



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **FOSSIL ENERGY, LLC**
Well **TRUAN #1**
Field **BAXTER**
County **RUSSELL** State **KANSAS**

Location: API #: 15-167-24066-00-00

Other Services

SEC 33 TWP 14S RGE 15W
1019' FSL & 2300' FEL

CNL/CDL
MEL

Permanent Datum GROUND LEVEL Elevation 1895'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1903'
D.F. N/A
G.L. 1895'

Date 10/10/2017

Run Number ONE

Depth Driller 3400'

Depth Logger 3396'

Bottom Logged Interval 3395'

Top Log Interval 450'

Casing Driller 8.625" @ 474'

Casing Logger 475'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 6000

Density / Viscosity 8.9 56

pH / Fluid Loss 9.5 8.0

Source of Sample FLOWLINE

Rm @ Meas. Temp 0.50 @ 80

Rmf @ Meas. Temp 0.38 @ 80

Rmc @ Meas. Temp 0.68 @ 80

Source of Rmf / Rmc CHARTS

Rm @ BHT 0.36 @ 110

Operating Rig Time 3 HOURS

Max Rec. Temp. F 110

Equipment Number 91

Location HAYS

Recorded By D. SCHMIDT

Witnessed By RANDY KILIAN

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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.

GORHAM,
(FROM I-70) 5 SOUTH TO LINCOLN RD,
1 1/2 EAST, NORTH INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew

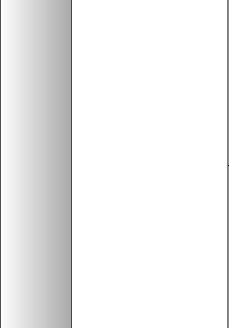
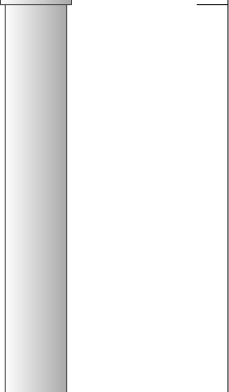
Engineer: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: RANDY KILIAN
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	70	0
SNDERR mmho/m 0	SRFTEMP degF 80	CASETHCK in 0	CASEOD in 5.5	PERFS 0	TDEPTH ft 3396	BOTTEMP degF 110	BOREID in 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					

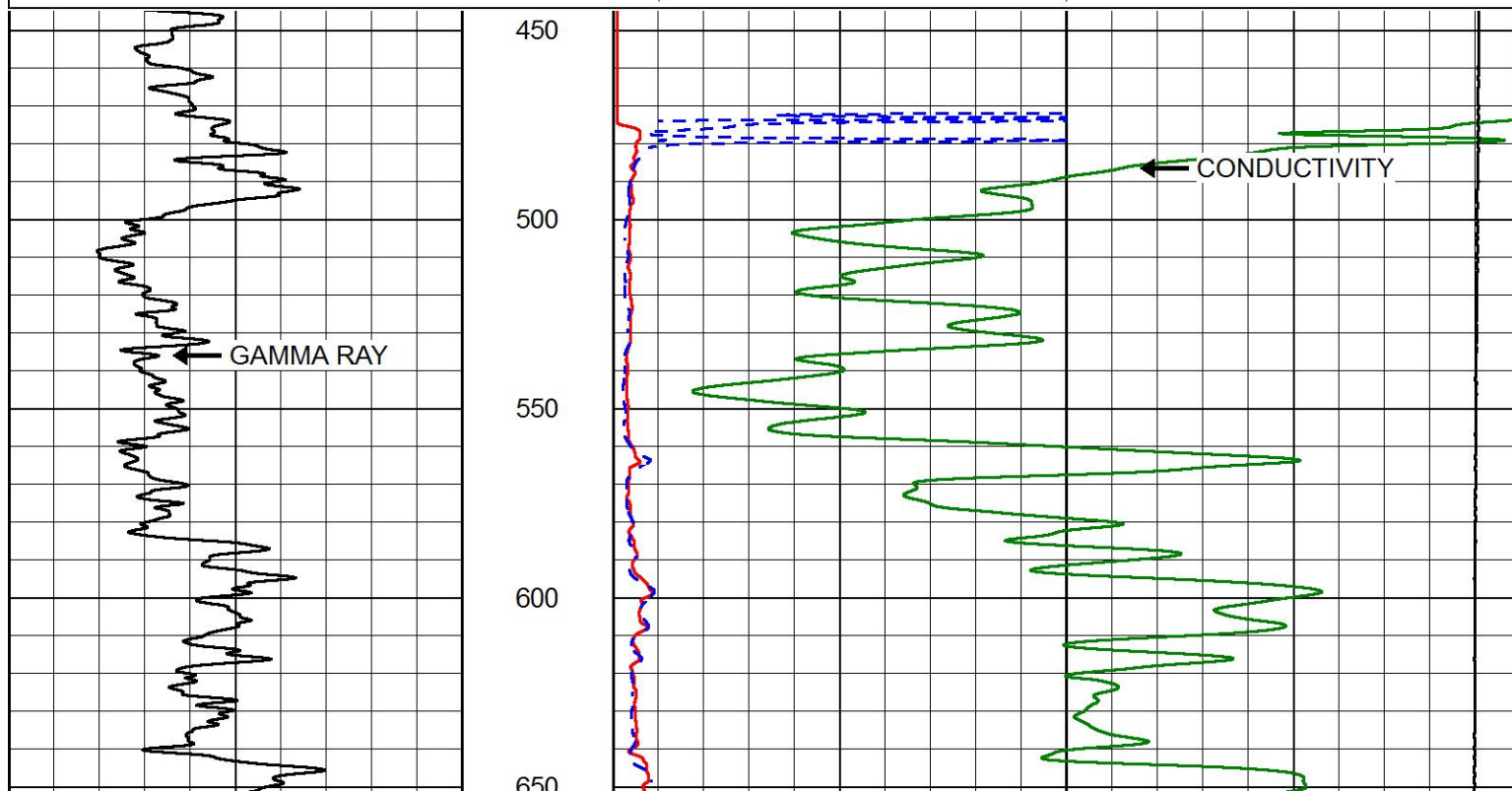
		DIL-M&W (PSI 91)		18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: fossil_truan_1.db: field/well/STKML/pass4.1 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

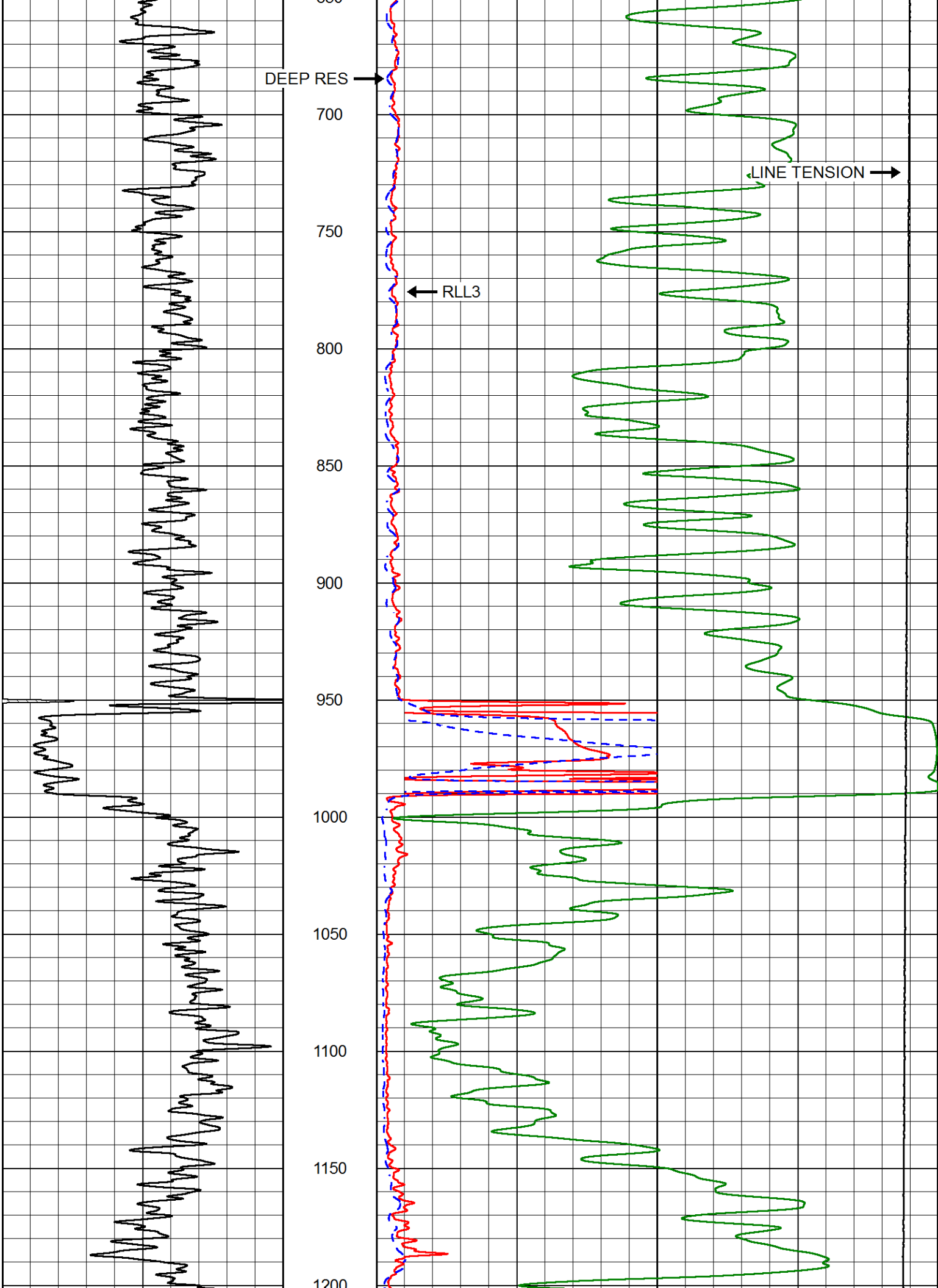


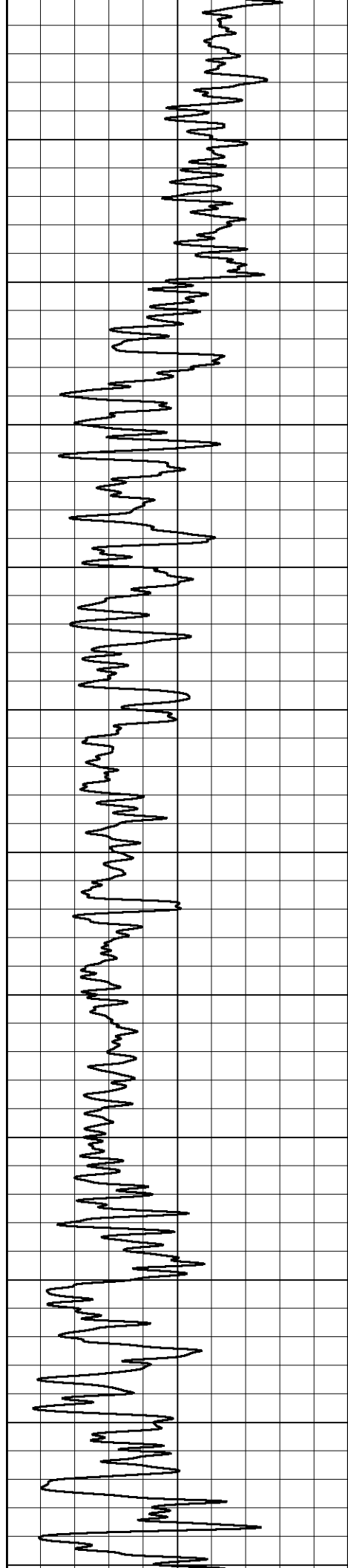
MAIN PASS

Database File	fossil_truan_1.db
Dataset Pathname	STKML/pass5.1
Presentation Format	dil2in
Dataset Creation	Tue Oct 10 21:23:04 2017
Charted by	Depth in Feet scaled 1:600

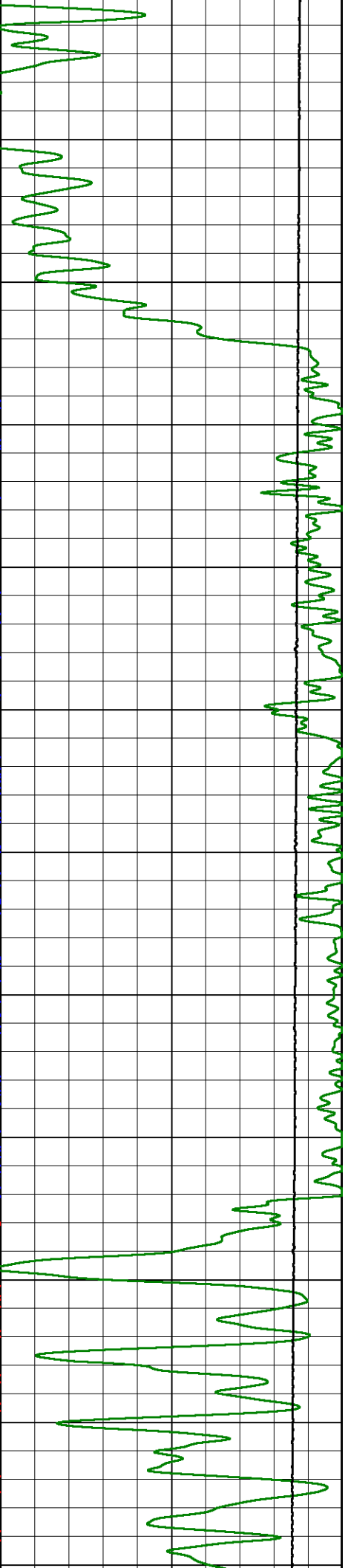
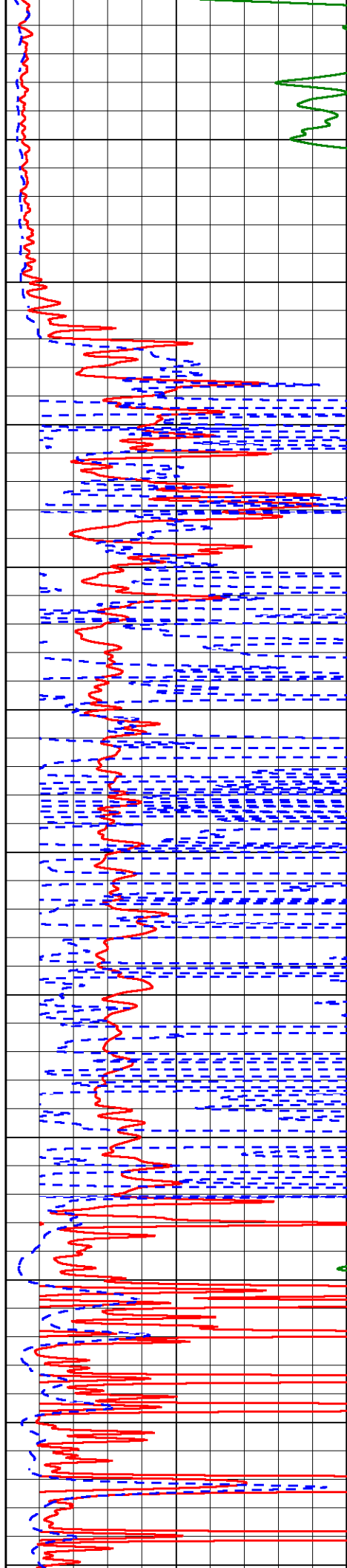
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			15000	Line Tension (lb)	0
			0	RLL3 (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			50	RLL3 (Ohm-m)	500
			50	Deep Resistivity (Ohm-m)	500

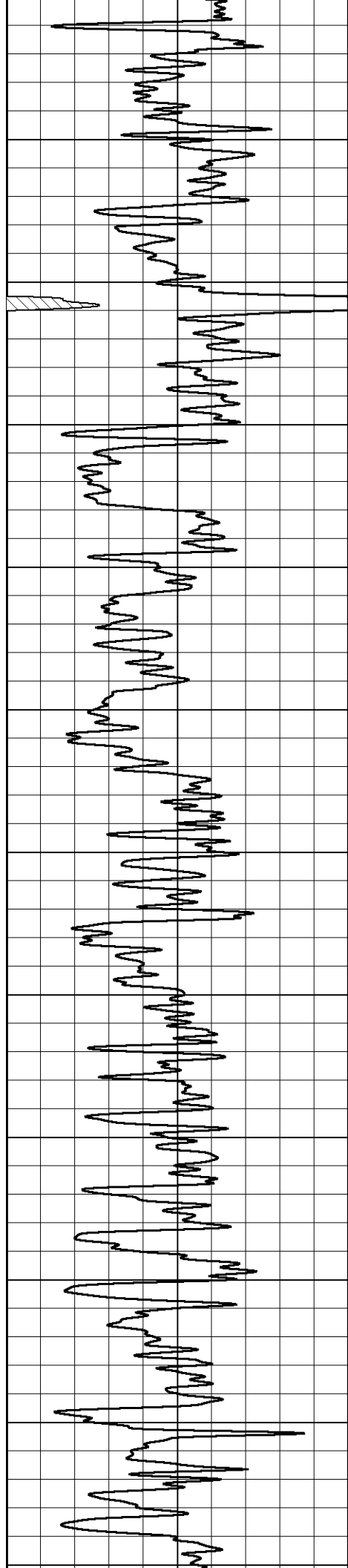




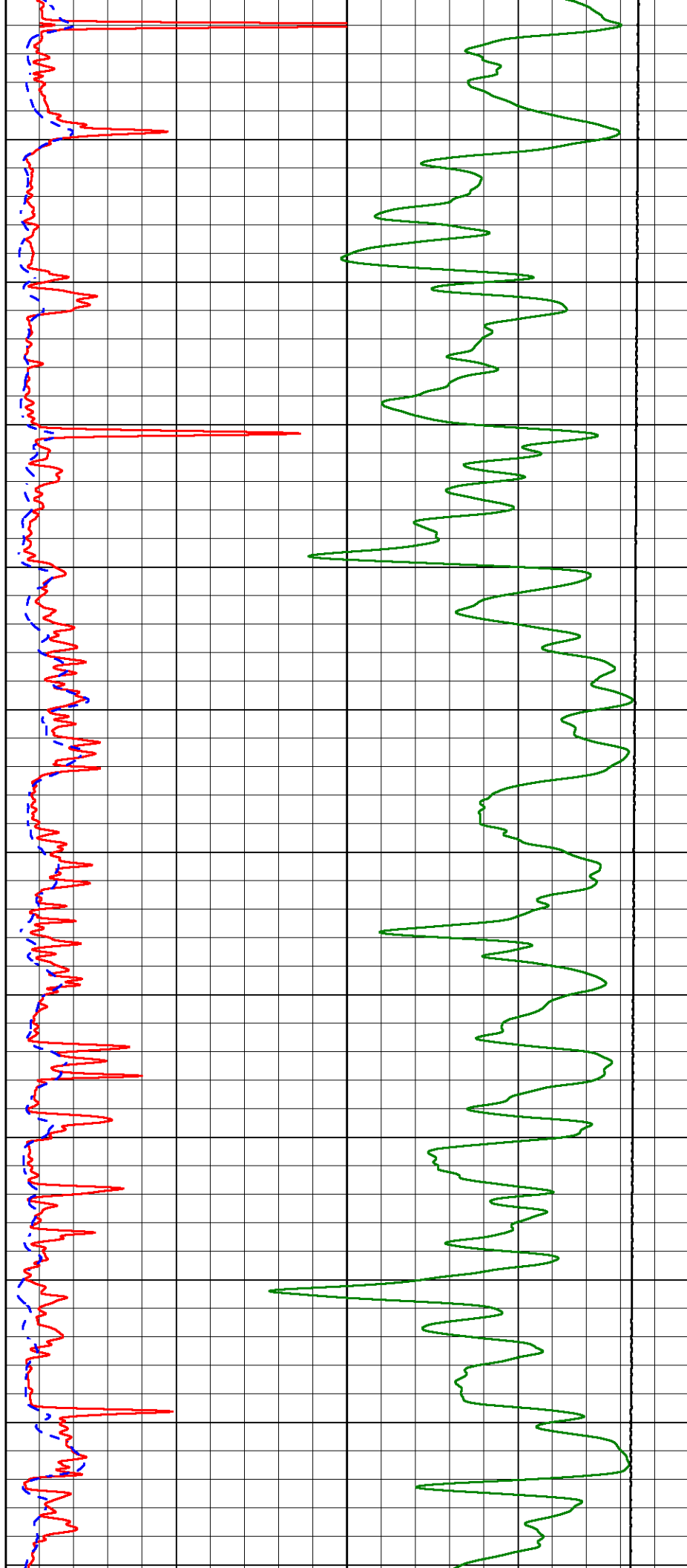


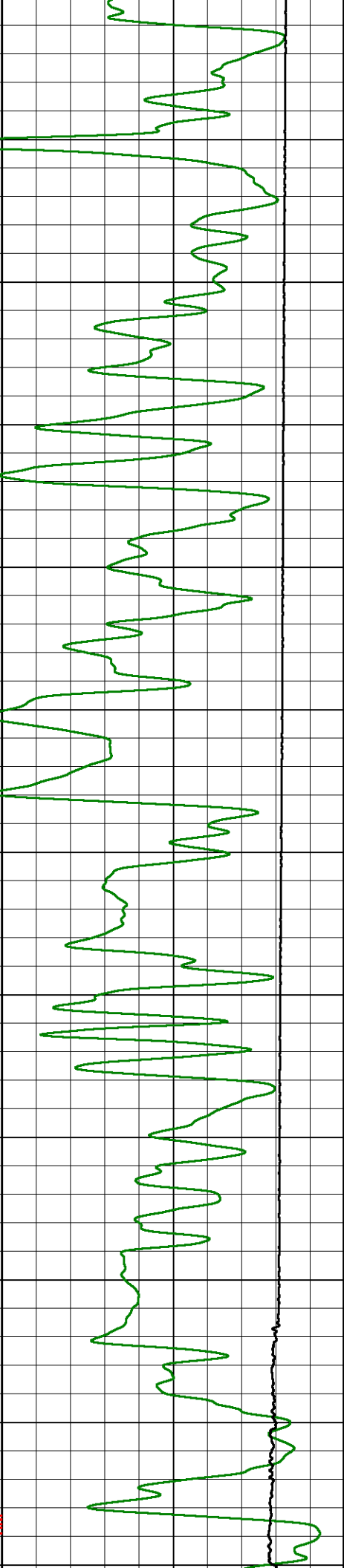
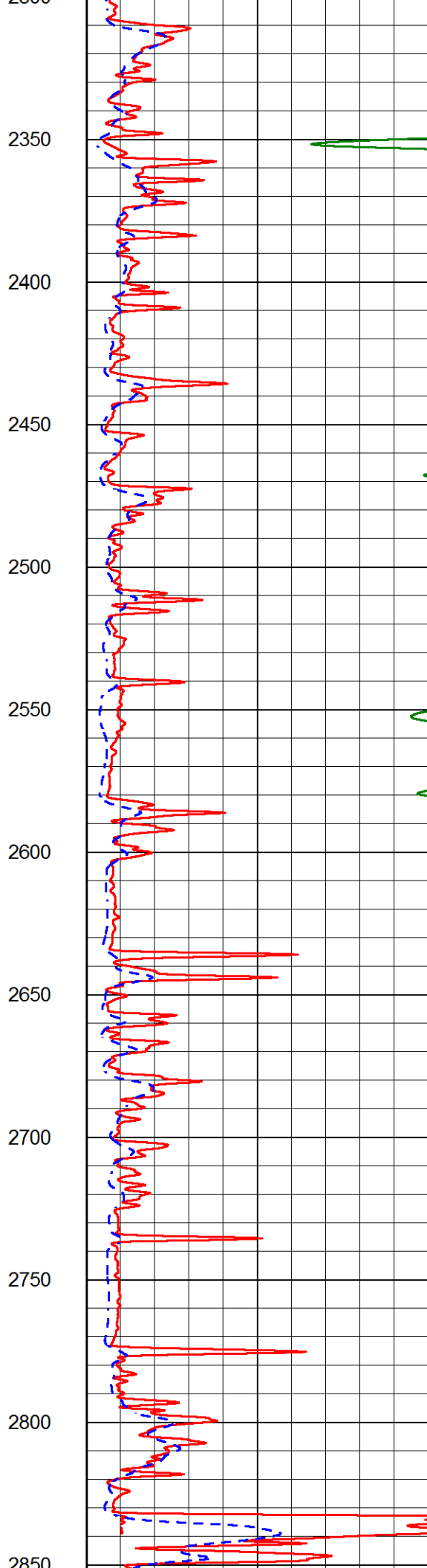
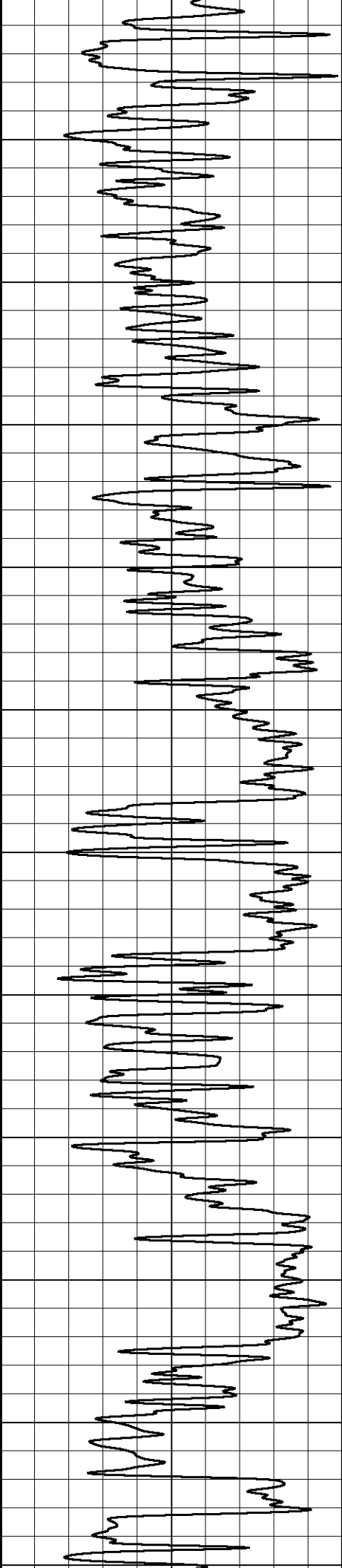
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1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750

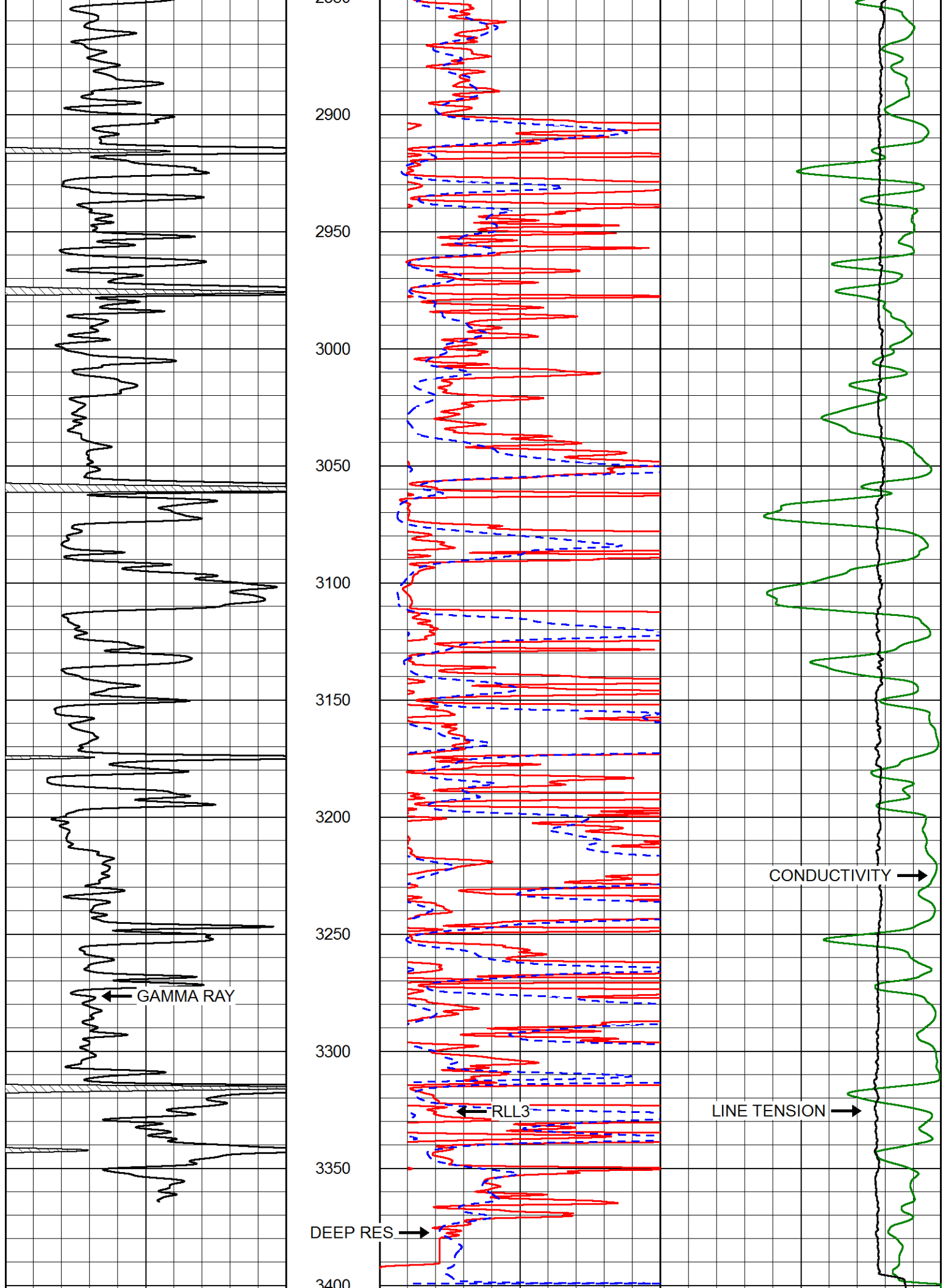




1700
1800
1850
1900
1950
2000
2050
2100
2150
2200
2250
2300







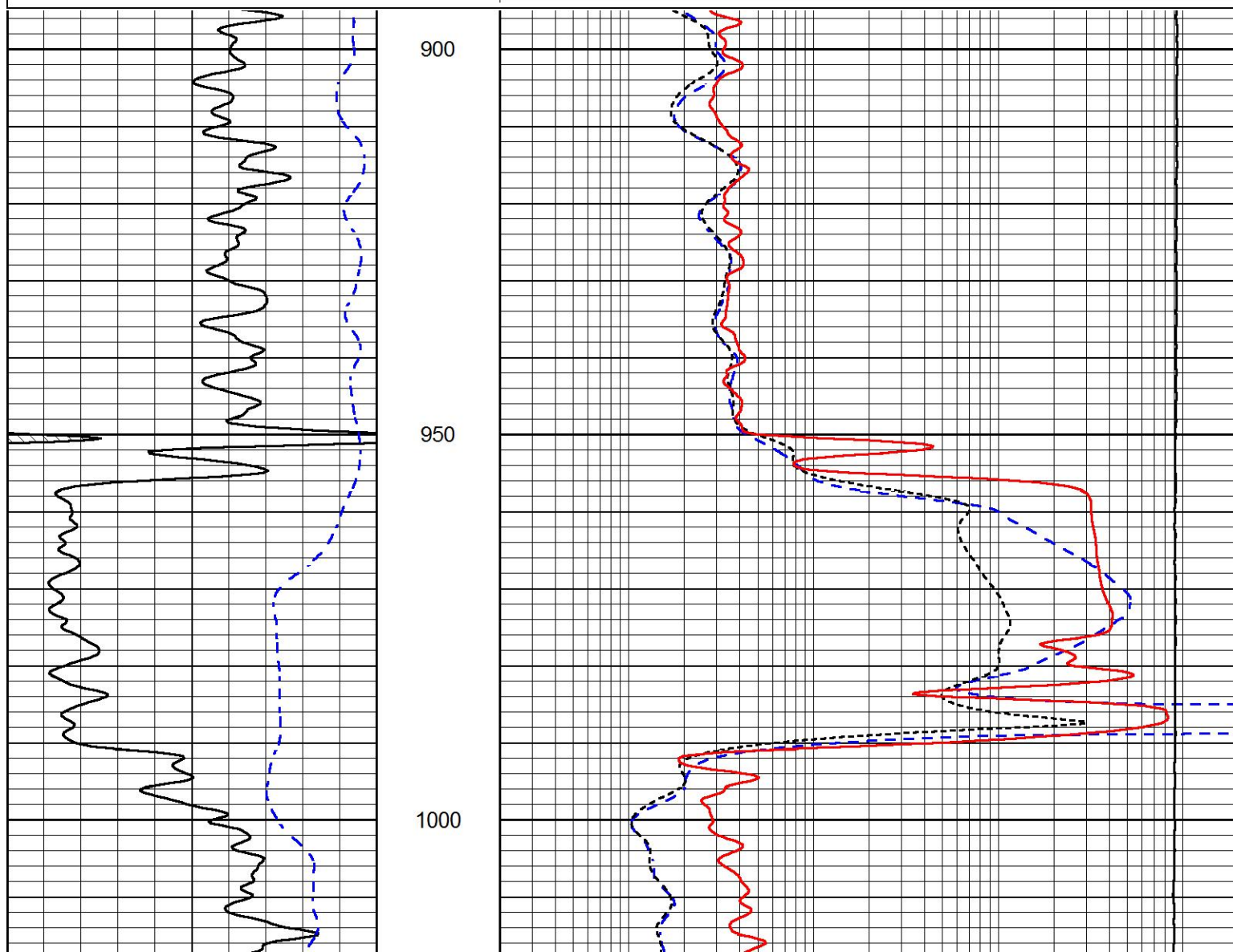
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			15000	Line Tension (lb)	0
0	RLL3 (Ohm-m)	50			
0	Deep Resistivity (Ohm-m)	50			
50	RLL3 (Ohm-m)	500			
50	Deep Resistivity (Ohm-m)	500			

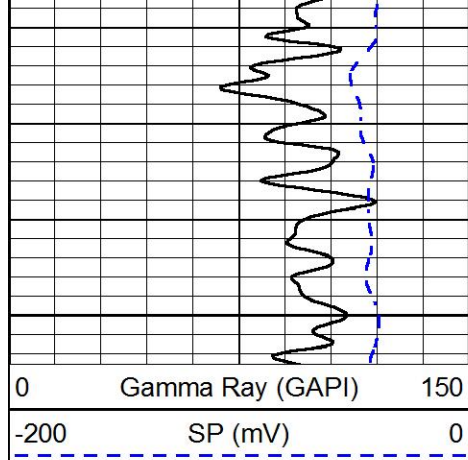


MAIN PASS

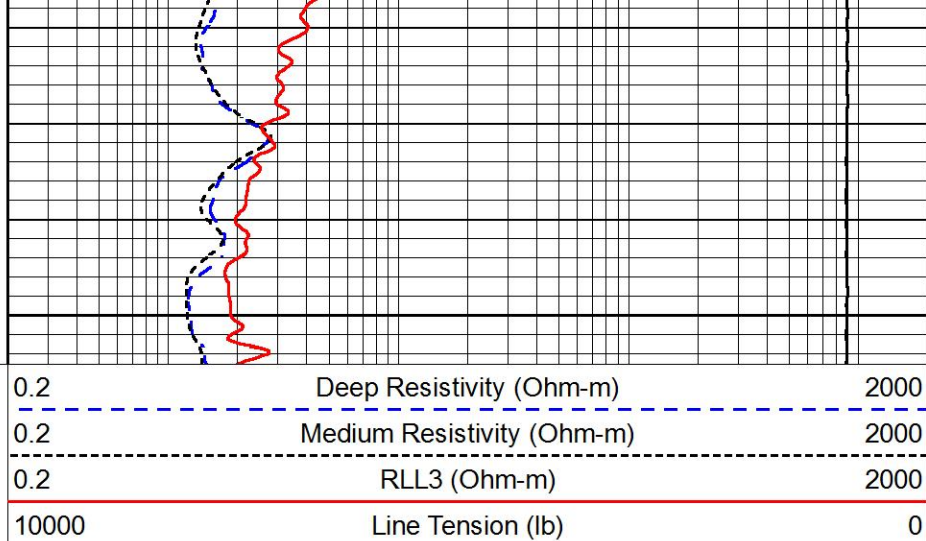
Database File fossil_truan_1.db
 Dataset Pathname STKML/pass5.1
 Presentation Format dil
 Dataset Creation Tue Oct 10 21:23:04 2017
 Charted by Depth in Feet scaled 1:240

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



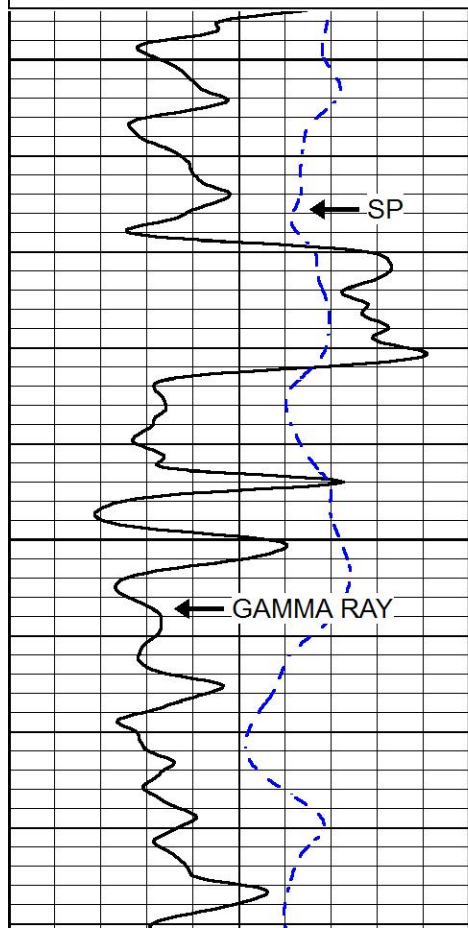
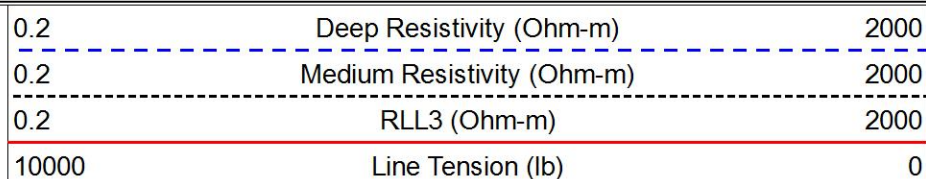
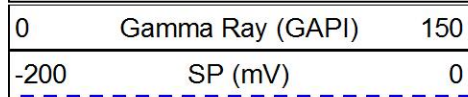


1050



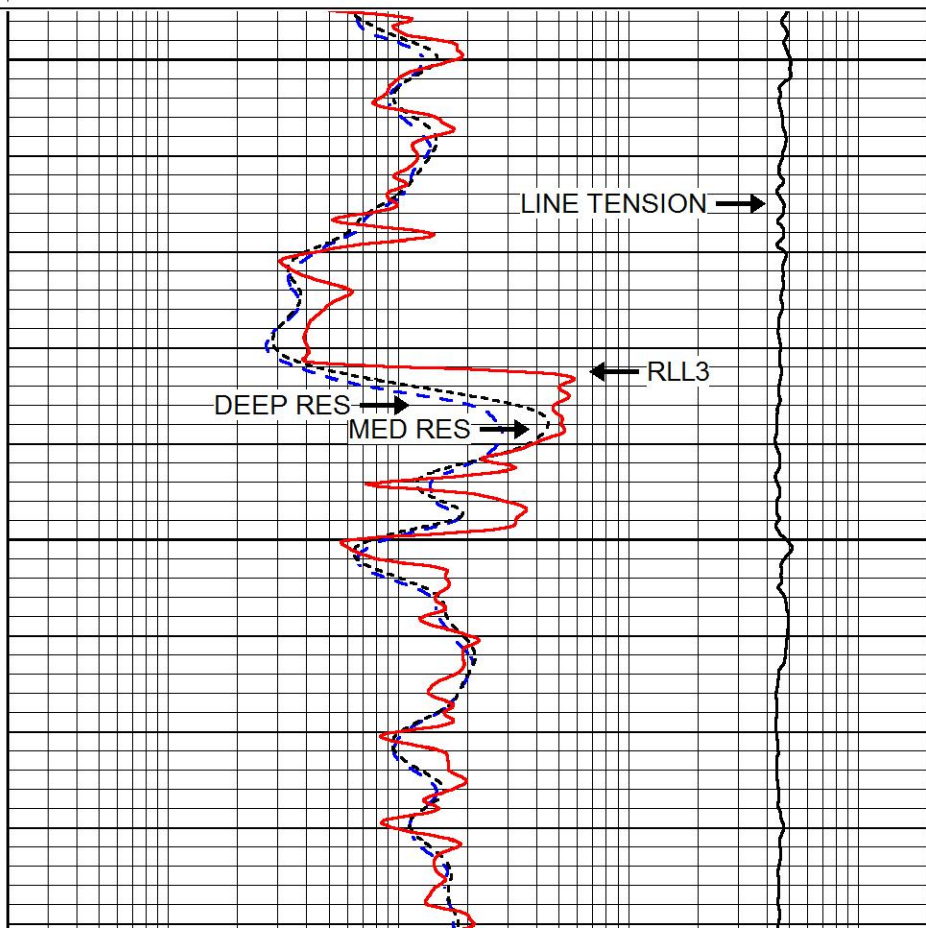
MAIN PASS

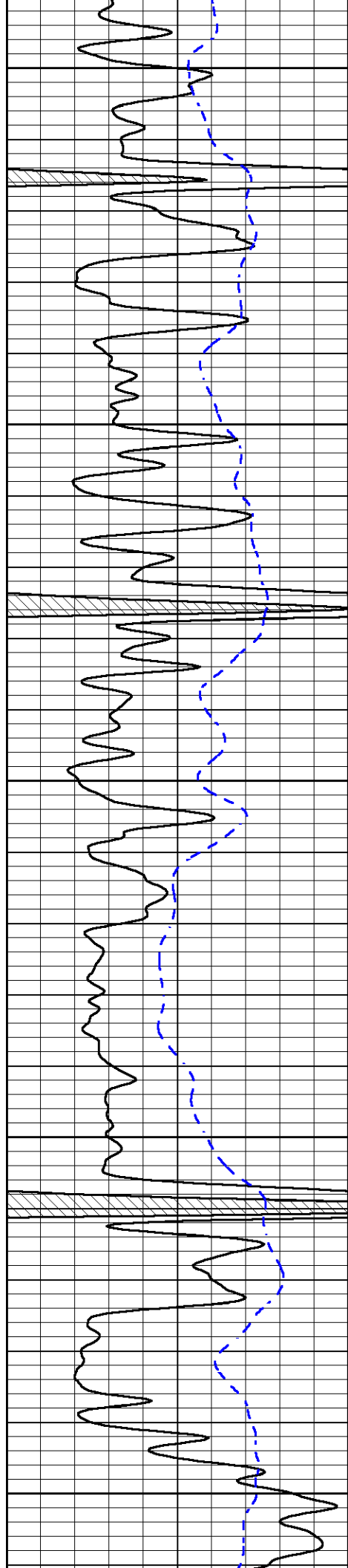
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Dataset Pathname STKML/pass3.1
Presentation Format dil
Dataset Creation Tue Oct 10 20:54:15 2017
Charted by Depth in Feet scaled 1:240



2800

2850





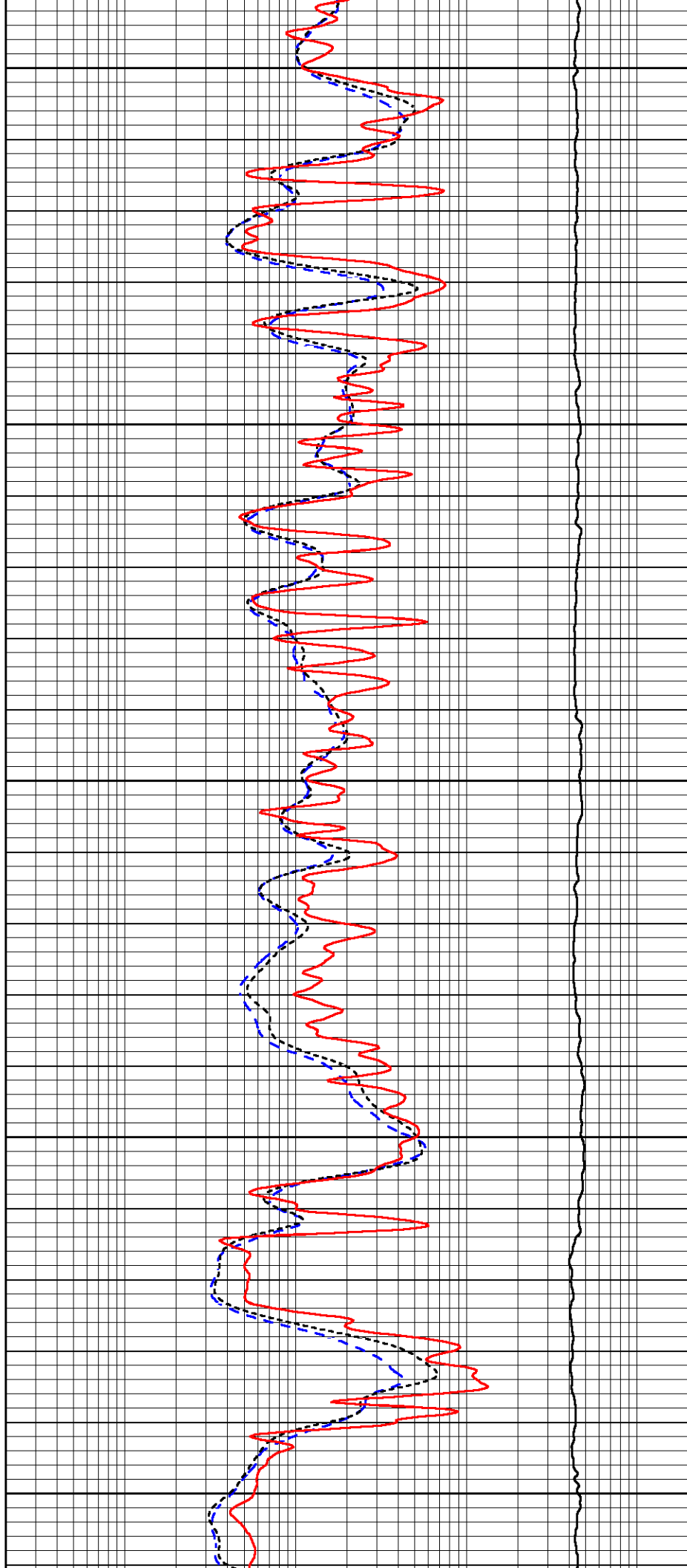
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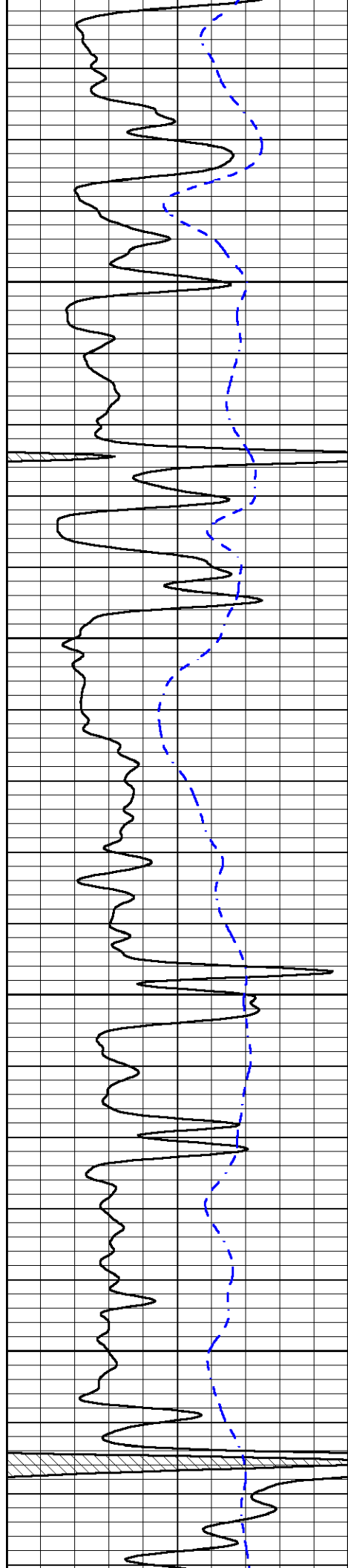
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3000

3050

3100



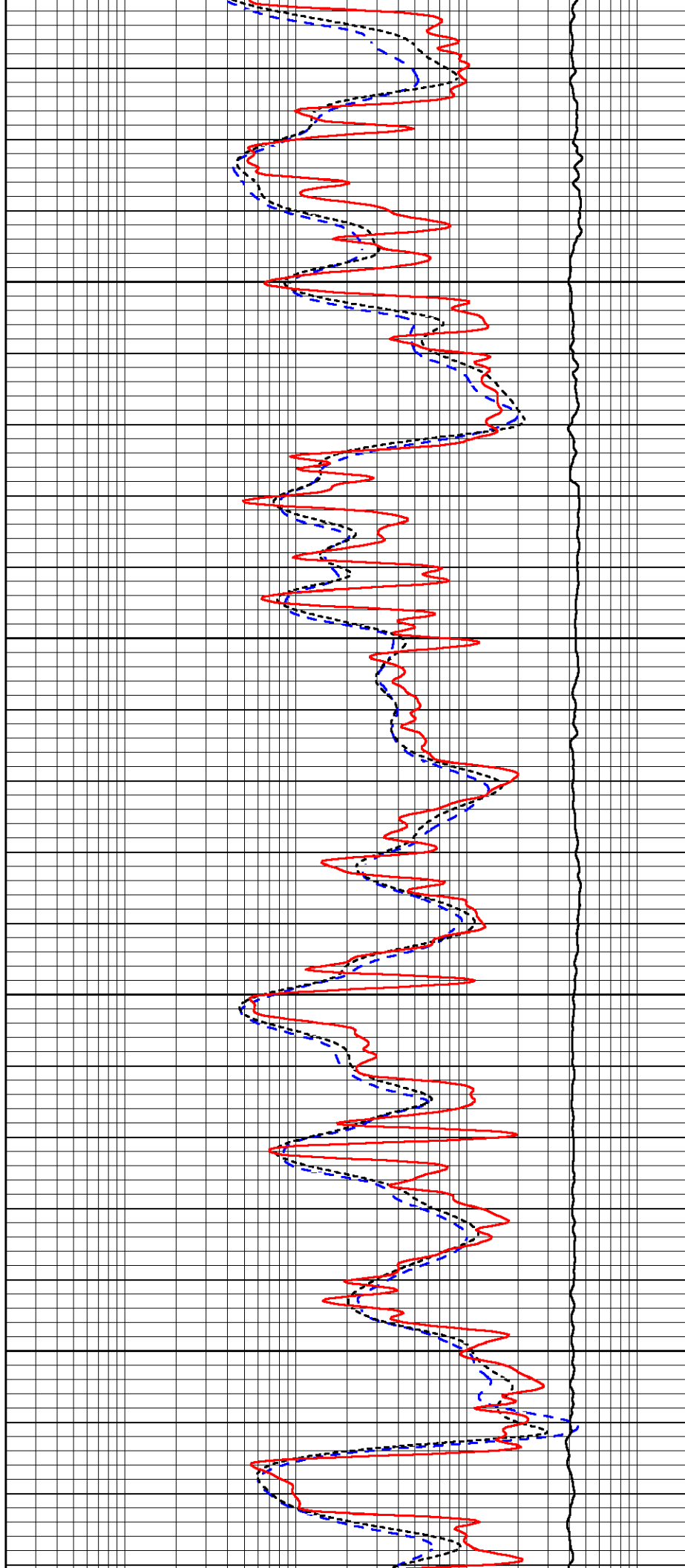


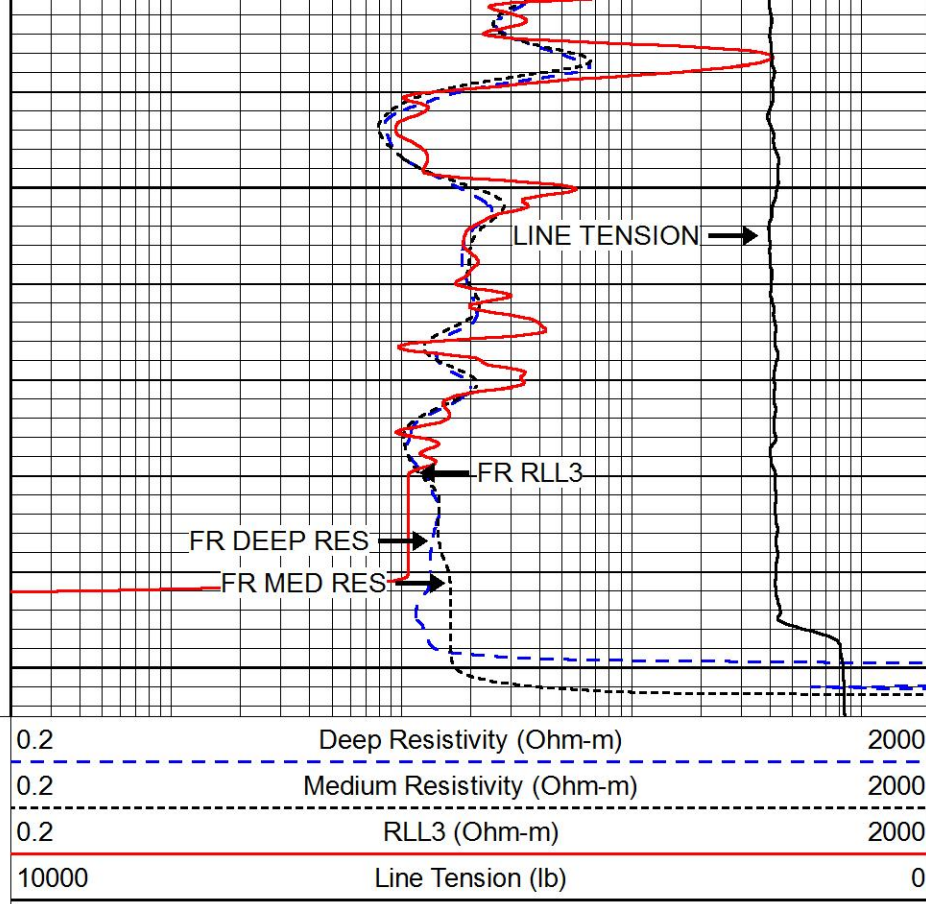
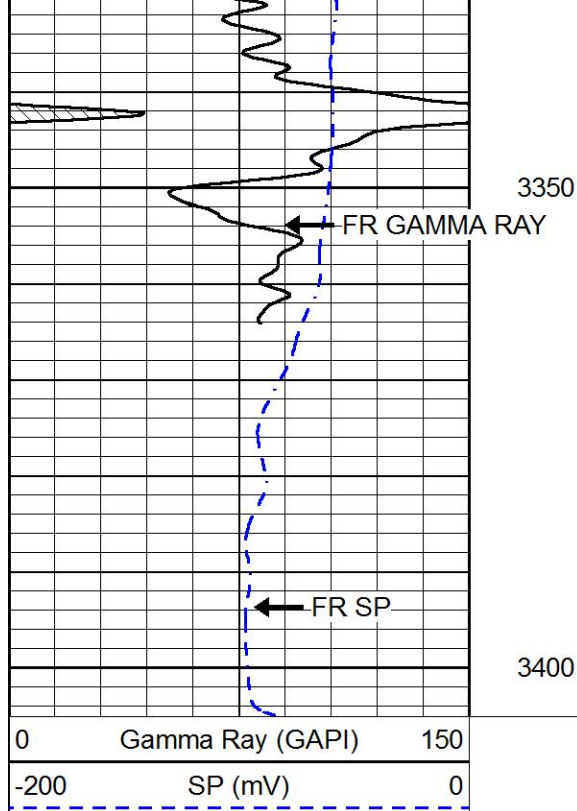
3150

3200

3250

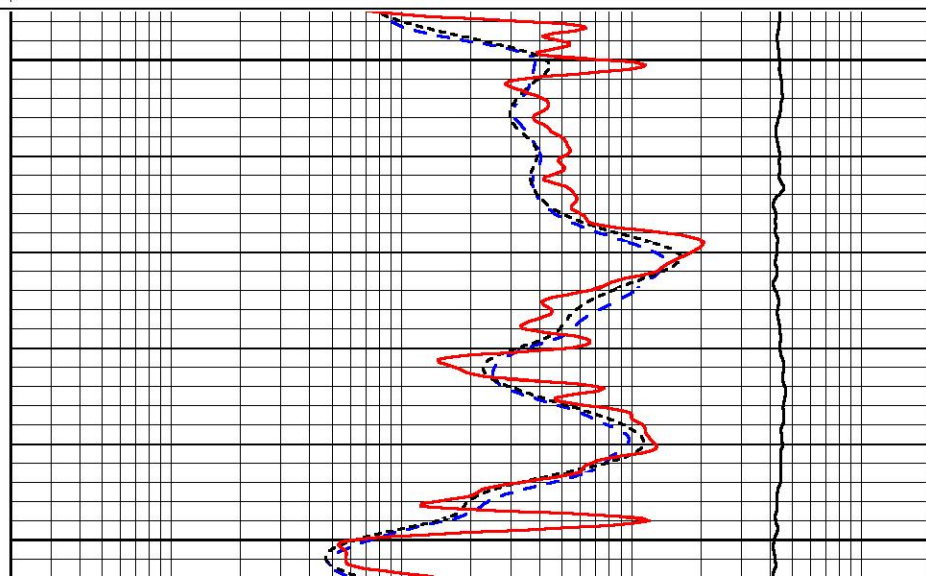
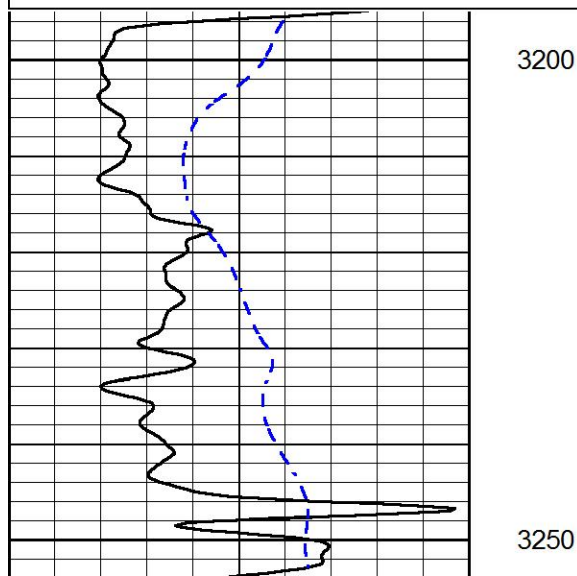
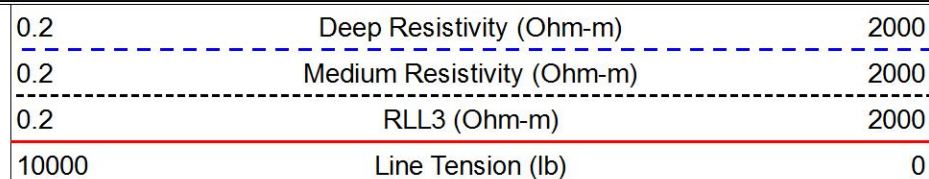
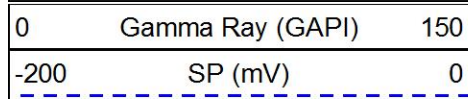
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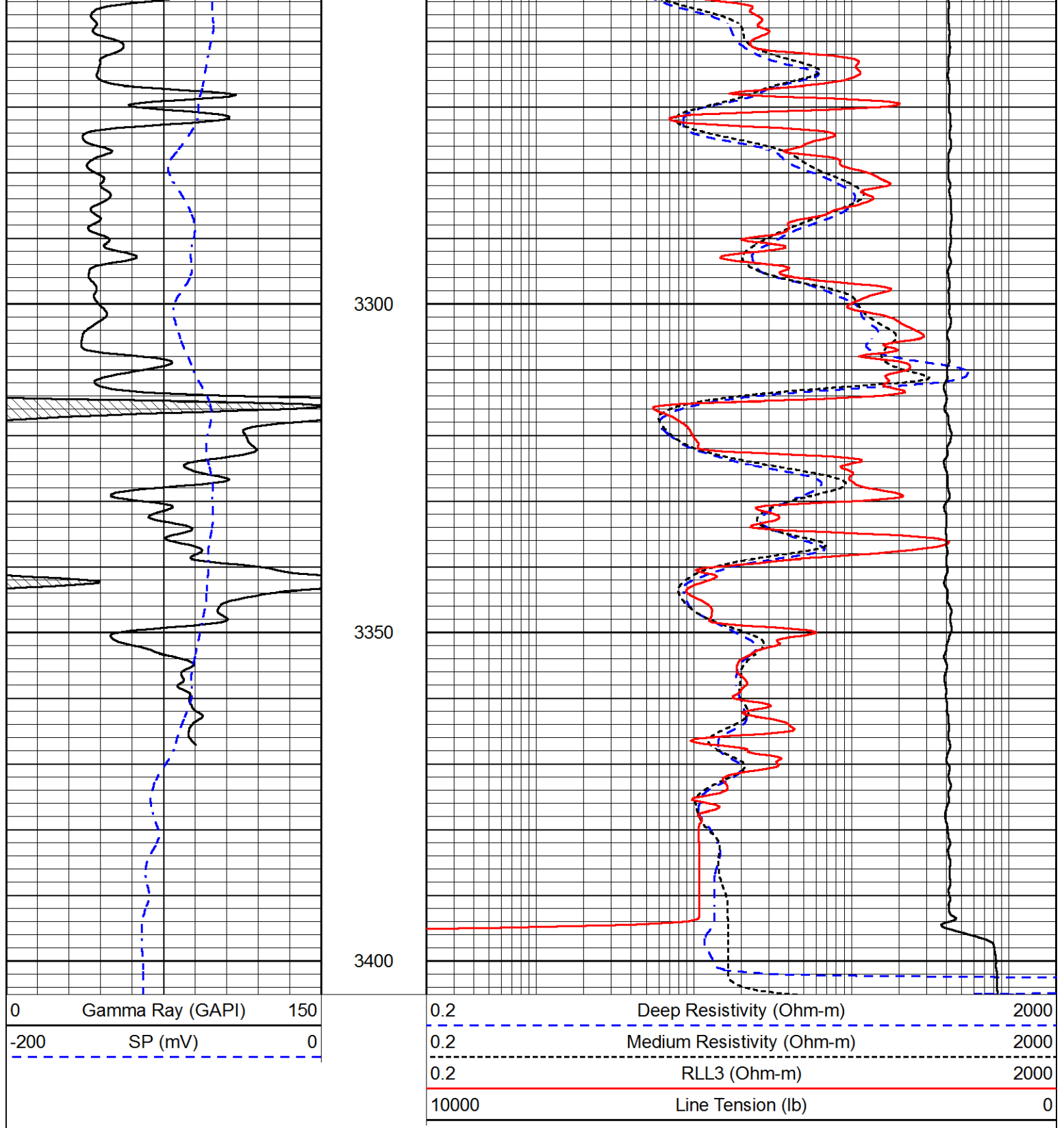




REPEAT SECTION

Database File fossil_truan_1.db
 Dataset Pathname STKML/pass2.1
 Presentation Format dil
 Dataset Creation Tue Oct 10 20:58:05 2017
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File fossil_truan_1.db
Dataset Pathname STKML/pass3.1
Dataset Creation Tue Oct 10 20:54:15 2017

Dual Induction Calibration Report

Serial-Model: PSI 91-M&W
Calibration Performed: Wed Sep 13 22:23:16 2017

Readings

References

Results

Loop:	Air	Loop		Air	Loop		Gain	Offset
Deep	166.796	835.089		0.000	255.800	mmho/m	0.430	-30.500
Medium	142.009	1348.560		0.000	255.800	mmho/m	0.360	-29.500
Microlog Calibration Report								
Serial-Model: Performed:				PSI-01-PSIML Wed Sep 06 19:50:56 2017				
Readings			References			Results		
	Zero	Cal		Zero	Cal		m	b
Normal	0.0000	1.0000		0.0000	1.0000	Ohm-m	21000.0000	-1.0000
Inverse	0.0000	1.0000		0.0000	1.0000	Ohm-m	23000.0000	-0.3000
Caliper	1.0001	1.1397		6.5000	18.5000	in	100.0000	-97.4550
Compensated Density Calibration Report								
Serial-Model: Source / Verifier: Master Calibration Performed:				90-1031-M&W 16955B / 2ci Wed Sep 06 19:51:03 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: Tool Model: Calibration Performed:				207-MW M&W 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: Tool Model: Calibration Performed:		89 M&W 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				



PIONEER

Pioneer Energy Services

Company	FOSSIL ENERGY, LLC
Well	TRUAN #1
Field	BAXTER
County	RUSSELL
State	KANSAS