



MIDWEST WIRELINE

# DUAL COMP POROSITY LOG

Company The Bill Bowman Oil Company  
 Well Clark B #2  
 Field Hoxie East  
 County Sheridan  
 State Kansas

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Location: API #: 15-179-21469-00-00  
 2400' FNL & 740" FEL  
 SEC 31 TWP 8S RGE 28W  
 Permanent Datum Ground Level Elevation 2739'  
 Log Measured From Kelly Bushing  
 Drilling Measured From Kelly Bushing  
 Other Services  
 DIL/MEL  
 K.B. 2744'  
 D.F. N/A  
 G.L. 2739'

Date	9/20/2020						
Run Number	One						
Type Log	CNL/CDL						
Depth Driller	4126'						
Depth Logger	4124'						
Bottom Logged Interval	4095'						
Top Logged Interval	3300'						
Type Fluid In Hole	Chemical						
Salinity, PPM CL	800						
Density	8.7						
Level	Full						
Max. Rec. Temp. F	117						
Operating Rig Time	3 Hours						
Equipment -- Location	P-24 HAYS						
Recorded By	D. Schmidt						
Witnessed By	Jerry Green						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25"	0	219'	8.625"	23#	0'	219'
Two	7.875"	219'	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.

Hoxie,  
 3 South to 30 Rd, 1 3/4 West,  
 South and West to location

Log Measured From: Kelly Bushing 5 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: D. Schmidt	Operator:	Primary Witness: Jerry Green	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Case No.	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
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Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (233-M&W)	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		DIL-PSI HIGH TEMP (952-828)	18.50	3.50	220.00
CILM	4.70					
SP	0.20					

Dataset: bowman\_clark b 2.db: field/well/STKML/pass3.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\bowman\_clark b 2.db  
 Dataset field/well/STKML/pass3.1/\_vars\_

## Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	100	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	235	0	Off	0

## 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



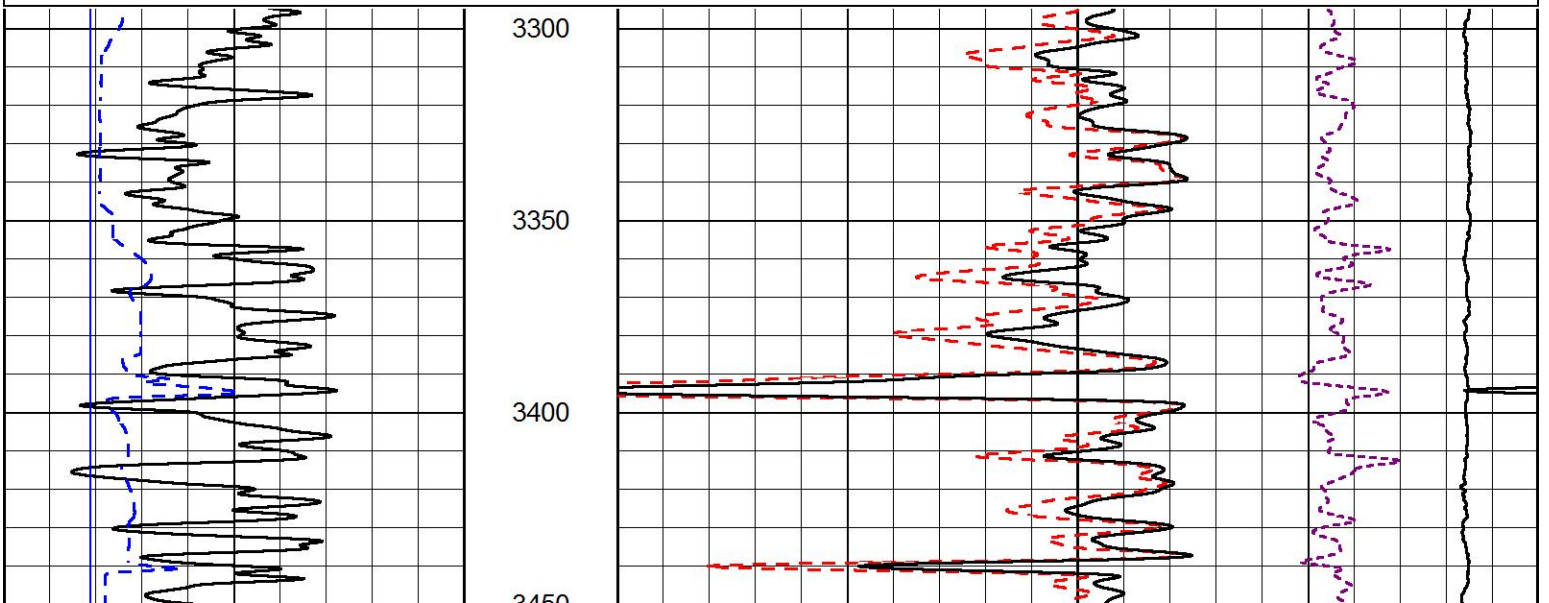
MIDWEST WIRELINE

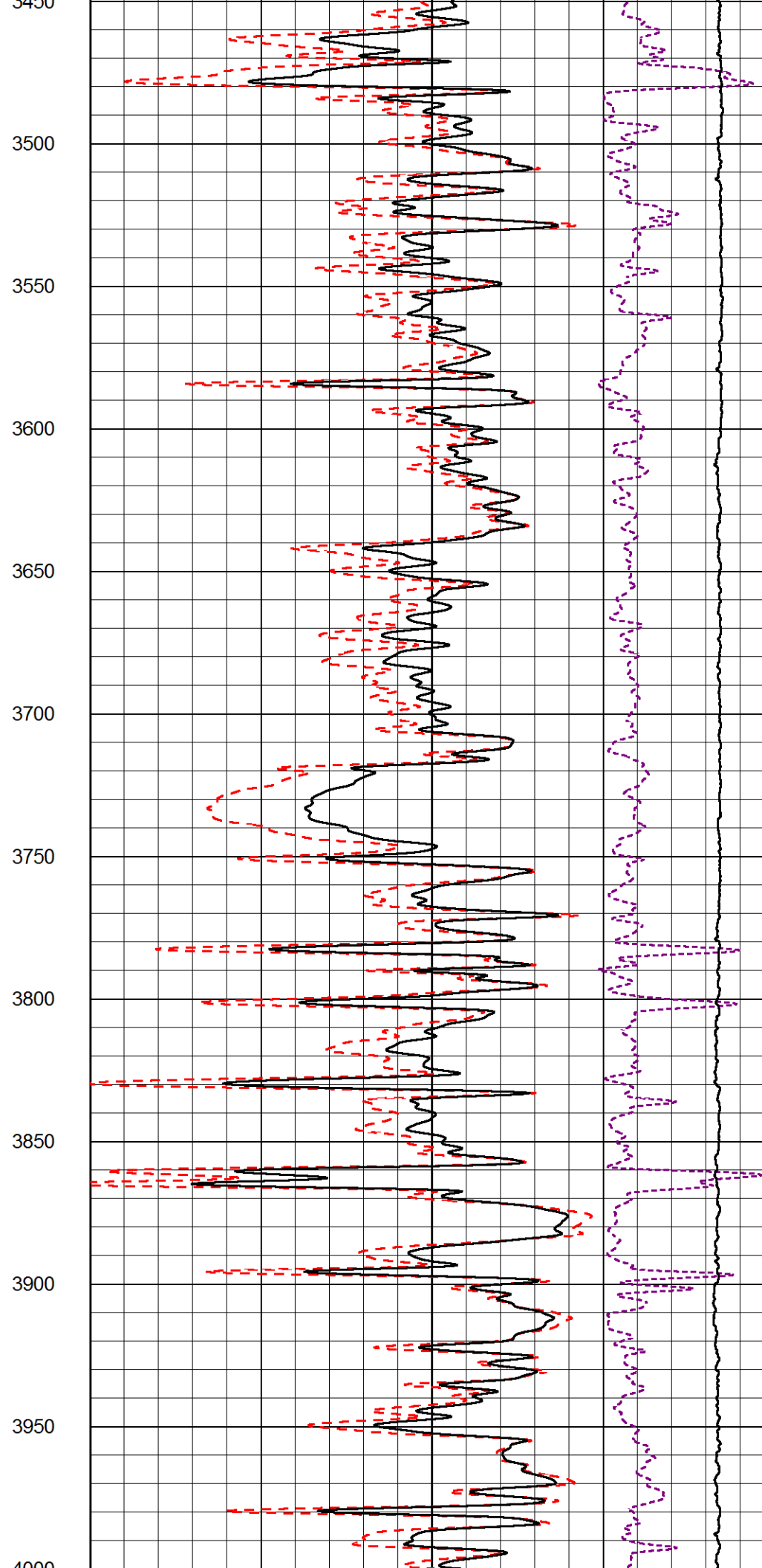
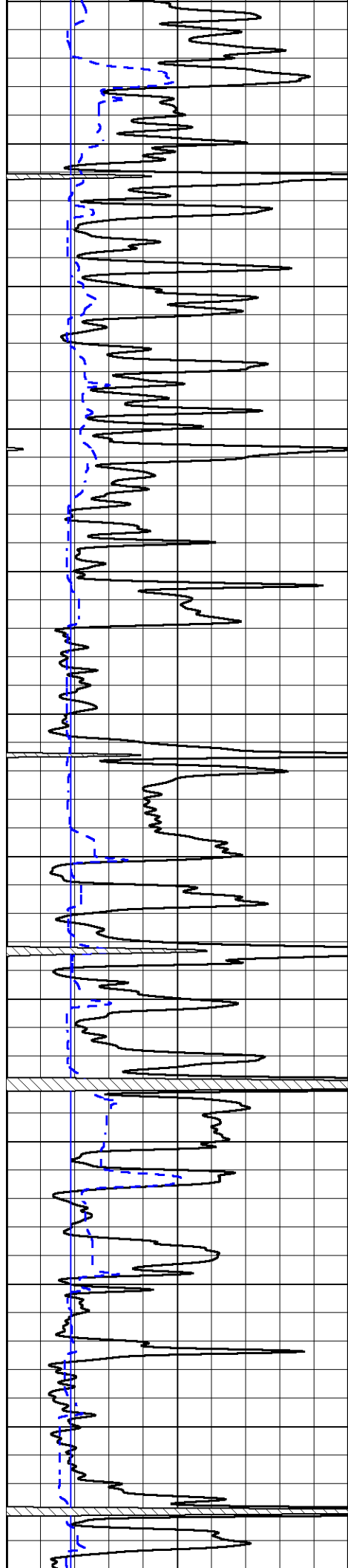
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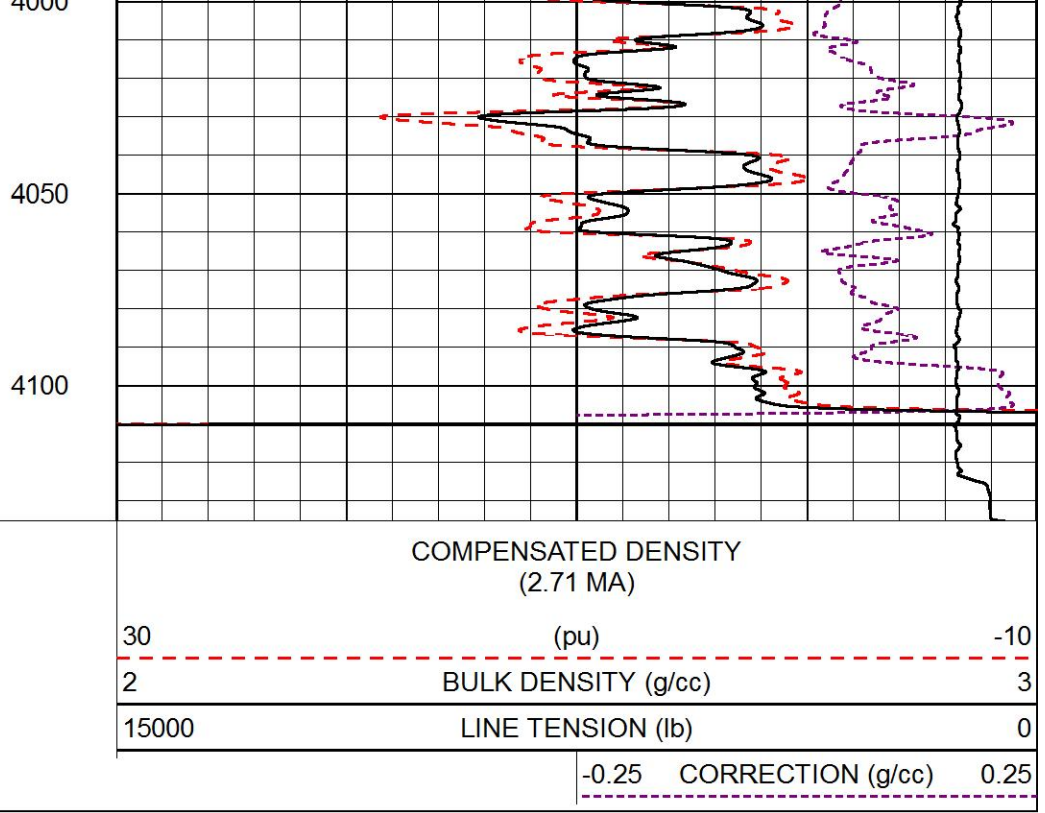
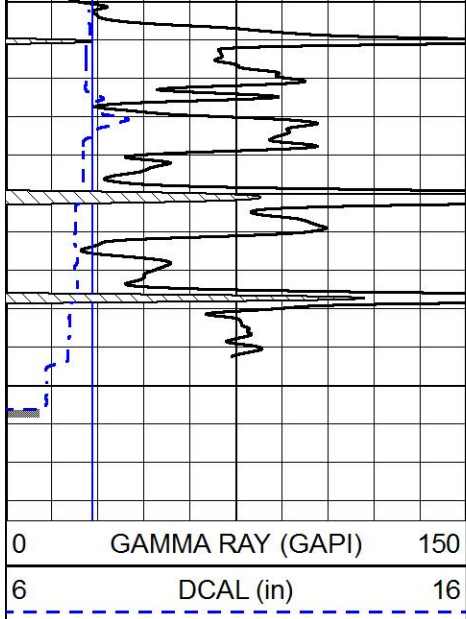
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 Dataset Pathname    STKML/pass3.1  
 Presentation Format    \_cdl  
 Dataset Creation     Sun Sep 20 23:14:57 2020  
 Charted by            Depth in Feet scaled 1:600

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

COMPENSATED DENSITY (2.71 MA)	
30	(pu) -10
2	BULK DENSITY (g/cc) 3
15000	LINE TENSION (lb) 0
-0.25	CORRECTION (g/cc) 0.25



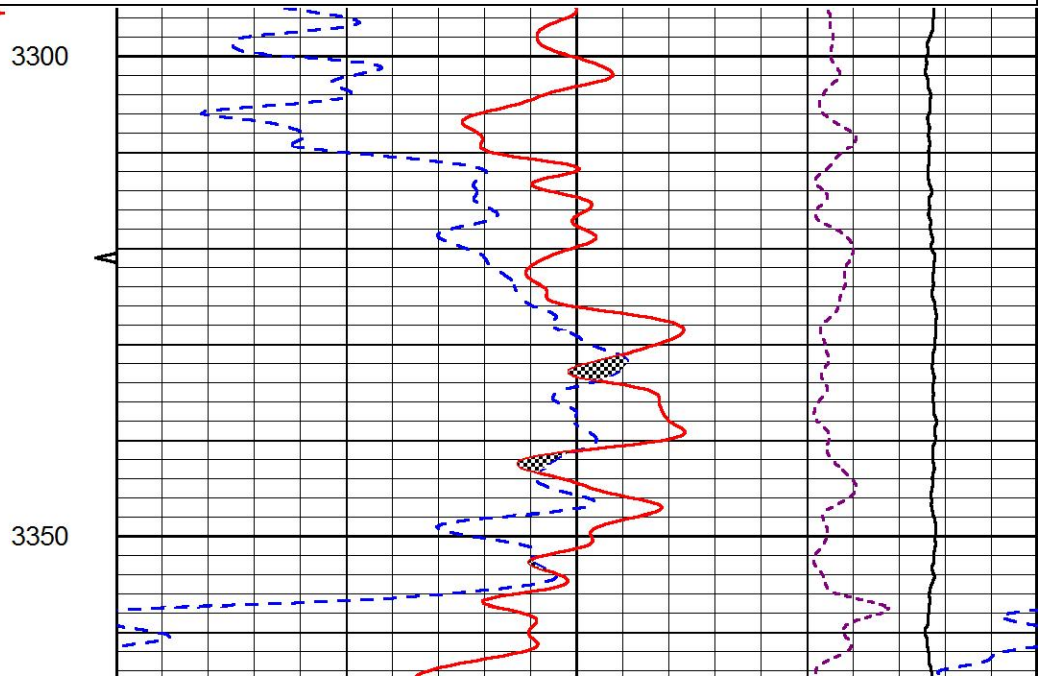
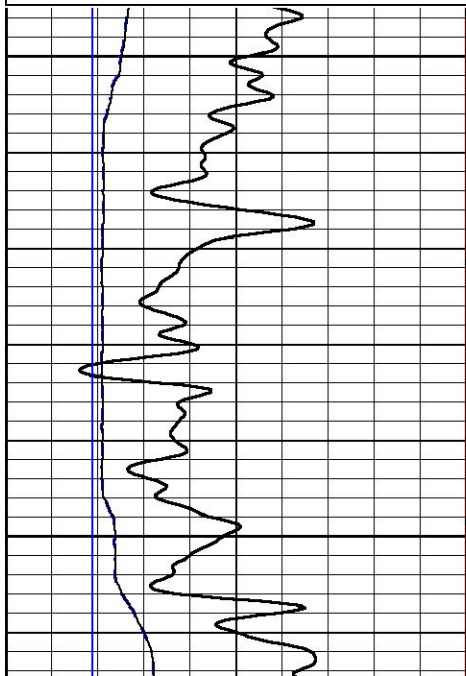
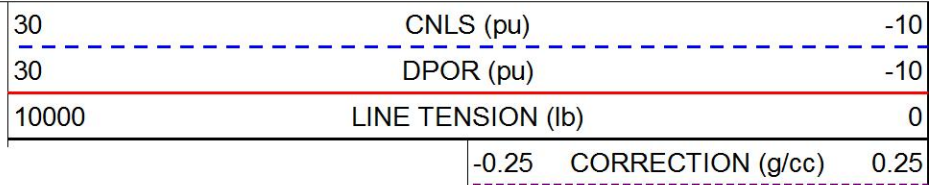
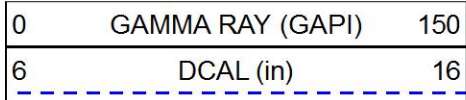


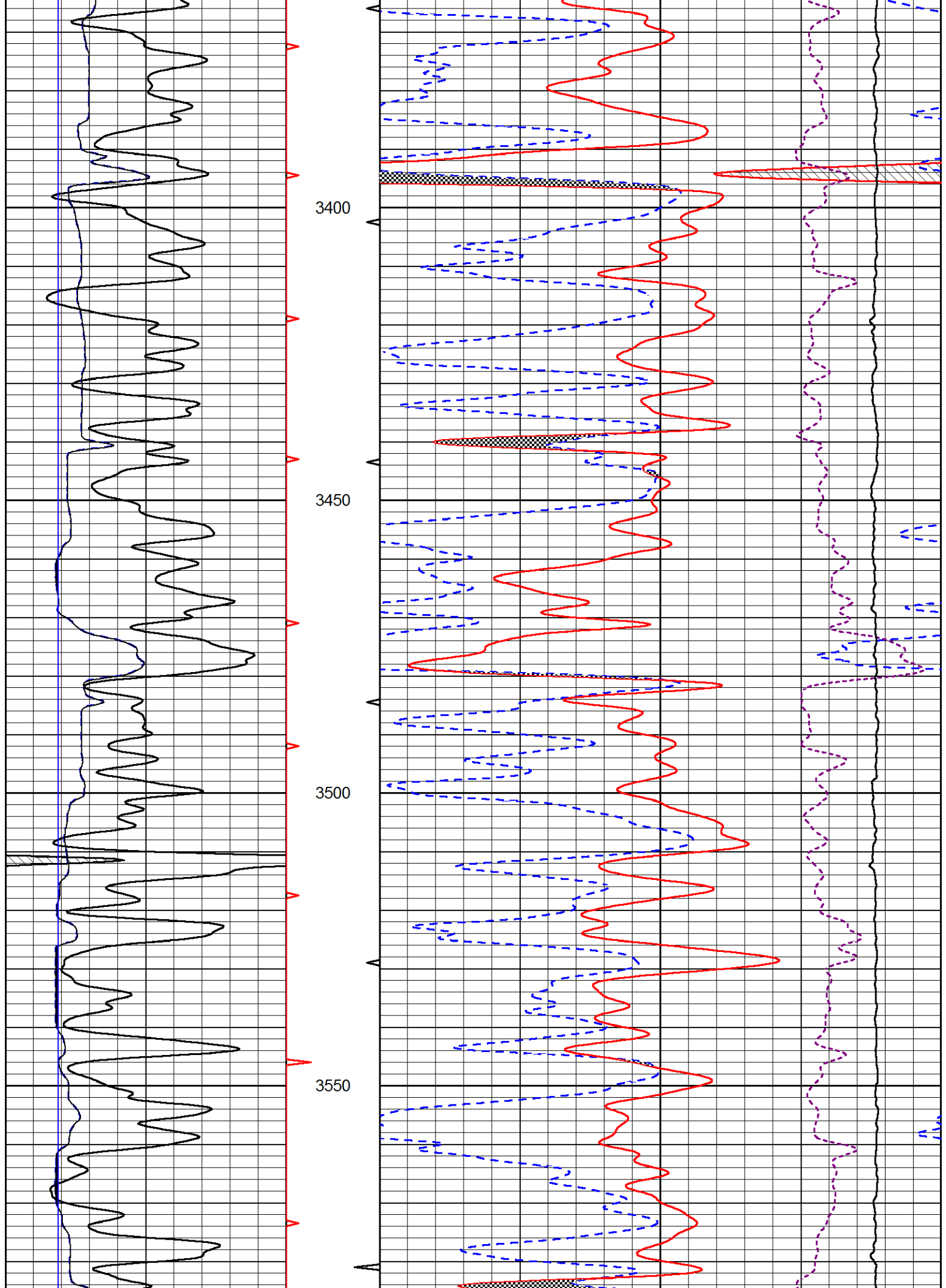


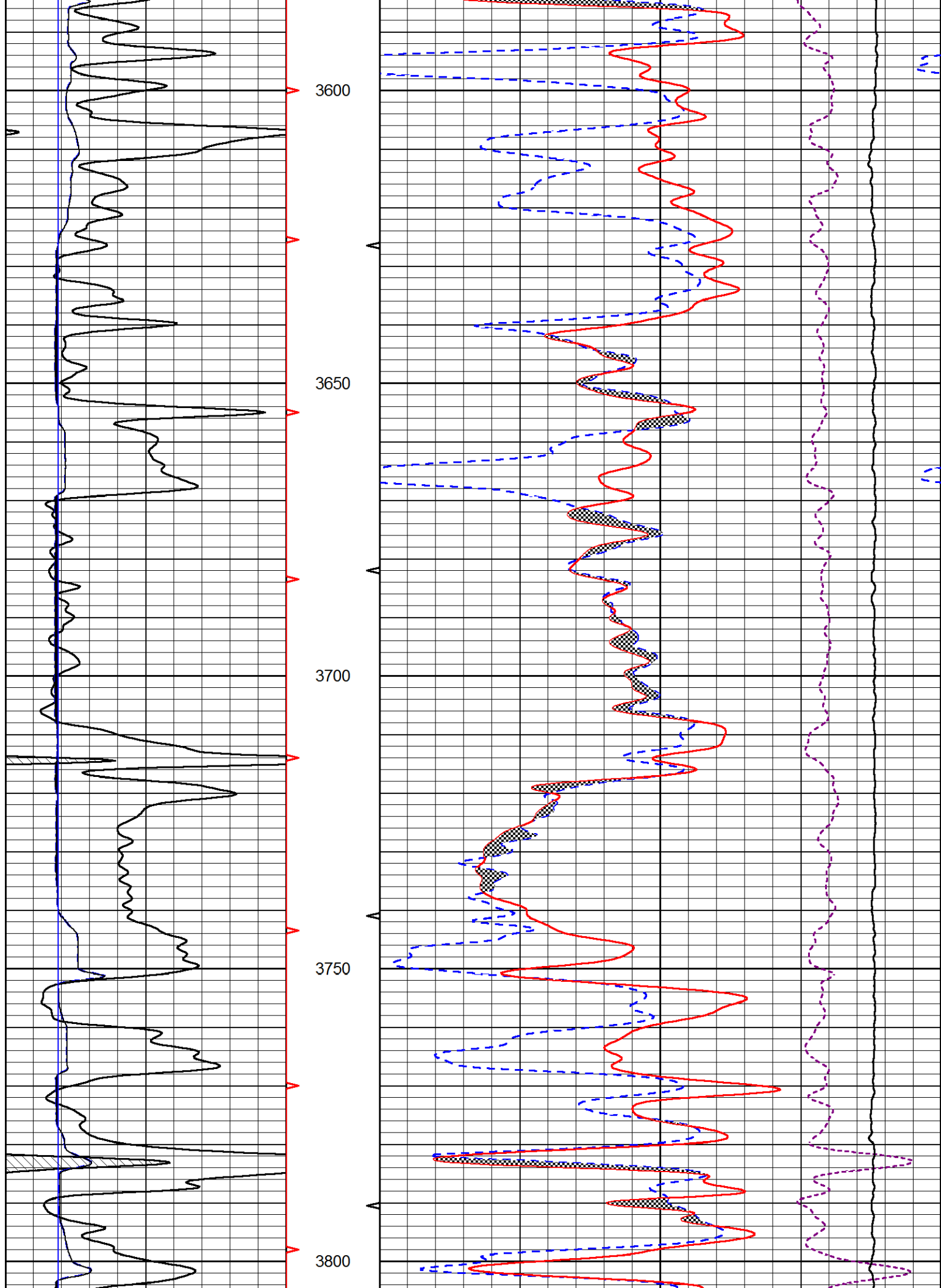
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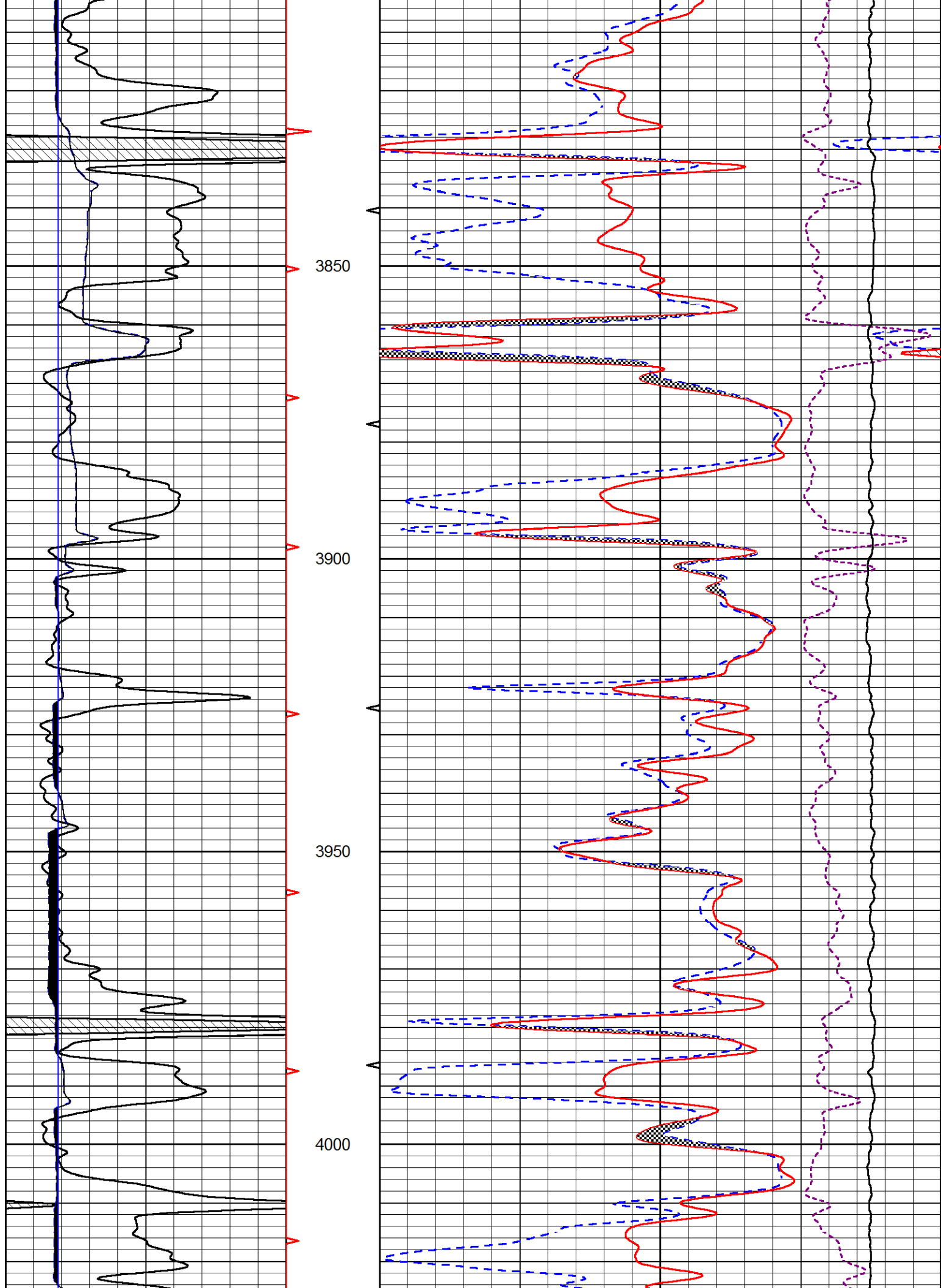
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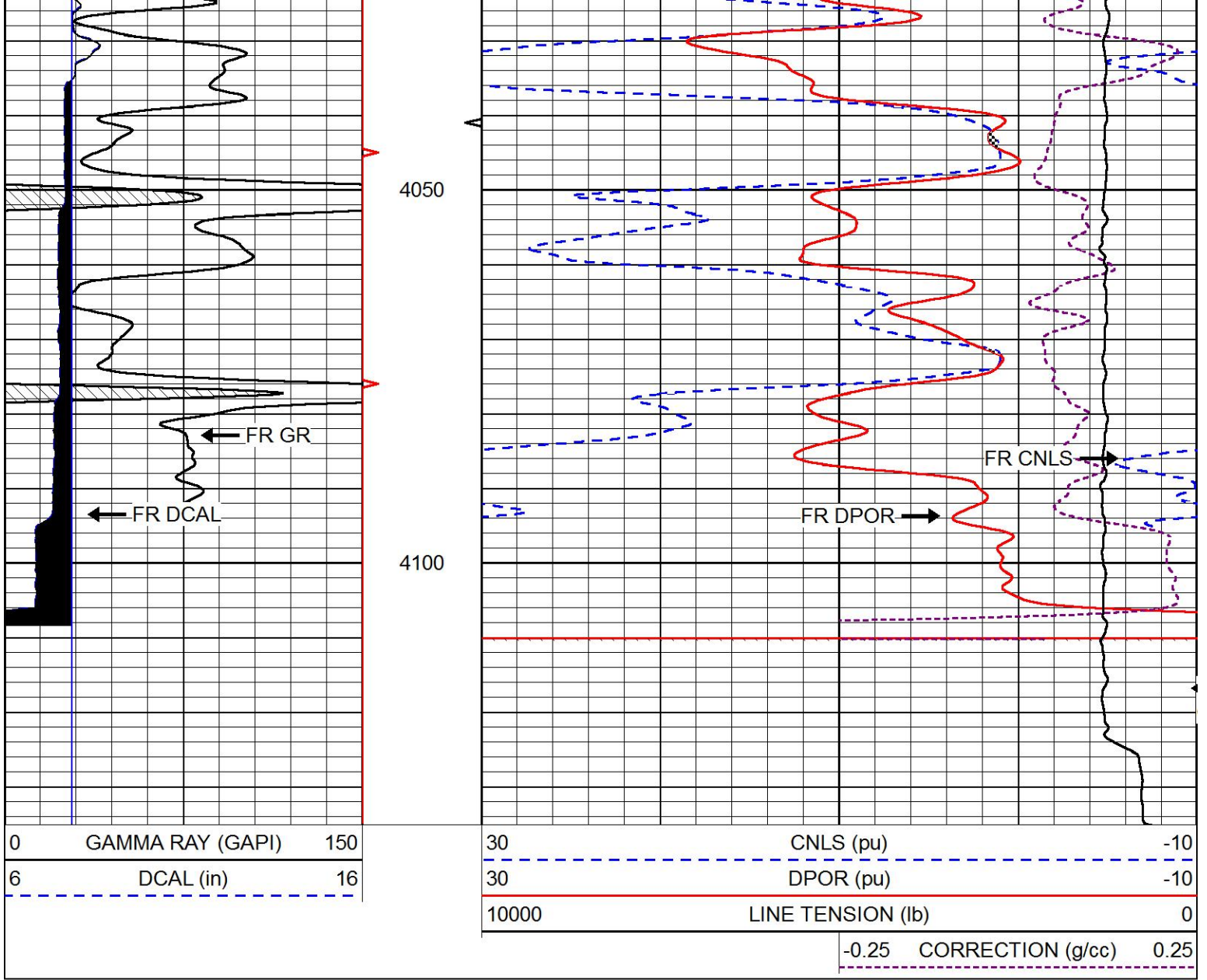
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 Charted by            Depth in Feet scaled 1:240





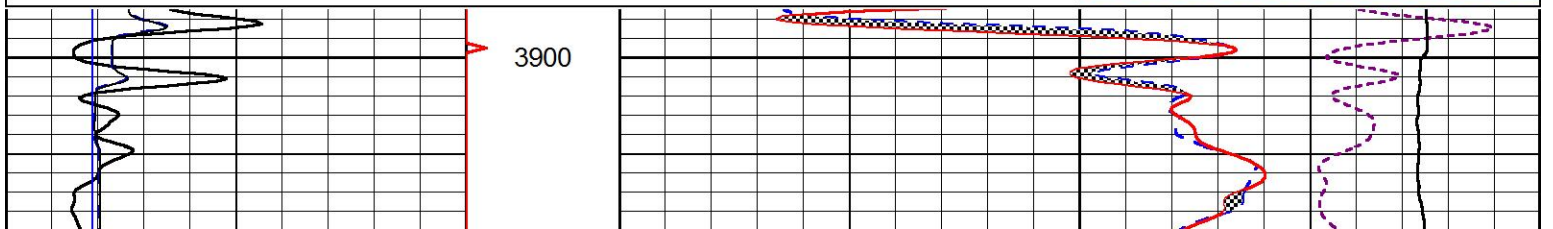
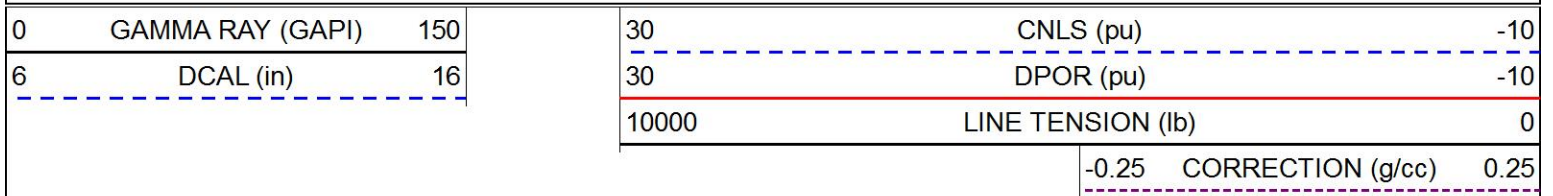


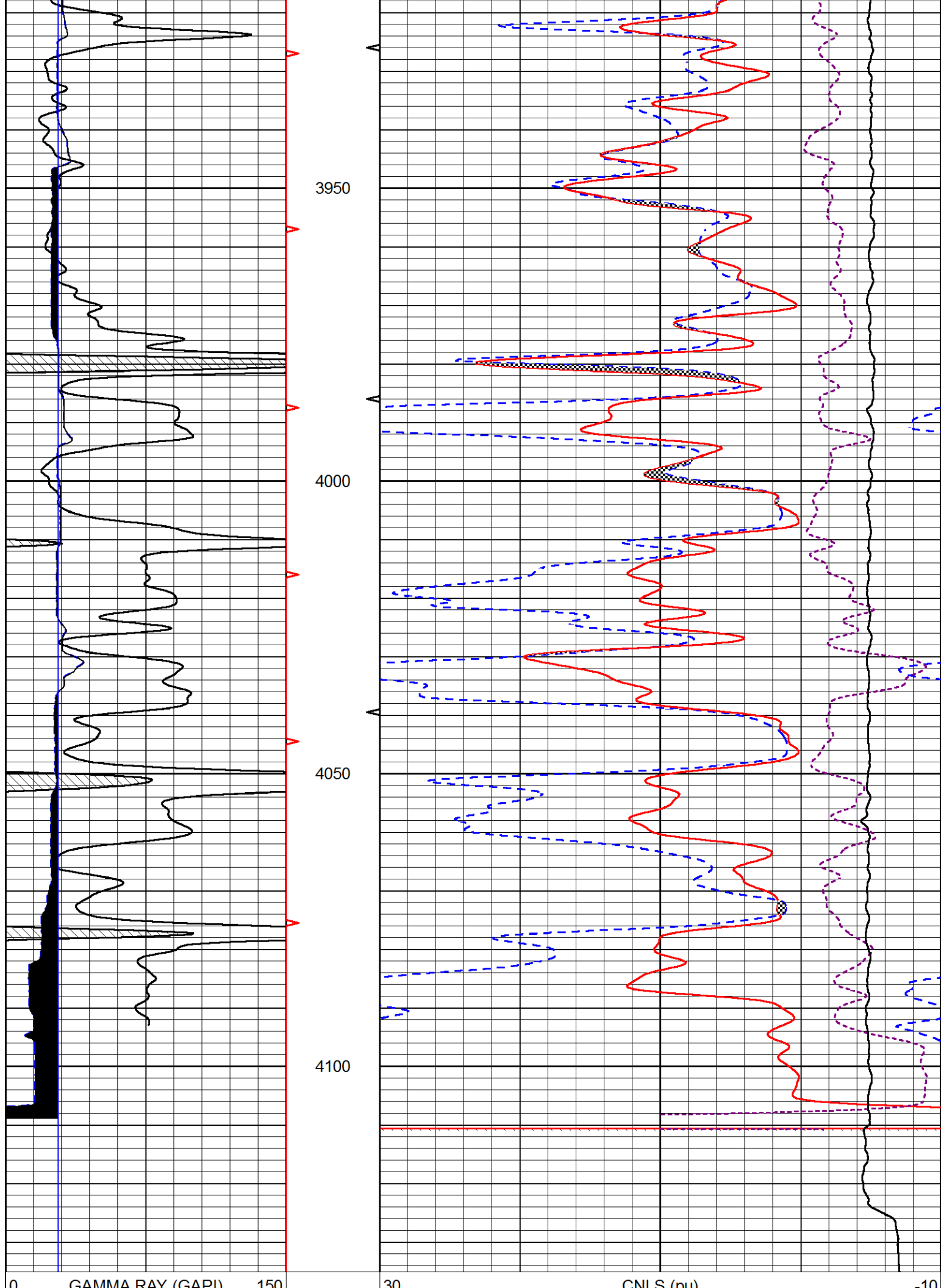




# REPEAT SECTION

Database File      bowman\_clark b 2.db  
 Dataset Pathname    STKML/pass2.1  
 Presentation Format    \_CNDLS~1  
 Dataset Creation      Sun Sep 20 22:49:19 2020  
 Charted by            Depth in Feet scaled 1:240





6	DCAL (in)	16	30	DPOR (pu)	-10
			10000	LINE TENSION (lb)	0
				-0.25 CORRECTION (g/cc)	0.25

### Calibration Report

Database File: bowman\_clark b 2.db  
 Dataset Pathname: STKML/pass3.4  
 Dataset Creation: Sun Sep 20 22:43:11 2020

### Dual Induction Calibration Report

Serial-Model: 952-828-PSI HIGH TEMP  
 Calibration Performed: Sun Jun 28 08:39:24 2020

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.000	mmho/m	0.455	-32.000
Medium	0.000	1348.000	142.000	255.000	mmho/m	0.325	-28.000

### Microlog Calibration Report

Serial-Model: PSI-01-PSIML  
 Performed: Tue Jun 16 01:32:04 2020

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	11000.0000	-1.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	12000.0000	-1.3000
Caliper	1.0033	1.0841	5.0000	16.5000	in	142.3500	-138.6000

### Compensated Density Calibration Report

Serial-Model: 817-947-M&W  
 Source / Verifier: 16955B / 2ci  
 Master Calibration Performed: Sun Sep 20 22:09:47 2020

### Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6127.15	5922.31	cps
Aluminum	2.670	g/cc	1141.85	3762.09	cps
Spine Angle = 74.89			Density/Spine Ratio = 0.526		
	Size		Reading		
Small Ring	4.50	in	1.02		
Large Ring	14.50	in	1.23		

### Compensated Neutron Calibration Report

Serial Number: 207-MW  
 Tool Model: M&W  
 Calibration Performed: WED FEB 13 10:30:30 2019

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:	233-M&W		
Tool Model:	M&W		
Calibration Performed:	Sun Sep 20 22:10:24 2020		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.5500	GAPI/cps	