



DUAL INDUCTION LOG

Company MIKE KELSO OIL, INC.
Well HONAS A NO.2
Field WILDCAT
County TREGO **State** KANSAS

Company MIKE KELSO OIL, INC.
Well HONAS A NO.2
Field WILDCAT
County TREGO
State KANSAS

Location: API #: 15-195-23028-00-00
 1330' FNL & 700' FEL
 SEC 21 TWP 14S RGE 22W
Permanent Datum GROUND LEVEL Elevation 2221'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING
Other Services CNL/CDL MEL

Date	8/27/2017
Run Number	ONE
Depth Driller	4225'
Depth Logger	4220'
Bottom Logged Interval	4219'
Top Log Interval	250'
Casing Driller	8.625" @ 250'
Casing Logger	248'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	10,500
Density / Viscosity	9.7 56
pH / Fluid Loss	9.0 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.35 @ 62
Rmt @ Meas. Temp	.26 @ 62
Rmc @ Meas. Temp	.47 @ 62
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.18 @ 118
Operating Rig Time	2 1/2 HOURS
Max Rec. Temp. F	118 DEGF
Equipment Number	108
Location	HAYS
Recorded By	J. HENRICKSON
Witnessed By	PAT DEENIHAN

<<< 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.
 OGALLAH EXIT I 70
 SOUTH TO CURVE, 3 SOUTH, 1 WEST, SOUTH INTO
 (ROAD TO COVE 1 AT CEDAR BLUFF)

Log Measured From: KELLY BUSHING 7 Ft. Above Permanent Datum

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

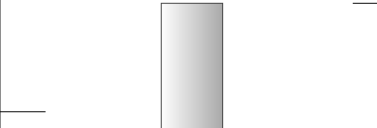
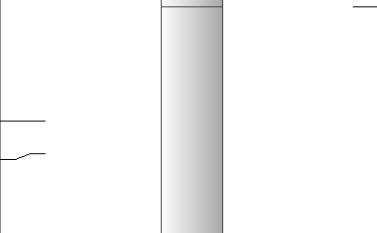
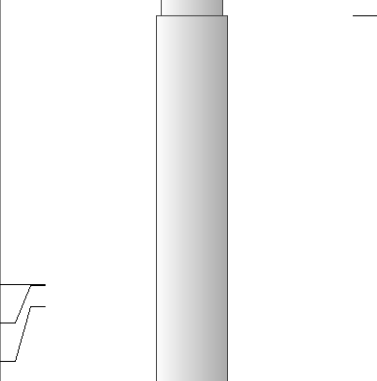
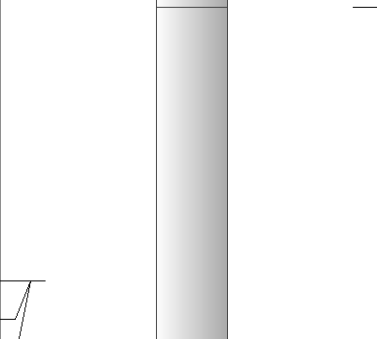
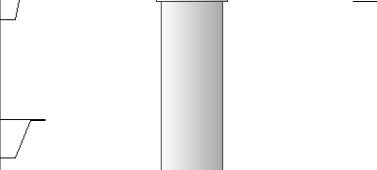
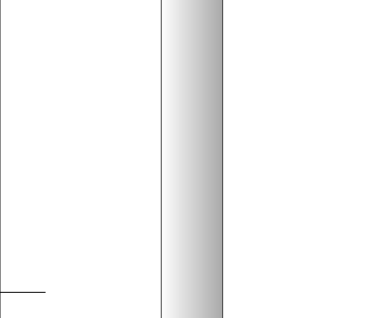
Your Pioneer Energy Services Crew Engineer: J. HENRICKSON Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: PAT DEENIHAN Secondary Witness: MIKE KELSO Secondary Witness: Secondary Witness:
--	---

Log Variables

DatabaseC:\ProgramData\Warrior\Data\kelso_honas_a_2.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	118	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	-90	61	Off	4220

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 (1987)	18.50	3.50	220.00

CILM 4.70

SP 0.20

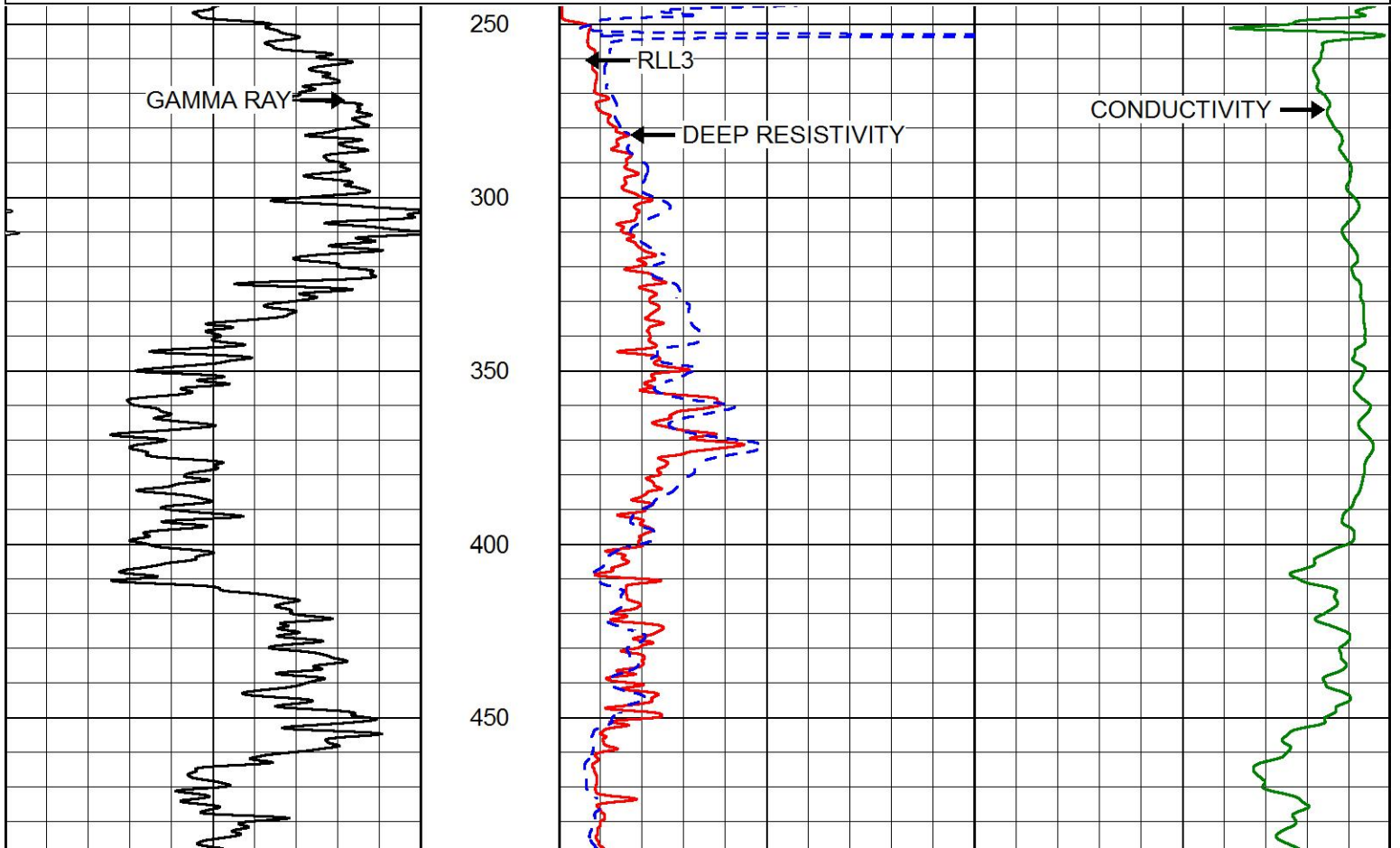
Dataset: kelso_honas_a_2.db: field/well/stackml/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

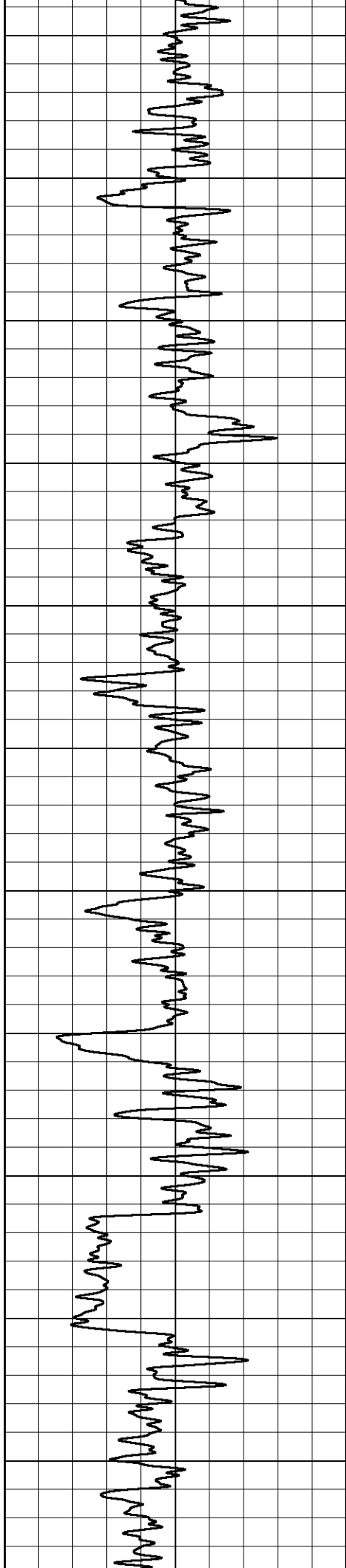


MAIN PASS

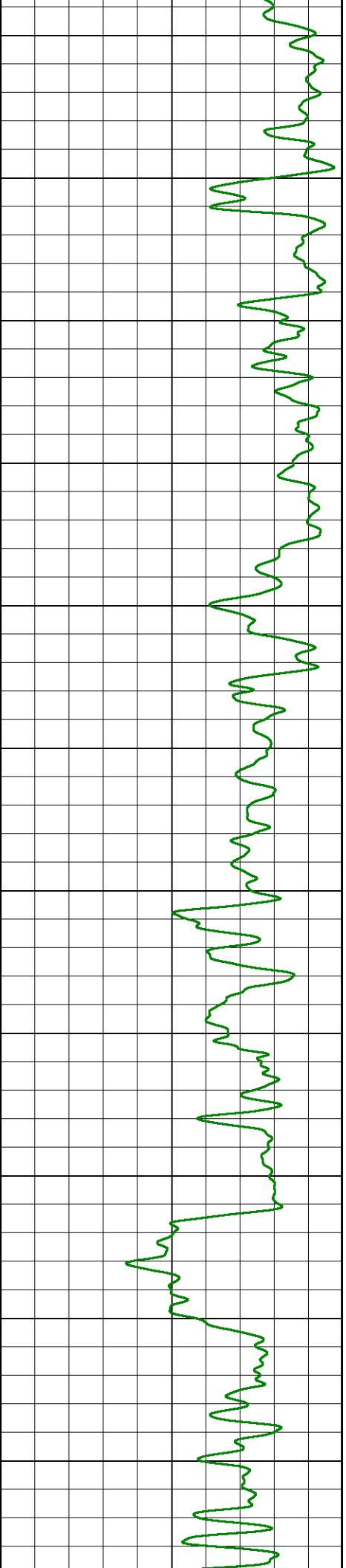
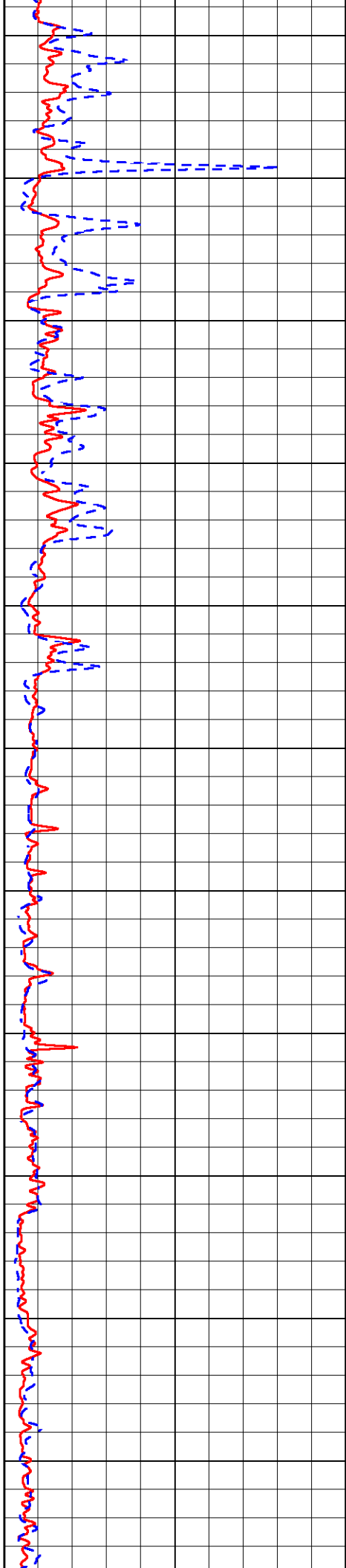
Database File: kelso_honas_a_2.db
 Dataset Pathname: stackml/pass3.1
 Presentation Format: dil2in
 Dataset Creation: Sun Aug 27 05:56:23 2017
 Charted by: Depth in Feet scaled 1:600

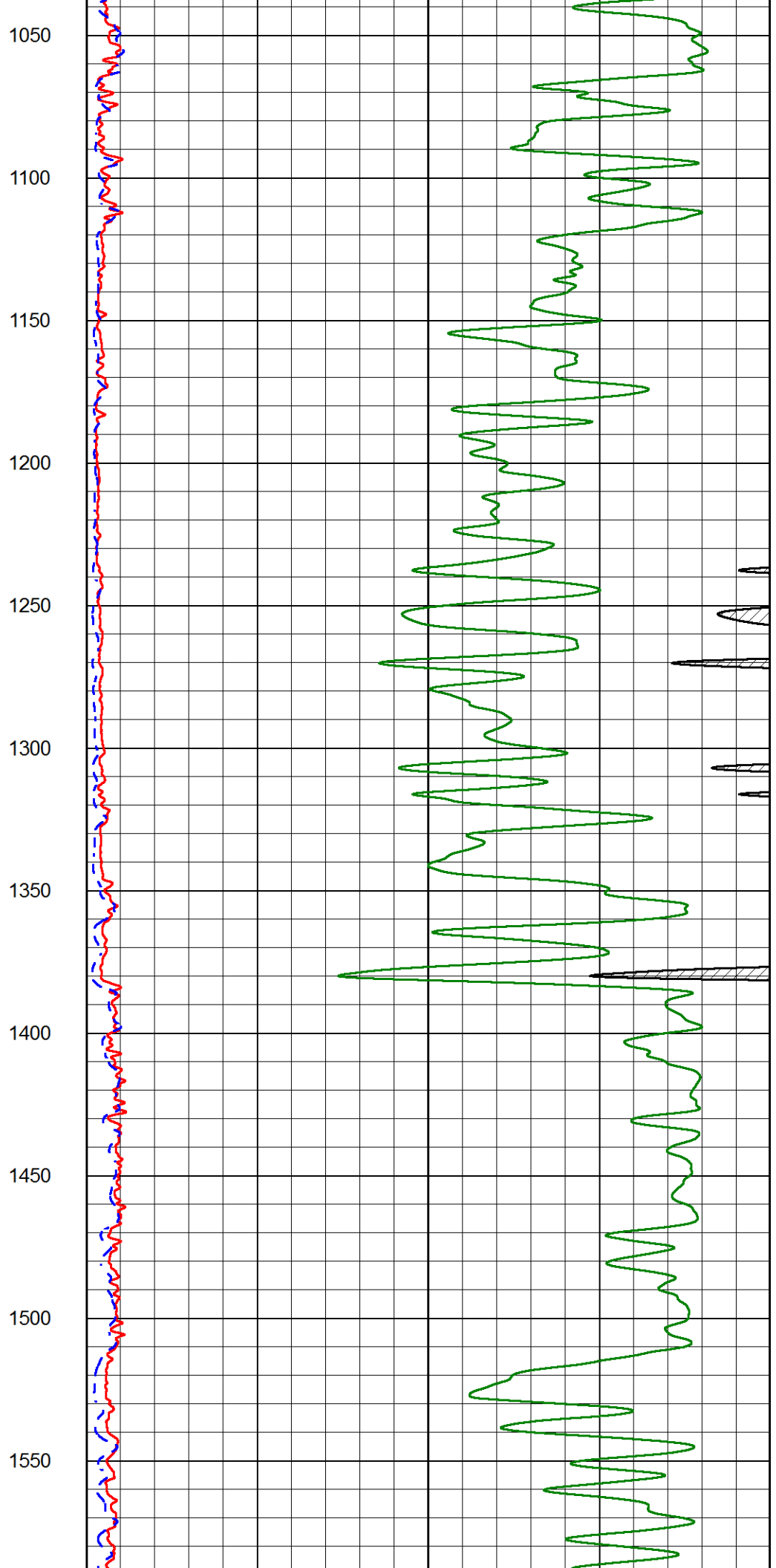
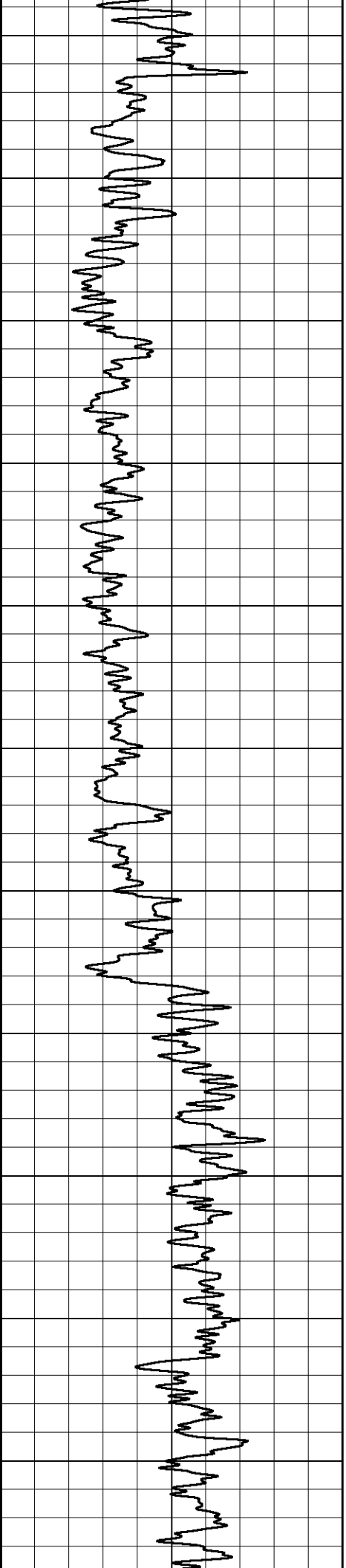
0	GAMMA RAY (GAPI)	150	2000	CONDUCTIVITY (mmho/m)	0
0	RLL3 (Ohm-m)	50	0	DEEP RESISTIVITY (Ohm-m)	50
0	DEEP RESISTIVITY (Ohm-m)	50	50	RLL3 (Ohm-m)	500
50	RLL3 (Ohm-m)	500		DEEP RESISTIVITY (Ohm-m)	500
50	DEEP RESISTIVITY (Ohm-m)	500			

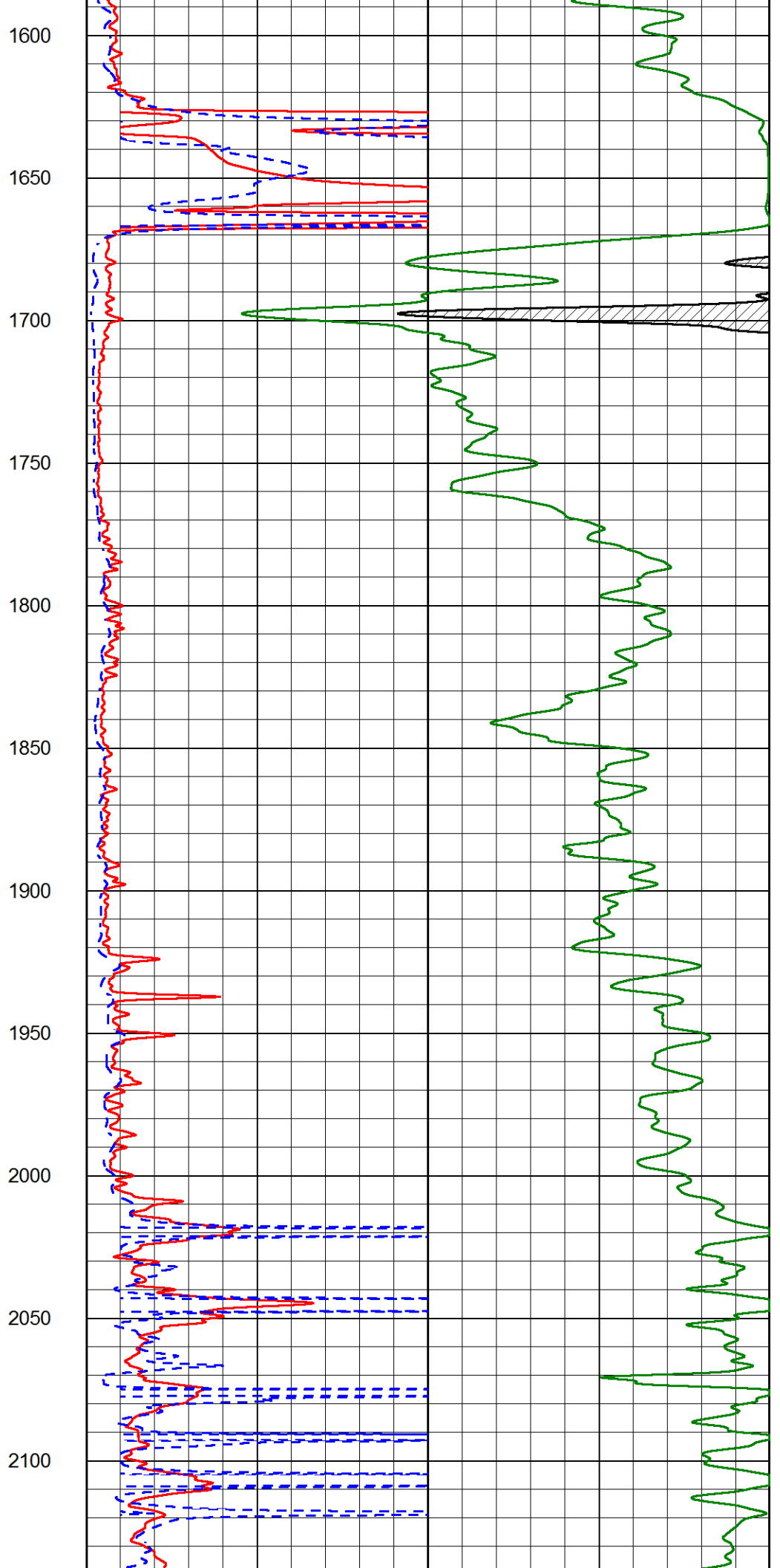
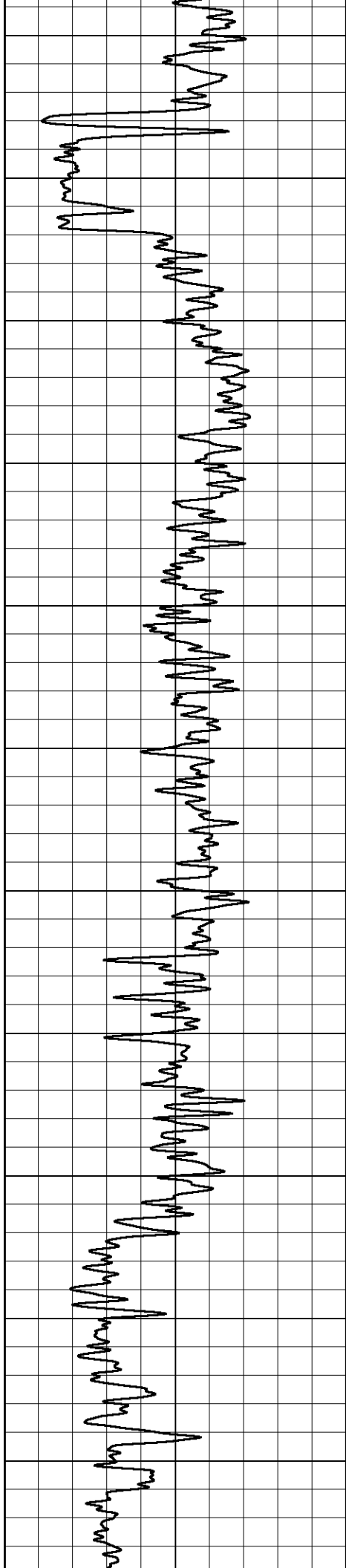


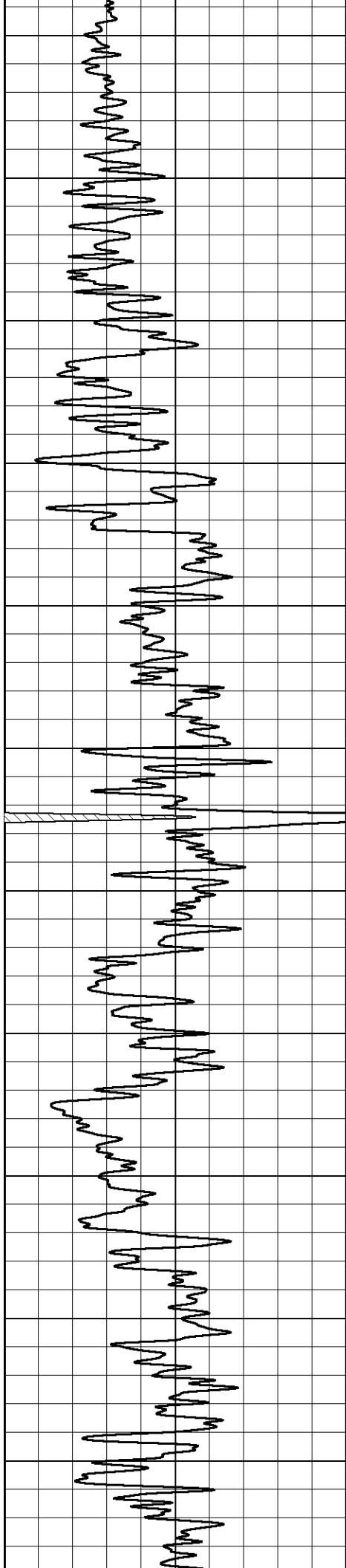


500
550
600
650
700
750
800
850
900
950
1000









2150

2200

2250

2300

2350

2400

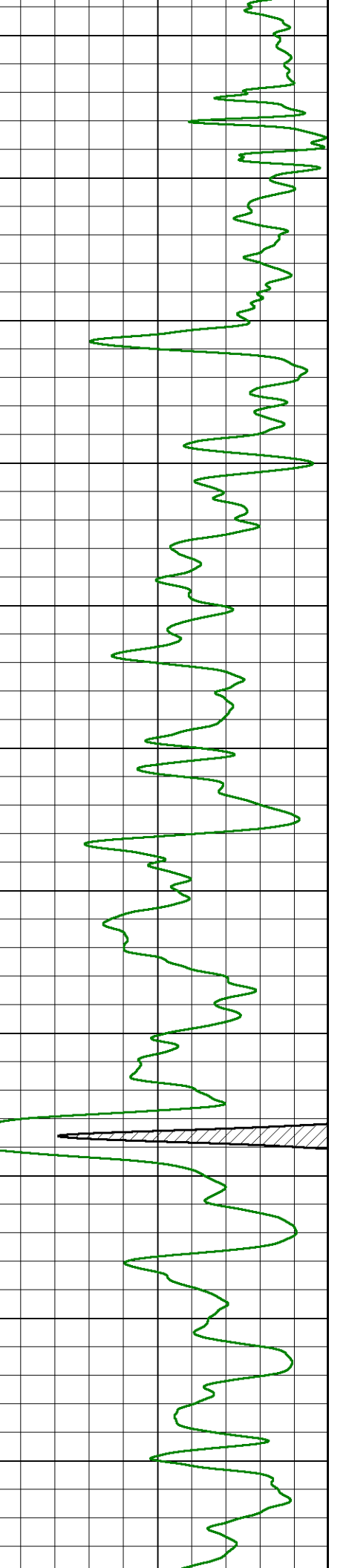
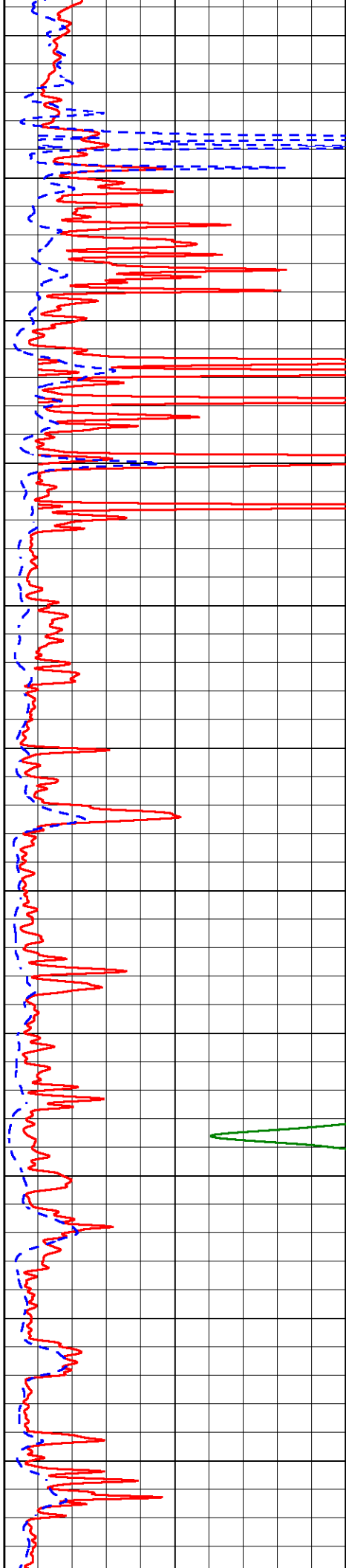
2450

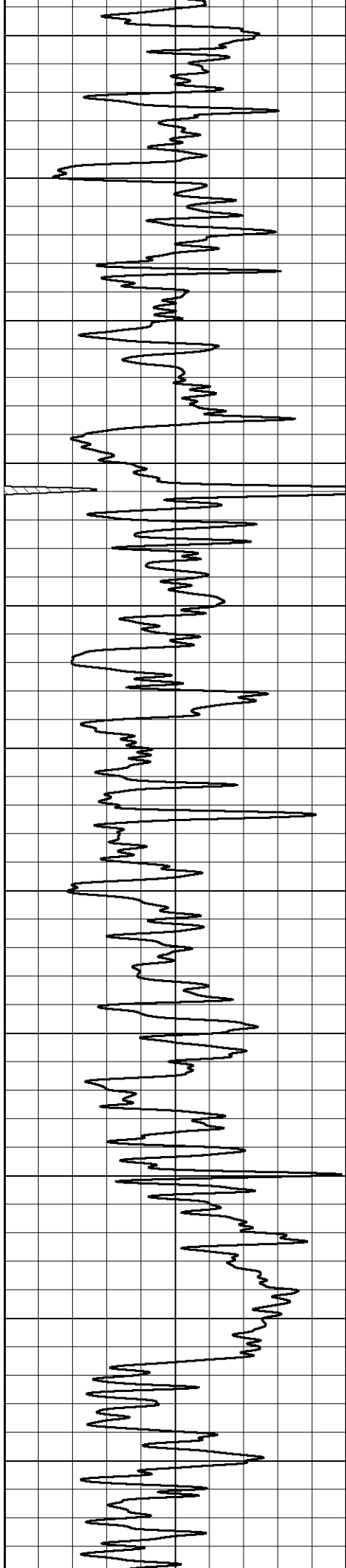
2500

2550

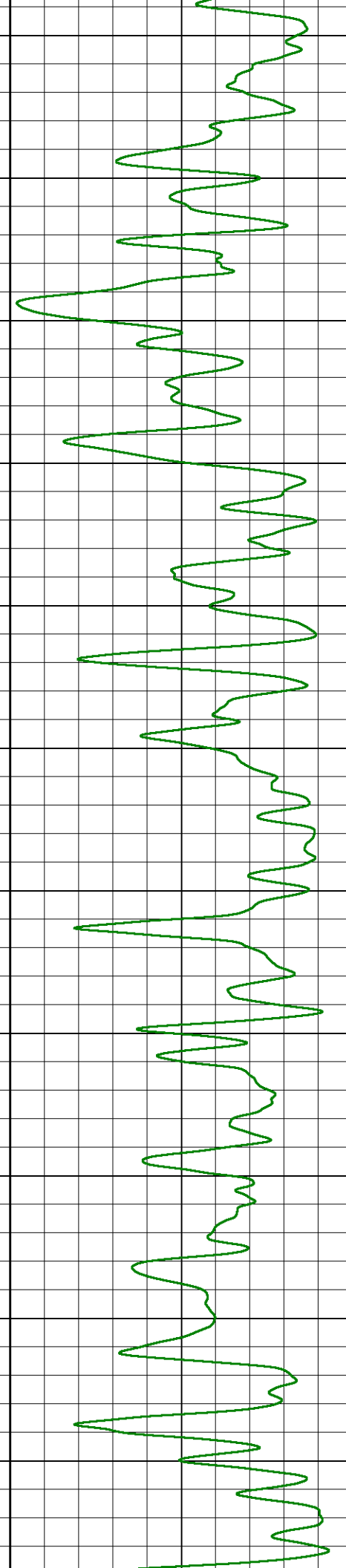
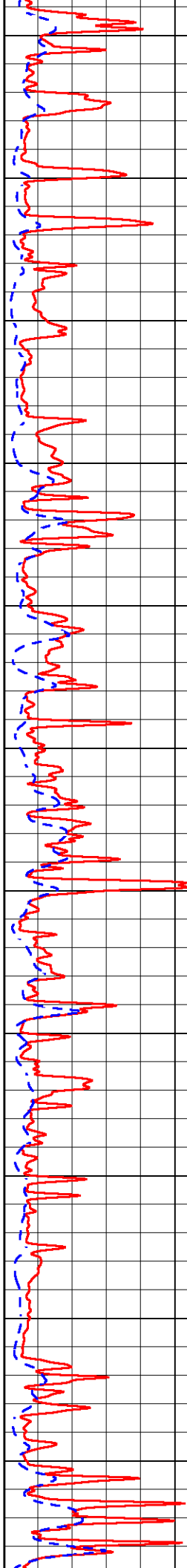
2600

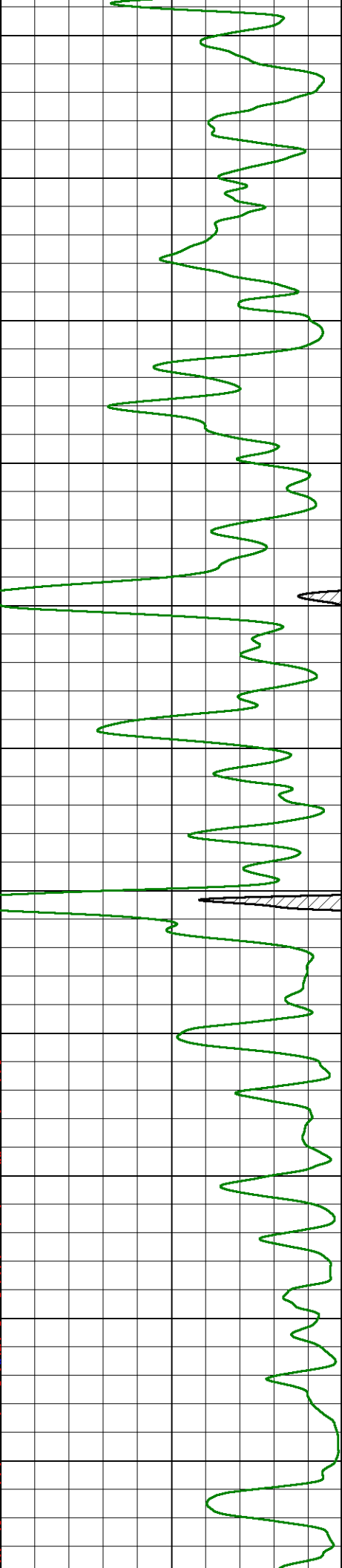
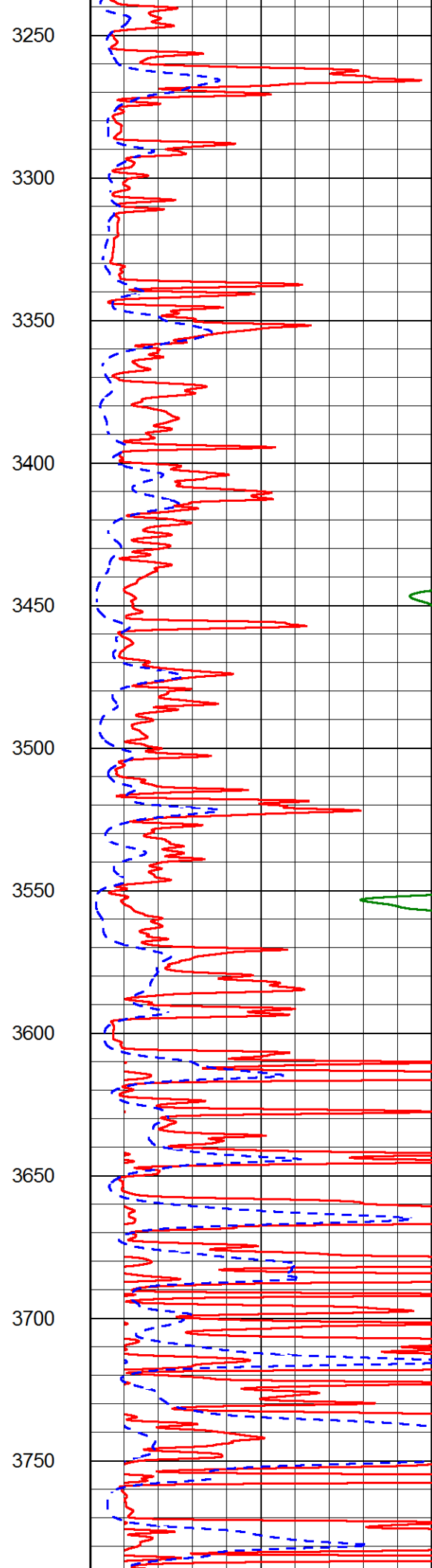
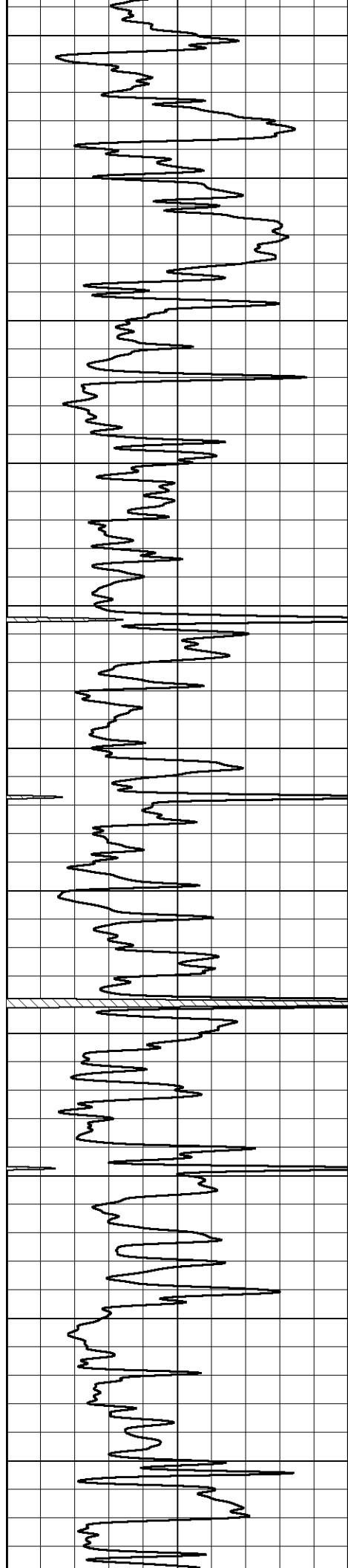
2650

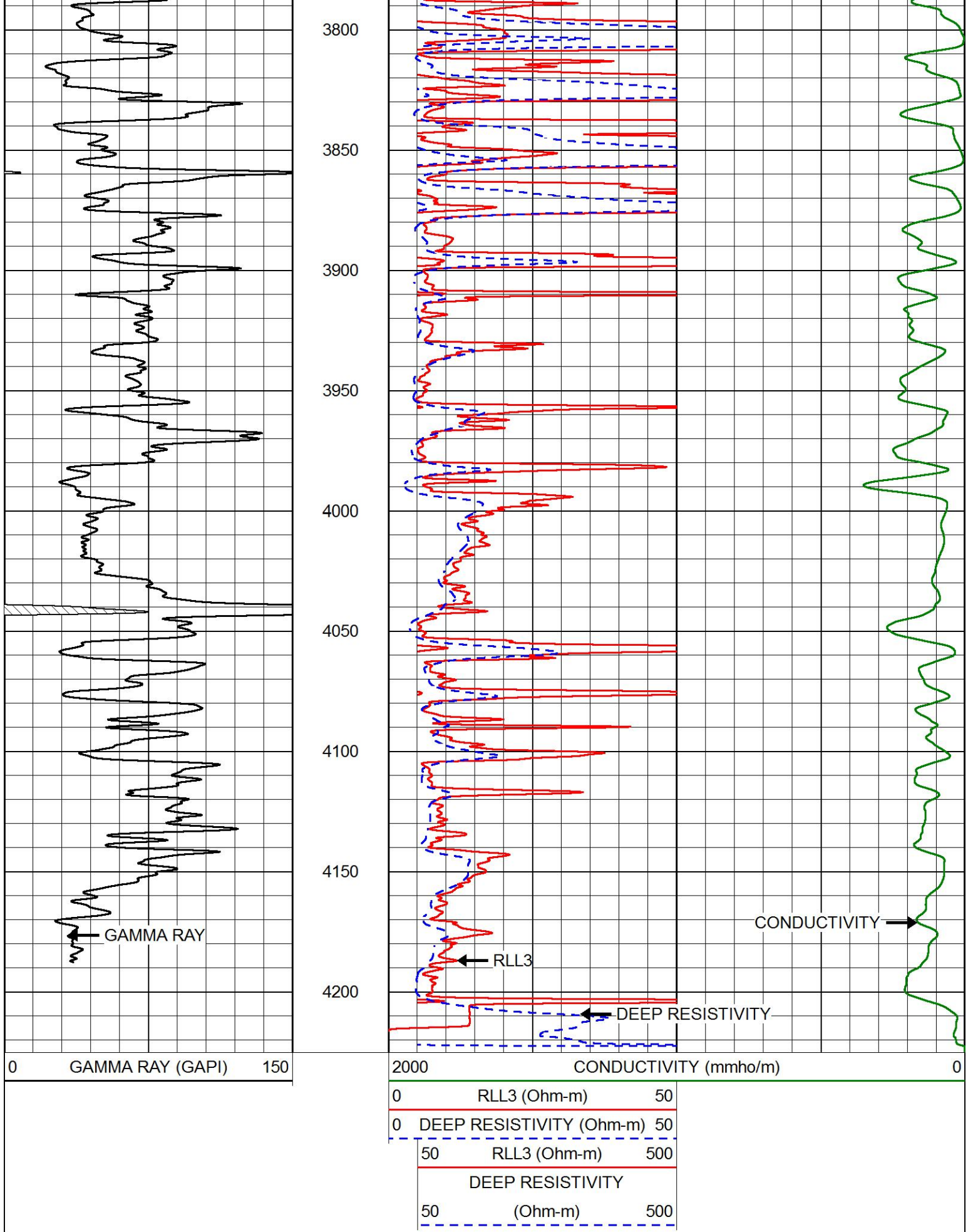




2700
2750
2800
2850
2900
2950
3000
3050
3100
3150
3200





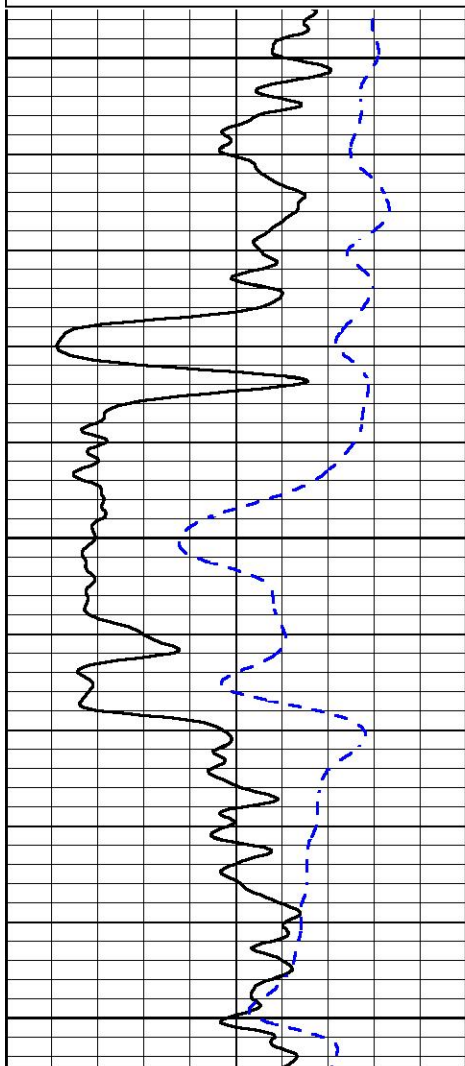


MAIN PASS

Database File kelso_honas_a_2.db
Dataset Pathname stackml/pass3.1
Presentation Format dil
Dataset Creation Sun Aug 27 05:56:23 2017
Charted by Depth in Feet scaled 1:240

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

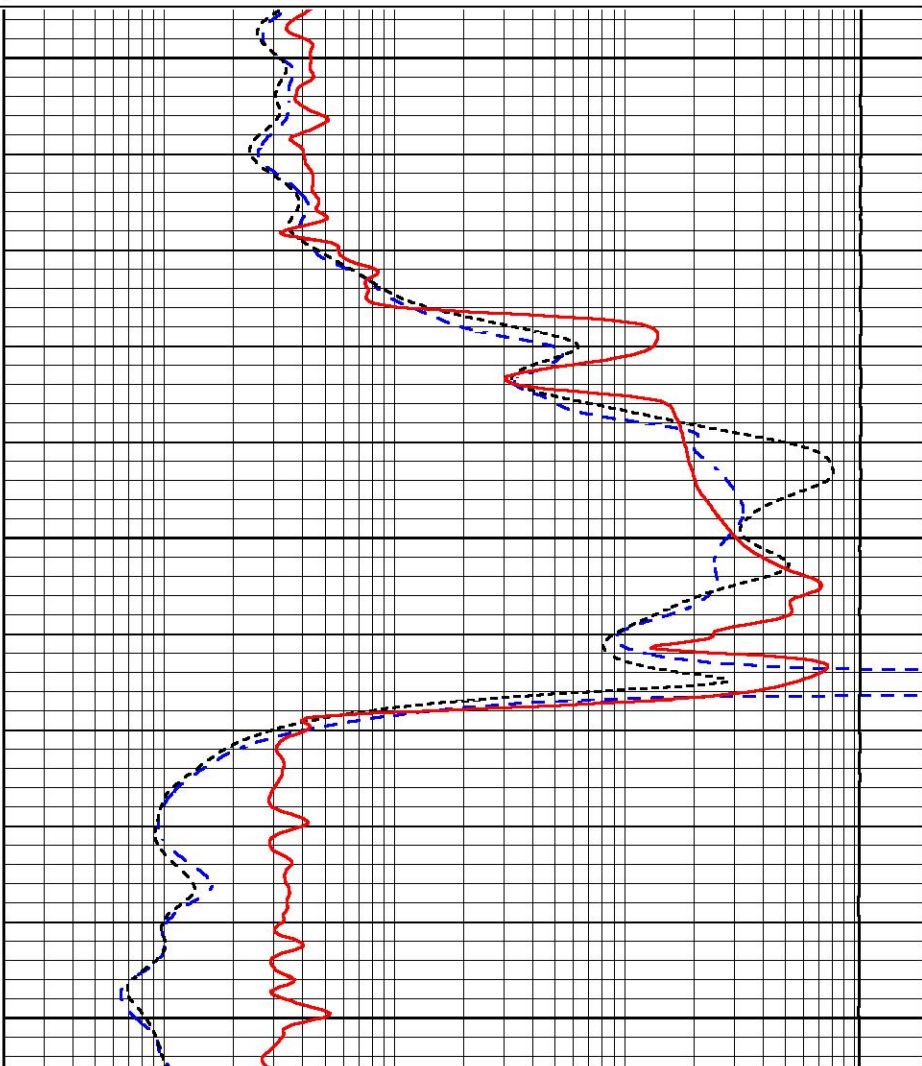
0.2 DEEP RESISTIVITY (Ohm-m) 2000
0.2 MEDIUM RESISTIVITY (Ohm-m) 2000
0.2 RLL3 (Ohm-m) 2000
15000 LINE TENSION (lb) 0



1600

1650

1700



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

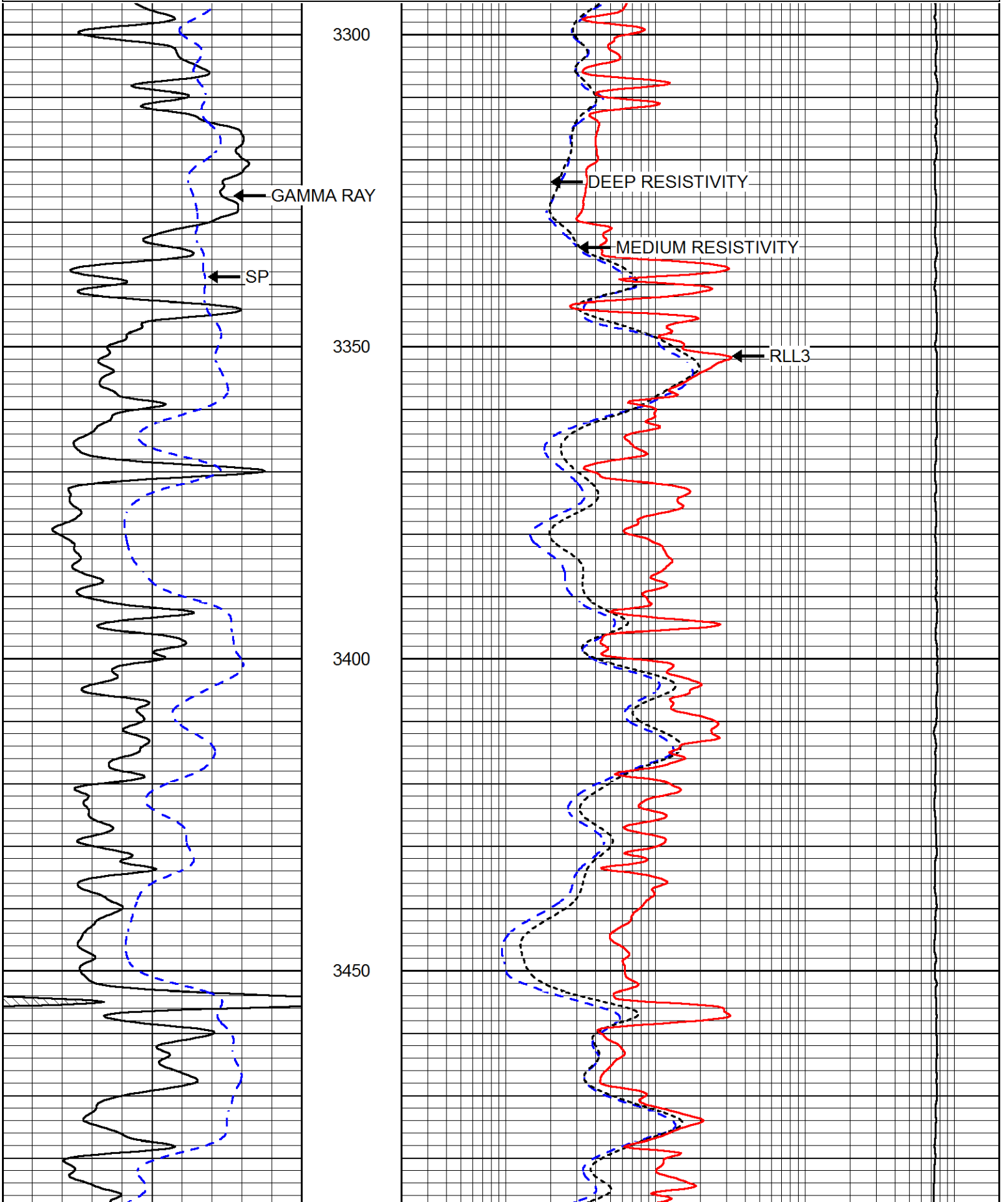
0.2 DEEP RESISTIVITY (Ohm-m) 2000
0.2 MEDIUM RESISTIVITY (Ohm-m) 2000
0.2 RLL3 (Ohm-m) 2000
15000 LINE TENSION (lb) 0

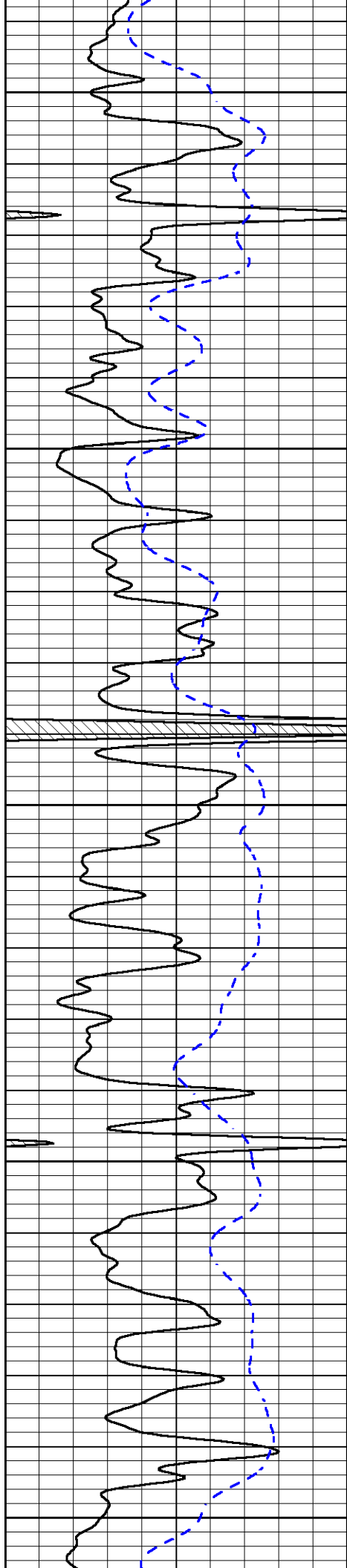


Database File kelso_honas_a_2.db
Dataset Pathname stackml/pass3.1
Presentation Format dil
Dataset Creation Sun Aug 27 05:56:23 2017

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





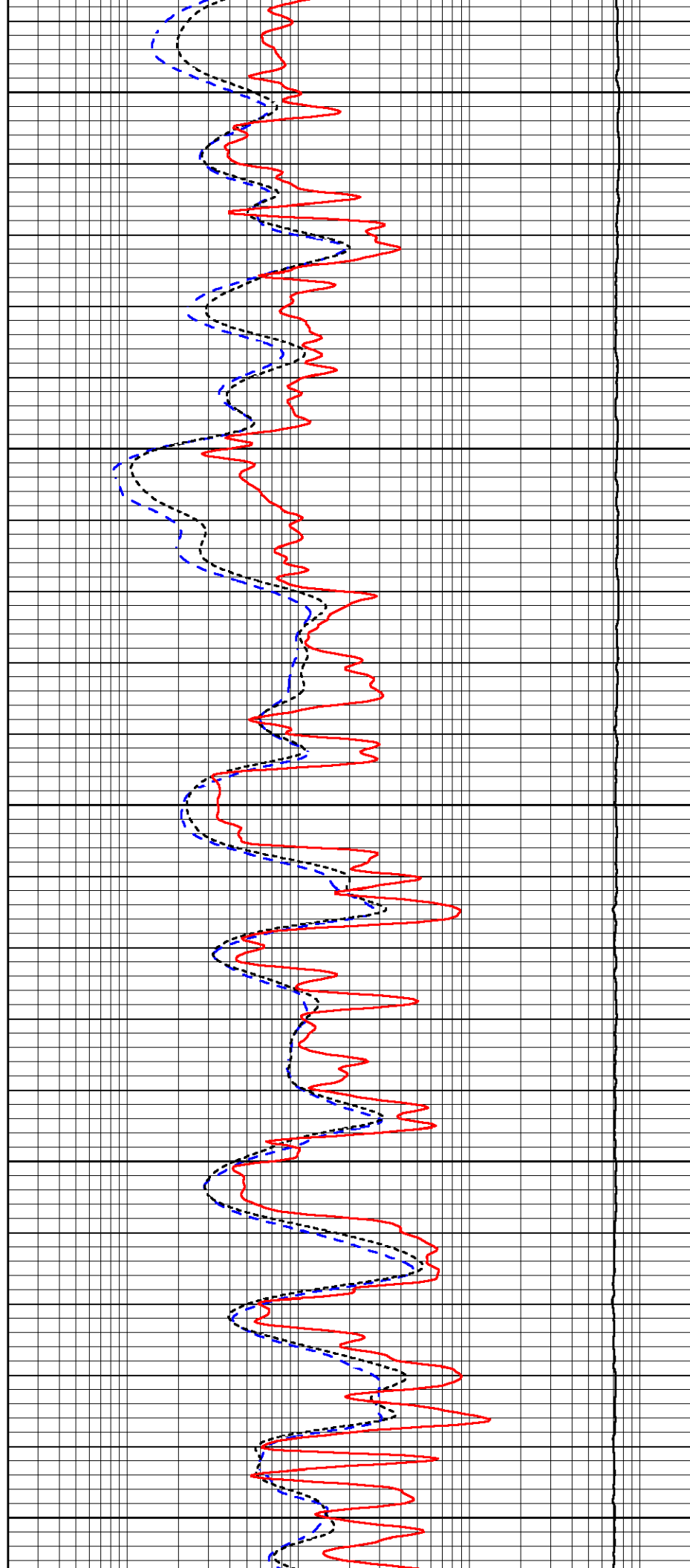
3500

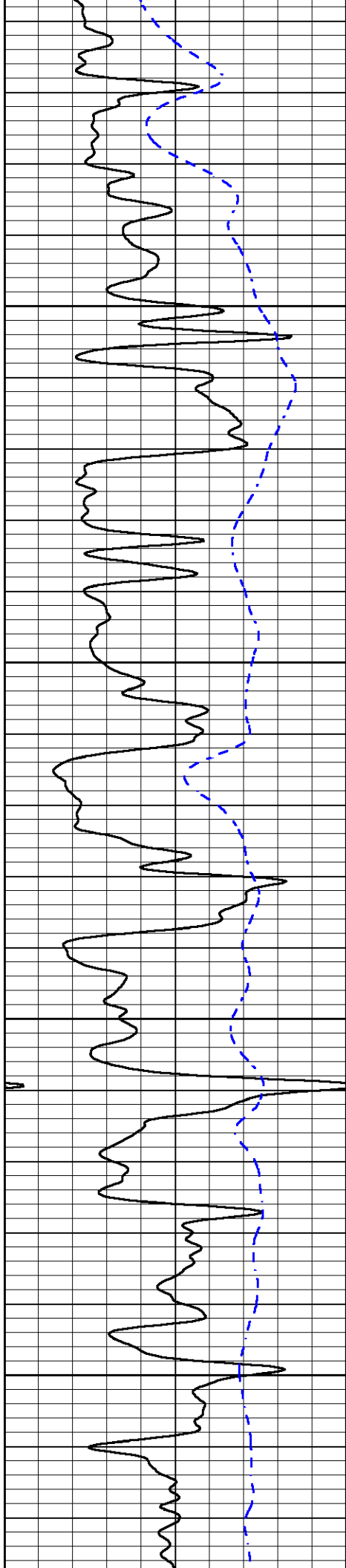
3550

3600

3650

3700



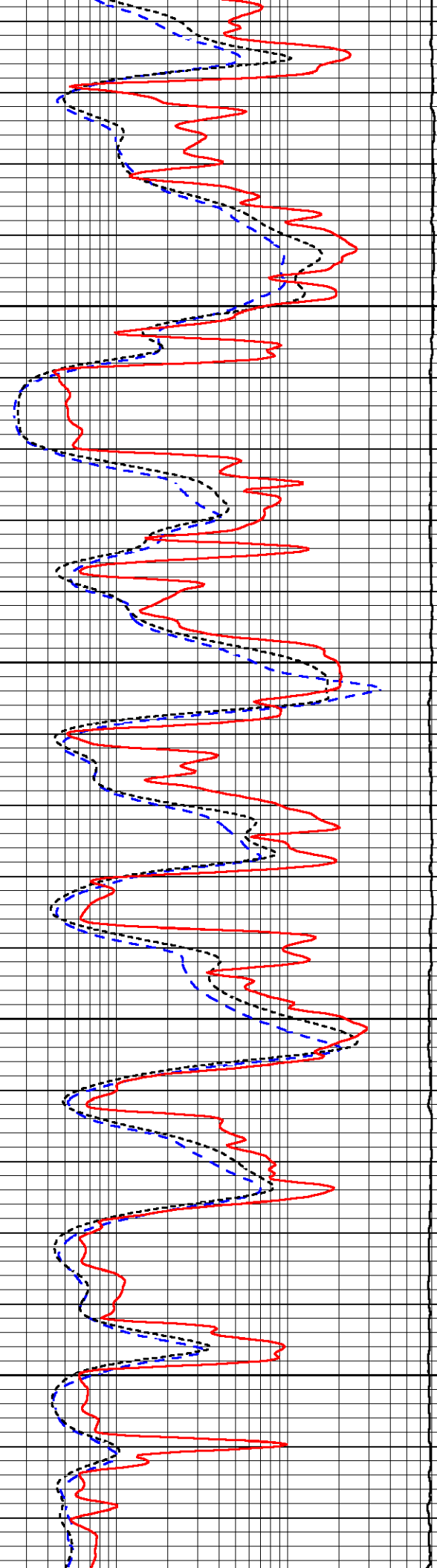


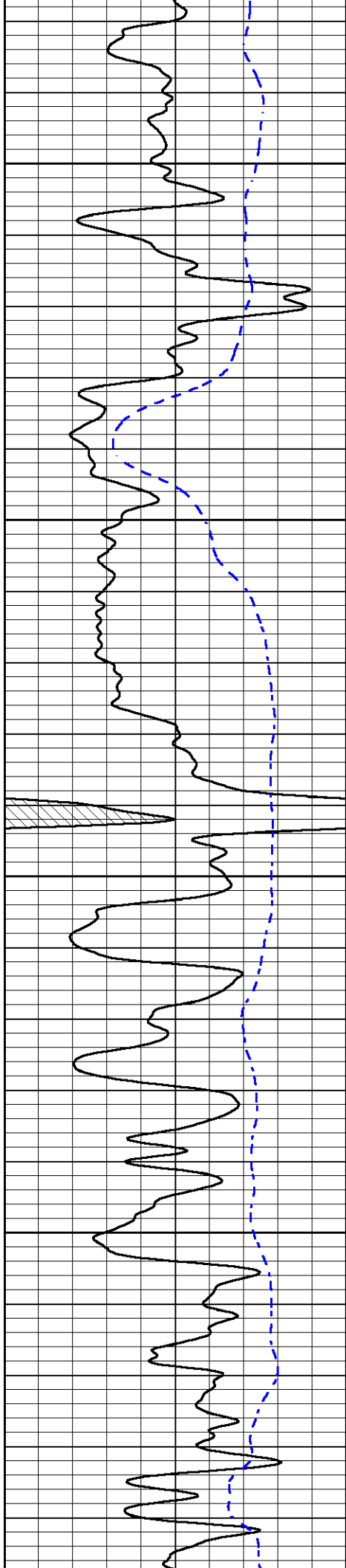
3750

3800

3850

3900



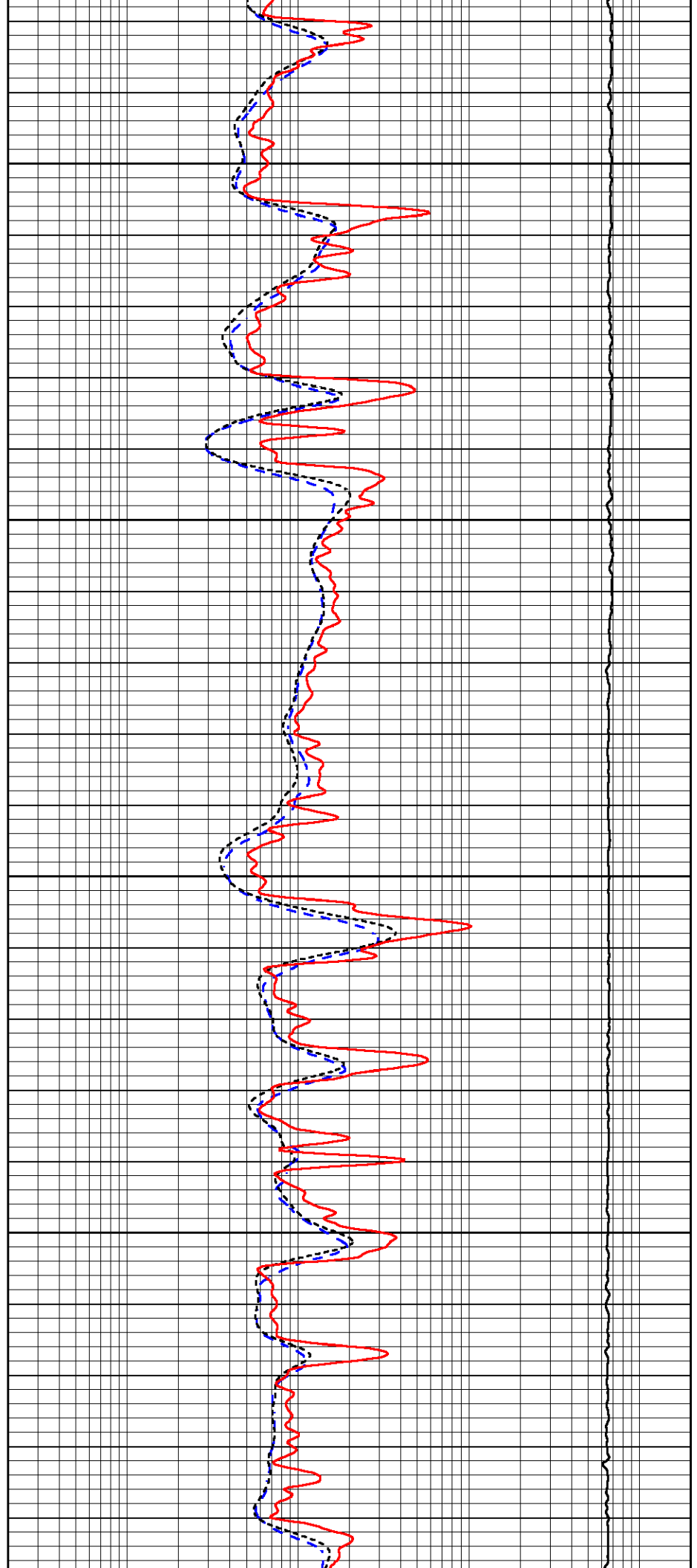


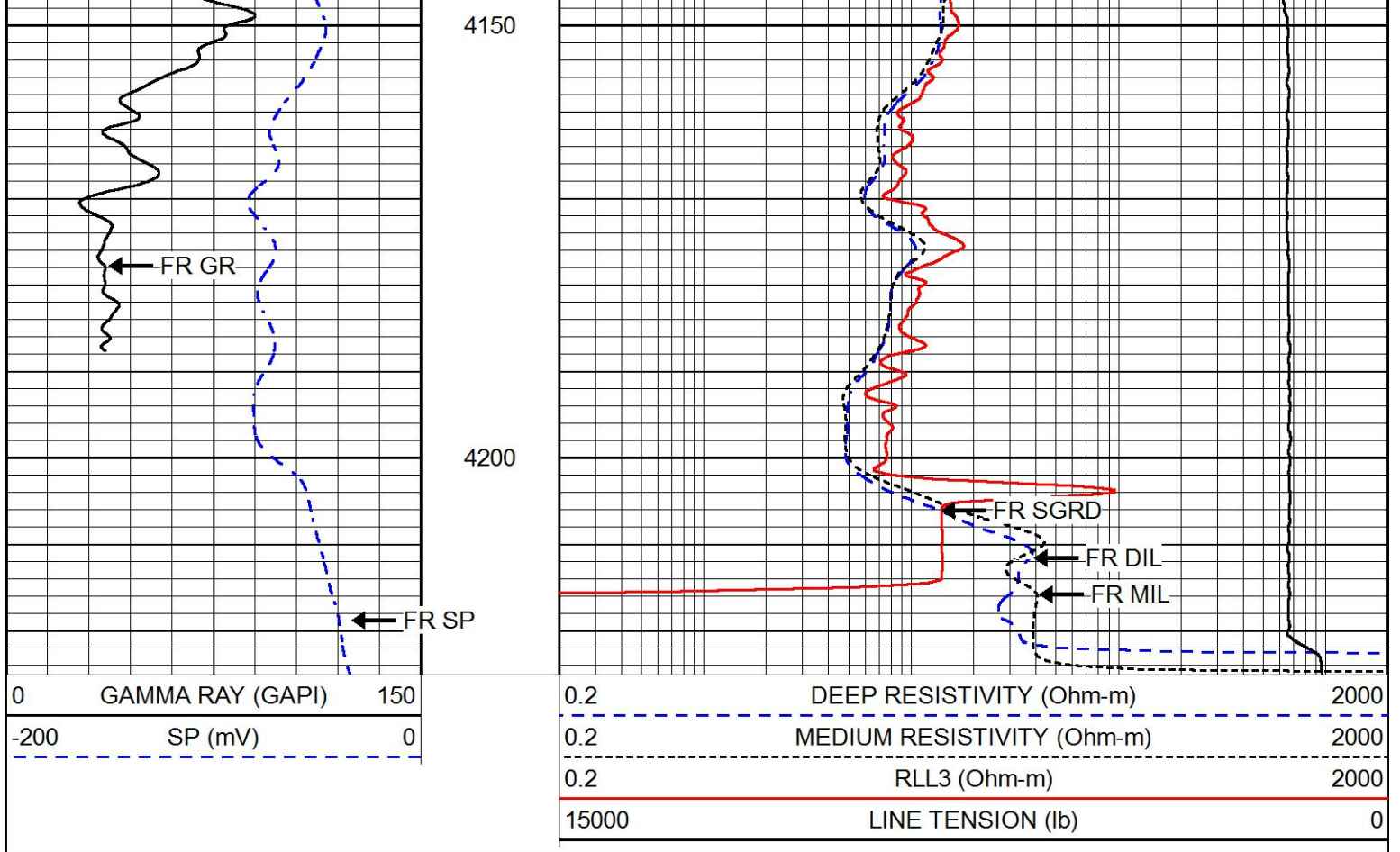
3950

4000

4050

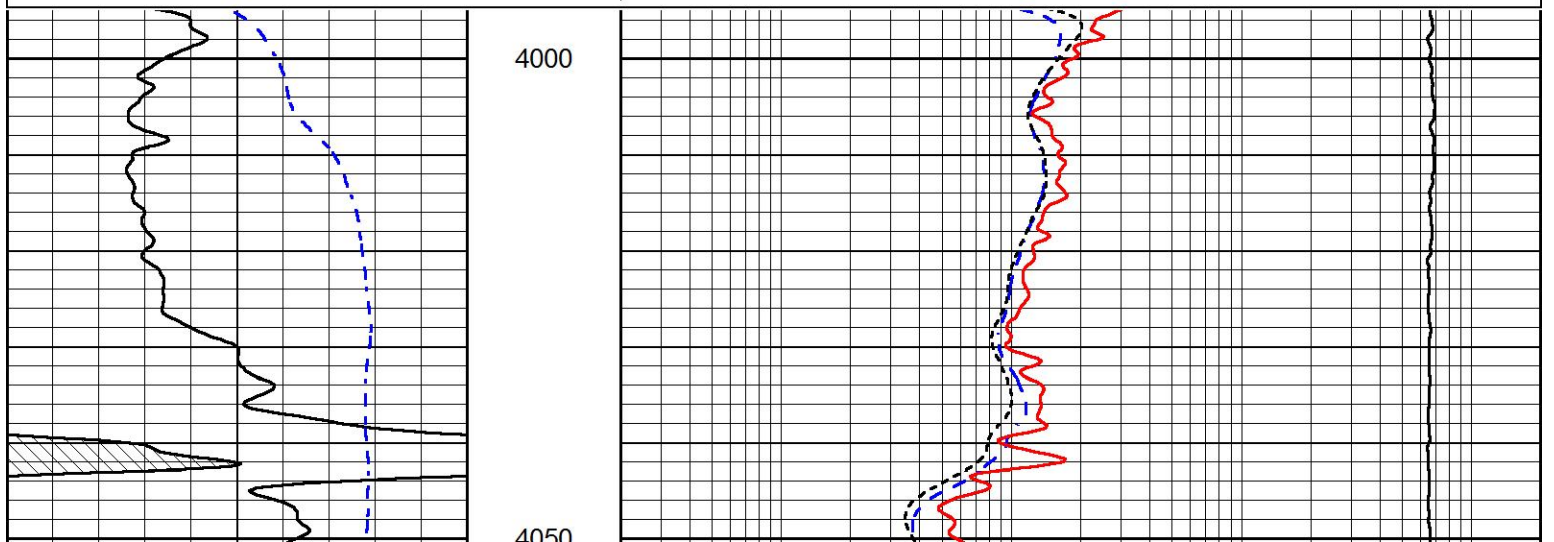
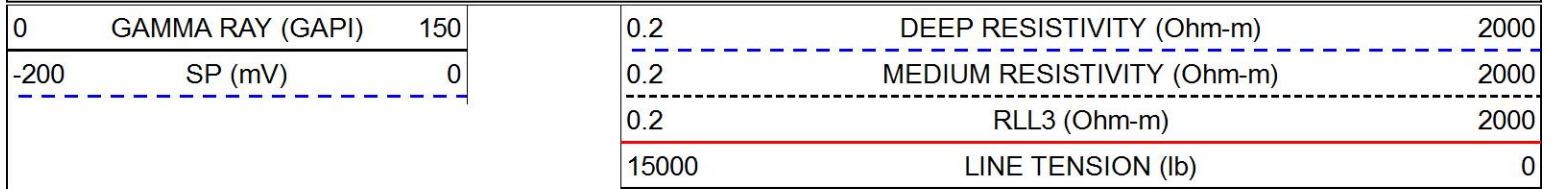
4100

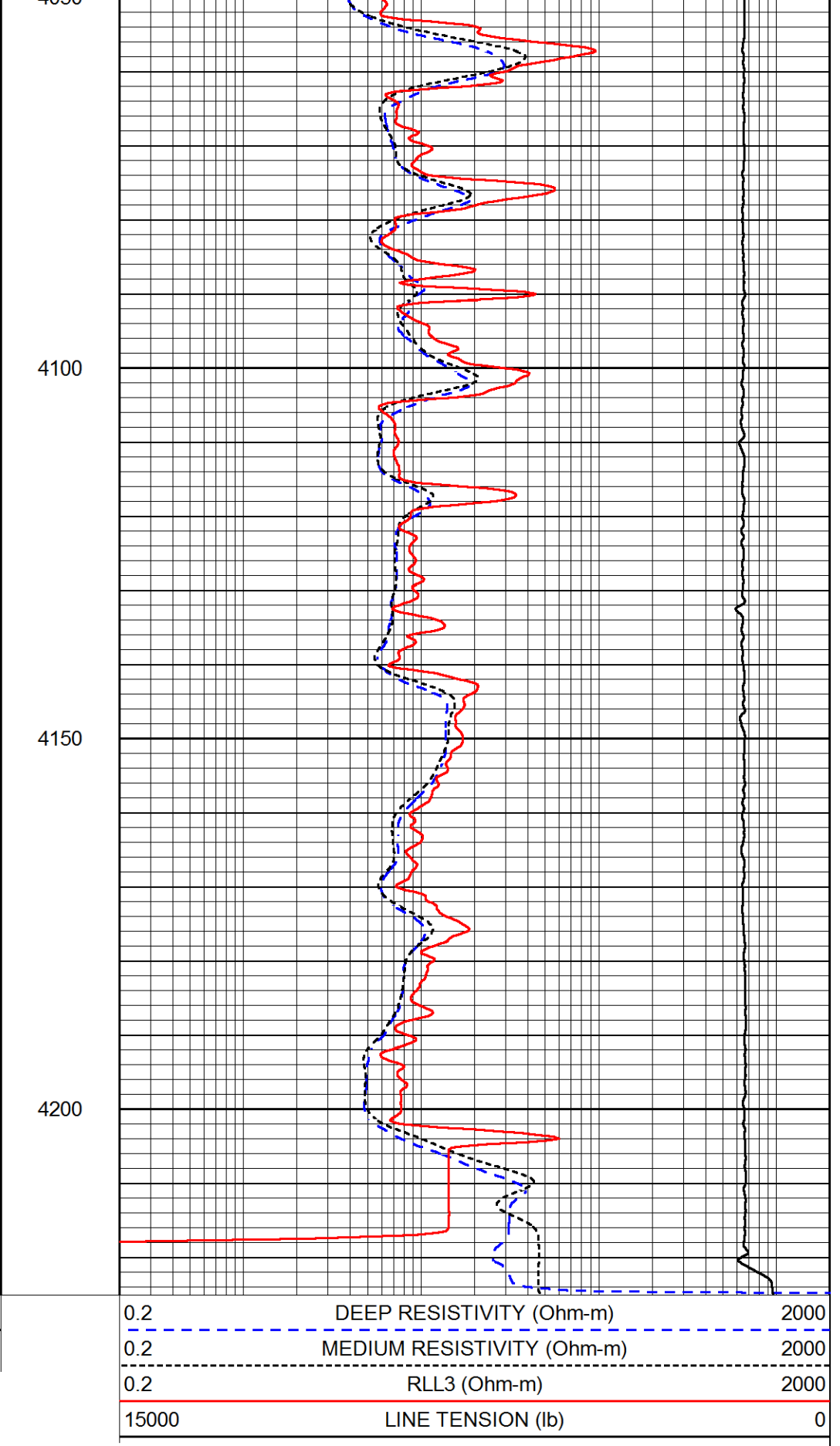
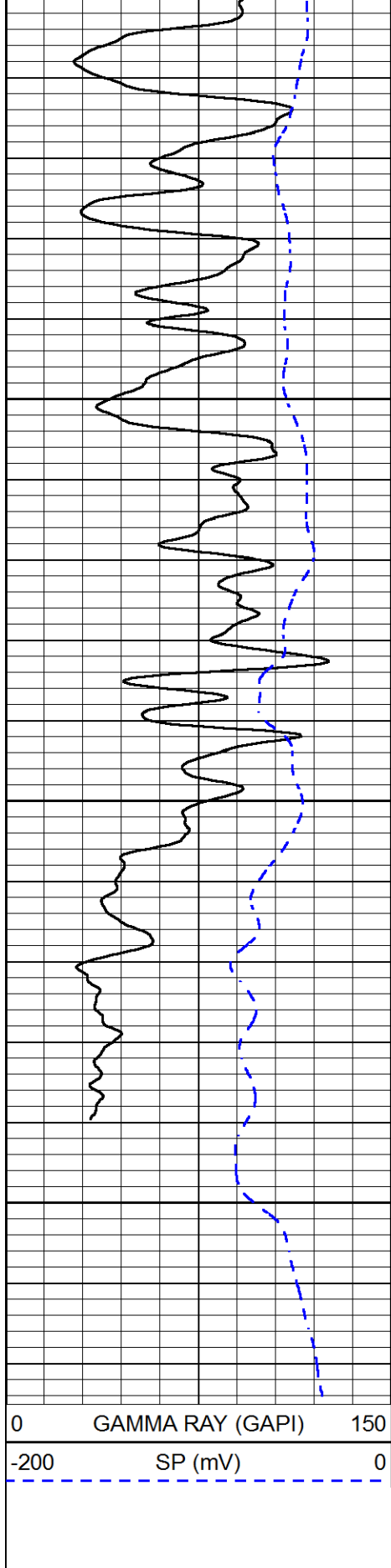




REPEAT SECTION

Database File kelso_honas_a_2.db
 Dataset Pathname stackml/pass2.1
 Presentation Format dil
 Dataset Creation Sun Aug 27 05:57:24 2017
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File kelso_honas_a_2.db
 Dataset Pathname stackml/pass3.1
 Dataset Creation Sun Aug 27 05:56:23 2017

Dual Induction Calibration Report

Serial-Model: 1987-M&W
 Calibration Performed: Tue Apr 11 16:07:38 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML
 Performed: Fri Jun 23 00:25:19 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0031	0.0043	0.0000	10.0000	Ohm-m	18000.0000	0.0000
Inverse	0.0000	0.0013	0.0000	10.0000	Ohm-m	20000.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1560	-131.4500

Compensated Density Calibration Report

Serial-Model: 168-986-M&W
 Source / Verifier: /
 Master Calibration Performed: Tue Apr 11 16:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.675	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.523		
	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 16:08:01 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	MIKE KELSO OIL, INC.
Well	HONAS A NO.2
Field	WILDCAT
County	TREGO
State	KANSAS