



DUAL INDUCTION LOG

Pioneer Energy Services

Company **CARMEN SCHMITT, INC**
 Well **WP UNIT NO. 4-7**
 Field **N/A**
 County **TREGO** State **KANSAS**

Company **CARMEN SCHMITT, INC**
 Well **WP UNIT NO. 4-7**
 Field **N/A**
 County **TREGO**
 State **KANSAS**

Location: **775' FSL & 1690' FWL**
SEC 7 TWP 14S RGE 25W
 Permanent Datum **GROUND LEVEL Elevation 2430'**
 Log Measured From **KELLY BUSHING**
 Drilling Measured From **KELLY BUSHING**
 Other Services **CNL/CDL MEL**
 Elevation **K.B. 2435'**
D.F. N/A
G.L. 2430'

Date	12/12/2017
Run Number	ONE
Depth Driller	4360'
Depth Logger	4360'
Bottom Logged Interval	4359'
Top Log Interval	200'
Casing Driller	8.625" @ 218'
Casing Logger	214'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	900
Density / Viscosity	9.2 53
pH / Fluid Loss	10.5 6.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.0 @ 54
Rmt @ Meas. Temp	.75 @ 54
Rmc @ Meas. Temp	1.35 @ 54
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.45 @ 120
Operating Rig Time	2 HOURS
Max Rec. Temp. F	120 DEGF
Equipment Number	108
Location	HAYS
Recorded By	J. HENRICKSON
Witnessed By	BRAD RINE

<<< 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.
 COLLYER KANSAS
 12 1/2 SOUTH, 3/4 WEST, NORTH INTO

Log Measured From: **KELLY BUSHING** 5 Ft. Above Permanent Datum

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

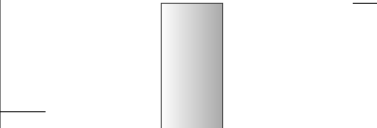
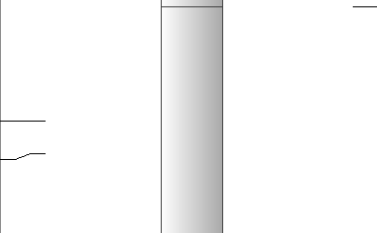
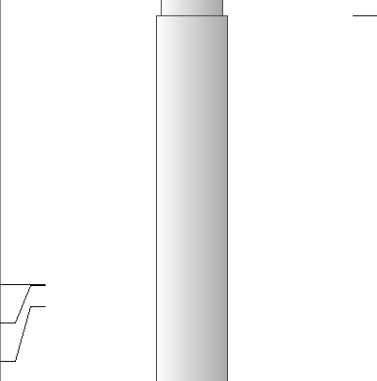
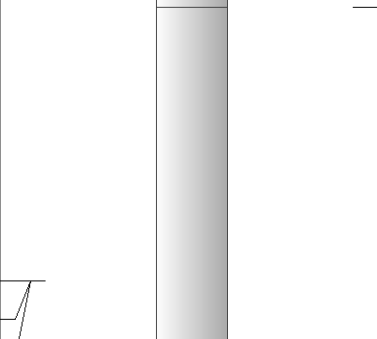
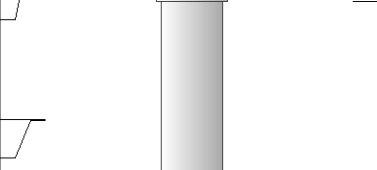
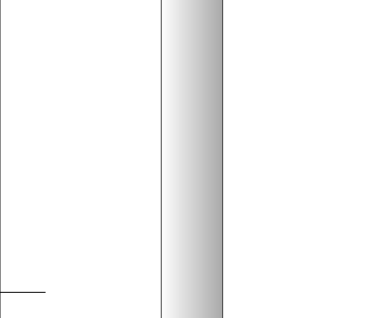
Your Pioneer Energy Services Crew Engineer: J. HENRICKSON Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: BRAD RINE Secondary Witness: Secondary Witness: Secondary Witness:
--	---

Log Variables

DatabaseC:\ProgramData\Warrior\Data\carmenschmitt_wp_unit_3_7.db
 Dataset field/well/stackml/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	120	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	-365	0	Off	4360

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (168-986)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (PSI 978)	18.50	3.50	220.00

CILM 4.70

SP 0.20

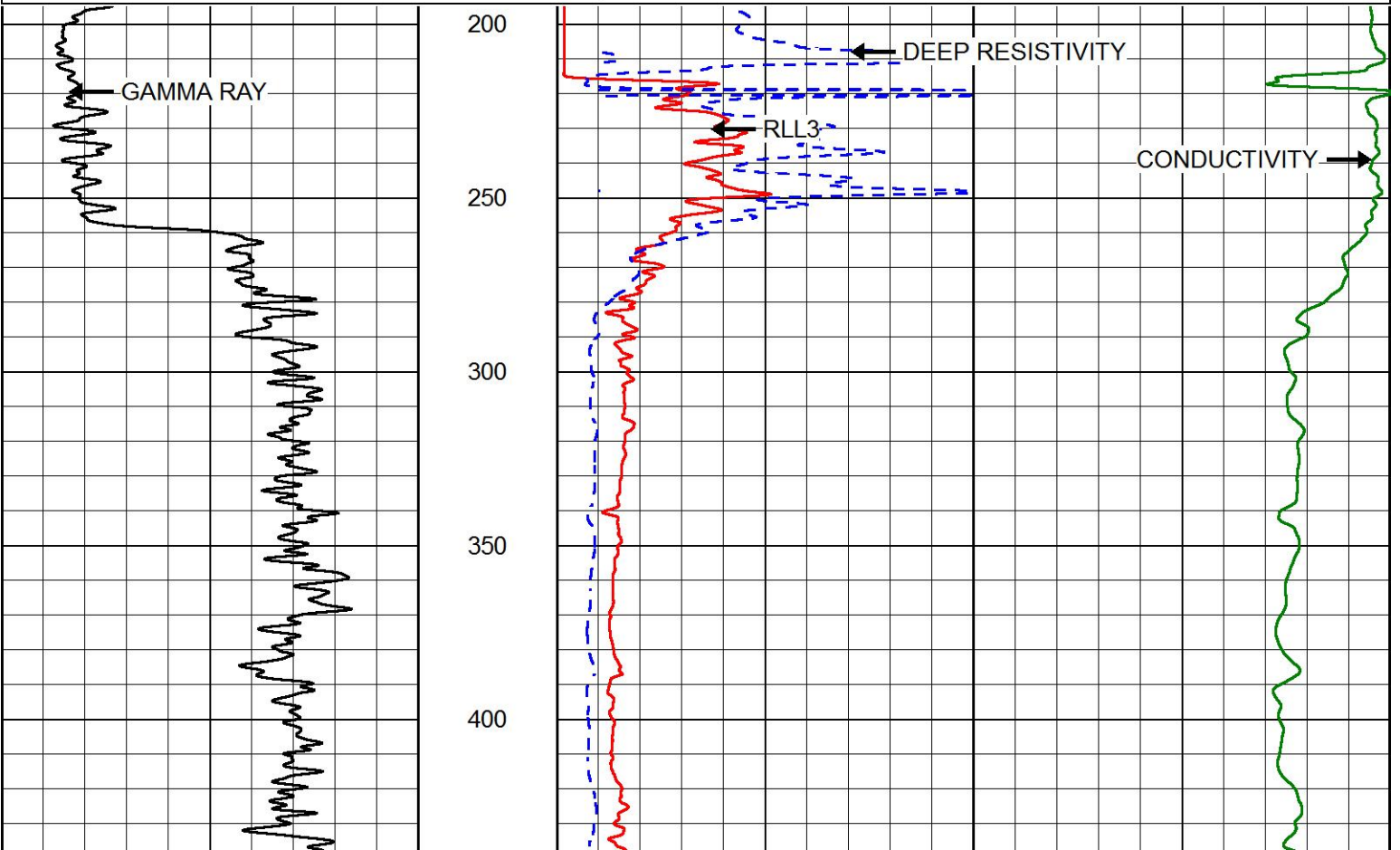
Dataset: carmenschmitt_wp_unit_3_7.db: field/well/stackml/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

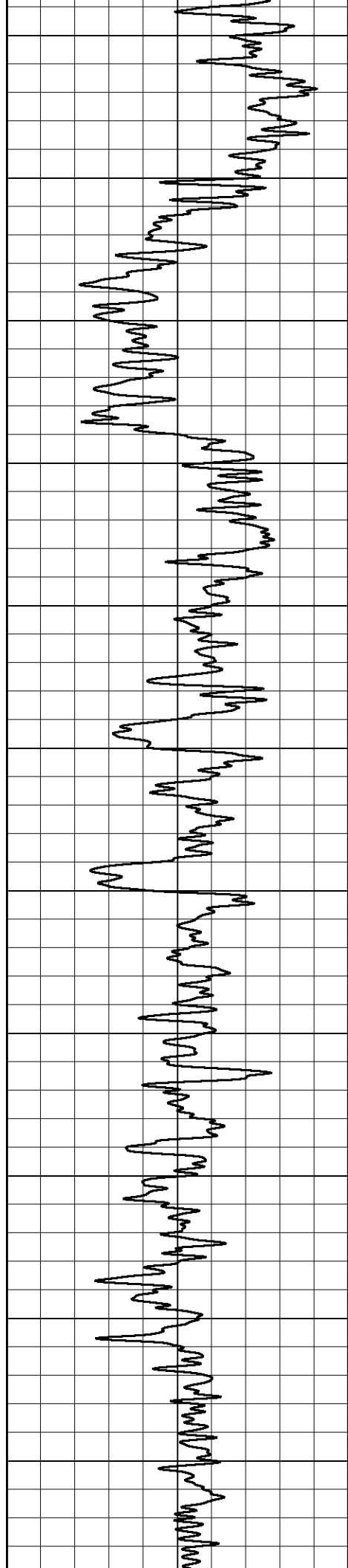


MAIN PASS

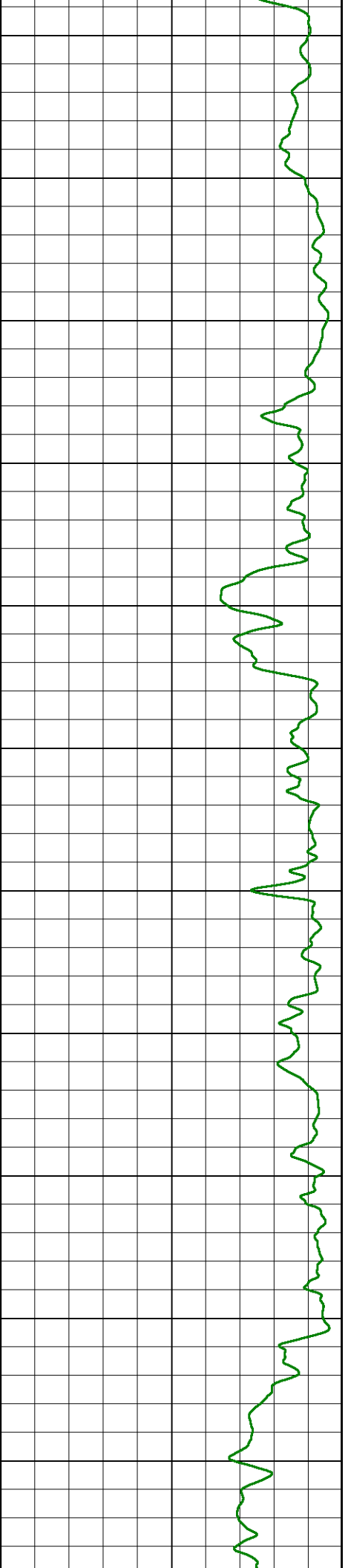
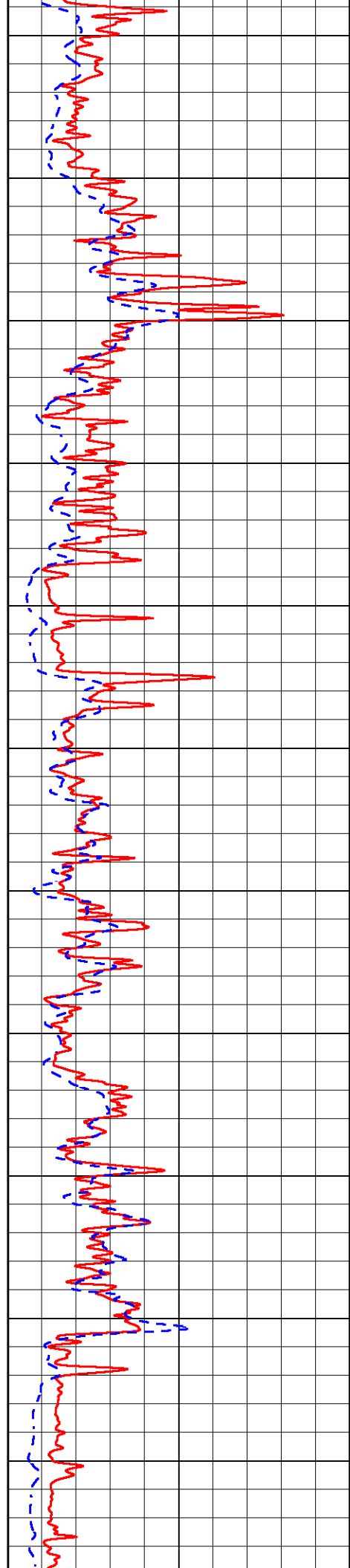
Database File carmenschmitt_wp_unit_3_7.db
 Dataset Pathname stackml/pass3.1
 Presentation Format dil2in
 Dataset Creation Tue Dec 12 05:32:38 2017
 Charted by Depth in Feet scaled 1:600

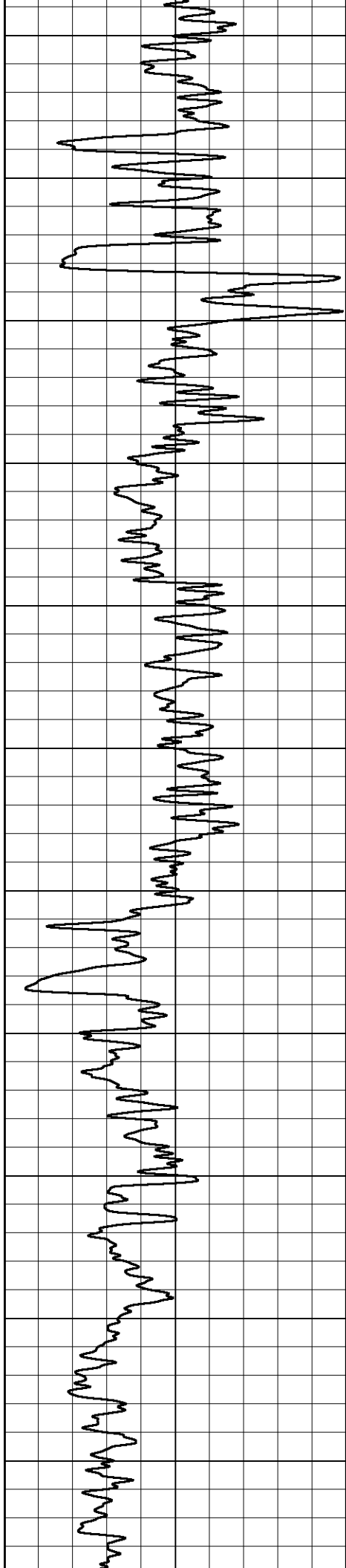
0	GAMMA RAY (GAPI)	150	2000	CONDUCTIVITY (mmho/m)	0
			0	RLL3 (Ohm-m)	50
			0	DEEP RESISTIVITY (Ohm-m)	50
			50	RLL3 (Ohm-m)	500
				DEEP RESISTIVITY	
			50	(Ohm-m)	500



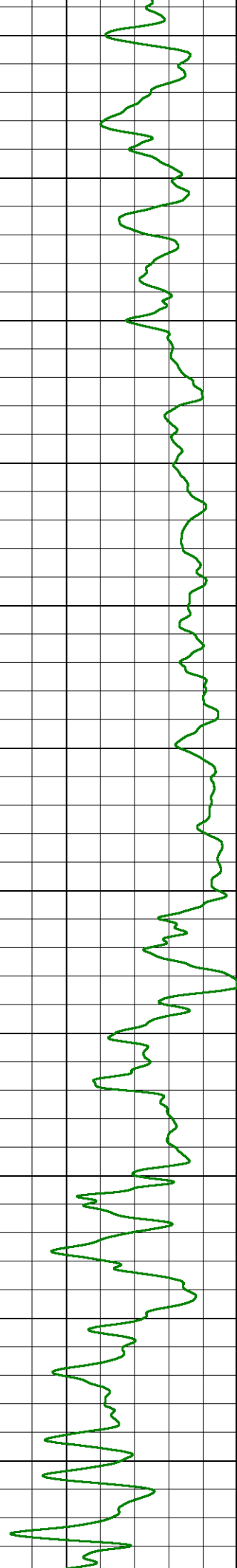
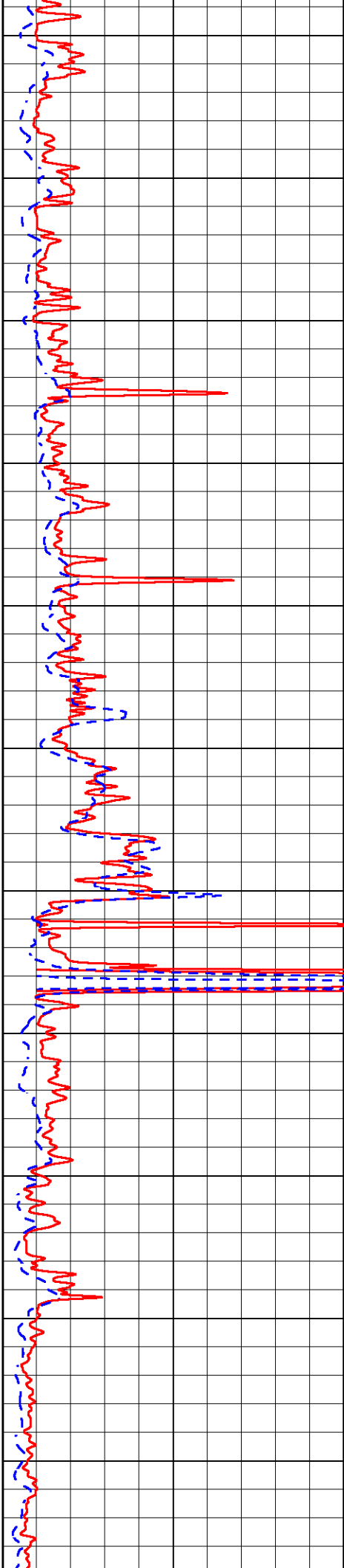


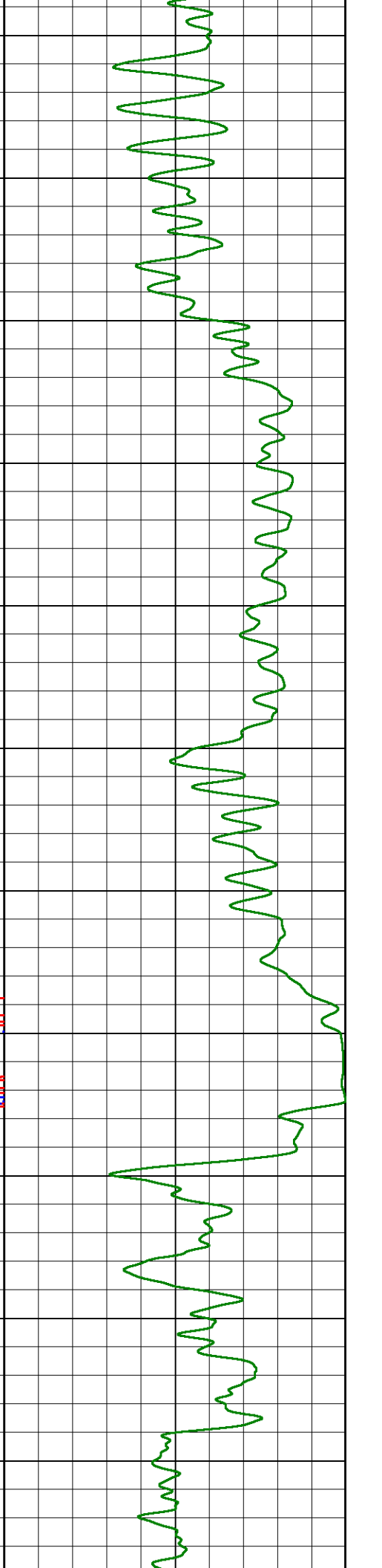
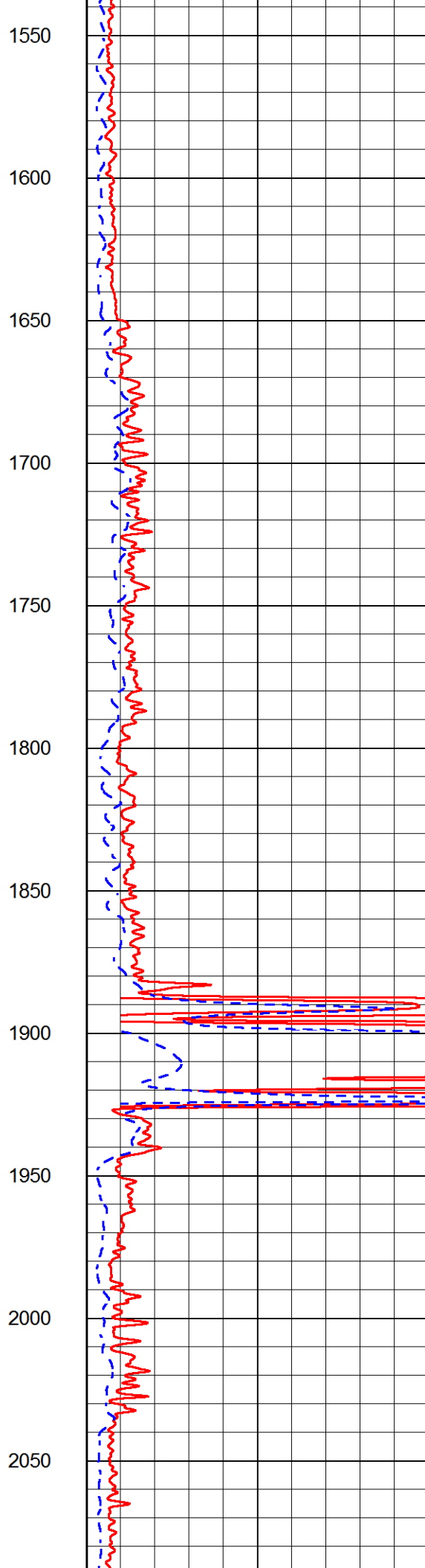
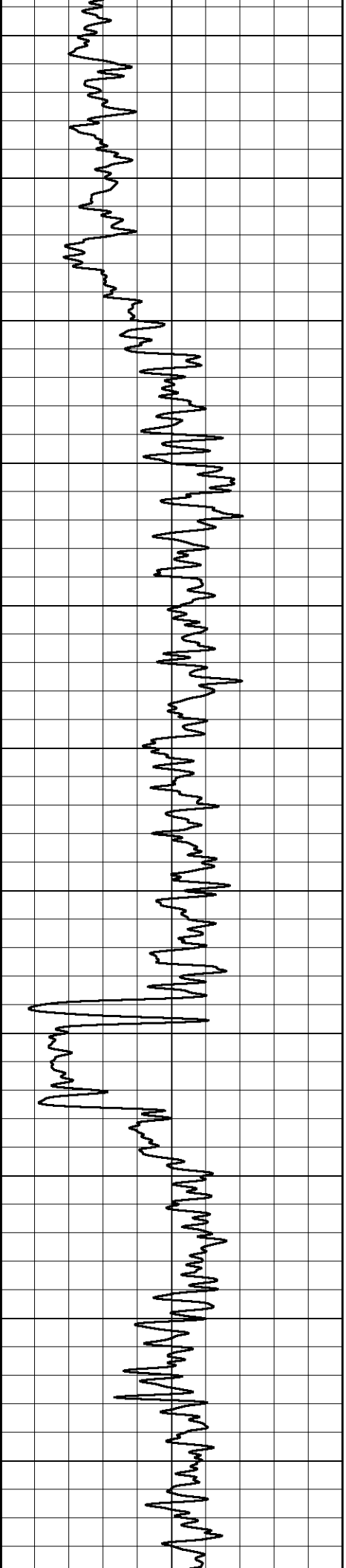
450
500
550
600
650
700
750
800
850
900
950

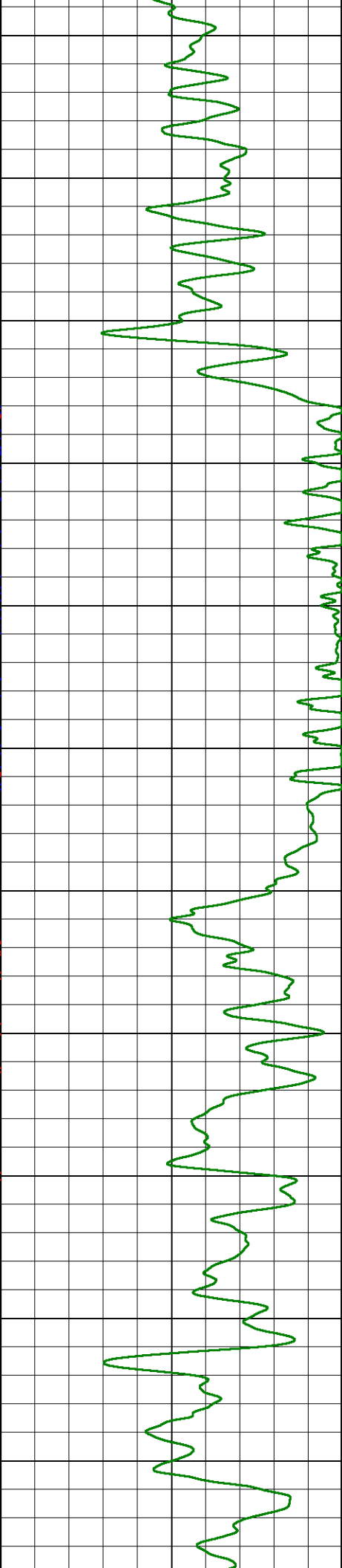
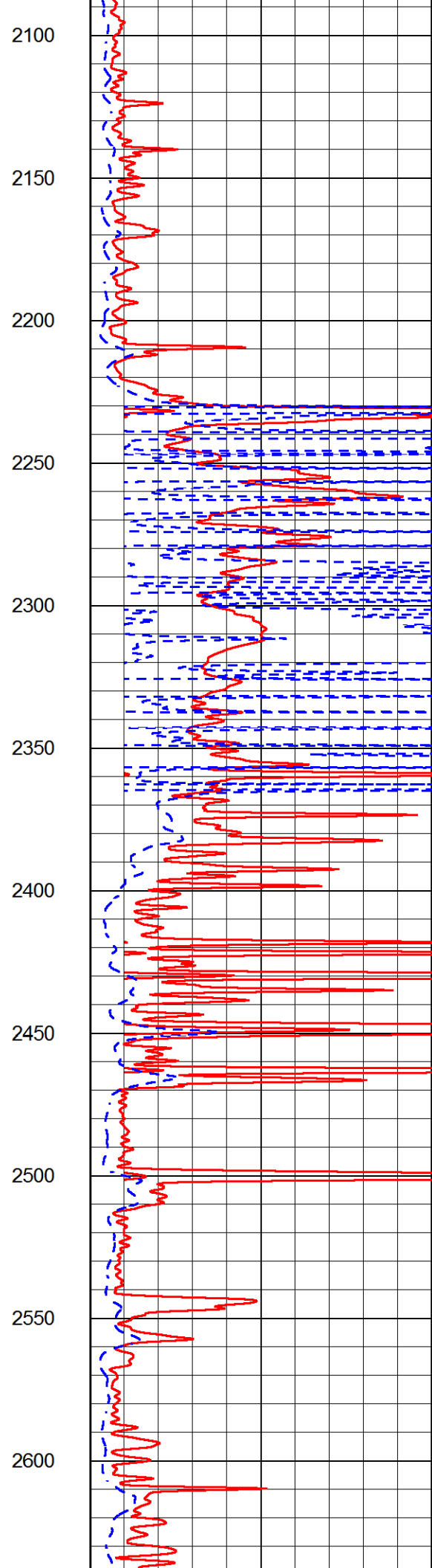
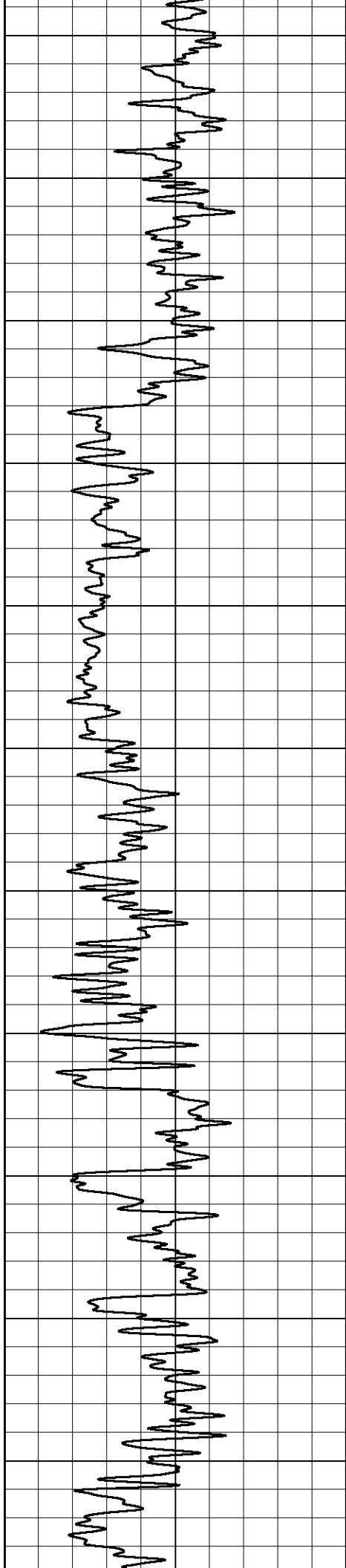


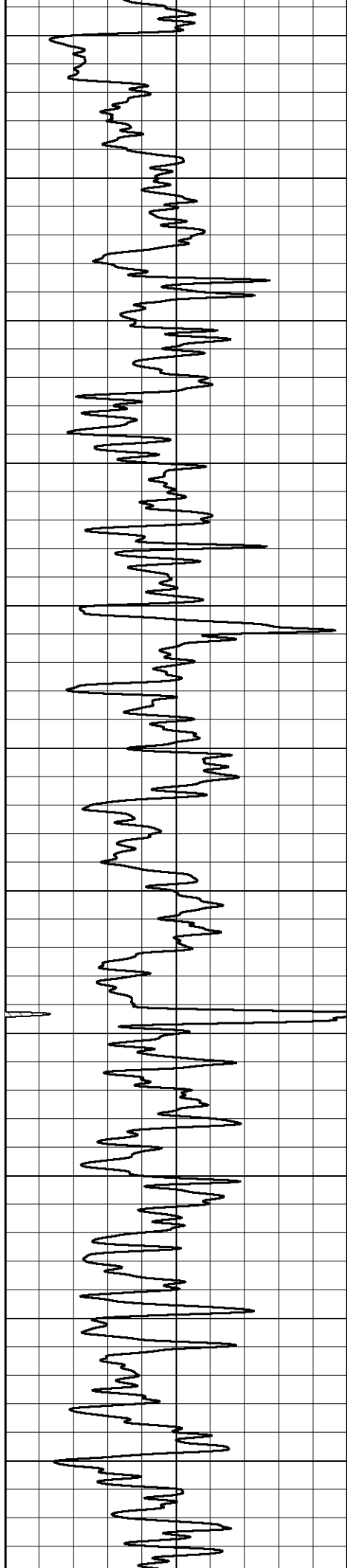


1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

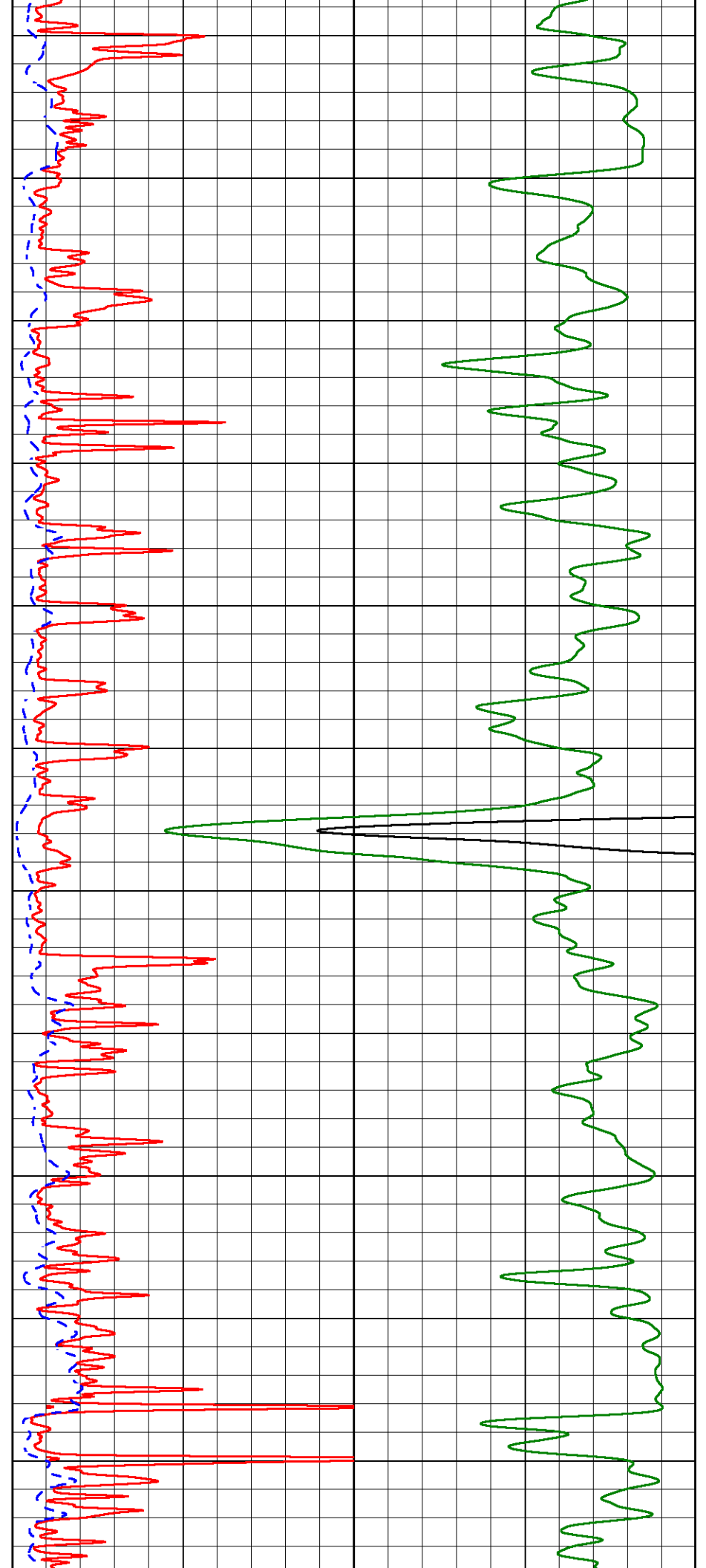


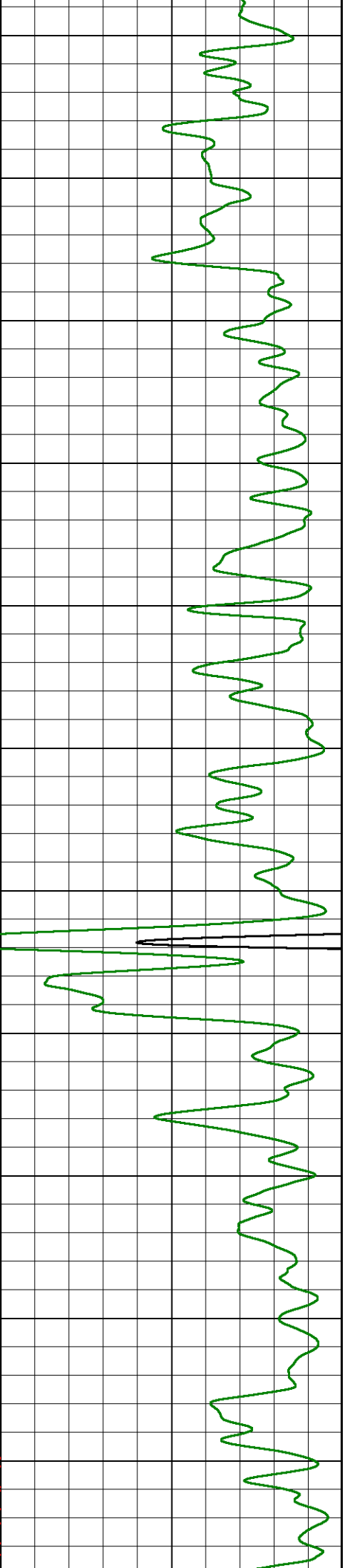
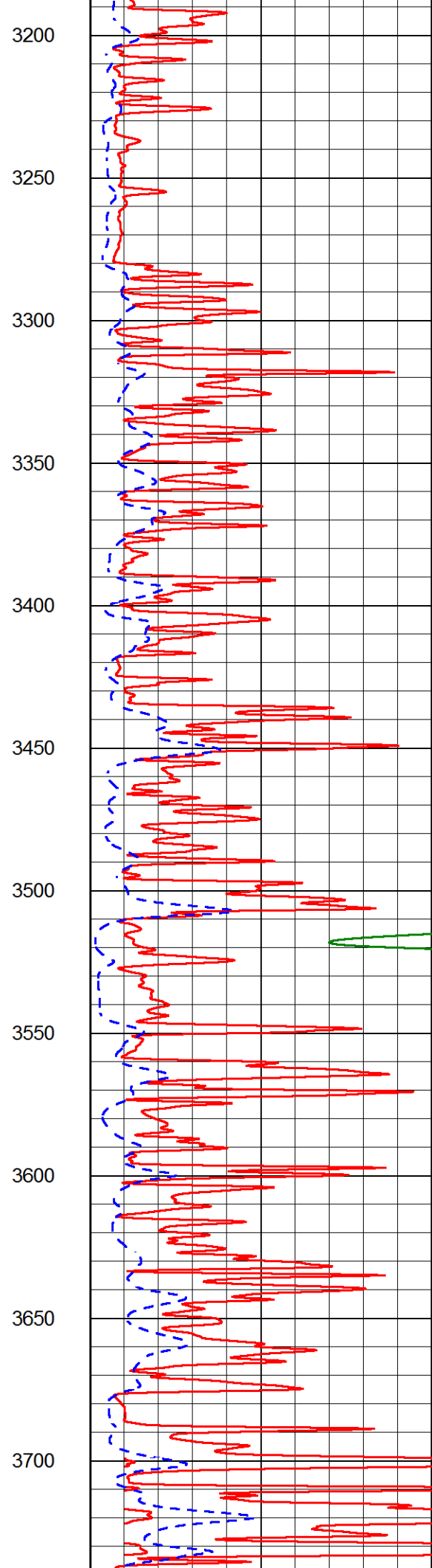
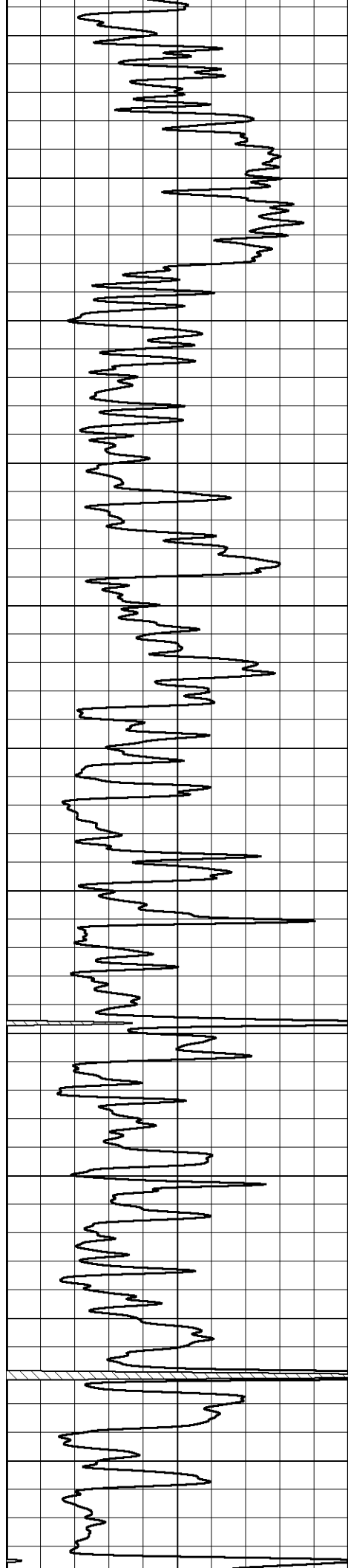


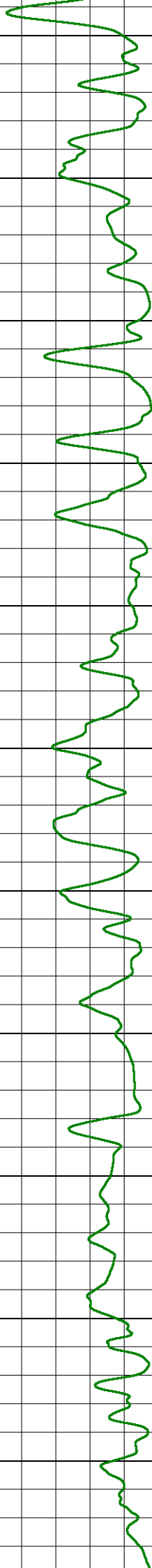
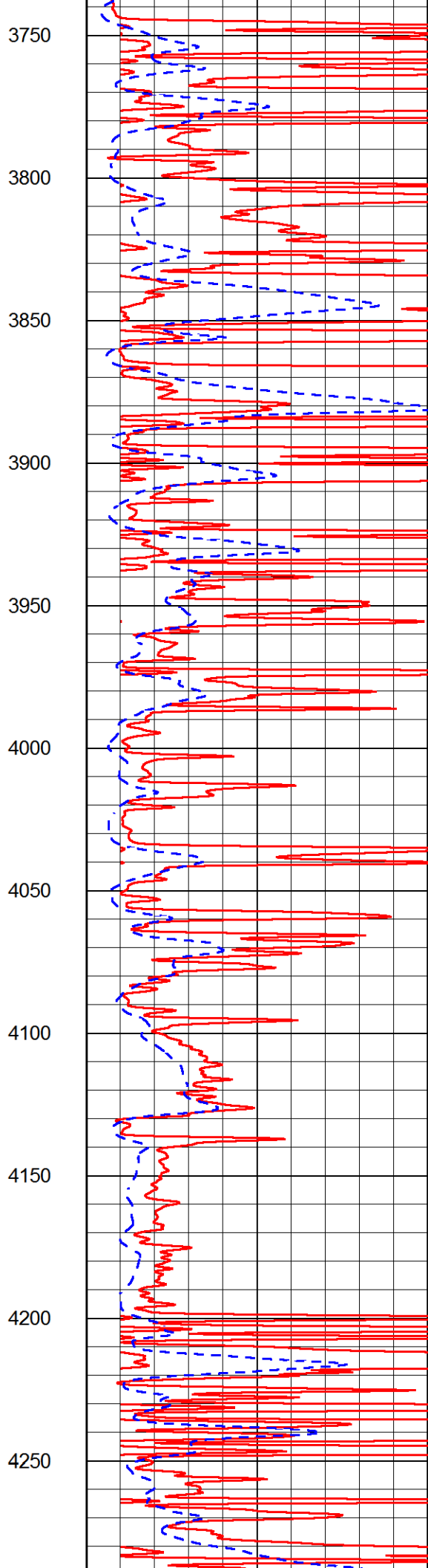
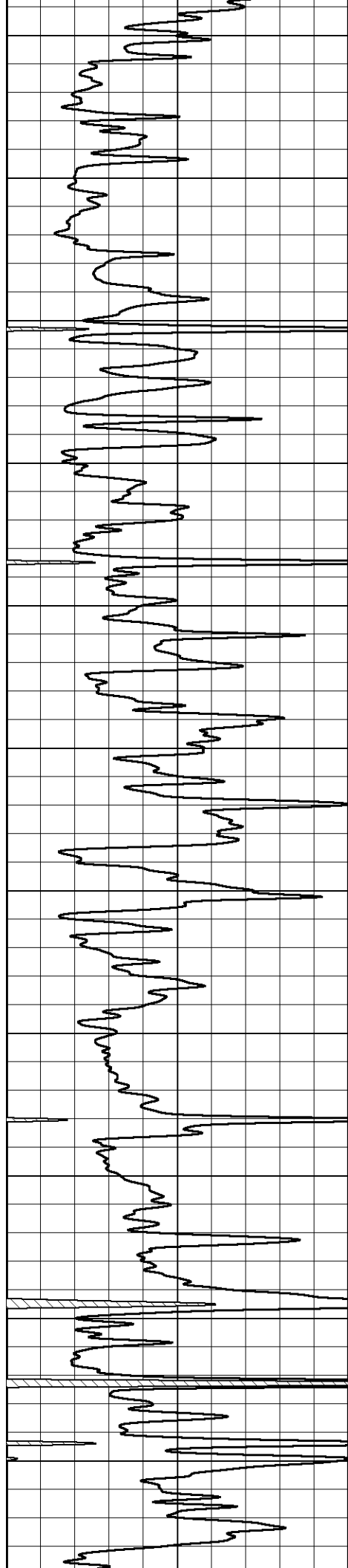


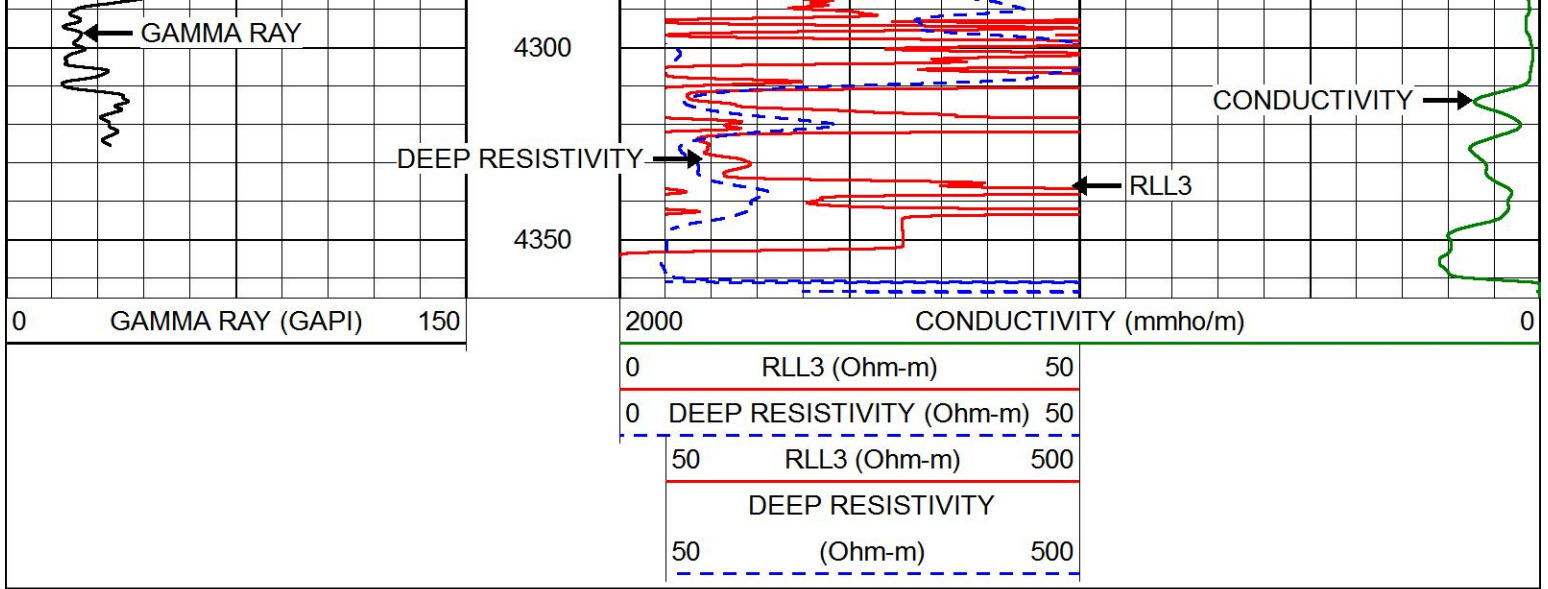


2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150





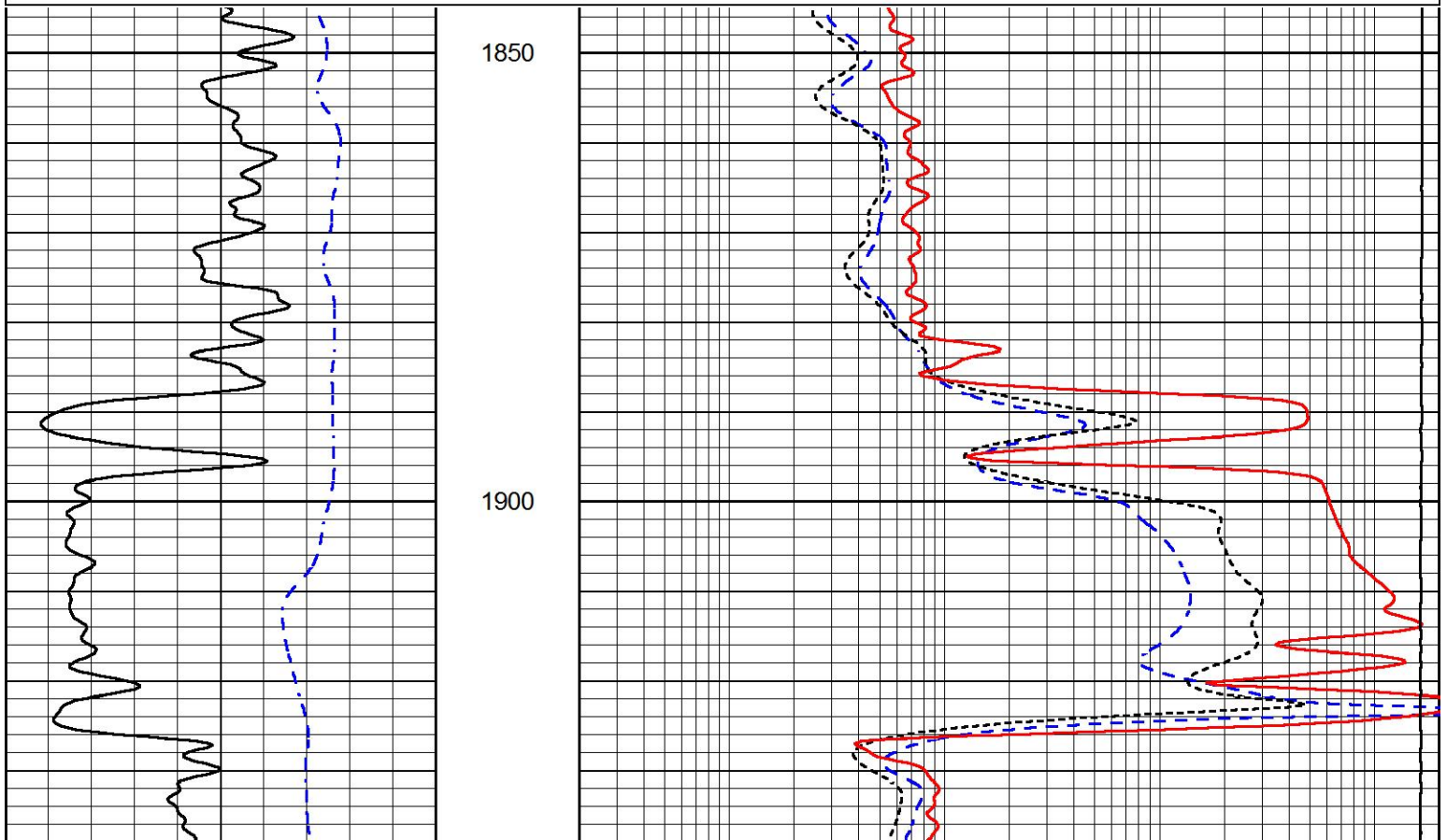


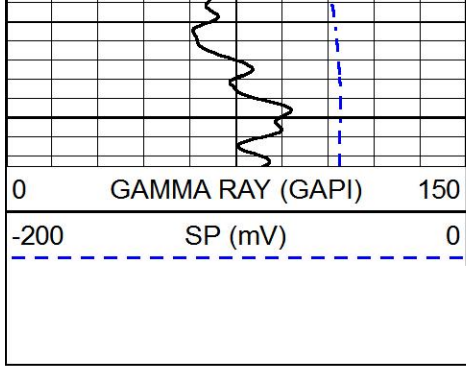


MAIN PASS

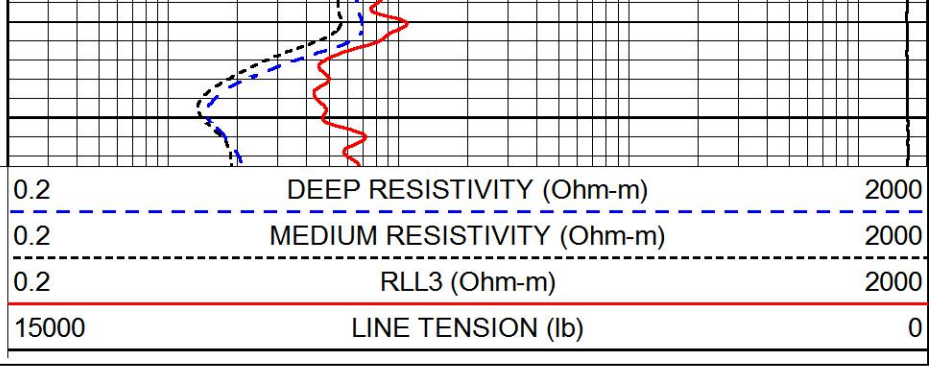
Database File: carmenschmitt_wp_unit_3_7.db
 Dataset Pathname: stackml/pass3.1
 Presentation Format: dil
 Dataset Creation: Tue Dec 12 05:32:38 2017
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	DEEP RESISTIVITY (Ohm-m)	2000
-200	SP (mV)	0	0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
			0.2	RLL3 (Ohm-m)	2000
			15000	LINE TENSION (lb)	0



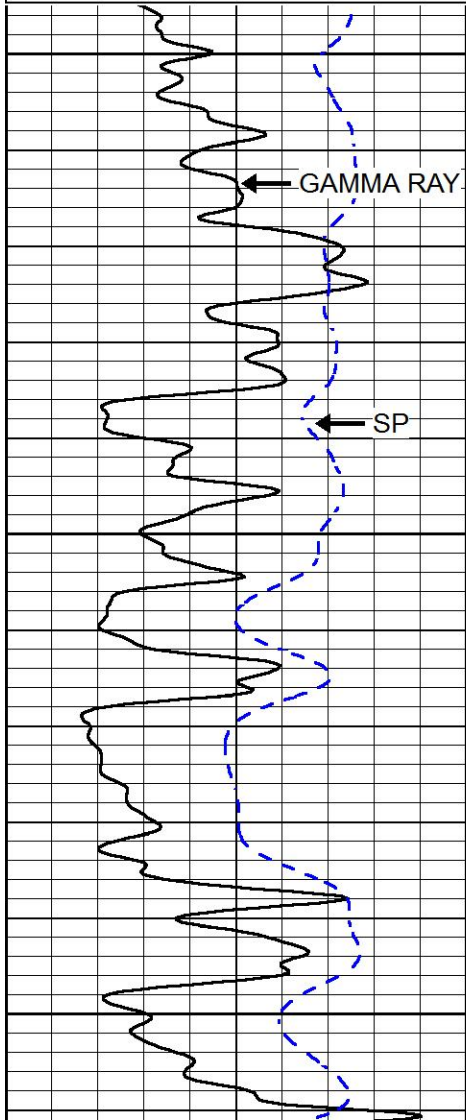
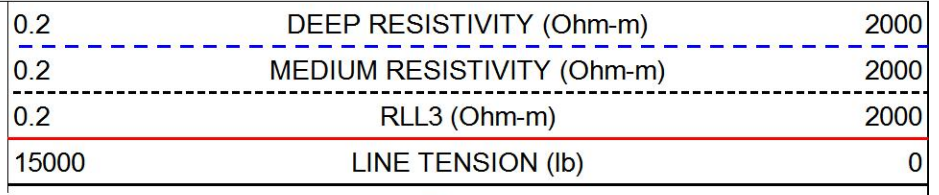
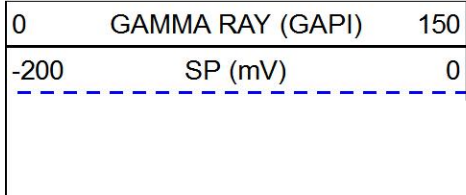


1950



MAIN PASS

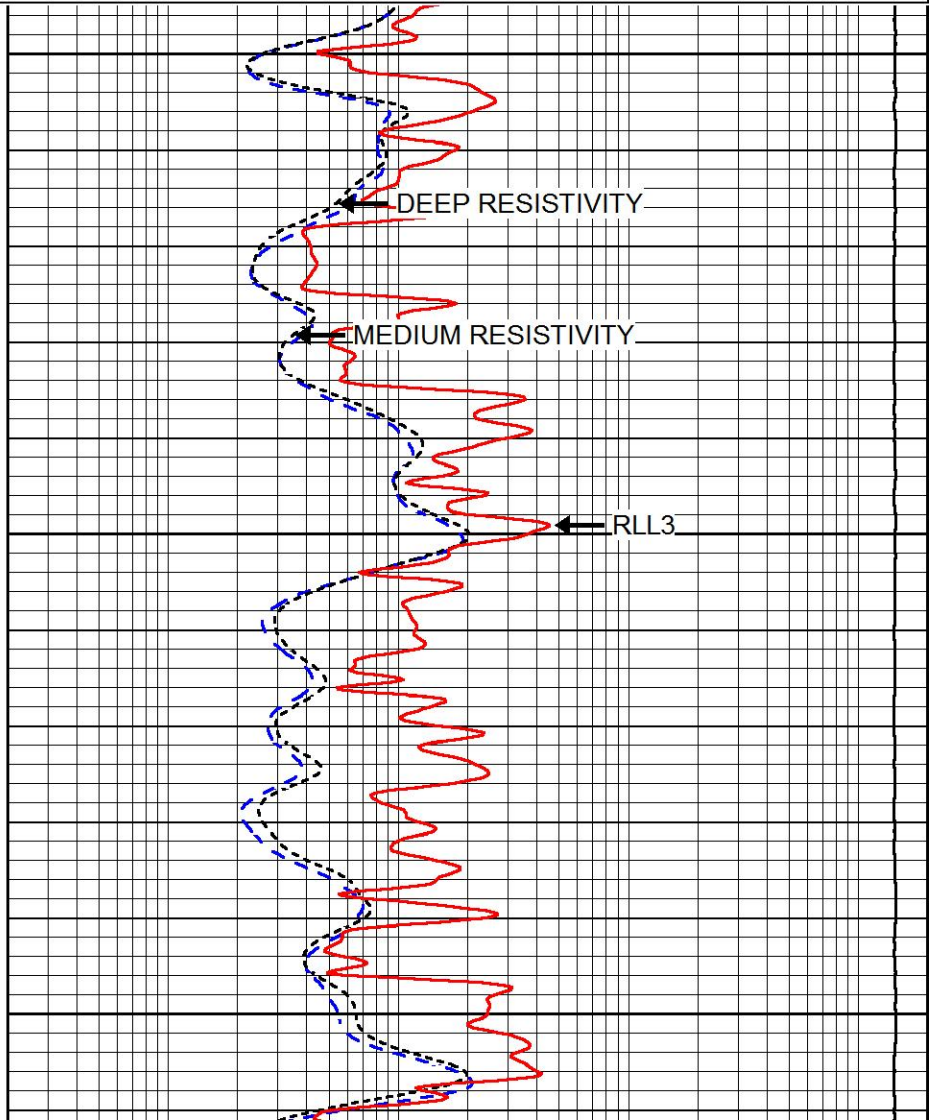
Database File: carmenschmitt_wp_unit_3_7.db
 Dataset Pathname: stackml/pass3.1
 Presentation Format: dil
 Dataset Creation: Tue Dec 12 05:32:38 2017
 Charted by: Depth in Feet scaled 1:240

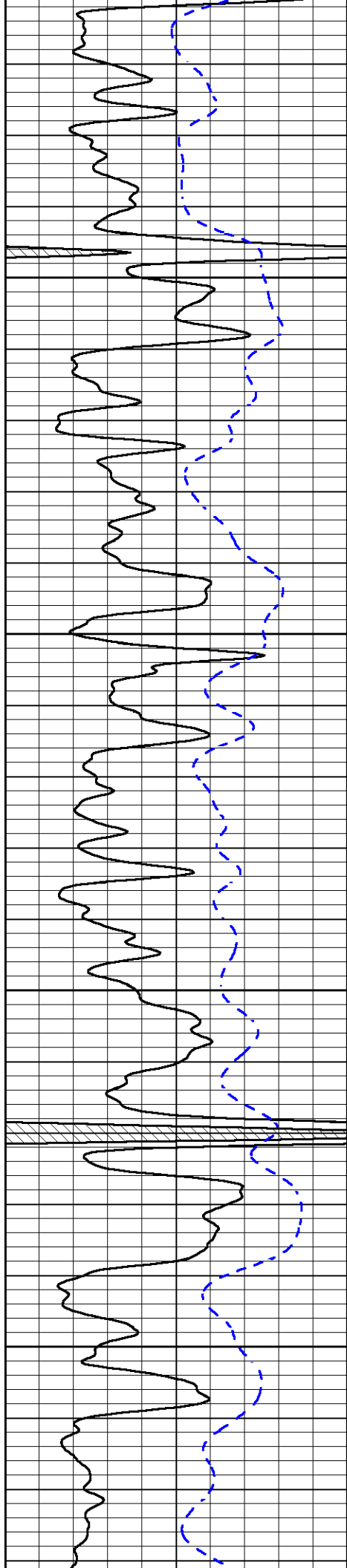


3400

3450

3500



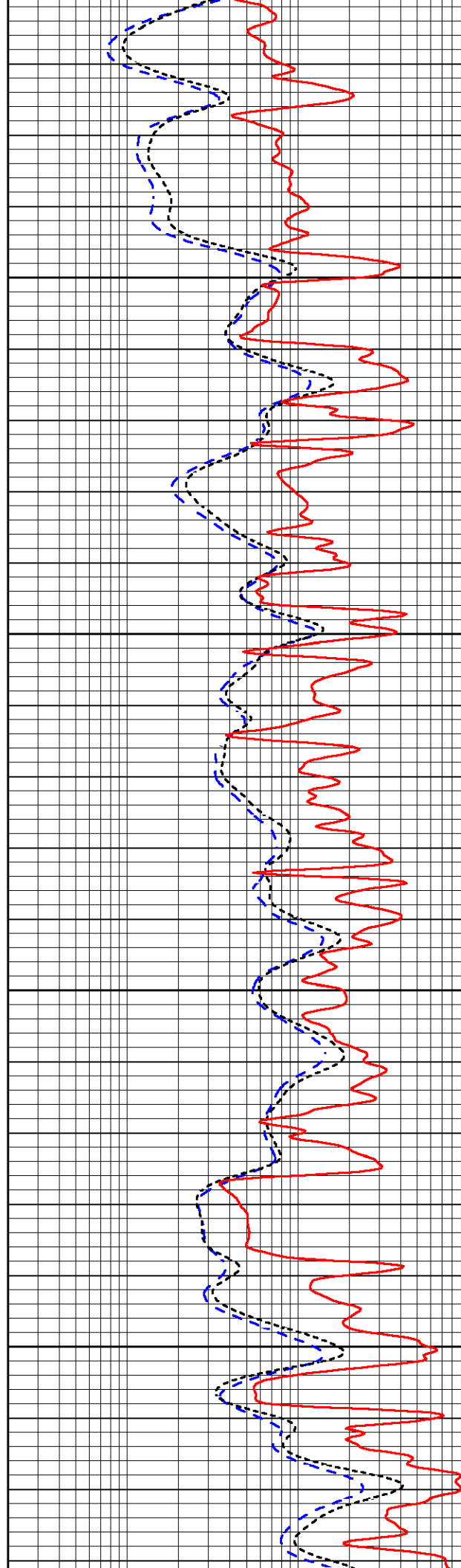


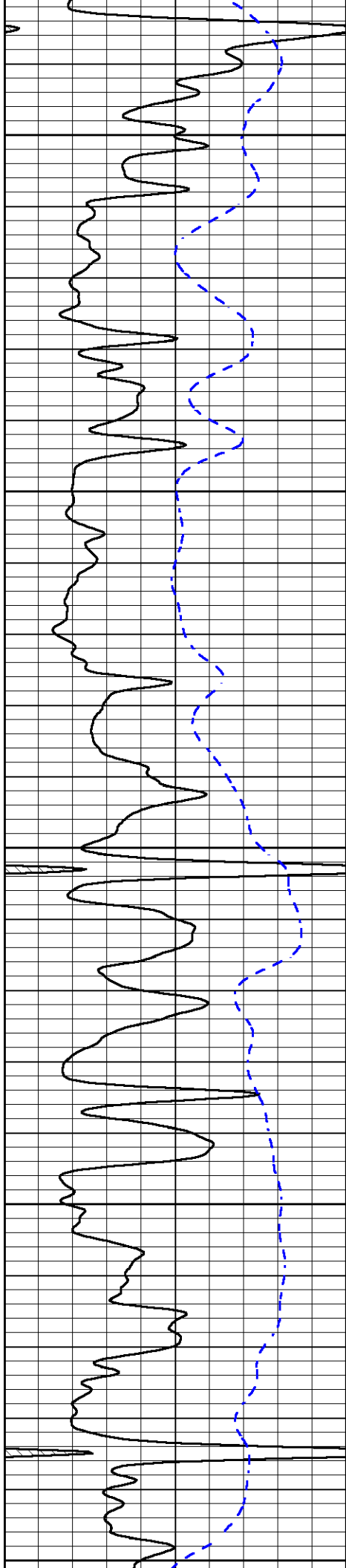
3550

3600

3650

3700





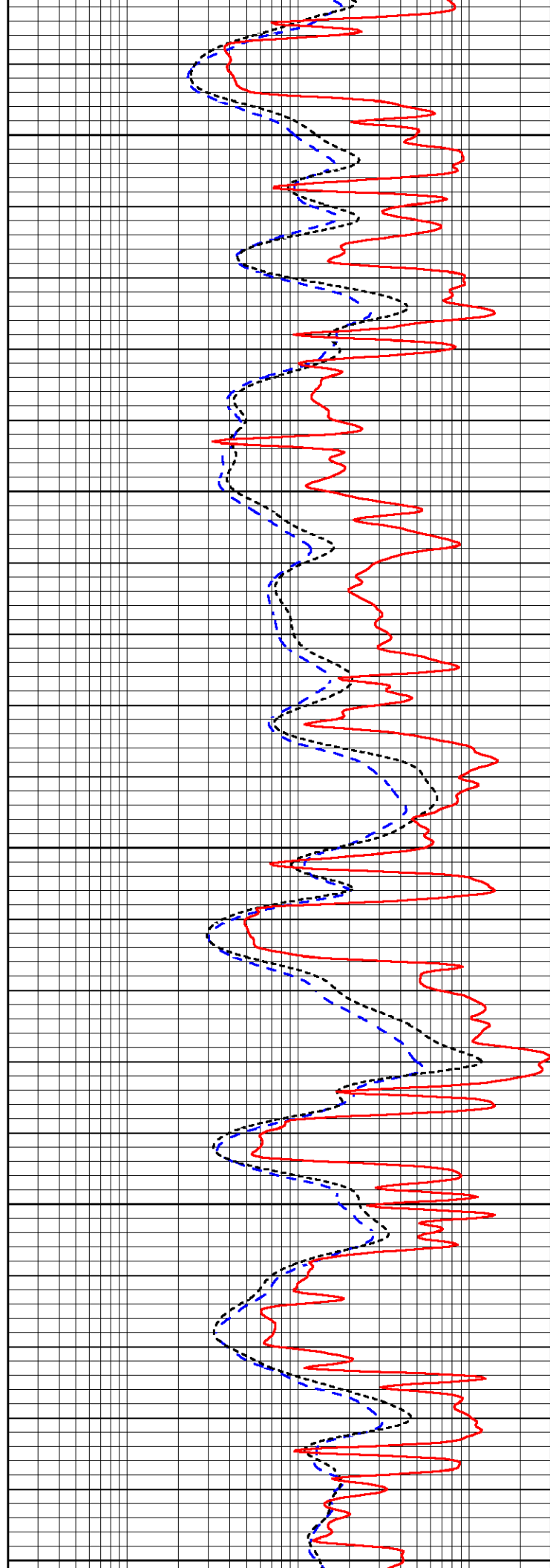
3750

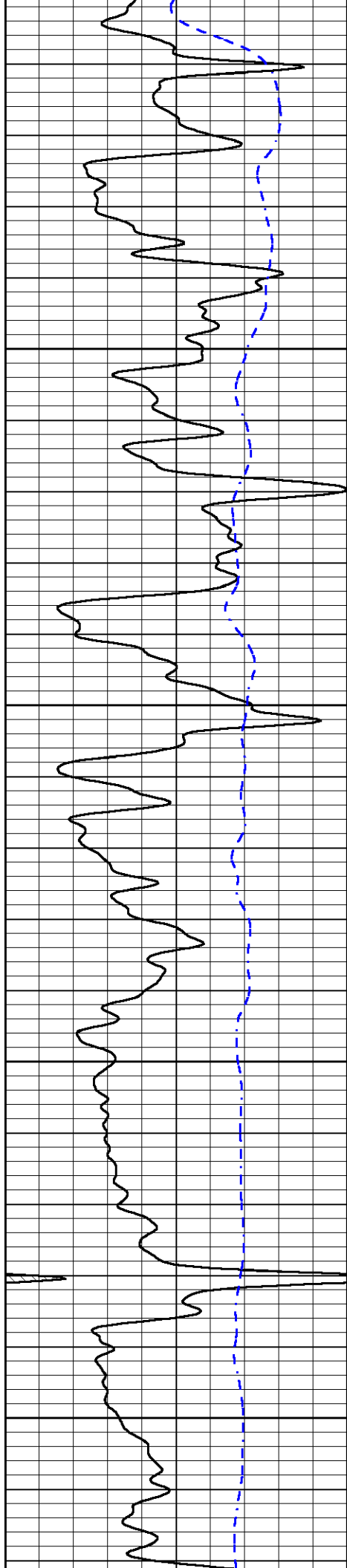
3800

3850

3900

3950



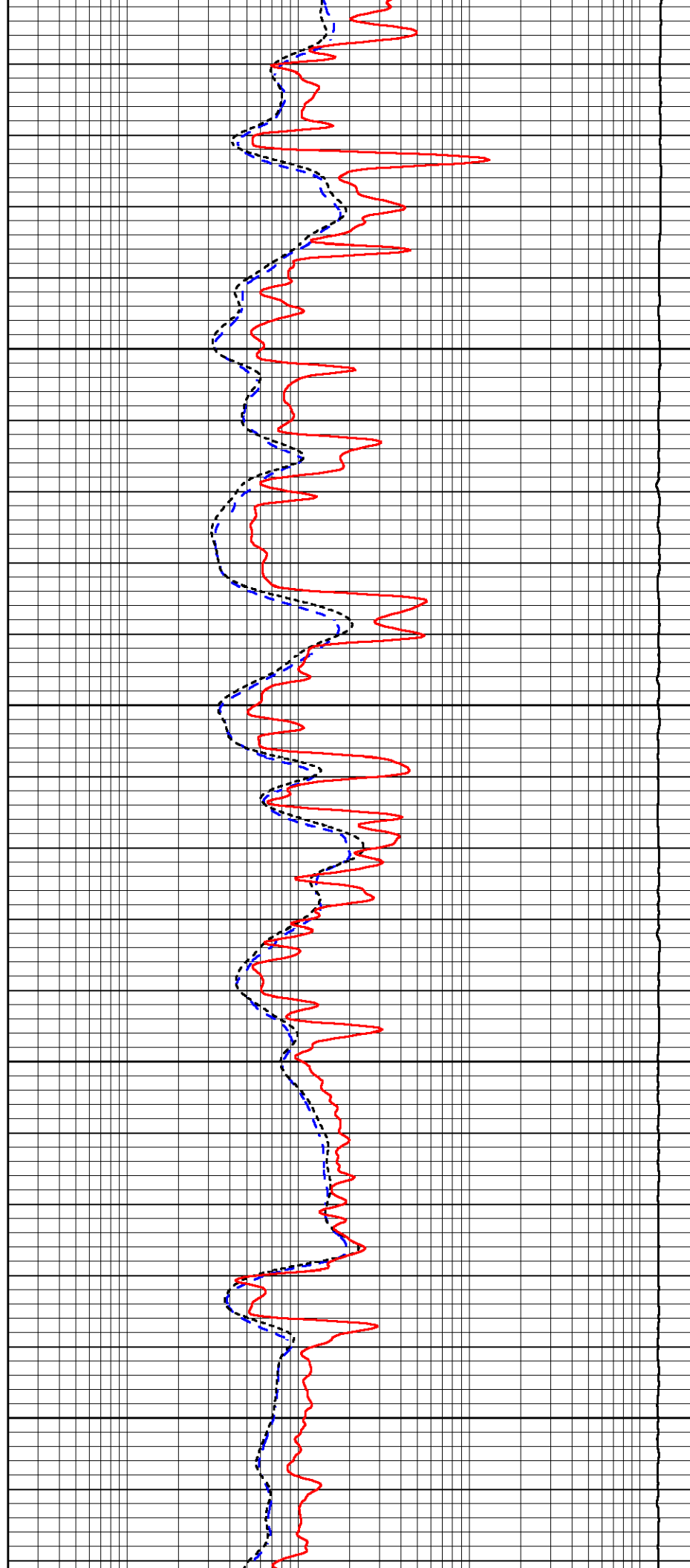


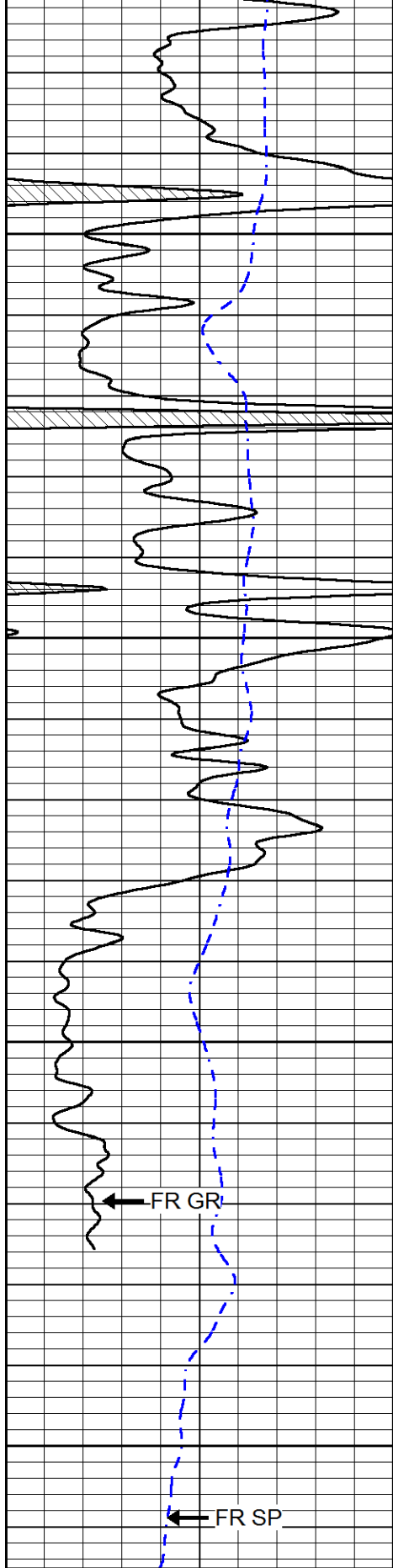
4000

4050

4100

4150





4200

4250

4300

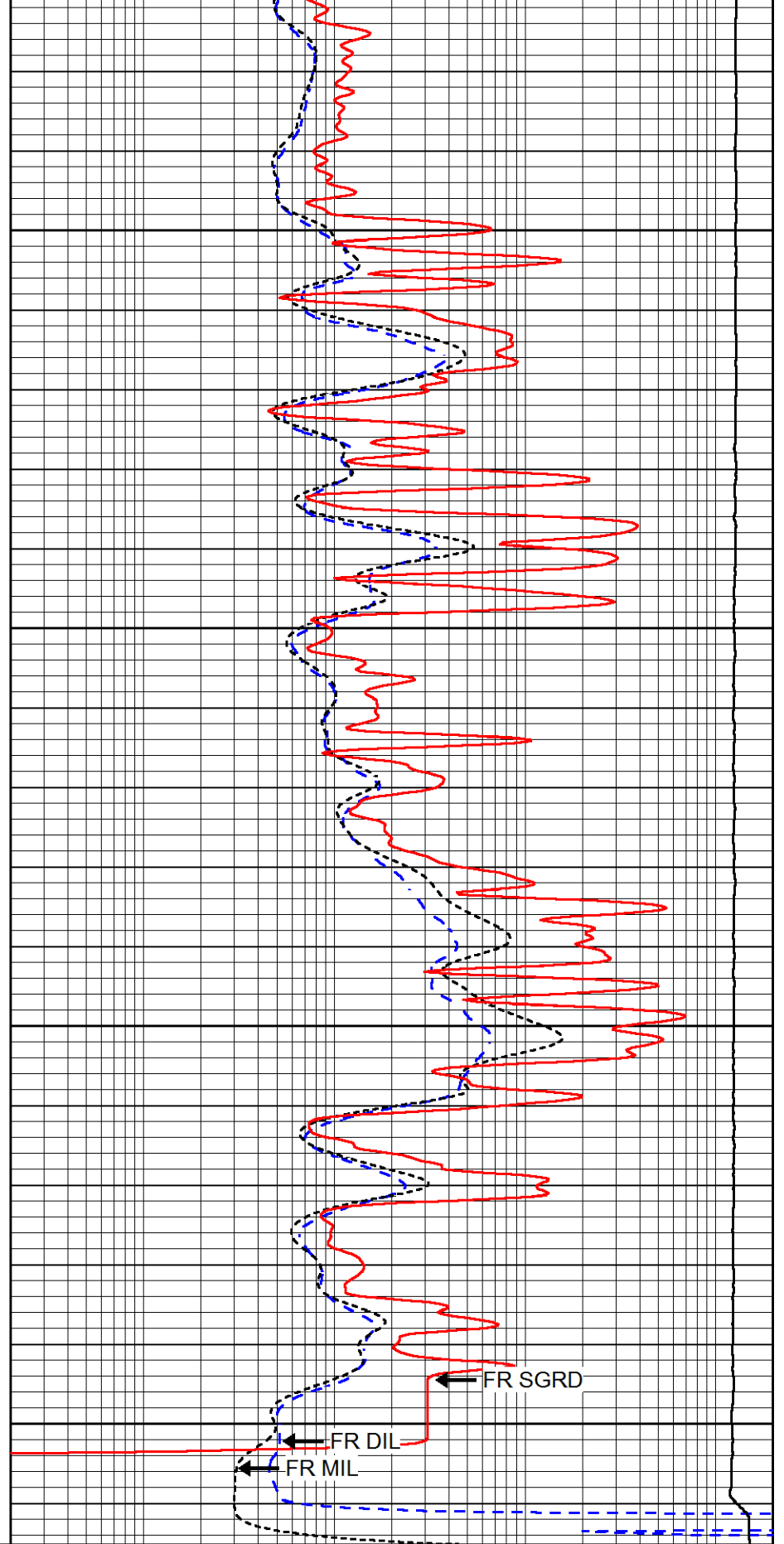
4350

0 GAMMA RAY (GAPI) 150

-200 SP (mV) 0

FR GR

FR SP



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

FR SGRD

FR DIL

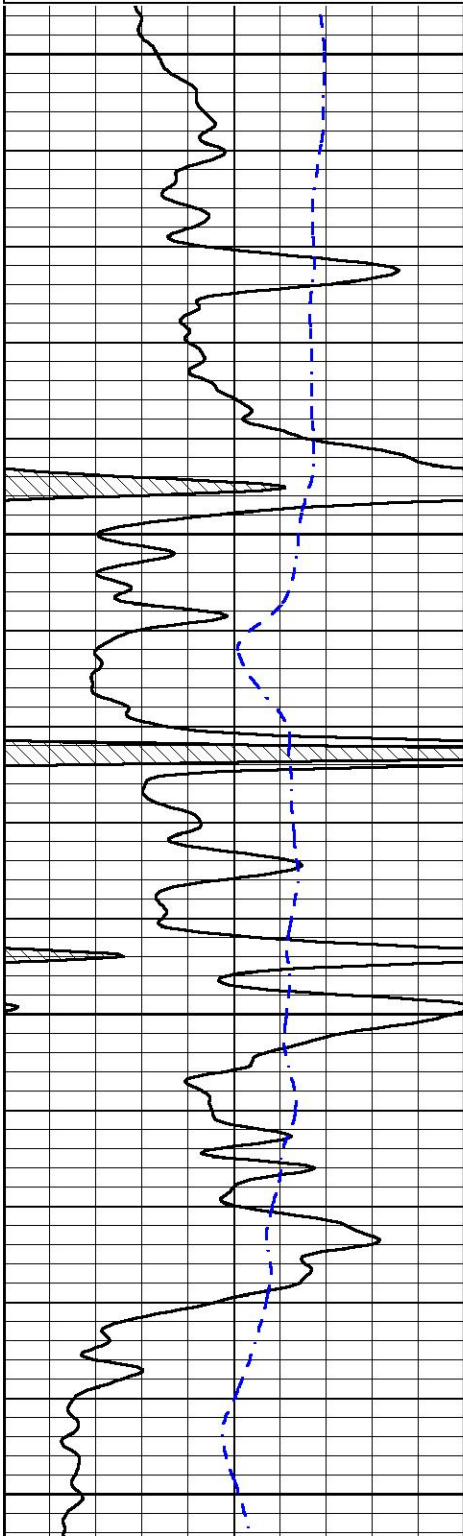
FR MIL

REPEAT SECTION

Database File carmenschmitt_wp_unit_3_7.db
 Dataset Pathname stackml/pass2.1
 Presentation Format dil
 Dataset Creation Tue Dec 12 05:32:50 2017
 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

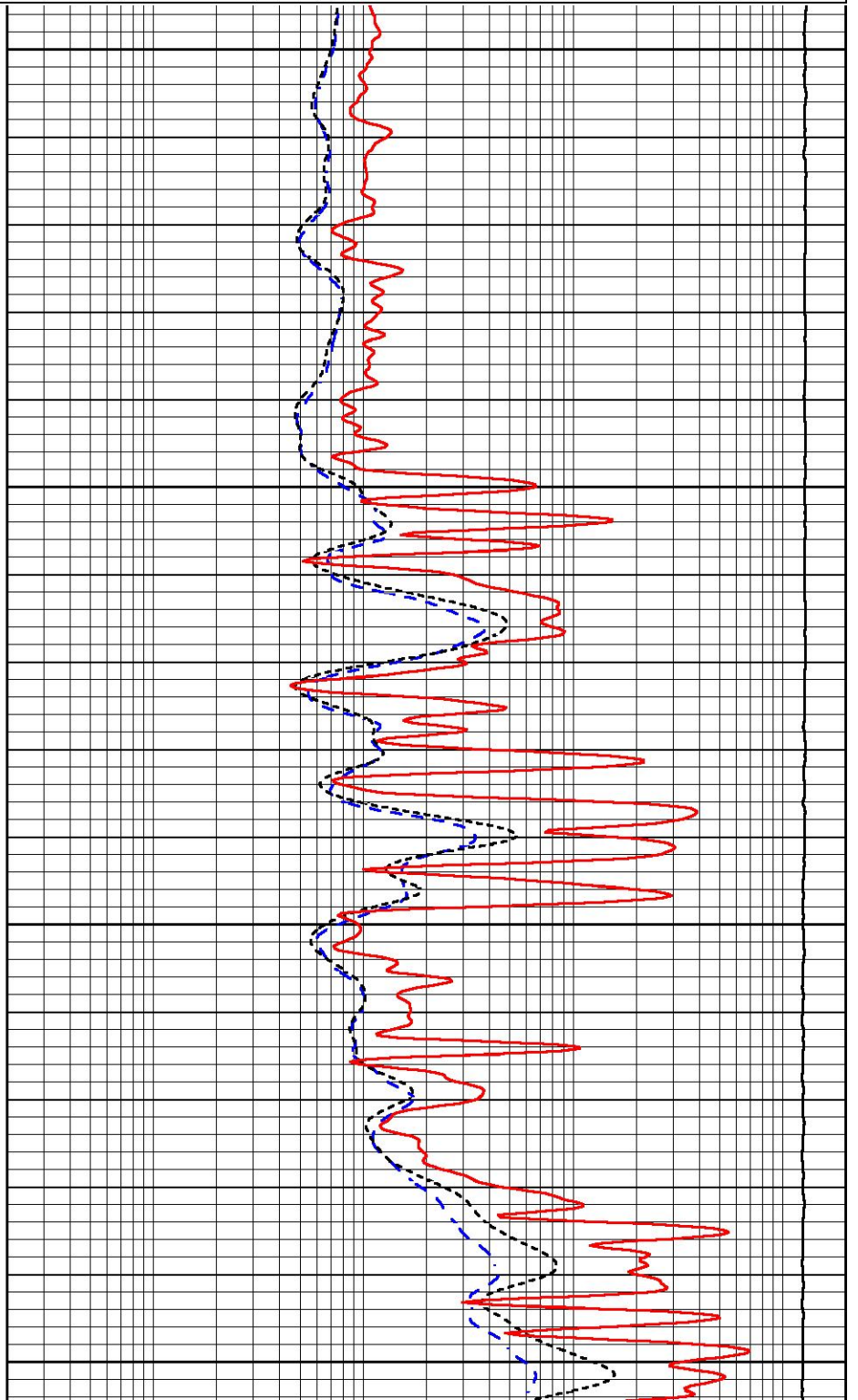


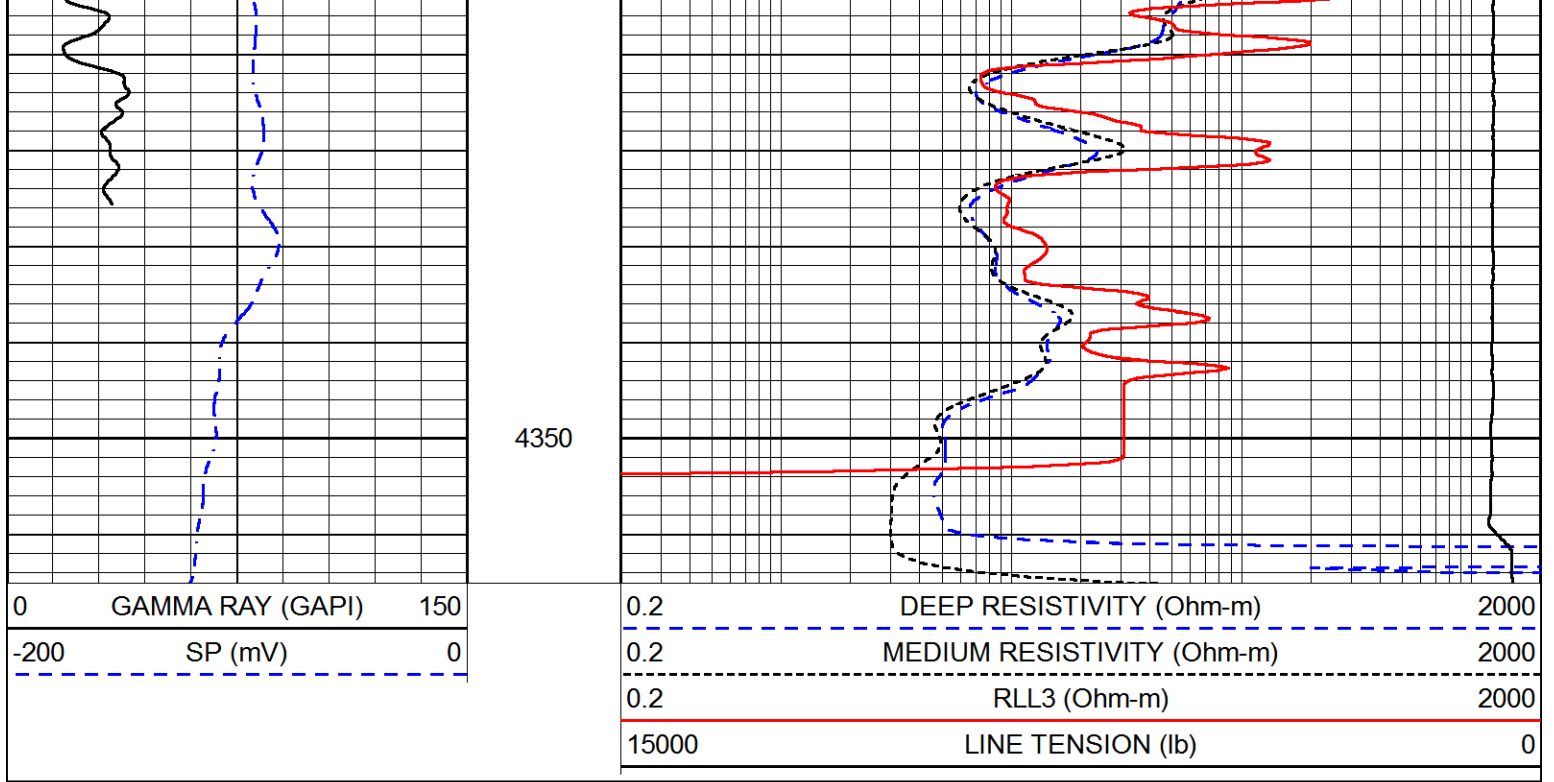
4150

4200

4250

4300





Calibration Report

Database File: carmenschmitt_wp_unit_3_7.db
 Dataset Pathname: stackml/pass3.1
 Dataset Creation: Tue Dec 12 05:32:38 2017

Dual Induction Calibration Report

Serial-Model: PSI 978-M&W
 Calibration Performed: Tue Dec 12 04:08:11 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.570	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.420	-35.000

Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML
 Performed: Fri Jun 23 01:25:19 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal	Ohm-m	m	b
Normal	0.0031	0.0043	0.0000	10.0000	Ohm-m	14000.0000	0.0000
Inverse	0.0000	0.0013	0.0000	10.0000	Ohm-m	16000.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1560	-131.3000

Compensated Density Calibration Report

Serial-Model: 168-986-M&W
 Source / Verifier: /
 Master Calibration Performed: Tue Apr 11 17:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.690	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.531		
	Size		Reading		
Small Ring	4.00	in	1.03		
Large Ring	14.00	in	1.23		

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 Apr 11 17:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps



PIONEER
 Pioneer Energy Services

Company CARMEN SCHMITT, INC
 Well WP UNIT NO. 4-7
 Field N/A
 County TREGO
 State KANSAS