



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **K&N PETROLEUM, INC.**
Well **NORMAN KLEPPER A NO.1**
Field **UNKNOWN**
County **STAFFORD** State **KANSAS**

Location: API #: 15-185-24000-00-00

Other Services

NE-SW-SE-SW
475' FSL & 1801' FWL
SEC 17 TWP 22S RGE 11W

CNL/CDL
MEL/BHCS

Permanent Datum GROUND LEVEL Elevation 1830'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1839'
D.F. N/A
G.L. 1830'

Date 10/31/2017

Run Number ONE

Depth Driller 3700'

Depth Logger 3694'

Bottom Logged Interval 3693'

Top Log Interval 350'

Casing Driller 8.625" @ 371'

Casing Logger 368'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 12000

Density / Viscosity 9.5 49

pH / Fluid Loss 8.0 14.4

Source of Sample FLOWLINE

Rm @ Meas. Temp .35 @ 58

Rmt @ Meas. Temp .26 @ 58

Rmc @ Meas. Temp .47 @ 58

Source of Rmt / Rmc CHARTS

Rm @ BHT .18 @ 113

Operating Rig Time 4 HOURS

Max Rec. Temp. F 113 DEGF

Equipment Number 108

Location HAYS

Recorded By J. HENRICKSON

Witnessed By WYATT URBAN

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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.

GREAT BEND KANSAS

SOUTH TO HWY 19, EAST TO STAFFORD ROAD, 1 SOUTH
1 3/4 EAST, SOUTH INTO(FOLLOW CURVY ROAD TO WELL)

Log Measured From: KELLY BUSHING 9 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew

This Log Record Was Witnessed By

Engineer: J. HENRICKSON
Operator:
Operator:
Operator:

Primary Witness: WYATT URBAN
Secondary Witness:
Secondary Witness:
Secondary Witness:

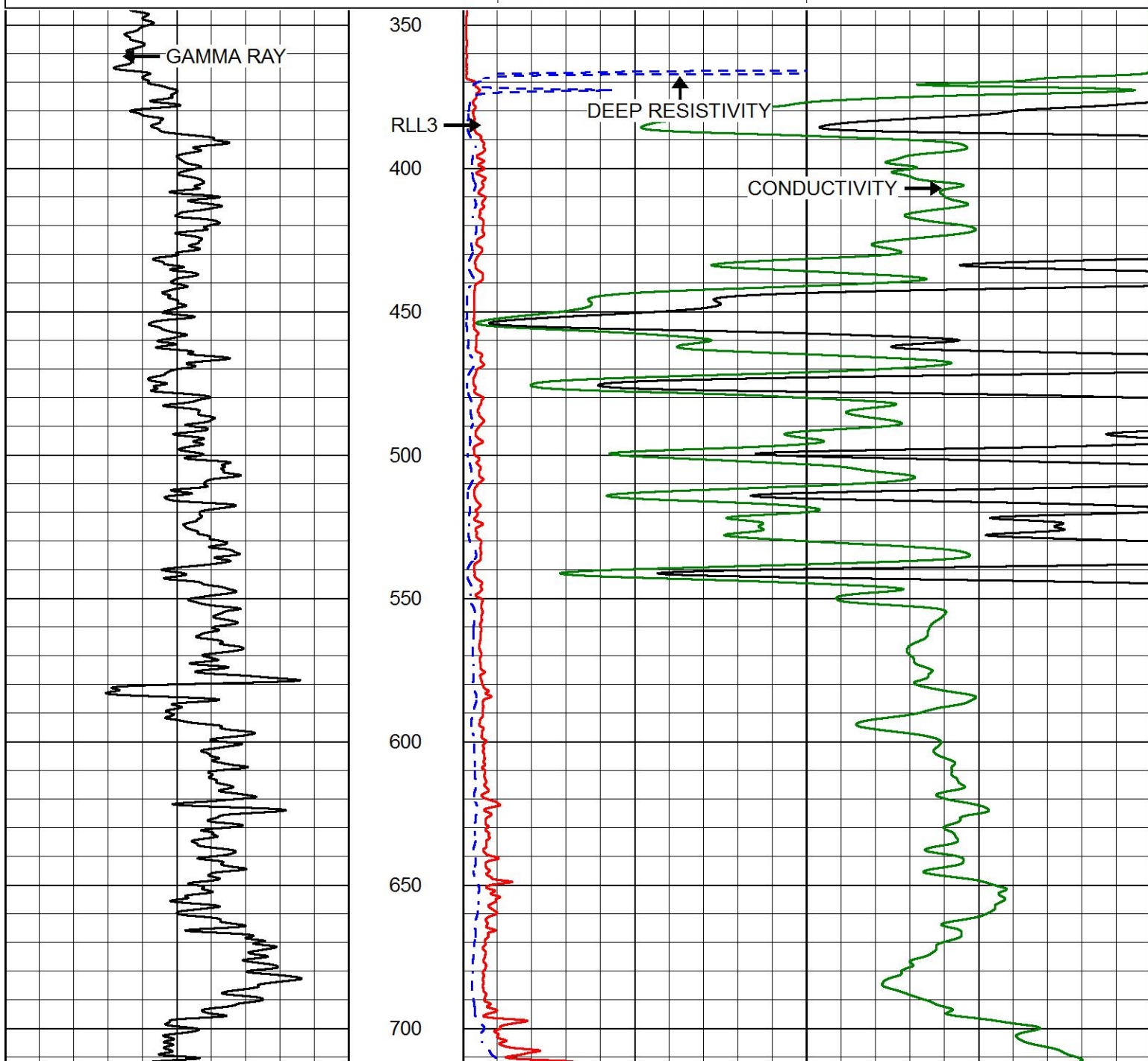
MAIN PASS

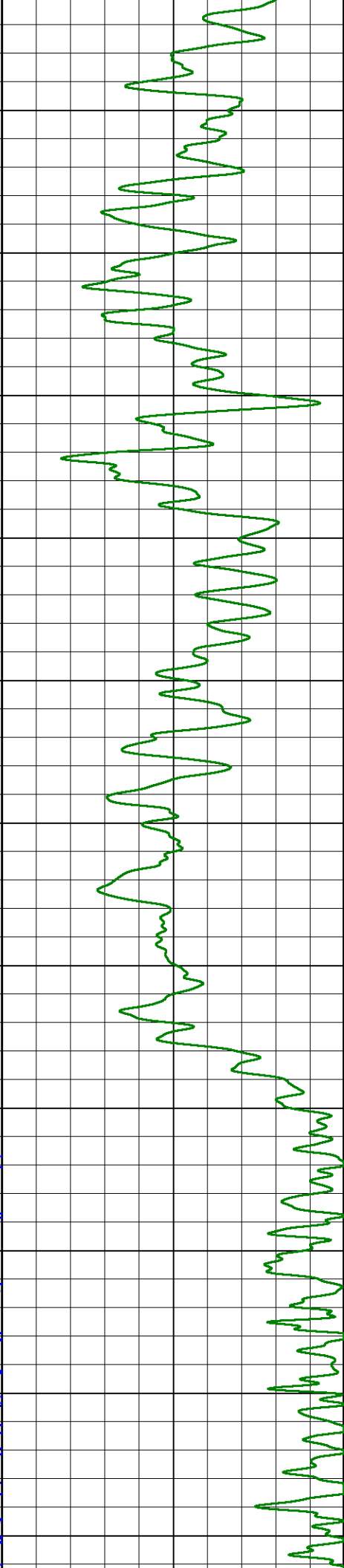
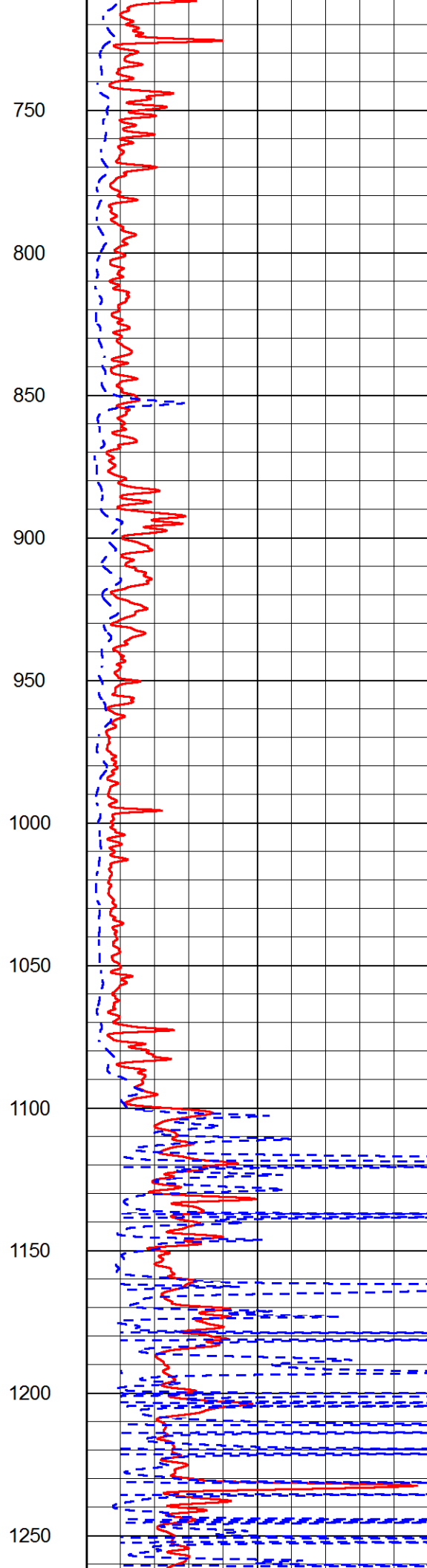
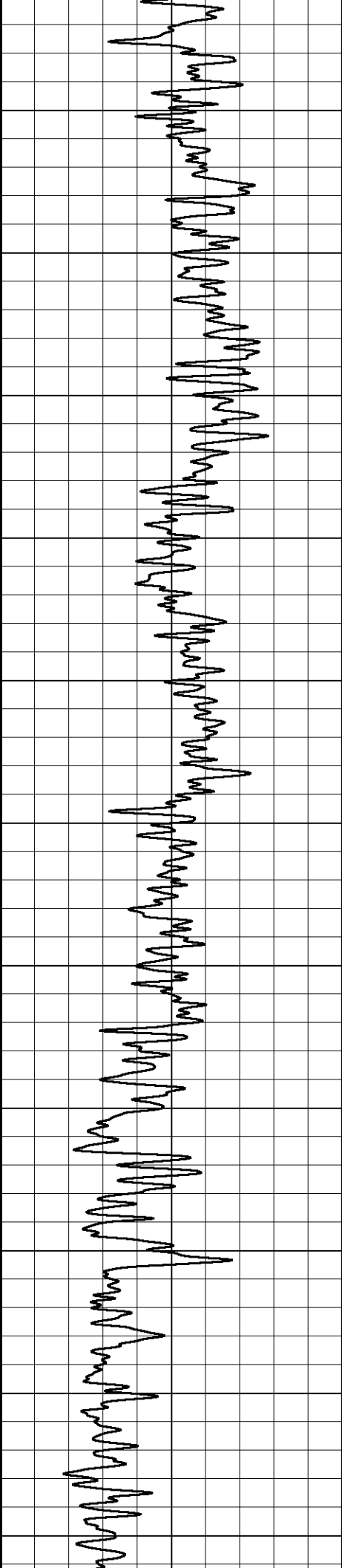
Database File k&n_norman_klepper_a_1.db
 Dataset Pathname stack/pass3.1
 Presentation Format dil2in
 Dataset Creation Tue Oct 31 02:20:02 2017
 Charted by Depth in Feet scaled 1:600

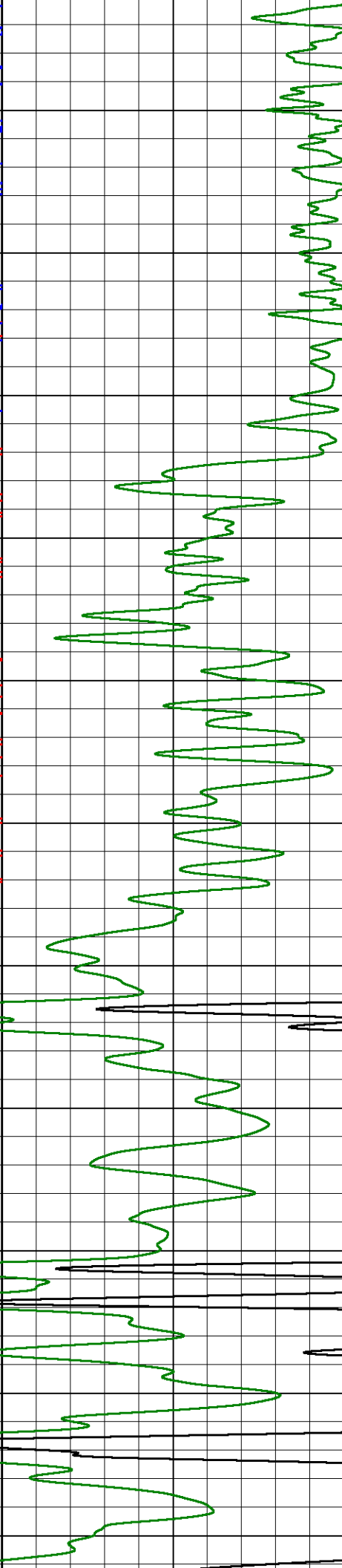
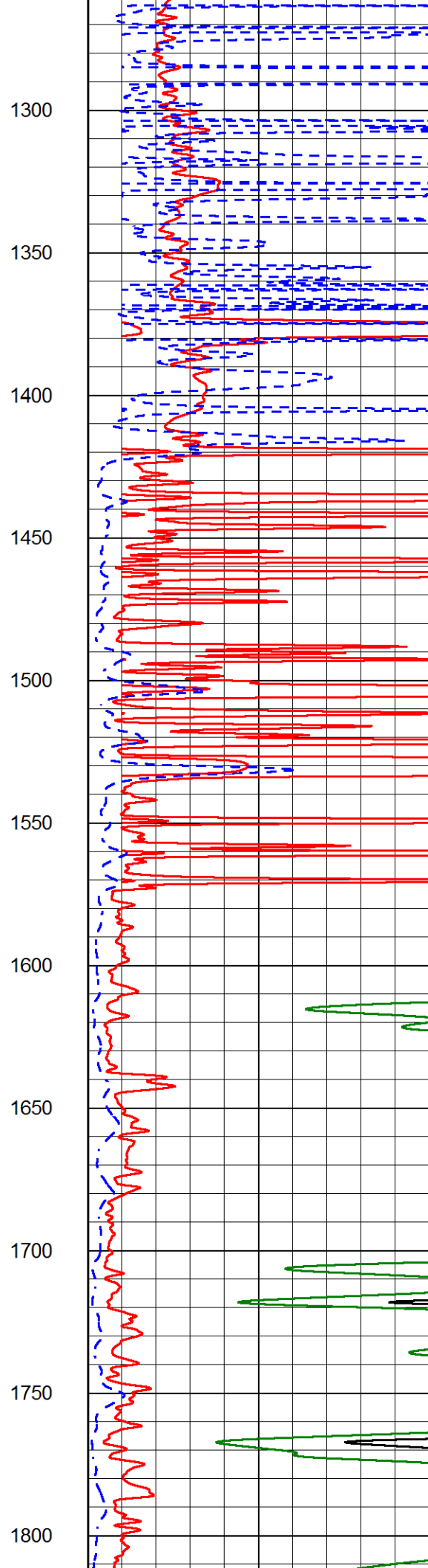
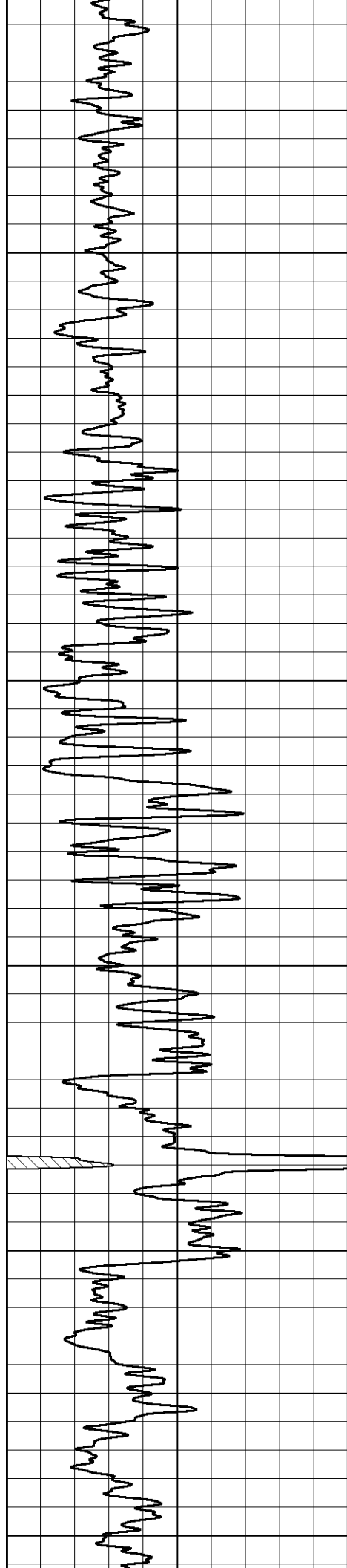
0 GAMMA RAY (GAPI) 150

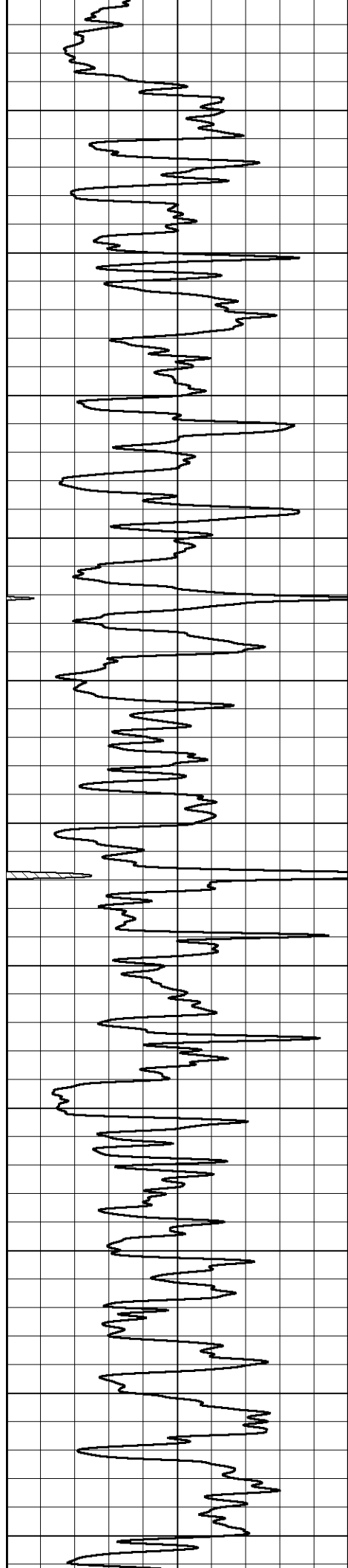
2000 CONDUCTIVITY (mmho/m) 0

0	RLL3 (Ohm-m)	50
0	DEEP RESISTIVITY (Ohm-m)	50
50	RLL3 (Ohm-m)	500
DEEP RESISTIVITY		
50	(Ohm-m)	500

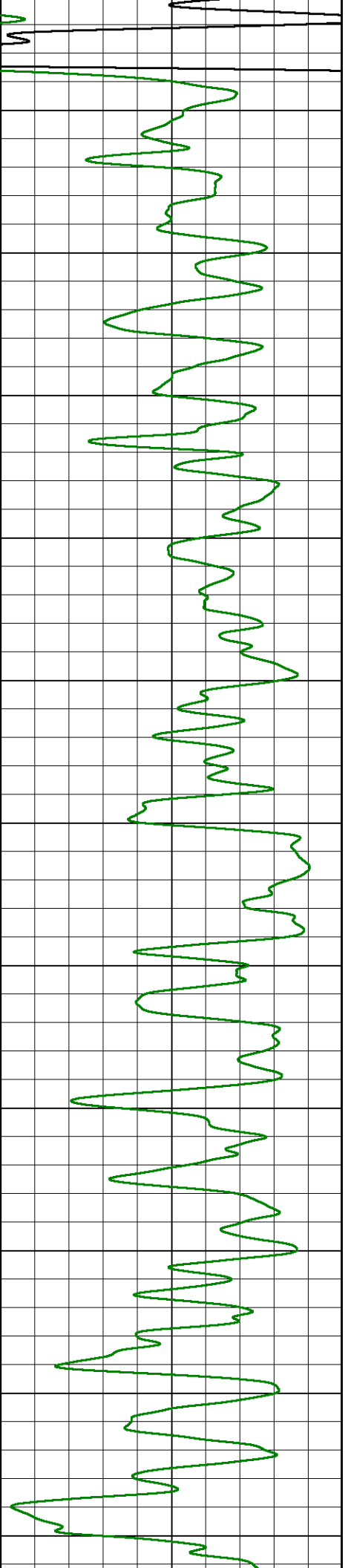
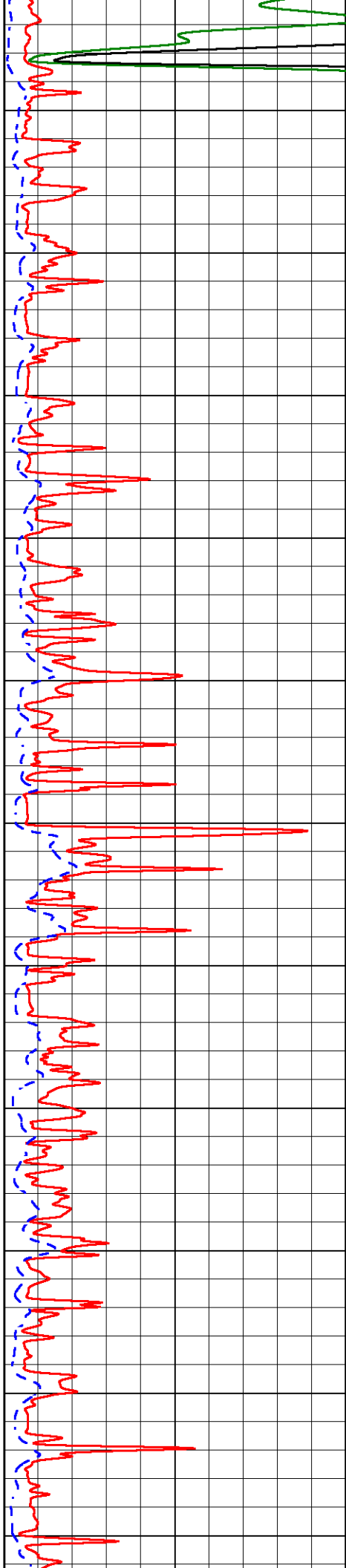


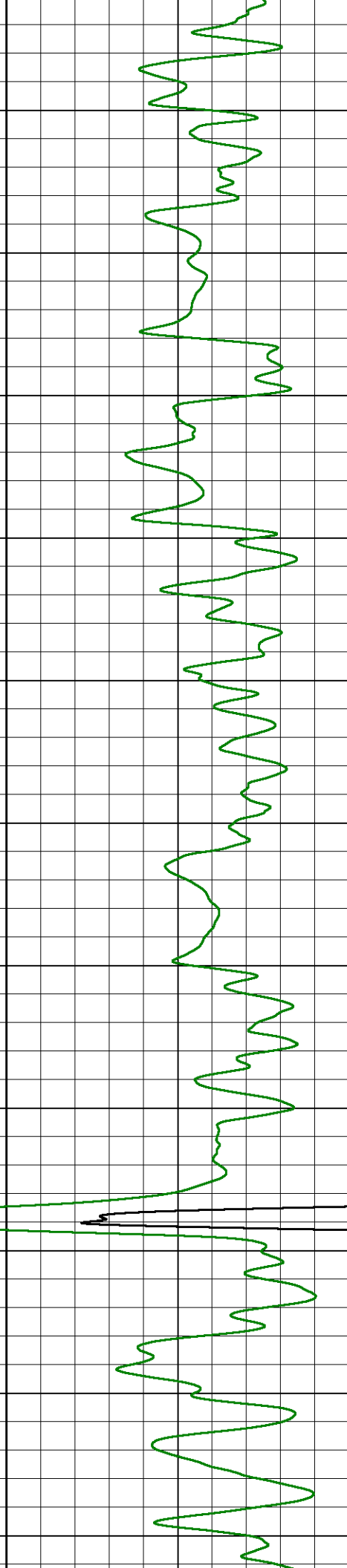
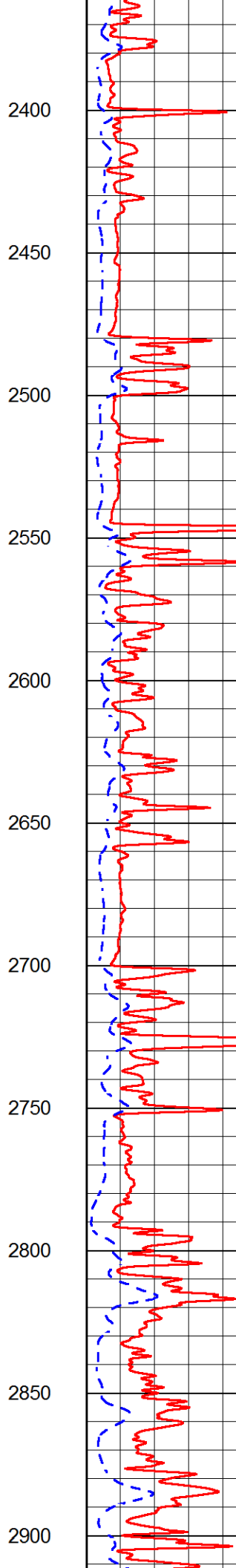
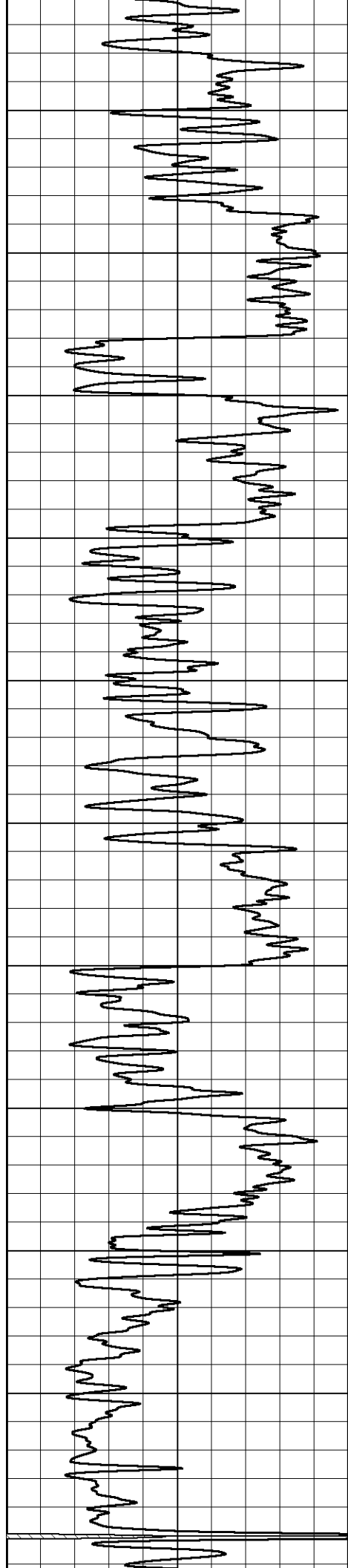


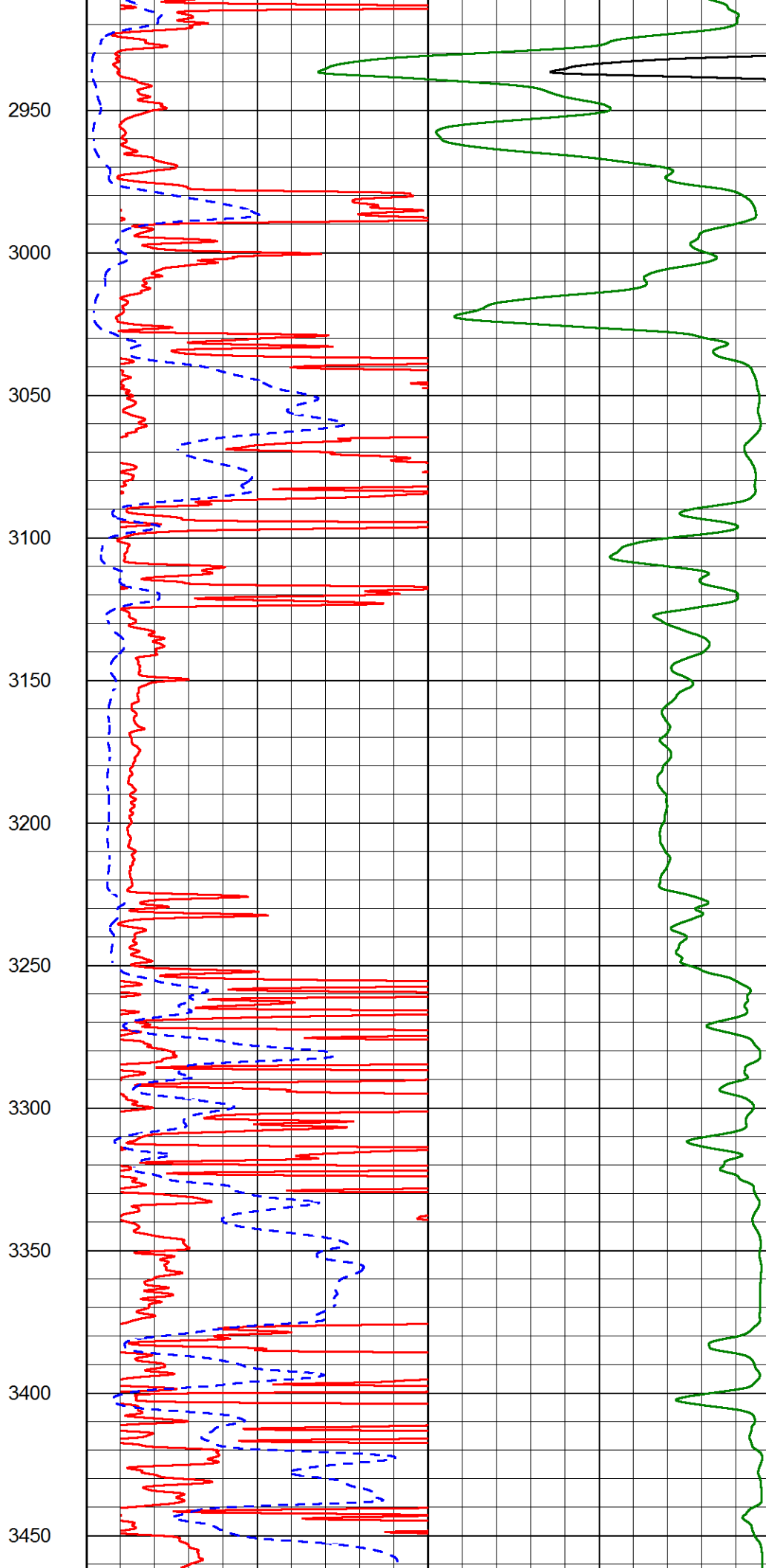
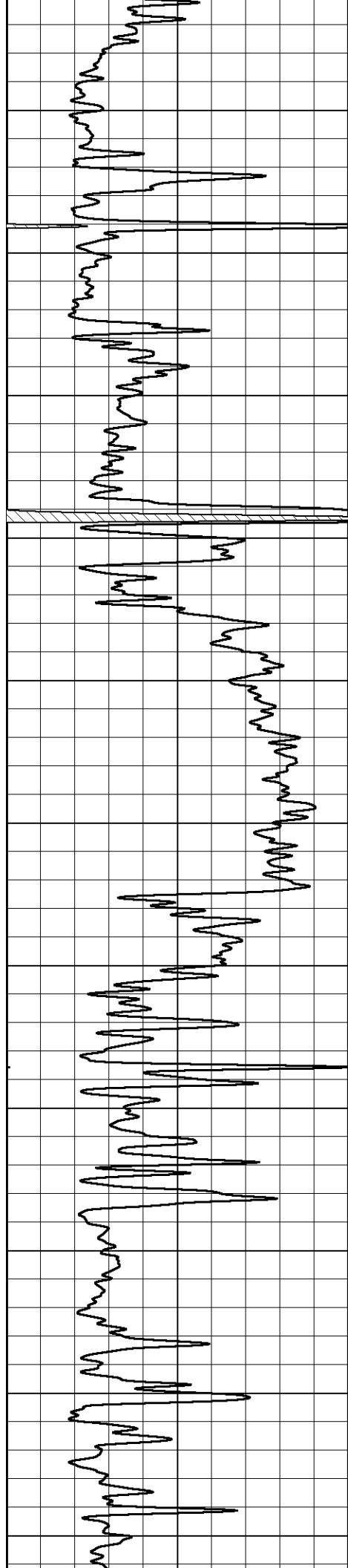


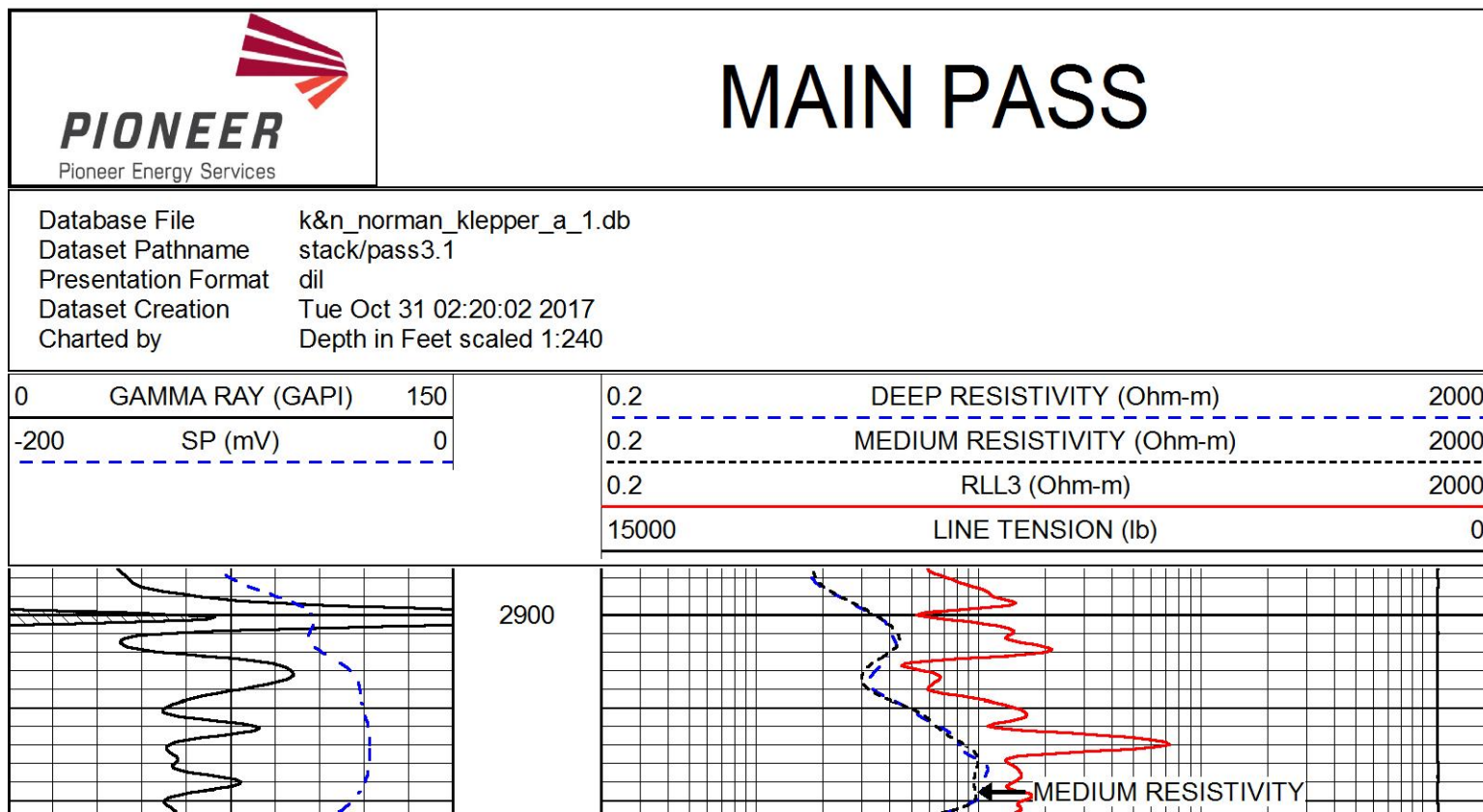
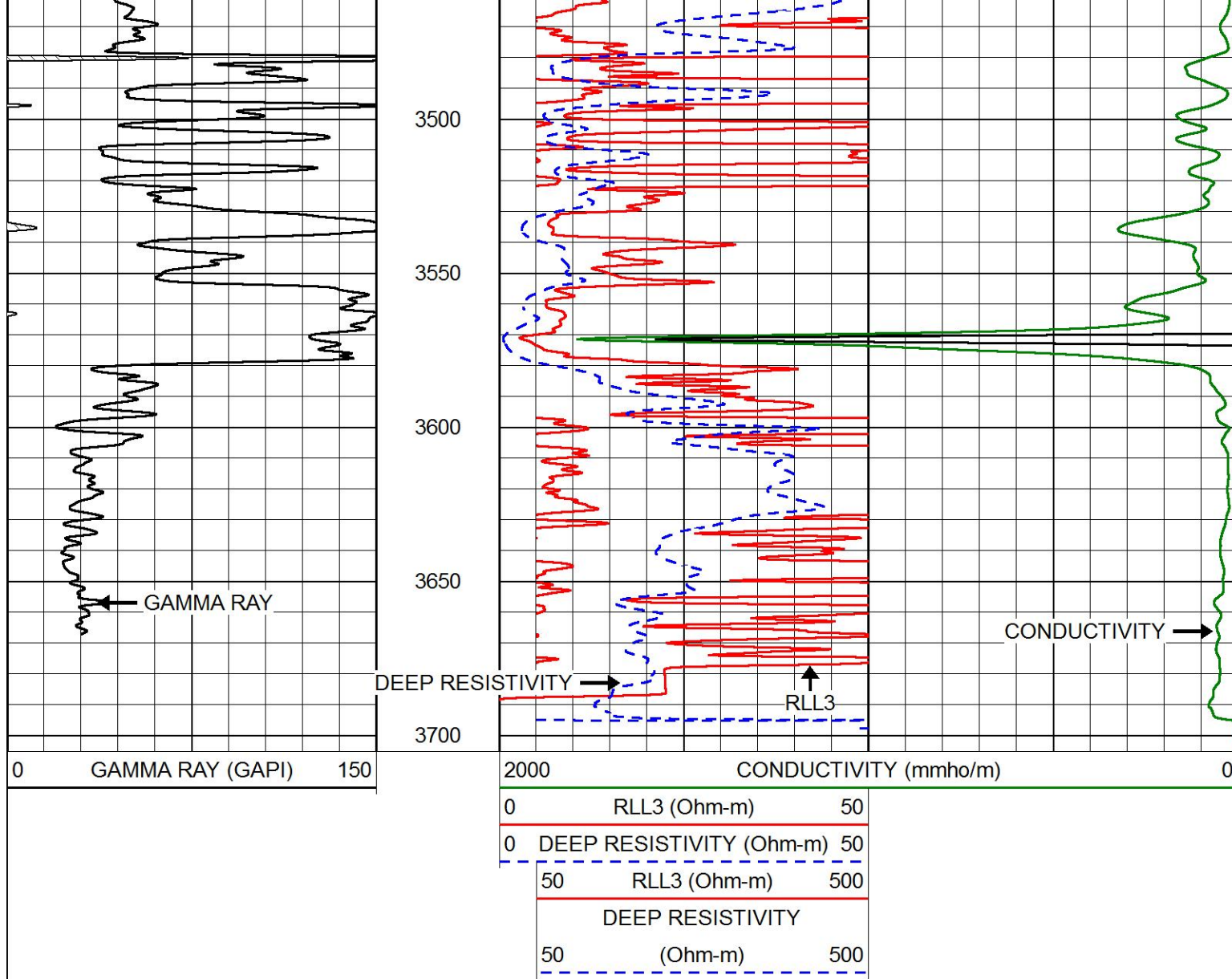


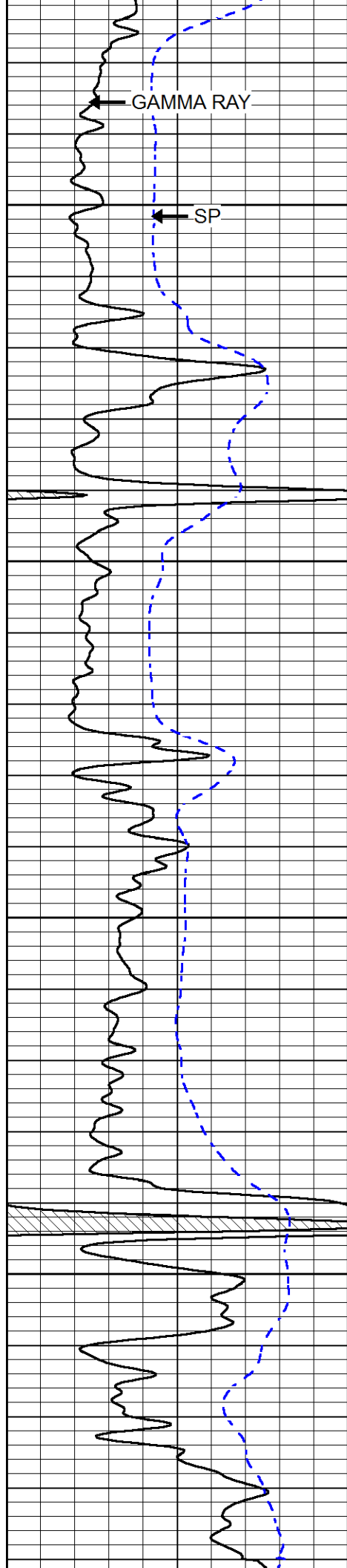
1850
1900
1950
2000
2050
2100
2150
2200
2250
2300
2350









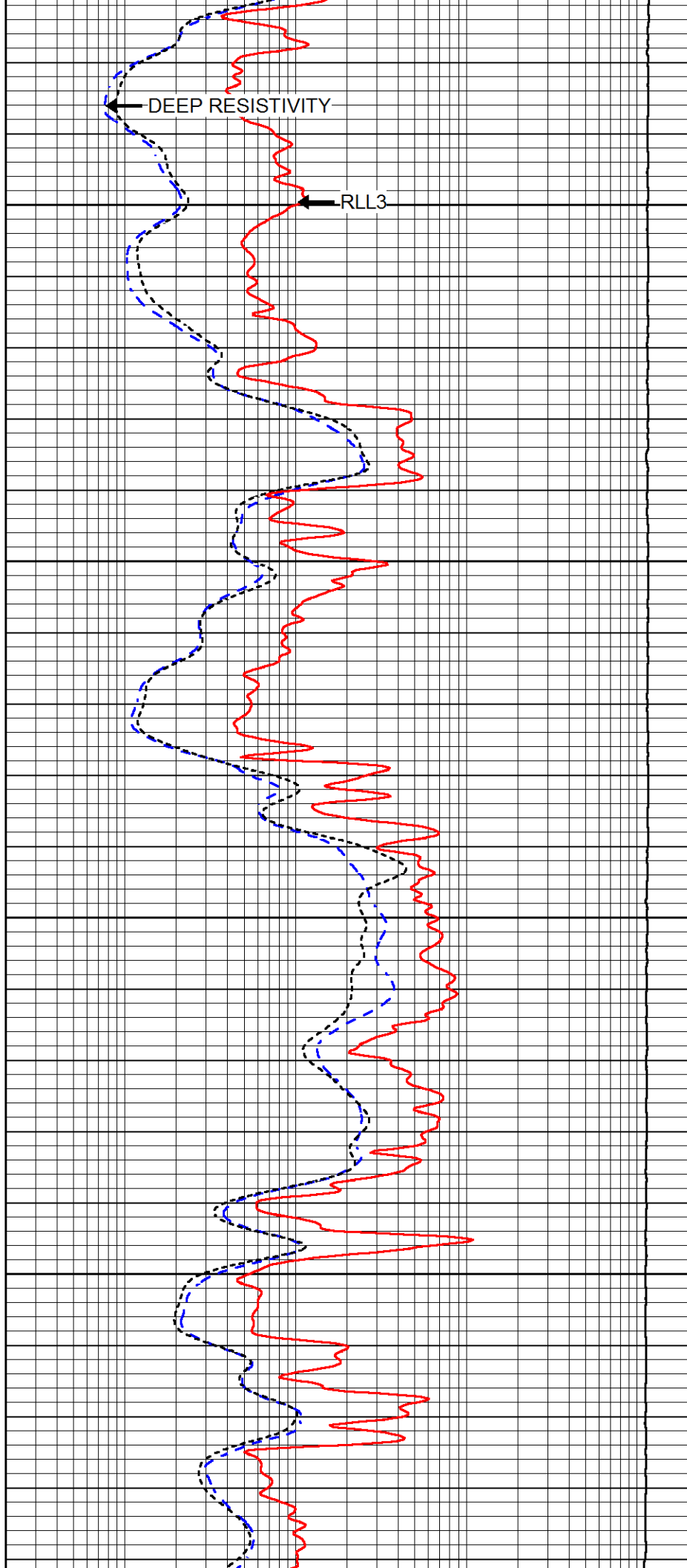


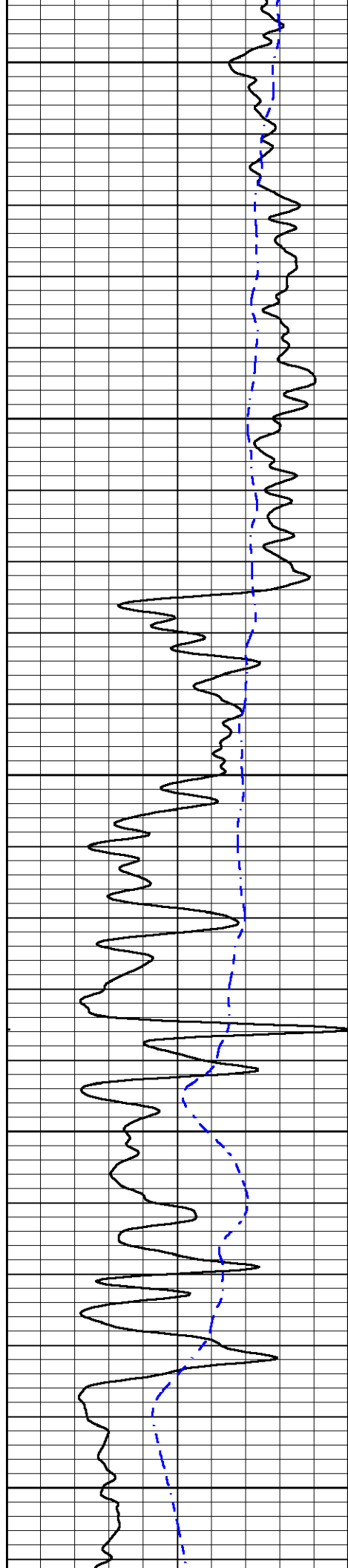
2950

3000

3050

3100





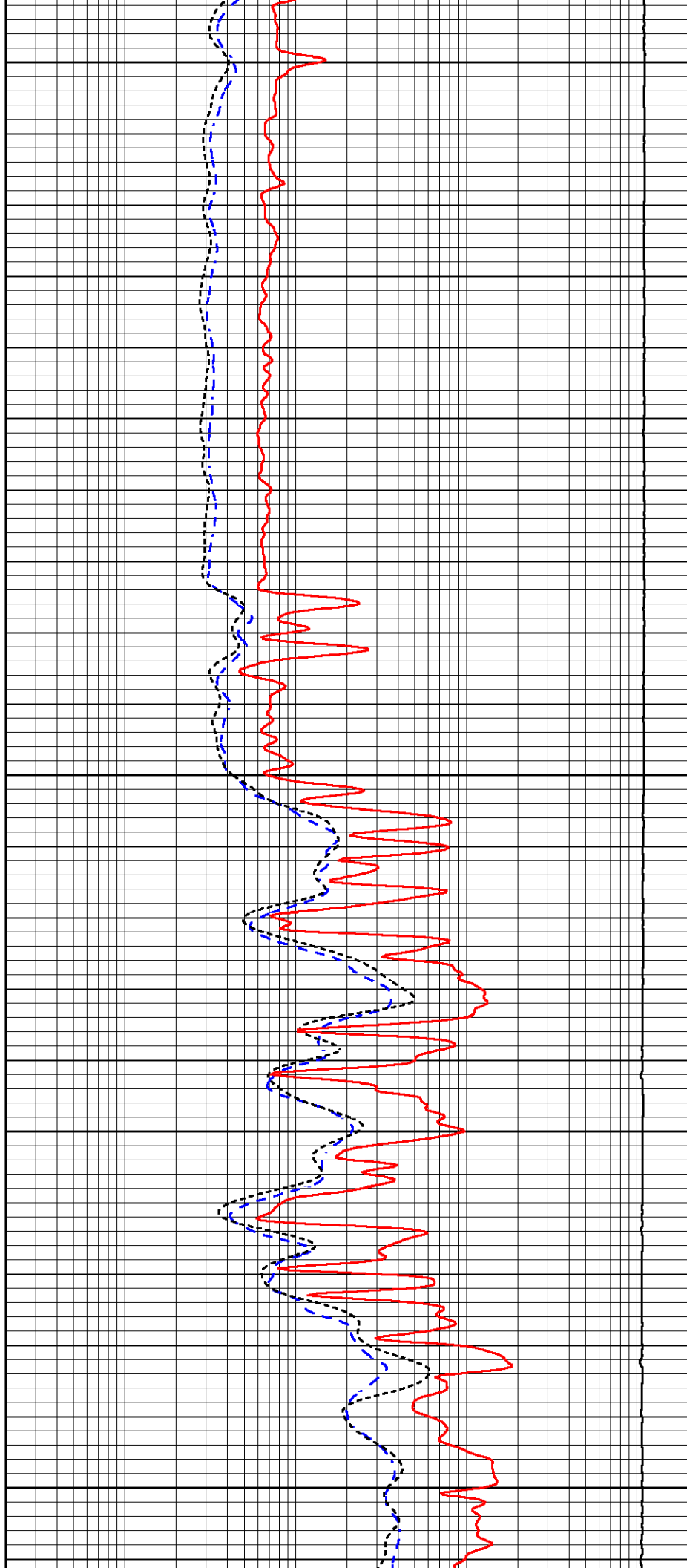
3150

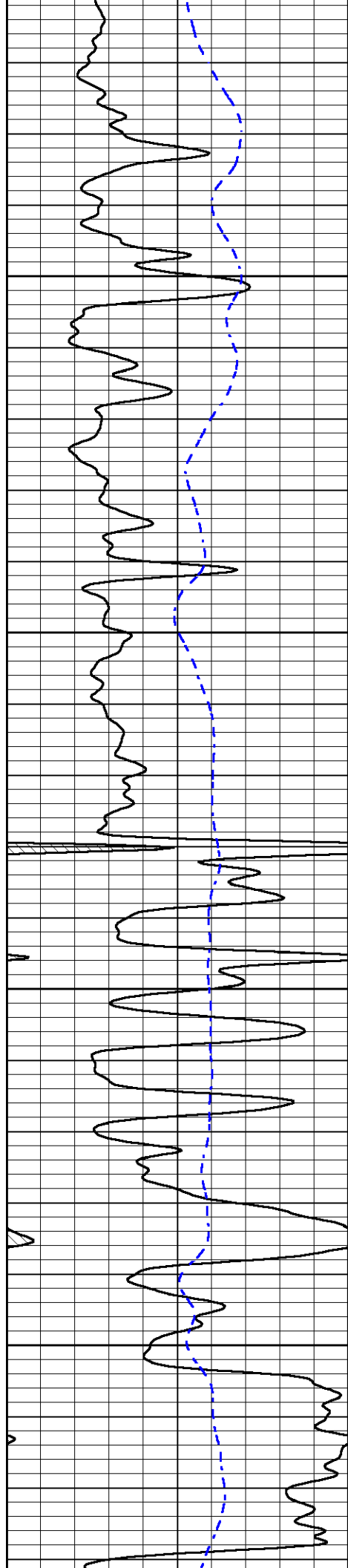
3200

3250

3300

3350



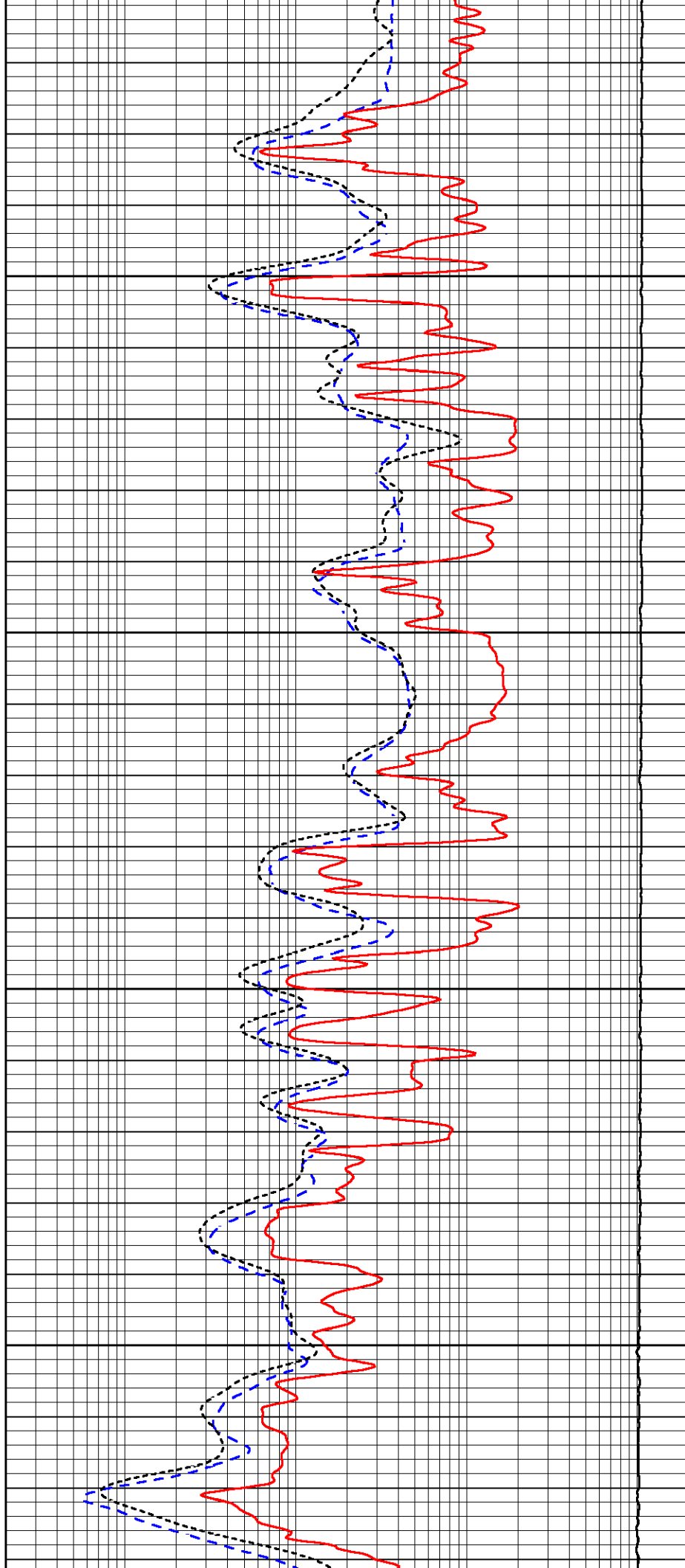


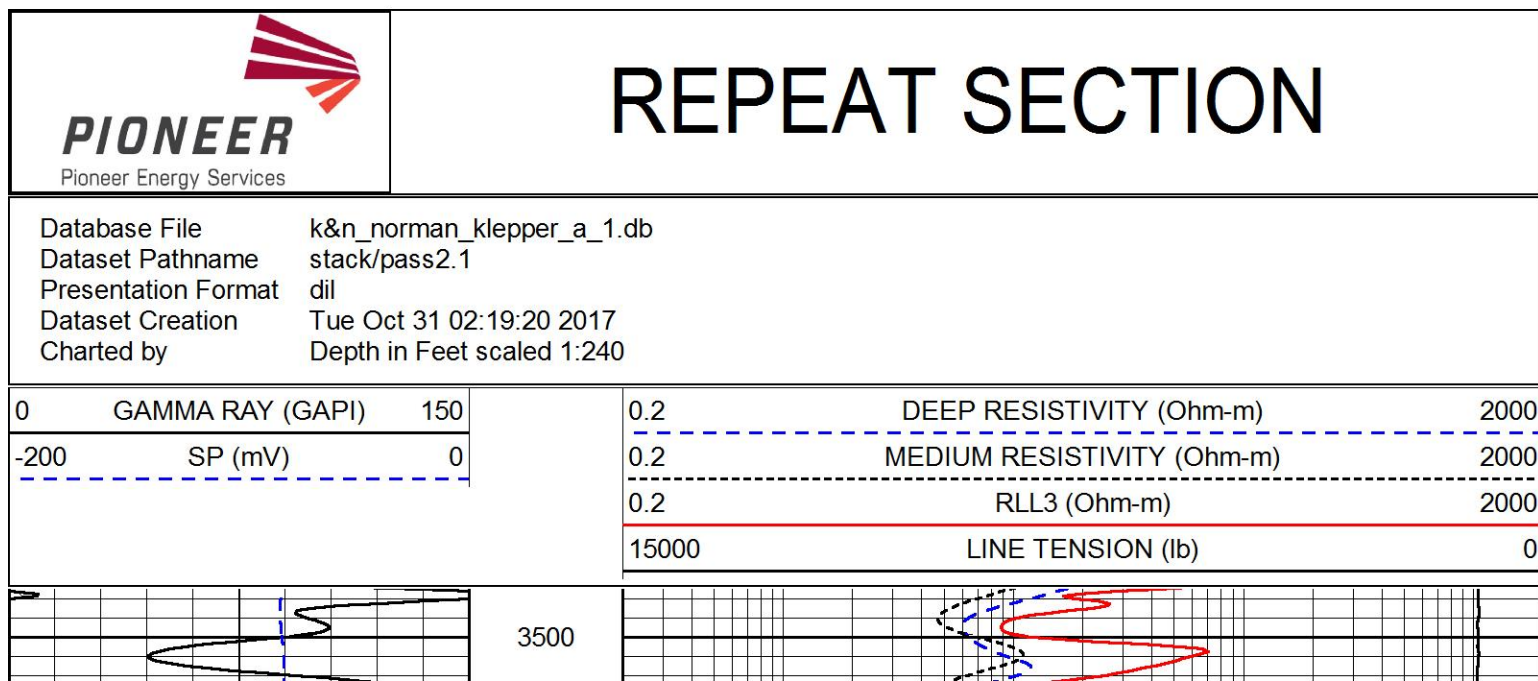
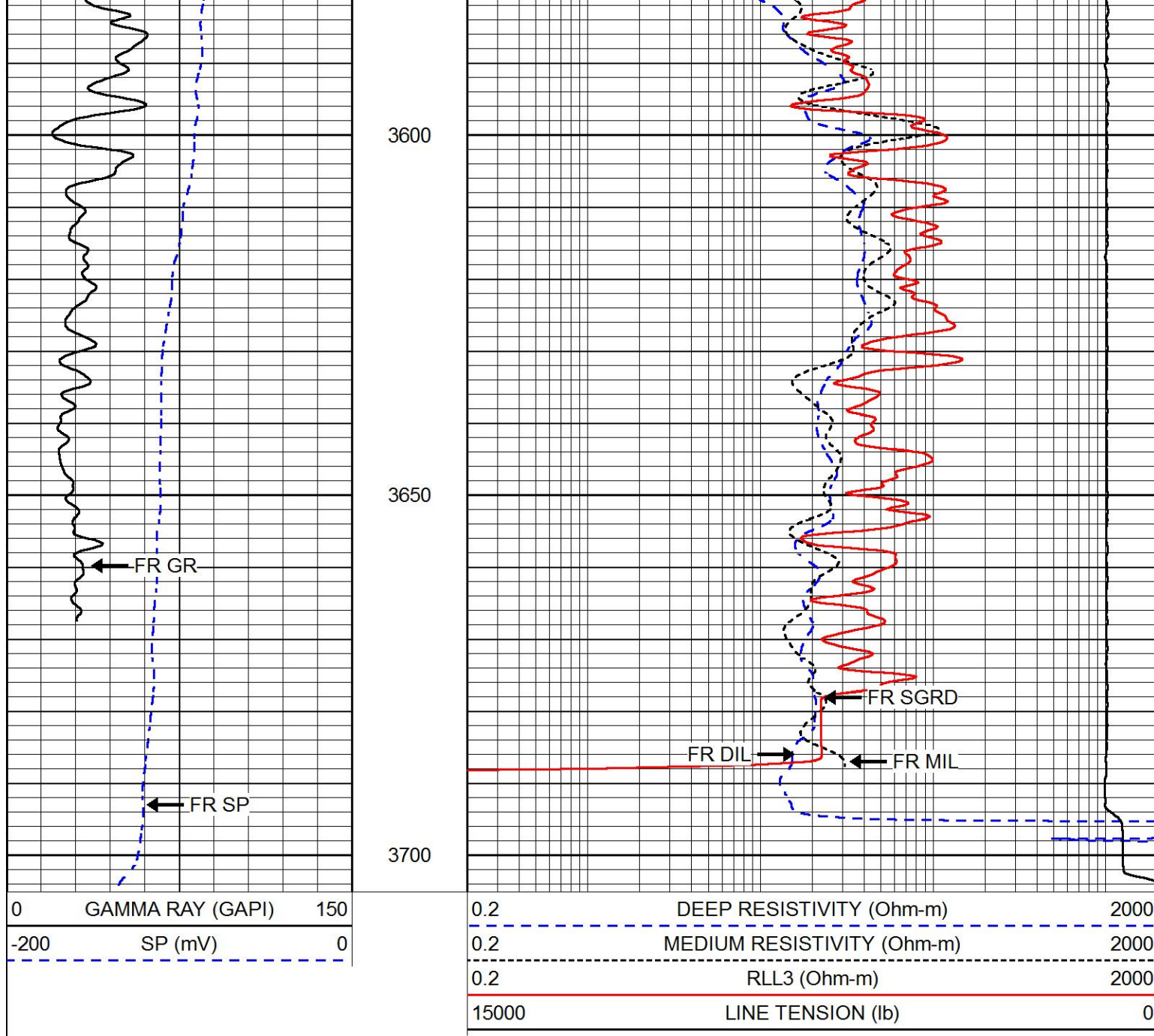
3400

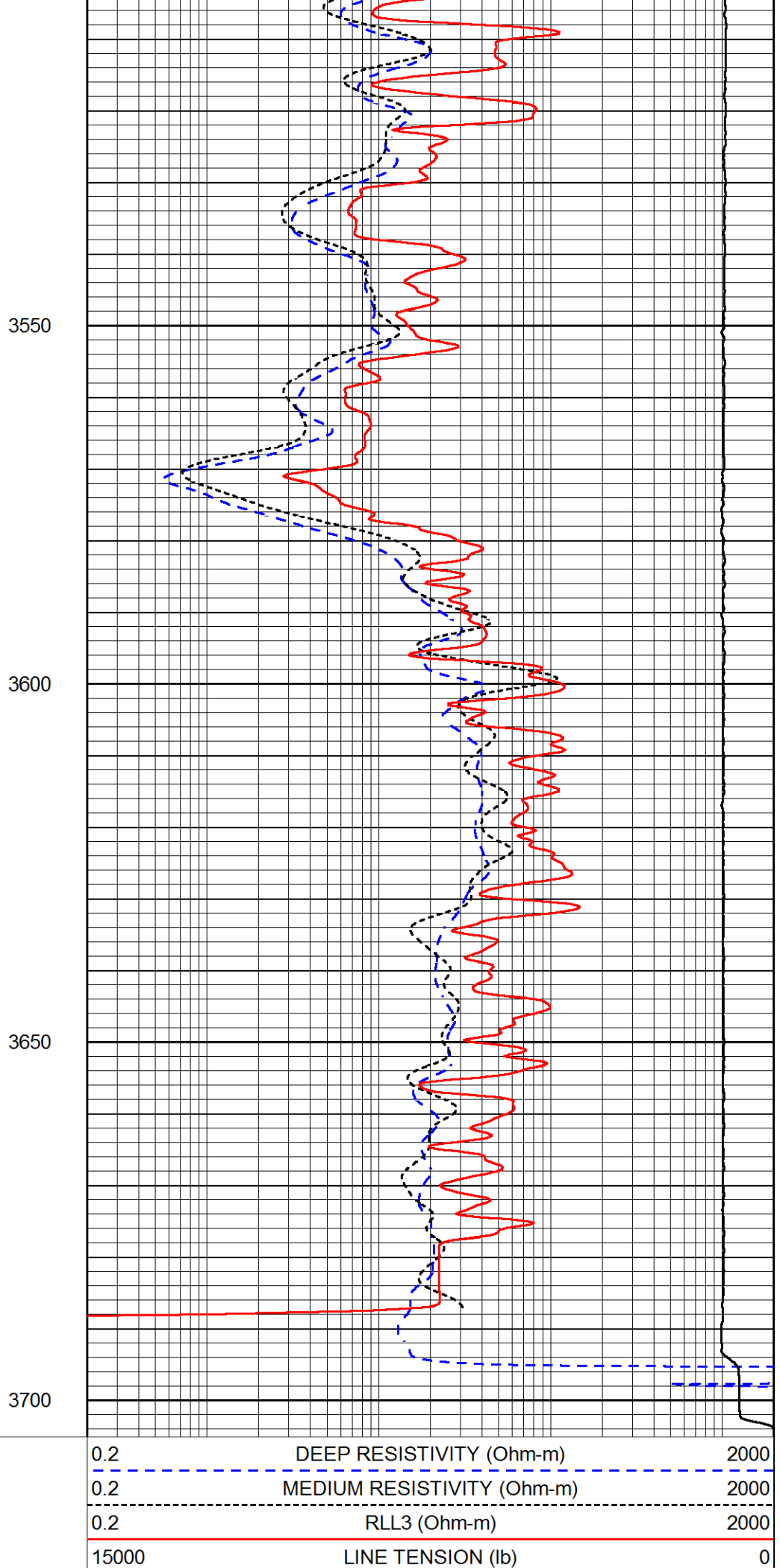
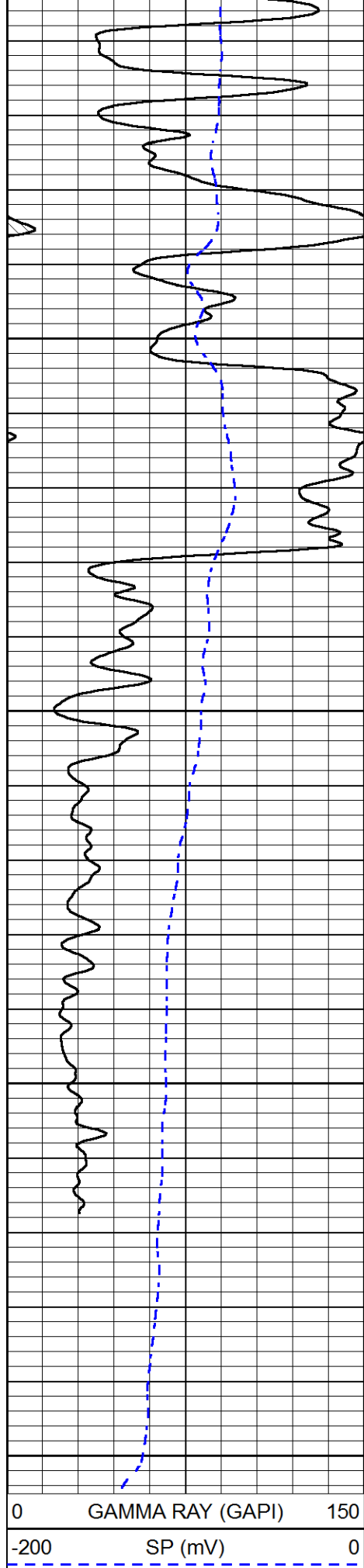
3450

3500

3550







Calibration Report

Database File k&n_norman_klepper_a_1.db
Dataset Pathname stack/pass3.1
Dataset Creation Tue Oct 31 02:20:02 2017

Dual Induction Calibration Report

Serial-Model: PSI 216 HT-PSI HIGH TEMP
Calibration Performed: Thu Aug 24 03:44:32 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	75.411	495.929	4.000	250.000	mmho/m	0.750	-40.115
Medium	75.269	470.661	10.000	100.000	mmho/m	0.628	-22.133

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



Company	K&N PETROLEUM, INC.
Well	NORMAN KLEPPER A NO.1
Field	UNKNOWN
County	STAFFORD
State	KANSAS