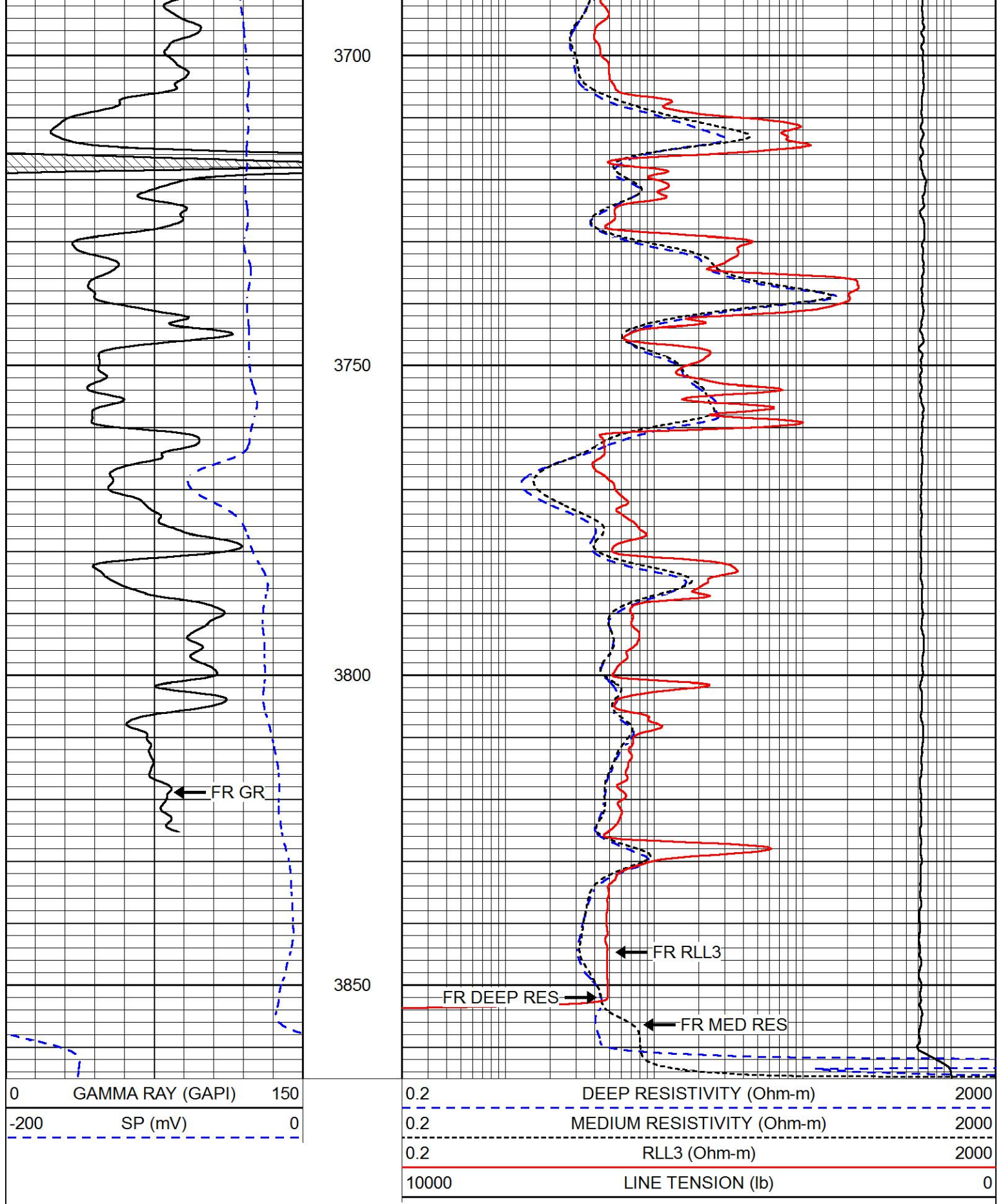
3500

3550

3600

3650

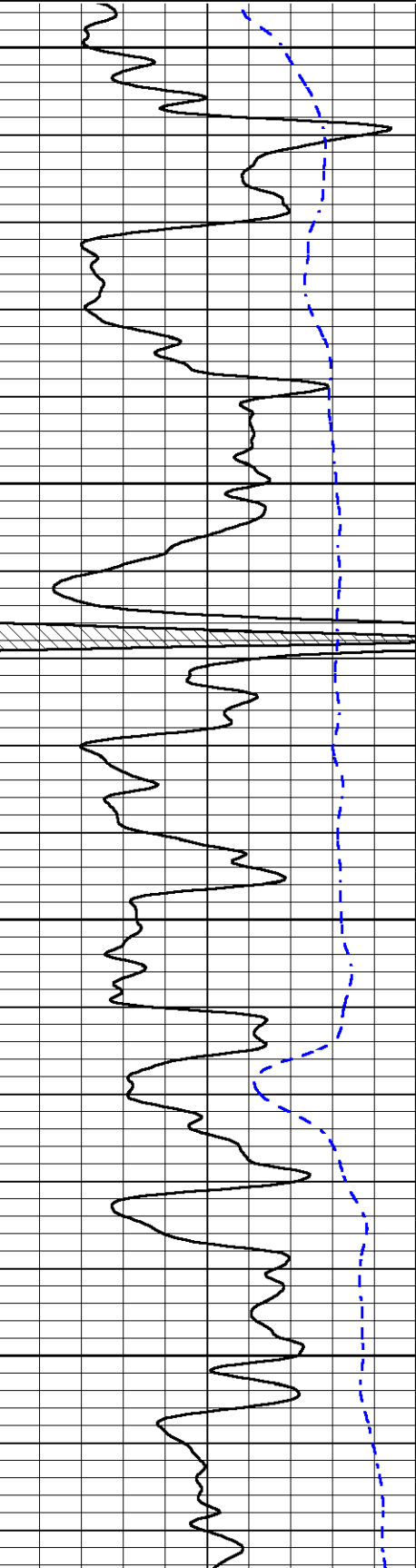




Database File berexco_petracek 7.db
Dataset Pathname STKML/pass2.3
Presentation Format dil
Dataset Creation Sat Mar 16 16:00:31 2019
Charted by Depth in Feet scaled 1:240

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
10000	LINE TENSION (lb)	0

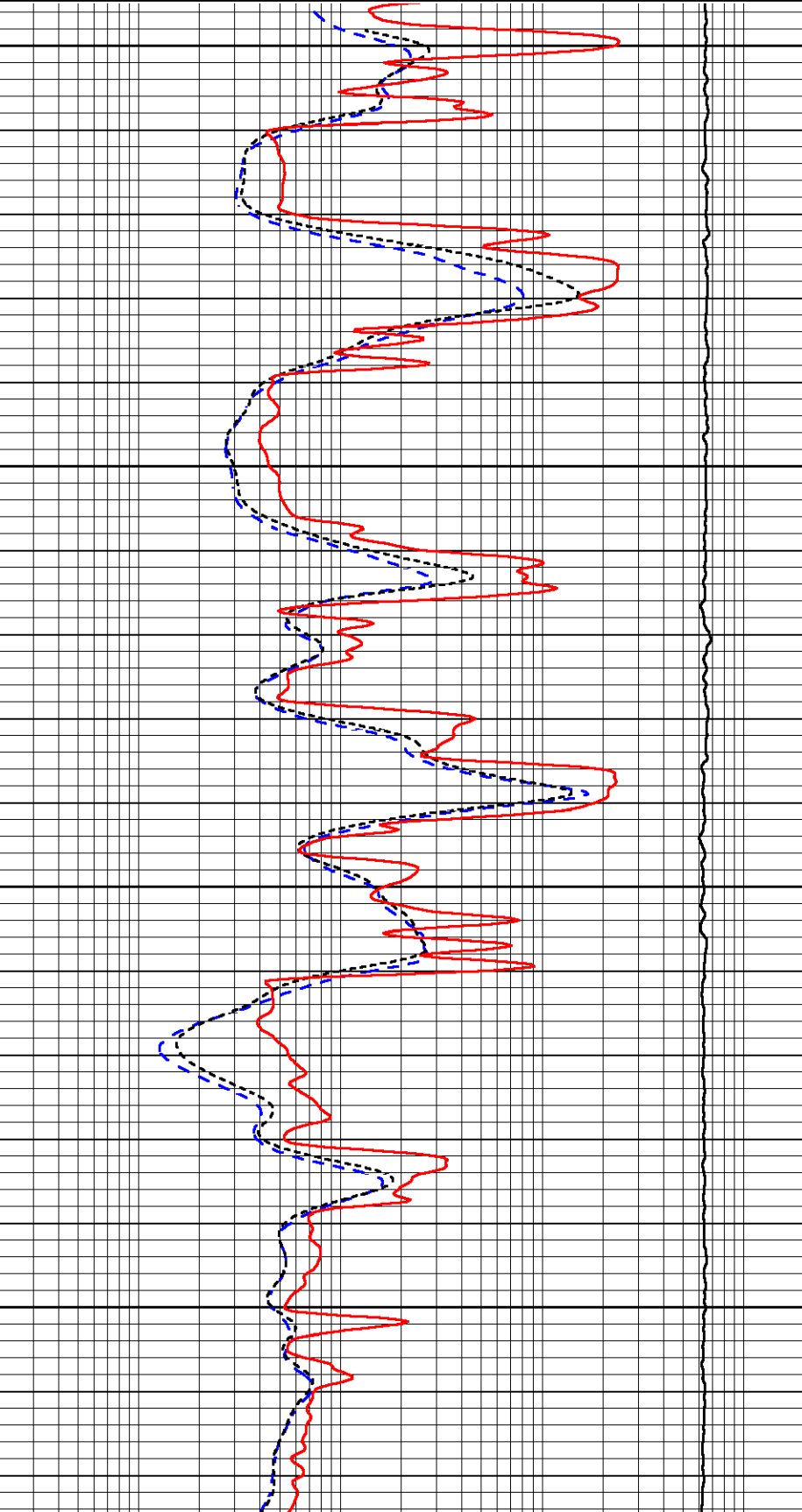


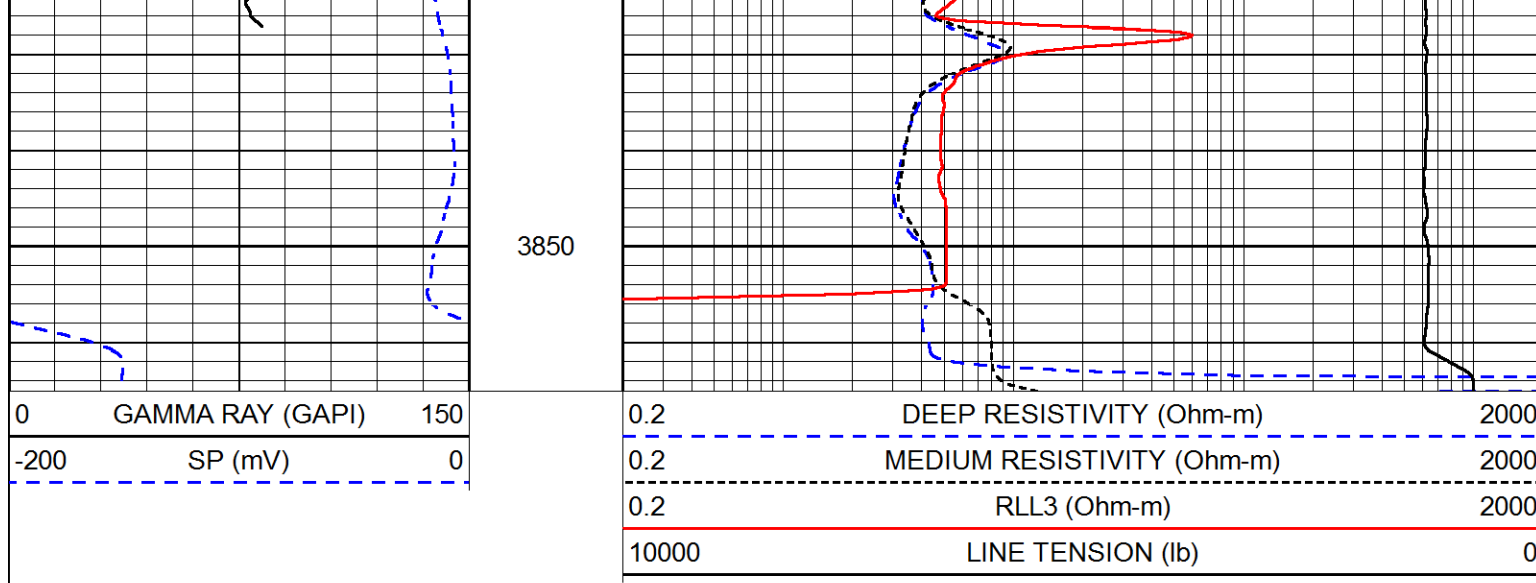
3650

3700

3750

3800





Calibration Report

Database File berexco_petracek 7.db
 Dataset Pathname STKML/pass3.1
 Dataset Creation Sat Mar 16 15:58:19 2019

Dual Induction Calibration Report

Serial-Model: 967 (HT)-PSI HIGH TEMP
 Calibration Performed: Sun Oct 07 20:24:22 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.565	-19.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.390	-42.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Sun Feb 24 10:53:40 2019

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	26000.0000	-1.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	30000.0000	-1.3000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.8500

Compensated Density Calibration Report

Serial-Model: 96-916-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Sat Feb 09 06:25:40 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	8943.64	10054.60	cps
Aluminum	2.665	g/cc	1595.61	6242.82	cps

Spine Angle = 74.54

Density/Spine Ratio = 0.509

	Size		Reading
Small Ring	6.00	in	1.75
Large Ring	16.00	in	1.46

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: WED FEB 13 10:30:30 2019

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
Tool Model: M&W
Calibration Performed: Fri Aug 24 12:16:10 2018

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



Company BEREXCO, LLC
Well PETRACEK #7
Field PETRACEK
County DECATUR
State KANSAS