



MIDWEST WIRELINE

# DUAL COMP POROSITY LOG

Company Petroleum Property Services, Inc.  
 Well Richards-Fund A #4  
 Field McClain  
 County Nemaha  
 State Kansas

Company Petroleum Property Services, Inc.  
 Well Richards-Fund A #4  
 Field McClain  
 County Nemaha State Kansas

Location: API #: 15-131-20248-00-00  
 SW SE NW SE  
 1436 FSL & 1958 FEL  
 SEC 7 TWP 4S RGE 14E  
 Permanent Datum Ground Level Elevation 1241  
 Log Measured From Kelly Bushing  
 Drilling Measured From Kelly Bushing  
 Other Services  
 DIL  
 MEL/BHCS  
 K.B. 1249  
 D.F.  
 G.L. 1241

Date	10/11/2022						
Run Number	One						
Type Log	CNL/CDL						
Depth Driller	3740						
Depth Logger	3736						
Bottom Logged Interval	3715						
Top Logged Interval	2200						
Type Fluid In Hole	Chemical						
Salinity, PPM CL	1200						
Density	8.9						
Level	Full						
Max. Rec. Temp. F	118						
Operating Rig Time	4 Hours						
Equipment -- Location	P-24 Hays						
Recorded By	T. Martin						
Witnessed By	Curtis Covey						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	00	381	8.625	23	00	381
Two	7.875	381	TD				
Casing Record							

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All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest 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.

Wetmore, KS, 5 W on Hwy 9 to South Rd,  
 4 N to 80th Rd, 1/2 E, N into

Log Measured From: Kelly Bushing 8 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC  
 785-625-3858

Your Midwest Wireline Crew		This Log Record Was Witnessed By	
Engineer: T. Martin	Operator:	Primary Witness: Curtis Covey	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Operator	Offset (ft)	Schematic	Description	Length (ft)	C.D. (in)	Weight (lb)
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Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	32.75		GR-M&W (106)	3.00	3.50	50.00
CNLSC CNSSC	29.65 28.90		CNT-M&W (207-MW)	5.00	3.50	100.00
LSD DCAL SSD	20.60 20.58 20.10		CDL-M&W (307-11)	8.50	4.00	250.00
RLL3F RLL3	15.50 15.50		DIL-M&W (501 HT)	18.25	3.50	220.00
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: ppsi\_richards-fund a #4.db: field/well/Stack/pass3.1  
 Total length: 34.75 ft  
 Total weight: 620.00 lb  
 O.D.: 4.00 in

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\ppsi\_richards-fund a #4.db  
 Dataset field/well/Stack/pass3.1/\_vars\_

## Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	118	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	-40	80	Off	3736

## Variable Description

A : Cement Factor (a)  
 BOREID : Borehole I.D.  
 BOTTEMP : Bottom Hole Temperature  
 CASEOD : Casing O.D.  
 CASETHCK : Casing Thickness  
 FLUIDDEN : Fluid Density  
 M : Cement Exp (m)  
 MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select  
 PERFS : Perforation Flag  
 SNDERR : Deep Sonde Error Correction  
 SNDERRM : Medium Sonde Error Correction  
 SPSHIFT : S.P. Baseline Offset  
 SRFTEMP : Surface Temperature  
 SZCOR : CN Size Cor. ?  
 TDEPTH : Total Depth

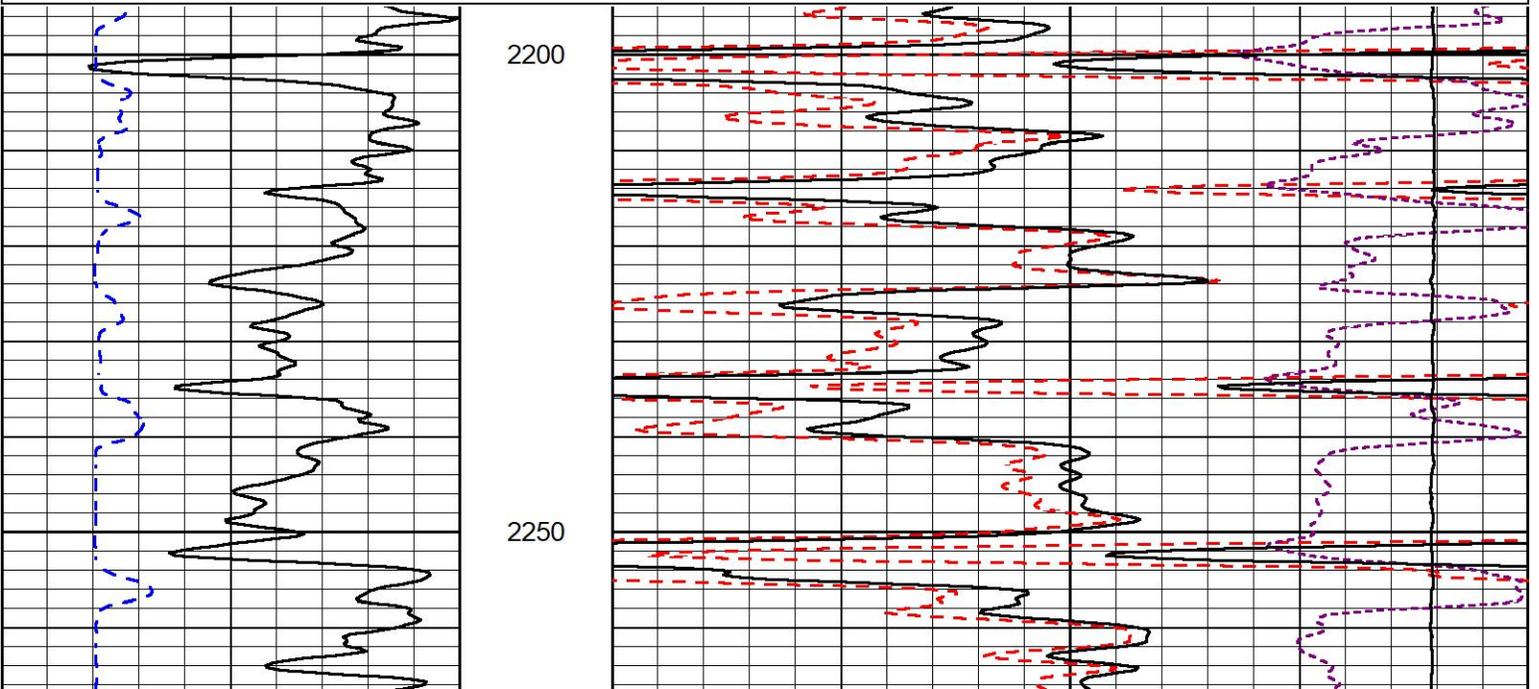


## 5" SCALE BULK DENSITY

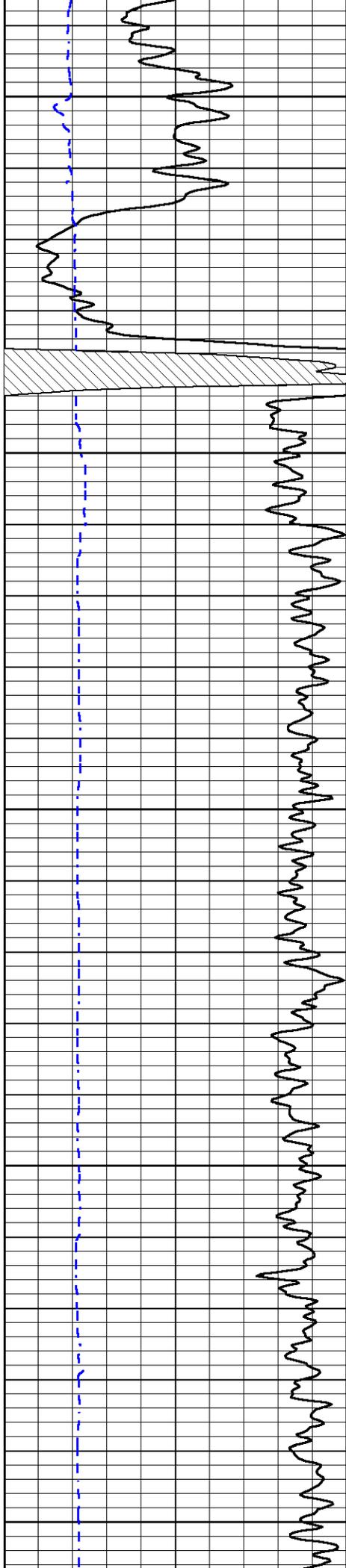
### MAIN PASS

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 Dataset Pathname Stack/pass3.3  
 Presentation Format \_cdl  
 Dataset Creation Tue Oct 11 20:54:06 2022  
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	30	Compensated Density (pu)	-10	
6	Caliper (in)	16	2	Bulk Density (g/cc)	3	
			10000	Line Tension (lb)	0	
				-0.25	Correction (g/cc)	0.25







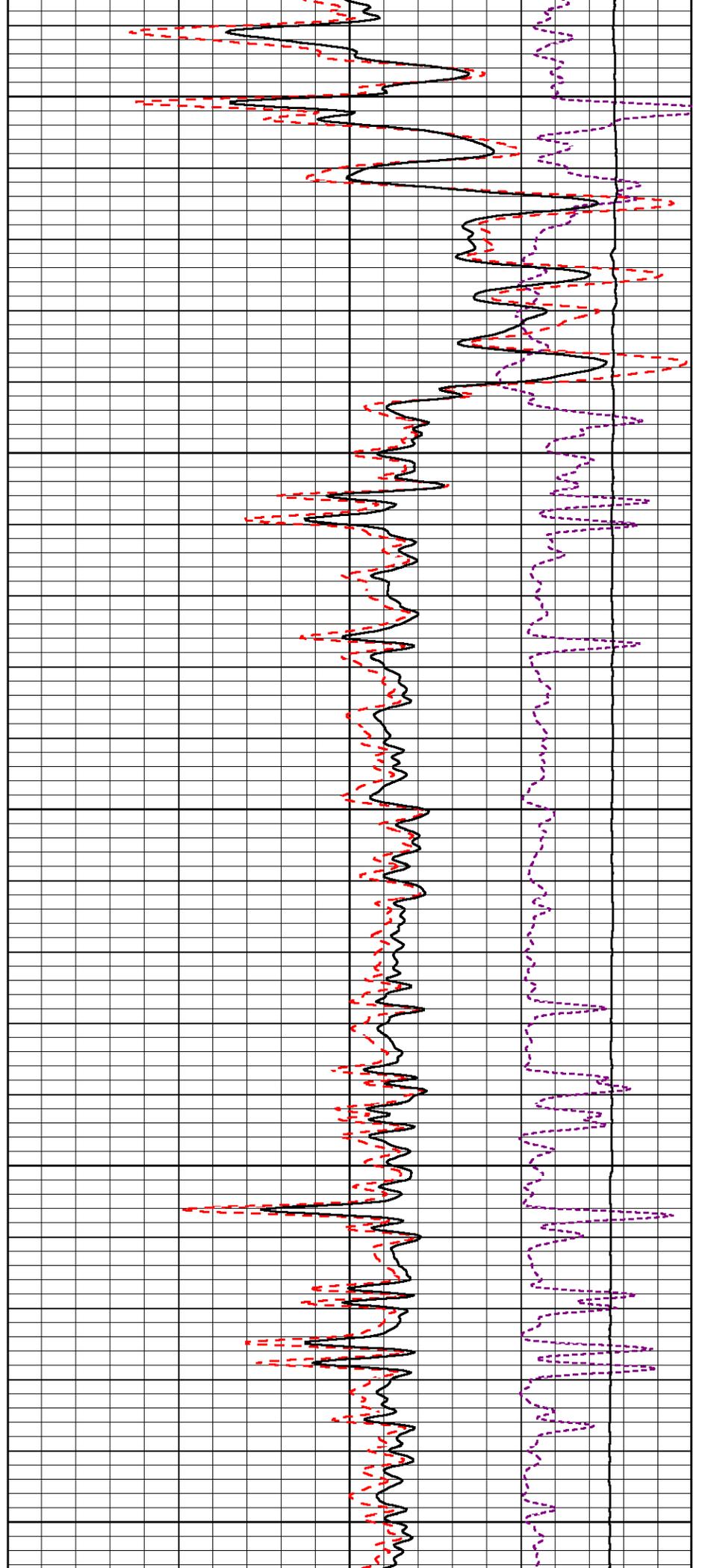
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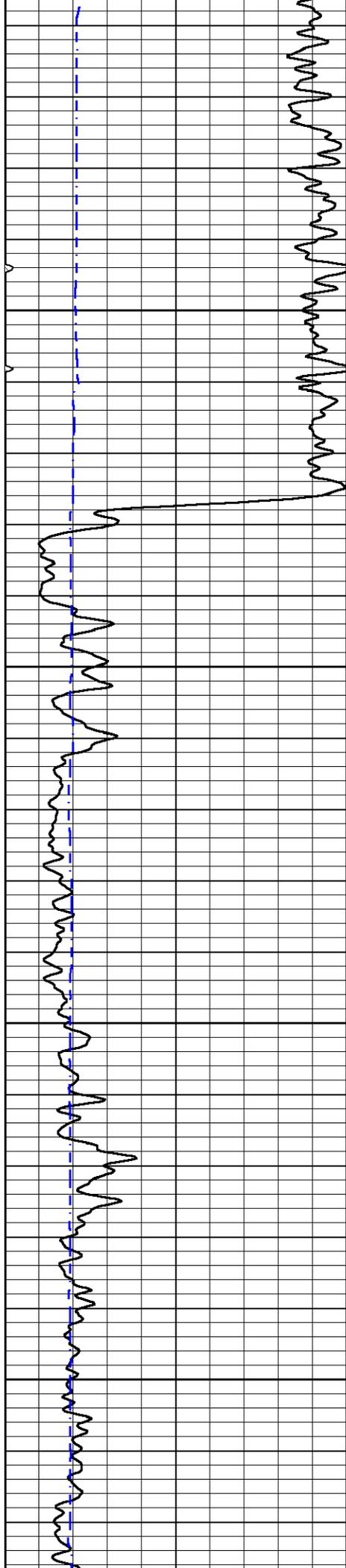
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2600

2650

2700



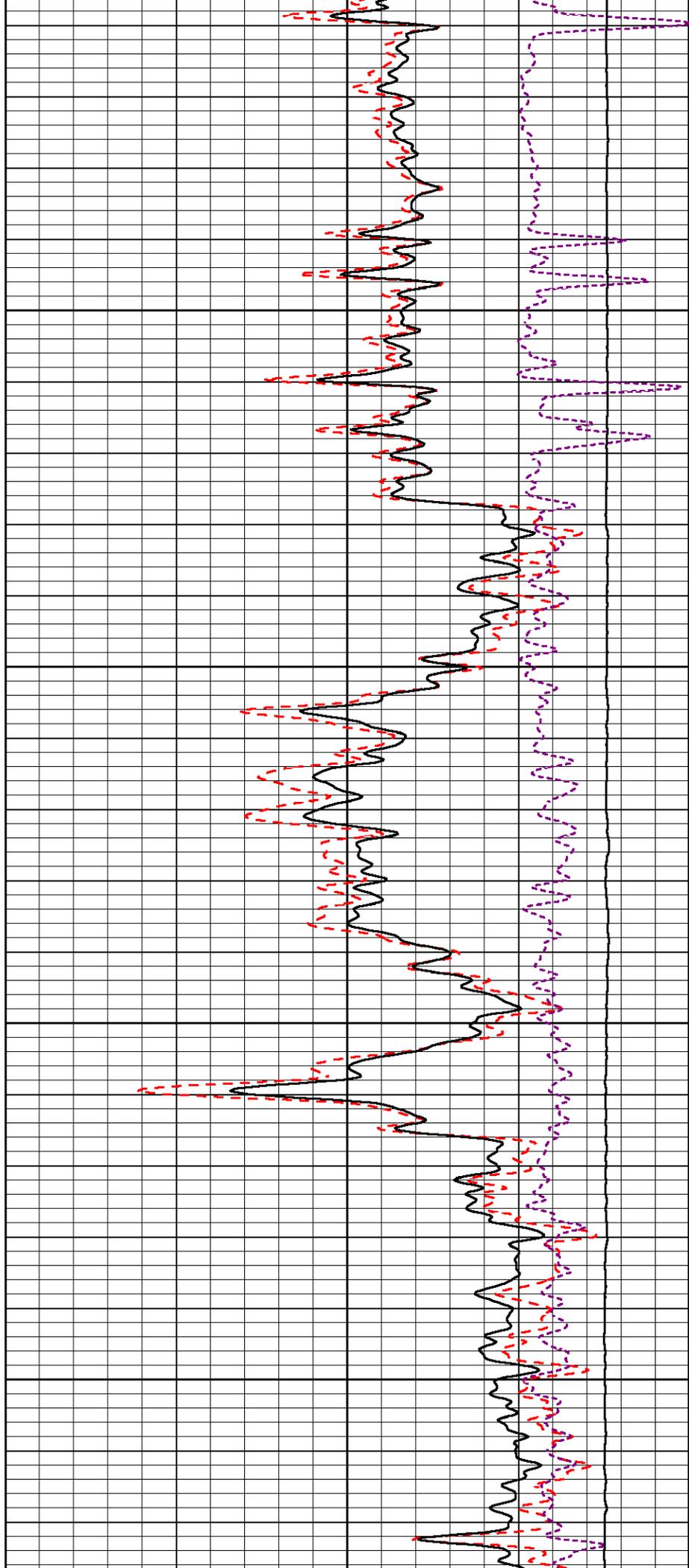


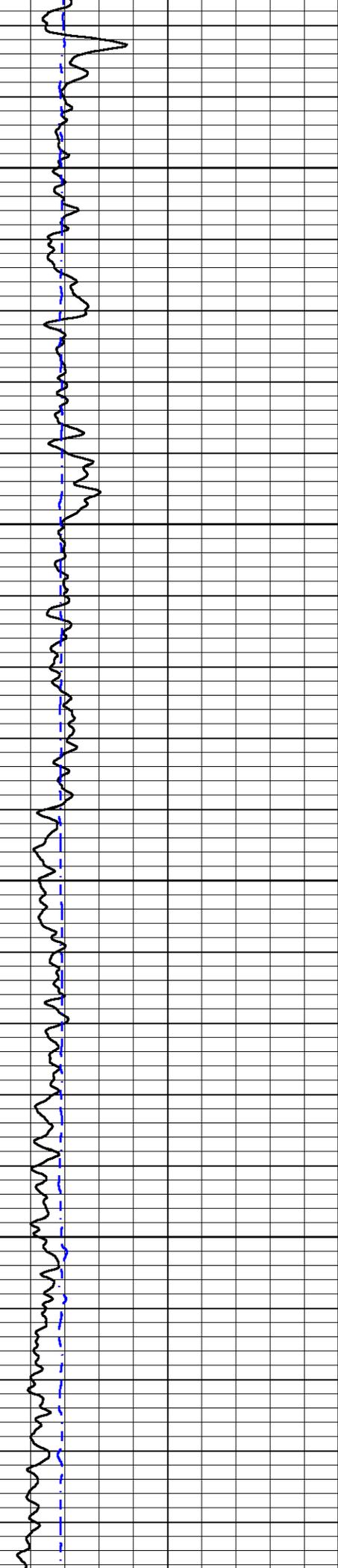
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2800

2850

2900



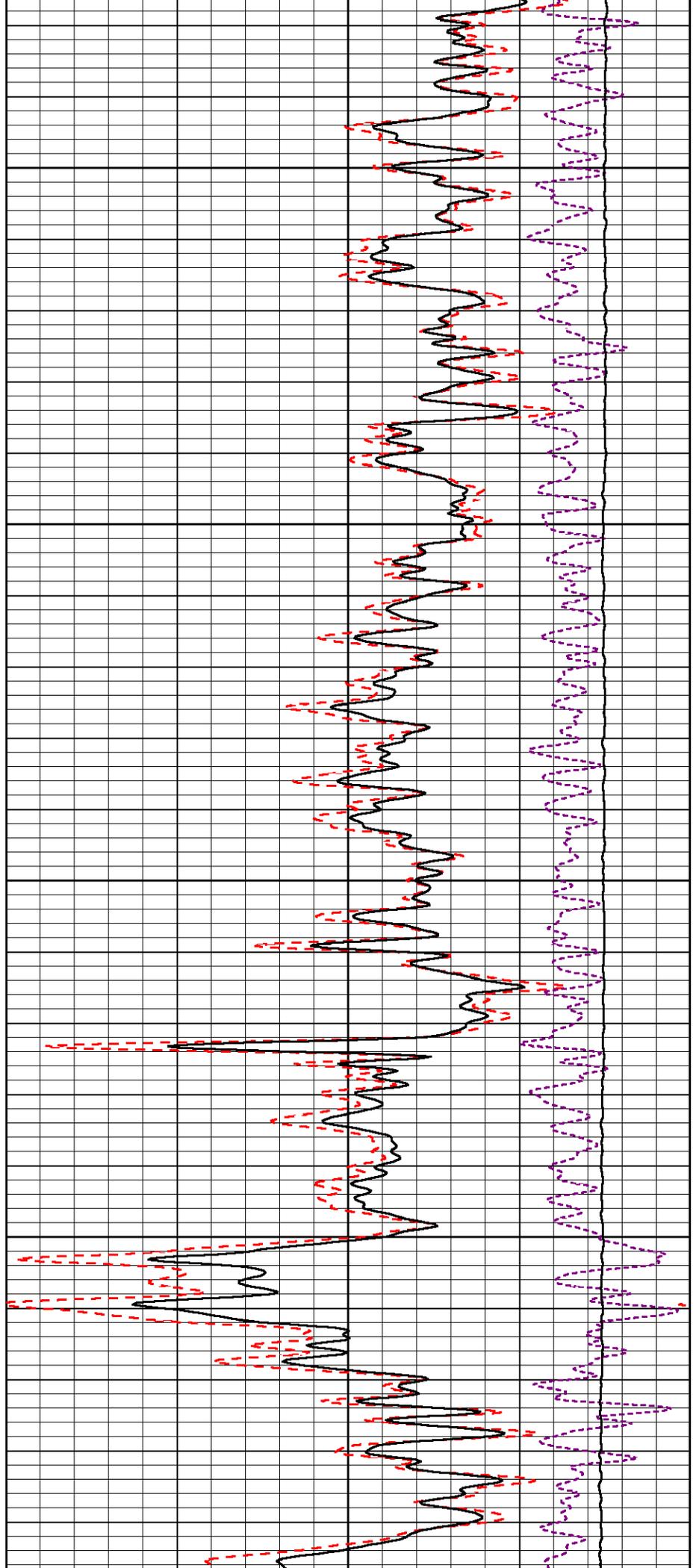


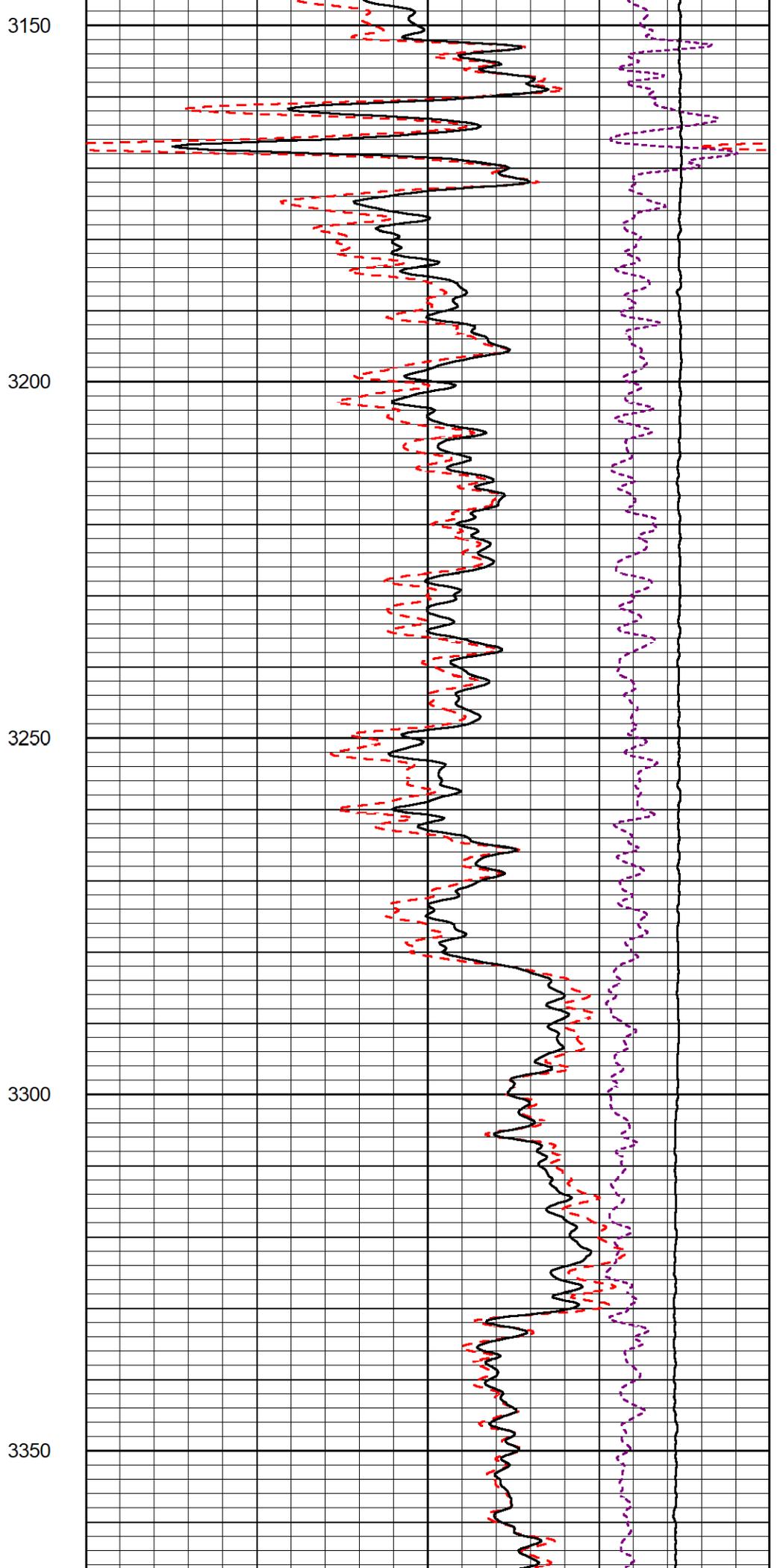
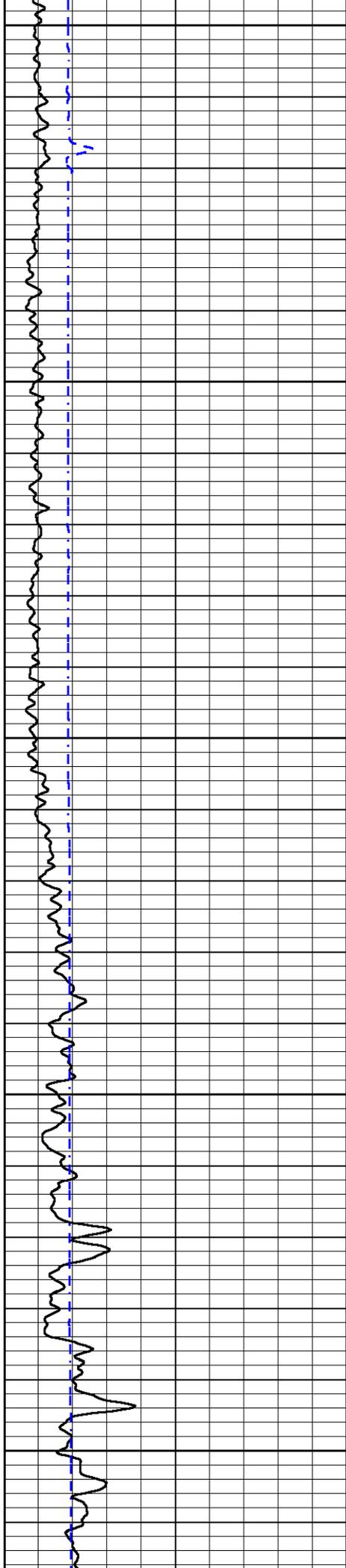
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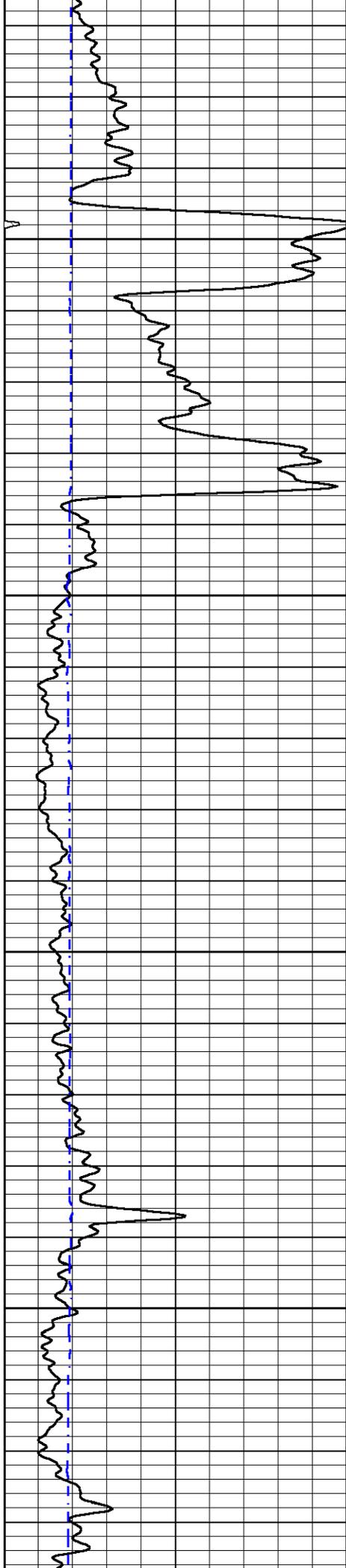
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3050

3100





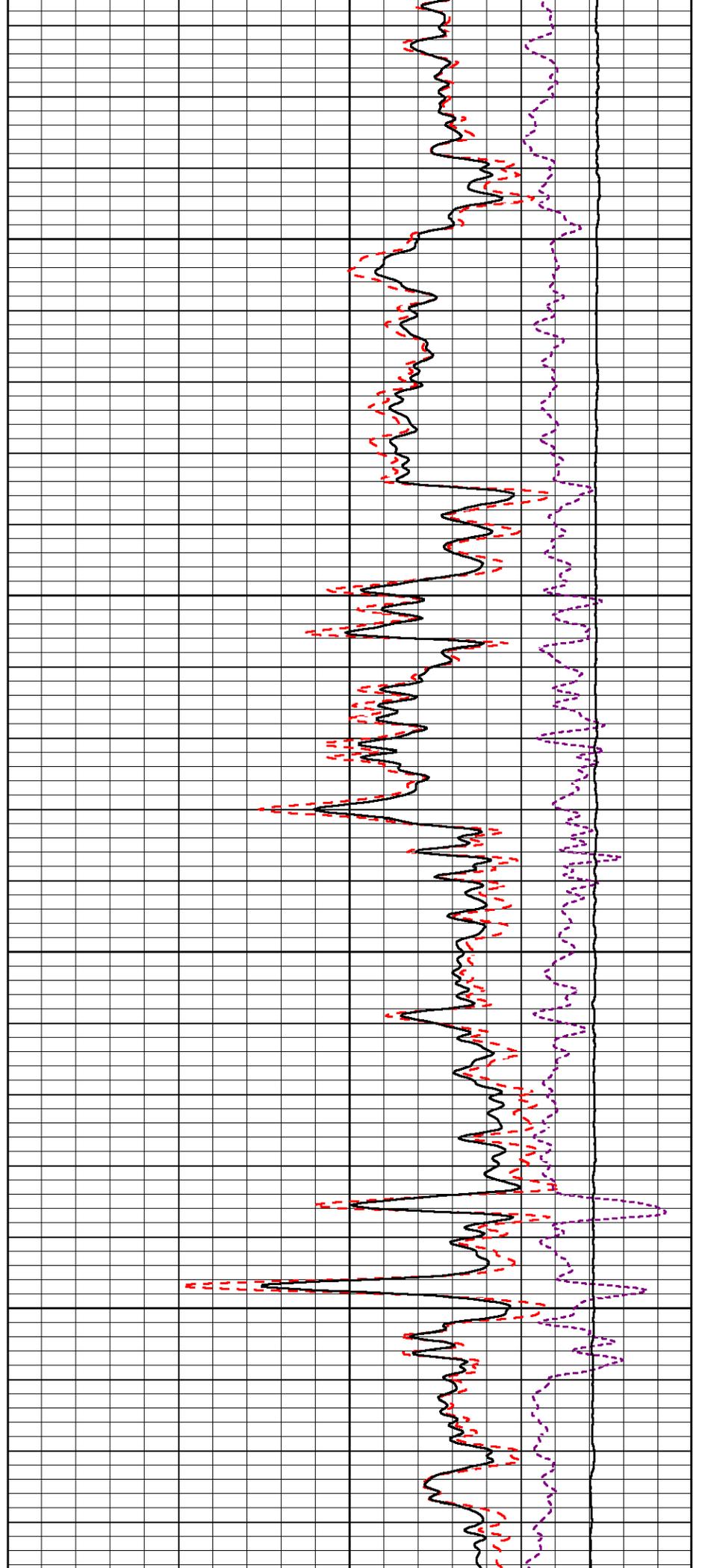


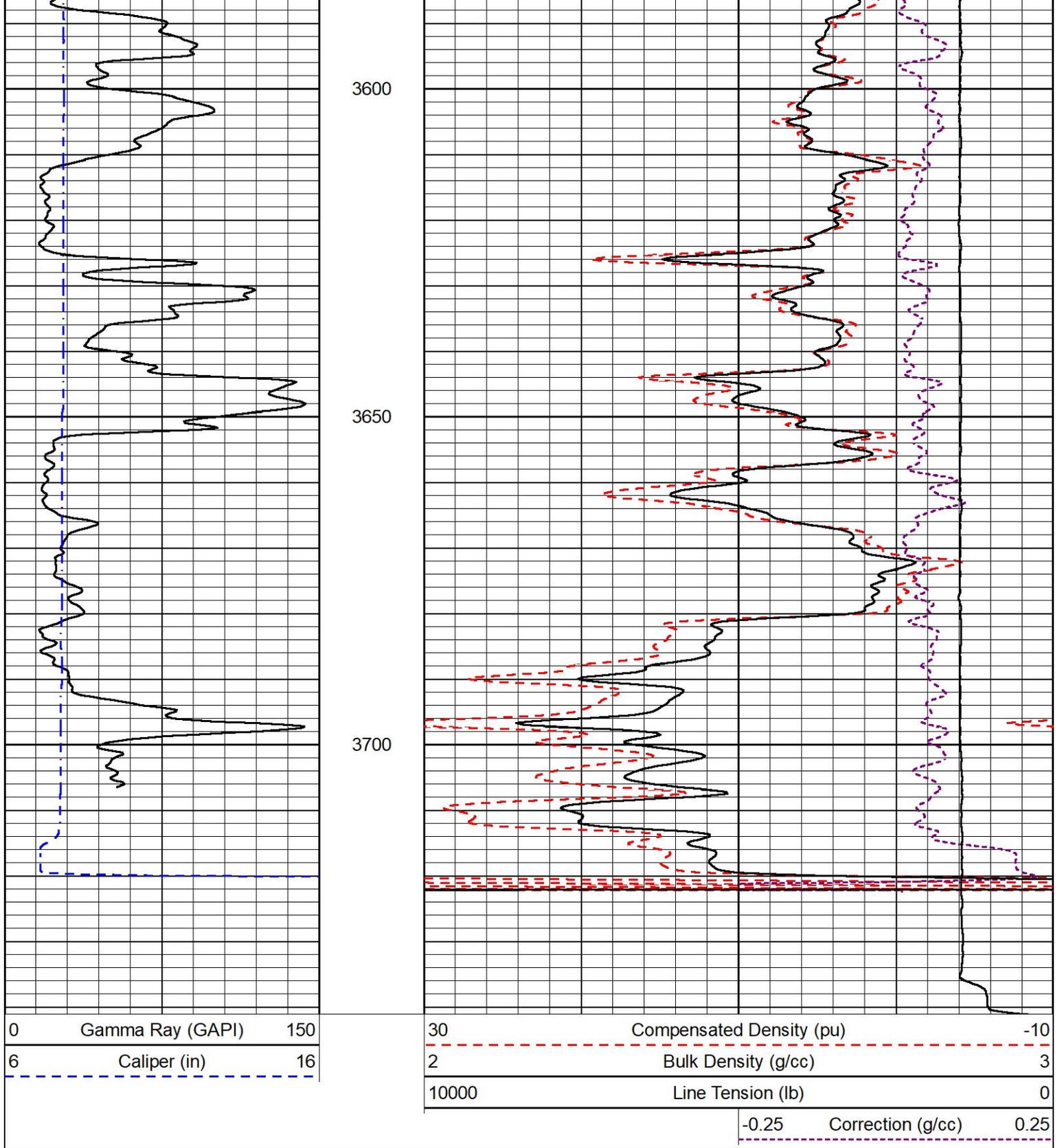
3400

3450

3500

3550





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## DETAIL SECTION

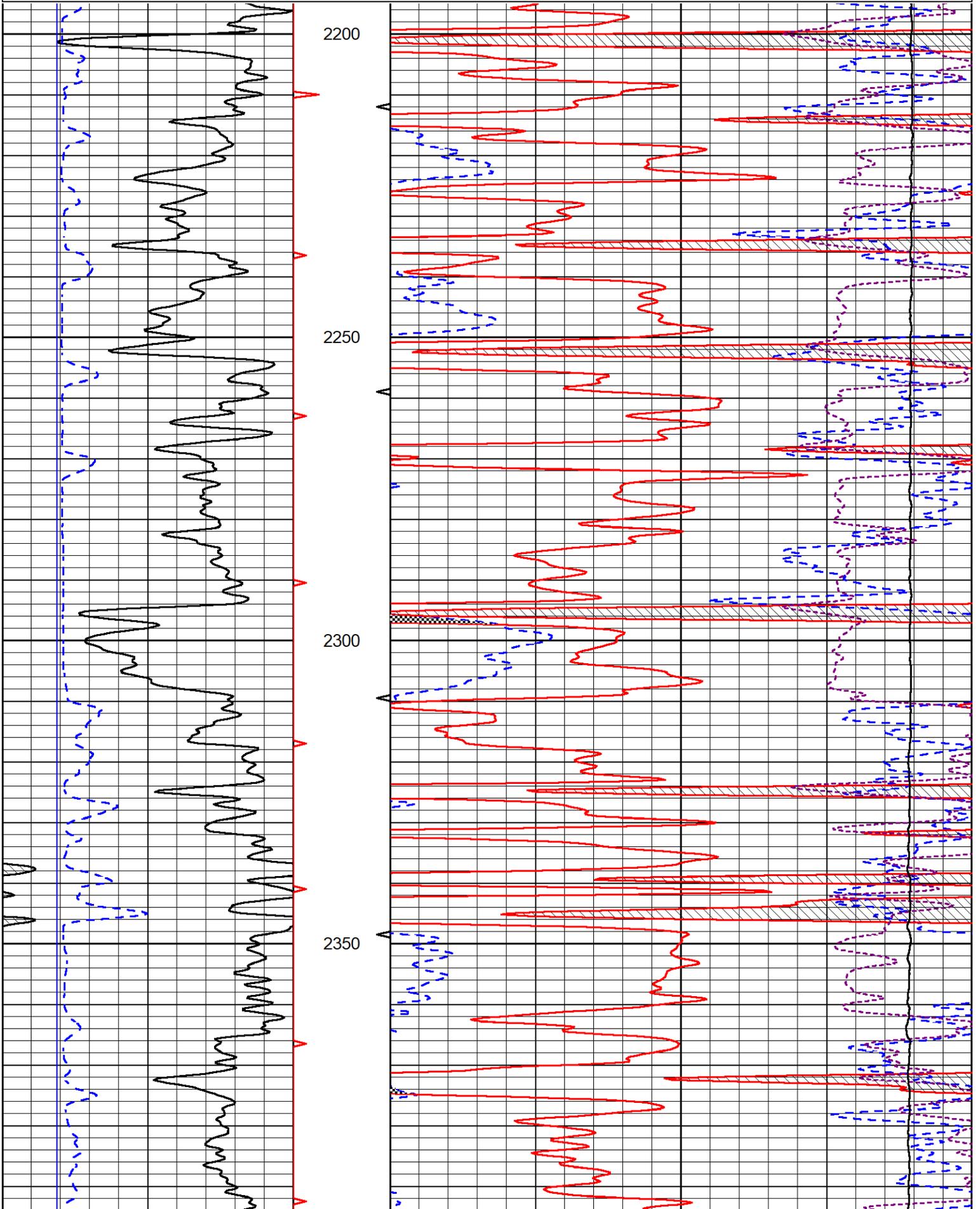
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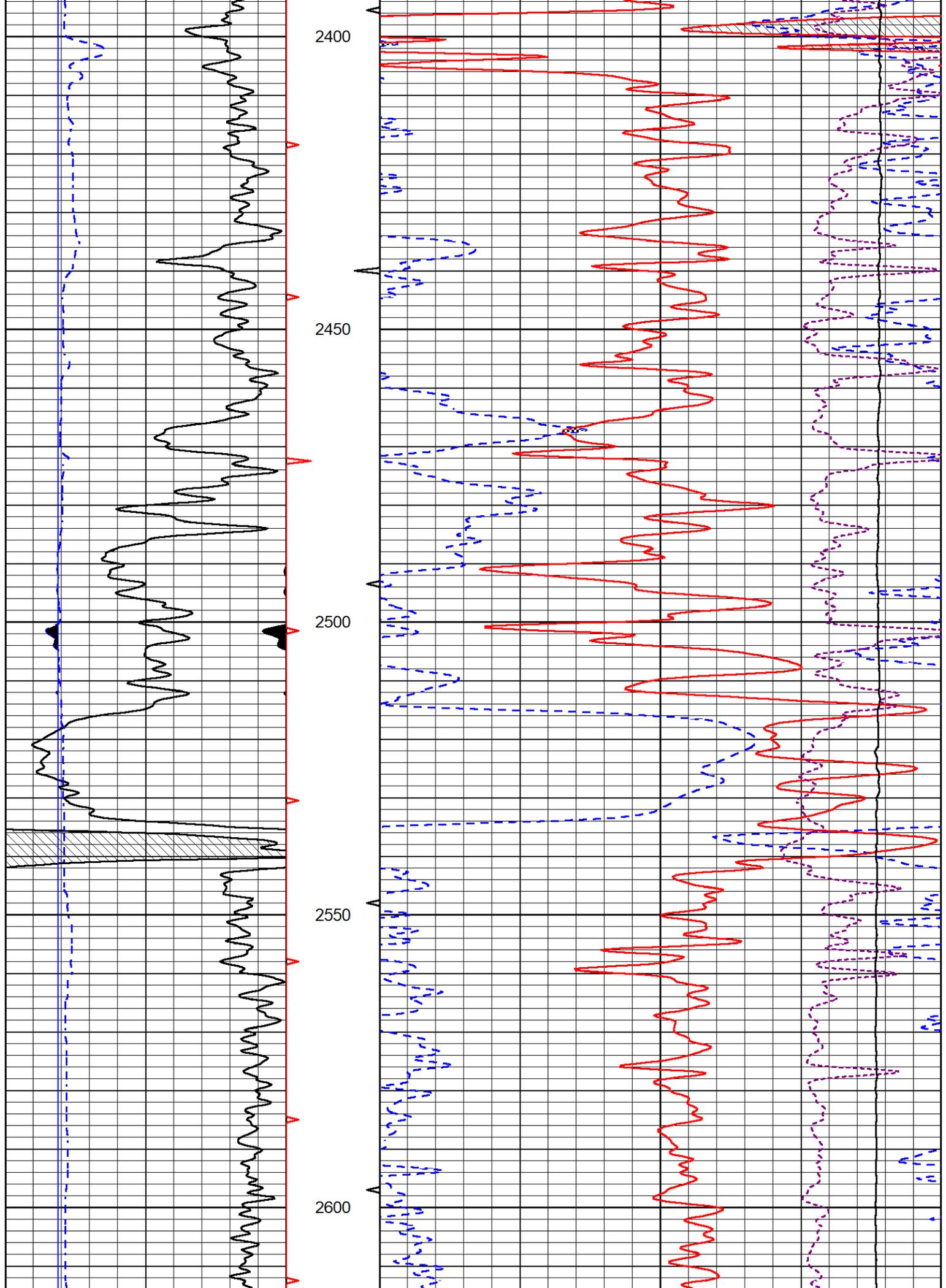
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 Charted by      Depth in Feet scaled 1:240

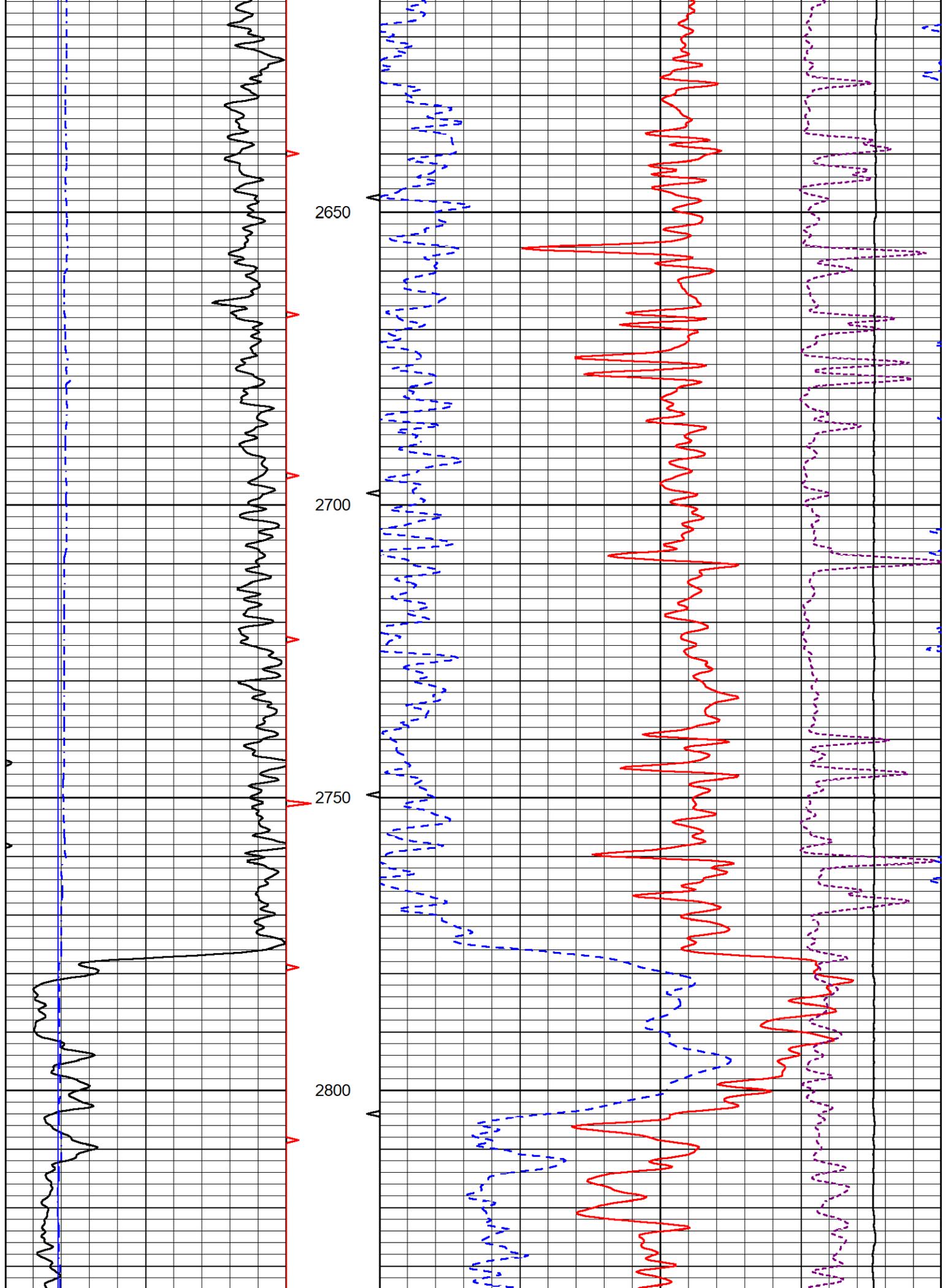
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	DCAL (in)	7.875

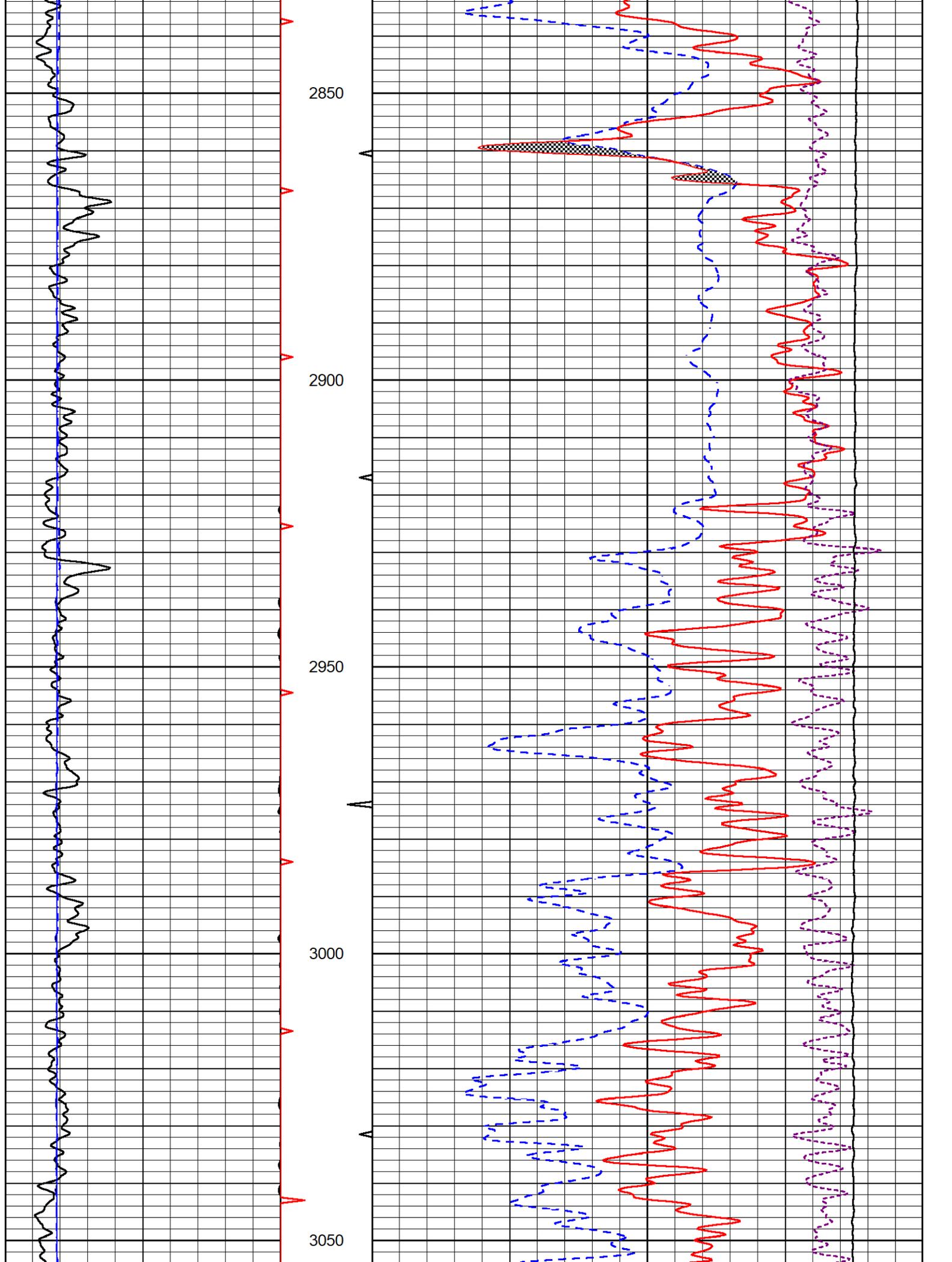
30	Compensated Neutron (pu)	-10
30	Compensated Density (pu)	-10
10000	Line Tension (lb)	0

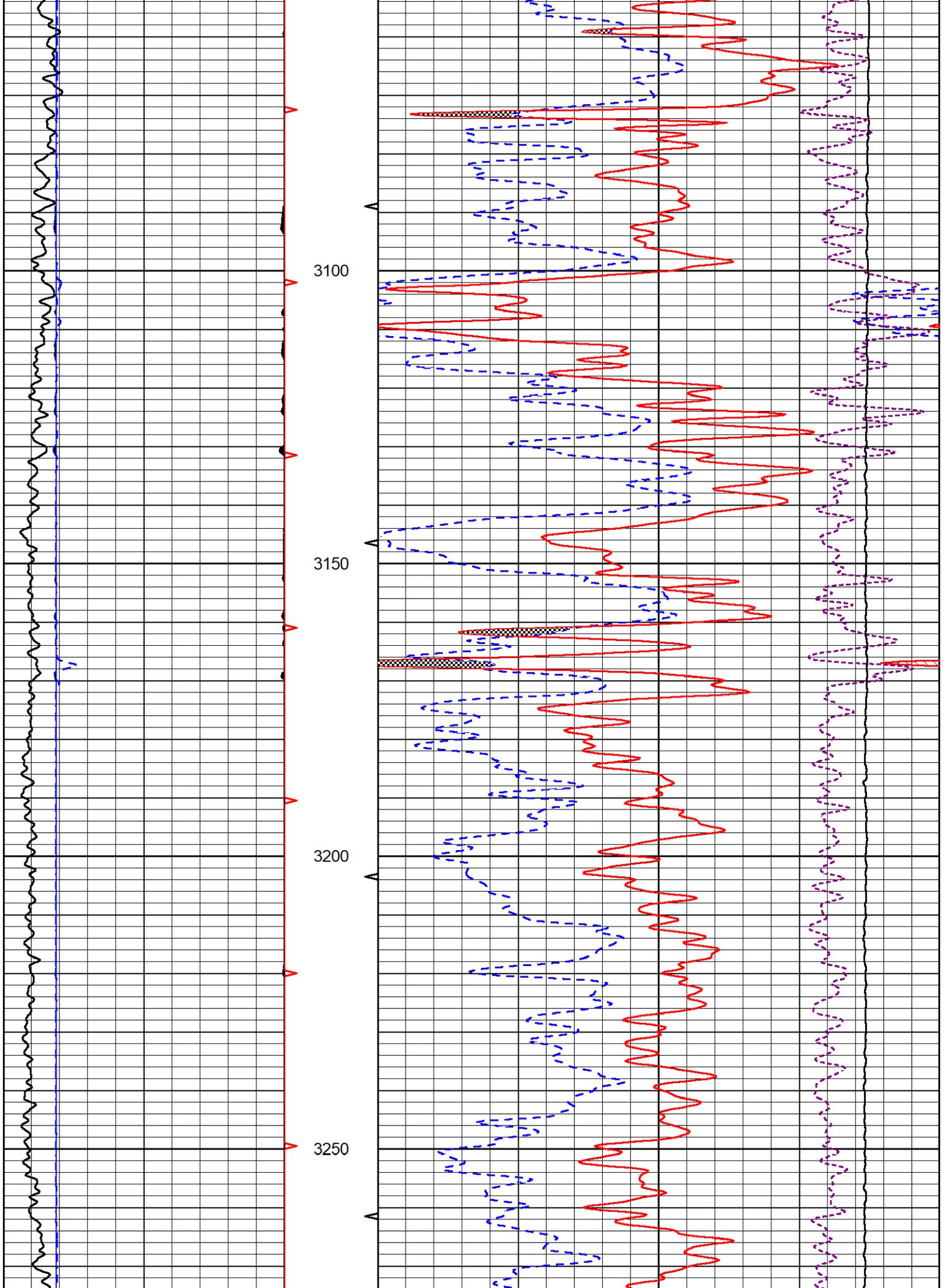
-0.25 Correction (g/cc) 0.25

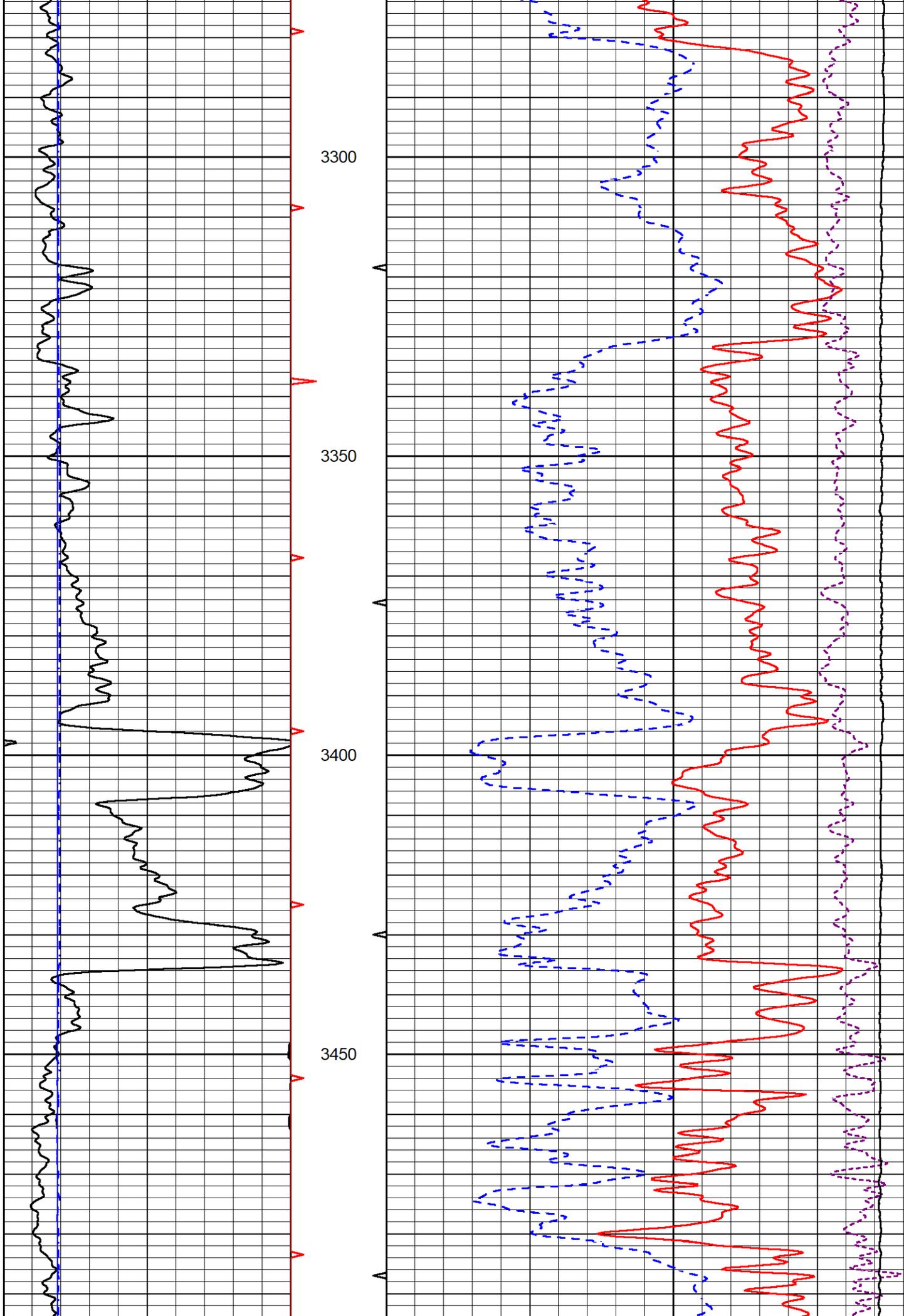


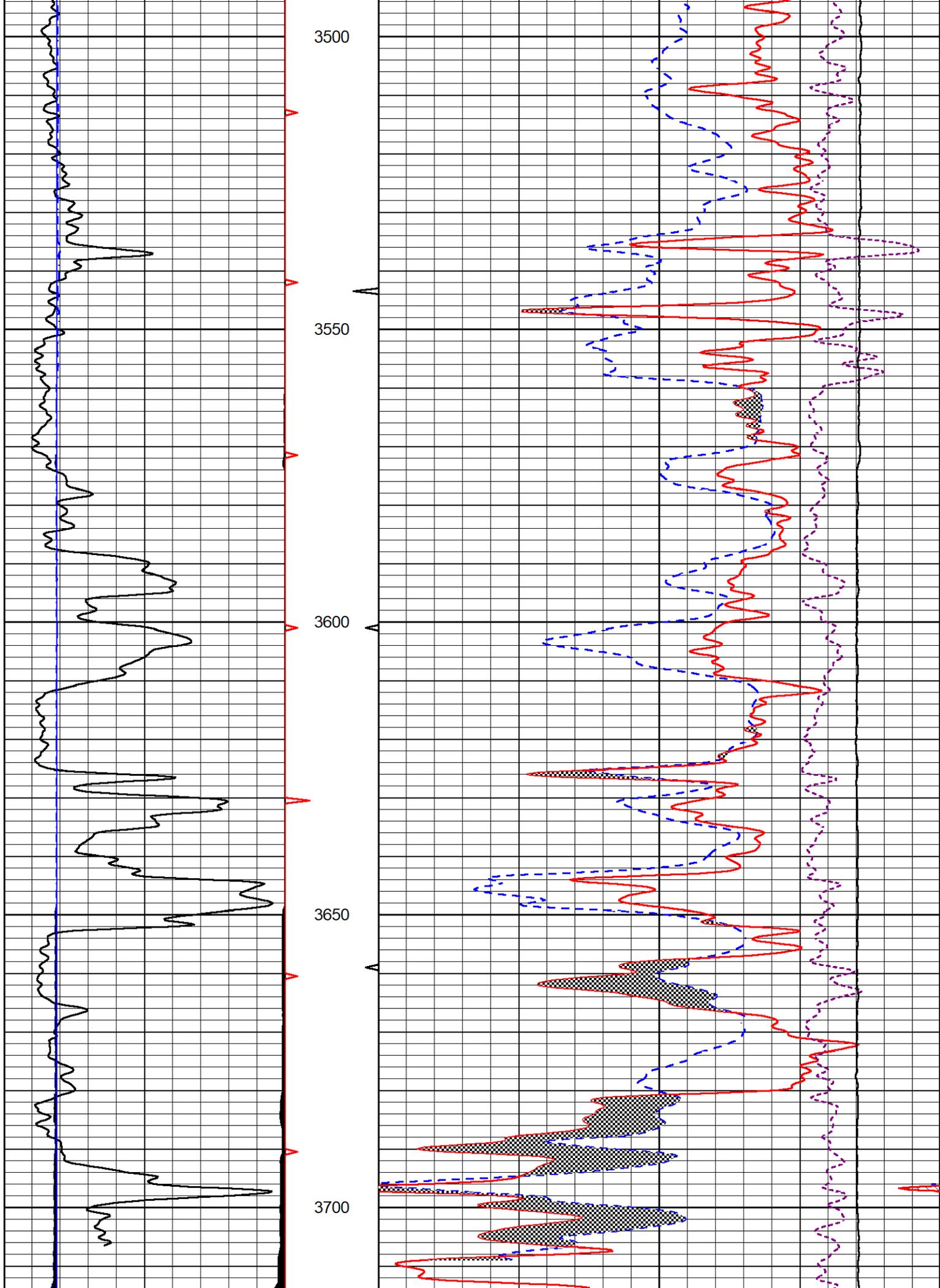


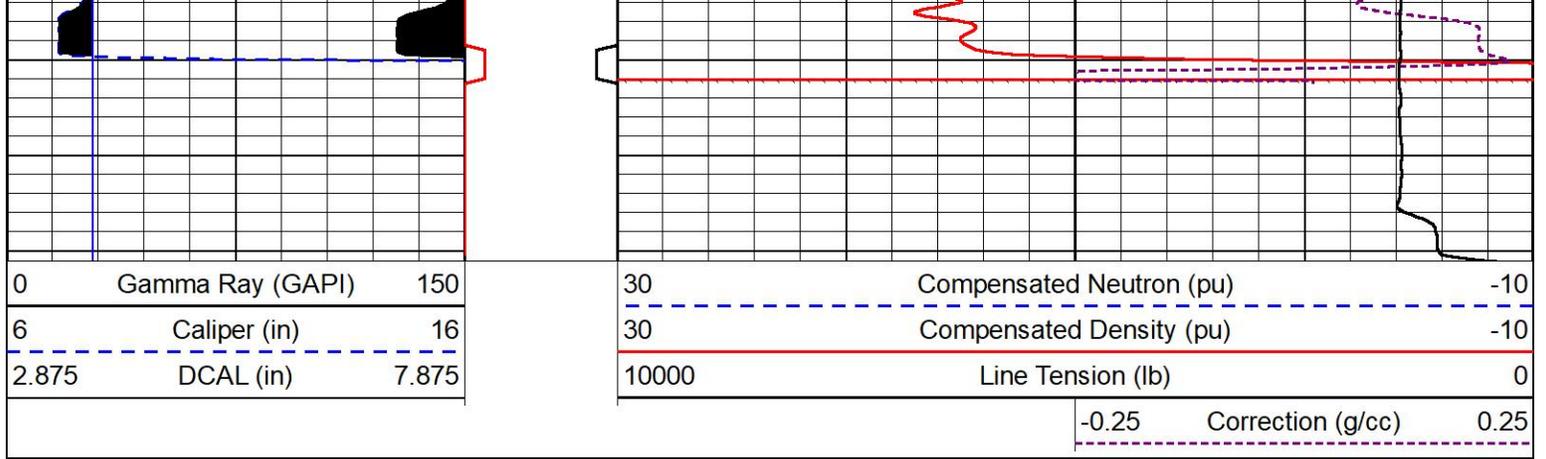








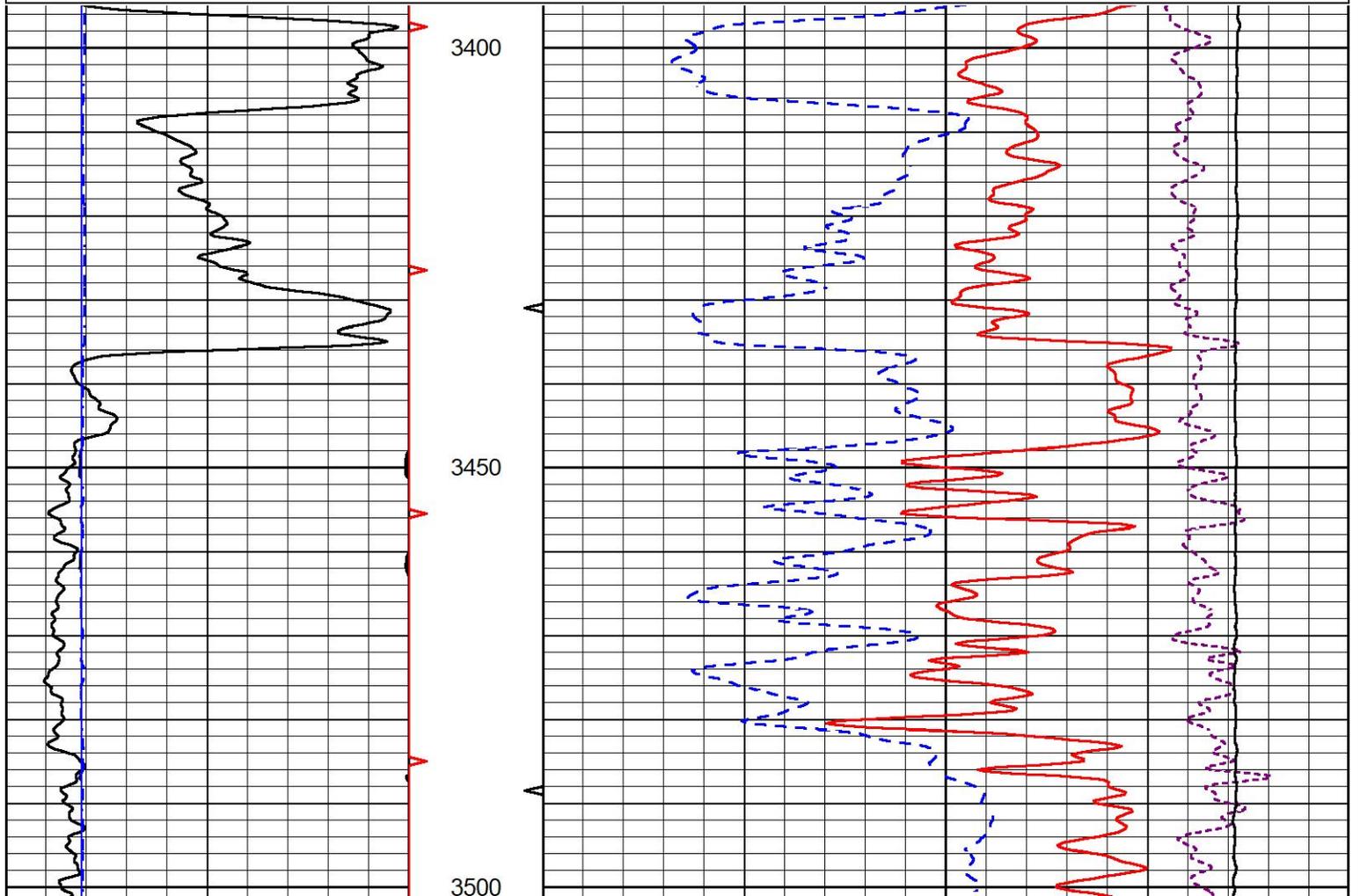
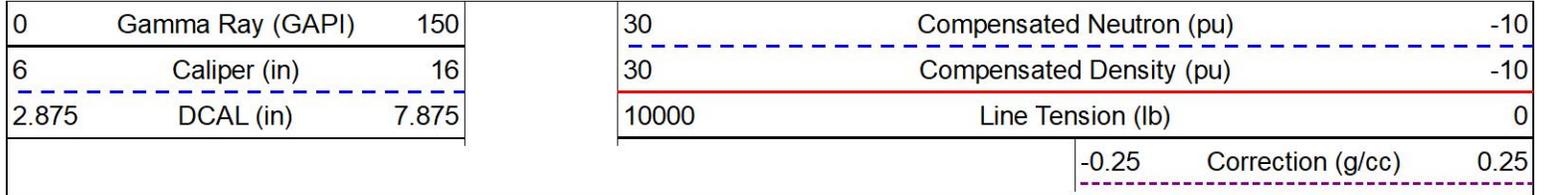


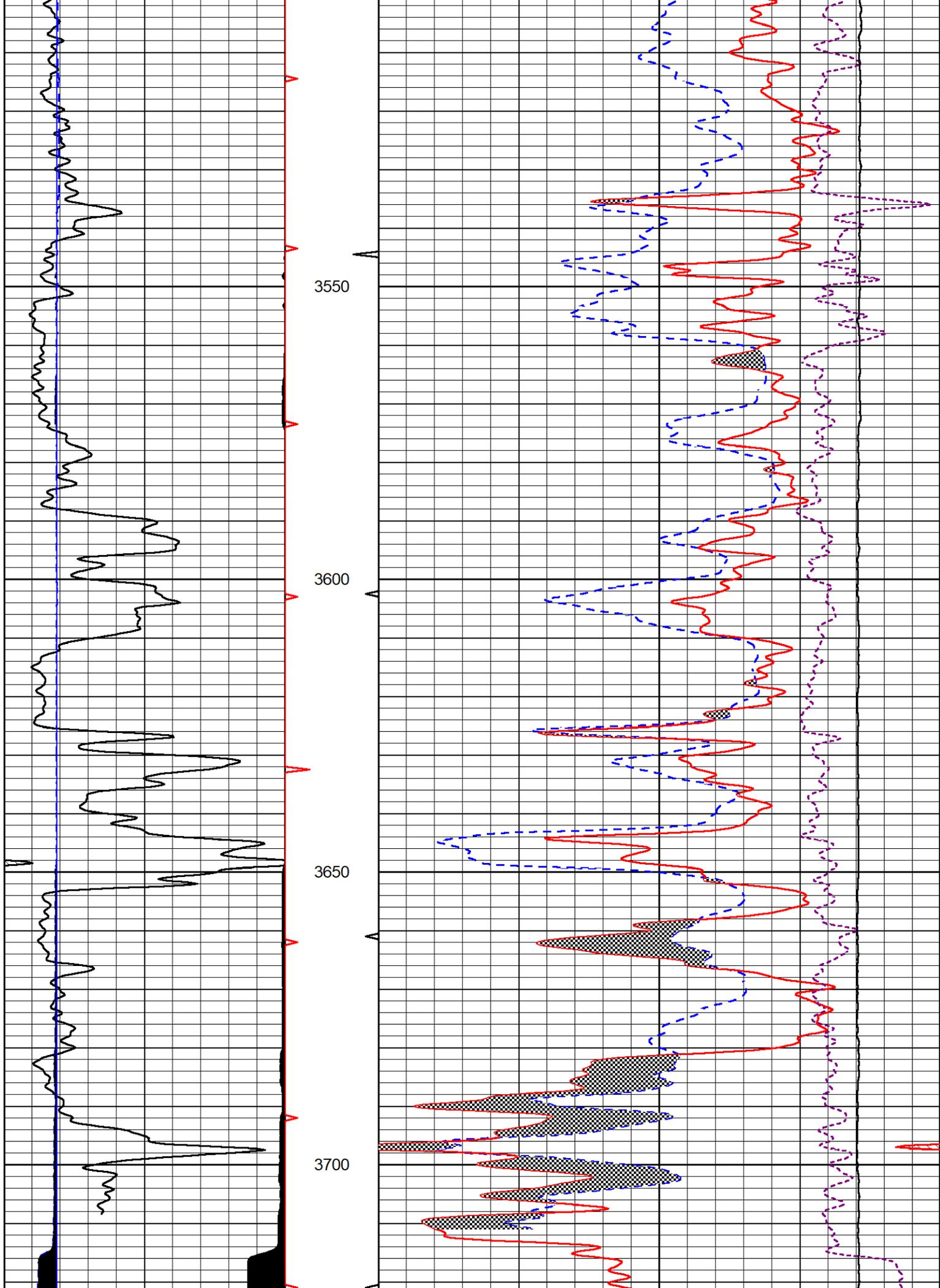


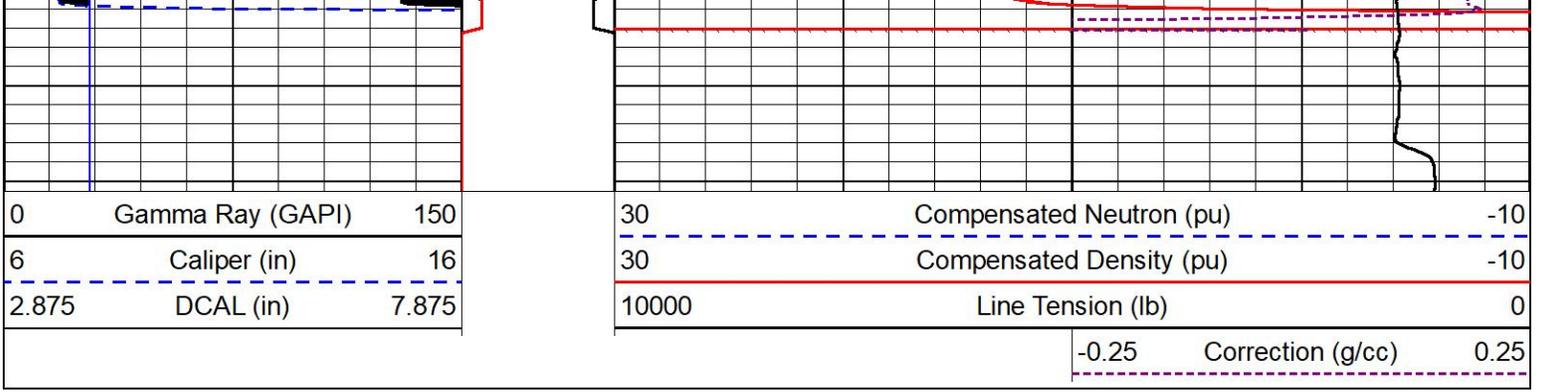
# Limestone Matrix 2.71

Repeat Pass

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 Presentation Format \_CNDLS~1  
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 Charted by Depth in Feet scaled 1:240





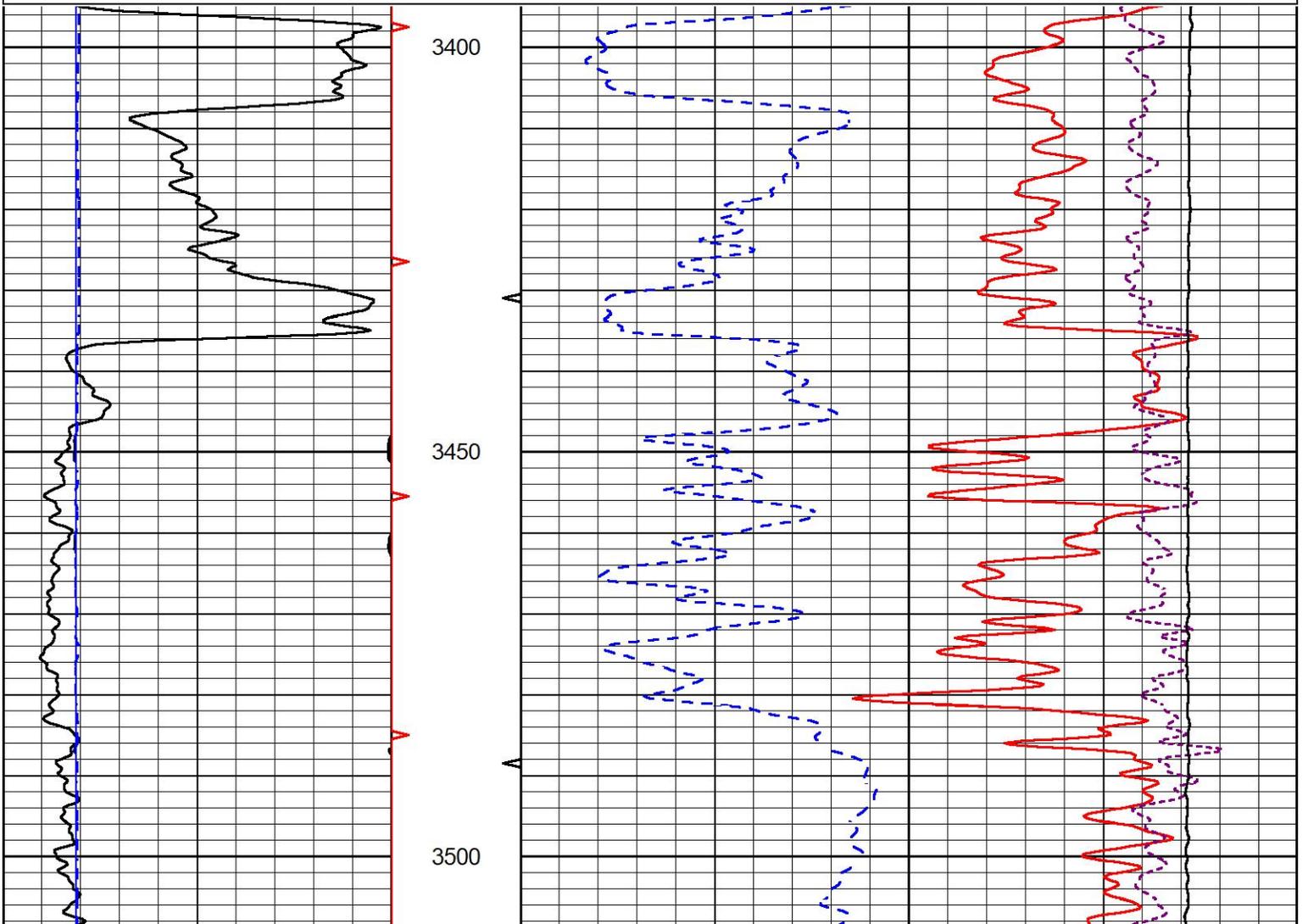
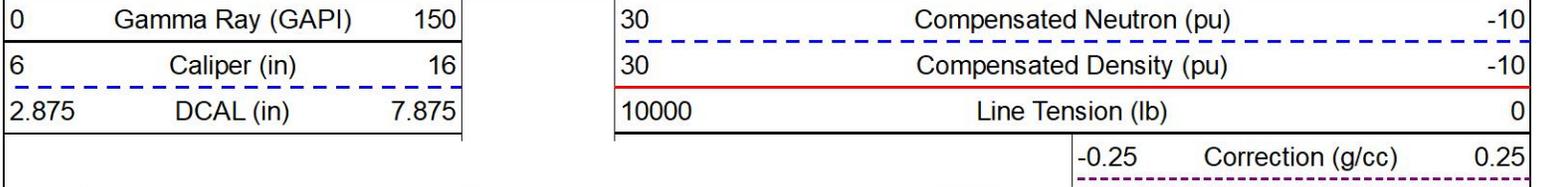


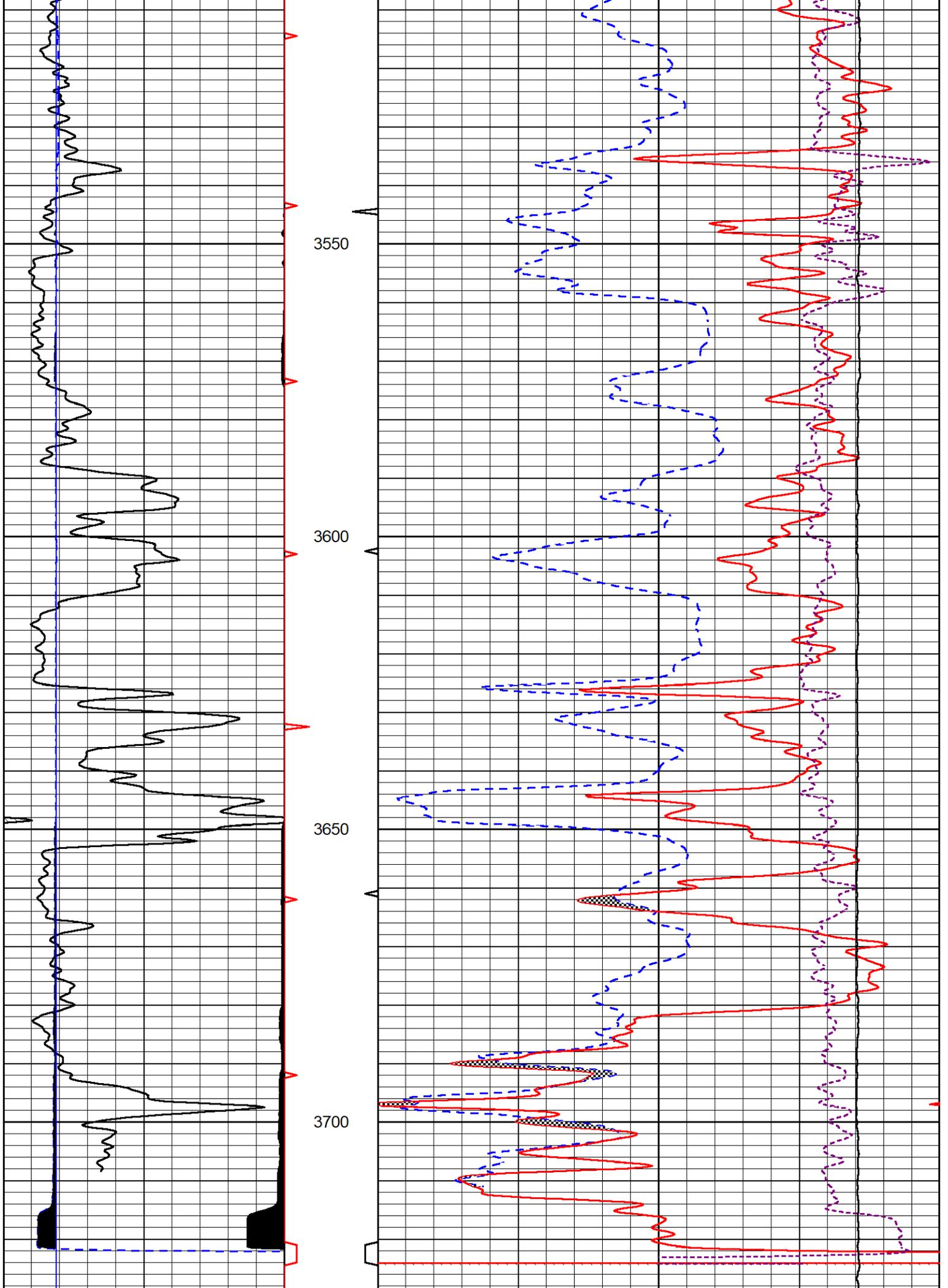
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## Sandstone Matrix 2.65

Repeat Pass

Database File ppsi\_richards-fund a #4.db  
 Dataset Pathname Stack/pass2.2  
 Presentation Format \_CNDLS~1  
 Dataset Creation Tue Oct 11 20:40:21 2022  
 Charted by Depth in Feet scaled 1:240







	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	
3)	Short Space Long Space	cps cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	106		
Tool Model:	M&W		
Performed:	Fri Dec 3 15:10:46 2021		
Calibrator Value:	500.0	GAPI	
Background Reading:	24.0	cps	
Calibrator Reading:	637.0	cps	
Sensitivity:	0.5500	GAPI/cps	



<b>Company</b>	Petroleum Property Services, Inc.
<b>Well</b>	Richards-Fund A #4
<b>Field</b>	McClain
<b>County</b>	Nemaha
<b>State</b>	Kansas