PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company JOHN O. FARMER, INC.
Well DENTON #1
Field HAGINS
County LYON State KANSAS

Location: API # : 15-111-20538-00-00
500' FNL & 2345' FEL
SEC 13 TWP 17S RGE 11E

Other Services
CNL/CDL
MEL/BHCS

Permanent Datum GROUND LEVEL Elevation 1252'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1260'
D.F. N/A
G.L. 1252'

Company JOHN O. FARMER, INC.
Well DENTON #1
Field HAGINS
County LYON
State KANSAS

Date	5/27/2018		
Run Number	ONE		
Depth Driller	2950'		
Depth Logger	2951'		
Bottom Logged Interval	2950'		
Top Log Interval	200'		
Casing Driller	8.625" @ 220'		
Casing Logger	216'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity,ppm CL	1700		
Density / Viscosity	9.0	70	
pH / Fluid Loss	10.5	8.8	
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.90 @ 85		
Rmf @ Meas. Temp	0.68 @ 85		
Rmc @ Meas. Temp	1.22 @ 85		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	0.73 @ 106		
Operating Rig Time	5 HOURS		
Max Rec. Temp. F	106		
Equipment Number	91		
Location	HAYS		
Recorded By	D. SCHMIDT		
Witnessed By	AUSTIN KLAUS		

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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.

ADMIRE (HWY 56 & 99),
5 SOUTH TO 290 RD, 2 1/2 WEST,
SOUTH INTO

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

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

Your Pioneer Energy Services Crew
Engineer: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By
Primary Witness: AUSTIN KLAUS
Secondary Witness:
Secondary Witness:
Secondary Witness:

Log Variables

Database C:\ProgramData\Warrior\Data\john o farmer_denton 1.db
Dataset field/well/STKML/pass4.1/_vars_

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	96	0
SNDERR mmho/m	**SRFTEMP degF**	**CASETHCK in**	**CASEOD in**	**PERFS**	**TDEPTH ft**	**BOTTEMP degF**	**BOREID in**
0	90	0	5.5	0	2951	106	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	37.48		CNT-M&W (207-MW)	5.50	3.50	100.00
CNSSC	36.73					
			CDL-M&W (817-947)	8.50	4.00	250.00
LSD	28.43					
DCAL	28.42					
SSD	27.93					
			ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
MCAL	19.83					
MI	19.83					
MN	19.83					
RLL3F	15.80					
RLL3	15.80					

		DIL-PSI HIGH TEMP (PSI 971 HT)	18.50	3.50	220.00
CILD	8.00				
CILM	4.70				
SP	0.20				

Dataset: john o farmer_denton 1.db: field/well/STKML/pass4.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

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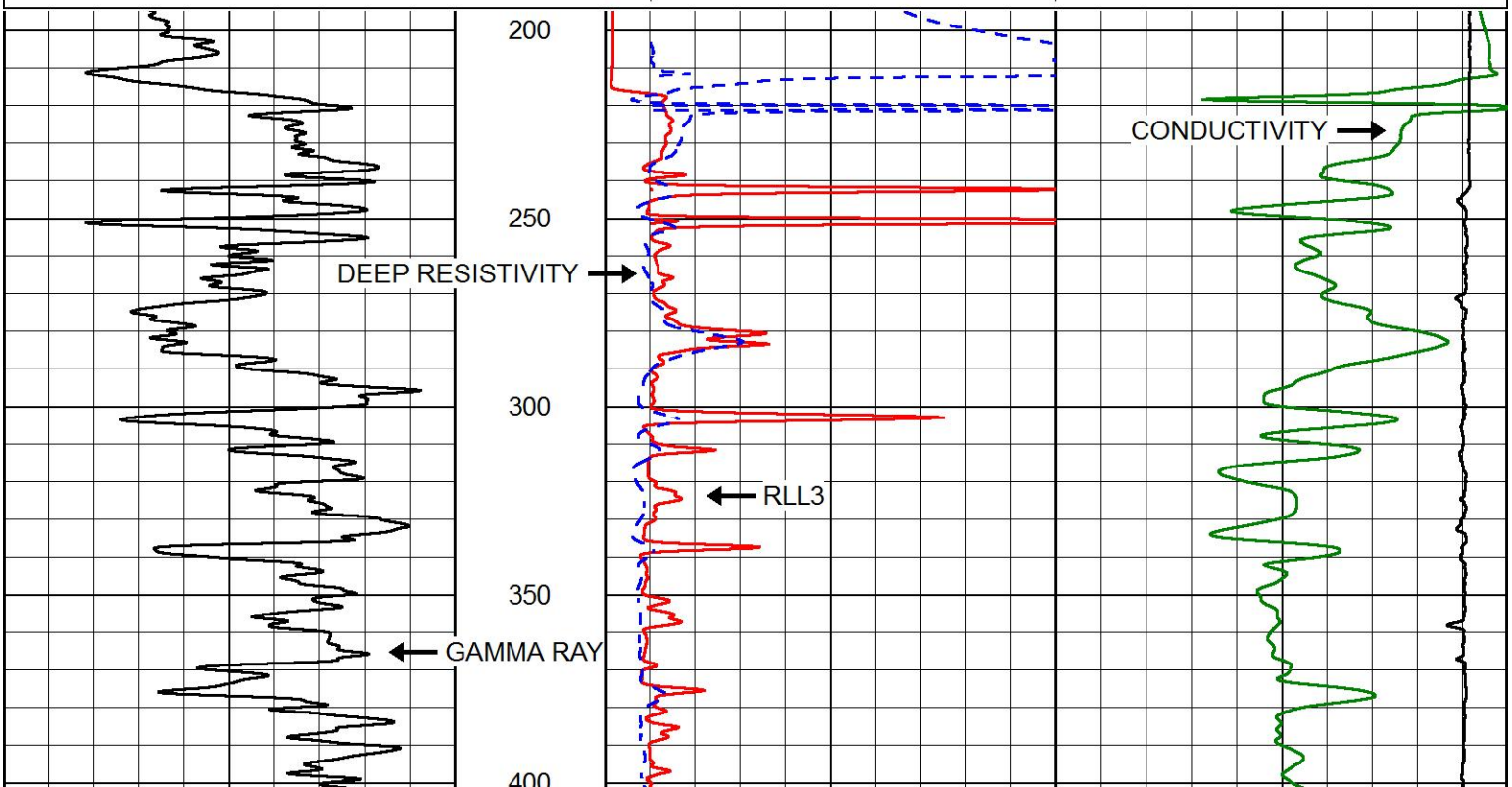
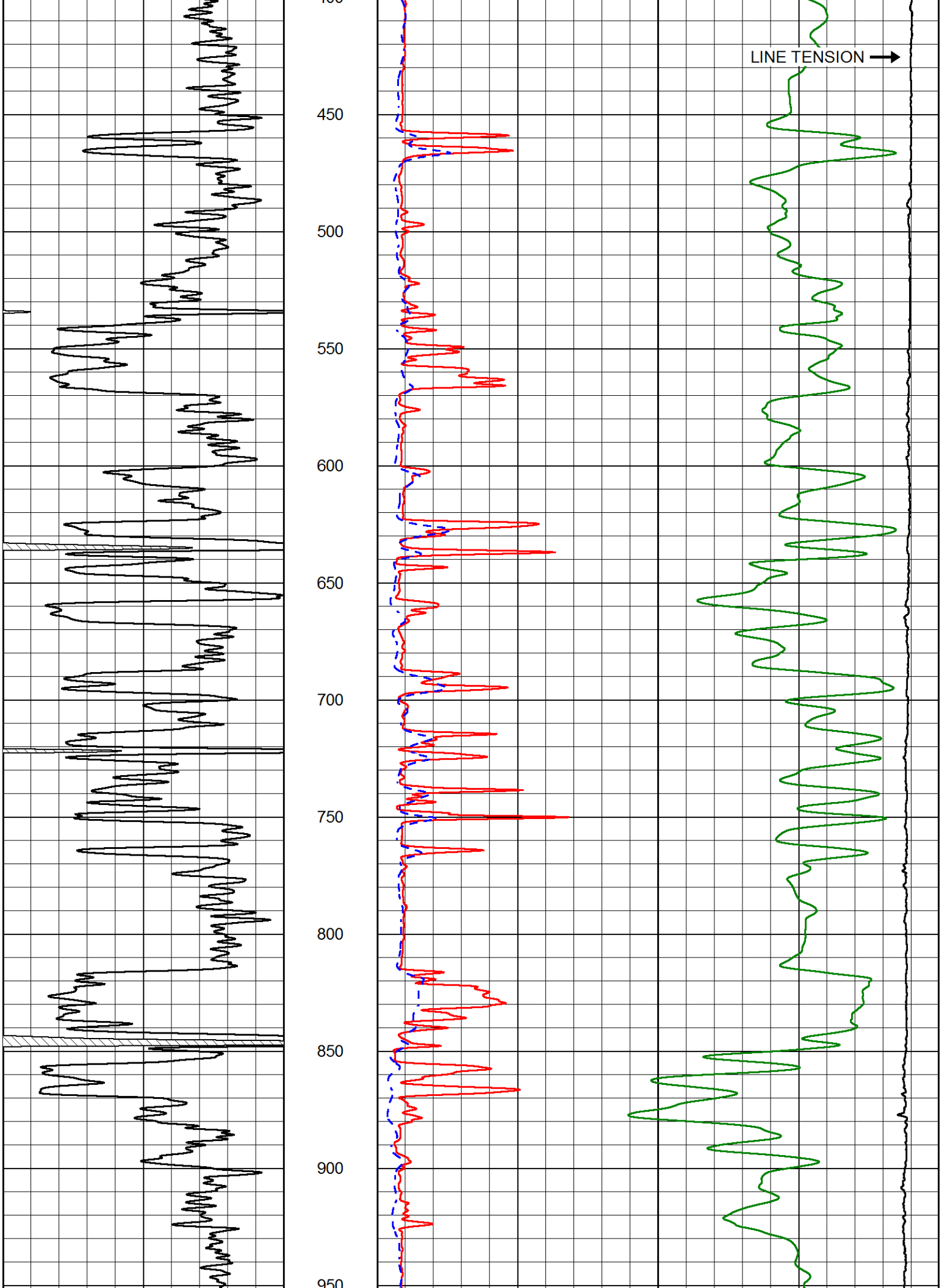
MAIN PASS

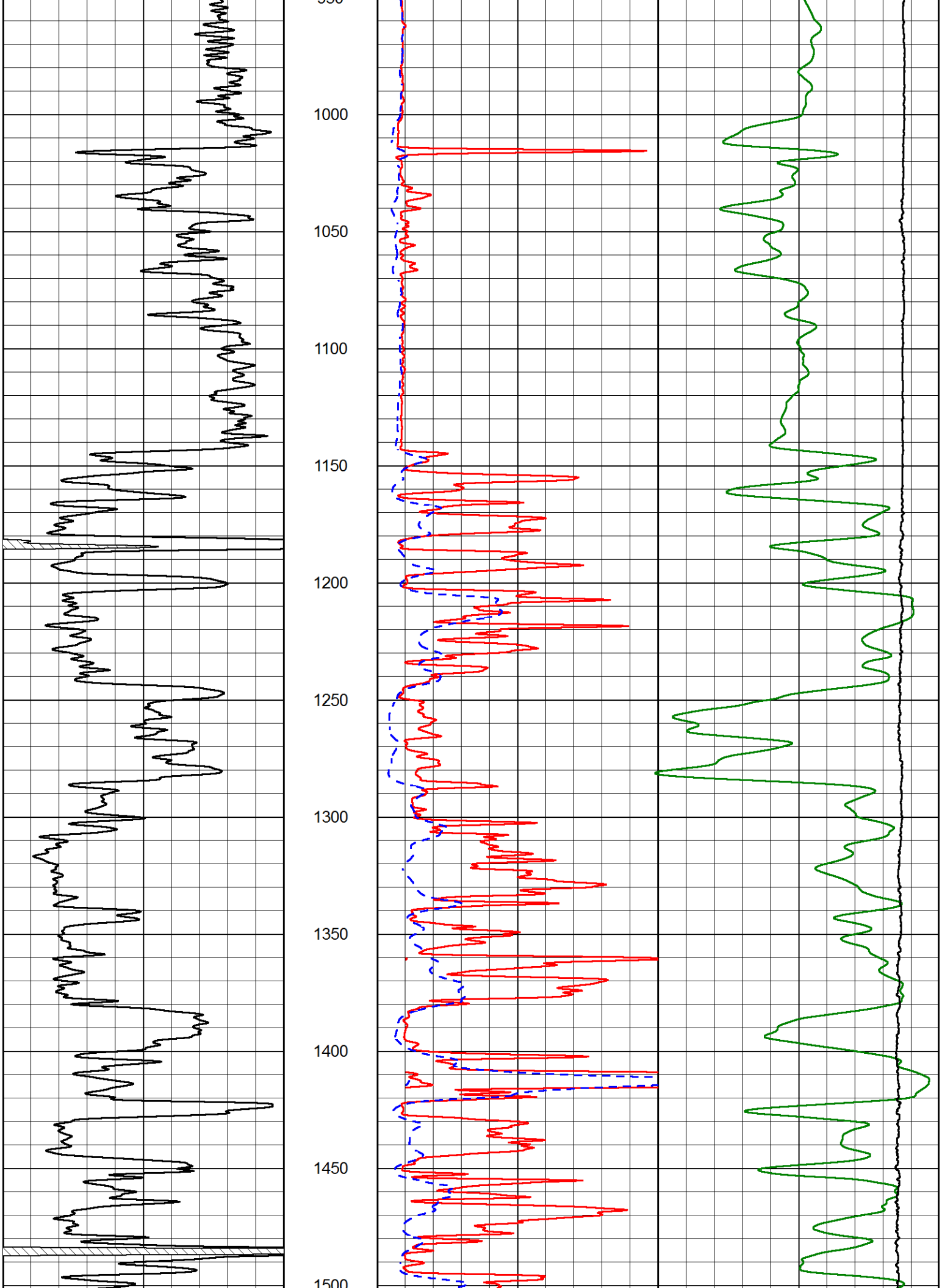
Database File	john o farmer_denton 1.db
Dataset Pathname	STKML/pass4.1
Presentation Format	dil2in
Dataset Creation	Sun May 27 23:34:05 2018
Charted by	Depth in Feet scaled 1:600

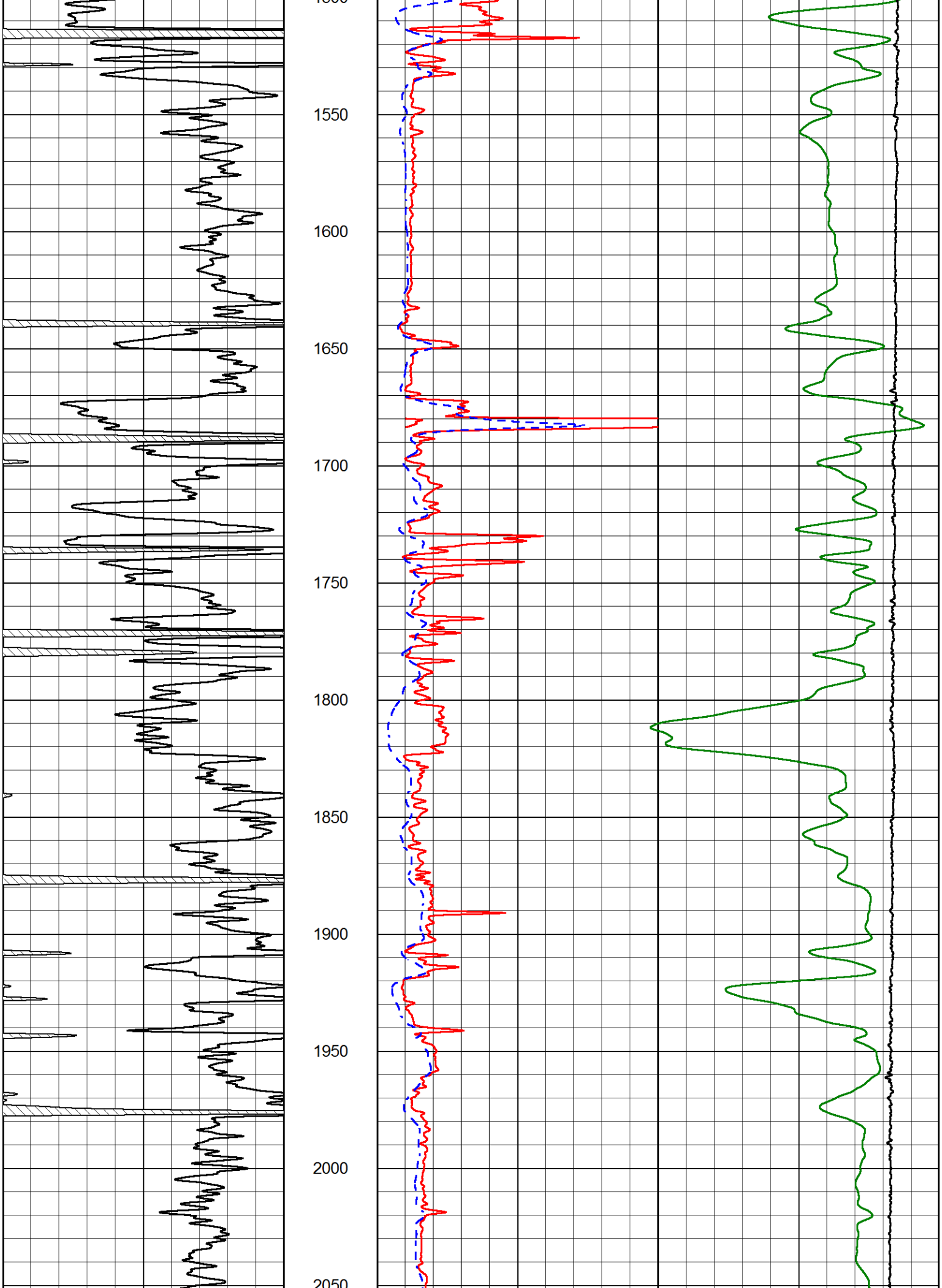
GAMMA RAY
0 (GAPI) 150

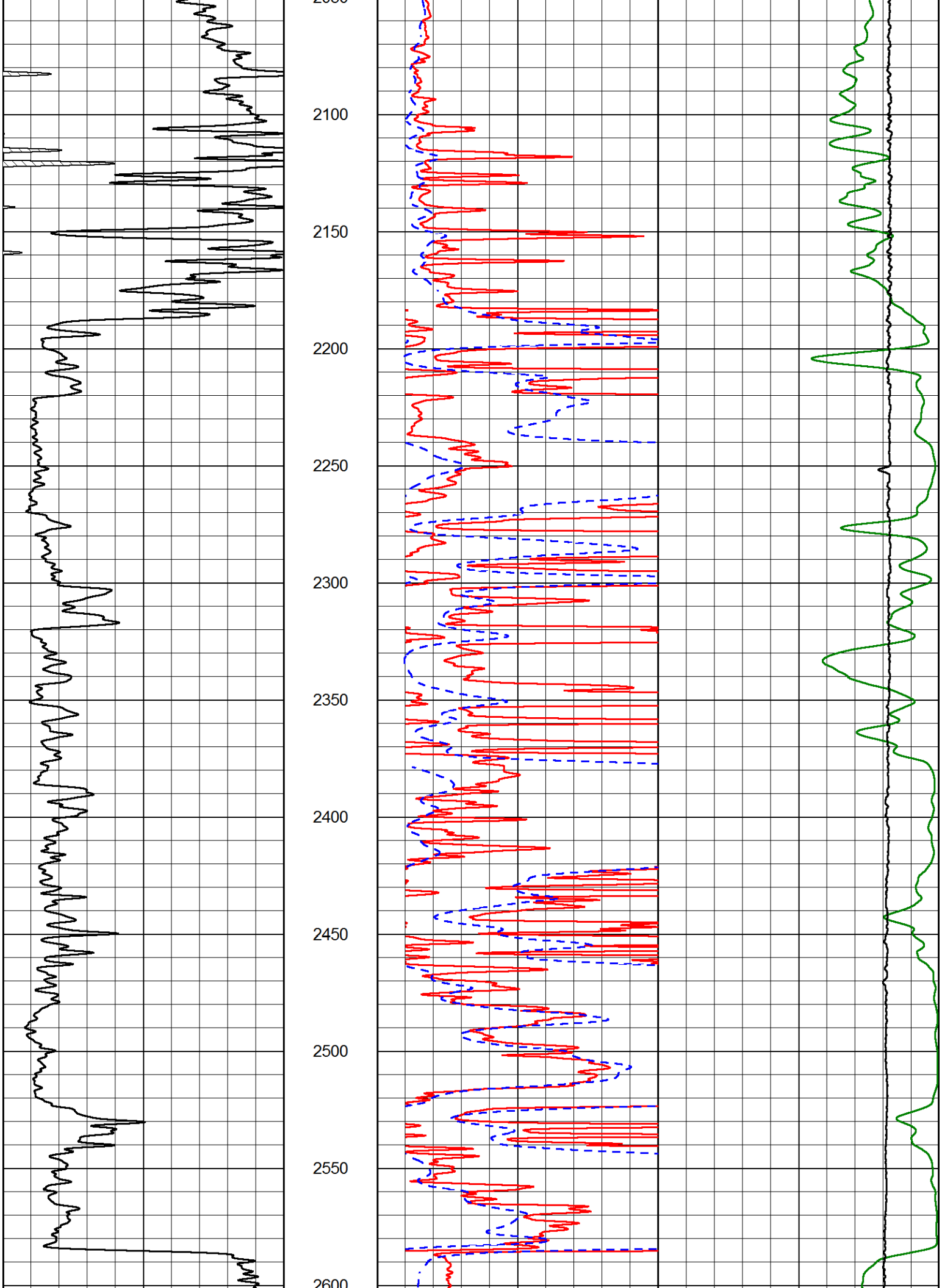
1000 CONDUCTIVITY (mmho/m) 0
15000 Line Tension (lb) 0
0 RLL3 (Ohm-m) 50
0 DEEP RESISTIVITY (Ohm-m) 50
50 RLL3 (Ohm-m) 500
50 Deep Resistivity (Ohm-m) 500

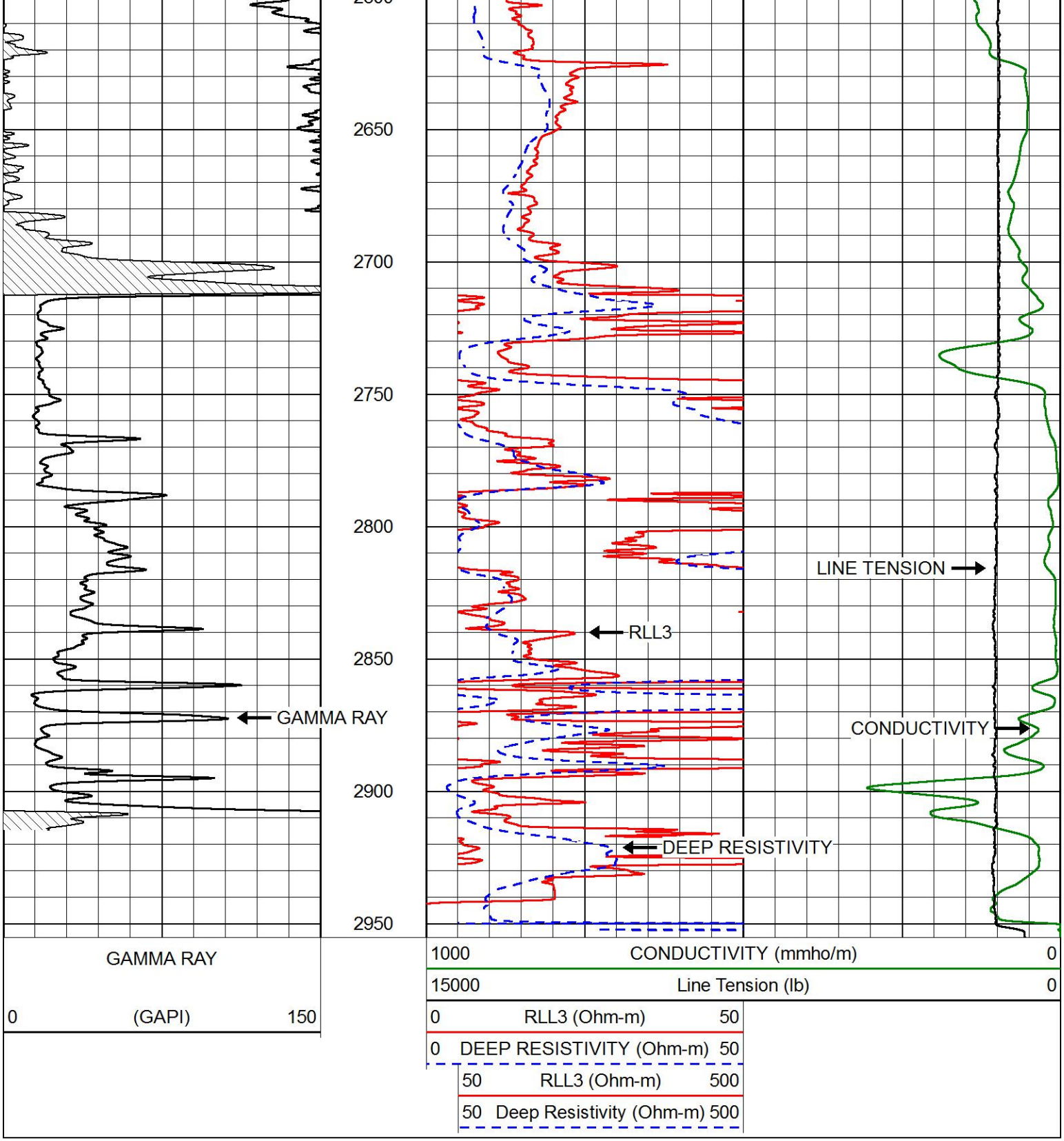



LINE TENSION
450
500
550
600
650
700
750
800
850
900
950


1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500


1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050


2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600



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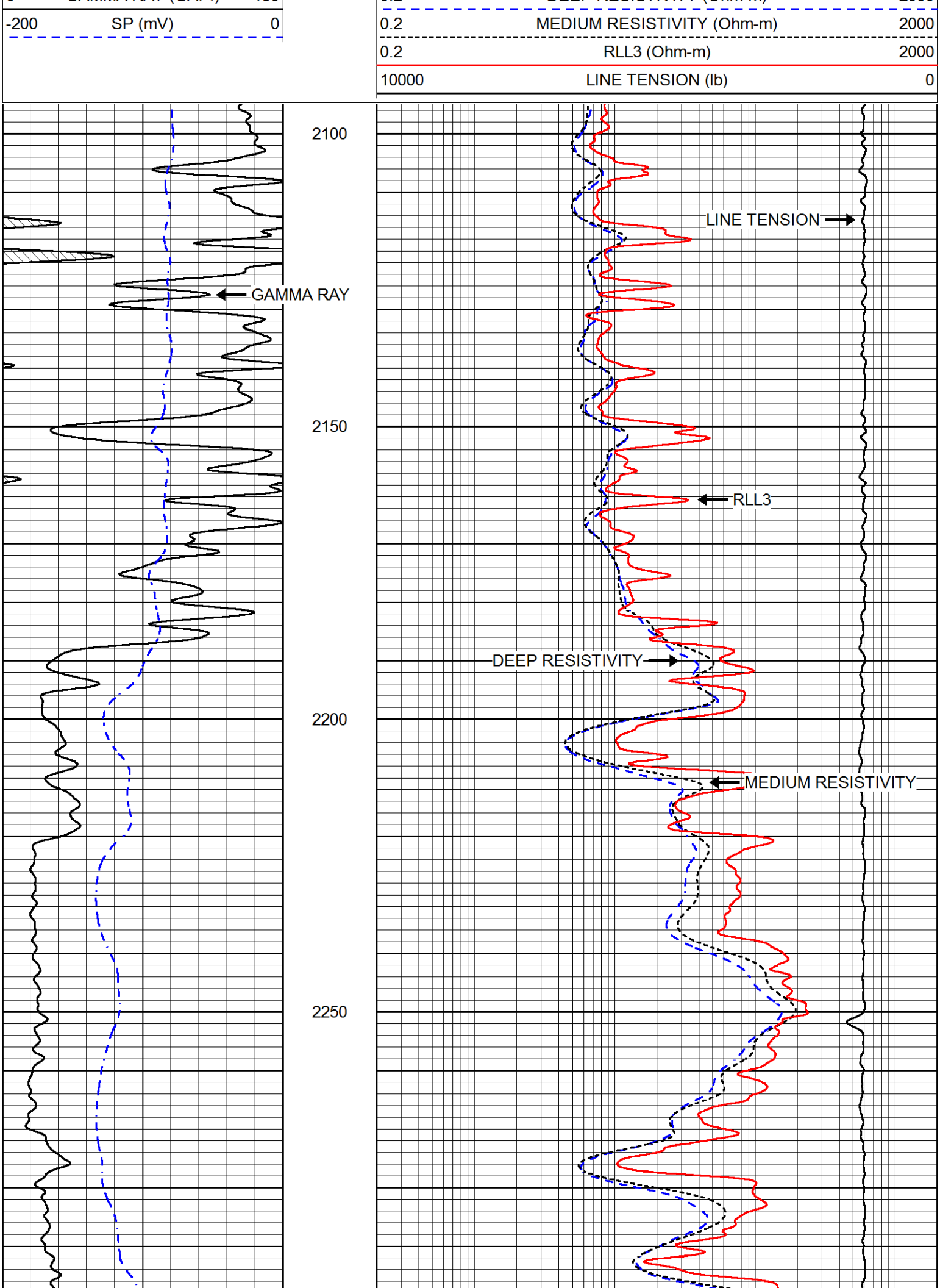
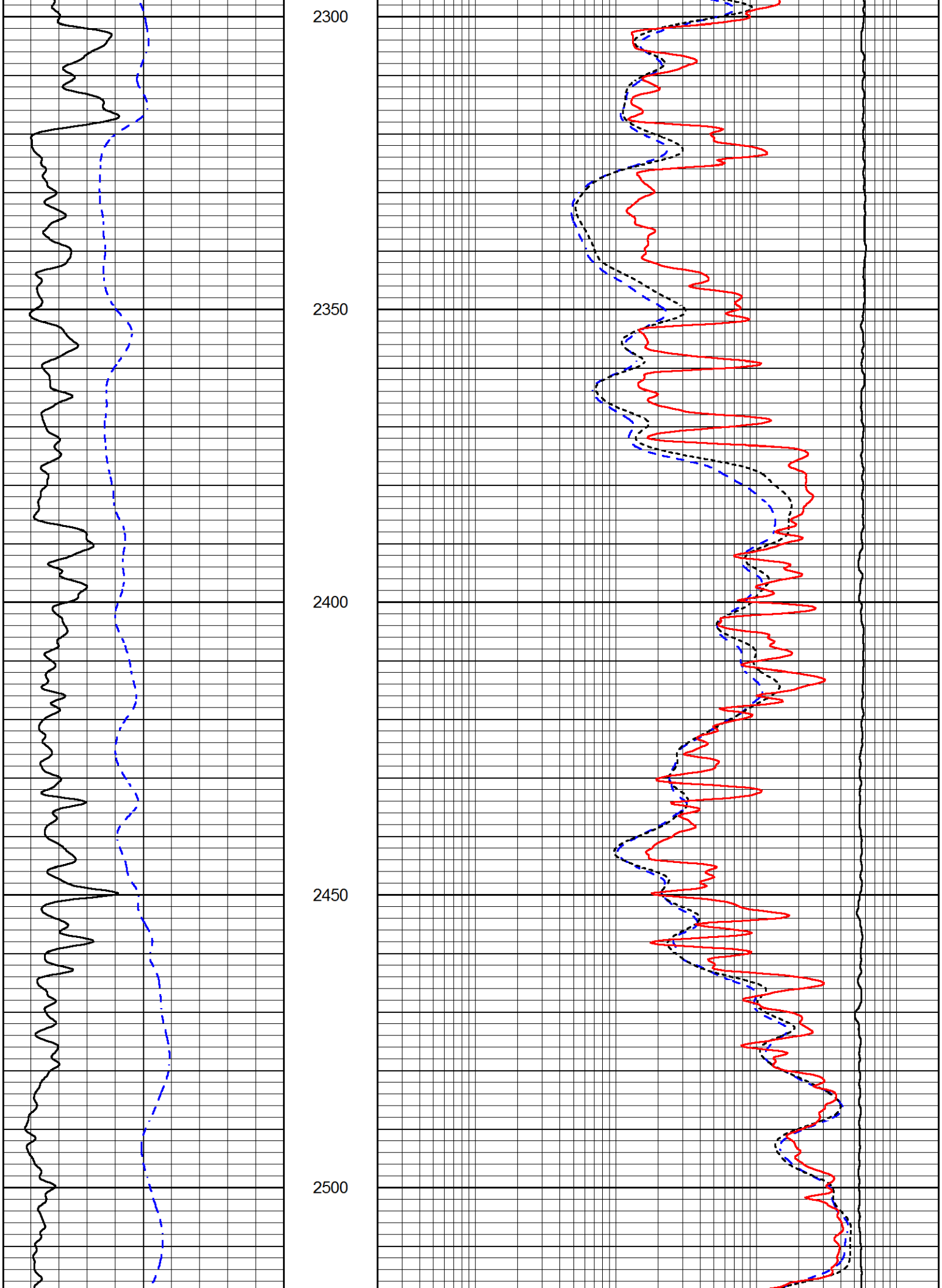
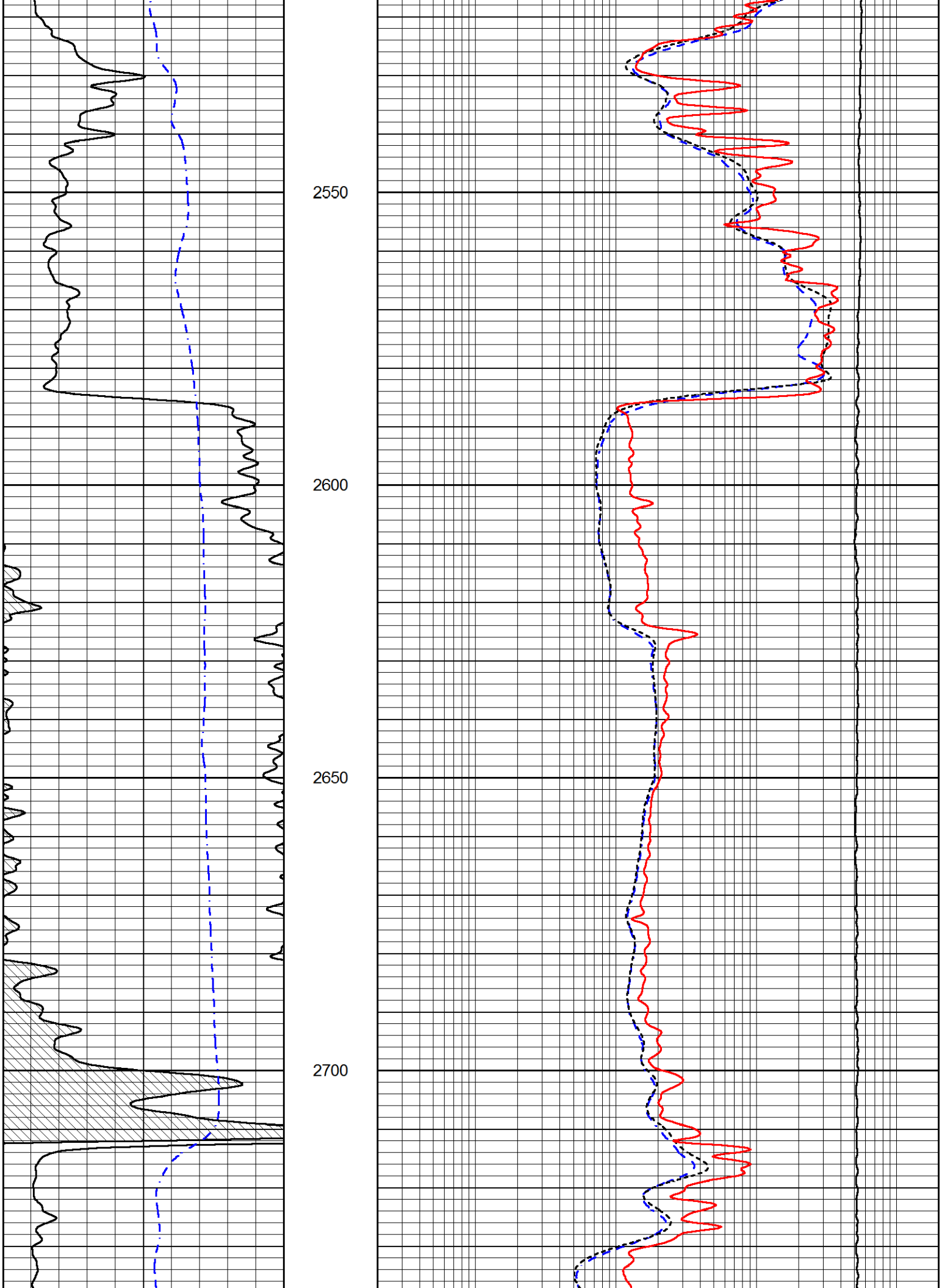
MAIN PASS

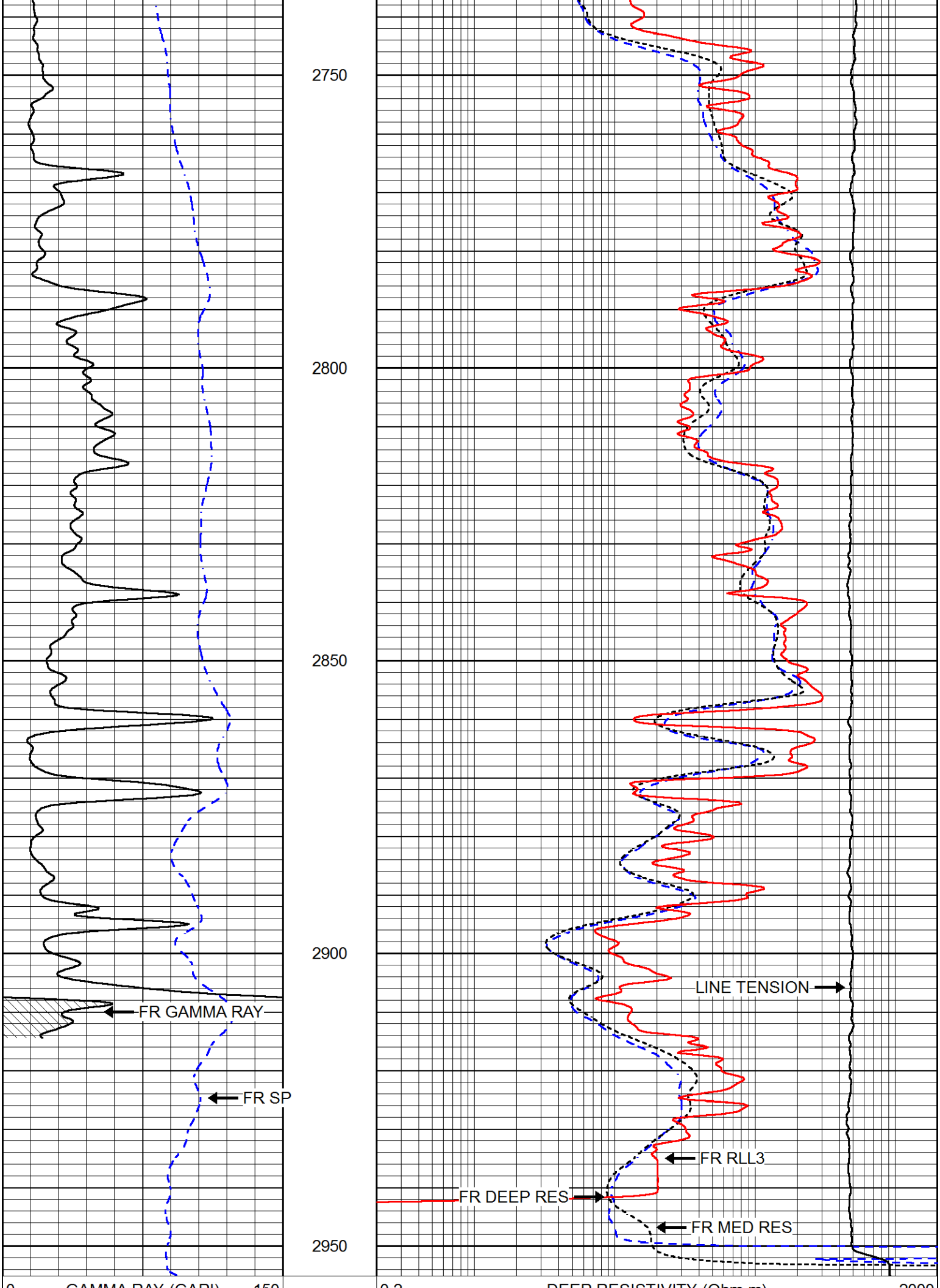
Database File	john o farmer_denton 1.db
Dataset Pathname	STKML/pass4.1
Presentation Format	dil
Dataset Creation	Sun May 27 23:34:05 2018
Charted by	Depth in Feet scaled 1:240

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
2100
2150
2200
2250
GAMMA RAY
LINE TENSION
RLL3
DEEP RESISTIVITY
MEDIUM RESISTIVITY


2300
2350
2400
2450
2500


2550
2600
2650
2700


2750
2800
2850
2900
2950
FR GAMMA RAY
FR SP
LINE TENSION
FR RLL3
FR DEEP RES
FR MED RES
0
GAMMA RAY (GAPI)
150
0.2
DEEP RESISTIVITY (Ohm-m)
2000

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

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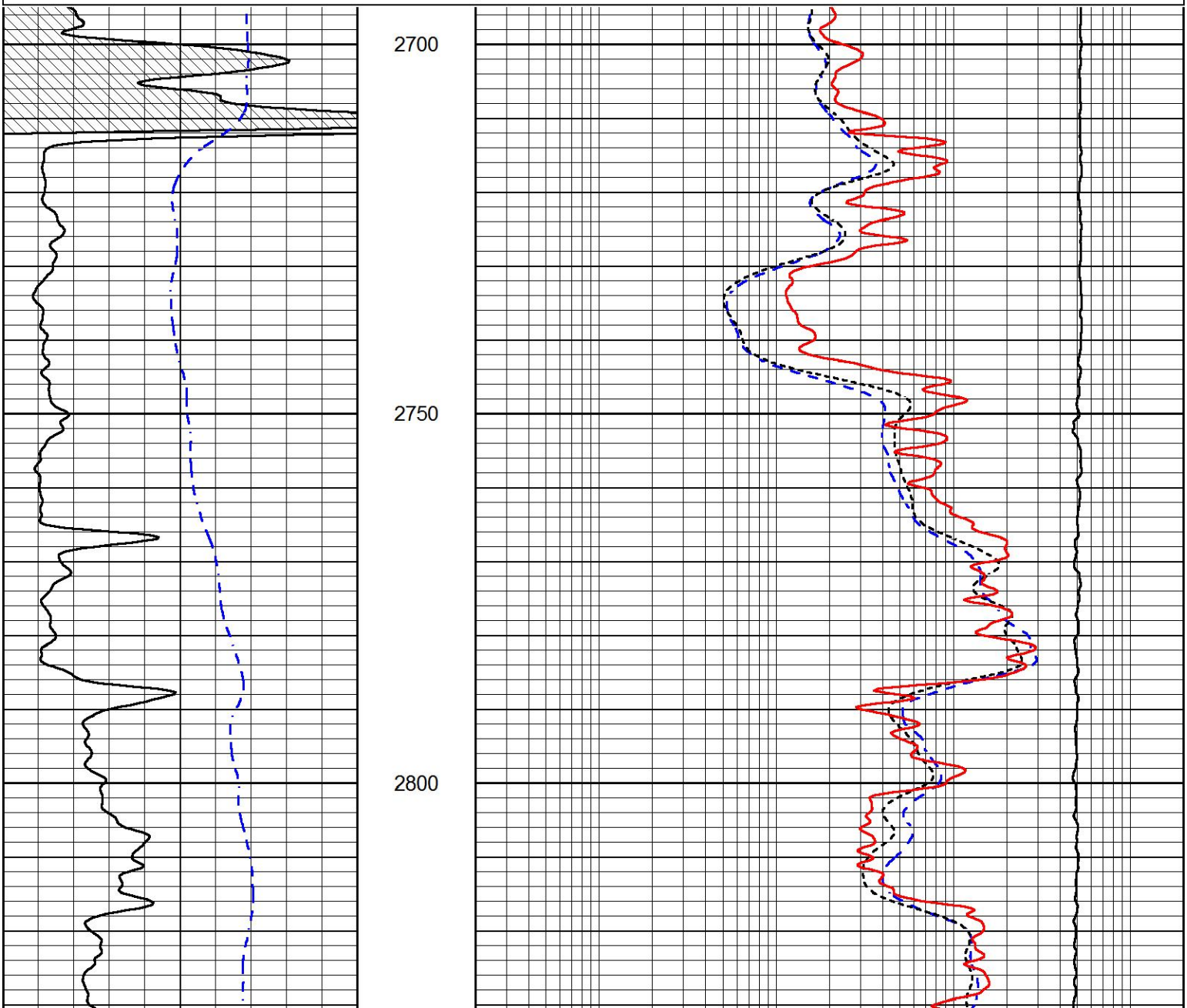
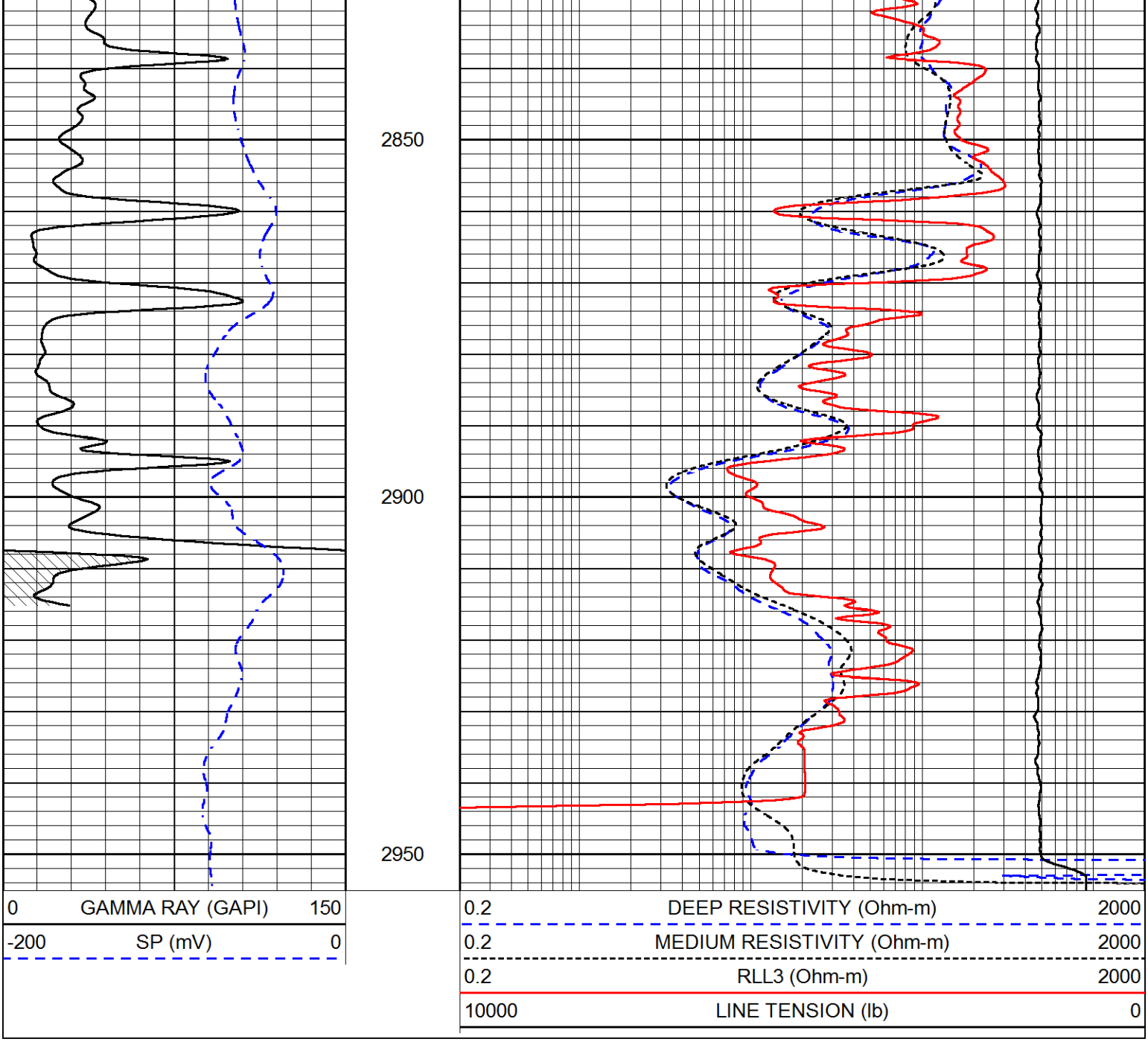
REPEAT SECTION

Database File	john o farmer_denton 1.db
Dataset Pathname	STKML/pass2.1
Presentation Format	dil
Dataset Creation	Sun May 27 23:08:00 2018
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





Calibration Report

Database File	john o farmer_denton 1.db
Dataset Pathname	STKML/pass4.1
Dataset Creation	Sun May 27 23:34:05 2018

Dual Induction Calibration Report

Serial-Model:	PSI 971 HT-PSI HIGH TEMP
Calibration Performed:	Sun May 27 00:33:10 2018

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.430	-30.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.375	-30.000

Microlog Calibration Report

Serial-Model:	PSI-01-PSIML
Performed:	Sun May 27 00:33:27 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	8500.0000	-0.3000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	11000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.8250

Compensated Density Calibration Report

Serial-Model:	817-947-M&W
Source / Verifier:	16955B / 2ci
Master Calibration Performed:	Tue May 01 14:00:17 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6127.15	5922.31	cps
Aluminum	2.660	g/cc	1141.85	3762.09	cps

Spine Angle = 74.89

Density/Spine Ratio = 0.520

	Size		Reading
Small Ring	4.50	in	1.02
Large Ring	15.00	in	1.15

Compensated Neutron Calibration Report

Serial Number:	207-MW
Tool Model:	M&W
Calibration Performed:	MON APR 16 10:30:30 2018

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:	Mon Jan 15 11:20:44 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps

PIONEER

Company	JOHN O. FARMER, INC.
Well	DENTON #1
Field	HAGINS
County	LYON

Pioneer Energy Services	State	KANSAS