



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **CASINO PETROLEUM, LLC**
Well **LARRY #3**
Field **CHASE-SILICA**
County **BARTON** State **KANSAS**

Location: API #: 15-009-26193-00-00

Other Services

SEC 18 TWP 20S RGE 11W
810' FNL & 2970' FEL

CNL/CDL
MEL

Permanent Datum GROUND LEVEL Elevation 1781'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1791'
D.F. N/A
G.L. 1781'

Date	11/26/2017
Run Number	ONE
Depth Driller	3405'
Depth Logger	3405'
Bottom Logged Interval	3404'
Top Log Interval	250'
Casing Driller	8.625" @ 261'
Casing Logger	261'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	5000
Density / Viscosity	9.3 48
pH / Fluid Loss	9.5 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.50 @ 60
Rmt @ Meas. Temp	0.38 @ 60
Rmc @ Meas. Temp	0.68 @ 60
Source of Rmt / Rmc	CHARTS
Rm @ BHT	0.27 @ 110
Operating Rig Time	3 HOURS
Max Rec. Temp. F	110
Equipment Number	91
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	TODD MORGENSTERN

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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.

ELLINWOOD,
1 SOUTH TO CURVE, 1/2 WEST TO SE 100 AVE,
1 SOUTH TO NE 30 RD, 1/2 EAST,
SOUTH AND EAST TO LOCATION

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

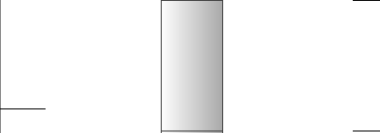
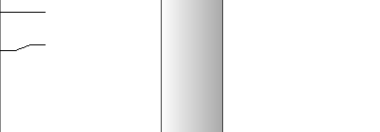
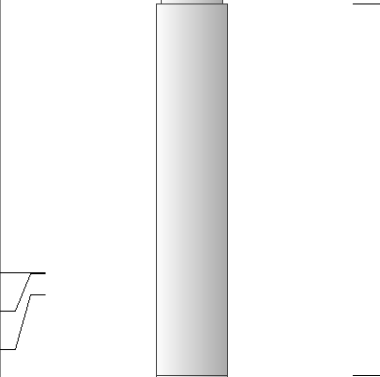
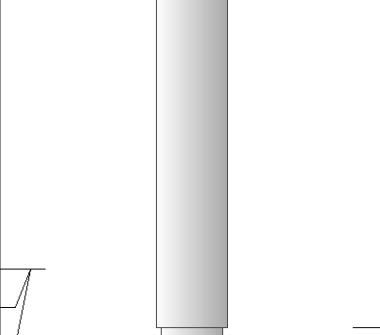
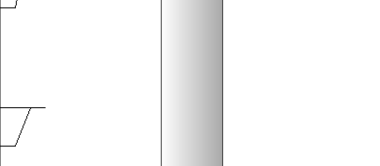
Engineer: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: TODD MORGENSTERN
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	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	60	0	5.5	0	3405	110	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					

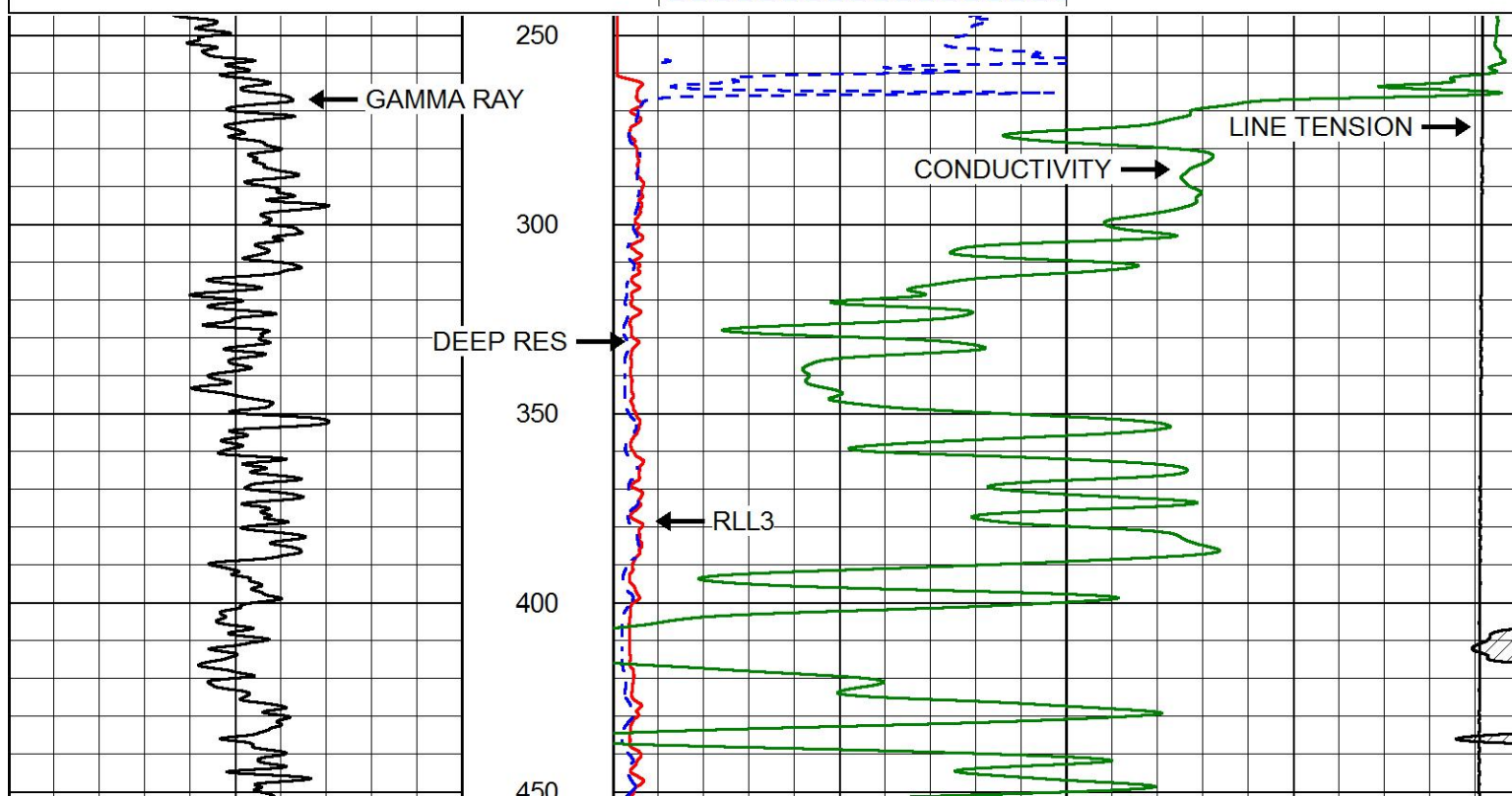
			DIL-M&W (PSI 91)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: casino_larry 3.db: field/well/STKML/pass3.1 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

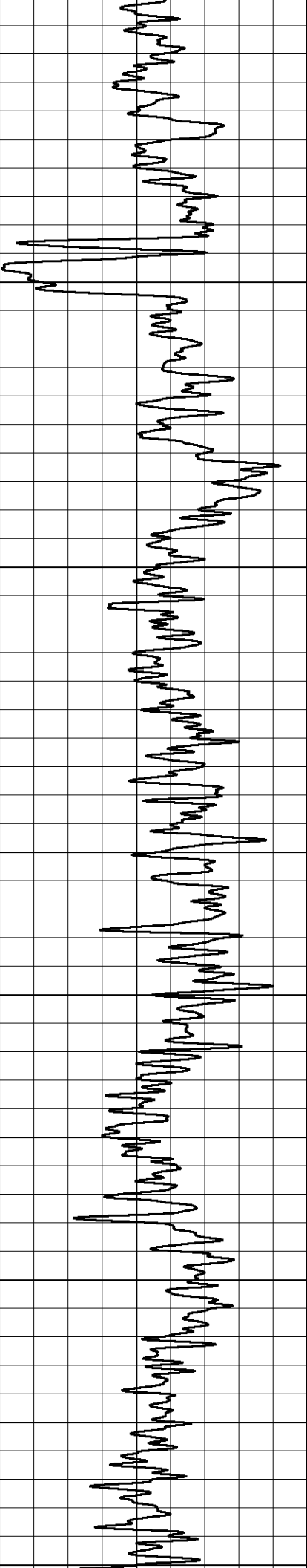
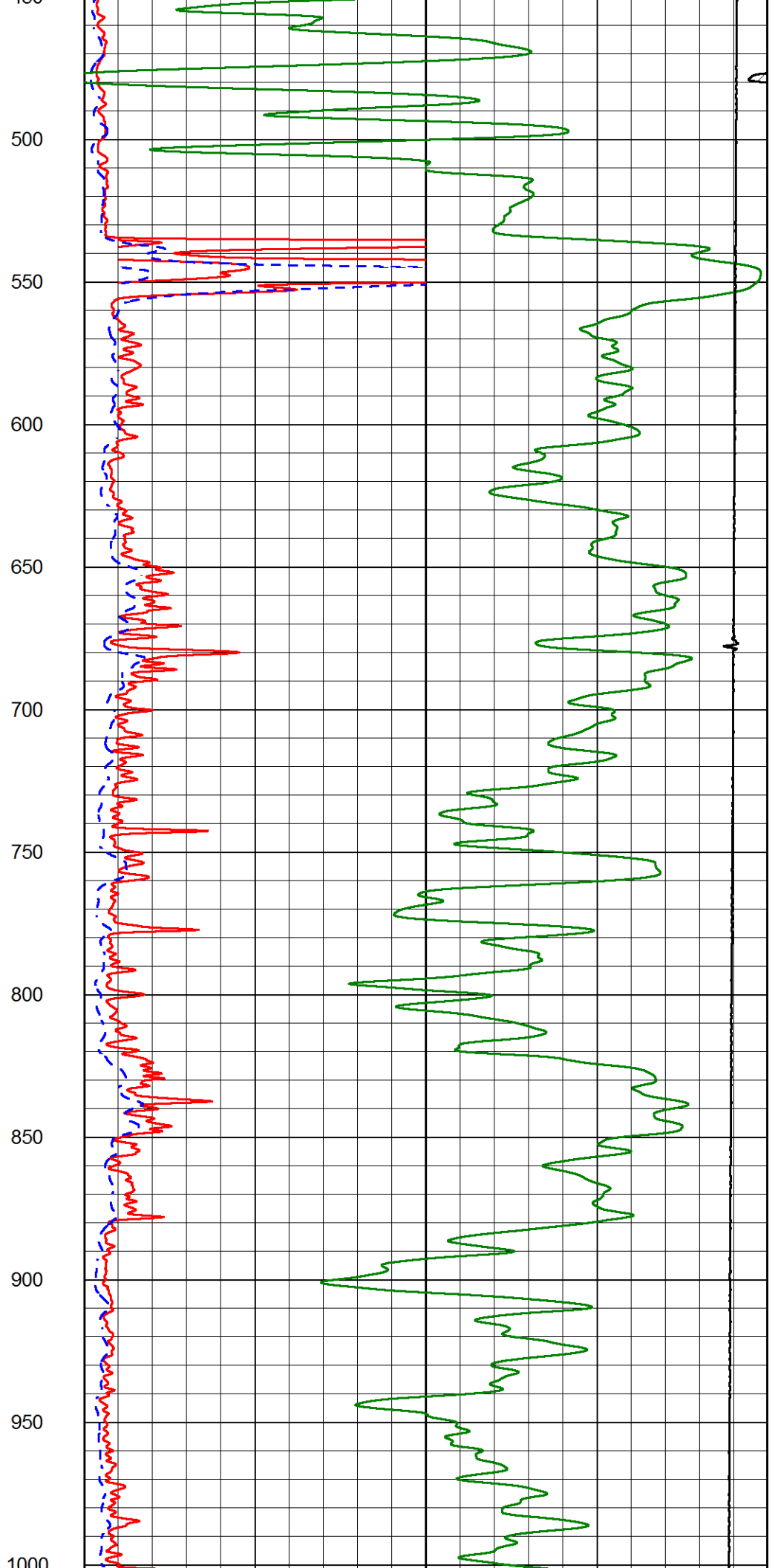


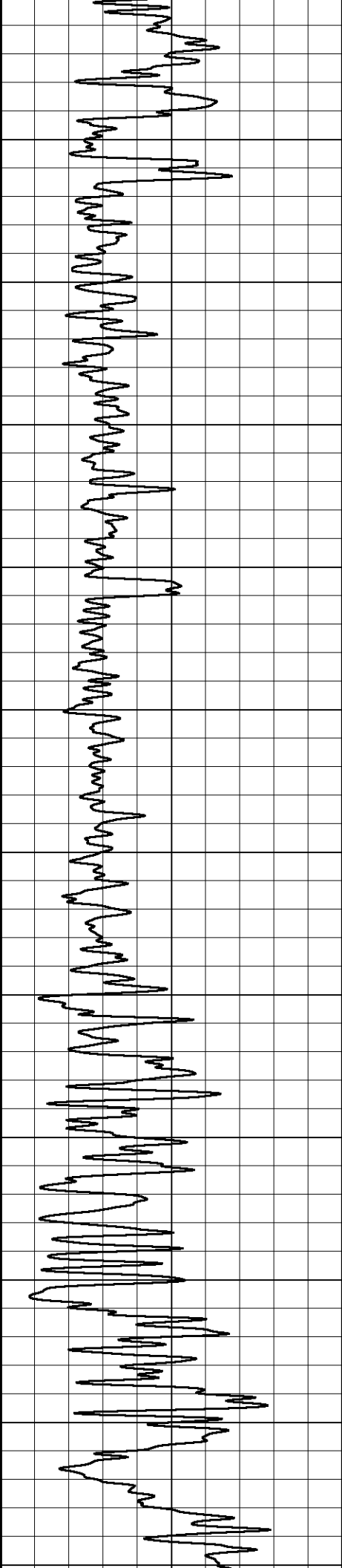
MAIN PASS

Database File	casino_larry 3.db
Dataset Pathname	STKML/pass4.1
Presentation Format	dil2in
Dataset Creation	Mon Nov 27 00:41:55 2017
Charted by	Depth in Feet scaled 1:600

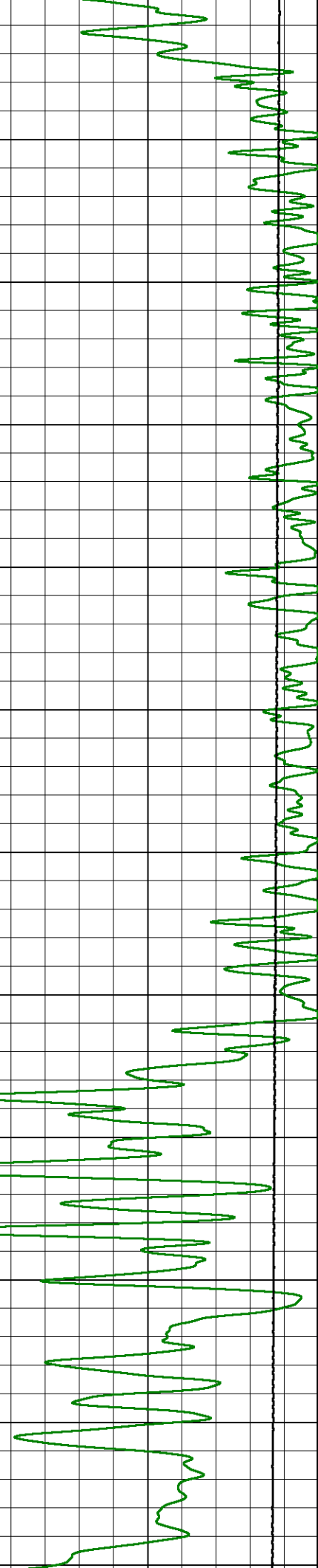
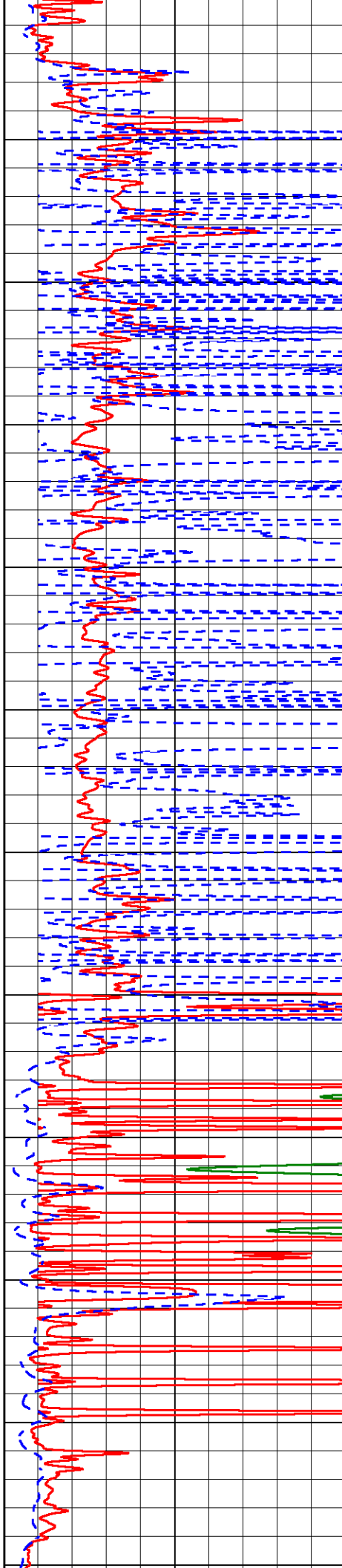
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			15000	Line Tension (lb)	0
			0	RLL3 (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			50	RLL3 (Ohm-m)	500
			50	Deep Resistivity (Ohm-m)	500

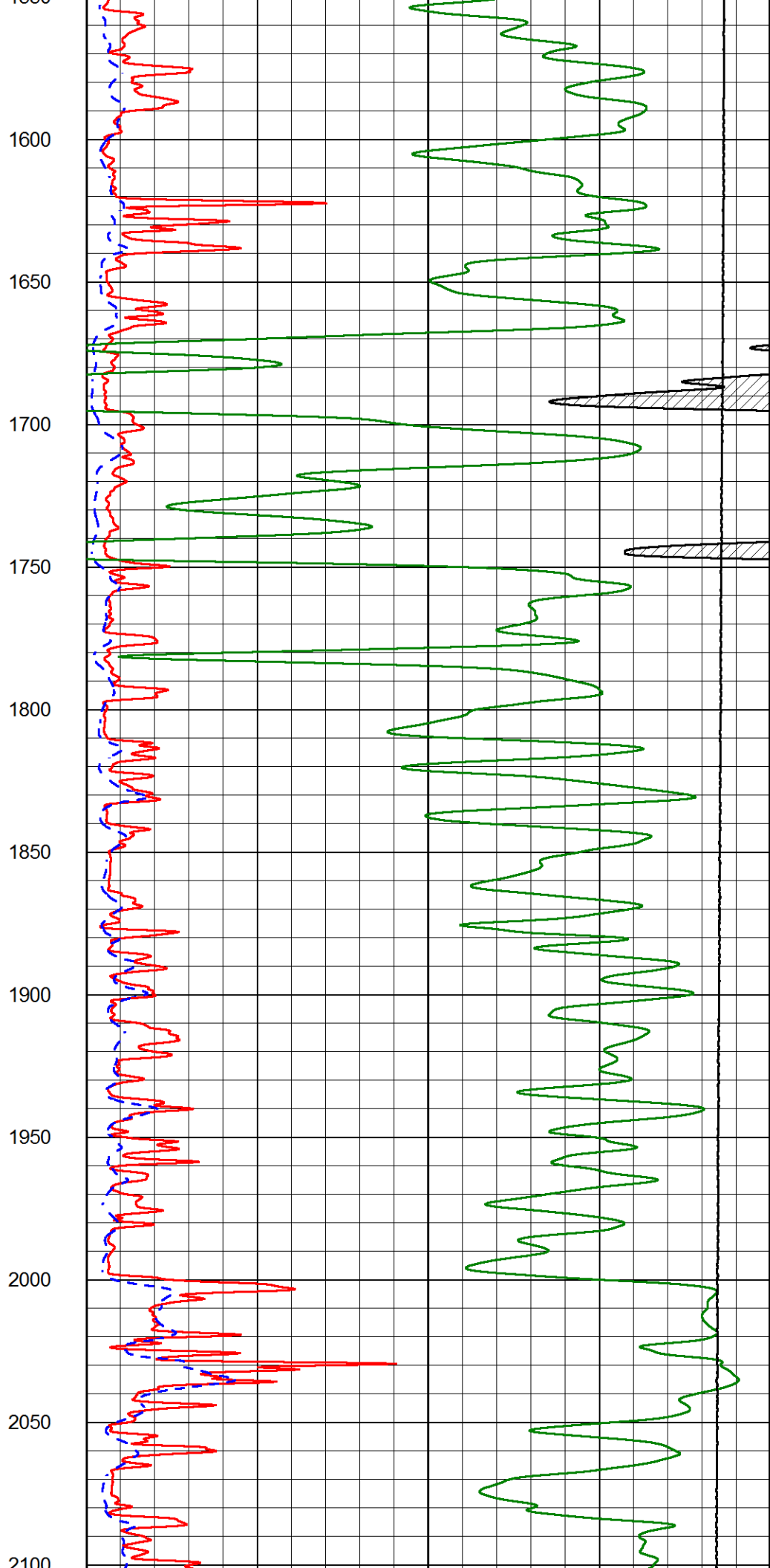
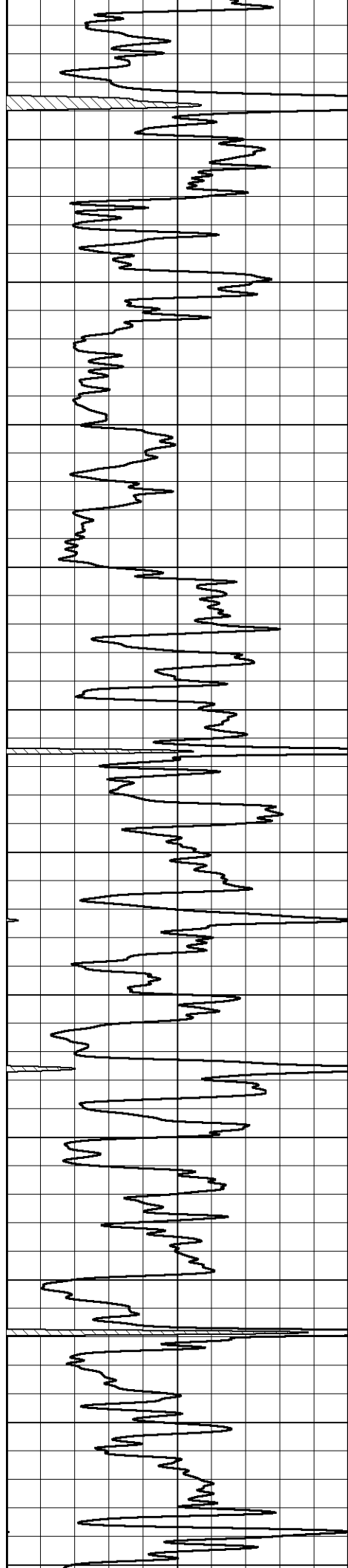


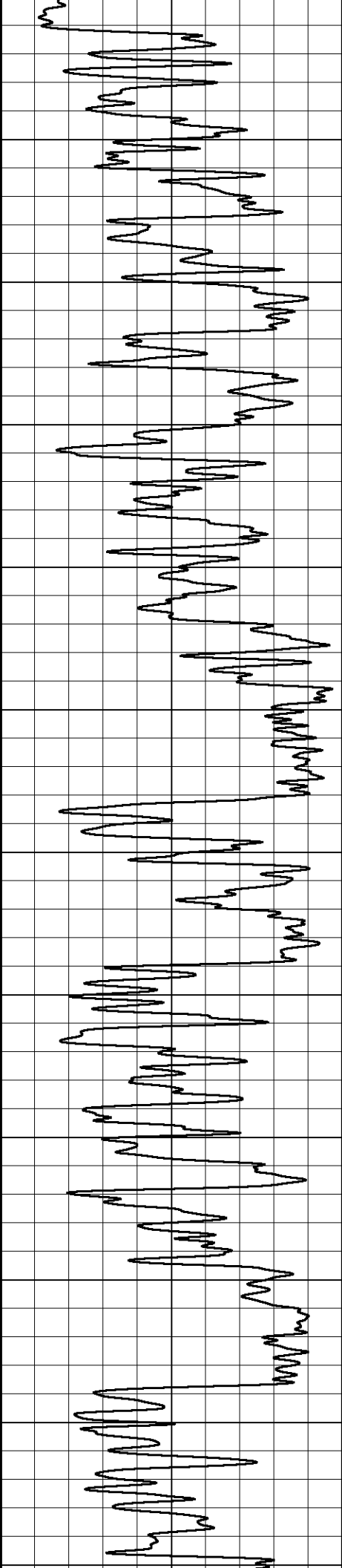




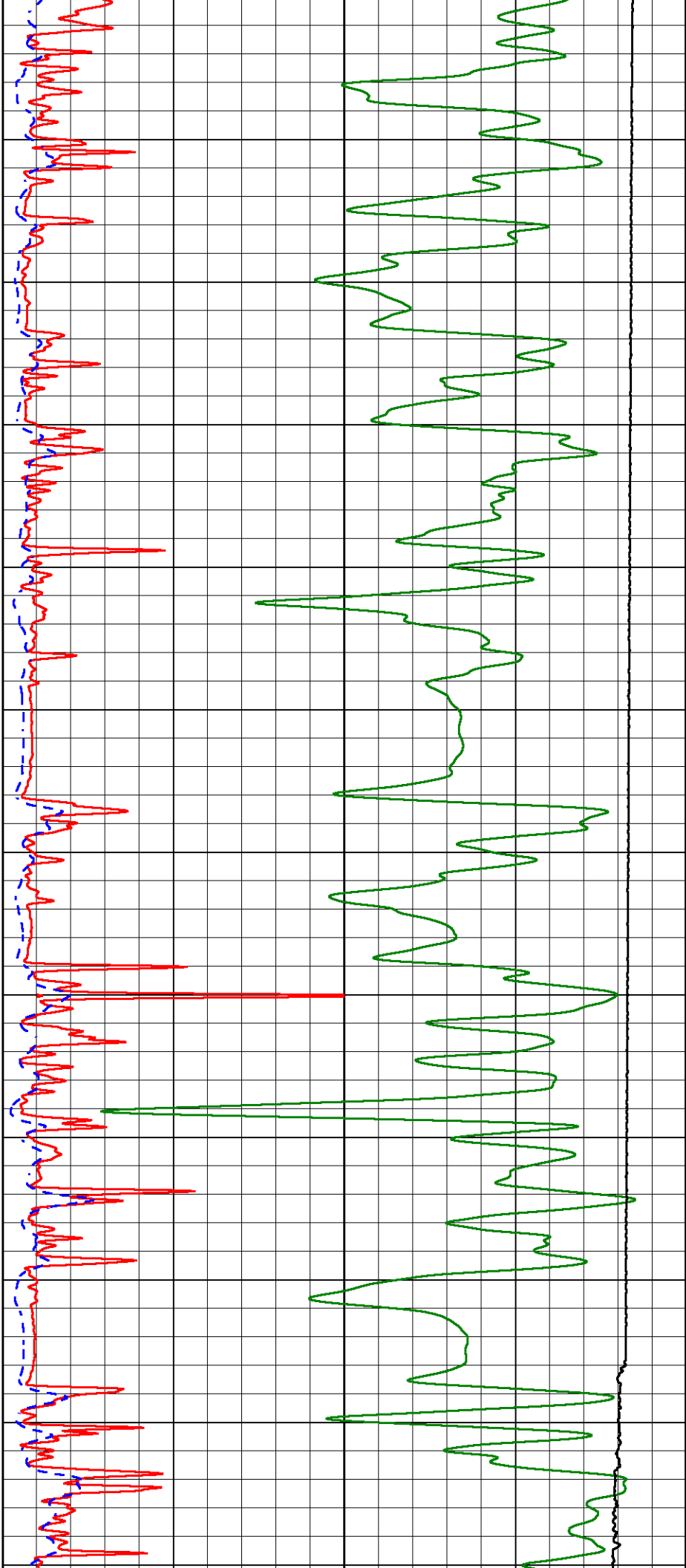
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1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550

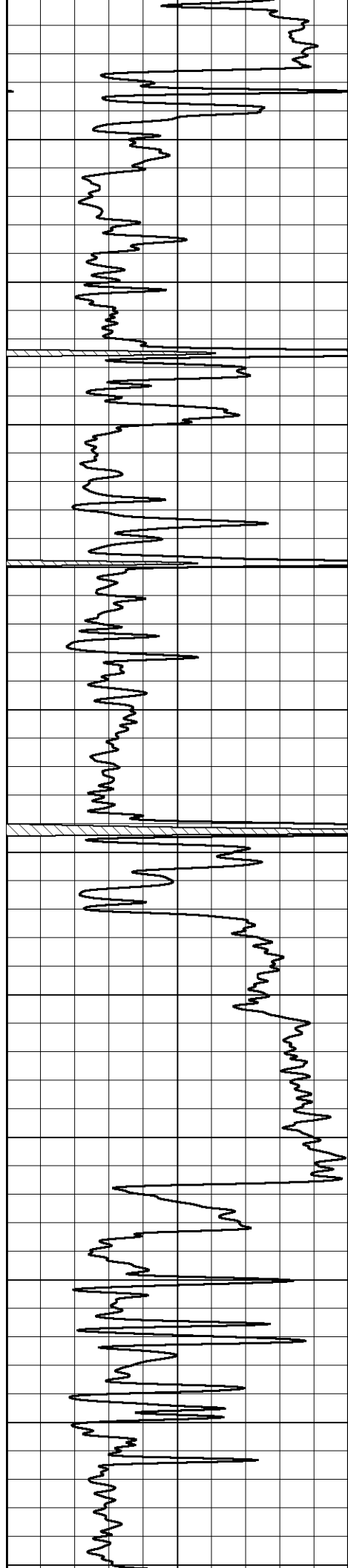




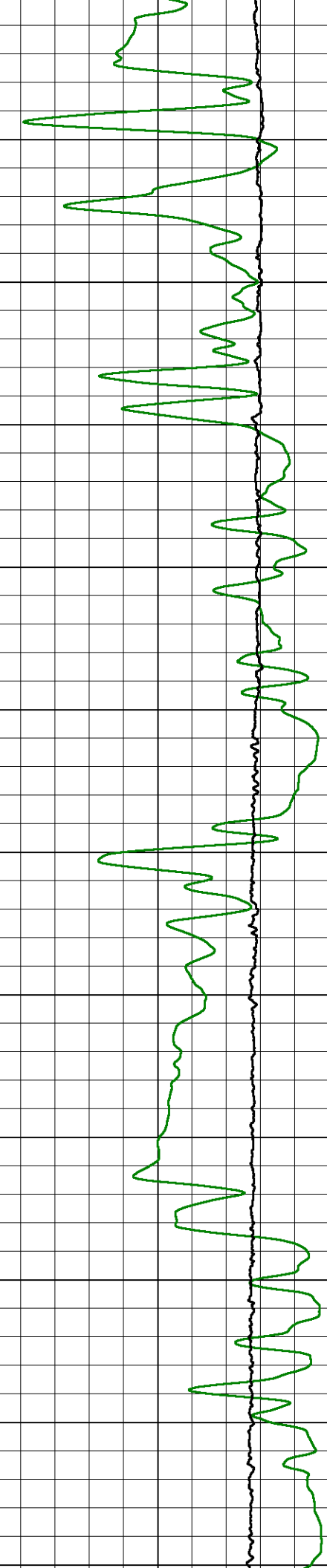
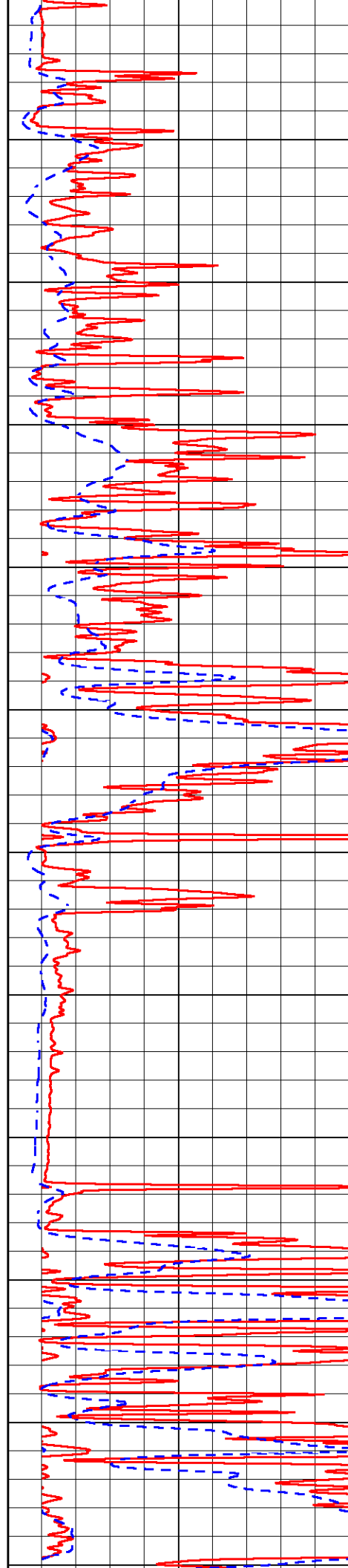


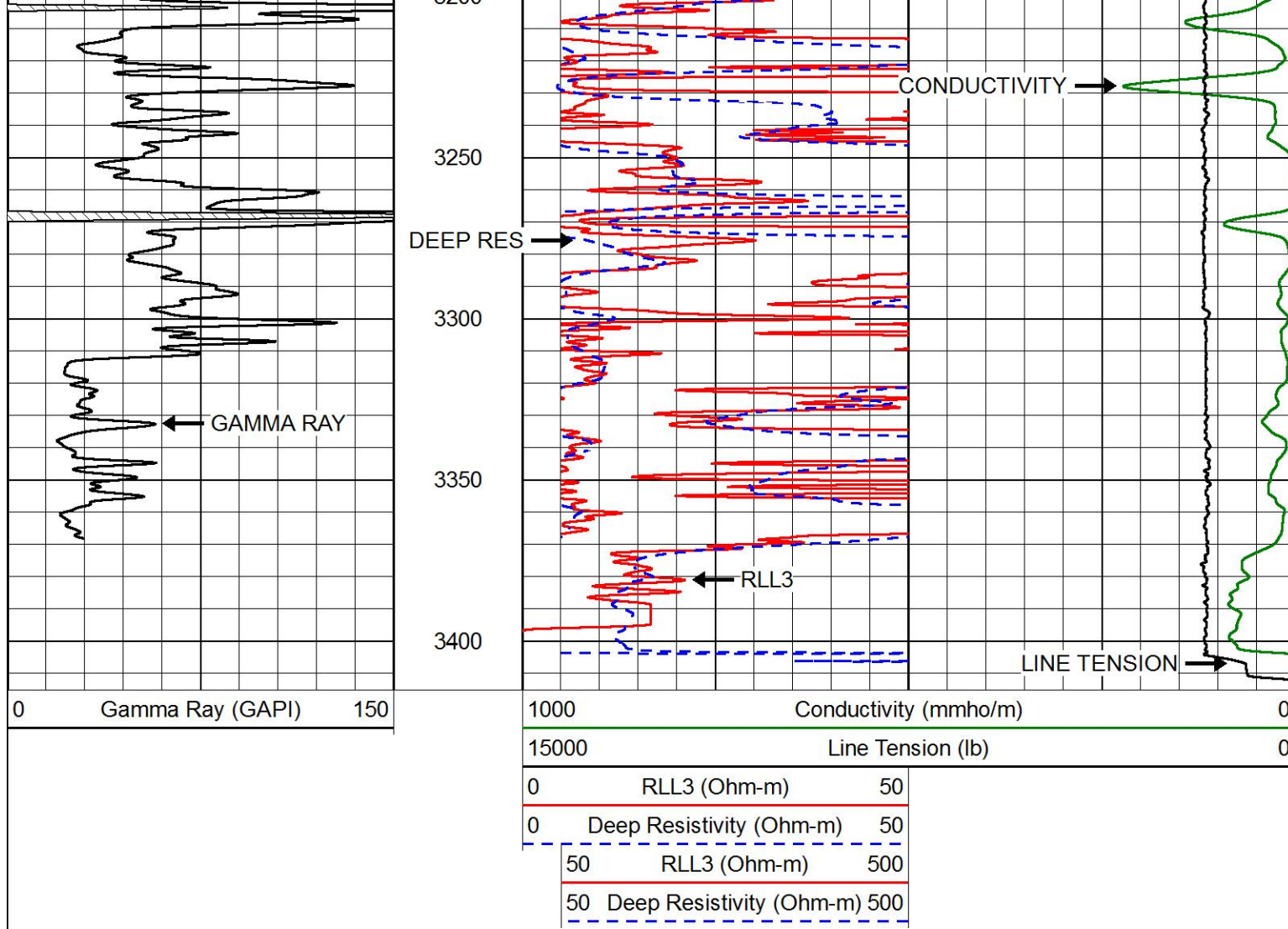
2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600
2650





2800
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150
3200

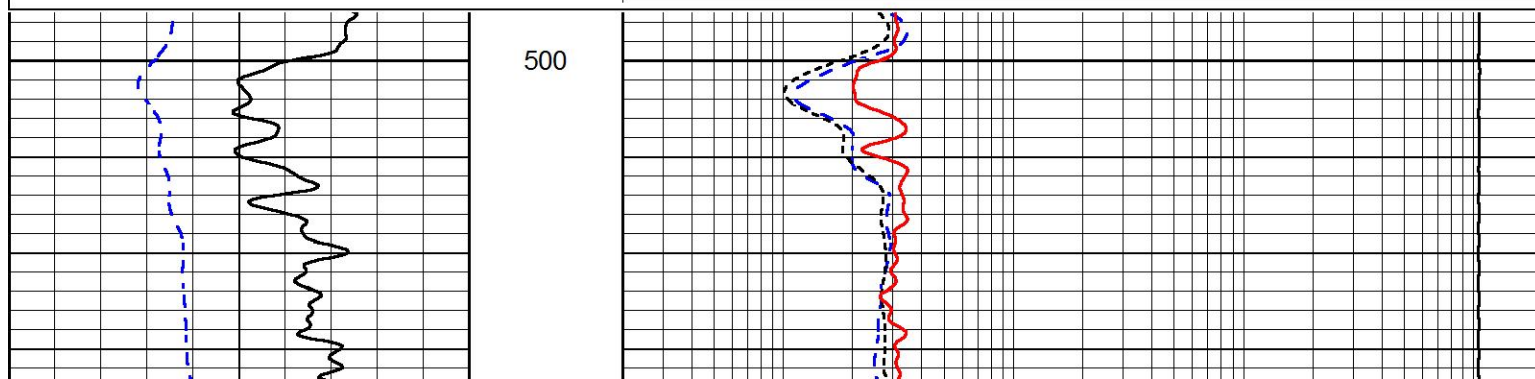


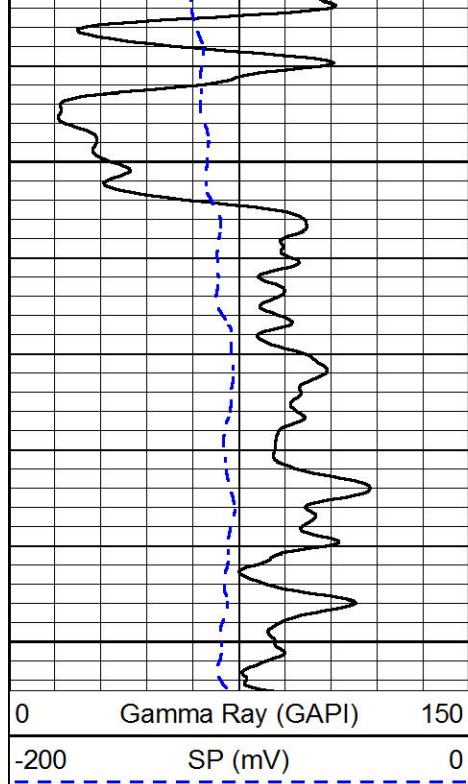


MAIN PASS

Database File: casino_larry 3.db
 Dataset Pathname: STKML/pass4.1
 Presentation Format: dil
 Dataset Creation: Mon Nov 27 00:41:55 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
			10000	Line Tension (lb)	0

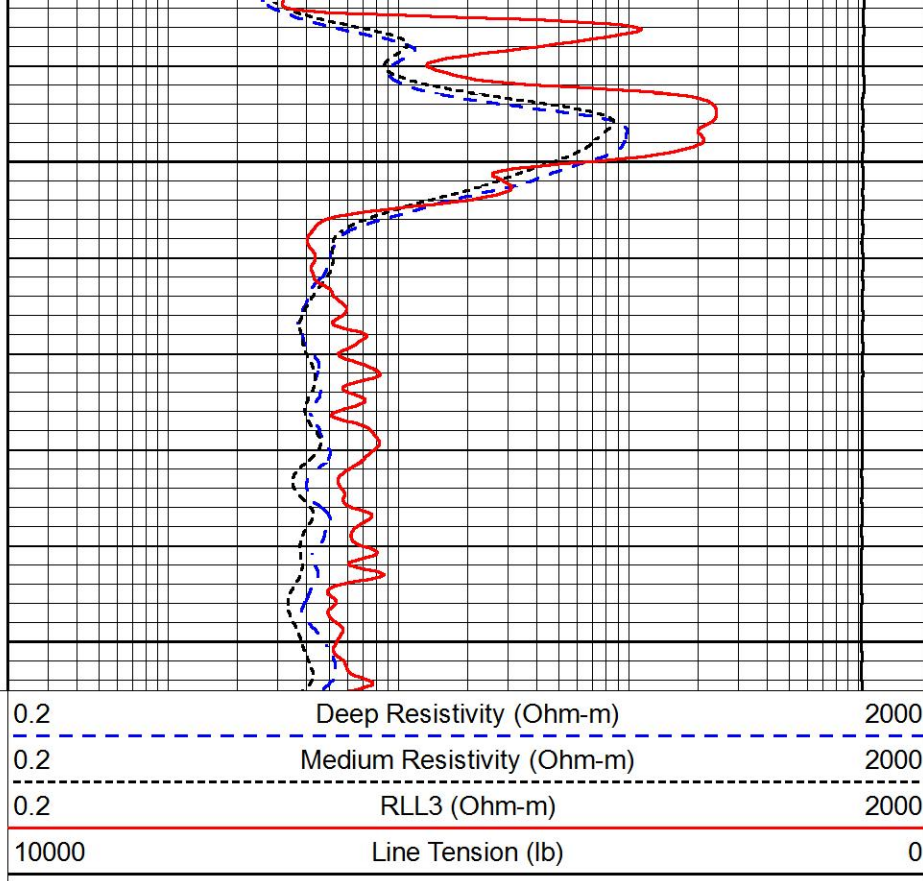




550

600

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

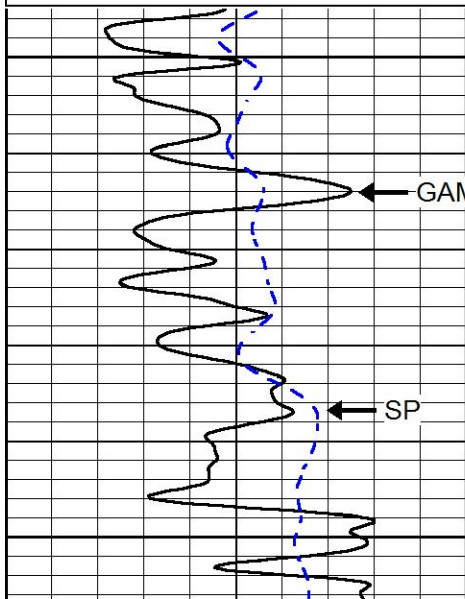


MAIN PASS

Database File casino_larry 3.db
Dataset Pathname STKML/pass4.1
Presentation Format dil
Dataset Creation Mon Nov 27 00:41:55 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
10000 Line Tension (lb) 0

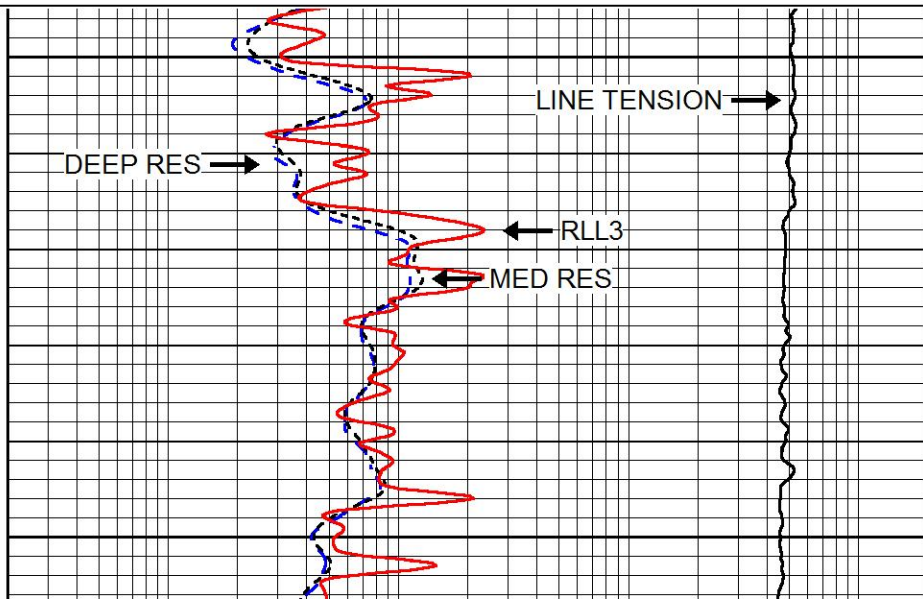


2600

2650

GAMMA RAY

SP

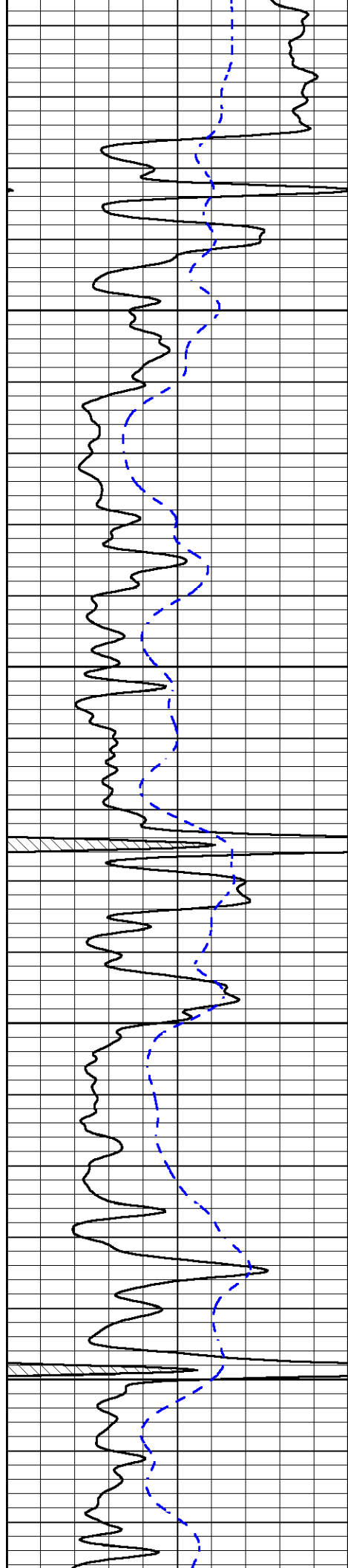


DEEP RES

LINE TENSION

RLL3

MED RES

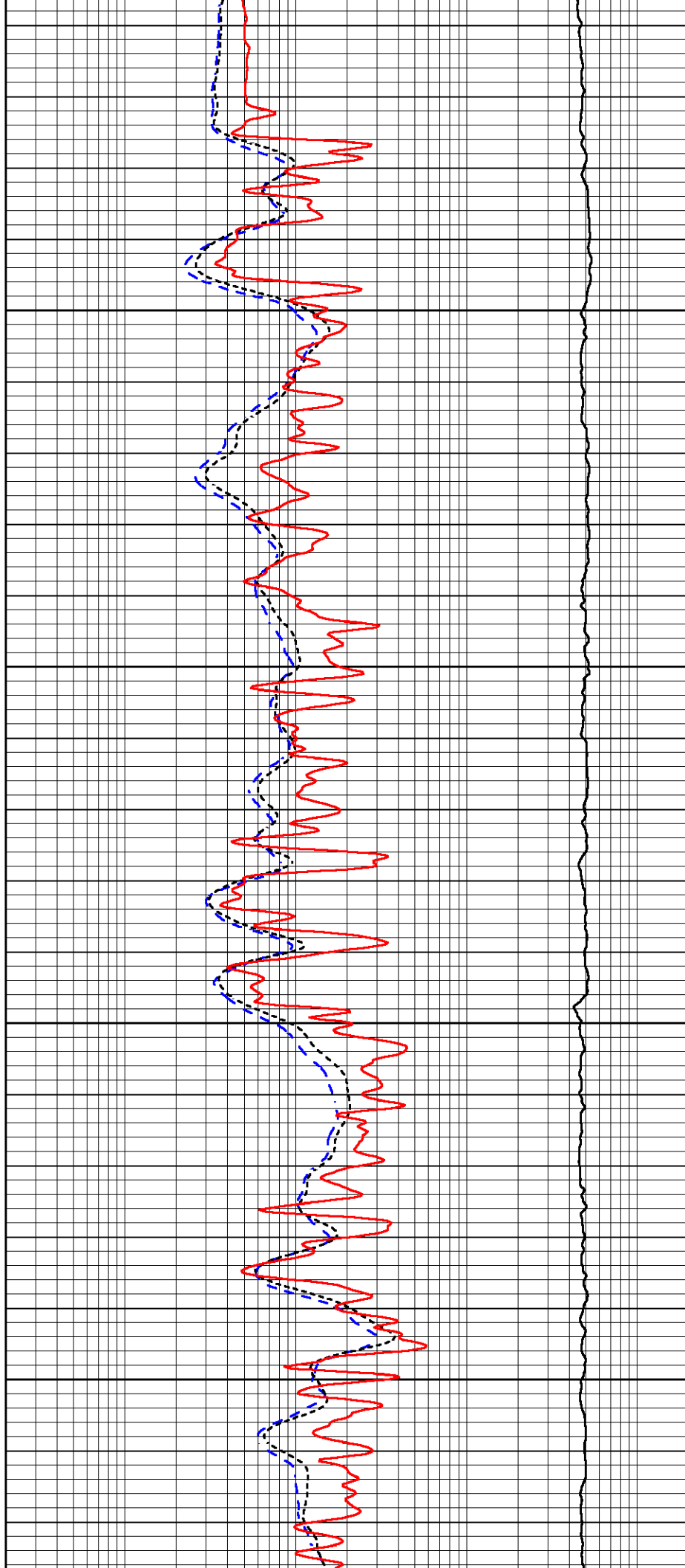


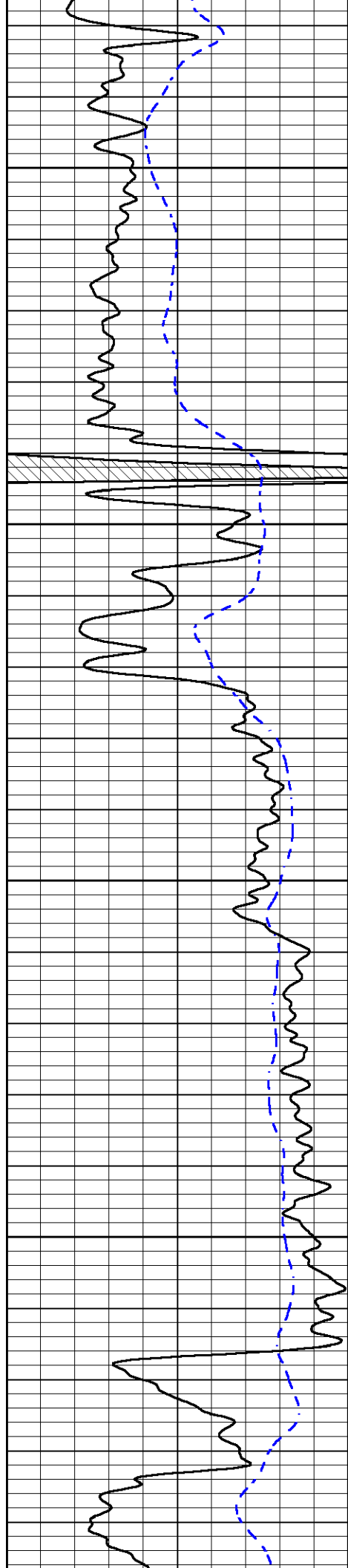
2700

2750

2800

2850



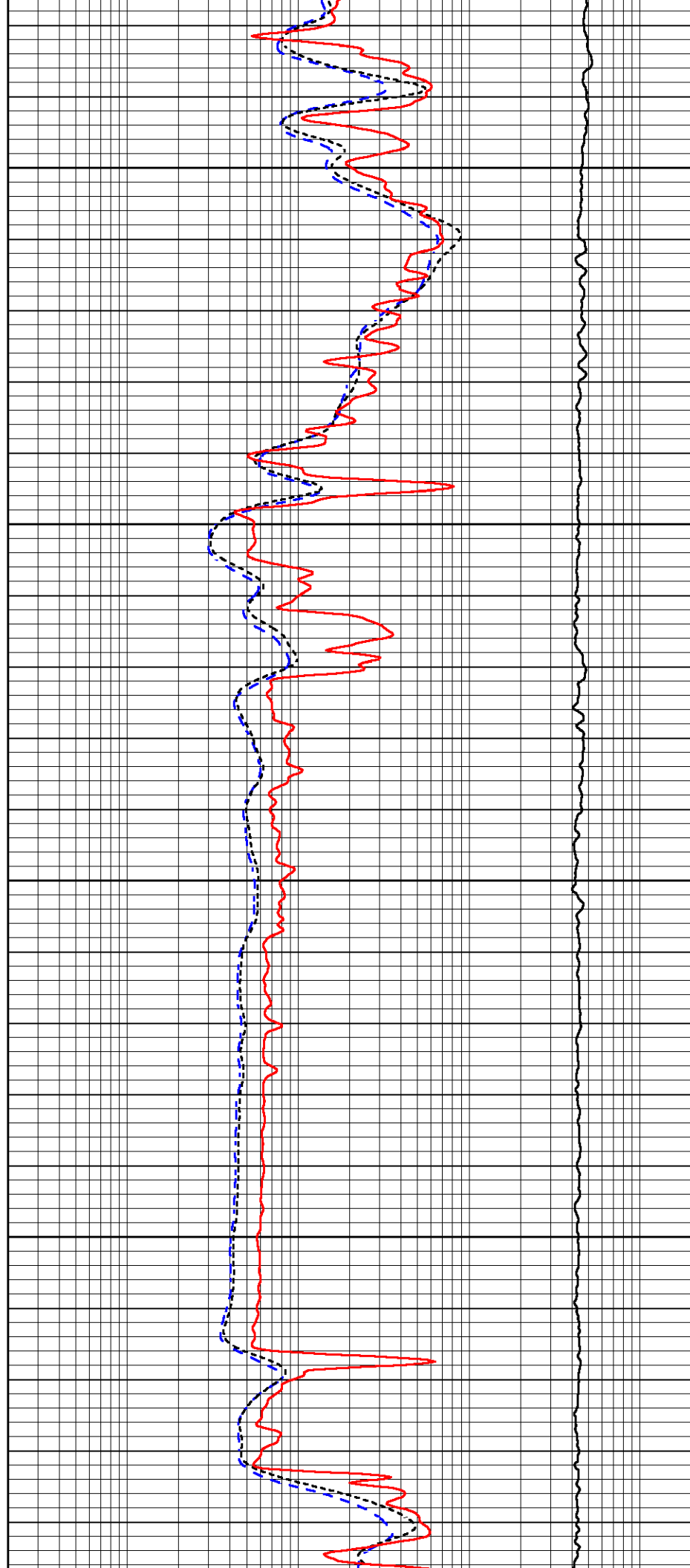


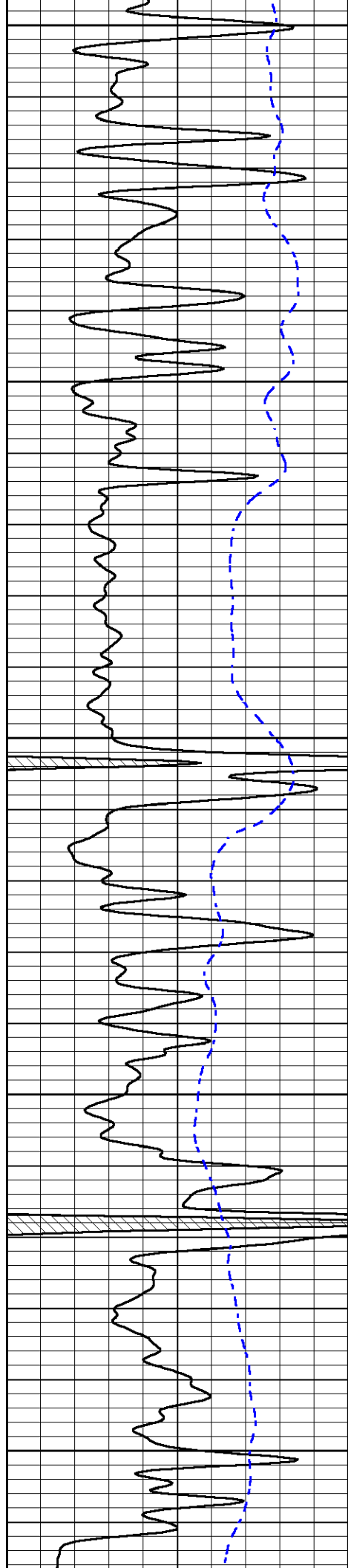
2900

2950

3000

3050





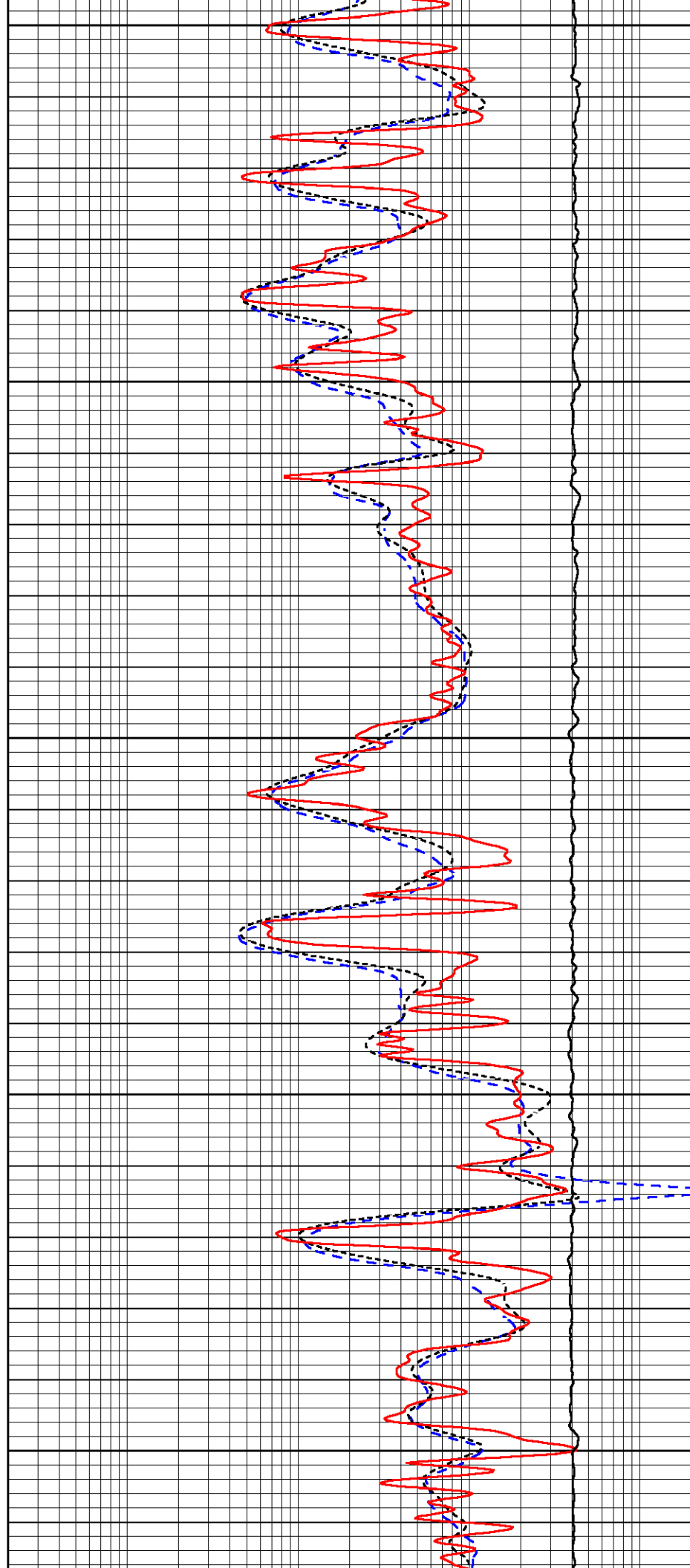
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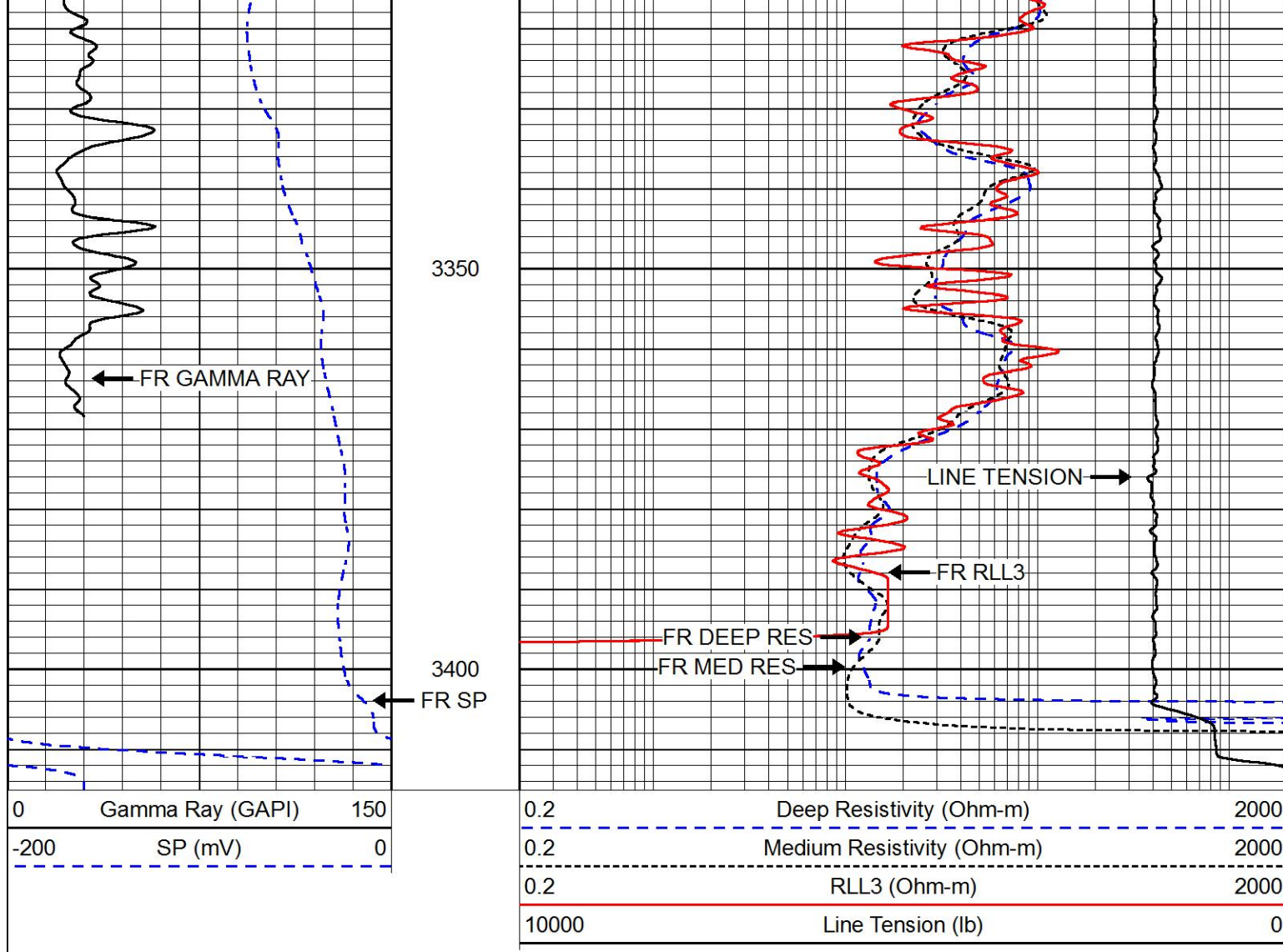
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3200

3250

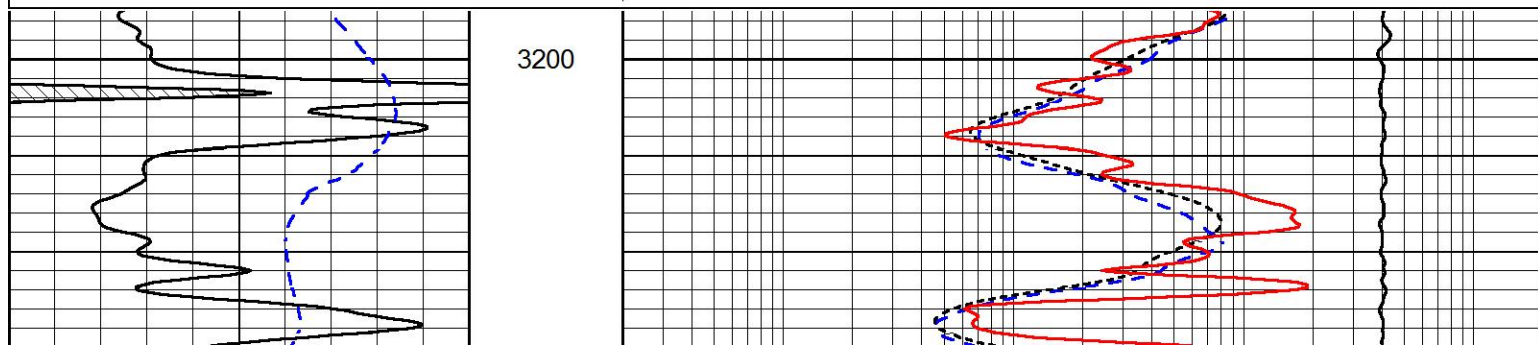
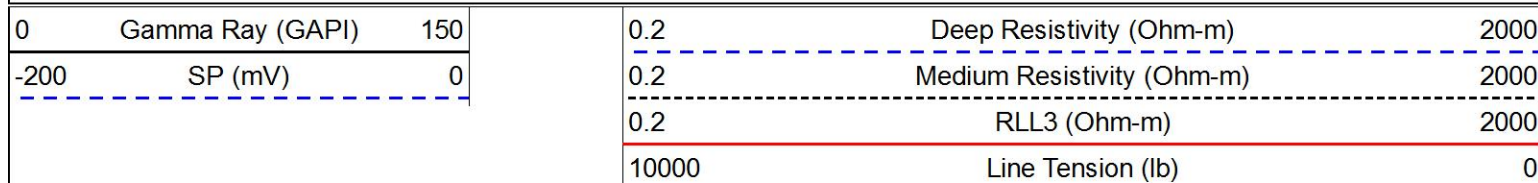
3300

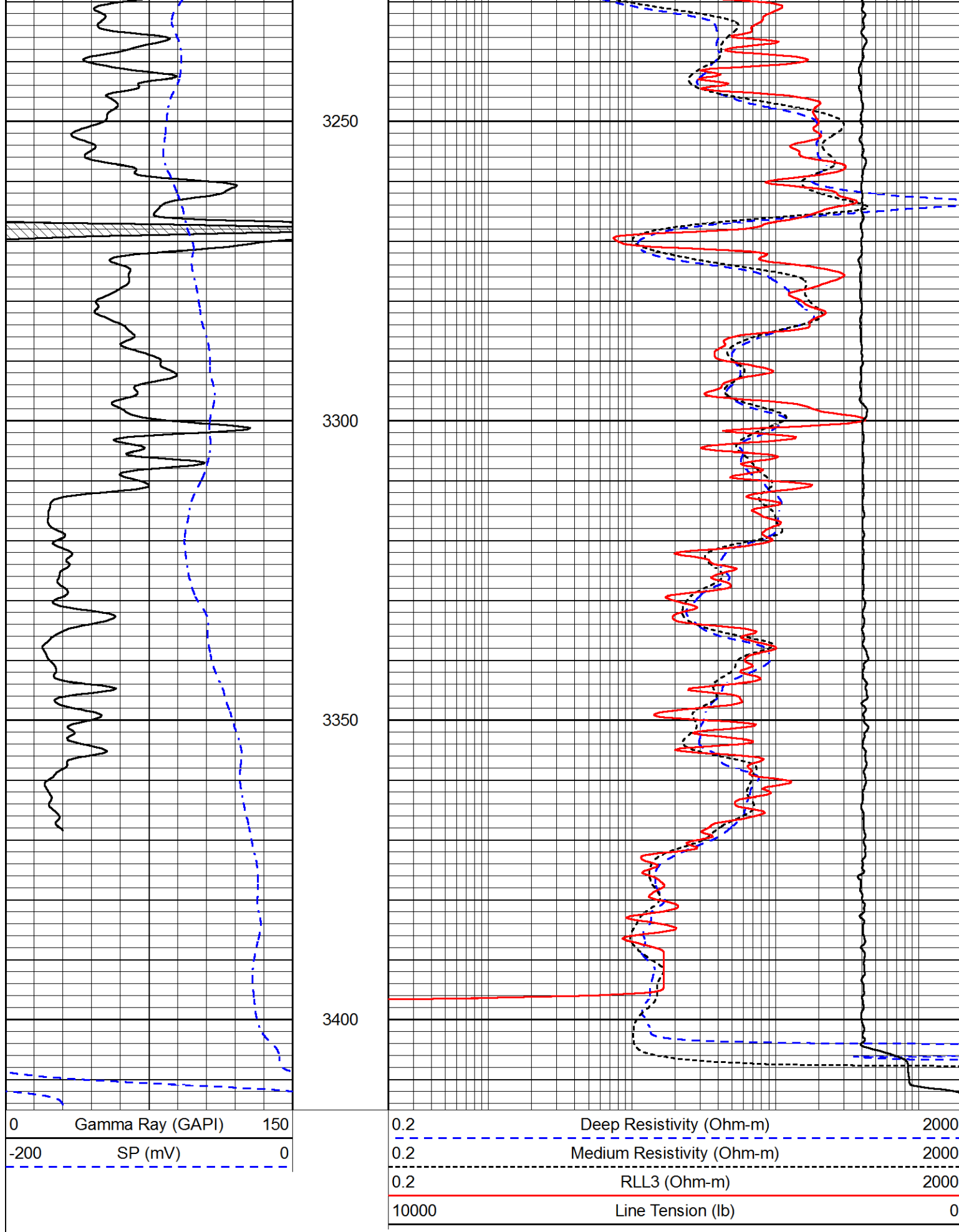




REPEAT SECTION

Database File casino_larry 3.db
 Dataset Pathname STKML/pass3.1
 Presentation Format dil
 Dataset Creation Mon Nov 27 00:32:15 2017
 Charted by Depth in Feet scaled 1:240





Dual Induction Calibration Report

Serial-Model: PSI 91-M&W
Calibration Performed: Thu Nov 09 00:57:24 2017

		Readings		References			Results	
Loop:	Air	Loop		Air	Loop		Gain	Offset
Deep	166.796	835.089		0.000	255.800	mmho/m	0.430	-31.500
Medium	142.009	1348.560		0.000	255.800	mmho/m	0.360	-31.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
Performed: Wed Nov 08 02:36:52 2017

		Readings		References			Results	
	Zero	Cal		Zero	Cal		m	b
Normal	0.0000	1.0000		0.0000	1.0000	Ohm-m	28000.0000	-0.7000
Inverse	0.0000	1.0000		0.0000	1.0000	Ohm-m	35000.0000	-0.6000
Caliper	1.0001	1.1397		6.5000	18.5000	in	100.0000	-97.3500

Compensated Density Calibration Report

Serial-Model: 90-1031-M&W
Source / Verifier: 16955B / 2ci
Master Calibration Performed: Wed Nov 08 23:24:34 2017

Master Calibration							
		Density		Far Detector		Near Detector	
Magnesium		1.755	g/cc	4903.44		6153.79	cps
Aluminum		2.640	g/cc	934.50		4021.31	cps
Spine Angle = 75.61				Density/Spine Ratio = 0.517			
		Size		Reading			
Small Ring		8.00	in	1.84			
Large Ring		22.00	in	1.46			

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: WED SEP 6 10:30:30 2017

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:	Wed Sep 06 19:51:14 2017

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps



Company	CASINO PETROLEUM, LLC
Well	LARRY #3
Field	CHASE-SILICA
County	BARTON
State	KANSAS