



# DUAL INDUCTION LOG

Company **CARMEN SCHMITT, INC.**  
 Well **WP UNIT #6-7**  
 Field **WILDCAT**  
 County **TREGO**  
 State **KANSAS**

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 Well **WP UNIT #6-7**  
 Field **WILDCAT**  
 County **TREGO** State **KANSAS**

Location: **API #: 15-195-23054-00-00**  
**1550' FSL & 550' FWL**  
**SEC 7 TWP 14S RGE 25W**  
 Permanent Datum **GROUND LEVEL Elevation 2453'**  
 Log Measured From **KELLY BUSHING**  
 Drilling Measured From **KELLY BUSHING**  
 Other Services **CNL/CDL MEL**  
 Elevation **K.B. 2458'**  
**D.F. N/A**  
**G.L. 2453'**

Date	06/02/2018
Run Number	ONE
Depth Driller	4360'
Depth Logger	4361'
Bottom Logged Interval	4360'
Top Log Interval	200'
Casing Driller	8.625" @ 216'
Casing Logger	216'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	3400
Density / Viscosity	9.0 60
pH / Fluid Loss	10.5 6.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.30 @ 68
Rmt @ Meas. Temp	0.98 @ 68
Rmc @ Meas. Temp	1.76 @ 68
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.74 @ 120
Operating Rig Time	3 HOURS
Max Rec. Temp. F	120
Equipment Number	91
Location	HAYS
Recorded By	C. PFEIFER
Witnessed By	BRAD RINE

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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.  
 COLLYER KANSAS,  
 SOUTH TO U ROAD, WEST 1 MILE, 1/4 NORTH,  
 EAST INTO

Log Measured From: **KELLY BUSHING** 5 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858

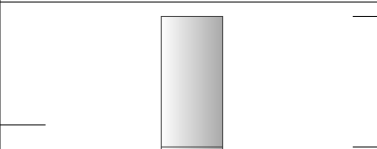
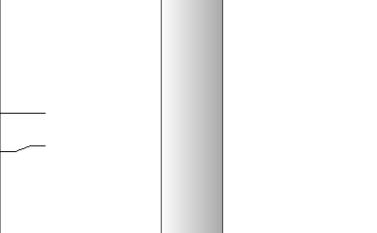
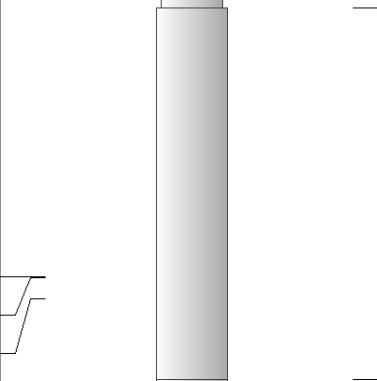
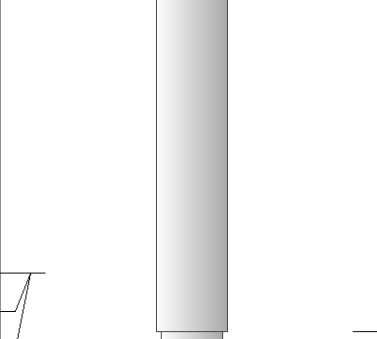
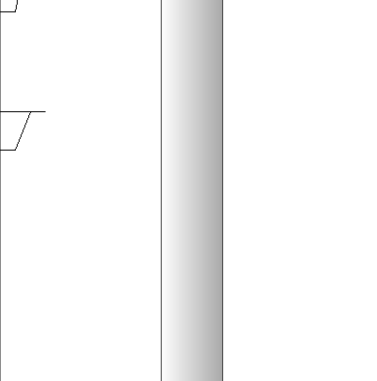
Your Pioneer Energy Services Crew Engineer: <b>C. PFEIFER</b> Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: <b>BRAD RINE</b> Secondary Witness: Secondary Witness: Secondary Witness:
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# Log Variables

Database C:\ProgramData\Warrior\Data\carmenschmitt\_wpunit\_6\_7.db  
 Dataset field/well/STKML/pass3.1/\_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	115	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	68	0	5.5	0	4361	120	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 (817-947)	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					

CILD 8.00

CILM 4.70

SP 0.20

DIL-PSI HIGH TEMP (PSI 971 HT)

18.50

3.50

220.00

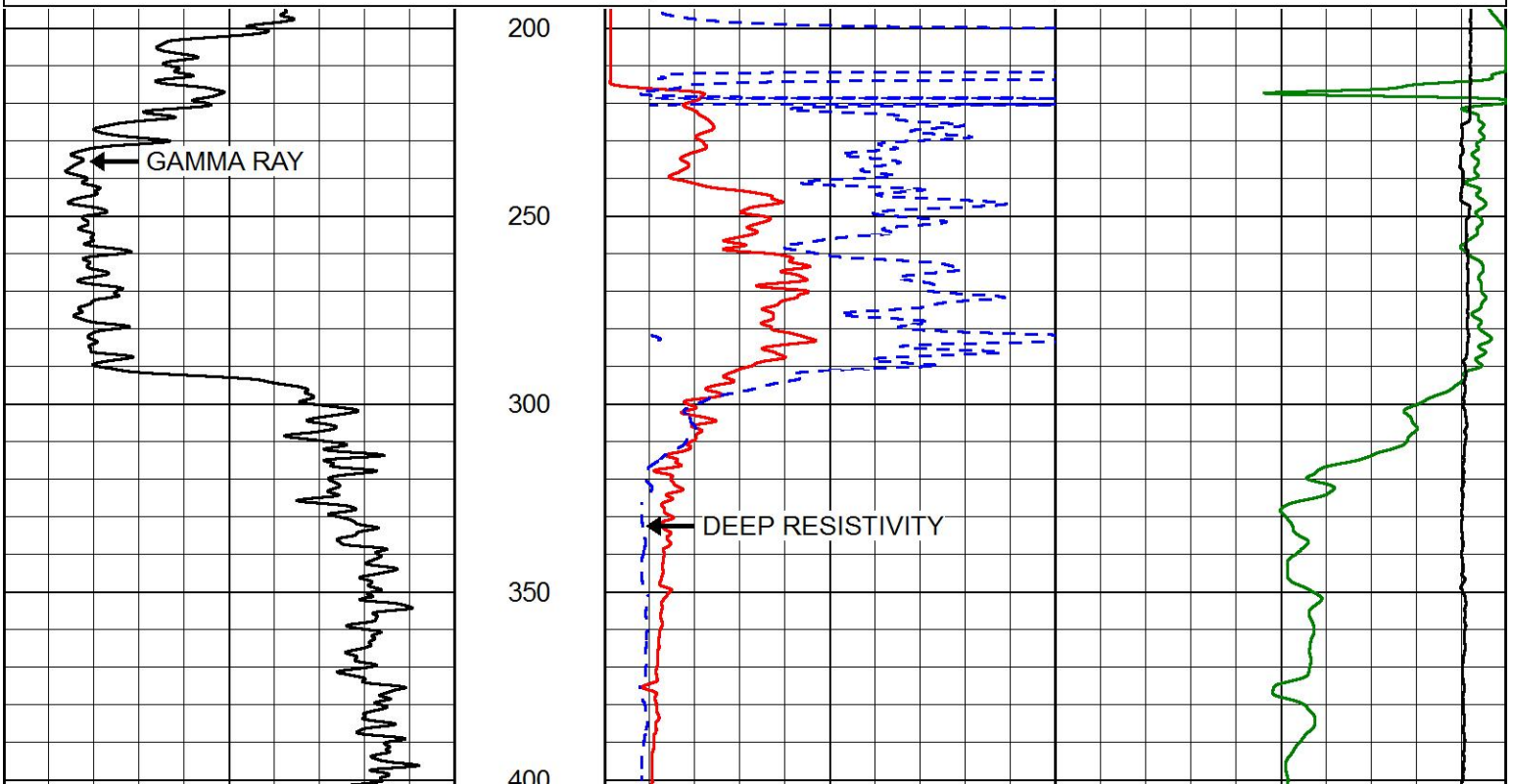
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 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

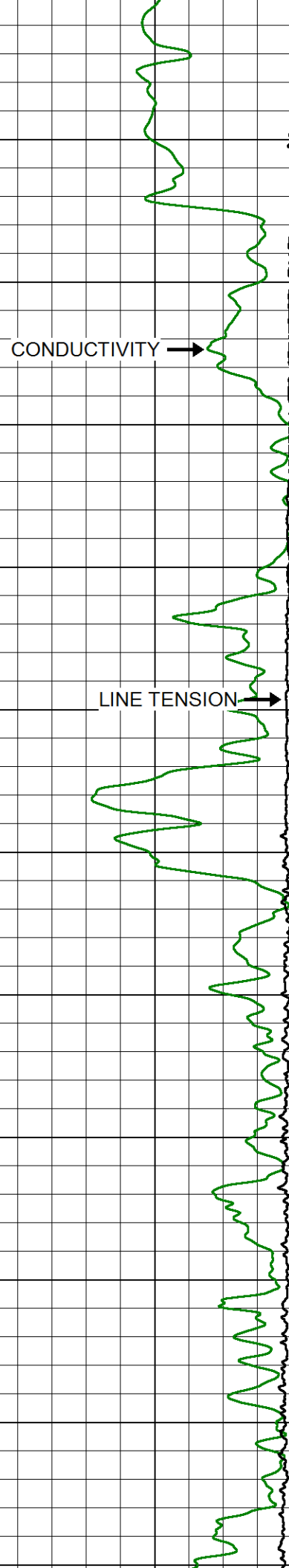
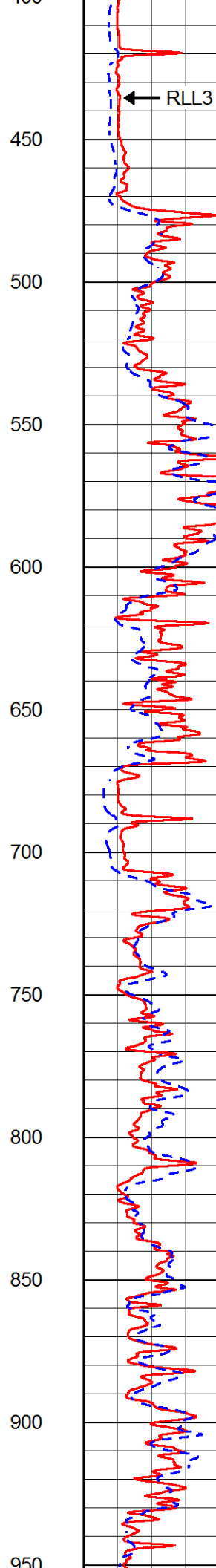
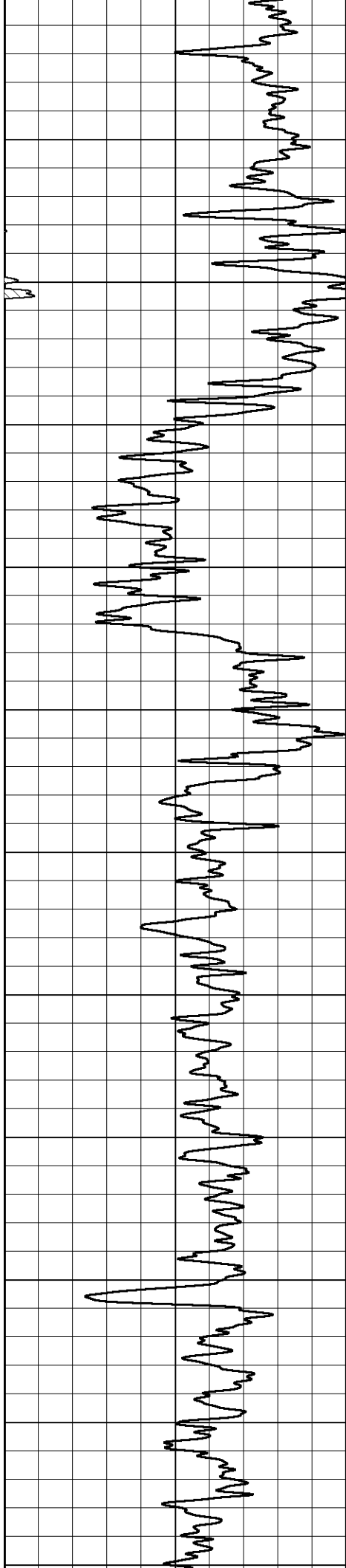


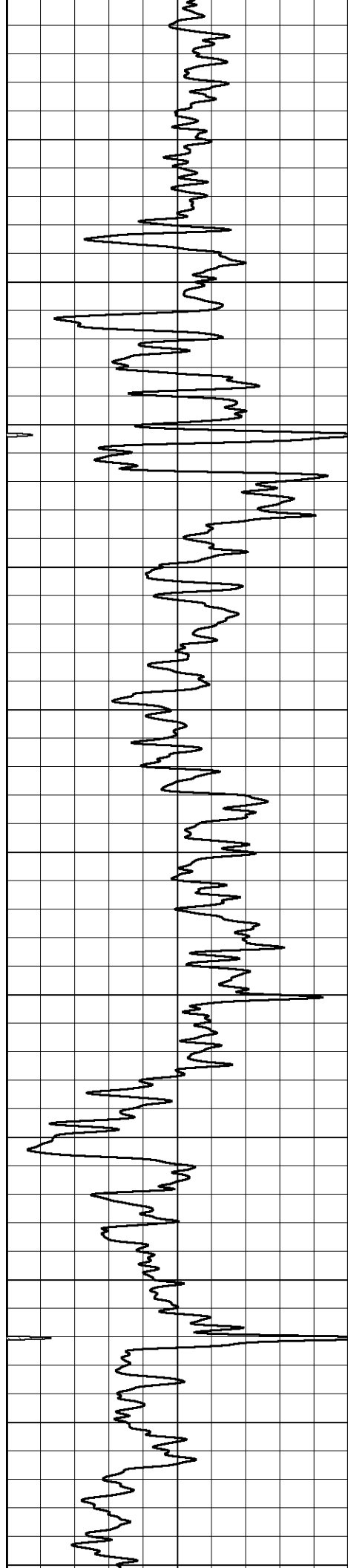
# MAIN PASS

Database File carmenschmitt\_wpunit\_6\_7.db  
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 Presentation Format dil2in  
 Dataset Creation Sat Jun 02 11:36:19 2018  
 Charted by Depth in Feet scaled 1:600

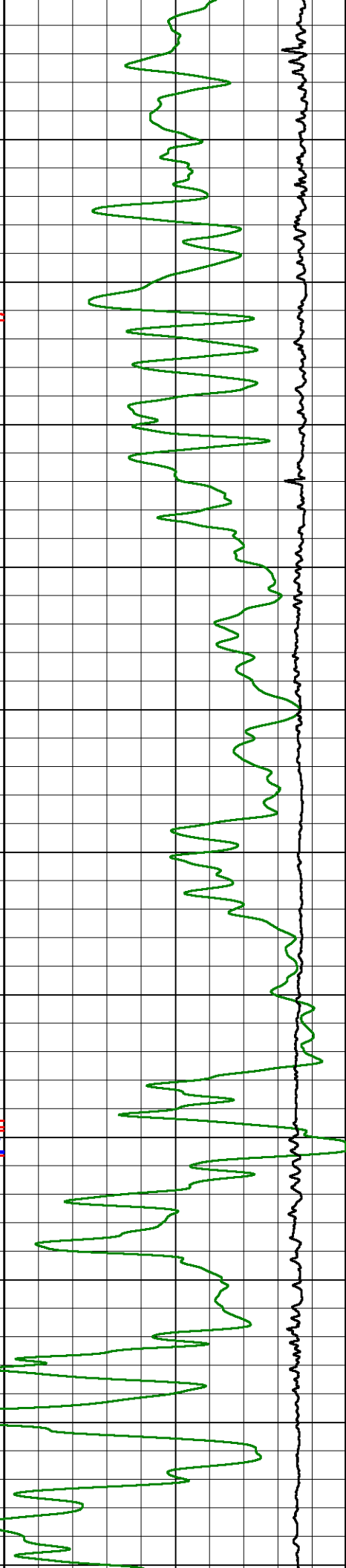
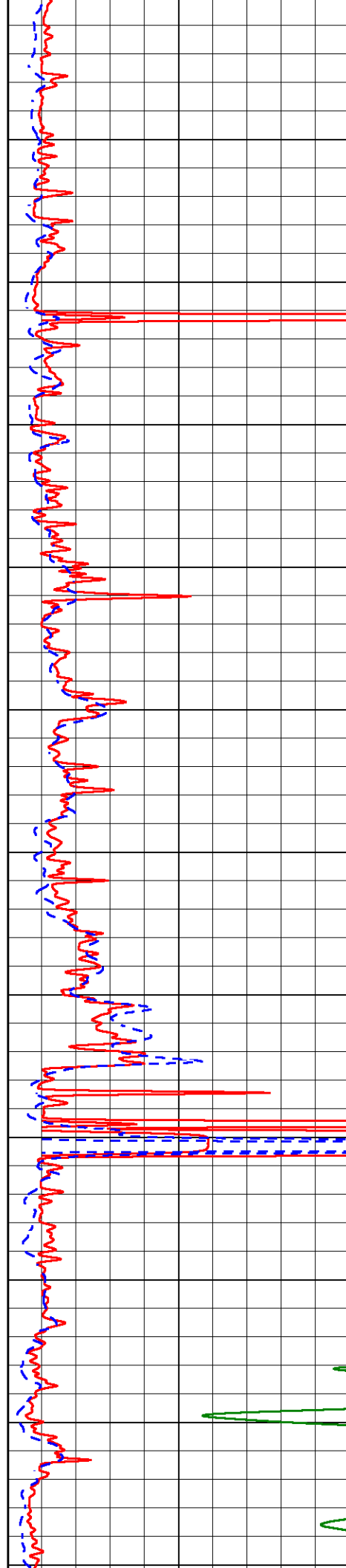
GAMMA RAY (GAPI)	1000	CONDUCTIVITY (mmho/m)	0
	15000	Line Tension (lb)	0
0	0	RLL3 (Ohm-m)	50
	0	DEEP RESISTIVITY (Ohm-m)	50
	50	RLL3 (Ohm-m)	500
	50	Deep Resistivity (Ohm-m)	500

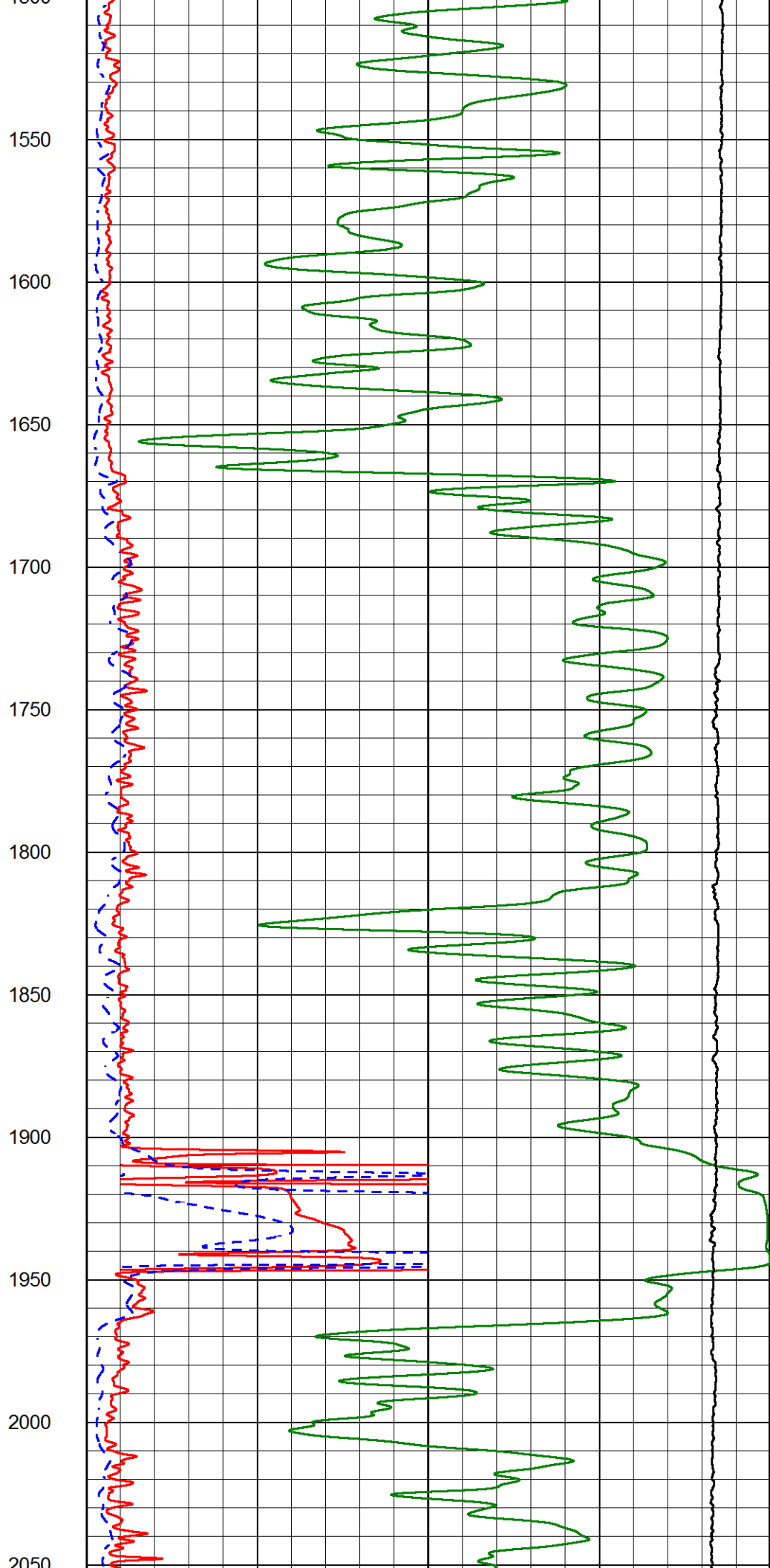
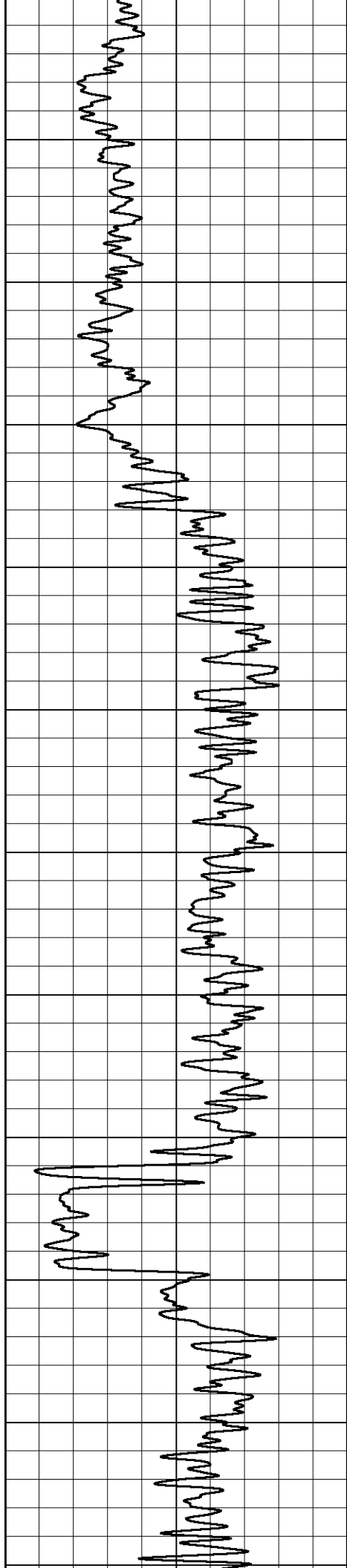


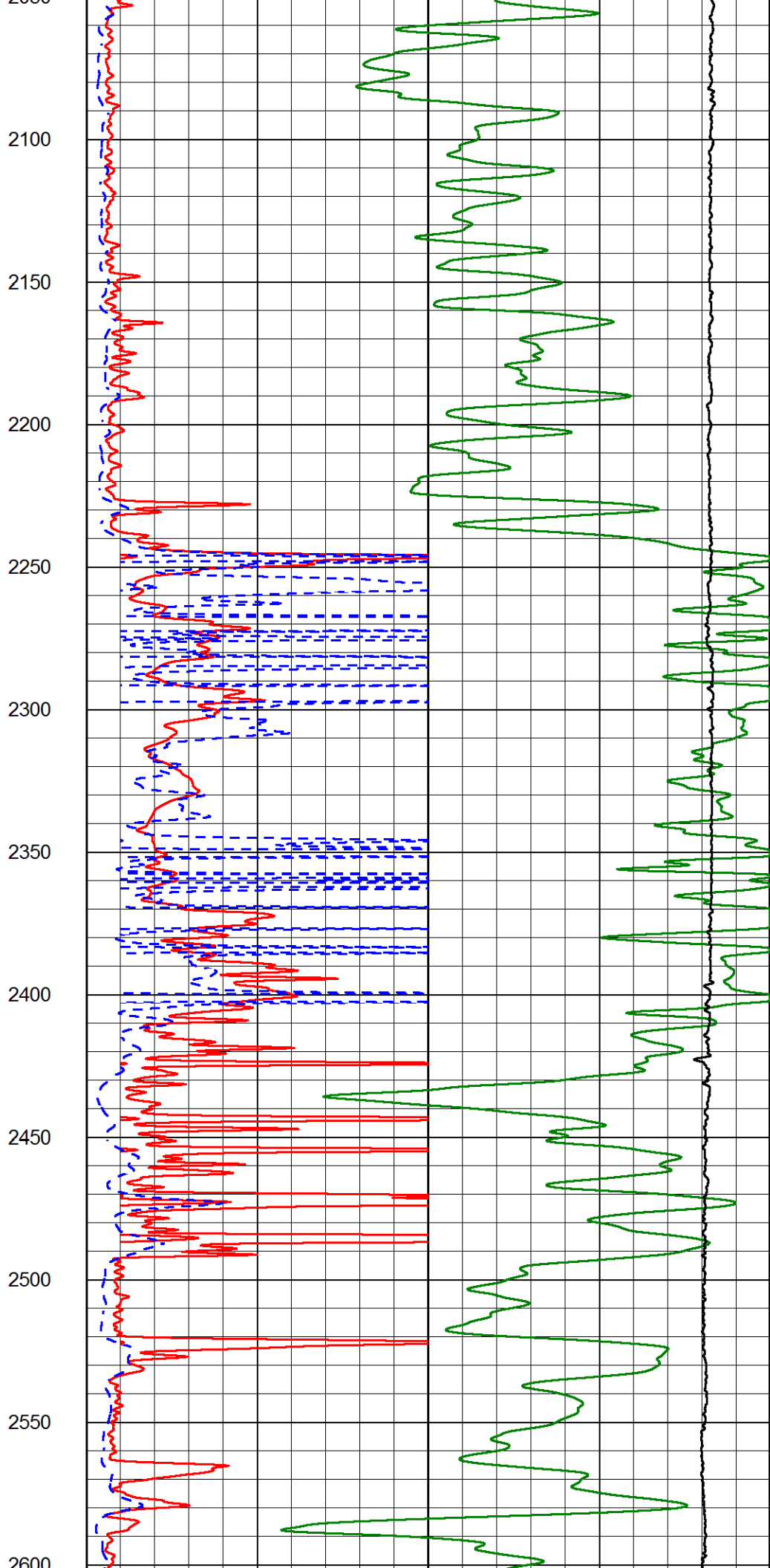
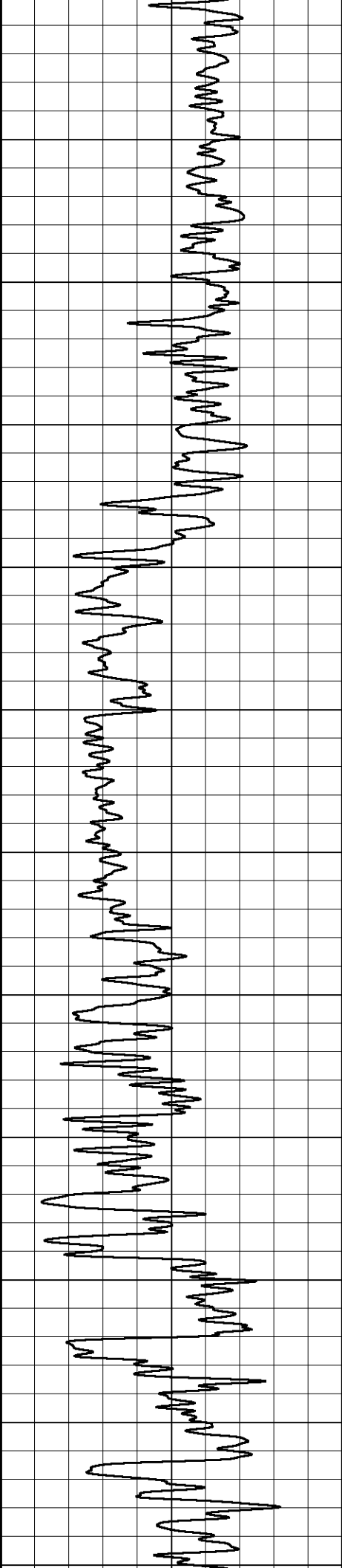


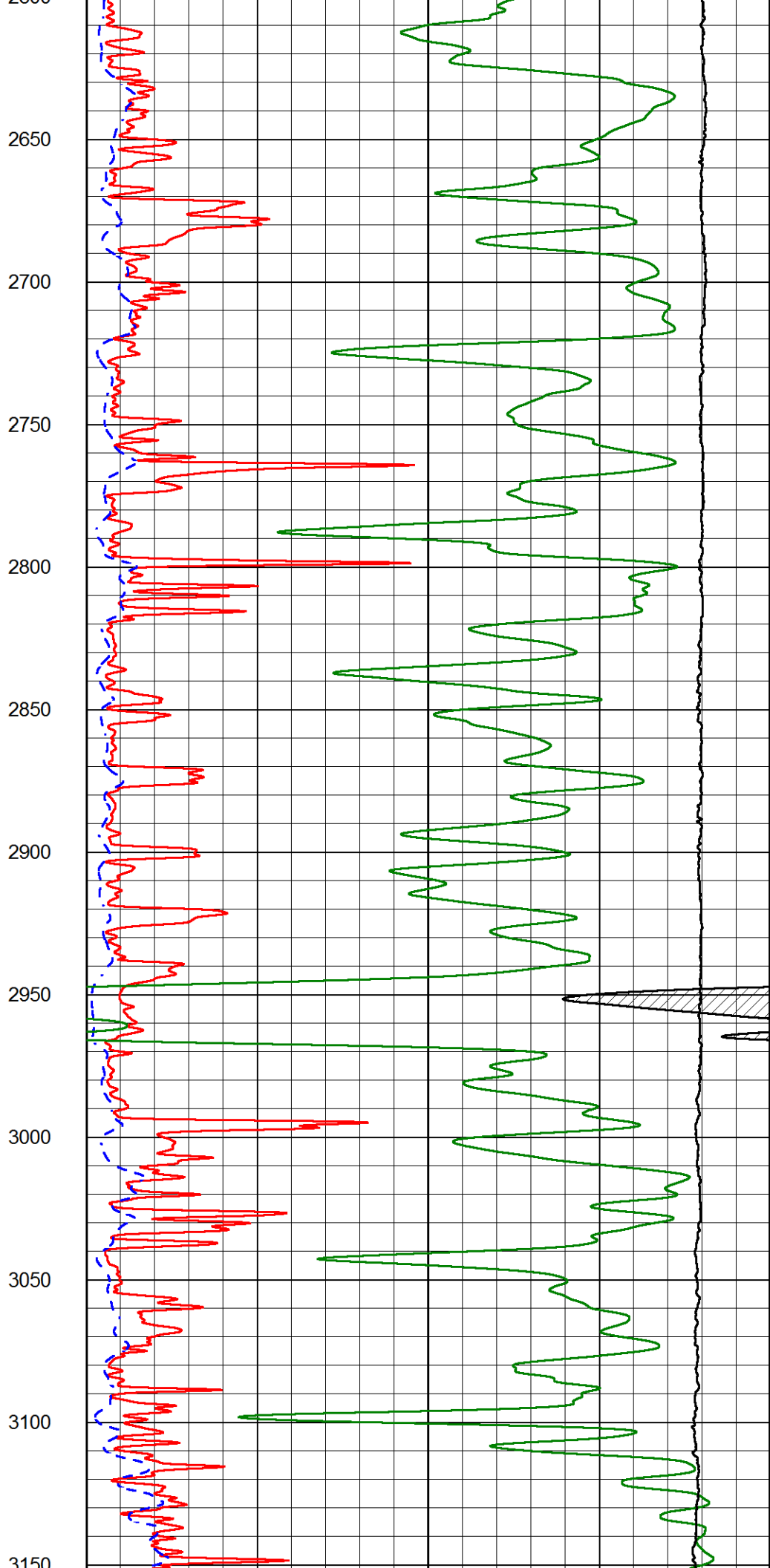
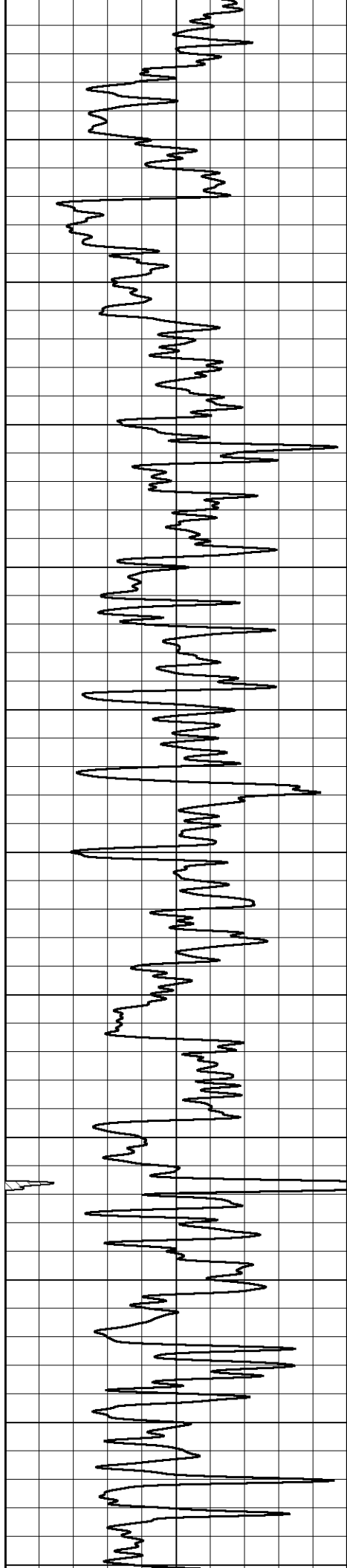


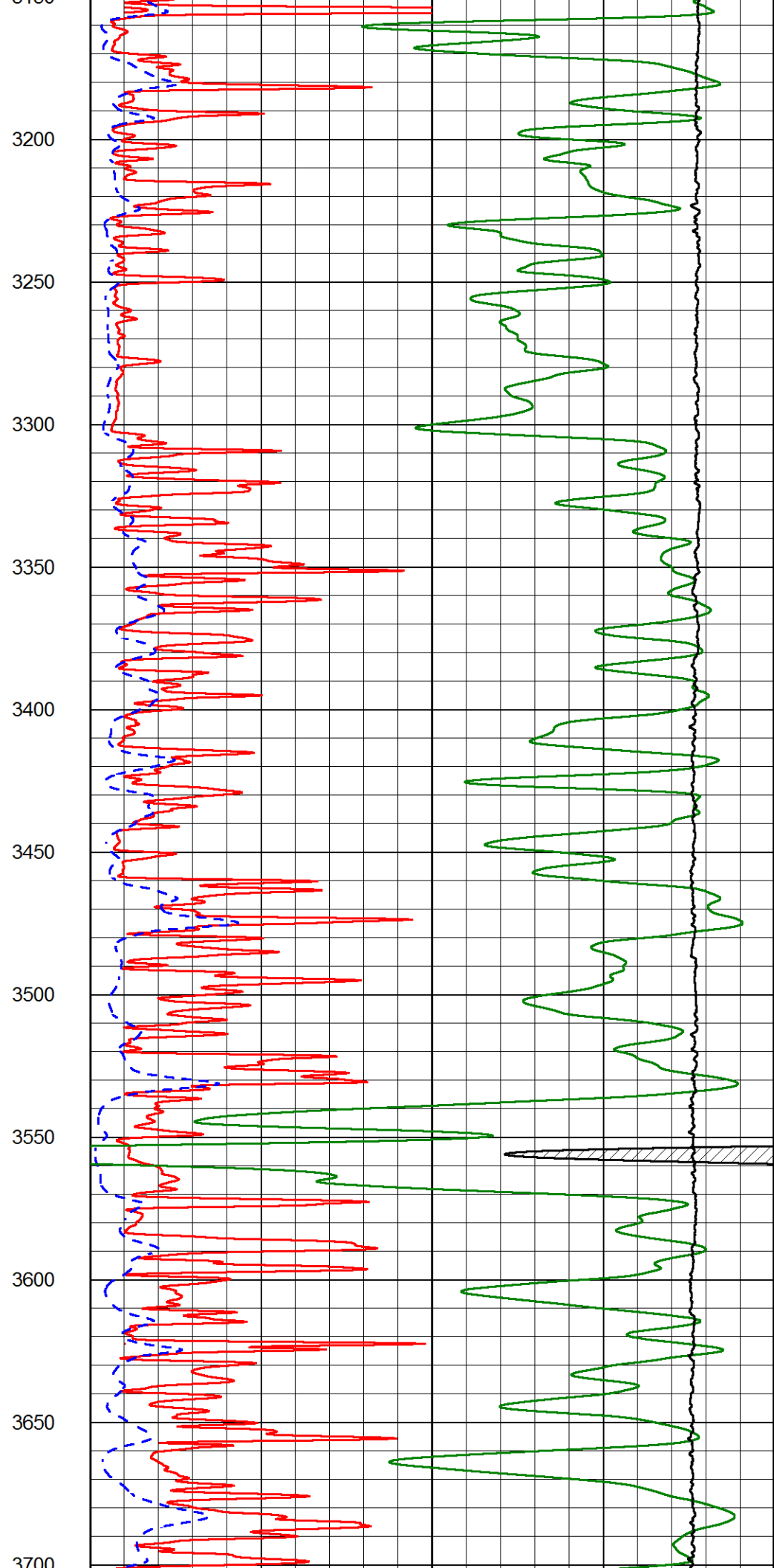
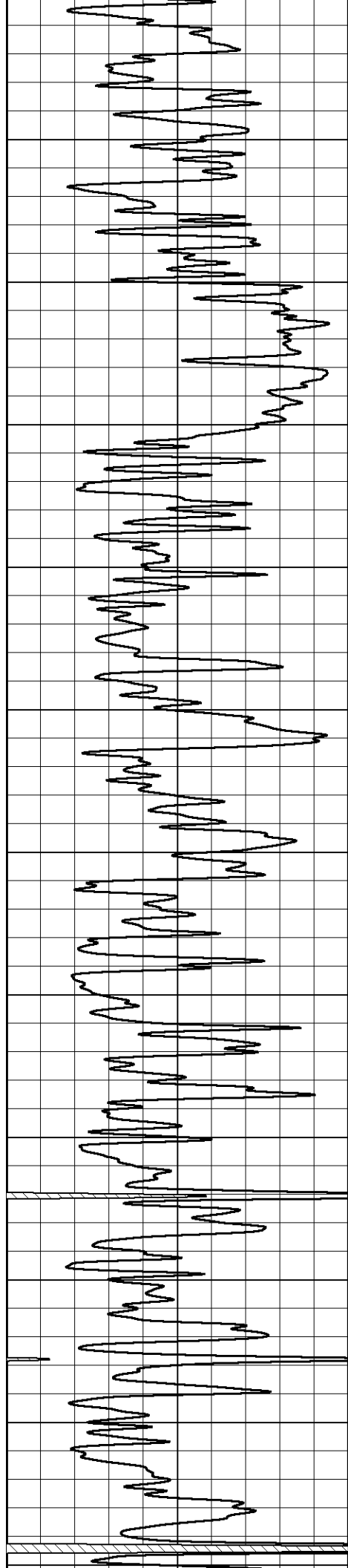
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1000  
1050  
1100  
1150  
1200  
1250  
1300  
1350  
1400  
1450  
1500

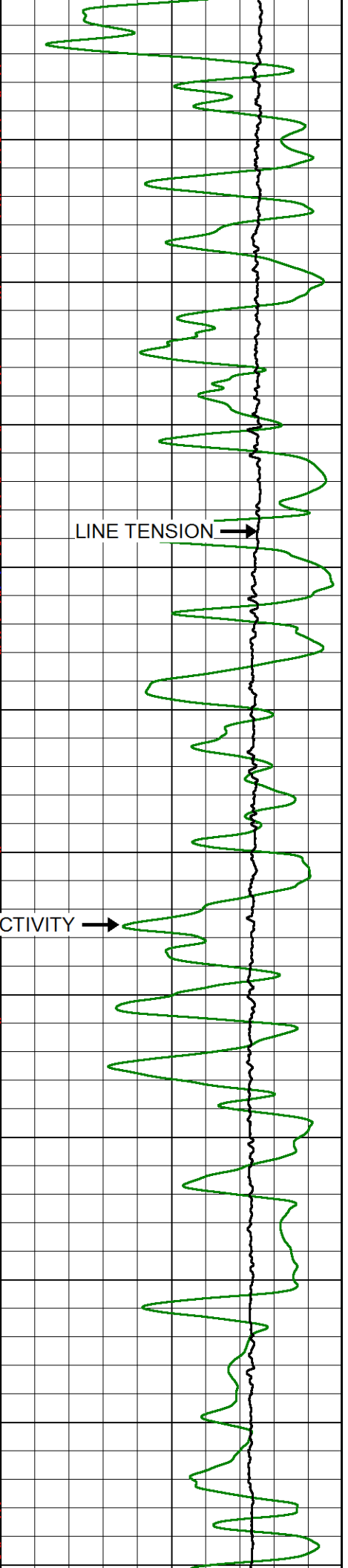
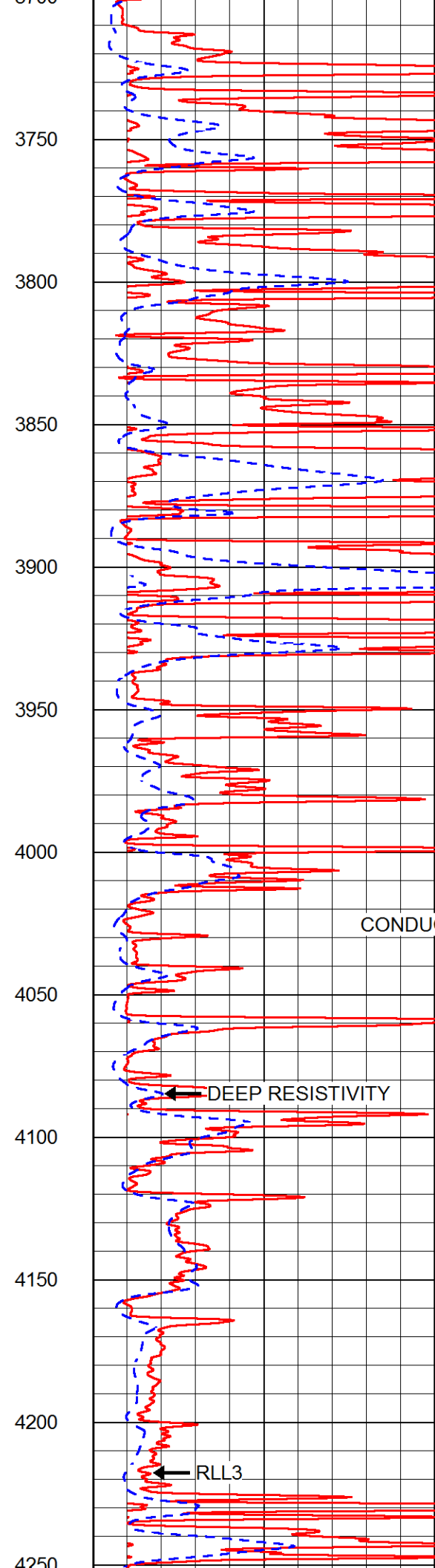
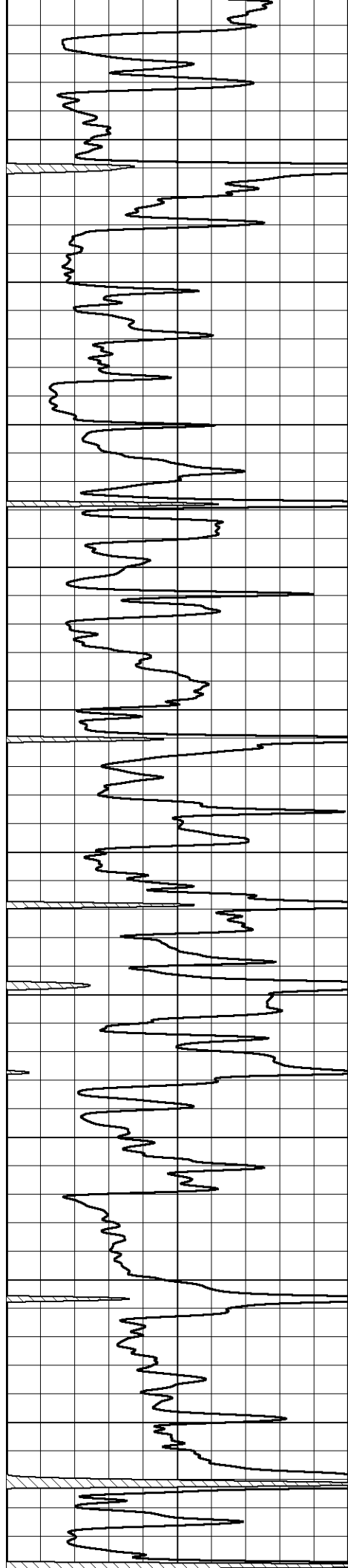


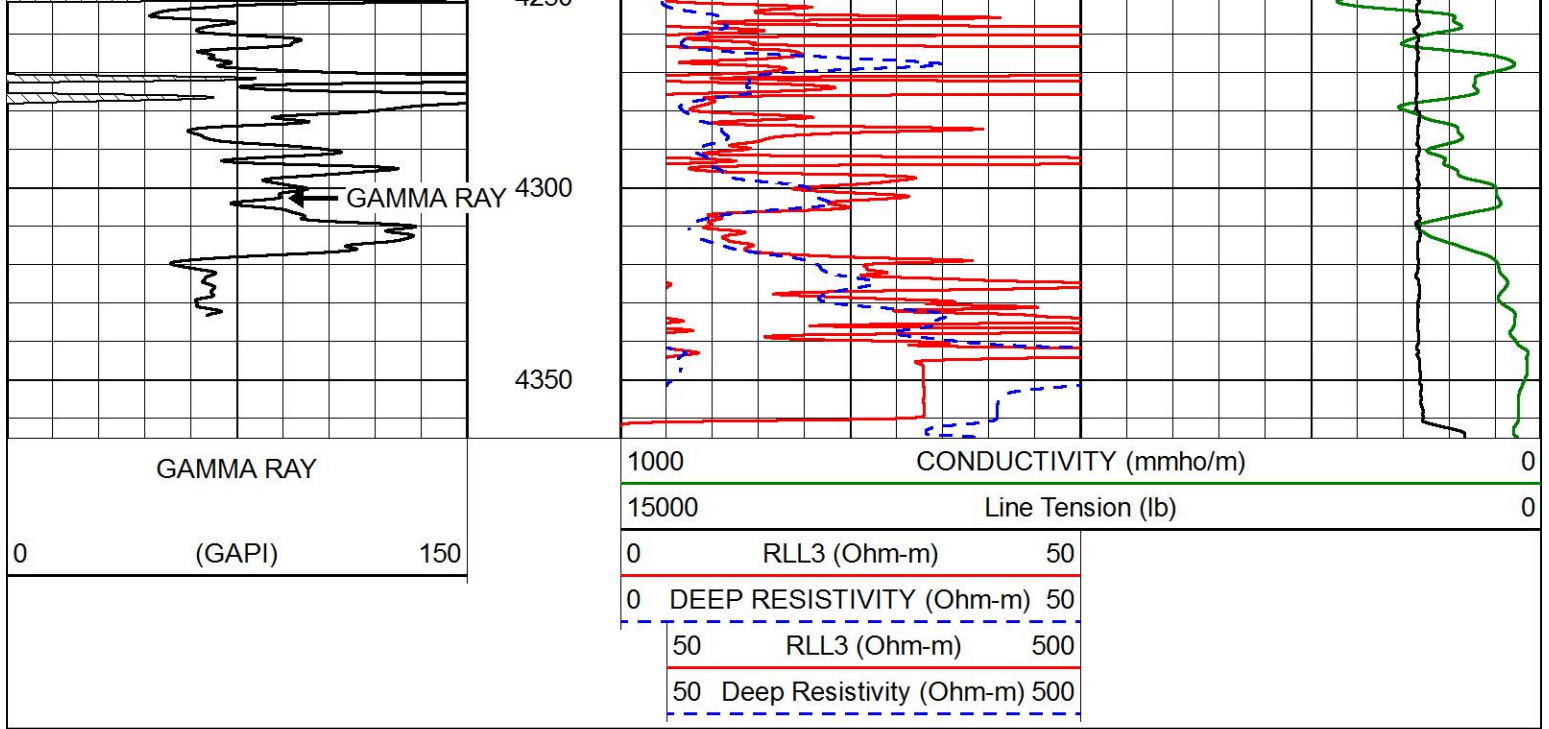






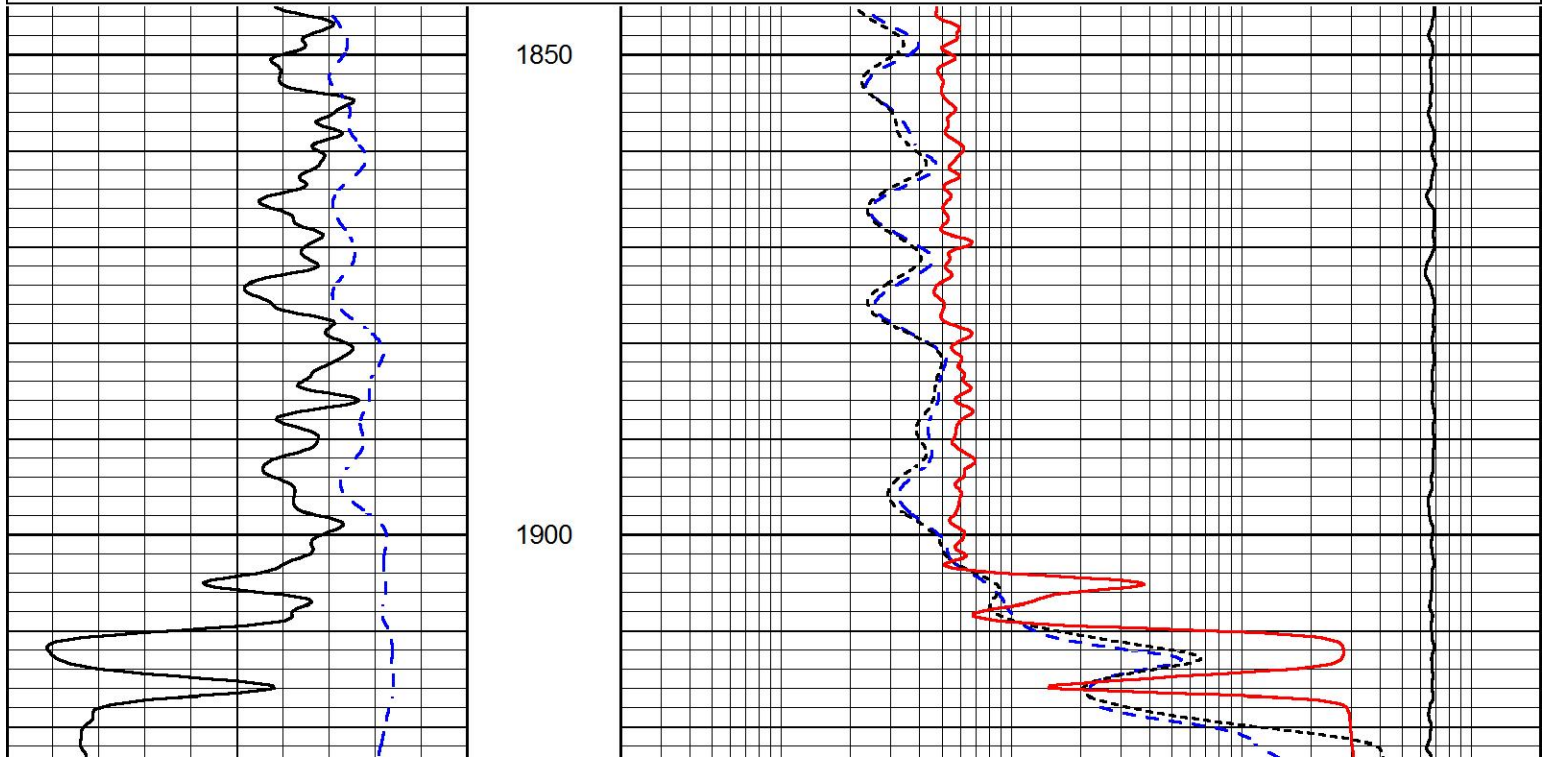
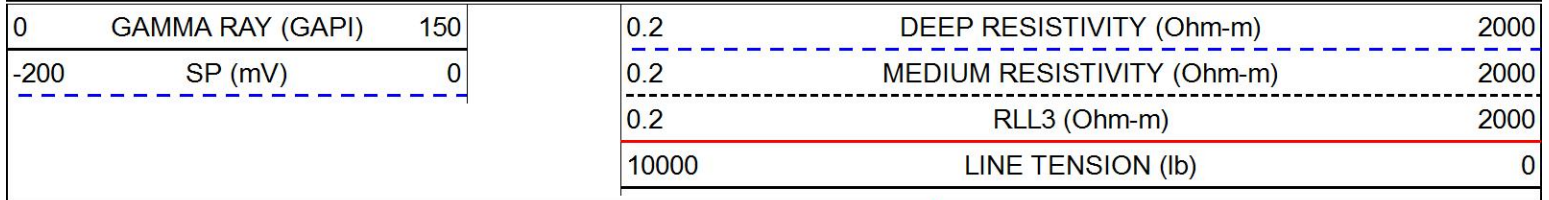


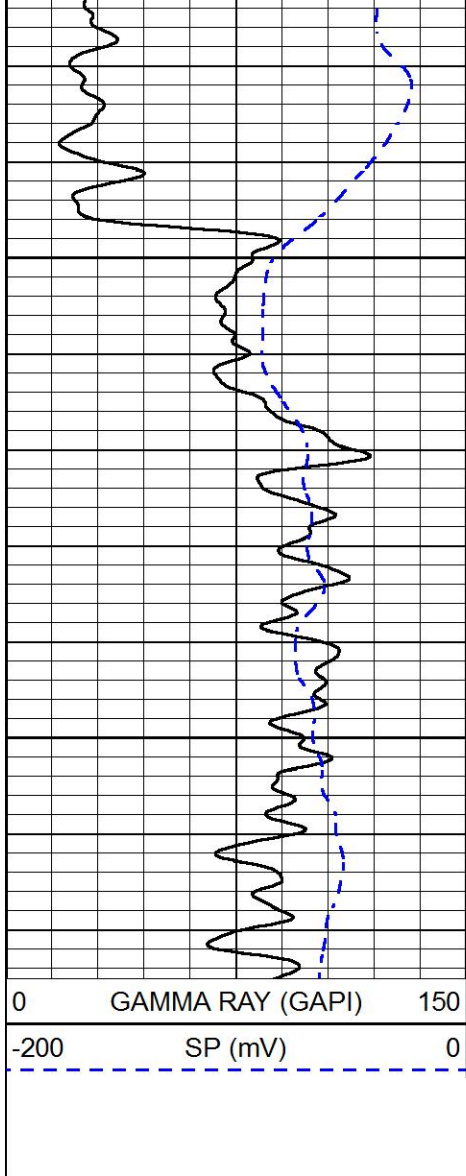





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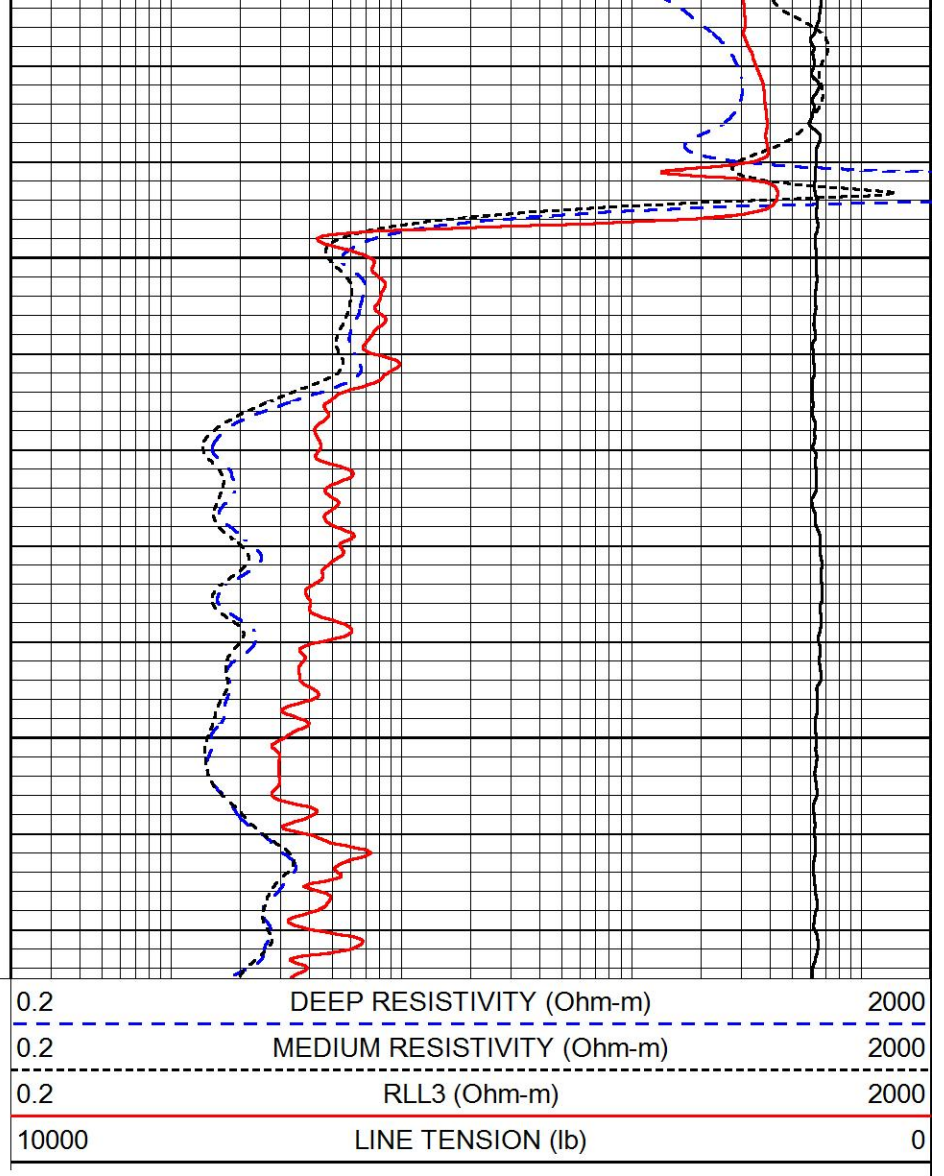
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 Charted by: Depth in Feet scaled 1:240





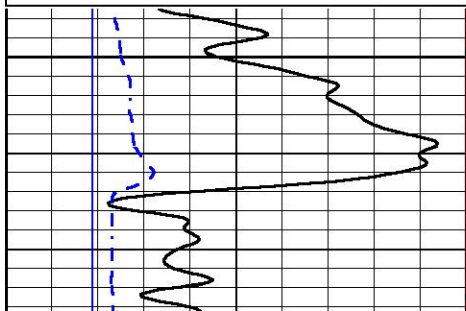
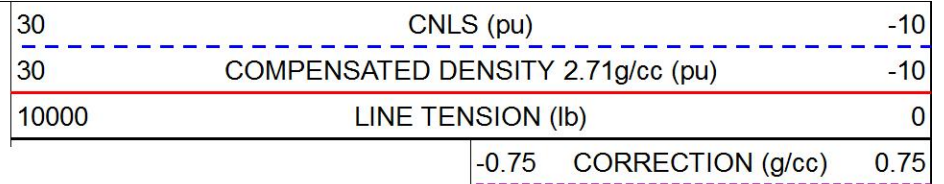
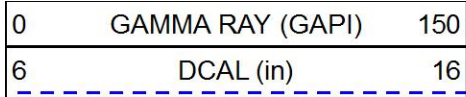
1950

2000

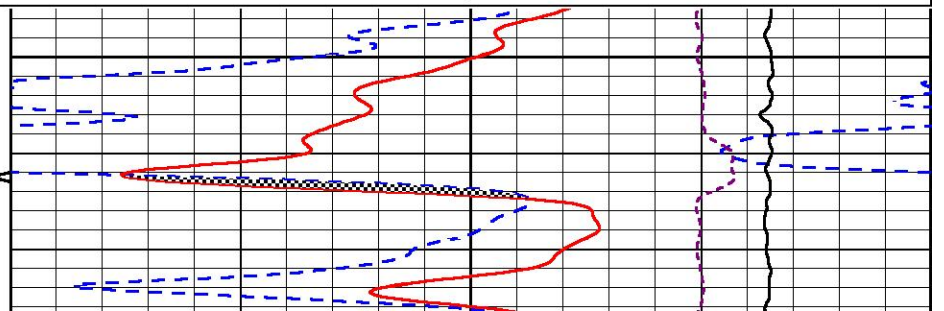


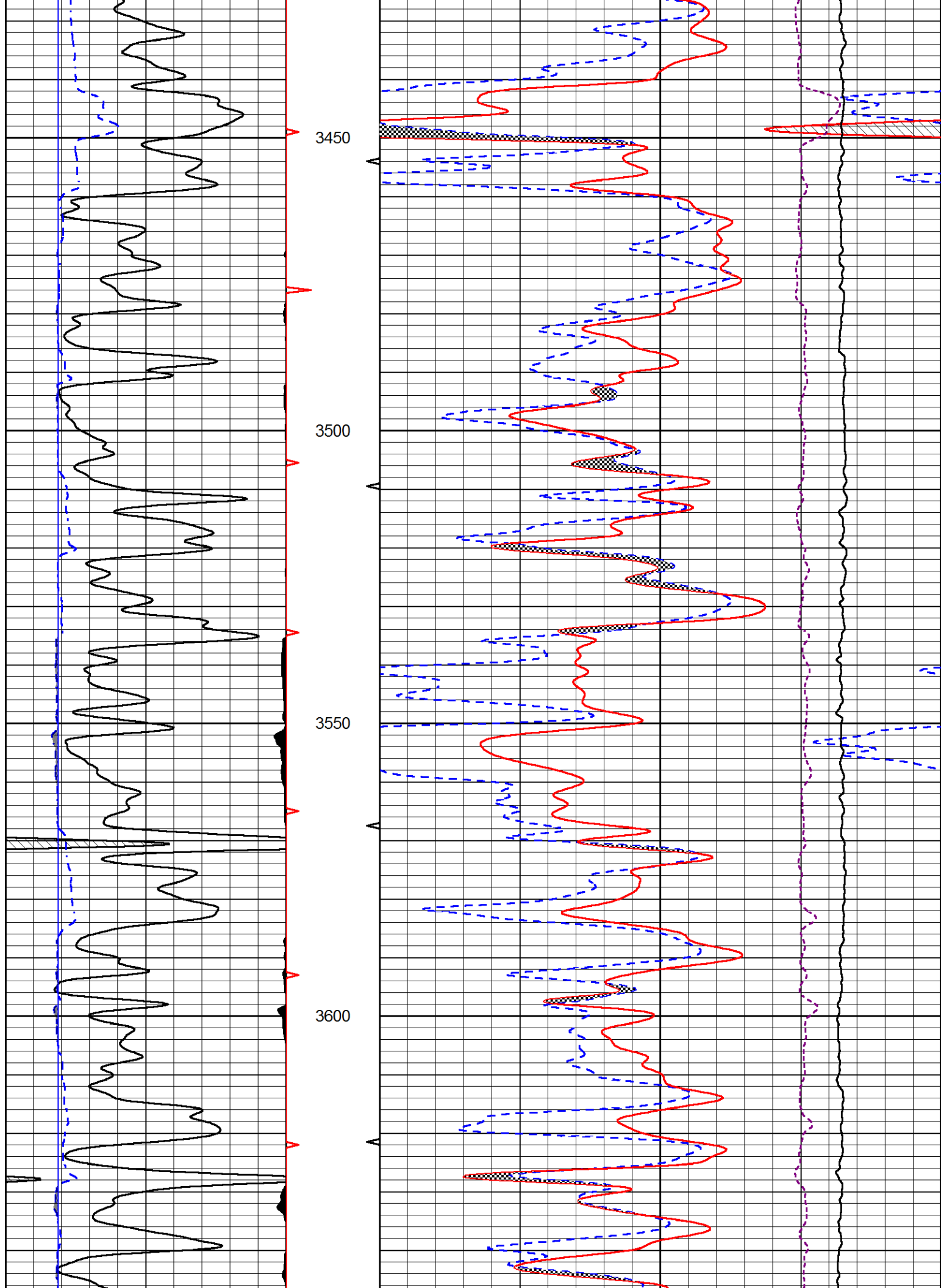
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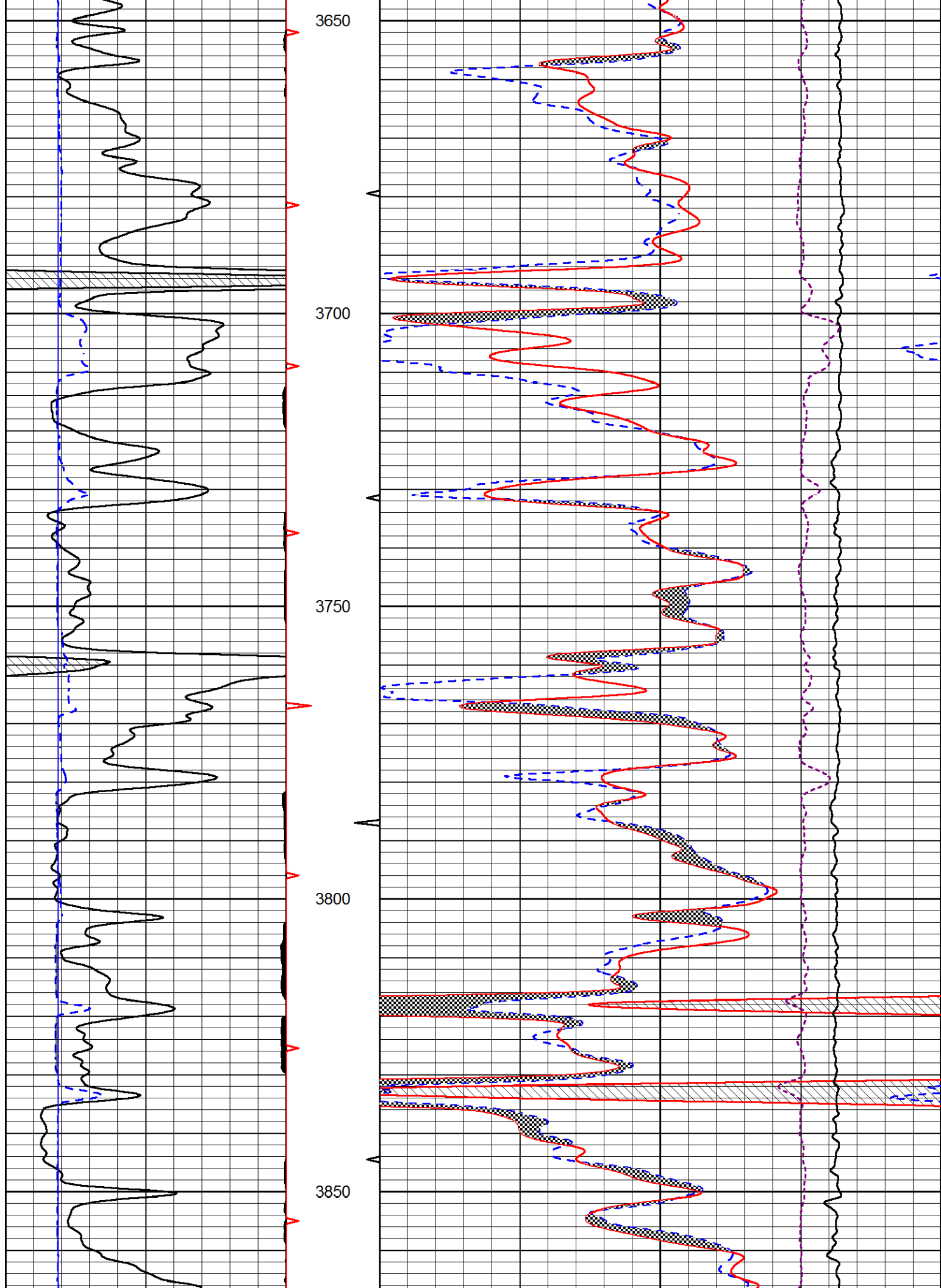
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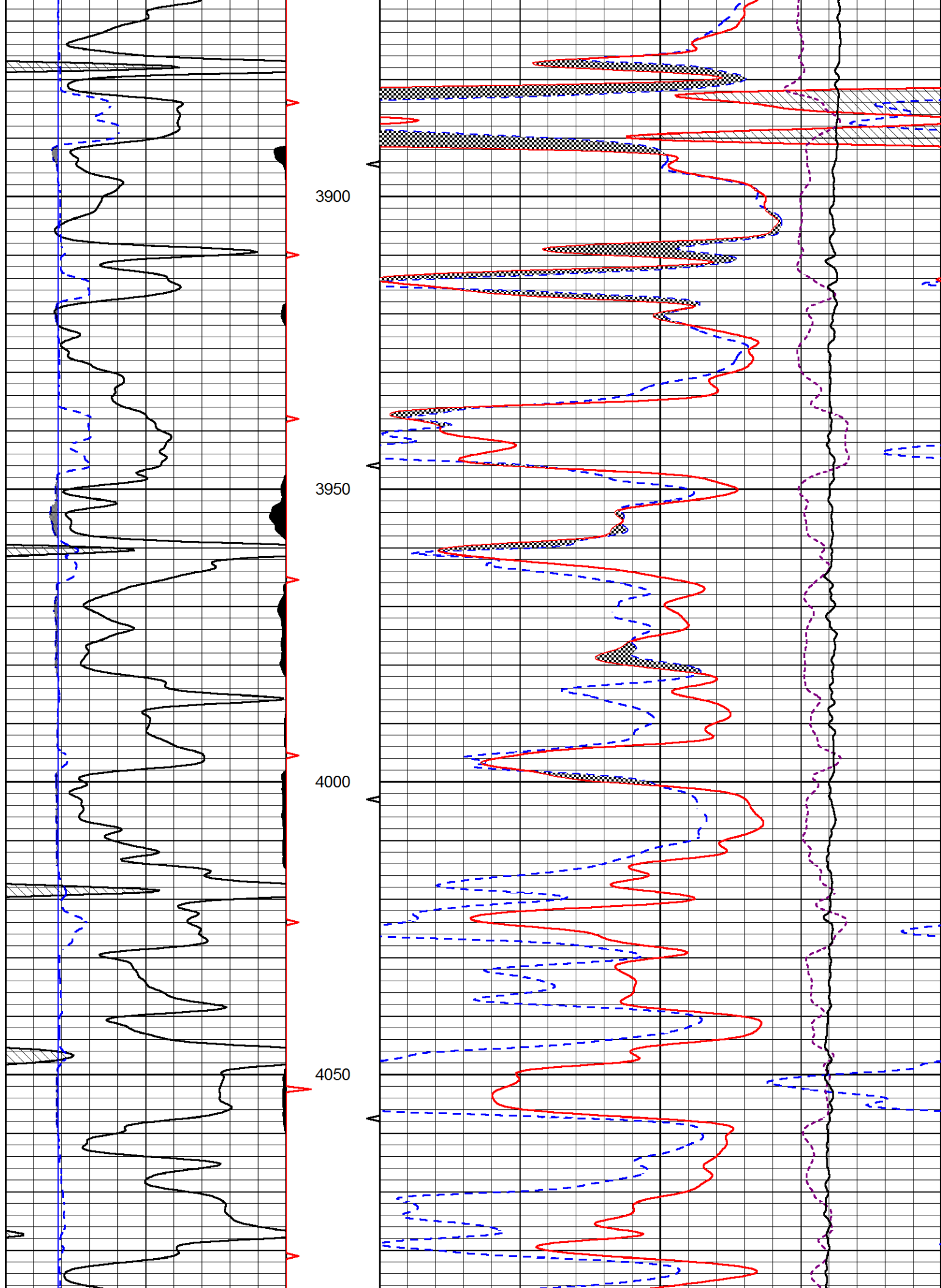


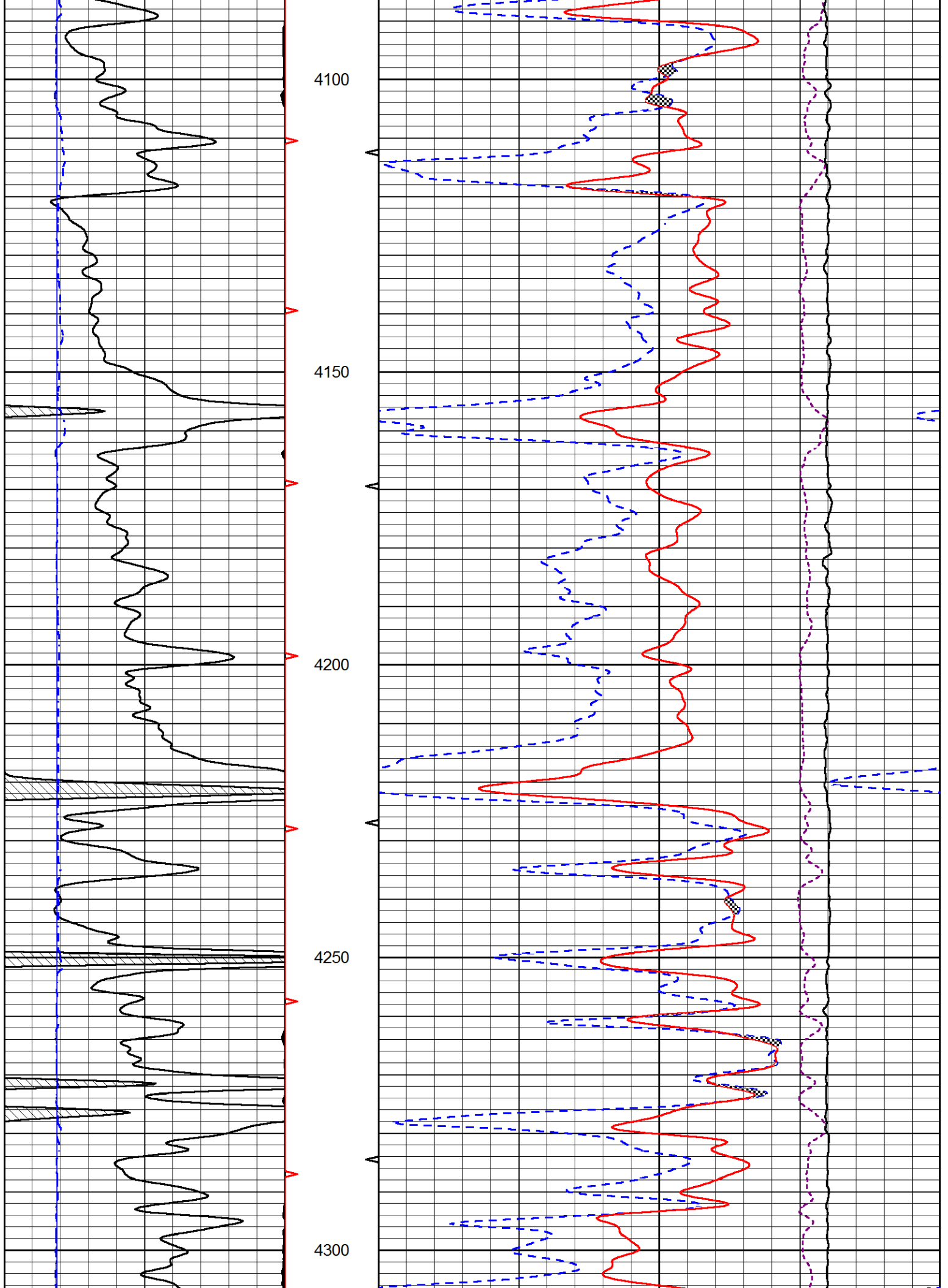
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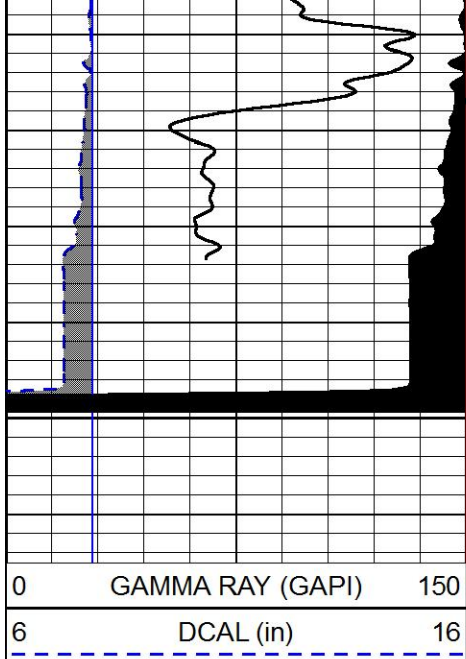






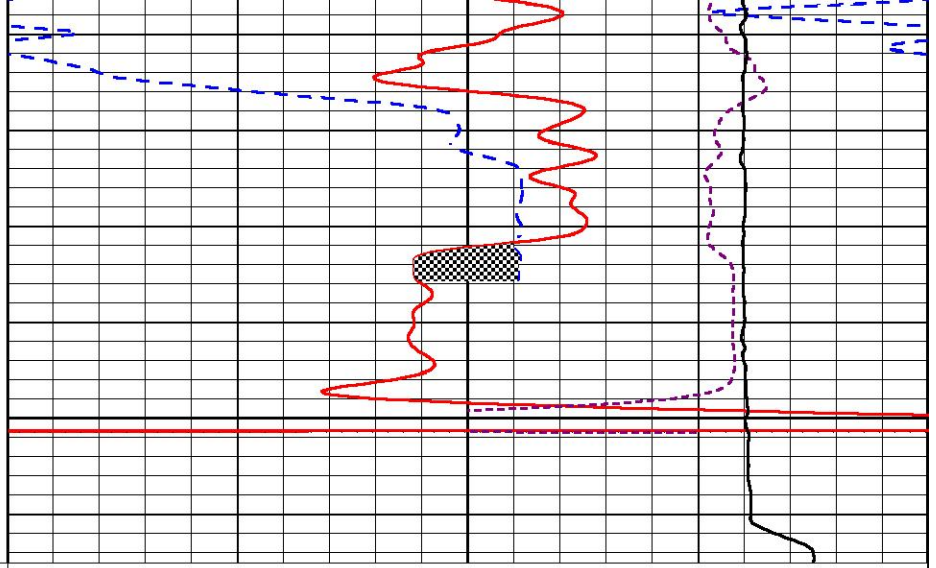






4350

0 GAMMA RAY (GAPI) 150  
6 DCAL (in) 16



30 CNLS (pu) -10  
30 COMPENSATED DENSITY 2.71g/cc (pu) -10  
10000 LINE TENSION (lb) 0  
-0.75 CORRECTION (g/cc) 0.75

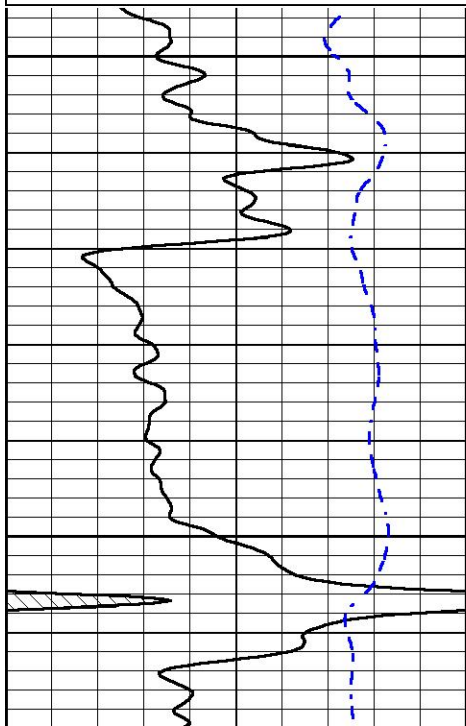


# REPEAT SECTION

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Presentation Format dil  
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Charted by Depth in Feet scaled 1:240

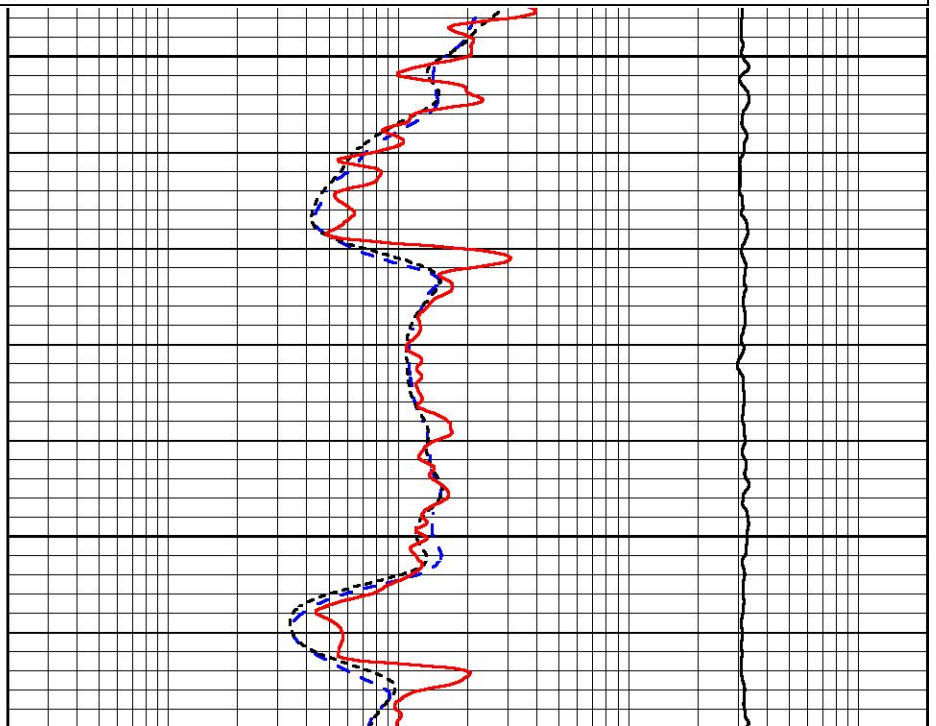
0 GAMMA RAY (GAPI) 150  
-200 SP (mV) 0

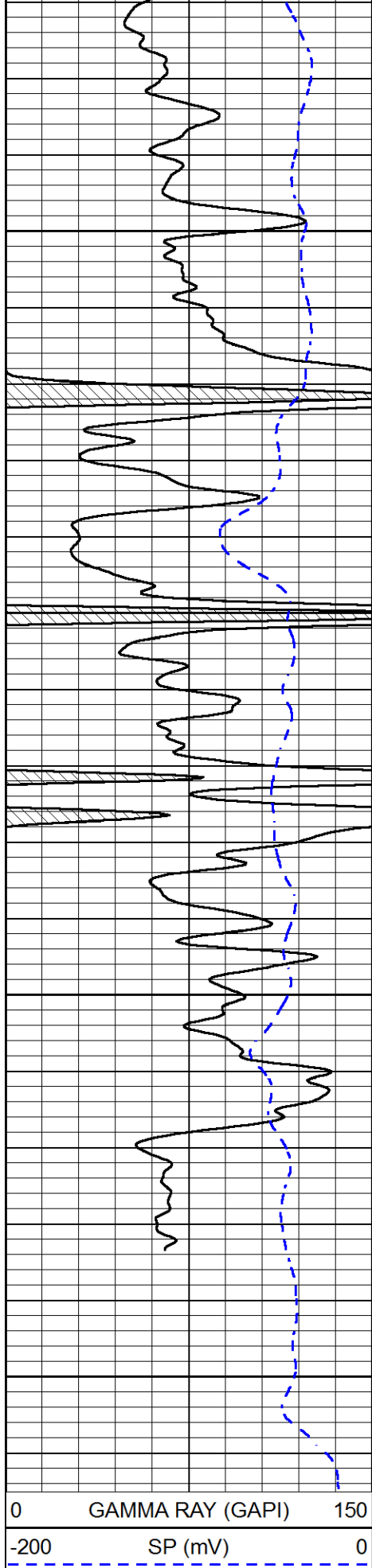
0.2 DEEP RESISTIVITY (Ohm-m) 2000  
0.2 MEDIUM RESISTIVITY (Ohm-m) 2000  
0.2 RLL3 (Ohm-m) 2000  
10000 LINE TENSION (lb) 0



4100

4150





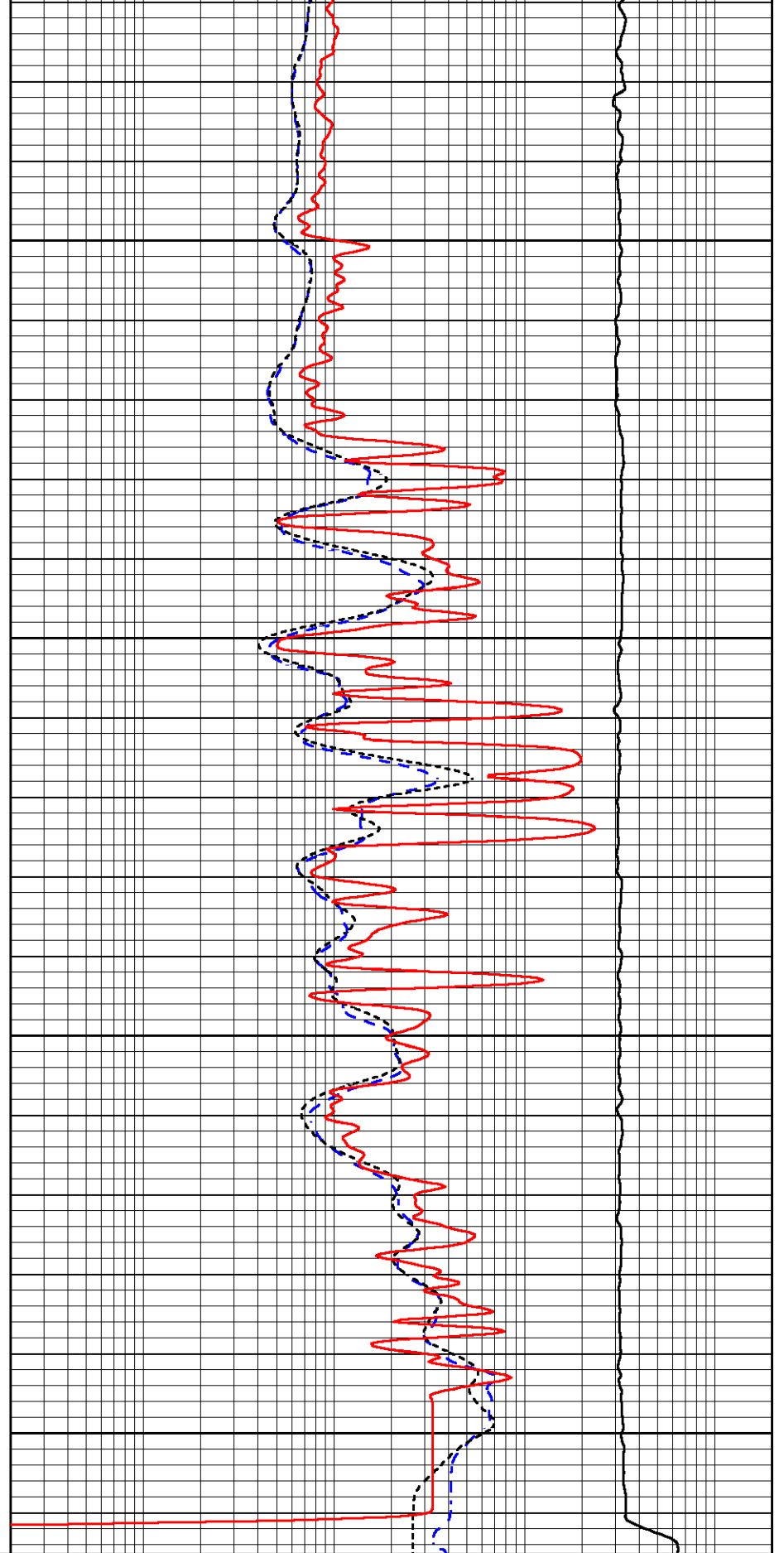
4200

4250

4300

4350

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 carmenschmitt\_wpunit\_6\_7.db  
 Dataset Pathname STKML/pass4.1  
 Dataset Creation Sat Jun 02 11:36:19 2018

Dual Induction Calibration Report

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

Loop:	Readings		References			Results	
	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	29000.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	30000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.8000

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	2.650	g/cc	1141.85	3762.09	cps
Spine Angle = 74.89			Density/Spine Ratio = 0.514		
	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**  
Pioneer Energy Services

Company	CARMEN SCHMITT, INC.
Well	WP UNIT #6-7
Field	WILDCAT
County	TREGO
State	KANSAS