



DUAL INDUCTION LOG

Company VAL ENERGY, INC.
Well HORINEK #1-2
Field UNKNOWN
County THOMAS **State** KANSAS

Company VAL ENERGY, INC.
Well HORINEK #1-2
Field UNKNOWN
County THOMAS
State KANSAS

Location: API #: 15-193-20977-00-00
 1951' FNL & 2205' FWL
 SEC 2 TWP 8S RGE 36W
 Permanent Datum GROUND LEVEL Elevation 3321'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services: CNL/CDL MEL/BHCS
 Elevation: K.B. 3331', D.F. N/A, G.L. 3321'

Date	11/10/2016
Run Number	ONE
Depth Driller	4850'
Depth Logger	4851'
Bottom Logged Interval	4850'
Top Log Interval	250'
Casing Driller	8.625" @ 263'
Casing Logger	264'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	6500
Density / Viscosity	9.3 67
pH / Fluid Loss	10.0 9.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.65 @ 42
Rmt @ Meas. Temp	0.49 @ 42
Rmc @ Meas. Temp	0.88 @ 42
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.22 @ 125
Operating Rig Time	3 HOURS
Max Rec. Temp. F	125
Equipment Number	91
Location	COLBY
Recorded By	D. SCHMIDT
Witnessed By	TIM PRIEST

<<< Fold Here >>>

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.

LEVANT,
 6 WEST ON FRONTAGE ROAD TO 5 RD,
 2 NORTH, 1/2 EAST,
 SOUTH INTO

Log Measured From: KELLY BUSHING 10 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: TIM PRIEST Secondary Witness: Secondary Witness: Secondary Witness:
---	--

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	-120	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	40	0	5.5	0	4851	125	7.875

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 CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

CILD 8.00

CILM 4.70

SP 0.20

DIL-M&W-75 (PSI 75)

18.50

3.50

220.00

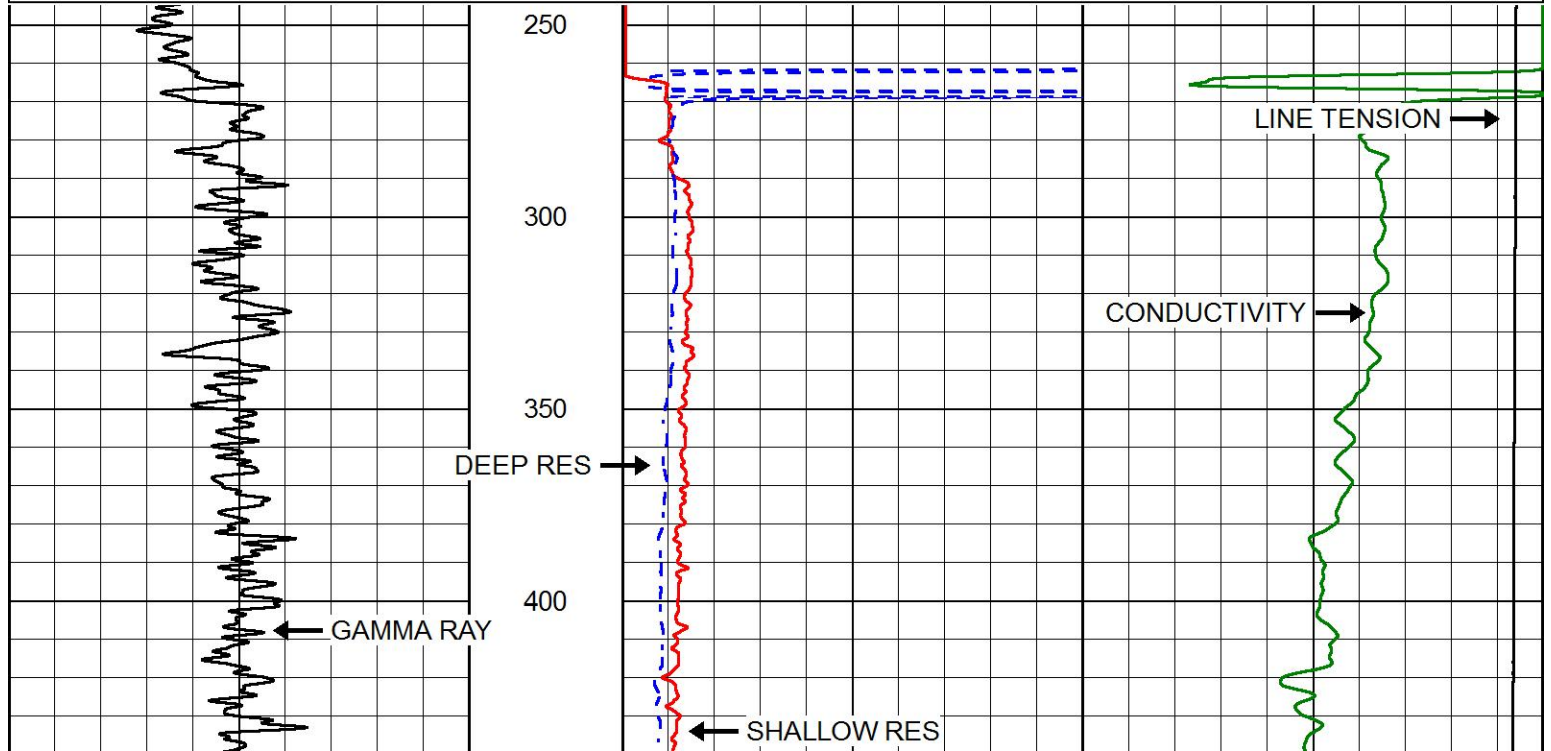
Dataset: val_horinek_1-12.db: field/well/stkml/pass3.6
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

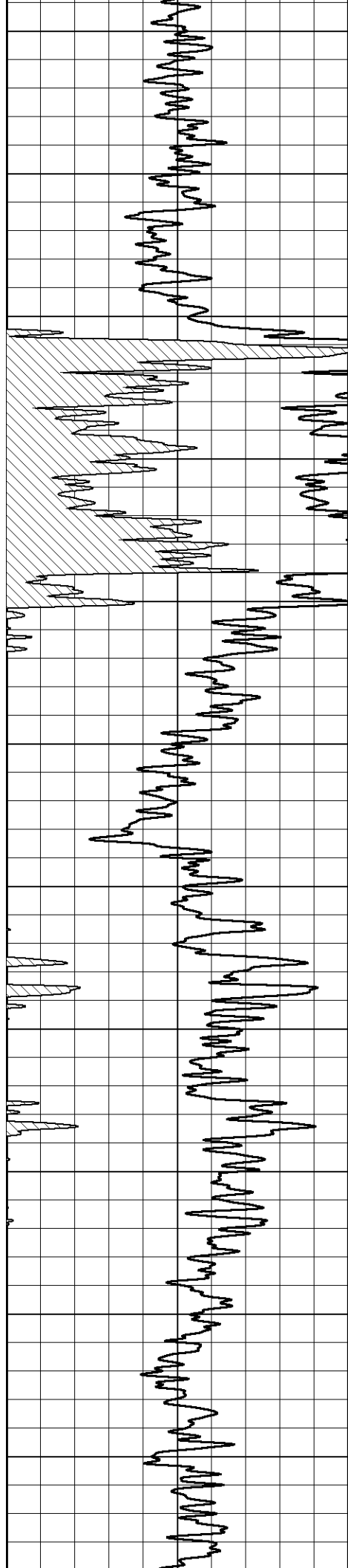


MAIN PASS

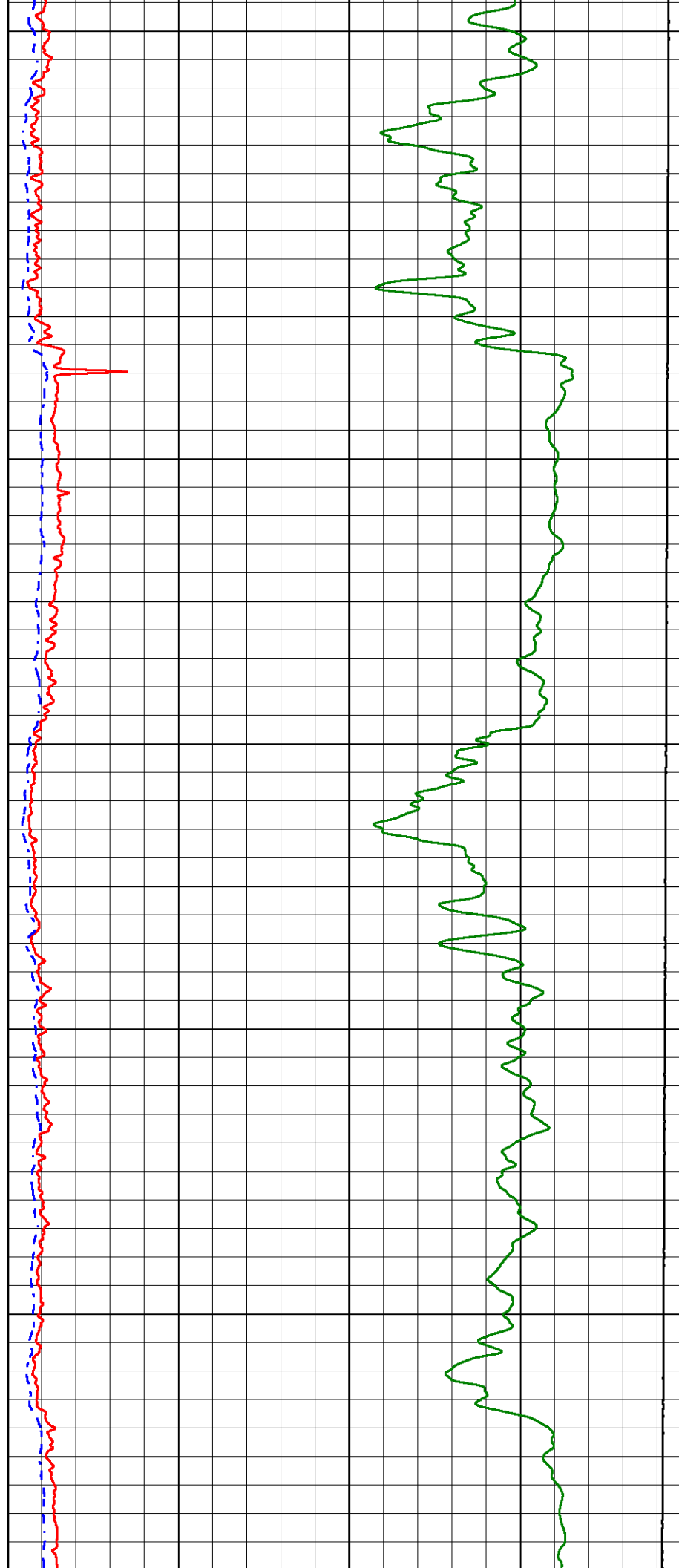
Database File val_horinek_1-12.db
 Dataset Pathname stkml/pass3.1
 Presentation Format dil2in
 Dataset Creation Thu Nov 10 02:12:46 2016
 Charted by Depth in Feet scaled 1:600

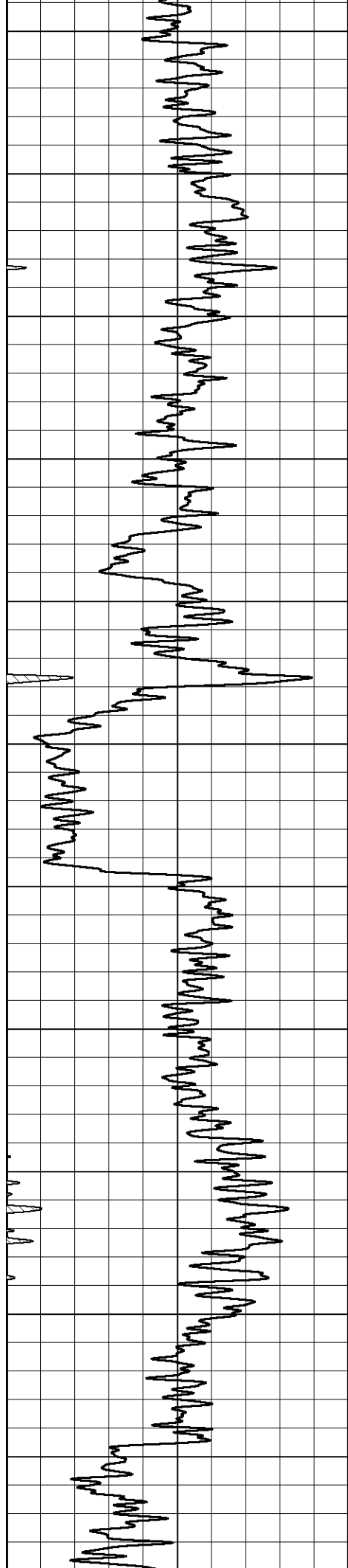
0	Gamma Ray (GAPI)	200	1000	Conductivity (mmho/m)	0
			15000	Line Tension (lb)	0
			0	Shallow Resistivity (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
				Shallow Resistivity	
			50	(Ohm-m)	500
			50	Deep Resistivity (Ohm-m)	500



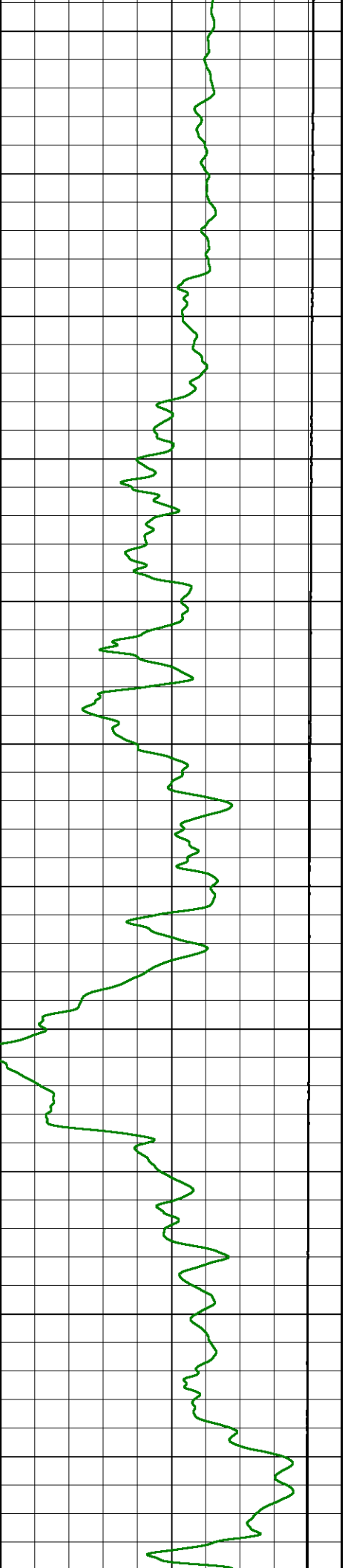
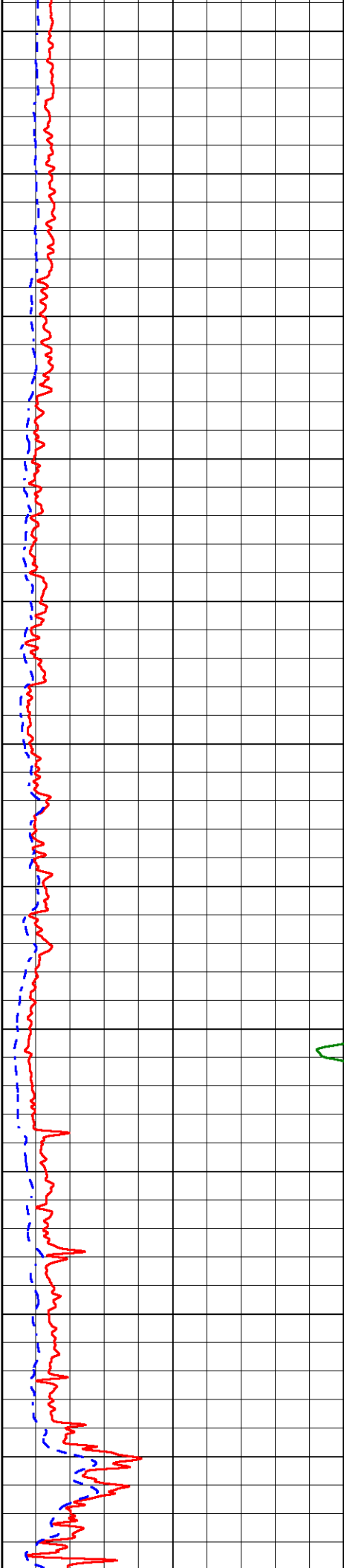


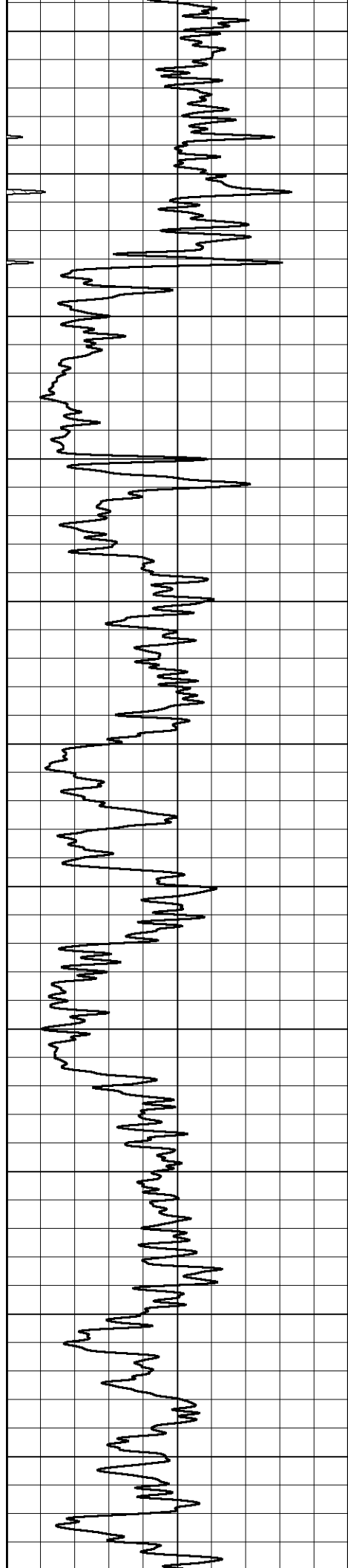
450
500
550
600
650
700
750
800
850
900
950



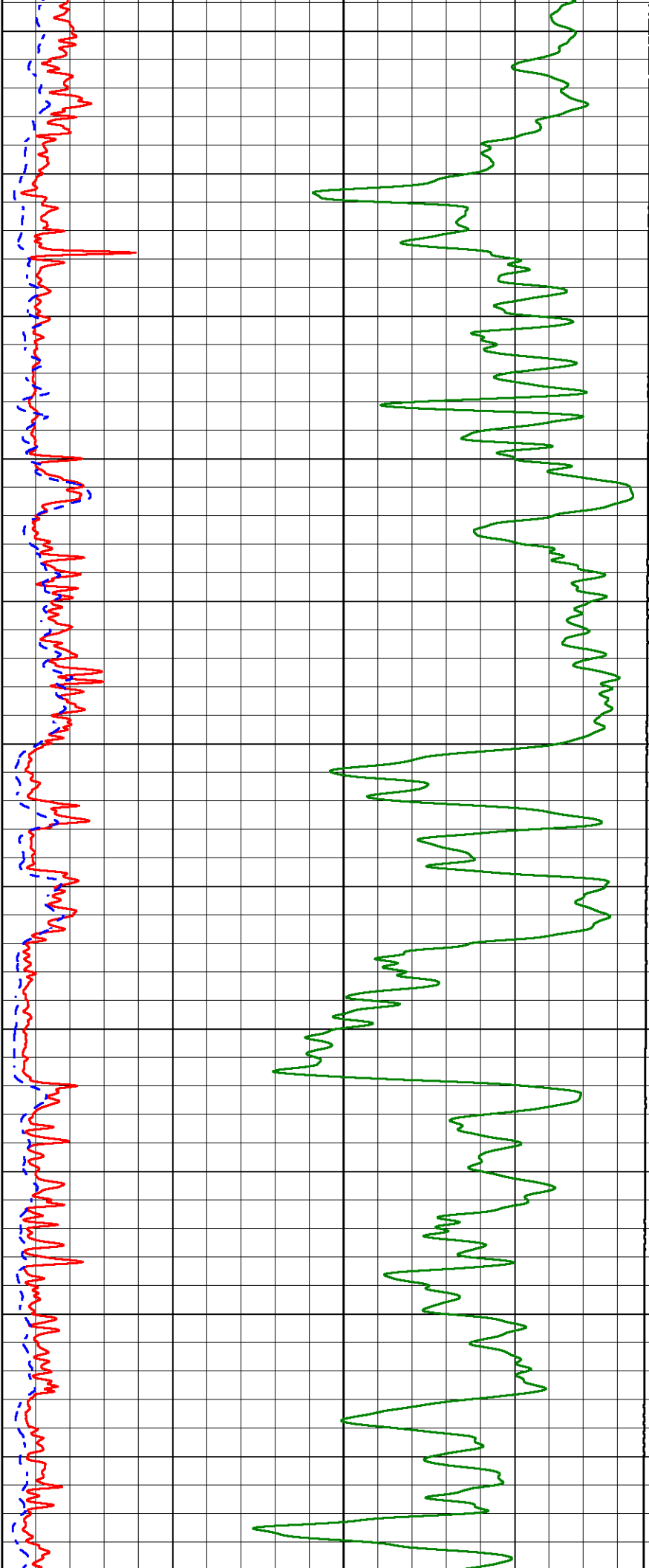


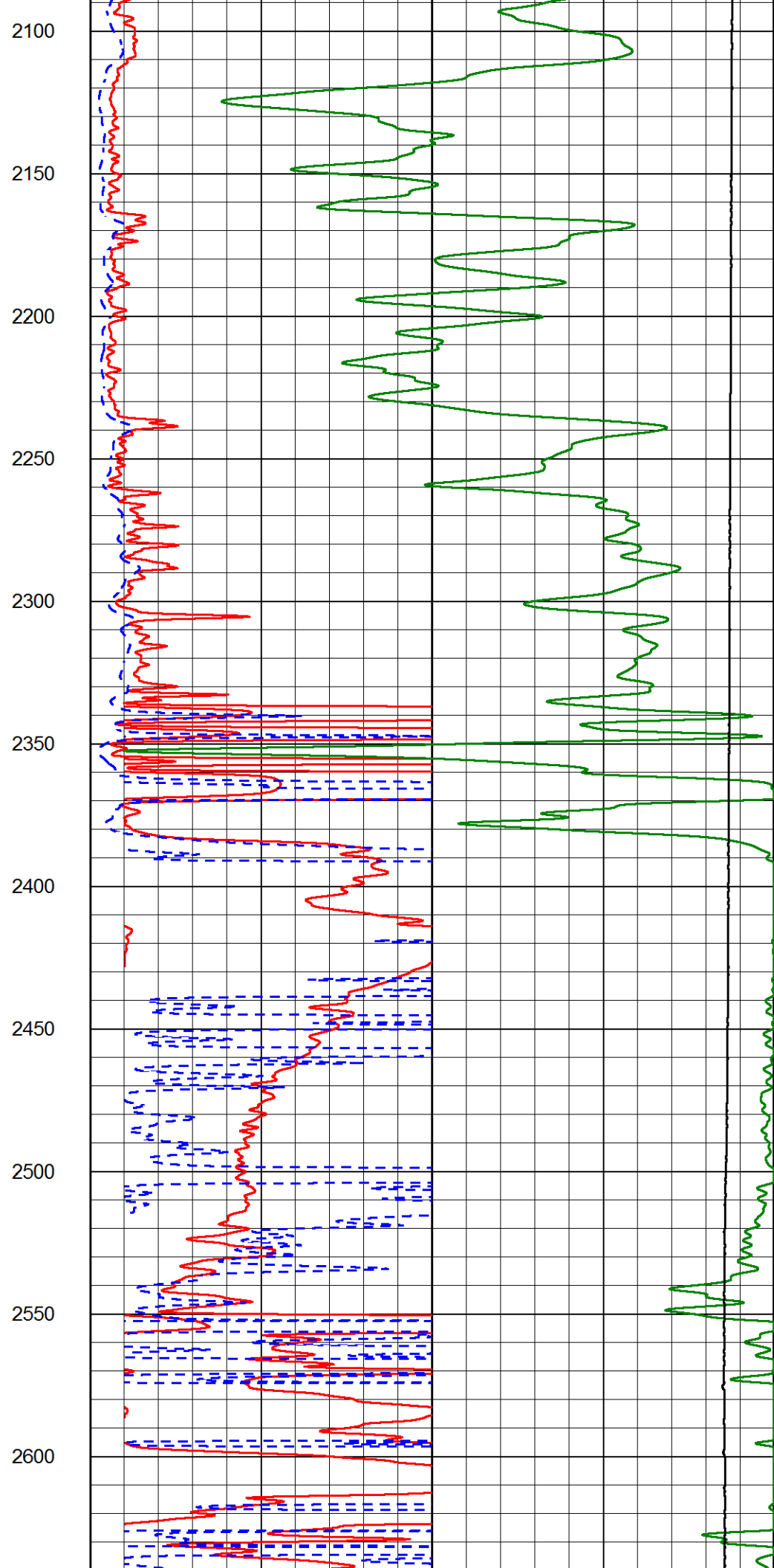
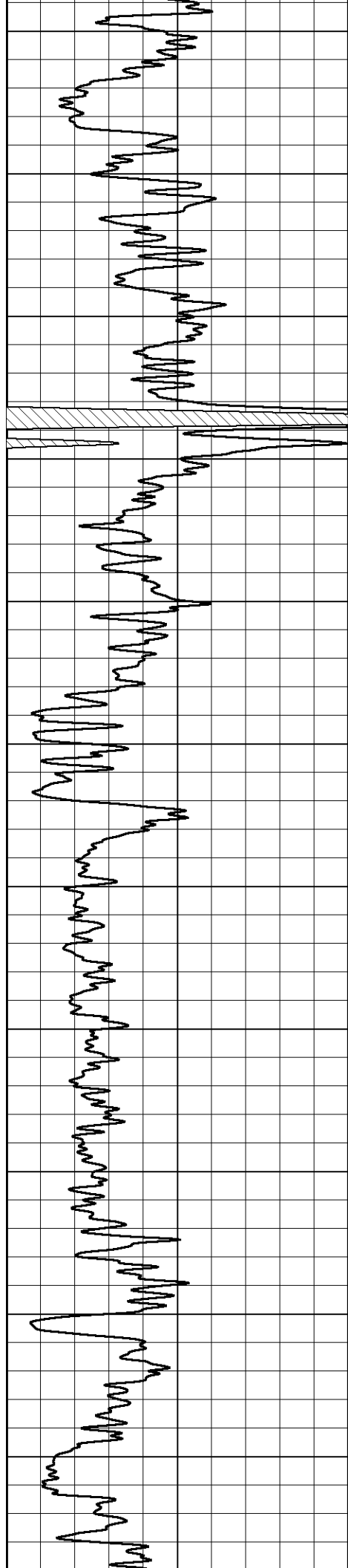
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

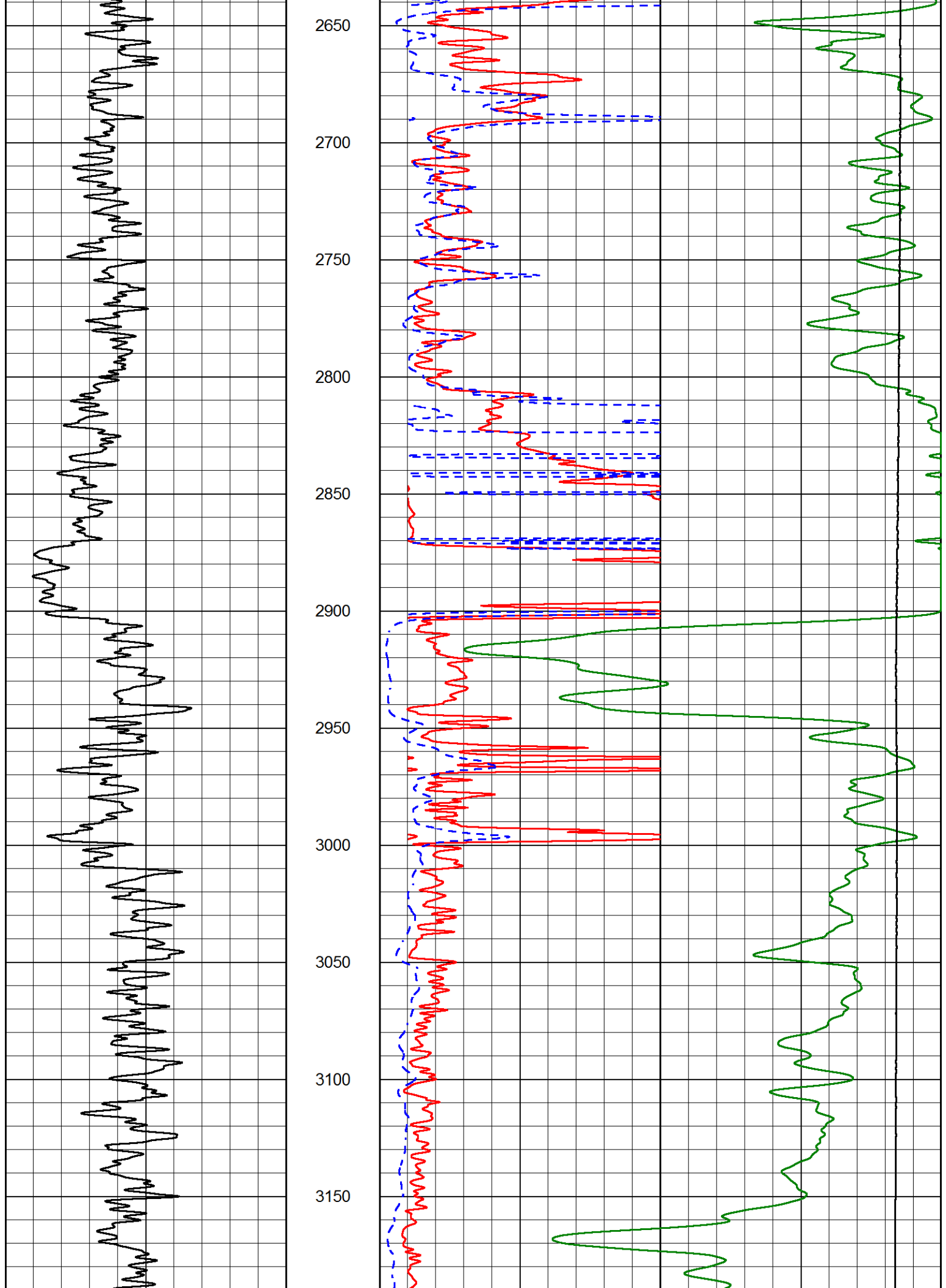


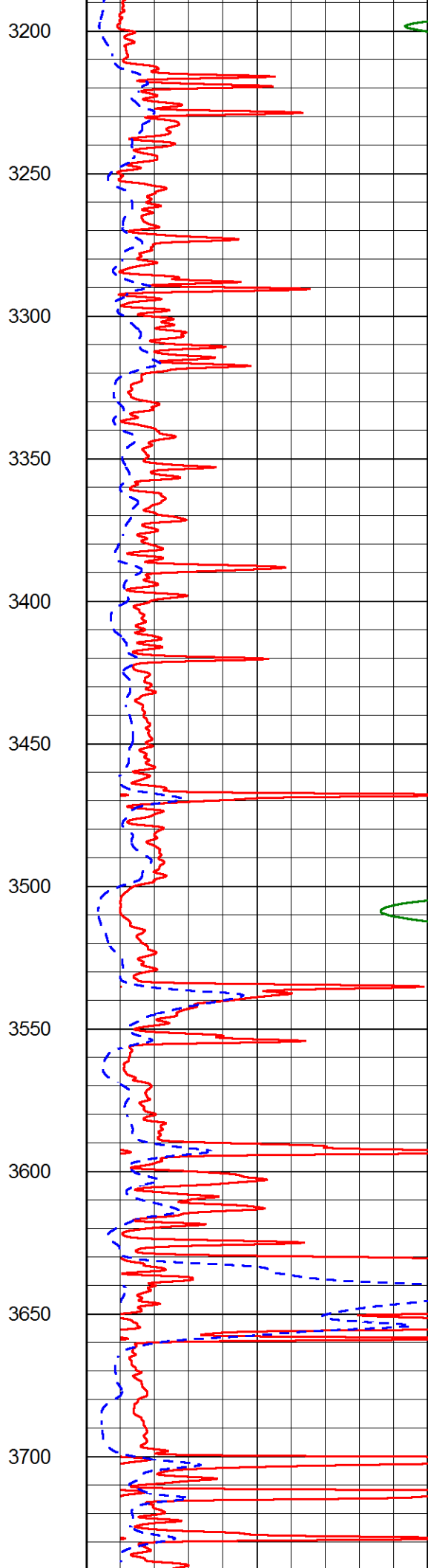
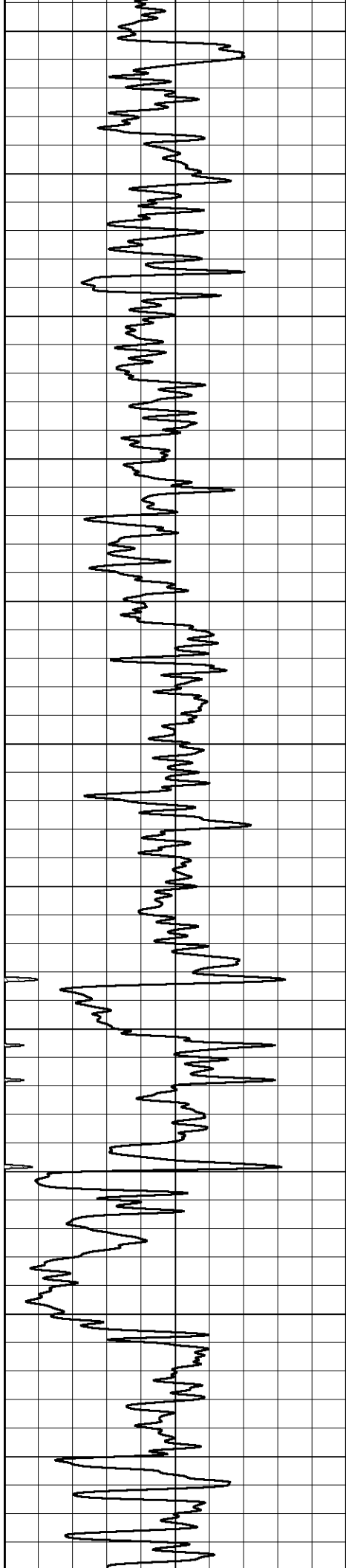


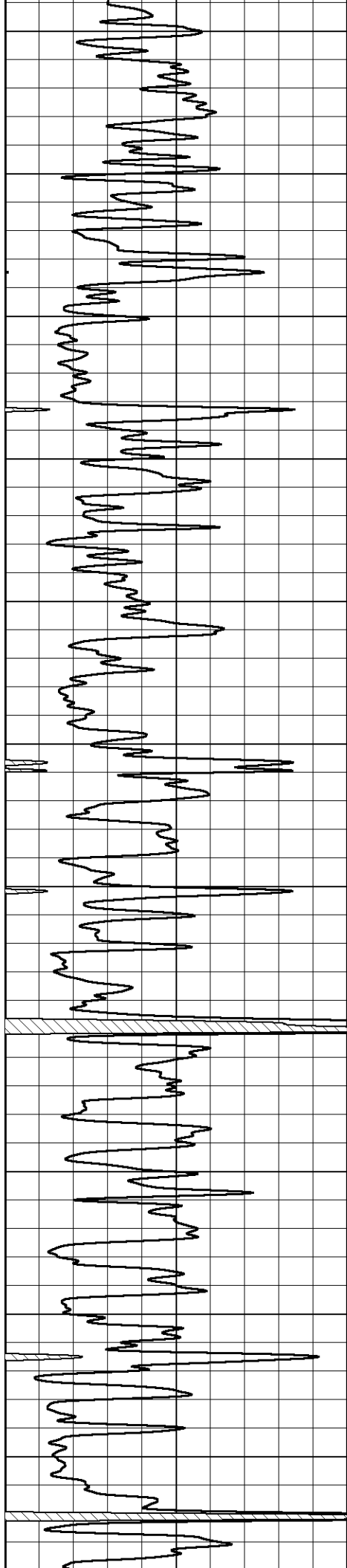
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050



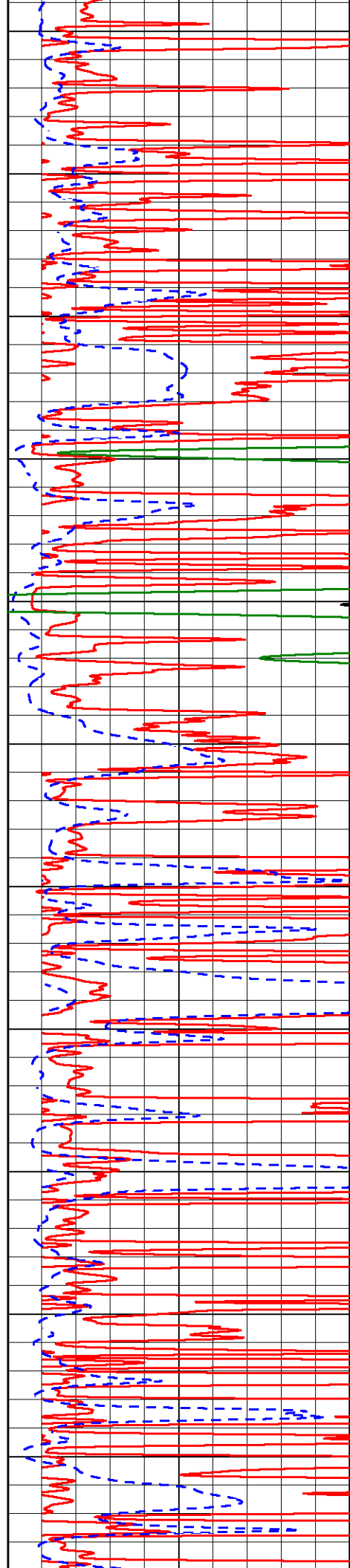


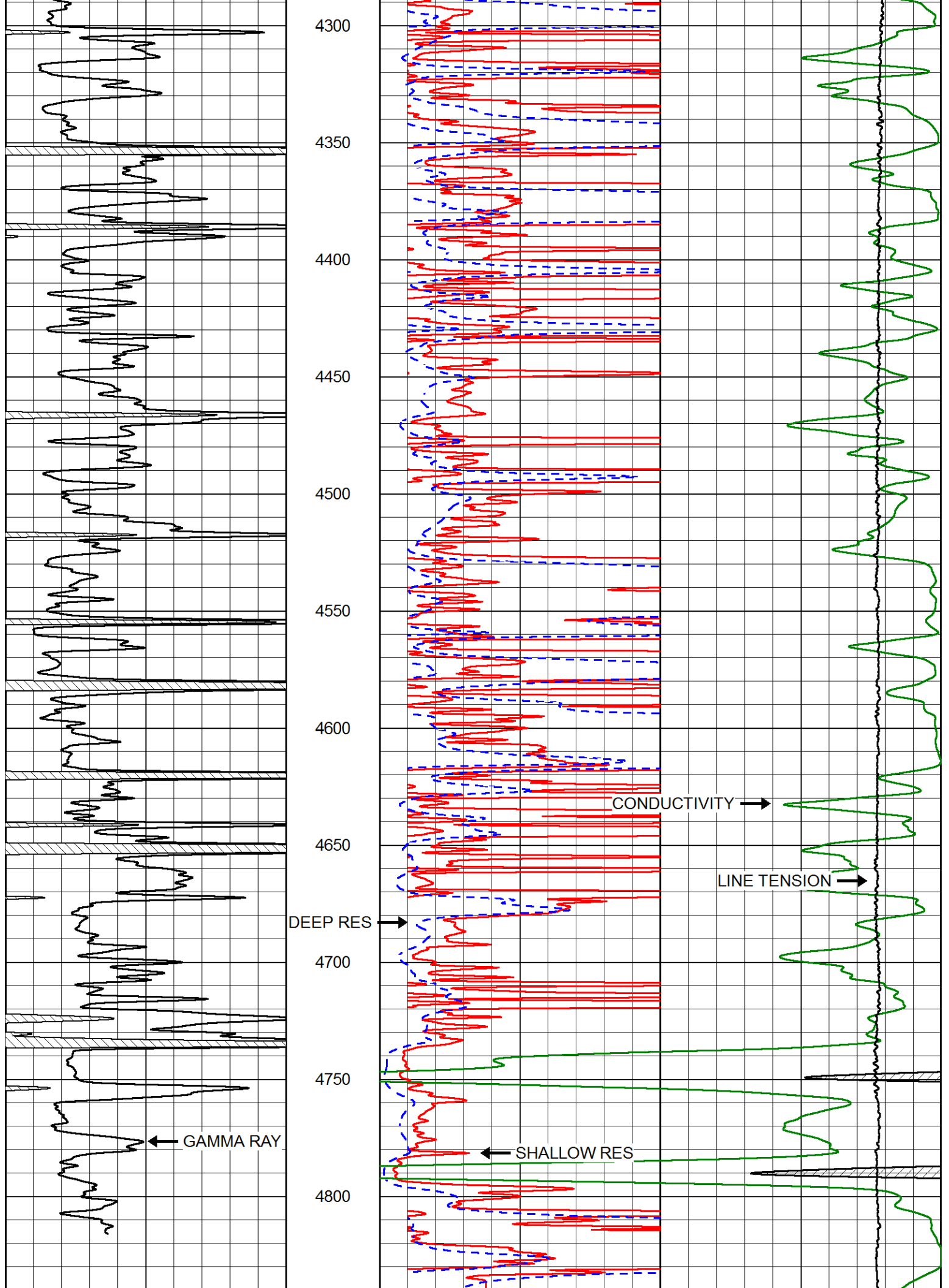


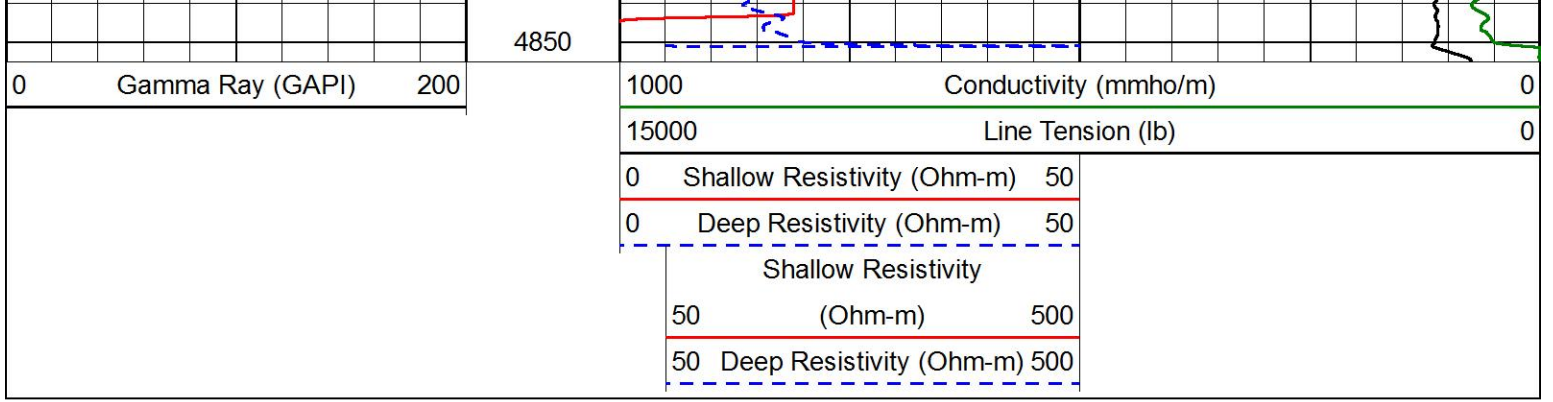




3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250

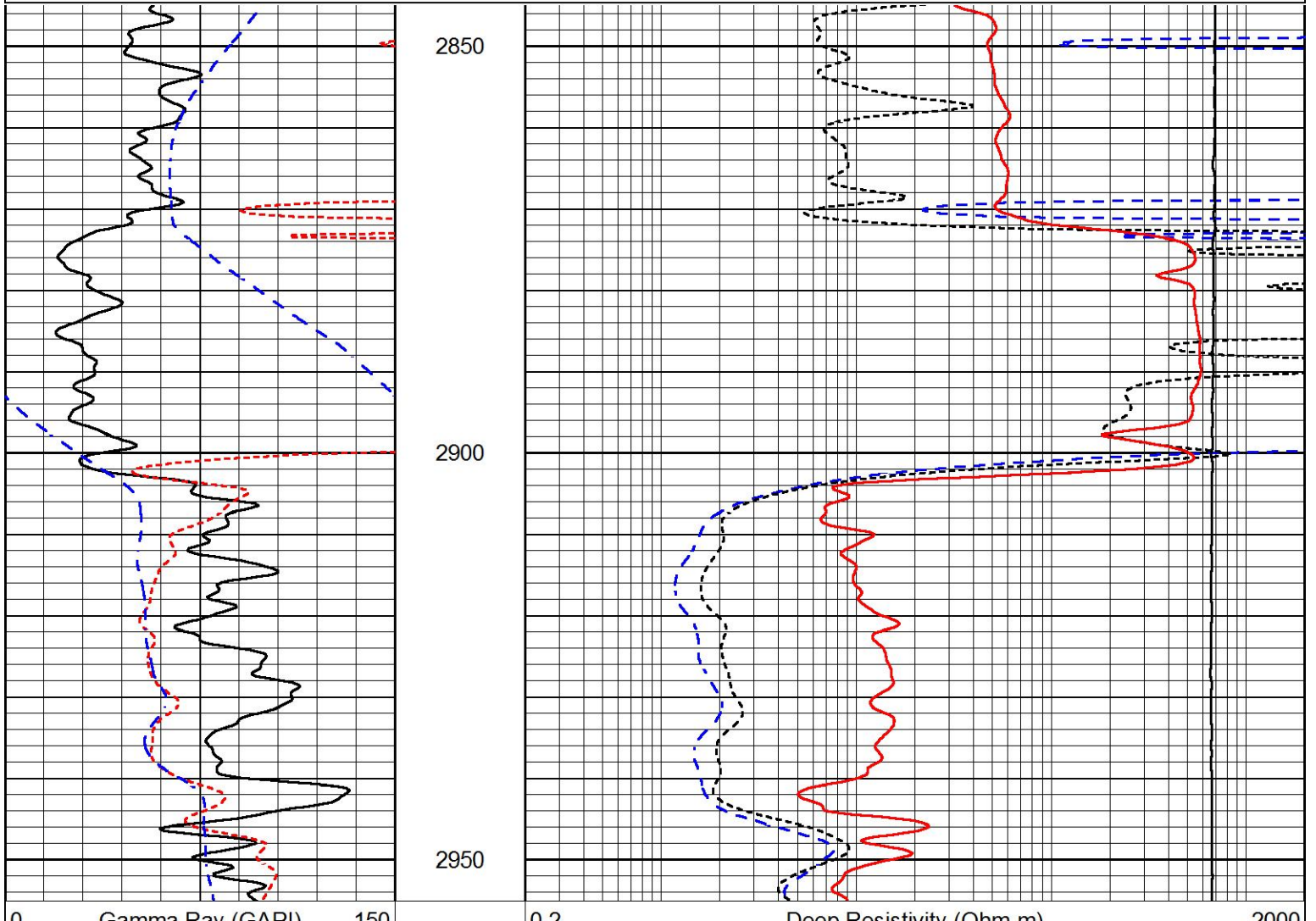
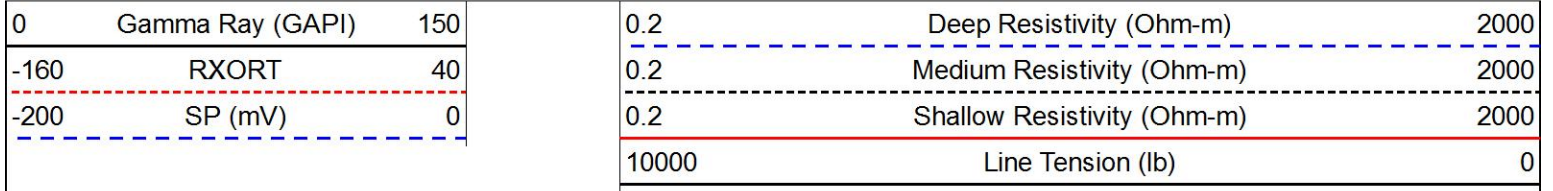






MAIN PASS

Database File val_horinek_1-12.db
 Dataset Pathname stkml/pass3.1
 Presentation Format dil
 Dataset Creation Thu Nov 10 02:12:46 2016
 Charted by Depth in Feet scaled 1:240



0	Gamma Ray (GAPI)	150
-160	RXORT	40
-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

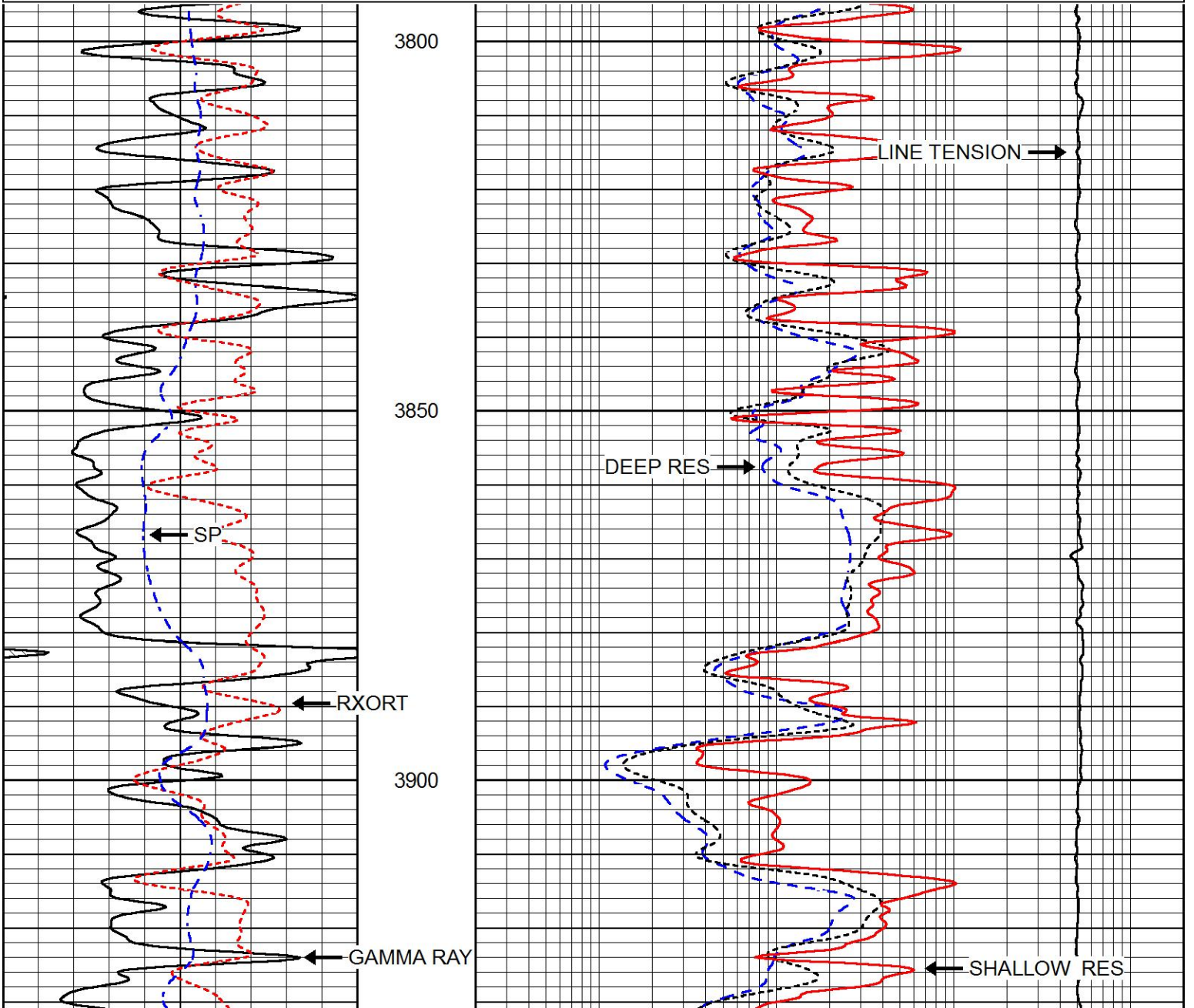


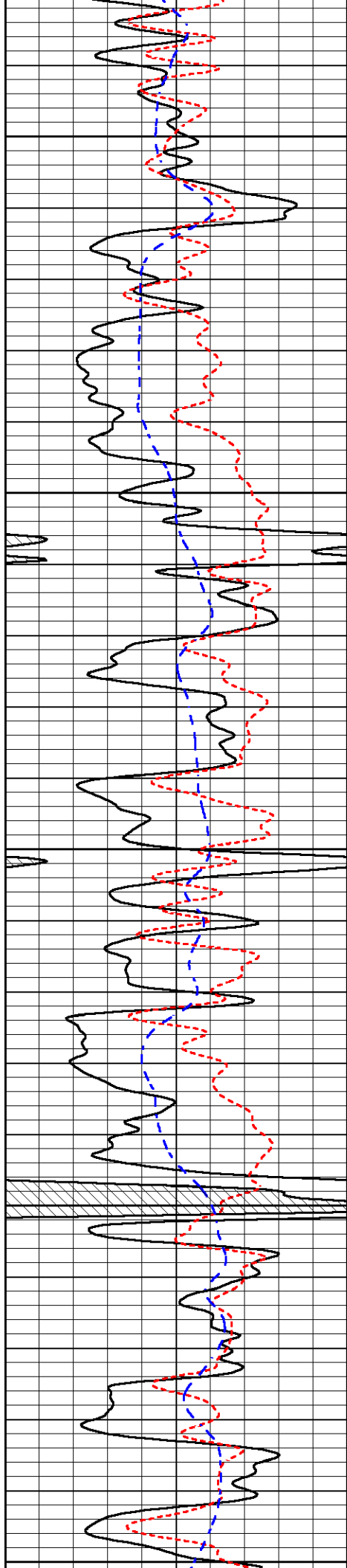
MAIN PASS

Database File val_horinek_1-12.db
 Dataset Pathname stkml/pass3.1
 Presentation Format dil
 Dataset Creation Thu Nov 10 02:12:46 2016
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-160	RXORT	40
-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





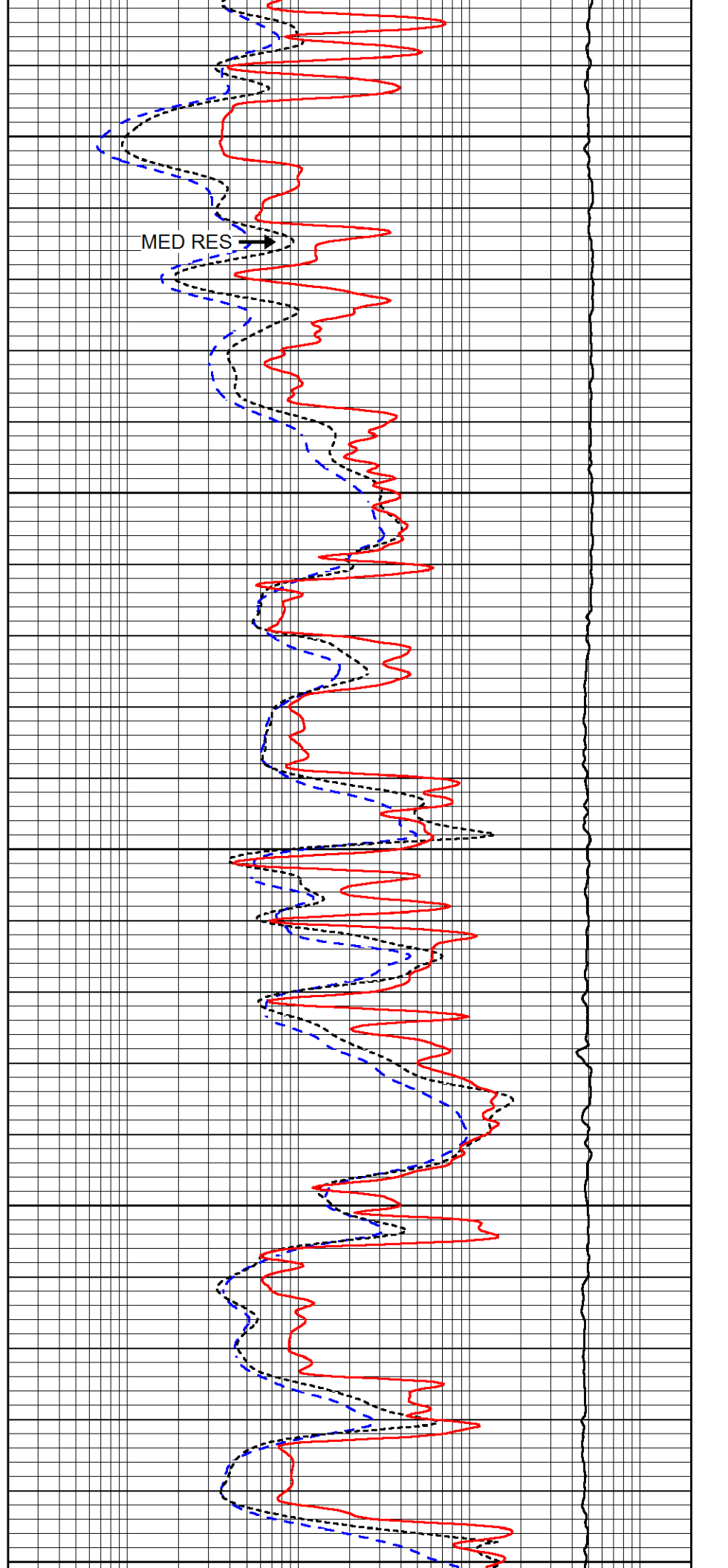
3950

4000

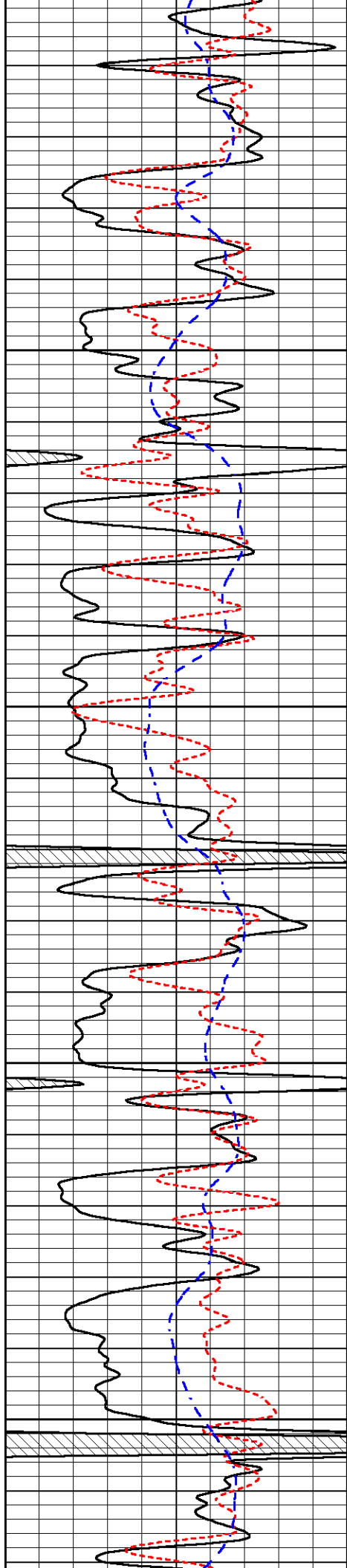
4050

4100

4150



MED RES →

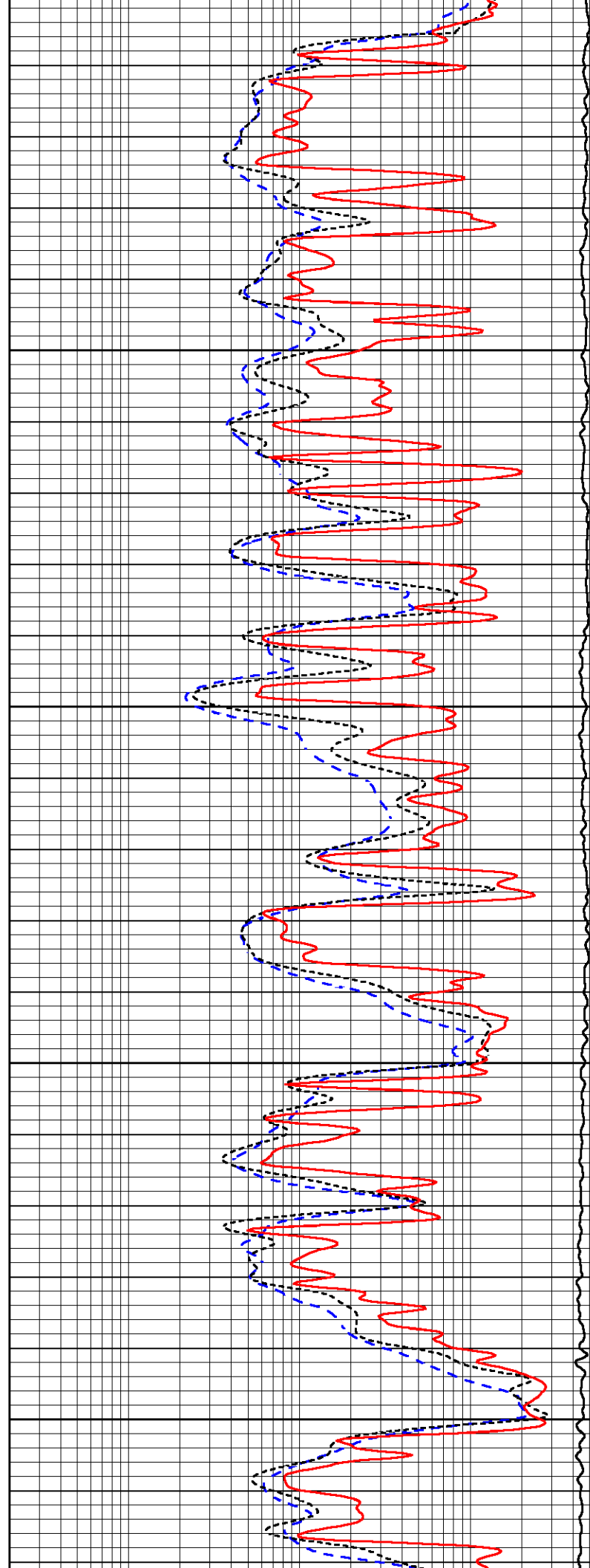


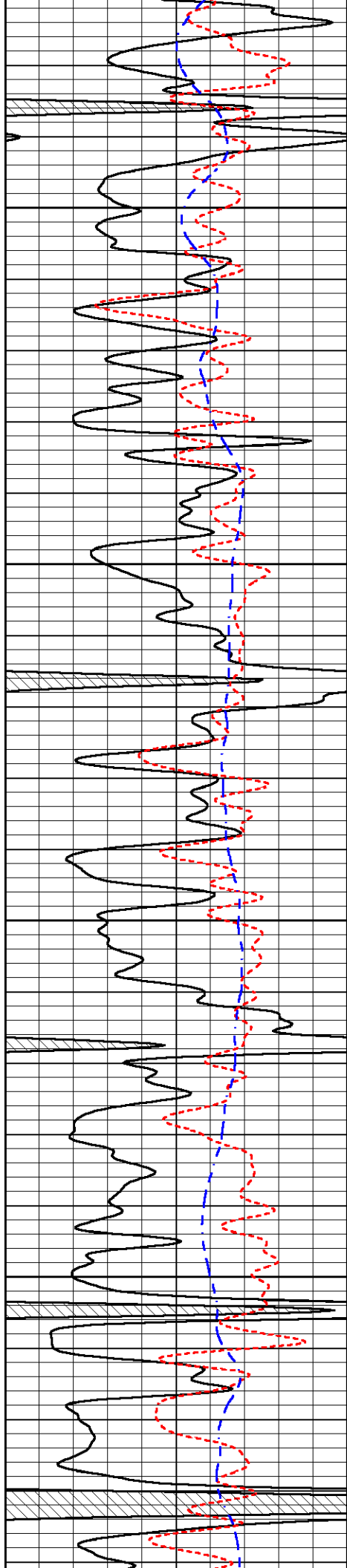
4200

4250

4300

4350



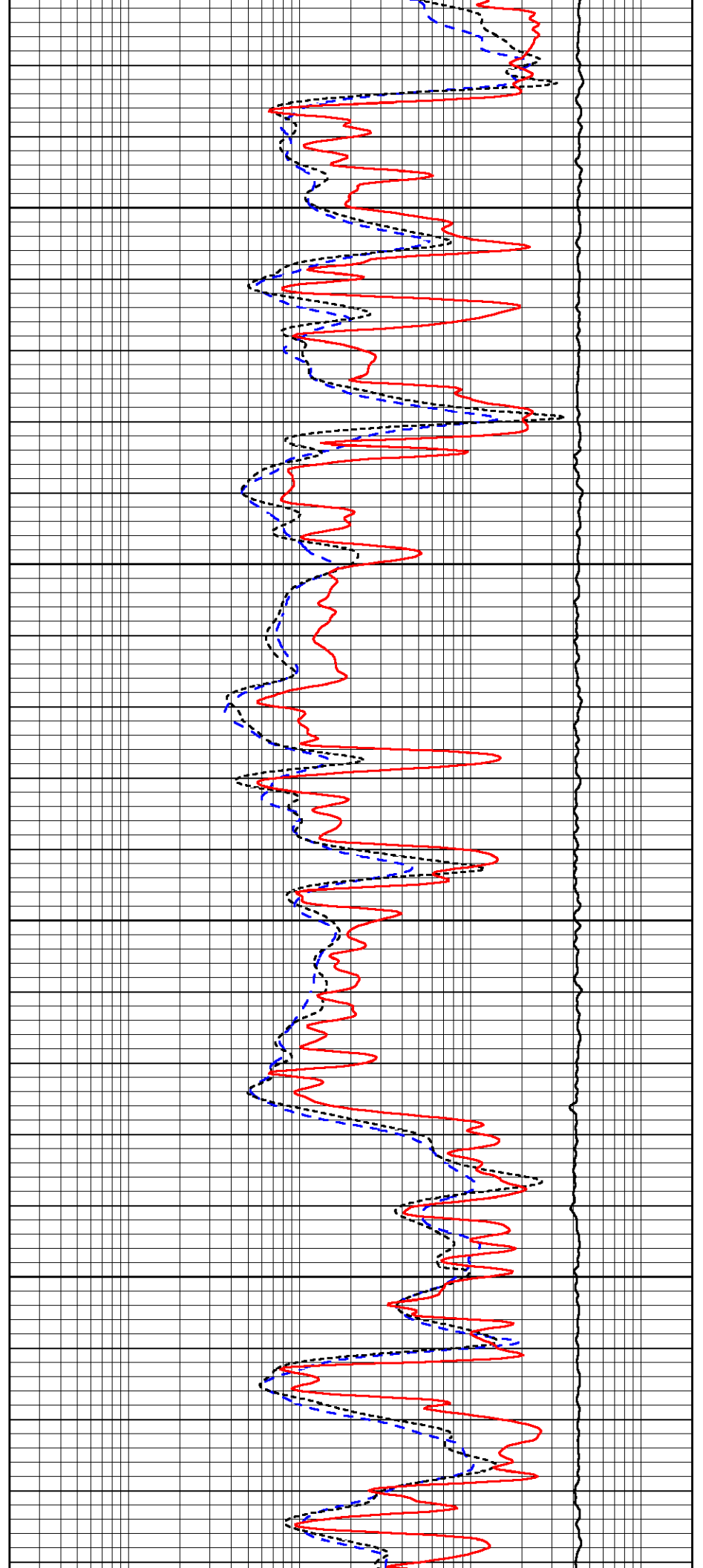


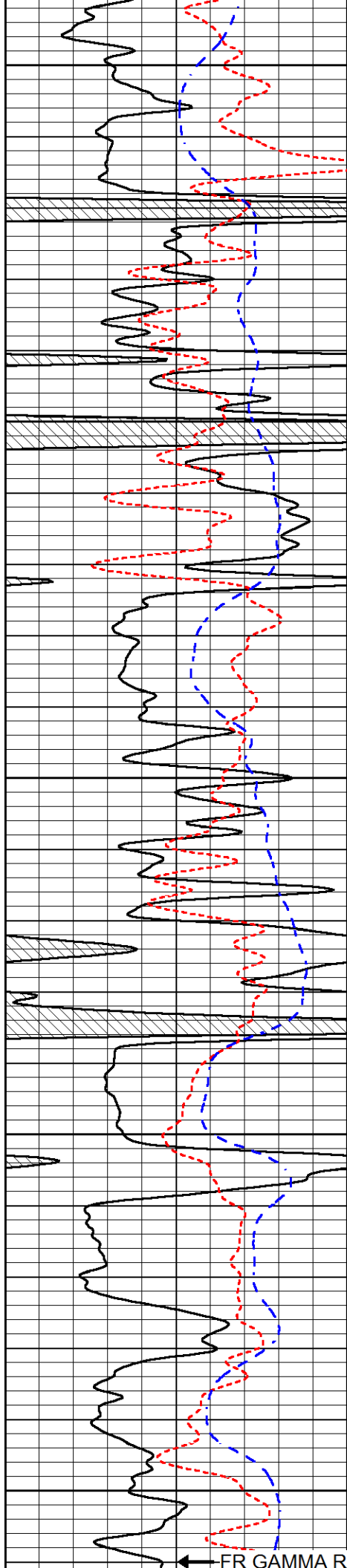
4400

4450

4500

4550





4600

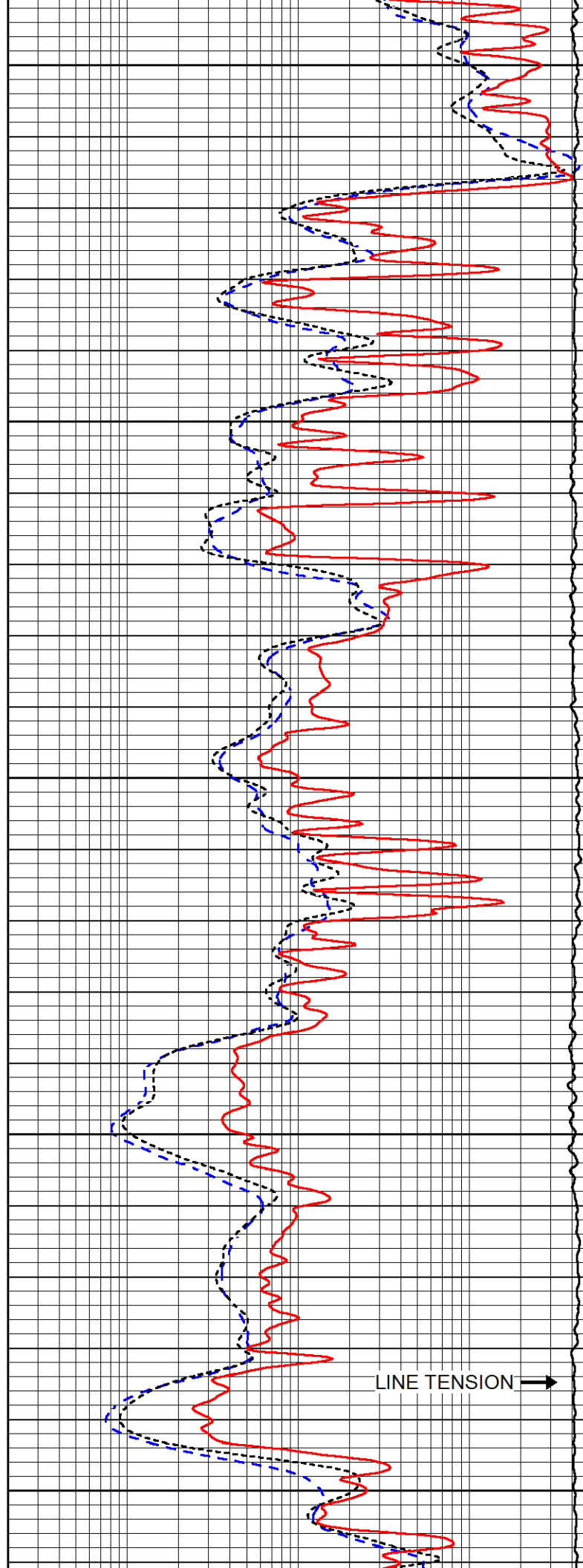
4650

4700

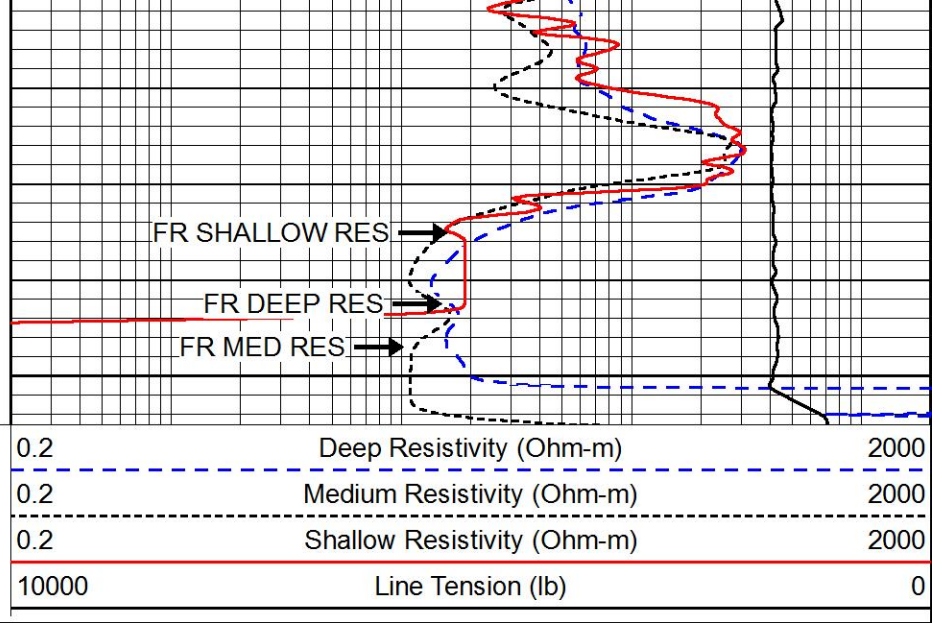
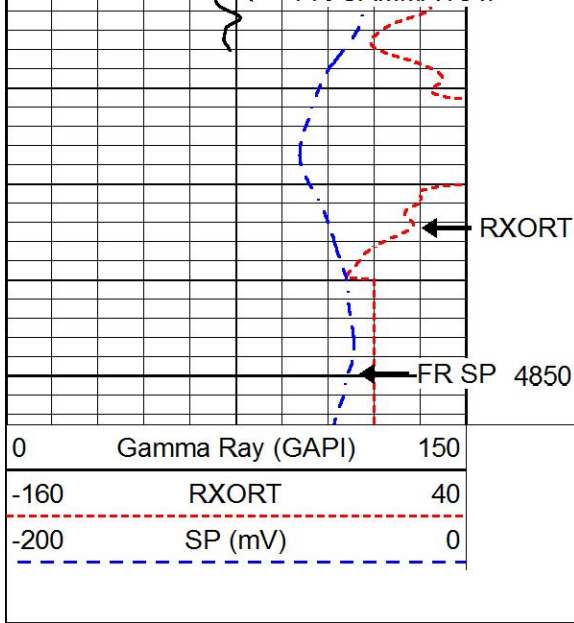
4750

4800

FR GAMMA RAY ←



LINE TENSION →

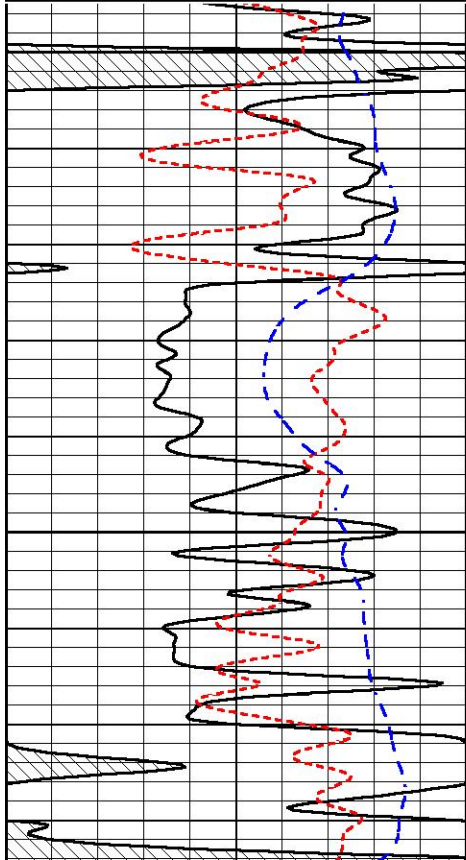


REPEAT SECTION

Database File val_horinek_1-12.db
 Dataset Pathname stkml/pass2.1
 Presentation Format dil
 Dataset Creation Thu Nov 10 01:52:25 2016
 Charted by Depth in Feet scaled 1:240

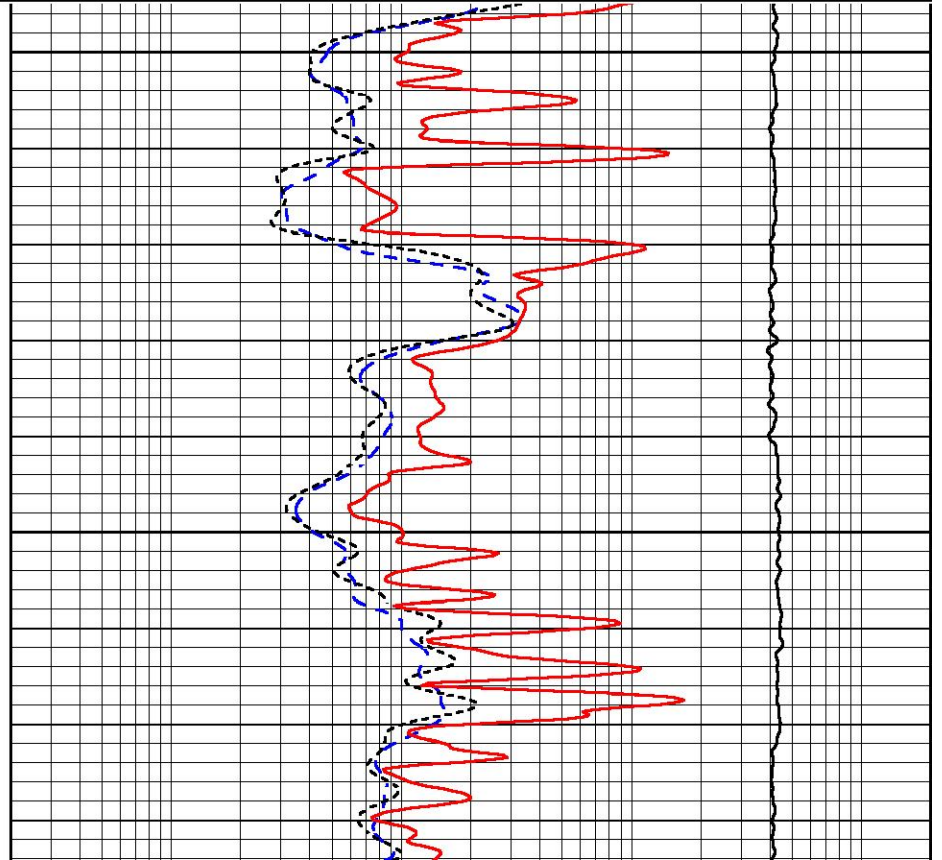
0	Gamma Ray (GAPI)	150
-160	RXORT	40
-200	SP (mV)	0

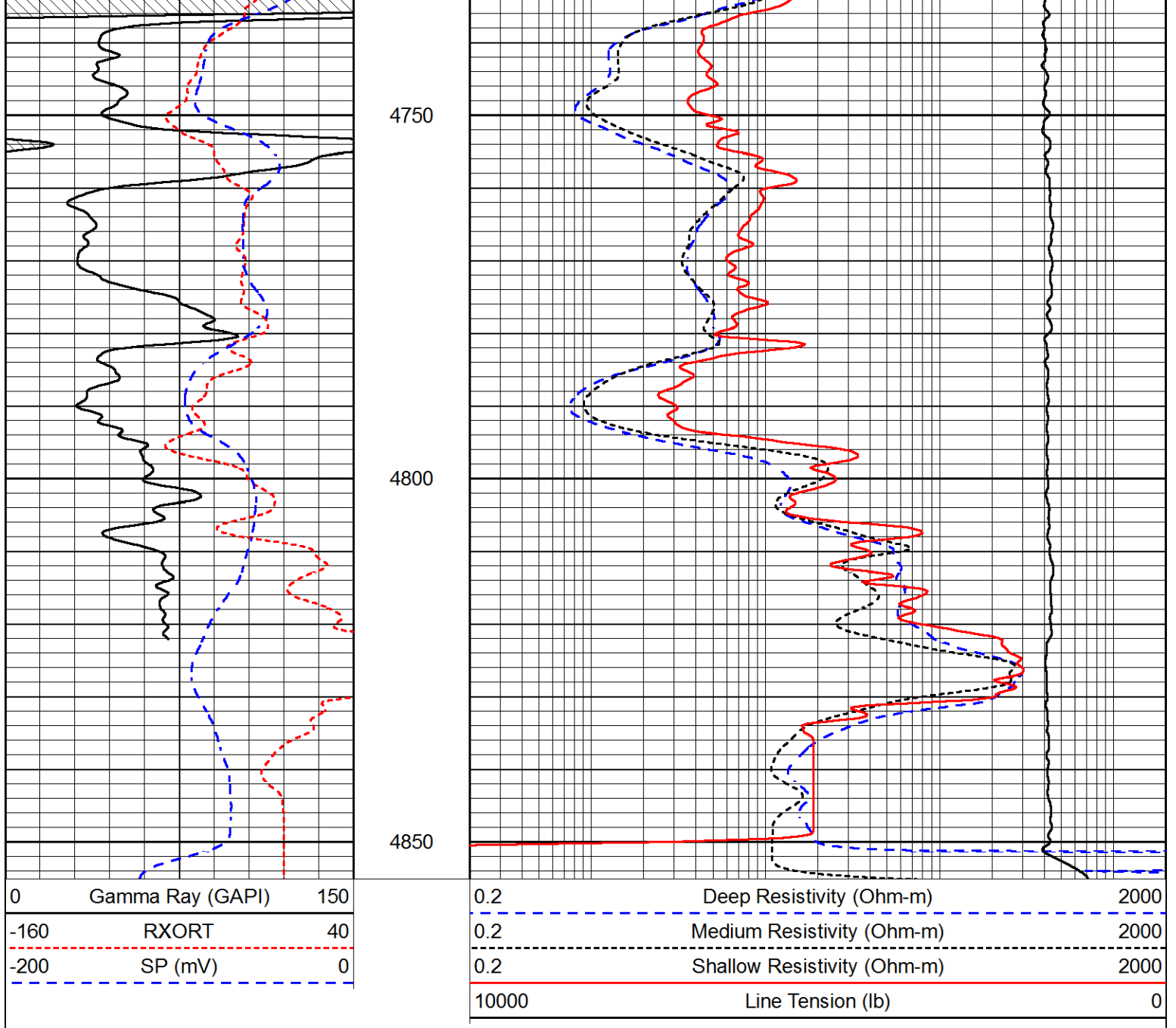
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0



4650

4700





Calibration Report

Database File val_horinek_1-12.db
 Dataset Pathname stkml/pass3.6
 Dataset Creation Thu Nov 10 01:43:11 2016

Dual Induction Calibration Report

Serial-Model: PSI 75-M&W-75
 Calibration Performed: Mon Nov 03 10:20:39 2014

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.620	-45.500
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.600	-15.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	50000.0000	-0.8000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	57500.0000	-0.5000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.6500

Compensated Density Calibration Report

Serial-Model: 90-1031-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Sun Oct 23 06:26:18 2016

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	5174.18	6425.27	cps
Aluminum	2.665	g/cc	963.17	4037.42	cps
Spine Angle = 74.55			Density/Spine Ratio = 0.522		
	Size		Reading		
Small Ring	6.00	in	1.83		
Large Ring	16.00	in	1.48		

Compensated Neutron Calibration Report

Serial Number: 207-MW
 Tool Model: M&W
 Calibration Performed: Wed Sep 28 10:30:30 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
 Tool Model: M&W
 Calibration Performed: Thu Nov 10 00:16:26 2016

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 1.0800 GAPI/cps



PIONEER

Pioneer Energy Services

Company VAL ENERGY, INC.
 Well HORINEK #1-2
 Field UNKNOWN
 County THOMAS
 State KANSAS

